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

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Addendum

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21.70S×179.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21.76S×179.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,**22.3S**±0.2×**179.6W**±0.3,**h613**km±42km,
n22,σ1§**15**/21,**mb4.4**/9,**1C,South of Fiji Islands**

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

Epicentral Estimates

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

Observational Data

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

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

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

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

IDC 01 00:29:52.2±3.5**,0.56N**×**98.13E,mb3.7**/5**,mb1 3.9**/5**, mb1mx3.6**/18**,mbtmp3.7**/5**,Error ellipse: s-maj=147.7km s-min=21.9km az=58.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.91**	**122**	P	P	00 37 36.3	-1.8
	0.3nm,0.4s,baz=304,slow=8.9,SNR=8.0						
ASAR	**Alice Springs**	**42.27**	**127**	P	P	00 37 47.6	-1.7
	0.6nm,0.7s,baz=296,slow=7.7,SNR=4.9						
SONM	**Songino Array**	**47.63**	**8**	P	P	00 38 31.0	-0.9
	0.6nm,0.5s,baz=191,slow=9.7,SNR=7.5						
MKAR	**Makanchi Array**	**48.08**	**345**	P	P	00 38 33.2	-2.3
	0.6nm,0.5s,baz=160,slow=8.5,SNR=11						
ZAL	**Zalesovo**	**54.32**	**350**	P	P	00 39 19.6	-3.0
	1.5nm,0.5s,baz=301,slow=2.3,SNR=6.0						

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*NIED **01** 00:41:00,31.10N×131.50E,h32km,Mw4.4 Best double couple: M₀4.12×10¹⁵ NP1:φs26°,δ72°,λ100°. NP2:φs178°, δ21°,λ64°.*

*BJI **01** 00:41:42.1,30.55N×132.17E,h38km,mB4.7,mb4.6, Ms4.2,Msz3.9*

*MOS **01** 00:41:48.1±1.0,31.26N×131.34E,h33km,mb4.7/16,Error ellipse: s-maj=15.1km s-min=9.2km az=112.9*

*JMA **01** 00:41:49.8±0.1,31.11N×131.53E,h28km±1km,M4.3 JMA Felt II J1.*

*IDC **01** 00:41:50.6±4.2,31.25N×131.28E,h36km±35km,mb4.0/17, mb1 4.1/19,mb1mx4.0/25,mbtmp4.2/19,ML4.1/2,MS3.7/4, Ms1 3.7/4,ms1mx3.4/22,Error ellipse: s-maj=23.3km s-min=15.0km az=76.0*

*NEIC **01** 00:41:50.9±1.1,31.24N×131.34E,h39km±10km,mb4.5/21, MW4.3(NIED),Error ellipse: s-maj=9.1km s-min=7.5km az=131.0*

NEIC Recorded [2 JMA] in Kagoshima and Miyazaki Prefectures.

ISC 01 00:41:49.6±0.6**,31.13N**±0.04×**131.50E**±0.06**,h50**km±3km**, n86,**σ1**§06**/93**,mb4.4**/40**,MS3.9**/4**,8C-5D,Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.44**	**334**	⇓P	**P**	**00 41 59.6**	**-0.6**
JNAR				S	**S**	**00 42 06.3**	**-1.4**
JTSR	**Tashiro 2**	**0.50**	**274**	⇓P	**P**	**00 42 00.3**	**-0.5**
JTSR				S	**S**	**00 42 08.3**	**-0.6**
JTN	**Tanegashima 3**	**0.65**	**223**	⇑P	**P**	**00 42 03.0**	**+0.2**
JTN				S	**S**	**00 42 12.0**	**-0.5**
JTZ	**Takazaki**	**0.84**	**335**	P	**P**	**00 42 06.2**	**+0.9**
JTZ				S	**S**	**00 42 18.4**	**+1.5**
JSU	**Suzuyama**	**0.97**	**293**	⇑P	**P**	**00 42 07.5**	**+0.4**
JTSN	**Tsuno**	**1.11**	**0**	⇑P	**P**	**00 42 09.2**	**+0.2**
JZO	**Okuchi**	**1.26**	**323**	⇑P	**P**	**00 42 12.2**	**+0.9**
JZO				S	**S**	**00 42 29.8**	**+2.4**
JKC	**Kuchinoerabu**	**1.31**	**240**	P	**P**	**00 42 12.1**	**+0.1**
JKC				S	**S**	**00 42 29.3**	**+0.7**
JIU2	**Izumi 2**	**1.52**	**338**	⇑P	**P**	**00 42 15.8**	**+0.8**
JOW	**Kunigami**	**5.13**	**214**	Pn	**P**	**00 43 05.0**	**-1.0**
	29nm,0.3s,baz=101,slow=21,SNR=47						
JOW				Sn	**S**	**00 43 55.4**	**-9.2**
	0.5nm,0.3s,baz=133,slow=23,SNR=2.7						
MJAR	**Matsushiro Arr**	**7.76**	**44**	Pn	**P**	**00 43 41.1**	**-1.4**
	0.5nm,0.3s,baz=240,slow=14,SNR=3.4						
CBIJ	**Chichi jima**	**10.17**	**111**	LR	LR	00 47 47.5	
	comp=Z,137nm,19.2s,baz=213,slow=34						
CN2	**Changchun**	**13.52**	**341**	eP	**P**	**00 45 03.8**	**+3.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
BJI	**Beijing**	**15.29**	**310**	eP	**P**	**00 45 29.3**	**+5.6**
BJI				S	**S**	**00 48 23.4**	**+11**
BJI				AMB	AMB		
	comp=Z,19nm,0.9s						
BJI				LR	LR		
	comp=N,374nm,17.5s						
BJI				LR	LR		
	comp=E,556nm,14.3s						
BJI				LR	LR		
	comp=Z,399nm,15.9s						
BJI	**Beijing**	**15.29**	**310**	eP	**P**	**00 45 29.3**	**+5.6**
BJI				pmax	pmax		
	comp=Z,19nm,0.9s						
BJI	**Beijing**	**15.29**	**310**	eP	**P**	**00 45 29.3**	**+5.6**
	comp=Z,19nm,0.9s						
BJI				S	**S**	**00 48 23.4**	**+11**
ASAJ	**Asahikawa**	**15.64**	**31**	LR	LR	00 52 17.8	
	comp=Z,222nm,18.5s,baz=272,slow=40						
KLR	**Kul'dur**	**18.08**	**1**	eP	**P**	**00 45 56.0**	**-2.7**
HHC	**Hu-ho-hao-te**	**18.78**	**307**	eP	**P**	**00 46 07.9**	**+0.6**
HHC				PCP	PcP	00 50 29.8	-3.1
HHC				SCP		00 53 55.1	
HHC				PCS		00 54 06.1	
HHC				AMB	AMB		
	comp=Z,11nm,1.1s						
HHC				AMB	AMB		
	comp=Z,144nm,5.8s						
HHC				LR	LR		
	comp=N,321nm,14.9s						
HHC				LR	LR		
	comp=E,316nm,15.5s						
HHC				LR	LR		
	comp=Z,434nm,14.0s						
ENH	**Enshi**	**18.95**	**273**	eP	**P**	**00 46 09.7**	**+0.4**
	comp=Z,27nm,0.6s						
XAN	**Xi'an**	**19.24**	**285**	P	**P**	**00 46 11.6**	**-0.9**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s						
HIA	**Hailar**	**20.17**	**337**	eP	**P**	**00 46 21.2**	**-1.2**
HIA				pmax	pmax		
	comp=Z,21nm,1.1s						
HIA	**Hailar**	**20.17**	**337**	eP	**P**	**00 46 21.2**	**-1.2**
	comp=Z,21nm,1.1s						
GYA	**Guiyang**	**22.24**	**264**	⇑iP	**P**	**00 46 44.5**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
LZH	**Lanzhou**	**23.52**	**290**	eP	**P**	**00 46 54.9**	**-1.0**
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,101nm,6.2s						
LZH				LR	LR		
	comp=N,189nm,10.2s						
LZH				LR	LR		
	comp=Z,298nm,13.7s,MS3.9						
LZH	**Lanzhou**	**23.52**	**290**	eP	**P**	**00 46 54.9**	**-1.0**
	comp=Z,39nm,1.5s,mb4.6						
LZH				pP		00 47 00.5	
LZH				sP		00 47 04.2	
LZH				PP	PP	00 47 14.5	-15
LZH				LR	LR		
	comp=Z,300nm,13.7s,MS3.9						
CD2	**Chengdu**	**23.75**	**277**	⇓iP	**P**	**00 46 58.4**	**+0.2**
CD2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.1						
ULN	**Ulaanbaatar**	**25.04**	**319**	eP	**P**	**00 47 10.5**	**0.0**
ULN				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**25.04**	**319**	eP	**P**	**00 47 10.5**	**0.0**
	comp=Z,24nm,0.9s,mb4.7						
SONM	**Songino Array**	**25.40**	**318**	P	**P**	**00 47 13.8**	**-0.1**
	comp=Z,6.9nm,0.8s,mb4.2,baz=132,slow=8.8,SNR=40						
SONM				LR	LR	00 58 37.8	
	comp=Z,464nm,18.1s,MS4.0,baz=104,slow=40						
SONM	**Songino Array**	**25.40**	**318**	P	**P**	**00 47 13.8**	**-0.1**
SONM				LR	LR	00 58 37.8	
GTA	**Gaotai**	**27.05**	**297**	P	**P**	**00 47 28.7**	**-0.5**
GTA				AP	pP	00 47 39.5	-2.4
GTA				XP	sP	00 47 42.9	-5.1
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.3						
ZAK	**Zakamensk**	**28.48**	**321**	eP	**P**	**00 47 39.1**	**-3.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.7						
WMQ	**Urumqi**	**36.59**	**303**	⇑P	**P**	**00 48 53.5**	**+0.9**
WMQ				PP	PP	00 50 19.8	+1.8
WMQ				SCP		00 54 51.5	
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,63nm,5.2s						
WMQ				LR	LR		
	comp=N,189nm,7.0s						
WMQ				LR	LR		
	comp=E,343nm,7.0s						
WMQ				LR	LR		
	comp=Z,121nm,21.2s,MS3.6						
JIRN	**Jiri**	**39.42**	**277**	eP	**P**	**00 49 17.2**	**+0.8**
	comp=Z,7.8nm,0.4s,mb4.8						
PKI	**Pulchoki**	**40.11**	**277**	eP	**P**	**00 49 22.5**	**+0.4**
	comp=Z,7.3nm,0.4s,mb4.7						
PKI	**Pulchoki**	**40.11**	**277**	eP	**P**	**00 49 22.5**	**+0.4**
PKI				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
KKN	**Kakani**	**40.16**	**277**	eP	**P**	**00 49 22.9**	**+0.4**
	comp=Z,11nm,0.5s,mb4.8						
KKN	**Kakani**	**40.16**	**277**	eP	**P**	**00 49 22.9**	**+0.4**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
ZAL	**Zalesovo**	**40.30**	**318**	P	**P**	**00 49 22.1**	**-1.4**
	comp=Z,1.1nm,0.8s,mb3.6,baz=5.2,slow=8.8,SNR=7.9						
DMN	**Daman**	**40.36**	**277**	eP	**P**	**00 49 24.0**	**-0.2**
	comp=Z,5.4nm,0.4s,mb4.7						
MKAR	**Makanchi Array**	**40.65**	**307**	P	**P**	**00 49 25.5**	**-0.9**
	comp=Z,1.8nm,0.7s,mb3.8,baz=89,slow=10,SNR=18						
KOLN	**Koldanda**	**41.59**	**278**	eP	**P**	**00 49 35.0**	**+0.6**
	comp=Z,3.8nm,0.3s,mb4.5						
BILL	**Bilibino**	**42.13**	**19**	eP	**P**	**00 49 39.8**	**+1.6**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
BILL	**Bilibino**	**42.13**	**19**	eP	**P**	**00 49 39.8**	**+1.5**
	comp=Z,4.4nm,0.8s,mb4.1						
KURK	**Kurchatov**	**43.44**	**313**	eP	**P**	**00 49 47.6**	**-1.5**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
KURK	**Kurchatov**	**43.44**	**313**	eP	**P**	**00 49 47.6**	**-1.6**
	comp=Z,10nm,0.7s,mb4.7						
AAK	**Ala-Archa**	**46.23**	**301**	eP	**P**	**00 50 09.7**	**-1.9**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**46.23**	**301**	eP	**P**	**00 50 09.7**	**-1.9**
	comp=Z,3.2nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**50.85**	**177**	P	**P**	**00 50 47.7**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=353,slow=8.3,SNR=3.2						
ASAR	**Alice Springs**	**54.54**	**177**	P	**P**	**00 51 16.8**	**+1.7**
	comp=Z,0.6nm,0.5s,mb3.9,baz=11,slow=13,SNR=7.2						
ARU	**Arti**	**55.42**	**320**	⇑iP	**P**	**00 51 19.4**	**-1.6**
ARU				e		00 52 14.9	
ARU				e		00 53 21.9	
ARU				eS	**S**	**00 59 06.6**	**+6.4**
ARU				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
ARU	**Arti**	**55.42**	**320**	eP	**P**	**00 51 19.3**	**-1.7**
	comp=Z,17nm,0.8s,mb5.1						
MCK	**McKinley**	**58.01**	**31**	eP	**P**	**00 51 40.2**	**+0.9**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
MCK	**McKinley**	**58.01**	**31**	eP	**P**	**00 51 40.2**	**+0.9**
	comp=Z,1.2nm,0.5s,mb4.2						
DZM	**Mont Dzumac**	**62.63**	**143**	LR	LR	01 14 25.4	
	comp=Z,82nm,18.3s,MS3.9,baz=23,slow=31						
INK	**Inuvik**	**63.26**	**25**	eP	**P**	**00 52 15.2**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**63.26**	**25**	P	**P**	**00 52 15.6**	**+0.6**
	comp=Z,1.5nm,0.5s,mb4.3,baz=288,slow=5.3,SNR=12						
INK	**Inuvik**	**63.26**	**25**	eP	**P**	**00 52 15.2**	**+0.2**
	comp=Z,1.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**63.39**	**170**	P	**P**	**00 52 17.5**	**+1.1**
	comp=Z,1.3nm,0.6s,mb4.2,baz=341,slow=18,SNR=3.6						
ARCES	**ARCESS Array B**	**66.52**	**338**	P	**P**	**00 52 34.9**	**-0.9**
	comp=Z,3.9nm,0.8s,mb4.5,baz=37,slow=6.1,SNR=4.4						
OBN	**Obninsk**	**67.74**	**322**	eP	**P**	**00 52 32.7**	**-11**
VRSR	**Storozhevoye**	**67.78**	**317**	eP	**P**	**00 52 42.9**	**-1.1**
VRSR				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,4.0nm,0.8s						
KIV	**Kislovodsk**	**68.37**	**309**	eP	**P**	**00 52 48.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**68.37**	**309**	eP	**P**	**00 52 48.0**	**+0.2**
	comp=Z,11nm,1.0s,mb4.8						
KAF	**Kangasniemi**	**69.61**	**331**	ep	**P**	**00 52 53.8**	**-1.4**
	comp=Z,1.7nm,0.5s,mb4.2,baz=64,slow=6.1						
KAF	**Kangasniemi**	**69.61**	**331**	eP	**P**	**00 52 53.8**	**-1.4**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**70.02**	**330**	P	**P**	**00 52 56.3**	**-1.4**
	comp=Z,1.0nm,0.3s,mb4.2,baz=64,slow=5.9,SNR=20						
RES	**Resolute Bay**	**70.19**	**12**	eP	**P**	**00 52 59.1**	**+0.5**
RES				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
RES	**Resolute Bay**	**70.19**	**12**	eP	**P**	**00 52 59.0**	**+0.5**
	comp=Z,4.9nm,0.7s,mb4.5						
MALT	**Malatya**	**73.65**	**305**	eP	**P**	**00 53 20.0**	**+0.3**
MALT				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
MALT	**Malatya**	**73.65**	**305**	eP	**P**	**00 53 19.9**	**+0.2**
	comp=Z,2.9nm,1.0s,mb4.2						
AKASG	**Malin Array Be**	**73.67**	**320**	P	**P**	**00 53 19.0**	**-0.5**
	comp=Z,1.3nm,0.4s,mb4.2,baz=56,slow=6.9,SNR=7.1						
AKASG	**Malin Array Be**	**73.67**	**320**	P	**P**	**00 53 19.0**	**-0.5**
RAYN	**Ar Rayn**	**74.98**	**289**	P	**P**	**00 53 28.4**	**+0.7**
	comp=Z,35nm,1.1s,SNR=8.4						
HFS	**Hagfors**	**75.81**	**333**	P	**P**	**00 53 31.8**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=76,slow=6.1,SNR=10						
NB2	**NORSAR Subarra**	**76.17**	**334**	P	**P**	**00 53 32.3**	**-1.4**
	comp=Z,1.4nm,0.6s,mb4.1,baz=48,slow=5.6						
NOA	**NORSAR Array B**	**76.17**	**334**	P	**P**	**00 53 32.5**	**-1.2**
	comp=Z,2.0nm,0.7s,mb4.1,baz=49,slow=5.6,SNR=9.3						
BRTR	**Keskin Array B**	**76.29**	**308**	P	**P**	**00 53 35.2**	**+0.4**
	comp=Z,3.9nm,0.8s,mb4.4,baz=103,slow=5.7,SNR=22						
BSD	**Bornholm Skovb**	**78.43**	**328**	⇓iP	**P**	**00 53 46.3**	**-0.1**
BSD				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
BSD	**Bornholm Skovb**	**78.43**	**328**	⇓iP	**P**	**00 53 46.3**	**-0.1**
	comp=Z,6.3nm,0.7s,mb4.7						
GERES	**GERESS Array B**	**82.99**	**324**	P	**P**	**00 54 10.6**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.7,baz=56,slow=4.8,SNR=5.9						
DAVOX	**Davos**	**86.29**	**324**	P	**P**	**00 54 28.8**	**+1.8**
	comp=Z,1.8nm,0.5s,mb4.5,baz=39,slow=23,SNR=5.6						
PDAR	**Pinedale Array**	**87.56**	**40**	P	**P**	**00 54 36.1**	**+2.8**
	comp=Z,0.7nm,0.8s,mb3.9,slow=1.5,SNR=4.9						
ULM	**Lac du Bonnet**	**88.76**	**28**	P	**P**	**00 54 40.0**	**+1.1**
	comp=Z,4.0nm,0.6s,mb4.9,baz=302,slow=4.8,SNR=8.0						
ULM	**Lac du Bonnet**	**88.76**	**28**	P	**P**	**00 54 40.0**	**+1.1**

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*IDC **01** 00:48:42.7±0.5,0.87N×97.66E,mb4.5/25,mb1 4.6/25, mb1mx4.5/29,mbtmp4.5/25,Error ellipse: s-maj=21.7km s-min=11.1km az=41.0*

*BJI **01** 00:48:44.0,0.20N×97.49E,h41km,mB5.2,mb4.7,Ms5.1, Msz4.8*

*MOS **01** 00:48:45.8±1.7,0.64N×97.61E,h33km,mb5.2/29, MS4.5/7,Error ellipse: s-maj=11.2km s-min=6.2km az=121.9*

*NEIC **01** 00:48:47.4±0.3,0.67N×97.60E,h30km,mb5.0/33,Error ellipse: s-maj=11.2km s-min=6.1km az=217.0*

ISC 01 00:48:45.7±0.3**,0.69N**±0.04×**97.57E**±0.04**,h30**km**, (h32**km±1.7km**:pP-P),n150,**σ1**§39**/154**,mb4.7**/69**,MS4.7**/15**, 5C-2D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**3.05**	**112**	eP	**Pn**	**00 49 35.0**	**+1.9**
IPM	**Ipoh**	**5.18**	**42**	P	**Pn**	**00 50 04.5**	**+1.2**
KULM	**Kulim**	**5.50**	**34**	ePn	**Pn**	**00 50 07.8**	**-0.1**
KGM	**Kluang**	**5.90**	**77**	P	**Pn**	**00 50 16.0**	**+2.6**
PENI	**Pendagan**	**9.81**	**129**	⇑iP	**P**	**00 51 04.0**	**-4.1**
PENI				pmax	pmax		
	comp=Z,116nm,0.6s						
PENI	**Pendagan**	**9.81**	**129**	⇑iP	**P**	**00 51 04.0**	**-4.1**
	comp=Z,116nm,0.6s						
BDT	**Bhumibol Dam**	**16.51**	**5**	P	**P**	**00 52 37.0**	**+0.1**
	comp=Z,18nm,0.7s						
PALK	**Pallekele**	**18.04**	**292**	eP	**P**	**00 52 56.7**	**+0.5**
	comp=Z,19nm,0.8s						
CHG	**Chiang Mai**	**18.06**	**4**	⇑P	**P**	**00 52 56.6**	**+0.2**
	comp=Z,19nm,1.1s						
CHRT	**Chiangrai**	**19.18**	**6**	⇓P	**P**	**00 53 08.0**	**-1.9**
	comp=Z,332nm,1.2s						
TSM	**Tawau**	**20.59**	**80**	P	**P**	**00 53 29.3**	**+4.1**
MDRS	**Chennai**	**21.11**	**306**	eP	**P**	**00 53 31.0**	**+0.5**
MDRS				e		00 54 32.0	
MDRS				e		00 56 47.0	
MDRS				e		01 00 04.0	
QIZ	**Qiongzhong**	**21.84**	**33**	P	**P**	**00 53 37.1**	**-0.7**
QIZ				LR	LR		
	comp=E,3µm,17.4s						
QIZ				LR	LR		
	comp=Z,2µm,17.4s,MS4.5						
VIS	**Vishakhapatnam**	**21.96**	**321**	eP	**P**	**00 53 40.2**	**+1.2**
VIS				AMb	AMB	00 53 50.3	
	comp=Z,79nm,1.0s,mb5.1						
TANI	**Tanete Lipujan**	**22.18**	**101**	eP	**P**	**00 53 40.8**	**-0.5**
TANI				e		00 54 41.1	
BWNR	**Bhubaneshwar**	**22.62**	**330**	eP	**P**	**00 53 46.9**	**+1.2**
BWNR				e		00 54 01.1	
	comp=Z,102nm,2.0s						
BWNR				i		00 54 37.3	
NINI	**Niniconang**	**22.74**	**103**	eP	**P**	**00 53 47.1**	**+0.2**
NINI				e		00 54 48.9	
BUNI	**Buntu Taipa**	**23.15**	**101**	eP	**P**	**00 53 52.7**	**+1.9**
BUNI				eS	rx	00 54 52.1	
AGT	**Agartala**	**23.85**	**346**	eP	**P**	**00 54 02.0**	**+4.4**
KMI	**Kunming**	**24.79**	**11**	P	**P**	**00 54 09.5**	**+2.8**
KMI				XP		00 54 24.4	
KMI				AMB	AMB		
	comp=Z,32nm,1.5s,mb4.6						
KMI				AMB	AMB		
	comp=Z,353nm,3.6s						
KMI				LR	LR		
	comp=N,3µm,13.8s,MS5.0						
KMI				LR	LR		
	comp=E,2µm,13.5s,MS5.0						
KMI				LR	LR		
	comp=Z,4µm,11.3s,MS5.2						
KMI	**Kunming**	**24.79**	**11**	P	**P**	**00 54 09.5**	**+2.8**
	comp=Z,32nm,1.5s,mb4.6						
KMI				sP		00 54 24.4	
KMI				S	**S**	**00 58 21.0**	**-3.4**
KMI				sS		00 58 39.1	
KMI				LR	LR		
	comp=Z,4µm,11.3s,MS5.2						
HYB	**Hyderabad**	**25.02**	**313**	eP	**P**	**00 54 11.0**	**+2.1**
HYB	**Hyderabad**	**25.02**	**313**	i P	**P**	**00 54 11.0**	**+2.1**
SHL	**Shillong**	**25.33**	**348**	eP	**P**	**00 54 14.0**	**+2.2**
KAD	**Karad**	**28.32**	**307**	e	**P**	**00 54 46.0**	**+6.8**
	comp=Z,24nm,1.4s,mb4.6						
JIRN	**Jiri**	**28.95**	**339**	eP	**P**	**00 54 47.6**	**+2.8**
	comp=Z,31nm,0.9s,mb5.0						
PKI	**Pulchoki**	**29.16**	**337**	eP	**P**	**00 54 48.2**	**+1.5**
	comp=Z,191nm,1.5s,mb5.6						
PKI	**Pulchoki**	**29.16**	**337**	eP	**P**	**00 54 48.2**	**+1.5**
PKI				pmax	pmax		
	comp=Z,96nm,1.5s,mb5.3						
POO	**Poona**	**29.26**	**309**	eP	**P**	**00 54 51.0**	**+3.3**
DMN	**Daman**	**29.31**	**337**	eP	**P**	**00 54 49.6**	**+1.5**
	comp=Z,60nm,1.2s,mb5.2						
KKN	**Kakani**	**29.41**	**337**	eP	**P**	**00 54 50.2**	**+1.3**
	comp=Z,104nm,1.2s,mb5.4						
KKN	**Kakani**	**29.41**	**337**	eP	**P**	**00 54 50.2**	**+1.3**
KKN				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.1						
LSA	**Lhasa**	**29.49**	**349**	P	**P**	**00 54 48.1**	**-1.5**
LSA				AP	pP	00 54 59.0	+0.5
LSA				S	**S**	**00 59 50.7**	**+10**
LSA				LR	LR		
	comp=N,460nm,24.2s						
LSA				LR	LR		
	comp=E,910nm,17.9s						
LSA				LR	LR		
	comp=Z,720nm,24.5s,MS4.2						
LSA	**Lhasa**	**29.49**	**349**	eP	**P**	**00 54 49.6**	**0.0**
LSA				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.1						
LSA	**Lhasa**	**29.49**	**349**	eP	**P**	**00 54 49.5**	**-0.1**
	comp=Z,35nm,0.9s,mb5.1						
BHPL	**Bhopal**	**29.75**	**320**	e	Px	00 55 08.2	
	comp=Z,16nm,3.0s						
GKN	**Gorkha**	**29.85**	**337**	eP	**P**	**00 54 52.9**	**0.0**
	comp=Z,85nm,1.2s,mb5.3						
KOLN	**Koldanda**	**30.07**	**335**	eP	**P**	**00 54 54.2**	**-0.6**
	comp=Z,38nm,0.9s,mb5.1						
CD2	**Chengdu**	**30.62**	**10**	eP	**P**	**00 55 01.2**	**+1.6**
ENH	**Enshi**	**31.52**	**20**	eP	**P**	**00 55 05.0**	**-2.6**
	comp=Z,33nm,1.2s,mb5.0						
QZH	**Quanzhou**	**31.53**	**39**	eP	**P**	**00 55 09.8**	**+2.1**
QZH				LR	LR		
	comp=N,4µm,17.6s,MS5.5						
QZH				LR	LR		
	comp=E,7µm,16.3s,MS5.5						
QZH				LR	LR		
	comp=Z,3µm,13.6s,MS5.1						
FITZ	**Fitzroy Crossi**	**33.34**	**125**	eP	**P**	**00 55 22.3**	**-1.2**
	comp=Z,21nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.34**	**125**	P	**P**	**00 55 22.5**	**-1.1**
	comp=Z,29nm,0.8s,mb5.2,baz=255,slow=2.1,SNR=19						
NDI	**New Delhi**	**33.95**	**327**	eP	**P**	**00 55 27.0**	**-1.8**
DDI	**Dehra Dun**	**34.81**	**330**	eP	**P**	**00 55 37.0**	**+0.8**
XAN	**Xi'an**	**34.84**	**17**	P	**P**	**00 55 34.4**	**-1.9**
LZH	**Lanzhou**	**35.69**	**9**	ePP	PP	00 57 25.8	+21
LZH				eS	**S**	**01 01 15.7**	**-1.9**
LZH				sS		01 01 28.5	
LZH				SS	tx	01 02 39.1	
SDNR	**Sundarnagar**	**36.31**	**330**	eP	**P**	**00 55 49.6**	**+0.7**
THN	**Thein Dam**	**37.70**	**329**	eP	**P**	**00 55 58.9**	**-1.6**
GTA	**Gaotai**	**38.59**	**3**	P	**P**	**00 56 06.8**	**-1.1**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**41.46**	**122**	P	**P**	**00 56 31.3**	**-0.4**
	comp=Z,15nm,0.8s,mb4.7,baz=300,slow=9.2,SNR=53						
WRAB	**Tennant Creek**	**41.46**	**122**	eP	**P**	**00 56 31.2**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**41.46**	**122**	eP	**P**	**00 56 31.2**	**-0.6**
	comp=Z,33nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**41.47**	**122**	eP	**P**	**00 56 31.8**	**0.0**
HHC	**Hu-ho-hao-te**	**41.94**	**16**	eP	**P**	**00 56 37.7**	**+2.2**
HHC				AP	pP	00 56 47.5	+3.0
HHC				XP	sP	00 56 51.8	+3.5
HHC				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.4						
HHC				AMB	AMB		
	comp=Z,205nm,4.7s						
HHC				LR	LR		
	comp=N,2µm,14.1s,MS5.1						
HHC				LR	LR		
	comp=E,1µm,14.3s,MS5.1						
HHC				LR	LR		
	comp=Z,1µm,13.7s,MS5.0						
BJT	**Baijiatuau**	**42.65**	**21**	eP	**P**	**00 56 42.4**	**+1.0**
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJT	**Baijiatuau**	**42.65**	**21**	eP	**P**	**00 56 42.4**	**+1.0**
	comp=Z,18nm,0.8s,mb4.8						
BJI	**Beijing**	**42.67**	**21**	eP	**P**	**00 56 42.8**	**+1.2**
BJI				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.8						
BJI				LR	LR		
	comp=N,556nm,15.6s,MS4.9						
BJI				LR	LR		
	comp=E,1µm,17.5s,MS4.9						
BJI				LR	LR		
	comp=Z,738nm,21.2s,MS4.5						
BJI	**Beijing**	**42.67**	**21**	eP	**P**	**00 56 42.8**	**+1.2**
	comp=Z,21nm,1.1s,mb4.8						
BJI				S	**S**	**01 03 10.3**	**+7.7**
BJI				SS	SS	01 06 31.0	+24
BJI				LR	LR		
	comp=Z,740nm,21.2s,MS4.5						
ASPA	**Alice Springs**	**42.80**	**127**	eP	**P**	**00 56 42.8**	**0.0**
ASAR	**Alice Springs**	**42.80**	**127**	P	**P**	**00 56 42.5**	**-0.3**
	comp=Z,12nm,0.8s,mb4.7,baz=305,slow=7.6,SNR=48						
KSH	**Kashi**	**43.38**	**336**	eP	**P**	**00 56 51.0**	**+3.7**
KSH				eAP	pP	00 57 00.5	+4.2
KSH				eXP	sP	00 57 04.0	+3.9
KSH				ePP	PP	00 58 35.0	+4.8
KSH				ePCP	PcP	00 58 36.5	+0.4
KSH				ePPP	PPP	00 59 13.1	+6.9
KSH				eSCP		01 02 24.0	
KSH				ePCS		01 02 28.3	
KSH				eS	**S**	**01 03 20.1**	**+7.2**
KSH				eXS		01 03 36.1	
KSH				eSCS	ScS	01 06 44.0	+1.4
KSH				AMB	AMB		
	comp=Z,340nm,3.5s						
KSH				LR	LR		
	comp=N,590nm,8.1s						
KSH				LR	LR		
	comp=E,640nm,10.2s						
WMQ	**Urumqi**	**43.83**	**350**	⇓P	**P**	**00 56 51.0**	**+0.1**

WMQ AP pP 00 57 00.8 +0.8
WMQ XP sP 00 57 05.0 +1.3
WMQ PP PP 00 58 35.0 +0.3
WMQ PCP PcP 00 58 38.0 +0.4
WMQ PPP PPP 00 59 12.5 +0.4
WMQ *e*S **S** **01 03 19.5 +0.1**
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,133nm,3.8s
WMQ LR LR
comp=N,296nm,17.0s,MS4.6
WMQ LR LR
comp=E,516nm,17.1s,MS4.6
WMQ LR LR
comp=Z,363nm,18.7s,MS4.3
DL2 Dalian 43.95 27 P **P** **00 56 56.4 +4.4**
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
DL2 LR LR
comp=N,410nm,15.2s,MS4.7
DL2 LR LR
comp=E,610nm,14.3s,MS4.7
DL2 LR LR
comp=Z,650nm,16.1s,MS4.6
AAK Ala-Archa 46.61 337 P **P** **00 57 13.3 +0.2**
comp=Z,37nm,2.4s,mb4.9,SNR=11
AAK Ala-Archa 46.61 337 *e*P **P** **00 57 12.9 -0.2**
AAK pmax pmax
comp=Z,37nm,1.5s,mb5.1
AAK Ala-Archa 46.61 337 *e*P **P** **00 57 12.9 -0.2**
comp=Z,37nm,1.5s,mb5.1
FRU Bishkek 46.73 337 *e*P **P** **00 57 16.0 +2.0**
FRU pmax pmax
comp=Z,35nm,1.5s,mb5.1
SNY Shenyang 47.18 27 ⇑P **P** **00 57 18.2 +0.5**
SNY AMB AMB
comp=Z,20nm,1.8s,mb4.8
SNY LR LR
comp=N,1µm,16.2s
SNY LR LR
comp=Z,1µm,16.2s,MS5.0
SONM Songino Array 47.58 8 P **P** **00 57 18.0 -2.7**
comp=Z,3.8nm,0.8s,mb4.5,baz=192,slow=8.4,SNR=19
ULN Ulaanbaatar 47.70 9 *e*P **P** **00 57 21.3 -0.4**
ULN pmax pmax
comp=Z,14nm,0.8s,mb5.0
ULN Ulaanbaatar 47.70 9 *e*P **P** **00 57 21.3 -0.4**
comp=Z,14nm,0.8s,mb5.0
MKAR Makanchi Array 47.82 346 P **P** **00 57 21.4 -1.2**
comp=Z,6.0nm,0.6s,mb4.8,baz=156,slow=7.6,SNR=64
CN2 Changchun 49.59 26 *e*P **P** **00 57 35.9 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
ZAK Zakamensk 49.74 5⇑*e*P **P** **00 57 36.7 -0.7**
ZAK *e* 00 59 36.2
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
PMG Port Moresby 50.38 103 *e*P **P** **00 57 41.4 -1.3**
PMG pmax pmax
comp=Z,30nm,0.9s
PMG Port Moresby 50.38 103 P **P** **00 57 41.8 -1.0**
comp=Z,25nm,0.7s,mb5.3,baz=143,slow=8.2,SNR=6.3
PMG Port Moresby 50.38 103 *e*P **P** **00 57 41.4 -1.3**
comp=Z,30nm,0.9s,mb5.3
MJAR Matsushiro Arr 51.81 42 P **P** **00 57 52.6 -0.7**
comp=Z,1.9nm,0.7s,mb4.2,baz=233,slow=4.8,SNR=4.0
CTA Charters Tower 51.95 116 P **P** **00 57 53.9 -0.7**
comp=Z,7.0nm,1.0s,mb4.5,baz=289,slow=3.4,SNR=3.5
KURK Kurchatov 52.37 345 *e*P **P** **00 57 55.3 -2.0**
KURK pmax pmax
comp=Z,30nm,1.0s,mb5.2
KURK Kurchatov 52.37 345 *e*P **P** **00 57 55.3 -2.0**
comp=Z,30nm,1.0s,mb5.2
STKA Stephens Creek 52.74 132 *e*P **P** **00 58 00.6 +0.2**
comp=Z,11nm,0.9s,mb4.8
STKA Stephens Creek 52.74 132 P **P** **00 58 00.6 +0.2**
comp=Z,12nm,0.9s,mb4.8,baz=303,slow=7.8,SNR=14
OPO Ambohidratompo 53.06 246 P **P** **00 58 02.2 -0.6**
comp=Z,0.8nm,0.5s,mb3.9,baz=272,slow=9.2,SNR=3.6
ZAL Zalesovo 54.10 351 P **P** **00 58 08.5 -1.5**
comp=Z,4.2nm,0.6s,mb4.6,baz=300,slow=5.1,SNR=16
NVS Novosibirsk 55.23 350 *e*P **P** **00 58 15.5 -2.8**
NVS *e* 00 58 31.4
NVS *e*S **S** **01 05 56.8 -1.2**
NVS pmax pmax
comp=N,29nm,2.1s
NVS pmax pmax
comp=Z,25nm,2.1s,mb4.9
NVS smax
comp=E,27nm,2.1s
NVS smax
comp=N,12nm,1.7s
ATD Arta Tunnel 55.36 283 P **P** **00 58 20.7 +0.9**
comp=N,8.1nm,0.9s,mb4.7,baz=18,slow=8.6,SNR=3.7
KLR Kul'dur 56.54 26 *e*P **P** **00 58 24.9 -2.9**
KLR *e*S **S** **01 06 21.5 +6.0**
BVAR Borovoye Array 56.84 341 P **P** **00 58 27.6 -2.4**
comp=N,3.5nm,0.7s,mb4.5,baz=152,slow=8.8,SNR=18
BOD Bodaibo 58.44 10 *e*P **P** **00 58 40.0 -1.0**
BOD pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
KMBO Kilima Mbogo 60.34 268 *e*P **P** **00 58 56.2 +1.4**
KMBO pmax pmax
comp=Z,23nm,1.8s
KMBO Kilima Mbogo 60.34 268 P **P** **00 58 56.1 +1.4**
comp=Z,2.6nm,0.9s,mb4.2,baz=49,slow=10,SNR=9.6
KMBO Kilima Mbogo 60.34 268 *e*P **P** **00 58 56.1 +1.4**
comp=Z,23nm,1.8s,mb4.9
GNI Garni 61.91 316 *e*P **P** **00 59 03.8 -1.3**
GNI pmax pmax
comp=Z,17nm,1.3s
GNI Garni 61.91 316 P **P** **00 59 04.4 -0.7**
comp=Z,1.1nm,0.5s,mb4.3,baz=333,slow=17,SNR=2.8
GNI Garni 61.91 316 *e*P **P** **00 59 03.8 -1.3**
comp=Z,18nm,1.3s,mb5.0
TI2 Plekhanov 62.59 318 *e*P **P** **00 59 07.8 -1.8**
TI2 *i* pP 00 59 15.8 -3.2
SVE Sverdlovsk 63.29 338 *e*P **P** **00 59 12.5 -1.4**
SVE pmax pmax
comp=Z,40nm,2.0s,mb5.2
SVE MLR MLR
comp=N,100nm,16.0s,MS4.2
SVE MLR MLR
comp=E,100nm,16.0s,MS4.2
SVE MLR MLR
comp=Z,400nm,16.0s,MS4.7
ARU Arti 63.79 337 *e*P **P** **00 59 13.8 -3.4**
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
ARU Arti 63.79 337 *e*P **P** **00 59 13.8 -3.5**
comp=Z,10nm,1.2s,mb4.7
KIV Kislovodsk 64.93 319 *e*P **P** **00 59 24.8 -0.1**
KIV *e* 00 59 57.6
KIV *e* 01 01 48.7
KIV *e*S **S** **01 08 05.0 +2.2**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.0
KIV Kislovodsk 64.93 319 *e*P **P** **00 59 24.2 -0.7**
comp=Z,21nm,1.3s,mb5.0
ASF Jabal al Asfar 65.06 305 P **P** **00 59 26.0 +0.1**
comp=Z,4.2nm,0.9s,mb4.5,baz=246,slow=7.7,SNR=3.7
GOF Gofitskoye 65.19 321 *i* P **P** **00 59 26.3 -0.2**
GOF pmax pmax
comp=Z,80nm,2.5s,mb5.3
MALT Malatya 65.74 312 *e*P **P** **00 59 29.3 -0.9**
comp=Z,4.2nm,0.9s,mb4.5
YAK Yakutsk 65.80 16 *e*P **P** **00 59 32.1 +2.0**
YAK pmax pmax
comp=Z,13nm,0.8s,mb5.0
YAK pmax pmax
comp=Z,39nm,0.9s,mb5.4
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK MLR MLR
comp=Z,618nm,14.0s,MS5.0
YAK MLR MLR
comp=N,326nm,13.0s,MS4.9
YAK MLR MLR
comp=E,330nm,13.0s,MS4.9
YAK Yakutsk 65.80 16 P **P** **00 59 28.7 -1.4**
comp=E,18nm,0.4s,mb5.5
EIL Elat 66.03 302 *e*P **P** **00 59 31.7 -0.5**
comp=E,8.4nm,1.0s,mb4.7
MBAR Mbarara 66.84 269 *e*P **P** **00 59 36.5 -1.1**
MBAR pmax pmax
comp=Z,60nm,2.1s,mb5.3
MBAR Mbarara 66.84 269 *e*P **P** **00 59 36.5 -1.1**
comp=Z,60nm,2.1s,mb5.3
BRTR Keskin Array B 69.72 312 P **P** **00 59 53.1 -2.0**
comp=Z,1.5nm,0.7s,mb4.0,baz=127,slow=6.2,SNR=8.8
LSZ Lusaka 70.33 254 P **P** **00 59 59.4 +0.3**
comp=Z,1.5nm,0.5s,mb4.2
OBN Obninsk 73.24 328 *e*P **P** **01 00 14.1 -1.8**
OBN *e*S S 01 09 43.4 +2.7
OBN pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.4
TIXI Tiksi 73.62 10 *e*P **P** **01 00 15.4 -2.4**
TIXI *e*S S 01 09 44.7 0.0
TIXI pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
SEY Seymchan 74.08 23 *e*P **P** **01 00 23.0 +2.4**
SEY pmax pmax
comp=Z,50nm,1.3s,mb5.3
AKASG Malin Array Be 75.88 322 P **P** **01 00 29.1 -2.1**
comp=Z,1.4nm,0.5s,mb4.2,baz=92,slow=4.7,SNR=11
MLR Muntele Rosu 76.69 317 P **P** **01 00 35.4 -0.4**
comp=Z,5.8nm,1.0s,mb4.5,baz=27,slow=1.8,SNR=4.6
MNK Minsk 77.77 326 *e*P **P** **01 00 40.0 -1.6**
RPZ Rata Peaks 78.59 135 P **P** **01 00 46.8 +0.5**
comp=Z,7.5nm,0.7s,mb4.7,baz=350,slow=18,SNR=4.3
KOLS Kolonicke sedl 79.84 320 *e*P **P** **01 00 55.6 +2.6**
KOLS *e* 01 01 00.5
CRVS Cervenica-Dubn 80.36 319 *e*P **P** **01 00 59.1 +3.3**
CRVS *e* 01 01 05.0
CRVS Cervenica-Dubn 80.36 319 *e* **P** **01 00 59.1 +3.3**
CRVS *e* 01 01 05.0
FINES FINESS Array B 80.61 332 P **P** **01 00 55.5 -1.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=90,slow=5.7,SNR=12
BILL Bilibino 81.50 21 *e*P **P** **01 01 01.4 0.0**
BILL *e* 01 04 07.3
BILL pmax pmax
comp=Z,3.0nm,2.0s,mb3.9
VYHS Vyhne 82.01 319 *e*P **P** **01 01 04.9 +0.5**
VYHS *e* 01 12 12.6
MORC Moravsky Berou 83.03 320 *e*P **P** **01 01 09.0 -0.7**
MORC pmax pmax
comp=Z,18nm,1.6s,mb4.8
MORC Moravsky Berou 83.03 320 *e*P **P** **01 01 08.9 -0.7**
comp=Z,18nm,1.6s,mb4.9
ZST Bratislava 83.12 318 *e*P **P** **01 01 12.4 +2.2**
ARCES ARCESS Array B 83.13 340 P **P** **01 01 09.4 -0.4**
comp=Z,4.7nm,0.9s,mb4.5,baz=90,slow=4.5,SNR=3.9
PRU Pruhonice 84.98 320 *e*P **P** **01 01 21.8 +2.3**
BRG Berggiesshubel 85.43 321 *e*P **P** **01 01 24.7 +2.9**
BRG pmax pmax
comp=Z,18nm,1.7s,mb4.9
BRG MLR MLR
comp=Z,220nm,21.2s,MS4.5
BRG Berggiesshubel 85.43 321 *e*P **P** **01 01 24.7 +2.9**
comp=Z,18nm,1.7s,mb4.9
BRG *e* 01 02 21.9
BRG *e* 01 12 10.9
BRG LR LR
comp=Z,220nm,21.2s,MS4.5
GERES GERESS Array B 85.44 319 P **P** **01 01 22.0 +0.1**
comp=Z,2.2nm,0.9s,mb4.3,baz=104,slow=5.5,SNR=13
KHC Kasperske Hory 85.54 319 *e*P **P** **01 01 22.5 +0.2**
KHC *e* 01 02 22.0
KHC Kasperske Hory 85.54 319 *e*P **P** **01 01 22.5 +0.2**
KHC x x 01 02 22.0
CLL Collm 86.06 321 *e**PP pP 01 01 30.0 -4.5
HFS Hagfors 86.34 330 P **P** **01 01 27.2 +1.1**
comp=Z,1.1nm,0.5s,mb4.3,baz=104,slow=5.9,SNR=5.1
MOX Moxa 86.89 321 *e*P **P** **01 01 31.6 +2.6**
MOX MLR MLR
comp=Z,200nm,19.0s,MS4.5
MOX Moxa 86.89 321 *i* P **P** **01 01 31.6 +2.6**
MOX L 01 48 48.0
GRA1 Grafenberg Arr 87.10 320 *e*P **P** **01 01 29.9 -0.1**
comp=Z,10.0nm,1.3s,mb4.9
GRF Grafenberg Arr 87.10 320 *e*P **P** **01 01 29.9 -0.1**
GRF pmax pmax
comp=Z,10.0nm,1.3s,mb4.9
GRF Grafenberg Arr 87.10 320 *e*P **P** **01 01 29.9 -0.1**
GRF pmax pmax
comp=Z,10.0nm,1.3s,mb4.9
GRF Grafenberg Arr 87.10 320 *e*P **P** **01 01 29.9 -0.1**
comp=Z,10.0nm,1.3s,mb4.9
NB2 NORSAR Subarra 87.62 331 P **P** **01 01 30.8 -1.5**
comp=Z,11nm,1.4s,mb4.9,baz=94,slow=4.8
NOA NORSAR Array B 87.62 331 P **P** **01 01 32.7 +0.4**
comp=Z,1.3nm,0.7s,mb4.3,baz=94,slow=4.9,SNR=6.4
LPG La Plagne 90.08 315 *e*P **P** **01 01 39.9 -4.4**
comp=Z,8.9nm,1.0s,mb4.8
LPG La Plagne 90.08 315 *e*P **P** **01 01 39.9 -4.4**
LPG pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
YKA Yellowknife Ar 112.48 16 PP PP 01 08 03.7 -6.1
comp=Z,0.2nm,0.7s,baz=323,slow=6.7,SNR=3.8
TXAR Lajitas Array 143.90 32 PKP PKPdf 01 08 18.5 -5.5
comp=Z,1.3nm,0.9s,baz=187,slow=10,SNR=4.1

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*IDC **01** 00:49:38.5±0.5, 1.11N×97.14E, mb4.7/20, mb1 4.7/20, mb1mx4.7/23, mbtmp4.7/20, MS4.3/3, Ms1 4.3/3, ms1mx3.9/10, Error ellipse: s-maj=18.7km s-min=13.5km az=48.0*
*BJI **01** 00:49:40.2, 0.80N×97.15E, h40km, mB5.3, mb5.3, Ms5.2, Msz5.0*
*MOS **01** 00:49:41.6±0.8, 1.12N×97.16E, h33km, mb5.3/19, MS4.9/5, Error ellipse: s-maj=14.8km s-min=8.3km az=96.0*
*HRVD **01** 00:49:42.0±1.0, 0.51N×97.15E, h17km±2km, MW5.0/41, Centroid moment Tensor Solution. LP body waves: s18,c27;Mantle waves: s41,c58; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.20±.30; Mθθ-1.76±.21; Mϕϕ1.56±.33; Mrθ0.04±.60; Mθϕ2.78±.17; Mϕr-1.73±.84; Best double couple: Mo3.671×10^16 NP1:ϕs256°,δ63°,λ7°. NP2:ϕs163°,δ84°,λ153°. Principal axes: T 3.775, Plg23°, Azm117°; N -.204, Plg62°, Azm332°; P -3.567, Plg14°, Azm213°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 00:49:42.0±0.3, 1.11N×97.16E, mb5.2/25 Error ellipse: s-maj=7.1km s-min=5.8km az=46.0*
ISC 01 00:49:40.3±0.4**, 1.12N**±0.05×**97.15E**±0.05**, h24**km**, h24**km±1.2km**:pP-P, n112,** σ**0.95**/106**, mb5.0**/57**, MS4.8**/16**, 7C-1D, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KULM Kulim 5.42 40 *e*Pn **Pn** **00 51 02.1 +0.3**
KSM Kuching 13.16 88 *e*Pn **P** **00 52 48.9 +0.4**
KKTK Khon Kaen 16.12 20 P **P** **00 53 22.8 -4.5**
1µm,0.5s
VIS Vishakhapatnam 21.37 321 *e*P **P** **00 54 28.0 -0.5**
VIS *e*P 00 54 28.6
VIS *i* 00 54 33.1
VIS AMb AMB 00 54 44.6
comp=Z,98nm,1.4s,mb4.9
QIZ Qiongzhong 21.72 34 P **P** **00 54 31.6 -0.3**
QIZ Qiongzhong 21.72 34 *e*P **P** **00 54 31.3 -0.5**
comp=Z,170nm,1.5s,mb5.2
BWNR Bhubaneshwar 22.05 331 *e*P **P** **00 54 32.7 -2.5**
BWNR AMb AMB 00 54 41.0
comp=Z,56nm,1.0s,mb5.0
HYB Hyderabad 24.43 313 *i* P **P** **00 55 07.0 +8.4**
KMI Kunming 24.46 12 P **P** **00 55 00.8 +1.9**
KMI AP 00 55 07.7
KMI AMB AMB
comp=Z,162nm,1.1s,mb5.4
KMI AMB AMB
comp=Z,418nm,3.1s
KMI LR LR
comp=N,1µm,13.5s,MS4.7
KMI LR LR
comp=E,1µm,14.6s,MS4.7
KMI LR LR
comp=Z,1µm,12.5s,MS4.6
KMI Kunming 24.46 12 P **P** **00 55 00.8 +1.9**
comp=Z,162nm,1.1s,mb5.4
KMI pP 00 55 07.7
KMI LR LR
comp=Z,1µm,12.5s,MS4.6
SHL Shillong 24.83 349 *e*P **P** **00 55 04.5 +2.1**
SHL *e* 00 58 55.0
LKP Lekhapani 26.08 358 *e* **P** **00 55 15.0 +0.8**
LKP *e* pP 00 55 23.0 +1.9
LKP Lekhapani 26.08 358 *e*P **P** **00 55 15.0 +0.8**
LKP *e* pP 00 55 23.0 +1.9
GYA Guiyang 26.80 19⇑*i*P **P** **00 55 23.0 +2.2**
GYA AP pP 00 55 32.1 +4.4
GYA XP sP 00 55 36.8 +5.9
GYA PP PP 00 56 06.5 +0.6
GYA AMB AMB
comp=Z,90nm,0.9s,mb5.3
GYA AMB AMB
comp=Z,270nm,4.2s
GYA LR LR
comp=N,3µm,13.8s,MS5.1
GYA LR LR
comp=E,2µm,13.5s,MS5.1
GYA LR LR
comp=Z,4µm,14.1s,MS5.1
GZH Guangzhou 26.91 35 P **P** **00 55 26.8 +5.0**
GZH LR LR
comp=N,2µm,15.7s,MS5.0
GZH LR LR
comp=E,3µm,14.7s,MS5.0
GZH LR LR
comp=Z,2µm,17.9s,MS4.7
KAD Karad 27.73 307 *e*P **P** **00 55 28.1 -1.2**
KAD AMb AMB 00 55 40.0
comp=Z,16nm,1.1s,mb4.6
LSA Lhasa 28.99 349 *e*P **P** **00 55 41.2 +0.7**
LSA pmax pmax
comp=Z,39nm,0.9s,mb5.1
LSA Lhasa 28.99 349 *e*P **P** **00 55 41.2 +0.7**
comp=Z,39nm,0.9s,mb5.1
BHPL Bhopal 29.16 320 *i* **P** **00 55 37.2 -4.9**
BHPL *e*P pP 00 55 44.5 -4.6
BHPL AMb AMB 00 55 47.3
comp=Z,4.3nm,0.2s,mb4.8
ENH Enshi 31.27 21 *e*P **P** **00 55 59.0 -1.8**
comp=Z,98nm,0.9s,mb5.6
QZH Quanzhou 31.46 39 P **P** **00 56 01.6 -0.9**
QZH AMB AMB
comp=Z,100nm,0.8s,mb5.7
WHN Wuhan 33.51 28 ⇑P **P** **00 56 21.0 +0.7**
WHN LR LR
comp=Z,4µm,11.9s,MS5.3
FITZ Fitzroy Crossi 33.92 126 *e*P **P** **00 56 22.9 -1.1**
comp=Z,17nm,0.6s,mb5.1
FITZ Fitzroy Crossi 33.92 126 P **P** **00 56 23.1 -0.9**
comp=Z,22nm,0.8s,mb5.2,baz=224,slow=2.5,SNR=6.7
XAN Xi'an 34.55 17 P **P** **00 56 28.0 -1.3**
XAN AMB AMB
comp=Z,60nm,0.8s,mb5.6
XAN LR LR
comp=E,3µm,15.2s
XAN LR LR
comp=Z,3µm,12.3s,MS5.3
LZH Lanzhou 35.34 9 ⇑P **P** **00 56 35.4 -0.6**
LZH AP pP 00 56 43.1 0.0
LZH AMB AMB
comp=Z,42nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,162nm,4.9s
LZH LR LR
comp=N,1µm,10.0s
LZH LR LR
comp=Z,2µm,12.5s,MS5.0
LZH Lanzhou 35.34 9 ⇑P **P** **00 56 35.4 -0.6**
LZH *SP sP 00 56 46.5 +0.4
LZH pmax pmax
comp=Z,42nm,1.3s,mb5.2
LZH MLR MLR
comp=Z,2µm,12.5s,MS5.0
LZH Lanzhou 35.34 9 ⇑P **P** **00 56 35.4 -0.6**
comp=Z,42nm,1.3s,mb5.2
LZH pP pP 00 56 43.1 0.0
LZH sP sP 00 56 46.5 +0.4
LZH LR LR
comp=Z,2µm,12.5s,MS5.0
NJ2 Nanjing 36.96 31 *e*P **P** **00 56 49.4 -0.3**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.2
GTA Gaotai 38.19 3 P **P** **00 57 00.4 +0.5**
GTA AP pP 00 57 07.1 0.0
GTA S **S** **01 02 50.0 -1.6**
GTA AMB AMB
comp=Z,76nm,0.9s,mb5.4
GTA AMB AMB
comp=Z,229nm,7.6s
GTA LR LR
comp=N,968nm,14.5s,MS5.0
GTA LR LR
comp=E,1µm,15.2s,MS5.0
GTA LR LR
comp=Z,1µm,12.6s,MS4.9
JOW Kunigami 39.33 47 P **P** **00 57 10.3 +0.7**
comp=Z,27nm,0.7s,mb5.1,baz=147,slow=24,SNR=7.4
HHC Hu-ho-hao-te 41.65 17 *e*P **P** **00 57 29.6 +1.0**
HHC AP pP 00 57 40.4 +4.7
HHC XP sP 00 57 42.3 +3.6
HHC AMB AMB
comp=Z,23nm,1.3s,mb4.7
HHC AMB AMB
comp=Z,168nm,5.6s
HHC LR LR
comp=N,2µm,13.7s,MS5.1
HHC LR LR
comp=E,1µm,15.0s,MS5.1
HHC LR LR
comp=Z,1µm,13.3s,MS5.0
WRA Warramunga Arr 42.03 122 P **P** **00 57 31.6 -0.4**
comp=Z,13nm,0.8s,mb4.6,baz=300,slow=9.1,SNR=9.7
WRA PcP PcP 00 59 27.6 +0.2
comp=Z,0.7nm,0.7s,baz=356,slow=1.8,SNR=2.4
WRAB Tennant Creek 42.04 122 *e*P **P** **00 57 31.7 -0.4**
WRAB *e**PP pP 00 57 38.0 -1.2
WRAB pmax pmax
comp=Z,25nm,0.8s,mb4.9
WRAB Tennant Creek 42.04 122 *e*P **P** **00 57 31.7 -0.3**
comp=Z,25nm,0.8s,mb4.9
WRAB *e*pP pP 00 57 38.0 -1.2
WB2 Warramunga Arr 42.05 122 *e*P **P** **00 57 31.9 -0.2**
BJT Baijiatuau 42.41 22 *e*P **P** **00 57 35.8 +1.0**
BJT *e**PP pP 00 57 42.5 +0.5
BJT pmax pmax
comp=Z,45nm,0.6s
BJT Baijiatuau 42.41 22 *e*P **P** **00 57 35.8 +0.9**
comp=Z,45nm,0.6s,mb5.3
BJT *e*pP pP 00 57 42.5 +0.5
BJI Beijing 42.43 22 *e*P **P** **00 57 36.1 +1.1**
BJI AMB AMB
comp=Z,128nm,1.3s,mb5.4
BJI LR LR
comp=N,2µm,15.1s,MS5.1
BJI LR LR
comp=E,709nm,13.7s,MS5.1
BJI LR LR
comp=Z,999nm,15.7s,MS4.8
BJI Beijing 42.43 22 *e*P **P** **00 57 36.1 +1.1**
comp=Z,84nm,0.7s,mb5.5
BJI S **S** **01 04 15.0 +20**
BJI SS ScS 01 07 34.4 +1.4
BJI LR LR
comp=Z,1µm,15.7s,MS4.8
ASPA Alice Springs 43.38 127 *e*P **P** **00 57 43.3 +0.3**
ASAR Alice Springs 43.39 127 P **P** **00 57 43.1 +0.1**
comp=Z,14nm,0.9s,mb4.7,baz=304,slow=7.5,SNR=10
ASAR PcP PcP 00 59 31.0 -0.9
comp=Z,2.3nm,0.9s,baz=315,slow=2.6,SNR=3.4
DL2 Dalian 43.77 28 P **P** **00 57 46.7 +0.8**
DL2 AMB AMB
comp=Z,60nm,0.8s,mb5.4
AAK Ala-Archa 46.05 337 *e*P **P** **00 58 04.4 +0.3**
AAK pmax pmax
comp=Z,15nm,0.9s,mb4.9
AAK Ala-Archa 46.05 337 *e*P **P** **00 58 04.4 +0.3**
comp=Z,15nm,0.9s,mb4.9

SNY Shenyang 46.99 27⇑iP P 00 58 11.2 -0.4
SNY AP pP 00 58 18.2 -0.6
SNY AMB AMB
comp=Z,50nm,0.8s,mb5.5
SONM Songino Array 47.22 8 P P 00 58 13.9 +0.6
comp=Z,15nm,0.6s,mb5.1,baz=191,slow=9.4,SNR=30
SONM PcP PcP 00 59 44.8 -0.1
comp=Z,5.8nm,0.8s,baz=198,slow=4.6,SNR=4.5
MKAR Makanchi Array 47.30 346 P P 00 58 14.4 +0.5
comp=Z,12nm,0.5s,mb5.1,baz=162,slow=9.1,SNR=20
ZAK Zakamensk 49.36 5 eP P 00 58 30.2 +0.4
CN2 Changchun 49.40 27 ⇑P P 00 58 29.8 -0.4
CN2 AMB AMB
comp=Z,70nm,0.8s,mb5.7
MOY Mondy 50.47 3 eP P 00 58 38.4 +0.1
TLY Talaya 50.68 5 eP P 00 58 40.5 +0.6
TLY e 00 59 49.6
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,1μm,18.0s,MS4.9
TLY Talaya 50.68 5 eP P 00 58 39.9 0.0
comp=Z,7.7nm,0.7s,mb4.7
TLY epP pP 00 58 47.0 -0.2
HIA Hailar 51.73 19 eP P 00 58 47.6 -0.3
HIA pmax pmax
comp=Z,41nm,0.8s
HIA Hailar 51.73 19 eP P 00 58 47.5 -0.4
comp=Z,41nm,0.8s,mb5.4
MJAR Matsushiro Arr 51.78 42 P P 00 58 48.8 +0.3
comp=Z,2.9nm,0.5s,mb4.4,baz=230,slow=6.4,SNR=6.6
KURK Kurchatov 51.85 345 eP P 00 58 48.4 -0.5
KURK pmax pmax
comp=Z,30nm,1.0s,mb5.2
KURK Kurchatov 51.85 345 eP P 00 58 48.4 -0.5
comp=Z,30nm,1.0s,mb5.2
MDJ Mudanjiang 51.96 29 P P 00 58 49.9 +0.2
MDJ AP pP 00 58 57.9 +0.9
MDJ XP sP 00 59 02.3 +2.4
MDJ AMB AMB
comp=Z,29nm,0.7s,mb5.3
MDJ AMB AMB
comp=Z,34nm,3.4s
MDJ LR LR
comp=N,464nm,18.0s,MS4.8
MDJ LR LR
comp=E,659nm,18.0s,MS4.8
MDJ LR LR
comp=Z,630nm,17.5s,MS4.7
MDJ Mudanjiang 51.96 29 eP P 00 58 49.8 +0.1
comp=Z,21nm,0.8s,mb5.1
OPO Ambohidratompo 52.85 246 P P 00 58 57.6 +0.8
comp=Z,7.3nm,0.8s,mb4.6,baz=76,slow=10,SNR=7.3
STKA Stephens Creek 53.34 132 eP P 00 59 00.6 +0.4
comp=Z,28nm,0.7s,mb5.3
STKA Stephens Creek 53.34 132 P P 00 59 00.6 +0.4
comp=Z,14nm,0.8s,mb5.0,baz=304,slow=5.8,SNR=8.2
STKA LR LR 01 23 39.9
comp=Z,929nm,21.1s,MS4.8,baz=119,slow=38
ZAL Zalesovo 53.62 351 P P 00 59 01.7 -0.2
comp=Z,17nm,0.8s,mb5.0,baz=306,slow=6.4,SNR=12
ATD Arta Tunnel 54.86 283 LR LR 01 16 06.2
comp=Z,160nm,20.1s,MS4.1,baz=243,slow=29
BVAR Borovoye Array 56.31 341 P P 00 59 20.5 -1.0
comp=Z,12nm,0.7s,mb5.0,baz=140,slow=10,SNR=14
KLR Kul'dur 56.35 27 eP P 00 59 19.0 -2.8
CHKZ Chkalovo 56.78 341 eP P 00 59 24.1 -0.8
CHKZ e*PP pP 00 59 30.7 -1.6
CHKZ pmax pmax
comp=Z,27nm,0.7s,mb5.4
CHKZ Chkalovo 56.78 341 eP P 00 59 24.1 -0.8
comp=Z,27nm,0.7s,mb5.4
CHKZ epP pP 00 59 30.7 -1.6
BOD Bodaibo 58.10 11 eP P 00 59 33.4 -0.7
CLNS Chul'man 59.83 17 eP P 00 59 45.7 -0.4
CLNS e*PP pP 00 59 52.1 -1.5
CLNS e 01 02 01.3
CLNS ePPP PPP 01 03 28.0 +2.2
CLNS eS S 01 08 13.8 +19
CLNS eSS SS 01 11 50.3 -1.6
CLNS pmax pmax
comp=N,14nm,0.8s
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS pmax pmax
comp=Z,34nm,0.8s,mb5.4
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=N,7.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS MLR MLR
comp=Z,2μm,16.0s,MS5.2
CLNS MLR MLR
comp=N,1μm,14.0s,MS5.2
CLNS MLR MLR
comp=E,1μm,15.0s,MS5.2
KMBO Kilima Mbogo 59.94 268 eP P 00 59 47.7 +0.2
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 59.94 268 P P 00 59 47.2 -0.3
comp=Z,3.3nm,0.9s,mb4.3,baz=59,slow=8.9,SNR=6.0
KMBO Kilima Mbogo 59.94 268 eP P 00 59 47.7 +0.3
comp=Z,3.8nm,0.9s,mb4.4
YSS Yuzh-Sakhalins 60.44 34 eP P 00 59 49.9 -0.6
YSS pmax pmax
comp=Z,33nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 60.44 34 eP P 00 59 49.9 -0.5
comp=Z,33nm,1.0s,mb5.3
SVE Sverdlovsk 62.74 338 eP P 01 00 12.0 +6.2
SVE eS S 01 08 28.0 -3.5
SVE e 01 09 50.0
ARU Arti 63.24 337⇓iP P 01 00 07.7 -1.3
ARU e 01 00 38.6
ARU e 01 02 28.9
ARU eS S 01 08 40.6 +3.0
ARU eSS SS 01 12 49.3 +3.3
ARU pmax pmax
comp=Z,13nm,0.8s,mb5.1
ARU MLR MLR
comp=Z,400nm,20.0s,MS4.6
ARU MLR MLR
comp=N,200nm,18.0s,MS4.6
ARU MLR MLR
comp=E,300nm,20.0s,MS4.6
HNR Honiara 63.40 101 LR LR 01 28 26.1
comp=E,164nm,19.3s,MS4.2,baz=136,slow=37
EIL Elat 65.45 302 eP P 01 00 24.2 +0.2
comp=E,17nm,1.2s,mb5.0
YAK Yakutsk 65.51 16 eP P 01 00 22.7 -1.0
YAK e*PP pP 01 00 29.3 -1.9
YAK pmax pmax
comp=Z,124nm,1.1s,mb5.8
YAK Yakutsk 65.51 16 eP P 01 00 22.7 -1.1
comp=Z,124nm,1.1s,mb5.8
YAK epP pP 01 00 29.2 -1.9
BRTR Keskin Array B 69.13 312 P P 01 00 46.9 -0.1
comp=Z,1.2nm,0.6s,mb4.0,baz=140,slow=5.7,SNR=4.4
MA2 Magadan 71.42 26 eP P 01 01 00.4 -0.1
MA2 e*PP pP 01 01 06.6 -1.4
MA2 pmax pmax
comp=Z,23nm,0.9s,mb5.1
MA2 Magadan 71.42 26 eP P 01 01 00.3 -0.2
comp=Z,23nm,0.9s,mb5.1
MA2 epP pP 01 01 06.6 -1.4
TIXI Tiksi 73.27 10 eP P 01 01 09.2 -2.0
TIXI pmax pmax
comp=Z,13nm,0.8s,mb4.9
BOSA Boshof 74.70 240 P P 01 01 20.9 +0.6
comp=Z,4.4nm,0.7s,mb4.5,baz=67,slow=8.3,SNR=8.1
AKASG Malin Array Be 75.29 322 P P 01 01 22.4 -0.9
comp=Z,0.7nm,0.5s,mb3.9,baz=20,slow=21,SNR=4.0
FINES FINESS Array B 80.05 333 P P 01 01 49.4 +0.1
comp=Z,3.0nm,0.7s,mb4.3,baz=90,slow=7.6,SNR=7.4
KAF Kangasniemi 80.13 333 ep P 01 01 49.3 -0.5
comp=Z,4.7nm,0.6s,mb4.6,baz=103,slow=5.0
KAF Kangasniemi 80.13 333 eP P 01 01 49.3 -0.5
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ARCES ARCESS Array B 82.59 340 P P 01 02 03.5 +1.0
comp=Z,4.5nm,0.9s,mb4.5,baz=92,slow=5.0,SNR=8.1
GERES GERESS Array B 84.84 319 P P 01 02 15.9 +1.5
comp=Z,0.2nm,0.3s,mb3.7,baz=63,slow=2.2,SNR=2.1
CLL Collm 85.46 321 e*PP pP 01 02 24.0 -1.1
HFS Hagfors 85.77 330 P P 01 02 19.3 +0.6
comp=Z,1.4nm,0.5s,mb4.4,baz=117,slow=6.6,SNR=4.2
GRA1 Grafenberg Arr 86.51 320 eP P 01 02 30.2 +7.6
comp=Z,8.0nm,1.0s,mb4.9
GRF Grafenberg Arr 86.51 320 eP P 01 02 30.2 +7.6
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
GRF Grafenberg Arr 86.51 320 eP P 01 02 30.2 +7.6
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
GRF Grafenberg Arr 86.51 320 eP P 01 02 30.2 +7.6
comp=Z,8.0nm,1.0s,mb4.9
NB2 NORSAR Subarra 87.05 331 P P 01 02 24.8 -0.2
comp=Z,5.3nm,0.9s,mb4.8,baz=95,slow=4.8
NOA NORSAR Array B 87.05 331 P P 01 02 25.4 +0.5
comp=Z,2.2nm,0.7s,mb4.5,baz=94,slow=4.9,SNR=7.1
LPG La Plagne 89.49 315 eP P 01 02 40.6 +3.6
comp=Z,12nm,0.8s,mb5.0
LPG La Plagne 89.49 315 eP P 01 02 40.6 +3.6
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
IMA Indian Mountai 96.67 23 eP P 01 03 10.8 +1.2
IMA epP pP 01 03 17.4 +0.1
TBI Tubuai 111.87 115 eLR LR 01 40 13.9
comp=Z,315nm,31.5s
YKA Yellowknife Ar 112.18 15 PP PP 01 08 56.9 -6.0
comp=Z,0.1nm,0.4s,baz=332,slow=7.7,SNR=4.4
PPT Papeete 112.50 108 eLR LR 01 40 30.8
comp=Z,189nm,22.5s
RKT Rikitea 124.94 118 eLR LR 01 46 17.6
comp=Z,192nm,24.0s
ULM Lac du Bonnet 127.62 11 PKP PKPdf 01 08 44.8 -3.6
comp=Z,1.2nm,0.4s,baz=345,slow=2.3,SNR=3.9
TXAR Lajitas Array 143.76 32 PKP PKPdf 01 09 14.5 -4.2
comp=Z,0.7nm,0.4s,baz=308,slow=1.3,SNR=4.2
NATX Nacogdoches 145.43 18 ePKPdf PKPdf 01 09 19.3 -2.2
NATX epPKPdf 01 09 25.8
LRAL Lakeview Retre 145.80 6 ePKPbc PKPbc 01 09 19.1 +0.6
LRAL epPKPdf 01 09 26.2

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*IDC **01** 00:59:45.6±0.7, 0.54N×97.28E, mb4.3/15, mb1 4.5/15, mb1mx4.4/20, mbtmp4.3/15, Error ellipse: s-maj=32.8km s-min=13.6km az=48.0*
*BJI **01** 00:59:49.8, 0.60N×97.50E, h30km, mB5.3, mb4.5, Ms5.0, Msz4.6*
*MOS **01** 00:59:49.8±1.8, 0.67N×97.58E, h33km, mb4.9/23, Error ellipse: s-maj=15.6km s-min=6.9km az=115.6*
*NEIC **01** 00:59:50.8±0.4, 0.62N×97.51E, h30km, mb4.8/24, Error ellipse: s-maj=13.1km s-min=7.4km az=46.0*
ISC 01 00:59:50.7±1.4, **0.62N**±0.06×**97.55E**±0.07, **h44**km±12km, **h34**km±3.6km**:pP-P, n92,** σ1**s25**/97, **mb4.6**/45, **MS4.5**/5,
1C-1D, Northern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KULM Kulim 5.58 34 ePn P 01 01 12.3 -0.9
SNG Songkhla 7.20 25 P P 01 01 37.0 +1.0
294nm,0.9s
BDT Bhumibol Dam 16.58 5 P P 01 03 43.0 +1.3
PALK Pallekele 18.05 292 eP P 01 04 00.1 0.0
18nm,0.9s
KMI Kunming 24.87 11 P P 01 05 17.0 +6.1
KMI AMB AMB
comp=Z,12nm,1.2s,mb4.3
KMI Kunming 24.87 11 P P 01 05 17.0 +6.1
comp=Z,12nm,1.2s,mb4.3
HYB Hyderabad 25.06 313 eP P 01 05 18.0 +5.2
HYB Hyderabad 25.06 313 i P P 01 05 18.0 +5.2
SHL Shillong 25.40 348 eP P 01 05 18.0 +2.1
JIRN Jiri 29.01 339 eP P 01 05 48.7 -0.1
comp=Z,48nm,0.8s,mb5.2
PKI Pulchoki 29.22 338 eP P 01 05 51.2 +0.5
comp=Z,84nm,1.3s,mb5.3
PKI Pulchoki 29.22 338 eP P 01 05 51.2 +0.5
PKI pmax pmax
comp=Z,42nm,1.3s,mb5.0
DMN Daman 29.37 337 eP P 01 05 52.3 +0.3
comp=Z,22nm,0.8s,mb4.9
KKN Kakani 29.47 337 eP P 01 05 52.7 -0.2
LSA Lhasa 29.56 349 eP P 01 05 53.9 +0.3
LSA pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
LSA Lhasa 29.56 349 eP P 01 05 53.9 +0.3
comp=Z,8.4nm,0.7s,mb4.6
GKN Gorkha 29.91 337 eP P 01 05 55.6 -1.2
comp=Z,53nm,1.1s,mb5.2
KOLN Koldanda 30.13 335 eP P 01 05 58.3 -0.4
comp=Z,24nm,0.7s,mb5.0
FITZ Fitzroy Crossi 33.31 125 eP P 01 06 26.6 -0.1
comp=Z,12nm,0.8s,mb4.9
FITZ Fitzroy Crossi 33.31 125 P P 01 06 26.3 -0.4
comp=Z,16nm,0.8s,mb5.0,baz=204,slow=3.9,SNR=14
NDI New Delhi 34.01 327 eP P 01 06 35.0 +2.4
DDI Dehra Dun 34.87 330 e P 01 06 41.8 +1.8
XAN Xi'an 34.91 17 P P 01 06 39.0 -1.3
LZH Lanzhou 35.77 9 ⇓P P 01 07 03.5 +16
LZH pP pP 01 07 12.6 +13
LZH sP sP 01 07 16.7 +11
GTA Gaotai 38.66 3 P P 01 07 11.6 -0.2
GTA PP PP 01 08 46.7 +2.2
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.3
WRA Warramunga Arr 41.43 122 P P 01 07 35.5 +0.5
comp=Z,10.0nm,0.8s,mb4.5,baz=300,slow=9.1,SNR=37
WRAB Tennant Creek 41.44 122 eP P 01 07 34.6 -0.4
WRAB pmax pmax
comp=Z,18nm,0.8s,mb4.8
WRAB Tennant Creek 41.44 122 eP P 01 07 34.6 -0.3
comp=Z,18nm,0.8s,mb4.8
WB2 Warramunga Arr 41.44 122 eP P 01 07 36.1 +1.1
HHC Hu-ho-hao-te 42.02 16 eP P 01 07 36.2 -3.3
HHC AP pP 01 07 47.0 -4.7
HHC SCP 01 13 19.1
HHC PCS 01 13 23.3
HHC S S 01 13 52.0 -3.1
HHC AMB AMB
comp=Z,10.0nm,1.3s,mb4.3
HHC AMB AMB
comp=Z,141nm,8.3s
HHC LR LR
comp=N,537nm,15.7s,MS4.8
HHC LR LR
comp=E,961nm,16.7s,MS4.8
HHC LR LR
comp=Z,543nm,15.9s,MS4.5
BJI Beijing 42.75 21 eP P 01 07 44.8 -0.8
BJI S S 01 14 16.4 +11
BJI AMB AMB
comp=Z,5.0nm,0.7s,mb4.3
BJI LR LR
comp=N,593nm,13.5s
BJI LR LR
comp=E,777nm,19.9s
BJI LR LR
comp=Z,573nm,15.0s,MS4.6
BJI Beijing 42.75 21 eP P 01 07 44.8 -0.8
BJI pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
BJI MLR MLR
comp=Z,570nm,15.0s,MS4.6
BJI Beijing 42.75 21 eP P 01 07 44.8 -0.8
comp=Z,5.0nm,0.7s,mb4.3
BJI S S 01 14 16.4 +11
BJI LR LR
comp=Z,570nm,15.0s,MS4.6
ASPA Alice Springs 42.77 127 eP P 01 07 46.1 +0.2
ASAR Alice Springs 42.77 127 P P 01 07 46.6 +0.7
comp=Z,5.4nm,0.9s,mb4.3,baz=309,slow=7.6,SNR=31
KSH Kashi 43.44 336 eP P 01 07 54.1 +2.9
KSH eAP pP 01 08 03.2 -0.3
KSH XP sP 01 08 07.1 -1.7
KSH ePP PP 01 09 37.0 +2.5
KSH ePCP PcP 01 09 40.1 +0.7
KSH ePPP PPP 01 10 13.0 +2.0
KSH eSCP 01 13 28.1
KSH ePCS 01 13 32.0
KSH eS S 01 14 22.1 +6.1
KSH eSCS ScS 01 17 48.3 +3.6
KSH AMB AMB
comp=Z,250nm,4.1s
KSH LR LR
comp=N,850nm,8.6s
KSH LR LR
comp=E,730nm,9.8s
WMQ Urumqi 43.90 350 ⇑P P 01 07 56.4 +1.5
WMQ AP pP 01 08 06.4 -0.7
WMQ XP sP 01 08 10.4 -2.1
WMQ PP PP 01 09 40.4 +1.4
WMQ PCP PcP 01 09 42.4 +1.5
WMQ S S 01 14 25.4 +2.8
WMQ XS 01 14 42.4
WMQ AMB AMB
comp=Z,3.0nm,0.6s,mb4.2
WMQ AMB AMB
comp=Z,85nm,6.1s
WMQ LR LR
comp=N,548nm,16.1s,MS4.7
WMQ LR LR
comp=E,445nm,17.6s,MS4.7
WMQ LR LR
comp=Z,368nm,19.6s,MS4.3
AAK Ala-Archa 46.67 337 eP P 01 08 19.1 +2.2
AAK pmax pmax
comp=Z,30nm,1.8s,mb4.9
AAK Ala-Archa 46.67 337 eP P 01 08 19.1 +2.1
comp=Z,30nm,1.8s,mb4.9
FRU Bishkek 46.79 337 eP P 01 08 22.0 +4.2
FRU pmax pmax
comp=Z,44nm,2.0s,mb5.0
SONM Songino Array 47.65 8 P P 01 08 25.2 +0.6
comp=Z,3.1nm,0.8s,mb4.4,baz=191,slow=7.7,SNR=20
ULN Ulaanbaatar 47.78 9 eP P 01 08 27.7 +2.1
ULN pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ULN Ulaanbaatar 47.78 9 eP P 01 08 27.7 +2.1
comp=Z,3.3nm,1.0s,mb4.3
MKAR Makanchi Array 47.89 346 i P P 01 08 25.6 -0.8
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 47.89 346 P P 01 08 25.8 -0.6
comp=Z,7.0nm,0.8s,mb4.7,baz=157,slow=8.1,SNR=51
KKAR Karatay Array 48.73 334 P P 01 08 33.0 0.0
ZAK Zakamensk 49.82 5 eP P 01 08 40.9 -0.4
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,2.1s,mb3.8
KURK Kurchatov 52.44 345 eP P 01 08 59.9 -1.2
KURK pmax pmax
comp=Z,25nm,1.4s,mb5.0
KURK Kurchatov 52.44 345 eP P 01 08 59.9 -1.2
comp=Z,25nm,1.4s,mb5.0
STKA Stephens Creek 52.71 132 P P 01 09 04.3 +0.9
comp=Z,6.1nm,0.9s,mb4.5,baz=305,slow=5.7,SNR=8.2
ZAL Zalesovo 54.18 351 P P 01 09 12.7 -1.2
comp=Z,2.8nm,0.5s,mb4.4,baz=313,slow=4.8,SNR=15
NVS Novosibirsk 55.30 350 eP P 01 09 22.3 +0.2
NVS eS S 01 17 02.7 +1.6
NVS pmax pmax
comp=Z,26nm,2.5s,mb4.8
NVS pmax pmax
comp=E,6.0nm,1.3s
NVS smax
comp=N,11nm,1.6s
KLR Kul'dur 56.62 26 eP P 01 09 28.0 -3.6
BVA0 Borovoye Array 56.91 341 P P 01 09 31.3 -2.4
BVAR Borovoye Array 56.91 341 P P 01 09 31.7 -2.0
comp=N,3.3nm,0.9s,mb4.4,baz=148,slow=9.0,SNR=16
CHKZ Chkalovo 57.38 341 eP P 01 09 35.2 -1.8
CHKZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
CHKZ Chkalovo 57.38 341 eP P 01 09 35.2 -1.8
comp=Z,7.0nm,0.8s,mb4.7
BOD Bodaibo 58.52 10 eP P 01 09 42.8 -2.0
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
KMBO Kilima Mbogo 60.32 268 eP P 01 09 58.4 +0.5
KMBO pmax pmax
comp=Z,12nm,1.6s
KMBO Kilima Mbogo 60.32 268 P P 01 09 55.6 -2.3
comp=Z,1.4nm,1.0s,mb3.9,baz=42,slow=8.9,SNR=3.0
KMBO Kilima Mbogo 60.32 268 eP P 01 09 58.4 +0.5
comp=Z,12nm,1.6s,mb4.7
TI2 Plekhanov 62.64 318 eP P 01 10 13.4 +0.3
SVE Sverdlovsk 63.35 338 eP P 01 10 18.0 +0.3
SVE pmax pmax
comp=Z,40nm,1.8s,mb5.2
SVE MLR MLR
comp=N,100nm,19.0s,MS4.2
SVE MLR MLR
comp=E,100nm,19.0s,MS4.2
SVE MLR MLR
comp=Z,500nm,19.0s,MS4.7
ARU Arti 63.85 337 eP P 01 10 19.8 -1.1
ARU pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
ARU Arti 63.85 337 eP P 01 10 19.8 -1.1
comp=Z,9.5nm,1.1s,mb4.7
KIV Kislovodsk 64.97 319 P P 01 10 28.0 -0.4
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KIV Kislovodsk 64.97 319 P P 01 10 27.9 -0.4
comp=Z,9.3nm,1.0s,mb4.8
MALT Malatya 65.78 312 eP P 01 10 33.8 +0.2
MALT pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
MALT Malatya 65.78 312 eP P 01 10 33.8 +0.2
comp=Z,8.9nm,1.3s,mb4.6
MBAR Mbarara 66.82 269 eP P 01 10 40.4 -0.3
MBAR pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
MBAR Mbarara 66.82 269 eP P 01 10 40.4 -0.2
comp=Z,6.2nm,1.4s,mb4.5
BRTR Keskin Array B 69.76 312 P P 01 10 56.6 -1.8
comp=Z,2.1nm,0.8s,mb4.1,baz=141,slow=7.9,SNR=9.7
VRSR Storozhevoye 70.23 325 eP P 01 11 00.9 -0.2
VRSR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.1s
TIXI Tiksi 73.69 10 eP P 01 11 19.2 -2.2
TIXI pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
TIXI MLR MLR
comp=Z,228nm,15.0s,MS4.6
AKASG Malin Array Be 75.93 322 P P 01 11 33.2 -1.3
comp=Z,2.9nm,0.6s,mb4.4,baz=88,slow=5.3,SNR=11
KOLS Kolonicke sedl 79.88 320 eP P 01 11 57.7 +1.2
KOLS e 01 12 02.4
KOLS e pP 01 12 14.6 +5.0
SUW Suwalki 80.35 325 eP P 01 11 59.3 +0.4
SUW pmax pmax
comp=Z,16nm,0.8s,mb5.0
SUW Suwalki 80.35 325 eP P 01 11 59.3 +0.5
comp=Z,16nm,0.8s,mb5.0
CRVS Cervenica-Dubn 80.40 319 eP P 01 12 02.1 +2.8
CRVS esP sP 01 12 14.9 -2.4
FINES FINESS Array B 80.67 333 P P 01 12 00.4 0.0
comp=Z,2.1nm,0.8s,mb4.1,baz=90,slow=8.3,SNR=6.9
ZST Bratislava 83.17 318 eP P 01 12 10.7 -2.9
ARCES ARCESS Array B 83.20 340 P P 01 12 13.3 0.0
comp=Z,2.3nm,0.9s,mb4.2,baz=106,slow=6.6,SNR=2.8
GERES GERESS Array B 85.48 319 P P 01 12 25.4 +0.3
comp=Z,2.4nm,0.9s,mb4.3,baz=90,slow=5.3,SNR=11
GRA1 Grafenberg Arr 87.15 320 eP P 01 12 31.5 -1.8
comp=Z,4.0nm,0.8s,mb4.7
GRF Grafenberg Arr 87.15 320 eP P 01 12 31.5 -1.8
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
GRF Grafenberg Arr 87.15 320 eP P 01 12 31.5 -1.8
GRF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
GRF Grafenberg Arr 87.15 320 eP P 01 12 31.5 -1.8
comp=Z,4.0nm,0.8s,mb4.7
NB2 NORSAR Subarra 87.68 331 P P 01 12 35.3 -0.3
comp=Z,3.4nm,1.0s,mb4.5,baz=94,slow=4.8
NOA NORSAR Array B 87.68 331 P P 01 12 35.7 +0.1
comp=Z,1.5nm,0.8s,mb4.2,baz=95,slow=4.9,SNR=5.3
LPG La Plagne 90.12 315 eP P 01 12 49.3 +1.7
comp=Z,7.0nm,0.8s,mb4.7
LPG La Plagne 90.12 315 eP P 01 12 49.3 +1.7
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
TXAR Lajitas Array 143.97 32 PKP PKPdf 01 19 23.4 +1.3
comp=Z,1.5nm,0.8s,baz=202,slow=1.5,SNR=5.1

IDC 01 01:16:06.1±3.7, **5.94N**×**96.46E, mb3.6**/4, **mb1 3.8**/4,

mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=151.1km s-min=28.5km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	42.49	346	P	P	01 24 03.5	-1.3
	0.9nm,0.8s,baz=162,slow=7.7,SNR=9.8						
SONM	Songino Array	42.60	10	P	P	01 24 04.2	-1.4
	0.2nm,0.4s,baz=197,slow=8.5,SNR=3.8						
WRA	Warramunga Arr	45.27	126	P	P	01 24 25.8	-1.9
	0.3nm,0.4s,baz=305,slow=9.0,SNR=5.6						
ZAL	Zalesovo	48.78	351	P	P	01 24 51.7	-3.0
	1.2nm,0.4s,baz=328,slow=6.7,SNR=3.4						

*IDC **01** 01:16:21.5±61.0, 0.45N×98.06E, mb4.0/3, mb1 4.1/3, mb1mx3.6/18, mbtmp4.0/3, Error ellipse: s-maj=1194.0km s-min=158.6km az=174.0*

NEIC 01 01:16:31.1±10.0**, 1.12N×97.79E, h30km, mb4.0**/3**, Error ellipse: s-maj=217.0km s-min=15.3km az=160.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.03	35	ePn	Pn	01 17 44.4	-2.2
PALK	Pallekele	18.09	290	P	P	01 20 40.1	-2.2
	17nm,0.8s						
SONM	Songino Array	47.13	8	P	P	01 25 00.3	-2.2
	0.6nm,0.6s,baz=192,slow=8.5,SNR=5.3						
MKAR	Makanchi Array	47.46	346	P	P	01 25 03.5	-1.7
	1.3nm,0.6s,baz=158,slow=7.4,SNR=9.5						
KURK	Kurchatov	52.02	345	eP	P	01 25 38.0	-2.1
	1.3nm,0.7s						
ZAL	Zalesovo	53.72	351	P	P	01 25 50.2	-2.4
	1.7nm,0.3s,baz=285,slow=5.0,SNR=5.4						
ZAL	Zalesovo	53.72	351	P	P	01 25 50.2	-2.4
CHKZ	Chkalovo	56.99	341	eP	P	01 26 14.1	-2.3
	0.6nm,0.5s						

OTT 01 01:42:58.2±0.1**, 64.71N×110.62W, h1km, MN2.6**/17**, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKTN	Ekati Mine	0.01	155	PG	Pg	01 42 58.3	-0.2
DVKN	Diavik Mine	0.24	146	PG	Pg	01 43 02.6	-0.4
DVKN				SG	Sg	01 43 05.8	-0.4
ACKN	Achilles Lake	0.30	340	PG	Pg	01 43 03.5	-0.7
ACKN				SG	Sg	01 43 07.8	-0.5
ACKN				Trac		01 43 08.8	
	comp=Z,111nm,0.1s						
YNEN	Yamba Lake Nor	0.42	335	PG	Pg	01 43 05.8	-0.8
YNEN				SG	Sg	01 43 11.6	-0.7
YNEN				Trac		01 43 12.6	
	comp=Z,33nm,0.1s						
YMBN	Yamba Lake	0.42	293	PG	Pg	01 43 05.8	-0.8
YMBN				SG	Sg	01 43 11.7	-0.6
YMBN				Trac		01 43 12.4	
	comp=Z,22nm,0.1s						
LGSN	Lac de Gras So	0.43	150	PG	Pg	01 43 06.2	-0.6
LGSN				SG	Sg	01 43 12.0	-0.5
LGSN				Trac		01 43 13.2	
	comp=Z,17nm,0.1s						
GLWN	Glow Worm Lake	0.56	88	PG	Pg	01 43 08.1	-1.1
GLWN				SG	Sg	01 43 15.4	-1.2
GLWN				Trac		01 43 16.3	
	comp=Z,22nm,0.1s						
COWN	Contwyoto Lake	0.61	337	PG	Pg	01 43 09.3	-1.0
COWN				SG	Sg	01 43 17.5	-1.0
COWN				Trac		01 43 18.1	
	comp=Z,24nm,0.1s						
NODN	Nodinka Narrow	0.77	191	PG	Pg	01 43 12.3	-1.2
NODN				SG	Sg	01 43 22.3	-1.3
NODN				Trac		01 43 23.7	
	comp=Z,20nm,0.1s						
MLON	Marlo Lake	0.81	157	PG	Pg	01 43 12.9	-1.4
MLON				SG	Sg	01 43 24.1	-0.9
MLON				Trac		01 43 24.6	
	comp=Z,12nm,0.1s						
BOXN	Box Lake	0.95	155	PG	Pg	01 43 15.6	-1.5
BOXN				SG	Sg	01 43 28.1	-1.6
BOXN				Trac		01 43 29.1	
	comp=Z,12nm,0.1s						
CAMN	Camsell Lake	0.99	187	PG	Pg	01 43 16.3	-1.6
CAMN				SG	Sg	01 43 29.1	-1.9
CAMN				Trac		01 43 31.8	
	comp=Z,10nm,0.1s						
LUPN	Lupin Mine	1.07	346	PG	Pg	01 43 17.5	-2.0
LUPN				SG	Sg	01 43 31.1	-2.6
LUPN				Trac		01 43 36.1	
	comp=Z,28nm,0.1s						
MGTN	Margaret Lake	1.12	156	PG	Pg	01 43 18.8	-1.8
MGTN				SG	Sg	01 43 32.4	-3.1
MGTN				Trac		01 43 37.6	
	comp=Z,49nm,0.1s						
GBLN	Grizzly Bear L	1.15	245	PG	Pg	01 43 19.1	-2.0
GBLN				SG	Sg	01 43 34.0	-2.3
GBLN				Trac		01 43 38.4	
	comp=Z,174nm,0.1s						
SNPN	Snap Lake	1.20	186	PG	Pg	01 43 20.1	-2.1
SNPN				SG	Sg	01 43 35.8	-2.4
SNPN				Trac		01 43 40.2	
	comp=Z,52nm,0.1s						
IHLN	Indian Hill La	1.42	185	PG	Pg	01 43 23.5	-2.9
IHLN				SG	Sg	01 43 41.9	-3.4
IHLN				Trac		01 43 45.0	
	comp=Z,13nm,0.1s						
KNDN	Kennady Lake	1.44	154	PG	Pg	01 43 24.0	-2.9
KNDN				SG	Sg	01 43 42.2	-3.8
KNDN				Trac		01 43 45.4	
	comp=Z,13nm,0.1s						
ILKN	Indian Lake	2.01	258	PN	Pn	01 43 32.7	-0.9
ILKN				SN	Sn	01 43 59.2	-0.6
ILKN				Trac		01 44 00.6	
	comp=Z,7.4nm,0.1s						
DSMN	Discovery Mine	2.11	225	PN	Pn	01 43 33.4	-1.7
DSMN				SN	Sn	01 44 02.8	+0.6
DSMN				Trac		01 44 05.3	
	comp=Z,7.0nm,0.1s						
CTLN	Castor Lake	2.35	266	PN	Pn	01 43 37.2	-1.2
CTLN				SN	Sn	01 44 09.6	+1.3
CTLN				Trac		01 44 10.5	
	comp=Z,9.2nm,0.1s						
YKW3	Yellowknife Ar	2.80	221	PN	Pn	01 43 42.0	-2.8
YKW3				SN	Sn	01 44 15.4	-4.3
YKW3				SG	Sg	01 44 24.1	-7.2
YKW3				Trac		01 44 29.9	
	comp=Z,5.0nm,0.1s						
GALN	Gameti Lake	2.96	261	PN	Pn	01 43 45.0	-2.3
GALN				SN	Sn	01 44 17.0	-7.0
GALN				SG	Sg	01 44 28.8	-8.0
GALN				Trac		01 44 36.2	
	comp=Z,7.1nm,0.2s						
YRTN	Rankin Inlet	8.41	95	PN	P	01 44 57.1	-7.0
YRTN				SN	Sn	01 46 27.5	-13
INK	Inuvik	9.79	302	PN	P	01 45 17.7	-5.3
INK				SN	Sn	01 47 01.8	-13
FCC	Fort Churchill	9.83	120	PN	P	01 45 17.9	-5.6
QILN	Qililugaq Expl	10.16	68	PN	P	01 45 20.9	-7.2
QILN				SN	S	01 47 08.2	-16

*IDC **01** 01:46:55.7±0.8, 1.06N×97.45E, mb4.1/11, mb1 4.3/11, mb1mx4.1/19, mbtmp4.1/11, Error ellipse: s-maj=34.4km s-min=15.5km az=50.0*

*BJI **01** 01:46:55.7, 0.50N×97.49E, h45km, mB4.8, mb4.7, Ms4.2, Msz4.1*

*NEIC **01** 01:47:00.0±0.5, 1.02N×97.41E, h30km, mb4.6/13, Error ellipse: s-maj=13.2km s-min=7.8km az=57.0*

ISC 01 01:46:58.2±0.6**, 1.04N**±0.08×**97.43E**±0.10**, h30km, n37, σ0s82**/37**, mb4.4**/26**, MS4.0**/1**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.30	37	ePn	Pn	01 48 18.0	+0.5
KMI	Kunming	24.49	12	P	P	01 52 17.7	+1.5
KMI				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.4						
KMI				AMB	AMB		
	comp=Z,80nm,4.2s						
KMI				LR	LR		
	comp=N,277nm,11.4s,MS4.1						
KMI				LR	LR		
	comp=E,248nm,13.9s,MS4.1						
KMI				LR	LR		
	comp=Z,314nm,15.2s,MS3.9						
KMI	Kunming	24.49	12	P	P	01 52 17.7	+1.5
	comp=Z,15nm,0.9s,mb4.4						
KMI				sP		01 52 28.6	
KMI				LR	LR		
	comp=Z,310nm,15.2s,MS3.9						
HYB	Hyderabad	24.69	312	eP	P	01 52 28.0	+10
HYB	Hyderabad	24.69	312	i P	P	01 52 28.0	+10
JIRN	Jiri	28.58	339	eP	P	01 52 54.8	+0.8
	comp=Z,17nm,0.8s,mb4.8						
GUN	Gumba	28.92	338	eP	P	01 52 56.7	-0.3
	comp=Z,20nm,0.8s,mb4.9						
DMN	Daman	28.94	337	eP	P	01 53 02.2	+5.0
GKN	Gorkha	29.48	337	eP	P	01 53 03.5	+1.4
KOLN	Koldanda	29.70	335	eP	P	01 53 10.6	+6.5
ENH	Enshi	31.25	20	eP	P	01 53 16.3	-1.4
	comp=Z,11nm,0.8s,mb4.7						
FITZ	Fitzroy Crossi	33.64	126	P	P	01 53 38.1	-0.5
	comp=Z,5.4nm,1.1s,mb4.4,baz=340,slow=3.5,SNR=4.6						
XAN	Xi'an	34.55	17	P	P	01 53 45.3	-1.0
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
GTA	Gaotai	38.25	3	P	P	01 54 17.6	+0.1
GTA				XP	sP	01 54 30.9	+0.6
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
WRA	Warramunga Arr	41.75	122	P	P	01 54 46.5	-0.3
	comp=Z,0.8nm,0.6s,mb3.5,baz=300,slow=9.1,SNR=12						
WRAB	Tennant Creek	41.76	122	eP	P	01 54 47.0	+0.2
	comp=Z,2.7nm,0.7s,mb4.0						
BJT	Baijiatuau	42.38	21	eP	P	01 54 52.4	+0.8
	comp=Z,11nm,0.7s,mb4.6						
BJI	Beijing	42.40	21	eP	P	01 54 52.8	+1.0
BJI				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.7						
BJI	Beijing	42.40	21	eP	P	01 54 52.8	+1.0
	comp=Z,16nm,0.8s,mb4.7						
ASAR	Alice Springs	43.11	127	P	P	01 54 57.8	-0.1
	comp=Z,1.0nm,0.9s,mb3.6,baz=295,slow=8.1,SNR=5.1						
AAK	Ala-Archa	46.24	337	eP	P	01 55 20.9	-1.8
	comp=Z,1.4nm,0.8s,mb3.9						
SONM	Songino Array	47.26	8	P	P	01 55 31.1	+0.5
	comp=Z,2.2nm,0.6s,mb4.3,baz=190,slow=9.3,SNR=25						
SONM				PcP	PcP	01 57 02.2	+0.3
	comp=Z,1.6nm,0.8s,baz=194,slow=4.0,SNR=6.2						
ULN	Ulaanbaatar	47.38	9	eP	P	01 55 31.0	-0.6
	comp=Z,15nm,1.7s,mb4.6						
MKAR	Makanchi Array	47.45	346	P	P	01 55 32.4	+0.2
	comp=Z,7.0nm,0.7s,mb4.7,baz=158,slow=7.8,SNR=82						
CN2	Changchun	49.34	27	eP	P	01 55 46.6	-0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
TLY	Talaya	50.73	5	P	P	01 55 57.2	-0.2
	comp=Z,2.6nm,0.7s,mb4.3						
KURK	Kurchatov	52.01	345	eP	P	01 56 06.7	-0.3
	comp=Z,5.3nm,0.8s,mb4.5						
STKA	Stephens Creek	53.07	132	P	P	01 56 16.0	+0.7
	comp=Z,2.2nm,0.8s,mb4.1,baz=305,slow=15,SNR=2.8						
STKA	Stephens Creek	53.07	132	P	P	01 56 16.0	+0.7
ZAL	Zalesovo	53.75	351	P	P	01 56 19.5	-0.4
	comp=Z,6.4nm,0.6s,mb4.8,baz=314,slow=5.8,SNR=30						
CHKZ	Chkalovo	56.95	341	eP	P	01 56 41.9	-1.3
	comp=Z,6.2nm,0.8s,mb4.7						
KMBO	Kilima Mbogo	60.22	268	P	P	01 57 07.3	+0.9
	comp=Z,0.8nm,0.8s,mb3.8,baz=62,slow=17,SNR=3.3						
KMBO	Kilima Mbogo	60.22	268	eP	P	01 57 07.0	+0.6
	comp=Z,0.9nm,0.7s,mb3.9						
FINES	FINESS Array B	80.25	332	P	P	01 59 07.4	0.0
	comp=Z,0.8nm,0.7s,mb3.8,baz=68,slow=10,SNR=4.3						
GERES	GERESS Array B	85.09	319	P	P	01 59 33.4	+0.8
	comp=Z,1.3nm,0.9s,mb4.1,baz=104,slow=5.5,SNR=7.7						
NB2	NORSAR Subarra	87.26	331	P	P	01 59 41.5	-1.5
	comp=Z,2.1nm,0.9s,mb4.4,baz=94,slow=5.6						
NOA	NORSAR Array B	87.26	331	P	P	01 59 42.4	-0.6
	comp=Z,1.7nm,0.9s,mb4.3,baz=95,slow=5.1,SNR=5.1						

*BJI **01** 01:55:02.2, 0.09S×97.59E, h30km, mB5.1, mb4.9, Ms4.5, Msz4.2*

*IDC **01** 01:55:06.5±0.7, 0.76N×97.31E, mb4.3/14, mb1 4.4/14, mb1mx4.4/19, mbtmp4.3/14, MS3.7/2, Ms1 3.7/2, ms1mx3.0/30, Error ellipse: s-maj=29.3km s-min=15.5km az=45.0*

*MOS **01** 01:55:09.6±1.2, 0.81N×97.40E, h33km, mb4.7/10, Error ellipse: s-maj=20.5km s-min=9.7km az=107.6*

*NEIC **01** 01:55:11.2±0.5, 0.75N×97.42E, h30km, mb4.6/12, Error ellipse: s-maj=11.9km s-min=8.3km az=49.0*

ISC 01 01:55:09.9±0.6**, 0.78N**±0.08×**97.44E**±0.07**, h33km, (h21km**±6.4km**:pP-P), n67, σ1s00**/66**, mb4.5**/35**, MS3.6**/4**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	Ipoh	5.21	43	P	P	01 56 27.6	+0.1
KULM	Kulim	5.51	36	ePn	Pn	01 56 31.2	-0.7
KGM	Kluang	6.01	78	P	P	01 56 40.6	+1.8
KMI	Kunming	24.74	12	P	P	02 00 31.6	+1.7
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.4						
KMI				LR	LR		
	comp=Z,163nm,19.4s,MS3.5						
KMI	Kunming	24.74	12	P	P	02 00 31.6	+1.7
	comp=Z,15nm,1.1s,mb4.4						
KMI				LR	LR		
	comp=Z,160nm,19.4s,MS3.5						
HYB	Hyderabad	24.87	313	eP	P	02 00 43.0	+12
HYB	Hyderabad	24.87	313	i P	P	02 00 43.0	+12
SHL	Shillong	25.22	348	eP	P	02 00 34.5	0.0
GYA	Guiyang	27.03	18	P	P	02 00 50.6	-0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
JIRN	Jiri	28.82	339	eP	P	02 01 07.8	+0.3
	comp=Z,24nm,0.8s,mb5.0						
PKI	Pulchoki	29.03	338	eP	P	02 01 10.9	+1.6
GUN	Gumba	29.16	339	eP	P	02 01 10.9	+0.4
	comp=Z,26nm,0.5s,mb5.2						
DMN	Daman	29.18	337	eP	P	02 01 12.3	+1.7
	comp=Z,19nm,0.7s,mb4.9						
KKN	Kakani	29.28	338	eP	P	02 01 12.3	+0.8
	comp=Z,16nm,0.6s,mb4.9						
KKN	Kakani	29.28	338	eP	P	02 01 12.3	+0.8
KKN				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
LSA	Lhasa	29.38	349	eP	P	02 01 12.8	+0.4
LSA				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
LSA	Lhasa	29.38	349	eP	P	02 01 12.8	+0.4
	comp=Z,7.1nm,0.5s,mb4.7						
GKN	Gorkha	29.72	337	eP	P	02 01 15.2	-0.2
KOLN	Koldanda	29.94	335	eP	P	02 01 17.6	+0.2
	comp=Z,17nm,0.7s,mb4.9						
ENH	Enshi	31.49	20	eP	P	02 01 28.6	-2.5
	comp=Z,5.3nm,0.5s,mb4.6						
FITZ	Fitzroy Crossi	33.49	125	P	P	02 01 48.2	-0.4
	comp=Z,5.0nm,0.8s,mb4.5,baz=156,slow=20,SNR=8.1						
XAN	Xi'an	34.80	17	P	P	02 01 57.9	-1.8
XAN				AP	pP	02 02 03.8	-5.6
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
GTA	Gaotai	38.51	3	P	P	02 02 31.0	+0.1
GTA				AP	pP	02 02 37.1	-3.6
GTA				XP	sP	02 02 39.8	-5.1
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
WRA	Warramunga Arr	41.61	122	P	P	02 02 57.2	+0.2
	comp=Z,2.8nm,0.7s,mb4.0,baz=302,slow=9.0,SNR=21						
BJI	Beijing	42.64	21	eP	P	02 03 05.8	+0.7
BJI				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.0						
BJI	Beijing	42.64	21	eP	P	02 03 05.8	+0.7
	comp=Z,23nm,0.7s,mb5.0						
ASAR	Alice Springs	42.95	127	P	P	02 03 08.8	+0.9
	comp=Z,2.1nm,0.6s,mb4.0,baz=297,slow=7.6,SNR=20						
ASAR				LR	LR	02 22 23.9	
	comp=Z,83nm,20.0s,MS3.6,baz=329,slow=38						
WMQ	Urumqi	43.73	350	P	P	02 03 14.5	+0.6
WMQ				AP	pP	02 03 24.5	+0.7
WMQ				XP	sP	02 03 28.0	+0.1
WMQ				ePCP	PcP	02 04 56.5	-4.5
WMQ				PP	PP	02 05 00.3	+2.9
WMQ				eS	S	02 09 49.0	+7.6
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,132nm,4.2s						
WMQ				LR	LR		
	comp=N,32nm,26.4s,MS3.5						
WMQ				LR	LR		
	comp=E,85nm,30.1s,MS3.5						
ULHL	Ulahol	45.47	338	P	P	02 03 28.7	+0.7
	SNR=5.6						
UCH	Uchtor	46.13	336	P	P	02 03 34.1	+1.0
	SNR=7.2						
TKM2	Tokmak 2	46.30	338	P	P	02 03 35.0	+0.6
	SNR=6.6						
KBK	Karagaybulak	46.32	337	P	P	02 03 36.1	+1.5
	SNR=6.0						
AML	Almayashu	46.38	336	P	P	02 03 36.1	+1.1
	SNR=5.9						
AAK	Ala-Archa	46.48	337	eP	P	02 03 35.2	-0.6
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
AAK	Ala-Archa	46.48	337	eP	P	02 03 35.2	-0.6
	comp=Z,1.6nm,0.6s,mb4.1						
EKS2	Erkin-Say	46.79	336	P	P	02 03 39.1	+0.9
	SNR=6.3						
USP	Ospenovka	47.01	337	P	P	02 03 40.4	+0.4
	SNR=12						
SONM	Songino Array	47.51	8	P	P	02 03 43.9	0.0
	comp=Z,1.9nm,0.4s,mb4.5,baz=190,slow=9.7,SNR=32						
ULN	Ulaanbaatar	47.64	9	eP	P	02 03 44.6	-0.3
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ULN	Ulaanbaatar	47.64	9	eP	P	02 03 44.6	-0.3
	comp=Z,2.5nm,0.8s,mb4.3						
MKAR	Makanchi Array	47.71	346	eP	P	02 03 45.0	-0.4
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	Makanchi Array	47.71	346	P	P	02 03 45.2	-0.2
	comp=Z,6.2nm,0.5s,mb4.9,baz=159,slow=9.2,SNR=126						
MKAR	Makanchi Array	47.71	346	P	P	02 03 45.2	-0.2
ZAK	Zakamensk	49.67	5	eP	P	02 04 00.0	-0.6
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
MJAR	Matsushiro Arr	51.84	42	P	P	02 04 17.1	-0.1
	comp=Z,2.9nm,0.5s,mb4.5,baz=201,slow=6.9,SNR=5.9						
CTA	Charters Tower	52.10	116	LR	LR	02 29 45.5	
	comp=Z,98nm,19.2s,MS3.9,baz=48,slow=40						
KURK	Kurchatov	52.26	345	eP	P	02 04 19.3	-0.8
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
KURK	Kurchatov	52.26	345	eP	P	02 04 19.3	-0.8
	comp=Z,6.0nm,0.8s,mb4.6						
ZAL	Zalesovo	54.00	351	P	P	02 04 32.0	-1.0
	comp=Z,5.5nm,0.3s,mb4.9,baz=311,slow=6.1,SNR=26						
NVS	Novosibirsk	55.13	350	eP	P	02 04 39.1	-2.2
KLR	Kul'dur	56.52	26	eP	P	02 04 48.2	-3.2
CHKZ	Chkalovo	57.20	341	eP	P	02 04 54.6	-1.6
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
CHKZ	Chkalovo	57.20	341	eP	P	02 04 54.5	-1.6
	comp=Z,1.6nm,0.5s,mb4.3						
BOD	Bodaibo	58.38	10	eP	P	02 05 03.8	-0.5
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KMBO	Kilima Mbogo	60.21	268	P	P	02 05 16.4	-1.2
	comp=Z,0.6nm,0.7s,mb3.7,baz=41,slow=21,SNR=3.0						
BRTR	Keskin Array B	69.57	312	P	P	02 06 17.2	-0.6
	comp=Z,0.8nm,0.8s,mb3.7,baz=100,slow=7.5,SNR=4.2						
OBN	Obninsk	73.10	328	eP	P	02 06 37.9	-0.8
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
AKASG	Malin Array Be	75.74	322	P	P	02 06 52.9	-1.1
	comp=Z,1.4nm,0.5s,mb4.1,baz=88,slow=4.9,SNR=8.3						
AKASG	Malin Array Be	75.74	322	P	P	02 06 52.9	-1.1
FINES	FINESS Array B	80.48	333	P	P	02 07 19.8	-0.2
	comp=Z,1.3nm,0.6s,mb4.1,baz=117,slow=4.3,SNR=13						
KAF	Kangasniemi	80.56	333	ep	P	02 07 17.1	-3.3
	comp=Z,3.1nm,0.7s,mb4.3						
KAF	Kangasniemi	80.56	333	eP	P	02 07 17.1	-3.3
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ARCES	ARCESS Array B	83.01	340	P	P	02 07 33.3	+0.4
	comp=Z,5.8nm,1.1s,mb4.5,baz=90,slow=3.6,SNR=9.9						
GERES	GERESS Array B	85.29	319	P	P	02 07 45.7	+0.9
	comp=Z,1.0nm,0.9s,mb4.0,baz=90,slow=5.3,SNR=7.3						
NB2	NORSAR Subarra	87.49	331	P	P	02 07 55.4	+0.2
	comp=Z,1.3nm,0.8s,mb4.2,baz=96,slow=4.8						
NOA	NORSAR Array B	87.49	331	P	P	02 07 55.8	+0.6
	comp=Z,1.3nm,0.7s,mb4.2,baz=95,slow=4.9,SNR=6.7						
TXAR	Lajitas Array	143.90	32	PKP	PKPdf	02 14 44.3	+1.7
	comp=Z,0.4nm,0.6s,baz=34,slow=4.5,SNR=3.7						

*IDC **01** 02:20:25.6±0.7, 3.01N×96.34E, mb4.0/13, mb1 4.1/13, mb1mx4.0/19, mbtmp4.0/13, MS4.3/1, Ms1 4.3/1, ms1mx3.6/11, Error ellipse: s-maj=33.7km s-min=14.3km az=50.0*

*BJI **01** 02:20:28.9, 2.90N×96.30E, h30km, mb4.6, Ms4.9, Msz4.8*

*MOS **01** 02:20:28.8±1.2, 2.97N×96.37E, h33km, mb4.5/11, Error ellipse: s-maj=23.4km s-min=10.0km az=114.2*

*NEIC **01** 02:20:30.0±0.5, 2.91N×96.31E, h30km, mb4.5/10, Error ellipse: s-maj=16.8km s-min=8.4km az=48.0*

ISC 01 02:20:28.6±0.5**, 2.99N**±0.07×**96.38E**±0.07**, h31km, h31km**±1.7km**:pP-P, n59, σ1s15**/61**, mb4.3**/32**, MS4.4**/10**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	4.83	62	ePn	Pn	02 21 43.5	+2.3
KSM	Kuching	14.00	96	ePn	P	02 23 56.1	+8.7
QIZ	Qiongzhong	20.68	39	P	P	02 25 09.8	+1.0
QIZ				eS	S	02 28 49.2	-4.1
QIZ				LR	LR		
	comp=N,1μm,12.6s,MS4.7						
QIZ				LR	LR		
	comp=E,2μm,12.3s,MS4.7						
QIZ				LR	LR		
	comp=Z,3μm,13.1s,MS4.8						
KMI	Kunming	22.84	15	P	P	02 25 24.2	-6.4
	comp=Z,7.0nm,1.0s,mb4.0						
KMI				S	tx	02 30 10.7	
KMI				sS		02 30 22.7	
KMI				LR	LR		
	comp=Z,820nm,15.0s,MS4.3						
SHL	Shillong	22.86	349	eP	P	02 25 29.0	-1.7
SHL				eS	tx	02 29 55.0	
JIRN	Jiri	26.39	339	eP	P	02 26 06.2	+1.8
	comp=Z,15nm,0.8s,mb4.6						
PKI	Pulchoki	26.60	338	eP	P	02 26 07.7	+1.4
GUN	Gumba	26.73	339	eP	P	02 26 07.6	+0.1
	comp=Z,11nm,0.7s,mb4.5						
LSA	Lhasa	27.02	350	P	P	02 26 17.0	+6.8
GKN	Gorkha	27.28	337	eP	P	02 26 12.6	0.0
KOLN	Koldanda	27.50	335	eP	P	02 26 15.2	+0.7
LZH	Lanzhou	33.65	11	eP	P	02 27 23.8	+15
LZH				pP	pP	02 27 33.5	+15
LZH				sP	sP	02 27 37.6	+16
LZH				LR	LR		
	comp=Z,370nm,17.2s,MS4.2						
FITZ	Fitzroy Crossi	35.64	127	eP	P	02 27 28.0	+1.9
	comp=Z,7.5nm,0.7s,mb4.7						
FITZ	Fitzroy Crossi	35.64	127	P	P	02 27 25.0	-1.1
	comp=Z,6.3nm,0.8s,mb4.6,baz=15,slow=23,SNR=2.8						
NJ2	Nanjing	35.81	34	eP	P	02 27 28.1	+0.7
NJ2				AP	pP	02 27 37.6	+1.0
NJ2				XP	sP	02 27 41.2	+0.7
NJ2				PP	PP	02 28 48.3	-0.5
NJ2				S	S	02 33 00.0	-2.1
NJ2				XS		02 33 16.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
NJ2				LR	LR		
	comp=N,1μm,13.7s,MS5.0						
NJ2				LR	LR		
	comp=E,860nm,12.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,12.9s,MS4.8						
GTA	Gaotai	36.39	4	P	P	02 27 32.6	+0.4
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
SSE	Sheshan	36.46	37	eP	P	02 27 30.7	-2.2
SSE				AP	pP	02 27 39.0	-3.1
SSE				S	S	02 33 08.5	-3.6
SSE				XS		02 33 25.1	
SSE				AMB	AMB		

	comp=Z,28nm,2.5s,mb4.8						
SSE				LR	LR		
	comp=N,597nm,14.5s,MS4.5						
SSE				LR	LR		
	comp=E,200nm,14.4s,MS4.5						
SSE				LR	LR		
	comp=Z,690nm,13.3s,MS4.6						
SSE	**Sheshan**	**36.46**	**37**	*e*P	**P**	**02 27 30.7**	**-2.2**
	comp=Z,28nm,0.7s,mb5.3						
SSE				pP	pP	02 27 39.0	-3.1
SSE				S	**S**	**02 33 08.5**	**-3.6**
SSE				sS		02 33 25.1	
SSE				SS	SS	02 35 51.1	+13
SSE				LR	LR		
	comp=Z,690nm,13.3s,MS4.6						
BJI	**Beijing**	**41.01**	**23**	*e*P	**P**	**02 28 20.7**	**+10**
	comp=Z,7.0nm,0.7s,mb4.4						
BJI				S	S	02 34 47.8	+27
BJI				SS	ScS	02 38 08.9	-1.9
BJI				LR	LR		
	comp=Z,170nm,21.3s,MS3.9						
WRA	**Warramunga Arr**	**43.68**	**123**	P	**P**	**02 28 31.3**	**-1.5**
	comp=Z,2.4nm,0.7s,mb4.1,baz=302,slow=9.2,SNR=13						
WRAB	**Tennant Creek**	**43.69**	**123**	P	**P**	**02 28 33.1**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**43.69**	**123**	P	**P**	**02 28 33.1**	**+0.3**
	comp=Z,16nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**43.69**	**123**	*e*P	**P**	**02 28 31.5**	**-1.4**
AAK	**Ala-Archa**	**44.04**	**337**	*i* P	**P**	**02 28 36.3**	**+0.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
AAK				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.0						
AAK	**Ala-Archa**	**44.04**	**337**	*e*P	**P**	**02 28 36.2**	**+0.7**
	comp=Z,8.6nm,1.3s,mb4.3						
ASAR	**Alice Springs**	**45.13**	**128**	P	**P**	**02 28 45.6**	**+1.2**
	comp=Z,1.5nm,0.8s,mb3.9,baz=305,slow=8.5,SNR=12						
MKAR	**Makanchi Array**	**45.32**	**346**	*i* P	**P**	**02 28 45.4**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**45.32**	**346**	P	**P**	**02 28 45.9**	**+0.2**
	comp=Z,5.9nm,0.8s,mb4.5,baz=163,slow=8.0,SNR=49						
SONM	**Songino Array**	**45.50**	**9**	P	**P**	**02 28 47.6**	**+0.6**
	comp=Z,0.7nm,0.4s,mb4.0,baz=193,slow=6.3,SNR=11						
ULN	**Ulaanbaatar**	**45.64**	**10**	*i* P	**P**	**02 28 47.2**	**-1.0**
KKAR	**Karatay Array**	**46.10**	**334**	*i* P	**P**	**02 28 52.3**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
TLY	**Talaya**	**48.90**	**6**	*i* P	**P**	**02 29 13.9**	**+0.2**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
TLY				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.4						
KURK	**Kurchatov**	**49.86**	**345**	*i* P	**P**	**02 29 19.7**	**-1.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
KURK	**Kurchatov**	**49.86**	**345**	*e*P	**P**	**02 29 20.4**	**-0.6**
	comp=Z,10nm,1.1s,mb4.8						
ZAL	**Zalesovo**	**51.67**	**351**	P	**P**	**02 29 32.8**	**-2.0**
	comp=Z,1.1nm,0.3s,mb4.2,baz=301,slow=7.3,SNR=7.2						
NVS	**Novosibirsk**	**52.79**	**350**	*e*P	pP	02 29 53.4	+0.8
NVS				pmax	pmax		
	comp=N,7.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
BVA0	**Borovoye Array**	**54.30**	**341**	*i* P	**P**	**02 29 53.0**	**-1.3**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
BVAR	**Borovoye Array**	**54.30**	**341**	P	**P**	**02 29 53.3**	**-0.9**
	comp=Z,1.0nm,0.5s,mb4.0,baz=143,slow=7.4,SNR=6.5						
CHKZ	**Chkalovo**	**54.78**	**342**	*i* P	**P**	**02 29 56.3**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.8						
CHKZ	**Chkalovo**	**54.78**	**342**	*e*P	**P**	**02 29 56.9**	**-1.0**
	comp=Z,8.9nm,0.8s,mb4.8						
KLR	**Kul'dur**	**55.04**	**28**	*e*P	pP	02 30 12.0	+2.7
STKA	**Stephens Creek**	**55.16**	**133**	P	**P**	**02 30 01.9**	**+1.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=327,slow=19,SNR=2.5						
BOD	**Bodaibo**	**56.42**	**11**	*e*P	**P**	**02 30 09.7**	**+0.1**
KMBO	**Kilima Mbogo**	**59.25**	**267**	P	**P**	**02 30 28.8**	**-1.3**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KMBO	**Kilima Mbogo**	**59.25**	**267**	P	**P**	**02 30 29.8**	**-0.3**
	comp=Z,0.3nm,0.3s,mb3.8,baz=45,slow=21,SNR=2.3						
KMBO	**Kilima Mbogo**	**59.25**	**267**	P	**P**	**02 30 28.8**	**-1.3**
	comp=Z,1.7nm,0.9s,mb4.1						
GNI	**Garni**	**59.45**	**316**	*i* P	**P**	**02 30 32.5**	**+1.4**
SVE	**Sverdlovsk**	**60.73**	**338**	*e*P	**P**	**02 30 47.0**	**+7.4**
SVE				*e*		02 31 15.7	
ARU	**Arti**	**61.23**	**337**	*e*P	**P**	**02 30 39.4**	**-3.6**
KIV	**Kislovodsk**	**62.43**	**319**	*e*P	**P**	**02 30 53.3**	**+2.1**
KIV				*e*S	**S**	**02 39 16.1**	**+1.8**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
YAK	**Yakutsk**	**63.95**	**17**	*i* P	**P**	**02 31 00.7**	**-0.3**
YAK				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
YAK				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.6						
OBN	**Obninsk**	**70.67**	**328**	*e*P	**P**	**02 31 43.1**	**-0.3**
OBN				*e*		02 32 06.7	
OBN				*e*S	S	02 40 54.6	+0.5
OBN				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4						
TIXI	**Tiksi**	**71.58**	**10**	*e*P	**P**	**02 31 53.8**	**+5.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
AKASG	**Malin Array Be**	**73.35**	**322**	P	**P**	**02 31 58.6**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.6,baz=210,slow=33,SNR=2.5						
FINES	**FINESS Array B**	**78.04**	**332**	P	**P**	**02 32 25.7**	**0.0**
FINES	**FINESS Array B**	**78.04**	**332**	P	**P**	**02 32 25.6**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=180,slow=32,SNR=3.5						
ARCES	**ARCESS Array B**	**80.59**	**340**	P	**P**	**02 32 39.5**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=94,slow=6.1,SNR=6.0						
GERES	**GERESS Array B**	**82.94**	**319**	P	**P**	**02 32 52.4**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.5,baz=48,slow=20,SNR=2.5						
URZ	**Urewera**	**84.57**	**129**	LR	LR	03 11 09.8	
	comp=Z,132nm,18.5s,MS4.3,baz=128,slow=36						

*IDC **01** 02:20:36.7±1.8, 1.78N×94.86E, mb4.4/8, mb1 4.5/8, mb1mx4.2/20, mbtmp4.4/8, MS4.2/1, Ms1 4.2/1, ms1mx3.6/10, Error ellipse: s-maj=85.2km s-min=17.6km az=53.0*

ISC 01 02:20:40.1±1.7**, 1.8N**±0.3×**94.9E**±0.4**, h33**^{km}**, n9,** σ**1**^{s}**33**/8**, mb4.4**/8**, MS4.4**/1**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**36.12**	**125**	P	**P**	**02 27 40.3**	**-1.0**
	8.4nm,0.7s,mb4.8,baz=319,slow=3.2,SNR=7.1						
WRA	**Warramunga Arr**	**44.27**	**121**	P	**P**	**02 28 49.3**	**+0.5**
	6.3nm,0.8s,mb4.4,baz=304,slow=8.8,SNR=10						
ASAR	**Alice Springs**	**45.57**	**126**	P	**P**	**02 28 59.2**	**+0.1**
	2.5nm,0.8s,mb4.2,baz=294,slow=7.2,SNR=9.2						
MKAR	**Makanchi Array**	**46.16**	**348**	P	**P**	**02 29 01.5**	**-2.0**
	6.0nm,0.5s,mb4.8,baz=170,slow=7.4,SNR=16						
SONM	**Songino Array**	**46.93**	**11**	P	**P**	**02 29 10.7**	**+1.3**
	4.4nm,0.7s,mb4.5,baz=189,slow=9.6,SNR=11						
BVAR	**Borovoye Array**	**54.97**	**342**	P	**P**	**02 30 07.8**	**-2.6**
	3.0nm,0.8s,mb4.4,baz=143,slow=7.4,SNR=7.2						
FINES	**FINESS Array B**	**78.44**	**333**	P	**P**	**02 32 40.4**	**+1.3**
	0.3nm,0.3s,mb3.6,baz=183,slow=34,SNR=3.7						
ARCES	**ARCESS Array B**	**81.22**	**341**	P	**P**	**02 32 55.0**	**+1.1**
	5.1nm,1.0s,mb4.4,baz=108,slow=3.8,SNR=5.4						
DBIC	**Dimbokro**	**99.51**	**277**	LR	LR	03 17 45.9	
	comp=Z,119nm,21.5s,MS4.4,baz=122,slow=34						

IDC 01 02:51:08.4±3.7**, 0.33N**×**97.15E, mb3.9**/5**, mb1 4.1**/5**, mb1mx3.8**/17**, mbtmp3.9**/5**, Error ellipse: s-maj=153.1km s-min=21.8km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.63**	**121**	P	P	02 58 58.7	-1.7
	0.5nm,0.6s,baz=303,slow=8.9,SNR=6.8						
ASAR	**Alice Springs**	**42.92**	**126**	P	P	02 59 09.1	-1.9
	0.9nm,0.7s,baz=302,slow=7.5,SNR=6.4						
SONM	**Songino Array**	**47.99**	**8**	P	P	02 59 50.3	-0.7
	0.5nm,0.5s,baz=194,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**48.06**	**346**	P	P	02 59 49.4	-2.3
	1.3nm,0.6s,baz=159,slow=7.9,SNR=17						
ZAL	**Zalesovo**	**54.39**	**351**	P	P	03 00 36.4	-2.9
	2.7nm,0.4s,baz=300,slow=3.5,SNR=9.5						

IDC 01 03:01:27.6±4.3**, 1.16N**×**97.29E, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.5**/17**, mbtmp3.6**/4**, Error ellipse: s-maj=165.5km s-min=29.4km az=56.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.94**	**122**	P	P	03 09 20.3	-1.7
	0.4nm,0.6s,baz=301,slow=9.1,SNR=5.1						
SONM	**Songino Array**	**47.16**	**8**	P	P	03 10 02.1	-1.5
	0.3nm,0.4s,baz=190,slow=9.7,SNR=4.9						
MKAR	**Makanchi Array**	**47.30**	**346**	P	P	03 10 02.8	-2.0
	0.6nm,0.7s,baz=163,slow=9.0,SNR=8.8						
ZAL	**Zalesovo**	**53.60**	**351**	P	P	03 10 50.1	-2.6
	0.8nm,0.5s,baz=266,slow=8.1,SNR=3.3						

IDC 01 03:20:07.5±3.1**, 29.29S**×**177.70W, h179**^{km}±6^{km}**, mb3.4**/3**, mb1 3.6**/4**, mb1mx3.5**/12**, mbtmp3.9**/4**, Error ellipse: s-maj=65.0km s-min=27.9km az=93.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.19**	**280**	P	P	03 20 32.4	+0.9
	159nm,0.3s,baz=102,slow=14,SNR=8.2						
RAO				S	S	03 20 50.1	+0.2
	518nm,0.3s,baz=68,slow=23,SNR=9.9						
URZ	**Urewera**	**9.94**	**204**	P	P	03 22 25.0	-2.0
	0.6nm,0.3s,baz=224,slow=16,SNR=7.4						
URZ				S	S	03 24 18.0	+1.8
	4.0nm,0.3s,baz=116,slow=21,SNR=13						
STKA	**Stephens Creek**	**35.00**	**255**	P	P	03 26 43.4	-1.2
	1.0nm,0.6s,baz=108,slow=16,SNR=2.9						
ASAR	**Alice Springs**	**43.44**	**266**	P	P	03 27 53.4	-1.1
	0.7nm,0.5s,baz=96,slow=7.0,SNR=13						
WRA	**Warramunga Arr**	**44.33**	**271**	P	P	03 27 59.0	-2.6
	0.7nm,0.3s,baz=110,slow=8.0,SNR=36						

IDC 01 03:34:33.8±3.9**, 2.20N**×**96.84E, mb3.9**/4**, mb1 4.0**/4**, mb1mx3.6**/17**, mbtmp3.9**/4**, MS3.5**/1**, Ms1 3.4**/1**, ms1mx2.9**/23**, Error ellipse: s-maj=150.6km s-min=27.8km az=57.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.87**	**123**	P	P	03 42 34.2	-1.8
	0.5nm,0.5s,baz=302,slow=9.0,SNR=6.6						
MKAR	**Makanchi Array**	**46.19**	**346**	P	P	03 43 00.4	-1.9
	1.7nm,0.7s,baz=162,slow=8.3,SNR=23						
SONM	**Songino Array**	**46.21**	**9**	P	P	03 43 00.9	-1.5
	0.7nm,0.6s,baz=189,slow=10,SNR=7.9						
ZAL	**Zalesovo**	**52.52**	**351**	P	P	03 43 48.3	-2.6
	1.4nm,0.4s,baz=308,slow=2.4,SNR=6.2						
STKA	**Stephens Creek**	**54.29**	**132**	LR	LR	04 08 58.0	
	comp=Z,43nm,18.8s,baz=207,slow=38						

*HLW **01** 03:41:56.8, 36.25N×28.45E, h33^{km}, Mb4.0*
*CSEM **01** 03:41:56.8±0.1, 36.15N×28.49E, h60^{km}, Mw3.4, Error ellipse: s-maj=1.6km s-min=1.1km az=73.0*
*ATH **01** 03:41:58.4, 36.24N×28.42E, h66^{km}±3^{km}*
*IDC **01** 03:41:58.5±1.2, 36.15N×28.45E, h58^{km}±17^{km}, mb3.3/5, mb1 3.5/10, mb1mx3.4/23, mbtmp3.6/10, Error ellipse: s-maj=15.5km s-min=8.7km az=167.0*
*ISK **01** 03:41:59.5, 36.33N×28.47E, h68^{km}, MD3.5*
*NEIC **01** 03:41:59.5, 36.33N×28.47E, h68^{km}, MD3.4(ISK), After ISK.*
*NIC **01** 03:42:00.9±0.1, 36.40N×28.71E, h25^{km}, mb4.2, ML3.8, MW3.4*

ISC 01 03:41:57.5±0.2**, 36.13N**±0.02×**28.48E**±0.03**, h75**^{km}±4^{km}**, n104,** σ**0**^{s}**88**/130**, mb3.3**/5**, 8C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.30**	**287**	⇑*i*P	**P**	**03 42 09.7**	**+0.3**
ARG				*e*S	**S**	**03 42 17.3**	**-0.9**
DALT	**Dalyan (Mudla)**	**0.65**	**11**	*i* PG	**P**	**03 42 12.7**	**+0.2**
DALT				*i* SG	**S**	**03 42 22.0**	**-1.6**
DALT	**Dalyan (Mudla)**	**0.65**	**11**	Pg	**P**	**03 42 12.7**	**+0.3**
DALT				Sg	**S**	**03 42 22.7**	**-0.8**
FETY	**Fethiye**	**0.70**	**44**	*i* PG	**P**	**03 42 13.3**	**+0.3**
FETY				*i* SG	**S**	**03 42 23.3**	**-1.3**
KSL	**Kastellorizon**	**0.90**	**88**	*e*P	**P**	**03 42 17.0**	**+1.8**
KSL				*e*S	**S**	**03 42 30.2**	**+1.8**
AKAS	**Kas**	**0.92**	**83**	*i* P	**P**	**03 42 17.2**	**+1.7**
AKAS				*i* S	**S**	**03 42 30.4**	**+1.5**
NISR	**Nisiros**	**1.19**	**294**	*e*P	**P**	**03 42 18.2**	**-0.8**
KARP	**Karpathos**	**1.22**	**242**	*e*P	**P**	**03 42 20.1**	**+0.8**
BDRM	**Kayabasi**	**1.25**	**319**	*i* P	**P**	**03 42 19.8**	**+0.1**
BDRM				*i* S	**S**	**03 42 37.9**	**+1.5**
ELL	**Elmali**	**1.31**	**61**	PN	**P**	**03 42 22.5**	**+1.8**
ELL	**Elmali**	**1.31**	**61**	Pn	**P**	**03 42 22.6**	**+1.9**
BODT	**Bodrum**	**1.32**	**315**	PN	**P**	**03 42 21.0**	**+0.1**
AYDN	**Tasoluk**	**1.60**	**343**	*i* P	**P**	**03 42 25.3**	**+0.7**
AYDN				*i* S	**S**	**03 42 43.6**	**-0.8**
DNZL	**Cakiroluk**	**1.62**	**16**	*i* P	**P**	**03 42 25.4**	**+0.6**
DNZL				*i* S	**S**	**03 42 44.0**	**-1.0**
DENT	**Denizli**	**1.68**	**15**	PN	**P**	**03 42 25.9**	**+0.3**
DENT	**Denizli**	**1.68**	**15**	Pn	**P**	**03 42 26.0**	**+0.4**
DENT	**Denizli**	**1.68**	**15**	Pn	**P**	**03 42 26.0**	**+0.4**
SMG	**Samos**	**2.05**	**321**	*e*P	**P**	**03 42 30.3**	**-0.3**
BCK	**Bucak**	**2.15**	**51**	*e*PN	**P**	**03 42 32.9**	**+0.9**
BCK	**Bucak**	**2.15**	**51**	Pn	**P**	**03 42 33.0**	**+0.9**
KHL	**Karahalli**	**2.34**	**21**	*e*PN	**P**	**03 42 34.9**	**+0.2**
MANT	**Manisa**	**2.36**	**2**	*i* P	**P**	**03 42 34.5**	**-0.4**
MANT				*i* S	**S**	**03 43 00.4**	**-2.4**
SANT	**Santorini**	**2.45**	**277**	*e*Pn	**P**	**03 42 36.6**	**+0.4**
SANT	**Santorini**	**2.45**	**277**	*e*Pn	**P**	**03 42 36.6**	**+0.4**
IZM	**Izmir**	**2.46**	**337**	*e*PN	**P**	**03 42 36.1**	**-0.3**
IZM	**Izmir**	**2.46**	**337**	Pn	**P**	**03 42 36.2**	**-0.2**
IZM	**Izmir**	**2.46**	**337**	Pn	**P**	**03 42 36.2**	**-0.2**
KDAG	**Bornova**	**2.47**	**337**	*i* P	**P**	**03 42 36.4**	**-0.1**
KDAG				*i* S	**S**	**03 43 03.1**	**-2.4**
NPS	**Neapolis**	**2.49**	**250**	*e*P	**P**	**03 42 38.4**	**+1.7**
BLCB	**Balcova**	**2.53**	**333**	*e*PN	**P**	**03 42 36.4**	**-0.9**
BLCB	**Balcova**	**2.53**	**333**	Pn	**P**	**03 42 36.5**	**-0.8**
BLCB	**Balcova**	**2.53**	**333**	Pn	**P**	**03 42 36.5**	**-0.8**
IDI	**Anoyia**	**3.04**	**255**	P	**P**	**03 42 45.5**	**+1.0**
	2.8nm,0.3s,baz=54,slow=20,SNR=32						
IDI				S	**S**	**03 43 19.0**	**-0.8**
	16nm,0.3s,baz=199,slow=16,SNR=14						
AKMC	**Akamas**	**3.33**	**108**	P	**P**	**03 42 49.1**	**+0.6**
PPCY	**Paphos**	**3.39**	**110**	P	**P**	**03 42 50.1**	**+0.7**
DST	**Dursunbey**	**3.47**	**2**	*e*PN	**P**	**03 42 49.6**	**-0.9**
DST	**Dursunbey**	**3.47**	**2**	Pn	**P**	**03 42 49.7**	**-0.8**
DST	**Dursunbey**	**3.47**	**2**	Pn	**P**	**03 42 49.7**	**-0.8**
ALFC	**Alevga**	**3.49**	**105**	⇑*i*P	**P**	**03 42 51.3**	**+0.5**
	15nm,0.2s						
ALFC				S	**S**	**03 43 30.6**	**-0.6**
LEF	**Lefka**	**3.73**	**104**	Pn	**P**	**03 42 53.8**	**-0.4**
LEF	**Lefka**	**3.73**	**104**	Pn	**P**	**03 42 53.8**	**-0.3**
SZAC	**Souni-Zanaja**	**3.85**	**110**	P	**P**	**03 42 56.4**	**+0.7**
	21nm,0.2s						
SZAC				S	**S**	**03 43 40.1**	**+0.1**
KIZT	**Kizilcal**	**3.85**	**44**	*e*PN	**P**	**03 42 56.3**	**+0.5**
ESKT	**Eskisehir**	**3.87**	**28**	*e*PN	**P**	**03 42 56.0**	**0.0**
MAMC	**Mammari**	**3.98**	**103**	P	**P**	**03 42 58.4**	**+0.9**
CSS	**Prodhromos**	**4.12**	**105**	*e*Pn	**P**	**03 42 59.4**	**-0.1**
CSS				*e*Sn	**S**	**03 43 47.4**	**+0.5**
CSS	**Prodhromos**	**4.12**	**105**	*e*Pn	**P**	**03 42 59.4**	**-0.2**
CSS	**Prodhromos**	**4.12**	**105**	P	**P**	**03 42 59.8**	**+0.2**
	3.3nm,0.3s						
CSS				S	**S**	**03 43 46.2**	**-0.7**
CSS				*e*Sn	**S**	**03 43 47.4**	**+0.5**
VLI	**Veliai**	**4.51**	**279**	*e*P	**P**	**03 43 06.0**	**+1.1**
BRTR	**Keskin Array B**	**5.43**	**47**	P	**P**	**03 43 18.7**	**+1.1**
	0.2nm,0.3s,baz=226,slow=14,SNR=6.7						
BRTR				S	**S**	**03 44 18.1**	**-1.4**
	0.6nm,0.3s,baz=222,slow=25,SNR=7.6						
HBRG	**Burj al 'Arab**	**5.66**	**168**	⇑P	**P**	**03 43 20.6**	**-0.1**
HNTI	**Hanita**	**6.30**	**117**	Pn	**P**	**03 43 29.8**	**+0.1**
AANS		**6.32**	**156**	⇓P	**P**	**03 43 29.8**	**-0.1**
OFRI	**'Ofer**	**6.42**	**121**	Pn	**P**	**03 43 29.7**	**-1.6**
HMYD	**Mayadein**	**6.61**	**162**	P	**P**	**03 43 34.0**	**0.0**
HMYD	**Mayadein**	**6.61**	**162**	P	**P**	**03 43 34.0**	**0.0**
SQR		**6.63**	**159**	P	**P**	**03 43 34.6**	**+0.2**
HLW	**Helwan**	**6.70**	**158**	P	**P**	**03 43 35.1**	**-0.1**
HLW	**Helwan**	**6.70**	**158**	⇑P	**P**	**03 43 35.1**	**-0.2**
HLW	**Helwan**	**6.70**	**158**	P	**P**	**03 43 35.1**	**-0.2**
HNAT	**Natroun**	**6.72**	**164**	P	**P**	**03 43 35.4**	**-0.2**
AMAG	**Maghara**	**6.75**	**143**	P	**P**	**03 43 35.4**	**-0.6**
FYM	**Al Fayyum**	**6.77**	**161**	P	**P**	**03 43 36.2**	**-0.1**
FYM				S	**S**	**03 44 48.6**	**-3.9**
AYT	**Al 'Ayyat**	**6.79**	**160**	⇓P	**P**	**03 43 37.0**	**+0.4**
KOT	**Kottamia**	**6.79**	**155**	P	**P**	**03 43 36.5**	**-0.1**
KSHT	**Keshet**	**6.82**	**115**	Pn	**P**	**03 43 36.7**	**-0.2**
HHAG	**Hagoal**	**6.87**	**153**	⇑P	**P**	**03 43 37.5**	**-0.1**
HSAF	**As Saff**	**6.99**	**157**	P	**P**	**03 43 38.9**	**-0.4**
HMDT	**Nahal Hemdat**	**7.00**	**121**	Pn	**P**	**03 43 39.0**	**-0.5**
GLL	**Jalalah**	**7.08**	**157**	⇑P	**P**	**03 43 40.4**	**-0.1**
KZIT	**Kziot**	**7.18**	**135**	Pn	**P**	**03 43 40.9**	**-1.0**
SWA1		**7.23**	**200**	P	**P**	**03 43 42.4**	**-0.3**
SWA1				S	**S**	**03 44 59.4**	**-4.6**
RTMM	**Retamin**	**7.24**	**133**	Pn	**P**	**03 43 41.8**	**-1.0**
SUZ		**7.26**	**149**	⇑P	**P**	**03 43 42.8**	**-0.2**
DRGI	**Dragot**	**7.32**	**126**	Pn	**P**	**03 43 42.9**	**-0.9**
SWA2		**7.32**	**201**	⇑P	**P**	**03 43 43.5**	**-0.4**
MASH	**Mash'abbe Sade**	**7.34**	**132**	Pn	**P**	**03 43 43.3**	**-0.8**
MZDA	**Masada**	**7.48**	**128**	Pn	**P**	**03 43 45.2**	**-0.9**
ZAF		**7.64**	**152**	P	**P**	**03 43 48.1**	**-0.1**
ZNM		**7.68**	**150**	P	**P**	**03 43 48.8**	**-0.1**
HNKL	**Nakhl**	**7.72**	**142**	P	**P**	**03 43 48.4**	**-0.9**
HNKL				S	**S**	**03 45 11.4**	**-4.4**
PRNI	**Paran**	**7.94**	**135**	Pn	**P**	**03 43 50.9**	**-1.4**
PRNI				Sn	**S**	**03 45 15.8**	**-5.6**
KMTI	**Karmit**	**7.97**	**137**	Pn	**P**	**03 43 51.3**	**-1.4**
KMTI				Sn	**S**	**03 45 15.9**	**-6.2**
ASF	**Jabal al Asfar**	**8.02**	**117**	P	**P**	**03 43 54.1**	**+0.8**
	1.0nm,0.3s,baz=172,slow=7.0,SNR=6.1						
ASF				S	**S**	**03 45 24.3**	**+1.0**
	1.4nm,0.3s,baz=346,slow=16,SNR=5.1						
MBH	**Mount Berech**	**8.31**	**138**	Pn	**P**	**03 43 56.3**	**-1.1**
EIL	**Elat**	**8.43**	**138**	P	**P**	**03 43 58.9**	**-0.1**
	2.0nm,0.3s,baz=321,slow=12,SNR=26						
EIL				S	**S**	**03 45 28.9**	**-4.5**
	5.3nm,0.3s,baz=8.3,slow=18,SNR=6.9						
EIL	**Elat**	**8.43**	**138**	P	**P**	**03 43 58.9**	**-0.1**
EIL				S	**S**	**03 45 28.9**	**-4.6**
EIL	**Elat**	**8.43**	**138**	Pn	**P**	**03 43 57.9**	**-1.1**
EIL	**Elat**	**8.43**	**138**	P	**P**	**03 43 58.9**	**-0.1**
HRDS	**Abu Rudays**	**8.44**	**150**	P	**P**	**03 43 58.9**	**-0.3**
NUB		**8.79**	**142**	P	**P**	**03 44 03.3**	**-0.6**
HFRF	**Wahat Farafira**	**8.96**	**181**	P	**P**	**03 44 06.4**	**+0.2**
ASUT		**9.09**	**162**	P	**P**	**03 44 07.9**	**-0.1**
TIP	**Timpagrande**	**9.78**	**292**	*e*Pn	**P**	**03 44 16.5**	**-0.9**
TIP	**Timpagrande**	**9.78**	**292**	*e*Pn	**P**	**03 44 16.5**	**-0.9**
HHRG	**Al Ghardaqah**	**9.88**	**153**	P	**P**	**03 44 18.9**	**+0.1**
HSFG		**10.61**	**152**	P	**P**	**03 44 29.1**	**+0.5**
GERES	**GERESS Array B**	**16.70**	**324**	P	**P**	**03 45 49.7**	**+1.9**
	0.1nm,0.3s,baz=135,slow=15,SNR=4.4						
FINES	**FINESS Array B**	**25.38**	**357**	P	**P**	**03 47 19.4**	**+0.4**
	0.4nm,0.4s,mb3.2,baz=149,slow=11,SNR=6.4						
ESDC	**Sonseca Array**	**25.77**	**288**	P	**P**	**03 47 23.7**	**+0.9**
	0.3nm,0.4s,mb3.1,baz=82,slow=10.0,SNR=4.8						
HFS	**Hagfors**	**25.84**	**343**	P	**P**	**03 47 22.9**	**-0.3**
	0.9nm,0.8s,mb3.2,baz=141,slow=9.2,SNR=3.6						
MKAR	**Makanchi Array**	**40.98**	**58**	P	**P**	**03 49 36.0**	**+1.8**
	0.2nm,0.5s,mb3.2,baz=284,slow=5.7,SNR=3.9						
DBIC	**Dimbokro**	**42.30**	**234**	P	**P**	**03 49 47.0**	**+1.5**
	0.7nm,0.3s,mb3.9,baz=329,slow=17,SNR=8.1						
DBIC	**Dimbokro**	**42.30**	**234**	P	**P**	**03 49 47.0**	**+1.4**

*IDC **01** 03:56:59.2±1.6, 24.25S×67.08W, h154^{km}±17^{km}, mb3.8/1, mb1 3.7/6, mb1mx3.4/18, mbtmp4.1/6, Error ellipse: s-maj=31.6km s-min=13.5km az=100.0*
*NEIC **01** 03:57:00.0±0.6, 24.20S×67.04W, h165^{km}±9^{km}, mb3.8/2, MD3.7(GUC), Error ellipse: s-maj=11.5km s-min=6.6km az=103.0*
*GUC **01** 03:57:01.3±0.5, 24.21S×67.41W, h180^{km}, ML4.1*

ISC 01 03:56:59.0±0.7**, 24.24S**±0.04×**67.1W**±0.1**, h170**^{km}±18^{km}**, n21,** σ**0**^{s}**92**/30**, mb3.7**/1**, 4C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.33**	**314**	⇑*i*P	**P**	**03 57 41.4**	**+1.9**
LVC				*i* S	**S**	**03 58 10.9**	**+0.1**
LVC	**Limon Verde**	**2.33**	**314**	⇑*i*P	**P**	**03 57 41.3**	**+1.7**
LVC				*i* S	**S**	**03 58 11.2**	**+0.4**
LVC				AMP		03 58 14.8	
	comp=E,472nm,0.4s						
CPN1	**Cerro Paranal**	**3.04**	**262**	⇑*i*P	**P**	**03 57 49.2**	**+0.9**
CPN1				*i* S	**S**	**03 58 25.4**	**-0.8**
CPN1				AMP		03 58 29.4	
	comp=E,464nm,0.5s						
ANCH	**Antofagasta**	**3.09**	**280**	⇑*i*P	**P**	**03 57 49.8**	**+1.0**
ANCH				*i* S	**S**	**03 58 26.1**	**-1.1**
ANCH				AMP		03 58 30.9	
	comp=N,758nm,0.7s						
CPCH	**Copiapo**	**4.28**	**223**	*i* P	**P**	**03 58 04.5**	**+0.4**
CPCH				*i* S	**S**	**03 58 54.1**	**-0.2**
CPCH	**Copiapo**	**4.28**	**223**	*i* P	**P**	**03 58 04.5**	**+0.4**
CPCH				*i* S	**S**	**03 58 53.7**	**-0.5**
CFAA	**Coronel Fontan**	**7.40**	**188**	P	**P**	**03 58 45.7**	**+0.4**
	comp=N,0.1nm,0.3s,baz=18,slow=14,SNR=26						
CFAA				S	**S**	**04 00 06.0**	**-2.1**
	comp=N,0.3nm,0.3s,baz=233,slow=17,SNR=10.0						
CFAA	**Coronel Fontan**	**7.40**	**188**	P	**P**	**03 58 45.7**	**+0.4**
CFAA				S	**S**	**04 00 06.0**	**-2.1**
LPAZ	**La Paz**	**7.97**	**353**	P	**P**	**03 58 53.8**	**+1.0**
	comp=N,4.1nm,0.3s,baz=178,slow=11,SNR=130						
LPAZ				S	**S**	**04 00 21.5**	**-0.2**
	comp=N,0.3nm,0.3s,baz=329,slow=18,SNR=4.8						
LPAZ	**La Paz**	**7.97**	**353**	*e*Pn	**P**	**03 58 53.3**	**+0.4**
LPAZ				*e*Sn	**S**	**04 00 20.9**	**-0.8**
ARE	**Arequipa**	**8.77**	**331**	P	**P**	**03 59 03.0**	**-0.3**
ARE				*e*S	**S**	**04 00 36.0**	**-4.5**
SIV	**San Ignacio**	**9.96**	**36**	P	**P**	**03 59 18.2**	**-0.8**
	comp=N,1.1nm,0.3s,baz=240,slow=10,SNR=14						
SIV				S	**S**	**04 00 58.1**	**-11**
	comp=N,0.1nm,0.3s,baz=234,slow=16,SNR=3.5						
TRQA	**Tornquist**	**14.45**	**164**	*e*P	**P**	**04 00 16.6**	**+0.1**
	comp=N,4.5nm,0.6s						
SAML	**Samuel**	**15.66**	**14**	*e*P	**P**	**04 00 30.3**	**-1.5**
	comp=N,2.7nm,0.9s						
PLCA	**Paso Flores**	**16.70**	**189**	P	**P**	**04 00 45.6**	**+1.3**
	comp=N,0.2nm,0.3s,baz=5.9,slow=13,SNR=8.1						
BDFB	**Brasilia**	**19.85**	**68**	P	**P**	**04 01 18.8**	**+0.1**
	comp=N,2.9nm,0.3s,baz=254,slow=10.0,SNR=53						
BAO	**Brasilia Array**	**19.87**	**68**	P	**P**	**04 01 18.8**	**-0.1**
BOSA	**Boshof**	**80.70**	**117**	P	**P**	**04 08 55.3**	**+0.5**
	comp=N,0.9nm,0.5s,mb3.7,baz=250,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**128.20**	**205**	PKP	PKPdf	04 15 47.0	+1.3
	comp=N,0.5nm,0.7s,baz=117,slow=2.0,SNR=4.4						
WRA	**Warramunga Arr**	**131.38**	**207**	PKP	PKPdf	04 15 53.8	+2.0
	comp=N,0.3nm,0.6s,baz=156,slow=1.8,SNR=7.2						
MKAR	**Makanchi Array**	**146.76**	**40**	PKPbc	PKPbc	04 16 22.7	+2.5
	comp=N,0.3nm,0.4s,baz=305,slow=3.6,SNR=6.0						

*IDC **01** 03:57:19.4±1.3, 0.73N×96.76E, mb4.1/10, mb1 4.2/10, mb1mx4.0/18, mbtmp4.1/10, MS3.8/1, Ms1 3.7/1, ms1mx3.0/27, Error ellipse: s-maj=69.6km s-min=15.8km az=53.0*
*BJI **01** 03:57:22.5, 0.62N×97.08E, h40^{km}, mb4.8, Ms3.9, Msz3.9*
*NEIC **01** 03:57:24.7±0.5, 0.81N×97.01E, h30^{km}, mb4.6/11, Error ellipse: s-maj=16.7km s-min=7.7km az=55.0*

ISC 01 03:57:23.8±3.1**, 0.9N**±0.1×**97.0E**±0.1**, h36**^{km}±25^{km}**, n37,** σ**0**^{s}**90**/36**, mb4.5**/25**, MS3.8**/2**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.46**	**47**	P	**P**	**03 58 44.5**	**-0.3**
KULM	**Kulim**	**5.71**	**39**	*e*Pn	**P**	**03 58 47.2**	**-1.1**
KULM				*e*pPn		03 58 55.0	
KGM	**Kluang**	**6.40**	**79**	P	**P**	**03 58 58.9**	**+0.7**
KMI	**Kunming**	**24.76**	**12**	P	**P**	**04 02 46.0**	**+2.3**
KMI				AP		04 02 54.0	
KMI				AMB	AMB		
	comp=Z,84nm,3.1s						
KMI				LR	LR		
	comp=N,244nm,7.8s						
KMI				LR	LR		
	comp=E,120nm,9.7s						
KMI				LR	LR		
	comp=Z,251nm,13.6s,MS3.9						
KMI	**Kunming**	**24.76**	**12**	P	**P**	**04 02 46.0**	**+2.3**
	comp=Z,0.1nm,3.1s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMI				pP		04 02 54.0	
KMI				S	tx	04 08 13.3	
KMI				LR	LR		
	comp=Z,250nm,13.6s,MS3.9						
SHL	Shillong	25.07	349	eP	P	04 02 46.0	-0.7
GYA	Guiyang	27.10	19	P	P	04 03 06.4	+0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
JIRN	Jiri	28.61	340	eP	P	04 03 19.7	+0.6
	comp=Z,36nm,1.0s,mb5.1						
PKI	Pulchoki	28.81	338	eP	P	04 03 22.3	+1.4
	comp=Z,37nm,1.1s,mb5.0						
DMN	Daman	28.96	338	eP	P	04 03 23.4	+1.2
	comp=Z,25nm,1.0s,mb4.9						
KKN	Kakani	29.06	338	eP	P	04 03 24.0	+0.9
GKN	Gorkha	29.49	337	eP	P	04 03 27.2	+0.2
	comp=Z,39nm,1.1s,mb5.1						
KOLN	Koldanda	29.70	335	eP	P	04 03 28.9	+0.1
	comp=Z,7.1nm,0.6s,mb4.6						
ENH	Enshi	31.57	21	eP	P	04 03 43.4	-2.0
	comp=Z,12nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	33.87	125	eP	P	04 04 04.8	-0.6
	comp=Z,5.2nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	33.87	125	P	P	04 04 04.7	-0.7
	comp=Z,4.9nm,0.7s,mb4.5,baz=208,slow=4.8,SNR=5.8						
XAN	Xi'an	34.85	17	P	P	04 04 12.6	-1.1
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
LZH	Lanzhou	35.63	10	eP	P	04 04 20.1	-0.3
LZH				AP	pP	04 04 27.1	-3.5
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.0						
LZH	Lanzhou	35.63	10	eP	P	04 04 20.1	-0.3
	comp=Z,24nm,1.3s,mb5.0						
LZH				pP	pP	04 04 27.1	-3.5
LZH				sP	sP	04 04 30.5	-4.7
GTA	Gaotai	38.47	3	P	P	04 04 44.6	+0.5
GTA				AP	pP	04 04 52.5	-1.9
GTA				XP	sP	04 04 56.7	-2.3
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
WRA	Warramunga Arr	42.00	122	P	P	04 05 13.5	-0.2
	comp=Z,2.5nm,0.8s,mb3.9,baz=301,slow=9.0,SNR=13						
WRAB	Tennant Creek	42.01	122	eP	P	04 05 13.7	0.0
	comp=Z,3.2nm,0.6s,mb4.1						
WB2	Warramunga Arr	42.01	122	eP	P	04 05 13.8	0.0
BJT	Baijiatuau	42.71	22	eP	P	04 05 20.1	+0.8
	comp=Z,10nm,0.5s,mb4.8						
BJI	Beijing	42.73	22	eP	P	04 05 20.4	+1.0
BJI				AMB	AMB		
	comp=Z,16nm,0.6s,mb4.9						
BJI	Beijing	42.73	22	eP	P	04 05 20.4	+1.0
	comp=Z,16nm,0.6s,mb4.9						
ASAR	Alice Springs	43.33	127	P	P	04 05 24.9	+0.4
	comp=Z,3.2nm,0.9s,mb4.0,baz=306,slow=8.2,SNR=8.4						
SONM	Songino Array	47.51	9	P	P	04 05 57.7	+0.3
	comp=Z,2.2nm,0.9s,mb4.2,baz=188,slow=8.4,SNR=12						
MKAR	Makanchi Array	47.54	346	P	P	04 05 57.4	-0.3
	comp=Z,4.4nm,0.6s,mb4.7,baz=158,slow=7.6,SNR=59						
KURK	Kurchatov	52.09	345	eP	P	04 06 31.6	-0.8
	comp=Z,4.2nm,1.0s,mb4.3						
STKA	Stephens Creek	53.26	132	P	P	04 06 42.0	+0.6
	comp=Z,1.6nm,0.7s,mb4.0,baz=262,slow=6.6,SNR=4.5						
STKA				LR	LR	04 32 13.6	
	comp=Z,73nm,18.0s,MS3.8,baz=12,slow=39						
BVAR	Borovoye Array	56.52	341	P	P	04 07 03.3	-1.6
	comp=Z,2.6nm,0.8s,mb4.3,baz=140,slow=7.0,SNR=12						
CHKZ	Chkalovo	57.00	342	eP	P	04 07 06.5	-1.8
	comp=Z,3.7nm,0.7s,mb4.5						
FINES	FINESS Array B	80.23	333	P	P	04 09 31.7	-0.4
	comp=Z,0.8nm,0.7s,mb3.7,baz=72,slow=8.8,SNR=2.9						
ARCES	ARCESS Array B	82.81	340	P	P	04 09 45.2	-0.2
	comp=Z,1.3nm,0.7s,mb4.0,baz=108,slow=5.7,SNR=2.8						
GERES	GERESS Array B	84.96	319	P	P	04 09 56.4	-0.3
	comp=Z,0.1nm,0.4s,mb3.3,baz=112,slow=7.2,SNR=4.1						
TXAR	Lajitas Array	144.06	32	PKP	PKPdf	04 16 56.5	+0.1
	comp=Z,0.4nm,0.5s,baz=65,slow=0.9,SNR=3.8						

*NEIC **01** 04:20:22.1±0.7,31.97S×179.49W,h35km,mb4.8/5,Error ellipse: s-maj=15.7km s-min=8.5km az=94.0*

*IDC **01** 04:20:23.0±1.6,32.00S×179.15W,h76km±20km,mb4.2/4, mb1 4.4/6,mb1mx4.1/14,mbtmp4.6/6,Error ellipse: s-maj=33.0km s-min=11.9km az=111.0*

ISC 01 04:20:20.6±0.5**,32.12S**±0.04×**179.7W**±0.1**,h33km,n73, σ1§84**/89**,mb4.7**/8**,6C-1D,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	3.23	28	P	P	04 21 08.8	-1.4
	112nm,0.3s,baz=109,slow=20,SNR=8.3						
RAO				S	S	04 21 42.1	-5.9
	383nm,0.3s,baz=60,slow=20,SNR=8.1						
RAO	Raoul Island	3.23	28	ePn	Pn	04 21 08.2	-2.1
RAO				eSn	Sn	04 21 41.0	-7.1
MXZ	Matakaoa Point	5.68	197	P	P	04 21 47.4	+2.6
MXZ	Matakaoa Point	5.68	197	PN	Pn	04 21 47.6	+2.6
PUZ	Puketiti	6.18	195	P	P	04 21 53.7	+1.8
PUZ	Puketiti	6.18	195	PN	Pn	04 21 53.7	+1.6
PUZ				SN	Sn	04 23 04.9	+2.6
MWZ	Matawai	6.61	200	P	P	04 22 00.1	+2.1
MWZ	Matawai	6.61	200	PN	Pn	04 22 00.1	+1.9
MWZ				SN	Sn	04 23 19.1	+6.0
URZ	Urewera	6.67	202	P	P	04 22 01.6	+2.8
	10nm,0.3s,baz=342,slow=3.2,SNR=168						
URZ				S	S	04 23 18.4	+3.9
	11nm,0.3s,baz=260,slow=3.5,SNR=5.5						
URZ	Urewera	6.67	202	P	P	04 22 01.1	+2.3
URZ	Urewera	6.67	202	PN	Pn	04 22 01.4	+2.4
URZ				SN	Sn	04 23 21.5	+6.8
KNZ	Kokohu	7.22	197	eP	P	04 22 06.4	-0.1
KNZ				S	S	04 23 29.2	+1.0
KNZ	Kokohu	7.22	197	PN	Pn	04 22 06.5	-0.2
KNZ				SN	Sn	04 23 30.7	+2.4
BKZ	Black Stump Fm	7.70	203	eP	P	04 22 13.3	+0.2
BKZ	Black Stump Fm	7.70	203	PN	Pn	04 22 13.3	-0.1
BKZ				SN	Sn	04 23 43.6	+3.4
MGZ	Maungaku	7.90	208	PN	Pn	04 22 18.7	+2.5
OTVZ	Oturere	7.99	207	PN	Pn	04 22 19.8	+2.3
NGZ	Ngauruhoe	8.03	207	eP	P	04 22 20.3	+2.6
CNZ	Chateau	8.07	208	eP	P	04 22 21.5	+3.2
CNZ	Chateau	8.07	208	PN	P	04 22 21.6	+3.3
TUVZ	Tukino	8.09	207	PN	P	04 22 22.4	+3.9
FWVZ	Far West T-bar	8.11	207	PN	P	04 22 21.8	+2.9
WNVZ	Wahianoa	8.16	207	eP	P	04 22 21.8	+2.3
WNVZ	Wahianoa	8.16	207	PN	P	04 22 21.8	+2.3
MOVZ	Moawhango	8.17	206	eP	P	04 22 21.1	+1.4
MOVZ	Moawhango	8.17	206	PN	P	04 22 21.1	+1.4
PWZ	Pawanui	8.38	199	eP	P	04 22 20.7	-1.9
PWZ				eS	S	04 23 52.1	-4.9
PWZ	Pawanui	8.38	199	PN	P	04 22 20.9	-1.7
PWZ				SN	Sn	04 23 55.7	-1.6
BFZ	Birch Farm	9.16	200	eP	P	04 22 30.8	-2.6
BFZ	Birch Farm	9.16	200	PN	P	04 22 30.7	-2.7
BFZ				SN	Sn	04 24 13.9	-2.6
MRZ	Mangatainoka R	9.35	203	eP	P	04 22 33.6	-2.4
MRZ	Mangatainoka R	9.35	203	PN	P	04 22 33.6	-2.4
MRZ				SN	Sn	04 24 19.4	-1.8
KIW	Kapiti Island	9.75	205	eP	P	04 22 39.3	-2.3
KIW	Kapiti Island	9.75	205	PN	P	04 22 39.1	-2.6
KIW				SN	Sn	04 24 28.8	-2.4
MTW	Mount Morrison	9.82	202	eP	P	04 22 38.2	-4.3
MTW	Mount Morrison	9.82	202	PN	P	04 22 38.2	-4.3
MTW				SN	Sn	04 24 29.4	-3.4
CAW	Cannon Point	9.92	204	eP	P	04 22 40.1	-3.8
CAW	Cannon Point	9.92	204	PN	P	04 22 40.2	-3.7
CAW				SN	Sn	04 24 32.4	-2.8
PAWZ	Paruwai Farm	10.04	202	PN	P	04 22 42.8	-2.9
PAWZ				SN	S	04 24 35.5	-2.8
DUWZ	D'Urville Isla	10.09	209	PN	P	04 22 45.5	-0.7
MSWZ	Moikau Station	10.13	202	PN	P	04 22 43.5	-3.4
MRW	Makara Radio	10.15	205	PN	P	04 22 43.7	-3.4
SNZO	South Karori	10.22	205	eP	P	04 22 45.1	-3.0
SNZO	South Karori	10.22	205	PN	P	04 22 45.1	-3.0
SNZO				SN	S	04 24 39.3	-3.3
TUWZ	Tuamarina	10.61	207	PN	P	04 22 51.9	-1.5
QRZ	Quartz Range	10.72	214	PN	P	04 22 55.0	+0.1
KHZ	Kahutara	11.61	206	eP	P	04 23 03.3	-3.7
KHZ	Kahutara	11.61	206	PN	P	04 23 03.9	-3.1
MQZ	McQueen's Vall	13.05	205	PN	P	04 23 22.5	-3.9
ODZ	Otahua Downs	14.95	208	PN	P	04 23 47.1	-4.0
JCZ	Jackson Bay	15.00	214	eP	P	04 23 49.6	-2.2
JCZ	Jackson Bay	15.00	214	PN	P	04 23 50.4	-1.4
JCZ				SN	S	04 26 30.4	-7.1
CTAO	Charters Tower	32.74	283	eP	P	04 26 55.2	+2.6
	5.4nm,0.6s,mb4.7						
STKA	Stephens Creek	32.74	260	P	P	04 26 51.8	-0.8
	3.0nm,1.0s,mb4.2,baz=69,slow=8.6,SNR=2.9						
ASAR	Alice Springs	41.64	270	P	P	04 28 08.2	+0.6
	8.9nm,0.6s,mb4.6,baz=106,slow=7.6,SNR=66						
ASPA	Alice Springs	41.64	270⇑	iP	P	04 28 08.1	+0.5
WB2	Warramunga Arr	42.78	275⇑	iP	P	04 28 17.2	+0.3
WRAB	Tennant Creek	42.78	275	eP	P	04 28 16.8	-0.1
	18nm,0.4s,mb5.2						
WRA	Warramunga Arr	42.79	275	P	P	04 28 17.3	+0.2
	16nm,0.3s,mb5.2,baz=112,slow=8.0,SNR=394						
VNDA	Vanda	46.25	185	P	P	04 28 42.4	-1.7
	0.5nm,0.6s,mb3.6,baz=31,slow=7.1,SNR=7.2						
VNDA	Vanda	46.25	185	eP	P	04 28 45.2	+1.1
	1.8nm,0.9s,mb4.0						
FITZ	Fitzroy Crossi	50.97	272⇓	iP	P	04 29 20.9	-0.5
	2.7nm,0.4s,mb4.5						
QSPA	South Pole Qui	57.99	180⇑	iP	P	04 30 13.0	+1.1
	17nm,0.6s,mb5.2						
VNA3	Neumayer Olymp	76.68	177	e	P	04 32 10.0	+0.6
VNA3	Neumayer Olymp	76.68	177	e	P	04 32 19.1	+10
VNA3	Neumayer Olymp	76.68	177⇑	iP	P	04 32 08.9	-0.5
VNA3				e		04 32 10.0	
VNA3				e	pP	04 32 19.1	-0.6
VNA2	Neumayer--Watz	77.10	177	e	P	04 32 12.4	+0.7
VNA2	Neumayer--Watz	77.10	177	e	P	04 32 23.0	+11
VNA2	Neumayer--Watz	77.10	177⇑	iP	P	04 32 11.4	-0.3
VNA2				e		04 32 12.4	
VNA2				e	pP	04 32 23.0	+0.9
VNA1	Neumayer--Stat	77.33	177⇑	iP	P	04 32 13.0	-0.1
VNA1				e		04 32 25.5	
FINES	FINESS Array B	146.24	338	PKPbc	PKPbc	04 39 50.8	-6.1
	0.3nm,0.3s,baz=45,slow=3.9,SNR=4.4						
PRU	Pruhonice	159.25	333	ePKPab	PKPab	04 40 47.7	-6.7
KHC	Kasperske Hory	160.31	333	ePKPab	PKPab	04 40 49.5	-10

IDC 01 04:32:05.4±4.3**,0.40N**×**97.22E,mb4.0**/4**,mb1 4.1**/4**, mb1mx3.7**/17**,mbtmp4.0**/4**,Error ellipse: s-maj=170.5km s-min=28.1km az=56.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.60	121	P	P	04 39 55.3	-1.9
	0.5nm,0.6s,baz=303,slow=8.9,SNR=6.6						
SONM	Songino Array	47.92	8	P	P	04 40 46.8	-0.6
	0.3nm,0.5s,baz=194,slow=11,SNR=3.5						
MKAR	Makanchi Array	48.02	346	P	P	04 40 46.1	-2.2
	1.0nm,0.5s,baz=164,slow=9.3,SNR=15						
ZAL	Zalesovo	54.34	351	P	P	04 41 33.0	-3.0
	2.4nm,0.4s,baz=297,slow=5.6,SNR=7.6						

IDC 01 04:35:50.9±5.4**,20.64S**×**175.43W,mb3.8**/2**,mb1 4.0**/2**, mb1mx3.6**/14**,mbtmp3.8**/2**,Error ellipse: s-maj=307.5km s-min=74.0km az=155.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	46.83	257	P	P	04 44 22.3	-2.2
	0.5nm,0.4s,baz=87,slow=8.6,SNR=8.5						
WRA	Warramunga Arr	46.96	262	P	P	04 44 24.2	-1.4
	0.5nm,0.5s,baz=100,slow=7.0,SNR=11						
FINES	FINESS Array B	136.55	345	PKP	PKPdf	04 55 14.1	-2.3
	0.6nm,0.3s,baz=45,slow=3.9,SNR=13						

*ISK **01** 04:35:56.1,39.40N×40.82E,h5km,MD4.0*

*MOS **01** 04:35:56.9±1.3,39.31N×40.91E,h10km,mb4.2/9,Error ellipse: s-maj=7.1km s-min=5.7km az=98.5*

*ZUR_RM **01** 04:35:56,39.39N×40.83E,h24km,Mw4.5/10,Moment Tensor Solution. s10 Moment tensor: Scale 10^{15}Nm; Mrr-0.51; Mθθ-2.25; Mφφ2.77; Mrθ-0.12; Mθφ-5.87; Mφr-0.43; Best double couple: M0 6.4×10^{15} NP1:φs12°, δ89°,λ-4°. NP2:φs102°,δ86°,λ-179°. Principal axes: T 6.651, Plg2°, Azm57°; N -.505, Plg86°, Azm181°; P -6.147, Plg3°, Azm327°;*

*NEIC **01** 04:35:56.2,39.39N×40.83E,h5km,mb4.2/11,MD3.9(ISK), After ISK.*

*CSEM **01** 04:35:57.5,39.38N×40.85E,h8km,mb4.6*

*IDC **01** 04:35:58.1±1.0,39.43N×40.99E,mb3.8/12,mb1 4.0/16, mb1mx3.9/25,mbtmp3.9/16,ML3.8/4,MS3.4/11,Ms1 3.4/11, ms1mx3.3/22,Error ellipse: s-maj=20.2km s-min=13.3km az=177.0*

ISC 01 04:35:57.1±0.2**,39.37N**±0.02×**40.91E**±0.03**,h5km,n124, σ1§30**/133**,mb3.9**/20**,MS3.4**/10**,9C-1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BINT	Bingol	0.59	214	i PG	Pg	04 36 08.2	-0.8
BINT	Bingol	0.59	214	Pg	Pg	04 36 08.2	-0.8
EZC	Erzincan	0.93	294	i PN	Pn	04 36 19.5	+2.9
EZC				i SN	Sn	04 36 36.8	+6.4
EZC	Erzincan	0.93	294	Pn	Pn	04 36 19.6	+3.0
EZC				Sg	Sg	04 36 37.6	+10
BTMT	Batman	1.26	159	PN	Pn	04 36 21.4	0.0
BEST	Besiri	1.50	169	i P	Pn	04 36 26.9	+2.1
BEST				i S	Pn	04 36 26.9	+2.1
GUMT	Gumushane	1.55	315	PN	Pn	04 36 25.8	+0.3
GUMT	Gumushane	1.55	315	Pn	Pn	04 36 25.4	0.0
GUMT	Gumushane	1.55	315	Pn	Pn	04 36 25.4	-0.1
DIY	Diyarbakir	1.57	200	PN	Pn	04 36 27.3	+1.5
DIY	Diyarbakir	1.57	200	Pn	Pn	04 36 26.3	+0.6
DIY	Diyarbakir	1.57	200	Pn	Pn	04 36 26.3	+0.5
ELZG	Elazig	1.74	240	i P	Pn	04 36 28.1	0.0
ELZG				i S	Pn	04 36 28.1	0.0
VANB	Van	2.08	111	ePN	Pn	04 36 35.5	+2.4
VANB	Van	2.08	111	Pn	Pn	04 36 34.5	+1.4
KARS	Kars	2.08	53	PN	Pn	04 36 33.6	+0.4
KARS	Kars	2.08	53	Pn	Pn	04 36 34.1	+1.0
KARS	Kars	2.08	53	P	Pn	04 36 34.1	+0.9
TVAN	Van	2.12	113	i P	Pn	04 36 36.4	+2.7
TVAN				i S	Pn	04 36 36.4	+2.7
VANT	Van	2.14	115	ePN	Pn	04 36 34.6	+0.6
VANT	Van	2.14	115	Pn	Pn	04 36 34.5	+0.5
MYA	Malataya	2.20	243	PN	Pn	04 36 34.7	-0.2
MYA	Malataya	2.20	243	Pn	Pn	04 36 34.8	-0.1
MALT	Malatya	2.21	242	Pn	Pn	04 36 35.4	+0.5
MALT	Malatya	2.21	242	i P	Pn	04 36 35.8	+0.9
MALT				i S	Sn	04 37 06.4	+3.5
MALT	Malatya	2.21	242	ePn	Pn	04 36 35.2	+0.3
VNNZ	Vanand	2.36	71⇑	iP	Pn	04 36 35.4	-1.7
AKSZ	Araks	2.43	69⇑	iP	Pn	04 36 36.1	-2.1
URFA	Urfa	2.53	221	ePN	Pn	04 36 40.2	+0.6
VRNZ	Vardanashen	2.62	74⇑	iP	Pn	04 36 39.8	-1.0
HKR	Hakkari	2.85	128	ePN	Pn	04 36 45.8	+1.7
HKR	Hakkari	2.85	128	Pn	Pn	04 36 45.9	+1.7
GNI	Garni	3.05	74	LR	LR	04 37 35.7	
	comp=Z,175nm,20.2s,baz=247,slow=33						
GNI	Garni	3.05	74	ePn	Pn	04 36 48.4	+1.4
SVST	Sivas	3.09	279	i P	Pn	04 36 53.9	+6.4
SVST				i S	Pn	04 36 53.9	+6.4
TOKT	Tokat	3.49	287	ePN	Pn	04 36 53.1	-0.1
TOKT	Tokat	3.49	287	Pn	Pn	04 36 53.1	-0.1
MSL	Mosul	3.53	150	ePn	Pn	04 36 54.0	+0.3
MSL				ePb	Pb	04 37 00.0	+0.3
MSL				i Pg	Pg	04 37 05.5	-2.0
MSL				i Sn	Sn	04 37 37.0	+0.7
MSL				i Sg	Sg	04 37 52.0	-2.5
GAZ	Gaziantep	3.65	234	ePN	Pn	04 36 56.3	+0.9
GAZ	Gaziantep	3.65	234	Pn	Pn	04 36 56.3	+0.9
TBLG	Delisi	3.75	50	P	Pn	04 36 57.9	+1.0
TI2	Plekhanov	3.76	50⇑	iP	Pn	04 36 57.4	+0.4
TI2				pmax	pmax		
	comp=Z,60nm,0.8s						
TI2				MLR	MLR		
	comp=N,3μm,6.0s						
TI2				MLR	MLR		
	comp=E,2μm,6.0s						
TI2				MLR	MLR		
	comp=Z,3μm,6.0s						
TI2	Plekhanov	3.76	50	i P	Pn	04 36 57.4	+0.4
	comp=Z,60nm,0.8s						
MTA	Mtatsminda	3.76	51	P	Pn	04 36 57.5	+0.5
MTA	Mtatsminda	3.76	51	P	Pg	04 37 07.0	-5.2
DUS	Dusheti	3.96	45	P	Pn	04 36 58.8	-1.1
DUS	Dusheti	3.96	45	P	Pg	04 37 16.4	+0.3
DGRG	David-gareji	3.99	57	P	Pn	04 37 01.7	+1.4
ZEI	Tsey	4.08	33	eP	Pn	04 37 03.2	+1.6
ZEI				pmax	pmax		
	comp=Z,12nm,0.2s						
ZEI	Tsey	4.08	33	eP	Pn	04 37 03.2	+1.6
	comp=Z,12nm,0.2s						
SOC	Sochi	4.30	348⇓	iP	Pn	04 37 04.6	-0.2
KIV	Kislovodsk	4.77	16	eP	Pn	04 37 12.0	+0.6
KIV	Kislovodsk	4.77	16	ePn	Pn	04 37 12.0	+0.6
TOS	Tosya	5.53	290	ePN	Pn	04 37 22.1	0.0
TOS	Tosya	5.53	290	Pn	Pn	04 37 22.7	+0.6
KAMT	Kaman	5.58	272	ePN	Pn	04 37 23.1	+0.3
KAMT	Kaman	5.58	272	Pn	Pn	04 37 23.1	+0.3
BRTR	Keskin Array B	5.63	276	Pn	Pn	04 37 23.4	-0.2
	comp=Z,0.4nm,0.3s,baz=100,slow=14,SNR=17						
BRTR				Lg		04 38 59.6	
	comp=Z,0.4nm,0.3s,baz=117,slow=26,SNR=2.8						
GOF	Gofitskoye	5.90	15⇑	iP	Pn	04 37 27.5	+0.2
GOF				i S	Sn	04 38 39.0	+2.8
GOF				pmax	pmax		
	comp=Z,20nm,1.3s						
GOF				smax			
	comp=N,100nm,1.7s						
GOF				smax			
	comp=E,70nm,1.7s						
GOF	Gofitskoye	5.90	15	i P	Pn	04 37 27.5	+0.2
	comp=E,20nm,1.3s						
BHL	Bhannes	6.90	219	ePN	Pn	04 37 42.6	+1.2
KIZT	Kizilcal	7.04	269	ePN	Pn	04 37 43.5	+0.1
KIZT	Kizilcal	7.04	269	Pn	Pn	04 37 43.6	+0.2
ASF	Jabal al Asfar	7.89	206	Pn	Pn	04 37 55.6	+0.4
	comp=E,0.9nm,0.3s,baz=243,slow=6.8,SNR=5.7						
ASF				Lg		04 40 11.0	
	comp=E,2.3nm,0.3s,baz=320,slow=18,SNR=4.3						
CFR	Carcaliu	11.10	306⇑	iP	P	04 38 43.5	+4.0
VRSR	Storozhevoye	11.91	355	eP	P	04 38 44.9	-5.6
VRSR				eS	S	04 41 06.3	+1.5
VRSR				pmax	pmax		
	comp=N,4.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,2.0nm,0.6s						
VRSR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
VRSR				smax			
	comp=N,6.0nm,0.6s						
VRSR				smax			
	comp=Z,5.0nm,1.2s						
VRSR				smax			
	comp=E,10.0nm,0.9s						
MLR	Muntele Rosu	12.63	304	Pn	P	04 39 02.6	+2.4
	comp=E,0.2nm,0.3s,baz=196,slow=20,SNR=2.8						
MLR	Muntele Rosu	12.63	304⇑	iP	P	04 39 05.9	+5.7
IDI	Anoyia	13.38	257	LR	LR	04 44 21.8	
	comp=E,106nm,21.0s,baz=93,slow=37						
AKASG	Malin Array Be	14.00	328	Pn	P	04 39 16.4	-1.9
	comp=E,1.1nm,0.3s,baz=138,slow=11,SNR=24						
BURAR	Bucovina Array	14.04	311⇑	iP	P	04 39 25.3	+6.5
OBN	Obninsk	16.02	351	i P	P	04 39 43.0	-1.5
OBN				eS	S	04 42 45.1	+2.4
OBN				pmax	pmax		
	comp=Z,15nm,0.7s						
OBN				MLR	MLR		
	comp=Z,100nm,24.0s						
PSZ	Piszkesteto	17.41	306	eP	P	04 40 02.2	+0.1
PSZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
PSZ	Piszkesteto	17.41	306	eP	P	04 40 02.2	+0.1
	comp=Z,6.8nm,1.1s						
SUW	Suwalki	18.96	326	eP	P	04 40 19.4	-1.8
CII	Carovilli	20.33	285	eP	P	04 40 36.3	-0.5
	comp=Z,8.8nm,0.8s						
ARU	Arti	20.66	29c	iP	P	04 40 37.8	-2.3
ARU				e		04 40 57.1	
ARU				eS	S	04 44 34.0	+7.5
ARU				eSS	SS	04 45 02.4	+5.5
ARU				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ARU	Arti	20.66	29	eP	P	04 40 38.7	-1.5
	comp=Z,8.4nm,0.3s						
KSP	Ksiaz	20.71	312	eP	P	04 40 40.4	-0.3
VAE	Valguarnera	20.83	273	P	P	04 40 43.9	+2.0
	comp=Z,10.0nm,0.4s,baz=127,slow=17,SNR=3.6						
VAE				LR	LR	04 48 50.0	
	comp=Z,56nm,18.3s,MS3.0,baz=303,slow=37						
VSU	Vasula	21.17	339	P	P	04 40 46.8	+1.4
KBA	Koelnbreinsper	21.44	300	P	P	04 40 48.3	+0.2
GERES	GERESS Array B	21.61	305	P	P	04 40 49.2	-0.6
	comp=Z,1.7nm,0.7s,mb3.6,baz=104,slow=11,SNR=10						
GERES				LR	LR	04 50 39.7	
	comp=Z,64nm,19.5s,MS3.0,baz=97,slow=41						
SVE	Sverdlovsk	21.74	30	eP	P	04 40 53.2	+2.1
SVE				e		04 41 14.0	
SVE				pmax	pmax		
	comp=Z,36nm,1.3s,mb4.6						
SVE				MLR	MLR		
	comp=E,100nm,16.0s						
SVE				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
CLL	Collm	22.81	311	e	P	04 41 08.0	+6.3
GRA1	Grafenberg Arr	23.40	306	eP	P	04 41 08.2	+0.7
	comp=Z,7.0nm,1.1s,mb4.0						
GRF	Grafenberg Arr	23.40	306	eP	P	04 41 08.2	+0.7
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.0						
GRF	Grafenberg Arr	23.40	306	eP	P	04 41 08.2	+0.7
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.0						
GRF	Grafenberg Arr	23.40	306	eP	P	04 41 08.2	+0.7
	comp=Z,7.0nm,1.1s,mb4.0						
GRFO	Grafenberg	23.40	306	P	P	04 41 07.7	+0.2
DAVOX	Davos	23.73	298	P	P	04 41 11.8	+1.1
	comp=Z,1.2nm,0.6s,mb3.5,baz=66,slow=10.0,SNR=2.6						
DAVOX				LR	LR	04 51 30.6	
	comp=Z,87nm,20.3s,MS3.2,baz=86,slow=39						
FINES	FINESS Array B	23.92	342	P	P	04 41 13.1	+0.7
	comp=Z,1.5nm,0.7s,mb3.5,baz=137,slow=9.6,SNR=6.9						
FINES				LR	LR	04 52 08.3	
	comp=Z,30nm,18.9s,MS2.8,baz=334,slow=41						
BVAR	Borovoye Array	24.34	46	P	P	04 41 17.8	+1.2
	comp=Z,0.9nm,0.6s,mb3.4,baz=243,slow=9.7,SNR=4.4						
KAF	Kangasniemi	24.46	343	ep	P	04 41 16.0	-1.6
	comp=Z,3.7nm,0.7s,mb3.9						
KAF	Kangasniemi	24.46	343	eP	P	04 41 16.0	-1.6
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
CHKZ	Chkalovo	24.72	45	eP	P	04 41 19.5	-0.7
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
CHKZ	Chkalovo	24.72	45	eP	P	04 41 19.5	-0.8
	comp=Z,1.9nm,0.8s,mb3.7						
AAK	Ala-Archa	25.46	72	i P	P	04 41 25.9	-1.5
AAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.7						
AAK	Ala-Archa	25.46	72	eP	P	04 41 27.4	0.0
	comp=Z,3.6nm,1.0s,mb3.9						
MBDF	Montbardon	25.79	293	eP	P	04 41 27.9	-2.5
	comp=Z,9.2nm,0.8s,mb4.0						
MBDF	Montbardon	25.79	293	eP	P	04 41 27.9	-2.5
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
LPG	La Plagne	25.81	295	eP	P	04 41 28.7	-1.9
	comp=Z,20nm,1.1s,mb4.2						
LPG	La Plagne	25.81	295	eP	P	04 41 28.7	-1.9
LPG				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
LPL	La Plagne	25.82	295	eP	P	04 41 27.9	-2.9
CABF	La Chapelle	26.32	297	eP	P	04 41 32.8	-2.5
	comp=Z,47nm,1.4s,mb4.5						
CABF	La Chapelle	26.32	297	eP	P	04 41 32.8	-2.5
CABF				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.5						
HFS	Hagfors	26.88	330	P	P	04 41 39.3	-1.1
	comp=Z,2.4nm,0.8s,mb3.8,baz=124,slow=11,SNR=5.4						
SMF	Signal de Mont	27.87	297	eP	P	04 41 47.5	-2.0
NOA	NORSAR Array B	28.40	330	LR	LR	04 54 26.4	
	comp=Z,40nm,18.4s,MS3.0,baz=95,slow=39						
KURK	Kurchatov	28.65	54	i P	P	04 41 54.2	-2.3
MKAR	Makanchi Array	30.83	62	P	P	04 42 15.6	-0.4
	comp=Z,1.8nm,0.9s,mb3.9,baz=280,slow=7.4,SNR=9.1						
ARCES	ARCESS Array B	31.32	350	P	P	04 42 19.7	-0.4
	comp=Z,2.6nm,0.8s,mb4.1,baz=150,slow=9.8,SNR=7.9						
ARCES				LR	LR	04 55 45.7	
	comp=Z,89nm,18.1s,MS3.5,baz=199,slow=38						
ARCES	ARCESS Array B	31.32	350	P	P	04 42 19.7	-0.4
ARCES				LR	LR	04 55 45.7	
EKA	Eskdalemuir Ar	33.20	313	P	P	04 42 35.8	-0.9
	comp=Z,1.4nm,0.8s,mb3.9,baz=117,slow=7.9,SNR=3.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ESDC	Sonseca Array	34.34	285	P	P	04 42 46.1	-0.6
	comp=Z,0.7nm,0.6s,mb3.8,baz=64,slow=9.6,SNR=4.2						
JMIC	Jan Mayen	40.35	337	LR	LR	05 00 51.8	
	comp=Z,61nm,19.2s,MS3.5,baz=91,slow=37						
SONM	Songino Array	46.88	57	P	P	04 44 29.2	-0.6
	comp=Z,0.2nm,0.6s,mb3.2,baz=280,slow=8.8,SNR=2.9						
SONM				PcP	PcP	04 46 01.9	-1.3
	comp=Z,0.4nm,0.6s,baz=290,slow=3.6,SNR=3.9						
SONM				LR	LR	05 06 38.3	
	comp=Z,162nm,18.1s,MS4.0,baz=41,slow=39						
ULN	Ulaanbaatar	47.30	57	*i* P	P	04 44 31.1	-2.1
BOD	Bodaibo	49.13	43	*e*P	P	04 44 45.4	-1.9
SSE	Sheshan	64.09	70	*e*P	P	04 46 26.2	-8.2
	comp=Z,29nm,0.6s						
BILL	Bilibino	65.38	20	*e*P	P	04 46 37.1	-5.0
BILL				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.9						
YKA	Yellowknife Ar	76.58	349	P	P	04 47 49.2	-0.4
	comp=Z,0.5nm,0.7s,mb3.5,baz=20,slow=6.1,SNR=14						
BDFB	Brasilia	98.93	257	LR	LR	05 32 31.5	
	comp=Z,75nm,21.0s,MS4.2,baz=283,slow=34						

*NIED **01** 04:44:00, 37.00N×141.20E, h50^{km}, Mw3.9 Best double couple: $M_0$7.35×10^{14} NP1:ϕ_s29°, δ75°, λ101°. NP2:ϕ_s174°, δ19°, λ56°.*
*MOS **01** 04:44:21.3±1.1, 37.18N×141.44E, h33^{km}, mb4.5/1, Error ellipse: s-maj=20.9km s-min=17.6km az=35.1*
*NEIC **01** 04:44:24.3±0.8, 37.18N×141.26E, h35^{km}, mb4.3/1, Error ellipse: s-maj=19.9km s-min=12.7km az=150.0*
*JMA **01** 04:44:25.7±0.1, 37.06N×141.14E, h50^{km}±1^{km}, M4.1 Broadband fault plane solution: P waves. NP1:ϕ_s203°, δ14°, λ90°. NP2:ϕ_s23°, δ76°, λ90°. Principal axes: T Plg59°, Azm293°; N Plg0°, Azm23°; P Plg31°, Azm113°;*
JMA Felt II J1.
*IDC **01** 04:44:26.5±4.2, 37.00N×141.06E, h57^{km}±41^{km}, mb3.5/10, mb1 3.7/11, mb1mx3.6/21, mbtmp3.8/11, ML4.0/1 Error ellipse: s-maj=29.5km s-min=21.8km az=66.0*
ISC 01 04:44:24.0±0.8**, 37.02N**±0.04×**141.25E**±0.10**, h54**^{km}±5^{km}**, n32, σ0^{s}89**/39**, mb3.8**/12**, 9D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.37	282	⇓P	P	04 44 34.4	+0.2
ONAJ				S	S	04 44 40.8	-0.8
JFK	Kawauchi	0.46	319	⇓P	P	04 44 35.4	+0.3
JFK				S	S	04 44 42.2	-0.9
JHO	Hitachi	0.69	233	⇓P	P	04 44 38.3	+0.6
JHO				*e*S	S	04 44 47.0	-1.0
JFT	Otama	0.88	304	⇓P	P	04 44 41.4	+1.1
JFT				S	S	04 44 52.3	-0.3
JMM	Marumori	0.92	337	⇓P	P	04 44 41.3	+0.5
JMM				S	S	04 44 52.5	-0.9
JFY	Yanaizu	1.29	288	⇓P	P	04 44 46.4	+0.2
JOU	Okura	1.42	341	⇓P	P	04 44 48.4	+0.4
JIO	Ouri	1.43	3	⇓P	P	04 44 48.4	+0.3
JYS	Shirataka	1.52	322	⇓P	P	04 44 50.1	+0.7
MAJO	Matsushiro	2.49	260	*e*P	P	04 45 03.9	+0.9
MAT	Matsushiro	2.49	260	*e*P	P	04 45 04.0	+1.0
MAT				*e*S	S	04 45 35.0	+2.7
MAT	Matsushiro	2.49	260	P	P	04 45 04.0	+1.0
MAT				S	S	04 45 34.6	+2.3
JHJ	Hachijo jima 2	4.08	198	P	P	04 45 25.8	+0.3
	25nm,0.3s,baz=97,slow=8.1,SNR=4.6						
JHJ				S	S	04 46 11.2	-1.1
	40nm,0.3s,baz=73,slow=20,SNR=6.3						
BOD	Bodaibo	27.47	328	*e*P	P	04 50 05.3	-1.5
SONM	Songino Array	27.68	304	P	P	04 50 08.3	-0.5
	0.6nm,0.5s,mb3.5,baz=99,slow=9.1,SNR=5.3						
MKAR	Makanchi Array	44.02	302	P	P	04 52 28.0	+0.3
	0.8nm,0.6s,mb3.6,baz=82,slow=10,SNR=13						
KURK	Kurchatov	45.84	308	*e*P	P	04 52 41.0	-1.2
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KURK	Kurchatov	45.84	308	*e*P	P	04 52 41.0	-1.2
	comp=Z,2.5nm,0.6s,mb4.3						
CHKZ	Chkalovo	50.23	313	P	P	04 53 14.9	-1.4
BVAR	Borovoye Array	50.48	312	P	P	04 53 17.3	-0.9
	comp=Z,0.4nm,0.3s,mb3.9,baz=90,slow=4.4,SNR=4.2						
BVAR				PcP	PcP	04 54 35.5	-0.4
	comp=Z,0.6nm,0.3s,baz=108,slow=4.6,SNR=4.4						
WRA	Warramunga Arr	57.03	188	P	P	04 54 06.4	-0.5
	comp=Z,0.4nm,0.6s,mb3.7,baz=6.3,slow=7.6,SNR=3.8						
WRA				pP	pP	04 54 20.6	-1.0
	comp=Z,1.1nm,0.4s,baz=4.2,slow=7.3,SNR=11						
ASAR	Alice Springs	60.76	188	pP	pP	04 54 45.5	-1.9
	comp=Z,0.8nm,0.7s,baz=22,slow=6.5,SNR=5.4						
YKA	Yellowknife Ar	63.88	30	P	P	04 54 53.3	+0.5
	comp=Z,0.2nm,0.8s,mb3.2,baz=302,slow=6.3,SNR=3.3						
FINES	FINESS Array B	68.77	332	P	P	04 55 23.4	-0.3
	comp=Z,1.4nm,0.8s,mb4.0,baz=45,slow=9.8,SNR=5.9						
FINES	FINESS Array B	68.77	332	P	P	04 55 23.4	-0.3
HFS	Hagfors	74.05	336	P	P	04 55 50.5	-4.7
	comp=Z,1.4nm,0.4s,mb4.3,baz=56,slow=5.2,SNR=13						
NB2	NORSAR Subarra	74.15	337	P	P	04 55 55.9	+0.1
	comp=Z,0.8nm,0.7s,mb3.8,baz=39,slow=5.8						
NOA	NORSAR Array B	74.15	337	P	P	04 55 56.2	+0.4
	comp=Z,1.3nm,0.7s,mb4.0,baz=39,slow=5.7,SNR=6.4						
AKASG	Malin Array Be	74.23	322	P	P	04 55 56.2	-0.3
	comp=Z,0.8nm,0.3s,mb4.1,baz=48,slow=6.2,SNR=8.5						
AKASG	Malin Array Be	74.23	322	P	P	04 55 56.2	-0.3
PDAR	Pinedale Array	77.77	45	P	P	04 56 18.9	+2.2
	comp=Z,0.5nm,0.9s,mb3.4,slow=1.5,SNR=3.8						
GERES	GERESS Array B	82.65	328	P	P	04 56 43.2	+0.6
	comp=Z,0.5nm,0.4s,mb3.9,baz=37,slow=6.7,SNR=5.3						

*THR **01** 04:58:19.3±0.5, 30.83N×56.95E, h27^{km}±6^{km}, ML3.1*
*CSEM **01** 04:58:29.1±0.1, 30.32N×56.54E, h45^{km}, ML3.1, Error ellipse: s-maj=6.0km s-min=3.0km az=106.0*
*TEH **01** 04:58:33.2, 30.66N×56.59E, h10^{km}, Mn3.1*
ISC 01 04:58:26.5±0.7**, 30.48N**±0.05×**56.40E**±0.08**, h10**^{km}**, n16, σ1^{s}63**/19**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.58	148	*e*PG	Pg	04 58 35.9	-2.4
KRBR				*e*SG	Sg	04 58 47.5	+1.4
KRBR				AML	AML	04 59 03.9	
	comp=N,646nm,0.2s						
KRBR	Kerman	0.58	148	*e*Pg	Pg	04 58 35.9	-2.4
	SNR=99						
KRBR				*e*Sg	Sg	04 58 47.5	+1.3
	comp=N,646nm,0.2s,SNR=99						
IBAF	Bafgh	1.32	327	Pn	Pn	04 58 42.9	-8.1
IMEH	Mehriz	1.78	301	Pn	Pn	04 58 59.3	+1.6
ICHK	Chekchek	2.45	316	Pn	Pn	04 59 01.7	-5.5
IPAR	Pars	2.97	259	Pn	Pn	04 59 18.3	+3.7
ISRV	Sarvestan	3.06	250	Pn	Pn	04 59 16.0	+0.2
BNDS	Bandar-Abbas	3.08	184	*e*PN	Pn	04 59 14.0	-2.1
BNDS				AML	AML	05 00 33.4	
	comp=N,30nm,0.6s						
GHIR	Ghir-Karzin	3.69	235	*e*PN	Pn	04 59 25.2	+0.3
GHIR				AML	AML	05 01 07.9	
	comp=N,15nm,0.7s						
NASN	Na'in	3.84	308	*e*PN	Pn	04 59 21.8	-5.1
NASN				AML	AML	05 00 49.5	
	comp=N,29nm,0.6s						
IFIR	Firoozkooh	5.99	330	Pn	Pn	05 00 00.1	+2.7
IFIR				Sn	Sn	05 01 04.6	-2.2
IMOG	Moghan	6.13	23	Pn	Pn	05 00 00.0	+0.6
IDMV	Damavand	6.27	325	Pn	Pn	05 00 04.1	+2.8
IKRD	Kardeh	6.52	15	Pn	Pn	05 00 09.0	+4.1
IMYA	Miamay	6.62	27	Pn	Pn	05 00 06.0	-0.2
ASAO	Ashtian	6.74	309	*e*PN	Pn	05 00 01.3	-6.7

IDC 01 05:00:23.1±2.3**, 6.23S**×**152.20E, mb3.8**/4**, mb1 4.1**/4**, mb1mx3.7**/12**, mbtmp3.8**/4**, Error ellipse: s-maj=121.6km s-min=33.7km az=134.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.06	230	P	P	05 05 21.2	-0.3
	0.9nm,0.9s,baz=55,slow=10,SNR=3.4						
ASAR	Alice Springs	24.70	224	P	P	05 05 45.2	-2.2
	1.6nm,0.8s,baz=58,slow=9.5,SNR=11						
FITZ	Fitzroy Crossi	28.46	243	P	P	05 06 20.2	-2.0
	7.8nm,0.9s,baz=71,slow=5.2,SNR=8.7						
YKA	Yellowknife Ar	96.97	28	P	P	05 13 56.3	-1.3
	0.1nm,0.8s,baz=280,slow=3.8,SNR=3.7						

WEL 01 05:10:45.0±0.2**, 38.09S**×**176.27E, h157**^{km}±1^{km}**, ML3.6**/14**, Error ellipse: s-maj=1.9km s-min=1.8km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.68	105	PN	P	05 11 08.0	-0.4
URZ				SN	S	05 11 25.7	-0.7
MWZ	Matawai	1.02	104	PN	P	05 11 10.7	+0.1
MWZ				SN	S	05 11 30.4	-0.1
MGZ	Maungaku	1.07	212	PN	P	05 11 11.3	+0.1
BKZ	Black Stump Fm	1.09	171	PN	P	05 11 11.2	-0.1
BKZ				SN	S	05 11 30.9	-0.7
NGZ	Ngauruhoe	1.20	206	PN	P	05 11 12.8	+0.4
CNZ	Chateau	1.24	207	PN	P	05 11 12.6	-0.1
TUVZ	Tukino	1.27	202	PN	P	05 11 12.9	-0.1
FWVZ	Far West T-bar	1.29	206	PN	P	05 11 13.1	-0.2
WNVZ	Wahianoa	1.34	203	PN	P	05 11 13.4	-0.3
MOVZ	Moawhango	1.38	197	PN	P	05 11 13.2	-0.8
KNZ	Kokohu	1.44	131	PN	P	05 11 14.6	-0.1
KNZ				SN	S	05 11 36.2	-1.5
PUZ	Puketiti	1.57	90	PN	P	05 11 15.4	-0.6
PUZ				SN	S	05 11 40.4	+0.4
MXZ	Matakaoa Point	1.69	73	PN	P	05 11 17.1	-0.3
MXZ				SN	S	05 11 41.7	-0.8
TSZ	Takapari Road	1.98	187	PN	P	05 11 19.4	-1.2
BFZ	Birch Farm	2.59	180	PN	P	05 11 25.7	-2.3
BFZ				SN	S	05 11 57.7	-3.4
MRZ	Mangatainoka R	2.62	192	PN	P	05 11 25.7	-2.7
MRZ				SN	S	05 11 57.8	-4.0
KIW	Kapiti Island	2.96	200	PN	P	05 11 29.3	-3.4
KIW				SN	S	05 12 05.6	-3.7
MTW	Mount Morrison	3.12	191	PN	P	05 11 31.1	-3.7
CAW	Cannon Point	3.15	197	PN	P	05 11 31.6	-3.6
DUWZ	D'Urville Isla	3.26	213	PN	P	05 11 33.1	-3.5
PAWZ	Paruwai Farm	3.35	191	PN	P	05 11 33.9	-3.9
MRW	Makara Radio	3.36	201	PN	P	05 11 34.0	-3.9
MSWZ	Moikau Station	3.41	193	PN	P	05 11 34.4	-4.2
MSWZ				SN	S	05 12 13.8	-5.9
SNZO	South Karori	3.43	200	PN	P	05 11 34.5	-4.3
SNZO				SN	S	05 12 15.8	-4.4
BHW	Baring Head	3.48	198	PN	P	05 11 35.0	-4.4
TUWZ	Tuamarina	3.79	208	PN	P	05 11 39.1	-4.3
MQZ	McQueen's Vall	6.24	205	SN	S	05 13 15.9	-11

*MOS **01** 05:11:42.2±0.7, 53.79N×161.53E, h39^{km}, mb4.2/1, Error ellipse: s-maj=35.2km s-min=17.0km az=59.8*
KRSC 01 05:11:42.7±1.1**, 53.80N**×**161.56E, h38**^{km}±6^{km}**, ML4.1, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.76	7	P	P	05 11 56.5	-0.5
MKZ				S	S	05 12 06.5	-1.0
MKZ	Mys Kozlova	0.76	7	*e*P	P	05 11 56.4	-0.6
MKZ				*e*S	S	05 12 06.5	-1.0
SPN	Mys Shipunski	1.16	233	P	P	05 12 02.4	-0.2
SPN				S	S	05 12 17.1	-0.4
SPN	Mys Shipunski	1.16	233	*e*P	P	05 12 02.3	-0.3
SPN				*e*S	S	05 12 17.3	-0.2
KII	Karymskiy	1.27	282	P	P	05 12 04.4	+0.2
KII				S	S	05 12 20.1	-0.3
KII	Karymskiy	1.27	282	*e*P	P	05 12 04.3	+0.1
KII				*e*S	S	05 12 19.4	-1.0
NLC	Nalytchevo	1.47	245	P	P	05 12 07.0	-0.1
NLC				S	S	05 12 25.0	-0.3
NLC	Nalytchevo	1.47	245	*e*P	P	05 12 06.7	-0.4
NLC				*e*S	S	05 12 25.1	-0.2
TUMR	Tumrok	1.70	332	*e*P	P	05 12 11.1	+0.7
TUMR				*e*S	S	05 12 32.0	+0.9
SMAR	Somma	1.73	253	*e*P	P	05 12 11.3	+0.4
UGLR	Uglovaya	1.74	251	*e*P	P	05 12 11.5	+0.5
UGLR				*e*S	S	05 12 32.6	+0.5
AVH	Avacha	1.77	253	*e*P	P	05 12 12.0	+0.6
AVH				*e*S	S	05 12 33.9	+1.1
KOK	Koryaka	1.82	255	*i* P	P	05 12 12.6	+0.5
KOK				*e*S	S	05 12 34.9	+0.8
PET	Petropavlovsk	1.91	247	P	P	05 12 13.5	+0.1
PET				S	S	05 12 35.7	-0.6
PET	Petropavlovsk	1.91	247	*e*PN	P	05 12 14.0	+0.6
PET				*e*S	S	05 12 36.6	+0.3
PET				pmax	pmax		
	comp=Z,17nm,0.3s						
PET				smax			
	comp=N,332nm,0.8s						
PET	Petropavlovsk	1.91	247	*e*P	P	05 12 13.7	+0.3
PET				*e*S	S	05 12 36.5	+0.2
KMNR	Kamenistaya	2.10	339	*e*P	P	05 12 17.7	+1.5
KMNR				*e*S	S	05 12 43.5	+2.1
GNL	Ganaly	2.15	269	*e*P	P	05 12 18.1	+1.2
GNL				*e*S	S	05 12 44.4	+1.9
KRMR	Karymshinskiy	2.28	246	*e*P	P	05 12 19.2	+0.6
KRMR				*e*S	S	05 12 46.9	+1.2
RUS	Russkaya	2.29	235	P	P	05 12 18.5	-0.4
RUS				S	S	05 12 44.7	-1.4
RUS	Russkaya	2.29	235	*e*P	P	05 12 18.5	-0.4
RUS				*e*S	S	05 12 44.5	-1.6
GRL	Gorelyy	2.44	241	*e*P	P	05 12 21.8	+0.8
GRL				*e*S	S	05 12 50.9	+1.0
KOZ	Kozyrevsk	2.46	337	*e*P	P	05 12 22.4	+1.1
KOZ				*e*S	S	05 12 52.4	+1.9
KBTR	Krutoberegovo	2.52	16	P	P	05 12 21.7	-0.4
KBTR				S	S	05 12 49.9	-2.0
KBTR	Krutoberegovo	2.52	16	*e*P	P	05 12 21.7	-0.4
KBTR				*e*S	S	05 12 50.1	-1.8
KBG	Krutoberegovo	2.55	15	*e*P	P	05 12 24.7	+2.2
KBG				*e*S	S	05 12 54.2	+1.6
KBG				Smax			
	comp=N,440nm,1.0s						
KLY	Klyuchi	2.57	349	*e*P	P	05 12 25.0	+2.1
KLY				*e*S	S	05 12 54.3	+1.1
ESO	Esso	2.70	323	*e*P	P	05 12 25.0	+0.4
ESO				*e*S	S	05 12 55.8	-0.6
ESO				Smax			
	comp=N,50nm,0.8s						
SRDR	Sredinnyy	2.74	338	*e*P	P	05 12 25.2	0.0
APC	Apacha	2.78	253	*e*P	P	05 12 27.5	+1.7
APC				*e*S	S	05 12 59.5	+1.0
APC				Smax			
	comp=N,50nm,1.4s						
BKI	Bering	2.93	60	*e*P	P	05 12 26.5	-1.5
BKI				*e*S	S	05 12 57.3	-5.1
BKI				Smax			
	comp=N,60nm,0.4s						

*JMA **01** 05:19:50.2±0.3, 24.20N×122.24E, h42^{km}, M2.2*
TAP 01 05:19:49.4, 24.13N×**122.24E, h19**^{km}±1^{km}**, ML3.2, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.78	65	P	Pb	05 20 04.5	+0.5
YOJ				*e*S	Sb	05 20 14.6	+0.5
IRIF	Iriomote-Funau	1.38	81	P	Pn	05 20 13.3	-0.5
IRIF				*e*S	Sb	05 20 31.8	+0.4
HATJ	Hateruma jima	1.43	93	*e*S	Sb	05 20 32.1	-0.9
JKRS	Kuro-shima	1.62	86	P	Pn	05 20 16.8	-0.5
JKRS				*e*S	Sn	05 20 38.2	+0.4
JIJ	Ishigaki jima	1.75	82	P	Pn	05 20 19.1	-0.1
JIJ				*e*S	Sn	05 20 39.5	-1.7

*IDC **01** 05:25:56.9±2.2, 2.75N×96.41E, h22^{km}±5^{km}, mb3.8/8, mb1 3.9/8, mb1mx3.7/19, mbtmp3.9/8, Error ellipse: s-maj=96.7km s-min=14.0km az=58.0*
*NEIC **01** 05:25:56.4±0.6, 2.63N×96.29E, mb4.2/3, Error ellipse: s-maj=18.7km s-min=8.6km az=56.0*
ISC 01 05:25:54.2±0.9**, 2.6N**±0.1×**96.3E**±0.2**, h23**^{km}**, h23**^{km}±1.3^{km}**:pP-P, n14, σ0^{s}39**/14**, mb4.0**/11**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.12	59	*e*Pn	Pn	05 27 11.6	+0.1
SHL	Shillong	23.18	350	*e*P	P	05 31 00.0	-0.4
FITZ	Fitzroy Crossi	35.54	127	P	P	05 32 51.1	-0.8
	4.7nm,0.9s,mb4.4,baz=342,slow=2.6,SNR=5.5						
WRA	Warramunga Arr	43.60	123	P	P	05 33 58.9	+0.1
	1.1nm,0.4s,mb3.9,baz=302,slow=9.1,SNR=13						
WRA				pP	pP	05 34 06.7	+1.0
	1.7nm,0.6s,baz=303,slow=9.1,SNR=8.2						
WRAB	Tennant Creek	43.61	123	*e*P	P	05 33 58.8	0.0
	2.3nm,0.5s,mb4.2						
ASAR	Alice Springs	45.02	128	P	P	05 34 10.4	+0.2
	0.9nm,0.6s,mb3.8,baz=300,slow=8.0,SNR=10						
MKAR	Makanchi Array	45.63	347	P	P	05 34 14.2	-0.5
	2.1nm,0.8s,mb4.1,baz=161,slow=7.1,SNR=18						
MKAR				pP	pP	05 34 21.1	-0.6
	2.6nm,0.7s,baz=161,slow=8.1,SNR=14						
SONM	Songino Array	45.87	10	P	P	05 34 16.4	-0.2
	0.9nm,0.7s,mb3.8,baz=196,slow=9.0,SNR=5.7						
SONM				pP	pP	05 34 23.3	-0.2
	0.7nm,0.7s,baz=188,slow=9.4,SNR=3.9						
SONM				PcP	PcP	05 35 54.2	+0.1
	0.3nm,0.5s,baz=207,slow=4.1,SNR=2.9						
KURK	Kurchatov	50.17	345	*e*P	P	05 34 50.1	0.0
	0.9nm,0.6s,mb4.0						
ZAL	Zalesovo	51.99	351	P	P	05 35 04.7	+0.9
	0.7nm,0.3s,mb4.0,baz=351,slow=14,SNR=3.6						
ZAL				pP	pP	05 35 10.9	0.0
	0.9nm,0.4s,baz=335,slow=11,SNR=1.9						
ZAL	Zalesovo	51.99	351	P	P	05 35 04.7	+0.9
ZAL				pP	pP	05 35 10.9	0.0
BVAR	Borovoye Array	54.59	341	P	P	05 35 23.2	+0.2
	0.4nm,0.5s,mb3.7,baz=140,slow=12,SNR=4.6						
STKA	Stephens Creek	55.02	132	P	P	05 35 26.9	+0.4
	2.0nm,0.7s,mb4.3,baz=161,slow=22,SNR=5.7						
CHKZ	Chkalovo	55.07	342	*e*P	P	05 35 26.6	0.0
	1.9nm,0.6s,mb4.3						

*CNRM **01** 05:30:27.8, 35.10N×2.70W, h6^{km}, MD3.0*
*CSEM **01** 05:30:28.3±0.4, 34.97N×2.86W, h5^{km}, MD3.0, Error ellipse: s-maj=10.6km s-min=7.4km az=129.0*
*MDD **01** 05:30:29.7±0.8, 34.93N×2.81W, h0^{km}±6^{km}, mbLg2.0/5, Error ellipse: s-maj=7.2km s-min=3.8km az=159.0, PRXIMO*
ISC 01 05:30:28.9±0.7**, 34.97N**±0.04×**2.78W**±0.05**, h10**^{km}**, n18, σ0^{s}95**/29**, Morocco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZAI	Zaio	0.03	95	*i* P	Pg	05 30 30.5	-0.3
ZAI				*i* S	Sg	05 30 32.5	+0.5
EMLI	Melilla	0.36	337	P	Pg	05 30 36.8	+0.5
	79nm,0.2s,SNR=10						
EMLI				S	Sg	05 30 42.1	+0.9
	439nm,0.2s,SNR=4.9						
EMEL	Melilla	0.36	336	P	Pg	05 30 36.8	+0.5
	79nm,0.2s,SNR=10						
EMEL				S	Sg	05 30 42.1	+0.8
	439nm,0.2s,SNR=4.9						
TOU	Touzarine	0.80	270	*e*P	Pb	05 30 43.0	-1.5
TOU				*i* S	Sb	05 30 56.0	+0.8
TZK	Tazeka	1.46	233	*i* P	Pn	05 30 55.5	+0.1
TZK				*i* S	Sb	05 31 14.5	+0.3
EBER	Berja	1.92	357	P	Pn	05 31 02.9	+0.8
	0.5nm,0.1s,SNR=4.0						
EBER				S	Sn	05 31 26.3	-0.2
	4.9nm,0.3s,SNR=4.0						
EBER	Berja	1.92	357	P	Pn	05 31 02.9	+0.8
	0.5nm,0.1s,SNR=4.0						
EBER				S	Sn	05 31 25.6	-1.0
	4.9nm,0.3s,SNR=4.0						
EQES	Quesada	2.83	355	P	Pn	05 31 16.3	+1.2
	0.6nm,0.1s,SNR=7.1						
EQES				S	Sn	05 31 49.8	+0.1
	0.9nm,0.1s,SNR=7.7						
EQES	Quesada	2.83	355	P	Pn	05 31 16.8	+1.7
	0.6nm,0.1s,SNR=7.1						
EQES				S	Sn	05 31 50.3	+0.6
	0.9nm,0.1s,SNR=7.7						
EMUR	La Murta	3.12	23	P	Pn	05 31 20.2	+1.0
	0.9nm,0.2s,SNR=7.9						
EADA	Adamuz	3.50	336	P	Pn	05 31 24.4	-0.2
	0.2nm,0.2s,SNR=4.8						
EADA				S	Sn	05 32 04.4	-2.2
	0.1nm,0.1s,SNR=4.0						
EADA	Adamuz	3.50	336	P	Pn	05 31 24.4	-0.2
	0.2nm,0.2s,SNR=4.8						
EADA				S	Sn	05 32 03.4	-3.2
	0.1nm,0.1s,SNR=4.0						
ETOB	Tobarra	3.80	15	S	Sn	05 32 11.9	-2.1
	1.4nm,0.4s,SNR=7.9						
EMIN	Mina Concepcio	4.20	313	P	Pn	05 31 34.5	0.0
	0.1nm,0.1s,SNR=7.9						
EGRO	El Granado	4.58	305	P	Pn	05 31 39.0	-1.0
	0.8nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	4.79	349	P	Pn	05 31 42.6	-0.3
	SNR=7.9						
EBAD	Badajoz	5.08	319	P	Pn	05 31 45.5	-1.5
	0.5nm,0.1s,SNR=7.9						
EIBI	Ibiza	5.22	38	P	Pn	05 31 49.3	+0.3
	0.3nm,0.2s,SNR=7.9						

*SOF **01** 05:34:36.2, 41.37N×22.67E, h2^{km}, MD2.7*
*CSEM **01** 05:34:37.4±0.2, 41.43N×22.67E, h2^{km}, ML2.8, Error ellipse: s-maj=4.1km s-min=2.9km az=118.0*
*THE **01** 05:34:39.2, 41.31N×22.67E, h1^{km}, ML2.8*
ISC 01 05:34:37.5±0.6**, 41.39N**±0.03×**22.68E**±0.04**, h0**^{km}±8^{km}**, n18, σ0^{s}66**/28**, 2C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.11	233	⇑*i*Pg	Pg	05 34 40.5	+0.9
VAY				⇑*i*Sg	Sg	05 34 42.5	+1.4
VAY				⇓*i*Sg	Sg	05 34 42.5	+1.4
KNT	Kendrikon	0.28	144	*e*Pg	Pg	05 34 43.2	+0.2
KNT				*e*Sg	Sg	05 34 47.0	+0.3
KNT	Kendrikon	0.28	144	*e*Pg	Pg	05 34 43.2	+0.2
KNT				*e*Sg	Sg	05 34 47.0	+0.3
GRG	Griva	0.48	206	*e*Pg	Pg	05 34 47.0	0.0
GRG				*e*Sg	Sg	05 34 53.2	-0.3
KKB	Krupnik	0.57	32	Pg	Pg	05 34 48.0	-0.8
SRS	Serrai	0.74	111	*e*Pg	Pg	05 34 52.6	+0.4
SRS				*e*Sg	Sg	05 35 02.8	+0.7
SOH	Sokhos	0.76	138	*e*Pg	Pg	05 34 52.7	+0.1
THE	Thessaloniki	0.78	164	*e*Pg	Pg	05 34 52.9	-0.2
THE				*e*Sg	Sg	05 35 02.9	-0.7
THE	Thessaloniki	0.78	164	*e*Pg	Pg	05 34 52.9	-0.3
MMB	Musomiste	0.81	75	Pg	Pg	05 34 52.8	-0.9
SKO	Skopje	1.10	303	*i* Pg	Pg	05 35 00.1	+0.6
FNA	Florina	1.16	239	*e*Pg	Pg	05 34 59.9	-0.7
FNA				*e*Sg	Sg	05 35 15.4	-0.6
FNA	Florina	1.16	239	*e*Pg	Pg	05 34 59.9	-0.7
FNA				*e*Sg	Sg	05 35 15.4	-0.6
VTS	Vitosha	1.27	18	Pg	Pg	05 35 02.0	-0.8
LIT	Litokhoron	1.29	187	*e*Pb	Pb	05 35 01.4	-1.0
LIT				*e*Sb	Sb	05 35 19.0	-0.4
OUR	Ouranopolis	1.44	136	*e*Pb	Pb	05 35 05.3	+0.4
RZN	Rozhen	1.56	78	P	Pn	05 35 07.0	+0.5
PGB	Panagyurishte	1.60	43	P	Pn	05 35 08.0	+0.8

*NEIC **01** 05:46:45.3±1.1, 1.13N×97.07E, mb4.3/2, Error ellipse: s-maj=23.0km s-min=17.6km az=45.0*
*IDC **01** 05:46:46.5±2.6, 1.37N×97.35E, h24^{km}±5^{km}, mb3.6/5, mb1 3.8/5, mb1mx3.5/18, mbtmp3.8/5, Error ellipse: s-maj=113.1km s-min=20.1km az=54.0*
ISC 01 05:46:43.2±1.4**, 1.2N**±0.2×**97.0E**±0.2**, h25**^{km}**, h25**^{km}±.5^{km}**:pP-P, n9, σ0^{s}67**/9**, mb4.0**/7**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.47	41	*e*Pn	Pn	05 48 04.7	-0.6
KULM				*e*pPn		05 48 10.9	
WRA	Warramunga Arr	42.16	122	P	P	05 54 35.7	0.0
	0.5nm,0.6s,mb3.3,baz=300,slow=9.1,SNR=6.2						
WRA				pP	pP	05 54 43.8	+0.4
	0.4nm,0.5s,baz=306,slow=9.0,SNR=3.2						
BJI	Beijing	42.44	22	*e*P	P	05 54 39.1	+1.3
	7.0nm,0.7s,mb4.4						
SONM	Songino Array	47.20	9	P	P	05 55 16.3	+0.5
	0.8nm,0.6s,mb3.9,baz=225,slow=8.2,SNR=0.9						
MKAR	Makanchi Array	47.24	346	P	P	05 55 16.9	+0.7
	0.9nm,0.5s,mb3.9,baz=160,slow=8.8,SNR=20						
MKAR				pP	pP	05 55 24.2	+0.4
	1.0nm,0.7s,baz=167,slow=8.0,SNR=9.0						
MKAR	Makanchi Array	47.24	346	P	P	05 55 16.9	+0.7
MKAR				pP	pP	05 55 24.2	+0.4

ZAL Zalesovo 53.57 351 P P 05 56 03.8 -0.5
1.0nm,0.4s,mb4.1,baz=303,slow=4.2,SNR=5.4
ZAL pP pP 05 56 11.3 -0.7
1.6nm,0.4s,baz=276,slow=5.4,SNR=3.3
BVAR Borovoye Array 56.23 341 P P 05 56 23.2 -0.5
0.7nm,0.7s,mb3.8,baz=153,slow=9.9,SNR=4.1
BVAR pP pP 05 56 30.9 -0.6
0.8nm,0.6s,baz=135,slow=8.4,SNR=3.9
CHKZ Chkalovo 56.71 342 *e*P P 05 56 26.4 -0.7
1.5nm,0.6s,mb4.2
CHKZ *e*pP pP 05 56 34.5 -0.5

IDC 01 05:49:07.8±6.0**, 1.82N×96.99E, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.7**/18**, mbtmp3.9**/4**, Error ellipse: s-maj=288.3km s-min=29.3km az=53.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=300,slow=9.3,SNR=4.2	**42.54**	**122**	P	P	05 57 05.5	-1.7
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=155,slow=9.4,SNR=5.2	**46.59**	**346**	P	P	05 57 37.7	-1.7
ZAL	**Zalesovo** 4.1nm,0.3s,baz=354,slow=6.9,SNR=11	**52.91**	**351**	P	P	05 58 25.6	-2.3
BVAR	**Borovoye Array** 0.6nm,0.4s,baz=135,slow=4.1,SNR=4.9	**55.60**	**341**	P	P	05 58 44.9	-2.7

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*BJI **01** 05:55:52.8, 1.97N×96.42E, h37km, mB5.1, mb5.0, Ms4.7, Msz4.4*
*MOS **01** 05:55:54.8±1.1, 2.28N×96.46E, h33km, mb5.2/29, Error ellipse: s-maj=12.3km s-min=6.7km az=105.6*
*IDC **01** 05:55:55.1±0.5, 2.28N×96.41E, h21km±2km, mb4.4/23, mb1 4.4/23, mb1mx4.4/24, mbtmp4.5/23, MS4.1/11, Ms1 4.1/11, ms1mx3.8/27, Error ellipse: s-maj=17.7km s-min=9.4km az=44.0*
*NEIC **01** 05:55:56.4±0.2, 2.26N×96.43E, h30km, mb5.0/33, Error ellipse: s-maj=6.9km s-min=4.5km az=221.0*
ISC 01 05:55:54.0±0.3**, 2.24N**±0.04×**96.43E**±0.04**, h27km, h27km**±1.3km**: pP-P, n149,** σ1.03/149**, mb4.8**/67**, MS4.3**/30**, 9C-9D, Northern Sumatera**

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

IPM Ipoh 5.14 63 P Pn 05 57 12.4 +1.1
KULM Kulim 5.18 54 *e*Pn Pn 05 57 13.0 +1.1
KGM Kluang 6.89 92 P Pn 05 57 36.8 +0.9
KSM Kuching 13.89 93 *e*Pn P 05 59 13.5 +1.7
KSM *e* 05 59 20.7
KSM *e* 05 59 29.2
KKTK Khon Kaen 15.35 24 P P 05 59 32.0 +1.2
556nm,0.6s
PALK Pallekele 16.45 288 *e*P P 05 59 47.0 +2.2
25nm,1.0s
CHG Chiang Mai 16.65 8 ⇓P P 05 59 47.0 -0.4
16nm,0.8s
NANT Nan 16.98 14 P P 05 59 52.0 +0.5
188nm,1.0s
VIS Vishakhapatnam 20.05 321 *i* P P 06 00 29.2 +1.0
KKM Kota Kinabalu 20.09 79 *e*P P 06 00 28.5 -0.1
KKM Kota Kinabalu 20.09 79 P P 06 00 28.6 0.0
QIZ Qiongzhong 21.23 37 P P 06 00 39.9 -0.4
QIZ *e*S **S 06 04 29.8 -0.2**
QIZ LR LR
comp=N,1μm,13.0s,MS4.6
QIZ LR LR
comp=E,1μm,13.5s,MS4.6
QIZ LR LR
comp=Z,2μm,12.7s,MS4.7
TSM Tawau 21.50 84 P P 06 00 43.8 +0.7
HYB Hyderabad 23.15 312 *e*P P 06 01 01.5 +2.0
HYB Hyderabad 23.15 312 *i* P P 06 01 01.5 +2.0
KMI Kunming 23.55 14 P P 06 01 05.2 +1.9
KMI AP 06 01 12.7
KMI XP 06 01 16.0
KMI PP PP 06 01 37.7 +2.0
KMI S **S 06 05 14.3 +2.3**
KMI XS 06 05 27.2
KMI SS SS 06 06 03.2 +2.7
KMI SSS SSS 06 06 18.8 +2.2
KMI AMB AMB
comp=Z,34nm,1.0s,mb4.7
KMI AMB AMB
comp=Z,236nm,3.7s
KMI LR LR
comp=N,550nm,13.5s,MS4.2
KMI LR LR
comp=E,375nm,14.5s,MS4.2
KMI LR LR
comp=Z,670nm,13.7s,MS4.3
KMI Kunming 23.55 14 P P 06 01 05.2 +1.9
comp=Z,34nm,1.0s,mb4.7
KMI pP 06 01 12.7
KMI sP 06 01 16.0
KMI PP PP 06 01 37.7 +2.0
KMI S **S 06 05 14.3 +2.3**
KMI sS 06 05 27.2
KMI SS SS 06 06 03.2 +2.7
KMI SSS SSS 06 06 18.8 +2.2
KMI LR LR
comp=Z,670nm,13.7s,MS4.3
SHL Shillong 23.60 350 *e*P P 06 01 02.0 -1.8
SHL *e*S **S 06 05 15.0 +2.1**
GYA Guiyang 26.00 21⇑*i*P P 06 01 26.3 -0.5
GYA AP pP 06 01 33.7 -0.9
GYA XP sP 06 01 37.2 -0.9
GYA PP PP 06 02 09.4 +1.3
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.5
GYA AMB AMB
comp=Z,230nm,7.2s
GYA LR LR
comp=N,640nm,15.0s,MS4.4
GYA LR LR
comp=E,410nm,14.1s,MS4.4
GYA LR LR
comp=Z,890nm,15.0s,MS4.4
JIRN Jiri 27.11 340 *e*P P 06 01 37.2 +0.3
comp=Z,138nm,1.0s,mb5.5
PKI Pulchoki 27.30 338 *e*P P 06 01 38.8 +0.1
comp=Z,88nm,1.1s,mb5.2
PKI Pulchoki 27.30 338 *e*P P 06 01 38.8 +0.1
PKI pmax pmax
comp=Z,44nm,1.1s,mb4.9
GUN Gumba 27.45 339 *e*P P 06 01 39.9 0.0
comp=Z,80nm,0.8s,mb5.3
DMN Daman 27.45 338 *e*P P 06 01 39.9 -0.1
comp=Z,49nm,0.9s,mb5.0
KKN Kakani 27.55 338 *e*P P 06 01 40.9 0.0
comp=Z,84nm,1.0s,mb5.3
KKN Kakani 27.55 338 *e*P P 06 01 40.9 0.0
KKN pmax pmax
comp=Z,42nm,1.0s,mb5.0
LSA Lhasa 27.76 350 P P 06 01 42.3 -0.5
LSA Lhasa 27.76 350 *e*P P 06 01 43.6 +0.8
LSA pmax pmax
comp=Z,79nm,1.0s,mb5.3
LSA Lhasa 27.76 350 *e*P P 06 01 43.6 +0.8
comp=Z,79nm,1.0s,mb5.3
GKN Gorkha 27.99 337 *e*P P 06 01 44.8 0.0
comp=Z,64nm,0.8s,mb5.3
KOLN Koldanda 28.19 335 *e*P P 06 01 46.8 +0.1
comp=Z,55nm,0.9s,mb5.2
CD2 Chengdu 29.34 13⇓*i*P P 06 01 55.8 -1.2
CD2 AMB AMB
comp=Z,28nm,1.0s,mb5.0
ENH Enshi 30.50 23 *e*P P 06 02 06.0 -1.4
comp=Z,28nm,1.0s,mb5.0
QZH Quanzhou 31.08 42 P P 06 02 11.6 -0.9
QZH *e*S **S 06 07 11.8 -3.2**
QZH LR LR
comp=N,1μm,14.3s,MS4.8
QZH LR LR
comp=E,950nm,16.9s,MS4.8
QZH LR LR
comp=Z,1μm,17.5s,MS4.7
WHN Wuhan 32.87 29 *e*P P 06 02 28.0 0.0
XAN Xi’an 33.72 19 P P 06 02 34.1 -1.3
XAN AP pP 06 02 41.2 -2.2
XAN S **S 06 08 04.9 +9.0**
XAN AMB AMB
comp=Z,48nm,1.2s,mb5.3
XAN LR LR
comp=N,383nm,16.6s,MS4.2
XAN LR LR
comp=E,150nm,15.9s,MS4.2
XAN LR LR
comp=Z,427nm,12.7s,MS4.4
LZH Lanzhou 34.37 11 ⇑P P 06 02 39.8 -1.2
LZH AP pP 06 02 49.5 +0.5
LZH AMB AMB
comp=Z,64nm,1.3s,mb5.4
LZH AMB AMB
comp=Z,105nm,5.5s
LZH LR LR
comp=N,255nm,12.7s
LZH LR LR
comp=Z,345nm,16.7s,MS4.2
LZH Lanzhou 34.37 11 ⇑P P 06 02 39.8 -1.2
comp=Z,64nm,1.3s,mb5.4
LZH pP pP 06 02 49.5 +0.5
LZH sP sP 06 02 50.1 -2.3
LZH PP PP 06 03 35.2 -22
LZH LR LR
comp=Z,350nm,16.7s,MS4.2
FITZ Fitzroy Crossi 35.16 126 *e*P P 06 02 47.0 -0.9
comp=Z,20nm,0.8s,mb5.1
FITZ Fitzroy Crossi 35.16 126 P P 06 02 46.7 -1.2
comp=Z,17nm,0.7s,mb5.1,baz=323,slow=4.0,SNR=6.5
FITZ pP pP 06 02 54.2 -1.7
comp=Z,27nm,0.8s,baz=302,slow=1.7,SNR=7.4
FITZ LR LR 06 18 18.0
comp=Z,280nm,19.0s,MS4.0,baz=349,slow=38
NJ2 Nanjing 36.40 33 *e*P P 06 02 58.1 -0.2
NJ2 AP pP 06 03 08.0 +1.7
NJ2 XP sP 06 03 11.9 +2.2
NJ2 PP PP 06 04 23.2 +1.0
NJ2 S **S 06 08 39.0 +1.6**
NJ2 XS 06 08 55.0
NJ2 AMB AMB
comp=Z,30nm,0.9s,mb5.2
NJ2 AMB AMB
comp=Z,400nm,4.4s
NJ2 LR LR
comp=N,530nm,16.0s,MS4.8
NJ2 LR LR
comp=E,1μm,14.0s,MS4.8
NJ2 LR LR
comp=Z,3μm,16.0s,MS5.2
SSE Sheshan 37.02 37 *e*P P 06 03 02.6 -0.9
SSE AP pP 06 03 12.3 +0.8
SSE PP PP 06 04 30.8 +0.5
SSE S **S 06 08 48.4 +1.4**
SSE XS 06 09 03.5
SSE AMB AMB
comp=Z,35nm,0.7s,mb5.3
SSE LR LR
comp=N,424nm,14.4s,MS4.4
SSE LR LR
comp=E,260nm,14.4s,MS4.4
SSE LR LR
comp=Z,589nm,13.7s,MS4.5
SSE Sheshan 37.02 37 *e*P P 06 03 02.6 -0.9
comp=Z,35nm,0.7s,mb5.3
SSE pP pP 06 03 12.3 +0.8
SSE PP PP 06 04 30.8 +0.5
SSE S **S 06 08 48.4 +1.4**
SSE sS 06 09 03.5
SSE SS SS 06 11 32.2 +15
SSE LR LR
comp=Z,590nm,13.7s,MS4.5
GTA Gaotai 37.12 4 P P 06 03 04.2 -0.1
GTA AP pP 06 03 11.4 -0.9
GTA XP sP 06 03 14.3 -1.4
GTA AMB AMB
comp=Z,30nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,100nm,8.0s
GTA LR LR
comp=N,391nm,16.3s,MS4.4
GTA LR LR
comp=E,249nm,15.6s,MS4.4
GTA LR LR
comp=Z,347nm,16.7s,MS4.2
JOW Kunigami 39.11 48 P P 06 03 21.6 +0.5
comp=Z,21nm,0.8s,mb4.9,baz=239,slow=10,SNR=4.3
BTO Baotou 40.12 16 *e*P P 06 03 29.7 +0.4
BTO AMB AMB
comp=Z,15nm,0.9s,mb4.7
NWAO Narrogin (SRO) 40.13 152 LR LR 06 20 32.9
comp=Z,373nm,19.1s,MS4.2,baz=336,slow=37
HHC Hu-ho-hao-te 40.79 18 ⇑P P 06 03 35.7 +0.9
HHC AP pP 06 03 45.3 +2.4
HHC XP sP 06 03 49.4 +3.2
HHC PCP PcP 06 05 34.9 -1.4
HHC SCP 06 09 22.4
HHC PCS 06 09 25.5
HHC S **S 06 09 44.9 +1.1**
HHC XS 06 10 01.7
HHC AMB AMB
comp=Z,37nm,1.3s,mb4.8
HHC AMB AMB
comp=Z,207nm,4.3s
HHC LR LR
comp=N,309nm,13.9s,MS4.5
HHC LR LR
comp=E,457nm,15.1s,MS4.5
HHC LR LR
comp=Z,390nm,15.9s,MS4.4
KSH Kashi 41.51 336 *e*P P 06 03 37.0 -3.8
KSH *e*PCP PcP 06 05 37.3 -1.4
KSH *e*PPP PPP 06 05 44.2 -6.4
KSH *e*SCP 06 09 23.1
KSH *e*PCS 06 09 27.1
KSH *e*S **S 06 09 46.9 -7.6**
KSH *e*SCS ScS 06 13 36.1 -4.3
KSH AMB AMB
comp=Z,250nm,4.5s
KSH LR LR
comp=N,380nm,4.9s
KSH LR LR
comp=E,520nm,4.6s
BJT Baijiatuau 41.65 23 *e*P P 06 03 41.9 0.0
BJT pmax pmax
comp=Z,59nm,1.1s
BJT Baijiatuau 41.65 23 *e*P P 06 03 41.9 0.0
comp=Z,59nm,1.1s,mb5.1
BJI Beijing 41.67 23 *e*P P 06 03 42.6 +0.5
BJI AMB AMB
comp=Z,48nm,0.8s,mb5.2
BJI LR LR
comp=N,247nm,18.4s,MS4.4
BJI LR LR
comp=E,368nm,14.8s,MS4.4
BJI LR LR
comp=Z,184nm,16.7s,MS4.0
BJI Beijing 41.67 23 *e*P P 06 03 42.6 +0.5
comp=Z,48nm,0.8s,mb5.2
BJI PP PP 06 05 27.9 +6.4
BJI S **S 06 10 08.6 +12**
BJI SS SS 06 13 33.1 +36
BJI LR LR
comp=Z,180nm,16.7s,MS4.0
WMQ Urumqi 42.12 351⇓*i*P P 06 03 46.8 +1.1
WMQ AP pP 06 03 56.3 +2.5
WMQ XP sP 06 04 00.6 +3.5
WMQ PP PP 06 05 27.8 +1.5
WMQ PCP PcP 06 05 42.2 +1.5
WMQ S **S 06 10 03.3 -0.2**
WMQ XS 06 10 19.5
WMQ SCS ScS 06 13 44.8 +0.8
WMQ AMB AMB
comp=Z,18nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,231nm,4.6s
WMQ LR LR
comp=E,220nm,16.4s
WMQ LR LR
comp=Z,206nm,20.5s,MS4.0
WRA Warramunga Arr 43.24 122 P P 06 03 54.7 -0.4
comp=Z,4.3nm,0.7s,mb4.3,baz=301,slow=9.1,SNR=12
WRA pP pP 06 04 02.8 -0.4
comp=Z,9.3nm,0.5s,baz=300,slow=9.2,SNR=17
WRAB Tennant Creek 43.24 122 *e*P P 06 03 55.2 0.0
WRAB *e* pP 06 04 04.0 +0.8
WRAB pmax pmax
comp=Z,25nm,0.8s,mb5.0
WRAB Tennant Creek 43.24 122 *e*P P 06 03 55.1 0.0
comp=Z,25nm,0.8s,mb5.0
WRAB *e* pP 06 04 04.0 +0.7
WB2 Warramunga Arr 43.25 122 *e*P P 06 03 55.1 -0.1
ULHL Ulahol 43.75 338 P P 06 03 59.7 +0.7
SNR=18
KZA Kyzart 43.98 337 P P 06 04 02.2 +1.3
SNR=8.5
UCH Uchtor 44.39 337 P P 06 04 05.5 +1.2
SNR=29
FORT Forrest 44.56 140 *e*P P 06 04 07.0 +1.2
comp=Z,456nm,0.5s
TKM2 Tokmak 2 44.57 338 P P 06 04 05.9 +0.3
SNR=9.0
ASAR Alice Springs 44.63 127 P P 06 04 06.2 -0.2
comp=Z,4.1nm,0.7s,mb4.3,baz=300,slow=7.9,SNR=16
ASAR PcP PcP 06 05 50.9 +1.5
comp=Z,1.5nm,0.9s,baz=304,slow=3.3,SNR=2.8
ASAR pPcP 06 05 56.9
comp=Z,3.1nm,0.8s,baz=297,slow=4.6,SNR=5.9
ASAR ScP 06 09 40.7
comp=Z,0.5nm,0.8s,baz=329,slow=5.3,SNR=3.2
AML Almayashu 44.64 336 P P 06 04 07.6 +1.3
SNR=21
AAK Ala-Archa 44.74 337 P P 06 04 08.5 +1.5
SNR=6.8
AAK Ala-Archa 44.74 337 *e*P P 06 04 07.1 0.0
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
AAK Ala-Archa 44.74 337 *e*P P 06 04 07.1 0.0
comp=Z,5.7nm,0.8s,mb4.5
EKS2 Erkin-Say 45.05 336 P P 06 04 10.8 +1.2
SNR=13
USP Ospenovka 45.28 337 P P 06 04 11.8 +0.5
SNR=29
MKAR Makanchi Array 46.05 347 P P 06 04 17.3 -0.1
comp=Z,39nm,0.8s,mb5.4,baz=161,slow=6.6,SNR=143
SONM Songino Array 46.23 9 P P 06 04 18.9 +0.1
comp=Z,6.4nm,0.9s,mb4.6,baz=190,slow=8.8,SNR=30
SONM PcP PcP 06 05 54.6 0.0
comp=Z,3.9nm,0.8s,baz=173,slow=5.2,SNR=4.7
SNY Shenyang 46.34 28 ⇑P P 06 04 18.4 -1.3
SNY AP pP 06 04 27.8 0.0
SNY XP sP 06 04 31.5 +0.4
SNY AMB AMB
comp=Z,10.0nm,1.5s,mb4.5
SNY LR LR
comp=E,340nm,13.7s
SNY LR LR
comp=Z,420nm,14.7s,MS4.5
ULN Ulaanbaatar 46.36 10 *e*P P 06 04 18.8 -1.0
ULN pmax pmax
comp=Z,12nm,1.2s,mb4.7
ULN Ulaanbaatar 46.36 10 *e*P P 06 04 18.8 -1.1
comp=Z,12nm,1.2s,mb4.7
KKAR Karatay Array 46.79 334 P P 06 04 23.3 +0.1
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ZAK Zakamensk 48.31 6 *e*P P 06 04 35.1 0.0
ZAK *e* 06 06 09.0
TLY Talaya 49.63 6 *e*P P 06 04 53.1 +7.8
TLY *e* 06 06 03.2
TLY *e*S **S 06 12 04.6 +14**
TLY pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
TLY MLR MLR
comp=Z,247nm,18.0s,MS4.2
KURK Kurchatov 50.59 345 *i* P P 06 04 52.3 -0.3
KURK pmax pmax
comp=Z,25nm,1.4s,mb5.0
KURK Kurchatov 50.59 345 *e*P P 06 04 52.0 -0.6
comp=Z,41nm,1.2s,mb5.2
HIA Hailar 50.91 20 *e*P P 06 04 58.6 +3.6
HIA pmax pmax
comp=Z,5.0nm,0.3s
HIA Hailar 50.91 20 *e*P P 06 04 58.6 +3.5
comp=Z,5.1nm,0.3s,mb4.9
MDJ Mudanjiang 51.34 30 P P 06 04 58.0 -0.4
MDJ AP pP 06 05 09.0 +2.4
MDJ XP sP 06 05 15.4 +5.6
MDJ AMB AMB
comp=Z,7.0nm,1.2s,mb4.5
MDJ AMB AMB
comp=Z,73nm,3.8s
MDJ LR LR
comp=N,93nm,17.7s,MS4.1
MDJ LR LR
comp=E,139nm,15.7s,MS4.1
MDJ LR LR
comp=Z,123nm,15.7s,MS4.0
PMG Port Moresby 51.84 104 P P 06 05 01.9 -0.7
comp=Z,24nm,0.9s,mb5.2,baz=268,slow=4.1,SNR=5.2
PMG pP pP 06 05 10.3 -0.5
comp=Z,22nm,0.7s,baz=357,slow=6.5,SNR=3.5
ZAL Zalesovo 52.41 351 P P 06 05 05.5 -0.7
comp=Z,25nm,1.0s,mb5.1,baz=310,slow=5.6,SNR=82
ZAL LR LR 06 32 56.0
comp=Z,176nm,19.6s,MS4.1,baz=295,slow=42
NVS Novosibirsk 53.53 351⇑*i*P P 06 05 13.0 -1.5
NVS *e* 06 05 27.2
NVS pmax pmax
comp=Z,33nm,1.1s,mb5.2
NVS pmax pmax
comp=N,26nm,1.2s
NVS pmax pmax
comp=E,14nm,1.1s
CTA Charters Tower 53.65 117 P P 06 05 15.3 -0.6
comp=E,5.7nm,0.8s,mb4.6,baz=331,slow=10,SNR=3.0
CTA pP pP 06 05 24.2 +0.1
comp=E,7.2nm,0.7s,baz=303,slow=13,SNR=3.1
CTA LR LR 06 30 15.1
comp=E,170nm,20.8s,MS4.1,baz=55,slow=38
CTAO Charters Tower 53.65 117 P P 06 05 16.3 +0.4
CTAO pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CTAO Charters Tower 53.65 117 P P 06 05 16.2 +0.3
comp=Z,7.5nm,0.7s,mb4.7
ATD Arta Tunnel 53.91 283 P P 06 05 18.4 +0.6
comp=Z,2.5nm,0.5s,mb4.4,baz=209,slow=19,SNR=2.9
ATD LR LR 06 25 23.8
comp=Z,69nm,19.2s,MS3.7,baz=91,slow=33
STKA Stephens Creek 54.62 132 *e*P P 06 05 22.5 -0.4
comp=Z,6.3nm,0.8s,mb4.7
STKA Stephens Creek 54.62 132 P P 06 05 22.4 -0.5
comp=Z,4.5nm,0.6s,mb4.7,baz=302,slow=8.5,SNR=15
STKA LR LR 06 30 55.2
comp=Z,220nm,18.1s,MS4.3,baz=217,slow=38
BVA0 Borovoye Array 55.02 341 *i* P P 06 05 24.2 -1.3
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BVAR Borovoye Array 55.02 341 P P 06 05 24.3 -1.2
comp=Z,13nm,0.8s,mb5.0,baz=143,slow=7.4,SNR=62
CHKZ Chkalovo 55.50 342 *e*P P 06 05 28.0 -1.0
CHKZ pmax pmax
comp=Z,62nm,0.8s,mb5.7
CHKZ Chkalovo 55.50 342 *e*P P 06 05 27.9 -1.1
comp=Z,62nm,0.8s,mb5.7
KLR Kul’dur 55.68 27 *e*P P 06 05 27.2 -3.1
KLR MLR MLR
comp=N,400nm,15.0s,MS5.0
KLR MLR MLR
comp=E,1μm,15.0s,MS5.0
KLR MLR MLR
comp=Z,5μm,15.0s,MS5.7
BOD Bodaibo 57.13 11 *e*P P 06 05 39.7 -1.0
BOD pmax pmax
comp=Z,14nm,1.0s,mb5.0
CLNS Chul’man 58.98 18 *e*P P 06 05 51.6 -2.0
CLNS *e* 06 06 42.8
CLNS *e*S **S 06 13 51.1 -5.4**
CLNS pmax pmax
comp=Z,13nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,5.0nm,1.2s
CLNS pmax pmax
comp=E,3.0nm,1.0s
CLNS pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,0.7s
CLNS smax
comp=E,5.0nm,0.8s
CLNS smax
comp=Z,4.0nm,0.9s
CLNS smax

comp=N,8.0nm,0.8s
CLNS pmax pmax
comp=N,200nm,12.2s
CLNS pmax pmax
comp=Z,100nm,14.5s
CLNS pmax pmax
comp=E,60nm,12.4s
CLNS MLR MLR
comp=Z,400nm,14.0s,MS4.7
CLNS MLR MLR
comp=N,300nm,13.0s,MS4.6
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.6
KMBO Kilima Mbogo 59.26 267 *e*P **P 06 05 56.4 +0.3**
KMBO *e* pP 06 06 03.0 -1.5
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO Kilima Mbogo 59.26 267 P **P 06 05 56.2 +0.1**
comp=Z,2.3nm,0.9s,mb4.2,baz=60,slow=7.4,SNR=6.5
KMBO LR LR 06 27 13.9
comp=Z,149nm,20.7s,MS4.1,baz=91,slow=32
KMBO Kilima Mbogo 59.26 267 *e*P **P 06 05 56.4 +0.2**
comp=Z,2.9nm,1.0s,mb4.3
KMBO *e* pP 06 06 03.0 -1.5
YSS Yuzh-Sakhalins 59.93 35⇓*e*P **P 06 06 00.7 +0.4**
YSS pmax pmax
comp=Z,35nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,100nm,17.0s,MS4.0
YSS Yuzh-Sakhalins 59.93 35 *e*P **P 06 06 00.3 +0.1**
comp=Z,25nm,1.0s,mb5.2
GNI Garni 60.01 316 P **P 06 06 00.5 -0.4**
GNI pmax pmax
comp=Z,9.0nm,0.6s
GNI Garni 60.01 316 P **P 06 05 59.5 -1.4**
comp=Z,9.9nm,0.5s,mb5.1,baz=131,slow=9.3,SNR=4.3
GNI Garni 60.01 316 P **P 06 06 00.5 -0.5**
comp=Z,9.4nm,0.6s,mb5.0
SVE Sverdlovsk 61.44 339 *e*P **P 06 06 09.9 -0.5**
ARU Arti 61.93 337⇑*i*P **P 06 06 12.3 -1.4**
ARU *e* 06 06 52.5
ARU *e*S **S 06 14 34.0 -0.2**
ARU *e*SS SS 06 18 36.8 -1.6
ARU pmax pmax
comp=Z,14nm,0.9s,mb5.1
ARU Arti 61.93 337 *e*P **P 06 06 12.1 -1.7**
comp=Z,18nm,1.0s,mb5.2
KIV Kislovodsk 63.02 319 *i* P **P 06 06 20.2 -0.9**
YAK Yakutsk 64.64 17 *e*P **P 06 06 29.4 -2.1**
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=Z,24nm,1.1s,mb5.1
YAK pmax pmax
comp=E,7.0nm,1.2s
BRTR Keskin Array B 67.85 312 P **P 06 06 52.8 +0.5**
comp=E,0.5nm,0.6s,baz=130,slow=3.2,SNR=2.9
BRTR pP pP 06 06 58.5 -2.1
comp=E,1.8nm,0.7s,baz=136,slow=5.3,SNR=5.9
VRSR Storozhevoye 68.27 325 *e*P **P 06 06 52.5 -2.2**
VRSR pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
VRSR pmax pmax
comp=N,8.0nm,0.8s
VRSR pmax pmax
comp=E,7.0nm,0.8s
MA2 Magadan 70.73 26 *e*P **P 06 07 09.5 -0.1**
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 Magadan 70.73 26 *e*P **P 06 07 09.4 -0.2**
comp=Z,9.8nm,0.8s,mb4.8
OBN Obninsk 71.33 328⇓*e*P **P 06 07 12.7 -0.7**
OBN *i* 06 07 18.9
OBN *e* 06 07 31.2
OBN *e*S S 06 16 28.9 +0.8
OBN pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
TIXI Tiksi 72.30 10⇑*i*P **P 06 07 16.2 -2.7**
TIXI pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MAW Mawson 73.55 193 P **P 06 07 27.4 +1.2**
comp=Z,3.0nm,0.8s,mb4.2,baz=53,slow=10,SNR=2.3
AKASG Malin Array Be 73.97 322 P **P 06 07 27.7 -1.2**
comp=Z,0.3nm,0.2s,mb3.8,baz=80,slow=5.6,SNR=5.7
AKASG pP pP 06 07 33.9 -3.4
comp=Z,1.0nm,0.5s,baz=89,slow=5.2,SNR=4.0
AKASG Malin Array Be 73.97 322 P **P 06 07 27.7 -1.2**
AKASG pP pP 06 07 33.9 -3.5
VRI Vrincioaia 74.34 317⇓*i*P pP 06 07 40.3 +0.7
BOSA Boshof 74.64 240 P **P 06 07 33.2 0.0**
comp=Z,1.8nm,0.8s,mb4.1,baz=40,slow=9.8,SNR=3.2
BOSA pP pP 06 07 39.9 -1.9
comp=Z,3.6nm,1.0s,baz=169,slow=7.8,SNR=2.4
BOSA LR LR 06 37 50.3
comp=Z,150nm,19.1s,MS4.3,baz=182,slow=34
MLR Muntele Rosu 74.79 317 pP pP 06 07 42.1 -0.1
comp=Z,6.1nm,1.0s,baz=107,slow=19,SNR=3.7
MLR Muntele Rosu 74.79 317⇓*i*P pP 06 07 41.5 -0.8
BURAR Bucovina Array 75.74 319⇓*i*P **P 06 07 40.5 +1.3**
APA Apatity 77.89 340⇑*e*P **P 06 07 55.0 +4.3**
APA pmax pmax
comp=Z,64nm,1.5s,mb5.3
FINES FINESS Array B 78.72 333 P **P 06 07 55.6 +0.2**
comp=Z,4.6nm,0.9s,mb4.4,baz=117,slow=8.5,SNR=15
FINES LR LR 06 48 00.3
comp=Z,121nm,20.6s,MS4.2,baz=146,slow=40
KAF Kangasniemi 78.81 333 *e*p **P 06 07 55.1 -0.8**
comp=Z,9.1nm,1.1s,mb4.6,baz=103,slow=5.1
KAF Kangasniemi 78.81 333 *e*P **P 06 07 55.1 -0.8**
KAF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BILL Bilibino 80.47 21 *i* P **P 06 08 06.7 +2.0**
BILL MLR MLR
comp=Z,500nm,25.0s,MS4.8
SYO Syowa Base 80.75 198 ⇓P **P 06 08 10.0 +3.8**
ARCES ARCESS Array B 81.30 340 P **P 06 08 09.7 +0.6**
comp=Z,6.6nm,0.9s,mb4.6,baz=108,slow=3.8,SNR=7.6
ARCES LR LR 06 50 10.1
comp=Z,117nm,20.5s,MS4.2,baz=16,slow=40
GERES GERESS Array B 83.53 319 P **P 06 08 22.0 +0.9**
comp=Z,0.3nm,0.3s,mb3.9,baz=104,slow=5.5,SNR=6.1
GERES pP pP 06 08 29.3 -0.3
comp=Z,1.0nm,0.5s,baz=104,slow=5.5,SNR=4.4
GRA1 Grafenberg Arr 85.20 320 *e*P pP 06 08 38.7 +0.7
comp=Z,4.0nm,0.9s
GRF Grafenberg Arr 85.20 320 *e*P pP 06 08 38.7 +0.7
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
GRF Grafenberg Arr 85.20 320 *e*P pP 06 08 38.7 +0.7
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
GRF Grafenberg Arr 85.20 320 *e*P pP 06 08 38.7 +0.7
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 85.73 331 P **P 06 08 31.4 -0.4**
comp=Z,0.4nm,0.8s,baz=71,slow=11,SNR=2.1
NOA pP pP 06 08 38.6 -1.8
comp=Z,1.3nm,0.8s,baz=94,slow=5.0,SNR=2.7
NOA LR LR 06 50 54.7
comp=Z,74nm,21.3s,MS4.0,baz=245,slow=38
VNDA Vanda 86.99 169 P **P 06 08 37.6 -0.1**
comp=Z,0.5nm,0.9s,baz=297,slow=13,SNR=2.7
LPG La Plagne 88.19 315 *e*P pP 06 08 53.4 +0.7
comp=Z,10.0nm,0.8s
LPG La Plagne 88.19 315 *e*P pP 06 08 53.4 +0.7
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
IMA Indian Mountai 95.92 23 *e*P **P 06 09 20.9 +1.5**
YKA Yellowknife Ar 111.29 15 PP PP 06 15 08.5 -1.3
comp=Z,0.6nm,0.9s,baz=333,slow=7.8,SNR=5.8
YKA PKKPbc 06 25 27.9
comp=Z,0.2nm,0.7s,baz=159,slow=2.7,SNR=4.9
ULM Lac du Bonnet 126.65 10 PKP PKPdf 06 14 56.2 -3.8
comp=Z,1.2nm,0.5s,baz=16,slow=7.4,SNR=2.2
NVAR Mina Array Bea 128.38 35 PKP PKPdf 06 15 01.8 -2.0
comp=Z,0.6nm,0.6s,baz=270,slow=2.7,SNR=6.3
PDAR Pinedale Array 129.43 25 PKP PKPdf 06 15 02.5 -3.2
comp=Z,0.3nm,0.6s,baz=45,slow=1.3,SNR=2.8
TXAR Lajitas Array 143.17 30 PKP PKPdf 06 15 26.1 -5.1
comp=Z,0.8nm,0.8s,baz=191,slow=4.6,SNR=4.0
TXAR SKPbc 06 19 05.8
comp=Z,1.0nm,1.0s,baz=342,slow=2.9,SNR=4.8
TXAR Lajitas Array 143.17 30 PKP PKPdf 06 15 26.1 -5.1
TXAR SKPbc 06 19 05.8

IDC 01 05:55:59.2±1.8**, 8.98S**×**128.03E, mb4.1**/1**, mb1 4.1**/4**,**
mb1mx3.9/13**, mbtmp3.9**/4**, ML3.6**/3**, Error ellipse:**
s-maj=74.9km s-min=24.9km az=70.0, Timor Sea

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
FITZ Fitzroy Crossi 9.36 194 Pn P 05 58 16.1 -2.2
2.0nm,0.3s,baz=23,slow=11,SNR=33
FITZ Sn Sn 06 00 09.5 +4.0
2.0nm,0.3s,baz=156,slow=20,SNR=3.9
WRA Warramunga Arr 12.49 151 Pn P 05 58 57.4 -3.8
0.2nm,0.3s,baz=321,slow=14,SNR=18
WRA Sn S 06 01 21.9 -0.4
0.9nm,0.3s,baz=331,slow=22,SNR=9.4
ASAR Alice Springs 15.65 160 Pn P 05 59 40.5 -2.3
0.3nm,0.3s,baz=342,slow=11,SNR=20
ASAR Sn S 06 02 42.0 +4.4
0.2nm,0.3s,baz=317,slow=16,SNR=7.2
MKAR Makanchi Array 68.84 328 P P 06 07 05.6 -2.0
1.3nm,0.5s,baz=157,slow=7.3,SNR=5.2

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*IDC **01** 06:15:43.5±1.1, 0.92S×92.59E, mb3.9/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=38.2km s-min=19.6km az=50.0*
*BJI **01** 06:15:43.7, 1.10S×92.06E, h18km, mB5.1, mb4.2*
*NEIC **01** 06:15:45.2±0.8, 1.00S×92.57E, h10km, mb4.6/7, Error ellipse: s-maj=18.2km s-min=10.7km az=218.0*
ISC 01 06:15:47.0±0.8**, 1.0S**±0.1×**92.62E**±0.10**, h33km, n26,**
σ**1.17**/27**, mb4.3**/16**, 1D, Southwest of Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KULM Kulim 10.13 52 *e*Pn **P 06 18 10.6 -2.8**
KULM *e*Sn **S 06 19 55.9 -11**
KSM Kuching 17.85 82 *e*P **P 06 19 56.2 +1.6**
CHG Chiang Mai 20.60 17 ⇓P **P 06 20 25.8 -0.2**
18nm,0.9s
CHRT Chiangrai 21.85 18 P **P 06 20 38.0 -0.6**
105nm,0.9s,mb5.3
HYB Hyderabad 22.92 323 *e*P **P 06 20 53.0 +3.6**
HYB Hyderabad 22.92 323 *i* P **P 06 20 53.0 +3.6**
KKM Kota Kinabalu 24.56 73 *e*P **P 06 21 05.7 +0.4**
SHL Shillong 26.37 358 *e*P **P 06 21 23.0 +0.7**
JIRN Jiri 29.11 348 *e*P **P 06 21 47.5 +0.5**
13nm,0.8s,mb4.8
DMN Daman 29.30 346 *e*P **P 06 21 49.5 +0.8**
GUN Gumba 29.42 348 *e*P **P 06 21 49.0 -0.8**
15nm,0.7s,mb4.8
KKN Kakani 29.43 347 *e*P **P 06 21 49.5 -0.4**
KOLN Koldanda 29.84 344 *e*P **P 06 21 53.7 +0.1**
18nm,0.8s,mb4.8
LSA Lhasa 30.51 357 *e*P **P 06 22 00.7 +1.2**
8.0nm,0.6s,mb4.7
FITZ Fitzroy Crossi 36.63 120 P **P 06 22 53.5 +1.1**
3.6nm,0.9s,mb4.2,baz=231,slow=6.5,SNR=2.4
GTA Gaotai 40.70 9 P **P 06 23 26.6 +0.4**
GTA AP pP 06 23 33.9 -2.1
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.0
WRA Warramunga Arr 44.95 118 P **P 06 24 00.2 -0.9**
comp=Z,0.9nm,0.9s,mb3.6,baz=300,slow=8.2,SNR=5.1
ASAR Alice Springs 45.93 123 P **P 06 24 08.0 -0.9**
comp=Z,0.3nm,0.6s,mb3.4,baz=288,slow=7.4,SNR=3.7
BJI Beijing 46.12 25 *e*P **P 06 24 11.5 +1.4**
BJI AMB AMB
comp=Z,7.0nm,0.6s,mb4.8
BJI Beijing 46.12 25 *e*P **P 06 24 11.5 +1.4**
comp=Z,7.0nm,0.6s,mb4.8
MKAR Makanchi Array 48.41 351 P **P 06 24 26.9 -1.1**
comp=Z,1.0nm,0.6s,mb4.0,baz=164,slow=8.4,SNR=14
SONM Songino Array 50.05 12 P **P 06 24 40.9 +0.4**
comp=Z,2.1nm,0.8s,mb4.2,baz=190,slow=8.8,SNR=14
KURK Kurchatov 52.84 349 *e*P **P 06 25 03.0 +1.5**
comp=Z,4.0nm,0.9s,mb4.3
ZAL Zalesovo 55.08 354 P **P 06 25 15.4 -2.6**
comp=Z,0.9nm,0.7s,mb3.9,baz=288,slow=8.4,SNR=4.9
KMBO Kilima Mbogo 55.36 269 P **P 06 25 20.2 -0.3**
comp=Z,0.5nm,0.5s,mb3.8,baz=66,slow=19,SNR=4.4
CHKZ Chkalovo 57.43 345 *e*P **P 06 25 32.7 -2.1**
comp=Z,2.5nm,1.0s,mb4.2

IDC 01 06:20:09.1±6.5**, 1.67N**×**98.56E, mb3.5**/3**, mb1 3.7**/3**,**
mb1mx3.5/17**, mbtmp3.5**/3**, Error ellipse:**
s-maj=338.4km s-min=29.1km az=55.0, Northern Sumatera

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
WRA Warramunga Arr 41.14 123 P P 06 27 55.4 -1.5
0.3nm,0.4s,baz=302,slow=9.1,SNR=7.7
ASAR Alice Springs 42.60 128 P P 06 28 07.2 -1.8
0.4nm,0.5s,baz=299,slow=8.0,SNR=4.8
MKAR Makanchi Array 47.13 345 P P 06 28 43.0 -1.9
0.4nm,0.5s,baz=161,slow=8.8,SNR=5.1

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*NIED **01** 06:21:00, 28.90N×130.80E, h8km, Mw4.3 Best double couple: $M_0$2.85×10^15 NP1:ϕ_s343°, δ67°, λ-100°. NP2: ϕ_s186°, δ25°, λ-69°.*
*JMA **01** 06:21:36.9±0.1, 28.92N×130.80E, h67km±4km, M4.1*
*IDC **01** 06:21:39.9±0.6, 28.89N×130.61E, h46km±4km, mb3.9/14, mb1 4.1/15, mb1mx4.0/22, mbtmp4.2/15, MS3.3/3, Ms1 3.3/3, ms1mx2.8/29, Error ellipse: s-maj=15.0km s-min=8.9km az=113.0*
*NEIC **01** 06:21:39.8±0.4, 28.91N×130.61E, mb4.5/1, MW4.2(NIED), Error ellipse: s-maj=15.2km s-min=9.3km az=92.0*
ISC 01 06:21:37.8±0.5**, 28.95N**±0.03×**130.73E**±0.06**, h46km**±1.2km**: pP-P, n35,** σ**0.94**/46**, mb4.1**/15**, MS3.9**/1**,**
Ryukyu Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
JZK Kikaishima 0.92 227 P **P 06 21 54.8 +0.4**
JAM Amami Oshima 1.12 242 P **P 06 21 57.3 0.0**
JAM S **S 06 22 12.6 +0.8**
JNN Nakanoshima 1.16 320 P **P 06 21 58.5 +0.7**
JNN S **S 06 22 14.4 +1.6**
JKC Kuchinoerabu 1.58 343 P **P 06 22 03.6 -0.3**
JKC S **S 06 22 23.7 +0.4**
JTN Tanegashima 3 1.72 7 P **P 06 22 05.4 -0.4**
JTN S **S 06 22 25.7 -0.9**
JTK Tokunoshima 1.95 234 P **P 06 22 09.1 +0.1**
JTK S **S 06 22 32.8 +0.5**
JTSR Tashiro 2 2.22 4 P **P 06 22 12.9 0.0**
JTSR S **S 06 22 39.1 -0.1**
JSU Suzuyama 2.56 355 P **P 06 22 17.1 -0.7**
JSU S **S 06 22 47.2 -0.7**
JNAR Kushima--Naru 2.62 10 P **P 06 22 18.3 -0.3**
JNAR S **S 06 22 48.9 -0.4**
JSJ Shimokoshiki 2.86 342 P **P 06 22 21.5 -0.6**
JSJ S **S 06 22 54.9 -0.6**
JTZ Takazaki 2.96 6 P **P 06 22 23.5 0.0**
JTZ S **S 06 22 57.2 -0.9**
JOW Kunigami 3.02 226 P **P 06 22 23.1 -1.3**
36nm,0.3s,baz=139,slow=26,SNR=41
JOW S **S 06 22 57.1 -2.5**
55nm,0.3s,baz=119,slow=27,SNR=16
JOW LR LR 06 23 20.5
comp=Z,201nm,21.4s,baz=344,slow=35
JOW Kunigami 3.02 226 P **P 06 22 23.0 -1.4**
JIH Iheya 3.10 233 P **P 06 22 24.1 -1.3**
JKE Kume jima 2 4.36 234 P **P 06 22 41.3 -2.0**
CBIJ Chichi jima 10.29 98 P **P 06 24 02.1 -3.6**
24nm,0.3s,baz=286,slow=4.9,SNR=13
CBIJ LR LR 06 27 33.1
comp=Z,143nm,18.5s,baz=303,slow=34
SONM Songino Array 26.64 322 P **P 06 27 13.5 -0.4**
1.0nm,0.6s,mb3.6,baz=135,slow=11,SNR=5.2
SONM pP pP 06 27 27.7 +1.9
1.1nm,0.7s,baz=134,slow=11,SNR=3.5
MKAR Makanchi Array 41.47 309 P **P 06 29 21.1 -0.5**
0.6nm,0.4s,mb3.5,baz=90,slow=10,SNR=10
MKAR pP pP 06 29 33.8 -0.3
0.8nm,0.8s,baz=112,slow=7.8,SNR=2.5
FITZ Fitzroy Crossi 47.03 187 P **P 06 30 06.6 -0.1**
2.8nm,0.7s,mb4.3,baz=69,slow=17,SNR=3.9
FITZ pP pP 06 30 18.6 -0.7
3.3nm,0.7s,baz=326,slow=3.6,SNR=2.3
WRA Warramunga Arr 48.73 175 P **P 06 30 19.4 -0.5**
0.9nm,0.6s,mb4.0,baz=354,slow=8.5,SNR=6.6
WRA pP pP 06 30 31.8 -0.8
1.5nm,0.7s,baz=353,slow=8.5,SNR=6.0
ASAR Alice Springs 52.40 176 P **P 06 30 48.4 +0.6**
0.5nm,0.6s,mb3.7,baz=8.5,slow=14,SNR=10
ASAR pP pP 06 31 01.0 +0.4
0.6nm,0.5s,baz=7.6,slow=14,SNR=4.5
ARCES ARCESS Array B 68.30 339 P **P 06 32 36.3 +0.7**
5.9nm,1.0s,mb4.6,baz=54,slow=7.8,SNR=3.1
KAF Kangasniemi 71.20 331 *e*p **P 06 32 53.1 -0.3**
4.6nm,0.8s,mb4.5,baz=61,slow=5.8
FINES FINESS Array B 71.59 331 P **P 06 32 55.7 0.0**
2.3nm,0.4s,mb4.4,baz=65,slow=6.1,SNR=36
FINES pP pP 06 33 09.4 +0.2
0.6nm,0.4s,baz=71,slow=5.3,SNR=2.0
FINES FINESS Array B 71.59 331 P **P 06 32 55.7 0.0**
FINES pP pP 06 33 09.4 +0.2
AKASG Malin Array Be 74.91 320 P **P 06 33 15.9 +0.6**
4.6nm,0.5s,mb4.7,baz=57,slow=6.6,SNR=18
AKASG pP pP 06 33 29.5 +0.8
1.9nm,0.6s,baz=56,slow=6.9,SNR=3.4
YKA Yellowknife Ar 75.13 26 P **P 06 33 16.9 +0.6**
1.3nm,0.7s,mb4.0,baz=302,slow=5.8,SNR=27
YKA pP pP 06 33 30.2 +0.4
0.6nm,0.8s,baz=301,slow=6.2,SNR=3.6
YKA Yellowknife Ar 75.13 26 P **P 06 33 16.9 +0.6**
YKA pP pP 06 33 30.2 +0.4
BRTR Keskin Array B 77.11 308 P **P 06 33 29.9 +1.8**
2.6nm,0.8s,mb4.2,baz=115,slow=4.1,SNR=7.0
BRTR pP pP 06 33 43.2 +1.7
2.5nm,0.8s,baz=101,slow=6.3,SNR=5.7
NB2 NORSAR Subarra 77.85 334 P **P 06 33 31.6 -0.1**
1.7nm,0.6s,mb4.2,baz=48,slow=5.8
NOA NORSAR Array B 77.85 334 P **P 06 33 31.8 +0.1**
1.6nm,0.6s,mb4.1,baz=51,slow=5.6,SNR=7.5
CLL Collm 83.17 326 P **P 06 34 01.8 +1.7**
GERES GERESS Array B 84.36 324 P **P 06 34 07.8 +1.7**
1.4nm,0.7s,mb4.2,baz=45,slow=3.8,SNR=9.5
GERES LR LR 07 16 30.9
comp=Z,47nm,19.9s,MS3.9,baz=89,slow=39
NVAR Mina Array Bea 87.04 47 P **P 06 34 21.5 +2.0**
0.5nm,0.4s,mb4.1,baz=293,slow=6.9,SNR=4.5
PDAR Pinedale Array 89.67 40 P **P 06 34 32.8 +0.8**
0.5nm,0.7s,mb4.0,baz=322,slow=1.7,SNR=5.2
PDAR pP pP 06 34 45.6 -0.2
0.3nm,0.5s,baz=45,slow=2.6,SNR=2.9

IDC 01 06:52:36.3±60.0**, 1.05S**×**97.04E, mb3.7**/3**, mb1 3.8**/3**,**
mb1mx3.5/17**, mbtmp3.7**/3**, Error ellipse:**
s-maj=1189.0km s-min=166.5km az=175.0, Southwest of Sumatera

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SONM Songino Array 49.37 8 P P 07 01 27.6 -1.9
0.3nm,0.5s,baz=190,slow=8.8,SNR=4.9
MKAR Makanchi Array 49.38 347 P P 07 01 27.6 -2.0
0.7nm,0.7s,baz=160,slow=8.1,SNR=7.6
ZAL Zalesovo 55.74 351 P P 07 02 14.5 -2.5
0.9nm,0.3s,baz=326,slow=1.1,SNR=4.9

IDC 01 07:05:20.4±3.4**, 1.28N**×**97.16E, mb3.7**/5**, mb1 3.9**/5**,**
mb1mx3.6/18**, mbtmp3.7**/5**, MS3.5**/1**, Ms1 3.5**/1**,**
ms1mx3.0/23**, Error ellipse: s-maj=139.7km**
s-min=26.9km az=55.0, Northern Sumatera

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
WRA Warramunga Arr 42.11 122 P P 07 13 14.5 -1.7
0.2nm,0.5s,baz=302,slow=9.1,SNR=3.6
SONM Songino Array 47.06 8 P P 07 13 54.2 -1.5
0.3nm,0.4s,baz=194,slow=8.8,SNR=4.5
MKAR Makanchi Array 47.15 346 P P 07 13 54.9 -1.5
0.5nm,0.6s,baz=154,slow=9.1,SNR=7.9
ZAL Zalesovo 53.46 351 P P 07 14 41.8 -2.7
0.6nm,0.5s,baz=303,slow=8.4,SNR=3.6
ATD Arta Tunnel 54.83 283 LR LR 07 32 25.4
comp=Z,51nm,21.8s,baz=72,slow=30
BVAR Borovoye Array 56.16 341 P P 07 15 01.2 -3.0
0.4nm,0.4s,baz=156,slow=8.0,SNR=3.5

IDC 01 07:09:59.6±3.0**, 0.94N**×**97.46E, mb3.8**/6**, mb1 3.9**/6**,**
mb1mx3.7/18**, mbtmp3.8**/6**, Error ellipse:**
s-maj=131.2km s-min=21.2km az=56.0, Northern Sumatera

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
WRA Warramunga Arr 41.68 122 P P 07 17 50.2 -1.8
0.6nm,0.5s,baz=303,slow=9.2,SNR=6.2
ASAR Alice Springs 43.04 127 P P 07 18 01.4 -1.7
0.6nm,0.7s,baz=292,slow=7.8,SNR=5.0
SONM Songino Array 47.34 8 P P 07 18 35.9 -1.3
0.5nm,0.3s,baz=189,slow=9.7,SNR=4.3
MKAR Makanchi Array 47.55 346 P P 07 18 37.0 -1.7
1.9nm,0.5s,baz=161,slow=8.6,SNR=40
ZAL Zalesovo 53.84 351 P P 07 19 24.0 -2.4
1.6nm,0.5s,baz=303,slow=4.3,SNR=2.4
BVAR Borovoye Array 56.57 341 P P 07 19 43.2 -3.1
0.4nm,0.5s,baz=149,slow=8.4,SNR=4.3

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*ATH **01** 07:14:55.7, 38.80N×25.91E, h22km, MD3.3/5*
*ISK **01** 07:14:55.7, 38.83N×25.84E, h19km, MD3.2*
*NEIC **01** 07:14:55.7, 38.80N×25.91E, h22km, MD3.3(ATH), MD3.2(ISK), After ATH.*
*CSEM **01** 07:14:55.9±0.1, 38.83N×25.90E, h15km, MD3.3, Error ellipse: s-maj=1.9km s-min=1.8km az=25.0*
ISC 01 07:14:55.2±0.6**, 38.83N**±0.03×**25.82E**±0.05**, h10km, n26,**
σ**0.83**/37**, Aegean Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PRK Paraskevi 0.55 40 *e*PN **Pg 07 15 06.3 +0.1**
AYVA Ayvalik 0.83 55 *i* P **Pg 07 15 10.3 -1.6**
AYVA *i* S **Sg 07 15 23.3 +0.3**
BLCB Balcova 1.05 114 PG **Pg 07 15 15.3 -1.0**
BLCB SG **Sg 07 15 30.6 +0.2**
BLCB Balcova 1.05 114 Pg **Pg 07 15 15.5 -0.8**
BLCB Sg **Sg 07 15 30.5 0.0**
BLCB Balcova 1.05 114 Pg **Pg 07 15 15.5 -0.8**
BLCB Sg **Sg 07 15 30.5 +0.1**
EZN Ezine 1.07 21 PG **Pg 07 15 15.6 -1.0**
EZN SG **Sg 07 15 31.1 +0.2**
EZN Ezine 1.07 21 Pn **Pn 07 15 15.7 -0.5**
EZN Sg **Sg 07 15 31.7 +0.8**
EZN Ezine 1.07 21 *e*Pg **Pg 07 15 15.6 -1.0**
EZN Sg **Sg 07 15 31.7 +0.8**
IZM Izmir 1.21 110 PN **Pn 07 15 18.3 +0.1**
IZM Izmir 1.21 110 Pn **Pn 07 15 18.3 +0.1**
KDAG Bornova 1.21 110 *i* P **Pb 07 15 18.0 +0.3**
KDAG *i* S **Sb 07 15 34.1 +0.8**
SMG Samos 1.38 144 *e*PN **Pn 07 15 21.1 +0.6**
LPK Lapseki 1.70 25 PN **Pn 07 15 25.7 +0.5**
LPK Lapseki 1.70 25 Pn **Pn 07 15 25.8 +0.6**
MPAR Parnis Oros 1.77 248 *e*PN **Pn 07 15 28.0 +1.8**
APE Apeiranthos 1.77 188 *e*PB **Pb 07 15 26.0 -1.4**
BALB Balikesir 1.79 63 *e*PN **Pn 07 15 26.1 -0.4**
BALB Balikesir 1.79 63 Pn **Pn 07 15 26.2 -0.3**
BALB Balikesir 1.79 63 Pn **Pn 07 15 26.2 -0.3**
AYDN Tasoluk 2.00 125 *i* P **Pn 07 15 33.4 +3.9**
AYDN *i* S **Sn 07 16 00.4 +5.8**
MANT Manisa 2.17 98 *i* P **Pn 07 15 37.0 +5.1**
MANT *i* S **Sn 07 16 04.0 +5.0**
MGER Gerania Oros 2.18 248 *e*PB **Pb 07 15 34.0 -0.3**
MFT Murefte 2.25 29 *e*PN **Pn 07 15 33.8 +0.7**
MFT Murefte 2.25 29 Pn **Pn 07 15 33.5 +0.4**
MFT Murefte 2.25 29 Pn **Pn 07 15 33.5 +0.4**
ULDT Uludag 2.88 62 *i* P **Pn 07 15 48.7 +6.7**
ULDT *i* S **Sn 07 16 27.4 +10**

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*IDC **01** 07:20:09.0±0.6, 14.40N×92.87W, h21km±3km, mb4.4/20, mb1 4.6/21, mb1mx4.5/24, mbtmp4.5/21, ML4.3/1, MS4.4/21, Ms1 4.4/21, ms1mx4.2/34, Error ellipse: s-maj=22.3km s-min=10.4km az=58.0*
*HRVD **01** 07:20:09.0±0.3, 14.36N×93.32W, h13km, MW5.1/57, Centroid moment Tensor Solution. LP body waves: s41,c56;Mantle waves: s57,c91; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}3.93±.18; $M_{\theta\theta}$-2.80±.13; $M_{\phi\phi}$-1.12±.14; $M_{r\theta}$3.44±.38; $M_{\theta\phi}$1.21±.09; $M_{\phi r}$-2.63±.39; Best double couple: $M_0$5.68×10^16 NP1:ϕ_s293°, δ21°, λ79°. NP2:ϕ_s125°, δ70°, λ94°. Principal axes: T 5.954, Plg65°,*

Azm42°; N -.537, Plg4°, Azm303°; P -5.407, Plg25°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **01** 07:20:09.0±0.2, 14.32N×92.96W, mb5.0/64, MD5.0(MEX) Error ellipse: s-maj=6.6km s-min=3.8km az=223.0*

*MEX **01** 07:20:09.8±0.9, 14.13N×93.37W, h17km±94km, MD5.0*

*BJI **01** 07:20:10.0, 14.30N×93.00W, h22km, mB5.5, Ms5.3, Msz4.9*

*MOS **01** 07:20:11.4±1.2, 14.64N×92.84W, h33km, mb5.4/6, Error ellipse: s-maj=22.9km s-min=13.1km az=107.0*

ISC 01 07:20:07.3±0.3**, 14.32N**±0.04×**93.12W**±0.03**, h22**km**, h22**km±.2km**:pP-P, n252,** σ1**§24**/238**, mb4.9**/78**, MS4.6**/32**, 16C-8D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	1.44	90⇑	eP	Pn	07 20 34.7	+2.4
JAT				eS	Sn	07 20 52.1	+1.4
JAT				AML	AML	07 21 03.0	
	comp=N,35µm,0.3s						
CCIG	Comitan	2.17	26	iP	Pn	07 20 46.7	+3.8
CCIG				iS	Sn	07 21 14.0	+4.6
CCIG	Comitan	2.17	26⇑	iP	Pn	07 20 47.0	+4.1
CCIG				iS	Sn	07 21 14.0	+4.6
FUG	Fuego 3	2.21	86⇑	eP	Pn	07 20 44.0	+0.5
PCG	Pacaya	2.44	88⇓	eP	Pn	07 20 48.3	+1.6
IXG	Ixpaco	2.59	93⇓	eP	Pn	07 20 49.7	+0.9
IXG				eS	Sn	07 21 18.1	-1.8
IXG				AML	AML	07 21 39.8	
	comp=E,18µm,0.4s						
HUIG	Huatulco	3.23	297	iP	Pn	07 20 55.3	-2.7
HUIG				eS	Sn	07 21 30.3	-5.8
HUIG	Huatulco	3.23	297⇑	iP	Pn	07 20 55.4	-2.5
HUIG				eS	Sn	07 21 30.3	-5.8
CMIG	Matias Romero	3.24	329	eP	Pn	07 20 57.8	-0.4
CMIG				iS	Sn	07 21 34.9	-1.5
CMIG	Matias Romero	3.24	329⇑	iP	Pn	07 20 57.9	-0.3
CMIG				iS	Sn	07 21 34.9	-1.5
RBDL	Robledal	3.33	93⇓	eP	Pn	07 21 00.8	+1.3
RBDL				eS	Sn	07 21 36.5	-2.4
RTR	El Retiro	3.40	97⇑	eP	Pn	07 21 01.8	+1.5
SBLS	San Blas	3.42	98	eP	Pn	07 21 01.4	+0.6
SNJE	San Jose	3.44	97⇑	eP	Pn	07 21 01.7	+0.7
MTO2	Montecristo 2	3.64	88	eP	Pn	07 21 04.6	+0.8
BOQS	Boqueron	3.77	98⇓	eP	Pn	07 21 06.8	+1.1
TUIG	Tuzandepetl	3.90	341	eP	Pn	07 21 06.6	-1.0
TUIG				eS	Sn	07 21 50.3	-2.9
TUIG	Tuzandepetl	3.90	341	eP	Pn	07 21 07.4	-0.1
TUIG				eS	Sn	07 21 56.1	+2.9
LFU	La Fuente	3.93	98⇑	eP	Pn	07 21 09.8	+2.0
LBRS	Las Brisas	4.00	98	eP	Pn	07 21 09.8	+0.9
LFRS	El Faro	4.00	99	eP	Pn	07 21 09.4	+0.5
LCBS	La Ceiba	4.07	99⇓	eP	Pn	07 21 10.5	+0.6
OXX	Oaxaca	4.43	309	eP	Pn	07 21 13.0	-2.0
OXX				iS	Sn	07 22 02.1	-4.4
VHO	Vista Hermosa	4.43	309	eP	Pn	07 21 13.9	-1.1
VHO				eS	Sn	07 22 01.1	-5.5
VHO	Vista Hermosa	4.43	309⇑	iP	Pn	07 21 15.3	+0.3
VHO				eS	Sn	07 22 01.9	-4.7
EVV	El Vigia	4.64	333	eP	Pn	07 21 18.8	+0.8
EVV				iS	Sn	07 22 10.1	-1.8
EVV	El Vigia	4.64	333	eP	Pn	07 21 18.8	+0.8
EVV				iS	Sn	07 22 10.9	-1.0
BLLM	Bellamira	4.82	100	eP	Pn	07 21 21.4	+0.8
SCIG		4.98	22⇑	iP	Pn	07 21 24.1	+1.2
SCIG				iS	Sn	07 22 25.8	+5.3
CNCH	Conchagua	5.24	101⇓	eP	Pn	07 21 26.6	+0.2
PNIG	Pinotepa	5.25	294	eP	Pn	07 21 23.9	-2.8
PNIG				eS	Sn	07 22 21.7	-5.6
CRIN	San Cristobal	6.12	105	eP	Pn	07 21 39.2	+0.4
IISM	Ciudad Serdan	6.18	319	iP	Pn	07 21 38.0	-1.8
IISM				iS	Sn	07 22 45.0	-5.5
IISM	Ciudad Serdan	6.18	319	iP	Pn	07 21 38.0	-1.8
IISM				iS	Sn	07 22 47.6	-3.0
TEL3	Telica 3	6.34	105	eP	Pn	07 21 41.5	-0.6
TEL3				i		07 23 24.5	
	comp=Z,205nm,0.7s						
LEON	Leon	6.35	107	eP	Pn	07 21 41.9	-0.2
MIRN	Miramar	6.51	106	eP	Pn	07 21 43.8	-0.5
MOMJ	Momotombo	6.68	106	eP	Pn	07 21 46.3	-0.4
APYN	Apoyeque	6.91	107	eP	Pn	07 21 49.3	-0.7
ACX	Acapulco	7.02	292	iP	Pn	07 21 49.3	-2.3
ACX				iS	Sn	07 23 05.6	-6.0
PPM	Popocatepetl	7.08	313	eP	Pn	07 21 51.8	-0.6
PPM				iS	Sn	07 23 08.3	-4.7
APON	Apoyo	7.27	108	eP	Pn	07 21 57.1	+2.0
CAIG	El Cayaco	7.40	292	eP	Pn	07 21 52.4	-4.4
CAIG				eS	Sn	07 23 11.3	-10
CAIG	El Cayaco	7.40	292	eP	Pn	07 21 52.4	-4.4
CAIG				eS	Sn	07 23 15.2	-5.9
TEIG	Tepich	7.48	38	ePn	Pn	07 21 57.0	-0.9
JTS	JuntasAbangare	8.93	116	iP	P	07 22 20.0	+1.9
JTS	JuntasAbangare	8.93	116	ePn	P	07 22 17.2	-0.9
	comp=Z,79nm,0.9s						
JTS				eSn	Sn	07 24 21.5	+23
SFJM	Santa Fe	11.28	304	iP	P	07 22 48.4	-2.1
TXAR	Lajitas Array	17.85	329	P	P	07 24 18.2	+2.1
	comp=Z,0.2nm,0.3s,baz=151,slow=13,SNR=42						
TXAR				LR	LR	07 31 20.9	
	comp=Z,516nm,18.6s,baz=170,slow=38						
LRAL	Lakeview Retre	19.45	16	eP	P	07 24 36.1	+0.7
	comp=Z,28nm,1.0s						
MIAR	Mount Ida	20.15	359	eP	P	07 24 41.0	-2.0
MIAR				pmax	pmax		
	comp=Z,127nm,1.3s						
MIAR	Mount Ida	20.15	359	eP	P	07 24 41.0	-1.9
	comp=Z,127nm,1.3s						
MIAR				eS	S	07 28 17.4	-5.4
OTAV	Otavalo	20.16	133	eP	P	07 24 43.8	+0.6
	comp=Z,13nm,1.0s						
UALR	University of	20.38	2	eP	P	07 24 44.0	-1.5
	comp=Z,40nm,0.9s						
OXF	Oxford	20.39	9	eP	P	07 24 46.4	+0.9
	comp=Z,157nm,1.1s						
CLNB	Carlsbad	20.39	333	eP	P	07 24 46.2	+0.7
GDL2	Guadalupe Moun	20.55	332	eP	P	07 24 47.8	+0.6
MNTX	Cornudas Mount	20.63	329	eP	P	07 24 48.0	0.0
	comp=Z,40nm,0.9s						
ROSC	El Rosal	20.76	115	P	P	07 24 52.3	+2.9
	comp=Z,33nm,0.9s,baz=92,slow=23,SNR=34						
GOGA	Godfrey	20.94	23	eP	P	07 24 49.8	-1.3
GOGA				pmax	pmax		
	comp=Z,20nm,1.3s						
GOGA	Godfrey	20.94	23	eP	P	07 24 49.8	-1.3
	comp=Z,118nm,1.3s						
WMOK	Wichita Mounta	20.97	347	eP	P	07 24 50.8	-0.7
	comp=Z,20nm,0.8s						
CPRX	Cap Rock	21.04	334	eP	P	07 24 52.4	+0.1
PLAL	Pickwick Lake	21.07	12	eP	P	07 24 51.9	-0.7
	comp=Z,27nm,0.9s,mb4.6						
PLAL				eS	S	07 28 43.2	+2.0
HBAR	Harrisburg	21.26	6	eP	P	07 24 51.6	-2.8
GNAR	Gosnell	21.74	7	eP	P	07 24 59.2	-0.1
HALT	Halls	21.77	8	P	P	07 24 58.2	-1.3
AMTX	Amarillo	21.89	341	eP	P	07 25 00.7	0.0
	comp=Z,82nm,0.6s,mb5.3						
CSU	Charleston Sou	22.06	30	eP	P	07 25 02.2	-0.3
COW	Cow Castle Cre	22.08	29	eP	P	07 25 03.0	+0.4
NHSC	New Hope	22.10	30	eP	P	07 25 03.0	+0.1
	comp=Z,203nm,1.1s,mb5.5						
TWB	Tillmans-White	22.15	30	eP	P	07 25 04.1	+0.8
WVT	Waverly	22.23	11	eP	P	07 25 03.3	-0.9
	comp=Z,26nm,1.0s,mb4.6						
UTMT	University of	22.26	9	eP	P	07 25 04.0	-0.5
	comp=Z,93nm,0.9s,mb5.2						
CPCT	Cooper Cave	22.42	19	eP	P	07 25 07.2	+1.2
JSC	Jenkinsville	22.59	26	eP	P	07 25 06.3	-1.5
SDV	Santo Domingo	22.67	101	P	P	07 25 07.0	-1.7
	comp=Z,28nm,0.7s,mb4.8,baz=319,slow=5.9,SNR=41						
SDV	Santo Domingo	22.67	101	eP	P	07 25 07.9	-0.8
	comp=Z,26nm,0.8s,mb4.7						
LPM	Los Pinos Moun	23.36	331	eP	P	07 25 17.4	+2.1
LENM	Lemitar	23.41	330	eP	P	07 25 18.0	+2.3
CCM	Cathedral Cave	23.70	4	eP	P	07 25 17.3	-1.3
	comp=Z,66nm,1.2s,mb4.9						
TZTN	Tazewell	23.73	19	eP	P	07 25 19.1	+0.2
ANMO	Albuquerque	23.81	332⇑	eP	P	07 25 21.7	+2.1
ANMO	Albuquerque	23.81	332	P	P	07 25 21.6	+2.0
	comp=Z,10nm,0.9s,mb4.2,baz=150,slow=9.6,SNR=33						
ANMO				LR	LR	07 35 30.9	
	comp=Z,426nm,18.7s,MS3.9,baz=114,slow=39						
ANMO	Albuquerque	23.81	332	eP	P	07 25 21.1	+1.5
	comp=Z,27nm,1.0s,mb4.6						
TUC	Tucson	24.10	321	eP	P	07 25 24.2	+1.7
	comp=Z,52nm,1.1s,mb4.9						
SLM	Saint Louis	24.36	5	eP	P	07 25 23.8	-1.1
WCI	Wyandotte Cave	24.57	13	eP	P	07 25 25.4	-1.6
	comp=Z,64nm,1.1s,mb5.1						
KSU1	Kansas State U	24.88	354	eP	P	07 25 29.1	-0.8
CBKS	Cedar Bluff	25.09	348	eP	P	07 25 31.4	-0.6
	comp=Z,93nm,1.1s,mb5.2						
ELN	Prospectdale	25.34	24	eP	P	07 25 33.5	-0.8
ELN				e		07 25 49.7	
BLA	Blacksburg	25.45	24	P	P	07 25 33.5	-1.9
	comp=Z,43nm,1.1s,mb4.9						
BLA				e		07 25 49.6	
SDCO	Great Sand Dun	25.80	337	eP	P	07 25 40.3	+1.7
	comp=Z,104nm,1.4s,mb5.2						
SJG	San Juan	26.16	78	LR	LR	07 34 51.6	
	comp=Z,539nm,21.7s,MS4.0,baz=278,slow=34						
WUAZ	Wupatki	26.74	325	eP	P	07 25 48.4	+1.1
	comp=Z,70nm,1.4s,mb5.0						
PV01	Paradox Valley	27.39	333	eP	P	07 25 54.7	+1.4
ISCO	Idaho Springs	27.66	339	eP	P	07 25 56.5	+0.9
	comp=Z,37nm,1.4s,mb4.8						
PV10	Paradox Valley	27.80	332	eP	P	07 25 57.2	+0.3
LDFC	Landfair	28.63	320	eP	P	07 26 06.4	+2.0
PHWY	Pilot Hill	28.95	341	eP	P	07 26 07.6	+0.4
SRU	San Rafael	29.07	331	eP	P	07 26 09.2	+0.8
MSU	Marysvale	29.41	329	eP	P	07 26 12.4	+1.0
MVU	Marysvale	29.42	328	eP	P	07 26 12.9	+1.3
	comp=Z,23nm,1.6s,mb4.7						
ARUT	Antelope Range	29.53	326	eP	P	07 26 14.1	+1.5
RWWY	Rawlins	29.89	339	eP	P	07 26 16.8	+1.0
	comp=Z,72nm,1.2s,mb5.3						
MWC	Mount Wilson	30.02	316	eP	P	07 26 17.7	+0.7
DAU	Daniels Canyon	30.45	332	eP	P	07 26 21.9	+1.1
NLU	North Lily Min	30.47	331	eP	P	07 26 22.2	+1.3
JLU	Jordanelle	30.69	332	eP	P	07 26 23.2	+0.4
TCUT	Toone Canyon	31.09	333	eP	P	07 26 27.6	+1.3
TRCR	Troy Canyon	31.11	324	eP	P	07 26 28.0	+1.4
RSSD	Black Hills	31.13	345	eP	P	07 26 26.4	-0.2
	comp=Z,11nm,0.8s,mb4.7						
HWUT	Hardware Ranch	31.55	333	eP	P	07 26 31.1	+0.7
	comp=Z,34nm,1.4s,mb5.0						
HWUT				ePcP	PcP	07 29 22.4	-0.5
BGU	Big Grassy Mou	31.68	331	eP	P	07 26 32.7	+1.1
PDAR	Pinedale Array	31.69	337	P	P	07 26 31.7	+0.1
	comp=Z,4.3nm,0.9s,mb4.3,baz=134,slow=7.2,SNR=26						
PDAR				PcP	PcP	07 29 22.7	-0.5
	comp=Z,0.9nm,0.6s,baz=169,slow=4.6,SNR=3.9						
PDAR				LR	LR	07 41 11.7	
	comp=Z,564nm,18.0s,MS4.3,baz=158,slow=40						
HVU	Hansel Valley	32.24	332	eP	P	07 26 37.6	+1.3
AHID	Auburn Hatcher	32.31	335	eP	P	07 26 37.1	+0.1
	comp=Z,68nm,1.4s,mb5.3						
SADO	Sadowa	32.60	19	PcP	PcP	07 29 24.6	-1.1
	comp=Z,6.8nm,0.9s,baz=185,slow=5.1,SNR=2.4						
SADO				LR	LR	07 41 33.2	
	comp=Z,1µm,19.0s,MS4.6,baz=272,slow=40						
OMM	Old Mammoth Mi	32.66	320	eP	P	07 26 41.5	+1.5
MNV	Mina	32.66	322	eP	P	07 26 41.0	+0.9
	comp=Z,29nm,1.0s,mb5.2						
MNV				ePcP	PcP	07 29 26.1	+0.2
REDW	Red Top Meadow	32.70	336	eP	P	07 26 41.3	+0.9
	comp=Z,173nm,1.3s,mb5.8						
SNOW	Snow King Moun	32.75	336	eP	P	07 26 41.6	+0.9
	comp=Z,183nm,1.3s,mb5.8						
NVAR	Mina Array Bea	32.75	322	P	P	07 26 42.2	+1.4
	comp=Z,17nm,0.8s,mb5.0,baz=139,slow=8.3,SNR=107						
NVAR				PcP	PcP	07 29 26.2	+0.1
	comp=Z,3.7nm,0.8s,baz=135,slow=3.8,SNR=11						
LOHW	Long Hollow	32.81	336	eP	P	07 26 42.1	+0.7
	comp=Z,88nm,1.4s,mb5.5						
TPAW	Teton Pass	32.85	336	eP	P	07 26 42.0	+0.3
	comp=Z,118nm,1.3s,mb5.7						
RRI2	Red Ridge	32.88	335	eP	P	07 26 43.3	+1.4
	comp=Z,132nm,1.5s,mb5.7						
MOOW	Moose Ponds	32.98	336	eP	P	07 26 43.2	+0.4
	comp=Z,30nm,1.1s,mb5.1						
IMW	Indian Meadow	33.19	336	eP	P	07 26 45.1	+0.6
	comp=Z,19nm,1.0s,mb5.0						
IMW				ePcP	PcP	07 29 27.7	+0.4
BMN	Battle Mountai	33.47	326	eP	P	07 26 48.4	+1.3
	comp=Z,10.0nm,0.9s,mb4.8						
LKWY	Lake	33.55	337	eP	P	07 26 49.6	+1.9
	comp=Z,40nm,1.3s,mb5.2						
YFT	Old Faithful	33.61	337	eP	P	07 26 49.6	+1.3
YFT				ePcP	PcP	07 29 29.6	+1.1
YNR	Norris Junctio	33.78	337	eP	P	07 26 50.3	+0.5
CMB	Columbia Colle	33.78	319	eP	P	07 26 50.4	+0.5
	comp=Z,15nm,1.4s,mb4.7						
YMR	Madison River	33.85	337	eP	P	07 26 51.7	+1.4
LAO	LASA Array	34.09	344	eP	P	07 26 52.1	-0.4
	comp=Z,68nm,1.5s,mb5.4						
QLMT	Earthquake Lak	34.16	337	eP	P	07 26 54.7	+1.6
WCN	Washoe City	34.18	322	eP	P	07 26 55.5	+2.2
	comp=Z,21nm,1.4s,mb4.9						
HLID	Hailey	34.38	332	eP	P	07 26 55.9	+1.0
	comp=Z,20nm,1.2s,mb4.9						
MCMT	McKenzie Canyo	34.72	335	eP	P	07 26 56.6	-1.3
WVOR	Wild Horse Val	35.63	327	eP	P	07 27 06.5	+0.9
	comp=Z,32nm,1.2s,mb5.1						
WVOR				ePcP	PcP	07 29 34.8	+0.5
HRY	Holter Researc	35.90	338	eP	P	07 27 08.6	+0.7
ULM	Lac du Bonnet	35.91	357	P	P	07 27 05.9	-2.0
	comp=Z,9.4nm,0.8s,mb4.7,baz=178,slow=9.1,SNR=15						
ULM				PcP	PcP	07 29 34.4	-0.6
	comp=Z,3.9nm,0.8s,baz=150,slow=3.9,SNR=3.9						
ULM				LR	LR	07 43 49.8	
	comp=Z,497nm,18.7s,MS4.3,baz=189,slow=40						
MOD	Modoc	36.18	325	eP	P	07 27 11.0	+0.7
	comp=Z,40nm,1.4s,mb5.2						
MOD				epP	pP	07 27 17.9	+1.0
MOD				ePcP	PcP	07 29 36.1	+0.2
CHMT	Chamberlain Mo	36.60	337	eP	P	07 27 14.3	+0.6
CHMT				epP	pP	07 27 21.2	+0.8
MSO	Missoula	36.80	336	eP	P	07 27 15.7	+0.3
	comp=Z,24nm,1.2s,mb4.9						
YBH	Yreka Blue Hor	37.45	323	P	P	07 27 20.8	-0.2
	comp=Z,3.1nm,0.7s,mb4.2,baz=113,slow=5.5,SNR=8.1						
YBH				PcP	PcP	07 29 38.6	-1.1
	comp=Z,1.5nm,0.8s,baz=63,slow=4.3,SNR=3.6						
YBH				LR	LR	07 44 37.4	
	comp=Z,657nm,18.5s,MS4.5,baz=145,slow=39						
KHMM	Horse Mountain	37.55	321	eP	P	07 27 23.4	+1.6
KHMM				ePcP	PcP	07 29 41.5	+1.4
SAML	Samuel	37.63	126	eP	P	07 27 20.7	-2.0
	comp=Z,5.1nm,0.8s,mb4.3						
SAML				ePcP	PcP	07 29 40.3	-0.3
LPAZ	La Paz	39.17	140	P	P	07 27 35.3	-0.3
	comp=Z,1.8nm,0.7s,mb3.9,baz=320,slow=5.1,SNR=14						
LPAZ				LR	LR	07 42 14.5	
	comp=Z,385nm,20.6s,MS4.2,baz=126,slow=34						
NEW	Newport	39.24	335	P	P	07 27 36.1	+0.2
	comp=Z,2.8nm,0.7s,mb4.1,baz=126,slow=12,SNR=6.1						
NEW				PcP	PcP	07 29 44.0	-1.3
	comp=Z,2.2nm,0.7s,baz=96,slow=10,SNR=2.7						
NEW				LR	LR	07 46 57.4	
	comp=Z,916nm,19.9s,MS4.6,baz=142,slow=41						
FFC	Flin Flon	40.91	352	P	P	07 27 49.5	-0.1
	comp=Z,60nm,0.9s,mb5.2,SNR=10						
EDM	Edmonton	41.99	342	eP	P	07 27 58.4	-0.1
LVC	Limon Verde	43.70	147	eP	P	07 28 13.2	+0.4
	comp=Z,3.5nm,0.8s,mb4.1						
SIV	San Ignacio	43.70	132	P	P	07 28 11.9	-1.0
	comp=Z,7.7nm,0.8s,mb4.5,baz=305,slow=8.7,SNR=46						
SIV				PcP	PcP	07 29 59.6	-0.7
	comp=Z,2.5nm,0.7s,baz=263,slow=6.5,SNR=3.2						
FCC	Fort Churchill	44.37	359	eP	P	07 28 16.6	-1.2
	comp=Z,14nm,0.9s,mb4.7						
SCHQ	Schefferville	45.31	21	P	P	07 28 23.1	-2.3
	comp=Z,4.2nm,0.9s,mb4.3,baz=218,slow=7.5,SNR=4.0						
SCHQ				PcP	PcP	07 30 04.2	-1.1
	comp=Z,4.8nm,0.9s,baz=234,slow=2.8,SNR=8.9						
SCHQ				LR	LR	07 49 41.0	
	comp=Z,1µm,19.1s,MS4.9,baz=214,slow=39						
YKA	Yellowknife Ar	50.48	347	P	P	07 29 05.1	-0.3
	comp=Z,34nm,0.8s,mb5.4,baz=150,slow=7.5,SNR=295						
YKA				pP	pP	07 29 11.8	-0.5
	comp=Z,26nm,0.8s,baz=153,slow=7.2,SNR=26						
YKA				PcP	PcP	07 30 22.7	-1.0
	comp=Z,2.1nm,0.7s,baz=145,slow=3.7,SNR=4.2						
YKA	Yellowknife Ar	50.48	347	P	P	07 29 05.1	-0.4
YKA				pP	pP	07 29 11.8	-0.5
YKA				PcP	PcP	07 30 22.7	-1.0
YKW3	Yellowknife Ar	50.54	347	eP	P	07 29 05.5	-0.5
YKW3				epP	pP	07 29 12.3	-0.4
CFAA	Coronel Fontan	51.52	153	P	P	07 29 13.3	-0.6
	comp=Z,1.1nm,0.7s,mb3.9,baz=344,slow=5.7,SNR=12						
CFAA				LR	LR	07 46 19.8	
	comp=Z,33nm,19.3s,baz=337,slow=30						
CFAA	Coronel Fontan	51.52	153	P	P	07 29 13.3	-0.6
CFAA				LR	LR	07 46 19.8	
BDFB	Brasilia	53.61	122	P	P	07 29 28.5	-1.1
	comp=Z,3.4nm,0.7s,mb4.4,baz=274,slow=8.4,SNR=8.5						
BAO	Brasilia Array	53.62	122	P	P	07 29 28.0	-1.7
RKT	Rikitea	55.34	228	eS	S	07 37 21.9	-1.3
RKT				eLR	LR	07 45 45.9	
	comp=Z,714nm,26.2s						
PLCA	Paso Flores	58.63	160	P	P	07 30 04.8	-0.5
	comp=Z,2.6nm,0.9s,mb4.3,baz=53,slow=3.2,SNR=6.2						
PLCA				LR	LR	07 51 14.3	
	comp=Z,240nm,18.1s,MS4.4,baz=356,slow=32						
DAWY	Dawson	58.98	338	eP	P	07 30 06.4	-1.0
INK	Inuvik	59.83	344	LR	LR	07 59 31.7	
	comp=Z,519nm,19.5s,MS4.7,baz=138,slow=40						
INK	Inuvik	59.83	344	eP	P	07 30 12.6	-0.7
	comp=Z,34nm,1.0s,mb5.3						
INK				epP	pP	07 30 19.6	-0.6
MENT	Mentasta	60.01	336	eP	P	07 30 14.6	+0.1
RES	Resolute Bay	60.37	359	eP	P	07 30 15.3	-1.5
	comp=Z,14nm,0.8s,mb5.0						
RES				epP	pP	07 30 22.1	-1.7
THY	Trims Highway	61.05	336	eP	P	07 30 21.8	+0.2
MCK	McKinley	62.46	335	eP	P	07 30 30.6	-0.5
	comp=Z,20nm,1.0s,mb5.2						
MCK				epP	pP	07 30 37.5	-0.6
COLA	College	62.54	337⇓	eP	P	07 30 31.4	-0.2
COLA	College	62.54	337	eP	P	07 30 30.9	-0.7
PPT	Papeete	64.07	242	eLR	LR	07 49 20.4	
	comp=Z,348nm,25.2s						
PPT	Papeete	64.07	242	LR	LR	07 51 41.7	
	comp=Z,147nm,18.7s,MS4.2,baz=67,slow=29						
TBI	Tubuai	66.61	236	eS	S	07 39 46.3	-0.8
TBI				eLR	LR	07 50 43.7	
	comp=Z,352nm,29.0s						
USHA	Ushuaia	71.99	165	LR	LR	07 59 43.3	
	comp=Z,482nm,18.1s,MS4.8,baz=114,slow=33						
DAG	Danmarks Havn	72.61	13	eP	P	07 31 33.0	-1.5
DAG	Danmarks Havn	72.61	13	iP	P	07 31 33.0	-1.5
RAR	Rarotonga	74.33	243	LR	LR	07 59 22.8	
	comp=Z,175nm,18.2s,MS4.4,baz=55,slow=32						
EVO	Evora	77.45	53	eP	P	07 32 00.0	-2.9
	comp=Z,15nm,0.8s,mb4.7						
EVO				eR			
	comp=Z,287nm,20.8s						
ROSF	Rostrenen	79.35	43	eP	P	07 32 11.5	-1.6
QUIF	Quistinic	79.49	43	eP	P	07 32 11.7	-2.2
SGMF	Saint Gilles	79.84	43	eP	P	07 32 13.9	-1.8
ESDC	Sonseca Array	80.37	52	P	P	07 32 17.2	-1.6
	comp=Z,3.1nm,0.7s,mb4.4,baz=284,slow=5.3,SNR=12						
ESDC				pP	pP	07 32 24.1	-1.7
	comp=Z,4.2nm,0.9s,baz=294,slow=5.4,SNR=4.1						
BILL	Bilibino	80.76	338⇑	eP	P	07 32 21.2	+1.0
BILL				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.1						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.3						
BILL	Bilibino	80.76	338	eP	P	07 32 20.8	+0.5
	comp=Z,17nm,0.8s,mb5.0						
GRR	Gorron	80.93	42	eP	P	07 32 19.6	-1.9
	comp=Z,12nm,0.6s,mb4.7						
FLN	La Foliniere	81.10	42	eP	P	07 32 20.6	-1.8
	comp=Z,23nm,0.9s,mb4.8						
FLN				eR			
	comp=Z,336nm,21.5s						
LDF	La Druitiere	81.37	42	eP	P	07 32 21.3	-2.5
SJPF	Ste Jean	81.73	48	eP	P	07 32 25.2	-0.6
	comp=Z,27nm,1.2s,mb4.8						
MFF	Saint Martin d	81.76	44	eP	P	07 32 24.7	-1.2
	comp=Z,11nm,0.9s,mb4.5						
ETSF	Etsaut	82.25	48	eP	P	07 32 27.1	-1.4
	comp=Z,4.3nm,0.6s,mb4.2						
AFI	Afiamalu	82.74	254	LR	LR	07 59 38.5	
	comp=Z,117nm,18.7s,MS4.3,baz=114,slow=29						
EPF	Esparros	82.87	48	eP	P	07 32 30.9	-0.8
TCF	Toulx Ste Croi	83.42	44	eP	P	07 32 32.4	-2.0
BGF	Bois d'Agland	83.78	44	eP	P	07 32 34.4	-1.9
	comp=Z,15nm,0.8s,mb4.9						
AVF	Avril sur Loir	84.06	43	eP	P	07 32 36.2	-1.5
	comp=Z,13nm,0.9s,mb4.7						
SSF	Saint Saulge	84.10	43	eP	P	07 32 35.9	-2.0
	comp=Z,9.5nm,0.7s,mb4.7						
MTLF	Montolieu	84.13	47	eP	P	07 32 36.5	-1.6
	comp=Z,3.7nm,0.6s,mb4.4						
NB2	NORSAR Subarra	84.39	28	P	P	07 32 38.8	-0.2
	comp=Z,72nm,2.5s,mb5.4,baz=291,slow=5.0						
NB2	NORSAR Subarra	84.39	28	P	P	07 32 38.8	-0.2
	baz=291,slow=5.3						
NOA	NORSAR Array B	84.39	28	P	P	07 32 39.0	0.0
	comp=Z,2.5nm,0.8s,mb4.4,baz=290,slow=5.1,SNR=10						
NOA				LR	LR	08 08 35.6	
	comp=Z,303nm,21.8s,MS4.6,baz=290,slow=34						
SMF	Signal de Mont	84.42	43	eP	P	07 32 38.1	-1.4
LASF	Ste Croix	85.10	46	eP	P	07 32 42.7	-0.3
HFS	Hagfors	85.85	29	LR	LR	08 08 57.1	
	comp=Z,351nm,21.5s,MS4.7,baz=277,slow=34						
ARCES	ARCESS Array B	86.18	18	P	P	07 32 48.8	+1.1
	comp=Z,6.1nm,0.9s,mb4.8,baz=284,slow=5.5,SNR=12						
ORIF	Oris-en-Rattie	86.26	45	eP	P	07 32 48.6	-0.1
ORIF				eR			
	comp=Z,294nm,21.0s						
DBIC	Dimbokro	86.70	84	P	P	07 32 51.8	+0.2
	comp=Z,5.7nm,0.8s,mb4.8,baz=280,slow=1.2,SNR=6.6						
FRF	La Foret Royal	87.18	46	eP	P	07 32 52.8	-0.4
GRA1	Grafenberg Arr	88.23	39	eP	P	07 32 57.3	-0.8
	comp=Z,6.0nm,1.1s,mb4.7						
GRA1				LR	LR		
	comp=Z,300nm,19.9s,MS4.7						
GRF	Grafenberg Arr	88.23	39	eP	P	07 32 57.3	-0.8
	comp=Z,6.0nm,1.1s,mb4.7						
GRF				LR	LR		
	comp=Z,300nm,19.9s,MS4.7						
DAVOX	Davos	88.36	42	LR	LR	08 14 21.5	
	comp=Z,228nm,18.5s,MS4.6,baz=262,slow=37						
BRG	Berggiesshubel	89.43	37	eP	P	07 33 04.8	+1.0
BRG				pmax	pmax		
	comp=Z,12nm,1.4s,mb5.0						
BRG				MLR	MLR		
	comp=N,150nm,17.8s,MS4.8						
BRG				MLR	MLR		
	comp=E,280nm,17.8s,MS4.8						
BRG				MLR	MLR		
	comp=Z,340nm,17.8s,MS4.8						
BRG	Berggiesshubel	89.43	37	eP	P	07 33 04.8	+1.0
	comp=Z,12nm,1.4s,mb5.0						
BRG				LR	LR		
	comp=Z,340nm,17.8s,MS4.8						
APA	Apatity	89.69	18⇓	eP	P	07 33 07.4	+2.8
APA				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.5						
APA				MLR	MLR		
	comp=Z,1µm,20.0s,MS5.2						
TIXI	Tiksi	89.72	348⇑	eP	P	07 33 04.5	-0.2
TIXI				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.3						
KHC	Kasperske Hory	89.87	39	eP	P	07 33 06.5	+0.6
GERES	GERESS Array B	90.05	39	P	P	07 33 06.5	-0.3
	comp=Z,0.5nm,0.3s,mb4.3,baz=288,slow=4.2,SNR=6.6						
GERES				LR	LR	08 14 17.8	
	comp=Z,223nm,20.1s,MS4.6,baz=91,slow=36						
FINES	FINESS Array B	90.67	25	P	P	07 33 08.9	-0.4
	comp=Z,0.9nm,0.5s,mb4.4,baz=323,slow=3.8,SNR=12						
FINES				LR	LR	08 15 41.9	
	comp=Z,264nm,19.1s,MS4.7,baz=334,slow=37						
OBN	Obninsk	98.89	27	eP	P	07 33 43.2	-3.8
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb5.1						
MOS	Moscow	98.93	26	eP	P	07 33 49.2	+2.1
MOS				e		07 34 01.8	
MOS				pmax	pmax		
	comp=Z,43nm,0.6s						
KIV	Kislovodsk	109.39	32	eP	Pdif	07 34 30.2	-3.7
KIV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MDJ	Mudanjiang	109.68	329	PDIF	Pdif	07 34 34.4	-0.7
MDJ				PP	PP	07 39 12.4	-0.5
MDJ				SKS		07 45 42.2	
MDJ				S		07 46 44.0	
MDJ				PS	PS	07 48 31.4	-3.5
MDJ				PP	PP		
	comp=Z,67nm,4.1s						
MDJ				LR	LR		

Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.13**	**85**	*eP*	**P**	**07 37 15.0**	**+0.5**
CRUN				*eS*	**S**	**07 37 27.2**	**+0.2**
XAVN	**Gruta Xavier**	**0.20**	**30**	⇑*iP*	**P**	**07 37 14.6**	**+0.1**
TICN	**Ticuantepe**	**0.20**	**73**	⇑*iP*	**P**	**07 37 14.8**	**+0.3**
MGAN	**Managua**	**0.25**	**46**	⇑*iP*	**P**	**07 37 14.8**	**+0.1**
MGAN				*eS*	**S**	**07 37 26.9**	**-0.7**
COPN	**Copaltepe**	**0.26**	**322**	⇓*iP*	**P**	**07 37 17.1**	**+2.4**
APYN	**Apoyeque**	**0.27**	**17**	⇓*iP*	**P**	**07 37 14.6**	**-0.2**
APYN				*eS*	**S**	**07 37 28.1**	**+0.4**
MASN	**Masaya**	**0.27**	**87**	⇑*eP*	**P**	**07 37 14.5**	**-0.3**
MASN				*eS*	**S**	**07 37 28.8**	**+1.1**
WILN	**Americas 2**	**0.30**	**52**	⇑*eP*	**P**	**07 37 15.0**	**+0.1**
WILN				*eS*	**S**	**07 37 27.4**	**-0.6**
APON	**Apoyo**	**0.36**	**99**	⇑*iP*	**P**	**07 37 15.3**	**+0.2**
MOMJ	**Momotombo**	**0.45**	**346**	⇑*iP*	**P**	**07 37 15.2**	**-0.4**
MOMJ				*eS*	**S**	**07 37 27.5**	**-1.7**
MIRN	**Miramar**	**0.54**	**329**	⇓*iP*	**P**	**07 37 15.8**	**-0.4**
CNGN	**Cerro Negro**	**0.59**	**333**	⇑*iP*	**P**	**07 37 16.1**	**-0.4**
CNGN				*eS*	**S**	**07 37 29.6**	**-1.2**
LEON	**Leon**	**0.63**	**314**	⇑*iP*	**P**	**07 37 16.1**	**-0.7**
PYTN	**Playitas**	**0.67**	**33**	⇑*eP*	**P**	**07 37 18.2**	**+1.1**
PYTN				*eS*	**S**	**07 37 32.4**	**+0.6**
TEL3	**Telica 3**	**0.72**	**326**	⇑*iP*	**P**	**07 37 17.4**	**0.0**
TELN	**Telica**	**0.74**	**328**	⇑*eP*	**P**	**07 37 17.4**	**-0.2**
TELN				*eS*	**S**	**07 37 31.7**	**-1.0**
CONN	**Concepcion**	**0.89**	**117**	⇓*iP*	**P**	**07 37 20.1**	**+1.0**
CRIN	**San Cristobal**	**0.94**	**320**	⇑*eP*	**P**	**07 37 19.3**	**-0.3**
CRIN				*eS*	**S**	**07 37 34.9**	**-1.1**
CNCH	**Conchagua**	**1.89**	**314**	⇓*iP*	**P**	**07 37 30.1**	**-0.1**
CNCH				*eS*	**S**	**07 37 52.8**	**-2.1**
JTS	**JuntasAbangare** 63μm,0.5s	**2.21**	**139**	Pn	**P**	**07 37 35.4**	**+0.9**
JTS	**JuntasAbangare**	**2.21**	**139**	⇓*iP*	**P**	**07 37 35.5**	**+1.0**
JTS				*eS*	**S**	**07 37 58.7**	**-3.6**
BLLM	**Bellamira**	**2.29**	**310**	⇓*eP*	**P**	**07 37 35.5**	**0.0**
BLLM				*eS*	**S**	**07 38 02.5**	**-1.5**
VSM	**San Miguel**	**2.31**	**309**	⇓*eP*	**P**	**07 37 35.8**	**0.0**
CAHU	**Cacacuatique**	**2.49**	**316**	⇓*eP*	**P**	**07 37 38.6**	**+0.4**
SNVI	**San Vicente**	**2.86**	**305**	*eP*	**P**	**07 37 42.5**	**-0.6**
SNVI				⇑*eP*		07 37 43.2	
SNVI				*eS*	**S**	**07 38 16.5**	**-1.0**
LCBS	**La Ceiba**	**3.00**	**304**	⇓*eP*	**P**	**07 37 44.7**	**-0.2**
LFRS	**El Faro**	**3.05**	**303**	⇓*iP*	**P**	**07 37 45.1**	**-0.5**
LBRS	**Las Brisas**	**3.09**	**305**	*eP*	**P**	**07 37 46.1**	**-0.1**
LFU	**La Fuente**	**3.16**	**304**	*eP*	**P**	**07 37 47.1**	**+0.1**
BOQS	**Boqueron**	**3.29**	**303**	⇓*eP*	**P**	**07 37 48.6**	**-0.2**
BOQS				*eS*	**S**	**07 38 26.6**	**-1.0**
SBLS	**San Blas**	**3.62**	**301**	⇓*eP*	**P**	**07 37 53.2**	**-0.2**
SNJE	**San Jose**	**3.62**	**302**	⇑*eP*	**P**	**07 37 53.7**	**+0.4**
SNJE				*eS*	**S**	**07 38 34.3**	**-1.5**
RTR	**El Retiro**	**3.67**	**302**	⇓*eP*	**P**	**07 37 54.2**	**+0.2**
RTR				*eS*	**S**	**07 38 34.2**	**-2.7**
MTO2	**Montecristo 2**	**3.74**	**311**	⇓*eP*	**P**	**07 37 55.2**	**+0.4**
RBDL	**Robledal**	**3.82**	**304**	⇑*eP*	**P**	**07 37 55.8**	**-0.2**
RBDL				*eS*	**S**	**07 38 39.7**	**-0.7**
TEIG	**Tepich** 122nm,0.8s	**8.40**	**348**	⇓*iP*	**P**	**07 39 00.6**	**+2.8**
HUIG	**Huatulco**	**10.13**	**293**	*iP*	**P**	**07 39 18.9**	**-2.1**
OXX	**Oaxaca**	**11.18**	**298**	*eP*	**P**	**07 39 34.5**	**-0.6**
VHO	**Vista Hermosa**	**11.19**	**298**	*iP*	**P**	**07 39 35.6**	**+0.5**
PNIG	**Pinotepa**	**12.16**	**293**	⇓*iP*	**P**	**07 39 48.7**	**+0.8**
LVIG	**Laguna Verde**	**12.31**	**310**	⇓*iP*	**P**	**07 39 50.5**	**+0.6**
IISM	**Ciudad Serdan**	**12.64**	**305**	*eP*	**P**	**07 39 52.6**	**-1.7**
PAYG	**Puerto Ayora** 69nm,0.8s	**13.13**	**197**	*eP*	**P**	**07 40 05.5**	**+4.8**
PPM	**Popocatepetl**	**13.70**	**302**	*iP*	**P**	**07 40 09.7**	**+1.7**
ROSC	**El Rosal** 0.4nm,0.3s,baz=319,slow=1.5,SNR=12	**13.90**	**120**	P	**P**	**07 40 16.8**	**+6.2**
ROSC				PcP	PcP	07 45 25.4	+0.5
ACX	**Acapulco** 0.7nm,0.3s,baz=107,slow=20,SNR=3.3	**13.94**	**292**	*iP*	**P**	**07 40 11.9**	**+0.8**
YAIG	**Yautepec**	**13.97**	**301**	*iP*	**P**	**07 40 13.1**	**+1.6**
OTAV	**Otavalo** 52nm,1.2s	**14.10**	**145**	⇓*eP*	**P**	**07 40 16.7**	**+3.6**
PLIG	**Platanillo**	**14.13**	**298**	*iP*	**P**	**07 40 15.1**	**+1.5**
CAIG	**El Cayaco**	**14.31**	**292**	*iP*	**P**	**07 40 17.5**	**+1.6**
ZIIG	**Zihuatanejo**	**15.57**	**293**	*iP*	**P**	**07 40 34.8**	**+2.9**
SDV	**Santo Domingo** 1.4nm,0.3s,baz=296,slow=8.4,SNR=40	**15.84**	**100**	P	**P**	**07 40 37.5**	**+2.3**
SDV				S	**S**	**07 43 36.6**	**+10**
SDV	0.2nm,0.3s,baz=141,slow=6.5,SNR=2.4			PcP	PcP	07 45 27.0	-0.6
SDV	0.7nm,0.3s,baz=288,slow=4.1,SNR=5.1			ScP		07 48 52.8	
SDV	0.3nm,0.3s,baz=22,slow=9.3,SNR=3.8						
SDV	**Santo Domingo** 76nm,0.8s	**15.84**	**100**	⇑*eP*	**P**	**07 40 37.4**	**+2.2**
SDV				*e*		07 42 06.3	
SDV				*eS*	**S**	**07 43 36.7**	**+10**
SDV	**Santo Domingo**	**15.84**	**100**	*ePcP*	PcP	07 45 26.9	-0.7
MOIG	**Morelia**	**16.13**	**300**	*iP*	**P**	**07 40 41.7**	**+2.9**
DWPF	**Disney** 260nm,1.3s	**16.72**	**16**	P	**P**	**07 40 48.6**	**+2.6**
SFJM	**Santa Fe**	**18.04**	**300**	*eP*	**P**	**07 40 55.6**	**-6.4**
ZAIG	**Zacatecas**	**18.75**	**307**	*eP*	**P**	**07 41 13.4**	**+3.5**
CJM	**Chamela**	**19.40**	**295**	*iP*	**P**	**07 41 22.3**	**+5.5**
SJG	**San Juan** 52nm,0.6s,baz=286,slow=7.1,SNR=14	**20.50**	**70**	P	**P**	**07 41 29.5**	**+1.3**
SJG				PcP	PcP	07 45 34.4	-1.1
SJG	8.4nm,0.5s,baz=318,slow=16,SNR=4.1			LR	LR	07 48 17.7	
SJG	**San Juan** comp=Z,297nm,20.3s,baz=267,slow=34	**20.50**	**70**	⇑*eP*	**P**	**07 41 29.5**	**+1.4**
LRAL	**Lakeview Retre** 213nm,1.2s 114nm,0.9s	**20.97**	**359**	*eP*	**P**	**07 41 35.1**	**+2.4**
NATX	**Nacogdoches** 76nm,0.9s,mb5.0	**21.10**	**340**	*eP*	**P**	**07 41 35.2**	**+1.1**
NATX				*epP*		07 41 56.9	
PCRV	**Puerto La Cruz** 164nm,0.7s,mb5.5,baz=247,slow=5.0,SNR=87	**21.46**	**93**	P	**P**	**07 41 41.0**	**+3.2**
PCRV				PcP	PcP	07 45 37.1	-0.3
GOGA	**Godfrey** 11nm,0.7s,baz=1.1,slow=18,SNR=7.2 104nm,0.9s,mb5.2	**21.51**	**7**	*eP*	**P**	**07 41 40.4**	**+2.3**
RGRS	**Roger Stewart**	**21.61**	**14**	*eP*	**P**	**07 41 41.8**	**+2.7**
CSU	**Charleston Sou**	**21.71**	**15**	*eP*	**P**	**07 41 42.8**	**+2.7**
NHSC	**New Hope** 336nm,1.1s,mb5.6	**21.80**	**14**	*eP*	**P**	**07 41 43.7**	**+2.8**
NHSC				*epP*		07 42 06.4	
TWB	**Tillmans-White**	**21.83**	**14**	*eP*	**P**	**07 41 44.3**	**+3.0**
COW	**Cow Castle Cre**	**21.95**	**13**	*eP*	**P**	**07 41 45.4**	**+3.1**
OXF	**Oxford** 127nm,0.8s,mb5.3	**22.60**	**354**	*eP*	**P**	**07 41 49.8**	**+1.0**
JSC	**Jenkinsville**	**22.70**	**11**	*eP*	**P**	**07 41 52.6**	**+2.9**
PLAL	**Pickwick Lake** 62nm,0.8s,mb5.0	**22.95**	**357**	*eP*	**P**	**07 41 53.3**	**+1.1**
UALR	**University of** 35nm,0.8s,mb4.7	**23.33**	**348**	*eP*	**P**	**07 41 56.6**	**+0.8**
MIAR	**Mount Ida** 50nm,0.8s,mb4.9	**23.39**	**345**	⇑*iP*	**P**	**07 41 57.4**	**+0.9**
MIAR				*epP*		07 42 21.5	
CPCT	**Cooper Cave**	**23.44**	**4**	⇑*iP*	**P**	**07 41 59.7**	**+2.9**
TXAR	**Lajitas Array** 51nm,0.6s,mb5.0,baz=140,slow=9.8,SNR=227	**23.58**	**320**	P	**P**	**07 41 59.6**	**+1.3**
TXAR				PcP	PcP	07 45 41.8	+0.2
TXAR	3.9nm,0.8s,baz=149,slow=7.3,SNR=5.6 2.8nm,1.0s,baz=90,slow=2.5,SNR=8.0			ScP		07 49 10.9	
HBAR	**Harrisburg**	**23.79**	**351**	*eP*	**P**	**07 42 01.2**	**+0.9**
WVT	**Waverly**	**24.08**	**357**	*eP*	**P**	**07 42 03.2**	**+0.1**
WVT	comp=Z,19nm,0.8s,mb4.5			pmax	pmax		
WVT	**Waverly** comp=Z,19nm,0.8s,mb4.5	**24.08**	**357**	*eP*	**P**	**07 42 03.2**	**+0.1**
GNAR	**Gosnell**	**24.11**	**353**	*eP*	**P**	**07 42 04.3**	**+1.0**
TZTN	**Tazewell**	**24.60**	**6**	⇑*iP*	**P**	**07 42 09.8**	**+1.7**
WMOK	**Wichita Mounta**	**25.29**	**336**	*eP*	**P**	**07 42 14.5**	**-0.1**
WMOK	comp=Z,47nm,0.8s,mb5.0			pmax	pmax		
WMOK	**Wichita Mounta** comp=Z,47nm,0.8s,mb5.0	**25.29**	**336**	*eP*	**P**	**07 42 14.4**	**-0.1**
ELN	**Prospectdale**	**25.66**	**11**	*eP*	**P**	**07 42 19.9**	**+1.9**
BLA	**Blacksburg**	**25.70**	**11**	*eP*	**P**	**07 42 20.0**	**+1.6**
BLA	comp=Z,24nm,0.6s,mb4.8			pmax	pmax		
BLA	**Blacksburg** comp=Z,24nm,0.6s,mb4.8	**25.70**	**11**	*eP*	**P**	**07 42 20.0**	**+1.6**
CLNB	**Carlsbad**	**25.79**	**324**	*eP*	**P**	**07 42 19.5**	**+0.3**
CLNB				*epP*	pP	07 42 44.1	-0.9
FWV	**Forest Hill**	**25.99**	**10**	*eP*	**P**	**07 42 22.2**	**+1.1**
GDL2	**Guadalupe Moun**	**26.03**	**323**	*eP*	**P**	**07 42 21.8**	**+0.4**
GDL2				*epP*	pP	07 42 47.1	-0.1
FVM	**French Village**	**26.15**	**353**	*eP*	**P**	**07 42 22.1**	**-0.4**
FVM	comp=Z,6.0nm,0.6s,mb4.2			pmax	pmax		
FVM	**French Village** comp=Z,5.7nm,0.6s,mb4.2	**26.15**	**353**	*eP*	**P**	**07 42 22.1**	**-0.4**
WCI	**Wyandotte Cave**	**26.15**	**0**	*eP*	**P**	**07 42 22.2**	**-0.3**
WCI	comp=Z,47nm,0.8s,mb5.0			pmax	pmax		
WCI	**Wyandotte Cave** comp=Z,47nm,0.8s,mb5.0	**26.15**	**0**	*eP*	**P**	**07 42 22.2**	**-0.3**
WCI				*epP*	pP	07 42 48.5	+0.3
MNTX	**Cornudas Mount** comp=Z,13nm,0.8s,mb4.4	**26.28**	**321**	*eP*	**P**	**07 42 23.4**	**-0.4**
CCM	**Cathedral Cave**	**26.33**	**351**	*eP*	**P**	**07 42 23.4**	**-0.7**
CCM				*e*		07 45 46.4	
CCM	comp=Z,60nm,1.0s,mb5.0			pmax	pmax		
CCM	**Cathedral Cave** comp=Z,60nm,1.0s,mb5.0	**26.33**	**351**	*eP*	**P**	**07 42 23.4**	**-0.7**
CCM				*ePcP*	PcP	07 45 46.4	-1.1
CPRX	**Cap Rock**	**26.36**	**325**	*eP*	**P**	**07 42 23.9**	**-0.5**
CPRX				*ePcP*	PcP	07 45 48.4	+0.7
AMTX	**Amarillo** comp=Z,20nm,0.7s,mb4.8	**26.69**	**331**	*eP*	**P**	**07 42 26.6**	**-0.9**
AMTX				*ePcP*	PcP	07 45 48.3	-0.1
BLO	**Bloomington**	**27.09**	**360**	*eP*	**P**	**07 42 30.1**	**-1.0**
BLO	comp=Z,38nm,0.6s,mb5.1			pmax	pmax		
BLO	**Bloomington** comp=Z,38nm,0.6s,mb5.1	**27.09**	**360**	*eP*	**P**	**07 42 30.1**	**-0.9**
CBN	**Corbin** comp=Z,56nm,0.5s,mb5.3	**27.35**	**16**	*eP*	**P**	**07 42 35.3**	**+1.9**
MCWV	**Mont Chateau** comp=Z,32nm,0.7s,mb5.0	**28.18**	**11**	*eP*	**P**	**07 42 41.4**	**+0.4**
ACSO	**Alum Creek Sta** comp=Z,111nm,1.1s,mb5.3	**28.31**	**6**	*eP*	**P**	**07 42 42.0**	**-0.1**
BBSR	**BB Station** comp=Z,60nm,0.8s,mb5.2	**28.48**	**41**	⇑*iP*	**P**	**07 42 46.1**	**+2.4**
KSU1	**Kansas State U**	**28.49**	**343**	⇑*iP*	**P**	**07 42 42.7**	**-1.1**
SDMD	**Soldier's Deli**	**28.62**	**16**	⇑*iP*	**P**	**07 42 46.2**	**+1.3**
SDMD				*epP*	pP	07 43 11.0	0.0
LPM	**Los Pinos Moun**	**28.86**	**324**	*eP*	**P**	**07 42 47.2**	**+0.1**
LENM	**Lemitar**	**28.96**	**323**	*eP*	**P**	**07 42 48.5**	**+0.6**
ANMO	**Albuquerque**	**29.22**	**325**	*eP*	**P**	**07 42 50.6**	**+0.3**
ANMO	comp=Z,12nm,0.9s			pmax	pmax		
ANMO	**Albuquerque** comp=Z,9.9nm,0.8s,mb4.5,baz=132,slow=5.8,SNR=42	**29.22**	**325**	P	**P**	**07 42 50.8**	**+0.5**
ANMO	comp=Z,0.7nm,0.4s,baz=120,slow=4.1,SNR=3.6			PcP	PcP	07 45 55.2	+0.7
ANMO	comp=Z,1.1nm,0.7s,baz=57,slow=3.6,SNR=3.3			ScP		07 49 26.1	
ANMO	**Albuquerque** comp=Z,12nm,0.9s,mb4.5	**29.22**	**325**	*eP*	**P**	**07 42 50.6**	**+0.3**
MVL	**Millersville**	**29.30**	**16**	⇑*iP*	**P**	**07 42 52.4**	**+1.4**
SSPA	**Standing Stone** comp=Z,69nm,0.8s,mb5.3	**29.52**	**13**	⇑*iP*	**P**	**07 42 54.2**	**+1.2**
ALLY	**Alegheny Colle**	**30.07**	**9**	*eP*	**P**	**07 42 58.3**	**+0.5**
AAM	**Ann Arbor** comp=Z,24nm,0.4s,mb5.2	**30.31**	**4**	*eP*	**P**	**07 42 59.7**	**-0.2**
ERPA	**Erie** comp=Z,193nm,0.8s,mb5.9	**30.55**	**9**	⇑*iP*	**P**	**07 43 02.2**	**+0.2**
SDCO	**Great Sand Dun** comp=Z,10nm,0.6s,mb4.7	**30.82**	**330**	*eP*	**P**	**07 43 04.9**	**+0.5**
PAL	**Palisades**	**30.94**	**19**	⇑*eP*	**P**	**07 43 06.7**	**+1.2**
PAL	comp=Z,34nm,0.8s,mb5.1			pmax	pmax		
PAL	**Palisades** comp=Z,34nm,0.8s,mb5.1	**30.94**	**19**	⇑*eP*	**P**	**07 43 06.7**	**+1.2**
JFWS	**Jewell Farm**	**31.00**	**355**	⇑*iP*	**P**	**07 43 05.0**	**-1.0**
JFWS	comp=Z,91nm,1.1s,mb5.4			pmax	pmax		
JFWS	**Jewell Farm** comp=Z,91nm,1.1s,mb5.4	**31.00**	**355**	⇑*iP*	**P**	**07 43 05.0**	**-1.0**
SAML	**Samuel** comp=Z,14nm,0.6s,mb4.9	**31.08**	**131**	⇑*iP*	**P**	**07 43 05.4**	**-1.6**
SAML				*eScP*		07 49 32.1	
BINY	**Binghamton** comp=Z,148nm,0.8s,mb5.8	**31.46**	**15**	⇑*iP*	**P**	**07 43 11.2**	**+1.2**
GENY	**Geneseo**	**31.58**	**12**	*eP*	**P**	**07 43 11.8**	**+0.8**
WUAZ	**Wupatki** comp=Z,26nm,1.0s,mb5.0	**32.54**	**320**	*eP*	**P**	**07 43 19.9**	**+0.5**
WUAZ				*ePcP*	PcP	07 46 02.7	-0.6
BRYW	**Bryant College**	**32.55**	**21**	⇑*iP*	**P**	**07 43 33.0**	**+14**
QUA2	**Belchertown** comp=Z,121nm,1.3s,mb5.6	**32.59**	**20**	⇑*eP*	**P**	**07 43 21.0**	**+1.3**
PV01	**Paradox Valley**	**32.70**	**327**	*eP*	**P**	**07 43 21.6**	**+0.8**
PV01				*ePcP*	PcP	07 46 04.2	+0.5
WES	**Weston** comp=Z,50nm,0.9s,mb5.3	**33.03**	**21**	*eP*	**P**	**07 43 24.7**	**+1.2**
PV10	**Paradox Valley**	**33.13**	**326**	*eP*	**P**	**07 43 24.4**	**-0.1**
PV10				*epP*	pP	07 43 49.4	-2.0
PV10				*ePcP*	PcP	07 46 05.0	+0.1
ACCN	**Adirondack Com**	**33.19**	**17**	⇑*eP*	**P**	**07 43 25.8**	**+0.9**
SADO	**Sadowa** comp=Z,69nm,0.8s,mb5.5,baz=213,slow=8.2,SNR=34	**33.27**	**9**	P	**P**	**07 43 25.7**	**+0.1**
LPAZ	**La Paz** comp=Z,2.6nm,0.4s,mb4.4,baz=342,slow=7.4,SNR=29	**33.41**	**147**	P	**P**	**07 43 28.7**	**+1.7**
LPAZ	comp=Z,2.5nm,0.6s,baz=18,slow=6.4,SNR=3.9			PcP	PcP	07 46 06.7	+0.8
LPAZ				ScP		07 49 41.8	
NCB	**Newcomb** comp=Z,80nm,1.2s,mb5.4	**33.58**	**16**	*eP*	**P**	**07 43 28.6**	**+0.3**
PHWY	**Pilot Hill**	**33.64**	**334**	*eP*	**P**	**07 43 29.2**	**+0.4**
PHWY				*ePcP*	PcP	07 46 06.1	-0.2
FFD	**Franklin Falls** comp=Z,93nm,1.0s,mb5.6	**33.89**	**19**	⇑*eP*	**P**	**07 43 26.7**	**-4.1**
HNH	**Hanover** comp=Z,3.2nm,0.8s,mb4.2	**33.90**	**19**	*eP*	**P**	**07 43 31.9**	**+0.9**
SRU	**San Rafael**	**34.47**	**326**	⇑*iP*	**P**	**07 43 36.3**	**+0.4**
SRU				*epP*	pP	07 44 01.0	-2.0
SRU				*ePcP*	PcP	07 46 08.7	0.0
RWWY	**Rawlins** comp=Z,14nm,0.9s,mb4.8	**34.73**	**332**	*eP*	**P**	**07 43 38.6**	**+0.5**
PFO	**Pinyon Flat Ob** comp=Z,4.6nm,0.9s,mb4.3	**34.85**	**313**	*eP*	**P**	**07 43 39.9**	**+0.6**
TMUT	**Trail Mountain**	**34.97**	**325**	*eP*	**P**	**07 43 40.8**	**+0.6**
TMUT				*ePcP*	PcP	07 46 11.1	+0.9
MSU	**Marysvale**	**34.99**	**324**	*eP*	**P**	**07 43 41.4**	**+1.1**
MSU				*epP*	pP	07 44 05.6	-1.9
MSU				*ePcP*	PcP	07 46 10.7	+0.4
ARUT	**Antelope Range**	**35.27**	**321**	*eP*	**P**	**07 43 43.1**	**+0.4**
ARUT				*epP*	pP	07 44 07.5	-2.3
RSSD	**Black Hills** comp=Z,7.3nm,0.6s,mb4.7	**35.44**	**338**	*eP*	**P**	**07 43 44.2**	**+0.1**
WVL	**Waterville** comp=Z,67nm,0.7s,mb5.7	**35.53**	**21**	*eP*	**P**	**07 43 46.5**	**+1.7**
DAU	**Daniels Canyon**	**35.79**	**327**	*eP*	**P**	**07 43 47.9**	**+0.9**
DAU				*epP*	pP	07 44 12.9	-1.3
DAU				*ePcP*	PcP	07 46 13.2	+0.6
JLU	**Jordanelle**	**36.02**	**327**	⇑*eP*	**P**	**07 43 49.8**	**+0.8**
JLU				*ePcP*	PcP	07 46 13.3	+0.1
EYMN	**Ely** comp=Z,39nm,1.1s,mb5.2	**36.11**	**354**	⇑*iP*	**P**	**07 43 48.0**	**-1.6**
TCUT	**Toone Canyon**	**36.37**	**327**	*eP*	**P**	**07 43 52.6**	**+0.7**
TCUT				*ePcP*	PcP	07 46 14.9	+0.7
PDAR	**Pinedale Array** comp=Z,6.8nm,0.6s,mb4.7,baz=125,slow=9.7,SNR=77	**36.67**	**331**	P	**P**	**07 43 54.5**	**+0.1**
PDAR				PcP	PcP	07 46 14.8	-0.3
PDAR	comp=Z,1.4nm,0.6s,baz=130,slow=5.6,SNR=4.8			ScP		07 49 49.7	
PDAR	comp=Z,0.7nm,0.5s,baz=129,slow=5.8,SNR=5.4			PKiKP		07 53 31.9	
PDAR	comp=Z,0.2nm,0.3s,baz=124,slow=3.3,SNR=5.4						
HWUT	**Hardware Ranch** comp=Z,19nm,0.7s,mb5.1	**36.80**	**328**	*eP*	**P**	**07 43 55.5**	**0.0**
HWUT				*epP*	pP	07 44 21.4	-1.5
HWUT				*ePcP*	PcP	07 46 15.2	-0.3
SIV	**San Ignacio** comp=Z,112nm,0.7s,mb5.9,baz=310,slow=8.8,SNR=468	**37.44**	**137**	P	**P**	**07 44 01.4**	**+0.3**
SIV				PcP	PcP	07 46 17.8	+0.1
SIV	comp=Z,8.5nm,0.6s,baz=336,slow=2.6,SNR=3.8			ScP		07 49 55.5	
REDW	**Red Top Meadow** comp=Z,3.3nm,0.7s,baz=280,slow=8.9,SNR=5.6	**37.74**	**330**	⇑*iP*	**P**	**07 44 04.0**	**+0.7**
REDW	comp=Z,32nm,0.7s,mb5.2			*epP*	pP	07 44 29.1	-1.7
SNOW	**Snow King Moun** comp=Z,26nm,0.7s,mb5.2	**37.77**	**331**	*eP*	**P**	**07 44 03.9**	**+0.3**
LOHW	**Long Hollow** comp=Z,8.6nm,0.6s,mb4.8	**37.81**	**331**	*eP*	**P**	**07 44 04.0**	**+0.1**

MAN ***01*** *07:22:13.0, 17.46N×119.99E, h27km, mb4.3, ML3.1, MS2.9*

ISC 01 07:22:13.5±2.1, 17.4N±0.1×120.0E±0.2, h30km±17km, n9, σ0 56/12, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.73**	**72**	*eP*	**Pb**	**07 22 27.4**	**-0.2**
BOLP	**Bolinao**	**1.04**	**184**	*iP*	**Pn**	**07 22 32.0**	**-0.1**
BCPH	**Baguio City Da**	**1.18**	**151**	⇑*iP*	**Pn**	**07 22 33.8**	**-0.4**
BCPH				*i* S	**Sn**	**07 22 48.6**	**-0.7**
APYP	**Conner**	**1.27**	**70**	*eP*	**Pn**	**07 22 35.1**	**-0.3**
APYP				*eS*	**Sn**	**07 22 51.3**	**-0.4**
CVP	**Callao Caves**	**1.77**	**81**	⇓*eP*	**Pn**	**07 22 42.0**	**-0.6**
CVP				*i* S	**Sn**	**07 23 04.8**	**+0.5**
CAUP	**Cauayan**	**1.82**	**105**	*iP*	**Pn**	**07 22 44.3**	**+1.0**
PCPH	**Palayan**	**2.13**	**150**	⇓*iP*	**Pn**	**07 22 48.9**	**+1.1**
BALP	**Baler**	**2.26**	**137**	*eP*	**Pn**	**07 22 49.5**	**-0.2**
PALP	**Palanan**	**2.36**	**98**	*iP*	**Pn**	**07 22 51.2**	**+0.2**

HRVD ***01*** *07:36:58.3±0.3, 11.98N×86.58W, h120km±2km, MW5.0/62, Centroid moment Tensor Solution. LP body waves: s35,c45;Mantle waves: s62,c107; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.52±.16; $M_{\theta\theta}$-2.58±.16; $M_{\phi\phi}$0.05±.18; $M_{r\theta}$2.40±.10; $M_{\theta\phi}$-1.71±.15; $M_{r\phi}$-2.89±.12; Best double couple: $M_0$4.58×10^{16} NP1: ϕ_s218°, δ43°, λ33°. NP2:ϕ_s103°, δ68°, λ128°. Principal axes: T 5.502, Plg51°, Azm57°; N -1.851, Plg35°, Azm267°; P -3.658, Plg15°, Azm166°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***01*** *07:36:58.3, 11.90N×86.40W, h112km, mB5.0*

NEIC ***01*** *07:36:58.3±0.2, 11.94N×86.39W, mb4.9/93, Error ellipse: s-maj=6.4km s-min=4.3km az=43.0*

CASC ***01*** *07:36:59.5±1.7, 11.99N×86.56W, h106km±7km, MD4.7, mb4.9(NEIC)*

IDC ***01*** *07:36:59.1±0.6, 12.23N×86.15W, h114km±4km, mb4.4/24, mb1 4.6/24, mb1mx4.5/26, mbtmp4.8/24, MS4.0/3, Ms1 3.9/3, ms1mx3.0/34, Error ellipse: s-maj=16.9km s-min=7.8km az=62.0*

MOS ***01*** *07:37:02.7±0.7, 12.27N×86.15W, h159km, mb4.8/33, Error ellipse: s-maj=13.9km s-min=7.4km az=74.1*

ISC 01 07:36:57.7±0.2, 11.97N±0.03×86.43W±0.03, h121km±1km, h114km±1.2km:pP-P, n349, σ1 9 17/311, mb4.9/113, 55C-26D,

LOHW *e*PcP PcP 07 46 19.0 +0.4
TPAW Teton Pass 37.88 331 *e*P **P 07 44 05.1 +0.6**
comp=Z,17nm,0.7s,mb5.0
TPAW *e*PcP PcP 07 46 19.9 +1.1
RRI2 Red Ridge 37.95 330⇑ *e*P **P 07 44 05.7 +0.5**
comp=Z,16nm,0.7s,mb5.0
RRI2 *e*pP pP 07 44 31.8 -0.8
RRI2 *e*PcP PcP 07 46 19.2 +0.2
MOOW Moose Ponds 37.98 331 *e*P **P 07 44 05.4 +0.1**
comp=Z,9.9nm,0.8s,mb4.7
IMW Indian Meadow 38.18 331 *e*P **P 07 44 07.4 +0.4**
comp=Z,6.3nm,0.6s,mb4.6
IMW *e*PcP PcP 07 46 20.1 +0.4
LVC Limon Verde 38.42 153 *e*P **P 07 44 10.9 +1.6**
comp=Z,11nm,0.6s,mb4.9
LVC *i* 07 44 17.6
LVC *e*pP pP 07 44 35.3 -1.4
LVC *e*PcP PcP 07 46 22.3 +1.5
LAO LASA Array 38.43 338 *e*P **P 07 44 08.9 -0.2**
comp=Z,17nm,0.6s,mb5.1
LAO *e*pP pP 07 44 35.0 -1.5
YFT Old Faithful 38.55 332 *e*P **P 07 44 11.8 +1.7**
YFT *e*PcP PcP 07 46 22.6 +1.7
MNV Mina 38.62 319 *e*P **P 07 44 11.8 +1.1**
comp=Z,5.6nm,0.7s,mb4.5
MNV *e*PcP PcP 07 46 21.6 +0.4
NVAR Mina Array Bea 38.72 318 P **P 07 44 13.2 +1.6**
comp=Z,8.8nm,0.7s,mb4.7,baz=129,slow=6.9,SNR=53
NVAR PcP PcP 07 46 22.1 +0.6
comp=Z,8.7nm,0.7s,baz=135,slow=3.8,SNR=18
NVAR ScP 07 49 59.9
comp=Z,0.8nm,0.6s,baz=138,slow=4.2,SNR=5.0
YMR Madison River 38.78 332 *e*P **P 07 44 12.6 +0.6**
ULM Lac du Bonnet 38.95 350 P **P 07 44 12.1 -1.2**
comp=Z,47nm,0.8s,mb5.4,baz=166,slow=8.8,SNR=74
ULM PcP PcP 07 46 20.6 -1.5
comp=Z,6.5nm,0.8s,baz=191,slow=4.6,SNR=3.2
QLMT Earthquake Lak 39.12 332 *e*P **P 07 44 15.8 +1.0**
BMN Battle Mountai 39.21 322 *e*P **P 07 44 16.7 +1.1**
comp=Z,28nm,1.1s,mb5.0
BMN *e*pP pP 07 44 43.7 +0.5
HLID Hailey 39.67 328 *e*P **P 07 44 19.7 +0.3**
comp=Z,5.8nm,0.6s,mb4.6
HLID *e*PcP PcP 07 46 24.6 +0.1
MCMT McKenzie Canyo 39.79 330 *e*P **P 07 44 21.4 +1.1**
WCN Washoe City 40.14 319 *e*P **P 07 44 23.4 +0.1**
comp=Z,6.0nm,1.1s,mb4.3
HRY Holter Researc 40.73 333 *e*P **P 07 44 28.1 +0.1**
WVOR Wild Horse Val 41.28 323⇑ *e*P **P 07 44 33.1 +0.5**
comp=Z,17nm,0.7s,mb5.0
WVOR *e*PcP PcP 07 46 29.7 0.0
CHMT Chamberlain Mo 41.52 332 *e*P **P 07 44 34.9 +0.3**
BMO Blue Mountains 42.08 327 *e*P **P 07 44 38.3 -0.8**
comp=Z,15nm,1.2s,mb4.6
YBH Yreka Blue Hor 43.35 320 P **P 07 44 48.4 -1.2**
comp=Z,3.8nm,1.0s,mb4.1,baz=159,slow=6.0,SNR=5.4
YBH PcP PcP 07 46 36.5 -0.1
comp=Z,2.7nm,0.7s,baz=54,slow=3.3,SNR=6.0
BUOR Burton Butte 43.36 321 P **P 07 44 50.0 +0.4**
KHMM Horse Mountain 43.56 318 *e*P **P 07 44 51.9 +0.6**
HAWA Hanford 44.27 327 *e*P **P 07 44 56.0 -0.8**
NEW Newport 44.31 331 P **P 07 44 56.6 -0.5**
comp=Z,3.4nm,0.7s,mb4.2,baz=150,slow=6.4,SNR=6.9
NEW PcP PcP 07 46 37.7 -2.1
comp=Z,1.1nm,0.3s,baz=112,slow=5.4,SNR=2.4
GBL Gable Mountain 44.36 327 P **P 07 44 57.6 +0.1**
FFC Flin Flon 44.38 347 P **P 07 44 57.7 +0.1**
comp=Z,134nm,1.0s,mb5.6,SNR=22
GBB Gable Butte 44.45 327 P **P 07 44 58.3 0.0**
MDW Midway 44.53 327 P **P 07 44 58.9 0.0**
MXC Moxie City 44.79 327 P **P 07 45 01.7 +0.7**
SCHQ Schefferville 45.45 16 P **P 07 45 05.8 -0.4**
comp=Z,30nm,0.5s,mb5.3,baz=215,slow=6.4,SNR=228
SCHQ PcP PcP 07 46 41.2 -2.5
comp=Z,2.3nm,0.3s,baz=247,slow=5.0,SNR=3.3
SCHQ LR LR 08 04 35.7
comp=Z,182nm,18.2s,baz=216,slow=37
SCHQ Schefferville 45.45 16 P **P 07 45 05.8 -0.4**
SCHQ PcP PcP 07 46 41.2 -2.5
SCHQ LR LR 08 04 35.8
WRW Wenatchee Ridg 45.91 328 P **P 07 45 10.2 +0.3**
EDM Edmonton 46.42 338⇑ *e*P **P 07 45 12.8 -1.1**
CFAA Coronel Fontan 46.71 159 P **P 07 45 17.9 +1.5**
comp=Z,2.4nm,0.5s,mb4.2,baz=335,slow=6.4,SNR=42
CFAA PcP PcP 07 46 49.1 +0.7
comp=Z,0.8nm,0.5s,baz=319,slow=3.2,SNR=3.8
CFAA ScP 07 50 33.0
comp=Z,0.1nm,0.5s,baz=315,slow=2.9,SNR=3.2
CFAA Coronel Fontan 46.71 159 P **P 07 45 17.9 +1.5**
CFAA PcP PcP 07 46 49.1 +0.7
CFAA ScP 07 50 33.0
BDFB Brasilia 46.89 125 P **P 07 45 17.1 -0.9**
comp=Z,29nm,0.7s,mb5.1,baz=295,slow=8.9,SNR=60
BDFB PcP PcP 07 46 48.6 -0.6
comp=Z,4.1nm,0.7s,baz=266,slow=5.4,SNR=2.3
BDFB ScP 07 50 33.4
comp=Z,2.4nm,0.5s,baz=160,slow=6.1,SNR=5.1
BAO Brasilia Array 46.90 125 P **P 07 45 17.0 -1.1**
BAO pP pP 07 45 44.0 -2.2
BAO sP sP 07 45 57.0 -2.9
FCC Fort Churchill 47.05 355 *e*P **P 07 45 17.7 -1.0**
comp=Z,16nm,0.7s,mb4.9
FCH Farellones 47.60 162 *e*P **P 07 45 25.6 +2.3**
RCBR Riachuelo 53.27 107⇑ *e*P **P 07 46 05.6 -1.0**
comp=Z,57nm,0.8s,mb5.7
RCBR *e*PcP PcP 07 47 09.9 -2.7
YKA Yellowknife Ar 54.33 344 P **P 07 46 11.9 -1.8**
YKA 07 47 14.2
YKA Yellowknife Ar 54.33 344 P **P 07 46 11.8 -1.9**
comp=Z,9.6nm,0.9s,mb4.8,baz=139,slow=7.3,SNR=98
YKA pP pP 07 46 39.6 -2.9
comp=Z,4.7nm,0.8s,baz=140,slow=7.3,SNR=4.5
YKA PcP PcP 07 47 14.1 -1.9
comp=Z,3.2nm,0.6s,baz=144,slow=4.0,SNR=18
YKA ScP 07 51 03.1
comp=Z,0.2nm,0.4s,baz=141,slow=4.3,SNR=5.7
YKA Yellowknife Ar 54.33 344 P **P 07 46 11.8 -1.9**
YKA pP pP 07 46 39.6 -2.9
YKA PcP PcP 07 47 14.2 -1.9
YKA ScP 07 51 03.1
YKW3 Yellowknife Ar 54.39 344 *e*P **P 07 46 12.1 -2.0**
YKW3 *e*pP pP 07 46 40.4 -2.6
YKW3 *e*PcP PcP 07 47 15.2 -1.1
PLCA Paso Flores 54.46 165 P **P 07 46 15.8 +0.9**
comp=Z,32nm,0.7s,mb5.5,baz=338,slow=8.0,SNR=104
PLCA PcP PcP 07 47 17.6 +0.8
comp=Z,14nm,0.8s,baz=324,slow=4.2,SNR=7.1
TRQA Tornquist 54.78 156 *e*P **P 07 46 17.0 -0.4**
comp=Z,23nm,1.1s,mb5.1
TRQA *e*PcP PcP 07 47 18.3 +0.2
DLBC Dease Lake 56.77 334 P **P 07 46 31.2 -0.1**
comp=Z,7.5nm,0.9s,mb4.7,baz=133,slow=8.6,SNR=11
DLBC pP pP 07 46 56.9 -3.4
comp=Z,2.9nm,0.7s,baz=108,slow=1.8,SNR=3.1
DLBC Dease Lake 56.77 334 P **P 07 46 31.2 -0.1**
DLBC pP pP 07 46 56.9 -3.4
COYC Coyhaique 58.72 168 *e*P **P 07 46 46.1 +0.9**
RKT Rikitea 58.94 234 *e*LR LR 08 04 17.3
comp=Z,101nm,40.8s
RES Resolute Bay 62.88 357⇑ *i*P **P 07 47 10.7 -2.2**
RES pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
RES Resolute Bay 62.88 357⇑ *i*P **P 07 47 10.7 -2.2**
comp=Z,7.9nm,0.8s,mb4.7
RES *e*pP pP 07 47 39.3 -3.2
INK Inuvik 63.96 342⇑ *e*P **P 07 47 18.3 -1.6**
INK *e**PP pP 07 47 47.4 -2.2
INK pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 63.96 342 P **P 07 47 18.8 -1.2**
comp=Z,10.0nm,0.8s,mb4.7,baz=125,slow=6.7,SNR=36
INK pP pP 07 47 46.9 -2.8
comp=Z,7.7nm,0.9s,baz=109,slow=8.0,SNR=4.5
INK PKIKP 07 53 57.6
comp=Z,0.5nm,0.5s,baz=140,slow=5.6,SNR=5.3
INK Inuvik 63.96 342⇑ *e*P **P 07 47 18.3 -1.6**
comp=Z,15nm,0.9s,mb4.8
INK *e*pP pP 07 47 47.4 -2.2
SUMG Summit 66.80 14 *e*P **P 07 47 37.3 -0.8**
comp=Z,17nm,0.9s,mb4.9
SUMG *e*PcP PcP 07 48 06.1 +0.3
COLA College 67.28 336⇓ *e*P **P 07 47 39.9 -1.3**
USHA Ushuaia 68.26 169 P **P 07 47 48.9 +1.5**
comp=Z,25nm,0.9s,mb5.0,baz=293,slow=1.8,SNR=10
PPT Papeete 68.91 246 *e*S S 07 57 04.5 +19
PPT *e*LR LR 08 08 44.1
comp=Z,218nm,31.5s
PPT Papeete 68.91 246 LR LR 08 10 58.8
comp=Z,101nm,18.1s,baz=62,slow=29
IMA Indian Mountai 69.97 336 *e*P **P 07 47 56.5 -1.2**
TBI Tubuai 70.94 240 *e*LR LR 08 09 39.1
comp=Z,139nm,32.0s
DAG Danmarks Havn 73.39 13⇑ *i*P **P 07 48 16.0 -1.8**
DAG pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
DAG Danmarks Havn 73.39 13⇑ *i*P **P 07 48 16.0 -1.8**
comp=Z,5.9nm,0.4s,mb4.8
DAG *i* pP 07 48 45.9 -2.4
EVO Evora 73.62 53 *e*P **P 07 48 18.2 -1.6**
comp=Z,12nm,0.6s,mb4.5
ESK Eskdalemuir 76.40 36 *e*P **P 07 48 33.8 -1.5**
ESK pmax pmax
comp=Z,19nm,0.9s,mb4.8
ESK Eskdalemuir 76.40 36 *e*P **P 07 48 33.8 -1.5**
comp=Z,18nm,0.9s,mb4.8
ROSF Rostrenen 76.62 43 *e*P **P 07 48 35.0 -1.7**
comp=Z,44nm,1.0s,mb4.8
ROSF Rostrenen 76.62 43 *e*P **P 07 48 35.0 -1.7**
ROSF pmax pmax
comp=Z,22nm,1.0s,mb4.8
ESDC Sonseca Array 76.70 52 P **P 07 48 36.5 -0.8**
comp=Z,4.1nm,0.6s,mb4.3,baz=280,slow=5.5,SNR=16
ESDC pP pP 07 49 06.8 -1.3
comp=Z,8.0nm,1.0s,baz=283,slow=5.8,SNR=2.9
QUIF Quistinic 76.72 43 *e*P **P 07 48 35.8 -1.4**
comp=Z,48nm,0.7s,mb5.0
QUIF Quistinic 76.72 43 *e*P **P 07 48 35.8 -1.4**
QUIF pmax pmax
comp=Z,24nm,0.7s,mb5.0
SGMF Saint Gilles 77.11 43 *e*P **P 07 48 37.6 -1.8**
comp=Z,18nm,0.7s,mb4.6
SGMF Saint Gilles 77.11 43 *e*P **P 07 48 37.6 -1.8**
SGMF pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
GRR Gorron 78.23 43 *e*P **P 07 48 43.0 -2.5**
comp=Z,50nm,0.8s,mb5.0
GRR Gorron 78.23 43 *e*P **P 07 48 43.0 -2.5**
GRR pmax pmax
comp=Z,25nm,0.8s,mb5.0
FLN La Foliniere 78.45 42 *e*P **P 07 48 45.2 -1.5**
comp=Z,32nm,0.8s,mb4.8
FLN La Foliniere 78.45 42 *e*P **P 07 48 45.2 -1.5**
FLN pmax pmax
comp=Z,16nm,0.8s,mb4.8
SJPF Ste Jean 78.45 48 *e*P **P 07 48 46.1 -0.8**
comp=Z,22nm,0.7s,mb4.7
SJPF Ste Jean 78.45 48 *e*P **P 07 48 46.1 -0.8**
SJPF pmax pmax
comp=Z,11nm,0.7s,mb4.7
LDF La Druitiere 78.70 43 *e*P **P 07 48 46.6 -1.5**
comp=Z,25nm,0.7s,mb4.8
LDF La Druitiere 78.70 43 *e*P **P 07 48 46.6 -1.5**
LDF pmax pmax
comp=Z,12nm,0.7s,mb4.8
MFF Saint Martin d 78.87 45 *e*P **P 07 48 47.6 -1.5**
comp=Z,46nm,0.8s,mb5.1
MFF Saint Martin d 78.87 45 *e*P **P 07 48 47.6 -1.5**
MFF pmax pmax
comp=Z,23nm,0.8s,mb5.1
ETSF Etsaut 78.95 48 *e*P **P 07 48 48.8 -0.8**
comp=Z,14nm,0.7s,mb4.6
ETSF Etsaut 78.95 48 *e*P **P 07 48 48.8 -0.8**
ETSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
EPF Esparros 79.60 48 *e*P **P 07 48 52.0 -1.1**
LFF La Frestale 79.66 46 *e*P **P 07 48 52.1 -1.3**
comp=Z,40nm,0.7s,mb5.0
LFF La Frestale 79.66 46 *e*P **P 07 48 52.1 -1.3**
LFF pmax pmax
comp=Z,20nm,0.7s,mb5.1
RJF Les Rejaudoux 80.17 46 *e*P **P 07 48 54.5 -1.6**
DBIC Dimbokro 80.43 85 P **P 07 48 56.2 -1.9**
comp=Z,5.1nm,0.8s,mb4.4,baz=295,slow=3.2,SNR=9.1
TCF Toulx Ste Croi 80.53 45 *e*P **P 07 48 56.2 -1.8**
comp=Z,22nm,0.7s,mb4.8
TCF Toulx Ste Croi 80.53 45 *e*P **P 07 48 56.2 -1.8**
TCF pmax pmax
comp=Z,11nm,0.7s,mb4.8
CAF Calviac 80.60 46 *e*P **P 07 48 57.0 -1.4**
comp=Z,15nm,0.9s,mb4.5
CAF Calviac 80.60 46 *e*P **P 07 48 57.0 -1.4**
CAF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MTLF Montolieu 80.92 48 *e*P **P 07 48 58.6 -1.6**
BGF Bois d'Agland 80.93 44 *e*P **P 07 48 58.3 -1.8**
comp=Z,24nm,0.6s,mb4.9
BGF Bois d'Agland 80.93 44 *e*P **P 07 48 58.3 -1.8**
BGF pmax pmax
comp=Z,12nm,0.6s,mb4.9
AVF Avril sur Loir 81.24 44 *e*P **P 07 48 59.5 -2.3**
comp=Z,8.2nm,0.8s,mb4.3
AVF Avril sur Loir 81.24 44 *e*P **P 07 48 59.5 -2.3**
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
SSF Saint Saulge 81.31 44 *e*P **P 07 48 59.9 -2.2**
SMF Signal de Mont 81.59 44 *e*P **P 07 49 01.4 -2.2**
comp=Z,13nm,0.7s,mb4.6
SMF Signal de Mont 81.59 44 *e*P **P 07 49 01.4 -2.2**
SMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
LASF Ste Croix 81.99 47 *e*P **P 07 49 04.8 -0.9**
VIVF Saint-Julien-l 82.44 46 *e*P **P 07 49 07.2 -0.8**
HAU Haudompre 83.06 43 *e*P **P 07 49 09.4 -1.7**
comp=Z,12nm,0.8s,mb4.5
HAU Haudompre 83.06 43 *e*P **P 07 49 09.4 -1.7**
HAU pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
CABF La Chapelle 83.13 44 *e*P **P 07 49 10.0 -1.4**
comp=Z,15nm,0.9s,mb4.5
CABF La Chapelle 83.13 44 *e*P **P 07 49 10.0 -1.4**
CABF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
NB2 NORSAR Subarra 83.30 29 P **P 07 49 11.0 -1.0**
comp=Z,6.0nm,0.8s,mb4.5,baz=282,slow=5.0
NOA NORSAR Array B 83.30 29 P **P 07 49 11.3 -0.7**
comp=Z,3.9nm,0.8s,mb4.3,baz=285,slow=5.0,SNR=12
HINF Hinteralfeld 83.42 43 *e*P **P 07 49 11.1 -1.8**
CDF Champ du Feu 83.59 42 *e*P **P 07 49 12.3 -1.5**
LPL La Plagne 83.77 45 *e*P **P 07 49 14.1 -0.6**
comp=Z,7.6nm,0.6s,mb4.4
LPL La Plagne 83.77 45 *e*P **P 07 49 14.1 -0.6**
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
MBDF Montbardon 83.94 46 *e*P **P 07 49 13.9 -1.7**
LMR La Mourre 84.01 47 *e*P **P 07 49 14.4 -1.6**
BILL Bilibino 85.32 339⇑ *e*P **P 07 49 21.6 -0.3**
BILL pmax pmax
comp=Z,14nm,1.2s,mb4.8
BILL Bilibino 85.32 339 *e*P **P 07 49 21.9 0.0**
comp=Z,12nm,0.9s,mb4.8
GRA1 Grafenberg Arr 85.86 40 *e*P **P 07 49 23.9 -1.1**
comp=Z,7.0nm,1.1s,mb4.5
GRF Grafenberg Arr 85.86 40 *e*P **P 07 49 23.9 -1.1**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GRF Grafenberg Arr 85.86 40 *e*P **P 07 49 23.9 -1.1**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GRF Grafenberg Arr 85.86 40 *e*P **P 07 49 23.9 -1.1**
comp=Z,7.0nm,1.1s,mb4.5
MOX Moxa 85.89 39 *e*P **P 07 49 24.3 -0.8**
MOX MLR MLR
comp=Z,300nm,18.0s
MOX Moxa 85.89 39 *i*P **P 07 49 24.3 -0.8**
MOX L 08 16 21.0
PGF Pioggiola 85.96 48 *e*P **P 07 49 23.3 -2.3**
comp=Z,48nm,1.1s,mb5.0
PGF Pioggiola 85.96 48 *e*P **P 07 49 23.3 -2.3**
PGF pmax pmax
comp=Z,24nm,1.1s,mb5.0
ARCES ARCESS Array B 86.31 19 P **P 07 49 25.8 -0.9**
comp=Z,1.9nm,0.5s,mb4.3,baz=270,slow=4.7,SNR=14
ARCES PKKPbc 08 07 24.6
comp=Z,2.5nm,0.8s,baz=153,slow=2.0,SNR=11
CLL Collm 86.57 38 P **P 07 49 28.0 -0.4**
KHC Kasperske Hory 87.50 40 *e*P **P 07 49 31.9 -1.0**
GERES GERESS Array B 87.65 41 P **P 07 49 32.4 -1.2**
comp=Z,0.6nm,0.3s,mb4.0,baz=256,slow=5.5,SNR=6.1
GERES pP pP 07 50 03.7 -1.4
comp=Z,0.9nm,0.8s,baz=270,slow=4.0,SNR=1.9
FINES FINESS Array B 89.96 26 P **P 07 49 42.9 -1.3**
comp=Z,0.8nm,0.6s,mb4.0,baz=297,slow=4.3,SNR=6.5
FINES PKKPbc 08 07 16.3
comp=Z,1.4nm,0.8s,SNR=5.7
FINES FINESS Array B 89.96 26 P **P 07 49 42.9 -1.3**
FINES PKKPbc 08 07 16.3
TIXI Tiksi 93.30 349⇓ *e*P **P 07 49 58.6 -0.9**
TIXI pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
TIXI MLR MLR
comp=Z,400nm,21.0s
AKASG Malin Array Be 96.33 35 PP PP 07 54 06.3 -4.5
comp=Z,0.2nm,0.2s,baz=299,slow=6.4,SNR=5.5
AKASG PKKPbc 08 06 59.5
comp=Z,0.5nm,0.4s,baz=93,slow=2.9,SNR=4.7
VNA3 Neumayer Olymp 97.04 162⇑ *i*P **P 07 50 17.5 +1.0**
VNA3 *e* 07 50 43.0
VNA3 *e* 07 50 55.7
VNA1 Neumayer--Stat 97.32 161⇑ *i*P **P 07 50 17.9 +0.1**
VNA2 Neumayer--Watz 97.67 161⇑ *i*P **P 07 50 20.2 +0.8**
VNA2 *e* pP 07 50 48.0 -3.1
VNA2 *e* 07 51 00.6
OBN Obninsk 97.90 29 *e*P **P 07 50 18.9 -1.8**
OBN pmax pmax
comp=Z,6.0nm,1.5s,mb4.9
SNAA Sanae 99.26 161 P **P 07 50 28.3 +1.7**
comp=Z,0.9nm,0.5s,mb4.5,baz=354,slow=22,SNR=11
BRTR Keskin Array B 104.30 44 PKKPbc 08 06 38.0
comp=Z,1.1nm,0.6s,baz=154,slow=5.0,SNR=3.8
ARU Arti 105.89 19 P Pdif 07 50 57.6 +1.3
ARU pmax pmax
comp=Z,14nm,0.7s
ARU Arti 105.89 19 Pdif Pdif 07 50 57.6 +1.3
comp=Z,14nm,0.7s
BVAR Borovoye Array 112.28 15 PP PP 07 56 03.4 -6.8
comp=Z,1.2nm,0.8s,baz=315,slow=6.3,SNR=3.8
BVAR PKKPbc 08 06 09.6
comp=Z,0.9nm,0.6s,baz=162,slow=4.6,SNR=5.3
ZAL Zalesovo 113.93 6 PKKPbc 08 06 04.5
comp=Z,1.3nm,0.4s,baz=296,slow=4.9,SNR=3.5
ZAL PKKPab 08 06 12.1
comp=Z,1.8nm,0.3s,baz=289,slow=3.3,SNR=8.0
BOSA Boshof 114.59 116 PKP PKPdf 07 55 25.3 +1.2
comp=Z,2.8nm,0.4s,baz=212,slow=1.4,SNR=12
BOSA PKKPbc 08 06 06.4
comp=Z,4.8nm,0.6s,baz=141,slow=1.5,SNR=11
LBTB Lobatse 114.81 112 PKP PKPdf 07 55 25.8 +1.1
comp=Z,2.4nm,0.5s,baz=298,slow=2.5,SNR=7.8
LBTB PKKPbc 08 06 05.7
comp=Z,1.7nm,0.6s,baz=143,slow=4.6,SNR=6.0
LBTB Lobatse 114.81 112 PKP PKPdf 07 55 25.8 +1.1
LBTB PKKPbc 08 06 05.7
MDJ Mudanjiang 114.89 332 PKP PKPdf 07 55 25.5 +1.1
CN2 Changchun 117.36 334 *e*PKP PKPdf 07 55 32.9 +3.8
SONM Songino Array 119.38 350 PKP PKPdf 07 55 33.6 +0.7
comp=Z,1.2nm,0.3s,baz=279,slow=0.7,SNR=10
SONM PKKPbc 08 05 47.5
comp=Z,1.5nm,0.4s,baz=189,slow=4.3,SNR=18
MKAR Makanchi Array 120.64 9 PKP PKPdf 07 55 35.0 -0.4
comp=Z,0.6nm,0.6s,baz=314,slow=2.4,SNR=10
MAW Mawson 120.85 167 PKP PKPdf 07 55 37.0 +1.6
comp=Z,4.3nm,0.6s,baz=225,slow=4.3,SNR=6.6
WMQ Urumqi 124.22 5 ⇓PKP PKPdf 07 55 45.9 +3.5
WMQ PP PP 07 57 35.9 +2.4
WMQ PKS PKS 07 59 21.4 +3.3
WMQ SKS SKS 08 02 43.9 +11
WMQ SKKS 08 04 14.9
WMQ PP PP
comp=Z,109nm,5.4s
WMQ LR LR
comp=N,260nm,17.2s
WMQ LR LR
comp=E,234nm,20.6s
WMQ LR LR
comp=Z,266nm,19.8s
CNB Canberra Magne 124.65 235 ⇓*i*PKP PKPdf 07 55 46.5 +3.0
comp=Z,28nm,0.9s
TOO Toolangi 127.21 232 *e*PKP PKPdf 07 55 51.3 +3.0
comp=Z,1.2nm,0.7s
GTA Gaotai 128.55 354 PKP PKPdf 07 55 52.0 +1.1
GTA PP PP 07 58 03.6 +1.3
GTA LR LR
comp=N,199nm,29.7s
GTA LR LR
comp=E,232nm,24.3s
GTA LR LR
comp=Z,126nm,19.4s
CTA Charters Tower 128.90 254 ⇓*i*PKP PKPdf 07 55 55.1 +3.0
comp=Z,15nm,1.0s
CTA Charters Tower 128.90 254 PKP PKPdf 07 55 55.0 +3.0
comp=Z,17nm,0.9s,baz=92,slow=2.1,SNR=15
CTA SKPbc 07 59 06.7
comp=Z,13nm,1.0s,baz=80,slow=3.2,SNR=4.0
SSE Sheshan 129.63 329 *e*PKP PKPdf 07 55 56.2 +3.0
LZH Lanzhou 131.23 349 *e*PKP PKPdf 07 55 56.5 +0.4
LZH *e*PP PP 07 58 19.5 -0.2
LZH *e*SS SS 08 15 38.2 -0.2
LZH PP PP
comp=Z,95nm,7.9s
LZH LR LR
comp=N,187nm,18.2s
LZH LR LR
comp=Z,249nm,20.0s
LZH Lanzhou 131.23 349 *e*PKP PKPdf 07 55 56.5 +0.4
LZH pPKP 07 56 23.5
LZH sPKP 07 56 31.8
LZH *e*PP PP 07 58 19.5 -0.2
LZH *e*SS SS 08 15 38.2 -0.2
LZH LR LR
comp=Z,250nm,20.0s
STKA Stephens Creek 131.69 238 *e*PKP PKPdf 07 55 59.6 +2.5
comp=Z,18nm,0.6s
STKA Stephens Creek 131.69 238 PKP PKPdf 07 55 59.4 +2.3
comp=Z,18nm,0.6s,baz=88,slow=1.7,SNR=51
STKA SKPbc 07 59 14.6
comp=Z,8.6nm,1.2s,baz=104,slow=4.2,SNR=3.7
OPO Ambohidratompo 134.88 104 PKP PKPdf 07 56 06.9 +3.6
comp=Z,3.8nm,0.8s,baz=283,slow=2.6,SNR=6.3
OPO SKPbc 07 59 26.2
comp=Z,5.8nm,1.1s,baz=196,slow=7.2,SNR=3.9
ENH Enshi 135.29 340 *e*PKPdf PKPdf 07 56 04.9 +1.1
GYA Guiyang 139.73 342 *i*PKP PKPdf 07 56 17.8 +5.8
GYA XPKP 07 56 55.2
GYA PP PP
comp=Z,130nm,8.0s
ASAR Alice Springs 140.01 247 PKhKP 07 56 06.2
comp=Z,5.1nm,0.4s,baz=110,slow=3.5,SNR=57
ASAR PKP PKPdf 07 56 15.4 +2.9
comp=Z,27nm,0.8s,baz=111,slow=2.3,SNR=52
ASAR SKPbc 07 59 40.6
comp=Z,3.7nm,0.7s,baz=106,slow=2.9,SNR=9.2
ASPA Alice Springs 140.02 247 *e*PKP PKPdf 07 56 15.8 +3.2
ASPA Alice Springs 140.02 247 *e*PKHKP 07 56 07.6
ASPA *e* 07 56 15.8
WB2 Warramunga Arr 140.08 253 *e*PKP PKPdf 07 56 16.2 +3.4
WB2 Warramunga Arr 140.08 253 *e*PKP PKPdf 07 56 07.3 -5.5
WB2 *e*PKP PKPdf 07 56 16.2 +3.4
WRAB Tennant Creek 140.08 253 *e*PKPpre 07 56 07.4
WRAB *e*PKPdf PKPdf 07 56 14.4 +1.6
WRA Warramunga Arr 140.09 253 PKhKP 07 56 06.0
comp=Z,6.1nm,0.5s,baz=94,slow=3.2,SNR=77
WRA PKP PKPdf 07 56 15.4 +2.6
comp=Z,38nm,0.7s,baz=92,slow=2.2,SNR=69
WRA SKPbc 07 59 41.8
comp=Z,2.0nm,0.6s,baz=96,slow=2.4,SNR=5.0
KMI Kunming 142.06 346 PKP PKPdf 07 56 17.1 +0.8
KMI LR LR
comp=Z,76nm,29.9s
FORT Forrest 143.04 234 *e*PKP PKPdf 07 56 16.8 -1.0
comp=Z,2μm,0.6s
QIZ Qiongzhong 145.27 332 PKP PKPdf 07 56 23.4 +1.4
QIZ Qiongzhong 145.27 332 *e*PKPdf PKPdf 07 56 23.4 +1.5
FITZ Fitzroy Crossi 148.47 255 ⇓*i*PKP PKPdf 07 56 30.0 +2.7
comp=Z,26nm,0.9s
FITZ Fitzroy Crossi 148.47 255 PKP PKPdf 07 56 30.0 +2.7
comp=Z,35nm,0.9s,baz=159,slow=2.4,SNR=17
FITZ PKPbc PKPdf 07 56 33.9 +6.6
comp=Z,78nm,0.7s,baz=158,slow=4.4,SNR=56
FITZ Fitzroy Crossi 148.47 255 ⇓*i*PKP PKPdf 07 56 30.0 +2.7
FITZ *i*PKP PKPdf 07 56 34.0 +6.7
NANT Nan 148.62 347 P PKPdf 07 56 30.0 +2.5
comp=Z,100nm,0.6s
NWAO Narrogin (SRO) 149.91 222 PKP PKPdf 07 56 31.8 +2.6
comp=Z,106nm,0.8s,baz=124,slow=2.9,SNR=5.3
NWAO PKPbc PKPdf 07 56 37.0 +7.8
comp=Z,106nm,0.8s,baz=139,slow=5.7,SNR=31
NWAO Narrogin (SRO) 149.91 222 *e*PKPdf PKPdf 07 56 31.2 +2.0

NWAO				*e*PKPbc	PKPdf	07 56 36.5	+7.3
KLBR	**Kellerberrin**		**150.37 225**	*e*PKP	PKPdf	07 56 32.3	+2.4
comp=Z,168nm,0.6s							
KLBR	**Kellerberrin**		**150.37 225**	*i* PKP	PKPdf	07 56 37.7	+7.8
KLBR	**Kellerberrin**		**150.37 225**	*e*PKP	PKPdf	07 56 32.3	+2.4
KLBR				*i* PKP	PKPdf	07 56 37.7	+7.8
BDT	**Bhumibol Dam**		**150.48 349**	P	PKPdf	07 56 36.0	+5.6
MUN	**Mundaring**		**151.18 223**	*e*PKP	PKPdf	07 56 33.9	+2.8
comp=Z,22nm,0.7s							
MUN	**Mundaring**		**151.18 223**	*i* PKP	PKPdf	07 56 40.0	+8.9
MUN	**Mundaring**		**151.18 223**	*e*PKP	PKPdf	07 56 33.9	+2.8
MUN				*i* PKP	PKPdf	07 56 40.0	+8.9
MBWA	**Marble Bar**		**153.35 247**	*e*PKPdf	PKPdf	07 56 36.5	+2.1
MBWA				*e*PKPbc	PKPdf	07 56 44.3	+10

IDC ***01*** *07:39:28.5±1.3,2.42N×96.67E,h27km±6km,mb3.8/11, mb1 4.0/11,mb1mx3.8/19,mbtmp4.0/11,Error ellipse: s-maj=49.7km s-min=13.2km az=58.0*

NEIC ***01*** *07:39:28.0±0.5,2.33N×96.53E,mb4.2/1,Error ellipse: s-maj=17.5km s-min=10.1km az=54.0*

ISC 01 07:39:26.1±0.8,2.3N±0.1×96.6E±0.1,h27km, h27km±.9km:pP-P,n17,σ0§82/15,mb4.0/12,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.04**	**54**	*e*Pn	**Pn**	**07 40 42.5**	**+0.5**
HYB	**Hyderabad**	**23.17**	**311**	*e*P	Px	07 44 52.0	
FITZ	**Fitzroy Crossi**	**35.12**	**127**	P	**P**	**07 46 18.9**	**-0.9**
3.5nm,0.6s,mb4.5,baz=277,slow=9.0,SNR=8.5							
WRA	**Warramunga Arr**	**43.19**	**123**	P	**P**	**07 47 27.0**	**0.0**
1.5nm,0.8s,mb3.8,baz=300,slow=9.1,SNR=12							
WRA				pP	pP	07 47 34.4	-0.5
1.3nm,0.4s,baz=301,slow=9.2,SNR=7.0							
ASAR	**Alice Springs**	**44.60**	**128**	P	**P**	**07 47 38.5**	**+0.2**
0.9nm,0.6s,mb3.8,baz=299,slow=8.0,SNR=12							
ASAR				pP	pP	07 47 47.0	+0.7
0.5nm,0.7s,baz=297,slow=8.3,SNR=2.4							
MKAR	**Makanchi Array**	**45.99**	**346**	P	**P**	**07 47 49.3**	**+0.3**
3.7nm,0.9s,mb4.3,baz=158,slow=7.9,SNR=18							
SONM	**Songino Array**	**46.11**	**9**	P	**P**	**07 47 50.0**	**0.0**
1.1nm,0.7s,mb3.9,baz=190,slow=8.9,SNR=7.8							
SONM				pP	pP	07 47 58.1	+0.1
2.0nm,0.8s,baz=192,slow=8.7,SNR=8.4							
KURK	**Kurchatov**	**50.53**	**345**	P	**P**	**07 48 23.4**	**-0.8**
1.1nm,0.4s,mb4.1							
ZAL	**Zalesovo**	**52.33**	**351**	P	**P**	**07 48 35.7**	**-2.2**
0.8nm,0.4s,mb4.0,baz=304,slow=3.6,SNR=3.2							
ZAL	**Zalesovo**	**52.33**	**351**	P	**P**	**07 48 35.7**	**-2.2**
STKA	**Stephens Creek**	**54.60**	**132**	P	**P**	**07 48 55.2**	**+0.3**
2.0nm,0.7s,mb4.2,baz=306,slow=10.0,SNR=4.4							
STKA	**Stephens Creek**	**54.60**	**132**	P	**P**	**07 48 55.2**	**+0.3**
BVAR	**Borovoye Array**	**54.97**	**341**	P	**P**	**07 48 58.1**	**+0.8**
0.8nm,0.6s,mb3.9,baz=135,slow=8.2,SNR=4.3							
FINES	**FINESS Array B**	**78.69**	**332**	P	**P**	**07 51 27.1**	**-0.3**
0.5nm,0.6s,mb3.6,baz=90,slow=5.7,SNR=3.5							
ARCES	**ARCESS Array B**	**81.25**	**340**	P	**P**	**07 51 41.2**	**+0.2**
4.3nm,1.0s,mb4.3,baz=92,slow=4.6,SNR=5.1							
GERES	**GERESS Array B**	**83.53**	**319**	P	**P**	**07 51 54.7**	**+1.5**
0.3nm,0.2s,mb4.0,baz=130,slow=7.7,SNR=2.6							
CFAA	**Coronel Fontan**	**147.54**	**205**	PKPbc	PKPdf	07 59 10.5	-0.3
0.2nm,0.6s,baz=75,slow=3.9,SNR=3.9							

BJI ***01*** *07:40:23.6,2.03N×96.42E,h35km,mB5.1,mb5.2,Ms4.8, Msz4.6*

MOS ***01*** *07:40:25.7±0.9,2.34N×96.44E,h33km,mb5.4/36, MS4.7/9,Error ellipse: s-maj=11.5km s-min=6.0km az=112.9*

IDC ***01*** *07:40:27.4±0.6,2.32N×96.36E,h32km±4km,mb4.6/22, mb1 4.7/22,mb1mx4.6/24,mbtmp4.8/22,MS4.2/8, Ms1 4.2/8,ms1mx3.8/33,Error ellipse: s-maj=16.0km s-min=10.7km az=47.0*

NEIC ***01*** *07:40:27.1±0.2,2.29N×96.37E,h30km,mb5.1/40,Error ellipse: s-maj=5.8km s-min=4.3km az=215.0*

HRVD ***01*** *07:40:27.1±0.7,2.35N×96.18E,h12km,MW4.8/30, Centroid moment Tensor Solution. LP body waves: s15,c19;Mantle waves: s30,c39; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.71±.20; $M_{\theta\theta}$-0.20±.12; $M_{\phi\phi}$-0.51±.19; $M_{r\theta}$1.55±.33; $M_{\theta\phi}$0.54±.12; $M_{\phi r}$-1.49±.43; Best double couple: $M_0$2.302×10^{16} NP1:φs337°,δ11°, λ112°. NP2:φs134°,δ80°,λ86°. Principal axes: T 2.212, Plg55°, Azm39°; N .182, Plg4°, Azm135°; P -2.392, Plg35°, Azm228°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 07:40:26.1±0.3,2.31N±0.04×96.40E±0.03,h35km, h35km±2.8km:pP-P,n190,σ0§94/198,mb5.0/83,MS4.5/27, 21C-8D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.13**	**64**	P	**P**	**07 41 43.7**	**+1.1**
KULM	**Kulim**	**5.17**	**55**	*e*Pn	**P**	**07 41 44.1**	**+1.0**
KGM	**Kluang**	**6.92**	**92**	P	**P**	**07 42 09.1**	**+1.4**
KSM	**Kuching**	**13.92**	**93**	*e*Pn	**P**	**07 43 43.3**	**0.0**
KKTK	**Khon Kaen**	**15.30**	**24**	P	**P**	**07 44 02.0**	**+0.7**
2μm,1.0s							
PALK	**Pallekele**	**16.40**	**288**	*e*P	**P**	**07 44 16.6**	**+1.2**
28nm,1.0s							
NANT	**Nan**	**16.92**	**14**	P	**P**	**07 44 23.0**	**+1.1**
350nm,0.5s							
CHRT	**Chiangrai**	**17.76**	**10**	⇑P	**P**	**07 44 32.0**	**-0.4**
437nm,0.9s							
VIS	**Vishakhapatnam**	**19.98**	**321**	*i* P	**P**	**07 44 59.5**	**+1.1**
VIS				*i*		07 48 30.0	
KKM	**Kota Kinabalu**	**20.10**	**79**	*e*P	**P**	**07 44 59.9**	**+0.1**
KKM	**Kota Kinabalu**	**20.10**	**79**	P	**P**	**07 45 00.3**	**+0.6**
QIZ	**Qiongzhong**	**21.20**	**37**	P	**P**	**07 45 10.3**	**-0.7**
QIZ				*e*S	**S**	**07 48 57.0**	**-2.7**
QIZ				LR	LR		
comp=N,3μm,13.4s,MS4.8							
QIZ				LR	LR		
comp=E,2μm,14.0s,MS4.8							
QIZ				LR	LR		
comp=Z,3μm,13.2s,MS4.9							
QIZ	**Qiongzhong**	**21.20**	**37**	*e*P	**P**	**07 45 10.2**	**-0.7**
comp=Z,26nm,0.9s,mb4.6							
TSM	**Tawau**	**21.52**	**84**	P	**P**	**07 45 15.0**	**+0.7**
HYB	**Hyderabad**	**23.08**	**312**	*e*P	**P**	**07 45 32.0**	**+2.2**
HYB				*e*S	**S**	**07 49 40.0**	**+5.7**
HYB	**Hyderabad**	**23.08**	**312**	*i* P	**P**	**07 45 32.0**	**+2.2**
HYB				*e*S	**S**	**07 49 40.0**	**+5.7**
KMI	**Kunming**	**23.49**	**15**	P	**P**	**07 45 36.0**	**+2.3**
KMI				AP		07 45 43.1	
KMI				XP		07 45 46.0	
KMI				PP	PP	07 46 08.9	+2.8
KMI				PPP	PPP	07 46 19.3	+3.1
KMI				S	**S**	**07 49 46.2**	**+4.8**
KMI				XS		07 49 58.1	
KMI				SS	SS	07 50 35.8	+5.8
KMI				SSS	SSS	07 50 51.5	+5.3
KMI				AMB	AMB		
comp=Z,63nm,0.7s,mb5.2							
KMI				AMB	AMB		
comp=Z,322nm,3.9s							
KMI				LR	LR		
comp=N,865nm,13.4s,MS4.5							
KMI				LR	LR		
comp=E,627nm,13.4s,MS4.5							
KMI				LR	LR		
comp=Z,1μm,13.8s,MS4.5							
KMI	**Kunming**	**23.49**	**15**	P	**P**	**07 45 36.0**	**+2.3**
KMI				*SP		07 45 46.0	
KMI						07 46 08.9	
KMI				PPP	PPP	07 46 19.3	+3.1
KMI				S	**S**	**07 49 46.2**	**+4.8**
KMI				*SS		07 49 58.1	
KMI				SS	SS	07 50 35.8	+5.8
KMI				SSS	SSS	07 50 51.5	+5.3
KMI				pmax	pmax		
comp=Z,63nm,0.7s,mb5.2							
KMI				MLR	MLR		
comp=Z,1μm,13.8s,MS4.5							
KMI	**Kunming**	**23.49**	**15**	P	**P**	**07 45 36.0**	**+2.3**
comp=Z,63nm,0.7s,mb5.2							
KMI				pP		07 45 43.1	
KMI				sP		07 45 46.0	
KMI				PP	PP	07 46 08.9	+2.8
KMI				PPP	PPP	07 46 19.3	+3.1
KMI				S	**S**	**07 49 46.2**	**+4.8**
KMI				sS		07 49 58.1	
KMI				SS	SS	07 50 35.8	+5.8
KMI				SSS	SSS	07 50 51.5	+5.3
KMI				LR	LR		
comp=Z,1μm,13.8s,MS4.5							
SHL	**Shillong**	**23.53**	**350**	*e*	**P**	**07 45 31.0**	**-3.1**
SHL				*e*S	**S**	**07 49 46.0**	**+3.9**
GYA	**Guiyang**	**25.95**	**21**	⇑*i*P	**P**	**07 45 57.0**	**-0.3**
GYA				AMB	AMB		
comp=Z,30nm,1.2s,mb4.7							
GYA				AMB	AMB		
comp=Z,220nm,8.1s							
GYA				LR	LR		
comp=N,690nm,18.0s,MS4.5							
GYA				LR	LR		
comp=E,860nm,15.3s,MS4.5							
GYA				LR	LR		
comp=Z,1μm,15.9s,MS4.6							
GZH	**Guangzhou**	**26.39**	**37**	P	**P**	**07 46 05.8**	**+4.4**
GZH				LR	LR		
comp=N,1μm,15.2s,MS4.6							
GZH				LR	LR		
comp=E,973nm,19.6s,MS4.6							
GZH				LR	LR		
comp=Z,2μm,15.9s,MS4.8							
JIRN	**Jiri**	**27.03**	**340**	*e*P	**P**	**07 46 07.7**	**+0.5**
comp=Z,206nm,0.9s,mb5.7							
PKI	**Pulchoki**	**27.23**	**338**	*e*P	**P**	**07 46 09.1**	**0.0**
comp=Z,56nm,0.8s,mb5.1							
PKI	**Pulchoki**	**27.23**	**338**	*e*P	**P**	**07 46 09.1**	**0.0**
PKI				pmax	pmax		
comp=Z,28nm,0.8s,mb4.8							
POO	**Poona**	**27.35**	**308**	*e*P	**P**	**07 46 11.0**	**+0.8**
GUN	**Gumba**	**27.37**	**339**	*e*P	**P**	**07 46 10.6**	**+0.3**
comp=Z,144nm,0.8s,mb5.6							
DMN	**Daman**	**27.38**	**338**	*e*P	**P**	**07 46 10.6**	**+0.2**
comp=Z,54nm,0.7s,mb5.2							
KKN	**Kakani**	**27.48**	**338**	*e*P	**P**	**07 46 11.4**	**+0.1**
comp=Z,81nm,0.8s,mb5.3							
KKN	**Kakani**	**27.48**	**338**	*e*P	**P**	**07 46 11.4**	**+0.1**
KKN				pmax	pmax		
comp=Z,41nm,0.8s,mb5.0							
LSA	**Lhasa**	**27.69**	**350**	P	**P**	**07 46 13.2**	**0.0**
LSA	**Lhasa**	**27.69**	**350**	*e*P	**P**	**07 46 13.7**	**+0.5**
LSA				pmax	pmax		
comp=Z,125nm,1.1s,mb5.5							
LSA	**Lhasa**	**27.69**	**350**	*e*P	**P**	**07 46 13.7**	**+0.5**
comp=Z,125nm,1.1s,mb5.5							
GKN	**Gorkha**	**27.91**	**337**	*e*P	**P**	**07 46 15.3**	**+0.1**
comp=Z,94nm,0.7s,mb5.5							
KOLN	**Koldarnagar**	**28.12**	**335**	*e*P	**P**	**07 46 17.6**	**+0.5**
comp=Z,67nm,0.7s,mb5.4							
CD2	**Chengdu**	**29.28**	**13**	⇓*i*P	**P**	**07 46 26.0**	**-1.4**
CD2				AMB	AMB		
comp=Z,60nm,0.8s,mb5.4							
ENH	**Enshi**	**30.45**	**23**	*e*P	**P**	**07 46 36.5**	**-1.4**
comp=Z,36nm,0.8s,mb5.2							
QZH	**Quanzhou**	**31.05**	**42**	*e*P	**P**	**07 46 42.0**	**-1.2**
QZH				*e*S	**S**	**07 51 48.2**	**+3.5**
QZH				LR	LR		
comp=N,4μm,20.4s							
QZH				LR	LR		
comp=E,810nm,9.8s							
QZH				LR	LR		
comp=Z,2μm,15.0s							
LGTI	**Lohaghat**	**31.06**	**332**	⇓*i*P	**P**	**07 46 43.5**	**+0.3**
NDI	**New Delhi**	**31.97**	**327**	*e*P	**P**	**07 46 49.0**	**-2.3**
WHN	**Wuhan**	**32.82**	**29**	⇑P	**P**	**07 46 58.4**	**-0.3**
DDI	**Dehra Dun**	**32.84**	**330**	*e*	**P**	**07 46 57.5**	**-1.3**
XAN	**Xi'an**	**33.66**	**19**	P	**P**	**07 47 07.6**	**+1.7**
XAN				S	**S**	**07 52 17.7**	**-7.7**
XAN				AMB	AMB		
comp=Z,139nm,0.9s,mb5.9							
XAN				LR	LR		
comp=N,568nm,16.7s,MS4.5							
XAN				LR	LR		
comp=E,381nm,14.5s,MS4.5							
XAN				LR	LR		
comp=Z,717nm,17.2s,MS4.5							
SMLA	**Simla**	**33.94**	**330**	⇑*i*	**P**	**07 46 58.4**	**-10**
SMLA				*i*		07 47 42.9	
LZH	**Lanzhou**	**34.31**	**11**	⇑P	**P**	**07 47 11.0**	**-0.4**
LZH				AP	pP	07 47 26.1	+4.6
LZH				XP	sP	07 47 31.5	+5.4
LZH				AMB	AMB		
comp=Z,97nm,1.3s,mb5.6							
LZH				AMB	AMB		
comp=Z,112nm,5.7s							
LZH				LR	LR		
comp=N,446nm,12.8s							
LZH				LR	LR		
comp=Z,589nm,16.7s,MS4.4							
LZH	**Lanzhou**	**34.31**	**11**	⇑P	**P**	**07 47 11.0**	**-0.4**
LZH				*PP	pP	07 47 26.1	+4.6
LZH				pmax	pmax		
comp=Z,97nm,1.3s,mb5.6							
LZH				MLR	MLR		
comp=Z,590nm,16.7s,MS4.4							
LZH	**Lanzhou**	**34.31**	**11**	⇑P	**P**	**07 47 11.0**	**-0.4**
comp=Z,97nm,1.3s,mb5.6							
LZH				pP	pP	07 47 26.1	+4.6
LZH				sP	sP	07 47 31.5	+5.4
LZH				PP	PP	07 48 05.9	-21
LZH				LR	LR		
comp=Z,590nm,16.7s,MS4.4							
SDNR	**Sondarnagar**	**34.34**	**330**	*e*P	**P**	**07 47 11.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**35.22**	**126**	⇓*i*P	**P**	**07 47 18.5**	**-0.9**
comp=Z,21nm,0.8s,mb5.1							
FITZ	**Fitzroy Crossi**	**35.22**	**126**	P	**P**	**07 47 18.2**	**-1.2**
comp=Z,26nm,0.8s,mb5.2,baz=241,slow=4.1,SNR=21							
FITZ				LR	LR	08 02 50.5	
comp=Z,440nm,20.6s,MS4.2,baz=309,slow=38							
THN	**Thein Dam**	**35.72**	**329**	*e*P	**P**	**07 47 21.9**	**-1.6**
SSE	**Sheshan**	**36.99**	**37**	*e*P	**P**	**07 47 33.0**	**-1.2**
SSE				AP	pP	07 47 41.8	-2.6
SSE				S	**S**	**07 53 16.2**	**-0.5**
SSE				XS		07 53 32.7	
SSE				AMB	AMB		
comp=Z,42nm,0.7s,mb5.4							
SSE				AMB	AMB		
comp=Z,96nm,7.4s							
SSE				LR	LR		
comp=N,708nm,14.4s,MS4.7							
SSE				LR	LR		
comp=E,482nm,14.3s,MS4.7							
SSE				LR	LR		
comp=Z,1μm,13.8s,MS4.8							
SSE	**Sheshan**	**36.99**	**37**	*e*P	**P**	**07 47 33.0**	**-1.2**
comp=Z,42nm,0.7s,mb5.4							
SSE				pP	pP	07 47 41.8	-2.6
SSE				S	**S**	**07 53 16.2**	**-0.5**
SSE				sS		07 53 32.7	
SSE				SS	SS	07 55 58.0	+11
SSE				LR	LR		
comp=Z,1μm,13.8s,MS4.8							
GTA	**Gaotai**	**37.06**	**4**	P	**P**	**07 47 34.5**	**-0.2**
GTA				AP	pP	07 47 41.8	-3.1
GTA				XP	sP	07 47 45.0	-4.4
GTA				PCP	PcP	07 49 56.3	+1.0
GTA				S	**S**	**07 53 16.9**	**-0.8**
GTA				SCP		07 53 40.4	
GTA				AMB	AMB		
comp=Z,67nm,0.9s,mb5.5							
GTA				AMB	AMB		
comp=Z,211nm,6.8s							
GTA				LR	LR		
comp=N,451nm,16.3s							
GTA				LR	LR		
comp=E,552nm,26.2s							
GTA				LR	LR		
comp=Z,575nm,16.7s,MS4.4							
JOW	**Kunigami**	**39.09**	**48**	P	**P**	**07 47 52.5**	**+0.7**
comp=Z,14nm,0.5s,mb5.0,baz=127,slow=23,SNR=5.4							
JOW				LR	LR	08 03 03.3	
comp=Z,295nm,20.9s,MS4.1,baz=145,slow=35							
BTO	**Baotou**	**40.06**	**16**	*e*P	**P**	**07 48 00.0**	**+0.3**
BTO				AMB	AMB		
comp=Z,37nm,0.7s,mb5.2							
NWAO	**Narrogin (SRO)**	**40.20**	**152**	LR	LR	08 04 55.9	
comp=Z,667nm,19.0s,MS4.5,baz=342,slow=36							
HHC	**Hu-ho-hao-te**	**40.74**	**18**	⇑P	**P**	**07 48 06.9**	**+1.6**
HHC				AP	pP	07 48 17.2	+1.6
HHC				XP	sP	07 48 20.4	+0.4
HHC				PP	PP	07 49 47.4	+5.0
HHC				PCP	PcP	07 50 06.9	0.0
HHC				AMB	AMB		
comp=Z,80nm,1.1s,mb5.3							
HHC				AMB	AMB		
comp=Z,250nm,4.8s							
HHC				LR	LR		
comp=N,619nm,16.9s,MS4.8							
HHC				LR	LR		
comp=E,825nm,15.1s,MS4.8							
HHC				LR	LR		
comp=Z,591nm,15.2s,MS4.6							
BJT	**Baijiatuau**	**41.60**	**23**	*e*P	**P**	**07 48 13.4**	**+0.9**
BJT				pmax	pmax		
comp=Z,83nm,0.7s							
BJT	**Baijiatuau**	**41.60**	**23**	*e*P	**P**	**07 48 13.4**	**+0.9**
comp=Z,82nm,0.7s,mb5.5							
BJI	**Beijing**	**41.62**	**23**	*e*P	**P**	**07 48 13.4**	**+0.8**
BJI				PP	PP	07 49 58.0	+6.1
BJI				S	**S**	**07 54 32.2**	**+5.8**
BJI				XS		07 54 50.5	
BJI				SCS	ScS	07 58 10.8	-0.1
BJI				AMB	AMB		
comp=Z,133nm,0.7s,mb5.7							
BJI				LR	LR		
comp=N,331nm,16.5s,MS4.5							
BJI				LR	LR		
comp=E,363nm,15.5s,MS4.5							
BJI				LR	LR		
comp=Z,247nm,22.3s							
BJI	**Beijing**	**41.62**	**23**	*e*P	**P**	**07 48 13.4**	**+0.8**
comp=Z,133nm,0.7s,mb5.7							
BJI				PP	PP	07 49 58.0	+6.1
BJI				S	**S**	**07 54 32.2**	**+5.8**
BJI				sS		07 54 50.5	
BJI				ScS	ScS	07 58 10.8	-0.1
BJI				LR	LR		
comp=Z,250nm,22.3s,MS4.0							
WMQ	**Urumqi**	**42.05**	**351**	⇑*i*P	**P**	**07 48 16.8**	**+0.7**
WMQ				AP	pP	07 48 26.8	+0.4
WMQ				XP	sP	07 48 30.8	0.0
WMQ				PP	PP	07 49 57.8	+1.2
WMQ				PCP	PcP	07 50 12.3	+1.1
WMQ				PPP	PPP	07 50 34.0	+5.2
WMQ				S	**S**	**07 54 33.3**	**+0.6**
WMQ				XS		07 54 49.5	
WMQ				AMB	AMB		
comp=Z,20nm,1.1s,mb4.7							
WMQ				AMB	AMB		
comp=Z,144nm,4.2s							
WMQ				LR	LR		
comp=N,374nm,16.2s,MS4.4							
WMQ				LR	LR		
comp=E,184nm,14.5s,MS4.4							
WMQ				LR	LR		
comp=Z,361nm,19.2s,MS4.3							
DL2	**Dalian**	**43.09**	**29**	P	**P**	**07 48 25.0**	**+0.3**
DL2				*e*S	**S**	**07 54 39.0**	**-8.9**
DL2				AMB	AMB		
comp=Z,20nm,0.9s,mb4.8							
DL2				LR	LR		
comp=N,290nm,13.3s,MS4.5							
DL2				LR	LR		
comp=E,290nm,14.3s,MS4.5							
DL2				LR	LR		
comp=Z,420nm,15.1s,MS4.5							
WRA	**Warramunga Arr**	**43.30**	**123**	P	**P**	**07 48 26.2**	**-0.5**
comp=Z,8.5nm,0.8s,mb4.5,baz=300,slow=9.2,SNR=28							
WRA				pP	pP	07 48 35.5	-1.4
comp=Z,9.8nm,0.5s,baz=300,slow=9.2,SNR=9.9							
WRAB	**Tennant Creek**	**43.30**	**122**	*e*P	**P**	**07 48 26.4**	**-0.3**
WRAB				pmax	pmax		
comp=Z,17nm,0.6s,mb5.0							
WRAB	**Tennant Creek**	**43.30**	**122**	*e*P	**P**	**07 48 26.4**	**-0.3**
comp=Z,17nm,0.6s,mb5.0							
WB2	**Warramunga Arr**	**43.31**	**122**	⇓*i*P	**P**	**07 48 26.5**	**-0.2**
ULHL	**Ulahol**	**43.67**	**338**	P	**P**	**07 48 30.5**	**+1.1**
SNR=18							
KZA	**Kyzart**	**43.91**	**337**	P	**P**	**07 48 32.5**	**+1.2**
SNR=9.0							
UCH	**Uchtor**	**44.32**	**337**	P	**P**	**07 48 35.9**	**+1.3**
SNR=28							
TKM2	**Tokmak 2**	**44.50**	**338**	P	**P**	**07 48 36.8**	**+0.8**
SNR=15							
AML	**Almayashu**	**44.57**	**336**	P	**P**	**07 48 37.8**	**+1.2**
SNR=22							
FORT	**Forrest**	**44.63**	**140**	*e*P	**P**	**07 48 39.7**	**+2.5**
comp=Z,821nm,0.8s							
AAK	**Ala-Archa**	**44.67**	**337**	P	**P**	**07 48 35.0**	**-2.4**
SNR=11							
AAK	**Ala-Archa**	**44.67**	**337**	P	**P**	**07 48 37.5**	**+0.1**
comp=Z,83nm,1.0s,mb5.5,SNR=14							
AAK	**Ala-Archa**	**44.67**	**337**	*e*P	**P**	**07 48 37.8**	**+0.4**
AAK				pmax	pmax		
comp=Z,15nm,1.0s,mb4.8							
AAK	**Ala-Archa**	**44.67**	**337**	*e*P	**P**	**07 48 37.8**	**+0.4**
comp=Z,15nm,1.0s,mb4.8							
ASPA	**Alice Springs**	**44.70**	**127**	*e*P	**P**	**07 48 37.8**	**0.0**
ASAR	**Alice Springs**	**44.70**	**127**	P	**P**	**07 48 37.6**	**-0.2**
comp=Z,5.4nm,0.8s,mb4.4,baz=299,slow=7.7,SNR=29							
ASAR				pP	pP	07 48 48.4	+0.2
comp=Z,3.4nm,0.8s,baz=306,slow=8.7,SNR=6.6							
ASAR				PcP	PcP	07 50 20.3	-0.1
comp=Z,1.9nm,0.7s,baz=301,slow=3.5,SNR=5.7							
ASAR				ScP		07 54 11.9	
comp=Z,1.1nm,0.9s,baz=315,slow=2.6,SNR=4.0							
FRU	**Bishkek**	**44.79**	**337**	*e*P	**P**	**07 48 39.0**	**+0.7**
FRU				*e*	pP	07 48 50.0	+1.3
FRU				pmax	pmax		
comp=Z,40nm,2.0s,mb4.9							
CHMS	**Chumysh**	**44.88**	**337**	P	**P**	**07 48 39.5**	**+0.4**
SNR=6.6							
EKS2	**Erkin-Say**	**44.98**	**336**	P	**P**	**07 48 40.5**	**+0.6**
SNR=9.1							
USP	**Ospenovka**	**45.21**	**337**	P	**P**	**07 48 42.2**	**+0.6**
SNR=41							
MKAR	**Makanchi Array**	**45.98**	**347**	*i* P	**P**	**07 48 47.5**	**-0.3**
MKAR				pmax	pmax		
comp=Z,69nm,0.8s							
MKAR	**Makanchi Array**	**45.98**	**347**	P	**P**	**07 48 47.6**	**-0.1**
comp=Z,59nm,0.8s,mb5.6,baz=162,slow=7.7,SNR=124							
MKAR				LR	LR	08 11 31.5	
comp=Z,106nm,19.5s,MS3.8,baz=270,slow=41							
SONM	**Songino Array**	**46.16**	**9**	P	**P**	**07 48 49.4**	**+0.2**
comp=Z,28nm,0.7s,mb5.3,baz=190,slow=9.1,SNR=93							
SONM				PcP	PcP	07 50 25.6	+0.4
comp=Z,7.7nm,0.7s,baz=185,slow=3.8,SNR=6.3							
ULN	**Ulaanbaatar**	**46.30**	**10**	*e*P	**P**	**07 48 50.1**	**-0.2**
ULN				*e*		07 50 25.5	
ULN				pmax	pmax		
comp=Z,17nm,0.8s,mb5.0							
ULN	**Ulaanbaatar**	**46.30**	**10**	*e*P	**P**	**07 48 50.1**	**-0.2**
comp=Z,17nm,0.8s,mb5.0							
ULN				*e*PcP	PcP	07 50 25.5	-0.2
KKAR	**Karatay Array**	**46.72**	**334**	*i* P	**P**	**07 48 53.4**	**-0.2**
KKAR				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.7							
ZAK	**Zakamensk**	**48.25**	**6**	*e*P	**P**	**07 49 05.2**	**-0.3**
CN2	**Changchun**	**48.69**	**28**	⇑P	**P**	**07 49 07.9**	**-1.1**
CN2

comp=Z,35nm,0.7s,mb5.4,baz=314,slow=2.7,SNR=7.1
ZAL Zalesovo 52.34 351 P **P 07 49 36.0 -0.6**
comp=Z,37nm,0.7s,mb5.4,baz=309,slow=5.6,SNR=115
OPO Ambohidratompo 52.67 245 P **P 07 49 38.6 -0.9**
comp=Z,1.9nm,0.7s,mb4.2,baz=62,slow=8.7,SNR=3.4
NVS Novosibirsk 53.45 351⇑ *i* P **P 07 49 43.4 -1.5**
NVS *e*S **S 07 57 13.4 +0.1**
NVS pmax pmax
comp=Z,43nm,0.8s,mb5.4
NVS pmax pmax
comp=N,32nm,0.8s
NVS pmax pmax
comp=E,18nm,0.7s
NVS smax
comp=N,24nm,2.0s
CTAO Charters Tower 53.71 117 *e*P **P 07 49 46.9 -0.4**
CTAO pmax pmax
comp=Z,11nm,0.9s,mb4.8
CTAO Charters Tower 53.71 117 *e*P **P 07 49 46.9 -0.4**
comp=Z,11nm,0.9s,mb4.8
STKA Stephens Creek 54.69 132⇓ *i* P **P 07 49 54.1 -0.2**
comp=Z,6.9nm,0.6s,mb4.9
STKA Stephens Creek 54.69 132 P **P 07 49 54.0 -0.3**
comp=Z,8.5nm,0.7s,mb4.9,baz=313,slow=7.7,SNR=17
BVA0 Borovoye Array 54.95 341 *i* P **P 07 49 54.8 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
BVAR Borovoye Array 54.95 341 P **P 07 49 54.8 -1.1**
comp=Z,26nm,0.7s,mb5.4,baz=135,slow=8.4,SNR=84
CHKZ Chkalovo 55.43 342 *i* P **P 07 49 58.6 -0.7**
CHKZ pmax pmax
comp=Z,32nm,0.7s,mb5.5
KLR Kul'dur 55.63 27 *e*P **P 07 49 57.5 -3.4**
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,32nm,1.0s,mb5.3
KLR MLR MLR
comp=E,700nm,14.0s
KLR MLR MLR
comp=Z,1μm,14.0s,MS5.2
BOD Bodaibo 57.08 11 *e*P **P 07 50 10.3 -0.8**
BOD pmax pmax
comp=Z,34nm,0.9s,mb5.4
ASAJ Asahikawa 58.27 38 P **P 07 50 19.6 -0.1**
comp=Z,8.4nm,0.8s,mb4.8,baz=247,slow=7.0,SNR=7.5
CLNS Chul'man 58.93 18 *e*P **P 07 50 23.0 -1.1**
CLNS *e* 07 51 13.9
CLNS *e* 07 52 29.7
CLNS *e*S **S 07 58 22.5 -3.4**
CLNS pmax pmax
comp=Z,26nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,4.0nm,0.7s
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
CLNS pmax pmax
comp=N,6.0nm,0.6s
CLNS pmax pmax
comp=E,5.0nm,0.7s
CLNS smax
comp=E,6.0nm,0.8s
CLNS smax
comp=Z,3.0nm,0.6s
CLNS smax
comp=N,4.0nm,0.8s
CLNS pmax pmax
comp=N,300nm,14.1s
CLNS pmax pmax
comp=Z,100nm,13.5s
CLNS pmax pmax
comp=E,100nm,12.8s
CLNS MLR MLR
comp=N,400nm,14.0s,MS4.7
CLNS MLR MLR
comp=Z,600nm,14.0s,MS4.9
CLNS MLR MLR
comp=E,100nm,12.0s,MS4.7
KMBO Kilima Mbogo 59.24 267 *e*P **P 07 50 27.0 +0.2**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 59.24 267 P **P 07 50 27.6 +0.7**
comp=Z,0.6nm,0.3s,mb4.0,baz=229,slow=21,SNR=3.7
KMBO Kilima Mbogo 59.24 267 *e*P **P 07 50 27.0 +0.2**
comp=Z,2.1nm,0.8s,mb4.2
YSS Yuzh-Sakhalins 59.89 35⇑ *i* P **P 07 50 30.0 -0.9**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS Yuzh-Sakhalins 59.89 35 *e*P **P 07 50 30.8 -0.1**
comp=Z,25nm,1.0s,mb5.2
TI2 Plekhanov 60.62 318 *i* P **P 07 50 35.4 -0.6**
SVE Sverdlovsk 61.37 339⇑ *e*P **P 07 50 40.0 -0.8**
SVE *e* pP 07 50 53.0 +1.6
SVE pmax pmax
comp=Z,56nm,1.6s,mb5.4
SVE MLR MLR
comp=E,500nm,18.0s
SVE MLR MLR
comp=Z,400nm,18.0s,MS4.6
ARU Arti 61.86 337⇑ *i* P **P 07 50 42.6 -1.4**
ARU *e* 07 51 22.5
ARU *e* 07 53 00.5
ARU *e*S **S 07 59 04.9 +1.4**
ARU *e*SS SS 08 03 10.3 +2.9
ARU pmax pmax
comp=Z,21nm,0.9s,mb5.3
ARU Arti 61.86 337⇑ *e*P **P 07 50 42.8 -1.2**
KIV Kislovodsk 62.95 319 *e*P **P 07 50 51.0 -0.5**
KIV pmax pmax
comp=Z,11nm,0.8s,mb5.0
KIV Kislovodsk 62.95 319 *e*P **P 07 50 51.0 -0.5**
comp=Z,11nm,0.8s,mb5.0
GOF Gofitskoye 63.20 320 *e*P sP 07 51 09.0 +1.0
EIL Elat 64.19 302 *e*P **P 07 50 59.2 -0.7**
comp=Z,4.7nm,0.7s,mb4.6
YAK Yakutsk 64.59 17 *e*P **P 07 51 00.3 -1.6**
YAK *e* 07 51 31.4
YAK *e* 07 53 24.7
YAK *e*PPP PPP 07 54 57.0 -2.2
YAK *e*S **S 07 59 37.8 +0.4**
YAK *e* 08 00 46.0
YAK *e*SS SS 08 03 53.5 +3.6
YAK pmax pmax
comp=N,17nm,1.0s
YAK pmax pmax
comp=Z,68nm,1.0s,mb5.6
YAK pmax pmax
comp=E,12nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax
comp=N,7.0nm,1.3s
YAK smax
comp=E,3.0nm,1.3s
YAK Yakutsk 64.59 17 *e*P **P 07 51 00.6 -1.3**
comp=E,107nm,0.8s,mb5.9
MBAR Mbarara 65.71 268 *e*P **P 07 51 09.4 -0.6**
MBAR pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
MBAR Mbarara 65.71 268 *e*P **P 07 51 09.4 -0.6**
comp=Z,1.9nm,0.7s,mb4.2
ANN Anapa 66.75 318 *e*P **P 07 51 17.7 +1.7**
ANN *i* *PP pP 07 51 28.7 +1.9
ANN *e*S S 08 00 12.4 +8.4
ANN pmax pmax
comp=Z,62nm,1.1s,mb5.5
BRTR Keskin Array B 67.78 312 P **P 07 51 21.6 -1.0**
comp=Z,2.1nm,0.7s,mb4.2,baz=135,slow=5.2,SNR=7.9
VRSR Storozhevoye 68.19 325 *e*P **P 07 51 22.9 -2.1**
VRSR *e*SP sP 07 51 32.8 -6.9
VRSR *e* 07 51 48.9
VRSR *e* 07 53 55.6
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.4s
VRSR pmax pmax
comp=E,10.0nm,1.5s
MA2 Magadan 70.69 26⇑ *e*P **P 07 51 38.2 -1.9**
MA2 pmax pmax
comp=Z,12nm,0.6s,mb5.0
MA2 MLR MLR
comp=Z,500nm,17.0s,MS4.8
MA2 Magadan 70.69 26 *e*P **P 07 51 40.2 +0.1**
comp=Z,14nm,0.9s,mb4.9
MOS Moscow 70.98 329 *e*P **P 07 51 41.2 -0.7**
MOS *e* pP 07 51 53.4 +0.6
MOS *e* 07 52 01.3
MOS *e* 07 54 18.1
MOS *e*PPP PPP 07 56 00.7 -1.9
MOS *e*S S 08 00 54.5 +0.6
MOS pmax pmax
comp=Z,84nm,0.8s,mb5.7
MOS MLR MLR
comp=Z,800nm,19.1s,MS5.0
OBN Obninsk 71.26 328⇓ *e*P **P 07 51 43.2 -0.5**
OBN *e* 07 52 00.9
OBN *e* 07 54 21.0
OBN pmax pmax
comp=Z,16nm,0.5s,mb5.2
OBN Obninsk 71.26 328 *e*P **P 07 51 42.8 -0.9**
comp=Z,20nm,0.6s,mb5.2
TIXI Tiksi 72.24 10⇑ *e*P **P 07 51 48.2 -1.0**
TIXI pmax pmax
comp=Z,18nm,0.8s,mb5.0
TIXI Tiksi 72.24 10⇑ *e*P **P 07 51 48.3 -0.9**
IDI Anoyia 73.61 306 LR LR 08 28 40.1
comp=Z,98nm,21.0s,MS4.1,baz=270,slow=39
LBTB Lobatse 73.67 243 P **P 07 51 58.9 +0.4**
comp=Z,3.5nm,0.8s,mb4.4,baz=62,slow=12,SNR=5.3
LBTB LR LR 08 17 46.7
comp=Z,289nm,20.6s,MS4.5,baz=94,slow=30
LBTB Lobatse 73.67 243 P **P 07 51 58.9 +0.4**
LBTB LR LR 08 17 46.7
AKASG Malin Array Be 73.90 322 P **P 07 51 57.8 -1.5**
comp=Z,3.0nm,0.5s,mb4.5,baz=90,slow=5.2,SNR=19
VRI Vrincioaia 74.27 317⇓ *i* P **P 07 52 02.8 +1.2**
BOSA Boshof 74.64 240 P **P 07 52 04.1 0.0**
comp=Z,2.8nm,0.8s,mb4.3,baz=49,slow=8.0,SNR=3.9
MLR Muntele Rosu 74.72 317⇑ *i* P **P 07 52 05.0 +0.8**
MLR Muntele Rosu 74.72 317⇑ *i* P **P 07 52 04.9 +0.7**
BURAR Bucovina Array 75.67 319⇑ *i* P **P 07 52 10.6 +1.0**
APA Apatity 77.81 340⇓ *i* P **P 07 52 22.0 +0.8**
APA *i* 07 52 28.1
APA pmax pmax
comp=Z,24nm,0.8s,mb5.2
KOLS Kolonicke sedl 77.86 320 *e*P **P 07 52 22.2 +0.3**
KOLS *e* pP 07 52 33.3 +0.5
SUW Suwalki 78.31 325 *e*P **P 07 52 23.1 -1.1**
FINES FINESS Array B 78.65 333 P **P 07 52 25.6 -0.3**
comp=Z,15nm,0.7s,mb5.0,baz=104,slow=7.9,SNR=49
KAF Kangasniemi 78.74 333 *e*p **P 07 52 25.4 -1.0**
comp=Z,18nm,0.8s,mb5.0,baz=103,slow=5.2
KAF Kangasniemi 78.74 333 *e*P **P 07 52 25.4 -1.0**
KAF pmax pmax
comp=Z,18nm,0.8s,mb5.0
PSZ Piszkesteto 79.25 318 *e*P **P 07 52 28.6 -0.9**
PSZ pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
PSZ Piszkesteto 79.25 318 *e*P **P 07 52 28.6 -0.9**
comp=Z,8.8nm,1.0s,mb4.6
VYHS Vyhne 80.04 319 *e*P **P 07 52 34.4 +0.7**
BILL Bilibino 80.42 21 *e*P **P 07 52 35.2 -0.2**
BILL *i* 07 52 41.9
BILL *e* 07 55 37.0
BILL pmax pmax
comp=Z,1.0nm,0.6s
BILL MLR MLR
comp=Z,500nm,16.0s,MS5.0
OKC Ostrava-Krasne 80.67 320 *e*P **P 07 52 37.4 +0.4**
KEV Kevo 80.80 341 *e*p **P 07 52 37.2 -0.2**
comp=Z,13nm,0.7s,mb5.0
KEV Kevo 80.80 341 *e*P **P 07 52 37.2 -0.2**
KEV pmax pmax
comp=Z,13nm,0.7s,mb5.0
MORC Moravsky Berou 81.05 320 *e*P **P 07 52 39.3 +0.3**
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MORC Moravsky Berou 81.05 320 *e*P **P 07 52 39.3 +0.3**
comp=Z,5.0nm,1.0s,mb4.4
ARCES ARCESS Array B 81.23 340 P **P 07 52 40.1 +0.5**
comp=Z,14nm,0.8s,mb5.0,baz=99,slow=7.1,SNR=28
DPC Dobruska-Polom 81.89 320 *e*P **P 07 52 44.3 +0.9**
KSP Ksiaz 81.97 321 *e*P **P 07 52 44.9 +1.1**
BRG Berggiesshubel 83.45 321 *e*P **P 07 52 52.2 +0.8**
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BRG Berggiesshubel 83.45 321 *e*P **P 07 52 52.2 +0.8**
comp=Z,7.9nm,1.1s,mb4.7
GERES GERESS Array B 83.46 319 P **P 07 52 51.9 +0.5**
comp=Z,4.2nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=20
GERES pP pP 07 53 01.3 -1.2
comp=Z,0.8nm,0.3s,baz=135,slow=5.7,SNR=5.0
KHC Kasperske Hory 83.56 319 *e*P **P 07 52 52.0 0.0**
NB2 NORSAR Subarra 85.65 331 P **P 07 53 02.3 +0.1**
comp=Z,6.3nm,0.9s,mb4.8,baz=93,slow=5.0
NOA NORSAR Array B 85.65 331 P **P 07 53 02.1 0.0**
comp=Z,3.9nm,0.8s,mb4.7,baz=95,slow=5.0,SNR=11
NOA LR LR 08 35 23.8
comp=Z,133nm,21.0s,MS4.3,baz=265,slow=38
VNDA Vanda 87.06 169 P **P 07 53 09.7 +0.9**
comp=Z,0.8nm,1.0s,baz=298,slow=8.1,SNR=2.7
VNDA LR LR 08 30 36.5
comp=Z,165nm,18.6s,MS4.5,baz=345,slow=35
LPG La Plagne 88.12 315 *e*P **P 07 53 13.1 -1.4**
comp=Z,25nm,1.0s,mb5.1
LPG La Plagne 88.12 315 *e*P **P 07 53 13.1 -1.4**
LPG pmax pmax
comp=Z,13nm,1.0s,mb5.1
IMA Indian Mountai 95.87 23 *e*P **P 07 53 51.5 +1.6**
IMA pmax pmax
comp=Z,15nm,0.8s,mb5.5
IMA Indian Mountai 95.87 23 *e*P **P 07 53 51.5 +1.6**
comp=Z,15nm,0.8s,mb5.5
YKA Yellowknife Ar 111.23 15 PP PP 07 59 30.3 -10
comp=Z,0.8nm,0.9s,baz=336,slow=7.9,SNR=5.6
TBI Tubuai 113.03 114 *e*LR LR 08 32 56.2
comp=Z,139nm,31.8s
PPT Papeete 113.58 108 *e*LR LR 08 33 12.5
comp=Z,73nm,23.2s
RKT Rikitea 126.15 117 *e*LR LR 08 39 00.1
comp=Z,146nm,24.8s
ULM Lac du Bonnet 126.59 10 PKhKP 07 59 23.0
comp=Z,2.0nm,0.6s,baz=354,slow=0.5,SNR=2.1
ULM PKP PKPdf 07 59 27.2 +1.2
comp=Z,1.5nm,0.6s,baz=354,slow=1.1,SNR=4.4
NVAR Mina Array Bea 128.34 35 PKP PKPdf 07 59 31.2 +1.5
comp=Z,0.9nm,0.8s,baz=270,slow=2.7,SNR=5.5
PDAR Pinedale Array 129.38 25 PKP PKPdf 07 59 33.2 +1.6
comp=Z,1.0nm,1.0s,baz=45,slow=2.1,SNR=5.0
ANMO Albuquerque 137.18 28 PKP PKPdf 07 59 48.6 +2.3
comp=Z,0.4nm,0.3s,baz=204,slow=3.8,SNR=5.4
TXAR Lajitas Array 143.13 30 PKhKP 07 59 56.5
comp=Z,1.4nm,0.8s,baz=225,slow=3.5,SNR=6.2
CFAA Coronel Fontan 147.46 205 PKPbc PKPdf 08 00 08.8 +4.4
comp=Z,0.5nm,0.7s,baz=186,slow=3.4,SNR=5.4
CFAA pPKPbc 08 00 19.3
comp=Z,2.0nm,1.0s,baz=156,slow=2.9,SNR=8.6

*IDC **01** 07:49:06.8±0.9, 5.25N×94.65E, mb4.3/13, mb1 4.4/13, mb1mx4.2/21, mbtmp4.3/13, Error ellipse: s-maj=47.0km s-min=16.4km az=52.0*
*NEIC **01** 07:49:11.2±0.5, 5.16N×94.60E, h30km, mb4.5/9, Error ellipse: s-maj=16.8km s-min=6.3km az=46.0*
ISC 01 07:49:09.4±0.7, 5.1N±0.1×94.6E±0.1, h30km, n26, σ0s77/26, mb4.4/22, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.00**	**88**	*e*Pn	**Pn**	**07 50 39.0**	**+0.4**
JIRN	**Jiri**	**23.82**	**341**	*e*P	**P**	**07 54 21.8**	**+0.8**
7.4nm,0.3s,mb4.6							
PKI	**Pulchoki**	**24.00**	**340**	*e*P	**P**	**07 54 23.9**	**+1.2**
GUN	**Gumba**	**24.15**	**341**	*e*P	**P**	**07 54 24.1**	**-0.1**
7.7nm,0.3s,mb4.6							
KKN	**Kakani**	**24.24**	**339**	*e*P	**P**	**07 54 25.4**	**+0.3**
6.4nm,0.5s,mb4.3							
GKN	**Gorkha**	**24.67**	**338**	*e*P	**P**	**07 54 29.2**	**0.0**
10nm,0.3s,mb4.9							
LSA	**Lhasa**	**24.68**	**353**	P	**P**	**07 54 30.6**	**+1.3**
5.1nm,0.3s,mb4.5							
KOLN	**Koldanda**	**24.86**	**336**	*e*P	**P**	**07 54 31.4**	**+0.4**
18nm,0.6s,mb4.8							
AAK	**Ala-Archa**	**41.42**	**337**	*e*P	**P**	**07 56 55.6**	**+0.7**
3.2nm,0.8s,mb4.0							
MKAR	**Makanchi Array**	**42.87**	**348**	P	**P**	**07 57 06.2**	**-0.6**
3.8nm,0.4s,mb4.4,baz=166,slow=7.5,SNR=36							
MKAR	**Makanchi Array**	**42.87**	**348**	P	**P**	**07 57 06.2**	**-0.6**
SONM	**Songino Array**	**43.74**	**11**	P	**P**	**07 57 12.9**	**-1.0**
1.9nm,0.6s,mb4.0,baz=206,slow=7.2,SNR=2.4							
SONM				PcP	PcP	07 59 00.2	-0.8
0.7nm,0.5s,baz=194,slow=4.1,SNR=4.8							
WRA	**Warramunga Arr**	**46.30**	**124**	P	**P**	**07 57 34.5**	**-0.2**
5.3nm,0.6s,mb4.6,baz=302,slow=9.1,SNR=7.9							
WRAB	**Tennant Creek**	**46.30**	**124**	*e*P	**P**	**07 57 34.2**	**-0.5**
8.3nm,0.6s,mb4.8							
KURK	**Kurchatov**	**47.39**	**346**	*e*P	**P**	**07 57 42.3**	**-0.6**
4.3nm,0.4s,mb4.7							
ASAR	**Alice Springs**	**47.80**	**128**	P	**P**	**07 57 46.2**	**-0.3**
1.2nm,0.6s,mb4.1,baz=304,slow=7.5,SNR=4.3							
ZAL	**Zalesovo**	**49.33**	**352**	P	**P**	**07 57 56.8**	**-1.1**
6.4nm,0.4s,mb5.0,baz=312,slow=5.7,SNR=20							
BVAR	**Borovoye Array**	**51.74**	**342**	P	**P**	**07 58 15.2**	**-1.1**
2.2nm,0.6s,mb4.3,baz=149,slow=12,SNR=12							
STKA	**Stephens Creek**	**57.87**	**133**	P	**P**	**07 59 02.4**	**+1.3**
1.6nm,0.8s,mb4.1,baz=307,slow=5.1,SNR=2.9							
STKA	**Stephens Creek**	**57.87**	**133**	P	**P**	**07 59 02.4**	**+1.2**
BRTR	**Keskin Array B**	**64.60**	**312**	P	**P**	**07 59 45.8**	**-0.8**
1.2nm,0.8s,mb4.0,baz=90,slow=8.6,SNR=3.9							
FINES	**FINESS Array B**	**75.37**	**332**	P	**P**	**08 00 50.8**	**-1.0**
0.6nm,0.4s,mb3.8,baz=88,slow=5.3,SNR=8.5							
ARCES	**ARCESS Array B**	**78.01**	**340**	P	**P**	**08 01 06.1**	**-0.3**
1.0nm,0.4s,mb4.1,baz=102,slow=6.9,SNR=16							
GERES	**GERESS Array B**	**80.20**	**319**	P	**P**	**08 01 19.7**	**+1.1**
1.3nm,0.5s,mb4.1,baz=104,slow=5.8,SNR=9.3							
HFS	**Hagfors**	**81.07**	**330**	P	**P**	**08 01 22.5**	**-0.6**
0.7nm,0.6s,mb3.8,baz=100,slow=8.8,SNR=3.3							
DAVOX	**Davos**	**82.71**	**316**	P	**P**	**08 01 32.6**	**+0.8**
5.4nm,0.6s,mb4.7,baz=357,slow=23,SNR=6.0							

*NEIC **01** 07:56:54.9±4.3, 14.19N×93.10W, h14km±25km, mb4.2/14, MD4.5(MEX), Error ellipse: s-maj=16.6km s-min=9.2km az=205.0*
*MEX **01** 07:56:55.8±0.4, 14.02N×93.47W, h15km, MD4.6*
*IDC **01** 07:56:59.3±5.5, 14.34N×92.95W, h43km±50km, mb3.9/11, mb1 4.1/12, mb1mx3.8/24, mbtmp4.1/12, ML3.9/1, MS3.7/2, Ms1 3.6/2, ms1mx2.8/26, Error ellipse: s-maj=50.3km s-min=16.9km az=46.0*
ISC 01 07:56:54.8±2.3, 14.18N±0.06×93.35W±0.05, h22km±17km, n54, σ1s40/63, mb4.2/21, MS3.6/2, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.39**	**29**	*i* P	**Pn**	**07 57 34.3**	**+0.7**
CCIG				*i* S	**Sn**	**07 58 04.9**	**+2.4**
CMIG	**Matias Romero**	**3.25**	**333**	*i* P	**Pn**	**07 57 45.1**	**-0.6**
CMIG				*i* S	**Sn**	**07 58 22.7**	**-1.5**
CMIG	**Matias Romero**	**3.25**	**333**⇑	*i* P	**Pn**	**07 57 45.1**	**-0.6**
CMIG				*i* S	**Sn**	**07 58 22.7**	**-1.5**
TUIG	**Tuzandepetl**	**3.97**	**345**	*e*P	**Pn**	**07 57 53.8**	**-2.2**
TUIG				*i* S	**Sn**	**07 58 44.3**	**+1.9**
TUIG	**Tuzandepetl**	**3.97**	**345**	*e*P	**Pn**	**07 57 55.8**	**-0.2**
TUIG				*i* S	**Sn**	**07 58 41.2**	**-1.2**
OXX	**Oaxaca**	**4.35**	**312**	*i* P	**Pn**	**07 58 02.5**	**+1.2**
OXX				*i* S	**Sn**	**07 58 50.5**	**-1.5**
OXX	**Oaxaca**	**4.35**	**312**	*i* P	**Pn**	**07 58 02.0**	**+0.7**
OXX				*i* S	**Sn**	**07 58 50.0**	**-2.0**
VHO	**Vista Hermosa**	**4.35**	**312**	*e*P	**Pn**	**07 57 60.0**	**-1.4**
VHO				*i* S	**Sn**	**07 58 50.8**	**-1.2**
VHO	**Vista Hermosa**	**4.35**	**312**	*e*P	**Pn**	**07 57 60.0**	**-1.4**
VHO				*i* S	**Sn**	**07 58 50.1**	**-1.9**
SCIG		**5.19**	**23**	*e*P	**Pn**	**07 58 12.3**	**-0.9**
SCIG				*i* S	**Sn**	**07 59 13.6**	**+0.3**
PPM	**Popocatepetl**	**7.01**	**315**	*e*P	**Pn**	**07 58 40.0**	**+1.1**
PPM				*i* S	**Sn**	**07 59 55.0**	**-3.9**
PPM	**Popocatepetl**	**7.01**	**315**	*e*P	**Pn**	**07 58 37.2**	**-1.7**
PPM				*e*P		07 58 40.0	
PPM				*i* S	**Sn**	**07 59 53.9**	**-4.9**
PPM				*i* S	**Sn**	**07 59 55.0**	**-3.9**
TEIG	**Tepich**	**7.72**	**38**	*e*Pn	**Pn**	**07 58 45.0**	**-3.8**
35nm,0.3s							
TXAR	**Lajitas Array**	**17.85**	**329**	P	**P**	**08 01 05.5**	**+1.9**
0.1nm,0.3s,baz=158,slow=6.7,SNR=6.3							
MIAR	**Mount Ida**	**20.28**	**359**	*e*P	**P**	**08 01 29.7**	**-2.2**
11nm,0.9s							
CLNB	**Carlsbad**	**20.41**	**334**	*e*P	**P**	**08 01 34.2**	**+0.9**
GDL2	**Guadalupe Moun**	**20.57**	**333**	*e*P	**P**	**08 01 36.1**	**+1.2**
MNTX	**Cornudas Mount**	**20.63**	**330**	*e*P	**P**	**08 01 36.1**	**+0.5**
6.2nm,0.8s							
ROSC	**El Rosal**	**20.90**	**114**	P	**P**	**08 01 40.2**	**+1.8**
2.8nm,0.5s,baz=270,slow=23,SNR=4.3							
WMOK	**Wichita Mounta**	**21.05**	**347**	*e*P	**P**	**08 01 40.1**	**+0.3**
5.5nm,1.0s,mb3.8							
CPRX	**Cap Rock**	**21.07**	**335**	*e*P	**P**	**08 01 40.2**	**+0.2**
AMTX	**Amarillo**	**21.94**	**341**	*e*P	**P**	**08 01 48.5**	**-0.3**
18nm,0.8s,mb4.6							
SDV	**Santo Domingo**	**22.86**	**101**	P	**P**	**08 01 56.2**	**-1.9**
5.5nm,0.7s,mb4.1,baz=332,slow=8.2,SNR=7.1							
SDV	**Santo Domingo**	**22.86**	**101**	*e*P	**P**	**08 01 56.0**	**-2.2**
5.3nm,0.7s,mb4.1							
LPM	**Los Pinos Moun**	**23.37**	**331**	*e*P	**P**	**08 02 04.9**	**+2.0**
ANMO	**Albuquerque**	**23.82**	**333**	P	**P**	**08 02 08.8**	**+1.6**
1.4nm,0.6s,mb3.6,baz=149,slow=9.7,SNR=8.0							
ANMO	**Albuquerque**	**23.82**	**333**	*e*P	**P**	**08 02 08.6**	**+1.4**
1.9nm,0.8s,mb3.6							
TUC	**Tucson**	**24.07**	**322**	*e*P	**P**	**08 02 12.3**	**+2.6**
6.7nm,1.3s,mb3.9							
SDCO	**Great Sand Dun**	**25.84**	**337**	*e*P	**P**	**08 02 27.6**	**+1.1**
5.5nm,1.0s,mb4.0							
SJG	**San Juan**	**26.40**	**78**	LR	LR	08 12 25.8	
comp=Z,96nm,21.8s,MS3.3,baz=282,slow=36							
WUAZ	**Wupatki**	**26.72**	**326**	*e*P	**P**	**08 02 36.1**	**+1.4**
2.5nm,0.7s,mb3.9							
ARUT	**Antelope Range**	**29.52**	**326**	*e*P	**P**	**08 03 01.4**	**+1.4**
PDAR	**Pinedale Array**	**31.73**	**337**	P	**P**	**08 03 19.8**	**+0.4**
0.5nm,0.7s,mb3.5,baz=135,slow=10,SNR=3.7							
NVAR	**Mina Array Bea**	**32.72**	**322**	P	**P**	**08 03 29.6**	**+1.5**
2.5nm,0.7s,mb4.2,baz=139,slow=8.3,SNR=19							
NVAR				PcP	PcP	08 06 13.4	-0.1
0.6nm,0.8s,baz=117,slow=2.0,SNR=4.3							
REDW	**Red Top Meadow**	**32.73**	**336**	*e*P	**P**	**08 03 28.7**	**+0.5**
8.2nm,1.0s,mb4.6							
SNOW	**Snow King Moun**	**32.78**	**336**	*e*P	**P**	**08 03 29.2**	**+0.6**
20nm,1.1s,mb5.0							
HLID	**Hailey**	**34.40**	**332**	*e*P	**P**	**08 03 43.0**	**+0.4**
2.4nm,1.0s,mb4.1							
MCMT	**McKenzie Canyo**	**34.75**	**335**	*e*P	**P**	**08 03 46.9**	**+1.2**
ULM	**Lac du Bonnet**	**36.03**	**357**	P	**P**	**08 03 53.9**	**-2.6**
1.5nm,0.4s,mb4.3,baz=211,slow=4.8,SNR=4.2							
YBH	**Yreka Blue Hor**	**37.42**	**323**	P	**P**	**08 04 08.0**	**-0.2**
1.1nm,0.8s,mb3.8,baz=101,slow=5.2,SNR=2.9							
SIV	**San Ignacio**	**43.77**	**132**	P	**P**	**08 04 59.4**	**-1.5**
1.6nm,0.8s,mb3.8,baz=301,slow=7.6,SNR=5.8							
FCC	**Fort Churchill**	**44.50**	**359**	*e*P	**P**	**08 05 04.0**	**-2.4**
2.5nm,0.7s,mb4.2							
SCHQ	**Schefferville**	**45.52**	**21**	LR	LR	08 27 19.7	
comp=Z,131nm,18.7s,MS3.9,baz=349,slow=40							
YKA	**Yellowknife Ar**	**50.56**	**347**	P	**P**	**08 05 52.5**	**-1.0**
6.0nm,0.7s,mb4.6,baz=152,slow=7.4,SNR=111							
YKA				PcP	PcP	08 07 09.9	-1.6
0.5nm,0.8s,baz=149,slow=3.4,SNR=4.6							
YKA	**Yellowknife Ar**	**50.56**	**347**	P	**P**	**08 05 52.5**	**-1.0**
YKA				PcP	PcP	08 07 09.9	-1.6
YKW3	**Yellowknife Ar**	**50.62**	**347**	*e*P	**P**	**08 05 52.8**	**-1.2**
DLBC	**Dease Lake**	**51.96**	**336**	P	**P**	**08 06 05.7**	**+1.4**
2.2nm,0.8s,mb4.1,baz=171,slow=13,SNR=2.7							
DLBC	**Dease Lake**	**51.96**	**336**	P	**P**	**08 06 05.7**	**+1.4**
INK	**Inuvik**	**59.90**	**344**	P	**P**	**08 07 00.5**	**-0.7**
3.8nm,0.7s,mb4.5,baz=134,slow=6.1,SNR=30							
INK	**Inuvik**	**59.90**	**344**	P	**P**	**08 07 00.5**	**-0.7**
RES	**Resolute Bay**	**60.50**	**360**	*e*P	**P**	**08 07 03.0**	**-2.3**
3.4nm,0.7s,mb4.6							
ARCES	**ARCESS Array B**	**86.37**	**18**	P	**P**	**08 09 35.0**	**-1.3**
5.2nm,0.9s,mb4.8,baz=281,slow=4.6,SNR=3.6							
WRA	**Warramunga Arr**	**134.17**	**256**	PKP	PKPdf	08 16 13.6	-2.5
0.7nm,0.9s,baz=84,slow=1.9,SNR=4.6							
ASAR	**Alice Springs**	**134.49**	**251**	PKP	PKPdf	08 16 13.3	-3.4
0.6nm,1.1s,baz=117,slow=2.0,SNR=2.5							

*BJI **01** 07:58:15.1, 4.96N×94.39E, h45km, mB4.7, mb4.7, Ms4.3, Msz4.0*
*MOS **01** 07:58:15.2±1.2, 5.21N×94.38E, h33km, mb4.7/11, Error ellipse: s-maj=17.7km s-min=9.4km az=113.0*
*IDC **01** 07:58:18.8±0.4, 5.27N×94.32E, h46km±3km, mb4.1/22, mb1 4.2/22, mb1mx4.1/27, mbtmp4.3/22, MS3.8/3, Ms1 3.8/3, ms1mx3.2/31, Error ellipse: s-maj=13.8km s-min=9.6km az=52.0*

*NEIC **01** 07:58:18.8±0.3, 5.26N×94.34E, mb4.5/11, Error ellipse: s-maj=9.2km s-min=6.0km az=222.0*

ISC 01 07:58:16.8±0.4, 5.21N±0.06×94.35E±0.06, h45km, h45km±1.2km:pP-P, n67, σ1§08/59, mb4.5/41, MS3.8/4, 3C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.28**	**89**	*e*Pn	**P**	**07 59 49.9**	**+0.7**
KSM	**Kuching**	**16.36**	**103**	*e*Pn	**P**	**08 02 07.9**	**+2.9**
HYB	**Hyderabad**	**19.65**	**309**	*e*P	**P**	**08 02 44.0**	**-0.7**
HYB	**Hyderabad**	**19.65**	**309**	*i* P	**P**	**08 02 44.0**	**-0.7**
KMI	**Kunming**	**21.37**	**21**	P	**P**	**08 03 06.1**	**+3.6**
KMI				AP		08 03 14.8	
KMI				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.5						
KMI	**Kunming**	**21.37**	**21**	P	**P**	**08 03 06.1**	**+3.6**
KMI	comp=Z,18nm,0.8s,mb4.5			pP		08 03 14.8	
JIRN	**Jiri**	**23.64**	**342**	*e*P	**P**	**08 03 26.4**	**+1.6**
	comp=Z,21nm,0.6s,mb4.8						
PKI	**Pulchoki**	**23.81**	**340**	*e*P	**P**	**08 03 28.5**	**+2.0**
	comp=Z,12nm,0.5s,mb4.6						
PKI	**Pulchoki**	**23.81**	**340**	*e*P	**P**	**08 03 28.5**	**+2.0**
PKI				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.3						
GUN	**Gumba**	**23.97**	**341**	*e*P	**P**	**08 03 28.1**	**0.0**
KKN	**Kakani**	**24.05**	**340**	*e*P	**P**	**08 03 29.7**	**+0.8**
GYA	**Guiyang**	**24.18**	**28**	‖*i*P	**P**	**08 03 31.4**	**+1.2**
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.0						
GKN	**Gorkha**	**24.47**	**339**	*e*P	**P**	**08 03 33.6**	**+0.6**
	comp=Z,12nm,0.4s,mb4.7						
LSA	**Lhasa**	**24.54**	**353**	P	**P**	**08 03 35.6**	**+1.9**
LSA	**Lhasa**	**24.54**	**353**	*e*P	**P**	**08 03 35.1**	**+1.4**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
LSA	**Lhasa**	**24.54**	**353**	*e*P	**P**	**08 03 35.0**	**+1.4**
	comp=Z,11nm,0.6s,mb4.6						
KOLN	**Koldanda**	**24.65**	**337**	*e*P	**P**	**08 03 36.1**	**+1.3**
	comp=Z,18nm,0.5s,mb4.8						
ENH	**Enshi**	**28.72**	**28**	*e*P	**P**	**08 04 10.0**	**-2.2**
	comp=Z,7.6nm,0.6s,mb4.6						
XAN	**Xi'an**	**31.71**	**23**	P	**P**	**08 04 37.0**	**-1.7**
XAN				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.9						
GTA	**Gaotai**	**34.40**	**8**	P	**P**	**08 05 01.2**	**-0.7**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**38.59**	**128**	P	**P**	**08 05 36.8**	**-0.6**
	comp=Z,9.4nm,0.6s,mb4.7,baz=302,slow=7.2,SNR=20						
FITZ				pP	pP	08 05 50.8	+1.2
	comp=Z,9.9nm,0.6s,baz=300,slow=4.6,SNR=4.9						
FITZ				LR	LR	08 21 42.2	
	comp=Z,112nm,18.0s,MS3.7,baz=6.4,slow=36						
JOW	**Kunigami**	**38.84**	**53**	P	**P**	**08 05 40.5**	**+1.1**
	comp=Z,12nm,0.3s,mb5.1,baz=131,slow=9.3,SNR=5.9						
WMQ	**Urumqi**	**38.90**	**352**	⇑*i*P	**P**	**08 05 40.4**	**+0.7**
WMQ				AP	pP	08 05 49.9	-2.0
WMQ				PP	PP	08 07 12.6	-0.5
WMQ				PPP	PPP	08 07 35.2	-1.6
WMQ				PCP	PcP	08 07 53.4	+2.9
WMQ				*e*S	**S**	**08 11 34.4**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,101nm,5.2s						
WMQ				LR	LR		
	comp=N,142nm,14.3s,MS4.0						
WMQ				LR	LR		
	comp=E,97nm,15.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,50nm,18.5s,MS3.4						
BJI	**Beijing**	**39.86**	**26**	*e*P	**P**	**08 05 45.1**	**-2.6**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
BJI	**Beijing**	**39.86**	**26**	*e*P	**P**	**08 05 45.1**	**-2.6**
	comp=Z,5.0nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**42.71**	**348**	*e*P	**P**	**08 06 10.9**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**42.71**	**348**	P	**P**	**08 06 11.2**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.1,baz=169,slow=8.4,SNR=24						
MKAR				pP	pP	08 06 23.6	+0.1
	comp=Z,4.6nm,0.6s,baz=167,slow=8.2,SNR=14						
SONM	**Songino Array**	**43.70**	**12**	P	**P**	**08 06 18.9**	**-0.3**
	comp=Z,3.3nm,0.8s,mb4.1,baz=195,slow=8.0,SNR=13						
SONM				pP	pP	08 06 31.1	-0.5
	comp=Z,2.3nm,0.7s,baz=194,slow=8.2,SNR=4.8						
SONM				PcP	PcP	08 08 06.3	+0.2
	comp=Z,0.5nm,0.4s,baz=193,slow=3.6,SNR=3.5						
SONM				pPcP		08 08 19.1	
	comp=Z,1.0nm,0.6s,baz=198,slow=3.9,SNR=4.0						
SONM				ScP		08 11 52.9	
	comp=Z,0.4nm,0.8s,baz=198,slow=3.9,SNR=3.7						
ULN	**Ulaanbaatar**	**43.87**	**12**	*e*P	**P**	**08 06 20.1**	**-0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**43.87**	**12**	*e*P	**P**	**08 06 20.1**	**-0.5**
	comp=Z,2.5nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**46.59**	**124**	P	**P**	**08 06 42.6**	**+0.1**
	comp=Z,8.3nm,0.6s,mb4.9,baz=302,slow=9.4,SNR=94						
WRA				pP	pP	08 06 56.4	+1.4
	comp=Z,25nm,0.9s,baz=302,slow=9.3,SNR=22						
WRAB	**Tennant Creek**	**46.59**	**124**	*e*P	**P**	**08 06 42.7**	**+0.1**
WRAB				*e*	pP	08 06 55.4	+0.4
WRAB				pmax	pmax		
	comp=Z,52nm,0.9s,mb5.5						
WRAB	**Tennant Creek**	**46.59**	**124**	*e*P	**P**	**08 06 42.7**	**+0.1**
	comp=Z,52nm,0.9s,mb5.5						
WRAB				*e*	pP	08 06 55.4	+0.5
WB2	**Warramunga Arr**	**46.60**	**124**	⇑*i*P	**P**	**08 06 42.6**	**0.0**
WB2				*i*	pP	08 06 55.6	+0.6
KURK	**Kurchatov**	**47.23**	**346**	*e*P	**P**	**08 06 47.6**	**+0.4**
KURK				*e*	pP	08 06 59.2	-0.4
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
KURK	**Kurchatov**	**47.23**	**346**	*e*P	**P**	**08 06 47.6**	**+0.4**
	comp=Z,8.3nm,0.6s,mb4.8						
KURK				*e*	pP	08 06 59.2	-0.3
ASAR	**Alice Springs**	**48.09**	**128**	P	**P**	**08 06 54.0**	**-0.3**
	comp=Z,3.0nm,0.7s,mb4.5,baz=298,slow=7.7,SNR=24						
ASAR				pP	pP	08 07 08.4	+1.8
	comp=Z,6.1nm,0.8s,baz=301,slow=7.7,SNR=10						
ASAR				LR	LR	08 28 02.9	
	comp=Z,109nm,19.9s,MS3.8,baz=15,slow=37						
ZAL	**Zalesovo**	**49.20**	**353**	P	**P**	**08 07 02.0**	**-0.4**
	comp=Z,3.9nm,0.4s,mb4.8,baz=300,slow=4.7,SNR=11						
ZAL				pP	pP	08 07 14.3	-0.5
	comp=Z,5.8nm,0.5s,baz=297,slow=4.7,SNR=6.4						
NVS	**Novosibirsk**	**50.29**	**352**	*e*P	**P**	**08 07 17.6**	**+6.8**
NVS				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
NVS				pmax	pmax		
	comp=N,4.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
BVAR	**Borovoye Array**	**51.56**	**342**	P	**P**	**08 07 19.5**	**-0.9**
	comp=E,1.8nm,0.6s,mb4.2,baz=144,slow=8.5,SNR=9.1						
BVAR				pP	pP	08 07 31.9	-1.0
	comp=E,2.9nm,0.7s,baz=143,slow=7.4,SNR=6.8						
CHKZ	**Chkalovo**	**52.05**	**342**	P	**P**	**08 07 23.3**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
OPO	**Ambohidratompo**	**52.14**	**242**	P	**P**	**08 07 25.0**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=315,slow=7.1,SNR=2.2						
BOD	**Bodaibo**	**54.68**	**13**	*e*P	**P**	**08 07 41.9**	**-1.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
KMBO	**Kilima Mbogo**	**57.37**	**265**	P	**P**	**08 08 03.6**	**+0.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=175,slow=11,SNR=3.1						
KMBO				pP	pP	08 08 16.5	+0.3
	comp=Z,2.5nm,0.8s,baz=61,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**58.15**	**133**	*e*P	**P**	**08 08 08.2**	**-0.4**
	comp=Z,4.1nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**58.15**	**133**	P	**P**	**08 08 08.2**	**-0.4**
	comp=Z,2.0nm,0.7s,mb4.3,baz=253,slow=3.1,SNR=5.4						
STKA				pP	pP	08 08 21.9	+0.5
	comp=Z,5.3nm,0.8s,baz=327,slow=7.6,SNR=5.9						
EIL	**Elat**	**60.94**	**301**	LR	LR	08 37 17.8	
	comp=Z,95nm,18.0s,MS4.0,baz=297,slow=38						
BRTR	**Keskin Array B**	**64.33**	**312**	P	**P**	**08 08 48.8**	**-1.4**
	comp=Z,1.8nm,0.7s,mb4.2,baz=127,slow=8.2,SNR=6.5						
TIXI	**Tiksi**	**69.79**	**11**	*e*P	**P**	**08 09 21.7**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
AKASG	**Malin Array Be**	**70.36**	**322**	P	**P**	**08 09 25.9**	**-2.0**
	comp=Z,0.3nm,0.3s,mb3.8,baz=88,slow=5.1,SNR=4.9						
MLR	**Muntele Rosu**	**71.22**	**316**	P	**P**	**08 09 33.1**	**0.0**
	comp=Z,3.7nm,1.0s,mb4.3,baz=153,slow=14,SNR=1.8						
LBTB	**Lobatse**	**73.17**	**242**	P	**P**	**08 09 45.5**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=112,slow=8.4,SNR=4.0						
LBTB				pP	pP	08 09 58.8	+0.4
	comp=Z,5.3nm,0.8s,baz=102,slow=6.5,SNR=5.3						
BOSA	**Boshof**	**74.37**	**239**	P	**P**	**08 09 52.6**	**+0.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=142,slow=14,SNR=5.7						
BOSA				pP	pP	08 10 05.4	+0.2
	comp=Z,3.2nm,0.7s,baz=74,slow=4.8,SNR=3.4						
FINES	**FINESS Array B**	**75.15**	**332**	P	**P**	**08 09 55.4**	**-0.5**
	comp=Z,1.1nm,0.4s,mb4.1,baz=98,slow=5.8,SNR=19						
FINES				pP	pP	08 10 07.7	-1.4
	comp=Z,1.6nm,0.5s,baz=108,slow=6.0,SNR=5.0						
ARCES	**ARCESS Array B**	**77.82**	**340**	P	**P**	**08 10 11.1**	**+0.3**
	comp=Z,5.9nm,1.0s,mb4.5,baz=90,slow=7.3,SNR=4.3						
GERES	**GERESS Array B**	**79.94**	**319**	P	**P**	**08 10 23.6**	**+0.8**
	comp=Z,0.4nm,0.3s,mb3.9,baz=108,slow=4.2,SNR=5.3						
GERES				pP	pP	08 10 37.1	+1.1
	comp=Z,3.7nm,0.7s,baz=90,slow=5.3,SNR=9.1						
HFS	**Hagfors**	**80.85**	**330**	P	**P**	**08 10 27.1**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.1,baz=143,slow=7.4,SNR=6.2						
DAVOX	**Davos**	**82.44**	**316**	P	**P**	**08 10 37.7**	**+1.8**
	comp=Z,2.7nm,0.5s,mb4.4,baz=145,slow=12,SNR=3.2						
DAVOX				pP	pP	08 10 50.6	+1.3
	comp=Z,5.5nm,0.5s,baz=114,slow=6.5,SNR=5.4						
SYO	**Syowa Base**	**82.94**	**197**	⇑PcP	PcP	08 10 50.5	+7.4
LPG	**La Plagne**	**84.63**	**315**	*e*P	pP	08 11 00.9	+0.5
	comp=Z,11nm,0.7s						
EKA	**Eskdalemuir Ar**	**90.02**	**325**	pP	pP	08 11 26.8	+0.5
	comp=Z,1.5nm,0.7s,baz=90,slow=5.8,SNR=2.5						
INK	**Inuvik**	**99.47**	**16**	P	**P**	**08 11 55.9**	**+0.2**
	comp=Z,1.5nm,1.0s,mb4.5,baz=218,slow=2.0,SNR=3.6						
INK				pP	pP	08 12 07.9	-1.4
	comp=Z,1.1nm,0.7s,baz=354,slow=5.8,SNR=3.0						
SCHQ	**Schefferville**	**118.15**	**348**	pPKP		08 17 12.7	
	comp=Z,2.5nm,0.9s,baz=27,slow=4.5,SNR=2.3						
PDAR	**Pinedale Array**	**127.55**	**22**	pPKP		08 17 33.1	
	comp=Z,1.4nm,0.9s,baz=52,slow=3.4,SNR=6.6						
TXAR	**Lajitas Array**	**141.54**	**26**	PKP	PKPdf	08 17 48.7	+4.8
	comp=Z,0.5nm,0.6s,baz=87,slow=0.3,SNR=3.9						
CFAA	**Coronel Fontan**	**149.08**	**210**	PKPbc	PKPdf	08 18 02.9	+6.4
	baz=180,slow=3.5						
CFAA	**Coronel Fontan**	**149.08**	**210**	PKPbc	PKPdf	08 18 02.9	+6.4

*IDC **01** 08:09:03.9±1.9, 1.84N×96.52E, mb4.0/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, ML4.4/1, Error ellipse: s-maj=78.1km s-min=20.1km az=57.0*
*NEIC **01** 08:09:08.9±0.8, 1.92N×96.69E, h30km, mb4.1/1, Error ellipse: s-maj=18.3km s-min=11.5km az=58.0*

ISC 01 08:09:07.0±1.1, 1.9N±0.1×96.7E±0.2, h30km, n10, σ0§59/10, mb4.0/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.18**	**50**	*e*Pn	**Pn**	**08 10 23.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**16.57**	**8**	Pn	**P**	**08 13 00.2**	**+1.2**
	0.5nm,0.3s,baz=197,slow=12,SNR=19						
WRA	**Warramunga Arr**	**42.87**	**122**	P	**P**	**08 17 04.7**	**0.0**
	0.9nm,0.6s,mb3.7,baz=300,slow=9.2,SNR=8.9						
ASAR	**Alice Springs**	**44.25**	**127**	P	**P**	**08 17 16.4**	**+0.4**
	1.1nm,1.0s,mb3.5,baz=299,slow=8.1,SNR=4.8						
MKAR	**Makanchi Array**	**46.41**	**346**	P	**P**	**08 17 33.1**	**+0.4**
	1.4nm,0.5s,mb4.2,baz=158,slow=8.8,SNR=20						
SONM	**Songino Array**	**46.49**	**9**	P	**P**	**08 17 33.4**	**+0.1**
	1.1nm,0.5s,mb4.0,baz=187,slow=9.4,SNR=11						
KURK	**Kurchatov**	**50.95**	**345**	*e*P	**P**	**08 18 08.0**	**+0.2**
	1.5nm,0.7s,mb4.0						
ZAL	**Zalesovo**	**52.75**	**351**	P	**P**	**08 18 20.4**	**-1.0**
	3.4nm,0.5s,mb4.6						
BVAR	**Borovoye Array**	**55.39**	**341**	P	**P**	**08 18 40.1**	**-0.6**
	1.1nm,0.6s,mb4.0,baz=153,slow=6.6,SNR=5.2						
FINES	**FINESS Array B**	**79.11**	**333**	P	**P**	**08 21 09.9**	**-0.1**
	2.5nm,1.0s,mb4.1,baz=90,slow=4.2,SNR=3.2						

*BJI **01** 08:17:06.7, 42.33N×139.51E, h217km, mB4.3, mb3.9*
*IDC **01** 08:17:07.2±1.4, 42.22N×139.38E, h197km±14km, mb3.5/10, mb1 3.7/11, mb1mx3.5/24, mbtmp4.0/11, Error ellipse: s-maj=16.1km s-min=13.4km az=59.0*
*MOS **01** 08:17:07.3±0.7, 42.24N×139.39E, h217km, mb4.0/8, Error ellipse: s-maj=19.2km s-min=9.8km az=78.1*
*NEIC **01** 08:17:08.3±0.5, 42.25N×139.35E, h207km±5km, mb4.1/15, Error ellipse: s-maj=6.0km s-min=4.6km az=125.0*
*JMA **01** 08:17:08.6±0.1, 42.26N×139.43E, h205km±1km, M3.8*

ISC 01 08:17:07.2±0.3, 42.25N±0.04×139.44E±0.06, h213km±3km, n62, σ0§67/80, mb3.9/21, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**0.17**	**172**	P	**P**	**08 17 35.4**	**+0.1**
JOSM				*e*S	**S**	**08 17 56.0**	**-0.9**
JSH	**Shimam**	**0.59**	**49**	P	**P**	**08 17 36.8**	**+0.4**
JSH				*e*S	**S**	**08 17 58.6**	**-0.4**
JYM2	**Yakumo 2**	**0.70**	**101**	P	**P**	**08 17 37.5**	**+0.6**
JYM2				*e*S	**S**	**08 17 59.9**	**0.0**
JSR	**Shiriuchi**	**1.03**	**135**	P	**P**	**08 17 39.2**	**+0.6**
JSR				*e*S	**S**	**08 18 02.8**	**-0.2**
JNB	**Noboribetsu**	**1.20**	**79**	P	**P**	**08 17 40.0**	**0.0**
JKB	**Kayabe**	**1.24**	**107**	P	**P**	**08 17 40.5**	**+0.2**
JKB				*e*S	**S**	**08 18 05.8**	**0.0**
JSK	**Shakotan**	**1.33**	**34**	P	**P**	**08 17 41.4**	**+0.4**
JSK				*e*S	**S**	**08 18 06.7**	**-0.5**
JOT	**Ohata**	**1.48**	**125**	P	**P**	**08 17 42.5**	**+0.2**
JOT				*e*S	**S**	**08 18 09.3**	**0.0**
JEW	**Eniwo**	**1.59**	**68**	P	**P**	**08 17 44.1**	**+0.9**
JEW				*e*S	**S**	**08 18 11.0**	**0.0**
JIW	**Iwasaki**	**1.71**	**166**	P	**P**	**08 17 45.1**	**+0.8**
JIW				*e*S	**S**	**08 18 13.1**	**+0.2**
JHR	**Hokuryu**	**2.24**	**48**	P	**P**	**08 17 50.7**	**+1.2**
JHR				*e*S	**S**	**08 18 23.8**	**+1.6**
JANG	**Nango**	**2.44**	**140**	P	**P**	**08 17 51.3**	**-0.4**
JANG				*e*S	**S**	**08 18 24.4**	**-1.7**
JNBK	**Urakawa-nobuka**	**2.46**	**88**	P	**P**	**08 17 52.0**	**+0.1**
JNBK				*e*S	**S**	**08 18 27.3**	**+0.9**
JFR	**Furan**	**2.49**	**68**	P	**P**	**08 17 52.3**	**0.0**
JFR				*e*S	**S**	**08 18 26.4**	**-0.7**
ERM	**Erimo**	**2.77**	**94**	Pn	**P**	**08 17 55.6**	**+0.2**
	3μm,0.4s						
JKK2	**Kamakawa 2**	**2.91**	**55**	P	**P**	**08 17 57.7**	**+0.7**
JKK2				*e*S	**S**	**08 18 34.9**	**-0.6**
JCH	**Churui**	**2.92**	**82**	P	**P**	**08 17 57.2**	**+0.1**
JCH				*e*S	**S**	**08 18 34.3**	**-1.4**
ASAJ	**Asahikawa**	**2.96**	**50**	PN	**P**	**08 17 58.2**	**+0.7**
ASAJ				S	**S**	**08 18 35.7**	**-0.8**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
ASAJ	**Asahikawa**	**2.96**	**50**	P	**P**	**08 17 58.1**	**+0.6**
	comp=N,11nm,0.3s,baz=248,slow=11,SNR=66						
ASAJ				S	**S**	**08 18 35.6**	**-0.9**
	comp=N,4.4nm,0.3s,baz=341,slow=32,SNR=11						
YSS	**Yuzh-Sakhalins**	**5.26**	**26**	⇑*i*PN	**P**	**08 18 25.8**	**-0.1**
YSS				*e*S	**S**	**08 19 25.0**	**-2.0**
YSS				pmax	pmax		
	comp=Z,70nm,0.2s						
YSS				smax			
	comp=N,90nm,1.0s						
YSS				smax			
	comp=E,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.26**	**26**	*e*Pn	**P**	**08 18 26.1**	**+0.2**
	comp=E,19nm,0.3s						
MAJO	**Matsushiro**	**5.78**	**190**	*e*PN	**P**	**08 18 32.8**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,12nm,0.4s						
MAJO	**Matsushiro**	**5.78**	**190**	*e*Pn	**P**	**08 18 32.8**	**+0.2**
	comp=Z,12nm,0.4s						
MAT	**Matsushiro**	**5.78**	**190**	*e*PN	**P**	**08 18 33.0**	**+0.4**
MAT				pmax	pmax		
	comp=Z,12nm,0.7s						
MAT	**Matsushiro**	**5.78**	**190**	*e*P	**P**	**08 18 33.0**	**+0.4**
	comp=Z,12nm,0.7s						
MAT	**Matsushiro**	**5.78**	**190**	P	**P**	**08 18 33.1**	**+0.5**
MDJ	**Mudanjiang**	**7.55**	**292**	P	**P**	**08 18 55.2**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.5s						
MDJ				AMB	AMB		
	comp=Z,109nm,5.6s						
MDJ	**Mudanjiang**	**7.55**	**292**	*e*Pn	**P**	**08 18 54.7**	**-0.7**
MA2	**Magadan**	**18.71**	**18**	*e*P	**P**	**08 21 11.5**	**+0.1**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MA2	**Magadan**	**18.71**	**18**	*e*P	**P**	**08 21 11.5**	**0.0**
	comp=Z,4.5nm,0.6s						
ULN	**Ulaanbaatar**	**23.45**	**295**	*e*P	**P**	**08 21 58.4**	**+0.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
ULN	**Ulaanbaatar**	**23.45**	**295**	*e*P	**P**	**08 21 58.4**	**+0.1**
	comp=Z,2.4nm,0.6s,mb3.9						
SONM	**Songino Array**	**23.89**	**295**	P	**P**	**08 22 01.6**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.5,baz=89,slow=8.3,SNR=6.4						
BILL	**Bilibino**	**29.55**	**20**	P	**P**	**08 22 53.1**	**-0.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
BILL	**Bilibino**	**29.55**	**20**	P	**P**	**08 22 53.1**	**-0.6**
	comp=Z,2.1nm,0.4s,mb4.1						
ZAL	**Zalesovo**	**37.41**	**307**	P	**P**	**08 24 00.7**	**-0.3**
	comp=Z,1.6nm,0.3s,mb4.0,baz=312,slow=4.0,SNR=5.8						
MKAR	**Makanchi Array**	**40.23**	**297**	P	**P**	**08 24 24.3**	**-0.1**
	comp=Z,3.1nm,0.6s,mb3.9,baz=84,slow=9.8,SNR=45						
KURK	**Kurchatov**	**41.65**	**303**	*e*P	**P**	**08 24 35.3**	**-0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
KURK	**Kurchatov**	**41.65**	**303**	*e*P	**P**	**08 24 35.2**	**-0.6**
	comp=Z,1.9nm,0.4s,mb3.9						
MCK	**McKinley**	**45.24**	**36**	*e*P	**P**	**08 25 05.6**	**+1.2**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
MCK	**McKinley**	**45.24**	**36**	*e*P	**P**	**08 25 05.6**	**+1.2**
	comp=Z,1.4nm,0.5s,mb3.5						
JIRN	**Jiri**	**45.30**	**269**	*e*P	**P**	**08 25 05.7**	**+0.3**
	comp=Z,5.0nm,0.3s,mb4.3						
GUN	**Gumba**	**45.40**	**269**	*e*P	**P**	**08 25 06.6**	**+0.4**
	comp=Z,35nm,0.5s,mb5.0						
COLA	**College**	**45.57**	**35**	*e*P	**P**	**08 25 07.7**	**+0.7**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb3.9						
COLA	**College**	**45.57**	**35**	*e*P	**P**	**08 25 07.7**	**+0.7**
	comp=Z,4.1nm,0.7s,mb3.9						
KKN	**Kakani**	**45.91**	**270**	*e*P	**P**	**08 25 10.0**	**-0.2**
	comp=Z,9.4nm,0.4s,mb4.4						
KKN	**Kakani**	**45.91**	**270**	*e*P	**P**	**08 25 10.0**	**-0.2**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.2						
PKI	**Pulchoki**	**45.93**	**269**	*e*P	**P**	**08 25 10.0**	**-0.4**
BVAR	**Borovoye Array**	**46.04**	**308**	P	**P**	**08 25 11.1**	**+0.2**
	comp=Z,3.4nm,0.4s,mb4.0,baz=76,slow=9.3,SNR=26						
DMN	**Daman**	**46.14**	**270**	*e*P	**P**	**08 25 12.1**	**+0.1**
GKN	**Gorkha**	**46.27**	**270**	*e*P	**P**	**08 25 13.0**	**0.0**
KOLN	**Koldanda**	**47.17**	**271**	*e*P	**P**	**08 25 20.2**	**+0.3**
	comp=Z,23nm,0.8s,mb4.6						
INK	**Inuvik**	**50.49**	**29**	*e*P	**P**	**08 25 45.3**	**+0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	**Inuvik**	**50.49**	**29**	*e*P	**P**	**08 25 45.3**	**+0.5**
	comp=Z,2.6nm,0.4s,mb3.9						
YKA	**Yellowknife Ar**	**60.09**	**31**	P	**P**	**08 26 53.4**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.4,baz=305,slow=5.9,SNR=14						
WRA	**Warramunga Arr**	**62.06**	**185**	P	**P**	**08 27 06.3**	**-1.0**
	comp=Z,0.9nm,0.5s,mb3.6,baz=0.9,slow=6.8,SNR=13						
CTA	**Charters Tower**	**62.34**	**173**	P	**P**	**08 27 07.6**	**-1.6**
	comp=Z,4.0nm,0.7s,mb4.2,baz=354,slow=20,SNR=3.2						
FINES	**FINESS Array B**	**63.51**	**330**	P	**P**	**08 27 15.7**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.3,baz=7.1,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**65.79**	**186**	P	**P**	**08 27 31.6**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.5,baz=1.6,slow=4.5,SNR=9.2						
FCC	**Fort Churchill**	**70.02**	**26**	*e*P	**P**	**08 27 56.8**	**-0.2**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
FCC	**Fort Churchill**	**70.02**	**26**	*e*P	**P**	**08 27 56.8**	**-0.2**
	comp=Z,2.1nm,0.8s,mb3.8						
PDAR	**Pinedale Array**	**75.09**	**45**	P	**P**	**08 28 28.1**	**+1.0**
	comp

σ0°62/16, **mb4.5/8, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.13**	**188**	P	**P**	**08 38 46.5**	**+0.8**
	0.3nm,0.3s,baz=20,slow=12,SNR=4.3						
WRAB	**Tennant Creek**	**19.68**	**163**	*eP*	**P**	**08 39 15.7**	**-0.7**
	5.3nm,0.5s						
WRA	**Warramunga Arr**	**19.69**	**163**	P	**P**	**08 39 15.9**	**-0.6**
	0.6nm,0.3s,baz=341,slow=12,SNR=27						
WB2	**Warramunga Arr**	**19.69**	**163**	*eS*	**P**	**08 39 15.7**	**-0.8**
ASAR	**Alice Springs**	**23.13**	**167**	P	**P**	**08 39 51.7**	**+0.2**
	1.7nm,0.5s,mb3.7,baz=343,slow=10,SNR=17						
HNR	**Honiara**	**32.60**	**106**	P	**P**	**08 41 17.8**	**-0.4**
	29nm,0.4s,baz=327,slow=3.6,SNR=2.7						
STKA	**Stephens Creek**	**33.14**	**159**	P	**P**	**08 41 23.4**	**+0.7**
	2.0nm,0.7s,mb4.2,baz=333,slow=10,SNR=4.7						
DZM	**Mont Dzumac**	**42.62**	**122**	P	**P**	**08 42 43.4**	**+1.0**
	5.3nm,0.9s,mb4.3,baz=315,slow=9.7,SNR=3.7						
JIRN	**Jiri**	**49.47**	**309**	*eP*	**P**	**08 43 36.4**	**-0.1**
	11nm,0.5s,mb5.1						
GUN	**Gumba**	**49.83**	**309**	*eP*	**P**	**08 43 39.4**	**+0.1**
	18nm,0.8s,mb5.2						
PKI	**Pulchoki**	**50.04**	**308**	*eP*	**P**	**08 43 41.2**	**+0.3**
DMN	**Daman**	**50.30**	**308**	*eP*	**P**	**08 43 43.4**	**+0.5**
KOLN	**Koldanda**	**51.56**	**307**	*eP*	**P**	**08 43 51.1**	**-1.3**
	8.0nm,0.5s,mb4.9						
SONM	**Songino Array**	**52.29**	**342**	P	**P**	**08 43 57.9**	**+0.2**
	0.2nm,0.5s,baz=135,slow=8.2,SNR=2.3						
MKAR	**Makanchi Array**	**62.34**	**326**	P	**P**	**08 45 08.8**	**+0.1**
	0.8nm,0.4s,mb4.2,baz=120,slow=8.5,SNR=15						
KURK	**Kurchatov**	**66.58**	**328**	*eP*	**P**	**08 45 36.0**	**-0.2**
	3.0nm,0.8s,mb4.4						

*IDC **01** 08:39:39.8±1.2, 1.08S×127.93E, mb3.9/6, mb1 4.1/8, mb1mx3.9/16, mbtmp3.9/8, ML4.0/2, Error ellipse: s-maj=114.4km s-min=16.7km az=71.0*
*NEIC **01** 08:39:44.2±0.6, 1.13S×127.93E, h30km, mb4.4/3, Error ellipse: s-maj=32.9km s-min=7.4km az=67.0*
ISC 01 08:39:41.8±0.8, **1.1S**±0.1×**128.1E**±0.3, **h30**km, **n14,**
σ0°73/14, **mb4.4/11, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.08**	**188**	P	**P**	**08 43 40.0**	**-0.2**
	0.3nm,0.3s,baz=47,slow=10,SNR=2.9						
WRAB	**Tennant Creek**	**19.71**	**162**	*eP*	**P**	**08 44 11.0**	**-0.9**
	6.3nm,0.6s						
WRA	**Warramunga Arr**	**19.72**	**162**	P	**P**	**08 44 11.2**	**-0.8**
	0.7nm,0.3s,baz=346,slow=12,SNR=14						
ASAR	**Alice Springs**	**23.15**	**166**	P	**P**	**08 44 47.2**	**+0.4**
	2.1nm,0.4s,mb3.9,baz=345,slow=12,SNR=17						
STKA	**Stephens Creek**	**33.18**	**159**	P	**P**	**08 46 20.3**	**+2.2**
	1.6nm,0.7s,mb4.1,baz=331,slow=13,SNR=5.0						
JIRN	**Jiri**	**49.35**	**309**	*eP*	**P**	**08 48 31.2**	**+0.5**
	8.5nm,0.4s,mb5.2						
GUN	**Gumba**	**49.71**	**309**	*eP*	**P**	**08 48 34.0**	**+0.5**
	9.2nm,0.4s,mb5.2						
PKI	**Pulchoki**	**49.92**	**308**	*eP*	**P**	**08 48 35.0**	**-0.1**
	5.6nm,0.4s,mb5.0						
KOLN	**Koldanda**	**51.44**	**307**	*eP*	**P**	**08 48 46.0**	**-0.6**
	12nm,0.5s,mb5.1						
SONM	**Songino Array**	**52.26**	**342**	P	**P**	**08 48 52.1**	**-0.5**
	0.2nm,0.5s,mb3.3,baz=180,slow=5.8,SNR=2.8						
MKAR	**Makanchi Array**	**62.27**	**326**	P	**P**	**08 50 03.6**	**+0.2**
	1.5nm,0.6s,mb4.3,baz=121,slow=8.4,SNR=23						
ZAL	**Zalesovo**	**65.47**	**334**	P	**P**	**08 50 23.6**	**-0.6**
	0.6nm,0.4s,mb4.0,baz=64,slow=11,SNR=3.3						
KURK	**Kurchatov**	**66.51**	**328**	*eP*	**P**	**08 50 30.9**	**-0.1**
	2.0nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**72.07**	**328**	P	**P**	**08 51 05.5**	**+0.4**
	1.0nm,0.6s,mb3.9,baz=146,slow=10,SNR=4.7						

*NIED **01** 08:58:00, 37.60N×145.00E, h41km, Mw3.8 Best double couple: M0:5.46×10^14 NP1:φs=236°, δ85°, λ123°. NP2: φs=334°, δ33°, λ9°.*
*JMA **01** 08:58:55.9±0.2, 37.59N×144.98E, h59km, M4.3*
ISC 01 08:58:52.9±1.4, **37.83N**±0.06×**145.26E**±0.10, **h33**km, **n12,**
σ1°59/19, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**3.08**	**295**	P	**P**	**08 59 42.3**	**+1.9**
JIO	**Ouri**	**3.15**	**283**	P	**P**	**08 59 42.2**	**+0.9**
JIO				*eS*	**S**	**09 00 17.3**	**-0.8**
JMK	**Ichinoseki**	**3.37**	**291**	P	**P**	**08 59 46.0**	**+1.6**
JMK				*eS*	**S**	**09 00 24.9**	**+1.2**
BSO1	**Boso 1**	**4.69**	**229**	P	**P**	**08 59 58.3**	**-4.9**
JOT	**Ohata**	**4.81**	**319**	P	**P**	**09 00 07.6**	**+2.6**
JOT				*eS*	**S**	**09 00 59.7**	**-0.6**
JCH	**Churui**	**5.00**	**344**	P	**P**	**09 00 09.1**	**+1.5**
JCH				*eS*	**S**	**09 01 03.5**	**-1.4**
JKB	**Kayabe**	**5.20**	**323**	*eS*	**S**	**09 01 09.6**	**-0.4**
JRY	**Ryogami san**	**5.40**	**252**	P	**P**	**09 00 10.9**	**-2.3**
NEM2	**Nemuro 2**	**5.54**	**4**	P	**P**	**09 00 14.7**	**-0.5**
NEM2				*eS*	**S**	**09 01 15.2**	**-3.5**
MAT	**Matsushiro**	**5.78**	**259**	P	**P**	**09 00 18.1**	**-0.3**
MAT				S	**S**	**09 01 18.5**	**-5.9**
JTKR	**Abashiri--Toko**	**6.22**	**351**	P	**P**	**09 00 26.0**	**+1.3**
JTKR				*eS*	**S**	**09 01 34.1**	**-1.5**
JHJ2	**Mitsune**	**6.47**	**225**	P	**P**	**09 00 22.7**	**-5.5**

*IDC **01** 09:04:01.9±2.0, 14.64N×92.39W, mb3.7/6, mb1 4.0/7, mb1mx3.8/22, mbtmp3.7/7, ML3.8/1, MS3.5/3, Ms1 3.6/3, ms1mx2.9/26, Error ellipse: s-maj=85.3km s-min=19.9km az=44.0*
*CASC **01** 09:04:03.4±2.3, 14.36N×93.15W, h15km±13km, MD4.5, mb3.9(NEIC)*
*MEX **01** 09:04:05.1±0.7, 18.74N×92.04W, h18km±468km, MD4.5*
*NEIC **01** 09:04:16.6±1.2, 15.24N×93.25W, h51km±11km, mb3.9/10, MD4.5(MEX), Error ellipse: s-maj=20.3km s-min=10.5km az=196.0*
ISC 01 09:04:02.7±1.8, **14.14N**±0.07×**93.22W**±0.04, **h24**km±15km, **n42,** σ1°05/52, **mb3.9**/13, **MS3.6**/3, **5C, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.55**	**83⇑**	*eP*	**Pn**	**09 04 29.4**	**+0.3**
JAT				*eS*	**Sn**	**09 04 48.4**	**-0.2**
FUG	**Fuego 3**	**2.33**	**82**	*eP*	**Pn**	**09 04 39.7**	**-0.7**
FUG				*eS*	**Sn**	**09 05 07.8**	**-0.7**
CCIG	**Comitan**	**2.37**	**26**	*i P*	**Pn**	**09 04 41.7**	**+0.7**
CCIG				*i S*	**Sn**	**09 05 10.0**	**+0.3**
CCIG	**Comitan**	**2.37**	**26⇑**	*i P*	**Pn**	**09 04 41.5**	**+0.4**
CCIG				*i S*	**Sn**	**09 05 10.0**	**+0.3**
IXG	**Ixpaco**	**2.68**	**89**	*eP*	**Pn**	**09 04 44.6**	**-0.8**
IXG				*eS*	**Sn**	**09 05 17.6**	**+0.1**
CMIG	**Matias Romero**	**3.34**	**332**	*i P*	**Pn**	**09 04 52.5**	**-2.3**
CMIG				*i S*	**Sn**	**09 05 27.5**	**-6.8**
CMIG	**Matias Romero**	**3.34**	**332⇑**	*i P*	**Pn**	**09 04 52.5**	**-2.4**
CMIG				*i S*	**Sn**	**09 05 27.5**	**-6.8**
RBDL	**Robledal**	**3.43**	**90**	*eP*	**Pn**	**09 04 56.0**	**-0.1**
RBDL				*eS*	**Sn**	**09 05 38.5**	**+2.1**
RTR	**El Retiro**	**3.48**	**94**	*eP*	**Pn**	**09 04 56.6**	**-0.1**
SBLS	**San Blas**	**3.50**	**94**	*eP*	**Pn**	**09 04 57.1**	**0.0**
SBLS				*eS*	**Sn**	**09 05 40.9**	**+2.5**
SNJE	**San Jose**	**3.52**	**94**	*eP*	**Pn**	**09 04 57.4**	**+0.1**
SNJE				*eS*	**Sn**	**09 05 38.5**	**-0.2**
BOQS	**Boqueron**	**3.85**	**96**	*eP*	**Pn**	**09 05 01.7**	**-0.2**
LFRS	**El Faro**	**4.07**	**97⇑**	*eP*	**Pn**	**09 05 05.1**	**0.0**
LFRS				*eS*	**Sn**	**09 05 52.7**	**0.0**
LCBS	**La Ceiba**	**4.15**	**96⇑**	*eP*	**Pn**	**09 05 06.6**	**+0.3**
OXX	**Oaxaca**	**4.47**	**311**	*eP*	**Pn**	**09 05 14.0**	**+3.2**
OXX				*i S*	**Sn**	**09 06 09.0**	**+6.3**
VHO	**Vista Hermosa**	**4.47**	**311**	*eP*	**Pn**	**09 05 12.0**	**+1.2**
VHO				*i S*	**Sn**	**09 06 08.5**	**+5.8**
VHO	**Vista Hermosa**	**4.47**	**311**	*eP*	**Pn**	**09 05 12.3**	**+1.5**
VHO				*i S*	**Sn**	**09 06 08.5**	**+5.8**
TEIG	**Tepich**	**7.68**	**37**	*ePn*	**Pn**	**09 05 53.6**	**-2.4**
	45nm,0.4s						
JTS	**JuntasAbangare**	**8.94**	**114**	*ePn*	Px	09 06 30.9	
	14nm,0.8s						
TXAR	**Lajitas Array**	**17.95**	**329**	P	**P**	**09 08 14.1**	**+1.5**
	0.1nm,0.3s,baz=132,slow=12,SNR=9.5						
MIAR	**Mount Ida**	**20.32**	**359**	*eP*	**P**	**09 08 41.0**	**+1.1**
	9.1nm,1.0s						
GDL2	**Guadalupe Moun**	**20.66**	**332**	*eP*	**P**	**09 08 43.3**	**-0.3**
MNTX	**Cornudas Mount**	**20.73**	**330**	*eP*	**P**	**09 08 44.1**	**-0.1**
	3.1nm,0.9s						
WMOK	**Wichita Mounta**	**21.12**	**347**	P	**P**	**09 08 47.7**	**-0.5**
	2.0nm,0.9s,mb3.5						
CPRX	**Cap Rock**	**21.16**	**335**	*eP*	**P**	**09 08 47.7**	**-0.9**
AMTX	**Amarillo**	**22.02**	**341**	*eP*	**P**	**09 08 56.1**	**-1.2**
	6.0nm,0.5s,mb4.3						
SDV	**Santo Domingo**	**22.73**	**101**	P	**P**	**09 08 59.0**	**-5.6**
	2.9nm,1.0s,mb3.6,baz=20,slow=15,SNR=2.3						
ANMO	**Albuquerque**	**23.92**	**332**	P	**P**	**09 09 16.6**	**+0.7**
	0.5nm,0.4s,mb3.3,baz=156,slow=5.4,SNR=4.8						
ANMO	**Albuquerque**	**23.92**	**332**	*eP*	**P**	**09 09 15.9**	**0.0**
	0.7nm,0.6s,mb3.3						
TUC	**Tucson**	**24.18**	**321**	*eP*	**P**	**09 09 20.0**	**+1.6**
	3.2nm,1.0s,mb3.7						
SDCO	**Great Sand Dun**	**25.92**	**337**	*eP*	**P**	**09 09 35.0**	**0.0**
	4.1nm,1.1s,mb3.9						
PDAR	**Pinedale Array**	**31.82**	**337**	P	**P**	**09 10 28.4**	**+0.6**
	0.2nm,0.5s,mb3.2,baz=135,slow=6.3,SNR=3.4						
SADO	**Sadowa**	**32.80**	**19**	LR	LR	09 25 16.5	
	comp=Z,99nm,19.7s,MS3.5,baz=217,slow=40						
NVAR	**Mina Array Bea**	**32.83**	**322**	P	**P**	**09 10 38.4**	**+1.7**
	1.2nm,0.8s,mb3.9,baz=139,slow=8.3,SNR=7.4						
SNOW	**Snow King Moun**	**32.87**	**336**	*eP*	**P**	**09 10 36.8**	**-0.2**
	11nm,1.0s,mb4.7						
LOHW	**Long Hollow**	**32.94**	**336**	*eP*	**P**	**09 10 36.6**	**-1.0**
	1.0nm,0.5s,mb4.0						
TPAW	**Teton Pass**	**32.97**	**336**	*eP*	**P**	**09 10 37.2**	**-0.7**
	6.6nm,1.1s,mb4.5						
SIV	**San Ignacio**	**43.65**	**132**	P	**P**	**09 12 06.5**	**-1.2**
	0.7nm,0.8s,mb3.4,baz=247,slow=12,SNR=3.6						
YKA	**Yellowknife Ar**	**50.63**	**347**	P	**P**	**09 12 59.7**	**-2.1**
	1.2nm,0.5s,mb4.1,baz=152,slow=7.3,SNR=36						
YKA	**Yellowknife Ar**	**50.63**	**347**	P	**P**	**09 12 59.7**	**-2.1**
NOA	**NORSAR Array B**	**84.59**	**28**	LR	LR	09 52 18.2	
	comp=Z,21nm,20.6s,MS3.5,baz=330,slow=35						
GERES	**GERESS Array B**	**90.25**	**39**	LR	LR	09 58 50.0	
	comp=Z,27nm,18.4s,MS3.7,baz=35,slow=37						

*IDC **01** 09:04:35.7±0.9, 0.67N×95.99E, mb4.3/9, mb1 4.4/9, mb1mx4.1/20, mbtmp4.3/9, Error ellipse: s-maj=33.4km s-min=16.9km az=55.0*
*NEIC **01** 09:04:43.0±0.6, 1.19N×96.75E, h30km, mb4.5/4, Error ellipse: s-maj=17.2km s-min=7.7km az=58.0*
ISC 01 09:04:41.1±0.9, **1.2N**±0.1×**96.8E**±0.2, **h30**km, **n16,**
σ0°41/16, **mb4.3**/12, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.61**	**44**	*ePn*	**Pn**	**09 06 04.6**	**-0.2**
KULM				*epPn*		09 06 12.4	
FITZ	**Fitzroy Crossi**	**34.30**	**125**	*eP*	**P**	**09 11 26.8**	**-0.4**
	3.8nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**34.30**	**125**	P	**P**	**09 11 26.7**	**-0.6**
	4.4nm,0.6s,mb4.6,baz=341,slow=2.0,SNR=7.0						
WRA	**Warramunga Arr**	**42.42**	**122**	P	**P**	**09 12 35.4**	**+0.2**
	3.7nm,0.6s,mb4.2,baz=302,slow=9.0,SNR=45						
WRAB	**Tennant Creek**	**42.43**	**122**	*eP*	**P**	**09 12 35.0**	**-0.2**
	5.7nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**42.43**	**122**	*eP*	**P**	**09 12 35.4**	**+0.2**
ASAR	**Alice Springs**	**43.76**	**127**	P	**P**	**09 12 46.3**	**+0.3**
	0.7nm,0.7s,mb3.5,baz=301,slow=8.2,SNR=9.8						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**09 13 12.9**	**+0.5**
	2.9nm,0.6s,mb4.4,baz=160,slow=7.8,SNR=41						
SONM	**Songino Array**	**47.18**	**9**	P	**P**	**09 13 13.6**	**+0.6**
	1.1nm,0.5s,mb4.1,baz=194,slow=9.8,SNR=13						
KURK	**Kurchatov**	**51.66**	**345**	*eP*	**P**	**09 13 46.8**	**-0.5**
	2.1nm,0.7s,mb4.2						
OPO	**Ambohidratompo**	**52.52**	**245**	P	**P**	**09 13 43.8**	**-10**
	2.5nm,0.4s,mb4.5,baz=70,slow=4.9,SNR=5.6						
ZAL	**Zalesovo**	**53.46**	**351**	P	**P**	**09 14 00.6**	**-0.1**
	9.6nm,0.4s,mb5.1,baz=305,slow=4.9,SNR=26						
ZAL	**Zalesovo**	**53.46**	**351**	P	**P**	**09 14 00.6**	**-0.1**
BVAR	**Borovoye Array**	**56.09**	**341**	P	**P**	**09 14 19.1**	**-0.8**
	2.1nm,0.7s,mb4.3,baz=135,slow=8.4,SNR=12						
MA2	**Magadan**	**71.51**	**26**	*eP*	**P**	**09 16 01.1**	**+0.2**
	4.2nm,0.7s,mb4.5						
ARCES	**ARCESS Array B**	**82.37**	**340**	P	**P**	**09 17 01.6**	**+0.4**
	3.9nm,1.0s,mb4.3,baz=101,slow=6.2,SNR=4.7						

*IDC **01** 09:24:15.2±1.7, 1.46N×96.78E, h30km±4km, mb3.7/7, mb1 3.9/7, mb1mx3.7/18, mbtmp3.9/7, Error ellipse: s-maj=74.4km s-min=14.6km az=56.0*
*NEIC **01** 09:24:15.7±0.9, 1.57N×96.91E, Error ellipse: s-maj=23.6km s-min=14.7km az=56.0*
ISC 01 09:24:13.8±1.1, **1.6N**±0.1×**96.9E**±0.2, **h30**km,
(**h31**km±1.1km:**pP-P**), **n8,** σ0°76/8, **mb3.9**/7, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.23**	**45**	*ePn*	**Pn**	**09 25 31.9**	**-0.2**
WRA	**Warramunga Arr**	**42.49**	**122**	P	**P**	**09 32 08.2**	**-0.2**
	0.4nm,0.5s,mb3.3,baz=300,slow=9.2,SNR=4.8						
WRA				pP	pP	09 32 17.0	-0.4
	0.5nm,0.4s,baz=302,slow=9.2,SNR=4.4						
ASAR	**Alice Springs**	**43.87**	**127**	P	**P**	**09 32 19.8**	**+0.2**
	0.4nm,0.6s,mb3.3,baz=300,slow=8.0,SNR=5.4						
ASAR				pP	pP	09 32 28.1	-0.4
	0.3nm,0.5s,baz=295,slow=7.6,SNR=2.6						
SONM	**Songino Array**	**46.78**	**9**	P	**P**	**09 32 43.2**	**+0.8**
	2.0nm,0.8s,mb4.1,baz=189,slow=9.9,SNR=14						
SONM				pP	pP	09 32 51.7	+0.2
	0.7nm,0.4s,baz=194,slow=9.4,SNR=6.2						
MKAR	**Makanchi Array**	**46.78**	**346**	P	**P**	**09 32 43.0**	**+0.6**
	2.3nm,0.6s,mb4.3,baz=162,slow=7.7,SNR=20						
MKAR				pP	pP	09 32 52.5	+1.0
	0.6nm,0.5s,baz=166,slow=7.9,SNR=4.8						
ZAL	**Zalesovo**	**53.11**	**351**	P	**P**	**09 33 30.9**	**+0.1**
	2.2nm,0.8s,mb4.2,baz=275,slow=5.4,SNR=11						
BVAR	**Borovoye Array**	**55.78**	**341**	P	**P**	**09 33 48.4**	**-1.9**
	0.6nm,0.5s,mb3.9,baz=166,slow=12,SNR=3.4						
BVAR				pP	pP	09 33 59.4	-0.2
	1.0nm,0.6s,baz=146,slow=11,SNR=4.3						
ARCES	**ARCESS Array B**	**82.06**	**340**	P	**P**	**09 36 32.8**	**+0.5**
	2.5nm,0.9s,mb4.2,baz=83,slow=7.3,SNR=3.8						
ARCES				pP	pP	09 36 42.5	+0.6
	3.7nm,1.0s,baz=79,slow=6.2,SNR=1.3						

*CASC **01** 09:41:49.5±1.0, 14.64N×93.22W, h96km±29km, MD4.5, mb4.2(NEIC)*
*MEX **01** 09:41:49.6±0.6, 14.04N×93.26W, h122km±37km, MD4.7*
*IDC **01** 09:41:51.0±2.1, 14.99N×92.53W, mb4.1/10, mb1 4.3/11, mb1mx4.1/22, mbtmp4.2/11, ML4.0/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/30, Error ellipse: s-maj=73.8km s-min=19.1km az=39.0*
*NEIC **01** 09:41:52.2±0.7, 14.39N×93.15W, mb4.2/22, MD4.7(MEX), Error ellipse: s-maj=14.5km s-min=7.4km az=206.0*
ISC 01 09:41:49.0±1.5, **14.32N**±0.06×**93.19W**±0.04, **h17**km±12km,
h22km±1.2km:**pP-P**, **n78,** σ1°10/89, **mb4.2**/25, **MS3.6**/9, **2C, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.50**	**90**	*eP*	**Pn**	**09 42 16.7**	**+1.2**
JAT				*eS*	**Sn**	**09 42 37.7**	**+2.8**
CCIG	**Comitan**	**2.20**	**27**	*i P*	**Pn**	**09 42 27.3**	**+1.7**
CCIG				*i S*	**Sn**	**09 42 58.0**	**+5.4**
CCIG	**Comitan**	**2.20**	**27⇑**	*i P*	**Pn**	**09 42 28.3**	**+2.7**
CCIG				*i S*	**Sn**	**09 42 58.5**	**+5.9**
FUG	**Fuego 3**	**2.28**	**86**	*eP*	**Pn**	**09 42 26.5**	**-0.1**
IXG	**Ixpaco**	**2.66**	**93**	*eP*	**Pn**	**09 42 31.2**	**-0.8**
HUIG	**Huatulco**	**3.17**	**297**	*eP*	**Pn**	**09 42 37.4**	**-1.9**
HUIG				*i S*	**Sn**	**09 43 16.9**	**-0.2**
HUIG	**Huatulco**	**3.17**	**297⇑**	*i P*	**Pn**	**09 42 38.0**	**-1.3**
HUIG				*i S*	**Sn**	**09 43 16.1**	**-1.0**
CMIG	**Matias Romero**	**3.21**	**330**	*i P*	**Pn**	**09 42 40.0**	**+0.1**
CMIG				*i S*	**Sn**	**09 43 24.6**	**+6.5**
CMIG	**Matias Romero**	**3.21**	**330**	*i P*	**Pn**	**09 42 39.4**	**-0.4**
CMIG				*i S*	**Sn**	**09 43 19.7**	**+1.7**
RBDL	**Robledal**	**3.40**	**93**	*eP*	**Pn**	**09 42 42.8**	**+0.2**
RTR	**El Retiro**	**3.46**	**96**	*eP*	**Pn**	**09 42 43.5**	**0.0**
SBLS	**San Blas**	**3.49**	**97**	*eP*	**Pn**	**09 42 43.9**	**0.0**
SNJE	**San Jose**	**3.50**	**97**	*eP*	**Pn**	**09 42 44.3**	**+0.3**
BOQS	**Boqueron**	**3.84**	**98**	*eP*	**Pn**	**09 42 49.2**	**+0.4**
TUIG	**Tuzandepetl**	**3.88**	**342**	*eP*	**Pn**	**09 42 50.2**	**+0.7**
TUIG				*i S*	**Sn**	**09 43 41.2**	**+6.0**
TUIG	**Tuzandepetl**	**3.88**	**342**	*eP*	**Pn**	**09 42 50.2**	**+0.7**
TUIG				*i S*	**Sn**	**09 43 38.0**	**+2.9**
LFRS	**El Faro**	**4.07**	**99**	*eP*	**Pn**	**09 42 52.1**	**0.0**
LCBS	**La Ceiba**	**4.14**	**99**	*eP*	**Pn**	**09 42 53.0**	**-0.1**
OXX	**Oaxaca**	**4.38**	**309**	*eP*	**Pn**	**09 42 55.0**	**-1.5**
OXX				*i S*	**Sn**	**09 43 52.0**	**+4.3**
VHO	**Vista Hermosa**	**4.38**	**309**	*eP*	**Pn**	**09 42 55.7**	**-0.8**
VHO				*i S*	**Sn**	**09 43 48.8**	**+1.1**
VHO	**Vista Hermosa**	**4.38**	**309**	*eP*	**Pn**	**09 42 55.7**	**-0.8**
VHO				*i S*	**Sn**	**09 43 46.1**	**-1.6**
VHO				*i S*	**Sn**	**09 43 48.8**	**+1.1**
SCIG		**5.01**	**22**	*i P*	**Pn**	**09 43 06.9**	**+1.5**
SCIG				*i S*	**Sn**	**09 44 03.1**	**-0.5**
CNCH	**Conchagua**	**5.30**	**101**	*eP*	**Pn**	**09 43 08.8**	**-0.8**
PPM	**Popocatepetl**	**7.03**	**313**	*eP*	**Pn**	**09 43 34.2**	**+0.3**
PPM				*i S*	**Sn**	**09 44 54.3**	**0.0**
PPM	**Popocatepetl**	**7.03**	**313**	*eP*	**Pn**	**09 43 31.4**	**-2.5**
PPM				*eP*		09 43 36.0	
PPM				*i S*	**Sn**	**09 44 47.8**	**-6.5**
TEIG	**Tepich**	**7.52**	**38**	*ePn*	**Pn**	**09 43 38.7**	**-2.0**
	47nm,0.4s						
TEIG				Sn	**Sn**	**09 45 00.3**	**-6.2**
JTS	**JuntasAbangare**	**8.99**	**116**	*ePn*	**P**	**09 44 03.8**	**+2.6**
	23nm,0.7s						
TXAR	**Lajitas Array**	**17.81**	**329**	P	**P**	**09 45 59.8**	**+1.8**
	0.1nm,0.3s,baz=150,slow=10,SNR=12						
TXAR				LR	LR	09 53 47.4	
	comp=Z,57nm,19.6s,baz=220,slow=41						
LRAL	**Lakeview Retre**	**19.47**	**16**	*eP*	**P**	**09 46 17.0**	**-1.0**
	3.8nm,0.4s						
MIAR	**Mount Ida**	**20.14**	**359**	*eP*	**P**	**09 46 23.1**	**-2.3**
	15nm,0.9s						
CLNB	**Carlsbad**	**20.36**	**333**	*eP*	**P**	**09 46 28.2**	**+0.6**
GDL2	**Guadalupe Moun**	**20.52**	**332**	*eP*	**P**	**09 46 29.7**	**+0.4**
MNTX	**Cornudas Mount**	**20.59**	**329**	*eP*	**P**	**09 46 30.1**	**+0.1**
	6.7nm,0.8s						
ROSC	**El Rosal**	**20.82**	**115**	P	**P**	**09 46 32.3**	**-0.2**
	4.3nm,0.5s,baz=92,slow=21,SNR=3.9						
WMOK	**Wichita Mounta**	**20.95**	**347**	*eP*	**P**	**09 46 32.9**	**-0.8**
	2.3nm,0.7s						
GOGA	**Godfrey**	**20.96**	**23**	P	**P**	**09 46 31.7**	**-2.1**
	9.1nm,0.8s						
CPRX	**Cap Rock**	**21.01**	**334**	*eP*	**P**	**09 46 33.6**	**-0.8**
PLAL	**Pickwick Lake**	**21.09**	**12**	P	**P**	**09 46 33.9**	**-1.2**
	6.5nm,0.8s,mb4.0						
PLAL				*epP*		09 46 40.4	
AMTX	**Amarillo**	**21.86**	**341**	*eP*	**P**	**09 46 41.9**	**-1.1**
	12nm,0.6s,mb4.5						
SDV	**Santo Domingo**	**22.74**	**101**	P	**P**	**09 46 50.1**	**-1.7**
	7.0nm,0.8s,mb4.1,baz=323,slow=4.2,SNR=12						
LPM	**Los Pinos Moun**	**23.33**	**331**	*eP*	**P**	**09 46 58.9**	**+1.5**
CCM	**Cathedral Cave**	**23.71**	**4**	P	**P**	**09 46 59.3**	**-1.7**
	2.7nm,0.5s,mb3.9						
ANMO	**Albuquerque**	**23.78**	**332**	P	**P**	**09 47 02.9**	**+1.1**
	1.9nm,0.7s,mb3.6,baz=137,slow=7.7,SNR=14						
ANMO				LR	LR	09 57 20.5	
	comp=Z,53nm,20.0s,MS3.0,baz=92,slow=40						
ANMO	**Albuquerque**	**23.78**	**332**	*eP*	**P**	**09 47 02.5**	**+0.8**
	2.0nm,0.8s,mb3.6						
TUC	**Tucson**	**24.06**	**321**	*eP*	**P**	**09 47 07.1**	**+2.6**
	4.1nm,0.9s,mb3.9						
KSU1	**Kansas State U**	**24.87**	**354**	*eP*	**P**	**09 47 10.8**	**-1.5**
SDCO	**Great Sand Dun**	**25.77**	**337**	*eP*	**P**	**09 47 21.6**	**+0.8**
	7.6nm,1.3s,mb4.1						
SJG	**San Juan**	**26.23**	**78**	LR	LR	09 57 06.8	
	comp=Z,102nm,19.4s,MS3.4,baz=275,slow=36						
WUAZ	**Wupatki**	**26.70**	**325**	*eP*	**P**	**09 47 30.6**	**+1.2**
	4.5nm,0.9s,mb4.0						
PV01	**Paradox Valley**	**27.36**	**333**	*eP*	**P**	**09 47 36.9**	**+1.5**
ARUT	**Antelope Range**	**29.49**	**326**	P

0.3nm,0.4s,mb3.4,baz=298,slow=7.6,SNR=6.8
SONM Songino Array 46.92 8 LR LR 10 25 29.8
comp=Z,50nm,20.5s,MS3.5,baz=128,slow=41
MKAR Makanchi Array 47.07 346 P **P 10 02 22.3 +0.9**
0.9nm,0.5s,mb4.0,baz=160,slow=8.6,SNR=21
MKAR Makanchi Array 47.07 346 P **P 10 02 22.3 +0.9**
KURK Kurchatov 51.62 345 *e*P **P 10 02 56.0 -0.3**
0.6nm,0.4s,mb3.9
ZAL Zalesovo 53.37 351 P **P 10 03 09.5 +0.2**
2.0nm,0.4s,mb4.4,baz=312,slow=4.8,SNR=5.7
BVAR Borovoye Array 56.09 341 P **P 10 03 28.5 -0.7**
0.8nm,0.5s,mb4.0,baz=135,slow=8.4,SNR=6.2

*IDC **01** 10:00:42.0±2.6,2.53N×97.34E,mb3.8/6,mb1 3.9/6, mb1mx3.7/17,mbtmp3.8/6,Error ellipse: s-maj=117.6km s-min=21.5km az=58.0*
*NEIC **01** 10:00:45.2±0.9,2.28N×96.98E,h30km,mb4.2/1,Error ellipse: s-maj=24.5km s-min=13.9km az=59.0*
ISC 01 10:00:43.4±1.1,2.3N±0.1×97.0E±0.2,h30km,n10, σ0§86/10,mb3.8/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.73**	**51**	*e*Pn	**Pn**	**10 01 55.0**	**+0.4**
WRA	**Warramunga Arr**	**42.81**	**123**	P	**P**	**10 08 40.1**	**-0.5**
0.9nm,0.5s,mb3.7,baz=302,slow=9.2,SNR=8.9							
WRAB	**Tennant Creek**	**42.81**	**123**	P	**P**	**10 08 40.6**	**-0.1**
5.0nm,1.0s,mb4.2							
ASAR	**Alice Springs**	**44.24**	**128**	P	**P**	**10 08 52.5**	**+0.3**
0.2nm,0.5s,mb3.1,baz=303,slow=7.9,SNR=6.1							
SONM	**Songino Array**	**46.09**	**9**	P	**P**	**10 09 06.0**	**-0.6**
0.3nm,0.5s,mb3.5,baz=186,slow=9.3,SNR=3.6							
MKAR	**Makanchi Array**	**46.13**	**346**	P	**P**	**10 09 07.1**	**+0.1**
0.4nm,0.3s,mb3.8,baz=162,slow=8.4,SNR=7.2							
MKAR	**Makanchi Array**	**46.13**	**346**	P	**P**	**10 09 07.1**	**+0.1**
ZAL	**Zalesovo**	**52.44**	**351**	P	**P**	**10 09 54.1**	**-1.3**
0.7nm,0.3s,mb4.0,baz=5.2,slow=8.4,SNR=3.0							
ARCES	**ARCESS Array B**	**81.44**	**340**	P	**P**	**10 13 00.6**	**+1.9**
2.0nm,0.8s,mb4.1,baz=90,slow=7.2,SNR=3.5							
ARCES	**ARCESS Array B**	**81.44**	**340**	P	**P**	**10 13 00.6**	**+1.9**

ISC 01 10:03:50.3±0.7,47.08N±0.03×15.10E±0.07,h10km,n6, σ0§27/10,2C-1D,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSA	**Arzberg**	**0.34**	**59**	⇑*i*PG	**Pg**	**10 03 57.2**	**-0.1**
ARSA				*i* SG	**Sg**	**10 04 02.2**	**+0.2**
15nm,0.3s							
BISS	**Bistriski jare**	**0.43**	**177**	*i* Pg	**Pg**	**10 03 59.2**	**+0.2**
PERS	**Pernice**	**0.44**	**178**	*i* Pg	**Pg**	**10 03 59.5**	**+0.2**
PERS				*i* Sg	**Sg**	**10 04 05.2**	**0.0**
comp=Z,14nm,0.3s							
GROS	**Grobnik**	**0.68**	**155**	*e*Pg	**Pg**	**10 04 03.7**	**-0.2**
OBKA	**Obir**	**0.68**	**214**	⇑*i*PG	**Pg**	**10 04 03.9**	**-0.1**
OBKA				*i* SG	**Sg**	**10 04 13.3**	**+0.1**
comp=Z,7.3nm,0.5s							
MOA	**Molln**	**0.96**	**324**	⇓*i*PG	**Pg**	**10 04 08.9**	**-0.6**
MOA				*i* SG	**Sg**	**10 04 22.7**	**+0.4**
comp=Z,2.1nm,0.3s							

*TAP **01** 10:10:47.6,24.08N×122.32E,h4km±1km,ML2.9*
JMA 01 10:10:49.4±0.7,23.98N×122.46E,M2.3,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.69**	**46**	P	Pg	10 11 03.4	+0.1
YOJ				*e*S	Sg	10 11 13.0	+0.5
IRIF	**Iriomote-Funau**	**1.21**	**73**	P	Pb	10 11 12.5	-0.4
IRIF				*e*S	Sb	10 11 30.6	+1.6
HATJ	**Hateruma jima**	**1.23**	**86**	*e*S	Sb	10 11 28.5	-1.1
JKRS	**Kuro-shima**	**1.44**	**79**	P	Pn	10 11 16.9	+0.1
JKRS				*e*S	Sb	10 11 36.9	+1.3
JIJ	**Ishigaki jima**	**1.58**	**76**	P	Pn	10 11 17.4	-1.4
JIJ				*e*S	Sb	10 11 38.8	-1.0

*IDC **01** 10:13:55.2±1.2,22.44N×120.93E,mb3.4/4,mb1 3.7/4, mb1mx3.5/18,mbtmp3.4/4,Error ellipse: s-maj=73.9km s-min=25.5km az=69.0*
*JMA **01** 10:13:57.5±0.4,22.00N×120.66E,h55km*
*TAP **01** 10:14:00.1,22.40N×120.60E,h21km,ML3.8*
ISC 01 10:13:58.3±3.4,22.2N±0.1×120.6E±0.1,h30km±26km,n9, σ0§74/13,mb3.4/4,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**3.16**	**45**	P	**Pn**	**10 14 47.7**	**+0.5**
YOJ				*e*S	**Sn**	**10 15 25.4**	**+1.1**
HATJ	**Hateruma jima**	**3.49**	**58**	*e*S	**Sn**	**10 15 31.5**	**-1.2**
IRIF	**Iriomote-Funau**	**3.58**	**54**	P	**Pn**	**10 14 53.5**	**+0.3**
IRIF				*e*S	**Sn**	**10 15 34.6**	**-0.5**
JKRS	**Kuro-shima**	**3.74**	**57**	P	**Pn**	**10 14 55.2**	**-0.3**
JKRS				*e*S	**Sn**	**10 15 39.2**	**+0.1**
JIJ	**Ishigaki jima**	**3.91**	**56**	P	**Pn**	**10 14 57.3**	**-0.6**
JIJ				*e*S	**Sn**	**10 15 44.2**	**+0.8**
MKAR	**Makanchi Array**	**39.38**	**318**	P	**P**	**10 21 26.7**	**-0.1**
0.5nm,0.7s,mb3.3,baz=106,slow=10,SNR=4.5							
WRA	**Warramunga Arr**	**44.02**	**161**	P	**P**	**10 22 04.5**	**-0.7**
0.6nm,0.5s,mb3.6,baz=345,slow=8.8,SNR=9.4							
ASAR	**Alice Springs**	**47.42**	**163**	P	**P**	**10 22 33.6**	**+1.4**
0.3nm,0.6s,mb3.4,baz=339,slow=6.7,SNR=5.2							
YKA	**Yellowknife Ar**	**84.99**	**22**	P	**P**	**10 26 30.8**	**-0.7**
0.1nm,0.4s,mb3.3,baz=311,slow=4.5,SNR=5.0							

IDC 01 10:28:37.0±1.5,19.57N×145.12E,mb3.7/5,mb1 4.0/5, mb1mx3.7/20,mbtmp3.7/5,Error ellipse: s-maj=134.8km s-min=22.0km az=117.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.66**	**196**	P	P	10 36 18.7	-2.1
0.8nm,0.5s,baz=17,slow=8.4,SNR=14							
FITZ	**Fitzroy Crossi**	**42.04**	**208**	P	P	10 36 30.4	-1.8
3.6nm,0.8s,baz=12,slow=7.6,SNR=10							
ASAR	**Alice Springs**	**44.34**	**195**	P	P	10 36 49.3	-1.6
0.1nm,0.3s,baz=7.1,slow=7.3,SNR=3.8							
YKA	**Yellowknife Ar**	**77.48**	**28**	P	P	10 40 34.3	-1.3
0.3nm,0.5s,baz=290,slow=5.5,SNR=5.8							
NVAR	**Mina Array Bea**	**83.04**	**52**	P	P	10 41 04.8	-1.0
0.4nm,0.5s,baz=270,slow=4.5,SNR=4.4							

*CSEM **01** 10:36:59.9±0.2,36.45N×2.95E,h5km,ML3.1/5,Error ellipse: s-maj=7.1km s-min=4.2km az=45.0*
*CRAAG **01** 10:37:00.2,36.47N×2.94E,Ml3.9*
*MDD **01** 10:37:00.1±0.5,36.45N×2.81E,h7km±8km,mb3.9/4,Error ellipse: s-maj=6.6km s-min=5.0km az=104.0,PRXIMO*
*NEIC **01** 10:37:02.9,36.61N×2.89E,h7km,MG3.8(MDD),After MDD.*
ISC 01 10:36:59.6±0.7,36.48N±0.04×2.80E±0.05,h20km±10km, n31,σ1§26/46,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.30**	**156**	P	**Pb**	**10 37 06.0**	**-0.3**
ABA	**Alger-Bouzarea**	**0.38**	**30**	P	**Pb**	**10 37 07.4**	**-0.1**
ADJB	**Djebel Djouab**	**0.61**	**122**	P	**Pb**	**10 37 09.9**	**-1.5**
ABMS	**Boumerdes**	**0.61**	**63**	P	**Pb**	**10 37 10.9**	**-0.6**
AKET	**Djebel Ketaf**	**0.97**	**116**	P	**Pb**	**10 37 17.3**	**-0.3**
EBNR	**Beni Rached**	**1.04**	**260**	P	**Pb**	**10 37 20.0**	**+1.2**
ECHA	**Ech Chlef**	**1.20**	**255**	P	**Pn**	**10 37 22.0**	**+0.6**
ECHF	**Ech Chlef**	**1.22**	**255**	Pg	**Pn**	**10 37 22.0**	**+0.3**
ATAF	**Djebel Tarf**	**1.34**	**116**	P	**Pn**	**10 37 24.1**	**+0.7**
AKF	**Akfadou**	**1.43**	**83**	P	**Pn**	**10 37 26.6**	**+1.9**
EANR	**'Ain N'Sour**	**1.47**	**250**	P	**Pn**	**10 37 24.0**	**-1.3**
ETRT	**Tiaret**	**1.63**	**229**	P	**Pn**	**10 37 25.0**	**-2.6**
SET	**Setif**	**2.12**	**97**	P	**Pn**	**10 37 40.0**	**+5.5**
EIBI	**Ibiza**	**2.79**	**336**	Pn	**Pn**	**10 37 46.0**	**+1.8**
EIBI				Sn	**Sn**	**10 38 17.4**	**-0.3**
EIBI	**Ibiza**	**2.79**	**336**	Pn	**Pn**	**10 37 45.7**	**+1.5**
15nm,0.8s,SNR=9.8							
EIBI				Sn	**Sn**	**10 38 17.4**	**-0.3**
7.8nm,0.2s							
EIBI	**Ibiza**	**2.79**	**336**	Pn	**Pn**	**10 37 46.0**	**+1.8**
15nm,0.8s,SNR=9.8							
EIBI				Sn	**Sn**	**10 38 17.4**	**-0.3**
7.8nm,0.2s							
EBEN	**Beniarda**	**3.27**	**314**	Pn	**Pn**	**10 37 52.1**	**+1.1**
EBEN				Sn	**Sn**	**10 38 28.5**	**-1.2**
EBEN	**Beniarda**	**3.27**	**314**	Pn	**Pn**	**10 37 51.6**	**+0.6**
0.3nm,0.1s,SNR=7.9							
EBEN				Sn	**Sn**	**10 38 28.5**	**-1.2**
1.1nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**3.27**	**314**	Pn	**Pn**	**10 37 52.1**	**+1.1**
0.3nm,0.1s,SNR=7.9							
EBEN				Sn	**Sn**	**10 38 28.5**	**-1.3**
1.1nm,0.1s,SNR=7.9							
ETOS	**Mallorca**	**3.29**	**0**	Pn	**Pn**	**10 37 51.9**	**+0.7**
ETOS				Sn	**Sn**	**10 38 27.7**	**-2.4**
ETOS	**Mallorca**	**3.29**	**0**	Pn	**Pn**	**10 37 51.9**	**+0.7**
2.9nm,0.2s,SNR=7.5							
ETOS				Sn	**Sn**	**10 38 28.7**	**-1.4**
3.4nm,0.2s,SNR=5.1							
ETOS	**Mallorca**	**3.29**	**0**	Pn	**Pn**	**10 37 51.9**	**+0.7**
2.9nm,0.2s,SNR=7.5							
ETOS				Sn	**Sn**	**10 38 27.7**	**-2.4**
3.4nm,0.2s,SNR=5.1							
ETOB	**Tobarra**	**4.08**	**303**	Pn	**Pn**	**10 38 04.9**	**+2.5**
ETOB				Sn	**Sn**	**10 38 51.6**	**+1.5**
ETOB	**Tobarra**	**4.08**	**303**	Pn	**Pn**	**10 38 03.2**	**+0.8**
3.8nm,0.2s,SNR=7.9							
ETOB				Sn	**Sn**	**10 38 47.7**	**-2.5**
12nm,0.6s,SNR=7.9							
ETOB	**Tobarra**	**4.08**	**303**	Pn	**Pn**	**10 38 04.9**	**+2.5**
3.8nm,0.2s,SNR=7.9							
ETOB				Sn	**Sn**	**10 38 51.6**	**+1.5**
12nm,0.6s,SNR=7.9							
EMOS	**Mosqueruela**	**4.65**	**327**	Pn	**Pn**	**10 38 12.0**	**+1.4**
EMOS				Sn	**Sn**	**10 39 03.3**	**-1.5**
EMOS	**Mosqueruela**	**4.65**	**327**	Pn	**Pn**	**10 38 11.3**	**+0.7**
1.7nm,0.2s,SNR=6.3							
EMOS				Sn	**Sn**	**10 39 01.4**	**-3.3**
1.8nm,0.3s							
EMOS	**Mosqueruela**	**4.65**	**327**	Pn	**Pn**	**10 38 12.0**	**+1.4**
1.7nm,0.2s,SNR=6.3							
EMOS				Sn	**Sn**	**10 39 03.3**	**-1.4**
1.8nm,0.3s							
EQES	**Quesada**	**4.87**	**287**	Sn	**Sn**	**10 39 06.3**	**-4.0**
1.5nm,0.1s,SNR=7.9							
EQES	**Quesada**	**4.87**	**287**	Sn	**Sn**	**10 39 09.5**	**-0.8**
1.5nm,0.1s,SNR=7.9							
AVE	**Averroes**	**8.97**	**252**	S	**Sn**	**10 40 58.5**	**+5.9**

*IDC **01** 10:37:41.5±0.3,2.95N×96.44E,mb5.2/30,mb1 5.2/30, mb1mx5.2/30,mbtmp5.2/30,MS4.5/24,Ms1 4.5/24, ms1mx4.4/29,Error ellipse: s-maj=13.8km s-min=8.6km az=56.0*
*BJI **01** 10:37:41.9,2.59N×96.43E,h31km,mB5.3,mb5.2,Ms5.1, Msz5.0*
*HRVD **01** 10:37:45.8±0.2,2.80N×96.34E,h12km,MW5.2/62, Centroid moment Tensor Solution. LP body waves: s39,c63;Mantle waves: s62,c112; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.12±.13; $M_{\theta\theta}$2.88±.10; $M_{\phi\phi}$3.24±.14; $M_{r\theta}$1.55±.32; $M_{\theta\phi}$3.35±.10; $M_{r\phi}$0.99±.37; Best double couple: $M_0$6.533×10^{16} NP1: ϕ_s39°,δ37°,λ-97°. NP2:ϕ_s228°,δ53°,λ-85°. Principal axes: T 6.666, Plg8°, Azm314°; N -.264, Plg4°, Azm45°; P -6.401, Plg81°, Azm161°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **01** 10:37:45.2±0.8,2.92N×96.43E,h33km,mb5.6/101, MS4.5/25 Error ellipse: s-maj=9.2km s-min=4.0km az=122.1*
*NEIC **01** 10:37:45.8±0.1,2.87N×96.39E,mb5.4/113,MS4.5/16, MW5.1,Error ellipse: s-maj=4.1km s-min=2.8km az=220.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{16} Nm; M_{rr}-5.99; $M_{\theta\theta}$5.75; $M_{\phi\phi}$0.24; $M_{r\theta}$-0.44; $M_{\theta\phi}$1.20; $M_{r\phi}$1.27; Best double couple: $M_0$6.1×10^{16} NP1:ϕ_s246°, δ45°,λ-107°. NP2:ϕ_s90°,δ47°,λ-73°. Principal axes: T 6, Plg1°, Azm168°; N .27, Plg12°, Azm259°; P -6.27, Plg78°, Azm74°;*
ISC 01 10:37:43.9±0.2,2.86N±0.03×96.43E±0.03,h26km, h26km±.4km:pP-P,n543,σ0§94/476,mb5.3/172,MS4.7/69, 20C-145D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.85**	**60**	⇓*i*P	**Pn**	**10 39 00.1**	**+2.9**
IPM	**Ipoh**	**4.89**	**69**	P	**Pn**	**10 39 00.3**	**+2.5**
SNG	**Songkhla**	**5.98**	**44**	P	**Pn**	**10 39 14.0**	**+0.8**
1μm,1.0s							
KGM	**Kluang**	**6.93**	**97**	P	**Pn**	**10 39 29.2**	**+2.7**
NNT	**Nongplab**	**10.21**	**19**	P	**P**	**10 40 14.2**	**+2.1**
KSM	**Kuching**	**13.94**	**95**	⇓*e*Pn	**P**	**10 41 04.2**	**+1.9**
BDT	**Bhumibol Dam**	**14.52**	**10**	P	**P**	**10 41 10.0**	**+0.1**
20nm,1.0s							
KKTK	**Khon Kaen**	**14.80**	**25**	P	**P**	**10 41 16.0**	**+2.5**
7μm,0.6s							
CHG	**Chiang Mai**	**16.05**	**9**	⇓P	**P**	**10 41 30.1**	**+0.4**
19nm,0.8s							
PALK	**Pallekele**	**16.27**	**286**	⇑*e*Pn	**P**	**10 41 32.1**	**-0.4**
148nm,1.1s							
NANT	**Nan**	**16.39**	**14**	⇓P	**P**	**10 41 36.0**	**+2.0**
562nm,0.5s							
CHRT	**Chiangrai**	**17.22**	**11**	⇓P	**P**	**10 41 45.0**	**+0.4**
316nm,1.0s							
VIS	**Vishakhapatnam**	**19.58**	**320**	*e*P	**P**	**10 42 13.1**	**-0.1**
VIS				*e*		10 42 46.3	
comp=Z,276nm,1.1s							
VIS				*e*S	**S**	**10 45 57.8**	**+11**
VIS				*i*		10 47 51.5	
VIS				*i*		10 51 19.0	
KKM	**Kota Kinabalu**	**19.98**	**80**	⇓*i*P	**P**	**10 42 17.7**	**+0.2**
KKM	**Kota Kinabalu**	**19.98**	**80**	P	**P**	**10 42 17.8**	**+0.3**
KOD	**Kodaikanal**	**20.20**	**292**	*e*P	**P**	**10 42 21.0**	**+1.2**
QIZ	**Qiongzhong**	**20.75**	**38**	P	**P**	**10 42 26.0**	**+0.6**
QIZ				S	**S**	**10 46 10.5**	**-0.4**
QIZ				XS		10 46 24.3	
QIZ				LR	LR		
comp=N,3μm,13.6s,MS5.0							
QIZ				LR	LR		
comp=E,3μm,11.8s,MS5.0							
QIZ				LR	LR		
comp=Z,4μm,12.1s,MS5.0							
QIZ	**Qiongzhong**	**20.75**	**38**	*e*P	**P**	**10 42 25.6**	**+0.1**
comp=Z,89nm,1.1s							
TSM	**Tawau**	**21.45**	**86**	P	**P**	**10 42 33.3**	**+0.8**
HYB	**Hyderabad**	**22.74**	**311**	⇓*e*P	**P**	**10 42 46.0**	**+0.5**
HYB				pmax	pmax		
comp=Z,300nm,1.4s,mb5.5							
HYB	**Hyderabad**	**22.74**	**311**	⇓*e*P	**P**	**10 42 46.0**	**+0.5**
comp=Z,300nm,1.4s,mb5.5							
HYB				*e*S	**S**	**10 47 00.0**	**+12**
HYB	**Hyderabad**	**22.74**	**311**	⇓*i*P	**P**	**10 42 46.0**	**+0.5**
comp=Z,300nm,1.4s,mb5.5							
HYB				*e*pP		10 42 54.0	
HYB				*e*S	**S**	**10 47 00.0**	**+12**
KMI	**Kunming**	**22.96**	**15**	P	**P**	**10 42 49.3**	**+1.7**
KMI				AP		10 42 58.0	
KMI				XP		10 43 02.3	
KMI				PP	PP	10 43 16.9	-0.5
KMI				S	**S**	**10 46 55.6**	**+3.9**
KMI				SS	SS	10 47 39.9	+3.5
KMI				AMB	AMB		
comp=Z,86nm,1.0s,mb5.1							
KMI				AMB	AMB		
comp=Z,197nm,3.1s							
KMI				LR	LR		
comp=N,4μm,10.3s,MS5.2							
KMI				LR	LR		
comp=E,2μm,11.5s,MS5.2							
KMI				LR	LR		
comp=Z,4μm,13.8s,MS5.0							
KMI	**Kunming**	**22.96**	**15**	P	**P**	**10 42 49.3**	**+1.7**
comp=Z,86nm,1.0s,mb5.1							
KMI				pP		10 42 58.0	
KMI				sP		10 43 02.3	
KMI				PP	PP	10 43 16.9	-0.5
KMI				S	**S**	**10 46 55.6**	**+3.9**
KMI				SS	SS	10 47 39.9	+3.5
KMI				LR	LR		
comp=Z,4μm,13.8s,MS5.0							
SHL	**Shillong**	**23.00**	**349**	*e*P	**P**	**10 42 46.0**	**-2.0**
SHL				*e*		10 46 53.0	
BLSP	**Bilaspur**	**23.66**	**325**	*e*P	**P**	**10 42 55.0**	**+0.6**
BLSP				*e*		10 43 10.8	
comp=Z,268nm,0.7s							
BLSP				*e*S	**S**	**10 47 11.6**	**+7.5**
BLSP				*i*		10 52 02.6	
LATR	**Latur**	**24.86**	**310**	*e*P	**P**	**10 43 07.5**	**+1.4**
GYA	**Guiyang**	**25.44**	**22**	⇓*i*P	**P**	**10 43 11.7**	**+0.2**
GYA				AP	pP	10 43 19.2	+0.1
GYA				XP	sP	10 43 21.0	-1.6
GYA				PP	PP	10 43 51.5	+0.8
GYA				S	**S**	**10 47 38.9**	**+4.7**
GYA				AMB	AMB		
comp=Z,70nm,1.0s,mb5.2							
GYA				AMB	AMB		
comp=Z,170nm,3.7s							
GYA				LR	LR		
comp=N,2μm,16.1s,MS4.9							
GYA				LR	LR		
comp=E,2μm,15.2s,MS4.9							
GYA				LR	LR		
comp=Z,4μm,16.4s,MS5.0							
GOA	**Goa**	**25.56**	**301**	⇓*e*P	**P**	**10 43 12.7**	**0.0**
GOA				*e*		10 47 23.5	
AKL	**Akola**	**25.93**	**315**	⇑*i*P	**P**	**10 43 17.0**	**+0.8**
KAD	**Karad**	**26.14**	**305**	*e*P	**P**	**10 43 17.9**	**-0.1**
KAD				*e*		10 43 23.4	
comp=Z,96nm,1.7s							
KAD				*i*		10 50 33.9	
KAD				*i*		10 51 28.1	
ALBI	**Allahabad**	**26.39**	**329**	*e*P	**P**	**10 43 19.5**	**-0.8**
JIRN	**Jiri**	**26.54**	**339**	*e*P	**P**	**10 43 21.5**	**-0.1**
comp=Z,223nm,0.8s,mb5.8							
PKI	**Pulchoki**	**26.74**	**338**	*e*P	**P**	**10 43 23.1**	**-0.4**
comp=Z,136nm,1.1s,mb5.4							
PKI	**Pulchoki**	**26.74**	**338**	*e*P	**P**	**10 43 23.1**	**-0.4**
PKI				pmax	pmax		
comp=Z,68nm,1.1s,mb5.1							
GUN	**Gumba**	**26.87**	**339**	*e*P	**P**	**10 43 24.6**	**-0.1**
comp=Z,282nm,0.7s,mb5.9							
DMN	**Daman**	**26.89**	**337**	*e*P	**P**	**10 43 24.3**	**-0.6**
comp=Z,173nm,1.1s,mb5.5							
KKN	**Kakani**	**26.98**	**338**	*e*P	**P**	**10 43 25.3**	**-0.4**
comp=Z,202nm,0.9s,mb5.7							
KKN	**Kakani**	**26.98**	**338**	*e*P	**P**	**10 43 25.3**	**-0.4**
KKN				pmax	pmax		
comp=Z,101nm,0.9s,mb5.3							
POO	**Poona**	**27.05**	**307**	⇑*i*P	**P**	**10 43 26.0**	**-0.4**
comp=Z,70nm,1.0s,mb5.2							
POO				*i*		10 48 33.0	
LSA	**Lhasa**	**27.16**	**350**	P	**P**	**10 43 26.7**	**-0.6**
LSA				S	**S**	**10 48 04.4**	**+1.9**
LSA				LR	LR		
comp=N,510nm,22.0s,MS4.3							
LSA				LR	LR		
comp=E,700nm,20.6s,MS4.3							
LSA				LR	LR		
comp=Z,1μm,22.0s,MS4.5							
LSA	**Lhasa**	**27.16**	**350**	⇓*i*P	**P**	**10 43 27.1**	**-0.2**
LSA				*e*		10 46 47.5	
LSA				pmax	pmax		
comp=Z,115nm,0.9s,mb5.4							
LSA				MLR	MLR		
comp=Z,1μm,19.0s,MS4.4							
LSA	**Lhasa**	**27.16**	**350**	⇓*i*P	**P**	**10 43 27.1**	**-0.2**
comp=Z,115nm,0.9s,mb5.4							
LSA				*e*PcP	PcP	10 46 47.5	-0.4
LSA				LR	LR		
comp=Z,1μm,19.0s,MS4.4							
BHPL	**Bhopal**	**27.37**	**319**	*e*P	**P**	**10 43 29.3**	**0.0**
BHPL				*e*	pP	10 43 35.2	-1.8
comp=Z,75nm,1.1s							
BHPL				*e*		10 48 11.5	
GKN	**Gorkha**	**27.42**	**337**	*e*P	**P**	**10 43 29.3**	**-0.4**
comp=Z,362nm,1.0s,mb5.8							
KOLN	**Koldanda**	**27.64**	**335**	*e*P	**P**	**10 43 31.6**	**-0.1**
comp=Z,231nm,0.7s,mb5.9							
BOM	**Bombay**	**28.07**	**306**	*e*P	**P**	**10 43 33.0**	**-2.7**
BOM				*e*	pP	10 43 41.3	-2.0
comp=Z,114nm,1.6s							
BOM				*e*		10 51 19.7	
CD2	**Chengdu**	**28.75**	**13**	P	**P**	**10 43 40.4**	**-1.3**
CD2				PP	PP	10 44 32.7	-2.0
CD2				PPP	PPP	10 45 03.3	+16
CD2				S	**S**	**10 48 25.9**	**-2.1**
CD2				SS	SS	10 49 54.2	-1.4
CD2				AMB	AMB		
comp=Z,40nm,1.7s,mb4.9							
CD2				LR	LR		
comp=E,3μm,12.0s							
CD2				LR	LR		
comp=Z,3μm,12.0s,MS5.1							
ENH	**Enshi**	**29.94**	**23**	⇓*i*P	**P**	**10 43 50.7**	**-1.7**
comp=Z,86nm,0.8s,mb5.5							
ENH				*e*PcP	PcP	10 46 54.4	-0.3
LGTI	**Lohaghat**	**30.59**	**331**	*e*P	**P**	**10 43 58.3**	**+0.2**
QZH	**Quanzhou**	**30.63**	**42**	*e*P	**P**	**10 43 57.6**	**-0.9**
QZH				S	**S**	**10 48 57.0**	**-1.0**
QZH				LR	LR		
comp=Z,7μm,13.4s,MS5.5							
PTH	**Pithoragarh**	**30.69**	**332**	*e*P	**P**	**10 43 59.4**	**+0.4**
PTH				*e*S	**S**	**10 49 02.3**	**+3.5**
AJM	**Ajmer**	**31.44**	**320**	⇓*i*P	**P**	**10 44 06.0**	**+0.4**
NDI	**New Delhi**	**31.53**	**326**	*e*P	**P**	**10 44 06.0**	**-0.4**
NDI				*e*		10 49 18.0	
DDI	**Dehra Dun**	**32.39**	**329**	*e*P	**P**	**10 44 13.3**	**-0.6**
DDI				*e*		10 49 02.8	
MBWA	**Marble Bar**	**33.02**	**137**	*e*P	**P**	**10 44 19.0**	**-0.5**
comp=Z,46nm,1.0s,mb5.4							
MBWA				LR	LR		
comp=Z,1μm,20.0s,MS4.6							
XAN	**Xi'an**	**33.14**	**19**	P	**P**	**10 44 18.9**	**-1.5**
XAN				S	**S**	**10 49 40.5**	**+3.5**
XAN				AMB	AMB		
comp=Z,119nm,1.9s,mb5.5							
XAN				LR	LR		
comp=N,1μm,12.3s,MS4.9							
XAN				LR	LR		
comp=E,910nm,12.6s,MS4.9							
XAN				LR	LR		
comp=Z,3μm,12.7s,MS5.2							
SMLA	**Simla**	**33.49**	**329**	⇑*i*	**P**	**10 44 13.9**	**-10**
comp=Z,65nm,0.3s,mb6.0							
SMLA				*i*		10 49 33.5	
LZH	**Lanzhou**	**33.77**	**11**	⇓P	**P**	**10 44 24.9**	**-0.9**
LZH				AP	pP	10 44 32.6	-1.0
LZH				XP	sP	10 44 36.0	-0.9
LZH				PP	PP	10 45 38.9	-0.3
LZH				*e*S	**S**	**10 49 47.5**	**+0.7

NJ2	**Nanjing**	**35.89**	**34**	*e*P	**P**	**10 44 44.3 +0.3**
NJ2				AP	pP	10 44 54.1 +2.3
NJ2				XP	sP	10 44 58.5 +3.4
NJ2				PP	PP	10 46 06.3 +0.6
NJ2				S	**S**	**10 50 21.0 +1.3**
NJ2				XS		10 50 37.0
NJ2				AMB	AMB	
	comp=Z,10.0nm,1.1s,mb4.7					
NJ2				AMB	AMB	
	comp=Z,1μm,5.4s					
NJ2				LR	LR	
	comp=N,1μm,14.0s					
NJ2				LR	LR	
	comp=E,1μm,8.0s					
NJ2				LR	LR	
	comp=Z,3μm,8.0s					
GTA	**Gaotai**	**36.51**	**4**	P	**P**	**10 44 48.7 -0.5**
GTA				AP	pP	10 44 57.0 0.0
GTA				XP	sP	10 45 00.4 +0.1
GTA				PCP	PcP	10 47 13.9 +1.0
GTA				AMB	AMB	
	comp=Z,110nm,0.9s,mb5.7					
GTA				AMB	AMB	
	comp=Z,211nm,5.3s					
GTA				LR	LR	
	comp=N,917nm,15.2s,MS4.8					
GTA				LR	LR	
	comp=E,770nm,14.1s,MS4.8					
GTA				LR	LR	
	comp=Z,1μm,13.3s,MS4.9					
SSE	**Sheshan**	**36.53**	**37**	*e*P	**P**	**10 44 47.1 -2.3**
SSE				AP	pP	10 44 55.8 -1.4
SSE				S	**S**	**10 50 28.9 -0.7**
SSE				XS		10 50 43.4
SSE				AMB	AMB	
	comp=Z,30nm,0.7s,mb5.2					
SSE				LR	LR	
	comp=N,1μm,13.9s,MS4.9					
SSE				LR	LR	
	comp=E,763nm,13.8s,MS4.9					
SSE				LR	LR	
	comp=Z,2μm,13.8s,MS4.9					
SSE	**Sheshan**	**36.53**	**37**	*e*P	**P**	**10 44 47.1 -2.3**
	comp=Z,30nm,0.7s,mb5.2					
SSE				pP	pP	10 44 55.8 -1.4
SSE				S	**S**	**10 50 28.9 -0.7**
SSE				sS		10 50 43.4
SSE				SS	SS	10 53 28.4 +32
SSE				LR	LR	
	comp=Z,2μm,13.8s,MS4.9					
TIA	**Tai'an**	**38.30**	**27**	*e*P	**P**	**10 45 01.3 -3.0**
JOW	**Kunigami**	**38.71**	**49**	P	**P**	**10 45 07.7 0.0**
	comp=Z,18nm,0.6s,mb5.0,baz=214,slow=7.3,SNR=6.3					
MUN	**Mundaring**	**39.41**	**153**	*e*P	**P**	**10 45 14.7 +1.2**
	comp=Z,40nm,1.6s,mb4.9					
MUN	**Mundaring**	**39.41**	**153**	*e*P	**P**	**10 45 14.7 +1.2**
MUN				pmax	pmax	
	comp=Z,40nm,1.6s,mb4.9					
BTO	**Baotou**	**39.53**	**16**	*e*P	**P**	**10 45 14.7 +0.2**
BTO				S	**S**	**10 51 19.0 +4.0**
BTO				AMB	AMB	
	comp=Z,37nm,0.9s,mb5.1					
BTO				LR	LR	
	comp=E,1μm,19.6s					
KLBR	**Kellerberrin**	**39.81**	**151**	*e*P	**P**	**10 45 17.6 +0.7**
	comp=E,427nm,0.9s,mb6.2					
HHC	**Hu-ho-hao-te**	**40.21**	**18**	⇓P	**P**	**10 45 21.4 +1.3**
HHC				AP	pP	10 45 29.0 +1.1
HHC				XP	sP	10 45 31.8 +0.6
HHC				PP	PP	10 47 00.1 +3.9
HHC				PCP	PcP	10 47 24.5 +0.1
HHC				SCP		10 51 09.3
HHC				PCS		10 51 13.7
HHC				S	**S**	**10 51 27.9 +2.7**
HHC				XS		10 51 43.9
HHC				SS	SS	10 54 25.4 +7.5
HHC				SCS	ScS	10 55 23.2 +0.5
HHC				AMB	AMB	
	comp=Z,64nm,1.4s,mb5.2					
HHC				LR	LR	
	comp=N,2μm,13.4s,MS5.2					
HHC				LR	LR	
	comp=E,1μm,13.4s,MS5.2					
HHC				LR	LR	
	comp=Z,1μm,13.0s,MS5.0					
NWAO	**Narrogin (SRO)**	**40.67**	**153**	P	**P**	**10 45 24.5 +0.6**
	comp=Z,46nm,1.0s,mb5.1,baz=324,slow=12,SNR=6.4					
NWAO				LR	LR	11 02 20.7
	comp=Z,904nm,20.5s,MS4.6,baz=326,slow=36					
KSH	**Kashi**	**40.95**	**336**	*i* PR		10 45 26.3
KSH				AP	pP	10 45 33.0 -1.0
KSH				XP	sP	10 45 36.0 -1.2
KSH				PP	PP	10 47 03.1 -0.5
KSH				PCP	PcP	10 47 27.1 +0.3
KSH				PPP	PPP	10 47 32.2 -1.0
KSH				SCP		10 51 14.1
KSH				S	**S**	**10 51 35.0 -1.2**
KSH				SS	SS	10 54 31.0 -3.0
KSH				SCS	ScS	10 55 27.1 0.0
KSH				AMB	AMB	
	comp=Z,220nm,1.2s,mb5.7					
KSH				LR	LR	
	comp=N,480nm,4.6s					
KSH				LR	LR	
	comp=E,610nm,5.8s					
BJT	**Baijiatuau**	**41.09**	**23**	⇓*i*P	**P**	**10 45 28.2 +0.9**
BJT				pmax	pmax	
	comp=Z,99nm,1.0s					
BJT	**Baijiatuau**	**41.09**	**23**	⇓*i*P	**P**	**10 45 28.2 +0.9**
	comp=Z,99nm,1.0s,mb5.4					
BJI	**Beijing**	**41.11**	**23**	*e*P	**P**	**10 45 28.2 +0.7**
BJI				PP	PP	10 47 08.2 +2.9
BJI				S	**S**	**10 51 42.1 +3.5**
BJI				AMB	AMB	
	comp=Z,90nm,1.1s,mb5.3					
BJI				LR	LR	
	comp=N,1μm,13.5s,MS5.0					
BJI				LR	LR	
	comp=E,1μm,13.5s,MS5.0					
BJI				LR	LR	
	comp=Z,483nm,19.9s					
BJI	**Beijing**	**41.11**	**23**	*e*P	**P**	**10 45 28.2 +0.7**
	comp=Z,90nm,1.1s,mb5.3					
BJI				PP	PP	10 47 08.2 +2.9
BJI				S	**S**	**10 51 42.1 +3.5**
BJI				PS		10 51 55.2
BJI				SS	SS	10 54 53.7 +17
BJI				LR	LR	
	comp=Z,480nm,19.9s,MS4.4					
WBK	**Wadi Bani Khal**	**41.28**	**302**	P	**P**	**10 45 30.8 +1.8**
	SNR=24					
WMQ	**Urumqi**	**41.52**	**350**	⇑*i*P	**P**	**10 45 30.8 0.0**
WMQ				AP	pP	10 45 40.3 +1.7
WMQ				XP	sP	10 45 44.4 +2.5
WMQ				PP	PP	10 47 10.4 +0.6
WMQ				PCP	PcP	10 47 28.7 0.0
WMQ				SCP		10 51 14.8
WMQ				S	**S**	**10 51 43.9 -0.7**
WMQ				XS		10 52 00.0
WMQ				SS	SS	10 54 44.6 -0.1
WMQ				SCS	ScS	10 55 29.0 -1.5
WMQ				AMB	AMB	
	comp=Z,45nm,1.1s,mb5.0					
WMQ				AMB	AMB	
	comp=Z,281nm,5.2s					
WMQ				LR	LR	
	comp=N,341nm,17.8s,MS4.6					
WMQ				LR	LR	
	comp=E,692nm,18.6s,MS4.6					
WMQ				LR	LR	
	comp=Z,432nm,21.3s,MS4.3					
JMDO	**Jabal Madar**	**41.93**	**301**	P	**P**	**10 45 35.9 +1.5**
	SNR=14					
SMDO	**Samad**	**42.23**	**302**	P	**P**	**10 45 38.9 +1.9**
	SNR=13					
BIDO	**Bidbid**	**42.35**	**302**	P	**P**	**10 45 39.9 +2.1**
	SNR=23					
DL2	**Dalian**	**42.60**	**29**	P	**P**	**10 45 40.1 +0.4**
DL2				S	**S**	**10 52 03.9 +3.3**
DL2				AMB	AMB	
	comp=Z,50nm,0.8s,mb5.3					
DL2				LR	LR	
	comp=N,240nm,14.7s,MS4.6					
DL2				LR	LR	
	comp=E,610nm,17.8s,MS4.6					
DL2				LR	LR	
	comp=Z,600nm,12.2s					
BSY	**Bisya**	**42.84**	**301**	P	**P**	**10 45 43.5 +1.6**
	SNR=21					
ULHL	**Ulahol**	**43.18**	**338**	P	**P**	**10 45 44.8 +0.4**
	SNR=65					
KZA	**Kyzart**	**43.41**	**337**	P	**P**	**10 45 47.5 +1.2**
	SNR=19					
WRA	**Warramunga Arr**	**43.57**	**123**	P	**P**	**10 45 47.3 -0.5**
	comp=Z,51nm,0.9s,mb5.3,baz=303,slow=8.8,SNR=161					
WRA				S	**S**	**10 52 10.9 -4.0**
	comp=Z,8.5nm,1.2s,baz=296,slow=16,SNR=6.8					
WRAB	**Tennant Creek**	**43.57**	**123**	⇓*i*P	**P**	**10 45 47.4 -0.5**
WRAB				pmax	pmax	
	comp=Z,123nm,1.0s,mb5.6					
WRAB				MLR	MLR	
	comp=Z,313nm,20.0s,MS4.2					
WRAB	**Tennant Creek**	**43.57**	**123**	⇓*i*P	**P**	**10 45 47.4 -0.5**
	comp=Z,123nm,1.0s,mb5.6					
WRAB				LR	LR	
	comp=Z,313nm,20.0s,MS4.2					
WB2	**Warramunga Arr**	**43.58**	**123**	*e*P	**P**	**10 45 47.5 -0.4**
ARQ	**Araqi**	**43.64**	**301**	P	**P**	**10 45 50.0 +1.6**
	SNR=29					
AAA	**Alma-Ata**	**43.82**	**339**	*e*P	**P**	**10 45 48.0 -1.5**
AAA				*e*S	**S**	**10 52 18.0 -0.2**
AAA				pmax	pmax	
	comp=Z,500nm,3.5s					
UCH	**Uchtor**	**43.83**	**336**	P	**P**	**10 45 51.0 +1.3**
	SNR=62					
RBK	**Rabkut**	**43.90**	**292**	P	**P**	**10 45 51.6 +1.1**
	SNR=12					
KBK	**Karagaybulak**	**44.02**	**337**	P	**P**	**10 45 52.2 +1.0**
	SNR=28					
AML	**Almayashu**	**44.09**	**336**	P	**P**	**10 45 53.0 +1.2**
	SNR=39					
AAK	**Ala-Archa**	**44.18**	**337**	P	**P**	**10 45 53.6 +1.0**
	SNR=25					
AAK	**Ala-Archa**	**44.18**	**337**	P	**P**	**10 45 52.2 -0.3**
	comp=Z,530nm,1.0s,mb6.2,SNR=39					
AAK	**Ala-Archa**	**44.18**	**337**	⇓*i*P	**P**	**10 45 52.5 0.0**
AAK				*i*		10 47 37.8
AAK				pmax	pmax	
	comp=Z,141nm,1.2s,mb5.6					
AAK	**Ala-Archa**	**44.18**	**337**	⇓*i*P	**P**	**10 45 52.5 0.0**
	comp=Z,141nm,1.2s,mb5.6					
AAK				*i* PcP	PcP	10 47 37.8 +0.2
FRU	**Bishkek**	**44.30**	**337**	*i* P	**P**	**10 45 54.0 +0.5**
FRU				pmax	pmax	
	comp=Z,120nm,1.8s,mb5.3					
FRU				MLR	MLR	
	comp=Z,600nm,16.0s,MS4.6					
CHMS	**Chumysh**	**44.39**	**337**	P	**P**	**10 45 54.7 +0.5**
	SNR=14					
WHFO	**Wadi Hawf**	**44.40**	**293**	⇓P	**P**	**10 45 55.5 +0.9**
	SNR=51					
EKS2	**Erkin-Say**	**44.49**	**336**	P	**P**	**10 45 56.1 +1.1**
	SNR=39					
ASHO	**Ashiyiah**	**44.54**	**303**	P	**P**	**10 45 56.7 +1.1**
	SNR=38					
ABTO	**Aybut**	**44.70**	**292**	P	**P**	**10 45 58.1 +1.1**
	SNR=16					
USP	**Ospenovka**	**44.72**	**337**	P	**P**	**10 45 57.2 +0.4**
	SNR=54					
ASPA	**Alice Springs**	**45.01**	**128**	⇓*i*P	**P**	**10 45 59.0 -0.4**
ASAR	**Alice Springs**	**45.01**	**128**	P	**P**	**10 45 59.0 -0.5**
	comp=Z,26nm,0.9s,mb5.1,baz=300,slow=8.0,SNR=166					
ASAR				S	**S**	**10 52 32.9 -2.8**
	comp=Z,1.7nm,1.1s,baz=293,slow=11,SNR=2.5					
ASAR				LR	LR	11 07 26.8
	comp=Z,413nm,19.2s,MS4.4,baz=305,slow=40					
MKAR	**Makanchi Array**	**45.46**	**346**	P	**P**	**10 46 02.7 0.0**
	comp=Z,124nm,0.7s,mb5.8,baz=164,slow=8.0,SNR=905					
MKAR				S	**S**	**10 52 43.5 +1.6**
	comp=Z,2.2nm,0.9s,baz=162,slow=15,SNR=4.0					
MKAR				LR	LR	11 10 10.9
	comp=Z,456nm,19.1s,MS4.4,baz=179,slow=43					
SONM	**Songino Array**	**45.62**	**9**	P	**P**	**10 46 04.2 +0.3**
	comp=Z,82nm,0.9s,mb5.6,baz=190,slow=8.3,SNR=439					
SONM				PcP	PcP	10 47 42.7 +0.2
	comp=Z,26nm,0.7s,baz=205,slow=3.9,SNR=16					
SONM				LR	LR	11 07 52.4
	comp=Z,997nm,20.4s,MS4.7,baz=189,slow=40					
ULN	**Ulaanbaatar**	**45.76**	**10**	⇓*i*P	**P**	**10 46 05.1 0.0**
ULN				*e**PP	pP	10 46 13.5 +0.6
ULN				*i*		10 47 42.8
ULN				pmax	pmax	
	comp=Z,51nm,0.9s,mb5.5					
ULN				MLR	MLR	
	comp=Z,548nm,22.0s,MS4.5					
ULN	**Ulaanbaatar**	**45.76**	**10**	⇓*i*P	**P**	**10 46 05.1 0.0**
	comp=Z,51nm,0.9s,mb5.5					
ULN				*e*pP	pP	10 46 13.5 +0.6
ULN				*i* PcP	PcP	10 47 42.8 -0.2
ULN				LR	LR	
	comp=Z,548nm,22.0s,MS4.5					
SNY	**Shenyang**	**45.80**	**28**	⇑P	**P**	**10 46 04.3 -1.2**
SNY				AP	pP	10 46 12.2 -1.1
SNY				XP	sP	10 46 15.2 -1.4
SNY				S	**S**	**10 52 52.9 +6.0**
SNY				XS		10 53 06.4
SNY				AMB	AMB	
	comp=Z,110nm,1.8s,mb5.5					
SNY				LR	LR	
	comp=N,910nm,13.3s					
SNY				LR	LR	
	comp=Z,1μm,13.3s,MS4.9					
KKAR	**Karatay Array**	**46.24**	**334**	*i* P	**P**	**10 46 08.6 -0.3**
KKAR				pmax	pmax	
	comp=Z,111nm,1.3s,mb5.6					
ZAK	**Zakamensk**	**47.71**	**6**	⇑*i*P	**P**	**10 46 19.9 -0.5**
ZAK				*e*		10 47 49.9
ZAK				pmax	pmax	
	comp=Z,29nm,1.4s,mb5.1					
ZAK				pmax	pmax	
	comp=Z,9.0nm,0.9s,mb4.8					
CN2	**Changchun**	**48.20**	**28**	⇓P	**P**	**10 46 23.4 -0.9**
CN2				*e*AP	pP	10 46 31.7 -0.6
CN2				*e*S	**S**	**10 53 21.4 +0.5**
CN2				AMB	AMB	
	comp=Z,40nm,0.8s,mb5.5					
CN2				AMB	AMB	
	comp=Z,300nm,3.0s					
CN2				LR	LR	
	comp=N,900nm,17.0s,MS5.0					
CN2				LR	LR	
	comp=E,900nm,17.0s,MS5.0					
CN2				LR	LR	
	comp=Z,1μm,19.0s,MS4.9					
MOY	**Mondy**	**48.79**	**4**	*e*P	**P**	**10 46 28.6 -0.1**
MOY				pmax	pmax	
	comp=Z,48nm,2.0s,mb5.2					
TLY	**Talaya**	**49.03**	**6**	*e*P	**P**	**10 46 29.6 -1.0**
TLY				*e*		10 48 00.9
TLY				*e*S	**S**	**10 53 37.6 +5.2**
TLY				*e*PS	PS	10 53 46.9 +2.9
TLY				pmax	pmax	
	comp=Z,60nm,0.9s,mb5.6					
TLY				MLR	MLR	
	comp=Z,625nm,15.0s,MS4.7					
TLY	**Talaya**	**49.03**	**6**	⇓*i*P	**P**	**10 46 31.0 +0.4**
	comp=Z,54nm,0.9s,mb5.6					
TLY				*e*pP	pP	10 46 39.3 +0.8
TLY				*e*PcP	PcP	10 47 54.5 -0.1
IRK	**Irkutsk**	**49.65**	**6**	*e*P	**P**	**10 46 35.1 -0.3**
IRK				*e*		10 48 26.6
IRK				pmax	pmax	
	comp=Z,103nm,1.7s,mb5.6					
KURK	**Kurchatov**	**50.00**	**345**	⇓*i*P	**P**	**10 46 37.7 -0.4**
KURK				*e**PP	pP	10 46 45.8 -0.3
KURK				*e*		10 47 57.7
KURK				*e*S	**S**	**10 53 46.6 +0.7**
KURK				pmax	pmax	
	comp=Z,179nm,1.3s,mb5.9					
KURK	**Kurchatov**	**50.00**	**345**	⇓*i*P	**P**	**10 46 37.7 -0.4**
	comp=Z,179nm,1.3s,mb5.9					
KURK				*e*pP	pP	10 46 45.8 -0.3
KURK				*e*PcP	PcP	10 47 57.7 -0.3
KURK				*e*S	**S**	**10 53 46.6 +0.6**
HIA	**Hailar**	**50.34**	**20**	⇓*i*P	**P**	**10 46 40.5 -0.2**
HIA				pmax	pmax	
	comp=Z,126nm,1.0s					
HIA				MLR	MLR	
	comp=Z,1μm,19.0s					
HIA	**Hailar**	**50.34**	**20**	⇓*i*P	**P**	**10 46 40.5 -0.2**
	comp=Z,126nm,1.0s,mb5.9					
HIA				LR	LR	
	comp=Z,1μm,19.0s,MS4.9					
MDJ	**Mudanjiang**	**50.82**	**30**	P	**P**	**10 46 44.6 +0.2**
MDJ				AP	pP	10 46 52.5 +0.1
MDJ				XP	sP	10 46 56.3 +0.8
MDJ				PP	PP	10 48 42.5 +1.1
MDJ				S	**S**	**10 54 01.7 +4.4**
MDJ				XS		10 54 12.4
MDJ				AMB	AMB	
	comp=Z,29nm,0.7s,mb5.3					
MDJ				AMB	AMB	
	comp=Z,102nm,3.5s					
MDJ				LR	LR	
	comp=N,513nm,14.0s,MS5.0					
MDJ				LR	LR	
	comp=E,790nm,12.8s,MS5.0					
MDJ				LR	LR	
	comp=Z,1μm,12.2s,MS5.1					
MDJ	**Mudanjiang**	**50.82**	**30**	⇓*i*P	**P**	**10 46 44.0 -0.4**
	comp=Z,25nm,0.9s,mb5.1					
MAT	**Matsushiro**	**51.01**	**44**	*e*P	**P**	**10 46 43.0 -2.9**
MAT				pmax	pmax	
	comp=Z,5.0nm,0.7s,mb4.5					
MAT				MLR	MLR	
	comp=Z,350nm,20.0s,MS4.4					
MAT	**Matsushiro**	**51.01**	**44**	*e*P	**P**	**10 46 43.0 -2.9**
	comp=Z,4.8nm,0.7s,mb4.5					
MAT				LR	LR	
	comp=Z,350nm,20.0s,MS4.4					
MAT	**Matsushiro**	**51.01**	**44**	P	**P**	**10 46 42.7 -3.2**
ZAL	**Zalesovo**	**51.80**	**351**	P	**P**	**10 46 50.8 -0.9**
	comp=Z,31nm,0.6s,mb5.4,baz=302,slow=6.3,SNR=143					
ZAL				S	**S**	**10 54 11.9 +1.2**
	comp=Z,1.3nm,0.8s,baz=190,slow=19,SNR=7.2					
ZAL				LR	LR	11 14 47.5
	comp=Z,383nm,18.1s,MS4.5,baz=294,slow=43					
PMG	**Port Moresby**	**51.99**	**104**	⇓*e*P	**P**	**10 46 53.2 -0.5**
PMG				*e**PP	pP	10 47 01.5 -0.2
PMG				pmax	pmax	
	comp=Z,57nm,0.8s					
PMG				MLR	MLR	
	comp=Z,497nm,19.0s					
PMG	**Port Moresby**	**51.99**	**104**	P	**P**	**10 46 53.5 -0.1**
	comp=Z,60nm,0.8s,mb5.6,baz=275,slow=6.2,SNR=11					
PMG	**Port Moresby**	**51.99**	**104**	⇓*e*P	**P**	**10 46 53.1 -0.5**
	comp=Z,57nm,0.8s,mb5.5					
PMG				*e*pP	pP	10 47 01.5 -0.2
PMG				LR	LR	
	comp=Z,497nm,19.0s,MS4.6					
NVS	**Novosibirsk**	**52.92**	**350**	*i* P	**P**	**10 46 57.9 -2.2**
NVS				*e*S	**S**	**10 54 21.1 -4.9**
NVS				pmax	pmax	
	comp=N,53nm,1.3s					
NVS				pmax	pmax	
	comp=E,37nm,1.3s					
NVS				pmax	pmax	
	comp=Z,110nm,1.3s,mb5.6					
NVS				smax		
	comp=N,490nm,2.2s					
NVS				smax		
	comp=E,63nm,2.2s					
OPO	**Ambohidratompo**	**52.92**	**244**	P	**P**	**10 47 00.6 0.0**
	comp=E,16nm,0.8s,mb5.0,baz=66,slow=7.2,SNR=19					
RAYN	**Ar Rayn**	**53.31**	**297**	P	**P**	**10 47 03.0 -0.4**
	comp=E,392nm,0.7s,SNR=77					
ATD	**Arta Tunnel**	**53.77**	**282**	P	**P**	**10 47 05.6 -1.3**
	comp=E,22nm,1.0s,mb5.0,baz=270,slow=21,SNR=8.3					
CTA	**Charters Tower**	**53.93**	**117**	⇓*i*P	**P**	**10 47 07.7 -0.3**
	comp=E,31nm,0.9s,mb5.2					
CTA	**Charters Tower**	**53.93**	**117**	⇓*i*P	**P**	**10 47 07.7 -0.3**
CTA				pmax	pmax	
	comp=Z,31nm,0.9s					
CTA	**Charters Tower**	**53.93**	**117**	P	**P**	**10 47 07.8 -0.2**
	comp=Z,36nm,0.8s,mb5.3,baz=295,slow=8.9,SNR=18					
CTAO	**Charters Tower**	**53.93**	**117**	⇓*e*P	**P**	**10 47 07.7 -0.3**
CTAO				pmax	pmax	
	comp=Z,81nm,1.3s,mb5.5					
CTAO	**Charters Tower**	**53.93**	**117**	⇓*e*P	**P**	**10 47 07.7 -0.3**
	comp=Z,81nm,1.3s,mb5.5					
BVA0	**Borovoye Array**	**54.44**	**341**	*i* P	**P**	**10 47 10.0 -1.3**
BVA0				pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.7					
BVAR	**Borovoye Array**	**54.44**	**341**	P	**P**	**10 47 10.1 -1.2**
	comp=Z,36nm,0.7s,mb5.4,baz=144,slow=8.7,SNR=205					
BVAR				S	**S**	**10 54 47.8 +1.3**
	comp=Z,3.7nm,1.0s,baz=139,slow=16,SNR=6.7					
CHKZ	**Chkalovo**	**54.92**	**342**	*i* P	**P**	**10 47 13.8 -1.0**
CHKZ				pmax	pmax	
	comp=Z,64nm,0.8s,mb5.7					
STKA	**Stephens Creek**	**55.03**	**133**	⇓*i*P	**P**	**10 47 15.3 -0.6**
	comp=Z,35nm,0.8s,mb5.4					
STKA	**Stephens Creek**	**55.03**	**133**	P	**P**	**10 47 15.4 -0.5**
	comp=Z,48nm,0.8s,mb5.5,baz=309,slow=7.2,SNR=74					
STKA				LR	LR	11 13 19.5
	comp=Z,944nm,21.0s,MS4.8,baz=302,slow=39					
KLR	**Kul'dur**	**55.14**	**28**	⇑*i*P	**P**	**10 47 13.2 -3.2**
KLR				pmax	pmax	
	comp=N,32nm,1.0s					
KLR				pmax	pmax	
	comp=E,40nm,1.0s					
KLR				pmax	pmax	
	comp=Z,52nm,1.0s,mb5.5					
KLR				MLR	MLR	
	comp=E,1μm,13.5s					
KLR				MLR	MLR	
	comp=Z,4μm,13.5s,MS5.7					
BOD	**Bodaibo**	**56.54**	**11**	*e*P	**P**	**10 47 26.0 -0.4**
BOD				pmax	pmax	
	comp=Z,6.0nm,1.0s,mb4.6					
ASAJ	**Asahikawa**	**57.82**	**38**	P	**P**	**10 47 35.0 -0.6**
	comp=Z,11nm,0.9s,mb4.9,baz=272,slow=2.4,SNR=4.4					
CLNS	**Chul'man**	**58.40**	**18**	*e*P	**P**	**10 47 39.1 -0.4**
CLNS				*e*		10 48 31.8
CLNS				*e*		10 49 47.4
CLNS				*e*S	**S**	**10 55 35.1 -3.9**
CLNS				pmax	pmax	
	comp=Z,65nm,0.7s,mb5.8					
CLNS				pmax	pmax	
	comp=N,35nm,0.8s					
CLNS				pmax	pmax	
	comp=E,21nm,0.7s					
CLNS				pmax	pmax	
	comp=N,10.0nm,1.0s					
CLNS				pmax	pmax	
	comp=Z,9.0nm,1.0s,mb4.8					
CLNS				pmax	pmax	
	comp=E,13nm,1.1s					
CLNS				smax		
	comp=N,105nm,17.8s					
CLNS				smax		
	comp=Z,52nm,11.0s					
CLNS				smax		
	comp=E,57nm,13.2s					
CLNS				MLR	MLR	
	comp=Z,2μm,13.0s,MS5.3					
CLNS				MLR	MLR	
	comp=N,800nm,11.0s,MS5.1					
CLNS				MLR	MLR	
	comp=E,300nm,12.0s,MS5.1					
KMBO	**Kilima Mbogo**	**59.29**	**267**	⇓*i*P	**P**	**10 47 46.7 +0.4**
KMBO				pmax	pmax	
	comp=Z,36nm,0.9s					
KMBO				MLR	MLR	
	comp=Z,610nm,19.0s					
KMBO	**Kilima Mbogo**	**59.29**	**267**	P	**P**	**10 47 47.0 +0.7**
	comp=Z,27nm,0.8s,mb5.3,baz=62,slow=9.7,SNR=60					
KMBO				LR	LR	11 10 37.5
	comp=Z,580nm,19.1s,MS4.7,baz=94,slow=33					
KMBO	**Kilima Mbogo**	**59.29**	**267**	⇓*i*P	**P**	**10 47 46.7 +0.3**
	comp=Z,36nm,0.9s,mb5.4					
KMBO				LR	LR	
	comp=Z,610nm,19.0s,MS4.8					
YSS	**Yuzh-Sakhalins**	**59.43**	**35**	⇓*e*P	**P**	**10 47 45.0 -1.8**
YSS				*e*		10 47 56.2
YSS				pmax	pmax	
	comp=Z,40nm,1.0s,mb5.4					
YSS				MLR	MLR	
	comp=Z,500nm,15.0s,MS4.8					
YSS				MLR	MLR	
	comp=N,400nm,14.0s,MS4.9					
YSS				MLR	MLR	
	comp=E,600nm,16.0s,MS4.9					
YSS	**Yuzh-Sakhalins**	**59.43**	**35**	⇓*i*P	**P**	**10 47 46.1 -0.8**
	comp=E,43nm,1.1s,mb5.4					
GNI	**Garni**	**59.57**	**316**	P	**P**	**10 47 47.3 -0.6**
	comp=E,29nm,0.8s,mb5.3,baz=80,slow=2.4,SNR=11					
GNI	**Garni**	**59.57**	**316**	⇓*i*P	**P**	**10 47 47.3 -0.6**

comp=E,40nm,0.8s,mb5.5
GNI LR LR
comp=Z,244nm,19.0s,MS4.4
DGRG David-gareji 59.70 317 P **P** **10 47 48.7 -0.1**
TBLG Delisi 60.25 317 P **P** **10 47 51.8 -0.7**
TOO Toolangi 60.66 136 *eP* **P** **10 47 56.2 +0.8**
comp=Z,1.3nm,0.9s
TOO Toolangi 60.66 136 *eP* **P** **10 47 56.2 +0.8**
TOO pmax pmax
comp=Z,1.0nm,0.9s
SVE Sverdlovsk 60.87 338⇓*iP* **P** **10 47 56.0 -0.5**
SVE *e* pP 10 48 04.0 -0.7
SVE *e*S **S** **10 56 10.0 -0.9**
SVE *e*PS PS 10 56 22.0 -7.8
SVE pmax pmax
comp=Z,120nm,1.6s,mb5.8
SVE MLR MLR
comp=N,300nm,16.0s,MS4.8
SVE MLR MLR
comp=E,500nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,500nm,16.0s,MS4.8
BEST Besiri 61.20 312 *i* P **P** **10 47 57.9 -1.1**
ZEI Tsey 61.26 318 *eP* **P** **10 47 58.9 -0.4**
ZEI *i* *PP pP 10 48 08.4 +0.9
ZEI *i* 10 50 16.5
ZEI pmax pmax
comp=Z,17nm,0.8s,mb5.2
ARU Arti 61.37 337⇓*iP* **P** **10 47 58.3 -1.6**
ARU *e* 10 48 37.1
ARU *e* 10 50 16.4
ARU *e*S **S** **10 56 19.0 +1.8**
ARU *e*SS SS 11 00 24.7 +5.3
ARU pmax pmax
comp=Z,66nm,1.6s,mb5.5
ARU Arti 61.37 337⇓*iP* **P** **10 47 58.2 -1.7**
comp=Z,79nm,1.3s,mb5.7
CNB Canberra Magne 62.37 133⇑*iP* **P** **10 48 06.2 -0.7**
comp=Z,30nm,1.0s,mb5.4
KIV Kislovodsk 62.56 319⇓*eP* **P** **10 48 07.2 -0.9**
KIV pmax pmax
comp=Z,86nm,0.9s,mb5.9
KIV Kislovodsk 62.56 319⇓*eP* **P** **10 48 07.2 -0.8**
comp=Z,86nm,0.9s,mb5.9
GOF Gofitskoye 62.80 320 *i* P **P** **10 48 08.6 -1.1**
GOF *i* pP 10 48 16.6 -1.2
GOF *i* 10 48 23.4
GOF *i* S **S** **10 56 52.7 +17**
GOF pmax pmax
comp=Z,110nm,1.7s,mb5.7
GOF smax
comp=N,140nm,2.5s
ASF Jabal al Asfar 62.89 305 LR LR 11 15 26.9
comp=N,390nm,21.9s,MS4.5,baz=114,slow=36
MALT Malatya 63.45 312⇓*iP* **P** **10 48 13.8 -0.3**
MALT *e* 10 48 49.8
MALT pmax pmax
comp=Z,41nm,1.0s,mb5.5
MALT Malatya 63.45 312⇓*iP* **P** **10 48 13.8 -0.3**
comp=Z,41nm,1.0s,mb5.5
MALT *e*PcP PcP 10 48 49.8 -0.7
GZT Gaziantep 63.81 311 *i* P **P** **10 48 16.1 -0.4**
EIL Elat 63.93 302 LR LR 11 17 51.7
comp=Z,488nm,18.3s,MS4.7,baz=113,slow=38
EIL Elat 63.93 302⇓*iP* **P** **10 48 17.0 -0.4**
comp=Z,47nm,1.3s,mb5.4
YAK Yakutsk 64.06 17 *eP* **P** **10 48 14.4 -3.3**
YAK *e* 10 48 46.8
YAK *e* 10 50 34.7
YAK *e*PPP PPP 10 52 11.0 -1.5
YAK *e*S **S** **10 56 48.0 -2.9**
YAK *e* 10 57 59.4
YAK *e*SS SS 11 01 01.9 +0.5
YAK pmax pmax
comp=Z,60nm,0.9s,mb5.6
YAK pmax pmax
comp=N,26nm,1.1s
YAK pmax pmax
comp=E,21nm,1.1s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK smax
comp=N,9.0nm,1.2s
YAK smax
comp=E,12nm,1.2s
YAK Yakutsk 64.06 17⇓*eP* **P** **10 48 16.2 -1.4**
comp=E,227nm,1.1s,mb6.1
YAK *e*pP pP 10 48 25.2 -0.6
SOC Sochi 64.38 318 *eP* **P** **10 48 17.6 -2.5**
SOC *e*SS SS 11 01 09.0 +2.1
SOC pmax pmax
comp=Z,57nm,1.0s,mb5.6
SOC pmax pmax
comp=N,10.0nm,0.7s
SOC pmax pmax
comp=E,5.0nm,0.3s
SOC MLR MLR
comp=N,197nm,20.0s,MS4.4
SOC MLR MLR
comp=Z,247nm,20.0s,MS4.4
SOC MLR MLR
comp=E,167nm,19.0s,MS4.4
KAHT Ahir Dag 64.41 311 *i* P **P** **10 48 20.3 -0.1**
HNR Honiara 64.44 102 P **P** **10 48 20.2 -0.8**
comp=E,113nm,0.9s,mb5.9,baz=258,slow=3.3,SNR=5.6
COBT Iskenderun 64.56 309 *i* P **P** **10 48 18.8 -2.6**
MBAR Mbarara 65.76 268 P **P** **10 48 29.3 -0.2**
comp=E,138nm,1.1s,mb5.9,SNR=12
MBAR Mbarara 65.76 268⇓*eP* **P** **10 48 29.1 -0.4**
MBAR pmax pmax
comp=Z,44nm,1.4s,mb5.3
MBAR Mbarara 65.76 268⇓*eP* **P** **10 48 29.1 -0.4**
comp=Z,44nm,1.4s,mb5.3
ANN Anapa 66.36 318 *eP* **P** **10 48 25.4 -7.4**
ANN *e* 10 48 43.6
ANN *i* 10 48 56.0
ANN *e*S S 10 57 10.3 -9.1
ANN pmax pmax
comp=Z,67nm,1.3s,mb5.5
BRTR Keskin Array B 67.44 312 P **P** **10 48 38.3 -1.4**
comp=Z,12nm,0.8s,mb5.0,baz=129,slow=7.4,SNR=34
VRSR Storozhevoye 67.76 325 *eP* **P** **10 48 39.6 -2.0**
VRSR *e**PP pP 10 48 48.1 -1.6
VRSR *e**SP sP 10 48 52.5 -0.2
VRSR *e*S S 10 57 34.0 -2.2
VRSR *e* 10 58 32.6
VRSR pmax pmax
comp=Z,50nm,1.2s,mb5.4
VRSR pmax pmax
comp=N,20nm,1.1s
VRSR pmax pmax
comp=E,50nm,1.1s
VRSR smax
comp=N,20nm,1.3s
VRSR smax
comp=Z,8.0nm,3.5s
VRSR smax
comp=E,7.0nm,1.0s
VRSR MLR MLR
comp=Z,230nm,18.0s,MS4.5
VRSR MLR MLR
comp=N,330nm,19.0s
VRSR MLR MLR
comp=E,40nm,12.0s
ELDT Eldivan 67.80 313 *i* P **P** **10 48 40.7 -1.3**
VOR Voronezh 67.98 326 *eP* **P** **10 48 41.5 -1.4**
VOR *e**PP pP 10 48 49.0 -2.0
VOR pmax pmax
comp=Z,160nm,1.5s,mb5.8
ANTO Ankara 68.10 312⇑P **P** **10 48 43.0 -0.9**
BALT Daday 68.12 314 *i* P **P** **10 48 42.5 -1.5**
SIM Simferopol' 68.63 318 *ceP* **P** **10 48 46.4 -0.7**
SIM *e*S S 10 57 51.0 +4.4
SIM pmax pmax
comp=Z,43nm,0.7s,mb5.5
ISP Isparta 69.34 309 P **P** **10 48 55.4 +3.9**
ISP pmax pmax
comp=Z,61nm,1.2s,mb5.4
ISP Isparta 69.34 309 *eP* **P** **10 48 51.0 -0.6**
comp=Z,61nm,1.3s,mb5.4
ESKT Eskisehir 69.47 311 *i* P **P** **10 48 44.9 -7.4**

CASY Casey 69.72 174 *eP* **P** **10 48 53.0 -0.4**
comp=Z,25nm,0.9s,mb5.2
LSZ Lusaka 69.86 253 P **P** **10 48 54.6 -0.4**
LSZ pmax pmax
comp=Z,14nm,0.7s,mb5.0
LSZ Lusaka 69.86 253⇓*iP* **P** **10 48 54.7 -0.4**
comp=Z,14nm,0.7s,mb5.0
LSZ LR LR
comp=Z,676nm,20.0s,MS4.9
MA2 Magadan 70.19 26⇓*iP* **P** **10 48 55.6 -0.7**
MA2 *e**PP pP 10 49 04.0 -0.5
MA2 pmax pmax
comp=Z,49nm,1.1s,mb5.3
MA2 Magadan 70.19 26⇓*iP* **P** **10 48 55.6 -0.7**
comp=Z,49nm,1.1s,mb5.3
MA2 *e*pP pP 10 49 04.0 -0.5
MOS Moscow 70.52 329 *eP* **P** **10 48 57.1 -1.3**
MOS *e* pP 10 49 05.2 -1.4
MOS *e* 10 49 18.0
MOS *e* 10 51 33.4
MOS pmax pmax
comp=Z,199nm,1.3s,mb5.9
MOS MLR MLR
comp=Z,800nm,20.0s,MS5.0
OBN Obninsk 70.81 328 *diP* **P** **10 48 59.1 -1.1**
OBN *i* pP 10 49 08.1 -0.3
OBN *e*S S 10 58 11.2 -0.9
OBN pmax pmax
comp=Z,106nm,1.0s,mb5.7
OBN MLR MLR
comp=Z,300nm,24.0s,MS4.5
OBN Obninsk 70.81 328⇓*iP* **P** **10 48 59.1 -1.2**
comp=Z,135nm,1.1s,mb5.8
OBN *e*pP pP 10 49 07.4 -1.0
OBN LR LR
comp=Z,106nm,20.0s,MS4.1
ULDT Uludag 70.89 312 *i* P **P** **10 48 59.6 -1.3**
PET Petropavlovsk 71.30 34 *i* P **P** **10 49 02.7 -0.5**
TIXI Tiksi 71.70 10 *eP* **P** **10 49 01.6 -3.7**
TIXI *e*S S 10 58 17.1 -5.0
TIXI pmax pmax
comp=Z,31nm,0.9s,mb5.2
TIXI MLR MLR
comp=Z,470nm,14.0s,MS4.9
TIXI Tiksi 71.70 10 *i* Pr 10 49 03.7
KDAG Bornova 71.95 309 *i* P **P** **10 49 06.6 -0.8**
TIRR Tirgusor 72.40 316⇓*iP* **P** **10 49 09.9 0.0**
SEY Seymchan 72.55 23 *eP* **P** **10 49 11.8 +1.4**
SEY *e* 10 49 28.6
SEY *e* 10 51 59.9
SEY 10 59 14.5
SEY *e*SS SS 11 03 11.0 -2.2
SEY pmax pmax
comp=Z,90nm,1.1s,mb5.6
SEY pmax pmax
comp=E,30nm,0.8s
SEY MLR MLR
comp=E,1μm,16.0s,MS5.5
SEY MLR MLR
comp=Z,2μm,16.0s,MS5.4
SEY MLR MLR
comp=N,2μm,19.0s,MS5.5
DZM Mont Dzumac 72.65 114 P **P** **10 49 11.5 -0.4**
comp=N,12nm,0.9s,mb4.8,baz=72,slow=1.1,SNR=4.9
KIS Kishinev 72.75 318 *eP* **P** **10 49 20.0 +8.0**
KIS *e* 10 53 32.0
CFR Carcaliu 72.77 317⇓*iP* **P** **10 49 11.1 -1.0**
HARR Harsova 72.79 316⇓*iP* **P** **10 49 11.5 -0.8**
IDI Anoyia 73.31 306 LR LR 11 23 25.3
comp=N,239nm,21.2s,MS4.5,baz=91,slow=38
AKASG Malin Array Be 73.48 322 P **P** **10 49 14.8 -1.3**
comp=N,9.4nm,0.6s,mb4.9,baz=89,slow=5.0,SNR=50
AKASG Malin Array Be 73.48 322 P **P** **10 49 14.8 -1.3**
VRI Vrincioaia 73.89 317 P **P** **10 49 19.2 +0.6**
VRI Vrincioaia 73.89 317⇓*iP* **P** **10 49 18.7 +0.1**
VRI Vrincioaia 73.89 317⇓*iP* **P** **10 49 18.7 +0.1**
LBTB Lobatse 73.94 243 *eP* **P** **10 49 19.1 -0.2**
LBTB pmax pmax
comp=Z,52nm,1.0s,mb5.4
LBTB Lobatse 73.94 243 *eP* **P** **10 49 19.1 -0.2**
comp=Z,52nm,1.0s,mb5.4
MAW Mawson 74.14 193 P **P** **10 49 20.2 +0.6**
comp=Z,12nm,0.9s,mb4.8,baz=17,slow=9.5,SNR=5.3
MAW LR LR 11 15 39.8
comp=Z,285nm,19.6s,MS4.6,baz=59,slow=31
PVL Pavlikeni 74.32 314 *eP* **P** **10 49 21.0 -0.1**
MLR Muntele Rosu 74.34 316⇓P **P** **10 49 21.9 +0.7**
MLR Muntele Rosu 74.34 316 LR LR 11 26 53.4
comp=Z,177nm,20.8s,MS4.3,baz=307,slow=40
MLR Muntele Rosu 74.34 316⇓*iP* **P** **10 49 21.2 0.0**
RZN Rozhen 74.48 312 *eP* **P** **10 49 21.0 -1.1**
BOSA Boshof 74.94 240 P **P** **10 49 24.9 -0.2**
comp=Z,23nm,0.8s,mb5.1,baz=90,slow=5.8,SNR=28
BOSA LR LR 11 19 44.8
comp=Z,299nm,19.1s,MS4.6,baz=355,slow=34
PGB Panagyurishte 75.04 313 *eP* **P** **10 49 25.0 -0.3**
MMB Musomiste 75.20 312 *eP* **P** **10 49 25.0 -1.2**
BURAR Bucovina Array 75.28 319 P **P** **10 49 27.8 +1.2**
BURAR Bucovina Array 75.28 319⇓*iP* **P** **10 49 26.9 +0.3**
MNK Minsk 75.36 326 *eP* **P** **10 49 24.0 -2.9**
PUL Pulkovo 75.68 331⇑*eP* **P** **10 49 29.0 +0.4**
KKB Krupnik 75.72 312 *eP* **P** **10 49 27.0 -2.2**
VTS Vitosha 75.74 316⇓P **P** **10 49 28.5 -0.8**
VTS Vitosha 75.74 313 *eP* **P** **10 49 28.8 -0.5**
IDID Didziasalis 76.18 326 *eP* **P** **10 49 31.2 -0.4**
IDID AMPb AMB 10 49 33.3
comp=Z,19nm,1.2s,mb4.9
IIGN Ignalina 76.48 326 *eP* **P** **10 49 32.9 -0.3**
IIGN AMPb AMB 10 49 35.0
comp=Z,22nm,1.1s,mb5.0
LVV L'vov 76.51 321 *eP* **P** **10 49 33.1 -0.4**
LVV *e* 10 52 31.7
LVV *e*S S 10 59 15.1 -1.1
LVV MLR MLR
comp=Z,370nm,19.4s,MS4.7
IZAR Zarasai 76.57 327 *eP* **P** **10 49 33.5 -0.2**
IZAR AMPb AMB 10 49 35.4
comp=Z,14nm,1.1s,mb4.8
ISAL Salakas 76.59 327 *eP* **P** **10 49 33.5 -0.3**
ISAL AMPb AMB 10 49 35.6
comp=Z,15nm,1.2s,mb4.8
BOLS Boljevac 76.84 314⇓*iP* **P** **10 49 29.7 -5.8**
SKO Skopje 76.95 312 *eP* **P** **10 49 32.5 -3.6**
LVZ Lovozero 77.02 340⇓*eP* **P** **10 49 35.3 -0.7**
KWP Kalwaria 77.31 320 *eP* **P** **10 49 38.2 +0.2**
APA Apatity 77.31 339⇓*iP* **P** **10 49 37.0 -0.6**
APA *i* 10 49 48.8
APA *e*S S 10 59 20.0 -4.6
APA pmax pmax
comp=Z,64nm,0.9s,mb5.5
APA MLR MLR
comp=Z,1μm,20.0s,MS5.1
BZS Buzias 77.36 316⇓*iP* **P** **10 49 37.9 -0.4**
UZH Uzhgorod 77.40 319 *eP* **P** **10 49 39.0 +0.5**
UZH *e*S S 10 59 23.0 -2.9
KOLS Kolonicke sedl 77.47 319 *i* P **P** **10 49 39.5 +0.7**
KOLS *e* pP 10 49 46.6 -0.5
KOLS Kolonicke sedl 77.47 319 *i* P **P** **10 49 39.5 +0.7**
KOLS *e* 10 49 43.9
KOLS *e*pP pP 10 49 46.6 -0.5
SUW Suwalki 77.89 325 *eP* **P** **10 49 40.9 -0.1**
CRVS Cervenica-Dubn 77.99 319 *eP* **P** **10 49 43.7 +2.0**
FINES FINESS Array B 78.18 332 P **P** **10 49 42.1 -0.3**
comp=Z,19nm,0.7s,mb5.1,baz=104,slow=7.9,SNR=70
FINES LR LR 11 29 05.5
comp=Z,396nm,21.7s,MS4.7,baz=337,slow=40
KAF Kangasniemi 78.27 333 *ep* **P** **10 49 41.7 -1.2**
comp=Z,45nm,1.2s,mb5.3,baz=102,slow=5.1
KAF Kangasniemi 78.27 333 *eP* **P** **10 49 41.7 -1.2**
KAF pmax pmax
comp=Z,45nm,1.2s,mb5.3
KECS Kecovo 78.56 319 *eP* **P** **10 49 45.4 +0.6**
NIE Niedzica 78.81 320 *eP* **P** **10 49 45.2 -1.0**
PSZ Piszkesteto 78.87 318 P **P** **10 49 46.9 +0.4**
PSZ Piszkesteto 78.87 318⇓*iP* **P** **10 49 46.1 -0.4**
comp=Z,22nm,0.9s,mb5.1
PSZ *e*pP pP 10 49 54.7 -0.1
PSZ Piszkesteto 78.87 318⇓*eP* **P** **10 49 46.7 +0.2**
OJC Ojcow 79.26 320 *eP* **P** **10 49 48.7 +0.1**
SUR Sutherland 79.42 236 P **P** **10 49 51.6 +1.7**
comp=Z,464nm,0.8s,SNR=8.5
SUR Sutherland 79.42 236 *eP* **P** **10 49 51.2 +1.3**
comp=Z,49nm,0.8s,mb5.5
PKSM Moragy 79.49 316 ⇓P **P** **10 49 49.8 -0.2**

VYHS Vyhne 79.65 319 *eP* **P** **10 49 50.8 +0.1**
BILL Bilibino 79.90 21⇑*eP* **P** **10 49 51.3 -0.4**
BILL pmax pmax
comp=Z,14nm,1.3s,mb4.7
BILL Bilibino 79.90 21 *eP* **P** **10 49 51.1 -0.6**
comp=Z,12nm,0.8s,mb4.9
OKC Ostrava-Krasne 80.27 320 *eP* **P** **10 49 54.1 +0.1**
KEV Kevo 80.29 341 *ep* **P** **10 49 52.7 -1.1**
comp=Z,32nm,0.9s,mb5.3
KEV Kevo 80.29 341 *eP* **P** **10 49 52.7 -1.1**
KEV pmax pmax
comp=Z,33nm,0.9s,mb5.3
MORC Moravsky Berou 80.65 320 *eP* **P** **10 49 56.0 -0.1**
MORC *e**PP pP 10 50 04.2 -0.2
MORC pmax pmax
comp=Z,33nm,1.3s,mb5.1
MORC Moravsky Berou 80.65 320 *eP* **P** **10 49 56.0 0.0**
comp=Z,33nm,1.3s,mb5.1
MORC *e*pP pP 10 50 04.2 -0.1
ARCES ARCESS Array B 80.73 340 P **P** **10 49 56.5 +0.4**
comp=Z,18nm,0.6s,mb5.2,baz=94,slow=5.5,SNR=123
ARCES LR LR 11 31 36.7
comp=Z,472nm,19.0s,MS4.9,baz=113,slow=40
ZST Bratislava 80.76 318 *eP* **P** **10 49 57.3 +0.6**
ZST *e* pP 10 50 05.1 +0.1
ZST *e*S S 11 00 02.8 +1.3
ZST Bratislava 80.76 318 *eP* **P** **10 49 57.3 +0.6**
ZST *e* 10 50 01.2
ZST *e*pP pP 10 50 05.1 +0.1
ZST *e*S S 11 00 02.8 +1.3
ZST *e*L 11 32 07.4
KOGS Kog 81.17 316 *i* P **P** **10 49 59.1 +0.3**
KOGS *e* pP 10 50 07.4 +0.2
SYO Syowa Base 81.33 198⇓P **P** **10 50 00.1 +0.8**
SYO Syowa Base 81.33 198⇓PcP PcP 10 50 03.0 -2.8
SYO Syowa Base 81.33 198⇑pP pP 10 50 11.5 +3.9
DPC Dobruska-Polom 81.49 320 *eP* **P** **10 50 01.3 +0.8**
DPC AMS AMS 11 32 20.0
comp=Z,200nm,18.2s
KSP Ksiaz 81.56 321⇓*eP* **P** **10 50 01.2 +0.4**
KSP *e**PP pP 10 50 09.3 +0.2
KSP *e* 11 00 16.0
KSP Ksiaz 81.56 321 *eP* **P** **10 50 01.4 +0.6**
UPC Upice 81.70 320 *eP* **P** **10 50 02.3 +0.7**
UPC *e*pP pP 10 50 10.1 +0.2
ARSA Arzberg 81.73 317⇓*iP* **P** **10 50 02.4 +0.6**
comp=Z,30nm,1.4s,mb5.0
BOJS Bojanci 81.78 315 *i* P **P** **10 50 02.3 +0.2**
BOJS *i* pP 10 50 10.0 -0.4
VAE Valguarnera 81.93 307 LR LR 11 29 15.5
comp=Z,184nm,19.0s,MS4.5,baz=326,slow=38
PERS Pernice 81.96 317 *eP* **P** **10 50 03.3 +0.4**
PERS *e* pP 10 50 11.1 -0.2
LJU Ljubljana 82.33 316 *eP* **P** **10 50 05.3 +0.4**
OBKA Obir 82.34 316⇑*iP* **P** **10 50 06.0 +1.0**
comp=Z,24nm,1.3s,mb5.0
PRU Pruhonice 82.60 320 *eP* **P** **10 50 06.5 +0.3**
PRU *e*pP pP 10 50 14.6 0.0
PRU AMS AMS 11 33 10.0
comp=Z,200nm,17.6s
PVCC Panska Ves 82.62 320 *eP* **P** **10 50 06.8 +0.5**
PVCC *e*pP pP 10 50 15.0 +0.3
MOA Molln 82.63 318⇑*iP* **P** **10 50 06.6 +0.2**
comp=Z,9.8nm,0.9s,mb4.8
BSD Bornholm Skovb 82.81 325⇓*iP* **P** **10 50 06.7 -0.5**
BSD pmax pmax
comp=Z,24nm,0.7s,mb5.3
BSD Bornholm Skovb 82.81 325⇓*iP* **P** **10 50 06.7 -0.5**
comp=Z,24nm,0.7s,mb5.3
AQU L'Aquila 82.93 312 P **P** **10 50 08.7 +0.6**
AQU pmax pmax
comp=Z,88nm,1.2s,mb5.7
AQU L'Aquila 82.93 312⇓*iP* **P** **10 50 08.2 +0.1**
comp=Z,88nm,1.2s,mb5.7
ROBS Robic 83.05 316 *eP* **P** **10 50 08.4 -0.2**
BRG Berggiesshubel 83.05 321 *i* P **P** **10 50 09.2 +0.7**
BRG *e* pP 10 50 17.6 +0.7
BRG *e* 10 53 25.7
BRG pmax pmax
comp=Z,52nm,1.8s,mb5.3
BRG MLR MLR
comp=Z,220nm,16.9s,MS4.6
BRG Berggiesshubel 83.05 321 *i* P **P** **10 50 09.2 +0.7**
comp=Z,52nm,1.8s,mb5.3
BRG *e* pP 10 50 17.6 +0.7
BRG *e* 10 53 25.7
BRG LR LR
comp=Z,220nm,16.9s,MS4.6
GEC2 GERESS Array S 83.07 319 *eP* **P** **10 50 09.4 +0.7**
GEC2 pmax pmax
comp=Z,37nm,1.1s,mb5.3
GEC2 GERESS Array S 83.07 319 *eP* **P** **10 50 09.4 +0.7**
comp=Z,37nm,1.1s,mb5.3
GERES GERESS Array B 83.07 319 P **P** **10 50 09.2 +0.6**
comp=Z,14nm,0.8s,mb5.0,baz=90,slow=5.3,SNR=82
GERES LR LR 11 33 57.4
comp=Z,165nm,19.5s,MS4.4,baz=256,slow=41
KHC Kasperske Hory 83.17 319 *eP* **P** **10 50 09.1 -0.1**
KHC *e**PP pP 10 50 17.6 +0.1
KHC *e* 10 50 25.5
KHC MLR MLR
comp=Z,200nm,17.3s,MS4.5
KHC Kasperske Hory 83.17 319 *eP* **P** **10 50 09.1 -0.1**
KHC *e*pP pP 10 50 17.6 +0.1
KHC x x 10 50 25.5
KHC AMS AMS 11 34 00.0
comp=Z,200nm,17.3s
KBA Koelnbreinsper 83.20 317⇓*iP* **P** **10 50 09.2 -0.2**
comp=Z,12nm,1.1s,mb4.8
KBA Koelnbreinsper 83.20 317⇓*iP* **P** **10 50 09.2 -0.2**
KBA pmax pmax
comp=Z,12nm,1.1s,mb4.8
WET Wettzell 83.63 319 *eP* **P** **10 50 12.1 +0.6**
WET pmax pmax
comp=Z,18nm,1.0s,mb5.2
WET Wettzell 83.63 319 *eP* **P** **10 50 12.1 +0.6**
comp=Z,18nm,1.0s,mb5.2
CLL Collm 83.67 321⇓*iP* **P** **10 50 11.5 -0.2**
CLL *i* pP 10 50 19.3 -0.8
CLL pmax pmax
comp=Z,14nm,1.1s,mb5.0
CLL Collm 83.67 321⇓*iP* **P** **10 50 11.5 -0.2**
comp=Z,14nm,1.1s,mb5.0
CLL *i* pP 10 50 19.3 -0.8
CLL *i* 10 50 38.1
CLL Collm 83.67 321 ⇓P **P** **10 50 11.5 -0.2**
comp=Z,logA/T=1.1,mb5.0
CLL *i* *PP pP 10 50 19.3 -0.8
CLL *i* 10 50 38.1
CLL *e*PP PP 10 53 28.0 +1.6
HFS Hagfors 83.91 330 LR LR 11 34 30.8
comp=Z,406nm,19.1s,MS4.8,baz=111,slow=41
NKC Novy Kostel 83.96 320 *eP* **P** **10 50 13.5 +0.3**
NKC *e*pP pP 10 50 21.5 -0.1
NKC AMS AMS 11 34 00.0
comp=Z,200nm,15.3s
COP Copenhagen 84.26 326 *eP* **P** **10 50 28.3 +14**
COP Copenhagen 84.26 326 *i* P **P** **10 50 28.3 +14**
WTTA Wattenberg 84.38 317⇓*iP* **P** **10 50 15.1 -0.3**
comp=Z,26nm,0.8s,mb5.4
WTTA Wattenberg 84.38 317⇓*iP* **P** **10 50 15.1 -0.3**
WTTA pmax pmax
comp=Z,26nm,0.8s,mb5.4
WATA Walderalm 84.42 317⇓*iP* **P** **10 50 15.1 -0.5**
comp=Z,12nm,0.9s,mb5.0
WATA Walderalm 84.42 317⇓*iP* **P** **10 50 15.1 -0.5**
WATA pmax pmax
comp=Z,12nm,0.9s,mb5.0
URZ Urewera 84.44 129 P **P** **10 50 14.9 -1.0**
comp=Z,3.3nm,0.5s,mb4.8,baz=326,slow=2.6,SNR=3.8
MOX Moxa 84.51 320 *eP* **P** **10 50 16.4 +0.5**
MOX pmax pmax
comp=Z,33nm,1.8s,mb5.2
MOX MLR MLR
comp=Z,200nm,20.0s,MS4.5
MOX Moxa 84.51 320 *eP* **P** **10 50 16.4 +0.5**
comp=Z,33nm,1.8s,mb5.2
MOX LR LR
comp=Z,200nm,20.0s,MS4.5
MOX Moxa 84.51 320 *i* P **P** **10 50 16.4 +0.5**
comp=Z,logA/T=1.3,mb5.2
MOX pP pP 10 50 22.0 -2.3
MOX *e* 10 50 40.0
MOX L 11 35 55.0

FUR Furstenfeldbru 84.65 318 eP P 10 50 16.7 0.0
SQTA Sankt Quirin 84.67 317⇓iP P 10 50 16.6 -0.2
comp=Z,12nm,0.8s,mb5.1
SQTA Sankt Quirin 84.67 317⇓iP P 10 50 16.6 -0.2
SQTA pmax pmax
comp=Z,12nm,0.8s,mb5.1
GRA1 Grafenberg Arr 84.73 319 eP P 10 50 17.9 +0.8
comp=Z,36nm,0.9s,mb5.5
GRA1 epP pP 10 50 26.2 +0.7
GRF Grafenberg Arr 84.73 319 eP P 10 50 17.9 +0.8
GRF e*PP pP 10 50 26.2 +0.7
GRF pmax pmax
comp=Z,36nm,0.9s,mb5.5
GRF Grafenberg Arr 84.73 319 eP P 10 50 17.9 +0.8
GRF e*PP pP 10 50 26.2 +0.7
GRF pmax pmax
comp=Z,36nm,0.9s,mb5.5
GRF Grafenberg Arr 84.73 319 eP P 10 50 17.9 +0.8
comp=Z,36nm,0.9s,mb5.5
GRF epP pP 10 50 26.2 +0.7
MOTA Moosalm 84.74 317⇑iP P 10 50 16.8 -0.4
comp=Z,0.6nm,0.7s
MOTA Moosalm 84.74 317⇑iP P 10 50 16.8 -0.4
MOTA pmax pmax
comp=Z,1.0nm,0.7s
HSP Hornsund 85.18 347 eP P 10 50 18.6 -0.2
NB2 NORSAR Subarra 85.19 331 P P 10 50 18.3 -0.8
comp=Z,24nm,1.0s,mb5.3,baz=97,slow=5.3
NB2 NORSAR Subarra 85.19 331 P P 10 50 18.3 -0.8
baz=97,slow=5.3
NOA NORSAR Array B 85.19 331 P P 10 50 19.0 -0.1
comp=Z,11nm,0.9s,mb5.0,baz=94,slow=5.1,SNR=19
NOA LR LR 11 35 33.2
comp=Z,219nm,19.3s,MS4.6,baz=80,slow=41
CLZ Clausthal 85.33 322 eP P 10 50 20.6 +0.6
CLZ pmax pmax
comp=Z,18nm,0.9s,mb5.2
CLZ Clausthal 85.33 322 eP P 10 50 20.6 +0.6
comp=Z,18nm,0.9s,mb5.2
NAO01 NORSAR Array S 85.34 331 eP P 10 50 20.4 +0.6
comp=Z,19nm,1.0s,mb5.2
BSEG Bad Segeberg 85.41 324 eP P 10 50 21.2 +0.8
DAVOX Davos 85.57 317 LR LR 11 31 04.6
comp=Z,143nm,21.3s,MS4.3,baz=83,slow=38
DAVA Damuels 85.57 317⇓iP P 10 50 21.8 +0.5
comp=Z,36nm,0.9s,mb5.6
VSL Villasalto 85.92 309⇓iP P 10 50 22.6 -0.7
comp=Z,18nm,1.0s,mb5.3
VSL epP pP 10 50 31.4 -0.2
KONO Kongsberg 85.95 329 P P 10 50 23.6 +0.7
KONO pmax pmax
comp=Z,81nm,1.5s,mb5.7
KONO Kongsberg 85.95 329⇓eP P 10 50 23.1 +0.2
comp=Z,81nm,1.6s,mb5.7
STU Stuttgart 86.04 319 P P 10 50 23.3 -0.3
STU pmax pmax
comp=Z,19nm,0.6s,mb5.5
STU Stuttgart 86.04 319 P P 10 50 23.3 -0.4
comp=Z,19nm,0.6s,mb5.5
MUD Monsted U'grnd 86.12 326 iP P 10 50 25.6 +1.8
MUD pmax pmax
comp=Z,22nm,0.4s,mb5.7
MUD Monsted U'grnd 86.12 326 iP P 10 50 25.6 +1.8
comp=Z,22nm,0.4s,mb5.7
MUD i 10 50 51.4
PGF Pioggiola 86.19 312 eP P 10 50 24.5 0.0
TNS Taunus Mts 86.53 320 eP P 10 50 26.7 +0.7
BFO Black Forest 86.62 318 eP P 10 50 26.4 -0.1
BFO pmax pmax
comp=Z,15nm,0.8s,mb5.3
BFO Black Forest 86.62 318 eP P 10 50 26.4 -0.1
comp=Z,15nm,0.8s,mb5.3
SBF Sospel 87.31 314⇓iP P 10 50 30.0 0.0
comp=Z,52nm,0.9s,mb5.5
SBF Sospel 87.31 314⇓iP P 10 50 30.0 0.0
SBF pmax pmax
comp=Z,26nm,0.9s,mb5.5
CDF Champ du Feu 87.32 318⇓iP P 10 50 29.7 -0.2
comp=Z,19nm,0.8s,mb5.0
CDF Champ du Feu 87.32 318⇓iP P 10 50 29.7 -0.2
CDF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
VNDA Vanda 87.59 169 P P 10 50 30.8 +0.2
comp=Z,4.8nm,0.7s,mb4.8,baz=299,slow=5.2,SNR=30
VNDA LR LR 11 28 50.7
comp=Z,242nm,18.1s,MS4.7,baz=310,slow=35
HINF Hinteralfeld 87.62 318 eP P 10 50 31.5 +0.2
comp=Z,6.9nm,0.8s,mb4.6
HINF Hinteralfeld 87.62 318 eP P 10 50 31.5 +0.2
HINF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
LPG La Plagne 87.76 315⇓iP P 10 50 32.5 +0.5
comp=Z,34nm,0.8s,mb5.3
LPG La Plagne 87.76 315⇓iP P 10 50 32.5 +0.5
LPG pmax pmax
comp=Z,17nm,0.8s,mb5.3
MBDF Montbardon 87.77 314 eP P 10 50 31.6 -0.5
comp=Z,14nm,0.8s,mb5.0
MBDF Montbardon 87.77 314 eP P 10 50 31.6 -0.5
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
LPL La Plagne 87.77 315⇓iP P 10 50 32.5 +0.4
comp=Z,42nm,0.8s,mb5.4
LPL La Plagne 87.77 315⇓iP P 10 50 32.5 +0.4
LPL pmax pmax
comp=Z,21nm,0.8s,mb5.4
BNI Bardonecchia 87.82 315 eP P 10 50 31.6 -0.8
BNI pmax pmax
comp=Z,12nm,0.9s,mb5.1
BNI Bardonecchia 87.82 315 eP P 10 50 31.6 -0.8
comp=Z,12nm,0.9s,mb5.1
FRF La Foret Royal 87.89 313⇓iP P 10 50 33.0 +0.3
HAU Haudompre 87.95 316⇓iP P 10 50 32.7 -0.2
comp=Z,53nm,0.7s,mb5.5
HAU eR
comp=Z,168nm,22.5s
HAU Haudompre 87.95 318⇓iP P 10 50 32.7 -0.2
HAU pmax pmax
comp=Z,26nm,0.7s,mb5.6
HAU MLR MLR
comp=Z,170nm,22.5s,MS4.4
LMR La Mourre 88.00 313⇓iP P 10 50 33.3 0.0
comp=Z,20nm,1.0s,mb5.0
LMR La Mourre 88.00 313⇓iP P 10 50 33.3 0.0
LMR pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
CABF La Chapelle 88.18 316⇓iP P 10 50 34.4 +0.4
comp=Z,42nm,0.9s,mb5.4
CABF La Chapelle 88.18 316⇓iP P 10 50 34.4 +0.4
CABF pmax pmax
comp=Z,21nm,0.9s,mb5.4
ORIF Oris-en-Rattie 88.39 315 eP P 10 50 35.6 +0.5
comp=Z,11nm,0.8s,mb4.9
ORIF eR
comp=Z,338nm,22.5s
SBA Scott Base 88.69 168 eP P 10 50 36.6 +0.8
SBA e*PP pP 10 50 44.4 +0.2
SBA pmax pmax
comp=Z,19nm,0.9s,mb5.4
SBA Scott Base 88.69 168 eP P 10 50 36.6 +0.7
comp=Z,19nm,0.9s,mb5.4
SBA epP pP 10 50 44.4 +0.2
GIVF Givet 88.86 320 eP P 10 50 37.5 +0.3
comp=Z,17nm,0.8s,mb5.1
GIVF Givet 88.86 320 eP P 10 50 37.5 +0.3
GIVF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
VIVF Saint-Julien-l 89.25 315⇓iP P 10 50 39.4 +0.2
comp=Z,23nm,1.1s,mb5.1
VIVF Saint-Julien-l 89.25 315⇓iP P 10 50 39.4 +0.2
VIVF pmax pmax
comp=Z,11nm,1.0s,mb5.1
BAIF Baives 89.26 320⇓iP P 10 50 39.7 +0.6
comp=Z,55nm,0.8s,mb5.6
BAIF Baives 89.26 320⇓iP P 10 50 39.7 +0.6
BAIF pmax pmax
comp=Z,28nm,0.8s,mb5.6
SMF Signal de Mont 89.72 317⇓iP P 10 50 41.4 0.0
comp=Z,26nm,0.7s,mb5.3
SMF Signal de Mont 89.72 317⇓iP P 10 50 41.4 0.0
SMF pmax pmax
comp=Z,13nm,0.7s,mb5.4
TNA Tin City 89.76 24 eP P 10 50 41.0 -0.1
comp=Z,6.0nm,0.9s,mb4.9
LASF Ste Croix 89.89 314 eP P 10 50 42.7 +0.5
SSF Saint Saulge 89.92 317 eP P 10 50 42.5 +0.2
SSF pmax pmax
comp=Z,18nm,1.3s,mb5.2
SSF Saint Saulge 89.92 317 eP P 10 50 42.5 +0.2
comp=Z,18nm,1.3s,mb5.2
AVF Avril sur Loir 90.05 317⇓iP P 10 50 42.9 0.0
comp=Z,23nm,1.0s,mb5.2
AVF Avril sur Loir 90.05 317⇓iP P 10 50 42.9 0.0
AVF pmax pmax
comp=Z,12nm,1.0s,mb5.2
BGF Bois d'Agland 90.42 316⇓iP P 10 50 45.2 +0.6
comp=Z,29nm,0.9s,mb5.3
BGF Bois d'Agland 90.42 316⇓iP P 10 50 45.2 +0.6
BGF pmax pmax
comp=Z,14nm,0.9s,mb5.3
HYF Humbligny 90.50 317 eP P 10 50 45.8 +0.9
TCF Toulx Ste Croi 90.88 316 eP P 10 50 47.3 +0.6
comp=Z,18nm,1.0s,mb5.1
TCF Toulx Ste Croi 90.88 316 eP P 10 50 47.3 +0.6
TCF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
CAF Calviac 91.10 315⇓iP P 10 50 48.5 +0.7
comp=Z,39nm,1.3s,mb5.3
CAF Calviac 91.10 315⇓iP P 10 50 48.5 +0.7
CAF pmax pmax
comp=Z,19nm,1.3s,mb5.3
MTLF Montolieu 91.13 313⇓iP P 10 50 48.5 +0.6
comp=Z,23nm,0.9s,mb5.2
MTLF Montolieu 91.13 313⇓iP P 10 50 48.5 +0.6
MTLF pmax pmax
comp=Z,12nm,0.9s,mb5.2
RJF Les Rejaudoux 91.45 315⇓iP P 10 50 50.3 +0.9
comp=Z,42nm,1.1s,mb5.4
RJF eR
comp=Z,135nm,21.8s
RJF Les Rejaudoux 91.45 315⇓iP P 10 50 50.3 +0.9
RJF pmax pmax
comp=Z,21nm,1.1s,mb5.4
RJF MLR MLR
comp=Z,140nm,21.8s,MS4.4
LFF La Frestale 92.03 315⇓iP P 10 50 53.0 +0.9
JMIC Jan Mayen 92.16 342 LR LR 11 38 11.3
comp=Z,238nm,19.1s,MS4.7,baz=88,slow=39
LDF La Druitiere 92.21 319⇓iP P 10 50 53.3 +0.5
comp=Z,50nm,0.9s,mb5.5
LDF La Druitiere 92.21 319⇓iP P 10 50 53.3 +0.5
LDF pmax pmax
comp=Z,25nm,0.9s,mb5.5
FLN La Foliniere 92.43 319⇓iP P 10 50 54.2 +0.4
comp=Z,46nm,0.8s,mb5.5
FLN eR
comp=Z,145nm,18.0s
FLN La Foliniere 92.43 319⇓iP P 10 50 54.2 +0.4
FLN pmax pmax
comp=Z,23nm,0.8s,mb5.6
FLN MLR MLR
comp=Z,140nm,18.0s,MS4.5
MFF Saint Martin d 92.47 317⇓iP P 10 50 54.5 +0.5
comp=Z,44nm,1.0s,mb5.5
MFF Saint Martin d 92.47 317⇓iP P 10 50 54.5 +0.5
MFF pmax pmax
comp=Z,22nm,1.0s,mb5.4
EBR Ebro Roquetas 92.64 311 eTs 10 51 07.0
GRR Gorron 92.72 319⇓iP P 10 50 55.8 +0.7
comp=Z,41nm,1.0s,mb5.5
GRR Gorron 92.72 319⇓iP P 10 50 55.8 +0.7
GRR pmax pmax
comp=Z,21nm,1.0s,mb5.5
QSPA South Pole Qui 92.79 180⇓iP P 10 50 55.9 +1.1
comp=Z,9.3nm,0.4s,mb5.6
ETSF Etsaut 93.19 313⇓iP P 10 50 58.5 +1.1
comp=Z,24nm,0.8s,mb5.4
ETSF Etsaut 93.19 313⇓iP P 10 50 58.5 +1.1
ETSF pmax pmax
comp=Z,12nm,0.8s,mb5.4
SJPF Ste Jean 93.65 313 eP P 10 51 00.6 +1.0
comp=Z,30nm,1.0s,mb5.4
SJPF Ste Jean 93.65 313 eP P 10 51 00.6 +1.0
SJPF pmax pmax
comp=Z,15nm,1.0s,mb5.4
SGMF Saint Gilles 93.87 319 eP P 10 51 00.6 +0.2
comp=Z,51nm,1.3s,mb5.5
SGMF Saint Gilles 93.87 319 eP P 10 51 00.6 +0.2
SGMF pmax pmax
comp=Z,26nm,1.3s,mb5.5
QUIF Quistinic 94.32 318 eP P 10 51 03.6 +1.1
comp=Z,20nm,0.8s,mb5.3
QUIF Quistinic 94.32 318 eP P 10 51 03.6 +1.1
QUIF pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
ROSF Rostrenen 94.33 319 eP P 10 51 02.7 +0.2
IMA Indian Mountai 95.36 23 P P 10 51 08.4 +1.5
IMA pmax pmax
comp=Z,160nm,1.2s,mb6.3
IMA Indian Mountai 95.36 23 eP P 10 51 08.1 +1.2
ESDC Sonseca Array 96.18 310 P P 10 51 11.0 -0.2
comp=Z,0.4nm,0.4s,baz=81,slow=3.8,SNR=5.4
VNA2 Neumayer--Watz 97.19 199 e P 10 51 24.3 +9.2
VNA2 Neumayer--Watz 97.19 199 e P 10 51 27.1 +12
VNA2 Neumayer--Watz 97.19 199⇑iP P 10 51 16.8 +1.7
VNA2 e pP 10 51 24.3 +0.8
VNA2 e pP 10 51 27.1 +3.6
VNA3 Neumayer Olymp 97.84 198 e P 10 51 31.9 +14
VNA3 Neumayer Olymp 97.84 198 e P 10 51 34.3 +16
VNA3 Neumayer Olymp 97.84 198⇑iP P 10 51 24.4 +6.4
VNA3 e pP 10 51 31.9 +5.5
VNA3 e pP 10 51 34.3 +7.9
BORG Borgarnes 98.91 337 LR LR 11 37 40.1
comp=Z,292nm,21.3s,MS4.8,baz=33,slow=36
INK Inuvik 101.13 17 P P 10 51 33.1 +0.2
comp=Z,3.7nm,0.9s,baz=284,slow=5.9,SNR=8.5
INK PP PP 10 55 44.3 -0.3
comp=Z,3.1nm,1.0s,baz=324,slow=9.5,SNR=4.4
INK Inuvik 101.13 17 ePdif P 10 51 32.9 0.0
comp=Z,3.9nm,0.9s
YKA Yellowknife Ar 110.70 15 Pdiff Pdif 10 52 15.7 +0.5
comp=Z,0.6nm,0.8s,baz=322,slow=4.2,SNR=13
YKA PKiKP 10 56 15.0
comp=Z,0.6nm,0.7s,baz=320,slow=2.0,SNR=7.2
YKA PP PP 10 56 49.7 -6.0
comp=Z,3.2nm,1.0s,baz=329,slow=7.2,SNR=11
YKA PKKPbc 11 07 13.8
comp=Z,0.6nm,0.8s,baz=147,slow=3.0,SNR=10
YKA Yellowknife Ar 110.70 15 Pdif Pdif 10 52 15.7 +0.5
YKA PKPdf PKPdf 10 56 15.0 -3.8
YKA PP PP 10 56 49.7 -6.0
YKA PKKPbc 11 07 13.8
TBI Tubuai 113.23 114 eLR LR 11 30 26.2
comp=Z,307nm,31.2s
PPT Papeete 113.72 108 eLR LR 11 30 39.9
comp=Z,316nm,31.8s
FCC Fort Churchill 118.00 6 ePKPdf PKPdf 10 56 28.6 -4.5
EDM Edmonton 118.80 20 PKiKP PKPdf 10 56 31.7 -3.1
EDM Edmonton 118.80 20 ePKPdf PKPdf 10 56 31.3 -3.5
SCHQ Schefferville 120.86 349 PKP PKPdf 10 56 35.5 -3.2
comp=Z,6.0nm,0.7s,baz=26,slow=3.9,SNR=13
NEW Newport 121.29 26 PKP PKPdf 10 56 36.5 -3.3
comp=Z,4.9nm,0.9s,baz=112,slow=0.3,SNR=11
NEW Newport 121.29 26 ePKPdf PKPdf 10 56 36.2 -3.6
HAWA Hanford 121.59 29 ePKPdf PKPdf 10 56 37.9 -2.5
HAWA epPKPdf 10 56 46.0
HUMO Hull Mountain 122.45 34 ePKPdf PKPdf 10 56 39.5 -2.5
MSO Missoula 123.76 25 ePKPdf PKPdf 10 56 40.8 -3.8
BMO Blue Mountains 123.78 28 ePKPdf PKPdf 10 56 40.9 -3.8
CHMT Chamberlain Mo 123.97 24 ePKPdf PKPdf 10 56 41.3 -3.7
CHMT ePP PP 10 58 25.9 -3.0
WDC Whiskeytown Da 124.01 35 ePKPdf PKPdf 10 56 42.0 -3.2
MOD Modoc 124.38 33 ePKPdf PKPdf 10 56 43.1 -2.8
WVOR Wild Horse Val 124.88 31 PKiKP PKPdf 10 56 44.8 -2.1
WVOR Wild Horse Val 124.88 31 ePKPdf PKPdf 10 56 44.5 -2.3
MCMT McKenzie Canyo 125.81 25 ePKPdf PKPdf 10 56 45.8 -2.8
ULM Lac du Bonnet 126.05 10 PKP PKPdf 10 56 45.3 -3.6
comp=Z,16nm,0.8s,baz=354,slow=3.3,SNR=28
HLID Hailey 126.11 27 ePKPdf PKPdf 10 56 46.3 -2.8
RKT Rikitea 126.37 117 eLR LR 11 36 31.2
comp=Z,224nm,31.2s
QLMT Earthquake Lak 126.41 24 ePKPdf PKPdf 10 56 47.8 -1.9
WCN Washoe City 126.46 35 PKiKP PKPdf 10 56 48.1 -1.8
WCN Washoe City 126.46 35 ePKPdf PKPdf 10 56 47.8 -2.1
YMR Madison River 126.73 24 ePKPdf PKPdf 10 56 48.6 -1.6
LAO LASA Array 126.77 19 ePKPdf PKPdf 10 56 47.8 -2.5
YFT Old Faithful 126.96 24 ePKPdf PKPdf 10 56 49.7 -1.0
LKWY Lake 127.05 24 PKiKP PKPdf 10 56 50.3 -0.6
LKWY Lake 127.05 24 ePKPdf PKPdf 10 56 49.9 -1.0
LRV Little Rabbit 127.61 38 ePKPdf PKPdf 10 56 50.9 -1.4
RRI2 Red Ridge 127.66 25 ePKPdf PKPdf 10 56 49.5 -2.7
LOHW Long Hollow 127.75 25 ePKPdf PKPdf 10 56 49.6 -2.7
SNOW Snow King Moun 127.81 25 ePKPdf PKPdf 10 56 49.9 -2.5
REDW Red Top Meadow 127.84 25 ePKPdf PKPdf 10 56 49.9 -2.7
NVAR Mina Array Bea 127.88 35 PKP PKPdf 10 56 50.5 -2.3
comp=Z,7.5nm,0.9s,baz=275,slow=2.0,SNR=40
MTUM Tungsten Hills 128.47 36 ePKPdf PKPdf 10 56 51.9 -2.1
BGU Big Grassy Mou 128.80 29 ePKPdf PKPdf 10 56 52.0 -2.4
PDAR Pinedale Array 128.88 24 PKP PKPdf 10 56 51.8 -2.8
comp=Z,2.6nm,0.6s,baz=73,slow=0.6,SNR=21
HWUT Hardware Ranch 128.95 27 ePKPdf PKPdf 10 56 51.8 -2.9
HWUT ePP PP 10 58 58.0 -4.0
TRCR Troy Canyon 129.44 33 ePKPdf PKPdf 10 56 53.5 -2.3
DUG Dugway 129.47 29 PKIKP PKPdf 10 56 53.6 -2.2
DUG Dugway 129.47 29 ePKPdf PKPdf 10 56 53.4 -2.3
NLU North Lily Min 130.02 29 ePKPdf PKPdf 10 56 54.1 -2.6
DAU Daniels Canyon 130.04 28 PKIKP PKPdf 10 56 55.7 -1.1
DAU Daniels Canyon 130.04 28 ePKPdf PKPdf 10 56 54.6 -2.2
TMUT Trail Mountain 130.95 28 ePKPdf PKPdf 10 56 56.3 -2.3
MVU Marysvale 131.07 30 ePKPdf PKPdf 10 56 56.9 -2.0
MVU eSKPbc 11 00 18.8
MSU Marysvale 131.09 30 PKIKP PKPdf 10 56 57.5 -1.4
MSU Marysvale 131.09 30 ePKPdf PKPdf 10 56 56.4 -2.5
MSU eSKPbc 11 00 19.6
SRU San Rafael 131.42 28 PKIKP PKPdf 10 56 56.9 -2.6
SRU San Rafael 131.42 28 ePKPdf PKPdf 10 56 56.6 -2.9
PV10 Paradox Valley 132.70 27 ePKPdf PKPdf 10 56 59.7 -2.2
ISCO Idaho Springs 132.97 23 PKIKP PKPdf 10 57 00.9 -1.5
ISCO Idaho Springs 132.97 23 ePKPdf PKPdf 10 56 59.7 -2.8
PV01 Paradox Valley 133.11 27 ePKPdf PKPdf 10 56 59.9 -2.8
WUAZ Wupatki 133.79 32 ePKPdf PKPdf 10 57 02.0 -2.0
BINY Binghamton 134.63 352 ePKPdf PKPdf 10 57 02.3 -3.1
SSPA Standing Stone 136.41 354 ePKPdf PKPdf 10 57 05.5 -3.1
KSU1 Kansas State U 136.55 15 ePKPpre 10 56 56.6
KSU1 ePKPdf PKPdf 10 57 06.2 -2.7
ANMO Albuquerque 136.69 28 PKIKP PKPdf 10 57 07.6 -1.7
ANMO Albuquerque 136.69 28 PKP PKPdf 10 57 07.2 -2.1
comp=Z,6.1nm,0.9s,baz=227,slow=1.3,SNR=16
ANMO Albuquerque 136.69 28 ePKPdf PKPdf 10 57 07.4 -1.9
MVL Millersville 136.84 352 ePKPdf PKPdf 10 57 06.5 -2.9
ACSO Alum Creek Sta 137.12 359 ePKPdf PKPdf 10 57 06.4 -3.5
LPM Los Pinos Moun 137.13 28 ePKPdf PKPdf 10 57 08.4 -1.8
CCM Cathedral Cave 138.68 9 PKIKP PKPdf 10 57 04.6 -8.3
CCM Cathedral Cave 138.68 9 ePKPpre 10 57 00.6
CCM ePKPdf PKPdf 10 57 09.3 -3.6
WCI Wyandotte Cave 139.04 3 PKIKP PKPdf 10 57 09.8 -3.8
WCI Wyandotte Cave 139.04 3 ePKPdf PKPdf 10 57 09.9 -3.7
FWV Forest Hill 139.69 357 ePKPdf PKPdf 10 57 11.3 -3.5
MNTX Cornudas Mount 139.86 29 ePKPpre 10 57 05.8
MNTX ePKPdf PKPdf 10 57 12.7 -2.6
GDL2 Guadalupe Moun 139.94 28 ePKPdf PKPdf 10 57 12.2 -3.1
WMOK Wichita Mounta 139.97 20 PKHKP 10 57 04.0
ELN Prospectdale 140.03 356 ePKPdf PKPdf 10 57 11.4 -4.0
PLCA Paso Flores 140.50 196 PKP PKPdf 10 57 12.4 -3.8
comp=Z,1.2nm,0.6s,baz=265,slow=1.8,SNR=3.7
WVT Waverly 141.01 5 PKHKP 10 57 07.5
WVT Waverly 141.01 5 ePKPpre 10 57 06.8
WVT ePKPdf PKPdf 10 57 13.8 -3.5
MIAR Mount Ida 141.62 13 PKHKP 10 57 09.4
MIAR Mount Ida 141.62 13 ePKPpre 10 57 09.2
MIAR ePKPdf PKPdf 10 57 16.0 -2.4
CPCT Cooper Cave 141.88 1 ePKPdf PKPdf 10 57 15.0 -3.8
PLAL Pickwick Lake 142.12 6 ePKPpre 10 57 10.3
PLAL ePKPdf PKPdf 10 57 16.1 -3.1
TXAR Lajitas Array 142.64 30 PKhKP 10 57 13.3
comp=Z,1.7nm,0.7s,baz=211,slow=1.4,SNR=16
TXAR PKP PKPdf 10 57 19.1 -1.1
comp=Z,6.2nm,0.7s,baz=23,slow=4.5,SNR=35
BAO Brasilia Array 142.74 248 PKPdf PKPdf 10 57 14.0 -6.7
BAO PKPdf PKPdf 10 57 19.0 -1.7
BAO PP tx 11 01 24.0
BDFB Brasilia 142.76 248 PKhKP 10 57 14.0
comp=Z,10nm,0.9s,baz=224,slow=4.0,SNR=4.4
BDFB PKP PKPdf 10 57 18.4 -2.4
comp=Z,5.1nm,0.7s,baz=52,slow=6.1,SNR=4.6
GOGA Godfrey 143.93 360 PKIKP PKPdf 10 57 17.1 -5.2
GOGA Godfrey 143.93 360 ePKPdf PKPdf 10 57 16.8 -5.5
NATX Nacogdoches 144.00 16 ePKPdf PKPdf 10 57 17.6 -4.9
LRAL Lakeview Retre 144.16 5 ePKPpre 10 57 13.9
LRAL ePKPdf PKPdf 10 57 18.6 -4.2
DWPF Disney 149.14 356 ePKPbc PKPdf 10 57 33.0 +1.7
SJG San Juan 153.00 321 PKPbc PKPdf 10 57 41.4 +4.1
comp=Z,11nm,0.2s,baz=15,slow=18,SNR=5.1
SAML Samuel 158.85 253 ePKPdf PKPdf 10 57 42.0 -3.1
SAML ePKPab PKPab 10 58 17.9 -0.7
LPAZ La Paz 159.78 228 PKP PKPdf 10 57 44.1 -1.9
comp=Z,4.2nm,0.8s,baz=152,slow=0.7,SNR=17
LPAZ PKPab PKPab 10 58 23.8 +1.2
comp=Z,8.2nm,0.8s,baz=120,slow=2.3,SNR=13
ROSC El Rosal 168.00 310 PKP PKPdf 10 57 51.1 -2.5
comp=Z,4.0nm,0.3s,baz=91,slow=17,SNR=6.8

*IDC **01** 10:42:13.3±2.1,2.77N×96.36E,mb4.3/8,mb1 4.4/8, mb1mx4.1/19,mbtmp4.3/8,Error ellipse: s-maj=102.5km s-min=17.3km az=57.0*
*NEIC **01** 10:42:18.1±1.4,2.82N×96.53E,h30km,mb4.4/1,Error ellipse: s-maj=71.9km s-min=11.7km az=57.0*
ISC 01 10:42:15.9±1.8,2.8N±0.3×96.5E±0.5,h30km,n10, σ0965/10,mb4.3/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	35.46	127	P	P	10 49 11.8	-0.2
6.3nm,0.8s,mb4.6,baz=349,slow=2.2,SNR=3.1							
WRA	Warramunga Arr	43.51	123	P	P	10 50 19.7	+0.9
1.8nm,0.5s,mb4.1,baz=302,slow=9.2,SNR=6.6							
WRAB	Tennant Creek	43.51	123	eP	P	10 50 17.3	-1.6
3.5nm,0.5s,mb4.3							
ASAR	Alice Springs	44.94	128	P	P	10 50 31.0	+0.6
1.8nm,0.7s,mb4.0,baz=303,slow=7.9,SNR=4.5							
MKAR	Makanchi Array	45.54	346	P	P	10 50 34.9	+0.1
2.4nm,0.6s,mb4.3,baz=167,slow=8.0,SNR=12							
SONM	Songino Array	45.69	9	P	P	10 50 36.2	+0.2
1.2nm,0.5s,mb4.1,baz=191,slow=9.0,SNR=6.7							
BVAR	Borovoye Array	54.52	341	P	P	10 51 42.9	-0.5
1.6nm,0.7s,mb4.2,baz=149,slow=8.4,SNR=4.0							
STKA	Stephens Creek	54.96	133	P	P	10 51 47.2	+0.2
3.3nm,0.7s,mb4.5,baz=316,slow=3.1,SNR=4.7							
STKA	Stephens Creek	54.96	133	P	P	10 51 47.2	+0.2
ARCES	ARCESS Array B	80.80	340	P	P	10 54 28.1	+0.2
2.6nm,0.8s,mb4.2,baz=63,slow=5.4,SNR=4.4							

*NEIC **01** 10:48:35.6±8.6,19.14S×169.33E,h130km±45km,mb4.4/1, Error ellipse: s-maj=108.4km s-min=18.0km az=213.0*
*IDC **01** 10:48:37.0±7.1,19.29S×169.17E,h127km±50km,mb3.8/6, mb1 3.8/7,mb1mx3.7/15,mbtmp4.1/7,MS3.5/1,Ms1 3.5/1, ms1mx2.6/23,Error ellipse: s-maj=62.2km s-min=27.2km az=28.0*
ISC 01 10:48:39.3±3.7,19.5S±0.3×169.1E±0.2,h162km±25km, n15,σ0990/18,mb4.0/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.56	224	eP	P	10 49 34.7	-0.2
DZM				eS	S	10 50 17.0	-0.7
DZM	Mont Dzumac	3.56	224	P	P	10 49 34.9	0.0
2.9nm,0.3s,baz=54,slow=20,SNR=33							
DZM				S	S	10 50 17.2	-0.5
5.0nm,0.3s,baz=124,slow=22,SNR=8.0							
DZM	Mont Dzumac	3.56	224	eP	P	10 49 34.7	-0.2
DZM				eS	S	10 50 17.0	-0.7
NOUC	Port Laguerre	3.67	225	eP	P	10 49 36.6	+0.2
NOUC				eS	S	10 50 20.8	+0.5
URZ	Urewera	19.93	161	P	P	10 53 00.4	0.0
4.3nm,0.5s,baz=90,slow=2.0,SNR=3.2							
CTA	Charters Tower	21.50	265	P	P	10 53 18.2	+2.1
4.6nm,1.0s,mb3.9,baz=72,slow=16,SNR=3.3							
STKA	Stephens Creek	27.59	238	P	P	10 54 14.3	+0.9
0.7nm,0.4s,mb3.7,baz=93,slow=14,SNR=3.7							
STKA	Stephens Creek	27.59	238	P	P	10 54 14.3	+0.9
WB2	Warramunga Arr	32.68	263	eP	P	10 54 56.9	-1.5
WRA	Warramunga Arr	32.69	263	P	P	10 54 57.3	-1.2
0.3nm,0.3s,mb3.5,baz=86,slow=8.6,SNR=14							
ASAR	Alice Springs	32.94	256	P	P	10 55 00.2	-0.4
5.9nm,0.6s,mb4.5,baz=83,slow=8.8,SNR=115							
ASPA	Alice Springs	32.94	256	eP	P	10 55 00.3	-0.3
PPT	Papeete	39.16	94	LR	LR	11 08 19.6	
comp=Z,65nm,21.6s,baz=62,slow=30							
FITZ	Fitzroy Crossi	41.09	265	eP	P	10 56 09.7	+0.9
5.4nm,0.7s,mb4.3							
FITZ	Fitzroy Crossi	41.09	265	P	P	10 56 09.4	+0.7

7.1nm,0.6s,mb4.5,baz=136,slow=4.7,SNR=7.6

IDC 01 10:53:39.6±5.9,3.14N×97.25E,mb3.2/3,mb1 3.4/3, mb1mx3.3/17,mbtmp3.2/3,Error ellipse: s-maj=304.7km s-min=28.1km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.04**	**124**	P	P	11 01 41.4	-1.7
	0.2nm,0.4s,baz=303,slow=9.1,SNR=5.3						
ASAR	**Alice Springs**	**44.54**	**129**	P	P	11 01 53.4	-1.9
	0.2nm,0.5s,baz=297,slow=7.7,SNR=4.7						
MKAR	**Makanchi Array**	**45.38**	**346**	P	P	11 01 59.7	-1.9
	0.2nm,0.5s,baz=166,slow=9.3,SNR=3.2						

*IDC **01** 10:58:29.6±0.4,2.89N×96.44E,mb4.7/26,mb1 4.7/26, mb1mx4.7/27,mbtmp4.7/26,MS4.1/2,Ms1 4.1/2, ms1mx3.4/27,Error ellipse: s-maj=19.2km s-min=10.8km az=54.0*

*BJI **01** 10:58:29.7,2.30N×96.30E,h42km,mB5.3,mb4.8,Ms4.5, Msz4.3*

*MOS **01** 10:58:32.8±0.9,2.88N×96.44E,h33km,mb5.0/36,Error ellipse: s-maj=12.0km s-min=6.3km az=114.7*

*NEIC **01** 10:58:34.0±0.2,2.82N×96.39E,mb4.9/36,Error ellipse: s-maj=7.0km s-min=4.9km az=47.0*

*HRVD **01** 10:58:34.0±0.8,2.93N×96.57E,h22km±2km,MW4.8/30, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s30,c39; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.70±.28; $M_{\theta\theta}$0.63±.15; $M_{\phi\phi}$1.08±.20; $M_{r\theta}$0.53±.24; $M_{\theta\phi}$0.64±.08; $M_{\phi r}$-0.98±.33; Best double couple: $M_0$1.909×10^{16} NP1:ϕ_s232°,δ39°,λ-55°. NP2: ϕ_s10°,δ59°,λ-115°. Principal axes: T 1.628, Plg11°, Azm118°; N .568, Plg21°, Azm24°; P -2.189, Plg66°, Azm233°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 10:58:32.3±0.2,2.82N±0.04×96.36E±0.04,h28km, h28km±.9km:pP-P,n166,σ1º01/160,mb4.7/75,MS4.2/9, 12C-5D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.93**	**60**	*e*Pn	**Pn**	**10 59 48.0**	**+1.4**
IPM	**Ipoh**	**4.97**	**69**	P	**Pn**	**10 59 48.4**	**+1.3**
KGM	**Kluang**	**7.00**	**96**	P	**Pn**	**11 00 17.1**	**+1.5**
KSM	**Kuching**	**14.00**	**95**	Pn	**P**	**11 01 52.5**	**+1.2**
VIS	**Vishakhapatnam**	**19.56**	**320**	*e*	**P**	**11 03 09.3**	**+8.2**
KKM	**Kota Kinabalu**	**20.05**	**80**	*e*P	**P**	**11 03 05.9**	**-0.4**
KKM	**Kota Kinabalu**	**20.05**	**80**	P	**P**	**11 03 06.6**	**+0.3**
TSM	**Tawau**	**21.52**	**85**	P	**P**	**11 03 24.4**	**+3.0**
HYB	**Hyderabad**	**22.71**	**311**	*e*P	**P**	**11 03 35.0**	**+1.6**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**22.71**	**311**	*e*P	**P**	**11 03 35.0**	**+1.6**
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**22.71**	**311**	*i* P	**P**	**11 03 35.0**	**+1.6**
	comp=Z,50nm,1.0s,mb4.9						
KMI	**Kunming**	**23.01**	**15**	P	**P**	**11 03 38.4**	**+2.2**
KMI				AP		11 03 46.8	
KMI				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.5						
KMI				LR	LR		
	comp=N,550nm,11.3s,MS4.3						
KMI				LR	LR		
	comp=E,364nm,12.8s,MS4.3						
KMI				LR	LR		
	comp=Z,525nm,14.2s,MS4.1						
KMI	**Kunming**	**23.01**	**15**	P	**P**	**11 03 38.4**	**+2.2**
	comp=Z,19nm,0.9s,mb4.5						
KMI				pP		11 03 46.8	
KMI				LR	LR		
	comp=Z,520nm,14.2s,MS4.1						
SHL	**Shillong**	**23.02**	**350**	*e*P	**P**	**11 03 35.0**	**-1.3**
GYA	**Guiyang**	**25.50**	**22**⇑	*i*P	**P**	**11 03 59.9**	**-0.2**
GYA				AP	pP	11 04 09.2	+0.9
GYA				XP	sP	11 04 11.8	-0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
GYA				AMB	AMB		
	comp=Z,220nm,9.3s						
GYA				LR	LR		
	comp=N,300nm,14.7s,MS4.2						
GYA				LR	LR		
	comp=E,370nm,12.9s,MS4.2						
GYA				LR	LR		
	comp=Z,660nm,14.4s,MS4.3						
ALBI	**Allahabad**	**26.39**	**329**	*e*P	**P**	**11 04 08.0**	**-0.4**
JIRN	**Jiri**	**26.54**	**339**	*e*P	**P**	**11 04 09.9**	**+0.1**
	comp=Z,65nm,0.6s,mb5.3						
PKI	**Pulchoki**	**26.75**	**338**	*e*P	**P**	**11 04 14.0**	**+2.3**
	comp=Z,22nm,0.6s,mb4.8						
PKI	**Pulchoki**	**26.75**	**338**	*e*P	**P**	**11 04 14.0**	**+2.3**
PKI				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
GUN	**Gumba**	**26.88**	**339**	*e*P	**P**	**11 04 12.4**	**-0.5**
DMN	**Daman**	**26.89**	**337**	*e*P	**P**	**11 04 14.7**	**+1.7**
KKN	**Kakani**	**26.99**	**338**	*e*P	**P**	**11 04 15.2**	**+1.3**
	comp=Z,47nm,0.9s,mb5.0						
KKN	**Kakani**	**26.99**	**338**	*e*P	**P**	**11 04 15.2**	**+1.3**
KKN				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.7						
POO	**Poona**	**27.01**	**307**	*e*P	**P**	**11 04 14.0**	**-0.2**
LSA	**Lhasa**	**27.18**	**350**	P	**P**	**11 04 15.0**	**-0.7**
LSA	**Lhasa**	**27.18**	**350**	*e*P	**P**	**11 04 16.0**	**+0.3**
LSA				*e*PP	pP	11 04 24.5	+0.7
LSA				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.8						
LSA	**Lhasa**	**27.18**	**350**	*e*P	**P**	**11 04 16.0**	**+0.3**
	comp=Z,28nm,0.8s,mb4.8						
LSA				*e*pP	pP	11 04 24.5	+0.7
GKN	**Gorkha**	**27.43**	**337**	*e*P	**P**	**11 04 18.3**	**+0.4**
KOLN	**Koldanda**	**27.64**	**335**	*e*P	**P**	**11 04 20.7**	**+0.8**
	comp=Z,60nm,0.8s,mb5.3						
ENH	**Enshi**	**30.00**	**23**	*e*P	**P**	**11 04 38.6**	**-2.4**
	comp=Z,9.6nm,0.6s,mb4.7						
LGTI	**Lohaghat**	**30.59**	**332**	*e*P	**P**	**11 04 46.7**	**+0.5**
PTH	**Pithoragarh**	**30.69**	**332**	*e*P	**P**	**11 04 47.9**	**+0.8**
WHN	**Wuhan**	**32.40**	**30**	P	**P**	**11 05 02.3**	**+0.2**
XAN	**Xi'an**	**33.20**	**19**	P	**P**	**11 05 07.1**	**-1.9**
XAN				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
LZH	**Lanzhou**	**33.81**	**11**	*e*P	**P**	**11 05 28.5**	**+14**
LZH				pP	pP	11 05 36.5	+14
LZH				sP	sP	11 05 38.6	+12
FITZ	**Fitzroy Crossi**	**35.56**	**127**	*e*P	**P**	**11 05 26.3**	**-3.1**
	comp=Z,15nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**35.56**	**127**	P	**P**	**11 05 27.9**	**-1.5**
	comp=Z,23nm,0.8s,mb5.2,baz=313,slow=3.5,SNR=22						
NJ2	**Nanjing**	**35.95**	**34**	*e*P	**P**	**11 05 33.6**	**+0.9**
NJ2				AP	pP	11 05 43.2	+2.2
NJ2				XP	sP	11 05 47.3	+2.7
NJ2				PP	PP	11 06 56.5	+1.9
NJ2				S	**S**	**11 11 10.0**	**+1.4**
NJ2				XS		11 11 26.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,700nm,4.4s						
NJ2				LR	LR		
	comp=N,540nm,12.0s,MS4.5						
NJ2				LR	LR		
	comp=E,300nm,16.0s,MS4.5						
NJ2				LR	LR		
	comp=Z,1μm,10.0s						
GTA	**Gaotai**	**36.55**	**4**	P	**P**	**11 05 37.6**	**0.0**
GTA				PCP	PcP	11 08 01.7	+0.6
GTA				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.9						
SSE	**Sheshan**	**36.60**	**37**	*e*P	**P**	**11 05 36.0**	**-2.1**
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,121nm,9.2s						
SSE	**Sheshan**	**36.60**	**37**	*e*P	**P**	**11 05 36.0**	**-2.1**
	comp=Z,38nm,0.7s,mb5.3						
HHC	**Hu-ho-hao-te**	**40.27**	**18**	*e*P	**P**	**11 06 10.0**	**+1.4**
HHC				XP	sP	11 06 21.0	+0.5
HHC				PP	PP	11 07 46.0	+1.2
HHC				PCP	PcP	11 08 13.8	+1.1
HHC				SCP		11 11 56.2	
HHC				PCS		11 12 02.7	
HHC				S	**S**	**11 12 16.4**	**+2.5**
HHC				SS	SS	11 15 10.0	+2.9
HHC				SCS	ScS	11 16 09.7	-1.2
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,722nm,11.9s						
HHC				LR	LR		
	comp=N,292nm,14.7s,MS4.4						
HHC				LR	LR		
	comp=E,265nm,13.7s,MS4.4						
HHC				LR	LR		
	comp=Z,251nm,13.1s,MS4.2						
NWAO	**Narrogin (SRO)**	**40.67**	**153**	P	**P**	**11 06 12.9**	**+0.9**
	comp=Z,37nm,1.0s,mb5.0,baz=301,slow=4.9,SNR=4.1						
BJT	**Baijiatuau**	**41.15**	**23**	*e*P	**P**	**11 06 15.2**	**-0.7**
BJT				pmax	pmax		
	comp=Z,11nm,0.7s						
BJT	**Baijiatuau**	**41.15**	**23**	*e*P	**P**	**11 06 15.2**	**-0.7**
	comp=Z,11nm,0.7s,mb4.6						
BJI	**Beijing**	**41.17**	**23**	*e*P	**P**	**11 06 16.7**	**+0.7**
BJI				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.6						
BJI	**Beijing**	**41.17**	**23**	*e*P	**P**	**11 06 16.7**	**+0.7**
	comp=Z,16nm,1.1s,mb4.6						
WMQ	**Urumqi**	**41.54**	**351**	⇑P	**P**	**11 06 19.3**	**+0.2**
WMQ				AP	pP	11 06 28.5	+1.0
WMQ				XP	sP	11 06 32.8	+1.8
WMQ				PP	PP	11 07 58.8	+0.6
WMQ				PCP	PcP	11 08 17.3	+0.5
WMQ				S	**S**	**11 12 32.3**	**-0.6**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,457nm,8.4s						
WMQ				LR	LR		
	comp=N,43nm,15.3s,MS4.1						
WMQ				LR	LR		
	comp=E,182nm,14.5s,MS4.1						
WMQ				LR	LR		
	comp=Z,69nm,17.0s,MS3.6						
ULHL	**Ulahol**	**43.19**	**338**	P	**P**	**11 06 33.4**	**+0.9**
	SNR=13						
KZA	**Kyzart**	**43.42**	**337**	P	**P**	**11 06 35.8**	**+1.4**
	SNR=6.6						
WRA	**Warramunga Arr**	**43.60**	**123**	P	**P**	**11 06 35.4**	**-0.8**
	comp=Z,12nm,0.6s,mb4.8,baz=301,slow=9.2,SNR=125						
WRAB	**Tennant Creek**	**43.61**	**123**	*e*P	**P**	**11 06 35.3**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,64nm,1.3s,mb5.2						
WRAB	**Tennant Creek**	**43.61**	**123**	*e*P	**P**	**11 06 35.3**	**-0.9**
	comp=Z,64nm,1.3s,mb5.2						
WB2	**Warramunga Arr**	**43.62**	**123**	*e*P	**P**	**11 06 35.5**	**-0.8**
UCH	**Uchtor**	**43.84**	**336**	P	**P**	**11 06 39.0**	**+1.2**
	SNR=18						
AML	**Almayashu**	**44.09**	**336**	P	**P**	**11 06 41.1**	**+1.2**
	SNR=15						
AAK	**Ala-Archa**	**44.19**	**337**	P	**P**	**11 06 42.8**	**+2.1**
	SNR=7.3						
AAK	**Ala-Archa**	**44.19**	**337**⇓	*e*P	**P**	**11 06 41.8**	**+1.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**44.19**	**337**	*e*P	**P**	**11 06 40.9**	**+0.2**
	comp=Z,21nm,1.1s,mb4.8						
EKS2	**Erkin-Say**	**44.50**	**336**	P	**P**	**11 06 44.1**	**+0.9**
	SNR=7.6						
USP	**Ospenovka**	**44.72**	**337**	P	**P**	**11 06 45.5**	**+0.5**
	SNR=18						
ASPA	**Alice Springs**	**45.04**	**128**⇑	*i*P	**P**	**11 06 47.2**	**-0.6**
ASAR	**Alice Springs**	**45.04**	**128**	P	**P**	**11 06 47.0**	**-0.7**
	comp=Z,7.2nm,0.6s,mb4.7,baz=299,slow=8.0,SNR=112						
FORT	**Forrest**	**45.05**	**140**	*e*P	**P**	**11 06 48.4**	**+0.6**
	comp=Z,1μm,0.6s						
MKAR	**Makanchi Array**	**45.48**	**346**	P	**P**	**11 06 50.6**	**-0.4**
	comp=Z,13nm,0.6s,mb4.9,baz=158,slow=8.2,SNR=137						
MKAR				LR	LR	11 29 21.9	
	comp=Z,143nm,18.0s,MS4.0,baz=179,slow=41						
SONM	**Songino Array**	**45.67**	**9**	P	**P**	**11 06 52.3**	**-0.2**
	comp=Z,13nm,0.8s,mb4.9,baz=190,slow=8.7,SNR=83						
SONM				PcP	PcP	11 08 30.7	-0.1
	comp=Z,6.1nm,0.6s,baz=190,slow=3.6,SNR=16						
ULN	**Ulaanbaatar**	**45.81**	**10**⇑	*e*P	**P**	**11 06 53.5**	**0.0**
ULN	**Ulaanbaatar**	**45.81**	**10**	*e*P	**P**	**11 06 53.3**	**-0.3**
	comp=Z,11nm,0.9s,mb4.8						
KKAR	**Karatay Array**	**46.24**	**334**	*i* P	**P**	**11 06 57.2**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ZAK	**Zakamensk**	**47.75**	**6**⇓	*i*P	**P**	**11 07 08.2**	**-0.6**
ZAK				*e*		11 08 35.1	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
TLY	**Talaya**	**49.07**	**6**⇑	*e*P	**P**	**11 07 19.6**	**+0.6**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
TLY	**Talaya**	**49.07**	**6**	*e*P	**P**	**11 07 19.1**	**+0.1**
	comp=Z,11nm,0.8s,mb4.9						
KURK	**Kurchatov**	**50.02**	**345**	*e*P	**P**	**11 07 25.6**	**-0.7**
KURK				*e*PP	pP	11 07 33.8	-1.1
KURK				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.1						
KURK	**Kurchatov**	**50.02**	**345**	*e*P	**P**	**11 07 25.6**	**-0.8**
	comp=Z,24nm,1.1s,mb5.1						
KURK				*e*pP	pP	11 07 33.8	-1.1
HIA	**Hailar**	**50.39**	**20**	*e*P	**P**	**11 07 28.6**	**-0.6**
HIA				pmax	pmax		
	comp=Z,22nm,1.0s						
HIA	**Hailar**	**50.39**	**20**	*e*P	**P**	**11 07 28.6**	**-0.5**
	comp=Z,22nm,1.0s,mb5.1						
MDJ	**Mudanjiang**	**50.88**	**30**	P	**P**	**11 07 33.1**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.7						
ZAL	**Zalesovo**	**51.83**	**351**	P	**P**	**11 07 39.0**	**-1.0**
	comp=Z,7.2nm,0.4s,mb4.9,baz=332,slow=4.9,SNR=32						
OPO	**Ambohidratompo**	**52.85**	**244**	P	**P**	**11 07 48.6**	**+0.5**
	comp=Z,2.2nm,0.6s,mb4.3,baz=89,slow=13,SNR=6.4						
NVS	**Novosibirsk**	**52.95**	**351**	*e*P	**P**	**11 07 46.2**	**-2.2**
NVS				pmax	pmax		
	comp=N,9.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,11nm,1.2s						
NVS				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
RAYN	**Ar Rayn**	**53.27**	**297**	P	**P**	**11 07 51.0**	**-0.2**
	comp=Z,51nm,0.8s,SNR=14						
CTA	**Charters Tower**	**53.98**	**117**	*e*P	**P**	**11 07 55.2**	**-1.2**
	comp=Z,9.0nm,0.8s,mb4.8						
CTA	**Charters Tower**	**53.98**	**117**	*e*P	**P**	**11 07 55.2**	**-1.2**
CTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CTAO	**Charters Tower**	**53.98**	**117**	*e*P	**P**	**11 07 55.9**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
CTAO	**Charters Tower**	**53.98**	**117**	*e*P	**P**	**11 07 55.9**	**-0.5**
	comp=Z,12nm,0.8s,mb4.9						
BVA0	**Borovoye Array**	**54.45**	**341**	*i* P	**P**	**11 07 58.2**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**54.45**	**341**	P	**P**	**11 07 58.2**	**-1.3**
	comp=Z,4.1nm,0.5s,mb4.6,baz=147,slow=9.2,SNR=28						
CHKZ	**Chkalovo**	**54.93**	**342**	*i* P	**P**	**11 08 01.9**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**55.06**	**133**⇓	*i*P	**P**	**11 08 03.4**	**-0.8**
	comp=Z,12nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**55.06**	**133**	P	**P**	**11 08 03.4**	**-0.9**
	comp=Z,14nm,0.7s,mb5.1,baz=310,slow=7.7,SNR=43						
KLR	**Kul'dur**	**55.20**	**28**	*e*P	**P**	**11 08 00.0**	**-5.0**
BOD	**Bodaibo**	**56.58**	**11**	*e*P	**P**	**11 08 13.7**	**-1.1**
BOD				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
KMBO	**Kilima Mbogo**	**59.22**	**267**	*e*P	**P**	**11 08 34.9**	**+1.0**
KMBO				*e*PP	pP	11 08 43.4	+0.7
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMBO	**Kilima Mbogo**	**59.22**	**267**	P	**P**	**11 08 34.9**	**+1.0**
	comp=Z,5.4nm,0.9s,mb4.6,baz=61,slow=12,SNR=11						
KMBO	**Kilima Mbogo**	**59.22**	**267**	*e*P	**P**	**11 08 34.9**	**+1.0**
	comp=Z,6.5nm,0.9s,mb4.7						
KMBO				*e*pP	pP	11 08 43.4	+0.7
YSS	**Yuzh-Sakhalins**	**59.50**	**35**⇑	*e*P	**P**	**11 08 34.7**	**-0.7**
YSS				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
GNI	**Garni**	**59.55**	**316**	P	**P**	**11 08 35.7**	**-0.2**
GNI				pmax	pmax		
	comp=Z,12nm,0.8s						
GNI	**Garni**	**59.55**	**316**	P	**P**	**11 08 35.7**	**-0.2**
	comp=Z,12nm,0.8s,mb5.0						
TI2	**Plekhanov**	**60.22**	**317**	*e*P	**P**	**11 08 40.4**	**0.0**
SVE	**Sverdlovsk**	**60.88**	**338**	*e*P	**P**	**11 08 42.8**	**-1.9**
SVE	**Sverdlovsk**	**60.88**	**338**	*e*P	**P**	**11 08 44.1**	**-0.6**
KIV	**Kislovodsk**	**62.54**	**319**⇓	*e*P	**P**	**11 08 56.1**	**0.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.0						
ASF	**Jabal al Asfar**	**62.85**	**305**	P	**P**	**11 08 59.5**	**+1.2**
	comp=Z,3.6nm,0.8s,mb4.6,baz=333,slow=6.8,SNR=3.3						
MALT	**Malatya**	**63.43**	**312**	*e*P	**P**	**11 09 02.1**	**+0.1**
MALT				*e*PP	pP	11 09 10.4	-0.3
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
MALT	**Malatya**	**63.43**	**312**	*e*P	**P**	**11 09 02.1**	**+0.1**
	comp=Z,6.2nm,0.9s,mb4.7						
MALT				*e*pP	pP	11 09 10.4	-0.3
EIL	**Elat**	**63.89**	**302**	P	**P**	**11 09 05.0**	**-0.3**
	comp=Z,5.1nm,0.9s,mb4.5,baz=13,slow=12,SNR=4.0						
EIL	**Elat**	**63.89**	**302**	*e*P	**P**	**11 09 04.5**	**-0.8**
	comp=Z,5.7nm,0.8s,mb4.7						
YAK	**Yakutsk**	**64.11**	**17**	*e*P	**P**	**11 09 05.0**	**-1.1**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
MBAR	**Mbarara**	**65.69**	**268**	*e*P	**P**	**11 09 17.1**	**0.0**
MBAR				*e*PP	pP	11 09 24.5	-1.4
MBAR				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
MBAR	**Mbarara**	**65.69**	**268**	*e*P	**P**	**11 09 17.1**	**-0.1**
	comp=Z,4.8nm,1.1s,mb4.4						
MBAR				*e*pP	pP	11 09 24.5	-1.4
BRTR	**Keskin Array B**	**67.41**	**312**	P	**P**	**11 09 26.4**	**-1.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=100,slow=7.5,SNR=7.2						
VRSR	**Storozhevoye**	**67.75**	**325**	*e*P	**P**	**11 09 27.4**	**-2.2**
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
VRSR				pmax	pmax		
	comp=N,6.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.0s						
LSZ	**Lusaka**	**69.78**	**253**	*e*P	**P**	**11 09 43.0**	**+0.3**
LSZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LSZ	**Lusaka**	**69.78**	**253**	*e*P	**P**	**11 09 43.0**	**+0.3**
	comp=Z,3.6nm,0.6s,mb4.5						
MA2	**Magadan**	**70.25**	**26**⇑	*e*P	**P**	**11 09 44.4**	**-0.4**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
MA2	**Magadan**	**70.25**	**26**	*e*P	**P**	**11 09 43.9**	**-0.9**
OBN	**Obninsk**	**70.81**	**328**⇑	*e*P	**P**	**11 09 47.7**	**-0.6**
OBN				*i*	pP	11 09 56.1	-0.9
OBN				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.1						
TIXI	**Tiksi**	**71.75**	**10**⇑	*e*P	**P**	**11 09 52.2**	**-1.5**
DZM	**Mont Dzumac**	**72.70**	**114**	LR	LR	11 45 19.3	
	comp=Z,155nm,18.6s,MS4.3,baz=218,slow=39						
APE	**Apeiranthos**	**73.04**	**308**	*i* P	**P**	**11 09 57.2**	**-4.8**
AKASG	**Malin Array Be**	**73.47**	**322**	P	**P**	**11 10 02.6**	**-1.6**
	comp=Z,2.4nm,0.5s,mb4.3,baz=89,slow=5.0,SNR=12						
VRI	**Vrincioaia**	**73.87**	**317**⇑	*i*P	**P**	**11 10 07.0**	**+0.4**
MAW	**Mawson**	**74.10**	**193**	P	**P**	**11 10 08.2**	**+0.8**
	comp=Z,4.9nm,1.0s,mb4.4,baz=96,slow=10,SNR=3.6						
MLR	**Muntele Rosu**	**74.32**	**316**	P	**P**	**11 10 08.3**	**-0.8**
	comp=Z,6.7nm,1.0s,mb4.5,baz=110,slow=4.8,SNR=5.5						
MLR	**Muntele Rosu**	**74.32**	**316**⇑	*i*P	**P**	**11 10 08.7**	**-0.5**
BOSA	**Boshof**	**74.87**	**240**	*e*P	**P**	**11 10 12.8**	**+0.1**
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
BOSA	**Boshof**	**74.87**	**240**	P	**P**	**11 10 12.8**	**+0.1**
	comp=Z,5.8nm,0.8s,mb4.6,baz=68,slow=7.7,SNR=9.1						
BOSA	**Boshof**	**74.87**	**240**	*e*P	**P**	**11 10 12.8**	**+0.1**
	comp=Z,5.3nm,0.7s,mb4.6						
BURAR	**Bucovina Array**	**75.26**	**319**⇓	*i*P	**P**	**11 10 15.1**	**+0.5**
APA	**Apatity**	**77.32**	**339**⇑	*e*P	**P**	**11 10 25.0**	**-0.8**
SUW	**Suwalki**	**77.88**	**325**	*e*P	**P**	**11 10 28.5**	**-0.5**
SUW				*e*PP	pP	11 10 37.0	-0.9
SUW				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
SUW	**Suwalki**	**77.88**	**325**	*e*P	**P**	**11 10 28.5**	**-0.5**
	comp=Z,38nm,0.9s,mb5.3						
SUW				*e*pP	pP	11 10 37.0	-0.9
FINES	**FINESS Array B**	**78.18**	**332**	P	**P**	**11 10 30.1**	**-0.5**
	comp=Z,2.7nm,0.6s,mb4.4,baz=80,slow=6.3,SNR=16						
KAF	**Kangasniemi**	**78.27**	**333**	*e*p	**P**	**11 10 30.0**	**-1.0**
	comp=Z,6.7nm,0.8s,mb4.6,baz=101,slow=5.2						
KAF	**Kangasniemi**	**78.27**	**333**	*e*P	**P**	**11 10 30.0**	**-1.0**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
PSZ	**Piszkesteto**	**78.85**	**318**	*e*P	**P**	**11 10 34.9**	**+0.4**
PSZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
PSZ	**Piszkesteto**	**78.85**	**318**	*e*P	**P**	**11 10 34.9**	**+0.3**
	comp=Z,6.6nm,0.8s,mb4.6						
SUR	**Sutherland**	**79.35**	**236**	*e*P	**P**	**11 10 39.0**	**+1.4**
	comp=Z,20nm,0.8s,mb5.1						
BILL	**Bilibino**	**79.96**	**21**	*e*P	**P**	**11 10 40.4**	**+0.3**
BILL				*e*		11 10 45.2	
BILL				*e*		11 13 41.2	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						

IDC 01 11:17:10.7±1.0, 20.83N×122.71E, mb3.6/5, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, Error ellipse: s-maj=66.9km s-min=20.1km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**29.99**	**338**	P	P	11 23 21.6	-1.5
	0.2nm,0.5s,baz=162,slow=9.1,SNR=3.2						
MKAR	**Makanchi Array**	**41.74**	**318**	P	P	11 25 01.2	-1.8
	1.0nm,0.4s,baz=112,slow=9.3,SNR=19						
WRA	**Warramunga Arr**	**42.09**	**164**	P	P	11 25 04.4	-1.9
	0.4nm,0.6s,baz=344,slow=8.6,SNR=11						
ASAR	**Alice Springs**	**45.55**	**166**	P	P	11 25 32.6	-1.7
	0.2nm,0.3s,baz=344,slow=7.3,SNR=7.1						
YKA	**Yellowknife Ar**	**85.50**	**23**	P	P	11 29 49.9	-1.4
	0.2nm,0.5s,baz=309,slow=4.6,SNR=7.9						

*CSEM **01** 11:22:04.9±0.3, 61.69N×30.89E, h2km, ML2.2, Error ellipse: s-maj=6.8km s-min=3.2km az=131.0*
*IDC **01** 11:22:06.4±2.4, 61.72N×30.75E, mb1 3.4/4, mb1mx3.2/20, mbtmp3.3/4, ML3.1/4, Error ellipse: s-maj=25.7km s-min=11.4km az=131.0*
*BER **01** 11:22:07.2±4.6, 61.85N×30.62E, ML2.7(NAO), Suspected explosion*
*NAO **01** 11:22:08.5±2.4, 62.04N×30.31E, ML2.7*
HEL 01 11:22:04.4±0.5, 61.73N×31.04E, ML2.2, ML2.7(NAO), Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**2.07**	**236**	*e*P	Pn	11 22 40.3	-0.6
VJF				*e*S	Sn	11 23 05.5	-2.2
VJF	**Virojoki**	**2.07**	**236**	P	Pn	11 22 40.2	-0.7
VJF				S	Sn	11 23 05.5	-2.3
KAF	**Kangasniemi**	**2.27**	**282**	*e*P	Pn	11 22 43.5	-0.2
KAF				*e*S	Sn	11 23 10.9	-2.0
KAF				MSG		11 23 14.1	
	comp=Z,6.0nm,0.1s						
KAF	**Kangasniemi**	**2.27**	**282**	P	Pn	11 22 43.5	-0.2
KAF				S	Sn	11 23 10.8	-2.0
	comp=Z,6.0nm,0.1s						
FIA0	**FINESS Array S**	**2.39**	**265**	Pn	Pn	11 22 45.0	-0.5
	baz=92,slow=16						
FIA0				Lg		11 23 13.1	
	baz=68,slow=28						
FIA0				Rg		11 23 26.1	
	baz=80,slow=37						
FIA0	**FINESS Array S**	**2.39**	**265**	*e*P	Pn	11 22 45.0	-0.4
FIA0				*e*S	Sn	11 23 13.9	-2.0
FIA0				MSG		11 23 16.9	
	comp=Z,10nm,0.2s						
FIA0	**FINESS Array S**	**2.39**	**265**	P	Pn	11 22 45.0	-0.4
FIA0				S	Sn	11 23 13.9	-2.0
	comp=Z,10nm,0.2s						
FINES	**FINESS Array B**	**2.39**	**265**	Pn	Pn	11 22 44.9	-0.5
	comp=Z,11nm,0.3s,baz=82,slow=15,SNR=421						
FINES				Sn	Sn	11 23 14.5	-1.4
	comp=Z,8.8nm,0.3s,baz=80,slow=26,SNR=29						
SUF	**Sumiainen**	**2.50**	**296**	*e*P	Pn	11 22 47.1	+0.2
SUF				*e*S	Sn	11 23 17.9	-0.6
SUF				MSG		11 23 19.6	
	comp=Z,13nm,0.1s						
SUF	**Sumiainen**	**2.50**	**296**	P	Pn	11 22 47.0	+0.1
SUF				S	Sn	11 23 17.8	-0.7
	comp=Z,13nm,0.1s						
PVF	**Pernaja**	**2.78**	**247**	*e*P	Pn	11 22 49.5	-1.5
PVF				MSG		11 23 38.2	
	comp=Z,12nm,0.2s						
PVF	**Pernaja**	**2.78**	**247**	P	Pn	11 22 49.4	-1.6
	comp=Z,12nm,0.2s						
KJN	**Kajaani**	**2.81**	**329**	*e*P	Pn	11 22 51.9	+0.5
KJN				MSG		11 23 29.8	
	comp=Z,14nm,0.2s						
KJN	**Kajaani**	**2.81**	**329**	P	Pn	11 22 51.9	+0.5
	comp=Z,14nm,0.2s						
KEF	**Keuruu**	**2.95**	**281**	*e*P	Pn	11 22 54.0	+0.6
KEF				MSG		11 23 30.5	
	comp=Z,8.5nm,0.2s						
KEF	**Keuruu**	**2.95**	**281**	P	Pn	11 22 53.9	+0.5
	comp=Z,8.5nm,0.2s						
APA0	**Apatity Array**	**5.96**	**7**	*e*P	Pn	11 23 32.5	-3.5
APA0				*e*SG		11 25 05.8	
APA0	**Apatity Array**	**5.96**	**7**	Pn	Pn	11 23 32.5	-3.5
	baz=193,slow=12						
APA0				Lg		11 25 05.8	
	baz=221,slow=37						
ARA0	**ARCESS Array S**	**8.16**	**346**	Pn	P	11 24 02.5	-4.4
	baz=157,slow=16						
ARA0				Sn	Sn	11 25 31.0	-10
	baz=161,slow=28						
ARA0				Lg		11 26 14.2	
	baz=160,slow=37						
ARA0	**ARCESS Array S**	**8.16**	**346**	*e*P	P	11 24 02.5	-4.4
ARA0				*e*S	Sn	11 25 31.0	-10
ARA0				*e*SG		11 26 14.2	
ARCES	**ARCESS Array B**	**8.16**	**346**	Pn	P	11 24 02.3	-4.6
	comp=Z,0.1nm,0.3s,baz=157,slow=14,SNR=9.5						
ARCES				Sn	Sn	11 25 30.3	-11
	comp=Z,0.2nm,0.3s,baz=165,slow=24,SNR=3.5						
ARCES				Lg		11 26 13.7	
	comp=Z,0.5nm,0.3s,baz=160,slow=28,SNR=6.3						
HFS	**Hagfors**	**8.60**	**267**	Pn	P	11 24 08.1	-4.9
	baz=82,slow=16						
HFS				Sn	Sn	11 25 39.7	-12
	baz=81,slow=28						
HFS				Lg		11 26 27.1	
	baz=71,slow=37						
HFS	**Hagfors**	**8.60**	**267**	*e*P	P	11 24 08.1	-4.9
HFS				*e*S	Sn	11 25 39.7	-12
HFS				*e*SG		11 26 27.1	
HFS	**Hagfors**	**8.60**	**267**	Pn	P	11 24 08.1	-4.8
	comp=Z,0.1nm,0.3s,baz=69,slow=13,SNR=7.7						
HFS				Sn	Sn	11 25 39.5	-12
	comp=Z,0.1nm,0.3s,baz=78,slow=27,SNR=6.7						
HFS				Lg		11 26 30.9	
	comp=Z,0.1nm,0.3s,baz=69,slow=25,SNR=4.1						
NB2	**NORSAR Subarra**	**9.53**	**275**	*e*P	P	11 24 20.9	-4.8
NB2				*e*S	Sn	11 26 03.3	-12
NOA	**NORSAR Array B**	**9.53**	**275**	Pn	P	11 24 20.1	-5.7
	comp=Z,0.3nm,0.3s,baz=82,slow=13,SNR=2.3						
NOA				Sn	Sn	11 26 02.0	-13
	comp=Z,0.2nm,0.3s,baz=185,slow=9.4,SNR=2.7						
NOA				Lg		11 26 55.6	
	comp=Z,0.3nm,0.3s,baz=277,slow=22,SNR=3.3						

IDC 01 11:29:38.2±2.4, 23.14N×95.58E, mb3.7/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=85.7km s-min=30.5km az=66.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.92**	**339**	P	P	11 35 12.8	-0.9
	1.4nm,0.7s,baz=160,slow=7.7,SNR=17						
SONM	**Songino Array**	**26.12**	**17**	P	P	11 35 12.9	-2.6
	2.0nm,0.9s,baz=186,slow=9.1,SNR=13						
WRA	**Warramunga Arr**	**57.12**	**135**	P	P	11 39 27.3	-1.9
	0.2nm,0.5s,baz=303,slow=9.5,SNR=3.1						

IDC 01 11:32:44.5±29.0, 21.79S×176.85W, mb3.9/4, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, Error ellipse: s-maj=554.6km s-min=150.4km az=90.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.22**	**246**	P	P	11 40 04.4	-3.4
	0.6nm,0.6s,baz=95,slow=15,SNR=3.5						
ASAR	**Alice Springs**	**45.28**	**258**	P	P	11 41 04.1	-1.8
	0.3nm,0.4s,baz=95,slow=6.9,SNR=12						
WB2	**Warramunga Arr**	**45.48**	**263**	*e*P	P	11 41 06.9	-0.6
WRA	**Warramunga Arr**	**45.49**	**263**	P	P	11 41 06.9	-0.7
	1.1nm,0.3s,baz=98,slow=8.4,SNR=74						
FITZ	**Fitzroy Crossi**	**53.92**	**263**	P	P	11 42 10.1	-2.1
	2.5nm,0.7s,baz=180,slow=4.2,SNR=6.2						

*IDC **01** 11:38:12.8±3.3, 9.01S×106.10E, mb3.8/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7, MS4.1/2, Ms1 4.1/2, ms1mx3.2/20, Error ellipse: s-maj=146.1km s-min=19.4km az=48.0*
*NEIC **01** 11:38:18.5±4.6, 9.03S×106.11E, h39km±47km, mb4.4/1, Error ellipse: s-maj=76.8km s-min=9.9km az=224.0*
ISC 01 11:38:16.7±2.0, 8.8S±0.5×106.4E±0.5, h33km, n15, σ0°54/12, mb4.3/11, MS4.2/2, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.87**	**118**	P	P	11 42 59.4	+0.9
	5.1nm,0.8s,baz=199,slow=8.7,SNR=3.8						
WRA	**Warramunga Arr**	**29.21**	**115**	P	P	11 44 17.8	+0.1
	0.3nm,0.6s,mb3.2,baz=286,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**30.20**	**123**	P	P	11 44 25.6	-0.8
	0.4nm,0.8s,mb3.2,baz=300,slow=8.2,SNR=3.9						
JIRN	**Jiri**	**41.19**	**332**	*e*P	P	11 46 00.5	+0.5
	37nm,0.7s,mb5.1						
GUN	**Gumba**	**41.54**	**332**	*e*P	P	11 46 03.7	+0.7
	32nm,0.7s,mb5.1						
KKN	**Kakani**	**41.72**	**331**	*e*P	P	11 46 03.8	-0.7
	20nm,0.7s,mb4.8						
GKN	**Gorkha**	**42.21**	**331**	*e*P	P	11 46 08.3	-0.1
	28nm,1.1s,mb4.8						
KOLN	**Koldanda**	**42.52**	**330**	*e*P	P	11 46 11.6	+0.6
	8.6nm,0.6s,mb4.7						
SONM	**Songino Array**	**56.40**	**0**	P	P	11 47 56.9	-0.3
	0.9nm,0.6s,mb4.0,baz=175,slow=7.9,SNR=8.2						
SONM				LR	LR	12 13 51.1	
	comp=Z,522nm,18.1s,MS4.7,baz=193,slow=38						
MKAR	**Makanchi Array**	**59.38**	**341**	P	P	11 48 17.9	-0.2
	2.0nm,0.7s,mb4.2,baz=135,slow=8.2,SNR=3.6						
ZAL	**Zalesovo**	**65.12**	**346**	P	P	11 48 56.4	0.0
	1.1nm,0.4s,mb4.2,baz=51,slow=6.5,SNR=2.4						
BVAR	**Borovoye Array**	**68.79**	**338**	P	P	11 49 18.9	-0.6
	1.0nm,0.7s,mb3.9,baz=144,slow=11,SNR=3.4						
GNI	**Garni**	**74.80**	**316**	LR	LR	12 23 50.5	
	comp=Z,39nm,18.4s,MS3.7,baz=171,slow=37						
TXAR	**Lajitas Array**	**145.21**	**50**	PKPbc	PKPbc	11 57 54.0	+2.0
	0.4nm,0.8s,baz=225,slow=1.8,SNR=3.5						
TXAR	**Lajitas Array**	**145.21**	**50**	PKPbc	PKPbc	11 57 54.0	+2.0

*IDC **01** 11:42:42.2±0.8, 1.04N×96.91E, mb4.3/15, mb1 4.4/15, mb1mx4.3/20, mbtmp4.3/15, Error ellipse: s-maj=38.2km s-min=14.2km az=49.0*
*BJI **01** 11:42:43.2, 0.82N×97.38E, h33km, mB5.0, mb4.9, Ms4.5, Msz4.4*
*MOS **01** 11:42:45.9±1.4, 1.16N×97.17E, h33km, mb5.1/20, Error ellipse: s-maj=16.4km s-min=7.9km az=98.7*
*NEIC **01** 11:42:46.7±0.5, 1.12N×97.09E, mb4.9/23, Error ellipse: s-maj=13.6km s-min=7.6km az=40.0*
ISC 01 11:42:44.9±0.5, 1.16N±0.06×97.15E±0.06, h25km, h25km±1.5km: pP-P, n96, σ1°18/98, mb4.7/56, MS4.3/9, 4C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.15**	**49**	P	Pn	11 44 02.8	+0.3
KULM	**Kulim**	**5.39**	**40**	*e*Pn	Pn	11 44 05.7	-0.2
KGM	**Kluang**	**6.22**	**82**	P	Pn	11 44 19.2	+1.5
KSM	**Kuching**	**13.16**	**88**	*e*Pn	P	11 45 55.2	+2.2
KKTK	**Khon Kaen**	**16.08**	**20**	⇓P	P	11 46 34.0	+2.7
	494nm,0.8s						
CHG	**Chiang Mai**	**17.63**	**6**	P	P	11 46 51.2	+0.4
KKM	**Kota Kinabalu**	**19.63**	**75**	*e*P	P	11 47 15.2	+0.3
KKM	**Kota Kinabalu**	**19.63**	**75**	P	P	11 47 16.1	+1.2
TSM	**Tawau**	**20.93**	**81**	P	P	11 47 32.4	+4.0
HYB	**Hyderabad**	**24.40**	**313**	*e*P	P	11 48 05.0	+2.1
HYB	**Hyderabad**	**24.40**	**313**	*i*P	P	11 48 05.0	+2.1
KMI	**Kunming**	**24.43**	**12**	P	P	11 48 04.8	+1.7
KMI				AP		11 48 11.0	
KMI				XP		11 48 13.6	
KMI				PP	PP	11 48 38.7	-0.1
KMI				AMB	AMB		
	comp=Z,59nm,1.2s,mb4.9						
KMI				AMB	AMB		
	comp=Z,170nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,15.2s,MS4.6						
KMI				LR	LR		
	comp=E,705nm,14.4s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,14.5s,MS4.5						
KMI	**Kunming**	**24.43**	**12**	P	P	11 48 04.8	+1.7
KMI				*SP		11 48 13.6	
KMI						11 48 38.7	
KMI				S	S	11 52 17.3	-1.2
KMI				*SS		11 52 28.0	
KMI				SS	SS	11 53 08.9	-4.5
KMI				SSS	SSS	11 53 24.8	-5.0
KMI				pmax	pmax		
	comp=Z,59nm,1.2s,mb4.9						
KMI				MLR	MLR		
	comp=Z,1μm,14.5s,MS4.5						
KMI	**Kunming**	**24.43**	**12**	P	P	11 48 04.8	+1.7
	comp=Z,59nm,1.2s,mb4.9						
KMI				pP		11 48 11.0	
KMI				sP		11 48 13.6	
KMI				PP	PP	11 48 38.7	-0.1
KMI				S	S	11 52 17.3	-1.2
KMI				sS		11 52 28.0	
KMI				SS	SS	11 53 08.9	-4.5
KMI				SSS	SSS	11 53 24.8	-5.0
KMI				LR	LR		
	comp=Z,1μm,14.5s,MS4.5						
SHL	**Shillong**	**24.79**	**349**	*e*P	P	11 48 07.0	+0.4
SHL				*e*P		11 51 49.0	
GYA	**Guiyang**	**26.77**	**19**	P	P	11 48 24.3	-0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.2						
JIRN	**Jiri**	**28.37**	**339**	*e*P	P	11 48 40.1	+0.6
	comp=Z,78nm,1.0s,mb5.3						
PKI	**Pulchoki**	**28.57**	**338**	*e*P	P	11 48 43.4	+2.1
	comp=Z,63nm,1.1s,mb5.2						
PKI	**Pulchoki**	**28.57**	**338**	*e*P	P	11 48 43.4	+2.1
PKI				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.0						
GUN	**Gumba**	**28.71**	**339**	*e*P	P	11 48 43.2	+0.7
	comp=Z,64nm,0.8s,mb5.4						
DMN	**Daman**	**28.72**	**337**	*e*P	P	11 48 44.1	+1.4
	comp=Z,40nm,0.9s,mb5.1						
KKN	**Kakani**	**28.82**	**338**	*e*P	P	11 48 43.8	+0.3
	comp=Z,51nm,1.0s,mb5.2						
KKN	**Kakani**	**28.82**	**338**	*e*P	P	11 48 43.8	+0.3
KKN				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
LSA	**Lhasa**	**28.95**	**349**	*e*P	P	11 48 46.1	+1.4
LSA				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
LSA	**Lhasa**	**28.95**	**349**	*e*P	P	11 48 46.1	+1.4
	comp=Z,4.0nm,0.5s,mb4.4						
GKN	**Gorkha**	**29.26**	**337**	*e*P	P	11 48 47.6	+0.1
	comp=Z,60nm,1.1s,mb5.2						
KOLN	**Koldanda**	**29.47**	**335**	*e*P	P	11 48 50.0	+0.6
	comp=Z,36nm,0.7s,mb5.2						
ENH	**Enshi**	**31.23**	**21**	*e*P	P	11 49 02.9	-2.1
	comp=Z,38nm,0.8s,mb5.3						
ENH				*e*pP	pP	11 49 10.6	-1.7
FITZ	**Fitzroy Crossi**	**33.94**	**126**	P	P	11 49 27.5	-1.2
	comp=Z,5.8nm,0.8s,mb4.6,baz=225,slow=6.8,SNR=4.5						
XAN	**Xi'an**	**34.52**	**17**	P	P	11 49 31.9	-1.6
XAN				AMB	AMB		
	comp=Z,26nm,0.9s,mb5.2						
LZH	**Lanzhou**	**35.30**	**9**	*e*P	P	11 49 38.5	-1.7
LZH				AP	pP	11 49 47.1	-0.4
LZH				XP	sP	11 49 51.6	+1.0
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,86nm,4.0s						
LZH				LR	LR		
	comp=N,315nm,13.0s						
LZH				LR	LR		
	comp=Z,357nm,17.0s,MS4.2						
LZH	**Lanzhou**	**35.30**	**9**	*e*P	P	11 49 38.5	-1.7
	comp=Z,24nm,1.3s,mb5.0						
LZH				pP	pP	11 49 47.1	-0.4
LZH				sP	sP	11 49 51.6	+1.0
LZH				LR	LR		
	comp=Z,360nm,17.0s,MS4.2						
NJ2	**Nanjing**	**36.92**	**32**	*e*P	P	11 49 51.6	-2.3
NJ2				AP	pP	11 50 00.2	-1.0
NJ2				XP	sP	11 50 05.2	+0.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,406nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,18.2s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,17.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,1μm,17.8s,MS4.7						
SSE	**Sheshan**	**37.47**	**35**	*e*P	P	11 49 53.2	-5.3
SSE				AMB	AMB		
	comp=Z,48nm,2.5s,mb4.9						
SSE	**Sheshan**	**37.47**	**35**	*e*P	P	11 49 53.2	-5.3
	comp=Z,25nm,0.8s,mb5.1						
GTA	**Gaotai**	**38.15**	**3**	P	P	11 50 04.0	-0.1
GTA				AP	pP	11 50 12.8	+1.3
GTA				XP	sP	11 50 16.2	+1.6
GTA				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.0						
GTA				AMB	AMB		
	comp=Z,171nm,5.3s						
GTA				LR	LR		
	comp=N,286nm,14.5s,MS4.3						
GTA				LR	LR		
	comp=E,216nm,13.7s,MS4.3						
GTA				LR	LR		
	comp=Z,297nm,15.2s,MS4.2						
JOW	**Kunigami**	**39.30**	**47**	P	P	11 50 14.7	+0.7
	comp=Z,15nm,0.7s,mb4.8,baz=183,slow=28,SNR=4.2						
HHC	**Hu-ho-hao-te**	**41.61**	**17**	*e*P	P	11 50 32.1	-0.7
HHC				AP	pP	11 50 39.2	-1.0
HHC				XP	sP	11 50 42.0	-1.2
HHC				PP	PP	11 52 11.6	-0.5
HHC				PCP	PcP	11 52 30.6	+0.3
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,97nm,7.8s						
HHC				LR	LR		
	comp=N,457nm,16.9s,MS4.5						
HHC				LR	LR		
	comp=E,404nm,17.5s,MS4.5						
HHC				LR	LR		
	comp=Z,432nm,15.8s,MS4.4						
WRA	**Warramunga Arr**	**42.05**	**122**	P	P	11 50 36.5	-0.2
	comp=Z,3.7nm,0.7s,mb4.1,baz=300,slow=9.1,SNR=24						
WRAB	**Tennant Creek**	**42.06**	**122**	*i*P	P	11 50 37.2	+0.5
WB2	**Warramunga Arr**	**42.06**	**122**	*e*P	P	11 50 37.1	+0.3
BJT	**Baijiatuau**	**42.37**	**22**	*e*P	P	11 50 39.0	0.0
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJT	**Baijiatuau**	**42.37**	**22**	*e*P	P	11 50 39.0	-0.1
	comp=Z,18nm,0.8s,mb4.7						
BJI	**Beijing**	**42.39**	**22**	*e*P	P	11 50 39.8	+0.6
BJI				PP	PP	11 52 24.6	+4.3
BJI				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.9						
BJI				LR	LR		
	comp=N,259nm,17.5s,MS4.3						
BJI				LR	LR		
	comp=E,179nm,13.5s,MS4.3						
BJI				LR	LR		
	comp=Z,104nm,22.5s						
BJI	**Beijing**	**42.39**	**22**	*e*P	P	11 50 39.8	+0.6
	comp=Z,23nm,0.8s,mb4.9						
BJI				PP	PP	11 52 24.6	+4.3
BJI				S	S	11 57 17.5	+19
BJI				SS	tx	12 00 52.3	
BJI				LR	LR		
	comp=Z,100nm,22.5s,MS3.6						
WMQ	**Urumqi**	**43.30**	**350**	⇑*i*P	P	11 50 47.0	+0.4
WMQ				AP	pP	11 50 54.5	+0.5
WMQ				XP	sP	11 50 57.5	+0.5
WMQ				PP	PP	11 52 29.5	+0.1
WMQ				PCP	PcP	11 52 37.7	+1.9
WMQ				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,97nm,3.2s						
WMQ				LR	LR		
	comp=E,188nm,21.6s						
WMQ				LR	LR		
	comp=Z,77nm,22.8s,MS3.5						
ASAR	**Alice Springs**	**43.41**	**127**	P	P	11 50 48.4	+0.7
	comp=Z,3.6nm,0.9s,mb4.1,baz=305,slow=7.7,SNR=24						
ULHL	**Ulahol**	**45.01**	**338**	P	P	11 51 01.6	+1.1
	SNR=6.5						
UCH	**Uchtor**	**45.67**	**336**	P	P	11 51 06.8	+1.3
	SNR=12						
AML	**Almayashu**	**45.92**	**336**	P	P	11 51 08.9	+1.4
	SNR=7.8						
AAK	**Ala-Archa**	**46.02**	**337**	*i*P	P	11 51 10.5	+2.1
AAK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
AAK	**Ala-Archa**	**46.02**	**337**	*e*P	P	11 51 08.7	+0.4
	comp=Z,16nm,1.3s,mb4.8						
EKS2	**Erkin-Say**	**46.33**	**336**	P	P	11 51 12.4	+1.6
	SNR=6.6						
USP	**Ospenovka**	**46.55**	**337**	P	P	11 51 13.2	+0.7
	SNR=7.8						
SONM	**Songino Array**	**47.18**	**8**	P	P	11 51 17.7	+0.2
	comp=Z,8.0nm,0.8s,mb4.7,baz=188,slow=8.1,SNR=53						
SONM				PcP	PcP	11 52 48.7	-0.4
	comp=Z,2.3nm,0.9s,baz=179,slow=3.9,SNR=3.9						
MKAR	**Makanchi Array**	**47.27**	**346**	P	P	11 51 18.3	+0.1
	comp=Z,5.7nm,0.7s,mb4.6,baz=160,slow=8.2,SNR=27						
ULN	**Ulaanbaatar**	**47.31**	**9**	*e*P	P	11 51 18.3	-0.2
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**47.31**	**9**	*e*P	P	11 51 18.3	-0.2
	comp=Z,4.6nm,0.8s,mb4.5						
ZAK	**Zakamensk**	**49.32**	**5**	*e*P	P	11 51 32.6	-1.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
CN2	**Changchun**	**49.36**	**27**	⇑P	P	11 51 33.8	-0.7
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
TLY	**Talaya**	**50.64**	**5**	*c i*P	P	11 51 44.6	+0.5
TLY				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
HIA	**Hailar**	**51.69**	**19**	*e*P	P	11 51 51.6	-0.6
HIA				pmax	pmax		
	comp=Z,15nm,0.9s						
HIA	**Hailar**	**51.69**	**19**	*e*P	P	11 51 51.6	-0.5
	comp=Z,15nm,0.9s,mb4.9						
KURK	**Kurchatov**	**51.82**	**345**	*e*P	P	11 51 52.4	-0.7
KURK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
KURK	**Kurchatov**	**51.82**	**345**	*e*P	P	11 51 52.4	-0.7
	comp=Z,12nm,1.0s,mb4.8						
MDJ	**Mudanjiang**	**51.92**	**29**	P	P	11 51 54.0	0.0
MDJ				AP	pP	11 51 59.6	-1.9
MDJ				XP	sP	11 52 02.0	-2.4
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,60nm,4.1s						
STKA	**Stephens Creek**	**53.36**	**132**	P	P	11 52 05.6	+0.7
	comp=Z,3.4nm,0.8s,mb4.3,baz=273,slow=5.1,SNR=6.0						
ZAL	**Zalesovo**	**53.58**	**351**	P	P	11 52 05.7	-0.5
	comp=Z,6.1nm,0.7s,mb4.7,baz=286,slow=6.0,SNR=31						
NVS	**Novosibirsk**	**54.71**	**350**	*e*P	P	11 52 12.4	-2.0
NVS				*e*S	S	11 59 54.2	+2.8
NVS				pmax	pmax		
	comp=N,6.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,13nm,0.9s,

comp=E,100nm,16.0s
SVE MLR MLR
comp=Z,100nm,16.0s,MS4.1
KIV Kislovodsk 64.31 319⇓ *e*P **P 11 53 28.0 +7.2**
KIV pmax pmax
comp=Z,11nm,0.9s,mb4.9
GOF Gofitskoye 64.56 321 *e*P **P 11 53 29.0 +6.5**
YAK Yakutsk 65.47 16 *e*P **P 11 53 26.6 -1.4**
YAK *e**PP pP 11 53 33.9 -1.8
YAK pmax pmax
comp=Z,25nm,0.9s,mb5.2
YAK Yakutsk 65.47 16 *e*P **P 11 53 26.6 -1.4**
comp=Z,25nm,0.9s,mb5.2
YAK *e*pP pP 11 53 33.9 -1.8
ANN Anapa 68.10 318 *e*P **P 11 53 43.5 -1.5**
ANN *e* 11 53 54.8
ANN *e*S S 12 02 38.5 -3.1
ANN pmax pmax
comp=Z,54nm,0.9s,mb5.6
BRTR Keskin Array B 69.10 312 P **P 11 53 49.7 -1.6**
comp=Z,0.6nm,0.5s,mb3.8,baz=129,slow=9.8,SNR=2.9
VRSR Storozhevoye 69.56 325 *e*P **P 11 53 59.4 +5.5**
VRSR pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
VRSR pmax pmax
comp=N,7.0nm,0.5s
VRSR pmax pmax
comp=E,7.0nm,0.8s
MA2 Magadan 71.39 26 *e*P **P 11 54 04.5 -0.3**
MA2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MA2 Magadan 71.39 26 *e*P **P 11 54 04.5 -0.4**
comp=Z,7.7nm,0.8s,mb4.7
OBN Obninsk 72.63 328⇑ *e*P **P 11 54 18.1 +5.8**
OBN pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TIXI Tiksi 73.23 10⇓ *i*P **P 11 54 13.4 -2.1**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TIXI MLR MLR
comp=Z,238nm,16.0s,MS4.6
AKASG Malin Array Be 75.26 322 P **P 11 54 25.5 -2.1**
comp=Z,1.2nm,0.6s,mb4.0,baz=89,slow=4.6,SNR=6.2
FINES FINESS Array B 80.01 333 P **P 11 54 52.8 -0.8**
comp=Z,1.9nm,1.0s,mb4.0,baz=108,slow=12,SNR=4.3
BILL Bilibino 81.22 21 *e*P **P 11 55 00.2 +0.3**
BILL *e* pP 11 55 06.3 -1.5
BILL pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
ARCES ARCESS Array B 82.56 340 P **P 11 55 08.3 +1.4**
comp=Z,4.6nm,0.9s,mb4.5,baz=112,slow=6.2,SNR=3.2
GERES GERESS Array B 84.81 319 P **P 11 55 19.2 +0.5**
comp=Z,0.8nm,0.7s,mb4.0,baz=90,slow=4.0,SNR=7.1
GRA1 Grafenberg Arr 86.48 320 *e*P **P 11 55 35.1 +8.1**
comp=Z,4.0nm,0.8s,mb4.7
GRF Grafenberg Arr 86.48 320 *e*P **P 11 55 35.1 +8.1**
comp=Z,4.0nm,0.8s,mb4.7
NOA NORSAR Array B 87.02 331 P **P 11 55 28.3 -1.0**
comp=Z,0.7nm,0.8s,mb4.0,baz=335,slow=20,SNR=3.1
YKA Yellowknife Ar 112.14 15 PP PP 12 01 58.7 -8.4
comp=Z,0.3nm,0.8s,baz=330,slow=7.2,SNR=4.1
TXAR Lajitas Array 143.73 32 PKP PKPdf 12 02 18.8 -4.4
comp=Z,0.4nm,0.6s,baz=298,slow=0.8,SNR=5.2

*IDC **01** 11:46:36.0±0.8,2.01N×96.53E,mb4.6/16,mb1 4.7/16, mb1mx4.5/22,mbtmp4.6/16,MS3.8/2,Ms1 3.9/2, ms1mx3.3/23,Error ellipse: s-maj=36.1km s-min=13.0km az=49.0*
*BJI **01** 11:46:37.2,1.78N×96.81E,h35km,mB5.0,mb5.0,Ms4.6, Msz4.4*
*MOS **01** 11:46:39.4±0.8,2.09N×96.66E,h33km,mb4.9/22,Error ellipse: s-maj=15.2km s-min=7.4km az=104.4*
*NEIC **01** 11:46:41.0±0.4,2.09N×96.70E,h30km,mb4.8/23,Error ellipse: s-maj=10.1km s-min=5.4km az=224.0*
ISC 01 11:46:39.3±0.4,2.10N±0.06×96.70E±0.05,h32km, h32km±2.2km:pP-P,n95,σ0=89/97,mb4.7/56,MS4.2/7, 4C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.97**	**60**	P	**Pn**	**11 47 54.6**	**+0.7**
KULM	**Kulim**	**5.06**	**51**	*e*Pn	**Pn**	**11 47 55.4**	**+0.4**
KGM	**Kluang**	**6.61**	**91**	P	**Pn**	**11 48 17.7**	**+0.7**
KSM	**Kuching**	**13.61**	**92**	*e*Pn	**P**	**11 49 53.8**	**+0.8**
NANT	**Nan**	**17.06**	**13**	P	**P**	**11 50 33.0**	**-4.3**
88nm,0.9s							
CHRT	**Chiangrai**	**17.92**	**9**	⇓P	**P**	**11 50 48.0**	**-0.1**
168nm,0.8s							
KKM	**Kota Kinabalu**	**19.85**	**78**	*e*P	**P**	**11 51 10.0**	**-0.9**
KKM	**Kota Kinabalu**	**19.85**	**78**	P	**P**	**11 51 11.9**	**+0.9**
HYB	**Hyderabad**	**23.45**	**312**	*e*P	**P**	**11 51 50.0**	**+2.9**
HYB	**Hyderabad**	**23.45**	**312**	*i* P	**P**	**11 51 50.0**	**+2.9**
KMI	**Kunming**	**23.62**	**14**	P	**P**	**11 51 49.9**	**+1.2**
KMI				AMB	AMB		
comp=Z,23nm,1.0s,mb4.6							
KMI	**Kunming**	**23.62**	**14**	P	**P**	**11 51 49.9**	**+1.2**
comp=Z,23nm,1.0s,mb4.6							
GYA	**Guiyang**	**26.05**	**21**	P	**P**	**11 52 11.5**	**-0.3**
GYA				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.3							
JIRN	**Jiri**	**27.34**	**339**	*e*P	**P**	**11 52 24.6**	**+0.9**
comp=Z,70nm,0.7s,mb5.3							
PKI	**Pulchoki**	**27.54**	**338**	*e*P	**P**	**11 52 26.8**	**+1.3**
comp=Z,22nm,0.8s,mb4.8							
PKI	**Pulchoki**	**27.54**	**338**	*e*P	**P**	**11 52 26.8**	**+1.3**
PKI				pmax	pmax		
comp=Z,11nm,0.8s,mb4.5							
GUN	**Gumba**	**27.68**	**339**	*e*P	**P**	**11 52 27.6**	**+0.9**
comp=Z,56nm,0.7s,mb5.3							
DMN	**Daman**	**27.69**	**337**	*e*P	**P**	**11 52 27.6**	**+0.7**
comp=Z,10nm,0.5s,mb4.7							
KKN	**Kakani**	**27.79**	**338**	*e*P	**P**	**11 52 28.3**	**+0.6**
comp=Z,50nm,1.0s,mb5.1							
KKN	**Kakani**	**27.79**	**338**	*e*P	**P**	**11 52 28.3**	**+0.6**
KKN				pmax	pmax		
comp=Z,25nm,1.0s,mb4.8							
LSA	**Lhasa**	**27.96**	**350**	*e*P	**P**	**11 52 29.8**	**+0.6**
LSA				pmax	pmax		
comp=Z,9.0nm,0.5s,mb4.7							
LSA	**Lhasa**	**27.96**	**350**	*e*P	**P**	**11 52 29.8**	**+0.6**
comp=Z,9.0nm,0.5s,mb4.7							
GKN	**Gorkha**	**28.23**	**337**	*e*P	**P**	**11 52 32.2**	**+0.5**
comp=Z,17nm,0.5s,mb4.9							
KOLN	**Koldanda**	**28.44**	**335**	*e*P	**P**	**11 52 34.4**	**+0.8**
comp=Z,34nm,0.6s,mb5.1							
ENH	**Enshi**	**30.54**	**22**	*e*P	**P**	**11 52 50.0**	**-2.3**
comp=Z,4.8nm,0.6s,mb4.5							
XAN	**Xi'an**	**33.77**	**18**	P	**P**	**11 53 18.9**	**-1.6**
XAN				AMB	AMB		
comp=Z,9.0nm,1.0s,mb4.7							
LZH	**Lanzhou**	**34.46**	**10**	*e*P	**P**	**11 53 25.6**	**-0.9**
LZH				AP	pP	11 53 34.1	-1.8
LZH				XP	sP	11 53 37.6	-2.4
LZH				AMB	AMB		
comp=Z,31nm,1.5s,mb5.0							
LZH				AMB	AMB		
comp=Z,98nm,4.5s							
LZH				LR	LR		
comp=N,351nm,13.0s							
LZH				LR	LR		
comp=Z,397nm,17.1s,MS4.2							
LZH	**Lanzhou**	**34.46**	**10**	*e*P	**P**	**11 53 25.6**	**-0.9**
comp=Z,31nm,1.5s,mb5.0							
LZH				pP	pP	11 53 34.1	-1.8
LZH				sP	sP	11 53 37.6	-2.4
LZH				LR	LR		
comp=Z,400nm,17.1s,MS4.2							
FITZ	**Fitzroy Crossi**	**34.85**	**126⇓**	*i* P	**P**	**11 53 29.5**	**-0.5**
comp=Z,7.6nm,0.6s,mb4.8							
FITZ				*e*S	tx	11 56 42.1	
FITZ	**Fitzroy Crossi**	**34.85**	**126**	P	**P**	**11 53 29.6**	**-0.4**
comp=Z,9.8nm,0.6s,mb4.9,baz=303,slow=2.9,SNR=15							
NJ2	**Nanjing**	**36.38**	**33**	*e*P	**P**	**11 53 42.5**	**-0.3**
NJ2				AP	pP	11 53 52.2	0.0
NJ2				XP	sP	11 53 56.1	-0.1
NJ2				PP	PP	11 55 06.5	-0.1
NJ2				S	**S**	**11 59 22.0**	**+0.7**
NJ2				XS		11 59 38.0	
NJ2				AMB	AMB		
comp=Z,50nm,1.2s,mb5.3							
NJ2				AMB	AMB		
comp=Z,1μm,4.4s							
NJ2				LR	LR		
comp=N,1μm,21.4s,MS5.0							
NJ2				LR	LR		
comp=E,2μm,22.4s,MS5.0							
NJ2				LR	LR		
comp=Z,1μm,20.4s,MS4.6							
SSE	**Sheshan**	**36.98**	**36**	*e*P	**P**	**11 53 45.6**	**-2.2**
SSE				AP	pP	11 53 53.1	-4.2
SSE				XP	sP	11 53 57.2	-4.1
SSE				S	**S**	**11 59 28.8**	**-1.7**
SSE				XS		11 59 45.4	
SSE				AMB	AMB		
comp=Z,25nm,0.7s,mb5.2							
SSE				AMB	AMB		
comp=Z,40nm,4.3s							
SSE				LR	LR		
comp=N,350nm,16.5s,MS4.3							
SSE				LR	LR		
comp=E,222nm,16.4s,MS4.3							
SSE				LR	LR		
comp=Z,340nm,13.8s,MS4.3							
SSE	**Sheshan**	**36.98**	**36**	*e*P	**P**	**11 53 45.6**	**-2.2**
comp=Z,25nm,0.7s,mb5.2							
SSE				pP	pP	11 53 53.1	-4.2
SSE				sP	sP	11 53 57.2	-4.1
SSE				S	**S**	**11 59 28.8**	**-1.7**
SSE				sS		11 59 45.4	
SSE				SS	SS	12 02 09.6	+9.2
SSE				LR	LR		
comp=Z,340nm,13.8s,MS4.3							
GTA	**Gaotai**	**37.25**	**4⇑**	*i* P	**P**	**11 53 50.0**	**0.0**
GTA				AP	pP	11 54 01.7	+2.2
GTA				XP	sP	11 54 04.5	+1.0
GTA				AMB	AMB		
comp=Z,37nm,0.8s,mb5.3							
GTA				AMB	AMB		
comp=Z,50nm,8.8s							
GTA				LR	LR		
comp=N,113nm,14.8s,MS4.0							
GTA				LR	LR		
comp=E,119nm,12.9s,MS4.0							
GTA				LR	LR		
comp=Z,149nm,19.8s							
JOW	**Kunigami**	**39.01**	**48**	P	**P**	**11 54 05.2**	**+0.4**
comp=Z,11nm,0.7s,mb4.7,baz=192,slow=16,SNR=5.9							
HHC	**Hu-ho-hao-te**	**40.85**	**17**	*e*P	**P**	**11 54 21.4**	**+1.4**
HHC				AP	pP	11 54 31.4	+1.9
HHC				XP	sP	11 54 35.1	+1.6
HHC				PP	PP	11 55 59.1	+1.9
HHC				PCP	PcP	11 56 20.7	-0.3
HHC				SCP		12 00 07.6	
HHC				PCS		12 00 11.1	
HHC				S	**S**	**12 00 31.6**	**+2.7**
HHC				XS		12 00 48.7	
HHC				SS	SS	12 03 27.9	+1.8
HHC				SCS	ScS	12 04 20.0	-0.3
HHC				AMB	AMB		
comp=Z,12nm,1.1s,mb4.4							
HHC				AMB	AMB		
comp=Z,69nm,6.1s							
HHC				LR	LR		
comp=N,457nm,17.2s,MS4.5							
HHC				LR	LR		
comp=E,404nm,17.2s,MS4.5							
HHC				LR	LR		
comp=Z,432nm,15.2s,MS4.4							
BJT	**Baijiatuau**	**41.68**	**23**	*e*P	**P**	**11 54 27.3**	**+0.5**
BJT				pmax	pmax		
comp=Z,8.0nm,0.8s							
BJT	**Baijiatuau**	**41.68**	**23**	*e*P	**P**	**11 54 27.3**	**+0.5**
comp=Z,7.9nm,0.8s,mb4.4							
BJI	**Beijing**	**41.70**	**23**	*e*P	**P**	**11 54 27.6**	**+0.6**
BJI				AMB	AMB		
comp=Z,19nm,0.9s,mb4.7							
BJI	**Beijing**	**41.70**	**23**	*e*P	**P**	**11 54 27.6**	**+0.6**
comp=Z,19nm,0.9s,mb4.7							
WMQ	**Urumqi**	**42.31**	**350**	P	**P**	**11 54 32.5**	**+0.5**
WMQ				AP	pP	11 54 42.1	+0.6
WMQ				XP	sP	11 54 46.2	+0.8
WMQ				PP	PP	11 56 13.8	+1.0
WMQ				PCP	PcP	11 56 26.7	+0.9
WMQ				S	**S**	**12 00 50.5**	**+0.1**
WMQ				AMB	AMB		
comp=Z,7.0nm,0.5s,mb4.5							
WMQ				AMB	AMB		
comp=Z,49nm,3.9s							
WMQ				LR	LR		
comp=E,118nm,16.5s							
WRA	**Warramunga Arr**	**42.93**	**122**	P	**P**	**11 54 37.5**	**+0.2**
comp=E,9.8nm,0.6s,mb4.7,baz=300,slow=9.3,SNR=62							
WRAB	**Tennant Creek**	**42.94**	**122⇑**	*e*P	**P**	**11 54 37.6**	**+0.2**
WRAB	**Tennant Creek**	**42.94**	**122**	*e*P	**P**	**11 54 37.3**	**-0.1**
comp=E,28nm,1.1s,mb4.9							
WB2	**Warramunga Arr**	**42.94**	**122**	*e*P	**P**	**11 54 37.5**	**+0.1**
ASPA	**Alice Springs**	**44.33**	**128**	*e*P	**P**	**11 54 49.1**	**+0.5**
ASAR	**Alice Springs**	**44.33**	**128**	P	**P**	**11 54 49.0**	**+0.4**
comp=E,5.1nm,0.8s,mb4.3,baz=301,slow=8.1,SNR=34							
ASAR				PcP	PcP	11 56 32.5	-0.4
comp=E,0.8nm,0.7s,baz=314,slow=2.8,SNR=4.0							
AAK	**Ala-Archa**	**44.98**	**337**	*i* P	**P**	**11 54 54.9**	**+1.2**
AAK				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.4							
AAK	**Ala-Archa**	**44.98**	**337**	*e*P	**P**	**11 54 54.4**	**+0.7**
comp=Z,4.6nm,0.8s,mb4.4							
MKAR	**Makanchi Array**	**46.26**	**346**	*i* P	**P**	**11 55 03.7**	**+0.1**
MKAR				pmax	pmax		
comp=Z,20nm,0.6s							
MKAR	**Makanchi Array**	**46.26**	**346**	P	**P**	**11 55 04.0**	**+0.3**
comp=Z,26nm,0.7s,mb5.3,baz=161,slow=7.8,SNR=90							
SONM	**Songino Array**	**46.33**	**9**	P	**P**	**11 55 04.5**	**+0.3**
comp=Z,10.0nm,0.7s,mb4.9,baz=189,slow=8.8,SNR=46							
SONM				PcP	PcP	11 56 40.0	+0.5
comp=Z,0.8nm,0.5s,baz=187,slow=3.8,SNR=4.1							
ULN	**Ulaanbaatar**	**46.46**	**10**	*e*P	**P**	**11 55 05.5**	**+0.3**
ULN				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6							
ULN	**Ulaanbaatar**	**46.46**	**10**	*e*P	**P**	**11 55 05.5**	**+0.3**
comp=Z,6.3nm,0.8s,mb4.6							
ZAK	**Zakamensk**	**48.44**	**6**	*e*P	**P**	**11 55 20.1**	**-0.6**
ZAK				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
TLY	**Talaya**	**49.76**	**6**	*i* P	**P**	**11 55 37.1**	**+6.3**
TLY				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.8							
KURK	**Kurchatov**	**50.80**	**345**	*i* P	**P**	**11 55 38.9**	**+0.1**
KURK				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
KURK	**Kurchatov**	**50.80**	**345**	*e*P	**P**	**11 55 38.7**	**-0.1**
HIA	**Hailar**	**50.96**	**19**	*e*P	**P**	**11 55 40.0**	**0.0**
HIA				pmax	pmax		
comp=Z,12nm,0.8s							
HIA	**Hailar**	**50.96**	**19**	*e*P	**P**	**11 55 40.0**	**0.0**
comp=Z,12nm,0.8s,mb4.9							
PMG	**Port Moresby**	**51.55**	**104**	P	**P**	**11 55 45.2**	**+0.3**
comp=Z,23nm,0.7s,mb5.2,baz=293,slow=16,SNR=7.9							
PMG				LR	LR	12 19 58.3	
comp=Z,80nm,21.2s,MS3.7,baz=42,slow=39							
ZAL	**Zalesovo**	**52.59**	**351**	P	**P**	**11 55 51.9**	**-0.4**
comp=Z,17nm,0.6s,mb5.2,baz=311,slow=6.1,SNR=46							
NVS	**Novosibirsk**	**53.72**	**350**	*e*P	**P**	**11 55 59.1**	**-1.4**
NVS				pmax	pmax		
comp=N,22nm,0.8s							
NVS				pmax	pmax		
comp=Z,24nm,0.8s,mb5.2							
NVS				pmax	pmax		
comp=E,11nm,0.6s							
STKA	**Stephens Creek**	**54.32**	**132**	P	**P**	**11 56 04.9**	**-0.4**
comp=E,3.7nm,0.9s,mb4.3,baz=353,slow=5.2,SNR=4.5							
BVA0	**Borovoye Array**	**55.25**	**341**	P	**P**	**11 56 11.0**	**-0.8**
BVA0				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.9							
BVAR	**Borovoye Array**	**55.25**	**341**	P	**P**	**11 56 11.0**	**-0.8**
comp=Z,6.6nm,0.8s,mb4.7,baz=142,slow=8.8,SNR=21							
KLR	**Kul'dur**	**55.69**	**27**	*e*P	**P**	**11 56 12.1**	**-2.9**
CHKZ	**Chkalovo**	**55.73**	**342**	*i* P	**P**	**11 56 14.8**	**-0.4**
CHKZ				pmax	pmax		
comp=Z,15nm,0.9s,mb5.0							
BOD	**Bodaibo**	**57.23**	**11**	*e*P	**P**	**11 56 24.1**	**-1.8**
BOD				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.4							
YSS	**Yuzh-Sakhalins**	**59.90**	**35⇓**	*e*P	**P**	**11 56 44.9**	**+0.2**
YSS				pmax	pmax		
comp=Z,6.0nm,0.4s,mb5.0							
YSS	**Yuzh-Sakhalins**	**59.90**	**35**	P	**P**	**11 56 44.7**	**0.0**
comp=Z,8.1nm,0.5s,mb5.0							
SVE	**Sverdlovsk**	**61.68**	**338**	*e*P	**P**	**11 56 56.3**	**-0.3**
ARU	**Arti**	**62.17**	**337**	*i* P	**P**	**11 56 59.7**	**-0.2**
ARU				pmax	pmax		
comp=Z,13nm,1.2s,mb4.9							
KIV	**Kislovodsk**	**63.31**	**319**	*i* P	**P**	**11 57 07.5**	**-0.1**
YAK	**Yakutsk**	**64.71**	**16**	*e*P	**P**	**11 57 15.4**	**-1.1**
YAK				pmax	pmax		
comp=Z,42nm,1.0s,mb5.4							
YAK	**Yakutsk**	**64.71**	**16**	*e*P	**P**	**11 57 15.4**	**-1.1**
comp=Z,42nm,1.0s,mb5.4							
ANN	**Anapa**	**67.10**	**318**	*e*P	**P**	**11 57 31.9**	**-0.2**
ANN				*e*		11 57 58.3	
ANN				pmax	pmax		
comp=Z,67nm,1.2s,mb5.5							
BRTR	**Keskin Array B**	**68.14**	**312**	P	**P**	**11 57 36.8**	**-2.0**
comp=Z,1.5nm,0.7s,mb4.1,baz=135,slow=7.0,SNR=5.2							
MA2	**Magadan**	**70.75**	**26**	*e*P	**P**	**11 57 54.5**	**+0.2**
MA2				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.7							
MA2	**Magadan**	**70.75**	**26**	*e*P	**P**	**11 57 54.5**	**+0.1**
comp=Z,7.0nm,0.7s,mb4.7							
OBN	**Obninsk**	**71.60**	**328⇑**	*e*P	**P**	**11 57 59.0**	**-0.6**
OBN				*e*		11 58 20.0	
OBN				*e*		12 00 39.6	
OBN				*e*S	S	12 07 17.2	+1.9
OBN				*e*SS	SS	12 11 56.0	+3.4
OBN				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.8							
TIXI	**Tiksi**	**72.40**	**10⇑**	*e*P	**P**	**11 58 02.9**	**-1.1**
TIXI				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6							
FINES	**FINESS Array B**	**78.98**	**332**	P	**P**	**11 58 41.0**	**-0.5**
comp=Z,2.3nm,0.6s,mb4.3,baz=99,slow=5.9,SNR=19							
KAF	**Kangasniemi**	**79.06**	**333**	*e*p	**P**	**11 58 41.9**	**0.0**
comp=Z,3.4nm,0.5s,mb4.5							
KAF	**Kangasniemi**	**79.06**	**333**	*e*P	**P**	**11 58 41.9**	**0.0**
KAF				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.5							
BILL	**Bilibino**	**80.51**	**21**	*e*P	**P**	**11 58 49.6**	**0.0**
BILL				*e*		11 58 56.5	
BILL				*e*S	S	12 08 54.0	+1.5
BILL				*e*SS	SS	12 14 08.4	+0.4
BILL				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.8							
ARCES	**ARCESS Array B**	**81.53**	**340**	P	**P**	**11 58 55.8**	**+0.9**
comp=Z,1.4nm,0.4s,mb4.2,baz=98,slow=5.6,SNR=14							
GERES	**GERESS Array B**	**83.82**	**319**	P	**P**	**11 59 08.0**	**+0.9**
comp=Z,0.7nm,0.3s,mb4.2,baz=104,slow=5.5,SNR=11							
HFS	**Hagfors**	**84.70**	**330**	P	**P**	**11 59 11.2**	**-0.1**
comp=Z,2.3nm,0.9s,mb4.3,baz=90,slow=10,SNR=3.5							
NB2	**NORSAR Subarra**	**85.99**	**331**	P	**P**	**11 59 17.8**	**+0.2**
comp=Z,0.8nm,0.7s,mb4.1,baz=94,slow=4.8							
NOA	**NORSAR Array B**	**85.99**	**331**	P	**P**	**11 59 17.9**	**+0.3**
comp=Z,1.3nm,0.8s,mb4.2,baz=94,slow=4.9,SNR=4.8							
NOA				LR	LR	12 42 08.9	
comp=Z,59nm,18.2s,MS4.0,baz=185,slow=39							
NOA	**NORSAR Array B**	**85.99**	**331**	P	**P**	**11 59 17.9**	**+0.3**
NOA				LR	LR	12 42 08.9	
NVAR	**Mina Array Bea**	**128.35**	**35**	PKP	PKPdf	12 05 46.9	-1.8
comp=Z,0.4nm,0.6s,baz=304,slow=3.3,SNR=5.2							
PDAR	**Pinedale Array**	**129.45**	**25**	PKP	PKPdf	12 05 47.8	-3.0
comp=Z,0.6nm,0.7s,baz=127,slow=0.8,SNR=4.8							
TXAR	**Lajitas Array**	**143.16**	**30**	PKP	PKPdf	12 06 11.2	-5.0
comp=Z,0.6nm,0.7s,baz=241,slow=2.1,SNR=5.7							

*FUNV **01** 11:51:02.3,9.74N×69.94W,h4km,MW2.6*
*UAV **01** 11:51:03.8,9.62N×70.01W*
ISC 01 11:51:02.5±0.5,9.74N±0.02×69.93W±0.02,h13km±3km, n16,σ0=84/32,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.27**	**353**	*e*P	**Pg**	**11 51 08.3**	**-0.1**
CURV				*e*S	**Sg**	**11 51 11.8**	**-0.5**
TORV	**Torococo**	**0.35**	**239**	P	**Pg**	**11 51 10.7**	**+0.8**
TORV				S	**Sg**	**11 51 15.9**	**+1.1**
SANV	**Sanarito**	**0.45**	**122**	*e*P	**Pg**	**11 51 10.9**	**-0.9**
SANV				*e*S	**Sg**	**11 51 17.3**	**-0.8**
TEPV	**Terepaima**	**0.76**	**73**	*e*P	**Pb**	**11 51 17.5**	**+0.5**
TEPV				*e*S	**Sb**	**11 51 28.1**	**+1.2**
SIQV	**Siquisique**	**0.91**	**7**	*e*P	**Pb**	**11 51 20.0**	**+0.4**
SIQV				*e*S	**Sb**	**11 51 31.5**	**+0.1**
EAV	**Pico El Aguila**	**1.25**	**225**	P	**Pb**	**11 51 24.7**	**-0.8**
EAV				S	**Sb**	**11 51 40.2**	**-1.1**
DABV	**Dabajuro**	**1.36**	**329**	*e*P	**Pn**	**11 51 27.5**	**+0.2**
DABV				*e*S	**Sb**	**11 51 45.3**	**+0.6**
CUV	**La Culata**	**1.49**	**229**	P	**Pn**	**11 51 29.2**	**0.0**
CUV				S	**Sb**	**11 51 47.4**	**-0.9**
VIGV	**El Vigia**	**1.68**	**238**	*e*P	**Pn**	**11 51 32.4**	**+0.5**
VIGV				*e*S	**Sn**	**11 51 53.2**	**-0.2**
SOCV	**Socops**	**1.72**	**212**	*e*P	**Pn**	**11 51 31.9**	**-0.5**
SOCV				*e*S	**Sn**	**11 51 54.8**	**+0.5**
OSV	**Paramo de la O**	**1.89**	**235**	P	**Pn**	**11 51 36.2**	**+1.3**
OSV				S	**Sn**	**11 51 60.0**	**+1.3**
BAUV	**El Baul**	**2.02**	**113**	*e*P	**Pn**	**11 51 37.6**	**+0.8**
BAUV				*e*S	**Sn**	**11 52 02.3**	**+0.2**
TURV	**Turiamo**	**2.17**	**71**	*e*P	**Pn**	**11 51 38.8**	**-0.2**
TURV				*e*S	**Sn**	**11 52 04.8**	**-1.0**
MONV	**Montecano**	**2.20**	**359**	*e*P	**Pn**	**11 51 38.9**	**-0.5**
MONV				*e*S	**Sn**	**11 52 06.9**	**+0.3**
PDMV	**Paramo Marino**	**2.35**	**233**	P	**Pn**	**11 51 45.5**	**+4.1**
PDMV				S	**Sn**	**11 52 14.5**	**+4.1**
VIRV	**Villa del Rosa**	**2.56**	**287**	*e*P	**Pn**	**11 51 43.4**	**-1.0**
VIRV				*e*S	**Sn**	**11 52 13.3**	**-2.3**

*IDC **01** 11:56:57.3±2.0,1.16N×96.95E,mb4.2/9,mb1 4.4/9, mb1mx4.1/19,mbtmp4.2/9,Error ellipse: s-maj=95.8km s-min=15.7km az=57.0*
*BJI **01** 11:56:59.0,0.86N×97.21E,h47km,mB5.2,mb4.6,Ms4.4, Msz4.1*
*NEIC **01** 11:57:01.4±0.5,1.26N×97.16E,mb4.5/13,Error ellipse: s-maj=14.9km s-min=6.1km az=57.0*
ISC 01 11:57:01.7±3.5,1.3N±0.1×97.2E±0.2,h37km±29km, h17km±6.7km:pP-P,n34,σ0=83/32,mb4.4/23,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.26**	**41**	*e*Pn	**P**	**11 58 19.8**	**-0.2**
KMI	**Kunming**	**24.29**	**12**	P	**P**	**12 02 18.7**	**+1.7**
KMI				AP		12 02 26.0	
KMI				AMB	AMB		
comp=Z,18nm,1.3s,mb4.3							
KMI	**Kunming**	**24.29**	**12**	P	**P**	**12 02 18.7**	**+1.7**
comp=Z,18nm,1.3s,mb4.3							
KMI				pP		12 02 26.0	
GYA	**Guiyang**	**26.63**	**19**	P	**P**	**12 02 39.2**	**+0.2**
GYA				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.3							
JIRN	**Jiri**	**28.26**	**339**	*e*P	**P**	**12 02 54.0**	**+0.2**

comp=Z,9.0nm,0.8s,mb4.5
BJI **Beijing** **42.26** **22** *e*P **P** **12 04 54.0 +0.7**
comp=Z,9.0nm,0.8s,mb4.5
ASPA **Alice Springs** **43.45 127** *e*P **P** **12 05 04.0 +0.7**
ASAR **Alice Springs** **43.45 127** P **P** **12 05 03.9 +0.6**
comp=Z,1.7nm,0.7s,mb3.9,baz=297,slow=7.8,SNR=17
SONM **Songino Array** **47.04** **8** P **P** **12 05 32.0 +0.5**
comp=Z,3.3nm,0.8s,mb4.3,baz=189,slow=8.9,SNR=23
MKAR **Makanchi Array** **47.15 346** P **P** **12 05 32.4 0.0**
comp=Z,2.1nm,0.7s,mb4.2,baz=159,slow=8.8,SNR=24
HIA **Hailar** **51.55** **19** *e*P **P** **12 06 06.0 -0.2**
comp=Z,2.2nm,0.7s,mb4.2
KURK **Kurchatov** **51.70 345** *e*P **P** **12 06 06.4 -0.9**
comp=Z,2.3nm,0.8s,mb4.2
STKA **Stephens Creek** **53.42 132** P **P** **12 06 20.5 +0.1**
comp=Z,1.0nm,0.7s,mb3.9,baz=328,slow=10,SNR=4.8
ZAL **Zalesovo** **53.46 351** P **P** **12 06 19.6 -0.8**
comp=Z,4.4nm,0.5s,mb4.7,baz=312,slow=5.7,SNR=21
BVAR **Borovoye Array** **56.16 341** P **P** **12 06 38.7 -1.4**
comp=Z,2.5nm,0.7s,mb4.3,baz=135,slow=8.4,SNR=12
ARCES **ARCESS Array B** **82.45 340** P **P** **12 09 21.1 -0.3**
comp=Z,5.3nm,1.0s,mb4.4,baz=76,slow=5.0,SNR=4.6
YKA **Yellowknife Ar** **112.00** **15** PP PP 12 16 17.8 -3.3
comp=Z,0.1nm,0.4s,baz=315,slow=7.9,SNR=4.0
TXAR **Lajitas Array** **143.59** **32** PKP PKPdf 12 16 35.1 +1.8
comp=Z,0.2nm,0.7s,slow=1.3,SNR=3.4

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*BJI **01** 12:02:21.8, 0.55N×97.43E, h39km, mb4.9, Ms4.3, Msz4.0*
*IDC **01** 12:02:25.2±1.7, 0.78N×97.27E, h32km±6km, mb3.9/7, mb1 4.0/7, mb1mx3.8/18, mbtmp4.1/7, Error ellipse: s-maj=75.5km s-min=15.7km az=55.0*
*NEIC **01** 12:02:25.7±0.6, 0.90N×97.37E, mb4.4/6, Error ellipse: s-maj=16.9km s-min=9.5km az=63.0*
ISC 01 12:02:23.3±0.9, 0.9N±0.1×97.4E±0.1, h29km, h29km±2.6km: pP-P, n18, σ0§77/18, mb4.2/15, MS3.6/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.43**	**37**	*e*Pn	**Pn**	**12 03 44.3**	**-0.2**
KMI	**Kunming**	**24.61**	**12**	P	**P**	**12 07 44.0**	**+1.4**
13nm,1.2s,mb4.3							
KMI				pP		12 07 54.8	
KMI				LR	LR		
comp=Z,150nm,15.7s,MS3.6							
ENH	**Enshi**	**31.37**	**20**	*e*P	**P**	**12 08 42.8**	**-1.2**
comp=Z,5.9nm,0.7s,mb4.5							
XAN	**Xi'an**	**34.67**	**17**	P	**P**	**12 09 11.4**	**-1.2**
XAN				AMB	AMB		
comp=Z,7.0nm,1.0s,mb4.5							
GTA	**Gaotai**	**38.36**	**3**	P	**P**	**12 09 43.8**	**+0.1**
GTA				AP	pP	12 09 51.3	-1.1
GTA				AMB	AMB		
comp=Z,5.0nm,0.9s,mb4.2							
WRA	**Warramunga Arr**	**41.76**	**122**	P	**P**	**12 10 12.0**	**0.0**
comp=Z,1.1nm,0.7s,mb3.6,baz=300,slow=9.0,SNR=8.5							
WRA				pP	pP	12 10 20.3	-0.4
comp=Z,0.6nm,0.5s,baz=303,slow=8.9,SNR=3.7							
WRAB	**Tennant Creek**	**41.76**	**122**	*e*P	**P**	**12 10 11.8**	**-0.2**
comp=Z,2.5nm,0.6s,mb4.0							
BJT	**Baijiatuan**	**42.51**	**21**	*e*P	**P**	**12 10 18.5**	**+0.6**
comp=Z,4.1nm,0.5s,mb4.4							
BJI	**Beijing**	**42.53**	**21**	*e*P	**P**	**12 10 18.9**	**+0.8**
BJI				AMB	AMB		
comp=Z,14nm,0.8s,mb4.7							
BJI	**Beijing**	**42.53**	**21**	*e*P	**P**	**12 10 18.9**	**+0.8**
comp=Z,14nm,0.8s,mb4.7							
ASAR	**Alice Springs**	**43.11 127**		P	**P**	**12 10 23.2**	**+0.2**
comp=Z,0.7nm,0.7s,mb3.5,baz=303,slow=7.4,SNR=9.5							
ASAR				pP	pP	12 10 31.6	-0.1
comp=Z,0.5nm,0.5s,baz=300,slow=8.1,SNR=4.6							
SONM	**Songino Array**	**47.37**	**8**	P	**P**	**12 10 57.6**	**+0.8**
comp=Z,2.5nm,0.9s,mb4.2,baz=190,slow=8.6,SNR=14							
SONM				PcP	PcP	12 12 28.0	+0.5
comp=Z,0.7nm,0.7s,baz=194,slow=5.1,SNR=4.0							
MKAR	**Makanchi Array**	**47.54 346**		P	**P**	**12 10 58.5**	**+0.4**
comp=Z,4.3nm,0.6s,mb4.6,baz=157,slow=7.5,SNR=53							
MKAR				pP	pP	12 11 09.3	+2.4
comp=Z,4.4nm,0.8s,baz=153,slow=8.1,SNR=13							
MKAR	**Makanchi Array**	**47.54 346**		P	**P**	**12 10 58.5**	**+0.4**
MKAR				pP	pP	12 11 09.3	+2.4
KURK	**Kurchatov**	**52.09 345**		*e*P	**P**	**12 11 32.6**	**-0.3**
comp=Z,3.7nm,0.9s,mb4.3							
ZAL	**Zalesovo**	**53.84 351**		P	**P**	**12 11 44.9**	**-0.9**
comp=Z,3.5nm,0.7s,mb4.4,baz=295,slow=11,SNR=3.7							
BVAR	**Borovoye Array**	**56.55 341**		P	**P**	**12 12 04.4**	**-1.1**
comp=Z,2.5nm,0.7s,mb4.3,baz=149,slow=8.6,SNR=14							
GERES	**GERESS Array B**	**85.12 319**		P	**P**	**12 14 58.7**	**+0.7**
comp=Z,0.5nm,0.6s,mb3.8,baz=112,slow=7.2,SNR=4.0							

IDC 01 12:04:14.4±2.2, 15.70N×91.34W, mb3.9/2, mb1 4.1/3, mb1mx3.6/18, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=173.3km s-min=27.0km az=60.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**17.70 322**		P	P	12 08 22.7	-1.2
0.0nm,0.3s,baz=143,slow=14,SNR=4.9							
LPAZ	**La Paz**	**39.18 143**		P	P	12 11 45.0	-1.1
2.6nm,0.9s,baz=342,slow=13,SNR=5.6							
YKA	**Yellowknife Ar**	**49.53 346**		P	P	12 13 06.5	-2.2
0.8nm,0.7s,baz=151,slow=7.4,SNR=19							

IDC 01 12:15:11.5±6.2, 3.23N×96.93E, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=321.2km s-min=28.6km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.35 124**		P	P	12 23 15.3	-2.3
0.3nm,0.4s,baz=301,slow=9.2,SNR=5.9							
ASAR	**Alice Springs**	**44.84 129**		P	P	12 23 28.3	-1.3
0.2nm,0.5s,baz=297,slow=8.1,SNR=3.6							
MKAR	**Makanchi Array**	**45.22 346**		P	P	12 23 30.4	-1.9
0.1nm,0.3s,baz=162,slow=8.0,SNR=5.8							

IDC 01 12:20:54.0±8.7, 0.85N×97.10E, mb4.1/4, mb1 4.2/4, mb1mx3.7/17, mbtmp4.1/4, Error ellipse: s-maj=193.4km s-min=116.6km az=143.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**47.49**	**8**	P	P	12 29 30.9	-1.7
2.0nm,0.9s,baz=190,slow=9.1,SNR=12							
MKAR	**Makanchi Array**	**47.55 346**		P	P	12 29 31.6	-1.6
1.5nm,0.7s,baz=162,slow=8.1,SNR=17							
ZAL	**Zalesovo**	**53.87 351**		P	P	12 30 17.9	-3.2
0.8nm,0.4s,baz=332,slow=7.2,SNR=4.2							
ARCES	**ARCESS Array B**	**82.83 340**		P	P	12 33 20.1	-1.2
3.2nm,0.8s,baz=101,slow=4.6,SNR=4.1							

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*IDC **01** 12:21:19.0±0.8, 1.86N×97.68E, mb4.5/14, mb1 4.6/14, mb1mx4.4/19, mbtmp4.5/14, MS3.7/5, Ms1 3.7/5, ms1mx3.2/27, Error ellipse: s-maj=50.0km s-min=13.4km az=52.0*
*BJI **01** 12:21:19.8, 1.43N×97.84E, h38km, mB5.1, mb4.7, Ms4.5, Msz4.1*
*MOS **01** 12:21:22.7±0.8, 2.01N×97.87E, h33km, mb4.7/11, Error ellipse: s-maj=20.1km s-min=9.2km az=108.8*
*NEIC **01** 12:21:23.5±0.4, 1.82N×97.75E, h30km, mb4.7/18, Error ellipse: s-maj=11.9km s-min=6.4km az=48.0*
ISC 01 12:21:22.1±0.4, 1.80N±0.06×97.75E±0.06, h33km, h33km±.7km: pP-P, n81, σ1§13/79, mb4.6/43, MS3.8/8, 5C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.28**	**50**	P	**Pn**	**12 22 28.1**	**+1.4**
KULM	**Kulim**	**4.51**	**40**	*e*Pn	**Pn**	**12 22 31.2**	**+1.1**
KGM	**Kluang**	**5.57**	**88**	P	**Pn**	**12 22 48.5**	**+3.5**
SNG	**Songkhla**	**6.05**	**28**	P	**Pn**	**12 22 55.0**	**+3.2**
466nm,1.0s							
KSM	**Kuching**	**12.56**	**91**	*e*Pn	**P**	**12 24 20.4**	**-1.1**
CHG	**Chiang Mai**	**16.94**	**4**	P	**P**	**12 25 18.5**	**0.0**
NANT	**Nan**	**17.14**	**10**	P	**P**	**12 25 22.0**	**+1.1**
KKM	**Kota Kinabalu**	**18.90**	**77**	*e*P	**P**	**12 25 42.2**	**-0.4**
KKM	**Kota Kinabalu**	**18.90**	**77**	P	**P**	**12 25 43.6**	**+0.9**
KMI	**Kunming**	**23.68**	**11**	P	**P**	**12 26 33.5**	**+1.6**
KMI				*PP		12 26 42.7	
KMI				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.2							
KMI				MLR	MLR		
comp=Z,70nm,18.3s,MS3.2							
KMI	**Kunming**	**23.68**	**11**	P	**P**	**12 26 33.5**	**+1.6**
comp=Z,10.0nm,1.1s,mb4.2							
KMI				pP		12 26 42.7	
KMI				LR	LR		
comp=Z,70nm,18.3s,MS3.2							
SHL	**Shillong**	**24.29 347**		*e*P	**P**	**12 26 37.0**	**-0.9**
JIRN	**Jiri**	**27.99 338**		*e*P	**P**	**12 27 12.8**	**+0.6**
PKI	**Pulchoki**	**28.21 336**		*e*P	**P**	**12 27 14.7**	**+0.5**
GUN	**Gumba**	**28.33 337**		*e*P	**P**	**12 27 15.8**	**+0.5**
comp=Z,28nm,0.6s,mb5.1							
DMN	**Daman**	**28.37 336**		*e*P	**P**	**12 27 16.0**	**+0.4**
comp=Z,6.0nm,0.4s,mb4.5							
KKN	**Kakani**	**28.46 336**		*e*P	**P**	**12 27 16.5**	**+0.1**
comp=Z,7.9nm,0.5s,mb4.6							
KKN	**Kakani**	**28.46 336**		*e*P	**P**	**12 27 16.5**	**+0.1**
KKN				pmax	pmax		
comp=Z,4.0nm,0.5s,mb4.3							
GKN	**Gorkha**	**28.91 335**		*e*P	**P**	**12 27 20.8**	**+0.3**
comp=Z,20nm,0.8s,mb4.9							
KOLN	**Koldanda**	**29.15 334**		*e*P	**P**	**12 27 23.3**	**+0.6**
comp=Z,18nm,0.6s,mb5.0							
ENH	**Enshi**	**30.43**	**20**	*e*P	**P**	**12 27 31.0**	**-3.0**
comp=Z,5.0nm,0.5s,mb4.5							
LGTI	**Lohaghat**	**32.14 330**		*e*	**P**	**12 27 50.5**	**+1.5**
XAN	**Xi'an**	**33.73**	**17**	P	**P**	**12 28 00.3**	**-2.5**
XAN				AMB	AMB		
comp=Z,9.0nm,0.7s,mb4.8							
FITZ	**Fitzroy Crossi**	**33.84 127**		*e*P	**P**	**12 28 03.5**	**-0.4**
comp=Z,6.9nm,1.1s,mb4.5							
FITZ	**Fitzroy Crossi**	**33.84 127**		P	**P**	**12 28 03.5**	**-0.4**
comp=Z,4.4nm,0.6s,mb4.6,baz=341,slow=5.7,SNR=9.4							
NJ2	**Nanjing**	**36.07**	**31**	*e*P	**P**	**12 28 22.1**	**-0.7**
NJ2				AP	pP	12 28 31.4	-1.2
NJ2				XP	sP	12 28 35.5	-1.2
NJ2				PP	PP	12 29 44.4	-0.8
NJ2				S	**S**	**12 33 57.0**	**-2.1**
NJ2				AMB	AMB		
comp=Z,50nm,0.8s,mb5.5							
NJ2				AMB	AMB		
comp=Z,1μm,4.2s							
NJ2				LR	LR		
comp=N,310nm,16.0s,MS4.3							
NJ2				LR	LR		
comp=E,280nm,17.1s,MS4.3							
SSE	**Sheshan**	**36.61**	**35**	*e*P	**P**	**12 28 24.7**	**-2.6**
SSE				AMB	AMB		
comp=Z,35nm,0.6s,mb5.4							
SSE				AMB	AMB		
comp=Z,156nm,11.7s							
SSE	**Sheshan**	**36.61**	**35**	*e*P	**P**	**12 28 24.7**	**-2.6**
comp=Z,35nm,0.6s,mb5.4							
THN	**Thein Dam**	**36.85 328**		*e*	**P**	**12 28 29.1**	**-0.3**
GTA	**Gaotai**	**37.48**	**3**	P	**P**	**12 28 34.4**	**-0.1**
GTA				AMB	AMB		
comp=Z,6.0nm,0.7s,mb4.5							
HHC	**Hu-ho-hao-te**	**40.83**	**16**	*e*P	**P**	**12 29 05.0**	**+2.6**
HHC				AP	pP	12 29 15.2	+2.9
HHC				XP	sP	12 29 19.3	+3.0
HHC				PP	PP	12 30 44.4	+4.8
HHC				PCP	PcP	12 31 03.4	-0.1
HHC				SCP		12 34 50.2	
HHC				S	**S**	**12 35 16.4**	**+5.4**
HHC				XS		12 35 33.9	
HHC				SS	SS	12 38 15.1	+6.9
HHC				AMB	AMB		
comp=Z,14nm,1.3s,mb4.4							
HHC				AMB	AMB		
comp=Z,181nm,5.4s							
HHC				LR	LR		
comp=N,129nm,16.3s,MS4.0							
HHC				LR	LR		
comp=E,141nm,16.5s,MS4.0							
HHC				LR	LR		
comp=Z,107nm,16.0s,MS3.8							
WRA	**Warramunga Arr**	**41.90 123**		P	**P**	**12 29 12.0**	**+0.5**
comp=Z,8.9nm,0.8s,mb4.4,baz=302,slow=9.1,SNR=43							
WRA				PcP	PcP	12 31 08.0	+0.6
comp=Z,2.5nm,0.8s,baz=314,slow=2.7,SNR=9.0							
WRAB	**Tennant Creek**	**41.90 123**		*i* P	**P**	**12 29 12.4**	**+0.9**
WRAB	**Tennant Creek**	**41.90 123**		*e*P	**P**	**12 29 12.2**	**+0.7**
comp=Z,9.1nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**41.91 123**		*e*P	**P**	**12 29 12.1**	**+0.6**
WMQ	**Urumqi**	**42.78 349**		⇑P	**P**	**12 29 20.2**	**+1.8**
WMQ				AP	pP	12 29 30.2	+1.9
WMQ				XP	sP	12 29 34.2	+1.8
WMQ				PP	PP	12 31 02.3	+2.2
WMQ				PCP	PcP	12 31 11.7	+1.7
WMQ				S	**S**	**12 35 41.7**	**+1.8**
WMQ				XS		12 35 57.7	
WMQ				AMB	AMB		
comp=Z,6.0nm,1.0s,mb4.3							
WMQ				AMB	AMB		
comp=Z,40nm,5.0s							
ASPA	**Alice Springs**	**43.33 128**		*e*P	**P**	**12 29 24.0**	**+0.9**
ASAR	**Alice Springs**	**43.33 128**		P	**P**	**12 29 23.8**	**+0.6**
comp=Z,1.9nm,0.7s,mb4.0,baz=298,slow=8.0,SNR=18							
ASAR				PcP	PcP	12 31 13.5	+1.4
comp=Z,1.7nm,0.7s,baz=297,slow=2.6,SNR=8.7							
AAK	**Ala-Archa**	**45.67 336**		*i* P	**P**	**12 29 45.9**	**+4.2**
AAK				pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.1							
SONM	**Songino Array**	**46.46**	**8**	P	**P**	**12 29 47.3**	**-0.5**
comp=Z,4.0nm,0.5s,mb4.6,baz=188,slow=9.1,SNR=29							
SONM				PcP	PcP	12 31 21.6	-0.9
comp=Z,1.3nm,0.5s,baz=185,slow=3.9,SNR=6.0							
SONM				LR	LR	12 48 41.4	
comp=Z,52nm,21.6s,MS3.5,baz=38,slow=35							
ULN	**Ulaanbaatar**	**46.58**	**9**	*e*P	**P**	**12 29 48.5**	**-0.3**
ULN				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
ULN	**Ulaanbaatar**	**46.58**	**9**	*e*P	**P**	**12 29 48.5**	**-0.4**
comp=Z,3.8nm,0.9s,mb4.3							
MKAR	**Makanchi Array**	**46.79 345**		P	**P**	**12 29 50.4**	**-0.1**
comp=Z,15nm,0.7s,mb5.1,baz=157,slow=7.6,SNR=65							
ZAK	**Zakamensk**	**48.63**	**5**	*e*P	**P**	**12 30 04.2**	**-0.6**
ZAK				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.2							
TLY	**Talaya**	**49.95**	**5***c*	*i* P	**P**	**12 30 14.9**	**0.0**
TLY				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.5							
KURK	**Kurchatov**	**51.35 345**		*e*P	**P**	**12 30 25.2**	**-0.4**
KURK				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
KURK	**Kurchatov**	**51.35 345**		*e*P	**P**	**12 30 25.1**	**-0.5**
comp=Z,10nm,0.9s,mb4.8							
ZAL	**Zalesovo**	**53.05 350**		P	**P**	**12 30 36.8**	**-1.5**
comp=Z,14nm,0.4s,mb5.2,baz=313,slow=5.5,SNR=24							
STKA	**Stephens Creek**	**53.36 133**		P	**P**	**12 30 40.8**	**-0.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=322,slow=24,SNR=4.6							
NVS	**Novosibirsk**	**54.18 350**		*e*P	**P**	**12 30 44.7**	**-1.9**
KLR	**Kul'dur**	**55.47**	**26**	*e*P	**P**	**12 30 52.8**	**-3.3**
BVA0	**Borovoye Array**	**55.86 340**		*i* P	**P**	**12 30 58.1**	**-0.8**
BVA0				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.9							
BVAR	**Borovoye Array**	**55.86 340**		P	**P**	**12 30 58.0**	**-0.8**
comp=Z,9.4nm,0.7s,mb5.0,baz=135,slow=8.4,SNR=41							
CHKZ	**Chkalovo**	**56.33 341**		*i* P	**P**	**12 31 01.8**	**-0.4**
CHKZ				pmax	pmax		
comp=Z,11nm,0.9s,mb4.9							
BOD	**Bodaibo**	**57.32**	**10**	*e*P	**P**	**12 31 08.5**	**-0.7**
BOD				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
YSS	**Yuzh-Sakhalins**	**59.54**	**34**⇓	*e*P	**P**	**12 31 24.3**	**-0.5**
YSS	**Yuzh-Sakhalins**	**59.54**	**34**	*e*P	**P**	**12 31 24.2**	**-0.6**
comp=Z,6.5nm,0.4s,mb5.0							
KMBO	**Kilima Mbogo**	**60.56 268**		LR	LR	12 53 47.4	
comp=Z,53nm,18.7s,MS3.7,baz=88,slow=32							
GNI	**Garni**	**61.24 316**		LR	LR	12 58 15.4	
comp=Z,24nm,19.6s,MS3.4,baz=346,slow=36							
SVE	**Sverdlovsk**	**62.33 338**		*e*P	**P**	**12 31 43.2**	**-0.4**
YAK	**Yakutsk**	**64.69**	**16**⇑	*e*P	**P**	**12 31 57.4**	**-1.6**
YAK				pmax	pmax		
comp=Z,13nm,0.5s,mb5.2							
YAK	**Yakutsk**	**64.69**	**16**	*e*P	**P**	**12 31 57.5**	**-1.5**
comp=Z,20nm,0.4s,mb5.5							
CASY	**Casey**	**68.55 174**		P	**P**	**12 32 22.4**	**-1.0**
comp=Z,25nm,1.1s,mb5.0							
BRTR	**Keskin Array B**	**69.11 312**		P	**P**	**12 32 26.3**	**-1.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=121,slow=7.2,SNR=4.0							
MA2	**Magadan**	**70.55**	**26**	*e*P	**P**	**12 32 35.3**	**-0.5**
MA2				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.5							
MA2	**Magadan**	**70.55**	**26**	*e*P	**P**	**12 32 35.2**	**-0.5**
comp=Z,3.8nm,0.6s,mb4.5							
TIXI	**Tiksi**	**72.50**	**10**⇑	*e*P	**P**	**12 32 45.9**	**-1.3**
TIXI				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.6							
AKASG	**Malin Array Be**	**75.12 322**		P	**P**	**12 33 02.5**	**-0.2**
comp=Z,2.4nm,0.6s,mb4.3,baz=88,slow=4.8,SNR=10							
BOSA	**Boshof**	**75.55 240**		LR	LR	13 01 27.1	
comp=Z,80nm,19.0s,MS4.0,baz=189,slow=32							
BURAR	**Bucovina Array**	**76.94 319**		⇑P	**P**	**12 33 15.5**	**+2.4**
RPZ	**Rata Peaks**	**79.24 135**		LR	LR	13 08 04.7	
comp=Z,113nm,18.2s,MS4.2,baz=106,slow=35							
FINES	**FINESS Array B**	**79.72 332**		P	**P**	**12 33 27.5**	**-0.5**
comp=Z,1.8nm,0.5s,mb4.3,baz=102,slow=5.7,SNR=16							
KAF	**Kangasniemi**	**79.79 333**		*e*p	**P**	**12 33 28.5**	**+0.1**
comp=Z,2.7nm,0.6s,mb4.3							
KAF	**Kangasniemi**	**79.79 333**		*e*P	**P**	**12 33 28.5**	**+0.1**
KAF				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4							
KEV	**Kevo**	**81.72 341**		*e*p	**P**	**12 33 40.9**	**+2.5**
comp=Z,18nm,0.9s,mb5.0							
KEV	**Kevo**	**81.72 341**		*e*P	**P**	**12 33 40.9**	**+2.5**
KEV				pmax	pmax		
comp=Z,19nm,0.9s,mb5.0							
ARCES	**ARCESS Array B**	**82.15 340**		P	**P**	**12 33 41.3**	**+0.6**
comp=Z,3.4nm,0.8s,mb4.3,baz=97,slow=4.5,SNR=17							
GERES	**GERESS Array B**	**84.72 319**		P	**P**	**12 33 55.5**	**+1.2**
comp=Z,0.5nm,0.4s,mb4.0,baz=90,slow=6.7,SNR=4.1							
NB2	**NORSAR Subarra**	**86.75 331**		P	**P**	**12 34 04.9**	**+0.9**
comp=Z,2.0nm,0.7s,mb4.5,baz=95,slow=4.8							
NOA	**NORSAR Array B**	**86.75 331**		P	**P**	**12 34 03.8**	**-0.2**
comp=Z,1.5nm,0.7s,mb4.3,baz=94,slow=4.9,SNR=7.5							
TXAR	**Lajitas Array**	**142.87**	**32**	PKP	PKPdf	12 40 52.4	-6.0
comp=Z,0.3nm,0.6s,baz=270,slow=0.9,SNR=3.6							

IDC 01 12:30:31.9±4.1, 0.27N×98.21E, mb3.8/4, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=160.2km s-min=29.4km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.68 122**		P	P	12 38 14.1	-1.9
0.1nm,0.4s,baz=306,slow=8.2,SNR=4.7							
SONM	**Songino Array**	**47.91**	**7**	P	P	12 39 13.2	-0.7
0.4nm,0.6s,baz=192,slow=7.9,SNR=3.4							
MKAR	**Makanchi Array**	**48.39 345**		P	P	12 39 15.2	-2.5
1.0nm,0.7s,baz=155,slow=7.2,SNR=9.5							
ZAL	**Zalesovo**	**54.63 350**		P	P	12 40 01.7	-2.9
1.3nm,0.5s,baz=349,slow=4.3,SNR=5.2							

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*IDC **01** 12:49:20.6±1.9, 2.87N×96.41E, mb4.1/8, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, MS3.3/2, Ms1 3.4/2, ms1mx2.9/33, Error ellipse: s-maj=93.3km s-min=17.0km az=57.0*
*NEIC **01** 12:49:24.3±0.7, 2.78N×96.26E, h30km, mb4.3/2, Error ellipse: s-maj=20.3km s-min=10.3km az=62.0*
ISC 01 12:49:22.3±0.9, 2.8N±0.1×96.3E±0.2, h30km, n15, σ0§75/13, mb4.1/10, MS3.6/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.04**	**60**	*e*Pn	**Pn**	**12 50 38.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**15.80**	**9**	LR	LR	12 59 24.4	
comp=Z,61nm,20.4s,baz=180,slow=38							
ENH	**Enshi**	**30.08**	**23**	*e*P	**P**	**12 55 29.7**	**-1.8**
3.5nm,0.6s,mb4.3							
FITZ	**Fitzroy Crossi**	**35.63 127**		P	**P**	**12 56 18.9**	**-0.9**
3.1nm,0.9s,mb4.3,baz=348,slow=14,SNR=3.0							
WRA	**Warramunga Arr**	**43.68 123**		P	**P**	**12 57 27.0**	**+0.3**
1.1nm,0.5s,mb3.8,baz=303,slow=9.2,SNR=13							
WRAB	**Tennant Creek**	**43.69 123**		*e*P	**P**	**12 57 26.1**	**-0.5**
2.4nm,0.5s,mb4.2							
WB2	**Warramunga Arr**	**43.69 123**		*e*P	**P**	**12 57 27.2**	**+0.5**
ASAR	**Alice Springs**	**45.11 128**		P	**P**	**12 57 38.3**	**+0.2**
0.6nm,0.5s,mb3.6,baz=298,slow=8.0,SNR=16							
SONM	**Songino Array**	**45.72**	**10**	P	**P**	**12 57 42.5**	**-0.1**
1.3nm,0.4s,mb4.2,baz=190,slow=9.4,SNR=12							
SONM				PcP	PcP	12 59 21.9	+1.3
0.5nm,0.4s,baz=214,slow=3.8,SNR=4.5							
ZAL	**Zalesovo**	**51.85 351**		P	**P**	**12 58 30.2**	**+0.2**
1.8nm,0.3s,mb4.4,baz=330,slow=3.8							
ZAL	**Zalesovo**	**51.85 351**		P	**P**	**12 58 30.2**	**+0.2**
CTA	**Charters Tower**	**54.06 117**		LR	LR	13 22 41.9	
comp=Z,49nm,19.6s,MS3.6,baz=230,slow=37							
BVAR	**Borovoye Array**	**54.45 341**		P	**P**	**12 58 49.1**	**-0.1**
0.7nm,0.5s,mb3.9,baz=135,slow=10,SNR=5.0							
BVAR				pP	pP	12 58 57.8	-0.6
1.2nm,0.7s,baz=141,slow=9.5,SNR=5.2							
STKA	**Stephens Creek**	**55.12 132**		P	**P**	**12 58 54.5**	**+0.1**
0.9nm,0.6s,mb4.0,baz=286,slow=16,SNR=5.5							
ARCES	**ARCESS Array B**	**80.73 340**		P	**P**	**13 01 35.1**	**+1.2**
1.1nm,0.5s,mb4.0,baz=97,slow=5.0,SNR=12							

**IDC 01 12

LZH			XP			12 57 20.4
LZH			AMB	AMB		
	comp=Z,23nm,1.3s,mb4.5					
LZH	**Lanzhou**	**21.86 284**	*e*P	**P**	**12 57 10.0**	**+3.1**
	comp=Z,23nm,1.3s,mb4.5					
LZH			pP		12 57 16.9	
LZH			sP		12 57 20.4	
SONM	**Songino Array**	**22.91 315**	P	**P**	**12 57 18.2**	**+1.0**
	comp=Z,1.4nm,0.9s,mb3.4,baz=111,slow=11,SNR=7.8					
SONM			LR	LR	13 05 42.6	
	comp=Z,33nm,18.4s,MS2.8,baz=115,slow=35					
GTA	**Gaotai**	**25.13 292**	P	**P**	**12 57 42.9**	**+4.2**
GTA			AP	pP	12 57 50.9	+6.3
GTA			AMB	AMB		
	comp=Z,4.0nm,1.1s,mb3.9					
WRA	**Warramunga Arr**	**53.41 175**	P	**P**	**13 01 33.1**	**-1.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=353,slow=7.8,SNR=5.1					
ASAR	**Alice Springs**	**57.08 176**	P	**P**	**13 01 58.7**	**-2.3**
	comp=Z,0.4nm,0.8s,mb3.5,baz=6.2,slow=13,SNR=4.7					

*IDC **01** 12:58:19.3±1.2,5.20N×94.62E,mb4.2/9,mb1 4.3/9, mb1mx4.1/19,mbtmp4.2/9,Error ellipse: s-maj=62.3km s-min=16.5km az=54.0*
*NEIC **01** 12:58:23.8±0.6,5.11N×94.55E,h30km,mb4.4/3,Error ellipse: s-maj=20.5km s-min=7.5km az=46.0*
ISC 01 12:58:22.4±0.8,5.1N±0.1×94.6E±0.2,h30km,n21, σ0§86/21,mb4.2/12,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.99**	**88**	*e*Pn	**Pn**	**12 59 52.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**38.30**	**128**	P	**P**	**13 05 42.6**	**+0.2**
	6.0nm,1.1s,mb4.2,baz=307,slow=5.1,SNR=3.1						
UCH	**Uchtor**	**41.08**	**337**	P	**P**	**13 06 06.2**	**+1.0**
	SNR=7.1						
TKM2	**Tokmak 2**	**41.27**	**339**	P	**P**	**13 06 07.4**	**+0.7**
	SNR=5.1						
KBK	**Karagaybulak**	**41.28**	**338**	P	**P**	**13 06 08.3**	**+1.5**
	SNR=8.7						
AML	**Almayashu**	**41.32**	**336**	P	**P**	**13 06 08.5**	**+1.3**
	SNR=9.2						
AAK	**Ala-Archa**	**41.43**	**337**	*e*P	**P**	**13 06 08.5**	**+0.5**
	2.0nm,0.7s,mb3.9						
USP	**Ospenovka**	**41.97**	**338**	P	**P**	**13 06 13.0**	**+0.5**
	SNR=6.1						
SONM	**Songino Array**	**43.75**	**11**	P	**P**	**13 06 25.7**	**-1.2**
	1.6nm,0.8s,mb3.8,baz=192,slow=8.1,SNR=12						
SONM				PcP	PcP	13 08 13.1	-0.9
	0.3nm,0.5s,baz=192,slow=4.3,SNR=5.7						
WRA	**Warramunga Arr**	**46.29**	**124**	P	**P**	**13 06 47.5**	**-0.1**
	2.6nm,0.7s,mb4.3,baz=303,slow=9.3,SNR=22						
WRAB	**Tennant Creek**	**46.29**	**124**	*e*P	**P**	**13 06 47.5**	**-0.1**
	4.2nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**46.30**	**124**	*e*P	**P**	**13 06 47.6**	**-0.1**
KURK	**Kurchatov**	**47.40**	**346**	*e*P	**P**	**13 06 55.4**	**-0.6**
	3.0nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**47.79**	**128**	P	**P**	**13 06 59.4**	**-0.1**
	0.9nm,0.5s,mb4.1,baz=300,slow=8.1,SNR=17						
ZAL	**Zalesovo**	**49.34**	**352**	P	**P**	**13 07 09.8**	**-1.2**
	3.3nm,0.5s,mb4.6,baz=312,slow=6.6,SNR=19						
ZAL	**Zalesovo**	**49.34**	**352**	P	**P**	**13 07 09.8**	**-1.2**
BVAR	**Borovoye Array**	**51.76**	**342**	P	**P**	**13 07 27.9**	**-1.5**
	1.9nm,0.7s,mb4.1,baz=135,slow=8.4,SNR=10.0						
FINES	**FINESS Array B**	**75.38**	**332**	P	**P**	**13 10 03.4**	**-1.4**
	0.5nm,0.5s,mb3.7,baz=90,slow=3.8,SNR=5.1						
FINES	**FINESS Array B**	**75.38**	**332**	P	**P**	**13 10 03.4**	**-1.4**
ARCES	**ARCESS Array B**	**78.02**	**340**	P	**P**	**13 10 19.1**	**-0.4**
	7.7nm,1.1s,mb4.5,baz=79,slow=6.2,SNR=7.4						
GERES	**GERESS Array B**	**80.21**	**319**	P	**P**	**13 10 31.9**	**+0.2**
	0.4nm,0.3s,mb3.9,baz=108,slow=4.2,SNR=6.3						

IDC 01 13:02:22.9±4.7,0.84N×98.64E,mb3.5/4,mb1 3.7/4, mb1mx3.6/16,mbtmp3.5/4,MS3.5/1,Ms1 3.5/1, ms1mx2.9/17,Error ellipse: s-maj=188.8km s-min=26.0km az=61.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**37.89**	**154**	LR	LR	13 24 36.2	
	comp=Z,65nm,19.9s,baz=210,slow=35						
WRA	**Warramunga Arr**	**40.62**	**123**	P	P	13 10 03.8	-2.7
	0.3nm,0.4s,baz=305,slow=8.6,SNR=4.7						
ASAR	**Alice Springs**	**42.03**	**128**	P	P	13 10 17.1	-1.0
	0.4nm,0.6s,baz=303,slow=7.8,SNR=3.5						
SONM	**Songino Array**	**47.29**	**7**	P	P	13 10 59.9	0.0
	0.2nm,0.4s,baz=187,slow=8.8,SNR=3.7						
ZAL	**Zalesovo**	**54.14**	**350**	P	P	13 11 48.1	-3.8
	0.8nm,0.3s,baz=328,slow=4.8,SNR=3.8						

*IDC **01** 13:39:37.6±5.2,30.32S×178.19W,h70km±35km,mb3.9/3, mb1 4.0/3,mb1mx3.8/11,mbtmp4.2/3,Error ellipse: s-maj=86.0km s-min=35.3km az=136.0*
ISC 01 13:39:36.2±4.2,30.2S±0.7×178.8W±0.6,h33km,n7, σ0§46/7,mb4.3/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.19**	**40**	P	**P**	**13 39 56.1**	**-0.4**
	103nm,0.3s,baz=81,slow=22,SNR=7.1						
RAO				S	**S**	**13 40 12.1**	**+0.3**
	473nm,0.3s,baz=68,slow=22,SNR=12						
STKA	**Stephens Creek**	**33.87**	**257**	P	**P**	**13 46 18.6**	**+0.7**
	7.3nm,0.8s,mb4.7,baz=94,slow=8.4,SNR=18						
ASAR	**Alice Springs**	**42.45**	**267**	P	**P**	**13 47 29.2**	**-0.6**
	1.0nm,0.8s,mb3.5,baz=106,slow=7.5,SNR=8.5						
WB2	**Warramunga Arr**	**43.40**	**272**	*e*P	**P**	**13 47 37.7**	**0.0**
WRA	**Warramunga Arr**	**43.41**	**272**	P	**P**	**13 47 37.4**	**-0.4**
	1.0nm,0.3s,mb4.0,baz=111,slow=8.1,SNR=48						
FITZ	**Fitzroy Crossi**	**51.68**	**270**	*e*P	**P**	**13 48 42.7**	**+0.4**
	12nm,0.4s,mb5.2						
FITZ				*e*S	tx	13 50 34.9	
FINES	**FINESS Array B**	**144.70**	**340**	PKPbc	PKPbc	13 59 04.9	-3.8
	0.9nm,0.6s,baz=63,slow=4.3,SNR=6.3						

*BJI **01** 14:11:38.8,12.54N×92.70E,h29km,mB5.0,mb4.7,Ms4.0*
*MOS **01** 14:11:43.9±1.1,13.04N×92.69E,h33km,mb4.9/18,Error ellipse: s-maj=16.4km s-min=7.1km az=105.8*
*IDC **01** 14:11:45.0±0.7,13.05N×92.74E,h28km±4km,mb4.3/15, mb1 4.4/15,mb1mx4.3/21,mbtmp4.4/15,MS3.8/1, Ms1 3.8/1,ms1mx3.0/27,Error ellipse: s-maj=26.7km s-min=12.6km az=54.0*
*NEIC **01** 14:11:45.5±0.4,13.12N×92.70E,mb4.6/20,Error ellipse: s-maj=12.5km s-min=6.3km az=56.0*
ISC 01 14:11:45.1±0.3,13.26N±0.04×92.69E±0.04,h30km, h30km±1.4km:pP-P,n101,σ1§16/105,mb4.6/38,MS4.2/2, 2C-4D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.59**	**178**	*e*P	**Pn**	**14 12 12.9**	**+1.1**
PBA				*e*S	**Sn**	**14 12 33.6**	**+2.1**
NNT	**Nongplab**	**6.90**	**95**	P	**Pn**	**14 13 27.4**	**+0.4**
BDT	**Bhumibol Dam**	**7.26**	**56**	P	**Pn**	**14 13 31.0**	**-1.1**
	24nm,0.7s						
CHG	**Chiang Mai**	**8.16**	**47**	P	**P**	**14 13 46.9**	**+2.3**
NANT	**Nan**	**9.46**	**53**	P	**P**	**14 14 06.0**	**+3.4**
	75nm,0.9s						
VIS	**Vishakhapatnam**	**10.05**	**297**	*e*P	**P**	**14 14 09.0**	**-1.8**
VIS				*e*S	**S**	**14 15 51.1**	**-13**
VIS				*e*		14 15 55.7	
	comp=E,151nm,0.4s						
VIS				*e*		14 15 56.1	
	comp=N,247nm,0.5s						
KKTK	**Khon Kaen**	**10.26**	**71**	P	**P**	**14 14 15.0**	**+1.3**
	comp=N,494nm,0.8s						
KULM	**Kulim**	**11.15**	**135**	*e*Pn	**P**	**14 14 22.9**	**-3.0**
SHL	**Shillong**	**12.27**	**357**	*e*P	**P**	**14 14 37.5**	**-3.4**
SHL				*e*S	**S**	**14 16 48.5**	**-9.1**
BLSP	**Bilaspur**	**13.37**	**313**	*e*P	**P**	**14 14 55.5**	**-0.1**
BLSP				*e*		14 14 58.0	
	comp=Z,11nm,0.4s						
BLSP				*e*S	**S**	**14 17 09.7**	**-14**
BLSP				*e*		14 17 49.8	
	comp=E,76nm,1.8s						
BLSP				*e*		14 17 50.5	
	comp=N,54nm,0.7s						
HYB	**Hyderabad**	**14.25**	**289**	*e*P	**P**	**14 15 15.0**	**+7.8**
HYB				*e*S	**S**	**14 17 33.0**	**-12**
HYB	**Hyderabad**	**14.25**	**289**	*i* P	**P**	**14 15 15.0**	**+7.8**
HYB				*e*S	**S**	**14 17 45.0**	**-0.1**
KMI	**Kunming**	**15.13**	**37**	P	**P**	**14 15 25.0**	**+6.3**
	comp=N,5.0nm,1.7s						
KMI				sP		14 15 34.5	
JIRN	**Jiri**	**15.56**	**338**	*e*P	**P**	**14 15 23.9**	**-0.4**
	comp=N,33nm,0.6s						
PKI	**Pulchoki**	**15.78**	**336**	*e*P	**P**	**14 15 26.4**	**-0.7**
	comp=N,28nm,0.5s						
PKI	**Pulchoki**	**15.78**	**336**	*e*P	**P**	**14 15 26.4**	**-0.7**
PKI				pmax	pmax		
	comp=Z,14nm,0.5s						
GUN	**Gumba**	**15.90**	**337**	*e*P	**P**	**14 15 28.2**	**-0.5**
DMN	**Daman**	**15.94**	**335**	*e*P	**P**	**14 15 28.1**	**-1.0**
	comp=Z,48nm,0.8s						
KKN	**Kakani**	**16.03**	**336**	*e*P	**P**	**14 15 29.5**	**-0.7**
TRD	**Trivandrum**	**16.15**	**255**	⇓*e*	**P**	**14 15 39.2**	**+7.3**
TRD				*e*		14 18 59.2	
LSA	**Lhasa**	**16.42**	**355**	P	**P**	**14 15 38.0**	**+2.8**
LSA	**Lhasa**	**16.42**	**355**	*e*P	**P**	**14 15 37.0**	**+1.8**
LSA				pmax	pmax		
	comp=Z,21nm,0.4s						
LSA	**Lhasa**	**16.42**	**355**	*e*P	**P**	**14 15 37.0**	**+1.8**
	comp=Z,21nm,0.4s						
GKN	**Gorkha**	**16.48**	**334**	*e*P	**P**	**14 15 36.7**	**+0.7**
	comp=Z,34nm,0.3s						
KOLN	**Koldanda**	**16.75**	**331**	*e*P	**P**	**14 15 40.8**	**+1.4**
	comp=Z,58nm,0.6s						
BHPL	**Bhopal**	**17.56**	**307**	*e*S	**S**	**14 19 03.9**	**+2.1**
KAD	**Karad**	**18.30**	**285**	*e*P	**P**	**14 15 59.7**	**+0.9**
KAD				*e*		14 16 15.1	
	comp=Z,18nm,1.0s						
GYA	**Guiyang**	**18.55**	**43**	P	**P**	**14 16 02.4**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
POO	**Poona**	**18.86**	**289**	*e*	**P**	**14 16 12.0**	**+6.4**
POO				*e*		14 19 19.0	
NDI	**New Delhi**	**21.04**	**319**	*e*P	**P**	**14 16 29.0**	**-0.1**
NDI				*e*		14 21 14.5	
ENH	**Enshi**	**22.97**	**40**	*e*P	**P**	**14 16 47.8**	**-0.6**
	comp=Z,12nm,0.7s,mb4.5						
LZH	**Lanzhou**	**24.84**	**22**	⇓P	**P**	**14 17 07.5**	**+1.0**
LZH				AP		14 17 16.2	
LZH				XP		14 17 18.6	
LZH				AMB	AMB		
	comp=Z,31nm,1.3s,mb4.7						
LZH	**Lanzhou**	**24.84**	**22**	⇓P	**P**	**14 17 07.5**	**+1.0**
	comp=Z,31nm,1.3s,mb4.7						
LZH				pP		14 17 16.2	
LZH				sP		14 17 18.6	
XAN	**Xi'an**	**25.40**	**33**	P	**P**	**14 17 10.8**	**-1.0**
XAN				AP	pP	14 17 17.8	-2.7
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.5						
GTA	**Gaotai**	**26.80**	**12**	P	**P**	**14 17 26.1**	**+1.5**
GTA				AP	pP	14 17 37.0	+3.6
GTA				XP	sP	14 17 40.4	+3.1
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.3						
NJ2	**Nanjing**	**30.40**	**48**	*e*P	**P**	**14 17 56.3**	**-0.9**
NJ2				AP	pP	14 18 05.8	-0.2
NJ2				XP	sP	14 18 09.9	0.0
NJ2				PP	PP	14 18 55.8	-1.2
NJ2				S	**S**	**14 22 55.0**	**+0.3**
NJ2				XS		14 23 11.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,406nm,4.2s						
NJ2				LR	LR		
	comp=N,774nm,18.2s,MS4.5						
NJ2				LR	LR		
	comp=E,708nm,17.4s,MS4.5						
SSE	**Sheshan**	**31.66**	**51**	*e*P	**P**	**14 18 03.3**	**-4.9**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,85nm,4.4s						
SSE	**Sheshan**	**31.66**	**51**	*e*P	**P**	**14 18 03.3**	**-4.9**
	comp=Z,29nm,0.7s,mb5.2						
KZA	**Kyzart**	**32.47**	**335**	P	**P**	**14 18 16.5**	**+1.4**
	SNR=7.2						
UCH	**Uchtor**	**32.89**	**335**	P	**P**	**14 18 20.2**	**+1.4**
	SNR=8.9						
TKM2	**Tokmak 2**	**33.04**	**337**	P	**P**	**14 18 19.9**	**-0.2**
	SNR=6.3						
KBK	**Karagaybulak**	**33.07**	**336**	P	**P**	**14 18 22.0**	**+1.6**
	SNR=9.7						
AML	**Almayashu**	**33.16**	**334**	P	**P**	**14 18 22.9**	**+1.7**
	SNR=19						
AAK	**Ala-Archa**	**33.24**	**335**	P	**P**	**14 18 23.8**	**+1.9**
	SNR=7.5						
AAK	**Ala-Archa**	**33.24**	**335**	P	**P**	**14 18 22.1**	**+0.3**
	comp=Z,51nm,0.8s,mb5.5,SNR=9.6						
AAK	**Ala-Archa**	**33.24**	**335**	*e*P	**P**	**14 18 22.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
AAK	**Ala-Archa**	**33.24**	**335**	*e*P	**P**	**14 18 22.0**	**+0.1**
	comp=Z,10nm,1.1s,mb4.7						
EKS2	**Erkin-Say**	**33.56**	**334**	P	**P**	**14 18 26.3**	**+1.7**
	SNR=16						
BJI	**Beijing**	**33.73**	**33**	*e*P	**P**	**14 18 26.7**	**+0.5**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.8						
BJI	**Beijing**	**33.73**	**33**	*e*P	**P**	**14 18 26.7**	**+0.5**
	comp=Z,8.0nm,0.6s,mb4.8						
USP	**Ospenovka**	**33.76**	**336**	P	**P**	**14 18 27.4**	**+1.0**
	SNR=14						
JOW	**Kunigami**	**35.91**	**62**	LR	LR	14 35 32.5	
	comp=Z,142nm,18.6s,MS3.8,baz=83,slow=40						
SONM	**Songino Array**	**36.32**	**16**	P	**P**	**14 18 48.7**	**+0.5**
	comp=Z,6.8nm,1.0s,mb4.5,baz=202,slow=7.0,SNR=34						
SONM				PcP	PcP	14 21 11.9	-0.9
	comp=Z,0.7nm,0.7s,baz=198,slow=3.5,SNR=4.0						
ULN	**Ulaanbaatar**	**36.52**	**16**	*e*P	**P**	**14 18 49.7**	**-0.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**36.52**	**16**	*e*P	**P**	**14 18 49.7**	**-0.2**
	comp=Z,5.7nm,1.1s,mb4.3						
ZAK	**Zakamensk**	**38.02**	**11**	*e*P	**P**	**14 19 03.3**	**+0.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
KURK	**Kurchatov**	**39.07**	**346**	*e*P	**P**	**14 19 11.5**	**+0.3**
KURK				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.7						
KURK	**Kurchatov**	**39.07**	**346**	*e*P	**P**	**14 19 11.5**	**+0.3**
	comp=Z,19nm,1.3s,mb4.7						
ZAL	**Zalesovo**	**41.06**	**353**	P	**P**	**14 19 27.4**	**-0.2**
	comp=Z,3.7nm,0.7s,mb4.1,baz=298,slow=7.7,SNR=23						
NVS	**Novosibirsk**	**42.14**	**352**	*e*P	**P**	**14 19 35.2**	**-1.2**
BVAR	**Borovoye Array**	**43.47**	**341**	P	**P**	**14 19 46.7**	**-0.5**
	comp=Z,1.6nm,0.4s,mb4.1,baz=146,slow=9.6,SNR=12						
FITZ	**Fitzroy Crossi**	**45.03**	**133**	P	**P**	**14 19 56.3**	**-4.0**
	comp=Z,8.8nm,0.4s,mb4.9,baz=352,slow=7.1,SNR=7.9						
BOD	**Bodaibo**	**47.31**	**15**	*e*P	**P**	**14 20 17.4**	**-0.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
GNI	**Garni**	**49.74**	**312**	*e*P	**P**	**14 20 38.8**	**+1.9**
GNI				pmax	pmax		
	comp=Z,12nm,0.9s						
GNI	**Garni**	**49.74**	**312**	*e*P	**P**	**14 20 38.8**	**+1.9**
	comp=Z,12nm,0.9s,mb4.9						
SVE	**Sverdlovsk**	**49.91**	**338**	*e*P	**P**	**14 20 38.0**	**+0.1**
SVE				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
ARU	**Arti**	**50.41**	**336**	*i* P	**P**	**14 20 41.4**	**-0.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ARU	**Arti**	**50.41**	**336**	*e*P	**P**	**14 20 41.1**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.5						
KIV	**Kislovodsk**	**52.44**	**316**	*d i*P	**P**	**14 20 57.7**	**+0.4**
KIV				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
WRA	**Warramunga Arr**	**52.61**	**128**	P	**P**	**14 20 55.1**	**-3.8**
	comp=Z,1.7nm,0.5s,mb4.2,baz=303,slow=9.9,SNR=6.1						
ASAR	**Alice Springs**	**54.51**	**132**	P	**P**	**14 21 08.9**	**-3.9**
	comp=Z,1.7nm,0.4s,mb4.4,baz=307,slow=6.8,SNR=19						
ASAR				pP	pP	14 21 17.6	-4.3
	comp=Z,1.8nm,0.4s,baz=308,slow=7.0,SNR=9.0						
ASAR				PcP	PcP	14 22 14.1	-1.7
	comp=Z,0.9nm,0.6s,baz=321,slow=4.6,SNR=4.7						
YAK	**Yakutsk**	**55.41**	**20**	*e*P	**P**	**14 21 17.5**	**-1.4**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
YAK	**Yakutsk**	**55.41**	**20**	*e*P	**P**	**14 21 17.5**	**-1.4**
	comp=Z,8.0nm,0.7s,mb4.9						
ANN	**Anapa**	**56.28**	**315**	*e*P	**P**	**14 21 37.5**	**+12**
ANN				*e*		14 21 43.9	
ANN				*e*S	S	14 29 37.0	+25
ANN				pmax	pmax		
	comp=Z,153nm,1.4s						
BRTR	**Keskin Array B**	**57.91**	**309**	P	**P**	**14 21 36.0**	**-1.0**
	comp=Z,5.4nm,0.8s,mb4.7,baz=120,slow=7.7,SNR=23						
OBN	**Obninsk**	**60.11**	**327**	⇑*e*P	**P**	**14 21 51.5**	**-0.5**
OBN				*e*		14 22 36.9	
OBN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
TIXI	**Tiksi**	**62.28**	**12**	⇑*e*P	**P**	**14 22 05.2**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
AKASG	**Malin Array Be**	**63.10**	**320**	P	**P**	**14 22 10.5**	**-1.6**
	comp=Z,0.4nm,0.2s,mb4.1,baz=86,slow=4.9,SNR=7.4						
AKASG	**Malin Array Be**	**63.10**	**320**	P	**P**	**14 22 10.5**	**-1.6**
FINES	**FINESS Array B**	**67.32**	**331**	P	**P**	**14 22 38.2**	**-1.0**
	comp=Z,4.2nm,0.7s,mb4.6,baz=104,slow=7.9,SNR=21						
KAF	**Kangasniemi**	**67.39**	**332**	*e*p	**P**	**14 22 38.1**	**-1.5**
	comp=Z,3.8nm,0.7s,mb4.5,baz=103,slow=6.0						
KAF	**Kangasniemi**	**67.39**	**332**	*e*P	**P**	**14 22 38.1**	**-1.5**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
KEV	**Kevo**	**69.32**	**340**	*e*p	**P**	**14 22 49.5**	**-2.0**
	comp=Z,7.7nm,0.6s,mb4.8						
KEV	**Kevo**	**69.32**	**340**	*e*P	**P**	**14 22 49.5**	**-2.0**
KEV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**69.75**	**340**	P	**P**	**14 22 53.6**	**-0.5**
	comp=Z,3.3nm,0.5s,mb4.5,baz=90,slow=6.7,SNR=32						
MORC	**Moravsky Berou**	**70.41**	**318**	*e*P	**P**	**14 22 58.0**	**-0.5**
MORC				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
MORC	**Moravsky Berou**	**70.41**	**318**	*e*P	**P**	**14 22 58.0**	**-0.5**
	comp=Z,3.7nm,1.0s,mb4.3						
BILL	**Biiibino**	**71.66**	**22**	*e*P	**P**	**14 23 04.5**	**-1.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
GERES	**GERESS Array B**	**72.91**	**317**	P	**P**	**14 23 13.0**	**-0.4**
	comp=Z,2.0nm,0.6s,mb4.2,baz=76,slow=5.5,SNR=15						
GERES				pP	pP	14 23 22.4	-0.5
	comp=Z,1.4nm,0.8s,baz=135,slow=1.9,SNR=4.4						
MOX	**Moxa**	**74.22**	**319**	*e*P	**P**	**14 23 20.0**	**-1.0**
NB2	**NORSAR Subarra**	**74.38**	**330**	P	**P**	**14 23 19.7**	**-2.0**
	comp=Z,2.6nm,0.7s,mb4.3,baz=91,slow=4.8						
NOA	**NORSAR Array B**	**74.38**	**330**	P	**P**	**14 23 20.5**	**-1.2**
	comp=Z,2.4nm,0.6s,mb4.3,baz=90,slow=5.8,SNR=11						
NOA				pP	pP	14 23 29.9	-1.3
	comp=Z,1.6nm,0.8s,baz=91,slow=5.7,SNR=3.8						
BOSA	**Boshof**	**77.30**	**236**	P	**P**	**14 23 37.8**	**-1.1**
	comp=Z,3.6nm,0.6s,mb4.5,baz=56,slow=6.5,SNR=8.6						
LPG	**La Plagne**	**77.85**	**314**	*e*P	**P**	**14 23 41.5**	**-0.1**
	comp=Z,14nm,0.9s,mb4.6						
LPG	**La Plagne**	**77.85**	**314**	*e*P	**P**	**14 23 41.5**	**-0.1**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
EKA	**Eskdalemuir Ar**	**82.51**	**325**	P	**P**	**14 24 06.7**	**+0.4**
	comp=Z,2.6nm,0.7s,mb4.3,baz=82,slow=5.9,SNR=6.2						
IMA	**Indian Mountai**	**87.20**	**22**	*e*P	**P**	**14 24 30.4**	**+0.9**
IMA				pmax	pmax		
	comp=Z,189nm,2.3s						
IMA	**Indian Mountai**	**87.20**	**22**	*e*P	**P**	**14 24 30.4**	**+1.0**
	comp=Z,189nm,2.3s						
INK	**Inuvik**	**92.23**	**16**	P	**P**	**14 24 53.1**	**+0.1**
	comp=Z,0.9nm,0.5s,mb4.4,baz=328,slow=7.2,SNR=14						
INK				pP	pP	14 25 02.4	-0.2
	comp=Z,0.9nm,0.5s,baz=270,slow=3.8,SNR=3.2						
PDAR	**Pinedale Array**	**120.63**	**19**	PKP	PKPdf	14 30 35.2	-4.3
	comp=Z,0.3nm,0.5s,SNR=3.5						
TXAR	**Lajitas Array**	**134.81**	**20**	PKP	PKPdf	14 31 02.6	-4.5
	comp=Z,0.3nm,0.5s,baz=183,slow=1.0,SNR=3.5						

*BJI **01** 14:15:39.0,1.15N×97.40E,h30km,mB5.0,mb4.9,Ms4.7, Msz4.5*
*MOS **01** 14:15:40.7±1.0,1.27N×97.03E,h33km,mb5.1/20,Error ellipse: s-maj=19.2km s-min=9.0km az=100.6*
*IDC **01** 14:15:41.5±0.8,1.38N×97.06E,h22km±4km,mb4.3/12, mb1 4.4/12,mb1mx4.3/18,mbtmp4.5/12,Error ellipse: s-maj=32.9km s-min=14.5km az=49.0*
*NEIC **01** 14:15:41.6±0.4,1.33N×97.09E,mb4.9/22,Error ellipse: s-maj=11.0km s-min=6.5km az=216.0*
ISC 01 14:15:40.1±0.5,1.35N±0.07×97.14E±0.06,h25km, h25km±1.3km:pP-P,n85,σ1§06/83,mb4.7/44,MS4.4/5,6C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.03**	**50**	P	**Pn**	**14 16 56.6**	**+0.6**
KULM	**Kulim**	**5.25**	**42**	*e*Pn	**Pn**	**14 16 59.2**	**+0.1**
KULM				*ep*Pn		14 17 06.4	
KGM	**Kluang**	**6.21**	**84**	P	**Pn**	**14 17 14.3**	**+1.6**
SNG	**Songkhla**	**6.75**	**31**	P	**Pn**	**14 17 19.0**	**-1.2**
	538nm,1.0s						
KSM	**Kuching**	**13.16**	**89**	*e*Pn	**P**	**14 18 48.7**	**+0.5**
NANT	**Nan**	**17.69**	**11**	P	**P**	**14 19 49.0**	**+2.3**
	75nm,0.9s						
KKM	**Kota Kinabalu**	**19.59**	**76**	*e*P	**P**	**14 20 10.0**	**+0.4**
KMI	**Kunming**	**24.25**	**12**	P

LZH	**Lanzhou**	**35.12**	**9**	*eP*	**P**	**14 22 31.5**	**-2.3**
	comp=Z,37nm,1.4s,mb5.1						
LZH				pP	pP	14 22 40.3	-1.0
LZH				sP	sP	14 22 43.7	-0.8
GTA	**Gaotai**	**37.96**	**3**	P	**P**	**14 22 57.4**	**-0.3**
GTA				AP	pP	14 23 05.0	-0.2
GTA				XP	sP	14 23 08.3	-0.1
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
JOW	**Kunigami**	**39.18**	**47**	P	**P**	**14 23 07.5**	**-0.5**
	comp=Z,32nm,0.7s,mb5.2,baz=280,slow=6.7,SNR=7.2						
HHC	**Hu-ho-hao-te**	**41.44**	**17**	*eP*	**P**	**14 23 27.9**	**+1.5**
HHC				AP	pP	14 23 37.5	+3.5
HHC				XP	sP	14 23 41.4	+4.3
HHC				PP	PP	14 25 00.6	-4.6
HHC				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.6						
HHC				AMB	AMB		
	comp=Z,163nm,6.2s						
WRA	**Warramunga Arr**	**42.16**	**122**	P	**P**	**14 23 32.7**	**0.0**
	comp=Z,3.3nm,0.8s,mb4.0,baz=300,slow=9.2,SNR=5.6						
WRAB	**Tennant Creek**	**42.17**	**122**	*eP*	**P**	**14 23 32.7**	**0.0**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**42.17**	**122**	*eP*	**P**	**14 23 32.7**	**0.0**
	comp=Z,4.2nm,0.7s,mb4.2						
BJT	**Baijiatuau**	**42.20**	**22**	*eP*	**P**	**14 23 33.5**	**+0.7**
BJT				pmax	pmax		
	comp=Z,20nm,0.7s						
BJT	**Baijiatuau**	**42.20**	**22**	*eP*	**P**	**14 23 33.5**	**+0.8**
	comp=Z,20nm,0.7s,mb4.8						
BJI	**Beijing**	**42.23**	**22**	*eP*	**P**	**14 23 33.6**	**+0.7**
BJI				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.0						
BJI				LR	LR		
	comp=N,188nm,24.2s,MS4.0						
BJI				LR	LR		
	comp=E,174nm,22.5s,MS4.0						
BJI				LR	LR		
	comp=Z,131nm,26.3s,MS3.7						
BJI	**Beijing**	**42.23**	**22**	*eP*	**P**	**14 23 33.6**	**+0.7**
	comp=Z,27nm,0.7s,mb5.0						
BJI				S	tx	14 27 22.6	
BJI				LR	LR		
	comp=Z,130nm,26.3s,MS3.7						
WMQ	**Urumqi**	**43.12**	**350**	*eP*	**P**	**14 23 40.5**	**+0.3**
ASAR	**Alice Springs**	**43.53**	**127**	P	**P**	**14 23 44.5**	**+0.7**
	comp=Z,3.5nm,1.1s,mb4.0,baz=300,slow=7.2,SNR=9.3						
ASAR				pP	pP	14 23 51.5	+0.2
	comp=Z,1.7nm,0.8s,baz=300,slow=7.6,SNR=6.2						
UCH	**Uchtor**	**45.49**	**336**	P	**P**	**14 24 00.7**	**+1.4**
	SNR=6.5						
TKM2	**Tokmak 2**	**45.66**	**338**	P	**P**	**14 24 01.7**	**+1.1**
	SNR=6.7						
KBK	**Karagaybulak**	**45.68**	**337**	P	**P**	**14 24 02.2**	**+1.4**
	SNR=7.6						
AML	**Almayashu**	**45.75**	**336**	P	**P**	**14 24 02.7**	**+1.4**
	SNR=6.2						
AAK	**Ala-Archa**	**45.84**	**337**	*eP*	**P**	**14 24 02.3**	**+0.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
AAK	**Ala-Archa**	**45.84**	**337**	*eP*	**P**	**14 24 02.2**	**+0.2**
	comp=Z,8.0nm,1.2s,mb4.5						
EKS2	**Erkin-Say**	**46.15**	**336**	P	**P**	**14 24 05.9**	**+1.4**
	SNR=5.5						
USP	**Ospenovka**	**46.38**	**337**	P	**P**	**14 24 07.0**	**+0.7**
	SNR=11						
SONM	**Songino Array**	**47.00**	**9**	P	**P**	**14 24 11.4**	**+0.3**
	comp=Z,11nm,0.8s,mb4.8,baz=192,slow=8.3,SNR=73						
SONM				pP	pP	14 24 18.0	-0.7
	comp=Z,6.7nm,0.9s,baz=190,slow=8.4,SNR=9.7						
SONM				PcP	PcP	14 25 43.2	-0.4
	comp=Z,1.6nm,0.8s,baz=178,slow=4.1,SNR=3.2						
ULN	**Ulaanbaatar**	**47.13**	**9**	*eP*	**P**	**14 24 11.9**	**-0.3**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**47.13**	**9**	*eP*	**P**	**14 24 11.8**	**-0.3**
	comp=Z,10nm,1.0s,mb4.7						
ZAK	**Zakamensk**	**49.13**	**5⇑**	*iP*	**P**	**14 24 27.8**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CN2	**Changchun**	**49.20**	**27**	⇑P	**P**	**14 24 27.6**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
KURK	**Kurchatov**	**51.64**	**345**	*eP*	**P**	**14 24 46.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**51.64**	**345**	*eP*	**P**	**14 24 46.5**	**-0.3**
	comp=Z,8.3nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	**51.77**	**29**	P	**P**	**14 24 45.8**	**-2.1**
MDJ				AP	pP	14 24 55.4	-0.2
MDJ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,70nm,3.6s						
MDJ				LR	LR		
	comp=N,287nm,17.9s,MS4.6						
MDJ				LR	LR		
	comp=E,393nm,15.3s,MS4.6						
MDJ				LR	LR		
	comp=Z,375nm,14.7s,MS4.5						
MDJ	**Mudanjiang**	**51.77**	**29**	*eP*	**P**	**14 24 47.0**	**-0.9**
	comp=Z,5.9nm,0.5s,mb4.8						
ZAL	**Zalesovo**	**53.40**	**351**	P	**P**	**14 24 59.0**	**-1.0**
	comp=Z,8.7nm,0.6s,mb4.9,baz=310,slow=5.8,SNR=40						
STKA	**Stephens Creek**	**53.50**	**132**	P	**P**	**14 25 01.6**	**+0.7**
	comp=Z,2.1nm,0.5s,mb4.3,baz=327,slow=7.7,SNR=3.9						
NVS	**Novosibirsk**	**54.52**	**350**	*eP*	**P**	**14 25 06.5**	**-1.6**
NVS				*e*		14 25 21.5	
NVS				pmax	pmax		
	comp=N,4.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
BVAR	**Borovoye Array**	**56.09**	**341**	P	**P**	**14 25 18.4**	**-1.2**
	comp=Z,7.1nm,0.8s,mb4.8,baz=135,slow=8.4,SNR=30						
KLR	**Kul'dur**	**56.15**	**27**	*eP*	**P**	**14 25 17.2**	**-2.8**
BOD	**Bodaibo**	**57.88**	**11**	*eP*	**P**	**14 25 31.7**	**-0.5**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**60.26**	**34**	*eP*	**P**	**14 25 47.8**	**-1.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**60.26**	**34**	*eP*	**P**	**14 25 48.3**	**-0.5**
	comp=Z,19nm,1.0s,mb5.1						
SVE	**Sverdlovsk**	**62.53**	**338**	*eP*	**P**	**14 26 11.0**	**+7.0**
ARU	**Arti**	**63.03**	**337⇑**	*eP*	**P**	**14 26 06.0**	**-1.3**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
ARU	**Arti**	**63.03**	**337**	*eP*	**P**	**14 26 05.8**	**-1.5**
	comp=Z,9.3nm,0.9s,mb4.9						
YAK	**Yakutsk**	**65.30**	**16**	*eP*	**P**	**14 26 20.0**	**-2.0**
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
YAK	**Yakutsk**	**65.30**	**16**	*eP*	**P**	**14 26 20.7**	**-1.3**
	comp=Z,47nm,0.9s,mb5.5						
EIL	**Elat**	**65.33**	**302**	*eP*	**P**	**14 26 21.4**	**-1.4**
	comp=Z,6.7nm,1.0s,mb4.6						
BRTR	**Keskin Array B**	**68.97**	**312**	P	**P**	**14 26 44.5**	**-1.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=216,slow=11,SNR=3.7						
BRTR				pP	pP	14 26 51.9	-1.6
	comp=Z,1.5nm,0.7s,baz=135,slow=8.7,SNR=4.4						
MA2	**Magadan**	**71.23**	**26⇑**	*eP*	**P**	**14 26 58.6**	**-0.3**
MA2				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
TIXI	**Tiksi**	**73.05**	**10⇑**	*eP*	**P**	**14 27 08.4**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**79.84**	**332**	P	**P**	**14 27 47.2**	**-0.6**
	comp=Z,2.3nm,0.7s,mb4.2,baz=124,slow=6.9,SNR=11						
FINES				pP	pP	14 27 55.0	-0.9
	comp=Z,1.4nm,0.6s,baz=90,slow=5.7,SNR=3.6						
KAF	**Kangasniemi**	**79.93**	**333**	*ep*	**P**	**14 27 47.6**	**-0.7**
	comp=Z,3.4nm,0.7s,mb4.4,baz=104,slow=5.0						
KAF	**Kangasniemi**	**79.93**	**333**	*eP*	**P**	**14 27 47.6**	**-0.7**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
KEV	**Kevo**	**81.94**	**341**	*ep*	**P**	**14 27 57.6**	**-1.1**
	comp=Z,11nm,1.0s,mb4.8						
KEV	**Kevo**	**81.94**	**341**	*eP*	**P**	**14 27 57.6**	**-1.1**
KEV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
ARCES	**ARCESS Array B**	**82.38**	**340**	P	**P**	**14 28 01.0**	**0.0**
	comp=Z,5.0nm,0.9s,mb4.5,baz=95,slow=5.2,SNR=11						
GERES	**GERESS Array B**	**84.67**	**319**	P	**P**	**14 28 13.7**	**+0.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=108,slow=4.2,SNR=8.3						
MOX	**Moxa**	**86.12**	**320**	*eP*	**P**	**14 28 24.0**	**+3.7**
NB2	**NORSAR Subarra**	**86.85**	**331**	P	**P**	**14 28 23.3**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.3,baz=94,slow=4.8						
NOA	**NORSAR Array B**	**86.85**	**331**	P	**P**	**14 28 24.0**	**+0.4**
	comp=Z,1.5nm,0.8s,mb4.3,baz=94,slow=5.0,SNR=6.3						
NOA				pP	pP	14 28 30.9	-0.8
	comp=Z,1.2nm,0.8s,baz=97,slow=5.3,SNR=3.1						
PDAR	**Pinedale Array**	**129.94**	**26**	PKP	PKPdf	14 34 49.6	-3.1
	comp=Z,0.5nm,0.8s,baz=315,slow=2.1,SNR=3.5						
CFAA	**Coronel Fontan**	**146.88**	**203**	pPKPbc		14 35 30.2	
	comp=Z,0.6nm,0.6s,baz=199,slow=1.5,SNR=4.6						

BJI ***01*** *14:18:05.3,2.12N×96.75E,h32km,mB5.1,mb5.2,Ms4.6, Msz4.5*
MOS ***01*** *14:18:06.4±0.8,2.21N×96.71E,h33km,mb5.3/36, MS4.5/7,Error ellipse: s-maj=11.5km s-min=6.7km az=108.2*
IDC ***01*** *14:18:07.4±0.4,2.23N×96.70E,h26km±3km,mb4.6/20, mb1 4.7/20,mb1mx4.7/22,mbtmp4.8/20,MS4.2/11, Ms1 4.1/11,ms1mx4.0/21,Error ellipse: s-maj=21.3km s-min=10.2km az=47.0*
NEIC ***01*** *14:18:07.6±0.2,2.17N×96.69E,mb5.1/37,Error ellipse: s-maj=6.6km s-min=4.3km az=221.0*
HRVD ***01*** *14:18:07.6±1.7,2.20N×96.65E,h36km±1km,MW4.8/28, Centroid moment Tensor Solution. LP body waves: s19,c29;Mantle waves: s28,c45; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.40±.18; $M_{\theta\theta}$-1.00±.13; $M_{\phi\phi}$-0.40±.19; $M_{r\theta}$0.65±.12; $M_{\theta\phi}$1.29±.09; $M_{\phi r}$-0.67±.21; Best double couple: $M_0$1.953×10^{16} NP1:ϕ_s301°,δ31°,λ79°. NP2:ϕ_s134°,δ59°,λ97°. Principal axes: T 1.646, Plg75°, Azm63°; N .61, Plg6°, Azm311°; P -2.26, Plg14°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 14:18:05.9±0.3,2.19N±0.04×96.72E±0.04,h29km, h29km±.8km:pP-P,n179,σ0β96/176,mb5.1/72,MS4.3/26, 13C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.91**	**61**	P	**Pn**	**14 19 21.2**	**+1.4**
KULM	**Kulim**	**4.99**	**52**	*eP*	**Pn**	**14 19 22.0**	**+1.0**
KGM	**Kluang**	**6.59**	**91**	P	**Pn**	**14 19 45.0**	**+1.4**
NNT	**Nongplab**	**10.76**	**16**	P	**P**	**14 20 42.0**	**+0.6**
KSM	**Kuching**	**13.60**	**93**	*e*Pn	**P**	**14 21 21.0**	**+1.4**
KKTK	**Khon Kaen**	**15.29**	**23**	P	**P**	**14 21 42.5**	**+0.7**
	432nm,0.8s						
NANT	**Nan**	**16.97**	**13**	⇑P	**P**	**14 22 04.0**	**+0.9**
	288nm,0.6s						
CHRT	**Chiangrai**	**17.83**	**9**	⇑P	**P**	**14 22 13.5**	**-0.4**
	368nm,0.7s						
KKM	**Kota Kinabalu**	**19.81**	**78**	*eP*	**P**	**14 22 37.2**	**-0.3**
KKM	**Kota Kinabalu**	**19.81**	**78**	P	**P**	**14 22 37.5**	**0.0**
VIS	**Vishakhapatnam**	**20.28**	**320**	*i* P	**P**	**14 22 43.9**	**+1.6**
VIS				*i*		14 23 57.6	
QIZ	**Qiongzhong**	**21.10**	**37**	P	**P**	**14 22 49.7**	**-1.0**
TSM	**Tawau**	**21.22**	**84**	P	**P**	**14 22 51.7**	**-0.3**
HYB	**Hyderabad**	**23.40**	**311**	*eP*	**P**	**14 23 17.0**	**+3.4**
HYB	**Hyderabad**	**23.40**	**311**	*i* P	**P**	**14 23 17.0**	**+3.4**
KMI	**Kunming**	**23.53**	**14**	P	**P**	**14 23 16.3**	**+1.5**
KMI				AP		14 23 24.6	
KMI				XP		14 23 28.7	
KMI				PP	PP	14 23 52.1	+4.9
KMI				S	**S**	**14 27 32.3**	**+9.0**
KMI				AMB	AMB		
	comp=Z,59nm,1.3s,mb4.9						
KMI				AMB	AMB		
	comp=Z,306nm,4.9s						
KMI				LR	LR		
	comp=N,1μm,17.7s,MS4.5						
KMI				LR	LR		
	comp=E,891nm,15.2s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,15.2s,MS4.5						
KMI	**Kunming**	**23.53**	**14**	P	**P**	**14 23 16.3**	**+1.5**
	comp=Z,59nm,1.3s,mb4.9						
KMI				pP		14 23 24.6	
KMI				sP		14 23 28.7	
KMI				PP	PP	14 23 52.1	+4.9
KMI				S	**S**	**14 27 32.3**	**+9.0**
KMI				sS		14 27 47.3	
KMI				SS	SS	14 28 29.4	+18
KMI				LR	LR		
	comp=Z,1μm,15.2s,MS4.5						
SHL	**Shillong**	**23.71**	**349**	*eP*	**P**	**14 23 15.0**	**-1.6**
SHL				*e*		14 27 27.5	
GYA	**Guiyang**	**25.95**	**21⇑**	*iP*	**P**	**14 23 37.5**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**27.26**	**339**	*eP*	**P**	**14 23 50.8**	**+0.8**
	comp=Z,211nm,0.8s,mb5.7						
PKI	**Pulchoki**	**27.47**	**338**	*eP*	**P**	**14 23 52.2**	**+0.4**
	comp=Z,59nm,0.9s,mb5.1						
PKI	**Pulchoki**	**27.47**	**338**	*eP*	**P**	**14 23 52.2**	**+0.4**
PKI				pmax	pmax		
	comp=Z,29nm,0.9s,mb4.8						
GUN	**Gumba**	**27.60**	**339**	*eP*	**P**	**14 23 53.7**	**+0.6**
	comp=Z,142nm,0.6s,mb5.8						
DMN	**Daman**	**27.62**	**337**	*eP*	**P**	**14 23 53.4**	**+0.2**
	comp=Z,49nm,0.7s,mb5.2						
KKN	**Kakani**	**27.71**	**338**	*eP*	**P**	**14 23 54.3**	**+0.2**
	comp=Z,127nm,0.9s,mb5.5						
KKN	**Kakani**	**27.71**	**338**	*eP*	**P**	**14 23 54.3**	**+0.2**
KKN				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.2						
LSA	**Lhasa**	**27.87**	**350**	P	**P**	**14 23 55.3**	**-0.2**
LSA	**Lhasa**	**27.87**	**350**	*eP*	**P**	**14 23 55.6**	**+0.1**
LSA				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.2						
LSA	**Lhasa**	**27.87**	**350**	*eP*	**P**	**14 23 55.6**	**+0.1**
	comp=Z,64nm,1.0s,mb5.2						
GKN	**Gorkha**	**28.15**	**337**	*eP*	**P**	**14 23 58.3**	**+0.3**
	comp=Z,139nm,1.0s,mb5.5						
KOLN	**Koldanda**	**28.37**	**335**	*eP*	**P**	**14 24 00.4**	**+0.4**
	comp=Z,110nm,0.7s,mb5.6						
CD2	**Chengdu**	**29.34**	**12⇓**	*iP*	**P**	**14 24 07.1**	**-1.6**
ENH	**Enshi**	**30.44**	**22**	*eP*	**P**	**14 24 16.3**	**-2.2**
LGTI	**Lohaghat**	**31.32**	**332**	*eP*	**P**	**14 24 26.7**	**+0.5**
NDI	**New Delhi**	**32.25**	**327**	*eP*	**P**	**14 24 32.0**	**-2.4**
WHN	**Wuhan**	**32.78**	**29**	P	**P**	**14 24 39.3**	**+0.4**
XAN	**Xi'an**	**33.68**	**18**	P	**P**	**14 24 45.1**	**-1.7**
XAN				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.2						
LZH	**Lanzhou**	**34.37**	**10**	⇑P	**P**	**14 24 51.8**	**-0.9**
LZH				AP	pP	14 25 01.5	+0.3
LZH				XP	sP	14 25 05.6	+0.7
LZH				AMB	AMB		
	comp=Z,63nm,1.3s,mb5.4						
LZH				AMB	AMB		
	comp=Z,101nm,5.6s						
LZH				LR	LR		
	comp=N,385nm,12.9s						
LZH				LR	LR		
	comp=Z,574nm,16.8s,MS4.4						
LZH	**Lanzhou**	**34.37**	**10**	⇑P	**P**	**14 24 51.8**	**-0.9**
	comp=Z,63nm,1.3s,mb5.4						
LZH				pP	pP	14 25 01.5	+0.3
LZH				sP	sP	14 25 05.6	+0.7
LZH				PP	PP	14 26 47.5	+39
LZH				LR	LR		
	comp=Z,570nm,16.8s,MS4.4						
SDNR	**Sundarnagar**	**34.61**	**329**	*eP*	**P**	**14 24 54.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**34.89**	**126⇓**	*iP*	**P**	**14 24 56.4**	**-0.9**
	comp=Z,31nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**34.89**	**126**	P	**P**	**14 24 56.5**	**-0.9**
	comp=Z,43nm,0.8s,mb5.5,baz=312,slow=3.4,SNR=28						
NJ2	**Nanjing**	**36.29**	**33**	*eP*	**P**	**14 25 08.9**	**-0.2**
NJ2				AP	pP	14 25 19.2	+1.6
NJ2				XP	sP	14 25 23.2	+2.0
NJ2				PP	PP	14 26 33.4	+0.9
NJ2				S	**S**	**14 30 48.0**	**+0.7**
NJ2				XS		14 31 05.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1μm,4.4s						
NJ2				LR	LR		
	comp=N,630nm,16.0s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,14.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,2μm,16.0s,MS5.1						
SSE	**Sheshan**	**36.90**	**36**	*eP*	**P**	**14 25 13.6**	**-0.6**
SSE				AP	pP	14 25 22.2	-0.5
SSE				XP	sP	14 25 25.7	-0.6
SSE				S	**S**	**14 30 57.1**	**+0.5**
SSE				SS	SS	14 31 12.9	
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.1						
SSE				LR	LR		
	comp=N,481nm,19.3s,MS4.3						
SSE				LR	LR		
	comp=E,245nm,19.2s,MS4.3						
SSE				LR	LR		
	comp=Z,603nm,15.7s,MS4.5						
SSE	**Sheshan**	**36.90**	**36**	*eP*	**P**	**14 25 13.6**	**-0.6**
	comp=Z,26nm,0.8s,mb5.1						
SSE				pP	pP	14 25 22.2	-0.5
SSE				sP	sP	14 25 25.7	-0.6
SSE				S	**S**	**14 30 57.1**	**+0.5**
SSE				sS		14 31 12.9	
SSE				SS	SS	14 33 39.6	+14
SSE				LR	LR		
	comp=Z,600nm,15.7s,MS4.5						
GTA	**Gaotai**	**37.16**	**4⇑**	*iP*	**P**	**14 25 16.2**	**-0.1**
GTA				AP	pP	14 25 27.6	+2.8
GTA				XP	sP	14 25 32.4	+4.0
GTA				S	**S**	**14 30 52.1**	**-8.4**
GTA				AMB	AMB		
	comp=Z,94nm,0.8s,mb5.7						
GTA				AMB	AMB		
	comp=Z,151nm,9.1s						
GTA				LR	LR		
	comp=N,232nm,14.8s,MS4.3						
GTA				LR	LR		
	comp=E,235nm,14.5s,MS4.3						
GTA				LR	LR		
	comp=Z,266nm,12.5s,MS4.2						
JOW	**Kunigami**	**38.93**	**48**	P	**P**	**14 25 31.6**	**+0.4**
	comp=Z,15nm,0.6s,mb4.9,baz=206,slow=9.8,SNR=11						
NWAO	**Narrogin (SRO)**	**39.95**	**153**	pP	pP	14 25 48.0	-0.3
	comp=Z,16nm,0.9s,baz=332,slow=10,SNR=2.6						
NWAO				LR	LR	14 41 33.2	
	comp=Z,506nm,19.6s,MS4.4,baz=253,slow=35						
HHC	**Hu-ho-hao-te**	**40.76**	**17**	⇑P	**P**	**14 25 47.6**	**+1.4**
HHC				AP	pP	14 25 57.8	+3.0
HHC				XP	sP	14 26 00.7	+2.3
HHC				PP	PP	14 27 24.9	+1.6
HHC				PCP	PcP	14 27 51.9	+4.1
HHC				PCS		14 31 40.8	
HHC				S	**S**	**14 31 54.1**	**-0.7**
HHC				XS		14 32 12.4	
HHC				SS	SS	14 34 47.6	-3.7
HHC				SCS	ScS	14 35 46.7	-0.6
HHC				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,150nm,6.9s						
HHC				LR	LR		
	comp=N,506nm,15.9s,MS4.7						
HHC				LR	LR		
	comp=E,523nm,13.9s,MS4.7						
HHC				LR	LR		
	comp=Z,553nm,15.2s,MS4.5						
BJT	**Baijiatuau**	**41.59**	**23**	*eP*	**P**	**14 25 53.5**	**+0.4**
BJT				pmax	pmax		
	comp=Z,62nm,1.2s						
BJT	**Baijiatuau**	**41.59**	**23**	*eP*	**P**	**14 25 53.5**	**+0.3**
	comp=Z,62nm,1.2s,mb5.1						
BJI	**Beijing**	**41.61**	**23**	*eP*	**P**	**14 25 53.7**	**+0.4**
BJI				AMB	AMB		
	comp=Z,47nm,1.0s,mb5.1						
BJI				LR	LR		
	comp=N,358nm,17.6s,MS4.5						
BJI				LR	LR		
	comp=E,351nm,16.9s,MS4.5						
BJI				LR	LR		
	comp=Z,162nm,22.1s						
BJI	**Beijing**	**41.61**	**23**	*eP*	**P**	**14 25 53.7**	**+0.4**
	comp=Z,47nm,1.0s,mb5.1						
BJI				LR	LR		
	comp=Z,160nm,22.1s,MS3.9						
KSH	**Kashi**	**41.68**	**336**	P	**P**	**14 25 53.2**	**-0.7**
KSH				AP	pP	14 26 02.1	-0.4
KSH				XP	sP	14 26 06.1	+0.1
KSH				AMB	AMB		
	comp=Z,2μm,6.0s						
WMQ	**Urumqi**	**42.23**	**350**	*eP*	**P**	**14 25 57.0**	**-1.3**
WRA	**Warramunga Arr**	**42.96**	**123**	P	**P**	**14 26 04.4**	**-0.2**
	comp=Z,23nm,0.7s,mb5.0,baz=300,slow=9.3,SNR=59						
WRAB	**Tennant Creek**	**42.97**	**123**	*eP*	**P**	**14 26 04.3**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**42.97**	**123**	*eP*	**P**	**14 26 04.3**	**-0.4**
	comp=Z,39nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**42.97**	**123**	*eP*	**P**	**14 26 04.3**	**-0.4**
DL2	**Dalian**	**43.04**	**29**	P	**P**	**14 26 05.2**	**+0.2**
DL2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
DL2				LR	LR		
	comp=N,140nm,20.6s,MS4.1						
DL2				LR	LR		
	comp=E,200nm,16.5s,MS4.1						
DL2				LR	LR		
	comp=Z,440nm,16.9s,MS4.4						
ULHL	**Ulahol**	**43.91**	**338**	P	**P**	**14 26 12.8**	**+0.9**
	SNR=18						
KZA	**Kyzart**	**44.14**	**337**	P	**P**	**14 26 15.2**	**+1.3**
	SNR=9.1						
FORT	**Forrest**	**44.33**	**140**	*eP*	**P**	**14 26 16.6**	**+1.0**
	comp=Z,742nm,0.6s						
ASPA	**Alice Springs**	**44.37**	**128**	*eP*	**P**	**14 26 16.1**	**+0.1**
ASAR	**Alice Springs**	**44.37**	**128**	P	**P**	**14 26 15.9**	**-0.1**
	comp=Z,12nm,0.9s,mb4.7,baz=305,slow=7.8,SNR=34						
ASAR				PcP	PcP	14 27 59.7	-0.4
	comp=Z,2.7nm,0.8s,baz=298,slow=2.5,SNR=5.8						
ASAR				pPcP		14 28 08.1	
	comp=Z,3.0nm,0.7s,baz=301,slow=3.7,SNR=5.3						
ASAR				ScP		14 31 50.1	
	comp=Z,1.7nm,0.9s,baz=294,slow=4.3,SNR=6.0						
ASAR				LR	LR	14 45 50.2	

CN2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
TLY Talaya 49.66 6 *eP* **P 14 26 58.1 +0.9**
TLY *e* 14 28 52.8
TLY *e*S **S 14 34 03.5 +0.8**
TLY pmax pmax
comp=Z,16nm,0.8s,mb5.1
TLY MLR MLR
comp=Z,316nm,17.0s,MS4.4
TLY Talaya 49.66 6 *eP* **P 14 26 57.9 +0.7**
comp=Z,9.3nm,0.6s,mb5.0
IRK Irkutsk 50.28 6 *eP* **P 14 27 02.2 +0.3**
IRK pmax pmax
comp=Z,35nm,1.7s,mb5.1
KURK Kurchatov 50.72 345 *eP* **P 14 27 05.0 -0.2**
HIA Hailar 50.87 19 *eP* **P 14 27 06.3 -0.1**
HIA pmax pmax
comp=Z,32nm,0.9s
HIA Hailar 50.87 19 *eP* **P 14 27 06.3 -0.1**
comp=Z,32nm,0.9s,mb5.2
MDJ Mudanjiang 51.25 30 P **P 14 27 08.9 -0.4**
MDJ AMB AMB
comp=Z,24nm,0.8s,mb5.2
MDJ LR LR
comp=N,163nm,16.0s,MS4.4
MDJ LR LR
comp=E,240nm,14.7s,MS4.4
MDJ LR LR
comp=Z,200nm,16.0s,MS4.2
MDJ Mudanjiang 51.25 30 *eP* **P 14 27 09.7 +0.3**
comp=Z,25nm,0.9s,mb5.1
MAJO Matsushiro 51.30 43 *eP* **P 14 27 08.9 -0.9**
MAJO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MAJO Matsushiro 51.30 43 *eP* **P 14 27 08.9 -0.9**
comp=Z,9.4nm,0.8s,mb4.8
MAT Matsushiro 51.30 43 *eP* **P 14 27 09.0 -0.8**
MAT pmax pmax
comp=Z,16nm,1.0s,mb4.9
MAT Matsushiro 51.30 43 *eP* **P 14 27 09.0 -0.8**
comp=Z,16nm,1.0s,mb4.9
MAT Matsushiro 51.30 43 P **P 14 27 09.3 -0.5**
PMG Port Moresby 51.55 104 P **P 14 27 12.0 0.0**
PMG Port Moresby 51.55 104 P **P 14 27 11.9 0.0**
comp=Z,40nm,0.7s,mb5.5,baz=251,slow=13,SNR=12
ZAL Zalesovo 52.51 351 P **P 14 27 18.1 -0.6**
comp=Z,47nm,0.6s,mb5.6,baz=310,slow=5.7,SNR=80
ZAL LR LR 14 54 19.1
comp=Z,191nm,19.9s,MS4.1,baz=295,slow=41
OPO Ambohidratompo 52.90 245 pP pP 14 27 30.3 -0.6
comp=Z,3.9nm,0.8s,baz=17,slow=3.7,SNR=4.6
CTA Charters Tower 53.37 117 P **P 14 27 25.6 0.0**
comp=Z,11nm,0.9s,mb4.8,baz=265,slow=9.1,SNR=4.4
CTA LR LR 14 51 44.2
comp=Z,288nm,20.6s,MS4.3,baz=248,slow=38
NVS Novosibirsk 53.63 350 *eP* **P 14 27 24.9 -2.1**
NVS *e*S **S 14 34 49.6 -7.4**
NVS pmax pmax
comp=N,28nm,0.8s
NVS pmax pmax
comp=Z,62nm,0.8s,mb5.6
NVS pmax pmax
comp=E,9.0nm,0.6s
NVS smax
comp=N,9.0nm,1.9s
NVS smax
comp=E,22nm,1.9s
ATD Arta Tunnel 54.20 283 LR LR 14 48 32.1
comp=E,125nm,18.1s,MS4.0,baz=83,slow=34
STKA Stephens Creek 54.37 132 *eP* **P 14 27 32.6 -0.1**
comp=E,10nm,0.8s,mb4.8
STKA Stephens Creek 54.37 132 P **P 14 27 32.9 +0.2**
comp=E,7.8nm,0.9s,mb4.7,baz=304,slow=6.6,SNR=8.7
STKA pP pP 14 27 40.7 -0.7
comp=E,12nm,0.8s,baz=315,slow=6.5,SNR=11
STKA LR LR 14 52 29.2
comp=E,253nm,18.2s,MS4.3,baz=118,slow=38
BVAR Borovoye Array 55.17 341 P **P 14 27 37.2 -1.1**
comp=E,15nm,0.6s,mb5.2,baz=142,slow=8.7,SNR=40
KLR Kul'dur 55.60 27 *eP* **P 14 27 38.2 -3.2**
KLR pmax pmax
comp=E,30nm,1.2s
KLR pmax pmax
comp=Z,38nm,1.2s,mb5.3
KLR MLR MLR
comp=E,400nm,15.0s
KLR MLR MLR
comp=Z,900nm,15.0s,MS5.0
BOD Bodaibo 57.14 11 *eP* **P 14 27 51.0 -1.3**
BOD pmax pmax
comp=Z,16nm,1.1s,mb5.0
CLNS Chul'man 58.95 18 *eP* **P 14 28 03.5 -1.5**
CLNS pmax pmax
comp=Z,19nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS MLR MLR
comp=Z,400nm,16.0s,MS4.6
CLNS MLR MLR
comp=N,300nm,12.0s,MS4.6
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.6
KMBO Kilima Mbogo 59.55 267 *eP* **P 14 28 09.6 -0.2**
KMBO *PP pP 14 28 18.4 -0.3
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 59.55 267 P **P 14 28 09.6 -0.2**
comp=Z,1.8nm,0.8s,mb4.1,baz=232,slow=24,SNR=4.3
KMBO pP pP 14 28 18.4 -0.3
comp=Z,3.4nm,0.9s,baz=62,slow=13,SNR=4.6
KMBO LR LR 14 49 15.8
comp=Z,274nm,20.1s,MS4.4,baz=92,slow=31
KMBO Kilima Mbogo 59.55 267 *eP* **P 14 28 09.6 -0.2**
comp=Z,3.8nm,0.9s,mb4.4
KMBO pP pP 14 28 18.4 -0.3
KMBO LR LR 14 49 15.8
YSS Yuzh-Sakhalins 59.81 35⇑ *iP* **P 14 28 10.3 -0.8**
YSS *e* pP 14 28 19.8 -0.3
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.4
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 59.81 35 *eP* **P 14 28 10.2 -1.0**
comp=Z,33nm,1.2s,mb5.2
YSS *e*pP pP 14 28 20.4 +0.4
GNI Garni 60.26 316⇑ *eP* **P 14 28 13.9 -0.4**
GNI pmax pmax
comp=Z,13nm,1.4s
GNI Garni 60.26 316 LR LR 14 58 14.7
comp=Z,67nm,18.6s,MS3.8,baz=286,slow=40
SVE Sverdlovsk 61.60 338⇑ *eP* **P 14 28 21.5 -1.7**
SVE *e* 14 28 36.5
SVE pmax pmax
comp=Z,40nm,1.1s,mb5.5
SVE MLR MLR
comp=N,300nm,18.0s
SVE MLR MLR
comp=Z,200nm,18.0s,MS4.3
ARU Arti 62.10 337⇑ *iP* **P 14 28 25.1 -1.4**
ARU *e* 14 29 05.5
ARU *e* 14 30 46.2
ARU *e*S **S 14 36 49.5 +1.7**
ARU *e*SS SS 14 40 53.9 +1.4
ARU pmax pmax
comp=Z,17nm,0.8s,mb5.2
ARU Arti 62.10 337 *eP* **P 14 28 25.0 -1.5**
comp=Z,18nm,0.8s,mb5.2
KIV Kislovodsk 63.25 319 *eP* **P 14 28 33.2 -1.1**
KIV *PP pP 14 28 40.7 -2.5
KIV pmax pmax
comp=Z,28nm,1.1s,mb5.3
KIV Kislovodsk 63.25 319 *eP* **P 14 28 33.2 -1.1**
comp=Z,28nm,1.1s,mb5.3
KIV *e*pP pP 14 28 40.7 -2.6
GOF Gofitskoye 63.50 320 *eP* **P 14 28 35.2 -0.8**
ASF Jabal al Asfar 63.51 305 LR LR 14 58 39.3
comp=Z,220nm,18.5s,MS4.4,baz=345,slow=38
YAK Yakutsk 64.61 16 *eP* **P 14 28 41.3 -1.6**
YAK pmax pmax
comp=Z,102nm,0.9s,mb5.8
YAK Yakutsk 64.61 16 *eP* **P 14 28 41.3 -1.7**
comp=Z,102nm,0.9s,mb5.8
SOC Sochi 65.07 318 *eP* **P 14 28 44.9 -1.3**
SOC *e*PPP PPP 14 32 52.4 +6.9
SOC *e*S S 14 37 20.3 -4.8
SOC pmax pmax
comp=Z,32nm,1.1s,mb5.3
SOC pmax pmax
comp=N,39nm,1.3s
SOC pmax pmax
comp=E,8.0nm,0.7s
MBAR Mbarara 66.03 268 *eP* **P 14 28 52.9 +0.1**
MBAR pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
MBAR Mbarara 66.03 268 *eP* **P 14 28 52.9 +0.1**
comp=Z,5.1nm,1.0s,mb4.5
ANN Anapa 67.05 318 *eP* **P 14 29 01.8 +3.0**
ANN *e* pP 14 29 11.8 +4.0
ANN pmax pmax
comp=Z,57nm,1.4s,mb5.4
BRTR Keskin Array B 68.10 312 P **P 14 29 03.8 -1.7**
comp=Z,2.0nm,0.8s,mb4.2,baz=112,slow=6.7,SNR=6.8
BRTR pP pP 14 29 12.4 -2.0
comp=Z,2.8nm,0.7s,baz=126,slow=7.3,SNR=8.0
VRSR Storozhevoye 68.48 325 *eP* **P 14 29 06.2 -1.5**
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=E,10.0nm,1.0s
MA2 Magadan 70.66 26 *eP* **P 14 29 20.7 -0.1**
MA2 pmax pmax
comp=Z,14nm,0.8s,mb4.9
MA2 Magadan 70.66 26 *eP* **P 14 29 20.7 -0.2**
comp=Z,14nm,0.8s,mb5.0
MOS Moscow 71.25 329 *eP* **P 14 29 23.5 -1.0**
MOS *e* 14 29 38.7
MOS *e* 14 29 47.5
OBN Obninsk 71.53 328 *c iP* **P 14 29 25.3 -0.9**
OBN *i* 14 29 31.8
OBN *e* 14 29 43.4
OBN *e* 14 32 04.0
OBN *e*S S 14 38 42.0 +0.1
OBN pmax pmax
comp=Z,26nm,1.1s,mb5.1
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
TIXI Tiksi 72.31 10 *eP* **P 14 29 26.9 -3.7**
TIXI pmax pmax
comp=Z,16nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,343nm,16.0s,MS4.7
IDI Anoyia 73.94 306 LR LR 15 05 52.2
comp=Z,84nm,18.5s,MS4.1,baz=86,slow=39
AKASG Malin Array Be 74.19 322 P **P 14 29 40.9 -1.0**
comp=Z,3.3nm,0.6s,mb4.5,baz=87,slow=4.8,SNR=6.8
BOSA Boshof 74.86 240 *eP* pP 14 29 53.8 -1.5
comp=Z,5.3nm,0.7s,baz=35,slow=7.3,SNR=4.3
KWP Kalwaria 78.01 320 *eP* **P 14 30 10.9 +7.5**
SUW Suwalki 78.60 325 *eP* **P 14 30 06.3 -0.3**
FINES FINESS Array B 78.91 332 P **P 14 30 08.2 0.0**
comp=Z,5.1nm,0.7s,mb4.6,baz=96,slow=6.2,SNR=21
KAF Kangasniemi 78.99 333 *ep* **P 14 30 08.0 -0.6**
comp=Z,7.9nm,0.6s,mb4.8,baz=103,slow=5.1
KAF Kangasniemi 78.99 333 *eP* **P 14 30 08.0 -0.6**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
BILL Bilibino 80.42 21⇓ *eP* **P 14 30 15.8 -0.3**
BILL pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BILL Bilibino 80.42 21 *eP* **P 14 30 15.9 -0.3**
comp=Z,5.0nm,0.8s,mb4.5
KEV Kevo 81.02 341 *ep* **P 14 30 18.8 -0.5**
comp=Z,15nm,0.9s,mb4.9
KEV Kevo 81.02 341 *eP* **P 14 30 18.8 -0.5**
KEV pmax pmax
comp=Z,15nm,0.9s,mb4.9
MORC Moravsky Berou 81.35 320 *eP* **P 14 30 21.7 +0.3**
MORC *e**PP pP 14 30 30.3 -0.2
MORC pmax pmax
comp=Z,20nm,1.5s,mb4.8
MORC Moravsky Berou 81.35 320 *eP* **P 14 30 21.6 +0.3**
comp=Z,20nm,1.5s,mb4.8
MORC *e*pP pP 14 30 30.3 -0.2
ARCES ARCESS Array B 81.45 340 P **P 14 30 21.7 +0.2**
comp=Z,3.8nm,0.5s,mb4.6,baz=99,slow=5.2,SNR=26
KSP Ksiaz 82.26 321 *eP* **P 14 30 26.8 +0.7**
BOJS Bojanci 82.46 315 *eP* **P 14 30 27.8 +0.5**
PERS Pernice 82.65 317 *eP* **P 14 30 29.2 +1.0**
ROBS Robic 83.73 316 *eP* **P 14 30 34.0 +0.2**
GERES GERESS Array B 83.76 319 P **P 14 30 34.6 +0.8**
comp=Z,5.3nm,0.9s,mb4.7,baz=104,slow=5.5,SNR=19
GERES pP pP 14 30 43.2 +0.2
comp=Z,3.6nm,0.8s,baz=104,slow=5.5,SNR=8.2
KHC Kasperske Hory 83.86 319 *eP* **P 14 30 34.5 +0.1**
KHC *e* pP 14 30 43.5 -0.1
KHC Kasperske Hory 83.86 319 *eP* **P 14 30 34.5 +0.1**
KHC pP pP 14 30 43.5 -0.1
CLL Collm 84.37 321 P **P 14 30 39.0 +2.1**
MOX Moxa 85.21 320 *eP* **P 14 30 42.0 +0.9**
MOX pP pP 14 30 52.0 +1.7
GRA1 Grafenberg Arr 85.43 319 *eP* **P 14 30 43.1 +0.9**
comp=Z,7.0nm,0.9s,mb4.8
GRA1 *e*pP pP 14 30 51.8 +0.4
GRF Grafenberg Arr 85.43 319 *eP* **P 14 30 43.1 +0.9**
GRF *e**PP pP 14 30 51.8 +0.4
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
GRF Grafenberg Arr 85.43 319 *eP* **P 14 30 43.1 +0.9**
GRF *e**PP pP 14 30 51.8 +0.4
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
GRF Grafenberg Arr 85.43 319 *eP* **P 14 30 43.1 +0.9**
comp=Z,7.0nm,0.9s,mb4.8
GRF *e*pP pP 14 30 51.8 +0.4
NB2 NORSAR Subarra 85.92 331 P **P 14 30 44.2 -0.2**
comp=Z,5.1nm,0.8s,mb4.8,baz=97,slow=4.8
NOA NORSAR Array B 85.92 331 P **P 14 30 44.2 -0.1**
comp=Z,3.8nm,0.9s,mb4.6,baz=94,slow=4.8,SNR=7.6
NOA pP pP 14 30 53.2 -0.4
comp=Z,2.5nm,0.8s,baz=94,slow=5.0,SNR=5.4
DAVOX Davos 86.25 317 P **P 14 30 47.2 +0.8**
comp=Z,8.0nm,0.7s,mb5.1,baz=146,slow=7.3,SNR=6.3
DAVOX pP pP 14 30 55.5 0.0
comp=Z,7.8nm,0.7s,baz=142,slow=7.6,SNR=5.4
VNDA Vanda 86.88 169 P **P 14 30 49.2 +0.5**
comp=Z,0.3nm,0.6s,baz=314,slow=5.2,SNR=3.1
VNDA pP pP 14 30 57.9 -0.1
comp=Z,1.2nm,0.8s,baz=333,slow=7.5,SNR=4.3
LPG La Plagne 88.44 315 *eP* **P 14 30 57.5 +0.6**
comp=Z,8.2nm,0.8s,mb4.7
LPG La Plagne 88.44 315 *eP* **P 14 30 57.5 +0.6**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
EKA Eskdalemuir Ar 93.84 326 P **P 14 31 22.4 +0.7**
comp=Z,2.7nm,0.8s,mb4.7,baz=101,slow=4.3,SNR=5.5
EKA pP pP 14 31 30.7 -0.2
comp=Z,1.9nm,0.8s,baz=101,slow=4.3,SNR=3.4
IMA Indian Mountai 95.86 23 *eP* **P 14 31 32.0 +1.2**
IMA pmax pmax
comp=Z,331nm,2.4s
IMA Indian Mountai 95.86 23 *eP* **P 14 31 32.0 +1.2**
comp=Z,331nm,2.4s
COLA College 98.57 23 *i* P **P 14 31 42.7 -0.3**
YKA Yellowknife Ar 111.27 15 PP PP 14 37 09.9 -11
comp=Z,0.3nm,0.6s,baz=328,slow=8.0,SNR=5.8
YKA PKKPbc
comp=Z,0.6nm,0.9s,baz=144,slow=3.5,SNR=9.7
ULM Lac du Bonnet 126.66 10 PKP PKPdf 14 37 07.7 -4.2
comp=Z,1.9nm,0.7s,baz=335,slow=8.2,SNR=4.5
NVAR Mina Array Bea 128.26 35 PKP PKPdf 14 37 13.1 -2.2
comp=Z,1.0nm,0.6s,baz=315,slow=2.6,SNR=8.4
PDAR Pinedale Array 129.36 25 PKP PKPdf 14 37 13.6 -3.7
comp=Z,0.9nm,0.8s,baz=229,slow=1.7,SNR=6.5
PDAR pPKP 14 37 22.7
comp=Z,0.8nm,0.7s,baz=75,slow=2.9,SNR=5.4
TXAR Lajitas Array 143.08 30 PKP PKPdf 14 37 37.0 -5.9
comp=Z,0.7nm,0.5s,baz=269,slow=0.5,SNR=7.7
CFAA Coronel Fontan 147.48 204 PKPbc PKPdf 14 37 50.0 -0.3
comp=Z,1.4nm,0.7s,baz=144,slow=2.7,SNR=13
CFAA pPKPbc 14 37 58.2
comp=Z,4.6nm,0.7s,baz=156,slow=3.0,SNR=20

*IDC **01** 14:25:04.0±1.2,0.84N×97.68E,mb4.0/9,mb1 4.2/9, mb1mx4.0/18,mbtmp4.0/9,Error ellipse: s-maj=60.1km s-min=16.9km az=50.0*
*NEIC **01** 14:25:08.7±0.5,0.86N×97.74E,h30km,mb4.4/4,Error ellipse: s-maj=15.0km s-min=7.7km az=56.0*
ISC 01 14:25:06.9±0.8,0.9N±0.1×97.8E±0.1,h30km,n14, σ0°60/14,mb4.1/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.24**	**33**	*e*Pn		**Pn**	**P**	**14 26 25.4**	**+0.1**
LSA	**Lhasa**	**29.33**	**348**	*e*P		**P**	**P**	**14 31 09.4**	**0.0**
	5.3nm,0.8s,mb4.3								
FITZ	**Fitzroy Crossi**	**33.30**	**126**	P		P	**P**	**14 31 43.3**	**-1.1**
	1.8nm,0.5s,mb4.2,baz=333,slow=9.0,SNR=5.0								
WRA	**Warramunga Arr**	**41.40**	**122**	P		P	**P**	**14 32 52.7**	**+0.2**
	1.3nm,0.6s,mb3.7,baz=304,slow=9.0,SNR=8.6								
WRAB	**Tennant Creek**	**41.41**	**122**	*e*P		P	**P**	**14 32 52.7**	**+0.1**
	3.0nm,0.5s,mb4.2								
ASAR	**Alice Springs**	**42.77**	**127**	P		P	**P**	**14 33 04.2**	**+0.5**
	1.2nm,0.8s,mb3.7,baz=298,slow=8.1,SNR=12								
SONM	**Songino Array**	**47.35**	**8**	P		P	**P**	**14 33 40.6**	**+0.4**
	1.1nm,0.6s,mb4.0,baz=192,slow=8.9,SNR=8.5								
KURK	**Kurchatov**	**52.23**	**345**	*e*P		P	**P**	**14 34 17.1**	**-0.4**
	4.9nm,1.1s,mb4.3								
ZAL	**Zalesovo**	**53.94**	**351**	P		P	**P**	**14 34 29.3**	**-0.7**
	1.9nm,0.3s,mb4.5,baz=299,slow=5.9,SNR=8.7								
BVAR	**Borovoye Array**	**56.72**	**341**	P		P	**P**	**14 34 49.4**	**-0.8**
	2.0nm,0.7s,mb4.3,baz=142,slow=8.3,SNR=13								
BRTR	**Keskin Array B**	**69.73**	**312**	P		P	**P**	**14 36 15.9**	**-0.4**
	1.3nm,0.8s,mb3.9,baz=76,slow=5.1,SNR=4.7								
MA2	**Magadan**	**71.37**	**25**	*e*P		P	**P**	**14 36 26.1**	**+0.2**
	8.5nm,1.2s,mb4.5								
FINES	**FINESS Array B**	**80.53**	**332**	P		P	**P**	**14 37 18.0**	**+0.4**
	0.9nm,0.8s,mb3.7,baz=68,slow=10,SNR=3.5								
GERES	**GERESS Array B**	**85.41**	**319**	P		P	**P**	**14 37 44.3**	**+1.4**
	0.3nm,0.3s,mb3.9,baz=113,slow=10,SNR=4.6								

*IDC **01** 14:36:60.0±1.3,1.09N×97.02E,mb4.2/10,mb1 4.3/10, mb1mx4.1/18,mbtmp4.2/10,Error ellipse: s-maj=67.6km s-min=15.3km az=53.0*
*BJI **01** 14:37:01.0,0.70N×97.40E,h39km,mb4.9,Ms4.3,Msz4.2*
*NEIC **01** 14:37:05.2±0.4,1.13N×97.21E,h30km,mb4.6/17,Error ellipse: s-maj=12.0km s-min=6.3km az=50.0*
ISC 01 14:37:06.9±2.5,1.2N±0.1×97.4E±0.1,h56km±20km,n44, σ0°78/44,mb4.5/30,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.94**	**48**	P		P	**P**	**14 38 20.3**	**-0.2**
KULM	**Kulim**	**5.20**	**39**	*e*Pn		P	**P**	**14 38 23.4**	**-0.7**
KGM	**Kluang**	**6.00**	**82**	P		P	**P**	**14 38 35.8**	**+0.6**
KKM	**Kota Kinabalu**	**19.41**	**75**	*e*P		P	**P**	**14 41 31.3**	**+0.1**
KMI	**Kunming**	**24.32**	**12**	P		P	**P**	**14 42 23.1**	**+2.5**
KMI					AP			14 42 29.1	
KMI					AMB	AMB			
	comp=Z,25nm,1.1s,mb4.6								
KMI	**Kunming**	**24.32**	**12**	P		P	**P**	**14 42 23.1**	**+2.5**
	comp=Z,25nm,1.1s,mb4.6								
KMI					pP			14 42 29.1	
GYA	**Guiyang**	**26.64**	**19**	P		P	**P**	**14 42 42.3**	**-0.1**
GYA					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.4								
JIRN	**Jiri**	**28.38**	**339**	*e*P		P	**P**	**14 42 58.2**	**0.0**
	comp=Z,28nm,0.8s,mb4.9								
GUN	**Gumba**	**28.73**	**338**	*e*P		P	**P**	**14 43 01.3**	**0.0**
	comp=Z,39nm,0.9s,mb5.2								
DMN	**Daman**	**28.75**	**337**	*e*P		P	**P**	**14 43 01.3**	**-0.2**
	comp=Z,18nm,1.0s,mb4.7								
KKN	**Kakani**	**28.84**	**337**	*e*P		P	**P**	**14 43 02.2**	**-0.1**
	comp=Z,20nm,0.8s,mb4.9								
LSA	**Lhasa**	**28.93**	**349**	*e*P		P	**P**	**14 43 03.4**	**+0.3**
	comp=Z,4.3nm,0.4s,mb4.5								
GKN	**Gorkha**	**29.28**	**337**	*e*P		P	**P**	**14 43 06.1**	**-0.1**
	comp=Z,52nm,1.3s,mb5.1								
KOLN	**Koldanda**	**29.51**	**335**	*e*P		P	**P**	**14 43 08.2**	**0.0**
	comp=Z,24nm,0.8s,mb5.0								
ENH	**Enshi**	**31.10**	**21**	*e*P		P	**P**	**14 43 20.9**	**-1.4**
	comp=Z,13nm,0.6s,mb4.9								
ENH				*e*pP		pP		14 43 27.5	-9.1
FITZ	**Fitzroy Crossi**	**33.81**	**126**	P		P	**P**	**14 43 45.1**	**-0.9**
	comp=Z,3.5nm,0.8s,mb4.4,baz=309,slow=6.3								
XAN	**Xi'an**	**34.39**	**17**	P		P	**P**	**14 43 49.5**	**-1.3**
XAN					AMB	AMB			
	comp=Z,12nm,0.9s,mb4.8								
GTA	**Gaotai**	**38.07**	**3**	P		P	**P**	**14 44 22.0**	**+0.2**
GTA					AP	pP		14 44 28.4	-8.0
GTA					PP	PP		14 45 59.4	+6.7
GTA					AMB	AMB			
	comp=Z,13nm,0.8s,mb4.7								
WRA	**Warramunga Arr**	**41.91**	**122**	P		P	**P**	**14 44 54.0**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.0,baz=302,slow=9.1,SNR=36								
WB2	**Warramunga Arr**	**41.92**	**122**	*e*P		P	**P**	**14 44 54.2**	**+0.3**
BJT	**Baijiatuau**	**42.23**	**22**	*e*P		P	**P**	**14 44 57.4**	**+1.2**
	comp=Z,12nm,0.7s,mb4.6								
BJI	**Beijing**	**42.25**	**22**	*e*P		P	**P**	**14 44 57.2**	**+0.8**
BJI					AMB	AMB			
	comp=Z,18nm,0.8s,mb4.8								
BJI	**Beijing**	**42.25**	**22**	*e*P		P	**P**	**14 44 57.2**	**+0.8**
	comp=Z,18nm,0.8s,mb4.8								
ASAR	**Alice Springs**	**43.28**	**127**	P		P	**P**	**14 45 05.3**	**+0.3**
	comp=Z,1.5nm,0.7s,mb3.8,baz=299,slow=7.5,SNR=18								
WMQ	**Urumqi**	**43.28**	**350**	*e*P		P	**P**	**14 45 05.5**	**+0.7**
UCH	**Uchtor**	**45.69**	**336**	P		P	**P**	**14 45 25.1**	**+0.9**
	SNR=5.8								
TKM2	**Tokmak 2**	**45.86**	**338**	P		P	**P**	**14 45 25.8**	**+0.3**
	SNR=6.3								
KBK	**Karagaybulak**	**45.88**	**337**	P		P	**P**	**14 45 27.1**	**+1.5**
	SNR=5.6								
AML	**Almayashu**	**45.95**	**335**	P		P	**P**	**14 45 27.0**	**+0.9**
	SNR=5.3								
AAK	**Ala-Archa**	**46.04**	**337**	*e*P		P	**P**	**14 45 26.9**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.2								
EKS2	**Erkin-Say**	**46.36**	**336**	P		P	**P**	**14 45 30.1**	**+0.8**
	SNR=6.0								
USP	**Ospenovka**	**46.58**	**337**	P		P	**P**	**14 45 31.4**	**+0.3**
	SNR=8.7								
SONM	**Songino Array**	**47.08**	**8**	P		P	**P**	**14 45 35.4**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.3,baz=190,slow=9.7,SNR=23								
ULN	**Ulaanbaatar**	**47.21**	**9**	*e*P		P	**P**	**14 45 35.6**	**-0.4**
	comp=Z,4.8nm,0.9s,mb4.4								
HIA	**Hailar**	**51.56**	**19**	*e*P		P	**P**	**14 46 09.2**	**-0.3**
	comp=Z,3.8nm,0.7s,mb4.4								
KURK	**Kurchatov**	**51.81**	**345**	*e*P		P	**P**	**14 46 10.2**	**-1.1**
	comp=Z,5.2nm,0.9s,mb4.5								
STKA	**Stephens Creek**	**53.25**	**132**	P		P	**P**	**14 46 22.6**	**+0.4**
	comp=Z,2.3nm,0.6s,mb4.3,baz=292,slow=5.6,SNR=7.9								
ZAL	**Zalesovo**	**53.55**	**351**	P		P	**P**	**14 46 22.9**	**-1.3**
	comp=Z,3.9nm,0.6s,mb4.5,baz=287,slow=6.8,SNR=26								
BVAR	**Borovoye Array**	**56.28**	**341**	P		P	**P**	**14 46 42.3**	**-1.7**
	comp=Z,2.8nm,0.8s,mb4.4,baz=135,slow=8.4,SNR=19								
YAK	**Yakutsk**	**65.35**	**16**	*e*P		P	**P**	**14 47 44.3**	**-1.0**
	comp=Z,8.7nm,0.5s,mb5.0								
MA2	**Magadan**	**71.24**	**26**	*e*P		P	**P**	**14 48 22.4**	**+0.5**
	comp=Z,3.4nm,0.6s,mb4.5								
FINES	**FINESS Array B**	**80.05**	**332**	P		P	**P**	**14 49 10.8**	**-1.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=90,slow=9.7,SNR=3.7								
ARCES	**ARCESS Array B**	**82.57**	**340**	P		P	**P**	**14 49 24.5**	**-0.4**
	comp=Z,4.8nm,1.1s,mb4.5,baz=79,slow=6.2,SNR=6.3								
GERES	**GERESS Array B**	**84.91**	**319**	P		P	**P**	**14 49 36.8**	**-0.3**
	comp=Z,0.3nm,0.3s,mb4.0,baz=53,slow=6.7,SNR=4.0								

*BJI **01** 14:50:36.8,2.24N×97.11E,h40km,mB5.1,mb4.9,Ms4.5, Msz4.4*
*MOS **01** 14:50:39.9±0.9,2.77N×97.18E,h33km,mb5.3/46,Error ellipse: s-maj=11.6km s-min=5.5km az=117.1*
*HRVD **01** 14:50:41.1±0.8,2.86N×96.92E,h35km±2km,MW4.9/39, Centroid moment Tensor Solution. LP body waves: s20,c31;Mantle waves: s39,c55; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.14±.20; $M_{\theta\theta}$-1.08±.12; $M_{\phi\phi}$-1.06±.17; $M_{r\theta}$1.26±.14; $M_{\theta\phi}$1.04±.09; $M_{\phi r}$-1.51±.20; Best double couple: $M_0$2.895×10^{16} NP1:ϕ_s311°,δ24°,λ83°. NP2:ϕ_s138°,δ66°,λ93°. Principal axes: T 2.915, Plg68°, Azm54°; N -.039, Plg3°, Azm317°; P -2.876, Plg21°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 14:50:41.1±0.2,2.70N×97.09E,h30km,mb5.1/49 Error ellipse: s-maj=6.3km s-min=4.0km az=218.0*
*IDC **01** 14:50:42.3±0.7,2.74N×97.12E,h39km±6km,mb4.6/19, mb1 4.7/19,mb1mx4.6/23,mbtmp4.8/19,MS4.1/8, Ms1 4.0/8,ms1mx3.7/21,Error ellipse: s-maj=23.6km s-min=10.0km az=45.0*
ISC 01 14:50:39.8±0.3,2.65N±0.04×97.04E±0.04,h33km, h33km±1.9km:pP-P,n214,σ1°09/212,mb5.0/82,MS4.3/20, 11C-6D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.42**	**64**	P	**P**	**14 51 49.1**	**+2.9**
KULM	**Kulim**	**4.45**	**54**	*e*Pn	**P**	**14 51 49.9**	**+3.1**
KULM				*e*pPn		14 51 59.2	
SNG	**Songkhla**	**5.74**	**38**	P	**P**	**14 52 16.0**	**+11**
	814nm,1.0s						
KGM	**Kluang**	**6.31**	**96**	P	**P**	**14 52 15.2**	**+2.3**
NNT	**Nongplab**	**10.23**	**15**	P	**P**	**14 53 10.4**	**+3.0**
KSM	**Kuching**	**13.31**	**95**	Pn	**P**	**14 53 51.4**	**+2.4**
BDT	**Bhumibol Dam**	**14.63**	**7**	P	**P**	**14 54 11.0**	**+4.6**
KKTK	**Khon Kaen**	**14.74**	**22**	P	**P**	**14 54 10.0**	**+2.1**
	494nm,0.8s						
CHG	**Chiang Mai**	**16.17**	**6**	⇑P	**P**	**14 54 27.0**	**+0.7**
	12nm,0.8s						
NANT	**Nan**	**16.44**	**12**	P	**P**	**14 54 32.5**	**+2.8**
	188nm,0.6s						
PALK	**Pallekele**	**16.90**	**286**	*e*P	**P**	**14 54 36.7**	**+1.2**
	47nm,1.1s						
CHRT	**Chiangrai**	**17.32**	**9**	⇑P	**P**	**14 54 41.5**	**+0.7**
	182nm,0.8s						
KKM	**Kota Kinabalu**	**19.41**	**79**	*e*P	**P**	**14 55 06.7**	**+0.5**
KKM	**Kota Kinabalu**	**19.41**	**79**	P	**P**	**14 55 07.3**	**+1.1**
QIZ	**Qiongzhong**	**20.54**	**37**	P	**P**	**14 55 17.8**	**-0.4**
QIZ	**Qiongzhong**	**20.54**	**37**	*e*P	**P**	**14 55 17.8**	**-0.4**
	31nm,1.1s						
TSM	**Tawau**	**20.86**	**85**	P	**P**	**14 55 21.7**	**+0.1**
KMI	**Kunming**	**23.00**	**13**	P	**P**	**14 55 45.2**	**+2.3**
KMI				AP		14 55 54.1	
KMI				XP		14 55 57.6	
KMI				PP	PP	14 56 17.0	+3.8
KMI				PPP	PPP	14 56 27.2	+4.0
KMI				S	**S**	**14 59 51.9**	**+4.9**
KMI				XS		15 00 06.9	
KMI				SS	SS	15 00 39.6	+7.4
KMI				SSS	SSS	15 00 55.2	+7.3
KMI				AMB	AMB		
	comp=Z,36nm,1.2s,mb4.7						
KMI				LR	LR		
	comp=N,758nm,18.1s,MS4.3						
KMI				LR	LR		
	comp=E,447nm,14.4s,MS4.3						
KMI				LR	LR		
	comp=Z,1μm,19.8s						
KMI	**Kunming**	**23.00**	**13**	P	**P**	**14 55 45.2**	**+2.3**
KMI				*PP		14 55 54.1	
KMI				*SP		14 55 57.6	
KMI						14 56 17.0	
KMI				S	**S**	**14 59 51.9**	**+4.9**
KMI				*SS		15 00 06.9	
KMI				SS	SS	15 00 39.6	+7.4
KMI				pmax	pmax		
	comp=Z,36nm,1.2s,mb4.7						
KMI				MLR	MLR		
	comp=Z,1μm,19.8s,MS4.3						
KMI	**Kunming**	**23.00**	**13**	P	**P**	**14 55 45.2**	**+2.3**
	comp=Z,36nm,1.2s,mb4.7						
KMI				pP		14 55 54.1	
KMI				sP		14 55 57.6	
KMI				PP	PP	14 56 17.0	+3.8
KMI				PPP	PPP	14 56 27.2	+4.0
KMI				S	**S**	**14 59 51.9**	**+4.9**
KMI				sS		15 00 06.9	
KMI				SS	SS	15 00 39.6	+7.4
KMI				SSS	SSS	15 00 55.2	+7.3
KMI				LR	LR		
	comp=Z,1μm,19.8s,MS4.3						
SHL	**Shillong**	**23.31**	**348**	*e*P	**P**	**14 55 44.0**	**-1.9**
SHL				*e*S	**S**	**14 59 54.0**	**+1.6**
HYB	**Hyderabad**	**23.34**	**310**	*e*P	**P**	**14 55 49.0**	**+2.8**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**23.34**	**310**	*i* P	**P**	**14 55 49.0**	**+2.8**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**14 59 52.0**	**-0.9**
GYA	**Guiyang**	**25.41**	**20**	⇓*i*P	**P**	**14 56 05.9**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
JIRN	**Jiri**	**26.94**	**338**	*e*P	**P**	**14 56 20.1**	**-0.2**
	comp=Z,199nm,0.9s,mb5.6						
PKI	**Pulchoki**	**27.16**	**337**	*e*P	**P**	**14 56 21.9**	**-0.4**
	comp=Z,65nm,1.0s,mb5.1						
PKI	**Pulchoki**	**27.16**	**337**	*e*P	**P**	**14 56 21.9**	**-0.4**
PKI				pmax	pmax		
	comp=Z,33nm,1.0s,mb4.8						
GUN	**Gumba**	**27.28**	**338**	*e*P	**P**	**14 56 23.1**	**-0.4**
	comp=Z,135nm,0.7s,mb5.6						
DMN	**Daman**	**27.31**	**336**	*e*P	**P**	**14 56 23.6**	**-0.1**
	comp=Z,69nm,0.9s,mb5.2						
KKN	**Kakani**	**27.40**	**337**	*e*P	**P**	**14 56 23.6**	**-1.0**
	comp=Z,127nm,0.9s,mb5.4						
KKN	**Kakani**	**27.40**	**337**	*e*P	**P**	**14 56 23.6**	**-1.0**
KKN				pmax	pmax		
	comp=Z,63nm,0.9s,mb5.2						
LSA	**Lhasa**	**27.47**	**349**	P	**P**	**14 56 25.1**	**-0.1**
LSA	**Lhasa**	**27.47**	**349**	*e*P	**P**	**14 56 25.1**	**-0.1**
LSA				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.8						
LSA	**Lhasa**	**27.47**	**349**	*e*P	**P**	**14 56 25.1**	**0.0**
	comp=Z,23nm,0.8s,mb4.8						
GKN	**Gorkha**	**27.85**	**336**	*e*P	**P**	**14 56 28.3**	**-0.3**
	comp=Z,162nm,1.0s,mb5.6						
KOLN	**Koldanda**	**28.08**	**334**	*e*P	**P**	**14 56 30.1**	**-0.6**
	comp=Z,123nm,0.9s,mb5.6						
CD2	**Chengdu**	**28.81**	**12**	*e*P	**P**	**14 56 35.4**	**-1.8**
ENH	**Enshi**	**29.89**	**22**	*e*P	**P**	**14 56 44.8**	**-2.0**
	comp=Z,10nm,0.8s,mb4.6						
NDI	**New Delhi**	**32.04**	**326**	*e*P	**P**	**14 57 04.0**	**-1.8**
DDI	**Dehra Dun**	**32.87**	**329**	*e*	**P**	**14 57 12.0**	**-1.0**
XAN	**Xi'an**	**33.14**	**18**	P	**P**	**14 57 13.5**	**-1.8**
XAN				AMB	AMB		
	comp=Z,22nm,1.1s,mb5.0						
XAN				LR	LR		
	comp=N,282nm,17.7s,MS4.5						
XAN				LR	LR		
	comp=E,703nm,17.2s,MS4.5						
XAN				LR	LR		
	comp=Z,294nm,15.4s,MS4.1						
LZH	**Lanzhou**	**33.86**	**10**	*e*P	**P**	**14 57 19.7**	**-1.8**
LZH				AP	pP	14 57 28.7	-2.5
LZH				XP	sP	14 57 32.5	-3.1
LZH				AMB	AMB		
	comp=Z,31nm,1.3s,mb5.1						
LZH	**Lanzhou**	**33.86**	**10**	*e*P	**P**	**14 57 19.7**	**-1.8**
	comp=Z,31nm,1.3s,mb5.1						
LZH				pP	pP	14 57 28.7	-2.5
LZH				sP	sP	14 57 32.5	-3.1
FITZ	**Fitzroy Crossi**	**34.92**	**127**	⇑*i*P	**P**	**14 57 29.4**	**-1.4**
	comp=Z,14nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**34.92**	**127**	P	**P**	**14 57 29.5**	**-1.2**
	comp=Z,20nm,0.7s,mb5.2,baz=304,slow=2.8,SNR=27						
FITZ				LR	LR	15 14 38.4	
	comp=Z,146nm,19.2s,MS3.7,baz=286,slow=41						
NJ2	**Nanjing**	**35.73**	**33**	*e*P	**P**	**14 57 37.8**	**+0.3**
NJ2				AP	pP	14 57 47.3	0.0
NJ2				XP	sP	14 57 51.2	-0.4
NJ2				PP	PP	14 58 59.3	+0.5
NJ2				S	**S**	**15 03 12.0**	**+0.6**
NJ2				XS		15 03 28.0	
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.6						
NJ2				LR	LR		
	comp=N,280nm,16.8s						
NJ2				LR	LR		
	comp=Z,4μm,19.4s,MS5.2						
THN	**Thein Dam**	**35.76**	**328**	*e*P	**P**	**14 57 31.6**	**-6.2**
SSE	**Sheshan**	**36.34**	**36**	*e*P	**P**	**14 57 40.3**	**-2.3**
SSE				AP	pP	14 57 49.2	-3.2
SSE				S	**S**	**15 03 17.5**	**-3.3**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,20nm,3.7s						
SSE				LR	LR		
	comp=N,267nm,17.4s,MS4.4						
SSE				LR	LR		
	comp=E,468nm,17.4s,MS4.4						
SSE				LR	LR		
	comp=Z,572nm,19.6s,MS4.4						
SSE	**Sheshan**	**36.34**	**36**	*e*P	**P**	**14 57 40.3**	**-2.3**
	comp=Z,29nm,0.7s,mb5.3						
SSE				pP	pP	14 57 49.2	-3.2
SSE				S	**S**	**15 03 17.5**	**-3.3**
SSE				sS		15 03 31.1	
SSE				SS	SS	15 05 54.9	+8.5
SSE				LR	LR		
	comp=Z,570nm,19.6s,MS4.3						
GTA	**Gaotai**	**36.67**	**4**	P	**P**	**14 57 44.5**	**-0.9**
GTA				PP	PP	14 59 14.7	+4.0
GTA				PCP	PcP	15 00 09.1	+0.9
GTA				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.1						
GTA				AMB	AMB		
	comp=Z,109nm,8.4s						
GTA				LR	LR		
	comp=N,263nm,17.5s,MS4.2						
GTA				LR	LR		
	comp=E,251nm,18.2s,MS4.2						
GTA				LR	LR		
	comp=Z,679nm,22.4s,MS4.4						
JOW	**Kunigami**	**38.39**	**48**	P	**P**	**14 57 59.3**	**-0.6**
	comp=Z,26nm,1.0s,mb4.9,baz=144,slow=7.9,SNR=5.3						
NWAO	**Narrogin (SRO)**	**40.22**	**153**	LR	LR	15 14 38.6	
	comp=Z,294nm,19.0s,MS4.2,baz=217,slow=36						
HHC	**Hu-ho-hao-te**	**40.22**	**17**	*e*P	**P**	**14 58 15.8**	**+0.8**
HHC				AP	pP	14 58 26.2	+1.4
HHC				XP	sP	14 58 29.2	+0.1
HHC				PP	PP	14 59 53.7	+2.5
HHC				PCP	PcP	15 00 18.1	-1.1
HHC				SCP		15 04 02.1	
HHC				PCS		15 04 08.4	
HHC				S	**S**	**15 04 21.1**	**+1.5**
HHC				XS		15 04 39.5	
HHC				SS	SS	15 07 18.3	+5.6
HHC				SCS	ScS	15 08 16.7	0.0
HHC				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.3						
HHC				AMB	AMB		
	comp=Z,236nm,7.1s						
HHC				LR	LR		
	comp=N,447nm,16.5s,MS4.5						
HHC				LR	LR		
	comp=E,423nm,16.1s,MS4.5						
HHC				LR	LR		
	comp=Z,414nm,17.1s,MS4.3						
BJT	**Baijiatuau**	**41.04**	**23**	*e*P	**P**	**14 58 22.2**	**+0.4**
BJT				*e*	pP	14 58 33.4	+1.7
BJT				pmax	pmax		
	comp=Z,28nm,0.7s						
BJT	**Baijiatuau**	**41.04**	**23**	*e*P	**P**	**14 58 22.2**	**+0.4**
	comp=Z,28nm,0.7s,mb5.0						
BJT				*e*	pP	14 58 33.4	+1.7
BJI	**Beijing**	**41.06**	**23**	*e*P	**P**	**14 58 22.1**	**+0.1**
BJI				AP	pP	14 58 33.4	+1.6
BJI				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.0						
BJI				LR	LR		
	comp=N,317nm,14.8s,MS4.4						
BJI				LR	LR		
	comp=E,269nm,17.3s,MS4.4						
BJI				LR	LR		
	comp=Z,181nm,32.6s						
KSH	**Kashi**	**41.39**	**335**	P	**P**	**14 58 24.1**	**-0.5**
KSH				AP	pP	14 58 33.0	-1.5
KSH				XP	sP	14 58 37.1	-1.6
WMQ	**Urumqi**	**41.82**	**350**	⇑*i*P	**P**	**14 58 28.7**	**+0.5**
WMQ				AP	pP	14 58 38.7	+0.6
WMQ				XP	sP	14 58 42.6	+0.3
WMQ				PP	PP	15 00 09.2	+1.2
WMQ				PCP	PcP	15 00 25.2	+0.7
WMQ				S	**S**	**15 04 43.7**	**+0.3**
WMQ				XS		15 04 59.7	
WMQ				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,184nm,4.9s						
WMQ				LR	LR		
	comp=N,160nm,17.4s,MS4.1						
WMQ				LR	LR		
	comp=E,157nm,16.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,178nm,21.7s						
DL2	**Dalian**	**42.48**	**29**	P	**P**	**14 58 33.8**	**+0.1**
DL2				*e*S	**S**	**15 05 02.8**	**+10**
DL2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
DL2				LR	LR		
	comp=N,110nm,16.3s,MS4.1						
DL2				LR	LR		
	comp=E,210nm,18.0s,MS4.1						
DL2				LR	LR		
	comp=Z,260nm,20.2s,MS4.1						
WRA	**Warramunga Arr**	**42.95**	**123**	P	**P**	**14 58 37.5**	**-0.3**
	comp=Z,30nm,0.8s,mb5.1,baz=302,slow=9.1,SNR=150						
WRAB	**Tennant Creek**	**42.95**	**123**	*e*P	**P**	**14 58 37.0**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.3						
WRAB	**Tennant Creek**	**42.95**	**123**	*e*P	**P**	**14 58 37.0**	**-0.8**
	comp=Z,55nm,0.9s,mb5.3						
WB2	**Warramunga Arr**	**42.96**	**123**	⇑*i*P	**P**	**14 58 37.5**	**-0.3**
ULHL	**Ulahol**	**43.59**	**338**	P	**P**	**14 58 43.2**	**+0.5**
	SNR=57						
KZA	**Kyzart**	**43.84**	**336**	P	**P**	**14 58 45.4**	**+0.7**
	SNR=19						
UCH	**Uchtor**	**44.26**	**336**	P	**P**	**14 58 49.1**	**+1.0**
	SNR=61						
ASPA	**Alice Springs**	**44.40**	**128**	⇑*i*P	**P**	**14 58 49.3**	**-0.1**
ASAR	**Alice Springs**	**44.41**	**128**	P	**P**	**14 58 49.2**	**-0.2**
	comp=Z,12nm,0.8s,mb4.7,baz=299,slow=7.7,SNR=90						
ASAR				PcP	PcP	15 00 32.4	-1.0
	comp=Z,2.5nm,0.8s,baz=315,slow=4.9,SNR=4.1						
ASAR				ScP		15 04 23.4	
	comp=Z,1.8nm,1.0s,baz=290,slow=3.2,SNR=6.2						
ASAR				LR	LR	15 21 42.8	
	comp=Z,144nm,18.1s,MS3.9,baz=302,slow=42						
ASAR	**Alice Springs**	**44.41**	**128**	P	**P**	**14 58 49.2**	**-0.2**
ASAR				PcP	PcP	15 00 32.4	-1.0
ASAR				ScP		15 04 23.4	
ASAR				LR	LR	15 21 42.8	
TKM2	**Tokmak 2**	**44.42**	**337**	P	**P**	**14 58 49.8**	**+0.5**
	SNR=54						
KBK	**Karagaybulak**	**44.45**	**337**	P	**P**	**14 58 50.8**	**+1.3**
	SNR=72						
FORT	**Forrest**	**44.49**	**141**	*e*P	**P**	**14 58 51.1**	**+1.0**
	comp=Z,453nm,0.5s						
AML	**Almayashu**	**44.52**	**335**	P	**P**	**14 58 51.2**	**+1.1**
	SNR=49						
AAK	**Ala-Archa**	**44.61**	**336**	P	**P**	**14 58 53.0**	**+2.2**
	SNR=18						
AAK	**Ala-Archa**	**44.61**	**336**	P	**P**	**14 58 51.5**	**+0.7**
	comp=Z,125nm,0.8s,mb5.8,SNR=15						
AAK	**Ala-Archa**	**44.61**	**336**	*e*P	**P**	**14 58 50.3**	**-0.5**
AAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
AAK	**Ala-Archa**	**44.61**	**336**	*e*P	**P**	**14 58 50.3**	**-0.5**
	comp=Z,12nm,0.6s,mb4.9						
FRU	**Bishkek**	**44.73**	**337**	*e*P	**P**	**14 58 53.0**	**+1.2**
FRU				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.2						
CHMS	**Chumysh**	**44.81**	**337**	P	**P**	**14 58 52.7**	**+0.3**
	SNR=15						
EKS2	**Erkin-Say**	**44.92**	**336**	P	**P**	**14 58 54.3**	**+1.0**
	SNR=44						
USP	**Ospenovka**	**45.14**	**337**	P	**P**	**14 58 55.4**	**+0.3**
	SNR=71						
SONM	**Songino Array**	**45.73**	**9**	P	**P**	**14 58 58.9**	**-0.8**
	comp=Z,8.0nm,0.7s,mb4.8,baz=191,slow=8.9,SNR=71						
SONM				PcP	PcP	15 00 37.5	-0.1
	comp=Z,6.5nm,0.8s,baz=187,slow=3.7,SNR=6.5						
SONM				pPcP		15 00 49.1	
	comp=Z,5.5nm,0.8s,baz=188,slow=3.6,SNR=5.1						
ULN	**Ulaanbaatar**	**45.86**	**9**	*e*P	**P**	**14 59 00.4**	**-0.4**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**45.86**	**9**	*e*P	**P**	**14 59 00.4**	**-0.4**
	comp=Z,9.2nm,1.0s,mb4.7						
ZAK	**Zakamensk**	**47.85**	**5**	⇑*i*P	**P**	**14 59 16.0**	**-0.4**
ZAK				*e*		15 00 42.6	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
CN2	**Changchun**	**48.09**	**28**	*e*P	**P**	**14 59 17.2**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
MOY	**Mondy**	**48.95**	**3**	*e*P	**P**	**14 59 24.9**	**0.0**
MOY				pmax	pmax		
	comp=Z,20nm,2.5s,mb4.7						
TLY	**Talaya**	**49.17**	**5**	*e*P	**P**	**14 59 26.4**	**-0.1**
TLY				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
TLY				MLR	MLR		
	comp=Z,344nm,19.0s,MS4.4						
TLY	**Talaya**	**49.17**	**5**	*e*P	**P**	**14 59 26.3**	**-0.3**
	comp=Z,8.3nm,0.8s,mb4.8						
TLY				*e*		14 59 50.9	
IRK	**Irkutsk**	**49.79**	**6**	*e*P	**P**	**14 59 30.6**	**-0.7**
IRK				pmax	pmax		
	comp=Z,27nm,2.0s,mb4.9						
HIA	**Hailar**	**50.33**	**19**	*e*P	**P**	**14 59 34.7**	**-0.8**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HIA	**Hailar**	**50.33**	**19**	*e*P	**P**	**14 59 34.7**	**-0.7**
	comp=Z,7.3nm,0.6s,mb4.9						
KURK	**Kurchatov**	**50.35**	**345**	*e*P	**P**	**14 59 34.8**	**-0.8**
KURK				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.4						
KURK	**Kurchatov**	**50.35**	**345**	*e*P	**P**	**14 59 34.8**	**-0.8**
	comp=Z,35nm,0.9s,mb5.4						
PMG	**Port Moresby**	**51.35**	**104**	P	**P**	**14 59 43.0**	**-0.7**
	comp=Z,63nm,0.7s,mb5.7,baz=276,slow=2.8,SNR=20						
ZAL	**Zalesovo**	**52.10**	**351**	P	**P**	**14 59 47.8**	**-0.9**
	comp=Z,27nm,0.7s,mb5.3,baz=310,slow=5.7,SNR=129						
NVS	**Novosibirsk**	**53.23**	**350**	*e*P	**P**	**14 59 55.2**	**-2.0**
NVS				*e*		15 02 00.0	
NVS				*e*S	**S**	**15 07 18.8**	**-5.5**
NVS				pmax	pmax		
	comp=N,22nm,1.0s						
NVS				pmax	pmax		
	comp=Z,53nm,1.0s,mb5.4						
NVS				pmax	pmax		
	comp=E,6.0nm,0.6s						
NVS				smax			
	comp=N,14nm,1.7s						
NVS				smax			
	comp=E,12nm,1.7s						
CTA	**Charters Tower**	**53.30**	**117**	*e*P	**P**	**14 59 57.4**	**-0.8**
	comp=E,13nm,0.9s,mb4.9						
CTA	**Charters Tower**	**53.30**	**117**	*e*P	**P**	**14 59 57.4**	**-0.8**
CTA				pmax	pmax		
	comp=Z,13nm,0.9s						
CTA	**Charters Tower**	**53.30**	**117**	P	**P**	**14 59 57.5**	**-0.7**
	comp=Z,17nm,0.9s,mb5.0,baz=315,slow=10,SNR=7.2						
CTAO	**Charters Tower**	**53.30**	**117**	*e*P	**P**	**14 59 57.7**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.1						
CTAO	**Charters Tower**	**53.30**	**117**	*e*P	**P**	**14 59 57.7**	**-0.5**
	comp=Z,31nm,1.2s,mb5.1						
RAYN	**Ar Rayn**	**53.94**	**297**	P	**P**	**15 00 03.9**	**+1.0**
	comp=Z,79nm,0.7s,SNR=14						
STKA	**Stephens Creek**	**54.45**	**133**	*e*P	**P**	**15 00 06.3**	**-0.2**
	comp=Z,14nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**54.45**	**133**	P	**P**	**15 00 06.2**	**-0.4**
	comp=Z,5.9nm,0.7s,mb4.6,baz=308,slow=7.6,SNR=18						
STKA				pP	pP	15 00 17.5	+0.9
	comp=Z,15nm,0.8s,baz=304,slow=7.0,SNR=16						
STKA				LR	LR	15 25 32.9	
	comp=Z,163nm,19.1s,MS4.1,baz=19,slow=38						
BVAR	**Borovoye Array**	**54.83**	**341**	P	**P**	**15 00 07.6**	**-1.3**
	comp=Z,9.4nm,0.7s,mb4.9,baz=135,slow=8.4,SNR=78						
BVAR				pP	pP	15 00 18.9	-0.2
	comp=Z,7.1nm,0.8s,baz=141,slow=9.2,SNR=10						
BVAR				PcP	PcP	15 01 10.5	-0.4
	comp=Z,5.5nm,0.9s,baz=153,slow=3.3,SNR=3.8						
KLR	**Kul'dur**	**55.04**	**27**	*e*P	**P**	**15 00 07.2**	**-3.3**
KLR				MLR	MLR		
	comp=E,400nm,15.5s						
KLR				MLR	MLR		
	comp=Z,900nm,15.5s,MS5.0						
BOD	**Bodaibo**	**56.62**	**11**	⇑*i*P	**P**	**15 00 21.1**	**-0.7**
BOD				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
ASAJ	**Asahikawa**	**57.61**	**38**	LR	LR	15 25 41.2	
	comp=Z,154nm,19.0s,MS4.1,baz=199,slow=36						
CLNS	**Chul'man**	**58.41**	**18**	*e*P	**P**	**15 00 33.6**	**-0.8**
CLNS				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=N,11nm,0.9s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,200nm,14.0s,MS4.5						
CLNS				MLR	MLR		
	comp=E,100nm,11.0s,MS4.5						
YSS	**Yuzh-Sakhalins**	**59.25**	**35**	*e*P	**P**	**15 00 39.0**	**-1.4**
YSS				*e*	pP	15 00 48.2	-2.4
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**59.25**	**35**	*e*P	**P**	**15 00 39.5**	**-1.0**
	comp=Z,14nm,0.8s,mb5.1						
KMBO	**Kilima Mbogo**	**59.89**	**267**	*e*P	**P**	**15 00 45.9**	**+0.6**
KMBO				*e*	pP	15 00 54.8	-0.6
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KMBO	**Kilima Mbogo**	**59.89**	**267**	P	**P**	**15 00 45.9**	**+0.6**
	comp=Z,0.5nm,0.3s,mb4.0,baz=53,slow=23,SNR=4.1						
KMBO	**Kilima Mbogo**	**59.89**	**267**	*e*P	**P**	**15 00 45.9**	**+0.6**
	comp=Z,0.8nm,0.6s						
KMBO				*e*	pP	15 00 54.8	-0.6
GNI	**Garni**	**60.14**	**316**	*e*P	**P**	**15 00 45.7**	**-1.0**
GNI				pmax	pmax		
	comp=Z,34nm,1.3s						
GNI	**Garni**	**60.14**	**316**	P	**P**	**15 00 46.0**	**-0.7**
	comp=Z,4.2nm,0.5s,mb4.7,baz=307,slow=5.6,SNR=5.4						
GNI	**Garni**	**60.14**	**316**	*e*P	**P**	**15 00 45.7**	**-1.0**
	comp=Z,34nm,1.3s,mb5.2						
SVE	**Sverdlovsk**	**61.28**	**338**	*i* P	**P**	**15 00 53.5**	**-0.7**
SVE				*e*	pP	15 01 05.0	+0.6
SVE				*e*		15 01 38.0	
SVE				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.6						
ARU	**Arti**	**61.79**	**337**	⇓*i*P	**P**	**15 00 56.5**	**-1.1**
ARU				*e*		15 01 35.2	
ARU				*e*		15 03 15.8	
ARU				*e*S	**S**	**15 09 19.0**	**+2.2**
ARU				*e*SS	SS	15 13 19.9	-0.5
ARU				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.3						
ARU	**Arti**	**61.79**	**337**	*e*P	**P**	**15 00 55.9**	**-1.6**
	comp=Z,21nm,0.9s,mb5.3						
KIV	**Kislovodsk**	**63.11**	**319**	*e*P	**P**	**15 01 06.0**	**-0.6**
KIV				pmax	pmax		
	comp=Z,41nm,1.0s,mb5.5						
KIV	**Kislovodsk**	**63.11**	**319**	*e*P	**P**	**15 01 06.0**	**-0.6**
	comp=Z,41nm,1.0s,mb5.5						
GOF	**Gofitskoye**	**63.35**	**320**	⇑*i*P	**P**	**15 01 06.4**	**-1.7**
GOF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.5						
ASF	**Jabal al Asfar**	**63.50**	**305**	P	**P**	**15 01 08.9**	**-0.4**
	comp=Z,0.8nm,0.3s,mb4.2,baz=341,slow=2.0,SNR=4.0						
MALT	**Malatya**	**64.04**	**312**	*e*P	**P**	**15 01 12.7**	**-0.1**
MALT				pmax	pmax		
	comp=Z,5.0n

VOR e*SP sP 15 01 52.0 -2.8
VOR pmax pmax
comp=Z,50nm,1.3s,mb5.4
SIM Simferopol' 69.19 317 P **P 15 01 45.3 +0.1**
SIM pmax pmax
comp=Z,26nm,1.0s,mb5.1
MA2 Magadan 70.10 26 eP **P 15 01 50.3 -0.2**
MA2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MA2 Magadan 70.10 26 eP **P 15 01 50.3 -0.2**
comp=Z,6.5nm,0.9s,mb4.6
MOS Moscow 71.01 329 eP **P 15 01 54.7 -1.4**
MOS e 15 02 08.8
MOS pmax pmax
comp=Z,65nm,1.0s,mb5.5
OBN Obninsk 71.30 328 d iP **P 15 01 57.6 -0.3**
OBN e 15 02 17.8
OBN e 15 04 35.8
OBN eS S 15 11 14.5 +2.6
OBN pmax pmax
comp=Z,60nm,1.1s,mb5.4
OBN Obninsk 71.30 328 eP **P 15 01 57.0 -0.9**
comp=Z,30nm,0.8s,mb5.3
TIXI Tiksi 71.79 10 eP **P 15 01 58.9 -1.6**
TIXI Tiksi 71.79 10 eP **P 15 01 58.0 -2.5**
DZM Mont Dzumac 72.02 114 LR LR 15 36 09.3
comp=Z,76nm,18.1s,MS4.0,baz=211,slow=38
AKASG Malin Array Be 74.02 322 P **P 15 02 13.0 -1.0**
comp=Z,16nm,0.8s,mb5.0,baz=90,slow=4.5,SNR=48
MAW Mawson 74.08 193 LR LR 15 27 41.0
comp=Z,176nm,20.6s,MS4.3,baz=85,slow=30
VRI Vrinciaia 74.45 317 ⇓ iP **P 15 02 17.6 +1.0**
MLR Muntele Rosu 74.91 316 ⇓ iP **P 15 02 20.2 +1.0**
BURAR Bucovina Array 75.83 318 ⇑ iP **P 15 02 25.5 +1.0**
LVV L'vov 77.05 321 eP **P 15 02 31.5 +0.2**
APA Apatity 77.72 339 ⇑ iP **P 15 02 34.8 +0.1**
APA i 15 02 52.0
APA pmax pmax
comp=Z,29nm,1.0s,mb5.2
KWP Kalwaria 77.86 320 eP **P 15 02 35.3 -0.5**
KOLS Kolonicke sedl 78.01 319 i P **P 15 02 38.0 +1.3**
KOLS e pP 15 02 46.4 -0.7
SUW Suwalki 78.40 325 eP **P 15 02 38.7 0.0**
CRVS Cervenica-Dubn 78.53 319 eP **P 15 02 41.6 +2.0**
FINES FINESS Array B 78.64 332 P **P 15 02 39.8 -0.1**
comp=Z,12nm,0.8s,mb4.8,baz=104,slow=7.9,SNR=41
KAF Kangasniemi 78.72 333 ep **P 15 02 39.7 -0.6**
comp=Z,13nm,0.7s,mb5.0,baz=102,slow=5.1
KAF Kangasniemi 78.72 333 eP **P 15 02 39.7 -0.6**
KAF pmax pmax
comp=Z,13nm,0.7s,mb5.0
PSZ Piszkesteto 79.42 318 eP **P 15 02 44.9 +0.5**
PSZ pmax pmax
comp=Z,12nm,0.9s,mb4.8
PSZ Piszkesteto 79.42 318 eP **P 15 02 44.9 +0.4**
comp=Z,12nm,0.9s,mb4.8
PSZ Piszkesteto 79.42 318 ⇓ eP **P 15 02 45.4 +1.0**
BILL Bilibino 79.87 21 i P **P 15 02 45.9 -0.5**
VYHS Vyhne 80.20 319 eP **P 15 02 49.2 +0.6**
VYHS eSP sP 15 03 01.6 -1.1
KEV Kevo 80.68 341 ep **P 15 02 50.5 -0.2**
comp=Z,26nm,1.0s,mb5.1
KEV Kevo 80.68 341 eP **P 15 02 50.5 -0.2**
KEV pmax pmax
comp=Z,26nm,1.0s,mb5.1
OKC Ostrava-Krasne 80.81 320 eP **P 15 02 52.7 +0.9**
ARCES ARCESS Array B 81.12 340 P **P 15 02 53.5 +0.4**
comp=Z,9.9nm,0.9s,mb4.7,baz=97,slow=4.9,SNR=21
MORC Moravsky Berou 81.19 320 eP **P 15 02 54.2 +0.4**
MORC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MORC Moravsky Berou 81.19 320 eP **P 15 02 54.2 +0.4**
comp=Z,10nm,1.0s,mb4.7
ZST Bratislava 81.31 318 eP **P 15 02 55.6 +1.1**
ZST e 15 03 03.0
KOGS Kog 81.73 316 i P **P 15 02 54.8 -1.9**
KOGS i 15 02 58.4
DPC Dobruska-Polom 82.03 320 eP **P 15 02 59.4 +1.2**
KSP Ksiaz 82.10 321 eP **P 15 02 59.4 +0.9**
UPC Upice 82.25 320 eP **P 15 03 00.3 +1.1**
BOJS Bojanci 82.35 315 eP **P 15 03 01.1 +1.2**
BOJS e pP 15 03 09.0 -1.4
PERS Pernice 82.53 317 eP **P 15 03 01.6 +0.8**
PRU Pruhonice 83.14 320 eP **P 15 03 04.6 +0.8**
PVCC Panska Ves 83.17 320 eP **P 15 02 54.6 -9.3**
BRG Berggiesshubel 83.59 321 eP pP 15 03 18.0 +1.4
BRG pmax pmax
comp=Z,13nm,1.8s,mb4.8
ROBS Robic 83.61 316 eP **P 15 03 07.1 +0.8**
GEC2 GERESS Array S 83.62 319 eP **P 15 03 06.8 +0.5**
GEC2 pmax pmax
comp=Z,16nm,1.2s,mb5.0
GEC2 GERESS Array S 83.62 319 eP **P 15 03 06.8 +0.5**
comp=Z,16nm,1.2s,mb5.0
GERES GERESS Array B 83.62 319 **P 15 03 07.4 +1.1**
comp=Z,6.8nm,0.9s,mb4.8,baz=104,slow=5.5,SNR=33
KHC Kasperske Hory 83.72 319 eP **P 15 03 07.7 +0.9**
WET Wettzell 84.18 319 eP **P 15 03 09.5 +0.4**
WET pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
WET Wettzell 84.18 319 eP **P 15 03 09.5 +0.4**
comp=Z,6.0nm,1.0s,mb4.7
CLL Collm 84.20 321 P **P 15 03 10.0 +0.8**
MOX Moxa 85.05 320 eP **P 15 03 14.8 +1.4**
MOX Moxa 85.05 320 i P **P 15 03 14.8 +1.4**
GRA1 Grafenberg Arr 85.28 319 eP **P 15 03 15.4 +0.8**
comp=Z,12nm,0.8s,mb5.1
GRF Grafenberg Arr 85.28 319 eP **P 15 03 15.4 +0.8**
GRF pmax pmax
comp=Z,12nm,0.8s,mb5.1
GRF Grafenberg Arr 85.28 319 eP **P 15 03 15.4 +0.8**
GRF pmax pmax
comp=Z,12nm,0.8s,mb5.1
GRF Grafenberg Arr 85.28 319 eP **P 15 03 15.4 +0.8**
comp=Z,12nm,0.8s,mb5.1
NB2 NORSAR Subarra 85.66 331 P **P 15 03 16.2 0.0**
comp=Z,13nm,1.0s,mb5.1,baz=96,slow=5.0
NOA NORSAR Array B 85.66 331 P **P 15 03 16.0 -0.2**
comp=Z,7.5nm,0.9s,mb4.9,baz=93,slow=5.1,SNR=12
CLZ Clausthal 85.86 322 eP **P 15 03 18.0 +0.6**
CLZ pmax pmax
comp=Z,11nm,1.1s,mb5.0
CLZ Clausthal 85.86 322 eP **P 15 03 18.0 +0.6**
comp=Z,11nm,1.1s,mb5.0
RAO Raoul Island 86.96 119 LR LR 15 40 28.6
comp=Z,126nm,18.5s,MS4.3,baz=173,slow=34
TNS Taunus Mts 87.07 320 eP **P 15 03 23.0 -0.3**
BFO Black Forest 87.17 318 eP **P 15 03 23.8 -0.1**
BFO pmax pmax
comp=Z,12nm,1.2s,mb5.0
BFO Black Forest 87.17 318 eP **P 15 03 23.8 -0.1**
comp=Z,12nm,1.2s,mb5.0
LPG La Plagne 88.33 315 eP **P 15 03 30.7 +1.2**
comp=Z,22nm,1.0s,mb5.1
LPG La Plagne 88.33 315 eP **P 15 03 30.7 +1.2**
LPG pmax pmax
comp=Z,11nm,1.0s,mb5.0
IMA Indian Mountai 95.31 23 eP **P 15 04 02.6 +1.3**
comp=Z,72nm,1.3s,mb6.0
INK Inuvik 101.14 17 P P 15 04 27.9 +0.1
comp=Z,1.6nm,0.9s,baz=94,slow=2.0,SNR=3.4
YKA Yellowknife Ar 110.74 15 PP PP 15 09 38.5 -12
comp=Z,0.8nm,1.1s,baz=332,slow=7.3,SNR=5.8
MOD Modoc 124.21 33 ePKPdf PKPdf 15 09 38.0 +2.4
ULM Lac du Bonnet 126.14 10 PKP PKPdf 15 09 39.8 +0.7
comp=Z,1.5nm,0.5s,baz=19,slow=2.5,SNR=6.0
PDAR Pinedale Array 128.81 25 PKP PKPdf 15 09 45.8 +1.3
comp=Z,0.7nm,0.6s,baz=243,slow=0.8,SNR=6.2
PV10 Paradox Valley 132.59 28 ePKPdf PKPdf 15 09 54.1 +2.4
TXAR Lajitas Array 142.51 30 PKhKP 15 10 07.5
comp=Z,0.3nm,0.6s,baz=204,slow=1.7,SNR=4.4
TXAR Lajitas Array 142.51 30 PKP PKPdf 15 10 07.5 -2.6
CFAA Coronel Fontan 148.03 204 PKPbc PKPdf 15 10 24.3 +4.9
comp=Z,1.2nm,0.8s,baz=236,slow=2.3,SNR=11
CFAA Coronel Fontan 148.03 204 PKPbc PKPdf 15 10 24.3 +4.9

*CASC **01** 14:50:48.7±2.4, 14.54N×93.58W, h97km±59km, MD4.6, mb4.1(NEIC)*
*IDC **01** 14:50:51.4±1.4, 14.54N×92.41W, mb4.0/8, mb1 4.2/9, mb1mx4.0/23, mbtmp4.0/9, ML3.8/1, MS3.4/4, Ms1 3.3/4, ms1mx2.8/29, Error ellipse: s-maj=60.8km s-min=18.6km az=48.0*

*MEX **01** 14:50:57.2±0.5, 14.04N×93.05W, h16km±78km, MD4.5*
*NEIC **01** 14:50:59.3±1.1, 14.34N×92.97W, h64km±9km, mb4.1/11, MD4.5(MEX), Error ellipse: s-maj=18.0km s-min=9.8km az=214.0*
ISC 01 14:50:56.4±0.8, 14.15N±0.07×93.06W±0.05, h61km±7km, n51, σ1°09/63, mb4.1/17, 4C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.39**	**83** ⇑	eP	**P**	**14 51 19.9**	**-0.3**
JAT				eS	**S**	**14 51 44.2**	**+6.4**
TP2	**Tecpan 2**	**2.08**	**72** ⇓	eP	**P**	**14 51 29.7**	**+0.1**
TP2				eS	**S**	**14 51 59.2**	**+5.0**
CCIG	**Comitan**	**2.30**	**23**	eP	**P**	**14 51 32.8**	**0.0**
CCIG				i S	**S**	**14 52 01.0**	**+1.0**
CCIG	**Comitan**	**2.30**	**23** ⇑	iP	**P**	**14 51 32.6**	**-0.3**
CCIG				i S	**S**	**14 52 01.0**	**+1.0**
IXG	**Ixpaco**	**2.53**	**89** ⇑	eP	**P**	**14 51 34.9**	**-1.2**
IXG				eS	**S**	**14 52 14.6**	**+9.0**
RBDL	**Robledal**	**3.27**	**90**	eP	**P**	**14 51 46.1**	**-0.4**
RBDL				eS	**S**	**14 52 29.9**	**+5.5**
SBLS	**San Blas**	**3.35**	**95**	eP	**P**	**14 51 47.0**	**-0.6**
SBLS				eS	**S**	**14 52 32.0**	**+5.6**
SNJE	**San Jose**	**3.37**	**94**	eP	**P**	**14 51 47.2**	**-0.6**
CMIG	**Matias Romero**	**3.42**	**329**	i P	**P**	**14 51 48.9**	**+0.4**
CMIG				i S	**S**	**14 52 27.9**	**-0.2**
CMIG	**Matias Romero**	**3.42**	**329** ⇑	iP	**P**	**14 51 49.0**	**+0.5**
CMIG				i S	**S**	**14 52 27.9**	**-0.2**
BOQS	**Boqueron**	**3.69**	**96**	eP	**P**	**14 51 53.9**	**+1.5**
LFRS	**El Faro**	**3.92**	**97**	eP	**P**	**14 51 55.4**	**-0.2**
LFRS				eS	**S**	**14 52 48.2**	**+7.5**
TUIG	**Tuzandepetl**	**4.08**	**341**	i P	**P**	**14 51 58.0**	**+0.1**
TUIG				i S	**S**	**14 52 45.0**	**+0.2**
OXX	**Oaxaca**	**4.58**	**310**	eP	**P**	**14 52 02.0**	**-2.8**
OXX	**Oaxaca**	**4.58**	**310**	eP	**P**	**14 52 02.5**	**-2.3**
VHO	**Vista Hermosa**	**4.58**	**310**	i P	**P**	**14 52 06.7**	**+1.9**
VHO				i S	**S**	**14 52 58.0**	**+0.6**
VHO	**Vista Hermosa**	**4.58**	**310**	i P	**P**	**14 52 06.7**	**+1.8**
VHO				i S	**S**	**14 52 56.1**	**-1.2**
PPM	**Popocatepetl**	**7.24**	**313**	eP	**P**	**14 52 41.5**	**-0.4**
PPM				eP		14 52 41.6	
PPM				i S	**S**	**14 54 01.9**	**-1.5**
PPM	**Popocatepetl**	**7.24**	**313**	eP	**P**	**14 52 41.5**	**-0.4**
PPM				eP		14 52 41.9	
PPM				i S	**S**	**14 54 04.2**	**+0.8**
TEIG	**Tepich** 20nm,0.6s	**7.58**	**36**	ePn	**P**	**14 52 43.3**	**-3.3**
JTS	**JuntasAbangare** 21nm,0.9s	**8.80**	**115**	Pn	**P**	**14 53 06.0**	**+2.6**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=153,slow=11,SNR=20	**18.02**	**329**	P	**P**	**14 55 05.0**	**+0.7**
CLNB	**Carlsbad**	**20.57**	**333**	eP	**P**	**14 55 32.3**	**-0.2**
GDL2	**Guadalupe Moun**	**20.73**	**332**	eP	**P**	**14 55 34.5**	**+0.3**
MNTX	**Cornudas Mount** 5.9nm,0.9s	**20.80**	**329**	eP	**P**	**14 55 34.5**	**-0.4**
WMOK	**Wichita Mounta** 1.9nm,0.8s,mb3.5	**21.14**	**347**	eP	**P**	**14 55 36.9**	**-1.4**
AMTX	**Amarillo** 14nm,0.6s,mb4.6	**22.07**	**341**	eP	**P**	**14 55 46.8**	**-0.6**
SDV	**Santo Domingo** 1.6nm,0.4s,mb3.8,baz=355,slow=12,SNR=2.0	**22.58**	**101**	P	**P**	**14 55 48.1**	**-4.7**
ANMO	**Albuquerque** 1.2nm,0.5s,mb3.5,baz=131,slow=7.2,SNR=3.7	**23.98**	**332**	P	**P**	**14 56 07.5**	**+1.4**
ANMO				LR	LR	15 07 52.3	
	comp=Z,66nm,21.1s,baz=84,slow=43						
ANMO	**Albuquerque** 3.7nm,1.0s,mb3.8	**23.98**	**332**	eP	**P**	**14 56 07.1**	**+1.0**
ANMO				P		14 56 07.5	
ANMO				LR	LR	15 07 52.3	
TUC	**Tucson** 8.7nm,1.0s,mb4.1	**24.27**	**321**	eP	**P**	**14 56 11.3**	**+2.4**
SDCO	**Great Sand Dun** 15nm,1.3s,mb4.4	**25.98**	**337**	eP	**P**	**14 56 25.9**	**+0.7**
PV01	**Paradox Valley**	**27.57**	**333**	eP	**P**	**14 56 41.1**	**+1.3**
BW06	**Boulder Array** 1.8nm,1.0s,mb3.9	**31.87**	**337**	eP	**P**	**14 57 17.3**	**-0.5**
PDAR	**Pinedale Array** 0.6nm,0.8s,mb3.5,baz=143,slow=7.4,SNR=5.3	**31.87**	**337**	P	**P**	**14 57 17.2**	**-0.7**
SADO	**Sadowa** comp=Z,108nm,20.2s,baz=232,slow=39	**32.74**	**18**	LR	LR	15 11 37.5	
NVAR	**Mina Array Bea** 2.1nm,0.7s,mb4.2,baz=135,slow=8.9,SNR=14	**32.92**	**322**	P	**P**	**14 57 28.6**	**+1.6**
SNOW	**Snow King Moun** 26nm,1.0s,mb5.1	**32.93**	**336**	eP	**P**	**14 57 28.0**	**+0.9**
HLID	**Hailey** 2.7nm,1.0s,mb4.1	**34.56**	**332**	eP	**P**	**14 57 41.3**	**+0.2**
WVOR	**Wild Horse Val** 2.2nm,0.9s,mb4.1	**35.80**	**327**	eP	**P**	**14 57 51.4**	**-0.4**
ULM	**Lac du Bonnet** 1.1nm,0.6s,mb4.0,baz=155,slow=9.2,SNR=3.7	**36.08**	**357**	P	**P**	**14 57 50.6**	**-3.3**
ULM				LR	LR	15 15 51.8	
	comp=Z,65nm,20.8s,baz=33,slow=42						
SIV	**San Ignacio** 1.3nm,0.8s,mb3.7,baz=326,slow=11,SNR=6.4	**43.54**	**132**	P	**P**	**14 58 55.6**	**-0.5**
FCC	**Fort Churchill** 2.3nm,0.8s,mb4.1	**44.54**	**359**	eP	**P**	**14 59 01.5**	**-2.1**
YKA	**Yellowknife Ar** 4.9nm,0.7s,mb4.5,baz=152,slow=7.4,SNR=100	**50.65**	**347**	P	**P**	**14 59 50.0**	**-1.3**
YKA				PcP	PcP	15 01 10.1	+2.0
	0.4nm,0.7s,baz=148,slow=4.0,SNR=5.5						
YKA	**Yellowknife Ar**	**50.65**	**347**	P	**P**	**14 59 50.0**	**-1.3**
YKA				PcP	PcP	15 01 10.1	+2.0
YKW3	**Yellowknife Ar**	**50.72**	**347**	eP	**P**	**14 59 51.0**	**-0.7**
INK	**Inuvik** 2.8nm,0.7s,mb4.4,baz=125,slow=8.7,SNR=18	**60.01**	**344**	P	**P**	**15 00 58.2**	**-0.6**
INK	**Inuvik**	**60.01**	**344**	P	**P**	**15 00 58.2**	**-0.6**
FX1	**Attu Island--F** comp=Z,11nm,19.1s,baz=322,slow=38	**81.12**	**322**	LR	LR	15 41 42.0	
CLL	**Collm**	**88.82**	**37**	P	**P**	**15 03 46.0**	**+1.2**
WRA	**Warramunga Arr** 0.5nm,0.7s,baz=74,slow=0.7,SNR=5.3	**134.43**	**256**	PKP	PKPdf	15 10 11.1	+2.6

*IDC **01** 14:53:11.8±1.3, 5.75N×93.90E, mb4.3/8, mb1 4.4/8, mb1mx4.1/19, mbtmp4.3/8, MS3.9/2, Ms1 3.9/2, ms1mx3.2/27, Error ellipse: s-maj=47.8km s-min=18.4km az=56.0*
*NEIC **01** 14:53:16.4±0.9, 5.78N×93.99E, h30km, mb4.6/5, Error ellipse: s-maj=30.3km s-min=9.8km az=59.0*
ISC 01 14:53:14.5±1.2, 5.8N±0.2×94.0E±0.2, h30km, n16, σ0°91/14, mb4.4/13, MS4.0/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa** 9.4nm,0.6s,mb4.4	**23.96**	**354**	eP	**P**	**14 58 29.1**	**+1.8**
JOW	**Kunigami** 17nm,0.9s,mb4.8,baz=168,slow=19	**38.79**	**53**	P	**P**	**15 00 39.5**	**+0.9**
FITZ	**Fitzroy Crossi** 1.3nm,0.3s,mb4.2,baz=350,slow=12,SNR=3.4	**39.21**	**128**	P	**P**	**15 00 43.6**	**+1.5**
SONM	**Songino Array** 4.4nm,0.6s,mb4.3,baz=190,slow=9.2,SNR=16	**43.24**	**12**	P	**P**	**15 01 14.8**	**-0.1**
KURK	**Kurchatov** 6.2nm,0.6s,mb4.7	**46.61**	**347**	eP	**P**	**15 01 41.4**	**-0.4**
WRA	**Warramunga Arr** 1.3nm,0.6s,mb4.0,baz=302,slow=9.2,SNR=7.5	**47.19**	**124**	P	**P**	**15 01 46.2**	**-0.6**
WRAB	**Tennant Creek** 2.5nm,0.5s,mb4.4	**47.19**	**124**	eP	**P**	**15 01 46.4**	**-0.4**
ZAL	**Zalesovo** 1.8nm,0.4s,mb4.4,baz=327,slow=4.1,SNR=4.6	**48.61**	**353**	P	**P**	**15 01 57.3**	**-0.1**
ASAR	**Alice Springs** 1.0nm,0.7s,mb4.0,baz=302,slow=7.5,SNR=5.5	**48.70**	**128**	P	**P**	**15 01 58.4**	**-0.2**
YAK	**Yakutsk** 12nm,0.5s,mb5.3	**62.03**	**18**	eP	**P**	**15 03 32.7**	**-1.7**
HNR	**Honiara** comp=Z,71nm,18.8s,MS3.9,baz=161,slow=36	**67.43**	**103**	LR	LR	15 33 20.7	
MA2	**Magadan** 1.9nm,0.3s,mb4.5	**68.70**	**27**	eP	**P**	**15 04 16.3**	**-1.0**
FINES	**FINESS Array B** 2.2nm,0.5s,mb4.3,baz=96,slow=6.2,SNR=10	**74.50**	**332**	P	**P**	**15 04 51.6**	**-0.2**
ARCES	**ARCESS Array B** 2.8nm,0.8s,mb4.2,baz=100,slow=6.3,SNR=8.6	**77.19**	**340**	P	**P**	**15 05 07.6**	**+0.6**
ARCES	**ARCESS Array B**	**77.19**	**340**	P	**P**	**15 05 07.6**	**+0.6**
DBIC	**Dimbokro** comp=Z,61nm,20.3s,MS4.1,baz=73,slow=33	**98.08**	**278**	LR	LR	15 47 08.0	

PRE 01 14:55:31.8±2.2, 27.00S×26.79E, h2km, ML3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.51**	**82**	eP	Pg	14 55 41.3	-0.7
PRYS				eS	Sg	14 55 48.2	-0.6
PRYS				e		14 55 53.0	
	comp=Z,7μm,0.5s						
SEK	**Senekal**	**1.51**	**151**	eP	Pn	14 55 59.5	-0.5
SEK				eS	Sb	14 56 18.7	-1.1
SEK				e		14 56 21.7	
	comp=Z,1μm,0.4s						
SLR	**Silverton**	**1.83**	**47**	eP	Pn	14 56 03.8	-0.9
SLR				eS	Sn	14 56 27.0	-1.7
SLR				e		14 56 30.6	
	comp=Z,3μm,0.5s						
BOSA	**Boshof**	**2.11**	**220**	eP	Pn	14 56 07.1	-1.5
BOSA				eS	Sn	14 56 34.0	-1.6
POGA	**Pongola**	**4.31**	**96**	eP	Pn	14 56 38.4	-1.5
POGA				eS	Sn	14 57 18.7	-13
POGA				e		14 57 22.3	
	comp=Z,21nm,0.4s						
PKA	**Prieska**	**4.44**	**232**	eP	Px	14 56 06.9	
PKA				eS	Sx	14 56 40.1	
PKA				e		14 56 46.4	
	comp=Z,13nm,0.2s						
UPI	**Upington**	**5.10**	**253**	eP	Pn	14 56 48.0	-3.1
UPI				eS	Sn	14 57 34.6	-17
CVNA	**Calvinia**	**7.59**	**232**	eP	Pn	14 57 21.1	-5.1
CVNA				eS	Sn	14 57 47.4	-67
CER	**Ceres**	**9.07**	**224**	eS	Sx	15 00 02.6	

*IDC **01** 15:06:50.0±4.1, 56.18S×28.51W, h259km±38km, mb4.0/6, mb1 4.0/7, mb1mx3.6/17, mbtmp4.6/7, Error ellipse: s-maj=20.3km s-min=15.4km az=55.0*
*NEIC **01** 15:06:54.0±1.8, 56.17S×28.60W, h302km±18km, mb3.9/9, Error ellipse: s-maj=12.4km s-min=8.9km az=223.0*
ISC 01 15:06:50.9±4.3, 56.2S±0.1×28.5W±0.2, h285km±45km, n34, σ0°80/20, mb3.9/12, 3D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.98**	**157**	⇓ iP	**P**	**15 10 32.9**	**+0.7**
VNA3	**Neumayer Olymp**	**17.14**	**159**	⇓ iP	**P**	**15 10 33.0**	**-0.9**
VNA3	**Neumayer Olymp**	**17.14**	**159**		Px	15 10 38.4	
VNA2	**Neumayer--Watz**	**17.37**	**157**	⇓ iP	**P**	**15 10 35.4**	**-1.0**
VNA2	**Neumayer--Watz**	**17.37**	**157**		Px	15 10 40.7	
SNAA	**Sanae** 3.7nm,0.3s,baz=308,slow=11,SNR=289	**18.94**	**155**	P	**P**	**15 10 50.7**	**-1.6**
SNAA	**Sanae**	**18.94**	**155**	eP	**P**	**15 10 54.9**	**+2.6**
PMSA	**Palmer Station** 28nm,0.5s	**19.29**	**229**	eP	**P**	**15 10 56.8**	**+1.0**
QSPA	**South Pole Qui** 12nm,0.6s,mb4.6	**34.10**	**180**	eP	**P**	**15 13 09.8**	**-0.2**
LVC	**Limon Verde** 2.3nm,0.5s,mb3.7	**44.74**	**302**	eP	**P**	**15 14 37.3**	**-0.4**
SBA	**Scott Base** 0.9nm,0.6s,mb3.3	**45.92**	**184**	eP	**P**	**15 14 47.0**	**+0.7**
VNDA	**Vanda** 3.0nm,0.6s,mb3.8,baz=193,slow=6.7,SNR=28	**46.43**	**183**	P	**P**	**15 14 50.7**	**+0.4**
VNDA	**Vanda** 2.8nm,0.6s,mb3.8	**46.43**	**183**	eP	**P**	**15 14 50.3**	**0.0**
LBTB	**Lobatse** 1.9nm,0.4s,mb3.8,baz=202,slow=16,SNR=3.1	**49.73**	**74**	P	**P**	**15 15 16.7**	**+0.6**
LPAZ	**La Paz** 5.1nm,0.5s,mb4.1,baz=127,slow=6.3,SNR=19	**49.86**	**307**	P	**P**	**15 15 17.6**	**+0.4**
LPAZ	**La Paz** 5.3nm,0.5s,mb4.1	**49.86**	**307**	eP	**P**	**15 15 17.2**	**0.0**
SAML	**Samuel** 1.4nm,0.7s,mb3.4	**54.37**	**316**	eP	**P**	**15 15 49.1**	**-1.2**
LSZ	**Lusaka** 2.0nm,0.8s,mb3.6	**59.08**	**70**	eP	**P**	**15 16 23.5**	**+0.2**
DBIC	**Dimbokro** 2.2nm,0.3s,mb4.3,baz=160,slow=5.3,SNR=7.7	**65.57**	**26**	P	**P**	**15 17 06.4**	**+0.5**
PCRV	**Puerto La Cruz** 6.2nm,0.4s,mb4.6,baz=76,slow=4.2,SNR=4.5	**72.59**	**322**	P	**P**	**15 17 49.3**	**+0.5**
SDV	**Santo Domingo** 5.0nm,0.8s,mb4.2	**73.58**	**316**	eP	**P**	**15 17 54.2**	**-0.4**
ASAR	**Alice Springs** 0.6nm,0.9s,mb3.9,baz=175,slow=5.4,SNR=4.0	**99.10**	**164**	P	**P**	**15 19 59.9**	**-0.8**
ASAR				PP	PP	15 24 05.2	-2.5
	0.4nm,0.7s,baz=195,slow=9.5,SNR=4.2						
ASAR				PKiKP		15 24 31.6	
	0.4nm,0.9s,baz=196,slow=1.4,SNR=3.8						
WRA	**Warramunga Arr**	**102.82**	**163**	PKiKP		15 24 38.3	
	0.4nm,0.9s,baz=229,slow=1.5,SNR=5.5						
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=153,slow=6.6,SNR=4.4	**119.79**	**303**	PKP	PKPdf	15 25 07.3	+0.9
ULM	**Lac du Bonnet** 1.2nm,0.5s,baz=312,slow=2.8,SNR=3.5	**119.83**	**317**	PKP	PKPdf	15 25 06.5	+0.3
FINES	**FINESS Array B** 1.2nm,0.5s,baz=142,slow=2.9,SNR=20	**124.81**	**28**	PKP	PKPdf	15 25 16.6	+1.1
KAF	**Kangasniemi** 1.3nm,0.5s	**125.43**	**28**	ep	PKPdf	15 25 17.2	+0.5
ARCES	**ARCESS Array B** 3.9nm,1.0s,baz=217,slow=2.5,SNR=18	**131.31**	**22**	PKP	PKPdf	15 25 29.1	+1.3
BVAR	**Borovoye Array** 1.1nm,0.6s,baz=218,slow=4.7,SNR=7.0	**135.44**	**58**	PKP	PKPdf	15 25 37.7	+1.9
YKA	**Yellowknife Ar** 2.4nm,0.4s,baz=126,slow=2.2,SNR=29	**135.77**	**318**	PKP	PKPdf	15 25 37.5	+1.4
YKA	**Yellowknife Ar**	**135.77**	**318**	PKP	PKPdf	15 25 37.5	+1.4
ZAL	**Zalesovo** 1.5nm,0.4s,baz=263,slow=2.6,SNR=5.6	**143.04**	**65**	PKP	PKPdf	15 25 50.2	+1.0
INK	**Inuvik** 14nm,0.6s,baz=91,slow=2.7,SNR=123	**145.43**	**321**	PKPbc	PKPbc	15 25 55.5	+1.7
SONM	**Songino Array** 3.0nm,0.6s,baz=221,slow=3.8,SNR=45	**151.45**	**88**	PKPbc	PKPdf	15 26 12.0	+8.9

*NEIC **01** 15:08:06.7, 17.19N×94.44W, h158km, MD3.8(MEX), After MEX.*
MEX 01 15:08:07.5±0.9, 17.15N×94.46W, h153km±10km, MD3.7, 2C, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.41**	**262**	i P	P	15 08 27.6	-1.6
CMIG				eS	S	15 08 42.7	-3.2
CMIG	**Matias Romero**	**0.41**	**262** ⇑	iP	P	15 08 27.6	-1.6
CMIG				eS	S	15 08 42.7	-3.2
HUIG	**Huatulco**	**2.09**	**229**	i P	P	15 08 41.8	-2.5
HUIG				eS	S	15 09 11.3	-1.3
HUIG	**Huatulco**	**2.09**	**229** ⇑	iP	P	15 08 41.8	-2.5
HUIG				eS	S	15 09 10.8	-1.7
OXX	**Oaxaca**	**2.16**	**269**	eP	P	15 08 44.0	-1.1
OXX				eS	S	15 09 12.0	-2.0
VHO	**Vista Hermosa**	**2.17**	**268**	eP	P	15 08 43.5	-1.7
VHO				eS	S	15 09 11.1	-3.1

*IDC **01** 15:09:36.0±1.1, 1.11N×98.08E, mb4.2/10, mb1 4.3/10, mb1mx4.2/18, mbtmp4.2/10, MS3.7/1, Ms1 3.7/1, ms1mx2.8/27, Error ellipse: s-maj=61.4km s-min=15.1km az=53.0*
*NEIC **01** 15:09:40.3±0.6, 1.04N×98.04E, h30km, mb4.4/6, Error ellipse: s-maj=15.9km s-min=7.7km az=54.0*
ISC 01 15:09:38.4±0.7, 1.08N±0.10×98.1E±0.1, h30km, n24, σ0°98/23, mb4.1/15, MS3.7/1, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.91**	**32**	ePn	**Pn**	**15 10 54.4**	**+2.1**
KSM	**Kuching**	**12.24**	**88**	ePn	**P**	**15 12 32.6**	**-1.3**
LSA	**Lhasa** 6.1nm,0.9s,mb4.3	**29.22**	**348**	eP	**P**	**15 15 40.3**	**+0.3**
ENH	**Enshi** 2.1nm,0.4s,mb4.3	**30.99**	**19**	eP	**P**	**15 15 54.8**	**-0.9**
FITZ	**Fitzroy Crossi** 4.5nm,0.6s,mb4.6	**33.15

KURK Kurchatov 52.14 344 *e*P **P 15 18 47.5 -0.8**
5.6nm,1.0s,mb4.5
STKA Stephens Creek 52.63 133 P **P 15 18 52.4 +0.2**
1.2nm,0.3s,mb4.3,baz=327,slow=14,SNR=3.8
STKA Stephens Creek 52.63 133 P **P 15 18 52.4 +0.2**
ZAL Zalesovo 53.81 350 P **P 15 18 59.7 -0.9**
2.0nm,0.6s,mb4.3,baz=284,slow=8.0,SNR=9.6
ZAL Zalesovo 53.81 350 P **P 15 18 59.7 -0.9**
BVAR Borovoye Array 56.66 340 P **P 15 19 19.6 -1.7**
2.0nm,0.7s,mb4.3,baz=121,slow=8.6,SNR=11
AKASG Malin Array Be 75.89 322 P **P 15 21 24.7 +0.7**
0.2nm,0.2s,mb3.6,baz=89,slow=4.9,SNR=5.3
AKASG Malin Array Be 75.89 322 P **P 15 21 24.7 +0.7**
FINES FINESS Array B 80.51 332 P **P 15 21 48.5 -0.5**
1.5nm,0.8s,mb4.0,baz=135,slow=3.9,SNR=5.5
GERES GERESS Array B 85.48 319 P **P 15 22 17.3 +2.5**
0.5nm,0.7s,mb3.8,baz=112,slow=7.2,SNR=4.6

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*NEIC **01** 15:14:35.2, 17.36N×94.56W, h164km, MD3.9(MEX), After MEX.*
MEX 01 15:14:35.4±0.8, 17.33N×94.56W, h163km±9km, MD3.9, 2C, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.40**	**233**	⇑*i*P	P	15 14 56.9	-1.3
CMIG				*i* S	S	15 15 12.4	-3.4
OXX	**Oaxaca**	**2.09**	**263**	*e*P	P	15 15 11.0	-1.7
OXX				*e*S	S	15 15 40.0	-1.4
OXX	**Oaxaca**	**2.09**	**263**	*e*P	P	15 15 11.0	-1.7
OXX				*e*S	S	15 15 39.5	-1.9
VHO	**Vista Hermosa**	**2.10**	**263**	*i* P	P	15 15 11.1	-1.7
VHO				*i* S	S	15 15 39.1	-2.5
HUIG	**Huatulco**	**2.15**	**224**	*i* P	P	15 15 11.0	-2.5
HUIG				*i* S	S	15 15 41.1	-1.8
HUIG	**Huatulco**	**2.15**	**224**	⇑*i*P	P	15 15 11.0	-2.5
HUIG				*i* S	S	15 15 41.1	-1.8
PPM	**Popocatepetl**	**4.24**	**295**	*i* P	P	15 15 39.1	-0.7
PPM				*i* S	S	15 16 26.9	-2.7

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*IDC **01** 15:24:21.5±2.0, 21.63N×143.29E, h299km±20km, mb3.4/6, mb1 3.5/8, mb1mx3.3/23, mbtmp4.2/8, Error ellipse: s-maj=82.5km s-min=13.2km az=82.0*
ISC 01 15:24:21.0±1.8, 21.6N±0.1×143.1E±0.7, h304km±19km, n9, σ0§48/11, mb3.6/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.56**	**351**	P	**P**	**15 25 46.2**	**+0.5**
CBIJ	27nm,0.3s,baz=100,slow=15,SNR=14			S	**S**	**15 26 52.2**	**+0.1**
JHJ	**Hachijo jima 2**	**11.87**	**346**	P	**P**	**15 27 01.9**	**-1.0**
JHJ	2.9nm,0.3s,baz=178,slow=18,SNR=4.8			S	**S**	**15 29 15.3**	**+4.4**
SONM	**Songino Array**	**39.39**	**321**	P	**P**	**15 31 23.3**	**+0.3**
WB2	**Warramunga Arr**	**42.14**	**192**	*e*P	**P**	**15 31 45.9**	**0.0**
WRA	**Warramunga Arr**	**42.15**	**192**	P	**P**	**15 31 46.0**	**+0.1**
ASAR	**Alice Springs**	**45.85**	**192**	P	**P**	**15 32 15.1**	**-0.2**
BVAR	**Borovoye Array**	**62.72**	**320**	P	**P**	**15 34 15.7**	**0.0**
ARCES	**ARCESS Array B**	**79.02**	**341**	P	**P**	**15 35 52.8**	**+0.5**
FINES	**FINESS Array B**	**83.26**	**334**	P	**P**	**15 36 14.2**	**-0.3**
	0.7nm,0.4s,mb3.9,baz=65,slow=4.9,SNR=14						

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*BJI **01** 15:27:26.3, 0.20N×97.20E, h22km, mB5.1, mb4.6, Ms4.5, Msz4.4*
*IDC **01** 15:27:27.9±0.5, 0.19N×97.01E, h33km±3km, mb4.5/17, mb1 4.6/17, mb1mx4.5/20, mbtmp4.7/17, MS3.9/9, Ms1 3.9/9, ms1mx3.7/20, Error ellipse: s-maj=20.5km s-min=10.1km az=41.0*
*HRVD **01** 15:27:28.3±0.8, 0.14N×96.90E, h12km, MW4.7/31, Centroid moment Tensor Solution. LP body waves: s5,c6; Mantle waves: s31,c55; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.93±.08; $M_{\theta\theta}$0.07±.05; $M_{\phi\phi}$0.86±.08; $M_{r\theta}$0.41±.26; $M_{\theta\phi}$-0.61±.05; $M_{r\phi}$1.06±.22; Best double couple: Mo1.564×10^{16} NP1:ϕ_s306°, δ34°, λ-142°. NP2: ϕ_s182°, δ70°, λ-62°. Principal axes: T 1.47, Plg20°, Azm252°; N .189, Plg26°, Azm352°; P -1.658, Plg56°, Azm129°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 15:27:28.3±0.3, 0.18N×97.16E, mb5.1/38 Error ellipse: s-maj=10.3km s-min=6.4km az=224.0*
*MOS **01** 15:27:33.4±2.7, 0.97N×98.49E, h33km, mb5.3/29, Error ellipse: s-maj=13.1km s-min=6.6km az=116.0*
ISC 01 15:27:26.2±0.3, 0.17N±0.05×97.17E±0.05, h33km, h33km±.8km:pP-P, n187, σ1§20/131, mb4.9/69, MS4.0/18, 3C-11D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.84**	**41**	P	**Pn**	**15 28 52.2**	**-0.7**
KULM	**Kulim**	**6.16**	**34**	*e*Pn	**Pn**	**15 28 56.2**	**-1.2**
KGM	**Kluang**	**6.42**	**73**	P	**Pn**	**15 29 01.0**	**0.0**
KSM	**Kuching**	**13.20**	**84**	Pn	**P**	**15 30 29.4**	**-4.8**
BDT	**Bhumibol Dam**	**17.06**	**6**	P	**P**	**15 31 25.0**	**+0.8**
	18nm,0.9s						
NANT	**Nan**	**18.84**	**10**	P	**P**	**15 31 47.0**	**+0.9**
	100nm,0.6s						
CHRT	**Chiangrai**	**19.75**	**7**	⇑P	**P**	**15 31 56.0**	**-0.5**
	174nm,1.2s						
KKM	**Kota Kinabalu**	**19.89**	**73**	*e*P	**P**	**15 31 55.1**	**-3.0**
KKM				*e*		15 32 08.9	
KKM	**Kota Kinabalu**	**19.89**	**73**	P	**P**	**15 31 58.9**	**+0.8**
TSM	**Tawau**	**21.09**	**79**	P	**P**	**15 32 10.3**	**-0.2**
VIS	**Vishakhapatnam**	**22.13**	**323**	*e*P	**P**	**15 32 21.8**	**+1.0**
HYB	**Hyderabad**	**25.09**	**314**	*e*P	**P**	**15 32 50.0**	**+0.3**
HYB	**Hyderabad**	**25.09**	**314**	*i* P	**P**	**15 32 50.0**	**+0.3**
HYB				*e*pP	pP	15 33 00.5	+1.2
KMI	**Kunming**	**25.39**	**12**	P	**P**	**15 32 54.1**	**+1.6**
KMI				AP	pP	15 33 03.9	+1.9
KMI				XP	sP	15 33 07.9	+1.5
KMI				PP	PP	15 33 35.5	+3.9
KMI				PPP	PPP	15 33 47.0	+4.0
KMI				S	**S**	**15 37 18.9**	**+4.7**
KMI				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.6						
KMI				AMB	AMB		
	comp=Z,212nm,4.7s						
KMI				LR	LR		
	comp=N,611nm,11.8s,MS4.4						
KMI				LR	LR		
	comp=E,465nm,14.0s,MS4.4						
KMI				LR	LR		
	comp=Z,715nm,13.0s,MS4.4						
KMI	**Kunming**	**25.39**	**12**	P	**P**	**15 32 54.1**	**+1.6**
KMI				*PP	pP	15 33 03.9	+1.9
KMI				*SP	sP	15 33 07.9	+1.5
KMI						15 33 35.5	
KMI				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.6						
KMI				MLR	MLR		
	comp=Z,720nm,13.0s,MS4.4						
KMI	**Kunming**	**25.39**	**12**	P	**P**	**15 32 54.1**	**+1.6**
	comp=Z,22nm,1.0s,mb4.6						
KMI				pP	pP	15 33 03.9	+1.9
KMI				sP	sP	15 33 07.9	+1.5
KMI				PP	PP	15 33 35.5	+3.9
KMI				PPP	PPP	15 33 47.0	+4.0
KMI				S	**S**	**15 37 18.9**	**+4.7**
KMI				sS		15 37 35.6	
KMI				SS	SS	15 38 24.5	+7.6
KMI				SSS	SSS	15 38 41.8	+8.1
KMI				LR	LR		
	comp=Z,720nm,13.0s,MS4.4						
SHL	**Shillong**	**25.76**	**349**	*e*P	**P**	**15 32 56.0**	**0.0**
SHL				*e*		15 37 40.0	
GYA	**Guiyang**	**27.69**	**19**	P	**P**	**15 33 14.3**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
JIRN	**Jiri**	**29.30**	**340**	*e*P	**P**	**15 33 28.4**	**+0.3**
	comp=Z,93nm,0.7s,mb5.6						
PKI	**Pulchoki**	**29.49**	**338**	*e*P	**P**	**15 33 31.7**	**+1.8**
GUN	**Gumba**	**29.63**	**339**	*e*P	**P**	**15 33 31.0**	**-0.1**
	comp=Z,78nm,0.7s,mb5.6						
DMN	**Daman**	**29.64**	**338**	*e*P	**P**	**15 33 31.9**	**+0.7**
KKN	**Kakani**	**29.74**	**338**	*e*P	**P**	**15 33 32.1**	**0.0**
	comp=Z,75nm,0.9s,mb5.4						
KKN	**Kakani**	**29.74**	**338**	*e*P	**P**	**15 33 32.1**	**0.0**
KKN				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.1						
LSA	**Lhasa**	**29.92**	**349**	P	**P**	**15 33 35.6**	**+1.9**
LSA				*e*PP	pP	15 33 44.7	+1.4
LSA				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
LSA	**Lhasa**	**29.92**	**349**	P	**P**	**15 33 35.6**	**+1.9**
	comp=Z,25nm,1.0s,mb4.9						
LSA				*e*pP	pP	15 33 44.7	+1.4
GKN	**Gorkha**	**30.17**	**338**	*e*P	**P**	**15 33 34.0**	**-1.9**
	comp=Z,125nm,0.8s,mb5.7						
KOLN	**Koldanda**	**30.38**	**336**	*e*P	**P**	**15 33 37.0**	**-0.7**
	comp=Z,187nm,0.7s,mb5.9						
ENH	**Enshi**	**32.15**	**20**	*e*P	**P**	**15 33 52.2**	**-1.1**
	comp=Z,14nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.37**	**124**	*e*P	**P**	**15 34 03.8**	**-0.1**
	comp=Z,37nm,0.9s,mb5.3						
FITZ				*i* pP	pP	15 34 14.2	+0.6
FITZ	**Fitzroy Crossi**	**33.37**	**124**	P	**P**	**15 34 04.0**	**0.0**
	comp=Z,46nm,0.8s,mb5.5,baz=323,slow=3.6,SNR=30						
FITZ				LR	LR	15 50 18.2	
	comp=Z,242nm,18.1s,MS4.0,baz=297,slow=41						
NDI	**New Delhi**	**34.18**	**328**	*e*pP	pP	15 34 18.0	-2.6
XAN	**Xi'an**	**35.45**	**17**	P	**P**	**15 34 21.1**	**-0.6**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.5						
XAN				LR	LR		
	comp=N,154nm,15.5s,MS4.3						
XAN				LR	LR		
	comp=E,349nm,15.2s,MS4.3						
XAN				LR	LR		
	comp=Z,432nm,16.9s,MS4.3						
LZH	**Lanzhou**	**36.27**	**9**	*e*P	**P**	**15 34 37.2**	**+8.6**
LZH				*PP	pP	15 34 45.7	+7.3
LZH				*SP	sP	15 34 49.5	+7.0
LZH				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
LZH				MLR	MLR		
	comp=Z,300nm,17.1s,MS4.1						
LZH	**Lanzhou**	**36.27**	**9**	*e*P	**P**	**15 34 37.2**	**+8.6**
	comp=Z,25nm,1.2s,mb5.0						
LZH				pP	pP	15 34 45.7	+7.3
LZH				sP	sP	15 34 49.5	+7.0
LZH				LR	LR		
	comp=Z,300nm,17.1s,MS4.1						
THN	**Thein Dam**	**37.94**	**330**	*e*pP	pP	15 34 50.6	-1.9
SSE	**Sheshan**	**38.27**	**34**	*e*P	**P**	**15 34 54.9**	**+9.4**
	comp=Z,47nm,0.7s,mb5.3						
SSE				pP	pP	15 35 05.1	+10
SSE				S	**S**	**15 40 49.3**	**+12**
SSE				sS		15 41 04.5	
SSE				SS	SS	15 43 42.5	+26
SSE				LR	LR		
	comp=Z,340nm,13.5s,MS4.3						
GTA	**Gaotai**	**39.13**	**3**	*e*P	**P**	**15 34 52.4**	**-0.2**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.2						
JOW	**Kunigami**	**39.97**	**46**	LR	LR	15 49 51.2	
	comp=Z,149nm,21.9s,MS3.8,baz=160,slow=34						
WRA	**Warramunga Arr**	**41.53**	**121**	P	**P**	**15 35 13.1**	**+0.5**
	comp=Z,39nm,0.7s,mb5.2,baz=302,slow=8.9,SNR=285						
WRA				pP	pP	15 35 23.5	+1.1
	comp=Z,25nm,0.8s,baz=302,slow=9.0,SNR=13						
WRAB	**Tennant Creek**	**41.53**	**121**	*e*P	**P**	**15 35 12.9**	**+0.3**
WRAB				*e*PP	pP	15 35 23.9	+1.4
WRAB				pmax	pmax		
	comp=Z,78nm,0.8s,mb5.4						
WRAB	**Tennant Creek**	**41.53**	**121**	*e*P	**P**	**15 35 12.9**	**+0.3**
	comp=Z,78nm,0.8s,mb5.4						
WRAB				*e*pP	pP	15 35 23.9	+1.5
WB2	**Warramunga Arr**	**41.54**	**121**	⇓*i*P	**P**	**15 35 13.0**	**+0.3**
WB2				*i* pP	pP	15 35 23.7	+1.2
HHC	**Hu-ho-hao-te**	**42.55**	**16**	*e*P	**P**	**15 35 22.3**	**+1.6**
HHC				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
HHC				AMB	AMB		
	comp=Z,87nm,8.4s						
ASPA	**Alice Springs**	**42.81**	**126**	*e*P	**P**	**15 35 24.0**	**+0.9**
ASAR	**Alice Springs**	**42.81**	**126**	P	**P**	**15 35 23.9**	**+0.9**
	comp=Z,7.2nm,0.9s,mb4.4,baz=294,slow=7.8,SNR=71						
ASAR				LR	LR	15 52 49.4	
	comp=Z,103nm,20.0s,MS3.7,baz=298,slow=35						
BJT	**Baijiatuan**	**43.28**	**21**	*e*P	**P**	**15 35 27.4**	**+0.7**
BJT				pmax	pmax		
	comp=Z,27nm,0.9s						
BJT	**Baijiatuan**	**43.28**	**21**	*e*P	**P**	**15 35 27.4**	**+0.7**
	comp=Z,27nm,0.9s,mb5.0						
BJI	**Beijing**	**43.30**	**21**	*e*P	**P**	**15 35 27.8**	**+0.9**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
BJI				LR	LR		
	comp=N,217nm,15.5s,MS4.4						
BJI				LR	LR		
	comp=E,302nm,16.8s,MS4.4						
BJI	**Beijing**	**43.30**	**21**	*e*P	**P**	**15 35 27.8**	**+0.9**
	comp=E,10.0nm,1.1s,mb4.5						
BJI				S	**S**	**15 42 05.0**	**+13**
BJI				LR	LR		
	comp=Z,60nm,25.3s,MS3.4						
KSH	**Kashi**	**43.69**	**336**	P	**P**	**15 35 33.1**	**+3.1**
KSH				AP	pP	15 35 42.1	+2.3
KSH				XP	sP	15 35 46.1	+2.2
WMQ	**Urumqi**	**44.28**	**350**	⇑*i*P	**P**	**15 35 35.8**	**+1.1**
WMQ				AP	pP	15 35 45.8	+1.3
WMQ				XP	sP	15 35 49.8	+1.2
WMQ				PCP	PcP	15 37 18.8	-0.4
WMQ				PPP	PPP	15 37 59.8	+1.8
WMQ				S	**S**	**15 42 07.8**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
WMQ				LR	LR		
	comp=N,85nm,24.3s,MS3.7						
WMQ				LR	LR		
	comp=E,62nm,22.6s,MS3.7						
WMQ				LR	LR		
	comp=Z,79nm,20.3s,MS3.6						
ULHL	**Ulahol**	**45.93**	**338**	P	**P**	**15 35 48.6**	**+0.7**
	SNR=5.9						
KZA	**Kyzart**	**46.16**	**337**	P	pP	15 36 00.8	+1.2
	SNR=7.6						
UCH	**Uchtor**	**46.58**	**337**	P	**P**	**15 35 57.4**	**+4.4**
	SNR=8.7						
TKM2	**Tokmak 2**	**46.76**	**338**	P	**P**	**15 35 55.0**	**+0.5**
	SNR=6.9						
KBK	**Karagaybulak**	**46.77**	**337**	P	**P**	**15 35 59.3**	**+4.7**
	SNR=6.1						
AML	**Almayashu**	**46.82**	**336**	P	**P**	**15 35 55.7**	**+0.7**
	SNR=8.9						
AAK	**Ala-Archa**	**46.93**	**337**	*e*P	**P**	**15 35 56.8**	**+1.0**
AAK				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
AAK	**Ala-Archa**	**46.93**	**337**	*e*P	**P**	**15 35 56.8**	**+1.0**
	comp=Z,23nm,1.3s,mb5.0						
CHMS	**Chumysh**	**47.14**	**338**	P	pP	15 36 07.9	+0.5
	SNR=6.4						
EKS2	**Erkin-Say**	**47.23**	**336**	P	**P**	**15 36 02.4**	**+4.2**
	SNR=12						
USP	**Ospenovka**	**47.47**	**338**	P	**P**	**15 36 00.1**	**+0.1**
	SNR=14						
SONM	**Songino Array**	**48.15**	**8**	P	**P**	**15 36 05.5**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.4,baz=189,slow=9.5,SNR=17						
SONM				pP	pP	15 36 15.9	+0.7
	comp=Z,13nm,0.9s,baz=191,slow=8.0,SNR=33						
SONM				pPcP		15 37 43.1	
	comp=Z,3.4nm,0.7s,baz=189,slow=4.3,SNR=6.3						
SONM				LR	LR	15 57 43.7	
	comp=Z,165nm,21.0s,MS4.0,baz=184,slow=38						
ULN	**Ulaanbaatar**	**48.28**	**9**	*e*P	**P**	**15 36 06.3**	**0.0**
ULN				*e*PP	pP	15 36 16.5	+0.3
ULN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
ULN	**Ulaanbaatar**	**48.28**	**9**	*e*P	**P**	**15 36 06.2**	**0.0**
	comp=Z,12nm,1.0s,mb4.9						
ULN				*e*pP	pP	15 36 16.5	+0.2
CN2	**Changchun**	**50.23**	**27**	*e*P	**P**	**15 36 20.9**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
ZAK	**Zakamensk**	**50.30**	**5**	*e*P	**P**	**15 36 21.3**	**-0.4**
ZAK				*e*	pP	15 36 31.6	-0.2
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
PMG	**Port Moresby**	**50.66**	**102**	P	**P**	**15 36 25.5**	**+0.5**
PMG	**Port Moresby**	**50.66**	**102**	P	**P**	**15 36 25.4**	**+0.4**
	comp=Z,26nm,0.8s,mb5.2,baz=230,slow=7.9,SNR=7.0						
CBIJ	**Chichi jima**	**50.84**	**54**	LR	LR	15 57 09.8	
	comp=Z,66nm,20.9s,MS3.6,baz=91,slow=35						
MOY	**Mondy**	**51.41**	**3**	*e*P	pP	15 36 41.0	+0.8
TLY	**Talaya**	**51.62**	**5**	P	**P**	**15 36 29.5**	**-2.2**
TLY				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
TLY	**Talaya**	**51.62**	**5**	P	**P**	**15 36 29.5**	**-2.3**
	comp=Z,11nm,0.8s,mb4.8						
CTA	**Charters Tower**	**52.08**	**116**	⇓*i*P	**P**	**15 36 36.2**	**+0.5**
	comp=Z,19nm,0.9s,mb5.0						
CTA				*e*	pP	15 36 46.9	+1.2
CTA	**Charters Tower**	**52.08**	**116**	⇓*i*P	**P**	**15 36 36.2**	**+0.5**
CTA				*e*	pP	15 36 46.9	+1.2
CTA				pmax	pmax		
	comp=Z,19nm,0.9s						
CTA	**Charters Tower**	**52.08**	**116**	P	**P**	**15 36 36.3**	**+0.6**
	comp=Z,22nm,0.9s,mb5.1,baz=305,slow=8.4,SNR=9.4						
CTAO	**Charters Tower**	**52.08**	**116**	*e*P	**P**	**15 36 34.6**	**-1.1**
CTAO				*e*PP	pP	15 36 46.8	+1.1
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
CTAO	**Charters Tower**	**52.08**	**116**	*e*P	**P**	**15 36 34.6**	**-1.1**
	comp=Z,21nm,0.9s,mb5.1						
CTAO				*e*pP	pP	15 36 46.8	+1.1
MAT	**Matsushiro**	**52.47**	**42**	*e*P	pP	15 36 48.0	-0.4
	comp=Z,5.9nm,0.9s						
MAT	**Matsushiro**	**52.47**	**42**	P	pP	15 36 48.2	-0.2
OPO	**Ambohidratompo**	**52.48**	**246**	P	**P**	**15 36 37.7**	**-1.0**
	comp=Z,3.1nm,0.9s,mb4.2,baz=57,slow=7.9,SNR=3.8						
HIA	**Hailar**	**52.62**	**18**	*e*P	**P**	**15 36 39.0**	**-0.4**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HIA	**Hailar**	**52.62**	**18**	*e*P	**P**	**15 36 39.0**	**-0.3**
	comp=Z,10nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**52.70**	**132**	⇓*i*P	**P**	**15 36 40.9**	**+0.7**
	comp=Z,20nm,1.1s,mb5.0						
STKA				*e*pP	pP	15 36 51.4	+1.2
STKA	**Stephens Creek**	**52.70**	**132**	P	**P**	**15 36 40.7**	**+0.5**
	comp=Z,24nm,0.9s,mb5.1,baz=310,slow=7.4,SNR=33						
STKA				LR	LR	16 00 43.0	
	comp=Z,143nm,18.5s,MS4.0,baz=317,slow=38						
KURK	**Kurchatov**	**52.77**	**345**	*e*P	**P**	**15 36 39.3**	**-1.2**
KURK				*e*PP	pP	15 36 49.8	-0.7
KURK				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
KURK	**Kurchatov**	**52.77**	**345**	*e*P	**P**	**15 36 39.3**	**-1.2**
	comp=Z,20nm,1.0s,mb5.0						
KURK				*e*pP	pP	15 36 49.8	-0.7
ZAL	**Zalesovo**	**54.56**	**351**	P	**P**	**15 36 52.5**	**-1.0**
	comp=Z,7.8nm,0.5s,mb5.0,baz=310,slow=4.8,SNR=21						
ZAL				pP	pP	15 37 02.9	-0.6
	comp=Z,25nm,0.7s,baz=309,slow=5.7,SNR=31						
NVS	**Novosibirsk**	**55.68**	**350**	*e*P	**P**	**15 36 59.7**	**-2.0**
NVS				*e*		15 38 02.1	
NVS				*e*S	**S**	**15 44 45.7**	**+1.8**
NVS				pmax	pmax		
	comp=N,17nm,0.9s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.4						
NVS				smax			
	comp=N,17nm,1.8s						
NVS				smax			
	comp=E,11nm,1.8s						
KLR	**Kul'dur**	**57.19**	**26**	*e*P	**P**	**15 37 10.1**	**-2.4**
BVAR	**Borovoye Array**	**57.21**	**341**	P	**P**	**15 37 10.9**	**-1.8**
	comp=E,1.3nm,0.6s,mb4.1,baz=153,slow=9.9,SNR=9.7						
BVAR				pP	pP	15 37 20.9	-1.8
	comp=E,4.8nm,0.6s,baz=141,slow=9.5,SNR=21						
BOD	**Bodaibo**	**59.02**	**10**	*e*P	**P**	**15 37 24.2**	**-1.0**
BOD				*e*	pP	15 37 34.4	-1.0
BOD				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
KMBO	**Kilima Mbogo**	**59.92**	**269**	P	**P**	**15 37 31.4**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.1,baz=47,slow=12,SNR=5.4						
KMBO				pP	pP	15 37 41.8	-0.5
	comp=Z,3.4nm,0.8s,baz=41,slow=23,SNR=7.7						
KMBO				LR	LR	16 00 22.1	
	comp=Z,114nm,19.0s,MS4.0,baz=95,slow=33						
KMBO	**Kilima Mbogo**	**59.92**	**269**	*e*P	**P**	**15 37 31.5**	**-0.5**
	comp=Z,2.9nm,1.0s,mb4.3						
YSS	**Yuzh-Sakhalins**	**61.22**	**34**	*e*P	**P**	**15 37 38.0**	**-2.4**
YSS				*e*	pP	15 37 50.0	-0.6
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
YSS	**Yuzh-Sakhalins**	**61.22**	**34**	P	**P**	**15 37 39.0**	**-1.4**
	comp=Z,12nm,0.8s,mb5.1						
GNI	**Garni**	**62.01**	**317**	P	**P**	**15 37 45.3**	**-0.6**
GNI				*e*PP	pP	15 37 55.4	-0.7
GNI				pmax	pmax		
	comp=Z,11nm,0.8s						
GNI	**Garni**	**62.01**	**317**	P	**P**	**15 37 45.3**	**-0.6**
	comp=Z,11nm,0.8s,mb5.0						
GNI				*e*pP	pP	15 37 55.4	-0.7
TI2	**Plekhanov**	**62.71**	**318**	*i* P	**P**	**15 37 59.4**	**+8.9**
HNR	**Honiara**	**63.20**	**101**	P	**P**	**15 37 54.5**	**+0.5**
	comp=Z,89nm,0.8s,mb6.0,baz=228,slow=3.8,SNR=3.9						
HNR				pP	pP	15 38 05.4	+1.1
	comp=Z,69nm,0.6s,baz=245,slow=2.6,SNR=4.8						
SVE	**Sverdlovsk**	**63.63**	**339**	⇓*i*P	pP	15 38 05.0	-1.5
SVE				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
SVE				MLR	MLR		
	comp=Z,150nm,24.0s,MS4.1						
ARU	**Arti**	**64.11**	**337**	⇑*i*P	pP	15 38 07.6	-2.1
ARU				*e*		15 38 36.8	
ARU				*e*		15 40 27.7	
ARU				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.0						
ARU	**Arti**	**64.11**	**337**	*e*P	**P**	**15 37 59.6**	**+0.1**
	comp=Z,21nm,1.1s,mb5.1						
ARU				*e*pP	pP	15 38 07.7	-2.0
ASF	**Jabal al Asfar**	**65.03**	**306**	pP	pP	15 38 15.9	-0.2
	comp=Z,10nm,0.8s,baz=345,slow=4.7,SNR=8.0						
KIV	**Kislovodsk**	**65.06**	**320**	*e*P	**P**	**15 38 04.5**	**-1.4**
KIV				*e*PP	pP	15 38 15.0	-1.1
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KIV	**Kislovodsk**	**65.06**	**320**	*e*P	**P**	**15 38 04.5**	**-1.4**
	comp=Z,6.9nm,0.8s,mb4.7						
KIV				*e*pP	pP	15 38 15.0	-1.1
MALT	**Malatya**

VRSR				pmax	pmax		
	comp=N,7.0nm,1.4s						
VRSR				pmax	pmax		
	comp=E,9.0nm,0.7s						
VOR	**Voronezh**	**70.60**	**326**	*e*P	pP	15 38 49.0	-1.6
VOR				pmax	pmax		
	comp=Z,50nm,1.6s,mb5.2						
SIM	**Simferopol'**	**71.10**	**318**	P	pP	15 38 52.6	-1.2
SIM				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.2						
MOS	**Moscow**	**73.20**	**329**	*e*P	**P**	**15 38 54.2**	**-1.5**
MOS				*e*		15 39 02.1	
MOS				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.4						
OBN	**Obninsk**	**73.47**	**329**	*i* P	pP	15 39 06.7	-0.9
OBN				*i*		15 39 14.3	
OBN				*e*S	S	15 48 36.0	+13
OBN				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.2						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
TIXI	**Tiksi**	**74.20**	**10**	*e*P	**P**	**15 38 59.3**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,141nm,16.0s,MS4.3						
BOSA	**Boshof**	**74.24**	**240**	LR	LR	16 04 53.2	
	comp=Z,92nm,20.0s,MS4.1,baz=157,slow=30						
AKASG	**Malin Array Be**	**76.05**	**323**	P	**P**	**15 39 10.4**	**-1.8**
	comp=Z,0.9nm,0.4s,mb4.1,baz=90,slow=5.0,SNR=8.6						
AKASG				pP	pP	15 39 20.9	-1.7
	comp=Z,4.1nm,0.4s,baz=90,slow=5.0,SNR=20						
VRI	**Vrincioaia**	**76.35**	**317**	⇓P	pP	15 39 24.2	-0.2
VRI	**Vrincioaia**	**76.35**	**317**	⇓P	pP	15 39 24.2	-0.2
MLR	**Muntele Rosu**	**76.79**	**317**	⇓P	pP	15 39 26.3	-0.6
MLR	**Muntele Rosu**	**76.79**	**317**	⇓P	pP	15 39 26.3	-0.6
BURAR	**Bucovina Array**	**77.77**	**319**	⇓P	**P**	**15 39 22.2**	**+0.3**
LVV	**L'vov**	**79.04**	**321**	*e*P	pP	15 39 38.5	-0.7
KWP	**Kalwaria**	**79.84**	**320**	*e*P	pP	15 39 43.3	-0.2
KOLS	**Kolonicke sedl**	**79.98**	**320**	*e*P	**P**	**15 39 38.0**	**+4.1**
KOLS				*e*		15 39 44.6	
KOLS				*e*		15 39 52.3	
KOLS	**Kolonicke sedl**	**79.98**	**320**	*e*	**P**	**15 39 38.0**	**+4.1**
KOLS				*e*pP	pP	15 39 44.6	+0.3
KOLS				*e*		15 39 52.3	
SUW	**Suwalki**	**80.49**	**325**	*e*P	pP	15 39 45.9	-1.0
CRVS	**Cervenica-Dubn**	**80.50**	**320**	*e*P	sP	15 39 52.6	+2.1
CRVS	**Cervenica-Dubn**	**80.50**	**320**	*es*P	sP	15 39 52.6	+2.1
FINES	**FINESS Array B**	**80.89**	**333**	P	**P**	**15 39 37.8**	**-0.7**
	comp=Z,1.7nm,0.6s,mb4.2,baz=108,slow=6.0,SNR=8.1						
FINES				pP	pP	15 39 48.4	-0.5
	comp=Z,2.7nm,0.5s,baz=96,slow=5.6,SNR=13						
KAF	**Kangasniemi**	**80.98**	**333**	*e*p	**P**	**15 39 41.4**	**+2.5**
	comp=Z,10nm,0.8s,mb4.8,baz=103,slow=4.9						
KAF	**Kangasniemi**	**80.98**	**333**	*e*P	**P**	**15 39 41.4**	**+2.5**
KAF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
BILL	**Bilibino**	**82.13**	**21**	*e*P	pP	15 39 54.2	-1.0
BILL				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
VYHS	**Vyhne**	**82.14**	**319**	*e*pP	pP	15 39 55.5	-0.2
OKC	**Ostrava-Krasne**	**82.79**	**320**	*e*P	**P**	**15 39 51.8**	**+3.3**
OKC				*e**PP	pP	15 39 58.6	-0.4
OKC				*e**PP	pP	15 40 05.7	+6.7
KEV	**Kevo**	**83.06**	**341**	*e*p	**P**	**15 39 54.3**	**+4.7**
	comp=Z,29nm,1.2s,mb5.2						
KEV	**Kevo**	**83.06**	**341**	*e*P	**P**	**15 39 54.3**	**+4.7**
KEV				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.2						
ARCES	**ARCESS Array B**	**83.49**	**340**	P	**P**	**15 39 51.8**	**0.0**
	comp=Z,4.6nm,0.9s,mb4.5,baz=103,slow=5.2,SNR=12						
ARCES				pP	pP	15 40 02.6	+0.4
	comp=Z,5.7nm,0.5s,baz=105,slow=4.6,SNR=7.9						
DPC	**Dobruska-Polom**	**84.02**	**321**	*e*P	**P**	**15 39 58.9**	**+4.1**
DPC				*e*pP	pP	15 40 05.7	+0.4
KSP	**Ksiaz**	**84.10**	**321**	*e*P	pP	15 40 05.9	+0.2
KSP	**Ksiaz**	**84.10**	**321**	*e*P	pP	15 40 06.1	+0.4
BOJS	**Bojanci**	**84.20**	**316**	*e*P	pP	15 40 06.3	-0.1
UPC	**Upice**	**84.24**	**321**	*e*P	pP	15 40 06.4	0.0
UPC	**Upice**	**84.24**	**321**	*e*pP	pP	15 40 06.4	0.0
PERS	**Pernice**	**84.41**	**317**	*e*P	pP	15 40 07.5	+0.1
VISS	**Visnje**	**84.52**	**316**	*e*P	pP	15 40 07.9	-0.1
VNDA	**Vanda**	**84.83**	**169**	pP	pP	15 40 08.8	0.0
	comp=Z,1.5nm,1.0s,baz=316,slow=2.7,SNR=4.4						
PRU	**Pruhonice**	**85.12**	**320**	*e*P	pP	15 40 11.1	+0.2
PRU	**Pruhonice**	**85.12**	**320**	*e*pP	pP	15 40 11.1	+0.2
PVCC	**Panska Ves**	**85.15**	**321**	*e*P	pP	15 40 11.2	+0.2
PVCC	**Panska Ves**	**85.15**	**321**	*e*pP	pP	15 40 11.2	+0.2
ROBS	**Robic**	**85.48**	**316**	*e*P	pP	15 40 12.2	-0.5
ROBS				*e*		15 40 20.3	
GEC2	**GERESS Array S**	**85.56**	**319**	*e*P	pP	15 40 13.0	-0.1
GEC2				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.2						
GEC2	**GERESS Array S**	**85.56**	**319**	*e*P	pP	15 40 13.0	-0.1
	comp=Z,24nm,1.4s						
GERES	**GERESS Array B**	**85.56**	**319**	P	**P**	**15 40 03.8**	**+1.2**
	comp=Z,1.5nm,0.9s,mb4.2,baz=108,slow=4.2,SNR=7.8						
GERES				pP	pP	15 40 13.2	+0.1
	comp=Z,3.5nm,0.7s,baz=108,slow=4.2,SNR=11						
BRG	**Berggiesshubel**	**85.58**	**321**	*e*P	**P**	**15 40 07.5**	**+4.9**
BRG				*i*		15 40 13.3	
BRG				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.3						
BRG	**Berggiesshubel**	**85.58**	**321**	*e*P	**P**	**15 40 07.5**	**+4.9**
	comp=Z,30nm,1.6s,mb5.3						
BRG				*i*		15 40 13.3	
KHC	**Kasperske Hory**	**85.67**	**319**	*e*P	pP	15 40 11.3	-2.3
KHC	**Kasperske Hory**	**85.67**	**319**	*e*pP	pP	15 40 11.3	-2.3
WET	**Wettzell**	**86.13**	**319**	*e*P	pP	15 40 15.7	-0.2
WET				pmax	pmax		
	comp=Z,21nm,1.4s,mb5.2						
WET	**Wettzell**	**86.13**	**319**	*e*P	pP	15 40 15.7	-0.2
	comp=Z,21nm,1.4s						
CLL	**Collm**	**86.21**	**321**	*e**PP	pP	15 40 17.0	+0.7
MOX	**Moxa**	**87.04**	**321**	*e*P	pP	15 40 20.1	-0.2
MOX	**Moxa**	**87.04**	**321**	*i* P	pP	15 40 20.1	-0.2
GRA1	**Grafenberg Arr**	**87.24**	**320**	*e*P	**P**	**15 40 21.5**	**+11**
GRA1				*e*pP	pP	15 40 28.6	+7.3
GRF	**Grafenberg Arr**	**87.24**	**320**	*e*P	**P**	**15 40 21.5**	**+11**
GRF				*e**PP	pP	15 40 28.6	+7.3
GRF				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.2						
CLZ	**Clausthal**	**87.88**	**322**	*e*P	pP	15 40 24.4	+0.1
	comp=Z,28nm,1.5s						
NB2	**NORSAR Subarra**	**87.89**	**331**	P	**P**	**15 40 16.9**	**+3.3**
	comp=Z,16nm,1.0s,mb5.2,baz=96,slow=4.8						
NB2	**NORSAR Subarra**	**87.89**	**331**	P	**P**	**15 40 16.9**	**+3.3**
	baz=96,slow=4.8						
NOA	**NORSAR Array B**	**87.89**	**331**	pP	pP	15 40 24.0	-0.1
	comp=Z,7.4nm,0.9s,baz=95,slow=4.8,SNR=14						
NOA				LR	LR	16 23 56.9	
	comp=Z,45nm,20.9s,MS3.9,baz=235,slow=39						
BSEG	**Bad Segeberg**	**88.00**	**324**	*e*P	pP	15 40 26.3	+1.4
TNS	**Taunus Mts**	**89.05**	**320**	*e*P	pP	15 40 30.1	+0.1
TNS				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.2						
BFO	**Black Forest**	**89.10**	**318**	*e*P	pP	15 40 29.8	-0.4
LPG	**La Plagne**	**90.17**	**315**	*e*P	**P**	**15 40 28.6**	**+3.8**
	comp=Z,23nm,0.8s,mb5.2						
YKA	**Yellowknife Ar**	**113.09**	**15**	PP	PP	15 46 53.5	-1.2
	comp=Z,0.4nm,0.9s,baz=328,slow=6.6,SNR=3.7						
WALA	**Waterton Lakes**	**124.14**	**24**	*e*PKPdf	PKPdf	15 46 22.7	-4.4
ULM	**Lac du Bonnet**	**128.55**	**11**	pPKP		15 46 42.0	
	comp=Z,1.0nm,0.4s,baz=310,slow=2.0,SNR=2.8						
PDAR	**Pinedale Array**	**130.98**	**26**	PKP	PKPdf	15 46 37.2	-3.2
	comp=Z,0.3nm,0.7s,baz=270,slow=3.0,SNR=3.6						
PDAR				pPKP		15 46 47.2	
	comp=Z,0.6nm,0.6s,baz=242,slow=1.5,SNR=5.7						
TXAR	**Lajitas Array**	**144.56**	**32**	PKP	PKPdf	15 47 01.3	-4.2
	comp=Z,1.9nm,0.5s,baz=217,slow=0.8,SNR=22						
TXAR				pPKP		15 47 12.1	
	comp=Z,4.6nm,0.5s,baz=211,slow=1.0,SNR=21						
CFAA	**Coronel Fontan**	**145.82**	**202**	pPKPbc		15 47 15.3	
	comp=Z,0.9nm,0.6s,baz=168,slow=3.0,SNR=7.0						

*BJI **01** 15:32:05.8, 0.46S×96.77E, h33km, mB5.0, mb4.7, Ms4.6, Msz4.2*
*IDC **01** 15:32:11.1±0.9, 0.12N×96.97E, h33km±4km, mb4.1/11, mb1 4.3/11, mb1mx4.2/16, mbtmp4.3/11, Error ellipse: s-maj=46.2km s-min=12.7km az=51.0*
*NEIC **01** 15:32:11.6±0.5, 0.29N×97.22E, mb4.7/13, Error ellipse: s-maj=15.3km s-min=8.5km az=50.0*

ISC 01 15:32:11.9±0.6, 0.32N±0.09×97.6E±0.1, h33km, h33km±1.0km:pP-P, n49, σ1§38/36, mb4.6/23, MS3.9/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.81**	**32**	*e*Pn	**P**	**15 33 38.5**	**+0.5**
KULM				*e*		15 33 49.4	
CHG	**Chiang Mai**	**18.43**	**4**	P	**P**	**15 36 43.5**	**+17**
NANT	**Nan**	**18.62**	**9**	P	**P**	**15 36 29.0**	**-0.1**
KKM	**Kota Kinabalu**	**19.45**	**73**	P	**P**	**15 36 37.1**	**-1.5**
KKM				*e*pP		15 36 52.1	
JIRN	**Jiri**	**29.30**	**339**	*e*P	**P**	**15 38 15.0**	**+1.4**
	31nm,0.7s,mb5.2						
PKI	**Pulchoki**	**29.50**	**338**	*e*P	**P**	**15 38 17.5**	**+2.1**
	14nm,0.6s,mb4.9						
GUN	**Gumba**	**29.64**	**339**	*e*P	**P**	**15 38 17.6**	**+1.0**
	38nm,0.8s,mb5.2						
DMN	**Daman**	**29.66**	**337**	*e*P	**P**	**15 38 18.9**	**+2.1**
	25nm,0.8s,mb5.0						
KKN	**Kakani**	**29.75**	**338**	*e*P	**P**	**15 38 18.4**	**+0.8**
	24nm,0.9s,mb5.0						
LSA	**Lhasa**	**29.85**	**349**	P	**P**	**15 38 15.6**	**-2.9**
GKN	**Gorkha**	**30.19**	**337**	*e*P	**P**	**15 38 22.3**	**+0.8**
	40nm,0.8s,mb5.2						
KOLN	**Koldanda**	**30.41**	**335**	*e*P	**P**	**15 38 24.4**	**+0.9**
	64nm,0.7s,mb5.5						
FITZ	**Fitzroy Crossi**	**33.12**	**125**	*e*P	**P**	**15 38 47.1**	**-0.2**
	12nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.12**	**125**	P	**P**	**15 38 47.1**	**-0.2**
	17nm,0.8s,mb5.0,baz=331,slow=3.8,SNR=10						
WRA	**Warramunga Arr**	**41.26**	**121**	P	**P**	**15 39 56.3**	**+0.5**
	19nm,0.8s,mb4.8,baz=301,slow=9.0,SNR=59						
WRA				pP	pP	15 40 06.9	+1.2
	5.6nm,0.7s,baz=300,slow=9.0,SNR=6.6						
WRAB	**Tennant Creek**	**41.26**	**121**	*e*P	**P**	**15 39 56.4**	**+0.5**
WB2	**Warramunga Arr**	**41.27**	**121**	*e*P	**P**	**15 39 56.6**	**+0.7**
ASPA	**Alice Springs**	**42.57**	**127**	*e*P	**P**	**15 40 06.9**	**+0.3**
ASAR	**Alice Springs**	**42.57**	**127**	P	**P**	**15 40 07.2**	**+0.6**
	2.7nm,0.7s,mb4.1,baz=302,slow=7.9,SNR=12						
BJI	**Beijing**	**43.02**	**21**	*e*P	**P**	**15 40 11.5**	**+1.4**
	8.0nm,0.7s,mb4.6						
BJI				LR	LR		
	comp=Z,130nm,16.8s,MS3.9						
ULHL	**Ulahol**	**45.95**	**338**	P	pP	15 40 41.9	-1.6
	SNR=5.3						
KZA	**Kyzart**	**46.18**	**337**	P	pP	15 40 44.0	-1.4
	SNR=5.3						
UCH	**Uchtor**	**46.60**	**336**	P	pP	15 40 47.6	-1.0
	SNR=5.5						
TKM2	**Tokmak 2**	**46.77**	**338**	P	pP	15 40 47.9	-2.0
	SNR=5.5						
KBK	**Karagaybulak**	**46.79**	**337**	P	pP	15 40 49.1	-1.0
	SNR=5.1						
AML	**Almayashu**	**46.85**	**336**	P	pP	15 40 49.2	-1.4
	SNR=7.0						
AAK	**Ala-Archa**	**46.95**	**337**	*e*P	**P**	**15 40 41.9**	**+0.5**
EKS2	**Erkin-Say**	**47.26**	**336**	P	pP	15 40 52.6	-1.2
	SNR=6.3						
USP	**Ospenovka**	**47.48**	**337**	P	pP	15 40 53.6	-2.0
	SNR=8.3						
SONM	**Songino Array**	**47.94**	**8**	P	**P**	**15 40 48.9**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.2,baz=190,slow=9.5,SNR=7.4						
SONM				pP	pP	15 40 59.3	+0.2
	comp=Z,4.3nm,0.8s,baz=190,slow=9.2,SNR=17						
SONM				pPcP		15 42 26.2	
	comp=Z,1.5nm,0.7s,baz=186,slow=4.4,SNR=5.5						
STKA	**Stephens Creek**	**52.49**	**132**	P	**P**	**15 41 24.4**	**+0.3**
	comp=Z,8.6nm,0.8s,mb4.7,baz=307,slow=7.2,SNR=15						
KURK	**Kurchatov**	**52.73**	**345**	*e*P	**P**	**15 41 22.5**	**-3.1**
	comp=Z,6.8nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**54.47**	**351**	P	**P**	**15 41 35.9**	**-2.5**
	comp=Z,4.5nm,0.5s,mb4.7,baz=312,slow=5.2,SNR=13						
ZAL				pP	pP	15 41 46.4	-2.2
	comp=Z,11nm,0.4s,baz=310,slow=4.5,SNR=20						
ZAL	**Zalesovo**	**54.47**	**351**	P	**P**	**15 41 35.9**	**-2.5**
ZAL				pP	pP	15 41 46.4	-2.1
BVAR	**Borovoye Array**	**57.20**	**341**	P	**P**	**15 41 53.9**	**-4.1**
	comp=Z,0.7nm,0.6s,mb3.9,baz=162,slow=9.4,SNR=3.6						
BVAR				pP	pP	15 42 04.4	-3.9
	comp=Z,2.4nm,0.6s,baz=149,slow=9.1,SNR=12						
MALT	**Malatya**	**65.99**	**312**	P	**P**	**15 42 52.8**	**-4.6**
	comp=Z,2.8nm,0.6s,mb4.5						
YAK	**Yakutsk**	**66.16**	**16**	*e*P	**P**	**15 42 56.6**	**-1.4**
	comp=Z,21nm,0.9s,mb5.2						
EIL	**Elat**	**66.24**	**302**	P	**P**	**15 42 54.4**	**-4.7**
	comp=Z,5.4nm,0.8s,mb4.6						
EIL				*e*pP	pP	15 43 04.6	-4.9
BRTR	**Keskin Array B**	**69.98**	**312**	pP	pP	15 43 27.4	-5.1
	comp=Z,2.3nm,0.7s,baz=136,slow=7.3,SNR=8.5						
AKASG	**Malin Array Be**	**76.18**	**323**	pP	pP	15 44 04.1	-4.7
	comp=Z,1.7nm,0.4s,baz=87,slow=5.6,SNR=9.0						
FINES	**FINESS Array B**	**80.95**	**333**	P	**P**	**15 44 21.4**	**-2.9**
	comp=Z,0.5nm,0.5s,mb3.7,slow=1.4,SNR=5.8						
FINES				pP	pP	15 44 32.0	-2.8
	comp=Z,1.8nm,0.6s,baz=93,slow=5.4,SNR=5.0						
ARCES	**ARCESS Array B**	**83.48**	**340**	P	**P**	**15 44 35.1**	**-2.1**
	comp=Z,1.2nm,0.5s,mb4.2,baz=108,slow=3.8,SNR=8.4						
ARCES				pP	pP	15 44 45.8	-2.0
	comp=Z,2.5nm,0.5s,baz=102,slow=4.9,SNR=3.3						
GERES	**GERESS Array B**	**85.72**	**319**	P	**P**	**15 44 47.3**	**-1.5**
	comp=Z,0.5nm,0.3s,mb4.2,baz=112,slow=5.3,SNR=4.7						
GERES				pP	pP	15 44 56.2	-3.2
	comp=Z,0.4nm,0.3s,baz=108,slow=4.2,SNR=3.4						
NB2	**NORSAR Subarra**	**87.95**	**331**	P	**P**	**15 45 06.4**	**+7.1**
	comp=Z,2.2nm,0.8s,mb4.4,baz=98,slow=4.6						
NOA	**NORSAR Array B**	**87.95**	**331**	P	**P**	**15 44 56.4**	**-3.0**
	comp=Z,1.2nm,0.9s,mb4.1,baz=101,slow=5.1,SNR=2.8						
NOA				pP	pP	15 45 07.0	-3.0
	comp=Z,1.8nm,0.8s,baz=96,slow=4.7,SNR=4.5						
NOA	**NORSAR Array B**	**87.95**	**331**	P	**P**	**15 44 56.4**	**-3.0**
NOA				pP	pP	15 45 07.0	-3.0
TXAR	**Lajitas Array**	**144.21**	**33**	PKP	PKPdf	15 51 44.5	-0.6
	comp=Z,1.9nm,0.8s,baz=259,slow=1.1,SNR=10						
TXAR				pPKP		15 51 55.3	
	comp=Z,2.3nm,0.5s,baz=216,slow=1.0,SNR=12						
TXAR	**Lajitas Array**	**144.21**	**33**	PKP	PKPdf	15 51 44.5	-0.6
TXAR				pPKP		15 51 55.3	
CFAA	**Coronel Fontan**	**146.11**	**202**	pPKPbc		15 51 58.7	
	comp=Z,0.2nm,0.4s,baz=126,slow=2.3,SNR=3.4						

IDC 01 15:34:53.1±1.0, 52.50S×18.22E, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.9/3, MS3.7/4, Ms1 3.7/4, ms1mx3.2/24, 1D, Error ellipse: s-maj=57.2km s-min=29.2km az=74.0, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.20**	**6**	LR	LR	15 45 38.2	
	comp=Z,209nm,19.1s,baz=186,slow=32						
SNAA	**Sanae**	**21.37**	**198**	P	P	15 39 41.9	-2.1
	4.3nm,1.1s,baz=30,slow=11,SNR=7.1						
VNA1	**Neumayer--Stat**	**21.80**	**204**	⇓*i*P	P	15 39 48.6	+0.4
BOSA	**Boshof**	**24.43**	**15**	LR	LR	15 47 46.0	
	comp=Z,196nm,20.3s,baz=22,slow=32						
LBTB	**Lobatse**	**28.01**	**14**	LR	LR	15 50 06.8	
	comp=Z,170nm,19.9s,baz=25,slow=33						
VNDA	**Vanda**	**48.29**	**170**	P	P	15 43 35.2	-1.9
	1.2nm,0.9s,baz=221,slow=7.3,SNR=5.3						
VNDA				LR	LR	16 03 53.7	
	comp=Z,65nm,18.4s,baz=208,slow=36						
ASAR	**Alice Springs**	**85.81**	**124**	P	P	15 47 34.6	-0.9
	1.5nm,1.1s,baz=206,slow=4.9,SNR=5.1						
PDAR	**Pinedale Array**	**144.21**	**276**	PKP	PKPdf	15 54 27.4	-4.5
	2.2nm,0.6s,baz=122,slow=5.0,SNR=19						
NVAR	**Mina Array Bea**	**146.96**	**262**	PKPbc	PKPbc	15 54 37.1	+0.6
	3.6nm,0.7s,baz=127,slow=4.5,SNR=27						
YKA	**Yellowknife Ar**	**153.36**	**311**	PKP	PKPdf	15 54 44.4	-1.4
	0.2nm,0.8s,baz=68,slow=1.7,SNR=3.7						
YKA				PKPbc	PKPdf	15 54 51.0	+5.2
	0.7nm,0.8s,baz=86,slow=2.2,SNR=12						
YKA				PKPab	PKPab	15 55 03.4	-2.6
	0.7nm,0.7s,baz=93,slow=4.8,SNR=11						
INK	**Inuvik**	**159.21**	**330**	PKPab	PKPab	15 55 29.6	-1.3
	0.9nm,0.8s,baz=58,slow=8.0,SNR=3.8						

*FUNV **01** 15:52:51.8, 10.87N×62.11W, h90km, MW3.0*
*NEIC **01** 15:52:54.6, 10.90N×62.07W, h26km, MD3.0(TRN), After TRN.*
*TRN **01** 15:52:54.6, 10.90N×62.07W, h26km, MD3.0*
ISC 01 15:52:50.5±0.7, 10.82N±0.04×62.23W±0.03, h99km±6km, n20, σ1§19/39, 4C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.17**	**179**	*e*P	**P**	**15 53 05.2**	**+0.6**
GUIV				*e*S	**S**	**15 53 14.4**	**-0.8**
TRN	**Trinidad (W)**	**0.83**	**102**	⇑*i*P	**P**	**15 53 08.4**	**-0.9**
TRN				*e*S	**S**	**15 53 18.4**	**-4.8**
TPP	**Pointe-a-Pierr**	**0.91**	**123**	*e*P	**P**	**15 53 10.4**	**+0.2**
TPP				*e*S	**S**	**15 53 22.5**	**-2.4**
GUNV	**Guanoco**	**0.96**	**227**	⇑*i*P	**P**	**15 53 13.1**	**+2.4**
GUNV				*e*S	**S**	**15 53 27.4**	**+1.6**
CRUV	**Carupano**	**1.00**	**262**	*e*P	**P**	**15 53 12.3**	**+1.1**
CRUV				*e*S	**S**	**15 53 27.2**	**+0.5**
ITEV	**Isla Los Testi**	**1.04**	**301**	⇓*i*P	**P**	**15 53 12.2**	**+0.7**
ITEV				*e*S	**S**	**15 53 26.9**	**-0.4**
TBH	**Brigand Hill**	**1.19**	**106**	*e*P	**P**	**15 53 15.3**	**+1.9**
GRW	**Mount Saint Ca**	**1.44**	**23**	*e*P	**P**	**15 53 17.1**	**+0.6**
GRW				*e*S	**S**	**15 53 33.1**	**-2.7**
GRHS	**Sauteurs**	**1.51**	**22**	*e*P	**P**	**15 53 18.5**	**+1.2**
GRHS				*e*S	**S**	**15 53 36.7**	**-0.4**
ORIV	**Oritupano**	**2.09**	**214**	⇑*i*P	**P**	**15 53 26.7**	**+1.9**
ORIV				*e*S	**S**	**15 53 50.9**	**+0.7**
PCRV	**Puerto La Cruz**	**2.46**	**255**	*e*P	**P**	**15 53 31.2**	**+1.3**
PCRV				*e*S	**S**	**15 53 59.4**	**+0.2**
IBAV	**Isla La Blanqu**	**2.51**	**294**	*e*P	**P**	**15 53 31.2**	**+0.6**
IBAV				*e*S	**S**	**15 53 59.7**	**-0.8**
GURV	**El Guri**	**3.16**	**196**	⇑*i*P	**P**	**15 53 40.0**	**+0.6**
GURV				*e*S	**S**	**15 54 14.2**	**-2.1**
CUPV	**Cœpira**	**3.58**	**258**	*e*P	**P**	**15 53 46.0**	**+0.7**
CUPV				*e*S	**S**	**15 54 26.1**	**-0.7**
BIRV	**Birongo**	**3.99**	**265**	*e*P	**P**	**15 53 51.2**	**+0.4**
BIRV				*e*S	**S**	**15 54 35.3**	**-1.4**
MERV	**Las Mercedes**	**4.30**	**249**	*e*P	**P**	**15 53 54.9**	**-0.2**
MERV				*e*S	**S**	**15 54 43.1**	**-1.4**
LUEV	**Luepa**	**5.00**	**171**	*e*P	**P**	**15 54 03.6**	**-1.1**
LUEV				*e*S	**S**	**15 54 56.1**	**-5.6**
CAOV	**Caicara del Or**	**5.33**	**230**	*e*P	**P**	**15 54 08.8**	**-0.3**
CAOV				*e*S	**S**	**15 55 06.1**	**-3.7**
TURV	**Turiamo**	**5.53**	**267**	*e*P	**P**	**15 54 11.9**	**+0.1**
TURV				*e*S	**S**	**15 55 11.6**	**-3.1**
BAUV	**El Baul**	**6.03**	**252**	*e*P	**P**	**15 54 17.8**	**-0.8**
BAUV				*e*S	**S**	**15 55 22.1**	**-4.7**

*CSEM **01** 16:14:03.4±0.6, 35.33N×5.81E, ML3.7, Error ellipse: s-maj=18.0km s-min=6.4km az=168.0, After ALG*
*CRAAG **01** 16:14:03.4, 35.33N×5.81E, Ml3.7*
*MDD **01** 16:14:07.8±1.2, 35.58N×5.67E, mb3.8/3, Error ellipse: s-maj=14.4km s-min=4.8km az=14.0, PRXIMO*
ISC 01 16:14:07.1±1.6, 35.6N±0.1×5.65E±0.06, h10km, n16, σ1§06/16, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMER	**Merouana**	**0.21**	**76**	P	**Pg**	**16 14 11.0**	**-0.6**
CKHR	**Kef el Ahmar**	**0.46**	**346**	P	**Pg**	**16 14 15.5**	**-1.0**
SET	**Setif**	**0.66**	**342**	P	**Pb**	**16 14 20.0**	**-0.3**
CTEI	**Djebel Teioual**	**0.79**	**51**	P	**Pb**	**16 14 21.0**	**-1.4**
CASM	**Ain Smara**	**0.97**	**44**	P	**Pb**	**16 14 25.5**	**0.0**
DFRA	**Djebel Bou Aff**	**0.99**	**10**	P	**Pb**	**16 14 27.0**	**+1.1**
CKFL	**Kef-Lekhel**	**1.20**	**46**	P	**Pb**	**16 14 31.0**	**+1.6**
AKF	**Akfadou**	**1.38**	**321**	P	**Pn**	**16 14 33.6**	**+1.1**
AKET	**Djebel Ketaf**	**1.52**	**289**	P	**Pn**	**16 14 35.3**	**+0.8**
CAEH	**'Ain El Ouahch**	**1.55**	**38**	P	**Pn**	**16 14 40.5**	**+5.6**
ABSA	**Djebel Ababsia**	**1.64**	**64**	P	**Pg**	**16 14 39.0**	**-0.9**
CABS	**Djebel Ababsia**	**1.64**	**64**	Pg	**Pg**	**16 14 39.0**	**-0.9**
CMAH	**Djebel Manchou**	**1.78**	**53**	P	**Pn**	**16 14 41.0**	**+2.8**
ETOS	**Mallorca**	**4.76**	**333**	Pn	**Pn**	**16 15

comp=Z,11nm,0.9s,mb4.6
WRA Warramunga Arr 41.91 122 P **P 16 28 13.1 -0.4**
comp=Z,1.2nm,0.7s,mb3.6,baz=299,slow=9.2,SNR=10
WRAB Tennant Creek 41.91 122 *eP* **P 16 28 13.7 +0.1**
comp=Z,2.9nm,0.6s,mb4.1
BJT Baijiatuau 42.37 22 *eP* **P 16 28 18.2 +1.2**
comp=Z,5.3nm,0.5s,mb4.4
BJI Beijing 42.39 22 *eP* **P 16 28 17.9 +0.7**
BJI AMB AMB
comp=Z,8.0nm,1.0s,mb4.3
BJI Beijing 42.39 22 *eP* **P 16 28 17.9 +0.7**
comp=Z,8.0nm,1.0s,mb4.3
ASAR Alice Springs 43.26 127 P **P 16 28 24.6 +0.1**
comp=Z,1.9nm,0.9s,mb3.8,baz=306,slow=7.2,SNR=11
WMQ Urumqi 43.38 350 *eP* **P 16 28 26.0 +0.7**
AAK Ala-Archa 46.12 337 *eP* **P 16 28 47.7 +0.5**
comp=Z,3.2nm,0.9s,mb4.2
SONM Songino Array 47.21 8 P **P 16 28 56.2 +0.5**
comp=Z,4.7nm,0.8s,mb4.5,baz=191,slow=9.6,SNR=20
SONM PcP PcP 16 30 27.2 +0.2
comp=Z,1.6nm,0.8s,baz=191,slow=3.4,SNR=5.7
ULN Ulaanbaatar 47.34 9 *eP* **P 16 28 56.9 +0.3**
comp=Z,3.2nm,0.9s,mb4.2
CN2 Changchun 49.34 27 ⇑P **P 16 29 11.9 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
HIA Hailar 51.70 19 *eP* **P 16 29 29.7 -0.4**
comp=Z,8.6nm,0.9s,mb4.7
KURK Kurchatov 51.91 345 *eP* **P 16 29 30.5 -1.2**
comp=Z,7.0nm,1.0s,mb4.5
STKA Stephens Creek 53.22 132 P **P 16 29 42.5 +0.7**
comp=Z,2.7nm,0.7s,mb4.3,baz=310,slow=8.2,SNR=6.7
STKA Stephens Creek 53.22 132 P **P 16 29 42.5 +0.7**
ZAL Zalesovo 53.66 351 P **P 16 29 44.0 -0.6**
comp=Z,2.9nm,0.8s,mb4.2,baz=295,slow=6.7,SNR=19
BVAR Borovoye Array 56.37 341 P **P 16 30 02.9 -1.4**
comp=Z,2.1nm,0.8s,mb4.2,baz=149,slow=8.6,SNR=14
YAK Yakutsk 65.48 16 *eP* **P 16 31 04.4 -1.5**
comp=Z,11nm,0.9s,mb4.9
MA2 Magadan 71.37 26 *eP* **P 16 31 42.5 0.0**
comp=Z,2.8nm,0.5s,mb4.5
FINES FINESS Array B 80.12 332 P **P 16 32 31.7 -0.5**
comp=Z,0.5nm,0.6s,mb3.6,baz=180,slow=11,SNR=3.6
GERES GERESS Array B 84.94 319 P **P 16 32 57.4 +0.2**
comp=Z,0.2nm,0.2s,mb3.8,baz=104,slow=5.5,SNR=5.3
NOA NORSAR Array B 87.13 331 P **P 16 33 08.1 +0.5**
comp=Z,0.6nm,0.8s,mb3.9,baz=95,slow=4.9,SNR=3.6
TXAR Lajitas Array 143.69 32 PKP PKPdf 16 39 56.1 -0.1
comp=Z,0.3nm,0.5s,baz=30,slow=3.3,SNR=3.8

*KRSC **01** 16:29:47.6±2.6, 49.87N×153.47E, h330km±8km, ML4.4*
*MOS **01** 16:29:49.7±1.2, 50.53N×152.91E, h304km, mb3.7/8, Error ellipse: s-maj=16.0km s-min=7.9km az=67.7*
*NEIC **01** 16:29:53.8±1.3, 50.66N×152.75E, h321km±14km, mb3.9/14, Error ellipse: s-maj=11.5km s-min=7.4km az=140.0*
*IDC **01** 16:29:54.0±3.0, 50.64N×152.69E, h324km±30km, mb3.4/16, mb1 3.6/17, mb1mx3.5/23, mbtmp4.1/17, Error ellipse: s-maj=17.1km s-min=12.3km az=158.0*
ISC 01 16:29:50.0±0.4, 50.55N±0.06×152.78E±0.09, h299km±4km, n77, σ1§19/93, mb3.7/25, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.79**	**79**	P		**P**	**P**	**16 30 35.4**	**+0.1**
SKR	**Severo-Kuril's**	**2.13**	**85**	*e*PN		**P**	**P**	**16 30 34.6**	**-3.4**
SKR				*e*S			**S**	**16 31 12.1**	**-3.3**
SKR	comp=Z,50nm,0.5s			pmax			pmax		
SKR	comp=N,80nm,0.5s			smax					
SKR	comp=E,110nm,0.5s			smax					
PAU	**Pauzhetka**	**2.70**	**69**	*e*P		**P**	**P**	**16 30 43.0**	**-0.2**
APC	**Apacha**	**3.61**	**47**	*i* P		**P**	**P**	**16 30 52.9**	**+0.5**
GRL	**Gorelyy**	**3.86**	**57**	*e*P		**P**	**P**	**16 30 56.3**	**+1.2**
RUS	**Russkaya**	**4.04**	**60**	P		**P**	**P**	**16 30 57.1**	**0.0**
RUS				S			**S**	**16 31 46.6**	**-3.0**
RUS	**Russkaya**	**4.04**	**60**	*e*P		**P**	**P**	**16 30 57.1**	**0.0**
RUS				*e*S			**S**	**16 31 46.3**	**-3.3**
PET	**Petropavlovsk**	**4.40**	**54**	P		**P**	**P**	**16 31 01.8**	**+0.7**
PET				S			**S**	**16 31 53.5**	**-3.3**
PET	**Petropavlovsk**	**4.40**	**54**	*e*P		**P**	**P**	**16 31 01.8**	**+0.7**
GNL	**Ganaly**	**4.47**	**43**	*i* P		**P**	**P**	**16 31 02.7**	**+0.8**
KOK	**Koryaka**	**4.54**	**51**	*e*P		**P**	**P**	**16 31 04.4**	**+1.7**
AVH	**Avacha**	**4.58**	**51**	*e*P		**P**	**P**	**16 31 04.7**	**+1.6**
AVH				*e*S			**S**	**16 32 00.5**	**+0.2**
UGLR	**Uglovaya**	**4.59**	**52**	*e*P		**P**	**P**	**16 31 05.4**	**+2.2**
UGLR				*e*S			**S**	**16 32 00.8**	**+0.2**
SMAR	**Somma**	**4.61**	**52**	*e*P		**P**	**P**	**16 31 04.9**	**+1.5**
NLC	**Nalytchevo**	**4.84**	**55**	P		**P**	**P**	**16 31 05.5**	**-0.5**
NLC				S			**S**	**16 32 00.8**	**-4.9**
NLC	**Nalytchevo**	**4.84**	**55**	*e*P		**P**	**P**	**16 31 05.6**	**-0.4**
NLC				*e*S			**S**	**16 32 02.0**	**-3.7**
SPN	**Mys Shipunski**	**5.16**	**58**	P		**P**	**P**	**16 31 09.0**	**-0.8**
SPN				S			**S**	**16 32 05.3**	**-7.2**
SPN	**Mys Shipunski**	**5.16**	**58**	*e*P		**P**	**P**	**16 31 09.0**	**-0.8**
SPN				*e*S			**S**	**16 32 06.1**	**-6.4**
TUMR	**Tumrok**	**6.50**	**40**	P		**P**	**P**	**16 31 29.8**	**+3.9**
MKZ	**Mys Kozlova**	**6.77**	**50**	P		**P**	**P**	**16 31 28.0**	**-1.2**
MKZ				S			**S**	**16 32 41.0**	**-6.0**
MKZ	**Mys Kozlova**	**6.77**	**50**	*e*P		**P**	**P**	**16 31 28.1**	**-1.1**
MKZ				*e*S			**S**	**16 32 41.3**	**-5.7**
YUK	**Yuzh-Kuril'sk**	**8.04**	**218**	PN		**P**	**P**	**16 31 42.9**	**-1.8**
YUK				*e*S			**S**	**16 33 12.5**	**-2.5**
YUK	comp=E,1μm,0.7s			smax					
YUK	comp=E,190nm,0.5s			smax					
KBG	**Krutoberegovo**	**8.23**	**42**	*e*P		**P**	**P**	**16 31 47.4**	**+0.4**
KBG				*e*S			**S**	**16 33 17.9**	**-1.2**
KBTR	**Krutoberegovo**	**8.25**	**43**	P		**P**	**P**	**16 31 47.1**	**-0.2**
KBTR				S			**S**	**16 33 13.6**	**-5.9**
KBTR	**Krutoberegovo**	**8.25**	**43**	*e*P		**P**	**P**	**16 31 47.1**	**-0.2**
KBTR				*e*S			**S**	**16 33 14.8**	**-4.7**
MA2	**Magadan**	**9.12**	**354**	*e*PN		**P**	**P**	**16 31 59.5**	**+1.5**
MA2	comp=Z,4.0nm,0.6s			pmax			pmax		
MA2	**Magadan**	**9.12**	**354**	*e*P		**P**	**P**	**16 31 59.5**	**+1.5**
	comp=Z,4.2nm,0.6s								
ASAJ	**Asahikawa**	**9.44**	**231**	PN		**P**	**P**	**16 32 04.6**	**+2.6**
ASAJ	comp=Z,1.0nm,0.3s			pmax			pmax		
ASAJ	**Asahikawa**	**9.44**	**231**	P		**P**	**P**	**16 32 04.6**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=62,slow=8.3,SNR=7.6								
YAK	**Yakutsk**	**17.10**	**321**	P		**P**	**P**	**16 33 32.5**	**+0.7**
YAK	comp=Z,6.0nm,0.6s			pmax			pmax		
YAK	**Yakutsk**	**17.10**	**321**	P		**P**	**P**	**16 33 32.5**	**+0.6**
	comp=Z,5.6nm,0.6s								
MAJO	**Matsushiro**	**17.50**	**222**	*e*P		**P**	**P**	**16 33 38.6**	**+2.5**
MAJO	comp=Z,10.0nm,0.6s			pmax			pmax		
MAJO	**Matsushiro**	**17.50**	**222**	*e*P		**P**	**P**	**16 33 38.6**	**+2.5**
	comp=Z,9.5nm,0.6s								
MAT	**Matsushiro**	**17.50**	**222**	*e*P		**P**	**P**	**16 33 36.0**	**-0.1**
MAT	comp=Z,6.0nm,0.6s			pmax			pmax		
MAT	**Matsushiro**	**17.50**	**222**	*e*P		**P**	**P**	**16 33 36.0**	**-0.1**
	comp=Z,6.0nm,0.6s								
MAT	**Matsushiro**	**17.50**	**222**	P		**P**	**P**	**16 33 36.0**	**-0.1**
BILL	**Bilibino**	**18.76**	**16**	*e*P		**P**	**P**	**16 33 48.2**	**-0.5**
BILL	comp=Z,2.0nm,0.7s			pmax			pmax		
BILL	**Bilibino**	**18.76**	**16**	*e*P		**P**	**P**	**16 33 48.2**	**-0.5**
	comp=Z,1.6nm,0.7s								
IMA	**Indian Mountai**	**30.93**	**40**	*e*P		**P**	**P**	**16 35 39.9**	**-1.0**
ZAK	**Zakamensk**	**31.04**	**289**	*e*P		**P**	**P**	**16 35 40.0**	**-2.0**
ZAK	comp=Z,1.0nm,1.0s,mb3.3			pmax			pmax		
MCK	**McKinley**	**32.98**	**44**	*e*P		**P**	**P**	**16 35 58.2**	**-0.3**
MCK				pmax			pmax		
MCK	**McKinley**	**32.98**	**44**	*e*P		**P**	**P**	**16 35 58.1**	**-0.3**
	comp=Z,3.4nm,0.8s,mb3.9								
COLA	**College**	**33.37**	**42**	*e*P		**P**	**P**	**16 36 00.9**	**-0.9**
COLA	comp=Z,6.0nm,0.6s,mb4.3			pmax			pmax		
COLA	**College**	**33.37**	**42**	*e*P		**P**	**P**	**16 36 00.9**	**-0.9**
	comp=Z,6.3nm,0.6s,mb4.3								
INK	**Inuvik**	**38.60**	**35**	*e*P		**P**	**P**	**16 36 45.5**	**-0.1**
INK	comp=Z,2.0nm,0.4s			pmax			pmax		
INK	**Inuvik**	**38.60**	**35**	P		**P**	**P**	**16 36 46.0**	**+0.4**
	comp=Z,1.8nm,0.4s,mb3.9,baz=304,slow=6.9,SNR=10								
INK	**Inuvik**	**38.60**	**35**	*e*P		**P**	**P**	**16 36 45.5**	**-0.1**
	comp=Z,2.3nm,0.4s,mb4.0								
ZAL	**Zalesovo**	**40.32**	**302**	P		**P**	**P**	**16 37 00.1**	**+0.4**
	comp=Z,1.0nm,0.3s,mb3.6,baz=94,slow=16,SNR=2.3								
ZAL				PcP		PcP		16 38 56.2	-1.3
	comp=Z,1.9nm,0.3s,baz=41,slow=4.3,SNR=3.5								
DLBC	**Dease Lake**	**43.17**	**49**	P		**P**	**P**	**16 37 24.6**	**+1.9**
	comp=Z,3.3nm,0.9s,mb3.5,baz=290,slow=8.8,SNR=4.6								
KURK	**Kurchatov**	**45.16**	**300**	*e*P		**P**	**P**	**16 37 38.6**	**+0.1**
KURK				pmax			pmax		
	comp=Z,6.0nm,1.1s,mb3.7								
KURK	**Kurchatov**	**45.16**	**300**	*e*P		**P**	**P**	**16 37 38.6**	**0.0**
	comp=Z,6.0nm,1.1s,mb3.7								
YKA	**Yellowknife Ar**	**48.04**	**39**	P		**P**	**P**	**16 38 00.6**	**-0.1**
	comp=Z,3.5nm,0.6s,mb3.9,baz=301,slow=7.3,SNR=56								
YKA				PcP		PcP		16 39 22.9	-1.0
	comp=Z,0.3nm,0.5s,baz=307,slow=3.6,SNR=7.0								
BVAR	**Borovoye Array**	**48.34**	**307**	P		**P**	**P**	**16 38 03.0**	**-0.2**
	comp=Z,1.4nm,0.6s,mb3.5,baz=61,slow=7.4,SNR=12								
BVAR				PcP		PcP		16 39 23.4	-1.7
	comp=Z,0.7nm,0.5s,baz=68,slow=3.5,SNR=5.3								
AAK	**Ala-Archa**	**52.03**	**294**	*e*P		**P**	**P**	**16 38 30.1**	**-0.7**
AAK				pmax			pmax		
	comp=Z,1.0nm,0.6s,mb3.3								
AAK	**Ala-Archa**	**52.03**	**294**	*e*P		**P**	**P**	**16 38 30.1**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.3								
ARU	**Arti**	**52.10**	**315**	*e*P		**P**	**P**	**16 38 30.6**	**-0.5**
EDM	**Edmonton**	**53.88**	**48**	*e*P		**P**	**P**	**16 38 43.3**	**-0.8**
FCC	**Fort Churchill**	**58.22**	**34**	*e*P		**P**	**P**	**16 39 13.5**	**-1.1**
FCC				pmax			pmax		
	comp=Z,3.0nm,0.5s,mb4.0								
FCC	**Fort Churchill**	**58.22**	**34**	*e*P		**P**	**P**	**16 39 13.4**	**-1.2**
	comp=Z,2.8nm,0.5s,mb4.0								
HLID	**Hailey**	**59.59**	**57**	*e*P		**P**	**P**	**16 39 26.0**	**+1.8**
	comp=Z,1.2nm,0.7s,mb3.5								
FINES	**FINESS Array B**	**60.52**	**334**	P		**P**	**P**	**16 39 29.2**	**-1.0**
FINES				pmax			pmax		
	comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**	**60.52**	**334**	P		**P**	**P**	**16 39 29.2**	**-1.0**
	comp=Z,1.1nm,0.6s,mb3.5,baz=34,slow=6.9,SNR=6.1								
NVAR	**Mina Array Bea**	**60.91**	**64**	P		**P**	**P**	**16 39 33.5**	**+0.4**
	comp=Z,1.6nm,0.8s,mb3.6,baz=291,slow=7.7,SNR=8.7								
TPAW	**Teton Pass**	**61.48**	**55**	*e*P		**P**	**P**	**16 39 37.5**	**+0.7**
	comp=Z,2.9nm,0.7s,mb3.9								
BW06	**Boulder Array**	**62.72**	**55**	*e*P		**P**	**P**	**16 39 45.1**	**+0.2**
	comp=Z,3.3nm,0.7s,mb4.1								
PDAR	**Pinedale Array**	**62.72**	**55**	P		**P**	**P**	**16 39 45.2**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.1,baz=329,slow=1.9,SNR=28								
ULM	**Lac du Bonnet**	**63.81**	**42**	P		**P**	**P**	**16 39 51.0**	**-0.8**
	comp=Z,0.6nm,0.3s,mb3.7,baz=314,slow=3.6,SNR=3.0								
NB2	**NORSAR Subarra**	**64.56**	**340**	P		**P**	**P**	**16 39 56.4**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.8,baz=25,slow=6.5								
NOA	**NORSAR Array B**	**64.56**	**340**	P		**P**	**P**	**16 39 56.1**	**-0.3**
	comp=Z,1.3nm,0.6s,mb3.8,baz=25,slow=6.4,SNR=6.4								
PV10	**Paradox Valley**	**66.12**	**58**	*e*P		**P**	**P**	**16 40 07.3**	**+0.6**
AKASG	**Malin Array Be**	**68.28**	**325**	P		**P**	**P**	**16 40 18.7**	**-1.2**
	comp=Z,0.3nm,0.2s,mb3.6,baz=33,slow=6.3,SNR=7.0								
AKASG	**Malin Array Be**	**68.28**	**325**	P		**P**	**P**	**16 40 18.7**	**-1.2**
SCHQ	**Schefferville**	**69.89**	**23**	P		**P**	**P**	**16 40 28.8**	**-0.9**
	comp=Z,1.5nm,0.7s,mb3.8,baz=315,slow=8.6,SNR=8.2								
WRA	**Warramunga Arr**	**72.05**	**198**	P		**P**	**P**	**16 40 42.2**	**-1.0**
	comp=Z,0.3nm,0.7s,mb3.0,baz=15,slow=6.1,SNR=5.0								
GERES	**GERESS Array B**	**74.95**	**333**	P		**P**	**P**	**16 41 00.0**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.4,baz=27,slow=6.0,SNR=6.1								
ASAR	**Alice Springs**	**75.76**	**198**	P		**P**	**P**	**16 41 06.6**	**+2.1**
	comp=Z,0.3nm,0.6s,mb3.1,baz=17,slow=5.5,SNR=4.7								
TXAR	**Lajitas Array**	**75.83**	**61**	P		**P**	**P**	**16 41 05.3**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.6,baz=297,slow=4.3,SNR=9.8								

IGQ 01 16:30:49.4, 1.68N×80.43W, h12km±8km, mb4.2, 2C-7D, Error ellipse: s-maj=9.4km s-min=3.2km az=78.7, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LORE	**San Lorenzo**	**1.63**	**103**	⇓P			Pn	16 31 20.5	+2.3
LORE				S			Sn	16 31 38.7	-0.6
MAGD	**Magdalena**	**1.86**	**159**	⇓P			Pn	16 31 22.4	+1.0
JAMA	**Jama**	**1.94**	**173**	P			Pn	16 31 21.8	-0.8
JAMA				S			Sn	16 31 42.2	-4.9
JOR1	**San Jorge 1**	**2.45**	**133**	⇓P			Pn	16 31 33.1	+3.2
COTA	**Cotacachi**	**2.48**	**122**	⇓P			Pn	16 31 31.5	+1.1
YANA	**Yana**	**2.58**	**134**	P			Pn	16 31 33.6	+1.9
YANA				S			Sn	16 32 05.6	+2.3
PINO	**Pino**	**2.58**	**135**	⇓P			Pn	16 31 33.9	+2.1
TERV	**Terraza Guagua**	**2.59**	**135**	⇓P			Pn	16 31 34.1	+2.2
GGP	**Refugio Guagua**	**2.60**	**135**	P			Pn	16 31 35.8	+3.7
ECEN	**Cerro Negro**	**2.60**	**109**	⇑P			Pn	16 31 33.5	+1.4
JUA2	**San Juan 2**	**2.62**	**136**	⇑P			Pn	16 31 34.4	+2.1
JUA2				S			Sn	16 32 06.0	+1.6
HOJA	**Cerro de Hojas**	**2.71**	**182**	P			Pn	16 31 34.4	+0.7
CAYA	**Cayambe**	**2.92**	**123**	P			Pn	16 31 39.0	+2.4
CAYR	**Refugio Cayamb**	**2.94**	**124**	P			Pn	16 31 39.5	+2.7
ELAGU	**Cayambe Volc**	**2.97**	**125**	P			Pn	16 31 40.3	+3.0
NAS1	**Nasa**	**3.02**	**140**	P			Pn	16 31 40.7	+2.7
VC1	**Cotopaxi 1**	**3.07**	**139**	P			Pn	16 31 40.8	+2.0
ANTI	**Antisana**	**3.10**	**133**	⇓P			Pn	16 31 42.1	+2.9
ANTI				S			Sn	16 32 18.0	+1.4
TAMB	**Tambo**	**3.13**	**139**	P			Pn	16 31 42.5	+2.9
TAMB				S			Sn	16 32 19.7	+2.4
CONE	**Cono NE Rev Vo**	**3.29**	**122**	P			Pn	16 31 46.0	+4.2
PISA	**Pisayambo**	**3.40**	**143**	P			Pn	16 31 46.7	+3.2
PISA				S			Sn	16 32 25.6	+1.5
IGUA	**Igualata**	**3.62**	**150**	P			Pn	16 31 49.7	+3.1
IGUA				S			Sn	16 32 29.3	-0.4
CUSU	**Cusua**	**3.66**	**148**	P			Pn	16 31 51.1	+3.9
ULBA	**Ulba**	**3.71**	**147**	P			Pn	16 31 50.1	+2.3
ULBA				S			Sn	16 32 32.9	+1.1
ARRY	**Arrayan**	**3.73**	**148**	P			Pn	16 31 50.3	+2.2
ARRY				S			Sn	16 32 31.9	-0.5

*BJI **01** 16:35:30.9, 1.18S×96.89E, h30km, mB5.2, mb4.9, Ms4.2, Msz3.9*
*IDC **01** 16:35:34.6±0.5, 0.33S×96.84E, mb4.5/21, mb1 4.6/21, mb1mx4.6/23, mbtmp4.5/21, MS3.8/5, Ms1 3.8/5, ms1mx3.4/25, Error ellipse: s-maj=23.0km s-min=11.7km az=44.0*
*MOS **01** 16:35:37.7±0.8, 0.36S×96.84E, h33km, mb5.0/27, Error ellipse: s-maj=12.6km s-min=7.0km az=111.8*
*NEIC **01** 16:35:39.1±0.2, 0.35S×96.90E, h30km, mb4.8/34, Error ellipse: s-maj=6.6km s-min=4.5km az=222.0*
ISC 01 16:35:37.2±0.3, 0.37S±0.05×96.91E±0.05, h29km, h29km±1.9km: pP-P, n133, σ0§89/134, mb4.8/65, MS3.9/12, 5C-7D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.75**	**34**	*e*Pn			**Pn**	**16 37 14.3**	**-2.8**
KSM	**Kuching**	**13.53**	**82**	*e*Pn			**P**	**16 38 48.8**	**-1.0**
BDT	**Bhumibol Dam**	**17.63**	**7**	P			**P**	**16 39 43.0**	**+0.5**
CHG	**Chiang Mai** 11nm,0.8s	**19.17**	**6**	⇓P			**P**	**16 40 00.1**	**-1.3**
KKM	**Kota Kinabalu**	**20.30**	**71**	*e*P			**P**	**16 40 12.8**	**-0.9**
CHRT	**Chiangrai** 171nm,0.8s	**20.32**	**8**	⇓P			**P**	**16 40 12.5**	**-1.3**
KMI	**Kunming**	**25.97**	**12**	P			**P**	**16 41 11.0**	**+1.7**
KMI				AP			pP	16 41 19.6	+1.8
KMI				XP			sP	16 41 23.0	+1.3
KMI				PP			PP	16 41 53.9	+3.4
KMI				PPP			PPP	16 42 05.6	+3.1
KMI				S			**S**	**16 45 39.2**	**+3.7**
KMI				XS				16 45 53.7	
KMI	comp=Z,25nm,1.2s,mb4.6			AMB			AMB		
KMI	comp=N,156nm,15.2s,MS3.9			LR			LR		
KMI	comp=E,223nm,14.0s,MS3.9			LR			LR		
KMI	comp=Z,157nm,13.4s,MS3.7			LR			LR		
KMI	**Kunming** comp=Z,25nm,1.2s,mb4.6	**25.97**	**12**	P			**P**	**16 41 11.0**	**+1.7**
KMI				pP			pP	16 41 19.6	+1.8
KMI				sP			sP	16 41 23.0	+1.3
KMI				PP			PP	16 41 53.9	+3.4
KMI				PPP			PPP	16 42 05.6	+3.1
KMI				S			**S**	**16 45 39.2**	**+3.7**
KMI				sS				16 45 53.7	
KMI				SS			SS	16 46 47.5	+5.1
KMI				SSS			SSS	16 47 05.1	+5.4
KMI				LR			LR		
KMI	comp=Z,160nm,13.4s,MS3.7								
SHL	**Shillong**	**26.24**	**350**	*e*			sP	16 41 25.0	+0.8
BLSP	**Bilaspur**	**26.61**	**328**	*e*			**P**	**16 41 15.3**	**+0.2**
BLSP				*e*				16 42 32.5	
BLSP				*e*				16 42 51.8	
NGP	**Nagpur**	**27.61**	**322**	*e*			**P**	**16 41 28.2**	**+3.9**
GYA	**Guiyang**	**28.29**	**19**	P			**P**	**16 41 30.5**	**+0.1**
GYA	comp=Z,10.0nm,1.1s,mb4.4			AMB			AMB		
JIRN	**Jiri**	**29.71**	**341**	*e*P			**P**	**16 41 43.9**	**+0.7**
	comp=Z,37nm,0.7s,mb5.2								
PKI	**Pulchoki**	**29.90**	**339**	*e*P			**P**	**16 41 44.8**	**-0.1**
	comp=Z,9.3nm,0.6s,mb4.7								
PKI	**Pulchoki**	**29.90**	**339**	*e*P			**P**	**16 41 44.8**	**-0.1**
PKI				pmax			pmax		
	comp=Z,5.0nm,0.6s,mb4.4								
DMN	**Daman**	**30.04**	**339**	*e*P			**P**	**16 41 45.5**	**-0.7**
	comp=Z,17nm,0.8s,mb4.8								
GUN	**Gumba**	**30.05**	**340**	*e*P			**P**	**16 41 46.8**	**+0.6**
	comp=Z,43nm,0.9s,mb5.2								
KKN	**Kakani**	**30.14**	**339**	*e*P			**P**	**16 41 47.2**	**+0.1**
	comp=Z,32nm,0.9s,mb5.0								
KKN	**Kakani**	**30.14**	**339**	*e*P			**P**	**16 41 47.2**	**+0.1**
KKN				pmax			pmax		
	comp=Z,16nm,0.9s,mb4.8								
LSA	**Lhasa**	**30.41**	**350**	P			**P**	**16 41 50.2**	**+0.9**
LSA	**Lhasa**	**30.41**	**350**	*e*P			**P**	**16 41 49.4**	**+0.1**
LSA				pmax			pmax		
	comp=Z,13nm,0.9s,mb4.7								
LSA	**Lhasa**	**30.41**	**350**	*e*P			**P**	**16 41 49.4**	**0.0**
	comp=Z,13nm,0.9s,mb4.7								
GKN	**Gorkha**	**30.57**	**338**	*e*P			**P**	**16 41 51.3**	**+0.5**
	comp=Z,43nm,0.9s,mb5.3								
KOLN	**Koldanda**	**30.76**	**336**	*e*P			**P**	**16 41 52.7**	**+0.2**
	comp=Z,57nm,0.8s,mb5.5								
CD2	**Chengdu**	**31.79**	**11**	P			**P**	**16 42 01.0**	**-0.5**
ENH	**Enshi**	**32.74**	**20**	*e*P			**P**	**16 42 09.2**	**-0.6**
	comp=Z,32nm,1.0s,mb5.2								
ENH				*e*			pP	16 42 16.6	-1.9
FITZ	**Fitzroy Crossi**	**33.28**	**124**	*e*P			**P**	**16 42 14.4**	**-0.2**
	comp=Z,11nm,1.0s,mb4.8								
FITZ	**Fitzroy Crossi**	**33.28**	**124**	P			**P**	**16 42 14.5**	**-0.1**
	comp=Z,15nm,0.9s,mb4.9,baz=348,slow=7.0,SNR=9.2								
WHN	**Wuhan**	**34.94**	**27**	*e*P			**P**	**16 42 29.8**	**+1.0**
XAN	**Xi'an**	**36.04**	**17**	P			**P**	**16 42 37.6**	**-0.5**
XAN				AMB			AMB		
	comp=Z,28nm,1.1s,mb5.1								
LZH	**Lanzhou**	**36.84**	**9**	⇓P			**P**	**16 42 45.0**	**+0.2**
LZH				AP			pP	16 42 54.1	+0.5
LZH				XP			sP	16 42 58.5	+1.2
LZH				AMB			AMB		
	comp=Z,35nm,1.5s,mb5.0								
NJ2	**Nanjing**	**38.35**	**31**	*e*P			**P**	**16 42 58.4**	**+0.8**
NJ2				AP			pP	16 43 09.0	+2.7
NJ2				XP			sP	16 43 13.3	+3.3
NJ2				S			**S**	**16 48 51.0**	**+1.2**
NJ2				XS				16 49 07.0	
NJ2				AMB			AMB		
	comp=Z,10.0nm,1.2s,mb4.4								
NJ2				AMB			AMB		
	comp=Z,412nm,4.2s								
NJ2				LR			LR		
	comp=N,310nm,16.0s								
NJ2				LR			LR		
	comp=E,40nm,22.0s								
SSE	**Sheshan**	**38.87**	**34**	*e*P			**P**	**16 43 00.4**	**-1.5**
SSE				AP			pP	16 43 08.9	-1.7
SSE				S			**S**	**16 48 59.6**	**+2.0**
SSE				XS				16 49 15.6	
SSE				SS			SS	16 51 54.0	+13
SSE				AMB			AMB		
	comp=Z,25nm,0.7s,mb5.0								
SSE				AMB			AMB		
	comp=Z,35nm,4.1s								
SSE				LR			LR		
	comp=N,156nm,14.9s,MS4.0								
SSE				LR			LR		
	comp=E,74nm,14.9s,MS4.0								
SSE				LR			LR		
	comp=Z,228nm,13.3s,MS4.2								
SSE	**Sheshan**	**38.87**	**34**	*e*P			**P**	**16 43 00.4**	**-1.5**
	comp=Z,25nm,0.7s,mb5.0						

TKM2 Tokmak 2 47.16 339 P **P** **16 44 09.8 +0.7**
SNR=25
KBK Karagaybulak 47.17 338 P **P** **16 44 09.7 +0.6**
SNR=21
AML Almayashu 47.21 336 P **P** **16 44 10.3 +0.9**
SNR=17
AAK Ala-Archa 47.32 337 P **P** **16 44 10.4 +0.1**
comp=Z,38nm,1.0s,mb5.3,SNR=12
AAK Ala-Archa 47.32 337 *e*P **P** **16 44 09.8 -0.5**
AAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AAK Ala-Archa 47.32 337 *e*P **P** **16 44 09.8 -0.6**
comp=Z,6.2nm,0.9s,mb4.5
CHMS Chumysh 47.54 338 P **P** **16 44 12.7 +0.6**
SNR=7.8
EKS2 Erkin-Say 47.63 337 P **P** **16 44 13.5 +0.8**
SNR=24
USP Ospenovka 47.87 338 P **P** **16 44 14.9 +0.3**
SNR=43
SONM Songino Array 48.72 8 P **P** **16 44 21.6 +0.6**
comp=Z,5.3nm,0.9s,mb4.5,baz=188,slow=9.0,SNR=30
SONM PcP PcP 16 45 46.2 -0.1
comp=Z,2.0nm,0.8s,baz=204,slow=4.3,SNR=4.4
ULN Ulaanbaatar 48.85 9 *e*P **P** **16 44 22.2 +0.1**
ULN pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
ULN Ulaanbaatar 48.85 9 *e*P **P** **16 44 22.2 +0.1**
comp=Z,8.9nm,1.4s,mb4.6
ZAK Zakamensk 50.86 5 *e*P **P** **16 44 36.7 -0.7**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
MOY Mondy 51.96 3 *e*P **P** **16 44 46.0 +0.2**
CTA Charters Tower 52.08 115 *e*P **P** **16 44 47.7 +0.6**
comp=Z,6.6nm,0.8s,mb4.6
CTA Charters Tower 52.08 115 *e*P **P** **16 44 47.7 +0.6**
CTA pmax pmax
comp=Z,7.0nm,0.8s
CTA Charters Tower 52.08 115 P **P** **16 44 47.8 +0.7**
comp=Z,7.5nm,0.7s,mb4.7,baz=264,slow=11,SNR=6.0
CTAO Charters Tower 52.08 115 *e*P **P** **16 44 46.9 -0.2**
CTAO pmax pmax
comp=Z,12nm,0.8s,mb4.9
CTAO Charters Tower 52.08 115 *e*P **P** **16 44 46.9 -0.2**
comp=Z,12nm,0.8s,mb4.9
TLY Talaya 52.18 5 *e*P **P** **16 44 47.7 +0.3**
TLY pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
TLY MLR MLR
comp=Z,91nm,18.0s,MS3.9
TLY Talaya 52.18 5*d i*P **P** **16 44 47.9 +0.5**
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
STKA Stephens Creek 52.54 131 *e*P **P** **16 44 51.0 +0.6**
comp=Z,5.2nm,0.7s,mb4.6
STKA Stephens Creek 52.54 131 P **P** **16 44 51.1 +0.7**
comp=Z,6.8nm,0.8s,mb4.7,baz=304,slow=6.7,SNR=20
KURK Kurchatov 53.23 346 *e*P **P** **16 44 54.3 -0.9**
KURK pmax pmax
comp=Z,17nm,1.1s,mb4.9
KURK Kurchatov 53.23 346 *e*P **P** **16 44 54.3 -0.9**
comp=Z,17nm,1.1s,mb4.9
ATD Arta Tunnel 54.97 284 LR LR 17 03 15.9
comp=Z,42nm,19.0s,MS3.5,baz=59,slow=30
ZAL Zalesovo 55.05 351 P **P** **16 45 08.1 -0.5**
comp=Z,14nm,0.5s,mb5.2,baz=309,slow=5.9,SNR=71
RAYN Ar Rayn 55.25 299 P **P** **16 45 10.8 +0.4**
comp=Z,38nm,1.2s,SNR=11
NVS Novosibirsk 56.17 351 *i* P **P** **16 45 14.1 -2.5**
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,3.0nm,1.0s
NVS pmax pmax
comp=Z,20nm,1.0s,mb5.1
BVAR Borovoye Array 57.63 341 P **P** **16 45 25.6 -1.4**
comp=Z,6.4nm,0.7s,mb4.7,baz=143,slow=7.4,SNR=43
KLR Kul'dur 57.78 26 *e*P **P** **16 45 24.7 -3.4**
KLR MLR MLR
comp=Z,600nm,13.0s,MS4.9
BOD Bodaibo 59.60 11 *e*P **P** **16 45 40.0 -0.6**
KMBO Kilima Mbogo 59.65 269 *e*P **P** **16 45 41.4 -0.2**
KMBO pmax pmax
comp=Z,2.0nm,1.0s
KMBO Kilima Mbogo 59.65 269 P **P** **16 45 42.0 +0.3**
comp=Z,0.8nm,0.4s,mb4.1,baz=34,slow=4.4,SNR=5.3
KMBO PcP PcP 16 46 30.3 +2.0
comp=Z,1.1nm,0.8s,baz=139,slow=10,SNR=3.8
KMBO LR LR 17 08 08.2
comp=Z,72nm,19.6s,MS3.8,baz=92,slow=33
KMBO Kilima Mbogo 59.65 269 *e*P **P** **16 45 41.4 -0.3**
comp=Z,2.2nm,1.0s,mb4.1
YSS Yuzh-Sakhalins 61.81 34⇑ *e*P **P** **16 45 56.2 +0.4**
YSS pmax pmax
comp=Z,22nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 61.81 34 *e*P **P** **16 45 55.0 -0.8**
comp=Z,19nm,1.1s,mb5.1
GNI Garni 62.22 317⇑ *e*P **P** **16 45 58.8 +0.1**
GNI pmax pmax
comp=Z,17nm,1.5s
GNI Garni 62.22 317 *e*P **P** **16 45 58.5 -0.3**
comp=Z,3.3nm,0.5s,mb4.7
HNR Honiara 63.36 100 P **P** **16 46 06.5 0.0**
comp=Z,75nm,0.8s,mb5.8,baz=317,slow=2.6,SNR=6.3
SVE Sverdlovsk 64.03 339⇑ *i*P **P** **16 46 09.5 -0.9**
SVE pmax pmax
comp=Z,22nm,1.1s,mb5.1
SVE MLR MLR
comp=Z,131nm,22.0s,MS4.1
ARU Arti 64.51 338⇓ *i*P **P** **16 46 11.8 -1.7**
ARU *e* 16 46 44.7
ARU *e* 16 48 35.4
ARU *e*S **S** **16 54 49.1 0.0**
ARU *e*SS SS 16 58 58.9 -2.3
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ARU Arti 64.51 338 *e*P **P** **16 46 11.6 -1.9**
comp=Z,6.8nm,1.2s,mb4.5
KIV Kislovodsk 65.31 320⇑ *e*P **P** **16 46 18.5 -0.4**
KIV pmax pmax
comp=Z,14nm,1.0s,mb5.0
KIV Kislovodsk 65.31 320 *e*P **P** **16 46 17.9 -1.0**
comp=Z,8.4nm,0.9s,mb4.8
GOF Gofitskoye 65.59 321 *e*P **P** **16 46 20.5 -0.1**
MALT Malatya 65.97 313 *e*P **P** **16 46 23.5 +0.3**
MALT pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
MALT Malatya 65.97 313 *e*P **P** **16 46 23.4 +0.3**
comp=Z,8.6nm,1.3s,mb4.6
EIL Elat 66.05 303 *e*P **P** **16 46 23.1 -0.8**
comp=Z,5.9nm,0.8s,mb4.7
YAK Yakutsk 67.00 16 *e*P **P** **16 46 26.4 -3.0**
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=Z,19nm,1.0s,mb5.1
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 67.00 16 *e*P **P** **16 46 27.7 -1.6**
comp=E,12nm,0.4s,mb5.3
ANN Anapa 69.08 319 *e*P **P** **16 46 36.3 -6.3**
ANN pmax pmax
comp=Z,90nm,1.7s,mb5.4
LSZ Lusaka 69.39 254 *e*P **P** **16 46 44.9 -0.1**
LSZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LSZ Lusaka 69.39 254 *e*P **P** **16 46 44.9 -0.1**
comp=Z,1.9nm,0.7s,mb4.1
BRTR Keskin Array B 69.95 313 P **P** **16 46 47.0 -1.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=123,slow=6.7,SNR=7.8
VRSR Storozhevoye 70.68 326 *e*P **P** **16 46 50.6 -1.7**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,1.4s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VOR Voronezh 70.90 326 *e*P **P** **16 46 52.5 -1.1**
VOR pmax pmax
comp=Z,50nm,1.3s,mb5.3
MA2 Magadan 72.87 25 *e*P **P** **16 47 04.9 -0.3**
MA2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
MA2 Magadan 72.87 25 *e*P **P** **16 47 04.9 -0.2**
comp=Z,7.3nm,0.7s,mb4.7
BOSA Boshof 73.75 240 P **P** **16 47 10.9 -0.1**
comp=Z,2.1nm,0.6s,mb4.3,baz=90,slow=5.1,SNR=6.1
BOSA LR LR 17 14 08.0
comp=Z,92nm,18.5s,MS4.1,baz=257,slow=31
OBN Obninsk 73.80 329 *e*P **P** **16 47 10.3 -0.4**
OBN *e*S S 16 56 39.4 +0.8
OBN pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
TIXI Tiksi 74.78 10⇓ *e*P **P** **16 47 14.9 -1.1**
TIXI pmax pmax
comp=Z,14nm,1.0s,mb4.8
AKASG Malin Array Be 76.32 323 P **P** **16 47 24.2 -1.0**
comp=Z,2.8nm,0.7s,mb4.3,baz=88,slow=4.9,SNR=9.5
MLR Muntele Rosu 77.01 317 P **P** **16 47 29.1 -0.1**
comp=Z,7.5nm,0.9s,mb4.6,baz=85,slow=3.2
FINES FINESS Array B 81.25 333 P **P** **16 47 51.7 -0.1**
comp=Z,2.2nm,0.5s,mb4.4,baz=98,slow=5.4,SNR=28
KAF Kangasniemi 81.35 333 *e*p **P** **16 47 50.8 -1.5**
comp=Z,5.0nm,0.7s,mb4.5,baz=104,slow=5.0
KAF Kangasniemi 81.35 333 *e*P **P** **16 47 50.8 -1.5**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KEV Kevo 83.48 341 *e*p **P** **16 48 04.4 +1.2**
comp=Z,16nm,1.1s,mb5.0
KEV Kevo 83.48 341 *e*P **P** **16 48 04.4 +1.2**
KEV pmax pmax
comp=Z,16nm,1.1s,mb5.0
ARCES ARCESS Array B 83.91 340 P **P** **16 48 06.0 +0.7**
comp=Z,2.1nm,0.7s,mb4.3,baz=76,slow=5.0,SNR=6.0
VNDA Vanda 84.35 169 P **P** **16 48 08.3 +0.9**
comp=Z,2.1nm,1.0s,mb4.2,baz=292,slow=4.5,SNR=6.3
GERES GERESS Array B 85.80 319 P **P** **16 48 15.9 +0.7**
comp=Z,1.5nm,0.8s,mb4.3,baz=108,slow=4.2,SNR=11
HFS Hagfors 86.93 330 P **P** **16 48 21.4 +0.9**
comp=Z,4.9nm,0.8s,mb4.8,baz=104,slow=6.1,SNR=9.2
DAVOX Davos 88.23 317 P **P** **16 48 27.7 +0.7**
comp=Z,2.6nm,0.7s,mb4.6,baz=114,slow=14,SNR=3.3
NB2 NORSAR Subarra 88.23 331 P **P** **16 48 26.1 -0.6**
comp=Z,4.1nm,1.0s,mb4.6,baz=95,slow=4.8
NOA NORSAR Array B 88.23 331 P **P** **16 48 26.7 0.0**
comp=Z,2.0nm,0.8s,mb4.4,baz=96,slow=4.5,SNR=5.7
LPG La Plagne 90.37 315 *e*P **P** **16 48 37.3 +0.1**
comp=Z,8.2nm,0.9s,mb4.8
LPG La Plagne 90.37 315 *e*P **P** **16 48 37.3 +0.1**
LPG pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
SNAA Sanae 92.72 198 LR LR 17 22 11.8
comp=Z,47nm,19.6s,MS3.9,baz=184,slow=30
ULM Lac du Bonnet 129.13 11 PKP PKPdf 16 54 44.1 -3.8
comp=Z,0.5nm,0.3s,baz=310,slow=0.3,SNR=4.2
PDAR Pinedale Array 131.57 26 PKP PKPdf 16 54 49.7 -3.1
comp=Z,0.4nm,0.6s,baz=315,slow=2.1,SNR=3.7
TXAR Lajitas Array 145.15 32 PKPbc PKPbc 16 55 14.9 +1.9
comp=Z,11nm,0.7s,baz=269,slow=1.4,SNR=70
LPAZ La Paz 157.82 221 PKPab PKPab 16 56 08.0 +1.1
comp=Z,0.3nm,0.4s,baz=83,slow=8.1,SNR=4.1

NDI 01 16:40:22.5±6.2, 21.46N×76.28E, h17km±25km, ML3.2, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKL	**Akola**	**1.02**	**137**	*e*P	Pb	16 40 43.1	+1.8
AKL				*e*S	Sb	16 40 54.8	+0.6
AKL				*e*		16 40 55.7	
	comp=E,6μm,0.2s						
AKL				*e*		16 40 56.7	
	comp=N,4μm,0.2s						
BHPL	**Bhopal**	**2.07**	**31**	*e*P	Pn	16 40 58.5	+1.5
BHPL				*e*S	Sn	16 41 20.3	-2.3
BHPL				*e*		16 41 23.8	
	comp=E,180nm,0.1s						
BHPL				*e*		16 41 24.2	
	comp=N,126nm,0.2s						
NGP	**Nagpur**	**2.60**	**96**	*e*P	Pn	16 41 03.7	-1.0
LATR	**Latur**	**3.04**	**175**	*e*PG	Pn	16 41 22.0	+11
LATR				*e*SG	Sn	16 42 03.0	+16
POO	**Poona**	**3.70**	**219**	*e*P	Pn	16 41 20.9	+0.7
POO				*i* S	Sn	16 42 00.5	-3.5
POO				*i* Sg	Sn	16 42 23.2	+19
POO				*e*		16 42 42.8	
	comp=E,40nm,0.4s						
POO				*e*		16 42 42.8	
	comp=N,38nm,0.3s						
BOM	**Bombay**	**4.13**	**233**	*e*	Pn	16 42 35.8	+69
BOM				*e*		16 42 51.4	
KAD	**Karad**	**4.58**	**206**	*i* PG	Pn	16 41 49.1	+16
KAD				*e*SG	Sn	16 42 57.5	+31
KAD				*e*		16 43 04.1	
	comp=N,28nm,0.4s						
KAD				*e*		16 43 04.2	
	comp=E,30nm,0.4s						
BWNR	**Bhubaneshwar**	**8.98**	**96**	*i* SG	Sn	16 45 21.9	+66

*BJI **01** 16:45:38.8, 4.35S×153.24E, h32km, mB5.2, mb4.9, Ms4.6, Msz4.2*
*MOS **01** 16:45:39.8±1.2, 4.49S×152.93E, h33km, mb4.9/17, Error ellipse: s-maj=11.8km s-min=9.3km az=82.3*
*NEIC **01** 16:45:40.8±1.1, 4.57S×153.00E, h36km±9km, mb4.8/27, Error ellipse: s-maj=7.5km s-min=6.9km az=103.0*
*IDC **01** 16:45:42.2±1.7, 4.61S×153.04E, h50km±15km, mb4.4/11, mb1 4.5/13, mb1mx4.4/18, mbtmp4.7/13, ML4.4/2, MS3.8/2, Ms1 3.7/2, ms1mx3.3/16, Error ellipse: s-maj=17.9km s-min=12.9km az=125.0*
ISC 01 16:45:34.7±3.0, 4.53S±0.05×153.07E±0.07, h6km±19km, n121, σ1$00/86, mb4.7/41, MS3.6/3, 2C-2D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.61**	**230**	*e*P	**Pn**	**16 47 29.5**	**+0.7**
PMG						16 48 48.2	
PMG				pmax	pmax		
	comp=Z,34nm,0.6s						
PMG	**Port Moresby**	**7.61**	**230**	P	**Pn**	**16 47 30.7**	**+1.9**
	comp=Z,6.8nm,0.3s,baz=281,slow=5.7,SNR=26						
PMG				S	**Sn**	**16 48 56.0**	**-0.3**
	comp=Z,21nm,0.3s,baz=139,slow=14,SNR=7.7						
PMG	**Port Moresby**	**7.61**	**230**	*e*Pn	**Pn**	**16 47 29.5**	**+0.8**
	comp=Z,34nm,0.6s						
PMG				Sn	**Sn**	**16 48 48.2**	**-8.0**
HNR	**Honiara**	**8.38**	**126**	*e*P	**P**	**16 47 41.3**	**+1.7**
HNR				pmax	pmax		
	comp=Z,143nm,0.7s						
HNR	**Honiara**	**8.38**	**126**	P	**P**	**16 47 42.1**	**+2.5**
	comp=Z,41nm,0.3s,baz=206,slow=4.3,SNR=18						
HNR	**Honiara**	**8.38**	**126**	*e*Pn	**P**	**16 47 41.2**	**+1.6**
	comp=Z,143nm,0.7s						
CTAO	**Charters Tower**	**16.83**	**203**	P	**P**	**16 49 32.0**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,15nm,1.1s						
CTAO	**Charters Tower**	**16.83**	**203**	P	**P**	**16 49 32.0**	**-0.7**
	comp=Z,15nm,1.1s						
DZM	**Mont Dzumac**	**21.73**	**145**	P	**P**	**16 50 28.3**	**-0.5**
	comp=Z,6.5nm,0.4s,mb4.4,baz=2.8,slow=13,SNR=14						
DZM				LR	LR	16 57 45.9	
	comp=Z,271nm,20.9s,MS3.6,baz=27,slow=33						
WRAB	**Tennant Creek**	**23.81**	**228**	*e*P	**P**	**16 50 48.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.0						
WRAB	**Tennant Creek**	**23.81**	**228**	*e*P	**P**	**16 50 48.9**	**-0.5**
	comp=Z,70nm,1.1s,mb5.0						
WB2	**Warramunga Arr**	**23.82**	**228**⇓	*i*P	**P**	**16 50 49.4**	**0.0**
WRA	**Warramunga Arr**	**23.82**	**228**	P	**P**	**16 50 49.6**	**0.0**
	comp=Z,5.9nm,0.3s,mb4.5,baz=53,slow=9.8,SNR=83						
WRA				S	**S**	**16 55 03.0**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=48,slow=17,SNR=4.7						
WRA				ScP		16 58 07.8	
	comp=Z,1.2nm,0.8s,baz=51,slow=3.0,SNR=5.7						
ASAR	**Alice Springs**	**26.53**	**222**	P	**P**	**16 51 13.9**	**-1.2**
	comp=Z,3.1nm,0.5s,mb4.1,baz=55,slow=9.0,SNR=5.0						
ASAR				ScP		16 58 16.3	
	comp=Z,0.6nm,0.7s,baz=48,slow=2.8,SNR=4.5						
ASPA	**Alice Springs**	**26.53**	**222**	*e*P	**P**	**16 51 16.8**	**+1.6**
STKA	**Stephens Creek**	**29.26**	**200**	P	**P**	**16 51 39.1**	**-0.7**
	comp=Z,1.3nm,0.9s,mb3.7,baz=32,slow=13,SNR=4.0						
STKA				LR	LR	17 02 03.8	
	comp=Z,160nm,19.3s,MS3.6,baz=22,slow=34						
FITZ	**Fitzroy Crossi**	**30.02**	**241**	*e*P	**P**	**16 51 45.1**	**-1.7**
	comp=Z,14nm,0.4s,mb5.0						
FITZ	**Fitzroy Crossi**	**30.02**	**241**	P	**P**	**16 51 45.2**	**-1.6**
	comp=Z,20nm,0.5s,mb5.1,baz=77,slow=4.4,SNR=48						
MBWA	**Marble Bar**	**36.34**	**240**	*e*P	**P**	**16 52 40.0**	**-1.5**
	comp=Z,4.7nm,0.4s,mb4.8						
JOW	**Kunigami**	**39.34**	**324**	P	**P**	**16 53 08.3**	**+1.7**
	comp=Z,23nm,0.6s,mb5.1,baz=135,slow=13,SNR=7.5						

MAT Matsushiro 43.16 342 *e*P **P** **16 53 37.0 -1.0**
MAT pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
MAT Matsushiro 43.16 342 *e*P **P** **16 53 37.0 -1.0**
comp=Z,10.0nm,1.0s,mb4.5
MAT Matsushiro 43.16 342 P **P** **16 53 36.9 -1.1**
INCN Inchon 48.50 332 *e*P **P** **16 54 20.9 +0.5**
comp=Z,37nm,0.8s,mb5.5
MDJ Mudanjiang 53.26 339 P **P** **16 54 56.3 -0.2**
MDJ AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
MDJ AMB AMB
comp=Z,82nm,3.4s
MDJ Mudanjiang 53.26 339 *e*P **P** **16 54 56.1 -0.3**
comp=Z,5.3nm,0.6s,mb4.7
CN2 Changchun 54.16 336 *e*P **P** **16 55 03.5 +0.4**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
ENH Enshi 54.17 313 *e*P **P** **16 55 03.1 -0.2**
comp=Z,12nm,1.1s,mb4.7
XAN Xi'an 56.61 316 P **P** **16 55 20.8 -0.2**
XAN AMB AMB
comp=Z,8.0nm,0.7s,mb4.9
KLR Kul'dur 56.66 343 *e*P **P** **16 55 18.0 -3.2**
HIA Hailar 60.90 336 *e*P **P** **16 55 49.7 -0.9**
HIA pmax pmax
comp=Z,3.0nm,0.6s
HIA Hailar 60.90 336 *e*P **P** **16 55 49.7 -0.9**
comp=Z,3.3nm,0.6s,mb4.6
LZH Lanzhou 61.23 316 *e*P **P** **16 55 54.0 +1.0**
LZH XP sP 16 56 11.0 +15
LZH AMB AMB
comp=Z,25nm,1.6s,mb5.1
LZH Lanzhou 61.23 316 *e*P **P** **16 55 54.0 +1.0**
comp=Z,25nm,1.6s,mb5.1
LZH sP sP 16 56 11.0 +15
MA2 Magadan 63.93 359 *e*P **P** **16 56 09.4 -1.3**
MA2 pmax pmax
comp=Z,21nm,1.0s,mb5.1
MA2 Magadan 63.93 359 *e*P **P** **16 56 09.4 -1.2**
comp=Z,21nm,1.0s,mb5.1
GTA Gaotai 65.64 317 P **P** **16 56 23.2 +1.1**
GTA AP pP 16 56 31.5 +7.5
GTA XP sP 16 56 33.7 +9.0
GTA AMB AMB
comp=Z,8.0nm,1.4s,mb4.6
SONM Songino Array 66.24 328 P **P** **16 56 25.8 +0.1**
comp=Z,3.2nm,0.6s,mb4.5,baz=145,slow=5.7,SNR=23
LSA Lhasa 68.31 304 *e*P **P** **16 56 37.9 -1.3**
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LSA Lhasa 68.31 304 *e*P **P** **16 56 37.9 -1.2**
comp=Z,4.0nm,0.6s,mb4.6
YAK Yakutsk 68.76 348 *e*P **P** **16 56 41.2 -0.2**
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.7
YAK Yakutsk 68.76 348 *e*P **P** **16 56 41.2 -0.2**
comp=Z,11nm,1.0s,mb4.8
ZAK Zakamensk 69.40 329⇑ *i*P **P** **16 56 45.5 0.0**
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BOD Bodaibo 69.64 339 *e*P **P** **16 56 45.6 -1.2**
BOD pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
JIRN Jiri 71.88 301 *e*P **P** **16 57 00.0 -0.9**
comp=Z,6.1nm,0.5s,mb4.8
GUN Gumba 72.21 301 *e*P **P** **16 57 02.5 -0.4**
comp=Z,12nm,0.5s,mb5.1
PKI Pulchoki 72.53 301 *e*P **P** **16 57 03.8 -1.1**
comp=Z,7.0nm,0.6s,mb4.8
PKI Pulchoki 72.53 301 *e*P **P** **16 57 03.8 -1.1**
PKI pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
KKN Kakani 72.69 301 *e*P **P** **16 57 05.4 -0.5**
comp=Z,7.6nm,0.4s,mb5.0
KKN Kakani 72.69 301 *e*P **P** **16 57 05.4 -0.5**
KKN pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
DMN Daman 72.80 301 *e*P **P** **16 57 06.2 -0.3**
comp=Z,15nm,0.6s,mb5.1
BILL Bilibino 73.00 5 *e*P **P** **16 57 06.8 0.0**
BILL pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BILL Bilibino 73.00 5 *e*P **P** **16 57 06.8 0.0**
comp=Z,7.9nm,0.8s,mb4.7
GKN Gorkha 73.30 301 *e*P **P** **16 57 09.1 -0.3**
comp=Z,15nm,0.5s,mb5.2
KOLN Koldanda 74.13 300 *e*P **P** **16 57 13.7 -0.5**
comp=Z,14nm,0.7s,mb5.0
WMQ Urumqi 75.73 317⇑ *i*P **P** **16 57 23.6 +0.5**
WMQ PCP PcP 16 57 36.2 +0.1
WMQ PP PP 17 00 16.6 +1.8
WMQ S S 17 06 58.2 -5.6
WMQ SCS ScS 17 07 27.6 -6.5
WMQ AMB AMB
comp=Z,11nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,116nm,4.9s
WMQ LR LR
comp=N,36nm,18.6s,MS3.9
WMQ LR LR
comp=E,35nm,18.6s,MS3.9
WMQ LR LR
comp=Z,26nm,22.0s,MS3.5
IMA Indian Mountai 80.11 19 *e*P **P** **16 57 46.4 -0.3**
MCK McKinley 80.51 22 *e*P **P** **16 57 47.6 -1.3**
MCK pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
MCK McKinley 80.51 22 *e*P **P** **16 57 47.6 -1.3**
comp=Z,8.3nm,1.2s,mb4.5
ZAL Zalesovo 81.09 326 P **P** **16 57 51.7 -0.4**
comp=Z,1.8nm,0.5s,mb4.2,baz=16,slow=5.3,SNR=8.8
COLA College 81.50 22 *e*P **P** **16 57 53.0 -1.1**
COLA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
COLA College 81.50 22 *e*P **P** **16 57 53.0 -1.1**
comp=Z,6.6nm,0.9s,mb4.6
ULHL Ulahol 83.33 313 P **P** **16 58 05.4 +1.4**
SNR=9.7
KURK Kurchatov 83.72 322 *e*P **P** **16 58 05.8 -0.1**
KURK pmax pmax
comp=Z,18nm,1.4s,mb5.0
KURK Kurchatov 83.72 322 *e*P **P** **16 58 05.8 0.0**
comp=Z,18nm,1.4s,mb5.0
TKM2 Tokmak 2 83.94 314 P **P** **16 58 08.2 +1.1**
SNR=16
KZA Kyzart 84.02 313 P **P** **16 58 09.8 +2.2**
SNR=19
KBK Karagaybulak 84.35 313 P **P** **16 58 10.3 +1.1**
SNR=11
CHMS Chumysh 84.56 314 P **P** **16 58 11.2 +0.9**
SNR=10.0
UCH Uchtor 84.58 313 P **P** **16 58 12.2 +1.7**
SNR=18
AAK Ala-Archa 84.68 313 P **P** **16 58 12.1 +1.2**
SNR=14
AAK Ala-Archa 84.68 313 P **P** **16 58 11.6 +0.7**
comp=Z,113nm,0.6s,SNR=28
AAK Ala-Archa 84.68 313 *e*P **P** **16 58 10.7 -0.2**
AAK pmax pmax
comp=Z,16nm,0.9s,mb5.2
AAK Ala-Archa 84.68 313 *e*P **P** **16 58 10.7 -0.1**
comp=Z,16nm,0.9s,mb5.1
USP Ospenovka 84.79 314 P **P** **16 58 12.4 +1.0**
SNR=23
AML Almayashu 85.17 313 P **P** **16 58 15.3 +2.0**
SNR=37
EKS2 Erkin-Say 85.20 313 P **P** **16 58 15.0 +1.5**
SNR=16
QSPA South Pole Qui 85.43 180⇓ *i*P **P** **16 58 14.2 +0.4**
comp=Z,9.7nm,0.6s,mb5.1
INK Inuvik 88.11 21 *e*P **P** **16 58 26.4 -0.7**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 88.11 21 P **P** **16 58 26.9 -0.1**
comp=Z,2.0nm,0.6s,mb4.6,baz=258,slow=6.4,SNR=8.7
INK Inuvik 88.11 21 *e*P **P** **16 58 26.4 -0.7**
comp=Z,3.9nm,0.9s,mb4.6
BVAR Borovoye Array 89.19 323 P **P** **16 58 31.9 -0.6**
comp=Z,18nm,0.7s,mb5.5,baz=105,slow=5.5,SNR=114
YKA Yellowknife Ar 95.06 28 P **P** **16 58 59.4 0.0**
comp=Z,0.6nm,0.7s,mb4.2,baz=272,slow=4.7,SNR=9.3
FINES FINESS Array B 110.92 336 Pdiff Pdif 17 00 10.1 -0.1
comp=Z,0.8nm,0.8s,baz=56,slow=6.9,SNR=6.9
FINES PKiKP 17 04 10.1

comp=Z,0.8nm,0.7s,baz=108,slow=4.4,SNR=5.2
AKASG **Malin Array Be 114.43 325** PKP PKPdf 17 04 15.9 -2.2
comp=Z,0.9nm,0.4s,baz=53,slow=2.7,SNR=5.8
PLCA **Paso Flores 119.83 143** PKP PKPdf 17 04 27.5 -1.3
comp=Z,1.6nm,0.6s,baz=324,slow=1.2,SNR=6.3
BRG **Berggiesshubel 122.57 331** *e*PKIKP PKPdf 17 04 33.5 -0.4
CLL **Collm 122.75 331** *i* PKIKP PKPdf 17 04 32.7 -1.5
MOX **Moxa 123.84 331** *e*P PKPdf 17 04 30.0 -6.5
KHC **Kasperske Hory 123.85 329** *e*PKPdf PKPdf 17 04 34.5 -2.0
GERES **GERESS Array B 123.97 329** PKP PKPdf 17 04 35.3 -1.4
comp=Z,2.6nm,0.6s,baz=70,slow=2.1,SNR=23
GRA1 **Grafenberg Arr 124.67 331** *e*PKP PKPdf 17 04 37.5 -0.6
GRF **Grafenberg Arr 124.67 331** *e*PKIKP PKPdf 17 04 37.5 -0.6
CDF **Champ du Feu 127.43 332** *e*PKIKP PKPdf 17 04 42.6 -0.8
BAIF **Baives 127.59 335** *e*PKIKP PKPdf 17 04 42.9 -0.8
comp=Z,3.9nm,0.5s
HINF **Hinteralfeld 128.06 332** *e*PKIKP PKPdf 17 04 43.4 -1.3
comp=Z,5.6nm,0.6s
HAU **Haudompre 128.16 332** *e*PKIKP PKPdf 17 04 43.8 -1.1
comp=Z,11nm,0.7s
MEZF **Maizieres J'vi 128.39 333** *e*PKIKP PKPdf 17 04 44.2 -1.1
comp=Z,7.3nm,0.5s
CABF **La Chapelle 129.28 331** *e*PKIKP PKPdf 17 04 47.2 +0.1
comp=Z,6.0nm,0.6s
LPL **La Plagne 129.73 330** *e*PKIKP PKPdf 17 04 47.0 -0.9
comp=Z,4.6nm,0.6s
LPG **La Plagne 129.74 330** *e*PKIKP PKPdf 17 04 47.0 -0.9
comp=Z,4.5nm,0.6s
SSF **Saint Saulge 130.16 333** *e*PKIKP PKPdf 17 04 48.0 -0.7
comp=Z,4.4nm,0.5s
MBDF **Montbardon 130.26 329** *e*PKIKP PKPdf 17 04 48.5 -0.5
SMF **Signal de Mont 130.32 332** *e*PKIKP PKPdf 17 04 47.5 -1.5
comp=Z,3.5nm,0.6s
AVF **Avril sur Loir 130.43 333** *e*PKIKP PKPdf 17 04 47.8 -1.4
LDF **La Druitiere 130.50 337** *e*PKIKP PKPdf 17 04 48.6 -0.7
ORIF **Oris-en-Rattie 130.58 330** *e*PKIKP PKPdf 17 04 48.8 -0.8
comp=Z,10nm,0.9s
BGF **Bois d'Agland 130.84 333** *e*PKIKP PKPdf 17 04 49.0 -1.0
GRR **Gorron 130.95 337** *e*PKIKP PKPdf 17 04 49.0 -1.2
FRF **La Foret Royal 131.12 328** *e*PKIKP PKPdf 17 04 48.6 -2.0
comp=Z,9.2nm,0.8s
VIVF **Saint-Julien-l 131.23 330** *e*PKIKP PKPdf 17 04 49.8 -1.0
TCF **Toulx Ste Croi 131.33 333** *e*PKIKP PKPdf 17 04 50.5 -0.4
comp=Z,4.6nm,0.6s
SGMF **Saint Gilles 131.70 338** *e*PKIKP PKPdf 17 04 50.6 -1.0
comp=Z,19nm,0.8s
LASF **Ste Croix 132.19 330** *e*PKIKP PKPdf 17 04 51.8 -0.9
comp=Z,8.7nm,0.8s
CAF **Calviac 132.43 332** *e*PKIKP PKPdf 17 04 51.7 -1.4
MTLF **Montolieu 133.54 331** *e*PKIKP PKPdf 17 04 54.4 -0.7
LPAZ **La Paz 134.31 118** PKP PKPdf 17 04 56.3 -0.9
comp=Z,1.3nm,0.8s,baz=250,slow=5.2,SNR=6.6
ETSF **Etsaut 135.20 332** *e*PKIKP PKPdf 17 04 58.6 +0.3
comp=Z,5.7nm,0.5s
SJPF **Ste Jean 135.33 333** *e*PKIKP PKPdf 17 04 58.6 +0.1
BDFB **Brasilia 151.06 134** PKP PKPdf 17 05 25.8 -0.6
comp=Z,9.6nm,0.6s,baz=175,slow=2.2,SNR=4.6
BDFB PKPbc PKPdf 17 05 30.8 +4.5
comp=Z,9.6nm,0.6s,baz=221,slow=1.0,SNR=12
DBIC **Dimbokro 157.93 277** PKPab PKPab 17 06 07.5 -1.3
comp=Z,3.0nm,0.6s,baz=78,slow=5.4,SNR=4.3

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*IDC **01** 16:47:25.0±2.4, 5.25N×94.78E, mb3.9/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/30, Error ellipse: s-maj=102.2km s-min=27.5km az=56.0*
*NEIC **01** 16:47:28.6±1.4, 5.08N×94.47E, h30km, mb4.3/1, Error ellipse: s-maj=36.4km s-min=13.8km az=216.0*
ISC 01 16:47:26.8±1.7, 5.1N±0.3×94.5E±0.2, h30km, n8, σ0 s44/7, mb4.0/6, MS3.3/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.12**	**88**	*e*Pn	**Pn**	**16 48 58.0**	**+0.3**
SONM	**Songino Array**	**43.77**	**12**	P	**P**	**16 55 30.9**	**-0.6**
	0.5nm,0.7s,mb3.4,baz=191,slow=8.2,SNR=4.7						
WRA	**Warramunga Arr**	**46.40**	**124**	P	**P**	**16 55 52.5**	**-0.4**
	1.2nm,0.6s,mb4.0,baz=304,slow=9.3,SNR=5.1						
KURK	**Kurchatov**	**47.36**	**346**	*e*P	**P**	**16 55 59.8**	**-0.3**
	1.9nm,0.6s,mb4.2						
ZAL	**Zalesovo**	**49.31**	**352**	P	**P**	**16 56 15.0**	**-0.1**
	1.7nm,0.4s,mb4.5,baz=318,slow=4.5,SNR=9.6						
ATD	**Arta Tunnel**	**51.45**	**281**	LR	LR	17 14 20.9	
	comp=Z,26nm,18.3s,MS3.3,baz=88,slow=31						
BVAR	**Borovoye Array**	**51.70**	**342**	P	**P**	**16 56 33.5**	**+0.2**
	0.5nm,0.5s,mb3.7,baz=141,slow=9.5,SNR=5.7						
ARCES	**ARCESS Array B**	**77.97**	**340**	P	**P**	**16 59 24.3**	**+0.8**
	4.1nm,0.9s,mb4.4,baz=102,slow=6.0,SNR=5.8						

IDC 01 17:07:54.0±28.0, 1.71N×100.82E, mb3.9/3, mb1 4.1/3, mb1mx3.6/15, mbtmp3.9/3, Error ellipse: s-maj=517.3km s-min=220.6km az=141.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.30**	**125**	P	P	17 15 25.0	-1.6
	1.9nm,0.5s,baz=304,slow=9.2,SNR=22						
WB2	**Warramunga Arr**	**39.31**	**125**	*e*P	P	17 15 25.8	-0.9
ASAR	**Alice Springs**	**40.88**	**130**	P	P	17 15 37.7	-2.0
	1.0nm,0.5s,baz=303,slow=8.1,SNR=11						
STKA	**Stephens Creek**	**51.07**	**134**	P	P	17 16 58.7	-1.8
	0.9nm,0.8s,baz=306,slow=9.7,SNR=3.1						

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*IDC **01** 17:13:56.8±3.4, 0.25S×97.08E, mb3.9/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=142.7km s-min=22.6km az=61.0*
*NEIC **01** 17:14:01.5±1.1, 0.26S×97.11E, h30km, mb4.3/1, Error ellipse: s-maj=30.9km s-min=12.5km az=76.0*
ISC 01 17:13:59.8±1.6, 0.2S±0.1×97.1E±0.3, h33km, n9, σ0 s45/8, mb3.9/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.52**	**33**	*e*Pn	**Pn**	**17 15 35.9**	**-0.1**
KULM				*ep*Pn		17 15 43.9	
ENH	**Enshi**	**32.53**	**20**	*e*P	**P**	**17 20 30.1**	**0.0**
	2.2nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**41.40**	**121**	P	**P**	**17 21 44.4**	**-0.5**
	1.8nm,0.9s,mb3.7,baz=298,slow=9.2,SNR=7.0						
ASAR	**Alice Springs**	**42.65**	**126**	P	**P**	**17 21 55.8**	**+0.5**
	1.2nm,0.7s,mb3.7,baz=302,slow=7.8,SNR=14						
SONM	**Songino Array**	**48.54**	**8**	P	**P**	**17 22 42.4**	**+0.7**
	0.6nm,0.9s,mb3.6,baz=184,slow=5.6,SNR=4.9						
STKA	**Stephens Creek**	**52.50**	**131**	P	**P**	**17 23 12.0**	**0.0**
	1.1nm,0.6s,mb4.0,baz=319,slow=6.7,SNR=4.0						
STKA	**Stephens Creek**	**52.50**	**131**	P	**P**	**17 23 12.0**	**-0.1**
ZAL	**Zalesovo**	**54.92**	**351**	P	**P**	**17 23 29.1**	**-0.6**
	1.4nm,0.5s,mb4.3,baz=307,slow=6.0,SNR=5.8						
TXAR	**Lajitas Array**	**144.91**	**34**	PKP	PKPdf	17 33 36.5	+2.3
	1.2nm,0.7s,baz=279,slow=1.7,SNR=8.1						

IDC 01 17:16:07.5±4.5, 0.28S×97.02E, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=183.5km s-min=25.1km az=59.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.42**	**120**	P	P	17 23 55.9	-1.8
	0.9nm,0.9s,baz=296,slow=9.6,SNR=5.2						
ASAR	**Alice Springs**	**42.66**	**126**	P	P	17 24 06.5	-1.5
	0.6nm,0.6s,baz=295,slow=7.6,SNR=7.6						
SONM	**Songino Array**	**48.61**	**8**	P	P	17 24 53.0	-1.9
	0.6nm,0.9s,baz=191,slow=6.3,SNR=3.9						
ZAL	**Zalesovo**	**54.97**	**351**	P	P	17 25 40.2	-2.6
	0.9nm,0.5s,baz=293,slow=6.0,SNR=6.0						
TXAR	**Lajitas Array**	**145.00**	**33**	PKPbc	PKPbc	17 35 46.5	-1.1
	1.1nm,0.9s,baz=270,slow=1.8,SNR=5.5						

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*IDC **01** 17:22:00.5±2.4, 12.67N×90.53W, mb4.0/8, mb1 4.3/8, mb1mx4.0/20, mbtmp4.1/8, Error ellipse: s-maj=63.1km s-min=27.6km az=31.0*
*CASC **01** 17:22:13.1±2.0, 13.51N×91.42W, h73km±33km, MD4.1, ML4.1, mb4.3(NEIC)*
*NEIC **01** 17:22:16.3±1.0, 13.50N×91.04W, h75km±8km, mb4.3/5, MD4.7(MEX), Error ellipse: s-maj=18.3km s-min=9.2km az=208.0*

*MEX **01** 17:22:26.4±0.3, 14.06N×91.78W, h50km±938km, MD4.7*
ISC 01 17:22:12.6±1.0, 13.38N±0.07×91.45W±0.04, h51km±8km, n43, σ1 s12/58, mb4.1/11, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.95**	**349**	⇓*e*P	**P**	**17 22 29.8**	**-0.1**
JAT				*e*S	**S**	**17 22 43.5**	**+0.8**
FUG	**Fuego 3**	**1.22**	**29**	⇑*i*P	**P**	**17 22 32.7**	**-0.9**
IXG	**Ixpaco**	**1.25**	**50**	*e*P	**P**	**17 22 32.7**	**-1.4**
TP2	**Tecpan 2**	**1.46**	**16**	*e*P	**P**	**17 22 36.5**	**-0.6**
TP2				*e*S	**S**	**17 22 54.1**	**-1.1**
RTR	**El Retiro**	**1.83**	**73**	*e*P	**P**	**17 22 42.0**	**-0.2**
SBLS	**San Blas**	**1.83**	**75**	*e*P	**P**	**17 22 42.4**	**+0.1**
SNJE	**San Jose**	**1.86**	**74**	*e*P	**P**	**17 22 43.0**	**+0.3**
SNJE				*e*S	**S**	**17 23 05.2**	**+0.3**
RBDL	**Robledal**	**1.86**	**67**	*e*P	**P**	**17 22 42.7**	**0.0**
RBDL				*e*S	**S**	**17 23 06.1**	**+1.0**
BOQS	**Boqueron**	**2.14**	**80**	*e*P	**P**	**17 22 47.1**	**+0.5**
BOQS				*e*S	**S**	**17 23 12.9**	**+0.9**
SNET	**Serv Nac Est T**	**2.18**	**82**	*e*P	**P**	**17 22 47.4**	**+0.3**
SNET				*e*S	**S**	**17 23 13.3**	**+0.3**
SNET				*i*		17 23 22.5	
	comp=Z,2μm,0.5s						
MTO2	**Montecristo 2**	**2.27**	**63**	*e*P	**P**	**17 22 48.9**	**+0.4**
MTO2				*e*S	**S**	**17 23 16.7**	**+1.4**
LFRS	**El Faro**	**2.33**	**84**	*e*P	**P**	**17 22 50.1**	**+0.7**
LFRS				*e*S	**S**	**17 23 16.7**	**-0.2**
LBRS	**Las Brisas**	**2.37**	**81**	*e*P	**P**	**17 22 50.1**	**+0.2**
LCBS	**La Ceiba**	**2.42**	**83**	*e*P	**P**	**17 22 50.8**	**+0.2**
SNVI	**San Vicente**	**2.55**	**84**	*e*P	**P**	**17 22 52.1**	**-0.3**
SNVI				*e*S	**S**	**17 23 21.9**	**-0.5**
CCIG	**Comitan**	**2.97**	**347**	⇓*i*P	**P**	**17 22 59.8**	**+1.4**
CCIG				*e*S	**S**	**17 23 25.6**	**-7.3**
CNCH	**Conchagua**	**3.52**	**91**	*e*P	**P**	**17 23 05.0**	**-1.1**
CNCH				*e*S	**S**	**17 23 46.0**	**-1.0**
CMIG	**Matias Romero**	**4.96**	**319**	*e*P	**P**	**17 23 27.4**	**+0.9**
CMIG				*e*S	**S**	**17 24 18.8**	**-4.5**
CMIG	**Matias Romero**	**4.96**	**319**	*e*P	**P**	**17 23 27.4**	**+0.9**
CMIG				*e*S	**S**	**17 24 15.6**	**-7.7**
OXX	**Oaxaca**	**6.28**	**307**	*e*P	**P**	**17 23 51.0**	**+6.1**
OXX	**Oaxaca**	**6.28**	**307**	*e*P	**P**	**17 23 48.0**	**+3.1**
OXX				*i* S	**S**	**17 24 54.0**	**-2.2**
VHO	**Vista Hermosa**	**6.29**	**306**	*i* S	**S**	**17 24 51.1**	**-5.2**
JTS	**JuntasAbangare**	**7.06**	**115**	Pn	**P**	**17 23 52.8**	**-3.0**
TEIG	**Tepich**	**7.46**	**24**	*e*Pn	**P**	**17 23 60.0**	**-1.4**
	comp=Z,33nm,0.6s						
PPM	**Popocatepetl**	**8.92**	**310**	*e*P	**P**	**17 24 25.6**	**+4.2**
PPM				*i* S	**S**	**17 25 59.1**	**-2.5**
PPM	**Popocatepetl**	**8.92**	**310**	*e*P	**P**	**17 24 25.6**	**+4.2**
PPM				*ep*		17 24 26.0	
PPM				*i* S	**S**	**17 25 56.8**	**-4.8**
TXAR	**Lajitas Array**	**19.51**	**326**	P	**P**	**17 26 40.6**	**+2.2**
	comp=Z,6.0nm,0.8s,baz=154,slow=11,SNR=37						
GDL2	**Guadalupe Moun**	**22.16**	**330**	*e*P	**P**	**17 27 07.3**	**+1.7**
MNTX	**Cornudas Mount**	**22.28**	**327**	*e*P	**P**	**17 27 08.2**	**+1.4**
	comp=Z,15nm,0.9s,mb4.4						
CPRX	**Cap Rock**	**22.61**	**332**	*e*P	**P**	**17 27 11.4**	**+1.4**
AMTX	**Amarillo**	**23.33**	**338**	*e*P	**P**	**17 27 18.1**	**+1.1**
	comp=Z,12nm,0.7s,mb4.4						
CCM	**Cathedral Cave**	**24.58**	**0**	*e*P	**P**	**17 27 28.4**	**-0.8**
	comp=Z,6.0nm,0.6s,mb4.3						
TUC	**Tucson**	**25.86**	**320**	*e*P	**P**	**17 27 42.0**	**+0.7**
	comp=Z,1.5nm,0.5s,mb3.8						
HWUT	**Hardware Ranch**	**33.13**	**332**	*e*P	**P**	**17 28 46.3**	**+0.2**
	comp=Z,3.8nm,0.9s,mb4.3						
PDAR	**Pinedale Array**	**33.21**	**335**	P	**P**	**17 28 46.2**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=141,slow=9.5,SNR=3.8						
NVAR	**Mina Array Bea**	**34.49**	**321**	P	**P**	**17 29 01.6**	**+3.8**
	comp=Z,3.1nm,0.8s,mb4.3,baz=139,slow=8.3,SNR=17						
ULM	**Lac du Bonnet**	**36.95**	**355**	P	**P**	**17 29 16.2**	**-2.3**
	comp=Z,0.6nm,0.3s,mb3.9,baz=201,slow=10,SNR=3.1						
SCHQ	**Schefferville**	**45.62**	**20**	P	**P**	**17 30 26.7**	**-2.9**
	comp=Z,3.5nm,0.9s,mb4.3,baz=217,slow=4.7,SNR=4.6						
YKA	**Yellowknife Ar**	**51.75**	**347**	P	**P**	**17 31 16.2**	**-0.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=149,slow=7.5,SNR=28						
YKA	**Yellowknife Ar**	**51.75**	**347**	P	**P**	**17 31 16.2**	**-0.7**
INK	**Inuvik**	**61.19**	**343**	P	**P**	**17 32 23.2**	**-0.9**
	comp=Z,1.4nm,0.7s,mb4.2,baz=124,slow=7.6,SNR=6.5						
INK	**Inuvik**	**61.19**	**343**	P	**P**	**17 32 23.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**144.04**	**258**	PKP	PKPdf	17 41 39.2	-4.1
	comp=Z,6.7nm,1.0s,baz=63,slow=4.2,SNR=3.3						

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*BJI **01** 17:24:36.3, 0.82N×97.27E, h31km, mB5.4, mb5.1, Ms5.3, Msz5.2*
*MOS **01** 17:24:39.5±1.1, 1.15N×97.33E, h33km, mb5.3/44, MS4.9/16, Error ellipse: s-maj=11.0km s-min=6.2km az=109.1*
*HRVD **01** 17:24:40.2±1.1, 1.16N×97.23E, h21km, MW5.1/42, Centroid moment Tensor Solution. LP body waves: s34,c55;Mantle waves: s42,c66; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.47±.23; $M_{\theta\theta}$-1.75±.13; $M_{\phi\phi}$-0.72±.23; $M_{r\theta}$2.52±.35; $M_{\theta\phi}$3.30±.13; $M_{\phi r}$-2.57±.41; Best double couple: $M_0$5.049×10^{16} NP1:ϕ_s297°, δ23°, λ70°. NP2:ϕ_s138°, δ68°, λ98°. Principal axes: T 4.017, Plg66°, Azm62°; N 2.062, Plg8°, Azm315°; P -6.081, Plg23°, Azm221°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 17:24:40.2±0.2, 1.14N×97.24E, mb5.1/50 Error ellipse: s-maj=6.1km s-min=4.7km az=212.0*
*IDC **01** 17:24:42.4±2.5, 1.16N×97.33E, h44km±22km, mb4.4/22, mb1 4.5/22, mb1mx4.4/24, mbtmp4.6/22, MS4.7/12, Ms1 4.7/12, ms1mx4.5/23, Error ellipse: s-maj=18.9km s-min=10.1km az=42.0*
ISC 01 17:24:38.5±0.2, 1.13N±0.04×97.28E±0.03, h26km, h26km±.6km: pP-P, n237, σ1 s10/244, mb5.0/92, MS5.0/48, 21C-9D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.07**	**47**	P	**Pn**	**17 25 55.6**	**+0.7**
KULM	**Kulim**	**5.33**	**39**	⇑*e*Pn	**Pn**	**17 25 58.7**	**+0.1**
KGM	**Kluang**	**6.10**	**82**	P	**Pn**	**17 26 11.0**	**+1.6**
SNG	**Songkhla**	**6.87**	**29**	P	**Pn**	**17 26 18.0**	**-2.2**
	418nm,0.9s						
KSM	**Kuching**	**13.03**	**88**	*e*Pn	**P**	**17 27 46.6**	**+1.8**
KKTK	**Khon Kaen**	**16.07**	**20**	⇑P	**P**	**17 28 27.0**	**+2.4**
	432nm,1.0s						
BDT	**Bhumibol Dam**	**16.11**	**6**	P	**P**	**17 28 25.0**	**0.0**
PALK	**Pallekele**	**17.62**	**291**	*e*P	**P**	**17 28 43.2**	**-0.9**
	52nm,1.1s						
NANT	**Nan**	**17.88**	**11**	⇓P	**P**	**17 28 48.5**	**+1.2**
	500nm,0.4s						
CHRT	**Chiangrai**	**18.79**	**7**	⇑P	**P**	**17 28 57.5**	**-1.0**
	179nm,1.0s						
KKM	**Kota Kinabalu**	**19.51**	**75**	*e*P	**P**	**17 29 07.2**	**+0.2**
KKM	**Kota Kinabalu**	**19.51**	**75**	P	**P**	**17 29 07.4**	**+0.4**
TSM	**Tawau**	**20.80**	**81**	P	**P**	**17 29 20.6**	**0.0**
VIS	**Vishakhapatnam**	**21.45**	**321**	*e*P	**P**	**17 29 28.2**	**+1.1**
VIS				*e*		17 29 40.5	
	comp=Z,117nm,0.8s						
QIZ	**Qiongzhong**	**21.64**	**34**	P	**P**	**17 29 29.0**	**0.0**
QIZ				S	**S**	**17 33 25.3**	**+3.1**
QIZ				AMB	AMB		
	comp=Z,81nm,1.6s,mb4.9						
QIZ				LR	LR		
	comp=E,4μm,14.6s						
QIZ				LR	LR		
	comp=Z,3μm,12.6s,MS4.9						
QIZ	**Qiongzhong**	**21.64**	**34**	*e*P	**P**	**17 29 29.1**	**+0.1**
	comp=Z,298nm,1.8s,mb5.4						
BWNR	**Bhubaneshwar**	**22.11**	**330**	*e*P	**P**	**17 29 35.7**	**+1.9**
BWNR				*e*		17 29 47.2	
	comp=Z,103nm,1.3s						
BWNR				*e*S	**S**	**17 33 37.1**	**+6.2**
CAL	**Calcutta**	**23.00**	**338**	*e*P	**P**	**17 29 44.4**	**+1.8**
CAL				*e*S	**S**	**17 33 52.1**	**+5.1**
KMI	**Kunming**	**24.43**	**12**	P	**P**	**17 29 58.7**	**+2.2**
KMI				AP		17 30 05.1	
KMI				XP		17 30 08.7	
KMI				PP	PP	17 30 35.7	+3.4
KMI				S	**S**	**17 34 17.9**	**+6.1**
KMI				XS		17 34 27.2	
KMI				SS	SS	17 35 16.3	+9.5
KMI				AMB	AMB		
	comp=Z,175nm,1.2s,mb5.4						
KMI				AMB	AMB		
	comp=Z,1μm,3.3s						
KMI				LR	LR		
	comp=N,7μm,15.5s,MS5.3						
KMI				LR	LR		
	comp=E,3μm,14.5s,MS5.3						
KMI				LR	LR		
	comp=Z,7μm,14.8s,MS5.3						
KMI	**Kunming**	**24.43**	**12**	P	**P**	**17 29 58.7**	**+2.2**
KMI				*SP		17 30 08.7	
KMI						17 30 35.7	
KMI				S	**S**	**17 34 17.9**	**+6.1**
KMI				SS	SS	17 35 16.3	+9.5
KMI				pmax	pmax		
	comp=Z,175nm,1.2s,mb5.4						
KMI				MLR	MLR		
	comp=Z,7μm,14.8s,MS5.3						
KMI	**Kunming**	**24.43**	**12**	P	**P**	**17 29 58.7**	**+2.2**
	comp=Z,175nm,1.2s,mb5.4						
KMI				pP		17 30 05.1	
KMI				sP		17 30 08.7	
KMI				PP	PP	17 30 35.7	+3.4
KMI				S	**S**	**17 34 17.9**	**+6.1**
KMI				sS		17 34 27.2	
KMI				SS	SS	17 35 16.3	+9.5
KMI				LR	LR		
	comp=Z,7μm,14.8s,MS5.3						
HYB	**Hyderabad**	**24.52**	**312**	*i* P	**P**	**17 30 08.0**	**+11**
	comp=Z,50nm,1.0s,mb5.0						
SHL	**Shillong**	**24.85**	**348**	*e*P	**P**	**17 30 02.0**	**+1.5**
SHL				*e*S	**S**	**17 34 23.0**	**+4.1**
BLSP	**Bilaspur**	**25.56**	**326**	*e*P	**P**	**17 30 07.2**	**0.0**
BLSP				*e*		17 30 19.8	
	comp=Z,83nm,1.0s						
LKP	**Lekhapani**	**26.08**	**358**	*e*P	**P**	**17 30 14.0**	**+1.9**
LKP				*e*	pP	17 30 20.0	+0.3
GYA	**Guiyang**	**26.75**	**19**	⇑*i*P	**P**	**17 30 18.0**	**-0.2**
GYA				AP	pP	17 30 25.4	-0.5
GYA				XP	sP	17 30 28.6	-0.8
GYA				S	**S**	**17 34 48.7**	**-1.8**
GYA				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.7						
GYA				AMB	AMB		
	comp=Z,300nm,5.1s						
GYA				LR	LR		
	comp=N,2μm,17.9s,MS5.1						
GYA				LR	LR		
	comp=E,4μm,16.7s,MS5.1						
GYA				LR	LR		
	comp=Z,4μm,14.1s,MS5.2						
JIRN	**Jiri**	**28.44**	**339**	*e*P	**P**	**17 30 33.7**	**+0.2**
	comp=Z,127nm,1.0s,mb5.5						
PKI	**Pulchoki**	**28.65**	**338**	*e*P	**P**	**17 30 35.9**	**+0.5**
	comp=Z,159nm,1.4s,mb5.5						
PKI	**Pulchoki**	**28.65**	**338**	*e*P	**P**	**17 30 35.9**	**+0.5**
PKI				pmax	pmax		
	comp=Z,79nm,1.4s,mb5.2						
GUN	**Gumba**	**28.78**	**339**	*e*P	**P**	**17 30 36.8**	**+0.2**
	comp=Z,82nm,0.7s,mb5.6						
DMN	**Daman**	**28.80**	**337**	*e*P	**P**	**17 30 36.8**	**0.0**
	comp=Z,95nm,1.0s,mb5.5						
DAV	**Davao City (W)**	**28.82**	**77**	*e*P	**P**	**17 30 38.8**	**+1.7**
KKN	**Kakani**	**28.90**	**338**	*e*P	**P**	**17 30 37.9**	**+0.3**
	comp=Z,139nm,1.2s,mb5.6						
KKN	**Kakani**	**28.90**	**338**	*e*P	**P**	**17 30 37.9**	**+0.3**
KKN				pmax	pmax		
	comp=Z,69nm,1.2s,mb5.3						
LSA	**Lhasa**	**29.01**	**349**	P	**P**	**17 30 38.6**	**0.0**
LSA				XP	sP	17 30 53.3	+3.5
LSA				SCP		17 37 27.1	
LSA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
LSA				AMB	AMB		
	comp=Z,330nm,11.9s						
LSA				LR	LR		
	comp=N,820nm,24.9s,MS4.5						
LSA				LR	LR		
	comp=E,1μm,25.9s,MS4.5						
LSA				LR	LR		
	comp=Z,1μm,26.4s,MS4.4						
LSA	**Lhasa**	**29.01**	**349**	*e*P	**P**	**17 30 39.3**	**+0.7**
LSA				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.9						
LSA	**Lhasa**	**29.01**	**349**	*e*P	**P**	**17 30 39.3**	**+0.7**
	comp=Z,19nm,0.8s,mb4.9						
GKN	**Gorkha**	**29.34**	**337**	*e*P	**P**	**17 30 41.6**	**0.0**
	comp=Z,201nm,1.4s,mb5.7						
KOLN	**Koldanda**	**29.56**	**335**	*e*P	**P**	**17 30 43.5**	**-0.1**
	comp=Z,314nm,1.6s,mb5.8						
CD2	**Chengdu**	**30.25**	**11**	⇑*i*P	**P**	**17 30 49.1**	**-0.6**
CD2				S	**S**	**17 35 39.7**	**-6.8**
CD2				AMB	AMB		
	comp=Z,70nm,1.4s,mb5.2						
CD2				AMB	AMB		
	comp=Z,400nm,14.4s						
CD2				LR	LR		
	comp=E,6μm,14.4s						
CD2				LR	LR		
	comp=Z,6μm,15.6s,MS5.4						
MBWA	**Marble Bar**	**31.19**	**137**	*e*P	**P**	**17 30 59.3**	**+1.3**
	comp=Z,24nm,1.2s,mb4.9						
ENH	**Enshi**	**31.22**	**21**	*e*P	**P**	**17 30 56.5**	**-1.7**
	comp=Z,87nm,1.0s,mb5.5						
QZH	**Quanzhou**	**31.38**	**39**	⇑*i*P	**P**	**17 30 59.6**	**-0.1**
QZH				S	**S**	**17 36 04.2**	**0.0**
QZH				AMB	AMB		
	comp=Z,140nm,1.4s,mb5.6						
QZH				LR	LR		
	comp=N,4μm,12.9s,MS5.4						
QZH				LR	LR		
	comp=E,3μm,13.8s,MS5.4						
QZH				LR	LR		
	comp=Z,7μm,14.5s,MS5.5						
LGTI	**Lohaghat**	**32.51**	**332**	*e*P	**P**	**17 31 09.5**	**0.0**
PTH	**Pithoragarh**	**32.60**	**332**	*e*P	**P**	**17 31 09.9**	**-0.5**
NDI	**New Delhi**	**33.44**	**327**	*e*P	**P**	**17 31 15.5**	**-2.1**
WHN	**Wuhan**	**33.44**	**27**	P	**P**	**17 31 17.7**	**+0.1**
WHN				AMB	AMB		
	comp=Z,140nm,1.5s,mb5.7						
WHN				LR	LR		
	comp=Z,4μm,13.8s,M

SMLA Simla 35.40 329⇓i P 17 31 24.4 -10
NJ2 Nanjing 36.88 31 eP P 17 31 47.4 +0.4
NJ2 AP pP 17 31 57.4 +2.6
NJ2 XP sP 17 32 01.6 +3.5
NJ2 PP PP 17 33 14.9 +1.8
NJ2 S **S 17 37 32.0 +2.5**
NJ2 XS 17 37 49.0
NJ2 AMB AMB
comp=Z,60nm,1.2s,mb5.3
NJ2 AMB AMB
comp=Z,794nm,5.2s
NJ2 LR LR
comp=N,5μm,13.0s,MS5.6
NJ2 LR LR
comp=E,4μm,14.0s,MS5.6
NJ2 LR LR
comp=Z,18μm,14.3s,MS6.0
THN Thein Dam 37.18 329 eP P 17 31 47.6 -1.9
SSE Sheshan 37.43 35 eP P 17 31 49.7 -1.8
SSE AP pP 17 31 59.5 +0.1
SSE S **S 17 37 38.1 +0.3**
SSE XS 17 37 57.2
SSE AMB AMB
comp=Z,60nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,135nm,4.1s
SSE LR LR
comp=N,1μm,14.7s,MS5.1
SSE LR LR
comp=E,2μm,14.7s,MS5.1
SSE LR LR
comp=Z,2μm,15.0s,MS5.1
SSE Sheshan 37.43 35 eP P 17 31 49.7 -1.8
comp=Z,60nm,0.8s,mb5.5
SSE pP pP 17 31 59.5 +0.1
SSE S **S 17 37 38.1 +0.3**
SSE sS 17 37 57.2
SSE SS SS 17 40 31.5 +21
SSE LR LR
comp=Z,2μm,15.0s,MS5.1
GTA Gaotai 38.17 3 P P 17 31 57.7 0.0
GTA AP pP 17 32 06.6 +1.0
GTA XP sP 17 32 09.5 +0.6
GTA PP PP 17 33 29.4 +0.9
GTA PPP PPP 17 33 46.3 -4.4
GTA PCP PcP 17 34 13.5 +0.9
GTA S **S 17 37 47.0 -2.0**
GTA SCP 17 37 56.0
GTA SCS ScS 17 42 06.5 +1.1
GTA AMB AMB
comp=Z,33nm,1.3s,mb4.9
GTA AMB AMB
comp=Z,400nm,6.1s
GTA LR LR
comp=N,1μm,18.3s,MS5.0
GTA LR LR
comp=E,1μm,16.0s,MS5.0
GTA LR LR
comp=Z,2μm,19.9s,MS4.8
NWAO Narrogin (SRO) 38.76 153 LR LR 17 47 29.3
comp=Z,2μm,21.2s,MS4.8,baz=337,slow=35
JOW Kunigami 39.23 47 LR LR 17 47 03.2
comp=Z,613nm,21.2s,MS4.4,baz=192,slow=34
BTO Baotou 40.96 15 eP P 17 32 22.0 +1.2
BTO S **S 17 38 38.0 +7.1**
BTO AMB AMB
comp=Z,14nm,1.9s,mb4.3
HHC Hu-ho-hao-te 41.60 16 eP P 17 32 27.0 +0.9
HHC AP pP 17 32 36.2 +2.2
HHC XP sP 17 32 42.0 +4.7
HHC PCP PcP 17 34 22.9 -0.7
HHC SCP 17 38 10.0
HHC PCS 17 38 12.4
HHC S **S 17 38 42.4 +1.9**
HHC XS 17 38 56.7
HHC SS SS 17 41 44.0 +3.1
HHC SCS ScS 17 42 26.4 +0.8
HHC AMB AMB
comp=Z,21nm,1.7s,mb4.5
HHC AMB AMB
comp=Z,463nm,5.5s
HHC LR LR
comp=N,2μm,16.7s,MS5.3
HHC LR LR
comp=E,3μm,16.1s,MS5.3
HHC LR LR
comp=Z,2μm,16.2s,MS5.1
WRA Warramunga Arr 41.93 122 P **P 17 32 28.4 -0.7**
comp=Z,14nm,0.8s,mb4.7,baz=302,slow=9.1,SNR=53
WRA S **S 17 38 43.3 -2.2**
comp=Z,1.6nm,1.0s,baz=292,slow=16,SNR=4.8
WRAB Tennant Creek 41.93 122 eP P 17 32 28.7 -0.4
WRAB pmax pmax
comp=Z,19nm,0.6s,mb4.9
WRAB Tennant Creek 41.93 122 eP P 17 32 28.6 -0.4
comp=Z,20nm,0.6s,mb4.9
WB2 Warramunga Arr 41.94 122⇑iP P 17 32 28.8 -0.3
BJT Baijiatuau 42.35 22 eP P 17 32 32.7 +0.4
BJT e*PP pP 17 32 40.7 +0.5
BJT pmax pmax
comp=Z,39nm,0.8s
BJT Baijiatuau 42.35 22 eP P 17 32 32.7 +0.4
comp=Z,39nm,0.8s,mb5.1
BJT epP pP 17 32 40.7 +0.5
BJI Beijing 42.38 22 eP P 17 32 33.1 +0.6
BJI PP PP 17 34 14.2 +0.7
BJI S **S 17 38 58.6 +6.7**
BJI AMB AMB
comp=Z,38nm,0.9s,mb5.0
BJI AMB AMB
comp=Z,582nm,3.1s
BJI LR LR
comp=N,1μm,14.8s,MS5.1
BJI LR LR
comp=E,2μm,17.4s,MS5.1
BJI LR LR
comp=Z,755nm,20.1s,MS4.6
BJI Beijing 42.38 22 eP P 17 32 33.1 +0.6
comp=Z,38nm,0.9s,mb5.0
BJI PP PP 17 34 14.2 +0.7
BJI S **S 17 38 58.6 +6.7**
BJI PS 17 39 12.0
BJI SS SS 17 42 12.1 +17
BJI LR LR
comp=Z,760nm,20.1s,MS4.6
KSH Kashi 42.87 336 P **P 17 32 36.0 -0.5**
KSH eAP pP 17 32 43.1 -1.3
KSH eXP sP 17 32 46.1 -1.6
KSH ePCP PcP 17 34 28.0 +0.2
KSH ePPP PPP 17 34 51.0 -1.9
KSH eSCP 17 38 16.0
KSH ePCS 17 38 19.1
KSH eS **S 17 38 57.1 -2.0**
KSH eSCS ScS 17 42 33.1 -0.2
KSH AMB AMB
comp=Z,410nm,3.7s
KSH LR LR
comp=N,610nm,9.3s
KSH LR LR
comp=E,1μm,14.4s
ASPA Alice Springs 43.28 127 eP P 17 32 40.4 +0.3
ASPA eS **S 17 39 02.8 -2.5**
ASAR Alice Springs 43.29 127 P **P 17 32 39.8 -0.3**
ASAR S **S 17 39 04.9 -0.5**
ASAR Alice Springs 43.29 127 P **P 17 32 39.8 -0.4**
comp=E,18nm,1.0s,mb4.8,baz=300,slow=6.8,SNR=54
ASAR ScP 17 38 18.6
comp=E,1.6nm,1.0s,baz=298,slow=3.4,SNR=5.0
ASAR S **S 17 39 04.9 -0.5**
comp=E,2.2nm,1.1s,baz=297,slow=15,SNR=4.3
ASAR LR LR 17 54 15.7
comp=E,568nm,19.5s,MS4.5,baz=296,slow=41
WMQ Urumqi 43.36 350⇓iP P 17 32 41.0 +0.6
WMQ AP pP 17 32 49.5 +1.2
WMQ XP sP 17 32 55.0 +3.4
WMQ PP PP 17 34 23.9 +0.6
WMQ PCP PcP 17 34 31.0 +1.6
WMQ PPP PPP 17 34 59.1 -0.1
WMQ S **S 17 39 05.1 -1.1**
WMQ XS 17 39 21.5
WMQ AMB AMB
comp=Z,43nm,1.2s,mb5.0
WMQ AMB AMB
comp=Z,315nm,4.9s
WMQ LR LR
comp=N,608nm,18.6s,MS4.7
WMQ LR LR
comp=E,642nm,20.8s,MS4.7
WMQ LR LR
comp=Z,573nm,21.0s,MS4.5
DL2 Dalian 43.70 28 P **P 17 32 43.7 +0.4**
DL2 S **S 17 39 15.2 +4.0**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,260nm,4.6s
DL2 LR LR
comp=N,490nm,14.7s,MS4.6
DL2 LR LR
comp=E,230nm,11.4s,MS4.6
DL2 LR LR
comp=Z,650nm,14.5s,MS4.7
ULHL Ulahol 45.09 338 P **P 17 32 56.9 +2.4**
SNR=6.1
INCN Inchon 45.16 33 eP P 17 32 54.3 -0.8
comp=Z,26nm,0.8s,mb5.1
INCN e pP 17 33 01.4 -1.5
KZA Kyzart 45.33 337 P **P 17 32 57.5 +1.2**
SNR=9.8
UCH Uchtor 45.75 336 P **P 17 33 00.2 +0.6**
SNR=27
TKM2 Tokmak 2 45.91 338 P **P 17 33 00.9 -0.1**
SNR=28
KBK Karagaybulak 45.94 337 P **P 17 33 02.2 +1.1**
SNR=23
AML Almayashu 46.00 336 P **P 17 33 02.5 +0.9**
SNR=23
AAK Ala-Archa 46.10 337 P **P 17 33 03.0 +0.6**
SNR=5.7
AAK Ala-Archa 46.10 337 eP P 17 33 02.0 -0.4
AAK pmax pmax
comp=Z,25nm,1.3s,mb5.0
AAK Ala-Archa 46.10 337 eP P 17 33 02.0 -0.4
comp=Z,25nm,1.3s,mb5.0
FRU Bishkek 46.22 337 eP P 17 33 04.0 +0.7
FRU e pP 17 33 12.0 +0.8
FRU MLR MLR
comp=Z,700nm,16.0s,MS4.7
CHMS Chumysh 46.31 337 P **P 17 33 04.4 +0.4**
SNR=7.0
EKS2 Erkin-Say 46.41 336 P **P 17 33 05.4 +0.5**
SNR=19
USP Ospenovka 46.63 337 P **P 17 33 06.3 -0.3**
SNR=33
SNY Shenyang 46.93 27⇑P P 17 33 08.8 -0.2
SNY AP pP 17 33 15.4 -1.5
SNY XP sP 17 33 18.0 -2.1
SNY S **S 17 40 03.2 +5.6**
SNY SS SS 17 43 18.2 +1.0
SNY AMB AMB
comp=Z,50nm,1.5s,mb5.2
SNY AMB AMB
comp=Z,440nm,4.9s
SNY LR LR
comp=N,2μm,15.7s,MS5.2
SNY LR LR
comp=E,1μm,14.7s,MS5.2
SNY LR LR
comp=Z,2μm,15.5s,MS5.2
SONM Songino Array 47.19 8 P **P 17 33 10.9 0.0**
comp=Z,7.1nm,0.7s,mb4.7,baz=191,slow=8.3,SNR=43
SONM LR LR 17 55 46.9
comp=Z,3μm,18.6s,MS5.3,baz=84,slow=40
ULN Ulaanbaatar 47.32 9 eP P 17 33 11.6 -0.4
ULN pmax pmax
comp=Z,46nm,1.5s,mb5.2
ULN Ulaanbaatar 47.32 9 eP P 17 33 11.6 -0.3
comp=Z,46nm,1.5s,mb5.2
CN2 Changchun 49.33 27⇑P P 17 33 26.6 -1.0
CN2 eAP pP 17 33 33.9 -1.8
CN2 eS **S 17 40 30.9 -0.4**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,1μm,17.0s,MS5.0
CN2 LR LR
comp=E,1μm,17.0s,MS5.0
CN2 LR LR
comp=Z,1μm,18.0s,MS5.0
ZAK Zakamensk 49.34 5⇑eP P 17 33 26.9 -0.7
ZAK pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
MOY Mondy 50.46 3 eP P 17 33 36.2 +0.1
MOY pmax pmax
comp=Z,33nm,2.6s,mb4.9
TLY Talaya 50.66 5 eP P 17 33 38.2 +0.6
TLY eS **S 17 40 44.9 -4.6**
TLY pmax pmax
comp=Z,14nm,1.2s,mb4.8
TLY MLR MLR
comp=Z,2μm,19.0s,MS5.0
TLY Talaya 50.66 5 eP P 17 33 36.5 -1.1
comp=Z,20nm,1.4s,mb4.8
IRK Irkutsk 51.27 6 eP P 17 33 42.6 +0.3
IRK e 17 35 43.0
IRK pmax pmax
comp=Z,49nm,2.4s,mb5.0
HIA Hailar 51.68 19 eP P 17 33 44.6 -0.9
HIA pmax pmax
comp=Z,28nm,0.9s
HIA Hailar 51.68 19 eP P 17 33 44.6 -0.9
comp=Z,28nm,0.9s,mb5.2
MAT Matsushiro 51.69 42 eP P 17 33 45.0 -0.7
MAT eS **S 17 41 05.0 +1.0**
MAT LR LR
comp=Z,350nm,20.0s,MS4.4
MAT Matsushiro 51.69 42 P **P 17 33 44.7 -1.0**
MAT S **S 17 41 05.0 +1.0**
KURK Kurchatov 51.88 345⇓eP P 17 33 46.2 -0.8
KURK Kurchatov 51.88 345 eP P 17 33 45.7 -1.2
comp=Z,35nm,1.2s,mb5.2
MDJ Mudanjiang 51.89 29 P **P 17 33 47.6 +0.5**
MDJ AP pP 17 33 54.3 -0.8
MDJ XP sP 17 33 57.1 -1.2
MDJ PP PP 17 35 45.3 -0.4
MDJ S **S 17 41 09.4 +2.7**
MDJ XS 17 41 22.0
MDJ AMB AMB
comp=Z,23nm,0.9s,mb5.1
MDJ AMB AMB
comp=Z,268nm,3.6s
MDJ LR LR
comp=N,1μm,15.3s,MS5.2
MDJ LR LR
comp=E,809nm,14.3s,MS5.2
MDJ LR LR
comp=Z,2μm,14.3s,MS5.3
MDJ Mudanjiang 51.89 29 eP P 17 33 47.0 -0.1
comp=Z,12nm,0.8s,mb4.9
MDJ epP pP 17 33 54.8 -0.4
CTA Charters Tower 52.40 116 LR LR 17 58 30.9
comp=Z,855nm,20.1s,MS4.8,baz=286,slow=39
OPO Ambohidratompo 52.97 246 P **P 17 33 54.8 -0.7**
comp=Z,14nm,1.0s,mb4.8,baz=58,slow=7.3,SNR=9.6
STKA Stephens Creek 53.25 132⇓iP P 17 33 57.5 +0.1
comp=Z,19nm,0.8s,mb5.1
STKA Stephens Creek 53.25 132 P **P 17 33 57.7 +0.3**
comp=Z,16nm,0.8s,mb5.0,baz=307,slow=7.0,SNR=26
ZAL Zalesovo 53.63 351 P **P 17 33 58.8 -1.2**
comp=Z,17nm,1.0s,mb4.9,baz=300,slow=5.9,SNR=51
NVS Novosibirsk 54.76 350 eP P 17 34 06.0 -2.2
NVS e 17 36 16.3
NVS eS **S 17 41 40.0 -5.4**
NVS pmax pmax
comp=N,21nm,1.3s
NVS pmax pmax
comp=E,10.0nm,1.3s
NVS pmax pmax
comp=Z,43nm,1.3s,mb5.3
NVS smax
comp=N,35nm,2.0s
NVS smax
comp=E,5.0nm,1.5s
KLR Kul'dur 56.28 26 eP P 17 34 15.8 -3.5
KLR eS **S 17 42 04.5 -1.3**
KLR pmax pmax
comp=N,24nm,1.4s
KLR pmax pmax
comp=E,33nm,1.4s
KLR pmax pmax
comp=Z,48nm,1.4s,mb5.3
KLR MLR MLR
comp=E,1μm,12.5s
KLR MLR MLR
comp=Z,3μm,12.5s,MS5.6
BVAR Borovoye Array 56.34 341 P **P 17 34 18.2 -1.4**
comp=Z,5.3nm,0.6s,mb4.7,baz=143,slow=7.4,SNR=30
BOD Bodaibo 58.07 10 eP P 17 34 30.7 -1.1
BOD pmax pmax
comp=Z,27nm,1.3s,mb5.1
ASAJ Asahikawa 58.67 37 P **P 17 34 36.1 0.0**
comp=Z,4.8nm,0.6s,mb4.7,baz=300,slow=9.5,SNR=4.2
CLNS Chul'man 59.79 17 eP P 17 34 41.5 -2.2
CLNS e*PP pP 17 34 49.3 -2.6
CLNS e 17 35 27.9
CLNS eS **S 17 42 48.1 -3.4**
CLNS pmax pmax
comp=Z,17nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CLNS smax
comp=N,109nm,14.7s
CLNS smax
comp=Z,116nm,13.5s
CLNS smax
comp=E,50nm,12.1s
CLNS MLR MLR
comp=Z,2μm,16.0s,MS5.4
CLNS MLR MLR
comp=N,1μm,18.0s,MS5.0
CLNS MLR MLR
comp=E,300nm,15.0s,MS5.0
KMBO Kilima Mbogo 60.07 268 eP P 17 34 46.9 +0.7
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 60.07 268 P **P 17 34 46.6 +0.4**
comp=Z,2.6nm,0.9s,mb4.2,baz=58,slow=8.9,SNR=8.0
KMBO LR LR 17 59 31.7
comp=Z,566nm,18.4s,MS4.7,baz=97,slow=35
KMBO Kilima Mbogo 60.07 268 eP P 17 34 46.9 +0.6
comp=Z,3.0nm,0.8s,mb4.4
YSS Yuzh-Sakhalins 60.36 34 eP P 17 34 46.0 -1.8
YSS e 17 35 02.0
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.4
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS MLR MLR
comp=N,800nm,15.0s,MS5.2
YSS MLR MLR
comp=E,900nm,15.0s,MS5.2
YSS MLR MLR
comp=Z,1μm,15.0s,MS5.1
YSS Yuzh-Sakhalins 60.36 34 eP P 17 34 46.9 -0.9
comp=Z,35nm,1.0s,mb5.3
GNI Garni 61.40 316 eP P 17 34 53.3 -1.7
GNI pmax pmax
comp=Z,18nm,0.9s
GNI Garni 61.40 316 P **P 17 34 55.9 +1.0**
comp=Z,2.3nm,0.5s,mb4.6,baz=297,slow=18,SNR=3.3
GNI LR LR 18 05 36.3
comp=Z,241nm,19.9s,MS4.3,baz=342,slow=40
GNI Garni 61.40 316 eP P 17 34 53.3 -1.6
comp=Z,18nm,0.9s,mb5.2
SVE Sverdlovsk 62.78 338⇑eP P 17 35 03.0 -1.0
SVE e pP 17 35 11.0 -1.1
SVE e 17 35 35.0
SVE eS **S 17 43 40.0 +10**
SVE e 17 44 44.0
SVE pmax pmax
comp=Z,42nm,1.5s,mb5.3
SVE MLR MLR
comp=N,500nm,18.0s
SVE MLR MLR
comp=Z,500nm,18.0s,MS4.7
HNR Honiara 63.27 101 P **P 17 35 06.9 -0.8**
comp=Z,52nm,1.0s,mb5.6,baz=247,slow=8.5,SNR=4.3
ARU Arti 63.28 337 eP P 17 35 04.2 -3.0
ARU pmax pmax
comp=Z,24nm,1.4s,mb5.1
ARU Arti 63.28 337 eP P 17 35 04.2 -3.0
comp=Z,24nm,1.4s,mb5.1
KIV Kislovodsk 64.42 319 *i* P **P 17 35 14.1 -0.8**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,300nm,22.0s,MS4.4
KIV Kislovodsk 64.42 319 eP P 17 35 14.4 -0.5
comp=Z,41nm,1.3s,mb5.3
GOF Gofitskoye 64.67 320 eP P 17 35 21.2 +4.7
MALT Malatya 65.24 312 eP P 17 35 20.2 -0.1
MALT pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MALT Malatya 65.24 312 eP P 17 35 20.2 -0.1
comp=Z,9.1nm,1.0s,mb4.8
YAK Yakutsk 65.47 16 eP P 17 35 19.3 -2.1
YAK pmax pmax
comp=Z,37nm,1.2s,mb5.3
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,13nm,1.2s
YAK MLR MLR
comp=Z,993nm,15.0s,MS5.1
YAK MLR MLR
comp=N,701nm,14.0s,MS5.1
YAK MLR MLR
comp=E,644nm,15.0s,MS5.1
YAK Yakutsk 65.47 16 eP P 17 35 19.1 -2.2
comp=E,114nm,1.3s,mb5.7
EIL Elat 65.56 302 eP P 17 35 21.7 -0.8
comp=E,23nm,1.0s,mb5.2
EIL e pP 17 35 30.2 -0.5
MBAR Mbarara 66.56 269 eP P 17 35 28.4 -0.8
MBAR e*PP pP 17 35 36.5 -0.9
MBAR pmax pmax
comp=Z,14nm,1.2s,mb4.9
MBAR Mbarara 66.56 269 eP P 17 35 28.4 -0.8
comp=Z,14nm,1.2s,mb4.9
MBAR epP pP 17 35 36.5 -0.9
ANN Anapa 68.21 318 eP P 17 35 41.0 +2.0
ANN e 17 35 52.5
ANN eS S 17 44 45.6 +9.4
ANN pmax pmax
comp=Z,112nm,1.7s,mb5.6
BRTR Keskin Array B 69.22 312 P **P 17 35 44.3 -1.1**
comp=Z,2.0nm,1.0s,mb4.0,baz=149,slow=7.2,SNR=5.2
LSZ Lusaka 70.17 253 eP P 17 35 51.2 -0.3
LSZ e*PP pP 17 35 59.4 -0.3
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LSZ Lusaka 70.17 253 eP P 17 35 51.2 -0.3
comp=Z,4.7nm,0.8s,mb4.5
LSZ epP pP 17 35 59.4 -0.3
MA2 Magadan 71.36 26 eP P 17 35 57.8 -0.2
MA2 e*PP pP 17 36 06.9 +0.6
MA2 pmax pmax
comp=Z,25nm,1.0s,mb5.1
MA2 Magadan 71.36 26 eP P 17 35 57.8 -0.2
comp=Z,25nm,1.0s,mb5.1
MA2 epP pP 17 36 06.8 +0.6
PET Petropavlovsk 72.25 34 eP P 17 36 07.6 +4.2
PET pmax pmax
comp=Z,200nm,17.7s
PET MLR MLR
comp=Z,900nm,18.0s,MS5.1
MOS Moscow 72.44 329 eP P 17 36 08.7 +4.2
MOS e pP 17 36 18.6 +5.9
MOS pmax pmax
comp=Z,37nm,0.8s,mb5.4
MAW Mawson 72.66 193 LR LR 18 04 36.1
comp=Z,548nm,18.0s,MS4.9,baz=80,slow=33
OBN Obninsk 72.72 328 *i* P **P 17 36 05.1 -1.1**
OBN *i* 17 38 46.5
OBN eS S 17 45 28.1 -0.5
OBN pmax pmax

comp=Z,18nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,500nm,20.0s,MS4.8
TIXI Tiksi 73.24 10⇑ *i*P **P 17 36 06.7 -2.2**
TIXI *e*S S 17 45 24.9 -9.3
TIXI *e*SS SS 17 50 15.1 -3.4
TIXI pmax pmax
comp=Z,22nm,1.4s,mb4.9
TIXI MLR MLR
comp=Z,1µm,15.0s,MS5.2
SEY Seymchan 73.80 23 *e*P **P 17 36 13.5 +1.2**
SEY 17 36 30.8
SEY *e*S S 17 45 45.9 +5.4
SEY *e*PS PS 17 46 36.8 +19
SEY *e*SS SS 17 50 29.9 +3.0
SEY *e*SSS SSS 17 53 43.9 +5.4
SEY pmax pmax
comp=Z,20nm,0.8s,mb5.1
SEY smax
comp=N,800nm,21.7s
SEY smax
comp=E,300nm,17.3s
SEY MLR MLR
comp=Z,2µm,21.0s,MS5.4
SEY MLR MLR
comp=N,1µm,16.0s
SEY MLR MLR
comp=E,2µm,24.0s
BOSA Boshof 74.81 240 P **P 17 36 18.9 0.0**
comp=E,6.4nm,0.7s,mb4.6,baz=89,slow=7.0,SNR=6.3
BOSA LR LR 18 07 26.7
comp=E,570nm,18.2s,MS4.9,baz=170,slow=34
AKASG Malin Array Be 75.36 322 P **P 17 36 20.1 -1.5**
comp=E,0.3nm,0.3s,mb3.8,baz=88,slow=4.8,SNR=11
VRI Vrincioaia 75.73 317 ⇑P pP 17 36 31.5 -0.5
MLR Muntele Rosu 76.18 317 P **P 17 36 26.8 +0.5**
comp=E,4.2nm,1.1s,mb4.3,baz=141,slow=9.6,SNR=2.5
MLR Muntele Rosu 76.18 317 ⇑P **P 17 36 27.2 +0.9**
MLR Muntele Rosu 76.18 317 ⇑P **P 17 36 27.3 +1.0**
BURAR Bucovina Array 77.13 319 ⇑P **P 17 36 32.0 +0.4**
KWP Kalwaria 79.18 320 *e*P pP 17 36 51.2 0.0
KOLS Kolonicke sedl 79.33 320 *e*P **P 17 36 43.8 +0.2**
KOLS *e* pP 17 36 53.2 +1.3
KOLS *e*sP sP 17 36 56.8 +2.1
SUW Suwalki 79.78 325 *e*P **P 17 36 45.1 -0.8**
CRVS Cervenica-Dubn 79.85 319 *e*P sP 17 36 57.0 -0.5
CRVS Cervenica-Dubn 79.85 319 *e*sP sP 17 36 57.0 -0.5
SYO Syowa Base 79.96 198 ⇑PcP PcP 17 36 54.5 0.0
SYO Syowa Base 79.96 198 ⇑pP pP 17 36 58.5 +3.5
FINES FINESS Array B 80.10 332 P **P 17 36 46.9 -0.6**
comp=E,1.0nm,0.5s,mb4.0,baz=109,slow=7.1,SNR=14
KAF Kangasniemi 80.18 333 *e*p **P 17 36 42.3 -5.6**
comp=E,6.8nm,0.9s,mb4.6
KAF Kangasniemi 80.18 333 *e*P **P 17 36 42.3 -5.6**
KAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BILL Bilibino 81.20 21⇓ *e*P **P 17 36 53.5 +0.3**
BILL pmax pmax
comp=Z,17nm,2.2s,mb4.6
BILL MLR MLR
comp=Z,2µm,20.0s,MS5.4
VYHS Vyhne 81.50 319 *e*P **P 17 37 00.8 +5.7**
VYHS Vyhne 81.50 319 *e* **P 17 37 00.8 +5.7**
OKC Ostrava-Krasne 82.13 320 *e*P **P 17 36 59.8 +1.4**
OKC *e*pP pP 17 37 07.3 +0.6
MORC Moravsky Berou 82.51 320 *e*P **P 17 36 59.8 -0.5**
MORC *e**PP pP 17 37 09.2 +0.5
MORC pmax pmax
comp=Z,12nm,1.1s,mb4.8
MORC Moravsky Berou 82.51 320 *e*P **P 17 36 59.8 -0.6**
comp=Z,12nm,1.1s,mb4.8
MORC *e*pP pP 17 37 09.2 +0.5
ZST Bratislava 82.61 318 *e*P pP 17 37 09.6 +0.3
ZST Bratislava 82.61 318 *e*pP pP 17 37 09.6 +0.3
ARCES ARCESS Array B 82.63 340 P **P 17 37 00.3 -0.3**
comp=Z,2.1nm,0.5s,mb4.4,baz=104,slow=4.8,SNR=20
ARCES LR LR 18 18 09.5
comp=Z,504nm,19.3s,MS4.9,baz=215,slow=39
ARCES ARCESS Array B 82.63 340 P **P 17 37 00.2 -0.3**
ARCES LR LR 18 18 09.5
DPC Dobruska-Polom 83.36 320 *e*P **P 17 37 04.1 -0.6**
DPC *e*pP pP 17 37 13.4 +0.3
KSP Ksiaz 83.43 321 *e*P pP 17 37 13.4 -0.1
UPC Upice 83.57 321 *e*P **P 17 37 07.3 +1.5**
UPC *e*pP pP 17 37 14.9 +0.7
BOJS Bojanci 83.61 316 *e*P pP 17 37 15.0 +0.5
PERS Pernice 83.80 317 *e*P pP 17 37 15.8 +0.4
PRU Pruhonice 84.46 320 *e*P **P 17 37 11.0 +0.7**
PRU *e*pP pP 17 37 19.2 +0.5
BRG Berggiesshubel 84.92 321 *e*P **P 17 37 13.5 +1.0**
BRG *e* pP 17 37 21.5 +0.5
BRG *e*S S 17 47 42.0 +4.0
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
BRG MLR MLR
comp=Z,320nm,23.0s,MS4.7
BRG Berggiesshubel 84.92 321 *e*P **P 17 37 13.5 +1.0**
comp=Z,8.6nm,0.9s,mb4.9
BRG *e* pP 17 37 21.5 +0.5
BRG *e*S S 17 47 42.0 +4.0
BRG LR LR
comp=Z,320nm,23.0s,MS4.7
GEC2 GERESS Array S 84.92 319 *e*P **P 17 37 13.2 +0.6**
GEC2 pmax pmax
comp=Z,23nm,1.3s,mb5.2
GEC2 GERESS Array S 84.92 319 *e*P **P 17 37 13.2 +0.6**
comp=Z,23nm,1.3s,mb5.2
GERES GERESS Array B 84.92 319 P **P 17 37 12.7 +0.1**
comp=Z,4.0nm,0.9s,mb4.5,baz=90,slow=5.3,SNR=21
KHC Kasperske Hory 85.02 319 *e*P **P 17 37 13.4 +0.3**
KHC *e*pP pP 17 37 22.0 +0.4
WET Wettzell 85.48 319 *e*P **P 17 37 16.0 +0.6**
WET pmax pmax
comp=Z,13nm,1.1s,mb5.0
WET Wettzell 85.48 319 *e*P **P 17 37 16.0 +0.6**
comp=Z,13nm,1.1s,mb5.0
CLL Collm 85.54 321⇓ *i*P **P 17 37 16.0 +0.3**
CLL *i* pP 17 37 24.4 +0.3
CLL *e*S S 17 47 43.0 -1.1
CLL pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
CLL MLR MLR
comp=Z,300nm,22.3s,MS4.6
CLL Collm 85.54 321⇓ *i*P **P 17 37 16.0 +0.3**
comp=Z,9.0nm,1.3s,mb4.8
CLL *i* pP 17 37 24.4 +0.3
CLL *e*S S 17 47 43.0 -1.1
CLL LR LR
comp=Z,300nm,22.3s,MS4.6
CLL Collm 85.54 321 ⇓P **P 17 37 16.0 +0.3**
comp=Z,logA/T=0.8,mb4.8
CLL *i* *PP pP 17 37 24.4 +0.3
CLL *e*S S 17 47 43.0 -1.1
CLL *e*PS PS 17 48 54.0 +8.6
VNDA Vanda 85.74 169 P **P 17 37 17.7 +1.6**
comp=Z,0.8nm,0.8s,mb4.0,baz=336,slow=6.1,SNR=4.0
VNDA LR LR 18 13 10.2
comp=Z,409nm,18.3s,MS4.9,baz=294,slow=34
NKC Novy Kostel 85.83 320 *e*P **P 17 37 18.5 +1.4**
NKC *e*pP pP 17 37 25.4 -0.1
MOX Moxa 86.38 320 *e*P **P 17 37 17.0 -2.8**
MOX MLR MLR
comp=Z,300nm,22.0s,MS4.7
MOX Moxa 86.38 320 *i* P **P 17 37 20.8 +1.0**
MOX pP pP 17 37 28.0 -0.3
MOX L 18 24 23.0
FUR Furstenfeldbru 86.49 318 *e*P **P 17 37 21.3 +0.8**
GRA1 Grafenberg Arr 86.59 320 *e*P **P 17 37 21.6 +0.7**
comp=Z,15nm,0.9s,mb5.2
GRA1 *e*pP pP 17 37 30.1 +0.8
GRF Grafenberg Arr 86.59 320 *e*P **P 17 37 21.6 +0.7**
GRF *e**PP pP 17 37 30.1 +0.8
GRF pmax pmax
comp=Z,15nm,0.9s,mb5.2
GRF Grafenberg Arr 86.59 320 *e*P **P 17 37 21.6 +0.7**
GRF *e**PP pP 17 37 30.1 +0.8
GRF pmax pmax
comp=Z,15nm,0.9s,mb5.2
GRF Grafenberg Arr 86.59 320 *e*P **P 17 37 21.6 +0.7**
comp=Z,15nm,0.9s,mb5.2
GRF *e*pP pP 17 37 30.1 +0.8
NB2 NORSAR Subarra 87.11 331 P **P 17 37 22.5 -0.6**
comp=Z,7.1nm,1.1s,mb4.8,baz=95,slow=5.0
NOA NORSAR Array B 87.11 331 P **P 17 37 22.8 -0.4**
comp=Z,2.0nm,0.9s,mb4.3,baz=102,slow=5.8,SNR=6.3
NOA LR LR 18 22 15.0
comp=Z,256nm,21.0s,MS4.6,baz=90,slow=40
NOA NORSAR Array B 87.11 331 P **P 17 37 22.8 -0.4**
NOA LR LR 18 22 15.0
CLZ Clausthal 87.20 322 *e*P **P 17 37 24.4 +0.6**
CLZ pmax pmax
comp=Z,12nm,1.1s,mb5.0
CLZ Clausthal 87.20 322 *e*P **P 17 37 24.4 +0.6**
comp=Z,12nm,1.1s,mb5.0
BSEG Bad Segeberg 87.30 324 *e*P **P 17 37 25.0 +0.8**
DAVOX Davos 87.40 317 P **P 17 37 26.1 +1.2**
comp=Z,1.8nm,0.5s,mb4.6,baz=358,slow=18,SNR=4.7
TNS Taunus Mts 88.39 320 *e*P **P 17 37 30.2 +0.6**
BFO Black Forest 88.47 318 *e*P **P 17 37 32.1 +2.1**
BFO pmax pmax
comp=Z,17nm,1.6s,mb5.0
BFO Black Forest 88.47 318 *e*P **P 17 37 32.1 +2.1**
comp=Z,17nm,1.6s,mb5.0
LPG La Plagne 89.58 315 *e*P **P 17 37 33.9 -1.4**
comp=Z,16nm,1.0s,mb5.0
LPG La Plagne 89.58 315 *e*P **P 17 37 33.9 -1.4**
LPG pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
IMA Indian Mountai 96.62 23 *e*P **P 17 38 08.2 +1.0**
comp=Z,39nm,1.4s,mb5.6
IMA *e*pP pP 17 38 16.6 +0.9
TBI Tubuai 111.75 115 *e*LQ 17 42 43.7
TBI *e*LR LR 17 44 16.8
comp=Z,2µm,27.5s,baz=75
TBI Tubuai 111.75 115 *e*LR LR 18 16 33.6
comp=Z,379nm,24.5s
YKA Yellowknife Ar 112.14 15 PP PP 17 43 54.5 -5.9
comp=Z,0.5nm,0.7s,baz=330,slow=7.2,SNR=6.8
PPT Papeete 112.38 108 *e*LR LR 18 16 51.3
comp=Z,357nm,24.2s
RKT Rikitea 124.83 118 *e*LR LR 18 22 36.4
comp=Z,293nm,24.0s
MSO Missoula 124.95 26 *e*PKPdf PKPdf 17 43 38.8 -2.6
MOD Modoc 125.34 34 *e*PKPdf PKPdf 17 43 39.9 -2.5
WVOR Wild Horse Val 125.89 32 *e*PKPdf PKPdf 17 43 40.0 -3.4
ULM Lac du Bonnet 127.59 11 PKP PKPdf 17 43 42.5 -4.0
comp=Z,0.7nm,0.3s,baz=24,slow=1.8,SNR=3.3
QLMT Earthquake Lak 127.61 26 *e*PKPdf PKPdf 17 43 45.1 -1.6
PDAR Pinedale Array 130.07 26 PKP PKPdf 17 43 47.8 -3.6
comp=Z,0.7nm,0.9s,slow=1.5,SNR=5.0
TRCR Troy Canyon 130.41 34 *e*PKPdf PKPdf 17 43 48.4 -3.8
PV10 Paradox Valley 133.81 29 *e*PKPdf PKPdf 17 43 56.3 -2.2
ANMO Albuquerque 137.79 29 PKP PKPdf 17 44 02.8 -3.3
comp=Z,1.4nm,0.5s,baz=283,slow=4.7,SNR=3.2
GDL2 Guadalupe Moun 141.03 30 *e*PKPdf PKPdf 17 44 09.2 -2.8
TXAR Lajitas Array 143.69 32 PKP PKPdf 17 44 11.4 -5.2
comp=Z,6.6nm,1.2s,baz=243,slow=2.8,SNR=17
NATX Nacogdoches 145.39 18 *e*PKPdf PKPdf 17 44 16.2 -3.4

*IDC **01** 17:25:19.9±2.6, 9.44S×109.93W, mb3.7/9, mb1 4.0/9, mb1mx3.8/16, mbtmp3.7/9, MS4.4/13, Ms1 4.4/13, ms1mx4.2/20, Error ellipse: s-maj=77.6km s-min=19.5km az=53.0*
*NEIC **01** 17:25:21.9±1.8, 9.48S×109.87W, h10km, mb4.5/5, Error ellipse: s-maj=54.3km s-min=12.6km az=52.0*
ISC 01 17:25:21.7±0.7, 9.3S±0.1×109.6W±0.1, h10km, n26, σ1§06/18, mb3.9/14, MS4.4/12, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**17.78**	**179**	LR	LR	17 34 32.0	
	comp=Z,2µm,19.6s,baz=3,9,slow=31						
RKT	**Rikitea**	**27.90**	**237**	*e*S	**S**	**17 35 56.8**	**+0.8**
RKT				*e*LR	LR	17 38 32.7	
	3µm,27.0s,baz=61						
ROSC	**El Rosal**	**37.88**	**70**	LR	LR	17 45 07.7	
	comp=Z,307nm,21.2s,MS4.1,baz=10,slow=31						
TXAR	**Lajitas Array**	**38.79**	**8**	P	**P**	**17 32 48.1**	**-0.3**
	0.4nm,0.7s,mb3.2,baz=202,slow=9.7,SNR=3.6						
TXAR				LR	LR	17 45 34.0	
	comp=Z,438nm,20.0s,MS4.3,baz=235,slow=31						
PPT	**Papeete**	**39.65**	**254**	LR	LR	17 44 47.7	
	comp=Z,880nm,19.8s,MS4.6,baz=82,slow=30						
LPAZ	**La Paz**	**41.02**	**104**	P	**P**	**17 33 06.9**	**-0.1**
	0.4nm,0.5s,mb3.3,baz=290,slow=12,SNR=3.2						
LPAZ				LR	LR	17 46 29.4	
	comp=Z,479nm,19.5s,MS4.4,baz=105,slow=31						
SDV	**Santo Domingo**	**42.82**	**66**	P	**P**	**17 33 23.4**	**+1.5**
	1.6nm,0.3s,mb4.2,baz=318,slow=14,SNR=3.8						
ANMO	**Albuquerque**	**44.06**	**4**	LR	LR	17 49 04.0	
	comp=Z,469nm,18.4s,MS4.4,baz=64,slow=32						
CFAA	**Conel Fontan**	**44.35**	**126**	P	**P**	**17 33 33.4**	**-0.7**
	0.2nm,0.5s,mb3.1,baz=319,slow=11,SNR=3.9						
SDCO	**Great Sand Dun**	**46.91**	**4**	*e*P	**P**	**17 33 56.6**	**+2.2**
	11nm,1.5s,mb4.6						
SIV	**San Ignacio**	**47.78**	**103**	P	**P**	**17 34 01.8**	**+0.3**
	1.0nm,1.0s,mb3.8,baz=243,slow=14,SNR=2.5						
NVAR	**Mina Array Bea**	**48.12**	**351**	P	**P**	**17 34 04.3**	**+0.5**
	0.7nm,0.8s,mb3.8,baz=180,slow=4.5,SNR=3.4						
DUG	**Dugway**	**49.28**	**357**	P	**P**	**17 34 13.8**	**+1.1**
	5.3nm,0.8s,mb4.6						
RAR	**Rarotonga**	**49.62**	**250**	LR	LR	17 49 24.4	
	comp=Z,267nm,19.3s,MS4.3,baz=339,slow=29						
HWUT	**Hardware Ranch**	**50.63**	**358**	P	**P**	**17 34 23.9**	**+0.8**
	3.0nm,1.1s,mb4.1						
PDAR	**Pinedale Array**	**51.76**	**0**	P	**P**	**17 34 31.5**	**-0.2**
	0.7nm,0.8s,mb3.6,baz=153,slow=4.0,SNR=5.4						
PDAR				LR	LR	17 53 31.1	
	comp=Z,663nm,18.3s,MS4.7,baz=196,slow=33						
HLID	**Hailey**	**52.74**	**356**	*e*P	**P**	**17 34 37.8**	**-1.2**
	3.7nm,1.3s,mb4.2						
MOOW	**Moose Ponds**	**52.75**	**359**	P	**P**	**17 34 39.2**	**+0.1**
IMW	**Indian Meadow**	**52.91**	**359**	*e*P	**P**	**17 34 40.6**	**+0.4**
BDFB	**Brasilia**	**60.34**	**103**	LR	LR	18 01 37.4	
	comp=Z,243nm,18.2s,MS4.4,baz=276,slow=36						
ULM	**Lac du Bonnet**	**60.45**	**10**	P	**P**	**17 35 32.0**	**-1.9**
	1.6nm,0.5s,mb4.3,baz=236,slow=7.5,SNR=4.7						
ULM				LR	LR	17 59 47.8	
	comp=Z,231nm,18.8s,MS4.3,baz=158,slow=34						
FCC	**Fort Churchill**	**68.94**	**9**	*e*P	**P**	**17 36 28.2**	**-0.7**
	6.9nm,1.0s,mb4.5						
URZ	**Urewera**	**71.19**	**233**	LR	LR	18 00 39.0	
	comp=Z,307nm,19.4s,MS4.6,baz=182,slow=30						
YKA	**Yellowknife Ar**	**71.63**	**358**	P	**P**	**17 36 43.0**	**-2.1**
	0.5nm,0.8s,mb3.5,baz=171,slow=5.4,SNR=10.0						
YKA				LR	LR	18 04 55.6	
	comp=Z,244nm,20.8s,MS4.5,baz=250,slow=33						
YKA	**Yellowknife Ar**	**71.63**	**358**	P	**P**	**17 36 43.0**	**-2.1**
YKA				LR	LR	18 04 55.6	
SCHQ	**Schefferville**	**73.21**	**24**	LR	LR	18 07 53.4	
	comp=Z,337nm,18.2s,MS4.7,baz=21,slow=35						

*IDC **01** 17:42:50.9±4.5, 1.15N×97.28E, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=173.3km s-min=24.4km az=60.0*
*BJI **01** 17:42:54.0, 1.10N×97.30E, h30km, mb4.6*
*NEIC **01** 17:42:55.4±0.6, 1.11N×97.29E, h30km, mb4.3/7, Error ellipse: s-maj=16.7km s-min=8.2km az=52.0*
ISC 01 17:42:55.2±4.7, 1.2N±0.2×97.3E±0.2, h42km±38km, n18, σ0§66/18, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.29**	**39**	*e*Pn	**P**	**17 44 13.6**	**-0.1**
KMI	**Kunming**	**24.40**	**12**	P	**P**	**17 48 12.4**	**+1.4**
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.2						
KMI	**Kunming**	**24.40**	**12**	P	**P**	**17 48 12.4**	**+1.4**
	comp=Z,12nm,1.2s,mb4.2						
JIRN	**Jiri**	**28.44**	**339**	*e*P	**P**	**17 48 48.7**	**+0.3**
	comp=Z,8.4nm,0.9s,mb4.4						
PKI	**Pulchoki**	**28.65**	**338**	*e*P	**P**	**17 48 50.9**	**+0.6**
GUN	**Gumba**	**28.78**	**339**	*e*P	**P**	**17 48 50.7**	**-0.7**
	comp=Z,18nm,0.9s,mb4.8						
DMN	**Daman**	**28.80**	**337**	*e*P	**P**	**17 48 52.0**	**+0.4**
KKN	**Kakani**	**28.89**	**338**	*e*P	**P**	**17 48 53.0**	**+0.6**
	comp=Z,12nm,1.0s,mb4.6						
GKN	**Gorkha**	**29.34**	**337**	*e*P	**P**	**17 48 55.8**	**-0.6**
KOLN	**Koldanda**	**29.56**	**335**	*e*P	**P**	**17 48 57.9**	**-0.4**
	comp=Z,7.0nm,0.7s,mb4.5						
ENH	**Enshi**	**31.18**	**21**	*e*P	**P**	**17 49 11.4**	**-1.4**
	comp=Z,13nm,1.1s,mb4.7						
ENH				*e*pP	pP	17 49 17.8	-6.5
GTA	**Gaotai**	**38.15**	**3**	P	**P**	**17 50 12.7**	**+0.5**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**41.90**	**122**	P	**P**	**17 50 43.5**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.4,baz=301,slow=9.0,SNR=8.1						
WRAB	**Tennant Creek**	**41.91**	**122**	*e*P	**P**	**17 50 43.7**	**0.0**
	comp=Z,1.2nm,0.4s,mb3.9						
ASAR	**Alice Springs**	**43.27**	**127**	P	**P**	**17 50 54.9**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.3,baz=300,slow=8.0,SNR=4.2						
SONM	**Songino Array**	**47.16**	**8**	P	**P**	**17 51 25.6**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=187,slow=10,SNR=8.0						
ZAL	**Zalesovo**	**53.62**	**351**	P	**P**	**17 52 13.5**	**-1.0**
	comp=Z,2.0nm,0.9s,mb4.0,baz=295,slow=5.5,SNR=11						
ZAL	**Zalesovo**	**53.62**	**351**	P	**P**	**17 52 13.5**	**-1.0**

IDC 01 17:46:12.1±3.1, 2.10N×96.82E, mb3.6/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, MS4.4/1, Ms1 4.3/1, ms1mx3.3/23, Error ellipse: s-maj=129.7km s-min=22.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.83**	**123**	P	P	17 54 12.0	-1.9
	1.0nm,0.6s,baz=302,slow=9.0,SNR=9.4						
ASAR	**Alice Springs**	**44.24**	**128**	P	P	17 54 23.6	-1.7
	0.2nm,0.5s,baz=304,slow=7.9,SNR=6.2						
SONM	**Songino Array**	**46.31**	**9**	P	P	17 54 40.4	-1.1
	0.3nm,0.3s,baz=180,slow=9.2,SNR=5.0						
ZAL	**Zalesovo**	**52.61**	**351**	P	P	17 55 27.3	-2.6
	0.5nm,0.4s,baz=286,slow=9.7,SNR=4.8						
STKA	**Stephens Creek**	**54.24**	**132**	LR	LR	18 18 17.9	
	comp=Z,313nm,19.1s,baz=24,slow=36						
BVAR	**Borovoye Array**	**55.28**	**341**	P	P	17 55 46.8	-2.8
	0.4nm,0.5s,baz=140,slow=11,SNR=4.3						

*IDC **01** 17:48:57.8±2.1, 9.47S×107.42E, mb4.0/6, mb1 4.1/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=105.2km s-min=19.6km az=52.0*
*DJA **01** 17:49:01.1±0.9, 11.34S×108.01E, h58km±24km, ML5.5/4, Error ellipse: s-maj=78.1km s-min=18.6km az=157.0*
*NEIC **01** 17:49:02.0±0.8, 9.55S×107.40E, mb4.3/9, Error ellipse: s-maj=42.7km s-min=6.4km az=49.0*
ISC 01 17:49:02.5±2.7, 9.4S±0.1×107.7E±0.1, h43km±25km, n25, σ0§76/28, mb4.3/17, 5C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**6.46**	**83**	*e*Pn	**P**	**17 50 37.6**	**+0.1**
	305nm,0.2s						
SRDI	**Scrawed**	**6.46**	**83⇑**	*e*P	**P**	**17 50 38.9**	**+1.4**
SRDI				⇑*e*Sn	**S**	**17 51 49.2**	**-1.6**
KELI	**Kelakatan**	**6.84**	**81⇑**	*e*Pn	**P**	**17 50 45.4**	**+2.5**
	180nm,0.4s						
KELI				⇑*e*Sn	**S**	**17 52 01.2**	**+0.9**
RATI	**Rata**	**7.80**	**86⇑**	*e*Pn	**P**	**17 50 55.6**	**-0.5**
	458nm,0.2s						
RATI				⇓*e*Sn	**S**	**17 52 18.5**	**-5.5**
KEDI	**Kedomdong**	**8.39**	**85⇓**	*e*Pn	**P**	**17 51 03.4**	**-1.0**
	107nm,0.3s						
KEDI				⇓*e*Sn	**S**	**17 52 33.7**	**-5.2**
MBWA	**Marble Bar**	**16.52**	**137**	*e*P	**P**	**17 52 51.9**	**-0.9**
	13nm,1.1s						
WRA	**Warramunga Arr**	**27.83**	**115**	P	**P**	**17 54 50.0**	**-0.2**
	0.8nm,0.9s,mb3.4,baz=288,slow=10,SNR=4.5						
WRAB	**Tennant Creek**	**27.84**	**115**	*e*P	**P**	**17 54 50.6**	**+0.3**
	4.0nm,1.0s,mb4.0						
ASAR	**Alice Springs**	**28.83**	**123**	P	**P**	**17 54 59.4**	**+0.2**
	0.5nm,0.7s,mb3.3,baz=306,slow=8.4,SNR=5.0						
ASAR				PcP	PcP	17 58 08.9	+0.7
	0.3nm,0.8s,baz=320,slow=1.9,SNR=3.9						
STKA	**Stephens Creek**	**38.61**	**130**	P	**P**	**17 56 24.3**	**+0.9**
	3.2nm,1.0s,mb4.0,baz=300,slow=8.4,SNR=4.4						
STKA	**Stephens Creek**	**38.61**	**130**	P	**P**	**17 56 24.3**	**+0.9**
LSA	**Lhasa**	**41.95**	**338**	*e*P	**P**	**17 56 51.5**	**+0.4**
	5.9nm,0.8s,mb4.3						
LSA				*e*pP	pP	17 57 00.4	-2.5
JIRN	**Jiri**	**42.26**	**331**	*e*P	**P**	**17 56 53.6**	**-0.1**
	17nm,0.8s,mb4.7						
PKI	**Pulchoki**	**42.56**	**330**	*e*P	**P**	**17 56 56.5**	**+0.4**
	6.5nm,0.6s,mb4.5						
GUN	**Gumba**	**42.62**	**331**	*e*P	**P**	**17 56 56.6**	**0.0**
	18nm,0.7s,mb4.9						
DMN	**Daman**	**42.74**	**330**	*e*P	**P**	**17 56 57.3**	**-0.3**
	20nm,1.0s,mb4.8						
KKN	**Kakani**	**42.81**	**330**	*e*P	**P**	**17 56 57.9**	**-0.2**
	8.0nm,0.7s,mb4.6						
GKN	**Gorkha**	**43.30**	**330**	*e*P	**P**	**17 57 01.8**	**-0.4**
	20nm,1.0s,mb4.8						
KOLN	**Koldanda**	**43.64**	**328**	*e*P	**P**	**17 57 04.5**	**-0.4**
	16nm,0.7s,mb4.9						
SONM	**Songino Array**	**56.94**	**359**	P	**P**	**17 58 46.1**	**+0.3**
	1.6nm,0.6s,mb4.2,baz=170,slow=8.0,SNR=18						
ULN	**Ulaanbaatar**	**56.96**	**360**	*e*P	**P**	**17 58 45.8**	**-0.3**
	2.7nm,0.6s,mb4.5						
ULN				*e*pP	pP	17 58 54.7	-3.6
KURK	**Kurchatov**	**64.92**	**340**	*e*P	**P**	**17 59 40.7**	**+0.9**
	1.3nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**65.95**	**345**	P	**P**	**17 59 46.3**	**0.0**
	0.8nm,0.4s,mb4.1,baz=310,slow=4.8,SNR=4.8						
BVAR	**Borovoye Array**	**69.77**	**337**	P	**P**	**18 00 09.5**	**-0.7**
	2.1nm,0.7s,mb4.2,baz=139,slow=8.5,SNR=13						
TXAR	**Lajitas Array**	**144.56**	**52**	PKP	PKPdf	18 08 35.3	+0.3
	0.5nm,0.9s,baz=117,slow=4.0,SNR=2.9						

*IDC **01** 17:58:20.9±0.8, 4.68N×95.09E, mb4.4/12, mb1 4.5/12, mb1mx4.3/20, mbtmp4.4/12, Error ellipse: s-maj=47.5km s-min=14.7km az=49.0*
*BJI **01** 17:58:22.4, 4.33N×95.00E, h39km, mB5.1, mb4.9, Ms4.1, Msz3.8*
*MOS **01** 17:58:24.5±0.8, 4.79N×95.31E, h33km, mb4.8/13, Error ellipse: s-maj=23.5km s-min=9.1km az=105.7*
*NEIC **01** 17:58:25.6±0.5, 4.67N×95.11E, h30km, mb4.6/20, Error ellipse: s-maj=14.7km s-min=6.0km az=223.0*
ISC 01 17:58:24.2±0.5, 4.69N±0.08×95.21E±0.08, h30km, n76, σ1§11/76, mb4.5/40, MS3.9/1, 3C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.46**	**84**	*e*Pn	**Pn**	**17 59 44.2**	**-1.5**
CHG	**Chiang Mai**	**14.50**	**14**	⇑P	**P**	**18 01 56.9**	**+7.3**
	17nm,0.8s						
NANT	**Nan**	**15.01**	**20**	P	**P**	**18 02 03.0**	**+6.7**
KSM	**Kuching**	**15.41**	**101**	*e*Pn	**P**	**18 02 04.2**	**+2.7**
KMI	**Kunming**	**21.57**	**19**	P	**P**	**18 03 18.1**	**+4.6**
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.3						
KMI	**Kunming**	**21.57**	**19**	P	**P**	**18 03 18.1**	**+4.6**
	comp=Z,12nm,0.9s,mb4.3						
JIRN	**Jiri**	**24.40**	**340**	*e*P	**P**	**18 03 42.4**	**+1.0**
	comp=Z,17nm,0.5s,mb4.7						
PKI	**Pulchoki**	**24.59**	**339**	*e*P	**P**	**18 03 43.1**	**-0.2**
	comp=Z,9.8nm,0.6s,mb4.5						
PKI	**Pulchoki**	**24.59**	**339**	*e*P	**P**	**18 03 43.1**	**-0.2**
PKI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
DMN	**Daman**	**24.74**	**338**	*e*P	**P**	**18 03 44.5**	**-0.2**
	comp=Z,6.3nm,0.6s,mb4.3						
GUN	**Gumba**	**24.74**	**340**	*e*P	**P**	**18 03 45.3**	**+0.7**
	comp=Z,24nm,0.5s,mb5.0						
KKN	**Kakani**	**24.84**	**339**	*e*P	**P**	**18 03 45.7**	**+0.1**
	comp=Z,5.2nm,0.5s,mb4.3						
KKN	**Kakani**	**24.84**	**339**	*e*P	**P**	**18 03 45.7**	**+0.1**
KKN				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
LSA	**Lhasa**	**25.17**	**352**	*e*P	**P**	**18 03 48.6**	**-0.1**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5			

BJI Beijing 39.95 25 *e*P **P 18 05 59.3 +1.6**
BJI AMB AMB
comp=Z,25nm,0.8s,mb5.0
BJI LR LR
comp=N,171nm,17.5s,MS4.0
BJI LR LR
comp=E,135nm,22.3s,MS4.0
BJI LR LR
comp=Z,175nm,28.5s
BJI Beijing 39.95 25 *e*P **P 18 05 59.3 +1.6**
comp=Z,25nm,0.8s,mb5.0
BJI LR LR
comp=Z,180nm,28.5s,MS3.8
ULHL Ulahol 41.03 338 P **P 18 06 07.7 +1.1**
SNR=11
KZA Kyzart 41.26 337 P **P 18 06 09.8 +1.4**
SNR=9.6
DL2 Dalian 41.65 31 P **P 18 06 13.4 +1.7**
DL2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
UCH Uchtor 41.67 337 P **P 18 06 13.5 +1.6**
SNR=25
TKM2 Tokmak 2 41.86 338 P **P 18 06 14.2 +0.9**
SNR=19
KBK Karagaybulak 41.87 338 P **P 18 06 15.1 +1.6**
SNR=40
AML Almayashu 41.92 336 P **P 18 06 15.5 +1.6**
SNR=32
AAK Ala-Archa 42.03 337 P **P 18 06 16.4 +1.6**
SNR=10
AAK Ala-Archa 42.03 337 P **P 18 06 15.2 +0.4**
comp=Z,88nm,0.7s,mb5.5,SNR=14
AAK Ala-Archa 42.03 337 *e*P **P 18 06 15.1 +0.3**
AAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
AAK Ala-Archa 42.03 337 *e*P **P 18 06 15.1 +0.3**
comp=Z,7.5nm,0.6s,mb4.5
EKS2 Erkin-Say 42.33 336 P **P 18 06 18.6 +1.3**
SNR=16
USP Ospenovka 42.56 338 P **P 18 06 19.9 +0.8**
SNR=31
SONM Songino Array 44.04 11 P **P 18 06 30.3 -0.8**
comp=Z,0.7nm,0.6s,mb3.6,baz=194,slow=9.9,SNR=8.4
SONM PcP PcP 18 08 16.3 -0.5
comp=Z,2.0nm,0.7s,baz=200,slow=3.6,SNR=12
KKAR Karatay Array 44.06 334 *e*P **P 18 06 31.7 +0.4**
SNY Shenyang 44.81 30 ⇑P **P 18 06 37.5 +0.1**
SNY AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
WRA Warramunga Arr 45.59 124 P **P 18 06 44.4 +0.6**
comp=Z,9.9nm,0.7s,mb4.9,baz=303,slow=9.0,SNR=44
WRAB Tennant Creek 45.60 124 *e*P **P 18 06 44.2 +0.3**
WRAB pmax pmax
comp=Z,22nm,1.0s,mb5.0
WRAB Tennant Creek 45.60 124 *e*P **P 18 06 44.2 +0.3**
comp=Z,22nm,1.0s,mb5.0
WB2 Warramunga Arr 45.60 124 ⇑*i*P **P 18 06 44.4 +0.5**
ZAK Zakamensk 46.04 7 *e*P **P 18 06 44.8 -2.2**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
ASPA Alice Springs 47.09 129 *e*P **P 18 06 56.2 +0.5**
ASAR Alice Springs 47.09 128 P **P 18 06 56.0 +0.3**
comp=Z,2.3nm,0.6s,mb4.3,baz=297,slow=7.8,SNR=22
ASAR PcP PcP 18 08 27.4 -0.3
comp=Z,0.4nm,0.7s,baz=299,slow=3.6,SNR=4.0
KURK Kurchatov 47.93 346 *e*P **P 18 07 01.7 -0.2**
KURK *e* 18 08 29.2
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KURK Kurchatov 47.93 346 *e*P **P 18 07 01.7 -0.2**
comp=Z,4.7nm,0.8s,mb4.6
KURK *e*PcP PcP 18 08 29.2 -1.1
ZAL Zalesovo 49.82 352 P **P 18 07 15.5 -0.9**
comp=Z,3.1nm,0.6s,mb4.5,baz=308,slow=5.3,SNR=20
MDJ Mudanjiang 49.89 32 P **P 18 07 17.9 +0.8**
MDJ AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
MDJ AMB AMB
comp=Z,149nm,6.4s
BVA0 Borovoye Array 52.32 341 *i* P **P 18 07 34.4 -1.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 52.32 341 P **P 18 07 34.5 -0.9**
comp=Z,10nm,0.6s,mb4.9,baz=141,slow=8.8,SNR=90
CHKZ Chkalovo 52.81 342 P **P 18 07 38.5 -0.5**
CHKZ pmax pmax
comp=Z,14nm,0.7s,mb5.0
KLR Kul'dur 54.11 29 *e*P **P 18 07 46.2 -2.4**
BOD Bodaibo 55.00 12 *e*P **P 18 07 53.6 -1.5**
YSS Yuzh-Sakhalins 58.67 36 *e*P **P 18 08 21.5 +0.2**
YSS pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
YSS Yuzh-Sakhalins 58.67 36 *e*P **P 18 08 21.5 +0.2**
comp=Z,7.4nm,0.5s,mb5.0
ARU Arti 59.21 337 *e*P **P 18 08 23.6 -1.3**
YAK Yakutsk 62.68 17 *e*P **P 18 08 46.2 -2.1**
YAK pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
YAK Yakutsk 62.68 17 *e*P **P 18 08 46.2 -2.1**
comp=Z,8.7nm,0.7s,mb5.0
BRTR Keskin Array B 65.31 312 P **P 18 09 04.5 -1.3**
comp=Z,2.7nm,0.7s,mb4.4,baz=136,slow=7.8,SNR=11
MA2 Magadan 69.10 27 *e*P **P 18 09 28.6 -0.8**
MA2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MA2 Magadan 69.10 27 *e*P **P 18 09 28.6 -0.8**
comp=Z,2.4nm,0.6s,mb4.3
AKASG Malin Array Be 71.30 322 P **P 18 09 41.1 -1.8**
comp=Z,2.9nm,0.5s,mb4.5,baz=88,slow=5.6,SNR=20
FINES FINESS Array B 76.00 332 P **P 18 10 09.4 -0.7**
comp=Z,2.2nm,0.3s,mb4.5,baz=100,slow=5.2,SNR=47
KAF Kangasniemi 76.09 333 *e*p **P 18 10 09.2 -1.4**
comp=Z,2.4nm,0.6s,mb4.3,baz=104,slow=5.3
KAF Kangasniemi 76.09 333 *e*P **P 18 10 09.2 -1.4**
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
KEV Kevo 78.17 341 *e*p **P 18 10 21.0 -1.0**
comp=Z,15nm,1.2s,mb4.8
KEV Kevo 78.17 341 *e*P **P 18 10 21.0 -1.0**
KEV pmax pmax
comp=Z,15nm,1.2s,mb4.8
ARCES ARCESS Array B 78.60 340 P **P 18 10 24.0 -0.3**
comp=Z,2.1nm,0.4s,mb4.4,baz=94,slow=5.6,SNR=33
GERES GERESS Array B 80.89 319 P **P 18 10 37.6 +0.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=122,slow=5.0,SNR=14
HFS Hagfors 81.72 330 P **P 18 10 40.8 -0.4**
HFS Hagfors 81.72 330 P **P 18 10 40.7 -0.4**
comp=Z,1.5nm,0.4s,mb4.3,baz=146,slow=5.3,SNR=13
LPG La Plagne 85.60 315 *e*P **P 18 11 02.2 +0.9**
comp=Z,2.9nm,0.6s,mb4.4
LPG La Plagne 85.60 315 *e*P **P 18 11 02.2 +0.9**
LPG pmax pmax
comp=Z,1.0nm,0.6s,mb4.2

OTT 01 18:32:36.7±0.5, 47.48N×92.57W, MN2.5/9, Blast, Minnesota, U.S. Mining explosion., Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EYMN	**Ely**	**0.86**	**57**	PG	Pg	18 32 51.1	-2.8
EYMN				SG	Sg	18 33 04.3	-1.1
EYMN				Trac		18 33 04.5	
	comp=Z,104nm,0.1s						
ATKO	**Atikokan Iron**	**1.49**	**25**	PG	Pg	18 33 03.3	-3.2
ATKO				SG	Sg	18 33 22.8	-3.5
ATKO				Trac		18 33 28.4	
	comp=Z,5.4nm,0.1s						
EPLO	**Experimental L**	**2.33**	**341**	PN	Pn	18 33 16.4	-0.4
EPLO				SN	Sn	18 33 45.6	-0.9
EPLO				Trac		18 33 51.0	
	comp=Z,2.0nm,0.1s						
TBO	**Thunder Bay**	**2.42**	**60**	PN	Pn	18 33 16.5	-1.6
TBO				SN	Sn	18 33 49.6	+0.7
TBO				Trac		18 33 54.7	
	comp=Z,3.9nm,0.1s						
SOLO	**Sioux Lookout**	**2.56**	**7**	PN	Pn	18 33 19.6	-0.5
SOLO				SG	Sg	18 33 53.8	-8.2
SOLO				Trac		18 34 02.8	
	comp=Z,2.6nm,0.1s						
LDIO	**Lac des Isle M**	**2.61**	**48**	PN	Pn	18 33 19.7	-1.1
LDIO				SG	Sg	18 33 56.3	-7.3
LDIO				Trac		18 34 00.6	
	comp=Z,4.7nm,0.1s						
ULM	**Lac du Bonnet**	**3.53**	**323**	PN	Pn	18 33 31.7	-2.2
ULM				PG	Pg	18 33 41.0	-6.2
ULM				SN	Sn	18 34 11.0	-6.0
ULM				SG	Sg	18 34 27.4	-6.7
ULM				Trac		18 34 28.7	
	comp=Z,5.1nm,0.3s						
RLKO	**Red Lake**	**3.68**	**348**	PN	Pn	18 33 34.6	-1.4
RLKO				SN	Sn	18 34 18.8	-1.9
RLKO				SG	Sg	18 34 30.1	-9.0
RLKO				Trac		18 34 34.8	
	comp=Z,2.8nm,0.2s						
PKLO	**Pickle Lake**	**4.27**	**19**	PN	Pn	18 33 41.9	-2.6
PKLO				SN	Sn	18 34 30.7	-5.1
PKLO				Trac		18 34 34.6	
	comp=Z,2.4nm,0.1s						
PKLO				SG	Sg	18 34 49.0	-10
PNPO	**Pukaskwa Natio**	**4.36**	**73**	PN	Pn	18 33 43.9	-1.9
PNPO				SN	Sn	18 34 32.8	-5.2
PNPO				Trac		18 34 48.2	
	comp=Z,1.3nm,0.1s						
VIMO	**Victor Mine**	**7.79**	**43**	PN	Pn	18 34 30.6	-3.4
VIMO				SN	Sn	18 35 53.9	-10
VIMO				SG	Sg	18 36 31.8	-24
SILO	**Sutton Inlier**	**8.51**	**32**	PN	P	18 34 39.7	-4.4
SILO				SN	Sn	18 36 10.8	-11
FCC	**Fort Churchill**	**11.34**	**356**	PN	P	18 35 18.6	-4.3
FCC				SN	S	18 37 14.1	-17

*IDC **01** 18:33:38.4±1.1, 2.40N×98.65E, mb3.9/10, mb1 4.0/10, mb1mx3.9/17, mbtmp3.9/10, Error ellipse: s-maj=69.5km s-min=17.6km az=52.0*
*NEIC **01** 18:33:42.7±0.5, 2.33N×98.65E, h30km, mb3.9/3, Error ellipse: s-maj=17.1km s-min=9.5km az=54.0*
NEIC Felt [IV] at Banda Aceh.
ISC 01 18:33:41.0±0.7, 2.3N±0.1×98.6E±0.1, h30km, n15, σ0s84/15, mb3.9/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**3.56**	**34**	*e*Pn	**Pn**	**18 34 36.0**	**+0.5**
WRA	**Warramunga Arr**	**41.45**	**124**	P	**P**	**18 41 26.9**	**-0.1**
	0.9nm,0.4s,mb3.7,baz=305,slow=9.0,SNR=18						
WRA				PcP	PcP	18 43 25.5	+0.4
	0.3nm,0.4s,baz=315,slow=2.6,SNR=12						
WRAB	**Tennant Creek**	**41.46**	**124**	*e*P	**P**	**18 41 26.9**	**-0.2**
	2.4nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**42.97**	**129**	P	**P**	**18 41 39.4**	**-0.2**
	0.4nm,0.5s,mb3.4,baz=301,slow=7.5,SNR=7.6						
ASAR				PcP	PcP	18 43 30.6	+0.4
	0.4nm,0.6s,baz=326,slow=3.0,SNR=6.5						
AAK	**Ala-Archa**	**45.55**	**335**	P	**P**	**18 42 00.6**	**+0.6**
	0.6nm,0.6s,mb3.7						
SONM	**Songino Array**	**45.81**	**7**	P	**P**	**18 42 02.1**	**+0.1**
	0.5nm,0.8s,mb3.5,baz=194,slow=10,SNR=4.2						
SONM				PcP	PcP	18 43 40.2	+0.6
	0.3nm,0.5s,baz=200,slow=5.3,SNR=3.9						
KURK	**Kurchatov**	**51.08**	**344**	*e*P	**P**	**18 42 42.3**	**-0.5**
	0.8nm,0.5s,mb3.9						
ZAL	**Zalesovo**	**52.67**	**350**	P	**P**	**18 42 53.1**	**-1.7**
	1.1nm,0.4s,mb4.1,baz=329,slow=7.4,SNR=5.1						
BVAR	**Borovoye Array**	**55.66**	**340**	P	**P**	**18 43 15.0**	**-1.7**
	0.7nm,0.6s,mb3.9,baz=149,slow=8.6,SNR=5.9						
AKASG	**Malin Array Be**	**75.24**	**322**	P	**P**	**18 45 22.4**	**-0.5**
	0.2nm,0.3s,mb3.6,baz=88,slow=5.0,SNR=4.1						
FINES	**FINESS Array B**	**79.66**	**332**	P	**P**	**18 45 47.5**	**+0.4**
	0.5nm,0.5s,mb3.7,baz=88,slow=6.7,SNR=9.0						
ARCES	**ARCESS Array B**	**81.95**	**340**	P	**P**	**18 46 00.1**	**+1.1**
	4.3nm,1.0s,mb4.3,baz=90,slow=4.9,SNR=8.2						
HFS	**Hagfors**	**85.45**	**330**	P	**P**	**18 46 18.0**	**+1.1**
	1.7nm,0.5s,mb4.4,baz=153,slow=3.3,SNR=15						
NB2	**NORSAR Subarra**	**86.71**	**331**	P	**P**	**18 46 23.9**	**+0.8**
	0.6nm,0.6s,mb4.0,baz=91,slow=4.8						
NOA	**NORSAR Array B**	**86.71**	**331**	P	**P**	**18 46 24.1**	**+0.9**
	1.3nm,0.8s,mb4.2,baz=94,slow=4.9,SNR=3.9						

*IDC **01** 18:41:08.9±4.7, 1.28N×97.81E, mb3.6/4, mb1 3.8/4, mb1mx3.5/15, mbtmp3.6/4, Error ellipse: s-maj=179.1km s-min=24.6km az=61.0*
*NEIC **01** 18:41:11.3±1.2, 0.98N×97.33E, h30km, mb4.0/2, Error ellipse: s-maj=29.3km s-min=15.3km az=69.0*
ISC 01 18:41:09.3±1.4, 1.0N±0.1×97.3E±0.2, h30km, n7, σ0s93/7, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.42**	**38**	*e*Pn	**Pn**	**18 42 29.7**	**-0.7**
KMI	**Kunming**	**24.56**	**12**	P	**P**	**18 46 30.5**	**+2.4**
	5.0nm,1.3s,mb3.9						
WRA	**Warramunga Arr**	**41.85**	**122**	P	**P**	**18 48 58.3**	**-0.4**
	0.4nm,0.7s,mb3.1,baz=305,slow=8.9,SNR=4.0						
ASAR	**Alice Springs**	**43.20**	**127**	P	**P**	**18 49 10.2**	**+0.5**
	0.2nm,0.6s,mb3.0,baz=297,slow=7.2,SNR=4.4						
SONM	**Songino Array**	**47.32**	**8**	P	**P**	**18 49 42.3**	**+0.1**
	1.2nm,0.5s,mb4.0,baz=189,slow=9.7,SNR=15						
KURK	**Kurchatov**	**52.01**	**345**	*e*P	**P**	**18 50 17.5**	**-0.7**
	1.0nm,0.4s,mb4.1						
ZAL	**Zalesovo**	**53.77**	**351**	P	**P**	**18 50 30.7**	**-0.5**
	1.1nm,0.4s,mb4.2,baz=312,slow=8.0,SNR=5.6						

IDC 01 18:42:10.3±4.5, 1.71N×99.23E, mb3.8/4, mb1 4.0/4, mb1mx3.6/15, mbtmp3.8/4, Error ellipse: s-maj=225.7km s-min=29.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.61**	**124**	P	P	18 49 52.1	-1.6
	3.0nm,0.9s,baz=301,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**42.11**	**129**	P	P	18 50 04.0	-2.1
	0.7nm,0.8s,baz=302,slow=7.6,SNR=5.7						
STKA	**Stephens Creek**	**52.21**	**133**	P	P	18 51 23.7	-1.7
	1.5nm,0.7s,baz=333,slow=7.8,SNR=4.5						
ZAL	**Zalesovo**	**53.40**	**349**	P	P	18 51 31.6	-2.4
	0.8nm,0.4s,baz=305,slow=5.5,SNR=4.0						

*NEIC **01** 18:48:27.9±2.5, 29.83S×178.12W, h223km±25km, mb4.2/2, Error ellipse: s-maj=80.6km s-min=18.9km az=88.0*
*IDC **01** 18:48:29.3±0.9, 29.74S×178.51W, h208km±8km, mb3.8/5, mb1 3.8/6, mb1mx3.7/14, mbtmp4.3/6, Error ellipse: s-maj=28.6km s-min=16.0km az=139.0*
ISC 01 18:48:27.9±1.1, 29.77S±0.05×178.4W±0.2, h219km±12km, n39, σ0s92/35, mb3.9/6, 1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.65**	**37**	P	**P**	**18 48 58.7**	**+0.6**
	804nm,0.3s,baz=69,slow=1.8,SNR=44						
RAO				S	**S**	**18 49 14.5**	**-6.9**
	625nm,0.3s,baz=68,slow=22,SNR=12						
RAO	**Raoul Island**	**0.65**	**37**	*e*Pn	**P**	**18 48 58.2**	**+0.1**
RAO				S	**S**	**18 49 14.6**	**-6.9**
MXZ	**Matakaoa Point**	**8.25**	**199**	PN	**P**	**18 50 25.1**	**-0.1**
MXZ				SN	**S**	**18 51 57.5**	**+0.6**
PUZ	**Puketiti**	**8.74**	**198**	PN	**P**	**18 50 30.4**	**-1.1**
PUZ				SN	**S**	**18 52 06.9**	**-1.2**
MWZ	**Matawai**	**9.20**	**201**	PN	**P**	**18 50 36.4**	**-0.9**
MWZ				SN	**S**	**18 52 19.7**	**+1.0**
URZ	**Urewera**	**9.26**	**203**	P	**P**	**18 50 37.3**	**-0.9**
	1.8nm,0.3s,baz=274,slow=3.8,SNR=16						
URZ				S	**S**	**18 52 22.7**	**+2.5**
	8.8nm,0.3s,baz=84,slow=20,SNR=16						
URZ	**Urewera**	**9.26**	**203**	PN	**P**	**18 50 38.0**	**-0.2**
URZ				SN	**S**	**18 52 20.2**	**+0.1**
KNZ	**Kokohu**	**9.79**	**198**	SN	**S**	**18 52 33.0**	**+0.7**
MSWZ	**Moikau Station**	**12.72**	**202**	SN	**S**	**18 53 39.7**	**+0.1**
NNZ	**Nelson**	**13.25**	**208**	SN	**S**	**18 53 52.6**	**+1.1**
BSWZ	**Blackbirch Sta**	**13.47**	**206**	SN	**S**	**18 53 55.9**	**-0.7**
DSZ	**Denniston Nort**	**14.36**	**211**	SN	**S**	**18 54 17.0**	**+0.6**
LTZ	**Lake Taylor**	**15.01**	**208**	SN	**S**	**18 54 30.2**	**-0.7**
MQZ	**McQueen's Vall**	**15.65**	**205**	SN	**S**	**18 54 41.8**	**-3.3**
DZM	**Mont Dzumac**	**15.66**	**296**	*e*P	**P**	**18 51 58.2**	**-0.4**
DZM	**Mont Dzumac**	**15.66**	**296**	P	**P**	**18 52 06.8**	**+8.2**
	2.0nm,0.3s,baz=118,slow=15,SNR=18						
NOUC	**Port Laguerre**	**15.76**	**295**	*e*P	**P**	**18 51 59.8**	**+0.1**
NOUC	**Port Laguerre**	**15.76**	**295**	*e*P	**P**	**18 51 59.8**	**+0.1**
CTA	**Charters Tower**	**33.39**	**279**	P	**P**	**18 54 47.5**	**-0.2**
	6.7nm,0.9s,mb4.2,baz=129,slow=4.2,SNR=12						
CTA	**Charters Tower**	**33.39**	**279**	P	**P**	**18 54 47.5**	**-0.2**
CTAO	**Charters Tower**	**33.39**	**279**	*e*P	**P**	**18 54 48.1**	**+0.4**
	3.4nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**34.32**	**256**	P	**P**	**18 54 56.8**	**+1.4**
	1.0nm,0.3s,mb3.8,baz=140,slow=18,SNR=7.2						
ASAR	**Alice Springs**	**42.83**	**266**	P	**P**	**18 56 05.7**	**-0.3**
	1.1nm,0.5s,mb3.5,baz=101,slow=6.8,SNR=33						
ASAR				ScP		19 01 25.8	
	0.6nm,0.6s,baz=118,slow=4.0,SNR=6.9						
ASPA	**Alice Springs**	**42.83**	**266**	*e*P	**P**	**18 56 05.8**	**-0.2**
WB2	**Warramunga Arr**	**43.75**	**272**	⇓*i*P	**P**	**18 56 12.6**	**-0.8**
WRAB	**Tennant Creek**	**43.76**	**272**	*e*P	**P**	**18 56 14.0**	**+0.6**
	3.3nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**43.76**	**272**	P	**P**	**18 56 12.0**	**-1.5**
	1.9nm,0.3s,mb3.9,baz=109,slow=8.1,SNR=91						
ASAJ	**Asahikawa**	**81.74**	**333**	P	**P**	**19 00 24.6**	**+1.5**
	7.6nm,0.9s,mb4.3,baz=194,slow=3.9,SNR=4.3						
BVAR	**Borovoye Array**	**125.73**	**316**	PKP	PKPdf	19 07 05.1	+2.1
	1.2nm,0.6s,baz=135,slow=2.1,SNR=6.7						
ARCES	**ARCESS Array B**	**137.91**	**348**	PKhKP		19 07 21.6	
	1.6nm,0.8s,baz=19,slow=1.2,SNR=8.4						
ARCES				PKP	PKPdf	19 07 29.5	+4.1
	4.4nm,1.0s,baz=82,slow=2.3,SNR=12						
KAF	**Kangasniemi**	**143.85**	**341**	*e*pkp	PKPdf	19 07 34.7	-1.3
	baz=44,slow=2.9						
FINES	**FINESS Array B**	**144.45**	**340**	PKP	PKPdf	19 07 37.6	+0.5
	4.0nm,0.5s,baz=60,slow=4.2,SNR=112						
NB2	**NORSAR Subarra**	**148.08**	**351**	PKPabc	PKPdf	19 07 48.1	+5.0
	2.1nm,0.9s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.08**	**351**	PKPbc	PKPdf	19 07 48.5	+5.4
	0.7nm,0.5s,baz=16,slow=2.9,SNR=5.3						
ASF	**Jabal al Asfar**	**149.75**	**284**	PKPbc	PKPdf	19 07 55.7	+9.0
	3.3nm,0.5s,baz=337,slow=5.5,SNR=6.4						
AKASG	**Malin Array Be**	**150.61**	**323**	PKPbc	PKPdf	19 07 55.4	+7.9
	1.7nm,0.5s,baz=49,slow=2.8,SNR=21						
AKASG				PKPab	PKPab	19 08 02.1	-0.9
	2.2nm,0.6s,baz=44,slow=4.2,SNR=10						
BRTR	**Keskin Array B**	**152.02**	**299**	PKPbc	PKPdf	19 07 59.4	+10
	1.0nm,0.5s,baz=134,slow=5.8,SNR=5.0						
KHC	**Kasperske Hory**	**158.63**	**338**	*e*PKPab	PKPab	19 08 36.5	-0.6
GERES	**GERESS Array B**	**158.84**	**338**	PKPab	PKPab	19 08 38.2	+0.2
	0.7nm,0.7s,baz=27,slow=6.0,SNR=5.7						

*BJI **01** 19:03:27.5, 0.49N×97.28E, h30km, mB4.9, mb4.6, Ms4.5, Msz4.2*
*IDC **01** 19:03:30.9±1.1, 1.28N×97.11E, mb4.1/10, mb1 4.3/10, mb1mx4.1/16, mbtmp4.1/10, MS4.2/3, Ms1 4.2/3, ms1mx3.4/25, Error ellipse: s-maj=61.3km s-min=16.5km az=53.0*
*MOS **01** 19:03:34.0±1.4, 1.23N×97.17E, h33km, mb4.8/16, Error ellipse: s-maj=18.8km s-min=8.9km az=96.1*
*NEIC **01** 19:03:35.7±0.4, 1.24N×97.19E, h30km, mb4.6/20, Error ellipse: s-maj=12.6km s-min=6.6km az=52.0*
ISC 01 19:03:33.7±0.6, 1.26N±0.08×97.16E±0.07, h30km, (h26km±4km:pP-P), n63, σ0s97/63, mb4.5/36, MS4.3/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.08**	**49**	P	**Pn**	**19 04 50.7**	**+0.8**
KULM	**Kulim**	**5.31**	**41**	*e*Pn	**Pn**	**19 04 53.2**	**+0.1**
KGM	**Kluang**	**6.21**	**83**	P	**Pn**	**19 05 06.8**	**+1.0**
KMI	**Kunming**	**24.33**	**12**	P	**P**	**19 08 51.6**	**+1.4**
KMI				XP		19 09 05.3	
KMI				PP	PP	19 09 33.2	+7.6
KMI				S	**S**	**19 13 16.7**	**+12**
KMI				XS		19 13 30.0	
KMI				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.5						
KMI				AMB	AMB		
	comp=Z,107nm,3.3s						
KMI				LR	LR		
	comp=N,722nm,13.9s,MS4.4						
KMI				LR	LR		
	comp=E,437nm,12.6s,MS4.4						
KMI				LR	LR		
	comp=Z,768nm,12.6s,MS4.4						
KMI	**Kunming**	**24.33**	**12**	P	**P**	**19 08 51.6**	**+1.4**
KMI				*SP		19 09 05.3	
KMI						19 09 33.2	
KMI				SS	SS	19 14 19.8	+21
KMI				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.5						
KMI				MLR	MLR		
	comp=Z,770nm,12.6s,MS4.4						
KMI	**Kunming**	**24.33**	**12**	P	**P**	**19 08 51.6**	**+1.4**
	comp=Z,23nm,1.3s,mb4.5						
KMI				sP		19 09 05.3	
KMI				PP	PP	19 09 33.2	+7.6
KMI				S	**S**	**19 13 16.7**	**+12**
KMI				sS		19 13 30.0	
KMI				SS	SS	19 14 19.8	+21
KMI				LR	LR		
	comp=Z,770nm,12.6s,MS4.4						
GYA	**Guiyang**	**26.67**	**19**	P	**P**	**19 09 11.9**	**-0.3**
GYA				AP	pP	19 09 19.2	-1.7
GYA				XP	sP	19 09 22.4	-2.5
GYA				PP	PP	19 10 02.8	+6.0
GYA				S	**S**	**19 13 54.5**	**+11**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
GYA				AMB	AMB		
	comp=Z,110nm,5.4s						
GYA				LR	LR		
	comp=N,560nm,13.8s,MS4.3						
GYA				LR	LR		
	comp=E,280nm,12.9s,MS4.3						
GYA				LR	LR		
	comp=Z,790nm,14.7s,MS4.4						
JIRN	**Jiri**	**28.28**	**339**	*e*P	**P**	**19 09 27.5**	**+0.8**
	comp=Z,41nm,1.0s,mb5.0						
PKI	**Pulchoki**	**28.48**	**338**	*e*P	**P**	**19 09 29.6**	**+1.0**
	comp=Z,30nm,1.3s,mb4.8						
PKI	**Pulchoki**	**28.48**	**338**	*e*P	**P**	**19 09 29.6**	**+1.0**
PKI				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.5						
GUN	**Gumba**	**28.62**	**339**	*e*P	**P**	**19 09 30.4**	**+0.6**
	comp=Z,28nm,0.8s,mb5.1						
DMN	**Daman**	**28.63**	**337**	*e*P	**P**	**19 09 30.4**	**+0.5**
	comp=Z,35nm,1.3s,mb4.9						
KKN	**Kakani**	**28.73**	**338**	*e*P	**P**	**19 09 30.9**	**+0.1**
	comp=Z,33nm,1.1s,mb5.0						
KKN	**Kakani**	**28.73**	**338**	*e*P	**P**	**19 09 30.9**	**+0.1**
KKN				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.7						
LSA	**Lhasa**	**28.86**	**349**	P	**P**	**19 09 34.6**	**+2.7**
LSA	**Lhasa**	**28.86**	**349**	*e*P	**P**	**19 09 34.6**	**+2.7**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**28.86**	**349**	*e*P	**P**	**19 09 34.6**	**+2.7**
	comp=Z,4.5nm,0.8s,mb4.2						
GKN	**Gorkha**	**29.17**	**337**	*e*P	**P**	**19 09 34.8**	**0.0**
	comp=Z,25nm,0.9s,mb4.9						
KOLN	**Koldanda**	**29.39**	**335**	*e*P	**P**	**19 09 37.1**	**+0.4**
	comp=Z,16nm,0.9s,mb4.8						
ENH	**Enshi**	**31.14**	**21**	*e*P	**P**	**19 09 50.8**	**-1.4**
	comp=Z,11nm,0.6s,mb4.9						
XAN	**Xi'an**	**34.42**	**17**	P	**P**	**19 10 19.2**	**-1.5**
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
GTA	**Gaotai**	**38.05**	**3**	P	**P**	**19 10 51.5**	**+0.2**
GTA				AP	pP	19 10 59.4	-0.9
GTA				XP	sP	19 11 02.5	-1.6
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s

BJI	**Beijing**	**42.30**	**22**	*e*P	**P**	**19 11 27.3**	**+0.8**
BJI				AMB	AMB		
comp=Z,11nm,0.8s,mb4.5							
BJI	**Beijing**	**42.30**	**22**	*e*P	**P**	**19 11 27.3**	**+0.8**
comp=Z,11nm,0.8s,mb4.5							
WMQ	**Urumqi**	**43.21**	**350**	*e*P	**P**	**19 11 33.5**	**-0.3**
ASAR	**Alice Springs**	**43.47**	**127**	P	**P**	**19 11 36.4**	**+0.2**
comp=Z,2.2nm,0.9s,mb3.9,baz=295,slow=7.7,SNR=21							
AAK	**Ala-Archa**	**45.93**	**337**	*e*P	**P**	**19 11 57.9**	**+2.2**
AAK				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.3							
AAK	**Ala-Archa**	**45.93**	**337**	*e*P	**P**	**19 11 57.9**	**+2.3**
comp=Z,4.3nm,1.1s,mb4.3							
SONM	**Songino Array**	**47.08**	**8**	P	**P**	**19 12 04.9**	**+0.2**
comp=Z,4.4nm,0.8s,mb4.4,baz=189,slow=8.8,SNR=40							
ULN	**Ulaanbaatar**	**47.21**	**9**	*e*P	**P**	**19 12 05.6**	**-0.2**
ULN				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
ULN	**Ulaanbaatar**	**47.21**	**9**	*e*P	**P**	**19 12 05.6**	**-0.1**
comp=Z,1.8nm,0.7s,mb4.1							
ZAK	**Zakamensk**	**49.22**	**5**	*e*P	**P**	**19 12 20.8**	**-0.5**
ZAK				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.9							
TLY	**Talaya**	**50.54**	**5**	*e*P	**P**	**19 12 31.8**	**+0.4**
TLY				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
TLY	**Talaya**	**50.54**	**5**	*e*P	**P**	**19 12 31.8**	**+0.4**
comp=Z,2.5nm,0.7s,mb4.2							
HIA	**Hailar**	**51.60**	**19**	*e*P	**P**	**19 12 39.2**	**-0.3**
HIA				pmax	pmax		
comp=Z,5.0nm,0.9s							
HIA	**Hailar**	**51.60**	**19**	*e*P	**P**	**19 12 39.2**	**-0.2**
comp=Z,5.3nm,0.9s,mb4.5							
KURK	**Kurchatov**	**51.73**	**345**	*e*P	**P**	**19 12 39.8**	**-0.6**
KURK				pmax	pmax		
comp=Z,7.0nm,1.2s,mb4.5							
KURK	**Kurchatov**	**51.73**	**345**	*e*P	**P**	**19 12 39.8**	**-0.6**
comp=Z,7.5nm,1.2s,mb4.5							
CTA	**Charters Tower**	**52.57**	**117**	LR	LR	19 39 34.0	
comp=Z,169nm,18.7s,MS4.1,baz=281,slow=41							
STKA	**Stephens Creek**	**53.43**	**132**	P	**P**	**19 12 53.9**	**+0.5**
comp=Z,1.5nm,0.7s,mb4.0,baz=311,slow=24,SNR=6.3							
ZAL	**Zalesovo**	**53.49**	**351**	P	**P**	**19 12 52.6**	**-0.8**
comp=Z,4.7nm,0.5s,mb4.7,baz=304,slow=4.7,SNR=21							
NVS	**Novosibirsk**	**54.61**	**350**	*e*P	**P**	**19 12 59.2**	**-2.5**
NVS				pmax	pmax		
comp=N,13nm,1.8s							
NVS				pmax	pmax		
comp=E,10.0nm,1.8s							
NVS				pmax	pmax		
comp=Z,21nm,1.8s,mb4.9							
BVAR	**Borovoye Array**	**56.18**	**341**	P	**P**	**19 13 11.9**	**-1.2**
comp=Z,4.0nm,0.8s,mb4.5,baz=141,slow=9.5,SNR=22							
KLR	**Kul'dur**	**56.22**	**27**	*e*P	**P**	**19 13 10.8**	**-2.7**
BOD	**Bodaibo**	**57.96**	**11**	*e*P	**P**	**19 13 25.1**	**-0.5**
BOD				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.5							
YSS	**Yuzh-Sakhalins**	**60.33**	**34**	*e*P	**P**	**19 13 41.6**	**-0.6**
YSS				pmax	pmax		
comp=Z,11nm,1.0s,mb4.8							
YSS	**Yuzh-Sakhalins**	**60.33**	**34**	*e*P	**P**	**19 13 41.6**	**-0.6**
comp=Z,11nm,1.0s,mb4.8							
ARU	**Arti**	**63.11**	**337**	*e*P	**P**	**19 13 57.8**	**-2.9**
YAK	**Yakutsk**	**65.38**	**16**	*e*P	**P**	**19 14 14.1**	**-1.3**
YAK				pmax	pmax		
comp=Z,12nm,0.9s,mb4.9							
YAK	**Yakutsk**	**65.38**	**16**	*e*P	**P**	**19 14 14.1**	**-1.3**
comp=Z,12nm,0.9s,mb4.9							
MA2	**Magadan**	**71.30**	**26**	*e*P	**P**	**19 14 51.9**	**-0.4**
AKASG	**Malin Array Be**	**75.19**	**322**	P	**P**	**19 15 16.0**	**+0.9**
comp=Z,0.3nm,0.3s,mb3.8,baz=86,slow=5.6,SNR=4.5							
RPZ	**Rata Peaks**	**79.28**	**135**	LR	LR	19 53 09.5	
comp=Z,174nm,19.5s,MS4.4,baz=280,slow=38							
FINES	**FINESS Array B**	**79.93**	**333**	P	**P**	**19 15 41.1**	**-0.1**
comp=Z,1.6nm,0.9s,mb4.0,baz=72,slow=6.0,SNR=4.1							
ARCES	**ARCESS Array B**	**82.47**	**340**	P	**P**	**19 15 54.2**	**-0.1**
comp=Z,2.8nm,0.9s,mb4.2,baz=63,slow=2.7,SNR=4.7							
URZ	**Urewera**	**82.89**	**129**	LR	LR	19 54 15.0	
comp=Z,127nm,18.0s,MS4.3,baz=192,slow=37							
GERES	**GERESS Array B**	**84.74**	**319**	P	**P**	**19 16 06.9**	**+0.6**
comp=Z,0.3nm,0.7s,mb3.6,baz=124,slow=4.8,SNR=5.5							

NIED ***01*** *19:20:00, 37.20N×138.80E, h8km, Mw3.7 Best double couple: M0=3.38×10^14 NP1:φs=190°, δ47°, λ92°. NP2:φs=7°, δ43°, λ88°.*
IDC ***01*** *19:20:15.3±1.2, 37.11N×138.85E, mb3.4/4, mb1 3.6/4, mb1mx3.5/20, mbtmp3.4/4, Error ellipse: s-maj=48.0km s-min=27.2km az=86.0*
JMA ***01*** *19:20:17.7, 37.20N×138.82E, h10km±1km, M4.0 Broadband fault plane solution: P waves. NP1:φs=358°, δ34°, λ65°. NP2:φs=207°, δ59°, λ106°. Principal axes: T Plg71°, Azm154°; N Plg14°, Azm19°; P Plg13°, Azm286°; JMA Felt II J1.*
NEIC ***01*** *19:20:19.3±2.4, 37.20N×138.46E, h30km±16km, mb3.7/1 Error ellipse: s-maj=27.4km s-min=17.8km az=58.0*

ISC 01 19:20:17.0±0.5, 37.22N±0.03×138.80E±0.05, h26km±5km, n17, σ0=91/26, mb3.3/4, 2C-5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.18**	**80**	⇓P	**Pb**	**19 20 21.3**	**-1.2**
JHK				S	**Sb**	**19 20 24.2**	**-2.1**
JIZZ	**Izumozaki**	**0.32**	**348**	⇓P	**Pb**	**19 20 25.2**	**+0.8**
JKT	**Katashina**	**0.58**	**141**	⇓P	**Pb**	**19 20 28.3**	**-0.1**
JKT				S	**Sb**	**19 20 36.2**	**-0.1**
JGK	**Kuni**	**0.67**	**191**	⇑P	**Pb**	**19 20 30.3**	**+0.4**
JGK				S	**Sb**	**19 20 39.4**	**+0.6**
JNS	**Sasagawa**	**0.73**	**34**	P	**Pb**	**19 20 31.1**	**+0.1**
JNS				S	**Sb**	**19 20 41.0**	**+0.4**
JFY	**Yanaizu**	**0.75**	**75**	⇓P	**Pb**	**19 20 31.4**	**+0.1**
JFY				S	**Sb**	**19 20 41.8**	**+0.6**
MAJO	**Matsushiro**	**0.82**	**215**	*e*Pg	**Pb**	**19 20 32.6**	**+0.1**
MAJO				*e*Sn	**Sn**	**19 20 43.1**	**-1.1**
MAT	**Matsushiro**	**0.82**	**215**	*e*P	**Pb**	**19 20 33.0**	**+0.5**
MAT				*e*S	**Sb**	**19 20 44.0**	**+0.8**
MAT	**Matsushiro**	**0.82**	**215**	P	**Pb**	**19 20 32.6**	**+0.1**
MAT				S	**Sb**	**19 20 43.5**	**+0.3**
JSD	**Sado**	**0.92**	**333**	⇓P	**Pb**	**19 20 34.2**	**0.0**
JAG	**Ashikaga**	**0.95**	**146**	⇑P	**Pb**	**19 20 35.3**	**+0.6**
JAG				S	**Sb**	**19 20 47.6**	**+0.7**
BJI	**Beijing**	**17.89**	**286**	*e*P	**P**	**19 24 22.7**	**-2.9**
6.0nm,1.0s							
SONM	**Songino Array**	**25.95**	**304**	P	**P**	**19 25 50.4**	**+1.6**
0.4nm,0.8s,mb3.0,baz=100,slow=6.3,SNR=4.4							
WRA	**Warramunga Arr**	**57.01**	**185**	P	**P**	**19 30 01.5**	**-1.5**
0.7nm,0.8s,mb3.8,baz=0.9,slow=7.5,SNR=7.4							
ASAR	**Alice Springs**	**60.73**	**185**	P	**P**	**19 30 28.4**	**-0.3**
0.4nm,0.9s,mb3.5,baz=7.1,slow=7.3,SNR=3.2							
YKA	**Yellowknife Ar**	**64.69**	**29**	P	**P**	**19 30 55.0**	**+0.6**
0.1nm,0.7s,mb3.0,baz=304,slow=6.7,SNR=4.2							
YKA	**Yellowknife Ar**	**64.69**	**29**	P	**P**	**19 30 55.0**	**+0.6**

BJI ***01*** *19:21:48.1, 12.86N×92.70E, h32km, mB4.9, mb4.8, Ms4.3, Msz3.9*
MOS ***01*** *19:21:50.3±0.8, 13.03N×92.73E, h33km, mb5.1/59, Error ellipse: s-maj=9.1km s-min=4.3km az=118.2*
IDC ***01*** *19:21:51.4±0.5, 13.04N×92.82E, h28km±3km, mb4.6/19, mb1 4.7/19, mb1mx4.7/22, mbtmp4.8/19, MS3.9/7, Ms1 3.9/7, ms1mx3.6/31, Error ellipse: s-maj=19.9km s-min=8.6km az=50.0*
NEIC ***01*** *19:21:51.8±0.2, 13.11N×92.72E, mb4.8/71, Error ellipse: s-maj=5.8km s-min=3.9km az=52.0*

ISC 01 19:21:49.9±0.2, 13.05N±0.04×92.74E±0.03, h30km, h30km±.6km: pP-P, n276, σ0=89/284, mb4.8/99, MS4.0/17, 13C-21D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.39**	**180**	*e*P	**Pn**	**19 22 18.6**	**+5.0**
PBA				*e*S	**Sn**	**19 22 40.3**	**+9.3**
NNT	**Nongplab**	**6.84**	**93**	P	**Pn**	**19 23 33.7**	**+2.8**
BDT	**Bhumibol Dam**	**7.34**	**55**	P	**Pn**	**19 23 37.5**	**-0.5**
60nm,0.7s							
CHG	**Chiang Mai**	**8.27**	**45**	PG	**P**	**19 23 53.5**	**+2.6**
CHG				SG	**Sn**	**19 25 18.7**	**-5.6**
NANT	**Nan**	**9.55**	**52**	P	**P**	**19 24 09.0**	**+0.3**
175nm,0.6s							
CHRT	**Chiangrai**	**9.57**	**44**	⇑P	**P**	**19 24 09.0**	**0.0**
234nm,1.2s							
BWNR	**Bhubaneshwar**	**9.80**	**318**	*e*P	**P**	**19 24 11.2**	**-0.9**
BWNR				*e*S	**Sn**	**19 25 48.9**	**-13**
BWNR				*e*		19 25 54.3	
comp=N,432nm,0.4s							
BWNR				*e*		19 25 54.8	
comp=E,1μm,0.5s							
VIS	**Vishakhapatnam**	**10.19**	**298**	*e*P	**P**	**19 24 15.4**	**-2.1**
VIS				*e*S	**S**	**19 25 57.5**	**-14**
VIS				*e*		19 26 01.9	
comp=N,435nm,0.8s							
VIS				*e*		19 26 02.0	
comp=E,278nm,0.7s							
KKTK	**Khon Kaen**	**10.29**	**70**	P	**P**	**19 24 21.0**	**+2.2**
comp=E,741nm,0.5s							
SHL	**Shillong**	**12.48**	**356**	*e*P	**P**	**19 24 43.0**	**-5.5**
SHL				*i* S	**S**	**19 26 54.0**	**-13**
BLSP	**Bilaspur**	**13.55**	**313**	*e*P	**P**	**19 25 01.8**	**-1.0**
BLSP				*e*		19 27 18.8	
HYB	**Hyderabad**	**14.36**	**289**	*i* P	**P**	**19 25 16.0**	**+2.6**
HYB				*e*		19 27 38.0	
HYB				*e*S	**S**	**19 27 53.0**	**+0.5**
KMI	**Kunming**	**15.27**	**37**	P	**P**	**19 25 27.4**	**+2.1**
KMI				XP		19 25 39.9	
KMI				AMB	AMB		
comp=Z,18nm,1.3s							
KMI				LR	LR		
comp=N,267nm,15.9s							
KMI				LR	LR		
comp=E,440nm,15.1s							
KMI				LR	LR		
comp=Z,318nm,16.8s							
KMI	**Kunming**	**15.27**	**37**	P	**P**	**19 25 27.4**	**+2.1**
KMI				pmax	pmax		
comp=Z,18nm,1.3s							
KMI	**Kunming**	**15.27**	**37**	P	**P**	**19 25 27.4**	**+2.1**
comp=Z,18nm,1.3s							
KMI				sP		19 25 39.9	
NGP	**Nagpur**	**15.36**	**303**	*e*P	**P**	**19 25 26.6**	**+0.1**
NGP				*e*		19 25 28.5	
comp=Z,58nm,1.0s							
NGP				*e*		19 28 04.6	
JIRN	**Jiri**	**15.77**	**338**	*e*P	**P**	**19 25 29.7**	**-2.1**
comp=Z,106nm,0.7s							
PKI	**Pulchoki**	**15.99**	**336**	*e*P	**P**	**19 25 33.4**	**-1.2**
comp=Z,66nm,0.6s							
PKI	**Pulchoki**	**15.99**	**336**	*e*P	**P**	**19 25 33.4**	**-1.2**
PKI				pmax	pmax		
comp=Z,33nm,0.6s							
GUN	**Gumba**	**16.11**	**338**	*e*P	**P**	**19 25 34.9**	**-1.2**
comp=Z,93nm,0.7s							
DMN	**Daman**	**16.15**	**335**	*e*P	**P**	**19 25 34.9**	**-1.6**
comp=Z,84nm,0.6s							
KKN	**Kakani**	**16.24**	**336**	*e*P	**P**	**19 25 36.4**	**-1.3**
comp=Z,50nm,0.7s							
KKN	**Kakani**	**16.24**	**336**	*e*P	**P**	**19 25 36.4**	**-1.3**
KKN				pmax	pmax		
comp=Z,25nm,0.7s							
LATR	**Latur**	**16.46**	**291**	*e*P	**P**	**19 25 43.0**	**+2.5**
LSA	**Lhasa**	**16.64**	**355**	P	**P**	**19 25 40.1**	**-2.6**
LSA	**Lhasa**	**16.64**	**355**	*e*P	**P**	**19 25 43.5**	**+0.8**
LSA				*e*		19 28 39.6	
LSA				pmax	pmax		
comp=Z,36nm,0.5s							
LSA	**Lhasa**	**16.64**	**355**	*e*P	**P**	**19 25 43.5**	**+0.8**
comp=Z,36nm,0.5s							
LSA				*e*Sn	**S**	**19 28 39.6**	**-6.0**
GKN	**Gorkha**	**16.69**	**334**	*e*P	**P**	**19 25 42.6**	**-0.8**
comp=Z,47nm,0.3s							
AKL	**Akola**	**16.85**	**299**	*e*P	**P**	**19 25 45.0**	**-0.5**
KOLN	**Koldanda**	**16.95**	**331**	*e*P	**P**	**19 25 47.1**	**+0.4**
comp=Z,88nm,0.6s							
BHPL	**Bhopal**	**17.72**	**307**	*e*P	**P**	**19 25 58.0**	**+1.8**
BHPL				*e*		19 26 09.4	
comp=Z,42nm,0.9s							
KAD	**Karad**	**18.40**	**286**	*e*P	**P**	**19 26 06.0**	**+1.2**
KAD				*i*		19 29 14.1	
GYA	**Guiyang**	**18.68**	**42**	⇓*i*P	**P**	**19 26 08.6**	**+0.5**
GYA				AMB	AMB		
comp=Z,20nm,0.6s							
GYA				AMB	AMB		
comp=Z,270nm,4.9s							
POO	**Poona**	**18.97**	**289**	⇑*i*P	**P**	**19 26 10.0**	**-1.6**
comp=Z,30nm,1.0s							
POO				*i*		19 29 24.0	
LGTI	**Lohaghat**	**20.02**	**327**	*e*P	**P**	**19 26 24.0**	**+0.7**
PTH	**Pithoragarh**	**20.11**	**327**	*e*P	**P**	**19 26 24.3**	**0.0**
PTH				*e*		19 29 59.3	
CD2	**Chengdu**	**20.48**	**28**	⇑*i*P	**P**	**19 26 27.4**	**-0.7**
CD2				AMB	AMB		
comp=Z,60nm,1.4s							
KSM	**Kuching**	**20.86**	**122**	P	**P**	**19 26 33.6**	**+1.5**
NDI	**New Delhi**	**21.23**	**320**	*e*P	**P**	**19 26 35.5**	**-0.3**
NDI				*e*		19 30 18.5	
AJM	**Ajmer**	**21.61**	**311**	⇓*i*P	**P**	**19 26 41.0**	**+1.4**
LZH	**Lanzhou**	**25.02**	**22**	⇑P	**P**	**19 27 13.8**	**+0.9**
LZH				AP	pP	19 27 23.2	+1.5
LZH				XP	sP	19 27 27.5	+1.8
LZH				PP	PP	19 27 51.3	+0.6
LZH				AMB	AMB		
comp=Z,93nm,1.3s,mb5.2							
LZH				AMB	AMB		
comp=Z,102nm,4.6s							
LZH				LR	LR		
comp=N,336nm,10.1s							
LZH				LR	LR		
comp=Z,476nm,11.8s,MS4.2							
LZH	**Lanzhou**	**25.02**	**22**	⇑P	**P**	**19 27 13.8**	**+0.9**
comp=Z,93nm,1.3s,mb5.2							
LZH				pP	pP	19 27 23.2	+1.5
LZH				sP	sP	19 27 27.5	+1.8
LZH				PP	PP	19 27 51.3	+0.6
LZH				LR	LR		
comp=Z,480nm,11.8s,MS4.2							
XAN	**Xi'an**	**25.55**	**32**	P	**P**	**19 27 17.0**	**-1.0**
XAN				AMB	AMB		
comp=Z,51nm,1.0s,mb5.0							
WHN	**Wuhan**	**26.48**	**45**	*e*P	**P**	**19 27 30.0**	**+3.4**
GTA	**Gaotai**	**26.99**	**12**	P	**P**	**19 27 31.1**	**-0.1**
GTA				AP	pP	19 27 43.4	+3.4
GTA				XP	sP	19 27 49.0	+5.1
GTA				PCP	PcP	19 30 53.3	+0.6
GTA				AMB	AMB		
comp=Z,26nm,1.1s,mb4.7							
GTA				AMB	AMB		
comp=Z,126nm,6.5s							
GTA				LR	LR		
comp=N,178nm,19.9s,MS3.8							
GTA				LR	LR		
comp=E,145nm,18.3s,MS3.8							
GTA				LR	LR		
comp=Z,197nm,19.1s,MS3.7							
KSH	**Kashi**	**30.24**	**334**	P	**P**	**19 28 00.6**	**+0.2**
KSH				AP	pP	19 28 09.5	+0.3
KSH				XP	sP	19 28 13.6	+0.5
KSH				AMB	AMB		
comp=Z,2μm,3.0s							
NJ2	**Nanjing**	**30.51**	**47**	*e*P	**P**	**19 28 01.8**	**-1.0**
NJ2				AP	pP	19 28 11.3	-0.4
NJ2				XP	sP	19 28 14.8	-0.8
NJ2				PP	PP	19 29 03.0	-0.1
NJ2				S	**S**	**19 32 59.0**	**-2.1**
NJ2				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.6							
NJ2				LR	LR		
comp=N,390nm,19.1s,MS4.4							
NJ2				LR	LR		
comp=E,700nm,17.6s,MS4.4							
NJ2				LR	LR		
comp=Z,140nm,13.2s,MS3.8							
WMQ	**Urumqi**	**30.97**	**353**	⇑*i*P	**P**	**19 28 07.5**	**+0.7**
WMQ				AP	pP	19 28 17.0	+1.4
WMQ				XP	sP	19 28 20.7	+1.2
WMQ				PP	PP	19 29 09.1	+0.1
WMQ				PPP	PPP	19 29 24.0	+0.1
WMQ				PCP	PcP	19 31 04.5	+1.9
WMQ				S	**S**	**19 33 07.6**	**-0.6**
WMQ				XS		19 33 23.5	
WMQ				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.7							
WMQ				AMB	AMB		
comp=Z,153nm,3.5s							
WMQ				LR	LR		
comp=N,153nm,10.2s,MS4.2							
WMQ				LR	LR		
comp=E,247nm,10.3s,MS4.2							
WMQ				LR	LR		
comp=Z,85nm,21.3s							
SSE	**Sheshan**	**31.75**	**51**	*e*P	**P**	**19 28 09.4**	**-4.4**
SSE				AP	pP	19 28 27.0	+4.3
SSE				S	**S**	**19 33 14.8**	**-5.7**
SSE				AMB	AMB		
comp=Z,29nm,0.7s,mb5.2							
SSE				AMB	AMB		
comp=Z,135nm,7.3s							
SSE				LR	LR		
comp=N,159nm,15.9s,MS4.0							
SSE				LR	LR		
comp=E,196nm,15.9s,MS4.0							
SSE				LR	LR		
comp=Z,351nm,15.4s,MS4.2							
SSE	**Sheshan**	**31.75**	**51**	*e*P	**P**	**19 28 09.4**	**-4.4**
comp=Z,29nm,0.7s,mb5.2							
SSE				pP	pP	19 28 27.0	+4.3
SSE				S	**S**	**19 33 14.8**	**-5.7**
SSE				sS		19 33 44.9	
SSE				SS	SS	19 35 36.2	+24
SSE				LR	LR		
comp=Z,350nm,15.4s,MS4.2							
HHC	**Hu-ho-hao-te**	**32.23**	**27**	⇓P	**P**	**19 28 18.3**	**+0.4**
HHC				AP	pP	19 28 27.8	+1.0
HHC				XP	sP	19 28 32.1	+1.5
HHC				PP	PP	19 29 26.3	+0.9
HHC				PCP	PcP	19 31 04.2	-1.8
HHC				S	**S**	**19 33 30.1**	**+2.2**
HHC				XS		19 33 44.8	
HHC				SCP		19 34 46.8	
HHC				PCS		19 34 50.3	
HHC				SS	SS	19 35 25.3	+2.4
HHC				AMB	AMB		
comp=Z,29nm,1.1s,mb5.0							
HHC				AMB	AMB		
comp=Z,106nm,5.5s							
HHC				LR	LR		
comp=N,170nm,16.9s,MS3.9							
HHC				LR	LR		
comp=E,136nm,16.5s,MS3.9							
HHC				LR	LR		
comp=Z,143nm,17.6s,MS3.7							
ULHL	**Ulahol**	**32.43**	**337**	P	**P**	**19 28 20.2**	**+0.7**
SNR=5.5							
KZA	**Kyzart**	**32.67**	**336**	P	**P**	**19 28 22.9**	**+1.2**
SNR=21							
UCH	**Uchtor**	**33.10**	**335**	P	**P**	**19 28 26.4**	**+1.0**
SNR=15							
TKM2	**Tokmak 2**	**33.25**	**337**	P	**P**	**19 28 27.6**	**+0.9**
SNR=17							
KBK	**Karagaybulak**	**33.28**	**336**	P	**P**	**19 28 28.6**	**+1.6**
SNR=15							
AML	**Almayashu**	**33.37**	**334**	P	**P**	**19 28 29.0**	**+1.3**
SNR=40							
AAK	**Ala-Archa**	**33.45**	**335**	P	**P**	**19 28 28.9**	**+0.5**
comp=Z,128nm,0.8s,mb5.9,SNR=27							
AAK	**Ala-Archa**	**33.45**	**335**	*e*P	**P**	**19 28 28.2**	**-0.2**
AAK				pmax	pmax		
comp=Z,23nm,1.1s,mb5.0							
AAK	**Ala-Archa**	**33.45**	**335**	*e*P	**P**	**19 28 28.2**	**-0.2**
comp=Z,23nm,1.1s,mb5.0							
CHMS	**Chumysh**	**33.65**	**336**	P	**P**	**19 28 30.8**	**+0.6**
SNR=8.4							
EKS2	**Erkin-Say**	**33.77**	**334**	P	**P**	**19 28 32.5**	**+1.3**
SNR=51							
BJT	**Baijiatuau**	**33.86**	**33**	*e*P	**P**	**19 28 32.5**	**+0.5**
BJT				pmax	pmax		
comp=Z,8.0nm,0.7s							
BJT	**Baijiatuau**	**33.86**	**33**	*e*P	**P**	**19 28 32.5**	**+0.4**
comp=Z,8.2nm,0.7s,mb4.8							
BJI	**Beijing**	**33.88**	**33**	*e*P	**P**	**19 28 32.9**	**+0.7**
BJI				AMB	AMB		
comp=Z,30nm,0.8s,mb5.3							
BJI				LR	LR		
comp=N,150nm,21.2s,MS4.0							
BJI				LR	LR		
comp=E,222nm,19.8s,MS4.0							
BJI				LR	LR		
comp=Z,134nm,23.7s,MS3.6							
BJI	**Beijing**	**33.88**	**33**	*e*P	**P**	**19 28 32.9**	**+0.7**
comp=Z,30nm,0.8s,mb5.3							
BJI				LR	LR		
comp=Z,130nm,23.7s,MS3.6							
USP	**Ospenovka**	**33.97**	**336**	P	**P**	**19 28 33.6**	**+0.6**
SNR=34							
KKAR	**Karatay Array**	**35.56**	**332**	*i* P	**P**	**19 28 46.9**	**+0.3**
KKAR				pmax	pmax		
comp=Z,12nm,0.9s,mb4.8							
SONM	**Songino Array**	**36.51**	**16**	P	**P**	**19 28 55.0**	**+0.6**
comp=Z,21nm,0.9s,mb5.0,baz=203,slow=6.4,SNR=96							
SONM				PcP	PcP	19 31 18.4	+0.2
comp=Z,2.0nm,0.7s,baz=200,slow=3.3,SNR=3.9							
SONM				LR	LR	19 46 03.6	
comp=Z,96nm,20.6s,MS3.6,baz=188,slow=40							
ULN	**Ulaanbaatar**	**36.71**	**16**	*e*P	**P**	**19 28 56.0**	**-0.2**
ULN				pmax	pmax		
comp=Z,19nm,1.1s,mb4.8							
ULN	**Ulaanbaatar**	**36.71**	**16**	*e*P	**P**	**19 28 56.0**	**-0.2**
comp=Z,18nm,1.1s,mb4.8							
ZAK	**Zakamensk**	**38.21**	**11**	⇓*i*P	**P**	**19 29 09.7**	**+0.9**
ZAK				*e*		19 31 23.6	
ZAK				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.1							
ZAK				pmax	pmax		
comp=Z,2.0nm,1.0s,mb3.8							
MOY	**Mondy**	**39.09**	**8**	*e*P	**P**	**19 29 17.7**	**+1.6**
KURK	**Kurchatov**	**39.29**	**346**	*i* P	**P**	**19 29 17.9**	**+0.1**
KURK				pmax	pmax		
comp=Z,40nm,1.6s,mb4.9							
KURK	**Kurchatov**	**39.29**	**346**	*e*P	**P**	**19 29 17.2**	**-0.6**
comp=Z,27nm,0.9s,mb5.0							
TLY	**Talaya**	**39.52**	**11**	*i* P	**P**	**19 29 21.0**	**+1.3**
TLY	**Talaya**	**39.52**	**11**	*i* Pr		19 29 21.0	
ZAL	**Zalesovo**	**41.27**	**353**	P	**P**	**19 29 33.6**	**-0.4**
comp=Z,10nm,0.8s,mb4.5,baz=300,slow=7.3,SNR=58							
CN2	**Changchun**	**41.54**	**36**	⇓P	**P**	**19 29 36.6**	**+0.2**
CN2				AMB	AMB		
comp=Z,40nm,1.0s,mb5.0							
NVS	**Novosibirsk**	**42.36**	**352**	*e*P	**P**	**19 29 41.6**	**-1.3**
NVS				pmax	pmax		
comp=N,15nm,0.9s							
NVS				pmax	pmax		
comp=Z,20nm,0.9s,mb4.8							
NVS				pmax	pmax		
comp=E,9.0nm,1.5s							
BVA0	**Borovoye Array**	**43.68**	**341**	*i* P	**P**	**19 29 53.5**	**-0.2**
BVA0				pmax	pmax		
comp=Z,2.0nm,1.0s,mb3.8							
BVAR	**Borovoye Array**	**43.68**	**341**	P	**P**	**19 29 53.5**	**-0.2**
comp=Z,3.3nm,0.4s,mb4.4,baz=142,slow=9.4,SNR=44							
BVAR				PcP	P

CLNS pmax pmax
comp=Z,17nm,0.6s,mb5.2
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,14nm,0.8s
ARU Arti 50.62 336 ⇓*i*P **P 19 30 47.7 -0.4**
ARU *e* 19 32 04.1
ARU *e* 19 32 48.5
ARU *e*PPP PPP 19 33 46.0 +2.7
ARU *e*S **S 19 37 59.7 +0.2**
ARU *e*SS SS 19 41 32.8 +1.7
ARU pmax pmax
comp=Z,16nm,0.9s,mb5.0
ARU Arti 50.62 336 *e*P **P 19 30 47.4 -0.8**
comp=Z,14nm,0.9s,mb4.9
NWAO Narrogin (SRO) 51.36 153 P **P 19 30 53.5 -0.5**
comp=Z,14nm,0.9s,mb4.9,baz=327,slow=12,SNR=5.2
NWAO pP pP 19 31 02.0 -1.3
comp=Z,9.6nm,0.5s,baz=110,slow=21,SNR=2.8
WRA Warramunga Arr 52.45 128 P **P 19 31 01.5 -0.9**
WRA 19 32 13.0
WRA S **S 19 38 22.4 -2.6**
WRA Warramunga Arr 52.45 128 P **P 19 31 01.5 -0.9**
comp=Z,5.1nm,0.6s,mb4.6,baz=307,slow=8.2,SNR=33
WRA PcP PcP 19 32 13.0 +0.1
comp=Z,5.0nm,0.5s,baz=317,slow=3.0,SNR=23
WRA pPcP 19 32 21.3
comp=Z,2.3nm,0.6s,baz=309,slow=3.5,SNR=5.7
WRA S **S 19 38 22.4 -2.6**
comp=Z,0.6nm,0.8s,baz=305,slow=16,SNR=4.7
WRAB Tennant Creek 52.45 128 *e*P **P 19 31 01.7 -0.8**
WRAB pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
WRAB Tennant Creek 52.45 128 *e*P **P 19 31 01.7 -0.7**
comp=Z,8.6nm,0.5s,mb4.9
WB2 Warramunga Arr 52.45 128 *e*P **P 19 31 01.8 -0.7**
ASAJ Asahikawa 52.54 44 P **P 19 31 02.7 -0.2**
comp=Z,7.9nm,0.8s,mb4.7,baz=220,slow=4.0,SNR=5.7
KIV Kislovodsk 52.62 316 *e*P **P 19 31 03.0 -0.5**
KIV pmax pmax
comp=Z,54nm,1.1s,mb5.4
KIV Kislovodsk 52.62 316 *e*P **P 19 31 03.0 -0.4**
comp=Z,54nm,1.1s,mb5.4
GOF Gofitskoye 52.77 317 *e*P **P 19 31 05.5 +0.9**
YSS Yuzh-Sakhalins 53.67 41 *e*P **P 19 31 11.0 -0.1**
YSS pmax pmax
comp=Z,19nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 53.67 41 *e*P **P 19 31 11.0 -0.2**
comp=Z,19nm,1.0s,mb5.0
MALT Malatya 54.15 308 *e*P **P 19 31 14.9 +0.2**
MALT pmax pmax
comp=Z,11nm,1.1s,mb4.7
MALT Malatya 54.15 308 *e*P **P 19 31 14.9 +0.2**
comp=Z,11nm,1.1s,mb4.7
ASPA Alice Springs 54.33 132 *e*P **P 19 31 15.6 -0.7**
ASAR Alice Springs 54.33 132 P **P 19 31 15.7 -0.6**
ASAR 19 32 20.2
ASAR S **S 19 38 48.7 -1.8**
ASAR Alice Springs 54.33 132 P **P 19 31 15.7 -0.6**
comp=Z,4.5nm,0.5s,mb4.7,baz=308,slow=6.8,SNR=57
ASAR PcP PcP 19 32 20.1 +0.2
comp=Z,3.5nm,0.6s,baz=317,slow=4.2,SNR=9.7
ASAR pPcP 19 32 28.7
comp=Z,1.9nm,0.7s,baz=311,slow=3.8,SNR=4.3
ASAR ScP 19 36 14.4
comp=Z,1.4nm,0.9s,baz=313,slow=3.7,SNR=6.1
ASAR S **S 19 38 48.7 -1.8**
comp=Z,0.8nm,0.8s,baz=310,slow=14,SNR=4.7
ASAR LR LR 19 58 52.7
comp=Z,83nm,18.1s,MS3.8,baz=312,slow=41
YAK Yakutsk 55.59 20 *e*P **P 19 31 23.4 -1.6**
YAK pmax pmax
comp=Z,48nm,0.9s,mb5.5
YAK Yakutsk 55.59 20 *e*P **P 19 31 23.4 -1.5**
comp=Z,48nm,0.9s,mb5.5
EIL Elat 55.77 297 *e*P **P 19 31 26.4 -0.3**
comp=Z,6.6nm,0.8s,mb4.7
ANN Anapa 56.47 315 *e*P **P 19 31 31.5 0.0**
ANN *e**PP pP 19 31 41.3 +0.5
ANN *e* 19 32 25.7
ANN *e*S **S 19 39 23.2 +4.5**
ANN pmax pmax
comp=Z,58nm,1.1s,mb5.5
KMBO Kilima Mbogo 56.79 260 *e*P **P 19 31 35.8 +1.5**
KMBO pmax pmax
comp=Z,1.0nm,0.8s
KMBO Kilima Mbogo 56.79 260 P **P 19 31 35.7 +1.4**
comp=Z,1.7nm,0.7s,mb4.2,baz=38,slow=23,SNR=8.4
KMBO LR LR 19 53 23.2
comp=Z,169nm,18.4s,MS4.2,baz=95,slow=33
KMBO Kilima Mbogo 56.79 260 *e*P **P 19 31 35.8 +1.5**
comp=Z,1.3nm,0.8s,mb4.0
VRSR Storozhevoye 57.41 323 *e*P **P 19 31 36.8 -1.3**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,5.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,1.7s
BRTR Keskin Array B 58.08 309 P **P 19 31 42.1 -0.8**
comp=E,14nm,0.8s,mb5.0,baz=119,slow=7.4,SNR=43
ANTO Ankara 58.74 309 ⇓P **P 19 31 46.9 -0.7**
SIM Simferopol' 58.78 315 P **P 19 31 48.1 +0.3**
SIM pmax pmax
comp=Z,21nm,0.7s,mb5.3
SIM MLR MLR
comp=Z,100nm,21.0s,MS3.9
MOS Moscow 59.98 328 *e*P **P 19 31 56.0 +0.1**
MOS pmax pmax
comp=Z,53nm,1.3s,mb5.4
OBN Obninsk 60.31 327⇑*e*P **P 19 31 57.6 -0.5**
OBN *e* 19 32 42.2
OBN *e*S **S 19 40 02.8 -5.9**
OBN pmax pmax
comp=Z,20nm,0.9s,mb5.2
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.0
TIXI Tiksi 62.48 12*d i*P **P 19 32 11.2 -1.4**
TIXI *i* 19 32 50.1
TIXI *i* 19 34 29.2
TIXI pmax pmax
comp=Z,17nm,0.7s,mb5.3
TIXI Tiksi 62.48 12 *i* Pr 19 32 11.3
MA2 Magadan 62.89 29 *e*P **P 19 32 13.8 -1.6**
MA2 pmax pmax
comp=Z,13nm,0.9s,mb5.1
MA2 Magadan 62.89 29 *e*P **P 19 32 13.8 -1.6**
comp=Z,13nm,0.9s,mb5.1
MBAR Mbarara 62.93 263 *e*P **P 19 32 16.9 +0.6**
MBAR *e**PP pP 19 32 26.3 +0.6
CFR Carcaliu 62.99 314 ⇓P **P 19 32 16.0 -0.3**
AKASG Malin Array Be 63.29 320 P **P 19 32 16.8 -1.4**
comp=Z,3.7nm,0.6s,mb4.7,baz=88,slow=5.4,SNR=17
AKASG pP pP 19 32 25.9 -1.7
comp=Z,1.3nm,0.5s,baz=82,slow=6.2,SNR=4.5
VRI Vrincioaia 64.07 315 ⇑P **P 19 32 23.6 +0.2**
MLR Muntele Rosu 64.56 314 P **P 19 32 26.4 -0.2**
comp=Z,20nm,0.9s,mb5.2,baz=82,slow=1.3,SNR=24
MLR Muntele Rosu 64.56 314 ⇓P **P 19 32 27.1 +0.4**
MLR Muntele Rosu 64.56 314 ⇓P **P 19 32 27.1 +0.5**
STKA Stephens Creek 64.68 135 P **P 19 32 27.6 -0.1**
comp=Z,1.3nm,0.4s,mb4.3,baz=328,slow=8.8,SNR=4.1
STKA LR LR 20 03 11.4
comp=Z,103nm,19.6s,MS4.0,baz=328,slow=38
BURAR Bucovina Array 65.34 317 ⇓P **P 19 32 31.9 +0.3**
BURAR Bucovina Array 65.34 317 ⇓P **P 19 32 31.9 +0.3**
APA Apatity 66.55 339⇑*i*P **P 19 32 38.0 -1.0**
APA pmax pmax
comp=Z,16nm,0.8s,mb5.1
KWP Kalwaria 67.24 318 *e*P **P 19 32 43.6 -0.1**
KOLS Kolonicke sedl 67.45 318 *e*P **P 19 32 46.4 +1.4**
FINES FINESS Array B 67.53 331 P **P 19 32 44.8 -0.5**
comp=Z,12nm,0.7s,mb5.0,baz=104,slow=7.9,SNR=54
FINES LR LR 20 08 12.6
comp=Z,73nm,21.2s,MS3.9,baz=328,slow=41
SUW Suwalki 67.54 323 *e*P **P 19 32 44.6 -0.9**
KAF Kangasniemi 67.59 332 *e*p **P 19 32 43.6 -2.1**
comp=Z,17nm,1.0s,mb5.0,baz=102,slow=5.9
KAF Kangasniemi 67.59 332 *e*P **P 19 32 43.6 -2.1**
KAF pmax pmax
comp=Z,17nm,1.0s,mb5.0
CRVS Cervenica-Dubn 67.98 318 *e*P **P 19 32 48.8 +0.5**
NIE Niedzica 68.77 318 *e*P **P 19 32 53.0 -0.3**
PSZ Piszkesteto 68.94 316 *e*P **P 19 32 53.8 -0.5**
PSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PSZ Piszkesteto 68.94 316 *e*P **P 19 32 53.8 -0.5**
comp=Z,4.7nm,0.8s,mb4.5
OJC Ojcow 69.17 319 *e*P **P 19 32 55.4 -0.3**
KEV Kevo 69.53 340 *e*p **P 19 32 56.7 -0.9**
comp=Z,16nm,0.7s,mb5.1
KEV Kevo 69.53 340 *e*P **P 19 32 56.7 -0.9**
KEV pmax pmax
comp=Z,16nm,0.7s,mb5.1
VYHS Vyhne 69.68 317 *e*P **P 19 32 58.8 0.0**
VYHS *e*sP sP 19 33 09.7 -1.9
LSZ Lusaka 69.80 248 *e*P **P 19 33 01.6 +1.6**
LSZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
LSZ Lusaka 69.80 248 *e*P **P 19 33 01.6 +1.6**
comp=Z,2.7nm,0.6s,mb4.3
ARCES ARCESS Array B 69.96 340 P **P 19 33 00.1 0.0**
comp=Z,11nm,0.6s,mb5.0,baz=88,slow=6.5,SNR=74
ARCES LR LR 20 08 31.7
comp=Z,125nm,18.8s,MS4.2,baz=1.2,slow=40
OKC Ostrava-Krasne 70.21 318 *e*P **P 19 33 02.0 0.0**
MORC Moravsky Berou 70.60 318 *e*P **P 19 33 04.2 -0.2**
MORC *e**PP pP 19 33 14.0 +0.2
MORC pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MORC Moravsky Berou 70.60 318 *e*P **P 19 33 04.2 -0.1**
comp=Z,9.6nm,0.8s,mb4.8
MORC *e*pP pP 19 33 13.9 +0.1
ZST Bratislava 70.82 317 *e*P **P 19 33 05.4 -0.4**
KOGS Kog 71.37 315 *e*P **P 19 33 08.9 -0.2**
DPC Dobruska-Polom 71.41 319 *e*P **P 19 33 09.8 +0.5**
DPC *e*pP pP 19 33 18.6 -0.1
KSP Ksiaz 71.44 319 *e*P **P 19 33 09.4 -0.1**
KSP Ksiaz 71.44 319 *e*P **P 19 33 09.7 +0.3**
UPC Upice 71.61 319 *e*P **P 19 33 10.0 -0.5**
UPC *e*pP pP 19 33 19.5 -0.4
BILL Bilibino 71.83 22 *e*P **P 19 33 10.4 -1.1**
BILL pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BILL Bilibino 71.83 22 *e*P **P 19 33 10.4 -1.1**
comp=Z,4.2nm,0.7s,mb4.5
BOJS Bojanci 72.06 314 *e*P **P 19 33 13.0 -0.2**
PERS Pernice 72.15 315 *e*P **P 19 33 13.9 +0.1**
BSD Bornholm Skovb 72.44 324 ⇓*i*P **P 19 33 14.4 -0.9**
BSD pmax pmax
comp=Z,11nm,0.9s,mb4.8
BSD Bornholm Skovb 72.44 324 ⇓*i*P **P 19 33 14.4 -0.9**
comp=Z,11nm,0.9s,mb4.8
PVCC Panska Ves 72.53 319 *e*P **P 19 33 15.0 -1.0**
PRU Pruhonice 72.54 319 *e*P **P 19 33 15.9 -0.1**
BRG Berggiesshubel 72.93 319 *i* P **P 19 33 18.9 +0.6**
BRG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BRG Berggiesshubel 72.93 319 *i* P **P 19 33 18.9 +0.6**
comp=Z,10nm,0.9s,mb4.8
GERES GERESS Array B 73.09 317 P **P 19 33 19.5 +0.2**
comp=Z,6.1nm,0.8s,mb4.6,baz=87,slow=5.7,SNR=43
GERES pP pP 19 33 27.5 -1.3
comp=Z,3.0nm,0.7s,baz=90,slow=5.3,SNR=8.7
KHC Kasperske Hory 73.17 318 *e*P **P 19 33 19.8 +0.1**
KHC *e*pP pP 19 33 28.6 -0.6
ROBS Robic 73.27 315 *e*P **P 19 33 20.0 -0.4**
CLL Collm 73.52 320 ⇓*i*P **P 19 33 20.7 -1.0**
CLL *i* pP 19 33 30.7 -0.5
CLL pmax pmax
comp=Z,11nm,1.2s,mb4.7
CLL Collm 73.52 320 ⇓*i*P **P 19 33 20.7 -1.0**
comp=Z,11nm,1.2s,mb4.7
CLL *i* pP 19 33 30.7 -0.5
CLL Collm 73.52 320 ⇓P **P 19 33 20.7 -1.0**
comp=Z,logA/T=1.0,mb4.7
CLL *i* *PP pP 19 33 30.7 -0.5
CLL *i* PP PP 19 36 19.0 +11
NKC Novy Kostel 73.89 319 *e*P **P 19 33 24.6 +0.7**
NKC *e*pP pP 19 33 33.8 +0.5
FX1 Attu Island--F 73.94 38 P **P 19 33 24.5 +0.5**
comp=Z,27nm,0.6s,mb5.4,baz=104,slow=22,SNR=7.1
MOX Moxa 74.41 319 *e*P **P 19 33 27.2 +0.3**
MOX Moxa 74.41 319 *i* P **P 19 33 27.2 +0.3**
HSP Hornsund 74.49 347 *e*P **P 19 33 26.7 -0.2**
NB2 NORSAR Subarra 74.58 330 P **P 19 33 26.6 -1.1**
comp=Z,9.6nm,0.7s,mb4.8,baz=91,slow=5.8
NOA NORSAR Array B 74.58 330 P **P 19 33 27.1 -0.6**
comp=Z,6.7nm,0.6s,mb4.7,baz=90,slow=5.8,SNR=28
NOA pP pP 19 33 36.4 -0.7
comp=Z,5.5nm,0.8s,baz=91,slow=5.7,SNR=7.6
NOA LR LR 20 12 21.5
comp=Z,62nm,18.7s,MS3.9,baz=130,slow=41
GRA1 Grafenberg Arr 74.70 318 *e*P **P 19 33 29.2 +0.6**
comp=Z,9.0nm,1.0s,mb4.7
GRA1 *e*pP pP 19 33 38.4 +0.3
GRF Grafenberg Arr 74.70 318 *e*P **P 19 33 29.2 +0.6**
GRF *e**PP pP 19 33 38.4 +0.3
GRF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 74.70 318 *e*P **P 19 33 29.2 +0.6**
GRF *e**PP pP 19 33 38.4 +0.3
GRF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 74.70 318 *e*P **P 19 33 29.2 +0.6**
comp=Z,9.0nm,1.0s,mb4.7
GRF *e*pP pP 19 33 38.4 +0.3
MUD Monsted U'grnd 75.69 325 ⇓*i*P **P 19 33 34.6 +0.5**
MUD pmax pmax
comp=Z,18nm,1.0s,mb5.0
MUD Monsted U'grnd 75.69 325 ⇓*i*P **P 19 33 34.6 +0.5**
comp=Z,18nm,1.0s,mb5.0
PGF Pioggiola 76.72 311 *e*P **P 19 33 40.3 +0.1**
comp=Z,16nm,0.8s,mb4.7
PGF Pioggiola 76.72 311 *e*P **P 19 33 40.3 +0.1**
PGF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CDF Champ du Feu 77.37 317 *e*P **P 19 33 43.3 -0.4**
comp=Z,10nm,1.1s,mb4.4
CDF Champ du Feu 77.37 317 *e*P **P 19 33 43.3 -0.4**
CDF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
HINF Hinteralfeld 77.71 317 *e*P **P 19 33 45.2 -0.4**
comp=Z,5.2nm,0.6s,mb4.3
HINF Hinteralfeld 77.71 317 *e*P **P 19 33 45.2 -0.4**
HINF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SBF Sospel 77.72 312 *e*P **P 19 33 45.3 -0.4**
LPG La Plagne 78.03 314 *e*P **P 19 33 47.7 +0.4**
comp=Z,20nm,0.8s,mb4.8
LPG La Plagne 78.03 314 *e*P **P 19 33 47.7 +0.4**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
HAU Haudompre 78.03 317 *e*P **P 19 33 46.9 -0.4**
comp=Z,14nm,0.8s,mb4.6
HAU Haudompre 78.03 317 *e*P **P 19 33 46.9 -0.4**
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LPL La Plagne 78.04 314 *e*P **P 19 33 47.7 +0.3**
comp=Z,26nm,0.7s,mb5.0
LPL La Plagne 78.04 314 *e*P **P 19 33 47.7 +0.3**
LPL pmax pmax
comp=Z,13nm,0.7s,mb5.0
MBDF Montbardon 78.10 313 *e*P **P 19 33 47.2 -0.6**
comp=Z,13nm,0.9s,mb4.5
MBDF Montbardon 78.10 313 *e*P **P 19 33 47.2 -0.6**
MBDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BNI Bardonecchia 78.13 314 *e*P **P 19 33 47.7 -0.2**
BNI pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BNI Bardonecchia 78.13 314 *e*P **P 19 33 47.7 -0.2**
comp=Z,7.0nm,0.9s,mb4.6
FRF La Foret Royal 78.33 312 *e*P **P 19 33 48.9 -0.1**
comp=Z,21nm,1.1s,mb4.7
FRF La Foret Royal 78.33 312 *e*P **P 19 33 48.9 -0.1**
FRF pmax pmax
comp=Z,11nm,1.1s,mb4.7
CABF La Chapelle 78.36 315 *e*P **P 19 33 49.3 +0.1**
comp=Z,25nm,1.2s,mb4.7
CABF La Chapelle 78.36 315 *e*P **P 19 33 49.3 +0.1**
CABF pmax pmax
comp=Z,13nm,1.2s,mb4.7
LMR La Mourre 78.45 312 *e*P **P 19 33 49.3 -0.4**
ORIF Oris-en-Rattie 78.71 314 *e*P **P 19 33 50.7 -0.4**
comp=Z,3.3nm,0.5s,mb4.2
ORIF Oris-en-Rattie 78.71 314 *e*P **P 19 33 50.7 -0.4**
ORIF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
GIVF Givet 78.79 319 *e*P **P 19 33 51.3 -0.1**
MEZF Maizieres J'vi 78.83 317 *e*P **P 19 33 51.5 -0.2**
comp=Z,11nm,0.8s,mb4.5
BAIF Baives 79.19 319 *e*P **P 19 33 53.8 +0.2**
comp=Z,19nm,1.0s,mb4.7
BAIF Baives 79.19 319 *e*P **P 19 33 53.8 +0.2**
BAIF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
VIVF Saint-Julien-l 79.57 314 *e*P **P 19 33 55.5 -0.3**
comp=Z,35nm,1.3s,mb4.8
VIVF Saint-Julien-l 79.57 314 *e*P **P 19 33 55.5 -0.3**
VIVF pmax pmax
comp=Z,17nm,1.3s,mb4.8
SMF Signal de Mont 79.89 316 *e*P **P 19 33 57.0 -0.5**
comp=Z,17nm,0.8s,mb4.7
SMF Signal de Mont 79.89 316 *e*P **P 19 33 57.0 -0.5**
SMF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SSF Saint Saulge 80.06 316 *e*P **P 19 33 58.1 -0.3**
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SSF Saint Saulge 80.06 316 *e*P **P 19 33 58.1 -0.3**
comp=Z,4.9nm,0.8s,mb4.5
AVF Avril sur Loir 80.20 316 *e*P **P 19 33 58.8 -0.3**
comp=Z,12nm,0.9s,mb4.6
AVF Avril sur Loir 80.20 316 *e*P **P 19 33 58.8 -0.3**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BGF Bois d'Agland 80.58 316 *e*P **P 19 34 01.4 +0.2**
comp=Z,12nm,0.9s,mb4.5
BGF Bois d'Agland 80.58 316 *e*P **P 19 34 01.4 +0.2**
BGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TCF Toulx Ste Croi 81.06 315 *e*P **P 19 34 03.9 +0.2**
comp=Z,28nm,1.1s,mb4.8
TCF Toulx Ste Croi 81.06 315 *e*P **P 19 34 03.9 +0.2**
TCF pmax pmax
comp=Z,14nm,1.1s,mb4.8
CAF Calviac 81.39 314 *e*P **P 19 34 05.8 +0.4**
comp=Z,15nm,1.1s,mb4.5
CAF Calviac 81.39 314 *e*P **P 19 34 05.8 +0.4**
CAF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MTLF Montolieu 81.55 312 *e*P **P 19 34 06.6 +0.3**
comp=Z,10nm,0.9s,mb4.6
MTLF Montolieu 81.55 312 *e*P **P 19 34 06.6 +0.3**
MTLF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
RJF Les Rejaudoux 81.71 315 *e*P **P 19 34 07.6 +0.6**
comp=Z,14nm,0.8s,mb4.6
RJF Les Rejaudoux 81.71 315 *e*P **P 19 34 07.6 +0.6**
RJF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
DAG Danmarks Havn 82.16 347⇑*e*P **P 19 34 08.2 -0.6**
DAG pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
DAG Danmarks Havn 82.16 347⇑*e*P **P 19 34 08.2 -0.6**
comp=Z,1.4nm,0.7s,mb4.0
DAG Danmarks Havn 82.16 347⇑*i*P **P 19 34 08.2 -0.6**
comp=Z,1.4nm,0.7s,mb4.0
SUR Sutherland 82.17 234 *e*P **P 19 34 12.3 +2.6**
comp=Z,13nm,0.7s,mb5.0
LDF La Druitiere 82.21 318 *e*P **P 19 34 09.6 0.0**
comp=Z,29nm,1.1s,mb4.8
LDF La Druitiere 82.21 318 *e*P **P 19 34 09.6 0.0**
LDF pmax pmax
comp=Z,14nm,1.1s,mb4.8
LFF La Frestale 82.31 314 *e*P **P 19 34 10.7 +0.5**
FLN La Foliniere 82.42 318 *e*P **P 19 34 10.5 -0.2**
comp=Z,51nm,1.2s,mb5.0
FLN La Foliniere 82.42 318 *e*P **P 19 34 10.5 -0.2**
FLN pmax pmax
comp=Z,25nm,1.2s,mb5.0
MFF Saint Martin d 82.61 316 *e*P **P 19 34 11.7 0.0**
comp=Z,26nm,1.0s,mb4.9
MFF Saint Martin d 82.61 316 *e*P **P 19 34 11.7 0.0**
MFF pmax pmax
comp=Z,13nm,1.0s,mb4.9
GRR Gorron 82.73 318 *e*P **P 19 34 12.4 +0.1**
ETSF Etsaut 83.63 312 *e*P **P 19 34 17.9 +0.8**
comp=Z,18nm,1.0s,mb4.8
ETSF Etsaut 83.63 312 *e*P **P 19 34 17.9 +0.8**
ETSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SGMF Saint Gilles 83.87 318 *e*P **P 19 34 18.3 +0.1**
SJPF Ste Jean 84.06 313 *e*P **P 19 34 19.1 -0.2**
ROSF Rostrenen 84.32 318 *e*P **P 19 34 20.6 +0.2**
QUIF Quistinic 84.34 318 *e*P **P 19 34 20.3 -0.2**
ESDC Sonseca Array 86.86 310 P **P 19 34 33.6 +0.4**
comp=Z,3.6nm,0.8s,mb4.7,baz=54,slow=4.9,SNR=11
ESDC pP pP 19 34 42.6 -0.3
comp=Z,1.0nm,0.6s,baz=73,slow=4.0,SNR=3.9
IMA Indian Mountai 87.38 22 *e*P **P 19 34 36.6 +1.5**
IMA pmax pmax
comp=Z,21nm,0.8s,mb5.4
IMA Indian Mountai 87.38 22 *e*P **P 19 34 36.6 +1.5**
comp=Z,20nm,0.8s,mb5.4
RES Resolute Bay 92.31 2 *e*P **P 19 34 58.4 +0.3**
RES pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
RES Resolute Bay 92.31 2 *e*P **P 19 34 58.4 +0.3**
comp=Z,3.1nm,0.9s,mb4.6
INK Inuvik 92.42 16 *e*P **P 19 34 58.8 +0.2**
INK *e**PP pP 19 35 08.6 +0.3
INK pmax pmax
comp=Z,4.0nm,0.7s
INK Inuvik 92.42 16 *e*P **P 19 34 58.8 +0.2**
comp=Z,3.6nm,0.7s,mb4.8
INK *e*pP pP 19 35 08.6 +0.3
YKA Yellowknife Ar 101.72 13 P P 19 35 41.0 -0.1
comp=Z,0.2nm,0.4s,baz=332,slow=4.4,SNR=6.0
YKA pP 19 35 50.6
comp=Z,0.2nm,0.5s,baz=336,slow=4.4,SNR=3.7
YKA PP PP 19 39 50.1 -4.0
comp=Z,1.0nm,0.9s,baz=336,slow=7.8,SNR=9.4
YKA Yellowknife Ar 101.72 13 P P 19 35 41.0 -0.1
YKA pP 19 35 50.6
YKA PP PP 19 39 50.1 -4.0
PDAR Pinedale Array 120.81 19 PKP PKPdf 19 40 41.4 -3.3
comp=Z,1.0nm,0.6s,baz=99,slow=1.6,SNR=8.6
PDAR pPKP 19 40 50.7
comp=Z,0.5nm,0.4s,baz=104,slow=2.2,SNR=4.3
NVAR Mina Array Bea 121.12 28 PKP PKPdf 19 40 43.1 -2.2
comp=Z,1.9nm,0.6s,baz=306,slow=2.1,SNR=11
NVAR pPKP 19 40 52.8
comp=Z,1.2nm,0.5s,baz=317,slow=2.1,SNR=4.9
TXAR Lajitas Array 134.99 20 PKP PKPdf 19 41 10.4 -1.8
comp=Z,1.1nm,0.6s,baz=136,slow=0.4,SNR=12
TXAR PP PP 19 43 41.2 -4.7
comp=Z,0.5nm,0.8s,baz=342,slow=4.0,SNR=4.6
PLCA Paso Flores 148.77 205 PKPbc PKPdf 19 41 37.7 +1.8
comp=Z,4.0nm,1.0s,baz=131,slow=3.9,SNR=6.0
PLCA pPKPbc 19 41 46.0
comp=Z,6.2nm,0.9s,baz=226,slow=5.1,SNR=4.5
SDV Santo Domingo 152.66 322 *e*PKPbc PKPdf 19 41 46.0 +3.4
SDV *e*PKPab PKPab 19 41 57.3 -0.3
ROSC El Rosal 158.06 323 PKPab PKPab 19 42 21.4 +0.7
comp=Z,4.9nm,0.3s,baz=87,slow=21,SNR=5.6
LPAZ La Paz 161.22 258 PKPab PKPab 19 42 34.3 +0.2
comp=Z,1.3nm,0.7s,baz=76,slow=5.3,SNR=4.2

*STR **01** 19:31:32.2±0.2, 42.84N×2.15E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **01** 19:31:33.2±0.0, 42.83N×2.13E, h3km, Md2.6/1, Ml2.2/9, Error ellipse: s-maj=0.9km s-min=0.8km az=118.0*
MDD 01 19:31:33.6±0.3, 42.82N×2.13E, mbLg1.6/9, Error ellipse: s-maj=2.1km s-min=1.7km az=13.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPEF	**Le Peyrat**	**0.21**	**309**	Pg	Pg	19 31 37.3	-0.4
LPEF				Sg	Sg	19 31 40.7	+0.2
LPEF	**Le Peyrat**	**0.21**	**309**	Pg	Pg	19 31 37.3	-0.4
LPEF				Lg		19 31 40.8	
LRDF	**Laroque-de-Fa**	**0.33**	**68**	Pg	Pg	19 31 39.2	-0.9
LRDF				Lg		19 31 44.1	
CLLI	**Llivia**	**0.36**	**199**	Pg	Pg	19 31 40.0	-0.7
CLLI				Lg		19 31 45.2	
	2.9nm,0.1s						
FILF	**Fillols**	**0.41**	**129**	Pg	Pg	19 31 39.8	-2.0
FILF				Sg	Sg	19 31 44.2	-3.0
FILF	**Fillols**	**0.41**	**129**	Pg	Pg	19 31 40.1	-1.7
FILF				Lg		19 31 44.1	

VALF	**Valcebollere**	**0.42**	**191**	Pg	Pg	19 31 41.3	-0.8
VALF				Sg	Sg	19 31 47.5	-0.2
VALF	**Valcebollere**	**0.42**	**191**	Pg	Pg	19 31 41.4	-0.6
VALF				Lg		19 31 47.5	
PAND	**Andorre**	**0.52**	**236**	Pg	Pg	19 31 42.4	-1.6
PAND				Lg		19 31 49.5	
MTLF	**Montolieu**	**0.53**	**7**	*e*Pg	Pg	19 31 43.0	-1.1
MTLF				*e*Sg	Sg	19 31 50.0	-1.1
	3.9nm,0.3s						
CBRU	**Bruguera**	**0.53**	**176**	Pg	Pg	19 31 43.5	-0.7
CBRU				Lg		19 31 51.0	
	2.7nm,0.1s						
SJAF	**Saint Jean de**	**0.65**	**121**	Pg	Pg	19 31 45.1	-1.4
SJAF				Lg		19 31 54.3	
EJON	**La Jonquera**	**0.67**	**123**	Pg	Pg	19 31 45.5	-1.5
	1.6nm,0.3s,SNR=8.0						
EJON				Lg		19 31 55.3	
	6.2nm,0.1s,SNR=12						
SALF	**Salau**	**0.69**	**265**	Pg	Pg	19 31 46.0	-1.4
SALF	**Salau**	**0.69**	**265**	Pg	Pg	19 31 46.0	-1.4
SALF				Lg		19 31 55.6	
MLS	**Moulis**	**0.77**	**281**	Lg		19 31 58.1	
CORG	**Organya**	**0.84**	**226**	Pg	Pg	19 31 49.3	-1.0
CORG				Lg		19 32 01.2	
	2.0nm,0.1s						
CSOR	**Sort**	**0.86**	**239**	Pg	Pg	19 31 49.2	-1.5
CSOR				Lg		19 32 01.3	
	2.4nm,0.2s						
MELF	**Melles**	**1.01**	**274**	Lg		19 32 05.1	
CFON	**Fontmartina**	**1.08**	**168**	Pg	Pg	19 31 53.7	-1.4
CFON				Lg		19 32 08.4	
	6.3nm,0.1s						
EPF	**Esparros**	**1.33**	**280**	*e*Pg	Pg	19 31 58.0	-2.1
EPF				*e*Sg	Sg	19 32 15.0	-2.9
	4.2nm,0.2s						
CAVN	**Les Avellanes**	**1.38**	**228**	Pg	Pg	19 31 59.2	-2.0
CAVN				Lg		19 32 18.7	
	5.6nm,0.2s						
EBIE	**Bielsa**	**1.47**	**266**	Pg	Pg	19 32 00.8	-2.1
	1.2nm,0.3s,SNR=6.9						
EBIE				Lg		19 32 21.0	
	0.6nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**1.66**	**208**	Pg	Pg	19 32 04.0	-2.7
	3.1nm,0.9s,SNR=7.1						
EPOB				Lg		19 32 26.2	
	2.6nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**1.78**	**44**	*e*Pn	Pn	19 32 03.4	-2.4
LASF				*e*Pg	Pg	19 32 06.3	-2.8
LASF				*e*Sg	Sg	19 32 29.2	-3.6
	3.9nm,0.3s						
ETSF	**Etsaut**	**1.98**	**273**	*e*Pg	Pg	19 32 09.9	-3.1
ETSF				*e*Sg	Sg	19 32 35.8	-3.6
	4.0nm,0.3s						
CAF	**Calviac**	**2.11**	**359**	*e*Pn	Pn	19 32 07.5	-3.0
CAF				*e*Sg	Sg	19 32 39.6	-4.1
	2.4nm,0.3s						
ESAC	**San Caprasio**	**2.22**	**241**	Pn	Pn	19 32 10.4	-1.7
	1.4nm,0.1s,SNR=7.9						
ESAC				Lg		19 32 45.3	
	2.2nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.35**	**335**	*e*Pg	Pg	19 32 16.4	-4.0
LFF				*e*Sg	Sg	19 32 46.8	-4.9
	4.3nm,0.3s						
SJPF	**Ste Jean**	**2.48**	**278**	*e*Sg	Sg	19 32 51.0	-5.1
	1.4nm,0.3s						
RJF	**Les Rejaudoux**	**2.52**	**350**	*e*Sg	Sg	19 32 52.4	-5.2
	1.6nm,0.2s						
VIVF	**Saint-Julien-l**	**2.75**	**41**	*e*Pn	Pn	19 32 16.1	-3.6
VIVF				*e*Pg	Pg	19 32 23.8	-4.6
VIVF				*e*Sg	Sg	19 32 59.9	-5.1
	2.2nm,0.2s						
LMR	**La Mourre**	**3.25**	**79**	*e*Pn	Pn	19 32 23.1	-3.7
FRF	**La Foret Royal**	**3.39**	**76**	*e*Pn	Pn	19 32 25.0	-3.8
FRF				*e*Sg	Sg	19 33 19.1	-7.2
	0.5nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.43**	**51**	*e*Pn	Pn	19 32 25.5	-3.9

*IDC **01** 19:46:00.1±1.7, 33.96N×142.36E, mb3.6/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=36.7km s-min=26.7km az=64.0*
*JMA **01** 19:46:03.1±0.5, 34.08N×142.31E, h58km, M3.3*
ISC 01 19:46:02.1±1.0, 34.13N±0.06×142.41E±0.09, h33km, n18, σ1º08/22, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.29**	**294**	P	**P**	**19 46 24.5**	**+0.6**
BSO3	**Boso 3**	**1.71**	**294**	P	**P**	**19 46 30.8**	**+0.9**
BSO4	**Boso 4**	**1.91**	**297**	P	**P**	**19 46 34.3**	**+1.5**
CHOJ	**Chosi**	**2.02**	**321**	P	**P**	**19 46 35.8**	**+1.4**
JHJ2	**Mitsune**	**2.39**	**246**	P	**P**	**19 46 40.0**	**+0.3**
JHJ	**Hachijo jima 2**	**2.41**	**246**	Pn	**Pn**	**19 46 40.0**	**-0.2**
	116nm,0.3s,baz=100,slow=6.4,SNR=88						
JHJ				Sn	**Sn**	**19 47 07.6**	**-1.3**
	24nm,0.3s,baz=85,slow=23,SNR=15						
JIM2	**Oshima 3**	**2.53**	**284**	P	**P**	**19 46 41.1**	**-0.6**
JOD2	**Odawara 2**	**2.96**	**293**	P	**P**	**19 46 47.3**	**-0.5**
JIZS	**Izushimoda**	**2.98**	**282**	P	**P**	**19 46 47.7**	**-0.4**
JAG	**Ashikaga**	**3.33**	**314**	P	**P**	**19 46 53.0**	**-0.1**
JRY	**Ryogami san**	**3.44**	**304**	P	**P**	**19 46 54.7**	**+0.1**
JRY				*e*S	**S**	**19 47 34.9**	**+0.2**
JYN	**Shimob**	**3.46**	**294**	P	**P**	**19 46 54.9**	**0.0**
JFK	**Kawauchi**	**3.46**	**339**	P	**P**	**19 46 53.7**	**-1.3**
JFK				*e*S	**S**	**19 47 30.7**	**-4.7**
JMM	**Marumori**	**3.95**	**341**	P	**P**	**19 47 00.5**	**-1.4**
JMM				*e*S	**S**	**19 47 44.2**	**-3.6**
SONM	**Songino Array**	**30.14**	**308**	P	**P**	**19 52 12.6**	**+1.7**
	0.4nm,0.9s,mb3.2,baz=112,slow=7.8,SNR=3.2						
WRA	**Warramunga Arr**	**54.32**	**189**	P	**P**	**19 55 26.6**	**-1.1**
	0.6nm,0.4s,mb3.9,baz=6.4,slow=7.5,SNR=20						
ASAR	**Alice Springs**	**58.04**	**189**	P	**P**	**19 55 54.2**	**-0.1**
	0.5nm,0.7s,mb3.6,baz=14,slow=13,SNR=5.6						
BRTR	**Keskin Array B**	**81.39**	**312**	P	**P**	**19 58 19.2**	**+2.3**
	0.7nm,0.9s,mb3.6,baz=63,slow=6.4,SNR=3.9						

IDC 01 19:49:08.0±3.5, 1.47S×99.19E, mb3.7/5, mb1 3.9/5, mb1mx3.6/14, mbtmp3.7/5, Error ellipse: s-maj=149.4km s-min=21.8km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.96**	**121**	P	P	19 56 35.2	-2.6
	0.9nm,0.4s,baz=303,slow=9.1,SNR=17						
ASAR	**Alice Springs**	**40.22**	**126**	P	P	19 56 46.7	-1.5
	0.5nm,0.6s,baz=293,slow=7.9,SNR=3.7						
SONM	**Songino Array**	**49.50**	**6**	P	P	19 58 01.0	-1.2
	0.2nm,0.6s,baz=180,slow=8.6,SNR=2.4						
STKA	**Stephens Creek**	**50.10**	**132**	P	P	19 58 06.1	-1.0
	1.2nm,0.7s,baz=304,slow=11,SNR=3.4						
ZAL	**Zalesovo**	**56.49**	**350**	P	P	19 58 51.0	-3.1
	1.2nm,0.6s						
TXAR	**Lajitas Array**	**144.76**	**36**	PKP	PKPdf	20 08 47.2	-2.1
	0.5nm,0.5s,baz=180,slow=1.3,SNR=4.3						

*JMA **01** 19:51:16.9±0.5, 34.09N×142.45E, h66km, M3.2*
*IDC **01** 19:51:29.7±1.2, 32.48N×138.48E, mb3.6/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=31.1km s-min=24.3km az=124.0*
ISC 01 19:51:16.4±2.5, 34.11N±0.06×142.40E±0.08, h23km±21km, n13, σ0º86/19, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.29**	**295**	P	**Pn**	**19 51 39.7**	**+0.4**
BSO1				*e*S	**Sn**	**19 51 57.7**	**+1.6**
BSO3	**Boso 3**	**1.71**	**294**	P	**Pn**	**19 51 46.1**	**+0.9**
BSO4	**Boso 4**	**1.92**	**298**	P	**Pn**	**19 51 49.4**	**+1.2**
JHJ2	**Mitsune**	**2.37**	**246**	P	**Pn**	**19 51 55.2**	**+0.4**
JHJ2				S	**Sn**	**19 52 23.6**	**+0.1**
JHJ	**Hachijo jima 2**	**2.40**	**246**	Pn	**Pn**	**19 51 55.2**	**+0.2**
	112nm,0.3s,baz=104,slow=6.4,SNR=67						
JHJ				Sn	**Sn**	**19 52 22.9**	**-1.1**
	38nm,0.3s,baz=34,slow=21,SNR=9.4						
JIM2	**Oshima 3**	**2.53**	**285**	P	**Pn**	**19 51 56.3**	**-0.7**
JOD2	**Odawara 2**	**2.96**	**294**	P	**Pn**	**19 52 02.9**	**-0.3**
JOD2				*e*S	**Sn**	**19 52 37.5**	**-0.9**
JAG	**Ashikaga**	**3.34**	**315**	P	**Pn**	**19 52 08.2**	**-0.3**
JRY	**Ryogami san**	**3.44**	**305**	P	**Pn**	**19 52 09.9**	**-0.1**
JRY				S	**Sn**	**19 52 49.9**	**-0.7**
JMM	**Marumori**	**3.97**	**341**	P	**Pn**	**19 52 15.7**	**-1.8**
JMM				*e*S	**Sn**	**19 52 58.5**	**-5.4**
SONM	**Songino Array**	**30.15**	**308**	P	**P**	**19 57 28.2**	**+1.4**
	0.4nm,0.7s,mb3.2,baz=108,slow=9.0,SNR=3.4						
WRA	**Warramunga Arr**	**54.30**	**189**	P	**P**	**20 00 42.8**	**-0.5**
	1.1nm,0.9s,mb3.8,baz=6.6,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**58.02**	**189**	P	**P**	**20 01 10.2**	**+0.1**
	0.5nm,0.7s,mb3.6,baz=8.4,slow=4.8,SNR=5.0						

*IDC **01** 20:03:19.2±5.1, 33.77N×46.36E, mb3.7/4, mb1 3.8/5, mb1mx3.5/16, mbtmp3.8/5, ML3.2/1, Error ellipse: s-maj=79.7km s-min=29.8km az=144.0*
*TEH **01** 20:03:24.9, 34.11N×45.60E, h4km, Mn3.7*
*CSEM **01** 20:03:28.0±0.1, 34.15N×46.01E, h5km, ML3.7, Error ellipse: s-maj=3.6km s-min=2.7km az=62.0*
*THR **01** 20:03:33.5±0.5, 34.10N×46.45E, h14km±9km, ML3.2*
ISC 01 20:03:25.4±0.7, 34.33N±0.08×45.69E±0.05, h14km, n22, σ1º04/25, mb3.9/3, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.68**	**57**	Pg	**Pg**	**20 03 40.7**	**+1.4**
IGHG	**Ghaleghazi**	**0.73**	**90**	Pg	**Pg**	**20 03 39.9**	**-0.3**
IVIS	**Veys**	**0.98**	**78**	Pg	**Pg**	**20 03 44.8**	**-0.4**
BHD	**Baghdad**	**1.52**	**226**	*i* Pb	Px	20 03 44.0	
BHD				*i* Sb	Sx	20 04 02.0	
IKOM	**Komasi**	**1.52**	**95**	Pn	**Pn**	**20 03 53.7**	**+1.3**
SNGE	**Sanandaj**	**1.56**	**60**	*e*PG	**Pg**	**20 03 56.4**	**-0.3**
SNGE				AML	AML	20 04 24.3	
	comp=N,508nm,0.4s						
MSL	**Mosul**	**2.89**	**313**	*i* Pn	Px	20 04 17.5	
MSL				*e*Pg	Px	20 04 06.0	
MSL				*e*Pb	Px	20 04 24.0	
MSL				*e*Sn	Sx	20 05 06.0	
MSL				*i* Sb	Sx	20 05 10.0	
MSL				*e*Sg	Sx	20 05 14.5	
SHGO	**Shushtar**	**3.42**	**130**	*e*PN	**Pn**	**20 04 19.7**	**+0.2**
SHGR	**Shooshtar-Gavs**	**3.42**	**130**	*e*PN	**Pn**	**20 04 19.7**	**+0.2**
SHGR				AML	AML	20 05 20.6	
	comp=N,107nm,0.7s						
ASAO	**Ashtian**	**3.59**	**85**	*e*PN	**Pn**	**20 04 22.9**	**+1.0**
ASAO				*e*SG	**Sn**	**20 05 07.0**	**+2.5**
ASAO				AML	AML	20 05 19.1	
	comp=N,37nm,0.5s						
IRAZ	**Razeghan**	**3.65**	**72**	Pn	**Pn**	**20 04 24.5**	**+1.8**
IMHD	**Mahdasht**	**4.30**	**70**	Pn	**Pn**	**20 04 32.6**	**+0.5**
IQOM	**Qom**	**4.47**	**82**	Pn	**Pn**	**20 04 34.0**	**-0.4**
IQOM				Sn	**Sn**	**20 05 25.6**	**-1.2**
IVRN	**Varamin**	**5.02**	**81**	Pn	**Pn**	**20 04 41.6**	**-0.6**
IVRN				Sn	**Sn**	**20 05 38.6**	**-2.1**
IDMV	**Damavand**	**5.36**	**75**	Pn	**Pn**	**20 04 46.6**	**-0.3**
GNI	**Garni**	**5.86**	**353**	Pg	**Pg**	**20 05 17.0**	**-5.3**
	comp=N,0.3nm,0.3s,baz=60,slow=9.3,SNR=3.9						
GNI				Lg		20 06 50.3	
	comp=N,0.1nm,0.3s,baz=358,slow=23,SNR=2.2						
IFIR	**Firoozkooh**	**5.95**	**75**	Pn	**Pn**	**20 04 54.7**	**-0.5**
IFIR				Sn	**Sn**	**20 06 00.9**	**-3.0**
ASF	**Jabal al Asfar**	**7.67**	**256**	Pn	**Pn**	**20 05 18.4**	**-1.1**
	comp=N,0.3nm,0.3s,baz=328,slow=6.9,SNR=4.6						
ASF				Pg	**Pg**	**20 05 54.1**	**-4.5**
	comp=N,0.6nm,0.3s,baz=295,slow=12,SNR=4.5						
ASF				Lg		20 07 38.5	
	comp=N,1.5nm,0.3s,baz=135,slow=23,SNR=5.8						
AKASG	**Malin Array Be**	**20.29**	**329**	P	**P**	**20 08 03.1**	**-0.3**
	comp=N,0.5nm,0.3s,baz=135,slow=10,SNR=8.5						
FINES	**FINESS Array B**	**29.90**	**341**	P	**P**	**20 09 34.9**	**+0.3**
	comp=N,1.3nm,1.0s,mb3.6,baz=146,slow=10.0,SNR=4.6						
HFS	**Hagfors**	**33.14**	**331**	P	**P**	**20 10 03.1**	**0.0**
	comp=N,1.0nm,0.4s,mb4.1,baz=140,slow=11,SNR=5.6						
ARCES	**ARCESS Array B**	**36.99**	**348**	P	**P**	**20 10 36.2**	**+0.4**
	comp=N,2.0nm,0.9s,mb4.0,baz=168,slow=8.3,SNR=3.8						

*JMA **01** 20:06:56.8±0.4, 34.08N×142.46E, h56km, M3.3*
*IDC **01** 20:07:00.0±1.0, 34.06N×142.36E, h30km±5km, mb3.6/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=32.4km s-min=16.6km az=85.0*
*NEIC **01** 20:07:00.2±1.2, 34.06N×142.31E, Error ellipse: s-maj=44.8km s-min=15.2km az=65.0*
ISC 01 20:06:57.4±1.8, 34.14N±0.05×142.39E±0.07, h30km±13km, h30km±1.0km: pP-P, n18, σ0º87/26, mb3.7/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.28**	**294**	P	**Pn**	**20 07 19.8**	**+0.3**
BSO1				S	**Sb**	**20 07 37.6**	**+0.8**
BSO3	**Boso 3**	**1.69**	**294**	P	**Pn**	**20 07 26.1**	**+0.7**
JHJ2	**Mitsune**	**2.38**	**245**	P	**Pn**	**20 07 35.1**	**-0.1**
JHJ2				S	**Sn**	**20 08 03.1**	**-0.6**
JHJ	**Hachijo jima 2**	**2.40**	**246**	Pn	**Pn**	**20 07 35.2**	**-0.3**
	96nm,0.3s,baz=109,slow=6.8,SNR=68						
JHJ				Sn	**Sn**	**20 08 04.6**	**+0.4**
	18nm,0.3s,baz=52,slow=22,SNR=6.3						
JOD2	**Odawara 2**	**2.94**	**293**	P	**Pn**	**20 07 43.0**	**-0.3**
JOD2				S	**Sn**	**20 08 17.4**	**-0.6**
JAG	**Ashikaga**	**3.31**	**314**	P	**Pn**	**20 07 49.1**	**+0.6**
JRY	**Ryogami san**	**3.42**	**304**	P	**Pn**	**20 07 49.9**	**-0.2**
JRY				S	**Sn**	**20 08 30.6**	**+0.5**
JYN	**Shimob**	**3.44**	**294**	P	**Pn**	**20 07 50.2**	**-0.2**
JYN				*e*S	**Sn**	**20 08 29.9**	**-0.7**
JMM	**Marumori**	**3.94**	**341**	P	**Pn**	**20 07 56.5**	**-0.9**
JMM				S	**Sn**	**20 08 39.1**	**-4.1**
MAT	**Matsushiro**	**4.18**	**306**	*e*P	**Pn**	**20 08 01.0**	**+0.2**
MAT				*e*S	**Sn**	**20 08 49.0**	**-0.3**
MAT	**Matsushiro**	**4.18**	**306**	P	**Pn**	**20 08 00.7**	**-0.1**
MAT				S	**Sn**	**20 08 48.7**	**-0.6**
ASAJ	**Asahikawa**	**9.97**	**1**	Pn	**P**	**20 09 18.8**	**-3.0**
	0.6nm,0.3s,baz=237,slow=14,SNR=4.6						
SONM	**Songino Array**	**30.13**	**308**	P	**P**	**20 13 08.4**	**+1.8**
	0.5nm,0.9s,mb3.2,baz=106,slow=9.1,SNR=3.2						
WRA	**Warramunga Arr**	**54.32**	**189**	P	**P**	**20 16 22.8**	**-0.7**
	1.3nm,0.5s,mb4.1,baz=5.9,slow=7.4,SNR=25						
WRA				pP	pP	20 16 32.7	0.0
	1.5nm,0.5s,baz=5.5,slow=7.6,SNR=6.7						
ASAR	**Alice Springs**	**58.05**	**189**	P	**P**	**20 16 50.0**	**-0.2**
	0.6nm,0.6s,mb3.8,baz=18,slow=12,SNR=9.4						
ASAR				pP	pP	20 16 58.5	-0.9
	1.1nm,0.8s,baz=5.0,slow=6.0,SNR=7.3						
FINES	**FINESS Array B**	**71.75**	**333**	P	**P**	**20 18 19.1**	**+0.7**
	1.0nm,0.8s,mb3.8,baz=23,slow=11,SNR=3.1						
FINES				pP	pP	20 18 29.0	+1.3
	0.5nm,0.6s,baz=45,slow=8.1,SNR=1.5						
AKASG	**Malin Array Be**	**77.08**	**323**	pP	pP	20 19 00.2	+1.5
	0.6nm,0.5s,baz=45,slow=5.6,SNR=2.9						
NOA	**NORSAR Array B**	**77.16**	**338**	P	**P**	**20 18 50.7**	**+1.3**
	0.9nm,0.8s,mb3.7,baz=103,slow=18,SNR=2.8						
NOA				pP	pP	20 19 00.1	+1.2
	0.6nm,0.7s,baz=41,slow=5.3,SNR=2.1						

*CSEM **01** 20:10:50.3±0.1, 39.99N×28.87E, h5km, MD2.6, Error ellipse: s-maj=1.5km s-min=1.3km az=118.0*
ISK 01 20:10:50.4, 39.99N×28.87E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.06**	**24**	*i* PG	Pg	20 10 52.5	+0.4
DST	**Dursunbey**	**0.43**	**205**	*i* PG	Pg	20 10 59.2	+0.2
DST				*i* SG	Sg	20 11 05.9	+1.1
KCT	**Karacabey**	**0.48**	**305**	PG	Pg	20 11 00.4	+0.4
KCT				SG	Sg	20 11 07.0	+0.6
YLV	**Yalova**	**0.69**	**34**	PG	Pg	20 11 04.1	-0.2
HRT	**Hereke**	**1.03**	**36**	*e*PG	Pg	20 11 10.6	-0.4
ESKT	**Eskisehir**	**1.60**	**107**	*e*PN	Pn	20 11 20.1	+0.8

IDC 01 20:16:24.4±3.6, 0.24S×97.06E, mb3.6/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, Error ellipse: s-maj=145.1km s-min=25.0km az=60.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.41**	**121**	P	P	20 24 13.0	-1.4
	0.5nm,0.9s,baz=302,slow=9.0,SNR=4.8						
ASAR	**Alice Springs**	**42.66**	**126**	P	P	20 24 22.9	-1.9
	0.3nm,0.4s,baz=296,slow=7.4,SNR=10						
SONM	**Songino Array**	**48.57**	**8**	P	P	20 25 10.1	-1.3
	0.1nm,0.5s,baz=182,slow=10.0,SNR=3.3						
ZAL	**Zalesovo**	**54.94**	**351**	P	P	20 25 56.5	-2.9
	1.2nm,0.4s,baz=294,slow=6.8,SNR=4.9						
TXAR	**Lajitas Array**	**144.96**	**33**	PKP	PKPdf	20 36 03.8	-2.3
	0.5nm,0.6s,baz=262,slow=1.0,SNR=5.4						

*IDC **01** 20:32:32.4±0.4, 0.35N×98.16E, mb5.1/25, mb1 5.1/25, mb1mx5.1/26, mbtmp5.1/25, MS5.1/18, Ms1 5.1/18, ms1mx4.9/26, Error ellipse: s-maj=17.3km s-min=10.8km az=47.0*
*BJI **01** 20:32:32.9, 0.13S×98.12E, h39km, mB5.5, mb5.4, Ms5.7, Msz5.4*
*MOS **01** 20:32:36.3±1.0, 0.41N×98.18E, h33km, mb5.7/91, MS5.1/33, Error ellipse: s-maj=8.7km s-min=4.0km az=123.0*
*HRVD **01** 20:32:37.4±0.2, 0.33N×98.12E, h17km, MW5.6/68, Centroid moment Tensor Solution. LP body waves: s57,c99;Mantle waves: s68,c187; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.05±.04; $M_{\theta\theta}$-2.68±.04; $M_{\phi\phi}$2.64±.04; $M_{r\theta}$-0.42±.10; $M_{\theta\phi}$-0.08±.04; $M_{\phi r}$0.11±.11; Best double couple: $M_0$2.695×10^{17} NP1: ϕ_s44°, δ82°, λ-4°. NP2:ϕ_s134°, δ86°, λ-172°. Principal axes: T 2.647, Plg3°, Azm269°; N .103, Plg81°, Azm162°; P -2.744, Plg9°, Azm359°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **01** 20:32:37.4±0.1, 0.32N×98.11E, mb5.6/113, MS5.0/26, MW5.6 Error ellipse: s-maj=5.6km s-min=3.5km az=219.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{17} Nm; M_{rr}0.19; $M_{\theta\theta}$-2.68; $M_{\phi\phi}$2.49; $M_{r\theta}$-0.28; $M_{\theta\phi}$-0.51; $M_{\phi r}$-0.16; Best double couple: $M_0$2.7×10^{17} NP1:ϕ_s130°, δ84°, λ-178°. NP2:ϕ_s39°, δ88°, λ-6°. Principal axes: T 2.54, Plg3°, Azm85°; N .21, Plg84°, Azm204°; P -2.76, Plg6°, Azm354°;*
NEIC Felt [II] at Airbangis and Pariaman; [I] at Padang and Padangpanjang, Sumatra.
*CRAAG **01** 20:32:41.7, 1.54N×98.05E, Mb5.6*
ISC 01 20:32:35.5±0.1, 0.32N±0.03×98.17E±0.02, h29km, h29km±.5km: pP-P, n651, σ1º03/565, mb5.5/170, MS5.2/76, 44C-36D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.10**	**34**	P	**Pn**	**20 33 53.0**	**+1.0**
KGM	**Kluang**	**5.41**	**72**	P	**Pn**	**20 33 57.5**	**+1.1**
KULM	**Kulim**	**5.52**	**27**	*e*Pn	**Pn**	**20 33 59.2**	**+1.3**
PENI	**Pendagan**	**9.11**	**130**	*e*P	**P**	**20 34 43.6**	**-4.6**
PENI				*e*S	**Sn**	**20 36 24.8**	**-6.0**
PENI				pmax	pmax		
	comp=Z,1μm,0.5s						
PENI	**Pendagan**	**9.11**	**130**	*e*P	**P**	**20 34 43.6**	**-4.6**
	comp=Z,1μm,0.5s						
PENI				*e*S	**Sn**	**20 36 24.8**	**-6.0**
PULI	**Pulasari**	**10.22**	**131⇑**	*e*P	**P**	**20 34 59.7**	**-3.9**
	comp=Z,1μm,0.5s						
PULI				*e*S	**S**	**20 36 50.5**	**-7.7**
KSM	**Kuching**	**12.19**	**85**	*e*P	**P**	**20 35 30.1**	**-0.1**
NNT	**Nongplab**	**12.29**	**7**	P	**P**	**20 35 31.0**	**-0.6**
KKTK	**Khon Kaen**	**16.56**	**16**	P	**P**	**20 36 28.4**	**+0.9**
	comp=Z,2μm,0.6s						
BDT	**Bhumibol Dam**	**16.84**	**3**	P	**P**	**20 36 30.0**	**-0.9**
	comp=Z,29nm,0.7s						
SRDI	**Scrawed**	**18.16**	**119⇓**	*e*P	**P**	**20 36 44.6**	**-2.9**
KELI	**Kelakatan**	**18.34**	**118⇓**	*e*P	**P**	**20 36 49.8**	**0.0**
	comp=Z,350nm,1.0s						
CHG	**Chiang Mai**	**18.39**	**2**	P	**P**	**20 36 48.6**	**-1.8**
PALK	**Pallekele**	**18.74**	**292⇑**	*e*P	**P**	**20 36 55.4**	**+0.8**
	comp=Z,146nm,1.1s						
KKM	**Kota Kinabalu**	**18.88**	**72**	*e*P	**P**	**20 36 56.8**	**+0.5**
KKM	**Kota Kinabalu**	**18.88**	**72**	P	**P**	**20 36 57.4**	**+1.2**
RATI	**Rata**	**19.49**	**116⇓**	*e*P	**P**	**20 37 00.3**	**-3.0**
	comp=Z,452nm,0.3s						
CHRT	**Chiangrai**	**19.49**	**5**	⇓P	**P**	**20 37 02.0**	**-1.3**
	comp=Z,455nm,1.0s						
KEDI	**Kedomdong**	**19.90**	**116⇓**	*e*P	**P**	**20 37 07.2**	**-0.7**
TSM	**Tawau**	**20.07**	**78**	P	**P**	**20 37 09.1**	**-0.5**
BATP	**Bataraza**	**21.28**	**66**	*i* P	**P**	**20 37 22.5**	**+0.5**
QIZ	**Qiongzhong**	**21.84**	**31**	P	**P**	**20 37 29.0**	**+1.4**
QIZ				S	**S**	**20 41 23.7**	**+1.5**
QIZ				LR	LR		
	comp=N,8μm,18.3s,MS5.3						
QIZ				LR	LR		
	comp=E,9μm,18.3s,MS5.3						
QIZ				LR	LR		
	comp=Z,4μm,15.7s,MS4.9						
QIZ	**Qiongzhong**	**21.84**	**31**	*e*P	**P**	**20 37 28.9**	**+1.3**
	comp=Z,66nm,0.9s,mb5.1						
VIS	**Vishakhapatnam**	**22.63**	**321**	*e*P	**P**	**20 37 36.0**	**+0.4**
VIS				*e*		20 37 50.1	
	comp=Z,466nm,1.0s						
VIS				*e*S	**S**	**20 41 38.8**	**+1.9**
TRD	**Trivandrum**	**22.64**	**292**	*e*	Px	20 37 46.2	
TRD				*e*		20 41 28.2	
KOD	**Kodaikanal**	**22.83**	**296**	⇓*i*	Px	20 37 42.0	
KOD				⇑*i*		20 42 00.0	
BWNR	**Bhubaneshwar**	**23.25**	**329**	*e*P	**P**	**20 37 43.2**	**+1

DGAR LR LR
comp=Z,1µm,19.0s,MS4.4
LKP Lekhapani 26.93 356 *e*P **P 20 38 18.0 +1.6**
LKP *e* pP 20 38 25.0 0.0
GZH Guangzhou 27.01 32 P **P 20 38 22.1 +4.9**
GZH LR LR
comp=N,5µm,24.9s
GZH LR LR
comp=E,11µm,17.7s
GZH LR LR
comp=Z,9µm,17.1s
GYA Guiyang 27.24 17 P **P 20 38 18.9 -0.4**
GYA AP pP 20 38 28.2 +0.3
GYA XP sP 20 38 32.4 +0.6
GYA PP PP 20 39 10.9 +4.5
GYA S **S 20 42 54.7 0.0**
GYA AMB AMB
comp=Z,40nm,0.9s,mb5.0
GYA AMB AMB
comp=Z,240nm,5.4s
GYA LR LR
comp=N,5µm,15.9s,MS5.5
GYA LR LR
comp=E,10µm,17.7s,MS5.5
GYA LR LR
comp=Z,9µm,16.8s,MS5.4
LLP Lapu-Lapu 27.50 68⇓*e*P **P 20 38 21.8 0.0**
BALP Baler 27.72 55 *e*P **P 20 38 23.8 +0.1**
LATR Latur 27.82 311 *e* Px 20 38 31.0
BUKP Musuan 27.83 74 *e*P **P 20 38 25.4 +0.6**
NGP Nagpur 27.88 319 *e* Px 20 38 27.5
NGP *e* 20 38 39.7
comp=Z,149nm,2.3s
NGP *e*S **S 20 43 03.0 -2.0**
ABRA Dolores 28.07 51 *e*P **P 20 38 27.1 +0.2**
DAV Davao City (W) 28.14 76 *e*P **P 20 38 33.0 +5.5**
MSLP Maasin 28.27 69 *e*P **P 20 38 32.0 +3.3**
GOA Goa 28.38 303⇑*e* Px 20 38 23.6
GOA *e* 20 43 50.8
CAUP Cauayan 28.56 53 *e*P **P 20 38 29.4 -1.8**
APYP Conner 28.61 51 *e*P **P 20 38 30.6 -1.1**
BUTP Butuan 28.65 72 *e*P **P 20 38 36.7 +4.6**
PVCP Virac 28.91 62 *e*P **P 20 38 38.2 +3.8**
CNP Catarman 28.93 64 *e*P **P 20 38 34.6 +0.1**
ALBI Allahabad 29.45 329 *e*P **P 20 38 39.0 -0.2**
JIRN Jiri 29.52 338 *e*P **P 20 38 39.9 +0.1**
comp=Z,464nm,1.1s,mb6.1
PKI Pulchoki 29.74 337 *e*P **P 20 38 41.9 +0.1**
comp=Z,456nm,1.2s,mb6.1
PKI Pulchoki 29.74 337 *e*P **P 20 38 41.9 +0.1**
PKI pmax pmax
comp=Z,228nm,1.2s,mb5.8
GUN Gumba 29.86 338 *e*P **P 20 38 42.9 +0.1**
comp=Z,842nm,1.2s,mb6.4
DMN Daman 29.89 336 *e*P **P 20 38 43.1 0.0**
comp=Z,150nm,0.8s,mb5.8
POO Poona 29.97 309⇑*i*P **P 20 38 43.0 -0.9**
comp=Z,179nm,1.5s,mb5.6
POO *i* 20 43 52.0
LSA Lhasa 29.97 348 P **P 20 38 44.0 +0.2**
LSA S **S 20 43 39.2 +0.8**
LSA LR LR
comp=N,2µm,28.4s,MS5.0
LSA LR LR
comp=E,4µm,28.4s,MS5.0
LSA LR LR
comp=Z,4µm,28.1s,MS4.8
LSA Lhasa 29.97 348 *e*P **P 20 38 44.0 +0.2**
LSA pmax pmax
comp=Z,504nm,1.3s,mb6.1
LSA Lhasa 29.97 348 *e*P **P 20 38 44.0 +0.2**
comp=Z,504nm,1.3s,mb6.1
KKN Kakani 29.98 337 *e*P **P 20 38 43.5 -0.4**
comp=Z,256nm,0.9s,mb6.0
KKN Kakani 29.98 337 *e*P **P 20 38 43.5 -0.4**
KKN pmax pmax
comp=Z,128nm,0.9s,mb5.7
MBWA Marble Bar 29.99 137 *e*P **P 20 38 44.0 -0.1**
comp=Z,127nm,1.2s,mb5.5
MBWA *e* 20 38 49.4
MBWA LR LR
comp=Z,8µm,22.0s,MS5.3
BHPL Bhopal 30.42 320 *e*P **P 20 38 46.4 -1.4**
BHPL *e* 20 39 01.7
comp=Z,66nm,1.7s
GKN Gorkha 30.43 336 *e*P **P 20 38 47.3 -0.6**
comp=Z,290nm,0.8s,mb6.0
KOLN Koldanda 30.66 334 *e*P **P 20 38 50.0 +0.1**
comp=Z,278nm,1.0s,mb6.1
CD2 Chengdu 30.88 9⇑*i*P **P 20 38 51.1 -0.7**
CD2 AMB AMB
comp=Z,80nm,1.4s,mb5.4
CD2 LR LR
comp=E,8µm,13.2s
CD2 LR LR
comp=Z,7µm,12.0s,MS5.5
BOM Bombay 30.98 308 *e* Px 20 38 54.8
BOM *e* 20 39 12.4
BOM *e* 20 46 07.7
QZH Quanzhou 31.45 37 P **P 20 38 55.8 -1.1**
QZH S **S 20 44 05.5 +3.8**
QZH AMB AMB
comp=Z,860nm,3.0s
QZH LR LR
comp=Z,11µm,16.0s,MS5.6
FITZ Fitzroy Crossi 32.63 126 *e*P **P 20 39 04.1 -3.1**
comp=Z,60nm,0.9s,mb5.5
FITZ *e*S **S 20 44 19.5 -0.6**
FITZ Fitzroy Crossi 32.63 126 P **P 20 39 05.2 -2.0**
comp=Z,40nm,0.9s,mb5.3,baz=270,slow=2.1,SNR=26
FITZ LR LR 20 53 09.6
comp=Z,5µm,21.4s,MS5.2,baz=283,slow=38
TATO Taipei 33.30 41 PFAKE 20 39 30.0 +17
TATO LR LR
comp=Z,3µm,19.0s,MS5.0
LGTI Lohaghat 33.64 331 *e*P **P 20 39 16.0 +0.1**
PTH Pithoragarh 33.73 331 *e*P **P 20 39 16.3 -0.4**
PTH *e* 20 44 51.2
WHN Wuhan 33.76 26 P **P 20 39 17.0 0.0**
WHN S **S 20 44 41.0 +3.5**
WHN LR LR
comp=Z,10µm,17.3s,MS5.6
AJM Ajmer 34.49 321⇓*i*P **P 20 39 23.0 -0.3**
NDI New Delhi 34.60 326 *e*P **P 20 39 23.5 -0.7**
NDI *e*P 20 39 24.0
NDI *e*S **S 20 44 49.0 -1.5**
NDI *e* 20 45 10.0
XAN Xi'an 35.02 16 P **P 20 39 26.8 -1.0**
XAN S **S 20 44 51.2 -5.9**
XAN AMB AMB
comp=Z,128nm,0.9s,mb5.8
XAN LR LR
comp=N,4µm,20.2s,MS5.7
XAN LR LR
comp=E,12µm,19.4s,MS5.7
XAN LR LR
comp=Z,6µm,15.3s,MS5.4
LZH Lanzhou 35.97 8⇑P **P 20 39 35.0 -0.8**
LZH AP pP 20 39 44.5 -0.1
LZH XP sP 20 39 48.2 -0.1
LZH PP PP 20 40 57.1 -0.7
LZH *e*S **S 20 45 11.0 -0.8**
LZH AMB AMB
comp=Z,135nm,1.4s,mb5.7
LZH AMB AMB
comp=Z,415nm,5.7s
LZH LR LR
comp=N,3µm,13.1s
LZH LR LR
comp=Z,4µm,16.7s,MS5.2
LZH Lanzhou 35.97 8⇑P **P 20 39 35.0 -0.8**
comp=Z,135nm,1.4s,mb5.7
LZH pP pP 20 39 44.5 -0.1
LZH sP sP 20 39 48.2 -0.1
LZH PP PP 20 40 57.1 -0.7
LZH *e*S **S 20 45 11.0 -0.8**
LZH sS 20 45 26.3
LZH SS SS 20 47 34.6 -0.1
LZH LR LR
comp=Z,4µm,16.7s,MS5.2
MUN Mundaring 36.38 154 *e*P **P 20 39 40.4 +1.2**
comp=Z,52nm,1.2s,mb5.3
MUN Mundaring 36.38 154 *e*P **P 20 39 40.4 +1.2**
MUN pmax pmax
comp=Z,52nm,1.2s,mb5.3

SMLA Simla 36.54 329⇓*i* **P 20 39 31.4 -9.3**
comp=Z,438nm,1.0s,mb6.2
SMLA *i* 20 45 06.4
KLBR Kellerberrin 36.76 151 *e*P **P 20 39 43.3 +0.8**
comp=Z,899nm,1.1s,mb6.5
SDNR Sundarnagar 36.94 329 *e*P **P 20 39 43.8 -0.2**
NJ2 Nanjing 37.12 30 *e*P **P 20 39 45.8 +0.3**
NJ2 AP pP 20 39 55.0 +0.7
NJ2 XP sP 20 39 59.6 +1.6
NJ2 S **S 20 45 31.0 +1.6**
NJ2 XS 20 45 47.0
NJ2 AMB AMB
comp=Z,200nm,1.2s,mb5.8
NJ2 AMB AMB
comp=Z,942nm,4.4s
BHK Bhakra 37.16 328 *e* **P 20 39 48.3 +2.4**
SSE Sheshan 37.59 33 *e*P **P 20 39 47.9 -1.5**
SSE AP pP 20 39 56.2 -2.0
SSE XP sP 20 40 00.4 -1.5
SSE S **S 20 45 36.1 -0.4**
SSE AMB AMB
comp=Z,46nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,85nm,4.6s
SSE LR LR
comp=N,7µm,18.8s,MS5.8
SSE LR LR
comp=E,13µm,18.8s,MS5.8
SSE LR LR
comp=Z,5µm,17.0s,MS5.4
SSE Sheshan 37.59 33 *e*P **P 20 39 47.9 -1.5**
comp=Z,46nm,0.7s,mb5.3
SSE pP pP 20 39 56.2 -2.0
SSE sP sP 20 40 00.4 -1.5
SSE PP PP 20 41 12.6 -5.6
SSE S **S 20 45 36.1 -0.4**
SSE sS 20 45 51.4
SSE SS SS 20 48 22.2 +11
SSE LR LR
comp=Z,5µm,17.0s,MS5.4
NWAO Narrogin (SRO) 37.64 153 P **P 20 39 50.7 +0.9**
comp=Z,44nm,1.0s,mb5.1,baz=318,slow=10.0,SNR=8.1
NWAO LR LR 20 56 07.9
comp=Z,4µm,18.4s,MS5.2,baz=335,slow=38
NWAO Narrogin (SRO) 37.64 153 P **P 20 39 50.7 +0.9**
NWAO LR LR 20 56 07.9
PONG Pong 37.83 328 *e*P **P 20 39 52.0 +0.6**
PONG *e* 20 45 52.0
THN Thein Dam 38.33 329 *e*P **P 20 39 54.0 -1.6**
GTA Gaotai 38.93 2 P **P 20 40 00.6 0.0**
GTA AP pP 20 40 10.1 +0.7
GTA XP sP 20 40 14.9 +1.8
GTA PP PP 20 41 36.8 +2.9
GTA S **S 20 45 57.4 +0.6**
GTA PCS 20 46 00.8
GTA SCS ScS 20 50 08.4 +2.5
GTA AMB AMB
comp=Z,47nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,236nm,7.3s
GTA LR LR
comp=N,3µm,18.3s,MS5.5
GTA LR LR
comp=E,5µm,17.6s,MS5.5
GTA LR LR
comp=Z,3µm,19.9s,MS5.1
JOW Kunigami 39.15 45 P **P 20 40 02.8 +0.3**
comp=Z,24nm,0.5s,mb5.2,baz=183,slow=10.0,SNR=8.9
JOW LR LR 20 56 07.9
comp=Z,1µm,21.0s,MS4.8,baz=214,slow=36
TIA Tai'an 39.81 24 P **P 20 40 08.3 +0.3**
TIA S **S 20 46 11.5 +1.4**
TIA LR LR
comp=N,3µm,17.5s,MS5.5
TIA LR LR
comp=E,5µm,17.3s,MS5.5
WRAB Tennant Creek 40.75 122⇓*e*P **P 20 40 14.3 -1.5**
WRAB Tennant Creek 40.75 122 *e*P **P 20 40 14.1 -1.7**
comp=E,38nm,0.6s,mb5.2
WRAB LR LR
comp=Z,1µm,19.0s,MS4.8
WB2 Warramunga Arr 40.76 122 *e*P **P 20 40 13.7 -2.2**
WB2 *e*S **S 20 46 16.7 -7.6**
BTO Baotou 41.52 14 *e*P **P 20 40 23.5 +1.5**
BTO S **S 20 46 41.3 +5.8**
BTO AMB AMB
comp=Z,44nm,0.8s,mb5.1
FORT Forrest 41.98 140 *e*P **P 20 40 26.8 +0.9**
comp=Z,2µm,0.7s
ASPA Alice Springs 42.09 127 *e*P **P 20 40 25.8 -1.1**
ASPA *e*PCP PcP 20 42 19.8 -2.1
ASPA *e*S **S 20 46 40.2 -3.9**
ASAR Alice Springs 42.09 127 P **P 20 40 25.2 -1.6**
comp=Z,15nm,0.7s,mb4.8,baz=303,slow=7.6,SNR=108
ASAR PcP PcP 20 42 19.2 -2.6
comp=Z,17nm,1.0s,baz=308,slow=5.0,SNR=4.6
ASAR LR LR 20 59 23.1
comp=Z,2µm,18.8s,MS4.9,baz=297,slow=38
HHC Hu-ho-hao-te 42.13 15 *e*P **P 20 40 27.9 +0.9**
HHC AP pP 20 40 38.0 +2.1
HHC XP sP 20 40 41.4 +1.9
HHC PP PP 20 42 09.1 +1.5
HHC PCP PcP 20 42 23.6 +1.8
HHC SCP 20 46 07.4
HHC PCS 20 46 12.1
HHC S **S 20 46 46.6 +2.1**
HHC XS 20 47 02.2
HHC SS SS 20 49 51.9 +4.8
HHC SCS ScS 20 50 25.5 +0.6
HHC AMB AMB
comp=Z,42nm,1.4s,mb4.9
HHC AMB AMB
comp=Z,459nm,4.3s
HHC LR LR
comp=N,5µm,15.7s,MS5.6
HHC LR LR
comp=E,4µm,15.9s,MS5.6
HHC LR LR
comp=Z,5µm,17.4s,MS5.4
BJT Baijiatuau 42.78 20 *e*P **P 20 40 33.3 +1.0**
BJT pmax pmax
comp=Z,281nm,1.0s
BJT Baijiatuau 42.78 20 *e*P **P 20 40 33.2 +0.9**
comp=Z,281nm,1.0s,mb6.0
BJI Beijing 42.80 20 *e*P **P 20 40 33.2 +0.7**
BJI PP PP 20 42 19.7 +5.4
BJI S **S 20 46 58.1 +3.7**
BJI AMB AMB
comp=Z,172nm,0.7s,mb5.9
BJI LR LR
comp=N,4µm,19.3s,MS5.6
BJI LR LR
comp=E,5µm,16.7s,MS5.6
BJI LR LR
comp=Z,4µm,18.9s,MS5.4
BJI Beijing 42.80 20 *e*P **P 20 40 33.2 +0.7**
comp=Z,172nm,0.7s,mb5.9
BJI PP PP 20 42 19.7 +5.4
BJI S **S 20 46 58.1 +3.7**
BJI PS 20 47 12.2
BJI SS SS 20 50 19.4 +20
BJI LR LR
comp=Z,4µm,18.9s,MS5.4
KSH Kashi 43.97 335 *e*P **P 20 40 42.0 0.0**
KSH *e*AP pP 20 40 49.2 -1.6
KSH XP sP 20 40 52.0 -2.5
KSH *e*PP PP 20 42 25.2 -0.7
KSH *e*PCP PcP 20 42 29.0 +1.0
KSH *e*PPP PPP 20 43 01.0 -2.8
KSH *e*PCS 20 46 21.1
KSH *e*S **S 20 47 09.7 -1.6**
KSH *e*SCS ScS 20 50 37.0 +0.8
KSH AMB AMB
comp=Z,380nm,2.9s,mb5.6
KSH LR LR
comp=N,2µm,12.5s,MS5.3
KSH LR LR
comp=E,2µm,14.1s,MS5.3
DL2 Dalian 44.01 27 P **P 20 40 42.5 +0.2**
DL2 S **S 20 47 13.2 +1.3**
DL2 AMB AMB
comp=Z,100nm,1.2s,mb5.4
DL2 LR LR
comp=N,2µm,18.8s,MS5.3

DL2 LR LR
comp=E,3µm,19.0s,MS5.3
DL2 LR LR
comp=Z,3µm,17.5s,MS5.2
WBK Wadi Bani Khal 44.10 303 P **P 20 40 44.2 +1.0**
SNR=15
WMQ Urumqi 44.31 349⇓*i*P **P 20 40 45.4 +0.7**
WMQ AP pP 20 40 55.4 +1.9
WMQ XP sP 20 40 59.4 +2.2
WMQ PP PP 20 42 30.1 +0.8
WMQ PPP PPP 20 43 08.9 +0.8
WMQ SCP 20 46 17.8
WMQ PCS 20 46 21.5
WMQ S **S 20 47 16.5 +0.3**
WMQ XS 20 47 32.6
WMQ SS SS 20 50 26.3 -0.3
WMQ SCS ScS 20 50 38.9 +0.6
WMQ AMB AMB
comp=Z,118nm,0.9s,mb5.6
WMQ LR LR
comp=Z,28µm,24.8s,MS6.1
JMDO Jabal Madar 44.73 302⇑P **P 20 40 48.9 +0.5**
SNR=11
SMDO Samad 45.05 303⇓P **P 20 40 51.7 +0.7**
BIDO Bidbid 45.18 304⇓P **P 20 40 52.8 +0.8**
SNR=24
INCN Inchon 45.35 32 *e*P **P 20 40 54.4 +1.2**
comp=Z,22nm,0.6s,mb5.2
INCN LR LR
comp=Z,3µm,20.0s,MS5.3
SHAO Shalim 45.35 295⇓P **P 20 40 53.0 -0.3**
SNR=5.8
BSY Bisya 45.64 302 P **P 20 40 56.4 +0.8**
SNR=15
ULHL Ulahol 46.17 337 P **P 20 41 00.1 +0.6**
SNR=58
KZA Kyzart 46.42 336 P **P 20 41 02.5 +1.0**
SNR=39
ARQ Araqi 46.45 303⇑P **P 20 41 03.0 +1.0**
SNR=20
RBK Rabkut 46.49 294⇓P **P 20 41 02.4 0.0**
SNR=9.7
AAA Alma-Ata 46.79 339 *e*P **P 20 41 04.0 -0.4**
AAA *e* 20 42 55.0
AAA S **S 20 47 54.0 +2.2**
AAA pmax pmax
comp=Z,700nm,4.0s
AAA smax
comp=N,1µm,5.0s
AAA smax
comp=E,900nm,5.0s
AAA MLR MLR
comp=N,2µm,16.0s,MS5.1
AAA MLR MLR
comp=E,700nm,16.0s,MS5.1
AAA MLR MLR
comp=Z,2µm,16.0s,MS5.1
UCH Uchtor 46.84 336 P **P 20 41 05.9 +1.1**
SNR=105
TKM2 Tokmak 2 47.00 337 P **P 20 41 06.7 +0.6**
SNR=136
WHFO Wadi Hawf 47.01 294⇓P **P 20 41 06.2 -0.2**
SNR=24
KBK Karagaybulak 47.03 337 P **P 20 41 07.3 +1.0**
SNR=112
AML Almayashu 47.10 335 P **P 20 41 07.8 +0.9**
SNR=98
AAK Ala-Archa 47.19 336 P **P 20 41 08.4 +0.8**
SNR=29
AAK Ala-Archa 47.19 336 P **P 20 41 07.6 0.0**
comp=Z,366nm,0.8s,mb6.4,SNR=49
AAK Ala-Archa 47.19 336 *e*P **P 20 41 07.1 -0.5**
AAK pmax pmax
comp=Z,59nm,0.8s,mb5.6
AAK Ala-Archa 47.19 336 *e*P **P 20 41 07.1 -0.5**
comp=Z,59nm,0.8s,mb5.6
SNY Shenyang 47.25 26⇑P **P 20 41 08.1 0.0**
SNY S **S 20 47 57.9 -0.4**
SNY AMB AMB
comp=Z,30nm,0.8s,mb5.3
SNY LR LR
comp=N,8µm,16.2s,MS5.9
SNY LR LR
comp=E,5µm,14.2s,MS5.9
SNY LR LR
comp=Z,6µm,17.6s,MS5.6
ABTO Aybut 47.28 293⇑P **P 20 41 08.2 -0.4**
SNR=11
FRU Bishkek 47.31 336 *i*P **P 20 41 10.0 +1.5**
FRU *i* 20 41 16.0
FRU *e* 20 48 03.0
FRU pmax pmax
comp=Z,160nm,2.0s,mb5.6
FRU MLR MLR
comp=Z,1µm,18.0s,MS4.8
ASHO Ashiyiah 47.38 304 P **P 20 41 10.2 +0.9**
SNR=12
CHMS Chumysh 47.39 337 P **P 20 41 09.3 +0.1**
SNR=39
EKS2 Erkin-Say 47.51 336 P **P 20 41 10.6 +0.6**
SNR=111
USP Ospenovka 47.72 337 P **P 20 41 11.9 +0.2**
SNR=212
SONM Songino Array 47.86 7 P **P 20 41 13.0 +0.2**
comp=Z,18nm,0.7s,mb5.2,baz=190,slow=7.7,SNR=149
SONM PcP PcP 20 42 41.5 0.0
comp=Z,23nm,0.9s,baz=182,slow=5.7,SNR=2.6
ULN Ulaanbaatar 47.98 8 *e*P **P 20 41 13.4 -0.3**
ULN pmax pmax
comp=Z,54nm,0.9s,mb5.6
ULN Ulaanbaatar 47.98 8 *e*P **P 20 41 13.4 -0.3**
comp=Z,54nm,0.9s,mb5.6
KKAR Karatay Array 49.27 333 *i*P **P 20 41 22.8 -0.9**
KKAR pmax pmax
comp=Z,181nm,1.3s,mb5.9
CN2 Changchun 49.66 26 *e*P **P 20 41 25.4 -1.3**
CN2 *e*XP sP 20 41 37.8 -1.4
CN2 *e*S **S 20 48 31.4 -0.6**
CN2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
CN2 AMB AMB
comp=Z,400nm,4.0s
CN2 LR LR
comp=Z,3µm,17.0s,MS5.4
PMG Port Moresby 49.71 103 *e*P **P 20 41 26.0 -1.5**
PMG pmax pmax
comp=Z,61nm,0.9s
PMG Port Moresby 49.71 103 P **P 20 41 26.4 -1.1**
comp=Z,39nm,0.7s,mb5.5,baz=114,slow=7.0,SNR=8.8
PMG Port Moresby 49.71 103 *e*P **P 20 41 26.0 -1.5**
comp=Z,61nm,0.9s,mb5.6
CBIJ Chichi jima 49.93 54 P **P 20 41 28.6 -0.5**
comp=Z,126nm,0.6s,mb6.1,baz=285,slow=5.5,SNR=6.8
ZAK Zakamensk 50.06 4⇓*e*P **P 20 41 29.5 -0.2**
ZAK *e* 20 42 48.9
ZAK *e* 20 48 43.2
ZAK pmax pmax
comp=Z,20nm,1.6s,mb4.9
ZAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
JHJ Hachijo jima 2 50.91 46 P **P 20 41 38.9 +2.5**
comp=Z,100nm,0.9s,mb5.8,baz=148,slow=3.1,SNR=3.9
MOY Mondy 51.22 2 *e*P **P 20 41 38.0 -0.4**
MOY pmax pmax
comp=Z,117nm,2.1s,mb5.5
CTA Charters Tower 51.24 116 *e*P **P 20 41 37.7 -1.3**
comp=Z,49nm,0.9s,mb5.4
CTA Charters Tower 51.24 116 *e*P **P 20 41 37.7 -1.3**
CTA pmax pmax
comp=Z,49nm,0.9s
CTAO Charters Tower 51.24 116 *e*P **P 20 41 38.3 -0.7**
CTAO pmax pmax
comp=Z,83nm,1.0s,mb5.6
CTAO MLR MLR
comp=Z,3µm,20.0s,MS5.4
CTAO Charters Tower 51.24 116 *e*P **P 20 41 38.3 -0.7**
comp=Z,83nm,1.0s,mb5.6
CTAO LR LR
comp=Z,3µm,20.0s,MS5.4
TLY Talaya 51.38 4 *e*P **P 20 41 39.8 +0.1**
TLY *e* 20 43 37.6
TLY *e*S **S 20 48 58.4 +2.6**
TLY *e*PS PS 20 49 13.6 +5.0
TLY pmax pmax

comp=Z,28nm,0.7s,mb5.3
TLY MLR MLR
comp=Z,2μm,16.0s,MS5.3
TLY Talaya 51.38 4 *e*P **P** **20 41 39.7 0.0**
comp=Z,28nm,0.7s,mb5.3
TLY LR LR
comp=Z,521nm,20.0s,MS4.6
MAJO Matsushiro 51.69 41 *e*P **P** **20 41 41.2 -1.0**
MAJO pmax pmax
comp=Z,27nm,0.9s,mb5.2
MAJO Matsushiro 51.69 41 *e*P **P** **20 41 41.2 -1.1**
comp=Z,27nm,0.9s,mb5.2
MAT Matsushiro 51.69 41 *e*P **P** **20 41 40.0 -2.2**
MAT *e*S **S** **20 48 58.0 -2.3**
MAT pmax pmax
comp=Z,15nm,1.1s,mb4.8
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 51.69 41 *e*P **P** **20 41 40.0 -2.2**
comp=Z,15nm,1.1s,mb4.8
MAT *e*S **S** **20 48 58.0 -2.3**
MAT LR LR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 51.69 41 P **P** **20 41 40.4 -1.8**
MAT S **S** **20 48 57.0 -3.3**
IRK Irkutsk 51.99 5 *e*P **P** **20 41 45.3 +1.0**
IRK *e*S **S** **20 49 11.5 +7.3**
IRK pmax pmax
comp=Z,124nm,2.3s,mb5.4
STKA Stephens Creek 52.05 132 *e*P **P** **20 41 43.7 -1.3**
comp=Z,95nm,1.1s,mb5.6
STKA *e*S **S** **20 49 04.3 -0.9**
STKA Stephens Creek 52.05 132 P **P** **20 41 44.4 -0.6**
comp=Z,28nm,0.6s,mb5.4,baz=310,slow=6.7,SNR=110
STKA LR LR 21 05 04.1
comp=Z,4μm,21.3s,MS5.4,baz=298,slow=38
HIA Hailar 52.16 18 *e*P **P** **20 41 45.0 -0.6**
HIA pmax pmax
comp=Z,58nm,0.9s
HIA Hailar 52.16 18 *e*P **P** **20 41 45.0 -0.7**
comp=Z,58nm,0.9s,mb5.5
MDJ Mudanjiang 52.17 28 P **P** **20 41 46.2 +0.5**
MDJ AP pP 20 41 55.2 +0.4
MDJ XP sP 20 41 59.5 +1.3
MDJ S **S** **20 49 10.3 +3.6**
MDJ XS 20 49 23.1
MDJ AMB AMB
comp=Z,37nm,0.8s,mb5.4
MDJ LR LR
comp=Z,5μm,14.7s,MS5.7
MDJ Mudanjiang 52.17 28 *e*P **P** **20 41 45.7 -0.1**
comp=Z,28nm,0.8s,mb5.2
KURK Kurchatov 52.89 345⇓*e*P **P** **20 41 50.3 -0.7**
KURK pmax pmax
comp=Z,101nm,0.9s,mb5.8
KURK Kurchatov 52.89 345⇓*e*P **P** **20 41 50.3 -0.7**
comp=Z,101nm,0.9s,mb5.8
ZAL Zalesovo 54.57 350 P **P** **20 42 02.3 -1.0**
comp=Z,34nm,0.4s,mb5.7,baz=293,slow=5.4,SNR=132
NVS Novosibirsk 55.71 350 *i* P **P** **20 42 09.4 -2.2**
NVS *e* 20 44 23.5
NVS *e*PPP PPP 20 45 35.2 +2.8
NVS *i* S **S** **20 49 53.6 -0.7**
NVS pmax pmax
comp=N,118nm,1.2s
NVS pmax pmax
comp=E,34nm,1.2s
NVS pmax pmax
comp=Z,135nm,1.2s,mb5.8
NVS smax
comp=N,149nm,2.0s
NVS smax
comp=E,80nm,2.0s
RAYN Ar Rayn 56.03 298 P **P** **20 42 13.7 -0.6**
comp=E,218nm,0.9s,SNR=19
ATD Arta Tunnel 56.04 284 LR LR 21 03 11.4
comp=E,675nm,18.9s,MS4.8,baz=250,slow=33
KLR Kul'dur 56.61 26 *e*P **P** **20 42 14.7 -3.4**
KLR *e*S **S** **20 50 04.0 -2.3**
KLR *e*SS SS 20 53 54.0 -0.8
KLR pmax pmax
comp=N,36nm,1.0s
KLR pmax pmax
comp=E,60nm,1.0s
KLR pmax pmax
comp=Z,76nm,1.0s,mb5.7
KLR MLR MLR
comp=Z,5μm,14.0s,MS5.8
BVA0 Borovoye Array 57.40 340 P **P** **20 42 21.8 -1.9**
BVA0 pmax pmax
comp=Z,17nm,1.1s,mb5.0
BVAR Borovoye Array 57.40 340 P **P** **20 42 21.9 -1.7**
comp=Z,20nm,0.7s,mb5.3,baz=143,slow=8.3,SNR=123
TOO Toolangi 57.64 136 *e*P **P** **20 42 27.1 +1.5**
comp=Z,2.2nm,1.0s
TOO *e*PCP PcP 20 43 28.4 +10
TOO *e*PP PP 20 44 39.4 +4.4
TOO Toolangi 57.64 136 *e*P **P** **20 42 27.1 +1.5**
TOO *e* 20 44 39.4
TOO pmax pmax
comp=Z,2.0nm,1.0s
CHKZ Chkalovo 57.87 341 *i* P **P** **20 42 25.4 -1.5**
CHKZ pmax pmax
comp=Z,161nm,1.1s,mb6.0
BOD Bodaibo 58.70 10⇑*i*P **P** **20 42 31.9 -0.8**
BOD *e* 20 50 39.2
BOD pmax pmax
comp=Z,109nm,1.3s,mb5.7
ASAJ Asahikawa 58.78 36 P **P** **20 42 33.4 -0.2**
comp=Z,7.2nm,0.5s,mb4.9,baz=248,slow=19,SNR=9.7
CNB Canberra Magne 59.38 132 *e*P **P** **20 42 38.1 +0.3**
comp=Z,137nm,1.5s,mb5.8
RIV Riverview 60.13 130 *e*P **P** **20 42 44.4 +1.5**
BHD Baghdad 60.14 309 *e*P **P** **20 42 34.0 -9.0**
CLNS Chul'man 60.29 17 *e*P **P** **20 42 42.8 -0.9**
CLNS *e* 20 43 23.8
CLNS *e*S **S** **20 50 52.4 -1.9**
CLNS *e* 20 52 21.3
CLNS *e*SSS SSS 20 57 24.2 -2.5
CLNS pmax pmax
comp=Z,24nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=N,20nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CLNS pmax pmax
comp=E,15nm,0.7s
CLNS smax
comp=E,167nm,9.8s
CLNS smax
comp=Z,314nm,11.7s
CLNS smax
comp=N,147nm,12.3s
CLNS MLR MLR
comp=Z,4μm,17.0s,MS5.6
CLNS MLR MLR
comp=N,3μm,16.0s,MS5.5
CLNS MLR MLR
comp=E,1μm,17.0s,MS5.5
YSS Yuzh-Sakhalins 60.53 34⇑*i*P **P** **20 42 43.8 -1.7**
YSS *e* pP 20 42 54.0 -0.7
YSS *e* 20 51 00.0
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.8
YSS pmax pmax
comp=Z,120nm,1.2s,mb5.9
YSS pmax pmax
comp=Z,100nm,1.2s,mb5.8
YSS MLR MLR
comp=Z,2μm,17.0s,MS5.2
YSS MLR MLR
comp=N,700nm,16.0s,MS5.4
YSS MLR MLR
comp=E,2μm,17.0s,MS5.4
YSS Yuzh-Sakhalins 60.53 34 *e*P **P** **20 42 44.8 -0.6**
comp=E,152nm,1.3s,mb6.0
KMBO Kilima Mbogo 60.94 269⇑*e*P **P** **20 42 48.5 -0.2**
KMBO pmax pmax
comp=Z,29nm,1.1s
KMBO Kilima Mbogo 60.94 269 P **P** **20 42 48.5 -0.1**
comp=Z,4.7nm,0.9s,mb4.6,baz=58,slow=7.9,SNR=18
KMBO LR LR 21 05 39.6
comp=Z,1μm,19.5s,MS5.0,baz=97,slow=33
KMBO Kilima Mbogo 60.94 269 *e*P **P** **20 42 48.3 -0.4**
comp=Z,29nm,1.1s,mb5.3
HNR Honiara 62.24 101 *e*P **P** **20 42 56.0 -1.5**
HNR pmax pmax
comp=Z,269nm,1.0s,mb6.3
HNR Honiara 62.24 101 P **P** **20 42 55.7 -1.8**
comp=Z,204nm,0.8s,mb6.3,baz=193,slow=4.5,SNR=15
HNR Honiara 62.24 101 *e*P **P** **20 42 56.0 -1.5**
comp=Z,269nm,1.0s,mb6.3
MSL Mosul 62.24 312 *e*P **P** **20 42 54.5 -2.7**
GNI Garni 62.60 316⇑*e*P **P** **20 42 58.9 -0.6**
GNI pmax pmax
comp=Z,26nm,1.3s
GNI MLR MLR
comp=Z,700nm,18.0s
GNI Garni 62.60 316 P **P** **20 42 58.6 -0.9**
comp=Z,10.0nm,0.7s,mb5.0,baz=15,slow=17,SNR=8.0
GNI Garni 62.60 316 *e*P **P** **20 42 58.6 -0.9**
comp=Z,93nm,1.1s,mb5.8
DGRG David-gareji 62.73 318 P **P** **20 42 59.8 -0.5**
DGRG David-gareji 62.73 318 P **P** **20 42 59.8 -0.5**
MTA Mtatsminda 63.23 318 P **P** **20 43 02.0 -1.6**
TBLG Delisi 63.28 318 P **P** **20 43 03.2 -0.8**
SVE Sverdlovsk 63.86 338⇓*i*P **P** **20 43 06.1 -1.5**
SVE *e* pP 20 43 16.0 -0.7
SVE *e* 20 43 35.5
SVE *e* 20 47 09.0
SVE *e* 20 51 39.0
SVE *e*S **S** **20 51 53.0 +14**
SVE pmax pmax
comp=Z,80nm,1.6s,mb5.5
ZEI Tsey 64.30 318 *i* P **P** **20 43 10.2 -0.5**
ZEI *i* *PP pP 20 43 20.9 +1.0
ZEI *i* 20 45 29.0
ZEI *e*S **S** **20 51 42.5 -2.5**
ZEI pmax pmax
comp=Z,20nm,0.8s,mb5.2
ARU Arti 64.37 337⇑*i*P **P** **20 43 09.5 -1.4**
ARU *e* 20 43 44.8
ARU *e* 20 45 32.5
ARU *e*S **S** **20 51 47.4 +1.8**
ARU *e* 20 53 02.6
ARU *e*SS SS 20 55 58.2 +1.0
ARU pmax pmax
comp=Z,88nm,1.2s,mb5.7
ARU MLR MLR
comp=Z,1μm,19.0s,MS5.1
ARU MLR MLR
comp=N,600nm,18.0s,MS5.1
ARU MLR MLR
comp=E,1μm,18.0s,MS5.1
ARU Arti 64.37 337 *e*P **P** **20 43 08.6 -2.3**
comp=E,83nm,1.1s,mb5.7
ARU LR LR
comp=Z,398nm,20.0s,MS4.6
KIV Kislovodsk 65.60 319 *e*P **P** **20 43 18.1 -1.0**
KIV pmax pmax
comp=Z,106nm,1.1s,mb5.8
KIV Kislovodsk 65.60 319 *e*P **P** **20 43 18.1 -1.0**
comp=Z,106nm,1.1s,mb5.8
ASF Jabal al Asfar 65.76 305 P **P** **20 43 19.5 -0.8**
comp=Z,11nm,1.0s,mb4.8,baz=14,slow=3.0,SNR=12
GOF Gofitskoye 65.86 320⇑*i*P **P** **20 43 19.1 -1.6**
GOF pmax pmax
comp=Z,60nm,1.7s,mb5.3
YAK Yakutsk 65.99 16 *e*P **P** **20 43 19.7 -1.5**
YAK *e**PP pP 20 43 29.9 -0.5
YAK *e* 20 45 46.4
YAK *e*PPP PPP 20 47 22.1 -1.7
YAK *e*S S 20 52 09.2 +3.7
YAK *e* 20 53 11.0
YAK *e*SS SS 20 56 27.6 +5.5
YAK pmax pmax
comp=Z,38nm,0.9s,mb5.4
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK smax
comp=N,10.0nm,1.2s
YAK smax
comp=E,9.0nm,1.4s
YAK MLR MLR
comp=Z,1μm,14.0s,MS5.3
YAK MLR MLR
comp=N,1μm,17.0s,MS5.3
YAK MLR MLR
comp=E,1μm,14.0s,MS5.3
YAK Yakutsk 65.99 16 *e*P **P** **20 43 19.6 -1.6**
comp=E,99nm,0.8s,mb5.9
ELZG Elazig 66.09 313 *i* P **P** **20 43 17.4 -4.8**
MALT Malatya 66.44 312⇓P **P** **20 43 24.6 +0.1**
MALT Malatya 66.44 312 *e*P **P** **20 43 24.1 -0.4**
comp=E,41nm,1.0s,mb5.4
EIL Elat 66.74 302 *e*P **P** **20 43 26.1 -0.5**
comp=E,66nm,1.1s,mb5.6
GZT Gaziantep 66.77 311 *i* P **P** **20 43 25.1 -1.5**
CASY Casey 67.04 175 *e*P **P** **20 43 27.1 -0.8**
comp=E,46nm,1.4s,mb5.3
SOC Sochi 67.42 318 *e*P **P** **20 43 29.2 -1.4**
SOC *e* 20 45 55.7
SOC *e*S S 20 52 19.0 -4.0
SOC *e* 20 53 25.2
SOC pmax pmax
comp=Z,82nm,0.9s,mb5.8
SOC pmax pmax
comp=N,84nm,1.4s
SOC pmax pmax
comp=E,31nm,1.3s
SOC pmax pmax
comp=Z,104nm,0.9s,mb5.9
SOC Sochi 67.42 318 *i* P **P** **20 43 29.4 -1.2**
MBAR Mbarara 67.44 269 P **P** **20 43 31.3 0.0**
comp=Z,60nm,1.7s,mb5.3,SNR=9.3
MBAR Mbarara 67.44 269⇓*e*P **P** **20 43 31.4 +0.1**
MBAR Mbarara 67.44 269 *e*P **P** **20 43 30.9 -0.4**
comp=Z,62nm,1.3s,mb5.5
MBAR *e* pP 20 43 40.4 -0.1
MBAR LR LR
comp=Z,182nm,19.0s,MS4.3
AVNT Avonos 69.24 312 *i* P **P** **20 43 39.5 -2.6**
ANN Anapa 69.40 318 *e*P **P** **20 43 40.7 -2.2**
ANN *i* *PP pP 20 43 51.9 -0.2
ANN *e*S S 20 52 43.5 -3.0
ANN pmax pmax
comp=Z,70nm,1.7s,mb5.3
ANN MLR MLR
comp=N,1μm,22.0s,MS5.1
ANN MLR MLR
comp=E,596nm,22.0s,MS5.1
ANN MLR MLR
comp=Z,939nm,22.0s,MS5.0
NOUC Port Laguerre 69.92 114 *e*P **P** **20 43 46.6 +0.2**
NOUC Port Laguerre 69.92 114 *e*P **P** **20 43 46.6 +0.2**
DZM Mont Dzumac 70.04 114 *e*P **P** **20 43 47.4 +0.3**
DZM Mont Dzumac 70.04 114 LR LR 21 16 59.3
comp=Z,1μm,19.8s,MS5.2,baz=281,slow=38
BRTR Keskin Array B 70.42 312 P **P** **20 43 47.8 -1.4**
comp=Z,13nm,0.7s,mb5.0,baz=131,slow=7.0,SNR=57
PECR Pechory 70.65 331 *e*P **P** **20 43 49.2 -1.1**
PECR *e* 20 44 18.0
PECR pmax pmax
comp=Z,120nm,2.0s,mb5.5
PECR MLR MLR
comp=Z,2μm,20.0s,MS5.3
LSZ Lusaka 70.80 254 *e*P **P** **20 43 51.2 -0.7**
LSZ *e**PP pP 20 44 01.1 0.0
LSZ pmax pmax
comp=Z,78nm,1.4s,mb5.5
LSZ MLR MLR
comp=Z,2μm,22.0s,MS5.3
LSZ Lusaka 70.80 254 *e*P **P** **20 43 51.2 -0.7**
comp=Z,78nm,1.4s,mb5.5
LSZ *e*pP pP 20 44 01.1 0.0
LSZ LR LR
comp=Z,2μm,22.0s,MS5.3
VRSR Storozhevoye 70.83 325 *e*P **P** **20 43 49.3 -2.2**
VRSR *e**PP pP 20 43 59.4 -1.3
VRSR *e**SP sP 20 44 03.6 -0.4
VRSR *e* 20 44 10.3
VRSR *e* 20 46 27.8
VRSR pmax pmax
comp=N,5.0nm,0.7s
VRSR pmax pmax
comp=E,8.0nm,0.7s
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VOR Voronezh 71.04 326 *e*P **P** **20 43 51.5 -1.3**
VOR *e**PP pP 20 43 59.0 -3.0
VOR 20 46 25.0
VOR pmax pmax
comp=Z,60nm,1.3s,mb5.4
VOR pmax pmax
comp=Z,60nm,1.7s,mb5.2
ANTO Ankara 71.08 312⇑P **P** **20 43 52.1 -1.1**
BALT Daday 71.13 314 *i* P **P** **20 43 50.0 -3.4**
SIM Simferopol' 71.67 318 *c*e*P **P** **20 43 55.4 -1.2**
SIM *e*S S 20 53 14.0 +1.1
SIM pmax pmax
comp=Z,77nm,0.8s,mb5.7
MA2 Magadan 71.70 25 *e*P **P** **20 43 55.8 -0.8**
MA2 *e**PP pP 20 44 04.8 -1.0
MA2 pmax pmax
comp=Z,80nm,1.0s,mb5.6
MA2 Magadan 71.70 25 *e*P **P** **20 43 55.8 -0.8**
comp=Z,80nm,1.0s,mb5.6
MA2 *e*pP pP 20 44 04.8 -1.0
MAW Mawson 72.08 193 *e*P **P** **20 43 59.8 +1.0**
comp=Z,17nm,0.9s,mb5.0
MAW Mawson 72.08 193 *e*P **P** **20 43 59.8 +1.0**
MAW pmax pmax
comp=Z,17nm,0.9s
MAW Mawson 72.08 193 P **P** **20 43 59.9 +1.1**
comp=Z,20nm,0.9s,mb5.0,baz=25,slow=6.8,SNR=9.7
MAW LR LR 21 12 16.5
comp=Z,1μm,18.1s,MS5.3,baz=35,slow=33
PET Petropavlovsk 72.42 33 *e*P **P** **20 44 02.1 +1.1**
PET *e* pP 20 44 10.8 +0.6
PET *e*S S 20 53 25.8 +4.4
PET *e*PS PS 20 53 49.9 -6.5
PET pmax pmax
comp=Z,113nm,0.6s,mb6.0
PET MLR MLR
comp=Z,2μm,19.0s,MS5.3
PET Petropavlovsk 72.42 33 *e*P **P** **20 44 00.7 -0.3**
comp=Z,69nm,0.6s,mb5.8
ESKT Eskisehir 72.44 312 *i* P **P** **20 43 56.7 -4.6**
MOS Moscow 73.58 329 *e*P **P** **20 44 05.9 -1.8**
MOS *e* pP 20 44 13.5 -3.5
MOS *e* 20 44 21.9
MOS *e* 20 46 51.2
MOS *e*S S 20 53 33.4 -1.1
MOS *e* 20 54 00.4
MOS pmax pmax
comp=Z,38nm,0.6s,mb5.5
MOS MLR MLR
comp=Z,2μm,20.9s,MS5.4
ULDT Uludag 73.87 312 *i* P **P** **20 44 04.0 -5.7**
OBN Obninsk 73.87 328 *d*i P **P** **20 44 08.0 -1.4**
OBN *i* pP 20 44 18.2 -0.5
OBN *e* 20 46 52.7
OBN pmax pmax
comp=Z,53nm,1.5s,mb5.2
OBN MLR MLR
comp=Z,1μm,25.0s,MS5.0
OBN Obninsk 73.87 328 *e*P **P** **20 44 07.8 -1.6**
comp=Z,120nm,1.2s,mb5.7
TIXI Tiksi 73.88 10 *e*P **P** **20 44 05.7 -3.4**
TIXI *e*S S 20 53 33.6 -3.9
TIXI *e*SS SS 20 58 20.3 -3.9
TIXI pmax pmax
comp=Z,92nm,1.4s,mb5.5
TIXI MLR MLR
comp=Z,3μm,17.0s,MS5.7
TIXI Tiksi 73.88 10⇓*e*P **P** **20 44 07.5 -1.6**
SEY Seymchan 74.19 23 *e*P **P** **20 44 12.6 +1.5**
SEY *e* 20 44 33.3
SEY *e*S S 20 53 46.3 +5.2
SEY *e* 20 54 13.3
SEY *e*SSS SSS 21 01 44.8 +3.4
SEY pmax pmax
comp=E,70nm,1.1s
SEY pmax pmax
comp=Z,200nm,1.1s,mb6.0
SEY pmax pmax
comp=N,50nm,0.8s
SEY smax
comp=N,500nm,16.1s
SEY smax
comp=E,400nm,12.7s
SEY MLR MLR
comp=Z,9μm,19.0s,MS6.1
SEY MLR MLR
comp=E,6μm,20.0s
LBTB Lobatse 74.38 244 *e*P **P** **20 44 12.9 0.0**
LBTB *e**PP pP 20 44 21.7 -0.5
LBTB pmax pmax
comp=Z,133nm,1.4s,mb5.7
LBTB MLR MLR
comp=Z,1μm,20.0s,MS5.1
LBTB Lobatse 74.38 244 *e*P **P** **20 44 12.9 -0.1**
comp=Z,133nm,1.4s,mb5.7
LBTB *e*pP pP 20 44 21.7 -0.5
LBTB LR LR
comp=Z,1μm,20.0s,MS5.1
KDAG Bornova 74.90 310 *i* P **P** **20 44 09.0 -6.7**
BOSA Boshof 75.19 240 LR LR 21 09 08.1
comp=Z,840nm,21.8s,MS5.0,baz=87,slow=29
CFR Carcaliu 75.80 317⇑P **P** **20 44 20.3 -0.4**
KIS Kishinev 75.80 319 *e*P **P** **20 44 18.0 -2.6**
KIS *e* pP 20 44 28.0 -1.9
KIS *e*PS 20 54 16.0
KIS MLR MLR
comp=Z,600nm,20.0s,MS4.9
KIS MLR MLR
comp=Z,500nm,20.0s
HARR Harsova 75.82 316⇑P **P** **20 44 20.1 -0.7**
AKASG Malin Array Be 76.54 322 P **P** **20 44 23.5 -1.3**
comp=Z,10nm,0.7s,mb4.9,baz=88,slow=5.2,SNR=31
VRI Vrincioaia 76.92 317 P **P** **20 44 27.2 +0.2**
VRI Vrincioaia 76.92 317⇑P **P** **20 44 26.9 -0.1**
VRI Vrincioaia 76.92 317⇑P **P** **20 44 26.9 -0.1**
MLR Muntele Rosu 77.37 317 P **P** **20 44 29.7 +0.2**
MLR Muntele Rosu 77.37 317 P **P** **20 44 28.5 -1.0**
comp=Z,28nm,0.9s,mb5.2,baz=141,slow=3.8,SNR=32
MLR Muntele Rosu 77.37 317⇑P **P** **20 44 29.2 -0.2**
MLR Muntele Rosu 77.37 317⇑P **P** **20 44 29.3 -0.2**
RZN Rozhen 77.47 313 *e*P **P** **20 44 29.0 -1.1**
RPZ Rata Peaks 77.90 135 LR LR 21 17 53.5
comp=Z,4μm,21.7s,MS5.7,baz=275,slow=35
PGB Panagyurishte 78.03 313 *e*P **P** **20 44 33.0 -0.2**
MMB Musomiste 78.18 312 *e*P **P** **20 44 40.0 +6.0**
BURAR Bucovina Array 78.32 319 P **P** **20 44 35.0 +0.4**
BURAR Bucovina Array 78.32 319⇓P **P** **20 44 35.5 +0.9**
MNK Minsk 78.42 326 *e*P **P** **20 44 33.0 -2.0**
KKB Krupnik 78.70 313 *e*P **P** **20 44 36.0 -0.9**
PUL Pulkovo 78.72 331⇓*e*P **P** **20 44 36.7 +0.1**
VTS Vitosha 78.74 313 P **P** **20 44 36.6 -0.4**
VTS Vitosha 78.74 313 *e*P **P** **20 44 36.5 -0.5**
IDID Didziasalis 79.25 327 *e*pP pP 20 44 48.8 -0.1
IDID AMPb AMB 20 44 50.7
comp=Z,36nm,1.3s,mb5.1
SYO Syowa Base 79.48 198⇓P **P** **20 44 41.0 +0.5**
SYO Syowa Base 79.48 198⇑PcP PcP 20 44 48.5 -0.3
SUR Sutherland 79.50 237 *e*P **P** **20 44 41.8 +0.3**
comp=Z,98nm,1.3s,mb5.6
SUR *e*pP pP 20 44 51.6 +0.8
SUR LR LR
comp=Z,472nm,21.0s,MS4.8
IIGN Ignalina 79.54 326 *e*pP pP 20 44 50.3 -0.2
IIGN AMPb AMB 20 44 52.4
comp=Z,20nm,1.2s,mb4.9
LVV L'vov 79.56 321 *e*P **P** **20 44 42.5 +1.2**
LVV *e*S S 20 54 34.7 -5.0
IZAR Zarasai 79.63 327 *e*P **P** **20 44 41.3 -0.3**
IZAR *e*pP pP 20 44 50.5 -0.4
IZAR AMPb AMB 20 44 52.6
comp=Z,12nm,1.1s,mb4.8
ISAL Salakas 79.65 327 *e*P **P** **20 44 41.4 -0.3**
ISAL *e*pP pP 20 44 50.7 -0.4
ISAL AMPb AMB 20 44 52.9
comp=Z,13nm,1.2s,mb4.7

BOLS Boljevac 79.85 314⇓*i*P P 20 44 42.1 -0.9
SKO Skopje 79.93 313 *i*P P 20 44 42.0 -1.5
APA Apatity 80.29 339⇑*i*P P 20 44 45.2 +0.3
APA *i* pP 20 44 52.6 -1.7
APA *i*S S 20 54 50.0 +3.1
APA pmax pmax
comp=Z,31nm,1.0s,mb5.2
APA MLR MLR
comp=Z,2µm,18.0s,MS5.5
KWP Kalwaria 80.36 320 *e*P P 20 44 46.0 +0.4
KWP Kalwaria 80.36 320 *e*P P 20 44 46.0 +0.3
BZS Buzias 80.38 316 P P 20 44 46.1 +0.3
BZS Buzias 80.38 316 ⇑P P 20 44 45.3 -0.5
BZS Buzias 80.38 316 ⇑P P 20 44 45.3 -0.5
SVIS Svilajnac 80.44 315⇑*i*P P 20 44 44.6 -1.6
UZH Uzhgorod 80.44 319 *e*P P 20 44 46.0 -0.1
UZH *i*S S 20 54 44.0 -4.9
KOLS Kolonicke sedl 80.51 320 *i*P P 20 44 47.0 +0.5
GRUS Gruza 80.74 314⇑*i*P P 20 44 46.5 -1.2
SUW Suwalki 80.95 325 *e*P P 20 44 47.4 -1.2
CRVS Cervenica-Dubn 81.03 319 *e*P P 20 44 50.0 +0.8
CRVS *e* 20 45 05.9
FINES FINESS Array B 81.22 332 P P 20 44 49.5 -0.4
comp=Z,11nm,0.7s,mb4.9,baz=104,slow=7.9,SNR=53
FINES LR LR 21 26 52.4
comp=Z,956nm,21.7s,MS5.1,baz=292,slow=40
DIVS Divcibare 81.29 314⇓*i*P P 20 44 50.3 -0.3
KAF Kangasniemi 81.30 333 *e*p P 20 44 49.3 -1.0
comp=Z,26nm,0.7s,mb5.3,baz=103,slow=4.9
KAF Kangasniemi 81.30 333 *e*P P 20 44 49.3 -1.0
KAF pmax pmax
comp=Z,26nm,0.7s,mb5.3
KECS Kecovo 81.60 319 *e*P P 20 44 53.1 +0.9
KECS *es*P sP 20 45 07.3 +2.6
BILL Bilibino 81.64 21⇓*e*P P 20 44 52.3 +0.3
BILL pmax pmax
comp=Z,20nm,1.6s,mb4.8
BILL MLR MLR
comp=Z,2µm,23.0s,MS5.5
BILL Bilibino 81.64 21 *e*P P 20 44 52.2 +0.2
comp=Z,75nm,1.7s,mb5.3
NIE Niedzica 81.86 320 *e*P P 20 44 52.1 -1.4
PSZ Piszkesteto 81.91 318 P P 20 44 54.0 +0.2
PSZ Piszkesteto 81.91 318 *e*P P 20 44 53.4 -0.3
comp=Z,49nm,1.1s,mb5.3
PSZ Piszkesteto 81.91 318 *e*P P 20 44 53.7 -0.1
OJC Ojcow 82.32 321 *e*P P 20 44 56.0 +0.2
OJC *e*S S 20 55 08.0 -0.2
OJC MLR MLR 21 28 15.0
comp=Z,900nm,21.4s,MS5.1
VYHS Vyhne 82.69 319 *e*P P 20 44 57.9 +0.1
VYHS *e* pP 20 45 06.3 -0.9
VYHS *e*S S 20 55 17.3 +5.3
SRO Srobarova 82.95 318 *e*P P 20 45 00.6 +1.4
SRO *e* pP 20 45 11.1 +2.5
TIP Timpagrande 83.14 309 *e*P P 20 45 00.7 +0.3
TIP *e*pP pP 20 45 11.1 +1.3
KEV Kevo 83.25 341 *e*p P 20 44 59.4 -0.9
comp=Z,32nm,1.1s,mb5.3
KEV Kevo 83.25 341 *e*P P 20 44 59.4 -0.9
KEV pmax pmax
comp=Z,32nm,1.1s,mb5.3
OKC Ostrava-Krasne 83.32 320 *e*P P 20 45 01.2 +0.2
OKC *e*pP pP 20 45 09.9 -0.5
OKC *e*S S 20 55 18.8 +0.5
OKC AMS AMS 21 28 50.0
comp=Z,600nm,23.4s
ARCES ARCESS Array B 83.69 340 P P 20 45 02.6 +0.1
comp=Z,16nm,0.8s,mb5.2,baz=101,slow=4.0,SNR=34
ARCES LR LR 21 28 32.2
comp=Z,1µm,18.3s,MS5.3,baz=112,slow=40
ARE0 ARCESS Array S 83.69 340 *e*P P 20 45 02.4 -0.1
MORC Moravsky Berou 83.70 320 P P 20 45 03.4 +0.4
MORC Moravsky Berou 83.70 320 *e*P P 20 45 02.9 -0.1
comp=Z,13nm,0.7s,mb5.2
ZST Bratislava 83.80 318 *e*P P 20 45 03.8 +0.3
ZST *e* pP 20 45 12.0 -1.0
ZST *e*S S 20 55 26.2 +3.0
KOGS Kog 84.19 317 *e*P P 20 45 06.1 +0.5
KOGS *e* pP 20 45 14.7 -0.3
DPC Dobruska-Polom 84.55 320 *e*P P 20 45 07.6 +0.4
DPC *e*pP pP 20 45 16.0 -0.7
DPC *e*S S 20 55 32.7 +2.2
DPC AMS AMS 21 31 00.0
comp=Z,600nm,18.1s
KSP Ksiaz 84.61 321⇑*e*P P 20 45 08.1 +0.5
KSP *e*pP pP 20 45 18.5 +1.5
KSP *e*SKS SKS 20 55 30.0 -4.2
KSP LR LR
comp=Z,2µm,23.4s,MS5.3
KSP Ksiaz 84.61 321 *e*P P 20 45 07.2 -0.4
UPC Upice 84.76 321 *e*P P 20 45 07.4 -0.9
ARSA Arzberg 84.77 317⇑*i*P P 20 45 09.0 +0.6
comp=Z,38nm,1.2s,mb5.4
VNDA Vanda 84.78 169 *e*P P 20 45 08.7 +0.9
VNDA pmax pmax
comp=Z,16nm,1.1s
VNDA Vanda 84.78 169 P P 20 45 08.7 +0.9
comp=Z,5.4nm,0.8s,mb4.7,baz=298,slow=5.5,SNR=30
VNDA LR LR 21 20 00.3
comp=Z,713nm,19.5s,MS5.1,baz=321,slow=34
VNDA Vanda 84.78 169 *e*P P 20 45 08.7 +0.8
comp=Z,16nm,1.1s,mb5.0
BOJS Bojanci 84.80 316 *e*P P 20 45 08.8 +0.1
BOJS *e* pP 20 45 19.5 +1.4
PERS Pernice 84.99 317 *e*P P 20 45 09.9 +0.4
PERS *e* pP 20 45 18.5 -0.5
LJU Ljubljana 85.35 316 *e*P P 20 45 12.0 +0.7
PRU Pruhonice 85.65 320 *e*P P 20 45 12.9 +0.2
PRU *e*pP pP 20 45 21.6 -0.6
PRU *e*S S 20 55 41.0 -0.4
PRU AMS AMS 21 29 50.0
comp=Z,800nm,18.8s
PVCC Panska Ves 85.68 320 *e*P P 20 45 13.3 +0.4
PVCC AMS AMS 21 36 50.0
comp=Z,700nm,18.6s
VOY Vojsko 85.79 316 *e*P P 20 45 13.8 +0.3
VOY *e* 20 45 19.3
BSD Bornholm Skovb 85.87 325 *i*P P 20 45 13.1 -0.6
BSD *i* pP 20 45 22.9 -0.3
BSD *i*S S 20 55 49.2 +5.8
BSD pmax pmax
comp=Z,17nm,0.9s,mb5.3
BSD Bornholm Skovb 85.87 325 *i*P P 20 45 13.1 -0.6
comp=Z,17nm,0.9s,mb5.3
BSD *i* pP 20 45 22.9 -0.3
BSD *i*S S 20 55 49.2 +5.8
BSD Bornholm Skovb 85.87 325 *i*P P 20 45 13.1 -0.6
comp=Z,17nm,0.9s,mb5.3
BSD *i* pP 20 45 22.9 -0.3
BSD Bornholm Skovb 85.87 325 *i*S S 20 55 49.2 +5.8
comp=Z,580nm,18.0s
SBA Scott Base 85.88 169 *e*P P 20 45 14.8 +1.5
SBA pmax pmax
comp=Z,179nm,2.0s,mb6.0
SBA Scott Base 85.88 169 *e*P P 20 45 14.8 +1.4
comp=Z,179nm,2.0s,mb6.0
AQU L'Aquila 85.91 312 ⇑P P 20 45 15.4 +1.1
ROBS Robic 86.07 316 *e*P P 20 45 14.7 -0.2
BRG Berggiesshubel 86.10 321 *e*P P 20 45 15.4 +0.4
BRG *e* pP 20 45 24.6 +0.2
BRG *e* 20 48 41.1
BRG pmax pmax
comp=Z,55nm,1.6s,mb5.5
BRG MLR MLR
comp=Z,780nm,22.9s,MS5.0
BRG Berggiesshubel 86.10 321 *e*P P 20 45 15.4 +0.4
comp=Z,55nm,1.6s,mb5.5
BRG *e* pP 20 45 24.6 +0.2
BRG *e*PP PP 20 48 41.1 +4.1
BRG LR LR
comp=Z,780nm,22.9s,MS5.0
GEC2 GERESS Array S 86.11 319 *e*P P 20 45 15.6 +0.5
GEC2 pmax pmax
comp=Z,31nm,1.2s,mb5.4
GEC2 GERESS Array S 86.11 319 *e*P P 20 45 15.6 +0.5
comp=Z,31nm,1.2s,mb5.4
GERES GERESS Array B 86.11 319 P P 20 45 14.9 -0.2
comp=Z,8.1nm,1.0s,mb4.9,baz=90,slow=4.0,SNR=33
GERES LR LR 21 31 24.0
comp=Z,386nm,19.0s,MS4.8,baz=346,slow=41
KHC Kasperske Hory 86.21 319 *e*P P 20 45 15.6 0.0
KHC *e*pP pP 20 45 24.1 -0.9
KHC *e*S S 20 55 44.9 -1.9
KHC AMS AMS 21 30 40.0
comp=Z,700nm,19.0s
KBA Koelnbreinsper 86.23 317⇑*i*P P 20 45 17.1 +1.4
comp=Z,13nm,0.9s,mb5.2
KBA Koelnbreinsper 86.23 317⇑*i*P P 20 45 17.1 +1.4
KBA pmax pmax
comp=Z,13nm,0.9s,mb5.2
RUE Ruedersdorf 86.32 322 P P 20 45 16.2 +0.2
WET Wettzell 86.67 319 *e*P P 20 45 18.3 +0.5
WET pmax pmax
comp=Z,29nm,1.4s,mb5.3
WET Wettzell 86.67 319 *e*P P 20 45 18.3 +0.5
comp=Z,29nm,1.4s,mb5.3
CLL Collm 86.72 321 *i* P 20 45 17.6 -0.4
CLL *i* pP 20 45 25.8 -1.7
CLL MLR MLR
comp=Z,700nm,18.2s,MS5.1
CLL Collm 86.72 321 ⇓P P 20 45 17.6 -0.4
comp=Z,logA/T=1.1,mb5.1
CLL *i* *PP pP 20 45 26.7 -0.8
CLL *i* *SP sP 20 45 29.4 -1.1
CLL *i* 20 45 33.2
CLL *i* PP PP 20 48 41.3 -1.3
RGN Rugen 86.74 324 *e*P P 20 45 20.2 +2.2
comp=Z,97nm,1.2s,mb5.9
HFS Hagfors 86.96 330 P P 20 45 19.0 +0.1
comp=Z,17nm,0.8s,mb5.3,baz=117,slow=3.3,SNR=27
HFS LR LR 21 32 51.3
comp=Z,1µm,18.5s,MS5.3,baz=318,slow=42
NKC Novy Kostel 87.01 320 *e*P P 20 45 20.0 +0.6
NKC AMS AMS 21 33 10.0
comp=Z,700nm,18.9s
COP Copenhagen 87.33 326 *i*P P 20 45 21.6 +0.8
COP *i* pP 20 45 31.3 +1.0
COP pmax pmax
comp=Z,15nm,0.8s,mb5.3
COP MLR MLR
comp=Z,320nm,19.0s,MS4.8
COP Copenhagen 87.33 326 *i*P P 20 45 21.6 +0.8
comp=Z,15nm,0.8s,mb5.3
COP *i* pP 20 45 31.3 +1.0
comp=Z,310nm,19.0s
WTTA Wattenberg 87.41 317⇓*i*P P 20 45 21.6 +0.2
comp=Z,27nm,0.9s,mb5.5
WTTA Wattenberg 87.41 317⇓*i*P P 20 45 21.6 +0.2
WTTA pmax pmax
comp=Z,27nm,0.9s,mb5.5
MOX Moxa 87.56 320 *e*P P 20 45 24.2 +2.1
MOX pmax pmax
comp=Z,51nm,1.8s,mb5.5
MOX MLR MLR
comp=Z,500nm,20.0s,MS4.9
MOX Moxa 87.56 320 *e*P P 20 45 24.2 +2.1
comp=Z,51nm,1.8s,mb5.5
MOX LR LR
comp=Z,500nm,20.0s,MS4.9
MOX Moxa 87.56 320 *i*P P 20 45 24.2 +2.1
comp=Z,logA/T=1.4,mb5.4
MOX S S 20 55 51.0 -8.6
MOX L 21 39 32.0
FUR Furstenfeldbru 87.69 318 *e*P P 20 45 22.7 0.0
SQTA Sankt Quirin 87.70 317⇓*i*P P 20 45 22.9 +0.1
comp=Z,12nm,1.0s,mb5.1
SQTA Sankt Quirin 87.70 317⇓*i*P P 20 45 22.9 +0.1
SQTA pmax pmax
comp=Z,13nm,1.0s,mb5.1
GRA1 Grafenberg Arr 87.78 320 *e*P P 20 45 24.0 +0.9
comp=Z,40nm,1.3s,mb5.5
GRA1 *e*pP pP 20 45 32.5 -0.1
GRA1 LR LR
comp=Z,800nm,22.0s,MS5.1
GRF Grafenberg Arr 87.78 320 *e*P P 20 45 24.0 +0.9
GRF *e**PP pP 20 45 32.5 -0.1
GRF pmax pmax
comp=Z,40nm,1.3s,mb5.5
GRF MLR MLR
comp=Z,800nm,22.0s,MS5.1
GRF Grafenberg Arr 87.78 320 *e*P P 20 45 24.0 +0.9
GRF *e**PP pP 20 45 32.5 -0.1
GRF pmax pmax
comp=Z,40nm,1.3s,mb5.5
GRF MLR MLR
comp=Z,800nm,22.0s,MS5.1
GRF Grafenberg Arr 87.78 320 *e*P P 20 45 24.0 +0.9
comp=Z,40nm,1.3s,mb5.5
GRF *e*pP pP 20 45 32.5 -0.1
GRF LR LR
comp=Z,800nm,22.0s,MS5.1
SARO Sassorosso 88.18 314 P P 20 45 27.7 +2.5
NB2 NORSAR Subarra 88.24 331 P P 20 45 24.3 -0.8
comp=Z,20nm,1.0s,mb5.3,baz=95,slow=4.6
NB2 NORSAR Subarra 88.24 331 P P 20 45 24.3 -0.8
baz=95,slow=4.8
NOA NORSAR Array B 88.24 331 P P 20 45 24.9 -0.2
comp=Z,4.9nm,0.8s,mb4.8,baz=95,slow=4.7,SNR=13
NOA PP PP 20 48 53.0 -1.8
comp=Z,2.3nm,0.8s,baz=95,slow=7.5,SNR=4.7
NOA LR LR 21 32 21.8
comp=Z,486nm,18.2s,MS5.0,baz=45,slow=41
VALM 88.29 314 P P 20 45 26.6 +0.9
VINC Vinca 88.36 314 P P 20 45 28.2 +2.2
CLZ Clausthal 88.39 322 *e*P P 20 45 26.7 +0.7
comp=Z,36nm,1.3s,mb5.4
BACM 88.42 314 P P 20 45 29.0 +2.7
GRAM 88.42 314 P P 20 45 27.0 +0.7
BSEG Bad Segeberg 88.48 324 *e*P P 20 45 27.2 +0.8
DAVA Damuels 88.61 317⇑*i*P P 20 45 27.7 +0.6
comp=Z,40nm,1.0s,mb5.7
VSL Villasalto 88.87 309 *e*P P 20 45 28.5 -0.1
comp=Z,35nm,1.4s,mb5.5
VSL *e*pP pP 20 45 38.9 +0.8
MAIT Maitri 89.12 199 *e*P P 20 45 31.8 +2.7
MAIT *e*PP PP 20 48 59.8 -1.9
PGF Pioggiola 89.17 312 *e*P P 20 45 30.3 +0.3
comp=Z,107nm,1.3s,mb5.7
PGF Pioggiola 89.17 312 *e*P P 20 45 30.3 +0.3
PGF pmax pmax
comp=Z,54nm,1.3s,mb5.7
MUD Monsted U'grnd 89.18 326 *i*P P 20 45 31.0 +1.3
MUD *i* pP 20 45 40.1 +1.0
MUD *i*S S 20 56 16.9 +2.4
MUD pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
MUD Monsted U'grnd 89.18 326 *i*P P 20 45 31.0 +1.3
comp=Z,9.8nm,0.7s,mb5.2
MUD *i* pP 20 45 40.1 +1.0
MUD *i*S S 20 56 16.9 +2.4
MUD Monsted U'grnd 89.18 326 *i*P P 20 45 31.0 +1.3
comp=Z,9.8nm,0.7s,mb5.2
MUD *i* pP 20 45 40.1 +1.0
MUD Monsted U'grnd 89.18 326 *i*S S 20 56 16.9 +2.4
comp=Z,560nm,21.0s
PCP Pian Castagno 89.51 314 P P 20 45 32.4 +0.9
TNS Taunus Mts 89.58 320 *e*P P 20 45 32.5 +0.8
BFO Black Forest 89.66 318 *e*P P 20 45 32.0 -0.1
BFO pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
BFO Black Forest 89.66 318 *e*P P 20 45 32.0 -0.1
comp=Z,9.0nm,0.9s,mb5.1
FIN Finale Ligure 89.75 314 P P 20 45 32.2 -0.5
FELD Feldberg 89.88 318 PKP P 20 45 35.2 +2.0
ORX Oropa 89.91 315 P P 20 45 32.7 -0.7
IMI Imperia 89.98 314 P P 20 45 32.7 -1.0
ROB Roburent 90.00 314 P P 20 45 33.5 -0.3
LANF Langenberg 90.00 319 *e*P P 20 45 35.0 +1.3
TRAV 90.07 315 P P 20 45 34.4 +0.3
MONE Monesi 90.08 314 P P 20 45 33.5 -0.7
NEGI Negi 90.12 314 P P 20 45 34.8 +0.4
LIBD Limburg 90.15 318 P P 20 45 34.5 +0.1
ABH Alteburg 90.16 320 PKP P 20 45 35.8 +1.4
BBS Basel-Blauen 90.22 317 P P 20 45 36.5 +1.8
SAOF Saorge 90.23 314 P P 20 45 42.0 +7.1
QSPA South Pole Qui 90.27 180 *e*P P 20 45 35.9 +1.6
comp=Z,28nm,0.9s,mb5.6
WLS Welschbruch 90.31 318 *e*P P 20 45 36.1 +1.0
SBF Sospel 90.31 314 *e*P P 20 45 35.5 +0.2
comp=Z,189nm,1.0s,mb6.1
SBF Sospel 90.31 314 *e*P P 20 45 35.5 +0.2
SBF pmax pmax
comp=Z,95nm,1.0s,mb6.1
AUTN L'Aution 90.32 314 P P 20 45 40.8 +5.5
ENR Entracque 90.32 314 P P 20 45 33.1 -2.2
CDF Champ du Feu 90.36 318 *e*P P 20 45 35.2 -0.2
comp=Z,62nm,1.3s,mb5.5
CDF Champ du Feu 90.36 318 *e*P P 20 45 35.2 -0.2
CDF pmax pmax
comp=Z,31nm,1.3s,mb5.5
ABSA Djebel Ababsia 90.38 306 P P 20 45 38.0 +2.2
STV2 Anna di Valdie 90.39 314 P P 20 45 36.1 +0.5
STV Sta Anna Valdi 90.39 314 P P 20 45 34.2 -1.4
CMAH Djebel Manchou 90.42 306 P P 20 45 37.0 +1.1
RSP Reno Superiore 90.42 315 P P 20 45 33.6 -2.1
ECH Echery 90.44 318 *e*P P 20 45 36.7 +0.9
RUP Ruppelstein 90.48 320 P P 20 45 36.3 +0.4
LSD Ceresole Reale 90.49 315 P P 20 45 36.0 0.0
PZZ Prazzo 90.55 314 P P 20 45 34.3 -2.0
FENE Fenestrelle 90.56 315 P P 20 45 35.9 -0.5
WTSB Winterswijk 90.60 322⇑*i*P P 20 45 44.3 +7.9
comp=Z,38nm,1.3s,mb5.6
HINF Hinteralfeld 90.66 318 *e*P P 20 45 36.5 -0.2
WIT Witteveen 90.66 323 *e*P sP 20 45 47.7 -1.4
LOMF Lomont 90.68 317 *e*P P 20 45 37.4 +0.5
RRL Cesana Torines 90.76 315 P P 20 45 36.8 -0.5
LPG La Plagne 90.77 315 *e*P P 20 45 38.0 +0.7
comp=Z,99nm,1.0s,mb5.8
LPG La Plagne 90.77 315 *e*P P 20 45 38.0 +0.7
LPG pmax pmax
comp=Z,49nm,1.0s,mb5.8
MBDF Montbardon 90.78 315 *e*P P 20 45 37.1 -0.3
comp=Z,44nm,1.1s,mb5.4
MBDF Montbardon 90.78 315 *e*P P 20 45 37.1 -0.3
MBDF pmax pmax
comp=Z,22nm,1.1s,mb5.4
LPL La Plagne 90.79 315 *e*P P 20 45 37.9 +0.5
comp=Z,87nm,0.9s,mb5.8
LPL La Plagne 90.79 315 *e*P P 20 45 37.9 +0.5
LPL pmax pmax
comp=Z,44nm,0.9s,mb5.8
BNI Bardonecchia 90.83 315 *e*P P 20 45 37.1 -0.5
BNI *e**PP pP 20 45 48.6 +1.5
BNI pmax pmax
comp=Z,26nm,1.0s,mb5.5
BNI Bardonecchia 90.83 315 *e*P P 20 45 37.1 -0.6
comp=Z,26nm,1.0s,mb5.5
BNI *e*pP pP 20 45 48.6 +1.5
RSL Roselend 90.86 316 *e*P P 20 45 37.7 0.0
CAEH 'Ain El Ouahch 90.87 307 P P 20 45 40.0 +2.0
FRF La Foret Royal 90.89 313 *e*P P 20 45 38.3 +0.4
comp=Z,167nm,1.2s,mb5.9
FRF La Foret Royal 90.89 313 *e*P P 20 45 38.3 +0.4
FRF pmax pmax
comp=Z,84nm,1.2s,mb6.0
CKFL Kef-Lekhel 90.98 306 P P 20 45 40.0 +1.5
HAU Haudompre 90.99 318 *e*P P 20 45 38.3 0.0
comp=Z,119nm,1.0s,mb5.9
HAU *e*R
comp=Z,1µm,22.2s
HAU Haudompre 90.99 318 *e*P P 20 45 38.3 0.0
HAU pmax pmax
comp=Z,60nm,1.0s,mb5.9
HAU MLR MLR
comp=Z,1µm,22.3s,MS5.2
LMR La Mourre 91.00 313 *e*P P 20 45 38.7 +0.3
comp=Z,64nm,1.2s,mb5.5
LMR La Mourre 91.00 313 *e*P P 20 45 38.7 +0.3
LMR pmax pmax
comp=Z,32nm,1.2s,mb5.5
WLF Walferdange 91.07 319 P P 20 45 39.5 +0.9
WLF *e* pP 20 45 48.4 +0.3
WLF pmax pmax
comp=Z,45nm,1.1s,mb5.7
WLF Walferdange 91.07 319 *e*P P 20 45 38.8 +0.2
comp=Z,29nm,1.5s,mb5.4
WLF *e*pP pP 20 45 48.2 +0.1
CASM Ain Smara 91.17 306 P P 20 45 44.0 +4.6
HGN Heimansgroeve 91.18 321⇑*i*P sP 20 45 49.2 -2.3
comp=Z,24nm,0.9s
HGN Heimansgroeve 91.18 321 *e*S 20 56 12.6
CABF La Chapelle 91.21 316 *e*P P 20 45 39.9 +0.6
comp=Z,114nm,1.1s,mb5.8
CABF La Chapelle 91.21 316 *e*P P 20 45 39.9 +0.6
CABF pmax pmax
comp=Z,57nm,1.1s,mb5.8
THEF They Montfort 91.23 318 *e*P P 20 45 39.3 0.0
CTEI Djebel Teioual 91.25 306 P P 20 45 41.0 +1.2
ORIF Oris-en-Rattie 91.41 315 *e*P P 20 45 40.8 +0.5
comp=Z,83nm,1.2s,mb5.6
ORIF *e*R
comp=Z,659nm,22.5s
VILF Villemus 91.56 314 PKP P 20 45 48.0 +7.0
DFRA Djebel Bou Aff 91.66 306 P P 20 45 45.0 +3.4
OG05 Jujurieux 91.66 316 *e*P P 20 45 41.4 0.0
TREF Trevaresse 91.81 313 PKP P 20 45 49.5 +7.4
MEZF Maizieres J'vi 91.84 318 *e*P P 20 45 42.5 +0.3
comp=Z,110nm,1.2s,mb5.8
GIVF Givet 91.91 320 *e*P P 20 45 42.8 +0.3
comp=Z,38nm,1.0s,mb5.4
GIVF Givet 91.91 320 *e*P P 20 45 42.8 +0.3
GIVF pmax pmax
comp=Z,19nm,1.0s,mb5.4
VIVF Saint-Julien-l 92.27 315 *e*P P 20 45 44.5 +0.3
comp=Z,56nm,1.2s,mb5.5
VIVF Saint-Julien-l 92.27 315 *e*P P 20 45 44.5 +0.3
VIVF pmax pmax
comp=Z,28nm,1.2s,mb5.5
BAIF Baives 92.31 320 *e*P P 20 45 44.9 +0.6
comp=Z,90nm,1.2s,mb5.7
BAIF Baives 92.31 320 *e*P P 20 45 44.9 +0.6
BAIF pmax pmax
comp=Z,45nm,1.2s,mb5.7
SMF Signal de Mont 92.75 317 *e*P P 20 45 46.6 +0.2
comp=Z,95nm,1.0s,mb5.9
SMF Signal de Mont 92.75 317 *e*P P 20 45 46.6 +0.2
SMF pmax pmax
comp=Z,48nm,1.0s,mb5.9
LASF Ste Croix 92.89 314 *e*P P 20 45 47.6 +0.5
comp=Z,63nm,1.4s,mb5.5
PLDF La Plantade 92.94 316 *e*P P 20 45 47.9 +0.6
SSF Saint Saulge 92.96 317 *e*P P 20 45 47.6 +0.3
SSF pmax pmax
comp=Z,40nm,1.3s,mb5.7
SSF Saint Saulge 92.96 317 *e*P P 20 45 47.6 +0.3
comp=Z,40nm,1.3s,mb5.7
AVF Avril sur Loir 93.08 317 *e*P P 20 45 48.0 +0.1
comp=Z,84nm,1.2s,mb5.8
AVF Avril sur Loir 93.08 317 *e*P P 20 45 48.0 +0.1
AVF pmax pmax
comp=Z,42nm,1.2s,mb5.7
LBL Lubilhac 93.25 315 *e*P P 20 45 48.3 -0.5
AGO Saint Agoulin 93.28 316 *e*P P 20 45 48.4 -0.5
BGF Bois d'Agland 93.44 317 *e*P P 20 45 50.1 +0.5
comp=Z,107nm,1.2s,mb5.8
BGF Bois d'Agland 93.44 317 *e*P P 20 45 50.1 +0.5
BGF pmax pmax
comp=Z,54nm,1.2s,mb5.8
HYF Humbligny 93.53 317 *e*P P 20 45 50.7 +0.7
TCF Toulx Ste Croi 93.90 316 *e*P P 20 45 52.4 +0.7
comp=Z,56nm,1.5s,mb5.5
TCF Toulx Ste Croi 93.90 316 *e*P P 20 45 52.4 +0.7
TCF pmax pmax
comp=Z,28nm,1.5s,mb5.5
CAF Calviac 94.11 315 *e*P P 20 45 53.4 +0.7
comp=Z,56nm,1.4s,mb5.5
CAF Calviac 94.11 315 *e*P P 20 45 53.4 +0.7
CAF pmax pmax
comp=Z,28nm,1.4s,mb5.5
MTLF Montolieu 94.12 313 *e*P P 20 45 53.2 +0.4
comp=Z,92nm,1.5s,mb5.7
MTLF Montolieu 94.12 313 *e*P P 20 45 53.2 +0.4
MTLF pmax pmax
comp=Z,46nm,1.5s,mb5.7
RJF Les Rejaudoux 94.47 315 *e*P P 20 45 55.0 +0.7
RJF *e*R
comp=Z,467nm,21.8s
LFF La Frestale 95.05 315 *e*P P 20 45 57.5 +0.5
JMIC Jan Mayen 95.10 342 LR LR 21 35 15.5
comp=Z,727nm,18.9s,MS5.2,baz=244,slow=40
LDF La Druitiere 95.26 319 *e*P P 20 45 57.9 0.0
comp=Z,43nm,1.3s,mb5.4
LDF La Druitiere 95.26 319 *e*P P 20 45 57.9 0.0
LDF pmax pmax
comp=Z,22nm,1.3s,mb5.4
FLN La Foliniere 95.47 319 *e*P P 20 45 58.7 -0.2
comp=Z,16nm,0.8s,mb5.2
FLN *e*R
comp=Z,756nm,20.5s
FLN La Foliniere 95.47 319 *e*P P 20 45 58.7 -0.2
FLN pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
FLN MLR MLR

comp=Z,760nm,20.5s,MS5.2
MFF Saint Martin d 95.49 317 *e*P **P 20 45 59.1 +0.1**
DAG Danmarks Havn 95.66 348⇑ *e*P **P 20 45 58.8 -0.3**
DAG pmax pmax
comp=Z,2.0nm,0.4s,mb4.9
DAG Danmarks Havn 95.66 348⇑ *e*P **P 20 45 58.8 -0.3**
comp=Z,1.7nm,0.4s,mb4.8
DAG Danmarks Havn 95.66 348⇑ *i*P **P 20 45 58.8 -0.3**
comp=Z,1.7nm,0.4s,mb4.8
GRR Gorron 95.77 319 *e*P **P 20 45 59.4 -0.8**
ETSF Etsaut 96.19 313 *e*P **P 20 46 02.8 +0.5**
comp=Z,36nm,1.3s,mb5.3
ETSF Etsaut 96.19 313 *e*P **P 20 46 02.8 +0.5**
ETSF pmax pmax
comp=Z,18nm,1.3s,mb5.3
SJPF Ste Jean 96.65 313 *e*P **P 20 46 05.0 +0.6**
comp=Z,26nm,1.1s,mb5.3
SJPF Ste Jean 96.65 313 *e*P **P 20 46 05.0 +0.6**
SJPF pmax pmax
comp=Z,13nm,1.1s,mb5.3
SGMF Saint Gilles 96.91 319 *e*P **P 20 46 04.0 -1.4**
IMA Indian Mountai 97.01 23 *e*P **P 20 46 06.5 +1.1**
IMA pmax pmax
comp=Z,185nm,1.3s,mb6.3
IMA Indian Mountai 97.01 23 *e*P **P 20 46 06.5 +1.1**
comp=Z,185nm,1.3s,mb6.3
QUIF Quistinic 97.36 318 *e*P **P 20 46 06.8 -0.6**
comp=Z,98nm,1.5s,mb5.7
QUIF Quistinic 97.36 318 *e*P **P 20 46 06.8 -0.6**
QUIF pmax pmax
comp=Z,49nm,1.5s,mb5.7
ROSF Rostrenen 97.37 319 *e*P **P 20 46 07.1 -0.4**
MCK McKinley 99.68 25 *e*P **P 20 46 18.7 +1.2**
MCK pmax pmax
comp=Z,16nm,1.2s,mb5.3
MCK McKinley 99.68 25 *e*Pdif **P 20 46 18.6 +1.1**
comp=Z,16nm,1.2s,mb5.3
TBI Tubuai 110.60 115 *e*LR LR 21 23 57.9
comp=Z,1μm,25.2s
PPT Papeete 111.28 109 *e*SP SP 21 01 18.1 +3.3
PPT *e*LR LR 21 24 16.2
comp=Z,2μm,27.2s
YKA Yellowknife Ar 112.67 16 Pdiff Pdif 20 47 16.6 +1.7
comp=Z,0.1nm,0.4s,baz=325,slow=4.0,SNR=3.8
YKA PKiKP 20 51 10.9
comp=Z,0.2nm,0.4s,baz=292,slow=2.5,SNR=6.3
YKA PP PP 20 51 58.5 -2.7
comp=Z,3.6nm,1.0s,baz=324,slow=6.9,SNR=9.8
YKA PKKPbc 21 01 58.6
comp=Z,0.7nm,0.8s,baz=140,slow=3.7,SNR=12
YKA Yellowknife Ar 112.67 16 Pdif Pdif 20 47 16.6 +1.7
YKA PKPdf PKPdf 20 51 10.9 -3.0
YKA PP PP 20 51 58.5 -2.7
YKA PKKPbc 21 01 58.6
FCC Fort Churchill 120.30 7 *e*PKIKP PKPdf 20 51 24.6 -4.3
JCW Jim Creek 120.51 30 P PKPdf 20 51 27.4 -2.2
EDM Edmonton 120.54 21 PKIKP PKPdf 20 51 26.0 -3.5
EDM Edmonton 120.54 21 *e*PKPdf PKPdf 20 51 25.7 -3.9
NEW Newport 122.77 27 PKIKP PKPdf 20 51 32.0 -1.9
NEW Newport 122.77 27 *e*PKPdf PKPdf 20 51 31.6 -2.3
NEW *ep*PKPdf 20 51 40.6
HAWA Hanford 122.93 30 *e*PKPdf PKPdf 20 51 31.8 -2.5
HAWA *ep*PKPdf 20 51 40.7
HUMO Hull Mountain 123.53 36 *e*PKPdf PKPdf 20 51 33.5 -2.1
RKT Rikitea 123.67 118 *e*SP SP 21 03 14.3 +6.8
RKT *e*SS SS 21 10 03.9 +2.8
RKT *e*LR LR 21 30 00.7
comp=Z,1μm,26.8s
SCHQ Schefferville 123.67 350 PKP PKPdf 20 51 32.1 -3.5
comp=Z,2.5nm,0.5s,baz=15,slow=2.1,SNR=5.9
KHMM Horse Mountain 124.11 38 *e*PKPdf PKPdf 20 51 34.6 -2.2
BSMT Bassoo Peak 124.13 26 P PKPdf 20 51 34.0 -2.6
LHEM Herd Peak 124.56 36 P PKPdf 20 51 35.1 -2.5
BMO Blue Mountains 125.12 30 PKIKP PKPdf 20 51 43.4 +4.8
BMO Blue Mountains 125.12 30 *e*PKPdf PKPdf 20 51 34.9 -3.7
MSO Missoula 125.28 27 *e*PKPdf PKPdf 20 51 35.3 -3.5
MOD Modoc 125.50 35 *e*PKPdf PKPdf 20 51 36.9 -2.6
CHMT Chamberlain Mo 125.52 26 *e*PKPdf PKPdf 20 51 36.3 -3.0
CHMT *ep*PKPdf 20 51 44.9
LBCM Butte Creek Ri 125.57 36 P PKPdf 20 51 37.4 -2.2
HOPS Hopland 125.62 39 *e*PKPdf PKPdf 20 51 37.4 -2.3
HOPS *ep*PKPdf 20 51 46.5
WVOR Wild Horse Val 126.08 33 PKIKP PKPdf 20 51 39.0 -1.5
WVOR Wild Horse Val 126.08 33 *e*PKPdf PKPdf 20 51 38.7 -1.9
CMB Columbia Colle 127.88 39 PKIKP PKPdf 20 51 42.2 -2.0
CMB Columbia Colle 127.88 39 *e*PKPdf PKPdf 20 51 41.8 -2.4
ULM Lac du Bonnet 128.21 11 PKP PKPdf 20 51 40.4 -4.0
comp=Z,7.4nm,1.0s,baz=309,slow=4.2,SNR=9.1
YMR Madison River 128.27 26 *e*PKPdf PKPdf 20 51 43.0 -1.8
YNR Norris Junctio 128.36 26 *e*PKPdf PKPdf 20 51 42.3 -2.6
YFT Old Faithful 128.50 26 PKPdf PKPdf 20 51 43.0 -2.2
LAO LASA Array 128.53 21 *e*PKPdf PKPdf 20 51 43.6 -1.6
NVAR Mina Array Bea 128.91 37 PKP PKPdf 20 51 43.6 -2.5
comp=Z,9.1nm,0.9s,baz=263,slow=5.2,SNR=17
MNV Mina 129.00 37 PKIKP PKPdf 20 51 45.1 -1.2
MNV Mina 129.00 37 *e*PKPdf PKPdf 20 51 44.6 -1.7
RRI2 Red Ridge 129.14 28 *e*PKPdf PKPdf 20 51 44.6 -1.8
TPAW Teton Pass 129.19 27 *e*PKPdf PKPdf 20 51 44.9 -1.6
LOHW Long Hollow 129.26 27 *e*PKPdf PKPdf 20 51 44.1 -2.5
SNOW Snow King Moun 129.31 27 *e*PKPdf PKPdf 20 51 44.8 -1.9
REDW Red Top Meadow 129.34 27 *e*PKPdf PKPdf 20 51 45.1 -1.7
MTUM Tungsten Hills 129.44 38 *e*PKPdf PKPdf 20 51 44.4 -2.7
HVU Hansel Valley 129.62 30 PKIKP PKPdf 20 51 45.7 -1.7
HVU Hansel Valley 129.62 30 *e*PKPdf PKPdf 20 51 45.5 -1.9
TPH Tonopah 129.79 37 PKIKP PKPdf 20 51 45.6 -2.2
BGU Big Grassy Mou 130.13 31 *e*PKPdf PKPdf 20 51 46.8 -1.6
SPUT South Promonto 130.14 30 *e*PKPdf PKPdf 20 51 43.5 -4.8
HWUT Hardware Ranch 130.35 29 *e*PKPdf PKPdf 20 51 46.8 -2.0
PDAR Pinedale Array 130.40 27 PKP PKPdf 20 51 46.1 -2.7
comp=Z,6.2nm,1.2s,slow=1.5,SNR=10
PDAR SKPbc 20 55 10.4
comp=Z,2.8nm,1.0s,baz=333,slow=3.3,SNR=4.5
TRCR Troy Canyon 130.56 35 *e*PKPdf PKPdf 20 51 47.6 -1.7
DAC Darwin (Calif) 130.72 39 PKHKP 20 51 30.4
DUG Dugway 130.78 31 PKIKP PKPdf 20 51 49.4 -0.2
DUG Dugway 130.78 31 *e*PKPdf PKPdf 20 51 47.8 -1.8
TCUT Toone Canyon 130.80 30 *e*PKPdf PKPdf 20 51 47.4 -2.3
JLU Jordanelle 131.17 30 PKPdf PKPdf 20 51 48.9 -1.5
EYMN Ely 131.20 9 *e*PKPdf PKPdf 20 51 46.7 -3.4
NLU North Lily Min 131.34 31 *e*PKPdf PKPdf 20 51 48.8 -1.9
DAU Daniels Canyon 131.41 30 PKIKP PKPdf 20 51 50.5 -0.3
DAU Daniels Canyon 131.41 30 *e*PKPdf PKPdf 20 51 49.1 -1.7
RSSD Black Hills 131.52 21 PKIKP PKPdf 20 51 48.5 -2.4
RSSD Black Hills 131.52 21 *e*PKPdf PKPdf 20 51 48.2 -2.8
TMUT Trail Mountain 132.27 31 *e*PKPdf PKPdf 20 51 50.3 -2.2
MVU Marysvale 132.33 32 *e*PKPdf PKPdf 20 51 50.9 -1.8
MSU Marysvale 132.34 32 PKIKP PKPdf 20 51 51.5 -1.2
MSU Marysvale 132.34 32 *e*PKPdf PKPdf 20 51 51.0 -1.7
SRU San Rafael 132.76 31 PKIKP PKPdf 20 51 51.7 -1.7
SRU San Rafael 132.76 31 *e*PKPdf PKPdf 20 51 50.7 -2.7
LDFC Landfair 133.04 38 *e*PKPdf PKPdf 20 51 52.9 -1.2
PFO Pinyon Flat Ob 133.13 41 PKIKP PKPdf 20 51 56.0 +1.7
PFO Pinyon Flat Ob 133.13 41 *e*PKPdf PKPdf 20 51 52.1 -2.1
PHWY Pilot Hill 133.36 25 PKPdf PKPdf 20 51 53.1 -1.3
PV10 Paradox Valley 134.07 30 *e*PKPdf PKPdf 20 51 54.6 -1.2
PV01 Paradox Valley 134.49 30 *e*PKPdf PKPdf 20 51 54.0 -2.6
PV01 *ep*PKPdf 20 52 04.3
ISCO Idaho Springs 134.54 26 PKIKP PKPdf 20 51 56.4 -0.3
ISCO Idaho Springs 134.54 26 *e*PKPdf PKPdf 20 51 54.4 -2.3
RW3 Ridgway 134.83 29 PKIKP PKPdf 20 51 58.5 +1.2
RW3 *e* 20 52 05.2
RW3 Ridgway 134.83 29 *e*PKPdf PKPdf 20 51 55.9 -1.4
WUAZ Wupatki 134.95 35 *e*PKPdf PKPdf 20 51 55.3 -2.3
SDCO Great Sand Dun 136.27 27 *e*PKPdf PKPdf 20 51 56.8 -3.1
BINY Binghamton 137.35 354 *e*PKPdf PKPdf 20 51 58.9 -2.9
BINY *ep*PKPdf 20 52 07.6
ANMO Albuquerque 138.03 31 PKIKP PKPdf 20 52 00.0 -3.3
ANMO Albuquerque 138.03 31 *e*PKPdf PKPdf 20 51 59.7 -3.5
LAZ Ladron 138.10 32 *e*PKPdf PKPdf 20 52 00.8 -2.6
TRQA Tornquist 138.24 204 *e*PKPdf PKPdf 20 51 59.5 -4.0
LENM Lemitar 138.37 32 *e*PKPdf PKPdf 20 52 02.0 -1.9
LPM Los Pinos Moun 138.44 32 *e*PKPdf PKPdf 20 52 01.6 -2.4
KSU1 Kansas State U 138.49 17 *e*PKPdf PKPdf 20 52 01.6 -2.3
PLCA Paso Flores 138.49 193 PKhKP 20 51 50.8
comp=Z,1.6nm,0.7s,baz=54,slow=2.4,SNR=5.2
PLCA PKP PKPdf 20 52 00.5 -3.4
comp=Z,1.9nm,0.8s,baz=249,slow=4.6,SNR=3.6
SLM Saint Louis 140.47 10 PKHKP 20 51 44.2
CPRX Cap Rock 140.86 30 PKPdf PKPdf 20 52 04.5 -4.0
MNTX Cornudas Mount 141.12 33 *e*PKPdf PKPdf 20 52 05.3 -3.7
CLNB Carlsbad 141.47 31 PKPdf PKPdf 20 52 07.6 -2.0
WMOK Wichita Mounta 141.68 23 *e*PKHKP 20 52 00.6

TZTN Tazewell 143.29 2 *e*PKPpre 20 52 05.7
BAO Brasilia Array 143.30 244 PKPdf PKPdf 20 52 07.0 -6.1
WVT Waverly 143.31 8 *e*PKIKP PKPdf 20 52 09.8 -2.7
BDFB Brasilia 143.32 244 PKP PKPdf 20 52 07.3 -5.8
comp=Z,3.5nm,0.7s,baz=162,slow=5.0,SNR=5.8
MIAR Mount Ida 143.61 16 PKIKP PKPdf 20 52 07.0 -6.1
MIAR Mount Ida 143.61 16 *e*PKPpre 20 52 06.8
TXAR Lajitas Array 143.88 33 PKP PKPdf 20 52 08.4 -5.3
comp=Z,3.6nm,0.5s,baz=274,slow=1.4,SNR=33
CPCT Cooper Cave 144.32 4 *e*PKPpre 20 52 08.0
PLAL Pickwick Lake 144.40 9 *e*PKPpre 20 52 08.9
OXF Oxford 144.63 11 PKIKP PKPdf 20 52 11.1 -3.8
OXF Oxford 144.63 11 *e*PKPdf PKPdf 20 52 10.2 -4.8
LMEL Las Melosas 144.91 197⇑ *i*P PKPbc 20 52 10.6 +0.1
NATX Nacogdoches 145.86 20 *e*PKPdf PKPdf 20 52 14.1 -3.0
GOGA Godfrey 146.41 2 *e*PKP2 PKPab 20 52 16.1 -1.2
COW Cow Castle Cre 146.46 358 *e*PKPbc PKPbc 20 52 16.1 +1.8
LRAL Lakeview Retre 146.47 8 *e*PKPbc PKPbc 20 52 15.9 +1.5
NHSC New Hope 146.72 357 *e*PKPbc PKPbc 20 52 17.5 +2.6
CSU Charleston Sou 146.83 357 *e*PKPdf PKPdf 20 52 14.5 -4.3
DWPF Disney 151.73 359 *e*PKPbc PKPdf 20 52 30.1 +3.6
LVC Limon Verde 154.53 209 *e*PKPbc PKPdf 20 52 37.6 +7.0
LPAZ La Paz 159.16 220 *e*PKIKP PKPdf 20 52 34.6 -2.1
LPAZ *e* 20 53 10.6
LPAZ La Paz 159.16 220 PKP PKPdf 20 52 34.2 -2.5
comp=Z,3.2nm,0.8s,baz=36,slow=12,SNR=13
SAML Samuel 159.55 245 *e*PKPdf PKPdf 20 52 34.3 -3.0
ROSC El Rosal 170.92 305 PKP PKPdf 20 52 45.0 -1.7
comp=Z,7.1nm,0.4s,baz=85,slow=20,SNR=4.7
OTAV Otavalo 176.58 279 PKPdf PKPdf 20 52 47.0 -1.9
OTAV pPKPdf 20 52 54.6
OTAV Otavalo 176.58 279 *e*PKPdf PKPdf 20 52 46.6 -2.4

*IDC **01** 20:43:12.9±7.4, 4.69S×153.75E, h128km±55km, mb3.9/5, mb1 4.1/6, mb1mx3.9/13, mbtmp4.4/6, Error ellipse: s-maj=67.0km s-min=26.2km az=95.0*
*NEIC **01** 20:43:12.2±4.3, 4.62S×153.67E, h119km±26km, mb4.6/3, Error ellipse: s-maj=55.0km s-min=18.8km az=98.0*
ISC 01 20:43:08.5±5.0, 4.7S±0.2×154.0E±0.3, h113km±38km, n12, σ0.71/13, mb4.1/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.22**	**235**	P	**P**	**20 45 05.9**	**-0.4**
	8.1nm,0.3s,baz=45,slow=6.7,SNR=22						
PMG				S	**S**	**20 46 38.6**	**+0.4**
	6.2nm,0.3s,baz=62,slow=20,SNR=6.7						
WRAB	**Tennant Creek**	**24.39**	**230**	*e*P	**P**	**20 48 17.9**	**+0.3**
	18nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**24.39**	**230**	*e*P	**P**	**20 48 18.9**	**+1.2**
ASAR	**Alice Springs**	**27.03**	**224**	P	**P**	**20 48 42.0**	**-0.2**
	1.4nm,0.5s,mb3.8,baz=55,slow=9.0,SNR=12						
ASPA	**Alice Springs**	**27.03**	**224**	*e*P	**P**	**20 48 42.3**	**+0.1**
STKA	**Stephens Creek**	**29.45**	**202**	P	**P**	**20 49 04.2**	**+0.3**
	7.2nm,1.2s,mb4.2,baz=33,slow=14,SNR=5.0						
FITZ	**Fitzroy Crossi**	**30.73**	**242**	*e*P	**P**	**20 49 14.1**	**-1.3**
	9.1nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.73**	**242**	P	**P**	**20 49 14.1**	**-1.3**
	15nm,0.7s,mb4.8,baz=70,slow=2.4,SNR=19						
FORT	**Forrest**	**35.62**	**220**	*e*P	**P**	**20 49 57.3**	**0.0**
	276nm,0.6s						
MBWA	**Marble Bar**	**37.03**	**241**	*e*P	**P**	**20 50 08.2**	**-1.1**
	2.7nm,0.6s,mb4.3						
SONM	**Songino Array**	**66.83**	**327**	P	**P**	**20 53 51.4**	**+1.0**
	0.4nm,0.5s,mb3.5,baz=140,slow=5.4,SNR=12						
BVAR	**Borovoye Array**	**89.82**	**323**	P	**P**	**20 55 55.2**	**-0.3**
	0.6nm,0.7s,mb3.9,baz=104,slow=6.1,SNR=5.2						

*IDC **01** 20:57:06.9±1.9, 2.88N×95.87E, mb4.0/5, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, Error ellipse: s-maj=84.4km s-min=27.8km az=58.0*
*NEIC **01** 20:57:11.6±0.9, 2.86N×95.91E, h30km, mb4.2/9, Error ellipse: s-maj=19.1km s-min=10.6km az=208.0*
ISC 01 20:57:09.8±1.2, 2.9N±0.2×95.9E±0.1, h30km, n17, σ0.59/16, mb4.2/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.29**	**63**	*e*Pn	**Pn**	**20 58 29.5**	**+0.6**
JIRN	**Jiri**	**26.35**	**340**	*e*P	**P**	**21 02 46.4**	**+1.0**
	5.1nm,0.5s,mb4.3						
PKI	**Pulchoki**	**26.55**	**339**	*e*P	**P**	**21 02 47.2**	**0.0**
	5.3nm,0.4s,mb4.4						
DMN	**Daman**	**26.69**	**338**	*e*P	**P**	**21 02 48.2**	**-0.3**
	10nm,1.0s,mb4.3						
KKN	**Kakani**	**26.79**	**339**	*e*P	**P**	**21 02 49.2**	**-0.2**
	13nm,0.9s,mb4.5						
LSA	**Lhasa**	**27.07**	**351**	*e*P	**P**	**21 02 51.9**	**-0.1**
	2.0nm,0.6s,mb3.8						
GKN	**Gorkha**	**27.22**	**338**	*e*P	**P**	**21 02 53.6**	**+0.3**
	15nm,0.7s,mb4.6						
KOLN	**Koldanda**	**27.42**	**336**	*e*P	**P**	**21 02 55.3**	**+0.1**
	10nm,0.6s,mb4.6						
BJT	**Baijiatuau**	**41.28**	**24**	*e*P	**P**	**21 04 54.8**	**+0.6**
	3.8nm,0.4s,mb4.4						
BJI	**Beijing**	**41.30**	**24**	*e*P	**P**	**21 04 52.8**	**-1.6**
	10.0nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**43.98**	**337**	*e*P	**P**	**21 05 16.9**	**+0.6**
	0.7nm,0.5s,mb3.6						
ASAR	**Alice Springs**	**45.41**	**128**	P	**P**	**21 05 28.0**	**0.0**
	0.5nm,0.6s,mb3.5,baz=303,slow=7.8,SNR=7.8						
SONM	**Songino Array**	**45.70**	**10**	P	**P**	**21 05 29.8**	**-0.2**
	3.7nm,0.8s,mb4.4,baz=188,slow=8.6,SNR=36						
SONM				PcP	PcP	21 07 07.9	-0.1
	0.2nm,0.6s,baz=195,slow=3.6,SNR=6.0						
ZAL	**Zalesovo**	**51.72**	**352**	P	**P**	**21 06 15.6**	**-0.9**
	2.0nm,0.7s,mb4.2,baz=284,slow=5.6,SNR=11						
DRV	**Dumont d'Urvil**	**76.10**	**163**	R		21 08 00.0	
FINES	**FINESS Array B**	**77.94**	**333**	P	**P**	**21 09 06.6**	**+0.1**
	0.9nm,0.9s,mb3.7,baz=112,slow=7.5,SNR=3.9						
ARCES	**ARCESS Array B**	**80.55**	**340**	P	**P**	**21 09 20.5**	**0.0**
	1.8nm,0.7s,mb4.1,baz=68,slow=6.5,SNR=7.2						

*IDC **01** 21:01:26.2±1.2, 2.33N×96.33E, mb4.0/8, mb1 4.1/8, mb1mx3.9/16, mbtmp4.0/8, Error ellipse: s-maj=68.2km s-min=19.3km az=57.0*
*NEIC **01** 21:01:30.6±0.5, 2.26N×96.31E, h30km, mb4.2/6, Error ellipse: s-maj=14.9km s-min=7.4km az=48.0*
ISC 01 21:01:28.9±0.8, 2.3N±0.1×96.3E±0.1, h30km, n19, σ0.57/19, mb4.1/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.25**	**55**	*e*Pn	**Pn**	**21 02 47.8**	**+0.4**
JIRN	**Jiri**	**27.05**	**340**	*e*P	**P**	**21 07 10.8**	**+0.1**
	3.5nm,0.4s,mb4.3						
PKI	**Pulchoki**	**27.24**	**338**	*e*P	**P**	**21 07 12.4**	**-0.1**
DMN	**Daman**	**27.39**	**338**	*e*P	**P**	**21 07 13.3**	**-0.6**
KKN	**Kakani**	**27.49**	**338**	*e*P	**P**	**21 07 14.7**	**-0.1**
	8.6nm,0.8s,mb4.3						
LSA	**Lhasa**	**27.72**	**350**	*e*P	**P**	**21 07 17.4**	**+0.6**
	1.9nm,0.6s,mb3.9						
GKN	**Gorkha**	**27.92**	**337**	*e*P	**P**	**21 07 18.7**	**0.0**
	13nm,0.8s,mb4.6						
KOLN	**Koldanda**	**28.13**	**336**	*e*P	**P**	**21 07 21.4**	**+0.9**
	11nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**43.34**	**122**	*e*P	**P**	**21 09 30.2**	**-0.2**
	2.4nm,0.4s,mb4.3						
ASAR	**Alice Springs**	**44.73**	**127**	P	**P**	**21 09 41.7**	**+0.1**
	1.2nm,0.5s,mb4.0,baz=299,slow=7.7,SNR=15						
ASAR				PcP	PcP	21 11 24.1	+0.1
	0.4nm,0.6s,baz=327,slow=3.0,SNR=3.4						
SONM	**Songino Array**	**46.21**	**9**	P	**P**	**21 09 52.7**	**-0.3**
	0.5nm,0.4s,mb3.8,baz=192,slow=9.0,SNR=17						
SONM				PcP	PcP	21 11 28.7	-0.2
	0.7nm,0.6s,baz=206,slow=3.8,SNR=4.7						
ZAL	**Zalesovo**	**52.36**	**351**	P	**P**	**21 10 39.4**	**-0.9**
	1.5nm,0.4s,mb4.3,baz=308,slow=6.8,SNR=6.3						
ZAL	**Zalesovo**	**52.36**	**351**	P	**P**	**21 10 39.4**	**-0.9**
STKA	**Stephens Creek**	**54.71**	**132**	P	**P**	**21 10 57.9**	**-0.1**
	1.1nm,0.5s,mb4.2,baz=307,slow=9.2,SNR=5.6						
BVAR	**Borovoye Array**	**54.96**	**341**	P	**P**	**21 10 58.5**	**-1.0**
	0.5nm,0.5s,mb3.8,baz=141,slow=12,SNR=3.8						
FINES	**FINESS Array B**	**78.65**	**333**	P	**P**	**21 13 29.1**	**-0.4**
	0.7nm,0.8s,mb3.7,baz=90,slow=3.8,SNR=3.7						
ARCES	**ARCESS Array B**	**81.24**	**340**	P	**P**	**21 13 43.7**	**+0.5**
	2.8nm,1.0s,mb4.2,baz=63,slow=5.4,SNR=4.4						
ARCES	**ARCESS Array B**	**81.24**	**340**	P	**P**	**21 13 43.7**	**+0.5**
GERES	**GERESS Array B**	**83.44**	**319**	P	**P**	**21 13 56.2**	**+1.2**
	0.3nm,0.6s,mb3.5,baz=117,slow=3.0,SNR=4.1						

*IDC **01** 21:23:53.9±0.9, 0.15S×97.17E, mb4.1/7, mb1 4.2/7, mb1mx3.9/16, mbtmp4.1/7, Error ellipse: s-maj=40.8km s-min=20.9km az=59.0*
*NEIC **01** 21:23:58.3±0.6, 0.20S×97.10E, h30km, mb4.3/4, Error ellipse: s-maj=16.6km s-min=10.2km az=62.0*
ISC 01 21:23:57.0±0.7, 0.16S±0.10×97.1E±0.1, h33km, n17, σ0.85/16, mb4.2/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.45**	**33**	*e*Pn	**Pn**	**21 25 33.0**	**+0.8**
JIRN	**Jiri**	**29.59**	**340**	*e*P	**P**	**21 30 02.4**	**+1.1**
	8.9nm,0.7s,mb4.6						
PKI	**Pulchoki**	**29.78**	**339**	*e*P	**P**	**21 30 02.0**	**-1.0**
DMN	**Daman**	**29.93**	**338**	*e*P	**P**	**21 30 03.2**	**-1.1**
KKN	**Kakani**	**30.02**	**339**	*e*P	**P**	**21 30 04.8**	**-0.4**
KOLN	**Koldanda**	**30.65**	**336**	*e*P	**P**	**21 30 11.5**	**+0.7**
	10nm,0.8s,mb4.7						
ENH	**Enshi**	**32.47**	**20**	*e*P	**P**	**21 30 26.7**	**0.0**
	3.4nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**41.40**	**121**	*e*P	**P**	**21 31 42.1**	**0.0**
	3.1nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**42.65**	**126**	P	**P**	**21 31 52.1**	**-0.3**
	2.6nm,0.8s,mb4.0,baz=298,slow=7.7,SNR=26						
SONM	**Songino Array**	**48.48**	**8**	P	**P**	**21 32 39.7**	**+1.3**
	0.9nm,0.8s,mb3.9,baz=194,slow=10,SNR=6.1						
STKA	**Stephens Creek**	**52.51**	**131**	P	**P**	**21 33 08.8**	**-0.5**
	2.2nm,0.7s,mb4.2,baz=309,slow=7.9,SNR=6.6						
ZAL	**Zalesovo**	**54.87**	**351**	P	**P**	**21 33 25.8**	**-0.6**
	1.6nm,0.5s,mb4.3,baz=306,slow=5.7,SNR=7.3						
BVAR	**Borovoye Array**	**57.50**	**341**	P	**P**	**21 33 44.2**	**-1.2**
	0.8nm,0.7s,mb3.9,baz=117,slow=6.4,SNR=4.0						
BOSA	**Boshof**	**74.05**	**240**	P	**P**	**21 35 33.4**	**+1.6**
	6.9nm,1.1s,mb4.5,baz=101,slow=10,SNR=3.7						
BOSA	**Boshof**	**74.05**	**240**	P	**P**	**21 35 33.4**	**+1.6**
FINES	**FINESS Array B**	**81.16**	**333**	P	**P**	**21 36 10.4**	**-0.2**
	0.4nm,0.5s,mb3.6,baz=112,slow=10,SNR=7.0						
TXAR	**Lajitas Array**	**144.85**	**33**	PKP	PKPdf	21 43 32.8	+1.5
	1.3nm,0.8s,baz=255,slow=1.4,SNR=9.3						

IDC 01 21:38:40.6±2.1, 0.35S×96.91E, mb3.8/5, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, Error ellipse: s-maj=101.1km s-min=23.4km az=58.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.72**	**126**	P	P	21 46 39.8	-1.7
	1.7nm,0.9s,baz=298,slow=7.6,SNR=12						
SONM	**Songino Array**	**48.70**	**9**	P	P	21 47 26.3	-2.5
	0.1nm,0.4s,baz=188,slow=12,SNR=2.6						
STKA	**Stephens Creek**	**52.55**	**131**	P	P	21 47 55.7	-2.6
	1.1nm,0.7s,baz=326,slow=15,SNR=3.4						
ZAL	**Zalesovo**	**55.03**	**351**	P	P	21 48 14.0	-2.2
	1.4nm,0.5s,baz=295,slow=5.6,SNR=6.6						
FINES	**FINESS Array B**	**81.23**	**333**	P	P	21 50 58.0	-1.8
	0.9nm,1.0s,baz=121,slow=8.1,SNR=5.4						
TXAR	**Lajitas Array**	**145.13**	**32**	PKPbc	PKPbc	21 58 21.1	0.0
	0.4nm,0.8s,baz=315,slow=1.8,SNR=3.7						

*ATH **01** 21:41:39.5, 38.73N×25.84E, h26km±1km, MD3.5/4*
*NEIC **01** 21:41:39.5, 38.73N×25.84E, h26km, MD3.5(ATH), After ATH.*
*CSEM **01** 21:41:41.1±0.1, 38.75N×25.91E, h25km, MD3.5, Error ellipse: s-maj=5.8km s-min=2.6km az=81.0*
ISC 01 21:41:42.8±0.6, 38.99N±0.05×25.87E±0.06, h10km, n23, σ0.93/28, 4C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.40**	**51**	*e*PN	**Pb**	**21 41 51.8**	**+0.2**
AYVA	**Ayvalik**	**0.71**	**64**	*i* P	**Pb**	**21 41 57.0**	**+0.1**
AYVA				*i* S	**Sb**	**21 42 07.0**	**+0.6**
LIA	**Limnos Island**	**1.05**	**330**	*e*PN	**Pn**	**21 42 03.5**	**0.0**
KDAG	**Bornova**	**1.24**	**118**	*i* P	**Pb**	**21 42 03.2**	**-2.7**
KDAG				*i* S	**Sb**	**21 42 19.9**	**-1.9**
SMG	**Samos**	**1.49**	**149**	*e*PN	**Pn**	**21 42 03.8**	**-6.0**
APE	**Apeiranthos**	**1.94**	**188**	*e*PN	**Pn**	**21 42 09.4**	**-6.8**
AYDN	**Tasoluk**	**2.07**	**129**	*i* P	**Pn**	**21 42 18.8**	**+0.7**
AYDN				*i* S	**Sn**	**21 42 46.5**	**+2.4**
RDO	**Rodhopi**	**2.17**	**353**	*e*PN	**Pn**	**21 42 19.6**	**+0.1**
BDRM	**Kayabasi**	**2.29**	**147**	*i* P	**Pn**	**21 42 21.7**	**+0.4**
BDRM				*i* S	**Sn**	**21 42 49.8**	**0.0**
KDZ	**Kurdzhali**	**2.68**	**353**	P	**Pn**	**21 42 26.0**	**-0.8**
ULDT	**Uludag**	**2.77**	**65**	*i* P	**Pn**	**21 42 28.7**	**+0.5**
ULDT				*i* S	**Sn**	**21 43 09.4**	**+7.3**
NVR	**Nevrokopi**	**2.81**	**328**	*e*PN	**Pn**	**21 42 28.1**	**-0.6**
RZN	**Rozhen**	**2.83**	**342**	P	**Pn**	**21 42 29.0**	**0.0**
MMB	**Musomiste**	**3.07**	**328**	*e*P	**Pn**	**21 42 32.0**	**-0.3**
KKB	**Krupnik**	**3.57**	**324**	P	**Pn**	**21 42 39.0**	**-0.5**
PGB	**Panagyurishte**	**3.78**	**341**	*e*P	**Pn**	**21

comp=Z,29nm,1.1s,mb4.9
KOLN Koldanda 29.58 335 *e*P **P 21 54 27.9 +0.6**
comp=Z,17nm,0.6s,mb4.9
ENH Enshi 31.31 21 *e*P **P 21 54 40.6 -1.9**
comp=Z,9.5nm,0.4s,mb5.0
ENH *e*pP pP 21 54 47.4 -1.8
FITZ Fitzroy Crossi 33.85 126 P **P 21 55 04.1 -0.6**
comp=Z,3.5nm,0.6s,mb4.4,baz=342,slow=7.7,SNR=5.6
FITZ LR LR 22 11 11.8
comp=Z,98nm,19.4s,MS3.5,baz=271,slow=40
XAN Xi'an 34.60 17 P **P 21 55 09.2 -1.8**
XAN AMB AMB
comp=Z,12nm,0.8s,mb4.9
LZH Lanzhou 35.40 9 *e*P **P 21 55 17.5 -0.3**
LZH AP pP 21 55 25.6 +1.0
LZH XP sP 21 55 29.2 +1.7
LZH AMB AMB
comp=Z,33nm,1.5s,mb5.0
LZH Lanzhou 35.40 9 *e*P **P 21 55 17.5 -0.3**
LZH *SP sP 21 55 29.2 +1.7
LZH pmax pmax
comp=Z,33nm,1.5s,mb5.0
LZH Lanzhou 35.40 9 *e*P **P 21 55 17.5 -0.3**
comp=Z,33nm,1.5s,mb5.0
LZH pP pP 21 55 25.6 +1.0
LZH sP sP 21 55 29.2 +1.7
GTA Gaotai 38.25 3 P **P 21 55 41.9 +0.1**
GTA AP pP 21 55 48.5 -0.1
GTA AMB AMB
comp=Z,13nm,0.8s,mb4.7
WRAB Tennant Creek 41.97 122 *e*P **P 21 56 13.0 +0.2**
WRAB pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
WRAB Tennant Creek 41.97 122 *e*P **P 21 56 12.9 +0.1**
comp=Z,3.5nm,0.5s,mb4.2
WB2 Warramunga Arr 41.97 122 *e*P **P 21 56 13.4 +0.5**
BJT Baijiatuau 42.45 22 *e*P **P 21 56 17.6 +1.1**
BJT *e**PP pP 21 56 24.8 +1.4
BJT pmax pmax
comp=Z,6.0nm,0.4s
BJT Baijiatuau 42.45 22 *e*P **P 21 56 17.6 +1.1**
comp=Z,6.3nm,0.4s,mb4.6
BJT *e*pP pP 21 56 24.8 +1.4
ASAR Alice Springs 43.31 127 P **P 21 56 24.3 +0.5**
comp=Z,1.6nm,0.6s,mb3.9,baz=299,slow=7.4,SNR=11
ASAR pP pP 21 56 30.4 -0.3
comp=Z,1.7nm,0.6s,baz=296,slow=7.6,SNR=8.2
WMQ Urumqi 43.41 350 P **P 21 56 25.0 +0.7**
WMQ AP pP 21 56 35.0 +3.9
WMQ XP sP 21 56 39.0 +5.0
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.6
AAK Ala-Archa 46.13 337 *i* P **P 21 56 47.1 +1.0**
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
AAK Ala-Archa 46.13 337 *e*P **P 21 56 46.1 +0.1**
comp=Z,1.6nm,0.7s,mb4.1
SONM Songino Array 47.27 8 P **P 21 56 55.2 +0.1**
comp=Z,4.1nm,0.8s,mb4.4,baz=190,slow=9.4,SNR=28
SONM PcP PcP 21 58 26.4 0.0
comp=Z,1.3nm,0.7s,baz=193,slow=4.0,SNR=5.0
SONM pPcP 21 58 33.3
comp=Z,1.0nm,0.6s,baz=187,slow=3.1,SNR=4.5
ULN Ulaanbaatar 47.40 9 *e*P **P 21 56 55.8 -0.3**
ULN pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ULN Ulaanbaatar 47.40 9 *e*P **P 21 56 55.8 -0.3**
comp=Z,3.9nm,0.9s,mb4.3
ZAK Zakamensk 49.41 5 *e*P **P 21 57 11.4 -0.2**
ZAK pmax pmax
comp=Z,1.0nm,2.0s,mb3.5
CN2 Changchun 49.43 27 ⇑P **P 21 57 11.3 -0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
KURK Kurchatov 51.93 345 ⇑*e*P **P 21 57 30.4 -0.4**
KURK Kurchatov 51.93 345 *e*P **P 21 57 30.2 -0.5**
comp=Z,4.7nm,1.0s,mb4.4
STKA Stephens Creek 53.26 132 P **P 21 57 41.0 0.0**
comp=Z,2.7nm,0.6s,mb4.3,baz=320,slow=10,SNR=8.5
STKA pP pP 21 57 48.9 +0.9
comp=Z,7.3nm,0.7s,baz=310,slow=8.3,SNR=10
STKA Stephens Creek 53.26 132 P **P 21 57 41.0 0.0**
STKA pP pP 21 57 48.9 +0.9
ZAL Zalesovo 53.69 351 P **P 21 57 43.4 -0.4**
comp=Z,4.0nm,0.7s,mb4.5,baz=298,slow=6.5,SNR=21
NVS Novosibirsk 54.81 350 *e*P **P 21 57 50.0 -2.1**
BVAR Borovoye Array 56.38 341 P **P 21 58 02.4 -1.0**
comp=Z,2.6nm,0.8s,mb4.3,baz=140,slow=8.7,SNR=14
BVAR pP pP 21 58 08.2 -2.2
comp=Z,3.4nm,0.8s,baz=141,slow=9.5,SNR=9.7
BVAR Borovoye Array 56.38 341 P **P 21 58 02.4 -1.0**
BVAR pP pP 21 58 08.2 -2.2
KLR Kul'dur 56.38 27 *e*P **P 21 58 00.0 -3.4**
BOD Bodaibo 58.15 10 *e*P **P 21 58 15.4 -0.4**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
YAK Yakutsk 65.56 16⇓*e*P **P 21 59 04.6 -0.8**
YAK pmax pmax
comp=Z,13nm,0.8s,mb5.0
BRTR Keskin Array B 69.20 312 P **P 21 59 28.3 -0.5**
comp=Z,0.2nm,0.3s,mb3.5,baz=138,slow=6.0,SNR=2.5
BRTR pP pP 21 59 33.9 -2.0
comp=Z,1.2nm,0.9s,baz=129,slow=7.9,SNR=3.4
MA2 Magadan 71.46 26 *e*P **P 21 59 41.8 -0.3**
MA2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MA2 Magadan 71.46 26 *e*P **P 21 59 41.8 -0.4**
comp=Z,4.9nm,0.6s,mb4.6
TIXI Tiksi 73.33 10 *e*P **P 21 59 50.3 -2.6**
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
AKASG Malin Array Be 75.37 322 P **P 22 00 04.4 -0.7**
comp=Z,0.2nm,0.4s,mb3.4,baz=90,slow=4.6,SNR=3.9
AKASG pP pP 22 00 10.8 -1.4
comp=Z,0.5nm,0.5s,baz=85,slow=4.9,SNR=2.8
FINES FINESS Array B 80.12 333 P **P 22 00 30.9 -0.2**
comp=Z,0.5nm,0.6s,mb3.7,baz=90,slow=3.8,SNR=5.6
FINES pP pP 22 00 37.8 -0.6
comp=Z,1.0nm,0.6s,baz=108,slow=6.0,SNR=2.5
ARCES ARCESS Array B 82.67 340 P **P 22 00 44.8 +0.5**
comp=Z,12nm,1.1s,mb4.8,baz=90,slow=6.1,SNR=8.2
GERES GERESS Array B 84.92 319 P **P 22 00 57.1 +1.0**
comp=Z,0.4nm,0.6s,mb3.8,baz=143,slow=13,SNR=3.6
GERES pP pP 22 01 04.1 +0.6
comp=Z,1.2nm,0.8s,baz=104,slow=5.5,SNR=5.8
TXAR Lajitas Array 143.79 32 PKP PKPdf 22 07 55.6 -4.4
comp=Z,0.4nm,0.6s,baz=340,slow=0.5,SNR=3.8

IDC 01 21:52:46.5±4.8, 4.74N×96.68E, mb3.9/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.9/3, Error ellipse: s-maj=197.4km s-min=29.6km az=64.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**43.74**	**9**	P	P	22 00 53.6	-1.7
	0.7nm,0.4s,baz=190,slow=9.7,SNR=5.9						
ASAR	**Alice Springs**	**45.98**	**130**	P	P	22 01 11.8	-1.8
	0.5nm,0.6s,baz=299,slow=9.3,SNR=2.9						
ZAL	**Zalesovo**	**50.00**	**351**	P	P	22 01 42.4	-2.1
	1.2nm,0.4s,baz=266,slow=1.4,SNR=6.1						

*LDG **01** 21:53:07.5±0.7, 14.67S×167.07E, h10km, Mb4.7/3, Error ellipse: s-maj=65.5km s-min=36.9km az=5.0*
*IDC **01** 21:53:36.5±3.2, 14.42S×167.22E, h244km±29km, mb4.1/9, mb1 4.1/10, mb1mx3.9/15, mbtmp4.6/10, Error ellipse: s-maj=24.3km s-min=18.7km az=87.0*
*NEIC **01** 21:53:36.5±1.7, 14.37S×167.08E, h240km±15km, mb4.6/8, Error ellipse: s-maj=13.5km s-min=10.1km az=160.0*
ISC 01 21:53:36.5±2.5, 14.4S±0.1×167.1E±0.2, h254km±25km, **n60,** σ0**72/22, mb4.4/15, 16C-2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.64**	**184**	P	**P**	**21 55 25.9**	**-0.1**
	0.8nm,0.3s,baz=349,slow=16,SNR=6.2						
DZM				S	**S**	**21 56 52.0**	**+0.2**
	0.3nm,0.3s,baz=294,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**29.04**	**229**	⇑*i*P	**P**	**21 59 16.4**	**+1.0**
	20nm,0.4s,mb5.1						
STKA	**Stephens Creek**	**29.04**	**229**	P	**P**	**21 59 16.4**	**+1.0**
	21nm,0.4s,mb5.1,baz=49,slow=8.3,SNR=75						
WB2	**Warramunga Arr**	**31.68**	**255**	⇓*i*P	**P**	**21 59 37.8**	**-0.8**

2005 APR

WRAB	**Tennant Creek**	**31.68**	**255**	*e*P	**P**	**21 59 37.6**	**-1.0**
	8.5nm,0.4s,mb4.6							
ASAR	**Alice Springs**	**32.59**	**249**	P	**P**	**21 59 45.7**	**-0.7**
	7.7nm,0.4s,mb4.5,baz=77,slow=9.3,SNR=124							
ASAR				PcP	PcP	22 02 25.5	-1.0
	0.7nm,0.8s,baz=76,slow=2.2,SNR=4.1							
ASPA	**Alice Springs**	**32.59**	**249**	⇓*i*P	**P**	**21 59 45.9**	**-0.5**
FORT	**Forrest**	**39.27**	**239**	*e*P	**P**	**22 00 43.0**	**+0.6**
	443nm,0.5s							
FITZ	**Fitzroy Crossi**	**39.86**	**259**	⇑*i*P	**P**	**22 00 48.5**	**+1.2**
	11nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**39.86**	**259**	P	**P**	**22 00 48.7**	**+1.4**
	14nm,0.7s,mb4.5,baz=78,slow=5.6,SNR=23							
MBWA	**Marble Bar**	**45.42**	**254**	*e*P	**P**	**22 01 32.5**	**+0.4**
	7.5nm,0.8s,mb4.1							
KLBR	**Kellerberrin**	**48.07**	**240**	*e*P	**P**	**22 01 52.1**	**-0.5**
	438nm,1.4s,mb5.6							
NWAO	**Narrogin (SRO)**	**48.73**	**239**	P	**P**	**22 01 57.2**	**-0.3**
	13nm,0.8s,mb4.3,baz=85,slow=6.4,SNR=7.8							
ASAJ	**Asahikawa**	**62.37**	**340**	P	**P**	**22 03 34.1**	**-0.2**
	5.7nm,0.7s,mb4.3,baz=288,slow=6.4,SNR=3.7							
VNDA	**Vanda**	**63.17**	**181**	P	**P**	**22 03 38.2**	**-0.8**
	0.9nm,0.7s,mb3.5,baz=352,slow=7.8,SNR=7.8							
YAK	**Yakutsk**	**81.67**	**343**	*e*P	**P**	**22 05 27.2**	**-0.2**
	13nm,0.5s,mb4.8							
ULN	**Ulaanbaatar**	**81.75**	**324**	*e*P	**P**	**22 05 28.5**	**+0.4**
	2.9nm,0.8s,mb4.0							
MAW	**Mawson**	**82.10**	**202**	P	**P**	**22 05 29.9**	**+0.4**
	3.6nm,0.6s,mb4.2,baz=127,slow=5.1,SNR=2.1							
SONM	**Songino Array**	**82.12**	**324**	P	**P**	**22 05 30.3**	**+0.3**
	0.7nm,0.4s,mb3.6,baz=136,slow=4.9,SNR=15							
LSA	**Lhasa**	**85.21**	**302**	*e*P	**P**	**22 05 47.6**	**+1.6**
	1.6nm,0.5s,mb4.0							
ZAL	**Zalesovo**	**97.02**	**324**	P	**P**	**22 06 39.4**	**-1.0**
	0.9nm,0.6s,mb4.2,baz=10,slow=5.4,SNR=5.3							
ARCES	**ARCESS Array B**	**119.89**	**345**	PKP	PKPdf	22 11 56.9	+0.7
	2.5nm,0.6s,baz=75,slow=2.1,SNR=17							
FINES	**FINESS Array B**	**125.35**	**338**	PKP	PKPdf	22 12 08.0	+1.1
	1.0nm,0.5s,baz=38,slow=2.2,SNR=12							
NOA	**NORSAR Array B**	**130.26**	**345**	PKP	PKPdf	22 12 17.5	+1.2
	1.0nm,1.0s,baz=37,slow=2.1,SNR=3.6							
NOA	**NORSAR Array B**	**130.26**	**345**	PKP	PKPdf	22 12 17.5	+1.2
CLL	**Collm**	**137.68**	**336**	*e*PKIKP	PKPdf	22 12 33.0	+2.7
GERES	**GERESS Array B**	**139.27**	**333**	PKP	PKPdf	22 12 35.4	+2.2
	0.4nm,0.5s,baz=63,slow=3.0,SNR=5.7							
HAU	**Haudompre**	**142.88**	**338**	*e*PKP1	PKPdf	22 12 37.6	-2.0
TIP	**Timpagrande**	**144.07**	**319**	*e*PKPdf	PKPdf	22 12 43.1	+1.1
CABF	**La Chapelle**	**144.16**	**337**	*e*PKP1	PKPbc	22 12 42.3	+0.8
	12nm,0.9s							
LDF	**La Druitiere**	**144.31**	**345**	*e*PKP1	PKPbc	22 12 43.4	+1.6
	4.4nm,0.7s							
SSF	**Saint Saulge**	**144.67**	**340**	⇑*i*PKP1	PKPbc	22 12 44.1	+1.2
	22nm,0.7s							
GRR	**Gorron**	**144.68**	**346**	⇑*i*PKP1	PKPbc	22 12 43.6	+0.7
	17nm,0.7s							
HYF	**Humbligny**	**144.76**	**342**	*e*PKP1	PKPbc	22 12 44.6	+1.5
LPL	**La Plagne**	**144.82**	**336**	⇑*i*PKP1	PKPbc	22 12 45.1	+1.7
	19nm,0.8s							
LPG	**La Plagne**	**144.83**	**336**	⇑*i*PKP1	PKPbc	22 12 45.3	+1.9
	21nm,0.7s							
SMF	**Signal de Mont**	**144.92**	**340**	*e*PKP1	PKPbc	22 12 44.7	+1.1
	25nm,0.9s							
AVF	**Avril sur Loir**	**144.96**	**340**	⇑*i*PKP1	PKPbc	22 12 44.8	+1.1
	16nm,0.9s							
SGMF	**Saint Gilles**	**145.18**	**348**	⇑*i*PKP1	PKPbc	22 12 45.1	+0.9
	84nm,1.2s							
BNI	**Bardonecchia**	**145.22**	**335**	*e*PKPdf	PKPdf	22 12 46.2	+2.4
ROSF	**Rostrenen**	**145.24**	**349**	*e*PKP1	PKPbc	22 12 45.3	+0.9
	36nm,1.1s							
BGF	**Bois d'Agland**	**145.32**	**341**	⇑*i*PKP1	PKPbc	22 12 46.1	+1.4
	14nm,0.7s							
MBDF	**Montbardon**	**145.45**	**335**	*e*PKP1	PKPbc	22 12 46.6	+1.6
	12nm,0.7s							
QUIF	**Quistinic**	**145.62**	**348**	*e*PKP1	PKPbc	22 12 46.5	+1.1
ORIF	**Oris-en-Rattie**	**145.65**	**336**	⇑*i*PKP1	PKPbc	22 12 47.5	+2.0
	25nm,0.6s							
TCF	**Toulx Ste Croi**	**145.76**	**341**	*e*PKP1	PKPbc	22 12 46.6	+0.8
	9.6nm,0.8s							
SBF	**Sospel**	**145.87**	**333**	*e*PKP1	PKPbc	22 12 47.5	+1.4
	62nm,1.1s							
MFF	**Saint Martin d**	**146.16**	**344**	⇑*i*PKP1	PKPbc	22 12 48.4	+1.7
	16nm,0.8s							
VIVF	**Saint-Julien-l**	**146.17**	**337**	*e*PKP1	PKPbc	22 12 48.1	+1.3
PGF	**Pioggiola**	**146.18**	**330**	⇑*i*PKP1	PKPbc	22 12 48.8	+1.9
	33nm,0.8s							
FRF	**La Foret Royal**	**146.45**	**334**	⇑*i*PKP1	PKPbc	22 12 49.3	+1.8
	20nm,0.7s							
LMR	**La Mourre**	**146.69**	**334**	⇑*i*PKP1	PKPbc	22 12 50.1	+2.1
	8.4nm,0.7s							
RJF	**Les Rejaudoux**	**146.86**	**341**	*e*PKP1	PKPbc	22 12 50.6	+2.2
	9.1nm,0.7s							
CAF	**Calviac**	**147.02**	**340**	*e*PKP1	PKPdf	22 12 51.4	+4.4
LASF	**Ste Croix**	**147.14**	**337**	⇑*i*PKP1	PKPdf	22 12 51.7	+4.5
LFF	**La Frestale**	**147.43**	**342**	*e*PKP1	PKPdf	22 12 52.2	+4.7
	14nm,0.6s							
MTLF	**Montolieu**	**148.37**	**339**	⇑*i*PKP1	PKPdf	22 12 54.9	+5.9
	21nm,0.8s							
EPF	**Esparros**	**149.28**	**341**	*e*PKP1	PKPdf	22 12 57.5	+7.0
	7.0nm,0.8s							
ETSF	**Etsaut**	**149.68**	**342**	*e*PKP1	PKPdf	22 12 58.5	+7.4
	9.9nm,0.7s							
SJPF	**Ste Jean**	**149.68**	**343**	*e*PKP1	PKPdf	22 12 57.9	+6.8

JMA 01 21:59:24.5±0.1, 28.98N×139.94E, h502km**, M3.6, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.73**	**133**	P	P	22 00 34.4	-0.1
CBIJ				S	S	22 01 28.6	-1.2
JHJ2	**Mitsune**	**4.12**	**359**	P	P	22 00 45.6	+1.0
JHJ2				S	S	22 01 47.9	-0.3
BSO3	**Boso 3**	**5.82**	**5**	*e*S	S	22 02 16.5	+0.7
JIE	**Ise**	**6.06**	**334**	P	P	22 01 02.7	+0.3
JKN2	**Miekihoku**	**6.10**	**330**	P	P	22 01 02.6	-0.2
HMMJ	**Hamamatsu 2**	**6.15**	**343**	P	P	22 01 03.2	-0.1
JOD2	**Odawara 2**	**6.31**	**354**	P	P	22 01 04.8	0.0
JNY	**Yasuok**	**6.60**	**345**	P	P	22 01 07.9	+0.2
JHU	**Hanno**	**6.87**	**356**	P	P	22 01 09.7	-0.8
JHU				*e*S	S	22 02 31.0	-3.5
JRY	**Ryogami san**	**7.07**	**353**	P	P	22 01 12.3	-0.2
JRY				S	S	22 02 38.4	+0.3
JYT	**Yasato**	**7.23**	**2**	P	P	22 01 14.2	+0.1
JAG	**Ashikaga**	**7.43**	**357**	P	P	22 01 15.4	-0.8
JAG				*e*S	S	22 02 41.0	-3.9
JHO	**Hitachi**	**7.63**	**4**	P	P	22 01 19.4	+1.2
MAT	**Matsushiro**	**7.68**	**350**	P	P	22 01 18.4	-0.3
MAT				*e*S	S	22 02 54.4	+4.9

*IDC **01** 21:59:34.5±0.7, 16.09S×178.00E, mb4.2/10, mb1 4.4/10, mb1mx4.4/14, mbtmp4.2/10, MS3.6/10, Ms1 3.6/10, ms1mx3.4/31, Error ellipse: s-maj=32.2km s-min=19.2km az=153.0*
*NEIC **01** 21:59:39.8±0.5, 16.10S×177.97E, h35km, Error ellipse: s-maj=23.4km s-min=13.4km az=152.0*
ISC 01 21:59:38.0±0.6, 16.2S±0.2×178.0E±0.1, h33km**, n27,** σ0**64/12, mb4.1/10, MS3.7/6, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.15**	**78**	LR	LR	22 04 56.4	
	comp=Z,301nm,21.1s,baz=329,slow=32						
DZM	**Mont Dzumac**	**12.36**	**240**	LR	LR	22 05 45.1	
	comp=Z,70nm,21.7s,baz=34,slow=30						
RAO	**Raoul Island**	**13.49**	**164**	LR	LR	22 07 02.8	
	comp=Z,233nm,21.6s,baz=352,slow=33						
HNR	**Honiara**	**18.84**	**289**	LR	LR	22 10 19.0	
	comp=Z,161nm,18.8s,baz=329,slow=34						
RAR	**Rarotonga**	**21.63**	**107**	LR	LR	22 10 43.0	
	comp=Z,369nm,21.3s,MS3.8,baz=340,slow=31						
CTA	**Charters Tower**	**30.37**	**258**	LR	LR	22 16 38.4	
	comp=Z,50nm,19.5s,MS3.2,baz=226,slow=34						
PMG	**Port Moresby**	**30.79**	**279**	LR	LR	22 15 21.1	
	comp=Z,145nm,19.6s,MS3.6,baz=287,slow=31						
PPT	**Papeete**	**31.05**	**97**	*e*LR	LR	22 13 51.5	
	313nm,30.2s,baz=251						
PPT	**Papeete**	**31.05**	**97**	LR	LR	22 16 43.3	
	comp=Z,127nm,18.8s,MS3.6,baz=289,slow=33						
TBI	**Tubuai**	**31.39**	**108**	*e*LR	LR	22 14 06.7	
	479nm,30.8s,baz=296						
STKA	**Stephens Creek**	**36.50**	**238**	P	**P**	**22 06 42.4**	**+0.1**
	2.7nm,0.8s,mb4.3,baz=91,slow=10.0,SNR=5.6						
ASAR	**Alice Springs**	**41.96**	**253**	P	**P**	**22 07 26.9**	**-0.9**
	2.1nm,0.9s,mb3.8,baz=84,slow=9.0,SNR=14						
RKT	**Rikitea**	**44.67**	**107**	*e*LR	LR	22 20 11.4	
	304nm,29.5s,baz=258						
FITZ	**Fitzroy Crossi**	**49.91**	**260**	P	**P**	**22 08 31.5**	**+0.6**
	6.8nm,1.0s,mb4.6,baz=164,slow=7.5,SNR=3.2						
CBIJ	**Chichi jima**	**55.34**	**321**	LR	LR	22 27 51.6	
	comp=Z,174nm,21.0s,MS4.1,baz=28,slow=31						
VNDA	**Vanda**	**61.84**	**184**	P	**P**	**22 09 56.0**	**+0.1**
	0.5nm,0.9s,mb3.7,baz=12,slow=7.9,SNR=3.8						
RPN	**Rapa Nui**	**67.61**	**113**	P	**P**	**22 10 33.7**	**-0.2**
	36nm,0.7s,mb5.5,baz=308,slow=4.6,SNR=2.4						
ASAJ	**Asahikawa**	**68.20**	**333**	LR	LR	22 33 32.0	
	comp=Z,85nm,20.9s,MS4.0,baz=150,slow=30						
NVAR	**Mina Array Bea**	**80.66**	**46**	P	**P**	**22 11 49.2**	**-0.3**
	2.0nm,1.0s,mb4.0,baz=233,slow=9.7,SNR=9.8						
NVAR	**Mina Array Bea**	**80.66**	**46**	P	**P**	**22 11 49.2**	**-0.3**
TXAR	**Lajitas Array**	**88.05**	**59**	P	**P**	**22 12 27.3**	**+0.6**
	0.5nm,0.7s,mb3.9,baz=233,slow=6.3,SNR=4.2						
PDAR	**Pinedale Array**	**88.55**	**45**	P	**P**	**22 12 29.4**	**+0.6**
	1.1nm,1.0s,mb4.2,baz=243,slow=3.3,SNR=4.8						
SONM	**Songino Array**	**90.05**	**320**	P	**P**	**22 12 36.3**	**+0.5**
	0.4nm,0.9s,mb3.7,baz=108,slow=4.6,SNR=4.0						
YKA	**Yellowknife Ar**	**94.28**	**25**	P	**P**	**22 12 53.5**	**-1.3**
	0.1nm,0.3s,mb3.7,baz=252,slow=4.4,SNR=4.8						
YKA	**Yellowknife Ar**	**94.28**	**25**	P	**P**	**22 12 53.5**	**-1.3**
KHC	**Kasperske Hory**	**144.81**	**342**	*e*PKP	PKPdf	22 19 15.0	+3.5
GERES	**GERESS Array B**	**145.03**	**342**	PKP	PKPdf	22 19 12.5	+0.6
	1.3nm,0.9s,baz=45,slow=1.9,SNR=7.2						

*BJI **01** 22:20:11.5, 1.04S×96.80E, h30km, mb4.8, mB5.4, Ms5.0, Msz4.7*
*IDC **01** 22:20:13.4±0.4, 0.39S×96.86E, mb4.9/28, mb1 4.9/28, mb1mx4.9/29, mbtmp4.9/28, MS4.3/23, Ms1 4.3/23, ms1mx4.2/30, Error ellipse: s-maj=16.1km s-min=11.5km az=49.0*
*MOS **01** 22:20:16.6±0.9, 0.41S×96.88E, h33km, mb5.4/76, MS4.5/19, Error ellipse: s-maj=9.8km s-min=4.8km az=119.1*
*HRVD **01** 22:20:17.8±0.2, 0.49S×96.82E, h12km, MW5.2/67, Centroid moment Tensor Solution. LP body waves: s40,c74;Mantle waves: s67,c129; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-6.22±.14; $M_{\theta\theta}$6.29±.10; $M_{\phi\phi}$-0.07±.15; $M_{r\theta}$1.76±.33; $M_{\theta\phi}$-0.20±.10; $M_{r\phi}$1.27±.43; Best double couple: $M_0$6.622×10^16 NP1: ϕ_s103°,δ38°,λ-72°. NP2ϕ_s261°,δ54°,λ-104°. Principal axes: T 6.533, Plg8°, Azm0°; N .177, Plg11°, Azm269°; P -6.712, Plg77°, Azm125°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 22:20:17.8±0.2, 0.41S×96.89E, h30km, mb5.2/77, MS4.3/13 Error ellipse: s-maj=5.8km s-min=4.5km az=216.0*
ISC 01 22:20:15.9±0.2**, 0.44S**±0.04×**96.95E**±0.03**, h29**km**, h29**km±1.9km**:pP-P, n361,** σ1**9**0**2/**338**, mb5.1/131, MS4.5/52, 23C-15D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**6.44**	**39**	P	**Pn**	**22 21 49.7**	**-1.7**
KULM	**Kulim**	**6.79**	**33**	*e*Pn	**Pn**	**22 21 53.3**	**-2.9**
KGM	**Kluang**	**6.82**	**69**	P	**Pn**	**22 21 55.8**	**-0.9**
SNG	**Songkhla**	**8.41**	**26**	P	**P**	**22 22 17.0**	**-1.8**
	632nm,1.0s						
KSM	**Kuching**	**13.49**	**82**	*e*Pn	**P**	**22 23 28.0**	**0.0**
UBT	**Ubonrachathani**	**17.51**	**27**	⇑P	**P**	**22 24 22.8**	**+3.0**
KKTK	**Khon Kaen**	**17.65**	**19**	P	**P**	**22 24 22.0**	**+0.4**
	309nm,1.0s						
BDT	**Bhumibol Dam**	**17.69**	**6**	P	**P**	**22 24 22.0**	**0.0**
	16nm,0.9s						
PALK	**Pallekele**	**17.92**	**296**	*e*P	**P**	**22 24 26.9**	**+2.0**
	86nm,1.6s						
CHG	**Chiang Mai**	**19.23**	**6**	P	**P**	**22 24 39.2**	**-1.6**
	22nm,0.9s						
NANT	**Nan**	**19.47**	**11**	⇑P	**P**	**22 24 42.0**	**-1.6**
	175nm,0.6s						
KKM	**Kota Kinabalu**	**20.29**	**71**	*e*P	**P**	**22 24 52.0**	**-0.4**
KKM	**Kota Kinabalu**	**20.29**	**71**	P	**P**	**22 24 52.8**	**+0.5**
MDRS	**Chennai**	**21.32**	**310**	⇑*e*P	**P**	**22 25 02.0**	**-0.8**
MDRS				*e*		22 29 01.0	
MDRS				*e*		22 30 58.0	
MDRS				*e*		22 32 13.0	
TSM	**Tawau**	**21.43**	**77**	P	**P**	**22 25 04.0**	**0.0**
TRD	**Trivandrum**	**21.81**	**294**	⇓*e*	**P**	**22 24 57.2**	**-11**
TRD				*e*		22 28 41.2	
KOD	**Kodaikanal**	**22.09**	**299**	⇑*i*P	**P**	**22 25 12.0**	**+1.4**
VIS	**Vishakhapatnam**	**22.48**	**324**	*e*P	**P**	**22 25 16.6**	**+2.1**
VIS				*e*		22 25 45.7	
	comp=Z,95nm,0.9s						
VIS				*e*S	**S**	**22 29 18.0**	**+3.5**
QIZ	**Qiongzhong**	**23.12**	**33**	P	**P**	**22 25 20.0**	**-0.9**
QIZ				AMB	AMB		
	comp=Z,524nm,7.1s						
QIZ				LR	LR		
	comp=E,2μm,15.5s						
QIZ				LR	LR		
	comp=Z,1μm,16.1s,MS4.4						
BWNR	**Bhubaneshwar**	**23.32**	**333**	*e*P	**P**	**22 25 24.0**	**+1.3**
BWNR				*e*		22 25 56.9	
	comp=Z,116nm,1.9s						
CAL	**Calcutta**	**24.33**	**340**	*e*P	**P**	**22 25 35.6**	**+2.9**
CAL				*e*		22 29 54.8	
HYB	**Hyderabad**	**25.36**	**315**	*e*P	**P**	**22 25 44.0**	**+1.6**
HYB	**Hyderabad**	**25.36**	**315**	*i* P	**P**	**22 25 44.0**	**+1.6**
KMI	**Kunming**	**26.02**	**12**	P	**P**	**22 25 50.8**	**+2.2**
KMI				AP	pP	22 25 57.9	+1.0
KMI				XP	sP	22 26 02.0	+1.2
KMI				S	**S**	**22 30 23.6**	**+8.3**
KMI				XS		22 30 36.9	
KMI				AMB	AMB		
	comp=Z,26nm,1.4s,mb4.

KKN **Kakani 30.22 339** *e*P **P** **22 26 26.4 -0.1**
KKN pmax pmax
comp=Z,35nm,0.9s,mb5.1
LSA **Lhasa 30.48 350** P **P** **22 26 27.6 -1.1**
LSA S **S** **22 31 22.5 -4.4**
LSA XS 22 31 46.3
LSA LR LR
comp=N,420nm,21.3s,MS4.2
LSA LR LR
comp=E,410nm,21.8s,MS4.2
LSA **Lhasa 30.48 350** *e*P **P** **22 26 29.5 +0.8**
LSA pmax pmax
comp=Z,16nm,0.8s,mb4.8
LSA MLR MLR
comp=Z,1μm,20.0s,MS4.5
LSA **Lhasa 30.48 350** *e*P **P** **22 26 29.5 +0.7**
comp=Z,16nm,0.8s,mb4.8
LSA LR LR
comp=Z,1μm,20.0s,MS4.5
GKN **Gorkha 30.65 338** *e*P **P** **22 26 30.2 -0.1**
comp=Z,88nm,1.0s,mb5.5
GKN **Gorkha 30.65 338** *e*P **P** **22 26 30.2 -0.1**
comp=Z,104nm,1.0s,mb5.6
KOLN **Koldanda 30.84 336** *e*P **P** **22 26 32.1 +0.2**
comp=Z,56nm,0.7s,mb5.5
KOLN **Koldanda 30.84 336** *e*P **P** **22 26 32.2 +0.3**
comp=Z,56nm,0.7s,mb5.5
CD2 **Chengdu 31.84 11** P **P** **22 26 40.8 +0.1**
ENH **Enshi 32.79 20** *e*P **P** **22 26 48.2 -0.8**
comp=Z,71nm,1.3s,mb5.4
QZH **Quanzhou 32.80 38** P **P** **22 26 50.6 +1.5**
QZH S **S** **22 32 08.0 +4.8**
QZH AMB AMB
comp=Z,830nm,4.5s
QZH LR LR
comp=N,1μm,12.2s,MS5.0
QZH LR LR
comp=E,2μm,15.2s,MS5.0
QZH LR LR
comp=Z,2μm,15.4s,MS4.9
FITZ **Fitzroy Crossi 33.21 124**⇓*i*P **P** **22 26 52.5 -0.3**
comp=Z,16nm,0.8s,mb5.0
FITZ **Fitzroy Crossi 33.21 124** P **P** **22 26 52.3 -0.5**
comp=Z,36nm,1.0s,mb5.2,baz=328,slow=2.8,SNR=13
FITZ LR LR 22 41 14.7
comp=Z,537nm,18.5s,MS4.3,baz=285,slow=38
NDI **New Delhi 34.57 328** *e*P **P** **22 27 03.0 -1.5**
WHN **Wuhan 34.98 27** *e*P **P** **22 27 09.5 +1.6**
XAN **Xi'an 36.09 17** P **P** **22 27 17.1 -0.2**
XAN AMB AMB
comp=Z,19nm,1.3s,mb4.9
SMLA **Simla 36.58 331**⇓*i* **P** **22 27 11.6 -10**
comp=Z,14nm,0.3s,mb5.3
SMLA *i* 22 29 39.3
LZH **Lanzhou 36.90 9**⇑P **P** **22 27 23.9 -0.2**
LZH AP pP 22 27 33.0 +0.3
LZH XP sP 22 27 37.5 +1.2
LZH *e*PP PP 22 28 49.8 -0.5
LZH *e*S **S** **22 33 04.2 -2.3**
LZH AMB AMB
comp=Z,43nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,232nm,6.4s
LZH LR LR
comp=N,1μm,12.7s
LZH LR LR
comp=Z,2μm,16.5s,MS4.9
LZH **Lanzhou 36.90 9**⇑P **P** **22 27 23.9 -0.2**
comp=Z,43nm,1.4s,mb5.1
LZH pP pP 22 27 33.0 +0.3
LZH sP sP 22 27 37.5 +1.2
LZH *e*PP PP 22 28 49.8 -0.5
LZH *e*S **S** **22 33 04.2 -2.3**
LZH sS 22 33 20.1
LZH SS SS 22 35 31.6 -4.1
LZH LR LR
comp=Z,2μm,16.5s,MS4.9
SDNR **Sundarnagar 36.98 331** *e*P **P** **22 27 27.2 +2.4**
NWAO **Narrogin (SRO) 37.54 151** LR LR 22 39 43.9
comp=Z,964nm,20.7s,MS4.6,baz=146,slow=31
THN **Thein Dam 38.36 330** *e* **P** **22 27 33.9 -2.5**
NJ2 **Nanjing 38.39 31** *e*P **P** **22 27 38.6 +2.0**
NJ2 AP pP 22 27 48.6 +3.4
NJ2 XP sP 22 27 52.0 +3.2
NJ2 PP PP 22 29 11.4 +3.3
NJ2 S **S** **22 33 04.0 +4.8**
NJ2 XS 22 33 51.0
NJ2 AMB AMB
comp=Z,50nm,1.1s,mb5.2
NJ2 AMB AMB
comp=Z,1μm,4.8s
NJ2 LR LR
comp=N,2μm,18.0s,MS5.0
NJ2 LR LR
comp=E,1μm,16.0s,MS5.0
NJ2 LR LR
comp=Z,3μm,22.0s
SSE **Sheshan 38.90 34** *e*P **P** **22 27 40.2 -0.7**
SSE AP pP 22 27 49.2 -0.3
SSE S **S** **22 33 38.6 +1.7**
SSE XS 22 33 52.2
SSE AMB AMB
comp=Z,21nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,100nm,6.1s
SSE LR LR
comp=N,712nm,16.7s,MS4.6
SSE LR LR
comp=E,267nm,16.7s,MS4.6
SSE LR LR
comp=Z,1μm,14.1s,MS4.9
SSE **Sheshan 38.90 34** *e*P **P** **22 27 40.2 -0.7**
comp=Z,21nm,0.7s,mb5.0
SSE pP pP 22 27 49.2 -0.3
SSE S **S** **22 33 38.6 +1.7**
SSE sS 22 33 52.2
SSE SS SS 22 36 37.0 +16
SSE LR LR
comp=Z,1μm,14.1s,MS4.9
GTA **Gaotai 39.75 3** P **P** **22 27 48.6 +0.7**
GTA AP pP 22 27 55.2 -1.3
GTA XP sP 22 27 59.8 -0.3
GTA S **S** **22 33 45.0 -4.6**
GTA AMB AMB
comp=Z,15nm,1.6s,mb4.5
GTA AMB AMB
comp=Z,237nm,5.3s
GTA LR LR
comp=N,431nm,31.7s
GTA LR LR
comp=E,587nm,23.7s
GTA LR LR
comp=Z,721nm,28.7s,MS4.3
JOW **Kunigami 40.55 46** LR LR 22 42 54.8
comp=Z,434nm,20.9s,MS4.3,baz=210,slow=34
WRAB **Tennant Creek 41.41 120** *e*P **P** **22 28 01.6 -0.1**
WRAB pmax pmax
comp=Z,43nm,1.0s,mb5.0
WRAB MLR MLR
comp=Z,216nm,19.0s,MS4.0
WRAB **Tennant Creek 41.41 120** *e*P **P** **22 28 01.6 -0.2**
comp=Z,43nm,1.0s,mb5.0
WRAB LR LR
comp=Z,216nm,19.0s,MS4.0
WB2 **Warramunga Arr 41.42 120**⇓*i*P **P** **22 28 01.9 +0.1**
BTO **Baotou 42.55 15** *e*P **P** **22 28 14.3 +3.4**
BTO S **S** **22 34 35.4 +4.1**
BTO AMB AMB
comp=Z,19nm,2.3s,mb4.4
ASPA **Alice Springs 42.63 126**⇓*i*P **P** **22 28 12.4 +0.6**
ASAR **Alice Springs 42.63 126** P **P** **22 28 12.4 +0.6**
comp=Z,12nm,0.6s,mb4.8,baz=299,slow=7.8,SNR=140
ASAR PcP PcP 22 30 04.3 +0.2
comp=Z,3.1nm,0.8s,baz=316,slow=2.9,SNR=5.7
ASAR LR LR 22 46 39.7
comp=Z,310nm,20.6s,MS4.2,baz=302,slow=37
HHC **Hu-ho-hao-te 43.19 16** *e*P **P** **22 28 19.0 +2.9**
HHC AP pP 22 28 28.9 +4.1
HHC XP sP 22 28 33.3 +5.0
HHC PP PP 22 30 02.4 +3.8
HHC PCP PcP 22 30 06.3 +0.5
HHC SCP 22 33 54.1
HHC PCS 22 33 58.3
HHC S **S** **22 34 45.5 +4.9**
HHC SS SS 22 37 50.5 +3.3
HHC SCS ScS 22 38 15.9 +4.0
HHC AMB AMB
comp=Z,24nm,1.6s,mb4.7
HHC AMB AMB
comp=Z,376nm,5.0s
HHC LR LR
comp=N,1μm,16.5s,MS5.0
HHC LR LR
comp=E,1μm,17.3s,MS5.0
HHC LR LR
comp=Z,1μm,17.6s,MS4.9
WBK **Wadi Bani Khal 43.49 304**⇑P **P** **22 28 20.2 +1.4**
SNR=10
BJT **Baijiatuau 43.92 21** *e*P **P** **22 28 23.1 +1.0**
BJT pmax pmax
comp=Z,25nm,1.0s
BJT **Baijiatuau 43.92 21** *e*P **P** **22 28 23.1 +1.1**
comp=Z,25nm,1.0s,mb4.9
BJI **Beijing 43.95 21** *e*P **P** **22 28 23.8 +1.5**
BJI PP PP 22 30 05.5 -0.7
BJI S **S** **22 34 53.0 +1.5**
BJI AMB AMB
comp=Z,22nm,0.9s,mb4.9
BJI AMB AMB
comp=Z,360nm,4.1s
BJI LR LR
comp=N,443nm,14.8s,MS4.7
BJI LR LR
comp=E,535nm,17.6s,MS4.7
BJI LR LR
comp=Z,468nm,29.6s
BJI **Beijing 43.95 21** *e*P **P** **22 28 23.8 +1.5**
comp=Z,22nm,0.9s,mb4.9
BJI PP PP 22 30 05.5 -0.7
BJI S **S** **22 34 53.0 +1.5**
BJI PS 22 35 05.1
BJI SS SS 22 38 15.2 +15
BJI LR LR
comp=Z,470nm,29.6s,MS4.2
JMDO **Jabal Madar 44.11 303** P **P** **22 28 24.6 +0.8**
SNR=7.0
KSH **Kashi 44.16 337** *e*P **P** **22 28 24.6 +0.6**
KSH *e*AP pP 22 28 33.6 +1.0
KSH *e*XP sP 22 28 37.5 +1.3
KSH AMB AMB
comp=Z,390nm,3.4s
SMDO **Samad 44.45 304** P **P** **22 28 27.5 +0.9**
SNR=17
BIDO **Bidbid 44.59 305**⇑P **P** **22 28 28.6 +0.8**
SNR=11
WMQ **Urumqi 44.84 350**⇑*i*P **P** **22 28 30.6 +1.2**
WMQ AP pP 22 28 40.7 +2.7
WMQ XP sP 22 28 44.9 +3.3
WMQ PCP PcP 22 30 12.6 +1.3
WMQ PP PP 22 30 16.2 +1.2
WMQ PPP PPP 22 30 56.9 +1.5
WMQ S **S** **22 35 05.2 +0.8**
WMQ XS 22 35 21.6
WMQ AMB AMB
comp=Z,35nm,0.9s,mb5.2
WMQ AMB AMB
comp=Z,305nm,3.3s
WMQ LR LR
comp=N,332nm,16.8s,MS4.5
WMQ LR LR
comp=E,297nm,14.0s,MS4.5
BSY **Bisya 45.02 303** P **P** **22 28 31.9 +0.8**
SNR=17
DL2 **Dalian 45.24 27** P **P** **22 28 33.4 +0.7**
DL2 S **S** **22 35 12.9 +2.7**
DL2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
DL2 AMB AMB
comp=Z,140nm,6.2s
DL2 LR LR
comp=N,340nm,16.5s,MS4.4
DL2 LR LR
comp=E,120nm,16.5s,MS4.4
DL2 LR LR
comp=Z,420nm,17.4s,MS4.4
RBK **Rabkut 45.69 295** P **P** **22 28 37.1 +0.6**
SNR=9.9
ARQ **Araqi 45.84 304** P **P** **22 28 39.0 +1.4**
SNR=13
WHFO **Wadi Hawf 46.21 296** P **P** **22 28 40.7 +0.1**
SNR=17
ULHL **Ulahol 46.41 339** P **P** **22 28 42.7 +0.8**
SNR=22
ABTO **Aybut 46.47 295**⇑P **P** **22 28 42.4 -0.2**
SNR=11
KZA **Kyzart 46.64 338** P **P** **22 28 44.8 +1.1**
SNR=19
ASHO **Ashiyiah 46.80 305**⇓P **P** **22 28 45.5 +0.3**
SNR=8.1
UCH **Uchtor 47.05 337** P **P** **22 28 48.1 +1.2**
SNR=25
TKM2 **Tokmak 2 47.24 339** P **P** **22 28 49.0 +0.6**
SNR=14
KBK **Karagaybulak 47.25 338** P **P** **22 28 50.2 +1.7**
SNR=30
AML **Almayashu 47.29 336** P **P** **22 28 49.6 +0.7**
SNR=24
AAK **Ala-Archa 47.40 337** P **P** **22 28 46.7 -3.0**
SNR=10
AAK **Ala-Archa 47.40 337** P **P** **22 28 49.8 +0.1**
comp=Z,82nm,1.5s,mb5.4,SNR=16
AAK **Ala-Archa 47.40 337** *e*P **P** **22 28 48.6 -1.1**
AAK pmax pmax
comp=Z,25nm,1.3s,mb5.0
AAK MLR MLR
comp=Z,108nm,20.0s,MS3.8
AAK **Ala-Archa 47.40 337** *e*P **P** **22 28 48.6 -1.1**
comp=Z,25nm,1.3s,mb5.0
AAK LR LR
comp=Z,108nm,20.0s,MS3.8
FRU **Bishkek 47.53 338** *e*P **P** **22 28 52.0 +1.3**
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
CHMS **Chumysh 47.62 338** P **P** **22 28 51.9 +0.5**
SNR=14
EKS2 **Erkin-Say 47.70 337** P **P** **22 28 52.4 +0.3**
SNR=20
USP **Ospenovka 47.94 338** P **P** **22 28 53.8 -0.1**
SNR=36
SNY **Shenyang 48.47 27**⇑P **P** **22 28 58.3 +0.3**
SNY AP pP 22 29 02.8 -4.0
SNY S **S** **22 35 59.5 +3.4**
SNY AMB AMB
comp=Z,10.0nm,1.8s,mb4.5
SNY AMB AMB
comp=Z,210nm,12.9s
SNY LR LR
comp=N,910nm,18.0s,MS4.9
SNY LR LR
comp=E,770nm,17.7s,MS4.9
SNY LR LR
comp=Z,770nm,17.7s,MS4.7
SONM **Songino Array 48.78 8** P **P** **22 29 00.3 0.0**
comp=Z,5.5nm,0.7s,mb4.7,baz=191,slow=7.8,SNR=28
SONM PcP PcP 22 30 25.2 0.0
comp=Z,3.6nm,0.8s,baz=204,slow=2.8,SNR=4.2
SONM LR LR 22 51 57.3
comp=Z,762nm,19.8s,MS4.7,baz=193,slow=39
ULN **Ulaanbaatar 48.91 9** *e*P **P** **22 29 01.8 +0.5**
ULN pmax pmax
comp=Z,69nm,1.8s,mb5.4
ULN **Ulaanbaatar 48.91 9** *e*P **P** **22 29 01.8 +0.5**
comp=Z,69nm,1.8s,mb5.4
KKAR **Karatay Array 49.41 335** *i*P **P** **22 29 04.8 -0.5**
KKAR pmax pmax
comp=Z,69nm,1.5s,mb5.5
PMG **Port Moresby 50.75 102** LR LR 22 51 04.3
comp=Z,198nm,20.2s,MS4.1,baz=260,slow=36
CN2 **Changchun 50.87 26** *e*P **P** **22 29 16.1 -0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
ZAK **Zakamensk 50.92 5**⇑*e*P **P** **22 29 16.7 +0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
CTA **Charters Tower 52.02 115** *e*P **P** **22 29 26.4 +1.0**
comp=Z,23nm,0.8s,mb5.2
CTA **Charters Tower 52.02 115** *e*P **P** **22 29 26.4 +1.0**
CTA pmax pmax
comp=Z,23nm,0.8s
CTA **Charters Tower 52.02 115** P **P** **22 29 25.6 +0.2**
comp=Z,27nm,0.8s,mb5.2,baz=285,slow=9.1,SNR=17
CTA LR LR 22 50 56.8
comp=Z,457nm,21.4s,MS4.5,baz=122,slow=35
CTAO **Charters Tower 52.02 115** *e*P **P** **22 29 26.0 +0.6**
CTAO pmax pmax
comp=Z,37nm,0.9s,mb5.3
CTAO MLR MLR
comp=Z,681nm,21.0s,MS4.7
CTAO **Charters Tower 52.02 115** *e*P **P** **22 29 26.0 +0.6**
comp=Z,37nm,0.9s,mb5.3
CTAO LR LR
comp=Z,681nm,21.0s,MS4.7
MOY **Mondy 52.03 3** *e*P **P** **22 29 25.9 +0.8**
MOY pmax pmax
comp=Z,37nm,2.5s,mb4.9
OPO **Ambohidratompo 52.03 247** P **P** **22 29 24.5 -1.0**
comp=Z,3.1nm,0.8s,mb4.3,baz=351,slow=8.5,SNR=3.0
TLY **Talaya 52.24 5** *e*P **P** **22 29 27.8 +1.2**
TLY *e*S **S** **22 36 56.0 +7.9**
TLY pmax pmax
comp=Z,11nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,1μm,19.0s,MS5.0
TLY **Talaya 52.24 5** *e*P **P** **22 29 26.0 -0.6**
comp=Z,30nm,1.5s,mb5.0
STKA **Stephens Creek 52.46 131**⇓*i*P **P** **22 29 28.9 +0.3**
comp=Z,12nm,0.8s,mb4.9
STKA **Stephens Creek 52.46 131** P **P** **22 29 28.9 +0.2**
comp=Z,14nm,0.7s,mb5.0,baz=305,slow=7.0,SNR=32
STKA PcP PcP 22 30 39.2 +0.2
comp=Z,4.8nm,0.7s,baz=319,slow=8.6,SNR=2.8
STKA LR LR 22 49 44.9
comp=Z,406nm,21.9s,MS4.4,baz=118,slow=34
IRK **Irkutsk 52.85 6** *e*P **P** **22 29 30.5 -0.7**
IRK pmax pmax
comp=Z,43nm,2.0s,mb5.0
MAT **Matsushiro 53.07 42** *e*P **P** **22 29 33.0 -0.1**
MAT pmax pmax
comp=Z,36nm,1.5s,mb5.1
MAT MLR MLR
comp=Z,350nm,20.0s,MS4.4
MAT **Matsushiro 53.07 42** *e*P **P** **22 29 33.0 -0.1**
comp=Z,36nm,1.5s,mb5.1
MAT LR LR
comp=Z,350nm,20.0s,MS4.4
MAT **Matsushiro 53.07 42** P **P** **22 29 32.5 -0.6**
MAT S **S** **22 36 56.2 -3.4**
HIA **Hailar 53.27 18** *e*P **P** **22 29 33.0 -1.3**
HIA pmax pmax
comp=Z,22nm,1.3s
HIA MLR MLR
comp=Z,788nm,21.0s
HIA **Hailar 53.27 18** *e*P **P** **22 29 33.0 -1.4**
comp=Z,22nm,1.3s,mb4.9
HIA LR LR
comp=Z,788nm,21.0s,MS4.7
KURK **Kurchatov 53.30 346** *e*P **P** **22 29 33.2 -1.4**
KURK pmax pmax
comp=Z,26nm,1.1s,mb5.1
KURK **Kurchatov 53.30 346** *e*P **P** **22 29 33.2 -1.3**
comp=Z,26nm,1.1s,mb5.1
ATD **Arta Tunnel 55.03 284** LR LR 22 47 29.2
comp=Z,56nm,21.5s,MS3.6,baz=332,slow=30
ZAL **Zalesovo 55.12 351** P **P** **22 29 46.7 -1.1**
comp=Z,9.1nm,0.4s,mb5.2,baz=311,slow=5.0,SNR=33
ZAL LR LR 22 57 51.8
comp=Z,518nm,20.2s,MS4.6,baz=302,slow=41
RAYN **Ar Rayn 55.32 299** P **P** **22 29 48.6 -1.1**
comp=Z,116nm,1.0s,SNR=9.8
NVS **Novosibirsk 56.24 351** *e*P **P** **22 29 53.6 -2.3**
NVS *e* 22 32 00.6
NVS *e*S **S** **22 37 42.7 +0.8**
NVS pmax pmax
comp=N,97nm,1.5s
NVS pmax pmax
comp=E,15nm,1.5s
NVS pmax pmax
comp=Z,89nm,1.5s,mb5.6
NVS smax
comp=N,30nm,2.2s
NVS smax
comp=E,29nm,2.2s
BVA0 **Borovoye Array 57.71 341** P **P** **22 30 04.9 -1.4**
BVA0 pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
BVAR **Borovoye Array 57.71 341** P **P** **22 30 04.3 -2.0**
comp=Z,6.2nm,0.8s,mb4.7,baz=158,slow=8.0,SNR=20
BVAR PcP PcP 22 30 59.2 +0.3
comp=Z,5.0nm,0.8s,baz=135,slow=6.3,SNR=4.3
KLR **Kul'dur 57.83 26** *e*P **P** **22 30 04.6 -2.6**
KLR *e*S **S** **22 38 02.5 -0.4**
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.3
CHKZ **Chkalovo 58.19 342** *i*P **P** **22 30 08.2 -1.5**
CHKZ pmax pmax
comp=Z,36nm,1.6s,mb5.2
BOD **Bodaibo 59.66 10** *e*P **P** **22 30 19.3 -0.5**
BOD pmax pmax
comp=Z,13nm,1.8s,mb4.7
KMBO **Kilima Mbogo 59.69 269** *e*P **P** **22 30 20.3 -0.4**
KMBO pmax pmax
comp=Z,8.0nm,1.3s
KMBO **Kilima Mbogo 59.69 269** P **P** **22 30 20.4 -0.3**
comp=Z,3.4nm,0.9s,mb4.3,baz=62,slow=12,SNR=8.7
KMBO PcP PcP 22 31 08.3 +1.1
comp=Z,2.8nm,0.9s,baz=89,slow=5.4,SNR=6.3
KMBO LR LR 22 53 23.0
comp=Z,89nm,20.3s,MS3.9,baz=96,slow=33
KMBO **Kilima Mbogo 59.69 269** *e*P **P** **22 30 20.3 -0.4**
comp=Z,8.5nm,1.3s,mb4.6
ASAJ **Asahikawa 60.12 36** P **P** **22 30 23.9 +0.8**
comp=Z,6.0nm,0.7s,mb4.7,baz=235,slow=12,SNR=3.3
YSS **Yuzh-Sakhalins 61.84 34** P **P** **22 30 35.0 +0.2**
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.8
YSS MLR MLR
comp=E,500nm,19.0s
GNI **Garni 62.30 317** *e*P **P** **22 30 38.1 +0.1**
GNI pmax pmax
comp=Z,24nm,0.9s
GNI MLR MLR
comp=Z,134nm,19.0s
GNI **Garni 62.30 317** P **P** **22 30 38.2 +0.2**
comp=Z,16nm,1.0s,mb5.1,baz=346,slow=8.5,SNR=10
GNI LR LR 22 56 33.9
comp=Z,112nm,21.5s,MS4.0,baz=273,slow=35
GNI **Garni 62.30 317** *e*P **P** **22 30 38.1 +0.1**
comp=Z,24nm,0.9s,mb5.3
GNI LR LR
comp=Z,134nm,19.0s,MS4.1
DGRG **David-gareji 62.47 318** P **P** **22 30 39.2 +0.1**
MTA **Mtatsminda 62.97 318** P **P** **22 30 42.2 -0.2**
TBLG **Delisi 63.02 318** P **P** **22 30 42.7 -0.1**
HNR **Honiara 63.31 100** *e*P **P** **22 30 45.0 0.0**
HNR pmax pmax
comp=Z,160nm,0.9s,mb6.2
HNR **Honiara 63.31 100** *e*P **P** **22 30 45.0 0.0**
comp=Z,160nm,0.9s,mb6.2
SVE **Sverdlovsk 64.11 339** *e*P **P** **22 30 48.0 -1.7**
SVE *e* 22 31 22.2
SVE pmax pmax
comp=Z,44nm,1.6s,mb5.2
SVE MLR MLR
comp=N,100nm,16.0s,MS4.2
SVE MLR MLR
comp=E,100nm,16.0s,MS4.2
SVE MLR MLR
comp=Z,300nm,16.0s,MS4.6
ARU **Arti 64.59 338**⇑*e*P **P** **22 30 51.5 -1.3**
ARU pmax pmax
comp=Z,22nm,1.2s,mb5.1
ARU MLR MLR
comp=Z,300nm,24.0s,MS4.4
ARU **Arti 64.59 338** *e*P **P** **22 30 51.1 -1.7**
comp=Z,29nm,1.3s,mb5.2
ASF **Jabal al Asfar 65.21 306** P **P** **22 30 57.5 +0.3**
comp=Z,16nm,0.8s,mb5.1,baz=353,slow=4.0,SNR=12
ASF LR LR 22 57 53.9
comp=Z,152nm,20.4s,MS4.2,baz=196,slow=35
KIV **Kislovodsk 65.38 320** *e*P **P** **22 30 57.8 -0.3**
KIV pmax pmax
comp=Z,39nm,1.0s,mb5.4
KIV MLR MLR
comp=Z,32nm,20.0s,MS3.5
KIV **Kislovodsk 65.38 320** *e*P **P** **22 30 57.8 -0.3**
comp=Z,39nm,1.0s,mb5.4
KIV LR LR
comp=Z,32nm,20.0s,MS3.5
GOF **Gofitskoye 65.66 321**⇓*i*P **P** **22 30 59.1 -0.8**

GOF pmax pmax
comp=Z,50nm,1.3s,mb5.4
MALT Malatya 66.04 313 *eP* **P 22 31 02.2 -0.2**
MALT pmax pmax
comp=Z,16nm,0.8s,mb5.1
MALT Malatya 66.04 313 *eP* **P 22 31 02.2 -0.2**
comp=Z,16nm,0.8s,mb5.1
EIL Elat 66.12 303 P **P 22 31 02.7 -0.4**
comp=Z,15nm,0.7s,mb5.2,baz=139,slow=3.6,SNR=10
EIL Elat 66.12 303 *eP* **P 22 31 02.2 -0.9**
comp=Z,19nm,0.8s,mb5.2
MBAR Mbarara 66.21 270 *eP* **P 22 31 03.3 -0.6**
MBAR pmax pmax
comp=Z,16nm,1.4s,mb4.9
MBAR Mbarara 66.21 270 *eP* **P 22 31 03.2 -0.7**
comp=Z,16nm,1.4s,mb4.9
CASY Casey 66.41 174 *eP* **P 22 31 05.5 +1.2**
comp=Z,58nm,1.7s,mb5.3
YAK Yakutsk 67.06 16⇓ *eP* **P 22 31 08.4 -0.1**
YAK pmax pmax
comp=Z,41nm,0.9s,mb5.5
YAK MLR MLR
comp=Z,900nm,20.0s,MS5.0
YAK Yakutsk 67.06 16 *eP* **P 22 31 07.4 -1.1**
comp=Z,24nm,0.6s,mb5.4
YAK LR LR
comp=Z,810nm,19.0s,MS5.0
SOC Sochi 67.17 318 *eP* **P 22 31 02.5 -7.0**
SOC *e* 22 33 36.2
SOC *eS* S 22 39 51.8 -8.7
SOC *eSS* SS 22 44 13.7 -7.9
SOC pmax pmax
comp=Z,69nm,1.4s,mb5.5
SOC pmax pmax
comp=N,52nm,1.2s
SOC pmax pmax
comp=E,49nm,1.3s
ANN Anapa 69.16 319 *eP* **P 22 31 19.2 -2.7**
ANN *i* 22 31 48.9
ANN *eS* S 22 40 23.1 -1.1
ANN pmax pmax
comp=Z,86nm,1.8s,mb5.4
LSZ Lusaka 69.41 254 *eP* **P 22 31 23.4 -0.5**
LSZ *e* 22 31 47.4
LSZ pmax pmax
comp=Z,29nm,1.5s,mb5.0
LSZ Lusaka 69.41 254 *eP* **P 22 31 23.4 -0.6**
comp=Z,29nm,1.5s,mb5.0
LSZ *e*PcP PcP 22 31 47.4 +0.2
BRTR Keskin Array B 70.03 313 P **P 22 31 25.8 -1.5**
comp=Z,8.1nm,0.7s,mb4.8,baz=136,slow=7.4,SNR=23
BRTR PcP PcP 22 31 49.8 +0.4
comp=Z,4.2nm,0.9s,baz=135,slow=5.2,SNR=4.4
PECR Pechory 70.73 332 *i P* **P 22 31 30.2 -1.1**
PECR pmax pmax
comp=Z,500nm,1.6s,mb6.2
VRSR Storozhevoye 70.75 326 *eP* **P 22 31 30.0 -1.5**
VRSR pmax pmax
comp=Z,30nm,1.2s,mb5.1
VRSR pmax pmax
comp=N,20nm,1.1s
VRSR pmax pmax
comp=E,20nm,1.1s
DZM Mont Dzumac 70.87 113 LR LR 23 05 28.3
comp=E,269nm,18.5s,MS4.5,baz=223,slow=38
VOR Voronezh 70.98 326 *eP* **P 22 31 32.3 -0.6**
VOR *SP sP 22 31 45.0 -0.1
VOR pmax pmax
comp=E,60nm,1.6s
VOR pmax pmax
comp=Z,60nm,1.6s,mb5.3
MAW Mawson 71.07 193 P **P 22 31 34.3 +1.1**
comp=Z,6.0nm,0.8s,mb4.6,baz=24,slow=7.8,SNR=4.6
MAW LR LR 22 56 26.8
comp=Z,428nm,20.0s,MS4.7,baz=71,slow=31
SIM Simferopol' 71.41 318 *ceP* **P 22 31 34.9 -0.7**
SIM *eS* S 22 40 50.0 -0.5
SIM pmax pmax
comp=Z,26nm,1.0s,mb5.1
DRV Dumont d'Urvil 72.66 163 SP SP 22 41 48.0 +12
DRV L 22 50 00.0
MA2 Magadan 72.91 25⇓ *eP* **P 22 31 45.0 +0.8**
MA2 pmax pmax
comp=Z,40nm,2.1s,mb5.0
MA2 MLR MLR
comp=Z,300nm,26.0s,MS4.5
MA2 Magadan 72.91 25 *eP* **P 22 31 44.0 -0.2**
comp=Z,11nm,0.9s,mb4.8
MA2 LR LR
comp=Z,395nm,21.0s,MS4.7
LBTB Lobatse 72.94 244 P **P 22 31 44.6 -0.5**
comp=Z,9.1nm,0.9s,mb4.7,baz=99,slow=7.6,SNR=7.7
LBTB LR LR 22 56 39.4
comp=Z,227nm,21.7s,MS4.4,baz=99,slow=30
MOS Moscow 73.61 330 *eP* **P 22 31 45.7 -2.6**
MOS *e* 22 34 35.2
MOS pmax pmax
comp=Z,67nm,0.9s,mb5.6
PET Petropavlovsk 73.73 34⇓ *eP* **P 22 31 50.2 +1.1**
PET pmax pmax
comp=Z,115nm,1.6s,mb5.6
BOSA Boshof 73.75 240 P **P 22 31 48.9 -0.8**
comp=Z,9.0nm,1.0s,mb4.7,baz=76,slow=5.9,SNR=7.0
BOSA LR LR 22 57 09.5
comp=Z,277nm,19.8s,MS4.5,baz=131,slow=30
BOSA Boshof 73.75 240 P **P 22 31 48.9 -0.8**
BOSA LR LR 22 57 09.5
OBN Obninsk 73.88 329 *c i P* **P 22 31 49.4 -0.5**
OBN *e* 22 34 33.6
OBN *eS* S 22 41 18.9 +0.6
OBN *eSS* SS 22 46 05.9 +0.9
OBN pmax pmax
comp=Z,46nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.4
OBN Obninsk 73.88 329 *eP* **P 22 31 48.7 -1.1**
comp=Z,40nm,1.0s,mb5.3
TIXI Tiksi 74.83 10⇓ *i P* **P 22 31 52.8 -2.4**
TIXI *eS* S 22 41 24.5 -4.2
TIXI pmax pmax
comp=Z,15nm,0.8s,mb5.0
TIXI MLR MLR
comp=Z,408nm,15.0s,MS4.8
IDI Anoyia 75.66 307 P **P 22 32 00.4 -0.2**
comp=Z,14nm,0.6s,mb5.1,baz=67,slow=8.6,SNR=6.2
AKASG Malin Array Be 76.40 323 P **P 22 32 02.6 -1.8**
comp=Z,7.8nm,0.7s,mb4.8,baz=90,slow=5.1,SNR=25
AKASG PP PP 22 34 57.1 -0.7
comp=Z,0.2nm,0.2s,baz=105,slow=6.6,SNR=4.5
SUR Sutherland 78.06 237 P **P 22 32 15.3 +1.3**
comp=Z,12nm,0.9s,mb4.8,baz=153,slow=9.2,SNR=4.6
SUR Sutherland 78.06 237 *eP* **P 22 32 15.2 +1.2**
comp=Z,20nm,0.9s,mb5.0
SYO Syowa Base 78.38 198 ⇑P **P 22 32 15.5 +0.5**
LVV L'vov 79.37 321 *eP* **P 22 32 19.3 -1.5**
KOLS Kolonicke sedl 80.30 320 *eP* **P 22 32 27.0 +1.2**
CRVS Cervenica-Dubn 80.81 320 *eP* **P 22 32 29.8 +1.3**
SUW Suwalki 80.86 325 *eP* **P 22 32 27.4 -1.3**
SUW pmax pmax
comp=Z,25nm,0.8s,mb5.2
SUW Suwalki 80.86 325 *eP* **P 22 32 27.4 -1.3**
comp=Z,25nm,0.8s,mb5.2
FINES FINESS Array B 81.33 333 P **P 22 32 30.5 -0.4**
comp=Z,6.8nm,0.7s,mb4.7,baz=106,slow=5.6,SNR=36
FINES LR LR 23 10 16.3
comp=Z,160nm,21.6s,MS4.3,baz=299,slow=37
FINES FINESS Array B 81.33 333 P **P 22 32 30.5 -0.4**
FINES LR LR 23 10 16.3
KAF Kangasniemi 81.42 333 *ep* **P 22 32 30.6 -0.8**
comp=Z,19nm,1.0s,mb5.0,baz=102,slow=4.8
KAF Kangasniemi 81.42 333 *eP* **P 22 32 30.6 -0.8**
KAF pmax pmax
comp=Z,19nm,1.0s,mb5.0
PSZ Piszkesteto 81.66 319 *eP* **P 22 32 33.0 +0.1**
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
PSZ Piszkesteto 81.66 319 *eP* **P 22 32 33.0 +0.1**
comp=Z,5.7nm,0.8s,mb4.5
PSZ Piszkesteto 81.66 319⇑ *eP* **P 22 32 33.4 +0.5**
VYHS Vyhne 82.45 319 *eP* **P 22 32 36.9 -0.2**
BILL Bilibino 82.78 21 *i P* **P 22 32 38.5 +0.1**
BILL pmax pmax
comp=Z,16nm,2.2s,mb4.7
OKC Ostrava-Krasne 83.11 320 *eP* **P 22 32 41.0 +0.6**
MORC Moravsky Berou 83.49 320 *eP* **P 22 32 42.9 +0.5**
MORC pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
MORC Moravsky Berou 83.49 320 *eP* **P 22 32 42.9 +0.5**
comp=Z,8.9nm,1.1s,mb4.7
ZST Bratislava 83.55 318 *eP* **P 22 32 42.7 -0.1**
KEV Kevo 83.56 341 *ep* **P 22 32 40.5 -1.8**
comp=Z,21nm,1.1s,mb5.2
KEV Kevo 83.56 341 *eP* **P 22 32 40.5 -1.8**
KEV pmax pmax
comp=Z,21nm,1.1s,mb5.2
ARCES ARCESS Array B 83.98 340 P **P 22 32 44.7 +0.3**
comp=Z,6.1nm,0.9s,mb4.8,baz=101,slow=6.2,SNR=9.4
ARCES LR LR 23 13 58.6
comp=Z,237nm,21.0s,MS4.5,baz=109,slow=38
ARCES ARCESS Array B 83.98 340 P **P 22 32 44.7 +0.3**
ARCES LR LR 23 13 58.6
VNDA Vanda 84.28 169 *eP* **P 22 32 46.0 +0.2**
VNDA pmax pmax
comp=Z,27nm,1.6s
VNDA Vanda 84.28 169 P **P 22 32 46.0 +0.2**
comp=Z,2.7nm,0.8s,mb4.4,baz=313,slow=3.7,SNR=10
VNDA LR LR 23 08 41.6
comp=Z,380nm,18.1s,MS4.8,baz=312,slow=34
VNDA Vanda 84.28 169 *eP* **P 22 32 46.0 +0.1**
comp=Z,27nm,1.6s,mb5.1
DPC Dobruska-Polom 84.35 321 *eP* **P 22 32 46.9 +0.2**
KSP Ksiaz 84.43 321 *eP* **P 22 32 47.4 +0.3**
UPC Upice 84.56 321 *eP* **P 22 32 48.1 +0.3**
SBA Scott Base 85.38 168 *eP* **P 22 32 52.9 +1.6**
SBA pmax pmax
comp=Z,44nm,1.6s,mb5.3
SBA Scott Base 85.38 168 *eP* **P 22 32 52.9 +1.6**
comp=Z,44nm,1.6s,mb5.3
PRU Pruhonice 85.44 320 *eP* **P 22 32 53.4 +1.2**
PVCC Panska Ves 85.48 321 *eP* **P 22 32 53.6 +1.2**
GEC2 GERESS Array S 85.87 319 *eP* **P 22 32 55.0 +0.6**
GEC2 pmax pmax
comp=Z,15nm,1.0s,mb5.2
GEC2 GERESS Array S 85.87 319 *eP* **P 22 32 55.0 +0.6**
comp=Z,15nm,1.0s,mb5.2
GERES GERESS Array B 85.87 319 P **P 22 32 54.4 +0.1**
comp=Z,7.3nm,0.9s,mb4.9,baz=108,slow=4.2,SNR=32
BRG Berggiesshubel 85.91 321 *eP* **P 22 32 55.9 +1.4**
BRG pmax pmax
comp=Z,12nm,1.2s,mb5.0
BRG Berggiesshubel 85.91 321 *eP* **P 22 32 55.9 +1.4**
comp=Z,12nm,1.2s,mb5.0
KHC Kasperske Hory 85.98 319⇑ *eP* **P 22 32 55.6 +0.7**
KHC Kasperske Hory 85.98 319 *eP* **P 22 32 55.1 +0.2**
WET Wettzell 86.44 319 *eP* **P 22 32 57.6 +0.4**
WET pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
WET Wettzell 86.44 319 *eP* **P 22 32 57.6 +0.4**
comp=Z,10.0nm,1.1s,mb5.0
CLL Collm 86.54 321⇑ *i P* **P 22 32 58.2 +0.6**
CLL pmax pmax
comp=Z,12nm,1.4s,mb4.9
CLL Collm 86.54 321⇑ *i P* **P 22 32 58.2 +0.6**
comp=Z,12nm,1.4s,mb4.9
CLL Collm 86.54 321 ⇑P **P 22 32 58.2 +0.6**
comp=Z,logA/T=0.9,mb4.9
CLL *i* *PP pP 22 33 01.1 -5.7
NKC Novy Kostel 86.81 320 *eP* **P 22 33 00.2 +1.3**
HFS Hagfors 87.01 330 P **P 22 32 59.9 +0.3**
comp=Z,25nm,0.8s,mb5.5,baz=135,slow=4.2,SNR=23
MOX Moxa 87.37 321 *eP* **P 22 33 02.6 +1.0**
MOX pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
MOX Moxa 87.37 321 *eP* **P 22 33 02.6 +1.0**
comp=Z,7.0nm,1.1s,mb4.8
MOX Moxa 87.37 321 *i P* **P 22 33 02.6 +1.0**
comp=Z,logA/T=0.8,mb4.8
GRA1 Grafenberg Arr 87.56 320 *eP* **P 22 33 03.4 +0.8**
comp=Z,17nm,1.0s,mb5.2
GRF Grafenberg Arr 87.56 320 *eP* **P 22 33 03.4 +0.8**
GRF pmax pmax
comp=Z,17nm,1.0s,mb5.2
GRF Grafenberg Arr 87.56 320 *eP* **P 22 33 03.4 +0.8**
GRF pmax pmax
comp=Z,17nm,1.0s,mb5.2
GRF Grafenberg Arr 87.56 320 *eP* **P 22 33 03.4 +0.8**
comp=Z,17nm,1.0s,mb5.2
CLZ Clausthal 88.22 322 *eP* **P 22 33 06.4 +0.7**
CLZ pmax pmax
comp=Z,28nm,1.3s,mb5.3
CLZ Clausthal 88.22 322 *eP* **P 22 33 06.4 +0.7**
comp=Z,28nm,1.3s,mb5.3
DAVOX Davos 88.30 317 P **P 22 33 06.8 +0.6**
comp=Z,17nm,0.9s,mb5.3,baz=123,slow=9.1,SNR=12
NB2 NORSAR Subarra 88.31 331 P **P 22 33 04.6 -1.3**
comp=Z,16nm,1.0s,mb5.2,baz=97,slow=4.6
NB2 NORSAR Subarra 88.31 331 P **P 22 33 04.6 -1.3**
baz=97,slow=4.8
NOA NORSAR Array B 88.31 331 P **P 22 33 05.5 -0.4**
comp=Z,7.1nm,0.8s,mb4.9,baz=96,slow=4.7,SNR=14
NOA LR LR 23 19 40.2
comp=Z,93nm,20.2s,MS4.2,baz=35,slow=40
BSEG Bad Segeberg 88.36 324 *eP* **P 22 33 07.2 +0.9**
PGF Pioggiola 88.78 312 *eP* **P 22 33 08.2 -0.4**
comp=Z,30nm,1.1s,mb5.2
PGF Pioggiola 88.78 312 *eP* **P 22 33 08.2 -0.4**
PGF pmax pmax
comp=Z,15nm,1.1s,mb5.2
KONO Kongsberg 89.03 330⇑ *eP* **P 22 33 10.2 +0.8**
TNS Taunus Mts 89.37 320 *eP* **P 22 33 12.1 +0.9**
BFO Black Forest 89.40 318 *eP* **P 22 33 11.4 0.0**
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
BFO Black Forest 89.40 318 *eP* **P 22 33 11.4 0.0**
comp=Z,6.0nm,0.9s,mb4.9
SBF Sospel 89.95 314 *eP* **P 22 33 13.3 -0.8**
comp=Z,51nm,0.9s,mb5.5
SBF Sospel 89.95 314 *eP* **P 22 33 13.3 -0.8**
SBF pmax pmax
comp=Z,25nm,0.9s,mb5.5
CDF Champ du Feu 90.11 318 *eP* **P 22 33 13.7 -1.0**
comp=Z,14nm,0.9s,mb5.0
CDF Champ du Feu 90.11 318 *eP* **P 22 33 13.7 -1.0**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
HINF Hinteralfeld 90.39 318 *eP* **P 22 33 14.8 -1.2**
MBDF Montbardon 90.43 315 *eP* **P 22 33 15.1 -1.2**
comp=Z,14nm,0.9s,mb5.0
MBDF Montbardon 90.43 315 *eP* **P 22 33 15.1 -1.2**
MBDF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
WTSB Winterswijk 90.44 322 *eP* **P 22 33 17.1 +1.0**
comp=Z,15nm,2.2s,mb4.9
LPG La Plagne 90.45 315 *eP* **P 22 33 16.0 -0.3**
comp=Z,31nm,1.1s,mb5.3
LPG La Plagne 90.45 315 *eP* **P 22 33 16.0 -0.3**
LPG pmax pmax
comp=Z,15nm,1.1s,mb5.2
LPL La Plagne 90.46 315 *eP* **P 22 33 16.6 +0.2**
comp=Z,29nm,1.0s,mb5.3
LPL La Plagne 90.46 315 *eP* **P 22 33 16.6 +0.2**
LPL pmax pmax
comp=Z,14nm,1.0s,mb5.2
BNI Bardonecchia 90.50 315 *eP* **P 22 33 17.2 +0.6**
BNI pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
BNI Bardonecchia 90.50 315 *eP* **P 22 33 17.2 +0.6**
comp=Z,8.9nm,0.9s,mb5.1
FRF La Foret Royal 90.52 313 *eP* **P 22 33 16.5 -0.2**
comp=Z,61nm,1.2s,mb5.5
FRF La Foret Royal 90.52 313 *eP* **P 22 33 16.5 -0.2**
FRF pmax pmax
comp=Z,31nm,1.2s,mb5.5
LMR La Mourre 90.62 313 *eP* **P 22 33 16.6 -0.6**
comp=Z,112nm,1.7s,mb5.6
LMR La Mourre 90.62 313 *eP* **P 22 33 16.6 -0.6**
LMR pmax pmax
comp=Z,56nm,1.7s,mb5.6
HAU Haudompre 90.73 318 *eP* **P 22 33 16.6 -0.9**
comp=Z,23nm,0.9s,mb5.2
HAU *e*R
comp=Z,76nm,20.2s
HAU Haudompre 90.73 318 *eP* **P 22 33 16.6 -0.9**
HAU pmax pmax
comp=Z,11nm,0.9s,mb5.2
HAU MLR MLR
comp=Z,80nm,20.3s,MS4.2
CABF La Chapelle 90.91 316 *eP* **P 22 33 18.2 -0.2**
comp=Z,22nm,0.8s,mb5.2
CABF La Chapelle 90.91 316 *eP* **P 22 33 18.2 -0.2**
CABF pmax pmax
comp=Z,11nm,0.8s,mb5.2
HGN Heimansgroeve 90.98 321 *eP* **P 22 33 19.0 +0.4**
comp=Z,12nm,0.8s,mb5.3
ORIF Oris-en-Rattie 91.07 315 *eP* **P 22 33 18.9 -0.3**
comp=Z,22nm,0.8s,mb5.2
ORIF *e*R
comp=Z,98nm,22.2s
MEZF Maizieres J'vi 91.59 318 *eP* **P 22 33 21.0 -0.5**
comp=Z,34nm,0.9s,mb5.4
GIVF Givet 91.70 320 *eP* **P 22 33 21.6 -0.4**
comp=Z,32nm,1.1s,mb5.3
GIVF Givet 91.70 320 *eP* **P 22 33 21.6 -0.4**
GIVF pmax pmax
comp=Z,16nm,1.1s,mb5.3
VIVF Saint-Julien-l 91.92 315 *eP* **P 22 33 22.7 -0.4**
comp=Z,40nm,1.4s,mb5.2
VIVF Saint-Julien-l 91.92 315 *eP* **P 22 33 22.7 -0.4**
VIVF pmax pmax
comp=Z,20nm,1.4s,mb5.2
BAIF Baives 92.10 320 *eP* **P 22 33 23.6 -0.2**
comp=Z,52nm,0.9s,mb5.5
BAIF Baives 92.10 320 *eP* **P 22 33 23.6 -0.2**
BAIF pmax pmax
comp=Z,26nm,0.9s,mb5.6
SMF Signal de Mont 92.46 316 *eP* **P 22 33 24.8 -0.7**
comp=Z,36nm,1.0s,mb5.4
SMF Signal de Mont 92.46 316 *eP* **P 22 33 24.8 -0.7**
SMF pmax pmax
comp=Z,18nm,1.0s,mb5.4
LASF Ste Croix 92.53 314 *eP* **P 22 33 25.9 0.0**
comp=Z,48nm,1.5s,mb5.4
SNAA Sanae 92.67 198 LR LR 23 11 42.3
comp=Z,96nm,18.4s,MS4.3,baz=170,slow=33
SSF Saint Saulge 92.67 317 *eP* **P 22 33 26.1 -0.4**
SSF pmax pmax
comp=Z,24nm,1.5s,mb5.4
SSF Saint Saulge 92.67 317 *eP* **P 22 33 26.1 -0.4**
comp=Z,24nm,1.5s,mb5.4
AVF Avril sur Loir 92.79 317 *eP* **P 22 33 26.5 -0.5**
comp=Z,28nm,1.1s,mb5.3
AVF Avril sur Loir 92.79 317 *eP* **P 22 33 26.5 -0.5**
AVF pmax pmax
comp=Z,14nm,1.1s,mb5.3
BGF Bois d'Agland 93.14 316 *eP* **P 22 33 28.5 -0.2**
comp=Z,60nm,1.3s,mb5.6
BGF Bois d'Agland 93.14 316 *eP* **P 22 33 28.5 -0.2**
BGF pmax pmax
comp=Z,30nm,1.3s,mb5.6
TCF Toulx Ste Croi 93.60 316 *eP* **P 22 33 30.6 -0.2**
MTLF Montolieu 93.75 313 *eP* **P 22 33 31.2 -0.4**
comp=Z,30nm,1.2s,mb5.3
MTLF Montolieu 93.75 313 *eP* **P 22 33 31.2 -0.4**
MTLF pmax pmax
comp=Z,15nm,1.2s,mb5.3
CAF Calviac 93.78 315 *eP* **P 22 33 31.6 0.0**
RJF Les Rejaudoux 94.14 315 *eP* **P 22 33 33.1 -0.2**
RJF *e*R
comp=Z,96nm,20.5s
LDF La Druitiere 95.02 319 *eP* **P 22 33 36.6 -0.6**
EPF Esparros 95.14 313 *eP* **P 22 33 37.8 -0.2**
MFF Saint Martin d 95.20 317 *eP* **P 22 33 37.4 -0.8**
FLN La Foliniere 95.24 319 *eP* **P 22 33 36.8 -1.5**
FLN *e*R
comp=Z,124nm,21.5s
JMIC Jan Mayen 95.43 342 LR LR 23 24 03.0
comp=Z,149nm,19.0s,MS4.5,baz=264,slow=40
GRR Gorron 95.52 318 *eP* **P 22 33 38.9 -0.7**
ETSF Etsaut 95.81 313 *eP* **P 22 33 40.7 -0.3**
comp=Z,14nm,1.1s,mb5.0
ETSF Etsaut 95.81 313 *eP* **P 22 33 40.7 -0.3**
ETSF pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
EKA Eskdalemuir Ar 96.11 326 P **P 22 33 42.5 +0.3**
comp=Z,2.6nm,0.7s,mb4.8,baz=108,slow=4.1,SNR=9.7
DAG Danmarks Havn 96.14 348⇓ *eP* **P 22 33 42.6 +0.8**
DAG pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
DAG Danmarks Havn 96.14 348⇓ *eP* **P 22 33 42.6 +0.8**
comp=Z,3.0nm,0.8s,mb4.8
DAG Danmarks Havn 96.14 348⇓ *i P* **P 22 33 42.6 +0.8**
comp=Z,3.0nm,0.8s,mb4.8
SJPF Ste Jean 96.27 313 *eP* **P 22 33 42.2 -1.0**
SGMF Saint Gilles 96.66 318 *eP* **P 22 33 43.2 -1.6**
QUIF Quistinic 97.11 318 *eP* **P 22 33 45.3 -1.5**
ROSF Rostrenen 97.13 319 *eP* **P 22 33 45.7 -1.2**
TBI Tubuai 111.40 115 *e*LR LR 23 12 01.2
comp=Z,210nm,29.2s
PPT Papeete 112.19 109 *e*LR LR 23 12 21.5
comp=Z,161nm,25.8s
YKA Yellowknife Ar 113.73 15 PKiKP 22 38 52.7
comp=Z,0.9nm,0.8s,baz=325,slow=2.0,SNR=9.3
YKA PKKPbc 22 49 36.1
comp=Z,0.3nm,0.7s,baz=140,slow=3.4,SNR=6.9
YKA Yellowknife Ar 113.73 15 PKPdf PKPdf 22 38 52.7 -3.8
YKA PKKPbc 22 49 36.1
FCC Fort Churchill 121.20 7 *e*PKPdf PKPdf 22 39 06.9 -4.2
RKT Rikitea 124.39 119 *e*LR LR 23 18 03.5
comp=Z,240nm,40.5s
WDC Whiskeytown Da 126.35 37 *e*PKPdf PKPdf 22 39 18.3 -3.2
MSO Missoula 126.50 26 *e*PKPdf PKPdf 22 39 16.9 -4.7
CHMT Chamberlain Mo 126.73 25 *e*PKPdf PKPdf 22 39 19.3 -2.7
MOD Modoc 126.82 34 *e*PKPdf PKPdf 22 39 19.6 -2.7
WVOR Wild Horse Val 127.39 33 *e*PKPdf PKPdf 22 39 20.9 -2.6
QLMT Earthquake Lak 129.16 26 PKPdf PKPdf 22 39 24.4 -2.5
ULM Lac du Bonnet 129.18 11 PKP PKPdf 22 39 23.0 -3.7
comp=Z,5.7nm,0.9s,baz=356,slow=2.2,SNR=12
NVAR Mina Array Bea 130.25 36 PKP PKPdf 22 39 27.0 -2.1
comp=Z,2.8nm,0.8s,baz=270,slow=2.7,SNR=13
BGU Big Grassy Mou 131.40 30 *e*PKPdf PKPdf 22 39 28.7 -2.5
PDAR Pinedale Array 131.62 26 PKP PKPdf 22 39 28.4 -3.2
comp=Z,1.2nm,0.8s,baz=266,slow=0.8,SNR=9.4
TRCR Troy Canyon 131.88 35 *e*PKPdf PKPdf 22 39 29.9 -2.3
NLU North Lily Min 132.61 30 *e*PKPdf PKPdf 22 39 30.9 -2.6
DAU Daniels Canyon 132.67 29 *e*PKPdf PKPdf 22 39 31.0 -2.6
TMUT Trail Mountain 133.55 30 *e*PKPdf PKPdf 22 39 33.8 -1.4
MSU Marysvale 133.63 32 *e*PKPdf PKPdf 22 39 33.8 -1.6
PV10 Paradox Valley 135.34 29 *e*PKPdf PKPdf 22 39 36.9 -1.8
ANMO Albuquerque 139.31 30 PKP PKPdf 22 39 43.7 -2.3
comp=Z,3.3nm,0.9s,baz=291,slow=3.5,SNR=7.2
ANMO Albuquerque 139.31 30 PKP PKPdf 22 39 43.7 -2.3
BDFB Brasília 141.88 244 PKP PKPdf 22 39 48.3 -2.8
comp=Z,3.7nm,0.9s,baz=224,slow=4.9,SNR=3.5
WMOK Wichita Mounta 142.85 22 *e*PKPpre 22 39 44.7
UALR University of 144.76 13 *e*PKPdf PKPdf 22 39 50.8 -4.8
CPCT Cooper Cave 145.14 2 *e*PKPdf PKPdf 22 39 51.5 -4.7
TXAR Lajitas Array 145.18 33 PKPbc PKPbc 22 39 53.5 +1.7
comp=Z,26nm,0.9s,baz=275,slow=1.7,SNR=91
PLAL Pickwick Lake 145.32 7 *e*PKPdf PKPdf 22 39 51.7 -4.8
OXF Oxford 145.59 9 *e*PKPdf PKPdf 22 39 53.2 -3.8
JSC Jenkinsville 146.29 357 *e*PKPdf PKPdf 22 39 54.9 -3.3
GOGA Godfrey 147.20 1 *e*PKPdf PKPdf 22 39 57.0 -2.8
LRAL Lakeview Retre 147.37 6 *e*PKPdf PKPdf 22 39 58.3 -1.7
TWB Tillmans-White 147.38 355 *e*PKPbc PKPdf 22 40 00.4 +0.4
LVC Limon Verde 153.26 210 *e*PKPbc PKPdf 22 40 14.5 +5.2
LPAZ La Paz 157.79 221 PKP PKPdf 22 40 13.0 -2.5
comp=Z,2.8nm,0.9s,baz=27,slow=2.3,SNR=10
LPAZ PKPab PKPab 22 40 47.4 +1.8
comp=Z,2.1nm,0.9s,baz=126,slow=8.7,SNR=4.8
LPAZ La Paz 157.79 221 PKP PKPdf 22 40 13.0 -2.5
LPAZ PKPab PKPab 22 40 47.4 +1.8
ROSC El Rosal 170.25 297 PKP PKPdf 22 40 25.2 -1.5
comp=Z,7.3nm,0.3s,baz=52,slow=8.1,SNR=5.0

PRU ***01*** *22:25:07.1,50.02N×18.95E*
WAR 01 22:25:05.0,50.04N×19.10E,h0km,ML2.5,1C,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.48**	**68**	*e*PG	Pg	22 25 15.0	+0.3
OJC				*e*SG	Sg	22 25 22.0	+0.8
OKC	**Ostrava-Krasne**	**0.65**	**252**	*e*PG	Pg	22 25 17.6	-0.3
OKC				*e*SG	Sg	22 25 27.4	+0.9
	13nm,0.2s						
LIKS	**Likavka**	**0.99**	**180**	*e*SN	Sn	22 25 38.4	-2.4
NIE	**Niedzica**	**1.00**	**128**	*e*Pg	Pg	22 25 23.0	-2.0
NIE				*e*		22 25 37.9	
NIE				*e*Sg	Sg	22 25 39.2	+0.8
KOLL	**Kolacno**	**1.53**	**198**	*e*SN	Sn	22 25 54.8	+0.3
VYHS	**Vyhne**	**1.56**	**186**	*i* PN	Pn	22 25 33.5	-0.5
VYHS				*e*SN	Sn	22 25 54.2	-1.0
KECS	**Kecovo**	**1.80**	**149**	*e*SN	Sn	22 26 02.3	+0.9
DPC	**Dobruska-Polom**	**1.81**	**281**	*e*PG	Pg	22 25 36.8	-4.3
DPC				*e*SG	Sg	22 26 01.7	-3.6
	8.9nm,0.2s						

SMOL	**Smolenice**	**1.88 216**	*e*SN	Sn	22 26 03.8	+0.5
CRVS	**Cervenica-Dubn**	**1.92 126**	*e*PN	Pn	22 25 41.7	+2.5
CRVS			*e*SN	Sn	22 26 07.8	+3.5
KSP	**Ksiaz**	**1.96 295**	*e*PN	Pn	22 25 39.0	-0.8
KSP			*e*PG	Pg	22 25 43.0	-1.2
KSP			*e*SG	Sg	22 26 07.0	-3.4
UPC	**Upice**	**2.04 284**	*e*PG	Pg	22 25 41.8	-3.8
UPC			*e*SG	Sg	22 26 09.2	-3.5
PSZ	**Piszkesteto**	**2.19 166**	*e*P	Pn	22 25 47.8	+4.8
KOLS	**Kolonicke sedl**	**2.35 117**	*e*PN	Pn	22 25 47.7	+2.4
KOLS			*e*		22 26 13.9	
PRU	**Pruhonice**	**2.94 271**	*e*SG	Sg	22 26 36.9	-6.0
KHC	**Kasperske Hory**	**3.71 258**	*e*PG	Pg	22 26 12.2	-6.8
KHC			*e*SG	Sg	22 27 01.8	-6.5
MOA	**Molln**	**3.87 237** ⇑ *i*PN		Pn	22 26 04.8	-2.1
MOA			*i* SG	Sg	22 27 06.7	-7.0
	3.0nm,0.6s					
CLL	**Collm**	**4.08 290**	*e*SG	Sg	22 27 17.0	-3.8

*IDC **01** 22:30:04.7±1.7, 0.21N×96.34E, mb4.1/7, mb1 4.2/7, mb1mx3.8/17, mbtmp4.1/7, Error ellipse: s-maj=86.5km s-min=22.0km az=56.0*
*NEIC **01** 22:30:09.9±0.7, 0.41N×96.64E, h30km, mb4.1/1, Error ellipse: s-maj=20.6km s-min=13.2km az=61.0*
ISC 01 22:30:08.7±1.0,**0.5N**±0.1×**96.7E**±0.2,**h33km**,**n11**,
σ0**64**/10,**mb4.0**/8,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.21**	**39**	*e*Pn	**Pn**	**22 31 40.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**33.91**	**124**	P	**P**	**22 36 51.2**	**+0.2**
	2.0nm,0.6s,mb4.2,baz=354,slow=14,SNR=2.4						
SONM	**Songino Array**	**47.94**	**9**	P	**P**	**22 38 47.1**	**+1.2**
	0.4nm,0.6s,mb3.6,baz=192,slow=8.3,SNR=8.2						
KURK	**Kurchatov**	**52.38**	**346**	P	**P**	**22 39 19.2**	**-0.6**
	1.0nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**53.23**	**131**	P	**P**	**22 39 26.0**	**-0.4**
	0.6nm,0.5s,mb3.8,baz=315,slow=8.6,SNR=3.1						
STKA	**Stephens Creek**	**53.23**	**131**	P	**P**	**22 39 26.0**	**-0.4**
ZAL	**Zalesovo**	**54.20**	**351**	P	**P**	**22 39 33.4**	**+0.1**
	5.1nm,0.4s,mb4.8,baz=304,slow=4.7,SNR=22						
BVAR	**Borovoye Array**	**56.79**	**341**	P	**P**	**22 39 51.0**	**-1.0**
	1.4nm,0.7s,mb4.1,baz=149,slow=8.4,SNR=4.6						
FINES	**FINESS Array B**	**80.43**	**333**	P	**P**	**22 42 18.3**	**-0.1**
	0.8nm,0.7s,mb3.8,baz=56,slow=5.0,SNR=5.1						
ARCES	**ARCESS Array B**	**83.07**	**340**	P	**P**	**22 42 32.8**	**+0.9**
	1.1nm,0.7s,mb4.0,baz=112,slow=4.9,SNR=7.0						
TXAR	**Lajitas Array**	**144.56**	**32**	PKP	PKPdf	22 49 43.4	+0.9
	0.2nm,0.3s,baz=206,slow=1.4,SNR=3.7						

*NEIC **01** 22:33:42.8±1.4, 43.11N×19.11E, h10km, Error ellipse: s-maj=17.6km s-min=8.1km az=148.0*
*PDG **01** 22:33:45.0±0.1, 43.46N×19.05E, h11km*
*BEO **01** 22:33:44.4±0.5, 43.53N×19.03E, h5km±1km*
*LDG **01** 22:33:44.6±0.1, 43.48N×19.21E, h10km, MI3.9/5, Error ellipse: s-maj=3.7km s-min=2.3km az=64.0*
*PRU **01** 22:33:47.3, 43.59N×19.04E*
ISC 01 22:33:43.7±0.4,**43.52N**±0.01×**19.00E**±0.02,**h5km**,**n59**,
σ1**60**/101,**14C-10D**,**Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.32**	**192**	⇓ *i*Pg	**Pg**	**22 33 50.4**	**+0.2**
UPM				*e*Sg	**Sg**	**22 33 54.9**	**+0.4**
PLE	**Pljevlja**	**0.34**	**123**	⇑ *i*Pg	**Pg**	**22 33 50.5**	**0.0**
PLE				*e*Sg	**Sg**	**22 33 55.0**	**-0.2**
NVSS	**Nova Varos 2**	**0.51**	**91**	⇓ *i*Pg	**Pg**	**22 33 55.8**	**+1.9**
NVSS				Sg	**Sg**	**22 34 03.4**	**+2.8**
BRY	**Bratogost**	**0.70**	**209**	⇓ *i*Pg	**Pg**	**22 33 57.0**	**-0.7**
BRY				*e*Sg	**Sg**	**22 34 08.0**	**+0.9**
NKY	**Niksic**	**0.70**	**180**	⇑ *i*Pg	**Pg**	**22 33 57.2**	**-0.6**
NKY				*e*Sg	**Sg**	**22 34 07.4**	**+0.2**
IVA	**Berane**	**0.92**	**134**	⇑ *i*Pg	**Pg**	**22 34 00.9**	**-1.2**
IVA				*e*Sg	**Sg**	**22 34 14.2**	**-0.1**
DIVS	**Divcibare**	**0.92**	**51**	*e*Pg	**Pg**	**22 34 00.4**	**-1.7**
DIVS				Sg	**Sg**	**22 34 14.2**	**-0.2**
TTG	**Podgorica**	**1.10**	**170**	⇓ *i*Pg	**Pg**	**22 34 03.9**	**-1.8**
TTG				*e*Sg	**Sg**	**22 34 20.4**	**-0.1**
HCY	**Herceg Novi**	**1.13**	**199**	⇑ *i*Pg	**Pg**	**22 34 04.8**	**-1.5**
HCY				*e*Sg	**Sg**	**22 34 22.4**	**+1.0**
STON	**Ston**	**1.15**	**236**	*i* Pg	**Pg**	**22 34 06.2**	**-0.5**
STON				*i* Sg	**Sg**	**22 34 23.1**	**+1.1**
PVY	**Plav**	**1.17**	**142**	⇑ *i*Pg	**Pg**	**22 34 05.2**	**-1.8**
PVY				*e*Sg	**Sg**	**22 34 22.3**	**-0.2**
BUM	**Brajici-Budva**	**1.22**	**184**	⇑ *i*Pg	**Pg**	**22 34 06.5**	**-1.6**
BUM				*e*Sg	**Sg**	**22 34 24.7**	**+0.5**
GRUS	**Gruza**	**1.30**	**73**	*e*Pg	**Pg**	**22 34 07.8**	**-1.8**
GRUS				Sg	**Sg**	**22 34 25.8**	**-1.0**
BCI	**Bajram Curri**	**1.39**	**145**	*i* Pn	**Pn**	**22 34 09.4**	**-0.5**
BCI				*i* Sn	**Sn**	**22 34 30.5**	**+1.7**
ULC	**Ulcinj**	**1.56**	**173**	*e*Pg	**Pg**	**22 34 12.7**	**-2.2**
ULC				*e*Sg	**Sg**	**22 34 35.0**	**-0.8**
PUK	**Puka**	**1.61**	**156**	*i* Pn	**Pn**	**22 34 14.0**	**+1.0**
BEO	**Belgrade**	**1.67**	**38**	*e*Pn	**Pn**	**22 34 15.1**	**+1.3**
BEO				Sg	**Sg**	**22 34 36.8**	**-2.5**
SVIS	**Svilajnac**	**1.78**	**63**	*e*Pn	**Pn**	**22 34 16.2**	**+0.8**
SVIS				Sg	**Sg**	**22 34 40.5**	**-2.5**
QSH	**Qafa e Shtames**	**2.10**	**161**	*e*Pn	**Pn**	**22 34 24.0**	**+3.9**
QSH				*i* Sn	**Sn**	**22 34 53.0**	**+6.1**
BOLS	**Boljevac**	**2.17**	**81**	*e*Pn	**Pn**	**22 34 22.7**	**+1.7**
BOLS				Sg	**Sg**	**22 34 51.8**	**-4.0**
TIR	**Tirane**	**2.26**	**163**	*e*Pn	**Pn**	**22 34 26.0**	**+3.7**
TIR				*i* Sn	**Sn**	**22 34 57.0**	**+6.1**
SKO	**Skopje**	**2.37**	**130**	*i* Pn	**Pn**	**22 34 25.0**	**+1.2**
SKO				*i*		22 34 31.0	
PKSM	**Moragy**	**2.71**	**355**	⇓ P	**Pn**	**22 34 30.6**	**+1.9**
BZS	**Buzias**	**2.81**	**41**	⇓ P	**Pn**	**22 34 31.3**	**+1.1**
NVLJ	**Novalja**	**3.16**	**291**	*i* Pn	**Pn**	**22 34 38.1**	**+3.0**
NVLJ				*i* Sn	**Sn**	**22 35 19.6**	**+6.0**
BOJS	**Bojanci**	**3.34**	**308**	*e*Pn	**Pn**	**22 34 40.5**	**+2.9**
CRES	**Cresnjev**	**3.42**	**314**	*i* Pn	**Pn**	**22 34 41.2**	**+2.4**
KOGS	**Kog**	**3.52**	**327**	*e*Pn	**Pn**	**22 34 41.9**	**+1.7**
CII	**Carovilli**	**3.90**	**244**	*e*Pn	**Pn**	**22 34 41.3**	**-4.4**
CII				*e*Pb	**Pb**	**22 34 49.8**	**-3.0**
CII				*e*Sn	**Sn**	**22 35 25.7**	**-6.8**
LJU	**Ljubljana**	**4.07**	**310**	*e*Pn	**Pn**	**22 34 50.5**	**+2.5**
LJU				*e*Sn	**Sg**	**22 36 00.5**	**+1.4**
PERS	**Pernice**	**4.16**	**320**	*e*Pn	**Pn**	**22 34 50.9**	**+1.6**
AQU	**L'Aquila**	**4.27**	**256**	⇑ P	**Pn**	**22 34 54.6**	**+3.7**
SRO1	**Iza**	**4.28**	**353**	*e*	**Sn**	**22 35 41.7**	**-0.3**
OBKA	**Obir**	**4.35**	**315**	⇑ *i*PN	**Pn**	**22 34 54.1**	**+2.1**
OBKA				*i* SN	**Sn**	**22 35 42.1**	**-1.7**
VOY	**Vojsko**	**4.42**	**306**	*e*Pn	**Pn**	**22 34 56.2**	**+3.2**
VOY				*e*Sn	**Sn**	**22 35 48.0**	**+2.4**
PSZ	**Piszkesteto**	**4.45**	**8**	⇓ P	**Pn**	**22 34 54.4**	**+1.0**
PSZ	**Piszkesteto**	**4.45**	**8**	⇓ *e*Pn	**Pn**	**22 34 54.5**	**+1.1**
PSZ				*e*		22 35 43.3	
ARSA	**Arzberg**	**4.46**	**328**	⇑ *i*PN	**Pn**	**22 34 55.1**	**+1.4**
ARSA				*i* SN	**Sn**	**22 35 42.7**	**-4.1**
TIP	**Timpagrande**	**4.65**	**202**	*e*Pb	**Pb**	**22 34 56.6**	**-9.0**
TIP				*e*Sn	**Sn**	**22 35 39.2**	**-12**
ROBS	**Robic**	**4.76**	**307**	*e*Pn	**Pn**	**22 34 59.8**	**+2.0**
ZST	**Bratislava**	**4.86**	**345**	*e*PN	**Pn**	**22 35 00.0**	**+0.7**
ZST				*e*		22 35 54.5	
VYHS	**Vyhne**	**4.98**	**359**	*e*	**Sn**	**22 35 58.8**	**-0.9**
VYHS	**Vyhne**	**4.98**	**359**	*e*Sn	**Sn**	**22 35 58.8**	**-0.9**
KBA	**Koelnbreinsper**	**5.35**	**314**	⇑ *i*PN	**Pn**	**22 35 08.0**	**+1.9**
KBA				*i* SN	**Sn**	**22 36 07.5**	**-1.5**
MOA	**Molln**	**5.46**	**324**	⇓ *i*PN	**Pn**	**22 35 09.5**	**+1.8**
MOA				*i* SN	**Sn**	**22 36 09.0**	**-2.7**
BURAR	**Bucovina Array**	**5.98**	**45**	⇑ P	**Pn**	**22 35 16.8**	**+1.7**
WTTA	**Wattenberg**	**6.40**	**308**	⇑ *i*PN	**Pn**	**22 35 22.4**	**+1.5**
WTTA				*i* SN	**Sn**	**22 36 33.9**	**-1.4**
WATA	**Walderalm**	**6.47**	**309**	⇑ *i*PN	**Pn**	**22 35 23.4**	**+1.4**
WATA				*i* SN	**Sn**	**22 36 35.5**	**-1.6**
SQTA	**Sankt Quirin**	**6.62**	**307**	⇑ *i*PN	**Pn**	**22 35 25.5**	**+1.4**
SQTA				*i* SN	**Sn**	**22 36 38.5**	**-2.4**
MOTA	**Moosalm**	**6.75**	**307**	⇓ *i*PN	**Pn**	**22 35 27.5**	**+1.6**
MOTA				*i* SN	**Sn**	**22 36 42.2**	**-1.8**
KHC	**Kasperske Hory**	**6.75**	**328**	*e*Pn	**Pn**	**22 35 27.3**	**+1.3**
KHC				*e*		22 35 28.5	
KHC				*e*		22 35 43.6	
KHC				*e*Sn	**Sn**	**22 36 42.7**	**-1.5**
KHC	**Kasperske Hory**	**6.75**	**328**	*e*PN	**Pn**	**22 35 27.3**	**+1.3**
KHC				x	x	22 35 28.5	
KHC				*ex*	x	22 35 43.6	
KHC				*e*SN	**Sn**	**22 36 42.7**	**-1.5**
PGF	**Pioggiola**	**7.39**	**266**	*e*Pn	**Pn**	**22 35 32.2**	**-2.8**
PGF				*e*Sn	**Sn**	**22 36 52.8**	**-7.4**
	14nm,0.9s						
SBF	**Sospel**	**8.39**	**276**	*e*Pn	**P**	**22 35 45.8**	**-3.1**
CLL	**Collm**	**8.79**	**335**	*e*SN	**Sn**	**22 37 25.0**	**-10**
CLL				*e*		22 38 00.0	
CLL				*e*SG	**Sg**	**22 38 35.0**	**-1.2**
MBDF	**Montbardon**	**8.88**	**282**	*e*Pn	**P**	**22 35 52.7**	**-3.0**
MBDF				*e*Sn	**Sn**	**22 37 28.7**	**-8.6**
	10.0nm,0.9s						
LPG	**La Plagne**	**8.98**	**287**	*e*Pn	**P**	**22 35 53.2**	**-3.8**
LPG				*e*Sn	**Sn**	**22 37 31.1**	**-8.6**
	12nm,0.8s						
FRF	**La Foret Royal**	**8.98**	**275**	*e*Pn	**P**	**22 35 55.0**	**-2.0**
FRF				*e*Sn	**Sn**	**22 37 30.4**	**-9.3**
	45nm,1.4s						
LPL	**La Plagne**	**8.99**	**287**	*e*Pn	**P**	**22 35 53.7**	**-3.5**
LPL				*e*Sn	**Sn**	**22 37 32.1**	**-8.0**
	27nm,1.2s						

*BJI **01** 22:43:22.7, 57.40S×25.80W, h59km, mB4.7, Ms4.7, Msz4.4*
*NEIC **01** 22:43:22.8±1.4, 57.36S×25.80W, h59km±12km, mb4.5/11, Error ellipse: s-maj=11.0km s-min=6.8km az=222.0*
*IDC **01** 22:43:24.1±4.8, 57.47S×25.96W, h67km±42km, mb4.2/13, mb1 4.2/14, mb1mx4.0/22, mbtmp4.4/14, ML3.8/1, Error ellipse: s-maj=22.4km s-min=15.5km az=45.0*
ISC 01 22:43:20.2±3.4,**57.3S**±0.1×**25.8W**±0.2,**h49**km±33km,**n59**,
σ0**96**/30,**mb4.5**/17,**MS4.3**/1,**4C**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.33**	**158**	⇑ *i*P	**P**	**22 46 55.2**	**+0.8**
VNA3	**Neumayer Olymp**	**15.54**	**160**	⇑ *i*P	**P**	**22 46 57.0**	**-0.1**
VNA3	**Neumayer Olymp**	**15.54**	**160**	⇑ *i*	**P**	**22 47 14.1**	**+17**
VNA2	**Neumayer--Watz**	**15.73**	**157**	P	**P**	**22 47 00.3**	**+0.8**
VNA2	**Neumayer--Watz**	**15.73**	**157**	⇑ *i*	**P**	**22 47 11.8**	**+12**
SNAA	**Sanae**	**17.27**	**155**	P	**P**	**22 47 17.9**	**-1.0**
	0.3nm,0.3s,baz=305,slow=12,SNR=32						
USHA	**Ushuaia**	**23.64**	**258**	P	**P**	**22 48 28.5**	**+1.4**
	6.1nm,0.8s,mb4.1,baz=70,slow=12,SNR=3.0						
TRQA	**Tornquist**	**30.53**	**293**	P	**P**	**22 49 29.6**	**-1.2**
	2.8nm,0.6s,mb4.3						
PLCA	**Paso Flores**	**32.98**	**281**	P	**P**	**22 49 50.4**	**-1.8**
	3.1nm,0.9s,mb4.2,baz=146,slow=9.3,SNR=5.5						
PLCA	**Paso Flores**	**32.98**	**281**	*e*P	**P**	**22 49 51.2**	**-1.1**
	5.2nm,1.0s,mb4.4						
CFAA	**Coronel Fontan**	**38.76**	**293**	P	**P**	**22 50 41.0**	**-0.2**
	0.2nm,0.3s,baz=171,slow=5.9,SNR=4.8						
CFAA				PcP	PcP	22 52 51.9	-0.8
	0.1nm,0.3s,baz=124,slow=4.2,SNR=3.6						
BDFB	**Brasilia**	**44.85**	**329**	P	**P**	**22 51 33.6**	**+2.4**
	5.9nm,0.6s,mb4.6,baz=149,slow=3.5,SNR=12						
SBA	**Scott Base**	**44.86**	**184**	*e*P	**P**	**22 51 30.8**	**+0.2**
	6.7nm,1.0s,mb4.4						
VNDA	**Vanda**	**45.34**	**182**	P	**P**	**22 51 34.2**	**-0.2**
	4.9nm,0.5s,mb4.6,baz=185,slow=6.5,SNR=89						
VNDA	**Vanda**	**45.34**	**182**	*e*P	**P**	**22 51 33.8**	**-0.6**
	4.4nm,0.7s,mb4.4						
LVC	**Limon Verde**	**46.59**	**300**	P	**P**	**22 51 45.0**	**0.0**
	3.0nm,0.3s,mb4.6,baz=167,slow=5.7,SNR=8.3						
LVC	**Limon Verde**	**46.59**	**300**	*e*P	**P**	**22 51 45.2**	**+0.2**
	3.4nm,0.6s,mb4.5						
LBTB	**Lobatse**	**48.68**	**71**	P	**P**	**22 52 02.1**	**+0.9**
	1.7nm,0.8s,mb4.1,baz=207,slow=11,SNR=4.2						
LBTB	**Lobatse**	**48.68**	**71**	P	**P**	**22 52 00.3**	**-0.9**
	2.0nm,0.7s,mb4.3						
SIV	**San Ignacio**	**49.00**	**313**	P	**P**	**22 52 03.6**	**-0.3**
	3.0nm,0.7s,mb4.5,baz=150,slow=9.6,SNR=12						
SIV				PcP	PcP	22 53 27.5	0.0
	1.8nm,0.8s,baz=177,slow=4.5,SNR=5.5						
LPAZ	**La Paz**	**51.73**	**305**	P	**P**	**22 52 25.2**	**+0.6**
	7.7nm,0.5s,mb4.9,baz=161,slow=6.1,SNR=45						
LPAZ				PcP	PcP	22 53 38.3	+0.8
	1.4nm,0.6s,baz=0.4,slow=0.6,SNR=2.5						
LPAZ	**La Paz**	**51.73**	**305**	*e*P	**P**	**22 52 25.2**	**+0.6**
	7.5nm,0.5s,mb4.9						
LPAZ				*e*PcP	PcP	22 53 37.6	0.0
RCBR	**Riachuelo**	**51.97**	**347**	*e*P	**P**	**22 52 23.6**	**-2.9**
	11nm,1.0s,mb4.8						
SAML	**Samuel**	**56.24**	**314**	*e*P	**P**	**22 52 57.2**	**-0.5**
	6.4nm,0.5s,mb4.9						
LSZ	**Lusaka**	**58.15**	**67**	*e*P	**P**	**22 53 10.7**	**-0.5**
	2.6nm,0.8s,mb4.3						
DBIC	**Dimbokro**	**66.02**	**23**	P	**P**	**22 54 04.6**	**+0.8**
	1.4nm,0.4s,mb4.3,baz=149,slow=6.8,SNR=3.8						
PCRV	**Puerto La Cruz**	**74.42**	**320**	P	**P**	**22 54 55.4**	**+0.7**
	31nm,0.5s,mb5.5,baz=144,slow=3.6,SNR=19						
SDV	**Santo Domingo**	**75.44**	**314**	P	**P**	**22 55 01.3**	**+0.7**
	1.5nm,0.3s,mb4.3,baz=90,slow=4.0,SNR=4.6						
SDV	**Santo Domingo**	**75.44**	**314**	*e*P	**P**	**22 55 00.7**	**+0.1**
	5.2nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**90.52**	**169**	P	**P**	**22 56 17.5**	**-0.2**
	0.7nm,0.4s,mb4.3,baz=112,slow=5.4,SNR=2.9						
DUG	**Dugway**	**121.22**	**297**	*e*PKPdf	PKPdf	23 02 08.5	+1.3
NOA	**NORSAR Array B**	**121.53**	**20**	PKP	PKPdf	23 02 08.1	+0.9
	1.4nm,0.9s,baz=324,slow=7.7,SNR=3.1						
PDAR	**Pinedale Array**	**121.66**	**301**	PKP	PKPdf	23 02 08.2	+0.2
	0.7nm,0.5s,baz=142,slow=8.1,SNR=7.8						
ULM	**Lac du Bonnet**	**121.69**	**315**	PKP	PKPdf	23 02 08.0	+0.2
	2.3nm,0.7s,baz=133,slow=1.5,SNR=6.4						
ULM	**Lac du Bonnet**	**121.69**	**315**	PKP	PKPdf	23 02 08.0	+0.2
HWUT	**Hardware Ranch**	**121.71**	**298**	*e*PKPdf	PKPdf	23 02 09.0	+0.9
NVAR	**Mina Array Bea**	**122.58**	**291**	PKP	PKPdf	23 02 11.5	+1.6
	0.3nm,0.3s,baz=153,slow=2.0,SNR=4.7						
LOHW	**Long Hollow**	**122.80**	**301**	*e*PKPdf	PKPdf	23 02 11.1	+0.9
TPAW	**Teton Pass**	**122.86**	**300**	*e*PKPdf	PKPdf	23 02 10.9	+0.6
MOOW	**Moose Ponds**	**122.97**	**301**	*e*PKPdf	PKPdf	23 02 11.1	+0.6
FINES	**FINESS Array B**	**125.15**	**28**	PKP	PKPdf	23 02 15.1	+1.0
	2.8nm,0.5s,baz=139,slow=1.8,SNR=44						
WVOR	**Wild Horse Val**	**125.77**	**294**	*e*PKPdf	PKPdf	23 02 17.9	+2.1
KAF	**Kangasniemi**	**125.78**	**27**	*e*pkp	PKPdf	23 02 15.8	+0.5
	baz=185,slow=1.8						
FCC	**Fort Churchill**	**127.75**	**322**	*e*PKPdf	PKPdf	23 02 19.2	0.0
ARCES	**ARCESS Array B**	**131.84**	**22**	PKP	PKPdf	23 02 27.6	+0.9
	2.0nm,0.7s,baz=186,slow=1.0,SNR=10.0						
WMQ	**Urumqi**	**137.41**	**79**	PKP	PKPdf	23 02 39.4	+1.7
WMQ				PP	PP	23 05 28.9	+1.7
WMQ				PKS	PKS	23 06 14.1	+1.2
WMQ				PP	PP		
	comp=Z,16nm,4.1s						
WMQ				LR	LR		
	comp=N,64nm,20.2s,MS4.4						
WMQ				LR	LR		
	comp=E,43nm,20.3s,MS4.4						
WMQ				LR	LR		
	comp=Z,45nm,20.3s,MS4.2						
YKA	**Yellowknife Ar**	**137.62**	**316**	PKhKP		23 02 26.5	
	comp=Z,0.2nm,0.5s,baz=124,slow=3.3,SNR=3.7						
YKA				PKP	PKPdf	23 02 38.9	+1.4
	comp=Z,3.4nm,0.6s,baz=127,slow=2.3,SNR=41						
YKA	**Yellowknife Ar**	**137.62**	**316**	PKP	PKPdf	23 02 38.9	+1.4
YKW3	**Yellowknife Ar**	**137.67**	**317**	*e*PKPdf	PKPdf	23 02 38.7	+1.1
ZAL	**Zalesovo**	**142.22**	**65**	PKhKP		23 02 40.0	
	comp=Z,0.7nm,0.5s,baz=205,slow=7.5,SNR=4.3						
ZAL				PKP	PKPdf	23 02 47.2	+1.4
	comp=Z,0.5nm,0.4s,baz=292,slow=5.4,SNR=2.6						
ZAL	**Zalesovo**	**142.22**	**65**	PKP	PKPdf	23 02 40.0	-5.9
ZAL				PKP	PKPdf	23 02 47.2	+1.4
INK	**Inuvik**	**147.26**	**319**	*e*PKPbc	PKPdf	23 02 57.9	+3.9
DAWY	**Dawson**	**148.20**	**310**	*e*PKPbc	PKPdf	23 03 00.4	+4.7
SONM	**Songino Array**	**150.03**	**88**	PKPbc	PKPdf	23 03 05.7	+6.6
	comp=Z,6.1nm,0.6s,baz=223,slow=3.4,SNR=70						
BJI	**Beijing**	**150.04**	**109**	*e*PKP	PKPdf	23 03 04.2	+4.8
SML	**Sawmill**	**151.38**	**303**	*e*PKPbc	PKPdf	23 03 08.5	+7.8
SLKM	**Skilak Lake**	**151.85**	**300**	*e*PKPbc	PKPdf	23 03 09.9	+8.4
SLKM				*e*PKPab	PKPab	23 03 19.2	-0.3
COLA	**College**	**151.95**	**310**	*e*PKPbc	PKPdf	23 03 09.1	+7.6
COLA				*e*PKPab	PKPab	23 03 19.6	-0.1
MCK	**McKinley**	**152.16**	**307**	*e*PKPbc	PKPdf	23 03 10.6	+8.8

ISC 01 22:56:38.7±1.2,**45.08N**±0.05×**14.8E**±0.1,**h10km**,**n5**,
σ0**53**/8,**1C**,**Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.52**	**174**	*i* Pg	**Pg**	**22 56 49.5**	**+0.3**
BOJS	**Bojanci**	**0.53**	**37**	*i* Sg	**Sg**	**22 56 56.1**	**-0.4**
	comp=Z,9.0nm,0.1s						
VISS	**Visnje**	**0.72**	**2**	*i* Pg	**Pg**	**22 56 53.2**	**0.0**
VISS				*i* Sg	**Sg**	**22 57 03.1**	**+0.2**
	comp=Z,3.0nm,0.1s						
PDKS	**Podkum**	**0.99**	**8**	*i* Pg	**Pg**	**22 56 58.3**	**-0.1**
PDKS				*i* Sg	**Sg**	**22 57 12.9**	**+1.2**
	comp=Z,3.0nm,0.1s						
OBKA	**Obir**	**1.44**	**353**	⇑ *i*PG	**Pg**	**22 57 06.9**	**-0.5**
OBKA				*i* SG	**Sg**	**22 57 26.1**	**-0.5**
	comp=Z,2.3nm,0.2s						

*IDC **01** 23:22:43.6±11.0, 13.32N×92.37W, mb4.0/2, mb1 4.3/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=235.8km s-min=106.8km az=9.0*
*NEIC **01** 23:22:57.1±9.1, 13.95N×92.59W, h68km±42km, mb3.9/7, Error ellipse: s-maj=102.9km s-min=26.9km az=185.0*
ISC 01 23:22:53.9±5.1,**13.8N**±0.5×**92.5W**±0.2,**h68km**,**n15**,
σ0**69**/15,**mb3.9**/9,**Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**7.56**	**32**	*e*Pn	**P**	**23 24 43.6**	**-0.2**
	18nm,0.3s						
TXAR	**Lajitas Array**	**18.59**	**328**	P	**P**	**23 27 08.2**	**+0.1**
	baz=144,slow=11,SNR=7.1						
GDL2	**Guadalupe Moun**	**21.28**	**331**	*e*P	**P**	**23 27 36.9**	**+0.2**
MNTX	**Cornudas Mount**	**21.36**	**329**	*e*P	**P**	**23 27 35.8**	**-1.7**
	2.4nm,0.8s,mb3.6						
WMOK	**Wichita Mounta**	**21.59**	**346**	P	**P**	**23 27 40.5**	**+0.7**
	0.7nm,0.4s,mb3.3						
CPRX	**Cap Rock**	**21.75**	**334**	*e*P	**P**	**23 27 41.9**	**+0.5**
AMTX	**Amarillo**	**22.56**	**340**	*e*P	**P**	**23 27 49.0**	**-0.3**
	8.1nm,0.6s,mb4.2						
SDCO	**Great Sand Dun**	**26.49**	**336**	*e*P	**P**	**23 28 26.7**	**-0.2**
	1.5nm,0.6s,mb3.6						
RSSD	**Black Hills**	**31.78**	**344**	*e*P	**P**	**23 29 13.7**	**-0.3**
	1.4nm,0.7s,mb3.8						
NVAR	**Mina Array Bea**	**33.51**	**322**	P	**P**	**23 29 28.9**	**-0.2**
	1.1nm,0.8s,mb3.8,baz=130,slow=9.5,SNR=6.3						
LOHW	**Long Hollow**	**33.51**	**336**	*e*P	**P**	**23 29 28.9**	**-0.2**
	1.5nm,0.6s,mb4.0						
MOOW	**Moose Ponds**	**33.68**	**336**	*e*P	**P**	**23 29 32.3**	**+1.8**
FCC	**Fort Churchill**	**44.89**	**359**	*e*P	**P**	**23 31 03.1**	**-0.2**
	1.3nm,0.4s,mb4.0						
YKA	**Yellowknife Ar**	**51.10**	**347**	P	**P**	**23 31 51.5**	**0.0**
	2.5nm,0.6s,mb4.4,baz=152,slow=7.3,SNR=50						
YKA	**Yellowknife Ar**	**51.10**	**347**	P	**P**	**23 31 51.5**	**0.0**

*NEIC **01** 23:24:33.6±3.2, 57.46S×25.93W, h56km±28km, mb4.2/5, Error ellipse: s-maj=42.4km s-min=12.6km az=47.0*
*IDC **01** 23:24:35.8±7.0, 57.45S×25.93W, h74km±63km, mb3.9/9, mb1 3.9/10, mb1mx3.7/18, mbtmp4.1/10, ML3.9/1, MS3.6/1, Ms1 3.5/1, ms1mx2.7/19, Error ellipse: s-maj=45.6km s-min=14.3km az=49.0*
**ISC 01 23:24:32

LZH	**Lanzhou**	**36.14**	**8**	*eP*	**P**	**23 47 10.0**	**-0.3**
	comp=Z,28nm,1.6s,mb4.9						
LZH				pP	pP	23 47 19.5	+2.7
NWAO	**Narrogin (SRO)**	**37.53**	**153**	LR	LR	00 00 37.5	
	comp=Z,98nm,20.7s,MS3.6,baz=206,slow=33						
GTA	**Gaotai**	**39.09**	**2**	P	**P**	**23 47 34.3**	**-0.7**
GTA				AP	pP	23 47 44.5	+2.9
GTA				XP	sP	23 47 48.5	+4.2
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
WRAB	**Tennant Creek**	**40.74**	**122**	*eP*	**P**	**23 47 47.0**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.2						
WRAB	**Tennant Creek**	**40.74**	**122**	*eP*	**P**	**23 47 47.0**	**-1.8**
	comp=Z,6.2nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**42.06**	**127**	P	**P**	**23 47 59.5**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.6,baz=297,slow=7.7,SNR=13						
ASAR				PcP	PcP	23 49 56.0	+0.9
	comp=Z,0.9nm,0.9s,baz=305,slow=2.8,SNR=3.8						
ASAR				LR	LR	00 07 07.3	
	comp=Z,72nm,18.4s,MS3.6,baz=118,slow=38						
HHC	**Hu-ho-hao-te**	**42.30**	**15**	*eP*	**P**	**23 48 02.8**	**+1.3**
HHC				AP	pP	23 48 12.6	+4.6
HHC				XP	sP	23 48 16.7	+5.9
HHC				PP	PP	23 49 45.0	+2.5
HHC				PCP	PcP	23 49 56.3	+0.6
HHC				PCS		23 53 47.0	
HHC				S	**S**	**23 54 22.9**	**+2.1**
HHC				XS		23 54 37.4	
HHC				SS	SS	23 57 25.6	+1.7
HHC				SCS	ScS	23 57 59.4	-0.7
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,107nm,4.3s						
HHC				LR	LR		
	comp=N,236nm,15.6s,MS4.2						
HHC				LR	LR		
	comp=E,102nm,15.0s,MS4.2						
HHC				LR	LR		
	comp=Z,172nm,15.3s,MS4.0						
BJT	**Baijiatuau**	**42.95**	**20**	*eP*	**P**	**23 48 07.5**	**+0.7**
BJT				pmax	pmax		
	comp=Z,17nm,0.7s						
BJT	**Baijiatuau**	**42.95**	**20**	*eP*	**P**	**23 48 07.5**	**+0.6**
	comp=Z,17nm,0.7s,mb4.9						
BJI	**Beijing**	**42.97**	**20**	*eP*	**P**	**23 48 08.0**	**+1.0**
BJI				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.6						
BJI	**Beijing**	**42.97**	**20**	*eP*	**P**	**23 48 08.0**	**+1.0**
	comp=Z,14nm,1.1s,mb4.6						
ULHL	**Ulaho1**	**46.28**	**338**	P	**P**	**23 48 34.2**	**+0.7**
	SNR=11						
KZA	**Kyzart**	**46.53**	**337**	P	**P**	**23 48 36.6**	**+1.1**
	SNR=7.1						
UCH	**Uchtor**	**46.95**	**336**	P	**P**	**23 48 40.0**	**+1.2**
	SNR=18						
TKM2	**Tokmak 2**	**47.11**	**337**	P	**P**	**23 48 40.7**	**+0.7**
	SNR=17						
KBK	**Karagaybulak**	**47.14**	**337**	P	**P**	**23 48 42.0**	**+1.8**
	SNR=16						
AML	**Almayashu**	**47.21**	**335**	P	**P**	**23 48 42.0**	**+1.1**
	SNR=16						
AAK	**Ala-Archa**	**47.30**	**336**	P	**P**	**23 48 42.0**	**+0.5**
	SNR=5.4						
AAK	**Ala-Archa**	**47.30**	**336**	P	**P**	**23 48 41.3**	**-0.3**
	comp=Z,37nm,0.8s,mb5.4,SNR=8.3						
AAK	**Ala-Archa**	**47.30**	**336**	*eP*	**P**	**23 48 41.3**	**-0.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**47.30**	**336**	*eP*	**P**	**23 48 41.3**	**-0.3**
	comp=Z,6.9nm,1.0s,mb4.5						
EKS2	**Erkin-Say**	**47.62**	**336**	P	**P**	**23 48 44.9**	**+0.8**
	SNR=17						
USP	**Ospenovka**	**47.83**	**337**	P	**P**	**23 48 46.2**	**+0.4**
	SNR=17						
SONM	**Songino Array**	**48.02**	**8**	P	**P**	**23 48 47.2**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.4,baz=187,slow=9.7,SNR=24						
SONM				PcP	PcP	23 50 15.4	+0.1
	comp=Z,1.3nm,0.7s,baz=193,slow=4.6,SNR=3.0						
ULN	**Ulaanbaatar**	**48.14**	**8**	*eP*	**P**	**23 48 47.9**	**-0.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
ULN	**Ulaanbaatar**	**48.14**	**8**	*eP*	**P**	**23 48 47.9**	**-0.2**
	comp=Z,6.7nm,1.1s,mb4.6						
KKAR	**Karatay Array**	**49.38**	**333**	*i* P	**P**	**23 48 57.3**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ZAK	**Zakamensk**	**50.22**	**4**	*eP*	**P**	**23 49 03.7**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
STKA	**Stephens Creek**	**52.00**	**132**	P	**P**	**23 49 18.0**	**+0.2**
	comp=Z,1.8nm,0.5s,mb4.3,baz=303,slow=7.3,SNR=9.4						
STKA	**Stephens Creek**	**52.00**	**132**	P	**P**	**23 49 18.0**	**+0.2**
KURK	**Kurchatov**	**53.02**	**345**	*i* P	**P**	**23 49 24.5**	**-0.6**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KURK	**Kurchatov**	**53.02**	**345**	*eP*	**P**	**23 49 24.4**	**-0.8**
	comp=Z,16nm,1.0s,mb4.9						
ZAL	**Zalesovo**	**54.71**	**350**	P	**P**	**23 49 36.4**	**-1.1**
	comp=Z,8.0nm,0.4s,mb5.1,baz=311,slow=4.9,SNR=42						
NVS	**Novosibirsk**	**55.84**	**350**	*eP*	**P**	**23 49 43.1**	**-2.6**
NVS				pmax	pmax		
	comp=N,16nm,1.2s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
KLR	**Kul'dur**	**56.78**	**26**	*eP*	**P**	**23 49 48.8**	**-3.7**
BVA0	**Borovoye Array**	**57.52**	**341**	*i* P	**P**	**23 49 55.6**	**-2.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**57.52**	**341**	P	**P**	**23 49 56.3**	**-1.4**
	comp=Z,3.4nm,0.7s,mb4.5,baz=144,slow=8.8,SNR=31						
CHKZ	**Chkalovo**	**57.99**	**341**	P	**P**	**23 49 59.7**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
BOD	**Bodaibo**	**58.86**	**10**	*eP*	**P**	**23 50 05.5**	**-1.5**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
GNI	**Garni**	**62.66**	**316**	*eP*	**P**	**23 50 34.2**	**+1.2**
GNI				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GNI	**Garni**	**62.66**	**316**	*eP*	**P**	**23 50 34.2**	**+1.2**
	comp=Z,4.9nm,1.0s,mb4.6						
KIV	**Kislovodsk**	**65.67**	**319**	*eP*	**P**	**23 50 52.2**	**-0.5**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**65.67**	**319**	*eP*	**P**	**23 50 52.2**	**-0.5**
	comp=Z,8.9nm,1.0s,mb4.8						
BRTR	**Keskin Array B**	**70.47**	**312**	P	**P**	**23 51 21.7**	**-1.0**
	comp=Z,2.4nm,0.7s,mb4.3,baz=127,slow=7.4,SNR=12						
BOSA	**Boshof**	**75.05**	**240**	P	**P**	**23 51 49.1**	**-0.9**
	comp=Z,2.8nm,0.8s,mb4.2,baz=105,slow=3.6,SNR=3.8						
AKASG	**Malin Array Be**	**76.62**	**322**	P	**P**	**23 51 57.5**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.1,baz=87,slow=5.0,SNR=9.6						
FINES	**FINESS Array B**	**81.33**	**332**	P	**P**	**23 52 23.7**	**0.0**
	comp=Z,2.4nm,0.8s,mb4.2,baz=112,slow=7.5,SNR=9.7						
MORC	**Moravsky Berou**	**83.77**	**320**	*eP*	**P**	**23 52 37.0**	**+0.5**
MORC				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
MORC	**Moravsky Berou**	**83.77**	**320**	*eP*	**P**	**23 52 37.0**	**+0.4**
	comp=Z,4.6nm,1.1s,mb4.5						
ARCES	**ARCESS Array B**	**83.81**	**340**	P	**P**	**23 52 36.5**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.5,baz=76,slow=5.0,SNR=9.3						
ARCES				LR	LR	00 33 27.3	
	comp=Z,54nm,19.3s,MS3.9,baz=14,slow=38						
VNDA	**Vanda**	**84.64**	**169**	P	**P**	**23 52 41.9**	**+1.5**
	comp=Z,0.5nm,0.8s,mb3.7,baz=270,slow=4.0,SNR=2.3						
GERES	**GERESS Array B**	**86.18**	**319**	P	**P**	**23 52 49.2**	**+0.6**
	comp=Z,1.8nm,1.0s,mb4.2,baz=124,slow=4.8,SNR=9.7						
NOA	**NORSAR Array B**	**88.34**	**331**	P	**P**	**23 52 58.9**	**+0.2**
	comp=Z,1.2nm,0.8s,mb4.2,baz=154,slow=9.8,SNR=3.0						
ULM	**Lac du Bonnet**	**128.37**	**11**	PKP	PKPdf	23 59 14.5	-2.8
	comp=Z,1.0nm,0.4s,baz=350,slow=0.8,SNR=3.0						
TXAR	**Lajitas Array**	**144.05**	**33**	PKP	PKPdf	23 59 43.0	-3.5
	comp=Z,0.5nm,0.5s,baz=347,slow=1.2,SNR=8.6						

*TAP **01** 23:56:12.8, 23.97N×122.53E, h29km±1km, ML3.0*

JMA 01 23:56:12.3±0.4, 24.07N×122.46E, h28km, M2.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.64**	**52**	P	Pb	23 56 24.6	-0.2
YOJ				S	Sb	23 56 33.3	-0.1
IRIF	**Iriomote-Funau**	**1.19**	**77**	P	Pn	23 56 32.8	-0.5
IRIF				S	Sn	23 56 48.0	-0.6
HATJ	**Hateruma jima**	**1.23**	**90**	*eS*	Sn	23 56 49.9	+0.2
JKRS	**Kuro-shima**	**1.43**	**83**	P	Pn	23 56 37.7	+1.0
JKRS				*eS*	Sn	23 56 55.2	+0.6
JIJ	**Ishigaki jima**	**1.56**	**79**	P	Pn	23 56 38.3	-0.4
JIJ				*eS*	Sn	23 56 58.6	+0.4

IDC 01 23:58:05.6±5.4, 1.17N×97.47E, mb3.7/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=197.5km s-min=30.2km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.79**	**122**	P	P	00 05 57.1	-1.8
	0.3nm,0.5s,baz=304,slow=8.6,SNR=3.9						
SONM	**Songino Array**	**47.13**	**8**	P	P	00 06 40.2	-1.2
	0.8nm,0.5s,baz=191,slow=9.5,SNR=11						
ZAL	**Zalesovo**	**53.62**	**351**	P	P	00 07 27.9	-3.0
	0.9nm,0.5s,baz=199,slow=3.2,SNR=4.5						

*IDC **02** 00:00:00.7±1.9, 2.19N×96.21E, mb3.9/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7, Error ellipse: s-maj=85.3km s-min=22.5km az=55.0*

*NEIC **02** 00:00:05.3±0.5, 2.25N×96.29E, h30km, mb4.0/1, Error ellipse: s-maj=14.3km s-min=7.9km az=51.0*

ISC 02 00:00:03.6±0.9, 2.3N±0.1×96.3E±0.1, h30km, n15, σ0§34/15, mb3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.27**	**55**	*eP*	**Pn**	**00 01 22.4**	**0.0**
LSA	**Lhasa**	**27.71**	**350**	*eP*	**P**	**00 05 51.8**	**+0.2**
ENH	**Enshi**	**30.52**	**23**	P	**P**	**00 06 16.3**	**-0.4**
WRA	**Warramunga Arr**	**43.36**	**122**	P	**P**	**00 08 05.0**	**-0.3**
	0.3nm,0.6s,mb3.2,baz=302,slow=9.1,SNR=4.6						
WRAB	**Tennant Creek**	**43.36**	**122**	P	**P**	**00 08 05.4**	**+0.1**
	2.3nm,0.8s,mb4.0						
AAK	**Ala-Archa**	**44.67**	**337**	*eP*	**P**	**00 08 15.5**	**-0.1**
ASAR	**Alice Springs**	**44.75**	**127**	P	**P**	**00 08 16.7**	**+0.2**
	0.3nm,0.6s,mb3.3,baz=303,slow=8.2,SNR=3.5						
SONM	**Songino Array**	**46.22**	**9**	P	**P**	**00 08 28.2**	**+0.4**
	1.4nm,0.6s,mb4.0,baz=189,slow=9.4,SNR=12						
SONM				PcP	PcP	00 10 04.1	+0.5
	0.3nm,0.6s,baz=205,slow=2.7,SNR=2.5						
ULN	**Ulaanbaatar**	**46.36**	**10**	P	**P**	**00 08 29.4**	**+0.5**
KURK	**Kurchatov**	**50.53**	**346**	P	**P**	**00 09 00.7**	**-0.6**
ZAL	**Zalesovo**	**52.36**	**351**	P	**P**	**00 09 14.8**	**-0.2**
	2.6nm,0.5s,mb4.4,baz=319,slow=6.1,SNR=13						
BVAR	**Borovoye Array**	**54.95**	**341**	P	**P**	**00 09 33.7**	**-0.5**
	1.1nm,0.6s,mb4.0,baz=149,slow=8.6,SNR=5.8						
FINES	**FINESS Array B**	**78.64**	**333**	P	**P**	**00 12 04.3**	**+0.2**
	1.0nm,0.7s,mb3.9,baz=108,slow=6.0,SNR=5.3						
FINES	**FINESS Array B**	**78.64**	**333**	P	**P**	**00 12 04.3**	**+0.2**
ARCES	**ARCESS Array B**	**81.23**	**340**	P	**P**	**00 12 18.2**	**+0.4**
	2.2nm,0.8s,mb4.1,baz=90,slow=5.4,SNR=3.0						

*IDC **02** 00:12:11.4±0.9, 1.89N×97.72E, mb4.2/11, mb1 4.3/12, mb1mx4.1/19, mbtmp4.2/12, ML4.4/1, Error ellipse: s-maj=48.6km s-min=17.4km az=53.0*

*NEIC **02** 00:12:15.6±0.4, 1.86N×97.75E, h30km, mb4.4/5, Error ellipse: s-maj=12.2km s-min=7.7km az=52.0*

ISC 02 00:12:16.1±4.2, 2.0N±0.2×97.8E±0.2, h48km±34km, n30, σ0§85/30, mb4.3/18, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.37**	**41**	*eP*	**P**	**00 13 22.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**16.44**	**4**	Pn	**P**	**00 16 05.8**	**+0.7**
	0.5nm,0.3s,baz=193,slow=11,SNR=19						
HYB	**Hyderabad**	**24.37**	**310**	*eP*	**P**	**00 17 36.0**	**+4.9**
HYB	**Hyderabad**	**24.37**	**310**	*i* P	**P**	**00 17 36.0**	**+4.9**
JIRN	**Jiri**	**27.88**	**338**	*eP*	**P**	**00 18 01.6**	**-2.1**
	2.3nm,0.3s,mb4.3						
PKI	**Pulchoki**	**28.10**	**336**	*eP*	**P**	**00 18 05.1**	**-0.6**
	8.0nm,0.6s,mb4.5						
DMN	**Daman**	**28.26**	**336**	*eP*	**P**	**00 18 07.0**	**-0.1**
LSA	**Lhasa**	**28.31**	**348**	P	**P**	**00 18 07.2**	**-0.3**
KKN	**Kakani**	**28.35**	**336**	*eP*	**P**	**00 18 07.1**	**-0.8**
	6.4nm,0.5s,mb4.5						
GKN	**Gorkha**	**28.80**	**335**	*eP*	**P**	**00 18 10.5**	**-1.4**
	4.0nm,0.3s,mb4.7						
KOLN	**Koldanda**	**29.05**	**333**	*eP*	**P**	**00 18 14.5**	**+0.4**
	12nm,0.6s,mb4.8						
ENH	**Enshi**	**30.27**	**20**	P	**P**	**00 18 23.8**	**-1.2**
WRA	**Warramunga Arr**	**41.93**	**123**	P	**P**	**00 20 04.2**	**+0.2**
	1.7nm,0.4s,mb4.0,baz=304,slow=8.9,SNR=18						
WRA				PcP	PcP	00 22 00.4	+0.8
	0.4nm,0.4s,baz=317,slow=2.6,SNR=7.2						
WRAB	**Tennant Creek**	**41.94**	**123**	*eP*	**P**	**00 20 03.3**	**-0.8**
	3.2nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**43.37**	**128**	P	**P**	**00 20 15.3**	**-0.5**
	0.9nm,1.0s,mb3.4,baz=76,slow=5.9,SNR=3.7						
ASAR				PcP	PcP	00 22 05.5	+1.2
	0.7nm,0.9s,baz=295,slow=2.5,SNR=4.9						
AAK	**Ala-Archa**	**45.56**	**336**	P	**P**	**00 20 33.5**	**+0.3**
SONM	**Songino Array**	**46.31**	**8**	P	**P**	**00 20 39.6**	**+0.7**
	1.7nm,0.4s,mb4.4,baz=190,slow=8.9,SNR=20						
SONM				PcP	PcP	00 22 14.1	0.0
	0.4nm,0.4s,baz=188,slow=5.7,SNR=4.7						
ULN	**Ulaanbaatar**	**46.43**	**9**	*eP*	**P**	**00 20 39.7**	**-0.3**
KURK	**Kurchatov**	**51.23**	**344**	*eP*	**P**	**00 21 17.0**	**0.0**
	8.1nm,1.0s,mb4.6						
ZAL	**Zalesovo**	**52.91**	**350**	P	**P**	**00 21 29.3**	**-0.3**
	7.0nm,0.4s,mb4.9,baz=317,slow=4.7,SNR=44						
ZAL	**Zalesovo**	**52.91**	**350**	P	**P**	**00 21 29.3**	**-0.3**
BVAR	**Borovoye Array**	**55.75**	**340**	P	**P**	**00 21 50.0**	**-0.3**
	4.4nm,0.5s,mb4.7,baz=140,slow=9.5,SNR=39						
KIV	**Kislovodsk**	**64.14**	**319**	P	**P**	**00 22 47.8**	**-0.1**
BRTR	**Keskin Array B**	**69.06**	**312**	P	**P**	**00 23 19.8**	**+0.6**
	0.9nm,0.8s,mb3.8,baz=139,slow=8.0,SNR=4.6						
AKASG	**Malin Array Be**	**75.03**	**322**	P	**P**	**00 23 54.4**	**-0.1**
	0.3nm,0.2s,mb3.8,baz=93,slow=4.5,SNR=5.9						
FINES	**FINESS Array B**	**79.62**	**332**	P	**P**	**00 24 20.4**	**+0.7**
	1.4nm,0.6s,mb4.0,baz=99,slow=6.4,SNR=14						
ARCES	**ARCESS Array B**	**82.04**	**340**	P	**P**	**00 24 33.5**	**+1.1**
	2.1nm,0.7s,mb4.2,baz=90,slow=3.6,SNR=11						
ARCES	**ARCESS Array B**	**82.04**	**340**	P	**P**	**00 24 33.5**	**+1.1**
HFS	**Hagfors**	**85.38**	**330**	P	**P**	**00 24 51.2**	**+1.9**
	0.8nm,0.4s,mb4.2,baz=150,slow=12,SNR=5.3						
NOA	**NORSAR Array B**	**86.65**	**331**	P	**P**	**00 24 56.9**	**+1.4**
	1.1nm,0.9s,mb4.1,baz=136,slow=2.2,SNR=3.1						

*IDC **02** 00:13:38.2±0.8, 67.52N×24.34E, mb1 3.1/3, mb1mx3.0/19, mbtmp3.1/3, ML2.6/3, Error ellipse: s-maj=16.5km s-min=5.5km az=104.0*

*NAO **02** 00:13:39.9±1.2, 67.52N×24.47E, ML2.3*

*HEL **02** 00:13:39.9±0.1, 67.51N×24.03E, h3km, ML2.1, ML2.4(UPP), ML2.1(BER)*

*BER **02** 00:13:41.1±13.0, 67.58N×24.24E, ML2.1, ML2.3(NAO), Suspected explosion*

ISC 02 00:13:37.9±0.2, 67.51N±0.02×24.05E±0.04, n50, σ0§99/86, 1C-4D, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.61**	**217**	‖*i* P	**Pg**	**00 13 50.6**	**+0.5**
PAJU				*i* S	**Sg**	**00 13 58.5**	**+0.2**
MASU	**Masugnsbyn**	**0.79**	**267**	‖*i* P	**Pg**	**00 13 53.9**	**+0.1**
MASU				*i* S	**Sg**	**00 14 04.3**	**-0.1**
LANU	**Lannavaara**	**0.95**	**306**	‖*eP*	**Pg**	**00 13 56.8**	**-0.2**
LANU				*eS*	**Sg**	**00 14 08.9**	**-0.8**
SGF	**Sodankyl**	**0.95**	**93**	*eP*	**Pg**	**00 13 57.2**	**+0.2**
SGF				*eS*	**Sg**	**00 14 09.5**	**-0.2**
ERTU	**Ertsjaerv**	**1.21**	**218**	‖*eP*	**Pb**	**00 14 01.3**	**-0.1**
ERTU				*eS*	**Sb**	**00 14 16.7**	**-0.7**
DUNU	**Dundret**	**1.41**	**256**	‖*eP*	**Pb**	**00 14 04.8**	**0.0**
KUA	**Kurravaara**	**1.48**	**289**	*eP*	**Pn**	**00 14 06.2**	**+0.3**
KUA				*eS*	**Sb**	**00 14 25.9**	**+0.4**
KTK1	**Kautokeino**	**1.54**	**349**	*eP*	**Pn**	**00 14 07.9**	**+1.1**
KTK1				*eS*	**Sb**	**00 14 26.9**	**-0.1**
KTK1	**Kautokeino**	**1.54**	**349**	*eP*	**Pn**	**00 14 08.0**	**+1.2**
KTK1				*eSg*	**Sg**	**00 14 27.9**	**-1.3**
KTK1				AML	AML	00 14 29.6	
	comp=Z,18nm,0.3s						
KIF	**Kilpisjarvi**	**1.93**	**323**	*eP*	**Pn**	**00 14 13.9**	**+1.6**
KIF				*eS*	**Sn**	**00 14 38.4**	**+0.7**
NIKU	**Nikkaluokta**	**1.95**	**283**	*eP*	**Pn**	**00 14 13.8**	**+1.2**
NIKU				*eS*	**Sn**	**00 14 39.5**	**+1.3**
ARA0	**ARCESS Array S**	**2.10**	**14**	*eP*	**Pn**	**00 14 15.7**	**+0.9**
ARA0				*eS*	**Sn**	**00 14 42.0**	**-0.1**
ARA0	**ARCESS Array S**	**2.10**	**14**	Pn	**Pn**	**00 14 15.7**	**+0.8**
	baz=195,slow=16						
ARA0				Lg		00 14 42.9	
	baz=191,slow=37						
ARCES	**ARCESS Array B**	**2.10**	**14**	Pg	**Pn**	**00 14 15.7**	**+0.9**
	comp=Z,3.0nm,0.3s,baz=194,slow=16,SNR=218						
ARCES				Lg		00 14 42.5	
	comp=Z,12nm,0.3s,baz=189,slow=28,SNR=48						
SJUU	**Sjulsmark**	**2.24**	**207**	*eP*	**Pn**	**00 14 17.6**	**+0.8**
KU3	**Posio**	**2.26**	**125**	*eP*	**Pn**	**00 14 18.4**	**+1.3**
KU3				*eSB*	**Sb**	**00 14 48.1**	**+0.2**
KU2	**Taivalkoski**	**2.46**	**135**	*eP*	**Pn**	**00 14 22.9**	**+2.9**
KU2				*eSB*	**Sb**	**00 14 53.8**	**+0.1**
KU2				*eSG*	**Sg**	**00 14 56.2**	**-3.6**
KU4	**Liikasenvaara**	**2.46**	**115**	*eP*	**Pn**	**00 14 21.0**	**+1.0**
KU4				*eS*	**Sn**	**00 14 50.8**	**-0.4**
KU4				*eSB*	**Sb**	**00 14 54.1**	**+0.3**
KU4				MSG		00 14 57.1	
	comp=Z,5.7nm,0.1s						
KEV	**Kevo**	**2.50**	**24**	*eP*	**Pn**	**00 14 20.7**	**+0.2**
KEV				*eS*	**Sn**	**00 14 51.3**	**-0.9**
KEV				MSG		00 14 56.3	
	comp=Z,26nm,0.2s						
OUL	**Oulu**	**2.55**	**162**	*eP*	**Pn**	**00 14 22.1**	**+0.9**
OUL				*eS*	**Sn**	**00 14 52.8**	**-0.5**
OUL				*eSB*	**Sb**	**00 14 56.2**	**-0.1**
OUL				MSG		00 14 58.0	
	comp=Z,5.8nm,0.1s						
MSF	**Maaselka**	**2.55**	**127**	*eP*	**Pn**	**00 14 22.2**	**+1.0**
MSF				*eS*	**Sn**	**00 14 52.9**	**-0.5**
MSF				MSG		00 14 59.8	
	comp=Z,11nm,0.2s						
LILU	**Lilltraesk**	**2.80**	**219**	*eP*	**Pn**	**00 14 24.9**	**+0.1**
KU5	**Karpankyla**	**2.82**	**122**	*eP*	**Pn**	**00 14 25.8**	**+0.8**
KU5				*eSG*	**Sg**	**00 15 05.6**	**-6.1**
TRO	**Tromso**	**2.84**	**321**	*eP*	**Pn**	**00 14 24.6**	**-0.8**
TRO	**Tromso**	**2.84**	**321**	*eP*	**Pn**	**00 14 24.6**	**-0.8**
TRO				*eS*	**Sn**	**00 14 59.3**	**-1.6**
TRO				AML	AML	00 15 09.4	
	comp=Z,11nm,0.2s						
KU1	**Kurvinen**	**2.94**	**129**	*eP*	**Pn**	**00 14 27.7**	**+0.8**
KU1				*eS*	**Sn**	**00 15 02.7**	**-0.7**
BURU	**Burvik**	**3.13**	**202**	*eP*	**Pn**	**00 14 30.4**	**+0.8**
APA0	**Apatity Array**	**3.43**	**84**	Pn	**Pn**	**00 14 32.9**	**-0.9**
	baz=281,slow=11						
APA0				Lg		00 15 23.6	
	baz=281,slow=37						
APA0	**Apatity Array**	**3.43**	**84**	*eSB*	**Sb**	**00 15 19.7**	**-2.2**
SVAU	**Svanoeiden**	**3.54**	**213**	*eP*	**Pn**	**00 14 35.1**	**-0.2**
KJN	**Kajaani**	**3.75**	**155**	*eP*	**Pn**	**00 14 38.8**	**+0.4**
KJN				*eS*	**Sn**	**00 15 22.5**	**-1.4**
KJN				*eSB*	**Sb**	**00 15 31.4**	**0.0**
KJN				MSG		00 15 35.7	
	comp=Z,5.5nm,0.2s						
MOR8	**Moi Rana**	**4.03**	**255**	*eS*	**Sn**	**00 15 24.3**	**-6.5**
MOR8				*eSG*	**Sg**	**00 15 41.1**	**-11**
MOR8	**Moi Rana**	**4.03**	**255**	*eS*	**Sn**	**00 15 25.8**	**-5.0**
MOR8				AML	AML	00 15 42.3	
	comp=Z,10nm,0.4s						
LOF	**Lofoten**	**4.04**	**284**	*e*	**Sg**	**00 15 49.3**	**-3.0**
LOF	**Lofoten**	**4.04**	**284**	*eSg*	**Sg**	**00 15 47.7**	**-4.5**
LOF				AML	AML	00 15 52.7	
	comp=Z,19nm,0.4s						
STOK	**Stokkvaagen**	**4.50**	**260**	*eS*	**Sn**	**00 15 40.0**	**-2.8**
STOK				*eSG*	**Sg**	**00 15 59.9**	**-7.9**
STOK	**Stokkvaagen**	**4.50**	**260**	*eS*	**Sn**	**00 15 40.8**	**-2.1**
STOK				AML	AML	00 16 01.7	
	comp=Z,15nm,0.7s						
SUF	**Sumiainen**	**4.89**	**169**	*eP*	**Pn**	**00 14 55.1**	**+0.6**
SUF				*eS*	**Sn**	**00 15 49.0**	**-3.7**
SUF				MSG		00 16 19.9	
	comp=Z,1.1nm,0.2s						
KEF	**Keuruu**	**5.38**	**176**	*eP*	**Pn**	**00 15 01.1**	**-0.2**
KEF				*eS*	**Sn**	**00 16 00.9**	**-4.0**
KEF				MSG		00 16 26.4	
	comp=Z,1.7nm,0.2s						
KAF	**Kangasniemi**	**5.50**	**169**	*eP*	**Pn**	**00 15 03.6**	**+0.5**
KAF				*eS*	**

PSAN			*i* S		Sg	00 14 56.9	-3.1
PSET	**Sete Cidades**	**0.82 116**	*e*P		Pg	00 14 46.9	-2.7
PSET			*e*S		Sg	00 14 57.6	-3.0
	294nm,0.2s						
PSET	**Sete Cidades**	**0.82 116**	*e*P		Pg	00 14 46.9	-2.7
PSET			*e*S		Sg	00 14 57.6	-3.0
	294nm,0.2s						
FAC	**Faja de Cima**	**0.90 118**	*e*P		Pg	00 14 48.3	-2.7
FAC			*i* S		Sg	00 14 59.1	-3.9
PDA	**Ponta Delgada**	**0.90 119**	*e*x			00 15 00.9	
CML	**Cha da Macela**	**0.97 115**	*e*P		Pb	00 14 49.0	-3.5
CML			*i* S		Sg	00 15 00.9	-4.6
PVER	**Pico Vermelho**	**0.98 113**	*e*P		Pb	00 14 49.1	-3.6
PVER			*e*S		Sg	00 15 01.5	-4.4
	147nm,0.3s						
PMAT	**Coroa da Mata**	**1.01 112**	*e*P		Pb	00 14 49.6	-3.5
PMAT			*i* S		Sg	00 15 02.1	-4.6
	162nm,0.2s						
LFA	**Lagoa do Fogo**	**1.02 114**	*i* P		Pb	00 14 49.7	-3.6
MESC	**Monte Escuro**	**1.03 112**	*e*P		Pb	00 14 49.9	-3.7
MESC			*i* S		Sb	00 15 02.6	-5.0
PRCH	**Ribeira Ch**	**1.04 116**	*e*P		Pb	00 14 49.9	-3.7
PRCH			*e*S		Sb	00 15 03.1	-4.5
	113nm,0.2s						
PRCH	**Ribeira Ch**	**1.04 116**	*e*P		Pb	00 14 49.9	-3.7
PRCH			*e*S		Sb	00 15 03.1	-4.5
	113nm,0.2s						
VIF	**Vila Franca**	**1.06 115**	*e*P		Pb	00 14 50.7	-3.3
VIF			*e*S		Sb	00 15 03.5	-4.8
	32nm,0.2s						
VIF	**Vila Franca**	**1.06 115**	*e*P		Pb	00 14 50.7	-3.3
VIF			*e*S		Sb	00 15 03.5	-4.8
	32nm,0.2s						
PCNG	**Congro**	**1.08 113**	*e*P		Pb	00 14 50.7	-3.7
PCNG			*e*S		Sb	00 15 04.1	-4.8
	63nm,0.2s						
PFAD	**Fenais da Ajud**	**1.11 108**	*e*P		Pb	00 14 50.8	-4.1
PFAD			*i* S		Sb	00 15 04.4	-5.3
FRA1	**Furnas**	**1.12 113**	*e*P		Pb	00 14 51.1	-3.9
FRA1			*i* S		Sb	00 15 05.2	-4.8
MIRA	**Miradouro**	**1.16 110**	*i* P		Pb	00 14 51.6	-4.1
MIRA			*e*S		Sb	00 15 04.9	-6.3
PMAN	**Manadas**	**1.21 292**	*e*P		Pb	00 14 52.5	-4.1
PMAN			*e*S		Sb	00 15 07.0	-5.6
STGR	**Santa Cruz**	**1.38 310**	*e*S		Sb	00 15 10.7	-6.8
	8.2nm,0.1s						
PICO	**Pico**	**1.43 283**	*e*P		Pb	00 14 56.0	-4.3
CALA	**Caldeira**	**1.66 284**	*e*S		Sb	00 15 18.2	-7.3
PCED	**Cedros**	**1.67 286**	*e*P		Pn	00 14 58.3	-5.4
PCED			*e*S		Sb	00 15 17.2	-8.7
	21nm,0.4s						
PSMN	**Pico do Norte,**	**1.73 133**	*e*P		Pn	00 15 00.0	-4.7
PSMN			*e*S		Sb	00 15 19.3	-8.5

*IDC **02** 00:34:32.9±3.4, 8.19N×38.11W, mb3.9/6, mb1 4.1/6, mb1mx3.7/22, mbtmp3.9/6, MS3.4/4, Ms1 3.4/4, ms1mx3.0/25, Error ellipse: s-maj=104.8km s-min=24.0km az=97.0*

*NEIC **02** 00:34:34.8±1.2, 8.19N×38.20W, h10km, mb3.9/2, Error ellipse: s-maj=35.0km s-min=10.7km az=102.0*

ISC 02 00:34:33.3±1.8, 8.2N±0.1×38.3W±0.4, h10km, n16, σ0=54/13, mb3.8/8, MS3.4/4, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**25.59**	**202**	P	**P**	**00 40 04.1**	**-0.5**
	6.5nm,0.9s,mb4.1,baz=39,slow=8.9,SNR=6.9						
SAML	**Samuel**	**30.11**	**236**	*e*P	**P**	**00 40 45.3**	**-0.4**
	2.5nm,1.0s,mb3.9						
SIV	**San Ignacio**	**32.99**	**223**	P	**P**	**00 41 10.7**	**-0.1**
	1.4nm,0.8s,mb4.0,baz=53,slow=10,SNR=7.5						
ROSC	**El Rosal**	**35.97**	**267**	LR	LR	00 55 07.7	
	comp=Z,63nm,20.1s,MS3.4,baz=111,slow=34						
LPAZ	**La Paz**	**38.29**	**231**	P	**P**	**00 41 57.4**	**+1.3**
	2.1nm,0.9s,mb3.9,baz=47,slow=8.9,SNR=9.2						
LPAZ				LR	LR	00 56 32.6	
	comp=Z,39nm,21.6s,MS3.2,baz=70,slow=34						
GERES	**GERESS Array B**	**59.37**	**37**	LR	LR	01 10 11.5	
	comp=Z,26nm,18.1s,MS3.4,baz=121,slow=36						
WMOK	**Wichita Mounta**	**61.20**	**305**	P	**P**	**00 44 50.6**	**-0.2**
ULM	**Lac du Bonnet**	**63.30**	**323**	P	**P**	**00 45 04.1**	**-0.5**
	0.8nm,0.3s,mb4.3,baz=79,slow=5.8,SNR=4.7						
SUMG	**Summit**	**64.31**	**360**	*e*P	**P**	**00 45 11.0**	**0.0**
TXAR	**Lajitas Array**	**64.60**	**298**	P	**P**	**00 45 13.1**	**-0.5**
	0.2nm,0.7s,mb3.3,baz=97,slow=7.3,SNR=3.5						
TXAR	**Lajitas Array**	**64.60**	**298**	P	**P**	**00 45 13.1**	**-0.5**
SDCO	**Great Sand Dun**	**67.04**	**307**	P	**P**	**00 45 29.1**	**0.0**
HLID	**Hailey**	**74.35**	**313**	*e*P	**P**	**00 46 13.7**	**+0.5**
	0.5nm,0.5s,mb3.7						
KMBO	**Kilima Mbogo**	**75.83**	**93**	LR	LR	01 16 46.6	
	comp=Z,41nm,18.9s,MS3.8,baz=272,slow=34						
YKA	**Yellowknife Ar**	**76.45**	**332**	P	**P**	**00 46 25.2**	**+0.4**
	0.6nm,0.9s,mb3.5,baz=98,slow=5.3,SNR=8.6						
YKA	**Yellowknife Ar**	**76.45**	**332**	P	**P**	**00 46 25.2**	**+0.4**

*CSEM **02** 01:00:27.9±0.3, 38.67N×27.92W, h3km, ML2.7, Error ellipse: s-maj=17.5km s-min=5.1km az=171.0, After PDA*

*PDA **02** 01:00:27.9±1.0, 38.67N×27.92W, h3km±4km, MD3.0, ML2.7, Error ellipse: s-maj=2.2km s-min=2.0km az=177.0*

SVSA 02 01:00:27.9±1.0, 38.67N×27.92W, h3km±4km, MD3.0, ML2.7, Error ellipse: s-maj=2.2km s-min=2.0km az=177.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAN	**Manadas**	**0.13**	**254**	*i* P	Pg	01 00 30.4	-0.2
PMAN				*e*S	Sg	01 00 32.3	-0.2
	4μm,0.1s						
PIED	**Piedade**	**0.27**	**202**	*i* P	Pg	01 00 33.0	-0.3
STGR	**Santa Cruz**	**0.41**	**351**	*i* P	Pg	01 00 35.5	-0.7
STGR				*i* S	Sg	01 00 41.4	-0.4
	978nm,0.1s						
PICO	**Pico**	**0.43**	**247**	*e*P	Pg	01 00 35.7	-0.8
PICO				*e*S	Sg	01 00 41.5	-0.7
ASBA	**Santa Barbara**	**0.47**	**84**	*e*P	Pg	01 00 35.9	-1.4
ASBA				*i* S	Sg	01 00 42.5	-1.1
	201nm,0.2s						
ASBA	**Santa Barbara**	**0.47**	**84**	*e*P	Pg	01 00 35.9	-1.4
ASBA				*i* S	Sg	01 00 42.5	-1.1
	201nm,0.2s						
PSBA	**Serra de Santa**	**0.48**	**78**	*e*P	Pg	01 00 36.0	-1.5
PSBA				*e*S	Sg	01 00 42.5	-1.4
	160nm,0.1s						
PPAD	**Pico dos Padre**	**0.50**	**86**	*e*P	Pg	01 00 36.5	-1.4
PPAD				*i* S	Sg	01 00 43.1	-1.5
	172nm,0.1s						
PBIS	**Biscoitos**	**0.53**	**80**	*e*P	Pg	01 00 37.6	-1.0
PBIS				*i* S	Sg	01 00 44.0	-1.7
	83nm,0.2s						
PBIS	**Biscoitos**	**0.53**	**80**	*e*P	Pg	01 00 37.6	-1.0
PBIS				*i* S	Sg	01 00 44.0	-1.7
	83nm,0.2s						
ADH	**Angra Heroismo**	**0.54**	**91**	*e*P	Pg	01 00 37.7	-1.0
ADH				*i* S	Sg	01 00 44.5	-1.4
HOR	**Horta**	**0.57**	**256**	*i* P	Pg	01 00 37.6	-1.7
HOR				*e*S	Sg	01 00 45.0	-1.9
HOR	**Horta**	**0.57**	**256**	*e*S	Sg	01 00 45.0	-1.9
RIB2	**Ribeirinha**	**0.59**	**90**	*e*P	Pg	01 00 37.9	-1.7
RIB2				*i* S	Sg	01 00 45.5	-2.0
	94nm,0.2s						
PVNV	**Vila Nova**	**0.61**	**81**	*e*P	Pg	01 00 38.6	-1.5
PVNV				*i* S	Sg	01 00 46.0	-2.2
	43nm,0.1s						
PCED	**Cedros**	**0.61**	**266**	*e*P	Pg	01 00 37.7	-2.4
PCED				*e*S	Sg	01 00 46.0	-2.2
	320nm,0.1s						
CALA	**Caldeira**	**0.62**	**262**	*e*P	Pg	01 00 38.5	-1.7
CALA				*e*S	Sg	01 00 47.2	-1.2
PFAV	**Pico das Favas**	**0.66**	**86**	*e*P	Pg	01 00 39.0	-2.1
PFAV				*i* S	Sg	01 00 47.3	-2.5
	44nm,0.2s						
SET4	**Mosteiros**	**1.85**	**115**	*e*P	Pn	01 00 55.9	-4.9
SET4				*i* S	Sn	01 01 16.6	-8.4
SET2	**Ginetes**	**1.86**	**116**	*e*P	Pn	01 00 56.2	-4.7
SET2				*i* S	Sn	01 01 17.2	-8.0
FAC	**Faja de Cima**	**2.00**	**116**	*e*S	Sn	01 01 20.4	-8.4
CML	**Cha da Macela**	**2.08**	**115**	*e*S	Sn	01 01 22.0	-8.7

IDC 02 01:01:46.3±12.0, 10.79N×91.02E, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.9/18, Error ellipse: s-maj=410.1km s-min=33.7km az=75.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.90**	**63**	*e*S	Sx	01 02 49.1	
VIS	**Vishakhapatnam**	**10.15**	**314**	*e*P	P	01 04 08.4	-8.1
VIS				AMb	AMB	01 04 17.2	
	comp=Z,12nm,1.1s						
VIS				*e*S	S	01 05 50.2	-22
BLSP	**Bilaspur**	**14.13**	**324**	*e*P	P	01 05 05.0	-5.1
BLSP				AMb	AMB	01 05 13.1	
	comp=Z,7.3nm,1.4s						
BLSP				*e*S	S	01 07 35.3	-14
SHL	**Shillong**	**14.72**	**3**	*e* P	P	01 05 21.0	+3.1
SHL				*e*S	Sx	01 07 50.1	
SONM	**Songino Array**	**39.13**	**16**	P	P	01 09 15.7	-1.6
	comp=Z,0.4nm,0.6s,baz=201,slow=8.7,SNR=4.3						
ZAL	**Zalesovo**	**43.32**	**355**	LR	LR	01 31 23.5	
	comp=Z,36nm,18.2s,baz=66,slow=41						
WRA	**Warramunga Arr**	**52.45**	**126**	P	P	01 11 01.0	-2.3
	comp=Z,1.0nm,0.6s,baz=306,slow=8.2,SNR=12						
ASAR	**Alice Springs**	**54.13**	**130**	P	P	01 11 13.6	-2.1
	comp=Z,0.6nm,0.7s,baz=306,slow=6.5,SNR=6.2						

*BJI **02** 01:26:19.0, 0.13S×97.94E, h39km, mB4.9, mb4.7, Ms4.6, Msz4.1*

*IDC **02** 01:26:20.0±1.1, 0.47N×97.84E, mb4.1/10, mb1 4.2/10, mb1mx4.0/17, mbtmp4.1/10, MS3.3/1, Ms1 3.3/1, ms1mx2.9/20, Error ellipse: s-maj=57.2km s-min=16.8km az=51.0*

*NEIC **02** 01:26:24.2±0.5, 0.44N×97.98E, h30km, mb4.5/7, Error ellipse: s-maj=15.1km s-min=7.8km az=52.0*

ISC 02 01:26:21.6±2.8, 0.48N±0.10×97.9E±0.1, h22km±19km, h32km±1.0km: pP-P, n30, σ0=82/32, mb4.3/21, MS3.6/2, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.50**	**29**	*e*P	**Pn**	**01 27 44.4**	**0.0**
JIRN	**Jiri**	**29.29**	**338**	*e*P	**P**	**01 32 25.2**	**+0.3**
	11nm,0.6s,mb4.7						
PKI	**Pulchoki**	**29.50**	**337**	*e*P	**P**	**01 32 27.2**	**+0.4**
	18nm,1.0s,mb4.7						
GUN	**Gumba**	**29.63**	**338**	*e*P	**P**	**01 32 28.0**	**+0.1**
	15nm,0.5s,mb5.0						
DMN	**Daman**	**29.66**	**337**	*e*P	**P**	**01 32 28.6**	**+0.4**
KKN	**Kakani**	**29.75**	**337**	*e*P	**P**	**01 32 28.8**	**-0.2**
LSA	**Lhasa**	**29.77**	**348**	*e*P	**P**	**01 32 29.6**	**+0.4**
	10nm,0.8s,mb4.6						
GKN	**Gorkha**	**30.19**	**336**	*e*P	**P**	**01 32 32.9**	**0.0**
	8.1nm,0.4s,mb4.8						
KOLN	**Koldanda**	**30.42**	**334**	*e*P	**P**	**01 32 35.1**	**+0.1**
	11nm,0.8s,mb4.7						
ENH	**Enshi**	**31.60**	**19**	P	**P**	**01 32 44.0**	**-1.3**
GTA	**Gaotai**	**38.79**	**2**	P	**P**	**01 33 46.4**	**-0.2**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**41.03**	**122**	P	**P**	**01 34 05.3**	**0.0**
	comp=Z,1.3nm,0.6s,mb3.8,baz=302,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**41.03**	**122**	P	**P**	**01 34 03.8**	**-1.5**
HHC	**Hu-ho-hao-te**	**42.05**	**15**	*e*P	**P**	**01 34 15.8**	**+2.3**
HHC				AP	pP	01 34 25.6	+5.6
HHC				XP	sP	01 34 29.3	+6.6
HHC				PP	PP	01 35 57.2	+3.2
HHC				PCP	PcP	01 36 08.5	-0.4
HHC				PCS		01 40 00.3	
HHC				S	**S**	**01 40 35.6**	**+4.4**
HHC				XS		01 40 51.8	
HHC				SS	SS	01 43 39.5	+6.3
HHC				SCS	ScS	01 44 11.7	-0.9
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,107nm,5.7s						
HHC				LR	LR		
	comp=N,109nm,15.7s,MS4.0						
HHC				LR	LR		
	comp=E,138nm,16.7s,MS4.0						
HHC				LR	LR		
	comp=Z,81nm,14.2s,MS3.8						
ASAR	**Alice Springs**	**42.37**	**127**	P	**P**	**01 34 16.7**	**+0.3**
	comp=Z,1.4nm,0.8s,mb3.6,baz=301,slow=7.3,SNR=10.0						
ASAR				LR	LR	01 52 22.9	
	comp=Z,40nm,19.1s,MS3.3,baz=7.2,slow=37						
BJI	**Beijing**	**42.74**	**21**	*e*P	**P**	**01 34 14.8**	**-4.4**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
BJI	**Beijing**	**42.74**	**21**	*e*P	**P**	**01 34 14.8**	**-4.4**
	comp=Z,9.0nm,0.8s,mb4.5						
KSH	**Kashi**	**43.73**	**335**	*e*P	**P**	**01 34 27.1**	**-0.1**
KSH				*e*AP	pP	01 34 36.0	+2.2
KSH				*e*XP	sP	01 34 40.0	+3.5
KSH				*e*PP	PP	01 36 10.2	-0.7
KSH				*e*PCP	PcP	01 36 13.1	-1.4
KSH				*e*PPP	PPP	01 36 48.0	+0.3
KSH				*e*SCP		01 40 01.0	
KSH				*e*PCS		01 40 05.0	
KSH				*e*S	**S**	**01 40 55.1**	**-0.7**
KSH				*e*SCS	ScS	01 44 21.1	-1.9
KSH				AMB	AMB		
	comp=Z,290nm,5.4s						
KSH				LR	LR		
	comp=N,360nm,6.6s						
KSH				LR	LR		
	comp=E,340nm,5.7s						
WMQ	**Urumqi**	**44.11**	**349**	⇓P	**P**	**01 34 31.0**	**+0.7**
WMQ				AP	pP	01 34 41.0	+4.2
WMQ				XP	sP	01 34 45.0	+5.5
WMQ				PP	PP	01 36 15.5	+0.9
WMQ				PPP	PPP	01 36 54.0	+1.4
WMQ				S	**S**	**01 41 01.7**	**+0.4**
WMQ				XS		01 41 18.0	
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,38nm,4.2s						
AAK	**Ala-Archa**	**46.95**	**336**	P	**P**	**01 34 52.2**	**-0.7**
SONM	**Songino Array**	**47.74**	**8**	P	**P**	**01 34 59.1**	**+0.1**
	comp=Z,3.1nm,0.6s,mb4.5,baz=190,slow=9.7,SNR=29						
SONM				PcP	PcP	01 36 28.4	0.0
	comp=Z,0.3nm,0.5s,baz=198,slow=4.8,SNR=2.3						
STKA	**Stephens Creek**	**52.33**	**132**	P	**P**	**01 35 35.4**	**+1.0**
	comp=Z,1.1nm,0.5s,mb4.1,baz=246,slow=8.3,SNR=4.8						
KURK	**Kurchatov**	**52.68**	**345**	*e*P	**P**	**01 35 35.8**	**-0.9**
	comp=Z,4.4nm,1.1s,mb4.3						
ZAL	**Zalesovo**	**54.38**	**350**	P	**P**	**01 35 48.2**	**-0.9**
	comp=Z,4.0nm,0.5s,mb4.6,baz=302,slow=6.2,SNR=19						
BVAR	**Borovoye Array**	**57.17**	**341**	P	**P**	**01 36 08.2**	**-1.1**
	comp=Z,3.0nm,0.6s,mb4.5,baz=143,slow=9.2,SNR=21						
BRTR	**Keskin Array B**	**70.14**	**312**	P	**P**	**01 37 33.5**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=135,slow=5.2,SNR=4.2						
FINES	**FINESS Array B**	**80.98**	**332**	P	**P**	**01 38 36.3**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=90,slow=5.7,SNR=7.2						
ARCES	**ARCESS Array B**	**83.46**	**340**	P	**P**	**01 38 49.2**	**+0.6**
	comp=Z,2.2nm,0.8s,mb4.2,slow=4.9,SNR=5.3						
GERES	**GERESS Array B**	**85.84**	**319**	P	**P**	**01 39 02.5**	**+1.5**
	comp=Z,1.0nm,1.1s,mb4.0,baz=90,slow=1.0,SNR=4.8						
TXAR	**Lajitas Array**	**143.88**	**33**	PKP	PKPdf	01 45 56.5	-3.8
	comp=Z,0.4nm,0.8s,baz=158,slow=2.0,SNR=4.2						

*IDC **02** 01:40:41.6±10.0, 35.73N×72.54E, mb4.0/3, mb1 4.2/3, mb1mx3.5/18, mbtmp4.1/3, ML3.8/1, Error ellipse: s-maj=186.1km s-min=60.7km az=155.0*

*NNC **02** 01:41:20.5±57.0, 37.96N×71.72E, mpv3.2, Error ellipse: s-maj=1166.6km s-min=689.3km az=80.0*

ISC 02 01:41:05.7±1.9, 37.1N±0.1×71.2E±0.2, h100km, n10, σ1=13/11, mb4.0/2, 1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.40**	**20**	P	**P**	**01 42 27.3**	**+2.1**
	SNR=46						
UCH	**Uchtor**	**5.74**	**25**	P	**P**	**01 42 30.6**	**+0.8**
	SNR=12						
KZA	**Kyzart**	**5.89**	**31**	P	**P**	**01 42 31.2**	**-0.7**
	SNR=6.4						
KK31	**Karatay Array**	**6.04**	**355**	P	**P**	**01 42 39.9**	**+6.0**
	1.0nm,0.3s,baz=158,slow=11,SNR=55						
KK31				⇓S	**S**	**01 43 41.9**	**-0.4**
	7.1nm,0.3s,baz=172,slow=23,SNR=21						
AAK	**Ala-Archa**	**6.10**	**24**	P	**P**	**01 42 35.7**	**+1.0**
	SNR=9.8						
ULHL	**Ulahol**	**6.46**	**35**	P	**P**	**01 42 37.8**	**-2.0**
	SNR=8.4						
BVAR	**Borovoye Array**	**15.95**	**358**	P	**P**	**01 44 44.9**	**-0.3**
	0.3nm,0.3s,baz=164,slow=12,SNR=8.9						
ZAL	**Zalesovo**	**19.30**	**25**	P	**P**	**01 45 17.2**	**-7.8**
	5.9nm,0.5s,baz=252,slow=8.1,SNR=27						
FINES	**FINESS Array B**	**37.09**	**326**	P	**P**	**01 48 08.2**	**+0.6**
	1.5nm,1.0s,mb3.9,baz=124,slow=6.9,SNR=5.2						
ARCES	**ARCESS Array B**	**40.67**	**337**	P	**P**	**01 48 36.2**	**-1.0**
	2.6nm,0.8s,mb4.1,baz=117,slow=8.1,SNR=5.7						

*NEIC **02** 01:47:58.0, 38.00S×176.54E, h144km, MG3.9(WEL), After WEL.*

WEL 02 01:47:58.1±0.3, 38.04S×176.55E, h146km±2km, ML3.8/13, 9C, Error ellipse: s-maj=2.0km s-min=2.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.11**	**61**	PN	P	01 48 17.9	-0.2
LIRZ	**Lichensteins R**	**0.14**	**285**	*e*PN	P	01 48 18.0	-0.2
TAZ	**Tarawera**	**0.20**	**190**	P	P	01 48 18.0	-0.3
TAZ	**Tarawera**	**0.20**	**190**	PN	P	01 48 18.2	-0.2
PATZ	**Paeroa**	**0.41**	**214**	⇑P	P	01 48 18.8	-0.3
PATZ	**Paeroa**	**0.41**	**214**	⇑PN	P	01 48 18.8	-0.3
URZ	**Urewera**	**0.49**	**117**	⇑P	P	01 48 18.6	-0.9
URZ	**Urewera**	**0.49**	**117**	⇑PN	P	01 48 18.6	-0.9
URZ				SN	S	01 48 34.5	-1.3
MYRZ	**Mayor Island**	**0.80**	**342**	PN	P	01 48 20.3	-1.0
MWZ	**Matawai**	**0.82**	**111**	P	P	01 48 21.0	-0.4
MWZ				S	S	01 48 38.6	-0.7
MWZ	**Matawai**	**0.82**	**111**	PN	P	01 48 21.0	-0.4
MWZ				SN	S	01 48 38.8	-0.5
BKZ	**Black Stump Fm**	**1.13**	**182**	P	P	01 48 23.6	-0.3
BKZ	**Black Stump Fm**	**1.13**	**182**	⇑PN	P	01 48 23.6	-0.3
BKZ				SN	S	01 48 43.0	-0.7
MGZ	**Maungaku**	**1.25**	**219**	P	P	01 48 24.8	-0.3
MGZ	**Maungaku**	**1.25**	**219**	*e*PN	P	01 48 24.8	-0.3
KNZ	**Kokohu**	**1.32**	**138**	P	P	01 48 25.8	0.0
KNZ	**Kokohu**	**1.32**	**138**	⇑PN	P	01 48 25.8	0.0
KNZ				SN	S	01 48 46.2	-1.0
PUZ	**Puketiti**	**1.35**	**92**	P	P	01 48 25.5	-0.6
PUZ				S	S	01 48 45.7	-2.0
PUZ	**Puketiti**	**1.35**	**92**	⇑PN	P	01 48 25.5	-0.7
PUZ				SN	S	01 48 45.9	-1.8
NGZ	**Ngauruhoe**	**1.36**	**213**	P	P	01 48 26.3	+0.1
NGZ				P		01 48 26.6	
NGZ	**Ngauruhoe**	**1.36**	**213**	*e*PN	P	01 48 26.3	0.0
TUVZ	**Tukino**	**1.41**	**210**	P	P	01 48 26.6	-0.2
TUVZ	**Tukino**	**1.41**	**210**	⇑PN	P	01 48 26.6	-0.2
FWVZ	**Far West T-bar**	**1.45**	**213**	PN	P	01 48 27.1	0.0
MXZ	**Matakaoa Point**	**1.47**	**72**	PN	P	01 48 26.9	-0.5
MXZ				SN	S	01 48 48.8	-1.1
MXZ				SN	S	01 48 49.6	-0.4
WNVZ	**Wahianoa**	**1.49**	**210**	P	P	01 48 26.7	-0.9
WNVZ	**Wahianoa**	**1.49**	**210**	PN	P	01 48 27.2	-0.4
MOVZ	**Moawhango**	**1.50**	**204**	P	P	01 48 26.9	-0.9
MOVZ	**Moawhango**	**1.50**	**204**	⇑PN	P	01 48 26.9	-0.9
TSZ	**Takapari Road**	**2.07**	**193**	P	P	01 48 33.0	-1.2
TSZ	**Takapari Road**	**2.07**	**193**	PN	P	01 48 32.9	-1.3
BFZ	**Birch Farm**	**2.65**	**185**	*e*P	P	01 48 39.4	-2.1
BFZ	**Birch Farm**	**2.65**	**185**	PN	P	01 48 39.6	-2.0
MRZ	**Mangatainoka R**	**2.73**	**196**	P	P	01 48 40.0	-2.5
MRZ	**Mangatainoka R**	**2.73**	**196**	PN	P	01 48 40.0	-2.5
MRZ				SN	S	01 49 12.4	-4.0
KIW	**Kapiti Island**	**3.09**	**204**	P	P	01 48 43.9	-3.3
KIW	**Kapiti Island**	**3.09**	**204**	PN	P	01 48 43.8	-3.4
KIW				SN	S	01 49 20.3	-4.5
MTW	**Mount Morrison**	**3.22**	**194**	P	P	01 48 45.4	-3.5
MTW	**Mount Morrison**	**3.22**	**194**	PN	P	01 48 45.4	-3.5
CAW	**Cannon Point**	**3.27**	**200**	P	P	01 48 46.1	-3.5
CAW	**Cannon Point**	**3.27**	**200**	PN	P	01 48 46.1	-3.5
CAW				SN	S	01 49 23.5	-5.5
PAWZ	**Paruwai Farm**	**3.45**	**194**	*e*PN	P	01 48 48.1	-3.8
PAWZ				SN	S	01 49 27.6	-5.5
MRW	**Makara Radio**	**3.49**	**204**	*e*PN	P	01 48 48.5	-4.0
MRW				SN	S	01 49 29.7	-4.4
MSWZ	**Moikau Station**	**3.52**	**196**	P	P	01 48 49.0	-3.8
MSWZ	**Moikau Station**	**3.52**	**196**	PN	P	01 48 48.9	-3.9
MSWZ				SN	S	01 49 28.2	-6.5
BHW	**Baring Head**	**3.60**	**201**	PN	P	01 48 50.0	-4.0
TUWZ	**Tuamarina**	**3.94**	**210**	PN	P	01 48 54.1	-4.3
TUWZ				*e*SN	S	01 49 39.0	-5.6
NNZ	**Nelson**	**4.01**	**217**	SN	S	01 49 41.6	-4.6
MQZ	**McQueen's Vall**	**6.38**	**206**	SN	S	01 50 32.0	-11

*NEIC **02** 01:55:40.6±1.1, 24.35N×94.55E, h91km±11km, mb3.5/1, Error ellipse: s-maj=22.3km s-min=8.8km az=63.0*

*IDC **02** 01:55:41.6±4.3, 24.31N×94.59E, h100km±40km, mb3.5/6, mb1 3.6/7, mb1mx3.3/19, mbtmp3.7/7, Error ellipse: s-maj=38.9km s-min=18.9km az=70.0*

ISC 02 01:55:39.2±1.7, 24.3N±0.1×94.6E±0.2, h96km±17km, n11, σ0=35/11, mb3.8/7, Myanmar-India border region

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

*IDC **02** 02:07:54.3±3.0, 43.98S×169.88E, h31km±19km, mb4.4/4, mb1 4.5/5, mb1mx4.2/10, mbtmp4.5/5, ML3.8/1, MS3.8/11, Ms1 3.8/11, ms1mx3.6/21, Error ellipse: s-maj=56.5km s-min=19.0km az=0.0*

ISC 02 02:07:50.2±0.4, 44.39S±0.03×169.89E±0.04, h23km±4km, n77, σ1°06/60, mb4.6/6, MS3.8/12, 6C-7D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.21**	**90**	⇓P	**Pb**	**02 07 55.4**	**-0.4**
LBZ	**Lake Benmore**	**0.21**	**90**	⇓PG	**Pb**	**02 07 55.4**	**-0.4**
LBZ				SG	**Sb**	**02 07 58.8**	**-0.8**
WKZ	**Wanaka**	**0.76**	**234**	⇑P	**Pb**	**02 08 04.4**	**-0.3**
WKZ	**Wanaka**	**0.76**	**234**	⇑P*	**Pb**	**02 08 04.4**	**-0.2**
WKZ				*e*S*	**Sb**	**02 08 14.7**	**+0.2**
FOZ	**Fox Glacier**	**0.83**	**350**	⇓P	**Pb**	**02 08 05.6**	**-0.3**
FOZ				S	**Sb**	**02 08 15.7**	**-1.0**
FOZ	**Fox Glacier**	**0.83**	**350**	⇓P*	**Pb**	**02 08 05.6**	**-0.3**
FOZ				*e*S*	**Sb**	**02 08 17.6**	**+0.9**
ODZ	**Otahua Downs**	**0.85**	**141**	⇑P	**Pb**	**02 08 06.6**	**+0.4**
ODZ	**Otahua Downs**	**0.85**	**141**	⇓P*	**Pb**	**02 08 06.6**	**+0.4**
JCZ	**Jackson Bay**	**0.87**	**291**	⇓P	**Pb**	**02 08 05.9**	**-0.6**
JCZ				S	**Sb**	**02 08 17.9**	**+0.2**
JCZ	**Jackson Bay**	**0.87**	**291**	⇓P*	**Pb**	**02 08 05.9**	**-0.6**
JCZ				S*	**Sb**	**02 08 18.0**	**+0.4**
EAZ	**Earnscleugh**	**0.94**	**206**	P	**Pb**	**02 08 07.8**	**+0.1**
EAZ	**Earnscleugh**	**0.94**	**206**	P*	**Pb**	**02 08 07.9**	**+0.2**
RPZ	**Rata Peaks**	**1.08**	**52**	Pg	**Pb**	**02 08 10.5**	**+0.5**
	625nm,0.3s,baz=238,slow=6.0,SNR=290						
RPZ				Lg		02 08 24.6	
	3μm,0.3s,baz=64,slow=20,SNR=46						
RPZ	**Rata Peaks**	**1.08**	**52**	P	**Pb**	**02 08 10.3**	**+0.3**
RPZ	**Rata Peaks**	**1.08**	**52**	P*	**Pb**	**02 08 10.3**	**+0.3**
MSZ	**Milford Sound**	**1.43**	**258**	PN	**Pn**	**02 08 16.1**	**+1.1**
WVZ	**Waitaha Valley**	**1.45**	**25**	*e*P	**Pn**	**02 08 16.1**	**+0.8**
MLZ	**Mavora Lakes**	**1.55**	**231**	⇑*e*P	**Pn**	**02 08 18.3**	**+1.5**
MLZ	**Mavora Lakes**	**1.55**	**231**	⇑PN	**Pn**	**02 08 18.3**	**+1.5**
TUZ	**Tuapeka**	**1.58**	**186**	*e*P	**Pn**	**02 08 17.4**	**+0.2**
TUZ	**Tuapeka**	**1.58**	**186**	PN	**Pn**	**02 08 17.5**	**+0.2**
WHZ	**Wether Hill Ro**	**2.04**	**222**	*e*P	**Pn**	**02 08 23.5**	**-0.3**
WHZ	**Wether Hill Ro**	**2.04**	**222**	PN	**Pn**	**02 08 23.5**	**-0.3**
MQZ	**McQueen's Vall**	**2.11**	**72**	*e*P	**Pn**	**02 08 25.1**	**+0.3**
MQZ	**McQueen's Vall**	**2.11**	**72**	*e*PN	**Pn**	**02 08 25.1**	**+0.3**
CRLZ	**Canterbury Las**	**2.13**	**69**	*e*PN	**Pn**	**02 08 25.3**	**+0.1**
LTZ	**Lake Taylor**	**2.36**	**48**	*e*P	**Pn**	**02 08 28.6**	**+0.2**
LTZ	**Lake Taylor**	**2.36**	**48**	*e*PN	**Pn**	**02 08 28.7**	**+0.3**
DSZ	**Denniston Nort**	**2.99**	**29**	P	**Pn**	**02 08 37.3**	**-0.1**
DSZ	**Denniston Nort**	**2.99**	**29**	PN	**Pn**	**02 08 37.3**	**-0.1**
KHZ	**Kahutara**	**3.31**	**55**	*e*PN	**Pn**	**02 08 41.2**	**-0.8**
THZ	**Tophouse**	**3.43**	**41**	PN	**Pn**	**02 08 43.3**	**-0.3**
QRZ	**Quartz Range**	**4.06**	**30**	*e*PN	**Pn**	**02 08 52.1**	**-0.4**
NNZ	**Nelson**	**4.08**	**40**	PN	**Pn**	**02 08 52.2**	**-0.6**
TUWZ	**Tuamarina**	**4.20**	**47**	PN	**Pn**	**02 08 54.8**	**+0.3**
SNZO	**South Karori**	**4.69**	**51**	*e*P	**Pn**	**02 09 00.8**	**-0.8**
CAW	**Cannon Point**	**5.03**	**51**	PN	**Pn**	**02 09 04.6**	**-1.7**
KIW	**Kapiti Island**	**5.11**	**48**	PN	**Pn**	**02 09 05.7**	**-1.8**
NRZ	**Ngariki Road**	**5.88**	**32**	PN	**Pn**	**02 09 21.0**	**+2.7**
NEZ	**North Egmont**	**6.00**	**33**	PN	**Pn**	**02 09 21.8**	**+1.8**
RAEZ	**Rainy Point**	**6.11**	**35**	PN	**Pn**	**02 09 24.0**	**+2.6**
NGZ	**Ngauruhoe**	**6.73**	**41**	PN	**Pn**	**02 09 32.5**	**+2.1**
MGZ	**Maungaku**	**6.84**	**40**	PN	**Pn**	**02 09 34.2**	**+2.4**
URZ	**Urewera**	**8.18**	**44**	Pn	**P**	**02 09 47.5**	**-3.1**
	1.4nm,0.3s,baz=224,slow=7.0,SNR=8.2						
URZ				Sn	**Sn**	**02 11 15.1**	**-8.2**
	1.6nm,0.3s,baz=72,slow=16,SNR=5.0						
DZM	**Mont Dzumac**	**22.44**	**352**	LR	LR	02 20 06.4	
	comp=Z,152nm,18.3s,MS3.5,baz=201,slow=33						
STKA	**Stephens Creek**	**25.38**	**290**	P	**P**	**02 13 18.9**	**+1.6**
	7.3nm,0.8s,mb4.3,baz=121,slow=10.0,SNR=13						
STKA				LR	LR	02 22 06.0	
	comp=Z,264nm,18.3s,MS3.8,baz=297,slow=34						
STKA	**Stephens Creek**	**25.38**	**290**	P	**P**	**02 13 18.9**	**+1.6**
STKA				LR	LR	02 22 06.0	
CTA	**Charters Tower**	**31.20**	**313**	LR	LR	02 24 27.9	
	comp=Z,114nm,20.6s,MS3.5,baz=227,slow=32						
VNDA	**Vanda**	**33.40**	**183**	LR	LR	02 27 22.0	
	comp=Z,110nm,18.5s,MS3.6,baz=14,slow=34						
HNR	**Honiara**	**35.88**	**343**	LR	LR	02 26 15.3	
	comp=Z,144nm,21.3s,MS3.7,baz=141,slow=31						
ASAR	**Alice Springs**	**35.88**	**293**	P	**P**	**02 14 49.7**	**-0.8**
	4.2nm,0.6s,mb4.6,baz=131,slow=7.1,SNR=91						
ASAR				LR	LR	02 30 13.5	
	comp=Z,127nm,18.4s,MS3.7,baz=134,slow=38						
ASPA	**Alice Springs**	**35.89**	**293**	*e*P	**P**	**02 14 49.8**	**-0.7**
WB2	**Warramunga Arr**	**38.26**	**298**	*e*P	**P**	**02 15 09.4**	**-1.1**
WRA	**Warramunga Arr**	**38.27**	**298**	P	**P**	**02 15 09.6**	**-0.9**
	7.7nm,0.5s,mb4.7,baz=135,slow=8.0,SNR=166						
WRAB	**Tennant Creek**	**38.27**	**298**	*e*P	**P**	**02 15 09.3**	**-1.2**
	18nm,0.8s,mb4.9						
TBI	**Tubuai**	**39.23**	**71**	*e*LR	LR	02 25 42.9	
	194nm,28.5s						
PMG	**Port Moresby**	**40.03**	**324**	LR	LR	02 28 33.4	
	comp=Z,199nm,19.2s,MS4.0,baz=258,slow=31						
NWAO	**Narrogin (SRO)**	**42.02**	**267**	LR	LR	02 31 31.3	
	comp=Z,110nm,19.3s,MS3.8,baz=192,slow=34						
PPT	**Papeete**	**43.20**	**65**	*e*LR	LR	02 27 28.6	
	100nm,21.5s						
PPT	**Papeete**	**43.20**	**65**	LR	LR	02 29 17.4	
	comp=Z,79nm,20.0s,MS3.6,baz=235,slow=30						
FITZ	**Fitzroy Crossi**	**45.27**	**291**	P	**P**	**02 16 07.4**	**-0.5**
	5.7nm,0.9s,mb4.4,baz=193,slow=7.0,SNR=7.1						
FITZ				LR	LR	02 35 18.9	
	comp=Z,130nm,18.2s,MS3.9,baz=108,slow=36						
RKT	**Rikitea**	**49.50**	**83**	*e*LR	LR	02 30 05.1	
	96nm,33.5s						
SYO	**Syowa Base**	**61.11**	**198**	⇑pP	pP	02 18 08.5	-2.9
PLCA	**Paso Flores**	**79.38**	**138**	LR	LR	02 47 06.9	
	comp=Z,93nm,20.0s,MS4.1,baz=182,slow=30						
HHC	**Hu-ho-hao-te**	**99.70**	**319**	*e*P	**P**	**02 21 32.6**	**-0.6**
HHC				PP	PP	02 25 45.6	+5.6
HHC				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,107nm,5.7s						
WMQ	**Urumqi**	**114.23**	**308**	PKP	PKPdf	02 26 31.2	-0.7
WMQ				XPKP		02 26 38.2	
WMQ				PP	PP	02 27 31.7	+3.8
WMQ				PP	PP		
	comp=Z,133nm,5.8s						
WMQ				LR	LR		
	comp=N,25nm,25.6s,MS3.9						
WMQ				LR	LR		
	comp=E,34nm,25.5s,MS3.9						
WMQ				LR	LR		
	comp=Z,32nm,24.0s,MS3.8						
YKA	**Yellowknife Ar**	**122.28**	**32**	PKP	PKPdf	02 26 45.0	-2.0
	comp=Z,0.2nm,0.4s,baz=254,slow=1.9,SNR=4.9						
ULM	**Lac du Bonnet**	**124.64**	**51**	PKP	PKPdf	02 26 48.2	-3.6
	comp=Z,2.0nm,1.0s,baz=210,slow=1.2,SNR=2.4						
BVAR	**Borovoye Array**	**128.83**	**310**	PKP	PKPdf	02 26 57.1	-2.8
	comp=Z,0.3nm,0.3s,baz=63,slow=3.2,SNR=3.1						
DAG	**Danmarks Havn**	**147.31**	**4**	*e*P	PKPdf	02 27 32.0	-0.4
DAG	**Danmarks Havn**	**147.31**	**4**	*i* P	PKPdf	02 27 32.0	-0.4
	comp=Z,1.4nm,0.5s						
BRTR	**Keskin Array B**	**147.47**	**277**	PKPbc	PKPdf	02 27 34.4	+0.6
	comp=Z,2.0nm,0.7s,baz=136,slow=4.3,SNR=11						
ARCES	**ARCESS Array B**	**149.04**	**337**	PKPbc	PKPdf	02 27 35.4	+0.1
	comp=Z,4.5nm,0.7s,SNR=9.4						
ARCES	**ARCESS Array B**	**149.04**	**337**	PKPbc	PKPdf	02 27 35.4	+0.1
KAF	**Kangasniemi**	**152.44**	**323**	*ep*	PKPdf	02 27 44.6	+3.9
	comp=Z,2.7nm,0.7s						
FINES	**FINESS Array B**	**152.80**	**322**	PKPbc	PKPdf	02 27 46.6	+5.4
	comp=Z,2.0nm,0.6s,baz=63,slow=4.3,SNR=12						
AKASG	**Malin Array Be**	**152.95**	**298**	PKPbc	PKPdf	02 27 47.3	+5.5
	comp=Z,0.8nm,0.5s,baz=66,slow=2.5,SNR=5.7						

WEL 02 02:08:10.4±0.7, 44.31S×169.88E, h12km, ML4.3/4, Error ellipse: s-maj=5.3km s-min=2.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.23**	**109**	P*	Pb	02 08 15.0	-1.1
LBZ				S*	Sb	02 08 18.8	-1.0
ODZ	**Otahua Downs**	**0.92**	**143**	*e*P*	Pb	02 08 31.8	+4.1
ODZ				S*	Sb	02 08 40.2	+0.6
EAZ	**Earnscleugh**	**1.01**	**204**	P*	Pb	02 08 33.5	+4.3
EAZ				S*	Sb	02 08 42.5	+0.3

*IDC **02** 02:09:35.9±2.4, 1.31N×97.35E, mb3.9/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, MS3.4/1, Ms1 3.4/1, ms1mx2.5/26, Error ellipse: s-maj=108.8km s-min=19.5km az=59.0*

*NEIC **02** 02:09:40.3±0.6, 1.24N×97.33E, h30km, mb4.2/8, Error ellipse: s-maj=17.6km s-min=7.8km az=56.0*

ISC 02 02:09:41.2±5.0, 1.3N±0.2×97.4E±0.2, h53km±41km, n16, σ0°53/16, mb4.1/14, MS3.6/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.11**	**39**	*e*P	**P**	**02 10 56.9**	**-0.2**
KMI	**Kunming**	**24.23**	**12**	P	**P**	**02 14 54.6**	**+0.3**
	10.0nm,1.2s,mb4.1						
KMI				LR	LR		
	comp=Z,140nm,11.8s,MS3.7						
JIRN	**Jiri**	**28.32**	**339**	*e*P	**P**	**02 15 32.5**	**+0.3**
	comp=Z,11nm,0.7s,mb4.6						
PKI	**Pulchoki**	**28.53**	**337**	*e*P	**P**	**02 15 34.6**	**+0.5**
GUN	**Gumba**	**28.66**	**338**	*e*P	**P**	**02 15 35.0**	**-0.3**
	comp=Z,13nm,0.6s,mb4.8						
DMN	**Daman**	**28.68**	**337**	*e*P	**P**	**02 15 36.5**	**+1.0**
	comp=Z,7.9nm,0.8s,mb4.5						
KOLN	**Koldanda**	**29.45**	**335**	*e*P	**P**	**02 15 42.3**	**0.0**
	comp=Z,10nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**02 17 28.5**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.7,baz=303,slow=9.0,SNR=6.6						
WRAB	**Tennant Creek**	**41.92**	**122**	*e*P	**P**	**02 17 28.4**	**-0.2**
	comp=Z,2.5nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**43.30**	**127**	P	**P**	**02 17 40.0**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.5,baz=299,slow=7.5,SNR=4.2						
SONM	**Songino Array**	**46.99**	**8**	P	**P**	**02 18 09.7**	**+0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=191,slow=8.5,SNR=13						
SONM				PcP	PcP	02 19 41.1	+0.2
	comp=Z,0.1nm,0.4s,baz=178,slow=3.2,SNR=4.3						
ULN	**Ulaanbaatar**	**47.12**	**9**	*e*P	**P**	**02 18 09.9**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.8						
KURK	**Kurchatov**	**51.74**	**345**	*e*P	**P**	**02 18 44.7**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**53.28**	**132**	P	**P**	**02 18 57.5**	**+0.3**
	comp=Z,1.0nm,0.4s,mb4.1,baz=313,slow=19,SNR=2.7						
ZAL	**Zalesovo**	**53.47**	**351**	P	**P**	**02 18 57.6**	**-0.7**
	comp=Z,1.6nm,0.7s,mb4.1,baz=282,slow=5.9,SNR=8.2						
ZAL				LR	LR	02 46 26.3	
	comp=Z,38nm,19.7s,MS3.5,baz=285,slow=41						
BVAR	**Borovoye Array**	**56.21**	**341**	P	**P**	**02 19 17.0**	**-1.2**
	comp=Z,1.1nm,0.8s,mb4.0,baz=153,slow=6.6,SNR=7.5						

*JMA **02** 02:19:38.9±0.3, 24.50N×122.17E, h53km, M3.5*

TAP 02 02:19:39.6, 24.15N×122.21E, h14km±1km, ML3.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.79**	**67**	P	Pb	02 19 53.8	-0.8
YOJ				S	Sb	02 20 04.6	-0.3
IRIF	**Iriomote-Funau**	**1.40**	**82**	P	Pn	02 20 02.8	-2.0
IRIF				S	Sb	02 20 21.4	-1.1
HATJ	**Hateruma jima**	**1.46**	**93**	P	Pn	02 20 05.1	-0.6
HATJ				S	Sb	02 20 23.3	-1.0
JKRS	**Kuro-shima**	**1.65**	**87**	P	Pn	02 20 06.4	-1.9
JKRS				S	Sn	02 20 28.2	-1.1
JIJ	**Ishigaki jima**	**1.78**	**83**	P	Pn	02 20 07.7	-2.5
JIJ				S	Sn	02 20 29.1	-3.5
JTJ	**Tarama**	**2.32**	**77**	P	Pn	02 20 16.3	-1.7

*MOS **02** 02:21:13.1±1.2, 15.58N×120.84E, h186km, mb4.2/8, Error ellipse: s-maj=32.6km s-min=10.7km az=114.2*

*MAN **02** 02:21:14.0, 15.77N×120.64E, h207km, mb4.5, ML3.4, MS3.3*

*BJI **02** 02:21:16.9, 15.68N×121.12E, h228km, mB4.9, mb4.7*

*IDC **02** 02:21:18.7±6.4, 15.51N×120.70E, h221km±64km, mb3.7/13, mb1 3.9/13, mb1mx3.7/19, mbtmp4.3/13, Error ellipse: s-maj=51.4km s-min=10.4km az=67.0*

*NEIC **02** 02:21:18.9±2.7, 15.59N×120.87E, h227km±27km, mb4.2/11, Error ellipse: s-maj=15.6km s-min=6.0km az=62.0*

ISC 02 02:21:15.4±0.2, 15.71N±0.03×120.77E±0.05, h199km±2km, n66, σ1°06/76, mb4.0/27, 4C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.35**	**116**	*e*P	**P**	**02 21 41.9**	**-0.2**
BCPH	**Baguio City Da**	**0.69**	**345**	⇑*i* P	**P**	**02 21 43.3**	**-0.2**
BCPH				*i* S	**S**	**02 22 04.5**	**-0.7**
BALP	**Baler**	**0.78**	**88**	*e*P	**P**	**02 21 44.5**	**+0.7**
BALP				*e*S	**S**	**02 22 06.3**	**+0.4**
SCZP	**Santa Cruz**	**0.83**	**274**	*e*P	**P**	**02 21 43.7**	**-0.5**
SCZP				*e*S	**S**	**02 22 05.2**	**-1.3**
BOLP	**Bolinao**	**1.06**	**309**	*e*P	**P**	**02 21 45.6**	**0.0**
BOLP				*e*S	**S**	**02 22 08.8**	**-0.2**
QVPH	**Quezon City--P**	**1.09**	**165**	⇑*e*P	**P**	**02 21 47.1**	**+1.3**
POLP	**Polilio Island**	**1.49**	**131**	*e*P	**P**	**02 21 50.4**	**+1.1**
CAUP	**Cauayan**	**1.58**	**39**	*e*P	**P**	**02 21 51.1**	**+0.9**
TGY	**Tagaytay City**	**1.61**	**174**	*e*P	**P**	**02 21 51.7**	**+1.4**
ABRA	**Dolores**	**1.93**	**358**	*e*P	**P**	**02 21 52.8**	**-0.5**
ABRA				*e*S	**S**	**02 22 20.4**	**-2.2**
LUBP	**Lubang**	**2.03**	**195**	*e*P	**P**	**02 21 55.1**	**+0.6**
LUBP				*e*S	**S**	**02 22 22.8**	**-1.8**
PALP	**Palanan**	**2.08**	**50**	*e*P	**P**	**02 21 55.6**	**+0.6**
APYP	**Conner**	**2.18**	**12**	*e*P	**P**	**02 21 56.2**	**+0.1**
APYP				*e*S	**S**	**02 22 26.6**	**-0.9**
CVP	**Callao Caves**	**2.22**	**27**	⇑*e*P	**P**	**02 21 57.0**	**+0.5**
GQP	**Guinayangan**	**2.42**	**138**	⇑*e*P	**P**	**02 21 59.5**	**+0.8**
BOAC	**Boac**	**2.47**	**155**	*e*P	**P**	**02 22 00.2**	**+0.9**
AUQP	**San Andres**	**3.01**	**142**	*e*P	**P**	**02 22 07.9**	**+2.4**
SJMP	**San Jose**	**3.25**	**174**	*e*P	**P**	**02 22 09.2**	**+0.7**
SJMP				*e*S	**S**	**02 22 49.2**	**-0.3**
BUSP	**Coron**	**3.73**	**189**	*e*P	**P**	**02 22 13.6**	**-0.7**
BUSP				*e*S	**S**	**02 22 55.6**	**-4.4**
PVCP	**Virac**	**3.89**	**122**	*e*P	**P**	**02 22 16.9**	**+0.6**
BBP	**Basco**	**4.84**	**13**	*e*P	**P**	**02 22 27.1**	**-1.3**
BBP				*e*S	**S**	**02 23 19.1**	**-5.8**
GYA	**Guiyang**	**16.94**	**311**	P	**P**	**02 25 05.5**	**+3.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
KSM	**Kuching**	**17.51**	**217**	*e*P	**P**	**02 25 08.5**	**-0.1**
ENH	**Enshi**	**17.81**	**326**	*e*P	**P**	**02 25 12.6**	**+0.9**
	comp=Z,14nm,0.8s						
XAN	**Xi'an**	**21.14**	**332**	P	**P**	**02 25 44.4**	**-1.2**
CD2	**Chengdu**	**21.70**	**317**	P	**P**	**02 25 53.6**	**+2.5**
FITZ	**Fitzroy Crossi**	**33.94**	**172**	P	**P**	**02 27 39.3**	**-2.5**
	comp=Z,5.3nm,0.7s,mb4.2,baz=126,slow=3.9,SNR=10						
ULN	**Ulaanbaatar**	**34.00**	**343**	*e*P	**P**	**02 27 42.4**	**+0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
ULN	**Ulaanbaatar**	**34.00**	**343**	*e*P	**P**	**02 27 42.4**	**+0.3**
	comp=Z,4.8nm,1.0s,mb4.0						
JIRN	**Jiri**	**34.15**	**296**	*e*P	**P**	**02 27 44.3**	**+0.8**
	comp=Z,13nm,0.4s,mb4.8						
SONM	**Songino Array**	**34.16**	**343**	P	**P**	**02 27 44.3**	**+0.8**
	comp=Z,3.5nm,0.6s,mb4.1,baz=163,slow=10.0,SNR=36						
GUN	**Gumba**	**34.47**	**297**	*e*P	**P**	**02 27 47.3**	**+1.0**
	comp=Z,18nm,0.6s,mb4.8						
KLR	**Kul'dur**	**34.61**	**13**	*e*P	**P**	**02 27 44.8**	**-2.4**
KKN	**Kakani**	**34.96**	**296**	*e*P	**P**	**02 27 50.6**	**+0.2**
DMN	**Daman**	**35.07**	**296**	*e*P	**P**	**02 27 51.9**	**+0.5**
GKN	**Gorkha**	**35.56**	**296**	*e*P	**P**	**02 27 56.0**	**+0.5**
	comp=Z,20nm,0.7s,mb4.8						
KOLN	**Koldanda**	**36.41**	**296**	*e*P	**P**	**02 28 03.3**	**+0.7**
	comp=Z,5.2nm,0.5s,mb4.3						
ZAK	**Zakamensk**	**37.36**	**342**	*e*P	**P**	**02 28 10.6**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.6						
WRAB	**Tennant Creek**	**37.85**	**159**	*e*P	**P**	**02 28 11.2**	**-3.5**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**37.85**	**159**	*e*P	**P**	**02 28 11.2**	**-3.6**
	comp=Z,4.6nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**37.86**	**159**	P	**P**	**02 28 12.6**	**-2.2**
	comp=Z,3.3nm,0.9s,mb3.8,baz=331,slow=10,SNR=29						
MOY	**Mondy**	**39.19**	**341**	*e*P	**P**	**02 28 26.8**	**+1.3**
MOY				pmax	pmax		
	comp=Z,15nm,2.3s,mb4.1						
WMQ	**Urumqi**	**39.66**	**322**	*e*P	**P**	**02 28 29.5**	**+0.1**
ASAR	**Alice Springs**	**41.19**	**162**	P	**P**	**02 28 40.8**	**-1.4**
	comp=Z,1.6nm,0.4s,mb3.8,baz=339,slow=6.7,SNR=23						
CTA	**Charters Tower**	**43.51**	**144**	P	**P**	**02 29 00.2**	**-0.8**
	comp=Z,5.0nm,0.7s,mb4.0,baz=30,slow=20,SNR=2.5						
ZAL	**Zalesovo**	**47.32**	**332**	P	**P**	**02 29 30.9**	**+0.3**
	comp=Z,3.0nm,0.5s,mb3.9,baz=351,slow=7.1,SNR=16						
AAK	**Ala-Archa**	**47.71**	**314**	*e*P	**P**	**02 29 33.6**	**-0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
AAK	**Ala-Archa**	**47.71**	**314**	*e*P	**P**	**02 29 33.6**	**-0.3**
	comp=Z,1.0nm,0.4s,mb3.5						
KURK	**Kurchatov**	**48.57**	**325**	*e*P	**P**	**02 29 41.0**	**+0.7**
KURK				pmax	pmax		
	comp=Z,36nm,0.6s,mb4.9						
KURK	**Kurchatov**	**48.57**	**325**	*e*P	**P**	**02 29 41.0**	**+0.7**
	comp=Z,36nm,0.6s,mb4.9						
NVS	**Novosibirsk**	**48.60**	**332**	*e*P	**P**	**02 29 39.2**	**-1.3**
NVS				pmax	pmax		
	comp=N,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**51.36**	**157**	P	**P**	**02 29 59.5**	**-2.2**
	comp=Z,1.0nm,0.3s,mb3.8,baz=344,slow=7.4,SNR=4.3						
BVAR	**Borovoye Array**	**54.16**	**325**	P	**P**	**02 30 22.7**	**+0.7**
	comp=Z,1.2nm,0.3s,mb3.9,baz=114,slow=7.9,SNR=8.8						
ARU	**Arti**	**61.75**	**326**	*e*P	**P**	**02 31 13.4**	**-1.4**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
ARU	**Arti**	**61.75**	**326**	*e*P	**P**	**02 31 13.4**	**-1.4**
	comp=Z,3.6nm,0.6s,mb4.2						
MCK	**McKinley**	**76.18**	**27**	*e*P	**P**	**02 32 42.7**	**-0.2**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
MCK	**McKinley**	**76.18**	**27**	*e*P	**P**	**02 32 42.7**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.6						
ARCES	**ARCESS Array B**	**77.24**	**339**	P	**P**	**02 32 48.9**	**+0.3**
	comp=Z,1.6nm,0.6s,mb3.9,baz=72,slow=7.7,SNR=11						
KAF	**Kangasniemi**	**78.33**	**331**	*ep*	**P**	**02 32 54.3**	**-0.4**
	comp=Z,1.2nm,0.5s,mb3.8,baz=75,slow=5.0						
KAF	**Kangasniemi**	**78.33**	**331**	*e*P	**P**	**02 32 54.3**	**-0.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
FINES	**FINESS Array B**	**78.57**	**331**	P	**P**	**02 32 56.1**	**+0.1**
	comp=Z,0.8nm,0.4s,mb3.7,baz=46,slow=5.8,SNR=20						
DAWY	**Dawson**	**80.25**	**26**	P	**P**	**02 33 03.4**	**-1.5**
NB2	**NORSAR Subarra**	**85.52**	**333**	P	**P**	**02 33 31.7**	**-0.1**
	comp=Z,1.6nm,0.6s,mb3.9,baz=67,slow=4.8						
NOA	**NORSAR Array B**	**85.52**	**333**	P	**P**	**02 33 32.0**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.0,baz=67,slow=4.9,SNR=9.9						
GERES	**GERESS Array B**	**89.12**	**321**	P	**P**	**02 33 50.2**	**+1.0**
	comp=Z,0.4nm,0.6s,mb3.4,baz=90,slow=5.3,SNR=3.7						
YKA	**Yellowknife Ar**	**90.90**	**22**	P	**P**	**02 33 57.9**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=308,slow=4.4,SNR=17						

IDC 02 02:24:24.3±5.0, 0.02S×97.44E, mb3.7/3, mb1 3.9/3, mb1mx3.5/15, mbtmp3.7/3, Error ellipse: s-maj=249.7km s-min=23.4km az=55.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.20**	**121**	P	P	02 32 11.3	-1.4
	0.5nm,0.8s,baz=298,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**42.48**	**126**	P	P	02 32 21.5	-1.7
	0.5nm,0.6s,baz=299,slow=7.4,SNR=5.2						
MKAR	**Makanchi Array**	**48.48**	**346**	P	P	02 33 09.2	-1.5
ZAL	**Zalesovo**	**54.78**	**351**	P	P	02 33 55.5	-2.6
	0.9nm,0.4s,baz=322,slow=4.5,

SONM				PcP	PcP	03 08 34.6	+0.5
	comp=Z,0.5nm,0.5s,baz=198,slow=3.0,SNR=3.4						
MKAR	**Makanchi Array**	**47.19**	**346**	P	**P**	**03 07 03.2**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=159,slow=7.8,SNR=24						
MKAR	**Makanchi Array**	**47.19**	**346**	P	**P**	**03 07 03.2**	**+0.1**
ULN	**Ulaanbaatar**	**47.20**	**9**	*e*P	**P**	**03 07 03.0**	**-0.2**
HIA	**Hailar**	**51.57**	**19**	P	**P**	**03 07 37.5**	**+0.7**
KURK	**Kurchatov**	**51.74**	**345**	*e*P	**P**	**03 07 36.3**	**-1.7**
	comp=Z,5.5nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**53.38**	**132**	P	**P**	**03 07 51.2**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.3,baz=287,slow=5.9,SNR=6.4						
ZAL	**Zalesovo**	**53.49**	**351**	P	**P**	**03 07 50.1**	**-0.9**
	comp=Z,2.8nm,0.4s,mb4.5,baz=304,slow=4.4,SNR=10						
BVAR	**Borovoye Array**	**56.20**	**341**	P	**P**	**03 08 09.5**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.3,baz=142,slow=8.2,SNR=14						
BRTR	**Keskin Array B**	**69.09**	**312**	P	**P**	**03 09 35.3**	**-1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=90,slow=4.3,SNR=3.1						
BOSA	**Boshof**	**74.83**	**240**	P	**P**	**03 10 10.8**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=80,slow=6.1,SNR=3.3						
AKASG	**Malin Array Be**	**75.23**	**322**	P	**P**	**03 10 11.5**	**-1.3**
	comp=Z,0.8nm,0.5s,mb4.0,baz=105,slow=5.2,SNR=5.1						
AKASG	**Malin Array Be**	**75.23**	**322**	P	**P**	**03 10 11.5**	**-1.3**
FINES	**FINESS Array B**	**79.96**	**332**	P	**P**	**03 10 37.9**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=112,slow=10,SNR=6.2						
FINES	**FINESS Array B**	**79.96**	**332**	P	**P**	**03 10 37.9**	**-0.9**
ARCES	**ARCESS Array B**	**82.49**	**340**	P	**P**	**03 10 52.0**	**+0.1**
	comp=Z,5.1nm,1.1s,mb4.4,baz=80,slow=7.4,SNR=5.9						
GERES	**GERESS Array B**	**84.78**	**319**	P	**P**	**03 11 04.2**	**+0.2**
	comp=Z,0.5nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=5.5						
VNDA	**Vanda**	**85.88**	**169**	P	**P**	**03 11 09.9**	**+1.1**
	comp=Z,1.1nm,1.0s,mb4.0,baz=300,slow=5.1,SNR=6.3						
NOA	**NORSAR Array B**	**86.97**	**331**	P	**P**	**03 11 14.7**	**+0.3**
	comp=Z,0.8nm,0.7s,mb4.0,baz=97,slow=5.1,SNR=2.7						
TXAR	**Lajitas Array**	**143.60**	**32**	PKP	PKPdf	03 18 03.2	-0.5
	comp=Z,0.2nm,0.5s,baz=76,slow=1.8,SNR=3.8						

*IDC **02** 03:05:28.0±3.8, 2.56N×96.05E, mb3.8/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=155.4km s-min=21.4km az=60.0*
*NEIC **02** 03:05:33.7±1.1, 2.73N×96.37E, h30km, mb4.3/1, Error ellipse: s-maj=26.2km s-min=14.8km az=68.0*

ISC 02 03:05:31.8±1.3, 2.7N±0.1×96.4E±0.2, h30km, n7, σ0°75/7, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.97**	**59**	P	**Pn**	**03 06 46.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**35.51**	**127**	P	**P**	**03 12 26.9**	**-1.4**
	3.1nm,0.8s,mb4.3,baz=348,slow=9.3,SNR=3.2						
WRA	**Warramunga Arr**	**43.56**	**123**	P	**P**	**03 13 35.8**	**+0.7**
	1.1nm,0.5s,mb3.9,baz=300,slow=9.3,SNR=14						
WRAB	**Tennant Creek**	**43.56**	**123**	P	**P**	**03 13 35.5**	**+0.3**
	3.7nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**44.99**	**128**	P	**P**	**03 13 47.1**	**+0.4**
	0.7nm,0.6s,mb3.7,baz=302,slow=7.8,SNR=9.7						
MKAR	**Makanchi Array**	**45.56**	**346**	P	**P**	**03 13 50.1**	**-0.7**
	1.2nm,0.7s,mb4.0,baz=158,slow=7.8,SNR=13						
SONM	**Songino Array**	**45.75**	**9**	P	**P**	**03 13 53.2**	**+0.9**
	0.2nm,0.4s,mb3.4,baz=187,slow=9.2,SNR=3.9						

*IDC **02** 03:09:35.3±2.8, 1.17N×97.16E, mb3.7/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=124.2km s-min=20.7km az=56.0*
*NEIC **02** 03:09:39.5±0.7, 1.14N×97.19E, h30km, mb3.8/1, Error ellipse: s-maj=21.7km s-min=9.6km az=63.0*

ISC 02 03:09:37.4±1.0, 1.2N±0.1×97.2E±0.2, h30km, n12, σ0°73/12, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**40**	*e*P	**Pn**	**03 10 57.4**	**-0.5**
MBWA	**Marble Bar**	**31.29**	**136**	P	**P**	**03 15 55.5**	**-1.8**
WRA	**Warramunga Arr**	**42.05**	**122**	P	**P**	**03 17 28.9**	**+0.5**
	0.7nm,0.7s,mb3.4,baz=302,slow=9.3,SNR=4.9						
WRAB	**Tennant Creek**	**42.05**	**122**	P	**P**	**03 17 28.9**	**+0.5**
ASAR	**Alice Springs**	**43.40**	**127**	P	**P**	**03 17 40.1**	**+0.7**
	0.4nm,0.8s,mb3.2,baz=299,slow=9.3,SNR=3.0						
SONM	**Songino Array**	**47.19**	**8**	P	**P**	**03 18 10.0**	**+0.7**
	0.7nm,0.8s,mb3.7,baz=188,slow=8.3,SNR=6.2						
MKAR	**Makanchi Array**	**47.28**	**346**	P	**P**	**03 18 10.6**	**+0.6**
	1.0nm,0.5s,mb4.0,baz=162,slow=8.6,SNR=16						
ULN	**Ulaanbaatar**	**47.32**	**9**	P	**P**	**03 18 10.5**	**+0.2**
	0.5nm,0.5s,mb3.7						
KURK	**Kurchatov**	**51.83**	**345**	*e*P	**P**	**03 18 44.8**	**-0.1**
ZAL	**Zalesovo**	**53.59**	**351**	P	**P**	**03 18 57.7**	**-0.3**
	0.9nm,0.4s,mb4.1,baz=281,slow=5.9,SNR=5.3						
ZAL	**Zalesovo**	**53.59**	**351**	P	**P**	**03 18 57.7**	**-0.3**
BVAR	**Borovoye Array**	**56.28**	**341**	P	**P**	**03 19 16.8**	**-0.8**
	0.8nm,0.7s,mb3.9,baz=149,slow=8.4,SNR=7.1						

IDC 02 03:23:14.2±3.2, 0.02S×97.58E, mb3.7/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, Error ellipse: s-maj=138.3km s-min=21.3km az=55.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.08**	**121**	P	P	03 31 00.3	-1.1
	0.4nm,0.7s,baz=300,slow=9.0,SNR=4.5						
ASAR	**Alice Springs**	**42.37**	**126**	P	P	03 31 10.0	-2.2
	0.4nm,0.6s,baz=290,slow=7.9,SNR=5.1						
SONM	**Songino Array**	**48.27**	**8**	P	P	03 31 56.8	-2.2
	0.5nm,0.5s,baz=186,slow=7.1,SNR=4.3						
MKAR	**Makanchi Array**	**48.51**	**346**	P	P	03 31 59.5	-1.2
	0.9nm,0.5s,baz=164,slow=8.7,SNR=15						
ZAL	**Zalesovo**	**54.80**	**351**	P	P	03 32 45.9	-2.3
	1.3nm,0.3s,baz=320,slow=5.6,SNR=4.5						
BVAR	**Borovoye Array**	**57.52**	**341**	P	P	03 33 04.0	-3.6
	0.4nm,0.5s,baz=129,slow=9.2,SNR=3.4						

MAN 02 03:24:38.0, 9.48N×126.00E, h45km, mb4.3, ML3.2, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.63**	**217**	*e*P	P	03 24 51.3	+0.7
BUTP				*e*S	S	03 25 07.2	+7.4
BIPH	**Bislig**	**1.33**	**165**	⇓*i*P	P	03 25 00.0	-0.6
BIPH				*i* S	S	03 25 13.8	-3.6
BUKP	**Musuan**	**1.84**	**210**	*e*P	P	03 25 08.3	+0.6
BUKP				*e*S	S	03 25 34.5	+4.6
BESP	**Borongan**	**2.18**	**345**	*e*P	P	03 25 12.7	+0.2
BESP				*e*S	S	03 25 44.5	+6.1

CASC 02 03:27:09.8±1.9, 12.46N×87.79W, h53km±55km, MD3.6, ML3.8, 2C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.76**	**71**	*e*P	P	03 27 25.6	+1.0
CRIN				*e*S	S	03 27 37.3	+1.8
CNCH	**Conchagua**	**0.82**	**357**	*e*P	P	03 27 25.8	+0.5
CNCH				*e*S	S	03 27 37.5	+0.7
LEON	**Leon**	**0.88**	**92**	*e*P	P	03 27 25.7	-0.4
LEON				*e*S	S	03 27 38.1	-0.1
TEL3	**Telica 3**	**0.93**	**83**	⇓*e*P	P	03 27 26.8	-0.1
TEL3				*e*S	S	03 27 39.1	-0.4
TELN	**Telica**	**0.95**	**81**	⇑*e*P	P	03 27 27.5	+0.4
TELN				*e*S	S	03 27 39.8	-0.2
CNGN	**Cerro Negro**	**1.07**	**88**	*e*P	P	03 27 28.7	-0.1
CNGN				*e*S	S	03 27 42.4	-0.4
BLLM	**Bellamira**	**1.07**	**336**	*e*P	P	03 27 28.9	+0.1
BLLM				*e*S	S	03 27 44.3	+1.3
MOMJ	**Momotombo**	**1.22**	**92**	⇑*e*P	P	03 27 30.6	-0.3
MOMJ				*e*S	S	03 27 46.2	-0.4
APYN	**Apoyeque**	**1.43**	**99**	*e*P	P	03 27 33.5	-0.4
APYN				*e*S	S	03 27 52.2	+0.5
APYN				*i*		03 27 53.7	
	comp=Z,2μm,0.3s						
XAVN	**Gruta Xavier**	**1.46**	**102**	*e*P	P	03 27 33.8	-0.6
XAVN				*e*S	S	03 27 52.1	-0.5
SNVI	**San Vicente**	**1.54**	**318**	*e*P	P	03 27 35.1	-0.3
SNVI				*e*S	S	03 27 53.8	-0.6
LCBS	**La Ceiba**	**1.66**	**316**	⇓*e*P	P	03 27 36.8	-0.3
LCBS				*e*S	S	03 27 56.6	-0.7
PYTN	**Playitas**	**1.69**	**87**	*e*P	P	03 27 37.3	-0.3
LFRS	**El Faro**	**1.70**	**313**	*e*P	P	03 27 37.1	-0.5
LFRS				*e*S	S	03 27 57.4	-0.9
SBLS	**San Blas**	**2.25**	**308**	*e*P	P	03 27 47.0	+1.5
SBLS				*e*S	S	03 28 12.9	+0.8

*IDC **02** 03:37:19.7±0.5, 0.95N×97.43E, mb4.9/25, mb1 5.0/25, mb1mx5.0/27, mbtmp4.9/25, MS4.7/4, Ms1 4.7/4, ms1mx4.3/13, Error ellipse: s-maj=21.8km s-min=11.2km az=46.0*
*BJI **02** 03:37:20.4, 0.32N×97.18E, h45km, mB5.1, mb4.8, Ms5.3, Msz4.9*
*MOS **02** 03:37:23.3±1.1, 0.87N×97.47E, h33km, mb5.3/53, MS4.7/12, Error ellipse: s-maj=11.9km s-min=5.3km az=119.6*
*HRVD **02** 03:37:24.2±0.4, 0.75N×97.17E, h12km, MW4.9/57, Centroid moment Tensor Solution. LP body waves: s24,c31;Mantle waves: s57,c86; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.35±.15; $M_{\theta\theta}$-3.05±.11; $M_{\phi\phi}$1.70±.17; $M_{r\theta}$1.37±.34; $M_{\theta\phi}$1.82±.12; $M_{\phi r}$-0.44±.47; Best double couple: $M_0$3.184×10^{16} NP1:φs335°, δ78°, λ-171°. NP2:φs243°, δ81°, λ-12°. Principal axes: T 2.318, Plg2°, Azm289°; N 1.733, Plg75°, Azm26°; P -4.051, Plg15°, Azm199°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 03:37:24.2±0.2, 0.81N×97.46E, h30km, mb5.1/58, MS4.6/3 Error ellipse: s-maj=7.6km s-min=5.6km az=221.0*

ISC 02 03:37:22.2±1.1, 0.80N±0.04×97.44E±0.03, h27km±8km, h30km±1.8km: pP-P, n245, σ1°18/261, mb5.0/103, MS4.9/30, 15C-9D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.19**	**44**	P	**Pn**	**03 38 40.5**	**+0.3**
KULM	**Kulim**	**5.49**	**36**	*e*P	**Pn**	**03 38 43.2**	**-1.3**
KGM	**Kluang**	**6.00**	**78**	P	**Pn**	**03 38 52.8**	**+1.1**
SNG	**Songkhla**	**7.08**	**26**	P	**Pn**	**03 39 08.0**	**+1.1**
	318nm,0.9s						
KSM	**Kuching**	**12.88**	**87**	*e*P	**P**	**03 40 26.0**	**-0.5**
BDT	**Bhumibol Dam**	**16.41**	**5**	P	**P**	**03 41 16.0**	**+3.4**
PALK	**Pallekele**	**17.89**	**292**	P	**P**	**03 41 27.6**	**-3.4**
	62nm,1.4s						
CHG	**Chiang Mai**	**17.96**	**5**	⇑P	**P**	**03 41 32.8**	**+0.8**
	30nm,0.7s						
NANT	**Nan**	**18.17**	**10**	⇑P	**P**	**03 41 35.0**	**+0.3**
	438nm,0.4s						
CHRT	**Chiangrai**	**19.09**	**7**	⇑P	**P**	**03 41 43.0**	**-2.8**
	145nm,0.8s						
KKM	**Kota Kinabalu**	**19.44**	**74**	P	**P**	**03 41 50.7**	**+0.8**
TSM	**Tawau**	**20.70**	**80**	P	**P**	**03 42 04.2**	**+1.0**
MDRS	**Chennai**	**20.95**	**306**	*e*P	**P**	**03 42 03.7**	**-2.0**
MDRS				*e*		03 42 46.3	
TRD	**Trivandrum**	**21.79**	**291**	⇓*e*	**P**	**03 42 25.2**	**+11**
TRD				*e*S	**S**	**03 46 15.2**	**+6.5**
VIS	**Vishakhapatnam**	**21.80**	**321**	*e*P	**P**	**03 42 14.8**	**+0.5**
VIS				*e*		03 42 18.9	
	comp=Z,70nm,1.1s						
VIS				*e*		03 44 29.3	
QIZ	**Qiongzhong**	**21.82**	**33**	P	**P**	**03 42 13.7**	**-0.8**
QIZ				LR	LR		
	comp=N,2μm,16.3s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,18.2s,MS4.6						
QIZ				LR	LR		
	comp=Z,2μm,15.7s,MS4.6						
QIZ	**Qiongzhong**	**21.82**	**33**	P	**P**	**03 42 14.0**	**-0.5**
BWNR	**Bhubaneshwar**	**22.47**	**330**	*e*P	**P**	**03 42 22.3**	**+1.3**
BWNR				*e*		03 42 28.6	
	comp=Z,80nm,1.6s						
BWNR				*e*		03 44 36.0	
BWNR				*i*		03 52 46.2	
KMI	**Kunming**	**24.72**	**12**	P	**P**	**03 42 43.4**	**+0.5**
KMI				AP		03 42 53.0	
KMI				XP		03 42 57.5	
KMI				PP	PP	03 43 24.1	+4.5
KMI				S	**S**	**03 47 05.9**	**+5.6**
KMI				XS		03 47 20.5	
KMI				SS	SS	03 48 07.2	+10
KMI				AMB	AMB		
	comp=Z,38nm,1.9s,mb4.6						
KMI				AMB	AMB		
	comp=Z,527nm,4.2s						
KMI				LR	LR		
	comp=N,5μm,11.2s,MS5.3						
KMI				LR	LR		
	comp=E,4μm,12.5s,MS5.3						
KMI				LR	LR		
	comp=Z,5μm,12.5s,MS5.2						
KMI	**Kunming**	**24.72**	**12**	P	**P**	**03 42 43.4**	**+0.5**
	comp=Z,38nm,1.9s,mb4.6						
KMI				pP		03 42 53.0	
KMI				sP		03 42 57.5	
KMI				PP	PP	03 43 24.1	+4.5
KMI				S	**S**	**03 47 05.9**	**+5.6**
KMI				sS		03 47 20.5	
KMI				SS	SS	03 48 07.2	+10
KMI				LR	LR		
	comp=Z,5μm,12.5s,MS5.2						
HYB	**Hyderabad**	**24.86**	**313**	*e*P	**P**	**03 42 46.0**	**+1.7**
HYB	**Hyderabad**	**24.86**	**313**	*i* P	**P**	**03 42 46.0**	**+1.7**
HYB				*e*S	**S**	**03 47 20.0**	**+17**
SHL	**Shillong**	**25.20**	**348**	*e*P	**P**	**03 42 47.0**	**-0.5**
SHL				*e*		03 47 25.0	
BLSP	**Bilaspur**	**25.92**	**326**	*e*P	**P**	**03 42 54.1**	**-0.1**
BLSP				*e*		03 42 58.6	
	comp=Z,44nm,0.8s						
BLSP				*i*		03 52 29.5	
GYA	**Guiyang**	**27.01**	**18**	⇑*i*P	**P**	**03 43 06.4**	**+2.2**
GYA				AP	pP	03 43 15.8	+3.8
GYA				XP	sP	03 43 19.7	+4.2
GYA				PP	PP	03 43 57.2	+6.8
GYA				S	**S**	**03 47 38.5**	**+0.2**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,80nm,6.6s						
GYA				LR	LR		
	comp=N,1μm,13.5s,MS5.1						
GYA				LR	LR		
	comp=E,3μm,13.2s,MS5.1						
GYA				LR	LR		
	comp=Z,5μm,15.9s,MS5.2						
JIRN	**Jiri**	**28.80**	**339**	*e*P	**P**	**03 43 22.7**	**+2.2**
	comp=Z,88nm,1.1s,mb5.4						
PKI	**Pulchoki**	**29.01**	**338**	*e*P	**P**	**03 43 24.0**	**+1.6**
	comp=Z,113nm,1.4s,mb5.4						
PKI	**Pulchoki**	**29.01**	**338**	*e*P	**P**	**03 43 24.0**	**+1.6**
PKI				pmax	pmax		
	comp=Z,56nm,1.4s,mb5.1						
GUN	**Gumba**	**29.14**	**339**	*e*P	**P**	**03 43 25.5**	**+2.0**
	comp=Z,216nm,1.3s,mb5.7						
DMN	**Daman**	**29.16**	**337**	*e*P	**P**	**03 43 25.0**	**+1.3**
	comp=Z,56nm,1.0s,mb5.2						
KKN	**Kakani**	**29.26**	**338**	*e*P	**P**	**03 43 26.1**	**+1.5**
	comp=Z,80nm,1.2s,mb5.3						
KKN	**Kakani**	**29.26**	**338**	*e*P	**P**	**03 43 26.1**	**+1.5**
KKN				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.0						
LSA	**Lhasa**	**29.36**	**349**	P	**P**	**03 43 21.7**	**-3.7**
LSA				S	**S**	**03 48 09.1**	**-6.9**
LSA				LR	LR		
	comp=E,1μm,21.4s						
LSA				LR	LR		
	comp=Z,1μm,20.1s,MS4.5						
LSA	**Lhasa**	**29.36**	**349**	*e*P	**P**	**03 43 26.0**	**+0.6**
LSA				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.0						
LSA	**Lhasa**	**29.36**	**349**	*e*P	**P**	**03 43 26.0**	**+0.6**
	comp=Z,36nm,1.1s,mb5.0						
GKN	**Gorkha**	**29.70**	**337**	*e*P	**P**	**03 43 27.8**	**-0.7**
	comp=Z,87nm,1.0s,mb5.4						
KOLN	**Koldanda**	**29.92**	**335**	*e*P	**P**	**03 43 29.2**	**-1.3**
	comp=Z,54nm,0.9s,mb5.3						
CD2	**Chengdu**	**30.54**	**11**	*e*P	**P**	**03 43 35.2**	**-0.7**
MBWA	**Marble Bar**	**30.84**	**136**	*e*P	**P**	**03 43 39.1**	**+0.4**
	comp=Z,32nm,1.3s,mb5.0						
ENH	**Enshi**	**31.47**	**20**	*e*P	**P**	**03 43 41.2**	**-2.9**
	comp=Z,24nm,0.9s,mb5.0						
QZH	**Quanzhou**	**31.53**	**39**	*e*P	**P**	**03 43 45.6**	**+0.9**
QZH				S	**S**	**03 48 52.5**	**+2.3**
QZH				LR	LR		
	comp=Z,5μm,14.7s,MS5.3						
FITZ	**Fitzroy Crossi**	**33.50**	**125**	*e*P	**P**	**03 44 00.9**	**-1.0**
	comp=Z,14nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.50**	**125**	P	**P**	**03 44 00.8**	**-1.1**
	comp=Z,20nm,0.7s,mb5.1,baz=298,slow=1.5,SNR=14						
NDI	**New Delhi**	**33.80**	**327**	*e*P	**P**	**03 44 03.0**	**-1.4**
XAN	**Xi'an**	**34.77**	**17**	P	**P**	**03 44 10.8**	**-1.9**
XAN				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
XAN				AMB	AMB		
	comp=Z,115nm,13.4s						
XAN				LR	LR		
	comp=N,911nm,13.3s,MS5.2						
XAN				LR	LR		
	comp=E,2μm,12.4s,MS5.2						
XAN				LR	LR		
	comp=Z,2μm,15.0s,MS5.0						
LZH	**Lanzhou**	**35.61**	**9**	⇑P	**P**	**03 44 19.8**	**-0.1**
LZH				AP	pP	03 44 29.1	+1.4
LZH				XP	sP	03 44 32.9	+1.8
LZH				*e*PP	PP	03 45 37.8	-2.7
LZH				*e*S	**S**	**03 49 48.0**	**-5.5**
LZH				AMB	AMB		
	comp=Z,57nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,229nm,6.3s						
LZH				LR	LR		
	comp=N,2μm,13.6s						
LZH				LR	LR		
	comp=E,3μm,16.8s,MS5.2						
LZH	**Lanzhou**	**35.61**	**9**	⇑P	**P**	**03 44 19.8**	**-0.1**
	comp=Z,57nm,1.3s,mb5.3						
LZH				pP	pP	03 44 29.1	+1.4
LZH				sP	sP	03 44 32.9	+1.8
LZH				*e*PP	PP	03 45 37.8	-2.7
LZH				*e*S	**S**	**03 49 48.0**	**-5.5**
LZH				sS		03 50 03.8	
LZH				SS	SS	03 52 03.7	-10
LZH				LR	LR		
	comp=Z,3μm,16.8s,MS5.2						
NJ2	**Nanjing**	**37.08**	**31**	*e*P	**P**	**03 44 34.5**	**+2.2**
NJ2				AP	pP	03 44 44.3	+4.1
NJ2				XP	sP	03 44 48.3	+4.8
NJ2				PP	PP	03 46 00.3	+1.1
NJ2				S	**S**	**03 50 17.0**	**+0.9**
NJ2				XS		03 50 34.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,150nm,5.2s						
NJ2				LR	LR		
	comp=N,3μm,17.2s,MS5.4						
NJ2				LR	LR		
	comp=E,5μm,16.1s,MS5.4						
NJ2				LR	LR		
	comp=Z,690nm,25.2s						
SSE	**Sheshan**	**37.60**	**34**	*e*P	**P**	**03 44 36.6**	**-0.1**
SSE				XP	sP	03 44 49.7	+1.8
SSE				S	**S**	**03 50 23.1**	**-1.0**
SSE				AMB	AMB		
	comp=Z,34nm,0.6s,mb5.2						
SSE				LR	LR		
	comp=N,2μm,15.2s,MS5.1						
SSE				LR	LR		
	comp=E,1μm,15.2s,MS5.1						
SSE				LR	LR		
	comp=Z,1μm,16.5s,MS4.8						
SSE	**Sheshan**	**37.60**	**34**	*e*P	**P**	**03 44 36.6**	**-0.1**
	comp=Z,34nm,0.6s,mb5.2						
SSE				sP	sP	03 44 49.7	+1.8
SSE				S	**S**	**03 50 23.1**	**-1.0**
SSE				sS		03 50 37.9	
SSE				SS	SS	03 53 20.5	+22
SSE				LR	LR		
	comp=Z,1μm,16.5s,MS4.8						
NWAO	**Narrogin (SRO)**	**38.39**	**153**	P	**P**	**03 44 43.8**	**+0.5**
	comp=Z,26nm,1.0s,mb4.9,baz=306,slow=8.0,SNR=4.6						
GTA	**Gaotai**	**38.49**	**3**	P	**P**	**03 44 43.5**	**-0.5**
GTA				AP	pP	03 44 58.3	+6.3
GTA				S	**S**	**03 50 40.3**	**+2.8**
GTA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,148nm,8.7s						
GTA				LR	LR		
	comp=N,1μm,11.4s,MS5.0						
GTA				LR	LR		
	comp=E,1μm,15.6s,MS5.0						
GTA				LR	LR		
	comp=Z,683nm,24.3s						
TIA	**Tai'an**	**39.69**	**25**	*e*P	**P**	**03 44 55.7**	**+1.7**
BTO	**Baotou**	**41.24**	**15**	*e*P	**P**	**03 45 10.3**	**+3.6**
BTO				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**41.62**	**122**	P	**P**	**03 45 09.9**	**-0.3**
	comp=Z,8.6nm,0.7s,mb4.5,baz=300,slow=9.0,SNR=45						
WRAB	**Tennant Creek**	**41.62**	**122**	⇓*e*P	**P**	**03 45 10.1**	**-0.1**
WRAB	**Tennant Creek**	**41.62**	**122**	*e*P	**P**	**03 45 09.4**	**-0.8**
	comp=Z,28nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**41.63**	**122**	*e*P	**P**	**03 45 09.9**	**-0.3**
HHC	**Hu-ho-hao-te**	**41.87**	**16**	*e*P	**P**	**03 45 13.2**	**+1.2**
HHC				AP	pP	03 45 23.7	+3.8
HHC				XP	sP	03 45 27.6	+4.4
HHC				PP	PP	03 46 55.3	+3.3
HHC				PCP	PcP	03 47 04.2	-3.9
HHC				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.5						
HHC				AMB	AMB		
	comp=Z,270nm,6.9s						
HHC				LR	LR		
	comp=N,2μm,16.9s,MS5.2						
HHC				LR	LR		
	comp=E,1μm,16.5s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,17.5s,MS5.0						
BJT	**Baijiatuau**	**42.60**	**21**	*e*P	**P**	**03 45 18.0**	**0.0**
BJT				pmax	pmax		
	comp=Z,64nm,1.0s						
BJT	**Baijiatuau**	**42.60**	**21**	*e*P	**P**	**03 45 18.0**	**0.0**
	comp=Z,64nm,1.0s,mb5.3						
BJI	**Beijing**	**42.62**	**21**	*e*P	**P**	**03 45 22.5**	**+4.4**
BJI				PP	PP	03 46 56.7	-2.9
BJI				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.2						
BJI				LR	LR		
	comp=N,1μm,16.1s,MS5.0						
BJI				LR	LR		
	comp=E,1μm,16.8s,MS5.0						
BJI				LR	LR		
	comp=Z,801nm,19.4s,MS4.6						
BJI	**Beijing**	**42.62**	**21**	*e*P	**P**	**03 45 22.5**	**+4.4**
	comp=Z,50nm,1.1s,mb5.2						
BJI				PP	PP

WMQ				AMB	AMB		
	comp=Z,178nm,3.4s						
WMQ				LR	LR		
	comp=N,429nm,14.0s,MS4.6						
WMQ				LR	LR		
	comp=E,377nm,14.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,285nm,22.1s						
DL2	**Dalian**	**43.92**	**27**	P	**P**	**03 45 32.5**	**+3.8**
DL2				S	**S**	**03 52 03.5**	**+5.5**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
DL2				AMB	AMB		
	comp=Z,90nm,3.7s						
DL2				LR	LR		
	comp=E,800nm,17.0s						
DL2				LR	LR		
	comp=Z,700nm,19.0s,MS4.6						
BSY	**Bisya**	**44.77**	**302**	P	**P**	**03 45 37.5**	**+1.6**
	SNR=8.1						
ULHL	**Ulahol**	**45.45**	**338**	P	**P**	**03 45 41.5**	**+0.6**
	SNR=15						
UCH	**Uchtor**	**46.11**	**336**	P	**P**	**03 45 46.1**	**0.0**
	SNR=29						
WHFO	**Wadi Hawf**	**46.15**	**294**	P	**P**	**03 45 47.5**	**+0.8**
	SNR=12						
TKM2	**Tokmak 2**	**46.28**	**338**	P	**P**	**03 45 48.0**	**+0.6**
	SNR=15						
AML	**Almayashu**	**46.37**	**336**	P	**P**	**03 45 48.2**	**0.0**
	SNR=26						
ABTO	**Aybut**	**46.42**	**293**	P	**P**	**03 45 49.5**	**+0.6**
	SNR=9.8						
AAK	**Ala-Archa**	**46.46**	**337**	P	**P**	**03 45 49.9**	**+1.0**
	comp=Z,56nm,1.2s,mb5.4,SNR=7.3						
AAK	**Ala-Archa**	**46.46**	**337**	*e*P	**P**	**03 45 48.5**	**-0.4**
FRU	**Bishkek**	**46.58**	**337**	*e*P	**P**	**03 45 51.0**	**+1.2**
FRU				pmax	pmax		
	comp=Z,80nm,2.3s,mb5.2						
FRU				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.5						
EKS2	**Erkin-Say**	**46.77**	**336**	P	**P**	**03 45 52.4**	**+1.0**
	SNR=6.5						
USP	**Ospenovka**	**46.99**	**337**	P	**P**	**03 45 53.5**	**+0.4**
	SNR=17						
SNY	**Shenyang**	**47.15**	**27**	⇑P	**P**	**03 45 52.0**	**-2.4**
SNY				S	**S**	**03 52 44.7**	**+0.4**
SNY				LR	LR		
	comp=N,1μm,15.3s,MS5.1						
SNY				LR	LR		
	comp=E,830nm,15.3s,MS5.1						
SNY				LR	LR		
	comp=Z,1μm,12.5s,MS5.0						
SONM	**Songino Array**	**47.49**	**8**	P	**P**	**03 45 56.1**	**-0.9**
	comp=Z,8.5nm,0.9s,mb4.7,baz=191,slow=8.7,SNR=23						
SONM				PcP	PcP	03 47 28.3	+1.0
	comp=Z,5.7nm,0.9s,baz=207,slow=2.8,SNR=6.9						
SONM				LR	LR	04 08 15.8	
	comp=Z,1μm,19.3s,MS4.8,baz=189,slow=39						
ULN	**Ulaanbaatar**	**47.62**	**9**	*e*P	**P**	**03 45 57.0**	**-1.0**
ULN				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
ULN	**Ulaanbaatar**	**47.62**	**9**	*e*P	**P**	**03 45 57.0**	**-1.0**
	comp=Z,12nm,1.3s,mb4.8						
MKAR	**Makanchi Array**	**47.69**	**346**	P	**P**	**03 45 57.0**	**-1.5**
	comp=Z,9.5nm,0.5s,mb5.1,baz=164,slow=8.0,SNR=76						
CN2	**Changchun**	**49.55**	**27**	*e*P	**P**	**03 46 11.9**	**-1.1**
CN2				*e*XP	sP	03 46 29.4	+5.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,16.0s,MS5.1						
CN2				LR	LR		
	comp=E,1μm,16.0s,MS5.1						
CN2				LR	LR		
	comp=Z,600nm,18.0s,MS4.6						
ZAK	**Zakamensk**	**49.65**	**5**	*e*P	**P**	**03 46 12.8**	**-0.8**
ZAK				*e*		03 47 34.7	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
PMG	**Port Moresby**	**50.53**	**103**	P	**P**	**03 46 20.8**	**-0.1**
	comp=Z,27nm,0.9s,mb5.2,baz=252,slow=10,SNR=4.5						
MOY	**Mondy**	**50.77**	**3**	*e*P	**P**	**03 46 24.8**	**+2.6**
TLY	**Talaya**	**50.97**	**5**	*e*P	**P**	**03 46 22.9**	**-0.7**
TLY				*e*S	**S**	**03 53 33.4**	**-4.0**
TLY				pmax	pmax		
	comp=Z,67nm,0.9s,mb5.6						
TLY				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.0						
TLY	**Talaya**	**50.97**	**5**	*e*P	**P**	**03 46 22.6**	**-1.0**
	comp=Z,4.1nm,0.7s,mb4.5						
MAT	**Matsushiro**	**51.82**	**42**	P	**P**	**03 46 27.0**	**-3.4**
MAT				S	**S**	**03 53 49.0**	**-0.5**
MAT				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MAT				MLR	MLR		
	comp=Z,710nm,20.0s,MS4.7						
MAT	**Matsushiro**	**51.82**	**42**	P	**P**	**03 46 27.0**	**-3.4**
	comp=Z,4.5nm,0.8s,mb4.5						
MAT				S	**S**	**03 53 49.0**	**-0.5**
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.7						
MAT	**Matsushiro**	**51.82**	**42**	P	**P**	**03 46 26.9**	**-3.5**
MAT				*e*S	**S**	**03 53 49.0**	**-0.5**
HIA	**Hailar**	**51.94**	**18**	*e*P	**P**	**03 46 29.2**	**-1.9**
HIA				pmax	pmax		
	comp=Z,14nm,0.9s						
HIA	**Hailar**	**51.94**	**18**	*e*P	**P**	**03 46 29.2**	**-1.9**
	comp=Z,14nm,0.9s,mb4.9						
MDJ	**Mudanjiang**	**52.10**	**29**	P	**P**	**03 46 30.6**	**-1.7**
MDJ				AP	pP	03 46 39.8	-0.6
MDJ				PCP	PcP	03 47 41.9	-2.3
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,151nm,5.7s						
CTA	**Charters Tower**	**52.11**	**116**	LR	LR	04 12 26.6	
	comp=Z,664nm,19.6s,MS4.7,baz=97,slow=40						
KURK	**Kurchatov**	**52.24**	**345**	*e*P	**P**	**03 46 31.1**	**-2.2**
KURK				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
KURK	**Kurchatov**	**52.24**	**345**	*e*P	**P**	**03 46 31.1**	**-2.2**
	comp=Z,18nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**52.91**	**132**	*e*P	**P**	**03 46 39.0**	**+0.4**
	comp=Z,24nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**52.91**	**132**	P	**P**	**03 46 39.1**	**+0.5**
	comp=Z,28nm,0.8s,mb5.2,baz=309,slow=7.7,SNR=21						
STKA				LR	LR	04 11 37.5	
	comp=Z,1μm,21.3s,MS4.9,baz=245,slow=39						
OPO	**Ambohidratompo**	**52.98**	**246**	P	**P**	**03 46 39.4**	**+0.1**
	comp=Z,1.0nm,0.3s,mb4.3,baz=80,slow=9.0,SNR=6.2						
ZAL	**Zalesovo**	**53.98**	**351**	P	**P**	**03 46 44.2**	**-1.9**
	comp=Z,17nm,0.4s,mb5.3,baz=316,slow=4.4,SNR=26						
NVS	**Novosibirsk**	**55.11**	**350**	*e*P	**P**	**03 46 52.2**	**-2.2**
NVS				pmax	pmax		
	comp=N,11nm,1.1s						
NVS				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.2						
RAYN	**Ar Rayn**	**55.16**	**298**	P	**P**	**03 46 53.9**	**-1.3**
	comp=Z,53nm,1.2s,SNR=13						
ATD	**Arta Tunnel**	**55.21**	**283**	P	**P**	**03 46 55.6**	**-0.1**
	comp=Z,14nm,1.0s,mb5.0,baz=132,slow=22,SNR=6.3						
KLR	**Kul'dur**	**56.50**	**26**	*e*P	**P**	**03 47 02.5**	**-2.0**
KLR				*e*S	**S**	**03 55 00.0**	**+7.7**
KLR				MLR	MLR		
	comp=E,2μm,14.5s						
KLR				MLR	MLR		
	comp=Z,2μm,14.5s,MS5.5						
BVAR	**Borovoye Array**	**56.70**	**341**	P	**P**	**03 47 03.0**	**-2.9**
	comp=Z,6.9nm,0.8s,mb4.7,baz=148,slow=9.1,SNR=23						
BOD	**Bodaibo**	**58.36**	**10**	*e*P	**P**	**03 47 16.1**	**-1.3**
BOD				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
KMBO	**Kilima Mbogo**	**60.22**	**268**	*e*P	**P**	**03 47 29.6**	**-1.3**
KMBO	**Kilima Mbogo**	**60.22**	**268**	P	**P**	**03 47 30.9**	**-0.1**
	comp=Z,5.5nm,1.0s,mb4.5,baz=59,slow=7.0,SNR=8.8						
YSS	**Yuzh-Sakhalins**	**60.54**	**34**	*e*P	**P**	**03 47 33.0**	**+0.3**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
YSS	**Yuzh-Sakhalins**	**60.54**	**34**	P	**P**	**03 47 33.6**	**+0.9**
	comp=Z,31nm,1.0s,mb5.4						
GNI	**Garni**	**61.75**	**316**	*e*P	**P**	**03 47 39.8**	**-1.2**
GNI				pmax	pmax		
	comp=Z,17nm,1.1s						
GNI	**Garni**	**61.75**	**316**	*e*P	**P**	**03 47 39.8**	**-1.1**
	comp=Z,17nm,1.1s,mb5.1						
SVE	**Sverdlovsk**	**63.15**	**338**⇓	*e*P	**P**	**03 47 49.5**	**-0.5**
SVE				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.5						
SVE				MLR	MLR		
	comp=N,400nm,19.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,100nm,19.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.7						
ZEI	**Tsey**	**63.46**	**319**	*e*P	**P**	**03 47 50.7**	**-1.5**
ZEI				*i* *PP	pP	03 47 55.9	-4.6
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
ARU	**Arti**	**63.64**	**337**⇑	*i*P	**P**	**03 47 51.8**	**-1.5**
ARU				*e*		03 48 24.8	
ARU				*e*S	**S**	**03 56 23.9**	**-0.1**
ARU				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
ARU	**Arti**	**63.64**	**337**	*e*P	**P**	**03 47 51.0**	**-2.2**
	comp=Z,12nm,1.0s,mb4.9						
KIV	**Kislovodsk**	**64.77**	**319**	*e*P	**P**	**03 47 59.3**	**-1.5**
KIV				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
KIV	**Kislovodsk**	**64.77**	**319**	*e*P	**P**	**03 47 59.3**	**-1.5**
	comp=Z,25nm,1.0s,mb5.2						
ASF	**Jabal al Asfar**	**64.89**	**305**	P	**P**	**03 48 00.8**	**-1.1**
	comp=Z,10nm,1.0s,mb4.8,baz=56,slow=3.4,SNR=4.6						
GOF	**Gofitskoye**	**65.02**	**321**	*e*P	**P**	**03 48 02.0**	**-0.5**
MALT	**Malatya**	**65.58**	**312**	*e*P	**P**	**03 48 04.7**	**-1.4**
MALT				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
MALT	**Malatya**	**65.58**	**312**	*e*P	**P**	**03 48 04.7**	**-1.4**
	comp=Z,12nm,1.1s,mb4.8						
YAK	**Yakutsk**	**65.73**	**16**	*e*P	**P**	**03 48 07.2**	**+0.5**
YAK				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
EIL	**Elat**	**65.87**	**302**	*e*P	**P**	**03 48 07.2**	**-1.0**
	comp=E,32nm,1.1s,mb5.3						
SOC	**Sochi**	**66.58**	**318**	*e*P	**P**	**03 48 09.6**	**-2.8**
SOC				*e*		03 48 38.0	
SOC				*e*		03 50 34.3	
SOC				*e*PPP	PPP	03 52 11.5	-5.7
SOC				*e*S	S	03 56 59.0	-1.3
SOC				*e*		03 58 02.5	
SOC				*e*SS	SS	04 01 18.0	-1.2
SOC				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
SOC				pmax	pmax		
	comp=N,31nm,0.8s						
SOC				pmax	pmax		
	comp=E,18nm,0.9s						
MBAR	**Mbarara**	**66.72**	**269**	P	**P**	**03 48 12.8**	**-1.0**
	comp=E,59nm,1.2s,mb5.5,SNR=8.4						
MBAR	**Mbarara**	**66.72**	**269**⇓	*e*P	**P**	**03 48 12.0**	**-1.8**
MBAR	**Mbarara**	**66.72**	**269**	*e*P	**P**	**03 48 12.0**	**-1.8**
	comp=E,14nm,1.1s,mb4.9						
BRTR	**Keskin Array B**	**69.56**	**312**	P	**P**	**03 48 28.6**	**-2.4**
	comp=E,5.2nm,1.0s,mb4.4,baz=101,slow=6.3,SNR=12						
VRSR	**Storozhevoye**	**70.02**	**325**	*e*P	**P**	**03 48 32.1**	**-1.6**
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
VRSR				pmax	pmax		
	comp=N,20nm,1.4s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
MA2	**Magadan**	**71.59**	**25**	*e*P	**P**	**03 48 42.0**	**-1.0**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
MA2	**Magadan**	**71.59**	**25**	*e*P	**P**	**03 48 42.0**	**-1.1**
	comp=Z,9.2nm,0.8s,mb4.8						
PET	**Petropavlovsk**	**72.43**	**34**	*e*P	**P**	**03 48 53.8**	**+5.7**
PET				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.6						
OBN	**Obninsk**	**73.08**	**328**	*de*P	**P**	**03 48 52.3**	**+0.3**
OBN				*i* S	S	03 58 12.2	-4.1
OBN				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.1						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.4						
TIXI	**Tiksi**	**73.54**	**10**	*e*P	**P**	**03 48 50.0**	**-4.3**
TIXI				*e*S	S	03 58 17.4	-3.7
TIXI				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,739nm,15.0s,MS5.1						
SEY	**Seymchan**	**74.03**	**23**	*e*P	**P**	**03 48 58.0**	**+0.7**
SEY				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
CFR	**Carcaliu**	**74.95**	**317**	⇑P	**P**	**03 49 03.3**	**+0.3**
HARR	**Harsova**	**74.97**	**316**	⇓P	**P**	**03 49 04.8**	**+1.7**
AKASG	**Malin Array Be**	**75.72**	**322**	P	**P**	**03 49 04.7**	**-2.6**
	comp=Z,7.7nm,0.9s,mb4.6,baz=89,slow=4.5,SNR=22						
VRI	**Vrincioaia**	**76.07**	**317**	⇑P	**P**	**03 49 09.7**	**+0.3**
MLR	**Muntele Rosu**	**76.52**	**317**	⇓P	**P**	**03 49 11.9**	**0.0**
MLR	**Muntele Rosu**	**76.52**	**317**	P	**P**	**03 49 11.8**	**-0.2**
	comp=Z,14nm,1.1s,mb4.8,baz=73,slow=7.8,SNR=8.0						
BZS	**Buzias**	**79.53**	**316**	⇑P	**P**	**03 49 27.1**	**-1.3**
KWP	**Kalwaria**	**79.53**	**320**	*e*P	**P**	**03 49 28.5**	**+0.1**
KOLS	**Kolonicke sedl**	**79.68**	**320**	*e*P	**P**	**03 49 29.8**	**+0.7**
KOLS				*e*		03 49 49.8	
SYO	**Syowa Base**	**79.70**	**198**	⇓P	**P**	**03 49 30.5**	**+1.6**
SUW	**Suwalki**	**80.14**	**325**	*e*P	**P**	**03 49 31.0**	**-0.5**
SUW				*e*		03 51 30.6	
SUW	**Suwalki**	**80.14**	**325**	*e*P	**P**	**03 49 31.0**	**-0.5**
SUW				*e*		03 51 30.6	
CRVS	**Cervenica-Dubn**	**80.20**	**319**	*e*P	**P**	**03 49 35.7**	**+3.8**
CRVS	**Cervenica-Dubn**	**80.20**	**319**	*e*	**P**	**03 49 35.7**	**+3.8**
FINES	**FINESS Array B**	**80.46**	**333**	P	**P**	**03 49 31.8**	**-1.3**
	comp=Z,2.1nm,0.5s,mb4.3,baz=110,slow=5.8,SNR=13						
KAF	**Kangasniemi**	**80.55**	**333**	*e*p	**P**	**03 49 32.1**	**-1.4**
	comp=Z,6.1nm,0.7s,mb4.6						
KAF	**Kangasniemi**	**80.55**	**333**	*e*P	**P**	**03 49 32.1**	**-1.4**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
NIE	**Niedzica**	**81.03**	**320**	*e*P	**P**	**03 49 36.1**	**-0.2**
PSZ	**Piszkesteto**	**81.07**	**318**	*e*P	**P**	**03 49 35.7**	**-0.8**
PSZ				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
PSZ	**Piszkesteto**	**81.07**	**318**	*e*P	**P**	**03 49 35.7**	**-0.8**
	comp=Z,17nm,1.1s,mb4.9						
PSZ	**Piszkesteto**	**81.07**	**318**	*e*P	**P**	**03 49 38.4**	**+1.9**
BILL	**Bilibino**	**81.45**	**21**⇓	*e*P	**P**	**03 49 41.9**	**+3.8**
BILL				pmax	pmax		
	comp=Z,12nm,1.9s,mb4.5						
OJC	**Ojcow**	**81.48**	**321**	*e*P	**P**	**03 49 40.6**	**+1.9**
PKSM	**Moragy**	**81.67**	**316**	⇓P	**P**	**03 49 39.0**	**-0.7**
VYHS	**Vyhne**	**81.85**	**319**	*e*P	**P**	**03 49 41.1**	**+0.5**
VYHS				*e*pP	pP	03 49 50.2	+1.1
OKC	**Ostrava-Krasne**	**82.48**	**320**	*e*P	**P**	**03 49 44.4**	**+0.6**
MORC	**Moravsky Berou**	**82.86**	**320**	*e*P	**P**	**03 49 45.3**	**-0.5**
MORC				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
MORC	**Moravsky Berou**	**82.86**	**320**	*e*P	**P**	**03 49 45.2**	**-0.6**
	comp=Z,13nm,1.1s,mb4.9						
ZST	**Bratislava**	**82.96**	**318**	*e*P	**P**	**03 49 45.9**	**-0.5**
ZST				*e*pP	pP	03 49 56.0	+1.2
ARCES	**ARCESS Array B**	**82.99**	**340**	P	**P**	**03 49 46.3**	**+0.2**
	comp=Z,3.2nm,0.6s,mb4.5,baz=96,slow=4.3,SNR=13						
DPC	**Dobruska-Polom**	**83.71**	**320**	*e*P	**P**	**03 49 50.1**	**-0.1**
KSP	**Ksiaz**	**83.78**	**321**	*e*P	**P**	**03 49 51.0**	**+0.5**
KSP	**Ksiaz**	**83.78**	**321**	*e*P	**P**	**03 49 51.5**	**+0.9**
KSP				*e*		03 51 50.3	
UPC	**Upice**	**83.93**	**321**	*e*P	**P**	**03 49 51.7**	**+0.4**
PRU	**Pruhonice**	**84.82**	**320**	*e*P	**P**	**03 49 55.7**	**0.0**
PVCC	**Panska Ves**	**84.84**	**321**	*e*P	**P**	**03 49 56.4**	**+0.5**
BRG	**Berggiesshubel**	**85.27**	**321**	*e*P	**P**	**03 49 57.7**	**-0.3**
BRG				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.0						
BRG	**Berggiesshubel**	**85.27**	**321**	*e*P	**P**	**03 49 57.0**	**-1.0**
	comp=Z,14nm,1.2s,mb5.0						
GERES	**GERESS Array B**	**85.27**	**319**	P	**P**	**03 49 58.3**	**+0.3**
	comp=Z,11nm,1.1s,mb4.9,baz=90,slow=4.0,SNR=36						
KHC	**Kasperske Hory**	**85.37**	**319**	*e*P	**P**	**03 49 59.4**	**+0.9**
VNDA	**Vanda**	**85.39**	**169**	P	**P**	**03 49 59.6**	**+1.6**
	comp=Z,4.6nm,1.2s,mb4.5,baz=333,slow=7.4,SNR=4.1						
RUE	**Ruedersdorf**	**85.50**	**322**	*e*P	**P**	**03 49 57.8**	**-1.3**
	comp=Z,21nm,0.8s,mb5.3						
CLL	**Collm**	**85.89**	**321**	*e*P	**P**	**03 50 03.0**	**+1.9**
CLL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
CLL	**Collm**	**85.89**	**321**	*e*P	**P**	**03 50 03.0**	**+1.9**
	comp=Z,9.0nm,1.0s,mb5.0						
CLL	**Collm**	**85.89**	**321**	P	**P**	**03 50 03.0**	**+1.9**
	comp=Z,logA/T=1.0,mb5.0						
CLL				*e**PP	pP	03 50 09.0	-0.6
CLL				*e*		03 50 40.0	
NKC	**Novy Kostel**	**86.18**	**320**	*e*P	**P**	**03 50 04.2**	**+1.7**
HFS	**Hagfors**	**86.19**	**330**	P	**P**	**03 50 02.1**	**-0.2**
	comp=Z,5.6nm,0.7s,mb4.9,baz=135,slow=4.2,SNR=10						
MOX	**Moxa**	**86.73**	**321**	*e*P	**P**	**03 50 07.6**	**+2.4**
MOX				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
MOX	**Moxa**	**86.73**	**321**	*e*P	**P**	**03 50 07.6**	**+2.4**
	comp=Z,10.0nm,1.4s,mb4.8						
MOX	**Moxa**	**86.73**	**321**	*i* P	**P**	**03 50 07.6**	**+2.4**
	comp=Z,logA/T=0.8,mb4.8						
GRA1	**Grafenberg Arr**	**86.94**	**320**	*e*P	**P**	**03 50 07.1**	**+0.8**
	comp=Z,15nm,1.2s,mb5.1						
GRF	**Grafenberg Arr**	**86.94**	**320**	*e*P	**P**	**03 50 07.1**	**+0.8**
GRF				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.1						
GRF	**Grafenberg Arr**	**86.94**	**320**	*e*P	**P**	**03 50 07.1**	**+0.8**
GRF				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.1						
GRF	**Grafenberg Arr**	**86.94**	**320**	*e*P	**P**	**03 50 07.1**	**+0.8**
	comp=Z,15nm,1.2s,mb5.1						
NB2	**NORSAR Subarra**	**87.47**	**331**	P	**P**	**03 50 07.4**	**-1.1**
	comp=Z,9.0nm,1.0s,mb5.0,baz=90,slow=5.6						
NOA	**NORSAR Array B**	**87.47**	**331**	P	**P**	**03 50 08.4**	**-0.1**
	comp=Z,5.5nm,0.9s,mb4.8,baz=94,slow=4.9,SNR=7.7						
DAVOX	**Davos**	**87.75**	**317**	P	**P**	**03 50 10.1**	**-0.1**
	comp=Z,4.8nm,0.6s,mb4.9,baz=209,slow=18,SNR=10						
PGF	**Pioggiola**	**88.31**	**312**	*e*P	**P**	**03 50 12.8**	**-0.2**
	comp=Z,29nm,0.9s,mb5.2						
PGF	**Pioggiola**	**88.31**	**312**	*e*P	**P**	**03 50 12.8**	**-0.2**
PGF				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.2						
CDF	**Champ du Feu**	**89.52**	**318**	*e*P	**P**	**03 50 18.9**	**+0.3**
HINF	**Hinteralfeld**	**89.81**	**318**	*e*P	**P**	**03 50 19.9**	**-0.1**
LPG	**La Plagne**	**89.92**	**315**	*e*P	**P**	**03 50 21.4**	**+0.8**
	comp=Z,19nm,1.1s,mb5.0						
LPG	**La Plagne**	**89.92**	**315**	*e*P	**P**	**03 50 21.4**	**+0.8**
LPG				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.1						
MBDF	**Montbardon**	**89.92**	**315**	*e*P	**P**	**03 50 20.8**	**+0.2**
LPL	**La Plagne**	**89.94**	**315**	*e*P	**P**	**03 50 21.4**	**+0.8**
	comp=Z,34nm,1.1s,mb5.3						
LPL	**La Plagne**	**89.94**	**315**	*e*P	**P**	**03 50 21.4**	**+0.8**
LPL				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.3						
FRF	**La Foret Royal**	**90.03**	**313**	*e*P	**P**	**03 50 21.8**	**+0.7**
	comp=Z,61nm,1.3s,mb5.5						
FRF	**La Foret Royal**	**90.03**	**313**	*e*P	**P**	**03 50 21.8**	**+0.7**
FRF				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.5						
HAU	**Haudompre**	**90.15**	**318**	*e*P	**P**	**03 50 21.8**	**+0.3**
	comp=Z,33nm,1.2s,mb5.2						
HAU				*e*R			
	comp=Z,154nm,19.8s						
HAU	**Haudompre**	**90.15**	**318**	*e*P	**P**	**03 50 21.8**	**+0.3**
HAU				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.2						
HAU				MLR	MLR		
	comp=Z,150nm,19.8s,MS4.4						
CABF	**La Chapelle**	**90.36**	**316**	*e*P	**P**	**03 50 23.4**	**+0.8**
	comp=Z,39nm,1.2s,mb5.3						
CABF	**La Chapelle**	**90.36**	**316**	*e*P	**P**	**03 50 23.4**	**+0.8**
CABF				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.3						
ORIF	**Oris-en-Rattie**	**90.55**	**315**	*e*P	**P**	**03 50 24.0**	**+0.5**
	comp=Z,30nm,1.3s,mb5.2						
ORIF				*e*R			
	comp=Z,270nm,20.5s						
MEZF	**Maizieres J'vi**	**91.00**	**318**	*e*P	**P**	**03 50 26.1**	**+0.7**
	comp=Z,53nm,1.5s,mb5.4						
GIVF	**Givet**	**91.08**	**320**	*e*P	**P**	**03 50 26.5**	**+0.7**
	comp=Z,42nm,1.2s,mb5.3						
GIVF	**Givet**	**91.08**	**320**	*e*P	**P**	**03 50 26.5**	**+0.7**
GIVF				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.3						
VIVF	**Saint-Julien-l**	**91.41**	**315**	*e*P	**P**	**03 50 28.1**	**+0.7**
	comp=Z,19nm,1.2s,mb5.0						
VIVF	**Saint-Julien-l**	**91.41**	**315**	*e*P	**P**	**03 50 28.1**	**+0.7**
VIVF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb5.0						
BAIF	**Baives**	**91.48**	**320**	*e*P	**P**	**03 50 28.6**	**+1.0**
	comp=Z,42nm,1.2s,mb5.4						
BAIF	**Baives**	**91.48**	**320**	*e*P	**P**	**03 50 28.6**	**+1.0**
BAIF				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.3						
SMF	**Signal de Mont**	**91.90**	**317**	*e*P	**P**	**03 50 30.2**	**+0.5**
	comp=Z,32nm,1.2s,mb5.2						
SMF	**Signal de Mont**	**91.90**	**317**	*e*P	**P**	**03 50 30.2**	**+0.5**
SMF				pmax	pmax		
	comp=Z,16nm,1.2s,mb5.2						
**SS

Plg75°, Azm35°; N -.477, Plg8°, Azm155°; P -2.02, Plg13°, Azm247°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC ***02*** *03:39:05.5±0.2, 1.73S×99.84E, h30km, mb5.2/36, MS4.7/2 Error ellipse: s-maj=7.2km s-min=4.6km az=54.0*
ISC 02 03:39:04.4±0.2, **1.71S**±0.05×**99.88E**±0.05, **h33**km, (**h30**km±2.7km:**pP-P**), **n179**, σ0**99**/156, **mb5.1**/77, **MS4.8**/16, **15C-12D**, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase Id Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.99**	**6**	P	**P**	**03 40 45.4**	**-1.6**
PALK	**Pallekele**	**21.11**	**295**	P	**P**	**03 43 46.3**	**-2.5**
60nm,1.1s,mb4.8							
QIZ	**Qiongzhong**	**22.81**	**25**	P	**P**	**03 44 07.0**	**+1.3**
FITZ	**Fitzroy Crossi**	**30.07**	**124**	⇓*iP*	**P**	**03 45 12.4**	**-0.7**
42nm,1.1s,mb5.1							
FITZ	**Fitzroy Crossi**	**30.07**	**124**	P	**P**	**03 45 11.0**	**-2.1**
57nm,1.0s,mb5.3,baz=320,slow=5.2,SNR=9.3							
FITZ				PcP	PcP	03 48 14.7	+0.1
10nm,0.8s,baz=256,slow=4.0,SNR=4.9							
JIRN	**Jiri**	**32.03**	**337**	*e*P	**P**	**03 45 31.0**	**+0.6**
129nm,0.8s,mb5.8							
PKI	**Pulchoki**	**32.27**	**335**	*e*P	**P**	**03 45 32.4**	**0.0**
47nm,1.1s,mb5.2							
PKI	**Pulchoki**	**32.27**	**335**	*e*P	**P**	**03 45 32.4**	**0.0**
PKI				pmax	pmax		
comp=Z,24nm,1.1s,mb4.9							
LSA	**Lhasa**	**32.32**	**346**	*e*P	**P**	**03 45 33.1**	**+0.2**
LSA				pmax	pmax		
comp=Z,38nm,1.2s,mb5.1							
LSA	**Lhasa**	**32.32**	**346**	*e*P	**P**	**03 45 33.1**	**+0.2**
comp=Z,38nm,1.2s,mb5.1							
GUN	**Gumba**	**32.38**	**336**	*e*P	**P**	**03 45 33.8**	**+0.4**
comp=Z,103nm,0.7s,mb5.7							
DMN	**Daman**	**32.43**	**335**	*e*P	**P**	**03 45 33.9**	**+0.1**
comp=Z,44nm,1.0s,mb5.3							
KKN	**Kakani**	**32.52**	**335**	*e*P	**P**	**03 45 34.7**	**+0.1**
comp=Z,65nm,0.9s,mb5.6							
KKN	**Kakani**	**32.52**	**335**	*e*P	**P**	**03 45 34.7**	**+0.1**
KKN				pmax	pmax		
comp=Z,33nm,0.9s,mb5.3							
GKN	**Gorkha**	**32.97**	**335**	*e*P	**P**	**03 45 38.5**	**-0.1**
comp=Z,68nm,1.0s,mb5.5							
ENH	**Enshi**	**33.09**	**15**	*e*P	**P**	**03 45 38.1**	**-1.5**
comp=Z,32nm,1.1s,mb5.2							
KOLN	**Koldanda**	**33.23**	**333**	*e*P	**P**	**03 45 40.9**	**+0.1**
comp=Z,70nm,0.9s,mb5.6							
NWAO	**Narrogin (SRO)**	**35.08**	**154**	P	**P**	**03 45 55.6**	**-0.9**
comp=Z,19nm,0.9s,mb5.0,baz=326,slow=14,SNR=3.2							
XAN	**Xi'an**	**36.56**	**13**	P	**P**	**03 46 07.8**	**-1.3**
XAN				AMB	AMB		
comp=Z,26nm,0.9s,mb5.1							
WRA	**Warramunga Arr**	**38.24**	**121**	P	**P**	**03 46 23.2**	**-0.2**
comp=Z,25nm,0.8s,mb5.0,baz=301,slow=9.1,SNR=18							
WRA				PcP	PcP	03 48 38.0	+0.2
comp=Z,3.4nm,0.7s,baz=311,slow=2.4,SNR=5.2							
WRAB	**Tennant Creek**	**38.25**	**121**	*e*P	**P**	**03 46 22.4**	**-1.0**
WRAB				pmax	pmax		
comp=Z,34nm,0.7s,mb5.2							
WRAB	**Tennant Creek**	**38.25**	**121**	*e*P	**P**	**03 46 22.4**	**-1.0**
comp=Z,34nm,0.7s,mb5.2							
WB2	**Warramunga Arr**	**38.25**	**121**	⇓*iP*	**P**	**03 46 23.0**	**-0.5**
JOW	**Kunigami**	**39.42**	**42**	P	**P**	**03 46 32.4**	**-0.7**
comp=Z,21nm,0.7s,mb5.0,baz=197,slow=14,SNR=2.5							
ASPA	**Alice Springs**	**39.52**	**126**	*e*P	**P**	**03 46 34.4**	**+0.5**
ASAR	**Alice Springs**	**39.52**	**126**	P	**P**	**03 46 34.4**	**+0.4**
comp=Z,7.4nm,0.7s,mb4.6,baz=302,slow=7.5,SNR=11							
ASAR				PcP	PcP	03 48 42.2	+0.5
comp=Z,7.3nm,0.7s,baz=297,slow=2.2,SNR=12							
HHC	**Hu-ho-hao-te**	**43.67**	**13**	*e*P	**P**	**03 47 09.2**	**+1.2**
HHC				AP	pP	03 47 19.8	+2.0
HHC				PP	PP	03 48 51.1	-0.2
HHC				PCP	PcP	03 48 56.6	+1.3
HHC				SCP		03 52 44.6	
HHC				PCS		03 52 46.9	
HHC				S	**S**	**03 53 38.5**	**+3.4**
HHC				XS		03 53 53.4	
HHC				SS	SS	03 56 49.0	+5.8
HHC				SCS	ScS	03 57 03.5	+1.2
HHC				AMB	AMB		
comp=Z,15nm,1.4s,mb4.5							
HHC				AMB	AMB		
comp=Z,174nm,5.5s							
HHC				LR	LR		
comp=N,1μm,15.5s,MS5.1							
HHC				LR	LR		
comp=E,2μm,15.9s,MS5.1							
HHC				LR	LR		
comp=Z,1μm,15.4s,MS4.9							
BJI	**Beijing**	**44.14**	**18**	*e*P	**P**	**03 47 12.0**	**+0.3**
BJI				AMB	AMB		
comp=Z,19nm,1.0s,mb4.8							
BJI	**Beijing**	**44.14**	**18**	*e*P	**P**	**03 47 12.0**	**+0.3**
comp=Z,19nm,1.0s,mb4.8							
WMQ	**Urumqi**	**46.62**	**348**	⇓P	**P**	**03 47 33.2**	**+1.8**
WMQ				AP	pP	03 47 43.3	+2.0
WMQ				XP	sP	03 47 47.4	+2.0
WMQ				PCP	PcP	03 49 07.3	+1.9
WMQ				PP	PP	03 49 22.5	+1.7
WMQ				PPP	PPP	03 50 08.3	+1.7
WMQ				SCP		03 52 56.9	
WMQ				S	**S**	**03 54 19.0**	**+1.6**
WMQ				SCS	ScS	03 57 22.8	+1.8
WMQ				AMB	AMB		
comp=Z,72nm,1.0s,mb5.6							
WMQ				LR	LR		
comp=N,403nm,14.0s							
WMQ				LR	LR		
comp=Z,333nm,18.5s,MS4.3							
CTA	**Charters Tower**	**48.83**	**115**	P	**P**	**03 47 48.7**	**-0.3**
comp=Z,11nm,0.9s,mb4.9,baz=298,slow=12,SNR=5.3							
RBK	**Rabkut**	**48.88**	**295**	P	**P**	**03 47 49.5**	**+0.1**
SNR=6.6							
UCH	**Uchtor**	**49.38**	**335**	P	**P**	**03 47 53.2**	**+0.2**
SNR=5.2							
WHFO	**Wadi Hawf**	**49.41**	**295**	P	**P**	**03 47 53.0**	**-0.4**
SNR=7.0							
STKA	**Stephens Creek**	**49.43**	**132**	*e*P	**P**	**03 47 53.6**	**+0.1**
comp=Z,11nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**49.43**	**132**	P	**P**	**03 47 53.9**	**+0.4**
comp=Z,13nm,0.8s,mb5.0,baz=314,slow=9.7,SNR=7.7							
TKM2	**Tokmak 2**	**49.52**	**337**	P	**P**	**03 47 54.3**	**+0.3**
SNR=10							
AML	**Almayashu**	**49.65**	**334**	P	**P**	**03 47 55.7**	**+0.7**
SNR=5.1							
ABTO	**Aybut**	**49.66**	**294**	P	**P**	**03 47 55.3**	**-0.1**
SNR=7.7							
SONM	**Songino Array**	**49.66**	**6**	P	**P**	**03 47 55.8**	**+0.8**
comp=Z,15nm,0.7s,mb5.1,baz=186,slow=9.1,SNR=16							
SONM				PcP	PcP	03 49 16.6	+0.3
comp=Z,4.8nm,0.7s,baz=185,slow=4.3,SNR=6.1							
AAK	**Ala-Archa**	**49.72**	**335**	*i* P	**P**	**03 47 55.7**	**+0.1**
AAK				pmax	pmax		
comp=Z,18nm,1.4s,mb4.9							
AAK	**Ala-Archa**	**49.72**	**335**	*e*P	**P**	**03 47 54.2**	**-1.4**
ULN	**Ulaanbaatar**	**49.76**	**6**	*e*P	**P**	**03 47 55.8**	**0.0**
EKS2	**Erkin-Say**	**50.05**	**335**	P	**P**	**03 47 58.9**	**+0.9**
SNR=13							
USP	**Ospenovka**	**50.25**	**336**	P	**P**	**03 47 59.8**	**+0.2**
SNR=10							
MKAR	**Makanchi Array**	**50.71**	**344**	P	**P**	**03 48 03.1**	**+0.1**
comp=Z,27nm,0.7s,mb5.3,baz=149,slow=8.1,SNR=21							
CN2	**Changchun**	**50.76**	**24**	*e*P	**P**	**03 48 03.1**	**-0.4**
CN2				*e*XP	sP	03 48 18.4	+0.9
CN2				*e*S	**S**	**03 55 14.0**	**-1.4**
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
CN2				AMB	AMB		
comp=Z,200nm,5.0s							
CN2				LR	LR		
comp=N,800nm,15.0s,MS5.0							
CN2				LR	LR		
comp=E,900nm,15.0s,MS5.0							
CN2				LR	LR		
comp=Z,800nm,16.0s,MS4.8							
MDJ	**Mudanjiang**	**53.18**	**26**	P	**P**	**03 48 21.5**	**-0.1**
MDJ				AP	pP	03 48 30.7	-0.9
MDJ				XP	sP	03 48 34.5	-1.1
MDJ				PCP	PcP	03 49 28.5	-0.8
MDJ				PP	PP	03 50 22.1	-1.0
MDJ				SCP		03 53 23.8	
MDJ				PCS		03 53 27.5	
MDJ				S	**S**	**03 55 51.7**	**+3.2**
MDJ				XS		03 56 08.3	
MDJ				SS	SS	03 59 33.2	+5.8
MDJ				AMB	AMB		
comp=Z,6.0nm,0.9s,mb4.5							
MDJ				LR	LR		
comp=N,1μm,15.7s,MS5.2							
MDJ				LR	LR		
comp=E,2μm,16.7s,MS5.2							
MDJ				LR	LR		
comp=Z,716nm,21.2s,MS4.7							
TLY	**Talaya**	**53.28**	**3**	*e*P	**P**	**03 48 22.0**	**-0.2**
TLY				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.5							
TLY	**Talaya**	**53.28**	**3**	*e*P	**P**	**03 48 22.0**	**-0.2**
comp=Z,5.5nm,0.9s,mb4.5							
OPO	**Ambohidratompo**	**54.27**	**248**	P	**P**	**03 48 29.8**	**-0.1**
comp=Z,4.4nm,0.9s,mb4.4,baz=85,slow=9.3,SNR=3.8							
KURK	**Kurchatov**	**55.29**	**344**	*e*P	**P**	**03 48 36.1**	**-0.9**
ZAL	**Zalesovo**	**56.85**	**349**	P	**P**	**03 48 47.6**	**-0.5**
comp=Z,31nm,0.8s,mb5.4,baz=292,slow=6.3,SNR=24							
ZAL				LR	LR	04 13 23.1	
comp=Z,526nm,19.4s,MS4.7,baz=298,slow=36							
KLR	**Kul'dur**	**57.71**	**24**	*e*P	**P**	**03 48 50.8**	**-3.5**
NVS	**Novosibirsk**	**58.00**	**349**	*e*P	**P**	**03 48 53.1**	**-3.1**
NVS				pmax	pmax		
comp=N,13nm,1.0s							
NVS				pmax	pmax		
comp=E,6.0nm,1.0s							
NVS				pmax	pmax		
comp=Z,31nm,1.0s,mb5.3							
BVAR	**Borovoye Array**	**59.87**	**340**	P	**P**	**03 49 07.9**	**-1.4**
comp=Z,13nm,0.7s,mb5.1,baz=142,slow=8.9,SNR=21							
BOD	**Bodaibo**	**60.41**	**9**	*e*P	**P**	**03 49 12.6**	**-0.3**
BOD				pmax	pmax		
comp=Z,11nm,1.0s,mb4.8							
YSS	**Yuzh-Sakhalins**	**61.30**	**32**	⇑*iP*	**P**	**03 49 18.0**	**-1.0**
YSS				pmax	pmax		
comp=Z,60nm,1.0s,mb5.7							
YSS				MLR	MLR		
comp=E,500nm,16.0s							
YSS				MLR	MLR		
comp=Z,500nm,16.0s,MS4.8							
YSS	**Yuzh-Sakhalins**	**61.30**	**32**	*e*P	**P**	**03 49 18.5**	**-0.5**
comp=Z,53nm,1.1s,mb5.6							
CLNS	**Chul'man**	**61.76**	**15**	*e*P	**P**	**03 49 18.3**	**-3.7**
CLNS				pmax	pmax		
comp=N,6.0nm,0.7s							
CLNS				pmax	pmax		
comp=Z,10.0nm,0.7s,mb5.0							
CLNS				MLR	MLR		
comp=N,900nm,14.0s,MS5.1							
CLNS				MLR	MLR		
comp=E,100nm,14.0s,MS5.1							
CLNS				MLR	MLR		
comp=Z,1μm,14.0s,MS5.1							
KMBO	**Kilima Mbogo**	**62.61**	**270**	*e*P	**P**	**03 49 27.2**	**-1.1**
KMBO	**Kilima Mbogo**	**62.61**	**270**	P	**P**	**03 49 28.2**	**-0.1**
comp=Z,6.6nm,0.9s,mb4.8,baz=53,slow=10,SNR=12							
GNI	**Garni**	**65.23**	**316**	⇑*e*P	**P**	**03 49 44.3**	**-0.8**
GNI				pmax	pmax		
comp=Z,14nm,0.9s							
GNI	**Garni**	**65.23**	**316**	*e*P	**P**	**03 49 43.7**	**-1.4**
comp=Z,28nm,1.3s,mb5.1							
DGRG	**David-gareji**	**65.37**	**318**	P	**P**	**03 49 46.0**	**0.0**
SVE	**Sverdlovsk**	**66.37**	**338**	⇑*e*P	**P**	**03 49 51.5**	**-0.5**
SVE				*e*		03 50 04.5	
SVE				pmax	pmax		
comp=Z,40nm,1.3s,mb5.3							
SVE				MLR	MLR		
comp=N,300nm,16.0s,MS4.7							
SVE				MLR	MLR		
comp=E,200nm,16.0s,MS4.7							
SVE				MLR	MLR		
comp=Z,500nm,16.0s,MS4.8							
ARU	**Arti**	**66.89**	**336**	⇑*iP*	**P**	**03 49 54.2**	**-1.1**
ARU				*e*		03 50 24.2	
ARU				*e*		03 52 20.3	
ARU				*e*S	S	03 58 44.9	+0.5
ARU				*e*SS	SS	04 03 03.4	-1.2
ARU				pmax	pmax		
comp=Z,21nm,0.9s,mb5.2							
ARU	**Arti**	**66.89**	**336**	*e*P	**P**	**03 49 53.6**	**-1.7**
comp=Z,25nm,1.1s,mb5.2							
YAK	**Yakutsk**	**67.49**	**15**	*e*P	**P**	**03 49 57.4**	**-1.6**
YAK				pmax	pmax		
comp=Z,32nm,0.9s,mb5.3							
YAK				pmax	pmax		
comp=N,11nm,1.0s							
YAK				pmax	pmax		
comp=E,7.0nm,1.2s							
YAK				MLR	MLR		
comp=Z,445nm,12.0s,MS4.9							
YAK				MLR	MLR		
comp=N,431nm,14.0s,MS4.9							
YAK				MLR	MLR		
comp=E,329nm,15.0s,MS4.9							
YAK	**Yakutsk**	**67.49**	**15**	*e*P	**P**	**03 49 57.1**	**-1.9**
comp=E,30nm,0.8s,mb5.4							
KIV	**Kislovodsk**	**68.24**	**319**	*e*P	**P**	**03 50 02.6**	**-1.4**
KIV				pmax	pmax		
comp=Z,28nm,1.1s,mb5.2							
KIV	**Kislovodsk**	**68.24**	**319**	*e*P	**P**	**03 50 02.6**	**-1.5**
comp=Z,28nm,1.1s,mb5.2							
ASF	**Jabal al Asfar**	**68.32**	**306**	P	**P**	**03 50 04.7**	**-0.1**
comp=Z,11nm,1.0s,mb4.8,baz=38,slow=4.5,SNR=7.0							
GOF	**Gofitskoye**	**68.50**	**320**	*e*P	**P**	**03 50 04.8**	**-0.8**
GOF				pmax	pmax		
comp=Z,40nm,1.3s,mb5.3							
MALT	**Malatya**	**69.05**	**312**	*e*P	**P**	**03 50 08.1**	**-1.0**
MBAR	**Mbarara**	**69.14**	**270**	*e*P	**P**	**03 50 08.1**	**-2.0**
EIL	**Elat**	**69.27**	**303**	*e*P	**P**	**03 50 09.7**	**-0.9**
comp=Z,19nm,1.3s,mb4.9							
SOC	**Sochi**	**70.06**	**318**	*e*P	**P**	**03 50 13.5**	**-1.7**
SOC				*e*		03 52 45.5	
SOC				*e*PPP	PPP	03 54 37.9	+5.7
SOC				*e*S	S	03 59 21.1	-1.2
SOC				*e*		04 00 12.1	
SOC				*e*SS	SS	04 03 52.8	-0.8
SOC				pmax	pmax		
comp=Z,26nm,0.7s,mb5.3							
SOC				pmax	pmax		
comp=N,37nm,1.0s							
SOC				pmax	pmax		
comp=E,12nm,0.7s							
MAW	**Mawson**	**70.54**	**194**	P	**P**	**03 50 17.8**	**+0.1**
comp=E,6.9nm,0.9s,mb4.6,baz=52,slow=15,SNR=6.9							
LSZ	**Lusaka**	**71.90**	**255**	*e*P	**P**	**03 50 25.3**	**-1.4**
LSZ				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
LSZ	**Lusaka**	**71.90**	**255**	*e*P	**P**	**03 50 25.3**	**-1.3**
comp=Z,2.6nm,0.9s,mb4.2							
MA2	**Magadan**	**72.81**	**24**	*e*P	**P**	**03 50 31.9**	**+0.5**
MA2				pmax	pmax		
comp=Z,31nm,0.8s,mb5.3							
MA2	**Magadan**	**72.81**	**24**	*e*P	**P**	**03 50 31.9**	**+0.5**
comp=Z,31nm,0.8s,mb5.3							
BRTR	**Keskin Array B**	**73.04**	**312**	P	**P**	**03 50 31.9**	**-1.3**
comp=Z,5.5nm,0.8s,mb4.5,baz=126,slow=6.8,SNR=11							
PET	**Petropavlovsk**	**73.17**	**33**	*e*P	**P**	**03 50 34.7**	**+1.0**
PET				MLR	MLR		
comp=Z,500nm,17.0s,MS4.9							
VRSR	**Storozhevoye**	**73.45**	**325**	*e*P	**P**	**03 50 34.0**	**-1.4**
VRSR				pmax	pmax		
comp=N,10.0nm,0.9s							
VRSR				pmax	pmax		
comp=E,40nm,0.9s							
VRSR				pmax	pmax		
comp=Z,40nm,0.9s,mb5.3							
SEY	**Seymchan**	**75.40**	**22**	*e*P	**P**	**03 50 48.6**	**+2.3**
SEY				*e*		03 53 38.0	
SEY				pmax	pmax		
comp=E,20nm,1.0s							
SEY				pmax	pmax		
comp=Z,50nm,1.0s,mb5.4							
TIXI	**Tiksi**	**75.58**	**9**	⇓*iP*	**P**	**03 50 45.5**	**-1.8**
TIXI				pmax	pmax		
comp=Z,24nm,1.1s,mb5.0							
TIXI				MLR	MLR		
comp=Z,610nm,15.0s,MS5.0							
TIXI	**Tiksi**	**75.58**	**9**	⇑*e*P	**P**	**03 50 46.7**	**-0.6**
MOS	**Moscow**	**76.19**	**329**	*e*P	**P**	**03 50 49.8**	**-1.1**
MOS				pmax	pmax		
comp=Z,72nm,1.2s,mb5.5							
OBN	**Obninsk**	**76.48**	**328**	*d iP*	**P**	**03 50 52.6**	**-0.1**
OBN				pmax	pmax		
comp=Z,35nm,1.2s,mb5.2							
OBN				MLR	MLR		
comp=Z,200nm,18.0s,MS4.5							
OBN	**Obninsk**	**76.48**	**328**	⇓*e*P	**P**	**03 50 52.6**	**-0.1**
SYO	**Syowa Base**	**78.11**	**199**	⇓P	**P**	**03 51 01.8**	**+0.4**
SYO	**Syowa Base**	**78.11**	**199**	⇑PcP	PcP	03 51 09.5	-1.8
AKASG	**Malin Array Be**	**79.18**	**322**	P	**P**	**03 51 06.5**	**-1.2**
comp=Z,3.1nm,0.7s,mb4.4,baz=86,slow=4.7,SNR=6.4							
ISR	**Istrita**	**79.51**	**316**	⇓*iP*	**P**	**03 51 05.4**	**-4.2**
VRI	**Vrincioaia**	**79.56**	**317**	⇓*e*P	**P**	**03 51 10.4**	**+0.6**
MLR	**Muntele Rosu**	**80.01**	**317**	P	**P**	**03 51 12.8**	**+0.6**
comp=Z,22nm,0.9s,mb5.1,baz=120,slow=0.3,SNR=13							
MLR	**Muntele Rosu**	**80.01**	**317**	⇓*iP*	**P**	**03 51 12.7**	**+0.4**
PUL	**Pulkovo**	**81.31**	**331**	*i* P	**P**	**03 51 19.5**	**+0.7**
VNDA	**Vanda**	**82.47**	**169**	P	**P**	**03 51 25.5**	**+0.7**
comp=Z,2.6nm,0.8s,mb4.2,baz=298,slow=7.3,SNR=7.2							
APA	**Apatity**	**82.77**	**339**	⇑*iP*	**P**	**03 51 16.9**	**-9.3**
APA				*i*	pP	03 51 26.8	-10
APA				pmax	pmax		
comp=Z,58nm,1.5s,mb5.4							
BILL	**Bilibino**	**82.92**	**20**	⇓*e*P	**P**	**03 51 27.6**	**+0.6**
BILL				pmax	pmax		
comp=Z,7.0nm,1.6s,mb4.4							
BILL	**Bilibino**	**82.92**	**20**	⇓*e*P	**P**	**03 51 27.7**	**+0.7**
KWP	**Kalwaria**	**83.00**	**320**	*e*P	**P**	**03 51 26.2**	**-1.5**
KWP				pmax	pmax		
comp=Z,13nm,1.1s,mb4.9							
KWP	**Kalwaria**	**83.00**	**320**	*e*P	**P**	**03 51 26.2**	**-1.5**
comp=Z,13nm,1.1s,mb4.9							
KOLS	**Kolonicke sedl**	**83.15**	**320**	*i* P	**P**	**03 51 29.4**	**+0.9**
KOLS				*e*		03 51 36.5	
SUW	**Suwalki**	**83.58**	**325**	*e*P	**P**	**03 51 29.2**	**-1.4**
SUW				pmax	pmax		
comp=Z,65nm,1.0s,mb5.7							
SUW	**Suwalki**	**83.58**	**325**	*e*P	**P**	**03 51 29.2**	**-1.4**
comp=Z,65nm,1.0s,mb5.7							
CRVS	**Cervenica-Dubn**	**83.67**	**319**	*e*P	**P**	**03 51 32.8**	**+1.6**
CRVS				*e*pP	pP	03 51 43.5	+1.8
FINES	**FINESS Array B**	**83.80**	**332**	P	**P**	**03 51 32.3**	**+0.8**
comp=Z,8.1nm,0.6s,mb5.0,baz=102,slow=5.8,SNR=42							
KAF	**Kangasniemi**	**83.87**	**333**	*e*p	**P**	**03 51 31.7**	**-0.2**
comp=Z,15nm,0.7s,mb5.2,baz=101,slow=4.6							
KAF	**Kangasniemi**	**83.87**	**333**	*e*P	**P**	**03 51 31.7**	**-0.2**
KAF				pmax	pmax		
comp=Z,15nm,0.7s,mb5.2							
PSZ	**Piszkesteto**	**84.55**	**318**	*e*P	**P**	**03 51 33.8**	**-1.8**
VYHS	**Vyhne**	**85.33**	**319**	*e*P	**P**	**03 51 40.6**	**+1.1**
OKC	**Ostrava-Krasne**	**85.96**	**320**	*e*P	**P**	**03 51 43.4**	**+0.9**
ARCES	**ARCESS Array B**	**86.16**	**340**	P	**P**	**03 51 44.4**	**+1.4**
comp=Z,13nm,0.8s,mb5.2,baz=104,slow=5.0,SNR=13							
MORC	**Moravsky Berou**	**86.34**	**320**	*e*P	**P**	**03 51 44.5**	**+0.1**
MORC				*e*		03 51 51.3	
MORC				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.8							
MORC	**Moravsky Berou**	**86.34**	**320**	*e*P	**P**	**03 51 44.5**	**+0.1**
comp=Z,7.1nm,1.1s,mb4.8							
MORC				*e*		03 51 51.3	
ZST	**Bratislava**	**86.44**	**318**	*e*P	**P**	**03 51 45.6**	**+0.7**
ZST				*e*		03 51 52.4	
DPC	**Dobruska-Polom**	**87.18**	**320**	*e*P	**P**	**03 51 49.8**	**+1.3**
KSP	**Ksiaz**	**87.25**	**321**	*e*P	**P**	**03 51 50.1**	**+1.3**
UPC	**Upice**	**87.40**	**321**	*e*P	**P**	**03 51 50.6**	**+1.1**
BOJS	**Bojanci**	**87.43**	**316**	*e*P	**P**	**03 51 50.6**	**+0.7**
PERS	**Pernice**	**87.63**	**317**	*e*P	**P**	**03 51 51.7**	**+1.0**
QSPA	**South Pole Qui**	**88.25**	**180**	⇑*iP*	**P**	**03 51 54.6**	**+1.6**
comp=Z,18nm,1.1s,mb5.2							
PRU	**Pruhonice**	**88.29**	**320**	*e*P	**P**	**03 51 54.6**	**+0.8**
PVCC	**Panska Ves**	**88.32**	**320**	*e*P	**P**	**03 51 54.9**	**+1.0**
BSD	**Bornholm Skovb**	**88.50**	**325**	⇑*iP*	**P**	**03 51 55.0**	**+0.3**
BSD				pmax	pmax		
comp=Z,12nm,0.7s,mb5.2							
BSD	**Bornholm Skovb**	**88.50**	**325**	⇑*iP*	**P**	**03 51 55.0**	**+0.3**
comp=Z,12nm,0.7s,mb5.2							
ROBS	**Robic**	**88.70**	**316**	*e*P	**P**	**03 51 56.3**	**+0.3**
BRG	**Berggiesshubel**	**88.74**	**321**	*e*P	**P**	**03 51 57.0**	**+1.0**
BRG				*e*		03 52 03.8	
BRG				pmax	pmax		
comp=Z,8.0nm,0.9s,mb5.0							
BRG				MLR	MLR		
comp=Z,320nm,25.3s,MS4.6							
BRG	**Berggiesshubel**	**88.74**	**321**	*e*P	**P**	**03 51 57.0**	**+1.0**
comp=Z,7.7nm,0.9s,mb5.0							
BRG				*e*		03 52 03.8	
BRG				LR	LR		
comp=Z,320nm,25.3s,MS4.6							
GERES	**GERESS Array B**	**88.75**	**319**	P	**P**	**03 51 56.9**	**+0.8**
comp=Z,3.8nm,0.8s,mb4.8,baz=90,slow=4.0,SNR=12							
KHC	**Kasperske Hory**	**88.85**	**319**	*e*P	**P**	**03 51 56.8**	**+0.3**
RUE	**Ruedersdorf**	**88.96**	**322**	*e*P	**P**	**03 51 57.5**	**+0.5**
comp=Z,12nm,0.5s,mb5.5							
CLL	**Collm**	**89.36**	**321**	⇑*iP*	**P**	**03 51 59.4**	**+0.5**
CLL				*i*		03 52 06.2	
CLL				pmax	pmax		
comp=Z,10.0nm,1.0s,mb5.1							
CLL				MLR	MLR		
comp=Z,300nm,20.3s,MS4.7							
CLL	**Collm**	**89.36**	**321**	⇑*iP*	**P**	**03 51 59.4**	**+0.5**
comp=Z,10.0nm,1.0s,mb5.1							
CLL				*i*		03 52 06.2	
CLL				LR	LR		
comp=Z,300nm,20.3s,MS4.7							
CLL	**Collm**	**89.36**	**321**	⇑P	**P**	**03 51 59.4**	**+0.5**
comp=Z,logA/T=1.0,mb5.1							
CLL				*i* *PP	pP	03 52 06.2	-3.3
CLL				*e*		03 52 13.0	
CLL				*e*		03 52 24.0	
HFS	**Hagfors**	**89.56**	**330**	P	**P**	**03 52 00.5**	**+0.8**
comp=Z,2.6nm,0.5s,mb4.8,baz=135,slow=4.2,SNR=12							
NKC	**Novy Kostel**	**89.65**	**320**	*e*P	**

PLAL Pickwick Lake 146.07 12 *e*PKP PKPdf 03 58 41.7 +1.0
CPCT Cooper Cave 146.18 6 *e*PKP PKPdf 03 58 42.6 +1.8
OXF Oxford 146.23 14 *e*PKP2 PKPab 03 58 42.9 -2.0
NATX Nacogdoches 147.10 23 *e*PKP PKPdf 03 58 43.6 +1.0
JSC Jenkinsville 147.57 2 *e*PKP2 PKPab 03 58 46.1 -4.0
LRAL Lakeview Retre 148.17 11 *e*PKP PKPdf 03 58 46.6 +2.4
LVC Limon Verde 153.47 204 PKPbc PKPdf 03 59 03.0 +11
SIV San Ignacio 154.25 226 PKP PKPdf 03 58 56.0 +2.3
comp=Z,1.3nm,0.9s,baz=191,slow=5.4,SNR=4.0
SIV PKPbc PKPdf 03 59 03.0 +9.3
comp=Z,2.5nm,0.7s,baz=149,slow=2.9,SNR=9.2
LPAZ La Paz 158.56 213 PKP PKPdf 03 59 02.6 +3.2
comp=Z,1.7nm,0.8s,baz=58,slow=2.0,SNR=4.7
LPAZ PKPab PKPab 03 59 35.9 -0.8
comp=Z,3.0nm,0.9s,baz=93,slow=5.2,SNR=5.7
SAML Samuel 160.08 238 *e*PKPab PKPab 03 59 41.9 -1.5

IDC 02 03:55:27.5±1.2, 7.22N×76.37W, mb3.5/2, mb1 4.0/5, mb1mx3.6/21, mbtmp3.9/5, ML3.2/3, Error ellipse: s-maj=23.9km s-min=20.3km az=23.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.11**	**139**	Pn	Pn	03 56 18.5	-0.2
	10nm,0.3s,baz=285,slow=11,SNR=25						
ROSC				Sn	Sn	03 56 56.2	-0.9
	11nm,0.3s,baz=246,slow=22,SNR=7.3						
SDV	**Santo Domingo**	**5.92**	**73**	Pn	Pn	03 56 58.2	-0.4
	1.9nm,0.3s,baz=285,slow=11,SNR=34						
SDV				Sn	Sn	03 58 05.9	-2.2
	5.9nm,0.3s,baz=0.9,slow=12,SNR=3.3						
SDV				Lg		03 58 32.8	
	6.5nm,0.3s,baz=20,slow=17,SNR=5.5						
PCRV	**Puerto La Cruz**	**11.97**	**75**	Pn	P	03 58 21.7	-0.8
	0.8nm,0.3s,baz=176,slow=13,SNR=4.0						
LPAZ	**La Paz**	**24.74**	**161**	P	P	04 00 52.0	-0.2
	0.7nm,0.7s,baz=326,slow=3.6,SNR=3.2						
YKA	**Yellowknife Ar**	**61.81**	**341**	P	P	04 05 48.0	-2.4
	0.4nm,0.5s,baz=132,slow=6.8,SNR=16						
WRA	**Warramunga Arr**	**147.65**	**244**	PKPbc	PKPdf	04 15 13.5	-0.5
	0.9nm,0.9s,baz=104,slow=2.7,SNR=7.1						

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*NEIC **02** 04:11:09.1, 57.56N×155.06W, h74km, MG2.9(AEIC), After AEIC.*
*IDC **02** 04:11:10.8±11.0, 57.76N×155.16W, h108km±97km, mb3.1/5, mb1 3.3/7, mb1mx3.2/21, mbtmp3.5/7, ML3.6/1, Error ellipse: s-maj=82.3km s-min=25.1km az=42.0*
ISC 02 04:11:06.8±0.5, 57.58N±0.07×155.0W±0.1, h89km±6km, n62, σ0§98/65, mb3.2/4, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAHL	**Cahill**	**0.50**	**343**	P	**P**	**04 11 21.8**	**+0.1**
KJL	**Kejulik**	**0.56**	**328**	P	**P**	**04 11 22.4**	**+0.3**
KJL				S	**S**	04 11 32.9	-0.7
ACHA	**Angle Creek He**	**0.66**	**346**	P	**P**	**04 11 23.6**	**+0.5**
ACHA				S	**S**	04 11 35.2	+0.1
MGLS	**Mageik LS**	**0.66**	**346**	P	**P**	**04 11 22.4**	**-0.6**
MGLS				S	**S**	04 11 32.8	-2.3
ANCK	**Angle Creek**	**0.67**	**338**	P	**P**	**04 11 23.6**	**+0.4**
CNTC	**Contact Creek**	**0.83**	**327**	P	**P**	**04 11 24.9**	**+0.1**
KAHG	**Katmai Hook Gl**	**0.95**	**15**	P	**P**	**04 11 27.0**	**+0.8**
KAHC	**Katmai Hardscr**	**1.08**	**0**	P	**P**	**04 11 28.1**	**+0.5**
KAPH	**Katmai Pasha**	**1.08**	**19**	P	**P**	**04 11 28.4**	**+0.7**
MCNL	**McNeil River**	**1.65**	**12**	P	**P**	**04 11 35.6**	**+0.7**
AGU	**Augustine-Summ**	**1.97**	**24**	P	**P**	**04 11 40.2**	**+1.1**
AUW	**Augustine West**	**1.98**	**24**	P	**P**	**04 11 40.4**	**+1.3**
AUL	**Augustine Lava**	**1.99**	**24**	P	**P**	**04 11 40.7**	**+1.3**
OPT	**Oil Point**	**2.28**	**23**	P	**P**	**04 11 44.4**	**+1.0**
IVS	**Iliamna South**	**2.64**	**22**	P	**P**	**04 11 49.4**	**+0.9**
ILW	**Iliamna West**	**2.68**	**21**	P	**P**	**04 11 49.6**	**+0.7**
INE	**Iliamna NE**	**2.69**	**21**	P	**P**	**04 11 49.9**	**+0.8**
ILIM	**Iliamna**	**2.73**	**22**	P	**P**	**04 11 50.4**	**+0.7**
CNPM	**China Poot**	**2.78**	**44**	P	**P**	**04 11 50.5**	**+0.2**
BRLK	**Bradley Lake**	**3.08**	**43**	P	**P**	**04 11 54.0**	**-0.5**
REF	**Redoubt East F**	**3.16**	**21**	P	**P**	**04 11 56.3**	**+0.7**
RDN	**Redoubt North**	**3.17**	**21**	P	**P**	**04 11 56.8**	**+1.1**
NCT	**North Crescent**	**3.18**	**19**	P	**P**	**04 11 56.7**	**+0.8**
DFR	**Drift River**	**3.26**	**21**	P	**P**	**04 11 57.8**	**+0.9**
RDT	**Redoubt**	**3.29**	**23**	P	**P**	**04 11 56.1**	**-1.3**
SVW2	**Sparrevohn**	**3.54**	**356**	P	**P**	**04 12 00.7**	**-0.1**
SDPT	**Sand Point**	**3.76**	**236**	P	**P**	**04 12 03.4**	**-0.5**
CKL	**Chakachamna La**	**3.88**	**20**	P	**P**	**04 12 06.2**	**+0.7**
BGL	**Barrier Glacie**	**3.94**	**19**	P	**P**	**04 12 07.2**	**+1.0**
STLK	**Strandline Lak**	**4.26**	**21**	P	**P**	**04 12 11.2**	**+0.5**
BLHA	**Black Hill**	**4.32**	**247**	P	**P**	**04 12 11.1**	**-0.5**
FIB	**Fire Island**	**4.37**	**32**	P	**P**	**04 12 12.7**	**+0.4**
PN7A	**Pavlof North-7**	**4.42**	**244**	P	**P**	**04 12 13.1**	**+0.1**
HAG	**Hague Volcano**	**4.44**	**242**	P	**P**	**04 12 13.1**	**-0.1**
RC01	**Rabbit Creek A**	**4.44**	**35**	P	**P**	**04 12 12.7**	**-0.6**
GHO	**Glory Hole Cre**	**5.22**	**34**	P	**P**	**04 12 22.9**	**-0.9**
HIN	**Hinchinbrook I**	**5.23**	**54**	P	**P**	**04 12 23.2**	**-0.8**
SML	**Sawmill**	**5.43**	**36**	P	**P**	**04 12 25.8**	**-1.0**
CVA	**Cordova**	**5.63**	**54**	P	**P**	**04 12 28.0**	**-1.6**
EYAK	**Cordova Ski Ar**	**5.63**	**54**	P	**P**	**04 12 27.8**	**-1.8**
VLZ	**Valdez**	**5.70**	**48**	P	**P**	**04 12 29.4**	**-1.0**
SCM	**Sheep Creek Mo**	**5.78**	**39**	P	**P**	**04 12 30.7**	**-0.8**
KTH	**Kantishna Hill**	**6.33**	**17**	P	**P**	**04 12 38.2**	**-0.9**
TRF	**Thorofare Moun**	**6.34**	**20**	P	**P**	**04 12 38.2**	**-1.2**
GLB	**Gilahina Butte**	**6.89**	**51**	P	**P**	**04 12 45.9**	**-1.1**
PAX	**Paxson**	**7.19**	**37**	P	**P**	**04 12 50.3**	**-0.8**
BALM	**Baldy**	**7.35**	**57**	P	**P**	**04 12 52.0**	**-1.4**
THY	**Trims Highway**	**7.43**	**34**	P	**P**	**04 12 54.8**	**+0.4**
CCB	**Clear Creek Bu**	**7.90**	**23**	P	**P**	**04 12 59.6**	**-1.2**
PCA	**Pinnacle**	**8.06**	**66**	P	**P**	**04 13 02.1**	**-0.9**
PNL	**Peninsula**	**8.42**	**69**	P	**P**	**04 13 06.4**	**-1.3**
DLBC	**Dease Lake**	**13.26**	**76**	P	**P**	**04 14 15.2**	**+2.8**
0.1nm,0.3s,baz=343,slow=19,SNR=2.9							
INK	**Inuvik**	**14.43**	**33**	P	**P**	**04 14 28.0**	**+0.6**
INK	**Inuvik**	**14.43**	**33**	P	**P**	**04 14 28.0**	**+0.6**
YKA	**Yellowknife Ar**	**20.51**	**59**	P	**P**	**04 15 39.2**	**-0.2**
0.4nm,0.5s,baz=274,slow=10,SNR=16							
YKA	**Yellowknife Ar**	**20.51**	**59**	P	**P**	**04 15 39.2**	**-0.2**
HLID	**Hailey**	**28.85**	**101**	P	**P**	**04 17 00.9**	**+2.3**
PDAR	**Pinedale Array**	**31.98**	**98**	P	**P**	**04 17 27.8**	**+1.7**
0.4nm,0.6s,mb3.3,baz=304,slow=5.3,SNR=4.3							
TXAR	**Lajitas Array**	**45.22**	**106**	P	**P**	**04 19 17.8**	**+1.4**
0.3nm,0.8s,mb3.1,baz=270,slow=8.1,SNR=3.3							
MKAR	**Makanchi Array**	**65.66**	**321**	P	**P**	**04 21 41.8**	**-1.4**
0.2nm,0.5s,mb3.2,baz=28,slow=5.6,SNR=4.5							
AKASG	**Malin Array Be**	**72.03**	**357**	P	**P**	**04 22 21.2**	**-1.0**
0.1nm,0.3s,mb3.1,baz=6.7,slow=5.3,SNR=4.0							
AKASG	**Malin Array Be**	**72.03**	**357**	P	**P**	**04 22 21.2**	**-1.0**

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*IDC **02** 04:23:11.4±1.6, 1.80S×99.81E, mb4.0/8, mb1 4.1/8, mb1mx4.0/15, mbtmp4.0/8, Error ellipse: s-maj=86.1km s-min=17.6km az=55.0*
*NEIC **02** 04:23:15.6±0.7, 1.84S×99.81E, h30km, mb4.2/2, Error ellipse: s-maj=28.9km s-min=8.8km az=61.0*
ISC 02 04:23:15.4±6.7, 1.7S±0.3×99.9E±0.5, h40km±49km, n16, σ0§71/15, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.00**	**6**	P	**P**	**04 24 58.2**	**+0.2**
WRA	**Warramunga Arr**	**38.19**	**121**	P	**P**	**04 30 33.0**	**-0.2**
1.4nm,0.6s,mb3.9,baz=302,slow=9.1,SNR=13							
WRAB	**Tennant Creek**	**38.19**	**121**	*e*P	**P**	**04 30 32.4**	**-0.9**
3.3nm,0.6s,mb4.2							
ASAR	**Alice Springs**	**39.47**	**126**	P	**P**	**04 30 44.3**	**+0.5**
0.7nm,0.7s,mb3.5,baz=298,slow=7.5,SNR=8.4							
ASAR				PcP	PcP	04 32 52.5	+0.8
0.5nm,0.6s,baz=315,slow=2.5,SNR=5.2							
STKA	**Stephens Creek**	**49.38**	**132**	P	**P**	**04 32 03.7**	**+0.4**
1.0nm,0.5s,mb4.1,baz=326,slow=3.6,SNR=3.3							
STKA	**Stephens Creek**	**49.38**	**132**	P	**P**	**04 32 03.7**	**+0.4**
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**04 32 06.1**	**+0.7**
0.6nm,0.5s,mb3.9,baz=182,slow=10,SNR=7.1							
ULN	**Ulaanbaatar**	**49.77**	**6**	*e*P	**P**	**04 32 06.3**	**+0.1**
MKAR	**Makanchi Array**	**50.74**	**344**	P	**P**	**04 32 13.7**	**+0.1**
1.2nm,0.4s,mb4.1,baz=151,slow=8.2,SNR=22							
KURK	**Kurchatov**	**55.32**	**344**	*e*P	**P**	**04 32 45.9**	**-1.6**
1.3nm,0.6s,mb4.1							
ZAL	**Zalesovo**	**56.88**	**349**	P	**P**	**04 32 57.7**	**-0.9**
1.8nm,0.4s,mb4.5,baz=327,slow=3.9,SNR=7.7							
ZAL	**Zalesovo**	**56.88**	**349**	P	**P**	**04 32 57.7**	**-0.9**
FINES	**FINESS Array B**	**83.84**	**332**	P	**P**	**04 35 42.3**	**+0.4**
0.6nm,0.4s,mb4.0,baz=92,slow=4.1,SNR=9.5							
ARCES	**ARCESS Array B**	**86.19**	**340**	P	**P**	**04 35 54.5**	**+1.1**
3.7nm,1.0s,mb4.6,baz=101,slow=9.2,SNR=2.5							
ARCES	**ARCESS Array B**	**86.19**	**340**	P	**P**	**04 35 54.5**	**+1.1**
TXAR	**Lajitas Array**	**144.52**	**37**	PKP	PKPdf	04 42 50.1	+1.8
0.6nm,0.5s,baz=255,slow=0.5,SNR=15							

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*IDC **02** 04:25:09.0±1.0, 0.89N×97.52E, mb4.3/13, mb1 4.4/13, mb1mx4.3/18, mbtmp4.3/13, Error ellipse: s-maj=52.8km s-min=14.5km az=51.0*
*BJI **02** 04:25:09.5, 0.25N×97.78E, h42km, mB5.0, mb4.6, Ms4.5, Msz4.2*
*MOS **02** 04:25:11.3±1.5, 0.66N×97.26E, h33km, mb4.6/4, Error ellipse: s-maj=29.4km s-min=11.6km az=111.3*
*NEIC **02** 04:25:13.7±0.6, 0.86N×97.58E, h30km, mb4.5/8, Error ellipse: s-maj=17.7km s-min=8.6km az=53.0*
ISC 02 04:25:12.8±2.5, 0.86N±0.10×97.6E±0.1, h37km±20km, n35, σ1§05/36, mb4.3/24, MS3.8/2, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.35**	**35**	*e*P	**P**	**04 26 32.4**	**+0.1**
JIRN	**Jiri**	**28.80**	**339**	*e*P	**P**	**04 31 09.9**	**+0.1**
27nm,1.1s,mb4.9							
PKI	**Pulchoki**	**29.02**	**337**	*e*P	**P**	**04 31 12.3**	**+0.6**
DMN	**Daman**	**29.17**	**337**	*e*P	**P**	**04 31 13.7**	**+0.7**
14nm,0.8s,mb4.7							
LSA	**Lhasa**	**29.33**	**348**	P	**P**	**04 31 13.9**	**-0.5**
GKN	**Gorkha**	**29.70**	**336**	*e*P	**P**	**04 31 18.8**	**+1.0**
33nm,0.9s,mb5.1							
KOLN	**Koldanda**	**29.93**	**335**	*e*P	**P**	**04 31 20.8**	**+1.0**
16nm,0.7s,mb4.8							
ENH	**Enshi**	**31.35**	**20**	P	**P**	**04 31 30.6**	**-1.8**
FITZ	**Fitzroy Crossi**	**33.41**	**126**	P	**P**	**04 31 49.9**	**-0.6**
4.2nm,0.8s,mb4.4,baz=357,slow=3.4,SNR=2.9							
GTA	**Gaotai**	**38.42**	**3**	P	**P**	**04 32 34.4**	**+1.8**
GTA				AMB	AMB		
comp=Z,6.0nm,1.0s,mb4.3							
WRA	**Warramunga Arr**	**41.52**	**122**	P	**P**	**04 32 58.9**	**+0.2**
comp=Z,1.9nm,0.7s,mb3.9,baz=300,slow=9.1,SNR=9.5							
WRAB	**Tennant Creek**	**41.53**	**122**	*e*P	**P**	**04 32 58.1**	**-0.6**
WRAB				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.2							
WRAB	**Tennant Creek**	**41.53**	**122**	*e*P	**P**	**04 32 58.1**	**-0.6**
comp=Z,5.3nm,0.8s,mb4.2							
BJI	**Beijing**	**42.50**	**21**	*e*P	**P**	**04 33 05.9**	**-0.6**
BJI				AMB	AMB		
comp=Z,6.0nm,0.8s,mb4.4							
BJI				LR	LR		
comp=N,240nm,14.8s,MS4.4							
BJI				LR	LR		
comp=E,259nm,16.3s,MS4.4							
BJI				LR	LR		
comp=Z,94nm,17.4s,MS3.7							
BJI	**Beijing**	**42.50**	**21**	*e*P	**P**	**04 33 05.9**	**-0.6**
comp=Z,6.0nm,0.8s,mb4.4							
BJI				LR	LR		
comp=Z,90nm,17.4s,MS3.7							
ASAR	**Alice Springs**	**42.88**	**127**	P	**P**	**04 33 10.2**	**+0.4**
comp=Z,2.2nm,0.7s,mb4.0,baz=298,slow=7.7,SNR=11							
WMQ	**Urumqi**	**43.67**	**350**	⇑P	**P**	**04 33 16.1**	**+0.2**
WMQ				AP	pP	04 33 25.7	-0.9
WMQ				XP	sP	04 33 29.7	-1.5
WMQ				PP	PP	04 34 59.6	+0.2
WMQ				*e*S	**S**	**04 39 42.9**	**+0.1**
WMQ				AMB	AMB		
comp=Z,2.0nm,0.8s,mb3.9							
WMQ				AMB	AMB		
comp=Z,74nm,5.1s							
WMQ				LR	LR		
comp=N,81nm,20.0s,MS3.8							
WMQ				LR	LR		
comp=E,70nm,18.5s,MS3.8							
WMQ				LR	LR		
comp=Z,58nm,18.5s,MS3.5							
AAK	**Ala-Archa**	**46.46**	**336**	*e*P	**P**	**04 33 36.1**	**-2.1**
AAK				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.0							
AAK	**Ala-Archa**	**46.46**	**336**	*e*P	**P**	**04 33 36.1**	**-2.1**
comp=Z,2.5nm,1.1s,mb4.1							
SONM	**Songino Array**	**47.40**	**8**	P	**P**	**04 33 45.4**	**-0.1**
comp=Z,1.5nm,0.8s,mb4.0,baz=187,slow=8.3,SNR=9.3							
SONM				PcP	PcP	04 35 15.0	-1.1
comp=Z,1.1nm,0.8s,baz=194,slow=5.9,SNR=2.8							
ULN	**Ulaanbaatar**	**47.53**	**9**	P	**P**	**04 33 47.6**	**+1.1**
MKAR	**Makanchi Array**	**47.66**	**346**	P	**P**	**04 33 46.4**	**-1.2**
comp=Z,5.8nm,0.8s,mb4.7,baz=159,slow=7.4,SNR=17							
ZAK	**Zakamensk**	**49.57**	**5**	*e*P	**P**	**04 34 04.4**	**+2.1**
ZAK				pmax	pmax		
comp=Z,1.0nm,1.7s,mb3.6							
KURK	**Kurchatov**	**52.22**	**345**	*e*P	**P**	**04 34 20.1**	**-2.2**
KURK				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.5							
KURK	**Kurchatov**	**52.22**	**345**	*e*P	**P**	**04 34 20.1**	**-2.2**
comp=Z,6.7nm,1.0s,mb4.5							
STKA	**Stephens Creek**	**52.84**	**132**	P	**P**	**04 34 27.8**	**+0.6**
comp=Z,4.5nm,0.8s,mb4.5,baz=308,slow=7.6,SNR=5.7							
ZAL	**Zalesovo**	**53.94**	**351**	P	**P**	**04 34 33.2**	**-1.9**
comp=Z,5.6nm,0.6s,mb4.6,baz=302,slow=5.8,SNR=16							
NVS	**Novosibirsk**	**55.07**	**350**	*e*P	**P**	**04 34 42.8**	**-0.5**
BVAR	**Borovoye Array**	**56.70**	**341**	P	**P**	**04 34 55.1**	**0.0**
comp=Z,1.3nm,0.5s,mb4.2,baz=153,slow=6.6,SNR=8.4							
BOD	**Bodaibo**	**58.27**	**10**	*e*P	**P**	**04 35 06.5**	**+0.5**
BRTR	**Keskin Array B**	**69.63**	**312**	P	**P**	**04 36 19.6**	**-1.0**
comp=Z,1.5nm,0.7s,mb4.0,baz=150,slow=10.0,SNR=5.0							
AKASG	**Malin Array Be**	**75.77**	**322**	P	**P**	**04 36 55.5**	**-1.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=96,slow=5.3,SNR=6.1							
FINES	**FINESS Array B**	**80.48**	**332**	P	**P**	**04 37 22.8**	**+0.4**
comp=Z,1.2nm,0.8s,mb3.9,baz=90,slow=2.8,SNR=4.4							
ARCES	**ARCESS Array B**	**82.98**	**340**	P	**P**	**04 37 36.6**	**+1.4**
comp=Z,3.4nm,1.0s,mb4.3,baz=79,slow=4.6,SNR=4.0							
GERES	**GERESS Array B**	**85.33**	**319**	P	**P**	**04 37 48.7**	**+1.3**
comp=Z,2.0nm,0.9s,mb4.2,baz=135,slow=3.8,SNR=6.3							

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*STR **02** 04:33:51.5±0.2, 44.79N×6.83E, h10km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **02** 04:33:51.5, 44.76N×6.73E, ML3.4*
*CSEM **02** 04:33:52.5±0.1, 44.75N×6.83E, h12km, ML3.5/28, Error ellipse: s-maj=1.1km s-min=0.8km az=56.0*
*LDG **02** 04:33:53.1±0.1, 44.74N×6.78E, h2km, Md3.4/3, Ml3.5/31, Error ellipse: s-maj=1.1km s-min=0.8km az=74.0*
*NEIC **02** 04:33:53.1, 44.74N×6.78E, h2km, ML3.5(LDG), ML3.4(GEN), ML3.3(STR), After LDG.*
*PRU **02** 04:33:58.4, 44.45N×7.57E*
ISC 02 04:33:50.8±0.1, 44.783N±0.009×6.70E±0.01, h10km, n132, σ1§31/260, 13C-16D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.07**	**138**	*e*Pg	**Pg**	**04 33 53.4**	**+0.3**
MBDF				*e*Sg	**Sg**	**04 33 54.3**	**-0.4**
39μm,0.3s							
RRL	**Cesana Torines**	**0.15**	**23**	⇓P	**Pg**	**04 33 55.8**	**+1.6**
RRL	**Cesana Torines**	**0.15**	**23**	⇓P	**Pg**	**04 33 55.8**	**+1.5**
BNI	**Bardonecchia**	**0.27**	**357**	⇓*e*P	**Pg**	**04 33 57.8**	**+1.3**
BNI	**Bardonecchia**	**0.27**	**357**	⇓*e*P	**Pg**	**04 33 57.8**	**+1.4**
SURF	**Saint Ours**	**0.31**	**165**	Pg	**Pg**	**04 33 57.4**	**+0.1**
SURF				Pg	**Pg**	**04 33 57.4**	**+0.1**
SURF				Sg	**Sg**	**04 34 01.7**	**+0.1**
SURF	**Saint Ours**	**0.31**	**165**	Pg	**Pg**	**04 33 57.4**	**+0.1**
SURF				Sg	**Sg**	**04 34 01.7**	**+0.1**
FENE	**Fenestrelle**	**0.36**	**46**	⇓P	**Pg**	**04 33 59.0**	**+0.8**
FENE				S	**Sg**	**04 34 03.9**	**+0.8**
FENE	**Fenestrelle**	**0.36**	**46**	⇓P	**Pg**	**04 33 59.0**	**+0.9**
PZZ	**Prazzo**	**0.40**	**134**	⇑P	**Pg**	**04 33 58.9**	**-0.1**
PZZ	**Prazzo**	**0.40**	**134**	⇑P	**Pg**	**04 33 58.8**	**-0.1**
BHB	**Bricherasio**	**0.41**	**81**	⇑P	**Pg**	**04 33 59.5**	**+0.5**
BHB	**Bricherasio**	**0.41**	**81**	⇑P	**Pg**	**04 33 59.5**	**+0.5**
DOI	**San Damiano**	**0.48**	**125**	*e*Pg	**Pg**	**04 34 00.3**	**-0.2**
DOI				*e*Sg	**Sg**	**04 34 06.0**	**-1.0**
DOI	**San Damiano**	**0.48**	**125**	*e*Pg	**Pg**	**04 34 00.3**	**-0.2**
DOI				*e*Sg	**Sg**	**04 34 06.0**	**-1.0**
RSP	**Reno Superiore**	**0.54**	**47**	⇑P	**Pg**	**04 34 02.5**	**+0.8**
RSP				S	**Sg**	**04 34 09.4**	**+0.4**
RSP	**Reno Superiore**	**0.54**	**47**	⇑P	**Pg**	**04 34 02.5**	**+0.8**
RSP				S	**Sg**	**04 34 09.4**	**+0.4**
GDM	**Grand'Maison**	**0.59**	**316**	Pg	**Pg**	**04 34 04.2**	**+1.5**
GDM				Sg	**Sg**	**04 34 12.5**	**+1.8**
ORIF	**Oris-en-Rattie**	**0.60**	**283**	*e*Pg	**Pg**	**04 34 04.1**	**+1.2**
ORIF				*e*Sg	**Sg**	**04 34 14.3**	**+3.4**
550nm,0.3s							
STV2	**Anna di Valdie**	**0.70**	**140**	P	**Pb**	**04 34 04.1**	**-0.5**
STV2				S	**Sb**	**04 34 13.2**	**-0.8**
STV	**Anna di Valdie**	**0.70**	**140**	P	**Pb**	**04 34 04.1**	**-0.5**
STV				S	**Sb**	**04 34 13.2**	**-0.8**
STV	**Sta Anna Valdi**	**0.70**	**140**	⇓P	**Pb**	**04 34 04.2**	**-0.4**
STV				S	**Sb**	**04 34 13.3**	**-0.7**
STV	**Sta Anna Valdi**	**0.70**	**140**	⇓P	**Pb**	**04 34 04.2**	**-0.4**
STV				S	**Sb**	**04 34 13.3**	**-0.7**
LPG	**La Plagne**	**0.72**	**3**	*e*Pg	**Pg**	**04 34 06.1**	**+0.9**
LPG				*e*Sg	**Sg**	**04 34 17.7**	**+2.9**
406nm,0.4s							
LPL	**La Plagne**	**0.73**	**2**	*e*Pg	**Pg**	**04 34 06.5**	**+1.0**
LPL				*e*Sg	**Sg**	**04 34 18.2**	**+2.8**
963nm,0.5s							
LSD	**Ceresole Reale**	**0.75**	**25**	⇑P	**Pb**	**04 34 06.2**	**+0.8**
LSD				S	**Sb**	**04 34 16.4**	**+1.0**
LSD	**Ceresole Reale**	**0.75**	**25**	⇑P	**Pb**	**04 34 06.2**	**+0.8**
LSD				S	**Sb**	**04 34 16.4**	**+1.0**
ENR	**Entracque**	**0.76**	**137**	P	**Pb**	**04 34 05.2**	**-0.3**
ENR				S	**Sb**	**04 34 15.5**	**-0.2**
ENR	**Entracque**	**0.76**	**137**	P	**Pb**	**04 34 05.2**	**-0.4**
ENR				S	**Sb**	**04 34 15.5**	**-0.2**
GRN	**Grenoble**	**0.82**	**304**	Pg	**Pg**	**04 34 09.0**	**+1.8**
TOUF	**Mont Tournerai**	**0.86**	**153**	Pg	**Pg**	**04 34 07.7**	**-0.4**
TOUF				Sg	**Sg**	**04 34 20.4**	**+0.7**
AUTN	**L'Aution**	**0.94**	**146**	Pg	**Pg**	**04 34 09.1**	**-0.6**
AUTN				Sg	**Sg**	**04 34 21.7**	**-0.6**
MVIF	**Mont Vial**	**0.94**	**160**	Pg	**Pg**	**04 34 09.2**	**-0.5**
MVIF				Sg	**Sg**	**04 34 22.5**	**+0.2**
STOF	**St-Etienne Org**	**0.97**	**216**	Pg	**Pg**	**04 34 11.6**	**+1.4**
ROB	**Roburent**	**0.97**	**120**	⇓P	**Pb**	**04 34 09.2**	**0.0**
ROB				S	**Sb**	**04 34 21.9**	**0.0**
ROB	**Roburent**	**0.97**	**120**	⇓P	**Pb**	**04 34 09.2**	**0.0**
ROB				S	**Sb**	**04 34 21.9**	**+0.1**
SAOF	**Saorge**	**1.00**	**142**	Pg	**Pg**	**04 34 09.9**	**-1.0**
MONE	**Monesi**	**1.03**	**133**	P	**Pb**	**04 34 10.0**	**-0.3**
MONE				S	**Sb**	**04 34 23.4**	**-0.3**
MONE	**Monesi**	**1.03**	**133**	P	**Pb**	**04 34 10.0**	**-0.3**
MONE				S	**Sb**	**04 34 23.4**	**-0.3**
TRAV		**1.04**	**45**	⇑P	**Pb**	**04 34 11.2**	**+0.8**
TRAV				S	**Sb**	**04 34 24.1**	**+0.2**
TRAV		**1.04**	**45**	⇑P	**Pb**	**04 34 11.2**	**+0.8**
TRAV				S	**Sb**	**04 34 24.1**	**+0.2**
SBF	**Sospel**	**1.06**	**150**	*e*Pg	**Pg**	**04 34 11.2**	**-0.8**
SBF				*e*Pn	**Pn**	**04 34 12.3**	**+0.7**
SBF				*e*Sg	**Sg**	**04 34 24.4**	**-1.8**
1μm,0.5s							
SBF				*e*Sn	**Sn**	**04 34 26.4**	**-0.1**
REVF	**Revere**	**1.15**	**155**	Pg	**Pg**	**04 34 13.3**	**-0.4**
VILF	**Villemus**	**1.17**	**218**	Pg	**Pg**	**04 34 15.6**	**+1.4**
VILF				Sg	**Sg**	**04 34 33.3**	**+3.5**
NEGI	**Negi**	**1.18**	**142**	P	**Pb**	**04 34 13.0**	**+0.2**
NEGI				S	**Sb**	**04 34 26.4**	**-1.5**
NEGI	**Negi**	**1.18**	**142**	P	**Pb**	**04 34 13.0**	**+0.2**
NEGI				S	**Sb**	**04 34 26.5**	**-1.5**
IMI	**Imperia**	**1.22**	**135**	*e*Pg	**Pg**	**04 34 13.7**	**-1.4**
IMI				*e*Sg	**Sg**	**04 34 29.4**	**-2.0**
IMI	**Imperia**	**1.22**	**135**	P	**Pb**	**04 34 13.4**	**-0.1**
IMI				S	**Sb**	**04 34 28.5**	**-0.6**
IMI				*e*Sg	**Sg**	**04 34 29.5**	**-2.0**
FIN	**Finale Ligure**	**1.22**	**117**	*e*Pg	**Pg**	**04 34 13.7**	**-1.5**
FIN				*e*Sg	**Sg**	**04 34 29.9**	**-1.7**
**F

BGF				*e*Sn	**Sn**	04 35 21.2	-0.4
BGF				*e*Sg	**Sg**	04 35 36.8	-1.6
	174nm,0.6s						
HAU	**Haudompre**	**3.23**	**356**	*e*Pn	**Pn**	04 34 43.7	+1.1
HAU				*e*Pg	**Pg**	04 34 53.7	-1.6
HAU				*e*Sn	**Sn**	04 35 20.8	-0.8
	44nm,0.4s						
CAF	**Calviac**	**3.30**	**274**	*e*Pn	**Pn**	04 34 45.3	+1.7
CAF				*e*Pg	**Pg**	04 34 55.5	-1.2
CAF				*e*Sg	**Sg**	04 35 38.6	-2.1
	32nm,0.6s						
DAVA	**Damuels**	**3.34**	**40**⇑	*i*PN	**Pn**	04 34 47.7	+3.5
DAVA				*i* SN	**Sn**	04 35 28.9	+4.5
TCF	**Toulx Ste Croi**	**3.50**	**297**	*e*Pn	**Pn**	04 34 47.6	+1.2
TCF				*e*Pg	**Pg**	04 34 59.2	-1.4
TCF				*e*Sn	**Sn**	04 35 28.1	-0.2
TCF				*e*Sg	**Sg**	04 35 45.1	-2.1
	20nm,0.4s						
MTLF	**Montolieu**	**3.54**	**248**	*e*Pn	**Pn**	04 34 48.0	+1.0
MTLF				*e*Pg	**Pg**	04 34 58.8	-2.6
MTLF				*e*Sn	**Sn**	04 35 28.1	-1.2
	16nm,0.4s						
SFTF	**Sexfontaines**	**3.61**	**342**	*e*Pn	**Pn**	04 34 49.8	+1.8
SFTF				*e*Pg	**Pg**	04 35 01.0	-1.9
SFTF				*e*Sn	**Sn**	04 35 30.2	-1.0
SFTF				*e*Sg	**Sg**	04 35 48.1	-2.9
	47nm,0.5s						
CDF	**Champ du Feu**	**3.65**	**6**	*e*Pn	**Pn**	04 34 49.3	+0.7
CDF				*e*Pg	**Pg**	04 35 00.8	-2.9
CDF				*e*Sn	**Sn**	04 35 30.8	-1.4
CDF				*e*Sg	**Sg**	04 35 49.2	-3.2
	22nm,0.6s						
CTI	**Castel Tesino**	**3.71**	**68**	*e*Pg	**Pn**	04 34 52.1	+2.7
RJF	**Les Rejaudoux**	**3.71**	**280**	*e*Pn	**Pn**	04 34 50.8	+1.4
RJF				*e*Pg	**Pg**	04 35 02.8	-2.1
RJF				*e*Sg	**Sg**	04 35 51.5	-2.9
	37nm,0.5s						
HYF	**Humbligny**	**3.77**	**313**	*e*Pn	**Pn**	04 34 51.6	+1.4
HYF				*e*Pg	**Pg**	04 35 04.1	-1.9
HYF				*e*Sg	**Sg**	04 35 53.5	-2.7
MEZF	**Maizieres J'vi**	**3.89**	**344**	*e*Pn	**Pn**	04 34 52.9	+0.9
MEZF				*e*Pg	**Pg**	04 35 06.1	-2.3
MEZF				*e*Sn	**Sn**	04 35 36.5	-1.7
MEZF				*e*Sg	**Sg**	04 35 56.9	-3.4
	57nm,0.6s						
RFYF	**Reffroy**	**3.94**	**348**	*e*Pn	**Pn**	04 34 54.1	+1.4
RFYF				*e*Pg	**Pg**	04 35 06.6	-2.8
RFYF				*e*Sn	**Sn**	04 35 37.9	-1.6
	54nm,0.3s						
SQTA	**Sankt Quirin**	**3.98**	**51**⇓	*i*PN	**Pn**	04 34 54.8	+1.6
SQTA				*i* SN	**Sn**	04 35 42.7	+2.3
MOTA	**Moosalm**	**4.00**	**49**⇑	*i*PN	**Pn**	04 34 55.1	+1.6
MOTA				*i* SN	**Sn**	04 35 43.2	+2.3
WTTA	**Wattenberg**	**4.24**	**52**⇑	*i*PN	**Pn**	04 34 59.0	+2.1
WTTA				*i* SN	**Sn**	04 35 49.0	+1.9
LFF	**La Frestale**	**4.24**	**274**	*e*Pn	**Pn**	04 34 58.5	+1.5
LFF				*e*Sg	**Sg**	04 36 08.7	-3.3
	30nm,0.5s						
WATA	**Walderalm**	**4.25**	**51**⇓	*i*PN	**Pn**	04 34 58.7	+1.7
WATA				*i* SN	**Sn**	04 35 49.3	+2.0
FVI	**Forni Avoltri**	**4.63**	**65**	*e*Pg	**Pn**	04 35 06.9	+4.4
EPF	**Esparros**	**4.92**	**251**	*e*Pn	**Pn**	04 35 06.6	0.0
EPF				*e*Pg	**Pg**	04 35 24.8	-4.2
EPF				*e*Sg	**Sg**	04 36 28.7	-5.8
	6.4nm,0.4s						
MFF	**Saint Martin d**	**5.13**	**293**	*e*Pn	**Pn**	04 35 10.7	+1.1
MFF				*e*Sg	**Sg**	04 36 35.4	-6.2
	18nm,0.5s						
KBA	**Koelnbreinsper**	**5.17**	**61**⇓	*i*PN	**Pn**	04 35 10.4	+0.3
KBA				*i* SN	**Sn**	04 36 09.7	-0.9
GIVF	**Givet**	**5.47**	**347**	*e*Pn	**Pn**	04 35 14.2	-0.2
GIVF				*e*Sn	**Sn**	04 36 14.5	-3.7
GIVF				*e*Sg	**Sg**	04 36 45.9	-7.1
	14nm,0.5s						
BAIF	**Baives**	**5.54**	**343**	*e*Pn	**Pn**	04 35 15.7	+0.3
BAIF				*e*Sn	**Sn**	04 36 16.3	-3.6
	3.7nm,0.4s						
ETSF	**Etsaut**	**5.58**	**253**	*e*Pn	**Pn**	04 35 16.5	+0.6
SJPF	**Ste Jean**	**5.96**	**257**	*e*Pn	**Pn**	04 35 20.7	-0.6
LDF	**La Druitiere**	**6.04**	**312**	*e*Pn	**Pn**	04 35 22.1	-0.4
LDF				*e*Sn	**Sn**	04 36 28.8	-3.7
LDF				*e*Sg	**Sg**	04 37 04.4	-7.6
	39nm,1.1s						
MOA	**Molln**	**6.07**	**57**⇓	*i*PN	**Pn**	04 35 22.9	+0.1
MOA				*i* SN	**Sn**	04 36 31.5	-1.7
GRR	**Gorron**	**6.33**	**307**	*e*Pn	**Pn**	04 35 27.1	+0.6
GRR				*e*Sg	**Sg**	04 37 13.3	-8.4
	5.7nm,0.5s						
FLN	**La Foliniere**	**6.34**	**311**	*e*Pn	**Pn**	04 35 26.1	-0.5
FLN				*e*Sn	**Sn**	04 36 36.3	-3.5
	3.9nm,0.3s						
KHC	**Kasperske Hory**	**6.41**	**45**	*e*PN	**Pn**	04 35 27.9	+0.3
KHC				*e*x	x	04 36 24.5	
KHC				*e*SN	**Sn**	04 36 31.8	-10
MOX	**Moxa**	**6.74**	**28**	*i* P	**Pg**	04 35 57.7	-7.5
MOX				S	**Sn**	04 36 47.0	-2.8
MOX				Sg	**Sg**	04 37 30.0	-5.0
SGMF	**Saint Gilles**	**7.27**	**302**	*e*Pn	**Pn**	04 35 39.1	-0.6
QUIF	**Quistinic**	**7.51**	**298**	*e*Pn	**Pn**	04 35 43.0	-0.1
ROSF	**Rostrenen**	**7.74**	**301**	*e*Pn	**Pn**	04 35 45.7	-0.5
CLL	**Collm**	**7.77**	**31**	*e*SG	**Sg**	04 38 07.0	-2.6
CLL				eL		04 38 24.0	
BRG	**Berggiesshubel**	**7.80**	**36**	*e*Sg	**Sg**	04 38 07.6	-2.8

*NEIC **02** 04:38:22.3, 16.72N×100.85W, h16km, MD3.9(MEX), After MEX.*

MEX 02 04:38:22.0±0.5, 16.70N×100.85W, h16km±12km, MD3.9, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.66**	**58**	*i* P	Pb	04 38 32.7	-1.8
CAIG				*i* S	Sb	04 38 40.7	-2.5
CAIG	**El Cayaco**	**0.66**	**58**⇑	*i*P	Pb	04 38 32.8	-1.8
CAIG				*i* S	Sb	04 38 40.7	-2.5
ACX	**Acapulco**	**0.91**	**79**	*e*P	Pb	04 38 36.0	-2.8
ACX				*e*S	Sb	04 38 46.5	-3.9
ZIIG	**Zihuatanejo**	**1.08**	**327**	*e*P	Pb	04 38 38.2	-3.6
ZIIG				*i* S	Sb	04 38 51.5	-4.1
PLIG	**Platanillo**	**2.12**	**37**	*i* P	Pn	04 38 53.6	-3.7
PLIG				*i* S	Sn	04 39 18.6	-4.9
MOIG	**Morelia**	**2.98**	**354**	*e*P	Pn	04 39 06.8	-2.9
MOIG				*i* S	Sn	04 39 39.7	-5.8
PPM	**Popocatepetl**	**3.17**	**42**	*e*P	Pn	04 39 09.5	-2.8

*IDC **02** 04:46:27.2±0.7, 12.64N×126.53E, mb4.1/11, mb1 4.2/11, mb1mx4.1/20, mbtmp4.1/11, Error ellipse: s-maj=53.2km s-min=14.1km az=68.0*
*BJI **02** 04:46:28.5, 12.40N×126.00E, h10km, mB4.5, mb4.1*
*MOS **02** 04:46:28.7±1.0, 11.93N×125.87E, h33km, mb4.7/7, Error ellipse: s-maj=37.8km s-min=13.4km az=127.5*
*NEIC **02** 04:46:28.5±0.5, 12.44N×126.01E, h10km, mb4.6/10, Error ellipse: s-maj=17.8km s-min=9.2km az=61.0*
*MAN **02** 04:46:31.7, 12.47N×125.68E, h26km, mb4.9, ML3.9, MS3.9*

ISC 02 04:46:32.7±1.0, 12.41N±0.04×125.73E±0.07, h44km±8km, n54, σ1°08/60, mb4.4/24, 3C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.85**	**200**	*e*P	**P**	04 46 48.3	0.0
BESP				*e*S	**S**	04 47 01.8	+1.9
CNP	**Catarman**	**1.05**	**276**	*e*P	**P**	04 46 49.5	-1.6
CNP				*e*S	**S**	04 47 05.0	+0.2
PVCP	**Virac**	**1.94**	**308**	*e*P	**P**	04 47 01.8	-2.0
MMPH	**Masbate**	**2.06**	**269**⇑	*i*P	**P**	04 47 06.5	+1.0
MSLP	**Maasin**	**2.42**	**201**	*e*P	**P**	04 47 11.6	+0.9
LLP	**Lapu-Lapu**	**2.70**	**220**⇑	*e*P	**P**	04 47 14.6	-0.1
LLP				*e*S	**S**	04 47 46.8	+0.3
RCP	**Roxas**	**3.04**	**254**⇑	*e*P	**P**	04 47 19.2	-0.3
TBP	**Tagbilaran**	**3.26**	**214**	*e*P	**P**	04 47 22.3	-0.4
TBP				*e*S	**S**	04 47 56.5	-4.2
BUTP	**Butuan**	**3.42**	**182**	*e*P	**P**	04 47 24.6	-0.3
GQP	**Guinayangan**	**3.53**	**295**	*e*P	**P**	04 47 28.0	+1.6
GUIM	**Jordan**	**3.55**	**240**	*e*P	**P**	04 47 25.9	-0.9
GUIM				*e*S	**S**	04 48 06.1	-1.9
OTRP	**Odiongan**	**3.62**	**270**	*e*P	**P**	04 47 27.6	-0.2
SNPH	**Sibulan**	**3.91**	**219**	*e*P	**P**	04 47 32.0	+0.2
BOAC	**Boac**	**3.93**	**286**	*e*P	**P**	04 47 34.2	+2.1
POLP	**Polillo Island**	**4.35**	**302**	*e*P	**P**	04 47 36.0	-2.0
BUKP	**Musuan**	**4.55**	**188**	*e*P	**P**	04 47 42.9	+2.1
PAGZ	**Pagadian**	**5.09**	**207**	*e*P	**P**	04 47 48.7	+0.3
BALP	**Baler**	**5.22**	**310**	*e*P	**P**	04 47 49.2	-1.1
BALP				*e*S	**S**	04 48 41.9	-8.1
KSM	**Kuching**	**18.75**	**236**	P	**P**	04 50 49.7	-1.0
GYA	**Guiyang**	**22.73**	**311**	P	**P**	04 51 34.1	+2.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
ENH	**Enshi**	**23.29**	**322**	*e*P	**P**	04 51 38.5	+1.0
	comp=Z,4.1nm,0.6s,mb4.0						
KULM	**Kulim**	**25.76**	**256**	P	**P**	04 52 02.5	+1.2
XAN	**Xi'an**	**26.42**	**327**	P	**P**	04 52 06.6	-0.7
FITZ	**Fitzroy Crossi**	**30.32**	**180**	P	**P**	04 52 41.6	-0.9
	comp=Z,23nm,0.8s,mb4.9,baz=16,slow=8.2,SNR=14						
PMG	**Port Moresby**	**30.38**	**135**	P	**P**	04 52 36.7	-6.4
	comp=Z,8.4nm,0.6s,mb4.6,baz=254,slow=15,SNR=2.8						
WRAB	**Tennant Creek**	**33.24**	**165**	P	**P**	04 53 00.7	-7.4
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**33.24**	**165**	P	**P**	04 53 00.7	-7.4
	comp=Z,5.0nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**33.24**	**165**	P	**P**	04 53 06.1	-2.0
	comp=Z,1.2nm,0.9s,mb3.8,baz=347,slow=9.0,SNR=5.8						
WRA				PcP	PcP	04 55 50.4	+0.4
	comp=Z,1.1nm,0.5s,baz=341,slow=3.0,SNR=8.8						
GTA	**Gaotai**	**35.34**	**324**	P	**P**	04 53 26.7	+0.8
GTA				AP	pP	04 53 36.3	-1.5
GTA				XP	sP	04 53 40.4	-3.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.2						
LSA	**Lhasa**	**36.38**	**304**	*e*P	**P**	04 53 36.2	+1.3
ASAR	**Alice Springs**	**36.73**	**167**	P	**P**	04 53 37.5	-0.3
	comp=Z,0.9nm,0.5s,mb3.9,baz=348,slow=7.0,SNR=12						
ASAR				PcP	PcP	04 56 00.2	+0.2
	comp=Z,1.1nm,0.7s,baz=336,slow=3.0,SNR=6.8						
ULN	**Ulaanbaatar**	**38.65**	**340**	P	**P**	04 53 53.2	-0.4
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**38.65**	**340**	P	**P**	04 53 53.2	-0.4
	comp=Z,1.9nm,0.8s,mb3.9						
SONM	**Songino Array**	**38.84**	**339**	P	**P**	04 53 54.8	-0.5
	comp=Z,1.0nm,0.6s,mb3.7,baz=153,slow=8.3,SNR=7.2						
SONM	**Songino Array**	**38.84**	**339**	P	**P**	04 53 54.8	-0.5
JIRN	**Jiri**	**39.93**	**298**	*e*P	**P**	04 54 04.6	+0.2
	comp=Z,8.7nm,0.4s,mb4.8						
GUN	**Gumba**	**40.26**	**299**	*e*P	**P**	04 54 07.4	+0.2
	comp=Z,48nm,1.2s,mb5.1						
PKI	**Pulchoki**	**40.58**	**298**	*e*P	**P**	04 54 09.6	-0.2
	comp=Z,17nm,0.8s,mb4.7						
PKI	**Pulchoki**	**40.58**	**298**	*e*P	**P**	04 54 09.6	-0.2
PKI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
KKN	**Kakani**	**40.74**	**298**	*e*P	**P**	04 54 11.1	-0.1
	comp=Z,32nm,1.1s,mb4.8						
KKN	**Kakani**	**40.74**	**298**	*e*P	**P**	04 54 11.1	-0.1
KKN				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.6						
DMN	**Daman**	**40.85**	**298**	*e*P	**P**	04 54 12.1	0.0
	comp=Z,30nm,1.0s,mb4.9						
GKN	**Gorkha**	**41.35**	**298**	*e*P	**P**	04 54 15.6	-0.5
	comp=Z,13nm,0.6s,mb4.7						
KOLN	**Koldanda**	**42.19**	**298**	*e*P	**P**	04 54 22.7	-0.4
	comp=Z,28nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**46.58**	**161**	P	**P**	04 54 57.0	-1.4
	comp=Z,2.1nm,0.7s,mb4.2,baz=330,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**50.02**	**322**	P	**P**	04 55 25.8	+0.9
	comp=Z,2.7nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**53.45**	**314**	P	**P**	04 55 51.6	+0.8
KURK	**Kurchatov**	**54.02**	**325**	*e*P	**P**	04 55 54.4	-0.4
KURK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
KURK	**Kurchatov**	**54.02**	**325**	*e*P	**P**	04 55 54.4	-0.4
	comp=Z,12nm,1.1s,mb4.7						
TIXI	**Tiksi**	**59.24**	**1**	*e*P	**P**	04 56 33.2	+1.5
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**59.62**	**325**	P	**P**	04 56 34.6	+0.1
	comp=Z,2.0nm,0.8s,mb4.2,baz=121,slow=8.6,SNR=12						
FINES	**FINESS Array B**	**83.77**	**332**	P	**P**	04 58 59.4	+1.1
	comp=Z,0.5nm,0.5s,mb3.9,baz=53,slow=6.9,SNR=4.5						
AKASG	**Malin Array Be**	**84.59**	**321**	P	**P**	04 59 03.0	+0.3
	comp=Z,0.3nm,0.3s,mb3.9,baz=60,slow=4.8,SNR=5.8						
YKA	**Yellowknife Ar**	**92.03**	**24**	P	**P**	04 59 35.3	-2.7
	comp=Z,0.0nm,0.3s,baz=300,slow=5.0,SNR=3.7						

GUC 02 04:49:13.9±1.0, 25.48S×69.22W, h111km±21km, ML4.0, 2C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.37**	**308**⇑	*i*P	P	04 49 40.5	+0.8
CPN1				*i* S	S	04 50 00.2	+1.1
CPN1				AMP		04 50 01.4	
	comp=E,2μm,0.4s						
ANCH	**Antofagasta**	**2.09**	**328**⇓	*i*P	P	04 49 48.8	+0.2
ANCH				*i* S	S	04 50 14.1	-0.5
CPCH	**Copiapo**	**2.13**	**208**⇓	*i*P	P	04 49 48.7	-0.4
CPCH				*i* S	S	04 50 15.8	+0.2
CPCH				AMP		04 50 21.4	
	comp=E,2μm,0.1s						
SPCH	**San Pedro de A**	**2.72**	**20**⇑	*i*P	P	04 49 57.8	+0.7
SPCH				*i* S	S	04 50 30.2	+0.6
SPCH				AMP		04 50 32.5	
	comp=N,509nm,0.4s						
LVC	**Limon Verde**	**2.86**	**6**⇓	*i*P	P	04 49 58.7	-0.4
LVC				AMP		04 50 37.5	
	comp=N,266nm,0.6s						
VACH	**Vallenar**	**3.38**	**204**	*i* S	S	04 50 44.6	-0.9

*MDD **02** 04:54:19.7±2.2, 36.26N×11.99W, h88km±91km, mb3.1/10, Error ellipse: s-maj=23.8km s-min=16.6km az=86.0, PRXIMO*
*INMG **02** 04:54:20.3±0.9, 36.27N×12.04W, h31km, ML2.2, Error ellipse: s-maj=8.1km s-min=4.8km az=90.0*
*NEIC **02** 04:54:20.9, 36.29N×11.62W, MG3.7(MDD), After MDD.*
*CSEM **02** 04:54:21.0±0.9, 36.31N×11.72W, h10km, ML3.2/8, Error ellipse: s-maj=17.3km s-min=15.9km az=46.0*

ISC 02 04:54:21.0±1.3, 36.72N±0.06×11.69W±0.08, h10km, n43, σ1°32/77, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.51**	**70**	*e*Pn	**Pn**	04 55 03.7	+1.2
PTEO				*e*Sn	**Sn**	04 55 35.4	+2.0
	4.7nm,0.2s						
PTEO	**Sao Teotonio**	**2.51**	**70**	P	**Pn**	04 55 03.6	+1.1
PTEO				S	**Sn**	04 55 35.1	+1.7
PTEO	**Sao Teotonio**	**2.51**	**70**	*e*Pn	**Pn**	04 55 03.7	+1.2
PTEO				*e*Sn	**Sn**	04 55 35.4	+2.0
	4.7nm,0.2s						
PLOU	**Loures**	**2.95**	**42**	*e*Pn	**Pn**	04 55 10.2	+1.4
PLOU				*e*Sn	**Sn**	04 55 48.3	+3.7
	8.3nm,0.1s						
PLOU	**Loures**	**2.95**	**42**	*e*Pn	**Pn**	04 55 10.2	+1.4
PLOU				*e*Sn	**Sn**	04 55 48.3	+3.7
	8.3nm,0.1s						
PBEJ	**Beja**	**3.31**	**66**	*e*Pn	**Pn**	04 55 14.9	+1.0
PBEJ				*e*Sn	**Sn**	04 55 55.4	+1.6
	1.6nm,0.1s						
PBEJ	**Beja**	**3.31**	**66**	P	**Pn**	04 55 15.1	+1.2
PBEJ				S	**Sn**	04 55 55.2	+1.4
PBEJ	**Beja**	**3.31**	**66**	*e*Pn	**Pn**	04 55 14.9	+1.0
PBEJ				*e*Sn	**Sn**	04 55 55.4	+1.6
	1.6nm,0.1s						
PALC	**Alcoutim**	**3.45**	**76**	*e*Pn	**Pn**	04 55 15.3	-0.6
PALC				*e*Sn	**Sn**	04 55 57.0	-0.2
	2.5nm,0.2s						
PALC	**Alcoutim**	**3.45**	**76**	P	**Pn**	04 55 15.3	-0.6
PALC				S	**Sn**	04 55 57.3	+0.1
PALC	**Alcoutim**	**3.45**	**76**	*e*Pn	**Pn**	04 55 15.3	-0.6
PALC				*e*Sn	**Sn**	04 55 57.0	-0.2
	2.5nm,0.2s						
EGRO	**El Granado**	**3.46**	**75**	P	**Pn**	04 55 15.5	-0.5
	0.5nm,0.1s,SNR=13						
EGRO				S	**Sn**	04 55 57.0	-0.4
	0.0nm,0.0s,SNR=5.3						
EGRO	**El Granado**	**3.46**	**75**	Pn	**Pn**	04 55 15.5	-0.5
	0.5nm,0.1s,SNR=13						
EGRO				Sn	**Sn**	04 55 57.0	-0.5
	SNR=5.3						
PTOM	**Tomar**	**3.88**	**41**	*e*Sn	**Sn**	04 56 10.5	+2.4
	7.2nm,0.1s						
PTOM	**Tomar**	**3.88**	**41**	*e*Sn	**Sn**	04 56 10.5	+2.4
	7.2nm,0.1s						
EMIN	**Mina Concepcio**	**4.13**	**74**	P	**Pn**	04 55 24.6	-1.0
	1.2nm,0.2s,SNR=12						
EMIN				S	**Sn**	04 56 12.3	-2.3
	0.4nm,0.1s,SNR=5.0						
EMIN	**Mina Concepcio**	**4.13**	**74**	Pn	**Pn**	04 55 24.6	-1.1
	1.2nm,0.2s,SNR=12						
EMIN				Sn	**Sn**	04 56 12.3	-2.4
	0.4nm,0.1s,SNR=5.0						
EBAD	**Badajoz**	**4.22**	**60**	Pn	**Pn**	04 55 28.6	+1.7
EBAD				Sn	**Sn**	04 56 17.9	+1.0
EBAD	**Badajoz**	**4.22**	**60**	P	**Pn**	04 55 27.2	+0.3
	0.6nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	04 56 17.3	+0.4
	2.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.22**	**60**	Pn	**Pn**	04 55 28.6	+1.7
	SNR=7.9						
EBAD				Sn	**Sn**	04 56 17.9	+1.0
	2.4nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**4.54**	**46**	*e*Pn	**Pn**	04 55 32.1	+0.6
PCBR				*e*Sn	**Sn**	04 56 25.4	+0.4
	1.2nm,0.2s						
PCBR	**Castelo Branco**	**4.54**	**46**	P	**Pn**	04 55 32.1	+0.6
PCBR				S	**Sn**	04 56 25.4	+0.4
	0.6nm,0.2s						
ESPR	**Espera**	**4.68**	**86**	P	**Pn**	04 55 31.4	-2.0
	2.3nm,0.1s,SNR=21						
ESPR				S	**Sn**	04 56 23.2	-5.3
	7.0nm,0.4s,SNR=5.0						
ESPR	**Espera**	**4.68**	**86**	Pn	**Pn**	04 55 31.4	-2.0
	2.3nm,0.1s,SNR=21						
ESPR				Sn	**Sn**	04 56 23.2	-5.3
	7.0nm,0.4s,SNR=5.0						
MTE	**Manteigas**	**4.90**	**40**	*e*Sn	**Sn**	04 56 34.5	+0.5
	2.4nm,0.3s						
MTE	**Manteigas**	**4.90**	**40**	S	**Sn**	04 56 34.5	+0.5
	1.2nm,0.3s						
MTE	**Manteigas**	**4.90**	**40**	S	**Sn**	04 56 34.3	+0.3
PVRL	**Vila Real**	**5.50**	**33**	*e*Sn	**Sn**	04 56 48.7	-0.3
	2.6nm,0.1s						
PVRL	**Vila Real**	**5.50**	**33**	S	**Sn**	04 56 48.7	-0.3
	1.3nm,0.1s						
EADA	**Adamuz**	**5.84**	**74**	P	**Pn**	04 55 48.4	-1.3
	0.5nm,0.2s,SNR=5.6						
EADA				S	**Sn**	04 56 53.7	-3.9
	0.6nm,0.1s,SNR=5.0						
EADA	**Adamuz**	**5.84**	**74**	Pn	**Pn**	04 55 48.4	-1.3
	0.5nm,0.2s,SNR=5.6						
EADA				Sn	**Sn**	04 56 53.7	-3.8
	0.6nm,0.1s,SNR=5.0						
ELOB	**Lobios**	**5.86**	**28**	Pn	**Pn**	04 55 51.5	+1.5
ELOB				Pn	**Pn**	04 55 55.7	+5.7
ELOB				Sn	**Sn**	04 56 57.0	-0.9
ELOB	**Lobios**	**5.86**	**28**	P	**Pn**	04 55 50.8	+0.8
	0.3nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	04 56 57.0	-1.0
	2.2nm,0.1s,SNR=31						
ELOB	**Lobios**	**5.86**	**28**	Pn	**Pn**	04 55 51.5	+1.5
	0.3nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**6.36**	**36**	*e*Sn	**Sn**	04 57 09.5	-1.1
	1.5nm,0.1s						
PBRG	**Braganca**	**6.36**	**36**	S	**Sn**	04 57 09.5	-1.1
	0.8nm,0.1s						
ECAL	**Calabor**	**6.47**	**35**	Pn	**Pn**	04 56 02.4	+3.7
ECAL				Sn	**Sn**	04 57 13.2	-0.2
ECAL	**Calabor**	**6.47**	**35**	P	**Pn**	04 55 58.8	+0.1
	0.8nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	04 57 11.8	-1.5
	6.1nm,0.5s,SNR=6.7						
EMAZ	**Mazaricos**	**6.56**	**18**	Pn	**Pn**	04 56 03.9	+4.0
EMAZ				Sn	**Sn**	04 57 09.8	-5.8
EMAZ	**Mazaricos**	**6.56**	**18**	P	**Pn**	04 55 59.5	-0.4
	0.5nm,0.2s,SNR=7.9						
EMAZ				S	**Sn**	04 57 13.1	-2.4
	2.5nm,0.1s,SNR=5.1						
EINC	**Incio**	**6.81**	**28**	Pn	**Pn**	04 56 07.4	+4.0
EINC				Sn	**Sn**	04 57 18.9	-2.8
EINC	**Incio**	**6.81**	**28**	P	**Pn**	04 56 03.5	+0.1
	0.3nm,0.1s,SNR=4.7						
EINC				S	**Sn**	04 57 20.0	-1.7
	SNR=7.9						
EPON	**Pontenova**	**7.46**	**26**	P	**Pn**	04 56 12.6	+0.1
	0.5nm,0.3s,SNR=7.9						
EPON				S	**Sn**	04 57 34.8	-3.2
	7.1nm,0.5s,SNR=7.9						

*NEIC **02** 04:58:11.3, 38.69S×176.15E, h101km, MG3.8(WEL

DUWZ	**D'Urville Isla**	**2.71**	**219**	⇑PN	P	04 58 50.9	-3.6
PAWZ	**Paruwai Farm**	**2.73**	**192**	PN	P	04 58 50.9	-3.8
MRW	**Makara Radio**	**2.76**	**204**	P	P	04 58 51.1	-4.0
MRW	**Makara Radio**	**2.76**	**204**	PN	P	04 58 51.1	-3.9
WEL	**Wellington**	**2.79**	**202**	PN	P	04 58 51.5	-4.0
MSWZ	**Moikau Station**	**2.79**	**194**	P	P	04 58 51.6	-3.9
MSWZ	**Moikau Station**	**2.79**	**194**	PN	P	04 58 51.5	-4.0
SNZO	**South Karori**	**2.83**	**203**	P	P	04 58 51.9	-4.2
SNZO	**South Karori**	**2.83**	**203**	PN	P	04 58 51.8	-4.2
SNZO				SN	S	04 59 23.3	-6.0
BHW	**Baring Head**	**2.88**	**200**	P	P	04 58 52.4	-4.3
BHW	**Baring Head**	**2.88**	**200**	⇓PN	P	04 58 52.4	-4.2
TUWZ	**Tuamarina**	**3.21**	**211**	PN	P	04 58 56.8	-4.5
NNZ	**Nelson**	**3.30**	**220**	P	P	04 58 57.9	-4.5
NNZ	**Nelson**	**3.30**	**220**	PN	P	04 58 57.7	-4.8
NNZ				SN	S	04 59 36.8	-4.1
BSWZ	**Blackbirch Sta**	**3.48**	**210**	PN	P	04 59 00.1	-4.8
QRZ	**Quartz Range**	**3.51**	**232**	P	P	04 59 01.0	-4.4
QRZ	**Quartz Range**	**3.51**	**232**	PN	P	04 59 01.0	-4.4
DSZ	**Denniston Nort**	**4.51**	**226**	*e*P	P	04 59 13.3	-5.8
DSZ	**Denniston Nort**	**4.51**	**226**	PN	P	04 59 13.3	-5.8
LTZ	**Lake Taylor**	**5.03**	**215**	*e*P	P	04 59 19.7	-6.5
LTZ	**Lake Taylor**	**5.03**	**215**	PN	P	04 59 19.5	-6.7

*MOS **02** 05:03:17.4±1.1,50.66N×157.75E,h60km,mb4.3/1,Error ellipse: s-maj=65.5km s-min=19.4km az=74.0*

KRSC 02 05:03:15.9±1.2,50.49N×157.50E,h32km±7km,ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.90**	**283**	*e*PN	Pn	05 03 30.3	-2.2
SKR				pmax	pmax		
	comp=Z,1μm,0.5s						
SKR				pmax	pmax		
	comp=N,710nm,0.3s						
SKR				pmax	pmax		
	comp=E,920nm,0.5s						
SKR	**Severo-Kuril's**	**0.90**	**283**	*e*P	Pn	05 03 30.3	-2.2
SKR				*i* S	Sn	05 03 41.9	-2.6
PAU	**Pauzhetka**	**1.07**	**336**	*e*P	Pn	05 03 35.5	+0.6
PAU				*e*S	Sn	05 03 50.1	+1.4
ALID	**Alaid**	**1.30**	**288**	*e*P	Pn	05 03 39.8	+1.7
RUS	**Russkaya**	**2.05**	**18**	P	Pn	05 03 48.2	-0.6
RUS				S	Sn	05 04 10.9	-2.6
RUS	**Russkaya**	**2.05**	**18**	*i* P	Pn	05 03 48.2	-0.6
RUS				*e*S	Sn	05 04 11.3	-2.2
GRL	**Gorelyy**	**2.10**	**10**	*i* P	Pn	05 03 49.9	+0.3
GRL				*e*S	Sn	05 04 13.8	-1.0
KRMR	**Karymshinskiy**	**2.38**	**9**	*e*P	Pn	05 03 54.5	+0.9
KRMR				*e*S	Sn	05 04 22.8	+0.9
APC	**Apacha**	**2.45**	**355**	*i* P	Pn	05 03 55.2	+0.6
APC				*e*S	Sn	05 04 24.9	+1.2
PET	**Petropavlovsk**	**2.64**	**15**	P	Pn	05 03 57.2	-0.1
PET				S	Sn	05 04 25.6	-2.9
PET	**Petropavlovsk**	**2.64**	**15**	*e*PN	Pn	05 03 56.5	-0.8
PET				*e*S	Sn	05 04 27.0	-1.5
PET				pmax	pmax		
	comp=Z,58nm,0.4s						
PET				smax			
	comp=N,318nm,0.4s						
PET				smax			
	comp=E,174nm,0.4s						
PET	**Petropavlovsk**	**2.64**	**15**	*i* P	Pn	05 03 57.2	-0.1
PET				*e*S	Sn	05 04 26.7	-1.8
UGLR	**Uglovaya**	**2.84**	**16**	*i* P	Pn	05 04 00.7	+0.5
UGLR				*e*S	Sn	05 04 35.5	+1.7
AVH	**Avacha**	**2.88**	**15**	*e*P	Pn	05 04 01.8	+1.0
AVH				*e*S	Sn	05 04 34.7	-0.1
SMAR	**Somma**	**2.89**	**16**	*e*P	Pn	05 04 02.2	+1.3
KOK	**Koryaka**	**2.89**	**14**	*i* P	Pn	05 04 02.3	+1.4
KOK				*e*S	Sn	05 04 36.8	+1.8
NLC	**Nalytchevo**	**2.92**	**22**	*e*P	Pn	05 03 59.8	-1.5
NLC				*e*S	Sn	05 04 32.3	-3.4
SPN	**Mys Shipunski**	**3.05**	**30**	*e*P	Pn	05 04 02.9	-0.2
SPN				*e*S	Sn	05 04 36.4	-2.4
GNL	**Ganaly**	**3.22**	**5**	*e*P	Pn	05 04 06.5	+0.9
GNL				*e*S	Sn	05 04 43.8	+0.5
MKZ	**Mys Kozlova**	**4.82**	**31**	P	Pn	05 04 27.1	-1.2
MKZ				S	Sn	05 05 18.1	-5.7
MKZ	**Mys Kozlova**	**4.82**	**31**	*e*P	Pn	05 04 27.2	-1.1
MKZ				*e*S	Sn	05 05 18.8	-5.0
TUMR	**Tumrok**	**5.06**	**17**	P	Pn	05 04 32.7	+1.0
TUMR				*e*S	Sn	05 05 27.8	-2.0
KBTR	**Krutoberegovo**	**6.55**	**27**	P	Pn	05 04 51.6	-1.1
KBTR				S	Sn	05 06 01.6	-5.5
KBTR	**Krutoberegovo**	**6.55**	**27**	*e*P	Pn	05 04 51.1	-1.6

*IDC **02** 05:15:23.5±1.8,0.85N×97.21E,mb4.3/9,mb1 4.4/9, mb1mx4.1/17,mbtmp4.3/9,MS3.7/2,Ms1 3.8/2, ms1mx3.1/30,Error ellipse: s-maj=93.1km s-min=16.6km az=56.0*

*NEIC **02** 05:15:28.1±0.7,0.86N×97.30E,h30km,mb4.6/1,Error ellipse: s-maj=20.7km s-min=10.2km az=60.0*

ISC 02 05:15:26.2±0.9,0.9N±0.1×97.3E±0.2,h30km,n14, σ0§59/12,mb4.2/10,MS4.1/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.51**	**37**	*e*P	**Pn**	**05 16 48.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.54**	**5**	LR	LR	05 26 58.9	
	comp=Z,120nm,19.8s,baz=185,slow=40						
WRA	**Warramunga Arr**	**41.78**	**122**	P	**P**	**05 23 14.9**	**-0.1**
	1.9nm,0.6s,mb3.9,baz=300,slow=9.1,SNR=22						
WRAB	**Tennant Creek**	**41.78**	**122**	*e*P	**P**	**05 23 14.2**	**-0.9**
	14nm,1.1s,mb4.5						
ASAR	**Alice Springs**	**43.12**	**127**	P	**P**	**05 23 26.1**	**+0.2**
	2.5nm,0.5s,mb4.2,baz=299,slow=8.0,SNR=33						
SONM	**Songino Array**	**47.43**	**8**	P	**P**	**05 24 00.4**	**+0.3**
	0.6nm,0.4s,mb3.9,baz=192,slow=10,SNR=4.7						
MKAR	**Makanchi Array**	**47.57**	**346**	P	**P**	**05 24 01.5**	**+0.3**
	2.1nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**53.06**	**132**	P	**P**	**05 24 44.0**	**+0.7**
	3.5nm,0.6s,mb4.5,baz=23,slow=1.8,SNR=11						
STKA	**Stephens Creek**	**53.06**	**132**	P	**P**	**05 24 44.0**	**+0.7**
ZAL	**Zalesovo**	**53.88**	**351**	P	**P**	**05 24 48.5**	**-0.4**
	4.1nm,0.4s,mb4.7,baz=310,slow=4.9,SNR=12						
BVAR	**Borovoye Array**	**56.58**	**341**	P	**P**	**05 25 07.4**	**-1.1**
	1.1nm,0.6s,mb4.0,baz=129,slow=9.2,SNR=6.6						
SUR	**Sutherland**	**79.08**	**237**	LR	LR	05 55 29.8	
	comp=Z,92nm,21.0s,MS4.1,baz=148,slow=30						
FINES	**FINESS Array B**	**80.33**	**333**	P	**P**	**05 27 35.9**	**0.0**
	0.8nm,0.8s,mb3.7,baz=90,slow=1.9,SNR=3.5						
ARCES	**ARCESS Array B**	**82.87**	**340**	P	**P**	**05 27 49.9**	**+0.9**
	4.9nm,1.1s,mb4.5,baz=84,slow=11,SNR=3.6						

*IDC **02** 05:18:57.4±2.3,0.52S×96.58E,mb3.9/7,mb1 4.1/7, mb1mx3.8/17,mbtmp3.9/7,Error ellipse: s-maj=104.8km s-min=20.8km az=54.0*

*NEIC **02** 05:19:03.3±0.8,0.24S×96.99E,h30km,mb4.6/1,Error ellipse: s-maj=22.0km s-min=13.1km az=63.0*

ISC 02 05:19:01.4±1.1,0.2S±0.1×97.0E±0.2,h30km,n10,σ0§65/9, mb4.0/8,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.55**	**34**	*e*P	**Pn**	**05 20 37.7**	**-0.7**
ENH	**Enshi**	**32.54**	**20**	P	**P**	**05 25 32.7**	**+0.5**
	3.0nm,0.3s,mb4.7						
WRA	**Warramunga Arr**	**41.49**	**121**	P	**P**	**05 26 48.1**	**+0.3**
	1.6nm,1.0s,mb3.6,baz=298,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**42.74**	**126**	P	**P**	**05 26 57.7**	**-0.4**
	1.4nm,0.8s,mb3.8,baz=300,slow=7.7,SNR=9.3						
SONM	**Songino Array**	**48.52**	**8**	P	**P**	**05 27 44.9**	**+1.2**
	0.9nm,1.0s,mb3.8,baz=180,slow=7.4,SNR=4.6						
MKAR	**Makanchi Array**	**48.53**	**347**	P	**P**	**05 27 44.4**	**+0.6**
	3.7nm,0.6s,mb4.6						
ZAL	**Zalesovo**	**54.88**	**351**	P	**P**	**05 28 31.2**	**-0.2**
	2.0nm,0.6s,mb4.3,baz=314,slow=6.3,SNR=7.7						
BVAR	**Borovoye Array**	**57.49**	**341**	P	**P**	**05 28 49.2**	**-1.0**
	0.6nm,0.6s,mb3.8,baz=90,slow=5.8,SNR=4.5						
FINES	**FINESS Array B**	**81.13**	**333**	P	**P**	**05 31 14.9**	**-0.4**
	0.3nm,0.4s,mb3.5,baz=134,slow=8.1,SNR=4.1						
TXAR	**Lajitas Array**	**144.94**	**32**	PKPbc	PKPbc	05 38 38.2	+1.7
	1.4nm,0.7s,baz=264,slow=1.4,SNR=13						

*MOS **02** 05:25:27.6±1.3,47.60N×154.02E,h82km,mb3.8/1,Error ellipse: s-maj=51.8km s-min=29.5km az=46.1*

*IDC **02** 05:25:33.6±5.8,47.88N×153.58E,h93km±51km,mb3.5/4, mb1 3.6/5,mb1mx3.3/22,mbtmp3.8/5,Error ellipse: s-maj=39.9km s-min=28.2km az=84.0*

ISC 02 05:25:28.6±1.6,47.9N±0.1×153.7E±0.2,h63km±14km,n9, σ1§19/11,mb3.8/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.22**	**29**	*e*PN	**P**	**05 26 19.2**	**+1.2**
SKR				*e*S	**S**	**05 26 52.9**	**-2.4**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
KUR	**Kuril'sk**	**4.81**	**238**	*e*PN	**P**	**05 26 39.0**	**-1.2**
KUR				*e*S	**S**	**05 27 34.0**	**-1.2**
KUR				pmax	pmax		
	comp=Z,40nm,0.5s						
KUR				smax			
	comp=N,80nm,0.5s						
KUR				smax			
	comp=E,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.46**	**267**	*e*PN	**P**	**05 27 18.5**	**+1.4**
ASAJ	**Asahikawa**	**8.58**	**248**	PN	**P**	**05 27 34.1**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.58**	**248**	P	**P**	**05 27 34.0**	**+1.6**
	comp=Z,1.3nm,0.3s,baz=69,slow=18,SNR=7.3						
BVAR	**Borovoye Array**	**50.43**	**309**	P	**P**	**05 34 21.5**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=59,slow=8.6,SNR=4.2						
FINES	**FINESS Array B**	**63.16**	**335**	P	**P**	**05 35 50.7**	**-1.0**
	comp=Z,0.4nm,0.3s,mb4.0,baz=43,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**73.41**	**199**	P	**P**	**05 36 55.4**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=5.5,slow=5.2,SNR=8.0						
TXAR	**Lajitas Array**	**76.60**	**61**	P	**P**	**05 37 14.7**	**+0.8**
	comp=Z,0.4nm,0.6s,mb3.5,baz=284,slow=3.7,SNR=6.5						

*IDC **02** 05:43:13.3±2.6,1.16N×97.26E,mb4.2/6,mb1 4.3/6, mb1mx3.9/18,mbtmp4.2/6,Error ellipse: s-maj=112.7km s-min=19.3km az=58.0*

*BJI **02** 05:43:15.9,1.10N×97.30E,h30km,mB5.2,mb4.7,Ms4.1, Msz3.9*

*NEIC **02** 05:43:18.0±0.6,1.14N×97.26E,h30km,mb4.5/7,Error ellipse: s-maj=16.2km s-min=7.1km az=57.0*

ISC 02 05:43:16.0±0.8,1.1N±0.1×97.2E±0.1,h30km,n19, σ0§73/20,mb4.4/14,MS3.9/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.35**	**39**	*e*P	**Pn**	**05 44 35.4**	**-0.5**
KMI	**Kunming**	**24.43**	**12**	P	**P**	**05 48 35.1**	**+1.6**
KMI				AP		05 48 41.2	
KMI				XP		05 48 43.6	
KMI				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.4						
KMI				AMB	AMB		
	comp=Z,69nm,3.4s						
KMI				LR	LR		
	comp=N,263nm,16.3s,MS4.0						
KMI				LR	LR		
	comp=E,170nm,11.6s,MS4.0						
KMI				LR	LR		
	comp=Z,263nm,14.0s,MS3.9						
KMI	**Kunming**	**24.43**	**12**	P	**P**	**05 48 35.1**	**+1.6**
	comp=Z,21nm,1.2s,mb4.4						
KMI				pP		05 48 41.2	
KMI				sP		05 48 43.6	
KMI				S	**S**	**05 53 07.4**	**+19**
KMI				sS		05 53 16.2	
KMI				LR	LR		
	comp=Z,260nm,14.0s,MS3.9						
JIRN	**Jiri**	**28.42**	**339**	*e*P	**P**	**05 49 10.6**	**+0.3**
	comp=Z,24nm,0.9s,mb4.8						
GUN	**Gumba**	**28.76**	**339**	*e*P	**P**	**05 49 13.8**	**+0.4**
	comp=Z,18nm,0.6s,mb5.0						
DMN	**Daman**	**28.78**	**337**	*e*P	**P**	**05 49 13.2**	**-0.3**
	comp=Z,7.6nm,0.7s,mb4.5						
GKN	**Gorkha**	**29.32**	**337**	*e*P	**P**	**05 49 18.6**	**+0.2**
KOLN	**Koldanda**	**29.53**	**335**	*e*P	**P**	**05 49 20.4**	**+0.1**
	comp=Z,9.4nm,0.7s,mb4.7						
ENH	**Enshi**	**31.23**	**21**	*e*P	**P**	**05 49 34.2**	**-1.0**
	comp=Z,7.4nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.86**	**126**	P	**P**	**05 49 57.4**	**-0.9**
	comp=Z,4.3nm,0.7s,mb4.5,baz=231,slow=22,SNR=5.6						
GTA	**Gaotai**	**38.17**	**3**	P	**P**	**05 50 34.8**	**+0.2**
GTA				AP	pP	05 50 40.8	-2.8
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**41.97**	**122**	P	**P**	**05 51 05.7**	**-0.7**
	comp=Z,1.7nm,0.5s,mb3.9,baz=301,slow=9.1,SNR=21						
WRAB	**Tennant Creek**	**41.97**	**122**	*e*P	**P**	**05 51 06.7**	**+0.4**
	comp=Z,4.2nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**41.98**	**122**	*e*P	**P**	**05 51 07.1**	**+0.7**
BJT	**Baijiatuau**	**42.36**	**22**	P	**P**	**05 51 10.2**	**+0.9**
SONM	**Songino Array**	**47.19**	**8**	P	**P**	**05 51 48.1**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=188,slow=9.3,SNR=13						
STKA	**Stephens Creek**	**53.28**	**132**	P	**P**	**05 52 35.4**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.3,baz=279,slow=8.8,SNR=4.3						
ZAL	**Zalesovo**	**53.62**	**351**	P	**P**	**05 52 36.1**	**-0.6**
	comp=Z,2.9nm,0.7s,mb4.3,baz=290,slow=4.7,SNR=13						
BVAR	**Borovoye Array**	**56.32**	**341**	P	**P**	**05 52 55.0**	**-1.4**
	comp=Z,1.7nm,0.8s,mb4.1,baz=141,slow=9.5,SNR=6.5						

IDC 02 05:45:11.5±1.2,49.29S×126.77E,mb4.1/4,mb1 4.3/4, mb1mx4.1/10,mbtmp4.2/4,MS3.4/5,Ms1 3.4/5, ms1mx3.1/24,1D,Error ellipse: s-maj=74.5km s-min=21.2km az=102.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.83**	**333**	LR	LR	05 54 46.3	
	comp=Z,57nm,21.2s,baz=125,slow=32						
STKA	**Stephens Creek**	**20.66**	**38**	P	P	05 49 52.7	-2.6
	3.1nm,0.8s,baz=204,slow=9.9,SNR=4.8						
STKA				LR	LR	05 56 44.5	
	comp=Z,104nm,19.5s,baz=207,slow=34						
ASPA	**Alice Springs**	**26.18**	**15**	⇓*i*P	P	05 50 47.5	-1.9
ASAR	**Alice Springs**	**26.19**	**15**	P	P	05 50 47.5	-1.9
	9.7nm,0.7s,baz=188,slow=9.1,SNR=96						
ASAR				PcP	PcP	05 54 15.0	-2.1
	0.6nm,0.8s,baz=159,slow=1.3,SNR=5.8						
VNDA	**Vanda**	**31.32**	**166**	P	P	05 51 32.9	-2.1
	3.8nm,0.8s,baz=316,slow=9.5,SNR=18						
CTA	**Charters Tower**	**33.05**	**35**	LR	LR	06 04 05.5	
	comp=Z,84nm,18.9s,baz=50,slow=34						
DZM	**Mont Dzumac**	**41.42**	**64**	LR	LR	06 07 43.1	
	comp=Z,54nm,18.1s,baz=105,slow=33						
HNR	**Honiara**	**48.41**	**46**	LR	LR	06 13 38.1	
	comp=Z,70nm,18.2s,baz=297,slow=35						
SNAA	**Sanae**	**54.20**	**197**	P	P	05 54 38.1	-2.2
	0.8nm,0.8s,baz=175,slow=12,SNR=4.3						
YKA	**Yellowknife Ar**	**144.59**	**45**	PKP	PKPdf	06 04 47.6	-2.8
	1.1nm,0.9s,baz=269,slow=3.5,SNR=19						

DJA 02 05:54:30.6±1.3,10.76S×115.44E,h105km±64km,ML4.5/2, 1C-3D,Error ellipse: s-maj=88.4km s-min=21.7km az=0.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**2.03**	**3**	*e*Pn	P	05 55 03.3	-0.9
	424nm,0.2s						
RATI				⇑*e*Sn	S	05 55 29.2	-0.1
KEDI	**Kedomdong**	**2.36**	**16**	⇓*e*Pn	P	05 55 08.7	0.0
	146nm,0.2s						
KEDI				⇓*e*Sn	S	05 55 34.6	-2.6
SRDI	**Scrawed**	**2.60**	**330**	⇓*e*Pn	P	05 55 11.4	-0.7
SRDI	**Scrawed**	**2.60**	**330**	*e*P	P	05 55 12.2	+0.1

*IDC **02** 05:55:01.3±0.9,2.17N×96.10E,mb4.4/12,mb1 4.5/12, mb1mx4.4/18,mbtmp4.4/12,MS3.5/1,Ms1 3.5/1, ms1mx3.1/22,Error ellipse: s-maj=51.1km s-min=14.3km az=50.0*

*BJI **02** 05:55:01.1,1.79N×96.13E,h35km,mB4.9,mb4.9,Ms4.6, Msz4.2*

*MOS **02** 05:55:04.1±1.4,2.16N×96.27E,h33km,mb4.9/19,Error ellipse: s-maj=18.9km s-min=7.8km az=99.9*

*NEIC **02** 05:55:05.4±0.5,2.20N×96.18E,mb4.8/20,Error ellipse: s-maj=11.6km s-min=6.4km az=216.0*

ISC 02 05:55:03.2±0.5,2.18N±0.07×96.20E±0.06,h25km, h25km±1.7km:pP-P,n87,σ1§16/92,mb4.7/50,MS4.3/9, 3C-4D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.41**	**55**	*e*P	**Pn**	**05 56 25.2**	**+0.7**
KSM	**Kuching**	**14.11**	**93**	*e*P	**P**	**05 58 25.8**	**+1.7**
KSM				*e*pP		05 58 33.6	
KKM	**Kota Kinabalu**	**20.32**	**78**	*e*P	**P**	**05 59 40.8**	**+0.2**
HYB	**Hyderabad**	**23.02**	**312**	*e*P	**P**	**06 00 10.0**	**+2.2**
HYB	**Hyderabad**	**23.02**	**312**	*i* P	**P**	**06 00 10.0**	**+2.2**
KMI	**Kunming**	**23.67**	**15**	P	**P**	**06 00 15.5**	**+1.5**
KMI				AP		06 00 22.1	
KMI				XP		06 00 26.3	
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
KMI				AMB	AMB		
	comp=Z,143nm,3.9s						
KMI				LR	LR		
	comp=N,320nm,13.8s,MS4.0						
KMI				LR	LR		
	comp=E,223nm,18.4s,MS4.0						
KMI				LR	LR		
	comp=Z,332nm,12.9s						
KMI	**Kunming**	**23.67**	**15**	P	**P**	**06 00 15.5**	**+1.5**
KMI				*SP		06 00 26.3	
KMI				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.1						
KMI				MLR	MLR		
	comp=Z,330nm,12.9s,MS4.0						
KMI	**Kunming**	**23.67**	**15**	P	**P**	**06 00 15.5**	**+1.5**
	comp=Z,10.0nm,1.2s,mb4.1						
KMI				pP		06 00 22.1	
KMI				sP		06 00 26.3	
KMI				S	**S**	**06 04 37.1**	**+13**
KMI				sS		06 04 49.4	
KMI				LR	LR		
	comp=Z,330nm,12.9s,MS4.0						
GYA	**Guiyang**	**26.15**	**22**	P	**P**	**06 00 37.3**	**-0.3**
GYA				AP	pP	06 00 44.6	-0.2
GYA				PP	PP	06 01 21.5	+1.8
GYA				S	**S**	**06 05 02.5**	**-3.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,130nm,5.8s						
GYA				LR	LR		
	comp=N,260nm,14.3s,MS4.1						
GYA				LR	LR		
	comp=E,300nm,15.0s,MS4.1						
GYA				LR	LR		
	comp=Z,510nm,14.9s,MS4.2						
JIRN	**Jiri**	**27.09**	**340**	*e*P	**P**	**06 00 46.9**	**+0.6**
	comp=Z,86nm,0.7s,mb5.4						
PKI	**Pulchoki**	**27.28**	**339**	*e*P	**P**	**06 00 48.9**	**+0.9**
	comp=Z,33nm,0.9s,mb4.9						
PKI	**Pulchoki**	**27.28**	**339**	*e*P	**P**	**06 00 48.9**	**+0.9**
PKI				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.5						
GUN	**Gumba**	**27.43**	**340**	*e*P	**P**	**06 00 50.2**	**+0.9**
	comp=Z,76nm,0.6s,mb5.4						
DMN	**Daman**	**27.43**	**338**	*e*P	**P**	**06 00 50.1**	**+0.8**
	comp=Z,21nm,0.7s,mb4.8						
KKN	**Kakani**	**27.53**	**339**	*e*P	**P**	**06 00 50.4**	**+0.1**
LSA	**Lhasa**	**27.79**	**351**	P	**P**	**06 00 53.0**	**+0.4**
LSA	**Lhasa**	**27.79**	**351**	*e*P	**P**	**06 00 53.2**	**+0.6**
LSA				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.8						
LSA	**Lhasa**	**27.79**	**351**	*e*P	**P**	**06 00 53.2**	**+0.6**
	comp=Z,15nm,0.6s,mb4.8						
GKN	**Gorkha**	**27.96**	**338**	*e*P	**P**	**06 00 54.5**	**+0.3**
	comp=Z,56nm,0.8s,mb5.2						
KOLN	**Koldanda**	**28.16**	**336**	*e*P	**P**	**06 00 56.6**	**+0.6**
	comp=Z,29nm,0.7s,mb5.0						
CD2	**Chengdu**	**29.46**	**13**	⇓*i*P	**P**	**06 01 06.4**	**-1.2**
ENH	**Enshi**	**30.65**	**23**	*e*P	**P**	**06 01 16.6**	**-1.5**
	comp=Z,15nm,0.6s,mb5.0						
ENH				*e*pP	pP	06 01 23.4	-2.0
XAN	**Xi'an**	**33.85**	**19**	P	**P**	**06 01 44.8**	**-1.3**
XAN				LR	LR		
	comp=N,225nm,23.0s,MS4.8						
XAN				LR	LR		
	comp=E,2μm,18.8s,MS4.8						
XAN				LR	LR		
	comp=Z,1μm,16.4s,MS4.8						
LZH	**Lanzhou**	**34.48**	**11**	⇑P	**P**	**06 01 50.3**	**-1.2**
LZH				AP	pP	06 01 59.6	+0.8
LZH				XP	sP	06 02 03.5	+1.6
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb5.0						
LZH	**Lanzhou**	**34.48**	**11**	⇑P	**P**	**06 01 50.3**	**-1.2**
	comp=Z,26nm,1.3s,mb5.0						
LZH				pP	pP	06 01 59.6	+0.8
LZH				sP	sP	06 02 03.5	+1.6
FITZ	**Fitzroy Crossi**	**35.30**	**126**	*e*P	**P**	**06 01 58.9**	**+0.2**
	comp=Z,7.5nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**35.30**	**126**	P	**P**	**06 01 58.1**	**-0.6**
	comp=Z,13nm,0.8s,mb4.9,baz=303,slow=4.7,SNR=14						
NJ2	**Nanjing**	**36.58**	**33**	*e*P	**P**	**06 02 09.3**	**-0.1**
NJ2				AP	pP	06 02 19.0	+2.3
NJ2				XP	sP	06 02 22.8	+3.0
NJ2				PP	PP	06 03 37.4	+3.4
NJ2				S	**S**	**06 07 54.0**	**+4.1**
NJ2				XS		06 08 12.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,160nm,5.4s						
NJ2				LR	LR		
	comp=N,430nm,13.7s,MS4.5						
NJ2				LR	LR		
	comp=E,380nm,17.1s,MS4.5						
NJ2				LR	LR		
	comp=Z,210nm,17.3s,MS4.0						
GTA	**Gaotai**	**37.21**	**5**	P	**P**	**06 02 14.1**	**-0.4**
GTA				AP	pP	06 02 21.2	-0.7
GTA				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.0						
SSE

WMQ			XP	sP	06 03 05.5	-0.4
WMQ			PP	PP	06 04 37.1	+0.9
WMQ			PCP	PcP	06 04 52.2	+1.8
WMQ			S	**S**	**06 09 14.5**	**+0.8**
WMQ			AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.3					
WMQ			AMB	AMB		
	comp=Z,81nm,4.6s					
WMQ			LR	LR		
	comp=N,186nm,14.2s,MS4.3					
WMQ			LR	LR		
	comp=E,204nm,15.0s,MS4.3					
WMQ			LR	LR		
	comp=Z,140nm,21.2s					
WRA	**Warramunga Arr**	**43.39 122**	P	**P**	**06 03 06.9**	**+0.9**
	comp=Z,3.6nm,0.8s,mb4.2,baz=302,slow=9.1,SNR=14					
ULHL	**Ulahol**	**43.73 338**	P	**P**	**06 03 09.3**	**+0.9**
	SNR=6.0					
UCH	**Uchtor**	**44.37 337**	P	**P**	**06 03 15.0**	**+1.4**
	SNR=14					
TKM2	**Tokmak 2**	**44.55 338**	P	**P**	**06 03 16.0**	**+0.9**
	SNR=8.1					
AML	**Almayashu**	**44.61 336**	P	**P**	**06 03 16.9**	**+1.3**
	SNR=11					
AAK	**Ala-Archa**	**44.72 337**	*i* P	**P**	**06 03 16.8**	**+0.4**
AAK			pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3					
AAK	**Ala-Archa**	**44.72 337**	*e*P	**P**	**06 03 16.1**	**-0.3**
	comp=Z,2.8nm,0.8s,mb4.1					
ASAR	**Alice Springs**	**44.77 127**	P	**P**	**06 03 18.1**	**+1.0**
	comp=Z,1.8nm,0.6s,mb4.1,baz=300,slow=7.8,SNR=27					
EKS2	**Erkin-Say**	**45.02 337**	P	**P**	**06 03 20.3**	**+1.4**
	SNR=8.6					
USP	**Ospenovka**	**45.26 338**	P	**P**	**06 03 21.5**	**+0.8**
	SNR=12					
MK02	**Makanchi Array**	**46.04 347**	P	**P**	**06 03 26.9**	**+0.1**
MK02			pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1					
SONM	**Songino Array**	**46.33 9**	P	**P**	**06 03 29.1**	**0.0**
	comp=Z,6.2nm,0.4s,mb4.8,baz=190,slow=9.3,SNR=52					
SONM			PcP	PcP	06 05 04.7	+0.2
	comp=Z,1.4nm,0.6s,baz=182,slow=3.8,SNR=4.0					
ULN	**Ulaanbaatar**	**46.47 10**	*e*P	**P**	**06 03 29.8**	**-0.4**
ULN			pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5					
ULN	**Ulaanbaatar**	**46.47 10**	*e*P	**P**	**06 03 29.8**	**-0.4**
	comp=Z,2.7nm,0.5s,mb4.4					
CN2	**Changchun**	**48.90 28**	*e*P	**P**	**06 03 50.4**	**+1.1**
GUMO	**Guam**	**49.42 74**	LR	LR	06 22 26.5	
	comp=Z,48nm,21.6s,MS3.5,baz=94,slow=33					
TLY	**Talaya**	**49.73 6**	*i* P	**P**	**06 03 56.1**	**+0.6**
TLY			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5					
TLY	**Talaya**	**49.73 6**	P	**P**	**06 03 55.9**	**+0.3**
	comp=Z,6.2nm,0.9s,mb4.6					
KURK	**Kurchatov**	**50.60 346**	*i* P	**P**	**06 04 01.9**	**-0.3**
KURK			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3					
KURK	**Kurchatov**	**50.60 346**	*e*P	**P**	**06 04 01.9**	**-0.3**
	comp=Z,4.8nm,0.9s,mb4.4					
KURK			*e*pP	pP	06 04 08.2	-1.5
HIA	**Hailar**	**51.05 20**	P	**P**	**06 04 05.0**	**-0.6**
HIA			pmax	pmax		
	comp=Z,7.0nm,0.8s					
HIA	**Hailar**	**51.05 20**	P	**P**	**06 04 05.0**	**-0.6**
	comp=Z,6.8nm,0.8s,mb4.6					
MDJ	**Mudanjiang**	**51.52 30**	P	**P**	**06 04 08.6**	**-0.6**
MDJ			AP	pP	06 04 15.0	-1.7
MDJ			PCP	PcP	06 05 23.3	-0.1
MDJ			PP	PP	06 06 06.0	-1.3
MDJ			PCS		06 09 20.7	
MDJ			S	**S**	**06 11 27.5**	**+0.9**
MDJ			SS	SS	06 15 04.4	+3.7
MDJ			AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.3					
MDJ			AMB	AMB		
	comp=Z,88nm,6.7s					
MDJ			LR	LR		
	comp=N,439nm,24.1s					
MDJ			LR	LR		
	comp=E,904nm,18.4s					
MDJ			LR	LR		
	comp=Z,448nm,21.4s,MS4.5					
ZAL	**Zalesovo**	**52.44 352**	P	**P**	**06 04 15.6**	**-0.5**
	comp=Z,9.9nm,0.6s,mb5.0,baz=309,slow=6.4,SNR=38					
NVS	**Novosibirsk**	**53.55 351**	*e*P	**P**	**06 04 22.1**	**-2.2**
NVS			pmax	pmax		
	comp=N,6.0nm,0.8s					
NVS			pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9					
NVS			pmax	pmax		
	comp=E,2.0nm,0.6s					
STKA	**Stephens Creek**	**54.74 132**	P	**P**	**06 04 33.1**	**-0.2**
	comp=E,3.3nm,0.9s,mb4.4,baz=323,slow=6.9,SNR=4.4					
BVA0	**Borovoye Array**	**55.01 341**	*i* P	**P**	**06 04 33.8**	**-1.2**
BVA0			pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9					
BVAR	**Borovoye Array**	**55.01 341**	P	**P**	**06 04 34.0**	**-1.0**
	comp=Z,5.4nm,0.7s,mb4.7,baz=141,slow=9.5,SNR=30					
CHKZ	**Chkalovo**	**55.49 342**	*i* P	**P**	**06 04 37.8**	**-0.7**
CHKZ			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9					
KLR	**Kul'dur**	**55.84 27**	*e*P	**P**	**06 04 37.2**	**-3.9**
BOD	**Bodaibo**	**57.24 11**	*e*P	**P**	**06 04 49.8**	**-1.2**
BOD			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8					
CLNS	**Chul'man**	**59.12 18**	*e*P	**P**	**06 04 58.8**	**-5.3**
CLNS			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9					
CLNS			pmax	pmax		
	comp=N,5.0nm,0.7s					
SVE	**Sverdlovsk**	**61.42 339⇓**	*i*P	**P**	**06 05 19.0**	**-0.8**
SVE			pmax	pmax		
	comp=Z,14nm,1.3s,mb4.9					
ARU	**Arti**	**61.90 337**	*i* P	**P**	**06 05 20.6**	**-2.5**
ARU			pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.5					
KIV	**Kislovodsk**	**62.92 319**	*i* P	**P**	**06 05 26.8**	**-3.2**
KIV			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7					
GOF	**Gofitskoye**	**63.18 321**	*e*P	**P**	**06 05 46.3**	**+15**
YAK	**Yakutsk**	**64.77 17**	*e*P	**P**	**06 05 40.7**	**-1.2**
YAK			pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0					
YAK			pmax	pmax		
	comp=N,4.0nm,1.0s					
YAK			pmax	pmax		
	comp=E,3.0nm,1.0s					
BRTR	**Keskin Array B**	**67.72 312**	P	**P**	**06 06 00.3**	**-0.8**
	comp=E,0.9nm,0.7s,mb3.9,baz=129,slow=7.9,SNR=3.8					
OBN	**Obninsk**	**71.27 328⇓**	*e*P	**P**	**06 06 21.2**	**-1.4**
OBN			*e**PP	pP	06 06 49.0	+19
OBN			pmax	pmax		
	comp=Z,38nm,2.5s,mb4.9					
PET	**Petropavlovsk**	**71.98 34**	*e*P	**P**	**06 06 23.6**	**-3.3**
PET			*e*S	S	06 15 45.3	-0.1
PET			*e*SSS	SSS	06 23 33.8	+0.7
PET			pmax	pmax		
	comp=Z,200nm,6.1s					
PET			MLR	MLR		
	comp=E,300nm,17.0s,MS4.8					
PET			MLR	MLR		
	comp=N,400nm,18.0s,MS4.8					
PET			MLR	MLR		
	comp=Z,400nm,16.0s,MS4.8					
TIXI	**Tiksi**	**72.41 10**	*e*P	**P**	**06 06 25.9**	**-3.2**
TIXI			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5					
AKASG	**Malin Array Be**	**73.88 322**	P	**P**	**06 06 37.0**	**-1.0**
	comp=Z,1.7nm,0.6s,mb4.2,baz=90,slow=5.2,SNR=12					
FINES	**FINESS Array B**	**78.68 333**	P	**P**	**06 07 05.0**	**+0.2**
	comp=Z,2.5nm,0.6s,mb4.3,baz=82,slow=6.4,SNR=15					
KAF	**Kangasniemi**	**78.77 333**	*ep*	**P**	**06 07 04.6**	**-0.7**
	comp=Z,4.4nm,0.7s,mb4.5,baz=104,slow=5.2					
KAF	**Kangasniemi**	**78.77 333**	*e*P	**P**	**06 07 04.6**	**-0.7**
KAF			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5					
BILL	**Bilibino**	**80.61 21**	*i* P	**P**	**06 07 12.8**	**-2.3**
BILL			pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.6					
ARCES	**ARCESS Array B**	**81.29 340**	P	**P**	**06 07 19.3**	**+0.7**
	comp=Z,3.0nm,0.7s,mb4.3,baz=95,slow=5.9,SNR=20					
GERES	**GERESS Array B**	**83.43 319**	P	**P**	**06 07 31.7**	**+1.7**
	comp=Z,1.4nm,0.8s,mb4.0,baz=108,slow=4.2,SNR=8.0					
TXAR	**Lajitas Array**	**143.34 30**	PKP	PKPdf	06 14 37.0	-3.9
	comp=Z,0.4nm,0.6s,baz=201,slow=0.5,SNR=5.5					

IDC 02 06:05:37.6±4.8, 0.99N×97.40E, mb3.9/4, mb1 4.1/4, mb1mx3.7/16, mbtmp3.9/4, Error ellipse: s-maj=187.0km s-min=25.5km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.75**	**122**	P	P	06 13 28.7	-1.8
	0.4nm,0.5s,baz=302,slow=8.9,SNR=4.1						
ASAR	**Alice Springs**	**43.10**	**127**	P	P	06 13 39.9	-1.6
	0.7nm,0.6s,baz=297,slow=8.0,SNR=5.9						
SONM	**Songino Array**	**47.31**	**8**	P	P	06 14 13.6	-1.3
	1.1nm,0.7s,baz=198,slow=7.8,SNR=5.1						
ZAL	**Zalesovo**	**53.79**	**351**	P	P	06 15 01.2	-2.9
	2.8nm,0.4s,baz=116,slow=3.7,SNR=4.6						

*IDC **02** 06:06:40.9±0.5, 78.61N×6.37E, mb4.2/20, mb1 4.4/24, mb1mx4.3/28, mbtmp4.2/24, ML4.2/4, MS4.4/23, Ms1 4.4/23, ms1mx4.4/28, Error ellipse: s-maj=17.7km s-min=9.1km az=45.0*

*MOS **02** 06:06:40.3±1.0, 78.56N×6.42E, h10km, mb4.9/53, MS4.4/29, Error ellipse: s-maj=31.2km s-min=4.0km az=91.4*

*BJI **02** 06:06:42.2, 78.60N×6.50E, h10km, mB5.1, mb4.8, Ms5.3, Msz4.8*

*ZUR_RM **02** 06:06:42, 78.63N×6.50E, h12km, Mw5.3/11, Moment Tensor Solution. s11 Moment tensor: Scale 10^16^Nm; M_{rr}=0.80; $M_{\theta\theta}$=7.08; $M_{\phi\phi}$=7.89; $M_{r\theta}$=4.80; $M_{\theta\phi}$=0.04; $M_{\phi r}$=0.75; Best double couple: M_0=8.82×10^16^ NP1:ϕ_s=318°, δ75°, λ-155°. NP2:ϕ_p=221°, δ66°, λ-17°. Principal axes: T 7.964, Plg6°, Azm88°; N 1.722, Plg61°, Azm348°; P -9.686, Plg28°, Azm181°;*

*BER **02** 06:06:42.4±3.3, 78.75N×6.82E, h15km±26km, MD4.0, ML3.8, ML4.3(NAO)*

*NEIC **02** 06:06:42.3±0.2, 78.63N×6.50E, h10km, mb4.7/44, ML4.3(NAO), Error ellipse: s-maj=4.8km s-min=3.4km az=62.0*

*NAO **02** 06:06:43.5±2.8, 78.45N×7.92E, h6km±38km, ML4.3*

*CSEM **02** 06:06:48.0, 78.37N×9.08E, h33km, mb5.0*

ISC 02 06:06:40.6±0.2, 78.61N±0.02×6.3E±0.1, h10km, (h24km±2.9km:pP-P), n288, σ1§15/322, mb4.5/88, MS4.6/48, 27C-3D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.16**	**71**	Pg	**Pg**	**06 07 00.8**	**-3.0**
KBS				Lg		06 07 14.4	
KBS	**Kingsbay**	**1.16**	**71**	Pg	**Pg**	**06 07 00.8**	**-3.0**
KBS				S	**Sb**	**06 07 14.4**	**-2.7**
SPA0	**Spitsbergen Ar**	**2.09**	**97**	Pn	**Pn**	**06 07 14.3**	**-1.8**
	baz=282,slow=12						
SPA0				Sn	**Sn**	**06 07 37.5**	**-5.0**
	baz=279,slow=28						
HSP	**Hornsund**	**2.54**	**125**	*e*P	**Pn**	**06 07 18.5**	**-4.1**
HSP				*e*S	**Sn**	**06 07 40.8**	**-13**
HOPEN	**Hopen**	**4.55**	**108**	*e*P	**Pn**	**06 07 46.5**	**-4.7**
HOPEN				*e*S	**Sn**	**06 08 35.5**	**-9.3**
HOPEN				AML	AML	06 08 57.4	
	comp=Z,4μm,0.9s						
DAG	**Danmarks Havn**	**5.60**	**263⇑**	*e*P	**Pn**	**06 08 01.7**	**-4.3**
DAG				pmax	pmax		
	comp=Z,61nm,0.9s						
DAG	**Danmarks Havn**	**5.60**	**263⇑**	*e*P	**Pn**	**06 08 01.7**	**-4.3**
	comp=Z,60nm,0.9s						
DAG	**Danmarks Havn**	**5.60**	**263⇑**	*i*P	**Pn**	**06 08 01.7**	**-4.3**
	comp=Z,60nm,0.9s						
JNW	**Jan Mayen West**	**8.49**	**214**	*e*P	**P**	**06 08 42.9**	**-3.6**
JNW				*e*S	**Sn**	**06 10 12.9**	**-10**
JNW				AML	AML	06 10 17.4	
	comp=Z,33nm,0.5s						
JNE	**Jan Mayen East**	**8.51**	**214**	*e*P	**P**	**06 08 43.2**	**-3.6**
JNE				AML	AML	06 10 17.1	
	comp=Z,34nm,0.6s						
JMIC	**Jan Mayen**	**8.54**	**214**	Pn	**P**	**06 08 41.3**	**-5.9**
	comp=Z,159nm,0.3s,baz=29,slow=2.2,SNR=17						
JMIC				Sn	**Sn**	**06 10 14.0**	**-11**
	comp=Z,35nm,0.3s,baz=66,slow=23,SNR=14						
JMIC	**Jan Mayen**	**8.54**	**214**	*e*P	**P**	**06 08 43.1**	**-4.2**
JMIC				*e*S	**Sn**	**06 10 21.6**	**-3.0**
JMIC				*e*		06 38 21.2	
JMIC	**Jan Mayen**	**8.54**	**214**	*e*P	**P**	**06 08 43.1**	**-4.2**
JMIC				*e*S	**Sn**	**06 10 14.1**	**-11**
JMI	**Jan Mayen**	**8.62**	**215**	*e*P	**P**	**06 08 45.0**	**-3.3**
TRO	**Tromso**	**9.63**	**153**	*e*P	**P**	**06 08 57.4**	**-4.6**
TRO				*e*S	**Sn**	**06 10 36.5**	**-15**
TRO	**Tromso**	**9.63**	**153**	*e*P	**P**	**06 08 57.6**	**-4.4**
TRO				*e*S	**Sn**	**06 10 37.2**	**-14**
KEV	**Kevo**	**10.44**	**137**	*ep*	**P**	**06 09 08.5**	**-4.6**
ARA0	**ARCESS Array S**	**10.44**	**140**	Pn	**P**	**06 09 07.2**	**-6.0**
	baz=348,slow=14						
ARA0				Sn	**S**	**06 10 56.0**	**-15**
	baz=357,slow=22						
ARA0	**ARCESS Array S**	**10.44**	**140**	Pn	**P**	**06 09 07.2**	**-6.0**
	SNR=285						
ARA0				Sn	**S**	**06 10 56.0**	**-15**
	SNR=8.7						
ARCES	**ARCESS Array B**	**10.44**	**140**	Pn	**P**	**06 09 07.6**	**-5.6**
	comp=Z,1.1nm,0.3s,baz=349,slow=12,SNR=55						
ARCES				Sn	**S**	**06 10 59.9**	**-12**
	comp=Z,11nm,0.3s,slow=19,SNR=8.3						
ARCES				LR	LR	06 13 31.6	
	comp=Z,1μm,18.0s,baz=342,slow=39						
ARCES	**ARCESS Array B**	**10.44**	**140**	Pn	**P**	**06 09 07.6**	**-5.6**
ARCES				Sn	**S**	**06 10 59.8**	**-12**
ARE0	**ARCESS Array S**	**10.44**	**140**	*e*P	**P**	**06 09 09.9**	**-3.4**
KTK1	**Kautokeino**	**10.67**	**145**	*e*Pn	**P**	**06 09 14.1**	**-2.1**
KTK1				*e*Sn	**S**	**06 11 07.0**	**-10**
KTK1				AML	AML	06 11 39.0	
	comp=Z,23nm,0.7s						
KTK1	**Kautokeino**	**10.67**	**145**	*e*Pn	**P**	**06 09 14.1**	**-2.2**
	SNR=55						
KTK1				*e*Sn	**S**	**06 11 07.0**	**-10**
	comp=Z,23nm,0.7s,SNR=55						
LOF	**Lofoten**	**10.72**	**165**	*e*Pn	**P**	**06 09 16.3**	**-0.8**
LOF				*e*Sn	**S**	**06 11 09.5**	**-8.7**
SUMG	**Summit**	**12.29**	**265**	*e*P	**P**	**06 09 32.9**	**-5.5**
	comp=Z,54nm,0.8s						
MOR8	**Moi Rana**	**12.72**	**165**	*e*Pn	**P**	**06 09 42.2**	**-1.9**
LVZ	**Lovozero**	**13.26**	**128**	*e*P	**P**	**06 10 01.8**	**+11**
LVZ				pmax	pmax		
	comp=Z,134nm,1.2s						
LVZ				pmax	pmax		
	comp=N,62nm,1.7s						
LVZ				pmax	pmax		
	comp=E,66nm,1.7s						
LVZ				MLR	MLR		
	comp=Z,3μm,12.0s						
LVZ				MLR	MLR		
	comp=N,3μm,13.0s						
LVZ				MLR	MLR		
	comp=E,1μm,11.0s						
APA0	**Apatity Array**	**13.28**	**131**	Pn	**P**	**06 09 44.7**	**-6.7**
	baz=336,slow=10						
APA0				Sn	**S**	**06 12 03.5**	**-17**
	baz=344,slow=28						
APA	**Apatity**	**13.37**	**131⇑**	*i*P	**P**	**06 09 51.0**	**-1.7**
APA				pmax	pmax		
	comp=Z,29nm,1.0s						
APA				MLR	MLR		
	comp=Z,5μm,12.0s						
APA	**Apatity**	**13.37**	**131**	*i* P	**P**	**06 09 51.0**	**-1.7**
	comp=Z,5μm,12.0s						
NSS	**Namsos**	**14.25**	**170**	*e*Pn	**P**	**06 10 03.4**	**-0.7**
DOMB	**Dombas**	**16.67**	**175**	*e*Pn	**P**	**06 10 37.4**	**+2.0**
KAF	**Kangasniemi**	**17.68**	**148**	*ep*	**P**	**06 10 44.8**	**-3.3**
	comp=Z,27nm,1.0s						
KAF	**Kangasniemi**	**17.68**	**148**	*e*P	**P**	**06 10 44.8**	**-3.3**
KAF				pmax	pmax		
	comp=Z,27nm,1.0s						
NB2	**NORSAR Subarra**	**17.73**	**172**	P	**P**	**06 10 48.3**	**-0.3**
	baz=350,slow=12						
NB2	**NORSAR Subarra**	**17.73**	**172**	P	**P**	**06 10 46.5**	**-2.1**
	comp=Z,45nm,1.7s,baz=358,slow=11						
NOA	**NORSAR Array B**	**17.73**	**172**	P	**P**	**06 10 48.1**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=345,slow=13,SNR=14						
NOA				LR	LR	06 16 40.7	
	comp=Z,611nm,18.9s,baz=350,slow=34						
NOA	**NORSAR Array B**	**17.73**	**172**	P	**P**	**06 10 48.1**	**-0.5**
NOA				LR	LR	06 16 40.7	
NAO01	**NORSAR Array S**	**17.91**	**173**	P	**P**	**06 10 49.4**	**-1.5**
NAO01	**NORSAR Array S**	**17.91**	**173**	P	**P**	**06 10 49.4**	**-1.5**
FIA0	**FINESS Array S**	**18.31**	**149**	P	**P**	**06 10 53.1**	**-2.8**
	baz=1.6,slow=10						
FINES	**FINESS Array B**	**18.31**	**149**	P	**P**	**06 10 53.6**	**-2.4**
	comp=Z,0.9nm,0.3s,baz=0.4,slow=11,SNR=23						
FINES				LR	LR	06 17 59.1	
	comp=Z,2μm,19.3s,baz=346,slow=37						
BER	**Bergen**	**18.32**	**181**	*e*Pn	**P**	**06 10 55.5**	**-0.6**
BER				*e*		06 14 26.6	
HFS	**Hagfors**	**18.72**	**168**	P	**P**	**06 10 60.0**	**-0.9**
	comp=Z,0.5nm,0.3s,slow=8.9,SNR=51						
HFS				LR	LR	06 17 14.4	
	comp=Z,1μm,20.1s,baz=146,slow=34						
HFS	**Hagfors**	**18.72**	**168**	P	**P**	**06 10 59.6**	**-1.3**
	baz=4.0,slow=11						
KONO	**Kongsberg**	**19.08**	**175**	*e*P	**P**	**06 11 02.5**	**-2.8**
KONO	**Kongsberg**	**19.08**	**175**	*e*P	**P**	**06 11 03.7**	**-1.6**
SFJD	**Kangerlussuaq**	**19.29**	**265**	*e*P	**P**	**06 11 01.7**	**-6.0**
SFJD				pmax	pmax		
	comp=Z,23nm,0.9s						
SFJD				MLR	MLR		
	comp=Z,2μm,19.0s						
SFJD	**Kangerlussuaq**	**19.29**	**265**	*i* P	**P**	**06 11 01.7**	**-6.0**
	comp=Z,23nm,0.9s						
	comp=Z,2μm,19.0s						
PUL	**Pulkovo**	**20.42**	**144**	*e*S	**S**	**06 15 04.9**	**+1.3**
PUL				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.4						
PUL				MLR	MLR		
	comp=N,1μm,19.0s,MS4.4						
PUL				MLR	MLR		
	comp=E,819nm,17.0s,MS4.4						
RES	**Resolute Bay**	**20.84**	**313**	*e*P	**P**	**06 11 23.4**	**-1.0**
RES				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RES	**Resolute Bay**	**20.84**	**313**	*e*P	**P**	**06 11 23.4**	**-1.0**
	comp=Z,9.6nm,1.0s						
RES	**Resolute Bay**	**20.84**	**313**	*e*P	**P**	**06 11 23.4**	**-1.0**
	comp=Z,9.6nm,1.0s						
MUD	**Monsted U'grnd**	**22.28**	**176**	*e*P	**P**	**06 11 44.9**	**+5.9**
MUD				pmax	pmax		
	comp=Z,31nm,1.0s,mb4.7						
MUD	**Monsted U'grnd**	**22.28**	**176**	*e*P	**P**	**06 11 44.9**	**+5.9**
	comp=Z,31nm,1.0s,mb4.7						
MUD				*i* S	**S**	**06 15 49.5**	**+11**
MUD	**Monsted U'grnd**	**22.28**	**176**	*i* P	**P**	**06 11 44.9**	**+5.9**
	comp=Z,31nm,1.0s,mb4.7						
MUD				*i* S	**S**	**06 15 49.5**	**+11**
COP	**Copenhagen**	**23.12**	**171**	*e*P	**P**	**06 11 42.1**	**-5.0**
COP				*i* S	**S**	**06 16 00.8**	**+6.8**
COP				MLR	MLR		
	comp=Z,450nm,18.0s,MS4.0						
COP	**Copenhagen**	**23.12**	**171**	*i* P	**P**	**06 11 42.1**	**-5.0**
COP				*i* S	**S**	**06 16 00.8**	**+6.8**
	comp=Z,450nm,18.0s						
EKA	**Eskdalemuir Ar**	**23.60**	**194**	P	**P**	**06 11 54.2**	**+2.5**
	comp=Z,2.0nm,0.6s,mb3.7,baz=1.9,slow=8.6,SNR=9.0						
EKA	**Eskdalemuir Ar**	**23.60**	**194**	P	**P**	**06 11 54.2**	**+2.5**
BSD	**Bornholm Skovb**	**23.79**	**168⇑**	*i*P	**P**	**06 11 54.0**	**+0.5**
BSD				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.6						
BSD				MLR	MLR		
	comp=Z,700nm,18.0s,MS4.2						
BSD	**Bornholm Skovb**	**23.79**	**168⇑**	*i*P	**P**	**06 11 54.0**	**+0.5**
	comp=Z,21nm,0.9s,mb4.6						
BSD				*i*		06 12 16.4	
BSD				*i* S	**S**	**06 16 16.3**	**+11**
	comp=Z,700nm,18.0s						
BSEG	**Bad Segeberg**	**24.82**	**174**	*e*P	**P**	**06 12 04.6**	**+1.0**
BSEG				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.7						
MOS	**Moscow**	**25.28**	**136**	*e*P	**P**	**06 12 14.0**	**+6.1**
MOS				*e*		06 12 46.6	
MOS				*e*PPP	PPP	06 12 57.2	-0.4
MOS				MLR	MLR		
	comp=Z,1μm,12.0s,MS4.5						
MOS				MLR	MLR		
	comp=N,1μm,12.3s						
MNK	**Minsk**	**25.33**	**150**	*e*P	**P**	**06 12 06.0**	**-2.4**
SUW	**Suwalki**	**25.39**	**156**	*e*P	**P**	**06 12 08.4**	**-0.6**
FRB	**Frobisher Bay**	**25.72**	**278**	P	**P**	**06 12 11.3**	**-0.6**
	comp=N,7.8nm,0.9s,mb4.2,baz=33,slow=9.4,SNR=10						
FRB				LR	LR	06 22 18.6	
	comp=N,580nm,21.6s,MS4.1,baz=7.8,slow=36						
FRB	**Frobisher Bay**	**25.72**	**278**	P	**P**	**06 12 11.3**	**-0.7**
FRB				LR	LR	06 22 18.6	
GKP	**Gorka Klasztor**	**25.74**	**165**	*e*P	PP	06 12 44.3	-8.0
OBN	**Obninsk**	**25.74**	**138⇑**	*i*P	**P**	**06 12 14.2**	**+1.9**
OBN				*i* S	**S**	**06 16 45.2**	**+6.5**
OBN				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.5						
OBN	**Obninsk**	**25.74**	**138**	*e*P	**P**	**06 12 12.8**	**+0.5**
	comp=Z,36nm,0.9s,mb4.9						
OBN	**Obninsk**	**25.74**	**138**	*e*P	**P**	**06 12 12.8**	**+0.5**
	comp=Z,36nm,0.9s,mb4.9						
TIXI	**Tiksi**	**26.41**	**37**	*e*P	**P**	**06 12 21.3**	**+3.0**
TIXI				*e*S	**S**	**06 16 49.8**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,750nm,15.0s,MS4.4						
CLZ	**Clausthal**	**26.92**	**174**	*e*P	**P**	**06 12 23.4**	**+0.3**
	comp=Z,8.0nm,1.4s,mb4.1						
CLL	**Collm**	**27.52**	**171**	*e*P	Px	06 12 44.0	
CLL	**Collm**	**27.52**	**171**	P	**P**	**06 12 28.0**	**-0.6**
CLL				*e*		06 12 44.0	
CLL				*i*		06 13 04.3	
CLL				*e*S	**S**	**06 17 12.0**	**+4.1**
BRG	**Berggiesshubel**	**27.99**	**170**	*e*P	**P**	**06 12 33.7**	**+0.8**
BRG				*e*S	**S**	**06 17 18.0**	**+2.6**
BRG				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.5						
BRG				MLR	MLR		
	comp=N,670nm,17.2s,MS4.3						
BRG				MLR	MLR		
	comp=E,330nm,17.2s,MS4.3						
BRG				MLR	MLR		
	comp=Z,920nm,19.8s,MS4.4						
BRG	**Berggiesshubel**	**27.99**	**170**	*e*P	**P**	**06 12 33.7**	**+0.8**
	comp=Z,20nm,1.6s,mb4.5						
BRG				*e*S	**S**	**06 17 18.0**	**+2.6**
BRG				LR	LR		
	comp=Z,920nm,19.8s,MS4.4						
BRG	**Berggiesshubel**	**27.99**	**170**	*e*P	**P**

comp=Z,700nm,18.6s
UPC Upice 28.44 167 *e*P **P 06 12 37.4 +0.5**
TNS Taunus Mts 28.51 177 *e*P **P 06 12 38.1 +0.5**
TNS pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
TNS Taunus Mts 28.51 177 *e*P **P 06 12 38.1 +0.5**
comp=Z,10.0nm,1.2s,mb4.4
NKC Novy Kostel 28.58 172 *e*P **P 06 12 38.4 +0.2**
DPC Dobruska-Polom 28.61 166 *e*P **P 06 12 39.1 +0.6**
DPC *e*S **S 06 17 28.2 +2.8**
DPC AMS AMS 06 23 00.0
comp=Z,700nm,18.7s
GIVF Givet 28.63 182 *e*P **P 06 12 38.8 +0.2**
DOU Dourbes 28.63 182 P **P 06 12 40.0 +1.3**
BAIF Baives 28.67 183⇑*i*P **P 06 12 39.2 +0.1**
comp=Z,30nm,1.1s,mb4.6
BAIF Baives 28.67 183⇑*i*P **P 06 12 39.2 +0.1**
BAIF pmax pmax
comp=Z,15nm,1.1s,mb4.6
PRU Pruhonice 28.89 169 *e*P **P 06 12 43.9 +2.9**
PRU AMS AMS 06 23 20.0
comp=Z,800nm,16.8s
OJC Ojcow 28.93 162 *e*P **P 06 12 40.8 -0.5**
OJC *e*S **S 06 17 31.7 +1.2**
OJC MLR MLR 06 25 54.8
comp=Z,800nm,17.5s,MS4.4
GRA1 Grafenberg Arr 29.09 173 *e*P **P 06 12 42.6 -0.2**
comp=Z,9.0nm,0.9s,mb4.5
GRA1 LR LR
comp=Z,400nm,20.4s,MS4.0
GRF Grafenberg Arr 29.09 173 *e*P **P 06 12 42.6 -0.2**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
GRF MLR MLR
comp=Z,400nm,20.4s,MS4.0
GRF Grafenberg Arr 29.09 173 *e*P **P 06 12 42.6 -0.2**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
GRF MLR MLR
comp=Z,400nm,20.4s,MS4.0
GRF Grafenberg Arr 29.09 173 *e*P **P 06 12 42.6 -0.2**
comp=Z,9.0nm,0.9s,mb4.5
GRF LR LR
comp=Z,400nm,20.4s,MS4.0
GRF Grafenberg Arr 29.09 173 *e*P **P 06 12 42.6 -0.2**
comp=Z,9.0nm,0.9s,mb4.5
OKC Ostrava-Krasne 29.21 164 AMS AMS 06 27 40.0
comp=Z,900nm,14.3s
AKASG Malin Array Be 29.22 149 P **P 06 12 42.8 -1.2**
comp=Z,4.3nm,0.8s,mb4.2,baz=342,slow=8.9,SNR=20
MORC Moravsky Berou 29.24 165 *e*P **P 06 12 44.2 0.0**
MORC pmax pmax
comp=Z,19nm,1.6s,mb4.6
MORC Moravsky Berou 29.24 165 *e*P **P 06 12 44.2 0.0**
comp=Z,19nm,1.6s,mb4.6
MORC Moravsky Berou 29.24 165 *e*P **P 06 12 44.2 0.0**
comp=Z,19nm,1.6s,mb4.6
LVV L'vov 29.62 156 *e*P **P 06 12 46.3 -1.3**
LVV *e*S **S 06 17 43.1 +1.5**
LVV MLR MLR
comp=Z,800nm,15.0s,MS4.5
LVV L'vov 29.62 156 *e*P **P 06 12 46.3 -1.3**
comp=Z,800nm,15.0s
LVV *e*S **S 06 17 43.1 +1.5**
VRAC Vranov 29.66 166 P **P 06 12 48.3 +0.3**
comp=Z,7.8nm,0.8s,mb4.5,baz=356,slow=9.8,SNR=8.3
VRAC Vranov 29.66 166 *e*P **P 06 12 48.3 +0.3**
KWP Kalwaria 29.71 158 *e*P **P 06 12 48.2 -0.2**
KHC Kasperske Hory 29.72 170 *e*P **P 06 12 48.8 +0.3**
KHC *e*S **S 06 17 45.7 +2.6**
KHC MLR MLR
comp=Z,500nm,16.8s,MS4.2
KHC Kasperske Hory 29.72 170 *e*P **P 06 12 48.8 +0.3**
KHC *e*x x 06 13 02.5
KHC *e*S **S 06 17 45.7 +2.6**
KHC AMS AMS 06 23 40.0
comp=Z,500nm,16.8s
KHC Kasperske Hory 29.72 170 P **P 06 12 48.8 +0.3**
KHC *e*S **S 06 17 45.7 +2.6**
NIE Niedzica 29.76 161 *e*P **P 06 12 48.8 0.0**
GERES GERESS Array B 30.01 170 P **P 06 12 51.5 +0.5**
comp=Z,2.0nm,0.7s,mb3.9,baz=9.5,slow=8.1,SNR=12
GERES LR LR 06 24 27.3
comp=Z,564nm,18.2s,MS4.2,baz=345,slow=36
FLN La Foliniere 30.07 189 *e*P **P 06 12 52.2 +0.6**
FLN *e*R
comp=Z,252nm,18.0s
MEZF Maizieres J'vi 30.23 182⇑*i*P **P 06 12 53.4 +0.4**
CDF Champ du Feu 30.32 179⇑*i*P **P 06 12 54.0 +0.2**
CRVS Cervenica-Dubn 30.35 160 *e*P **P 06 13 01.2 +7.1**
CRVS Cervenica-Dubn 30.35 160 *e* **P 06 13 01.2 +7.1**
CRVS *e* 06 13 43.9
KOLS Kolonicke sedl 30.37 159 *i*P **P 06 12 54.4 +0.1**
KOLS *e* 06 13 04.6
GRR Gorron 30.45 189 *e*P **P 06 12 54.0 -1.0**
VYHS Vyhne 30.59 163 *e*P **P 06 12 55.4 -0.8**
VYHS *e* 06 13 07.6
KECS Kecovo 30.70 161 *e*P **P 06 13 09.5 +12**
KECS Kecovo 30.70 161 *e* **P 06 13 09.5 +12**
HAU Haudompre 30.72 180⇑*i*P **P 06 12 57.6 +0.3**
HAU *e*R
comp=Z,825nm,17.5s
ZST Bratislava 30.80 166 *e*P **P 06 12 58.9 +0.9**
ZST *e*L 06 28 14.4
ZST *e*L 06 54 56.0
HINF Hinteralfeld 30.91 179 *e*P **P 06 12 58.9 -0.1**
PSZ Piszkesteto 31.23 162 *e*P **P 06 13 00.8 -1.0**
PSZ pmax pmax
comp=Z,14nm,1.2s,mb4.7
PSZ Piszkesteto 31.23 162 *e*P **P 06 13 00.8 -1.0**
comp=Z,14nm,1.2s,mb4.7
PSZ Piszkesteto 31.23 162 *e*P **P 06 13 00.8 -1.0**
comp=Z,14nm,1.2s,mb4.7
INK Inuvik 31.42 333 *e*P **P 06 13 02.7 -0.6**
INK pmax pmax
comp=Z,10.0nm,1.2s
INK Inuvik 31.42 333 P **P 06 13 03.4 +0.1**
comp=Z,2.9nm,1.1s,mb4.0,baz=22,slow=12,SNR=7.1
INK Inuvik 31.42 333 *e*P **P 06 13 02.7 -0.6**
comp=Z,9.5nm,1.2s,mb4.5
INK Inuvik 31.42 333 *e*P **P 06 13 02.7 -0.6**
comp=Z,9.5nm,1.2s,mb4.5
SSF Saint Saulge 31.68 184⇑*i*P **P 06 13 05.4 -0.4**
SSF pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
SSF Saint Saulge 31.68 184⇑*i*P **P 06 13 05.4 -0.4**
comp=Z,7.1nm,1.1s,mb4.4
AVF Avril sur Loir 31.95 184⇑*i*P **P 06 13 07.9 -0.3**
comp=Z,10nm,0.8s,mb4.4
AVF Avril sur Loir 31.95 184⇑*i*P **P 06 13 07.9 -0.3**
AVF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
DAVOX Davos 31.98 175 LR LR 06 25 32.9
comp=Z,438nm,20.8s,MS4.1,baz=1.5,slow=35
SMF Signal de Mont 32.09 183 *e*P **P 06 13 08.7 -0.7**
comp=Z,9.9nm,0.9s,mb4.3
SMF Signal de Mont 32.09 183 *e*P **P 06 13 08.7 -0.7**
SMF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
CABF La Chapelle 32.12 180 *e*P **P 06 13 09.9 +0.3**
comp=Z,31nm,1.3s,mb4.7
CABF La Chapelle 32.12 180 *e*P **P 06 13 09.9 +0.3**
CABF pmax pmax
comp=Z,15nm,1.3s,mb4.7
BGF Bois d'Agland 32.19 184⇑*i*P **P 06 13 10.2 -0.1**
comp=Z,29nm,0.8s,mb4.8
BGF Bois d'Agland 32.19 184⇑*i*P **P 06 13 10.2 -0.1**
BGF pmax pmax
comp=Z,15nm,0.8s,mb4.9
MFF Saint Martin d 32.22 188 *e*P **P 06 13 10.0 -0.5**
TCF Toulx Ste Croi 32.48 185⇑*i*P **P 06 13 12.4 -0.4**
comp=Z,21nm,1.0s,mb4.6
TCF Toulx Ste Croi 32.48 185⇑*i*P **P 06 13 12.4 -0.4**
TCF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
CHKZ Chkalovo 32.98 100 *i*P **P 06 13 16.8 -0.2**
CHKZ pmax pmax
comp=Z,23nm,1.7s,mb4.8
CHKZ Chkalovo 32.98 100 *i*P **P 06 13 16.8 -0.2**
comp=Z,23nm,1.7s,mb4.8
BILL Bilibino 33.09 14 *e*P **P 06 13 19.0 +1.1**
BILL pmax pmax
comp=Z,7.0nm,1.6s,mb4.3
BILL Bilibino 33.09 14 *e*P **P 06 13 19.0 +1.1**
comp=Z,7.0nm,1.6s,mb4.3

LPL La Plagne 33.21 179⇑*i*P **P 06 13 20.2 +1.0**
comp=Z,19nm,1.1s,mb4.7
LPL La Plagne 33.21 179⇑*i*P **P 06 13 20.2 +1.0**
LPL pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
LPG La Plagne 33.23 179⇑*i*P **P 06 13 20.5 +1.2**
comp=Z,20nm,1.0s,mb4.7
LPG La Plagne 33.23 179⇑*i*P **P 06 13 20.5 +1.2**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
RJF Les Rejaudoux 33.47 186⇑*i*P **P 06 13 21.3 -0.1**
comp=Z,13nm,0.9s,mb4.6
RJF *e*R
comp=Z,511nm,18.0s
RJF Les Rejaudoux 33.47 186⇑*i*P **P 06 13 21.3 -0.1**
RJF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
RJF MLR MLR
comp=Z,510nm,18.0s,MS4.3
BVA0 Borovoye Array 33.55 100 P **P 06 13 22.3 +0.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVA0 Borovoye Array 33.55 100 P **P 06 13 22.3 +0.3**
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 33.55 100 P **P 06 13 22.3 +0.3**
comp=Z,3.9nm,0.5s,mb4.6,baz=332,slow=10,SNR=35
SCHQ Schefferville 33.61 270 P **P 06 13 21.3 -1.3**
comp=Z,2.5nm,0.8s,mb4.2,baz=26,slow=10,SNR=5.0
SCHQ LR LR 06 27 23.9
comp=Z,884nm,19.0s,MS4.5,baz=21,slow=37
ORIF Oris-en-Rattie 33.81 180 *e*P **P 06 13 24.8 +0.4**
comp=Z,31nm,1.2s,mb4.8
ORIF *e*R
comp=Z,759nm,18.2s
LFF La Frestale 33.85 187 *e*P **P 06 13 24.8 0.0**
VIVF Saint-Julien-l 33.88 182 *e*P **P 06 13 25.3 +0.3**
MBDF Montbardon 34.00 179 *e*P **P 06 13 27.1 +1.1**
comp=Z,35nm,1.3s,mb4.8
MBDF Montbardon 34.00 179 *e*P **P 06 13 27.1 +1.1**
MBDF pmax pmax
comp=Z,17nm,1.3s,mb4.8
NVS Novosibirsk 34.38 87 *e*P **P 06 13 29.0 -0.2**
NVS *e* 06 15 08.5
NVS pmax pmax
comp=N,35nm,1.7s
NVS pmax pmax
comp=Z,81nm,1.7s,mb5.4
NVS pmax pmax
comp=E,6.0nm,1.3s
LASF Ste Croix 34.66 183 *e*P **P 06 13 32.2 +0.4**
YKA Yellowknife Ar 34.85 316 P **P 06 13 32.6 -0.5**
comp=E,1.3nm,1.0s,mb3.8,baz=13,slow=8.2,SNR=16
YKA PcP PcP 06 16 05.4 -1.0
comp=E,0.4nm,0.6s,baz=7.5,slow=3.0,SNR=9.1
YKA LR LR 06 27 30.6
comp=E,1μm,19.3s,MS4.7,baz=350,slow=36
YKA Yellowknife Ar 34.85 316 PcP PcP 06 16 05.4 -1.0
SBF Sospel 34.87 179 *e*P **P 06 13 33.7 +0.2**
LMR La Mourre 35.39 180 *e*P **P 06 13 38.0 0.0**
comp=E,24nm,1.1s,mb4.8
LMR La Mourre 35.39 180 *e*P **P 06 13 38.0 0.0**
LMR pmax pmax
comp=Z,12nm,1.0s,mb4.8
ZAL Zalesovo 35.54 86 P **P 06 13 38.5 -0.7**
comp=Z,4.0nm,0.9s,mb4.3,baz=139,slow=8.7,SNR=24
ZAL LR LR 06 32 08.0
comp=Z,2μm,18.1s,MS4.9,baz=120,slow=43
YAK Yakutsk 35.64 42 *i*P **P 06 13 42.5 +2.6**
YAK pmax pmax
comp=Z,14nm,0.6s,mb5.1
SJPF Ste Jean 35.73 189 *e*P **P 06 13 40.7 -0.2**
EPF Esparros 35.77 187 *e*P **P 06 13 41.0 -0.2**
comp=Z,36nm,1.1s,mb4.9
EPF Esparros 35.77 187 *e*P **P 06 13 41.0 -0.2**
EPF pmax pmax
comp=Z,18nm,1.1s,mb4.9
COLA College 35.92 341 *i*P **P 06 13 55.8 +14**
ETSF Etsaut 35.93 189 *e*P **P 06 13 42.7 +0.2**
comp=Z,17nm,1.0s,mb4.6
ETSF Etsaut 35.93 189 *e*P **P 06 13 42.7 +0.2**
ETSF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ANN Anapa 35.97 141 *e*P **P 06 13 46.4 +3.5**
ANN *e*S **S 06 19 19.3 -1.4**
ANN pmax pmax
comp=Z,72nm,1.3s,mb5.4
ANN MLR MLR
comp=N,941nm,20.0s,MS4.6
ANN MLR MLR
comp=E,639nm,20.0s,MS4.6
ANN MLR MLR
comp=Z,1μm,20.0s,MS4.7
ANN Anapa 35.97 141 *e*P **P 06 13 46.4 +3.5**
comp=Z,72nm,1.3s,mb5.4
SHRR Shira 36.07 80 *i*P **P 06 13 41.3 -2.3**
PGF Pioggiola 36.19 177 *e*P **P 06 13 44.8 0.0**
GOF Gofitskoye 36.47 134⇓*i*P **P 06 13 55.2 +8.2**
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.1
GOF MLR MLR
comp=Z,2μm,13.0s,MS5.0
BOD Bodaibo 37.30 57 *e*P **P 06 13 53.5 -0.4**
BOD pmax pmax
comp=Z,12nm,1.5s,mb4.5
BOD Bodaibo 37.30 57 *e*P **P 06 13 53.5 -0.4**
comp=Z,12nm,1.5s,mb4.5
KURK Kurchatov 37.36 93 *i*P **P 06 13 54.6 +0.1**
KURK *i* 06 13 54.8
KURK pmax pmax
comp=Z,16nm,1.1s,mb4.8
KURK Kurchatov 37.36 93 *e*P **P 06 13 54.5 0.0**
comp=Z,47nm,1.2s,mb5.2
KURK Kurchatov 37.36 93 *i*P **P 06 13 54.6 +0.1**
comp=Z,16nm,1.1s,mb4.8
SOC Sochi 37.46 139 *e*P **P 06 13 57.4 +2.0**
SOC *e* 06 15 21.1
SOC *e* 06 16 19.2
SOC *e*S **S 06 19 39.5 -4.0**
SOC *e*SS SS 06 22 10.7 -5.1
SOC *e* 06 24 11.2
SOC pmax pmax
comp=Z,14nm,0.6s,mb5.0
SOC pmax pmax
comp=N,18nm,0.5s
SOC pmax pmax
comp=E,5.0nm,0.3s
SOC MLR MLR
comp=N,1μm,19.0s,MS4.8
SOC MLR MLR
comp=E,818nm,19.0s,MS4.8
SOC MLR MLR
comp=Z,1μm,19.0s,MS4.7
SOC Sochi 37.46 139 *e*P **P 06 13 57.4 +2.0**
comp=Z,18nm,0.5s,mb5.2
KIV Kislovodsk 37.50 135 *i*P **P 06 13 58.8 +3.1**
KIV pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
KIV Kislovodsk 37.50 135 *i*P **P 06 13 58.8 +3.1**
comp=Z,10.0nm,1.3s,mb4.5
ZEI Tsey 38.83 134 *e*P **P 06 14 07.6 +0.7**
ZEI *i* *PP pP 06 14 15.9 +6.0
ZEI *i* 06 15 39.5
ZEI pmax pmax
comp=Z,4.0nm,1.4s,mb4.0
ZEI Tsey 38.83 134 *e*P **P 06 14 07.6 +0.7**
comp=Z,4.0nm,1.4s,mb4.0
ESDC Sonseca Array 39.27 192 P **P 06 14 11.3 +0.7**
comp=Z,1.1nm,0.5s,mb3.9,baz=1.0,slow=9.1,SNR=6.2
CLNS Chul'man 39.97 49 *e*P **P 06 14 14.1 -2.1**
CLNS *e**PP pP 06 14 21.3 +2.1
CLNS *e* 06 16 19.8
CLNS *e* 06 20 10.3
CLNS *e*SS SS 06 23 41.3 +30
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=Z,20nm,0.9s,mb4.8
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS smax
comp=N,321nm,6.8s
CLNS smax

comp=Z,168nm,5.5s
CLNS smax
comp=E,92nm,4.3s
CLNS MLR MLR
comp=N,600nm,13.0s
CLNS MLR MLR
comp=Z,900nm,13.0s,MS4.8
CLNS Chul'man 39.97 49 *e*PcP PcP 06 16 19.8 -2.3
MA2 Magadan 40.43 27 *i*P **P 06 14 23.5 +3.5**
MA2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
BRTR Keskin Array B 40.54 147 P **P 06 14 22.7 +1.6**
comp=Z,2.2nm,0.9s,mb3.8,baz=350,slow=7.5,SNR=5.1
MOY Mondy 40.84 72 *e*P **P 06 14 25.1 +1.7**
MOY pmax pmax
comp=Z,38nm,1.5s,mb4.8
MOY Mondy 40.84 72 *e*P **P 06 14 25.1 +1.7**
comp=Z,38nm,1.5s,mb4.8
TLY Talaya 41.32 69 *e*P **P 06 14 27.6 +0.2**
TLY *e*S **S 06 20 40.1 -1.4**
TLY pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
TLY MLR MLR
comp=Z,623nm,15.0s,MS4.6
TLY Talaya 41.32 69 *e*P **P 06 14 28.2 +0.8**
comp=Z,16nm,1.6s,mb4.4
TLY Talaya 41.32 69 *e*P **P 06 14 27.6 +0.2**
comp=Z,6.0nm,1.0s,mb4.2
TLY *e*S **S 06 20 40.1 -1.4**
comp=Z,623nm,15.0s
MK02 Makanchi Array 41.86 92 P **P 06 14 31.8 +0.1**
MK02 pmax pmax
comp=Z,18nm,1.0s,mb4.7
MK02 Makanchi Array 41.86 92 P **P 06 14 31.8 +0.1**
comp=Z,18nm,1.0s,mb4.7
MALT Malatya 42.49 142 *e*P **P 06 14 38.5 +1.6**
MALT pmax pmax
comp=Z,22nm,1.1s,mb4.7
MALT Malatya 42.49 142 *e*P **P 06 14 38.5 +1.5**
comp=Z,22nm,1.1s,mb4.7
MALT Malatya 42.49 142 *e*P **P 06 14 38.5 +1.6**
comp=Z,22nm,1.1s,mb4.7
ULM Lac du Bonnet 43.56 294 P **P 06 14 45.6 +0.1**
comp=Z,5.2nm,0.9s,mb4.3,baz=27,slow=5.9,SNR=9.4
ULM LR LR 06 32 11.9
comp=Z,466nm,19.7s,MS4.4,baz=19,slow=35
EDM Edmonton 43.61 311 *e*P **P 06 14 46.8 +0.9**
FRU Bishkek 44.13 101 *e*P **P 06 14 53.0 +2.8**
FRU pmax pmax
comp=Z,40nm,1.4s,mb5.0
FRU MLR MLR
comp=Z,2μm,18.0s,MS5.0
FRU Bishkek 44.13 101 *e*P **P 06 14 53.0 +2.8**
comp=Z,2μm,18.0s
AAK Ala-Archa 44.30 101 *i*P **P 06 14 50.8 -0.8**
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.1
AAK Ala-Archa 44.30 101 *e*P **P 06 14 52.7 +1.1**
comp=Z,20nm,1.3s,mb4.7
AAK Ala-Archa 44.30 101 *i*P **P 06 14 50.8 -0.8**
comp=Z,5.0nm,1.3s,mb4.1
EYMN Ely 44.97 290 *e*P **P 06 14 57.2 +0.2**
comp=Z,5.9nm,0.8s,mb4.5
SONM Songino Array 45.52 68 P **P 06 15 01.5 +0.2**
comp=Z,0.7nm,0.5s,mb3.9,baz=344,slow=9.0,SNR=6.6
SONM LR LR 06 35 35.5
comp=Z,2μm,19.8s,MS4.9,baz=168,slow=38
SONM Songino Array 45.52 68 P **P 06 15 01.5 +0.2**
SONM LR LR 06 35 35.5
ULN Ulaanbaatar 45.62 68 *e*P **P 06 15 02.4 +0.4**
ULN pmax pmax
comp=Z,20nm,1.1s,mb5.0
ULN Ulaanbaatar 45.62 68 *e*P **P 06 15 02.4 +0.4**
comp=Z,20nm,1.1s,mb5.0
ULN Ulaanbaatar 45.62 68 *e*P **P 06 15 02.4 +0.4**
comp=Z,20nm,1.1s,mb5.0
SADO Sadowa 45.64 277 LR LR 06 34 02.4
comp=Z,578nm,19.2s,MS4.5,baz=29,slow=36
WMQ Urumqi 45.76 87⇓P **P 06 15 05.5 +2.2**
WMQ AP pP 06 15 10.0 +3.7
WMQ XP sP 06 15 12.5 +5.0
WMQ PCP PcP 06 16 43.5 +2.0
WMQ PP PP 06 16 53.2 +2.2
WMQ S **S 06 21 48.1 +2.1**
WMQ XS 06 21 55.6
WMQ AMB AMB
comp=Z,13nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,126nm,5.6s
WMQ LR LR
comp=N,2μm,16.1s,MS5.4
WMQ LR LR
comp=E,3μm,15.0s,MS5.4
WMQ LR LR
comp=Z,1μm,14.6s,MS4.9
HIA Hailar 46.48 56 P **P 06 15 09.8 +0.9**
HIA pmax pmax
comp=Z,8.0nm,0.3s
HIA Hailar 46.48 56 P **P 06 15 09.8 +1.0**
comp=Z,7.5nm,0.3s,mb5.1
HIA Hailar 46.48 56 P **P 06 15 09.8 +0.9**
comp=Z,7.5nm,0.3s,mb5.1
PET Petropavlovsk 47.58 22 *e*P **P 06 15 26.2 +8.7**
PET *e* 06 22 20.0
PET MLR MLR
comp=Z,200nm,17.0s,MS4.2
KSH Kashi 47.59 101 *e*P **P 06 15 20.0 +2.2**
KSH *e*AP pP 06 15 24.0 +3.2
KSH *e*XP sP 06 15 27.0 +4.9
KSH *e*PCP PcP 06 16 49.1 +1.1
KSH *e*PP PP 06 17 11.1 +2.3
KSH *e*PPP PPP 06 18 00.1 +2.6
KSH *e*SCP 06 20 41.1
KSH *e*PCS 06 20 43.2
KSH *e*S **S 06 22 15.3 +3.2**
KSH *e*XS 06 22 22.0
KSH *e*SCS ScS 06 25 10.0 +0.9
KSH *e*SS SS 06 25 38.0 +3.8
KSH AMB AMB
comp=Z,250nm,3.1s
KSH LR LR
comp=N,1μm,9.7s
KSH LR LR
comp=E,2μm,11.3s
KLR Kul'dur 48.36 46 *e*P **P 06 15 23.4 -0.3**
ALLY Alegheny Colle 48.84 277 *e*P **P 06 15 26.4 -1.0**
ALLY Alegheny Colle 48.84 277 *e*P **P 06 15 26.4 -1.0**
MSO Missoula 49.92 309 *e*P **P 06 15 35.6 -0.1**
comp=E,15nm,1.1s,mb4.9
MSO Missoula 49.92 309 *e*P **P 06 15 35.6 -0.1**
comp=E,15nm,1.1s,mb4.9
MCMT McKenzie Canyo 51.70 308 *e*P **P 06 15 49.4 +0.1**
MCMT McKenzie Canyo 51.70 308 *e*P **P 06 15 49.4 +0.1**
GTA Gaotai 52.40 77 P **P 06 15 54.7 +0.1**
GTA AP pP 06 16 02.2 +4.5
GTA XP sP 06 16 04.9 +6.0
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.3
GTA AMB AMB
comp=Z,112nm,8.7s
GTA LR LR
comp=N,1μm,20.2s,MS5.2
GTA LR LR
comp=E,2μm,19.8s,MS5.2
GTA LR LR
comp=Z,1μm,15.6s,MS5.1
MDJ Mudanjiang 52.56 49 P **P 06 15 53.5 -2.2**
MDJ PCP PcP 06 17 04.6 -1.5
MDJ SCP 06 21 01.6
MDJ PCS 06 21 03.0
MDJ S **S 06 23 18.8 -2.2**
MDJ SCS ScS 06 25 43.3 +0.8
MDJ SS SS 06 26 58.3 +0.3
MDJ AMB AMB
comp=Z,4.0nm,1.4s,mb4.2
MDJ AMB AMB
comp=Z,81nm,5.2s
MDJ LR LR
comp=N,439nm,21.9s,MS4.9
MDJ LR LR
comp=E,904nm,17.5s,MS4.9
MDJ LR LR
comp=Z,510nm,23.0s
CN2 Changchun 52.72 53 *e*P **P 06 15 56.2 -0.7**
CN2 *e*S **S 06 23 18.4 -4.7**

CN2					AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.8								
CN2					AMB	AMB			
	comp=Z,200nm,5.0s								
CN2					LR	LR			
	comp=N,800nm,18.0s,MS5.2								
CN2					LR	LR			
	comp=E,2μm,18.0s,MS5.2								
CN2					LR	LR			
	comp=Z,1μm,19.0s,MS4.9								
PDAR	**Pinedale Array**	**53.18**	**304**	P	**P**		**06 16 01.0**	**+0.6**	
	comp=Z,0.4nm,0.8s,mb3.4,baz=22,slow=4.9,SNR=3.4								
PDAR				LR	LR		06 38 07.0		
	comp=Z,429nm,20.5s,MS4.5,baz=207,slow=36								
HLID	**Hailey**	**53.18**	**309**	*eP*	**P**		**06 16 00.6**	**+0.2**	
	comp=Z,2.6nm,1.0s,mb4.1								
HLID	**Hailey**	**53.18**	**309**	*eP*	**P**		**06 16 00.6**	**+0.2**	
	comp=Z,2.6nm,1.0s,mb4.1								
SNY	**Shenyang**	**54.34**	**55**	⇑P	**P**		**06 16 14.9**	**+6.0**	
SNY				S	**S**		**06 23 50.3**	**+5.1**	
SNY				AMB	AMB				
	comp=Z,20nm,1.2s,mb4.9								
SNY				LR	LR				
	comp=N,560nm,19.1s								
SNY				LR	LR				
	comp=Z,570nm,16.7s,MS4.7								
LZH	**Lanzhou**	**56.40**	**75**	⇓P	**P**		**06 16 30.2**	**+6.3**	
LZH				AMB	AMB				
	comp=Z,33nm,1.5s,mb5.1								
LZH				AMB	AMB				
	comp=Z,98nm,4.2s								
LZH				LR	LR				
	comp=N,446nm,13.0s								
LZH				LR	LR				
	comp=Z,587nm,17.2s,MS4.7								
SDCO	**Great Sand Dun**	**57.38**	**299**	*eP*	**P**		**06 16 30.8**	**-0.2**	
	comp=Z,3.6nm,0.8s,mb4.5								
GOGA	**Godfrey**	**57.46**	**277**	P	**P**		**06 16 29.9**	**-1.6**	
MSU	**Marysvale**	**57.76**	**305**	*eP*	**P**		**06 16 34.2**	**+0.7**	
MIAR	**Mount Ida**	**58.32**	**287**	*eP*	**P**		**06 16 35.7**	**-1.8**	
MIAR				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.7								
MIAR	**Mount Ida**	**58.32**	**287**	*eP*	**P**		**06 16 35.7**	**-1.8**	
	comp=Z,6.1nm,0.8s,mb4.7								
MIAR	**Mount Ida**	**58.32**	**287**	*eP*	**P**		**06 16 35.7**	**-1.8**	
	comp=Z,6.0nm,0.8s,mb4.7								
NVAR	**Mina Array Bea**	**58.80**	**311**	P	**P**		**06 16 40.5**	**-0.3**	
	comp=Z,0.8nm,0.9s,mb3.7,baz=34,slow=4.0,SNR=4.7								
NVAR				LR	LR		06 42 53.3		
	comp=Z,426nm,19.3s,MS4.6,slow=37								
XAN	**Xi'an**	**59.35**	**70**	P	**P**		**06 16 51.4**	**+6.7**	
XAN				AMB	AMB				
	comp=Z,9.0nm,1.4s,mb4.6								
LSA	**Lhasa**	**60.10**	**89**	P	**P**		**06 16 52.0**	**+2.1**	
LSA	**Lhasa**	**60.10**	**89**	P	**P**		**06 16 50.2**	**+0.3**	
LSA				pmax	pmax				
	comp=Z,31nm,1.4s,mb5.2								
LSA	**Lhasa**	**60.10**	**89**	P	**P**		**06 16 50.1**	**+0.3**	
	comp=Z,31nm,1.4s,mb5.1								
LSA	**Lhasa**	**60.10**	**89**	P	**P**		**06 16 50.2**	**+0.3**	
	comp=Z,31nm,1.4s,mb5.2								
ANMO	**Albuquerque**	**60.28**	**299**	P	**P**		**06 16 51.0**	**-0.1**	
	comp=Z,0.8nm,0.6s,mb3.9,baz=37,slow=9.1,SNR=4.8								
ANMO				LR	LR		06 41 54.8		
	comp=Z,567nm,21.6s,MS4.7,slow=35								
ANMO	**Albuquerque**	**60.28**	**299**	P	**P**		**06 16 51.0**	**-0.1**	
ANMO				LR	LR		06 41 54.8		
CPRX	**Cap Rock**	**61.69**	**296**	P	**P**		**06 16 60.0**	**-0.7**	
CLNB	**Carlsbad**	**62.44**	**296**	*eP*	**P**		**06 17 05.0**	**-0.7**	
NJ2	**Nanjing**	**63.08**	**62**	*eP*	**P**		**06 17 11.1**	**+1.2**	
NJ2				AP	pP		06 17 21.1	+8.1	
NJ2				XP	sP		06 17 25.1	+11	
NJ2				S	**S**		**06 25 34.0**	**-5.0**	
NJ2				XS			06 25 52.0		
NJ2				AMB	AMB				
	comp=Z,20nm,0.9s,mb5.2								
NJ2				AMB	AMB				
	comp=Z,170nm,5.3s								
NJ2				LR	LR				
	comp=N,2μm,19.9s,MS5.8								
NJ2				LR	LR				
	comp=E,6μm,19.4s,MS5.8								
NJ2				LR	LR				
	comp=Z,1μm,17.7s,MS5.1								
SSE	**Sheshan**	**64.42**	**60**	*eP*	**P**		**06 17 18.8**	**+0.2**	
SSE				AP	pP		06 17 28.3	+6.6	
SSE				AMB	AMB				
	comp=Z,34nm,0.7s,mb5.5								
SSE				AMB	AMB				
	comp=Z,50nm,4.8s								
SSE				LR	LR				
	comp=N,166nm,20.7s								
SSE				LR	LR				
	comp=Z,741nm,19.8s,MS4.9								
SSE	**Sheshan**	**64.42**	**60**	*eP*	**P**		**06 17 18.8**	**+0.2**	
	comp=Z,34nm,0.7s,mb5.5								
SSE				pP	pP		06 17 28.3	+6.6	
SSE				S	**S**		**06 25 46.3**	**-9.3**	
SSE				sS			06 26 02.6		
SSE				SS	SS		06 30 21.7	+14	
SSE				LR	LR				
	comp=Z,740nm,19.8s,MS4.9								
TXAR	**Lajitas Array**	**65.26**	**295**	P	**P**		**06 17 23.8**	**-0.3**	
	comp=Z,1.7nm,0.7s,mb4.2,baz=41,slow=5.0,SNR=23								
TXAR				LR	LR		06 45 48.8		
	comp=Z,336nm,18.7s,MS4.6,baz=235,slow=36								
GYA	**Guiyang**	**66.29**	**74**	P	**P**		**06 17 34.5**	**+3.8**	
GYA				AMB	AMB				
	comp=Z,10.0nm,0.6s,mb5.0								
SJG	**San Juan**	**68.90**	**256**	LR	LR		06 48 12.2		
	comp=Z,174nm,18.4s,MS4.3,baz=329,slow=36								
DBIC	**Dimbokro**	**72.13**	**192**	LR	LR		06 50 53.7		
	comp=Z,188nm,18.1s,MS4.4,baz=349,slow=37								
SDV	**Santo Domingo**	**78.76**	**259**	P	**P**		**06 18 45.2**	**+0.7**	
	comp=Z,2.6nm,0.3s,mb4.6,baz=23,slow=7.7,SNR=6.3								
SDV	**Santo Domingo**	**78.76**	**259**	*eP*	**P**		**06 18 45.8**	**+1.3**	
	comp=Z,6.4nm,0.8s,mb4.6								
KMBO	**Kilima Mbogo**	**81.30**	**149**	LR	LR		07 01 33.0		
	comp=Z,125nm,19.2s,MS4.3,baz=88,slow=40								
ROSC	**El Rosal**	**83.41**	**262**	LR	LR		06 56 43.5		
	comp=Z,158nm,19.9s,MS4.4,baz=178,slow=36								
GUMO	**Guam**	**85.19**	**40**	LR	LR		06 57 54.7		
	comp=Z,164nm,18.1s,MS4.5,baz=21,slow=36								
BDFB	**Brasilia**	**98.67**	**232**	P	**P**		**06 20 23.2**	**+2.5**	
	comp=Z,0.9nm,0.5s,mb4.6,baz=255,slow=24,SNR=4.3								
BDFB				LR	LR		07 01 41.1		
	comp=Z,148nm,18.5s,MS4.5,baz=8.8,slow=33								
PPT	**Papeete**	**117.84**	**334**	*e*SS	SS		06 43 20.0	+25	
PPT				*e*LR	LR		07 01 27.0		
	comp=Z,394nm,37.2s								
RKT	**Rikitea**	**121.69**	**317**	*e*LR	LR		07 03 41.2		
	comp=Z,110nm,24.5s								
TBI	**Tubuai**	**123.56**	**333**	*e*LR	LR		07 04 10.2		
	comp=Z,232nm,38.2s								

CASC ***02*** *06:18:36.8±1.9, 12.11N×87.31W, h52km±29km, MD4.4, ML4.6, mb4.3(NEIC)*
IDC ***02*** *06:18:39.2±1.7, 12.33N×87.04W, h83km±17km, mb3.9/14, mb1 4.1/16, mb1mx3.8/27, mbtmp4.3/16, Error ellipse: s-maj=22.6km s-min=11.3km az=56.0*
BJI ***02*** *06:18:40.1, 12.30N×87.10W, h93km, mB4.6*
NEIC ***02*** *06:18:40.1±1.3, 12.26N×87.11W, h94km±14km, mb4.3/6, Error ellipse: s-maj=18.5km s-min=7.5km az=49.0*
ISC 02 06:18:36.5±0.4, 12.19N±0.05×87.25W±0.03, h74km±3km, h61km±3.0km; pP-P, n76, σ1º00/94, mb4.2/19, 13C-12D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.42**	**57**	⇓*iP*	**P**	**06 18 48.6**	**-0.5**
CRIN	**San Cristobal**	**0.55**	**21**	⇓*eP*	**P**	**06 18 50.6**	**+0.2**
CRIN				*e*S	**S**	**06 19 00.9**	**+0.4**
TEL3	**Telica 3**	**0.55**	**46**	⇓*iP*	**P**	**06 18 50.4**	**0.0**
TELN	**Telica**	**0.58**	**45**	⇓*eP*	**P**	**06 18 50.6**	**-0.1**
TELN				*e*S	**S**	**06 19 00.5**	**-0.6**
MIRN	**Miramar**	**0.59**	**65**	⇑*iP*	**P**	**06 18 50.8**	**+0.1**
MIRN				*e*P		06 18 50.8	
CNGN	**Cerro Negro**	**0.62**	**60**	⇓*eP*	**P**	**06 18 51.1**	**-0.1**
CNGN				*e*S	**S**	**06 19 01.8**	**-0.1**
MOMJ	**Momotombo**	**0.73**	**73**	⇑*eP*	**P**	**06 18 52.0**	**-0.3**
APYN	**Apoyeque**	**0.89**	**87**	⇓*iP*	**P**	**06 18 54.1**	**+0.1**
XAVN	**Gruta Xavier**	**0.91**	**92**	⇑*iP*	**P**	**06 18 54.4**	**+0.1**
MGAN	**Managua**	**0.98**	**92**	⇑*iP*	**P**	**06 18 55.3**	**0.0**
MGAN				*e*S	**S**	**06 19 09.3**	**-0.1**
	comp=N,29μm,0.3s						
TICN	**Ticuantepe**	**1.01**	**99**	⇑*iP*	**P**	**06 18 55.8**	**+0.1**
WILN	**Americas 2**	**1.04**	**91**	⇑*iP*	**P**	**06 18 56.2**	**+0.1**
WILN				*e*S	**S**	**06 19 10.4**	**-0.2**
MASN	**Masaya**	**1.10**	**100**	⇑*eP*	**P**	**06 18 56.5**	**-0.3**
MASN				*e*S	**S**	**06 19 11.1**	**-0.7**
APON	**Apoyo**	**1.19**	**103**	⇑*eP*	**P**	**06 18 57.7**	**-0.3**
PYTN	**Playitas**	**1.22**	**73**	⇑*eP*	**P**	**06 18 58.5**	**+0.2**
PYTN				*e*S	**S**	**06 19 15.5**	**+0.9**
CNCH	**Conchagua**	**1.22**	**332**	⇓*iP*	**P**	**06 18 58.7**	**+0.4**
CNCH				*e*S	**S**	**06 19 15.7**	**+1.0**
BLLM	**Bellamira**	**1.57**	**323**	⇓*eP*	**P**	**06 19 03.1**	**0.0**
BLLM				*e*S	**S**	**06 19 23.2**	**+0.5**
VSM	**San Miguel**	**1.58**	**321**	⇓*eP*	**P**	**06 19 03.8**	**+0.5**
VSM				*e*S	**S**	**06 19 23.9**	**+0.9**
CONN	**Concepcion**	**1.71**	**111**	⇑*iP*	**P**	**06 19 04.5**	**-0.5**
CONN				*e*S	**S**	**06 19 25.2**	**-0.7**
CAHU	**Cacacuatique**	**1.83**	**329**	⇑*eP*	**P**	**06 19 07.5**	**+1.0**
CAHU				*e*S	**S**	**06 19 31.6**	**+2.9**
SNVI	**San Vicente**	**2.10**	**313**	*eP*	**P**	**06 19 10.0**	**-0.2**
SNVI				*e*S	**S**	**06 19 35.0**	**-0.1**
LCBS	**La Ceiba**	**2.23**	**311**	⇓*eP*	**P**	**06 19 12.0**	**-0.1**
LCBS				*e*S	**S**	**06 19 38.0**	**-0.4**
LFRS	**El Faro**	**2.27**	**309**	⇓*eP*	**P**	**06 19 12.5**	**-0.2**
LFRS				*e*S	**S**	**06 19 37.7**	**-1.7**
LBRS	**Las Brisas**	**2.33**	**312**	*eP*	**P**	**06 19 13.7**	**+0.2**
LBRS				*e*S	**S**	**06 19 39.6**	**-1.3**
LFU	**La Fuente**	**2.39**	**311**	⇑*eP*	**P**	**06 19 14.3**	**0.0**
LFU				*e*S	**S**	**06 19 40.5**	**-2.0**
SNET	**Serv Nac Est T**	**2.44**	**308**	*i*	**S**	**06 19 48.5**	**+4.8**
	comp=Z,3μm,0.5s						
BOQS	**Boqueron**	**2.50**	**308**	⇓*eP*	**P**	**06 19 15.6**	**-0.4**
BOQS				*e*S	**S**	**06 19 44.8**	**-0.6**
SBLS	**San Blas**	**2.83**	**306**	*eP*	**P**	**06 19 20.4**	**-0.2**
SBLS				*e*S	**S**	**06 19 54.1**	**+0.4**
SNJE	**San Jose**	**2.84**	**306**	*eP*	**P**	**06 19 21.1**	**+0.5**
SNJE				*e*S	**S**	**06 19 55.5**	**+1.8**
RTR	**El Retiro**	**2.88**	**306**	*eP*	**P**	**06 19 21.3**	**0.0**
RTR				*e*S	**S**	**06 19 53.6**	**-1.4**
JTS	**JuntasAbangare**	**2.94**	**130**	Pn	**P**	**06 19 21.1**	**-1.0**
	comp=Z,1μm,0.5s						
JTS	**JuntasAbangare**	**2.94**	**130**	P	**P**	**06 19 21.2**	**-0.9**
	comp=Z,24nm,0.3s,baz=317,slow=19,SNR=77						
JTS				S	**S**	**06 19 57.4**	**+1.1**
	comp=Z,93nm,0.3s,baz=303,slow=18,SNR=9.2						
JTS	**JuntasAbangare**	**2.94**	**130**	*e*Pn	**P**	**06 19 21.1**	**-1.0**
RBDL	**Robledal**	**3.05**	**309**	*eP*	**P**	**06 19 23.7**	**+0.1**
RBDL				*e*S	**S**	**06 19 57.5**	**-1.4**
TEIG	**Tepich**	**8.05**	**353**	*eP*	**P**	**06 20 34.2**	**+1.3**
ROSC	**El Rosal**	**14.70**	**119**	P	**P**	**06 22 05.4**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=266,slow=21,SNR=2.1						
OTAV	**Otavalo**	**14.74**	**143**	P	**P**	**06 22 05.4**	**+2.9**
	comp=Z,7.4nm,1.2s						
SDV	**Santo Domingo**	**16.67**	**100**	P	**P**	**06 22 27.4**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=326,slow=5.8,SNR=12						
SJG	**San Juan**	**21.20**	**71**	P	**P**	**06 23 17.7**	**-0.3**
	comp=Z,8.9nm,0.4s,mb4.5,baz=244,slow=7.8,SNR=7.0						
PCRV	**Puerto La Cruz**	**22.28**	**93**	P	**P**	**06 23 29.9**	**+1.2**
	comp=Z,12nm,0.5s,mb4.5,baz=239,slow=3.8,SNR=16						
TXAR	**Lajitas Array**	**22.90**	**321**	P	**P**	**06 23 36.4**	**+1.7**
	comp=Z,5.1nm,0.7s,mb4.0,baz=137,slow=9.8,SNR=48						
TXAR				PcP	PcP	06 27 25.0	+0.2
	comp=Z,0.8nm,0.6s,baz=158,slow=6.7,SNR=3.9						
CLNB	**Carlsbad**	**25.15**	**325**	*eP*	**P**	**06 23 57.6**	**+1.2**
CPRX	**Cap Rock**	**25.73**	**326**	*eP*	**P**	**06 24 01.6**	**-0.2**
AMTX	**Amarillo**	**26.12**	**332**	*e*Pg	**P**	**06 24 05.8**	**+0.4**
	comp=Z,5.1nm,0.5s,mb4.2						
ANMO	**Albuquerque**	**28.59**	**326**	P	**P**	**06 24 29.4**	**+1.6**
	comp=Z,0.4nm,0.4s,mb3.4,baz=148,slow=9.9,SNR=4.8						
SAML	**Samuel**	**31.83**	**130**	*eP*	**P**	**06 24 53.3**	**-3.4**
	comp=Z,6.2nm,0.6s,mb4.5						
PV10	**Paradox Valley**	**32.51**	**327**	*eP*	**P**	**06 25 02.0**	**-0.3**
SADO	**Sadowa**	**33.20**	**11**	P	**P**	**06 25 07.2**	**-1.1**
	comp=Z,2.7nm,0.7s,mb4.2,baz=208,slow=8.8,SNR=6.3						
SRU	**San Rafael**	**33.84**	**326**	*eP*	**P**	**06 25 14.6**	**+0.8**
ARUT	**Antelope Range**	**34.60**	**322**	*eP*	**P**	**06 25 21.5**	**+1.2**
PDAR	**Pinedale Array**	**36.09**	**332**	P	**P**	**06 25 33.1**	**+0.1**
	comp=Z,2.5nm,0.6s,mb4.3,baz=127,slow=10,SNR=26						
PDAR				PcP	PcP	06 27 57.8	-0.1
	comp=Z,0.5nm,0.4s,baz=118,slow=4.8,SNR=5.0						
HWUT	**Hardware Ranch**	**36.20**	**328**	*eP*	**P**	**06 25 34.4**	**+0.4**
	comp=Z,7.7nm,0.7s,mb4.7						
HWUT				*e*	pP	06 25 48.1	-4.0
REDW	**Red Top Meadow**	**37.16**	**331**	*eP*	**P**	**06 25 42.7**	**+0.8**
REDW				*e*	pP	06 25 58.5	-1.6
SNOW	**Snow King Moun**	**37.19**	**331**	*eP*	**P**	**06 25 43.0**	**+0.8**
LOHW	**Long Hollow**	**37.23**	**332**	P	**P**	**06 25 41.7**	**-0.8**
TPAW	**Teton Pass**	**37.30**	**331**	*eP*	**P**	**06 25 44.0**	**+0.8**
TPAW				*e*	pP	06 25 59.4	-1.9
RRI2	**Red Ridge**	**37.37**	**331**	*eP*	**P**	**06 25 43.8**	**+0.1**
RRI2				*e*	pP	06 26 00.7	-1.2
NVAR	**Mina Array Bea**	**38.02**	**319**	P	**P**	**06 25 51.4**	**+2.2**
	comp=Z,0.8nm,0.7s,mb3.7,baz=127,slow=8.2,SNR=8.1						
NVAR				PcP	PcP	06 28 04.9	+1.0
	comp=Z,2.2nm,0.6s,baz=124,slow=4.1,SNR=18						
SIV	**San Ignacio**	**38.14**	**137**	P	**P**	**06 25 49.6**	**-0.7**
	comp=Z,8.6nm,0.5s,mb4.8,baz=305,slow=7.6,SNR=28						
ULM	**Lac du Bonnet**	**38.61**	**351**	P	**P**	**06 25 51.9**	**-2.0**
	comp=Z,2.4nm,0.6s,mb4.2,baz=166,slow=9.5,SNR=9.9						
ULM	**Lac du Bonnet**	**38.61**	**351**	P	**P**	**06 25 51.9**	**-2.0**
MCMT	**McKenzie Canyo**	**39.21**	**331**	*eP*	**P**	**06 26 00.6**	**+1.7**
SCHQ	**Schefferville**	**45.47**	**16**	P	**P**	**06 26 48.1**	**-1.8**
	comp=Z,2.1nm,0.4s,mb4.2,baz=186,slow=6.1,SNR=22						
FCC	**Fort Churchill**	**46.77**	**355**	*eP*	**P**	**06 26 58.2**	**-1.9**
	comp=Z,2.9nm,0.7s,mb4.1						
FRB	**Frobisher Bay**	**53.15**	**10**	P	**P**	**06 27 45.8**	**-3.0**
	comp=Z,0.9nm,0.3s,mb4.2,baz=211,slow=8.9,SNR=7.3						
YKA	**Yellowknife Ar**	**53.91**	**345**	P	**P**	**06 27 52.2**	**-2.2**
	comp=Z,0.5nm,0.5s,mb3.9,baz=138,slow=7.4,SNR=29						
YKA				PcP	PcP	06 28 57.3	-1.6
	comp=Z,0.6nm,0.5s,baz=146,slow=4.0,SNR=19						
YKA				ScP		06 32 47.8	
	comp=Z,0.3nm,0.8s,baz=138,slow=4.5,SNR=5.1						
YKA	**Yellowknife Ar**	**53.91**	**345**	P	**P**	**06 27 52.2**	**-2.2**
YKA				PcP	PcP	06 28 57.3	-1.6
YKA				ScP		06 32 47.9	
PLCA	**Paso Flores**	**54.88**	**165**	P	**P**	**06 28 01.8**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=335,slow=9.0,SNR=5.4						
PLCA	**Paso Flores**	**54.88**	**165**	*eP*	**P**	**06 28 01.9**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.3						
INK	**Inuvik**	**63.51**	**343**	P	**P**	**06 28 59.3**	**-1.6**
	comp=Z,2.3nm,1.1s,mb3.9						
EKA	**Eskdalemuir Ar**	**76.72**	**36**	P	**P**	**06 30 19.5**	**-1.8**
	comp=Z,3.3nm,1.2s,mb4.0,baz=246,slow=8.2,SNR=3.5						
CN2	**Changchun**	**116.81**	**334**	*e*PKP	PKPdf	06 37 12.9	+0.3
SONM	**Songino Array**	**119.02**	**350**	PKP	PKPdf	06 37 17.3	+0.5
	comp=Z,0.5nm,0.4s,baz=313,slow=1.6,SNR=4.7						
WMQ	**Urumqi**	**124.07**	**4**	⇑PKP	PKPdf	06 37 27.0	+0.3
WMQ				XPKP		06 38 04.5	
WMQ				*e*PP	PP	06 39 16.2	-0.4
WMQ				PP	PP		
	comp=Z,353nm,7.7s						
WMQ				LR	LR		
	comp=N,133nm,20.4s						
WMQ				LR	LR		
	comp=E,156nm,26.2s						
WMQ				LR	LR		
	comp=Z,59nm,22.6s						
ASAR	**Alice Springs**	**139.35**	**248**	PKP	PKPdf	06 37 58.0	+2.0
	comp=Z,1.2nm,0.6s,baz=100,slow=2.0,SNR=19						
WRA	**Warramunga Arr**	**139.38**	**254**	PKP	PKPdf	06 37 57.8	+1.6
	comp=Z,1.7nm,0.6s,baz=89,slow=2.0,SNR=24						

NEIC ***02*** *06:22:15.7, 25.30S×69.16W, h118km, After GUC.*
GUC 02 06:22:15.7±1.0, 25.30S×69.16W, h118km±20km, MD3.6, ML4.0, 2C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.31**	**300**	⇓*iP*	P	06 22 41.8	+0.5
CPN1				*i* S	S	06 23 01.4	+0.8
CPN1				AMP		06 23 03.8	
	comp=E,1μm,0.2s						
ANCH	**Antofagasta**	**1.97**	**324**	⇓*iP*	P	06 22 49.3	+0.2
ANCH				*i* S	S	06 23 14.1	-0.2
CPCH	**Copiapo**	**2.32**	**207**	⇑*iP*	P	06 22 52.9	-0.9
CPCH				*i* S	S	06 23 22.6	+0.2
CPCH				AMP		06 23 25.6	
	comp=E,3μm,0.1s						
SPCH	**San Pedro de A**	**2.53**	**20**	⇑*iP*	P	06 22 57.0	+0.4
SPCH				*i* S	S	06 23 28.2	+0.7
SPCH				AMP		06 23 30.2	
	comp=N,664nm,0.4s						
LVC	**Limon Verde**	**2.68**	**5**	⇓*iP*	P	06 22 58.6	0.0
LVC				*i* S	S	06 23 29.8	-1.1
LVC				AMP		06 23 35.4	
	comp=E,378nm,0.6s						
LCO	**Las Campanas**	**3.95**	**200**	⇓*iP*	P	06 23 13.7	-1.9
LCO				*i* S	S	06 23 59.0	-2.3

CSEM ***02*** *06:34:30.0, 78.65N×7.36E, h2km, mb4.9*
BJI ***02*** *06:34:30.8, 78.50N×7.20E, h10km, mB5.3, mb4.8, Ms5.1, Msz4.6*
MOS ***02*** *06:34:30.9±1.1, 78.49N×7.28E, h10km, mb4.8/40, MS4.1/13, Error ellipse: s-maj=31.6km s-min=4.3km az=91.4*
IDC ***02*** *06:34:32.0±0.5, 78.48N×7.14E, mb4.0/18, mb1 4.3/23, mb1mx4.2/28, mbtmp4.1/23, ML4.2/5, MS4.2/25, Ms1 4.2/25, ms1mx4.0/35, Error ellipse: s-maj=16.3km s-min=9.0km az=46.0*
NEIC ***02*** *06:34:32.9±0.2, 78.49N×7.20E, h10km, mb4.6/31, Error ellipse: s-maj=5.6km s-min=4.2km az=63.0*
ZUR_RM ***02*** *06:34:32, 78.49N×7.20E, h12km, Mw5.0/10, Moment Tensor Solution. s10 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.76; $M_{\theta\theta}$=2.49; $M_{\phi\phi}$=3.25; $M_{r\theta}$=1.63; $M_{\theta\phi}$=0.11; $M_{\phi r}$=1.10; Best double couple: M_0=3.54×10^{16} NP1:ϕ_s=320°, δ79°, λ-145°. NP2:ϕ_s=222°, δ56°, λ-13°. Principal axes: T 3.546, Plg15°, Azm87°; N -.008, Plg53°, Azm335°; P -3.538, Plg32°, Azm187°;*
NAO ***02*** *06:34:33.4±3.2, 78.38N×8.42E, ML3.6*
BER ***02*** *06:34:33.4±6.2, 78.66N×7.28E, h15km±51km, MD3.6, ML3.4, ML3.6(NAO)*
ISC 02 06:34:30.4±1.3, 78.47N±0.03×7.3E±0.1, h5km±8km, h19km±4.7km; pP-P, n236, σ1º27/245, mb4.5/67, MS4.3/34, 5C-4D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.02**	**61**	P	**Pb**	**06 34 50.2**	**+0.1**
KBS				S	**Sb**	**06 35 02.8**	**-0.9**
SPA0	**Spitsbergen Ar**	**1.86**	**95**	Pn	**Pn**	**06 35 03.0**	**-0.4**
	baz=279,slow=18						
SPA0				Sn	**Sn**	**06 35 25.6**	**-2.0**
	baz=247,slow=22						
SPA0	**Spitsbergen Ar**	**1.86**	**95**	Pn	**Pn**	**06 35 03.0**	**-0.3**
	SNR=55						
SPA0				Sn	**Sn**	**06 35 25.5**	**-2.0**
	SNR=55						
HSP	**Hornsund**	**2.29**	**126**	*eP*	**Pn**	**06 35 07.3**	**-2.1**
HSP				*e*S	**Sn**	**06 35 33.2**	**-5.1**
HOPEN	**Hopen**	**4.31**	**108**	*eP*	**Pn**	**06 35 35.3**	**-2.9**
HOPEN				*e*S	**Sn**	**06 36 23.6**	**-5.8**
HOPEN				AML	AML	06 36 51.6	
	comp=Z,934nm,0.7s						
DAG	**Danmarks Havn**	**5.80**	**266**	⇓*iP*	**Pn**	**06 35 54.1**	**-5.2**
DAG				pmax	pmax		
	comp=Z,43nm,0.7s						
DAG	**Danmarks Havn**	**5.80**	**266**	⇓*iP*	**Pn**	**06 35 54.1**	**-5.2**
	comp=Z,43nm,0.7s						
JNW	**Jan Mayen West**	**8.50**	**217**	*eP*	**P**	**06 36 33.4**	**-3.7**
JNW				*e*S	**Sn**	**06 38 02.0**	**-13**
JNW				AML	AML	06 38 09.0	
	comp=Z,9.8nm,0.3s						
JNE	**Jan Mayen East**	**8.52**	**217**	*eP*	**P**	**06 36 33.9**	**-3.5**
JNE	**Jan Mayen East**	**8.52**	**217**	*eP*	**P**	**06 36 33.8**	**-3.6**
JNE				*e*S	**Sn**	**06 38 04.5**	**-11**
JNE				AML	AML	06 38 11.2	
	comp=Z,18nm,0.6s						
JNE	**Jan Mayen East**	**8.52**	**217**	*eP*	**P**	**06 36 33.9**	**-3.5**
JMIC	**Jan Mayen**	**8.55**	**217**	Pn	**P**	**06 36 34.6**	**-3.2**
	comp=Z,287nm,0.3s,baz=38,slow=0.9,SNR=30						
JMIC				Sn	**Sn**	**06 38 04.0**	**-12**
	comp=Z,22nm,0.3s,baz=101,slow=17,SNR=5.7						
JMIC				LR	LR	06 38 39.4	
	comp=Z,741nm,18.8s,baz=19,slow=29						
JMIC	**Jan Mayen**	**8.55**	**217**	Sn	**Sn**	**06 38 04.0**	**-12**
JMI	**Jan Mayen**	**8.63**	**217**	*eP*	**P**	**06 36 35.3**	**-3.6**
ARA0	**ARCESS Array S**	**10.20**	**142**

ESK Eskdalemuir 23.54 195 P **P** **06 39 42.8 +1.1**
comp=Z,30nm,1.5s,mb4.5
MOS Moscow 25.03 138 *e*P Px 06 40 11.9
MOS pmax pmax
comp=Z,56nm,0.7s,mb5.2
MOS MLR MLR
comp=Z,600µm,13.2s
MNK Minsk 25.10 151⇓ *e*P **P** **06 39 55.0 -1.8**
MNK Minsk 25.10 151 *e*P **P** **06 39 55.0 -1.8**
SUW Suwalki 25.18 158 *e*P **P** **06 39 58.3 +0.7**
OBN Obninsk 25.50 139 *e*P **P** **06 39 59.1 -1.5**
OBN pmax pmax
comp=Z,41nm,2.5s,mb4.5
OBN MLR MLR
comp=Z,500nm,18.0s,MS4.1
OBN Obninsk 25.50 139 P **P** **06 40 00.6 0.0**
OBN Obninsk 25.50 139 P **P** **06 40 00.6 0.0**
GKP Gorka Klasztor 25.55 166 *e*P PP 06 40 33.2 -7.1
FRB Frobisher Bay 25.95 280 P **P** **06 40 05.3 +0.6**
comp=Z,5.4nm,1.0s,mb4.0,baz=49,slow=6.6,SNR=5.9
FRB LR LR 06 50 18.5
comp=Z,474nm,20.2s,MS4.0,baz=128,slow=36
FRB Frobisher Bay 25.95 280 P **P** **06 40 05.3 +0.6**
FRB LR LR 06 50 18.5
TIXI Tiksi 26.39 37 *e*P **P** **06 40 14.4 +5.7**
TIXI *e*S **S** **06 44 48.4 +7.9**
TIXI pmax pmax
comp=Z,7.0nm,1.2s,mb4.1
TIXI Tiksi 26.39 37 *e*P **P** **06 40 14.4 +5.7**
comp=Z,7.0nm,1.2s,mb4.1
TIXI *e*S **S** **06 44 48.4 +7.9**
CLL Collm 27.35 172 *e*P **P** **06 40 17.0 -0.7**
CLL pmax pmax
comp=Z,32nm,2.2s,mb4.5
CLL Collm 27.35 172 P **P** **06 40 17.0 -0.7**
comp=Z,logA/T=1.2,mb4.5
CLL *e* 06 40 36.0
CLL *e*PP PP 06 41 00.0 -4.8
CLL Collm 27.35 172 *e*P **P** **06 40 17.0 -0.7**
comp=Z,32nm,2.2s,mb4.5
ARU Arti 27.82 112⇓ *i*P **P** **06 40 20.2 -1.7**
ARU *e* 06 43 40.2
ARU *e*S **S** **06 44 58.2 -5.5**
ARU *e*SSS SS 06 46 16.9 -6.6
ARU *e* 06 51 08.0
ARU pmax pmax
comp=Z,11nm,0.7s,mb4.6
ARU Arti 27.82 112 *e*P **P** **06 40 22.0 +0.2**
comp=Z,17nm,0.8s,mb4.7
ARU Arti 27.82 112 *e*P **P** **06 40 22.0 +0.1**
comp=Z,17nm,0.8s,mb4.7
ARU Arti 27.82 112 *e*ScS ScS 06 51 08.0 -1.3
SVE Sverdlovsk 27.83 109 *e*P **P** **06 40 23.0 +1.0**
SVE pmax pmax
comp=Z,30nm,1.5s,mb4.7
SVE Sverdlovsk 27.83 109 *e*P **P** **06 40 23.0 +1.0**
comp=Z,30nm,1.5s,mb4.7
KSP Ksiaz 27.93 168 *e*P **P** **06 40 23.9 +0.9**
MOX Moxa 27.98 174 *e*P **P** **06 40 17.8 -5.6**
MOX pmax pmax
comp=Z,33nm,2.0s,mb4.6
MOX MLR MLR
comp=Z,200nm,17.0s,MS3.8
MOX Moxa 27.98 174 *i*P **P** **06 40 17.8 -5.6**
comp=Z,logA/T=1.2,mb4.6
MOX L 06 52 01.0
MOX Moxa 27.98 174 *e*P **P** **06 40 17.8 -5.6**
comp=Z,200nm,17.0s
BAIF Baives 28.55 184 *e*P **P** **06 40 28.8 +0.3**
OJC Ojcow 28.73 163 *e*P **P** **06 40 30.9 +0.7**
GRA1 Grafenberg Arr 28.93 175 *e*P **P** **06 40 32.6 +0.6**
comp=Z,10.0nm,1.4s,mb4.3
GRF Grafenberg Arr 28.93 175 *e*P **P** **06 40 32.6 +0.6**
GRF pmax pmax
comp=Z,10.0nm,1.4s,mb4.3
GRF Grafenberg Arr 28.93 175 *e*P **P** **06 40 32.6 +0.6**
GRF pmax pmax
comp=Z,10.0nm,1.4s,mb4.3
GRF Grafenberg Arr 28.93 175 *e*P **P** **06 40 32.6 +0.6**
comp=Z,10.0nm,1.4s,mb4.3
AKASG Malin Array Be 28.99 151 P **P** **06 40 32.2 -0.3**
comp=Z,1.3nm,0.4s,mb4.1,baz=345,slow=9.1,SNR=9.1
MORC Moravsky Berou 29.05 166 *e*P **P** **06 40 34.0 +0.9**
MORC pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
MORC Moravsky Berou 29.05 166 *e*P **P** **06 40 34.0 +0.9**
comp=Z,9.6nm,1.2s,mb4.4
MORC Moravsky Berou 29.05 166 *e*P **P** **06 40 34.0 +0.9**
comp=Z,10.0nm,1.2s,mb4.4
VRAC Vranov 29.48 168 P **P** **06 40 37.5 +0.6**
comp=Z,6.2nm,0.9s,mb4.3,baz=4.0,slow=12,SNR=8.3
KWP Kalwaria 29.50 159 *e*P **P** **06 40 38.1 +0.9**
KHC Kasperske Hory 29.55 172 *i*P **P** **06 40 35.8 -1.8**
NIE Niedzica 29.56 163 *e*P **P** **06 40 38.2 +0.5**
GERES GERESS Array B 29.84 172 P **P** **06 40 41.7 +1.6**
comp=Z,0.6nm,0.7s,mb3.5,baz=342,slow=8.4,SNR=6.1
GERES LR LR 06 52 15.5
comp=Z,349nm,18.6s,MS4.0,baz=169,slow=36
FLN La Foliniere 29.96 190 *e*P **P** **06 40 40.4 -0.9**
FLN *e*R
comp=Z,244nm,22.8s
LDF La Druitiere 30.12 190 *e*P **P** **06 40 41.3 -1.4**
CRVS Cervenica-Dubn 30.14 161 *e*P Px 06 40 53.6
CRVS *e* 06 41 01.1
KOLS Kolonicke sedl 30.17 160 *e*P **P** **06 40 44.5 +1.4**
KOLS *e* 06 40 52.6
CDF Champ du Feu 30.17 180 *e*P **P** **06 40 43.5 +0.4**
GRR Gorron 30.35 191 *e*P **P** **06 40 43.0 -1.7**
comp=Z,6.8nm,0.6s,mb4.2
GRR Gorron 30.35 191 *e*P **P** **06 40 43.0 -1.7**
GRR pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
VYHS Vyhne 30.40 165 *e*P **P** **06 40 46.2 +1.1**
VYHS *e* 06 40 54.8
ROSF Rostrenen 30.51 194 *e*P **P** **06 40 45.3 -0.8**
SGMF Saint Gilles 30.56 193 *e*P **P** **06 40 46.0 -0.5**
comp=Z,8.4nm,0.7s,mb4.4
SGMF Saint Gilles 30.56 193 *e*P **P** **06 40 46.0 -0.5**
SGMF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
HAU Haudompre 30.58 181 *e*P **P** **06 40 47.1 +0.3**
HAU *e*R
comp=Z,443nm,22.5s
PSZ Piszkesteto 31.03 163 *e*P **P** **06 40 52.2 +1.5**
PSZ *e* 06 41 00.6
PSZ pmax pmax
comp=Z,15nm,1.4s,mb4.6
PSZ Piszkesteto 31.03 163 *e*P **P** **06 40 52.2 +1.5**
comp=Z,15nm,1.4s,mb4.6
PSZ *e* 06 41 00.6
PSZ Piszkesteto 31.03 163 *e*P **P** **06 40 52.2 +1.5**
comp=Z,15nm,1.4s,mb4.6
SSF Saint Saulge 31.56 185 *e*P **P** **06 40 54.9 -0.5**
INK Inuvik 31.64 333 *e*P **P** **06 40 55.6 -0.3**
INK *e* 06 41 03.0
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 31.64 333 P **P** **06 40 56.3 +0.4**
comp=Z,7.6nm,0.9s,mb4.5,baz=22,slow=16,SNR=6.7
INK LR LR 06 53 56.8
comp=Z,178nm,20.7s,MS3.7,baz=158,slow=37
INK Inuvik 31.64 333 *e*P **P** **06 40 55.6 -0.3**
comp=Z,9.2nm,0.9s,mb4.6
INK *e* 06 41 03.0
INK Inuvik 31.64 333 *e*P **P** **06 40 55.6 -0.3**
comp=Z,9.0nm,0.9s,mb4.6
DAVOX Davos 31.82 177 LR LR 06 53 20.3
comp=Z,260nm,19.1s,MS3.9,baz=74,slow=35
AVF Avril sur Loir 31.83 185 *e*P **P** **06 40 57.4 -0.4**
comp=Z,6.3nm,0.8s,mb4.2
AVF Avril sur Loir 31.83 185 *e*P **P** **06 40 57.4 -0.4**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
SMF Signal de Mont 31.97 185 *e*P **P** **06 40 59.0 0.0**
BGF Bois d'Agland 32.08 186 *e*P **P** **06 40 59.7 -0.2**
comp=Z,15nm,0.7s,mb4.7
BGF Bois d'Agland 32.08 186 *e*P **P** **06 40 59.7 -0.2**
BGF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
MFF Saint Martin d 32.11 190 *e*P **P** **06 40 59.6 -0.6**
comp=Z,16nm,0.9s,mb4.5
MFF Saint Martin d 32.11 190 *e*P **P** **06 40 59.6 -0.6**
MFF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
TCF Toulx Ste Croi 32.36 187 *e*P **P** **06 41 02.1 -0.3**
comp=Z,10nm,0.8s,mb4.4
TCF Toulx Ste Croi 32.36 187 *e*P **P** **06 41 02.1 -0.3**
TCF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
CHKZ Chkalovo 32.74 101 *i*P **P** **06 41 06.1 +0.5**
CHKZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CHKZ Chkalovo 32.74 101 *i*P **P** **06 41 06.1 +0.5**
comp=Z,10.0nm,0.8s,mb4.8
LPL La Plagne 33.07 181 *e*P **P** **06 41 09.7 +1.1**
LPG La Plagne 33.09 181 *e*P **P** **06 41 10.0 +1.3**
comp=Z,49nm,1.5s,mb4.9
LPG La Plagne 33.09 181 *e*P **P** **06 41 10.0 +1.3**
LPG pmax pmax
comp=Z,24nm,1.5s,mb4.9
BILL Bilibino 33.18 14 P **P** **06 41 09.1 -0.2**
BILL *e* 06 41 16.6
BILL pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BILL Bilibino 33.18 14 P **P** **06 41 09.1 -0.2**
comp=Z,6.8nm,0.7s,mb4.7
BILL *e* 06 41 16.6
BILL Bilibino 33.18 14 P **P** **06 41 09.1 -0.2**
comp=Z,7.0nm,0.7s,mb4.7
BVA0 Borovoye Array 33.31 101 *i*P **P** **06 41 11.4 +0.8**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
BVA0 Borovoye Array 33.31 101 *i*P **P** **06 41 11.4 +0.8**
comp=Z,1.0nm,0.9s,mb3.8
BVAR Borovoye Array 33.31 101 P **P** **06 41 11.2 +0.6**
comp=Z,7.0nm,0.6s,mb4.8,baz=331,slow=9.9,SNR=60
RJF Les Rejaudoux 33.36 187 *e*P **P** **06 41 11.0 -0.1**
RJF *e*R
comp=Z,234nm,18.8s
CAF Calviac 33.72 187 *e*P **P** **06 41 14.1 -0.2**
VIVF Saint-Julien-l 33.75 183 *e*P **P** **06 41 14.8 +0.3**
SCHQ Schefferville 33.83 271 P **P** **06 41 14.3 -0.7**
comp=Z,0.7nm,0.5s,mb3.8,baz=31,slow=5.9,SNR=3.6
SCHQ LR LR 06 54 16.9
comp=Z,510nm,20.9s,MS4.2,baz=17,slow=35
MBDF Montbardon 33.86 181 *e*P **P** **06 41 16.7 +1.2**
comp=Z,39nm,1.4s,mb4.9
MBDF Montbardon 33.86 181 *e*P **P** **06 41 16.7 +1.2**
MBDF pmax pmax
comp=Z,20nm,1.4s,mb4.8
NVS Novosibirsk 34.17 87 *i*P **P** **06 41 18.2 +0.2**
NVS *e* 06 42 37.7
NVS pmax pmax
comp=N,34nm,1.8s
NVS pmax pmax
comp=Z,76nm,1.8s,mb5.3
YKA Yellowknife Ar 35.10 317 P **P** **06 41 24.9 -1.0**
comp=Z,0.6nm,0.8s,mb3.6,baz=13,slow=8.3,SNR=14
YKA PcP PcP 06 43 58.2 +0.4
comp=Z,0.1nm,0.4s,baz=11,slow=2.7,SNR=4.4
YKA LR LR 06 55 23.3
comp=Z,417nm,19.3s,MS4.2,baz=355,slow=36
YKA Yellowknife Ar 35.10 317 P **P** **06 41 24.9 -1.0**
YKA PcP PcP 06 43 58.2 +0.4
YKA LR LR 06 55 23.3
YKA Yellowknife Ar 35.10 317 PcP PcP 06 43 58.2 +0.4
ZAL Zalesovo 35.34 86 P **P** **06 41 28.2 +0.2**
comp=Z,5.1nm,0.7s,mb4.6,baz=125,slow=9.4,SNR=23
ZAL PcP PcP 06 43 58.4 -0.2
comp=Z,1.1nm,0.4s,baz=215,slow=3.4,SNR=2.5
ZAL LR LR 06 59 37.5
comp=Z,442nm,18.0s,MS4.3,baz=244,slow=43
ZAL Zalesovo 35.34 86 PcP PcP 06 43 58.4 -0.2
YAK Yakutsk 35.60 43 *i*P **P** **06 41 35.0 +4.8**
YAK pmax pmax
comp=Z,13nm,0.7s,mb5.0
YAK Yakutsk 35.60 43 *i*P **P** **06 41 35.0 +4.8**
comp=Z,13nm,0.7s,mb5.0
SJPF Ste Jean 35.63 191 *e*P **P** **06 41 30.7 0.0**
EPF Esparros 35.66 189 *e*P **P** **06 41 30.7 -0.2**
comp=Z,12nm,0.8s,mb4.6
EPF Esparros 35.66 189 *e*P **P** **06 41 30.7 -0.2**
EPF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ANN Anapa 35.73 142 *e*P **P** **06 41 32.4 +0.9**
ANN *e*S **S** **06 47 05.6 -2.6**
ANN pmax pmax
comp=Z,67nm,1.1s,mb5.5
ANN MLR MLR
comp=N,527nm,17.0s,MS4.4
ANN MLR MLR
comp=E,315nm,17.0s,MS4.4
ANN MLR MLR
comp=Z,572nm,17.0s,MS4.4
ANN Anapa 35.73 142 *e*P **P** **06 41 32.4 +0.9**
comp=Z,67nm,1.1s,mb5.5
ANN *e*S **S** **06 47 05.6 -2.6**
ETSF Etsaut 35.83 190 *e*P **P** **06 41 33.2 +0.9**
comp=Z,11nm,0.8s,mb4.5
ETSF Etsaut 35.83 190 *e*P **P** **06 41 33.2 +0.9**
ETSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SHRR Shira 35.88 81 *e*P **P** **06 41 32.3 -0.3**
COLA College 36.12 342 *i*P **P** **06 41 43.9 +9.4**
KURK Kurchatov 37.14 94 *c i*P **P** **06 41 44.0 +0.7**
KURK *i* pP 06 41 44.2 -0.5
KURK pmax pmax
comp=Z,12nm,0.8s,mb4.8
KURK Kurchatov 37.14 94 *e*P **P** **06 41 44.1 +0.8**
comp=Z,20nm,0.8s,mb5.0
KURK *e* 06 41 52.0
KURK Kurchatov 37.14 94 *i*P **P** **06 41 44.0 +0.7**
comp=Z,12nm,0.8s,mb4.8
BOD Bodaibo 37.20 58 *e*P **P** **06 41 43.1 -0.6**
BOD pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
BOD Bodaibo 37.20 58 *e*P **P** **06 41 43.1 -0.6**
comp=Z,10.0nm,1.0s,mb4.6
SOC Sochi 37.22 140 *e*P **P** **06 41 41.1 -2.9**
SOC *e* 06 44 02.6
SOC *e*S **S** **06 47 22.4 -8.5**
SOC *e* 06 51 56.8
SOC pmax pmax
comp=Z,23nm,0.9s,mb5.0
SOC pmax pmax
comp=N,39nm,1.0s
SOC pmax pmax
comp=E,10.0nm,0.5s
SOC MLR MLR
comp=Z,248nm,12.0s,MS4.2
SOC MLR MLR
comp=N,167nm,13.0s,MS4.1
SOC MLR MLR
comp=E,131nm,13.0s,MS4.1
SOC Sochi 37.22 140 *e*P **P** **06 41 41.1 -2.9**
comp=E,39nm,1.0s,mb5.2
SOC Sochi 37.22 140 *e*PcP PcP 06 44 02.6 -1.7
SOC *e*S **S** **06 47 22.4 -8.5**
SOC *e*ScS ScS 06 51 56.8 -0.4
comp=E,248nm,12.0s
KIV Kislovodsk 37.25 136 *i*P **P** **06 41 41.9 -2.4**
KIV pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
KIV MLR MLR
comp=Z,200nm,16.0s,MS4.0
KIV Kislovodsk 37.25 136 *i*P **P** **06 41 41.9 -2.4**
comp=Z,200nm,16.0s
ESDC Sonseca Array 39.18 194 P **P** **06 42 01.5 +1.0**
comp=Z,1.1nm,0.6s,mb3.8,baz=5.4,slow=8.2,SNR=6.4
CLNS Chul'man 39.90 49 *e*P **P** **06 42 06.7 +0.4**
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,18nm,0.9s,mb4.8
CLNS pmax pmax
comp=E,8.0nm,0.7s
CLNS MLR MLR
comp=N,400nm,16.0s,MS4.4
CLNS MLR MLR
comp=Z,500nm,16.0s,MS4.5
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.4
BRTR Keskin Array B 40.30 148 P **P** **06 42 12.1 +2.2**
comp=E,1.0nm,0.7s,mb3.7,baz=342,slow=9.1,SNR=3.0
MA2 Magadan 40.45 28 *i*P **P** **06 42 17.2 +6.4**
MA2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
MA2 Magadan 40.45 28 *i*P **P** **06 42 17.2 +6.4**
comp=Z,4.0nm,0.9s,mb4.2
MOY Mondy 40.68 72 *e*P **P** **06 42 15.0 +2.2**
MOY pmax pmax
comp=Z,44nm,1.5s,mb4.9
MOY Mondy 40.68 72 *e*P **P** **06 42 15.0 +2.2**
comp=Z,44nm,1.5s,mb4.9
TLY Talaya 41.17 70 *e*P **P** **06 42 16.5 -0.3**
TLY pmax pmax
comp=Z,9.0nm,1.3s,mb4.2
TLY MLR MLR
comp=Z,295nm,17.0s,MS4.2
TLY Talaya 41.17 70 *e*P **P** **06 42 16.5 -0.3**
comp=Z,295nm,17.0s
VAE Valguarnera 41.21 171 LR LR 07 00 25.3
comp=Z,339nm,18.4s,MS4.2,baz=342,slow=38
MK02 Makanchi Array 41.65 92 P **P** **06 42 21.6 +1.1**
MK02 pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
MK02 Makanchi Array 41.65 92 P **P** **06 42 21.6 +1.1**
comp=Z,7.0nm,0.6s,mb4.5
MALT Malatya 42.25 143 *e*P **P** **06 42 28.7 +3.1**
MALT pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
MALT Malatya 42.25 143 *e*P **P** **06 42 28.7 +3.1**
comp=Z,7.5nm,1.0s,mb4.3
MALT Malatya 42.25 143 *e*P **P** **06 42 28.7 +3.1**
comp=Z,7.0nm,1.0s,mb4.2
CHMS Chumysh 43.76 102 P **P** **06 42 40.5 +2.7**
SNR=7.3
ULM Lac du Bonnet 43.82 295 P **P** **06 42 37.9 -0.3**
comp=Z,3.5nm,0.7s,mb4.2,baz=11,slow=6.2,SNR=12
ULM LR LR 07 00 20.1
comp=Z,330nm,18.8s,MS4.3,baz=11,slow=35
ULM Lac du Bonnet 43.82 295 P **P** **06 42 37.9 -0.3**
ULM LR LR 07 00 20.1
EDM Edmonton 43.87 312 *e*P **P** **06 42 38.8 +0.2**
EKS2 Erkin-Say 43.89 103 P **P** **06 42 43.0 +4.1**
SNR=8.0
FRU Bishkek 43.89 102 *e*P **P** **06 42 42.0 +3.1**
IDI Anoyia 43.93 159 LR LR 07 02 57.1
comp=Z,242nm,18.4s,MS4.2,baz=274,slow=39
TKM2 Tokmak 2 44.00 101 P **P** **06 42 42.3 +2.5**
SNR=6.6
AAK Ala-Archa 44.06 102 P **P** **06 42 42.9 +2.6**
SNR=9.7
AAK Ala-Archa 44.06 102 P **P** **06 42 42.5 +2.2**
comp=Z,80nm,0.9s,mb5.5,SNR=10
AAK Ala-Archa 44.06 102 *i*P **P** **06 42 39.6 -0.7**
AAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
AAK Ala-Archa 44.06 102 *e*P **P** **06 42 40.4 +0.1**
comp=Z,14nm,1.0s,mb4.6
AAK *e* 06 42 49.8
AAK Ala-Archa 44.06 102 *i*P **P** **06 42 39.6 -0.7**
comp=Z,8.0nm,1.0s,mb4.4
AML Almayashu 44.38 103 P **P** **06 42 46.2 +3.3**
SNR=11
UCH Uchtor 44.45 102 P **P** **06 42 46.8 +3.3**
SNR=15
KZA Kyzart 44.74 101 P **P** **06 42 48.9 +3.1**
SNR=6.8
EYMN Ely 45.22 291 *e*P **P** **06 42 49.0 -0.5**
comp=Z,5.6nm,0.8s,mb4.5
SONM Songino Array 45.38 69 P **P** **06 42 51.9 +1.2**
comp=Z,3.1nm,0.8s,mb4.2,baz=335,slow=8.0,SNR=16
SONM LR LR 07 03 24.9
comp=Z,567nm,19.9s,MS4.5,baz=197,slow=38
ULN Ulaanbaatar 45.47 69 *e*P **P** **06 42 52.8 +1.3**
ULN *e* 06 43 01.8
ULN pmax pmax
comp=Z,14nm,0.8s,mb4.8
ULN Ulaanbaatar 45.47 69 *e*P **P** **06 42 52.8 +1.3**
comp=Z,14nm,0.8s,mb4.8
ULN *e* 06 43 01.8
ULN Ulaanbaatar 45.47 69 *e*P **P** **06 42 52.8 +1.3**
comp=Z,14nm,0.8s,mb4.8
WMQ Urumqi 45.55 88⇑ *i*P **P** **06 42 54.2 +1.9**
WMQ AP pP 06 42 58.8 +5.1
WMQ XP sP 06 43 01.2 +6.9
WMQ PCP PcP 06 44 32.8 +1.4
WMQ PP PP 06 44 41.6 +2.0
WMQ S **S** **06 49 36.3 +2.0**
WMQ XS 06 49 43.2
WMQ AMB AMB
comp=Z,14nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,354nm,4.5s
WMQ LR LR
comp=N,539nm,18.9s,MS4.7
WMQ LR LR
comp=E,652nm,18.9s,MS4.7
WMQ LR LR
comp=Z,310nm,18.9s,MS4.3
ASF Jabal al Asfar 48.13 146 LR LR 07 05 18.7
comp=Z,158nm,19.0s,MS4.0,baz=47,slow=38
KLR Kul'dur 48.31 46 *e*P **P** **06 43 20.2 +6.3**
HRY Holter Researc 49.96 308 P **P** **06 43 25.6 -1.1**
CHMT Chamberlain Mo 49.98 310 *e*P **P** **06 43 25.8 -1.0**
CHMT *e* 06 43 33.9
MSO Missoula 50.17 310 *e*P **P** **06 43 28.2 -0.1**
comp=Z,12nm,0.9s,mb4.9
MSO *e* 06 43 35.0
EIL Elat 50.39 148 LR LR 07 06 20.1
comp=Z,162nm,19.9s,MS4.0,baz=337,slow=38
GTA Gaotai 52.22 78 P **P** **06 43 44.7 +0.8**
GTA AP pP 06 43 53.1 +7.7
GTA XP sP 06 43 56.7 +11
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
GTA AMB AMB
comp=Z,516nm,10.7s
GTA LR LR
comp=N,523nm,22.1s,MS4.8
GTA LR LR
comp=E,624nm,19.4s,MS4.8
GTA LR LR
comp=Z,497nm,21.3s,MS4.5
MDJ Mudanjiang 52.49 50 P **P** **06 43 44.2 -1.6**
MDJ AP pP 06 43 47.4 +0.1
MDJ PCP PcP 06 44 55.4 -1.1
MDJ PP PP 06 45 42.2 -3.7
MDJ SCP 06 48 52.5
MDJ PCS 06 48 53.8
MDJ S **S** **06 51 10.0 -1.3**
MDJ SCS ScS 06 53 34.3 +1.0
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.4
MDJ AMB AMB
comp=Z,359nm,14.2s
MDJ LR LR
comp=N,189nm,22.0s,MS4.5
MDJ LR LR
comp=E,431nm,20.4s,MS4.5
MDJ LR LR
comp=Z,217nm,25.9s
CN2 Changchun 52.63 53⇑ P **P** **06 43 46.8 -0.1**
CN2 *e*S **S** **06 51 11.6 -1.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 LR LR
comp=N,600nm,18.0s,MS4.9
CN2 LR LR
comp=E,800nm,18.0s,MS4.9
CN2 LR LR
comp=Z,500nm,18.0s,MS4.6
PDAR Pinedale Array 53.44 305 P **P** **06 43 53.5 +0.7**
comp=Z,0.2nm,0.5s,baz=12,slow=8.3,SNR=2.8
PDAR LR LR 07 06 46.0
comp=Z,309nm,18.6s,MS4.4,baz=202,slow=36
SNY Shenyang 54.25 56⇑ P **P** **06 43 59.3 +0.5**
SNY AP pP 06 44 05.8 +5.5
SNY XP sP 06 44 08.4 +7.6
SNY AMB AMB
comp=Z,20nm,0.7s,mb5.2
LZH Lanzhou 56.23 76 *e*P **P** **06 44 10.5 -2.8**
LZH AP pP 06 44 20.1 +5.3
LZH XP sP 06 44 24.0 +8.7
LZH AMB AMB
comp=Z,36nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,112nm,4.5s
LZH LR LR
comp=N,357nm,13.0s
LZH LR LR
comp=Z,497nm,17.3s,MS4.7
LZH Lanzhou 56.23 76 *e*P **P** **06 44 10.5 -2.8**
LZH pmax pmax
comp=Z,36nm,1.5s,mb5.2
LZH MLR MLR

comp=Z,500nm,17.3s,MS4.7
LZH Lanzhou 56.23 76 *e*P **P 06 44 10.5 -2.8**
comp=Z,36nm,1.5s,mb5.2
LZH pP pP 06 44 20.1 +5.3
LZH sP sP 06 44 24.0 +8.7
LZH LR LR
comp=Z,500nm,17.3s,MS4.7
TMUT Trail Mountain 57.09 306 *e*P **P 06 44 19.5 0.0**
PV10 Paradox Valley 57.63 304 *e*P **P 06 44 23.6 +0.3**
PV10 *e* 06 44 31.3
SDCO Great Sand Dun 57.64 300 *e*P **P 06 44 22.4 -0.9**
comp=Z,6.5nm,0.9s,mb4.7
SDCO *e* 06 44 30.2
PV01 Paradox Valley 57.79 303 *e*P **P 06 44 24.2 -0.2**
PV01 *e* 06 44 31.8
MSU Marysvale 58.01 306 *e*P **P 06 44 26.3 +0.4**
MSU *e* 06 44 34.0
NVAR Mina Array Bea 59.05 312 P **P 06 44 35.0 +1.8**
comp=Z,2.3nm,0.8s,mb4.2,baz=14,slow=7.4,SNR=7.2
NVAR LR LR 07 10 54.5
comp=Z,193nm,18.3s,MS4.3,baz=235,slow=37
NVAR Mina Array Bea 59.05 312 P **P 06 44 35.0 +1.8**
NVAR LR LR 07 10 54.5
ANMO Albuquerque 60.53 300 P **P 06 44 43.0 -0.4**
comp=Z,0.3nm,0.3s,mb4.0,baz=34,slow=13,SNR=3.3
WUAZ Wupatki 60.81 305 *e*P **P 06 44 45.4 +0.1**
comp=Z,6.2nm,0.8s,mb4.8
WUAZ *e* 06 44 52.7
NJ2 Nanjing 62.96 62 *e*P **P 06 45 02.0 +2.2**
NJ2 PP PP 06 47 21.5 +1.6
NJ2 S **S 06 53 26.0 -2.8**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,70nm,6.1s
NJ2 LR LR
comp=N,870nm,19.9s,MS5.3
NJ2 LR LR
comp=E,2μm,19.4s,MS5.3
NJ2 LR LR
comp=Z,130nm,17.7s,MS4.2
MWC Mount Wilson 63.14 311 P **P 06 44 59.1 -1.8**
MWC *e* 06 45 08.0
SSE Sheshan 64.31 61 *e*P **P 06 45 08.1 -0.4**
SSE XP sP 06 45 21.4 +11
SSE S **S 06 53 44.4 -1.0**
SSE SS SS 06 57 56.0 -0.5
SSE AMB AMB
comp=Z,55nm,0.7s
SSE AMB AMB
comp=Z,375nm,12.0s
SSE LR LR
comp=N,120nm,21.2s,MS5.0
SSE LR LR
comp=E,991nm,21.3s,MS5.0
SSE LR LR
comp=Z,356nm,16.5s,MS4.6
SSE Sheshan 64.31 61 *e*P **P 06 45 08.1 -0.4**
comp=Z,55nm,0.7s
SSE sP sP 06 45 21.4 +11
SSE S **S 06 53 44.4 -1.0**
SSE sS 06 53 59.3
SSE SS SS 06 57 56.0 -0.5
SSE LR LR
comp=Z,360nm,16.5s,MS4.6
TXAR Lajitas Array 65.51 296 P **P 06 45 15.8 -0.5**
comp=Z,0.7nm,0.7s,mb3.8,baz=47,slow=5.1,SNR=10.0
TXAR LR LR 07 15 40.6
comp=Z,248nm,18.7s,MS4.4,baz=215,slow=38
SJG San Juan 69.08 257 LR LR 07 16 02.3
comp=Z,101nm,19.9s,MS4.1,baz=82,slow=36
JTS JuntasAbangare 80.44 274 LR LR 07 22 16.0
comp=Z,173nm,20.1s,MS4.4,baz=353,slow=36
ROSC El Rosal 83.60 263 LR LR 07 22 05.6
comp=Z,100nm,20.0s,MS4.2,baz=350,slow=34
BDFB Brasilia 98.75 233 LR LR 07 27 56.2
comp=Z,114nm,21.3s,MS4.3,baz=358,slow=32
ASAR Alice Springs 120.06 58 PKP PKPdf 06 53 22.2 -1.8
comp=Z,0.3nm,0.6s,baz=4.1,slow=2.6,SNR=6.9

*IDC **02** 06:47:24.8±1.4, 1.65N×97.67E, mb4.2/10, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, MS3.7/1, Ms1 3.7/1, ms1mx3.0/30, Error ellipse: s-maj=71.2km s-min=16.5km az=52.0*
*NEIC **02** 06:47:29.2±0.5, 1.61N×97.63E, h30km, mb4.4/2, Error ellipse: s-maj=16.3km s-min=7.8km az=55.0*
ISC 02 06:47:27.3±0.7, 1.58N±0.09×97.54E±0.10, h30km, n19, σ0§95/18, mb4.2/12, MS3.7/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.58**	**49**	P	**Pn**	**06 48 36.6**	**+0.2**
KULM	**Kulim**	**4.82**	**40**	*e*P	**Pn**	**06 48 39.0**	**-0.8**
KGM	**Kluang**	**5.80**	**86**	P	**Pn**	**06 48 56.1**	**+2.6**
APYP	**Conner**	**28.35**	**54**	*e*P	**P**	**06 53 21.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**33.88**	**127**	P	**P**	**06 54 08.4**	**-1.4**
	2.6nm,0.6s,mb4.3,baz=297,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**41.95**	**123**	P	**P**	**06 55 17.2**	**-0.3**
	2.6nm,0.7s,mb4.0,baz=305,slow=8.9,SNR=22						
WRAB	**Tennant Creek**	**41.96**	**123**	*e*P	**P**	**06 55 17.5**	**0.0**
	4.2nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**41.96**	**123**	*e*P	**P**	**06 55 17.6**	**0.0**
ASAR	**Alice Springs**	**43.36**	**128**	P	**P**	**06 55 28.6**	**-0.3**
	0.5nm,0.4s,mb3.6,baz=297,slow=7.7,SNR=9.6						
SONM	**Songino Array**	**46.71**	**8**	P	**P**	**06 55 54.9**	**-0.5**
	3.9nm,0.8s,mb4.4,baz=189,slow=9.1,SNR=18						
KURK	**Kurchatov**	**51.51**	**345**	*e*P	**P**	**06 56 31.3**	**-1.1**
	4.7nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**53.23**	**351**	P	**P**	**06 56 44.5**	**-0.7**
	5.5nm,0.6s,mb4.7,baz=299,slow=5.3,SNR=14						
ZAL	**Zalesovo**	**53.23**	**351**	P	**P**	**06 56 44.5**	**-0.8**
ATD	**Arta Tunnel**	**55.13**	**283**	LR	LR	07 17 04.2	
	comp=Z,66nm,19.5s,MS3.7,baz=40,slow=32						
BVAR	**Borovoye Array**	**56.00**	**341**	P	**P**	**06 57 04.4**	**-1.0**
	1.2nm,0.4s,mb4.2,baz=145,slow=10.0,SNR=11						
FINES	**FINESS Array B**	**79.82**	**332**	P	**P**	**06 59 34.8**	**+0.6**
	0.7nm,0.4s,mb4.0,baz=97,slow=6.1,SNR=11						
ARCES	**ARCESS Array B**	**82.29**	**340**	P	**P**	**06 59 48.0**	**+0.9**
	1.5nm,0.6s,mb4.1,baz=90,slow=6.1,SNR=9.6						
HFS	**Hagfors**	**85.56**	**330**	P	**P**	**07 00 05.2**	**+1.4**
	3.3nm,1.0s,mb4.5,baz=98,slow=10,SNR=4.3						
NOA	**NORSAR Array B**	**86.84**	**331**	P	**P**	**07 00 11.4**	**+1.4**
	0.9nm,0.8s,mb4.0,baz=96,slow=5.3,SNR=3.4						

MAN 02 06:50:00.9, 7.80N×127.34E, h11km, mb4.2, ML3.1, MS2.8, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.04**	**291**	⇓*e*P	Pb	06 50 19.1	-1.4
BIPH				*e*S	Sb	06 50 30.1	-3.8
MATI	**Mati**	**1.37**	**232**	*e*P	Pn	06 50 24.6	-1.4
BUTP	**Butuan**	**2.06**	**304**	*e*P	Pn	06 50 35.9	0.0
BUTP				*e*S	Sn	06 51 01.6	-0.2
BUKP	**Musuan**	**2.25**	**272**	*e*P	Pn	06 50 39.2	+0.5
BUKP				*e*S	Sn	06 51 07.5	+0.7

*BUC **02** 06:52:20.6±0.7, 45.59N×26.47E, h146km±7km, MD3.9/5, Error ellipse: s-maj=6.5km s-min=3.7km az=38.0*
*CSEM **02** 06:52:21.3±0.2, 45.58N×26.48E, h132km±2km, MD3.9/5, Error ellipse: s-maj=3.0km s-min=2.3km az=26.0*
*NEIC **02** 06:52:21.8, 45.62N×26.53E, h140km, MG3.3(BUC), After BUC.*
ISC 02 06:52:20.7±1.2, 45.60N±0.04×26.54E±0.06, h143km±9km, n24, σ0§79/44, 10C-9D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.30**	**26**	⇑*i*P	**P**	**06 52 41.0**	**+0.1**
VRI				*i*S	**S**	**06 52 56.1**	**-0.1**
VRI	**Vrincioaia**	**0.30**	**26**	⇑*i*P	**P**	**06 52 41.0**	**+0.1**
VRI				*i*S	**S**	**06 52 56.1**	**-0.2**
MLR	**Muntele Rosu**	**0.43**	**255**	⇓*i*P	**P**	**06 52 41.4**	**-0.1**
MLR				*i*S	**S**	**06 52 56.8**	**-0.5**
MLR	**Muntele Rosu**	**0.43**	**255**	⇓*i*P	**P**	**06 52 41.4**	**0.0**
MLR				*i*S	**S**	**06 52 56.8**	**-0.5**
ISR	**Istrita**	**0.48**	**180**	⇓*i*P	**P**	**06 52 42.3**	**+0.6**
ISR				*i*S	**S**	**06 52 59.1**	**+1.4**
ISR	**Istrita**	**0.48**	**180**	⇓*i*P	**P**	**06 52 42.3**	**+0.6**
ISR				*i*S	**S**	**06 52 59.1**	**+1.4**
VOIR		**1.06**	**262**	⇓*i*P	**P**	**06 52 45.0**	**-0.6**
VOIR				*i*S	**S**	**06 53 04.9**	**+0.2**
VOIR		**1.06**	**262**	⇓*i*P	**P**	**06 52 45.0**	**-0.6**
VOIR				*i*S	**S**	**06 53 04.9**	**+0.2**
CFR	**Carcaliu**	**1.20**	**110**	⇓*i*P	**P**	**06 52 47.4**	**+0.4**
CFR				*i*S	**S**	**06 53 06.8**	**-0.3**
CFR	**Carcaliu**	**1.20**	**110**	⇓*i*P	**P**	**06 52 47.4**	**+0.4**
CFR				*i*S	**S**	**06 53 06.8**	**-0.3**
BUC	**Bucharest**	**1.23**	**195**	*i*S	**S**	**06 53 08.6**	**+1.0**
BUC1	**Bucharest**	**1.30**	**196**	*i*S	**S**	**06 53 08.6**	**-0.4**
HARR	**Harsova**	**1.34**	**132**	⇑*i*P	**P**	**06 52 49.1**	**+0.7**
HARR				*i*S	**S**	**06 53 09.0**	**-0.6**
HARR	**Harsova**	**1.34**	**132**	⇑*i*P	**P**	**06 52 49.1**	**+0.7**
HARR				*i*S	**S**	**06 53 09.0**	**-0.7**
TLCR		**1.66**	**104**	⇑*i*P	**P**	**06 52 52.2**	**+0.4**
TLCR				*i*S	**S**	**06 53 16.7**	**+1.1**
TLCR		**1.66**	**104**	⇑*i*P	**P**	**06 52 52.2**	**+0.4**
TLCR				*i*S	**S**	**06 53 16.7**	**+1.0**
TIRR	**Tirgusor**	**1.75**	**130**	⇑*i*P	**P**	**06 52 53.5**	**+0.6**
TIRR				*i*S	**S**	**06 53 16.8**	**-0.8**
TIRR	**Tirgusor**	**1.75**	**130**	⇑*i*P	**P**	**06 52 53.5**	**+0.6**
TIRR				*i*S	**S**	**06 53 16.8**	**-0.8**
KIS	**Kishinev**	**2.11**	**48**	*i*S	**S**	**06 53 23.0**	**-2.0**
	700nm,0.8s						
ZIMR		**2.12**	**204**	⇑*i*P	**P**	**06 52 57.0**	**-0.2**
ZIMR				*i*S	**S**	**06 53 23.3**	**-1.9**
ZIMR		**2.12**	**204**	⇑*i*P	**P**	**06 52 57.0**	**-0.2**
ZIMR				S	**S**	**06 53 23.3**	**-1.9**
BURAR	**Bucovina Array**	**2.21**	**336**	P	**P**	**06 52 58.9**	**+0.5**
BURAR	**Bucovina Array**	**2.21**	**336**	⇓*i*P	**P**	**06 52 58.5**	**+0.1**
BURAR				*i*S	**S**	**06 53 27.5**	**+0.2**
BURAR	**Bucovina Array**	**2.21**	**336**	P	**P**	**06 52 58.9**	**+0.5**
BURAR				*i*S	**S**	**06 53 27.5**	**+0.2**

IDC 02 06:55:16.7±1.6, 17.80S×176.93W, mb4.0/5, mb1 4.4/5, mb1mx4.0/13, mbtmp4.0/5, Error ellipse: s-maj=138.8km s-min=22.5km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.92**	**241**	P	P	07 02 53.4	-1.0
	2.2nm,0.4s,baz=94,slow=9.4,SNR=16						
WB2	**Warramunga Arr**	**46.03**	**259**	*e*P	P	07 03 41.2	-2.9
WRA	**Warramunga Arr**	**46.04**	**259**	P	P	07 03 42.0	-2.2
	0.7nm,0.6s,baz=98,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**46.18**	**254**	P	P	07 03 43.2	-2.0
	3.9nm,0.5s,baz=91,slow=8.4,SNR=81						
ASPA	**Alice Springs**	**46.18**	**254**	*e*P	P	07 03 43.0	-2.3
NVAR	**Mina Array Bea**	**78.37**	**43**	P	P	07 07 19.3	-1.5
	0.6nm,0.7s,baz=216,slow=7.5,SNR=5.2						
TXAR	**Lajitas Array**	**84.75**	**57**	P	P	07 07 53.5	-1.0
	0.6nm,0.8s,baz=225,slow=7.1,SNR=6.8						

*IDC **02** 06:57:48.8±0.9, 0.09N×97.97E, mb4.0/10, mb1 4.1/10, mb1mx4.0/17, mbtmp4.0/10, MS4.0/2, Ms1 3.9/2, ms1mx3.2/29, Error ellipse: s-maj=55.5km s-min=15.9km az=51.0*
*BJI **02** 06:57:51.5, 0.22N×98.15E, h24km, mB5.2, mb4.7*
*NEIC **02** 06:57:53.2±0.5, 0.06N×98.01E, h30km, mb4.5/4, Error ellipse: s-maj=14.4km s-min=7.5km az=51.0*
ISC 02 06:57:52.0±0.6, 0.11N±0.09×98.1E±0.1, h33km, n30, σ0§85/28, mb4.2/15, MS3.9/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.75**	**27**	*e*P	**P**	**06 59 16.8**	**-0.5**
KKM	**Kota Kinabalu**	**19.05**	**72**	*e*P	**P**	**07 02 14.8**	**+0.4**
JIRN	**Jiri**	**29.67**	**338**	*e*P	**P**	**07 03 57.8**	**+0.7**
	31nm,1.1s,mb4.9						
PKI	**Pulchoki**	**29.89**	**337**	*e*P	**P**	**07 03 59.2**	**+0.2**
GUN	**Gumba**	**30.01**	**338**	*e*P	**P**	**07 04 00.2**	**+0.1**
DMN	**Daman**	**30.04**	**337**	*e*P	**P**	**07 04 00.8**	**+0.4**
KKN	**Kakani**	**30.13**	**337**	*e*P	**P**	**07 04 01.1**	**-0.1**
LSA	**Lhasa**	**30.15**	**348**	P	**P**	**07 04 01.2**	**-0.2**
LSA	**Lhasa**	**30.15**	**348**	*e*P	**P**	**07 03 59.8**	**-1.6**
KOLN	**Koldanda**	**30.80**	**334**	*e*P	**P**	**07 04 07.0**	**-0.2**
	12nm,0.8s,mb4.8						
ENH	**Enshi**	**31.90**	**19**	P	**P**	**07 04 15.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**32.59**	**125**	LR	LR	07 16 39.9	
	comp=Z,180nm,21.0s,MS3.7,baz=299,slow=35						
GTA	**Gaotai**	**39.14**	**2**	P	**P**	**07 05 17.9**	**-0.4**
GTA				AP	pP	07 05 26.5	-1.6
GTA				XP	sP	07 05 29.2	-3.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**40.73**	**121**	P	**P**	**07 05 31.1**	**-0.6**
	comp=Z,1.6nm,0.7s,mb3.8,baz=301,slow=9.0,SNR=12						
WRA				PcP	PcP	07 07 33.1	-0.2
	comp=Z,0.3nm,0.6s,baz=309,slow=2.5,SNR=2.8						
WB2	**Warramunga Arr**	**40.74**	**121**	*e*P	**P**	**07 05 30.5**	**-1.2**
ASPA	**Alice Springs**	**42.05**	**127**	*e*P	**P**	**07 05 42.9**	**+0.3**
ASAR	**Alice Springs**	**42.05**	**127**	P	**P**	**07 05 42.5**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.6,baz=299,slow=7.4,SNR=13						
ASAR				PcP	PcP	07 07 39.2	+1.4
	comp=Z,0.6nm,0.9s,baz=350,slow=2.7,SNR=2.9						
BJT	**Baijiatuau**	**43.01**	**20**	P	**P**	**07 05 52.0**	**+1.7**
BJI	**Beijing**	**43.03**	**20**	*e*P	**P**	**07 05 52.1**	**+1.7**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
BJI	**Beijing**	**43.03**	**20**	*e*P	**P**	**07 05 52.1**	**+1.7**
	comp=Z,7.0nm,0.7s,mb4.5						
SONM	**Songino Array**	**48.08**	**8**	P	**P**	**07 06 31.3**	**+0.9**
	comp=Z,0.7nm,0.4s,mb4.0,baz=192,slow=8.6,SNR=7.6						
SONM				PcP	PcP	07 07 58.2	0.0
	comp=Z,0.7nm,1.0s,baz=225,slow=4.1,SNR=2.6						
STKA	**Stephens Creek**	**51.99**	**132**	P	**P**	**07 07 01.3**	**+0.8**
	comp=Z,3.6nm,0.6s,mb4.5,baz=316,slow=4.5,SNR=10						
STKA				LR	LR	07 28 36.0	
	comp=Z,206nm,21.1s,MS4.1,baz=121,slow=36						
KURK	**Kurchatov**	**53.06**	**345**	*e*P	**P**	**07 07 07.7**	**-0.6**
	comp=Z,4.2nm,1.1s,mb4.3						
ZAL	**Zalesovo**	**54.76**	**350**	P	**P**	**07 07 19.9**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.4,baz=317,slow=4.1,SNR=8.5						
BVAR	**Borovoye Array**	**57.56**	**341**	P	**P**	**07 07 39.3**	**-1.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=6.5						
BRTR	**Keskin Array B**	**70.48**	**312**	P	**P**	**07 09 05.7**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=108,slow=7.8,SNR=4.2						
AKASG	**Malin Array Be**	**76.64**	**322**	P	**P**	**07 09 40.5**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.5,baz=98,slow=5.0,SNR=4.4						
GERES	**GERESS Array B**	**86.20**	**319**	P	**P**	**07 10 32.1**	**+0.7**
	comp=Z,0.2nm,0.2s,mb4.0,baz=135,slow=4.2,SNR=2.9						
HFS	**Hagfors**	**87.09**	**330**	P	**P**	**07 10 36.6**	**+1.2**
	comp=Z,2.5nm,0.8s,mb4.5,baz=304,slow=5.3,SNR=3.5						
TXAR	**Lajitas Array**	**144.11**	**33**	PKP	PKPdf	07 17 26.5	+1.4
	comp=Z,0.8nm,1.0s,baz=270,slow=1.3,SNR=5.1						

IDC 02 06:59:48.3±9.3, 19.57S×174.50W, h63km±72km, mb3.5/5, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, ML2.2/1, Error ellipse: s-maj=114.3km s-min=19.3km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.21**	**25**	P	P	07 01 18.3	-1.0
	3.3nm,0.3s,baz=182,slow=23,SNR=5.1						
AFI				S	S	07 02 27.2	-2.5
	4.9nm,0.3s,baz=167,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**47.93**	**255**	P	P	07 08 20.0	-2.6
	2.0nm,0.8s,baz=89,slow=8.3,SNR=13						
ASAR				PcP	PcP	07 09 49.1	-1.4
	0.8nm,0.8s,baz=105,slow=4.5,SNR=4.4						
WRA	**Warramunga Arr**	**47.99**	**260**	P	P	07 08 21.5	-1.6
	1.5nm,0.9s,baz=97,slow=7.5,SNR=6.9						
NVAR	**Mina Array Bea**	**78.12**	**42**	P	P	07 11 41.5	-0.8
	1.2nm,0.8s,baz=215,slow=7.0,SNR=7.5						
TXAR	**Lajitas Array**	**83.80**	**56**	P	P	07 12 10.1	-2.4
	0.5nm,0.9s,baz=207,slow=8.4,SNR=3.6						
PDAR	**Pinedale Array**	**86.06**	**42**	P	P	07 12 22.5	-0.8
	0.4nm,0.8s,baz=239,slow=5.3,SNR=2.9						
AKASG	**Malin Array Be**	**143.70**	**334**	PKP	PKPdf	07 19 15.2	-0.7
	0.3nm,0.3s,baz=38,slow=4.3,SNR=4.1						

*BJI **02** 07:09:18.1, 0.45N×97.37E, h38km, mB4.8, mb4.8, Ms4.5, Msz4.2*
*IDC **02** 07:09:21.9±1.0, 1.01N×96.97E, h21km±3km, mb4.1/11, mb1 4.2/11, mb1mx4.0/18, mbtmp4.2/11, Error ellipse: s-maj=50.9km s-min=11.7km az=54.0*
*MOS **02** 07:09:22.1±1.2, 1.08N×97.23E, h33km, mb4.8/13, Error ellipse: s-maj=28.8km s-min=11.0km az=104.8*
*NEIC **02** 07:09:22.6±0.6, 1.04N×97.18E, mb4.7/16, Error ellipse: s-maj=15.9km s-min=7.7km az=52.0*
ISC 02 07:09:20.8±0.5, 1.05N±0.07×97.18E±0.07, h22km, h22km±.6km:pP-P, n64, σ1§11/64, mb4.5/39, MS4.0/4, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.20**	**47**	P	**Pn**	**07 10 39.3**	**0.0**
KULM	**Kulim**	**5.45**	**39**	*e*P	**Pn**	**07 10 42.7**	**-0.3**
KGM	**Kluang**	**6.21**	**81**	P	**Pn**	**07 10 55.0**	**+1.4**
KKM	**Kota Kinabalu**	**19.63**	**75**	*e*P	**P**	**07 13 51.2**	**+0.2**
KMI	**Kunming**	**24.53**	**12**	P	**P**	**07 14 41.4**	**+1.1**
KMI				AP		07 14 47.6	
KMI				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
KMI				LR	LR		
	comp=N,341nm,14.8s,MS4.1						
KMI				LR	LR		
	comp=E,247nm,14.4s,MS4.1						
KMI				LR	LR		
	comp=Z,407nm,14.8s,MS4.0						
KMI	**Kunming**	**24.53**	**12**	P	**P**	**07 14 41.4**	**+1.1**
	comp=Z,30nm,1.0s,mb4.8						
KMI				pP		07 14 47.6	
KMI				LR	LR		
	comp=Z,410nm,14.8s,MS4.0						
GYA	**Guiyang**	**26.86**	**19**	P	**P**	**07 15 03.4**	**+1.4**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
JIRN	**Jiri**	**28.48**	**339**	*e*P	**P**	**07 15 17.4**	**+0.7**
	comp=Z,18nm,0.8s,mb4.8						
PKI	**Pulchoki**	**28.69**	**338**	*e*P	**P**	**07 15 19.6**	**+1.0**
	comp=Z,22nm,1.1s,mb4.8						
PKI	**Pulchoki**	**28.69**	**338**	*e*P	**P**	**07 15 19.6**	**+1.0**
PKI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
GUN	**Gumba**	**28.82**	**339**	*e*P	**P**	**07 15 19.7**	**-0.1**
	comp=Z,27nm,0.7s,mb5.1						
DMN	**Daman**	**28.84**	**337**	*e*P	**P**	**07 15 21.1**	**+1.2**
	comp=Z,25nm,1.2s,mb4.8						
KKN	**Kakani**	**28.94**	**338**	*e*P	**P**	**07 15 21.9**	**+1.1**
	comp=Z,37nm,1.0s,mb5.1						
KKN	**Kakani**	**28.94**	**338**	*e*P	**P**	**07 15 21.9**	**+1.1**
KKN				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
LSA	**Lhasa**	**29.07**	**349**	*e*P	**P**	**07 15 23.3**	**+1.3**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**29.07**	**349**	*e*P	**P**	**07 15 23.3**	**+1.3**
	comp=Z,7.3nm,0.8s,mb4.5						
GKN	**Gorkha**	**29.37**	**337**	*e*P	**P**	**07 15 24.7**	**-0.1**
	comp=Z,25nm,0.9s,mb4.9						
KOLN	**Koldanda**	**29.59**	**335**	*e*P	**P**	**07 15 27.1**	**+0.4**
	comp=Z,17nm,0.7s,mb4.9						
ENH	**Enshi**	**31.33**	**21**	*e*P	**P**	**07 15 40.0**	**-2.0**
	comp=Z,11nm,0.4s,mb5.0						
ENH				*e*pP	pP	07 15 46.8	-1.8
FITZ	**Fitzroy Crossi**	**33.85**	**126**	P	**P**	**07 16 03.9**	**-0.3**
	comp=Z,5.2nm,0.8s,mb4.5,baz=268,slow=5.6,SNR=3.9						
XAN	**Xi'an**	**34.61**	**17**	P	**P**	**07 16 08.4**	**-2.1**
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
GTA	**Gaotai**	**38.26**	**3**	P	**P**	**07 16 41.3**	**0.0**
GTA				AP	pP	07 16 48.1	+0.1
GTA				XP	sP	07 16 52.1	+1.3
GTA				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
HHC	**Hu-ho-hao-te**	**41.71**	**16**	*e*P	**P**	**07 17 11.3**	**+1.5**
HHC				XP	sP	07 17 22.7	+3.4
HHC				PP	PP	07 18 51.2	+1.8
HHC				PCP	PcP	07 19 07.9	+1.0
HHC				SCP		07 22 54.5	
HHC				PCS		07 22 58.6	
HHC				S	**S**	**07 23 28.2**	**+3.0**
HHC				XS		07 23 41.1	
HHC				SS	SS	07 26 30.6	+4.6
HHC				SCS	ScS	07 27 10.3	+0.7
HHC				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.2						
HHC				AMB	AMB		
	comp=Z,55nm,5.1s						
HHC				LR	LR		
	comp=N,145nm,15.3s,MS4.4						
HHC				LR	LR		
	comp=E,409nm,15.7s,MS4.4						
HHC				LR	LR		
	comp=Z,145nm,16.1s,MS3.9						
WRA	**Warramunga Arr**	**41.97**	**122**	P	**P**	**07 17 12.2**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.1,baz=302,slow=9.1,SNR=32						
WRA				pP	pP	07 17 20.1	+1.2
	comp=Z,2.1nm,0.6s,baz=301,slow=9.0,SNR=5.8						
WRAB	**Tennant Creek**	**41.97**	**122**	*e*P	**P**	**07 17 12.9**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**41.97**	**122**	*e*P	**P**	**07 17 12.8**	**+0.6**
	comp=Z,5.0nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**41.98**	**122**	*e*P	**P**	**07 17 12.5**	**+0.2**
BJT	**Baijiatuau**	**42.47**	**22**	*e*P	**P**	**07 17 16.4**	**+0.4**
BJT				*e**PP	pP	07 17 23.4	+0.7
BJT				pmax	pmax		
	comp=Z,17nm,0.8s						
BJT	**Baijiatuau**	**42.47**	**22**	*e*P	**P**	**07 17 16.4**	**+0.3**
	comp=Z,16nm,0.8s,mb4.7						
BJT				*e*pP	pP	07 17 23.4	+0.6
BJI	**Beijing**	**42.49**	**22**	*e*P	**P**	**07 17 16.4**	**+0.2**
BJI				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.8						
BJI	**Beijing**	**42.49**	**22**	*e*P	**P**	**07 17 16.4**	**+0.2**
	comp=Z,19nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**43.31**	**127**	P	**P**	**07 17 23.8**	**+0.6**
	comp=Z,1.4nm,0.6s,mb3.9,baz=298,slow=8.0,SNR=14						
ASAR				pP	pP	07 17 30.1	+0.2
	comp=Z,1.5nm,0.6s,baz=303,slow=8.1,SNR=7.7						
WMQ	**Urumqi**	**43.42**	**350**	⇓P	**P**	**07 17 24.5**	**+0.7**
WMQ				AP	pP	07 17 32.0	+1.5
WMQ				XP	sP	07 17 35.5	+2.3
WMQ				PP	PP	07 19 07.7	+0.9
WMQ				PCP	PcP	07 19 13.5	+1.0
WMQ				S	**S**	**07 23 50.7**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						

comp=Z,4.0nm,0.8s,mb4.4
KURK Kurchatov 51.94 345 *e*P **P 07 18 29.5 -0.7**
comp=Z,4.4nm,0.8s,mb4.4
MDJ Mudanjiang 52.01 29 P **P 07 18 30.4 -0.4**
MDJ AP pP 07 18 36.7 -1.0
MDJ PCP PcP 07 19 42.2 -0.9
MDJ PP PP 07 20 27.3 -2.4
MDJ PCS 07 23 40.4
MDJ S **S 07 25 54.0 +2.5**
MDJ AMB AMB
comp=Z,7.0nm,1.6s,mb4.3
MDJ AMB AMB
comp=Z,58nm,5.8s
MDJ LR LR
comp=N,86nm,14.2s,MS4.2
MDJ LR LR
comp=E,140nm,17.1s,MS4.2
MDJ LR LR
comp=Z,152nm,16.1s,MS4.1
STKA Stephens Creek 53.27 132 P **P 07 18 40.5 +0.1**
comp=Z,3.1nm,0.8s,mb4.3,baz=320,slow=8.5,SNR=5.6
STKA pP pP 07 18 47.9 +0.6
comp=Z,6.8nm,0.7s,baz=308,slow=9.7,SNR=9.2
ZAL Zalesovo 53.70 351 P **P 07 18 42.4 -0.9**
comp=Z,4.6nm,0.7s,mb4.5,baz=298,slow=6.0,SNR=16
BVA0 Borovoye Array 56.39 341 *i* P **P 07 19 01.1 -1.7**
BVA0 pmax pmax
comp=Z,1.0nm,1.4s,mb3.6
BVAR Borovoye Array 56.39 341 P **P 07 19 01.4 -1.4**
comp=Z,2.7nm,0.7s,mb4.4,baz=141,slow=9.5,SNR=15
BVAR pP pP 07 19 07.7 -2.0
comp=Z,2.3nm,0.7s,baz=135,slow=8.4,SNR=8.8
KLR Kul'dur 56.40 27 *e*P **P 07 19 00.0 -2.9**
CHKZ Chkalovo 56.87 341 P **P 07 19 04.9 -1.3**
CHKZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BOD Bodaibo 58.16 11 *e*P **P 07 19 14.2 -1.1**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
TIXI Tiksi 73.34 10 *e*P **P 07 20 49.9 -2.5**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
FINES FINESS Array B 80.13 333 P **P 07 21 29.1 -1.4**
comp=Z,1.3nm,1.0s,mb3.8,baz=135,slow=8.1,SNR=3.4
FINES pP pP 07 21 36.0 -1.6
comp=Z,1.0nm,0.6s,baz=112,slow=10,SNR=2.5
ARCES ARCESS Array B 82.67 340 P **P 07 21 43.2 -0.5**
comp=Z,3.2nm,1.0s,mb4.3,baz=90,slow=6.1,SNR=5.3
ARCES pP pP 07 21 49.4 -1.4
comp=Z,3.6nm,0.8s,baz=45,slow=6.9,SNR=2.4
GERES GERESS Array B 84.92 319 P **P 07 21 55.9 +0.4**
comp=Z,0.5nm,0.7s,mb3.8,baz=82,slow=9.4,SNR=3.6
GERES pP pP 07 22 02.9 +0.2
comp=Z,0.6nm,0.7s,baz=108,slow=8.4,SNR=2.7
MOX Moxa 86.38 321 *e*P **P 07 22 06.0 +3.3**
YKA Yellowknife Ar 112.24 15 PP PP 07 28 39.2 -5.0
comp=Z,0.2nm,0.9s,baz=327,slow=7.5,SNR=4.8
TXAR Lajitas Array 143.81 32 PKP PKPdf 07 28 54.7 -4.7
comp=Z,0.2nm,0.5s,baz=330,slow=0.2,SNR=4.3
TXAR pPKP 07 29 03.1
comp=Z,0.3nm,0.5s,baz=43,slow=1.8,SNR=3.5
TXAR Lajitas Array 143.81 32 PKP PKPdf 07 28 54.7 -4.7
TXAR pPKP 07 29 03.1

IDC 02 07:21:57.5±3.6, 1.13N×97.60E, mb4.0/5, mb1 4.1/5, mb1mx3.8/16, mbtmp4.0/5, Error ellipse: s-maj=151.2km s-min=21.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.67**	**122**	P	P	07 29 48.3	-1.4
	0.8nm,0.5s,baz=301,slow=9.0,SNR=11						
WB2	**Warramunga Arr**	**41.68**	**122**	*e*P	P	07 29 47.9	-1.9
ASAR	**Alice Springs**	**43.04**	**127**	P	P	07 29 58.8	-2.2
	0.3nm,0.5s,baz=305,slow=6.9,SNR=5.2						
SONM	**Songino Array**	**47.14**	**8**	P	P	07 30 32.1	-1.3
	0.7nm,0.4s,baz=185,slow=9.6,SNR=5.9						
MKAR	**Makanchi Array**	**47.40**	**346**	P	P	07 30 33.7	-1.8
	1.6nm,0.5s						
ZAL	**Zalesovo**	**53.68**	**351**	P	P	07 31 20.3	-2.9
	3.4nm,0.5s,baz=322,slow=5.8,SNR=14						

*IDC **02** 07:22:38.3±0.8, 33.91N×142.49E, mb3.8/7, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=26.7km s-min=21.7km az=97.0*
*JMA **02** 07:22:40.4±0.4, 33.99N×142.37E, h69km, M3.5*
*NEIC **02** 07:22:44.1±0.6, 33.96N×142.27E, h40km, Error ellipse: s-maj=22.7km s-min=12.8km az=46.0*
ISC 02 07:22:40.6±0.7, 33.92N±0.05×142.34E±0.07, h33km, n25, σ1≦19/29, mb3.7/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.34**	**303**	P	**P**	**07 23 03.2**	**0.0**
BSO1				S	**S**	**07 23 21.2**	**+1.1**
BSO3	**Boso 3**	**1.75**	**301**	P	**P**	**07 23 09.6**	**+0.6**
BSO4	**Boso 4**	**1.97**	**303**	P	**P**	**07 23 13.1**	**+1.0**
CHOJ	**Chosi**	**2.16**	**326**	P	**P**	**07 23 14.6**	**-0.2**
JHJ	**Hachijo jima 2**	**2.28**	**250**	Pn	**Pn**	**07 23 17.8**	**+1.0**
	96nm,0.3s,baz=80,slow=23,SNR=17						
JHJ				Sn	**Sn**	**07 23 44.5**	**+0.5**
	134nm,0.3s,baz=66,slow=23,SNR=8.8						
JIM2	**Oshima 3**	**2.54**	**289**	P	**P**	**07 23 19.6**	**-0.6**
JOD2	**Odawara 2**	**3.00**	**297**	P	**P**	**07 23 26.1**	**-0.8**
JAG	**Ashikaga**	**3.44**	**317**	P	**P**	**07 23 31.8**	**-1.3**
JRY	**Ryogami san**	**3.51**	**308**	P	**P**	**07 23 33.6**	**-0.6**
JFK	**Kawauchi**	**3.64**	**341**	P	**P**	**07 23 33.0**	**-3.0**
MAJO	**Matsushiro**	**4.28**	**309**	*e*P	**P**	**07 23 44.3**	**-0.7**
MAT	**Matsushiro**	**4.28**	**309**	P	**P**	**07 23 45.0**	**0.0**
MAT				*e*S	**S**	**07 24 32.0**	**-2.5**
MAT	**Matsushiro**	**4.28**	**309**	P	**P**	**07 23 45.3**	**+0.3**
MAT				S	**S**	**07 24 32.0**	**-2.5**
CBIJ	**Chichi jima**	**6.80**	**181**	Pn	**Pn**	**07 24 15.6**	**-5.2**
	4.8nm,0.3s,baz=136,slow=19,SNR=2.8						
CBIJ				Sn	**Sn**	**07 25 35.4**	**-2.5**
	8.7nm,0.3s,baz=131,slow=20,SNR=3.3						
ASAJ	**Asahikawa**	**10.19**	**1**	Pn	**P**	**07 25 02.5**	**-4.9**
	1.3nm,0.3s,baz=191,slow=13,SNR=6.5						
ASAJ				Sn	**S**	**07 26 53.4**	**-8.3**
	0.3nm,0.3s,baz=204,slow=18,SNR=2.1						
SONM	**Songino Array**	**30.23**	**308**	P	**P**	**07 28 51.9**	**+1.7**
	1.0nm,0.8s,mb3.6,baz=97,slow=10.0,SNR=5.7						
ZAL	**Zalesovo**	**44.62**	**315**	P	**P**	**07 30 52.4**	**+1.1**
	0.6nm,0.3s,mb3.9,baz=36,slow=3.6,SNR=4.3						
KURK	**Kurchatov**	**48.49**	**310**	*e*P	**P**	**07 31 22.2**	**+0.4**
WRA	**Warramunga Arr**	**54.10**	**189**	P	**P**	**07 32 04.7**	**+0.1**
	1.2nm,0.5s,mb4.1,baz=6.2,slow=7.5,SNR=21						
ASAR	**Alice Springs**	**57.83**	**189**	P	**P**	**07 32 31.7**	**+0.4**
	0.8nm,0.7s,mb3.9,baz=16,slow=11,SNR=7.2						
YKA	**Yellowknife Ar**	**66.13**	**30**	P	**P**	**07 33 25.4**	**-0.8**
	0.1nm,0.8s,mb2.9,baz=295,slow=6.9,SNR=4.3						
NOA	**NORSAR Array B**	**77.35**	**338**	P	**P**	**07 34 36.0**	**+2.9**
	1.1nm,0.9s,mb3.8,baz=146,slow=2.2,SNR=3.4						
TXAR	**Lajitas Array**	**91.41**	**53**	P	**P**	**07 35 46.2**	**+1.5**
	0.3nm,0.6s,mb3.8,baz=316,slow=3.4,SNR=4.5						
LPAZ	**La Paz**	**147.47**	**65**	PKPbc	PKPdf	07 42 25.3	+6.2
	0.8nm,0.6s,slow=7.1,SNR=5.9						
CFAA	**Coronel Fontan**	**154.23**	**93**	PKPbc	PKPdf	07 42 40.3	+11
	0.1nm,0.5s,baz=270,slow=2.0,SNR=3.4						

*IDC **02** 07:36:35.2±2.2, 7.57N×92.52E, mb3.8/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, Error ellipse: s-maj=102.6km s-min=20.0km az=62.0*
ISC 02 07:36:38.9±1.2, 7.7N±0.2×92.7E±0.3, h33km, n9, σ1≦16/7, mb3.9/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGP	**Nagpur**	**18.84**	**317**	*e*P	**P**	**07 40 59.4**	**+0.8**
NGP				*e*S		07 41 04.5	
NGP				*e*		07 41 11.2	
	66nm,0.8s						
MKAR	**Makanchi Array**	**40.01**	**349**	P	**P**	**07 44 11.6**	**-0.6**
	0.8nm,0.5s,mb3.8						
SONM	**Songino Array**	**41.69**	**14**	P	**P**	**07 44 27.5**	**+1.4**
	2.0nm,0.9s,mb3.7,baz=203,slow=6.3,SNR=6.8						
BVAR	**Borovoye Array**	**48.76**	**342**	P	**P**	**07 45 20.7**	**-1.7**
	0.4nm,0.4s,mb3.8,baz=148,slow=10.0,SNR=3.1						
WRA	**Warramunga Arr**	**49.28**	**124**	P	**P**	**07 45 26.2**	**-0.7**
	0.9nm,0.4s,mb4.1,baz=303,slow=8.6,SNR=22						
ASAR	**Alice Springs**	**50.85**	**129**	P	**P**	**07 45 38.2**	**-0.7**
	0.8nm,0.6s,mb3.9,baz=306,slow=7.1,SNR=12						
STKA	**Stephens Creek**	**60.97**	**133**	P	**P**	**07 46 53.2**	**+1.7**
	1.2nm,0.7s,mb4.2,baz=300,slow=8.2,SNR=3.0						
NVAR	**Mina Array Bea**	**125.81**	**30**	PKP	PKPdf	07 55 40.6	+2.7
	0.3nm,0.5s,baz=315,slow=2.6,SNR=4.3						
TXAR	**Lajitas Array**	**139.97**	**23**	PKP	PKPdf	07 56 08.2	+3.6
	0.2nm,0.6s,baz=28,slow=0.8,SNR=3.7						

*NIED **02** 07:38:00, 34.00N×142.40E, h5km, Mw4.1 Best double couple: M0:1.52×10^15 NP1:φs164°, δ57°, λ-89°. NP2: φs343°, δ33°, λ-91°.*
*IDC **02** 07:38:17.8±0.6, 33.96N×142.41E, mb4.1/15, mb1 4.3/18, mb1mx4.2/24, mbtmp4.2/18, ML4.2/3, MS3.2/2, Ms1 3.2/2, ms1mx2.9/32, Error ellipse: s-maj=21.2km s-min=14.1km az=86.0*
*BJI **02** 07:38:20.3, 33.90N×142.20E, h22km, mB4.7, mb4.6, Ms4.3, Msz3.9*
*JMA **02** 07:38:20.2±0.3, 33.99N×142.39E, h66km, M3.8*
*MOS **02** 07:38:20.6±0.7, 33.92N×142.25E, h33km, mb4.9/6, Error ellipse: s-maj=24.2km s-min=10.5km az=127.5*
*NEIC **02** 07:38:21.4±3.5, 33.95N×142.24E, h22km±24km, mb4.8/12, MW4.1(NIED), Error ellipse: s-maj=10.7km s-min=7.1km az=82.0*
ISC 02 07:38:18.8±1.4, 33.96N±0.04×142.36E±0.05, h20km±9km, h17km±2.5km: pP-P, n71, σ1≦00/82, mb4.4/31, MS3.8/2, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.33**	**302**	P	**Pn**	**07 38 43.0**	**+0.4**
BSO1				S	**Sb**	**07 39 00.9**	**+1.2**
BSO3	**Boso 3**	**1.74**	**299**	P	**Pn**	**07 38 49.2**	**+0.7**
BSO4	**Boso 4**	**1.96**	**302**	P	**Pn**	**07 38 52.8**	**+1.3**
CHOJ	**Chosi**	**2.13**	**325**	P	**Pn**	**07 38 54.3**	**+0.3**
CHOJ				S	**Sn**	**07 39 19.8**	**-0.3**
JHJ2	**Mitsune**	**2.29**	**249**	P	**Pn**	**07 38 57.5**	**+1.3**
JHJ2				S	**Sn**	**07 39 24.5**	**+0.4**
JHJ	**Hachijo jima 2**	**2.31**	**249**	Pn	**Pn**	**07 38 57.5**	**+1.0**
	257nm,0.3s,baz=120,slow=4.9,SNR=39						
JHJ				Sn	**Sn**	**07 39 24.8**	**+0.1**
	278nm,0.3s,baz=36,slow=21,SNR=17						
JHJ				LR	LR	07 39 26.3	
	comp=Z,887nm,20.1s,baz=60,slow=30						
JIM2	**Oshima 3**	**2.54**	**288**	P	**Pn**	**07 38 59.8**	**0.0**
JIZS	**Izushimoda**	**2.98**	**286**	P	**Pn**	**07 39 05.5**	**-0.6**
JOD2	**Odawara 2**	**2.99**	**297**	P	**Pn**	**07 39 05.8**	**-0.5**
JOD2				S	**Sn**	**07 39 40.9**	**-1.1**
JAG	**Ashikaga**	**3.42**	**317**	P	**Pn**	**07 39 11.7**	**-0.7**
JYN	**Shimob**	**3.49**	**297**	P	**Pn**	**07 39 13.7**	**+0.3**
JYN				S	**Sn**	**07 39 55.1**	**+0.4**
JRY	**Ryogami san**	**3.50**	**307**	P	**Pn**	**07 39 13.4**	**-0.1**
JRY				S	**Sn**	**07 39 54.9**	**+0.1**
MAJO	**Matsushiro**	**4.26**	**308**	*e*P	**Pn**	**07 39 24.1**	**-0.2**
MAT	**Matsushiro**	**4.26**	**308**	P	**Pn**	**07 39 24.0**	**-0.3**
MAT				S	**Sn**	**07 40 12.0**	**-2.1**
MAT	**Matsushiro**	**4.26**	**308**	P	**Pn**	**07 39 23.5**	**-0.8**
MAT				*e*S	**Sn**	**07 40 11.8**	**-2.3**
CBIJ	**Chichi jima**	**6.85**	**181**	Pn	**Pn**	**07 39 57.6**	**-3.2**
	12nm,0.3s,baz=306,slow=18,SNR=9.4						
CBIJ				Sn	**Sn**	**07 41 14.7**	**-4.3**
	12nm,0.3s,baz=298,slow=23,SNR=6.1						
ASAJ	**Asahikawa**	**10.14**	**1**	P	**P**	**07 40 43.6**	**-2.9**
ASAJ						07 42 33.3	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,89nm,20.1s						
ASAJ	**Asahikawa**	**10.14**	**1**	Pn	**P**	**07 40 43.5**	**-3.0**
	comp=Z,1.9nm,0.3s,baz=216,slow=9.4,SNR=8.3						
ASAJ				Sn	**S**	**07 42 33.2**	**-7.5**
	comp=Z,0.6nm,0.3s,baz=92,slow=32,SNR=4.4						
ASAJ				LR	LR	07 45 10.3	
	comp=Z,89nm,20.1s,baz=153,slow=41						
YSS	**Yuzh-Sakhalins**	**12.98**	**1**	*e*P	**P**	**07 41 30.0**	**+5.0**
YSS	**Yuzh-Sakhalins**	**12.98**	**1**	P	**P**	**07 41 21.2**	**-3.8**
	comp=Z,9.0nm,0.7s						
MDJ	**Mudanjiang**	**14.50**	**321**	P	**P**	**07 41 43.8**	**-1.1**
MDJ				S	**S**	**07 44 25.6**	**-0.4**
MDJ				PCP	PcP	07 46 58.4	-1.3
MDJ				SCP		07 50 32.2	
MDJ				PCS		07 50 33.6	
MDJ				SCS	ScS	07 54 10.0	+2.5
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.8s						
MDJ				AMB	AMB		
	comp=Z,67nm,6.1s						
MDJ				LR	LR		
	comp=N,169nm,11.6s						
MDJ				LR	LR		
	comp=E,98nm,14.5s						
MDJ				LR	LR		
	comp=Z,234nm,13.3s						
HIA	**Hailar**	**22.67**	**319**	P	**P**	**07 43 20.5**	**+0.4**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
HIA	**Hailar**	**22.67**	**319**	P	**P**	**07 43 20.5**	**+0.5**
	comp=Z,4.2nm,0.3s,mb4.3						
HHC	**Hu-ho-hao-te**	**25.32**	**295**	*e*P	**P**	**07 43 47.6**	**+1.8**
HHC				AP	pP	07 43 52.0	+0.5
HHC				XP	sP	07 43 55.1	+0.9
HHC				PP	PP	07 44 27.7	+3.1
HHC				S	**S**	**07 48 15.3**	**+7.1**
HHC				XS		07 48 24.6	
HHC				SCP		07 50 56.0	
HHC				SCS	ScS	07 54 42.8	-0.7
HHC				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.5						
HHC				LR	LR		
	comp=N,143nm,13.2s,MS4.2						
HHC				LR	LR		
	comp=E,584nm,16.9s,MS4.2						
HHC				LR	LR		
	comp=Z,127nm,13.9s,MS3.6						
XAN	**Xi'an**	**27.65**	**280**	P	**P**	**07 44 06.6**	**-0.7**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3						
ENH	**Enshi**	**28.02**	**272**	*e*P	**P**	**07 44 09.1**	**-1.5**
	comp=Z,15nm,1.0s,mb4.6						
SONM	**Songino Array**	**30.21**	**308**	P	**P**	**07 44 31.3**	**+1.1**
	comp=Z,3.0nm,1.0s,mb4.0,baz=100,slow=6.1,SNR=6.5						
BOD	**Bodaibo**	**30.55**	**330**	*e*P	**P**	**07 44 32.2**	**-0.9**
BOD				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
LZH	**Lanzhou**	**31.48**	**285**	*e*P	**P**	**07 44 40.1**	**-1.3**
LZH				AP	pP	07 44 46.5	-0.8
LZH				XP	sP	07 44 49.7	-0.1
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.8						
LZH	**Lanzhou**	**31.48**	**285**	*e*P	**P**	**07 44 40.1**	**-1.3**
LZH				*SP	sP	07 44 49.7	-0.1
LZH				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.8						
LZH	**Lanzhou**	**31.48**	**285**	*e*P	**P**	**07 44 40.1**	**-1.3**
	comp=Z,23nm,1.4s,mb4.8						
LZH				pP	pP	07 44 46.5	-0.8
LZH				sP	sP	07 44 49.7	-0.1
GTA	**Gaotai**	**34.31**	**292**	P	**P**	**07 45 07.0**	**+0.9**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
WMQ	**Urumqi**	**42.98**	**300**	⇑P	**P**	**07 46 19.8**	**+1.5**
WMQ				AP	pP	07 46 24.3	+0.1
WMQ				XP	sP	07 46 26.8	+0.1
WMQ				PP	PP	07 48 02.0	+1.5
WMQ				PCP	PcP	07 48 11.0	+1.8
WMQ				S	**S**	**07 52 43.8**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,61nm,5.2s						
WMQ				LR	LR		
	comp=N,47nm,22.2s,MS3.7						
WMQ				LR	LR		
	comp=E,108nm,22.2s,MS3.7						
ZAL	**Zalesovo**	**44.60**	**315**	P	**P**	**07 46 31.1**	**-0.1**
	comp=E,1.3nm,0.6s,mb3.9,baz=351,slow=6.8,SNR=3.8						
MKAR	**Makanchi Array**	**46.45**	**305**	P	**P**	**07 46 46.7**	**+0.7**
	comp=E,3.4nm,0.6s,mb4.5						
JIRN	**Jiri**	**48.15**	**278**	*e*P	**P**	**07 46 59.4**	**-0.3**
	comp=E,29nm,0.7s,mb5.4						
GUN	**Gumba**	**48.31**	**279**	*e*P	**P**	**07 47 02.3**	**+1.4**
	comp=E,34nm,1.0s,mb5.3						
KURK	**Kurchatov**	**48.47**	**310**	*e*P	**P**	**07 47 02.1**	**+0.3**
KURK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
KURK	**Kurchatov**	**48.47**	**310**	*e*P	**P**	**07 47 02.1**	**+0.3**
	comp=Z,13nm,0.8s,mb5.0						
PKI	**Pulchoki**	**48.82**	**279**	*e*P	**P**	**07 47 03.1**	**-1.8**
KKN	**Kakani**	**48.84**	**279**	*e*P	**P**	**07 47 04.3**	**-0.8**
	comp=Z,16nm,0.9s,mb5.1						
KKN	**Kakani**	**48.84**	**279**	*e*P	**P**	**07 47 04.3**	**-0.8**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
DMN	**Daman**	**49.06**	**279**	*e*P	**P**	**07 47 05.3**	**-1.4**
	comp=Z,9.9nm,0.9s,mb4.8						
GKN	**Gorkha**	**49.29**	**280**	*e*P	**P**	**07 47 09.6**	**+1.1**
BVAR	**Borovoye Array**	**53.23**	**314**	P	**P**	**07 47 38.1**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=112,slow=8.0,SNR=6.4						
WRAB	**Tennant Creek**	**54.13**	**189**	*e*P	**P**	**07 47 44.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**54.13**	**189**	*e*P	**P**	**07 47 44.5**	**-0.5**
	comp=Z,9.0nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**54.14**	**189**	*e*P	**P**	**07 47 44.4**	**-0.7**
WRA	**Warramunga Arr**	**54.15**	**189**	P	**P**	**07 47 44.4**	**-0.7**
	comp=Z,8.0nm,0.9s,mb4.6,baz=6.4,slow=7.5,SNR=55						
FITZ	**Fitzroy Crossi**	**54.17**	**200**	*e*P	**P**	**07 47 45.3**	**0.0**
	comp=Z,5.2nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**54.17**	**200**	P	**P**	**07 47 45.1**	**-0.2**
	comp=Z,15nm,1.2s,mb4.8,baz=11,slow=7.9						
ASAR	**Alice Springs**	**57.87**	**189**	P	**P**	**07 48 11.2**	**-0.6**
	comp=Z,3.7nm,0.8s,mb4.5,baz=12,slow=8.2,SNR=30						
ASPA	**Alice Springs**	**57.87**	**189**	*e*P	**P**	**07 48 11.6**	**-0.2**
MBWA	**Marble Bar**	**58.90**	**205**	P	**P**	**07 48 18.3**	**-0.8**
	comp=Z,3.2nm,0.8s,mb4.4						
ARU	**Arti**	**59.19**	**320**	*e*P	**P**	**07 48 20.0**	**-0.6**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
ARU	**Arti**	**59.19**	**320**	*e*P	**P**	**07 48 20.0**	**-0.6**
	comp=Z,4.6nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**65.49**	**181**	P	**P**	**07 49 03.2**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.2,baz=316,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**65.49**	**181**	P	**P**	**07 49 03.2**	**+0.2**
YKA	**Yellowknife Ar**	**66.08**	**30**	P	**P**	**07 49 05.5**	**-0.7**
	comp=Z,0.3nm,0.8s,mb3.4,baz=295,slow=6.5,SNR=6.1						
FINES	**FINESS Array B**	**71.89**	**333**	P	**P**	**07 49 42.3**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=34,slow=6.9,SNR=4.7						
NVAR	**Mina Array Bea**	**76.22**	**53**	P	**P**	**07 50 09.1**	**+1.5**
	comp=Z,0.5nm,0.7s,mb3.5,baz=289,slow=4.6,SNR=5.2						
NVAR	**Mina Array Bea**	**76.22**	**53**	P	**P**	**07 50 09.1**	**+1.5**
AKASG	**Malin Array Be**	**77.20**	**323**	P	**P**	**07 50 12.9**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=47,slow=6.3,SNR=6.6						
NB2	**NORSAR Subarra**	**77.31**	**338**	P	**P**	**07 50 13.5**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**77.31**	**338**	P	**P**	**07 50 13.8**	**+0.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=40,slow=5.6,SNR=5.7						
BRTR	**Keskin Array B**	**81.47**	**312**	P	**P**	**07 50 37.6**	**+1.5**
	comp=Z,2.3nm,0.9s,mb4.1,baz=90,slow=4.9,SNR=5.3						
PV10	**Paradox Valley**	**82.22**	**49**	*e*P	**P**	**07 50 42.2**	**+2.3**
TXAR	**Lajitas Array**	**91.37**	**53**	P	**P**	**07 51 26.0**	**+1.2**
	comp=Z,0.5nm,0.6s,mb4.0,baz=293,slow=3.2,SNR=7.0						
QSPA	**South Pole Qui**	**123.71**	**180**	*e*PKPdf	PKPdf	07 57 15.9	-2.7
LPAZ	**La Paz**	**147.44**	**65**	PKP2	PKPab	07 58 04.4	-1.6
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ	**La Paz**	**147.44**	**65**	PKPbc	PKPdf	07 58 04.4	+0.9
	comp=Z,1.8nm,0.8s,baz=17,slow=9.6,SNR=8.0						

CASC 02 07:48:23.6±1.7, 12.28N×86.69W, h135km±8km, MD3.5, 6C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIRN	**Miramar**	**0.16**	**352**	*e*P	P	07 48 43.0	+0.5
MIRN				*e*S	S	07 48 57.3	+0.5
MOMJ	**Momotombo**	**0.20**	**49⇑**	*e*P	P	07 48 41.9	-0.7
MOMJ				*e*S	S	07 48 55.1	-1.9
CNGN	**Cerro Negro**	**0.22**	**358**	*e*P	P	07 48 41.8	-0.8
CNGN				*e*S	S	07 48 57.6	+0.5
LEON	**Leon**	**0.24**	**305⇑**	*e*P	P	07 48 41.8	-0.9
LEON				*e*S	S	07 48 56.9	-0.3
TEL3	**Telica 3**	**0.33**	**333⇑**	*e*P	P	07 48 42.6	-0.5
APYN	**Apoyeque**	**0.34**	**98⇑**	*e*P	P	07 48 42.1	-1.0
APYN				*e*S	S	07 48 58.5	+0.5
TELN	**Telica**	**0.35**	**337**	*e*P	P	07 48 42.5	-0.7
XAVN	**Gruta Xavier**	**0.38**	**110⇑**	*e*P	P	07 48 42.6	-0.7
XAVN				*e*S	S	07 48 57.8	-0.5
MGAN	**Managua**	**0.45**	**107⇑**	*e*P	P	07 48 42.7	-0.9
MGAN				*e*S	S	07 48 57.7	-1.2
TICN	**Ticuantepe**	**0.51**	**119**	*e*P	P	07 48 43.6	-0.3
CRIN	**San Cristobal**	**0.55**	**320**	*e*P	P	07 48 43.8	-0.3
PYTN	**Playitas**	**0.67**	**67⇓**	*e*P	P	07 48 44.9	0.0
PYTN				*e*S	S	07 49 00.7	-0.4
CNCH	**Conchagua**	**1.49**	**312**	*e*P	P	07 48 53.0	+0.6
CNCH				*e*S	S	07 49 14.9	+0.5
LCBS	**La Ceiba**	**2.62**	**302**	*e*P	P	07 49 07.2	+1.0
LCBS				*e*S	S	07 49 38.4	-0.2

*MOS **02** 07:59:14.2±1.2, 5.19S×145.63E, h81km, mb5.0/19, Error ellipse: s-maj=12.6km s-min=6.8km az=91.7*
*IDC **02** 07:59:15.4±0.4, 5.27S×145.69E, h80km±4km, mb4.5/18, mb1 4.7/20, mb1mx4.7/21, mbtmp4.8/20, MS4.2/15, Ms1 4.1/15, ms1mx4.1/19, Error ellipse: s-maj=12.0km s-min=8.2km az=98.0*
*NEIC **02** 07:59:15.2±0.2, 5.24S×145.72E, mb5.0/27, Error ellipse: s-maj=8.4km s-min=5.5km az=90.0*
NEIC Felt at Kainantu and Madang.
*BJI **02** 07:59:15

ASAR LR LR 08 12 51.3
comp=Z,228nm,18.9s,baz=29,slow=38
ASPA Alice Springs 21.54 211 *eP* **P 08 03 58.4 +0.2**
FITZ Fitzroy Crossi 23.37 235⇑ *iP* **P 08 04 15.9 -0.2**
comp=Z,83nm,0.9s,mb5.1
FITZ Fitzroy Crossi 23.37 235 P **P 08 04 16.0 -0.1**
comp=Z,74nm,0.6s,mb5.2,baz=43,slow=5.1,SNR=88
FITZ LR LR 08 14 49.8
comp=Z,329nm,19.5s,baz=75,slow=40
NOUC Port Laguerre 26.08 132 *eP* **P 08 04 41.1 -0.9**
NOUC Port Laguerre 26.08 132 *eP* **P 08 04 41.1 -0.9**
DZM Mont Dzumac 26.16 132 *eP* **P 08 04 41.9 -0.9**
DZM Mont Dzumac 26.16 132 P **P 08 04 42.0 -0.8**
comp=Z,41nm,0.9s,mb4.9,baz=320,slow=6.7,SNR=14
DZM pP pP 08 05 01.0 +0.8
comp=Z,22nm,0.8s,baz=272,slow=22,SNR=3.4
DZM LR LR 08 13 47.3
comp=Z,463nm,21.9s,baz=121,slow=33
STKA Stephens Creek 26.77 188⇑ *iP* **P 08 04 48.0 -0.3**
comp=Z,51nm,0.9s,mb5.1
STKA *eS* **S 08 09 28.2 +11**
STKA Stephens Creek 26.77 188 P **P 08 04 48.1 -0.2**
comp=Z,59nm,0.8s,mb5.2,baz=358,slow=8.0,SNR=99
STKA pP pP 08 05 06.0 +0.2
comp=Z,37nm,0.9s,baz=27,slow=9.2,SNR=4.7
STKA LR LR 08 15 59.1
comp=Z,383nm,20.0s,baz=9.3,slow=38
MBWA Marble Bar 29.71 235 *eP* **P 08 05 14.3 -0.5**
comp=Z,20nm,1.1s,mb4.7
CNB Canberra Magne 30.12 174⇑ *iP* **P 08 05 18.4 +0.1**
comp=Z,73nm,0.9s,mb5.3
ADE Adelaide 30.27 191⇑ *iP* **P 08 05 19.9 +0.3**
FORT Forrest 30.32 211 *eP* **P 08 05 20.4 +0.2**
comp=Z,1μm,0.7s
TOO Toolangi 32.18 180⇑ *iP* **P 08 05 37.0 +0.7**
comp=Z,4.3nm,0.9s,mb4.2
TOO Toolangi 32.18 180⇑ *iP* **P 08 05 37.0 +0.7**
TOO pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
KSM Kuching 35.93 280 *eP* **P 08 06 09.8 +1.0**
KSM *ep*P pP 08 06 28.8 +1.6
KLBR Kellerberrin 37.03 222 *eP* **P 08 06 17.9 +0.1**
comp=Z,3μm,1.8s
KLBR *e* 08 08 36.8
NWAO Narrogin (SRO) 38.22 220 *eP* **P 08 06 28.2 +0.5**
NWAO pmax pmax
comp=Z,35nm,1.1s
NWAO Narrogin (SRO) 38.22 220 P **P 08 06 28.4 +0.7**
comp=Z,30nm,1.0s,mb5.0,baz=67,slow=8.1,SNR=9.3
NWAO Narrogin (SRO) 38.22 220 *eP* **P 08 06 28.1 +0.5**
comp=Z,35nm,1.1s,mb5.1
MUN Mundaring 38.30 222 *eP* **P 08 06 29.5 +1.1**
comp=Z,25nm,1.3s,mb4.9
MUN Mundaring 38.30 222 *eP* **P 08 06 29.5 +1.1**
MUN pmax pmax
comp=Z,25nm,1.3s,mb4.9
OUZ Omahuta 39.43 143 PN **P 08 06 39.5 +1.8**
MAJO Matsushiro 42.15 351 *eP* **P 08 06 59.9 -0.2**
MAJO pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
MAJO Matsushiro 42.15 351 *eP* **P 08 06 59.9 -0.2**
comp=Z,7.9nm,0.8s,mb4.5
MAT Matsushiro 42.15 351 *eP* **P 08 07 00.0 -0.1**
MAT *eS* **S 08 13 09.0 -5.0**
MAT pmax pmax
comp=Z,19nm,1.3s,mb4.7
MAT Matsushiro 42.15 351 *eP* **P 08 07 00.0 -0.1**
comp=Z,19nm,1.3s,mb4.7
MAT *eS* **S 08 13 09.0 -5.0**
MAT Matsushiro 42.15 351 P **P 08 06 59.8 -0.3**
MAT S **S 08 13 08.6 -5.4**
GZH Guangzhou 42.30 313 P **P 08 07 04.9 +3.3**
AFI Afiamalu 42.78 105 P **P 08 07 04.6 -1.1**
comp=Z,47nm,1.0s,mb5.2,baz=333,slow=14,SNR=2.5
SSE Sheshan 43.03 329 *eP* **P 08 07 06.0 -1.5**
SSE S **S 08 13 26.8 -0.3**
SSE XS 08 14 04.5
SSE SCS ScS 08 16 57.7 -0.4
SSE AMB AMB
comp=Z,35nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,64nm,4.0s
SSE LR LR
comp=N,248nm,32.6s
SSE LR LR
comp=E,159nm,32.4s
SSE LR LR
comp=Z,368nm,30.2s
SSE Sheshan 43.03 329 *eP* **P 08 07 06.0 -1.5**
comp=Z,35nm,0.7s,mb5.2
SSE sP sP 08 07 26.9 -8.1
SSE pP pP 08 07 37.6 +11
SSE S **S 08 13 26.8 -0.3**
SSE sS 08 14 04.5
SSE SS SS 08 16 47.5 +13
SSE ScS ScS 08 16 57.7 -0.4
SSE LR LR
comp=Z,370nm,30.2s
URZ Urewera 43.55 143 P **P 08 07 11.8 +0.2**
comp=Z,20nm,0.9s,mb4.9,baz=10.0,slow=4.3,SNR=13
BKZ Black Stump Fm 43.80 145 PN **P 08 07 14.2 +0.6**
TSZ Takapari Road 44.11 146 PN **P 08 07 16.7 +0.7**
MRZ Mangatainoka R 44.32 147 PN **P 08 07 17.9 +0.2**
BFZ Birch Farm 44.69 147 PN **P 08 07 20.9 +0.1**
NJ2 Nanjing 45.02 327 *eP* **P 08 07 21.7 -1.8**
NJ2 PP PP 08 09 10.5 -0.1
NJ2 S **S 08 13 53.0 -2.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,210nm,4.8s
NJ2 LR LR
comp=N,540nm,22.2s
NJ2 LR LR
comp=E,420nm,20.0s
NJ2 LR LR
comp=Z,220nm,21.7s
INCN Inchon 46.05 339 *eP* **P 08 07 34.0 +2.4**
comp=Z,11nm,0.4s,mb5.0
INCN *ep*P pP 08 07 53.4 +3.1
ENH Enshi 49.46 318 *eP* **P 08 07 57.7 -0.5**
comp=Z,10nm,0.9s,mb4.8
ENH *ep*P pP 08 08 18.0 +0.9
CHRT Chiangrai 51.54 300 P **P 08 08 24.0 +10**
comp=Z,124nm,0.9s
MDJ Mudanjiang 51.69 345 P **P 08 08 15.4 +0.5**
MDJ AP pP 08 08 33.3 -0.7
MDJ XP sP 08 08 41.1 -1.4
MDJ PCP PcP 08 09 26.3 -1.3
MDJ PP PP 08 10 13.5 -0.2
MDJ SCP 08 13 18.0
MDJ PCS 08 13 25.3
MDJ S **S 08 15 32.8 +3.8**
MDJ XS 08 16 03.5
MDJ SCS ScS 08 17 58.7 +4.2
MDJ AMB AMB
comp=Z,4.0nm,1.4s,mb4.3
MDJ AMB AMB
comp=Z,51nm,6.7s
MDJ LR LR
comp=N,199nm,44.5s
MDJ LR LR
comp=E,119nm,34.6s
MDJ LR LR
comp=Z,239nm,35.5s
MDJ Mudanjiang 51.69 345 *epP* pP 08 08 35.5 +1.5
comp=Z,19nm,1.0s
YSS Yuzh-Sakhalins 52.03 357 *i P* **P 08 08 18.2 +0.7**
YSS pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
XAN Xi'an 52.25 321 P **P 08 08 19.1 -0.2**
XAN AMB AMB
comp=Z,11nm,1.2s,mb4.8
BJT Baijiatuau 52.58 332 P **P 08 08 23.6 +1.9**
BJT *e**PP pP 08 08 42.8 +1.9
BJT pmax pmax
comp=Z,5.0nm,0.5s
BJT Baijiatuau 52.58 332 P **P 08 08 23.6 +1.9**
comp=Z,5.1nm,0.5s,mb4.8
BJT *ep*P pP 08 08 42.8 +1.9
KLR Kul'dur 55.58 349 *eP* **P 08 08 42.0 -1.6**
KLR *e* pP 08 09 02.0 -0.9
KLR pmax pmax
comp=Z,45nm,1.6s,mb5.2
LZH Lanzhou 56.77 320 *eP* **P 08 08 52.5 +0.3**
LZH AMB AMB
comp=Z,21nm,1.3s,mb5.0
LZH Lanzhou 56.77 320 *eP* **P 08 08 52.5 +0.3**
comp=Z,21nm,1.3s,mb5.0
LZH pP pP 08 08 59.5 -12
LZH sP sP 08 09 03.1 -17
HIA Hailar 58.79 340 *eP* **P 08 09 05.9 -0.2**
HIA *e* pP 08 09 27.3 +1.7
HIA pmax pmax
comp=Z,3.0nm,0.5s
HIA Hailar 58.79 340 *eP* **P 08 09 05.9 -0.3**
comp=Z,3.0nm,0.5s,mb4.6
HIA *e* pP 08 09 27.3 +1.7
PET Petropavlovsk 59.08 9 *eP* **P 08 09 13.3 +5.2**
PET *e* 08 17 19.7
GTA Gaotai 61.31 321 P **P 08 09 24.7 +1.2**
GTA AMB AMB
comp=Z,6.0nm,0.5s,mb4.9
ULN Ulaanbaatar 62.81 332 *eP* **P 08 09 33.6 +0.2**
ULN *e**PP pP 08 09 52.5 -0.7
ULN pmax pmax
comp=Z,22nm,1.5s,mb4.9
ULN Ulaanbaatar 62.81 332 *eP* **P 08 09 33.6 +0.1**
comp=Z,22nm,1.5s,mb4.9
ULN *ep*P pP 08 09 52.5 -0.6
SONM Songino Array 63.10 331 P **P 08 09 35.3 -0.1**
comp=Z,0.8nm,0.4s,mb4.0,baz=143,slow=7.2,SNR=4.6
SONM pP pP 08 09 55.8 +0.7
comp=Z,3.2nm,0.7s,baz=162,slow=3.9,SNR=7.3
SONM LR LR 08 37 55.4
comp=Z,108nm,18.3s,baz=45,slow=37
SONM PKP2bc 08 38 43.4
comp=Z,0.3nm,0.4s,slow=2.5,SNR=5.2
SONM Songino Array 63.10 331 P **P 08 09 35.3 -0.1**
SONM pP pP 08 09 55.8 +0.7
SONM LR LR 08 37 55.4
SONM ⇑*e* 08 38 43.4
CLNS Chul'man 64.15 347 *eP* **P 08 09 55.5 +13**
CLNS pmax pmax
comp=Z,56nm,1.1s,mb5.3
CLNS pmax pmax
comp=N,40nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,1.0s
PPT Papeete 64.39 107 LR LR 08 33 15.7
comp=E,200nm,20.8s,baz=273,slow=32
MA2 Magadan 64.74 3 *eP* **P 08 09 45.3 -0.6**
MA2 *e**PP pP 08 10 05.4 -0.3
MA2 pmax pmax
comp=Z,15nm,0.9s,mb4.8
MA2 Magadan 64.74 3 *eP* **P 08 09 45.3 -0.6**
comp=Z,15nm,0.9s,mb4.8
MA2 *ep*P pP 08 10 05.4 -0.2
CASY Casey 65.64 195 *eP* **P 08 09 49.8 -1.7**
comp=Z,38nm,1.3s,mb5.1
CASY *ep*P pP 08 10 14.9 +3.5
ZAK Zakamensk 66.34 332 *eP* **P 08 09 55.4 -0.9**
BOD Bodaibo 67.85 342 *eP* **P 08 10 05.1 -0.5**
BOD *e* pP 08 10 26.5 +0.9
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
BOD pmax pmax
comp=Z,17nm,1.5s,mb4.7
SEY Seymchan 68.17 3 *eP* **P 08 10 09.9 +2.4**
SEY *e* pP 08 10 31.3 +3.8
SEY *e* 08 23 25.5
SEY pmax pmax
comp=Z,20nm,1.0s,mb4.9
YAK Yakutsk 68.20 352 *i P* **P 08 10 07.2 -0.5**
YAK pmax pmax
comp=Z,13nm,0.6s,mb4.9
WMQ Urumqi 71.35 320 *eP* **P 08 10 29.3 +2.1**
WMQ PCP PcP 08 10 47.1 +0.4
WMQ AP pP 08 10 49.3 +1.9
WMQ XP sP 08 10 58.3 +2.9
WMQ PP PP 08 13 13.1 +4.8
WMQ S S 08 19 40.3 +2.6
WMQ XS 08 20 14.1
WMQ PS PS 08 20 19.8 +2.4
WMQ SCS ScS 08 20 23.7 +2.3
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,41nm,3.9s
WMQ LR LR
comp=N,14nm,21.5s
WMQ LR LR
comp=E,44nm,23.3s
VNDA Vanda 72.75 176 P **P 08 10 35.2 +0.3**
comp=E,20nm,0.9s,mb4.9,baz=326,slow=6.2,SNR=87
VNDA pP pP 08 10 55.6 +0.5
comp=E,7.2nm,0.9s,baz=357,slow=9.5,SNR=2.7
VNDA LR LR 08 39 11.2
comp=E,135nm,19.1s,baz=2.6,slow=33
VNDA Vanda 72.75 176 P **P 08 10 35.2 +0.3**
VNDA pP pP 08 10 55.6 +0.5
VNDA LR LR 08 39 11.2
SBA Scott Base 73.41 175 *eP* **P 08 10 39.4 +0.6**
SBA pmax pmax
comp=Z,15nm,1.1s,mb4.7
SBA Scott Base 73.41 175 *eP* **P 08 10 39.4 +0.7**
comp=Z,15nm,1.1s,mb4.7
BILL Bilibino 74.54 8 *i P* **P 08 10 45.6 +0.1**
BILL *i* 08 10 58.4
BILL *i* *PP pP 08 11 07.6 +1.8
BILL *eS* S 08 20 11.7 -1.5
BILL pmax pmax
comp=Z,7.0nm,1.4s,mb4.2
BILL Bilibino 74.54 8 P **P 08 10 42.6 -2.9**
comp=Z,3.1nm,0.6s,mb4.2
BILL *e* pP 08 11 06.6 +0.9
MKAR Makanchi Array 76.07 321 P **P 08 10 55.1 +0.5**
comp=Z,1.4nm,0.6s,mb3.9
MKAR pP pP 08 11 16.7 +1.7
MKAR LR LR 08 44 21.3
comp=Z,66nm,19.4s,baz=173,slow=36
MKAR Makanchi Array 76.07 321 P **P 08 10 55.1 +0.5**
MKAR pP pP 08 11 16.7 +1.7
MKAR LR LR 08 44 21.3
TIXI Tiksi 77.53 355 *eP* **P 08 10 59.7 -2.6**
TIXI pmax pmax
comp=Z,4.0nm,1.9s,mb3.8
ZAL Zalesovo 77.67 328 P **P 08 11 03.6 +0.3**
comp=Z,1.2nm,0.3s,mb4.1,baz=336,slow=8.9,SNR=3.2
ZAL pP pP 08 11 23.4 -0.4
comp=Z,2.7nm,0.8s,baz=29,slow=6.9,SNR=3.2
ZAL LR LR 08 44 08.9
comp=Z,86nm,22.0s,baz=268,slow=35
TNA Tin City 78.28 18 *eP* **P 08 11 04.9 -1.6**
comp=Z,2.1nm,0.8s,mb3.9
KURK Kurchatov 79.81 324 *eP* **P 08 11 14.8 -0.3**
KURK *e**PP pP 08 11 35.8 +0.2
KURK pmax pmax
comp=Z,13nm,1.0s,mb4.7
KURK Kurchatov 79.81 324 *eP* **P 08 11 14.8 -0.3**
comp=Z,13nm,1.0s,mb4.7
KURK *ep*P pP 08 11 35.8 +0.2
AAK Ala-Archa 79.86 315 *i P* **P 08 11 15.6 0.0**
AAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.8
MAW Mawson 82.43 203 P **P 08 11 28.1 -0.5**
comp=Z,20nm,1.0s,mb4.9,baz=72,slow=5.4,SNR=7.8
MAW LR LR 08 46 52.3
comp=Z,160nm,19.8s,baz=176,slow=35
IMA Indian Mountai 83.33 21 *eP* **P 08 11 34.0 +0.9**
IMA *e**PP pP 08 11 51.3 -2.4
IMA pmax pmax
comp=Z,39nm,1.2s,mb5.1
IMA Indian Mountai 83.33 21 *eP* **P 08 11 34.0 +0.9**
comp=Z,39nm,1.2s,mb5.1
IMA *ep*P pP 08 11 51.3 -2.4
SML Sawmill 83.54 26 *eP* **P 08 11 34.2 0.0**
SML *e**PP pP 08 11 55.0 +0.1
QSPA South Pole Qui 84.72 180⇑ *iP* **P 08 11 40.5 +0.7**
comp=Z,25nm,0.7s,mb5.2
COLA College 84.98 23 *i P* **P 08 11 40.0 -1.3**
BVAR Borovoye Array 85.37 324 **P 08 11 43.5 0.0**
comp=Z,1.8nm,0.6s,mb4.2,baz=112,slow=7.5,SNR=7.8
BVAR pP pP 08 12 05.0 +0.7
comp=Z,5.4nm,0.9s,baz=104,slow=6.1,SNR=6.2
SYO Syowa Base 90.84 200 ⇓P **P 08 12 09.8 +0.4**
SYO Syowa Base 90.84 200 ⇓PcP PcP 08 12 11.2 +0.6
INK Inuvik 91.44 22 *eP* **P 08 12 11.2 -1.0**
INK *e**PP pP 08 12 35.7 +2.5
INK pmax pmax
comp=Z,7.0nm,1.2s
INK Inuvik 91.44 22 P **P 08 12 11.8 -0.4**
comp=Z,2.4nm,0.9s,mb4.3,baz=242,slow=4.6,SNR=7.5
INK pP pP 08 12 33.8 +0.6
comp=Z,4.3nm,0.9s,baz=230,slow=6.1,SNR=6.3
INK LR LR 08 48 30.7
comp=Z,154nm,20.5s,baz=156,slow=32
INK Inuvik 91.44 22 *eP* **P 08 12 11.2 -1.0**
comp=Z,7.1nm,1.2s,mb4.7
INK *ep*P pP 08 12 35.7 +2.5
DLBC Dease Lake 91.45 32 LR LR 08 44 52.6
comp=Z,141nm,21.7s,baz=146,slow=30
ARU Arti 92.72 326*c iP* **P 08 12 18.4 +0.1**
ARU *e* 08 16 01.9
ARU *eS* 08 22 43.4
ARU *e*SS SS 08 29 33.8 +1.7
ARU pmax pmax
comp=Z,5.0nm,1.5s,mb4.6
YBH Yreka Blue Hor 94.67 49 LR LR 08 45 54.2
comp=Z,243nm,20.7s,baz=271,slow=30
OPO Ambohidratompo 96.34 251 P **P 08 12 36.8 +1.2**
comp=Z,5.7nm,0.9s,mb5.0,baz=29,slow=7.1,SNR=6.1
NVAR Mina Array Bea 97.96 52 P **P 08 12 42.5 -0.1**
comp=Z,0.4nm,0.5s,mb4.2,baz=256,slow=9.2,SNR=5.7
NVAR pP pP 08 13 05.0 +1.3
comp=Z,0.5nm,0.7s,baz=249,slow=4.9,SNR=3.1
NVAR LR LR 08 50 08.6
comp=Z,107nm,20.9s,baz=30,slow=31
NEW Newport 98.69 42 P **P 08 12 46.0 +0.3**
comp=Z,0.6nm,0.4s,mb4.5,baz=21,slow=22,SNR=1.8
NEW pP pP 08 13 06.9 +0.2
comp=Z,0.7nm,0.5s,baz=222,slow=14,SNR=1.6
YKA Yellowknife Ar 99.12 28 P **P 08 12 47.1 -0.2**
comp=Z,0.9nm,0.8s,mb4.3,baz=275,slow=4.8,SNR=18
YKA pP pP 08 13 08.7 +0.4
comp=Z,2.3nm,1.0s,baz=276,slow=4.8,SNR=8.3
YKA PP PP 08 16 57.7 +5.1
comp=Z,0.5nm,0.9s,baz=267,slow=7.8,SNR=5.2
YKA PKKPbc 08 29 11.8
comp=Z,1.6nm,0.7s,baz=92,slow=2.8,SNR=40
YKA Yellowknife Ar 99.12 28 P **P 08 12 47.1 -0.2**
YKA pP pP 08 13 08.7 +0.4
YKA PP PP 08 16 57.7 +5.1
YKA PKKPbc 08 29 11.8
PDAR Pinedale Array 104.39 47 PKKPbc 08 28 59.8
comp=Z,0.5nm,0.8s,baz=72,slow=4.7,SNR=4.0
ARCES ARCESS Array B 105.12 342 PKKPbc 08 28 53.8
comp=Z,1.1nm,0.3s,baz=238,slow=3.2,SNR=26
ANMO Albuquerque 107.63 55 PKKPab 08 29 03.5
comp=Z,1.4nm,0.7s,baz=106,slow=5.2,SNR=7.9
TXAR Lajitas Array 110.56 61 PP PP 08 18 23.6 +4.3
comp=Z,0.4nm,0.9s,baz=304,slow=4.5,SNR=3.4
TXAR PKKPbc 08 28 39.8
comp=Z,0.1nm,0.5s,baz=94,slow=6.1,SNR=4.7
TXAR PKKPab 08 28 50.7
comp=Z,1.1nm,0.7s,baz=115,slow=6.6,SNR=13
NOA NORSAR Array B 114.75 338 PP PP 08 18 45.0 -3.8
comp=Z,1.4nm,0.9s,baz=172,slow=12,SNR=3.3
PLCA Paso Flores 123.48 147 PKP PKPdf 08 18 03.6 +1.1
comp=Z,1.5nm,0.7s,baz=269,slow=2.9,SNR=6.1
PLCA pPKP 08 18 25.9
comp=Z,1.5nm,0.8s,baz=226,slow=4.2,SNR=2.6
LVC Limon Verde 136.31 131 PKP PKPdf 08 18 26.4 -0.9
comp=Z,3.3nm,0.9s,baz=308,slow=8.6,SNR=3.6
LPAZ La Paz 140.32 123 PKhKP 08 18 29.6
comp=Z,1.5nm,0.8s,baz=142,slow=4.9,SNR=6.1
LPAZ PKP PKPdf 08 18 38.0 +3.2
comp=Z,1.7nm,0.8s,baz=143,slow=3.0,SNR=4.9
LPAZ La Paz 140.32 123 PKP PKPdf 08 18 38.0 +3.2
SAML Samuel 147.98 116 *e*PKPbc PKPdf 08 18 52.0 +4.0
DBIC Dimbokro 150.64 274 PKPbc PKPdf 08 18 59.2 +6.9
comp=Z,8.9nm,0.8s,baz=86,slow=3.0,SNR=14
CAM4 Nova Friburgo 151.42 164 *eP* PKPdf 08 19 00.9 +7.7
CAM4 *i* 08 19 05.4
BDFB Brasilia 155.23 147 PKPbc PKPdf 08 19 09.2 +11
comp=Z,3.8nm,0.4s,baz=193,slow=3.6,SNR=10
BDFB PKPab PKPab 08 19 25.2 -1.1
comp=Z,7.0nm,0.7s,baz=163,slow=2.1,SNR=8.4
BAO Brasilia Array 155.24 147 PKPdf PKPdf 08 18 58.0 -0.6

MEX ***02*** *07:59:18.1±0.4, 13.27N×92.22W, h70km, MD4.4*
CASC ***02*** *07:59:21.1±1.3, 13.90N×91.94W, h80km±28km, MD4.2, mb4.1(NEIC)*
IDC ***02*** *07:59:26.9±3.7, 14.14N×91.38W, h76km±39km, mb3.6/8, mb1 3.8/10, mb1mx3.5/24, mbtmp3.9/10, ML3.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/30, Error ellipse: s-maj=50.8km s-min=16.9km az=42.0*
NEIC ***02*** *07:59:26.5±1.8, 13.97N×91.58W, h83km±17km, mb4.1/3, Error ellipse: s-maj=26.4km s-min=8.9km az=47.0*
ISC 02 07:59:18.9±1.0, 13.57N±0.09×92.08W±0.05, h34km±9km, n36, σ1°07/45, mb4.0/11, 2D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.85**	**30**	⇓*eP*	**P**	**07 59 35.1**	**+0.6**
FUG	**Fuego 3**	**1.48**	**54**	⇓*iP*	**P**	**07 59 43.2**	**-0.3**
IXG	**Ixpaco**	**1.68**	**69**	*eP*	**P**	**07 59 46.8**	**+0.4**
RBDL	**Robledal**	**2.38**	**77**	*eP*	**P**	**07 59 56.3**	**-0.1**
RTR	**El Retiro**	**2.38**	**82**	*eP*	**P**	**07 59 56.4**	**0.0**
RTR				*eS*	**S**	**08 00 24.2**	**-0.5**
SBLS	**San Blas**	**2.40**	**83**	*eP*	**P**	**07 59 56.5**	**-0.1**
SBLS				*eS*	**S**	**08 00 26.0**	**+0.9**
SNJE	**San Jose**	**2.42**	**83**	*eP*	**P**	**07 59 56.6**	**-0.3**
SNJE				*eS*	**S**	**08 00 25.6**	**0.0**
CCIG	**Comitan**	**2.70**	**359**	*i P*	**P**	**08 00 02.5**	**+1.6**
CCIG				*i* S	**S**	**08 00 36.7**	**+4.0**
BOQS	**Boqueron**	**2.72**	**86**	*eP*	**P**	**08 00 01.4**	**+0.2**
MTO2	**Montecristo 2**	**2.76**	**72**	*eP*	**P**	**08 00 01.7**	**-0.1**
LFRS	**El Faro**	**2.93**	**89**	*eP*	**P**	**08 00 04.4**	**+0.2**
LFRS				*eS*	**S**	**08 00 38.8**	**+0.2**
LBRS	**Las Brisas**	**2.95**	**86**	*eP*	**P**	**08 00 05.1**	**+0.6**
LCBS	**La Ceiba**	**3.01**	**88**	*eP*	**P**	**08 00 05.5**	**+0.1**
CNCH	**Conchagua**	**4.14**	**94**	*eP*	**P**	**08 00 21.2**	**-0.2**
CNCH				*eS*	**S**	**08 01 08.1**	**-1.2**
CMIG	**Matias Romero**	**4.43**	**323**	*i P*	**P**	**08 00 23.8**	**-1.7**
CMIG				*i* S	**S**	**08 01 16.6**	**0.0**
OXX	**Oaxaca**	**5.68**	**308**	*i P*	**P**	**08 00 48.0**	**+4.8**
VHO	**Vista Hermosa**	**5.68**	**308**	*eP*	**P**	**08 00 40.8**	**-2.4**
VHO				*i* S	**S**	**08 01 46.7**	**-1.5**
TEIG	**Tepich**	**7.55**	**28**	*eP*	**P**	**08 01 07.2**	**-2.1**
	19nm,0.5s						
JTS	**JuntasAbangare**	**7.69**	**114**	**P**	**P**	**08 01 12.2**	**+0.8**
	1.2nm,0.3s,baz=320,slow=17,SNR=16						
JTS				S	**S**	**08 02 33.7**	**-4.5**
	0.8nm,0.3s,baz=344,slow=23,SNR=2.1						
PPM	**Popocatepetl**	**8.33**	**312**	*eP*	**P**	**08 01 22.0**	**+1.8**
TXAR	**Lajitas Array**	**19.01**	**327**	P	**P**	**08 03 41.5**	**+0.9**
	0.1nm,0.3s,baz=144,slow=11,SNR=27						
TXAR				LR	LR	08 11 55.8	
	comp=Z,35nm,18.8s,baz=70,slow=40						
CLNB	**Carlsbad**	**21.52**	**332**	*eP*	**P**	**08 04 07.8**	**+0.7**
SDV	**Santo Domingo**	**21.54**	**100**	P	**P**	**08 04 04.4**	**-2.9**
	3.1nm,0.8s,mb3.8,baz=287,slow=11,SNR=4.6						
GDL2	**Guadalupe Moun**	**21.69**	**331**	*eP*	**P**	**08 04 09.5**	**+0.7**
MNTX	**Cornudas Mount**	**21.79**	**328**	*eP*	**P**	**08 04 09.2**	**-0.5**
	6.1nm,0.9s,mb4.0						
CPRX	**Cap Rock**	**22.16**	**333**	*eP*	**P**	**08 04 13.8**	**+0.4**
AMTX	**Amarillo**	**22.93**	**339**	*eP*	**P**	**08 04 20.4**	**-0.7**
	13nm,0.5s,mb4.6						
ANMO	**Albuquerque**	**24.94**	**331**	**P**	**P**	**08 04 42.3**	**+1.6**
	1.7nm,0.8s,mb3.6,baz=157,slow=9.5,SNR=9.7						
PV10	**Paradox Valley**	**28.93**	**332**	P	**P**	**08 05 16.9**	**-0.2**
HWUT	**Hardware Ranch**	**32.68**	**332**	*eP*	**P**	**08 05 51.5**	**+1.2**
	1.9nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**33.96**	**322**	P	**P**	**08 06 03.4**	**+2.0**
	1.3nm,0.7s,mb4.0,baz=124,slow=8.5,SNR=11						
NEW	**Newport**	**40.35**	**334**	P	**P**	**08 06 54.2**	**-0.7**
	0.6nm,0.3s,mb3.8,baz=74,slow=21,SNR=3.6						
SIV	**San Ignacio**	**42.45**	**133**	P	**P**	**08 07 13.6**	**+0.9**
	0.5nm,0.7s,mb3.2,baz=282,slow=11,SNR=4.8						
SCHQ	**Schefferville**	**45.65**	**20**	P	**P**	**08 07 33.6**	**-4.4**
	4.0nm,0.9s,mb4.4,baz=237,slow=6.4,SNR=6.7						
YKA	**Yellowknife Ar**	**51.42**	**347**	P	**P**	**08 08 20.8**	**-1.8**
	0.7nm,0.6s,mb3.8,baz=149,slow=7.3,SNR=26						
INK	**Inuvik**	**60.83**	**344**	P	**P**	**08 09 28.9**	**-1.1**
	2.0nm,0.8s,mb4.3,baz=122,slow=9.2,SNR=11						

CSEM ***02*** *08:03:32.7±0.1, 44.46N×7.36E, h8km, ML2.6/6, Error ellipse: s-maj=1.5km s-min=1.1km az=67.0*
STR ***02*** *08:03:33.6±0.2, 44.45N×7.31E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*GEN **02** 08:03:33.3, 44.43N×7.23E, h14km, ML2.9*
*LDG **02** 08:03:33.9±0.1, 44.43N×7.32E, h2km, Md2.8/1, Ml2.6/9, Error ellipse: s-maj=2.3km s-min=1.3km az=79.0*
*NEIC **02** 08:03:33.3, 44.43N×7.23E, h14km, ML2.9(GEN), ML2.6(STR), ML2.6(LDG), After GEN.*

ISC 02 08:03:32.8±0.2, 44.45N±0.01×7.26E±0.02, h15km±2km, n68, σ0§79/111, 2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.06**	**350**	*eP*g	**Pg**	**08 03 36.6**	**+0.8**
DOI				*eS*g	**Sg**	**08 03 38.3**	**+0.7**
DOI	**San Damiano**	**0.06**	**350**	*eP*g	**Pg**	**08 03 36.6**	**+0.9**
DOI				*eS*g	**Sg**	**08 03 38.3**	**+0.6**
PZZ	**Prazzo**	**0.13**	**298**	P	**Pb**	**08 03 37.2**	**+0.8**
PZZ	**Prazzo**	**0.13**	**298**	P	**Pb**	**08 03 37.2**	**+0.7**
STV2	**Anna di Valdie**	**0.20**	**167**	P	**Pg**	**08 03 38.0**	**+0.3**
STV2				S	**Sg**	**08 03 40.7**	**-0.2**
STV2	**Anna di Valdie**	**0.20**	**167**	P	**Pg**	**08 03 38.0**	**+0.3**
STV	**Sta Anna Valdi**	**0.20**	**167**	P	**Pg**	**08 03 38.1**	**+0.4**
STV				S	**Sg**	**08 03 40.9**	**-0.1**
STV	**Sta Anna Valdi**	**0.20**	**167**	P	**Pg**	**08 03 38.1**	**+0.4**
ENR	**Entracque**	**0.25**	**152**	⇓P	**Pg**	**08 03 38.7**	**+0.3**
ENR				S	**Sg**	**08 03 41.9**	**-0.2**
ENR	**Entracque**	**0.25**	**152**	⇓P	**Pg**	**08 03 38.7**	**+0.3**
SURF	**Saint Ours**	**0.32**	**277**	Pg	**Pg**	**08 03 40.4**	**+0.6**
SURF				Sg	**Sg**	**08 03 45.4**	**+0.9**
BHB	**Bricherasio**	**0.40**	**0**	P	**Pb**	**08 03 41.1**	**0.0**
BHB				S	**Sb**	**08 03 46.5**	**-0.1**
BHB	**Bricherasio**	**0.40**	**0**	P	**Pb**	**08 03 41.1**	**0.0**
TOUF	**Mont Tournerai**	**0.43**	**181**	Pg	**Pg**	**08 03 42.1**	**+0.3**
MBDF	**Montbardon**	**0.45**	**309**	*eP*g	**Pg**	**08 03 42.7**	**+0.5**
MBDF				*eS*g	**Sg**	**08 03 48.9**	**+0.5**
	147nm,0.3s						
ROB	**Roburent**	**0.46**	**109**	P	**Pb**	**08 03 42.8**	**+0.6**
ROB	**Roburent**	**0.46**	**109**	P	**Pb**	**08 03 42.8**	**+0.6**
AUTN	**L'Aution**	**0.47**	**165**	Pg	**Pg**	**08 03 42.7**	**+0.2**
AUTN				Sg	**Sg**	**08 03 48.8**	**-0.1**
SAOF	**Saorge**	**0.51**	**155**	Pg	**Pg**	**08 03 43.2**	**0.0**
SAOF				Sg	**Sg**	**08 03 49.6**	**-0.6**
MONE	**Monesi**	**0.51**	**136**	P	**Pb**	**08 03 43.1**	**+0.1**
MONE				S	**Sb**	**08 03 49.9**	**0.0**
MONE	**Monesi**	**0.51**	**136**	P	**Pb**	**08 03 43.1**	**+0.1**
MVIF	**Mont Vial**	**0.55**	**188**	Pg	**Pg**	**08 03 44.4**	**+0.2**
MVIF				Sg	**Sg**	**08 03 52.0**	**+0.2**
RRL	**Cesana Torines**	**0.58**	**325**	P	**Pb**	**08 03 45.1**	**+0.8**
RRL				S	**Sb**	**08 03 52.3**	**+0.2**
RRL	**Cesana Torines**	**0.58**	**325**	P	**Pb**	**08 03 45.1**	**+0.8**
SBF	**Sospel**	**0.59**	**168**	*eP*g	**Pg**	**08 03 45.0**	**0.0**
SBF				*eS*g	**Sg**	**08 03 52.0**	**-1.1**
	41nm,0.2s						
FENE	**Fenestrelle**	**0.60**	**346**	P	**Pb**	**08 03 45.2**	**+0.7**
FENE				S	**Sb**	**08 03 53.0**	**+0.5**
FENE	**Fenestrelle**	**0.60**	**346**	P	**Pb**	**08 03 45.2**	**+0.6**
NEGI	**Negi**	**0.68**	**152**	P	**Pb**	**08 03 45.8**	**-0.1**
NEGI				S	**Sb**	**08 03 54.9**	**+0.2**
NEGI	**Negi**	**0.68**	**152**	P	**Pb**	**08 03 45.8**	**0.0**
IMI	**Imperia**	**0.70**	**140**	*eP*g	**Pg**	**08 03 46.6**	**-0.4**
IMI				*eS*g	**Sg**	**08 03 55.9**	**-0.6**
IMI	**Imperia**	**0.70**	**140**	P	**Pb**	**08 03 46.6**	**+0.4**
IMI				S	**Sb**	**08 03 55.7**	**+0.3**
RSP	**Reno Superiore**	**0.71**	**360**	P	**Pb**	**08 03 46.0**	**-0.4**
RSP				S	**Sb**	**08 03 55.5**	**-0.1**
RSP	**Reno Superiore**	**0.71**	**360**	P	**Pb**	**08 03 46.0**	**-0.4**
FIN	**Finale Ligure**	**0.72**	**109**	P	**Pb**	**08 03 47.2**	**+0.6**
FIN				S	**Sb**	**08 03 56.3**	**+0.4**
FIN	**Finale Ligure**	**0.72**	**109**	P	**Pb**	**08 03 47.2**	**+0.6**
FIN				S	**Sb**	**08 03 56.3**	**+0.3**
CALN	**Calern**	**0.74**	**201**	Pg	**Pg**	**08 03 48.0**	**+0.1**
CALN				Sg	**Sg**	**08 03 58.5**	**+0.6**
PCP	**Pian Castagno**	**0.92**	**84**	P	**Pb**	**08 03 50.8**	**+0.8**
PCP				S	**Sb**	**08 04 02.9**	**+1.0**
PCP	**Pian Castagno**	**0.92**	**84**	P	**Pb**	**08 03 50.8**	**+0.7**
PCP				S	**Sb**	**08 04 02.9**	**+1.0**
FRF	**La Foret Royal**	**0.99**	**207**	*eP*g	**Pg**	**08 03 51.9**	**-0.9**
FRF				*eP*n	**Pn**	**08 03 52.7**	**+0.6**
FRF				*eS*g	**Sg**	**08 04 05.0**	**-1.0**
	50nm,0.2s						
LSD	**Ceresole Reale**	**1.02**	**356**	P	**Pb**	**08 03 52.2**	**+0.6**
LSD				S	**Sb**	**08 04 05.5**	**+0.9**
LSD	**Ceresole Reale**	**1.02**	**356**	P	**Pb**	**08 03 52.2**	**+0.6**
STOF	**St-Etienne Org**	**1.07**	**246**	Pg	**Pg**	**08 03 55.6**	**+1.2**
ORIF	**Oris-en-Rattie**	**1.09**	**296**	*eP*g	**Pg**	**08 03 54.4**	**-0.4**
ORIF				*eS*g	**Sg**	**08 04 08.0**	**-1.5**
	30nm,0.4s						
LPG	**La Plagne**	**1.11**	**341**	*eP*g	**Pg**	**08 03 55.0**	**-0.2**
LPG				*eS*g	**Sg**	**08 04 10.2**	**0.0**
	13nm,0.2s						
LPL	**La Plagne**	**1.14**	**341**	*eP*g	**Pg**	**08 03 55.2**	**-0.5**
LPL				*eS*g	**Sg**	**08 04 10.8**	**-0.1**
	11nm,0.2s						
TAVF	**Tavernes**	**1.20**	**227**	Pg	**Pg**	**08 03 56.4**	**-0.5**
TAVF				Sg	**Sg**	**08 04 14.0**	**+1.0**
LMR	**La Mourre**	**1.24**	**206**	*eP*n	**Pn**	**08 03 56.4**	**+0.7**
LMR				*eP*g	**Pg**	**08 03 56.8**	**-0.9**
LMR				*eS*n	**Sn**	**08 04 12.1**	**0.0**
LMR	**La Mourre**	**1.24**	**206**	*eP*g	**Pg**	**08 03 56.8**	**-0.9**
LMR				*eS*n	**Sn**	**08 04 12.1**	**0.0**
VILF	**Villemus**	**1.26**	**243**	Pg	**Pg**	**08 03 58.3**	**+0.2**
ORX	**Oropa**	**1.29**	**23**	P	**Pb**	**08 03 56.1**	**-0.3**
ORX	**Oropa**	**1.29**	**23**	P	**Pb**	**08 03 56.1**	**-0.3**
PUYF	**Puyloubier**	**1.45**	**232**	Pg	**Pg**	**08 04 00.9**	**-1.0**
TREF	**Trevaresse**	**1.58**	**239**	Pg	**Pg**	**08 04 03.7**	**-0.9**
PRAF	**Pradon**	**1.64**	**248**	Pg	**Pg**	**08 04 05.5**	**-0.1**
PRAF				Sg	**Sg**	**08 04 28.0**	**+0.5**
GELF	**Grande-Etoile**	**1.70**	**232**	Pg	**Pg**	**08 04 06.6**	**-0.2**
VIVF	**Saint-Julien-l**	**1.89**	**283**	*eP*n	**Pn**	**08 04 06.3**	**+1.2**
VIVF				*eS*n	**Sn**	**08 04 29.3**	**+0.5**
VIVF				*eS*g	**Sg**	**08 04 34.5**	**-1.5**
	7.3nm,0.4s						
BACM		**2.02**	**94**	P	**Pn**	**08 04 06.4**	**-0.5**
BACM		**2.02**	**94**	P	**Pn**	**08 04 06.4**	**-0.5**
PGF	**Pioggiola**	**2.28**	**146**	*eP*n	**Pn**	**08 04 10.1**	**-0.5**
PGF				*eS*n	**Sn**	**08 04 36.7**	**-1.9**
CABF	**La Chapelle**	**2.32**	**340**	*eP*n	**Pn**	**08 04 13.0**	**+1.8**
CABF				*eS*g	**Sg**	**08 04 47.6**	**-2.5**
	2.5nm,0.4s						
LASF	**Ste Croix**	**2.47**	**263**	*eP*n	**Pn**	**08 04 14.1**	**+0.7**
LASF				*eP*g	**Pg**	**08 04 20.2**	**-2.1**
SMF	**Signal de Mont**	**3.26**	**314**	*eP*n	**Pn**	**08 04 25.2**	**+0.7**
HINF	**Hinteralfeld**	**3.38**	**355**	*eP*n	**Pn**	**08 04 26.2**	**-0.1**
HINF				*eS*n	**Sn**	**08 05 04.6**	**-2.0**
	1.6nm,0.3s						
AVF	**Avril sur Loir**	**3.61**	**312**	*eP*n	**Pn**	**08 04 30.4**	**+0.9**
HAU	**Haudompre**	**3.62**	**350**	*eP*n	**Pn**	**08 04 29.0**	**-0.6**
HAU				*eS*n	**Sn**	**08 05 10.4**	**-2.1**
	4.1nm,0.4s						
BGF	**Bois d'Agland**	**3.75**	**306**	*eP*n	**Pn**	**08 04 32.6**	**+1.0**
MTLF	**Montolieu**	**3.81**	**255**	*eP*n	**Pn**	**08 04 32.3**	**-0.1**
CDF	**Champ du Feu**	**3.97**	**0**	*eP*n	**Pn**	**08 04 34.6**	**0.0**
CDF				*eS*n	**Sn**	**08 05 19.4**	**-2.0**
	1.8nm,0.3s						

PRE 02 08:10:10.1±1.4, 27.01S×26.77E, h2km, ML3.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**1.51**	**150**	*eP*	Pn	08 10 37.5	-0.8
SEK				*eS*	Sb	08 10 57.1	-1.0
SEK				*e*		08 11 01.5	
	comp=Z,833nm,0.2s						
SLR	**Silverton**	**1.86**	**47**	*eP*	Pn	08 10 42.6	-0.7
SLR				*eS*	Sn	08 11 05.9	-1.8
SLR				*e*		08 11 08.8	
	comp=Z,1μm,0.2s						
POGA	**Pongola**	**4.33**	**96**	*eP*	Pn	08 11 17.0	-1.5
POGA				*eS*	Sn	08 11 46.4	-24
POGA				*e*		08 11 48.7	
	comp=Z,31nm,0.5s						
PKA	**Prieska**	**4.42**	**232**	*eP*	Pn	08 11 16.8	-2.9
PKA				*eS*	Sn	08 12 05.7	-6.8
PKA				*e*		08 12 09.4	
	comp=Z,88nm,0.1s						
UPI	**Upington**	**5.07**	**253**	*eP*	Pn	08 11 24.9	-4.0
UPI				*eS*	Sn	08 11 57.4	-32
CVNA	**Calvinia**	**7.57**	**232**	*eP*	Pn	08 12 00.1	-4.0
CVNA				*eS*	Sn	08 12 26.4	-65

*NEIC **02** 08:32:21.1±6.5, 6.37N×82.73W, h9km±43km, mb4.4/4, Error ellipse: s-maj=26.9km s-min=10.9km az=51.0*
*CASC **02** 08:32:23.6±1.9, 6.68N×82.34W, h37km±999km, MD4.3, mb4.4(NEIC)*
*IDC **02** 08:32:26.4±1.1, 7.70N×81.90W, mb3.9/11, mb1 4.2/13, mb1mx4.0/24, mbtmp4.0/13, ML3.1/2, MS3.7/7, Ms1 3.7/7, ms1mx3.5/20, Error ellipse: s-maj=56.8km s-min=15.8km az=48.0*

ISC 02 08:32:25.1±2.1, 6.96N±0.09×82.30W±0.06, h26km±15km, n40, σ1§11/42, mb4.0/15, MS3.8/4, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**1.89**	**333**	⇑*eP*	**Pn**	**08 32 55.7**	**-0.6**
AZU2	**Pedas**	**2.32**	**76**	*eP*	**Pn**	**08 33 00.7**	**-1.8**
AZU2				*eS*	**Sn**	**08 33 30.3**	**-0.2**
BUS	**Buena Vista**	**2.96**	**331**	*eP*	**Pn**	**08 33 12.1**	**+0.6**
LIO	**Limon**	**3.11**	**346**	*eP*	**Pn**	**08 33 15.4**	**+1.7**
LCR2	**La Lucha 2**	**3.24**	**329**	*eP*	**Pn**	**08 33 15.7**	**+0.1**
ICR	**Volcan Irazu**	**3.36**	**333**	*eP*	**Pn**	**08 33 18.2**	**+0.9**
LAJ	**Bijagual**	**3.40**	**328**	*eP*	**Pn**	**08 33 18.7**	**+0.8**
SJS	**Escuela Geolog**	**3.43**	**330**	*eP*	**Pn**	**08 33 17.9**	**-0.4**
SJS				*eS*	**Sn**	**08 33 59.8**	**+1.2**
PRS1	**Puriscal**	**3.60**	**327**	*eP*	**Pn**	**08 33 19.6**	**-1.1**
CGA2	**Cerro Gallo 2**	**3.72**	**325**	*eP*	**Pn**	**08 33 22.0**	**-0.3**
TRTC	**Tortuguero**	**3.85**	**339**	*eP*	**Pn**	**08 33 25.5**	**+1.2**
JCR	**Jicaral**	**4.00**	**316**	*eP*	**Pn**	**08 33 24.9**	**-1.4**
JTS	**JuntasAbangare** 1μm,0.7s,SNR=59	**4.22**	**322**	Pn	**Pn**	**08 33 28.5**	**-1.1**
JTS	**JuntasAbangare** 26nm,0.3s,baz=335,slow=15,SNR=149	**4.22**	**322**	Pn	**Pn**	**08 33 27.8**	**-1.8**
JTS				Sn	**Sn**	**08 34 18.1**	**-0.6**
	8.3nm,0.3s,baz=305,slow=21,SNR=5.6						
JTS				LR	LR	08 35 10.7	
	comp=Z,2μm,20.6s,baz=133,slow=41						
OTAV	**Otavalo**	**7.70**	**150**	*eP*	**Pn**	**08 34 10.9**	**-7.7**
	6.1nm,0.8s						
ROSC	**El Rosal**	**8.19**	**104**	Pn	**P**	**08 34 26.2**	**+0.8**
	0.6nm,0.3s,baz=111,slow=22,SNR=1.8						
ROSC				LR	LR	08 37 18.7	
	comp=Z,155nm,18.3s,baz=352,slow=36						
ROSC	**El Rosal**	**8.19**	**104**	Pn	**P**	**08 34 26.2**	**+0.8**
ROSC				LR	LR	08 37 18.7	
SDV	**Santo Domingo**	**11.71**	**80**	Sn	**S**	**08 37 17.3**	**-7.3**
	0.2nm,0.3s,baz=61,slow=19,SNR=2.5						
SJG	**San Juan**	**19.24**	**53**	P	**P**	**08 36 53.7**	**+3.1**
	baz=15,slow=1.5,SNR=4.0						
SJG				LR	LR	08 43 46.2	
	comp=Z,136nm,20.0s,baz=274,slow=37						
SAML	**Samuel**	**24.75**	**129**	*eP*	**P**	**08 37 41.4**	**-5.0**
	8.8nm,1.1s,mb4.2						
LPAZ	**La Paz**	**27.02**	**149**	P	**P**	**08 38 14.5**	**+7.1**
	2.1nm,1.0s,mb3.6,baz=291,slow=11,SNR=5.2						
LPAZ				LR	LR	08 49 27.9	
	comp=Z,237nm,21.1s,MS3.7,baz=276,slow=37						
LPAZ	**La Paz**	**27.02**	**149**	*eP*	**P**	**08 38 01.5**	**-5.9**
LPAZ				LR	LR	08 49 27.9	
TXAR	**Lajitas Array**	**30.01**	**320**	P	**P**	**08 38 35.3**	**+1.0**
	0.8nm,0.9s,mb3.4,baz=121,slow=7.3,SNR=3.6						
SIV	**San Ignacio**	**31.01**	**137**	P	**P**	**08 38 44.3**	**+1.1**
	1.1nm,0.8s,mb3.8,baz=334,slow=11,SNR=6.5						
ANMO	**Albuquerque**	**35.64**	**325**	P	**P**	**08 39 24.2**	**+1.1**
	4.3nm,0.9s,mb4.4,baz=151,slow=8.3,SNR=13						
ANMO				LR	LR	08 54 21.3	
	comp=Z,90nm,19.6s,MS3.5,slow=37						
ANMO	**Albuquerque**	**35.64**	**325**	*eP*	**P**	**08 39 23.5**	**+0.4**
	5.5nm,1.0s,mb4.4						
ANMO				LR	LR	08 54 21.3	
WUAZ	**Wupatki**	**38.98**	**321**	*eP*	**P**	**08 39 52.7**	**+1.6**
	8.3nm,1.1s,mb4.4						
PV10	**Paradox Valley**	**39.53**	**326**	*eP*	**P**	**08 39 55.4**	**-0.4**
BDFB	**Brasilia**	**40.71**	**124**	P	**P**	**08 40 10.4**	**+4.7**
	1.4nm,0.5s,mb3.8,baz=27,slow=11,SNR=3.0						
BDFB				LR	LR	08 57 31.9	
	comp=Z,170nm,19.0s,MS3.9,baz=185,slow=37						
SRU	**San Rafael**	**40.88**	**326**	*eP*	**P**	**08 40 07.5**	**+0.8**
PDAR	**Pinedale Array**	**43.00**	**330**	P	**P**	**08 40 23.2**	**-1.0**
	0.2nm,0.4s,mb3.2,baz=3.5,slow=33,SNR=3.4						
HWUT	**Hardware Ranch**	**43.19**	**328**	*eP*	**P**	**08 40 23.8**	**-2.0**
	9.4nm,1.0s,mb4.5						
ULM	**Lac du Bonnet**	**44.62**	**348**	P	**P**	**08 40 35.5**	**-1.7**
	3.4nm,0.8s,mb4.2,baz=146,slow=6.1,SNR=5.4						
NVAR	**Mina Array Bea**	**45.15**	**319**	P	**P**	**08 40 43.0**	**+1.3**
	1.7nm,0.9s,mb3.9,baz=128,slow=7.5,SNR=13						
NVAR				LR	LR	09 04 32.4	
	comp=Z,139nm,18.4s,MS3.9,baz=55,slow=43						
NEW	**Newport**	**50.65**	**330**	P	**P**	**08 41 24.4**	**+0.1**
	3.6nm,0.9s,mb4.3,baz=108,slow=9.6,SNR=3.1						
YKA	**Yellowknife Ar**	**60.25**	**343**	P	**P**	**08 42 31.8**	**-1.7**
	0.9nm,0.8s,mb3.9,baz=138,slow=6.8,SNR=24						
DLBC	**Dease Lake**	**63.02**	**334**	P	**P**	**08 42 52.2**	**0.0**
	1.7nm,0.7s,mb4.3,baz=104,slow=24,SNR=5.9						
DLBC	**Dease Lake**	**63.02**	**334**	P	**P**	**08 42 52.2**	**0.0**
INK	**Inuvik**	**69.94**	**342**	P	**P**	**08 43 35.2**	**-0.8**
	3.1nm,1.0s,mb4.2,baz=108,slow=9.8,SNR=8.6						
ASAR	**Alice Springs**	**141.50**	**240**	PKP	PKPdf	08 52 02.2	+2.5
	0.9nm,1.1s,baz=130,slow=2.1,SNR=4.4						

*NEIC **02** 08:32:52.0±0.8, 1.21N×97.09E, mb4.4/4, Error ellipse: s-maj=20.1km s-min=10.9km az=60.0*
*IDC **02** 08:32:52.1±2.0, 1.20N×97.00E, h24km±5km, mb3.8/7, mb1 3.9/7, mb1mx3.7/17, mbtmp3.9/7, MS3.7/1, Ms1 3.6/1, ms1mx2.7/24, Error ellipse: s-maj=85.2km s-min=15.5km az=56.0*

ISC 02 08:32:49.9±0.9, 1.2N±0.1×97.1E±0.1, h23km, h23km±.9km: pP-P, n15, σ0§80/14, mb4.0/13, MS3.7/2, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.41**	**42**	*eP*	**Pn**	**08 34 10.9**	**-0.4**
KMI	**Kunming**	**24.39**	**13**	P	**P**	**08 38 10.0**	**+2.1**
	13nm,0.9s,mb4.4						
KMI				LR	LR		
	comp=Z,190nm,12.8s,MS3.8						
ENH	**Enshi**	**31.21**	**21**	P	**P**	**08 39 09.1**	**-0.9**
	comp=Z,3.2nm,0.5s,mb4.4						
ENH				*ep*P	pP	08 39 15.2	-1.6
WRA	**Warramunga Arr**	**42.17**	**122**	P	**P**	**08 40 43.5**	**+0.6**
	comp=Z,1.1nm,0.6s,mb3.6,baz=303,slow=9.0,SNR=13						
WRA				pP	pP	08 40 50.2	+0.3
	comp=Z,1.3nm,0.5s,baz=303,slow=9.1,SNR=5.0						
WRAB	**Tennant Creek**	**42.18**	**122**	*eP*	**P**	**08 40 41.6**	**-1.4**
	comp=Z,2.3nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**43.53**	**127**	P	**P**	**08 40 54.8**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.5,baz=300,slow=8.3,SNR=5.7						
ASAR				pP	pP	08 41 01.6	+0.7
	comp=Z,0.6nm,0.5s,baz=298,slow=7.8,SNR=3.8						
SONM	**Songino Array**	**47.13**	**9**	P	**P**	**08 41 22.4**	**+0.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=190,slow=9.6,SNR=7.6						
SONM				pP	pP	08 41 30.2	+0.8
	comp=Z,1.6nm,0.9s,baz=188,slow=9.0,SNR=3.4						
MK31	**Makanchi Array**	**47.18**	**346**	P	**P**	**08 41 22.9**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=160,slow=7.8,SNR=22						
MKAR	**Makanchi Array**	**47.18**	**346**	P	**P**	**08 41 23.1**	**+0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=163,slow=8.7						
MKAR				pP	pP	08 41 30.8	+1.0
	baz=170,slow=8.3						
KURK	**Kurchatov**	**51.73**	**345**	*eP*	**P**	**08 41 57.7**	**+0.1**
	comp=Z,1.3nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**53.48**	**132**	LR	LR	09 06 56.0	
	comp=Z,60nm,18.6s,MS3.7,baz=132,slow=38						
ZAL	**Zalesovo**	**53.50**	**351**	P	**P**	**08 42 10.4**	**-0.3**
	comp=Z,2.6nm,0.6s,mb4.3,baz=312,slow=6.0,SNR=12						
BVAR	**Borovoye Array**	**56.18**	**341**	P	**P**	**08 42 29.6**	**-0.7**
	comp=Z,1.4nm,0.7s,mb4.1,baz=149,slow=8.6,SNR=7.5						
CHKZ	**Chkalovo**	**56.66**	**342**	⇑P	**P**	**08 42 33.1**	**-0.7**
	comp=Z,3.2nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**79.91**	**333**	P	**P**	**08 44 58.5**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=90,slow=6.7,SNR=1.2						

*NIED **02** 08:37:00, 33.90N×142.40E, h8km, Mw4.1 Best double couple: $M_0$1.45×10^15 NP1:ϕ_s152°, δ72°, λ-119°. NP2: ϕ_s33°, δ34°, λ-34°.*
*IDC **02** 08:37:47.8±0.7, 33.87N×142.27E, mb4.1/11, mb1 4.3/14, mb1mx4.1/23, mbtmp4.2/14, ML4.0/3, MS3.3/6, Ms1 3.3/6, ms1mx3.0/34, Error ellipse: s-maj=23.0km s-min=16.3km az=87.0*
*JMA **02** 08:37:47.3±0.4, 33.94N×142.39E, h11km, M3.8*
*MOS **02** 08:37:50.9±1.4, 33.85N×142.08E, h33km, mb4.7/1, Error ellipse: s-maj=26.9km s-min=13.4km az=115.3*

*NEIC **02** 08:37:52.3±6.3, 33.84N×142.09E, h27km±44km, mb4.6/2, MW4.1(NIED), Error ellipse: s-maj=22.6km s-min=14.2km az=87.0*

ISC 02 08:37:47.9±2.0, 33.91N±0.05×142.34E±0.06, h15km±13km, n38, σ1§08/45, mb4.0/13, MS3.9/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.35**	**304**	P	**Pn**	**08 38 12.2**	**-0.2**
BSO1				S	**Sb**	**08 38 30.9**	**+1.5**
BSO3	**Boso 3**	**1.76**	**301**	P	**Pn**	**08 38 18.8**	**+0.6**
BSO4	**Boso 4**	**1.98**	**304**	P	**Pn**	**08 38 22.5**	**+1.2**
CHOJ	**Chosi**	**2.17**	**326**	P	**Pn**	**08 38 24.4**	**+0.3**
JHJ2	**Mitsune**	**2.25**	**250**	P	**Pn**	**08 38 26.5**	**+1.2**
JHJ2				S	**Sn**	**08 38 54.0**	**+1.0**
JHJ	**Hachijo jima 2**	**2.27**	**251**	Pn	**Pn**	**08 38 26.4**	**+0.7**
	421nm,0.3s,baz=130,slow=3.5,SNR=105						
JHJ				Sn	**Sn**	**08 38 47.0**	**-6.6**
	87nm,0.3s,baz=98,slow=22,SNR=4.6						
JHJ				LR	LR	08 39 19.6	
	comp=Z,540nm,19.4s,baz=300,slow=42						
JIM2	**Oshima 3**	**2.54**	**289**	P	**Pn**	**08 38 29.1**	**-0.3**
JOD2	**Odawara 2**	**3.00**	**298**	P	**Pn**	**08 38 36.0**	**0.0**
JOD2				S	**Sn**	**08 39 11.5**	**-0.6**
JAG	**Ashikaga**	**3.45**	**318**	P	**Pn**	**08 38 41.5**	**-0.8**
JRY	**Ryogami san**	**3.52**	**308**	P	**Pn**	**08 38 43.8**	**+0.4**
JMM	**Marumori**	**4.15**	**343**	P	**Pn**	**08 38 49.0**	**-3.2**
JMM				S	**Sn**	**08 39 33.1**	**-7.9**
MAJO	**Matsushiro**	**4.29**	**309**	*eP*	**Pn**	**08 38 53.0**	**-1.2**
MAT	**Matsushiro**	**4.29**	**309**	P	**Pn**	**08 38 55.0**	**+0.8**
MAT				S	**Sn**	**08 39 42.0**	**-2.5**
MAT	**Matsushiro**	**4.29**	**309**	P	**Pn**	**08 38 55.4**	**+1.2**
MAT				*eS*	**Sn**	**08 39 41.9**	**-2.6**
JIE	**Ise**	**4.70**	**277**	P	**Pn**	**08 38 58.8**	**-1.2**
CBIJ	**Chichi jima**	**6.79**	**181**	Pn	**Pn**	**08 39 26.5**	**-3.1**
	8.6nm,0.3s,baz=297,slow=20,SNR=9.8						
CBIJ				Sn	**Sn**	**08 40 39.9**	**-7.4**
	6.6nm,0.3s,baz=278,slow=20,SNR=2.5						
CBIJ				LR	LR	08 42 12.7	
	comp=Z,84nm,18.5s,baz=37,slow=39						
ASAJ	**Asahikawa**	**10.20**	**1**	P	**P**	**08 40 16.4**	**-0.5**
ASAJ						08 42 07.2	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,77nm,20.5s						
ASAJ	**Asahikawa**	**10.20**	**1**	Pn	**P**	**08 40 16.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=196,slow=15,SNR=4.7						
ASAJ				Sn	**S**	**08 42 07.2**	**-4.8**
	comp=Z,0.4nm,0.3s,baz=76,slow=23,SNR=2.8						
ASAJ				LR	LR	08 44 17.2	
	comp=Z,77nm,20.5s,baz=159,slow=38						
JOW	**Kunigami**	**14.03**	**244**	LR	LR	08 46 06.1	
	comp=Z,135nm,20.5s,baz=105,slow=36						
SONM	**Songino Array**	**30.24**	**308**	P	**P**	**08 43 59.8**	**-0.3**
	comp=Z,1.5nm,0.9s,mb3.7,baz=106,slow=9.0,SNR=5.8						
ZAL	**Zalesovo**	**44.63**	**315**	P	**P**	**08 46 00.8**	**-0.5**
	comp=Z,0.7nm,0.3s,mb3.9,baz=328,slow=6.0,SNR=3.9						
MKAR	**Makanchi Array**	**46.47**	**305**	P	**P**	**08 46 16.3**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=91,slow=10,SNR=16						
KURK	**Kurchatov**	**48.49**	**310**	*eP*	**P**	**08 46 31.3**	**-0.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
KURK	**Kurchatov**	**48.49**	**310**	*eP*	**P**	**08 46 31.3**	**-0.5**
	comp=Z,4.5nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**54.09**	**189**	*eP*	**P**	**08 47 13.5**	**-0.9**
WRA	**Warramunga Arr**	**54.09**	**189**	P	**P**	**08 47 13.3**	**-1.1**
	comp=Z,4.6nm,0.7s,mb4.5,baz=7.4,slow=7.6

IDC 02 09:11:45.8±31.0, 0.20S×97.33E, mb4.0/4, mb1 4.1/4, mb1mx3.8/17, mbtmp4.0/4, Error ellipse: s-maj=619.4km s-min=136.2km az=168.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**48.49**	**8**	P	P	09 20 30.2	-2.0
	0.5nm,0.4s,baz=193,slow=7.9,SNR=3.8						
MKAR	**Makanchi Array**	**48.62**	**346**	P	P	09 20 31.3	-2.0
	1.6nm,0.7s,baz=164,slow=8.4,SNR=20						
ZAL	**Zalesovo**	**54.94**	**351**	P	P	09 21 18.5	-2.3
	1.8nm,0.4s,baz=280,slow=5.2,SNR=9.5						
BVAR	**Borovoye Array**	**57.61**	**341**	P	P	09 21 37.3	-2.6
	1.0nm,0.7s,baz=149,slow=8.6,SNR=6.8						

*IDC **02** 09:24:09.9±2.3, 1.76S×99.89E, mb4.0/6, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, Error ellipse: s-maj=139.5km s-min=18.9km az=52.0*
*NEIC **02** 09:24:12.8±0.8, 2.18S×99.39E, h30km, mb4.2/1, Error ellipse: s-maj=31.4km s-min=10.5km az=59.0*
ISC 02 09:24:11.4±1.1, 2.1S±0.2×99.4E±0.2, h33km, n12, σ0973/10, mb4.0/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.45**	**9**	P	P	**09 26 00.8**	**+0.3**
WRA	**Warramunga Arr**	**38.44**	**120**	P	P	**09 31 32.0**	**0.0**
	1.6nm,0.6s,mb4.0,baz=303,slow=9.1,SNR=20						
WRAB	**Tennant Creek**	**38.45**	**120**	*e*P	P	**09 31 27.8**	**-4.3**
WB2	**Warramunga Arr**	**38.45**	**120**	*e*P	P	**09 31 32.7**	**+0.6**
ASAR	**Alice Springs**	**39.66**	**126**	P	P	**09 31 41.6**	**-0.5**
	1.0nm,0.9s,mb3.5,baz=303,slow=7.9,SNR=10						
ASAR				PcP	PcP	09 33 51.4	+2.1
	0.6nm,0.7s,baz=319,slow=2.4,SNR=5.1						
MKAR	**Makanchi Array**	**50.98**	**345**	P	P	**09 33 12.5**	**+0.4**
	0.7nm,0.4s,mb3.9,baz=156,slow=9.1,SNR=14						
KURK	**Kurchatov**	**55.55**	**344**	*e*P	P	**09 33 45.3**	**-0.5**
	3.1nm,1.2s,mb4.2						
ZAL	**Zalesovo**	**57.16**	**350**	P	P	**09 33 56.3**	**-1.1**
	1.1nm,0.4s,mb4.2,baz=310,slow=6.4,SNR=7.0						
BVAR	**Borovoye Array**	**60.08**	**340**	P	P	**09 34 17.3**	**-0.5**
	0.4nm,0.5s,mb3.7,baz=108,slow=4.6,SNR=3.5						
FINES	**FINESS Array B**	**83.94**	**332**	P	P	**09 36 40.7**	**+1.5**
	1.8nm,1.0s,mb4.2,baz=108,slow=6.0,SNR=5.6						
TXAR	**Lajitas Array**	**145.13**	**37**	PKP	PKPdf	09 43 48.9	+2.6
	0.6nm,0.6s,baz=200,slow=1.0,SNR=9.1						
TXAR	**Lajitas Array**	**145.13**	**37**	PKP	PKPdf	09 43 48.9	+2.6

*BJI **02** 09:28:08.2, 0.37N×97.37E, h30km, mB5.0, mb4.7, Ms4.5, Msz4.1*
*IDC **02** 09:28:12.4±1.0, 1.19N×96.96E, mb4.3/13, mb1 4.4/13, mb1mx4.2/19, mbtmp4.3/13, MS3.6/2, Ms1 3.6/2, ms1mx2.7/22, Error ellipse: s-maj=51.2km s-min=14.6km az=51.0*
*MOS **02** 09:28:15.8±1.5, 1.29N×97.18E, h33km, mb4.8/20, Error ellipse: s-maj=18.2km s-min=7.8km az=102.6*
*NEIC **02** 09:28:17.6±0.5, 1.28N×97.19E, h30km, mb4.7/16, Error ellipse: s-maj=14.3km s-min=7.6km az=53.0*
ISC 02 09:28:15.7±0.5, 1.34N±0.07×97.26E±0.07, h30km, (h31km±1.6km:pP-P), n69, σ1§14/75, mb4.5/51, MS3.9/9, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.18**	**41**	*e*P	**Pn**	**09 29 35.0**	**+1.7**
KMI	**Kunming**	**24.23**	**12**	P	P	**09 33 33.3**	**+2.1**
KMI				AP		09 33 39.8	
KMI				XP		09 33 42.8	
KMI				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,47nm,3.1s						
KMI				LR	LR		
	comp=N,485nm,16.5s,MS4.2						
KMI				LR	LR		
	comp=E,346nm,13.2s,MS4.2						
KMI				LR	LR		
	comp=Z,539nm,16.5s,MS4.1						
KMI	**Kunming**	**24.23**	**12**	P	P	**09 33 33.3**	**+2.1**
KMI				*SP		09 33 42.8	
KMI				pmax	pmax		
	comp=Z,26nm,1.2s,mb4.5						
KMI				MLR	MLR		
	comp=Z,540nm,16.5s,MS4.1						
KMI	**Kunming**	**24.23**	**12**	P	P	**09 33 33.3**	**+2.1**
	comp=Z,26nm,1.2s,mb4.5						
KMI				pP		09 33 39.8	
KMI				sP		09 33 42.8	
KMI				S	S	**09 38 04.8**	**+20**
KMI				sS		09 38 15.5	
KMI				LR	LR		
	comp=Z,540nm,16.5s,MS4.1						
GYA	**Guiyang**	**26.56**	**19**	P	P	**09 33 53.8**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
JIRN	**Jiri**	**28.24**	**339**	*e*P	P	**09 34 09.2**	**+0.8**
	comp=Z,36nm,0.9s,mb5.0						
PKI	**Pulchoki**	**28.45**	**337**	*e*P	P	**09 34 12.0**	**+1.7**
GUN	**Gumba**	**28.58**	**339**	*e*P	P	**09 34 12.1**	**+0.7**
	comp=Z,28nm,0.7s,mb5.1						
DMN	**Daman**	**28.60**	**337**	*e*P	P	**09 34 12.9**	**+1.3**
	comp=Z,17nm,1.0s,mb4.8						
KKN	**Kakani**	**28.70**	**337**	*e*P	P	**09 34 12.8**	**+0.3**
LSA	**Lhasa**	**28.80**	**349**	P	P	**09 34 15.1**	**+1.7**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**28.80**	**349**	P	P	**09 34 15.1**	**+1.7**
	comp=Z,6.6nm,0.7s,mb4.5						
GKN	**Gorkha**	**29.14**	**337**	*e*P	P	**09 34 16.7**	**+0.2**
	comp=Z,18nm,0.6s,mb5.0						
KOLN	**Koldanda**	**29.36**	**335**	*e*P	P	**09 34 18.9**	**+0.4**
	comp=Z,23nm,0.7s,mb5.0						
ENH	**Enshi**	**31.03**	**21**	*e*P	P	**09 34 32.3**	**-0.9**
	comp=Z,22nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**33.96**	**126**	P	P	**09 34 58.2**	**-0.7**
	comp=Z,3.7nm,0.8s,mb4.4,baz=338,slow=11,SNR=4.1						
FITZ				LR	LR	09 48 07.5	
	comp=Z,106nm,19.7s,MS3.6,baz=270,slow=35						
XAN	**Xi'an**	**34.31**	**17**	P	P	**09 35 01.0**	**-0.8**
XAN				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
NJ2	**Nanjing**	**36.71**	**32**	*e*P	P	**09 35 20.5**	**-1.7**
NJ2				AP	pP	09 35 31.2	+0.1
NJ2				XP	sP	09 35 35.0	+0.1
NJ2				PP	PP	09 36 46.3	-1.2
NJ2				S	S	**09 41 03.0**	**-0.2**
NJ2				XS		09 41 20.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,130nm,4.9s						
NJ2				LR	LR		
	comp=N,400nm,16.6s,MS4.4						
NJ2				LR	LR		
	comp=E,400nm,21.2s,MS4.4						
NJ2				LR	LR		
	comp=Z,300nm,23.8s,MS4.0						
SSE	**Sheshan**	**37.26**	**35**	*e*P	P	**09 35 24.8**	**-2.0**
SSE				AP	pP	09 35 33.6	-2.2
SSE				XP	sP	09 35 37.1	-2.4
SSE				S	S	**09 41 11.1**	**-0.5**
SSE				XS		09 41 28.5	
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.3						
SSE				LR	LR		
	comp=N,56nm,19.0s,MS3.5						
SSE				LR	LR		
	comp=E,49nm,19.0s,MS3.5						
SSE				LR	LR		
	comp=Z,81nm,19.1s,MS3.5						
SSE	**Sheshan**	**37.26**	**35**	*e*P	P	**09 35 24.8**	**-2.0**
	comp=Z,34nm,0.7s,mb5.3						
SSE				pP	pP	09 35 33.6	-2.2
SSE				sP	sP	09 35 37.1	-2.4
SSE				S	S	**09 41 11.1**	**-0.5**
SSE				sS		09 41 28.5	
SSE				SS	SS	09 44 09.3	+26
SSE				LR	LR		
	comp=Z,80nm,19.1s,MS3.5						
GTA	**Gaotai**	**37.96**	**3**	P	P	**09 35 33.5**	**+0.9**
GTA				AP	pP	09 35 40.8	-0.7
GTA				XP	sP	09 35 44.2	-1.1
GTA				S	S	**09 41 29.3**	**+7.1**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,91nm,6.1s						
GTA				LR	LR		
	comp=N,240nm,12.6s,MS4.3						
GTA				LR	LR		
	comp=E,207nm,14.1s,MS4.3						
GTA				LR	LR		
	comp=Z,216nm,13.7s,MS4.1						
HHC	**Hu-ho-hao-te**	**41.41**	**16**	*e*P	P	**09 36 05.6**	**+4.5**
HHC				AP	pP	09 36 15.9	+5.8
HHC				XP	sP	09 36 19.2	+5.4
HHC				SCP		09 41 36.7	
HHC				PCS		09 41 43.2	
HHC				SCS	ScS	09 45 59.3	-1.2
HHC				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.2						
HHC				AMB	AMB		
	comp=Z,110nm,4.6s						
HHC				LR	LR		
	comp=N,275nm,15.9s,MS4.4						
HHC				LR	LR		
	comp=E,267nm,16.5s,MS4.4						
HHC				LR	LR		
	comp=Z,187nm,16.7s,MS4.0						
WRA	**Warramunga Arr**	**42.05**	**122**	P	P	**09 36 07.7**	**+1.0**
	comp=Z,2.8nm,0.8s,mb4.0,baz=301,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**42.06**	**122**	*e*P	P	**09 36 08.1**	**+1.3**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
WRAB	**Tennant Creek**	**42.06**	**122**	*e*P	P	**09 36 08.1**	**+1.3**
	comp=Z,4.3nm,0.8s,mb4.1						
BJT	**Baijiatuau**	**42.16**	**22**	*e*P	P	**09 36 09.0**	**+1.6**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	**Baijiatuau**	**42.16**	**22**	*e*P	P	**09 36 09.0**	**+1.6**
	comp=Z,8.7nm,0.6s,mb4.6						
BJI	**Beijing**	**42.19**	**22**	*e*P	P	**09 36 08.8**	**+1.2**
BJI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.7						
BJI	**Beijing**	**42.19**	**22**	*e*P	P	**09 36 08.8**	**+1.2**
	comp=Z,17nm,0.8s,mb4.7						
WMQ	**Urumqi**	**43.15**	**350**	P	P	**09 36 16.3**	**+0.9**
WMQ				AP	pP	09 36 26.3	+1.9
WMQ				XP	sP	09 36 30.3	+2.2
WMQ				PP	PP	09 38 03.1	+5.3
WMQ				*e*S	S	**09 42 54.3**	**+15**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**43.43**	**127**	P	P	**09 36 19.3**	**+1.4**
	comp=Z,1.1nm,0.6s,mb3.8,baz=300,slow=8.1,SNR=7.7						
AAK	**Ala-Archa**	**45.90**	**337**	*i* P	P	**09 36 40.1**	**+2.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
SONM	**Songino Array**	**46.98**	**8**	P	P	**09 36 46.8**	**+0.9**
	comp=Z,5.9nm,0.8s,mb4.6,baz=189,slow=8.6,SNR=26						
MK02	**Makanchi Array**	**47.09**	**346**	P	P	**09 36 47.2**	**+0.4**
MK02				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ULN	**Ulaanbaatar**	**47.11**	**9**	*e*P	P	**09 36 47.4**	**+0.4**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ULN	**Ulaanbaatar**	**47.11**	**9**	*e*P	P	**09 36 47.4**	**+0.4**
	comp=Z,5.2nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**47.12**	**346**	P	P	**09 36 47.2**	**+0.2**
	comp=Z,2.6nm,0.4s,mb4.5,baz=162,slow=8.7,SNR=53						
KKAR	**Karatay Array**	**47.96**	**334**	*i* P	P	**09 36 53.8**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CN2	**Changchun**	**49.15**	**27**	*e*P	P	**09 36 59.2**	**-3.7**
TLY	**Talaya**	**50.45**	**5**	*i* P	P	**09 37 11.8**	**-0.9**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
HIA	**Hailar**	**51.49**	**19**	*e*P	P	**09 37 16.2**	**-4.4**
HIA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HIA	**Hailar**	**51.49**	**19**	*e*P	P	**09 37 16.2**	**-4.4**
	comp=Z,2.1nm,0.5s,mb4.3						
KURK	**Kurchatov**	**51.67**	**345**	*i* P	P	**09 37 21.7**	**-0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
KURK	**Kurchatov**	**51.67**	**345**	*e*P	P	**09 37 21.7**	**-0.3**
	comp=Z,4.1nm,0.8s,mb4.4						
MDJ	**Mudanjiang**	**51.71**	**29**	P	P	**09 37 16.6**	**-5.8**
MDJ				AP	pP	09 37 25.8	-5.8
MDJ				XP	sP	09 37 29.6	-5.5
MDJ				PP	PP	09 39 17.2	-3.5
MDJ				SCP		09 42 18.9	
MDJ				PCS		09 42 22.6	
MDJ				S	S	**09 44 47.5**	**+7.0**
MDJ				XS		09 45 02.6	
MDJ				SCS	ScS	09 47 01.9	-5.2
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,56nm,6.4s						
MDJ				LR	LR		
	comp=N,69nm,35.7s,MS3.5						
MDJ				LR	LR		
	comp=E,44nm,36.4s,MS3.5						
MDJ				LR	LR		
	comp=Z,55nm,16.9s						
MDJ	**Mudanjiang**	**51.71**	**29**	P	P	**09 37 17.7**	**-4.7**
	comp=Z,4.6nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**53.40**	**132**	P	P	**09 37 35.3**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=230,slow=6.5,SNR=3.4						
ZAL	**Zalesovo**	**53.42**	**351**	P	P	**09 37 34.5**	**-0.5**
	comp=Z,6.9nm,0.6s,mb4.7,baz=309,slow=5.5,SNR=30						
NVS	**Novosibirsk**	**54.55**	**350**	*e*P	P	**09 37 41.2**	**-2.1**
NVS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
NVS				pmax	pmax		
	comp=N,3.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
KLR	**Kul'dur**	**56.10**	**27**	*e*P	P	**09 37 52.2**	**-2.4**
BVA0	**Borovoye Array**	**56.14**	**341**	*i* P	P	**09 37 53.5**	**-1.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**56.14**	**341**	P	P	**09 37 53.8**	**-1.0**
	comp=Z,3.2nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=18						
CHKZ	**Chkalovo**	**56.61**	**341**	*i* P	P	**09 37 57.4**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
BOD	**Bodaibo**	**57.86**	**10**	*e*P	P	**09 38 04.8**	**-2.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
KMBO	**Kilima Mbogo**	**60.06**	**268**	LR	LR	09 57 42.5	
	comp=Z,40nm,19.8s,MS3.6,baz=86,slow=30						
YSS	**Yuzh-Sakhalins**	**60.20**	**34**	*i* P	P	**09 38 21.5**	**-1.8**
YSS				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
GNI	**Garni**	**61.24**	**316**	*i* P	P	**09 38 31.1**	**+0.6**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SVE	**Sverdlovsk**	**62.58**	**338**	*e*P	P	**09 38 38.2**	**-1.0**
SVE				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
KIV	**Kislovodsk**	**64.24**	**319**	*i* P	P	**09 38 50.0**	**-0.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
YAK	**Yakutsk**	**65.27**	**16**	*e*P	P	**09 38 56.0**	**-0.7**
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
SOC	**Sochi**	**66.06**	**318**	*e*P	P	**09 38 58.2**	**-3.9**
SOC				*e*		09 39 26.2	
SOC				*e*		09 41 25.6	
SOC				*e*PPP	PPP	09 43 00.8	-4.1
SOC				*e*S	S	09 47 44.4	-2.2
SOC				*e*		09 48 54.4	
SOC				*e*SS	SS	09 52 04.7	+1.2
SOC				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
SOC				pmax	pmax		
	comp=N,30nm,1.0s						
SOC				pmax	pmax		
	comp=E,31nm,1.0s						
BRTR	**Keskin Array B**	**69.06**	**312**	P	P	**09 39 20.2**	**-0.8**
	comp=E,0.4nm,0.5s,mb3.6,baz=127,slow=7.2,SNR=2.4						
OBN	**Obninsk**	**72.53**	**328⇑**	*e*P	P	**09 39 41.2**	**-0.5**
OBN				*e*		09 42 21.8	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
TIXI	**Tiksi**	**73.04**	**10**	*e*P	P	**09 39 42.9**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,120nm,16.0s,MS4.3						
FINES	**FINESS Array B**	**79.90**	**332**	P	P	**09 40 22.9**	**-0.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=108,slow=6.0,SNR=7.7						
BILL	**Bilibino**	**81.01**	**21**	*i* P	P	**09 40 28.7**	**-0.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
ARCES	**ARCESS Array B**	**82.42**	**340**	P	P	**09 40 36.3**	**+0.2**
	comp=Z,4.7nm,0.9s,mb4.4,baz=90,slow=4.9,SNR=8.1						
GERES	**GERESS Array B**	**84.75**	**319**	P	P	**09 40 47.7**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.9,baz=90,slow=2.0,SNR=3.7						
HFS	**Hagfors**	**85.63**	**330**	P	P	**09 40 53.0**	**+0.5**
	comp=Z,0.8nm,0.6s,mb4.1,baz=76,slow=12,SNR=2.8						

IDC 02 09:33:29.8±2.6, 1.20N×96.91E, mb3.9/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.9/6, Error ellipse: s-maj=110.1km s-min=26.5km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.28**	**122**	P	P	09 41 25.5	-1.6
	0.5nm,0.5s,baz=300,slow=9.2,SNR=7.8						
MKAR	**Makanchi Array**	**47.17**	**346**	P	P	09 42 04.8	-1.2
	0.7nm,0.4s,baz=162,slow=9.0,SNR=28						
SONM	**Songino Array**	**47.17**	**9**	P	P	09 42 03.9	-2.1
	1.2nm,0.7s,baz=194,slow=9.4,SNR=6.9						
ZAL	**Zalesovo**	**53.50**	**351**	P	P	09 42 52.0	-2.3
	1.4nm,0.4s,baz=291,slow=8.3,SNR=6.5						
BVAR	**Borovoye Array**	**56.15**	**341**	P	P	09 43 10.8	-2.7
	0.5nm,0.5s,baz=149,slow=8.6,SNR=4.0						
ARCES	**ARCESS Array B**	**82.44**	**340**	P	P	09 45 53.1	-1.9
	2.0nm,0.8s,baz=88,slow=5.9,SNR=3.6						

IDC 02 09:39:22.5±3.1, 1.44S×100.18E, mb3.7/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.7/4, Error ellipse: s-maj=187.2km s-min=25.2km az=50.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANT	**Nan**	**20.12**	**1**	P	P	09 43 55.0	-6.0
	88nm,0.6s						
WRA	**Warramunga Arr**	**38.12**	**121**	P	P	09 46 43.6	-1.6
	0.7nm,0.5s,baz=302,slow=9.1,SNR=5.4						
ASAR	**Alice Springs**	**39.44**	**127**	P	P	09 46 54.6	-1.6
	0.3nm,0.6s,baz=300,slow=7.7,SNR=5.4						
MKAR	**Makanchi Array**	**50.54**	**344**	P	P	09 48 23.7	-1.1
	0.4nm,0.5s,baz=154,slow=9.1,SNR=6.9						
FINES	**FINESS Array B**	**83.70**	**332**	P	P	09 51 51.9	-2.4
	0.8nm,0.8s,baz=90,slow=6.9,SNR=3.4						
TXAR	**Lajitas Array**	**144.15**	**37**	PKP	PKPdf	09 58 59.8	-3.0
	0.2nm,0.4s,baz=200,slow=1.3,SNR=4.7						

IDC 02 09:42:57.1±1.9, 1.86S×99.71E, mb3.8/7, mb1 4.0/7, mb1mx3.8/16, mbtmp3.8/7, Error ellipse: s-maj=96.9km s-min=19.0km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.32**	**120**	P	P	09 50 19.5	-1.9
	1.5nm,0.8s,baz=302,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**39.57**	**126**	P	P	09 50 30.8	-1.2
	0.6nm,0.7s,baz=297,slow=7.8,SNR=6.6						
ASAR				PcP	PcP	09 52 37.3	-2.6
	0.7nm,0.8s,baz=336,slow=2.6,SNR=4.8						
SONM	**Songino Array**	**49.83**	**6**	P	P	09 51 52.0	-1.9
	0.8nm,0.8s,baz=180,slow=8.6,SNR=3.9						
MKAR	**Makanchi Array**	**50.81**	**345**	P	P	09 52 00.0	-1.4
	1.0nm,0.6s,baz=150,slow=8.0,SNR=14						
ZAL	**Zalesovo**	**56.97**	**350**	P	P	09 52 43.4	-3.2
	1.2nm,0.4s,baz=302,slow=3.0,SNR=6.3						
BVAR	**Borovoye Array**	**59.95**	**340**	P	P	09 53 04.7	-2.8
	0.5nm,0.7s,baz=129,slow=9.2,SNR=2.7						
FINES	**FINESS Array B**	**83.85**	**332**	P	P	09 55 28.6	-1.0
	1.5nm,1.0s,baz=108,slow=6.0,SNR=5.6						
TXAR	**Lajitas Array**	**144.77**	**37**	PKP	PKPdf	10 02 36.3	-2.2
	0.4nm,0.5s,baz=237,slow=1.0,SNR=8.3						

IGQ 02 09:55:53.0, 0.72S×78.68W, h13km±2km, mb4.0, 6C-2D, Error ellipse: s-maj=2.5km s-min=0.9km az=177.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAS1	**Nasa**	**0.22**	**67**	⇓P	Pg	09 55 58.3	+0.3
VC1	**Cotopaxi 1**	**0.29**	**74**	⇑P	Pg	09 55 59.9	+0.6
TAMB	**Tambo**	**0.32**	**85**	⇑P	Pg	09 55 60.0	+0.2
PISA	**Pisayambo**	**0.45**	**138**	⇑P	Pb	09 56 02.5	+0.3
PISA				S	Sg	09 56 10.5	+2.0
JUA2	**San Juan 2**	**0.51**	**9**	⇑P	Pb	09 56 03.8	+0.5
PINO	**Pino**	**0.56**	**8**	⇓P	Pb	09 56 04.8	+0.6
PINO				S	Sb	09 56 15.8	+3.9
ANTI	**Antisana**	**0.59**	**63**	⇑P	Pb	09 56 04.6	-0.1
YANA	**Yana**	**0.61**	**11**	⇑P	Pb	09 56 05.1	+0.1
JOR1	**San Jorge 1**	**0.72**	**4**	P	Pb	09 56 03.3	-3.5
JUIV	**Juive**	**0.73**	**163**	P	Pb	09 56 07.2	+0.1
CUSU	**Cusua**	**0.74**	**164**	P	Pb	09 56 07.7	+0.4
IGUA	**Igualata**	**0.77**	**177**	P	Pb	09 56 08.3	+0.6
ULBA	**Ulba**	**0.77**	**159**	P	Pb	09 56 07.9	+0.1
ULBA				S	Sb	09 56 20.4	+2.4
ARRY	**Arrayan**	**0.81**	**164**	P	Pb	09 56 08.4	0.0
ARRY				S	Sb	09 56 19.7	+0.6
CAYR	**Refugio Cayamb**	**1.00**	**43**	P	Pb	09 56 13.1	+1.5
CAYR				S	Sb	09 56 26.4	+2.0

IDC 02 10:03:04.5±3.5, 1.47N×97.43E, mb3.9/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=145.0km s-min=21.1km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.98**	**122**	P	P	10 10 57.4	-1.9
	1.1nm,0.6s,baz=303,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**43.37**	**127**	P	P	10 11 09.1	-1.5
	0.4nm,0.5s,baz=297,slow=8.2,SNR=5.7						
SONM	**Songino Array**	**46.84**	**8**	P	P	10 11 36.9	-1.1
	1.4nm,0.8s,baz=200,slow=7.6,SNR=6.7						
MKAR	**Makanchi Array**	**47.04**	**346**	P	P	10 11 37.8	-1.8
	0.8nm,0.5s,baz=164,slow=8.8,SNR=17						
ZAL	**Zalesovo**	**53.32**	**351**	P	P	10 12 24.6	-3.0
	2.2nm,0.4s,baz=317,slow=5.6,SNR=9.6						

MEX 02 10:05:05.8±0.5, 15.52N×95.30W, h14km±21km, MD3.6, 1C, Near coast of Oaxaca

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

0.7nm,0.6s,baz=189,slow=9.4,SNR=3.8
MKAR Makanchi Array 48.23 345 P P 10 18 08.2 -2.2
1.5nm,0.5s,baz=162,slow=9.0,SNR=21
ZAL Zalesovo 54.47 350 P P 10 18 54.9 -2.5
1.8nm,0.4s,baz=312,slow=6.2,SNR=7.7
BVAR Borovoye Array 57.30 340 P P 10 19 15.4 -2.4
0.6nm,0.7s,baz=164,slow=10,SNR=4.2

IDC 02 10:09:49.8±2.8, 0.33N×97.96E, mb3.9/6, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, Error ellipse: s-maj=123.0km s-min=20.5km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.93**	**122**	P	P	10 17 33.8	-2.1
	0.3nm,0.4s,baz=304,slow=8.9,SNR=7.6						
ASAR	**Alice Springs**	**42.27**	**127**	P	P	10 17 45.5	-1.4
	1.1nm,0.6s,baz=297,slow=7.4,SNR=7.6						
SONM	**Songino Array**	**47.88**	**8**	P	P	10 18 30.6	-0.9
	0.5nm,0.5s,baz=191,slow=9.3,SNR=3.0						
MKAR	**Makanchi Array**	**48.26**	**346**	P	P	10 18 33.0	-1.5
	1.5nm,0.5s,baz=162,slow=8.5,SNR=11						
ZAL	**Zalesovo**	**54.52**	**350**	P	P	10 19 18.7	-3.0
	1.8nm,0.4s,baz=299,slow=6.0,SNR=5.6						
BVAR	**Borovoye Array**	**57.31**	**341**	P	P	10 19 38.5	-3.4
	0.8nm,0.6s,baz=127,slow=7.2,SNR=4.8						

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*IDC **02** 11:02:00.1±2.0, 1.60N×98.16E, mb3.9/8, mb1 4.0/8, mb1mx3.8/17, mbtmp3.9/8, Error ellipse: s-maj=99.6km s-min=19.5km az=54.0*
*NEIC **02** 11:02:02.7±1.0, 1.15N×97.67E, h30km, mb4.4/1, Error ellipse: s-maj=29.4km s-min=15.5km az=59.0*
ISC 02 11:02:00.8±1.0, 1.2N±0.1×97.7E±0.2, h30km, n11, σ1§23/11, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.07**	**36**	*eP*	**Pn**	**11 03 17.8**	**+1.0**
WRA	**Warramunga Arr**	**41.64**	**122**	P	**P**	**11 09 48.9**	**+0.4**
	0.2nm,0.5s,mb3.0,baz=306,slow=8.9,SNR=3.3						
WRAB	**Tennant Creek**	**41.65**	**122**	*eP*	**P**	**11 09 47.2**	**-1.4**
	12nm,1.3s,mb4.3						
ASAR	**Alice Springs**	**43.02**	**127**	P	**P**	**11 10 00.4**	**+0.6**
	0.3nm,0.8s,mb3.1,baz=297,slow=8.0,SNR=3.0						
SONM	**Songino Array**	**47.09**	**8**	P	**P**	**11 10 29.8**	**-2.2**
	0.5nm,0.5s,mb3.7,baz=193,slow=9.6,SNR=3.9						
MKAR	**Makanchi Array**	**47.37**	**346**	P	**P**	**11 10 34.3**	**+0.1**
	2.1nm,0.7s,mb4.2,baz=161,slow=8.6,SNR=36						
ZAL	**Zalesovo**	**53.64**	**351**	P	**P**	**11 11 20.8**	**-1.0**
	1.3nm,0.4s,mb4.2,baz=305,slow=8.7,SNR=7.1						
ZAL	**Zalesovo**	**53.64**	**351**	P	**P**	**11 11 20.8**	**-1.0**
BVAR	**Borovoye Array**	**56.42**	**341**	P	**P**	**11 11 41.1**	**-0.9**
	1.6nm,0.6s,mb4.2,baz=140,slow=9.0,SNR=12						
FINES	**FINESS Array B**	**80.23**	**332**	P	**P**	**11 14 11.9**	**+2.0**
	0.5nm,0.6s,mb3.6,baz=100,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**82.71**	**340**	P	**P**	**11 14 24.2**	**+1.4**
	5.2nm,1.0s,mb4.5,baz=82,slow=6.4,SNR=3.7						

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*LDG **02** 11:05:09.2±0.2, 44.12N×11.64E, h10km, Ml2.7/8, Error ellipse: s-maj=5.3km s-min=2.7km az=102.0*
*CSEM **02** 11:05:11.4±0.1, 44.09N×11.51E, h25km, ML2.7/5, Error ellipse: s-maj=4.6km s-min=1.7km az=31.0*
*NEIC **02** 11:05:11.5, 44.19N×11.55E, h10km, ML2.7(LDG), ML2.6(ROM), After ROM.*
*ROM **02** 11:05:11.4±0.2, 44.19N×11.55E, h10km, MD2.6/3, ML2.1/4, Error ellipse: s-maj=2.1km s-min=1.6km az=0.0*
ISC 02 11:05:08.2±0.5, 44.37N±0.02×11.50E±0.04, h10km, n50, σ1§22/77, 3C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEI	**Scarperia**	**0.33**	**199**	*e*PG	**Pg**	**11 05 15.5**	**+0.4**
SEI				SG	**Sg**	**11 05 20.1**	**+0.5**
SEI	**Scarperia**	**0.33**	**199**	*e*Pg	**Pg**	**11 05 15.5**	**+0.4**
SEI				*e*Sg	**Sg**	**11 05 20.1**	**+0.5**
ZCCA	**Zocca**	**0.38**	**268**	*e*PG	**Sg**	**11 05 20.7**	**-0.5**
	39nm,0.4s						
ZCCA	**Zocca**	**0.38**	**268**	*e*Pg	**Sg**	**11 05 20.7**	**-0.5**
ZCCA	**Zocca**	**0.38**	**268**	*e*Pg	**Sg**	**11 05 20.7**	**-0.5**
	39nm,0.4s						
VMG	**Vicchio**	**0.41**	**176**	⇓*i*PG	**Pg**	**11 05 16.4**	**-0.2**
VMG				SG	**Sg**	**11 05 21.2**	**-0.9**
	915nm,0.4s						
VMG	**Vicchio**	**0.41**	**176**	⇓*i*Pg	**Pg**	**11 05 16.4**	**-0.1**
VMG				*e*Sg	**Sg**	**11 05 21.2**	**-0.9**
VMG	**Vicchio**	**0.41**	**176**	⇓*i*Pg	**Pg**	**11 05 16.4**	**-0.2**
	915nm,0.4s						
VMG				Sg	**Sg**	**11 05 21.2**	**-0.9**
PGD	**Poggio Sodo**	**0.52**	**162**	*e*PG	**Pg**	**11 05 18.5**	**-0.2**
PGD				SG	**Sg**	**11 05 25.1**	**-0.6**
	91nm,0.4s						
PGD	**Poggio Sodo**	**0.52**	**162**	*e*Pg	**Pg**	**11 05 18.5**	**-0.2**
PGD				*e*Sg	**Sg**	**11 05 25.1**	**-0.6**
PGD	**Poggio Sodo**	**0.52**	**162**	*e*Pg	**Pg**	**11 05 18.5**	**-0.2**
	91nm,0.4s						
PGD				Sg	**Sg**	**11 05 25.1**	**-0.6**
SFI	**Santa Sofia**	**0.52**	**152**	⇑*i*PG	**Pg**	**11 05 19.0**	**+0.1**
	272nm,0.4s						
SFI	**Santa Sofia**	**0.52**	**152**	⇑*i*Pg	**Pg**	**11 05 19.0**	**+0.1**
SFI	**Santa Sofia**	**0.52**	**152**	⇑*i*Pg	**Pg**	**11 05 19.0**	**+0.1**
	272nm,0.4s						
GSCL	**Gusciola**	**0.66**	**269**	*e*PG	**Pg**	**11 05 26.2**	**+4.7**
RSM	**Repubblica di**	**0.81**	**122**	*e*PG	**Pg**	**11 05 25.9**	**+1.4**
	124nm,0.3s						
RSM	**Repubblica di**	**0.81**	**122**	*e*Pg	**Pg**	**11 05 25.9**	**+1.4**
RSM	**Repubblica di**	**0.81**	**122**	*e*Pg	**Pg**	**11 05 25.9**	**+1.4**
	124nm,0.3s						
SARO	**Sassorosso**	**0.81**	**257**	P	**Pb**	**11 05 25.5**	**+1.5**
SARO				S	**Sb**	**11 05 35.6**	**+0.8**
SARO	**Sassorosso**	**0.81**	**257**	P	**Pb**	**11 05 25.5**	**+1.5**
SARO	**Sassorosso**	**0.81**	**257**	P	**Pb**	**11 05 25.5**	**+1.5**
SARO				S	**Sb**	**11 05 35.6**	**+0.8**
SARO				S	**Sb**	**11 05 35.6**	**+0.8**
VALM		**0.90**	**269**	P	**Pb**	**11 05 28.6**	**+3.1**
VALM		**0.90**	**269**	P	**Pb**	**11 05 28.6**	**+3.1**
VINC	**Vinca**	**1.00**	**257**	P	**Pb**	**11 05 28.8**	**+1.6**
VINC				S	**Sb**	**11 05 40.4**	**+0.3**
VINC	**Vinca**	**1.00**	**257**	P	**Pb**	**11 05 28.8**	**+1.6**
VINC	**Vinca**	**1.00**	**257**	P	**Pb**	**11 05 28.8**	**+1.6**
VINC				S	**Sb**	**11 05 40.4**	**+0.3**
VINC				S	**Sb**	**11 05 40.4**	**+0.3**
BACM		**1.03**	**266**	P	**Pb**	**11 05 30.4**	**+2.7**
BACM				S	**Sb**	**11 05 42.7**	**+1.6**
BACM		**1.03**	**266**	P	**Pb**	**11 05 30.4**	**+2.7**
BACM				S	**Sb**	**11 05 42.7**	**+1.6**
GRAM		**1.04**	**277**	P	**Pb**	**11 05 32.1**	**+4.2**
GRAM				S	**Sb**	**11 05 46.0**	**+4.7**
GRAM		**1.04**	**277**	P	**Pb**	**11 05 32.1**	**+4.3**
GRAM				S	**Sb**	**11 05 46.0**	**+4.7**
FSSB	**Fossombrone**	**1.14**	**126**	*e*PG	**Pg**	**11 05 31.1**	**0.0**
	45nm,0.2s						
FSSB	**Fossombrone**	**1.14**	**126**	*e*Pg	**Pg**	**11 05 31.1**	**0.0**
FSSB	**Fossombrone**	**1.14**	**126**	*e*Pg	**Pg**	**11 05 31.1**	**0.0**
	45nm,0.2s						
CODM		**1.19**	**272**	P	**Pb**	**11 05 33.9**	**+3.5**
CODM				S	**Sb**	**11 05 49.0**	**+3.4**
CODM		**1.19**	**272**	P	**Pb**	**11 05 33.9**	**+3.5**
CODM				S	**Sb**	**11 05 49.0**	**+3.4**
PGF	**Pioggiola**	**2.58**	**226**	*e*Pn	**Pn**	**11 05 48.2**	**-2.6**
PGF				*e*Sn	**Sn**	**11 06 15.6**	**-6.8**
	6.5nm,0.4s						
SBF	**Sospel**	**2.97**	**262**	*e*Sn	**Sn**	**11 06 29.9**	**-2.6**
	5.6nm,0.3s						
MBDF	**Montbardon**	**3.40**	**278**	*e*Pn	**Pn**	**11 06 02.8**	**+0.3**
FRF	**La Foret Royal**	**3.60**	**259**	*e*Pn	**Pn**	**11 06 03.2**	**-2.1**
FRF				*e*Sn	**Sn**	**11 06 44.4**	**-3.9**
	1.4nm,0.2s						
LMR	**La Mourre**	**3.76**	**256**	*e*Pn	**Pn**	**11 06 05.5**	**-2.1**
LMR				*e*Sn	**Sn**	**11 06 47.6**	**-4.8**
	2.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**4.05**	**280**	*e*Pn	**Pn**	**11 06 11.3**	**-0.4**
CABF	**La Chapelle**	**4.42**	**302**	*e*Pn	**Pn**	**11 06 17.9**	**+0.9**
CABF				*e*Sn	**Sn**	**11 07 08.3**	**-0.9**
	0.9nm,0.3s						
HINF	**Hinteralfeld**	**4.73**	**318**	*e*Pn	**Pn**	**11 06 21.7**	**+0.3**
HINF				*e*Sn	**Sn**	**11 07 16.1**	**-0.8**
	2.3nm,0.3s						
VIVF	**Saint-Julien-l**	**4.90**	**278**	*e*Pn	**Pn**	**11 06 24.0**	**+0.2**
CDF	**Champ du Feu**	**4.99**	**326**	*e*Pn	**Pn**	**11 06 25.6**	**+0.5**
CDF				*e*Sn	**Sn**	**11 07 22.7**	**-0.9**
	1.9nm,0.3s						
HAU	**Haudompre**	**5.10**	**317**	*e*Pn	**Pn**	**11 06 26.8**	**+0.1**
HAU				*e*Sn	**Sn**	**11 07 25.2**	**-1.2**
	3.9nm,0.3s						
AVF	**Avril sur Loir**	**6.21**	**296**	*e*Pn	**Pn**	**11 06 41.3**	**-1.0**
SSF	**Saint Saulge**	**6.21**	**298**	*e*Pn	**Pn**	**11 06 41.6**	**-0.7**
BGF	**Bois d'Agland**	**6.47**	**293**	*e*Pn	**Pn**	**11 06 44.9**	**-1.0**
CLL	**Collm**	**7.02**	**8**	*e*SG	**Sg**	**11 09 03.0**	**+1.1**

IDC 02 11:17:05.5±1.5, 54.20N×87.23E, mb3.3/1, mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=15.7km s-min=15.0km az=84.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**1.46**	**261**	Pg	Pg	11 17 31.6	-3.0
	12nm,0.3s,baz=32,slow=14,SNR=90						
ZAL				Lg		11 17 52.9	
	6.8nm,0.3s,baz=117,slow=16,SNR=4.7						
ZAL				Rg		11 17 57.0	
	22nm,0.3s,baz=311,slow=19,SNR=10						
MKAR	**Makanchi Array**	**8.05**	**205**	Pn	P	11 19 05.5	-1.0
	0.4nm,0.3s,baz=24,slow=13,SNR=23						
MKAR				Sn	Sn	11 20 33.1	-6.2
	0.1nm,0.3s,baz=25,slow=21,SNR=3.7						
MKAR				Lg		11 21 21.3	
	0.1nm,0.3s,baz=37,slow=29,SNR=3.1						
BVAR	**Borovoye Array**	**10.08**	**270**	Pn	P	11 19 32.1	-2.3
	0.5nm,0.3s,baz=71,slow=16,SNR=11						
BVAR				Sn	S	11 21 19.0	-10
	0.5nm,0.3s,baz=71,slow=26,SNR=6.7						
YKA	**Yellowknife Ar**	**62.39**	**11**	P	P	11 27 28.8	-3.0
	0.0nm,0.3s,baz=344,slow=6.7,SNR=4.6						

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*NNC **02** 11:20:37.5±2.1, 44.01N×85.26E, mpv3.8, Error ellipse: s-maj=19.7km s-min=12.0km az=155.0*
*IDC **02** 11:20:42.0±3.1, 44.05N×85.07E, h16km±18km, mb3.7/7, mb1 3.9/10, mb1mx3.7/20, mbtmp3.8/10, ML3.7/3, Error ellipse: s-maj=27.3km s-min=13.8km az=58.0*
*BJI **02** 11:20:41.9, 43.88N×84.86E, h9km, mb4.4, ML4.2*
*NEIC **02** 11:20:41.2±0.8, 43.90N×84.87E, h10km, mb4.3/1, Error ellipse: s-maj=18.3km s-min=10.9km az=217.0*
*MOS **02** 11:20:42.8±1.1, 44.13N×85.12E, h33km, mb4.4/1, Error ellipse: s-maj=50.2km s-min=15.5km az=113.3*
ISC 02 11:20:40.3±0.7, 44.19N±0.07×84.87E±0.07, h10km, n24, σ1§29/32, mb3.6/7, 7C-8D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.07**	**99**	⇓*i*P	**Pn**	**11 21 19.4**	**+3.7**
WMQ				SG	**Sg**	**11 21 48.7**	**-0.7**
WMQ				Smax			
	comp=N,639nm,0.5s						
WMQ				Smax			
	comp=E,677nm,0.5s						
MK31	**Makanchi Array**	**3.18**	**326**	⇓Pn	**Pn**	**11 21 35.9**	**+4.5**
	comp=E,1.9nm,0.3s,baz=148,slow=15,SNR=913						
MK31				⇑Pg	**Pg**	**11 21 44.2**	**+0.4**
	comp=E,154nm,0.6s,baz=144,slow=16,SNR=135						
MK31				⇑Lg		11 22 28.2	
	comp=E,126nm,0.7s,baz=136,slow=29						
MKAR	**Makanchi Array**	**3.18**	**326**	Pn	**Pn**	**11 21 35.9**	**+4.4**
	comp=E,3.2nm,0.3s,baz=150,slow=14,SNR=62						
MKAR				Pg	**Pg**	**11 21 44.0**	**+0.2**
	comp=E,66nm,0.3s,baz=147,slow=18,SNR=92						
MKAR				Lg		11 22 28.3	
	comp=E,93nm,0.3s,baz=137,slow=30,SNR=13						
KURK	**Kurchatov**	**7.78**	**329**	⇑Pn	**Pn**	**11 22 37.7**	**+1.2**
	comp=E,1.6nm,0.5s,baz=147,slow=6.5,SNR=8.6						
KURK				⇓Sn	**Sn**	**11 24 03.7**	**-1.8**
	comp=E,9.5nm,0.7s						
KURK				⇑Lg		11 24 53.4	
	comp=E,66nm,1.1s						
KURK	**Kurchatov**	**7.78**	**329**	*i* P	**Pn**	**11 22 36.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	**Kurchatov**	**7.78**	**329**	*e*P	**Pn**	**11 22 37.3**	**+0.8**
	comp=Z,6.2nm,0.4s						
ZAL	**Zalesovo**	**9.76**	**360**	Pn	**P**	**11 23 04.2**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=293,slow=9.5,SNR=14						
ZAL				Sn	**Sn**	**11 24 52.2**	**-2.3**
	comp=Z,3.5nm,0.3s,baz=83,slow=22,SNR=9.7						
ZAL				Lg		11 26 03.0	
	comp=Z,0.4nm,0.3s,baz=180,slow=16,SNR=4.0						
KK31	**Karatay Array**	**10.46**	**269**	⇓Pn	**P**	**11 23 11.7**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=82,slow=13,SNR=11						
KK31				⇓Lg		11 26 14.6	
	comp=Z,8.4nm,0.6s,baz=81,slow=27						
NVS	**Novosibirsk**	**10.72**	**355**	*e*P	**P**	**11 23 17.0**	**+0.1**
NVS				*i*		11 25 13.7	
BVA0	**Borovoye Array**	**13.02**	**318**	⇓Pn	**P**	**11 23 48.4**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=117,slow=12,SNR=9.5						
BVA0				⇓Sn	**S**	**11 26 07.9**	**-6.0**
	comp=Z,0.3nm,0.5s						
BVA0				⇓Lg		11 27 38.6	
	comp=Z,3.5nm,1.0s						
BVA0	**Borovoye Array**	**13.02**	**318**	*i* P	**P**	**11 23 48.4**	**+0.4**
BVAR	**Borovoye Array**	**13.02**	**318**	Pn	**P**	**11 23 48.2**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=111,slow=13,SNR=11						
BVAR				Sn	**S**	**11 26 08.4**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=135,slow=22,SNR=3.4						
BVAR				Lg		11 27 42.0	
	comp=Z,0.4nm,0.3s,baz=126,slow=27,SNR=3.5						
CHKZ	**Chkalovo**	**13.32**	**321**	⇑Pn	**P**	**11 23 51.4**	**-0.6**
	comp=Z,2.3nm,0.6s						
CHKZ				⇑Sn	**S**	**11 26 12.5**	**-8.5**
	comp=Z,2.5nm,0.7s						
CHKZ				⇑Lg		11 27 45.0	
	comp=Z,21nm,1.2s						
CHKZ	**Chkalovo**	**13.32**	**321**	P	**P**	**11 23 51.3**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**15.39**	**69**	Pn	**P**	**11 24 21.1**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=246,slow=12,SNR=25						
SONM				Lg		11 28 57.8	
	comp=Z,0.1nm,0.3s,baz=312,slow=40,SNR=2.2						
ARU	**Arti**	**20.64**	**316**	*e*P	**P**	**11 25 24.7**	**+2.3**
ARU				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ARU	**Arti**	**20.64**	**316**	*e*P	**P**	**11 25 24.7**	**+2.3**
	comp=Z,8.2nm,0.5s						
BRTR	**Keskin Array B**	**37.85**	**282**	P	**P**	**11 27 59.2**	**+0.4**
	comp=Z,0.9nm,0.6s,mb3.7,baz=80,slow=6.4,SNR=5.2						
FINES	**FINESS Array B**	**37.98**	**318**	P	**P**	**11 27 59.8**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.5,baz=101,slow=9.7,SNR=8.2						
FINES				PcP	PcP	11 30 13.9	-2.0
	comp=Z,0.3nm,0.4s,baz=135,slow=3.9,SNR=3.3						
ARCES	**ARCESS Array B**	**38.82**	**331**	P	**P**	**11 28 08.2**	**+1.5**
	comp=Z,2.6nm,0.8s,mb4.0,baz=90,slow=6.3,SNR=3.9						
NOA	**NORSAR Array B**	**45.15**	**319**	P	**P**	**11 28 59.0**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.7,baz=76,slow=7.7,SNR=3.5						
YKA	**Yellowknife Ar**	**72.53**	**9**	P	**P**	**11 32 08.8**	**+0.2**
	comp=Z,0.2nm,0.7s,mb3.2,baz=342,slow=6.0,SNR=4.8						
WRA	**Warramunga Arr**	**78.21**	**133**	P	**P**	**11 32 39.5**	**-2.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=333,slow=5.0,SNR=13						
ASAR	**Alice Springs**	**81.07**	**136**	P	**P**	**11 32 55.0**	**-2.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=337,slow=5.2,SNR=4.6						

IDC 02 11:23:47.2±2.3, 0.06S×96.58E, mb4.0/7, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, Error ellipse: s-maj=106.0km s-min=18.3km az=54.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**33.73**	**124**	P	P	11 30 29.9	-2.8
	3.8nm,0.8s,baz=144,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**41.92**	**120**	P	P	11 31 39.8	-1.7
	0.5nm,0.5s,baz=303,slow=8.9,SNR=13						
ASAR	**Alice Springs**	**43.15**	**126**	P	P	11 31 50.2	-1.3
	0.8nm,0.7s,baz=300,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**48.31**	**347**	P	P	11 32 30.8	-1.5
	1.0nm,0.5s,baz=158,slow=8.2						
SONM	**Songino Array**	**48.46**	**9**	P	P	11 32 31.2	-2.2
	0.5nm,0.5s,baz=194,slow=9.4,SNR=3.6						
ZAL	**Zalesovo**	**54.69**	**351**	P	P	11 33 17.5	-2.7
	3.2nm,0.4s,baz=303,slow=5.9,SNR=9.9						
FINES	**FINESS Array B**	**80.82**	**333**	P	P	11 36 02.3	-1.8
	0.8nm,0.6s,baz=101,slow=9.7,SNR=5.6						
TXAR	**Lajitas Array**	**145.06**	**32**	PKPbc	PKPbc	11 43 26.5	-0.9
	0.2nm,0.4s,baz=212,slow=0.8,SNR=5.8						

IDC 02 11:25:50.7±2.2, 1.21N×97.50E, mb4.0/7, mb1 4.2/7, mb1mx3.9/17, mbtmp4.0/7, Error ellipse: s-maj=93.4km s-min=28.2km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.79**	**122**	P	P	11 33 42.3	-1.6
	1.3nm,0.8s,baz=300,slow=9.3,SNR=4.6						
SONM	**Songino Array**	**47.07**	**8**	P	P	11 34 24.1	-1.9
	1.0nm,0.6s,baz=186,slow=7.9,SNR=6.3						
MKAR	**Makanchi Array**	**47.30**	**346**	P	P	11 34 26.2	-1.6
	3.0nm,0.6s,baz=161,slow=7.8,SNR=19						
ZAL	**Zalesovo**	**53.58**	**351**	P	P	11 35 13.1	-2.6
	1.6nm,0.5s,baz=342,slow=4.5,SNR=8.4						
BVAR	**Borovoye Array**	**56.34**	**341**	P	P	11 35 33.3	-2.4
	0.4nm,0.5s,baz=133,slow=9.2,SNR=4.4						
FINES	**FINESS Array B**	**80.12**	**332**	P	P	11 38 02.4	-1.5
	1.8nm,1.0s,baz=108,slow=13,SNR=4.1						
ARCES	**ARCESS Array B**	**82.62**	**340**	P	P	11 38 15.5	-1.3
	4.2nm,1.0s,baz=108,slow=3.8,SNR=6.3						

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*BJI **02** 11:38:29.6, 0.19N×97.67E, h15km, mB5.4, mb4.7, Ms4.3, Msz4.2*
*IDC **02** 11:38:31.5±1.6, 0.03N×97.68E, h26km±4km, mb4.0/8, mb1 4.1/8, mb1mx3.8/17, mbtmp4.1/8, MS3.8/1, Ms1 3.7/1, ms1mx2.8/25, Error ellipse: s-maj=72.4km s-min=14.4km az=56.0*
*NEIC **02** 11:38:31.7±0.7, 0.05N×97.78E, mb4.4/4, Error ellipse: s-maj=22.9km s-min=10.0km az=62.0*
ISC 02 11:38:29.8±0.9, 0.1N±0.1×97.8E±0.2, h25km, h25km±1.8km: pP-P, n19, σ0§86/17, mb4.2/13, MS3.8/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.90**	**29**	*e*P	**Pn**	**11 39 58.0**	**+0.1**
KKM	**Kota Kinabalu**	**19.33**	**72**	*e*P	**P**	**11 43 00.5**	**+4.2**
LSA	**Lhasa**	**30.11**	**348**	P	**P**	**11 44 42.2**	**+2.4**
	2.7nm,0.4s,mb4.3						
ENH	**Enshi**	**32.01**	**19**	P	**P**	**11 44 56.2**	**-0.4**
	3.9nm,0.6s,mb4.4						
XAN	**Xi'an**	**35.35**	**16**	P	**P**	**11 45 24.8**	**-0.6**
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**40.97**	**121**	P	**P**	**11 46 12.1**	**-0.4**
	comp=Z,1.6nm,0.7s,mb3.8,baz=301,slow=9.0,SNR=15						
WRAB	**Tennant Creek**	**40.98**	**121**	*e*P	**P**	**11 46 12.6**	**+0.1**
	comp=Z,3.1nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**42.28**	**127**	P	**P**	**11 46 23.8**	**+0.5**
	comp=Z,2.3nm,0.8s,mb3.9,baz=298,slow=7.7,SNR=16						
ASAR				pP	pP	11 46 31.4	+0.5
	comp=Z,1.1nm,0.7s,baz=299,slow=7.7,SNR=4.9						
SONM	**Songino Array**	**48.13**	**8**	P	**P**	**11 47 10.1**	**+0.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=186,slow=7.1,SNR=6.1						
SONM				pP	pP	11 47 17.9	+0.5
	comp=Z,1.3nm,0.8s,baz=196,slow=8.0,SNR=5.6						
MKAR	**Makanchi Array**	**48.44**	**346**	P	**P**	**11 47 12.9**	**+0.8**
	comp=Z,5.0nm,0.6s,mb4.7,baz=156,slow=7.8,SNR=65						
MKAR				pP	pP	11 47 19.3	-0.6
	comp=Z,2.2nm,0.7s,baz=146,slow=8.7,SNR=8.8						
MKAR	**Makanchi Array**	**48.44**	**346**	P	**P**	**11 47 12.9**	**+0.8**
MKAR				pP	pP	11 47 19.3	-0.6
STKA	**Stephens Creek**	**52.20**	**132**	P	**P**	**11 47 40.9**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=311,slow=20,SNR=3.1						
STKA				LR	LR	12 11 33.0	
	comp=Z,85nm,20.1s,MS3.8,baz=17,slow=38						
KURK	**Kurchatov**	**53.00**	**345**	*e*P	**P**	**11 47 46.6**	**-0.1**
	comp=Z,3.9nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**54.72**	**351**	P	**P**	**11 47 58.2**	**-1.1**
	comp=Z,3.0nm,0.6s,mb4.5,baz=331,slow=5.2,SNR=14						
ZAL				pP	pP	11 48 07.3	+0.2
	comp=Z,2.5nm,0.8s,baz=290,slow=7.0,SNR=7.2						
ZAL	**Zalesovo**	**54.72**	**351**	P	**P**	**11 47 58.2**	**-1.1**
ZAL				pP	pP	11 48 07.3	+0.2
BVAR	**Borovoye Array**	**57.47**	**341**	P	**P**	**11 48 17.5**	**-1.6**
	comp=Z,0.6nm,0.5s,mb3.9,baz=148,slow=9.9,SNR=6.0						
FINES	**FINESS Array B**	**81.24**	**333**	P	**P**	**11 50 45.3**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=101,slow=9.7,SNR=3.7						
FINES				pP	pP	11 50 53.3	+0.4
	comp=Z,1.4nm,0.8s,baz=90,slow=7.6,SNR=2.4						
TXAR	**Lajitas Array**	**144.28**	**33**	PKP	PKPdf	11 58 05.7	-3.3
	comp=Z,0.3nm,0.8s,baz=180,slow=1.3,SNR=4.2						
TXAR	**Lajitas Array**	**144.28**	**33**	PKP	PKPdf

WRA pP pP 11 57 18.7 -0.7
comp=Z,2.2nm,0.8s,baz=306,slow=9.1,SNR=8.0
WRAB Tennant Creek 42.87 122 *e*P **P 11 57 10.8 -0.6**
WRAB pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
WRAB Tennant Creek 42.87 122 *e*P **P 11 57 10.8 -0.6**
comp=Z,5.1nm,0.9s,mb4.2
ASAR Alice Springs 44.25 127 P **P 11 57 22.8 +0.1**
comp=Z,0.9nm,0.6s,mb3.7,baz=300,slow=8.0,SNR=13
ASAR pP pP 11 57 30.9 +0.2
comp=Z,1.2nm,0.7s,baz=301,slow=7.5,SNR=7.3
MKAR Makanchi Array 46.41 346 P **P 11 57 39.4 0.0**
comp=Z,3.8nm,0.6s,mb4.5,baz=163,slow=7.3,SNR=39
MKAR pP pP 11 57 47.2 -0.3
comp=Z,2.8nm,0.7s,baz=162,slow=7.3,SNR=9.6
SONM Songino Array 46.49 9 P **P 11 57 40.3 +0.3**
comp=Z,2.1nm,0.7s,mb4.2,baz=191,slow=7.9,SNR=14
SONM pP pP 11 57 47.6 -0.6
comp=Z,1.9nm,0.7s,baz=188,slow=9.2,SNR=8.4
SONM PcP PcP 11 59 14.4 -0.3
comp=Z,0.8nm,0.7s,baz=180,slow=2.5,SNR=3.9
KURK Kurchatov 50.95 345 *e*P **P 11 58 14.2 -0.3**
KURK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KURK Kurchatov 50.95 345 *e*P **P 11 58 14.2 -0.3**
comp=Z,2.4nm,0.9s,mb4.1
HIA Hailar 51.12 19 *e*P **P 11 58 15.8 -0.1**
HIA pmax pmax
comp=Z,4.0nm,0.7s
HIA Hailar 51.12 19 *e*P **P 11 58 15.8 0.0**
comp=Z,3.7nm,0.7s,mb4.4
ZAL Zalesovo 52.75 351 P **P 11 58 27.5 -0.6**
comp=Z,3.9nm,0.6s,mb4.5,baz=289,slow=5.9,SNR=26
ZAL pP pP 11 58 35.1 -1.2
comp=Z,2.7nm,0.5s,baz=300,slow=4.8,SNR=7.6
STKA Stephens Creek 54.23 132 P **P 11 58 39.9 +0.6**
comp=Z,0.9nm,0.5s,mb4.0,baz=198,slow=20,SNR=3.7
BVAR Borovoye Array 55.39 341 P **P 11 58 46.7 -0.8**
comp=Z,1.8nm,0.7s,mb4.2,baz=141,slow=9.5,SNR=14
BOD Bodaibo 57.39 11 *e*P **P 11 59 00.2 -1.5**
FINES FINESS Array B 79.11 333 P **P 12 01 17.0 +0.2**
comp=Z,1.4nm,0.6s,mb4.0,baz=108,slow=6.0,SNR=7.9
FINES pP pP 12 01 24.0 -1.4
comp=Z,0.9nm,0.7s,baz=90,slow=3.8,SNR=2.1
KAF Kangasniemi 79.19 333 *e*p **P 12 01 14.6 -2.7**
comp=Z,2.9nm,0.7s,mb4.3
KAF Kangasniemi 79.19 333 *e*P **P 12 01 14.6 -2.7**
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ARCES ARCESS Array B 81.67 340 P **P 12 01 30.4 +0.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=117,slow=2.7,SNR=6.2
ARCES pP pP 12 01 38.6 -0.2
comp=Z,5.8nm,1.0s,baz=56,slow=4.4,SNR=2.8
GERES GERESS Array B 83.92 319 P **P 12 01 42.6 +0.4**
comp=Z,0.2nm,0.3s,mb3.7,baz=45,slow=1.9,SNR=3.7

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*IDC **02** 11:54:27.4±5.5, 30.80S×179.16W, mb3.8/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.8/3, Error ellipse: s-maj=216.3km s-min=50.2km az=152.0*

ISC 02 11:55:03.9±1.5, 32.2S±0.1×179.2W±0.4, h392km±19km, n30, σ1°95/35, mb3.3/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.76**	**201**	*e*PN	**P**	**11 56 34.1**	**-0.1**
MXZ				SN	**S**	**11 57 45.0**	**-0.1**
PUZ	**Puketiti**	**6.25**	**199**	*e*PN	**P**	**11 56 39.8**	**+0.2**
PUZ				*e*SN	**S**	**11 57 56.0**	**+1.1**
MWZ	**Matawai**	**6.71**	**203**	PN	**P**	**11 56 44.8**	**-0.1**
MWZ				SN	**S**	**11 58 05.4**	**+1.0**
URZ	**Urewera**	**6.79**	**206**	PN	**P**	**11 56 44.8**	**-1.0**
URZ				SN	**S**	**11 58 06.2**	**+0.2**
KNZ	**Kokohu**	**7.30**	**200**	PN	**P**	**11 56 54.9**	**+3.3**
BKZ	**Black Stump Fm**	**7.82**	**206**	PN	**P**	**11 56 59.3**	**+1.7**
FWVZ	**Far West T-bar**	**8.27**	**210**	*e*PN	**P**	**11 57 03.8**	**+1.1**
PWZ	**Pawanui**	**8.47**	**201**	*e*PN	**P**	**11 57 05.1**	**0.0**
TSZ	**Takapari Road**	**8.80**	**205**	PN	**P**	**11 57 07.9**	**-1.0**
BFZ	**Birch Farm**	**9.26**	**202**	*e*PN	**P**	**11 57 15.1**	**+0.9**
BFZ				*e*SN	**S**	**11 58 57.3**	**+0.1**
MRZ	**Mangatainoka R**	**9.47**	**205**	PN	**P**	**11 57 14.8**	**-1.8**
MRZ				*e*SN	**S**	**11 58 59.4**	**-2.3**
KIW	**Kapiti Island**	**9.89**	**207**	PN	**P**	**11 57 21.3**	**-0.3**
MTW	**Mount Morrison**	**9.93**	**204**	PN	**P**	**11 57 21.8**	**-0.3**
CAW	**Cannon Point**	**10.04**	**206**	*e*PN	**P**	**11 57 22.2**	**-1.2**
MSWZ	**Moikau Station**	**10.25**	**204**	*e*PN	**P**	**11 57 27.1**	**+1.2**
DUWZ	**D'Urville Isla**	**10.25**	**211**	*e*PN	**P**	**11 57 26.2**	**+0.3**
MRW	**Makara Radio**	**10.29**	**207**	PN	**P**	**11 57 26.7**	**+0.4**
SNZO	**South Karori**	**10.35**	**207**	*e*PN	**P**	**11 57 27.2**	**0.0**
TUWZ	**Tuamarina**	**10.76**	**209**	*e*PN	**P**	**11 57 32.1**	**+0.2**
NNZ	**Nelson**	**10.82**	**212**	*e*PN	**P**	**11 57 30.7**	**-2.0**
QRZ	**Quartz Range**	**10.91**	**215**	*e*PN	**P**	**11 57 31.5**	**-2.2**
BSWZ	**Blackbirch Sta**	**11.02**	**208**	*e*PN	**P**	**11 57 35.8**	**+0.9**
THZ	**Tophouse**	**11.47**	**211**	*e*PN	**P**	**11 57 38.8**	**-1.4**
KHZ	**Kahutara**	**11.75**	**208**	*e*PN	**P**	**11 57 44.4**	**+1.1**
DSZ	**Denniston Nort**	**11.97**	**215**	*e*PN	**P**	**11 57 44.8**	**-1.0**
MQZ	**McQueen's Vall**	**13.19**	**207**	*e*SN	**S**	**12 00 20.5**	**+0.7**
STKA	**Stephens Creek**	**33.16**	**260**	P	**P**	**12 01 08.5**	**+1.6**
	1.0nm,0.4s,mb3.5,baz=117,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**42.07**	**269**	P	**P**	**12 02 20.9**	**+0.3**
	0.3nm,0.4s,mb3.0,baz=108,slow=7.4,SNR=7.3						
WRA	**Warramunga Arr**	**43.22**	**275**	P	**P**	**12 02 29.6**	**-0.2**
	0.5nm,0.3s,mb3.4,baz=111,slow=8.1,SNR=5.2						
FINES	**FINESS Array B**	**146.46**	**338**	PKPbc	PKPbc	12 14 05.0	+6.7
	0.8nm,0.3s,baz=49,slow=4.5,SNR=13						

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*NEIC **02** 11:57:52.2, 17.07N×99.60W, h56km, MD3.8(MEX), After MEX.*

MEX 02 11:57:52.1±0.4, 17.07N×99.60W, h56km±7km, MD3.8, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.36**	**236**	*i*P	P	11 58 01.0	-1.4
ACX				*e*S	S	11 58 08.0	-2.0
CAIG	**El Cayaco**	**0.64**	**268**	⇑*i*P	P	11 58 03.9	-1.5
CAIG				*i*S	S	11 58 13.3	-1.9
PLIG	**Platanillo**	**1.32**	**4**	*i*P	P	11 58 13.0	-1.7
PLIG				*e*S	S	11 58 28.9	-2.6
YAIG	**Yautepec**	**1.85**	**16**	*e*P	P	11 58 19.8	-2.3
YAIG				*e*S	S	11 58 41.9	-2.4
PPM	**Popocatepetl**	**2.19**	**25**	*e*P	P	11 58 26.0	-0.9
PPM				*e*P		11 58 26.4	
PPM	**Popocatepetl**	**2.19**	**25**	*e*P	P	11 58 25.0	-1.9
PPM				*e*P		11 58 26.0	
PPM				*i*S	S	11 58 52.1	-0.6

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*SKHL **02** 12:03:58.6±4.2, 45.90N×151.08E, h91km±27km, mb5.9/3, mbh5.6/1, msh5.9/3*

*MOS **02** 12:03:59.6±1.3, 46.28N×150.57E, h83km, mb4.8/47, Error ellipse: s-maj=8.1km s-min=5.3km az=103.1*

*NIED **02** 12:04:00, 45.90N×150.80E, h74km, Mw4.5 Best double couple: M0=6.08×10^15 NP1:φ=252°, δ=62°, λ=-80°. NP2:φ=51°, δ=30°, λ=-108°.*

*BJI **02** 12:04:00.4, 46.06N×150.86E, h118km, mB4.8, mb4.9*

*IDC **02** 12:04:01.8±0.5, 46.02N×150.65E, h105km±4km, mb4.2/19, mb1 4.4/21, mb1mx4.4/24, mbtmp4.6/21, MS3.2/3, Ms1 3.2/3, ms1mx2.7/26, Error ellipse: s-maj=12.6km s-min=9.7km az=150.0*

*NEIC **02** 12:04:02.1±0.2, 46.03N×150.75E, mb4.7/68, Error ellipse: s-maj=7.2km s-min=4.6km az=167.0*

ISC 02 12:03:59.3±0.6, 46.02N±0.04×150.78E±0.04, h93km±5km, h108km±5.0km: pP-P, n267, σ1°15/263, mb4.6/90, 12C-16D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.19**	**250**	⇓*i*PN	**P**	**12 04 34.6**	**-0.1**
KUR				*i*S	**S**	**12 05 01.6**	**+0.6**
KUR				pmax	pmax		
	comp=N,680nm,0.4s						
KUR				pmax	pmax		
	comp=E,320nm,0.4s						
KUR				pmax	pmax		
	comp=Z,2μm,0.4s						
KUR				pmax	pmax		
	comp=Z,4μm,1.0s						
KUR				smax			
	comp=N,8μm,1.0s						
KUR				smax			
	comp=E,29μm,1.0s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,6μm,0.5s						
KUR	**Kuril'sk**	**2.19**	**250**	⇓*i*P	**P**	**12 04 34.6**	**-0.1**
KUR				AMB	AMB	12 04 35.2	
	comp=E,4μm,1.0s						
KUR				AMB	AMB	12 04 35.2	
	comp=E,675nm,0.3s						
KUR				AMB	AMB	12 04 35.2	
	comp=E,315nm,0.3s						
KUR				AMB	AMB	12 04 35.2	
	comp=E,2μm,0.3s						
KUR				*i*S	**S**	**12 05 01.6**	**+0.6**
KUR				A		12 05 03.0	
	comp=E,8μm,1.0s						
KUR				A		12 05 03.0	
	comp=E,29μm,1.0s						
KUR				A		12 05 03.1	
	comp=E,2μm,0.5s						
KUR				A		12 05 03.1	
	comp=E,6μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.01**	**242**	*e*PN	**P**	**12 04 58.8**	**-1.1**
YUK				*i*S	**S**	**12 05 44.3**	**-1.7**
YUK				pmax	pmax		
	comp=Z,390nm,0.4s						
YUK				pmax	pmax		
	comp=N,170nm,0.4s						
YUK				pmax	pmax		
	comp=E,90nm,0.3s						
YUK				smax			
	comp=E,3μm,0.5s						
YUK				smax			
	comp=N,1μm,0.4s						
YUK				smax			
	comp=E,1μm,0.3s						
YSS	**Yuzh-Sakhalins**	**5.62**	**282**	α*i*PN	**P**	**12 05 25.0**	**+3.2**
YSS				*e*		12 06 17.0	
YSS				pmax	pmax		
	comp=Z,300nm,0.7s						
YSS				pmax	pmax		
	comp=E,270nm,0.8s						
YSS				smax			
	comp=N,160nm,1.0s						
YSS				smax			
	comp=E,140nm,1.0s						
YSS				MLR	MLR		
	comp=Z,300nm,14.0s						
YSS	**Yuzh-Sakhalins**	**5.62**	**282**	*e*P	**P**	**12 05 25.4**	**+3.6**
	comp=Z,308nm,0.9s						
YSS	**Yuzh-Sakhalins**	**5.62**	**282**	⇑*i*P	**P**	**12 05 25.0**	**+3.2**
YSS				⇑*i*P		12 05 25.0	
YSS				AMB	AMB	12 05 25.8	
	comp=Z,300nm,0.7s						
YSS				AMB	AMB	12 05 25.8	
	comp=Z,270nm,0.8s						
YSS				*i*S	**S**	**12 06 29.0**	**+3.4**
YSS				A		12 06 33.5	
	comp=Z,160nm,1.0s						
YSS				A		12 06 33.5	
	comp=Z,140nm,1.0s						
YSS				*e*LQ		12 06 43.0	
YSS				AMS	AMS	12 08 00.0	
	comp=Z,300nm,14.0s						
SKR	**Severo-Kuril's**	**5.86**	**35**	*e*PN	**P**	**12 05 22.1**	**-3.1**
SKR				*e*S	**S**	**12 06 26.6**	**-5.1**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,80nm,0.4s						
SKR				smax			
	comp=E,110nm,0.4s						
ASAJ	**Asahikawa**	**6.10**	**255**	PN	**P**	**12 05 30.0**	**+1.6**
ASAJ				S	**S**	**12 06 38.9**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,99nm,21.3s						
ASAJ	**Asahikawa**	**6.10**	**255**	P	**P**	**12 05 30.0**	**+1.6**
	comp=Z,5.7nm,0.3s,baz=102,slow=14,SNR=42						
ASAJ				S	**S**	**12 06 38.9**	**+1.4**
	baz=108,slow=18,SNR=1.4						
ASAJ				LR	LR	12 08 04.3	
	comp=Z,99nm,21.3s,baz=318,slow=40						
UGL	**Uglegorsk**	**6.64**	**301**	⇓*i*PN	**P**	**12 05 37.8**	**+1.8**
UGL				S	**S**	**12 06 51.2**	**+0.5**
UGL				pmax	pmax		
	comp=N,134nm,1.0s						
UGL				pmax	pmax		
	comp=E,146nm,1.0s						
UGL				pmax	pmax		
	comp=Z,472nm,1.0s						
UGL				smax			
	comp=N,88nm,0.6s						
UGL				smax			
	comp=E,167nm,0.6s						
UGL	**Uglegorsk**	**6.64**	**301**	⇓*i*P	**P**	**12 05 37.8**	**+1.8**
UGL				AMB	AMB	12 05 38.6	
	comp=E,130nm,1.0s						
UGL				AMB	AMB	12 05 38.6	
	comp=E,150nm,1.0s						
UGL				AMB	AMB	12 05 38.6	
	comp=E,470nm,1.0s						
UGL				*e*S	**S**	**12 06 51.2**	**+0.5**
UGL				A		12 06 57.0	
	comp=E,88nm,0.6s						
UGL				A		12 06 57.0	
	comp=E,170nm,0.6s						
ERM	**Erimo**	**6.80**	**237**	Pn	**P**	**12 05 39.4**	**+1.2**
	comp=E,438nm,0.4s,SNR=17						
TYV	**Tymovskoe**	**7.25**	**315**	*e*P	**P**	**12 05 45.0**	**+0.6**
TYV				AMB	AMB	12 05 46.0	
	comp=E,600nm,2.0s						
TYV				AMB	AMB	12 05 46.0	
	comp=E,600nm,2.0s						
TYV				AMB	AMB	12 05 46.6	
	comp=E,119nm,1.0s						
TYV				AMB	AMB	12 05 46.6	
	comp=E,132nm,1.0s						
TYV				AMB	AMB	12 05 46.6	
	comp=E,138nm,1.0s						
TYV				*e*S	**S**	**12 07 04.0**	**-1.8**
TYV				A		12 07 13.0	
	comp=E,82nm,1.2s						
TYV				A		12 07 13.0	
	comp=E,46nm,1.2s						
TYV				A		12 07 53.0	
	comp=E,1μm,5.0s						
OKH	**Okha**	**9.08**	**329**	⇓*i*P	**P**	**12 06 10.1**	**+1.0**
OKH				*e*P		12 06 10.2	
OKH				AMB	AMB	12 06 10.4	
	comp=E,1μm,4.0s						
OKH				AMB	AMB	12 06 11.0	
	comp=E,300nm,1.0s						
NKL	**Nikolayevsk**	**9.68**	**321**	*e*P	**P**	**12 06 16.2**	**-1.0**
NKL				AMB	AMB	12 06 18.4	
	comp=E,30nm,1.0s						
NKL				AMB	AMB	12 06 18.4	
	comp=E,20nm,1.0s						
NKL				AMB	AMB	12 06 18.4	
	comp=E,60nm,1.0s						
KLR	**Kul'dur**	**13.22**	**291**	*e*PN	**P**	**12 07 04.2**	**-0.2**
MAJO	**Matsushiro**	**13.37**	**229**	*e*PN	**P**	**12 07 12.0**	**+5.8**
MAJO				pmax	pmax		
	comp=Z,11nm,0.6s						
MAJO	**Matsushiro**	**13.37**	**229**	*e*P	**P**	**12 07 12.0**	**+5.8**
	comp=Z,11nm,0.6s						
MAT	**Matsushiro**	**13.37**	**229**	*e*PN	**P**	**12 07 13.0**	**+6.8**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MAT	**Matsushiro**	**13.37**	**229**	*e*P	**P**	**12 07 13.0**	**+6.8**
	comp=Z,10.0nm,0.6s						
MAT	**Matsushiro**	**13.37**	**229**	P	**P**	**12 07 12.5**	**+6.3**
MAT				S	**S**	**12 09 40.7**	**+7.8**
MA2	**Magadan**	**13.58**	**360**	*e*PN	**P**	**12 07 09.0**	**+0.3**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MA2	**Magadan**	**13.58**	**360**	*e*P	**P**	**12 07 09.0**	**+0.3**
	comp=Z,7.4nm,0.6s						
MDJ	**Mudanjiang**	**14.97**	**272**	P	**P**	**12 07 27.9**	**+1.1**
MDJ				XP		12 08 05.9	
MDJ				S	**S**	**12 10 12.0**	**+1.5**
MDJ				PCP	PcP	12 12 30.1	-1.0
MDJ				SCP		12 15 51.3	
MDJ				PCS		12 16 05.4	
MDJ				SCS	ScS	12 19 29.8	-2.2
MDJ				AMB	AMB		
	comp=Z,25nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,81nm,5.0s						
MDJ				LR	LR		
	comp=N,83nm,18.5s						
MDJ				LR	LR		
	comp=E,63nm,32.0s						
MDJ				LR	LR		
	comp=Z,71nm,20.1s						
MDJ	**Mudanjiang**	**14.97**	**272**	*e*P	**P**	**12 07 28.1**	**+1.3**
	comp=Z,24nm,1.0s						
FX1	**Attu Island--F**	**16.05**	**57**	P	**P**	**12 07 43.4**	**+2.9**
FX1				S	**S**	**12 10 31.9**	**-3.4**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1				smax			
	comp=N,4.0nm,0.3s						
FX1	**Attu Island--F**	**16.05**	**57**	P	**P**	**12 07 43.4**	**+3.0**
	comp=N,2.0nm,0.3s,baz=310,slow=22,SNR=4.8						
FX1				S	**S**	**12 10 31.9**	**-3.3**
	comp=N,3.8nm,0.3s,baz=233,slow=23,SNR=5.7						
ZEA	**Zeya**	**16.96**	**306**	*e*P	**P**	**12 07 50.6**	**-1.1**
ZEA				AMB	AMB	12 07 51.5	
	comp=N,58nm,1.2s						
ZEA				AMB	AMB	12 07 51.5	
	comp=N,64nm,1.2s						
ZEA				AMB	AMB	12 07 51.5	
	comp=N,47nm,1.0s						
CN2	**Changchun**	**18.06**	**272**	*e*P	**P**	**12 08 04.0**	**-1.3**
CN2				*e*XP		12 08 44.3	
CN2				*e*S	**S**	**12 11 14.0**	**-6.2**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s						
CLNS	**Chul'man**	**19.30**	**313**	*e*P	**P**	**12 08 17.5**	**-1.6**
CLNS				pmax	pmax		
	comp=N,5.0nm,0.6s						
CLNS				pmax	pmax		
	comp=Z,23nm,0.6s						
YAK	**Yakutsk**	**20.11**	**330**	*e*P	**P**	**12 08 27.5**	**-0.1**
YAK				*e*S	**S**	**12 12 04.7**	**+1.5**
YAK				pmax	pmax		
	comp=Z,25nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				smax			
	comp=N,14nm,1.0s						
YAK				smax			
	comp=E,7.0nm,1.0s						
YAK	**Yakutsk**	**20.11**	**330**	*e*P	**P**	**12 08 24.5**	**-3.0**
	comp=E,43nm,0.5s						
HIA	**Hailar**	**21.08**	**290**	*e*P	**P**	**12 08 35.3**	**-2.3**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HIA	**Hailar**	**21.08**	**290**	*e*P	**P**	**12 08 35.3**	**-2.3**
	comp=Z,2.9nm,0.4s,mb4.0						
BILL	**Bilibino**	**23.48**	**15**	P	**P**	**12 08 59.1**	**-1.6**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.4						
BILL	**Bilibino**	**23.48**	**15**	P	**P**	**12 08 59.1**	**-1.6**
	comp=Z,5.8nm,0.3s,mb4.4						
BOD	**Bodaibo**	**25.23**	**311**	*e*P	**P**	**12 09 15.7**	**-1.9**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
BJI	**Beijing**	**25.85**	**269**	*e*P	**P**	**12 09 25.7**	**+2.1**
BJI				S	**S**	**12 13 45.9**	**+1.7**
BJI				AMB	AMB		
	comp=Z,36nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=N,134nm,15.8s						
BJI				LR	LR		
	comp=E,98nm,17.1s						
BJI				LR	LR		
	comp=Z,94nm,26.9s						
BJI	**Beijing**	**25.85**	**269**	*e*P	**P**	**12 09 25.7**	**+2.1**
	comp=Z,36nm,0.8s,mb4.8						
BJI				S	**S**	**12 13 45.9**	**+1.7**
BJI				LR	LR		
	comp=Z,90nm,26.9s						
BJT	**Baijiatuau**	**25.86**	**269**	*e*P	**P**	**12 09 24.4**	**+0.7**
BJT				pmax	pmax		
	comp=Z,34nm,0.8s						
BJT	**Baijiatuau**	**25.86**	**269**	*e*P	**P**	**12 09 24.4**	**+0.6**
	comp=Z,34nm,0.8s,mb4.8						
SSE	**Sheshan**	**27.33**	**247**	*e*P	**P**	**12 09 33.3**	**-4.0**
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,76nm,3.5s						
SSE	**Sheshan**	**27.33**	**247**	*e*P	**P**	**12 09 33.3**	**-4.0**
	comp=Z,42nm,0.7s,mb5.1						
TIXI	**Tiksi**	**27.73**	**345**	*e*P	**P**	**12 09 36.9**	**-3.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.2						
NJ2	**Nanjing**	**28.23**	**252**	*e*P	**P**	**12 09 41.0**	**-4.5**
NJ2				S	**S**	**12 14 22.0**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,210nm,4.1s						
NJ2				LR	LR		
	comp=N,130nm,17.0s						
NJ2				LR	LR		
	comp=E,160nm,21.8s						
NJ2				LR	LR		
	comp=Z,70nm,23.1s						
HHC	**Hu-ho-hao-te**	**28.73**	**274**	⇑P	**P**	**12 09 50.3**	**+0.5**
HHC				AP	pP	12 10 19.7	+9.0
HHC				PP	PP	12 10 49.7	+3.9
HHC				PCP	PcP	12 12 54.9	-3.1
HHC				S	**S**	**12 14 29.9**	**-0.9**
HHC				SCP		12 16 22.3	
HHC				PCS		12 16 35.7	
HHC				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,93nm,6.2s						
HHC				LR	LR		
	comp=N,184nm,14.3s						
HHC				LR	LR		
	comp=E,90nm,12.5s						
HHC				LR	LR		
	comp=Z,83nm,14.0s						
ULN	**Ulaanbaatar**	**29.61**	**290**	*i*P	**P**	**12 09 56.0**	**-1.6**
SONM	**Songino Array**	**30.05**	**290**	P	**P**	**12 10 00.1**	**-1.4**
	comp=Z,1.4nm,0.6s,mb3.8,baz=69,slow=8.0,SNR=9.3						
SONM				PcP	PcP	12 13 00.6	-0.7
	comp=Z,0.7nm,0.6s,baz=91,slow=2.5,SNR=3.5						
TLY	**Talaya**	**31.08**	**298**	*i*P	**P**	**12 10 08.8**	**-1.7**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
ZAK	**Zakamensk**	**31.52**	**295**	*e*P	**P**	**12 10 12.0**	**-2.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
IMA	**Indian Mountai**	**35.34**	**36**	*e*P	**P**	**12 10 47.7**	**+0.6**
LZH	**Lanzhou**	**36.29**	**271**	⇑P	**P**	**12 10 56.5**	**+1.1**
LZH				AMB	AMB		
	comp=Z,89nm,1.3s,mb5.5						
LZH	**Lanzhou**	**36.29**	**271**	⇑P	**P**	**12 10 56.5**	**+1.1**
LZH				*SP	sP	12 11 17.2	-11
LZH				pmax	pmax		
	comp=Z,89nm,1.3s,mb5.5						
LZH	**Lanzhou**	**36.29**	**271**	⇑P	**P**	**12 10 56.5**	**+1.1**
	comp=Z,89nm,1.3s,mb5.5						
LZH				pP	pP	12 11 12.5	-4.7
LZH				sP	sP	12 11 17.2	-11
MCK	**McKinley**	**37.25**	**40**	*e*P	**P**	**12 11 03.4**	**+0.3**
GTA	**Gaotai**	**37.48**	**279**	P	**P**	**12 11 06.2**	**+0.9**
GTA				AMB	AMB		
	comp=Z,36nm,0.6s,mb5.5						
SML	**Sawmill**	**37.61**	**43**	*e*P	**P**	**12 11 06.5**	**+0.4**
COLA	**College**	**37.71**	**38**	*e*P	**P**	**12 11 07.8**	**+0.9**
SHRR	**Shira**	**38.55**	**305**	*i*P	**P**	**12 11 11.0**	**-3.0**
THY	**Trims Highway**	**38.68**	**40**	P	**P**	**12 11 16.2**	**+1.1**
DIV	**Divide**	**38.90**	**44**	*e*P	**P**	**12 11 17.0**	**+0.2**
ZAL	**Zalesovo**	**41.74**	**306**	P	**P**	**12 11 38.3**	**-1.9**
	comp=Z,1.4nm,0.4s,mb4.0,baz=28,slow=7.0,SNR=7.1						
ZAL				PcP	PcP	12 13 33.6	-2.1
	comp=Z,1.3nm,0.3s,baz=105,slow=6.0,SNR=4.2						
ZAL				LR	LR	12 30 14.7	

comp=Z,41nm,18.9s,baz=247,slow=38
INK Inuvik 43.13 32 *e*P **P 12 11 52.4 +1.0**
INK pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 43.13 32 P **P 12 11 52.5 +1.1**
comp=Z,3.9nm,0.3s,mb4.7,baz=285,slow=6.7,SNR=74
INK Inuvik 43.13 32 *e*P **P 12 11 52.4 +1.0**
comp=Z,4.3nm,0.5s,mb4.4
WMQ Urumqi 43.68 291 ⇑P **P 12 11 56.4 +0.2**
WMQ AP pP 12 12 27.5 +9.2
WMQ PP PP 12 13 41.4 +0.3
WMQ PCP PcP 12 13 42.9 +0.6
WMQ S **S 12 18 13.2 -5.3**
WMQ XS 12 19 08.4
WMQ AMB AMB
comp=Z,8.0nm,0.5s,mb4.7
WMQ AMB AMB
comp=Z,82nm,4.5s
WMQ LR LR
comp=N,33nm,18.4s
WMQ LR LR
comp=E,38nm,17.4s
WMQ LR LR
comp=Z,11nm,20.2s
MKAR Makanchi Array 45.83 297 P **P 12 12 12.0 -1.4**
comp=Z,4.1nm,0.6s,mb4.4,baz=73,slow=8.0,SNR=23
MKAR LR LR 12 32 13.7
comp=Z,42nm,19.0s,baz=270,slow=37
KURK Kurchatov 46.42 303 *e*P **P 12 12 16.0 -1.9**
KURK pmax pmax
comp=Z,14nm,1.0s,mb4.7
KURK Kurchatov 46.42 303 *e*P **P 12 12 16.0 -1.9**
comp=Z,14nm,1.0s,mb4.7
DLBC Dease Lake 47.26 45 P **P 12 12 26.2 +1.8**
comp=Z,1.5nm,0.5s,mb4.0,baz=260,slow=5.7,SNR=8.7
DLBC Dease Lake 47.26 45 P **P 12 12 26.2 +1.8**
LSA Lhasa 48.69 272 *e*P **P 12 12 38.3 +2.4**
LSA pmax pmax
comp=Z,20nm,0.4s,mb5.4
LSA Lhasa 48.69 272 *e*P **P 12 12 38.3 +2.4**
comp=Z,20nm,0.4s,mb5.4
ULHL Ulahol 51.80 294 P **P 12 12 59.6 +0.1**
SNR=7.5
RES Resolute Bay 52.03 18 *e*P **P 12 13 00.1 -0.7**
RES pmax pmax
comp=Z,23nm,0.8s,mb5.3
RES Resolute Bay 52.03 18 *e*P **P 12 13 00.1 -0.7**
comp=Z,23nm,0.8s,mb5.3
USP Ospenovka 52.37 296 P **P 12 13 03.2 -0.5**
SNR=11
KBK Karagaybulak 52.40 295 P **P 12 13 03.6 -0.3**
SNR=5.9
YKW3 Yellowknife Ar 52.43 36 *e*P **P 12 13 03.2 -0.7**
YKA Yellowknife Ar 52.47 36 P **P 12 13 03.9 -0.3**
comp=Z,2.8nm,0.5s,mb4.5,baz=298,slow=7.1,SNR=61
YKA pP pP 12 13 29.0 +2.1
comp=Z,2.1nm,0.7s,baz=298,slow=7.0,SNR=5.4
YKA PcP PcP 12 14 12.6 -0.9
comp=Z,1.1nm,0.7s,baz=303,slow=3.7,SNR=5.0
KZA Kyzart 52.52 295 P **P 12 13 05.7 +0.9**
SNR=12
AAK Ala-Archa 52.70 296 P **P 12 13 06.0 -0.2**
SNR=6.0
AAK Ala-Archa 52.70 296 *e*P **P 12 13 04.4 -1.8**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AAK Ala-Archa 52.70 296 *e*P **P 12 13 04.4 -1.8**
comp=Z,6.3nm,0.8s,mb4.7
EKS2 Erkin-Say 53.13 296 P **P 12 13 08.9 -0.5**
SNR=13
SVE Sverdlovsk 53.26 317⇑ *i*P **P 12 13 08.6 -1.5**
SVE pmax pmax
comp=Z,23nm,0.7s,mb5.3
JIRN Jiri 53.38 273 *e*P **P 12 13 12.0 +0.5**
comp=Z,83nm,0.4s
GUN Gumba 53.45 274 *e*P **P 12 13 12.5 +0.6**
comp=Z,47nm,0.3s
KKN Kakani 53.94 274 *e*P **P 12 13 16.1 +0.6**
comp=Z,76nm,0.9s,mb5.7
KKN Kakani 53.94 274 *e*P **P 12 13 16.1 +0.6**
KKN pmax pmax
comp=Z,38nm,0.9s,mb5.4
PKI Pulchoki 53.98 274 *e*P **P 12 13 16.0 +0.2**
comp=Z,26nm,0.5s,mb5.6
PKI Pulchoki 53.98 274 *e*P **P 12 13 16.0 +0.2**
PKI pmax pmax
comp=Z,13nm,0.5s,mb5.2
DMN Daman 54.17 274 *e*P **P 12 13 17.3 +0.1**
comp=Z,81nm,0.9s
GKN Gorkha 54.25 275 *e*P **P 12 13 17.8 0.0**
comp=Z,58nm,0.5s
ARU Arti 54.45 317 *i*P **P 12 13 16.7 -2.1**
ARU pmax pmax
comp=Z,18nm,1.0s,mb5.1
KOLN Koldanda 55.12 275 *e*P **P 12 13 24.3 +0.2**
comp=Z,55nm,0.8s,mb5.7
DLH Dalhousie 57.44 285 *e*P **P 12 13 41.0 +0.4**
KEV Kevo 57.48 340 *e*p **P 12 13 37.2 -3.1**
comp=Z,7.3nm,0.8s,mb4.8
KEV Kevo 57.48 340 *e*P **P 12 13 37.2 -3.1**
KEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
THN Thein Dam 57.67 285 *e*P **P 12 13 41.0 -1.2**
EDM Edmonton 57.98 45 *e*P **P 12 13 43.6 -0.4**
ARCES ARCESS Array B 58.00 340 P **P 12 13 42.2 -1.7**
comp=Z,4.2nm,0.8s,mb4.5,baz=34,slow=6.3,SNR=7.1
ARCES PcP PcP 12 14 36.1 +1.3
comp=Z,0.8nm,0.4s,baz=66,slow=4.9,SNR=6.6
NDI New Delhi 58.95 280 *e*P **P 12 13 49.0 -2.1**
SUMG Summit 61.53 3 *e*P **P 12 14 08.0 -0.1**
comp=Z,24nm,0.8s,mb5.3
FCC Fort Churchill 62.75 32 *e*P **P 12 14 15.2 -1.2**
FCC pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
FCC Fort Churchill 62.75 32 *e*P **P 12 14 15.2 -1.2**
comp=Z,3.9nm,0.5s,mb4.6
MCMT McKenzie Canyo 63.33 52 *e*P **P 12 14 20.0 -0.4**
KAF Kangasniemi 63.41 334 *e*p **P 12 14 17.5 -3.3**
comp=Z,2.2nm,0.7s,mb4.2
KAF Kangasniemi 63.41 334 *e*P **P 12 14 17.5 -3.3**
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
FINES FINESS Array B 63.99 334 P **P 12 14 22.3 -2.1**
comp=Z,4.0nm,0.7s,mb4.4,baz=42,slow=8.0,SNR=22
QLMT Earthquake Lak 64.10 52 *e*P **P 12 14 25.7 +0.3**
NVAR Mina Array Bea 64.20 61 P **P 12 14 25.7 -0.5**
comp=Z,5.0nm,0.8s,mb4.4,baz=299,slow=5.5,SNR=39
NVAR Mina Array Bea 64.20 61 P **P 12 14 25.7 -0.5**
MNV Mina 64.29 61 *e*P **P 12 14 26.4 -0.4**
MNV pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
MNV Mina 64.29 61 *e*P **P 12 14 26.4 -0.4**
comp=Z,5.5nm,0.9s,mb4.4
YMR Madison River 64.46 52 *e*P **P 12 14 28.0 +0.3**
LKWY Lake 64.84 51 *e*P **P 12 14 32.0 +1.8**
LKWY pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
LKWY Lake 64.84 51 *e*P **P 12 14 32.0 +1.8**
comp=Z,8.7nm,1.0s,mb4.5
OBN Obninsk 64.98 325⇑ *e*P **P 12 14 28.4 -2.5**
OBN *e**PP pP 12 15 00.0 +5.5
OBN *e*S 12 23 30.3
OBN pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
TPAW Teton Pass 65.23 52 *e*P **P 12 14 33.8 +1.0**
comp=Z,16nm,0.9s,mb4.8
SNOW Snow King Moun 65.36 52 *e*P **P 12 14 34.4 +0.8**
comp=Z,7.7nm,0.6s,mb4.7
REDW Red Top Meadow 65.37 53 *e*P **P 12 14 34.2 +0.5**
comp=Z,11nm,0.8s,mb4.7
HWUT Hardware Ranch 66.12 54 *e*P **P 12 14 38.1 -0.4**
comp=Z,3.4nm,0.6s,mb4.3
DUG Dugway 66.33 56 *e*P **P 12 14 39.8 0.0**
DUG pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
DUG Dugway 66.33 56 *e*P **P 12 14 39.8 0.0**
comp=Z,6.2nm,0.6s,mb4.6
PDAR Pinedale Array 66.48 52 P **P 12 14 40.4 -0.3**
comp=Z,7.2nm,0.7s,mb4.6,baz=284,slow=1.8,SNR=77
WRAB Tennant Creek 67.31 197 *i*P **P 12 14 43.6 -2.7**
WB2 Warramunga Arr 67.32 197⇓ *i*P **P 12 14 44.2 -2.2**
WRA Warramunga Arr 67.32 197 P **P 12 14 44.2 -2.1**
comp=Z,5.1nm,0.6s,mb4.5,baz=13,slow=6.7,SNR=45
WRA pP pP 12 15 11.1 +1.0
comp=Z,1.7nm,0.8s,baz=15,slow=6.6,SNR=2.6
FITZ Fitzroy Crossi 67.76 206⇓ *i*P **P 12 14 47.9 -1.2**
comp=Z,11nm,0.9s,mb4.7
MSU Marysvale 67.81 57 *e*P **P 12 14 49.4 +0.3**
ULM Lac du Bonnet 68.12 39 P **P 12 14 49.6 -1.1**
comp=Z,1.4nm,0.3s,mb4.2,baz=325,slow=3.7,SNR=4.6
LDFC Landfair 68.32 62 *e*P **P 12 14 51.8 -0.5**
SRU San Rafael 68.37 56 *e*P **P 12 14 52.4 -0.1**
NB2 NORSAR Subarra 68.38 340 P **P 12 14 50.6 -1.6**
comp=Z,2.1nm,0.5s,mb4.2,baz=26,slow=6.5
NOA NORSAR Array B 68.38 340 P **P 12 14 50.8 -1.4**
comp=Z,3.1nm,0.6s,mb4.3,baz=29,slow=6.4,SNR=13
PV10 Paradox Valley 69.72 56 *e*P **P 12 15 01.2 +0.4**
KIV Kislovodsk 70.13 313 *i*P **P 12 15 00.9 -2.4**
KIV pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
PV01 Paradox Valley 70.15 55 *e*P **P 12 15 03.2 -0.3**
ISCO Idaho Springs 70.67 53 *e*P **P 12 15 06.9 +0.3**
ISCO pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ISCO Idaho Springs 70.67 53 *e*P **P 12 15 06.9 +0.3**
comp=Z,4.6nm,0.7s,mb4.4
ASAR Alice Springs 71.03 196 P **P 12 15 08.2 -0.7**
comp=Z,7.0nm,0.7s,mb4.6,baz=9.5,slow=4.8,SNR=66
ASAR pP pP 12 15 35.0 +1.9
comp=Z,1.7nm,0.8s,baz=7.4,slow=4.1,SNR=2.8
ASPA Alice Springs 71.03 196 *e*P **P 12 15 08.3 -0.7**
AKASG Malin Array Be 71.23 325 P **P 12 15 08.1 -1.6**
comp=Z,6.3nm,0.4s,mb4.8,baz=38,slow=6.2,SNR=28
SOC Sochi 71.89 314 *e*P **P 12 15 11.8 -2.0**
SOC *e* pP 12 15 31.0 -6.9
SOC *e* 12 17 53.6
SOC *e*PPP PPP 12 19 32.0 -6.3
SOC *e*S S 12 24 22.6 -3.3
SOC *e* 12 25 00.7
SOC *e*SS SS 12 29 00.6 -5.2
SOC pmax pmax
comp=N,9.0nm,0.6s
SOC pmax pmax
comp=Z,29nm,1.1s,mb5.0
SOC pmax pmax
comp=E,35nm,0.9s
SDCO Great Sand Dun 72.17 54 *e*P **P 12 15 15.3 -0.3**
comp=E,3.2nm,0.7s,mb4.3
TUC Tucson 72.85 61 *e*P **P 12 15 19.7 +0.1**
TUC pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
TUC Tucson 72.85 61 *e*P **P 12 15 19.7 +0.1**
comp=Z,8.3nm,1.2s,mb4.4
KWP Kalwaria 74.60 328 *e*P **P 12 15 29.6 +0.2**
BANOM Banah 74.76 291 P **P 12 15 31.3 +0.5**
SNR=12
OJC Ojcow 75.16 330 *e*P **P 12 15 32.4 -0.2**
BURAR Bucovina Array 75.28 325⇓P **P 12 15 33.2 -0.1**
WBK Wadi Bani Khal 75.29 287⇓P **P 12 15 35.1 +1.2**
KOLS Kolonicke sedl 75.34 328 *e*P **P 12 15 33.2 -0.4**
SMDO Samad 75.59 288⇓P **P 12 15 32.1 -3.5**
NIE Niedzica 75.65 329 *e*P **P 12 15 35.0 -0.4**
TLCR 75.74 322⇑P **P 12 15 35.5 -0.5**
ASHO Ashiyiah 75.77 291⇓P **P 12 15 35.9 -0.7**
SNR=5.7
JMDO Jabal Madar 76.03 288⇓P **P 12 15 39.2 +1.1**
SNR=6.5
CFR Carcaliu 76.04 322⇓P **P 12 15 37.5 -0.2**
UPC Upice 76.19 332 *e*P **P 12 15 38.1 -0.3**
DPC Dobruska-Polom 76.22 332 *e*P **P 12 15 38.3 -0.3**
MORC Moravsky Berou 76.31 331 *e*P **P 12 15 38.6 -0.5**
MORC pmax pmax
comp=Z,11nm,0.9s,mb4.6
MORC Moravsky Berou 76.31 331 *e*P **P 12 15 38.6 -0.5**
comp=Z,11nm,0.9s,mb4.6
AMTX Amarillo 76.37 54 *e*P **P 12 15 39.8 0.0**
comp=Z,19nm,0.8s,mb4.9
BSY Bisya 76.37 289⇓P **P 12 15 40.9 +0.9**
SNR=8.9
ARQ Araqi 76.41 289⇓P **P 12 15 40.9 +0.7**
CLL Collm 76.44 334 *i*P **P 12 15 39.1 -0.7**
CLL pmax pmax
comp=Z,14nm,0.8s,mb4.7
CLL Collm 76.44 334 *i*P **P 12 15 39.1 -0.7**
comp=Z,14nm,0.8s,mb4.7
CLL Collm 76.44 334 P **P 12 15 39.1 -0.7**
comp=Z,logA/T=1.2,mb4.7
MALT Malatya 76.44 312 *e*P **P 12 15 40.9 +0.8**
MALT pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
MALT Malatya 76.44 312 *e*P **P 12 15 40.9 +0.7**
comp=Z,9.5nm,0.9s,mb4.5
CPRX Cap Rock 76.46 56 *e*P **P 12 15 40.4 +0.1**
HARR Harsova 76.52 322⇓P **P 12 15 39.6 -0.8**
MNTX Cornudas Mount 76.53 58 *e*P **P 12 15 40.6 -0.1**
comp=Z,5.7nm,0.6s,mb4.5
BRG Berggiesshubel 76.53 334 *e*P **P 12 15 40.5 +0.2**
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
BRG Berggiesshubel 76.53 334 *e*P **P 12 15 40.5 +0.2**
comp=Z,3.9nm,1.0s,mb4.1
PVCC Panska Ves 76.63 333 *e*P **P 12 15 41.3 +0.4**
VYHS Vyhne 76.95 329 *e*P **P 12 15 42.9 +0.2**
SNX Sinaia 77.00 324 P **P 12 15 43.7 +0.6**
CLNB Carlsbad 77.01 57 P **P 12 15 42.6 -0.8**
PRU Pruhonice 77.11 333 *e*P **P 12 15 43.5 -0.1**
BRTR Keskin Array B 77.79 315 P **P 12 15 48.1 +0.5**
comp=Z,2.6nm,0.6s,mb4.2,baz=83,slow=3.9,SNR=9.8
STKA Stephens Creek 77.98 188 P **P 12 15 48.3 -0.5**
comp=Z,3.0nm,0.9s,mb4.0,baz=340,slow=3.2,SNR=3.9
KHC Kasperske Hory 78.17 333 *e*P **P 12 15 49.5 +0.1**
GERES GERESS Array B 78.38 333 P **P 12 15 50.2 -0.4**
comp=Z,2.9nm,0.5s,mb4.2,baz=37,slow=5.2,SNR=22
GRA1 Grafenberg Arr 78.40 335 *e*P **P 12 15 51.2 +0.5**
comp=Z,8.0nm,1.0s,mb4.4
GRF Grafenberg Arr 78.40 335 *e*P **P 12 15 51.2 +0.5**
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
GRF Grafenberg Arr 78.40 335 *e*P **P 12 15 51.2 +0.5**
GRF pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
GRF Grafenberg Arr 78.40 335 *e*P **P 12 15 51.2 +0.5**
comp=Z,8.0nm,1.0s,mb4.4
TXAR Lajitas Array 79.26 59 P **P 12 15 55.9 +0.1**
comp=Z,12nm,0.4s,mb5.0,baz=298,slow=4.5,SNR=351
TXAR pP pP 12 16 22.2 +2.0
comp=Z,1.2nm,0.4s,baz=300,slow=4.5,SNR=2.7
VTS Vitosha 80.22 324 P **P 12 16 01.2 +0.5**
CDF Champ du Feu 80.69 336 *e*P **P 12 16 03.3 +0.2**
comp=Z,16nm,0.9s,mb4.5
CDF Champ du Feu 80.69 336 *e*P **P 12 16 03.3 +0.2**
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MEZF Maizieres J'vi 81.22 338 *e*P **P 12 16 06.3 +0.4**
comp=Z,18nm,0.7s,mb4.7
HAU Haudompre 81.32 337 *e*P **P 12 16 07.0 +0.6**
comp=Z,12nm,0.7s,mb4.5
HAU Haudompre 81.32 337 *e*P **P 12 16 07.0 +0.6**
HAU pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
FLN La Foliniere 82.33 341 *e*P **P 12 16 11.9 +0.3**
comp=Z,14nm,0.5s,mb4.7
FLN La Foliniere 82.33 341 *e*P **P 12 16 11.9 +0.3**
FLN pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
LDF La Druitiere 82.40 341 *e*P **P 12 16 12.2 +0.2**
comp=Z,7.4nm,0.5s,mb4.5
LDF La Druitiere 82.40 341 *e*P **P 12 16 12.2 +0.2**
LDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
CABF La Chapelle 82.67 336 *e*P **P 12 16 14.9 +1.5**
comp=Z,12nm,0.8s,mb4.5
CABF La Chapelle 82.67 336 *e*P **P 12 16 14.9 +1.5**
CABF pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
GRR Gorron 82.76 341 *e*P **P 12 16 14.5 +0.7**
comp=Z,21nm,0.6s,mb4.8
GRR Gorron 82.76 341 *e*P **P 12 16 14.5 +0.7**
GRR pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
SSF Saint Saulge 82.95 338 *e*P **P 12 16 15.2 +0.4**
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
SSF Saint Saulge 82.95 338 *e*P **P 12 16 15.2 +0.4**
comp=Z,6.1nm,0.9s,mb4.4
HYF Humbligny 82.98 339 *e*P **P 12 16 15.8 +0.9**
AVF Avril sur Loir 83.24 338 *e*P **P 12 16 16.9 +0.6**
comp=Z,9.2nm,0.6s,mb4.5
AVF Avril sur Loir 83.24 338 *e*P **P 12 16 16.9 +0.6**
AVF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
SMF Signal de Mont 83.25 338 *e*P **P 12 16 16.9 +0.6**
comp=Z,36nm,0.9s,mb4.9
SMF Signal de Mont 83.25 338 *e*P **P 12 16 16.9 +0.6**
SMF pmax pmax
comp=Z,18nm,0.9s,mb4.9
SGMF Saint Gilles 83.26 342 *e*P **P 12 16 17.5 +1.2**
comp=Z,52nm,0.8s,mb5.1
SGMF Saint Gilles 83.26 342 *e*P **P 12 16 17.5 +1.2**
SGMF pmax pmax
comp=Z,26nm,0.8s,mb5.1
ROSF Rostrenen 83.33 343 *e*P **P 12 16 17.8 +1.1**
comp=Z,47nm,0.9s,mb5.0
ROSF Rostrenen 83.33 343 *e*P **P 12 16 17.8 +1.1**
ROSF pmax pmax
comp=Z,23nm,0.9s,mb5.0
RAYN Ar Rayn 83.33 297 P **P 12 16 18.0 +0.8**
comp=Z,68nm,0.5s,SNR=9.2
LPL La Plagne 83.48 335 *e*P **P 12 16 18.8 +1.3**
comp=Z,19nm,0.8s,mb4.7
LPL La Plagne 83.48 335 *e*P **P 12 16 18.8 +1.3**
LPL pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
LPG La Plagne 83.50 335 *e*P **P 12 16 19.3 +1.7**
comp=Z,24nm,0.8s,mb4.8
LPG La Plagne 83.50 335 *e*P **P 12 16 19.3 +1.7**
LPG pmax pmax
comp=Z,12nm,0.8s,mb4.8
BGF Bois d'Agland 83.59 338 *e*P **P 12 16 19.7 +1.8**
comp=Z,9.1nm,0.5s,mb4.5
BGF Bois d'Agland 83.59 338 *e*P **P 12 16 19.7 +1.8**
BGF pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
TCF Toulx Ste Croi 84.00 339 *e*P **P 12 16 21.1 +1.1**
comp=Z,3.2nm,0.5s,mb4.1
TCF Toulx Ste Croi 84.00 339 *e*P **P 12 16 21.1 +1.1**
TCF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
MBDF Montbardon 84.19 335 *e*P **P 12 16 22.2 +1.2**
comp=Z,5.4nm,0.5s,mb4.3
MBDF Montbardon 84.19 335 *e*P **P 12 16 22.2 +1.2**
MBDF pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
ORIF Oris-en-Rattie 84.28 336 *e*P **P 12 16 22.8 +1.4**
comp=Z,22nm,0.8s,mb4.8
ORIF Oris-en-Rattie 84.28 336 *e*P **P 12 16 22.8 +1.4**
ORIF pmax pmax
comp=Z,11nm,0.8s,mb4.7
MFF Saint Martin d 84.28 340 *e*P **P 12 16 22.4 +1.0**
comp=Z,32nm,0.9s,mb4.9
MFF Saint Martin d 84.28 340 *e*P **P 12 16 22.4 +1.0**
MFF pmax pmax
comp=Z,16nm,0.9s,mb4.8
VIVF Saint-Julien-l 84.67 337 *e*P **P 12 16 25.0 +1.6**
comp=Z,19nm,0.9s,mb4.7
VIVF Saint-Julien-l 84.67 337 *e*P **P 12 16 25.0 +1.6**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
RJF Les Rejaudoux 85.09 339 *e*P **P 12 16 27.2 +1.7**
CAF Calviac 85.31 338 *e*P **P 12 16 28.7 +2.2**
LFF La Frestale 85.63 339 *e*P **P 12 16 29.7 +1.6**
comp=Z,22nm,0.7s,mb4.9
LFF La Frestale 85.63 339 *e*P **P 12 16 29.7 +1.6**
LFF pmax pmax
comp=Z,11nm,0.7s,mb4.9
MTLF Montolieu 86.74 338 *e*P **P 12 16 35.5 +1.9**
comp=Z,19nm,0.9s,mb4.7
MTLF Montolieu 86.74 338 *e*P **P 12 16 35.5 +1.9**
MTLF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
EPF Esparros 87.52 339 *e*P **P 12 16 38.5 +1.1**
ETSF Etsaut 87.87 339 *e*P **P 12 16 40.5 +1.5**
comp=Z,17nm,0.8s,mb4.8
ETSF Etsaut 87.87 339 *e*P **P 12 16 40.5 +1.5**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
DBIC Dimbokro 123.21 331 PKP PKPdf 12 22 45.5 0.0
comp=Z,2.1nm,0.9s,baz=128,slow=11,SNR=3.6
VNDA Vanda 123.46 177 PKP PKPdf 12 22 44.4 -0.2
comp=Z,1.4nm,1.0s,baz=344,slow=4.6,SNR=5.6
LPAZ La Paz 136.11 60 PKP PKPdf 12 23 11.8 +1.9
comp=Z,1.4nm,0.6s,baz=316,slow=1.9,SNR=6.3
BDFB Brasilia 145.86 34 PKPbc PKPbc 12 23 29.4 +1.2
comp=Z,6.7nm,0.5s,baz=286,slow=0.9,SNR=10
BDFB pPKPbc 12 23 57.2
comp=Z,2.5nm,0.5s,baz=139,slow=12,SNR=2.3
PLCA Paso Flores 149.75 95 PKHKP 12 23 39.1
PLCA 12 23 45.0
PLCA pmax pmax
comp=Z,12nm,0.6s
PLCA pmax pmax
comp=Z,4.0nm,0.7s
PLCA pmax pmax
comp=Z,4.0nm,0.7s
PLCA Paso Flores 149.75 95 PKPbc PKPdf 12 23 39.1 +6.2
comp=Z,12nm,0.6s,baz=270,slow=2.8,SNR=61
PLCA PKPab PKPab 12 23 45.0 -0.5
comp=Z,3.7nm,0.7s,baz=333,slow=0.9,SNR=5.8
PLCA pPKPbc 12 24 06.0
comp=Z,3.5nm,0.7s,baz=307,slow=3.2,SNR=3.5
PLCA Paso Flores 149.75 95 ePKPbc PKPdf 12 23 38.9 +6.0
SNAA Sanae 151.39 197 PKPbc PKPdf 12 23 41.0 +6.6
comp=Z,2.1nm,0.5s,baz=195,slow=1.8,SNR=21
VNA2 Neumayer--Watz 152.88 196 *e* PKPdf 12 23 45.1 +8.5
VNA2 Neumayer--Watz 152.88 196 *e* PKPdf 12 23 54.7 +18
VNA2 Neumayer--Watz 152.88 196 *e* PKPdf 12 23 57.5 +21
VNA2 Neumayer--Watz 152.88 196 *e* PKPdf 12 24 11.8 +35
VNA2 Neumayer--Watz 152.88 196 *e* PKPdf 12 24 18.4 +42
VNA2 Neumayer--Watz 152.88 196 *e* PKPdf 12 24 26.6 +50
VNA2 Neumayer--Watz 152.88 196 *e* PKPdf 12 24 29.0 +52
VNA2 Neumayer--Watz 152.88 196 *e*P PKPdf 12 23 37.3 +0.7
VNA2 *e* 12 23 45.1
VNA2 *e* 12 23 54.7
VNA2 *e* 12 23 57.5
VNA2 *e* 12 24 11.8
VNA2 *e* 12 24 18.4
VNA2 *e* 12 24 26.6
VNA2 *e* 12 24 29.0
VNA2 *e* 12 24 31.7
VNA2 *e* 12 24 37.6
VNA2 *e* 12 27 22.6
VNA3 Neumayer Olymp 153.01 194 *e* PKPdf 12 23 45.0 +8.2
VNA3 Neumayer Olymp 153.01 194 *e* PKPdf 12 23 57.5 +21
VNA3 Neumayer Olymp 153.01 194 *e*P PKPdf 12 23 36.9 +0.1
VNA3 *e* 12 23 45.0
VNA3 *e* 12 23 57.5
VNA1 Neumayer--Stat 153.27 195 *e* PKPdf 12 23 47.2 +10
VNA1 Neumayer--Stat 153.27 195 *e* PKPdf 12 23 59.9 +23
VNA1 Neumayer--Stat 153.27 195 *e* PKPdf 12 24 00.0 +23
VNA1 Neumayer--Stat 153.27 195 *e* PKPdf 12 24 16.2 +39
VNA1 Neumayer--Stat 153.27 195 *e* PKPdf 12 24 24.0 +47
VNA1 Neumayer--Stat 153.27 195 *e*P PKPdf 12 23 40.3 +3.2
VNA1 *e* 12 23 47.2
VNA1 *e* 12 23 59.9
VNA1 *e* 12 24 16.2
VNA1 *e* 12 24 24.0
VNA1 *e* 12 24 31.3
VNA1 *e* 12 24 33.8
VNA1 *e* 12 24 36.1
VNA1 *e* 12 24 40.6
VNA1 *e* 12 27 33.1

WEL 02 12:05:03.7±0.4,36.40S×177.20E,h260km±5km,ML3.6/13,
Error ellipse: s-maj=8.5km s-min=5.6km az=90.0,Off
east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.46**	**143**	PN	P	12 05 42.7	-0.3
MXZ				SN	S	12 06 12.9	-0.8
URZ	**Urewera**	**1.86**	**182**	PN	P	12 05 46.0	-0.2
URZ				SN	S	12 06 19.2	+0.1
PUZ	**Puketiti**	**1.88**	**154**	PN	P	12 05 45.8	-0.4
PUZ				SN	S	12 06 18.3	-1.0
MWZ	**Matawai**	**1.95**	**172**	PN	P	12 05 47.2	+0.3
MWZ				SN	S	12 06 20.9	+0.4
KNZ	**Kokohu**	**2.65**	**172**	PN	P	12 05 53.6	0.0
KNZ				SN	S	12 06 30.7	-1.6
BKZ	**Black Stump Fm**	**2.82**	**191**	PN	P	12 05 54.7	-0.7
BKZ				SN	S	12 06 34.5	-1.0
PWZ	**Pawanui**	**3.64**	**184**	PN	P	12 06 03.2	-1.2
PWZ				SN	S	12 06 49.7	-1.7
TSZ	**Takapari Road**	**3.79**	**195**	PN	P	12 06 04.4	-1.6
TSZ				SN	S	12 06 53.2	-1.3

BFZ	**Birch Farm**	**4.34 190**	PN	P	12 06 10.7	-1.8
MRZ	**Mangatainoka R**	**4.45 196**	PN	P	12 06 11.2	-2.5
MRZ			SN	S	12 07 06.3	-2.0
KIW	**Kapiti Island**	**4.81 201**	*e*PN	P	12 06 15.1	-2.9
CAW	**Cannon Point**	**4.99 199**	PN	P	12 06 17.6	-2.6
MRW	**Makara Radio**	**5.21 201**	*e*PN	P	12 06 21.3	-1.6
MSWZ	**Moikau Station**	**5.24 196**	SN	S	12 07 21.7	-3.7
TUWZ	**Tuamarina**	**5.63 206**	*e*PN	P	12 06 25.4	-2.7
NNZ	**Nelson**	**5.66 211**	*e*PN	P	12 06 24.8	-3.7
THZ	**Tophouse**	**6.32 211**	PN	P	12 06 33.5	-3.0
KHZ	**Kahutara**	**6.65 204**	*e*PN	P	12 06 38.1	-2.6
DSZ	**Denniston Nort**	**6.79 217**	PN	P	12 06 40.0	-2.6
LTZ	**Lake Taylor**	**7.43 209**	PN	P	12 06 46.7	-3.9
MQZ	**McQueen's Vall**	**8.09 204**	*e*SN	S	12 08 23.2	-6.1
JCZ	**Jackson Bay**	**10.02 217**	*e*PN	P	12 07 19.4	-3.7

IDC 02 12:29:02.1±1.3, 52.30S×16.08E, mb3.8/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, MS3.5/4, Ms1 3.5/4, ms1mx3.3/23, Error ellipse: s-maj=59.3km s-min=33.0km az=74.0, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.20**	**12**	LR	LR	12 39 43.3	
	comp=Z,132nm,18.8s,baz=173,slow=32						
SNAA	**Sanae**	**21.17**	**197**	P	P	12 33 49.5	-1.4
	2.7nm,0.8s,baz=28,slow=11,SNR=9.2						
SNAA				LR	LR	12 40 29.3	
	comp=Z,50nm,19.6s,baz=210,slow=32						
LBTB	**Lobatse**	**28.19**	**19**	LR	LR	12 43 48.6	
	comp=Z,112nm,19.8s,baz=213,slow=31						
VNDA	**Vanda**	**48.71**	**171**	P	P	12 37 45.5	-3.9
	1.2nm,0.8s,baz=239,slow=6.7,SNR=5.1						
VNDA				LR	LR	12 58 10.0	
	comp=Z,111nm,18.2s,baz=207,slow=36						
ASAR	**Alice Springs**	**87.00**	**126**	P	P	12 41 50.6	+0.3
	0.4nm,0.7s,baz=200,slow=4.5,SNR=5.1						
NVAR	**Mina Array Bea**	**145.68**	**265**	PKPbc	PKPbc	12 48 43.3	+0.9
	2.1nm,0.8s,baz=127,slow=4.5,SNR=16						
YKA	**Yellowknife Ar**	**152.24**	**311**	PKPbc	PKPdf	12 48 57.2	+4.0
	0.2nm,0.4s,baz=82,slow=1.9,SNR=5.9						
YKA				PKPab	PKPab	12 49 06.7	-3.5
	0.1nm,0.4s,baz=96,slow=2.8,SNR=3.8						

IDC 02 12:40:52.1±1.2, 3.67N×127.58E, h176km±9km, mb3.4/6, mb1 3.5/6, mb1mx3.4/18, mbtmp3.8/6, Error ellipse: s-maj=65.8km s-min=12.7km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.72**	**185**	P	P	12 45 31.0	+1.1
	3.1nm,0.4s,baz=18,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**24.39**	**164**	P	P	12 45 53.4	-2.4
	1.3nm,0.4s,baz=342,slow=10.0,SNR=29						
WRA				pP		12 46 28.1	
	0.9nm,0.5s,baz=336,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**27.86**	**168**	P	P	12 46 25.4	-2.3
	0.4nm,0.4s,baz=349,slow=7.0,SNR=21						
ASAR				pP	pP	12 47 02.7	-1.0
	0.6nm,0.8s,baz=358,slow=14,SNR=2.9						
ASAR				PcP	PcP	12 49 36.2	-2.8
	0.4nm,0.7s,baz=356,slow=1.5,SNR=4.7						
ASAR				ScP		12 53 00.9	
	0.5nm,0.8s,baz=338,slow=1.4,SNR=4.9						
STKA	**Stephens Creek**	**37.78**	**160**	P	P	12 47 51.8	-1.3
	1.0nm,0.4s,baz=346,slow=9.9,SNR=4.0						
SONM	**Songino Array**	**47.62**	**341**	P	P	12 49 09.8	-2.4
	0.3nm,0.5s,baz=146,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**58.09**	**325**	P	P	12 50 27.4	-1.8
	0.4nm,0.3s,baz=113,slow=8.0,SNR=12						
MKAR				pP	pP	12 51 07.6	-2.4
	0.4nm,0.5s,baz=122,slow=8.1,SNR=3.2						

MDD ***02*** *12:49:32.0±0.4, 34.98N×2.85W, h10km±3km, mbLg2.1/21, Error ellipse: s-maj=4.6km s-min=4.0km az=126.0, PRXIMO*
CNRM ***02*** *12:49:32.0, 34.85N×2.81W, h5km, MD3.3*
CSEM ***02*** *12:49:33.7±0.1, 35.07N×3.14W, h40km, MD3.3, Error ellipse: s-maj=3.2km s-min=2.0km az=120.0*
NEIC ***02*** *12:49:33.6, 35.07N×3.10W, h10km, MG3.5(MDD), After MDD.*

ISC 02 12:49:30.7±0.4, 35.06N±0.02×2.91W±0.04, h10km, n64, σ1§40/121, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.17**	**124**	*i* P	**Pg**	**12 49 34.0**	**-0.4**
ZAI				*i* S	**Sg**	**12 49 36.5**	**-0.5**
EMLI	**Melilla**	**0.24**	**353**	P	**Pg**	**12 49 38.4**	**+2.6**
	69nm,0.1s,SNR=6.8						
EMEL	**Melilla**	**0.24**	**352**	P	**Pg**	**12 49 38.4**	**+2.5**
	69nm,0.1s,SNR=6.8						
EMEL				S	**Sg**	**12 49 42.5**	**+3.3**
	296nm,0.1s,SNR=11						
TOU	**Touzarine**	**0.70**	**262**	*i* P	**Pb**	**12 49 46.0**	**+1.5**
TOU				*i* S	**Sb**	**12 49 56.5**	**+2.6**
MPAL	**Palemas**	**0.86**	**281**	S	**Sb**	**12 50 03.0**	**+4.5**
EALB	**Alboran**	**0.88**	**354**	P	**Pb**	**12 49 49.8**	**+2.2**
	10nm,0.2s,SNR=7.3						
EALB				S	**Sb**	**12 50 02.5**	**+3.3**
	42nm,0.2s						
EALB	**Alboran**	**0.88**	**354**	P	**Pb**	**12 49 49.8**	**+2.2**
	10nm,0.2s,SNR=7.3						
EALB				S	**Sb**	**12 50 02.5**	**+3.3**
	42nm,0.2s						
TZK	**Tazeka**	**1.43**	**228**	*i* P	**Pn**	**12 49 55.5**	**-1.3**
TZK				*i* S	**Sb**	**12 50 14.5**	**-0.6**
EBER	**Berja**	**1.83**	**1**	P	**Pn**	**12 50 02.6**	**+0.1**
EBER				S	**Sn**	**12 50 25.2**	**-0.7**
EBER	**Berja**	**1.83**	**1**	P	**Pn**	**12 50 03.6**	**+1.0**
	1.4nm,0.2s,SNR=7.0						
EBER				S	**Sn**	**12 50 26.4**	**+0.4**
	14nm,0.3s						
EBER	**Berja**	**1.83**	**1**	P	**Pn**	**12 50 02.6**	**0.0**
	1.4nm,0.2s,SNR=7.0						
EBER				S	**Sn**	**12 50 25.2**	**-0.8**
	14nm,0.3s						
ENIJ	**Nijar**	**1.99**	**17**	P	**Pn**	**12 50 05.4**	**+0.6**
	2.0nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**12 50 30.0**	**0.0**
	4.9nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**1.99**	**17**	P	**Pn**	**12 50 05.4**	**+0.6**
	2.0nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**12 50 32.7**	**+2.7**
	4.9nm,0.3s,SNR=7.9						
ERON	**Agron**	**2.08**	**340**	P	**Pn**	**12 50 05.6**	**-0.5**
ERON				S	**Sn**	**12 50 30.8**	**-1.5**
ERON	**Agron**	**2.08**	**340**	P	**Pn**	**12 50 06.5**	**+0.3**
	1.4nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**12 50 33.3**	**+1.0**
	1.7nm,0.2s,SNR=7.9						
ERON	**Agron**	**2.08**	**340**	P	**Pn**	**12 50 05.6**	**-0.5**
	1.4nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**12 50 30.8**	**-1.5**
	1.7nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.13**	**315**	P	**Pn**	**12 50 05.7**	**-1.2**
EMIJ				S	**Sn**	**12 50 30.4**	**-3.1**
EMIJ	**Mijas**	**2.13**	**315**	P	**Pn**	**12 50 07.8**	**+1.0**
	2.0nm,0.1s,SNR=11						
EMIJ				S	**Sn**	**12 50 34.7**	**+1.2**
	9.6nm,0.4s						
EMIJ	**Mijas**	**2.13**	**315**	P	**Pn**	**12 50 05.7**	**-1.1**
	2.0nm,0.1s,SNR=11						
EMIJ				S	**Sn**	**12 50 30.4**	**-3.1**
	9.6nm,0.4s						
ECOG	**Cogollos-Vega**	**2.27**	**347**	P	**Pn**	**12 50 10.3**	**+1.4**
ECOG				S	**Sn**	**12 50 35.4**	**-1.8**
ECOG	**Cogollos-Vega**	**2.27**	**347**	P	**Pn**	**12 50 10.3**	**+1.4**
	0.6nm,0.1s,SNR=7.9						
ECOG				S	**Sn**	**12 50 37.7**	**+0.5**
	1.7nm,0.2s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.31**	**335**	P	**Pn**	**12 50 10.2**	**+0.8**
	2.2nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**12 50 38.0**	**-0.2**
	2.2nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.50**	**304**	P	**Pn**	**12 50 12.5**	**+0.4**
EJIF				S	**Sn**	**12 50 38.8**	**-4.1**
EJIF	**Jimena Fronter**	**2.50**	**304**	P	**Pn**	**12 50 12.5**	**+0.4**
	3.9nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**12 50 38.8**	**-4.1**
	0.5nm,0.2s,SNR=4.0						
MIF	**Mishlifen**	**2.53**	**230**	*e*P	**Pn**	**12 50 12.0**	**-0.6**
MIF				*i* S	**Sn**	**12 50 40.0**	**-3.7**
ELUQ	**Luque**	**2.72**	**337**	P	**Pn**	**12 50 16.8**	**+1.5**
ELUQ				S	**Sn**	**12 50 47.2**	**-1.4**
ELUQ	**Luque**	**2.72**	**337**	P	**Pn**	**12 50 15.9**	**+0.6**
	2.0nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**12 50 48.7**	**+0.1**
	2.6nm,0.4s,SNR=4.0						
ELUQ	**Luque**	**2.72**	**337**	P	**Pn**	**12 50 16.8**	**+1.5**
	2.0nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**12 50 47.2**	**-1.4**
	2.6nm,0.4s,SNR=4.0						
EQES	**Quesada**	**2.74**	**357**	P	**Pn**	**12 50 16.5**	**+1.0**
EQES				S	**Sn**	**12 50 51.7**	**+2.7**
EQES	**Quesada**	**2.74**	**357**	P	**Pn**	**12 50 16.5**	**+1.0**
	4.8nm,0.2s,SNR=7.2						
EQES				S	**Sn**	**12 50 49.1**	**+0.1**
	7.4nm,0.3s						
EQES	**Quesada**	**2.74**	**357**	P	**Pn**	**12 50 16.5**	**+1.0**
	4.8nm,0.2s,SNR=7.2						
EQES				S	**Sn**	**12 50 51.7**	**+2.7**
	7.4nm,0.3s						
EHUE	**Huescar**	**2.76**	**5**	P	**Pn**	**12 50 18.5**	**+2.7**
EHUE				S	**Sn**	**12 50 48.4**	**-1.1**
EHUE	**Huescar**	**2.76**	**5**	P	**Pn**	**12 50 16.4**	**+0.6**
	1.0nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**12 50 48.4**	**-1.1**
	0.7nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**2.76**	**5**	P	**Pn**	**12 50 18.5**	**+2.7**
	1.0nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**12 50 48.4**	**-1.1**
	0.7nm,0.1s,SNR=7.9						
ESPR	**Espera**	**2.99**	**308**	P	**Pn**	**12 50 20.2**	**+1.1**
	0.8nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.08**	**25**	P	**Pn**	**12 50 22.3**	**+1.8**
EMUR				S	**Sn**	**12 50 54.7**	**-3.1**
EMUR	**La Murta**	**3.08**	**25**	P	**Pn**	**12 50 21.2**	**+0.7**
	1.3nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**12 50 55.7**	**-2.1**
	2.2nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**3.08**	**25**	P	**Pn**	**12 50 22.3**	**+1.8**
	1.3nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**12 50 54.7**	**-3.1**
	2.2nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**3.17**	**347**	P	**Pn**	**12 50 22.0**	**+0.3**
EBAN				S	**Sn**	**12 50 58.2**	**-1.8**
EBAN	**Banos Encina**	**3.17**	**347**	P	**Pn**	**12 50 22.0**	**+0.3**
	0.4nm,0.2s,SNR=4.0						
EBAN				S	**Sn**	**12 50 59.9**	**-0.1**
	1.0nm,0.2s,SNR=4.0						
EBAN	**Banos Encina**	**3.17**	**347**	P	**Pn**	**12 50 22.0**	**+0.3**
	0.4nm,0.2s,SNR=4.0						
EBAN				S	**Sn**	**12 50 58.2**	**-1.9**
	1.0nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.38**	**337**	P	**Pn**	**12 50 25.2**	**+0.6**
EADA				S	**Sn**	**12 51 02.9**	**-2.3**
EADA	**Adamuz**	**3.38**	**337**	P	**Pn**	**12 50 25.2**	**+0.6**
	1.2nm,0.1s,SNR=15						
EADA				S	**Sn**	**12 51 04.4**	**-0.8**
	1.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.38**	**337**	P	**Pn**	**12 50 25.2**	**+0.6**
	1.2nm,0.1s,SNR=15						
EADA				S	**Sn**	**12 51 02.9**	**-2.2**
	1.0nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**3.58**	**5**	P	**Pn**	**12 50 28.2**	**+0.6**
	0.8nm,0.3s,SNR=7.9						
EVIA				S	**Sn**	**12 51 09.3**	**-1.2**
	2.9nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.74**	**17**	P	**Pn**	**12 50 31.8**	**+2.0**
ETOB				S	**Sn**	**12 51 12.2**	**-2.1**
ETOB	**Tobarra**	**3.74**	**17**	P	**Pn**	**12 50 30.3**	**+0.6**
	1.3nm,0.3s,SNR=6.2						
ETOB				S	**Sn**	**12 51 12.2**	**-2.1**
	23nm,1.4s						
ETOB	**Tobarra**	**3.74**	**17**	P	**Pn**	**12 50 31.8**	**+2.0**
	1.3nm,0.3s,SNR=6.2						
ETOB				S	**Sn**	**12 51 12.2**	**-2.2**
	23nm,1.4s						
EMIN	**Mina Concepcio**	**4.06**	**313**	P	**Pn**	**12 50 33.3**	**-1.0**
EMIN				S	**Sn**	**12 51 16.5**	**-5.9**
EMIN	**Mina Concepcio**	**4.06**	**313**	P	**Pn**	**12 50 33.3**	**-1.0**
	1.3nm,0.2s,SNR=15						
EMIN				S	**Sn**	**12 51 20.4**	**-2.0**
	8.7nm,1.2s						
EMIN	**Mina Concepcio**	**4.06**	**313**	P	**Pn**	**12 50 33.3**	**-1.0**
	1.3nm,0.2s,SNR=15						
EMIN				S	**Sn**	**12 51 16.5**	**-6.0**
	8.7nm,1.2s						
EBEN	**Beniarda**	**4.22**	**30**	P	**Pn**	**12 50 36.1**	**-0.6**
	0.6nm,0.3s,SNR=7.9						
EBEN				S	**Sn**	**12 51 22.8**	**-3.9**
	15nm,0.8s,SNR=7.9						
EGRO	**El Granado**	**4.44**	**305**	P	**Pn**	**12 50 38.2**	**-1.5**
EGRO				S	**Sn**	**12 51 27.4**	**-4.7**
EGRO	**El Granado**	**4.44**	**305**	P	**Pn**	**12 50 38.5**	**-1.2**
	7.6nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**12 51 28.7**	**-3.4**
	1.9nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.44**	**305**	P	**Pn**	**12 50 38.2**	**-1.5**
	7.6nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**12 51 27.4**	**-4.7**
	1.9nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**4.68**	**350**	P	**Pn**	**12 50 44.1**	**+1.0**
ESDC	**Sonseca Array**	**4.68**	**350**	P	**Pn**	**12 50 43.4**	**+0.3**
	0.8nm,0.3s,baz=172,slow=13,SNR=19						
ESDC				S	**Sn**	**12 51 34.7**	**-3.4**
	SNR=7.9						
ESDC	**Sonseca Array**	**4.68**	**350**	P	**Pn**	**12 50 44.1**	**+1.0**
	0.8nm,0.3s,SNR=19						
EBAD	**Badajoz**	**4.94**	**319**	P	**Pn**	**12 50 45.6**	**-1.2**
EBAD				S	**Sn**	**12 51 36.4**	**-8.2**
EBAD	**Badajoz**	**4.94**	**319**	P	**Pn**	**12 50 45.8**	**-1.0**
	2.5nm,0.2s,SNR=12						
EBAD				S	**Sn**	**12 51 40.7**	**-4.0**
	6.0nm,1.0s						
EBAD	**Badajoz**	**4.94**	**319**	P	**Pn**	**12 50 45.6**	**-1.2**
EBAD				S	**Sn**	**12 51 36.4**	**-8.3**
EIBI	**Ibiza**	**5.22**	**39**	P	**Pn**	**12 50 50.0**	**-0.7**
	0.7nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**8.17**	**357**	P	**P**	**12 51 30.6**	**-1.5**
	3.6nm,0.6s,SNR=7.9						

DJA 02 12:50:21.0±1.3, 6.84S×106.87E, h63km±10km, MD4.2/2, ML4.7/2, 1D, Error ellipse: s-maj=83.7km s-min=21.5km az=13.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACI	**Pancar Gunung**	**0.25**	**9**	*e*Pg	P	12 50 30.9	-0.2
	24nm,0.4s						
PACI				*e*Sg	S	12 50 37.4	-1.1
PULI	**Pulasari**	**1.02**	**299**	*e*Pn	P	12 50 38.8	-0.8
	2μm,0.2s						
PULI				*e*Sn	S	12 50 52.5	-0.9
PENI	**Pendagan**	**2.11**	**307**	⇓*e*Pn	P	12 50 53.7	-1.0
	251nm,0.3s						

BJI ***02*** *12:52:32.8, 78.81N×5.97E, h7km, mB5.7, mb5.2, Ms6.6, Msz6.2*
CSEM ***02*** *12:52:34.5±0.1, 78.51N×6.54E, h8km, mb5.5/99, Ms5.7, Mw6.1, Error ellipse: s-maj=2.0km s-min=1.6km az=86.0*
MOS ***02*** *12:52:34.2±1.0, 78.61N×6.14E, h10km, mb5.5/110, MS5.4/55, Error ellipse: s-maj=22.6km s-min=2.4km az=92.0*
CRAAG ***02*** *12:52:34.5, 78.58N×5.78E, Mb5.5*
IDC ***02*** *12:52:35.1±0.4, 78.56N×5.95E, mb4.9/31, mb1 5.0/37, mb1mx5.0/38, mbtmp4.9/37, ML4.7/6, MS5.7/34, Ms1 5.7/34, ms1mx5.6/37, Error ellipse: s-maj=13.4km s-min=7.8km az=45.0*
BGS ***02*** *12:52:36.4, 78.61N×6.10E, h10km, mb5.1*
NEIC ***02*** *12:52:36.6±0.1, 78.61N×6.10E, h10km, mb5.5/202, MS5.8/130, MW6.1, Error ellipse: s-maj=3.2km s-min=1.5km az=65.0, Moment Tensor Solution. s37 Moment tensor: Scale 10^18 Nm; Mrr 0.15; Mθθ -1.63; Mφφ 1.48; Mrθ -0.21; Mθφ -0.44; Mφr 0.00; Best double couple: M0 1.6×10^18 NP1:φs 37°, δ85°, λ -4°. NP2:φs 127°, δ86°, λ -175°. Principal axes: T 1.55, Plg1°, Azm262°; N .17, Plg84°, Azm160°; P -1.71, Plg6°, Azm352°;*
HRVD ***02*** *12:52:36.6±0.1, 78.73N×5.51E, h13km, MW6.2/80, Centroid moment Tensor Solution. LP body waves: s78, c178; Mantle waves: s80, c339; Half duration: 3s0 Moment tensor: Scale 10^18 Nm; Mrr 0.01±.01; Mθθ -1.98±.01; Mφφ 1.97±.01; Mrθ -0.21±.04; Mθφ -0.60±.01; Mφr -0.08±.03; Best double couple: M0 2.077×10^18 NP1: φs 127°, δ85°, λ -177°. NP2:φs 36°, δ87°, λ -5°. Principal axes: T 2.062, Plg1°, Azm82°; N .033, Plg84°, Azm185°; P -2.093, Plg6°, Azm351°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ZUR_RM ***02*** *12:52:36, 78.61N×6.10E, h12km, Mw6.2/10, Moment Tensor Solution. s10 Moment tensor: Scale 10^18 Nm; Mrr -0.47; Mθθ -1.51; Mφφ 1.98; Mrθ 0.40; Mθφ -0.37; Mφr 0.80; Best double couple: M0 1.99×10^18 NP1:φs 217°, δ85°, λ -28°. NP2:φs 309°, δ62°, λ -175°. Principal axes: T 2.23, Plg16°, Azm266°; N -.477, Plg62°, Azm28°; P -1.753, Plg23°, Azm169°;*
SVSA ***02*** *12:52:36.3, 78.53N×5.98E, h10km, Mb5.6*
BER ***02*** *12:52:37.2±3.8, 78.60N×7.20E, h10km, MD4.2, ML4.4, ML4.4(NAO)*
NAO ***02*** *12:52:38.0±3.0, 78.36N×8.13E, ML4.4*

ISC 02 12:52:34.6±0.1, 78.62N±0.01×6.22E±0.08, h10km, (h14km±1.7km:pP-P), n1164, σ1§02/1228, mb5.3/264, MS5.8/190, 53Ĉ-64D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.16**	**72**	P	**Pb**	**12 52 55.2**	**-1.2**
KBS				Sg	**Sg**	**12 53 08.8**	**-4.6**
SPA0	**Spitsbergen Ar**	**2.10**	**97**	Pn	**Pn**	**12 53 08.8**	**-1.5**
SPA0				Sn	**Sn**	**12 53 31.3**	**-5.4**
HSP	**Hornsund**	**2.56**	**125**	*e*P	**Pn**	**12 53 13.1**	**-3.7**
HSP				*e*S	**Sn**	**12 53 40.6**	**-7.7**
HOPEN	**Hopen**	**4.56**	**108**	*e*P	**Pn**	**12 53 41.0**	**-4.4**
HOPEN				*e*S	**Sn**	**12 54 29.9**	**-9.2**
HOPEN				AML	AML	12 54 53.4	
	comp=Z,8μm,0.1s						
JNW	**Jan Mayen West**	**8.50**	**214**	*e*P	**P**	**12 54 36.9**	**-3.7**
JNW				*e*S	**Sn**	**12 56 07.8**	**-10**
JNW				AML	AML	12 56 11.9	
	comp=Z,98nm,0.3s						
JNE	**Jan Mayen East**	**8.52**	**214**	*e*P	**P**	**12 54 36.9**	**-4.0**
JNE	**Jan Mayen East**	**8.52**	**214**	*e*P	**P**	**12 54 37.7**	**-3.3**
JNE				*e*S	**Sn**	**12 56 07.7**	**-10**
JNE	**Jan Mayen East**	**8.52**	**214**	*e*P	**P**	**12 54 36.9**	**-4.1**
JMIC	**Jan Mayen**	**8.55**	**214**	Pn	**P**	**12 54 37.0**	**-4.3**
	comp=Z,498nm,0.3s,baz=36,slow=3.1,SNR=102						
JMIC				Sn	**Sn**	**12 56 06.9**	**-12**
	comp=Z,169nm,0.3s,baz=218,slow=20,SNR=11						
JMIC				LR	LR	12 56 46.5	
	comp=Z,30μm,19.9s,baz=162,slow=30						
JMIC	**Jan Mayen**	**8.55**	**214**	Pn	**P**	**12 54 37.0**	**-4.3**
JMIC				Sn	**Sn**	**12 56 06.9**	**-12**
JMIC				LR	LR	12 56 46.5	
JMI	**Jan Mayen**	**8.63**	**214**	*e*P	**P**	**12 54 38.0**	**-4.4**
JMI				*e*S	**Sn**	**12 56 08.7**	**-12**
JMI				*e*S	**Sn**	**12 56 11.7**	**-9.1**
JMI				AML	AML	12 56 16.1	
	comp=Z,192nm,0.5s						
JMI	**Jan Mayen**	**8.63**	**214**	*e*P	**P**	**12 54 38.0**	**-4.4**
JMI				*e*S	**Sn**	**12 56 08.6**	**-12**
TRO	**Tromso**	**9.64**	**153**	*e*Pn	**P**	**12 54 50.7**	**-5.5**
TRO				*e*Sn	**Sn**	**12 56 30.4**	**-15**
ARA0	**ARCESS Array S**	**10.46**	**140**	Pn	**P**	**12 55 01.4**	**-6.0**
	baz=347,slow=12						
ARA0				Sn	**S**	**12 56 49.3**	**-16**
	baz=348,slow=22						
ARCES	**ARCESS Array B**	**10.46**	**140**	Pn	**P**	**12 55 02.3**	**-5.1**
	comp=Z,4.6nm,0.3s,baz=348,slow=12,SNR=57						
ARCES				Sn	**S**	**12 56 51.4**	**-14**
	comp=Z,19nm,0.3s,baz=356,slow=18,SNR=6.7						
ARCES	**ARCESS Array B**	**10.46**	**140**	Pn	**P**	**12 55 02.3**	**-5.1**
ARCES				Sn	**S**	**12 56 51.4**	**-14**
ARE0	**ARCESS Array S**	**10.46**	**140**	*e*P	**P**	**12 55 03.3**	**-4.1**
ARE0				*e*S	**S**	**12 56 49.1**	**-17**
ARE0	**ARCESS Array S**	**10.46**	**140**	*e*P	**P**	**12 55 03.3**	**-4.1**
ARE0				*e*S	**S**	**12 56 49.1**	**-17**
KTK1	**Kautokeino**	**10.68**	**145**	*e*P	**P**	**12 55 07.5**	**-3.0**
	comp=Z,366nm,1.4s						
KTK1				*e*S	**S**	**12 57 00.4**	**-11**
KTK1	**Kautokeino**	**10.68**	**145**	*e*P	**P**	**12 55 07.5**	**-3.0**
	comp=Z,366nm,1.4s						
KTK1				*e*S	**S**	**12 57 00.4**	**-11**
LOF	**Lofoten**	**10.74**	**165**	*e*P	**P**	**12 55 10.0**	**-1.2**
	comp=Z,461nm,1.0s						
LOF				*e*S	**S**	**12 57 07.2**	**-5.4**
LOF	**Lofoten**	**10.74**	**165**	*e*P	**P**	**12 55 10.0**	**-1.3**
	comp=Z,461nm,1.0s						
LOF				*e*S	**S**	**12 57 07.2**	**-5.4**
SUMG	**Summit**	**12.29**	**264**	*e*P	**P**	**12 55 26.9**	**-5.4**
SUMG				*e*S	**S**	**12 57 37.5**	**-13**
SUMG	**Summit**	**12.29**	**264**	*e*P	**P**	**12 55 26.9**	**-5.4**
SUMG				*e*S	**S**	**12 57 37.5**	**-13**
STOK	**Stokkvaagen**	**12.51**	**167**	*e*P	**P**	**12 55 33.2**	**-2.0**
	comp=Z,1μm,1.5s						
STOK	**Stokkvaagen**	**12.51**	**167**	*e*P	**P**	**12 55 33.2**	**-2.0**
	comp=Z,1μm,1.5s						
MOR8	**Moi Rana**	**12.73**	**165**	*e*P	**P**	**12 55 37.0**	**-1.3**
	comp=Z,754nm,1.4s						
MOR8	**Moi Rana**	**12.73**	**165**	*e*P	**P**	**12 55 37.0**	**-1.3**
	comp=Z,754nm,1.4s						
LVZ	**Lovozero**	**13.28**	**128**	*e*P	**P**	**12 55 40.7**	**-4.8**
LVZ				pmax	pmax		
	comp=N,48nm,1.0s						
LVZ				pmax	pmax		
	comp=Z,68nm,1.0s						
LVZ				pmax	pmax		
	comp=E,18nm,0.8s						
LVZ				MLR	MLR		
	comp=N,13μm,14.0s						
LVZ				MLR	MLR		
	comp=E,5μm,14.0

comp=Z,9µm,19.6s,baz=350,slow=34
NOA NORSAR Array B 17.74 172 P P 12 56 42.2 -0.6
NOA LR LR 13 02 27.5
NAO01 NORSAR Array S 17.93 173 *e*P **P 12 56 44.2 -0.9**
comp=Z,67nm,0.8s
NAO01 NORSAR Array S 17.93 173 *e*P **P 12 56 44.2 -0.9**
comp=Z,67nm,0.8s
ASK Askoy 18.23 182 *e*P **P 12 56 48.7 -0.2**
comp=Z,317nm,1.2s
ASK Askoy 18.23 182 *e*P **P 12 56 48.7 -0.3**
comp=Z,317nm,1.2s
FIA0 FINESS Array S 18.33 149 P **P 12 56 46.8 -3.3**
baz=354,slow=11
FINES FINESS Array B 18.33 149 P **P 12 56 48.2 -2.0**
comp=Z,1.7nm,0.3s,slow=9.5,SNR=64
FINES LR LR 13 03 49.5
comp=Z,14µm,20.6s,baz=347,slow=37
BER Bergen 18.33 181 *e*Pn **P 12 56 52.6 +2.4**
EGD Espegrend 18.44 182 *e*P **P 12 56 51.8 +0.2**
comp=Z,244nm,1.1s
HFS Hagfors 18.73 168 P **P 12 56 53.8 -1.3**
baz=6.0,slow=9.3
HFS Pn **P 12 56 56.5 +1.4**
baz=349,slow=10
HFS Hagfors 18.73 168 P **P 12 56 53.1 -2.0**
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS MLR MLR
comp=Z,21µm,21.4s
HFS Hagfors 18.73 168 P **P 12 56 53.1 -2.0**
comp=Z,1.1nm,0.3s,baz=9.5,slow=9.0,SNR=105
HFS LR LR 13 03 01.8
comp=Z,21µm,21.4s,baz=355,slow=34
KONO Kongsberg 19.10 175 *e*P **P 12 56 56.9 -2.6**
KONO pmax pmax
comp=Z,4µm,1.0s
KONO Kongsberg 19.10 175 *e*P **P 12 56 56.9 -2.6**
comp=Z,4µm,1.0s
KONO Kongsberg 19.10 175 *e*P **P 12 56 56.9 -2.6**
comp=Z,4µm,1.0s
SFJ Sondre 19.28 265 *e*P **P 12 56 56.5 -5.1**
comp=Z,195nm,0.6s
SFJ *e*S **S 13 00 18.5 -15**
SFJD Kangerlussuaq 19.28 265⇑*i*P **P 12 56 57.0 -4.6**
SFJD pmax pmax
comp=Z,180nm,0.7s
SFJD MLR MLR
comp=Z,38µm,19.0s
SFJD Kangerlussuaq 19.28 265⇑*i*P **P 12 56 57.0 -4.6**
comp=Z,178nm,0.7s
SFJD *i* S **S 13 00 51.5 +18**
comp=Z,38µm,19.0s
BLS5 Blasjo 19.29 180 *e*P **P 12 57 02.0 +0.3**
comp=Z,124nm,1.1s
BLS5 Blasjo 19.29 180 *e*P **P 12 57 02.0 +0.2**
comp=Z,124nm,1.1s
PUL Pulkovo 20.44 144 *e*P **P 12 57 12.7 -1.6**
PUL pmax pmax
comp=Z,153nm,0.9s
PUL pmax pmax
comp=N,228nm,0.7s
PUL pmax pmax
comp=E,33nm,0.7s
PUL MLR MLR
comp=Z,12µm,20.0s,MS5.3
PUL MLR MLR
comp=N,10µm,16.0s,MS5.3
PUL MLR MLR
comp=E,6µm,15.0s,MS5.3
PUL Pulkovo 20.44 144 *i* P **P 12 57 13.1 -1.2**
MLA1 Latheron 20.65 194 *e*P **P 12 57 16.5 -0.1**
RES Resolute Bay 20.83 313 *e*P **P 12 57 16.0 -2.3**
comp=E,0.3nm,0.8s
RES *e*S **S 13 00 50.3 -15**
RES Resolute Bay 20.83 313 *e*P **P 12 57 16.0 -2.2**
comp=E,0.3nm,0.8s
RES *e*S **S 13 00 50.3 -15**
REB Eisghbrachaidh 20.94 197 *e*P **P 12 57 20.0 +0.5**
MVH1 Achvaich 21.07 196 *e*P **P 12 57 20.2 -0.6**
MVH1 AMb AMB 12 57 26.8
comp=Z,161nm,2.4s,mb4.9
MCD Coleburn Disti 21.37 194 *e*P **P 12 57 23.4 -0.4**
MCD AMb AMB 12 57 30.8
comp=Z,146nm,1.7s,mb5.0
MDO Dochfour 21.57 196 *e*P **P 12 57 26.0 +0.1**
MDO AMb AMB 12 57 30.3
comp=Z,113nm,1.2s,mb5.2
MME1 Meikle Cairn 21.62 194 *e*P **P 12 57 26.2 -0.2**
MUD Monsted U'grnd 22.29 176⇓*i*P **P 12 57 32.5 -0.6**
MUD *i* S **S 13 01 41.5 +8.3**
MUD pmax pmax
comp=Z,57nm,1.0s,mb5.0
MUD MLR MLR
comp=Z,7µm,20.0s,MS5.1
MUD Monsted U'grnd 22.29 176⇓*i*P **P 12 57 32.5 -0.6**
comp=Z,57nm,1.0s,mb5.0
MUD *i* 12 57 47.5
MUD *i* S **S 13 01 41.5 +8.3**
comp=Z,7µm,20.0s
COP Copenhagen 23.14 171 *i* P **P 12 57 41.6 +0.4**
COP *i* S **S 13 01 52.8 +4.6**
COP pmax pmax
comp=Z,64nm,0.8s,mb5.1
COP MLR MLR
comp=Z,7µm,18.0s,MS5.1
COP Copenhagen 23.14 171 *i* P **P 12 57 41.6 +0.4**
comp=Z,64nm,0.8s,mb5.1
COP *i* S **S 13 01 52.8 +4.6**
comp=Z,7µm,18.0s
EKA Eskdalemuir Ar 23.61 193 P **P 12 57 45.3 -0.5**
comp=Z,6.3nm,0.8s,baz=5.6,slow=7.9,SNR=15
ESK Eskdalemuir 23.63 194 *e*P **P 12 57 45.7 -0.3**
ESK pmax pmax
comp=Z,261nm,1.7s
ESK MLR MLR
comp=Z,2µm,19.0s
ESK Eskdalemuir 23.63 194 *e*P **P 12 57 45.7 -0.3**
comp=Z,261nm,1.7s
ESK LR LR
comp=Z,2µm,19.0s
ESK Eskdalemuir 23.63 194 *e*P **P 12 57 45.7 -0.3**
comp=Z,2µm,19.0s
BWH Wardlaw 23.79 194 *e*P **P 12 57 48.6 +1.1**
BBH Bruntsheil 23.80 193 *e*P **P 12 57 48.6 +1.0**
BBH AMb AMB 12 57 51.6
comp=Z,101nm,1.6s,mb5.0
BSD Bornholm Skovb 23.80 168⇓*i*P **P 12 57 47.8 +0.1**
BSD *i* S **S 13 02 03.8 +4.0**
BSD pmax pmax
comp=Z,110nm,0.9s,mb5.3
BSD MLR MLR
comp=Z,11µm,18.0s,MS5.4
BSD Bornholm Skovb 23.80 168⇓*i*P **P 12 57 47.8 +0.1**
comp=Z,112nm,0.9s,mb5.3
BSD *e* 12 58 07.4
BSD *i* S **S 13 02 03.8 +4.0**
comp=Z,11µm,18.0s
BHH Howats Hill 23.85 193 *e*P **P 12 57 48.5 +0.3**
IZAR Zarasai 23.95 152 *e*P **P 12 57 48.9 -0.3**
IZAR AMPb AMB 12 57 51.3
comp=Z,61nm,1.2s,mb4.9
IZAR Zarasai 23.95 152 *e*P **P 12 57 48.8 -0.3**
BTA Talkin 24.02 193 *e*P **P 12 57 50.1 +0.3**
GCL Cushendall 24.03 198 *e*P **P 12 57 51.3 +1.4**
ISAL Salakas 24.12 152⇓*i*P **P 12 57 50.7 -0.1**
ISAL AMPb AMB 12 57 52.9
comp=Z,90nm,1.1s,mb5.1
BDL Dobcross Hall 24.13 193 *e*P **P 12 57 51.3 +0.4**
BDL AMb AMB 12 57 54.1
comp=Z,82nm,1.2s,mb5.0
BBO1 Bothel 24.21 193 *e*P **P 12 57 51.6 0.0**
BBO1 AMb AMB 12 57 54.8
comp=Z,108nm,1.1s,mb5.2
RGN Rugen 24.30 170 *e*P **P 12 57 52.2 -0.3**
comp=Z,91nm,0.4s,mb5.6
RGN Rugen 24.30 170 *e*P **P 12 57 52.2 -0.4**
comp=Z,91nm,0.4s,mb5.6
IDID Didziasalis 24.43 151 *e*P **P 12 57 53.5 -0.3**
IDID AMPb AMB 12 57 56.5
comp=Z,87nm,1.1s,mb5.1
BSEG Bad Segeberg 24.84 174 *e*P **P 12 57 58.0 +0.3**
BSEG *e*S **S 13 02 25.7 +8.2**
BSEG pmax pmax
comp=Z,184nm,1.0s,mb5.6
BSEG Bad Segeberg 24.84 174 *e*P **P 12 57 58.0 +0.3**
comp=Z,184nm,1.0s,mb5.6
BSEG *e*S **S 13 02 25.7 +8.2**
GMM Mts of Mourne 24.85 197 *e*P **P 12 57 57.9 0.0**
MOS Moscow 25.29 136 *e*P **P 12 58 02.4 +0.4**
MOS *e* 12 58 08.8
MOS *e* 12 58 41.3
MOS *e*PPP PPP 12 58 50.8 -1.0
MOS *e*S **S 13 02 33.1 +7.9**
MOS *e*SSS SSS 13 03 48.3 +5.7
MOS pmax pmax
comp=Z,48nm,0.6s,mb5.2
MOS Moscow 25.29 136 *e*P **P 12 58 02.4 +0.4**
comp=Z,48nm,0.6s,mb5.2
MNK Minsk 25.34 150⇑*i*P **P 12 58 01.0 -1.5**
MNK Minsk 25.34 150 *i* P **P 12 58 01.0 -1.5**
SUW Suwalki 25.41 156 *e*P **P 12 58 02.2 -1.0**
SUW *e*pP pP 12 58 04.5 -1.6
SUW *e*S **S 13 02 28.6 +1.5**
SUW MLR MLR 13 06 20.4
comp=Z,12µm,31.0s,MS5.2
KBI1 Birley Grange 25.62 191⇑*e*P **P 12 58 04.9 -0.3**
KBI1 AMb AMB 12 58 10.7
comp=Z,87nm,1.3s,mb5.1
PECR Pechory 25.68 128 *e*P **P 12 58 13.0 +7.3**
PECR *e*S **S 13 02 33.0 +1.3**
PECR pmax pmax
comp=N,1µm,4.0s
PECR pmax pmax
comp=Z,1µm,4.0s
PECR smax
comp=N,2µm,10.0s
PECR smax
comp=E,5µm,10.0s
PECR MLR MLR
comp=Z,20µm,21.0s,MS5.6
PECR MLR MLR
comp=N,23µm,20.0s,MS5.8
PECR MLR MLR
comp=E,6µm,17.0s,MS5.8
FRB Frobisher Bay 25.71 278 P **P 12 58 05.1 -0.7**
comp=E,134nm,0.9s,mb5.5,baz=29,slow=9.9,SNR=71
FRB LR LR 13 08 24.1
comp=E,17µm,18.3s,MS5.6,baz=25,slow=37
GKP Gorka Klasztor 25.75 165 *e*P **P 12 58 06.2 -0.2**
GKP *e*pP pP 12 58 08.1 -1.2
GKP *e*S **S 13 02 39.2 +6.3**
GKP *e*sS 13 02 53.2
GKP MLR MLR 13 06 04.0
comp=E,18µm,32.8s,MS5.4
OBN Obninsk 25.76 138⇑*i*P **P 12 58 06.1 -0.3**
OBN pmax pmax
comp=Z,106nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,10µm,21.0s,MS5.3
OBN Obninsk 25.76 138 *e*P **P 12 58 05.2 -1.3**
comp=Z,167nm,1.0s,mb5.5
OBN LR LR
comp=Z,2µm,20.0s,MS4.7
OBN Obninsk 25.76 138 *i* P **P 12 58 06.1 -0.3**
comp=Z,10µm,21.0s
DCN Croghan 25.82 199 *e*P **P 12 58 07.0 0.0**
DLF Lyons Farm 25.82 198 *e*P **P 12 58 06.8 -0.3**
DSB Dublin 25.87 197 P **P 12 58 08.1 +0.7**
comp=Z,150nm,1.6s,mb5.3
DSB *e*S **S 13 02 51.6 +17**
DSB Dublin 25.87 197 P **P 12 58 08.1 +0.7**
comp=Z,150nm,1.6s,mb5.3
DSB *e*S **S 13 02 51.6 +17**
KWE Weaver Farm 25.87 191 *e*P **P 12 58 06.9 -0.6**
KWE AMb AMB 12 58 10.2
comp=Z,96nm,1.4s,mb5.1
TIXI Tiksi 26.40 37 *e*P **P 12 58 12.6 +0.4**
TIXI *e*S **S 13 02 45.8 +2.3**
TIXI *e*SS SS 13 03 52.8 +0.1
TIXI pmax pmax
comp=Z,68nm,1.0s,mb5.1
TIXI MLR MLR
comp=Z,14µm,16.0s,MS5.6
TIXI Tiksi 26.40 37 *i* P **P 12 58 13.7 +1.5**
TIXI LR LR
comp=Z,8µm,22.0s,MS5.2
TIXI Tiksi 26.40 37 *i* P **P 12 58 13.7 +1.5**
WTSB Winterswijk 26.77 179 *e*P **P 12 58 14.7 -1.0**
WTSB *i* x x 12 58 18.4
CLZ Clausthal 26.93 174 *e*P **P 12 58 17.4 +0.1**
comp=Z,50nm,1.1s,mb5.0
CLZ *e*S **S 13 02 56.9 +4.5**
WAR Warsaw 27.01 160 *e*P **P 12 58 17.9 -0.1**
WAR *e*pP pP 12 58 20.1 -0.8
WAR MLR MLR 13 07 33.7
comp=Z,14µm,26.7s,MS5.4
CLL Collm 27.54 171⇓*i*P **P 12 58 22.0 -0.8**
CLL *e*S **S 13 03 02.0 -0.1**
CLL pmax pmax
comp=Z,41nm,1.3s,mb4.9
CLL MLR MLR
comp=Z,15µm,18.3s,MS5.6
CLL Collm 27.54 171⇓*i*P **P 12 58 22.0 -0.8**
comp=Z,41nm,1.3s,mb4.9
CLL *e* 12 58 37.0
CLL *e*S **S 13 03 02.0 -0.1**
CLL LR LR
comp=Z,15µm,18.3s,MS5.6
CLL Collm 27.54 171⇓P **P 12 58 22.0 -0.8**
comp=Z,logA/T=1.5,mb4.9
CLL *e* 12 58 37.0
CLL *i* 12 58 54.8
CLL *i* PP PP 12 59 06.4 -4.3
CLL *e* 13 03 02.0
CLL *i* 13 03 09.2
CLL *i* 13 03 15.0
HGN Heimansgroeve 27.97 180⇓*i*P **P 12 58 25.9 -0.8**
comp=Z,60nm,0.9s,mb5.2
HGN *e*PP tx 13 00 54.1
HGN *e*S **S 13 03 11.3 +2.1**
BRG Berggiesshubel 28.00 170 *i* P **P 12 58 26.7 -0.3**
BRG *i* 12 59 20.1
BRG *i* 13 01 45.7
BRG *e*S **S 13 03 13.0 +3.4**
BRG pmax pmax
comp=Z,118nm,1.6s,mb5.3
BRG MLR MLR
comp=N,9µm,21.4s,MS5.4
BRG MLR MLR
comp=E,4µm,21.4s,MS5.4
BRG MLR MLR
comp=Z,13µm,18.8s,MS5.5
BRG Berggiesshubel 28.00 170 *i* P **P 12 58 26.7 -0.3**
comp=Z,118nm,1.6s,mb5.3
BRG *i* 12 59 20.1
BRG *i* 13 01 45.7
BRG *e*S **S 13 03 13.0 +3.4**
BRG LR LR
comp=Z,13µm,18.8s,MS5.5
BRG Berggiesshubel 28.00 170 *i* P **P 12 58 26.7 -0.3**
comp=Z,118nm,1.6s,mb5.3
ARU Arti 28.08 111⇓*i*P **P 12 58 27.9 +0.3**
ARU *i* 12 59 14.7
ARU *e* 13 01 44.5
ARU *e*S **S 13 03 15.3 +4.5**
ARU *e*SS SS 13 04 33.8 +0.9
ARU *e*SSS SSS 13 04 45.6 -5.5
ARU pmax pmax
comp=Z,54nm,1.0s,mb5.1
ARU MLR MLR
comp=Z,12µm,21.0s,MS5.5
ARU MLR MLR
comp=N,10µm,19.0s
ARU Arti 28.08 111 *e*P **P 12 58 26.8 -0.9**
comp=N,106nm,0.9s,mb5.5
ARU LR LR
comp=Z,3µm,21.0s,MS4.8
ARU Arti 28.08 111 *i* P **P 12 58 27.9 +0.3**
comp=Z,54nm,1.0s,mb5.1
SVE Sverdlovsk 28.09 108 *e*P **P 12 58 32.0 +4.3**
SVE *e* 12 59 14.0
SVE *e*S **S 13 03 12.0 +1.0**
SVE MLR MLR
comp=N,8µm,13.0s,MS5.7
SVE MLR MLR
comp=E,9µm,13.0s,MS5.7
SVE MLR MLR
comp=Z,13µm,13.0s,MS5.7
KSP Ksiaz 28.13 166 *e*P **P 12 58 27.5 -0.7**
KSP *e*pP pP 12 58 33.2 +2.1
KSP *e*S **S 13 03 09.0 -2.7**
KSP Ksiaz 28.13 166 *e*P **P 12 58 27.3 -0.9**
KSP *e*pP pP 12 58 30.0 -1.1
KSP *e*S **S 13 03 16.3 +4.6**
KSP MLR MLR 13 07 11.5
comp=Z,29µm,32.9s,MS5.6
MOX Moxa 28.16 173 *e*P **P 12 58 28.2 -0.2**
MOX pmax pmax
comp=Z,112nm,1.1s,mb5.4
MOX MLR MLR
comp=Z,4µm,16.0s,MS5.1
MOX Moxa 28.16 173 *e*P **P 12 58 28.2 -0.2**
comp=Z,112nm,1.1s,mb5.4
MOX *e* 12 59 00.2
MOX LR LR
comp=Z,4µm,16.0s,MS5.1
MOX Moxa 28.16 173⇓*i*P **P 12 58 28.2 -0.2**
comp=Z,logA/T=2.0,mb5.4
MOX *e* 12 59 00.0
MOX S **S 13 03 12.0 -0.2**
MOX L 13 12 35.0
MENF Mencas 28.22 185 *e*P **P 12 58 28.6 -0.3**
PVCC Panska Ves 28.37 169 *e*P **P 12 58 29.8 -0.5**
PVCC *e*S **S 13 03 16.2 +0.6**
PVCC AMS AMS 13 08 40.0
comp=Z,12µm,19.6s
PVCC Panska Ves 28.37 169 *e*P **P 12 58 29.8 -0.5**
comp=Z,12µm,19.6s
PVCC *e*S **S 13 03 16.2 +0.6**
UPC Upice 28.45 167 *e*P **P 12 58 30.0 -1.1**
TNS Taunus Mts 28.52 177 *e*P **P 12 58 31.5 -0.2**
TNS *e*S **S 13 03 24.1 +6.0**
TNS pmax pmax
comp=Z,58nm,1.1s,mb5.2
TNS Taunus Mts 28.52 177 *e*P **P 12 58 31.5 -0.2**
comp=Z,58nm,1.1s,mb5.2
TNS *e*S **S 13 03 24.1 +6.0**
NKC Novy Kostel 28.59 172 *e*P **P 12 58 32.0 -0.3**
NKC *e*S **S 13 03 18.1 -1.1**
NKC AMS AMS 13 09 40.0
comp=Z,10µm,16.9s
DPC Dobruska-Polom 28.62 166 *e*P **P 12 58 32.2 -0.4**
DPC *e*S **S 13 03 23.1 +3.5**
DPC AMS AMS 13 08 20.0
comp=Z,10µm,23.4s
DPC Dobruska-Polom 28.62 166 *e*P **P 12 58 32.2 -0.4**
comp=Z,10µm,23.4s
DPC *e*S **S 13 03 23.1 +3.5**
GIVF Givet 28.64 182 *e*P **P 12 58 31.6 -1.2**
comp=Z,99nm,1.3s,mb5.1
GIVF Givet 28.64 182 *e*P **P 12 58 31.6 -1.2**
GIVF pmax pmax
comp=Z,50nm,1.3s,mb5.1
BAIF Baives 28.69 183 *e*P **P 12 58 32.4 -0.8**
comp=Z,152nm,1.3s,mb5.3
BAIF Baives 28.69 183 *e*P **P 12 58 32.4 -0.8**
BAIF pmax pmax
comp=Z,76nm,1.3s,mb5.3
PRA Prague 28.82 169 P **P 12 58 38.0 +3.6**
PRA AMS AMS 13 09 30.0
ABH Alteburg 28.86 178⇓*e*P **P 12 58 34.9 +0.2**
PRU Pruhonice 28.91 169 *e*P **P 12 58 34.9 -0.3**
PRU *e*S **S 13 03 28.4 +4.2**
PRU AMS AMS 13 09 20.0
comp=Z,12µm,19.5s
PRU Pruhonice 28.91 169 *e*P **P 12 58 34.9 -0.3**
comp=Z,12µm,19.5s
PRU *e*S **S 13 03 28.4 +4.2**
OJC Ojcow 28.94 162 *e*P **P 12 58 35.1 -0.4**
OJC *e*S **S 13 03 26.0 +1.2**
OJC MLR MLR 13 11 57.0
comp=Z,5µm,19.4s,MS5.2
OJC Ojcow 28.94 162 *e*P **P 12 58 35.1 -0.4**
comp=Z,5µm,19.4s
OJC *e*S **S 13 03 26.0 +1.2**
RAC Raciborz 28.98 164 *e*P **P 12 58 36.1 +0.2**
RAC *e*S **S 13 03 22.2 -3.2**
RAC MLR MLR
comp=N,12µm,25.2s
RAC MLR MLR
comp=Z,11µm,24.7s,MS5.4
RAC MLR MLR
comp=Z,10µm,18.3s
RAC Raciborz 28.98 164 *e*P **P 12 58 36.1 +0.2**
RAC *e*S **S 13 03 22.2 -3.2**
RAC LME 13 07 07.3
RAC LMN 13 08 36.5
RAC MLR MLR 13 08 43.8
RAC MLR MLR 13 09 40.7
comp=Z,10µm,18.3s,MS5.5
RUP Ruppelstein 29.04 179⇓*e*P **P 12 58 36.4 +0.1**
WLF Walferdange 29.07 180 *e*P **P 12 58 34.9 -1.8**
WLF *e*S **S 13 03 24.3 -2.5**
WLF pmax pmax
comp=Z,25nm,1.1s,mb4.9
WLF Walferdange 29.07 180 *e*P **P 12 58 34.9 -1.8**
comp=Z,25nm,1.1s,mb4.8
WLF *e*S **S 13 03 24.3 -2.5**
WLF Walferdange 29.07 180 *e*P **P 12 58 34.9 -1.8**
comp=Z,25nm,1.1s,mb4.9
WLF *e*S **S 13 03 24.3 -2.5**
GRA1 Grafenberg Arr 29.10 173 *e*P **P 12 58 36.9 -0.1**
comp=Z,65nm,1.0s,mb5.3
GRA1 *e*S **S 13 03 29.6 +2.3**
GRA1 LR LR
comp=Z,4µm,21.4s,MS5.0
GRF Grafenberg Arr 29.10 173 *e*P **P 12 58 36.9 -0.1**
GRF *e*S **S 13 03 29.6 +2.3**
GRF pmax pmax
comp=Z,65nm,1.0s,mb5.3
GRF MLR MLR
comp=Z,4µm,21.4s,MS5.0
GRF Grafenberg Arr 29.10 173 *e*P **P 12 58 36.9 -0.1**
comp=Z,65nm,1.0s,mb5.3
GRF *e*S **S 13 03 29.6 +2.3**
GRF LR LR
comp=Z,4µm,21.4s,MS5.0
GRF Grafenberg Arr 29.10 173 *e*P **P 12 58 36.9 -0.1**
comp=Z,65nm,1.0s,mb5.3
GRF *e*S **S 13 03 29.6 +2.3**
GRFO Grafenberg 29.10 173 P **P 12 58 37.2 +0.3**
GRFO Grafenberg 29.10 173 P **P 12 58 37.6 +0.6**
TOD Tromm 29.15 177⇓*e*P **P 12 58 37.4 +0.1**
TOD Tromm 29.15 177 *e*P **P 12 58 37.3 0.0**
OKC Ostrava-Krasne 29.23 164 *e*P **P 12 58 37.3 -0.8**
OKC *e*S **S 13 03 30.9 +1.6**
OKC AMS AMS 13 08 50.0
comp=Z,8µm,19.8s
AKASG Malin Array Be 29.23 149 P **P 12 58 36.8 -1.3**
comp=Z,74nm,0.9s,mb5.4,baz=349,slow=9.3,SNR=105
KIEV Kiev 29.24 149 P **P 12 58 36.0 -2.2**
MORC Moravsky Berou 29.25 165⇑*e*P **P 12 58 36.8 -1.5**
MORC pmax pmax
comp=Z,58nm,1.2s,mb5.2
MORC Moravsky Berou 29.25 165⇑*e*P **P 12 58 36.8 -1.5**
comp=Z,58nm,1.2s,mb5.2
MORC Moravsky Berou 29.25 165 *e*P **P 12 58 36.8 -1.5**
comp=Z,58nm,1.2s,mb5.2
SWS Schriesheim 29.27 177 *e*P **P 12 58 38.4 0.0**
SWS Schriesheim 29.27 177 P **P 12 58 39.2 +0.8**
SIND Sindeldorf 29.41 175⇓*e*P **P 12 58 39.5 -0.3**
SIND Sindeldorf 29.41 175 P **P 12 58 39.6 -0.2**
VOR Voronezh 29.42 136 P **P 12 58 40.0 +0.2**
VOR *e* 12 59 30.0
VOR pmax pmax
comp=N,200nm,1.2s
VOR pmax pmax
comp=Z,150nm,1.2s,mb5.6
VOR pmax pmax
comp=E,50nm,1.1s
KTD Kalmit 29.43 178 *e*P **P 12 58 39.2 -0.7**
KTD Kalmit 29.43 178 P **P 12 58 40.9 +1.0**
LVV L'vov 29.64 156 *e*P **P 12 58 39.3 -2.5**
LVV *e*S **S 13 03 26.3 -10**
VRAC Vranov 29.68 166 P **P 12 58 41.4 -0.7**
comp=E,24nm,0.9s,mb4.9,baz=359,slow=10,SNR=28
VRAC LR LR 13 10 11.4
comp=E,8µm,19.4s,MS5.3,baz=300,slow=36
VRAC Vranov 29.68 166 P **P 12 58 41.4 -0.7**

VRAC LR LR 13 10 11.4
WET Wettzell 29.70 171 *e*P **P** **12 58 42.5 +0.2**
WET *e*S **S** **13 03 39.4 +2.6**
WET pmax pmax
comp=Z,28nm,1.2s,mb4.9
WET Wettzell 29.70 171 *e*P **P** **12 58 42.5 +0.2**
comp=Z,28nm,1.2s,mb4.9
WET *e*S **S** **13 03 39.4 +2.6**
KWP Kalwaria 29.73 158 *e*P **P** **12 58 41.9 -0.7**
KWP *e*pP pP 12 58 43.9 -1.6
KWP *e*S **S** **13 03 41.3 +4.1**
KWP MLR MLR 13 08 55.4
comp=Z,11µm,26.6s,MS5.4
KHC Kasperske Hory 29.73 170 *e*P **P** **12 58 42.4 -0.2**
KHC *e* 12 58 51.0
KHC *e*S **S** **13 03 31.4 -5.9**
KHC MLR MLR
comp=Z,10µm,18.7s,MS5.5
KHC Kasperske Hory 29.73 170 *e*P **P** **12 58 42.4 -0.2**
KHC *e* 12 58 51.0
KHC *e* 12 59 14.0
KHC *e*S **S** **13 03 31.4 -5.9**
KHC LR LR
comp=Z,10µm,18.7s,MS5.5
KHC Kasperske Hory 29.73 170 *e*P **P** **12 58 42.4 -0.2**
KHC x x 12 58 51.0
KHC x x 12 59 14.0
KHC *e*S **S** **13 03 31.4 -5.9**
KHC AMS AMS 13 10 00.0
comp=Z,10µm,18.7s
LANF Langenberg 29.76 178 *e*P **P** **12 58 42.6 -0.3**
NIE Niedzica 29.77 161 *e*P **P** **12 58 41.1 -1.9**
STU Stuttgart 29.99 176⇓ *e*P **P** **12 58 44.7 -0.2**
STU pmax pmax
comp=Z,116nm,1.0s,mb5.6
STU Stuttgart 29.99 176⇓ *e*P **P** **12 58 44.7 -0.2**
comp=Z,116nm,1.0s,mb5.6
STU Stuttgart 29.99 176 *e*P **P** **12 58 44.7 -0.2**
comp=Z,116nm,1.0s,mb5.6
GEC2 GERESS Array S 30.02 170 *e*P **P** **12 58 45.5 +0.3**
GEC2 *e*S **S** **13 03 47.2 +5.3**
GEC2 pmax pmax
comp=Z,35nm,1.1s,mb5.0
GEC2 GERESS Array S 30.02 170 *e*P **P** **12 58 45.5 +0.3**
comp=Z,35nm,1.1s,mb5.0
GEC2 *e*S **S** **13 03 47.2 +5.3**
GERES GERESS Array B 30.02 170 P **P** **12 58 44.4 -0.8**
comp=Z,15nm,0.9s,mb4.7,baz=9.5,slow=8.1,SNR=68
GERES LR LR 13 10 42.8
comp=Z,10µm,18.3s,MS5.5,baz=2.6,slow=36
LIKS Likavka 30.07 163 *e*P **P** **12 58 46.1 +0.5**
FLN La Foliniere 30.08 189 *e*P **P** **12 58 44.9 -0.8**
comp=Z,31nm,1.0s,mb4.7
FLN *e*R
comp=Z,7µm,17.8s
FLN La Foliniere 30.08 189 *e*P **P** **12 58 44.9 -0.8**
FLN pmax pmax
comp=Z,16nm,1.0s,mb4.7
FLN MLR MLR
comp=Z,7µm,17.8s,MS5.3
LBG Lerchenberg 30.09 177⇓ *e*P **P** **12 58 45.9 +0.1**
LBG Lerchenberg 30.09 177 P **P** **12 58 46.4 +0.6**
JAVC Velka Javorina 30.18 165 P **P** **12 58 47.4 +0.8**
HDH Heidenheim 30.19 175 *e*P **P** **12 58 46.6 -0.1**
HDH Heidenheim 30.19 175 P **P** **12 58 47.0 +0.3**
LDF La Druitiere 30.24 188 *e*P **P** **12 58 45.0 -2.1**
comp=Z,91nm,1.3s,mb5.0
LDF La Druitiere 30.24 188 *e*P **P** **12 58 45.0 -2.1**
LDF pmax pmax
comp=Z,46nm,1.3s,mb5.0
MEZF Maizieres J'vi 30.24 182 *e*P **P** **12 58 46.6 -0.5**
comp=Z,134nm,1.2s,mb5.2
BUCH Bad Urach 30.31 176⇓ *e*P **P** **12 58 48.0 +0.2**
BUCH Bad Urach 30.31 176 P **P** **12 58 48.4 +0.7**
CDF Champ du Feu 30.33 179 *e*P **P** **12 58 47.2 -0.7**
comp=Z,73nm,1.2s,mb5.0
CDF Champ du Feu 30.33 179 *e*P **P** **12 58 47.2 -0.7**
CDF pmax pmax
comp=Z,37nm,1.2s,mb5.0
WLS Welschbruch 30.33 178 *e*P **P** **12 58 47.4 -0.5**
CRVS Cervenica-Dubn 30.36 160 *e*pP pP 12 58 51.4 +0.3
KOLS Kolonicke sedl 30.39 159 *i* P **P** **12 58 48.6 +0.2**
BFO Black Forest 30.42 177 *e*P **P** **12 58 48.3 -0.4**
BFO *e*S **S** **13 03 50.4 +2.2**
BFO pmax pmax
comp=Z,31nm,1.1s,mb5.0
BFO Black Forest 30.42 177 *e*P **P** **12 58 48.3 -0.4**
comp=Z,31nm,1.1s,mb5.0
BFO *e*S **S** **13 03 50.4 +2.2**
GRR Gorron 30.46 189 *e*P **P** **12 58 47.0 -2.1**
comp=Z,139nm,1.4s,mb5.2
GRR Gorron 30.46 189 *e*P **P** **12 58 47.0 -2.1**
GRR pmax pmax
comp=Z,69nm,1.4s,mb5.2
SMOL Smolenice 30.51 165 *e*P **P** **12 58 50.2 +0.7**
THEF They Montfort 30.51 180 *e*P **P** **12 58 49.5 0.0**
ECH Echery 30.52 179 *e*P **P** **12 58 49.5 -0.1**
LIBD Limburg 30.59 178⇓ *e*P **P** **12 58 50.3 +0.1**
LIBD Limburg 30.59 178 *e*P **P** **12 58 50.2 0.0**
VYHS Vyhne 30.61 163 *i* P **P** **12 58 50.3 0.0**
ROSF Rostrenen 30.61 192 *e*P **P** **12 58 48.5 -1.9**
comp=Z,86nm,1.5s,mb5.1
ROSF Rostrenen 30.61 192 *e*P **P** **12 58 48.5 -1.9**
ROSF pmax pmax
comp=Z,43nm,1.5s,mb5.1
FUR Furstenfeldbru 30.63 173 *e*P **P** **12 58 50.6 0.0**
FUR *e*S **S** **13 03 56.3 +4.7**
FUR pmax pmax
comp=Z,56nm,0.9s,mb5.4
FUR Furstenfeldbru 30.63 173 *e*P **P** **12 58 50.6 0.0**
comp=Z,56nm,0.9s,mb5.4
FUR *e*S **S** **13 03 56.3 +4.7**
SPAK Spaichingen 30.65 177 *e*P **P** **12 58 51.2 +0.4**
SPAK Spaichingen 30.65 177 P **P** **12 58 51.6 +0.8**
SGMF Saint Gilles 30.66 192 *e*P **P** **12 58 49.2 -1.6**
comp=Z,82nm,1.3s,mb5.1
SGMF Saint Gilles 30.66 192 *e*P **P** **12 58 49.2 -1.6**
SGMF pmax pmax
comp=Z,41nm,1.3s,mb5.1
GUT Gutenstein 30.69 176⇓ *e*P **P** **12 58 51.2 +0.1**
GUT Gutenstein 30.69 176 P **P** **12 58 51.7 +0.6**
UZH Uzhgorod 30.69 159 *e*P **P** **12 58 49.0 -2.1**
KECS Kecovo 30.71 161 *e*P **P** **12 58 51.4 +0.1**
HAU Haudompre 30.73 180 *e*P **P** **12 58 50.8 -0.7**
comp=Z,92nm,1.0s,mb5.3
HAU *e*R
comp=Z,11µm,18.8s
HAU Haudompre 30.73 180 *e*P **P** **12 58 50.8 -0.7**
HAU pmax pmax
comp=Z,46nm,1.0s,mb5.3
HAU MLR MLR
comp=Z,11µm,18.8s,MS5.5
KIZ Kirchzarten 30.79 178 *e*P **P** **12 58 51.8 -0.2**
KIZ Kirchzarten 30.79 178 P **P** **12 58 52.2 +0.2**
ZST Bratislava 30.81 166 *e*P **P** **12 58 52.2 0.0**
FELD Feldberg 30.87 178⇓ *e*P **P** **12 58 52.6 -0.1**
FELD Feldberg 30.87 178 *e*P **P** **12 58 52.7 0.0**
MOF Molkenrain 30.89 179 *e*P **P** **12 58 52.7 -0.1**
HINF Hinteralfeld 30.92 179 *e*P **P** **12 58 52.3 -0.8**
comp=Z,76nm,1.4s,mb5.0
SLE Schleitheim 30.98 177⇓ *i*P **P** **12 58 53.5 -0.2**
MOA Molln 31.04 169⇑ *i*P **P** **12 58 54.1 0.0**
comp=Z,19nm,1.1s,mb4.8
SISB Singen-Sch Ber 31.07 176 P **P** **12 58 55.0 +0.6**
KMPD K-Podol'skiy 31.09 154 P **P** **12 58 53.0 -1.6**
UBR Uberruh 31.09 175⇓ *e*P **P** **12 58 55.0 +0.4**
SULZ Sulz-Cheisache 31.22 178⇓ *i*P **P** **12 58 55.4 -0.4**
WEIN Weingarten 31.23 176⇓ *i*P **P** **12 58 55.8 0.0**
PSZ Piszkesteto 31.24 162⇓ *i*P **P** **12 58 56.0 0.0**
PSZ pmax pmax
comp=Z,85nm,1.3s,mb5.4
PSZ Piszkesteto 31.24 162⇓ *i*P **P** **12 58 56.0 0.0**
comp=Z,85nm,1.3s,mb5.4
PSZ Piszkesteto 31.24 162⇓ *e*P **P** **12 58 56.0 0.0**
PSZ Piszkesteto 31.24 162 *i* P **P** **12 58 56.0 0.0**
comp=Z,85nm,1.3s,mb5.4
BBS Basel-Blauen 31.28 178 *e*P **P** **12 58 56.3 0.0**
BBS Basel-Blauen 31.28 178 *e*P **P** **12 58 56.0 -0.3**
LOMF Lomont 31.39 179 *e*P **P** **12 58 57.3 0.0**
INK Inuvik 31.41 333 P **P** **12 58 57.0 -0.2**
comp=Z,13nm,0.9s,mb4.8,baz=17,slow=12,SNR=66
INK LR LR 13 14 06.0
comp=Z,10µm,18.5s,MS5.5,baz=29,slow=41
INK Inuvik 31.41 333 *e*P **P** **12 58 56.7 -0.5**
comp=Z,0.2nm,0.5s
INK Inuvik 31.41 333 *e*P **P** **12 58 56.7 -0.5**
BALST Balsthal 31.41 178⇓ *i*P **P** **12 58 56.9 -0.5**
MOTA Moosalm 31.45 174⇑ *i*P **P** **12 58 58.1 +0.3**
LIENZ Alp Oberkamor 31.47 176⇓ *i*P **P** **12 58 57.8 -0.1**
WATA Walderalm 31.47 173⇓ *i*P **P** **12 58 58.3 +0.3**
comp=Z,37nm,1.1s,mb5.1
WATA Walderalm 31.47 173⇓ *i*P **P** **12 58 58.3 +0.3**
WATA pmax pmax
comp=Z,37nm,1.1s,mb5.1
DAVA Damuels 31.48 175⇑ *i*P **P** **12 58 58.9 +0.8**
comp=Z,45nm,1.0s,mb5.2
WTTA Wattenberg 31.54 173⇑ *i*P **P** **12 58 59.3 +0.7**
comp=Z,40nm,1.2s,mb5.1
WTTA Wattenberg 31.54 173⇑ *i*P **P** **12 58 59.3 +0.7**
WTTA pmax pmax
comp=Z,40nm,1.2s,mb5.1
SQTA Sankt Quirin 31.57 173⇓ *i*P **P** **12 58 59.2 +0.3**
comp=Z,31nm,1.1s,mb5.0
SQTA Sankt Quirin 31.57 173⇓ *i*P **P** **12 58 59.2 +0.3**
SQTA pmax pmax
comp=Z,31nm,1.1s,mb5.0
ARSA Arzberg 31.68 168⇑ *i*P **P** **12 59 00.6 +0.8**
comp=Z,14nm,1.1s,mb4.7
SSF Saint Saulge 31.69 184 *e*P **P** **12 58 58.6 -1.3**
SSF pmax pmax
comp=Z,21nm,0.9s,mb5.0
SSF Saint Saulge 31.69 184 *e*P **P** **12 58 58.6 -1.3**
comp=Z,21nm,0.9s,mb5.0
KBA Koelnbreinsper 31.77 171⇓ *i*P **P** **12 59 01.6 +0.9**
comp=Z,20nm,1.0s,mb4.9
KBA Koelnbreinsper 31.77 171⇓ *i*P **P** **12 59 01.6 +0.9**
KBA pmax pmax
comp=Z,20nm,1.0s,mb4.9
BNALP Bannalp 31.88 177⇓ *i*P **P** **12 59 01.4 -0.2**
LLS Linth-Limmern 31.91 176⇓ *e*P **P** **12 59 01.7 -0.1**
BURAR Bucovina Array 31.93 155 ⇑P **P** **12 59 01.8 -0.2**
AVF Avril sur Loir 31.97 184 *e*P **P** **12 59 01.0 -1.3**
comp=Z,131nm,1.3s,mb5.3
AVF Avril sur Loir 31.97 184 *e*P **P** **12 59 01.0 -1.3**
AVF pmax pmax
comp=Z,65nm,1.3s,mb5.3
TORNY Torny 31.97 179⇓ *e*P **P** **12 59 02.1 -0.2**
DAVOX Davos 31.99 175 P **P** **12 59 03.5 +1.0**
comp=Z,12nm,1.0s,mb4.7,baz=333,slow=6.9,SNR=9.6
DAVOX LR LR 13 11 30.9
comp=Z,7µm,21.1s,MS5.3,baz=352,slow=36
DAVOX Davos 31.99 175 P **P** **12 59 03.5 +0.9**
DAVOX LR LR 13 11 30.9
HASLI Hasliberg 31.99 177⇓ *i*P **P** **12 59 02.5 0.0**
SEST Monte Rota 32.07 172 P **P** **12 59 03.9 +0.7**
SMF Signal de Mont 32.11 183 *e*P **P** **12 59 02.0 -1.6**
comp=Z,50nm,1.2s,mb4.9
SMF Signal de Mont 32.11 183 *e*P **P** **12 59 02.0 -1.6**
SMF pmax pmax
comp=Z,25nm,1.3s,mb4.9
BRES Bressanone 32.11 173 P **P** **12 59 04.7 +1.1**
CABF La Chapelle 32.13 180 *e*P **P** **12 59 02.9 -0.8**
comp=Z,90nm,1.1s,mb5.2
CABF La Chapelle 32.13 180 *e*P **P** **12 59 02.9 -0.8**
CABF pmax pmax
comp=Z,45nm,1.1s,mb5.2
FUORN Ofenpass 32.16 175⇓ *i*P **P** **12 59 04.7 +0.7**
BGF Bois d'Agland 32.21 184 *e*P **P** **12 59 03.3 -1.1**
comp=Z,151nm,1.0s,mb5.5
BGF Bois d'Agland 32.21 184 *e*P **P** **12 59 03.3 -1.1**
BGF pmax pmax
comp=Z,76nm,1.0s,mb5.5
MFF Saint Martin d 32.23 188 *e*P **P** **12 59 03.1 -1.5**
comp=Z,120nm,1.5s,mb5.2
FVI Forni Avoltri 32.24 172 *e*P **P** **12 59 05.5 +0.8**
PERS Pernice 32.28 168 *e*P **P** **12 59 05.2 +0.1**
PERS *e* 12 59 16.2
FUSIO Fusio 32.30 177⇓ *i*P **P** **12 59 05.6 +0.4**
BRMO Bormio 32.30 175 *e*P **P** **12 59 06.5 +1.3**
BRMO Bormio 32.30 175 *e*P **P** **12 59 06.6 +1.3**
LKBD Leukerbad 32.36 178⇓ *i*P **P** **12 59 06.1 +0.4**
SENIN Lac Senin 32.38 179⇓ *i*P **P** **12 59 06.3 +0.4**
OBKA Obir 32.38 169⇑ *i*P **P** **12 59 06.7 +0.7**
comp=Z,37nm,1.0s,mb5.2
PTCC Patocco-Chiusa 32.45 171 *e*P **P** **12 59 06.7 +0.2**
PTCC Patocco-Chiusa 32.45 171 *e*P **P** **12 59 06.7 +0.2**
TCF Toulx Ste Croi 32.49 185 *e*P **P** **12 59 05.6 -1.3**
comp=Z,192nm,1.3s,mb5.5
TCF Toulx Ste Croi 32.49 185 *e*P **P** **12 59 05.6 -1.3**
TCF pmax pmax
comp=Z,96nm,1.3s,mb5.5
GMNA Gemona 32.57 171 *e*P **P** **12 59 07.8 +0.1**
GMNA Gemona 32.57 171 *e*P **P** **12 59 07.8 +0.2**
DIX Grande Dixence 32.66 178⇓ *i*P **P** **12 59 08.8 +0.4**
MMK Mattmark 32.69 178⇓ *i*P **P** **12 59 09.6 +0.9**
OG05 Jujurieux 32.70 181 *e*P **P** **12 59 07.7 -1.0**
AGO Saint Agoulin 32.71 184 *e*P **P** **12 59 08.8 0.0**
CTI Castel Tesino 32.76 173 *e*P **P** **12 59 09.7 +0.5**
PLDF La Plantade 32.78 183 *e*P **P** **12 59 08.9 -0.6**
MCGN Macugnaga 32.79 178 *e*P **P** **12 59 10.5 +1.0**
MCGN Macugnaga 32.79 178 *e*P **P** **12 59 10.5 +1.0**
MUGIO Muggio 32.84 176⇓ *i*P **P** **12 59 09.9 0.0**
VOY Vojsko 32.84 170 *e*P **P** **12 59 09.5 -0.4**
VOY *e* 12 59 33.9
LJU Ljubljana 32.85 169 *i* P **P** **12 59 12.2 +2.1**
LJU *e* 12 59 20.9
KIS Kishinev 32.86 151 *i* P **P** **12 59 08.0 -2.1**
KIS *i* S **S** **13 04 24.0 -2.4**
KIS MLR MLR
comp=Z,16µm,23.0s,MS5.7
KIS Kishinev 32.86 151 *i* P **P** **12 59 08.0 -2.1**
comp=Z,16µm,23.0s
PKSM Moragy 32.87 164 ⇑P **P** **12 59 10.4 +0.2**
PKSM Moragy 32.87 164 P **P** **12 59 10.4 +0.2**
VAI Varese 32.89 177 *e*P **P** **12 59 10.6 +0.2**
CHKZ Chkalovo 32.98 100 *i* P **P** **12 59 10.8 -0.3**
CHKZ pmax pmax
comp=Z,124nm,1.6s,mb5.6
CHKZ Chkalovo 32.98 100 *i* P **P** **12 59 10.8 -0.3**
comp=Z,124nm,1.6s,mb5.6
VERF Verneugheol 33.02 185 *e*P **P** **12 59 11.2 -0.3**
BILL Bilibino 33.08 14 *d i*P **P** **12 59 11.6 -0.2**
BILL *e* 13 00 34.6
BILL *i* S **S** **13 04 31.7 +2.0**
BILL pmax pmax
comp=Z,21nm,1.2s,mb4.9
BILL MLR MLR
comp=Z,11µm,17.0s,MS5.7
BILL Bilibino 33.08 14⇓ *e*P **P** **12 59 11.6 -0.3**
comp=Z,82nm,0.9s,mb5.7
BILL LR LR
comp=Z,13µm,21.0s,MS5.6
BILL Bilibino 33.08 14 *i* P **P** **12 59 11.6 -0.2**
comp=Z,21nm,1.2s,mb4.9
VISS Visnje 33.10 169 *e*P **P** **12 59 11.8 -0.4**
VISS *e* 12 59 22.8
ORX Oropa 33.11 178 P **P** **12 59 13.4 +1.1**
ORO Oropa 33.12 178 *e*P **P** **12 59 13.5 +1.1**
TRI Trieste 33.16 170 *e*P **P** **12 59 12.8 +0.1**
SAL Salo 33.17 174 *e*P **P** **12 59 13.2 +0.3**
LPL La Plagne 33.22 179 *e*P **P** **12 59 13.4 +0.1**
comp=Z,64nm,0.9s,mb5.2
LPL La Plagne 33.22 179 *e*P **P** **12 59 13.4 +0.1**
LPL pmax pmax
comp=Z,32nm,0.9s,mb5.2
TRAV 33.23 178 P **P** **12 59 13.2 -0.1**
TRAV 33.23 178 P **P** **12 59 13.2 -0.2**
LPG La Plagne 33.24 179 *e*P **P** **12 59 13.7 +0.2**
comp=Z,105nm,1.1s,mb5.4
LPG La Plagne 33.24 179 *e*P **P** **12 59 13.7 +0.2**
LPG pmax pmax
comp=Z,52nm,1.1s,mb5.4
LSD Ceresole Reale 33.28 179 P **P** **12 59 14.9 +1.1**
BOJS Bojanci 33.42 168 *i* P **P** **12 59 14.5 -0.5**
RJF Les Rejaudoux 33.48 186 *e*P **P** **12 59 14.5 -1.1**
comp=Z,301nm,1.6s,mb5.7
RJF *e*R
comp=Z,5µm,18.8s
RJF Les Rejaudoux 33.48 186 *e*P **P** **12 59 14.5 -1.1**
RJF pmax pmax
comp=Z,150nm,1.6s,mb5.7
RJF MLR MLR
comp=Z,5µm,18.8s,MS5.2
LBL Lubilhac 33.53 184 *e*P **P** **12 59 15.9 0.0**
BVA0 Borovoye Array 33.56 100 *i* P **P** **12 59 16.3 +0.2**
BVA0 pmax pmax
comp=Z,23nm,1.6s,mb4.9
BVA0 Borovoye Array 33.56 100 *i* P **P** **12 59 16.3 +0.2**
comp=Z,23nm,1.6s,mb4.9
BVAR Borovoye Array 33.56 100 P **P** **12 59 16.2 +0.1**
comp=Z,12nm,0.6s,mb5.0,baz=338,slow=8.0,SNR=88
RSP Reno Superiore 33.59 179 P **P** **12 59 17.1 +0.6**
SCHQ Schefferville 33.60 270 P **P** **12 59 14.9 -1.6**
comp=Z,8.8nm,0.7s,mb4.8,baz=20,slow=9.8,SNR=23
SCHQ LR LR 13 12 27.8
comp=Z,24µm,20.9s,MS5.9,baz=27,slow=36
SCHQ Schefferville 33.60 270 P **P** **12 59 14.9 -1.6**
SCHQ LR LR 13 12 27.8
BZS Buzias 33.64 160 ⇓P **P** **12 59 17.5 +0.5**
BNI Bardonecchia 33.69 179 *e*P **P** **12 59 18.3 +1.0**
BNI pmax pmax
comp=Z,41nm,1.3s,mb5.2
BNI Bardonecchia 33.69 179 *e*P **P** **12 59 18.3 +1.0**
comp=Z,41nm,1.3s,mb5.2
BNI Bardonecchia 33.69 179 *e*P **P** **12 59 18.3 +1.0**
comp=Z,41nm,1.3s,mb5.2
FENE Fenestrelle 33.71 179 P **P** **12 59 17.4 -0.1**
FENE Fenestrelle 33.71 179 P **P** **12 59 17.5 0.0**
VRI Vrincioaia 33.79 154 ⇓P **P** **12 59 18.1 -0.1**
VRI Vrincioaia 33.79 154⇑ *i*P **P** **12 59 18.4 +0.2**
VRI Vrincioaia 33.79 154⇑ *i*P **P** **12 59 18.4 +0.2**
RRL Cesana Torines 33.82 179 P **P** **12 59 19.4 +0.9**
ORIF Oris-en-Rattie 33.82 180 *e*P **P** **12 59 18.0 -0.5**
comp=Z,108nm,1.3s,mb5.3
ORIF *e*R
comp=Z,12µm,19.2s
CAF Calviac 33.85 185 *e*P **P** **12 59 17.7 -1.1**
comp=Z,16nm,0.9s,mb4.7
CAF Calviac 33.85 185 *e*P **P** **12 59 17.7 -1.1**
CAF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LFF La Frestale 33.87 187 *e*P **P** **12 59 17.9 -1.0**
VIVF Saint-Julien-l 33.89 182 *e*P **P** **12 59 18.4 -0.7**
comp=Z,152nm,1.6s,mb5.4
VIVF Saint-Julien-l 33.89 182 *e*P **P** **12 59 18.4 -0.7**
VIVF pmax pmax
comp=Z,76nm,1.6s,mb5.4
BHB Bricherasio 33.90 179 P **P** **12 59 19.0 -0.1**
BHB Bricherasio 33.90 179 P **P** **12 59 19.0 -0.2**
BOB Bobbio (Coli) 33.99 176 *e*P **P** **12 59 21.0 +1.0**
MBDF Montbardon 34.01 179 *e*P **P** **12 59 20.3 +0.1**
comp=Z,83nm,1.2s,mb5.2
MBDF Montbardon 34.01 179 *e*P **P** **12 59 20.3 +0.1**
MBDF pmax pmax
comp=Z,41nm,1.3s,mb5.2
MLR Muntele Rosu 34.10 155 P **P** **12 59 21.4 +0.5**
MLR pmax pmax
comp=Z,41nm,0.9s
MLR MLR MLR
comp=Z,12µm,19.0s
MLR Muntele Rosu 34.10 155 P **P** **12 59 21.4 +0.6**
comp=Z,40nm,0.9s,mb5.3,baz=172,slow=4.8,SNR=11
MLR LR LR 13 14 01.7
comp=Z,12µm,19.0s,MS5.7,baz=260,slow=38
MLR Muntele Rosu 34.10 155⇑ *i*P **P** **12 59 21.7 +0.9**
MLR Muntele Rosu 34.10 155⇑ *i*P **P** **12 59 21.7 +0.8**
SNX Sinaia 34.20 156 ⇓P **P** **12 59 23.9 +2.2**
PCP Pian Castagno 34.21 177 P **P** **12 59 20.8 -1.1**
PZZ Prazzo 34.24 179 P **P** **12 59 22.5 +0.4**
GRAM 34.28 175 P **P** **12 59 21.8 -0.7**
GRAM 34.28 175 P **P** **12 59 21.8 -0.7**
MTUR Matau 34.29 156 P **P** **12 59 20.4 -2.1**
NVLJ Novalja 34.34 169 *i* P **P** **12 59 21.6 -1.4**
GENL Genova Univers 34.35 177 P **P** **12 59 23.0 -0.1**
GENL Genova Univers 34.35 177 P **P** **12 59 23.0 -0.1**
ERBM Eremo 34.36 175 *e*P **P** **12 59 24.7 +1.5**
ERBM Eremo 34.36 175 *e*P **P** **12 59 24.7 +1.6**
CODM 34.38 175 P **P** **12 59 23.0 -0.3**
CODM 34.38 175 P **P** **12 59 23.0 -0.3**
NVS Novosibirsk 34.38 86⇑ *i*P **P** **12 59 22.9 -0.3**
NVS *e*S **S** **13 04 49.9 -0.1**
NVS pmax pmax
comp=Z,142nm,1.2s,mb5.8
NVS pmax pmax
comp=N,114nm,1.3s
NVS pmax pmax
comp=E,8.0nm,0.9s
NVS smax
comp=N,104nm,2.5s
NVS smax
comp=E,52nm,2.3s
NVS Novosibirsk 34.38 86 *i* P **P** **12 59 22.9 -0.3**
comp=E,114nm,1.3s,mb5.6
VALM 34.43 175 P **P** **12 59 23.1 -0.6**
VALM 34.43 175 P **P** **12 59 23.1 -0.6**
GSCL Gusciola 34.43 174 *e*P **P** **12 59 25.0 +1.2**
GSCL Gusciola 34.43 174 *e*P **P** **12 59 25.0 +1.2**
ZCCA Zocca 34.44 174 *e*P **P** **12 59 25.2 +1.4**
ZCCA Zocca 34.44 174 *e*P **P** **12 59 25.2 +1.4**
ROB Roburent 34.45 178 P **P** **12 59 23.0 -0.9**
BACM 34.49 175 P **P** **12 59 23.9 -0.4**
BACM 34.49 175 P **P** **12 59 23.9 -0.4**
STV2 Anna di Valdie 34.50 179 P **P** **12 59 23.9 -0.4**
STV2 Anna di Valdie 34.50 179 P **P** **12 59 23.9 -0.4**
STV Sta Anna Valdi 34.50 179 P **P** **12 59 23.8 -0.5**
ENR Entracque 34.52 178 P **P** **12 59 22.8 -1.7**
ISR Istrita 34.52 154⇑ *i*P **P** **12 59 25.0 +0.5**
FIN Finale Ligure 34.54 177 *e*P **P** **12 59 23.4 -1.3**
SARO Sassorosso 34.59 175 P **P** **12 59 24.6 -0.6**
CFR Carcaliu 34.60 152⇑ *i*P **P** **12 59 24.7 -0.5**
VINC Vinca 34.63 175 P **P** **12 59 25.1 -0.4**
VINC Vinca 34.63 175 P **P** **12 59 25.1 -0.4**
TLCR 34.66 151 ⇓P **P** **12 59 25.6 -0.1**
MONE Monesi 34.66 178 P **P** **12 59 25.0 -0.8**
LASF Ste Croix 34.67 183 *e*P **P** **12 59 25.9 0.0**
comp=E,200nm,1.4s,mb5.5
TOUF Mont Tournerai 34.73 179 *e*P **P** **12 59 25.7 -0.6**
SEI Scarperia 34.74 173 *e*P **P** **12 59 28.3 +1.9**
SEI Scarperia 34.74 173 *e*P **P** **12 59 28.3 +1.9**
AUTN L'Aution 34.75 178 *e*P **P** **12 59 26.0 -0.5**
SAOF Saorge 34.76 178 *e*P **P** **12 59 26.6 0.0**
YKW3 Yellowknife Ar 34.77 316 *e*P **P** **12 59 25.9 -0.6**
YKW3 Yellowknife Ar 34.77 316 *e*P **P** **12 59 25.9 -0.6**
IMI Imperia 34.84 178 P **P** **12 59 26.3 -0.9**
IMI Imperia 34.84 178 P **P** **12 59 26.3 -0.9**
YKA Yellowknife Ar 34.84 316 P **P** **12 59 26.4 -0.6**
comp=E,6.9nm,0.9s,mb4.6,baz=11,slow=8.3,SNR=76
YKA LR LR 13 13 12.4
comp=E,33µm,19.5s,MS6.1,slow=36
YKA Yellowknife Ar 34.84 316 P **P** **12 59 26.4 -0.6**
YKA LR LR 13 13 12.4
VMG Vicchio 34.84 173 *e*P **P** **12 59 28.6 +1.3**
VMG Vicchio 34.84 173 *e*P **P** **12 59 28.6 +1.3**
MVIF Mont Vial 34.84 179 *e*P **P** **12 59 29.5 +2.2**
SBF Sospel 34.88 178 *e*P **P** **12 59 27.2 -0.4**
comp=E,226nm,1.0s,mb5.8
SBF Sospel 34.88 178 *e*P **P** **12 59 27.2 -0.4**
SBF pmax pmax
comp=Z,113nm,1.0s,mb5.8
NEGI Negi 34.90 178 P **P** **12 59 26.4 -1.3**
NEGI Negi 34.90 178 P **P** **12 59 26.5 -1.3**
SFI Santa Sofia 34.90 173 *e*P **P** **12 59 28.7 +0.9**
PGD Poggio Sodo 34.93 173 *e*P **P** **12 59 29.7 +1.6**
SVIS Svilajnac 34.93 161⇑ *i*P **P** **12 59 28.2 +0.1**
CALN Calern 34.99 179 *e*P **P** **12 59 32.3 +3.7**
IMA Indian Mountai 35.04 346 *e*P **P** **12 59 29.5 +0.7**
IMA pmax pmax
comp=Z,987nm,2.1s,mb6.4
IMA Indian Mountai 35.04 346 *e*P **P** **12 59 29.5 +0.7**
comp=Z,987nm,2.1s,mb6.4
IMA Indian Mountai 35.04 346 *e*P **P** **12 59 29.5 +0.7**
comp=Z,987nm,2.1s,mb6.4
DIVS Divcibare 35.05 163⇑ *i*P **P** **12 59 28.7 -0.4**
PII Pisa 35.06 175 *e*P **P** **12 59 28.9 -0.2**
HARR Harsova 35.06 153⇑ *i*P **P** **12 59 28.7 -0.5**
FCC Fort Churchill 35.12 297 *e*P **P** **12 59 28.7 -0.8**
FCC pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
FCC Fort Churchill 35.12 297 *e*P **P** **12 59 28.6 -0.9**
comp=Z,9.7nm,1.3s,mb4.6
FCC Fort Churchill 35.12 297 *e*P **P** **12 59 28.7 -0.8**
comp=Z,10.0nm,1.3s,mb4.6
FSSB Fossombrone 35.14 172 *e*P **P** **12 59 30.5 +0.6**
FSSB Fossombrone 35.14 172 *e*P **P** **12 59 30.5 +0.6**
FRF La Foret Royal 35.18 179 *e*P **P** **12 59 29.7 -0.5**
comp=Z,187nm,1.4s,mb5.5
FRF La Foret Royal 35.18 179 *e*P **P** **12 59 29.7 -0.5**
FRF pmax pmax
comp=Z,93nm,1.4s,mb5.5
GRUS Gruza 35.31 162⇓ *i*P **P** **12 59 31.6 +0.4**
BADI Badiali 35.31 172 P **P** **12 59 33.4 +2.1**

TIRR	**Tirgusor**	**35.34 152**	⇓P	**P**	**12 59 29.5**	**-2.0**
ARV	**Arcevia**	**35.34 172**	*e*P	**P**	**12 59 32.3**	**+0.7**
LMR	**La Mourre**	**35.41 180**	*e*P	**P**	**12 59 31.1**	**-1.0**
MTLF	**Montolieu**	**35.43 185**	*e*P	**P**	**12 59 31.9**	**-0.4**
	comp=Z,99nm,1.4s,mb5.2					
MTLF	**Montolieu**	**35.43 185**	*e*P	**P**	**12 59 31.9**	**-0.4**
MTLF			pmax	pmax		
	comp=Z,49nm,1.4s,mb5.2					
SIM	**Simferopol'**	**35.44 145**	P	**P**	**12 59 32.2**	**-0.2**
SIM			*e*S	**S**	**13 05 09.2**	**+2.7**
SIM			pmax	pmax		
	comp=Z,63nm,1.0s,mb5.5					
SIM			MLR	MLR		
	comp=Z,6μm,14.3s,MS5.5					
SIM	**Simferopol'**	**35.44 145**	P	**P**	**12 59 32.2**	**-0.2**
	comp=Z,63nm,1.0s,mb5.5					
BOLS	**Boljevac**	**35.45 160**	⇓*i*P	**P**	**12 59 31.9**	**-0.5**
ZAL	**Zalesovo**	**35.55 86**	P	**P**	**12 59 32.7**	**-0.5**
	comp=Z,28nm,1.0s,mb5.2,baz=134,slow=9.0,SNR=121					
ZAL			LR	LR	13 18 60.0	
	comp=Z,14μm,18.4s,MS5.8,baz=77,slow=44					
SNTG	**Esanatoglia**	**35.58 172**	*e*P	**P**	**12 59 34.3**	**+0.7**
SNTG	**Esanatoglia**	**35.58 172**	*e*P	**P**	**12 59 34.3**	**+0.7**
OSSF	**Osses**	**35.60 189**	*e*P	**P**	**12 59 33.4**	**-0.4**
YAK	**Yakutsk**	**35.64 42**	*e*P	**P**	**12 59 35.2**	**+1.3**
YAK			*e**PP	pP	12 59 43.3	+6.4
YAK			*e*		13 00 59.6	
YAK			*e*PPP	PPP	13 01 09.8	-3.8
YAK			*e*		13 02 04.0	
YAK			*e*S	**S**	**13 05 09.1**	**-0.3**
YAK			*e*SS	SS	13 07 29.4	+0.6
YAK			*e*		13 09 53.2	
YAK			pmax	pmax		
	comp=N,13nm,1.0s					
YAK			pmax	pmax		
	comp=Z,33nm,1.0s,mb5.2					
YAK			pmax	pmax		
	comp=E,3.0nm,1.1s					
YAK			pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2					
YAK			pmax	pmax		
	comp=N,15nm,1.0s					
YAK			pmax	pmax		
	comp=E,5.0nm,1.1s					
YAK			smax			
	comp=E,46nm,4.7s					
YAK			smax			
	comp=N,12nm,3.4s					
YAK			MLR	MLR		
	comp=N,3μm,13.0s,MS5.3					
YAK			MLR	MLR		
	comp=E,2μm,13.0s,MS5.3					
YAK			MLR	MLR		
	comp=Z,4μm,13.0s,MS5.4					
YAK	**Yakutsk**	**35.64 42**	*e*P	**P**	**12 59 33.4**	**-0.5**
	comp=Z,151nm,1.0s,mb5.9					
YAK			LR	LR		
	comp=Z,10μm,20.0s,MS5.6					
GRFL	**Gerfalco**	**35.64 174**	*e*P	**P**	**12 59 34.5**	**+0.3**
GRFL	**Gerfalco**	**35.64 174**	*e*P	**P**	**12 59 34.5**	**+0.4**
ELAN	**Lanestosa**	**35.71 192**	P	**P**	**12 59 35.3**	**+0.6**
	comp=Z,166nm,2.8s,mb5.5					
ELAN	**Lanestosa**	**35.71 192**	P	**P**	**12 59 35.3**	**+0.6**
	comp=Z,166nm,2.8s,mb5.5					
EARI	**Arriondas**	**35.72 194**	P	**P**	**12 59 35.6**	**+0.8**
	comp=Z,346nm,2.8s,mb5.8					
EARI	**Arriondas**	**35.72 194**	P	**P**	**12 59 35.6**	**+0.8**
	comp=Z,346nm,2.8s,mb5.8					
SJPF	**Ste Jean**	**35.75 189**	*e*P	**P**	**12 59 33.9**	**-1.1**
	comp=Z,30nm,1.1s,mb4.8					
SJPF	**Ste Jean**	**35.75 189**	*e*P	**P**	**12 59 33.9**	**-1.1**
SJPF			pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8					
ASS	**Assisi**	**35.77 172**	*e*P	**P**	**12 59 37.3**	**+2.1**
LABF	**Labassere**	**35.77 188**	*e*P	**P**	**12 59 34.5**	**-0.7**
EPF	**Esparros**	**35.78 187**	*e*P	**P**	**12 59 34.2**	**-1.1**
	comp=Z,76nm,1.0s,mb5.3					
EPF	**Esparros**	**35.78 187**	*e*P	**P**	**12 59 34.2**	**-1.1**
EPF			pmax	pmax		
	comp=Z,38nm,1.0s,mb5.3					
EPON	**Pontenova**	**35.80 197**	P	**P**	**12 59 31.9**	**-3.5**
	comp=Z,403nm,2.7s,mb5.9					
EPON	**Pontenova**	**35.80 197**	P	**P**	**12 59 32.0**	**-3.5**
	comp=Z,403nm,2.7s,mb5.9					
MLS	**Moulis**	**35.84 186**	*e*P	**P**	**12 59 35.9**	**+0.1**
COLA	**College**	**35.90 341**	*e*P	**P**	**12 59 37.4**	**+1.3**
COLA			pmax	pmax		
	comp=Z,256nm,1.8s,mb5.8					
COLA			MLR	MLR		
	comp=Z,6μm,19.0s,MS5.4					
COLA	**College**	**35.90 341**	*e*P	**P**	**12 59 37.4**	**+1.2**
	comp=Z,256nm,1.8s,mb5.8					
COLA			LR	LR		
	comp=Z,6μm,19.0s,MS5.4					
COLA	**College**	**35.90 341**	*e*P	**P**	**12 59 37.4**	**+1.3**
	comp=Z,6μm,19.0s					
VIEF	**Viey**	**35.94 188**	*e*P	**P**	**12 59 37.6**	**+1.0**
ETSF	**Etsaut**	**35.94 188**	*e*P	**P**	**12 59 36.7**	**0.0**
	comp=Z,86nm,1.1s,mb5.3					
ETSF	**Etsaut**	**35.94 188**	*e*P	**P**	**12 59 36.7**	**0.0**
ETSF			pmax	pmax		
	comp=Z,43nm,1.1s,mb5.3					
ANN	**Anapa**	**35.99 141**	*e*P	**P**	**12 59 42.2**	**+5.2**
ANN			*e**PP	pP	12 59 47.9	+7.9
ANN			*e*		13 00 52.9	
ANN			*e*S	**S**	**13 05 19.4**	**+4.5**
ANN			pmax	pmax		
	comp=Z,118nm,1.0s,mb5.8					
ANN	**Anapa**	**35.99 141**	*e*P	**P**	**12 59 42.2**	**+5.2**
	comp=Z,118nm,1.0s,mb5.8					
TNA	**Tin City**	**36.00 356**	*e*P	**P**	**12 59 37.7**	**+0.8**
	comp=Z,50nm,1.4s,mb5.2					
TNA			LR	LR		
	comp=Z,4μm,19.0s,MS5.2					
TNA	**Tin City**	**36.00 356**	*e*P	**P**	**12 59 37.7**	**+0.8**
	comp=Z,50nm,1.4s,mb5.2					
RESF	**Ens**	**36.01 187**	*e*P	**P**	**12 59 39.0**	**+1.8**
NRCA	**Norcia**	**36.01 171**	*e*P	**P**	**12 59 37.6**	**+0.3**
NRCA	**Norcia**	**36.01 171**	*e*P	**P**	**12 59 37.6**	**+0.4**
SHRR	**Shira**	**36.07 80**	*i*P	**P**	**12 59 35.3**	**-2.3**
SHRR			*i*		13 00 57.1	
SHRR			*i*		13 02 01.5	
DAWY	**Dawson**	**36.08 335**	*e*P	**P**	**12 59 38.2**	**+0.6**
DAWY	**Dawson**	**36.08 335**	*e*P	**P**	**12 59 38.2**	**+0.6**
PSN	**Preselentsi**	**36.09 153**	*i*P	**P**	**12 59 38.5**	**+0.6**
EBIE	**Bielsa**	**36.13 188**	P	**P**	**12 59 39.6**	**+1.3**
	comp=Z,505nm,3.5s					
EBIE	**Bielsa**	**36.13 188**	P	**P**	**12 59 39.6**	**+1.3**
	comp=Z,505nm,3.5s					
PGF	**Pioggiola**	**36.21 177**	*e*P	**P**	**12 59 38.2**	**-0.7**
	comp=Z,251nm,1.7s,mb5.6					
EMAZ	**Mazaricos**	**36.29 199**	P	**P**	**12 59 39.3**	**-0.3**
	comp=Z,916nm,2.9s,mb6.2					
EMAZ	**Mazaricos**	**36.29 199**	P	**P**	**12 59 39.3**	**-0.3**
	comp=Z,916nm,2.9s,mb6.2					
SZH	**Strazhica**	**36.30 155**	*i*P	**P**	**12 59 39.5**	**-0.2**
PVL	**Pavlikeni**	**36.30 156**	*i*P	**P**	**12 59 40.7**	**+1.0**
EJON	**La Jonquera**	**36.31 184**	P	**P**	**12 59 41.0**	**+1.2**
	comp=Z,152nm,1.7s,mb5.7					
EJON	**La Jonquera**	**36.31 184**	P	**P**	**12 59 41.0**	**+1.2**
	comp=Z,152nm,1.7s,mb5.7					
STS	**Santiago**	**36.32 198**	P	**P**	**12 59 40.1**	**+0.2**
STS			pmax	pmax		
	comp=Z,83nm,1.4s,mb5.5					
STS	**Santiago**	**36.32 198**	P	**P**	**12 59 40.1**	**+0.2**
	comp=Z,83nm,1.4s,mb5.5					
STS	**Santiago**	**36.32 198**	P	**P**	**12 59 40.1**	**+0.2**
	comp=Z,83nm,1.4s,mb5.5					
MNS	**Montasola**	**36.44 172**	*e*P	**P**	**12 59 41.2**	**+0.3**
EINC	**Incio**	**36.47 197**	P	**P**	**12 59 41.0**	**-0.1**
	comp=Z,301nm,2.9s,mb5.7					
GOF	**Gofitskoye**	**36.48 134**	⇑*i*P	**P**	**12 59 41.5**	**+0.3**
GOF			*i* S	**S**	**13 05 16.5**	**-6.0**
GOF			pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3					
GOF			pmax	pmax		
	comp=Z,1μm,4.0s					
GOF			smax			
	comp=N,200nm,2.2s					
GOF			smax			
	comp=E,600nm,2.2s					
GOF			MLR	MLR		
	comp=N,10μm,13.0s,MS5.8					
GOF			MLR	MLR		
	comp=E,6μm,13.0s,MS5.8					
GOF			MLR	MLR		
	comp=Z,6μm,13.0s,MS5.5					
GOF	**Gofitskoye**	**36.48 134**	*i* P	**P**	**12 59 41.5**	**+0.3**
	comp=Z,1μm,4.0s					
PRD	**Provadia**	**36.49 154**	*i* P	**P**	**12 59 42.0**	**+0.7**
AQU	**L'Aquila**	**36.50 171**	⇑P	**P**	**12 59 41.6**	**+0.3**
AQU	**L'Aquila**	**36.50 171**	*e*P	**P**	**12 59 42.6**	**+1.2**
AQU	**L'Aquila**	**36.50 171**	*e*P	**P**	**12 59 42.6**	**+1.3**
VTS	**Vitosha**	**36.76 159**	*i* P	**P**	**12 59 42.5**	**-1.1**
PTQR	**Pietraquaria**	**36.83 171**	P	**P**	**12 59 45.6**	**+1.5**
GUAR	**Guarcino**	**37.05 171**	P	**P**	**12 59 47.0**	**+1.0**
MCK	**McKinley**	**37.10 342**	*e*P	**P**	**12 59 47.8**	**+1.6**
MCK			pmax	pmax		
	comp=Z,105nm,1.9s,mb5.3					
MCK			MLR	MLR		
	comp=Z,4μm,20.0s,MS5.2					
MCK	**McKinley**	**37.10 342**	*e*P	**P**	**12 59 47.8**	**+1.5**
	comp=Z,105nm,1.9s,mb5.3					
MCK			LR	LR		
	comp=Z,4μm,20.0s,MS5.2					
MCK	**McKinley**	**37.10 342**	*e*P	**P**	**12 59 47.8**	**+1.6**
	comp=Z,4μm,20.0s					
ESAC	**San Caprasio**	**37.11 188**	P	**P**	**12 59 48.1**	**+1.6**
	comp=Z,914nm,3.9s					
ESAC	**San Caprasio**	**37.11 188**	P	**P**	**12 59 48.1**	**+1.6**
	comp=Z,914nm,3.9s					
SDI	**San Donato**	**37.15 171**	*e*P	**P**	**12 59 47.5**	**+0.6**
ECAL	**Calabor**	**37.16 196**	P	**P**	**12 59 47.3**	**+0.4**
	comp=Z,852nm,3.9s					
ECAL	**Calabor**	**37.16 196**	P	**P**	**12 59 47.3**	**+0.4**
	comp=Z,852nm,3.9s					
THY	**Trims Highway**	**37.21 340**	*e*P	**P**	**12 59 48.4**	**+1.3**
SEY	**Seymchan**	**37.24 25**	*e*P	**P**	**12 59 54.8**	**+7.4**
SEY			*SP	sP	12 59 59.2	+7.6
SEY			*e*		13 01 19.4	
SEY			*e*PPP	PPP	13 01 33.7	-1.4
SEY			*e*SSS	SSS	13 08 42.4	+6.5
SEY			pmax	pmax		
	comp=N,20nm,0.9s					
SEY			pmax	pmax		
	comp=E,10.0nm,0.9s					
SEY			pmax	pmax		
	comp=Z,40nm,0.9s,mb5.2					
SEY			MLR	MLR		
	comp=Z,38μm,15.0s,MS6.3					
SEY			MLR	MLR		
	comp=N,21μm,14.0s,MS6.1					
SEY			MLR	MLR		
	comp=E,12μm,16.0s,MS6.1					
SKO	**Skopje**	**37.26 161**	*e*P	**P**	**12 59 47.0**	**-0.8**
SKO			*e*		12 59 56.0	
PBRG	**Braganca**	**37.29 196**	*e*P	**P**	**12 59 48.4**	**+0.4**
	comp=E,48nm,1.4s,mb5.1					
BOD	**Bodaibo**	**37.30 57**	*e*P	**P**	**12 59 46.4**	**-1.5**
BOD			pmax	pmax		
	comp=Z,62nm,1.6s,mb5.2					
BOD	**Bodaibo**	**37.30 57**	*e*P	**P**	**12 59 46.4**	**-1.5**
	comp=Z,62nm,1.6s,mb5.2					
ELOB	**Lobios**	**37.31 198**	P	**P**	**12 59 50.0**	**+1.9**
	comp=Z,166nm,3.4s					
ELOB	**Lobios**	**37.31 198**	P	**P**	**12 59 50.0**	**+1.9**
	comp=Z,166nm,3.4s					
KURK	**Kurchatov**	**37.37 93**	*c i*P	**P**	**12 59 48.5**	**-0.1**
KURK			*i*		12 59 48.9	
KURK			pmax	pmax		
	comp=Z,109nm,1.3s,mb5.5					
KURK	**Kurchatov**	**37.37 93**	*e*P	**P**	**12 59 48.4**	**-0.2**
	comp=Z,251nm,1.3s,mb5.9					
KURK			LR	LR		
	comp=Z,4μm,19.0s,MS5.3					
KURK	**Kurchatov**	**37.37 93**	*i* P	**P**	**12 59 48.5**	**-0.1**
	comp=Z,109nm,1.3s,mb5.5					
EPOB	**Poblet**	**37.44 186**	P	**P**	**12 59 50.8**	**+1.5**
	comp=Z,418nm,3.7s					
EPOB	**Poblet**	**37.44 186**	P	**P**	**12 59 50.8**	**+1.5**
	comp=Z,418nm,3.7s					
SOC	**Sochi**	**37.48 139**	*e*P	**P**	**12 59 47.0**	**-2.5**
SOC			*e*		13 02 06.1	
SOC			*e*S	**S**	**13 05 36.7**	**-1.0**
SOC			*e*SS	SS	13 08 14.3	+4.1
SOC			*e*SSS	SSS	13 08 38.7	-3.0
SOC			*e*		13 10 00.2	
SOC			pmax	pmax		
	comp=Z,49nm,1.0s,mb5.3					
SOC			pmax	pmax		
	comp=N,38nm,1.2s					
SOC			pmax	pmax		
	comp=E,23nm,1.0s					
SOC			MLR	MLR		
	comp=Z,8μm,20.0s,MS5.5					
SOC			MLR	MLR		
	comp=N,4μm,21.0s,MS5.3					
SOC			MLR	MLR		
	comp=E,3μm,20.0s,MS5.3					
SOC	**Sochi**	**37.48 139**	*e*P	**P**	**12 59 47.8**	**-1.7**
KKB	**Krupnik**	**37.48 159**	*i* P	**P**	**12 59 50.0**	**+0.4**
KIV	**Kislovodsk**	**37.51 135**	*i* P	**P**	**12 59 51.0**	**+1.2**
KIV			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5					
KIV			MLR	MLR		
	comp=Z,7μm,22.0s,MS5.4					
KIV	**Kislovodsk**	**37.51 135**	*e*P	**P**	**12 59 51.0**	**+1.2**
	comp=Z,66nm,0.9s,mb5.4					
KIV			LR	LR		
	comp=Z,2μm,20.0s,MS4.9					
KIV	**Kislovodsk**	**37.51 135**	*i* P	**P**	**12 59 51.0**	**+1.2**
	comp=Z,7μm,22.0s					
MENT	**Mentasta**	**37.54 338**	*e*P	**P**	**12 59 52.2**	**+2.3**
RZN	**Rozhen**	**37.77 157**	P	**P**	**12 59 49.0**	**-3.1**
MMB	**Musomiste**	**37.80 158**	*i* P	**P**	**12 59 52.3**	**0.0**
EBR	**Ebro Roquetas**	**37.99 187**	*e*Ts		13 00 04.0	
CSSN	**Cassano Irpino**	**38.04 169**	*e*P	**P**	**12 59 55.0**	**+0.7**
CSSN	**Cassano Irpino**	**38.04 169**	*e*P	**P**	**12 59 55.0**	**+0.7**
MRLC	**Muro Lucano**	**38.16 169**	*e*P	**P**	**12 59 55.3**	**-0.1**
MRLC	**Muro Lucano**	**38.16 169**	*e*P	**P**	**12 59 55.3**	**-0.1**
GUD	**Guadarrama**	**38.32 193**	P	**P**	**12 59 57.1**	**+0.4**
	comp=Z,0.2nm,0.5s					
GUD	**Guadarrama**	**38.32 193**	P	**P**	**12 59 57.1**	**+0.4**
SGO	**Sicignano**	**38.35 169**	*e*P	**P**	**12 59 57.3**	**+0.3**
EMOS	**Mosqueruela**	**38.47 188**	P	**P**	**13 00 01.1**	**+3.2**
	comp=Z,224nm,2.5s,mb5.5					
EMOS	**Mosqueruela**	**38.47 188**	P	**P**	**13 00 01.1**	**+3.2**
	comp=Z,224nm,2.5s,mb5.5					
SLCN	**Sala Consilina**	**38.53 168**	*e*P	**P**	**12 59 59.4**	**+0.9**
SLCN	**Sala Consilina**	**38.53 168**	*e*P	**P**	**12 59 59.4**	**+0.9**
MTE	**Manteigas**	**38.74 197**	*e*P	**P**	**13 00 01.1**	**+0.9**
MTE			*e*PP	PP	13 01 29.7	-2.9
MTE			*e*S	**S**	**13 06 01.0**	**+4.1**
MTE			*i* -		13 08 49.2	
MTE			*e*LR	LR	13 11 11.0	
	comp=Z,8μm,16.0s					
ZEI	**Tsey**	**38.85 134**	*e*P	**P**	**13 00 00.0**	**-1.1**
ZEI			*i*		13 01 33.0	
ZEI			*e*S	**S**	**13 05 55.0**	**-3.5**
ZEI			pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5					
ORI	**Oriolo Calabro**	**38.89 167**	*e*P	**P**	**13 00 02.9**	**+1.4**
HENT	**Hendek**	**39.18 150**	*i* P	**P**	**13 00 04.0**	**+0.1**
MAK	**Makhachkala**	**39.19 130**	*e*P	**P**	**13 00 10.0**	**+6.1**
MAK			*e*		13 06 02.0	
MAK	**Makhachkala**	**39.19 130**	*e*S	**S**	**13 06 02.0**	**-1.7**
PWA	**Palmer West**	**39.23 342**	*e*P	**P**	**13 00 05.2**	**+1.1**
ECHE	**Chera**	**39.25 189**	P	**P**	**13 00 05.2**	**+0.7**
ECHE			pmax	pmax		
	comp=Z,66nm,1.7s,mb5.1					
ECHE	**Chera**	**39.25 189**	P	**P**	**13 00 05.2**	**+0.7**
	comp=Z,66nm,1.7s,mb5.1					
ECHE	**Chera**	**39.25 189**	P	**P**	**13 00 05.2**	**+0.7**
	comp=Z,66nm,1.7s,mb5.1					
ESDC	**Sonseca Array**	**39.28 192**	P	**P**	**13 00 05.2**	**+0.4**
	comp=Z,6.3nm,0.8s,mb4.4,baz=0.9,slow=8.4,SNR=23					
ESDC	**Sonseca Array**	**39.28 192**	P	**P**	**13 00 05.8**	**+1.0**
	comp=Z,15nm,1.6s,mb4.5					
ESDC	**Sonseca Array**	**39.28 192**	P	**P**	**13 00 05.8**	**+1.1**
	comp=Z,15nm,1.6s,mb4.5					
PCBR	**Castelo Branco**	**39.29 197**	*e*P	**P**	**13 00 05.7**	**+0.9**
	comp=Z,45nm,1.6s,mb5.0					
DIV	**Divide**	**39.48 339**	*e*P	**P**	**13 00 07.0**	**+0.8**
	comp=Z,72nm,1.0s,mb5.4					
DIV			LR	LR		
	comp=Z,12μm,21.0s,MS5.7					
DIV	**Divide**	**39.48 339**	*e*P	**P**	**13 00 07.0**	**+0.8**
	comp=Z,72nm,1.0s,mb5.4					
SGKT	**Sivrigoynuk**	**39.55 149**	*i* P	**P**	**13 00 08.2**	**+1.3**
PTOM	**Tomar**	**39.57 198**	*e*P	**P**	**13 00 07.5**	**+0.4**
	comp=Z,53nm,1.0s,mb5.2					
EIBI	**Ibiza**	**39.76 186**	P	**P**	**13 00 10.5**	**+1.8**
	comp=Z,795nm,3.3s					
EIBI	**Ibiza**	**39.76 186**	P	**P**	**13 00 10.5**	**+1.8**
	comp=Z,795nm,3.3s					
TIP	**Timpagrande**	**39.79 167**	*e*P	**P**	**13 00 08.9**	**-0.1**
TIP	**Timpagrande**	**39.79 167**	*e*P	**P**	**13 00 08.9**	**-0.1**
CLNS	**Chul'man**	**39.97 49**	*c i*P	**P**	**13 00 10.2**	**0.0**
CLNS			*e**PP	pP	13 00 16.7	+3.5
CLNS			*e*S	**S**	**13 06 16.9**	**+1.6**
CLNS			pmax	pmax		
	comp=Z,198nm,1.0s,mb5.8					
CLNS			pmax	pmax		
	comp=N,86nm,0.9s					
CLNS			pmax	pmax		
	comp=E,16nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,52nm,1.5s,mb5.0					
CLNS			pmax	pmax		
	comp=N,66nm,1.4s					
CLNS			pmax	pmax		
	comp=E,58nm,1.2s					
CLNS			smax			
	comp=N,1μm,12.3s					
CLNS			smax			
	comp=Z,453nm,13.6s					
CLNS			smax			
	comp=E,125nm,11.6s					
CLNS			MLR	MLR		
	comp=Z,15μm,18.0s,MS5.9					
CLNS			MLR	MLR		
	comp=N,13μm,17.0s,MS5.9					
CLNS			MLR	MLR		
	comp=E,4μm,15.0s,MS5.9					
CLNS	**Chul'man**	**39.97 49**	*i* P	**P**	**13 00 10.2**	**0.0**
	comp=E,86nm,0.9s,mb5.5					
CLNS			*e*S	**S**	**13 06 16.9**	**+1.6**
	comp=E,13μm,17.0s					
TI2	**Plekhanov**	**39.98 133**	*e*P	**P**	**13 00 10.8**	**+0.3**
TI2			*i*		13 00 20.0	
TI2			*i*		13 06 21.2	
TI2			*e*S	**S**	**13 06 27.6**	**+12**
TI2	**Plekhanov**	**39.98 133**	*e*P	**P**	**13 00 10.8**	**+0.3**
TI2			*i* S	**S**	**13 06 21.2**	**+5.5**
TBLG	**Delisi**	**39.98 133**	P	**P**	**13 00 19.9**	**+9.4**
MTA	**Mtatsminda**	**40.03 133**	P	**P**	**13 00 19.9**	**+9.0**
EYAK	**Cordova Ski Ar**	**40.06 339**	*e*P	**P**	**13 00 11.3**	**+0.4**
EYAK	**Cordova Ski Ar**	**40.06 339**	*e*P	**P**	**13 00 11.3**	**+0.4**
SVW2	**Sparrevohn**	**40.09 346**	*e*P	**P**	**13 00 12.8**	**+1.6**
EBEN	**Beniarda**	**40.12 188**	P	**P**	**13 00 13.8**	**+2.2**
	comp=E,316nm,2.6s,mb5.6					
EBEN	**Beniarda**	**40.12 188**	P	**P**	**13 00 13.8**	**+2.1**
	comp=E,316nm,2.6s,mb5.6					
ETOB	**Tobarra**	**40.22 189**	P	**P**	**13 00 14.0**	**+1.5**
	comp=E,277nm,2.7s,mb5.5					
ETOB	**Tobarra**	**40.22 189**	P	**P**	**13 00 14.0**	**+1.5**
	comp=E,277nm,2.7s,mb5.5					
EVIA	**Vianos**	**40.26 191**	P	**P**	**13 00 14.1**	**+1.3**
EVIA			pmax	pmax		
	comp=Z,107nm,1.4s,mb5.4					
EVIA	**Vianos**	**40.26 191**	P	**P**	**13 00 14.1**	**+1.3**
	comp=Z,107nm,1.4s,mb5.4					
EVIA	**Vianos**	**40.26 191**	P	**P**	**13 00 14.1**	**+1.3**
	comp=Z,107nm,1.4s,mb5.4					
ANTO	**Ankara**	**40.32 148**	⇑P	**P**	**13 00 14.9**	**+1.6**
ANTO	**Ankara**	**40.32 148**	P	**P**	**13 00 14.9**	**+1.6**
SLNA	**Salina**	**40.33 170**	*e*P	**P**	**13 00 13.2**	**-0.2**
SLNA	**Salina**	**40.33 170**	*e*P	**P**	**13 00 13.2**	**-0.2**
EBAD	**Badajoz**	**40.34 196**	P	**P**	**13 00 15.4**	**+1.9**
	comp=Z,338nm,3.2s					
EBAD	**Badajoz**	**40.34 196**	P	**P**	**13 00 15.4**	**+1.9**
	comp=Z,338nm,3.2s					
DGRG	**David-gareji**	**40.35 133**	P	**P**	**13 00 18.3**	**+4.7**
DGRG			S	tx	13 06 52.4	
SLKM	**Skilak Lake**	**40.39 342**	*e*P	**P**	**13 00 14.5**	**+0.8**
MA2	**Magadan**	**40.42 27**	*i* P	**P**	**13 00 14.7**	**+0.8**
MA2			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3					
MA2			MLR	MLR		
	comp=Z,6μm,17.0s,MS5.5					
MA2	**Magadan**	**40.42 27**	*e*P	**P**	**13 00 14.3**	**+0.4**
	comp=Z,68nm,1.1s,mb5.3					
MA2			LR	LR		
	comp=Z,6μm,22.0s,MS5.4					
MA2	**Magadan**	**40.42 27**	*i* P	**P**	**13 00 14.7**	**+0.8**
	comp=Z,6μm,17.0s					
ESKT	**Eskisehir**	**40.47 150**	*i* P	**P**	**13 00 15.1**	**+0.6**
BRTR	**Keskin Array B**	**40.55 147**	P	**P**	**13 00 16.4**	**+1.2**
	comp=Z,19nm,1.0s,mb4.7,baz=344,slow=5.6,SNR=34					
CEL	**Celeste**	**40.67 168**	P	**P**	**13 00 15.5**	**-0.7**
DLBC	**Dease Lake**	**40.70 326**	P	**P**	**13 00 18.6**	**+2.4**
	comp=Z,15nm,0.7s,mb4.7,baz=359,slow=8.2,SNR=24					
DLBC			LR	LR	13 16 55.2	
	comp=Z,14μm,21.0s,MS5.8,baz=22,slow=36					
DLBC	**Dease Lake**	**40.70 326**	*e*P	**P**	**13 00 19.3**	**+3.0**
DLBC	**Dease Lake**	**40.70 326**	*e*P	**P**	**13 00 19.3**	**+3.1**
EBAN	**Banos Encina**	**40.78 192**	P	**P**	**13 00 17.8**	**+0.7**
EBAN			pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4					
EBAN	**Banos Encina**	**40.78 192**	P	**P**	**13 00 17.8**	**+0.7**
	comp=Z,10.0nm,1.1s,mb4.4					
KELT	**Kelkit**	**40.80 140**	*i* P	**P**	**13 00 28.7**	**+11**
EADA	**Adamuz**	**40.81 193**	P	**P**	**13 00 17.8**	**+0.4**
	comp=Z,612nm,3.7s					
EADA	**Adamuz**	**40.81 193**	P	**P**	**13 00 17.8**	**+0.5**
	comp=Z,612nm,3.7s					
MOY	**Mondy**	**40.84 72**	*e*P	**P**	**13 00 19.1**	**+1.6**
MOY			pmax	pmax		
	comp=Z,303nm,1.8s,mb5.6					
MOY	**Mondy**	**40.84 72**	*e*P	**P**	**13 00 19.1**	**+1.6**
	comp=Z,303nm,1.8s,mb5.6					
IRK	**Irkutsk**	**40.91 68**	*e*P	**P**	**13 00 16.6**	**-1.4**
IRK			pmax	pmax		
	comp=Z,215nm,2.2s,mb5.4					
IRK	**Irkutsk**	**40.91 68**	*e*P	**P**	**13 00 16.6**	**-1.4**
	comp=Z,215nm,2.2s,mb5.4					
MNO	**Monte Soro**	**40.95 170**	*e*P	**P**	**13 00 19.1**	**+0.6**
EMUR	**La Murta**	**41.01 189**	P	**P**	**13 00 20.7**	**+1.8**
	comp=Z,286nm,2.4s,mb5.5					
EMUR	**La Murta**	**41.01 189**	P	**P**	**13 00 20.7**	**+1.7**
	comp=Z,286nm,2.4s,mb5.5					
EHUE	**Huescar**	**41.08 191**	P	**P**	**13 00 21.3**	**+1.7**
EHUE			pmax	pmax

comp=Z,6.0nm,0.5s
GNI MLR MLR
comp=Z,4µm,19.1s
GNI Garni 41.54 134 P **P 13 00 24.7 +1.6**
comp=Z,5.8nm,0.5s,mb4.4,baz=340,slow=20,SNR=2.0
GNI LR LR 13 20 19.6
comp=Z,4µm,19.1s,MS5.3,baz=351,slow=40
GNI Garni 41.54 134 *e*P **P 13 00 24.8 +1.6**
comp=Z,39nm,0.9s,mb5.0
GNI LR LR
comp=Z,4µm,19.0s,MS5.2
GNI Garni 41.54 134 *e*P **P 13 00 24.8 +1.7**
comp=Z,39nm,0.9s,mb5.0
EGRO El Granado 41.59 196 P **P 13 00 22.5 -1.1**
comp=Z,234nm,3.0s
EGRO El Granado 41.59 196 P **P 13 00 22.5 -1.1**
comp=Z,234nm,3.0s
PQI Presque Isle 41.60 267 PFAKE 13 00 40.0 +16
PQI LR LR
comp=Z,47µm,22.0s,MS6.3
AVNT Avonos 41.62 146 *i*P **P 13 00 25.1 +1.2**
ELOJ Sierra Loja 41.81 192 P **P 13 00 31.9 +6.5**
ELOJ pmax pmax
comp=Z,12nm,1.0s,mb4.5
ELOJ Sierra Loja 41.81 192 P **P 13 00 31.9 +6.5**
comp=Z,12nm,1.0s,mb4.5
ELOJ Sierra Loja 41.81 192 P **P 13 00 31.9 +6.5**
comp=Z,12nm,1.0s,mb4.5
MKAR Makanchi Array 41.84 92 *i*P **P 13 00 25.9 +0.3**
MKAR pmax pmax
comp=Z,94nm,1.0s
MKAR Makanchi Array 41.84 92 P **P 13 00 25.8 +0.3**
comp=Z,13nm,0.7s,mb4.7,baz=337,slow=6.5,SNR=181
MKAR LR LR 13 21 22.1
comp=Z,11µm,20.0s,MS5.7,baz=322,slow=41
ENIJ Nijar 41.91 190 P **P 13 00 26.7 +0.5**
ENIJ pmax pmax
comp=Z,33nm,1.2s,mb4.8
ENIJ Nijar 41.91 190 P **P 13 00 26.7 +0.5**
comp=Z,33nm,1.2s,mb4.8
ENIJ Nijar 41.91 190 P **P 13 00 26.7 +0.5**
comp=Z,33nm,1.2s,mb4.8
ERON Agron 41.92 192 P **P 13 00 28.0 +1.7**
comp=Z,83nm,1.8s,mb5.1
ERON Agron 41.92 192 P **P 13 00 28.0 +1.7**
comp=Z,83nm,1.8s,mb5.1
ABA Alger-Bouzarea 41.95 184 P **P 13 00 30.0 +3.4**
CAEH 'Ain El Ouahch 41.95 179 P **P 13 00 28.5 +1.9**
EBER Berja 42.01 191 P **P 13 00 29.5 +2.5**
comp=Z,396nm,3.4s
CMAH Djebel Manchou 42.11 179 P **P 13 00 30.0 +2.1**
ESPR Espera 42.16 194 P **P 13 00 28.7 +0.4**
comp=Z,424nm,2.7s,mb5.6
ESPR Espera 42.16 194 P **P 13 00 28.7 +0.4**
comp=Z,424nm,2.7s,mb5.6
DFRA Djebel Bou Aff 42.19 180 P **P 13 00 35.0 +6.5**
CKFL Kef-Lekhel 42.33 179 P **P 13 00 30.0 +0.3**
EMIJ Mijas 42.42 193 P **P 13 00 32.3 +1.9**
comp=Z,184nm,1.3s,mb5.5
EMIJ Mijas 42.42 193 P **P 13 00 32.3 +1.9**
comp=Z,184nm,1.3s,mb5.5
CASM Ain Smara 42.47 180 P **P 13 00 32.0 +1.1**
EBNR Beni Rached 42.48 186 P **P 13 00 33.0 +2.0**
MALT Malatya 42.50 142 *e*P **P 13 00 33.2 +2.1**
MALT pmax pmax
comp=Z,137nm,1.1s,mb5.6
MALT Malatya 42.50 142 *e*P **P 13 00 33.1 +2.1**
comp=Z,137nm,1.1s,mb5.6
MALT Malatya 42.50 142 *e*P **P 13 00 33.2 +2.1**
comp=Z,137nm,1.1s,mb5.6
ZAK Zakamensk 42.50 70⇑ *i*P **P 13 00 31.1 +0.2**
ZAK *e* 13 02 13.4
ZAK pmax pmax
comp=Z,11nm,2.1s
ZAK pmax pmax
comp=Z,18nm,1.2s,mb4.7
ZAK Zakamensk 42.50 70 *i*P **P 13 00 31.1 +0.2**
comp=Z,11nm,2.1s
EMHD Djebel Mahouad 42.55 184 P **P 13 00 31.5 0.0**
EJIF Jimena Fronter 42.56 194 P **P 13 00 33.0 +1.4**
EJIF pmax pmax
comp=Z,122nm,1.5s,mb5.4
EJIF Jimena Fronter 42.56 194 P **P 13 00 33.0 +1.4**
comp=Z,122nm,1.5s,mb5.4
EJIF Jimena Fronter 42.56 194 P **P 13 00 33.0 +1.4**
comp=Z,122nm,1.5s,mb5.4
SIT Sitka 42.62 330 PFAKE 13 00 40.0 +8.2
SIT LR LR
comp=Z,8µm,22.0s,MS5.5
ECHA Ech Chlef 42.63 186 P **P 13 00 36.0 +3.8**
CTEI Djebel Teioual 42.67 180 P **P 13 00 33.0 +0.5**
CKHR Kef el Ahmar 42.71 181 P **P 13 00 40.0 +7.1**
EANR 'Ain N'Sour 42.83 186 P **P 13 00 34.5 +0.7**
TVAN Van 42.94 136 *i*P **P 13 00 41.0 +6.3**
KAHT Ahir Dag 42.99 144 *i*P **P 13 00 36.5 +1.4**
PDA Ponta Delgada 43.02 218 *e*rx 13 07 16.5
PDA *e*rx 13 07 38.6
PDA *e*rx 13 07 38.6
PDA *e*rx 13 07 47.8
PDA *e*rx 13 07 47.8
PDA *e*rx 13 09 30.2
PDA *e*LQ 13 10 11.0
PDA *e*SS SS 13 10 11.0 +4.8
PDA *e*LQ 13 10 30.2
PDA *e*LR LR 13 12 45.8
PDA *e*LR LR 13 12 45.9
KKAR Karatay Array 43.08 105 *i*P **P 13 00 36.8 +1.1**
KKAR pmax pmax
comp=Z,156nm,1.5s,mb5.5
KKAR Karatay Array 43.08 105 *i*P **P 13 00 36.8 +1.1**
comp=Z,156nm,1.5s,mb5.5
GZT Gaziantep 43.34 143 *i*P **P 13 00 39.5 +1.6**
EMMW East Machias 43.37 265 *e*P **P 13 00 36.4 -1.7**
comp=Z,174nm,1.0s,mb5.7
EMMW LR LR
comp=Z,52µm,19.0s,MS6.5
EMMW East Machias 43.37 265 *e*P **P 13 00 36.4 -1.6**
comp=Z,174nm,1.0s,mb5.7
ETRT Tiaret 43.39 186 P **P 13 00 38.5 +0.2**
ULM Lac du Bonnet 43.55 294 P **P 13 00 39.4 -0.1**
comp=Z,38nm,0.9s,mb5.1,baz=15,slow=8.1,SNR=44
ULM LR LR 13 17 53.7
comp=Z,18µm,18.7s,MS6.0,baz=16,slow=35
ULM Lac du Bonnet 43.55 294 P **P 13 00 39.3 -0.2**
EDM Edmonton 43.60 311 *e*P **P 13 00 40.5 +0.7**
USP Ospenovka 43.70 101 P **P 13 00 41.9 +1.2**
SNR=17
MEST Erdemli 43.71 147 *i*P **P 13 00 39.0 -2.0**
WVL Waterville 43.94 267 *e*P **P 13 00 42.7 0.0**
comp=Z,176nm,1.1s,mb5.7
WVL LR LR
comp=Z,47µm,22.0s,MS6.3
WVL Waterville 43.94 267 *e*P **P 13 00 42.7 0.0**
comp=Z,176nm,1.1s,mb5.7
CHMS Chumysh 44.00 101 P **P 13 00 44.6 +1.3**
SNR=28
FRU Bishkek 44.14 101⇑ *e*P **P 13 00 46.0 +1.7**
FRU *e* 13 02 34.0
FRU *e*S **S 13 07 28.0 +11**
FRU SS SS 13 10 30.0 +3.8
FRU pmax pmax
comp=Z,350nm,1.9s,mb5.8
FRU Bishkek 44.14 101 *e*P **P 13 00 46.0 +1.7**
comp=Z,350nm,1.9s,mb5.8
FRU Bishkek 44.14 101 *e*PcP PcP 13 02 34.0 +4.1
EKS2 Erkin-Say 44.14 102 P **P 13 00 46.1 +1.8**
SNR=18
AAA Alma-Ata 44.17 98 *e*P **P 13 00 52.0 +7.4**
AAA *e*S **S 13 07 22.0 +4.9**
AAA pmax pmax
comp=Z,500nm,3.0s
AAA smax
comp=N,2µm,6.0s
AAA Alma-Ata 44.17 98 *e*P **P 13 00 52.0 +7.4**
comp=N,500nm,3.0s
AAA *e*S **S 13 07 22.0 +4.9**
comp=N,2µm,6.0s
TKM2 Tokmak 2 44.24 100 P **P 13 00 46.7 +1.5**
SNR=31
AAK Ala-Archa 44.30 101 P **P 13 00 47.4 +1.7**
SNR=32
AAK Ala-Archa 44.30 101 *c i*P **P 13 00 45.9 +0.2**
AAK pmax pmax
comp=Z,25nm,1.0s,mb4.9
AAK MLR MLR
comp=Z,15µm,25.0s,MS5.8
AAK Ala-Archa 44.30 101 *e*P **P 13 00 46.0 +0.3**
comp=Z,100nm,1.1s,mb5.5
AAK LR LR
comp=Z,3µm,20.0s,MS5.2
AAK Ala-Archa 44.30 101 *e*P **P 13 00 46.0 +0.3**
comp=Z,100nm,1.1s,mb5.5
MSNY Massena 44.56 273 *e*P **P 13 00 48.1 +0.4**
MSNY Massena 44.56 273 *e*P **P 13 00 48.1 +0.4**
AML Almayashu 44.63 102 P **P 13 00 50.8 +2.5**
SNR=29
UCH Uchtor 44.70 101 P **P 13 00 51.4 +2.5**
SNR=65
EYMN Ely 44.96 289 *e*P **P 13 00 50.8 -0.1**
comp=Z,9.8nm,2.1s,mb4.3
EYMN LR LR
comp=Z,15µm,20.0s,MS5.9
EYMN Ely 44.96 289 *e*P **P 13 00 50.8 -0.1**
comp=Z,9.8nm,2.1s,mb4.3
KZA Kyzart 44.99 100 P **P 13 00 53.0 +1.9**
SNR=22
ULHL Ulahol 45.02 99 P **P 13 00 52.9 +1.5**
SNR=16
MSL Mosul 45.10 137 *e*P **P 13 00 53.0 +0.8**
MSL *e*pP tx 13 01 06.0
MSL *es*P tx 13 02 00.0
MSL *e*S tx 13 10 50.0
NCB Newcomb 45.42 272 *e*P **P 13 00 54.7 +0.1**
comp=Z,19nm,1.0s,mb4.9
NCB LR LR
comp=Z,14µm,20.0s,MS5.9
NCB Newcomb 45.42 272 *e*P **P 13 00 54.7 +0.1**
comp=Z,19nm,1.0s,mb4.9
SONM Songino Array 45.52 68 P **P 13 00 55.5 +0.2**
comp=Z,23nm,1.1s,mb5.0,baz=338,slow=9.3,SNR=39
SONM LR LR 13 21 32.1
comp=Z,40µm,20.4s,MS6.3,baz=344,slow=38
ULN Ulaanbaatar 45.62 68 *e*P **P 13 00 56.6 +0.5**
ULN pmax pmax
comp=Z,71nm,0.9s,mb5.6
ULN MLR MLR
comp=Z,46µm,20.0s,MS6.4
ULN Ulaanbaatar 45.62 68 *e*P **P 13 00 56.6 +0.5**
comp=Z,71nm,0.9s,mb5.6
ULN LR LR
comp=Z,46µm,20.0s,MS6.4
ULN Ulaanbaatar 45.62 68 *e*P **P 13 00 56.6 +0.5**
comp=Z,46µm,20.0s
SADO Sadowa 45.63 277 P **P 13 00 55.8 -0.4**
comp=Z,26nm,1.1s,mb5.1,baz=21,slow=8.4,SNR=8.6
SADO LR LR 13 19 08.2
comp=Z,15µm,21.6s,MS5.9,baz=29,slow=35
WMQ Urumqi 45.77 87⇑ *i*P **P 13 00 58.6 +1.2**
WMQ AP pP 13 01 03.1 +2.7
WMQ XP sP 13 01 05.6 +4.0
WMQ PCP PcP 13 02 36.6 +1.1
WMQ PP PP 13 02 46.4 +1.3
WMQ PPP PPP 13 03 29.3 +1.6
WMQ SCP 13 06 27.7
WMQ PCS 13 06 28.6
WMQ S **S 13 07 41.1 +1.0**
WMQ XS 13 07 48.6
WMQ SCS ScS 13 10 51.7 +0.5
WMQ SS SS 13 10 57.6 +1.2
WMQ AMB AMB
comp=Z,32nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,1µm,4.0s
WMQ LR LR
comp=N,27µm,14.1s,MS6.4
WMQ LR LR
comp=E,19µm,13.8s,MS6.4
WMQ LR LR
comp=Z,17µm,18.0s,MS6.0
ACCN Adirondack Com 45.87 271 *e*P **P 13 00 57.5 -0.7**
ACCN Adirondack Com 45.87 271 *e*P **P 13 00 57.5 -0.7**
HRV Harvard--Oak R 46.30 268 PFAKE 13 01 10.0 +8.4
HRV LR LR
comp=Z,22µm,20.0s,MS6.1
WES Weston 46.37 268 PFAKE 13 01 10.0 +7.9
WES LR LR
comp=Z,26µm,21.0s,MS6.2
HIA Hailar 46.48 56 *e*P **P 13 01 03.1 +0.2**
HIA pmax pmax
comp=Z,105nm,1.6s
HIA Hailar 46.48 56 *e*P **P 13 01 03.1 +0.2**
comp=Z,104nm,1.6s,mb5.5
HIA Hailar 46.48 56 *e*P **P 13 01 03.1 +0.2**
comp=Z,105nm,1.6s,mb5.5
BBB Bella Bella 46.62 323 P **P 13 01 05.0 +1.1**
comp=Z,64nm,1.2s,mb5.4,baz=134,slow=3.7,SNR=3.5
BBB LR LR 13 21 31.4
comp=Z,10µm,21.2s,MS5.7,baz=21,slow=37
GENY Geneseo 47.29 275 *e*P **P 13 01 11.8 +2.4**
GENY Geneseo 47.29 275 *e*P **P 13 01 11.8 +2.4**
KSHT Keshet 47.46 146 P **P 13 01 10.8 -0.1**
BINY Binghamton 47.48 273 *e*P **P 13 01 10.8 0.0**
comp=Z,171nm,1.4s,mb5.8
BINY LR LR
comp=Z,8µm,19.0s,MS5.7
BINY Binghamton 47.48 273 *e*P **P 13 01 10.8 -0.1**
comp=Z,171nm,1.4s,mb5.8
PET Petropavlovsk 47.57 22 *e*P **P 13 01 23.8 +12**
PET *e*PPP PPP 13 03 50.7 -0.3
PET *i*S **S 13 08 10.1 +4.5**
PET *e*SSS SSS 13 12 38.5 -2.5
PET pmax pmax
comp=Z,600nm,16.2s
PET pmax pmax
comp=Z,93nm,1.0s,mb5.8
PET pmax pmax
comp=Z,3µm,5.4s
PET smax
comp=E,3µm,21.0s
PET smax
comp=N,4µm,30.6s
PET MLR MLR
comp=Z,4µm,25.0s,MS5.3
PET MLR MLR
comp=E,6µm,19.0s
PET MLR MLR
comp=N,6µm,21.0s
PET Petropavlovsk 47.57 22 PFAKE 13 01 20.0 +8.6
PET LR LR
comp=Z,4µm,20.0s,MS5.4
KSH Kashi 47.60 101 *e*P **P 13 01 12.6 +0.7**
KSH *e*AP pP 13 01 17.0 +2.1
KSH *e*XP sP 13 01 19.5 +3.4
KSH *e*PCP PcP 13 02 43.1 +1.1
KSH *e*PP PP 13 03 03.0 +0.1
KSH *e*SCP 13 06 35.6
KSH *e*PCS 13 06 37.1
KSH *e*S **S 13 08 05.0 -1.3**
KSH *e*SCS ScS 13 11 03.0 -0.1
KSH *e*SS SS 13 11 26.1 -2.3
KSH AMB AMB
comp=Z,100nm,1.3s,mb5.7
KSH LR LR
comp=N,19µm,13.4s,MS6.3
KSH LR LR
comp=E,16µm,13.6s,MS6.3
UNV Unalaska Valle 47.72 354 PFAKE 13 01 20.0 +7.4
UNV LR LR
comp=Z,25µm,22.0s,MS6.1
HMDT Nahal Hemdat 48.15 146 P **P 13 01 15.8 -0.4**
BHD Baghdad 48.25 136 *e*P **P 13 01 08.0 -9.0**
ERPA Erie 48.35 276 PFAKE 13 01 30.0 +12
ERPA LR LR
comp=Z,14µm,21.0s,MS5.9
KLR Kul'dur 48.36 46 *e*P **P 13 01 16.5 -1.1**
KLR *e* 13 02 45.5
KLR *e*S **S 13 08 12.0 -4.8**
KLR MLR MLR
comp=E,8µm,14.0s
KLR MLR MLR
comp=Z,16µm,14.0s,MS6.2
KLR Kul'dur 48.36 46 *e*PcP PcP 13 02 45.5 +0.9
KLR *e*S **S 13 08 12.0 -4.8**
LAO LASA Array 48.80 302 *e*P **P 13 01 21.6 +0.5**
comp=Z,89nm,1.1s,mb5.7
LAO LR LR
comp=Z,20µm,21.0s,MS6.1
LAO LASA Array 48.80 302 *e*P **P 13 01 21.5 +0.4**
comp=Z,89nm,1.1s,mb5.7
ALLY Alegheny Colle 48.83 276 *e*P **P 13 01 21.4 0.0**
ALLY Alegheny Colle 48.83 276 *e*P **P 13 01 21.4 0.0**
AAM Ann Arbor 48.89 280 PFAKE 13 01 30.0 +8.2
AAM LR LR
comp=Z,9µm,21.0s,MS5.8
NEW Newport 48.99 312 P **P 13 01 23.2 +0.7**
NEW pmax pmax
comp=Z,23nm,0.9s
NEW MLR MLR
comp=Z,31µm,19.4s
NEW Newport 48.99 312 P **P 13 01 23.2 +0.7**
comp=Z,23nm,0.9s,mb5.2,baz=16,slow=5.8,SNR=34
NEW LR LR 13 21 51.5
comp=Z,31µm,19.4s,MS6.3,baz=18,slow=36
NEW Newport 48.99 312 *e*P **P 13 01 23.1 +0.6**
comp=Z,99nm,1.3s,mb5.7
NEW LR LR
comp=Z,34µm,19.0s,MS6.4
MZDA Masada 49.06 147 P **P 13 01 22.8 -0.5**
KZIT Kziot 49.36 148 P **P 13 01 24.6 -1.0**
SSPA Standing Stone 49.36 274 *e*P **P 13 01 25.1 -0.4**
comp=Z,94nm,1.5s,mb5.6
SSPA LR LR
comp=Z,2µm,22.0s,MS5.1
SSPA Standing Stone 49.36 274 *e*P **P 13 01 25.1 -0.4**
comp=Z,94nm,1.5s,mb5.6
PGC Sidney 49.50 318 *e*P **P 13 01 27.6 +1.2**
PGC Sidney 49.50 318 *e*P **P 13 01 27.6 +1.2**
JFWS Jewell Farm 49.57 286 *e*P **P 13 01 26.5 -0.6**
JFWS pmax pmax
comp=Z,56nm,0.7s,mb5.7
JFWS MLR MLR
comp=Z,13µm,19.0s,MS6.0
JFWS Jewell Farm 49.57 286 *e*P **P 13 01 26.5 -0.6**
comp=Z,56nm,0.7s,mb5.7
JFWS LR LR
comp=Z,13µm,19.0s,MS6.0
JFWS Jewell Farm 49.57 286 *e*P **P 13 01 26.5 -0.6**
comp=Z,56nm,0.7s,mb5.7
MVL Millersville 49.67 272 *e*P **P 13 01 27.4 -0.5**
MVL Millersville 49.67 272 *e*P **P 13 01 27.4 -0.5**
HRY Holter Researc 49.69 307 *e*P **P 13 01 27.5 -0.5**
HRY Holter Researc 49.69 307 *e*P **P 13 01 27.5 -0.5**
CHMT Chamberlain Mo 49.72 309 *e*P **P 13 01 28.0 -0.2**
CHMT Chamberlain Mo 49.72 309 *e*P **P 13 01 28.0 -0.1**
KIWB Kanaga Island 49.77 3 P **P 13 01 28.9 +0.4**
KIWB Kanaga Island 49.77 3 P **P 13 01 28.9 +0.4**
ZFRI Zfri 49.79 147 P **P 13 01 28.1 -0.8**
MSO Missoula 49.91 309 *e*P **P 13 01 29.8 +0.2**
comp=Z,145nm,1.1s,mb5.9
MSO LR LR
comp=Z,23µm,19.0s,MS6.2
MSO Missoula 49.91 309 *e*P **P 13 01 29.8 +0.2**
comp=Z,145nm,1.1s,mb5.9
PRNI Paran 49.97 147 P **P 13 01 29.8 -0.5**
KMTI Karmit 50.18 147 P **P 13 01 31.2 -0.8**
SDMD Soldier's Deli 50.33 273 *e*P **P 13 01 32.5 -0.4**
SDMD Soldier's Deli 50.33 273 *e*P **P 13 01 32.5 -0.5**
MBH Mount Berech 50.51 147 P **P 13 01 33.6 -0.9**
EIL Elat 50.64 147 *e*P **P 13 01 35.1 -0.3**
comp=Z,140nm,1.4s,mb5.7
EIL Elat 50.64 147 *e*P **P 13 01 35.1 -0.3**
comp=Z,140nm,1.4s,mb5.7
MCWV Mont Chateau 50.69 276 *e*P **P 13 01 35.2 -0.5**
comp=Z,45nm,1.0s,mb5.3
MCWV LR LR
comp=Z,13µm,19.0s,MS6.0
MCWV Mont Chateau 50.69 276 *e*P **P 13 01 35.2 -0.5**
comp=Z,44nm,1.0s,mb5.3
BOZ Bozeman (W) 50.70 307 *e*P **P 13 01 35.6 0.0**
BOZ pmax pmax
comp=Z,27nm,1.0s,mb5.1
BOZ MLR MLR
comp=Z,28µm,19.0s,MS6.3
BOZ Bozeman (W) 50.70 307 *e*P **P 13 01 35.6 0.0**
comp=Z,27nm,1.0s,mb5.1
BOZ LR LR
comp=Z,28µm,19.0s,MS6.3
BOZ Bozeman (W) 50.70 307 *e*P **P 13 01 35.6 0.0**
comp=Z,27nm,1.0s,mb5.1
ACSO Alum Creek Sta 50.75 279 *e*P **P 13 01 35.6 -0.5**
comp=Z,134nm,1.2s,mb5.8
ACSO LR LR
comp=Z,14µm,19.0s,MS6.0
ACSO Alum Creek Sta 50.75 279 *e*P **P 13 01 35.7 -0.4**
comp=Z,134nm,1.2s,mb5.8
RSSD Black Hills 50.92 299 P **P 13 01 37.4 +0.1**
RSSD S **S 13 08 53.8 +1.3**
RSSD Black Hills 50.92 299 *e*P **P 13 01 36.8 -0.5**
RSSD pmax pmax
comp=Z,49nm,1.0s,mb5.4
RSSD MLR MLR
comp=Z,5µm,20.0s,MS5.5
RSSD Black Hills 50.92 299 *e*P **P 13 01 36.8 -0.5**
comp=Z,50nm,1.0s,mb5.4
RSSD LR LR
comp=Z,5µm,20.0s,MS5.5
HAWA Hanford 51.16 314 *e*P **P 13 01 39.3 +0.2**
comp=Z,7.5nm,1.2s,mb4.5
HAWA LR LR
comp=Z,2µm,21.0s,MS5.1
HAWA Hanford 51.16 314 *e*P **P 13 01 39.3 +0.1**
comp=Z,7.5nm,1.2s,mb4.5
YNR Norris Junctio 51.45 306 *e*P **P 13 01 42.2 +0.8**
QLMT Earthquake Lak 51.46 306 *e*P **P 13 01 41.8 +0.3**
QLMT Earthquake Lak 51.46 306 *e*P **P 13 01 41.8 +0.4**
YMR Madison River 51.54 306 *e*P **P 13 01 44.5 +2.5**
YMR Madison River 51.54 306 *e*P **P 13 01 44.5 +2.4**
LKWY Lake 51.55 305 *e*P **P 13 01 43.4 +1.3**
LKWY pmax pmax
comp=Z,44nm,1.1s,mb5.3
LKWY MLR MLR
comp=Z,110µm,22.0s,MS6.8
LKWY Lake 51.55 305 *e*P **P 13 01 43.4 +1.2**
comp=Z,44nm,1.1s,mb5.3
LKWY LR LR
comp=Z,110µm,22.0s,MS6.8
LKWY Lake 51.55 305 *e*P **P 13 01 43.4 +1.3**
comp=Z,10µm,22.0s
CBN Corbin 51.60 273 *e*P **P 13 01 36.0 -6.6**
comp=Z,28nm,0.5s,mb5.5
CBN LR LR
comp=Z,10µm,19.0s,MS5.8
CBN Corbin 51.60 273 *e*P **P 13 01 36.0 -6.6**
comp=Z,28nm,0.5s,mb5.5
MCMT McKenzie Canyo 51.69 308 *e*P **P 13 01 43.7 +0.5**
MCMT McKenzie Canyo 51.69 308 *e*P **P 13 01 43.7 +0.5**
YFT Old Faithful 51.73 306 *e*P **P 13 01 45.0 +1.5**
YFT Old Faithful 51.73 306 *e*P **P 13 01 45.0 +1.5**
YSS Yuzh-Sakhalins 52.03 37 *e*P **P 13 01 46.0 +0.3**
YSS *e* 13 01 53.0
YSS *e* 13 02 53.0
YSS *e* 13 03 51.0
YSS *e*S **S 13 09 07.0 -0.7**
YSS *e*PS PS 13 09 14.0 -4.4
YSS *e*SS SS 13 12 43.0 0.0
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.3
YSS MLR MLR
comp=N,5µm,17.0s,MS5.7
YSS MLR MLR
comp=Z,8µm,17.0s,MS5.8
YSS MLR MLR
comp=E,2µm,16.0s,MS5.7
YSS Yuzh-Sakhalins 52.03 37 *e*P **P 13 01 46.8 +1.0**
comp=E,62nm,1.2s,mb5.4
YSS LR LR
comp=Z,7µm,20.0s,MS5.7
YSS Yuzh-Sakhalins 52.03 37 *e*P **P 13 01 46.8 +1.1**
comp=Z,62nm,1.2s,mb5.4
YSS *e*S **S 13 09 07.0 -0.7**
IMW Indian Meadow 52.29 306 *e*P **P 13 01 48.9 +1.2**
comp=Z,79nm,0.9s,mb5.6
IMW Indian Meadow 52.29 306 *e*P **P 13 01 48.9 +1.2**
comp=Z,79nm,0.9s,mb5.6
BMO Blue Mountains 52.35 311 *e*P **P 13 01 47.7 -0.4**
comp=Z,150nm,1.5s,mb5.7
BMO LR LR
comp=Z,17µm,20.0s,MS6.1
MOOW Moose Ponds 52.40 305 *e*P **P 13 01 49.1 +0.5**
comp=Z,230nm,1.8s,mb5.8
MOOW Moose Ponds 52.40 305 *e*P **P 13 01 49.1 +0.5**
comp=Z,230nm,1.8s,mb5.8
GTA Gaotai 52.41 77 P **P 13 01 48.6 -0.1**
GTA AP pP 13 01 52.1 +0.4
GTA XP sP 13 01 55.8 +2.9
GTA PCP PcP 13 02 58.1 -1.5
GTA PP PP 13 03 48.4 -0.1

GTA			PPP	PPP		13 04 57.6 +5.0
GTA			SCP			13 06 54.1
GTA			S	**S**		**13 09 17.4 +4.4**
GTA			XS			13 09 24.9
GTA			SCS	ScS		13 11 31.9 -3.6
GTA			AMB	AMB		
	comp=Z,33nm,0.9s,mb5.3					
GTA			AMB	AMB		
	comp=Z,926nm,10.7s					
GTA			LR	LR		
	comp=N,19μm,18.0s,MS6.3					
GTA			LR	LR		
	comp=E,19μm,18.0s,MS6.3					
GTA			LR	LR		
	comp=Z,22μm,17.2s,MS6.3					
BLO	**Bloomington**	**52.47 282**	*e*P	**P**		**13 01 48.2 -0.9**
BLO			pmax	pmax		
	comp=Z,65nm,0.6s,mb5.7					
BLO	**Bloomington**	**52.47 282**	*e*P	**P**		**13 01 48.2 -1.0**
	comp=Z,65nm,0.6s,mb5.7					
BLO	**Bloomington**	**52.47 282**	*e*P	**P**		**13 01 48.2 -0.9**
	comp=Z,65nm,0.6s,mb5.7					
LOHW	**Long Hollow**	**52.51 305**	*e*P	**P**		**13 01 49.8 +0.3**
	comp=Z,472nm,2.1s,mb6.0					
LOHW	**Long Hollow**	**52.51 305**	*e*P	**P**		**13 01 49.8 +0.4**
	comp=Z,472nm,2.1s,mb6.0					
MDJ	**Mudanjiang**	**52.56 49**	P	**P**		**13 01 48.8 -0.9**
MDJ			AP	pP		13 01 52.0 -0.8
MDJ			PCP	PcP		13 02 59.4 -0.7
MDJ			PP	PP		13 03 47.7 -2.2
MDJ			SCP			13 06 56.5
MDJ			PCS			13 06 57.7
MDJ			S	**S**		**13 09 18.3 +3.4**
MDJ			SCS	ScS		13 11 39.1 +2.6
MDJ			AMB	AMB		
	comp=Z,11nm,1.3s,mb4.6					
MDJ			AMB	AMB		
	comp=Z,425nm,8.8s					
MDJ			LR	LR		
	comp=N,7μm,25.4s					
MDJ			LR	LR		
	comp=E,14μm,17.6s					
MDJ			LR	LR		
	comp=Z,6μm,30.3s,MS5.5					
MDJ	**Mudanjiang**	**52.56 49**	*e*P	**P**		**13 01 49.6 -0.1**
	comp=Z,44nm,0.9s,mb5.4					
MDJ	**Mudanjiang**	**52.56 49**	*e*P	**P**		**13 01 49.6 -0.1**
	comp=Z,44nm,0.9s,mb5.4					
SNOW	**Snow King Moun**	**52.69 305**	*e*P	**P**		**13 01 50.6 -0.1**
	comp=Z,73nm,1.0s,mb5.6					
SNOW	**Snow King Moun**	**52.69 305**	*e*P	**P**		**13 01 50.6 -0.1**
	comp=Z,73nm,1.0s,mb5.6					
TPAW	**Teton Pass**	**52.69 306**	*e*P	**P**		**13 01 51.2 +0.5**
	comp=Z,57nm,1.0s,mb5.5					
TPAW	**Teton Pass**	**52.69 306**	*e*P	**P**		**13 01 51.2 +0.5**
	comp=Z,57nm,1.0s,mb5.5					
CN2	**Changchun**	**52.72 53**	⇓P	**P**		**13 01 49.8 -1.1**
CN2			*e*XP	sP		13 01 56.0 +0.8
CN2			*e*S	**S**		**13 09 15.0 -2.1**
CN2			AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3					
CN2			AMB	AMB		
	comp=Z,900nm,7.0s					
CN2			LR	LR		
	comp=N,18μm,16.0s,MS6.5					
CN2			LR	LR		
	comp=E,32μm,16.0s,MS6.5					
CN2			LR	LR		
	comp=Z,26μm,17.0s,MS6.3					
REDW	**Red Top Meadow**	**52.80 305**	*e*P	**P**		**13 01 51.9 +0.3**
	comp=Z,125nm,1.3s,mb5.7					
REDW	**Red Top Meadow**	**52.80 305**	*e*P	**P**		**13 01 51.8 +0.3**
	comp=Z,125nm,1.3s,mb5.7					
FWV	**Forest Hill**	**52.89 276**	*e*P	**P**		**13 01 49.2 -3.1**
FWV	**Forest Hill**	**52.89 276**	*e*P	**P**		**13 01 49.2 -3.1**
RRI2	**Red Ridge**	**52.89 306**	*e*P	**P**		**13 01 52.4 +0.1**
	comp=Z,536nm,1.9s,mb6.2					
BW06	**Boulder Array**	**53.17 304**	*e*P	**P**		**13 01 53.6 -0.7**
	comp=Z,78nm,0.8s,mb5.7					
BW06			LR	LR		
	comp=Z,18μm,19.0s,MS6.1					
BW06	**Boulder Array**	**53.17 304**	*e*P	**P**		**13 01 53.6 -0.7**
	comp=Z,78nm,0.8s,mb5.7					
PDAR	**Pinedale Array**	**53.17 304**	P	**P**		**13 01 53.8 -0.5**
	comp=Z,7.1nm,1.0s,mb4.5,baz=18,slow=4.7,SNR=28					
PDAR			LR	LR		13 23 57.7
	comp=Z,15μm,19.3s,MS6.1,baz=209,slow=35					
BLA	**Blacksburg**	**53.17 275**	*e*P	**P**		**13 01 53.7 -0.7**
BLA			pmax	pmax		
	comp=Z,98nm,1.1s,mb5.7					
BLA			MLR	MLR		
	comp=Z,16μm,19.0s,MS6.1					
BLA	**Blacksburg**	**53.17 275**	*e*P	**P**		**13 01 53.6 -0.7**
	comp=Z,98nm,1.1s,mb5.7					
BLA			LR	LR		
	comp=Z,16μm,19.0s,MS6.1					
BLA	**Blacksburg**	**53.17 275**	*e*P	**P**		**13 01 53.7 -0.7**
	comp=Z,16μm,19.0s					
HLID	**Hailey**	**53.17 309**	*e*P	**P**		**13 01 53.9 -0.4**
	comp=Z,301nm,1.9s,mb5.9					
HLID			LR	LR		
	comp=Z,16μm,19.0s,MS6.1					
HLID	**Hailey**	**53.17 309**	*e*P	**P**		**13 01 53.9 -0.4**
	comp=Z,301nm,1.9s,mb5.9					
HHC	**Hu-ho-hao-te**	**53.22 66**	⇑P	**P**		**13 01 53.6 -1.1**
HHC			AP	pP		13 01 58.2 +0.4
HHC			XP	sP		13 02 00.4 +1.4
HHC			PCP	PcP		13 03 00.3 -2.3
HHC			PP	PP		13 03 56.4 -0.1
HHC			SCP			13 06 55.2
HHC			PCS			13 06 58.2
HHC			S	**S**		**13 09 24.6 +0.5**
HHC			PS	PS		13 09 34.4 -0.8
HHC			SCS	ScS		13 11 40.0 -1.2
HHC			SS	SS		13 13 02.7 -0.4
HHC			AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9					
HHC			AMB	AMB		
	comp=Z,605nm,9.4s					
HHC			LR	LR		
	comp=Z,40μm,20.2s,MS6.5					
WCI	**Wyandotte Cave**	**53.34 281**	*e*P	**P**		**13 01 54.1 -1.5**
WCI			pmax	pmax		
	comp=Z,20nm,0.7s,mb5.2					
WCI			MLR	MLR		
	comp=Z,2μm,22.0s,MS5.2					
WCI	**Wyandotte Cave**	**53.34 281**	*e*P	**P**		**13 01 54.1 -1.5**
	comp=Z,20nm,0.7s,mb5.1					
WCI			LR	LR		
	comp=Z,2μm,22.0s,MS5.2					
WCI	**Wyandotte Cave**	**53.34 281**	*e*P	**P**		**13 01 54.1 -1.5**
	comp=Z,2μm,22.0s					
AHID	**Auburn Hatcher**	**53.42 305**	*e*P	**P**		**13 01 56.3 +0.2**
	comp=Z,102nm,1.5s,mb5.5					
AHID			LR	LR		
	comp=Z,18μm,19.0s,MS6.2					
AHID	**Auburn Hatcher**	**53.42 305**	*e*P	**P**		**13 01 56.3 +0.2**
	comp=Z,102nm,1.5s,mb5.5					
COR	**Corvallis**	**53.46 317**	PFAKE			13 02 10.0 +14
COR			LR	LR		
	comp=Z,4μm,19.0s,MS5.5					
SLM	**Saint Louis**	**53.70 285**	P	**P**		**13 01 56.4 -1.9**
RWWY	**Rawlins**	**53.83 302**	*e*P	**P**		**13 01 58.5 -0.6**
	comp=Z,63nm,1.1s,mb5.5					
RWWY	**Rawlins**	**53.83 302**	*e*P	**P**		**13 01 58.5 -0.6**
	comp=Z,63nm,1.1s,mb5.5					
PHWY	**Pilot Hill**	**53.90 300**	*e*P	**P**		**13 01 59.8 +0.1**
PHWY	**Pilot Hill**	**53.90 300**	*e*P	**P**		**13 01 59.8 +0.1**
SNY	**Shenyang**	**54.34 55**	⇑P	**P**		**13 02 02.3 -0.6**
SNY			AP	pP		13 02 08.0 +2.0
SNY			XP	sP		13 02 10.9 +3.8
SNY			S	**S**		**13 09 40.3 +1.1**
SNY			AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0					
SNY			LR	LR		
	comp=N,11μm,16.2s,MS6.0					
SNY			LR	LR		
	comp=E,6μm,17.7s,MS6.0					
SNY			LR	LR		
	comp=Z,9μm,18.1s,MS5.9					
FVM	**French Village**	**54.37 285**	*e*P	**P**		**13 02 01.3 -1.9**
FVM			pmax	pmax		
	comp=Z,44nm,1.2s,mb5.3					
FVM	**French Village**	**54.37 285**	*e*P	**P**		**13 02 01.3 -1.9**
	comp=Z,44nm,1.2s,mb5.3					
FVM	**French Village**	**54.37 285**	*e*P	**P**		**13 02 01.3 -1.9**
	comp=Z,44nm,1.2s,mb5.3					
THN	**Thein Dam**	**54.41 103**	*e*P	**P**		**13 02 02.9 -0.7**
TZTN	**Tazewell**	**54.43 278**	*e*P	**P**		**13 02 03.2 -0.5**
TZTN	**Tazewell**	**54.43 278**	*e*P	**P**		**13 02 03.2 -0.4**
KSU1	**Kansas State U**	**54.46 291**	*e*P	**P**		**13 02 02.5 -1.3**
KSU1	**Kansas State U**	**54.46 291**	*e*P	**P**		**13 02 02.5 -1.3**
CCM	**Cathedral Cave**	**54.46 286**	P	**P**		**13 02 01.9 -2.0**
CCM			SKiKP			13 11 55.8
CCM	**Cathedral Cave**	**54.46 286**	*e*P	**P**		**13 02 01.5 -2.3**
CCM			pmax	pmax		
	comp=Z,34nm,0.9s,mb5.3					
CCM			MLR	MLR		
	comp=Z,3μm,20.0s,MS5.3					
CCM	**Cathedral Cave**	**54.46 286**	*e*P	**P**		**13 02 01.5 -2.4**
	comp=Z,34nm,0.9s,mb5.3					
CCM			LR	LR		
	comp=Z,3μm,20.0s,MS5.3					
CCM	**Cathedral Cave**	**54.46 286**	*e*P	**P**		**13 02 01.5 -2.3**
	comp=Z,3μm,20.0s					
HWUT	**Hardware Ranch**	**54.62 306**	*e*P	**P**		**13 02 04.7 -0.3**
	comp=Z,133nm,1.5s,mb5.8					
HWUT			LR	LR		
	comp=Z,29μm,19.0s,MS6.4					
HVU	**Hansel Valley**	**54.65 307**	*e*P	**P**		**13 02 04.8 -0.4**
BBSR	**BB Station**	**54.75 258**	PFAKE			13 02 20.0 +14
BBSR			LR	LR		
	comp=Z,7μm,22.0s,MS5.7					
ASAJ	**Asahikawa**	**54.81 37**	LR	LR		13 26 51.0
	comp=Z,6μm,21.9s,MS5.6,baz=8.3,slow=38					
BJI	**Beijing**	**54.83 62**	*e*P	**P**		**13 02 06.3 -0.2**
BJI			AP	pP		13 02 15.1 +5.5
BJI			S	**S**		**13 09 47.7 +1.9**
BJI			AMB	AMB		
	comp=Z,15nm,1.0s,mb5.0					
BJI			AMB	AMB		
	comp=Z,945nm,7.0s					
BJI			LR	LR		
	comp=Z,3μm,22.9s,MS5.3					
BJI	**Beijing**	**54.83 62**	*e*P	**P**		**13 02 06.3 -0.2**
BJI			*PP	pP		13 02 15.1 +5.5
BJI						13 04 16.3
BJI			S	**S**		**13 09 47.7 +1.9**
BJI			PS	PS		13 10 05.9 +8.2
BJI			pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0					
BJI			MLR	MLR		
	comp=Z,3μm,22.9s,MS5.3					
BJI	**Beijing**	**54.83 62**	*e*P	**P**		**13 02 06.3 -0.2**
	comp=Z,15nm,1.0s,mb5.0					
BJI			pP	pP		13 02 15.1 +5.5
BJI			PP	PP		13 04 16.3 +5.4
BJI			S	**S**		**13 09 47.7 +1.9**
BJI			PS	PS		13 10 05.9 +8.2
BJI			SS	SS		13 13 40.9 +12
BJI			LR	LR		
	comp=Z,3μm,22.9s,MS5.3					
BJT	**Baijiatuau**	**54.85 62**	*e*P	**P**		**13 02 06.1 -0.6**
BJT			pmax	pmax		
	comp=Z,42nm,1.0s					
BJT	**Baijiatuau**	**54.85 62**	*e*P	**P**		**13 02 06.1 -0.6**
	comp=Z,42nm,1.0s,mb5.4					
BJT	**Baijiatuau**	**54.85 62**	*e*P	**P**		**13 02 06.1 -0.6**
	comp=Z,42nm,1.0s,mb5.4					
WVOR	**Wild Horse Val**	**54.91 312**	*e*P	**P**		**13 02 07.0 -0.1**
WVOR			pmax	pmax		
	comp=Z,118nm,1.8s,mb5.6					
WVOR			MLR	MLR		
	comp=Z,33μm,20.0s,MS6.4					
WVOR	**Wild Horse Val**	**54.91 312**	*e*P	**P**		**13 02 07.0 -0.1**
	comp=Z,118nm,1.8s,mb5.6					
WVOR			LR	LR		
	comp=Z,33μm,20.0s,MS6.4					
WVOR	**Wild Horse Val**	**54.91 312**	*e*P	**P**		**13 02 07.0 -0.1**
	comp=Z,33μm,20.0s					
PONG	**Pong**	**54.92 103**	*e*	**P**		**13 02 16.0 +8.6**
SPUT	**South Promonto**	**55.06 306**	*e*P	**P**		**13 02 08.0 -0.2**
SPUT	**South Promonto**	**55.06 306**	*e*P	**P**		**13 02 08.0 -0.2**
TCUT	**Toone Canyon**	**55.08 305**	*e*P	**P**		**13 02 08.0 -0.4**
TCUT	**Toone Canyon**	**55.08 305**	*e*P	**P**		**13 02 07.9 -0.4**
CBKS	**Cedar Bluff**	**55.31 294**	*e*P	**P**		**13 02 08.6 -1.5**
CBKS			pmax	pmax		
	comp=Z,62nm,0.8s,mb5.7					
CBKS			MLR	MLR		
	comp=Z,16μm,19.0s,MS6.1					
CBKS	**Cedar Bluff**	**55.31 294**	*e*P	**P**		**13 02 08.6 -1.5**
	comp=Z,62nm,0.8s,mb5.7					
CBKS			LR	LR		
	comp=Z,16μm,19.0s,MS6.1					
CBKS	**Cedar Bluff**	**55.31 294**	*e*P	**P**		**13 02 08.6 -1.5**
	comp=Z,16μm,19.0s					
HUMO	**Hull Mountain**	**55.36 316**	PFAKE			13 02 20.0 +10
HUMO			LR	LR		
	comp=Z,17μm,20.0s,MS6.1					
ISCO	**Idaho Springs**	**55.39 300**	*e*P	**P**		**13 02 10.5 -0.1**
ISCO			pmax	pmax		
	comp=Z,234nm,1.7s,mb5.9					
ISCO			MLR	MLR		
	comp=Z,16μm,20.0s,MS6.1					
ISCO	**Idaho Springs**	**55.39 300**	*e*P	**P**		**13 02 10.5 -0.2**
	comp=Z,234nm,1.7s,mb5.9					
ISCO			LR	LR		
	comp=Z,16μm,20.0s,MS6.1					
ISCO	**Idaho Springs**	**55.39 300**	*e*P	**P**		**13 02 10.5 -0.1**
	comp=Z,16μm,20.0s					
BGU	**Big Grassy Mou**	**55.53 307**	*e*P	**P**		**13 02 10.7 -0.9**
BGU	**Big Grassy Mou**	**55.53 307**	*e*P	**P**		**13 02 10.7 -0.9**
JLU	**Jordanelle**	**55.59 305**	*e*P	**P**		**13 02 11.7 -0.3**
JLU	**Jordanelle**	**55.59 305**	*e*P	**P**		**13 02 11.7 -0.3**
UTMT	**University of**	**55.66 283**	*e*P	**P**		**13 02 11.4 -1.2**
	comp=Z,74nm,0.8s,mb5.8					
WVT	**Waverly**	**55.67 282**	*e*P	**P**		**13 02 10.2 -2.5**
WVT			pmax	pmax		
	comp=Z,279nm,2.3s,mb5.9					
WVT			MLR	MLR		
	comp=Z,12μm,20.0s,MS6.0					
WVT	**Waverly**	**55.67 282**	*e*P	**P**		**13 02 10.2 -2.5**
	comp=Z,279nm,2.3s,mb5.9					
WVT			LR	LR		
	comp=Z,12μm,20.0s,MS6.0					
WVT	**Waverly**	**55.67 282**	*e*P	**P**		**13 02 10.2 -2.5**
	comp=Z,12μm,20.0s					
MOD	**Modoc**	**55.67 313**	*e*P	**P**		**13 02 14.2 +1.5**
	comp=Z,57nm,1.1s,mb5.5					
MOD			LR	LR		
	comp=Z,19μm,19.0s,MS6.2					
MOD	**Modoc**	**55.67 313**	*e*P	**P**		**13 02 14.2 +1.6**
	comp=Z,57nm,1.1s,mb5.5					
CPCT	**Cooper Cave**	**55.68 279**	*e*P	**P**		**13 02 11.8 -1.0**
CPCT	**Cooper Cave**	**55.68 279**	*e*P	**P**		**13 02 11.8 -1.0**
DAU	**Daniels Canyon**	**55.74 305**	*e*P	**P**		**13 02 13.0 -0.1**
SMLA	**Simla**	**55.96 102**	⇓*i*	**P**		**13 02 05.6 -9.3**
	comp=Z,25nm,0.3s,mb5.7					
SMLA			*i*			13 09 50.4
JSC	**Jenkinsville**	**56.17 275**	*e*P	**P**		**13 02 15.4 -0.9**
YBH	**Yreka Blue Hor**	**56.18 316**	P	**P**		**13 02 16.0 -0.3**
YBH			pmax	pmax		
	comp=Z,3.0nm,0.7s					
YBH			MLR	MLR		
	comp=Z,13μm,19.2s					
YBH	**Yreka Blue Hor**	**56.18 316**	P	**P**		**13 02 16.0 -0.3**
	comp=Z,3.0nm,0.7s,mb4.4,baz=32,slow=5.2,SNR=8.4					
YBH			LR	LR		13 26 26.1
	comp=Z,13μm,19.2s,MS6.0,baz=194,slow=36					
YBH	**Yreka Blue Hor**	**56.18 316**	*e*P	**P**		**13 02 16.2 -0.1**
	comp=Z,82nm,1.7s,mb5.5					
YBH			LR	LR		
	comp=Z,14μm,22.0s,MS6.0					
YBH	**Yreka Blue Hor**	**56.18 316**	*e*P	**P**		**13 02 16.2 -0.1**
	comp=Z,82nm,1.7s,mb5.5					
DUG	**Dugway**	**56.20 306**	*e*P	**P**		**13 02 16.3 -0.2**
DUG			pmax	pmax		
	comp=Z,122nm,0.3s,mb6.4					
DUG			MLR	MLR		
	comp=Z,24μm,19.0s,MS6.3					
DUG	**Dugway**	**56.20 306**	*e*P	**P**		**13 02 16.3 -0.2**
	comp=Z,122nm,0.3s,mb6.4					
DUG			LR	LR		
	comp=Z,24μm,19.0s,MS6.3					
DUG	**Dugway**	**56.20 306**	*e*P	**P**		**13 02 16.3 -0.2**
	comp=Z,24μm,19.0s					
NLU	**North Lily Min**	**56.32 306**	*e*P	**P**		**13 02 17.3 0.0**
NLU	**North Lily Min**	**56.32 306**	*e*P	**P**		**13 02 17.3 0.0**
LZH	**Lanzhou**	**56.40 75**	⇑*i*P	**P**		**13 02 17.5 -0.4**
LZH			AP	pP		13 02 20.8 -0.2
LZH			XP	sP		13 02 24.5 +2.3
LZH			S	**S**		**13 10 05.0 -1.8**
LZH			SS	SS		13 13 52.5 -1.9
LZH			AMB	AMB		
	comp=Z,159nm,1.5s,mb5.8					
LZH			AMB	AMB		
	comp=Z,578nm,5.9s					
LZH			LR	LR		
	comp=N,10μm,15.2s					
LZH			LR	LR		
	comp=Z,18μm,17.8s,MS6.2					
LZH	**Lanzhou**	**56.40 75**	⇑*i*P	**P**		**13 02 17.5 -0.4**
LZH			*PP	pP		13 02 20.8 -0.2
LZH			*SP	sP		13 02 24.5 +2.3
LZH			S	**S**		**13 10 05.0 -1.8**
LZH			*SS			13 10 12.5
LZH			SS	SS		13 13 52.5 -1.9
LZH			pmax	pmax		
	comp=Z,159nm,1.5s,mb5.8					
LZH			MLR	MLR		
	comp=Z,18μm,17.8s,MS6.2					
LZH	**Lanzhou**	**56.40 75**	⇑*i*P	**P**		**13 02 17.5 -0.4**
	comp=Z,159nm,1.5s,mb5.8					
LZH			pP	pP		13 02 20.8 -0.2
LZH			sP	sP		13 02 24.5 +2.3
LZH			PP	PP		13 04 14.5 -11
LZH			S	**S**		**13 10 05.0 -1.8**
LZH			sS			13 10 12.5
LZH			SS	SS		13 13 52.5 -1.9
LZH			LR	LR		
	comp=Z,18μm,17.8s,MS6.2					
LZH	**Lanzhou**	**56.40 75**	*i* P	**P**		**13 02 17.5 -0.4**
	comp=Z,159nm,1.5s,mb5.8					
LZH			pP	pP		13 02 20.8 -0.2
LZH			S	**S**		**13 10 05.0 -1.8**
BMN	**Battle Mountai**	**56.66 310**	*e*P	**P**		**13 02 20.1 +0.4**
BMN			pmax	pmax		
	comp=Z,25nm,0.9s,mb5.2					
BMN			MLR	MLR		
	comp=Z,11μm,20.0s,MS5.9					
BMN	**Battle Mountai**	**56.66 310**	*e*P	**P**		**13 02 20.1 +0.3**
	comp=Z,25nm,0.9s,mb5.2					
BMN			LR	LR		
	comp=Z,11μm,20.0s,MS5.9					
BMN	**Battle Mountai**	**56.66 310**	*e*P	**P**		**13 02 20.1 +0.4**
	comp=Z,11μm,20.0s					
HBAR	**Harrisburg**	**56.77 285**	*e*P	**P**		**13 02 20.2 -0.5**
HBAR	**Harrisburg**	**56.77 285**	*e*P	**P**		**13 02 20.2 -0.4**
TMUT	**Trail Mountain**	**56.82 305**	*e*P	**P**		**13 02 21.6 +0.6**
TMUT	**Trail Mountain**	**56.82 305**	*e*P	**P**		**13 02 21.6 +0.7**
PLAL	**Pickwick Lake**	**56.83 282**	*e*P	**P**		**13 02 18.3 -2.8**
	comp=Z,265nm,2.0s,mb5.9					
PLAL			LR	LR		
	comp=Z,10μm,21.0s,MS5.9					
PLAL	**Pickwick Lake**	**56.83 282**	*e*P	**P**		**13 02 18.3 -2.7**
	comp=Z,265nm,2.0s,mb5.9					
DL2	**Dalian**	**56.87 57**	P	**P**		**13 02 21.5 +0.2**
DL2			S	**S**		**13 10 14.8 +1.9**
DL2			AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2					
DL2			AMB	AMB		
	comp=Z,400nm,5.5s					
DL2			LR	LR		
	comp=E,22μm,19.2s					
DL2			LR	LR		
	comp=Z,13μm,19.1s,MS6.0					
SRU	**San Rafael**	**56.89 304**	*e*P	**P**		**13 02 20.8 -0.6**
DDI	**Dehra Dun**	**56.92 101**	*e*	**P**		**13 02 23.2 +1.5**
NHSC	**New Hope**	**57.09 274**	PFAKE			13 02 30.0 +7.1
NHSC			LR	LR		
	comp=Z,16μm,19.0s,MS6.2					
BANOM	**Banah**	**57.26 125**	⇑P	**P**		**13 02 23.7 -0.5**
	SNR=7.6					
WDC	**Whiskeytown Da**	**57.29 315**	*e*P	**P**		**13 02 24.6 +0.4**
WDC			pmax	pmax		
	comp=Z,85nm,1.6s,mb5.5					
WDC			MLR	MLR		
	comp=Z,17μm,19.0s,MS6.2					
WDC	**Whiskeytown Da**	**57.29 315**	*e*P	**P**		**13 02 24.6 +0.3**
	comp=Z,85nm,1.6s,mb5.5					
WDC			LR	LR		
	comp=Z,17μm,19.0s,MS6.2					
WDC	**Whiskeytown Da**	**57.29 315**	*e*P	**P**		**13 02 24.6 +0.4**
	comp=Z,17μm,19.0s					
PV10	**Paradox Valley**	**57.36 302**	*e*P	**P**		**13 02 25.5 +0.8**
PV10	**Paradox Valley**	**57.36 302**	*e*P	**P**		**13 02 25.5 +0.7**
SDCO	**Great Sand Dun**	**57.37 299**	*e*P	**P**		**13 02 24.3 -0.5**
	comp=Z,68nm,1.3s,mb5.5					
SDCO			LR	LR		
	comp=Z,25μm,21.0s,MS6.3					
GOGA	**Godfrey**	**57.45 277**	*e*P	**P**		**13 02 23.3 -2.1**
GOGA			pmax	pmax		
	comp=Z,68nm,1.1s,mb5.6					
GOGA			MLR	MLR		
	comp=Z,17μm,21.0s,MS6.1					
GOGA	**Godfrey**	**57.45 277**	*e*P	**P**		**13 02 23.3 -2.1**
	comp=Z,68nm,1.1s,mb5.6					
GOGA			LR	LR		
	comp=Z,17μm,21.0s,MS6.1					
GOGA	**Godfrey**	**57.45 277**	*e*P	**P**		**13 02 23.3 -2.1**
	comp=Z,17μm,21.0s					
PV01	**Paradox Valley**	**57.52 302**	*e*P	**P**		**13 02 26.1 +0.2**
PV01	**Paradox Valley**	**57.52 302**	*e*P	**P**		**13 02 26.1 +0.2**
OXF	**Oxford**	**57.54 283**	*e*P	**P**		**13 02 23.8 -2.3**
OXF			pmax	pmax		
	comp=Z,56nm,0.8s,mb5.7					
OXF			MLR	MLR		
	comp=Z,9μm,19.0s,MS5.9					
OXF	**Oxford**	**57.54 283**	*e*P	**P**		**13 02 23.8 -2.3**
	comp=Z,56nm,0.8s,mb5.6					
OXF			LR	LR		
	comp=Z,9μm,19.0s,MS5.9					
OXF	**Oxford**	**57.54 283**	*e*P	**P**		**13 02 23.8 -2.3**
	comp=Z,56nm,0.8s,mb5.6					
PAHR	**Pah Rah Range**	**57.69 312**	P	**P**		**13 02 26.0 -1.1**
PAHR	**Pah Rah Range**	**57.69 312**	P	**P**		**13 02 26.0 -1.1**
MSU	**Marysvale**	**57.75 305**	*e*P	**P**		**13 02 28.2 +0.8**
MVU	**Marysvale**	**57.76 305**	*e*P	**P**		**13 02 28.1 +0.6**
	comp=Z,45nm,1.0s,mb5.5					
MVU			LR	LR		
	comp=Z,21μm,20.0s,MS6.2					
MVU	**Marysvale**	**57.76 305**	*e*P	**P**		**13 02 28.1 +0.6**
	comp=Z,45nm,1.0s,mb5.5					
UALR	**University of**	**57.85 286**	*e*P	**P**		**13 02 26.6 -1.6**
	comp=Z,45nm,1.0s,mb5.5					
UALR	**University of**	**57.85 286**	*e*P	**P**		**13 02 26.6 -1.6**
	comp=Z,45nm,1.0s,mb5.5					
WCN	**Washoe City**	**58.15 312**	*e*P	**P**		**13 02 30.6 +0.4**
WCN			pmax	pmax		
	comp=Z,307nm,1.8s,mb6.0					
WCN	**Washoe City**	**58.15 312**	*e*P	**P**		**13 02 30.6 +0.4**
	comp=Z,307nm,1.8s,mb6.0					
WCN	**Washoe City**	**58.15 312**	*e*P	**P**		**13 02 30.6 +0.4**
	comp=Z,307nm,1.8s,mb6.0					
LGTI	**Lohaghat**	**58.19 99**	*e*	**P**		**13 02 38.3 +7.6**
MIAR	**Mount Ida**	**58.31 287**	*e*P	**P**		**13 02 30.3 -1.1**
MIAR			pmax	pmax		
	comp=Z,86nm,1.0s,mb5.7					
MIAR			MLR	MLR		
	comp=Z,11μm,19.0s,MS6.0					
MIAR	**Mount Ida**	**58.31 287**	*e*P	**P**		**13 02 30.3 -1.1**
	comp=Z,86nm,1.0s,mb5.7					
MIAR			LR	LR		
	comp=Z,11μm,19.0s,MS6.0					
MIAR	**Mount Ida**	**58.31 287**	*e*P	**P**		**13 02 30.3 -1.1**
	comp=Z,11μm,19.0s					
NDI	**New Delhi**	**58.35 103**	*e*P	**P**		**13 02 29.5 -2.3**
NDI			*e*S	**S**		**13 10 36.0

MNV Mina 58.76 311 *e*P **P 13 02 34.5 -0.1**
comp=Z,91nm,1.6s,mb5.5
MNV LR LR
comp=Z,13μm,20.0s,MS6.1
MNV Mina 58.76 311 *e*P **P 13 02 34.5 0.0**
comp=Z,13μm,20.0s
NVAR Mina Array Bea 58.78 311 P **P 13 02 34.2 -0.4**
comp=Z,12nm,0.9s,mb4.9,baz=28,slow=5.4,SNR=36
NVAR LR LR 13 28 34.3
comp=Z,12μm,19.4s,MS6.0,baz=350,slow=37
NVAR Mina Array Bea 58.78 311 P **P 13 02 34.2 -0.5**
HOPS Hopland 58.92 315 PFAKE 13 02 50.0 +14
HOPS LR LR
comp=Z,16μm,19.0s,MS6.2
TPH Tonopah 58.97 310 *e*P **P 13 02 36.4 +0.4**
comp=Z,46nm,1.3s,mb5.3
TPH LR LR
comp=Z,13μm,19.0s,MS6.1
TPH Tonopah 58.97 310 *e*P **P 13 02 36.4 +0.4**
comp=Z,46nm,1.3s,mb5.3
INCN Inchon 59.08 53 *e*P **P 13 02 39.2 +2.5**
comp=Z,61nm,1.0s,mb5.6
INCN LR LR
comp=Z,11μm,19.0s,MS6.0
INCN Inchon 59.08 53 *e*P **P 13 02 39.2 +2.4**
comp=Z,61nm,1.0s,mb5.6
WMOK Wichita Mounta 59.09 292 *e*P **P 13 02 36.1 -0.8**
comp=Z,37nm,0.9s,mb5.4
WMOK Wichita Mounta 59.09 292 *e*P **P 13 02 36.2 -0.7**
comp=Z,37nm,0.9s,mb5.4
XAN Xi'an 59.35 70 P **P 13 02 37.5 -1.2**
XAN S **S 13 10 43.1 -2.4**
XAN SS SS 13 14 43.9 +2.0
XAN LR LR
comp=N,7μm,23.1s,MS6.5
XAN LR LR
comp=E,38μm,19.3s,MS6.5
XAN LR LR
comp=Z,20μm,19.7s,MS6.2
CMB Columbia Colle 59.48 313 P **P 13 02 38.3 -1.2**
comp=Z,87nm,1.9s,mb5.5
CMB LR LR
comp=Z,21μm,20.0s,MS6.3
CMB Columbia Colle 59.48 313 P **P 13 02 38.3 -1.2**
comp=Z,87nm,1.9s,mb5.5
AMTX Amarillo 59.48 295 *e*P **P 13 02 39.0 -0.6**
comp=Z,32nm,0.9s,mb5.3
AMTX LR LR
comp=Z,18μm,21.0s,MS6.2
AMTX Amarillo 59.48 295 *e*P **P 13 02 39.0 -0.6**
comp=Z,32nm,0.9s,mb5.3
OMM Old Mammoth Mi 59.68 311 *e*P **P 13 02 43.0 +2.0**
OMM Old Mammoth Mi 59.68 311 *e*P **P 13 02 43.0 +2.1**
ARQ Araqi 59.83 125 P **P 13 02 41.3 -0.8**
SNR=10
MTUM Tungsten Hills 59.88 311 *e*P **P 13 02 43.4 +1.1**
MTUM Tungsten Hills 59.88 311 *e*P **P 13 02 43.4 +1.1**
LSA Lhasa 60.11 89 P **P 13 02 43.9 -0.1**
LSA AP pP 13 02 55.5 +8.4
LSA PP PP 13 05 01.1 +2.5
LSA S **S 13 11 00.6 +5.3**
LSA SCS ScS 13 12 31.0 0.0
LSA LR LR
comp=N,5μm,18.4s,MS6.1
LSA LR LR
comp=E,12μm,21.4s,MS6.1
LSA LR LR
comp=Z,7μm,17.7s,MS5.8
LSA Lhasa 60.11 89 *e*P **P 13 02 45.0 +1.0**
comp=Z,147nm,1.4s,mb5.8
LSA Lhasa 60.11 89 *e*P **P 13 02 45.0 +1.0**
comp=Z,147nm,1.4s,mb5.8
ANMO Albuquerque 60.26 299 P **P 13 02 44.7 -0.2**
comp=Z,9.4nm,0.8s,mb4.9,baz=18,slow=5.9,SNR=30
ANMO LR LR 13 28 43.3
comp=Z,16μm,18.8s,MS6.2,slow=36
ANMO Albuquerque 60.26 299 *e*P **P 13 02 44.5 -0.4**
comp=Z,113nm,1.8s,mb5.6
ANMO LR LR
comp=Z,18μm,20.0s,MS6.2
ANMO Albuquerque 60.26 299 *e*P **P 13 02 44.5 -0.4**
comp=Z,113nm,1.8s,mb5.6
GKN Gorkha 60.46 95 *e*P **P 13 02 45.4 -1.0**
comp=Z,237nm,1.3s,mb6.1
KOLN Koldanda 60.48 96 *e*P **P 13 02 45.7 -0.8**
comp=Z,132nm,1.2s,mb5.8
BSY Bisya 60.52 125 P **P 13 02 46.0 -0.8**
SNR=10
BSYO Bisya 60.54 124 P **P 13 02 46.0 -1.0**
SNR=10
WUAZ Wupatki 60.54 304 *e*P **P 13 02 46.9 +0.1**
comp=Z,40nm,0.8s,mb5.6
WUAZ Wupatki 60.54 304 *e*P **P 13 02 46.9 +0.1**
comp=Z,40nm,0.8s,mb5.6
DAC Darwin (Calif) 60.79 310 *e*P **P 13 02 50.3 +1.9**
comp=Z,141nm,1.5s,mb5.9
DAC LR LR
comp=Z,20μm,20.0s,MS6.3
DAC Darwin (Calif) 60.79 310 *e*P **P 13 02 50.3 +1.8**
comp=Z,141nm,1.5s,mb5.9
KKN Kakani 60.80 95 *e*P **P 13 02 48.4 -0.3**
comp=Z,451nm,1.1s
GUN Gumba 60.80 94 *e*P **P 13 02 48.4 -0.3**
comp=Z,347nm,1.3s,mb6.3
SAO San Andreas Ge 60.88 313 PFAKE 13 03 00.0 +11
SAO LR LR
comp=Z,14μm,22.0s,MS6.1
LAZ Ladron 60.91 300 *e*P **P 13 02 49.0 -0.4**
LAZ Ladron 60.91 300 *e*P **P 13 02 49.0 -0.4**
LPM Los Pinos Moun 60.91 299 *e*P **P 13 02 49.0 -0.4**
LPM Los Pinos Moun 60.91 299 *e*P **P 13 02 49.0 -0.4**
DMN Daman 60.94 95 *e*P **P 13 02 49.2 -0.4**
comp=Z,306nm,1.4s,mb6.2
WBK Wadi Bani Khal 60.94 123 ⇑P **P 13 02 48.7 -1.0**
JMDO Jabal Madar 61.03 124 ⇓P **P 13 02 49.6 -0.7**
PKI Pulchoki 61.03 95 *e*P **P 13 02 49.9 -0.4**
comp=Z,294nm,1.4s,mb6.2
BNM Barren Site 61.07 299 *e*P **P 13 02 50.1 -0.3**
BNM Barren Site 61.07 299 *e*P **P 13 02 50.1 -0.4**
JIRN Jiri 61.10 94 *e*P **P 13 02 50.4 -0.3**
comp=Z,337nm,1.3s,mb6.3
LENM Lemitar 61.12 299 *e*P **P 13 02 50.5 -0.3**
LENM Lemitar 61.12 299 *e*P **P 13 02 50.5 -0.3**
LRV Little Rabbit 61.15 313 *e*P **P 13 02 55.0 +4.0**
NATX Nacogdoches 61.22 287 *e*P **P 13 02 51.0 -0.5**
comp=Z,134nm,1.1s,mb6.0
NATX LR LR
comp=Z,9μm,20.0s,MS5.9
NATX Nacogdoches 61.22 287 *e*P **P 13 02 51.0 -0.5**
comp=Z,134nm,1.1s,mb6.0
CD2 Chengdu 61.41 76 P **P 13 02 52.0 -0.8**
LDFC Landfair 61.57 307 *e*P **P 13 02 54.1 +0.2**
LDFC Landfair 61.57 307 *e*P **P 13 02 54.1 +0.2**
CPRX Cap Rock 61.68 296 *e*P **P 13 02 54.3 -0.3**
MAJO Matsushiro 61.70 43 *e*P **P 13 02 55.2 +0.5**
comp=Z,42nm,1.0s,mb5.5
MAJO LR LR
comp=Z,7μm,21.0s,MS5.8
MAT Matsushiro 61.70 43 *e*P **P 13 02 53.0 -1.7**
comp=Z,14nm,1.0s,mb5.0
MAT *e*S **S 13 11 16.0 +0.4**
MAT LR LR
comp=Z,7μm,21.0s,MS5.8
MAT Matsushiro 61.70 43 P **P 13 02 53.2 -1.5**
MAT S **S 13 11 16.0 +0.4**
MAT Matsushiro 61.70 43 *e*P **P 13 02 53.0 -1.7**
comp=Z,14nm,1.0s,mb5.0
MAT *e*S **S 13 11 16.0 +0.4**
DWPF Disney 62.19 274 PFAKE 13 03 10.0 +12
DWPF LR LR
comp=Z,2μm,21.0s,MS5.3
BHJ Bhuj 62.20 112⇓*e* **P 13 03 13.8 +16**
BHJ *e* 13 11 34.3
CLNB Carlsbad 62.43 296 *e*P **P 13 02 59.5 -0.1**
ALBI Allahabad 62.52 99 *e* **P 13 03 05.5 +5.2**
GDL2 Guadalupe Moun 62.58 297 *e*P **P 13 03 00.0 -0.6**
MWC Mount Wilson 62.87 310 *e*P **P 13 03 02.2 -0.3**
NJ2 Nanjing 63.08 62 *e*P **P 13 03 03.2 -0.7**
NJ2 AP pP 13 03 07.7 +0.6
NJ2 XP sP 13 03 10.3 +2.1
NJ2 PP PP 13 05 23.1 -1.2
NJ2 S **S 13 11 33.0 -0.1**
NJ2 XS 13 11 41.0
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.4
NJ2 AMB AMB
comp=Z,490nm,7.5s
NJ2 LR LR
comp=N,34μm,18.3s,MS6.6
NJ2 LR LR
comp=E,15μm,19.6s,MS6.6
NJ2 LR LR
comp=Z,22μm,18.1s,MS6.4
ENH Enshi 63.12 71 *e*P **P 13 03 02.8 -1.4**
comp=Z,127nm,1.5s,mb5.8
PFO Pinyon Flat Ob 63.22 308 P **P 13 03 05.9 +1.1**
comp=Z,96nm,1.0s,mb5.9,SNR=12
PFO Pinyon Flat Ob 63.22 308 P **P 13 03 03.5 -1.3**
comp=Z,96nm,1.0s,mb5.9,SNR=12
PFO Pinyon Flat Ob 63.22 308 *e*P **P 13 03 05.1 +0.3**
comp=Z,42nm,1.3s,mb5.4
PFO LR LR
comp=Z,3μm,22.0s,MS5.4
MNTX Cornudas Mount 63.25 297 *e*P **P 13 03 03.8 -1.2**
comp=Z,18nm,0.9s,mb5.2
MNTX LR LR
comp=Z,10μm,21.0s,MS6.0
TUC Tucson 63.58 303 *e*P **P 13 03 06.8 -0.2**
comp=Z,112nm,1.5s,mb5.7
TUC LR LR
comp=Z,22μm,19.0s,MS6.3
BHPL Bhopal 63.68 104 *e*P **P 13 03 07.9 0.0**
BHPL *e* 13 03 30.1
comp=Z,41nm,1.4s
BHPL *i*S **S 13 11 41.7 +1.2**
WHN Wuhan 63.75 66 *e*P **P 13 03 07.0 -1.2**
BAR Barrett 64.17 308 *e*P **P 13 03 11.8 +0.8**
SSE Sheshan 64.42 60 *e*P **P 13 03 09.3 -3.3**
SSE PCP PcP 13 03 44.6 -2.3
SSE S **S 13 11 45.4 -4.2**
SSE SS SS 13 16 01.1 -0.2
SSE AMB AMB
comp=Z,23nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,145nm,6.7s
SSE LR LR
comp=E,40μm,21.9s
SSE LR LR
comp=Z,14μm,19.9s,MS6.1
SSE Sheshan 64.42 60 *e*P **P 13 03 09.3 -3.3**
comp=Z,23nm,0.8s,mb5.3
SSE pP pP 13 03 12.5 -3.2
SSE PcP PcP 13 03 44.6 -2.3
SSE S **S 13 11 45.4 -4.2**
SSE sS 13 11 51.4
SSE SS SS 13 16 01.1 -0.2
SSE LR LR
comp=Z,14μm,19.9s,MS6.1
WHFO Wadi Hawf 64.70 129 P **P 13 03 13.2 -1.4**
SNR=8.2
RBK Rabkut 65.18 129 ⇓P **P 13 03 15.7 -2.0**
SNR=7.3
ABTO Aybut 65.19 130 P **P 13 03 16.5 -1.2**
SNR=13
TXAR Lajitas Array 65.25 295 P **P 13 03 17.4 -0.6**
comp=Z,27nm,0.8s,mb5.4,baz=39,slow=5.2,SNR=124
TXAR LR LR 13 31 39.4
comp=Z,15μm,18.1s,MS6.2,baz=35,slow=36
BLSP Bilaspur 65.68 99 *e*P **P 13 03 19.1 -1.7**
BLSP *e* 13 03 43.5
comp=Z,97nm,1.8s
BLSP *i*S S 13 12 04.9 -0.3
AGT Agartala 65.78 90 *e* **P 13 03 32.0 +11**
GYA Guiyang 66.29 74⇑*i*P **P 13 03 24.0 -0.7**
GYA AP pP 13 03 28.9 +1.1
GYA XP sP 13 03 31.4 +2.4
GYA PP PP 13 05 52.6 -0.3
GYA S S 13 12 15.7 +3.1
GYA AMB AMB
comp=Z,60nm,1.1s,mb5.5
GYA AMB AMB
comp=Z,480nm,10.2s
GYA LR LR
comp=N,10μm,21.7s,MS6.3
GYA LR LR
comp=E,18μm,20.3s,MS6.3
GYA LR LR
comp=Z,7μm,21.8s,MS5.8
CAL Calcutta 66.50 93 *e*P **P 13 03 23.1 -3.1**
CAL *e* 13 07 07.9
POO Poona 67.59 108 *e*P **P 13 03 31.7 -1.3**
POO *e* 13 03 58.4
comp=Z,71nm,1.2s
KAD Karad 68.84 108 *e*P **P 13 03 39.3 -1.5**
KAD *e* 13 03 55.1
comp=Z,32nm,1.6s
SJG San Juan 68.90 256 PFAKE 13 03 50.0 +8.8
SJG LR LR
comp=Z,5μm,19.0s,MS5.8
HYB Hyderabad 69.57 104 *e*P **P 13 03 44.0 -1.3**
HYB Hyderabad 69.57 104 *i*P **P 13 03 44.0 -1.3**
HYB *e*PcP PcP 13 04 08.0 -0.6
HYB *e*S S 13 12 50.0 -1.9
HYB *e*SS SS 13 17 28.0 +6.7
JOW Kunigami 69.77 54 LR LR 13 36 18.1
comp=Z,10μm,19.4s,MS6.1,baz=179,slow=38
QZH Quanzhou 69.98 63⇑*i*P **P 13 03 49.0 +1.3**
QZH S S 13 12 58.0 +1.4
QZH AMB AMB
comp=Z,930nm,11.2s
QZH LR LR
comp=Z,34μm,16.4s,MS6.7
VIS Vishakhapatnam 70.20 99 *e*P **P 13 03 49.2 0.0**
TATO Taipei 70.45 61 PFAKE
TATO LR LR
comp=Z,13μm,20.0s,MS6.2
GZH Guangzhou 70.84 69 P **P 13 03 49.4 -3.6**
GZH S S 13 13 02.4 -4.3
GZH LR LR
comp=Z,25μm,19.0s,MS6.5
TEIG Tepich 71.20 279 PFAKE 13 04 10.0 +15
TEIG LR LR
comp=Z,4μm,20.0s,MS5.7
CHRT Chiangrai 71.37 82 ⇑P **P 13 03 54.0 -2.2**
comp=Z,197nm,0.9s,mb6.0
CBIJ Chichi jima 71.53 41 LR LR 13 34 54.6
comp=Z,3μm,20.4s,MS5.6,baz=105,slow=36
DBIC Dimbokro 72.14 192 P **P 13 03 59.9 -1.0**
comp=Z,2.9nm,0.9s,baz=234,slow=22,SNR=3.2
DBIC LR LR 13 34 44.4
comp=Z,2μm,19.7s,MS5.5,baz=348,slow=35
DBIC Dimbokro 72.14 192 P **P 13 03 59.9 -1.0**
DBIC LR LR 13 34 44.4
MDRS Chennai 74.13 103 *e* **P 13 04 14.0 +1.5**
MDRS *e* 13 16 19.0
MDRS *e* 13 19 17.0
QIZ Qiongzhong 74.14 73 P **P 13 04 14.1 +1.7**
QIZ PPP PPP 13 08 48.9 +4.1
QIZ S S 13 13 45.6 +1.5
QIZ SCS ScS 13 14 18.9 -0.5
QIZ SS SS 13 18 32.9 +1.2
QIZ LR LR
comp=N,14μm,18.4s
QIZ LR LR
comp=Z,16μm,17.6s,MS6.4
KKTK Khon Kaen 75.40 80 P **P 13 04 19.0 -0.8**
comp=Z,309nm,1.0s,mb6.2
NNT Nongplab 78.44 84 P **P 13 04 37.8 +1.1**
SDV Santo Domingo 78.75 259 *e*P **P 13 04 38.7 +0.2**
comp=Z,21nm,0.7s,mb5.2
SDV LR LR
comp=Z,5μm,20.0s,MS5.9
KIP Kipapa 79.76 345 PFAKE 13 05 00.0 +16
KIP LR LR
comp=Z,4μm,22.0s,MS5.7
PALK Pallekele 79.87 104 PFAKE 13 05 00.0 +15
PALK LR LR
comp=Z,1μm,20.0s,MS5.2
MBAR Mbarara 80.19 155 *e*P **P 13 04 44.8 -1.5**
comp=Z,20nm,1.1s
MBAR LR LR
comp=Z,271nm,20.0s
JTS JuntasAbangare 80.22 273 P **P 13 04 48.0 +1.6**
comp=Z,1.5nm,0.3s,mb4.5,baz=290,slow=20,SNR=2.2
JTS JuntasAbangare 80.22 273 P **P 13 04 48.0 +1.6**
JTS LR LR
comp=Z,2μm,19.0s,MS5.4
POHA Pohakuloa 81.27 343 PFAKE 13 05 00.0 +8.2
POHA LR LR
comp=Z,40μm,22.0s,MS6.7
KMBO Kilima Mbogo 81.32 149 P **P 13 04 53.4 +1.2**
comp=Z,3.1nm,1.0s,baz=67,slow=19,SNR=4.1
KMBO LR LR 13 47 10.4
comp=Z,912nm,21.6s,MS5.1,baz=226,slow=40
KMBO Kilima Mbogo 81.32 149 *e*P **P 13 04 53.9 +1.7**
comp=Z,55nm,1.8s,mb5.2
KMBO LR LR
comp=Z,1μm,21.0s,MS5.3
ROSC El Rosal 83.40 262 P **P 13 05 04.6 +1.6**
comp=Z,11nm,0.6s,mb5.0,baz=85,slow=21,SNR=8.3
ROSC LR LR 13 42 33.1
comp=Z,3μm,21.2s,MS5.7,baz=3.8,slow=36
GUMO Guam 85.19 40 LR LR 13 45 00.6
comp=Z,2μm,18.0s,MS5.6,baz=200,slow=37
GUMO Guam 85.19 40 PFAKE 13 05 20.0 +8.1
GUMO LR LR
comp=Z,2μm,20.0s,MS5.5
RCBR Riachuelo 87.27 222 PFAKE 13 05 30.0 +7.8
RCBR LR LR
comp=Z,1μm,20.0s,MS5.4
KKM Kota Kinabalu 88.00 69 *e*P **P 13 05 26.9 +1.2**
OTAV Otavalo 88.71 265 *e*P **P 13 05 30.6 +1.5**
comp=Z,97nm,1.4s,mb5.9
OTAV LR LR
comp=Z,3μm,21.0s,MS5.7
PAYG Puerto Ayora 91.94 276 PFAKE 13 06 00.0 +16
PAYG LR LR
comp=Z,3μm,21.0s,MS5.8
KWAJ Kwajalein Atol 92.12 18 PFAKE 13 06 00.0 +15
KWAJ LR LR
comp=Z,542nm,20.0s,MS5.0
DGAR Diego Garcia 92.65 115 PFAKE 13 06 00.0 +13
DGAR LR LR
comp=Z,1μm,20.0s,MS5.4
LSZ Lusaka 94.52 159 PFAKE 13 06 10.0 +14
LSZ LR LR
comp=Z,2μm,21.0s,MS5.5
SAML Samuel 94.73 248 PFAKE 13 06 10.0 +13
SAML LR LR
comp=Z,2μm,19.0s,MS5.7
BDFB Brasilia 98.67 232 LR LR 13 44 52.9
comp=Z,2μm,21.7s,MS5.6,baz=6.1,slow=32
PMG Port Moresby 108.14 41 PFAKE 13 11 20.0
PMG LR LR
comp=Z,2μm,21.0s,MS5.6
TAOE Nuku Hiva Isla 108.26 325 *e*LR LR 13 42 53.7
LVC Limon Verde 109.12 251 PFAKE 13 11 20.0
LVC LR LR
comp=Z,2μm,22.0s,MS5.7
HNR Honiara 109.59 28 PFAKE 13 11 20.0
HNR LR LR
comp=Z,2μm,20.0s,MS5.6
MBWA Marble Bar 115.19 71 PFAKE 13 11 30.0 +11
MBWA LR LR
comp=Z,3μm,22.0s,MS5.9
AFI Afiamalu 115.27 358 PFAKE 13 11 30.0 +11
AFI LR LR
comp=Z,2μm,20.0s,MS5.8
WRAB Tennant Creek 116.58 56 PFAKE 13 11 30.0 +8.6
WRAB LR LR
comp=Z,593nm,21.0s,MS5.2
WRA Warramunga Arr 116.59 56 PKP PKPdf 13 11 22.6 +1.2
comp=Z,2.3nm,1.3s,baz=326,slow=2.2,SNR=4.6
WRA PP PP 13 12 34.6 +4.0
comp=Z,2.6nm,1.1s,baz=359,slow=7.3,SNR=5.4
PPT Papeete 117.83 334 *e*PP PP 13 12 36.1 -3.2
PPT *e*PS PS 13 22 18.2 -1.7
PPT *e*SS SS 13 28 38.8 -10
PPT *e*LR LR 13 47 14.5
comp=Z,11μm,38.0s
CTAO Charters Tower 118.53 43 PFAKE 13 11 40.0 +15
CTAO LR LR
comp=Z,2μm,22.0s,MS5.7
ASAR Alice Springs 120.17 57 PKP PKPdf 13 11 26.0 -2.2
comp=Z,0.8nm,0.7s,baz=8.7,slow=1.4,SNR=6.6
RPN Rapa Nui 121.39 290 PFAKE 13 11 40.0 +9.4
RPN LR LR
comp=Z,826nm,19.0s,MS5.4
RKT Rikitea 121.67 317 *e*PP PP 13 12 57.1 -8.0
RKT *e*PS PS 13 23 02.1 +7.6
RKT *e*SS SS 13 29 42.9 +4.6
RKT *e*LR LR 13 49 23.2
comp=Z,4μm,25.8s
RAR Rarotonga 122.16 345 PFAKE 13 11 40.0 +7.9
RAR LR LR
comp=Z,3μm,20.0s,MS6.0
PTCN Pitcairn Islan 122.90 312 PFAKE 13 11 40.0 +6.6
PTCN LR LR
comp=Z,4μm,19.0s,MS6.0
TRQA Tornquist 122.92 241 PFAKE 13 11 40.0 +6.9
TRQA LR LR
comp=Z,2μm,21.0s,MS5.8
TBI Tubuai 123.54 333 *e*PP PP 13 13 19.5 +1.3
TBI *e*PS PS 13 23 07.8 -2.9
TBI *e*SS SS 13 29 59.2 -2.8
TBI *e*LR LR 13 49 59.4
comp=Z,7μm,37.8s
NWAO Narrogin (SRO) 126.17 77 PFAKE 13 11 50.0 +11
NWAO LR LR
comp=Z,3μm,22.0s,MS5.8
STKA Stephens Creek 129.44 51 PKP PKPdf 13 11 47.9 +2.1
comp=Z,1.3nm,0.4s,baz=310,slow=19,SNR=2.7
STKA Stephens Creek 129.44 51 PKP PKPdf 13 11 47.9 +2.1
RAO Raoul Island 130.51 5 PFAKE 13 12 00.0 +12
RAO LR LR
comp=Z,2μm,21.0s,MS5.9
TAU Tasmania Unive 141.12 47 PFAKE 13 12 20.0 +13
TAU LR LR
comp=Z,586nm,22.0s,MS5.3
SNZO South Karori 142.29 14 PFAKE 13 12 20.0 +11
SNZO LR LR
comp=Z,2μm,20.0s,MS5.8
RPZ Rata Peaks 144.48 19 PKP PKPdf 13 12 12.3 -0.4
comp=Z,20nm,1.1s,baz=318,slow=5.0,SNR=3.2
SYO Syowa Base 148.70 158 ⇑pPKPdf 13 12 22.6
SYO Syowa Base 148.70 158 ⇑PKIKP 13 12 26.0
PMSA Palmer Station 148.96 231 PFAKE 13 12 30.0 +11
PMSA LR LR
comp=Z,2μm,20.0s,MS5.8
VNA1 Neumayer--Stat 149.31 189⇑*i* PKPdf 13 12 28.5 +8.6
VNA1 Neumayer--Stat 149.31 189⇑*i* PKPdf 13 12 32.2 +12
VNA2 Neumayer--Watz 149.56 189⇓*i* PKPdf 13 12 17.5 -2.8
VNA2 Neumayer--Watz 149.56 189 PKPdf 13 12 25.0 +4.7
VNA2 Neumayer--Watz 149.56 189⇑*i* PKPdf 13 12 28.5 +8.2
VNA2 Neumayer--Watz 149.56 189⇑*i* PKPdf 13 12 32.4 +12
MAW Mawson 149.71 141 PKPbc PKPdf 13 12 24.9 +4.3
comp=Z,3.6nm,0.9s,baz=323,slow=5.1,SNR=2.4
MAW PKPab PKPab 13 12 30.1 +0.3
comp=Z,24nm,1.1s,baz=323,slow=4.4,SNR=5.4
VNA3 Neumayer Olymp 149.95 190⇑*i* PKPdf 13 12 20.1 -0.8
VNA3 Neumayer Olymp 149.95 190⇑*i* PKPdf 13 12 27.2 +6.3
VNA3 Neumayer Olymp 149.95 190⇑*i* PKPdf 13 12 34.5 +14
SNAA Sanae 150.19 186 PKPbc PKPdf 13 12 26.6 +5.3
comp=Z,4.9nm,0.9s,baz=355,slow=5.0,SNR=7.1
SNAA Sanae 150.19 186 *e*P PKPdf 13 12 26.2 +4.9
CASY Casey 156.37 102 PFAKE 13 12 40.0 +10
CASY LR LR
comp=Z,2μm,20.0s,MS6.0
VNDA Vanda 174.85 90 P PKPdf 13 12 40.2 -4.7

GUC ***02*** *13:01:10.0±0.9,25.24S×71.12W,h14km±6km,ML5.3*
BJI ***02*** *13:01:11.6,25.20S×70.70W,h16km,mB5.6,Ms5.5, Msz5.3*
NEIC ***02*** *13:01:11.7±2.5,25.22S×70.75W,h16km±16km,mb5.2/9, ML5.3(GUC),Error ellipse: s-maj=11.7km s-min=5.3km az=92.0*
IDC ***02*** *13:01:17.1±2.3,25.14S×70.57W,h55km±20km,mb4.1/13, mb1 4.3/18,mb1mx4.2/24,mbtmp4.4/18,ML4.4/5,MS3.3/3, Ms1 3.4/3,ms1mx3.4/21,Error ellipse: s-maj=23.2km s-min=14.0km az=80.0*
ISC 02 13:01:13.6±0.6,25.22S±0.03×70.71W±0.09,h45km±6km, n57,σ1§38/60,mb4.6/21,MS5.3/2,7C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.65**	**25**	⇑*i*P	**P**	**13 01 26.8**	**+0.2**
CPN1				*i* S	**S**	**13 01 36.7**	**+0.6**
CPN1				AMP		13 01 37.7	
comp=E,103μm,0.6s							
ANCH	**Antofagasta**	**1.56**	**10**	⇑*i*P	**P**	**13 01 38.6**	**-0.7**
ANCH				*i* S	**S**	**13 02 00.3**	**+1.8**
ANCH				AMP		13 02 05.5	
comp=N,26μm,0.9s							

CPCH	Copiapo	2.15	172	⇑*iP*	P	13 01 47.2	-0.6
CPCH				*i* S	S	13 02 15.5	+2.1
CPCH				AMP		13 02 21.8	
comp=N,31μm,0.2s							
LVC	Limon Verde	3.07	33	P	P	13 02 02.3	+1.4
comp=N,21nm,0.3s,baz=225,slow=9.9,SNR=152							
LVC				LR	LR	13 02 40.1	
comp=N,488nm,18.7s,baz=216,slow=28							
LVC				S	S	13 02 43.5	+6.8
comp=N,1μm,0.3s,baz=49,slow=7.7,SNR=20							
LVC	Limon Verde	3.07	33	*eP*	P	13 02 01.9	+1.1
LVC				*eS*	S	13 02 43.7	+7.0
LVC	Limon Verde	3.07	33	⇑*iP*	P	13 02 02.2	+1.3
LVC				*i* S	S	13 02 43.3	+6.6
LVC				AMP		13 02 54.3	
comp=N,8μm,0.4s							
VACH	Vallenar	3.34	181	⇑*iP*	P	13 02 02.8	-1.9
VACH				AMP		13 03 02.0	
comp=E,10μm,0.3s							
LCO	Las Campanas	3.78	180	⇓*iP*	P	13 02 09.1	-1.7
LCO				*i* S	S	13 02 54.9	+0.3
TLL	Tololo Astrono	4.93	181	⇑*iP*	P	13 02 25.3	-1.8
TLL				*i* S	S	13 03 21.6	-2.0
ZON	Zonda	6.55	165	*eP*	P	13 02 54.0	+4.2
ZON				*eS*	S	13 04 18.0	+14
CHNG	Los Chungos	6.67	186	*eP*	P	13 02 48.1	-3.5
CFAA	Coronel Fontan	6.72	162	P	P	13 02 55.1	+2.9
comp=E,1.4nm,0.3s,baz=340,slow=13,SNR=38							
CFAA				S	S	13 04 17.1	+8.7
comp=E,3.1nm,0.3s,baz=164,slow=17,SNR=14							
CFAA				LR	LR	13 05 40.3	
comp=E,112nm,18.7s,baz=345,slow=39							
ARE	Arequipa	8.74	355	*eP*	P	13 03 16.0	-4.3
LPAZ	La Paz	9.21	16	P	P	13 03 25.9	-0.7
comp=E,4.1nm,0.3s,baz=195,slow=7.3,SNR=87							
LPAZ				S	S	13 05 22.9	+13
comp=E,0.6nm,0.3s,baz=150,slow=18,SNR=1.9							
LPAZ				LR	LR	13 07 13.2	
comp=E,465nm,20.8s,baz=26,slow=39							
LPAZ	La Paz	9.21	16	*eP*	P	13 03 25.3	-1.4
comp=E,18nm,0.5s							
SIV	San Ignacio	12.87	46	P	P	13 04 15.7	-0.7
comp=E,2.3nm,0.3s,baz=243,slow=9.7,SNR=14							
SIV				S	S	13 06 35.7	-3.2
comp=E,1.1nm,0.3s,baz=222,slow=16,SNR=3.1							
TRQA	Tornquist	14.79	152	*eP*	P	13 04 40.4	-1.0
comp=E,16nm,0.6s							
PLCA	Paso Flores	15.47	180	P	P	13 04 53.3	+3.0
comp=E,0.2nm,0.3s,baz=356,slow=14,SNR=7.4							
PLCA	Paso Flores	15.47	180	*eP*	P	13 04 53.8	+3.5
comp=E,10nm,1.1s							
SAML	Samuel	17.70	25	*eP*	P	13 05 18.6	+0.1
comp=E,14nm,0.8s							
BDFB	Brasilia	23.27	70	P	P	13 06 18.2	0.0
comp=E,5.2nm,0.6s,mb4.2,baz=246,slow=11,SNR=9.0							
BAO	Brasilia Array	23.29	70	P	P	13 06 18.0	-0.4
BAO				pP		13 06 31.0	
JTS	JuntasAbangare	37.93	337	P	P	13 08 28.4	-0.2
comp=E,3.2nm,0.6s,mb4.2,baz=339,slow=20,SNR=3.6							
SJG	San Juan	43.30	6	P	P	13 09 11.1	-1.9
comp=E,4.0nm,0.3s,mb4.7,baz=292,slow=16,SNR=3.8							
SNAA	Sanae	59.34	160	P	P	13 11 12.1	-1.0
comp=E,1.3nm,0.7s,mb4.0,baz=26,slow=20,SNR=6.2							
PLAL	Pickwick Lake	62.09	344	*eP*	P	13 11 29.6	-2.7
comp=E,6.7nm,0.7s,mb4.9							
TXAR	Lajitas Array	62.80	328	P	P	13 11 37.3	+0.2
comp=E,2.7nm,0.7s,mb4.5,baz=151,slow=8.1,SNR=17							
WVT	Waverly	63.13	345	*eP*	P	13 11 37.5	-1.7
comp=E,20nm,0.7s,mb5.4							
WCI	Wyandotte Cave	64.79	346	*eP*	P	13 11 48.3	-1.6
comp=E,23nm,0.7s,mb5.3							
QSPA	South Pole Qui	65.51	329	*eP*	P	13 11 51.7	+1.2
comp=E,13nm,1.1s,mb4.9							
GDL2	Guadalupe Moun	65.51	329	*eP*	P	13 11 55.2	+0.5
FVM	French Village	65.54	343	*eP*	P	13 11 53.6	-1.1
comp=E,26nm,0.7s,mb5.4							
CCM	Cathedral Cave	65.83	342	*eP*	P	13 11 55.5	-1.1
comp=E,21nm,0.8s,mb5.2							
BNM	Barren Site	68.19	328	*eP*	P	13 12 12.6	+1.0
ANMO	Albuquerque	68.77	329	P	P	13 12 16.4	+1.4
comp=E,2.6nm,0.7s,mb4.3,baz=153,slow=8.3,SNR=12							
CBKS	Cedar Bluff	69.25	336	*eP*	P	13 12 18.4	+0.3
comp=E,9.6nm,0.6s,mb4.9							
SADO	Sadowa	70.07	354	P	P	13 12 22.4	-0.5
comp=E,12nm,0.6s,mb5.0,baz=199,slow=5.2,SNR=13							
DBIC	Dimbokro	71.39	73	P	P	13 12 31.5	+0.2
comp=E,1.1nm,0.5s,mb4.1,baz=156,slow=3.3,SNR=3.7							
DBIC	Dimbokro	71.39	73	P	P	13 12 31.5	+0.2
VNDA	Vanda	72.91	190	P	P	13 12 40.9	+1.6
comp=E,0.8nm,1.0s,mb3.6,baz=132,slow=2.5,SNR=3.3							
SYO	Syowa Base	73.62	159	⇑P	P	13 12 40.2	-3.3
MSU	Marysvale	74.36	327	*eP*	P	13 12 49.9	+1.5
PDAR	Pinedale Array	76.54	332	P	P	13 13 01.1	+0.3
comp=E,0.6nm,0.5s,mb3.8,baz=143,slow=7.2,SNR=8.7							
NVAR	Mina Array Bea	77.44	324	P	P	13 13 07.8	+1.8
comp=E,1.6nm,0.7s,mb4.0,baz=142,slow=6.2,SNR=12							
YBH	Yreka Blue Hor	82.16	323	P	P	13 13 31.2	0.0
comp=E,2.1nm,0.7s,mb4.2,baz=50,slow=12,SNR=5.8							
LBTB	Lobatse	84.95	115	P	P	13 13 48.2	+2.5
comp=E,5.3nm,0.6s,mb4.8							
DRV	Dumont d'Urvil	85.50	192	PKP	P	13 13 41.0	-6.4
YKA	Yellowknife Ar	94.14	341	P	P	13 14 28.6	+0.5
comp=E,1.9nm,0.8s,mb4.6,baz=137,slow=4.4,SNR=7.3							
YKA				LR	LR	13 58 49.2	
comp=E,1μm,18.1s,MS5.4,baz=100,slow=37							
ASAR	Alice Springs	125.87	208	PKP	PKPdf	13 20 13.1	+1.8
comp=E,1.1nm,0.5s,baz=126,slow=1.5,SNR=19							
WRA	Warramunga Arr	128.93	211	PKP	PKPdf	13 20 19.0	+1.7
comp=E,1.8nm,0.6s,baz=151,slow=1.8,SNR=34							
BVAR	Borovoye Array	139.77	36	PKP	PKPdf	13 20 39.6	+3.1
comp=E,0.3nm,0.3s,baz=333,slow=3.2,SNR=3.7							
KURK	Kurchatov	145.32	35	*e*PKPdf	PKPdf	13 20 48.1	+1.9
ZAL	Zalesovo	146.01	26	PKPbc	PKPbc	13 20 49.9	+1.6
comp=E,7.7nm,0.7s,baz=164,slow=4.1,SNR=44							
MKAR	Makanchi Array	149.59	38	PKPbc	PKPdf	13 21 00.5	+7.2
comp=E,6.9nm,0.7s,baz=318,slow=2.4,SNR=52							
WMQ	Urumqi	154.42	38	*e*PKP	PKPdf	13 21 03.1	+2.7
WMQ				PP	PP	13 25 04.6	+2.4
WMQ				LR	LR		
comp=N,41nm,16.0s,MS5.3							
WMQ				LR	LR		
comp=E,328nm,14.5s,MS5.3							
WMQ				LR	LR		
comp=Z,413nm,21.2s							
SONM	Songino Array	157.31	5	PKP	PKPdf	13 21 07.5	+3.3
comp=Z,0.7nm,0.9s,baz=346,slow=5.1,SNR=3.6							
SONM				PKPab	PKPab	13 21 39.1	+1.2
comp=Z,0.5nm,0.6s,baz=321,slow=4.5,SNR=5.7							
SONM				PP	PP	13 25 16.9	-0.9
comp=Z,0.9nm,1.1s,slow=1.2,SNR=4.5							
HHC	Hu-ho-hao-te	164.30	354	*e*PKP	PKPdf	13 21 13.4	+1.5

*CSEM **02** 13:04:30.3, 78.91N×5.99E, h15km, ML3.2, After BER*
*BER **02** 13:04:30.3±8.2, 78.91N×5.99E, h15km±85km, ML3.2(NAO)*

NAO 02 13:04:32.3±7.3, 78.54N×7.40E, ML3.2, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	0.97	64	Pg	Pg	13 04 51.0	-0.7
KBS				Lg		13 05 04.7	
SPA0	Spitsbergen Ar	1.86	97	Pn	Pn	13 05 05.2	-0.5
baz=269,slow=7.9							
SPA0				Sn	Sn	13 05 29.5	-0.6
baz=264,slow=22							
SPA0	Spitsbergen Ar	1.86	97	Pn	Pn	13 05 05.2	-0.5
baz=269,slow=7.9,SNR=55							
SPA0				Sn	Sn	13 05 29.5	-0.7
baz=264,slow=22,SNR=55							

IDC 02 13:16:51.2±7.7, 22.72S×175.82W, h336km±36km, mb3.6/4, mb1 3.7/5, mb1mx3.4/16, mbtmp4.4/5, Error ellipse: s-maj=123.9km s-min=76.8km az=20.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.42	269	P	P	13 20 23.4	-0.8
0.3nm,0.3s,baz=137,slow=18,SNR=2.8							
DZM				S	S	13 23 16.5	+1.3
0.3nm,0.3s,baz=90,slow=10,SNR=3.3							
CTA	Charters Tower	35.35	267	P	P	13 23 16.6	-0.8
6.6nm,0.3s,baz=104,slow=11,SNR=9.2							
STKA	Stephens Creek	38.72	247	P	P	13 23 42.6	-2.6
1.1nm,0.3s,baz=96,slow=8.3,SNR=2.9							
ASAR	Alice Springs	46.03	258	P	P	13 24 42.1	-1.9
0.6nm,0.4s,baz=94,slow=6.9,SNR=22							
WRA	Warramunga Arr	46.34	264	P	P	13 24 44.9	-1.6
1.7nm,0.3s,baz=98,slow=8.3,SNR=102							
WRA				ScP		13 29 34.7	
0.7nm,0.8s,baz=96,slow=3.8,SNR=6.7							

*BER **02** 13:17:57.5±3.4, 78.69N×6.68E, h10km±33km, MD2.9, ML2.1(NAO)*

NAO 02 13:17:58.2±5.0, 78.43N×7.56E, ML2.1, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.00	58	Pg	Pg	13 18 16.3	-1.9
KBS				Lg		13 18 29.7	
SPA0	Spitsbergen Ar	1.81	94	Pn	Pn	13 18 30.6	-0.4
baz=280,slow=14							
SPA0				Sn	Sn	13 18 54.6	-0.4
baz=303,slow=37							
HOPEN	Hopen	4.25	108	*eP*	Pn	13 19 03.0	-2.6
HOPEN				*eS*	Sn	13 19 51.8	-4.9

*IDC **02** 13:21:14.3±0.6, 19.25S×173.73W, mb4.3/16, mb1 4.5/17, mb1mx4.5/22, mbtmp4.4/17, ML2.6/1, MS3.6/1, Ms1 3.6/1, ms1mx3.1/32, Error ellipse: s-maj=26.7km s-min=13.7km az=137.0*
*BJI **02** 13:21:14.2, 18.72S×173.50W, h5km, mB4.6, mb4.9, Ms4.9, Ms4.6*
*NEIC **02** 13:21:15.6±0.3, 19.22S×173.76W, h10km, mb4.7/6, Error ellipse: s-maj=15.0km s-min=7.3km az=136.0*

ISC 02 13:21:17.5±0.4, 19.37S±0.10×173.77W±0.10, h33km, n66, σ0§86/37, mb4.4/21, MS5.0/1, 3C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.76	20	Pn	Pn	13 22 37.6	-5.4
10nm,0.3s,baz=296,slow=22,SNR=15							
AFI				Sn	Sn	13 23 35.3	-13
48nm,0.3s,baz=78,slow=20,SNR=6.5							
AFI	Afiamalu	5.76	20	*eP*	P	13 22 37.4	-5.5
92nm,0.4s							
RAR	Rarotonga	13.26	100	Pn	P	13 24 12.6	-13
3.7nm,0.3s,baz=248,slow=9.7,SNR=20							
DZM	Mont Dzumac	18.70	258	P	P	13 25 39.4	+3.8
0.4nm,0.3s,baz=71,slow=19,SNR=5.7							
DZM				LR	LR	13 30 00.8	
comp=Z,206nm,20.0s,baz=205,slow=28							
DZM	Mont Dzumac	18.70	258	P	P	13 25 39.4	+3.8
DZM				LR	LR	13 30 00.8	
URZ	Urewera	20.42	201	P	P	13 25 52.9	-1.6
10nm,0.4s,baz=341,slow=4.5,SNR=11							
RPZ	Rata Peaks	27.41	204	P	P	13 27 04.2	+2.1
8.7nm,0.7s,mb4.4,baz=39,slow=18,SNR=3.4							
CTA	Charters Tower	37.57	262	P	P	13 28 31.4	+0.6
3.8nm,0.4s,mb4.5,baz=102,slow=11,SNR=3.8							
CTAO	Charters Tower	37.57	262	*eP*	P	13 28 31.1	+0.4
5.1nm,0.5s,mb4.5							
STKA	Stephens Creek	41.85	244	P	P	13 29 06.9	+0.7
1.1nm,0.3s,mb3.9,baz=75,slow=9.2,SNR=2.8							
ASAR	Alice Springs	48.65	255	P	P	13 30 00.2	-0.3
9.7nm,1.0s,mb4.8,baz=89,slow=7.4,SNR=36							
ASAR				PcP	PcP	13 31 26.7	+0.7
2.9nm,0.8s,baz=105,slow=3.9,SNR=6.8							
ASPA	Alice Springs	48.65	255	*eP*	P	13 30 00.7	+0.2
WB2	Warramunga Arr	48.69	260	*eP*	P	13 30 00.6	-0.3
WRAB	Tennant Creek	48.69	260	*eP*	P	13 30 00.3	-0.6
5.3nm,0.7s,mb4.7							
WRA	Warramunga Arr	48.70	260	P	P	13 29 59.7	-1.2
1.4nm,0.3s,mb4.5,baz=97,slow=7.4,SNR=111							
WRA				PcP	PcP	13 31 26.2	0.0
2.7nm,1.1s,baz=91,slow=4.1,SNR=5.6							
FITZ	Fitzroy Crossi	57.13	261	P	P	13 31 03.8	+0.2
5.5nm,0.5s,mb4.8,baz=145,slow=4.1,SNR=16							
VNDA	Vanda	59.41	186	P	P	13 31 19.3	+0.5
1.2nm,0.8s,mb4.0,baz=347,slow=6.7,SNR=5.1							
VNDA	Vanda	59.41	186	P	P	13 31 19.3	+0.5
MBWA	Marble Bar	61.98	256	*eP*	P	13 31 36.4	-0.5
5.1nm,0.8s,mb4.7							
NVAR	Mina Array Bea	77.51	42	P	P	13 33 11.1	-0.7
2.6nm,0.9s,mb4.2,baz=231,slow=12,SNR=12							
MDJ	Mudanjiang	81.95	323	P	P	13 33 35.2	-0.2
MDJ				AP	pP	13 33 38.4	-7.5
MDJ				XP	sP	13 33 39.8	-10
MDJ				PP	PP	13 36 42.2	-3.0
MDJ				S	S	13 43 49.1	+3.5
MDJ				XS		13 43 54.4	
MDJ				SS	SS	13 49 07.2	-0.6
MDJ				AMB	AMB		
comp=Z,7.0nm,1.3s,mb4.4							
MDJ				AMB	AMB		
comp=Z,4μm,13.9s							
MDJ				LR	LR		
comp=N,463nm,18.8s,MS5.0							
MDJ				LR	LR		
comp=E,323nm,15.0s,MS5.0							
MDJ				LR	LR		
comp=Z,611nm,15.4s,MS5.1							
MNTX	Cornudas Mount	82.88	53	*eP*	P	13 33 40.1	-0.4
comp=Z,5.8nm,1.1s,mb4.5							
TXAR	Lajitas Array	83.12	56	P	P	13 33 42.0	+0.2
comp=Z,1.9nm,0.9s,mb4.1,baz=211,slow=7.3,SNR=8.4							
ANMO	Albuquerque	83.62	50	P	P	13 33 45.5	+1.3
comp=Z,1.7nm,0.7s,mb4.3,baz=207,slow=4.1,SNR=6.8							
CN2	Changchun	83.90	321	*eP*	P	13 33 46.1	+0.7
MCK	McKinley	85.07	11	*eP*	P	13 33 50.9	+0.1
comp=Z,6.7nm,1.0s,mb4.7							
PDAR	Pinedale Array	85.45	42	P	P	13 33 52.6	-0.5
comp=Z,0.6nm,0.6s,mb3.9,baz=180,slow=3.0,SNR=5.1							
DLBC	Dease Lake	85.51	21	P	P	13 33 54.1	+1.1
comp=Z,1.2nm,0.4s,mb4.5,baz=129,slow=16,SNR=8.9							
COLA	College	86.31	11	*eP*	P	13 33 56.5	-0.3
comp=Z,12nm,0.9s,mb5.1							
PLCA	Paso Flores	87.12	132	P	P	13 34 01.4	0.0
comp=Z,1.8nm,0.9s,mb4.3,baz=202,slow=13,SNR=2.8							
DAWY	Dawson	87.34	14	*eP*	P	13 34 02.8	+1.0
SYO	Syowa Base	88.65	191	⇑P	P	13 34 07.0	-1.1
SYO	Syowa Base	88.65	191	⇑PcP	PcP	13 34 10.8	+0.8
EDM	Edmonton	89.04	32	P	P	13 34 09.4	-0.8
INK	Inuvik	92.19	14	P	P	13 34 24.6	0.0
comp=Z,2.6nm,0.9s,mb4.5,baz=196,slow=4.6,SNR=7.7							
YKA	Yellowknife Ar	93.86	24	P	P	13 34 31.7	-0.6
comp=Z,0.7nm,0.8s,mb4.1,baz=237,slow=4.3,SNR=16							
YKA	Yellowknife Ar	93.86	24	P	P	13 34 31.7	-0.6
BVAR	Borovoye Array	120.75	321	PKP	PKPdf	13 40 07.9	+1.7
comp=Z,1.7nm,0.7s,SNR=13							
KMBO	Kilima Mbogo	143.36	240	PKP	PKPdf	13 40 49.3	-0.1
comp=Z,0.6nm,0.5s,baz=230,slow=21,SNR=3.6							
AKASG	Malin Array Be	143.82	335	PKP	PKPdf	13 40 49.0	-0.1
comp=Z,0.9nm,0.6s,baz=30,slow=3.7,SNR=6.5							
AKASG	Malin Array Be	143.82	335	PKP	PKPdf	13 40 49.0	-0.1
MALT	Malatya	146.31	311	*e*PKPdf	PKPdf	13 40 57.3	+3.4
KSP	Ksiaz	147.60	348	*e*PKP	PKPdf	13 41 01.2	+5.6
CLL	Collm	147.69	352	⇑*i*PKP1	PKPdf	13 41 01.0	+5.3
CLL				*i* PKP2	PKPab	13 41 06.0	+3.1
KOLS	Kolonicke sedl	147.80	340	*e*PKP	PKPdf	13 40 59.5	+3.6
UPC	Upice	147.97	348	*e*PKPbc	PKPdf	13 41 02.3	+6.1
BRG	Berggiesshubel	147.98	351	*e*P	PKPdf	13 41 01.8	+5.6
DPC	Dobruska-Polom	148.06	348	*e*PKPbc	PKPdf	13 41 02.2	+5.9
OKC	Ostrava-Krasne	148.15	345	*e*PKPbc	PKPdf	13 41 03.0	+6.5
PVCC	Panska Ves	148.22	350	*e*PKPbc	PKPdf	13 41 03.0	+6.4
PRU	Pruhonice	148.74	350	*e*PKPbc	PKPdf	13 41 04.2	+6.8
BRTR	Keskin Array B	148.90	317	PKPbc	PKPdf	13 41 05.2	+7.2
comp=Z,5.4nm,0.8s,baz=133,slow=4.2,SNR=16							
VYHS	Vyhne	149.21	344	*e*PKP	PKPdf	13 41 05.1	+6.9
VYHS				*e*		13 41 21.2	
KOLL	Kolacno	149.25	344	*e*	PKPdf	13 41 23.1	+25
GIVF	Givet	149.32	2	*e*PKP1	PKPdf	13 41 05.1	+6.8
BAIF	Baives	149.34	3	*e*PKP1	PKPdf	13 41 05.3	+6.9
comp=Z,20nm,1.1s							
KHC	Kasperske Hory	149.73	350	*e*PKPbc	PKPdf	13 41 06.5	+7.5
KHC				x	x	13 41 30.0	
GERES	GERESS Array B	149.99	350	PKPbc	PKPdf	13 41 07.1	+7.7
comp=Z,3.1nm,0.9s,slow=1.3,SNR=16							
ROSF	Rostrenen	150.10	13	*e*PKP1	PKPdf	13 41 06.1	+6.5
FLN	La Foliniere	150.19	9	*e*PKP1	PKPdf	13 41 06.6	+6.8
comp=Z,54nm,1.3s							
SGMF	Saint Gilles	150.32	12	*e*PKP1	PKPdf	13 41 06.8	+6.8
LDF	La Druitiere	150.40	9	*e*PKP1	PKPdf	13 41 07.2	+7.1
comp=Z,23nm,1.0s							
GRR	Gorron	150.49	10	*e*PKP1	PKPdf	13 41 07.4	+7.2
comp=Z,18nm,0.9s							
CDF	Champ du Feu	151.02	359	*e*PKP1	PKPdf	13 41 09.3	+8.3
comp=Z,12nm,1.1s							
SSF	Saint Saulge	152.29	4	*e*PKP1	PKPdf	13 41 12.1	+9.1
comp=Z,11nm,0.9s							
CABF	La Chapelle	152.84	0	*e*PKP1	PKPdf	13 41 13.9	+10

IDC 02 13:28:45.6±3.0, 3.62S×135.03E, mb3.7/2, mb1 4.2/4, mb1mx4.0/10, mbtmp4.0/4, ML3.9/2, Error ellipse: s-maj=133.7km s-min=27.2km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	16.24	182	*eP*	P	13 32 38.1	+1.3
WRA	Warramunga Arr	16.24	182	Pn	P	13 32 30.9	-6.0
0.1nm,0.3s,baz=1.7,slow=13,SNR=5.1							
WRA				Sn	S	13 35 22.9	-15
0.1nm,0.3s,baz=7.1,slow=23,SNR=4.3							
WRA				Lg		13 37 29.6	
baz=18,slow=26,SNR=4.6							
FITZ	Fitzroy Crossi	17.08	212	Pn	P	13 32 45.1	-2.4
0.2nm,0.3s,baz=26,slow=10,SNR=4.0							
FITZ				Sn	S	13 35 48.3	-8.9
0.3nm,0.3s,baz=175,slow=18,SNR=2.9							
ASAR	Alice Springs	19.96	183	P	P	13 33 19.8	-2.6
1.0nm,0.3s,baz=9.4,slow=11,SNR=69							
ASPA	Alice Springs	19.96	183	*eP*	P	13 33 19.7	-2.6
SONM	Songino Array	57.05	337	P	P	13 38 33.1	-2.8
0.4nm,0.7s,baz=124,slow=5.2,SNR=2.7							
MKAR	Makanchi Array	68.31	324	P	P	13 39 49.1	-1.6
0.7nm,0.6s,baz=111,slow=8.2,SNR=7.8							

*CSEM **02** 13:33:13.6±1.1, 39.14N×28.28W, h3km, ML2.5, Error ellipse: s-maj=25.8km s-min=8.2km az=164.0, After PDA*
*PDA **02** 13:33:13.6±1.3, 39.14N×28.28W, h3km±5km, MD3.2, ML2.5, Error ellipse: s-maj=8.6km s-min=2.7km az=158.0*

SVSA 02 13:33:13.6±1.3, 39.14N×28.28W, h3km±5km, MD3.2, ML2.5, Error ellipse: s-maj=8.6km s-min=2.7km az=158.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	Santa Cruz	0.22	105	*i* P	Pg	13 33 17.8	-0.2
STGR				*i* S	Sg	13 33 21.3	+0.3
295nm,0.2s							
PGRA	Graciosa	0.26	115	*i* P	Pg	13 33 18.0	-0.7
PGRA				*i* S	Sg	13 33 21.7	-0.4
716nm,0.3s							
PMAN	Manadas	0.53	164	*e*S	Sg	13 33 29.4	-1.7
115nm,0.2s							
PCED	Cedros	0.61	213	*i* P	Pg	13 33 23.8	-1.9
PCED				*e*S	Sg	13 33 32.1	-1.7
212nm,0.1s							
PCED	Cedros	0.61	213	*e*S	Sg	13 33 32.1	-1.7
212nm,0.1s							
CALA	Caldeira	0.65	211	*i* P	Pg	13 33 24.7	-1.8
CALA				*e*S	Sg	13 33 33.2	-1.9
PICO	Pico	0.65	190	*i* P	Pg	13 33 24.5	-2.0
PICO				*e*S	Sg	13 33 33.2	-1.9
HOR	Horta	0.67	204	*e*S	Sg	13 33 33.8	-2.1
PSBA	Serra de Santa	0.83	116	*e*S	Sg	13 33 37.2	-4.0
64nm,0.4s							
ASBA	Santa Barbara	0.85	119	*e*S	Sg	13 33 38.1	-3.9
18nm,0.2s							
PBIS	Biscoitos	0.88	115	*e*S	Sg	13 33 38.8	-4.2
16nm,0.3s							
PPAD	Pico dos Padre	0.89	119	*i* S	Sg	13 33 38.4	-4.8
PVNV	Vila Nova	0.95	113	*e*S	Sb	13 33 40.6	-4.6
RIB2	Ribeirinha	0.98	118	*e*S	Sb	13 33 41.0	-5.0
PSCM	Serra do Cume	1.00	115	*e*S	Sb	13 33 41.9	-4.9
PFAV	Pico das Favas	1.02	114	*e*S	Sb	13 33 42.6	-4.7

*IDC **02** 13:36:15.6±3.2, 6.56S×154.90E, h68km±26km, mb4.0/9, mb1 4.2/11, mb1mx4.0/18, mbtmp4.4/11, Error ellipse: s-maj=25.1km s-min=18.9km az=7.0*
*NEIC **02** 13:36:18.7±1.8, 6.62S×154.84E, h98km±15km, mb4.4/4, Error ellipse: s-maj=13.8km s-min=10.3km az=196.0*

ISC 02 13:36:16.7±3.3, 6.7S±0.1×154.89E±0.10, h93km±28km, n18, σ0§71/19, mb4.1/12, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.13	250	P	P	13 38 13.4	-0.4
26nm,0.3s,baz=66,slow=6.8,SNR=45							
PMG				S	S	13 39 45.3	+0.6
6.3nm,0.3s,baz=191,slow=22,SNR=4.0							
DZM	Mont Dzumac	18.96	145	P	P	13 40 33.3	0.0
1.3nm,0.3s,baz=319,slow=21,SNR=11							
WRAB	Tennant Creek	23.91	235	*eP*	P	13 41 23.5	+0.5
9.3nm,0.6s,mb4.3							
WB2	Warramunga Arr	23.92	235	*eP*	P	13 41 24.2	+1.1
WRA	Warramunga Arr	23.93	235	P	P	13 41

PBIS	**Biscoitos**	**0.89 115**	*e*P	Pb	13 39 55.7	-3.4
PBIS			*i* S	Sg	13 40 06.7	-4.4
86nm,0.2s						
PPAD	**Pico dos Padre**	**0.90 119**	*e*P	Pb	13 39 55.6	-3.6
PPAD			*i* S	Sg	13 40 06.5	-4.8
61nm,0.2s						
ADH	**Angra Heroismo**	**0.95 120**	*er*x		13 40 08.0	
PVNV	**Vila Nova**	**0.96 113**	*e*P	Pb	13 39 56.5	-3.8
PVNV			*i* S	Sb	13 40 08.4	-4.8
57nm,0.2s						
RIB2	**Ribeirinha**	**0.99 118**	*e*P	Pb	13 39 57.0	-3.8
RIB2			*i* S	Sb	13 40 09.2	-4.8
56nm,0.3s						
PSCM	**Serra do Cume**	**1.01 116**	*e*P	Pb	13 39 57.3	-3.9
PSCM			*e*S	Sb	13 40 10.2	-4.5
232nm,0.4s						
PFAV	**Pico das Favas**	**1.03 114**	*e*P	Pb	13 39 57.7	-3.8
PFAV			*i* S	Sb	13 40 10.5	-4.8
62nm,0.4s						

IDC 02 13:44:30.1±3.2, 2.35N×96.91E, mb3.9/5, mb1 4.1/5, mb1mx3.7/17, mbtmp3.9/5, Error ellipse: s-maj=130.6km s-min=26.2km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.89 123**		P	P	13 52 30.6	-1.8
0.5nm,0.3s,baz=305,slow=8.9,SNR=16							
SONM	**Songino Array**	**46.05 9**		P	P	13 52 55.9	-1.5
0.4nm,0.4s,baz=188,slow=9.8,SNR=5.0							
MKAR	**Makanchi Array**	**46.07 346**		P	P	13 52 55.8	-1.8
0.4nm,0.4s,baz=166,slow=8.8,SNR=9.9							
ZAL	**Zalesovo**	**52.38 351**		P	P	13 53 43.8	-2.4
3.2nm,0.5s							
BVAR	**Borovoye Array**	**55.08 341**		P	P	13 54 03.4	-2.7
1.3nm,0.6s,baz=147,slow=10,SNR=9.2							

IDC 02 13:46:47.9±15.0, 7.49S×159.52E, h156km±135km, mb3.3/6, mb1 3.6/6, mb1mx3.5/13, mbtmp3.7/6, Error ellipse: s-maj=53.8km s-min=40.4km az=121.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.36 241**		P	P	13 52 17.3	-3.3
0.4nm,0.6s,baz=64,slow=8.9,SNR=3.9							
WRA				PcP	PcP	13 55 33.9	-2.1
0.4nm,0.6s,baz=68,slow=3.1,SNR=5.7							
ASAR	**Alice Springs**	**29.37 234**		P	P	13 52 37.8	-0.8
0.7nm,0.5s,baz=60,slow=9.7,SNR=6.4							
SONM	**Songino Array**	**72.23 326**		P	P	13 57 56.9	-0.8
1.3nm,0.9s,baz=127,slow=6.2,SNR=5.9							
MKAR	**Makanchi Array**	**86.76 318**		P	P	13 59 13.7	-1.8
0.5nm,0.6s,baz=94,slow=6.5,SNR=4.4							
NVAR	**Mina Array Bea**	**88.52 51**		P	P	13 59 23.8	-0.3
0.1nm,0.3s,baz=240,slow=5.2,SNR=3.9							
YKA	**Yellowknife Ar**	**94.68 28**		P	P	13 59 49.8	-2.1
0.3nm,0.7s,baz=259,slow=4.5,SNR=9.2							

*IDC **02** 13:57:00.9±1.3, 35.21N×141.48E, mb3.3/4, mb1 3.4/5, mb1mx3.4/21, mbtmp3.3/5, ML2.5/1, MS3.5/1, Ms1 3.5/1, ms1mx3.4/11, Error ellipse: s-maj=43.5km s-min=24.5km az=97.0*
*JMA **02** 13:57:02.3±0.4, 35.03N×141.57E, h55km±5km, M2.8*
ISC 02 13:57:03.2±1.4, 35.10N±0.05×141.54E±0.08, h33km±8km, n15, σ0§87/20, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.64 226**		P	**Pb**	**13 57 15.4**	**-0.6**
CHOJ	**Chosi**	**0.82 318**		P	**Pb**	**13 57 18.8**	**-0.1**
BSO3	**Boso 3**	**0.90 251**		P	**Pn**	**13 57 19.1**	**-0.5**
BSO4	**Boso 4**	**0.99 264**		P	**Pn**	**13 57 21.4**	**+0.5**
KTR	**Katsuura**	**1.00 273**		P	**Pn**	**13 57 21.0**	**-0.1**
KTR				S	**Sb**	**13 57 35.9**	**+1.0**
TATJ	**Tateyama 2**	**1.35 268**		P	**Pn**	**13 57 26.1**	**0.0**
TATJ				S	**Sn**	**13 57 44.3**	**+1.2**
JYT	**Yasato**	**1.57 316**		P	**Pn**	**13 57 29.5**	**+0.3**
JHO	**Hitachi**	**1.70 333**		P	**Pn**	**13 57 31.4**	**+0.3**
JHO				S	**Sn**	**13 57 51.6**	**-0.3**
JIM2	**Oshima 3**	**1.77 258**		P	**Pn**	**13 57 30.4**	**-1.7**
JHJ	**Hachijo jima 2**	**2.45 217**		Pn	**Pn**	**13 57 41.7**	**-0.1**
2.5nm,0.3s,baz=80,slow=22,SNR=7.9							
JHJ				Sn	**Sn**	**13 58 10.4**	**-0.6**
16nm,0.3s,baz=76,slow=22,SNR=6.8							
JHJ				LR	LR	13 58 29.1	
comp=Z,1μm,21.5s,baz=75,slow=35							
MAT	**Matsushiro**	**3.07 299**		P	**Pn**	**13 57 51.1**	**+0.5**
MAT				*e*S	**Sn**	**13 58 25.2**	**-1.3**
MKAR	**Makanchi Array**	**45.26 304**		P	**P**	**14 05 19.3**	**+0.2**
0.3nm,0.7s,mb3.3,baz=90,slow=8.6,SNR=3.6							
WRA	**Warramunga Arr**	**55.16 188**		P	**P**	**14 06 34.7**	**-0.3**
0.5nm,0.6s,mb3.8,baz=5.2,slow=7.7,SNR=10.0							
ASAR	**Alice Springs**	**58.89 188**		P	**P**	**14 07 04.0**	**+2.6**
0.2nm,0.6s,mb3.4,baz=17,slow=9.4,SNR=2.6							
YKA	**Yellowknife Ar**	**65.43 30**		P	**P**	**14 07 44.1**	**-0.4**
0.1nm,0.2s,mb3.4,baz=300,slow=6.1,SNR=3.5							

*CSEM **02** 13:59:17.2±0.5, 78.50N×6.02E, h30km, ML3.2, Error ellipse: s-maj=11.8km s-min=6.0km az=91.0*
*BER **02** 13:59:18.2±3.6, 78.43N×7.15E, h2km±37km, MD3.3, ML3.2(NAO)*
*NAO **02** 13:59:20.9±3.6, 78.36N×8.36E, ML3.2*
ISC 02 13:59:13.9±1.1, 78.4N±0.1×6.7E±0.3, h10km, n7, σ1§39/11, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.20**	**58**	Pg	**Pg**	**13 59 37.4**	**-0.5**
KBS				Lg		13 59 50.2	
SPA0	**Spitsbergen Ar**	**1.99**	**90**	Pn	**Pn**	**13 59 50.8**	**+2.6**
baz=281,slow=16							
SPA0				Sn	**Sn**	**14 00 13.5**	**+0.1**
baz=302,slow=28							
HSP	**Hornsund**	**2.33 121**		*e*P	**Pn**	**13 59 55.8**	**+2.8**
HSP				*e*S	**Sn**	**14 00 21.4**	**-0.6**
HOPEN	**Hopen**	**4.40 106**		*e*P	**Pn**	**14 00 23.1**	**+0.7**
HOPEN				*e*S	**Sn**	**14 01 11.4**	**-2.9**
DAG	**Danmarks Havn**	**5.66 266**		↑*i*P	**Pn**	**14 00 39.3**	**-0.9**
5.9nm,0.9s							
ARA0	**ARCESS Array S**	**10.19 140**		Pn	**P**	**14 01 43.6**	**+0.5**
baz=345,slow=12							
ARA0				Sn	**S**	**14 03 29.8**	**-8.7**
baz=335,slow=22							
APA0	**Apatity Array**	**13.04 131**		Sn	**S**	**14 04 39.3**	**-8.6**
baz=340,slow=22							

*NEIC **02** 14:02:05.0±0.9, 17.47S×178.81W, h525km±12km, mb4.4/7, Error ellipse: s-maj=19.0km s-min=8.6km az=151.0*
*IDC **02** 14:02:05.3±1.4, 17.49S×178.87W, h526km±15km, mb3.5/11, mb1 3.7/13, mb1mx3.6/18, mbtmp4.4/13, Error ellipse: s-maj=21.1km s-min=11.0km az=148.0*
ISC 02 14:02:04.3±1.2, 17.5S±0.1×178.8W±0.1, h529km±16km, n34, σ1§08/30, mb4.1/14, 1C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.68 63**		P	**P**	**14 03 58.1**	**-1.1**
8.0nm,0.3s,baz=96,slow=16,SNR=15							
AFI	**Afiamalu**	**7.68 63**		P	**P**	**14 03 58.1**	**-1.1**
DZM	**Mont Dzumac**	**14.57 249**		P	**P**	**14 05 11.7**	**+1.9**
1.3nm,0.3s,baz=74,slow=18,SNR=10.0							
URZ	**Urewera**	**20.97 189**		P	**P**	**14 06 09.5**	**-1.6**
6.6nm,0.3s,baz=252,slow=2.6,SNR=19							
CTA	**Charters Tower**	**33.11 260**		↓*i*P	**P**	**14 07 58.1**	**+0.3**
5.6nm,0.6s,mb4.3							
CTA	**Charters Tower**	**33.11 260**		P	**P**	**14 07 58.2**	**+0.4**
11nm,0.8s,mb4.4,baz=90,slow=8.1,SNR=9.5							
CTAO	**Charters Tower**	**33.11 260**		*e*P	**P**	**14 07 58.2**	**+0.4**
7.8nm,0.7s,mb4.3							
CNB	**Canberra Magne**	**33.35 232**		↓*i*P	**P**	**14 08 01.2**	**+1.6**
9.9nm,0.5s,mb4.6							
PMG	**Port Moresby**	**33.99 279**		P	**P**	**14 08 06.6**	**+1.3**
21nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**38.47 241**		↓*i*P	**P**	**14 08 43.3**	**+1.4**
6.2nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**38.47 241**		P	**P**	**14 08 43.4**	**+1.5**
6.5nm,0.5s,mb4.5,baz=91,slow=9.9,SNR=34							
WB2	**Warramunga Arr**	**44.29 259**		↓*i*P	**P**	**14 09 27.8**	**-0.7**
WRAB	**Tennant Creek**	**44.30 259**		*e*P	**P**	**14 09 27.6**	**-0.9**
6.5nm,0.5s,mb4.4							
WRA	**Warramunga Arr**	**44.30 259**		P	**P**	**14 09 27.5**	**-1.1**
4.3nm,0.5s,mb4.2,baz=95,slow=8.0,SNR=106							
WRA				ScP		14 14 03.2	
0.5nm,0.6s,baz=87,slow=3.5,SNR=6.4							
ASAR	**Alice Springs**	**44.51 254**		P	**P**	**14 09 30.3**	**+0.1**
37nm,0.5s,mb5.2,baz=89,slow=7.9,SNR=834							
ASAR				ScP		14 14 04.5	
1.2nm,0.8s,baz=86,slow=4.5,SNR=5.3							
ASAR				S	**S**	**14 15 24.6**	**-2.6**
1.1nm,0.8s,baz=90,slow=14,SNR=5.5							
ASPA	**Alice Springs**	**44.51 254**		↓*i*P	**P**	**14 09 30.2**	**0.0**
FORT	**Forrest**	**49.81 244**		↑*i*P	**P**	**14 10 09.8**	**-0.6**
575nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.69 260**		↓*i*P	**P**	**14 10 31.2**	**-0.3**
8.1nm,0.4s,mb4.4							
MBWA	**Marble Bar**	**57.77 256**		*e*P	**P**	**14 11 05.7**	**-1.1**
5.3nm,0.5s,mb4.0							
KLBR	**Kellerberrin**	**58.64 243**		*e*P	**P**	**14 11 11.5**	**-1.0**
607nm,1.9s							
VNDA	**Vanda**	**60.80 185**		P	**P**	**14 11 27.4**	**+1.2**
1.0nm,0.7s,mb3.2,baz=348,slow=5.2,SNR=5.7							
VNDA	**Vanda**	**60.80 185**		P	**P**	**14 11 27.4**	**+1.2**
NVAR	**Mina Array Bea**	**79.42 44**		P	**P**	**14 13 17.3**	**+0.7**
0.5nm,0.7s,baz=234,slow=11,SNR=5.1							
TXAR	**Lajitas Array**	**86.13 58**		P	**P**	**14 13 52.2**	**+1.8**
0.8nm,0.7s,mb3.5,baz=222,slow=5.8,SNR=7.1							
TXAR	**Lajitas Array**	**86.13 58**		P	**P**	**14 13 52.2**	**+1.8**
PDAR	**Pinedale Array**	**87.35 44**		P	**P**	**14 13 56.0**	**+0.1**
0.4nm,0.5s,mb3.3,baz=180,slow=1.3,SNR=5.3							
INK	**Inuvik**	**91.62 15**		P	**P**	**14 14 14.6**	**-0.4**
1.0nm,1.1s,mb3.8,baz=157,slow=6.4,SNR=3.7							
YKA	**Yellowknife Ar**	**94.15 25**		P	**P**	**14 14 26.2**	**-0.6**
0.2nm,0.5s,mb3.5,baz=248,slow=4.2,SNR=5.5							
YKA	**Yellowknife Ar**	**94.15 25**		P	**P**	**14 14 26.2**	**-0.6**
BRTR	**Keskin Array B**	**144.22 315**		PKP	PKPdf	14 20 40.8	+1.2
1.1nm,0.5s,baz=99,slow=3.4,SNR=5.7							
CLL	**Collm**	**144.99 347**		↓*i*PKP1	PKPbc	14 20 42.5	+1.1
KHC	**Kasperske Hory**	**146.89 345**		*e*PKP	PKPdf	14 20 47.5	+3.7
GERES	**GERESS Array B**	**147.13 345**		PKPbc	PKPdf	14 20 48.5	+4.3
1.4nm,0.6s,slow=2.7,SNR=10							
DAVOX	**Davos**	**149.94 348**		PKPbc	PKPdf	14 20 56.1	+7.3
6.5nm,0.6s,baz=222,slow=3.4,SNR=9.8							

*BJI **02** 14:09:56.4, 1.30N×97.20E, h24km, mb4.5, Msz3.8*
*IDC **02** 14:09:57.8±1.8, 1.31N×97.10E, h23km±5km, mb4.1/9, mb1 4.2/9, mb1mx4.0/15, mbtmp4.2/9, MS4.5/1, Ms1 4.5/1, ms1mx3.5/24, Error ellipse: s-maj=73.6km s-min=15.3km az=56.0*
*MOS **02** 14:09:57.1±1.1, 1.20N×96.98E, h33km, mb4.8/9, Error ellipse: s-maj=26.8km s-min=11.4km az=97.9*
*NEIC **02** 14:09:58.5±0.4, 1.35N×97.23E, mb4.6/13, Error ellipse: s-maj=13.4km s-min=5.7km az=56.0*
ISC 02 14:09:56.3±0.7, 1.34N±0.08×97.2E±0.1, h23km, h23km±1.2km: pP-P, n46, σ0§77/43, mb4.5/28, MS4.2/2, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.21**	**41**	*e*P	**Pn**	**14 11 15.3**	**+0.4**
KMI	**Kunming**	**24.23**	**12**	P	**P**	**14 15 13.9**	**+1.1**
KMI				AP		14 15 21.6	
KMI				AMB	AMB		
comp=Z,14nm,1.0s,mb4.3							
KMI				LR	LR		
comp=Z,391nm,24.7s,MS3.8							
KMI	**Kunming**	**24.23**	**12**	P	**P**	**14 15 13.9**	**+1.1**
comp=Z,14nm,1.0s,mb4.3							
KMI				pP		14 15 21.6	
KMI				LR	LR		
comp=Z,390nm,24.7s,MS3.8							
SHL	**Shillong**	**24.62**	**348**	*e*P	**P**	**14 15 16.0**	**-0.6**
GYA	**Guiyang**	**26.57**	**19**	P	**P**	**14 15 35.2**	**+0.4**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
JIRN	**Jiri**	**28.22**	**339**	*e*P	**P**	**14 15 49.9**	**+0.1**
comp=Z,27nm,0.9s,mb4.9							
PKI	**Pulchoki**	**28.43**	**338**	*e*P	**P**	**14 15 52.0**	**+0.3**
comp=Z,27nm,1.2s,mb4.8							
PKI	**Pulchoki**	**28.43**	**338**	*e*P	**P**	**14 15 52.0**	**+0.3**
PKI				pmax	pmax		
comp=Z,13nm,1.2s,mb4.4							
GUN	**Gumba**	**28.56**	**339**	*e*P	**P**	**14 15 53.1**	**+0.2**
comp=Z,29nm,0.7s,mb5.1							
DMN	**Daman**	**28.58**	**337**	*e*P	**P**	**14 15 54.1**	**+1.1**
comp=Z,30nm,1.2s,mb4.9							
KKN	**Kakani**	**28.67**	**338**	*e*P	**P**	**14 15 53.8**	**-0.1**
LSA	**Lhasa**	**28.78**	**349**	*e*P	**P**	**14 15 55.4**	**+0.5**
LSA				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.4							
LSA	**Lhasa**	**28.78**	**349**	*e*P	**P**	**14 15 55.4**	**+0.6**
comp=Z,4.6nm,0.6s,mb4.4							
GKN	**Gorkha**	**29.11**	**337**	*e*P	**P**	**14 15 57.9**	**0.0**
comp=Z,27nm,0.9s,mb5.0							
KOLN	**Koldanda**	**29.34**	**335**	*e*P	**P**	**14 15 59.9**	**0.0**
comp=Z,20nm,0.7s,mb5.0							
ENH	**Enshi**	**31.04**	**21**	*e*P	**P**	**14 16 13.2**	**-1.8**
comp=Z,16nm,0.8s,mb4.9							
FITZ	**Fitzroy Crossi**	**34.00**	**126**	P	**P**	**14 16 39.5**	**-1.3**
comp=Z,6.9nm,0.9s,mb4.6,baz=314,slow=5.4,SNR=5.5							
XAN	**Xi'an**	**34.32**	**17**	P	**P**	**14 16 42.0**	**-1.5**
XAN				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.7							
LZH	**Lanzhou**	**35.11**	**9**	*e*P	**P**	**14 16 49.5**	**-0.7**
LZH				AP	pP	14 16 57.0	0.0
LZH				XP	sP	14 17 00.6	+0.7
LZH				AMB	AMB		
comp=Z,23nm,1.2s,mb5.0							
LZH	**Lanzhou**	**35.11**	**9**	*e*P	**P**	**14 16 49.5**	**-0.7**
LZH				*SP	sP	14 17 00.6	+0.7
LZH				pmax	pmax		
comp=Z,23nm,1.2s,mb5.0							
LZH	**Lanzhou**	**35.11**	**9**	*e*P	**P**	**14 16 49.5**	**-0.7**
comp=Z,23nm,1.2s,mb5.0							
LZH				pP	pP	14 16 57.0	0.0
LZH				sP	sP	14 17 00.6	+0.7
GTA	**Gaotai**	**37.96**	**3**	P	**P**	**14 17 15.2**	**+1.0**
GTA				AP	pP	14 17 20.7	-0.3
GTA				XP	sP	14 17 23.6	-0.2
GTA				AMB	AMB		
comp=Z,3.0nm,1.1s,mb3.9							
WRA	**Warramunga Arr**	**42.10**	**122**	P	**P**	**14 17 49.0**	**+0.2**
comp=Z,2.5nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=25							
WRAB	**Tennant Creek**	**42.10**	**122**	*e*P	**P**	**14 17 49.0**	**+0.2**
WB2	**Warramunga Arr**	**42.11**	**122**	↓*i*P	**P**	**14 17 49.3**	**+0.5**
BJT	**Baijiatuau**	**42.18**	**22**	P	**P**	**14 17 49.7**	**+0.6**
BJT				pmax	pmax		
comp=Z,6.0nm,0.6s							
BJT	**Baijiatuau**	**42.18**	**22**	P	**P**	**14 17 49.7**	**+0.6**
comp=Z,6.4nm,0.6s,mb4.4							
BJI	**Beijing**	**42.20**	**22**	*e*P	**P**	**14 17 44.8**	**-4.5**
BJI				AMB	AMB		
comp=Z,6.0nm,0.7s,mb4.3							
BJI	**Beijing**	**42.20**	**22**	*e*P	**P**	**14 17 44.8**	**-4.5**
comp=Z,6.0nm,0.7s,mb4.3							
ASAR	**Alice Springs**	**43.47**	**127**	P	**P**	**14 18 00.1**	**+0.2**
comp=Z,0.8nm,0.3s,mb3.9,baz=300,slow=7.8,SNR=11							
SONM	**Songino Array**	**46.99**	**8**	P	**P**	**14 18 27.6**	**0.0**
comp=Z,2.2nm,0.8s,mb4.2,baz=186,slow=11,SNR=15							
SONM				pP	pP	14 18 34.8	+0.4
comp=Z,4.2nm,0.7s,baz=188,slow=8.7,SNR=18							
MKAR	**Makanchi Array**	**47.11**	**346**	P	**P**	**14 18 28.5**	**-0.1**
comp=Z,1.9nm,0.6s,mb4.2,baz=153,slow=8.1,SNR=22							
MKAR				pP	pP	14 18 35.3	-0.2
comp=Z,9.1nm,0.9s,baz=163,slow=8.6,SNR=25							
ULN	**Ulaanbaatar**	**47.12**	**9**	P	**P**	**14 18 28.6**	**-0.1**
ULN				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
ULN	**Ulaanbaatar**	**47.12**	**9**	P	**P**	**14 18 28.6**	**-0.1**
comp=Z,4.2nm,0.9s,mb4.4							
ZAK	**Zakamensk**	**49.13**	**5**	*e*P	**P**	**14 18 43.4**	**-0.9**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.3s,mb4.0							
KURK	**Kurchatov**	**51.66**	**345**	*e*P	**P**	**14 19 04.1**	**+0.5**
ZAL	**Zalesovo**	**53.41**	**351**	P	**P**	**14 19 15.5**	**-1.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=288,slow=4.3,SNR=10							
ZAL				pP	pP	14 19 22.7	-0.9
comp=Z,2.8nm,0.7s,baz=281,slow=5.3,SNR=6.8							
STKA	**Stephens Creek**	**53.44**	**132**	P	**P**	**14 19 17.6**	**+0.5**
comp=Z,4.6nm,0.7s,mb4.5,baz=308,slow=8.4,SNR=8.0							
KLR	**Kul'dur**	**56.12**	**27**	*e*P	**P**	**14 19 39.6**	**+3.2**
BOD	**Bodaibo**	**57.87**	**11**	*e*P	**P**	**14 19 54.3**	**+5.6**
BOD				pmax	pmax		
comp=Z,4.0nm,1.2s,mb4.3							
KMBO	**Kilima Mbogo**	**60.01**	**268**	LR	LR	14 40 21.8	
comp=Z,407nm,19.6s,MS4.6,baz=94,slow=30							
YAK	**Yakutsk**	**65.28**	**16**	*e*P	**P**	**14 20 43.5**	**+5.0**
YAK				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.8							
YAK				pmax	pmax		
comp=N,3.0nm,0.9s							
FINES	**FINESS Array B**	**79.88**	**332**	P	**P**	**14 22 04.2**	**-0.5**
comp=N,1.7nm,1.1s,mb3.9,baz=90,slow=5.7,SNR=5.0							
ARCES	**ARCESS Array B**	**82.41**	**340**	P	**P**	**14 22 17.5**	**-0.3**
comp=N,2.9nm,0.9s,mb4.2,baz=90,slow=6.1,SNR=4.3							
GERES	**GERESS Array B**	**84.72**	**319**	pP	pP	14 22 37.2	0.0
comp=N,0.9nm,0.8s,baz=101,slow=5.0,SNR=3.5							
NOA	**NORSAR Array B**	**86.89**	**331**	pP	pP	14 22 47.2	-0.5
comp=N,1.4nm,0.8s,baz=95,slow=4.9,SNR=3.8							

*IDC **02** 14:21:36.6±0.6, 1.06N×97.62E, mb4.3/16, mb1 4.5/16, mb1mx4.4/19, mbtmp4.3/16, Error ellipse: s-maj=25.2km s-min=14.8km az=52.0*
*MOS **02** 14:21:39.3±1.4, 0.99N×97.75E, h33km, mb4.8/7, Error ellipse: s-maj=26.8km s-min=11.0km az=118.9*
*BJI **02** 14:21:43.2, 0.85N×97.36E, h59km, mb4.6, Ms4.6, Msz4.3*
*NEIC **02** 14:21:43.8±2.8, 0.99N×97.61E, h50km±25km, mb4.5/11, Error ellipse: s-maj=19.7km s-min=9.7km az=49.0*
ISC 02 14:21:40.5±2.8, 0.88N±0.09×97.60E±0.09, h36km±24km, n57, σ1§17/55, mb4.4/33, MS3.9/1, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.33**	**35**	*e*P	**P**	**14 22 59.4**	**-0.3**
KKM	**Kota Kinabalu**	**19.27**	**74**	*e*P	**P**	**14 26 05.5**	**+0.5**
KMI	**Kunming**	**24.60**	**11**	P	**P**	**14 26 56.3**	**-2.6**
KMI				AMB	AMB		
comp=Z,6.0nm,1.3s,mb4.0							
KMI				LR	LR		
comp=Z,329nm,17.0s,MS3.9							
KMI	**Kunming**	**24.60**	**11**	P	**P**	**14 26 56.3**	**-2.6**
comp=Z,6.0nm,1.3s,mb4.0							
KMI				LR	LR		
comp=Z,330nm,17.0s,MS3.9							
HYB	**Hyderabad**	**24.92**	**312**	*e*P	**P**	**14 27 02.0**	**0.0**
HYB	**Hyderabad**	**24.92**	**312**	*i* P	**P**	**14 27 02.0**	**0.0**
SHL	**Shillong**	**25.15**	**348**	*e*P	**P**	**14 27 04.5**	**+0.4**
JIRN	**Jiri**	**28.78**	**339**	*e*P	**P**	**14 27 37.4**	**0.0**
comp=Z,19nm,0.8s,mb4.9							
PKI	**Pulchoki**	**29.00**	**337**	*e*P	**P**	**14 27 40.6**	**+1.4**
comp=Z,24nm,1.0s,mb4.9							
PKI	**Pulchoki**	**29.00**	**337**	*e*P	**P**	**14 27 40.6**	**+1.4**
PKI				pmax	pmax		
comp=Z,12nm,1.0s,mb4.6							
GUN	**Gumba**	**29.12**	**338**	*e*P	**P**	**14 27 39.7**	**-0.7**
comp=Z,49nm,1.2s,mb5.1							
DMN	**Daman**	**29.15**	**337**	*e*P	**P**	**14 27 41.3**	**+0.7**
comp=Z,12nm,0.7s,mb4.7							
KKN	**Kakani**	**29.24**	**337**	*e*P	**P**	**14 27 40.6**	**-0.8**
comp=Z,13nm,0.8s,mb4.7							
KKN	**Kakani**	**29.24**	**337**	*e*P	**P**	**14 27 40.6**	**-0.8**
KKN				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.4							
LSA	**Lhasa**	**29.31**	**348**	P	**P**	**14 27 42.6**	**+0.6**
GKN	**Gorkha**	**29.69**	**336**	*e*P	**P**	**14 27 44.3**	**-1.1**
comp=Z,33nm,1.0s,mb5.0							
KOLN	**Koldanda**	**29.91**	**335**	*e*P	**P**	**14 27 47.0**	**-0.4**
comp=Z,19nm,0.7s,mb4.9							
FITZ	**Fitzroy Crossi**	**33.42**	**126**	P	**P**	**14 28 20.8**	**+2.5**
comp=Z,6.9nm,0.8s,mb4.6,baz=190,slow=1.3,SNR=6.2							
XAN	**Xi'an**	**34.65**	**17**	P	**P**	**14 28 28.9**	**+0.2**
XAN				AMB	AMB		
comp=Z,9.0nm,0.9s,mb4.7							
GTA	**Gaotai**	**38.40**	**3**	P	**P**	**14 29 01.4**	**+1.2**
GTA				AMB	AMB		
comp=Z,4.0nm,0.9s,mb4.2							
WRA	**Warramunga Arr**	**41.53**	**122**	P	**P**	**14 29 25.3**	**-1.1**
comp=Z,1.3nm,0.7s,mb3.7,baz=322,slow=11,SNR=17							
WRAB	**Tennant Creek**	**41.53**	**122**	*e*P	**P**	**14 29 25.2**	**-1.3**
WRAB				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.2							
WRAB	**Tennant Creek**	**41.53**	**122**	*e*P	**P**	**14 29 25.2**	**-1.3**
comp=Z,3.6nm,0.7s,mb4.1							
BJI	**Beijing**	**42.48**	**21**	*e*P	**P**	**14 29 34.2**	**+0.1**
BJI				AMB	AMB		
comp=Z,9.0nm,0.8s,mb4.5							
BJI	**Beijing**	**42.48**	**21**	*e*P	**P**	**14 29 34.2**	**+0.1**
comp=Z,9.0nm,0.8s,mb4.5							
ASAR	**Alice Springs**	**42.89**	**127**	P	**P**	**14 29 36.6**	**-0.9**
comp=Z,2.6nm,0.7s,mb4.1,baz=298,slow=7.9,SNR=18							
WMQ	**Urumqi**	**43.65**	**350**	*e*P	**P**	**14 29 45.5**	**+2.0**
UCH	**Uchtor**

TLL			*i* S	S	14 38 05.4	+1.4
TLL			AMP		14 38 06.4	
	comp=N,2μm,0.4s					
ILCH	**Illapel**	**1.05 158**	⇑*i* P	P	14 37 56.1	+0.7
ILCH			*i* S	S	14 38 10.2	+1.2
ILCH			AMP		14 38 11.4	
	comp=E,2μm,0.2s					
CHNG	**Los Chungos**	**1.23 175**	⇑*i* P	P	14 37 58.0	+0.2
CHNG			*i* S	S	14 38 13.2	-0.4
CHNG			AMP		14 38 19.2	
	comp=E,160nm,0.3s					
PTCH	**Petorca**	**1.71 160**	⇑*i* P	P	14 38 05.8	+1.0
PTCH			*i* S	S	14 38 27.4	+1.7
PTCH			AMP		14 38 36.1	
	comp=E,2μm,0.8s					
JACH	**Jahuel**	**2.21 157**	*e*P	P	14 38 13.2	+1.3

MAN 02 14:51:37.2, 12.84N×125.01E, h14km, mb4.7, ML3.6, MS3.5, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.47**	**226**	*e*P	Pb	14 51 47.1	+0.4
CNP				*e*S	Sb	14 51 54.7	+1.6
PVCP	**Virac**	**1.12**	**312**	*e*P	Pb	14 51 56.9	-1.0
PVCP				*e*S	Sb	14 52 12.9	+0.9
BESP	**Borongan**	**1.30**	**161**	*e*P	Pb	14 51 59.5	-1.4
BESP				*e*S	Sb	14 52 21.6	+4.3
MMPH	**Masbate**	**1.43**	**251**	*e*P	Pn	14 52 02.0	-0.9
AUQP	**San Andres**	**2.32**	**282**	*e*P	Pn	14 52 17.8	+2.1
RCP	**Roxas**	**2.55**	**240**	*e*P	Pn	14 52 18.7	-0.1
RCP				*e*S	Sn	14 52 49.6	-0.3
MSLP	**Maasin**	**2.69**	**183**	*e*P	Pn	14 52 23.2	+2.3
MSLP				*e*S	Sn	14 53 00.1	+6.6
LLP	**Lapu-Lapu**	**2.71**	**202**	*e*P	Pn	14 52 21.0	-0.1
LLP				*e*S	Sn	14 52 54.8	+0.9
GQP	**Guinayangan**	**2.71**	**293**	⇓*e*P	Pn	14 52 20.7	-0.4
BOAC	**Boac**	**3.14**	**282**	*e*P	Pn	14 52 27.8	+0.5
BOAC				*e*S	Sn	14 53 07.3	+2.3
GUIM	**Jordan**	**3.23**	**227**	*e*P	Pn	14 52 26.7	-1.9
GUIM				*e*S	Sn	14 53 06.2	-0.9
BALP	**Baler**	**4.40**	**311**	*e*P	Pn	14 52 40.6	-4.6
BALP				*e*S	Sn	14 53 28.3	-8.5
CAUP	**Cauayan**	**5.11**	**323**	*e*P	Pn	14 52 52.0	-3.2

NIED ***02*** *14:58:00, 42.40N×145.10E, h26km, Mw4.8 Best double couple: M0 1.56×10^16 NP1:φs 17°, δ77°, λ62°. NP2:φs 264°, δ31°, λ153°.*
BJI ***02*** *14:58:34.5, 42.61N×145.01E, h32km, mB5.1, mb4.7, Ms4.3, Msz4.2*
SKHL ***02*** *14:58:34.0±6.1, 42.37N×145.21E, h86km±13km, mb5.8/3, mbh5.9/2, Ms4.6/2*
JMA ***02*** *14:58:35.3, 42.45N×145.13E, h42km±1km, M4.7 Broadband fault plane solution: P waves. NP1:φs 246°, δ15°, λ114°. NP2:φs 42°, δ76°, λ84°. Principal axes: T Plg58°, Azm304°; N Plg6°, Azm43°; P Plg31°, Azm137°;*
JMA Felt I J1.
NEIC ***02*** *14:58:36.1±0.2, 42.49N×144.98E, mb4.9/48, MW4.7(NIED) Error ellipse: s-maj=7.1km s-min=4.4km az=157.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
MOS ***02*** *14:58:37.1±1.0, 42.69N×144.99E, h47km, mb5.0/36, Error ellipse: s-maj=10.0km s-min=5.5km az=108.2*
IDC ***02*** *14:58:39.4±2.5, 42.41N×145.02E, h67km±20km, mb4.1/18, mb1 4.3/19, mb1mx4.3/22, mbtmp4.4/19, MS4.4/6, Ms1 4.3/6, ms1mx3.9/31, Error ellipse: s-maj=17.0km s-min=15.9km az=154.0*
ISC 02 14:58:34.5±0.7, 42.45N±0.04×145.03E±0.04, h34km±4km, h34km±1.4km: pP-P, n234, σ1§07/253, mb4.7/82, MS4.3/16, 25C-15D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.60**	**336**	⇓P	**P**	**14 58 48.0**	**+1.6**
JAK				*e*S	**S**	**14 58 57.7**	**+2.6**
JOB	**Onbets**	**0.99**	**298**	⇓P	**P**	**14 58 54.2**	**+2.2**
NEM2	**Nemuro 2**	**1.06**	**30**	P	**P**	**14 58 53.3**	**+0.3**
NEM2				*e*S	**S**	**14 59 06.9**	**+0.2**
JNK	**Nakash**	**1.16**	**349**	⇓P	**P**	**14 58 55.3**	**+0.9**
JNK				*e*S	**S**	**14 59 10.5**	**+1.1**
JCH	**Churui**	**1.24**	**278**	P	**P**	**14 58 58.2**	**+2.6**
JAR	**Ashorobuto**	**1.26**	**313**	⇓P	**P**	**14 58 57.3**	**+1.5**
JEM	**Erimo**	**1.45**	**253**	P	**P**	**14 59 02.1**	**+3.4**
JRA	**Rausu**	**1.49**	**3**	⇓P	**P**	**14 59 00.0**	**+0.8**
JRA				*e*S	**S**	**14 59 18.5**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**1.70**	**21**	PN	**P**	**14 59 00.5**	**-1.7**
YUK				*i* S	**S**	**14 59 21.5**	**-1.5**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,1μm,0.6s						
YUK				pmax	pmax		
	comp=E,1μm,0.6s						
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,410nm,0.2s						
YUK				pmax	pmax		
	comp=E,430nm,0.2s						
YUK				smax			
	comp=E,22μm,0.6s						
YUK				smax			
	comp=N,14μm,0.6s						
YUK				smax			
	comp=N,16μm,0.6s						
YUK				smax			
	comp=E,56μm,0.8s						
YUK	**Yuzh-Kuril'sk**	**1.70**	**21**	*i* P	**P**	**14 59 00.5**	**-1.7**
YUK				AMB	AMB	14 59 02.0	
	comp=E,1μm,1.0s						
YUK				AMB	AMB	14 59 02.0	
	comp=E,2μm,1.0s						
YUK				AMB	AMB	14 59 05.5	
	comp=E,410nm,0.3s						
YUK				AMB	AMB	14 59 05.5	
	comp=E,430nm,0.3s						
YUK				AMB	AMB	14 59 05.5	
	comp=E,2μm,0.3s						
YUK				*i* S	**S**	**14 59 21.5**	**-1.5**
YUK				A		14 59 22.5	
	comp=E,14μm,0.6s						
YUK				A		14 59 22.5	
	comp=E,22μm,0.6s						
YUK				A		14 59 22.6	
	comp=E,56μm,0.8s						
YUK				A		14 59 22.6	
	comp=E,16μm,0.6s						
ASAJ	**Asahikawa**	**2.44**	**314**	P	**P**	**14 59 15.4**	**+2.7**
	comp=E,290nm,0.3s,baz=158,slow=12,SNR=447						
ASAJ				S	**S**	**14 59 47.2**	**+5.6**
	comp=E,99nm,0.3s,baz=227,slow=24,SNR=11						
ASAJ				LR	LR	15 00 30.7	
	comp=E,5μm,20.1s,baz=331,slow=45						
KUR	**Kuril'sk**	**3.46**	**35**	⇑*i* PN	**P**	**14 59 26.0**	**-1.3**
KUR				*e*S	**S**	**15 00 05.0**	**-2.7**
KUR				pmax	pmax		
	comp=N,500nm,0.9s						
KUR				pmax	pmax		
	comp=E,430nm,0.9s						
KUR				pmax	pmax		
	comp=Z,1μm,0.9s						
KUR				pmax	pmax		
	comp=N,2μm,1.0s						
KUR				pmax	pmax		
	comp=E,2μm,1.0s						
KUR				pmax	pmax		
	comp=Z,3μm,1.0s						
KUR				smax			
	comp=N,560nm,0.6s						
KUR				smax			
	comp=E,480nm,0.6s						
KUR				smax			
	comp=N,10μm,1.6s						
KUR				smax			
	comp=E,10μm,1.6s						
KUR	**Kuril'sk**	**3.46**	**35**	⇑*i* P	**P**	**14 59 26.0**	**-1.3**
KUR				AMB	AMB	14 59 46.0	
	comp=E,497nm,0.9s						
KUR				AMB	AMB	14 59 46.0	
	comp=E,426nm,0.9s						
KUR				AMB	AMB	14 59 46.0	
	comp=E,1μm,0.9s						
KUR				AMB	AMB	14 59 46.4	
	comp=E,3μm,1.0s						
KUR				AMB	AMB	14 59 46.4	
	comp=E,2μm,1.0s						
KUR				AMB	AMB	14 59 46.4	
	comp=E,2μm,1.0s						
KUR				*e*S	**S**	**15 00 05.0**	**-2.7**
KUR				A		15 00 30.6	
	comp=E,10μm,1.6s						
KUR				A		15 00 30.6	
	comp=E,10μm,1.6s						
YSS	**Yuzh-Sakhalins**	**4.79**	**341**	⇓*e*PN	**P**	**14 59 46.0**	**-0.2**
YSS				MLR	MLR		
	comp=N,2μm,16.0s						
YSS				MLR	MLR		
	comp=Z,3μm,16.0s						
YSS				MLR	MLR		
	comp=E,3μm,14.0s						
YSS	**Yuzh-Sakhalins**	**4.79**	**341**	*e*P	**P**	**14 59 46.1**	**-0.1**
YSS	**Yuzh-Sakhalins**	**4.79**	**341**	*e*S	**S**	**15 00 34.5**	**-6.8**
YSS				A		15 00 42.0	
	comp=E,90nm,1.0s						
YSS				A		15 00 42.0	
	comp=E,100nm,1.0s						
YSS				*e*LQ		15 01 12.0	
YSS				*e*LR	LR	15 01 32.0	
YSS				AMS	AMS	15 02 00.0	
	comp=E,2μm,16.0s						
YSS				AMS	AMS	15 02 00.0	
	comp=E,3μm,16.0s						
YSS				AMS	AMS	15 02 00.0	
	comp=E,3μm,14.0s						
YSS				⇓*e*P		15 59 46.0	
TEY	**Ternei**	**6.63**	**296**	*e*P	**P**	**15 00 12.0**	**0.0**
TEY				AMS	AMS	15 03 05.0	
	comp=E,2μm,15.0s						
UGL	**Uglegorsk**	**6.95**	**344**	PN	**P**	**15 00 23.0**	**+6.5**
UGL				*e*		15 01 38.0	
UGL				MLR	MLR		
	comp=N,2μm,16.0s						
UGL				MLR	MLR		
	comp=E,3μm,16.0s						
UGL				MLR	MLR		
	comp=Z,4μm,16.0s						
UGL	**Uglegorsk**	**6.95**	**344**	*e*rx	rx	15 00 23.0	
UGL				AMS	AMS	15 03 17.0	
	comp=Z,2μm,16.0s						
UGL				AMS	AMS	15 03 17.0	
	comp=Z,3μm,16.0s						
UGL				AMS	AMS	15 03 17.0	
	comp=Z,4μm,16.0s						
MAJO	**Matsushiro**	**7.91**	**224**	*e*PN	**P**	**15 00 28.6**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,62nm,0.4s						
MAJO	**Matsushiro**	**7.91**	**224**	*e*P	**P**	**15 00 28.6**	**-1.2**
	comp=Z,62nm,0.4s						
MAT	**Matsushiro**	**7.91**	**224**	*e*PN	**P**	**15 00 28.0**	**-1.9**
MAT				pmax	pmax		
	comp=Z,44nm,0.6s						
MAT	**Matsushiro**	**7.91**	**224**	*e*P	**P**	**15 00 28.0**	**-1.9**
	comp=Z,44nm,0.6s						
MAT				S	**S**	**15 02 01.0**	**+1.9**
MAT	**Matsushiro**	**7.91**	**224**	P	**P**	**15 00 28.3**	**-1.6**
MAT				*e*S	**S**	**15 01 57.6**	**-1.5**
TYV	**Tymovskoe**	**8.58**	**350**	*e*P	**P**	**15 00 36.5**	**-2.7**
TYV				AMB	AMB	15 00 49.5	
	comp=Z,32nm,1.0s						
TYV				AMB	AMB	15 01 14.5	
	comp=Z,600nm,4.0s						
TYV				A		15 02 53.0	
	comp=Z,800nm,4.0s						
TYV				AMS	AMS	15 04 16.0	
	comp=Z,1μm,15.0s						
JHJ	**Hachijo jima 2**	**10.19**	**206**	P	**P**	**15 00 56.8**	**-4.7**
	comp=Z,12nm,0.3s,baz=109,slow=11,SNR=9.8						
JHJ				S	**S**	**15 02 43.0**	**-13**
	comp=Z,83nm,0.3s,baz=64,slow=23,SNR=14						
OKH	**Okha**	**11.20**	**354**	*e*P	**P**	**15 01 13.1**	**-2.0**
OKH				*e*L		15 04 27.6	
OKH				AMS	AMS	15 06 14.0	
	comp=Z,1μm,14.0s						
OKH				AMS	AMS	15 06 14.0	
	comp=Z,2μm,16.0s						
MDJ	**Mudanjiang**	**11.42**	**286**	P	**P**	**15 01 16.2**	**-1.9**
MDJ				S	**S**	**15 03 24.0**	**-1.5**
MDJ				SCP		15 10 37.0	
MDJ				PCS		15 10 41.4	
MDJ				SCS	ScS	15 14 13.5	+1.1
MDJ				AMB	AMB		
	comp=Z,17nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,98nm,7.1s						
MDJ				LR	LR		
	comp=N,224nm,15.5s						
MDJ				LR	LR		
	comp=E,679nm,16.0s						
MDJ				LR	LR		
	comp=Z,768nm,15.0s						
MDJ	**Mudanjiang**	**11.42**	**286**	P	**P**	**15 01 17.6**	**-0.5**
	comp=Z,16nm,0.9s						
KLR	**Kul'dur**	**11.47**	**311**	*e*PN	**P**	**15 01 20.0**	**+1.2**
PET	**Petropavlovsk**	**13.97**	**36**	*e*P	**P**	**15 01 53.3**	**+1.3**
PET				MLR	MLR		
	comp=Z,500nm,17.0s						
CN2	**Changchun**	**14.37**	**282**	*e*P	**P**	**15 01 56.1**	**-1.1**
CN2				*e*XP		15 02 06.2	
CN2				*e*S	**S**	**15 04 34.1**	**-2.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
CN2				AMB	AMB		
	comp=Z,300nm,8.0s						
CN2				LR	LR		
	comp=N,400nm,15.0s						
CN2				LR	LR		
	comp=E,900nm,15.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
SNY	**Shenyang**	**15.92**	**275**	⇑P	**P**	**15 02 17.7**	**+0.2**
SNY				AMB	AMB		
	comp=Z,20nm,1.0s						
SNY				LR	LR		
	comp=N,500nm,21.0s						
SNY				LR	LR		
	comp=Z,540nm,22.4s						
ZEA	**Zeya**	**16.34**	**320**	*e*P	**P**	**15 02 21.2**	**-1.4**
ZEA				AMB	AMB	15 02 23.2	
	comp=Z,47nm,1.0s						
ZEA				AMB	AMB	15 02 23.2	
	comp=Z,52nm,1.0s						
ZEA				AMB	AMB	15 02 23.2	
	comp=Z,21nm,0.8s						
MA2	**Magadan**	**17.52**	**10**	*i* P	**P**	**15 02 35.8**	**-1.6**
MA2				pmax	pmax		
	comp=Z,15nm,1.7s						
MA2	**Magadan**	**17.52**	**10**	*e*P	**P**	**15 02 35.8**	**-1.6**
	comp=Z,11nm,1.1s						
HIA	**Hailar**	**18.83**	**300**	*e*P	**P**	**15 02 50.9**	**-2.9**
HIA				pmax	pmax		
	comp=Z,30nm,1.0s						
HIA	**Hailar**	**18.83**	**300**	*e*P	**P**	**15 02 50.9**	**-2.9**
	comp=Z,30nm,1.0s						
CLNS	**Chul'man**	**19.32**	**325**	*c* iP	**P**	**15 02 57.0**	**-2.3**
CLNS				*e*S	**S**	**15 06 20.6**	**-9.4**
CLNS				pmax	pmax		
	comp=Z,15nm,0.9s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.5s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.6s						
CLNS				pmax	pmax		
	comp=Z,19nm,1.0s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
CLNS				smax			
	comp=N,140nm,13.9s						
CLNS				smax			
	comp=E,20nm,14.1s						
CLNS				MLR	MLR		
	comp=Z,600nm,15.0s						
CLNS				MLR	MLR		
	comp=N,400nm,14.0s						
YAK	**Yakutsk**	**21.64**	**340**	*i* P	**P**	**15 03 20.3**	**-3.2**
YAK				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.5						
YAK	**Yakutsk**	**21.64**	**340**	P	**P**	**15 03 17.9**	**-5.6**
	comp=Z,19nm,0.6s,mb4.7						
BJI	**Beijing**	**21.79**	**273**	*e*P	**P**	**15 03 23.3**	**-1.8**
BJI				S	**S**	**15 07 19.7**	**+0.7**
BJI				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.3						
BJI				LR	LR		
	comp=N,255nm,14.3s						
BJI				LR	LR		
	comp=E,578nm,19.8s						
BJI				LR	LR		
	comp=Z,721nm,20.4s						
BJI	**Beijing**	**21.79**	**273**	*e*P	**P**	**15 03 23.3**	**-1.8**
	comp=Z,16nm,1.3s,mb4.3						
BJI				S	**S**	**15 07 19.7**	**+0.7**
BJI				LR	LR		
	comp=Z,720nm,20.4s,MS4.1						
SSE	**Sheshan**	**22.13**	**247**	*e*P	**P**	**15 03 32.3**	**+3.7**
SSE				S	**S**	**15 07 31.7**	**+6.3**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb4.9						
SSE				LR	LR		
	comp=N,182nm,15.9s,MS4.0						
SSE				LR	LR		
	comp=E,496nm,15.9s,MS4.0						
SSE				LR	LR		
	comp=Z,654nm,16.1s,MS4.1						
SSE	**Sheshan**	**22.13**	**247**	*e*P	**P**	**15 03 32.3**	**+3.7**
	comp=Z,32nm,0.7s,mb4.9						
SSE				pP		15 03 49.7	
SSE				sP		15 04 00.0	
SSE				S	**S**	**15 07 31.7**	**+6.3**
SSE				sS		15 08 00.8	
SSE				LR	LR		
	comp=Z,650nm,16.1s,MS4.1						
TIA	**Tai'an**	**22.41**	**263**	*e*P	**P**	**15 03 30.4**	**-0.9**
BOD	**Bodaibo**	**24.84**	**319**	*e*P	**P**	**15 03 50.5**	**-4.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
HHC	**Hu-ho-hao-te**	**24.97**	**278**	*e*P	**P**	**15 03 57.8**	**+1.6**
HHC				AP		15 04 08.0	
HHC				XP		15 04 11.7	
HHC				PP	PP	15 04 38.0	+4.1
HHC				PCP	PcP	15 07 28.7	-3.1
HHC				S	**S**	**15 08 21.2**	**+6.2**
HHC				SCP		15 11 01.8	
HHC				PCS		15 11 15.4	
HHC				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
HHC				LR	LR		
	comp=N,193nm,12.7s,MS4.0						
HHC				LR	LR		
	comp=E,322nm,15.7s,MS4.0						
HHC				LR	LR		
	comp=Z,360nm,14.5s,MS4.0						
BTO	**Baotou**	**26.16**	**278**	*e*P	**P**	**15 04 07.9**	**+0.5**
BTO				S	**S**	**15 08 36.1**	**+1.4**
BTO				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.8						
BTO				LR	LR		
	comp=N,258nm,5.5s						
BTO				LR	LR		
	comp=E,585nm,15.7s						
ULN	**Ulaanbaatar**	**27.13**	**295**	*e*P	**P**	**15 04 15.9**	**-0.2**
ULN				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**27.13**	**295**	*e*P	**P**	**15 04 15.9**	**-0.3**
	comp=Z,18nm,0.8s,mb4.7						
SONM	**Songino Array**	**27.57**	**295**	P	**P**	**15 04 20.1**	**-0.1**
	comp=Z,12nm,0.5s,mb4.8,baz=84,slow=8.7,SNR=67						
SONM				LR	LR	15 16 25.1	
	comp=Z,519nm,18.5s,MS4.1,baz=59,slow=39						
BILL	**Bilibino**	**28.05**	**17**	*i* P	**P**	**15 04 20.4**	**-3.9**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.0						
BILL				MLR	MLR		
	comp=Z,300nm,18.0s,MS3.9						
TLY	**Talaya**	**29.31**	**303**	*e*P	**P**	**15 04 36.4**	**+0.7**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
TLY				MLR	MLR		
	comp=Z,496nm,16.0s,MS4.2						
TLY	**Talaya**	**29.31**	**303**	*e*P	**P**	**15 04 33.1**	**-2.7**
	comp=Z,7.0nm,0.9s,mb4.4						
XAN	**Xi'an**	**29.40**	**265**	P	**P**	**15 04 36.8**	**+0.1**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
ZAK	**Zakamensk**	**29.53**	**300**	⇓*e*P	**P**	**15 04 37.0**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
TIXI	**Tiksi**	**30.35**	**350**	*e*P	**P**	**15 04 39.4**	**-5.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
ENH	**Enshi**	**30.87**	**259**	*e*P	**P**	**15 04 49.2**	**-0.6**
	comp=Z,22nm,0.9s,mb5.0						
MOY	**Mondy**	**30.96**	**303**	*e*P	**P**	**15 04 50.3**	**-0.1**
MOY				pmax	pmax		
	comp=Z,29nm,1.6s,mb4.9						
LZH	**Lanzhou**	**32.27**	**273**	⇑P	**P**	**15 05 02.5**	**+0.4**
LZH				AP	pP	15 05 11.5	-0.4
LZH				XP	sP	15 05 16.1	-0.2
LZH				AMB	AMB		
	comp=Z,53nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,121nm,4.5s						
LZH				LR	LR		
	comp=N,263nm,13.0s						
LZH				LR	LR		
	comp=Z,398nm,17.2s,MS4.2						
LZH	**Lanzhou**	**32.27**	**273**	⇑P	**P**	**15 05 02.5**	**+0.4**
LZH				*SP	sP	15 05 16.1	-0.2
LZH				pmax	pmax		
	comp=Z,53nm,1.2s,mb5.2						
LZH				MLR	MLR		
	comp=Z,400nm,17.2s,MS4.2						
LZH	**Lanzhou**	**32.27**	**273**	⇑P	**P**	**15 05 02.5**	**+0.4**
	comp=Z,53nm,1.2s,mb5.2						
LZH				pP	pP	15 05 11.5	-0.4
LZH				sP	sP	15 05 16.1	-0.2
LZH				LR	LR		
	comp=Z,400nm,17.2s,MS4.2						
GTA	**Gaotai**	**33.99**	**280**	P	**P**	**15 05 17.3**	**+0.4**
GTA				PP	PP	15 06 32.1	+0.9
GTA				PCP	PcP	15 07 55.3	+0.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,226nm,6.1s						
GTA				LR	LR		
	comp=N,106nm,17.9s,MS4.1						
GTA				LR	LR		
	comp=E,289nm,18.6s,MS4.1						
GTA				LR	LR		
	comp=Z,315nm,16.3s,MS4.1						
CD2	**Chengdu**	**34.73**	**264**	*e*P	**P**	**15 05 23.2**	**-0.1**
GYA	**Guiyang**	**35.09**	**255**	⇑*i* P	**P**	**15 05 26.9**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
KMI	**Kunming**	**38.71**	**257**	P	**P**	**15 05 58.1**	**+1.2**
KMI				AP	pP	15 06 10.5	+3.6
KMI				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,189nm,5.1s						
KMI				LR	LR		
	comp=N,269nm,17.6s,MS4.3						
KMI				LR	LR		
	comp=E,356nm,19.2s,MS4.3						
KMI				LR	LR		
	comp=Z,548nm,17.6s,MS4.4						
ZAL	**Zalesovo**	**40.57**	**308**	P	**P**	**15 06 11.6**	**-0.5**
	comp=Z,8.2nm,0.5s,mb4.7,baz=26,slow=7.8,SNR=45						
ZAL				PcP	PcP	15 08 13.8	-0.7
	comp=Z,3.5nm,0.9s,baz=30,slow=3.9,SNR=5.6						
ZAL				LR	LR	15 24 51.5	
	comp=Z,722nm,18.1s,MS4.6,baz=117,slow=39						
IMA	**Indian Mountai**	**40.63**	**33**	*e*P	**P**	**15 06 12.0**	**-0.4**
IMA				pmax	pmax		
	comp=Z,62nm,0.8s,mb5.3						
IMA	**Indian Mountai**	**40.63**	**33**	*e*P	**P**	**15 06 12.0**	**-0.4**
	comp=Z,62nm,0.8s,mb5.3						
WMQ	**Urumqi**	**41.14**	**292**	⇑P	**P**	**15 06 17.4**	**+0.5**

WMQ AP pP 15 06 27.2 +0.4
WMQ XP sP 15 06 31.1 0.0
WMQ PP PP 15 07 55.7 +0.9
WMQ PCP PcP 15 08 17.4 +0.9
WMQ PPP PPP 15 08 24.9 -0.1
WMQ S **S** **15 12 27.4 -0.1**
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.2
WMQ AMB AMB
comp=Z,138nm,4.8s
WMQ LR LR
comp=N,234nm,13.8s,MS4.5
WMQ LR LR
comp=E,418nm,14.3s,MS4.5
WMQ LR LR
comp=Z,321nm,22.2s
NVS Novosibirsk 41.33 309 *i* P **P 15 06 17.4 -0.9**
NVS pmax pmax
comp=N,10.0nm,1.6s
NVS pmax pmax
comp=Z,23nm,1.6s,mb4.6
NVS pmax pmax
comp=E,21nm,1.4s
COLA College 43.04 35 *eP* **P 15 06 32.1 0.0**
COLA pmax pmax
comp=Z,19nm,0.8s,mb4.9
COLA College 43.04 35 *eP* **P 15 06 32.0 0.0**
comp=Z,19nm,0.8s,mb4.9
MKAR Makanchi Array 43.82 298 *i* P **P 15 06 38.5 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 43.82 298 P **P 15 06 38.5 -0.1**
comp=Z,3.1nm,0.6s,mb4.2,baz=82,slow=11,SNR=45
NANT Nan 44.19 252 P **P 15 06 44.0 +2.0**
comp=Z,62nm,0.9s,mb5.3
LSA Lhasa 44.67 272 P **P 15 06 47.2 +1.4**
LSA Lhasa 44.67 272 *eP* **P 15 06 47.4 +1.6**
LSA pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
LSA Lhasa 44.67 272 *eP* **P 15 06 47.4 +1.6**
comp=Z,7.6nm,1.0s,mb4.5
KURK Kurchatov 44.98 304 *i* P **P 15 06 47.5 -0.4**
KURK pmax pmax
comp=Z,26nm,1.1s,mb5.0
KURK Kurchatov 44.98 304 *eP* **P 15 06 47.4 -0.5**
comp=Z,35nm,0.8s,mb5.2
DAWY Dawson 46.77 36 *eP* **P 15 07 01.9 +0.1**
INK Inuvik 48.31 29 *eP* **P 15 07 13.2 -0.7**
INK pmax pmax
comp=Z,7.0nm,0.6s
INK Inuvik 48.31 29 P **P 15 07 13.8 -0.1**
comp=Z,7.2nm,0.6s,mb4.9,baz=285,slow=6.5,SNR=71
INK Inuvik 48.31 29 *eP* **P 15 07 13.2 -0.7**
comp=Z,6.8nm,0.6s,mb4.8
CHKZ Chkalovo 48.79 310 *eP* **P 15 07 16.9 -0.9**
CHKZ pmax pmax
comp=Z,29nm,0.9s,mb5.3
CHKZ Chkalovo 48.79 310 *eP* **P 15 07 16.9 -0.9**
comp=Z,29nm,0.9s,mb5.3
BVA0 Borovoye Array 49.13 310 *i* P **P 15 07 20.3 -0.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
JIRN Jiri 49.44 273 *eP* **P 15 07 23.7 +0.5**
comp=Z,9.0nm,0.4s,mb5.2
GUN Gumba 49.53 273 *eP* **P 15 07 24.3 +0.4**
comp=Z,37nm,0.4s,mb5.7
TKM2 Tokmak 2 49.66 296 P **P 15 07 25.2 +0.5**
SNR=8.8
KKN Kakani 50.04 273 *eP* **P 15 07 27.9 +0.1**
comp=Z,29nm,0.9s,mb5.3
KKN Kakani 50.04 273 *eP* **P 15 07 27.9 +0.1**
KKN pmax pmax
comp=Z,15nm,0.9s,mb5.0
PKI Pulchoki 50.07 273 *eP* **P 15 07 27.7 -0.3**
comp=Z,21nm,0.9s,mb5.2
PKI Pulchoki 50.07 273 *eP* **P 15 07 27.7 -0.3**
PKI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KZA Kyzart 50.25 295 P **P 15 07 30.5 +1.3**
SNR=7.2
DMN Daman 50.27 273 *eP* **P 15 07 29.7 +0.1**
comp=Z,13nm,0.5s,mb5.3
GKN Gorkha 50.40 274 *eP* **P 15 07 30.3 -0.2**
comp=Z,16nm,0.4s,mb5.5
AAK Ala-Archa 50.52 296 P **P 15 07 30.8 -0.4**
SNR=5.3
AAK Ala-Archa 50.52 296 *i* P **P 15 07 29.9 -1.4**
AAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
AAK Ala-Archa 50.52 296 *eP* **P 15 07 29.9 -1.4**
comp=Z,2.1nm,0.4s,mb4.4
EKS2 Erkin-Say 50.99 296 P **P 15 07 34.4 -0.4**
SNR=5.4
AML Almayashu 51.27 295 P **P 15 07 37.6 +0.7**
SNR=6.0
KOLN Koldanda 51.29 274 *eP* **P 15 07 37.2 -0.1**
comp=Z,101nm,1.3s,mb5.6
KKAR Karatay Array 52.95 298 *i* P **P 15 07 48.7 -0.8**
KKAR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SVE Sverdlovsk 53.03 317⇓ *iP* **P 15 07 49.5 -0.4**
SVE pmax pmax
comp=Z,56nm,1.7s,mb5.2
ARU Arti 54.24 317⇑ *iP* **P 15 07 57.7 -1.1**
ARU *e* 15 09 07.5
ARU *e* 15 09 57.2
ARU *e*S **S** **15 15 26.2 -6.0**
ARU *e*SS SS 15 19 12.1 -1.6
ARU pmax pmax
comp=Z,32nm,1.0s,mb5.2
ARU Arti 54.24 317 *eP* **P 15 07 57.5 -1.3**
comp=Z,34nm,1.0s,mb5.2
NDI New Delhi 55.48 279 *eP* **P 15 08 07.5 -0.8**
BLSP Bilaspur 55.63 270 *eP* **P 15 08 09.1 -0.3**
BLSP *e* 15 08 09.8
comp=Z,19nm,1.2s
RES Resolute Bay 56.66 16 *eP* **P 15 08 14.4 -1.7**
RES pmax pmax
comp=Z,13nm,0.9s,mb5.0
RES Resolute Bay 56.66 16 *eP* **P 15 08 14.4 -1.7**
comp=Z,13nm,0.9s,mb5.0
YKW3 Yellowknife Ar 57.71 33 *eP* **P 15 08 25.2 +1.6**
YKA Yellowknife Ar 57.74 33 P **P 15 08 22.5 -1.4**
comp=Z,4.7nm,0.7s,mb4.6,baz=304,slow=6.8,SNR=81
BHPL Bhopal 58.45 274 *eP* **P 15 08 27.4 -2.0**
BHPL *e* 15 08 30.0
comp=Z,21nm,0.9s
KEV Kevo 59.38 339 *ep* **P 15 08 32.5 -2.8**
ARCES ARCESS Array B 59.92 339 P **P 15 08 38.5 -0.5**
comp=Z,2.3nm,0.5s,mb4.5,baz=37,slow=7.6,SNR=14
DAG Danmarks Havn 60.61 356⇓ *eP* **P 15 08 41.8 -1.8**
DAG pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
DAG Danmarks Havn 60.61 356⇓ *eP* **P 15 08 41.8 -1.8**
comp=Z,10.0nm,1.0s,mb4.4
DAG Danmarks Havn 60.61 356⇓ *iP* **P 15 08 41.8 -1.8**
comp=Z,10.0nm,1.0s,mb4.9
HYB Hyderabad 61.18 268 *eP* **P 15 08 48.0 -0.2**
HYB Hyderabad 61.18 268 *i* P **P 15 08 48.0 -0.2**
WRA Warramunga Arr 62.85 191 P **P 15 08 57.4 -2.0**
comp=Z,1.1nm,0.8s,mb4.0,baz=9.1,slow=6.7,SNR=9.2
KAD Karad 64.48 271 *eP* **P 15 09 09.2 -0.8**
KAD *e* 15 09 10.8
comp=Z,25nm,0.9s
KAF Kangasniemi 64.77 333 *ep* **P 15 09 06.5 -4.7**
baz=45,slow=6.1
SUMG Summit 65.25 1 *eP* **P 15 09 13.9 -0.3**
comp=Z,26nm,1.0s,mb5.2
FINES FINESS Array B 65.32 332 P **P 15 09 13.7 -1.1**
comp=Z,15nm,0.8s,mb5.1,baz=45,slow=7.5,SNR=75
FINES LR LR 15 41 07.0
comp=Z,282nm,18.6s,MS4.5,baz=334,slow=39
OBN Obninsk 65.44 323 *ceP* **P 15 09 14.6 -1.0**
OBN *e*S S 15 17 47.3 -8.9
OBN pmax pmax
comp=Z,40nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.5
OBN Obninsk 65.44 323 *eP* **P 15 09 14.5 -1.1**
comp=Z,7.9nm,0.5s,mb5.0
MOD Modoc 66.27 54 *eP* **P 15 09 22.3 +1.1**
comp=Z,5.6nm,1.1s,mb4.5
ASAR Alice Springs 66.58 191 P **P 15 09 22.6 -0.7**
comp=Z,0.3nm,0.5s,mb3.6,baz=1.9,slow=6.9,SNR=3.8
FCC Fort Churchill 67.92 29 *eP* **P 15 09 30.3 -1.0**
FCC pmax pmax
comp=Z,12nm,1.1s,mb4.8
FCC Fort Churchill 67.92 29 *eP* **P 15 09 30.3 -0.9**
comp=Z,12nm,1.1s,mb4.8
HRY Holter Researc 68.16 46 *eP* **P 15 09 31.9 -1.1**
GOF Gofitskoye 68.57 312 *eP* **P 15 09 35.7 +0.2**
BOZ Bozeman (W) 68.94 47 *eP* **P 15 09 37.6 -0.2**
BOZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BOZ Bozeman (W) 68.94 47 *eP* **P 15 09 37.6 -0.2**
comp=Z,5.3nm,0.7s,mb4.6
KIV Kislovodsk 69.46 311 *d iP* **P 15 09 41.2 +0.2**
KIV pmax pmax
comp=Z,40nm,1.7s,mb5.1
KIV Kislovodsk 69.46 311 *eP* **P 15 09 42.5 +1.5**
comp=Z,31nm,1.1s,mb5.2
QLMT Earthquake Lak 69.57 48 P **P 15 09 39.6 -2.1**
NVAR Mina Array Bea 69.59 56 P **P 15 09 42.8 +0.8**
comp=Z,1.4nm,0.8s,mb3.9,baz=292,slow=3.7,SNR=11
MNV Mina 69.68 56 P **P 15 09 44.0 +1.5**
MNV pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MNV Mina 69.68 56 P **P 15 09 44.0 +1.5**
comp=Z,4.3nm,1.0s,mb4.3
NB2 NORSAR Subarra 70.25 338 P **P 15 09 44.5 -1.0**
comp=Z,13nm,0.8s,mb4.9,baz=34,slow=6.2
NOA NORSAR Array B 70.25 338 P **P 15 09 44.8 -0.7**
comp=Z,12nm,0.9s,mb4.8,baz=35,slow=6.1,SNR=23
IMW Indian Meadow 70.44 48 *eP* **P 15 09 48.1 +1.1**
comp=Z,9.6nm,1.1s,mb4.6
RRI2 Red Ridge 70.58 49 *eP* **P 15 09 49.2 +1.3**
comp=Z,13nm,1.0s,mb4.8
TPAW Teton Pass 70.69 48 *eP* **P 15 09 50.0 +1.5**
comp=Z,16nm,1.2s,mb4.8
SOC Sochi 71.34 312 *eP* **P 15 09 49.7 -2.8**
SOC *e* 15 10 10.3
SOC *e* 15 12 26.5
SOC *e*S S 15 18 56.9 -10
SOC *e* 15 19 44.3
SOC pmax pmax
comp=N,35nm,1.1s
SOC pmax pmax
comp=Z,19nm,1.1s,mb4.9
SOC pmax pmax
comp=E,19nm,1.2s
SOC MLR MLR
comp=N,186nm,15.0s,MS4.5
SOC MLR MLR
comp=E,108nm,15.0s,MS4.5
SOC MLR MLR
comp=Z,398nm,15.0s,MS4.8
AKASG Malin Array Be 71.70 323 P **P 15 09 53.8 -0.6**
comp=Z,3.9nm,0.5s,mb4.6,baz=40,slow=6.1,SNR=25
PDAR Pinedale Array 71.94 48 P **P 15 09 56.4 +0.4**
comp=Z,1.7nm,0.8s,mb4.0,baz=290,slow=3.0,SNR=16
BANOM Banah 72.11 289⇑ **P 15 09 57.5 +0.3**
SNR=5.5
WBK Wadi Bani Khal 72.30 285⇑ **P 15 09 59.6 +1.1**
SNR=6.0
BIDO Bidbid 72.33 286⇓ **P 15 09 59.8 +1.2**
ASHO Ashiyiah 73.06 288⇓ **P 15 10 02.8 -0.2**
SNR=7.0
JMDO Jabal Madar 73.07 285 P **P 15 10 03.6 +0.5**
SNR=6.7
MSU Marysvale 73.24 53 P **P 15 10 04.7 +0.9**
ULM Lac du Bonnet 73.47 36 P **P 15 10 02.9 -2.0**
comp=Z,1.8nm,0.7s,mb4.1,baz=302,slow=5.7,SNR=4.4
BSY Bisya 73.48 286⇑ **P 15 10 05.4 0.0**
SNR=10
ARQ Araqi 73.58 287⇑ **P 15 10 06.7 +0.7**
PV10 Paradox Valley 75.17 51 *eP* **P 15 10 16.5 +1.6**
KOLS Kolonicke sedl 76.03 325 *eP* **P 15 10 19.9 +0.3**
KOLS *e* pP 15 10 30.7 +0.6
KOLS Kolonicke sedl 76.03 325 *eP* **P 15 10 19.9 +0.3**
KOLS *e* 15 10 25.1
KOLS *ep*P pP 15 10 30.7 +0.6
RW3 Ridgway 76.03 51 P **P 15 10 19.3 -0.6**
OJC Ojcow 76.05 327 *eP* **P 15 10 20.2 +0.5**
CRVS Cervenica-Dubn 76.40 326 *eP* **P 15 10 22.2 +0.5**
NIE Niedzica 76.47 326 *eP* **P 15 10 21.5 -0.6**
KSP Ksiaz 76.92 329 *eP* **P 15 10 24.4 -0.2**
KSP Ksiaz 76.92 329 *eP* **P 15 10 25.0 +0.4**
OKC Ostrava-Krasne 77.01 328 *eP* **P 15 10 25.8 +0.6**
OKC *ep*P pP 15 10 36.4 +0.7
UPC Upice 77.29 329 *eP* **P 15 10 27.4 +0.7**
UPC *ep*P pP 15 10 37.6 +0.4
MORC Moravsky Berou 77.30 328 *eP* **P 15 10 25.8 -1.0**
MORC pmax pmax
comp=Z,15nm,1.2s,mb4.8
MORC Moravsky Berou 77.30 328 *eP* **P 15 10 25.8 -1.0**
comp=Z,14nm,1.2s,mb4.8
BRTR Keskin Array B 77.30 313 P **P 15 10 26.9 -0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 77.30 313 P **P 15 10 26.9 -0.2**
comp=Z,1.5nm,0.8s,mb4.0,baz=48,slow=4.4,SNR=6.2
DPC Dobruska-Polom 77.30 329 *eP* **P 15 10 27.5 +0.7**
DPC *ep*P pP 15 10 37.4 +0.1
CLL Collm 77.74 331⇑ *iP* **P 15 10 29.0 -0.2**
CLL *i* 15 10 36.5
CLL pmax pmax
comp=Z,14nm,1.0s,mb4.8
CLL Collm 77.74 331⇑ *iP* **P 15 10 29.0 -0.2**
comp=Z,14nm,1.0s,mb4.8
CLL *i* 15 10 36.5
CLL Collm 77.74 331⇑⇑ **P 15 10 29.0 -0.2**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 15 10 36.5 -3.2
CLL *e*SP sP 15 10 39.0 -4.4
BRG Berggiesshubel 77.76 331 *eP* **P 15 10 29.3 0.0**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRG Berggiesshubel 77.76 331 P **P 15 10 29.3 0.0**
comp=Z,1.8nm,0.8s,mb4.0
VYHS Vyhne 77.80 327 *eP* **P 15 10 30.1 +0.5**
VYHS *e* pP 15 10 42.5 +2.4
PVCC Panska Ves 77.81 330 *eP* **P 15 10 29.9 +0.3**
PRU Pruhonice 78.27 330 *eP* **P 15 10 32.2 +0.1**
PRU *ep*P pP 15 10 42.7 +0.1
ZST Bratislava 78.74 327 *eP* **P 15 10 23.5 -11**
MOX Moxa 78.78 332 *eP* **P 15 10 35.0 +0.1**
WHFO Wadi Hawf 79.04 284 P **P 15 10 36.4 -0.6**
SNR=8.1
KHC Kasperske Hory 79.33 330 *eP* **P 15 10 37.0 -0.9**
KHC *ep*P pP 15 10 48.3 -0.2
SCHQ Schefferville 79.36 18 P **P 15 10 38.0 0.0**
comp=Z,2.6nm,0.8s,mb4.2,baz=2.7,slow=8.7,SNR=5.1
SCHQ LR LR 15 52 04.0
comp=Z,129nm,18.7s,MS4.3,baz=335,slow=40
SCHQ Schefferville 79.36 18 P **P 15 10 38.0 0.0**
SCHQ LR LR 15 52 04.0
GERES GERESS Array B 79.52 330 P **P 15 10 39.1 +0.1**
comp=Z,0.8nm,0.6s,mb3.9,baz=27,slow=3.0,SNR=7.5
GRA1 Grafenberg Arr 79.71 332 *eP* **P 15 10 40.6 +0.6**
comp=Z,12nm,1.2s,mb4.7
GRA1 *ep*P pP 15 10 51.0 +0.5
GRF Grafenberg Arr 79.71 332 *eP* **P 15 10 40.6 +0.6**
GRF *e**PP pP 15 10 51.0 +0.5
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.7
GRF Grafenberg Arr 79.71 332 *eP* **P 15 10 40.6 +0.6**
GRF *e**PP pP 15 10 51.0 +0.5
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.7
GRF Grafenberg Arr 79.71 332 *eP* **P 15 10 40.6 +0.6**
comp=Z,12nm,1.2s,mb4.7
GRF *ep*P pP 15 10 51.0 +0.5
ABTO Aybut 79.75 284⇑ **P 15 10 40.5 -0.3**
SKO Skopje 81.80 321 *i P* **P 15 10 52.0 +0.8**
MNTX Cornudas Mount 81.95 54 P **P 15 10 53.1 +0.9**
comp=Z,9.7nm,1.3s,mb4.6
CDF Champ du Feu 82.16 333 *eP* **P 15 10 53.0 +0.1**
comp=Z,11nm,1.0s,mb4.5
CDF Champ du Feu 82.16 333 *eP* **P 15 10 53.0 +0.1**
CDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
GDL2 Guadalupe Moun 82.20 53 P **P 15 10 54.2 +0.8**
HAU Haudompre 82.82 333 *eP* **P 15 10 56.2 -0.1**
FLN La Foliniere 84.23 338 *eP* **P 15 11 04.1 +0.8**
LDF La Druitiere 84.29 338 *eP* **P 15 11 04.0 +0.4**
SSF Saint Saulge 84.57 335 *eP* **P 15 11 05.2 +0.1**
TXAR Lajitas Array 84.67 55 P **P 15 11 06.1 +0.1**
comp=Z,0.4nm,0.4s,mb3.9,baz=342,slow=4.0,SNR=4.8
TXAR Lajitas Array 84.67 55 P **P 15 11 06.1 +0.1**
GRR Gorron 84.68 338 *eP* **P 15 11 06.1 +0.5**
PPT Papeete 84.71 119 LR LR 15 40 36.2
comp=Z,213nm,20.3s,MS4.5,baz=287,slow=30
SMF Signal de Mont 84.84 334⇑ *iP* **P 15 11 06.6 +0.2**
comp=Z,20nm,1.1s,mb4.9
SMF Signal de Mont 84.84 334⇑ *iP* **P 15 11 06.6 +0.2**
SMF pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
LPL La Plagne 84.86 332 *eP* **P 15 11 07.5 +0.9**
AVF Avril sur Loir 84.86 335⇑ *iP* **P 15 11 06.9 +0.4**
comp=Z,18nm,1.0s,mb4.8
AVF Avril sur Loir 84.86 335⇑ *iP* **P 15 11 06.9 +0.4**
AVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LPG La Plagne 84.87 332 *eP* **P 15 11 07.7 +1.1**
SGMF Saint Gilles 85.26 339 *eP* **P 15 11 09.1 +0.6**
ROSF Rostrenen 85.38 339 *eP* **P 15 11 09.8 +0.8**
comp=Z,44nm,1.3s,mb5.1
ROSF Rostrenen 85.38 339 *eP* **P 15 11 09.8 +0.8**
ROSF pmax pmax
comp=Z,22nm,1.3s,mb5.1
MBDF Montbardon 85.53 332 *eP* **P 15 11 10.3 +0.4**
ORIF Oris-en-Rattie 85.68 332 *eP* **P 15 11 12.1 +1.5**
comp=Z,21nm,1.0s,mb5.0
ORIF Oris-en-Rattie 85.68 332 *eP* **P 15 11 12.1 +1.5**
ORIF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
MFF Saint Martin d 86.10 337 *eP* **P 15 11 12.1 -0.5**
VIVF Saint-Julien-l 86.14 333 *eP* **P 15 11 13.6 +0.7**
comp=Z,12nm,0.9s,mb4.8
VIVF Saint-Julien-l 86.14 333 *eP* **P 15 11 13.6 +0.7**
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
PGF Pioggiola 86.60 329 *eP* **P 15 11 15.3 +0.2**
RJF Les Rejaudoux 86.77 335 *eP* **P 15 11 16.8 +0.9**
CAF Calviac 86.93 335⇑ *iP* **P 15 11 18.2 +1.5**
comp=Z,30nm,1.0s,mb5.2
CAF Calviac 86.93 335⇑ *iP* **P 15 11 18.2 +1.5**
CAF pmax pmax
comp=Z,15nm,1.0s,mb5.2
LFF La Frestale 87.33 335 *eP* **P 15 11 19.8 +1.1**
ETSF Etsaut 89.58 335 *eP* **P 15 11 30.4 +0.9**
comp=Z,32nm,1.4s,mb5.2
ETSF Etsaut 89.58 335 *eP* **P 15 11 30.4 +0.9**
ETSF pmax pmax
comp=Z,16nm,1.4s,mb5.2
LVC Limon Verde 145.54 66 *eP* PKPdf 15 18 12.7 +3.4
BDFB Brasilia 151.03 27 PKPbc PKPdf 15 18 25.5 +7.3
comp=Z,3.8nm,0.7s,baz=18,slow=3.2,SNR=5.6

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*IDC **02** 14:59:18.7±4.2, 1.55N×97.76E, mb3.7/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=162.5km s-min=25.1km az=61.0*

ISC 02 14:59:20.8±3.9, 1.4N±0.6×97.5E±1.0, h33km, n5, σ0.5 27/5, mb3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SHL	**Shillong**	**24.60**	**348**	*eP*	**P**		**15 04 39.2**	**-0.3**
WRA	**Warramunga Arr**	**41.87**	**122**	P	**P**		**15 07 10.1**	**+0.1**
	0.2nm,0.4s,mb3.1,baz=302,slow=9.1,SNR=9.9							
ASAR	**Alice Springs**	**43.27**	**128**	P	**P**		**15 07 21.2**	**-0.1**
	0.2nm,0.4s,mb3.2,baz=294,slow=7.4,SNR=4.9							
SONM	**Songino Array**	**46.85**	**8**	P	**P**		**15 07 49.6**	**+0.1**
	0.9nm,0.6s,mb3.9,baz=184,slow=6.2,SNR=4.3							
MKAR	**Makanchi Array**	**47.09**	**346**	P	**P**		**15 07 51.8**	**+0.3**
	0.7nm,0.4s,mb3.9,baz=157,slow=9.9,SNR=1.5							

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*IDC **02** 15:03:41.1±1.9, 2.63N×95.83E, mb3.9/7, mb1 4.0/7, mb1mx3.8/16, mbtmp3.9/7, Error ellipse: s-maj=88.0km s-min=21.6km az=56.0*

*NEIC **02** 15:03:45.5±0.8, 2.63N×95.80E, h30km, mb4.4/5, Error ellipse: s-maj=19.6km s-min=11.8km az=44.0*

ISC 02 15:03:43.8±1.0, 2.7N±0.1×95.8E±0.1, h30km, n16, σ0.5 67/16, mb4.0/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.48**	**61**	*e*Pn	**Pn**		**15 05 05.2**	**-0.4**
LSA	**Lhasa**	**27.26**	**351**	P	**P**		**15 09 26.1**	**-1.5**
	4.1nm,0.8s,mb4.0							
BJT	**Baijiatuau**	**41.52**	**24**	*eP*	**P**		**15 11 30.9**	**+0.7**
	9.5nm,0.6s,mb4.6							
BJI	**Beijing**	**41.54**	**24**	*eP*	**P**		**15 11 31.5**	**+1.1**
	12nm,0.6s,mb4.7							
WRA	**Warramunga Arr**	**43.97**	**122**	P	**P**		**15 11 50.2**	**-0.3**
	0.3nm,0.3s,mb3.4,baz=301,slow=9.2,SNR=6.0							
AAK	**Ala-Archa**	**44.13**	**337**	P	**P**		**15 11 51.0**	**-0.5**
	4.7nm,1.8s,mb3.9							
ASAR	**Alice Springs**	**45.36**	**127**	P	**P**		**15 12 01.4**	**-0.1**
	0.2nm,0.5s,mb3.2,baz=300,slow=8.1,SNR=4.5							
MKAR	**Makanchi Array**	**45.52**	**347**	P	**P**		**15 12 02.9**	**+0.4**
	1.3nm,0.4s,mb4.2,baz=160,slow=8.5,SNR=41							
MKAR	**Makanchi Array**	**45.52**	**347**	P	**P**		**15 12 02.9**	**+0.4**
SONM	**Songino Array**	**45.93**	**10**	P	**P**		**15 12 05.7**	**0.0**
	1.5nm,0.6s,mb4.1,baz=188,slow=9.2,SNR=9.3							
KURK	**Kurchatov**	**50.05**	**346**	*eP*	**P**		**15 12 37.5**	**-0.3**
	2.1nm,0.7s,mb4.3							
ZAL	**Zalesovo**	**51.92**	**352**	P	**P**		**15 12 51.4**	**-0.5**
	1.4nm,0.4s,mb4.2,baz=287,slow=4.9,SNR=6.4							
ZAL	**Zalesovo**	**51.92**	**352**	P	**P**		**15 12 51.4**	**-0.5**
FINES	**FINESS Array B**	**78.08**	**333**	P	**P**		**15 15 41.6**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=117,slow=8.5,SNR=4.0							
ARCES	**ARCESS Array B**	**80.71**	**340**	P	**P**		**15 15 56.2**	**+0.8**
	3.2nm,1.0s,mb4.2,baz=90,slow=3.6,SNR=5.1							
ARCES	**ARCESS Array B**	**80.71**	**340**	P	**P**		**15 15 56.2**	**+0.8**

IDC 02 15:09:16.9±3.2, 0.63N×96.66E, mb3.8/5, mb1 3.9/5, mb1mx3.6/17, mbtmp3.8/5, Error ellipse: s-maj=124.6km s-min=27.5km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.20**	**121**	P	P		15 17 11.7	-1.9
	0.7nm,0.7s,baz=300,slow=9.1,SNR=6.1							
MKAR	**Makanchi Array**	**47.66**	**347**	P	P		15 17 54.2	-2.8
	1.1nm,0.8s,baz=149,slow=7.1,SNR=12							
SONM	**Songino Array**	**47.77**	**9**	P	P		15 17 56.8	-1.0
	2.0nm,0.8s,baz=187,slow=10.0,SNR=9.9							
ZAL	**Zalesovo**	**54.02**	**351**	P	P		15 18 42.6	-2.5
	1.2nm,0.9s,baz=288,slow=9.2,SNR=6.9							
BVAR	**Borovoye Array**	**56.61**	**341**	P	P		15 19 01.8	-2.2
	0.7nm,0.8s,baz=153,slow=6.6,SNR=5.0							

IDC 02 15:15:19.8±34.0, 12.67N×58.56E, mb3.5/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.5/3, MS4.4/2, Ms1 4.4/2, ms1mx3.4/25, Error ellipse: s-maj=1105.0km s-min=41.7km az=83.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.45**	**26**	P	P		15 22 51.6	-1.7
	0.2nm,0.6s,baz=213,slow=9.3,SNR=3.3							
GERES	**GERESS Array B**	**51.64**	**324**	LR	LR		15 49 04.8	
	comp=Z,346nm,18.3s,baz=182,slow=39							
BORG	**Borgarnes**	**74.31**	**334**	LR	LR		16 01 54.0	
	comp=Z,258nm,21.9s,baz=326,slow=38							
WRA	**Warramunga Arr**	**81.28**	**113**	P	P		15 27 38.5	-1.4
	0.7nm,0.8s,baz=298,slow=4.1,SNR=5.3							
ASAR	**Alice Springs**	**81.99**	**116**	P	P		15 27 42.4	-1.2
	0.6nm,0.8s,baz=296,slow=5.3,SNR=6.5							

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*IDC **02** 15:21:14.8±0.4, 0.39S×96.89E, mb4.9/28, mb1 5.0/28, mb1mx5.0/29, mbtmp4.9/28, MS4.0/3, Ms1 4.0/3, ms1mx3.7/15, Error ellipse: s-maj=18.8km s-min=10.8km az=44.0*

*BJI **02** 15:21:14.2, 1.03S×96.83E, h40km, mB5.3, mb4.9, Ms4.8, Msz4.6*

*HRVD **02** 15:21:18.2±1.0, 0.47S×96.79E, h14km±2km, MW5.0/46, Centroid moment Tensor Solution. LP body waves: s14,c16; Mantle waves: s46,c68; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.56±.50; $M_{\theta\theta}$4.45±.34; $M_{\phi\phi}$-0.89±.36; $M_{r\theta}$ 1.58±.82; $M_{\theta\phi}$-0.95±.24; $M_{\phi r}$-0.23±1.05; Best double couple: $M_0$4.388×10^{16} NP1:ϕ_s101°, δ34°, λ-88°. NP2:ϕ_s279°, δ56°, λ-91°. Principal axes: T 4.915, Plg11°, Azm10°; N -1.061, Plg1°, Azm280°; P -3.861, Plg79°, Azm185°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***02*** *15:21:18.1±0.9, 0.38S×96.89E, h33km, mb5.4/69, MS4.4/14 Error ellipse: s-maj=9.6km s-min=4.8km az=117.2*
NEIC ***02*** *15:21:18.2±0.1, 0.42S×96.92E, mb5.2/73, Error ellipse: s-maj=4.9km s-min=3.6km az=222.0*
ISC 02 15:21:16.9±0.2, 0.42S±0.03×96.96E±0.03, h27km, h27km±1.2km: pP-P, n337, σ0:94/324, mb5.1/128, MS4.4/47, 26C-18D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**6.42**	**39**	P	**Pn**	**15 22 50.6**	**-1.7**
KULM	**Kulim**	**6.77**	**33**	*e*Pn	**Pn**	**15 22 54.9**	**-2.3**
KGM	**Kluang**	**6.80**	**69**	P	**Pn**	**15 22 56.7**	**-0.9**
KSM	**Kuching**	**13.48**	**82**	*e*P	**P**	**15 24 28.3**	**-0.8**
KKTK	**Khon Kaen**	**17.63**	**19**	P	**P**	**15 25 23.5**	**+1.0**
BDT	**Bhumibol Dam**	**17.67**	**6**	P	**P**	**15 25 24.0**	**+1.0**
PALK	**Pallekele**	**17.93**	**296**	*e*P	**P**	**15 25 27.4**	**+1.1**
	37nm,1.2s						
PALK				*e*S	**S**	**15 28 30.9**	**-12**
KKM	**Kota Kinabalu**	**20.27**	**71**	*e*P	**P**	**15 25 53.1**	**-0.3**
KKM	**Kota Kinabalu**	**20.27**	**71**	P	**P**	**15 25 52.7**	**-0.7**
TSM	**Tawau**	**21.41**	**77**	P	**P**	**15 26 05.3**	**+0.2**
VIS	**Vishakhapatnam**	**22.47**	**324**	*e*P	**P**	**15 26 17.6**	**+1.9**
VIS				*e*		15 26 39.6	
	comp=Z,88nm,1.2s						
VIS				*i* S	**S**	**15 30 22.1**	**+6.2**
QIZ	**Qiongzhong**	**23.10**	**33**	P	**P**	**15 26 24.8**	**+2.9**
QIZ	**Qiongzhong**	**23.10**	**33**	*e*P	**P**	**15 26 21.3**	**-0.6**
	comp=Z,159nm,1.6s,mb5.2						
QIZ				LR	LR		
	comp=Z,601nm,20.0s,MS4.0						
BWNR	**Bhubaneshwar**	**23.31**	**333**	*e*P	**P**	**15 26 23.9**	**0.0**
BWNR				*e*		15 26 38.4	
	comp=Z,85nm,1.2s						
BWNR				*i* S	**S**	**15 30 37.1**	**+6.3**
AGT	**Agartala**	**24.79**	**347**	⇑*i*P	**P**	**15 26 40.0**	**+1.7**
AGT				*i*		15 27 34.0	
HYB	**Hyderabad**	**25.35**	**315**	*e*P	**P**	**15 26 45.0**	**+1.4**
HYB				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
HYB	**Hyderabad**	**25.35**	**315**	*e*P	**P**	**15 26 45.0**	**+1.4**
	comp=Z,30nm,1.0s,mb4.8						
HYB	**Hyderabad**	**25.35**	**315**	*i* P	**P**	**15 26 45.0**	**+1.4**
	comp=Z,30nm,1.0s,mb4.8						
KMI	**Kunming**	**26.00**	**12**	P	**P**	**15 26 51.7**	**+2.0**
KMI				AP	pP	15 27 01.8	+4.4
KMI				XP	sP	15 27 07.0	+6.1
KMI				PP	PP	15 27 40.9	+10
KMI				S	**S**	**15 31 23.8**	**+7.3**
KMI				XS		15 31 38.9	
KMI				AMB	AMB		
	comp=Z,36nm,1.6s,mb4.7						
KMI				AMB	AMB		
	comp=Z,342nm,5.7s						
KMI				LR	LR		
	comp=N,1μm,13.7s,MS4.7						
KMI				LR	LR		
	comp=E,547nm,13.3s,MS4.7						
KMI				LR	LR		
	comp=Z,1μm,16.0s,MS4.5						
KMI	**Kunming**	**26.00**	**12**	P	**P**	**15 26 51.7**	**+2.0**
	comp=Z,36nm,1.6s,mb4.7						
KMI				pP	pP	15 27 01.8	+4.4
KMI				sP	sP	15 27 07.0	+6.1
KMI				PP	PP	15 27 40.9	+10
KMI				S	**S**	**15 31 23.8**	**+7.3**
KMI				sS		15 31 38.9	
KMI				LR	LR		
	comp=Z,1μm,16.0s,MS4.5						
SHL	**Shillong**	**26.30**	**350**	⇑*i*P	**P**	**15 26 52.2**	**-0.2**
SHL				*e*		15 31 33.0	
BLSP	**Bilaspur**	**26.67**	**328**	*e*P	**P**	**15 26 56.3**	**+0.5**
BLSP				*e*		15 26 59.0	
	comp=Z,50nm,1.4s						
BLSP				*i*		15 31 34.0	
GYA	**Guiyang**	**28.32**	**19**	⇑*i*P	**P**	**15 27 11.5**	**+0.8**
GYA				AP	pP	15 27 18.9	+0.4
GYA				PP	PP	15 28 04.1	+2.1
GYA				S	**S**	**15 32 03.6**	**+10**
GYA				AMB	AMB		
	comp=Z,40nm,1.3s,mb4.9						
GYA				AMB	AMB		
	comp=Z,270nm,8.4s						
GYA				LR	LR		
	comp=N,820nm,14.1s,MS4.6						
GYA				LR	LR		
	comp=E,700nm,13.5s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,15.0s,MS4.6						
KAD	**Karad**	**28.52**	**309**	*e*P	**P**	**15 27 13.1**	**+0.5**
KAD				*e*		15 27 15.4	
	comp=Z,26nm,1.4s						
KAD				*i*		15 32 07.7	
POO	**Poona**	**29.50**	**311**	⇑*i*P	**P**	**15 27 21.0**	**-0.5**
	comp=Z,30nm,1.0s,mb5.0						
JIRN	**Jiri**	**29.77**	**341**	*e*P	**P**	**15 27 23.6**	**-0.3**
	comp=Z,42nm,0.8s,mb5.2						
PKI	**Pulchoki**	**29.96**	**339**	*e*P	**P**	**15 27 25.4**	**-0.1**
	comp=Z,103nm,1.4s,mb5.4						
PKI	**Pulchoki**	**29.96**	**339**	*e*P	**P**	**15 27 25.4**	**-0.1**
PKI				pmax	pmax		
	comp=Z,51nm,1.4s,mb5.1						
DMN	**Daman**	**30.11**	**339**	*e*P	**P**	**15 27 26.7**	**-0.1**
	comp=Z,25nm,0.9s,mb4.9						
GUN	**Gumba**	**30.11**	**340**	*e*P	**P**	**15 27 27.2**	**+0.4**
	comp=Z,59nm,0.8s,mb5.4						
KKN	**Kakani**	**30.21**	**339**	*e*P	**P**	**15 27 27.4**	**-0.3**
	comp=Z,74nm,1.1s,mb5.3						
KKN	**Kakani**	**30.21**	**339**	*e*P	**P**	**15 27 27.4**	**-0.3**
KKN				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.0						
BHPL	**Bhopal**	**30.23**	**322**	*e*P	**P**	**15 27 28.1**	**+0.1**
BHPL				*e*		15 27 30.1	
	comp=Z,15nm,1.0s						
MBWA	**Marble Bar**	**30.32**	**134**	P	**P**	**15 27 27.1**	**-1.6**
	comp=Z,18nm,1.4s,mb4.6						
MBWA				LR	LR		
	comp=Z,447nm,20.0s,MS4.1						
LSA	**Lhasa**	**30.46**	**350**	P	**P**	**15 27 31.0**	**+1.1**
LSA	**Lhasa**	**30.46**	**350**	*e*P	**P**	**15 27 30.7**	**+0.8**
LSA				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.8						
LSA				MLR	MLR		
	comp=Z,703nm,22.0s,MS4.3						
LSA	**Lhasa**	**30.46**	**350**	*e*P	**P**	**15 27 30.7**	**+0.8**
	comp=Z,18nm,0.9s,mb4.8						
LSA				LR	LR		
	comp=Z,703nm,22.0s,MS4.3						
GKN	**Gorkha**	**30.64**	**338**	*e*P	**P**	**15 27 31.2**	**-0.2**
	comp=Z,204nm,1.5s,mb5.7						
KOLN	**Koldanda**	**30.83**	**336**	*e*P	**P**	**15 27 33.0**	**-0.1**
	comp=Z,121nm,1.3s,mb5.6						
CD2	**Chengdu**	**31.82**	**11**	*e*P	**P**	**15 27 41.1**	**-0.7**
ENH	**Enshi**	**32.77**	**20**	*e*P	**P**	**15 27 49.5**	**-0.7**
	comp=Z,63nm,1.2s,mb5.4						
ENH				*e*	pP	15 27 58.5	+0.5
ENH				LR	LR		
	comp=Z,846nm,19.0s,MS4.5						
QZH	**Quanzhou**	**32.78**	**38**	*e*P	**P**	**15 27 52.9**	**+2.7**
QZH				S	**S**	**15 33 13.5**	**+9.1**
QZH				AMB	AMB		
	comp=Z,670nm,3.6s						
QZH				LR	LR		
	comp=N,870nm,10.9s,MS4.9						
QZH				LR	LR		
	comp=E,1μm,12.5s,MS4.9						
QZH				LR	LR		
	comp=Z,1μm,14.0s,MS4.7						
FITZ	**Fitzroy Crossi**	**33.21**	**124**	⇓*i*P	**P**	**15 27 53.7**	**-0.4**
	comp=Z,27nm,1.1s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.21**	**124**	P	**P**	**15 27 53.8**	**-0.3**
	comp=Z,42nm,1.0s,mb5.3,baz=324,slow=4.3,SNR=16						
FITZ				LR	LR	15 40 02.0	
	comp=Z,183nm,20.6s,MS3.8,baz=271,slow=34						
SONA	**Sohna**	**34.29**	**328**	*e*P	**P**	**15 27 59.6**	**-3.7**
NDI	**New Delhi**	**34.56**	**328**	*e*P	**P**	**15 28 04.0**	**-1.7**
KHET	**Khetri**	**34.85**	**326**	*e*P	**P**	**15 28 06.2**	**-1.9**
DDI	**Dehra Dun**	**35.48**	**331**	*e*P	**P**	**15 28 11.8**	**-1.6**
XAN	**Xi'an**	**36.07**	**17**	P	**P**	**15 28 18.2**	**-0.2**
XAN				S	**S**	**15 33 50.1**	**-5.2**
XAN				AMB	AMB		
	comp=Z,24nm,1.2s,mb5.0						
XAN				LR	LR		
	comp=N,451nm,19.8s,MS4.3						
XAN				LR	LR		
	comp=E,241nm,18.9s,MS4.3						
XAN				LR	LR		
	comp=Z,710nm,20.4s,MS4.4						
KLP	**Kalpa**	**36.39**	**333**	*e*P	**P**	**15 28 20.4**	**-0.7**
LZH	**Lanzhou**	**36.88**	**9**	⇑P	**P**	**15 28 25.0**	**-0.2**
LZH				AP	pP	15 28 32.3	-0.8
LZH				*e*PP	PP	15 29 52.8	+1.5
LZH				*e*S	**S**	**15 34 08.7**	**+1.0**
LZH				AMB	AMB		
	comp=Z,41nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,276nm,5.3s						
LZH				LR	LR		
	comp=N,1μm,13.2s						
LZH				LR	LR		
	comp=Z,2μm,16.8s,MS5.0						
LZH	**Lanzhou**	**36.88**	**9**	⇑P	**P**	**15 28 25.0**	**-0.2**
LZH				*SP	sP	15 28 35.5	-1.0
LZH				*e*		15 29 52.8	
LZH				*e*S	**S**	**15 34 08.7**	**+1.0**
LZH				*SS		15 34 21.0	
LZH				SS	SS	15 36 38.2	+1.5
LZH				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.1						
LZH				MLR	MLR		
	comp=Z,2μm,16.8s,MS5.0						
LZH	**Lanzhou**	**36.88**	**9**	⇑P	**P**	**15 28 25.0**	**-0.2**
	comp=Z,41nm,1.4s,mb5.1						
LZH				pP	pP	15 28 32.3	-0.8
LZH				sP	sP	15 28 35.5	-1.0
LZH				*e*PP	PP	15 29 52.8	+1.5
LZH				*e*S	**S**	**15 34 08.7**	**+1.0**
LZH				sS		15 34 21.0	
LZH				SS	SS	15 36 38.2	+1.5
LZH				LR	LR		
	comp=Z,2μm,16.8s,MS5.0						
NWAO	**Narrogin (SRO)**	**37.55**	**151**	P	**P**	**15 28 31.0**	**+0.2**
NWAO				MLR	MLR		
	comp=Z,691nm,22.0s						
THN	**Thein Dam**	**38.35**	**330**	*e*P	**P**	**15 28 35.6**	**-2.0**
THN				*e*		15 30 49.4	
NJ2	**Nanjing**	**38.37**	**31**	*e*P	**P**	**15 28 37.7**	**-0.1**
NJ2				AP	pP	15 28 47.5	+1.8
NJ2				XP	sP	15 28 51.3	+2.3
NJ2				PP	PP	15 30 09.9	+0.7
NJ2				S	**S**	**15 34 31.0**	**+0.6**
NJ2				XS		15 34 48.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,220nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,23.0s,MS4.7						
NJ2				LR	LR		
	comp=E,670nm,20.9s,MS4.7						
NJ2				LR	LR		
	comp=Z,460nm,25.4s,MS4.2						
SSE	**Sheshan**	**38.88**	**34**	*e*P	**P**	**15 28 42.5**	**+0.5**
SSE				AP	pP	15 28 50.3	+0.3
SSE				S	**S**	**15 34 43.4**	**+5.4**
SSE				XS		15 34 58.1	
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,51nm,5.2s						
SSE				LR	LR		
	comp=N,483nm,17.6s,MS4.4						
SSE				LR	LR		
	comp=E,174nm,17.7s,MS4.4						
SSE				LR	LR		
	comp=Z,666nm,14.0s,MS4.6						
SSE	**Sheshan**	**38.88**	**34**	*e*P	**P**	**15 28 42.5**	**+0.5**
	comp=Z,38nm,0.7s,mb5.2						
SSE				pP	pP	15 28 50.3	+0.3
SSE				S	**S**	**15 34 43.4**	**+5.4**
SSE				sS		15 34 58.1	
SSE				SS	SS	15 37 39.8	+18
SSE				LR	LR		
	comp=Z,670nm,14.0s,MS4.6						
GTA	**Gaotai**	**39.73**	**3**	P	**P**	**15 28 49.6**	**+0.6**
GTA				AP	pP	15 28 57.3	+0.3
GTA				XP	sP	15 29 00.5	+0.2
GTA				PP	PP	15 30 24.3	+0.2
GTA				PPP	PPP	15 30 46.3	-3.0
GTA				PCP	PcP	15 30 56.4	+0.6
GTA				SCP		15 34 36.8	
GTA				S	**S**	**15 34 47.4**	**-3.4**
GTA				SCS	ScS	15 38 52.0	-0.7
GTA				AMB	AMB		
	comp=Z,18nm,1.5s,mb4.6						
GTA				AMB	AMB		
	comp=Z,224nm,12.3s						
GTA				LR	LR		
	comp=N,370nm,17.1s,MS4.3						
GTA				LR	LR		
	comp=E,260nm,20.9s,MS4.3						
GTA				LR	LR		
	comp=Z,314nm,19.8s,MS4.2						
WRA	**Warramunga Arr**	**41.41**	**120**	P	**P**	**15 29 03.3**	**+0.3**
	comp=Z,20nm,1.0s,mb4.7,baz=298,slow=9.1,SNR=50						
WRA				PcP	PcP	15 31 01.4	0.0
	comp=Z,4.2nm,0.9s,baz=316,slow=2.9,SNR=5.7						
WRAB	**Tennant Creek**	**41.41**	**120**	*i* P	**P**	**15 29 03.4**	**+0.4**
WRAB	**Tennant Creek**	**41.41**	**120**	*e*P	**P**	**15 29 02.9**	**-0.1**
	comp=Z,80nm,1.4s,mb5.2						
WRAB				LR	LR		
	comp=Z,121nm,21.0s,MS3.8						
WB2	**Warramunga Arr**	**41.42**	**120**	*e*P	**P**	**15 29 03.4**	**+0.3**
BTO	**Baotou**	**42.53**	**15**	*e*P	**P**	**15 29 14.6**	**+2.5**
BTO				AMB	AMB		
	comp=Z,12nm,1.8s,mb4.3						
ASPA	**Alice Springs**	**42.63**	**126**	⇓*i*P	**P**	**15 29 13.9**	**+0.8**
ASAR	**Alice Springs**	**42.63**	**126**	P	**P**	**15 29 13.6**	**+0.5**
	comp=Z,14nm,0.8s,mb4.8,baz=300,slow=7.7,SNR=104						
ASAR				PcP	PcP	15 31 05.7	+0.2
	comp=Z,5.5nm,1.1s,baz=311,slow=3.3,SNR=6.4						
ASAR				LR	LR	15 47 17.3	
	comp=Z,195nm,18.9s,MS4.0,baz=293,slow=37						
HHC	**Hu-ho-hao-te**	**43.17**	**16**	⇓P	**P**	**15 29 19.3**	**+2.0**
HHC				AP	pP	15 29 26.9	+1.7
HHC				XP	sP	15 29 29.4	+0.9
HHC				PP	PP	15 31 03.9	+4.1
HHC				PCP	PcP	15 31 07.5	+0.4
HHC				SCP		15 34 56.1	
HHC				PCS		15 34 58.0	
HHC				S	**S**	**15 35 46.5**	**+4.7**
HHC				XS		15 35 59.8	
HHC				SS	SS	15 38 55.1	+6.8
HHC				SCS	ScS	15 39 16.0	+2.6
HHC				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,225nm,4.7s						
HHC				LR	LR		
	comp=N,804nm,16.7s,MS4.8						
HHC				LR	LR		
	comp=E,695nm,15.7s,MS4.8						
HHC				LR	LR		
	comp=Z,753nm,18.1s,MS4.6						
WBK	**Wadi Bani Khal**	**43.49**	**304**	⇑P	**P**	**15 29 21.1**	**+1.0**
	SNR=21						
BJT	**Baijiatuau**	**43.90**	**21**	*e*P	**P**	**15 29 24.8**	**+1.6**
BJT				pmax	pmax		
	comp=Z,19nm,0.8s						
BJT				MLR	MLR		
	comp=Z,336nm,20.0s						
BJT	**Baijiatuau**	**43.90**	**21**	*e*P	**P**	**15 29 24.8**	**+1.6**
	comp=Z,18nm,0.8s,mb4.9						
BJT				LR	LR		
	comp=Z,336nm,20.0s,MS4.2						
BJI	**Beijing**	**43.92**	**21**	*e*P	**P**	**15 29 24.5**	**+1.1**
BJI				S	**S**	**15 35 55.7**	**+3.0**
BJI				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.8						
BJI				LR	LR		
	comp=N,359nm,20.1s						
BJI				LR	LR		
	comp=E,301nm,13.1s						
BJI				LR	LR		
	comp=Z,204nm,25.8s						
BJI	**Beijing**	**43.92**	**21**	*e*P	**P**	**15 29 24.5**	**+1.1**
	comp=Z,23nm,1.3s,mb4.8						
BJI				S	**S**	**15 35 55.7**	**+3.0**
BJI				LR	LR		
	comp=Z,200nm,25.8s,MS3.9						
KSH	**Kashi**	**44.15**	**337**	*e*P	**P**	**15 29 25.0**	**-0.2**
KSH				*e*AP	pP	15 29 32.0	-1.2
KSH				*e*PP	PP	15 31 09.0	-0.5
KSH				*e*PCP	PcP	15 31 10.0	-0.4
KSH				*e*PPP	PPP	15 31 46.0	-1.8
KSH				*e*SCP		15 34 59.1	
KSH				*e*PCS		15 35 02.0	
KSH				*e*S	**S**	**15 35 55.0**	**-0.9**
KSH				*e*SCS	ScS	15 39 19.1	-0.4
KSH				AMB	AMB		
	comp=Z,260nm,2.4s,mb5.5						
KSH				LR	LR		
	comp=N,400nm,4.7s						
KSH				LR	LR		
	comp=E,370nm,4.8s						
BIDO	**Bidbid**	**44.59**	**305**	⇑P	**P**	**15 29 30.0**	**+1.0**
	SNR=5.6						
WMQ	**Urumqi**	**44.82**	**350**	⇑P	**P**	**15 29 31.7**	**+1.1**
WMQ				AP	pP	15 29 39.2	+0.7
WMQ				XP	sP	15 29 42.6	+0.8
WMQ				PCP	PcP	15 31 13.8	+1.2
WMQ				PP	PP	15 31 17.5	+1.3
WMQ				S	**S**	**15 36 07.0**	**+1.4**
WMQ				AMB	AMB		
	comp=Z,58nm,1.2s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,313nm,3.3s						
WMQ				LR	LR		
	comp=N,309nm,16.9s,MS4.4						
WMQ				LR	LR		
	comp=E,217nm,17.6s,MS4.4						
WMQ				LR	LR		
	comp=Z,170nm,20.1s,MS4.0						
BSY	**Bisya**	**45.02**	**303**	⇑P	**P**	**15 29 33.2**	**+0.8**
	SNR=27						
DL2	**Dalian**	**45.22**	**27**	*e*P	**P**	**15 29 35.0**	**+1.2**
DL2				S	**S**	**15 36 14.2**	**+2.8**
DL2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
DL2				LR	LR		
	comp=N,190nm,21.8s,MS4.2						
DL2				LR	LR		
	comp=E,290nm,24.4s,MS4.2						
RBK	**Rabkut**	**45.69**	**295**	⇑P	**P**	**15 29 38.4**	**+0.6**
	SNR=10						
ARQ	**Araqi**	**45.84**	**304**	⇓P	**P**	**15 29 40.1**	**+1.2**
	SNR=5.7						
WHFO	**Wadi Hawf**	**46.22**	**296**	P	**P**	**15 29 42.0**	**+0.1**
	SNR=26						
ULHL	**Ulahol**	**46.40**	**339**	P	**P**	**15 29 43.7**	**+0.6**
	SNR=23						
ABTO	**Aybut**	**46.47**	**295**	⇑P	**P**	**15 29 44.1**	**+0.2**
	SNR=11						
KZA	**Kyzart**	**46.62**	**338**	P	**P**	**15 29 45.9**	**+1.0**
	SNR=15						
ASHO	**Ashiyiah**	**46.80**	**305**	⇓P	**P**	**15 29 47.2**	**+0.7**
	SNR=14						
UCH	**Uchtor**	**47.03**	**337**	P	**P**	**15 29 49.1**	**+1.0**
	SNR=36						
BANOM	**Banah**	**47.16**	**307**	⇓P	**P**	**15 29 50.6**	**+1.3**
TKM2	**Tokmak 2**	**47.22**	**339**	P	**P**	**15 29 50.2**	**+0.6**
	SNR=41						
KBK	**Karagaybulak**	**47.24**	**338**	P	**P**	**15 29 51.2**	**+1.5**
	SNR=20						
AML	**Almayashu**	**47.27**	**336**	P	**P**	**15 29 50.9**	**+0.8**
	SNR=35						
AAK	**Ala-Archa**	**47.39**	**337**	P	**P**	**15 29 52.0**	**+1.1**
	SNR=10.0						
AAK	**Ala-Archa**	**47.39**	**337**	P	**P**	**15 29 51.3**	**+0.4**
	comp=E,73nm,1.1s,mb5.5,SNR=16						
AAK	**Ala-Archa**	**47.39**	**337**	*e*P	**P**	**15 29 50.0**	**-0.9**
	comp=E,28nm,1.4s,mb5.0						
AAK				*e*PcP	PcP	15 31 21.2	-0.5
AAK				LR	LR		
	comp=Z,67nm,20.0s,MS3.6						
FRU	**Bishkek**	**47.51**	**338**	*e*P	**P**	**15 29 53.0**	**+1.1**
FRU				pmax	pmax		
	comp=Z,70nm,2.0s,mb5.3						
CHMS	**Chumysh**	**47.60**	**338**	P	**P**	**15 29 53.1**	**+0.5**
	SNR=12						
EKS2	**Erkin-Say**	**47.69**	**337**	P	**P**	**15 29 54.0**	**+0.7**
	SNR=28						
USP	**Ospenovka**	**47.93**	**338**	P	**P**	**15 29 55.2**	**+0.1**
	SNR=34						
SNY	**Shenyang**	**48.45**	**27**	⇑P	**P**	**15 29 59.3**	**+0.1**
SNY				*e*S	**S**	**15 36 57.1**	**-0.2**
SNY				AMB	AMB		
	comp=Z,20nm,1.8s,mb4.8						
SNY				LR	LR		
	comp=N,500nm,15.7s						
SNY				LR	LR		
	comp=Z,490nm,18.8s,MS4.5						
MKAR	**Makanchi Array**	**48.75**	**347**	*i* P	**P**	**15 30 01.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,19nm,0.6s						
MKAR	**Makanchi Array**	**48.75**	**347**	P	**P**	**15 30 01.6**	**+0.2**
	comp=Z,19nm,0.5s,mb5.4,baz=165,slow=9.1,SNR=259						
SONM	**Songino Array**	**48.76**	**8**	P	**P**	**15 30 02.2**	**+0.8**
	comp=Z,5.7nm,1.0s,mb4.6,baz=191,slow=6.3,SNR=35						
SONM				PcP	PcP	15 31 26.6	+0.1
	comp=Z,5.7nm,0.9s,baz=190,slow=3.7,SNR=5.4						
ULN	**Ulaanbaatar**	**48.89**	**9**	*e*P	**P**	**15 30 02.0**	**-0.5**
ULN				*e*		15 31 26.6	
ULN				pmax	pmax		
	comp=Z,21nm,1.5s,mb5.0						
ULN				MLR	MLR		
	comp=Z,269nm,22.0s,MS4.2						
ULN	**Ulaanbaatar**	**48.89**	**9**	*e*P	**P**	**15 30 02.0**	**-0.4**
	comp=Z,21nm,1.5s,mb5.0						
ULN				*e*PcP	PcP	15 31 26.6	-0.4
ULN				LR	LR		
	comp=Z,269nm,22.0s,MS4.2						
KKAR	**Karatay Array**	**49.40**	**335**	*i* P	**P**	**15 30 06.0**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.2						
GUMO	**Guam**	**49.45**	**72**	PFAKE		15 30 20.0	+13
GUMO				LR	LR		
	comp=Z,375nm,19.0s,MS4.4						
PMG	**Port Moresby**	**50.74**	**102**	P	**P**	**15 30 18.0**	**+0.9**
	comp=Z,42nm,0.9s,mb5.4,baz=287,slow=4.7,SNR=6.7						
CN2	**Changchun**	**50.85**	**26**	*e*P	**P**	**15 30 17.0**	**-0.5**
CN2				*e*AP	pP	15 30 24.2	-1.5
CN2				*e*S	**S**	**15 37 28.9**	**-1.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,13.0s,MS4.7						
CN2				LR	LR		
	comp=E,400nm,13.0s,MS4.7						
CN2				LR	LR		
	comp=Z,600nm,16.0s,MS4.7						
ZAK	**Zakamensk**	**50.90**	**5**	*e*P	**P**	**15 30 17.2**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.9s,mb4.1						
MOY	**Mondy**	**52.01**	**3**	*e*P	**P**	**15 30 26.8**	**+0.6**
MOY				pmax	pmax		
	comp=Z,33nm,1.9s,mb4.9						
CTA	**Charters Tower**	**52.02**	**115**	⇓*i*P	**P**	**15 30 27.1**	**+0.4**
	comp=Z,22nm,0.8s,mb5.1						
CTA	**Charters Tower**	**52.02**	**115**	⇓*i*P	**P**	**15 30 27.1**	**+0.4**
CTA				pmax	pmax		
	comp=Z,22nm,0.8s						
CTAO	**Charters Tower**	**52.02**	**115**	*e*P	**P**	**15 30 27.0**	**+0.3**
CTAO				*e**PP	pP	15 30 33.9	-0.9
CTAO				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
CTAO				MLR	MLR		
	comp=Z,408nm,20.0s,MS4.5						
CTAO	**Charters Tower**	**52.02**	**115**	*e*P	**P**	**15 30 27.0**	**+0.3**
	comp=Z,38nm,0.9s,mb5.3						
CTAO				*e*pP	pP	15 30 33.9	-0.9
CTAO				LR	LR		
	comp=Z,408nm,20.0s,MS4.5						
OPO	**Ambohidratompo**	**52.05**	**247**	P	**P**	**15 30 26.6**	**-0.4**
	comp=Z,4.3nm,1.0s,mb4.3,baz=97,slow=13,SNR

TLY Talaya 52.22 5 *eP* **P 15 30 28.4 +0.6**
comp=Z,14nm,1.0s,mb4.9
TLY LR LR
comp=Z,220nm,20.0s,MS4.2
STKA Stephens Creek 52.47 131⇓ *iP* **P 15 30 30.4 +0.5**
comp=Z,18nm,1.0s,mb5.0
STKA Stephens Creek 52.47 131 P **P 15 30 30.4 +0.4**
comp=Z,22nm,0.9s,mb5.1,baz=303,slow=8.7,SNR=18
STKA LR LR 15 51 09.3
comp=Z,233nm,21.1s,MS4.2,baz=120,slow=34
IRK Irkutsk 52.84 6 *eP* **P 15 30 32.7 +0.3**
IRK pmax pmax
comp=Z,28nm,2.5s,mb4.8
MAJO Matsushiro 53.05 42 *eP* **P 15 30 32.3 -1.9**
MAJO pmax pmax
comp=Z,19nm,1.2s,mb4.9
MAJO MLR MLR
comp=Z,208nm,20.0s,MS4.2
MAJO Matsushiro 53.05 42 *eP* **P 15 30 32.3 -1.9**
comp=Z,19nm,1.2s,mb4.9
MAJO LR LR
comp=Z,208nm,20.0s,MS4.2
MAT Matsushiro 53.05 42 *eP* **P 15 30 31.0 -3.2**
MAT pmax pmax
comp=Z,19nm,1.2s,mb4.9
MAT Matsushiro 53.05 42 P **P 15 30 30.6 -3.6**
HIA Hailar 53.24 18 *eP* **P 15 30 35.3 -0.2**
HIA pmax pmax
comp=Z,34nm,1.4s
HIA MLR MLR
comp=Z,534nm,22.0s
HIA Hailar 53.24 18 *eP* **P 15 30 35.3 -0.1**
comp=Z,34nm,1.4s,mb5.1
HIA LR LR
comp=Z,534nm,22.0s,MS4.5
KURK Kurchatov 53.29 346 *d iP* **P 15 30 34.9 -0.9**
KURK pmax pmax
comp=Z,15nm,1.2s,mb4.8
KURK Kurchatov 53.29 346 *eP* **P 15 30 34.5 -1.3**
comp=Z,36nm,1.3s,mb5.2
KURK *e*pP pP 15 30 40.8 -3.1
KURK LR LR
comp=Z,68nm,21.0s,MS3.7
MDJ Mudanjiang 53.39 29 P **P 15 30 36.4 -0.2**
MDJ PCP PcP 15 31 41.7 -1.9
MDJ PP PP 15 32 36.5 -2.0
MDJ SCP 15 35 38.9
MDJ PCS 15 35 42.3
MDJ S **S 15 38 08.4 +3.0**
MDJ SS SS 15 41 49.7 +4.8
MDJ AMB AMB
comp=Z,4.0nm,1.4s,mb4.2
MDJ AMB AMB
comp=Z,93nm,5.4s
MDJ LR LR
comp=N,281nm,19.4s,MS4.3
MDJ LR LR
comp=E,108nm,22.9s,MS4.3
MDJ LR LR
comp=Z,352nm,17.6s
MDJ Mudanjiang 53.39 29 PFAKE 15 30 50.0 +13
MDJ LR LR
comp=Z,410nm,19.0s,MS4.5
ATD Arta Tunnel 55.03 284 P **P 15 30 49.0 0.0**
comp=Z,18nm,0.9s,mb5.1,baz=90,slow=4.6,SNR=7.2
ZAL Zalesovo 55.10 351 P **P 15 30 48.3 -0.8**
comp=Z,9.6nm,0.5s,mb5.1,baz=310,slow=6.3,SNR=54
RAYN Ar Rayn 55.32 299 P **P 15 30 50.9 -0.1**
comp=Z,107nm,1.0s,SNR=22
NVS Novosibirsk 56.22 350⇓ *iP* **P 15 30 55.4 -1.7**
NVS *e*S **S 15 38 41.2 -2.0**
NVS *e* 15 40 42.7
NVS pmax pmax
comp=Z,25nm,1.2s,mb5.1
NVS pmax pmax
comp=N,27nm,1.5s
NVS pmax pmax
comp=E,15nm,1.3s
NVS smax
comp=N,15nm,1.8s
BVA0 Borovoye Array 57.70 341 *i* P **P 15 31 05.8 -1.8**
BVA0 pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
BVAR Borovoye Array 57.70 341 P **P 15 31 05.8 -1.8**
comp=Z,11nm,1.0s,mb4.8,baz=143,slow=7.4,SNR=50
KLR Kul'dur 57.80 26 *eP* **P 15 31 05.3 -3.1**
KLR MLR MLR
comp=Z,1μm,14.0s,MS5.1
CHKZ Chkalovo 58.18 342 *i* P **P 15 31 09.5 -1.4**
CHKZ pmax pmax
comp=Z,30nm,1.2s,mb5.2
CHKZ Chkalovo 58.18 342 *eP* **P 15 31 09.3 -1.6**
comp=Z,45nm,1.2s,mb5.4
BOD Bodaibo 59.64 10 *eP* **P 15 31 20.6 -0.4**
BOD pmax pmax
comp=Z,13nm,1.4s,mb4.8
KMBO Kilima Mbogo 59.70 269 *eP* **P 15 31 21.9 -0.2**
KMBO *e* 15 32 09.2
KMBO pmax pmax
comp=Z,13nm,1.1s
KMBO MLR MLR
comp=Z,165nm,19.0s
KMBO Kilima Mbogo 59.70 269 P **P 15 31 21.9 -0.1**
comp=Z,1.6nm,0.5s,mb4.3,baz=48,slow=14,SNR=12
KMBO Kilima Mbogo 59.70 269 *eP* **P 15 31 21.9 -0.2**
comp=Z,13nm,1.1s,mb4.9
KMBO *e*PcP PcP 15 32 09.2 +0.6
KMBO LR LR
comp=Z,165nm,19.0s,MS4.2
CLNS Chul'man 61.35 17 *eP* **P 15 31 28.9 -3.8**
CLNS pmax pmax
comp=N,3.0nm,0.8s
CLNS pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
CLNS MLR MLR
comp=Z,400nm,15.0s,MS4.7
CLNS MLR MLR
comp=N,500nm,19.0s,MS4.7
CLNS MLR MLR
comp=E,200nm,23.0s,MS4.7
YSS Yuzh-Sakhalins 61.82 34⇑ *iP* **P 15 31 35.8 -0.2**
YSS *e* 15 31 51.0
YSS pmax pmax
comp=Z,80nm,1.3s,mb5.7
YSS Yuzh-Sakhalins 61.82 34 *c iP* **P 15 31 36.5 +0.5**
YSS pmax pmax
comp=Z,42nm,1.3s,mb5.4
YSS Yuzh-Sakhalins 61.82 34 *eP* **P 15 31 36.0 0.0**
comp=Z,62nm,1.3s,mb5.6
YSS *e* 15 31 51.8
YSS LR LR
comp=Z,287nm,19.0s,MS4.5
MSL Mosul 61.83 312 *eP* **P 15 31 35.5 -0.7**
GNI Garni 62.29 317 P **P 15 31 39.2 -0.1**
comp=Z,5.9nm,0.5s,mb5.0,baz=150,slow=12,SNR=8.0
GNI Garni 62.29 317 *eP* **P 15 31 39.1 -0.1**
comp=Z,53nm,1.2s,mb5.5
GNI LR LR
comp=Z,273nm,19.0s,MS4.4
DGRG David-gareji 62.47 318 P **P 15 31 40.6 +0.2**
MTA Mtatsminda 62.97 318 P **P 15 31 43.3 -0.3**
TI2 Plekhanov 63.01 318 *i P* **P 15 31 44.0 0.0**
TBLG Delisi 63.02 318 P **P 15 31 43.8 -0.2**
HNR Honiara 63.30 100 *eP* **P 15 31 46.1 -0.1**
HNR pmax pmax
comp=Z,113nm,0.9s,mb6.0
HNR Honiara 63.30 100 *eP* **P 15 31 46.1 -0.1**
comp=Z,113nm,0.9s,mb6.0
ZEI Tsey 64.05 319 *eP* **P 15 31 49.8 -1.0**
ZEI *i* 15 34 06.9
ZEI pmax pmax
comp=Z,14nm,1.0s,mb5.0
SVE Sverdlovsk 64.10 339 *eP* **P 15 31 49.6 -1.3**
SVE pmax pmax
comp=Z,47nm,1.3s,mb5.4
ARU Arti 64.58 338 *i* P **P 15 31 52.2 -1.8**
ARU pmax pmax
comp=Z,29nm,1.3s,mb5.2
ARU Arti 64.58 338 *eP* **P 15 31 52.4 -1.6**
comp=Z,39nm,1.3s,mb5.3
ARU LR LR
comp=Z,52nm,22.0s,MS3.7
ASF Jabal al Asfar 65.21 306 P **P 15 31 59.0 +0.5**
comp=Z,15nm,0.9s,mb5.0,baz=333,slow=3.2,SNR=8.5
KIV Kislovodsk 65.38 320 *eP* **P 15 31 58.7 -0.7**
KIV *e**PP pP 15 32 06.0 -1.7
KIV pmax pmax
comp=Z,55nm,1.3s,mb5.4
KIV Kislovodsk 65.38 320 *eP* **P 15 31 58.7 -0.7**
comp=Z,55nm,1.3s,mb5.4
KIV *e*pP pP 15 32 06.0 -1.7
KIV LR LR
comp=Z,66nm,22.0s,MS3.8
GOF Gofitskoye 65.66 321⇑ *iP* **P 15 31 59.3 -1.9**
GOF pmax pmax
comp=Z,50nm,1.3s,mb5.4
MALT Malatya 66.04 313 *eP* **P 15 32 02.9 -0.8**
MALT *e**PP pP 15 32 10.6 -1.4
MALT pmax pmax
comp=Z,39nm,1.3s,mb5.3
MALT Malatya 66.04 313 *eP* **P 15 32 02.9 -0.8**
comp=Z,40nm,1.3s,mb5.3
MALT *e*pP pP 15 32 10.6 -1.4
EIL Elat 66.12 303 P **P 15 32 04.4 0.0**
comp=Z,20nm,0.9s,mb5.2,baz=23,slow=4.8,SNR=8.6
EIL Elat 66.12 303 *eP* **P 15 32 04.1 -0.3**
comp=Z,16nm,1.0s,mb5.0
MBAR Mbarara 66.22 270 P **P 15 32 04.9 -0.4**
comp=Z,65nm,1.3s,mb5.5,SNR=8.2
CASY Casey 66.43 174 *eP* **P 15 32 04.3 -1.4**
comp=Z,59nm,1.8s,mb5.3
CASY LR LR
comp=Z,748nm,20.0s,MS4.9
YAK Yakutsk 67.03 16 *eP* **P 15 32 08.6 -1.1**
YAK *e**PP pP 15 32 19.8 +1.8
YAK *e* 15 32 35.2
YAK *e* 15 34 33.6
YAK *e*S S 15 41 02.3 +2.2
YAK *e* 15 42 03.7
YAK *e*SS SS 15 45 20.5 -0.3
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.3
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
YAK smax
comp=E,2.0nm,1.1s
YAK MLR MLR
comp=N,152nm,15.0s,MS4.5
YAK MLR MLR
comp=Z,210nm,15.0s,MS4.5
YAK MLR MLR
comp=E,134nm,16.0s,MS4.5
YAK Yakutsk 67.03 16 *eP* **P 15 32 08.5 -1.2**
comp=E,69nm,1.1s,mb5.6
YAK LR LR
comp=Z,381nm,19.0s,MS4.6
SOC Sochi 67.16 318 *eP* **P 15 32 09.4 -1.4**
SOC *e* 15 32 31.0
SOC *e* 15 34 34.9
SOC *e*S S 15 41 05.1 +3.2
SOC *e* 15 41 58.0
SOC *e*SS SS 15 45 17.2 -5.8
SOC pmax pmax
comp=Z,55nm,0.9s,mb5.6
SOC pmax pmax
comp=N,5.0nm,0.5s
SOC pmax pmax
comp=E,13nm,0.8s
ANN Anapa 69.15 319 *eP* **P 15 32 19.7 -3.5**
ANN pmax pmax
comp=Z,91nm,1.2s,mb5.6
LSZ Lusaka 69.43 254 *eP* **P 15 32 23.9 -1.4**
LSZ *e* 15 32 47.3
LSZ pmax pmax
comp=Z,23nm,1.4s,mb4.9
LSZ MLR MLR
comp=Z,324nm,19.0s,MS4.6
LSZ Lusaka 69.43 254 *eP* **P 15 32 23.9 -1.4**
comp=Z,23nm,1.4s,mb4.9
LSZ *e* 15 32 47.3
LSZ LR LR
comp=Z,324nm,19.0s,MS4.6
BRTR Keskin Array B 70.02 313 P **P 15 32 27.4 -1.2**
comp=Z,6.6nm,0.8s,mb4.6,baz=131,slow=6.9,SNR=32
VOR Voronezh 70.97 326 *eP* **P 15 32 33.0 -1.1**
VOR *e* pP 15 32 42.0 -0.4
VOR 15 35 10.0
VOR pmax pmax
comp=Z,70nm,1.4s,mb5.4
VOR pmax pmax
comp=N,20nm,1.2s
VOR pmax pmax
comp=E,70nm,1.4s
VOR pmax pmax
comp=Z,50nm,1.8s,mb5.1
MAW Mawson 71.09 193 P **P 15 32 35.2 +0.7**
comp=Z,7.1nm,0.9s,mb4.6,baz=11,slow=13,SNR=3.8
SIM Simferopol' 71.40 318 *eP* **P 15 32 36.0 -0.8**
SIM pmax pmax
comp=Z,22nm,0.9s,mb5.1
MA2 Magadan 72.89 25 *d iP* **P 15 32 45.4 0.0**
MA2 pmax pmax
comp=Z,15nm,1.3s,mb4.8
MA2 Magadan 72.89 25 *eP* **P 15 32 45.4 0.0**
comp=Z,27nm,1.4s,mb5.0
MA2 LR LR
comp=Z,273nm,22.0s,MS4.5
LBTB Lobatse 72.96 244 *eP* **P 15 32 45.9 -0.6**
LBTB pmax pmax
comp=Z,23nm,1.3s,mb5.0
LBTB Lobatse 72.96 244 P **P 15 32 46.4 -0.2**
comp=Z,10.0nm,1.0s,mb4.7,baz=103,slow=9.6,SNR=5.6
LBTB Lobatse 72.96 244 *eP* **P 15 32 45.9 -0.7**
comp=Z,24nm,1.3s,mb5.0
MOS Moscow 73.59 330 *eP* **P 15 32 47.8 -1.8**
MOS *e* pP 15 32 57.8 -0.1
MOS *e* 15 33 03.1
MOS pmax pmax
comp=Z,119nm,1.5s,mb5.6
OBN Obninsk 73.87 329 *c iP* **P 15 32 50.6 -0.6**
OBN *e* 15 35 35.3
OBN *e*S S 15 42 21.7 +2.0
OBN pmax pmax
comp=Z,49nm,1.2s,mb5.3
OBN Obninsk 73.87 329 *eP* **P 15 32 50.4 -0.7**
comp=Z,71nm,1.2s,mb5.5
TIXI Tiksi 74.81 10⇓ *iP* **P 15 32 53.8 -2.6**
TIXI pmax pmax
comp=Z,26nm,1.1s,mb5.1
TIXI MLR MLR
comp=Z,181nm,14.0s,MS4.5
SEY Seymchan 75.34 23 *eP* **P 15 33 01.6 +2.1**
SEY pmax pmax
comp=Z,40nm,1.1s,mb5.3
AKASG Malin Array Be 76.39 323 P **P 15 33 04.5 -1.2**
comp=Z,12nm,0.9s,mb4.8,baz=88,slow=4.6,SNR=30
AKASG PP PP 15 35 57.2 -1.8
comp=Z,0.2nm,0.3s,baz=107,slow=6.4,SNR=6.0
AKASG Malin Array Be 76.39 323 P **P 15 33 04.5 -1.2**
AKASG PP PP 15 35 57.2 -1.8
VRI Vrincioaia 76.64 317⇓ P **P 15 33 06.5 -0.7**
MLR Muntele Rosu 77.08 317 P **P 15 33 09.3 -0.3**
comp=Z,24nm,1.1s,mb5.0,baz=80,slow=5.3,SNR=9.4
MLR Muntele Rosu 77.08 317⇑ P **P 15 33 09.2 -0.4**
MTUR Matau 77.62 317 P **P 15 33 18.8 +6.2**
BURAR Bucovina Array 78.08 319 P **P 15 33 15.6 +0.5**
BURAR Bucovina Array 78.08 319⇓ P **P 15 33 15.5 +0.4**
SUR Sutherland 78.08 237 P **P 15 33 16.2 +0.8**
VTS Vitosha 78.36 314 P **P 15 33 16.3 -0.5**
SYO Syowa Base 78.40 198⇓ P **P 15 33 17.8 +1.4**
SYO Syowa Base 78.40 198⇑ pP pP 15 33 24.7 -0.2
LVV L'vov 79.36 321 *eP* **P 15 33 20.7 -1.4**
BZS Buzias 80.07 316⇓ P **P 15 33 25.5 -0.5**
KOLS Kolonicke sedl 80.29 320 *eP* **P 15 33 27.9 +0.8**
KOLS *e*pP pP 15 33 35.3 -0.2
APA Apatity 80.55 340⇓ *iP* **P 15 33 28.0 -0.1**
APA *i* 15 33 33.9
APA pmax pmax
comp=Z,54nm,1.4s,mb5.3
CRVS Cervenica-Dubn 80.81 320 *eP* **P 15 33 30.0 +0.2**
CRVS *e* 15 33 34.6
SUW Suwalki 80.85 325 *eP* **P 15 33 29.4 -0.5**
DIVS Divcibare 80.94 315⇑ *iP* **P 15 33 30.2 -0.4**
FINES FINESS Array B 81.32 333 P **P 15 33 32.0 -0.2**
comp=Z,7.8nm,0.9s,mb4.7,baz=105,slow=5.2,SNR=34
KAF Kangasniemi 81.41 333 *ep* **P 15 33 29.7 -3.0**
comp=Z,18nm,1.0s,mb5.0,baz=103,slow=4.9
KAF Kangasniemi 81.41 333 *eP* **P 15 33 29.7 -3.0**
KAF pmax pmax
comp=Z,19nm,1.0s,mb5.0
NIE Niedzica 81.64 320 *eP* **P 15 33 34.0 -0.2**
PSZ Piszkesteto 81.65 318 *eP* **P 15 33 33.7 -0.5**
PSZ pmax pmax
comp=Z,39nm,1.6s,mb5.1
PSZ Piszkesteto 81.65 318 *eP* **P 15 33 33.7 -0.6**
comp=Z,39nm,1.6s,mb5.1
PSZ Piszkesteto 81.65 318 *eP* **P 15 33 34.5 +0.3**
OJC Ojcow 82.12 321 *eP* **P 15 33 36.7 +0.1**
VYHS Vyhne 82.45 319 *eP* **P 15 33 38.7 +0.4**
SRO Srobarova 82.69 318 *eP* **P 15 33 40.8 +1.2**
BILL Bilibino 82.76 21 *eP* **P 15 33 38.9 -0.7**
BILL pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
BILL MLR MLR
comp=Z,449nm,19.0s,MS4.9
BILL Bilibino 82.76 21 *eP* **P 15 33 38.9 -0.7**
comp=Z,8.2nm,1.4s,mb4.6
BILL LR LR
comp=Z,449nm,19.0s,MS4.9
GRI Girifalco 82.89 309 *eP* **P 15 33 42.1 +1.3**
OKC Ostrava-Krasne 83.10 320 *eP* **P 15 33 42.1 +0.4**
ZST Bratislava 83.55 318 *eP* **P 15 33 44.2 +0.2**
ARCES ARCESS Array B 83.97 340 P **P 15 33 47.0 +1.3**
comp=Z,21nm,1.1s,mb5.2,baz=76,slow=5.0,SNR=11
CSSN Cassano Irpino 84.17 311 *eP* **P 15 33 47.7 +0.3**
VNDA Vanda 84.29 169 *eP* **P 15 33 48.1 +0.9**
VNDA pmax pmax
comp=Z,14nm,1.4s
VNDA Vanda 84.29 169 P **P 15 33 47.7 +0.5**
comp=Z,4.0nm,1.0s,mb4.5,baz=311,slow=7.4,SNR=10.0
VNDA Vanda 84.29 169 *eP* **P 15 33 48.1 +0.8**
comp=Z,14nm,1.4s,mb4.9
DPC Dobruska-Polom 84.34 321 *eP* **P 15 33 48.4 +0.4**
KSP Ksiaz 84.42 321 *eP* **P 15 33 49.2 +0.8**
KSP Ksiaz 84.42 321 *eP* **P 15 33 49.0 +0.6**
BOJS Bojanci 84.48 316 *eP* **P 15 33 48.8 0.0**
UPC Upice 84.56 321 *eP* **P 15 33 49.7 +0.6**
PERS Pernice 84.69 317 *eP* **P 15 33 50.0 +0.2**
LJU Ljubljana 85.04 316 *eP* **P 15 33 52.4 +0.8**
SBA Scott Base 85.39 168 *eP* **P 15 33 54.0 +1.3**
SBA pmax pmax
comp=Z,12nm,1.0s,mb5.0
SBA Scott Base 85.39 168 *eP* **P 15 33 54.0 +1.3**
comp=Z,12nm,1.0s,mb5.0
PRU Pruhonice 85.43 320 *eP* **P 15 33 54.1 +0.6**
PVCC Panska Ves 85.47 321 *eP* **P 15 33 54.5 +0.8**
ROBS Robic 85.76 316 *eP* **P 15 33 55.0 -0.2**
BSD Bornholm Skovb 85.78 325⇑ *iP* **P 15 33 55.0 -0.1**
BSD pmax pmax
comp=Z,17nm,1.0s,mb5.2
BSD Bornholm Skovb 85.78 325⇑ *iP* **P 15 33 55.0 -0.1**
comp=Z,17nm,1.0s,mb5.2
GERES GERESS Array B 85.87 319 P **P 15 33 55.9 +0.3**
comp=Z,7.6nm,0.9s,mb4.9,baz=108,slow=4.2,SNR=37
PTCC Patocco-Chiusa 85.88 316 *eP* **P 15 33 56.1 +0.3**
BRG Berggiesshubel 85.91 321 *i P* **P 15 33 56.3 +0.5**
BRG pmax pmax
comp=Z,17nm,1.2s,mb5.2
KHC Kasperske Hory 85.97 319 *eP* **P 15 33 56.3 +0.1**
CLL Collm 86.54 321⇑ *iP* **P 15 33 59.2 +0.3**
CLL pmax pmax
comp=Z,14nm,1.1s,mb5.1
CLL Collm 86.54 321⇑ *iP* **P 15 33 59.2 +0.3**
comp=Z,14nm,1.1s,mb5.1
CLL *e* 15 35 27.0
CLL Collm 86.54 321⇑ P **P 15 33 59.2 +0.3**
comp=Z,logA/T=1.1,mb5.1
CLL *e* 15 35 27.0
NKC Novy Kostel 86.80 320 *eP* **P 15 34 00.3 +0.1**
HFS Hagfors 87.00 330 P **P 15 34 01.5 +0.5**
comp=Z,30nm,0.9s,mb5.5,baz=153,slow=3.3,SNR=31
CTI Castel Tesino 87.03 316 *eP* **P 15 34 02.1 +0.6**
MOX Moxa 87.36 321 *eP* **P 15 34 03.4 +0.5**
MOX pmax pmax
comp=Z,23nm,1.6s,mb5.2
MOX Moxa 87.36 321 *eP* **P 15 34 03.4 +0.5**
comp=Z,23nm,1.6s,mb5.2
MOX Moxa 87.36 321 *i* P **P 15 34 03.4 +0.5**
comp=Z,logA/T=1.2,mb5.2
GRA1 Grafenberg Arr 87.55 320 *eP* **P 15 34 05.0 +1.2**
comp=Z,15nm,1.1s,mb5.1
GRF Grafenberg Arr 87.55 320 *eP* **P 15 34 05.0 +1.2**
GRF pmax pmax
comp=Z,15nm,1.1s,mb5.1
GRF Grafenberg Arr 87.55 320 *eP* **P 15 34 05.0 +1.2**
GRF pmax pmax
comp=Z,15nm,1.1s,mb5.1
GRF Grafenberg Arr 87.55 320 *eP* **P 15 34 05.0 +1.2**
comp=Z,15nm,1.1s,mb5.1
NB2 NORSAR Subarra 88.30 331 P **P 15 34 06.8 -0.3**
comp=Z,23nm,1.1s,mb5.3,baz=96,slow=4.8
NB2 NORSAR Subarra 88.30 331 P **P 15 34 06.8 -0.3**
baz=96,slow=4.8
NOA NORSAR Array B 88.30 331 P **P 15 34 07.5 +0.3**
comp=Z,16nm,1.1s,mb5.2,baz=96,slow=4.7,SNR=16
DAVOX Davos 88.30 317 P **P 15 34 08.2 +0.7**
comp=Z,13nm,0.8s,mb5.2,baz=109,slow=6.5,SNR=14
MUD Monsted U'grnd 89.12 326 *i* P **P 15 34 12.4 +1.2**
MUD pmax pmax
comp=Z,49nm,1.4s,mb5.6
MUD Monsted U'grnd 89.12 326 *i* P **P 15 34 12.4 +1.2**
comp=Z,49nm,1.4s,mb5.6
QSPA South Pole Qui 89.53 180 *eP* **P 15 34 13.0 +0.3**
comp=Z,20nm,1.3s,mb5.3
CDF Champ du Feu 90.10 318 *eP* **P 15 34 15.1 -0.9**
comp=Z,9.6nm,0.9s,mb4.8
CDF Champ du Feu 90.10 318 *eP* **P 15 34 15.1 -0.9**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
HINF Hinteralfeld 90.38 318 *eP* **P 15 34 16.1 -1.2**
WTSB Winterswijk 90.43 322 *eP* **P 15 34 17.8 +0.4**
comp=Z,24nm,0.9s,mb5.5
LPG La Plagne 90.44 315 *eP* **P 15 34 17.4 -0.2**
comp=Z,39nm,1.1s,mb5.3
LPG La Plagne 90.44 315 *eP* **P 15 34 17.4 -0.2**
LPG pmax pmax
comp=Z,19nm,1.1s,mb5.3
LPL La Plagne 90.46 315 *eP* **P 15 34 17.4 -0.3**
comp=Z,50nm,1.0s,mb5.5
LPL La Plagne 90.46 315 *eP* **P 15 34 17.4 -0.3**
LPL pmax pmax
comp=Z,25nm,1.0s,mb5.5
HAU Haudompre 90.72 318 *eP* **P 15 34 18.1 -0.7**
comp=Z,77nm,1.3s,mb5.6
HAU Haudompre 90.72 318 *eP* **P 15 34 18.1 -0.7**
HAU pmax pmax
comp=Z,39nm,1.3s,mb5.6
CABF La Chapelle 90.90 316 *eP* **P 15 34 19.5 -0.2**
comp=Z,38nm,1.0s,mb5.4
CABF La Chapelle 90.90 316 *eP* **P 15 34 19.5 -0.2**
CABF pmax pmax
comp=Z,19nm,1.0s,mb5.4
HGN Heimansgroeve 90.97 321 *eP* **P 15 34 20.2 +0.2**
comp=Z,21nm,1.6s,mb5.2
ORIF Oris-en-Rattie 91.06 315 *eP* **P 15 34 20.3 -0.2**
comp=Z,46nm,1.2s,mb5.4
ORIF Oris-en-Rattie 91.06 315 *eP* **P 15 34 20.3 -0.2**
ORIF pmax pmax
comp=Z,23nm,1.2s,mb5.4
MEZF Maizieres J'vi 91.58 318 *eP* **P 15 34 22.5 -0.3**
comp=Z,72nm,1.2s,mb5.6
GIVF Givet 91.69 320 *eP* **P 15 34 23.0 -0.3**
comp=Z,27nm,1.0s,mb5.2
GIVF Givet 91.69 320 *eP* **P 15 34 23.0 -0.3**
GIVF pmax pmax
comp=Z,14nm,1.0s,mb5.2
VIVF Saint-Julien-l 91.92 315 *eP* **P 15 34 24.0 -0.4**
BAIF Baives 92.09 320 *eP* **P 15 34 25.0 -0.1**
comp=Z,74nm,1.0s,mb5.7
BAIF Baives 92.09 320 *eP* **P 15 34 25.0 -0.1**
BAIF pmax pmax
comp=Z,37nm,1.0s,mb5.7
SMF Signal de Mont 92.45 316 *eP* **P 15 34 26.3 -0.5**
comp=Z,63nm,1.2s,mb5.5
SMF Signal de Mont 92.45 316 *eP* **P 15 34 26.3 -0.5**
SMF pmax pmax
comp=Z,32nm,1.2s,mb5.5
SSF Saint Saulge 92.67 317 *eP* **P 15 34 27.6 -0.2**
SSF pmax pmax
comp=Z,31nm,1.4s,mb5.5
SSF Saint Saulge 92.67 317 *eP* **P 15 34 27.6 -0.2**
comp=Z,31nm,1.4s,mb5.5
AVF Avril sur Loir 92.78 317 *eP* **P 15 34 27.8 -0.5**

comp=Z,36nm,1.1s,mb5.4
AVF Avril sur Loir 92.78 317 *e*P **P 15 34 27.8 -0.5**
AVF pmax pmax
comp=Z,18nm,1.1s,mb5.4
BGF Bois d'Agland 93.14 316 *e*P **P 15 34 30.0 0.0**
comp=Z,62nm,1.1s,mb5.7
BGF Bois d'Agland 93.14 316 *e*P **P 15 34 30.0 0.0**
BGF pmax pmax
comp=Z,31nm,1.1s,mb5.7
TCF Toulx Ste Croi 93.59 316 *e*P **P 15 34 31.9 -0.2**
comp=Z,39nm,1.4s,mb5.3
TCF Toulx Ste Croi 93.59 316 *e*P **P 15 34 31.9 -0.2**
TCF pmax pmax
comp=Z,19nm,1.4s,mb5.3
FLN La Foliniere 95.23 319 *e*P **P 15 34 39.0 -0.6**
comp=Z,21nm,0.8s,mb5.3
FLN La Foliniere 95.23 319 *e*P **P 15 34 39.0 -0.6**
FLN pmax pmax
comp=Z,11nm,0.8s,mb5.3
EKA Eskdalemuir Ar 96.11 326 P **P 15 34 43.5 +0.1**
comp=Z,2.7nm,0.7s,mb4.8,baz=98,slow=5.8,SNR=11
IMA Indian Mountai 98.16 23 *e*P **P 15 34 52.4 0.0**
IMA pmax pmax
comp=Z,92nm,1.5s,mb6.1
IMA Indian Mountai 98.16 23 *e*P **P 15 34 52.4 0.0**
comp=Z,92nm,1.5s,mb6.1
COLA College 100.86 23 PFAKE 15 35 20.0 +15
COLA LR LR
comp=Z,224nm,19.0s,MS4.7
YKA Yellowknife Ar 113.71 15 PKiKP 15 39 53.4
comp=Z,0.9nm,0.9s,baz=325,slow=2.1,SNR=9.7
YKA PKKPbc 15 50 37.5
comp=Z,0.6nm,0.9s,baz=142,slow=3.0,SNR=7.0
YKA Yellowknife Ar 113.71 15 PKPdf PKPdf 15 39 53.4 -4.2
YKA PKKPbc 15 50 37.5
EDM Edmonton 121.67 21 *e*PKIKP PKPdf 15 40 09.3 -4.0
SCHQ Schefferville 124.16 349 PKP PKPdf 15 40 14.6 -3.4
comp=Z,2.5nm,0.9s,baz=48,slow=3.9,SNR=3.9
MSO Missoula 126.47 26 *e*PKPdf PKPdf 15 40 19.1 -3.6
CHMT Chamberlain Mo 126.71 25 *e*PKPdf PKPdf 15 40 19.6 -3.6
QLMT Earthquake Lak 129.13 26 *e*PKPdf PKPdf 15 40 25.6 -2.3
ULM Lac du Bonnet 129.16 11 PKP PKPdf 15 40 24.0 -3.8
comp=Z,3.2nm,0.5s,baz=4.0,slow=3.5,SNR=12
ULM Lac du Bonnet 129.16 11 PKP PKPdf 15 40 24.0 -3.8
NVAR Mina Array Bea 130.23 36 PKP PKPdf 15 40 29.1 -1.1
comp=Z,3.6nm,0.9s,baz=252,slow=4.6,SNR=20
HWUT Hardware Ranch 131.59 29 *e*PKPpre 15 40 25.9
HWUT *e*PKPdf PKPdf 15 40 29.7 -3.0
PDAR Pinedale Array 131.60 26 PKP PKPdf 15 40 29.7 -3.0
comp=Z,1.3nm,0.8s,baz=270,slow=1.5,SNR=10
TRCR Troy Canyon 131.86 35 *e*PKPdf PKPdf 15 40 31.5 -1.8
NLU North Lily Min 132.59 30 *e*PKPdf PKPdf 15 40 32.3 -2.3
TMUT Trail Mountain 133.53 30 *e*PKPdf PKPdf 15 40 34.6 -1.8
MSU Marysvale 133.61 32 *e*PKIKP PKPdf 15 40 35.1 -1.4
PV01 Paradox Valley 135.73 29 *e*PKPdf PKPdf 15 40 37.9 -2.6
WUAZ Wupatki 136.24 34 *e*PKPdf PKPdf 15 40 39.3 -2.1
PLCA Paso Flores 137.49 194 PKP PKPdf 15 40 41.6 -2.0
comp=Z,1.7nm,1.0s,baz=297,slow=6.8,SNR=3.2
BNM Barren Site 139.83 31 *e*PKPdf PKPdf 15 40 38.3 -10
ACSO Alum Creek Sta 140.38 360 PFAKE 15 41 00.0 +11
ACSO LR LR
comp=Z,868nm,21.0s,MS5.5
BDFB Brasilia 141.90 244 PKP PKPdf 15 40 50.5 -1.8
comp=Z,1.0nm,0.4s,baz=29,slow=2.6,SNR=4.8
GDL2 Guadalupe Moun 142.53 30 *e*PKPdf PKPdf 15 40 46.3 -6.6
WMOK Wichita Mounta 142.83 22 *e*PKHKP 15 40 45.5
TZTN Tazewell 144.06 1 *e*PKPdf PKPdf 15 40 49.8 -5.6
WVT Waverly 144.19 7 *e*PKIKP PKPdf 15 40 49.9 -5.7
MIAR Mount Ida 144.65 15 *e*PKIKP PKPdf 15 40 52.5 -4.0
UALR University of 144.74 13 *e*PKPdf PKPdf 15 40 52.3 -4.3
TXAR Lajitas Array 145.16 33 PKPbc PKPbc 15 40 54.9 +1.8
comp=Z,35nm,0.9s,baz=270,slow=2.5,SNR=183
PLAL Pickwick Lake 145.30 7 *e*PKPdf PKPdf 15 40 53.4 -4.2
JSC Jenkinsville 146.28 357 *e*PKP2 PKPab 15 40 56.8 -1.8
NATX Nacogdoches 146.95 18 *e*PKPdf PKPdf 15 40 59.5 -1.0
LPAZ La Paz 157.81 221 PKP PKPdf 15 41 15.3 -1.4
comp=Z,3.0nm,0.9s,baz=70,slow=1.0,SNR=9.3
LPAZ La Paz 157.81 221 *e*PKPdf PKPdf 15 41 14.5 -2.2
LPAZ *e*PKPab PKPab 15 41 48.0 +1.0
SAML Samuel 158.14 244 *e*PKPdf PKPdf 15 41 14.3 -2.9
SAML *e*PKPab PKPab 15 41 47.5 -1.0

IDC 02 15:23:14.7±4.5, 0.78S×96.15E, mb4.1/2, mb1 4.1/2, mb1mx3.7/15, mbtmp4.1/2, MS4.0/1, Ms1 4.0/1, ms1mx3.4/16, Error ellipse: s-maj=191.8km s-min=87.5km az=51.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANT	**Nan**	**19.97**	**13**	P	P	15 28 33.0	+41
MKAR	**Makanchi Array**	**48.92**	**347**	P	P	15 32 02.4	-2.1
	3.3nm,0.8s,baz=163,slow=9.1,SNR=6.6						
LBTB	**Lobatse**	**72.07**	**244**	LR	LR	15 59 53.9	
	comp=Z,100nm,21.2s,baz=99,slow=30						
FINES	**FINESS Array B**	**81.26**	**333**	P	P	15 35 32.6	-1.3
	0.6nm,0.4s,baz=100,slow=6.4,SNR=5.8						
TXAR	**Lajitas Array**	**145.90**	**32**	PKPbc	PKPbc	15 42 56.1	-0.9
	1.4nm,0.6s,baz=211,slow=0.9,SNR=4.2						

*LJU **02** 15:40:38.6, 45.91N×16.14E, h18km, ML2.2*
*IPEC **02** 15:40:38.4±0.2, 45.90N×16.22E, ML2.0/1, Error ellipse: s-maj=2.2km s-min=0.9km az=135.0*
*PRU **02** 15:40:39.4, 45.97N×16.18E*
*NEIC **02** 15:40:40.1±1.2, 45.95N×16.08E, h10km, ML2.7(VIE), ML2.2(LJU), Error ellipse: s-maj=14.0km s-min=5.7km az=146.0*
*CSEM **02** 15:40:40.4±0.1, 45.88N×16.02E, h10km, ML2.9/4, Error ellipse: s-maj=1.8km s-min=1.4km az=146.0*

ISC 02 15:40:38.2±0.3, 45.98N±0.02×16.17E±0.02, h10km, n60, σ1§22/101, 13C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLS	**Golise**	**0.38**	**276**	*i*PG	**Pg**	**15 40 46.5**	**+0.5**
	comp=Z,68nm,0.1s						
GOLS	**Golise**	**0.38**	**276**	⇑*i*PG	**Pg**	**15 40 46.4**	**+0.4**
GCIS	**Gornji Cirnik**	**0.39**	**254**	⇑*i*PG	**Pg**	**15 40 46.2**	**0.0**
GCIS				*i* Sg	**Sg**	**15 40 51.4**	**-0.2**
	comp=Z,104nm,0.2s						
CESS	**Cesta pri Krsk**	**0.49**	**270**	*i* Pg	**Pg**	**15 40 48.8**	**+0.6**
CESS				*i* Sg	**Sg**	**15 40 55.4**	**+0.5**
	comp=Z,286nm,0.2s						
CESS	**Cesta pri Krsk**	**0.49**	**270**	*i* Pg	**Pg**	**15 40 48.8**	**+0.6**
CESS				*i* Sg	**Sg**	**15 40 55.3**	**+0.5**
	comp=Z,286nm,0.2s						
DOBS	**Dobrina**	**0.52**	**290**	⇑*i*PG	**Pg**	**15 40 49.4**	**+0.7**
CRES	**Cresnjev**	**0.52**	**254**	⇑*i*PG	**Pg**	**15 40 48.4**	**-0.4**
CRES				*i* Sg	**Sg**	**15 40 55.4**	**-0.4**
	comp=Z,124nm,0.2s						
CRES	**Cresnjev**	**0.52**	**254**	⇑*i*PG	**Pg**	**15 40 48.3**	**-0.4**
CRES				*e*Sg	**Sg**	**15 40 55.0**	**-0.7**
SISC	**Sisak**	**0.52**	**164**	*i* Pg	**Pg**	**15 40 48.6**	**-0.2**
SISC				*i* Sg	**Sg**	**15 40 55.8**	**-0.1**
SISC	**Sisak**	**0.52**	**164**	*i* Pg	**Pg**	**15 40 48.6**	**-0.2**
SISC				*i* Sg	**Sg**	**15 40 55.7**	**-0.2**
LEGS	**Legarje**	**0.59**	**268**	⇑*i*PG	**Pg**	**15 40 50.3**	**+0.1**
LEGS				*i* Sg	**Sg**	**15 40 59.5**	**+1.4**
	comp=Z,164nm,0.3s						
LEGS	**Legarje**	**0.59**	**268**	⇑*i*PG	**Pg**	**15 40 50.2**	**0.0**
GROS	**Grobnik**	**0.67**	**317**	*i* Pg	**Pg**	**15 40 52.8**	**+1.1**
GROS				*i* Sg	**Sg**	**15 41 03.3**	**+2.6**
	comp=Z,45nm,0.1s						
GROS	**Grobnik**	**0.67**	**317**	*i* Pg	**Pg**	**15 40 52.8**	**+1.1**
GROS				*i* Sg	**Sg**	**15 41 03.3**	**+2.6**
	comp=Z,45nm,0.1s						
BOJS	**Bojanci**	**0.80**	**234**	*i* Pg	**Pg**	**15 40 53.3**	**-0.9**
BOJS				*i* Sg	**Sg**	**15 41 03.1**	**-1.8**
	comp=Z,45nm,0.2s						
BOJS	**Bojanci**	**0.80**	**234**	*i* Pg	**Pg**	**15 40 53.3**	**-0.9**
BOJS				*i* Sg	**Sg**	**15 41 03.1**	**-1.8**
	comp=Z,45nm,0.2s						
PDKS	**Podkum**	**0.82**	**276**	*i* Pg	**Pg**	**15 40 54.6**	**0.0**
PDKS				*e*Sg	**Sg**	**15 41 07.9**	**+2.3**
	comp=Z,55nm,0.2s						
VISS	**Visnje**	**0.94**	**260**	*i* Pg	**Pg**	**15 40 56.2**	**-0.9**
VISS				*i* Sg	**Sg**	**15 41 10.9**	**+1.1**
	comp=Z,59nm,0.3s						
VISS	**Visnje**	**0.94**	**260**	*i* Pg	**Pg**	**15 40 56.2**	**-0.9**
PERS	**Pernice**	**0.98**	**313**	*e*Pg	**Pg**	**15 40 58.4**	**+0.4**
PERS	**Pernice**	**0.98**	**313**	*e*Pg	**Pg**	**15 40 58.3**	**+0.4**
LJU	**Ljubljana**	**1.15**	**274**	*i* Pg	**Pg**	**15 41 00.3**	**-0.9**
LJU				*i* Sg	**Sg**	**15 41 15.9**	**-0.5**
CEY	**Cerknica**	**1.24**	**260**	*i* Pg	**Pg**	**15 41 02.2**	**-0.9**
CEY				*e*Sg	**Sg**	**15 41 20.0**	**+0.4**
CEY	**Cerknica**	**1.24**	**260**	*i* Pg	**Pg**	**15 41 02.2**	**-0.8**
CEY				*e*Sg	**Sg**	**15 41 19.5**	**-0.1**
CEY				*e*Sn	**Sn**	**15 41 20.0**	**+1.5**
OBKA	**Obir**	**1.24**	**296**	⇑*i*PG	**Pg**	**15 41 02.9**	**-0.2**
OBKA				*i* SG	**Sg**	**15 41 18.5**	**-1.2**
	comp=Z,20nm,0.2s						
ARSA	**Arzberg**	**1.35**	**341**	⇑*i*PG	**Pg**	**15 41 04.8**	**-0.4**
ARSA				*i* SG	**Sg**	**15 41 22.6**	**-0.7**
	comp=Z,26nm,0.3s						
ARSA	**Arzberg**	**1.35**	**341**	*e*Pg	**Pg**	**15 41 05.3**	**+0.1**
ARSA				*i* Sg	**Sg**	**15 41 22.6**	**-0.7**
RHK3	**Tenkes**	**1.46**	**93**	*e*Pn	**Pn**	**15 41 05.1**	**+0.4**
RHK3				*e*Sn	**Sn**	**15 41 22.6**	**-1.4**
JAVS	**Javornik**	**1.47**	**268**	*i* Pg	**Pg**	**15 41 05.8**	**-1.9**
JAVS				*e*Sg	**Sg**	**15 41 25.2**	**-2.0**
	comp=Z,12nm,0.2s						
JAVS	**Javornik**	**1.47**	**268**	*i* Pg	**Pg**	**15 41 05.8**	**-1.8**
JAVS				*e*Sg	**Sg**	**15 41 25.2**	**-2.0**
	comp=Z,12nm,0.2s						
GORS	**Gorjuse**	**1.55**	**284**	*e*Pg	**Pg**	**15 41 06.8**	**-2.4**
	comp=Z,19nm,0.3s						
GORS	**Gorjuse**	**1.55**	**284**	*e*Pn	**Pn**	**15 41 06.7**	**+0.7**
VOY	**Vojsko**	**1.59**	**273**	*e*Sn	**Sn**	**15 41 30.3**	**+3.0**
PKS9	**Tamasi**	**1.59**	**67**	⇑*e*P	**Pn**	**15 41 12.1**	**+5.5**
PKS9				*e*S	**Sb**	**15 41 32.9**	**+5.7**
	comp=Z,4.0nm,0.3s						
VOJS	**Vojsko**	**1.59**	**273**	*i* Pn	**Pn**	**15 41 08.8**	**+2.1**
VOJS	**Vojsko**	**1.59**	**273**	*i* Pn	**Pn**	**15 41 08.7**	**+2.0**
NVLJ	**Novalja**	**1.68**	**213**	*i* Pn	**Pn**	**15 41 09.2**	**+1.2**
NVLJ				*i* Sn	**Sn**	**15 41 30.9**	**+1.2**
NVLJ	**Novalja**	**1.68**	**213**	*i* Pn	**Pn**	**15 41 09.1**	**+1.2**
NVLJ				*i* Sn	**Sn**	**15 41 30.9**	**+1.2**
TRI	**Trieste**	**1.70**	**262**	*e*Pg	**Pg**	**15 41 10.1**	**-2.1**
PKSM	**Moragy**	**1.74**	**81**	*e*P	**Pn**	**15 41 08.0**	**-0.7**
PKSM				*e*S	**Sn**	**15 41 36.9**	**+5.8**
DRE	**Drenchia**	**1.77**	**277**	*e*Pg	**Pg**	**15 41 11.3**	**-2.3**
DRE				*e*Sg	**Sg**	**15 41 35.9**	**-1.3**
PKS8	**Sarbogard**	**1.96**	**62**	*e*Pn	**Pn**	**15 41 12.1**	**+0.2**
PTCC	**Patocco-Chiusa**	**2.00**	**283**	*e*Pn	**Pn**	**15 41 16.1**	**+3.6**
PTCC				*e*Sn	**Sn**	**15 41 44.1**	**+6.2**
PKSG		**2.09**	**46**	*e*Pn	**Pn**	**15 41 20.2**	**+6.5**
KBA	**Koelnbreinsper**	**2.24**	**301**	⇑*i*PN	**Pn**	**15 41 16.1**	**+0.2**
KBA				*i* PG	**Pg**	**15 41 21.5**	**-1.5**
KBA				*i* SG	**Sg**	**15 41 51.9**	**-0.9**
	comp=Z,2.7nm,0.3s						
MOA	**Molln**	**2.28**	**326**	⇑*i*PN	**Pn**	**15 41 17.2**	**+0.6**
MOA				*i* SN	**Sn**	**15 41 45.5**	**+0.5**
MOA	**Molln**	**2.28**	**326**	*e*Pn	**Pn**	**15 41 18.7**	**+2.1**
MOA				*i* Sn	**Sn**	**15 41 45.5**	**+0.5**
ZST	**Bratislava**	**2.31**	**16**	*e*PN	**Pn**	**15 41 18.6**	**+1.6**
ZST				*e*SN	**Sn**	**15 41 45.7**	**0.0**
FVI	**Forni Avoltri**	**2.43**	**286**	*e*Pn	**Pn**	**15 41 19.8**	**+1.1**
FVI				*e*Sn	**Sn**	**15 41 57.2**	**+8.5**
FVI	**Forni Avoltri**	**2.43**	**286**	*e*Pn	**Pn**	**15 41 19.8**	**+1.2**
JAVC	**Velka Javorina**	**3.06**	**19**	*e*Pn	**Pn**	**15 41 29.3**	**+1.7**
KRUC	**Moravsky**	**3.09**	**3**	*e*Pn	**Pn**	**15 41 29.0**	**+0.9**
KRUC				*e*Sg	**Sg**	**15 42 18.6**	**-2.6**
	comp=Z,5.4nm,0.5s						
VYHS	**Vyhne**	**3.11**	**35**	*e*PN	**Pn**	**15 41 29.8**	**+1.5**
VYHS				*e*SN	**Sn**	**15 42 03.9**	**-2.0**
VRAC	**Vranov**	**3.35**	**5**	*e*Pn	**Pn**	**15 41 32.5**	**+0.8**
KHC	**Kasperske Hory**	**3.61**	**332**	*e*PN	**Pn**	**15 41 36.3**	**+0.8**
KHC				*e*PG	**Pg**	**15 41 50.9**	**+0.6**
KHC				*e*SN	**Sn**	**15 42 18.2**	**-0.4**
KHC				*e*SG	**Sg**	**15 42 39.5**	**+1.0**
PRU	**Pruhonice**	**4.16**	**345**	*e*SG	**Sg**	**15 42 51.8**	**-5.0**
DPC	**Dobruska-Polom**	**4.38**	**1**	*e*SG	**Sg**	**15 43 01.8**	**-2.2**
UPC	**Upice**	**4.54**	**359**	*e*SG	**Sg**	**15 43 04.9**	**-4.4**
NKC	**Novy Kostel**	**4.94**	**331**	*e*SG	**Sg**	**15 43 16.6**	**-6.0**
CLL	**Collm**	**5.73**	**340**	*e*SG	**Sg**	**15 43 45.0**	**-4.1**

IDC 02 15:41:42.8±2.4, 0.11S×96.93E, h28km±6km, mb3.5/5, mb1 3.7/5, mb1mx3.5/16, mbtmp3.7/5, Error ellipse: s-maj=101.7km s-min=20.4km az=58.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.59**	**121**	P	P	15 49 28.0	-2.3
	0.5nm,0.4s,baz=304,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**42.84**	**126**	P	P	15 49 39.2	-1.3
	0.4nm,0.6s,baz=303,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**48.44**	**347**	P	P	15 50 22.4	-2.3
	0.6nm,0.5s,baz=166,slow=8.2,SNR=10.0						
MKAR				pP	pP	15 50 31.8	-1.5
	1.1nm,0.6s,baz=158,slow=7.9,SNR=9.6						
SONM	**Songino Array**	**48.45**	**9**	P	P	15 50 23.4	-1.4
	0.4nm,0.8s,baz=198,slow=9.1,SNR=2.9						
SONM				pP	pP	15 50 30.9	-2.5
	0.6nm,0.5s,baz=187,slow=8.8,SNR=5.0						
ZAL	**Zalesovo**	**54.79**	**351**	P	P	15 51 08.9	-3.5
	1.4nm,0.3s,baz=294,slow=5.2,SNR=5.2						
ZAL				pP	pP	15 51 18.7	-2.4
	1.9nm,0.6s,baz=329,slow=1.3,SNR=5.7						
TXAR	**Lajitas Array**	**144.91**	**32**	PKP	PKPdf	16 01 18.0	-5.0
	0.2nm,0.3s,baz=243,slow=2.0,SNR=3.2						
TXAR				pPKP		16 01 26.7	
	0.8nm,0.9s,baz=297,slow=2.8,SNR=3.3						

IDC 02 16:04:41.7±2.9, 0.69S×96.47E, mb3.9/4, mb1 4.0/4, mb1mx3.6/15, mbtmp3.9/4, Error ellipse: s-maj=154.3km s-min=27.6km az=54.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.88**	**125**	P	P	16 12 41.9	-1.9
	0.6nm,0.6s,baz=301,slow=7.7,SNR=6.9						
MKAR	**Makanchi Array**	**48.90**	**347**	P	P	16 13 29.7	-1.7
	0.9nm,0.6s,baz=158,slow=8.0,SNR=13						
ZAL	**Zalesovo**	**55.30**	**352**	P	P	16 14 16.3	-3.0
	0.8nm,0.5s,baz=310,slow=6.8						
FINES	**FINESS Array B**	**81.33**	**333**	P	P	16 16 59.7	-1.6
	0.6nm,0.7s,baz=104,slow=7.9,SNR=7.0						
TXAR	**Lajitas Array**	**145.65**	**32**	PKPbc	PKPbc	16 24 23.2	-0.3
	0.4nm,0.5s,baz=315,slow=1.8,SNR=5.9						

WEL 02 16:23:02.1±0.3, 45.36S×167.29E, h96km±2km, ML3.5/8, 3C-1D, Error ellipse: s-maj=4.2km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.62**	**90**	⇑PN	P	16 23 18.1	-0.5
MLZ				SN	S	16 23 30.3	-0.7
WHZ	**Wether Hill Ro**	**0.71**	**140**	⇓PN	P	16 23 19.0	-0.5
WHZ				SN	S	16 23 31.4	-1.0
MSZ	**Milford Sound**	**0.82**	**34**	PN	P	16 23 20.0	-0.6
MSZ				SN	S	16 23 33.1	-1.1
WKZ	**Wanaka**	**1.33**	**67**	⇑PN	P	16 23 26.2	-0.3
WKZ				SN	S	16 23 43.8	-0.8
EAZ	**Earnscleugh**	**1.43**	**86**	PN	P	16 23 27.3	-0.4
JCZ	**Jackson Bay**	**1.65**	**40**	⇑PN	P	16 23 29.8	-0.7
JCZ				SN	S	16 23 50.5	-0.9
TUZ	**Tuapeka**	**1.75**	**111**	PN	P	16 23 30.4	-1.3
TUZ				SN	S	16 23 51.4	-2.2
LBZ	**Lake Benmore**	**2.27**	**66**	PN	P	16 23 36.5	-2.2
LBZ				SN	S	16 24 02.8	-3.2
ODZ	**Otahua Downs**	**2.39**	**84**	PN	P	16 23 38.4	-2.0
ODZ				SN	S	16 24 05.1	-3.7
FOZ	**Fox Glacier**	**2.48**	**45**	PN	P	16 23 40.3	-1.3
FOZ				SN	S	16 24 10.4	-0.7
RPZ	**Rata Peaks**	**3.15**	**60**	*e*PN	P	16 23 47.1	-3.7
RPZ				*e*SN	S	16 24 22.8	-4.8
DSZ	**Denniston Nort**	**4.88**	**44**	*e*PN	P	16 24 10.7	-3.7

*IDC **02** 16:24:09.6±0.5, 2.92N×96.43E, mb4.8/18, mb1 4.9/18, mb1mx4.8/20, mbtmp4.8/18, MS4.2/18, Ms1 4.2/18, ms1mx4.1/23, Error ellipse: s-maj=21.8km s-min=12.5km az=57.0*
*BJI **02** 16:24:10.4, 2.57N×96.34E, h36km, mB5.0, mb4.9, Ms5.0, Msz4.8*
*MOS **02** 16:24:11.7±1.1, 2.86N×96.61E, h33km, mb5.3/48, MS4.3/14, Error ellipse: s-maj=16.6km s-min=6.0km az=117.0*
*HRVD **02** 16:24:14.1±0.5, 2.68N×96.35E, h19km, MW5.0/41, Centroid moment Tensor Solution. LP body waves: s14,c16; Mantle waves: s41,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.10±.20; $M_{\theta\theta}$1.32±.15; $M_{\phi\phi}$1.78±.17; $M_{r\theta}$-1.20±.47; $M_{\theta\phi}$1.57±.12; $M_{\phi r}$-0.21±.48; Best double couple: $M_0$3.346×10^{16} NP1:φ≈209°, δ38°, λ-110°. NP2:φ≈54°, δ55°, λ-75°. Principal axes: T 3.28, Plg9°, Azm133°; N .132, Plg12°, Azm225°; P -3.412, Plg75°, Azm9°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 16:24:14.1±0.1, 2.89N×96.40E, mb5.1/49 Error ellipse: s-maj=5.6km s-min=3.4km az=44.0*

ISC 02 16:24:12.0±0.2, 2.84N±0.03×96.40E±0.03, h27km, h27km±1.1km: pP-P, n266, σ1§08/259, mb5.0/92, MS4.4/64, 8C-22D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.89**	**60**	*e*Pn	**Pn**	**16 25 28.0**	**+2.2**
IPM	**Ipoh**	**4.93**	**69**	P	**Pn**	**16 25 28.5**	**+2.2**
SNG	**Songkhla**	**6.02**	**44**	P	**Pn**	**16 25 43.0**	**+1.3**
	418nm,1.0s						
KGM	**Kluang**	**6.96**	**97**	P	**Pn**	**16 25 57.3**	**+2.4**
NNT	**Nongplab**	**10.24**	**19**	P	**P**	**16 26 42.5**	**+2.0**
KSM	**Kuching**	**13.96**	**95**	*e*P	**P**	**16 27 31.8**	**+1.2**
KKTK	**Khon Kaen**	**14.83**	**25**	PG	**P**	**16 27 48.5**	**+6.6**
KKTK				SG	rx	16 27 55.0	
PALK	**Pallekele**	**16.25**	**286**	*e*P	**P**	**16 28 01.4**	**+1.1**
	268nm,1.6s						
NANT	**Nan**	**16.41**	**15**	P	**P**	**16 28 04.0**	**+1.6**
	150nm,1.0s						
CHRT	**Chiangrai**	**17.25**	**11**	⇑P	**P**	**16 28 14.0**	**+1.1**
	129nm,1.0s						
CHRT				⇓PN	**P**	**16 28 14.0**	**+1.1**
	129nm,1.0s						
MDRS	**Chennai**	**18.94**	**303**	*e*P	**P**	**16 28 35.0**	**+1.3**
MDRS				*e*		16 32 27.0	
MDRS				*e*		16 34 23.0	
MDRS				*e*		16 38 01.0	
VIS	**Vishakhapatnam**	**19.58**	**320**	*e*P	**P**	**16 28 40.5**	**-0.6**
VIS				*e*		16 28 46.2	
	comp=Z,60nm,1.4s						
VIS				*e*		16 32 04.7	
KKM	**Kota Kinabalu**	**20.00**	**80**	*e*P	**P**	**16 28 46.3**	**+0.5**
KKM	**Kota Kinabalu**	**20.00**	**80**	P	**P**	**16 28 45.4**	**-0.4**
TRD	**Trivandrum**	**20.15**	**287**	*e*P	**P**	**16 28 46.4**	**-0.8**
BWNR	**Bhubaneshwar**	**20.20**	**330**	*e*P	**P**	**16 28 48.0**	**+0.3**
BWNR				*e*		16 32 18.5	
QIZ	**Qiongzhong**	**20.78**	**38**	P	**P**	**16 28 55.2**	**+1.4**
QIZ				*e*S	**S**	**16 32 41.6**	**+2.1**
QIZ				LR	LR		
	comp=N,1μm,13.8s,MS4.7						
QIZ				LR	LR		
	comp=E,2μm,12.4s,MS4.7						
QIZ				LR	LR		
	comp=Z,2μm,12.4s,MS4.7						
QIZ	**Qiongzhong**	**20.78**	**38**	PFAKE		16 29 10.0	+16
QIZ				LR	LR		
	comp=Z,666nm,19.0s,MS4.0						
TSM	**Tawau**	**21.48**	**86**	P	**P**	**16 29 01.7**	**+0.9**
HYB	**Hyderabad**	**22.74**	**311**	*e*P	**P**	**16 29 14.0**	**+0.5**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.0						
HYB	**Hyderabad**	**22.74**	**311**	*e*P	**P**	**16 29 14.0**	**+0.5**
	comp=Z,60nm,1.0s,mb5.0						
HYB				*e*S	**S**	**16 33 32.0**	**+16**
HYB	**Hyderabad**	**22.74**	**311**	*i* P	**P**	**16 29 14.0**	**+0.5**
	comp=Z,60nm,1.0s,mb5.0						
HYB				*e*S	**S**	**16 33 22.0**	**+6.2**
KMI	**Kunming**	**22.98**	**15**	P	**P**	**16 29 16.9**	**+1.1**
KMI				AP		16 29 25.4	
KMI				XP		16 29 31.0	
KMI				S	**S**	**16 33 15.1**	**-5.1**
KMI				AMB	AMB		
	comp=Z,34nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,97nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,13.9s,MS4.9						
KMI				LR	LR		
	comp=E,1μm,11.9s,MS4.9						
KMI				LR	LR		
	comp=Z,2μm,13.9s,MS4.8						
KMI	**Kunming**	**22.98**	**15**	P	**P**	**16 29 16.9**	**+1.1**
	comp=Z,34nm,1.1s,mb4.7						
KMI				pP		16 29 25.4	
KMI				sP		16 29 31.0	
KMI				S	**S**	**16 33 15.1**	**-5.1**
KMI				sS		16 33 32.0	
KMI				LR	LR		
	comp=Z,2μm,13.9s,MS4.8						
SHL	**Shillong**	**23.02**	**350**	*e*P	**P**	**16 29 14.0**	**-2.1**
SHL				*e*S	**S**	**16 33 23.0**	**+2.3**
BLSP	**Bilaspur**	**23.66**	**325**	*e*P	**P**	**16 29 23.8**	**+1.4**
BLSP				*e*		16 29 27.6	
	comp=Z,57nm,0.7s						
BLSP				*e*S	**S**	**16 33 36.0**	**+4.0**
NGP	**Nagpur**	**24.84**	**318**	*e*P	**P**	**16 29 35.6**	**+1.8**
NGP				*e*		16 29 53.2	
NGP				*e*		16 34 04.9	
GYA	**Guiyang**	**25.47**	**22**	P	**P**	**16 29 38.0**	**-1.8**
GYA				AP	pP	16 29 45.2	-2.4
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.7						
GYA				AMB	AMB		
	comp=Z,130nm,4.2s						
GYA				LR	LR		
	comp=N,1μm,

comp=N,2μm,11.3s,MS5.2
QZH LR LR
comp=E,3μm,11.8s,MS5.2
QZH LR LR
comp=Z,4μm,12.8s,MS5.3
PTH Pithoragarh 30.70 332 *e*P **P** **16 30 26.9 -0.1**
NDI New Delhi 31.54 326 *e*P **P** **16 30 32.5 -2.0**
DDI Dehra Dun 32.39 329 *e*P **P** **16 30 41.2 -0.7**
MBWA Marble Bar 33.02 137 *e*P **P** **16 30 46.9 -0.6**
comp=Z,19nm,1.1s,mb4.9
MBWA LR LR
comp=Z,574nm,21.0s,MS4.3
XAN Xi'an 33.17 19 P **P** **16 30 47.0 -1.6**
XAN S **S** **16 36 07.3 +1.9**
XAN AMB AMB
comp=Z,31nm,1.1s,mb5.2
XAN LR LR
comp=N,299nm,15.3s,MS4.8
XAN LR LR
comp=E,1μm,12.8s,MS4.8
XAN LR LR
comp=Z,2μm,12.4s,MS4.9
LZH Lanzhou 33.80 11 ⇓P **P** **16 30 52.5 -1.5**
LZH AP pP 16 31 00.2 -1.8
LZH XP sP 16 31 03.6 -1.8
LZH AMB AMB
comp=Z,39nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,197nm,5.1s
LZH LR LR
comp=N,957nm,13.2s
LZH LR LR
comp=Z,2μm,16.9s,MS4.9
LZH Lanzhou 33.80 11 ⇓P **P** **16 30 52.5 -1.5**
LZH *SP sP 16 31 03.6 -1.8
LZH *e* 16 32 20.5
LZH pmax pmax
comp=Z,39nm,1.4s,mb5.1
LZH MLR MLR
comp=Z,2μm,16.9s,MS4.9
LZH Lanzhou 33.80 11 ⇓P **P** **16 30 52.5 -1.5**
comp=Z,39nm,1.4s,mb5.1
LZH pP pP 16 31 00.2 -1.8
LZH sP sP 16 31 03.6 -1.8
LZH *e*PP PP 16 32 20.5 +13
LZH *e*S S 16 36 36.3 +21
LZH sS 16 36 48.5
LZH SS SS 16 39 05.7 +44
LZH LR LR
comp=Z,2μm,16.9s,MS4.9
PONG Pong 34.77 329 *e*P **P** **16 31 00.0 -2.5**
THN Thein Dam 35.27 329 *e*P **P** **16 31 04.8 -2.0**
THN *e* 16 35 28.1
THN *e* 16 36 31.4
FITZ Fitzroy Crossi 35.53 127 *e*P **P** **16 31 07.8 -1.3**
comp=Z,16nm,0.8s,mb5.0
FITZ Fitzroy Crossi 35.53 127 LR LR 16 47 50.0
comp=Z,416nm,18.7s,MS4.2,baz=284,slow=40
NJ2 Nanjing 35.92 34 *e*P **P** **16 31 12.1 -0.2**
NJ2 AP pP 16 31 21.9 +1.6
NJ2 XP sP 16 31 25.8 +2.1
NJ2 S **S** **16 36 46.0 -2.1**
NJ2 XS 16 37 03.0
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
NJ2 AMB AMB
comp=Z,130nm,5.6s
NJ2 LR LR
comp=N,2μm,12.4s,MS5.2
NJ2 LR LR
comp=E,2μm,13.2s,MS5.2
NJ2 LR LR
comp=Z,1μm,12.4s,MS4.9
GTA Gaotai 36.54 4 P **P** **16 31 17.3 -0.1**
GTA AP pP 16 31 24.8 -0.6
GTA XP sP 16 31 27.7 -1.0
GTA PCP PcP 16 33 41.6 +0.6
GTA AMB AMB
comp=Z,33nm,1.6s,mb4.9
GTA AMB AMB
comp=Z,130nm,7.2s
GTA LR LR
comp=N,484nm,13.7s,MS4.6
GTA LR LR
comp=E,455nm,13.3s,MS4.6
GTA LR LR
comp=Z,586nm,14.1s,MS4.5
SSE Sheshan 36.57 37 *e*P **P** **16 31 14.7 -3.0**
SSE AP pP 16 31 23.7 -2.0
SSE S **S** **16 36 54.2 -3.8**
SSE AMB AMB
comp=Z,24nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,40nm,3.6s
SSE LR LR
comp=N,184nm,13.6s,MS4.6
SSE LR LR
comp=E,628nm,13.6s,MS4.6
SSE LR LR
comp=Z,910nm,13.3s,MS4.7
SSE Sheshan 36.57 37 *e*P **P** **16 31 14.7 -3.0**
comp=Z,24nm,0.8s,mb5.1
SSE pP pP 16 31 23.7 -2.0
SSE sP sP 16 31 27.1 -2.0
SSE S **S** **16 36 54.2 -3.8**
SSE sS 16 37 09.5
SSE SS SS 16 39 35.3 +10
SSE LR LR
comp=Z,910nm,13.3s,MS4.7
BTO Baotou 39.56 16 *e*P **P** **16 31 43.7 +1.0**
BTO AMB AMB
comp=Z,7.0nm,0.5s,mb4.7
KLBR Kellerberrin 39.80 151 *e*P **P** **16 31 46.1 +1.3**
comp=Z,847nm,1.7s
HHC Hu-ho-hao-te 40.24 18 ⇓P **P** **16 31 48.9 +0.6**
HHC AP pP 16 31 56.2 -0.1
HHC XP sP 16 31 59.2 -0.5
HHC PP PP 16 33 25.2 +0.7
HHC PCP PcP 16 33 54.8 +2.3
HHC SCP 16 37 37.1
HHC PCS 16 37 41.1
HHC S **S** **16 37 55.6 +2.1**
HHC SS SS 16 40 49.6 +3.1
HHC SCS ScS 16 41 50.7 -0.1
HHC AMB AMB
comp=Z,36nm,1.3s,mb4.9
HHC AMB AMB
comp=Z,138nm,4.5s
HHC LR LR
comp=N,831nm,13.3s,MS4.9
HHC LR LR
comp=E,729nm,13.5s,MS4.9
HHC LR LR
comp=Z,754nm,13.1s,MS4.7
NWAO Narrogin (SRO) 40.66 153 P **P** **16 31 53.2 +1.3**
comp=Z,25nm,1.1s,mb4.8,baz=339,slow=12,SNR=4.2
NWAO LR LR 16 48 38.5
comp=Z,387nm,19.8s,MS4.3,baz=324,slow=36
KSH Kashi 40.96 336 *e*P **P** **16 31 54.0 -0.2**
KSH *e*AP pP 16 32 01.0 -1.3
KSH *e*XP sP 16 32 04.0 -1.6
KSH *e*PP PP 16 33 31.0 -0.7
KSH *e*PCP PcP 16 33 55.0 +0.2
KSH *e*PPP PPP 16 34 00.1 -1.3
KSH *e*SCP 16 37 42.0
KSH *e*PCS 16 37 45.2
KSH *e*S **S** **16 38 04.1 -0.2**
KSH *e*SS SS 16 40 59.1 -3.0
KSH *e*SCS ScS 16 41 55.0 0.0
KSH AMB AMB
comp=Z,240nm,2.6s,mb5.4
KSH LR LR
comp=N,380nm,4.1s
KSH LR LR
comp=E,420nm,5.1s
BJT Baijiatuau 41.12 23 *e*P **P** **16 31 56.4 +0.9**
BJT pmax pmax
comp=Z,36nm,0.9s
BJT MLR MLR
comp=Z,330nm,19.0s
BJT Baijiatuau 41.12 23 *e*P **P** **16 31 56.4 +0.9**
comp=Z,36nm,0.9s,mb5.0
BJT LR LR
comp=Z,330nm,19.0s,MS4.2
BJI Beijing 41.14 23 *e*P **P** **16 31 56.3 +0.6**
BJI S **S** **16 38 15.7 +8.7**
BJI AMB AMB
comp=Z,43nm,1.4s,mb4.9
BJI LR LR
comp=N,678nm,12.3s,MS4.8
BJI LR LR
comp=E,523nm,14.7s,MS4.8
BJI LR LR
comp=Z,221nm,17.4s,MS4.1
BJI Beijing 41.14 23 *e*P **P** **16 31 56.3 +0.6**
BJI pmax pmax
comp=Z,43nm,1.4s,mb4.9
BJI MLR MLR
comp=Z,220nm,17.4s,MS4.1
BJI Beijing 41.14 23 *e*P **P** **16 31 56.3 +0.6**
comp=Z,43nm,1.4s,mb4.9
BJI S **S** **16 38 15.7 +8.7**
BJI LR LR
comp=Z,220nm,17.4s,MS4.1
WBK Wadi Bani Khal 41.27 302 P **P** **16 31 58.9 +2.1**
SNR=12
WMQ Urumqi 41.54 350 ⇑P **P** **16 31 59.3 +0.4**
WMQ AP pP 16 32 06.8 -0.2
WMQ XP sP 16 32 09.9 -0.4
WMQ PP PP 16 33 38.7 +0.7
WMQ PCP PcP 16 33 56.8 +0.1
WMQ S **S** **16 38 13.3 +0.5**
WMQ XS 16 38 26.3
WMQ AMB AMB
comp=Z,15nm,1.3s,mb4.5
WMQ AMB AMB
comp=Z,136nm,5.4s
WMQ LR LR
comp=N,334nm,18.8s,MS4.2
WMQ LR LR
comp=E,136nm,21.1s,MS4.2
WMQ LR LR
comp=Z,191nm,18.8s,MS4.0
JMDO Jabal Madar 41.91 301 ⇑P **P** **16 32 03.2 +0.9**
BIDO Bidbid 42.34 302 ⇓P **P** **16 32 07.2 +1.4**
DL2 Dalian 42.63 29 P **P** **16 32 08.6 +0.6**
DL2 *e*S **S** **16 38 33.5 +4.5**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
DL2 LR LR
comp=N,170nm,18.8s,MS4.4
DL2 LR LR
comp=E,390nm,17.5s,MS4.4
DL2 LR LR
comp=Z,300nm,14.7s,MS4.3
BSY Bisya 42.83 301 P **P** **16 32 11.4 +1.6**
SNR=14
ULHL Ulahol 43.19 338 P **P** **16 32 12.7 +0.2**
SNR=36
KZA Kyzart 43.42 337 P **P** **16 32 15.1 +0.7**
SNR=21
WRA Warramunga Arr 43.58 123 P **P** **16 32 15.0 -0.9**
comp=Z,18nm,0.9s,mb4.8,baz=301,slow=9.1,SNR=77
WRA S **S** **16 38 40.4 -2.6**
comp=Z,4.2nm,1.3s,baz=295,slow=16,SNR=5.0
WRAB Tennant Creek 43.58 123 *d iP* **P** **16 32 15.7 -0.2**
WRAB Tennant Creek 43.58 123 *e*P **P** **16 32 15.7 -0.3**
comp=Z,145nm,1.4s,mb5.5
WRAB *e*pP pP 16 32 24.3 +0.3
WRAB LR LR
comp=Z,161nm,21.0s,MS3.9
WB2 Warramunga Arr 43.59 123 ⇓ *iP* **P** **16 32 15.6 -0.4**
UCH Uchtor 43.84 336 P **P** **16 32 18.8 +1.1**
SNR=42
TKM2 Tokmak 2 44.01 338 P **P** **16 32 19.6 +0.4**
SNR=38
KBK Karagaybulak 44.03 337 P **P** **16 32 20.5 +1.2**
SNR=46
AML Almayashu 44.09 336 P **P** **16 32 20.9 +1.1**
SNR=48
AAK Ala-Archa 44.19 337 P **P** **16 32 22.0 +1.4**
SNR=25
AAK Ala-Archa 44.19 337 P **P** **16 32 20.9 +0.3**
comp=Z,149nm,1.0s,mb5.7,SNR=44
AAK Ala-Archa 44.19 337 *e*P **P** **16 32 20.4 -0.2**
AAK pmax pmax
comp=Z,51nm,1.3s,mb5.1
AAK MLR MLR
comp=Z,82nm,21.0s,MS3.6
AAK Ala-Archa 44.19 337 *e*P **P** **16 32 20.4 -0.2**
comp=Z,51nm,1.3s,mb5.1
AAK LR LR
comp=Z,82nm,21.0s,MS3.6
FRU Bishkek 44.31 337 *e*P **P** **16 32 22.0 +0.4**
FRU pmax pmax
comp=Z,130nm,2.1s,mb5.3
WHFO Wadi Hawf 44.39 293 P **P** **16 32 23.2 +0.7**
SNR=13
CHMS Chumysh 44.40 337 P **P** **16 32 22.4 +0.1**
SNR=13
ASHO Ashiyiah 44.53 303 P **P** **16 32 24.7 +1.1**
SNR=15
BANOM Banah 44.82 305 ⇑P **P** **16 32 26.5 +0.6**
ASPA Alice Springs 45.01 128 ⇓ *iP* **P** **16 32 27.3 -0.2**
ASAR Alice Springs 45.02 128 P **P** **16 32 27.2 -0.3**
comp=Z,6.4nm,0.6s,mb4.6,baz=299,slow=8.0,SNR=75
ASAR LR LR 16 54 14.4
comp=Z,217nm,19.2s,MS4.1,baz=306,slow=40
FORT Forrest 45.03 140 *e*P **P** **16 32 28.5 +1.0**
comp=Z,735nm,0.7s
MKAR Makanchi Array 45.47 346 *i* P **P** **16 32 30.4 -0.4**
MKAR pmax pmax
comp=Z,68nm,1.0s
MKAR Makanchi Array 45.47 346 P **P** **16 32 30.2 -0.5**
comp=Z,26nm,0.7s,mb5.2,baz=162,slow=7.7,SNR=323
MKAR LR LR 16 55 21.8
comp=Z,139nm,19.1s,MS3.9,baz=156,slow=41
SONM Songino Array 45.65 9 P **P** **16 32 32.2 0.0**
comp=Z,28nm,1.0s,mb5.1,baz=189,slow=8.9,SNR=98
SONM PcP PcP 16 34 10.7 +0.1
comp=Z,8.4nm,0.9s,baz=190,slow=3.5,SNR=7.1
ULN Ulaanbaatar 45.79 10 *e*P **P** **16 32 32.7 -0.6**
ULN pmax pmax
comp=Z,41nm,1.4s,mb5.2
ULN MLR MLR
comp=Z,264nm,21.0s,MS4.2
ULN Ulaanbaatar 45.79 10 *e*P **P** **16 32 32.7 -0.6**
comp=Z,41nm,1.4s,mb5.2
ULN LR LR
comp=Z,264nm,21.0s,MS4.2
SNY Shenyang 45.84 28 ⇓P **P** **16 32 32.4 -1.3**
SNY AP pP 16 32 40.8 -1.0
SNY XP sP 16 32 44.6 -0.5
SNY AMB AMB
comp=Z,20nm,2.7s,mb4.6
SNY AMB AMB
comp=Z,130nm,3.3s
SNY LR LR
comp=N,340nm,13.7s,MS4.7
SNY LR LR
comp=E,510nm,11.8s,MS4.7
SNY LR LR
comp=Z,580nm,12.8s,MS4.7
KKAR Karatay Array 46.25 334 *i* P **P** **16 32 37.1 +0.2**
KKAR pmax pmax
comp=Z,49nm,1.5s,mb5.2
CN2 Changchun 48.23 28 *e*P **P** **16 32 51.3 -1.2**
CN2 *e*XP sP 16 33 03.0 -0.9
CN2 *e*S **S** **16 39 48.4 -0.8**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,14.0s,MS4.9
CN2 LR LR
comp=E,600nm,14.0s,MS4.9
CN2 LR LR
comp=Z,800nm,15.0s,MS4.8
MOY Mondy 48.81 4 *e*P **P** **16 32 56.9 0.0**
MOY pmax pmax
comp=Z,32nm,2.9s,mb4.8
GUMO Guam 49.05 75 PFAKE 16 33 10.0 +11
GUMO LR LR
comp=Z,380nm,21.0s,MS4.4
TLY Talaya 49.05 6 *e*P **P** **16 32 58.5 -0.3**
TLY *e* 16 44 42.1
TLY pmax pmax
comp=Z,22nm,1.1s,mb5.1
TLY MLR MLR
comp=Z,367nm,16.0s,MS4.5
TLY Talaya 49.05 6 *e*P **P** **16 32 59.0 +0.2**
comp=Z,47nm,1.5s,mb5.3
TLY LR LR
comp=Z,57nm,22.0s,MS3.5
IRK Irkutsk 49.67 6 *e*P **P** **16 33 03.2 -0.3**
IRK pmax pmax
comp=Z,48nm,1.8s,mb5.2
KURK Kurchatov 50.02 345 *d iP* **P** **16 33 05.7 -0.5**
KURK pmax pmax
comp=Z,43nm,1.6s,mb5.2
KURK Kurchatov 50.02 345 *e*P **P** **16 33 05.5 -0.7**
comp=Z,97nm,1.5s,mb5.6
KURK LR LR
comp=Z,100nm,21.0s,MS3.8
HIA Hailar 50.37 20 *e*P **P** **16 33 08.2 -0.7**
HIA pmax pmax
comp=Z,59nm,1.2s
HIA MLR MLR
comp=Z,307nm,20.0s
HIA Hailar 50.37 20 *e*P **P** **16 33 08.2 -0.7**
comp=Z,59nm,1.2s,mb5.5
HIA LR LR
comp=Z,307nm,20.0s,MS4.3
MDJ Mudanjiang 50.85 30 P **P** **16 33 12.4 -0.2**
MDJ AP pP 16 33 18.2 -2.6
MDJ PCP PcP 16 34 28.5 -0.8
MDJ PP PP 16 35 08.9 -0.8
MDJ SCP 16 38 23.4
MDJ PCS 16 38 25.9
MDJ S **S** **16 40 28.6 +3.0**
MDJ AMB AMB
comp=Z,11nm,1.4s,mb4.6
MDJ AMB AMB
comp=Z,85nm,5.7s
MDJ LR LR
comp=N,488nm,12.7s,MS4.9
MDJ LR LR
comp=E,500nm,11.7s,MS4.9
MDJ LR LR
comp=Z,819nm,12.7s,MS4.9
MDJ Mudanjiang 50.85 30 *e*P **P** **16 33 12.2 -0.4**
comp=Z,14nm,1.3s,mb4.7
MDJ LR LR
comp=Z,309nm,19.0s,MS4.3
MAJO Matsushiro 51.04 44 PFAKE 16 33 30.0 +16
MAJO LR LR
comp=Z,261nm,20.0s,MS4.2
ZAL Zalesovo 51.82 351 P **P** **16 33 18.9 -0.9**
comp=Z,27nm,1.2s,mb5.1,baz=297,slow=7.3,SNR=64
ZAL LR LR 16 59 08.7
comp=Z,164nm,19.5s,MS4.1,baz=295,slow=41
PMG Port Moresby 52.01 104 *e*P **P** **16 33 21.3 -0.5**
PMG MLR MLR
comp=Z,216nm,21.0s
PMG Port Moresby 52.01 104 LR LR 16 58 50.6
comp=Z,180nm,18.6s,MS4.1,baz=269,slow=40
OPO Ambohidratompo 52.89 244 P **P** **16 33 28.4 +0.1**
comp=Z,3.5nm,0.8s,mb4.4,baz=74,slow=8.1,SNR=6.3
NVS Novosibirsk 52.94 350 ⇓ *iP* **P** **16 33 26.2 -2.0**
NVS *i* S **S** **16 40 56.5 +2.4**
NVS pmax pmax
comp=Z,37nm,1.4s,mb5.1
NVS pmax pmax
comp=N,42nm,1.6s
NVS pmax pmax
comp=E,21nm,1.4s
NVS smax
comp=N,24nm,2.2s
NVS smax
comp=E,8.0nm,1.4s
RAYN Ar Rayn 53.30 297 P **P** **16 33 31.8 +0.5**
comp=E,112nm,0.8s,SNR=19
ATD Arta Tunnel 53.75 282 LR LR 16 54 41.2
comp=E,84nm,18.6s,MS3.8,baz=124,slow=34
CTA Charters Tower 53.95 117 LR LR 16 59 07.4
comp=E,274nm,21.1s,MS4.3,baz=288,slow=39
CTAO Charters Tower 53.95 117 *e*P **P** **16 33 35.7 -0.3**
CTAO pmax pmax
comp=Z,16nm,0.9s,mb5.0
CTAO MLR MLR
comp=Z,347nm,21.0s,MS4.4
CTAO Charters Tower 53.95 117 *e*P **P** **16 33 35.7 -0.3**
comp=Z,16nm,0.9s,mb4.9
CTAO LR LR
comp=Z,347nm,21.0s,MS4.4
BVA0 Borovoye Array 54.45 341 P **P** **16 33 38.0 -1.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BVAR Borovoye Array 54.45 341 P **P** **16 33 37.9 -1.4**
comp=Z,8.6nm,0.7s,mb4.8,baz=143,slow=7.4,SNR=42
CHKZ Chkalovo 54.93 342 *i* P **P** **16 33 41.7 -1.2**
CHKZ pmax pmax
comp=Z,25nm,0.9s,mb5.2
STKA Stephens Creek 55.04 133 ⇓ *iP* **P** **16 33 43.6 -0.4**
comp=Z,14nm,1.2s,mb4.8
STKA Stephens Creek 55.04 133 P **P** **16 33 43.5 -0.5**
comp=Z,15nm,0.9s,mb5.0,baz=304,slow=6.0,SNR=18
STKA LR LR 16 59 47.2
comp=Z,438nm,21.0s,MS4.5,baz=114,slow=39
KLR Kul'dur 55.17 28 *e*P **P** **16 33 40.8 -3.9**
KLR pmax pmax
comp=E,23nm,1.2s
KLR pmax pmax
comp=Z,26nm,1.2s,mb5.1
KLR MLR MLR
comp=E,600nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.4
BOD Bodaibo 56.56 11 *e*P **P** **16 33 52.8 -1.8**
BOD pmax pmax
comp=Z,27nm,1.2s,mb5.2
CLNS Chul'man 58.43 18 *c iP* **P** **16 34 08.2 +0.5**
CLNS *e* 16 35 01.6
CLNS *e* 16 36 14.7
CLNS *e*PS **S** **16 42 02.7 -4.6**
CLNS pmax pmax
comp=Z,12nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CLNS pmax pmax
comp=N,6.0nm,0.6s
CLNS MLR MLR
comp=Z,900nm,13.0s,MS5.1
CLNS MLR MLR
comp=N,600nm,13.0s,MS4.9
CLNS MLR MLR
comp=E,200nm,13.0s,MS4.9
KMBO Kilima Mbogo 59.26 267 *e*P **P** **16 34 14.4 +0.3**
KMBO pmax pmax
comp=Z,71nm,1.9s
KMBO MLR MLR
comp=Z,277nm,20.0s
KMBO Kilima Mbogo 59.26 267 P **P** **16 34 14.9 +0.8**
comp=Z,9.1nm,0.8s,mb4.8,baz=59,slow=10,SNR=34
KMBO LR LR 16 57 33.5
comp=Z,259nm,18.3s,MS4.4,baz=102,slow=34
KMBO Kilima Mbogo 59.26 267 *e*P **P** **16 34 14.4 +0.3**
comp=Z,71nm,1.9s,mb5.4
KMBO LR LR
comp=Z,277nm,20.0s,MS4.4
YSS Yuzh-Sakhalins 59.47 35 *e*P **P** **16 34 13.8 -1.2**
YSS pmax pmax
comp=Z,40nm,1.2s,mb5.3
GNI Garni 59.57 316 P **P** **16 34 15.9 0.0**
comp=Z,7.6nm,0.7s,mb4.8,baz=184,slow=8.4,SNR=7.9
GNI Garni 59.57 316 *e*P **P** **16 34 15.5 -0.4**
comp=Z,31nm,1.2s,mb5.2
GNI LR LR
comp=Z,138nm,19.0s,MS4.1
TI2 Plekhanov 60.24 317 *e*P **P** **16 34 18.4 -2.0**
DUS Dusheti 60.42 318 P **P** **16 34 26.9 +5.2**
SVE Sverdlovsk 60.88 338 ⇑ *iP* **P** **16 34 23.5 -1.1**
SVE pmax pmax
comp=Z,46nm,1.3s,mb5.5
ARU Arti 61.38 337 ⇓ *iP* **P** **16 34 26.2 -1.7**
ARU *e* 16 35 09.2
ARU *e* 16 36 44.6
ARU *e*S **S** **16 42 46.2 +1.0**
ARU *e*SS SS 16 46 43.7 -3.8
ARU pmax pmax
comp=Z,30nm,1.5s,mb5.2
ARU Arti 61.38 337 *e*P **P** **16 34 25.6 -2.4**
comp=Z,57nm,1.6s,mb5.5

ARU LR LR
comp=Z,85nm,19.0s,MS3.9
KIV Kislovodsk 62.56 319 *e*P **P 16 34 35.5 -0.6**
KIV *e**PP pP 16 34 44.0 -0.4
KIV pmax pmax
comp=Z,28nm,1.0s,mb5.3
KIV Kislovodsk 62.56 319 *e*P **P 16 34 35.5 -0.5**
comp=Z,28nm,1.0s,mb5.3
KIV *e*pP pP 16 34 44.0 -0.4
KIV LR LR
comp=Z,30nm,20.0s,MS3.5
GOF Gofitskoye 62.80 320 ⇓*i*P **P 16 34 36.8 -0.8**
GOF pmax pmax
comp=Z,130nm,2.5s,mb5.6
ASF Jabal al Asfar 62.88 305 LR LR 17 01 54.2
comp=Z,204nm,19.8s,MS4.3,baz=108,slow=36
MALT Malatya 63.45 312 *e*P **P 16 34 41.7 -0.3**
MALT pmax pmax
comp=Z,17nm,1.1s,mb5.1
MALT Malatya 63.45 312 *e*P **P 16 34 41.7 -0.3**
comp=Z,17nm,1.1s,mb5.1
YAK Yakutsk 64.09 17 *e*P **P 16 34 44.3 -1.5**
YAK *e**PP pP 16 34 55.1 +0.9
YAK *e* 16 35 17.0
YAK *e* 16 37 00.4
YAK *e*S **S 16 43 18.0 -1.1**
YAK *e* 16 44 31.8
YAK pmax pmax
comp=Z,36nm,1.1s,mb5.3
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
YAK smax
comp=E,3.0nm,1.1s
YAK MLR MLR
comp=Z,305nm,15.0s,MS4.6
YAK MLR MLR
comp=N,307nm,14.0s,MS4.7
YAK MLR MLR
comp=E,195nm,15.0s,MS4.7
YAK Yakutsk 64.09 17 *e*P **P 16 34 44.4 -1.5**
comp=E,122nm,1.3s,mb5.8
YAK LR LR
comp=Z,284nm,19.0s,MS4.5
SOC Sochi 64.38 318 *e*P **P 16 34 45.2 -2.9**
SOC *e* 16 35 23.5
SOC *e* 16 37 08.2
SOC *e*S **S 16 43 19.2 -3.9**
SOC *e* 16 44 41.2
SOC *e*SS SS 16 47 32.5 -2.3
SOC pmax pmax
comp=Z,24nm,1.1s,mb5.1
SOC pmax pmax
comp=N,3.0nm,0.5s
SOC pmax pmax
comp=E,17nm,0.8s
MBAR Mbarara 65.73 268 *e*P **P 16 34 56.6 -0.7**
MBAR pmax pmax
comp=Z,41nm,1.5s,mb5.2
MBAR MLR MLR
comp=Z,39nm,20.0s,MS3.6
MBAR Mbarara 65.73 268 *e*P **P 16 34 56.6 -0.6**
comp=Z,41nm,1.5s,mb5.2
MBAR LR LR
comp=Z,39nm,20.0s,MS3.6
BRTR Keskin Array B 67.43 312 P **P 16 35 06.3 -1.4**
comp=Z,3.7nm,0.8s,mb4.5,baz=139,slow=7.0,SNR=14
CASY Casey 69.70 174 PFAKE 16 35 30.0 +8.8
CASY LR LR
comp=Z,622nm,22.0s,MS4.8
LSZ Lusaka 69.83 253 *e*P **P 16 35 22.4 -0.4**
LSZ pmax pmax
comp=Z,20nm,1.4s,mb4.8
LSZ MLR MLR
comp=Z,173nm,21.0s,MS4.3
LSZ Lusaka 69.83 253 *e*P **P 16 35 22.4 -0.4**
comp=Z,20nm,1.4s,mb4.8
LSZ LR LR
comp=Z,173nm,21.0s,MS4.3
MA2 Magadan 70.22 26*d i*P **P 16 35 23.8 -0.7**
MA2 pmax pmax
comp=Z,14nm,1.3s,mb4.7
MA2 Magadan 70.22 26 *e*P **P 16 35 23.8 -0.6**
comp=Z,28nm,1.4s,mb5.0
MA2 *e*pP pP 16 35 32.1 -0.8
MOS Moscow 70.53 329 *e*P **P 16 35 24.9 -1.6**
MOS *e* 16 35 46.2
MOS *e* 16 38 02.9
MOS pmax pmax
comp=Z,108nm,1.5s,mb5.6
OBN Obninsk 70.82 328*d i*P **P 16 35 27.2 -1.0**
OBN *e*S S 16 44 47.4 +7.3
OBN *e*SS SS 16 49 21.6 +7.0
OBN pmax pmax
comp=Z,45nm,1.2s,mb5.3
OBN Obninsk 70.82 328 *e*P **P 16 35 26.1 -2.1**
comp=Z,143nm,1.5s,mb5.7
TIXI Tiksi 71.73 10 *e*P **P 16 35 29.2 -4.3**
TIXI pmax pmax
comp=Z,26nm,1.6s,mb4.9
TIXI MLR MLR
comp=Z,289nm,14.0s,MS4.7
SEY Seymchan 72.58 23 *e*P **P 16 35 36.6 -2.0**
SEY 16 35 49.0
SEY *e* 16 38 18.2
SEY *e*S S 16 45 00.7 +0.5
SEY *e* 16 45 34.1
SEY *e*SS SS 16 49 31.6 -10
SEY *e*SSS SSS 16 52 48.4 -2.8
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
DZM Mont Dzumac 72.67 114 LR LR 17 09 00.7
comp=Z,176nm,18.1s,MS4.4,baz=216,slow=37
AKASG Malin Array Be 73.48 322 P **P 16 35 42.4 -1.7**
comp=Z,3.3nm,0.6s,mb4.4,baz=87,slow=4.8,SNR=24
AKASG Malin Array Be 73.48 322 P **P 16 35 42.4 -1.7**
LBTB Lobatse 73.90 243 LR LR 17 04 32.8
comp=Z,211nm,18.8s,MS4.5,baz=99,slow=33
MNK Minsk 75.36 326 *e*P **P 16 35 51.0 -3.9**
LVV L'vov 76.51 321 *i*P **P 16 35 59.9 -1.6**
APA Apatity 77.33 339⇓*i*P **P 16 36 04.8 -0.9**
APA pmax pmax
comp=Z,34nm,1.3s,mb5.1
KOLS Kolonicke sedl 77.47 319 *e*P **P 16 36 07.7 +0.9**
KOLS *e* 16 36 13.6
KOLS *e* 16 36 21.4
SUW Suwalki 77.89 325 *e*P **P 16 36 08.4 -0.6**
CRVS Cervenica-Dubn 77.99 319 *e*P **P 16 36 11.0 +1.4**
CRVS *e* 16 36 28.5
FINES FINESS Array B 78.19 332 P **P 16 36 10.2 -0.3**
comp=Z,3.5nm,0.6s,mb4.5,baz=97,slow=6.4,SNR=20
FINES LR LR 17 15 43.2
comp=Z,146nm,20.1s,MS4.3,baz=148,slow=40
KAF Kangasniemi 78.27 333 *e*p **P 16 36 06.8 -4.1**
comp=Z,10nm,0.9s,mb4.8,baz=103,slow=5.2
KAF Kangasniemi 78.27 333 *e*P **P 16 36 06.8 -4.1**
KAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
NIE Niedzica 78.81 320 *e*P **P 16 36 14.0 -0.2**
PSZ Piszkesteto 78.87 318 *e*P **P 16 36 14.5 0.0**
PSZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PSZ Piszkesteto 78.87 318 *e*P **P 16 36 14.5 0.0**
comp=Z,7.9nm,0.8s,mb4.7
PSZ Piszkesteto 78.87 318⇓*e*sP **P 16 36 14.8 +0.3**
OJC Ojcow 79.26 321 *e*P **P 16 36 16.6 0.0**
VYHS Vyhne 79.65 319 *e*P **P 16 36 18.5 -0.2**
VYHS *e* 16 36 23.9
VYHS *e* 16 39 16.0
VYHS Vyhne 79.65 319 *e*P **P 16 36 18.5 -0.2**
VYHS *e* 16 36 23.9
VYHS *e* 16 36 41.9
VYHS *e*PP PP 16 39 16.0 -5.2
SRO Srobarova 79.91 318 *e*P **P 16 36 19.6 -0.5**
BILL Bilibino 79.93 21 *i*P **P 16 36 18.6 -1.3**
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BILL MLR MLR
comp=Z,300nm,13.0s,MS4.8
BILL Bilibino 79.93 21 PFAKE 16 36 30.0 +10
BILL LR LR
comp=Z,212nm,19.0s,MS4.5
OKC Ostrava-Krasne 80.27 320 *e*P **P 16 36 22.3 +0.3**
MORC Moravsky Berou 80.65 320 *e*P **P 16 36 24.1 +0.1**
MORC pmax pmax
comp=Z,19nm,1.4s,mb4.8
MORC Moravsky Berou 80.65 320 *e*P **P 16 36 24.1 +0.1**
comp=Z,19nm,1.4s,mb4.8
ARCES ARCESS Array B 80.74 340 P **P 16 36 24.2 +0.1**
comp=Z,5.7nm,0.6s,mb4.7,baz=96,slow=5.0,SNR=36
ARCES LR LR 17 16 10.3
comp=Z,171nm,18.5s,MS4.4,baz=84,slow=39
ZST Bratislava 80.76 318 *e*P **P 16 36 25.4 +0.7**
DPC Dobruska-Polom 81.49 320 *e*P **P 16 36 29.0 +0.6**
KSP Ksiaz 81.56 321 *e*P **P 16 36 29.5 +0.7**
KSP Ksiaz 81.56 321 *e*P **P 16 36 29.6 +0.8**
UPC Upice 81.70 320 *e*P **P 16 36 30.2 +0.7**
BOJS Bojanci 81.78 315 *e*P **P 16 36 30.3 +0.3**
PERS Pernice 81.96 317 *e*P **P 16 36 31.5 +0.6**
PERS *e* 16 36 46.4
PRU Pruhonice 82.60 320 *e*P **P 16 36 34.5 +0.3**
PVCC Panska Ves 82.62 320 *e*P **P 16 36 35.2 +0.9**
PTQR Pietraquaria 82.91 312 *e*P **P 16 36 36.6 +0.6**
AQU L'Aquila 82.92 312 *e*P **P 16 36 36.8 +0.8**
ROBS Robic 83.04 316 *e*P **P 16 36 36.4 -0.2**
BRG Berggiesshubel 83.05 321 *e*P **P 16 36 37.0 +0.5**
BRG *e* 16 36 51.8
BRG *e* 16 39 47.4
BRG pmax pmax
comp=Z,24nm,1.7s,mb5.0
BRG Berggiesshubel 83.05 321 *e*P **P 16 36 37.0 +0.5**
comp=Z,24nm,1.6s,mb5.0
BRG *e* 16 36 51.8
BRG *e* 16 39 47.4
GEC2 GERESS Array S 83.07 319 *e*P **P 16 36 37.3 +0.7**
GEC2 pmax pmax
comp=Z,40nm,1.5s,mb5.2
GEC2 GERESS Array S 83.07 319 *e*P **P 16 36 37.3 +0.7**
comp=Z,40nm,1.5s,mb5.2
GERES GERESS Array B 83.07 319 P **P 16 36 36.9 +0.3**
comp=Z,5.6nm,1.0s,mb4.6,baz=90,slow=5.3,SNR=33
GERES LR LR 17 18 18.8
comp=Z,62nm,20.0s,MS4.0,baz=94,slow=39
PTCC Patocco-Chiusa 83.16 316 *e*P **P 16 36 37.3 +0.2**
KHC Kasperske Hory 83.17 319 *e*P **P 16 36 37.6 +0.5**
WET Wettzell 83.63 319 *e*P **P 16 36 40.1 +0.6**
WET pmax pmax
comp=Z,15nm,1.3s,mb5.0
WET Wettzell 83.63 319 *e*P **P 16 36 40.1 +0.6**
comp=Z,15nm,1.3s,mb5.0
CLL Collm 83.67 321⇓*i*P **P 16 36 39.5 -0.2**
CLL pmax pmax
comp=Z,12nm,1.3s,mb4.9
CLL Collm 83.67 321⇓*i*P **P 16 36 39.5 -0.2**
comp=Z,12nm,1.3s,mb4.9
CLL Collm 83.67 321 ⇓P **P 16 36 39.5 -0.2**
comp=Z,logA/T=1.0,mb4.9
CLL *e* 16 37 03.0
NKC Novy Kostel 83.96 320 *e*P **P 16 36 40.0 -1.2**
SFI Santa Sofia 84.12 314 *e*P **P 16 36 43.8 +1.7**
PGD Poggio Sodo 84.21 314 *e*P **P 16 36 44.3 +1.7**
MOX Moxa 84.51 320 *e*P **P 16 36 44.0 +0.1**
GRA1 Grafenberg Arr 84.73 319 *e*P **P 16 36 45.4 +0.4**
comp=Z,15nm,1.0s,mb5.1
GRF Grafenberg Arr 84.73 319 *e*P **P 16 36 45.4 +0.4**
GRF pmax pmax
comp=Z,15nm,1.0s,mb5.1
GRF Grafenberg Arr 84.73 319 *e*P **P 16 36 45.4 +0.4**
GRF pmax pmax
comp=Z,15nm,1.0s,mb5.1
GRF Grafenberg Arr 84.73 319 *e*P **P 16 36 45.4 +0.4**
comp=Z,15nm,1.0s,mb5.1
NB2 NORSAR Subarra 85.20 331 P **P 16 36 47.0 -0.1**
comp=Z,1.1nm,0.7s,mb4.1,baz=97,slow=5.3
NOA NORSAR Array B 85.20 331 P **P 16 36 47.4 +0.2**
comp=Z,7.6nm,1.1s,mb4.7,baz=93,slow=5.1,SNR=5.2
NOA LR LR 17 22 00.4
comp=Z,97nm,20.0s,MS4.2,baz=70,slow=41
BRMO Bormio 85.22 316 *e*P **P 16 36 48.6 +1.0**
CLZ Clausthal 85.33 322 *e*P **P 16 36 48.5 +0.5**
comp=Z,15nm,1.3s,mb5.0
DAVOX Davos 85.57 317 LR LR 17 17 21.1
comp=Z,50nm,20.6s,MS3.9,baz=86,slow=37
TNS Taunus Mts 86.53 320 *e*P **P 16 36 54.4 +0.4**
BFO Black Forest 86.62 318 *e*P **P 16 36 54.1 -0.4**
BFO pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
BFO Black Forest 86.62 318 *e*P **P 16 36 54.1 -0.4**
comp=Z,5.0nm,0.7s,mb4.8
VNDA Vanda 87.57 169 P **P 16 36 59.3 +0.8**
comp=Z,1.5nm,0.7s,mb4.3,baz=319,slow=8.0,SNR=7.8
LPG La Plagne 87.75 315 *e*P **P 16 37 00.2 +0.2**
comp=Z,8.0nm,0.7s,mb4.8
LPG La Plagne 87.75 315 *e*P **P 16 37 00.2 +0.2**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
IMA Indian Mountai 95.39 23 *e*P **P 16 37 36.3 +1.3**
COLA College 98.09 23 *i*P **P 16 37 47.2 0.0**
DBIC Dimbokro 100.84 277 PFAKE 16 38 10.0 +9.1
DBIC LR LR
comp=Z,114nm,19.0s,MS4.4
YKA Yellowknife Ar 110.73 15 PP PP 16 43 15.9 -7.9
comp=Z,1.0nm,1.1s,baz=322,slow=7.1,SNR=7.1
TBI Tubuai 113.25 114 *e*LR LR 17 16 54.1
comp=Z,143nm,30.8s
PPT Papeete 113.74 108 *e*SP SP 16 53 18.5 +3.3
PPT *e*LR LR 17 17 08.0
comp=Z,163nm,31.2s
SCHQ Schefferville 120.88 349 PKP PKPdf 16 43 03.6 -3.3
comp=Z,2.1nm,0.6s,baz=268,slow=1.2,SNR=6.7
ULM Lac du Bonnet 126.08 10 PKP PKPdf 16 43 13.4 -3.6
comp=Z,3.1nm,0.6s,baz=354,slow=4.1,SNR=7.4
HLID Hailey 126.14 27 PFAKE 16 43 30.0 +13
HLID LR LR
comp=Z,605nm,20.0s,MS5.3
RKT Rikitea 126.38 117 *e*LR LR 17 22 58.9
comp=Z,134nm,35.5s
NVAR Mina Array Bea 127.91 35 PKP PKPdf 16 43 18.8 -2.1
comp=Z,1.4nm,0.8s,baz=35,slow=0.2,SNR=7.8
PDAR Pinedale Array 128.91 24 PKP PKPdf 16 43 19.9 -2.7
comp=Z,0.8nm,0.6s,baz=315,slow=2.1,SNR=7.7
HWUT Hardware Ranch 128.98 27 *e*PKPdf PKPdf 16 43 19.5 -3.4
HWUT LR LR
comp=Z,171nm,21.0s,MS4.7
MSU Marysvale 131.12 30 *e*PKIKP PKPdf 16 43 24.9 -2.1
PV10 Paradox Valley 132.73 27 *e*PKPdf PKPdf 16 43 27.4 -2.6
SDCO Great Sand Dun 134.80 25 PFAKE 16 43 40.0 +6.1
SDCO LR LR
comp=Z,248nm,20.0s,MS4.9
ANMO Albuquerque 136.72 28 PKP PKPdf 16 43 35.6 -1.8
comp=Z,1.5nm,0.7s,baz=132,slow=3.1,SNR=4.3
ACSO Alum Creek Sta 137.14 359 PFAKE 16 43 50.0 +12
ACSO LR LR
comp=Z,920nm,22.0s,MS5.5
PLCA Paso Flores 140.48 196 PKP PKPdf 16 43 41.3 -2.8
comp=Z,2.1nm,0.9s,baz=63,slow=5.0,SNR=3.5
OXF Oxford 142.45 8 PFAKE 16 44 00.0 +12
OXF LR LR
comp=Z,518nm,19.0s,MS5.3
TXAR Lajitas Array 142.68 30 PKhKP 16 43 42.3
comp=Z,0.3nm,0.5s,baz=207,slow=5.6,SNR=6.3
BDFB Brasilia 142.73 248 PKP PKPdf 16 43 48.0 -0.8
comp=Z,1.8nm,0.4s,baz=76,slow=3.0,SNR=3.6
CFAA Coronel Fontan 147.93 205 PKPbc PKPdf 16 43 57.1 -0.1
comp=Z,1.2nm,0.6s,baz=149,slow=2.9,SNR=15
LPAZ La Paz 159.75 228 PKP PKPdf 16 44 11.8 -2.3
comp=Z,1.0nm,0.6s,baz=58,slow=7.1,SNR=4.7
LPAZ PKPab PKPab 16 44 51.2 +0.8
comp=Z,2.6nm,0.8s,baz=131,slow=3.4,SNR=7.5

NEIC ***02*** *16:25:02.4, 44.73N, 10.07E, h1km, ML2.9(LDG), ML2.9(VIE), ML2.8(ROM), ML2.5(GEN), After GEN.*
GEN ***02*** *16:25:02.4, 44.73N, 10.07E, h1km, ML2.5*
ROM ***02*** *16:25:03.9±0.3, 44.60N, 9.99E, h10km±3km, MD2.8/13, ML2.2/11, Error ellipse: s-maj=2.3km s-min=1.6km az=0.0*
CSEM ***02*** *16:25:03.1±0.1, 44.54N, 10.03E, h20km, ML2.9/15, Error ellipse: s-maj=1.2km s-min=1.0km az=176.0*
LDG ***02*** *16:25:05.4±0.1, 44.62N, 9.91E, h10km, Ml2.9/15, Error ellipse: s-maj=4.3km s-min=3.2km az=31.0*
ISC 02 16:25:02.6±0.2,**44.67N**±0.01×**9.94E**±0.02,**h10**km,**n111,**

σ1§22/184,**6C-2D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRAM		**0.20**	**153**	P	**Pg**	**16 25 07.8**	**+0.8**
GRAM				S	**Sg**	**16 25 11.2**	**+1.2**
GRAM		**0.20**	**153**	P	**Pg**	**16 25 07.8**	**+0.8**
CODM		**0.29**	**192**	P	**Pg**	**16 25 09.8**	**+1.2**
CODM				S	**Sg**	**16 25 15.2**	**+2.6**
CODM		**0.29**	**192**	P	**Pg**	**16 25 09.8**	**+1.2**
BOB	**Bobbio (Coli)**	**0.36**	**285**	*e*PG	**Pg**	**16 25 12.3**	**+2.3**
BOB				SG	**Sg**	**16 25 19.7**	**+4.8**
BOB	**Bobbio (Coli)**	**0.36**	**285**	*e*Pg	**Pg**	**16 25 12.3**	**+2.3**
BOB				*e*Sg	**Sg**	**16 25 19.7**	**+4.8**
VALM		**0.39**	**145**	P	**Pg**	**16 25 10.3**	**-0.4**
VALM				S	**Sg**	**16 25 16.6**	**+0.6**
VALM		**0.39**	**145**	P	**Pg**	**16 25 10.3**	**-0.3**
VALM				S	**Sg**	**16 25 16.6**	**+0.6**
BACM		**0.41**	**166**	P	**Pg**	**16 25 10.8**	**-0.1**
BACM				S	**Sg**	**16 25 17.2**	**+0.8**
BACM		**0.41**	**166**	P	**Pg**	**16 25 10.8**	**-0.1**
BACM				S	**Sg**	**16 25 17.2**	**+0.8**
ERBM	**Eremo**	**0.42**	**126**	*e*PG	**Pg**	**16 25 11.3**	**0.0**
ERBM				SG	**Sg**	**16 25 17.1**	**0.0**
ERBM	**Eremo**	**0.42**	**126**	*e*Pg	**Pg**	**16 25 11.3**	**0.0**
ERBM				*e*Sg	**Sg**	**16 25 17.1**	**0.0**
VINC	**Vinca**	**0.55**	**164**	P	**Pg**	**16 25 12.9**	**-0.8**
VINC				S	**Sg**	**16 25 21.0**	**-0.3**
VINC	**Vinca**	**0.55**	**164**	P	**Pg**	**16 25 12.9**	**-0.9**
VINC	**Vinca**	**0.55**	**164**	P	**Pg**	**16 25 12.9**	**-0.9**
VINC				S	**Sg**	**16 25 21.0**	**-0.3**
VINC				S	**Sg**	**16 25 21.0**	**-0.3**
GSCL	**Gusciola**	**0.57**	**124**	*e*PG	**Pg**	**16 25 13.9**	**-0.1**
GSCL				SG	**Sg**	**16 25 22.2**	**+0.5**
	87nm,0.4s						
GSCL	**Gusciola**	**0.57**	**124**	*e*Pg	**Pg**	**16 25 13.9**	**-0.2**
GSCL				*e*Sg	**Sg**	**16 25 22.2**	**+0.5**
GSCL	**Gusciola**	**0.57**	**124**	*e*Pg	**Pg**	**16 25 13.9**	**-0.1**
	87nm,0.4s						
GSCL				Sg	**Sg**	**16 25 22.2**	**+0.5**
SARO	**Sassorosso**	**0.59**	**145**	P	**Pg**	**16 25 13.4**	**-1.1**
SARO				S	**Sg**	**16 25 22.2**	**-0.3**
SARO	**Sassorosso**	**0.59**	**145**	P	**Pg**	**16 25 13.4**	**-1.1**
SARO	**Sassorosso**	**0.59**	**145**	P	**Pg**	**16 25 13.4**	**-1.1**
SARO				S	**Sg**	**16 25 22.2**	**-0.3**
SARO				S	**Sg**	**16 25 22.2**	**-0.3**
GENL	**Genova Univers**	**0.74**	**249**	P	**Pb**	**16 25 18.5**	**+1.4**
GENL				S	**Sb**	**16 25 29.6**	**+2.6**
GENL	**Genova Univers**	**0.74**	**249**	P	**Pb**	**16 25 18.5**	**+1.4**
GENL				S	**Sb**	**16 25 29.6**	**+2.6**
ZCCA	**Zocca**	**0.81**	**113**	*e*PG	**Pg**	**16 25 19.5**	**+0.6**
ZCCA				SG	**Sg**	**16 25 28.9**	**-0.9**
ZCCA	**Zocca**	**0.81**	**113**	*e*Pg	**Pg**	**16 25 19.5**	**+0.6**
ZCCA				*e*Sg	**Sg**	**16 25 28.9**	**-0.9**
PCP	**Pian Castagno**	**1.00**	**263**	P	**Pb**	**16 25 23.2**	**+1.6**
PCP				S	**Sb**	**16 25 37.7**	**+3.1**
PCP	**Pian Castagno**	**1.00**	**263**	P	**Pb**	**16 25 23.2**	**+1.6**
PCP				S	**Sb**	**16 25 37.7**	**+3.1**
SAL	**Salo**	**1.02**	**24**	*e*PN	**Pn**	**16 25 23.1**	**+0.2**
SAL				SN	**Sn**	**16 25 39.0**	**+1.7**
	214nm,0.6s						
SAL	**Salo**	**1.02**	**24**	*e*Pg	**Pg**	**16 25 23.1**	**0.0**
SAL				*e*Sg	**Sg**	**16 25 39.0**	**+2.2**
SAL	**Salo**	**1.02**	**24**	*e*Pn	**Pn**	**16 25 23.1**	**+0.2**
	214nm,0.6s						
SAL				Sn	**Sn**	**16 25 39.0**	**+1.7**
PII	**Pisa**	**1.04**	**156**	*e*PG	**Pg**	**16 25 22.5**	**-0.9**
PII				SG	**Sg**	**16 25 35.8**	**-1.6**
	82nm,0.2s						
PII	**Pisa**	**1.04**	**156**	*e*Pg	**Pg**	**16 25 22.5**	**-1.0**
PII				*e*Sg	**Sg**	**16 25 35.8**	**-1.6**
PII	**Pisa**	**1.04**	**156**	*e*Pg	**Pg**	**16 25 22.5**	**-0.9**
	82nm,0.2s						
PII				Sg	**Sg**	**16 25 35.8**	**-1.6**
FIN	**Finale Ligure**	**1.32**	**250**	*e*PN	**Pn**	**16 25 27.8**	**+0.7**
FIN				SN	**Sn**	**16 25 45.1**	**+0.2**
	31nm,0.4s						
FIN	**Finale Ligure**	**1.32**	**250**	*e*Pg	**Pg**	**16 25 27.8**	**-1.2**
FIN				*e*Sg	**Sg**	**16 25 45.1**	**-1.5**
FIN	**Finale Ligure**	**1.32**	**250**	*e*Pg	**Pn**	**16 25 27.8**	**+0.7**
FIN				S	**Sb**	**16 25 44.8**	**+0.9**
FIN				Sn	**Sn**	**16 25 45.1**	**+0.2**
VMG	**Vicchio**	**1.36**	**121**	*e*PN	**Pn**	**16 25 28.9**	**+1.3**
	28nm,0.4s						
VMG	**Vicchio**	**1.36**	**121**	*e*Pg	**Pg**	**16 25 28.9**	**-0.8**
TEOL	**Teolo**	**1.41**	**60**⇑	*i*Pg	**Pg**	**16 25 27.2**	**-3.6**
TEOL				*i* Sg	**Sg**	**16 25 48.4**	**-1.2**
VAI	**Varese**	**1.45**	**326**	*e*PN	**Pn**	**16 25 30.7**	**+1.7**
	24nm,0.3s						
VAI	**Varese**	**1.45**	**326**	*e*Pg	**Pg**	**16 25 30.7**	**-0.9**
VAI	**Varese**	**1.45**	**326**	*e*Pn	**Pn**	**16 25 30.7**	**+1.7**
	24nm,0.3s						
PGD	**Poggio Sodo**	**1.51**	**121**	*e*PN	**Pn**	**16 25 31.2**	**+1.3**
	14nm,0.3s						
PGD	**Poggio Sodo**	**1.51**	**121**	*e*Pg	**Pg**	**16 25 31.2**	**-1.6**
ROB	**Roburent**	**1.53**	**256**	P	**Pn**	**16 25 30.2**	**+0.2**
ROB				S	**Sb**	**16 25 50.3**	**+0.5**
ROB	**Roburent**	**1.53**	**256**	P	**Pn**	**16 25 30.2**	**+0.1**
ROB				S	**Sb**	**16 25 50.3**	**+0.5**
SFI	**Santa Sofia**	**1.57**	**119**	*e*PN	**Pn**	**16 25 32.4**	**+1.7**
	30nm,0.4s						
SFI	**Santa Sofia**	**1.57**	**119**	*e*Pg	**Pg**	**16 25 32.4**	**-1.6**
IMI	**Imperia**	**1.66**	**243**	*e*PN	**Pn**	**16 25 32.1**	**+0.2**
IMI				SN	**Sn**	**16 25 53.7**	**+0.3**
	19nm,0.3s						
IMI	**Imperia**	**1.66**	**243**	*e*Pg	**Pg**	**16 25 32.1**	**-3.6**
IMI				*e*Sg	**Sg**	**16 25 53.7**	**-4.1**
IMI	**Imperia**	**1.66**	**243**	P	**Pn**	**16 25 32.0**	**+0.1**
IMI				S	**Sn**	**16 25 52.8**	**-0.6**
IMI				Sn	**Sn**	**16 25 53.7**	**+0.3**
MONE	**Monesi**	**1.67**	**250**	P	**Pn**	**16 25 32.7**	**+0.6**
MONE				S	**Sn**	**16 25 54.1**	**+0.3**
MONE	**Monesi**	**1.67**	**250**	P	**Pn**	**16 25 32.7**	**+0.5**
MONE				S	**Sn**	**16 25 54.1**	**+0.3**
ORO	**Oropa**	**1.68**	**305**	*e*PN	**Pn**	**16 25 35.0**	**+2.7**
ORO				SN	**Sn**	**16 25 56.7**	**+2.7**
	32nm,0.3s						
ORO	**Oropa**	**1.68**	**305**	*e*Pg	**Pg**	**16 25 35.0**	**-1.2**
ORO				*e*Sg	**Sg**	**16 25 56.7**	**-1.9**
ORO	**Oropa**	**1.68**	**305**	*e*Pn	**Pn**	**16 25 35.0**	**+2.7**
	32nm,0.3s						
ORO				Sn	**Sn**	**16 25 56.7**	**+2.7**
ORX	**Oropa**	**1.68**	**305**	P	**Pn**	**16 25 33.3**	**+1.0**
ORX	**Oropa**	**1.68**	**305**	P	**Pn**	**16 25 33.3**	**+1.0**
TRAV		**1.76**	**299**	P	**Pn**	**16 25 34.4**	**+1.0**
TRAV		**1.76**	**299**	P	**Pn**	**16 25 34.4**	**+0.9**
NEGI	**Negi**	**1.80**	**244**	P	**Pn**	**16 25 34.0**	**-0.1**
NEGI	**Negi**	**1.80**	**244**	P	**Pn**	**16 25 34.0**	**0.0**
BRMO	**Bormio**	**1.83**	**10**	*e*PN	**Pn**	**16 25 37.1**	**+2.7**
	11nm,0.4s						
BRMO	**Bormio**	**1.83**	**10**	*e*Pg	**Pg**	**16 25 37.1**	**-2.0**
BRMO	**Bormio**	**1.83**	**10**	*e*Pn	**Pn**	**16 25 37.1**	**+2.7**
	11nm,0.4s						
CTI	**Castel Tesino**	**1.83**	**41**	*e*PN	**Pn**	**16 25 33.7**	**-0.7**
	31nm,0.3s						
CTI	**Castel Tesino**	**1.83**	**41**	*e*Pg	**Pg**	**16 25 33.7**	**-5.4**
CTI	**Castel Tesino**	**1.83**	**41**	*e*Pn	**Pn**	**16 25 33.7**	**-0.7**
	31nm,0.3s						
ENR	**Entracque**	**1.86**	**257**	P	**Pn**	**16 25 35.4**	**+0.6**
ENR	**Entracque**	**1.86**	**257**	P	**Pn**	**16 25 35.3**	**+0.5**
BHB	**Bricherasio**	**1.91**	**276**	P	**Pn**	**16 25 37.8**	**+2.2**
BHB	**Bricherasio**	**1.91**	**276**	P	**Pn**	**16 25 37.8**	**+2.2**
STV2	**Anna di Valdie**	**1.92**	**258**	P	**Pn**	**16 25 36.2**	**+0.5**
STV2	**Anna di Valdie**	**1.92**	**258**	P	**Pn**	**16 25 36.2**	**+0.5**
STV	**Sta Anna Valdi**	**1.92**	**258**	P	**Pn**	**16 25 36.2**	**+0.6**
STV	**Sta Anna Valdi**	**1.92**	**258**	P	**Pn**	**16 25 36.2**	**+0.5**
DOI	**San Damiano**	**1.93**	**266**	*e*PN	**Pn**	**16 25 37.4**	**+1.6**
	34nm,0.4s						
DOI	**San Damiano**	**1.93**	**266**	*e*Pg	**Pg**	**16 25 37.4**	**-3.8**
DOI	**San Damiano**	**1.93**	**266**	*e*Pn	**Pn**	**16 25 37.4**	**+1.6**
	34nm,0.4s						
RSP	**Reno Superiore**	**1.96**	**285**	P	**Pn**	**16 25 35.7**	**-0.7**
RSP	**Reno Superiore**	**1.96**	**285**	P	**Pn**	**16 25 35.7**	**-0.6**
SBF	**Sospel**	**1.97**	**247**	*e*Pn	**Pn**	**16 25 36.4**	**0.0**
SBF				*e*Sn	**Sn**	**16 25 59.9**	**-1.5**
	80nm,0.5s						
PZZ	**Prazzo**	**2.03**	**266**	P	**Pn**	**16 25 38.1**	**+0.8**
FENE	**Fenestrelle**	**2.07**	**281**	P	**Pn**	**16 25 38.7**	**+0.8**
LSD	**Ceresole Reale**	**2.12**	**293**	P	**Pn**	**16 25 42.9**	**+4.3**
PGF	**Pioggiola**	**2.23**	**198**	*e*Pn	**Pn**	**16 25 38.8**	**-1.4**
PGF				*e*Sn	**Sn**	**16 26 05.0**	**-3.0**
	5.7nm,0.2s						
MBDF	**Montbardon**	**2.26**	**272**	*e*Pn	**Pn**	**16 25 41.2**	**+0.7**

MBDF *e*Sn **Sn** **16 26 07.5 -1.2**
18nm,0.4s
RRL Cesana Torines 2.26 277 P **Pn** **16 25 44.6 +4.1**
LPG La Plagne 2.40 291 *e*Pn **Pn** **16 25 43.7 +1.1**
LPG *e*Sn **Sn** **16 26 11.7 -0.7**
LPG *e*Sg **Sg** **16 26 22.1 -0.5**
20nm,0.8s
LPL La Plagne 2.42 292 *e*Pn **Pn** **16 25 43.5 +0.6**
LPL *e*Sn **Sn** **16 26 12.5 -0.3**
LPL *e*Sg **Sg** **16 26 22.3 -0.9**
8.8nm,0.4s
DAVA Damuels 2.62 359⇑ *i*PN **Pn** **16 25 47.0 +1.3**
DAVA *i* SN **Sn** **16 26 18.4 +0.6**
FRF La Foret Royal 2.62 246 *e*Pn **Pn** **16 25 45.6 -0.1**
FRF *e*Sn **Sn** **16 26 15.4 -2.4**
16nm,0.4s
SQTA Sankt Quirin 2.70 19⇓ *i*PN **Pn** **16 25 48.2 +1.3**
SQTA *i* SN **Sn** **16 26 20.4 +0.5**
MOTA Moosalm 2.79 17⇑ *i*PN **Pn** **16 25 49.3 +1.1**
MOTA *i* SN **Sn** **16 26 22.4 +0.1**
LMR La Mourre 2.81 243 *e*Pn **Pn** **16 25 47.4 -1.1**
LMR *e*Sn **Sn** **16 26 19.4 -3.4**
12nm,0.3s
WTTA Wattenberg 2.85 24⇑ *i*PN **Pn** **16 25 50.2 +1.2**
WTTA *i* SN **Sn** **16 26 23.7 0.0**
ORIF Oris-en-Rattie 2.90 276 *e*Pn **Pn** **16 25 50.7 +1.0**
ORIF *e*Sn **Sn** **16 26 23.0 -1.9**
16nm,0.5s
WATA Walderalm 2.90 23⇑ *i*PN **Pn** **16 25 50.1 +0.4**
WATA *i* SN **Sn** **16 26 25.4 +0.4**
VOY Vojsko 3.10 63 *e*Pn **Pn** **16 25 50.9 -1.7**
VOY *e*Sn **Sn** **16 26 26.2 -4.0**
CABF La Chapelle 3.32 307 *e*Pn **Pn** **16 25 56.6 +0.9**
CABF *e*Sn **Sn** **16 26 33.1 -2.6**
11nm,0.6s
KBA Koelnbreinsper 3.38 44⇑ *i*PN **Pn** **16 25 56.5 -0.1**
KBA *i* SN **Sn** **16 26 35.7 -1.6**
KBA *i* SG **Sg** **16 26 54.1 -1.2**
9.2nm,0.5s
OBKA Obir 3.72 59⇓ *i*PN **Pn** **16 26 01.8 +0.4**
OBKA *i* SN **Sn** **16 26 45.1 -0.7**
VIVF Saint-Julien-l 3.75 275 *e*Pn **Pn** **16 26 01.9 +0.1**
VIVF *e*Sn **Sn** **16 26 42.9 -3.7**
2.2nm,0.3s
HINF Hinteralfeld 3.80 327 *e*Pn **Pn** **16 26 01.9 -0.6**
HINF *e*Sn **Sn** **16 26 44.4 -3.4**
7.1nm,0.3s
HAU Haudompre 4.16 325 *e*Pn **Pn** **16 26 06.9 -0.7**
HAU *e*Sn **Sn** **16 26 54.1 -2.7**
5.4nm,0.3s
CDF Champ du Feu 4.17 335 *e*Pn **Pn** **16 26 06.3 -1.4**
CDF *e*Sn **Sn** **16 26 52.6 -4.5**
4.0nm,0.3s
LASF Ste Croix 4.40 264 *e*Pn **Pn** **16 26 10.2 -0.8**
SMF Signal de Mont 4.71 297 *e*Pn **Pn** **16 26 14.7 -0.7**
SMF *e*Sn **Sn** **16 27 06.3 -4.4**
3.3nm,0.4s
AVF Avril sur Loir 5.07 297 *e*Pn **Pn** **16 26 19.5 -1.0**
BGF Bois d'Agland 5.32 293 *e*Pn **Pn** **16 26 23.2 -0.8**
BGF *e*Sn **Sn** **16 27 20.2 -5.9**
8.9nm,0.6s
CAF Calviac 5.61 275 *e*Pn **Pn** **16 26 26.5 -1.6**

*IDC **02** 16:25:43.4±1.1, 11.56N×86.59W, mb4.1/9, mb1 4.2/11, mb1mx4.0/23, mbtmp4.1/11, ML3.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.1/25, Error ellipse: s-maj=43.2km s-min=15.1km az=54.0*
*BJI **02** 16:25:46.6, 11.40N×86.60W, h26km, mB5.4, Ms4.8, Msz4.4*
*NEIC **02** 16:25:46.6±0.6, 11.43N×86.64W, mb4.3/8, Error ellipse: s-maj=20.2km s-min=6.6km az=46.0*
*CASC **02** 16:25:47.3±5.4, 11.67N×86.78W, h141km±71km, MD4.5, ML3.8, mb4.2(NEIC)*
ISC 02 16:25:46.5±1.0,**11.13N**±0.07×**87.02W**±0.05,**h51**km±7km,
h22km±3.1km:**pP-P, n47,** σ1°**08/50, mb4.1**/17,**MS4.5/1,**
14C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.13**	**22**⇓	*e*P	**P**	**16 26 06.8**	**+0.6**
TICN	**Ticuantepe**	**1.19**	**40**⇓	*e*P	**P**	**16 26 07.3**	**+0.2**
MASN	**Masaya**	**1.21**	**45**	*e*P	**P**	**16 26 08.6**	**+1.3**
MASN				*e*P		16 26 09.0	
APON	**Apoyo**	**1.22**	**50**⇑	*e*P	**P**	**16 26 07.5**	**-0.1**
XAVN	**Gruta Xavier**	**1.22**	**34**⇑	*e*P	**P**	**16 26 08.1**	**+0.5**
MGAN	**Managua**	**1.27**	**37**⇑	*e*P	**P**	**16 26 08.3**	**+0.1**
MGAN				⇑*i*P		16 26 08.4	
MGAN				*e*S	**S**	**16 26 26.5**	**+2.1**
MGAN				*i*		16 26 28.0	
comp=N,1μm,0.3s
APYN	**Apoyeque**	**1.28**	**31**⇓	*e*P	**P**	**16 26 08.7**	**+0.2**
LEON	**Leon**	**1.29**	**6**⇑	*e*P	**P**	**16 26 09.0**	**+0.5**
WILN	**Americas 2**	**1.31**	**38**⇑	*e*P	**P**	**16 26 08.8**	**-0.2**
WILN				*e*S	**S**	**16 26 23.7**	**-1.9**
MOMJ	**Momotombo**	**1.36**	**20**⇑	*e*P	**P**	**16 26 09.7**	**+0.1**
CNGN	**Cerro Negro**	**1.40**	**13**⇑	*e*P	**P**	**16 26 10.1**	**-0.1**
CONN	**Concepcion**	**1.44**	**72**	*e*P	**P**	**16 26 09.8**	**-0.9**
CONN				*e*S	**S**	**16 26 39.7**	**+11**
TEL3	**Telica 3**	**1.45**	**7**⇑	*e*P	**P**	**16 26 11.1**	**+0.3**
TELN	**Telica**	**1.48**	**7**⇑	*e*P	**P**	**16 26 11.4**	**+0.1**
CRIN	**San Cristobal**	**1.56**	**359**⇑	*e*P	**P**	**16 26 12.9**	**+0.4**
PYTN	**Playitas**	**1.69**	**34**⇑	*e*P	**P**	**16 26 13.7**	**-0.5**
JTS	**JuntasAbangare**	**2.19**	**112**	Pn	**P**	**16 26 20.6**	**-0.7**
comp=N,1μm,0.6s,SNR=72
JTS	**JuntasAbangare**	**2.19**	**112**	Pn	**P**	**16 26 20.2**	**-1.1**
comp=N,4.0nm,0.3s,baz=307,slow=20,SNR=19
JTS				Pg	**P**	**16 26 24.8**	**+3.4**
comp=N,15nm,0.3s,baz=297,slow=12,SNR=59
JTS				LR	LR	16 27 27.1	
comp=N,375nm,18.0s,baz=298,slow=51
JTS	**JuntasAbangare**	**2.19**	**112**	*e*Pn	**P**	**16 26 19.7**	**-1.6**
CNCH	**Conchagua**	**2.28**	**340**	*e*P	**P**	**16 26 23.0**	**+0.5**
BLLM	**Bellamira**	**2.59**	**333**	*e*P	**P**	**16 26 27.1**	**+0.1**
SNVI	**San Vicente**	**3.04**	**324**	*e*P	**P**	**16 26 32.2**	**-1.2**
SNVI				*e*P		16 26 33.0	
LCBS	**La Ceiba**	**3.16**	**323**⇑	*e*P	**P**	**16 26 34.7**	**-0.3**
LCBS				*e*S	**S**	**16 27 10.9**	**-0.8**
LFRS	**El Faro**	**3.18**	**321**	*e*P	**P**	**16 26 35.5**	**+0.1**
LFRS				*e*S	**S**	**16 27 11.1**	**-1.4**
SDV	**Santo Domingo**	**16.29**	**96**	Pn	**P**	**16 29 29.7**	**-3.7**
comp=N,0.2nm,0.3s,baz=306,slow=9.6,SNR=1.9
TXAR	**Lajitas Array**	**23.86**	**322**	P	**P**	**16 30 57.9**	**+1.7**
comp=N,3.4nm,0.8s,mb3.8,baz=139,slow=9.5,SNR=27
TXAR				PcP	PcP	16 34 43.9	+4.2
comp=N,0.9nm,0.8s,baz=141,slow=3.8,SNR=6.3
MIAR	**Mount Ida**	**24.07**	**347**	*e*P	**P**	**16 30 58.6**	**+0.6**
comp=N,9.7nm,0.8s,mb4.3
MIAR				*e*pP		16 31 06.5	
WMOK	**Wichita Mounta**	**25.83**	**337**	*e*P	**P**	**16 31 16.4**	**+1.4**
comp=N,7.9nm,1.0s,mb4.2
WMOK				*e*pP	pP	16 31 23.8	-4.0
CPRX	**Cap Rock**	**26.74**	**327**	*e*P	**P**	**16 31 24.5**	**+1.2**
CPRX				*e*pP	pP	16 31 31.4	-4.9
SAML	**Samuel**	**30.98**	**129**	*e*P	**P**	**16 32 00.7**	**-0.9**
comp=N,2.7nm,0.8s,mb4.1
SDCO	**Great Sand Dun**	**31.27**	**331**	*e*P	**P**	**16 32 05.3**	**+1.5**
comp=N,2.3nm,0.9s,mb4.0
PV10	**Paradox Valley**	**33.52**	**328**	P	**P**	**16 32 23.2**	**-0.2**
SADO	**Sadowa**	**34.20**	**10**	P	**P**	**16 32 28.0**	**-1.2**
comp=N,2.5nm,0.5s,mb4.4,baz=203,slow=9.7,SNR=3.8
PDAR	**Pinedale Array**	**37.13**	**332**	P	**P**	**16 32 54.9**	**+0.8**
comp=N,1.2nm,0.8s,mb3.8,baz=128,slow=10,SNR=9.9
HWUT	**Hardware Ranch**	**37.22**	**329**	*e*P	**P**	**16 32 55.9**	**+1.1**
comp=N,7.8nm,1.0s,mb4.5
SIV	**San Ignacio**	**37.22**	**136**	P	**P**	**16 32 56.1**	**+1.1**
comp=N,3.0nm,0.5s,mb4.3,baz=312,slow=8.9,SNR=21
REDW	**Red Top Meadow**	**38.19**	**332**	*e*P	**P**	**16 33 03.7**	**+0.8**
comp=N,5.9nm,0.8s,mb4.4
REDW				*e*pP	pP	16 33 11.6	-4.8
ULM	**Lac du Bonnet**	**39.69**	**351**	P	**P**	**16 33 13.2**	**-2.1**
comp=N,1.6nm,0.5s,mb4.0,baz=172,slow=10,SNR=6.4
HLID	**Hailey**	**40.08**	**329**	P	**P**	**16 33 19.6**	**+1.0**
comp=N,1.2nm,0.8s,mb3.7
SCHQ	**Schefferville**	**46.42**	**16**	P	**P**	**16 34 07.2**	**-2.7**
comp=N,2.2nm,0.8s,mb4.2,baz=206,slow=6.6,SNR=5.6
BDFB	**Brasilia**	**46.89**	**124**	P	**P**	**16 34 14.5**	**+0.5**
comp=N,1.8nm,0.5s,mb4.3,baz=243,slow=4.5,SNR=3.8
FCC	**Fort Churchill**	**47.84**	**355**	P	**P**	**16 34 19.0**	**-1.9**
comp=N,5.6nm,1.0s,mb4.5
FRB	**Frobisher Bay**	**54.15**	**10**	P	**P**	**16 35 05.7**	**-2.9**
comp=N,2.8nm,0.8s,mb4.2,baz=190,slow=3.5,SNR=4.1
YKA	**Yellowknife Ar**	**54.99**	**345**	P	**P**	**16 35 13.1**	**-1.6**
comp=N,0.5nm,0.8s,mb3.6,baz=141,slow=7.5,SNR=9.4
YKA				PcP	PcP	16 36 16.5	+0.8
comp=N,0.2nm,0.5s,baz=145,slow=4.3,SNR=6.1
CN2	**Changchun**	**117.86**	**334**	*e*PKP	PKPdf	16 44 28.1	+0.6
WMQ	**Urumqi**	**125.11**	**5**	⇑PKP	PKPdf	16 44 45.4	+3.8
WMQ				XPKP		16 44 56.6	
WMQ				PP	PP	16 46 40.4	+4.9
WMQ				PKS	PKS	16 48 20.8	+3.4
WMQ				PP	PP		
comp=Z,134nm,8.6s
WMQ				LR	LR		
comp=N,98nm,20.0s,MS4.6
WMQ				LR	LR		
comp=E,75nm,21.4s,MS4.6
WMQ				LR	LR		
comp=Z,81nm,20.0s,MS4.4
WRA	**Warramunga Arr**	**139.29**	**252**	PKP	PKPdf	16 45 12.3	+3.4
comp=Z,0.2nm,0.6s,baz=92,slow=2.5,SNR=3.3

*IDC **02** 16:34:01.2±8.1, 36.31N×70.96E, h170km±70km, mb3.6/8, mb1 3.7/10, mb1mx3.4/19, mbtmp4.0/10, Error ellipse: s-maj=46.7km s-min=17.5km az=36.0*
*MOS **02** 16:34:01.9±1.9, 36.46N×70.63E, h194km, mb4.5/2, Error ellipse: s-maj=17.2km s-min=10.0km az=92.7*
*NEIC **02** 16:34:03.2±1.4, 36.45N×70.80E, h189km±14km, mb4.3/13, Error ellipse: s-maj=15.4km s-min=6.8km az=61.0*
*NNC **02** 16:34:09.1±12.0, 37.17N×71.47E, mpv3.8, Error ellipse: s-maj=227.4km s-min=83.9km az=74.0*
ISC 02 16:34:04.6±0.5,**36.57N**±0.03×**71.01E**±0.09,**h211**km±6km,
n54, σ0°**68/58, mb3.8**/11,**4C-1D, Afghanistan-Tajikistan**
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.83**	**165**	⇑P	**P**	**16 34 53.8**	**+0.4**
CEP				S	**S**	**16 35 27.0**	**-4.2**
CHCP	**Chirah Chowk**	**3.44**	**147**	P	**P**	**16 35 01.6**	**+1.0**
THW	**Thamme Wali**	**3.81**	**171**	⇑P	**P**	**16 35 05.3**	**+0.2**
SBDP	**Sheikh Budin**	**4.26**	**182**	⇑P	**P**	**16 35 09.6**	**-1.0**
SARP	**Sargodha**	**4.83**	**163**	P	**P**	**16 35 17.6**	**-0.2**
DRP	**Derazinda**	**4.86**	**188**	P	**P**	**16 35 18.7**	**+0.6**
AML	**Almayashu**	**5.94**	**20**	P	**P**	**16 35 31.9**	**0.0**
SNR=143
UCH	**Uchtor**	**6.27**	**25**	P	**P**	**16 35 36.5**	**+0.3**
SNR=32
KZA	**Kyzart**	**6.41**	**30**	P	**P**	**16 35 37.7**	**-0.4**
SNR=11
EKS2	**Erkin-Say**	**6.45**	**18**	P	**P**	**16 35 38.7**	**+0.1**
SNR=24
KK31	**Karatay Array**	**6.54**	**357**	⇑P	**P**	**16 35 39.3**	**-0.5**
3.6nm,0.4s,baz=172,slow=12,SNR=39
KK31				S	**S**	**16 36 48.9**	**-5.1**
12nm,0.5s,baz=185,slow=22,SNR=14
KKAR	**Karatay Array**	**6.54**	**357**	PN	**P**	**16 35 39.2**	**-0.6**
AAK	**Ala-Archa**	**6.63**	**23**	P	**P**	**16 35 41.1**	**+0.2**
SNR=17
AAK	**Ala-Archa**	**6.63**	**23**	Pn	**P**	**16 35 40.9**	**0.0**
226nm,0.4s,SNR=51
AAK	**Ala-Archa**	**6.63**	**23**	*e*Pn	**P**	**16 35 40.0**	**-0.9**
AAK				*e*Sn	**S**	**16 36 49.3**	**-6.7**
KBK	**Karagaybulak**	**6.80**	**25**	P	**P**	**16 35 44.2**	**+1.1**
SNR=5.7
ULHL	**Ulahol**	**6.97**	**34**	P	**P**	**16 35 45.4**	**+0.1**
SNR=6.1
CHMS	**Chumysh**	**7.04**	**23**	P	**P**	**16 35 46.5**	**+0.3**
SNR=6.7
SDNR	**Sundarnagar**	**7.07**	**134**	*e*P	**P**	**16 35 45.4**	**-1.2**
SDNR				*e*S	**S**	**16 37 00.6**	**-5.6**
TKM2	**Tokmak 2**	**7.26**	**28**	P	**P**	**16 35 49.4**	**+0.2**
SNR=7.2
MK31	**Makanchi Array**	**13.23**	**36**	⇓P	**P**	**16 37 04.8**	**-0.7**
2.0nm,0.8s,baz=216,slow=13,SNR=8.5
MKAR	**Makanchi Array**	**13.23**	**36**	P	**P**	**16 37 05.6**	**+0.1**
0.2nm,0.3s,baz=216,slow=11,SNR=6.6
KOLN	**Koldanda**	**13.79**	**126**	*e*P	**P**	**16 37 12.1**	**-0.4**
4.4nm,0.3s
GKN	**Gorkha**	**14.33**	**123**	*e*P	**P**	**16 37 19.0**	**-0.2**
17nm,0.4s
DMN	**Daman**	**14.90**	**123**	*e*P	**P**	**16 37 26.7**	**+0.5**
20nm,0.5s
KKN	**Kakani**	**14.90**	**122**	*e*P	**P**	**16 37 26.2**	**-0.1**
20nm,0.6s
KKN	**Kakani**	**14.90**	**122**	*e*P	**P**	**16 37 26.2**	**-0.1**
KKN				pmax	pmax		
comp=Z,10.0nm,0.6s
PKI	**Pulchoki**	**15.13**	**122**	*e*P	**P**	**16 37 28.9**	**-0.2**
comp=Z,16nm,0.5s
PKI	**Pulchoki**	**15.13**	**122**	*e*P	**P**	**16 37 28.9**	**-0.2**
PKI				pmax	pmax		
comp=Z,8.0nm,0.5s
KURK	**Kurchatov**	**15.17**	**19**	P	**P**	**16 37 29.5**	**+0.2**
GUN	**Gumba**	**15.24**	**120**	*e*P	**P**	**16 37 31.7**	**+1.2**
comp=Z,10.0nm,0.4s
JIRN	**Jiri**	**15.61**	**120**	*e*P	**P**	**16 37 35.3**	**+0.3**
comp=Z,24nm,0.4s
BVAR	**Borovoye Array**	**16.46**	**359**	P	**P**	**16 37 44.7**	**-0.3**
comp=Z,1.0nm,0.3s,baz=156,slow=11,SNR=14
CHKZ	**Chkalovo**	**17.11**	**359**	*e*P	**P**	**16 37 50.7**	**-1.7**
CHKZ				pmax	pmax		
comp=Z,2.0nm,0.4s
CHKZ	**Chkalovo**	**17.11**	**359**	*e*P	**P**	**16 37 50.7**	**-1.7**
comp=Z,2.0nm,0.4s
LSA	**Lhasa**	**18.19**	**106**	P	**P**	**16 38 09.1**	**+5.2**
LSA				pmax	pmax		
comp=Z,5.0nm,0.6s
LSA	**Lhasa**	**18.19**	**106**	P	**P**	**16 38 09.1**	**+5.1**
comp=Z,4.8nm,0.6s
ZAL	**Zalesovo**	**19.84**	**25**	P	**P**	**16 38 20.4**	**-0.3**
comp=Z,2.8nm,0.4s,baz=252,slow=8.9,SNR=10
SONM	**Songino Array**	**28.29**	**55**	P	**P**	**16 39 41.4**	**+1.0**
comp=Z,0.6nm,0.5s,mb3.5,baz=259,slow=8.7,SNR=4.2
ULN	**Ulaanbaatar**	**28.73**	**56**	P	**P**	**16 39 39.3**	**-5.0**
EIL	**Elat**	**30.84**	**268**	*e*P	**P**	**16 39 57.8**	**-5.2**
comp=Z,8.8nm,1.1s,mb4.3
ENH	**Enshi**	**32.57**	**90**	P	**P**	**16 40 17.0**	**-0.9**
FINES	**FINESS Array B**	**37.43**	**326**	P	**P**	**16 40 59.4**	**+0.6**
comp=Z,0.6nm,0.4s,mb3.5,baz=116,slow=9.8,SNR=10
ARCES	**ARCESS Array B**	**41.09**	**338**	P	**P**	**16 41 29.7**	**+0.9**
comp=Z,1.8nm,0.5s,mb3.8,baz=117,slow=7.9,SNR=16
YAK	**Yakutsk**	**43.91**	**36**	P	**P**	**16 41 51.4**	**-0.2**
YAK				pmax	pmax		
comp=Z,4.0nm,0.6s,mb3.9
YAK	**Yakutsk**	**43.91**	**36**	P	**P**	**16 41 51.4**	**-0.1**
comp=Z,3.9nm,0.6s,mb3.9
NB2	**NORSAR Subarra**	**44.33**	**323**	P	**P**	**16 41 55.0**	**+0.1**
comp=Z,0.9nm,0.6s,mb3.3,baz=96,slow=7.4
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**16 41 55.1**	**+0.2**
comp=Z,0.9nm,0.6s,mb3.3,baz=96,slow=7.7,SNR=4.5
NAO01	**NORSAR Array S**	**44.48**	**323**	P	**P**	**16 41 51.9**	**-4.1**
comp=Z,5.9nm,0.9s,mb3.9
ESK	**Eskdalemuir**	**52.27**	**316**	P	**P**	**16 42 50.3**	**-5.6**
ESK				pmax	pmax		
comp=Z,13nm,1.2s,mb4.2
ESK	**Eskdalemuir**	**52.27**	**316**	P	**P**	**16 42 50.3**	**-5.6**
comp=Z,13nm,1.2s,mb4.2
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**16 45 58.6**	**+1.2**
comp=Z,0.7nm,0.3s,mb3.7,baz=351,slow=5.4,SNR=18
WRA	**Warramunga Arr**	**82.02**	**122**	P	**P**	**16 46 01.9**	**-0.7**
comp=Z,1.3nm,0.4s,mb3.9,baz=324,slow=4.9,SNR=60
ASAR	**Alice Springs**	**84.28**	**125**	P	**P**	**16 46 13.5**	**-0.5**
comp=Z,1.5nm,0.5s,mb4.0,baz=312,slow=4.9,SNR=27

*IDC **02** 16:34:23.5±14.0, 7.10S×107.39E, h70km±120km, mb3.8/7, mb1 3.9/7, mb1mx3.7/15, mbtmp4.1/7, Error ellipse: s-maj=202.6km s-min=22.2km az=53.0*
*NEIC **02** 16:34:26.6±5.5, 6.99S×107.55E, h97km±48km, mb4.6/2, Error ellipse: s-maj=43.0km s-min=11.0km az=59.0*
ISC 02 16:34:24.8±1.2,**7.0S**±0.2×**107.5E**±0.3,**h100**km,**n16,**
σ0°**42/11, mb4.0/8, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.83**	**124**	P	**P**	**16 39 00.7**	**+0.4**
7.6nm,0.9s,baz=186,slow=9.0,SNR=6.3
WRA	**Warramunga Arr**	**29.02**	**119**	P	**P**	**16 40 17.4**	**-0.3**
0.4nm,0.4s,mb3.4,baz=294,slow=11,SNR=6.5
ASAR	**Alice Springs**	**30.28**	**126**	P	**P**	**16 40 28.5**	**-0.3**
0.4nm,0.7s,mb3.2,baz=294,slow=7.8,SNR=4.6
NACB	**Ninganchiao**	**33.86**	**23**	*e*P	**P**	**16 41 00.0**	**+0.1**
STKA	**Stephens Creek**	**40.27**	**132**	P	**P**	**16 41 53.7**	**+0.2**
1.9nm,0.6s,mb4.1,baz=317,slow=10,SNR=7.2
STKA	**Stephens Creek**	**40.27**	**132**	P	**P**	**16 41 53.7**	**+0.2**
SONM	**Songino Array**	**54.58**	**359**	PcP	PcP	16 44 48.8	+2.0
0.5nm,0.5s,baz=176,slow=2.7,SNR=4.3
MKAR	**Makanchi Array**	**58.04**	**340**	P	**P**	**16 44 09.0**	**-0.7**
1.3nm,0.6s,mb4.2,baz=145,slow=7.6,SNR=14
KURK	**Kurchatov**	**62.66**	**340**	*e*P	**P**	**16 44 40.5**	**-0.5**
3.7nm,0.7s,mb4.4
KURK				*e*		16 44 53.1	
ZAL	**Zalesovo**	**63.63**	**345**	P	**P**	**16 44 48.0**	**+0.6**
0.8nm,0.4s,mb3.9,baz=355,slow=5.5,SNR=4.3
BVAR	**Borovoye Array**	**67.55**	**337**	P	**P**	**16 45 13.0**	**+0.5**
3.7nm,0.6s,mb4.4,baz=143,slow=8.8,SNR=20
CHKZ	**Chkalovo**	**67.96**	**337**	*e*P	**P**	**16 45 15.1**	**+0.1**
7.1nm,0.6s,mb4.7
CHKZ				*e*		16 45 25.5	
YKA	**Yellowknife Ar**	**116.66**	**20**	PKP	PKPdf	16 52 59.7	+2.7
0.1nm,0.4s,baz=341,slow=2.1,SNR=4.0
YKA	**Yellowknife Ar**	**116.66**	**20**	PKP	PKPdf	16 52 59.7	+2.7
TXAR	**Lajitas Array**	**143.16**	**49**	PKP	PKPdf	16 53 50.0	+2.3
0.5nm,0.6s,baz=315,slow=1.8,SNR=5.4
TXAR	**Lajitas Array**	**143.16**	**49**	PKP	PKPdf	16 53 50.0	+2.3

*CSEM **02** 16:43:00.9±1.9, 38.69N×29.08W, ML1.9, Error ellipse: s-maj=51.2km s-min=17.8km az=97.0, After PDA*
*PDA **02** 16:43:00.9±0.7, 38.69N×29.08W, MD3.2, ML1.9, Error ellipse: s-maj=15.7km s-min=5.7km az=27.0*
SVSA 02 16:43:00.9±0.7,**38.69N**×**29.08W, MD3.2, ML1.9, Error**
ellipse: s-maj=15.7km s-min=5.7km az=27.0, Azores
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.30**	**101**	*e*P	Pg	16 43 06.8	-0.2
PCED				*e*S	Sg	16 43 10.9	-0.1
25nm,0.2s
CALA	**Caldeira**	**0.32**	**110**	*e*P	Pg	16 43 06.5	-0.7
CALA				*e*S	Sg	16 43 11.6	+0.2
HOR	**Horta**	**0.39**	**114**	*e*S	Sg	16 43 13.5	-0.4
PICO	**Pico**	**0.55**	**110**	*e*P	Pg	16 43 11.1	-0.7
PICO				*e*S	Sg	16 43 18.3	-0.8

IDC 02 16:47:02.5±8.1,**5.75S**×**146.40E, h68**km±56km,**mb3.2**/3,
mb1 3.4/5,**mb1mx3.3**/13,**mbtmp3.5**/5,**ML3.1**/2,**Error**
ellipse: s-maj=67.6km s-min=39.4km az=32.0, Eastern
New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**168**	P	P	16 47 57.1	-1.6
4.3nm,0.3s,baz=24,slow=5.4,SNR=14
PMG				S	S	16 48 40.5	-0.9
3.2nm,0.3s,baz=343,slow=19,SNR=4.0
WRA	**Warramunga Arr**	**18.34**	**219**	P	P	16 51 11.4	-2.4
0.1nm,0.3s,baz=41,slow=12,SNR=6.4
ASAR	**Alice Springs**	**21.49**	**213**	P	P	16 51 46.2	-1.2
0.4nm,0.5s,baz=45,slow=7.7,SNR=9.1
FITZ	**Fitzroy Crossi**	**23.69**	**237**	P	P	16 52 08.3	-0.7
2.0nm,0.4s,baz=16,slow=8.3,SNR=5.7
VNDA	**Vanda**	**72.19**	**177**	P	P	16 58 19.6	-2.0
0.3nm,0.6s,baz=327,slow=8.2,SNR=3.0

*TAP **02** 16:49:42.9, 24.52N×122.38E, h3km, ML3.0*
JMA 02 16:49:41.0±0.1,**24.60N**×**122.45E, h23**km±1km,**M2.6,**
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**105**	P	Pb	16 49 51.5	-0.1
YOJ				*e*S	Sb	16 49 58.8	0.0
IRIF	**Iriomote-Funau**	**1.20**	**102**	P	Pn	16 50 02.3	-0.2
IRIF				*e*S	Sb	16 50 17.7	-0.2
HATJ	**Hateruma jima**	**1.35**	**113**	P	Pn	16 50 04.8	+0.1
HATJ				*e*S	Sn	16 50 21.9	-0.1
JKRS	**Kuro-shima**	**1.47**	**104**	P	Pn	16 50 06.7	+0.3
JKRS				S	Sn	16 50 24.6	-0.4
JIJ	**Ishigaki jima**	**1.56**	**98**	P	Pn	16 50 07.5	-0.2
JIJ				S	Sn	16 50 26.3	-1.1
JTJ	**Tarama**	**2.05**	**88**	P	Pn	16 50 15.6	+0.8
JTJ				*e*S	Sn	16 50 40.8	+0.9

*IDC **02** 16:50:43.0±1.3, 1.14N×97.08E, mb4.1/10, mb1 4.3/10, mb1mx4.1/16, mbtmp4.1/10, MS3.5/1, Ms1 3.5/1, ms1mx2.9/26, Error ellipse: s-maj=65.1km s-min=16.8km az=54.0*
*BJI **02** 16:50:42.4, 0.61N×97.29E, h39km, mB5.1, mb4.6, Ms4.2, Msz4.0*
*MOS **02** 16:50:46.1±0.9, 1.25N×97.35E, h33km, mb4.6/12, Error ellipse: s-maj=27.2km s-min=12.1km az=103.9*
*NEIC **02** 16:50:47.3±0.6, 1.11N×97.14E, h30km, mb4.5/16, Error ellipse: s-maj=15.5km s-min=9.0km az=220.0*
ISC 02 16:50:49.2±3.2,**1.3N**±0.1×**97.3E**±0.1,**h57**km±26km,**n49,**
σ0°**96/48, mb4.4**/32,**MS3.7**/2,**1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.20**	**39**	*e*Pn	**P**	**16 52 05.6**	**-0.7**
PALK	**Pallekele**	**17.63**	**290**	P	**P**	**16 54 46.5**	**-6.1**
KKM	**Kota Kinabalu**	**19.42**	**75**	*e*P	**P**	**16 55 14.2**	**+0.5**
KMI	**Kunming**	**24.30**	**12**	P	**P**	**16 56 04.7**	**+2.0**
KMI				AP		16 56 11.3	
KMI				AMB	AMB		
comp=Z,20nm,1.2s,mb4.4
KMI				AMB	AMB		
comp=Z,102nm,5.0s
KMI				LR	LR		
comp=N,257nm,15.3s,MS4.0
KMI				LR	LR		
comp=E,214nm,12.3s,MS4.0
KMI				LR	LR		
comp=Z,279nm,13.8s,MS3.9
SHL	**Shillong**	**24.74**	**348**⇑	*i*P	**P**	**16 56 06.5**	**-0.4**
GYA	**Guiyang**	**26.62**	**19**	P	**P**	**16 56 25.5**	**+1.0**
GYA				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.3
JIRN	**Jiri**	**28.35**	**339**	*e*P	**P**	**16 56 40.7**	**+0.5**
comp=Z,22nm,0.8s,mb4.8
PKI	**Pulchoki**	**28.56**	**337**	*e*P	**P**	**16 56 44.1**	**+2.0**
comp=Z,13nm,0.7s,mb4.8
PKI	**Pulchoki**	**28.56**	**337**	*e*P	**P**	**16 56 44.1**	**+2.0**
PKI				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.4
GUN	**Gumba**	**28.69**	**339**	*e*P	**P**	**16 56 43.5**	**+0.3**
comp=Z,19nm,0.6s,mb5.1
DMN	**Daman**	**28.71**	**337**	*e*P	**P**	**16 56 44.8**	**+

comp=Z,9.0nm,0.9s,mb4.4
WMQ Urumqi 43.25 350 *e*P **P 16 58 48.4 +1.6**
ASAR Alice Springs 43.31 127 P **P 16 58 48.1 +0.6**
comp=Z,0.8nm,0.4s,mb3.8,baz=299,slow=7.4,SNR=6.2
AAK Ala-Archa 46.01 337 P **P 16 59 08.5 -0.4**
AAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
AAK Ala-Archa 46.01 337 P **P 16 59 08.5 -0.4**
comp=Z,3.2nm,1.1s,mb4.2
SONM Songino Array 47.06 8 P **P 16 59 17.7 +0.6**
comp=Z,2.5nm,0.7s,mb4.3,baz=188,slow=9.0,SNR=24
SONM PcP PcP 17 00 49.3 +0.5
comp=Z,0.7nm,0.4s,baz=188,slow=3.9,SNR=7.0
ULN Ulaanbaatar 47.19 9 *e*P **P 16 59 17.7 -0.4**
ULN pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ULN Ulaanbaatar 47.19 9 *e*P **P 16 59 17.7 -0.4**
comp=Z,3.0nm,0.9s,mb4.2
MKAR Makanchi Array 47.23 346 P **P 16 59 18.5 +0.1**
comp=Z,3.1nm,0.5s,mb4.5,baz=162,slow=8.9,SNR=60
KURK Kurchatov 51.78 345 *e*P **P 16 59 51.7 -1.6**
KURK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KURK Kurchatov 51.78 345 *e*P **P 16 59 51.7 -1.6**
comp=Z,5.4nm,1.1s,mb4.4
STKA Stephens Creek 53.28 132 P **P 17 00 05.8 +1.0**
comp=Z,1.3nm,0.5s,mb4.1,baz=299,slow=10,SNR=4.7
ZAL Zalesovo 53.52 351 P **P 17 00 05.6 -0.7**
comp=Z,3.5nm,0.5s,mb4.5,baz=300,slow=3.0,SNR=21
KLR Kul'dur 56.15 26 *e*P **P 17 00 23.2 -2.2**
BVAR Borovoye Array 56.25 341 P **P 17 00 24.7 -1.3**
comp=Z,1.7nm,0.5s,mb4.3,baz=136,slow=9.5,SNR=17
CHKZ Chkalovo 56.72 341 *e*P **P 17 00 28.4 -1.0**
CHKZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CHKZ Chkalovo 56.72 341 *e*P **P 17 00 28.4 -1.1**
comp=Z,5.4nm,0.7s,mb4.7
BOD Bodaibo 57.94 10 *e*P **P 17 00 37.9 0.0**
BOD pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MA2 Magadan 71.23 26 *e*P **P 17 02 04.5 +0.5**
MA2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MA2 Magadan 71.23 26 *e*P **P 17 02 04.5 +0.5**
comp=Z,5.0nm,0.8s,mb4.5
TIXI Tiksi 73.11 10 *e*P **P 17 02 13.5 -1.5**
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
FINES FINESS Array B 80.02 332 P **P 17 02 53.6 -0.3**
comp=Z,0.5nm,0.5s,mb3.7,baz=108,slow=6.0,SNR=6.0
ARCES ARCESS Array B 82.54 340 P **P 17 03 07.3 +0.4**
comp=Z,2.5nm,0.9s,mb4.2,baz=121,slow=5.3,SNR=2.6
GERES GERESS Array B 84.87 319 P **P 17 03 19.6 +0.5**
comp=Z,0.2nm,0.4s,mb3.6,baz=146,slow=7.1,SNR=3.1

KRSC 02 16:58:39.5±1.1, 53.82N×161.54E, h41km±27km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.75**	**9**	*e*P	P	16 58 51.7	-1.9
MKZ				*e*S	S	16 59 01.1	-2.9
SPN	**Mys Shipunski**	**1.16**	**232**	*e*P	P	16 58 58.4	-1.1
SPN				*e*S	S	16 59 13.0	-1.4
KII	**Karymskiy**	**1.25**	**281**	*e*P	P	16 59 00.3	-0.6
KII				*e*S	S	16 59 14.5	-2.4
NLC	**Nalytchevo**	**1.46**	**245**	*e*P	P	16 59 03.1	-0.8
NLC				*e*S	S	16 59 20.5	-1.6
TUMR	**Tumrok**	**1.68**	**332**	*e*P	P	16 59 06.5	-0.4
TUMR				*e*S	S	16 59 26.4	-0.9
SMAR	**Somma**	**1.73**	**252**	*e*P	P	16 59 07.6	0.0
SMAR				*e*S	S	16 59 28.3	-0.3
UGLR	**Uglovaya**	**1.73**	**250**	*i*P	P	16 59 07.6	-0.1
UGLR				*e*S	S	16 59 28.6	-0.2
AVH	**Avacha**	**1.76**	**253**	*e*P	P	16 59 08.2	+0.1
AVH				*e*S	S	16 59 29.5	0.0
KOK	**Koryaka**	**1.81**	**254**	*i*P	P	16 59 08.7	-0.1
KOK				*e*S	S	16 59 31.1	+0.4
PET	**Petropavlovsk**	**1.90**	**246**	*e*P	P	16 59 09.8	-0.3
PET				*e*S	S	16 59 32.5	-0.5
KMNR	**Kamenistaya**	**2.08**	**339**	*e*P	P	16 59 13.5	+0.8
KMNR				*e*S	S	16 59 37.5	0.0
GNL	**Ganaly**	**2.14**	**268**	*e*P	P	16 59 14.0	+0.5
GNL				*e*S	S	16 59 40.0	+1.0
KRMR	**Karymshinskiy**	**2.27**	**246**	*e*P	P	16 59 16.9	+1.5
KRMR				*e*S	S	16 59 43.5	+1.1
KPT	**Kopyto**	**2.28**	**341**	P	P	16 59 16.4	+0.9
KPT				*e*S	S	16 59 44.0	+1.4
RUS	**Russkaya**	**2.29**	**234**	*e*P	P	16 59 16.2	+0.5
RUS				*e*S	S	16 59 42.7	-0.2
KOZ	**Kozyrevsk**	**2.44**	**337**	*e*P	P	16 59 18.9	+1.1
KOZ				*e*S	S	16 59 46.4	-0.2
GRL	**Gorelyy**	**2.44**	**240**	*e*P	P	16 59 19.4	+1.6
GRL				*e*S	S	16 59 48.1	+1.4
KBTR	**Krutoberegovo**	**2.50**	**17**	*e*P	P	16 59 18.1	-0.6
KBTR				*e*S	S	16 59 46.0	-2.3
KBG	**Krutoberegovo**	**2.53**	**15**	P	P	16 59 21.4	+2.3
KBG				*e*S	S	16 59 50.6	+1.7
KBG				Smax			
	220nm,1.0s						
KLY	**Klyuchi**	**2.55**	**349**	*e*P	P	16 59 19.6	+0.2
KLY				*e*S	S	16 59 49.5	+0.1
ESO	**Esso**	**2.67**	**323**	*e*P	P	16 59 20.2	-0.9
ESO				*e*S	S	16 59 51.3	-1.2
ESO				Smax			
	50nm,0.8s						
SRDR	**Sredinnyy**	**2.71**	**338**	*e*P	P	16 59 22.2	+0.5
APC	**Apacha**	**2.77**	**253**	*e*P	P	16 59 24.6	+2.0
APC				*e*S	S	16 59 56.7	+1.6
APC				Smax			
	60nm,0.7s						
BKI	**Bering**	**2.93**	**60**	*e*P	P	16 59 23.1	-1.7
BKI				*e*S	S	16 59 54.0	-5.1
BKI				Smax			
	80nm,0.3s						

OTT 02 16:59:51.3±0.2, 52.76N×67.30W, MN2.9/7, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.10**	**7**	PN	Pn	17 00 27.3	-0.8
SCHQ				SG	Sg	17 00 56.8	-4.4
SCHQ				Trac		17 01 00.0	
	comp=Z,54nm,0.2s						
MNQ	**Manicouagan**	**2.41**	**203**	PN	Pn	17 00 32.0	-0.5
MNQ				SN	Sn	17 01 02.9	-0.3
MNQ				Trac		17 01 08.8	
	comp=Z,29nm,0.3s						
SMQ	**Clarke City**	**2.56**	**171**	PN	Pn	17 00 32.8	-2.0
SMQ				SN	Sn	17 01 06.1	-1.0
SMQ				Trac		17 01 11.0	
	comp=Z,17nm,0.2s						
ICQ	**Pointe Anglais**	**3.24**	**180**	PN	Pn	17 00 42.9	-1.5
ICQ				SN	Sn	17 01 23.8	-0.4
ICQ				Trac		17 01 36.7	
	comp=Z,7.0nm,0.1s						
CNQ	**Baie Comeau**	**3.49**	**188**	PN	Pn	17 00 47.1	-0.8
CNQ				SG	Sg	17 01 35.8	-12
CNQ				Trac		17 01 46.3	
	comp=Z,11nm,0.2s						
GSQ	**Grosses Roches**	**3.85**	**178**	PN	Pn	17 00 51.1	-2.0
GSQ				SN	Sn	17 01 40.2	+0.4
GSQ				Trac		17 01 53.3	
	comp=Z,9.5nm,0.2s						
LG4Q	**La Grande 4**	**4.18**	**285**	PN	Pn	17 00 55.4	-2.4
LG4Q				SN	Sn	17 01 39.0	-9.1
LG4Q				Trac		17 02 02.7	
	comp=Z,7.8nm,0.3s						
LMQ	**La Malbaie**	**5.56**	**202**	PN	Pn	17 01 13.6	-3.8
LMQ				SN	Sn	17 02 16.3	-6.7
LMN	**Caledonia Moun**	**7.10**	**166**	PN	Pn	17 01 35.5	-3.4
LMN				SN	Sn	17 02 54.0	-7.4
DRLN	**Deer Lake**	**7.10**	**116**	PN	Pn	17 01 35.1	-3.9
DRLN				SN	Sn	17 02 51.3	-10
VLDQ	**Val d'Or**	**7.97**	**238**	PN	Pn	17 01 47.9	-3.3
VLDQ				SN	Sn	17 03 17.7	-5.6
MALO	**McAlpine Lake**	**8.26**	**256**	PN	P	17 01 49.8	-5.5
MALO				SN	Sn	17 03 19.8	-11
VIMO	**Victor Mine**	**9.97**	**277**	PN	P	17 02 12.8	-5.9
SILO	**Sutton Inlier**	**10.61**	**286**	PN	P	17 02 20.8	-6.6
FRB	**Frobisher Bay**	**11.04**	**357**	PN	P	17 02 29.5	-3.9

BJI ***02*** *17:06:59.8, 2.13N×96.38E, h41km, mB4.9, mb4.5, Ms4.5, Msz4.0*
IDC ***02*** *17:07:00.0±0.6, 2.83N×96.58E, mb4.5/16, mb1 4.6/16, mb1mx4.5/19, mbtmp4.5/16, MS3.8/7, Ms1 3.8/7, ms1mx3.5/23, Error ellipse: s-maj=29.0km s-min=13.6km az=49.0*
MOS ***02*** *17:07:04.0±1.1, 2.86N×96.51E, h33km, mb4.9/30, Error ellipse: s-maj=14.7km s-min=6.8km az=113.0*
NEIC ***02*** *17:07:04.3±0.3, 2.72N×96.51E, mb4.7/30, Error ellipse: s-maj=9.3km s-min=6.5km az=213.0*
ISC 02 17:07:05.6±1.1, 2.78N±0.06×96.60E±0.05, h48km±10km**, h24**km±2.9km**: pP-P, n136,** σ1**§01**/143**, mb4.7**/59**, MS4.0**/15**, 9C-8D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.75**	**58**	*e*P	P	**17 08 17.4**	**+0.9**
CHG	**Chiang Mai**	**16.10**	**8**	P	P	**17 11 03.8**	**+14**
PALK	**Pallekele**	**16.45**	**286**	*e*P	P	**17 10 54.3**	**-0.4**
	89nm,1.1s						
PALK				*e*		17 10 58.4	
PALK				*e*S	S	17 13 32.9	-22
VIS	**Vishakhapatnam**	**19.75**	**320**	*e*P	P	**17 11 34.0**	**-0.2**
VIS				*e*		17 11 36.4	
	comp=Z,36nm,0.8s						
VIS				*e*		17 15 00.7	
QIZ	**Qiongzhong**	**20.71**	**38**	P	P	**17 11 45.5**	**+1.2**
QIZ				S	S	**17 15 31.9**	**+4.0**
QIZ				LR	LR		
	comp=N,362nm,14.9s						
QIZ				LR	LR		
	comp=Z,415nm,16.5s,MS3.9						
HYB	**Hyderabad**	**22.92**	**311**	*e*P	P	**17 12 08.0**	**+1.5**
HYB	**Hyderabad**	**22.92**	**311**	*i*P	P	**17 12 08.0**	**+1.5**
KMI	**Kunming**	**22.99**	**14**	P	P	**17 12 10.4**	**+3.3**
KMI				XP		17 12 20.2	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.1						
KMI				AMB	AMB		
	comp=Z,109nm,5.4s						
KMI				LR	LR		
	comp=N,286nm,15.9s,MS4.0						
KMI				LR	LR		
	comp=E,278nm,15.9s,MS4.0						
KMI				LR	LR		
	comp=Z,312nm,15.9s,MS3.9						
SHL	**Shillong**	**23.10**	**349**	*e*P	P	**17 12 07.2**	**-1.0**
BLSP	**Bilaspur**	**23.82**	**325**	*e*P	P	**17 12 15.3**	**+0.2**
BLSP				*e*		17 12 17.8	
	comp=Z,28nm,1.2s						
NGP	**Nagpur**	**25.00**	**318**	*e*P	P	**17 12 27.9**	**+1.2**
NGP				*e*		17 12 30.6	
	comp=Z,34nm,1.0s						
NGP				*e*S	S	**17 16 50.9**	**+6.3**
GYA	**Guiyang**	**25.45**	**21**	P	P	**17 12 31.9**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**26.66**	**339**	*e*P	P	**17 12 41.6**	**-0.5**
	comp=Z,25nm,0.6s,mb4.9						
PKI	**Pulchoki**	**26.87**	**338**	*e*P	P	**17 12 43.6**	**-0.4**
	comp=Z,14nm,0.6s,mb4.7						
PKI	**Pulchoki**	**26.87**	**338**	*e*P	P	**17 12 43.6**	**-0.4**
PKI				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
GUN	**Gumba**	**27.00**	**339**	*e*P	P	**17 12 44.9**	**-0.3**
	comp=Z,61nm,0.8s,mb5.2						
DMN	**Daman**	**27.02**	**337**	*e*P	P	**17 12 45.0**	**-0.4**
	comp=Z,38nm,0.9s,mb4.9						
KKN	**Kakani**	**27.12**	**338**	*e*P	P	**17 12 45.8**	**-0.5**
	comp=Z,35nm,0.9s,mb4.9						
KKN	**Kakani**	**27.12**	**338**	*e*P	P	**17 12 45.8**	**-0.5**
KKN				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.6						
LSA	**Lhasa**	**27.27**	**350**	P	P	**17 12 48.0**	**+0.4**
LSA	**Lhasa**	**27.27**	**350**	*e*P	P	**17 12 47.5**	**-0.1**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
LSA	**Lhasa**	**27.27**	**350**	*e*P	P	**17 12 47.5**	**-0.1**
	comp=Z,12nm,0.8s,mb4.5						
GKN	**Gorkha**	**27.56**	**337**	*e*P	P	**17 12 49.4**	**-0.9**
	comp=Z,91nm,1.1s,mb5.3						
KOLN	**Koldanda**	**27.78**	**335**	*e*P	P	**17 12 51.8**	**-0.5**
	comp=Z,41nm,0.8s,mb5.1						
ENH	**Enshi**	**29.95**	**23**	P	P	**17 13 10.3**	**-1.3**
	comp=Z,4.0nm,0.6s,mb4.3						
XAN	**Xi'an**	**33.16**	**19**	P	P	**17 13 39.0**	**-0.7**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
LZH	**Lanzhou**	**33.81**	**11**	*e*P	P	**17 13 47.8**	**+2.5**
LZH				AP	pP	17 13 55.6	-2.5
LZH				XP	sP	17 13 59.1	-5.1
LZH				PP	PP	17 15 02.1	+2.5
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,96nm,5.2s						
LZH				LR	LR		
	comp=N,318nm,13.0s						
LZH				LR	LR		
	comp=Z,397nm,17.4s,MS4.2						
LZH	**Lanzhou**	**33.81**	**11**	*e*P	P	**17 13 47.8**	**+2.5**
LZH				*SP	sP	17 13 59.1	-5.1
LZH						17 15 02.1	
LZH				pmax	pmax		
	comp=Z,24nm,1.3s,mb5.0						
LZH				MLR	MLR		
	comp=Z,400nm,17.4s,MS4.2						
LZH	**Lanzhou**	**33.81**	**11**	*e*P	P	**17 13 47.8**	**+2.5**
	comp=Z,24nm,1.3s,mb5.0						
LZH				pP	pP	17 13 55.6	-2.5
LZH				sP	sP	17 13 59.1	-5.1
LZH				PP	PP	17 15 02.1	+2.5
LZH				LR	LR		
	comp=Z,400nm,17.4s,MS4.2						
FITZ	**Fitzroy Crossi**	**35.35**	**127**	P	P	**17 13 58.2**	**-0.4**
	comp=Z,8.2nm,1.0s,mb4.6,baz=331,slow=3.9,SNR=6.6						
FITZ				LR	LR	17 28 52.0	
	comp=Z,111nm,18.4s,MS3.6,baz=276,slow=37						
THN	**Thein Dam**	**35.42**	**329**	*e*	P	**17 13 53.8**	**-5.3**
NJ2	**Nanjing**	**35.86**	**33**	*e*P	P	**17 14 04.7**	**+1.8**
NJ2				AP	pP	17 14 14.5	-1.2
NJ2				XP	sP	17 14 18.2	-3.6
NJ2				PP	PP	17 15 27.0	+1.8
NJ2				S	S	**17 19 42.0**	**+5.5**
NJ2				XS		17 19 58.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,150nm,5.8s						
NJ2				LR	LR		
	comp=N,940nm,14.9s,MS4.8						
NJ2				LR	LR		
	comp=E,480nm,13.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,310nm,11.4s,MS4.3						
SSE	**Sheshan**	**36.50**	**37**	*e*P	P	**17 14 07.1**	**-1.1**
SSE				XP	sP	17 14 21.6	-5.5
SSE				S	S	**17 19 46.9**	**+0.6**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,67nm,3.6s						
SSE				LR	LR		
	comp=N,425nm,14.9s,MS4.4						
SSE				LR	LR		
	comp=E,154nm,14.9s,MS4.4						
SSE				LR	LR		
	comp=Z,183nm,15.6s,MS4.0						
SSE	**Sheshan**	**36.50**	**37**	*e*P	P	**17 14 07.1**	**-1.1**
	comp=Z,29nm,0.7s,mb5.3						
SSE				sP	sP	17 14 21.6	-5.5
SSE				S	S	**17 19 46.9**	**+0.6**
SSE				sS		17 20 03.1	
SSE				SS	SS	17 22 30.4	+16
SSE				LR	LR		
	comp=Z,180nm,15.6s,MS4.0						
GTA	**Gaotai**	**36.58**	**4**	P	P	**17 14 07.6**	**-1.2**
GTA				PCP	PcP	17 16 29.9	-1.9
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
GTA				AMB	AMB		
	comp=Z,113nm,9.9s						
GTA				LR	LR		
	comp=N,121nm,11.0s,MS4.1						
GTA				LR	LR		
	comp=E,153nm,12.9s,MS4.1						
GTA				LR	LR		
	comp=Z,158nm,10.3s,MS4.1						
KSH	**Kashi**	**41.09**	**336**	*e*P	P	**17 14 46.1**	**-0.2**
KSH				*e*AP	pP	17 14 53.0	-6.3
KSH				*e*PP	PP	17 16 23.1	-1.4
KSH				*e*PCP	PcP	17 16 47.1	+1.2
KSH				*e*PPP	PPP	17 16 52.2	-2.8
KSH				*e*PCS		17 20 37.3	
KSH				*e*S	S	**17 20 55.1**	**-0.4**
KSH				*e*SCS	ScS	17 24 47.1	+2.8
KSH				AMB	AMB		
	comp=Z,20nm,14.1s						
KSH				LR	LR		
	comp=N,850nm,23.9s,MS4.6						
KSH				LR	LR		
	comp=E,640nm,22.4s,MS4.6						
BJT	**Baijiatuau**	**41.09**	**23**	*e*P	P	**17 14 47.1**	**+0.7**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJT	**Baijiatuau**	**41.09**	**23**	*e*P	P	**17 14 47.1**	**+0.7**
	comp=Z,7.7nm,0.6s,mb4.5						
BJI	**Beijing**	**41.12**	**23**	*e*P	P	**17 14 46.5**	**-0.1**
BJI				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.7						
BJI				LR	LR		
	comp=N,286nm,12.9s,MS4.5						
BJI				LR	LR		
	comp=E,322nm,16.0s,MS4.5						
BJI				LR	LR		
	comp=Z,73nm,13.6s,MS3.7						
WBK	**Wadi Bani Khal**	**41.46**	**302**	P	P	**17 14 51.0**	**+1.5**
	SNR=7.7						
JMDO	**Jabal Madar**	**42.11**	**301**	⇓P	P	**17 14 55.6**	**+0.6**
BIDO	**Bidbid**	**42.53**	**302**	⇑P	P	**17 14 59.8**	**+1.3**
SHAO	**Shalim**	**42.91**	**294**	⇓P	P	**17 15 01.8**	**+0.2**
BSY	**Bisya**	**43.02**	**301**	P	P	**17 15 04.0**	**+1.5**
	SNR=10						
ULHL	**Ulahol**	**43.31**	**338**	P	P	**17 15 04.8**	**+0.2**
	SNR=9.9						
WRA	**Warramunga Arr**	**43.39**	**123**	P	P	**17 15 04.5**	**-1.0**
	comp=Z,4.6nm,1.1s,mb4.1,baz=300,slow=9.3,SNR=18						
WRAB	**Tennant Creek**	**43.39**	**123**	*i*P	P	**17 15 06.8**	**+1.3**
WRAB	**Tennant Creek**	**43.39**	**123**	*e*P	P	**17 15 05.2**	**-0.4**
	comp=Z,8.1nm,0.6s,mb4.6						
KZA	**Kyzart**	**43.55**	**337**	P	P	**17 15 07.2**	**+0.7**
	SNR=6.0						
UCH	**Uchtor**	**43.97**	**336**	P	P	**17 15 10.3**	**+0.5**
	SNR=12						
TKM2	**Tokmak 2**	**44.13**	**338**	P	P	**17 15 11.6**	**+0.4**
	SNR=8.4						
KBK	**Karagaybulak**	**44.16**	**337**	P	P	**17 15 12.4**	**+1.0**
	SNR=8.5						
AML	**Almayashu**	**44.22**	**335**	P	P	**17 15 12.7**	**+0.8**
	SNR=12						
AAK	**Ala-Archa**	**44.32**	**337**	P	P	**17 15 14.6**	**+1.9**
	SNR=5.4						
AAK	**Ala-Archa**	**44.32**	**337**	*e*P	P	**17 15 12.4**	**-0.3**
AAK				*e*PP	pP	17 15 19.8	-5.9
AAK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**44.32**	**337**	*e*P	P	**17 15 12.4**	**-0.3**
	comp=Z,8.8nm,1.1s,mb4.4						
AAK				*e*pP	pP	17 15 19.8	-6.0
WHFO	**Wadi Hawf**	**44.58**	**293**	⇓P	P	**17 15 15.4**	**+0.3**
	SNR=13						
EKS2	**Erkin-Say**	**44.63**	**336**	P	P	**17 15 15.9**	**+0.7**
	SNR=15						
ASHO	**Ashiyiah**	**44.72**	**303**	⇓P	P	**17 15 17.7**	**+1.6**
	SNR=5.9						
ASAR	**Alice Springs**	**44.83**	**128**	P	P	**17 15 16.3**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.6,baz=296,slow=7.9,SNR=5.6						
USP	**Ospenovka**	**44.85**	**337**	P	P	**17 15 17.2**	**+0.2**
	SNR=18						
ABTO	**Aybut**	**44.88**	**292**	⇑P	P	**17 15 17.3**	**-0.2**
MKAR	**Makanchi Array**	**45.57**	**346**	P	P	**17 15 21.8**	**-0.8**
	comp=Z,15nm,0.8s,mb5.0,baz=162,slow=7.7,SNR=114						
MKAR				LR	LR	17 37 19.1	
	comp=Z,94nm,20.9s,MS3.7,baz=323,slow=40						
SONM	**Songino Array**	**45.67**	**9**	P	P	**17 15 23.1**	**-0.3**
	comp=Z,4.5nm,0.6s,mb4.6,baz=190,slow=9.4,SNR=39						
SONM				PcP	PcP	17 17 00.4	-0.9
	comp=Z,2.0nm,0.8s,baz=180,slow=3.7,SNR=4.2						
ULN	**Ulaanbaatar**	**45.81**	**10**	*e*P	P	**17 15 23.3**	**-1.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ULN	**Ulaanbaatar**	**45.81**	**10**	*e*P	P	**17 15 23.3**	**-1.2**
	comp=Z,2.4nm,0.5s,mb4.4						
ZAK	**Zakamensk**	**47.77**	**6**	*e*P	P	**17 15 38.8**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
CN2	**Changchun**	**48.19**	**28**	*e*P	P	**17 15 46.2**	**+3.0**
TLY	**Talaya**	**49.09**	**6**	*e*P	P	**17 15 51.0**	**+0.9**
TLY				*PP	pP	17 15 58.5	-4.7
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
TLY	**Talaya**	**49.09**	**6**	*e*P	P	**17 15 51.0**	**+1.0**
	comp=Z,3.3nm,0.6s,mb4.5						
TLY				pP	pP	17 15 58.5	-4.7
KURK	**Kurchatov**	**50.12**	**345**	*e*P	P	**17 15 57.0**	**-1.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**50.12**	**345**	*e*P	P	**17 15 57.0**	**-1.0**
	comp=Z,6.5nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	**50.80**	**30**	P	P	**17 16 04.7**	**+1.4**
MDJ				AMB	AMB		
	comp=Z,11nm,2.9s,mb4.3						
PMG	**Port Moresby**	**51.81**	**104**	P	P	**17 16 13.0**	**+1.7**
PMG				pmax	pmax		
	comp=Z,36nm,1.0s						
PMG	**Port Moresby**	**51.81**	**104**	P	P	**17 16 13.0**	**+1.7**
	comp=Z,36nm,1.0s,mb5.3						
ZAL	**Zalesovo**	**51.90**	**351**	P	P	**17 16 10.4**	**-1.1**
	comp=Z,5.3nm,0.6s,mb4.7,baz=302,slow=6.2,SNR=30						
NVS	**Novosibirsk**	**53.03**	**350**	*i*P	P	**17 16 17.8**	**-2.0**
NVS				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.3						
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.1s						
RAYN	**Ar Rayn**	**53.49**	**297**	P	P	**17 16 23.8**	**+0.1**
	comp=E,62nm,0.7s,SNR=9.8						
BVAR	**Borovoye Array**	**54.57**	**341**	P	P	**17 16 29.0**	**-2.2**
	comp=E,6.5nm,0.8s,mb4.7,baz=142,slow=9.1,SNR=37						
STKA	**Stephens Creek**	**54.86**	**133**	P	P	**17 16 33.0**	**-0.7**
	comp=E,2.8nm,0.9s,mb4.3,baz=280,slow=12,SNR=2.6						
STKA				LR	LR	17 39 58.7	
	comp=E,133nm,19.4s,MS4.0,baz=241,slow=36						
CHKZ	**Chkalovo**	**55.05**	**341**	*e*P	P	**17 16 33.3**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,52nm,0.8s,mb5.6						
CHKZ	**Chkalovo**	**55.05**	**341**	*e*P	P	**17 16 33.3**	**-1.4**
	comp=Z,52nm,0.8s,mb5.6						
BOD	**Bodaibo**	**56.58**	**11**	*e*P	P	**17 16 44.5**	**-1.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.3						
YSS	**Yuzh-Sakhalins**	**59.40**	**35**	*d i*P	P	**17 17 05.2**	**-0.3**
YSS				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
KMBO	**Kilima Mbogo**	**59.45**	**267**	*e*P	P	**17 17 06.7**	**+0.3**
KMBO				*e*PP	pP	17 17 15.8	-4.1
KMBO				pmax	pmax		
	comp=Z,8.0nm,0.9s						

ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ARU Arti 61.50 337 *e*P **P 17 17 17.4 -2.3**
comp=Z,6.7nm,1.0s,mb4.7
KIV Kislovodsk 62.73 319*c i*P **P 17 17 27.4 -0.7**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
YAK Yakutsk 64.08 17 *e*P **P 17 17 45.6 +8.9**
YAK *e*S **S 17 26 08.6 +0.5**
YAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK smax
comp=N,3.0nm,1.1s
YAK smax
comp=E,2.0nm,1.1s
SOC Sochi 64.55 318 *e*P **P 17 17 36.6 -3.5**
SOC *e* 17 18 09.9
SOC *e* 17 19 56.8
SOC *e*PPP PPP 17 21 30.2 -7.3
SOC *e*S **S 17 26 14.4 +0.2**
SOC *e* 17 27 26.8
SOC pmax pmax
comp=Z,27nm,1.2s,mb5.2
SOC pmax pmax
comp=N,7.0nm,0.7s
SOC pmax pmax
comp=E,14nm,1.2s
BRTR Keskin Array B 67.61 312 P **P 17 17 58.0 -1.6**
comp=E,3.6nm,0.8s,mb4.5,baz=128,slow=7.0,SNR=16
MA2 Magadan 70.18 26 *e*P **P 17 18 15.0 -0.1**
MA2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MA2 Magadan 70.18 26 *e*P **P 17 18 15.0 -0.1**
comp=Z,3.2nm,0.7s,mb4.4
OBN Obninsk 70.97 328*d i*P **P 17 18 18.5 -1.4**
OBN pmax pmax
comp=Z,24nm,1.2s,mb5.0
TIXI Tiksi 71.75 10 *e*P **P 17 18 21.7 -2.6**
TIXI pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
AKASG Malin Array Be 73.65 322 P **P 17 18 33.9 -1.9**
comp=Z,4.5nm,0.7s,mb4.5,baz=89,slow=4.9,SNR=17
AKASG Malin Array Be 73.65 322 P **P 17 18 33.9 -1.9**
VRI Vrincioaia 74.06 317 ⇓P **P 17 18 38.8 +0.5**
MLR Muntele Rosu 74.51 316 ⇑P **P 17 18 40.6 -0.4**
BURAR Bucovina Array 75.45 319 ⇑P **P 17 18 46.6 +0.3**
KWP Kalwaria 77.48 320 *e*P **P 17 18 57.9 +0.2**
KOLS Kolonicke sedl 77.63 319 *e*P **P 17 18 59.4 +0.8**
KOLS *e* 17 19 02.6
SUW Suwalki 78.04 325 *e*P **P 17 19 00.3 -0.4**
CRVS Cervenica-Dubn 78.15 319 *e*P **P 17 19 01.7 +0.3**
CRVS *e* 17 19 05.1
FINES FINESS Array B 78.33 332 P **P 17 19 01.2 -0.9**
comp=Z,4.5nm,0.8s,mb4.4,baz=104,slow=7.9,SNR=16
KAF Kangasniemi 78.41 333 *e*p **P 17 19 00.8 -1.8**
comp=Z,5.2nm,0.8s,mb4.5
KAF Kangasniemi 78.41 333 *e*P **P 17 19 00.8 -1.8**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BILL Bilibino 79.91 21 *i*P **P 17 19 12.3 +1.6**
BILL pmax pmax
comp=Z,1.0nm,1.2s,mb3.6
ARCES ARCESS Array B 80.85 340 P **P 17 19 15.7 +0.1**
comp=Z,1.7nm,0.5s,mb4.2,baz=92,slow=5.3,SNR=22
ZST Bratislava 80.93 318 *e*P **P 17 19 16.5 +0.1**
ZST *e* 17 29 27.9
SYO Syowa Base 81.31 198 ⇓P **P 17 19 08.2 -10**
DPC Dobruska-Polom 81.66 320 *e*P **P 17 19 20.2 0.0**
BOJS Bojanci 81.95 315 *e*P **P 17 19 22.1 +0.2**
PERS Pernice 82.13 317 *e*P **P 17 19 22.9 +0.2**
PRU Pruhonice 82.77 320 *e*P **P 17 19 26.4 +0.5**
BRG Berggiesshubel 83.21 321 *e*P **P 17 19 28.7 +0.6**
BRG pmax pmax
comp=Z,14nm,2.0s,mb4.7
BRG Berggiesshubel 83.21 321 *e*P **P 17 19 28.7 +0.6**
comp=Z,14nm,2.0s,mb4.6
ROBS Robic 83.22 316 *e*P **P 17 19 27.9 -0.3**
GERES GERESS Array B 83.23 319 P **P 17 19 28.7 +0.4**
comp=Z,3.7nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=24
GERES LR LR 18 01 01.5
comp=Z,45nm,18.4s,MS3.9,baz=84,slow=39
KHC Kasperske Hory 83.33 319 *e*P **P 17 19 28.9 +0.1**
MOX Moxa 84.67 320 *e*P **P 17 19 36.0 +0.5**
GRA1 Grafenberg Arr 84.90 319 *e*P **P 17 19 37.2 +0.5**
comp=Z,9.0nm,1.1s,mb4.8
GRF Grafenberg Arr 84.90 319 *e*P **P 17 19 37.2 +0.5**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
GRF Grafenberg Arr 84.90 319 *e*P **P 17 19 37.2 +0.5**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
GRF Grafenberg Arr 84.90 319 *e*P **P 17 19 37.2 +0.5**
comp=Z,9.0nm,1.1s,mb4.8
NB2 NORSAR Subarra 85.34 331 P **P 17 19 38.2 -0.4**
comp=Z,7.1nm,1.0s,mb4.8,baz=93,slow=5.8
NOA NORSAR Array B 85.34 331 P **P 17 19 38.4 -0.2**
comp=Z,3.4nm,0.9s,mb4.5,baz=94,slow=5.3,SNR=5.8
NOA LR LR 18 01 26.4
comp=Z,38nm,20.3s,MS3.8,baz=75,slow=38
DAVOX Davos 85.74 317 P **P 17 19 41.6 +0.7**
comp=Z,8.8nm,0.6s,mb5.2,baz=108,slow=3.7,SNR=16
LPG La Plagne 87.93 315⇑*i*P **P 17 19 52.4 +0.9**
comp=Z,15nm,1.0s,mb4.9
LPG La Plagne 87.93 315⇑*i*P **P 17 19 52.4 +0.9**
LPG pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
CFAA Coronel Fontan 147.96 205 PKPbc PKPdf 17 26 47.3 +4.2
comp=Z,0.2nm,0.4s,baz=232,slow=4.1,SNR=5.1

*IDC **02** 17:21:37.5±1.6,21.97N×99.11E,mb3.5/4,mb1 3.7/4, mb1mx3.5/16,mbtmp3.5/4,Error ellipse: s-maj=76.1km s-min=26.2km az=62.0*
*BJI **02** 17:21:42.7,21.97N×98.94E,h13km,mB4.7,mb4.1,ML4.3, Ms4.4*
ISC 02 17:21:37.7±0.6,21.97N±0.04×99.40E±0.08,h10km,n13, σ1§47/21,mb3.3/4,2D,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRT	**Chiangrai**	**2.12**	**170**	⇓PN	**Pn**	**17 22 15.5**	**+1.7**
CHRT				PG	**Pg**	**17 22 19.5**	**-0.7**
CHRT				SG	**Sg**	**17 22 54.0**	**+5.5**
CHG	**Chiang Mai**	**3.17**	**188**	PG	**Pn**	**17 22 29.0**	**+0.2**
CHG				SG	**Sg**	**17 23 20.8**	**-2.6**
NANT	**Nan**	**3.38**	**159**	PN	**Pn**	**17 22 34.0**	**+2.2**
NANT				PG	**Pg**	**17 22 40.0**	**-5.4**
NANT				SG	**Sn**	**17 23 00.0**	**-12**
KMI	**Kunming**	**4.38**	**44**	PG	**Pg**	**17 23 06.2**	**+0.9**
KMI				SG	**Sg**	**17 24 02.3**	**-1.4**
KMI				Smax			
KMI				Smax			
KMI				LR	LR		
KMI				LR	LR		
KKTK	**Khon Kaen**	**6.47**	**149**	PN	**Pn**	**17 23 27.5**	**+12**
KKTK				PG	**Pg**	**17 23 55.0**	**+8.0**
KKTK				SG	**Sg**	**17 25 06.0**	**-7.3**
SHL	**Shillong**	**7.76**	**299**	⇓*i*P	**Pn**	**17 23 30.0**	**-3.5**
SHL				*e*S	Sn	17 25 24.0	+22
LSA	**Lhasa**	**10.69**	**318**	P	**P**	**17 24 16.0**	**+1.9**
LZH	**Lanzhou**	**14.59**	**14**	*e*P	**P**	**17 25 12.1**	**+5.9**
LZH				AP		17 25 17.2	
LZH				XP		17 25 20.1	
LZH				AMB	AMB		
GTA	**Gaotai**	**17.38**	**1**	P	**P**	**17 25 50.6**	**+8.6**
GTA				AMB	AMB		
SONM	**Songino Array**	**26.41**	**11**	P	**P**	**17 27 16.7**	**+0.5**
MKAR	**Makanchi Array**	**28.38**	**335**	P	**P**	**17 27 32.4**	**-1.8**
WRA	**Warramunga Arr**	**53.86**	**138**	P	**P**	**17 31 03.9**	**+0.4**
NOA	**NORSAR Array B**	**70.17**	**329**	P	**P**	**17 32 50.9**	**-1.4**

comp=Z,0.7nm,0.7s,mb3.7,baz=81,slow=6.1,SNR=3.5

IDC 02 17:33:01.2±55.0,16.54S×176.98W,mb4.2/3,mb1 4.4/3, mb1mx3.9/12,mbtmp4.2/3,Error ellipse: s-maj=1016.0km s-min=165.8km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.49**	**240**	P	P	17 40 42.0	-1.5
	3.1nm,0.8s,baz=84,slow=9.2,SNR=6.7						
WRA	**Warramunga Arr**	**46.24**	**258**	P	P	17 41 28.4	-2.0
	0.7nm,0.7s,baz=92,slow=7.5,SNR=28						
ASAR	**Alice Springs**	**46.48**	**253**	P	P	17 41 30.6	-1.7
	5.4nm,0.5s,baz=88,slow=8.4,SNR=120						

*MOS **02** 17:40:46.9±0.8,2.22N×95.56E,h33km,mb4.7/9,Error ellipse: s-maj=51.1km s-min=16.2km az=90.2*
*BJI **02** 17:40:47.2,2.50N×95.80E,h30km,mB4.9,mb4.5*
*IDC **02** 17:40:48.9±1.5,2.55N×95.76E,h22km±5km,mb3.9/9, mb1 4.0/9,mb1mx3.8/18,mbtmp4.0/9,Error ellipse: s-maj=59.7km s-min=14.1km az=55.0*
*NEIC **02** 17:40:50.2±0.5,2.52N×95.81E,h30km,mb4.5/14,Error ellipse: s-maj=12.0km s-min=5.8km az=224.0*
ISC 02 17:40:47.3±0.7,2.52N±0.10×95.82E±0.10,h22km, h22km±.6km:pP-P,n39,σ0§82/39,mb4.3/26,MS3.2/1,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.55**	**60**	*e*Pn	**Pn**	**17 42 11.2**	**+0.5**
KKM	**Kota Kinabalu**	**20.63**	**80**	*e*P	**P**	**17 45 26.8**	**-1.4**
KMI	**Kunming**	**23.44**	**16**	P	**P**	**17 45 57.7**	**+1.5**
KMI				XP		17 46 06.8	
KMI				AMB	AMB		
KMI	comp=Z,6.0nm,1.1s,mb3.9			AMB	AMB		
KMI	**Kunming**	**23.44**	**16**	P	**P**	**17 45 57.7**	**+1.5**
	comp=Z,6.0nm,1.1s,mb3.9						
KMI				sP		17 46 06.8	
KMI				S	S	17 50 25.2	+21
KMI				LR	LR		
	comp=Z,70nm,14.6s,MS3.2						
JIRN	**Jiri**	**26.64**	**341**	*e*P	**P**	**17 46 27.3**	**+0.8**
	comp=Z,44nm,0.7s,mb5.1						
PKI	**Pulchoki**	**26.82**	**339**	*e*P	**P**	**17 46 28.6**	**+0.4**
	comp=Z,4.8nm,0.4s,mb4.4						
DMN	**Daman**	**26.97**	**339**	*e*P	**P**	**17 46 30.1**	**+0.6**
GUN	**Gumba**	**26.97**	**340**	*e*P	**P**	**17 46 30.2**	**+0.6**
	comp=Z,28nm,0.7s,mb4.5						
KKN	**Kakani**	**27.07**	**339**	*e*P	**P**	**17 46 30.8**	**+0.3**
	comp=Z,14nm,0.7s,mb4.6						
KKN	**Kakani**	**27.07**	**339**	*e*P	**P**	**17 46 30.8**	**+0.3**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**27.39**	**351**	*e*P	**P**	**17 46 33.9**	**+0.5**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
LSA	**Lhasa**	**27.39**	**351**	*e*P	**P**	**17 46 33.9**	**+0.5**
	comp=Z,6.6nm,0.9s,mb4.2						
GKN	**Gorkha**	**27.50**	**338**	*e*P	**P**	**17 46 34.4**	**0.0**
	comp=Z,16nm,0.8s,mb4.6						
KOLN	**Koldanda**	**27.69**	**336**	*e*P	**P**	**17 46 36.1**	**0.0**
	comp=Z,11nm,0.7s,mb4.6						
XAN	**Xi'an**	**33.66**	**20**	P	**P**	**17 47 27.2**	**-1.6**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**35.81**	**126**	P	**P**	**17 47 46.9**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.2,baz=315,slow=4.3,SNR=5.9						
GTA	**Gaotai**	**36.90**	**5**	P	**P**	**17 47 55.7**	**-0.6**
GTA				AP	pP	17 48 02.5	-0.4
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
BJT	**Baijiatuau**	**41.64**	**24**	*e*P	**P**	**17 48 36.9**	**+1.1**
BJT				*e*	pP	17 48 42.9	+0.5
BJT				pmax	pmax		
	comp=Z,16nm,0.8s						
BJT	**Baijiatuau**	**41.64**	**24**	*e*P	**P**	**17 48 36.9**	**+1.1**
	comp=Z,16nm,0.8s,mb4.7						
BJT				*e*	pP	17 48 42.9	+0.5
BJI	**Beijing**	**41.66**	**24**	*e*P	**P**	**17 48 36.8**	**+0.8**
BJI				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.7						
BJI	**Beijing**	**41.66**	**24**	*e*P	**P**	**17 48 36.8**	**+0.8**
	comp=Z,15nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**43.90**	**122**	P	**P**	**17 48 54.9**	**+0.4**
	comp=Z,1.1nm,0.5s,mb3.8,baz=299,slow=9.6,SNR=16						
WRAB	**Tennant Creek**	**43.91**	**122**	*e*P	**P**	**17 48 55.1**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.5						
WRAB	**Tennant Creek**	**43.91**	**122**	*e*P	**P**	**17 48 55.1**	**+0.5**
	comp=Z,12nm,1.2s,mb4.5						
AAK	**Ala-Archa**	**44.25**	**337**	*e*P	**P**	**17 48 57.5**	**+0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**44.25**	**337**	*e*P	**P**	**17 48 57.5**	**+0.4**
	comp=Z,2.2nm,0.8s,mb3.9						
ASAR	**Alice Springs**	**45.29**	**127**	P	**P**	**17 49 06.0**	**+0.4**
	comp=Z,0.6nm,0.5s,mb3.6,baz=301,slow=7.9,SNR=10						
ASAR				pP	pP	17 49 12.6	+0.4
	comp=Z,0.5nm,0.6s,baz=304,slow=7.6,SNR=2.8						
MKAR	**Makanchi Array**	**45.64**	**347**	P	**P**	**17 49 07.7**	**-0.4**
	comp=Z,2.5nm,0.5s,mb4.4,baz=157,slow=8.7,SNR=50						
MKAR				pP	pP	17 49 14.2	-0.5
	comp=Z,2.6nm,0.6s,baz=164,slow=8.0,SNR=14						
SONM	**Songino Array**	**46.05**	**10**	P	**P**	**17 49 11.2**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=190,slow=9.2,SNR=27						
SONM				pP	pP	17 49 18.1	+0.1
	comp=Z,2.4nm,0.7s,baz=187,slow=9.3,SNR=14						
ULN	**Ulaanbaatar**	**46.20**	**10**	*e*P	**P**	**17 49 12.1**	**-0.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**46.20**	**10**	*e*P	**P**	**17 49 12.1**	**-0.4**
	comp=Z,3.1nm,0.8s,mb4.3						
KURK	**Kurchatov**	**50.17**	**346**	*e*P	**P**	**17 49 42.4**	**-1.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**50.17**	**346**	*e*P	**P**	**17 49 42.4**	**-1.0**
	comp=Z,1.9nm,0.6s,mb4.3						
ZAL	**Zalesovo**	**52.04**	**352**	P	**P**	**17 49 56.1**	**-1.4**
	comp=Z,1.6nm,0.5s,mb4.2,baz=316,slow=6.3,SNR=8.4						
ZAL				pP	pP	17 50 03.0	-1.2
	comp=Z,1.5nm,0.5s,baz=326,slow=5.9,SNR=4.9						
BVAR	**Borovoye Array**	**54.56**	**341**	P	**P**	**17 50 14.3**	**-1.8**
	comp=Z,2.2nm,0.7s,mb4.3,baz=149,slow=8.6,SNR=12						
CHKZ	**Chkalovo**	**55.05**	**342**	*e*P	**P**	**17 50 18.8**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**55.05**	**342**	*e*P	**P**	**17 50 18.8**	**-0.9**
	comp=Z,4.8nm,0.7s,mb4.6						
ARCES	**ARCESS Array B**	**80.83**	**340**	P	**P**	**17 53 01.3**	**+0.6**
	comp=Z,2.1nm,0.8s,mb4.1,baz=79,slow=6.2,SNR=6.7						
GERES	**GERESS Array B**	**82.92**	**319**	P	**P**	**17 53 12.2**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.5,baz=108,slow=3.1,SNR=2.6						

IDC 02 17:43:32.1±69.0,1.73N×96.12E,mb3.7/3,mb1 3.8/3, mb1mx3.5/16,mbtmp3.7/3,Error ellipse: s-maj=1323.0km s-min=167.2km az=176.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.48**	**347**	P	P	17 52 00.9	-1.9
	1.2nm,0.9s,baz=172,slow=8.6,SNR=4.4						
SONM	**Songino Array**	**46.78**	**9**	P	P	17 52 03.3	-1.8
	0.6nm,0.7s,baz=190,slow=8.8,SNR=3.6						
ZAL	**Zalesovo**	**52.87**	**352**	P	P	17 52 49.5	-2.4
	0.9nm,0.6s,baz=328,slow=4.6,SNR=4.3						

OTT 02 18:00:05.7±0.4,73.40N×90.09W,h18km,MN2.5/3, 190km southeast from Resolute, Nu,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	**Resolute Bay**	**1.85**	**316**	PN	Pn	18 00 36.2	-0.9
RES				SN	Sn	18 00 58.9	-1.4
RES				Trac		18 01 04.3	
	comp=Z,3.9nm,0.1s						
PINU	**Pond Inlet**	**3.62**	**95**	PN	Pn	18 01 01.9	-0.3
PINU				PG	Pn	18 01 07.0	+4.8
PINU				SN	Sn	18 01 40.8	-4.1
PINU				LG		18 01 55.9	
PINU				Trac		18 01 57.8	
	comp=Z,5.6nm,0.2s						
EUNU	**Eureka**	**6.74**	**5**	PN	Pn	18 01 45.8	-0.6
EUNU				SN	Sn	18 02 55.6	-7.8
QILN	**Qililugaq Expl**	**6.90**	**168**	PN	Pn	18 01 48.2	-0.3
QILN				SN	Sn	18 02 58.4	-9.1
QILN				LG		18 03 36.4	
QILN				Trac		18 03 42.9	
	comp=Z,2.0nm,0.5s						
LUPN	**Lupin Mine**	**10.59**	**234**	SN	S	18 04 21.4	-17
YRTN	**Rankin Inlet**	**10.67**	**185**	SN	S	18 04 27.3	-13
ACKN	**Achilles Lake**	**11.13**	**231**	SN	S	18 04 37.5	-14
ACKN				LG		18 05 43.8	

IDC 02 18:07:07.2±61.0,0.05N×96.52E,mb3.8/3,mb1 3.9/3, mb1mx3.6/15,mbtmp3.8/3,Error ellipse: s-maj=1187.0km s-min=160.8km az=176.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**48.19**	**347**	P	P	18 15 49.3	-2.0
	0.8nm,0.6s,baz=160,slow=7.4,SNR=11						
SONM	**Songino Array**	**48.36**	**9**	P	P	18 15 50.7	-1.9
	0.3nm,0.4s,baz=194,slow=8.5,SNR=4.7						
ZAL	**Zalesovo**	**54.57**	**352**	P	P	18 16 37.0	-2.4
	0.9nm,0.4s,baz=253,slow=6.1,SNR=5.1						

*MOS **02** 18:09:50.7±0.7,4.56S×152.15E,h145km,mb4.4/9,Error ellipse: s-maj=15.1km s-min=14.0km az=88.3*
*NEIC **02** 18:09:52.5±1.3,4.64S×152.03E,h147km±12km,mb4.5/20, Error ellipse: s-maj=9.7km s-min=9.2km az=223.0*
*IDC **02** 18:09:55.4±1.7,4.68S×151.78E,h166km±14km,mb4.0/9, mb1 4.1/11,mb1mx4.0/15,mbtmp4.4/11,MS3.1/4, Ms1 3.1/4,ms1mx3.0/14,Error ellipse: s-maj=19.3km s-min=11.0km az=121.0*
ISC 02 18:09:53.3±1.5,4.65S±0.06×151.86E±0.09,h159km±12km, n54,σ0§93/58,mb4.4/28,2C-1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.65**	**224**	P	**P**	**18 11 30.3**	**+0.7**
	11nm,0.3s,baz=44,slow=7.6,SNR=39						
PMG				S	**S**	**18 12 43.7**	**-0.7**
	17nm,0.3s,baz=347,slow=23,SNR=12						
PMG				LR	LR	18 13 53.0	
	comp=Z,70nm,20.0s,baz=65,slow=36						
HNR	**Honiara**	**9.32**	**121**	P	**P**	**18 11 59.7**	**-5.4**
HNR				pmax	pmax		
	comp=Z,12nm,0.7s						
HNR	**Honiara**	**9.32**	**121**	P	**P**	**18 11 59.7**	**-5.4**
	comp=Z,12nm,0.7s						
CTA	**Charters Tower**	**16.29**	**199**	P	**P**	**18 13 35.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=28,slow=16,SNR=4.2						
DZM	**Mont Dzumac**	**22.35**	**142**	*e*P	**P**	**18 14 39.8**	**+1.1**
DZM	**Mont Dzumac**	**22.35**	**142**	P	**P**	**18 14 40.0**	**+1.3**
	comp=Z,14nm,0.5s,mb4.6,baz=273,slow=22,SNR=18						
DZM				LR	LR	18 20 44.3	
	comp=Z,62nm,18.9s,baz=199,slow=29						
WRAB	**Tennant Creek**	**22.84**	**227**	*e*P	**P**	**18 14 44.4**	**+0.8**
WRAB				*e*S	**S**	**18 18 36.8**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,47nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**22.84**	**227**	*e*P	**P**	**18 14 44.4**	**+0.8**
	comp=Z,47nm,0.7s,mb5.0						
WRAB				*e*S	**S**	**18 18 36.8**	**-0.5**
WB2	**Warramunga Arr**	**22.85**	**227**⇑*i*P		**P**	**18 14 44.5**	**+0.9**
WB2				*e*S	**S**	**18 18 40.8**	**+3.3**
WRA	**Warramunga Arr**	**22.86**	**227**	P	**P**	**18 14 44.6**	**+0.8**
	comp=Z,17nm,0.3s,mb4.9,baz=51,slow=10,SNR=375						
WRA				S	**S**	**18 18 40.6**	**+3.0**
	comp=Z,4.6nm,0.9s,baz=45,slow=15,SNR=11						
ASAR	**Alice Springs**	**25.64**	**221**	P	**P**	**18 15 09.5**	**-0.6**
	comp=Z,2.1nm,0.4s,mb4.1,baz=53,slow=9.2,SNR=48						
ASAR				S	**S**	**18 19 25.2**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=51,slow=12,SNR=4.1						
ASAR				ScP		18 22 02.2	
	comp=Z,1.0nm,1.0s,baz=54,slow=3.0,SNR=4.3						
ASAR				LR	LR	18 24 28.9	
	comp=Z,66nm,19.6s,baz=202,slow=34						
ASPA	**Alice Springs**	**25.65**	**221**	*e*P	**P**	**18 15 10.3**	**+0.2**
STKA	**Stephens Creek**	**28.75**	**198**	P	**P**	**18 15 36.7**	**-1.5**
	comp=Z,1.2nm,0.6s,mb3.8,baz=42,slow=12,SNR=3.4						
STKA				LR	LR	18 28 05.4	
	comp=Z,49nm,18.2s,baz=257,slow=38						
FITZ	**Fitzroy Crossi**	**28.92**	**240**⇓*i*P		**P**	**18 15 38.7**	**-1.1**
	comp=Z,30nm,1.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**28.92**	**240**	P	**P**	**18 15 38.2**	**-1.6**
	comp=Z,9.8nm,0.3s,mb5.0,baz=32,slow=7.5,SNR=72						
FORT	**Forrest**	**34.33**	**218**	*e*P	**P**	**18 16 25.5**	**-1.2**
	comp=Z,780nm,1.1s						
MBWA	**Marble Bar**	**35.24**	**239**	*e*P	**P**	**18 16 33.3**	**-1.2**
	comp=Z,9.2nm,0.9s,mb4.4						
YHNB	**Yeheng**	**41.58**	**316**	*e*P	**P**	**18 17 28.3**	**+1.1**
KLBR	**Kellerberrin**	**41.74**	**226**	*e*P	**P**	**18 17 27.0**	**-1.4**
	comp=Z,342nm,1.5s						
KULM	**Kulim**	**52.09**	**280**	P	**P**	**18 18 48.8**	**-0.7**
KULM				*e*		18 18 59.3	
ENH	**Enshi**	**53.37**	**313**	*e*P	**P**	**18 18 58.6**	**-0.1**
	comp=Z,13nm,1.3s,mb4.5						
NANT	**Nan**	**55.50**	**296**	⇑P	**P**	**18 19 16.5**	**+2.1**
CHG	**Chiang Mai**	**57.08**	**296**	P	**P**	**18 19 25.9**	**+0.4**
LZH	**Lanzhou**	**60.47**	**316**	*e*P	**P**	**18 19 51.1**	**+2.4**
LZH				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.8						
LZH	**Lanzhou**	**60.47**	**316**	*e*P	**P**	**18 19 51.1**	**+2.4**
	comp=Z,26nm,1.6s,mb4.8						
LZH				sP	pP	18 20 20.5	-5.8
ULN	**Ulaanbaatar**	**65.38**	**329**	*e*P	**P**	**18 20 20.3**	**-0.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**65.38**	**329**	*e*P	**P**	**18 20 20.3**	**-0.6**
	comp=Z,1.8nm,0.8s,mb4.0						
SONM	**Songino Array**	**65.70**	**328**	P	**P**	**18 20 22.7**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=146,slow=4.5,SNR=8.8						
LSA	**Lhasa**	**67.38**	**305**	P	**P**	**18 20 34.4**	**+0.5**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**67.38**	**305**	P	**P**	**18 20 34.4**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.3						
ZAK	**Zakamensk**	**68.88**	**329**	*e*P	**P**	**18 20 42.6**	**-0.1**
ZAK				*e*	pP	18 21 20.4	-0.7
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
JIRN	**Jiri**	**70.91**	**301**	*e*P	**P**	**18 20 55.4**	**0.0**
	comp=Z,23nm,1.4s,mb4.7						
GUN	**Gumba**	**71.24**	**301**	*e*P	**P**	**18 20 57.5**	**+0.1**
	comp=Z,55nm,1.4s,mb5.1						
PKI	**Pulchoki**	**71.55**	**301**	*e*P	**P**	**18 20 59.0**	**-0.2**
	comp=Z,13nm,0.8s,mb4.7						
PKI	**Pulchoki**	**71.55**	**301**	*e*P	**P**	**18 20 59.0**	**-0.2**
PKI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
KKN	**Kakani**	**71.72**	**301**	*e*P	**P**	**18 21 00.2**	**0.0**
	comp=Z,10nm,0.7s,mb4.7						
KKN	**Kakani**	**71.72**	**301**	*e*P	**P**	**18 21 00.2**	**0.0**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
DMN	**Daman**	**71.82**	**301**	*e*P	**P**	**18 21 01.2**	**+0.4**
	comp=Z,44nm,1.2s,mb5.1						
GKN	**Gorkha**	**72.33**	**301**	*e*P	**P**	**18 21 03.6**	**-0.2**
	comp=Z,42nm,1.2s,mb5.0						
KOLN	**Koldanda**	**73.15**	**301**	*e*P	**P**	**18 21 08.3**	**-0.4**
	comp=Z,17nm,1.0s,mb4.7				

AAK	**Ala-Archa**	**83.88**	**314**	*e*P	**P**	**18 22 06.2**	**-0.4**
AAK				pmax	pmax		
comp=Z,5.0nm,1.2s,mb4.1							
AAK	**Ala-Archa**	**83.88**	**314**	*e*P	**P**	**18 22 06.2**	**-0.4**
comp=Z,5.2nm,1.2s,mb4.1							
QSPA	**South Pole Qui**	**85.31**	**180**	*e*P	**P**	**18 22 13.0**	**+0.1**
comp=Z,5.0nm,0.8s,mb4.3							
CHKZ	**Chkalovo**	**88.53**	**324**	*e*P	**P**	**18 22 27.6**	**-1.3**
CHKZ				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.1							
CHKZ	**Chkalovo**	**88.53**	**324**	*e*P	**P**	**18 22 27.6**	**-1.3**
comp=Z,1.0nm,0.4s,mb4.1							
NVAR	**Mina Array Bea**	**92.72**	**52**	P	**P**	**18 22 49.4**	**+0.6**
comp=Z,0.7nm,0.6s,mb4.0,baz=251,slow=2.3,SNR=5.0							
GERES	**GERESS Array B**	**123.43**	**328**	PKP	PKPdf	18 28 32.3	+0.6
comp=Z,0.4nm,0.5s,baz=63,slow=3.0,SNR=4.1							
BDFB	**Brasilia**	**151.83**	**136**	PKPbc	PKPdf	18 29 31.2	+7.9
comp=Z,2.2nm,0.7s,baz=261,slow=6.3,SNR=6.8							

MOS ***02*** *18:23:59.1±1.2, 1.39N×96.96E, h33km, mb4.3/4, Error ellipse: s-maj=41.9km s-min=16.7km az=116.5*
IDC ***02*** *18:24:00.3±1.2, 1.41N×97.03E, h27km±5km, mb3.8/9, mb1 3.9/9, mb1mx3.8/16, mbtmp4.0/9, Error ellipse: s-maj=48.7km s-min=14.5km az=53.0*
NEIC ***02*** *18:24:00.4±0.7, 1.42N×97.03E, mb4.3/6, Error ellipse: s-maj=17.8km s-min=11.1km az=222.0*

ISC 02 18:23:58.4±0.8, 1.5N±0.1×97.0E±0.1, h27km, h27km±.8km: pP-P, n22, σ0≈91/22, mb4.0/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.24**	**43**	*e*P	**Pn**	**18 25 17.8**	**+0.7**
KKM	**Kota Kinabalu**	**19.66**	**76**	*e*P	**P**	**18 28 28.5**	**0.0**
ENH	**Enshi**	**30.99**	**21**	*e*P	**P**	**18 30 14.8**	**-1.2**
5.2nm,0.5s,mb4.6							
ENH				*e*pP	pP	18 30 22.3	-1.7
WRA	**Warramunga Arr**	**42.31**	**122**	P	**P**	**18 31 51.3**	**-0.8**
0.5nm,0.6s,mb3.3,baz=303,slow=9.0,SNR=7.9							
WRA				pP	pP	18 32 00.3	+0.1
0.7nm,0.6s,baz=308,slow=9.0,SNR=3.9							
WRAB	**Tennant Creek**	**42.32**	**122**	*e*P	**P**	**18 31 52.4**	**+0.3**
WRAB				pmax	pmax		
comp=Z,23nm,1.5s,mb4.6							
WRAB	**Tennant Creek**	**42.32**	**122**	*e*P	**P**	**18 31 52.4**	**+0.3**
comp=Z,23nm,1.5s,mb4.6							
ASAR	**Alice Springs**	**43.69**	**127**	P	**P**	**18 32 03.5**	**+0.3**
comp=Z,1.1nm,0.8s,mb3.6,baz=300,slow=8.0,SNR=13							
ASAR				pP	pP	18 32 11.1	-0.2
comp=Z,0.5nm,0.6s,baz=299,slow=8.0,SNR=3.1							
AAK	**Ala-Archa**	**45.69**	**337**	P	**P**	**18 32 22.1**	**+3.1**
AAK				pmax	pmax		
comp=Z,3.0nm,1.2s,mb4.1							
AAK	**Ala-Archa**	**45.69**	**337**	P	**P**	**18 32 22.1**	**+3.1**
comp=Z,3.3nm,1.2s,mb4.1							
SONM	**Songino Array**	**46.89**	**9**	P	**P**	**18 32 29.2**	**+0.8**
comp=Z,2.7nm,0.6s,mb4.4,baz=192,slow=9.2,SNR=23							
SONM				pP	pP	18 32 37.0	+0.4
comp=Z,2.0nm,0.6s,baz=190,slow=8.6,SNR=8.2							
MKAR	**Makanchi Array**	**46.94**	**346**	P	**P**	**18 32 29.4**	**+0.6**
comp=Z,1.4nm,0.5s,mb4.2,baz=157,slow=8.0,SNR=25							
MKAR				pP	pP	18 32 37.5	+0.5
comp=Z,3.1nm,0.7s,baz=162,slow=7.7,SNR=18							
ULN	**Ulaanbaatar**	**47.02**	**9**	*e*P	**P**	**18 32 29.5**	**0.0**
ULN				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
ULN	**Ulaanbaatar**	**47.02**	**9**	*e*P	**P**	**18 32 29.5**	**+0.1**
comp=Z,1.9nm,0.6s,mb4.2							
KURK	**Kurchatov**	**51.49**	**345**	*e*P	**P**	**18 33 02.1**	**-1.7**
KURK				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.0							
KURK	**Kurchatov**	**51.49**	**345**	*e*P	**P**	**18 33 02.1**	**-1.8**
comp=Z,1.7nm,0.9s,mb4.0							
ZAL	**Zalesovo**	**53.26**	**351**	P	**P**	**18 33 16.4**	**-0.6**
comp=Z,1.3nm,0.4s,mb4.2,baz=324,slow=4.8,SNR=6.4							
ZAL				pP	pP	18 33 25.1	-0.2
comp=Z,2.2nm,0.5s,baz=332,slow=5.6,SNR=6.7							
CHKZ	**Chkalovo**	**56.42**	**341**	*e*P	**P**	**18 33 38.8**	**-1.2**
CHKZ				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.3							
CHKZ	**Chkalovo**	**56.42**	**341**	*e*P	**P**	**18 33 38.8**	**-1.3**
comp=Z,2.6nm,0.9s,mb4.3							
BRTR	**Keskin Array B**	**68.81**	**312**	P	**P**	**18 35 03.5**	**+0.7**
comp=Z,0.5nm,0.9s,mb3.4,baz=141,slow=9.2,SNR=2.9							
AKASG	**Malin Array Be**	**74.95**	**322**	P	**P**	**18 35 38.7**	**-0.3**
comp=Z,0.4nm,0.5s,mb3.6,baz=94,slow=4.7,SNR=3.3							
FINES	**FINESS Array B**	**79.69**	**333**	P	**P**	**18 36 05.4**	**+0.3**
comp=Z,0.6nm,0.8s,mb3.6,baz=72,slow=6.0,SNR=4.6							
ARCES	**ARCESS Array B**	**82.23**	**340**	P	**P**	**18 36 19.1**	**+0.8**
comp=Z,6.4nm,1.0s,mb4.5,baz=63,slow=2.7,SNR=4.1							

WEL 02 18:24:59.8±0.1, 39.19S×177.57E, h35km±2km, ML3.5/5, 2C, Error ellipse: s-maj=1.9km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.18**	**26**	PN	P	18 25 06.2	-0.2
KNZ				SN	S	18 25 11.1	+0.1
BKZ	**Black Stump Fm**	**0.84**	**271**	⇑PN	P	18 25 14.5	-0.7
BKZ				SN	S	18 25 25.8	-0.7
MWZ	**Matawai**	**0.85**	**358**	PN	P	18 25 14.9	-0.4
MWZ				SN	S	18 25 26.7	0.0
URZ	**Urewera**	**0.99**	**338**	⇑PN	P	18 25 16.7	-0.7
PWZ	**Pawanui**	**1.01**	**213**	PN	P	18 25 17.3	-0.3
PUZ	**Puketiti**	**1.23**	**26**	PN	P	18 25 20.8	0.0
EDRZ	**Edgecumbe**	**1.26**	**328**	PN	P	18 25 20.5	-0.6
TAZ	**Tarawera**	**1.26**	**318**	PN	P	18 25 20.6	-0.6
PATZ	**Paeroa**	**1.30**	**308**	PN	P	18 25 21.1	-0.8
MOVZ	**Moawhango**	**1.43**	**260**	*e*PN	P	18 25 23.5	-0.1
KATZ	**Kakaramea**	**1.48**	**278**	PN	P	18 25 23.7	-0.6
OTVZ	**Oturere**	**1.48**	**270**	PN	P	18 25 23.9	-0.5
TSZ	**Takapari Road**	**1.52**	**234**	*e*PN	P	18 25 23.6	-1.3
WNVZ	**Wahianoa**	**1.54**	**264**	*e*PN	P	18 25 25.1	-0.2
WTVZ	**West Tongariro**	**1.54**	**272**	*e*PN	P	18 25 25.0	-0.3
FWVZ	**Far West T-bar**	**1.57**	**267**	PN	P	18 25 25.3	-0.3
CNZ	**Chateau**	**1.57**	**269**	*e*PN	P	18 25 24.7	-1.0
MXZ	**Matakaoa Point**	**1.72**	**20**	*e*PN	P	18 25 27.0	-0.8
BFZ	**Birch Farm**	**1.81**	**214**	PN	P	18 25 27.5	-1.6
BFZ				*e*SN	S	18 25 49.6	-1.4
MRZ	**Mangatainoka R**	**2.13**	**225**	PN	P	18 25 32.1	-1.5
MRZ				*e*SN	S	18 25 56.7	-2.4
MTW	**Mount Morrison**	**2.53**	**218**	PN	P	18 25 36.3	-3.1
MTW				SN	S	18 26 06.3	-3.0
MQZ	**McQueen's Vall**	**5.84**	**218**	*e*SN	S	18 27 21.6	-11

IDC 02 18:42:35.5±4.9, 0.49N×98.21E, mb3.9/4, mb1 4.0/4, mb1mx3.6/15, mbtmp3.9/4, Error ellipse: s-maj=251.1km s-min=22.6km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.81**	**122**	P	P	18 50 18.6	-1.9
0.8nm,0.8s,baz=300,slow=8.9,SNR=5.9							
ASAR	**Alice Springs**	**42.17**	**127**	P	P	18 50 30.2	-1.5
0.8nm,0.6s,baz=295,slow=7.4,SNR=16							
MKAR	**Makanchi Array**	**48.17**	**345**	P	P	18 51 17.4	-2.1
1.6nm,0.5s,baz=161,slow=8.4,SNR=19							
ZAL	**Zalesovo**	**54.41**	**350**	P	P	18 52 04.0	-2.4
1.0nm,0.5s,baz=286,slow=2.0,SNR=4.4							
TXAR	**Lajitas Array**	**143.72**	**33**	PKP	PKPdf	19 02 13.8	-1.2
0.3nm,0.4s,baz=270,slow=1.3,SNR=3.6							

BJI ***02*** *18:45:19.1, 0.28N×97.07E, h37km, mB5.2, mb4.8, Ms4.5, Msz4.3*
MOS ***02*** *18:45:19.9±1.0, 0.44N×97.07E, h33km, mb4.8/17, Error ellipse: s-maj=23.5km s-min=9.7km az=99.3*
IDC ***02*** *18:45:22.5±0.8, 0.63N×96.82E, h26km±4km, mb4.0/14, mb1 4.1/14, mb1mx4.1/17, mbtmp4.1/14, MS3.6/7, Ms1 3.6/7, ms1mx3.3/23, Error ellipse: s-maj=30.4km s-min=11.5km az=51.0*
NEIC ***02*** *18:45:22.6±0.4, 0.66N×96.93E, mb4.8/22, Error ellipse: s-maj=10.7km s-min=5.8km az=48.0*

ISC 02 18:45:20.8±0.4, 0.68N±0.05×96.97E±0.05, h26km, h26km±1.0km: pP-P, n82, σ0≈97/89, mb4.5/50, MS3.9/15, 2C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.60**	**46**	P	**Pn**	**18 46 44.3**	**-0.4**
KULM	**Kulim**	**5.87**	**39**	*e*Pn	**Pn**	**18 46 47.5**	**-1.0**
KGM	**Kluang**	**6.48**	**78**	P	**Pn**	**18 46 57.5**	**+0.4**
KKTK	**Khon Kaen**	**16.59**	**20**	P	**P**	**18 49 16.0**	**+2.5**
PALK	**Pallekele**	**17.50**	**292**	P	**P**	**18 49 23.9**	**-0.9**
12nm,1.0s							
KKM	**Kota Kinabalu**	**19.93**	**74**	P	**P**	**18 49 53.5**	**-0.4**
TSM	**Tawau**	**21.18**	**80**	P	**P**	**18 50 06.7**	**0.0**
KMI	**Kunming**	**24.93**	**12**	P	**P**	**18 50 45.4**	**+1.8**
KMI				AP		18 50 50.8	
KMI				XS		18 55 28.3	
KMI				AMB	AMB		
comp=Z,23nm,1.1s,mb4.6							
KMI				AMB	AMB		
comp=Z,82nm,3.1s							
KMI				LR	LR		
comp=N,555nm,13.8s,MS4.3							
KMI				LR	LR		
comp=E,313nm,12.4s,MS4.3							
KMI				LR	LR		
comp=Z,600nm,11.1s,MS4.3							
SHL	**Shillong**	**25.23**	**349**	⇑*i*P	**P**	**18 50 47.0**	**+0.7**
GYA	**Guiyang**	**27.28**	**19**	P	**P**	**18 51 05.0**	**-0.3**
GYA				AMB	AMB		
comp=Z,10.0nm,1.2s,mb4.2							
JIRN	**Jiri**	**28.75**	**340**	*e*P	**P**	**18 51 19.3**	**+0.7**
comp=Z,68nm,1.2s,mb5.3							
PKI	**Pulchoki**	**28.95**	**338**	*e*P	**P**	**18 51 21.9**	**+1.5**
comp=Z,47nm,1.3s,mb5.1							
PKI	**Pulchoki**	**28.95**	**338**	*e*P	**P**	**18 51 21.9**	**+1.5**
PKI				pmax	pmax		
comp=Z,24nm,1.3s,mb4.8							
GUN	**Gumba**	**29.09**	**339**	*e*P	**P**	**18 51 22.0**	**+0.4**
comp=Z,41nm,0.9s,mb5.2							
DMN	**Daman**	**29.10**	**338**	*e*P	**P**	**18 51 23.2**	**+1.5**
KKN	**Kakani**	**29.20**	**338**	*e*P	**P**	**18 51 23.0**	**+0.4**
comp=Z,34nm,1.0s,mb5.0							
KKN	**Kakani**	**29.20**	**338**	*e*P	**P**	**18 51 23.0**	**+0.4**
KKN				pmax	pmax		
comp=Z,17nm,1.0s,mb4.7							
LSA	**Lhasa**	**29.39**	**350**	P	**P**	**18 51 25.7**	**+1.4**
LSA	**Lhasa**	**29.39**	**350**	*e*P	**P**	**18 51 25.6**	**+1.3**
LSA				*e**PP	pP	18 51 33.7	+1.6
LSA				pmax	pmax		
comp=Z,15nm,1.0s,mb4.7							
LSA	**Lhasa**	**29.39**	**350**	*e*P	**P**	**18 51 25.6**	**+1.3**
comp=Z,15nm,1.0s,mb4.7							
LSA				*e*pP	pP	18 51 33.7	+1.6
GKN	**Gorkha**	**29.63**	**338**	*e*P	**P**	**18 51 26.8**	**+0.3**
comp=Z,50nm,1.1s,mb5.2							
KOLN	**Koldanda**	**29.83**	**336**	*e*P	**P**	**18 51 28.0**	**-0.3**
comp=Z,24nm,0.9s,mb4.9							
ENH	**Enshi**	**31.75**	**21**	*e*P	**P**	**18 51 43.7**	**-1.4**
comp=Z,13nm,0.9s,mb4.8							
FITZ	**Fitzroy Crossi**	**33.81**	**125**	*e*P	**P**	**18 52 03.0**	**-0.2**
comp=Z,10nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	**33.81**	**125**	P	**P**	**18 52 02.8**	**-0.4**
comp=Z,8.0nm,0.8s,mb4.7,baz=299,slow=2.1,SNR=8.2							
FITZ				pP	pP	18 52 11.7	+0.7
comp=Z,13nm,0.7s,baz=347,slow=5.2,SNR=7.2							
FITZ				LR	LR	19 07 27.9	
comp=Z,118nm,18.6s,MS3.6,baz=276,slow=39							
XAN	**Xi'an**	**35.02**	**17**	P	**P**	**18 52 12.6**	**-0.9**
XAN				AMB	AMB		
comp=Z,20nm,0.9s,mb5.0							
NJ2	**Nanjing**	**37.42**	**31**	*e*P	**P**	**18 52 34.4**	**+0.6**
NJ2				AP	pP	18 52 44.0	+2.3
NJ2				XP	sP	18 52 47.9	+2.9
NJ2				PP	PP	18 54 04.3	+2.4
NJ2				S	**S**	**18 58 24.0**	**+4.0**
NJ2				XS		18 58 39.0	
NJ2				AMB	AMB		
comp=Z,20nm,1.1s,mb4.9							
NJ2				AMB	AMB		
comp=Z,290nm,4.5s							
NJ2				LR	LR		
comp=N,360nm,25.0s,MS4.3							
NJ2				LR	LR		
comp=E,390nm,22.1s,MS4.3							
NJ2				LR	LR		
comp=Z,260nm,21.6s,MS4.0							
SSE	**Sheshan**	**37.97**	**35**	*e*P	**P**	**18 52 36.8**	**-1.5**
SSE				AP	pP	18 52 45.8	-0.4
SSE				XP	sP	18 52 49.8	+0.2
SSE				S	**S**	**18 58 27.8**	**-0.5**
SSE				XS		18 58 43.8	
SSE				AMB	AMB		
comp=Z,27nm,0.7s,mb5.1							
SSE				AMB	AMB		
comp=Z,82nm,3.2s							
SSE				LR	LR		
comp=N,151nm,15.3s,MS4.1							
SSE				LR	LR		
comp=E,155nm,15.4s,MS4.1							
SSE				LR	LR		
comp=Z,213nm,12.9s,MS4.1							
SSE	**Sheshan**	**37.97**	**35**	*e*P	**P**	**18 52 36.8**	**-1.5**
comp=Z,27nm,0.7s,mb5.1							
SSE				pP	pP	18 52 45.8	-0.4
SSE				sP	sP	18 52 49.8	+0.2
SSE				S	**S**	**18 58 27.8**	**-0.5**
SSE				sS		18 58 43.8	
SSE				SS	SS	19 01 17.8	+12
SSE				LR	LR		
comp=Z,210nm,12.9s,MS4.1							
NWAO	**Narrogin (SRO)**	**38.50**	**152**	LR	LR	19 09 00.5	
comp=Z,83nm,19.9s,MS3.5,baz=148,slow=37							
GTA	**Gaotai**	**38.63**	**4**	P	**P**	**18 52 44.4**	**+0.5**
GTA				AP	pP	18 52 53.0	+1.2
GTA				XP	sP	18 52 55.6	+0.5
GTA				PP	PP	18 54 15.5	-0.6
GTA				S	**S**	**18 58 34.1**	**-4.2**
GTA				AMB	AMB		
comp=Z,4.0nm,0.7s,mb4.3							
GTA				AMB	AMB		
comp=Z,64nm,6.5s							
GTA				LR	LR		
comp=N,159nm,10.6s,MS4.2							
GTA				LR	LR		
comp=E,90nm,11.4s,MS4.2							
GTA				LR	LR		
comp=Z,118nm,13.3s,MS3.9							
WRA	**Warramunga Arr**	**41.95**	**121**	P	**P**	**18 53 11.7**	**+0.2**
comp=Z,4.1nm,0.8s,mb4.1,baz=300,slow=9.0,SNR=22							
WRA				pP	pP	18 53 20.5	+1.1
comp=Z,4.0nm,0.7s,baz=300,slow=9.0,SNR=11							
WRAB	**Tennant Creek**	**41.96**	**121**	*e*P	**P**	**18 53 11.8**	**+0.2**
WRAB				pmax	pmax		
comp=Z,11nm,0.9s,mb4.5							
WRAB	**Tennant Creek**	**41.96**	**121**	*e*P	**P**	**18 53 11.8**	**+0.2**
comp=Z,11nm,0.9s,mb4.5							
WB2	**Warramunga Arr**	**41.97**	**121**	*e*P	**P**	**18 53 11.8**	**+0.2**
HHC	**Hu-ho-hao-te**	**42.12**	**17**	*e*P	**P**	**18 53 10.4**	**-2.2**
HHC				PP	PP	18 54 51.9	-1.3
HHC				PCP	PcP	18 55 06.4	-1.1
HHC				SCP		18 58 55.1	
HHC				PCS		18 58 56.9	
HHC				S	**S**	**18 59 26.9**	**-3.4**
HHC				SCS	ScS	19 03 09.6	-1.3
HHC				AMB	AMB		
comp=Z,18nm,1.1s,mb4.6							
HHC				AMB	AMB		
comp=Z,183nm,5.2s							
HHC				LR	LR		
comp=N,340nm,11.8s,MS4.5							
HHC				LR	LR		
comp=E,235nm,13.1s,MS4.5							
HHC				LR	LR		
comp=Z,282nm,14.6s,MS4.3							
BJI	**Beijing**	**42.90**	**22**	*e*P	**P**	**18 53 20.1**	**+1.1**
BJI				AP	pP	18 53 28.4	+1.4
BJI				AMB	AMB		
comp=Z,26nm,0.7s,mb5.1							
BJI	**Beijing**	**42.90**	**22**	*e*P	**P**	**18 53 20.1**	**+1.1**
comp=Z,26nm,0.7s,mb5.1							
BJI				pP	pP	18 53 28.4	+1.4
KSH	**Kashi**	**43.15**	**336**	*e*P	**P**	**18 53 22.8**	**+1.7**
KSH				*e*AP	pP	18 53 29.3	+0.3
KSH				*e*XP	sP	18 53 32.6	+0.3
KSH				*e*PP	PP	18 55 04.3	+0.8
KSH				*e*PCP	PcP	18 55 12.1	+1.1
KSH				*e*PPP	PPP	18 55 38.6	-0.2
KSH				*e*SCP		18 59 00.7	
KSH				*e*PCS		18 59 03.2	
KSH				*e*S	**S**	**18 59 47.6**	**+2.2**
KSH				*e*SS	SS	19 02 53.4	+1.5
KSH				*e*SCS	ScS	19 03 18.5	+1.2
KSH				AMB	AMB		
comp=Z,50nm,2.8s,mb4.8							
KSH				LR	LR		
comp=N,170nm,5.7s							
KSH				LR	LR		
comp=E,170nm,3.8s							
ASPA	**Alice Springs**	**43.26**	**127**	*e*P	**P**	**18 53 23.1**	**+0.9**
ASAR	**Alice Springs**	**43.27**	**127**	P	**P**	**18 53 23.0**	**+0.8**
comp=E,2.8nm,0.9s,mb4.0,baz=298,slow=8.1,SNR=18							
ASAR				LR	LR	19 13 32.1	
comp=E,86nm,18.5s,MS3.7,baz=294,slow=39							
WMQ	**Urumqi**	**43.74**	**350**	P	**P**	**18 53 26.0**	**+0.2**
WMQ				AP	pP	18 53 33.5	-0.2
WMQ				XP	sP	18 53 37.0	0.0
WMQ				PP	PP	18 55 09.7	+0.3
WMQ				S	**S**	**18 59 54.0**	**0.0**
WMQ				AMB	AMB		
comp=Z,8.0nm,1.0s,mb4.4							
WMQ				AMB	AMB		
comp=Z,154nm,3.4s							
WMQ				LR	LR		
comp=N,58nm,17.1s,MS3.8							
WMQ				LR	LR		
comp=E,74nm,18.6s,MS3.8							
WMQ				LR	LR		
comp=Z,42nm,18.6s,MS3.4							
AAK	**Ala-Archa**	**46.39**	**337**	P	**P**	**18 53 46.1**	**-0.8**
AAK				*e**PP	pP	18 53 52.0	-2.9
AAK				pmax	pmax		
comp=Z,5.0nm,1.2s,mb4.3							
AAK	**Ala-Archa**	**46.39**	**337**	P	**P**	**18 53 46.1**	**-0.8**
comp=Z,5.2nm,1.2s,mb4.3							
AAK				*e*pP	pP	18 53 52.0	-2.9
SONM	**Songino Array**	**47.68**	**9**	P	**P**	**18 53 57.5**	**+0.5**
comp=Z,3.2nm,0.9s,mb4.4,baz=189,slow=7.8,SNR=26							
SONM				pP	pP	18 54 05.4	+0.3
comp=Z,3.5nm,0.9s,baz=195,slow=7.9,SNR=9.4							
SONM				PcP	PcP	18 55 26.9	+0.3
comp=Z,2.0nm,0.8s,baz=179,slow=3.9,SNR=6.2							
MKAR	**Makanchi Array**	**47.69**	**346**	P	**P**	**18 53 57.6**	**+0.4**
comp=Z,7.2nm,0.9s,mb4.7,baz=160,slow=8.3,SNR=47							
MKAR				LR	LR	19 18 12.0	
comp=Z,26nm,18.3s,MS3.2,baz=333,slow=41							
ULN	**Ulaanbaatar**	**47.81**	**9**	*e*P	**P**	**18 53 58.3**	**+0.2**
ULN				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.2							
ULN	**Ulaanbaatar**	**47.81**	**9**	*e*P	**P**	**18 53 58.2**	**+0.2**
comp=Z,2.3nm,0.8s,mb4.3							
ZAK	**Zakamensk**	**49.81**	**5**	*e*P	**P**	**18 54 13.4**	**-0.1**
ZAK				pmax	pmax		
comp=Z,2.0nm,2.3s,mb3.7							
CN2	**Changchun**	**49.87**	**27**	*e*P	**P**	**18 54 12.8**	**-1.2**
CN2				*e*S	**S**	**19 01 21.3**	**+0.3**
CN2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb5.0							
CN2				AMB	AMB		
comp=Z,200nm,3.0s							
CN2				LR	LR		
comp=N,500nm,15.0s,MS4.8							
CN2				LR	LR		
comp=E,500nm,15.0s,MS4.8							
CN2				LR	LR		
comp=Z,330nm,16.0s,MS4.4							
PMG	**Port Moresby**	**50.96**	**103**	P	**P**	**18 54 23.0**	**+0.3**
PMG				pmax	pmax		
comp=Z,20nm,0.9s							
PMG	**Port Moresby**	**50.96**	**103**	P	**P**	**18 54 23.0**	**+0.3**
comp=Z,20nm,0.9s,mb5.0							
TLY	**Talaya**	**51.13**	**5**	*i* P	**P**	**18 54 24.0**	**+0.5**
TLY				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
KURK	**Kurchatov**	**52.23**	**345**	*e*P	**P**	**18 54 31.6**	**-0.3**
KURK				*e**PP	pP	18 54 39.7	-0.3
KURK				pmax	pmax		
comp=Z,12nm,1.2s,mb4.7							
KURK	**Kurchatov**	**52.23**	**345**	*e*P	**P**	**18 54 31.6**	**-0.3**
comp=Z,12nm,1.2s,mb4.7							
KURK				*e*pP	pP	18 54 39.7	-0.2
MDJ	**Mudanjiang**	**52.43**	**29**	P	**P**	**18 54 33.4**	**0.0**
MDJ				AP	pP	18 54 39.7	-1.8
MDJ				PCP	PcP	18 55 43.7	-0.3
MDJ				PP	PP	18 56 33.5	+0.3
MDJ				PCS		18 59 42.5	
MDJ				S	**S**	**19 01 59.4**	**+3.1**
MDJ				AMB	AMB		
comp=Z,10.0nm,2.3s,mb4.3							
MDJ				AMB	AMB		
comp=Z,62nm,3.1s							
MDJ				LR	LR		
comp=N,46nm,18.6s							
MDJ				LR	LR		
comp=E,29nm,24.9s							
MDJ				LR	LR		
comp=Z,50nm,21.1s,MS3.5							
CTA	**Charters Tower**	**52.48**	**116**	LR	LR	19 18 55.7	
comp=Z,82nm,18.8s,MS3.8,baz=41,slow=38							
CTAO	**Charters Tower**	**52.48**	**116**	P	**P**	**18 54 34.4**	**+0.3**
CTAO				pmax	pmax		
comp=Z,20nm,1.1s,mb5.0							
CTAO	**Charters Tower**	**52.48**	**116**	P	**P**	**18 54 34.4**	**+0.3**
comp=Z,20nm,1.1s,mb5.0							
STKA	**Stephens Creek**	**53.18**	**132**	P	**P**	**18 54 39.8**	**+0.6**
comp=Z,4.1nm,0.8s,mb4.4,baz=313,slow=12,SNR=7.0							
ZAL	**Zalesovo**	**54.03**	**351**	P	**P**	**18 54 44.2**	**-0.8**
comp=Z,4.3nm,0.5s,mb4.7,baz=312,slow=6.1,SNR=24							
ZAL				pP	pP	18 54 53.0	-0.2
comp=Z,4.5nm,0.6s,baz=319,slow=7.3,SNR=7.7							
BVAR	**Borovoye Array**	**56.67**	**341**	P	**P**	**18 55 02.8**	**-1.4**
comp=Z,2.7nm,0.9s,mb4.3,baz=135,slow=8.4,SNR=13							
BVAR				pP	pP	18 55 11.2	-1.2
comp=Z,2.6nm,0.7s,baz=156,slow=14,SNR=8.9							
KLR	**Kul'dur**	**56.82**	**27**	*e*P	**P**	**18 55 02.5**	**-2.9**
CHKZ	**Chkalovo**	**57.15**	**342**	*e*P	**P**	**18 55 06.6**	**-1.0**
CHKZ				*e**PP	pP	18 55 15.0	-0.8
CHKZ				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.7							
CHKZ	**Chkalovo**	**57.15**	**342**

BILL pmax pmax
comp=Z,3.0nm,1.8s,mb3.9
GERES GERESS Array B 85.05 319 P P 18 57 56.0 +0.4
comp=Z,0.7nm,0.7s,mb3.9,baz=90,slow=2.7,SNR=4.7
NOA NORSAR Array B 87.35 331 P P 18 58 06.6 +0.1
comp=Z,0.4nm,0.9s,mb3.7,baz=144,slow=10,SNR=2.8
NOA LR LR 19 41 50.8
comp=Z,32nm,21.4s,MS3.7,baz=290,slow=39
TXAR Lajitas Array 144.23 32 PKP PKPdf 19 04 55.3 -4.5
comp=Z,0.5nm,0.6s,baz=270,slow=1.3,SNR=4.8
TXAR pPKP 19 05 04.4
comp=Z,1.1nm,0.9s,baz=270,slow=2.5,SNR=4.9

*CSEM **02** 18:52:00.7±0.8, 38.71N×28.03W, h30km, ML1.8, Error ellipse: s-maj=49.7km s-min=9.7km az=114.0*
*PDA **02** 18:52:03.1±0.6, 38.65N×27.90W, MD3.1, ML1.8, Error ellipse: s-maj=5.1km s-min=1.3km az=118.0*
SVSA 02 18:52:03.1±0.6, 38.65N×27.90W, MD3.1, ML1.8, Error ellipse: s-maj=5.1km s-min=1.3km az=118.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAN	**Manadas**	**0.15**	**265**	*e*P	Pg	18 52 06.2	+0.1
PMAN				*e*S	Sg	18 52 08.4	+0.4
168nm,0.1s							
PGRA	**Graciosa**	**0.39**	**351**	*e*P	Pg	18 52 10.4	-0.5
PGRA				*e*S	Sg	18 52 15.8	-0.2
39nm,0.1s							
PGRA	**Graciosa**	**0.39**	**351**	*e*P	Pg	18 52 10.4	-0.5
PGRA				*e*S	Sg	18 52 15.8	-0.2
39nm,0.1s							
PICO	**Pico**	**0.44**	**251**	*e*P	Pg	18 52 11.2	-0.6
PICO				*e*S	Sg	18 52 17.5	-0.1
STGR	**Santa Cruz**	**0.44**	**350**	*i* S	Sg	18 52 17.4	-0.4
31nm,0.1s							
STGR	**Santa Cruz**	**0.44**	**350**	*i* S	Sg	18 52 17.4	-0.4
31nm,0.1s							
HOR	**Horta**	**0.58**	**259**	*e*rx		18 52 15.1	
PCED	**Cedros**	**0.63**	**269**	*e*S	Sg	18 52 21.7	-2.3
CALA	**Caldeira**	**0.63**	**264**	*e*S	Sg	18 52 22.7	-1.4

IDC 02 18:52:11.7±5.2, 22.36N×93.50E, mb3.5/3, mb1 3.7/3, mb1mx3.3/17, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/20, Error ellipse: s-maj=388.0km s-min=27.6km az=61.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.51**	**336**	*e*P	Pn	18 53 22.0	+13
SHL				*e*S	Sn	18 53 46.5	-5.1
MKAR	**Makanchi Array**	**26.01**	**342**	P	P	18 57 46.2	-1.7
0.9nm,0.6s,baz=150,slow=10,SNR=6.7							
ATD	**Arta Tunnel**	**49.43**	**266**	LR	LR	19 22 09.2	
comp=Z,56nm,18.1s,baz=35,slow=36							
WRA	**Warramunga Arr**	**57.96**	**133**	P	P	19 02 06.7	-1.8
0.2nm,0.5s,baz=321,slow=7.5,SNR=8.4							
ASAR	**Alice Springs**	**60.31**	**137**	P	P	19 02 21.9	-2.9
0.2nm,0.5s,baz=315,slow=7.7,SNR=5.6							

*THR **02** 19:09:12.8±1.1, 26.67N×53.94E, h28km±11km, ML3.9*
*NEIC **02** 19:09:15.9±0.8, 26.96N×54.01E, h10km, mb4.1/11, ML3.9(THR), Error ellipse: s-maj=13.4km s-min=8.4km az=193.0*
*CSEM **02** 19:09:16.8±0.1, 26.99N×53.99E, h25km, mb4.2/4, ML4.6/1, Error ellipse: s-maj=2.6km s-min=1.6km az=58.0*
*MOS **02** 19:09:17.4±1.2, 26.92N×53.88E, h33km, mb4.2/7, Error ellipse: s-maj=17.3km s-min=9.2km az=107.3*
*OMAN **02** 19:09:19.2±0.1, 27.01N×53.86E, h30km, Error ellipse: s-maj=5.6km s-min=3.3km az=41.0*
*TEH **02** 19:09:25.1, 27.55N×53.82E, h10km, Mn3.3*
*IDC **02** 19:09:26.6±8.4, 27.22N×54.01E, h85km±73km, mb3.5/15, mb1 3.7/16, mb1mx3.6/22, mbtmp3.9/16, ML1.4/1, Error ellipse: s-maj=34.9km s-min=17.7km az=171.0*
ISC 02 19:09:15.0±0.3, 26.98N±0.03×53.86E±0.05, h10km, n80, σ1§17/92, mb4.0/23, 7C-7D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.51**	**329**	*e*Pg	**Pg**	**19 09 45.0**	**-0.2**
GHIR				*e*Sg	**Sg**	**19 10 09.0**	**+3.6**
GHIR	**Ghir-Karzin**	**1.51**	**329**	*e*PG	**Pg**	**19 09 45.9**	**+0.6**
GHIR				*e*SG	**Sg**	**19 10 09.2**	**+3.8**
GHIR				AML	AML	19 10 17.1	
comp=N,1μm,0.5s							
GHIR	**Ghir-Karzin**	**1.51**	**329**	*e*Pg	**Pg**	**19 09 45.0**	**-0.2**
GHIR				*e*Sg	**Sg**	**19 10 09.2**	**+3.8**
comp=N,1μm,0.5s,SNR=93							
BNDS	**Bandar-Abbas**	**2.10**	**78**	*e*Pg	**Pn**	**19 09 50.0**	**-0.6**
BNDS				*e*Sg	**Sn**	**19 10 18.0**	**+1.0**
BNDS	**Bandar-Abbas**	**2.10**	**78**	*e*PG	**Pn**	**19 09 50.3**	**-0.3**
BNDS				*e*SG	**Sn**	**19 10 18.2**	**+1.2**
BNDS				AML	AML	19 10 35.4	
comp=N,720nm,0.6s							
BNDS	**Bandar-Abbas**	**2.10**	**78**	*e*Pg	**Pn**	**19 09 50.3**	**-0.3**
SNR=93							
BNDS				*e*Sg	**Sn**	**19 10 18.2**	**+1.2**
comp=N,720nm,0.6s,SNR=93							
IMOK	**Mook**	**2.29**	**334**	Pn	**Pn**	**19 09 55.9**	**+2.5**
BANOM	**Banah**	**2.43**	**115**	⇑P	**Pn**	**19 09 56.1**	**+0.7**
SNR=49							
ISRV	**Sarvestan**	**2.48**	**345**	Pn	**Pn**	**19 09 58.4**	**+2.3**
IPAR	**Pars**	**2.94**	**346**	Pn	**Pn**	**19 10 03.3**	**+0.7**
ASHO	**Ashiyiah**	**3.03**	**139**	⇓P	**Pn**	**19 10 06.1**	**+2.2**
SNR=41							
ASHO				⇓S	**Sn**	**19 10 42.1**	**+1.5**
KRBR	**Kerman**	**3.93**	**40**	*e*PN	**Pn**	**19 10 17.3**	**+0.6**
KRBR				AML	AML	19 11 11.6	
comp=N,172nm,0.5s							
KRBR	**Kerman**	**3.93**	**40**	*e*Pn	**Pn**	**19 10 17.0**	**+0.3**
ARQ	**Araqi**	**4.36**	**146**	⇑P	**Pn**	**19 10 24.6**	**+1.8**
SNR=9.8							
ARQ				⇓S	**Sn**	**19 11 14.6**	**+0.4**
IMEH	**Mehriz**	**4.44**	**8**	Pn	**Pn**	**19 10 24.4**	**+0.4**
IBAF	**Bafgh**	**4.83**	**18**	Pn	**Pn**	**19 10 29.6**	**+0.1**
BIDO	**Bidbid**	**5.17**	**131**	⇑P	**Pn**	**19 10 33.6**	**-0.8**
BSY	**Bisya**	**5.20**	**144**	⇑P	**Pn**	**19 10 36.1**	**+1.4**
SNR=26							
BSY				⇓S	**Sn**	**19 11 34.0**	**-1.4**
BSYO	**Bisya**	**5.23**	**143**	P	**Pn**	**19 10 36.1**	**+1.0**
SNR=26							
BSYO				S	**Sn**	**19 11 34.0**	**-2.2**
ICHK	**Chekchek**	**5.26**	**5**	Pn	**Pn**	**19 10 35.6**	**-0.1**
SMDO	**Samad**	**5.45**	**135**	⇓P	**Pn**	**19 10 38.5**	**+0.2**
NASN	**Na'in**	**5.87**	**351**	*e*Pn	**Pn**	**19 10 44.0**	**-0.2**
NASN	**Na'in**	**5.87**	**351**	*e*PN	**Pn**	**19 10 44.4**	**+0.3**
JMDO	**Jabal Madar**	**6.00**	**139**	⇓P	**Pn**	**19 10 45.7**	**-0.3**
SNR=12							
WBK	**Wadi Bani Khal**	**6.36**	**132**	⇑P	**Pn**	**19 10 50.4**	**-0.7**
SNR=24							
ASAO	**Ashtian**	**8.23**	**337**	*e*Pn	**P**	**19 11 17.0**	**-0.3**
ASAO	**Ashtian**	**8.23**	**337**	*e*PN	**P**	**19 11 17.1**	**-0.2**
IDMV	**Damavand**	**8.71**	**350**	Sn	**Sn**	**19 12 49.2**	**-14**
WHFO	**Wadi Hawf**	**9.02**	**181**	P	**P**	**19 11 28.1**	**-0.2**
SNR=39							
IRAZ	**Razeghan**	**9.04**	**339**	Pn	**P**	**19 11 26.8**	**-1.8**
IRAZ				Sn	**Sn**	**19 12 57.7**	**-14**
RBK	**Rabkut**	**9.44**	**178**	⇓P	**P**	**19 11 34.3**	**+0.2**
SNR=12							
ABTO	**Aybut**	**9.60**	**183**	⇑P	**P**	**19 11 35.4**	**-0.9**
SNR=16							
ABTO				⇑S	**Sn**	**19 13 16.4**	**-8.9**
GNI	**Garni**	**15.16**	**332**	P	**P**	**19 12 57.7**	**+6.9**
GNI				pmax	pmax		
comp=Z,11nm,0.8s							
GNI	**Garni**	**15.16**	**332**	P	**P**	**19 12 56.1**	**+5.2**
comp=Z,0.4nm,0.3s,baz=268,slow=0.8,SNR=9.4							
GNI	**Garni**	**15.16**	**332**	P	**P**	**19 12 57.7**	**+6.9**
comp=Z,11nm,0.8s							
MALT	**Malatya**	**17.20**	**315**	P	**P**	**19 13 15.0**	**-1.9**
ZEI	**Tsey**	**17.72**	**335**	*e*P	**P**	**19 13 25.8**	**+2.4**
KIV	**Kislovodsk**	**19.19**	**335**	*e*P	**P**	**19 13 41.7**	**+0.3**
KIV				pmax	pmax		
comp=Z,6.0nm,0.8s							
KIV	**Kislovodsk**	**19.19**	**335**	*e*P	**P**	**19 13 41.7**	**+0.2**
comp=Z,6.2nm,0.8s							
KIV	**Kislovodsk**	**19.19**	**335**	*e*P	**P**	**19 13 41.7**	**+0.3**
comp=Z,6.2nm,0.8s							
BRTR	**Keskin Array B**	**21.08**	**312**	P	**P**	**19 14 02.5**	**+0.8**
comp=Z,3.0nm,0.9s,mb3.6,baz=136,slow=13,SNR=8.0							
AAK	**Ala-Archa**	**22.95**	**42**	*e*P	**P**	**19 14 19.8**	**-0.6**
AAK				pmax	pmax		
comp=Z,3.0nm,0.9s,mb3.7							
AAK	**Ala-Archa**	**22.95**	**42**	*e*P	**P**	**19 14 19.8**	**-0.6**
comp=Z,3.5nm,0.9s,mb3.8							
AAK	**Ala-Archa**	**22.95**	**42**	*e*P	**P**	**19 14 19.8**	**-0.6**
comp=Z,3.5nm,0.9s,mb3.8							
BVAR	**Borovoye Array**	**28.78**	**21**	P	**P**	**19 15 13.6**	**-1.3**
comp=Z,0.6nm,0.3s,mb3.8,baz=203,slow=7.3,SNR=12							
MLR	**Muntele Rosu**	**28.90**	**317**	P	**P**	**19 15 17.1**	**+1.1**
comp=Z,3.0nm,0.9s,mb4.0,baz=96,slow=18,SNR=2.6							
CHKZ	**Chkalovo**	**29.41**	**20**	P	**P**	**19 15 21.0**	**+0.4**
CHKZ				pmax	pmax		
comp=Z,3.0nm,1.4s,mb3.8							
CHKZ	**Chkalovo**	**29.41**	**20**	P	**P**	**19 15 21.0**	**+0.5**
comp=Z,3.4nm,1.4s,mb3.9							
CHKZ	**Chkalovo**	**29.41**	**20**	P	**P**	**19 15 21.0**	**+0.4**
comp=Z,3.3nm,1.4s,mb3.9							
MKAR	**Makanchi Array**	**29.88**	**41**	P	**P**	**19 15 23.5**	**-1.3**
comp=Z,0.3nm,0.4s,mb3.4,baz=230,slow=9.5,SNR=7.3							
AKASG	**Malin Array Be**	**30.22**	**328**	P	**P**	**19 15 28.2**	**+0.4**
comp=Z,0.3nm,0.4s,mb3.4,baz=132,slow=7.4,SNR=4.4							
AKASG	**Malin Array Be**	**30.22**	**328**	P	**P**	**19 15 28.2**	**+0.4**
KURK	**Kurchatov**	**30.29**	**32**	P	**P**	**19 15 24.0**	**-4.4**
KURK				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.5							
KURK	**Kurchatov**	**30.29**	**32**	P	**P**	**19 15 24.0**	**-4.4**
comp=Z,1.3nm,0.9s,mb3.7							
PSZ	**Piszkesteto**	**33.72**	**317**	P	**P**	**19 16 07.4**	**+8.9**
PSZ				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
PSZ	**Piszkesteto**	**33.72**	**317**	P	**P**	**19 16 07.4**	**+9.0**
comp=Z,1.7nm,0.7s,mb4.1							
ZAL	**Zalesovo**	**35.26**	**32**	P	**P**	**19 16 09.8**	**-1.8**
comp=Z,0.9nm,0.4s,mb4.1,baz=194,slow=7.9,SNR=4.7							
MORC	**Moravsky Berou**	**35.93**	**319**	P	**P**	**19 16 14.9**	**-2.5**
MORC				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.1							
MORC	**Moravsky Berou**	**35.93**	**319**	P	**P**	**19 16 14.9**	**-2.4**
comp=Z,2.1nm,0.8s,mb4.1							
KHC	**Kasperske Hory**	**38.05**	**316**	*e*P	**P**	**19 16 33.5**	**-1.7**
VSL	**Villasalto**	**38.88**	**300**	P	**P**	**19 16 35.6**	**-6.6**
comp=Z,59nm,1.2s,mb5.2							
FINES	**FINESS Array B**	**39.18**	**339**	P	**P**	**19 16 44.0**	**-0.5**
comp=Z,0.7nm,0.5s,mb3.6,baz=146,slow=9.6,SNR=13							
HFS	**Hagfors**	**42.95**	**332**	P	**P**	**19 17 15.2**	**-0.2**
comp=Z,2.0nm,0.8s,mb3.9,baz=121,slow=8.6,SNR=5.1							
NB2	**NORSAR Subarra**	**44.46**	**332**	P	**P**	**19 17 26.2**	**-1.5**
comp=Z,1.2nm,0.7s,mb3.7,baz=119,slow=7.4							
NOA	**NORSAR Array B**	**44.46**	**332**	P	**P**	**19 17 26.6**	**-1.1**
comp=Z,0.9nm,0.7s,mb3.6,baz=118,slow=7.6,SNR=4.3							
SONM	**Songino Array**	**45.63**	**48**	P	**P**	**19 17 36.7**	**-0.5**
comp=Z,0.3nm,0.7s,mb3.4,baz=260,slow=9.9,SNR=6.0							
ARCES	**ARCESS Array B**	**45.68**	**346**	P	**P**	**19 17 38.0**	**+0.6**
comp=Z,3.4nm,1.0s,mb4.2,baz=143,slow=9.0,SNR=4.0							
ESDC	**Sonseca Array**	**49.18**	**300**	P	**P**	**19 18 06.1**	**+0.9**
comp=Z,0.2nm,0.4s,mb3.5,baz=75,slow=6.6,SNR=4.1							
DBIC	**Dimbokro**	**59.18**	**261**	*e*P	**P**	**19 19 19.1**	**+0.3**
DBIC				pmax	pmax		
comp=Z,3.0nm,0.7s							
DBIC	**Dimbokro**	**59.18**	**261**	P	**P**	**19 19 20.1**	**+1.3**
comp=Z,2.0nm,0.6s,mb4.3,baz=43,slow=8.9,SNR=6.9							
DBIC	**Dimbokro**	**59.18**	**261**	*e*P	**P**	**19 19 19.1**	**+0.3**
comp=Z,2.6nm,0.7s,mb4.4							
DBIC	**Dimbokro**	**59.18**	**261**	*e*P	**P**	**19 19 19.1**	**+0.3**
comp=Z,2.6nm,0.7s,mb4.4							
YAK	**Yakutsk**	**59.93**	**32**	P	**P**	**19 19 21.4**	**-1.9**
YAK				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.7							
YAK	**Yakutsk**	**59.93**	**32**	P	**P**	**19 19 21.4**	**-1.9**
comp=Z,5.2nm,0.6s,mb4.7							
YAK	**Yakutsk**	**59.93**	**32**	P	**P**	**19 19 21.4**	**-1.9**
comp=Z,5.2nm,0.6s,mb4.7							
SUMG	**Summit**	**65.20**	**341**	P	**P**	**19 19 59.5**	**+1.3**
comp=Z,5.6nm,0.3s,mb5.1							
YSS	**Yuzh-Sakhalins**	**70.09**	**47**	P	**P**	**19 20 27.8**	**-1.4**
YKA	**Yellowknife Ar**	**90.36**	**355**	P	**P**	**19 22 17.1**	**-0.1**
YKA	**Yellowknife Ar**	**90.36**	**355**	P	**P**	**19 22 17.0**	**-0.1**
comp=Z,0.4nm,0.7s,mb3.8,baz=6.4,slow=5.1,SNR=11							
ASAR	**Alice Springs**	**92.21**	**115**	P	**P**	**19 22 27.1**	**+0.5**
comp=Z,0.2nm,0.6s,mb3.6,baz=298,slow=4.9,SNR=3.9							

IDC 02 19:16:10.8±2.8, 2.33N×96.81E, h29km±6km, mb3.6/5, mb1 3.8/5, mb1mx3.5/15, mbtmp3.8/5, Error ellipse: s-maj=108.6km s-min=17.9km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.96**	**123**	P	P	19 24 07.4	-2.0
0.5nm,0.9s,baz=302,slow=9.1,SNR=5.4							
WRA				pP	pP	19 24 16.1	-2.2
0.6nm,0.6s,baz=304,slow=8.9,SNR=3.7							
ASAR	**Alice Springs**	**44.38**	**128**	P	P	19 24 19.1	-1.9
0.1nm,0.5s,baz=306,slow=7.9,SNR=4.9							
MKAR	**Makanchi Array**	**46.06**	**346**	P	P	19 24 31.8	-2.2
0.9nm,0.4s,baz=159,slow=9.0,SNR=22							
MKAR				pP	pP	19 24 40.4	-2.4
1.2nm,0.6s,baz=153,slow=8.1,SNR=8.6							
SONM	**Songino Array**	**46.08**	**9**	P	P	19 24 33.1	-1.0
0.4nm,0.5s,baz=191,slow=9.8,SNR=5.0							
SONM				pP	pP	19 24 41.8	-1.1
0.5nm,0.4s,baz=191,slow=9.1,SNR=5.6							
ZAL	**Zalesovo**	**52.38**	**351**	P	P	19 25 19.5	-3.1
1.9nm,0.5s,baz=318,slow=6.7,SNR=8.9							

*BJI **02** 19:17:20.2, 0.05N×97.87E, h26km, mB5.0, mb4.5, Ms4.3, Msz4.0*
*MOS **02** 19:17:27.3±1.2, 0.76N×97.46E, h33km, mb4.6/10, Error ellipse: s-maj=28.3km s-min=11.2km az=103.0*
*IDC **02** 19:17:28.4±0.7, 0.78N×97.34E, h26km±3km, mb4.0/15, mb1 4.2/15, mb1mx4.1/18, mbtmp4.2/15, Error ellipse: s-maj=35.7km s-min=12.9km az=50.0*
*NEIC **02** 19:17:28.6±0.5, 0.81N×97.49E, mb4.4/13, Error ellipse: s-maj=15.7km s-min=8.9km az=54.0*
ISC 02 19:17:27.0±0.6, 0.84N±0.08×97.54E±0.10, h27km, h27km±1.3km:pP-P, n52, σ0§94/50, mb4.3/35, MS4.0/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.40**	**35**	*e*Pn	**Pn**	**19 18 48.5**	**+0.6**
KMI	**Kunming**	**24.66**	**11**	P	**P**	**19 22 48.6**	**+1.6**
KMI				AP		19 22 57.2	
KMI				XP		19 23 00.9	
KMI				S	**S**	**19 27 14.3**	**+10**
KMI				AMB	AMB		
comp=Z,11nm,1.1s,mb4.3							
KMI				AMB	AMB		
comp=Z,54nm,4.6s							
KMI				LR	LR		
comp=N,328nm,12.3s,MS4.1							
KMI				LR	LR		
comp=E,210nm,13.2s,MS4.1							
KMI				LR	LR		
comp=Z,352nm,14.2s,MS4.0							
KMI	**Kunming**	**24.66**	**11**	P	**P**	**19 22 48.6**	**+1.6**
comp=Z,11nm,1.1s,mb4.3							
KMI				pP		19 22 57.2	
KMI				sP		19 23 00.9	
KMI				S	**S**	**19 27 14.3**	**+10**
KMI				LR	LR		
comp=Z,350nm,14.2s,MS4.0							
HYB	**Hyderabad**	**24.90**	**312**	*e*P		19 22 59.0	
HYB	**Hyderabad**	**24.90**	**312**	*i* P		19 22 59.0	
SHL	**Shillong**	**25.18**	**348**	*e*P	**P**	**19 22 53.0**	**+1.0**
SHL				*e*P		19 25 43.5	
GYA	**Guiyang**	**26.94**	**18**	P	**P**	**19 23 08.3**	**0.0**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
JIRN	**Jiri**	**28.80**	**339**	*e*P	**P**	**19 23 26.0**	**+0.9**
comp=Z,21nm,0.9s,mb4.9							
GUN	**Gumba**	**29.14**	**338**	*e*P	**P**	**19 23 29.1**	**+0.9**
comp=Z,18nm,0.6s,mb5.0							
DMN	**Daman**	**29.16**	**337**	*e*P	**P**	**19 23 29.1**	**+0.7**
comp=Z,9.2nm,0.9s,mb4.5							
KKN	**Kakani**	**29.26**	**337**	*e*P	**P**	**19 23 29.5**	**+0.2**
comp=Z,16nm,1.2s,mb4.7							
KKN	**Kakani**	**29.26**	**337**	*e*P	**P**	**19 23 29.5**	**+0.2**
KKN				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.3							
LSA	**Lhasa**	**29.34**	**349**	P	**P**	**19 23 31.2**	**+1.3**
LSA	**Lhasa**	**29.34**	**349**	*e*P	**P**	**19 23 31.2**	**+1.3**
LSA				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.2							
LSA	**Lhasa**	**29.34**	**349**	*e*P	**P**	**19 23 31.2**	**+1.3**
comp=Z,2.8nm,0.6s,mb4.2							
GKN	**Gorkha**	**29.70**	**337**	*e*P	**P**	**19 23 33.7**	**+0.5**
comp=Z,2.7nm,0.3s,mb4.4							
KOLN	**Koldanda**	**29.92**	**335**	*e*P	**P**	**19 23 35.7**	**+0.5**
comp=Z,6.2nm,0.7s,mb4.5							
ENH	**Enshi**	**31.39**	**20**	*e*P	**P**	**19 23 46.8**	**-1.4**
comp=Z,9.2nm,0.9s,mb4.6							
ENH				*e*pP	pP	19 23 52.8	-3.4
FITZ	**Fitzroy Crossi**	**33.44**	**126**	P	**P**	**19 24 05.8**	**-0.3**
comp=Z,6.7nm,0.8s,mb4.6,baz=350,slow=2.6,SNR=14							
XAN	**Xi'an**	**34.70**	**17**	P	**P**	**19 24 15.6**	**-1.2**
XAN				AP	pP	19 24 24.5	-0.5
XAN				AMB	AMB		
comp=Z,8.0nm,1.3s,mb4.5							
GTA	**Gaotai**	**38.44**	**3**	P	**P**	**19 24 49.0**	**+0.7**
GTA				AP	pP	19 25 01.2	+4.7
GTA				AMB	AMB		
comp=Z,7.0nm,1.0s,mb4.3							
WRA	**Warramunga Arr**	**41.56**	**122**	P	**P**	**19 25 14.8**	**+0.5**
comp=Z,1.9nm,0.5s,mb4.0,baz=302,slow=9.0,SNR=26							
HHC	**Hu-ho-hao-te**	**41.80**	**16**	*e*P	**P**	**19 25 15.2**	**-0.9**
HHC				AP	pP	19 25 25.4	+1.1
HHC				XP	sP	19 25 29.2	+1.5
HHC				PP	PP	19 26 53.7	-2.2
HHC				SCP		19 30 59.8	
HHC				PCS		19 31 03.4	
HHC				S	**S**	**19 31 27.1**	**-4.6**
HHC				XS		19 31 45.8	
HHC				SCS	ScS	19 35 14.3	-0.7
HHC				AMB	AMB		
comp=Z,8.0nm,1.2s,mb4.2							
HHC				AMB	AMB		
comp=Z,117nm,4.6s							
HHC				LR	LR		
comp=N,174nm,16.0s,MS4.2							
HHC				LR	LR		
comp=E,158nm,15.9s,MS4.2							
HHC				LR	LR		
comp=Z,148nm,16.1s,MS4.0							
BJI	**Beijing**	**42.54**	**21**	*e*P	**P**	**19 25 20.0**	**-2.2**
BJI				AMB	AMB		
comp=Z,12nm,0.9s,mb4.6							
BJI	**Beijing**	**42.54**	**21**	*e*P	**P**	**19 25 20.0**	**-2.2**
comp=Z,12nm,0.9s,mb4.6							
ASAR	**Alice Springs**	**42.91**	**127**	P	**P**	**19 25 26.1**	**+0.8**
comp=Z,1.1nm,0.5s,mb3.8,baz=298,slow=7.7,SNR=23							
WMQ	**Urumqi**	**43.68**	**350**	*e*P	**P**	**19 25 32.5**	**+1.1**
SONM	**Songino Array**	**47.43**	**8**	P	**P**	**19 26 01.7**	**+0.5**
comp=Z,1.1nm,0.4s,mb4.2,baz=189,slow=9.4,SNR=16							
SONM				pP	pP	19 26 09.5	0.0
comp=Z,1.3nm,0.7s,baz=188,slow=8.5,SNR=7.9							
ULN	**Ulaanbaatar**	**47.56**	**9**	*e*P	**P**	**19 26 02.2**	**0.0**
ULN				pmax	pmax		
comp=Z,4.0nm,1.5s,mb4.2							
ULN	**Ulaanbaatar**	**47.56**	**9**	*e*P	**P**	**19 26 02.2**	**0.0**
comp=Z,4.3nm,1.5s,mb4.3							
MKAR	**Makanchi Array**	**47.67**	**346**	P	**P**	**19 26 03.4**	**+0.3**
comp=Z,2.2nm,0.4s,mb4.5,baz=162,slow=7.7,SNR=28							
MKAR				pP	pP	19 26 10.7	-0.7
comp=Z,2.2nm,0.6s,baz=160,slow=7.8,SNR=7.2							
KURK	**Kurchatov**	**52.22**	**345**	*e*P	**P**	**19 26 37.8**	**-0.1**
KURK				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.4							
KURK	**Kurchatov**	**52.22**	**345**	*e*P	**P**	**19 26 37.8**	**-0.1**
comp=Z,5.0nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**52.86**	**132**	P	**P**	**19 26 43.9**	**+1.0**
comp=Z,2.4nm,0.5s,mb4.4,baz=313,slow=8.2,SNR=12							
STKA	**Stephens Creek**	**52.86**	**132**	P	**P**	**19 26 43.9**	**+1.0**
ZAL	**Zalesovo**	**53.95**	**351**	P	**P**	**19 26 50.0**	**-0.5**
comp=Z,3.5nm,0.4s,mb4.7,baz=309,slow=4.4,SNR=13							
BVAR	**Borovoye Array**	**56.70**	**341**	P	**P**	**19 27 09.5**	**-1.1**
comp=Z,1.7nm,0.8s,mb4.1,baz=162,slow=9.4,SNR=7.8							
BVAR				pP	pP	19 27 16.8	-2.1
comp=Z,2.0nm,0.7s,baz=146,slow=11,SNR=8.5							
CHKZ	**Chkalovo**	**57.17**	**341**	*e*P	**P**	**19 27 13.2**	**-0.7**
CHKZ				*e**PP	pP	19 27 21.3	-1.1
CHKZ				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
CHKZ	**Chkalovo**	**57.17**	**341**	*e*P	**P**	**19 27 13.2**	**-0.7**
comp=Z,3.7nm,0.8s,mb4.5							
CHKZ				*e*pP	pP	19 27 21.2	-1.1
BOD	**Bodaibo**	**58.30**	**10**	*e*P	**P**	**19 27 21.5**	**-0.2**
BOD				pmax	pmax		
comp=Z,4.0nm,1.5s,mb4.2							
BRTR	**Keskin Array B**	**69.60**	**312**	P	**P**	**19 28 34.9**	**-1.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=157,slow=9.4,SNR=3.9							
BRTR				pP	pP	19 28 42.9	-1.7
comp=Z,1.6nm,0.8s,baz=143,slow=9.1,SNR=5.0							
TIXI	**Tiksi**	**73.48**	**10**	*e*P	**P**	**19 28 56.8**	**-1.8**
TIXI				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.3							
AKASG	**Malin Array Be**	**75.75**	**322**	P	**P**	**19 29

XAN	**Xi'an**	**33.07**	**19**	P	**P**	**19 27 16.2**	**-1.6**
XAN				AP	pP	19 27 24.3	-2.4
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
MBWA	**Marble Bar**	**33.14**	**137**	P	**P**	**19 27 14.2**	**-4.4**
FITZ	**Fitzroy Crossi**	**35.63**	**127**	P	**P**	**19 27 38.9**	**-1.1**
	comp=Z,3.2nm,0.6s,mb4.4,baz=254,slow=3.3,SNR=5.0						
GTA	**Gaotai**	**36.42**	**5**	P	**P**	**19 27 46.7**	**+0.3**
GTA				AP	pP	19 27 56.5	+1.1
GTA				XP	sP	19 27 59.4	+0.2
GTA				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.8						
NWAO	**Narrogin (SRO)**	**40.79**	**153**	P	**P**	**19 28 24.2**	**+1.3**
	comp=Z,11nm,0.8s,mb4.5,baz=333,slow=11,SNR=4.0						
NWAO	**Narrogin (SRO)**	**40.79**	**153**	P	**P**	**19 28 24.2**	**+1.3**
NWAO				*eP*		19 28 24.4	
BJT	**Baijiatuau**	**41.02**	**23**	P	**P**	**19 28 25.8**	**+1.0**
BJI	**Beijing**	**41.05**	**23**	*eP*	**P**	**19 28 26.4**	**+1.5**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.5						
BJI	**Beijing**	**41.05**	**23**	*eP*	**P**	**19 28 26.4**	**+1.5**
	comp=Z,11nm,0.8s,mb4.5						
ULHL	**Ulahol**	**43.06**	**338**	P	**P**	**19 28 42.8**	**+1.3**
	SNR=8.4						
KZA	**Kyzart**	**43.30**	**337**	P	**P**	**19 28 45.2**	**+1.8**
	SNR=6.7						
WRA	**Warramunga Arr**	**43.67**	**123**	P	**P**	**19 28 46.7**	**0.0**
	comp=Z,1.9nm,0.5s,mb4.1,baz=301,slow=9.1,SNR=18						
WRAB	**Tennant Creek**	**43.68**	**123**	*eP*	**P**	**19 28 46.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**43.68**	**123**	*eP*	**P**	**19 28 46.6**	**-0.2**
	comp=Z,17nm,1.1s,mb4.7						
UCH	**Uchtor**	**43.72**	**336**	P	**P**	**19 28 48.4**	**+1.6**
	SNR=12						
TKM2	**Tokmak 2**	**43.89**	**338**	P	**P**	**19 28 49.3**	**+1.1**
	SNR=5.8						
KBK	**Karagaybulak**	**43.91**	**337**	P	**P**	**19 28 50.2**	**+1.8**
	SNR=11						
AML	**Almayashu**	**43.97**	**336**	P	**P**	**19 28 50.4**	**+1.6**
	SNR=9.2						
AAK	**Ala-Archa**	**44.07**	**337**	P	**P**	**19 28 52.0**	**+2.4**
	SNR=5.1						
AAK	**Ala-Archa**	**44.07**	**337**	*eP*	**P**	**19 28 50.3**	**+0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
AAK	**Ala-Archa**	**44.07**	**337**	*eP*	**P**	**19 28 50.3**	**+0.7**
	comp=Z,2.5nm,0.6s,mb4.1						
EKS2	**Erkin-Say**	**44.38**	**336**	P	**P**	**19 28 53.6**	**+1.4**
	SNR=12						
USP	**Ospenovka**	**44.60**	**337**	P	**P**	**19 28 54.8**	**+0.9**
	SNR=16						
ASAR	**Alice Springs**	**45.12**	**128**	P	**P**	**19 28 58.2**	**-0.1**
	comp=Z,1.4nm,0.7s,mb3.9,baz=299,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**45.35**	**346**	P	**P**	**19 28 59.7**	**-0.1**
	comp=Z,5.9nm,0.4s,mb4.8,baz=160,slow=8.9,SNR=108						
MKAR				LR	LR	19 50 19.4	
	comp=Z,69nm,21.4s,MS3.6,baz=92,slow=39						
SONM	**Songino Array**	**45.54**	**9**	P	**P**	**19 29 01.0**	**-0.3**
	comp=Z,2.2nm,0.4s,mb4.4,baz=190,slow=9.7,SNR=38						
SONM				PcP	PcP	19 30 40.2	+0.1
	comp=Z,1.1nm,0.5s,baz=193,slow=3.6,SNR=11						
SONM				LR	LR	19 50 17.1	
	comp=Z,164nm,18.5s,MS4.0,baz=195,slow=39						
ULN	**Ulaanbaatar**	**45.68**	**10**	*eP*	**P**	**19 29 02.2**	**-0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**45.68**	**10**	*eP*	**P**	**19 29 02.2**	**-0.2**
	comp=Z,3.4nm,0.9s,mb4.3						
KKAR	**Karatay Array**	**46.12**	**334**	*eP*	**P**	**19 29 06.9**	**+0.9**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
ZAK	**Zakamensk**	**47.62**	**6**	*eP*	**P**	**19 29 17.3**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.9						
KURK	**Kurchatov**	**49.89**	**345**	*i P*	**P**	**19 29 35.0**	**-0.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
KURK	**Kurchatov**	**49.89**	**345**	*eP*	**P**	**19 29 34.7**	**-0.5**
	comp=Z,8.1nm,1.0s,mb4.7						
ZAL	**Zalesovo**	**51.70**	**351**	P	**P**	**19 29 48.2**	**-0.7**
	comp=Z,3.3nm,0.5s,mb4.5,baz=305,slow=2.4,SNR=15						
PMG	**Port Moresby**	**52.08**	**104**	P	**P**	**19 29 52.8**	**+0.5**
PMG				pmax	pmax		
	comp=Z,42nm,1.1s						
PMG	**Port Moresby**	**52.08**	**104**	P	**P**	**19 29 52.8**	**+0.5**
	comp=Z,42nm,1.1s,mb5.3						
NVS	**Novosibirsk**	**52.82**	**351**	*eP*	**P**	**19 29 55.2**	**-2.1**
OPO	**Ambohidratompo**	**52.91**	**244**	P	**P**	**19 29 59.3**	**+0.8**
	comp=Z,2.5nm,0.7s,mb4.2,baz=68,slow=11,SNR=6.7						
BVA0	**Borovoye Array**	**54.33**	**341**	*i P*	**P**	**19 30 07.5**	**-0.9**
BVAR	**Borovoye Array**	**54.33**	**341**	P	**P**	**19 30 07.0**	**-1.4**
	comp=Z,3.9nm,0.7s,mb4.4,baz=149,slow=8.6,SNR=13						
CHKZ	**Chkalovo**	**54.81**	**342**	*eP*	**P**	**19 30 10.9**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**54.81**	**342**	*eP*	**P**	**19 30 10.9**	**-1.0**
	comp=Z,11nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**55.15**	**133**	P	**P**	**19 30 13.8**	**-1.0**
	comp=Z,2.5nm,0.7s,mb4.3,baz=16,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**55.15**	**133**	P	**P**	**19 30 13.8**	**-1.0**
BOD	**Bodaibo**	**56.45**	**11**	*eP*	**P**	**19 30 19.7**	**-4.1**
KMBO	**Kilima Mbogo**	**59.23**	**267**	P	**P**	**19 30 44.9**	**+1.0**
	comp=Z,2.7nm,1.0s,mb4.2,baz=60,slow=8.7,SNR=6.7						
KMBO				LR	LR	19 53 34.9	
	comp=Z,84nm,18.8s,MS3.9,baz=93,slow=33						
KMBO	**Kilima Mbogo**	**59.23**	**267**	P	**P**	**19 30 44.9**	**+1.0**
KMBO				LR	LR	19 53 34.9	
BRTR	**Keskin Array B**	**67.32**	**312**	P	**P**	**19 31 35.9**	**-1.1**
	comp=Z,0.7nm,0.6s,mb3.9,baz=122,slow=5.2,SNR=3.2						
AKASG	**Malin Array Be**	**73.37**	**322**	P	**P**	**19 32 11.8**	**-1.7**
	comp=Z,0.8nm,0.4s,mb4.0,baz=85,slow=5.9,SNR=4.9						
LBTB	**Lobatse**	**73.92**	**243**	*eP*	**P**	**19 32 17.6**	**+0.4**
LBTB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LBTB	**Lobatse**	**73.92**	**243**	*eP*	**P**	**19 32 17.6**	**+0.4**
	comp=Z,5.7nm,0.8s,mb4.5						
MLR	**Muntele Rosu**	**74.23**	**316**	P	**P**	**19 32 18.4**	**-0.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=178,slow=13,SNR=3.6						
FINES	**FINESS Array B**	**78.07**	**332**	P	**P**	**19 32 39.8**	**-0.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=88,slow=4.9,SNR=20						
KAF	**Kangasniemi**	**78.15**	**333**	*ep*	**P**	**19 32 37.1**	**-3.2**
	comp=Z,1.2nm,0.5s,mb4.1						
KAF	**Kangasniemi**	**78.15**	**333**	*eP*	**P**	**19 32 37.1**	**-3.2**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ARCES	**ARCESS Array B**	**80.61**	**340**	P	**P**	**19 32 53.6**	**+0.2**
	comp=Z,1.8nm,0.4s,mb4.3,baz=95,slow=5.6,SNR=21						
GERES	**GERESS Array B**	**82.95**	**319**	P	**P**	**19 33 05.7**	**-0.3**
	comp=Z,0.2nm,0.4s,mb3.5,baz=63,slow=9.0,SNR=3.9						
NOA	**NORSAR Array B**	**85.08**	**331**	P	**P**	**19 33 16.5**	**0.0**
	comp=Z,0.4nm,0.8s,mb3.6,baz=130,slow=16,SNR=2.9						

*IDC **02** 19:36:36.8±2.4, 10.80N×91.69E, h24km±5km, mb3.6/5, mb1 3.8/5, mb1mx3.5/17, mbtmp3.7/5, Error ellipse: s-maj=93.7km s-min=15.8km az=65.0*
*NEIC **02** 19:36:39.9±1.4, 10.92N×92.21E, h30km, mb3.9/4, Error ellipse: s-maj=43.8km s-min=11.3km az=63.0*

ISC 02 19:36:37.1±1.5, 10.9N±0.2×92.2E±0.3, h25km, h25km±.9km: pP-P, n12, σ0°91/11, mb3.8/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**18.75**	**357**	*eP*	**P**	**19 40 57.8**	**+1.1**
	4.0nm,0.8s						
KSM	**Kuching**	**20.25**	**116**	*eP*	**P**	**19 41 13.4**	**-0.3**
ENH	**Enshi**	**25.11**	**37**	*eP*	**P**	**19 42 02.0**	**+0.3**
	9.3nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**36.77**	**349**	P	**P**	**19 43 42.5**	**-2.2**
	0.3nm,0.6s,mb3.3,baz=171,slow=8.3,SNR=3.4						
MKAR				pP	pP	19 43 49.8	-2.3
	1.6nm,0.6s,baz=169,slow=8.1,SNR=19						
SONM	**Songino Array**	**38.72**	**15**	P	**P**	**19 43 59.9**	**-1.1**
	0.2nm,0.5s,mb3.1,baz=211,slow=8.4,SNR=3.8						
SONM				pP	pP	19 44 08.2	-0.2
	0.6nm,0.6s,baz=217,slow=7.6,SNR=5.7						
ULN	**Ulaanbaatar**	**38.92**	**16**	*eP*	**P**	**19 44 09.2**	**+6.5**
	2.7nm,1.2s,mb3.9						
KURK	**Kurchatov**	**41.26**	**347**	P	**P**	**19 44 23.1**	**+1.1**
	2.7nm,1.1s,mb3.8						
ZAL	**Zalesovo**	**43.35**	**354**	pP	pP	19 44 43.5	-3.0
	0.9nm,0.4s,baz=279,slow=6.8,SNR=3.0						
FITZ	**Fitzroy Crossi**	**43.80**	**131**	P	**P**	**19 44 43.6**	**+0.5**
	2.2nm,0.4s,mb4.2,baz=308,slow=14,SNR=10						
WRA	**Warramunga Arr**	**51.55**	**126**	P	**P**	**19 45 44.0**	**+0.3**
	0.4nm,0.3s,mb3.8,baz=299,slow=10,SNR=22						
WRA				pP	pP	19 45 51.3	0.0
	0.8nm,0.5s,baz=306,slow=8.3,SNR=4.9						
WRAB	**Tennant Creek**	**51.56**	**126**	*eP*	**P**	**19 45 43.2**	**-0.5**
ASAR	**Alice Springs**	**53.30**	**130**	P	**P**	**19 45 56.9**	**+0.2**
	2.0nm,0.9s,mb4.0,baz=304,slow=6.7,SNR=14						
ASAR				pP	pP	19 46 04.0	-0.3
	1.4nm,0.6s,baz=302,slow=7.2,SNR=8.6						

*CSEM **02** 19:37:32.3±0.9, 38.45N×28.55W, h15km±6km, ML1.5, Error ellipse: s-maj=10.3km s-min=3.4km az=17.0, After PDA*
*PDA **02** 19:37:32.3±0.9, 38.45N×28.55W, h15km±6km, MD2.9, ML1.5, Error ellipse: s-maj=10.3km s-min=3.4km az=17.0*

SVSA 02 19:37:32.3±0.9, 38.45N×28.55W, h15km±6km, MD2.9, ML1.5, Error ellipse: s-maj=10.3km s-min=3.4km az=17.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.10**	**322**	*eP*	Pb	19 37 35.2	-0.2
HOR				*i S*	Sb	19 37 37.4	0.0
PICO	**Pico**	**0.11**	**63**	*i P*	Pb	19 37 35.3	-0.3
PICO				*eS*	Sb	19 37 37.5	-0.3
PICO	**Pico**	**0.11**	**63**	*eS*	Sb	19 37 37.5	-0.3
CALA	**Caldeira**	**0.18**	**319**	*eP*	Pb	19 37 36.3	-0.4
CALA				*eS*	Sb	19 37 39.3	-0.3
PCED	**Cedros**	**0.21**	**327**	*eP*	Pg	19 37 36.3	-1.0
PCED				*eS*	Sg	19 37 39.4	-1.3
	24nm,0.2s						
PCED	**Cedros**	**0.21**	**327**	*eP*	Pg	19 37 36.3	-1.0
PCED				*eS*	Sg	19 37 39.4	-1.3
	24nm,0.2s						
PMAN	**Manadas**	**0.41**	**63**	*eS*	Sb	19 37 44.6	-1.7
	10nm,0.1s						

IDC 02 19:42:13.7±3.0, 0.37N×97.80E, mb3.7/6, mb1 3.9/6, mb1mx3.7/16, mbtmp3.7/6, Error ellipse: s-maj=137.4km s-min=20.6km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.09**	**122**	P	P	19 49 60.0	-1.1
	0.5nm,0.9s,baz=302,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**42.42**	**127**	P	P	19 50 10.2	-1.9
	0.9nm,0.7s,baz=297,slow=7.8,SNR=12						
SONM	**Songino Array**	**47.86**	**8**	P	P	19 50 52.6	-2.7
	0.8nm,1.1s,baz=243,slow=2.8,SNR=3.9						
MKAR	**Makanchi Array**	**48.19**	**346**	P	P	19 50 56.8	-1.0
	2.3nm,0.7s,baz=153,slow=8.1,SNR=30						
ZAL	**Zalesovo**	**54.46**	**351**	P	P	19 51 43.1	-2.0
	1.2nm,0.5s,baz=277,slow=3.0,SNR=6.7						
BVAR	**Borovoye Array**	**57.23**	**341**	P	P	19 52 01.6	-3.5
	0.5nm,0.8s,baz=141,slow=9.5,SNR=3.8						
TXAR	**Lajitas Array**	**144.04**	**33**	PKP	PKPdf	20 01 50.7	-3.1
	1.0nm,0.7s,baz=297,slow=2.8,SNR=6.5						

*IDC **02** 19:57:41.9±2.7, 33.33S×178.88W, mb3.7/2, mb1 3.9/3, mb1mx3.8/12, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=65.3km s-min=34.9km az=118.0*

ISC 02 19:57:43.9±2.6, 33.4S±0.1×178.7W±0.4, h33km, n10, σ0°49/11, mb3.6/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.79**	**209**	*e*PN	**Pn**	**19 58 56.0**	**+0.3**
PUZ	**Puketiti**	**5.25**	**207**	*e*PN	**Pn**	**19 59 03.1**	**+0.9**
PUZ				SN	**Sn**	**20 00 02.6**	**+0.2**
MWZ	**Matawai**	**5.77**	**211**	*e*PN	**Pn**	**19 59 09.2**	**-0.4**
URZ	**Urewera**	**5.89**	**214**	Pn	**Pn**	**19 59 10.8**	**-0.5**
	2.1nm,0.3s,baz=152,slow=22,SNR=16						
URZ				Sn	**Sn**	**20 00 18.5**	**0.0**
	2.3nm,0.3s,baz=141,slow=21,SNR=6.1						
URZ	**Urewera**	**5.89**	**214**	*e*PN	**Pn**	**19 59 10.4**	**-0.9**
BKZ	**Black Stump Fm**	**6.91**	**212**	PN	**Pn**	**19 59 24.9**	**-0.7**
MQZ	**McQueen's Vall**	**12.28**	**211**	*e*SN	**S**	**20 02 41.4**	**-14**
ASAR	**Alice Springs**	**42.41**	**271**	P	**P**	**20 05 37.4**	**+0.2**
	0.7nm,0.6s,mb3.5,baz=108,slow=7.1,SNR=9.5						
WRA	**Warramunga Arr**	**43.67**	**276**	P	**P**	**20 05 47.5**	**0.0**
	0.5nm,0.4s,mb3.6,baz=116,slow=7.6,SNR=29						
FINES	**FINESS Array B**	**147.72**	**338**	PKPbc	PKPdf	20 17 26.6	+5.1
	2.2nm,0.9s,baz=34,slow=4.3,SNR=17						

*MOS **02** 19:58:49.6±1.2, 55.37N×35.18W, h10km, mb4.6/11, Error ellipse: s-maj=18.4km s-min=15.4km az=59.7*
*IDC **02** 19:58:51.5±0.8, 55.70N×35.01W, mb3.8/13, mb1 4.0/16, mb1mx3.8/26, mbtmp3.8/16, ML3.3/3, MS3.7/12, Ms1 3.6/12, ms1mx3.4/31, Error ellipse: s-maj=28.4km s-min=12.7km az=8.0*
*BJI **02** 19:58:52.1, 55.60N×35.00W, h10km, mB4.9, mb4.4, Ms4.5, Msz4.3*
*ZUR_RM **02** 19:58:53, 55.59N×34.97W, h9km, Mw4.5/7, Moment Tensor Solution. s7 Moment tensor: Scale 10^{15}Nm; M_{rr}=6.61; $M_{\theta\theta}$1.54; $M_{\phi\phi}$5.07; $M_{r\theta}$-0.87; $M_{\theta\phi}$-0.39; $M_{r\phi}$0.75; Best double couple: $M_0$5.96×10^{15} NP1:φs168°, δ49°, λ-97°. NP2:φs359°, δ41°, λ-82°. Principal axes: T 5.172, Plg4°, Azm263°; N 1.571, Plg5°, Azm172°; P -6.743, Plg83°, Azm30°;*
*NEIC **02** 19:58:53.1±0.6, 55.59N×34.97W, h10km, mb4.5/15 Error ellipse: s-maj=17.1km s-min=7.6km az=188.0*
*CSEM **02** 19:58:54.2±0.2, 55.61N×35.08W, h40km, mb4.4/9, Error ellipse: s-maj=9.0km s-min=3.3km az=178.0*

ISC 02 19:58:50.6±5.5, 55.5N±0.1×35.01W±0.09, h7km±35km, n68, σ1°26/61, mb4.2/29, MS3.7/11, 1C, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**11.44**	**31**	LR	LR	20 05 00.7	
	comp=Z,476nm,18.6s,baz=190,slow=33						
SUMG	**Summit**	**17.16**	**356**	*eP*	**P**	**20 02 52.5**	**+0.4**
	7.1nm,1.0s						
SUMG	**Summit**	**17.16**	**356**	*eP*	**P**	**20 02 52.5**	**+0.4**
	7.1nm,1.0s						
EKA	**Eskdalemuir Ar**	**17.99**	**77**	P	**P**	**20 03 03.3**	**+0.8**
	0.1nm,0.3s,baz=270,slow=8.5,SNR=3.5						
SCHQ	**Schefferville**	**18.11**	**281**	P	**P**	**20 03 03.8**	**-0.3**
	0.8nm,0.3s,baz=85,slow=12,SNR=25						
SCHQ				LR	LR	20 08 40.4	
	comp=Z,150nm,19.9s,baz=277,slow=33						
FRB	**Frobisher Bay**	**18.63**	**310**	P	**P**	**20 03 09.2**	**-1.2**
	0.1nm,0.3s,baz=97,slow=16,SNR=4.2						
FRB				LR	LR	20 08 43.6	
	comp=Z,208nm,20.7s,baz=148,slow=32						
NAO01	**NORSAR Array S**	**24.34**	**59**	*eP*	**P**	**20 04 10.2**	**+0.7**
	11nm,1.1s,mb4.2						
NAO01	**NORSAR Array S**	**24.34**	**59**	*eP*	**P**	**20 04 10.2**	**+0.6**
	11nm,1.1s,mb4.2						
NOA	**NORSAR Array B**	**24.48**	**58**	P	**P**	**20 04 09.4**	**-1.5**
	0.6nm,0.7s,mb3.1,baz=282,slow=6.0,SNR=2.7						
NOA				LR	LR	20 12 07.8	
	comp=Z,83nm,19.3s,MS3.2,baz=300,slow=33						
HFS	**Hagfors**	**25.84**	**60**	P	**P**	**20 04 25.2**	**+1.4**
	3.0nm,0.9s,mb3.8,baz=287,slow=15,SNR=3.2						
ESDC	**Sonseca Array**	**25.97**	**115**	P	**P**	**20 04 26.8**	**+1.5**
	3.6nm,1.1s,mb3.8,baz=326,slow=9.3,SNR=7.6						
DAVOX	**Davos**	**29.02**	**89**	LR	LR	20 16 01.8	
	comp=Z,268nm,18.5s,MS3.9,baz=266,slow=36						
ARCES	**ARCESS Array B**	**29.70**	**38**	LR	LR	20 13 50.2	
	comp=Z,118nm,19.4s,MS3.5,baz=18,slow=30						
SADO	**Sadowa**	**29.77**	**267**	LR	LR	20 16 23.6	
	comp=Z,101nm,18.2s,MS3.5,baz=74,slow=35						
GERES	**GERESS Array B**	**30.07**	**82**	P	**P**	**20 05 01.2**	**-1.1**
	0.5nm,0.7s,mb3.4,baz=304,slow=9.6,SNR=3.8						
GERES				LR	LR	20 15 58.1	
	comp=Z,101nm,18.8s,MS3.5,baz=332,slow=34						
FCC	**Fort Churchill**	**31.31**	**301**	*eP*	**P**	**20 05 12.5**	**-0.6**
FCC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
FCC	**Fort Churchill**	**31.31**	**301**	*eP*	**P**	**20 05 12.5**	**-0.6**
	comp=Z,5.4nm,1.0s,mb4.3						
FCC	**Fort Churchill**	**31.31**	**301**	*eP*	**P**	**20 05 12.5**	**-0.6**
	comp=Z,5.4nm,1.0s,mb4.3						
PSZ	**Piszkesteto**	**34.04**	**79**	P	**P**	**20 05 36.3**	**-0.8**
PSZ				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
PSZ	**Piszkesteto**	**34.04**	**79**	P	**P**	**20 05 36.3**	**-0.8**
	comp=Z,5.0nm,1.1s,mb4.4						
PSZ	**Piszkesteto**	**34.04**	**79**	P	**P**	**20 05 36.3**	**-0.8**
	comp=Z,5.0nm,1.1s,mb4.4						
ULM	**Lac du Bonnet**	**36.05**	**288**	P	**P**	**20 05 52.9**	**-1.3**
	comp=Z,3.0nm,0.9s,mb4.2,baz=53,slow=6.6,SNR=4.3						
ULM				LR	LR	20 19 20.7	
	comp=Z,116nm,20.3s,MS3.6,baz=42,slow=34						
ULM	**Lac du Bonnet**	**36.05**	**288**	P	**P**	**20 05 52.9**	**-1.3**
ULM				LR	LR	20 19 20.7	
AKASG	**Malin Array Be**	**37.62**	**70**	P	**P**	**20 06 06.0**	**-1.3**
	comp=Z,1.3nm,0.6s,mb3.9,baz=302,slow=8.4,SNR=6.9						
YKW3	**Yellowknife Ar**	**39.05**	**314**	P	**P**	**20 06 20.4**	**+1.2**
YKW3	**Yellowknife Ar**	**39.05**	**314**	P	**P**	**20 06 20.4**	**+1.2**
YKA	**Yellowknife Ar**	**39.07**	**314**	P	**P**	**20 06 18.5**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.5,baz=60,slow=9.1,SNR=12						
INK	**Inuvik**	**42.90**	**327**	*eP*	**P**	**20 06 51.8**	**+1.1**
INK				pmax	pmax		
	comp=Z,13nm,1.6s						
INK	**Inuvik**	**42.90**	**327**	P	**P**	**20 06 49.4**	**-1.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=72,slow=6.4,SNR=3.4						
INK				LR	LR	20 23 59.0	
	comp=Z,142nm,18.2s,MS3.9,baz=42,slow=35						
INK	**Inuvik**	**42.90**	**327**	*eP*	**P**	**20 06 51.8**	**+1.1**
	comp=Z,13nm,1.6s,mb4.4						
INK	**Inuvik**	**42.90**	**327**	*eP*	**P**	**20 06 51.8**	**+1.1**
	comp=Z,13nm,1.6s,mb4.4						
LAO	**LASA Array**	**43.72**	**289**	*eP*	**P**	**20 07 02.4**	**+4.8**
	comp=Z,12nm,0.8s,mb4.7						
WALA	**Waterton Lakes**	**46.24**	**297**	P	**P**	**20 07 20.4**	**+2.6**
	comp=Z,12nm,1.3s,mb4.7						
BRTR	**Keskin Array B**	**46.89**	**80**	P	**P**	**20 07 24.8**	**+1.8**
	comp=Z,2.2nm,0.6s,mb4.2,baz=302,slow=6.0,SNR=8.9						
BOZ	**Bozeman (W)**	**47.27**	**292**	*eP*	**P**	**20 07 22.3**	**-3.6**
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
BOZ	**Bozeman (W)**	**47.27**	**292**	*eP*	**P**	**20 07 22.3**	**-3.6**
	comp=Z,3.8nm,0.7s,mb4.4						
DAWY	**Dawson**	**47.40**	**325**	*eP*	**P**	**20 07 29.0**	**+2.3**
WMOK	**Wichita Mounta**	**47.66**	**272**	*eP*	**P**	**20 07 33.6**	**+4.4**
WMOK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
WMOK	**Wichita Mounta**	**47.66**	**272**	*eP*	**P**	**20 07 33.6**	**+4.4**
	comp=Z,4.1nm,1.1s,mb4.4						
PDAR	**Pinedale Array**	**48.08**	**287**	P	**P**	**20 07 31.9**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=62,slow=9.0,SNR=6.2						
ARU	**Arti**	**48.36**	**48**	*eP*	**P**	**20 07 34.1**	**-0.2**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
ARU	**Arti**	**48.36**	**48**	*eP*	**P**	**20 07 34.0**	**-0.2**
	comp=Z,7.4nm,1.1s,mb4.6						
ARU	**Arti**	**48.36**	**48**	*eP*	**P**	**20 07 34.0**	**-0.3**
	comp=Z,7.4nm,1.1s,mb4.6						
MALT	**Malatya**	**50.55**	**78**	P	**P**	**20 07 48.7**	**-2.7**
MALT				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
MALT	**Malatya**	**50.55**	**78**	P	**P**	**20 07 48.7**	**-2.7**
	comp=Z,10nm,1.4s,mb4.6						
MALT	**Malatya**	**50.55**	**78**	P	**P**	**20 07 48.7**	**-2.7**
	comp=Z,10nm,1.4s,mb4.6						
PV10	**Paradox Valley**	**50.84**	**283**	*eP*	**P**	**20 08 00.0**	**+6.5**
GNI	**Garni**	**52.70**	**71**	*eP*	**P**	**20 08 09.0**	**+1.3**
GNI				pmax	pmax		
	comp=Z,11nm,1.1s						
GNI	**Garni**	**52.70**	**71**	LR	LR	20 29 03.6	
	comp=Z,26nm,19.9s,MS3.3,baz=351,slow=34						
GNI	**Garni**	**52.70**	**71**	*eP*	**P**	**20 08 09.0**	**+1.4**
	comp=Z,11nm,1.1s,mb4.7						
GNI	**Garni**	**52.70**	**71**	*eP*	**P**	**20 08 09.0**	**+1.3**
	comp=Z,11nm,1.1s,mb4.7						
DBIC	**Dimbokro**	**54.33**	**142**	P	**P**	**20 08 18.8**	**-1.1**
	comp=Z,1.0nm,0.6s,mb4.0,baz=296,slow=16,SNR=3.3						
TXAR	**Lajitas Array**	**54.44**	**271**	P	**P**	**20 08 22.1**	**+1.5**
	comp=Z,0.2nm,0.3s,mb3.5,baz=51,slow=5.8,SNR=2.8						
CHKZ	**Chkalovo**	**55.23**	**44**	*eP*	**P**	**20 08 25.3**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**55.23**	**44**	*eP*	**P**	**20 08 25.3**	**

WEL 02 20:10:59.0±0.2, 40.37S×176.48E, h33km±1km, ML3.5/18, 3C, Error ellipse: s-maj=3.1km s-min=1.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.36**	**210**	⇑P*			Pb	20 11 08.0	+0.4
BFZ				S*			Sb	20 11 15.2	+1.7
BFZ				S*			Sb	20 11 15.3	+1.8
PWZ	**Pawanui**	**0.44**	**41**	⇑P*			Pb	20 11 08.5	-0.3
PWZ				S*			Sb	20 11 16.1	+0.7
TSZ	**Takapari Road**	**0.51**	**307**	⇑P*			Pb	20 11 08.3	-1.3
TSZ				S*			Sb	20 11 15.6	-1.4
TSZ				S*			Sb	20 11 15.6	-1.4
MRZ	**Mangatainoka R**	**0.75**	**247**	P*			Pb	20 11 13.1	-0.5
MRZ				S*			Sb	20 11 23.6	-0.1
MTW	**Mount Morrison**	**1.09**	**223**	P*			Pb	20 11 17.4	-1.9
MTW				S*			Sb	20 11 32.1	-1.1
MOVZ	**Moawhango**	**1.11**	**329**	PN			Pn	20 11 18.1	-0.4
MOVZ				SN			Sn	20 11 31.8	-1.0
BKZ	**Black Stump Fm**	**1.20**	**0**	PN			Pn	20 11 18.8	-0.9
BKZ				eSN			Sn	20 11 33.4	-1.6
WNVZ	**Wahianoa**	**1.24**	**326**	PN			Pn	20 11 20.5	+0.1
TUVZ	**Tukino**	**1.27**	**329**	ePN			Pn	20 11 20.9	+0.1
PAWZ	**Paruwai Farm**	**1.29**	**218**	PN			Pn	20 11 20.0	-1.1
PAWZ				eS*			Sb	20 11 36.3	-2.7
KIW	**Kapiti Island**	**1.30**	**247**	PN			Pn	20 11 20.6	-0.6
KIW				S*			Sb	20 11 37.4	-1.7
WAZ	**Wanganui**	**1.30**	**297**	PN			Pn	20 11 21.6	+0.3
CAW	**Cannon Point**	**1.31**	**235**	PN			Pn	20 11 20.3	-1.0
FWVZ	**Far West T-bar**	**1.32**	**327**	PN			Pn	20 11 21.5	0.0
OTVZ	**Oturere**	**1.36**	**332**	PN			Pn	20 11 22.2	+0.1
WPVZ	**Whakapapa**	**1.37**	**328**	PN			Pn	20 11 21.9	-0.2
NGZ	**Ngauruhoe**	**1.37**	**330**	PN			Pn	20 11 22.4	+0.2
CNZ	**Chateau**	**1.37**	**328**	ePN			Pn	20 11 22.0	-0.3
MSWZ	**Moikau Station**	**1.41**	**221**	PN			Pn	20 11 21.2	-1.6
WTVZ	**West Tongariro**	**1.43**	**331**	PN			Pn	20 11 23.3	+0.3
KATZ	**Kakaramea**	**1.52**	**336**	PN			Pn	20 11 24.4	+0.1
TWVZ	**Taurewa**	**1.52**	**326**	ePN			Pn	20 11 24.2	-0.2
BHW	**Baring Head**	**1.61**	**229**	PN			Pn	20 11 23.8	-1.8
MRW	**Makara Radio**	**1.61**	**237**	PN			Pn	20 11 24.1	-1.5
MRW				S*			Sb	20 11 43.6	-4.4
KNZ	**Kokohu**	**1.63**	**35**	PN			Pn	20 11 23.8	-2.1
SNZO	**South Karori**	**1.65**	**235**	PN			Pn	20 11 24.6	-1.6
DUWZ	**D'Urville Isla**	**2.00**	**257**	ePN			Pn	20 11 30.1	-1.2
URZ	**Urewera**	**2.16**	**13**	PN			Pn	20 11 30.6	-2.9
MWZ	**Matawai**	**2.18**	**22**	ePN			Pn	20 11 31.0	-2.8
TUWZ	**Tuamarina**	**2.20**	**240**	ePN			Pn	20 11 31.7	-2.4
BSWZ	**Blackbirch Sta**	**2.39**	**235**	ePN			Pn	20 11 34.2	-2.6
NNZ	**Nelson**	**2.51**	**249**	ePN			Pn	20 11 36.6	-1.9
PUZ	**Puketiti**	**2.67**	**32**	ePN			Pn	20 11 36.0	-4.9
KHZ	**Kahutara**	**3.02**	**226**	ePN			Pn	20 11 41.6	-4.1
MXZ	**Matakaoa Point**	**3.14**	**27**	ePN			Pn	20 11 44.3	-3.2
LTZ	**Lake Taylor**	**3.98**	**231**	ePN			Pn	20 11 54.6	-4.8
MQZ	**McQueen's Vall**	**4.39**	**219**	ePN			Pn	20 12 01.2	-4.1
MQZ				SN			Sn	20 12 47.2	-8.8

IDC 02 20:12:35.7±12.0, 55.44N×34.30W, mb3.5/3, mb1 3.7/4, mb1mx3.3/23, mbtmp3.5/4, ML2.4/1, Error ellipse: s-maj=224.8km s-min=91.8km az=136.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**18.52**	**282**	P			P	20 16 53.3	-1.8
	0.1nm,0.3s,baz=75,slow=13,SNR=5.7								
ULM	**Lac du Bonnet**	**36.47**	**288**	P			P	20 19 41.8	-2.1
	0.7nm,0.4s,baz=43,slow=7.8,SNR=2.3								
YKA	**Yellowknife Ar**	**39.43**	**314**	P			P	20 20 07.0	-1.6
	0.2nm,0.7s,baz=61,slow=9.1,SNR=4.0								
PDAR	**Pinedale Array**	**48.49**	**288**	P			P	20 21 19.9	-1.8
	0.3nm,0.6s,baz=53,slow=7.4,SNR=3.5								

*IDC **02** 20:13:57.2±1.6, 2.75N×96.28E, mb4.1/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.1/10, Error ellipse: s-maj=79.6km s-min=15.5km az=56.0*

*NEIC **02** 20:14:01.0±0.7, 2.64N×96.19E, h30km, mb4.3/7, Error ellipse: s-maj=20.0km s-min=10.0km az=55.0*

ISC 02 20:13:59.2±0.8, 2.7N±0.1×96.2E±0.1, h30km, n21, σ1§15/21, mb4.1/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.12**	**60**	*e*Pn			**Pn**	**20 15 16.6**	**+0.6**
KKM	**Kota Kinabalu**	**20.21**	**80**	P			**P**	**20 18 35.1**	**+0.3**
LSA	**Lhasa**	**27.29**	**350**	P			**P**	**20 19 45.7**	**+2.4**
	2.3nm,0.7s,mb3.8								
ENH	**Enshi**	**30.18**	**23**	P			**P**	**20 20 07.8**	**-1.5**
	12nm,1.5s,mb4.4								
MBWA	**Marble Bar**	**33.05**	**137**	P			**P**	**20 20 31.5**	**-3.0**
FITZ	**Fitzroy Crossi**	**35.59**	**127**	P			**P**	**20 20 55.8**	**-0.6**
	2.6nm,0.8s,mb4.2,baz=284,slow=4.2,SNR=2.4								
WRA	**Warramunga Arr**	**43.66**	**123**	P			**P**	**20 22 03.8**	**+0.5**
	0.6nm,0.5s,mb3.6,baz=303,slow=9.1,SNR=8.9								
WRAB	**Tennant Creek**	**43.66**	**123**	*e*P			**P**	**20 22 03.6**	**+0.2**
AAK	**Ala-Archa**	**44.25**	**337**	P			**P**	**20 22 11.5**	**+3.6**
	2.7nm,1.0s,mb3.9								
ASAR	**Alice Springs**	**45.07**	**128**	P			**P**	**20 22 15.3**	**+0.6**
	0.8nm,0.7s,mb3.6,baz=301,slow=8.0,SNR=8.3								
MKAR	**Makanchi Array**	**45.57**	**347**	P			**P**	**20 22 19.1**	**+0.8**
	2.8nm,0.8s,mb4.3,baz=162,slow=7.7,SNR=22								
SONM	**Songino Array**	**45.82**	**10**	P			**P**	**20 22 20.1**	**-0.2**
	1.6nm,0.8s,mb4.0,baz=190,slow=7.7,SNR=11								
ULN	**Ulaanbaatar**	**45.97**	**10**	P			**P**	**20 22 20.4**	**-1.0**
	1.3nm,0.9s,mb3.9								
KURK	**Kurchatov**	**50.11**	**345**	*e*P			**P**	**20 22 50.3**	**-3.4**
	6.8nm,1.5s,mb4.5								
ZAL	**Zalesovo**	**51.94**	**351**	P			**P**	**20 23 07.6**	**+0.1**
	0.7nm,0.3s,mb4.0,baz=249,slow=3.6,SNR=3.3								
BVAR	**Borovoye Array**	**54.53**	**341**	P			**P**	**20 23 25.4**	**-1.4**
	0.5nm,0.7s,mb3.7,baz=135,slow=10,SNR=6.0								
CHKZ	**Chkalovo**	**55.01**	**342**	*e*P			**P**	**20 23 29.0**	**-1.3**
	2.1nm,0.6s,mb4.3								
STKA	**Stephens Creek**	**55.08**	**132**	P			**P**	**20 23 31.5**	**+0.5**
	3.8nm,0.8s,mb4.5,baz=326,slow=5.0,SNR=4.0								
STKA	**Stephens Creek**	**55.08**	**132**	P			**P**	**20 23 31.5**	**+0.5**
FINES	**FINESS Array B**	**78.23**	**333**	P			**P**	**20 25 58.4**	**+0.9**
	3.0nm,1.1s,mb4.1,baz=53,slow=6.9,SNR=3.1								
ARCES	**ARCESS Array B**	**80.81**	**340**	P			**P**	**20 26 12.5**	**+1.2**
	4.1nm,1.0s,mb4.3,baz=104,slow=7.4,SNR=2.9								

*BJI **02** 20:14:09.9, 55.60N×35.10W, h10km, mB5.1, mb4.7, Ms4.6, Msz4.3*

*MOS **02** 20:14:09.8±1.0, 55.58N×35.09W, h7km, mb4.6/22, Error ellipse: s-maj=13.4km s-min=9.8km az=159.5*

*CSEM **02** 20:14:09.5±0.1, 55.52N×35.07W, h10km, mb4.5/26, Error ellipse: s-maj=5.9km s-min=2.0km az=7.0*

*IDC **02** 20:14:10.7±0.7, 55.61N×35.10W, mb4.0/18, mb1 4.2/21, mb1mx4.1/29, mbtmp4.0/21, ML3.5/3, MS3.5/9, Ms1 3.5/9, ms1mx3.4/22, Error ellipse: s-maj=24.2km s-min=11.3km az=180.0*

*ZUR_RM **02** 20:14:11, 55.59N×35.08W, h6km, Mw4.5/7, Moment Tensor Solution. s7 Moment tensor: Scale 10^{15}Nm; M_{rr}=5.15; $M_{\theta\theta}$=0.95; $M_{\phi\phi}$=4.19; $M_{r\theta}$=-0.49; $M_{\theta\phi}$=-0.20; $M_{\phi r}$=3.05; Best double couple: M_0=5.61×10^{15} NP1:ϕ_s=174°, δ=62°, λ=-92°. NP2:ϕ_s=358°, δ=28°, λ=-86°. Principal axes: T 5.129, Plg17°, Azm265°; N .954, Plg2°, Azm175°; P -6.083, Plg73°, Azm78°;*

*NEIC **02** 20:14:11.9±0.3, 55.59N×35.08W, h10km, mb4.5/31 Error ellipse: s-maj=10.8km s-min=4.2km az=186.0*

ISC 02 20:14:10.3±0.3, 55.58N±0.08×35.08W±0.06, h10km, n126, σ0§99/123, mb4.3/49, MS3.6/8, 1C, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**11.43**	**31**	P			**P**	**20 16 58.7**	**+2.1**
	116nm,1.4s								
BORG	**Borgarnes**	**11.43**	**31**	P			**P**	**20 16 58.7**	**+2.2**
	116nm,1.4s								
SUMG	**Summit**	**17.12**	**357**	*e*P			**P**	**20 18 10.4**	**-0.5**
	10nm,1.1s								
SUMG	**Summit**	**17.12**	**357**	*e*P			**P**	**20 18 10.4**	**-0.5**
	10nm,1.1s								
ESK	**Eskdalemuir**	**18.00**	**78**	P			**P**	**20 18 23.8**	**+1.8**
ESK				pmax			pmax		
	comp=Z,11nm,1.1s								
ESK	**Eskdalemuir**	**18.00**	**78**	P			**P**	**20 18 23.8**	**+1.9**
	comp=Z,11nm,1.1s								
ESK	**Eskdalemuir**	**18.00**	**78**	P			**P**	**20 18 23.8**	**+1.8**
	comp=Z,11nm,1.1s								
EKA	**Eskdalemuir Ar**	**18.02**	**78**	P			**P**	**20 18 23.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=270,slow=11,SNR=8.0								
SCHQ	**Schefferville**	**18.06**	**281**	P			**P**	**20 18 22.3**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=74,slow=7.1,SNR=28								
SCHQ				LR			LR	20 23 48.8	
	comp=Z,214nm,20.6s,baz=271,slow=32								
FRB	**Frobisher Bay**	**18.57**	**310**	P			**P**	**20 18 29.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=99,slow=8.8,SNR=7.9								
FRB				LR			LR	20 24 13.5	
	comp=Z,233nm,19.3s,baz=135,slow=32								
JMIC	**Jan Mayen**	**19.24**	**26**	LR			LR	20 23 36.2	
	comp=Z,53nm,19.1s,baz=268,slow=29								
MFF	**Saint Martin d**	**23.49**	**98**	*e*P			**P**	**20 19 19.9**	**-0.7**
	comp=Z,33nm,1.3s,mb4.3								
MFF	**Saint Martin d**	**23.49**	**98**	*e*P			**P**	**20 19 19.9**	**-0.7**
MFF				pmax			pmax		
	comp=Z,16nm,1.3s,mb4.3								
BAIF	**Baives**	**24.13**	**87**	*e*P			**P**	**20 19 26.1**	**-0.7**
NB2	**NORSAR Subarra**	**24.49**	**58**	P			**P**	**20 19 30.3**	**+0.1**
	comp=Z,8.1nm,1.2s,mb4.0,baz=280,slow=10								
NOA	**NORSAR Array B**	**24.49**	**58**	P			**P**	**20 19 30.4**	**+0.1**
	comp=Z,3.3nm,0.9s,mb3.8,baz=279,slow=9.6,SNR=4.8								
NOA				LR			LR	20 27 15.9	
	comp=Z,85nm,20.2s,MS3.2,baz=215,slow=32								
TCF	**Toulx Ste Croi**	**25.00**	**96**	*e*P			**P**	**20 19 34.7**	**-0.5**
BGF	**Bois d'Agland**	**25.20**	**95**	*e*P			**P**	**20 19 37.0**	**-0.2**
SSF	**Saint Saulge**	**25.29**	**93**	*e*P			**P**	**20 19 36.8**	**-1.2**
SSF				pmax			pmax		
	comp=Z,9.0nm,1.2s,mb4.2								
SSF	**Saint Saulge**	**25.29**	**93**	*e*P			**P**	**20 19 36.8**	**-1.2**
	comp=Z,8.9nm,1.2s,mb4.2								
AVF	**Avril sur Loir**	**25.35**	**94**	*e*P			**P**	**20 19 37.8**	**-0.8**
	comp=Z,8.6nm,0.8s,mb4.0								
AVF	**Avril sur Loir**	**25.35**	**94**	*e*P			**P**	**20 19 37.8**	**-0.8**
AVF				pmax			pmax		
	comp=Z,4.0nm,0.8s,mb4.0								
HFS	**Hagfors**	**25.85**	**60**	P			**P**	**20 19 43.1**	**0.0**
	comp=Z,3.4nm,0.8s,mb3.9,baz=291,slow=13,SNR=4.8								
ESDC	**Sonseca Array**	**26.02**	**115**	P			**P**	**20 19 44.7**	**-0.3**
	comp=Z,2.1nm,0.8s,mb3.7,baz=308,slow=9.5,SNR=13								
CDF	**Champ du Feu**	**26.70**	**88**	*e*P			**P**	**20 19 51.1**	**+0.1**
LPL	**La Plagne**	**28.01**	**93**	*e*P			**P**	**20 20 02.5**	**-0.5**
LPG	**La Plagne**	**28.03**	**93**	*e*P			**P**	**20 20 02.8**	**-0.4**
GRA1	**Grafenberg Arr**	**28.27**	**82**	*e*P			**P**	**20 20 06.0**	**+0.6**
	comp=Z,6.0nm,1.2s,mb4.1								
GRF	**Grafenberg Arr**	**28.27**	**82**	*e*P			**P**	**20 20 06.0**	**+0.6**
GRF				pmax			pmax		
	comp=Z,6.0nm,1.2s,mb4.1								
GRF	**Grafenberg Arr**	**28.27**	**82**	*e*P			**P**	**20 20 06.0**	**+0.6**
GRF				pmax			pmax		
	comp=Z,6.0nm,1.2s,mb4.1								
GRF	**Grafenberg Arr**	**28.27**	**82**	*e*P			**P**	**20 20 06.0**	**+0.6**
	comp=Z,6.0nm,1.2s,mb4.1								
CLL	**Collm**	**28.49**	**78**	P			**P**	**20 20 08.0**	**+0.7**
DAVOX	**Davos**	**29.06**	**89**	LR			LR	20 31 20.8	
	comp=Z,324nm,18.7s,MS4.0,baz=273,slow=35								
RES	**Resolute Bay**	**29.61**	**332**	*e*P			**P**	**20 20 16.5**	**-0.7**
RES				pmax			pmax		
	comp=Z,6.0nm,1.4s,mb4.1								
RES	**Resolute Bay**	**29.61**	**332**	*e*P			**P**	**20 20 16.5**	**-0.7**
	comp=Z,6.2nm,1.4s,mb4.2								
RES	**Resolute Bay**	**29.61**	**332**	*e*P			**P**	**20 20 16.5**	**-0.7**
	comp=Z,6.2nm,1.4s,mb4.2								
KHC	**Kasperske Hory**	**29.88**	**82**	*e*P			**P**	**20 20 21.0**	**+1.1**
GERES	**GERESS Array B**	**30.10**	**82**	P			**P**	**20 20 21.6**	**-0.2**
	comp=Z,0.6nm,0.8s,mb3.4,baz=297,slow=9.0,SNR=5.6								
GERES				LR			LR	20 31 36.2	
	comp=Z,93nm,19.1s,MS3.4,baz=300,slow=35								
FCC	**Fort Churchill**	**31.25**	**301**	*e*P			**P**	**20 20 29.4**	**-2.4**
FCC				pmax			pmax		
	comp=Z,14nm,1.3s,mb4.6								
FCC	**Fort Churchill**	**31.25**	**301**	*e*P			**P**	**20 20 29.4**	**-2.4**
	comp=Z,14nm,1.3s,mb4.6								
FCC	**Fort Churchill**	**31.25**	**301**	*e*P			**P**	**20 20 29.4**	**-2.4**
	comp=Z,14nm,1.3s,mb4.6								
KAF	**Kangasniemi**	**31.31**	**53**	*e*p			**P**	**20 20 30.0**	**-2.3**
	comp=Z,4.1nm,0.7s,mb4.4								
KAF	**Kangasniemi**	**31.31**	**53**	*e*P			**P**	**20 20 30.0**	**-2.3**
KAF				pmax			pmax		
	comp=Z,4.0nm,0.7s,mb4.4								
FINES	**FINESS Array B**	**31.41**	**54**	P			**P**	**20 20 33.4**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=252,slow=6.0,SNR=4.8								
FINES				LR			LR	20 32 01.7	
	comp=Z,24nm,20.4s,MS2.9,baz=254,slow=34								
MORC	**Moravsky Berou**	**31.77**	**78**	P			**P**	**20 20 36.6**	**+0.2**
MORC				pmax			pmax		
	comp=Z,2.0nm,1.0s,mb3.9								
MORC	**Moravsky Berou**	**31.77**	**78**	P			**P**	**20 20 36.6**	**+0.2**
	comp=Z,2.5nm,1.0s,mb4.0								
MORC	**Moravsky Berou**	**31.77**	**78**	P			**P**	**20 20 36.6**	**+0.2**
	comp=Z,2.5nm,1.0s,mb4.0								
SUW	**Suwalki**	**32.78**	**68**	P			**P**	**20 20 44.0**	**-1.2**
SUW				pmax			pmax		
	comp=Z,16nm,1.0s,mb4.9								
SUW	**Suwalki**	**32.78**	**68**	P			**P**	**20 20 44.0**	**-1.2**
	comp=Z,16nm,1.0s,mb4.9								
SUW	**Suwalki**	**32.78**	**68**	P			**P**	**20 20 44.0**	**-1.2**
	comp=Z,16nm,1.0s,mb4.9								
PSZ	**Piszkesteto**	**34.08**	**79**	*e*P			**P**	**20 20 56.9**	**+0.3**
PSZ				pmax			pmax		
	comp=Z,4.0nm,0.8s,mb4.4								
PSZ	**Piszkesteto**	**34.08**	**79**	*e*P			**P**	**20 20 56.9**	**+0.3**
	comp=Z,3.7nm,0.8s,mb4.4								
PSZ	**Piszkesteto**	**34.08**	**79**	*e*P			**P**	**20 20 56.9**	**+0.3**
	comp=Z,3.7nm,0.8s,mb4.4								
ACSO	**Alum Creek Sta**	**34.81**	**264**	P			**P**	**20 20 55.3**	**-7.7**
	comp=Z,47nm,1.5s,mb5.2								
ULM	**Lac du Bonnet**	**36.00**	**288**	P			**P**	**20 21 11.9**	**-1.1**
	comp=Z,4.0nm,0.6s,mb4.5,baz=64,slow=8.3,SNR=9.7								
AKASG	**Malin Array Be**	**37.64**	**70**	P			**P**	**20 21 25.9**	**-0.9**
	comp=Z,3.6nm,0.7s,mb4.2,baz=301,slow=8.3,SNR=15								
YKW3	**Yellowknife Ar**	**38.99**	**314**	P			**P**	**20 21 37.9**	**-0.1**
YKW3	**Yellowknife Ar**	**38.99**	**314**	P			**P**	**20 21 37.8**	**-0.1**
YKA	**Yellowknife Ar**	**39.02**	**314**	P			**P**	**20 21 37.6**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.7,baz=60,slow=9.1,SNR=19								
WVT	**Waverly**	**40.41**	**264**	*e*P			**P**	**20 21 49.5**	**-0.4**
WVT				pmax			pmax		
	comp=Z,7.0nm,0.7s,mb4.5								
WVT	**Waverly**	**40.41**	**264**	*e*P			**P**	**20 21 49.5**	**-0.4**
	comp=Z,6.9nm,0.7s,mb4.5								
WVT	**Waverly**	**40.41**	**264**	*e*P			**P**	**20 21 49.5**	**-0.4**
	comp=Z,6.9nm,0.7s,mb4.5								
CCM	**Cathedral Cave**	**40.98**	**269**	*e*P			**P**	**20 21 55.1**	**+0.4**
CCM				pmax			pmax		
	comp=Z,21nm,0.9s,mb4.8								
CCM	**Cathedral Cave**	**40.98**	**269**	*e*P			**P**	**20 21 55.1**	**+0.5**
	comp=Z,21nm,0.9s,mb4.8								
CCM	**Cathedral Cave**	**40.98**	**269**	*e*P			**P**	**20 21 55.1**	**+0.4**
	comp=Z,21nm,0.9s,mb4.8								
INK	**Inuvik**	**42.85**	**327**	P			**P**	**20 22 09.5**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.8,baz=30,slow=3.4,SNR=3.2								
INK	**Inuvik**	**42.85**	**327**	*e*P			**P**	**20 22 10.2**	**+0.7**
INK	**Inuvik**	**42.85**	**327**	*e*P			**P**	**20 22 10.2**	**+0.7**
WALA	**Waterton Lakes**	**46.19**	**297**	*e*P			**P**	**20 22 36.9**	**+0.4**
	comp=Z,30nm,1.6s,mb5.0								
BRTR	**Keskin Array B**	**46.93**	**80**	P			**P**	**20 22 43.3**	**+0.8**
	comp=Z,4.2nm,0.7s,mb4.5,baz=314,slow=6.4,SNR=14								
BOZ	**Bozeman (W)**	**47.21**	**292**	*e*P			**P**	**20 22 44.6**	**-0.1**
BOZ				pmax			pmax		
	comp=Z,6.0nm,1.0s,mb4.5								
BOZ	**Bozeman (W)**	**47.21**	**292**	*e*P			**P**	**20 22 44.6**	**-0.1**
	comp=Z,6.1nm,1.0s,mb4.5								
BOZ	**Bozeman (W)**	**47.21**	**292**	*e*P			**P**	**20 22 44.6**	**-0.1**
	comp=Z,6.1nm,1.0s,mb4.5								
DLBC	**Dease Lake**	**47.60**	**315**	*e*P			**P**	**20 22 50.0**	**+2.4**
DLBC	**Dease Lake**	**47.60**	**315**	*e*P			**P**	**20 22 50.0**	**+2.4**
WMOK	**Wichita Mounta**	**47.62**	**272**	*e*P			**P**	**20 22 47.9**	**-0.1**
WMOK				pmax			pmax		
	comp=Z,8.0nm,1.4s,mb4.6								
WMOK	**Wichita Mounta**	**47.62**	**272**	*e*P			**P**	**20 22 47.9**	**-0.2**
	comp=Z,7.7nm,1.4s,mb4.5								
WMOK	**Wichita Mounta**	**47.62**	**272**	*e*P			**P**	**20 22 47.8**	**-0.2**
	comp=Z,7.7nm,1.4s,mb4.5								
ISCO	**Idaho Springs**	**47.89**	**282**	*e*P			**P**	**20 22 51.5**	**+1.4**
ISCO				pmax			pmax		
	comp=Z,9.0nm,1.4s,mb4.6								
ISCO	**Idaho Springs**	**47.89**	**282**	*e*P			**P**	**20 22 51.5**	**+1.4**
	comp=Z,8.6nm,1.4s,mb4.6								
ISCO	**Idaho Springs**	**47.89**	**282**	*e*P			**P**	**20 22 51.5**	**+1.4**
	comp=Z,8.6nm,1.4s,mb4.6								
PDAR	**Pinedale Array**	**48.02**	**287**	P			**P**	**20 22 50.3**	**-0.8**
	comp=Z,0.9nm,0.6s,mb4.0,baz=60,slow=8.2,SNR=11								
BW06	**Boulder Array**	**48.03**	**287**	*e*P			**P**	**20 22 49.9**	**-1.2**
	comp=Z,6.1nm,1.3s,mb4.5								
BW06	**Boulder Array**	**48.03**	**287**	*e*P			**P**	**20 22 49.9**	**-1.2**
	comp=Z,6.1nm,1.3s,mb4.5								
ARU	**Arti**	**48.37**	**48**	*e*P			**P**	**20 22 54.1**	**+0.6**
ARU				pmax			pmax		
	comp=Z,6.0nm,0.9s,mb4.6								
ARU	**Arti**	**48.37**	**48**	*e*P			**P**	**20 22 54.1**	**+0.6**
	comp=Z,6.1nm,0.9s,mb4.6								
ARU	**Arti**	**48.37**	**48**	*e*P			**P**	**20 22 54.1**	**+0.6**
	comp=Z,6.1nm,0.9s,mb4.6								
HLID	**Hailey**	**50.08**	**291**	*e*P			**P**	**20 23 07.5**	**+0.6**
	comp=Z,6.4nm,1.3s,mb4.5								
HLID	**Hailey**	**50.08**	**291**	*e*P			**P**	**20 23 07.5**	**+0.6**
	comp=Z,6.4nm,1.3s,mb4.5								
MALT	**Malatya**	**50.58**	**78**	*e*P			**P**	**20 23 11.5**	**+0.7**
MALT				pmax			pmax		
	comp=Z,8.0nm,1.1s,mb4.6								
MALT	**Malatya**	**50.58**	**78**	*e*P			**P**	**20 23 11.5**	**+0.7**
	comp=Z,7.8nm,1.1s,mb4.5								
MALT	**Malatya**	**50.58**	**78**	*e*P			**P**	**20 23 11.5**	**+0.7**
	comp=Z,7.8nm,1.1s,mb4.5								
PV10	**Paradox Valley**	**50.78**	**283**	*e*P			**P**	**20 23 13.6**	**+1.3**
PV10	**Paradox Valley**	**50.78**	**283**	*e*P			**P**	**20 23 13.6**	**+1.3**
GNI	**Garni**	**52.73**	**71**	*e*P			**P**	**20 23 27.2**	**+0.1**
GNI				pmax			pmax		
	comp=Z,19nm,1.2s								
GNI	**Garni**	**52.73**	**71**	P			**P**	**20 23 27.6**	**+0.6**
	comp=Z,4.3nm,0.7s,mb4.5,baz=18,slow=4.3,SNR=4.2								
GNI	**Garni**	**52.73**	**71**	*e*P			**P**	**20 23 27.2**	**+0.2**
	comp=Z,18nm,1.2s,mb4.9								
GNI	**Garni**	**52.73**	**71**	*e*P			**P**	**20 23 27.2**	**+0.1**
	comp=Z,18nm,1.2s,mb4.9								
DBIC	**Dimbokro**	**54.38**	**142**	*e*P			**P**	**20 23 35.3**	**-4.2**
DBIC				pmax			pmax		
	comp=Z,8.0nm,1.1s								
DBIC	**Dimbokro**	**54.38**	**142**	*e*P			**P**	**20 23 35.3**	**-4.2**
	comp=Z,7.9nm,1.1s,mb4.6								
TXAR	**Lajitas Array**	**54.39**	**271**	P			**P**	**20 23 39.7**	**+0.3**
	comp=Z,0.2nm,0.5s,mb3.3,baz=54,slow=7.8,SNR=2.4								
EIL	**Elat**	**54.96**	**88**	P			**P**	**20 23 41.3**	**-2.3**
	comp=Z,9.5nm,1.1s,mb4.7								
EIL	**Elat**	**54.96**	**88**	P			**P**	**20 23 41.3**	**-2.3**
	comp=Z,9.5nm,1.1s,mb4.7								
BVAR	**Borovoye Array**	**55.63**	**45**	P			**P**	**20 23 47.8**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=312,slow=7.1,SNR=14								
NVAR	**Mina Array Bea**	**55.80**	**289**

WMOK Wichita Mounta 47.54 272 P P 20 35 18.6 0.0
2.0nm,1.0s,mb4.1
WMOK Wichita Mounta 47.54 272 P P 20 35 18.6 0.0
2.0nm,1.0s,mb4.1
PDAR Pinedale Array 47.95 287 P P 20 35 22.1 +0.3
0.4nm,0.6s,mb3.6,baz=53,slow=7.4,SNR=4.4
PDAR Pinedale Array 47.95 287 P P 20 35 22.0 +0.3
0.5nm,0.6s,mb3.7,baz=315,slow=6.3,SNR=5.3
BVAR Borovoye Array 55.67 45 P P 20 36 18.7 -0.8
0.5nm,0.6s,mb3.7,baz=315,slow=6.3,SNR=5.3
MKAR Makanchi Array 65.28 42 P P 20 37 25.2 +0.1
0.7nm,0.7s,mb3.8,baz=339,slow=5.7,SNR=8.1
ASAR Alice Springs 147.10 19 PKPbc PKPdf 20 46 26.3 +1.1
0.5nm,0.8s,baz=358,slow=2.1,SNR=5.1

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*IDC **02** 20:28:50.2±7.9, 4.87S×149.49E, h72km±59km, mb4.2/5, mb1 4.3/6, mb1mx3.9/14, mbtmp4.5/6, ML2.8/1, MS3.5/7, Ms1 3.4/7, ms1mx3.4/15, Error ellipse: s-maj=59.5km s-min=29.8km az=1.0*
*NEIC **02** 20:28:51.9±3.1, 5.21S×149.53E, h60km±27km, mb4.5/3, Error ellipse: s-maj=23.0km s-min=20.9km az=87.0*
ISC 02 20:28:48.0±2.6, 4.85S±0.10×149.4E±0.2, h64km±25km, n12, σ0°85/12, mb4.1/5, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.04**	**206**	P	**P**	**20 30 04.0**	**+1.2**
	2.7nm,0.3s,baz=22,slow=11,SNR=7.5						
PMG				S	**S**	**20 31 01.5**	**+1.1**
	8.7nm,0.3s,baz=44,slow=12,SNR=6.8						
PMG				LR	LR	20 31 47.9	
	comp=Z,114nm,20.8s,baz=23,slow=35						
PMG	**Port Moresby**	**5.04**	**206**	*e*Pn	**P**	**20 30 01.9**	**-1.0**
PMG				*e*Sn	**S**	**20 30 59.3**	**-1.2**
CTA	**Charters Tower**	**15.45**	**191**	LR	LR	20 37 55.2	
	comp=Z,146nm,19.0s,baz=258,slow=35						
GUMO	**Guam**	**18.87**	**346**	P	**P**	**20 33 05.7**	**-0.1**
WRAB	**Tennant Creek**	**20.97**	**223**	*e*P	**P**	**20 33 27.8**	**-0.2**
	26nm,0.7s						
WRA	**Warramunga Arr**	**20.98**	**223**	P	**P**	**20 33 27.8**	**-0.4**
	13nm,0.7s,baz=48,slow=11,SNR=111						
DZM	**Mont Dzumac**	**23.78**	**138**	P	**P**	**20 33 55.9**	**+0.2**
	13nm,0.9s,mb4.4,baz=336,slow=18,SNR=1.6						
DZM				LR	LR	20 41 38.1	
	comp=Z,210nm,19.3s,baz=171,slow=32						
ASAR	**Alice Springs**	**23.94**	**217**	P	**P**	**20 33 59.0**	**+1.7**
	2.5nm,0.8s,mb3.7,baz=51,slow=8.5,SNR=7.2						
ASAR				LR	LR	20 44 37.2	
	comp=Z,108nm,18.6s,baz=41,slow=40						
FITZ	**Fitzroy Crossi**	**26.70**	**239**	P	**P**	**20 34 23.3**	**-0.1**
	14nm,0.8s,mb4.5,baz=46,slow=5.4,SNR=12						
FITZ				LR	LR	20 44 44.1	
	comp=Z,121nm,19.0s,baz=85,slow=36						
STKA	**Stephens Creek**	**27.86**	**194**	P	**P**	**20 34 32.8**	**-1.1**
	1.1nm,0.8s,mb3.5,baz=49,slow=11,SNR=3.0						
STKA				LR	LR	20 45 38.1	
	comp=Z,99nm,18.7s,baz=22,slow=36						
TLY	**Talaya**	**68.46**	**331**	*e*P	**P**	**20 39 51.2**	**+5.9**
	1.9nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**78.16**	**320**	LR	LR	21 13 53.2	
	comp=Z,31nm,20.5s,baz=90,slow=35						

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*JMA **02** 20:28:49.0±0.2, 24.82N×122.00E, h75km, M2.3*
TAP 02 20:28:48.7, 24.72N×121.90E, h72km, ML3.6, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.04**	**104**	P	P	20 29 07.8	-0.3
YOJ				*e*S	S	20 29 21.9	-0.6
IRIF	**Iriomote-Funau**	**1.71**	**103**	P	P	20 29 16.4	-0.6
IRIF				S	S	20 29 37.0	-0.9
HATJ	**Hateruma jima**	**1.86**	**110**	P	P	20 29 18.9	-0.1
HATJ				*e*S	S	20 29 39.9	-1.5
JKRS	**Kuro-shima**	**1.98**	**104**	P	P	20 29 20.4	-0.3
JKRS				*e*S	S	20 29 43.7	-0.6
JIJ	**Ishigaki jima**	**2.07**	**99**	P	P	20 29 21.3	-0.7
JIJ				*e*S	S	20 29 45.3	-1.3

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*BJI **02** 20:30:51.8, 0.99N×97.01E, h39km, mb4.3*
*IDC **02** 20:30:56.0±0.9, 1.38N×96.92E, h26km±3km, mb3.8/10, mb1 3.9/10, mb1mx3.8/17, mbtmp4.0/10, Error ellipse: s-maj=39.5km s-min=14.2km az=51.0*
*NEIC **02** 20:30:56.5±0.7, 1.46N×97.06E, mb4.3/10, Error ellipse: s-maj=16.3km s-min=11.2km az=223.0*
ISC 02 20:30:54.6±0.8, 1.5N±0.1×97.1E±0.1, h26km, h26km±.9km: pP-P, n27, σ0°95/27, mb4.2/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.23**	**43**	*e*Pn	**Pn**	**20 32 13.0**	**-0.2**
KMI	**Kunming**	**24.15**	**13**	P	**P**	**20 36 11.7**	**+1.8**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.0						
KMI	**Kunming**	**24.15**	**13**	P	**P**	**20 36 11.7**	**+1.8**
	comp=Z,6.0nm,0.9s,mb4.0						
SHL	**Shillong**	**24.47**	**349**	*e*P	**P**	**20 36 14.0**	**+1.0**
JIRN	**Jiri**	**28.05**	**339**	*e*P	**P**	**20 36 46.9**	**+0.8**
	comp=Z,8.5nm,0.8s,mb4.4						
DMN	**Daman**	**28.40**	**337**	*e*P	**P**	**20 36 50.4**	**+1.1**
KKN	**Kakani**	**28.50**	**338**	*e*P	**P**	**20 36 50.5**	**+0.4**
	comp=Z,16nm,1.3s,mb4.5						
GKN	**Gorkha**	**28.94**	**337**	*e*P	**P**	**20 36 54.8**	**+0.7**
	comp=Z,13nm,0.8s,mb4.7						
KOLN	**Koldanda**	**29.15**	**335**	*e*P	**P**	**20 36 56.4**	**+0.4**
	comp=Z,4.6nm,0.6s,mb4.4						
ENH	**Enshi**	**30.98**	**21**	*e*P	**P**	**20 37 10.4**	**-1.8**
	comp=Z,10nm,0.9s,mb4.7						
BJI	**Beijing**	**42.15**	**22**	*e*P	**P**	**20 38 47.6**	**+0.9**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.5						
BJI	**Beijing**	**42.15**	**22**	*e*P	**P**	**20 38 47.6**	**+0.9**
	comp=Z,8.0nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**42.30**	**122**	P	**P**	**20 38 48.6**	**+0.4**
	comp=Z,0.2nm,0.3s,mb3.2,baz=304,slow=8.9,SNR=7.1						
WRA				pP	pP	20 38 54.7	-1.5
	comp=Z,0.9nm,0.6s,baz=304,slow=9.0,SNR=4.8						
ASAR	**Alice Springs**	**43.67**	**127**	P	**P**	**20 38 60.0**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.4,baz=299,slow=7.8,SNR=6.2						
ASAR				pP	pP	20 39 07.8	+0.5
	comp=Z,0.3nm,0.6s,baz=305,slow=7.8,SNR=2.1						
SONM	**Songino Array**	**46.89**	**9**	P	**P**	**20 39 24.4**	**-0.3**
	comp=Z,5.0nm,1.0s,mb4.4,baz=188,slow=9.0,SNR=33						
SONM				pP	pP	20 39 32.8	+0.1
	comp=Z,0.8nm,0.5s,baz=192,slow=8.9,SNR=4.8						
MKAR	**Makanchi Array**	**46.95**	**346**	P	**P**	**20 39 25.5**	**+0.4**
	comp=Z,3.8nm,0.7s,mb4.4,baz=162,slow=8.2,SNR=43						
MKAR				pP	pP	20 39 33.9	+0.7
	comp=Z,1.8nm,0.5s,baz=160,slow=8.7,SNR=9.9						
ULN	**Ulaanbaatar**	**47.02**	**9**	*e*P	**P**	**20 39 23.6**	**-2.1**
	comp=Z,4.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**51.50**	**345**	P	**P**	**20 39 59.4**	**-0.8**
ZAL	**Zalesovo**	**53.26**	**351**	P	**P**	**20 40 12.8**	**-0.5**
	comp=Z,1.4nm,0.4s,mb4.3,baz=310,slow=4.3,SNR=7.9						
ZAL				pP	pP	20 40 21.2	-0.2
	comp=Z,2.8nm,0.5s,baz=338,slow=4.1,SNR=7.4						
ZAL	**Zalesovo**	**53.26**	**351**	P	**P**	**20 40 12.8**	**-0.5**
ZAL				pP	pP	20 40 21.2	-0.2
BVAR	**Borovoye Array**	**55.95**	**341**	P	**P**	**20 40 31.9**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.9,baz=135,slow=8.4,SNR=9.6						
BVAR				pP	pP	20 40 39.3	-1.7
	comp=Z,1.4nm,0.6s,baz=141,slow=9.5,SNR=11						
CHKZ	**Chkalovo**	**56.43**	**341**	*e*P	**P**	**20 40 35.5**	**-0.9**
	comp=Z,2.5nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**68.82**	**312**	P	**P**	**20 41 58.4**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=129,slow=9.2,SNR=2.7						
BRTR				pP	pP	20 42 05.8	-1.5
	comp=Z,0.8nm,0.6s,baz=127,slow=6.6,SNR=3.4						
FINES	**FINESS Array B**	**79.69**	**333**	P	**P**	**20 43 01.5**	**+0.1**
	comp=Z,2.2nm,1.0s,mb4.0,baz=90,slow=5.7,SNR=7.0						
FINES				pP	pP	20 43 10.1	+0.3
	comp=Z,0.9nm,0.5s,baz=86,slow=6.9,SNR=2.9						
KAF	**Kangasniemi**	**79.78**	**333**	*e*p	**P**	**20 42 58.3**	**-3.5**
	comp=Z,1.1nm,0.7s,mb3.9						
ARCES	**ARCESS Array B**	**82.23**	**340**	P	**P**	**20 43 14.9**	**+0.3**
	comp=Z,6.6nm,1.0s,mb4.5,baz=333,slow=2.7,SNR=4.7						
ARCES				pP	pP	20 43 24.2	+1.2
	comp=Z,4.8nm,1.0s,baz=90,slow=7.3,SNR=1.3						
GERES	**GERESS Array B**	**84.52**	**319**	P	**P**	**20 43 26.3**	**-0.4**
	comp=Z,0.2nm,0.6s,mb3.5,baz=90,slow=5.9,SNR=2.4						
GERES				pP	pP	20 43 35.9	+0.7
	comp=Z,0.7nm,0.8s,baz=135,slow=3.8,SNR=3.9						

IDC 02 21:04:35.2±2.7, 55.87N×35.04W, mb3.8/5, mb1 3.9/7, mb1mx3.6/24, mbtmp3.8/7, ML3.2/2, MS3.4/2, Ms1 3.4/2, ms1mx2.8/35, Error ellipse: s-maj=93.0km s-min=22.5km az=5.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	**Eskdalemuir Ar**	**17.94**	**78**	P	P	21 08 45.3	-2.1
	0.1nm,0.3s,baz=264,slow=8.4,SNR=4.5						
SCHQ	**Schefferville**	**18.03**	**280**	P	P	21 08 46.1	-2.3
	0.4nm,0.3s,baz=83,slow=12,SNR=12						
FRB	**Frobisher Bay**	**18.41**	**309**	LR	LR	21 14 26.8	
	comp=Z,72nm,18.0s,baz=106,slow=32						
FINES	**FINESS Array B**	**31.22**	**54**	P	P	21 10 54.5	-3.4
	2.6nm,1.0s,baz=254,slow=10,SNR=4.6						
AKASG	**Malin Array Be**	**37.52**	**70**	P	P	21 11 49.8	-2.4
	0.2nm,0.3s,baz=297,slow=8.3,SNR=6.2						
YKA	**Yellowknife Ar**	**38.84**	**313**	P	P	21 12 01.8	-1.2
	0.3nm,0.8s,baz=63,slow=9.4,SNR=5.2						
BRTR	**Keskin Array B**	**46.86**	**80**	P	P	21 13 08.0	-0.4
	2.4nm,0.8s,baz=323,slow=5.0,SNR=7.2						
ANMO	**Albuquerque**	**51.79**	**278**	LR	LR	21 34 11.1	
	comp=Z,55nm,18.3s,slow=34						
MKAR	**Makanchi Array**	**65.02**	**42**	P	P	21 15 17.6	-1.2
	1.0nm,0.8s,baz=338,slow=6.5,SNR=7.5						
ASAR	**Alice Springs**	**146.82**	**19**	PKPbc	PKPbc	21 24 17.1	-1.5
	0.5nm,0.6s,baz=352,slow=2.2,SNR=6.5						

IDC 02 21:09:44.7±3.2, 0.66S×136.76E, mb4.2/4, mb1 4.3/5, mb1mx4.0/14, mbtmp4.1/5, ML4.3/1, Error ellipse: s-maj=176.7km s-min=21.0km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.32**	**187**	P	P	21 14 12.1	-2.1
	0.9nm,0.3s,baz=358,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**23.04**	**187**	P	P	21 14 52.0	-0.9
	7.8nm,0.8s,baz=2.4,slow=11,SNR=11						
STKA	**Stephens Creek**	**31.39**	**172**	P	P	21 16 06.8	-2.9
	3.5nm,1.1s,baz=336,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**66.98**	**323**	P	P	21 20 38.9	-2.6
	1.7nm,0.5s,baz=115,slow=8.1,SNR=24						
BVAR	**Borovoye Array**	**76.53**	**325**	P	P	21 21 37.5	-0.9
	0.8nm,0.5s,baz=125,slow=8.3,SNR=8.4						

IDC 02 21:26:05.2±31.0, 0.86S×97.36E, mb3.9/4, mb1 4.0/4, mb1mx3.6/16, mbtmp3.9/4, Error ellipse: s-maj=627.1km s-min=133.9km az=168.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**49.13**	**8**	P	P	21 34 54.7	-1.9
	0.4nm,0.4s,baz=185,slow=8.8,SNR=5.0						
MKAR	**Makanchi Array**	**49.27**	**346**	P	P	21 34 55.6	-2.1
	1.4nm,0.7s,baz=158,slow=8.1,SNR=16						
ZAL	**Zalesovo**	**55.60**	**351**	P	P	21 35 42.5	-2.5
	1.6nm,0.5s,baz=319,slow=4.6,SNR=7.2						
BVAR	**Borovoye Array**	**58.24**	**341**	P	P	21 36 01.2	-2.5
	0.5nm,0.5s,baz=141,slow=9.2,SNR=6.0						

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*IDC **02** 21:26:33.3±1.7, 55.47N×35.21W, mb3.6/6, mb1 3.7/7, mb1mx3.5/22, mbtmp3.6/7, ML2.3/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/29, Error ellipse: s-maj=50.2km s-min=22.4km az=15.0*
*NEIC **02** 21:26:35.1±1.0, 55.49N×35.17W, h10km, Error ellipse: s-maj=36.7km s-min=13.7km az=188.0*
ISC 02 21:26:33.5±1.1, 55.5N±0.3×35.1W±0.2, h10km, n9, σ0°84/8, mb3.4/6, MS3.4/2, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.03**	**281**	P	**P**	**21 30 46.1**	**+0.6**
	0.1nm,0.3s,baz=63,slow=10,SNR=5.8						
ESDC	**Sonseca Array**	**26.04**	**114**	P	**P**	**21 32 07.8**	**-0.5**
	0.1nm,0.3s,mb2.8,baz=335,slow=6.8,SNR=4.8						
DAVOX	**Davos**	**29.10**	**88**	LR	LR	21 44 26.4	
	comp=Z,62nm,18.7s,MS3.2,baz=84,slow=37						
FINES	**FINESS Array B**	**31.46**	**54**	P	**P**	**21 32 57.8**	**+1.0**
	3.6nm,1.2s,mb4.1,baz=292,slow=7.5,SNR=3.8						
AKASG	**Malin Array Be**	**37.69**	**70**	P	**P**	**21 33 49.6**	**-0.8**
	0.2nm,0.3s,mb3.3,baz=301,slow=8.5,SNR=4.2						
YKA	**Yellowknife Ar**	**39.02**	**314**	P	**P**	**21 34 00.6**	**-0.8**
	0.3nm,0.7s,mb3.1,baz=62,slow=9.3,SNR=6.4						
YKA	**Yellowknife Ar**	**39.02**	**314**	P	**P**	**21 34 00.6**	**-0.8**
BRTR	**Keskin Array B**	**46.97**	**80**	P	**P**	**21 35 07.3**	**+1.3**
	1.0nm,0.7s,mb3.9,baz=302,slow=6.1,SNR=3.8						
MKAR	**Makanchi Array**	**65.30**	**42**	P	**P**	**21 37 16.5**	**-0.7**
	0.2nm,0.6s,mb3.3,baz=330,slow=6.2,SNR=3.3						
MKAR				LR	LR	22 04 39.9	
	comp=Z,31nm,20.4s,MS3.5,baz=91,slow=35						

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*IDC **02** 21:31:44.2±1.3, 1.84N×97.76E, mb4.2/11, mb1 4.3/11, mb1mx4.1/18, mbtmp4.2/11, Error ellipse: s-maj=68.9km s-min=14.9km az=54.0*
*BJI **02** 21:31:45.7, 0.97N×97.39E, h40km, mB5.0, mb4.5, Ms4.3, Msz4.1*
*MOS **02** 21:31:46.5±1.6, 1.35N×97.33E, h33km, mb4.7/16, Error ellipse: s-maj=20.9km s-min=9.9km az=98.6*
*NEIC **02** 21:31:48.1±0.6, 1.49N×97.42E, h30km, mb4.6/19, Error ellipse: s-maj=19.9km s-min=9.0km az=54.0*
ISC 02 21:31:46.3±0.6, 1.40N±0.08×97.35E±0.10, h30km, (h34km±1.3km: pP-P), n62, σ1°39/61, mb4.4/38, MS3.8/6, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.08**	**40**	*e*Pn	**Pn**	**21 33 01.2**	**-1.2**
KMI	**Kunming**	**24.15**	**12**	P	**P**	**21 37 03.0**	**+1.9**
KMI				AP		21 37 11.4	
KMI				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.3						
KMI				AMB	AMB		
	comp=Z,149nm,5.2s						
KMI				LR	LR		
	comp=N,381nm,13.8s,MS4.1						
KMI				LR	LR		
	comp=E,229nm,14.8s,MS4.1						
KMI				LR	LR		
	comp=Z,416nm,14.8s,MS4.0						
KMI	**Kunming**	**24.15**	**12**	P	**P**	**21 37 03.0**	**+1.9**
	comp=Z,18nm,1.3s,mb4.3						
KMI				pP		21 37 11.4	
KMI				S	S	21 41 37.2	+23
KMI				sS		21 41 53.5	
KMI				LR	LR		
	comp=Z,420nm,14.8s,MS4.0						
SHL	**Shillong**	**24.59**	**348**	*e*P	**P**	**21 37 05.0**	**-0.4**
GYA	**Guiyang**	**26.47**	**19**	P	**P**	**21 37 24.6**	**+1.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
JIRN	**Jiri**	**28.21**	**339**	*e*P	**P**	**21 37 38.6**	**-0.2**
	comp=Z,26nm,0.9s,mb4.9						
PKI	**Pulchoki**	**28.42**	**337**	*e*P	**P**	**21 37 42.1**	**+1.4**
	comp=Z,20nm,1.2s,mb4.6						
PKI	**Pulchoki**	**28.42**	**337**	*e*P	**P**	**21 37 42.1**	**+1.4**
PKI				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.3						
GUN	**Gumba**	**28.55**	**338**	*e*P	**P**	**21 37 41.5**	**-0.3**
	comp=Z,29nm,0.8s,mb5.0						
DMN	**Daman**	**28.57**	**337**	*e*P	**P**	**21 37 43.7**	**+1.6**
KKN	**Kakani**	**28.67**	**337**	*e*P	**P**	**21 37 41.9**	**-1.0**
	comp=Z,16nm,0.9s,mb4.8						
KKN	**Kakani**	**28.67**	**337**	*e*P	**P**	**21 37 41.9**	**-1.0**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
LSA	**Lhasa**	**28.75**	**349**	P	**P**	**21 37 43.7**	**+0.1**
LSA	**Lhasa**	**28.75**	**349**	*e*P	**P**	**21 37 42.3**	**-1.3**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
LSA	**Lhasa**	**28.75**	**349**	*e*P	**P**	**21 37 42.3**	**-1.3**
	comp=Z,5.7nm,0.7s,mb4.4						
GKN	**Gorkha**	**29.11**	**336**	*e*P	**P**	**21 37 45.5**	**-1.4**
	comp=Z,39nm,1.1s,mb5.0						
KOLN	**Koldanda**	**29.34**	**335**	*e*P	**P**	**21 37 48.4**	**-0.5**
	comp=Z,17nm,0.7s,mb4.9						
ENH	**Enshi**	**30.94**	**21**	*e*P	**P**	**21 38 01.3**	**-1.8**
	comp=Z,16nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**33.93**	**126**	P	**P**	**21 38 29.7**	**+0.4**
	comp=Z,7.0nm,1.0s,mb4.6,baz=272,slow=3.0,SNR=3.9						
XAN	**Xi'an**	**34.23**	**17**	P	**P**	**21 38 33.8**	**+2.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
LZH	**Lanzhou**	**35.03**	**9**	*e*P	**P**	**21 38 41.3**	**+2.7**
LZH				AP	pP	21 38 50.6	+3.1
LZH				XP	sP	21 38 54.6	+3.3
LZH				PP	PP	21 40 00.6	+3.3
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,103nm,4.0s						
LZH				LR	LR		
	comp=N,319nm,13.0s						
LZH				LR	LR		
	comp=Z,367nm,17.2s,MS4.2						
LZH	**Lanzhou**	**35.03**	**9**	*e*P	**P**	**21 38 41.3**	**+2.7**
	comp=Z,29nm,1.5s,mb5.0						
LZH				pP	pP	21 38 50.6	+3.1
LZH				sP	sP	21 38 54.6	+3.3
LZH				PP	PP	21 40 00.6	+3.3
LZH				LR	LR		
	comp=Z,370nm,17.2s,MS4.2						
GTA	**Gaotai**	**37.90**	**3**	P	**P**	**21 39 02.6**	**-0.1**
GTA				AP	pP	21 39 13.6	+1.9
GTA				XP	sP	21 39 18.0	+2.6
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
GTA				AMB	AMB		
	comp=Z,77nm,10.3s						
GTA				LR	LR		
	comp=N,169nm,16.0s,MS4.0						
GTA				LR	LR		
	comp=E,99nm,17.5s,MS4.0						
GTA				LR	LR		
	comp=Z,144nm,14.8s,MS3.9						
HHC	**Hu-ho-hao-te**	**41.32**	**16**	*e*P	**P**	**21 39 37.9**	**+6.8**
HHC				AP	pP	21 39 48.3	+8.2
HHC				XP	sP	21 39 52.8	+9.0
HHC				PCP	PcP	21 41 31.2	+1.4
HHC				SCP		21 45 17.7	
HHC				PCS		21 45 22.5	
HHC				S	**S**	**21 45 55.0**	**+12**
HHC				XS		21 46 10.0	
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,99nm,4.0s						
HHC				LR	LR		
	comp=N,200nm,15.9s,MS4.2						
HHC				LR	LR		
	comp=E,119nm,16.1s,MS4.2						
HHC				LR	LR		
	comp=Z,185nm,15.9s,MS4.0						
WRA	**Warramunga Arr**	**42.02**	**122**	P	**P**	**21 39 36.1**	**-1.0**
	comp=Z,2.3nm,0.7s,mb3.9,baz=301,slow=9.1,SNR=18						
WRAB	**Tennant Creek**	**42.02**	**122**	*e*P	**P**	**21 39 37.1**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
WRAB	**Tennant Creek**	**42.02**	**122**	*e*P	**P**	**21 39 37.1**	**-0.1**
	comp=Z,9.1nm,1.0s,mb4.4						
BJT	**Baijiatuau**	**42.08**	**22**	*e*P	**P**	**21 39 37.3**	**0.0**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**42.08**	**22**	*e*P	**P**	**21 39 37.2**	**-0.1**
	comp=Z,9.5nm,0.6s,mb4.6						
BJI	**Beijing**	**42.10**	**22**	*e*P	**P**	**21 39 36.0**	**-1.5**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
BJI				LR	LR		
	comp=Z,43nm,28.8s,MS3.2						
BJI	**Beijing**	**42.10**	**22**	*e*P	**P**	**21 39 36.0**	**-1.5**
	comp=Z,6.0nm,0.9s,mb4.2						
BJI				LR	LR		
	comp=Z,40nm,28.8s,MS3.1						
WMQ	**Urumqi**	**43.10**	**350**	⇑P	**P**	**21 39 45.5**	**-0.1**
WMQ				AP	pP	21 39 55.0	+0.4
WMQ				XP	sP	21 39 59.5	+1.1
WMQ				PP	PP	21 41 28.1	+0.1
WMQ				PCP	PcP	21 41 36.3	+0.6
WMQ				*e*S	**S**	**21 46 08.5**	**-0.9**
WMQ				AMB	AMB		
	comp=Z,1.0nm,1.1s,mb3.5						
WMQ				AMB	AMB		
	comp=Z,110nm,4.8s						
WMQ				LR	LR		
	comp=N,19nm,19.0s,MS3.8						
WMQ				LR	LR		
	comp=E,110nm,21.4s,MS3.8						
WMQ				LR	LR		
	comp=Z,34nm,21.4s,MS3.2						
ASAR	**Alice Springs**	**43.40**	**127**	P	**P**	**21 39 48.0**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.7,baz=297,slow=7.6,SNR=9.8						
AAK	**Ala-Archa**	**45.87**	**336**	*e*P	**P**	**21 40 08.3**	**+0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
AAK	**Ala-Archa**	**45.87**	**336**	*e*P	**P**	**21 40 08.3**	**+0.4**
	comp=Z,1.6nm,0.9s,mb4.0						
SONM	**Songino Array**	**46.91**	**8**	P	**P**	**21 40 13.2**	**-2.8**
	comp=Z,1.0nm,0.7s,mb3.9,baz=182,slow=7.5,SNR=12						
ULN	**Ulaanbaatar**	**47.04**	**9**	*e*P	**P**	**21 40 18.9**	**+1.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**47.04**	**9**	*e*P	**P**	**21 40 18.9**	**+1.8**
	comp=Z,3.5nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**47.08**	**346**	P	**P**	**21 40 13.7**	**-3.7**
	comp=Z,2.8nm,0.7s,mb4.3,baz=162,slow=9.0,SNR=17						
CN2	**Changchun**	**49.06**	**27**	*e*P	**P**	**21 40 34.9**	**+2.1**
ZAK	**Zakamensk**	**49.06**	**5**	*e*P	**P**	**21 40 34.4**	**+1.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
MDJ	**Mudanjiang**	**51.62**	**29**	P	**P**	**21 40 51.5**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,124nm,4.0s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**1.15**	**316**	*e*P	P	21 35 08.9	-0.8
CCHI				*i* S	S	21 35 30.0	-0.2
CCHI				AMP		21 35 31.0	
	comp=E,174nm,0.2s						
CICH	**Cipreses**	**3.15**	**10**	*e*P	P	21 35 33.6	+0.5
PLCA	**Paso Flores**	**3.32**	**173**	*e*Pn	P	21 35 33.2	-2.1
PLCA				*e*Sn	S	21 36 02.7	-13
CACH	**El Canelo**	**3.33**	**7**	*e*P	P	21 35 35.2	-0.2
CACH				*i* S	S	21 36 15.1	-0.6
LNV	**Longovilo**	**3.48**	**355**	*i* P	P	21 35 37.2	-0.1
LNV				*i* S	S	21 36 18.4	-0.6
CHCH	**Chadas Angostu**	**3.51**	**6**	*e*P	P	21 35 38.1	+0.4
CHCH				*i* S	S	21 36 19.3	-0.5
LMEL	**Las Melosas**	**3.65**	**12**	*e*P	P	21 35 39.9	+0.4
LMEL				*i* S	S	21 36 24.9	+2.0
LMEL				AMP		21 36 29.3	
	comp=N,93nm,0.2s						
LVC	**Limon Verde**	**14.89**	**8**	*e*P	P	21 38 00.9	-5.8
	comp=N,4.8nm,0.5s						

IDC 02 22:03:41.5±3.7, 2.65S×140.45E, mb3.5/3, mb1 3.8/4, mb1mx3.6/11, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=120.8km s-min=27.4km az=93.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.19**	**199**	*e*P	P	22 07 58.1	+0.7
WRA	**Warramunga Arr**	**18.19**	**199**	P	P	22 07 54.0	-3.4
	0.1nm,0.3s,baz=19,slow=13,SNR=6.5						
WRA				S	S	22 11 06.1	-12
	0.1nm,0.3s,baz=11,slow=22,SNR=4.5						
FITZ	**Fitzroy Crossi**	**21.13**	**222**	P	P	22 08 29.2	-1.3
	4.7nm,0.7s,baz=29,slow=8.7,SNR=3.6						
ASAR	**Alice Springs**	**21.83**	**196**	P	P	22 08 36.1	-1.4
	0.6nm,0.7s,baz=22,slow=9.3,SNR=4.5						
MKAR	**Makanchi Array**	**70.81**	**322**	P	P	22 14 60.0	-2.0
	0.2nm,0.6s,baz=117,slow=6.4,SNR=3.3						

*BJI **02** 22:17:26.0, 2.27N×92.89E, h40km, mB5.1, mb4.8, Ms5.1, Msz4.8*
*MOS **02** 22:17:26.3±1.2, 2.42N×93.03E, h33km, mb5.0/29, MS4.7/12, Error ellipse: s-maj=13.1km s-min=6.1km az=113.1*
*IDC **02** 22:17:27.5±0.4, 2.49N×93.07E, h32km±2km, mb4.3/23, mb1 4.4/23, mb1mx4.4/25, mbtmp4.5/23, MS4.5/13, Ms1 4.5/13, ms1mx4.5/15, Error ellipse: s-maj=16.3km s-min=9.7km az=50.0*
*NEIC **02** 22:17:28.0±0.3, 2.44N×93.10E, mb4.9/33, MS4.6/26, Error ellipse: s-maj=9.1km s-min=6.2km az=217.0*
*HRVD **02** 22:17:28.0±0.2, 2.44N×92.97E, h15km±1km, MW5.3/68, Centroid moment Tensor Solution. LP body waves: s47,c75; Mantle waves: s68,c126; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.40±.23; $M_{\theta\theta}$-1.41±.19; $M_{\phi\phi}$1.01±.24; $M_{r\theta}$-2.17±.45; $M_{\theta\phi}$-9.00±.25; $M_{\phi r}$~2.80±.53; Best double couple: $M_0$9.671×10^{16} NP1: ϕ_s95°, δ74°, λ-171°. NP2:ϕ_s3°, δ81°, λ-16°. Principal axes: T 8.94, Plg5°, Azm50°; N 1.466, Plg71°, Azm155°; P -10.402, Plg18°, Azm318°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 02 22:17:26.2±0.3, 2.43N±0.04×93.08E±0.04, h32km, h32km±.4km; pP-P, n204, σ1s20/207, mb4.7/67, MS4.6/49, 14C-8D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.06**	**69**	*e*Pn	**P**	**22 19 22.2**	**-2.0**
PALK	**Pallekele**	**13.24**	**292**	*e*P	**P**	**22 20 30.4**	**-4.3**
	117nm,0.6s						
PALK				*e*S	**S**	**22 22 43.9**	**-18**
BDT	**Bhumibol Dam**	**15.83**	**21**	P	**P**	**22 21 07.0**	**-1.7**
MDRS	**Chennai**	**16.53**	**310⇓**	*e*P	**P**	**22 21 12.0**	**-5.6**
MDRS				*e*S	**S**	**22 24 17.0**	**-2.2**
MDRS				*e*		22 31 00.0	
KKTK	**Khon Kaen**	**16.82**	**34**	PG	**P**	**22 21 21.0**	**-0.2**
KKTK				SG	rx	22 21 32.5	
CMAR	**Chiang Mai Arr**	**16.93**	**19**	LR	LR	22 28 58.7	
	comp=Z,1μm,18.4s,baz=210,slow=41						
TRD	**Trivandrum**	**17.14**	**291**	*e*P	**P**	**22 21 27.4**	**+2.1**
TRD				*e*		22 21 30.1	
	comp=Z,54nm,1.2s						
TRD				*e*S	**S**	**22 24 37.2**	**+3.8**
KSM	**Kuching**	**17.24**	**93**	*e*P	**P**	**22 21 29.7**	**+3.1**
CHG	**Chiang Mai**	**17.27**	**19**	⇑P	**P**	**22 21 24.8**	**-2.0**
	comp=Z,111nm,0.8s						
UBT	**Ubonrachathani**	**17.34**	**42**	P	**P**	**22 21 28.7**	**+0.9**
NANT	**Nan**	**17.90**	**24**	P	**P**	**22 21 36.0**	**+1.3**
	comp=Z,262nm,1.0s						
VIS	**Vishakhapatnam**	**17.96**	**328**	*e*P	**P**	**22 21 34.3**	**-1.2**
VIS				*e*		22 21 40.6	
	comp=Z,165nm,1.1s						
VIS				*i*		22 24 50.0	
BWNR	**Bhubaneshwar**	**19.13**	**339**	*e*P	**P**	**22 21 49.6**	**0.0**
BWNR				*e*		22 21 52.4	
	comp=Z,302nm,0.5s						
BWNR				*i*		22 25 19.9	
HYB	**Hyderabad**	**20.63**	**317**	*e*P	**P**	**22 22 05.0**	**-0.8**
HYB				*e*S	**S**	**22 25 58.0**	**+8.2**
HYB				pmax	pmax		
	comp=Z,129nm,1.2s						
HYB	**Hyderabad**	**20.63**	**317**	*e*P	**P**	**22 22 05.0**	**-0.8**
	comp=Z,129nm,1.2s						
HYB				*e*S	**S**	**22 25 58.0**	**+8.2**
HYB	**Hyderabad**	**20.63**	**317**	*i* P	**P**	**22 22 05.0**	**-0.8**
	comp=Z,129nm,1.2s						
HYB				*e*S	**S**	**22 25 58.0**	**+8.2**
AGT	**Agartala**	**21.40**	**355⇓**	*i*P	**P**	**22 22 14.0**	**+0.3**
AGT				*i*		22 26 24.0	
BLSP	**Bilaspur**	**22.29**	**332**	*e*P	**P**	**22 22 22.6**	**0.0**
BLSP				*e*		22 22 33.9	
	comp=Z,149nm,1.4s						
BLSP				*e*S	**S**	**22 26 27.9**	**+7.0**
GOA	**Goa**	**23.00**	**306⇓**	*e*	**P**	**22 22 26.1**	**-3.6**
GOA				*e*S	**S**	**22 26 39.5**	**+5.8**
SHL	**Shillong**	**23.03**	**357**	*e*P	**P**	**22 22 30.0**	**+0.1**
SHL				*e*S	**S**	**22 26 41.0**	**+6.7**
NGP	**Nagpur**	**23.09**	**325**	*e*P	**P**	**22 22 33.1**	**+2.6**
NGP				*e*		22 22 49.5	
	comp=Z,153nm,1.8s						
NGP				*e*		22 26 47.3	
QIZ	**Qiongzhong**	**23.27**	**44**	P	**P**	**22 22 34.2**	**+2.0**
QIZ				S	**S**	**22 26 40.1**	**+1.7**
QIZ				XS		22 26 57.9	
QIZ				LR	LR		
	comp=N,3μm,18.4s,MS5.0						
QIZ				LR	LR		
	comp=E,3μm,17.5s,MS5.0						
QIZ				LR	LR		
	comp=Z,2μm,12.9s,MS4.8						
QIZ	**Qiongzhong**	**23.27**	**44**	PFAKE		22 22 40.0	+7.8
QIZ				LR	LR		
	comp=Z,859nm,20.0s,MS4.2						
KKM	**Kota Kinabalu**	**23.34**	**80**	P	**P**	**22 22 32.9**	**-0.2**
KMI	**Kunming**	**24.41**	**22**	P	**P**	**22 22 45.5**	**+2.2**
KMI				PP	PP	22 23 22.2	+3.2
KMI				S	**S**	**22 27 03.6**	**+5.6**
KMI				SS	SS	22 27 59.9	+6.9
KMI				AMB	AMB		
	comp=Z,32nm,1.7s,mb4.5						
KMI				AMB	AMB		
	comp=Z,177nm,3.6s						
KMI				LR	LR		
	comp=N,2μm,12.5s						
KMI				LR	LR		
	comp=E,2μm,17.7s						
KMI				LR	LR		
	comp=Z,2μm,13.5s,MS4.7						
KMI	**Kunming**	**24.41**	**22**	P	**P**	**22 22 45.5**	**+2.2**
KMI				*SP		22 22 54.9	
KMI						22 23 22.2	
KMI				S	**S**	**22 27 03.6**	**+5.6**
KMI				*SS		22 27 14.1	
KMI				SS	SS	22 27 59.9	+6.9
KMI				pmax	pmax		
	comp=Z,32nm,1.7s,mb4.5						
KMI				MLR	MLR		
	comp=Z,2μm,13.5s,MS4.7						
KMI	**Kunming**	**24.41**	**22**	P	**P**	**22 22 45.5**	**+2.2**
	comp=Z,32nm,1.7s,mb4.5						
KMI				sP		22 22 54.9	
KMI				PP	PP	22 23 22.2	+3.2
KMI				S	**S**	**22 27 03.6**	**+5.6**
KMI				sS		22 27 14.1	
KMI				SS	SS	22 27 59.9	+6.9
KMI				LR	LR		
	comp=Z,2μm,13.5s,MS4.7						
POO	**Poona**	**24.72**	**312**	*e*P	**P**	**22 22 48.0**	**+1.6**
POO				*e*		22 22 50.9	
	comp=Z,38nm,1.7s						
POO				*e*S	**S**	**22 27 05.8**	**+2.4**
BHPL	**Bhopal**	**25.66**	**325**	*e*P	**P**	**22 22 57.2**	**+2.0**
BHPL				*e*		22 23 09.4	
	comp=Z,64nm,1.3s						
BHPL				*e*S	**S**	**22 27 19.9**	**+0.9**
JIRN	**Jiri**	**25.94**	**346**	*e*P	**P**	**22 22 57.2**	**-0.6**
	comp=Z,57nm,0.7s,mb5.2						
PKI	**Pulchoki**	**26.06**	**344**	*e*P	**P**	**22 22 59.6**	**+0.8**
	comp=Z,17nm,0.6s,mb4.7						
PKI	**Pulchoki**	**26.06**	**344**	*e*P	**P**	**22 22 59.6**	**+0.8**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4						
DMN	**Daman**	**26.18**	**344**	*e*P	**P**	**22 23 00.3**	**+0.4**
	comp=Z,38nm,0.7s,mb5.0						
GUN	**Gumba**	**26.26**	**345**	*e*P	**P**	**22 23 00.2**	**-0.5**
	comp=Z,35nm,0.6s,mb5.0						
KKN	**Kakani**	**26.30**	**344**	*e*P	**P**	**22 23 00.8**	**-0.3**
	comp=Z,21nm,0.7s,mb4.8						
KKN	**Kakani**	**26.30**	**344**	*e*P	**P**	**22 23 00.8**	**-0.3**
KKN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.5						
GKN	**Gorkha**	**26.68**	**343**	*e*P	**P**	**22 23 04.3**	**-0.3**
	comp=Z,62nm,0.6s,mb5.3						
KOLN	**Koldanda**	**26.78**	**341**	*e*P	**P**	**22 23 05.2**	**-0.3**
	comp=Z,46nm,0.8s,mb5.1						
LSA	**Lhasa**	**27.18**	**356**	P	**P**	**22 23 10.4**	**+1.2**
LSA				AP	pP	22 23 21.6	+3.2
LSA				XP	sP	22 23 26.3	+3.8
LSA				S	**S**	**22 27 43.2**	**-0.8**
LSA				SCP		22 30 04.9	
LSA				SCS	ScS	22 33 57.9	+2.0
LSA				AMB	AMB		
	comp=Z,70nm,0.6s,mb5.4						
LSA				LR	LR		
	comp=N,500nm,18.3s,MS4.5						
LSA				LR	LR		
	comp=E,990nm,16.3s,MS4.5						
LSA				LR	LR		
	comp=Z,1μm,16.8s,MS4.5						
LSA	**Lhasa**	**27.18**	**356**	*e*P	**P**	**22 23 10.3**	**+1.1**
LSA				*e*PP	pP	22 23 19.3	+0.9
LSA				pmax	pmax		
	comp=Z,68nm,0.6s,mb5.3						
LSA				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.5						
LSA	**Lhasa**	**27.18**	**356**	*e*P	**P**	**22 23 10.3**	**+1.2**
	comp=Z,68nm,0.6s,mb5.3						
LSA				*e*pP	pP	22 23 19.3	+0.9
LSA				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
GYA	**Guiyang**	**27.22**	**27⇑**	*i*P	**P**	**22 23 09.9**	**+0.4**
GYA				PP	PP	22 23 58.4	+1.9
GYA				S	**S**	**22 27 40.7**	**-3.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
GYA				AMB	AMB		
	comp=Z,200nm,6.0s						
GYA				LR	LR		
	comp=N,1μm,20.3s,MS4.8						
GYA				LR	LR		
	comp=E,2μm,19.1s,MS4.8						
GYA				LR	LR		
	comp=Z,1μm,20.3s,MS4.4						
CD2	**Chengdu**	**30.07**	**19**	*e*P	**P**	**22 23 34.1**	**-1.0**
NDI	**New Delhi**	**30.17**	**331**	*e*P	**P**	**22 23 34.0**	**-2.1**
NDI				*e*		22 29 42.0	
DDI	**Dehra Dun**	**31.18**	**334**	*e*P	**P**	**22 23 43.6**	**-1.4**
DDI				*e*		22 30 08.0	
ENH	**Enshi**	**31.76**	**28**	*e*P	**P**	**22 23 48.2**	**-1.7**
	comp=Z,23nm,0.7s,mb5.1						
ENH				LR	LR		
	comp=Z,1μm,20.0s,MS4.5						
THN	**Thein Dam**	**34.02**	**333**	*e*P	**P**	**22 24 07.6**	**-2.0**
WHN	**Wuhan**	**34.46**	**34**	⇑P	**P**	**22 24 14.0**	**+0.6**
XAN	**Xi'an**	**34.75**	**23**	P	**P**	**22 24 14.7**	**-1.2**
XAN				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.0						
XAN				LR	LR		
	comp=N,1μm,22.8s,MS4.8						
XAN				LR	LR		
	comp=E,2μm,22.1s,MS4.8						
XAN				LR	LR		
	comp=Z,1μm,13.8s						
LZH	**Lanzhou**	**34.94**	**15**	⇑P	**P**	**22 24 17.0**	**-0.5**
LZH				AP	pP	22 24 26.9	0.0
LZH				XP	sP	22 24 31.2	+0.3
LZH				*e*PP	PP	22 25 36.0	+0.2
LZH				*e*S	**S**	**22 29 45.8**	**-0.2**
LZH				AMB	AMB		
	comp=Z,47nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,234nm,7.8s						
LZH				LR	LR		
	comp=N,1μm,13.2s						
LZH				LR	LR		
	comp=Z,2μm,16.8s,MS4.8						
LZH	**Lanzhou**	**34.94**	**15**	⇑P	**P**	**22 24 17.0**	**-0.5**
	comp=Z,47nm,1.4s,mb5.2						
LZH				pP	pP	22 24 26.9	0.0
LZH				sP	sP	22 24 31.2	+0.3
LZH				*e*PP	PP	22 25 36.0	+0.2
LZH				*e*S	**S**	**22 29 45.8**	**-0.2**
LZH				sS		22 29 52.5	
LZH				SS	SS	22 31 53.0	-8.3
LZH				LR	LR		
	comp=Z,2μm,16.8s,MS4.8						
MBWA	**Marble Bar**	**35.07**	**133**	PFAKE		22 24 30.0	+11
MBWA				LR	LR		
	comp=Z,941nm,20.0s,MS4.5						
GTA	**Gaotai**	**37.32**	**9**	P	**P**	**22 24 37.2**	**-0.3**
GTA				AP	pP	22 24 47.9	+1.0
GTA				XP	sP	22 24 51.3	+0.4
GTA				PP	PP	22 26 03.3	-2.1
GTA				PPP	PPP	22 26 21.7	-4.3
GTA				S	**S**	**22 30 20.5**	**-2.1**
GTA				SS	SS	22 32 55.3	+0.4
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,178nm,5.7s						
GTA				LR	LR		
	comp=N,426nm,25.5s						
GTA				LR	LR		
	comp=E,674nm,16.4s						
GTA				LR	LR		
	comp=Z,466nm,22.1s,MS4.2						
FITZ	**Fitzroy Crossi**	**38.00**	**124**	*e*P	**P**	**22 24 42.8**	**-0.7**
	comp=Z,18nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**38.00**	**124**	P	**P**	**22 24 42.4**	**-1.1**
	comp=Z,24nm,0.7s,mb5.0,baz=286,slow=1.8,SNR=21						
FITZ				pP	pP	22 24 52.4	-0.5
	comp=Z,14nm,0.7s,baz=212,slow=1.2,SNR=6.3						
SSE	**Sheshan**	**38.95**	**40**	*e*P	**P**	**22 24 57.3**	**+6.0**
SSE				AP	pP	22 25 05.5	+4.7
SSE				S	**S**	**22 30 48.8**	**+1.4**
SSE				XS		22 31 06.3	
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,57nm,3.2s						
SSE				LR	LR		
	comp=N,2μm,16.4s,MS5.2						
SSE				LR	LR		
	comp=E,2μm,16.3s,MS5.2						
SSE				LR	LR		
	comp=Z,2μm,13.9s,MS5.0						
KSH	**Kashi**	**40.06**	**339**	*e*P	**P**	**22 25 01.0**	**+0.5**
KSH				*e*AP	pP	22 25 10.0	+0.1
KSH				*e*XP	sP	22 25 14.2	+0.4
KSH				*e*PP	PP	22 26 38.1	+1.8
KSH				*e*PPP	PPP	22 27 03.0	+0.5
KSH				*e*PCP	PcP	22 27 05.1	-0.3
KSH				*e*SCP		22 30 50.1	
KSH				*e*PCS		22 30 54.0	
KSH				*e*S	**S**	**22 31 05.6**	**+1.5**
KSH				XS		22 31 21.1	
KSH				*e*SS	SS	22 33 58.2	+2.1
KSH				*e*SCS	ScS	22 35 02.1	-0.6
KSH				AMB	AMB		
	comp=Z,120nm,1.5s,mb5.4						
KSH				LR	LR		
	comp=N,620nm,12.1s,MS5.0						
KSH				LR	LR		
	comp=E,1μm,10.6s,MS5.0						
TIA	**Tai'an**	**40.30**	**31**	*e*P	**P**	**22 25 02.9**	**+0.5**
WMQ	**Urumqi**	**41.49**	**354⇑**	*i*P	**P**	**22 25 13.3**	**+1.2**
WMQ				AP	pP	22 25 23.0	+1.4
WMQ				XP	sP	22 25 26.8	+1.3
WMQ				PP	PP	22 26 52.6	+1.6
WMQ				PCP	PcP	22 27 11.6	+1.6
WMQ				PPP	PPP	22 27 22.5	+0.6
WMQ				S	**S**	**22 31 25.7**	**+0.4**
WMQ				XS		22 31 41.8	
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,113nm,5.5s						
WMQ				LR	LR		
	comp=N,492nm,14.0s,MS4.6						
WMQ				LR	LR		
	comp=E,433nm,15.2s,MS4.6						
WMQ				LR	LR		
	comp=Z,619nm,31.8s						
NWAO	**Narrogin (SRO)**	**41.93**	**149**	P	**P**	**22 25 16.4**	**+0.5**
NWAO				MLR	MLR		
	comp=Z,1μm,19.0s						
NWAO	**Narrogin (SRO)**	**41.93**	**149**	P	**P**	**22 25 16.4**	**+0.5**
	comp=Z,6.0nm,0.9s,mb4.2,baz=342,slow=6.4,SNR=2.7						
ULHL	**Ulahol**	**42.42**	**341**	P	**P**	**22 25 19.7**	**0.0**
	SNR=11						
KZA	**Kyzart**	**42.59**	**340**	P	**P**	**22 25 21.6**	**+0.4**
	SNR=6.1						
BJT	**Baijiatuau**	**42.88**	**26**	*e*P	**P**	**22 25 24.8**	**+1.2**
BJT				*e*PP	pP	22 25 34.4	+1.4
BJT				pmax	pmax		
	comp=Z,66nm,1.1s						
BJT				MLR	MLR		
	comp=Z,903nm,20.0s						
BJT	**Baijiatuau**	**42.88**	**26**	*e*P	**P**	**22 25 24.8**	**+1.3**
	comp=Z,66nm,1.1s,mb5.3						
BJT				*e*pP	pP	22 25 34.4	+1.4
BJT				LR	LR		
	comp=Z,903nm,20.0s,MS4.7						
BJI	**Beijing**	**42.90**	**26**	*e*P	**P**	**22 25 25.3**	**+1.6**
BJI				AP	pP	22 25 34.6	+1.4
BJI				PP	PP	22 27 11.7	+6.1
BJI				S	**S**	**22 31 49.6**	**+3.5**
BJI				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.0						
BJI				LR	LR		
	comp=N,631nm,18.9s,MS4.9						
BJI				LR	LR		
	comp=E,1μm,19.5s,MS4.9						
BJI				LR	LR		
	comp=Z,721nm,26.8s						
BJI	**Beijing**	**42.90**	**26**	*e*P	**P**	**22 25 25.3**	**+1.6**
	comp=Z,32nm,1.0s,mb5.0						
BJI				pP	pP	22 25 34.6	+1.4
BJI				PP	PP	22 27 11.7	+6.1
BJI				S	**S**	**22 31 49.6**	**+3.5**
BJI				SS	SS	22 35 09.0	+17
BJI				LR	LR		
	comp=Z,720nm,26.8s,MS4.4						
UCH	**Uchtor**	**42.98**	**340**	P	**P**	**22 25 24.8**	**+0.4**
	SNR=9.7						
AML	**Almayashu**	**43.18**	**339**	P	**P**	**22 25 26.5**	**+0.5**
	SNR=17						
KBK	**Karagaybulak**	**43.21**	**340**	P	**P**	**22 25 26.9**	**+0.7**
	SNR=8.9						
AAK	**Ala-Archa**	**43.34**	**340**	*e*P	**P**	**22 25 27.3**	**0.0**
AAK				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.6						
AAK				MLR	MLR		
	comp=Z,288nm,22.0s,MS4.1						
AAK	**Ala-Archa**	**43.34**	**340**	*e*P	**P**	**22 25 27.3**	**0.0**
	comp=Z,18nm,1.4s,mb4.6						
AAK				LR	LR		
	comp=Z,288nm,22.0s,MS4.1						
FRU	**Bishkek**	**43.48**	**340**	*e*P	**P**	**22 25 29.0**	**+0.6**
FRU				*e*		22 27 04.0	
EKS2	**Erkin-Say**	**43.62**	**339**	P	**P**	**22 25 29.8**	**+0.2**
	SNR=7.2						
USP	**Ospenovka**	**43.90**	**340**	P	**P**	**22 25 31.6**	**-0.2**
	SNR=8.4						
MKAR	**Makanchi Array**	**45.18**	**350**	P	**P**	**22 25 40.9**	**-1.2**
	comp=Z,10nm,0.5s,mb4.9,baz=169,slow=8.5,SNR=172						
MKAR				pP	pP	22 25 51.4	-0.1
	comp=Z,12nm,0.5s,baz=172,slow=8.6,SNR=17						
MKAR				LR	LR	22 47 36.4	
	comp=Z,492nm,18.0s,MS4.5,baz=45,slow=40						
WRA	**Warramunga Arr**	**46.18**	**121**	P	**P**	**22 25 49.5**	**-0.8**
	comp=Z,16nm,0.9s,mb5.0,baz=300,slow=8.8,SNR=52						
WRA				pP	pP	22 25 59.9	+0.1
	comp=Z,7.3nm,0.6s,baz=300,slow=8.8,SNR=10						
WRAB	**Tennant Creek**	**46.19**	**121**	*e*P	**P**	**22 25 50.0**	**-0.4**
WRAB				*e*PP	pP	22 26 00.2	+0.3
WRAB				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
WRAB				MLR	MLR		
	comp=Z,211nm,22.0s,MS4.0						
WRAB	**Tennant Creek**	**46.19**	**121**	*e*P	**P**	**22 25 50.0**	**-0.4**
	comp=Z,30nm,0.9s,mb5.2						
WRAB				*e*pP	pP	22 26 00.2	+0.3
WRAB				LR	LR		
	comp=Z,211nm,22.0s,MS4.0						
WB2	**Warramunga Arr**	**46.19**	**121**	*e*P	**P**	**22 25 49.8**	**-0.6**
SONM	**Songino Array**	**46.67**	**12**	P	**P**	**22 25 53.9**	**+0.1**
	comp=Z,7.5nm,0.9s,mb4.6,baz=195,slow=8.4,SNR=34						
SONM				pP	pP	22 26 03.6	+0.2
	comp=Z,17nm,0.8s,baz=194,slow=7.3,SNR=27						
SONM				LR	LR	22 47 53.5	
	comp=Z,470nm,18.7s,MS4.5,baz=186,slow=39						
ULN	**Ulaanbaatar**	**46.84**	**13**	*e*P	**P**	**22 25 54.4**	**-0.8**
ULN				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
ULN				MLR	MLR		
	comp=Z,613nm,19.0s,MS4.6						
ULN	**Ulaanbaatar**	**46.84**	**13**	*e*P	**P**	**22 25 54.4**	**-0.8**
	comp=Z,12nm,0.9s,mb4.8						
ULN				LR	LR		
	comp=Z,613nm,19.0s,MS4.6						
ASPA	**Alice Springs**	**47.43**	**126**	*e*P	**P**	**22 26 00.1**	**-0.1**
ASAR	**Alice Springs**	**47.43**	**126**	P	**P**	**22 25 59.4**	**-0.8**
	comp=Z,2.2nm,0.5s,mb4.3,baz=297,slow=7.7,SNR=27						
ASAR				LR	LR	22 45 44.0	
	comp=Z,211nm,19.2s,MS4.1,baz=299,slow=36						
SNY	**Shenyang**	**47.83**	**31**	⇑P	**P**	**22 26 03.4**	**+0.4**
SNY				S	**S**	**22 32 55.8**	**-0.9**
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
SNY				LR	LR		
	comp=N,680nm,17.6s,MS4.9						
SNY				LR	LR		
	comp=E,780nm,15.5s,MS4.9						
SNY				LR	LR		
	comp=Z,750nm,16.2s,MS4.8						
ZAK	**Zakamensk**	**48.56**	**9**	*e*P	**P**	**22 26 08.9**	**+0.4**
ZAK				*e*		22 28 08.5	
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.1						
KURK	**Kurchatov**	**49.65**	**348**	*e*P	**P**	**22 26 15.8**	**-1.1**
KURK				*e*PP	pP	22 26 26.0	-0.6
KURK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
KURK				MLR	MLR		
	comp=Z,128nm,19.0s,MS3.9						
KURK	**Kurchatov**	**49.65**	**348**	*e*P	**P**	**22 26 15.8**	**-1.2**
	comp=Z,6.6nm,0.6s,mb4.8						
KURK				*e*pP	pP	22 26 26.0	-0.6
KURK				LR	LR		
	comp=Z,128nm,19.0s,MS3.9						
OPO	**Ambohidratompo**	**

TLY pmax pmax
comp=Z,11nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,296nm,15.0s,MS4.4
TLY Talaya 49.87 9 PFAKE 22 26 30.0 +11
TLY LR LR
comp=Z,99nm,20.0s,MS3.8
CN2 Changchun 50.20 30 *e*P **P** **22 26 22.9 +1.6**
CN2 *e*AP pP 22 26 33.4 +2.5
CN2 *e*S **S** **22 33 32.6 +2.7**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,17.0s,MS5.0
CN2 LR LR
comp=E,1μm,17.0s,MS5.0
CN2 LR LR
comp=Z,600nm,18.0s,MS4.7
ATD Arta Tunnel 50.60 283 pP pP 22 26 34.6 +0.2
comp=Z,14nm,1.0s,baz=222,slow=22,SNR=3.8
ZAL Zalesovo 51.79 354 P **P** **22 26 31.9 -1.3**
comp=Z,8.9nm,0.4s,mb5.0,baz=306,slow=6.0,SNR=48
ZAL pP pP 22 26 41.7 -1.2
comp=Z,14nm,0.5s,baz=306,slow=5.5,SNR=16
HIA Hailar 51.92 22 *e*P **P** **22 26 34.1 -0.2**
HIA *e**PP pP 22 26 44.0 +0.1
HIA MLR MLR
comp=Z,1μm,20.0s
NVS Novosibirsk 52.86 353⇑ *i*P **P** **22 26 39.4 -1.8**
NVS *i* *PP pP 22 26 48.8 -2.1
NVS *i* S **S** **22 34 06.5 +0.3**
NVS *e* 22 36 31.5
NVS pmax pmax
comp=N,22nm,1.4s
NVS pmax pmax
comp=E,12nm,1.4s
NVS pmax pmax
comp=Z,17nm,1.4s,mb4.8
NVS smax
comp=N,21nm,2.0s
NVS smax
comp=E,62nm,2.2s
MDJ Mudanjiang 52.91 32 P **P** **22 26 40.7 -1.1**
MDJ AP pP 22 26 49.7 -1.7
MDJ PCP PcP 22 27 48.4 -2.0
MDJ PP PP 22 28 40.3 -2.4
MDJ SCP 22 31 44.2
MDJ S **S** **22 34 09.1 +2.0**
MDJ XS 22 34 24.9
MDJ SCS ScS 22 36 27.6 +2.1
MDJ AMB AMB
comp=Z,6.0nm,2.1s,mb4.2
MDJ AMB AMB
comp=Z,144nm,4.0s
MDJ LR LR
comp=N,637nm,18.2s,MS4.9
MDJ LR LR
comp=E,799nm,16.2s,MS4.9
MDJ LR LR
comp=Z,805nm,18.5s,MS4.8
MDJ Mudanjiang 52.91 32 P **P** **22 26 43.0 +1.3**
comp=Z,32nm,1.3s,mb5.1
MDJ LR LR
comp=Z,602nm,19.0s,MS4.7
MAJO Matsushiro 53.65 45 PFAKE 22 27 00.0 +13
MAJO LR LR
comp=Z,505nm,20.0s,MS4.6
BVAR Borovoye Array 53.82 343 P **P** **22 26 46.2 -2.0**
comp=Z,3.4nm,0.6s,mb4.4,baz=142,slow=8.8,SNR=36
BVAR pP pP 22 26 56.2 -1.7
comp=Z,5.5nm,0.9s,baz=149,slow=8.6,SNR=11
CHKZ Chkalovo 54.33 344 *e*P **P** **22 26 49.8 -2.2**
CHKZ *e**PP pP 22 27 00.3 -1.3
CHKZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
CHKZ Chkalovo 54.33 344 *e*P **P** **22 26 49.8 -2.2**
comp=Z,6.5nm,0.6s,mb4.7
CHKZ *e*pP pP 22 27 00.3 -1.4
KMBO Kilima Mbogo 55.93 267 *e*P **P** **22 27 03.6 -0.6**
KMBO *e**PP pP 22 27 12.5 -1.4
KMBO pmax pmax
comp=Z,4.0nm,1.1s
KMBO MLR MLR
comp=Z,617nm,21.0s
KMBO Kilima Mbogo 55.93 267 P **P** **22 27 04.0 -0.2**
comp=Z,2.1nm,0.9s,mb4.2,baz=55,slow=9.9,SNR=7.5
KMBO pP pP 22 27 14.1 +0.2
comp=Z,2.0nm,0.8s,baz=44,slow=12,SNR=5.3
KMBO LR LR 22 47 37.1
comp=Z,522nm,18.9s,MS4.6,baz=277,slow=32
KMBO Kilima Mbogo 55.93 267 *e*P **P** **22 27 03.6 -0.6**
comp=Z,3.6nm,1.1s,mb4.3
KMBO *e*pP pP 22 27 12.4 -1.4
KMBO LR LR
comp=Z,617nm,21.0s,MS4.7
CTAO Charters Tower 56.73 116 PFAKE 22 27 20.0 +10
CTAO LR LR
comp=Z,472nm,21.0s,MS4.6
KLR Kul'dur 57.10 29 *e*P **P** **22 27 13.4 +1.3**
STKA Stephens Creek 57.25 131 *e*P **P** **22 27 13.5 +0.1**
comp=Z,5.4nm,0.6s,mb4.8
STKA Stephens Creek 57.25 131 P **P** **22 27 12.8 -0.6**
comp=Z,5.4nm,0.6s,mb4.8,baz=323,slow=3.3,SNR=16
STKA LR LR 22 49 09.5
comp=Z,421nm,20.9s,MS4.5,baz=289,slow=33
GNI Garni 57.58 317 PFAKE 22 27 30.0 +14
GNI LR LR
comp=Z,343nm,20.0s,MS4.5
BOD Bodaibo 57.66 13 *e*P **P** **22 27 14.5 -1.4**
BOD pmax pmax
comp=Z,21nm,1.2s,mb5.0
MTA Mtatsminda 58.28 319 P **P** **22 27 20.0 -0.5**
DUS Dusheti 58.53 319 P **P** **22 27 17.9 -4.3**
CLNS Chul'man 59.88 20 *e*P **P** **22 27 25.2 -6.1**
CLNS pmax pmax
comp=Z,12nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS MLR MLR
comp=Z,900nm,19.0s,MS4.9
CLNS MLR MLR
comp=N,500nm,14.0s,MS4.8
CLNS MLR MLR
comp=E,200nm,15.0s,MS4.8
SVE Sverdlovsk 60.09 340⇓ *i*P **P** **22 27 31.0 -1.7**
SVE pmax pmax
comp=Z,25nm,1.7s,mb5.0
ARU Arti 60.51 339 *e*P **P** **22 27 34.3 -1.3**
ARU Arti 60.51 339 PFAKE 22 27 50.0 +14
ARU LR LR
comp=Z,235nm,20.0s,MS4.3
KIV Kislovodsk 60.72 320 *e*P **P** **22 27 36.7 -0.5**
KIV *e**PP pP 22 27 46.0 -1.1
KIV pmax pmax
comp=Z,22nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,77nm,20.0s,MS3.9
KIV Kislovodsk 60.72 320 *e*P **P** **22 27 36.7 -0.5**
comp=Z,22nm,1.1s,mb5.2
KIV *e*pP pP 22 27 46.0 -1.1
KIV LR LR
comp=Z,77nm,20.0s,MS3.9
MALT Malatya 61.27 313 *e*P **P** **22 27 40.8 -0.3**
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
MALT Malatya 61.27 313 *e*P **P** **22 27 40.8 -0.3**
comp=Z,4.0nm,0.8s,mb4.6
YSS Yuzh-Sakhalins 61.73 36 PFAKE 22 28 00.0 +16
YSS LR LR
comp=Z,454nm,21.0s,MS4.6
BRTR Keskin Array B 65.26 313 P **P** **22 28 05.5 -1.9**
comp=Z,2.3nm,0.7s,mb4.3,baz=134,slow=7.7,SNR=12
BRTR pP pP 22 28 15.7 -1.5
comp=Z,2.7nm,0.7s,baz=135,slow=7.8,SNR=7.2
YAK Yakutsk 65.46 18 *e*P **P** **22 28 06.6 -1.7**
YAK *e* pP 22 28 17.0 -1.1
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
YAK pmax pmax
comp=Z,22nm,1.1s,mb5.1
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK MLR MLR
comp=Z,279nm,19.0s,MS4.5
YAK MLR MLR
comp=N,269nm,18.0s,MS4.7
YAK MLR MLR
comp=E,335nm,17.0s,MS4.7
YAK Yakutsk 65.46 18 PFAKE 22 28 20.0 +12
YAK LR LR
comp=Z,598nm,20.0s,MS4.8
LSZ Lusaka 66.54 252 PFAKE 22 28 30.0 +14
LSZ LR LR
comp=Z,579nm,19.0s,MS4.8
OBN Obninsk 69.44 329⇓ *e*P **P** **22 28 32.1 -1.3**
OBN *e*S S 22 37 38.0 +0.9
OBN pmax pmax
comp=Z,31nm,2.0s,mb4.9
OBN MLR MLR
comp=Z,600nm,21.0s,MS4.8
OBN Obninsk 69.44 329 PFAKE 22 28 40.0 +6.6
OBN LR LR
comp=Z,196nm,20.0s,MS4.3
LBTB Lobatse 70.77 243 PFAKE 22 28 50.0 +8.0
LBTB LR LR
comp=Z,1μm,21.0s,MS5.1
CFR Carcaliu 70.79 317 ⇓P **P** **22 28 41.6 -0.2**
CFR Carcaliu 70.79 317 ⇓P **P** **22 28 41.5 -0.3**
HARR Harsova 70.80 317 ⇑P **P** **22 28 41.8 0.0**
AKASG Malin Array Be 71.80 323 P **P** **22 28 45.0 -2.8**
comp=Z,0.8nm,0.5s,mb3.9,baz=89,slow=5.5,SNR=6.7
AKASG pP pP 22 28 55.6 -2.0
comp=Z,1.4nm,0.5s,baz=91,slow=5.1,SNR=5.7
AKASG Malin Array Be 71.80 323 P **P** **22 28 45.0 -2.8**
AKASG pP pP 22 28 55.6 -2.0
VRI Vrincioaia 71.94 318 ⇑P **P** **22 28 48.9 +0.2**
VRI Vrincioaia 71.94 318 ⇑P **P** **22 28 48.8 +0.1**
MA2 Magadan 72.06 27 *de*P **P** **22 28 52.0 +2.9**
MA2 *e*S S 22 38 05.5 -1.9
MA2 *e*PS PS 22 38 32.9 -9.2
MA2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MA2 MLR MLR
comp=Z,1μm,21.0s,MS5.2
MA2 Magadan 72.06 27 *e*P **P** **22 28 48.9 -0.2**
comp=Z,19nm,1.1s,mb4.9
MA2 *e*pP pP 22 28 58.8 -0.3
MA2 LR LR
comp=Z,574nm,19.0s,MS4.9
MLR Muntele Rosu 72.36 317 ⇑P **P** **22 28 51.9 +0.7**
MLR Muntele Rosu 72.36 317 P **P** **22 28 51.1 -0.1**
comp=Z,7.2nm,0.6s,mb4.8,baz=278,slow=0.6,SNR=20
MLR pP pP 22 29 01.3 +0.2
comp=Z,10nm,0.7s,baz=177,slow=4.3,SNR=7.8
MLR Muntele Rosu 72.36 317 ⇑P **P** **22 28 51.8 +0.6**
TIXI Tiksi 72.74 11 *e*P **P** **22 28 49.4 -3.6**
TIXI *e*S S 22 38 08.6 -6.4
TIXI MLR MLR
comp=Z,317nm,15.0s,MS4.7
MAW Mawson 73.02 192 LR LR 22 54 38.7
comp=Z,285nm,19.0s,MS4.6,baz=160,slow=30
BURAR Bucovina Array 73.40 319 ⇑P **P** **22 28 58.3 +1.0**
KOLS Kolonicke sedl 75.63 320 *e*P **P** **22 29 11.1 +1.0**
KOLS *e*pP pP 22 29 20.8 +0.8
SUW Suwalki 76.31 325 *e*P **P** **22 29 12.2 -1.6**
SUW *e**PP pP 22 29 22.2 -1.6
SUW pmax pmax
comp=Z,22nm,0.8s,mb5.1
SUW Suwalki 76.31 325 *e*P **P** **22 29 12.2 -1.7**
comp=Z,22nm,0.8s,mb5.1
SUW *e*pP pP 22 29 22.2 -1.6
FINES FINESS Array B 77.03 333 P **P** **22 29 16.6 -1.1**
comp=Z,2.1nm,0.6s,mb4.2,baz=90,slow=6.1,SNR=17
FINES pP pP 22 29 25.7 -2.0
comp=Z,2.2nm,0.7s,baz=80,slow=4.9,SNR=3.8
FINES LR LR 23 06 47.8
comp=Z,320nm,18.9s,MS4.7,baz=353,slow=38
FINES FINESS Array B 77.03 333 P **P** **22 29 16.6 -1.1**
FINES pP pP 22 29 25.7 -2.0
FINES LR LR 23 06 47.8
KAF Kangasniemi 77.15 334 *e*p **P** **22 29 16.9 -1.4**
comp=Z,3.9nm,0.7s,mb4.5
KAF Kangasniemi 77.15 334 *e*P **P** **22 29 16.9 -1.4**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
VYHS Vyhne 77.77 319 *e*P **P** **22 29 22.7 +0.7**
VYHS *e*pP pP 22 29 32.0 0.0
OKC Ostrava-Krasne 78.45 320 *e*P **P** **22 29 27.4 +1.7**
OKC *e*pP pP 22 29 35.9 +0.2
ZST Bratislava 78.86 319 *e*P **P** **22 29 27.9 -0.1**
ZST *e*pP pP 22 29 38.3 +0.3
VRAC Vranov 79.36 320 P **P** **22 29 28.5 -2.2**
comp=Z,0.7nm,0.4s,mb3.9,baz=109,slow=18,SNR=3.4
DPC Dobruska-Polom 79.69 321 *e*P **P** **22 29 33.6 +1.1**
DPC *e*pP pP 22 29 43.2 +0.7
KSP Ksiaz 79.79 321 *e*P **P** **22 29 33.9 +0.9**
UPC Upice 79.92 321 *e*P **P** **22 29 34.4 +0.7**
UPC *e*pP pP 22 29 44.0 +0.3
ARCES ARCESS Array B 80.01 341 P **P** **22 29 33.2 -0.6**
comp=Z,4.5nm,0.9s,mb4.4,baz=90,slow=4.9,SNR=4.7
ARCES LR LR 23 07 32.3
comp=Z,584nm,19.2s,MS4.9,baz=139,slow=38
PRU Pruhonice 80.78 320 *e*P **P** **22 29 39.0 +0.7**
PRU *e*pP pP 22 29 48.4 +0.1
PVCC Panska Ves 80.83 321 *e*P **P** **22 29 39.3 +0.8**
PTCC Patocco-Chiusa 81.16 316 *e*P **P** **22 29 41.0 +0.7**
ARV Arcevia 81.18 313 *e*P **P** **22 29 41.4 +0.9**
GERES GERESS Array B 81.19 319 P **P** **22 29 40.7 +0.3**
comp=Z,2.2nm,0.6s,mb4.2,baz=102,slow=4.8,SNR=24
GERES pP pP 22 29 50.4 -0.1
comp=Z,10nm,0.9s,baz=104,slow=5.5,SNR=17
GERES LR LR 23 12 46.7
comp=Z,182nm,19.1s,MS4.5,baz=228,slow=41
GERES GERESS Array B 81.19 319 P **P** **22 29 40.7 +0.3**
GERES pP pP 22 29 50.4 0.0
GERES LR LR 23 12 46.6
BSD Bornholm Skovb 81.25 325 *i* P **P** **22 29 38.2 -2.4**
BSD *i* 22 29 50.3
BSD pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BSD Bornholm Skovb 81.25 325 *i* P **P** **22 29 38.2 -2.4**
comp=Z,5.8nm,0.7s,mb4.6
BSD *i* 22 29 50.3
BSD *e* 22 29 55.8
BRG Berggiesshubel 81.27 321 *e*P **P** **22 29 41.9 +1.1**
BRG pmax pmax
comp=Z,24nm,1.8s,mb4.8
BRG MLR MLR
comp=N,380nm,35.4s,MS4.7
BRG MLR MLR
comp=E,420nm,35.4s,MS4.7
BRG MLR MLR
comp=Z,410nm,35.4s,MS4.5
BRG Berggiesshubel 81.27 321 *e*P **P** **22 29 41.9 +1.1**
comp=Z,24nm,1.8s,mb4.8
BRG *e* 22 30 27.9
BRG LR LR
comp=Z,410nm,35.4s,MS4.5
KHC Kasperske Hory 81.30 319 *e*P **P** **22 29 41.6 +0.6**
KHC *e*pP pP 22 29 51.6 +0.5
FSSB Fossombrone 81.31 314 *e*P **P** **22 29 42.2 +1.0**
BILL Bilibino 81.51 21 PFAKE 22 29 50.0 +8.3
BILL LR LR
comp=Z,366nm,20.0s,MS4.7
FVI Forni Avoltri 81.58 317 *e*P **P** **22 29 43.5 +1.0**
CLL Collm 81.91 321 *e*P **P** **22 29 46.0 +1.9**
CLL Collm 81.91 321 P **P** **22 29 46.0 +1.9**
SFI Santa Sofia 82.00 314 *e*P **P** **22 29 48.6 +3.8**
VMG Vicchio 82.23 314 *e*P **P** **22 29 48.1 +2.2**
HFS Hagfors 82.62 330 P **P** **22 29 47.1 -0.5**
comp=Z,1.5nm,0.5s,mb4.3,baz=117,slow=6.6,SNR=11
HFS pP pP 22 29 56.8 -0.9
comp=Z,2.6nm,0.6s,baz=121,slow=8.4,SNR=4.7
ZCCA Zocca 82.66 314 *e*P **P** **22 29 51.1 +3.0**
GRA1 Grafenberg Arr 82.89 320 *e*P **P** **22 29 50.5 +1.3**
comp=Z,7.0nm,1.2s,mb4.6
GRA1 *e*pP pP 22 30 00.0 +0.7
GRF Grafenberg Arr 82.89 320 *e*P **P** **22 29 50.5 +1.3**
GRF *e**PP pP 22 30 00.0 +0.7
GRF pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
GRF Grafenberg Arr 82.89 320 *e*P **P** **22 29 50.5 +1.3**
comp=Z,7.0nm,1.2s,mb4.6
GRF *e*pP pP 22 30 00.0 +0.7
BRMO Bormio 83.22 316 *e*P **P** **22 29 52.1 +1.1**
DAVOX Davos 83.58 317 P **P** **22 29 52.5 -0.4**
comp=Z,8.0nm,0.6s,mb5.0,baz=142,slow=4.1,SNR=28
DAVOX pP pP 22 30 02.9 -0.1
comp=Z,11nm,0.6s,baz=127,slow=8.2,SNR=10
DAVOX Davos 83.58 317 P **P** **22 29 52.5 -0.4**
DAVOX pP pP 22 30 02.9 -0.1
NB2 NORSAR Subarra 83.94 331 P **P** **22 29 53.5 -0.9**
comp=Z,2.7nm,1.0s,mb4.3,baz=99,slow=4.8
NOA NORSAR Array B 83.94 331 P **P** **22 29 53.0 -1.4**
comp=Z,0.8nm,0.6s,mb4.0,baz=118,slow=4.6,SNR=4.6
NOA pP pP 22 30 03.0 -1.5
comp=Z,2.0nm,0.9s,baz=96,slow=5.6,SNR=4.5
NOA LR LR 23 10 49.8
comp=Z,349nm,20.9s,MS4.7,baz=80,slow=38
LPG La Plagne 85.71 315 *e*P **P** **22 30 05.0 +1.4**
comp=Z,13nm,0.8s,mb4.9
LPG La Plagne 85.71 315 *e*P **P** **22 30 05.0 +1.4**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
VNDA Vanda 87.84 168 LR LR 23 02 29.8
comp=Z,248nm,20.4s,MS4.6,baz=346,slow=31
EKA Eskdalemuir Ar 91.58 325 P **P** **22 30 31.2 0.0**
comp=Z,1.1nm,0.6s,mb4.3,baz=107,slow=5.7,SNR=5.8
ESDC Sonseca Array 93.89 310 P **P** **22 30 41.9 -0.4**
comp=Z,0.1nm,0.4s,mb3.6,baz=88,slow=6.5,SNR=3.5
DBIC Dimbokro 97.60 277 LR LR 23 10 58.6
comp=Z,293nm,19.7s,MS4.8,baz=168,slow=33
YKA Yellowknife Ar 111.93 13 PP PP 22 36 36.0 -10
comp=Z,0.1nm,0.3s,baz=328,slow=6.2,SNR=3.5
TBI Tubuai 116.10 115 *e*SS SS 22 53 15.9 +2.3
TBI *e*LR LR 23 11 12.2
comp=Z,226nm,34.5s
PPT Papeete 116.77 108 *e*LR LR 23 11 32.7
comp=Z,148nm,22.8s
RKT Rikitea 129.14 118 *e*SS SS 22 56 03.9 +3.8
RKT *e*LR LR 23 17 14.2
comp=Z,254nm,25.2s
PDAR Pinedale Array 130.58 22 PKP PKPdf 22 36 37.4 -2.4
comp=Z,0.4nm,0.9s,baz=14,slow=3.7,SNR=3.0
TXAR Lajitas Array 144.57 26 PKP PKPdf 22 37 01.1 -4.5
comp=Z,1.1nm,0.7s,baz=271,SNR=13
TXAR pPKP 22 37 11.5
comp=Z,1.9nm,0.6s,baz=184,slow=0.4,SNR=10
NATX Nacogdoches 145.21 12 *e*PKPdf PKPdf 22 37 03.5 -3.2
NATX *ep*PKPdf 22 37 13.7
CFAA Coronel Fontan 146.05 209 PKPbc PKPbc 22 37 05.4 +1.6
comp=Z,0.3nm,0.6s,baz=152,slow=4.1,SNR=6.1
SIV San Ignacio 151.21 241 PKPbc PKPdf 22 37 18.4 +1.7
comp=Z,1.1nm,0.6s,baz=212,slow=23,SNR=4.9
SIV PKPab PKPab 22 37 26.2 -1.4
comp=Z,0.9nm,0.4s,baz=166,slow=2.0,SNR=3.6
SIV pPKPbc 22 37 28.6
comp=Z,1.0nm,0.4s,baz=179,slow=12,SNR=3.1

RSPR ***02*** *22:17:52.7, 17.78N×63.85W, h17km±40km, MD3.8/14, MD3.8/14*
NEIC ***02*** *22:17:52.7, 17.78N×63.85W, h17km, mb3.7/1, MD3.8(RSPR), MD3.7(TRN), After RSPR.*
TRN ***02*** *22:17:52.2, 18.14N×63.93W, h35km, MD3.7*
ISC 02 22:17:52.9±0.7, 18.02N±0.09×63.99W±0.03, h24km±6km, n25, σ0§83/44, 15C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDVI	**St. Croix**	**0.78**	**250**⇑	*e*P	**Pb**	**22 18 06.2**	**-1.6**
CDVI	**St. Croix**	**0.78**	**250**	*e*S	**Sb**	**22 18 18.2**	**+0.2**
SABS	**Saba**	**0.82**	**119**	*e*P	**Pb**	**22 18 08.7**	**+0.3**
SABS				*e*S	**Sb**	**22 18 22.4**	**+3.4**
SABT	**Saba**	**0.82**	**119**	*e*P	**Pb**	**22 18 08.7**	**+0.3**
SABT				*e*S	**Sb**	**22 18 22.4**	**+3.4**
STMA	**St. Maarten, A**	**0.84**	**89**	*e*P	**Pb**	**22 18 08.3**	**-0.5**
STMA				*e*S	**Sb**	**22 18 21.2**	**+1.5**
BSK	**Brimstone Hill**	**1.29**	**121**	*e*P	**Pn**	**22 18 15.2**	**-0.5**
BSK				*e*S	**Sn**	**22 18 32.7**	**+0.4**
SKDB	**Saint Kitts 2**	**1.29**	**119**⇑	*i*P	**Pn**	**22 18 14.3**	**-1.4**
SKDB				*e*S	**Sn**	**22 18 32.2**	**-0.1**
SKI	**Saint Kitts**	**1.38**	**120**	*e*P	**Pn**	**22 18 16.1**	**-0.8**
SKI				*e*S	**Sn**	**22 18 34.4**	**-0.2**
MTP	**Monte Pirata**	**1.49**	**273**⇑	*e*P	**Pn**	**22 18 17.9**	**-0.7**
MTP				*e*S	**Sn**	**22 18 37.2**	**-0.1**
SKTB	**Turtle Beach**	**1.54**	**121**	*e*P	**Pn**	**22 18 19.6**	**+0.2**
NVRH	**Round Hill, Ne**	**1.57**	**122**	*e*P	**Pn**	**22 18 19.5**	**-0.2**
NVRH				*e*S	**Sn**	**22 18 40.5**	**+1.1**
NVBH	**Bath Hotel, Ne**	**1.59**	**124**	*e*P	**Pn**	**22 18 18.6**	**-1.4**
NVBH				*e*S	**Sn**	**22 18 39.7**	**-0.3**
HUMP	**Col San Antoni**	**1.77**	**274**⇑	*e*P	**Pn**	**22 18 21.9**	**-0.7**
HUMP				*e*S	**Sn**	**22 18 45.2**	**+0.7**
CBYP	**Canovanas**	**1.79**	**278**⇑	*e*P	**Pn**	**22 18 22.5**	**-0.3**
CBYP				*e*S	**Sn**	**22 18 46.5**	**+1.5**
CPD	**Cerro la Pandu**	**1.83**	**271**⇑	*e*P	**Pn**	**22 18 23.3**	**-0.1**
CPD				*e*S	**Sn**	**22 18 46.5**	**+0.5**
SJG	**San Juan**	**2.05**	**273**⇑	*e*P	**Pn**	**22 18 26.5**	**-0.1**
SJG				*e*S	**Sn**	**22 18 52.8**	**+1.1**
SJG	**San Juan**	**2.05**	**273**⇑	*e*P	**Pn**	**22 18 26.2**	**-0.4**
SJG	**San Juan**	**2.05**	**273**⇑	*e*P	**Pn**	**22 18 26.2**	**-0.4**
SJG				*e*S	**Sn**	**22 18 52.7**	**+1.0**
CELP	**Cerrillos**	**2.46**	**272**⇑	*e*P	**Pn**	**22 18 31.9**	**-0.5**
CELP				*e*S	**Sn**	**22 19 02.2**	**+0.2**
PORP	**Portuguez**	**2.52**	**271**⇑	*e*P	**Pn**	**22 18 32.9**	**-0.3**
PORP				*e*S	**Sn**	**22 19 04.6**	**+1.2**
AOPR	**Arecibo Observ**	**2.64**	**277**⇑	*e*P	**Pn**	**22 18 35.2**	**+0.2**
AOPR				*e*S	**Sn**	**22 19 06.7**	**+0.1**
LRS	**Lares**	**2.72**	**276**⇑	*e*P	**Pn**	**22 18 36.0**	**-0.2**
LRS				*e*S	**Sn**	**22 19 09.2**	**+0.4**
LSP	**Las Mesas**	**2.94**	**273**⇑	*e*P	**Pn**	**22 18 39.7**	**+0.3**
MGP	**Maguayo**	**2.94**	**270**⇓	*e*P	**Pn**	**22 18 38.2**	**-1.1**
AGPR	**Aguadilla, PR**	**3.00**	**279**⇑	*e*P	**Pn**	**22 18 38.9**	**-1.2**
AGPR				*e*S	**Sn**	**22 19 15.9**	**+0.3**

THR ***02*** *22:24:50.7±0.8, 31.25N×56.71E, h14km±12km, ML4.1*
CSEM ***02*** *22:24:51.0±0.3, 31.24N×56.71E, h16km, ML4.4/1, Error ellipse: s-maj=8.6km s-min=2.9km az=67.0*
TEH ***02*** *22:24:53.0, 31.23N×56.73E, h10km, Mn4.1*
ISC 02 22:24:52.0±1.7, 31.34N±0.06×56.6E±0.2, h14km, n18, σ1§20/22, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.94**	**286**	Pn	**Pn**	**22 25 10.0**	**-0.7**
IBAF	**Bafgh**	**0.94**	**286**	Pn	**Pn**	**22 25 10.0**	**-0.7**
KRBR	**Kerman**	**1.36**	**175**	*e*PG	**Pg**	**22 25 14.2**	**-5.0**
KRBR				AML	AML	22 25 38.1	
comp=E,8μm,0.5s							
IMEH	**Mehriz**	**1.73**	**272**	Pn	**Pn**	**22 25 23.5**	**+1.6**
ICHK	**Chekchek**	**2.10**	**296**	Pn	**Pn**	**22 25 28.6**	**+1.4**
IPAR	**Pars**	**3.43**	**245**	Pn	**Pn**	**22 25 45.6**	**-0.6**
NASN	**Na'in**	**3.56**	**295**	*e*PN	**Pn**	**22 25 49.7**	**+1.6**
NASN				*e*SG	**Sg**	**22 26 44.5**	**-6.1**
NASN				AML	AML	22 26 51.6	
comp=N,217nm,0.7s							
NASN	**Na'in** SNR=52	**3.56**	**295**	*e*Pn	**Pn**	**22 25 49.7**	**+1.7**
NASN				*e*Sg	**Sg**	**22 26 44.5**	**-6.1**
comp=N,217nm,0.7s,SNR=90							
ISRV	**Sarvestan**	**3.61**	**238**	Pn	**Pn**	**22 25 49.3**	**+0.5**
BNDS	**Bandar-Abbas**	**3.95**	**186**	*e*PN	**Pn**	**22 25 52.0**	**-1.5**
BNDS				AML	AML	22 27 11.2	
comp=N,196nm,0.6s							
BNDS	**Bandar-Abbas** SNR=52	**3.95**	**186**	*e*Pn	**Pn**	**22 25 52.0**	**-1.5**
IMOK	**Mook**	**4.09**	**237**	Pn	**Pn**	**22 25 55.3**	**-0.3**
IFIR	**Firoozkooh**	**5.38**	**324**	Pn	**Pn**	**22 26 14.5**	**+0.7**
IFIR				Sn	**Sn**	**22 27 14.9**	**-1.3**
IDMV	**Damavand**	**5.71**	**319**	Pn	**Pn**	**22 26 18.9**	**+0.4**
DAMV	**Damavand**	**5.79**	**319**	*e*PN	**Pn**	**22 26 19.6**	**0.0**
DAMV				AML	AML	22 28 25.2	
comp=N,53nm,0.9s							
IQOM	**Qom**	**5.83**	**308**	Pn	**Pn**	**22 26 21.7**	**+1.5**
IQOM				Sn	**Sn**	**22 27 25.5**	**-2.1**
ASAO	**Ashtian**	**6.41**	**302**	*e*PN	**Pn**	**22 26 28.8**	**+0.4**
IRAZ	**Razeghan**	**6.92**	**308**	Pn	**Pn**	**22 26 33.3**	**-2.2**

MAN 02 22:56:29.7, 7.11N×125.91E, h33km, mb3.8, ML2.5, MS2.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.38**	**116**	*eP*	P	22 56 40.0	+1.4
KCP	**Kidapawan**	**0.82**	**263**	↑*iP*	P	22 56 46.1	+1.3
KCP				*i* S	S	22 56 57.1	+1.2
BUKP	**Musuan**	**1.13**	**312**	*eP*	P	22 56 49.2	-0.1
BUKP				*e*S	S	22 57 10.2	+6.3

*BJI **02** 23:10:38.3, 2.28N×96.04E, h26km, mB4.8, mb4.6, Ms4.5, Msz4.3*
*MOS **02** 23:10:42.9±1.0, 2.74N×96.06E, h33km, mb4.8/12, Error ellipse: s-maj=26.4km s-min=9.6km az=107.7*
*IDC **02** 23:10:44.7±0.5, 2.96N×96.39E, h26km±2km, mb4.1/14, mb1 4.2/14, mb1mx4.2/17, mbtmp4.3/14, Error ellipse: s-maj=22.1km s-min=10.4km az=48.0*
*NEIC **02** 23:10:44.4±0.5, 2.87N×96.25E, mb4.5/16, Error ellipse: s-maj=13.7km s-min=7.5km az=48.0*

ISC 02 23:10:42.9±0.5, 2.85N±0.08×96.31E±0.08, h26km, h26km±.6km: pP-P, n73, σ§18/69, mb4.5/36, MS4.0/1, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.96**	**61**	*e*Pn	**Pn**	**23 11 59.3**	**+1.5**
PALK	**Pallekele**	**16.15**	**286**	P	**P**	**23 14 33.5**	**+3.5**
	20nm,1.2s						
HYB	**Hyderabad**	**22.65**	**311**	*eP*	**P**	**23 15 47.0**	**+3.4**
HYB	**Hyderabad**	**22.65**	**311**	*i P*	**P**	**23 15 47.0**	**+3.4**
SHL	**Shillong**	**22.98**	**350**	↑*iP*	**P**	**23 15 45.5**	**-1.2**
JIRN	**Jiri**	**26.50**	**340**	*eP*	**P**	**23 16 19.6**	**-0.6**
	20nm,0.7s,mb4.8						
PKI	**Pulchoki**	**26.70**	**338**	*eP*	**P**	**23 16 22.4**	**+0.4**
DMN	**Daman**	**26.84**	**338**	*eP*	**P**	**23 16 23.2**	**-0.2**
	14nm,0.7s,mb4.6						
KKN	**Kakani**	**26.94**	**338**	*eP*	**P**	**23 16 23.7**	**-0.6**
	21nm,0.7s,mb4.8						
KKN	**Kakani**	**26.94**	**338**	*eP*	**P**	**23 16 23.7**	**-0.6**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**27.14**	**350**	P	**P**	**23 16 26.0**	**-0.1**
LSA	**Lhasa**	**27.14**	**350**	*eP*	**P**	**23 16 25.6**	**-0.5**
LSA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
LSA	**Lhasa**	**27.14**	**350**	*eP*	**P**	**23 16 25.6**	**-0.6**
	comp=Z,12nm,0.9s,mb4.4						
GKN	**Gorkha**	**27.38**	**337**	*eP*	**P**	**23 16 27.6**	**-0.7**
	comp=Z,32nm,0.9s,mb4.8						
KOLN	**Koldanda**	**27.59**	**335**	*eP*	**P**	**23 16 30.5**	**+0.3**
	comp=Z,32nm,0.7s,mb5.0						
ENH	**Enshi**	**29.99**	**23**	*eP*	**P**	**23 16 50.1**	**-1.7**
	comp=Z,4.5nm,0.6s,mb4.4						
LZH	**Lanzhou**	**33.80**	**11**	*eP*	**P**	**23 17 27.9**	**+2.9**
LZH				AP	pP	23 17 35.8	+3.0
LZH				XP	sP	23 17 39.0	+2.8
LZH				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,86nm,4.5s						
LZH				LR	LR		
	comp=N,194nm,13.3s						
LZH				LR	LR		
	comp=Z,246nm,17.1s,MS4.0						
LZH	**Lanzhou**	**33.80**	**11**	*eP*	**P**	**23 17 27.9**	**+2.9**
LZH				*SP	sP	23 17 39.0	+2.8
LZH				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9						
LZH				MLR	MLR		
	comp=Z,250nm,17.1s,MS4.0						
LZH	**Lanzhou**	**33.80**	**11**	*eP*	**P**	**23 17 27.9**	**+2.9**
	comp=Z,24nm,1.4s,mb4.9						
LZH				pP	pP	23 17 35.8	+3.0
LZH				sP	sP	23 17 39.0	+2.8
LZH				LR	LR		
	comp=Z,250nm,17.1s,MS4.0						
FITZ	**Fitzroy Crossi**	**35.62**	**127**	P	**P**	**23 17 38.7**	**-2.1**
	comp=Z,3.9nm,0.8s,mb4.4,baz=333,slow=2.3,SNR=3.4						
FITZ				pP	pP	23 17 46.3	-2.3
	comp=Z,6.1nm,0.7s,baz=78,slow=0.6,SNR=3.8						
GTA	**Gaotai**	**36.53**	**5**	P	**P**	**23 17 48.4**	**+0.2**
GTA				AP	pP	23 17 56.3	+0.2
GTA				XP	sP	23 18 00.0	+0.6
GTA				PP	PP	23 19 12.8	+0.1
GTA				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.7						
WMQ	**Urumqi**	**41.50**	**351**	P	**P**	**23 18 30.7**	**+1.1**
WMQ				AP	pP	23 18 38.2	+0.7
WMQ				XP	sP	23 18 41.2	+0.4
WMQ				PP	PP	23 20 09.7	+1.1
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,52nm,4.2s						
WMQ				LR	LR		
	comp=N,71nm,24.2s						
ULHL	**Ulahol**	**43.14**	**338**	P	**P**	**23 18 43.5**	**+0.5**
	SNR=16						
KZA	**Kyzart**	**43.37**	**337**	P	**P**	**23 18 46.3**	**+1.4**
	SNR=5.7						
WRA	**Warramunga Arr**	**43.67**	**123**	P	**P**	**23 18 47.9**	**+0.3**
	comp=N,1.9nm,0.5s,mb4.1,baz=301,slow=9.1,SNR=28						
WRA				pP	pP	23 18 54.7	-0.8
	comp=N,5.3nm,0.7s,baz=301,slow=9.3,SNR=13						
WRAB	**Tennant Creek**	**43.67**	**123**	*eP*	**P**	**23 18 48.1**	**+0.5**
WRAB				*e*PP	pP	23 18 55.2	-0.4
WRAB				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8						
WRAB	**Tennant Creek**	**43.67**	**123**	*eP*	**P**	**23 18 48.0**	**+0.4**
	comp=Z,27nm,1.3s,mb4.8						
WRAB				*e*pP	pP	23 18 55.2	-0.4
UCH	**Uchtor**	**43.79**	**337**	P	**P**	**23 18 49.7**	**+1.4**
	SNR=17						
TKM2	**Tokmak 2**	**43.96**	**338**	P	**P**	**23 18 50.9**	**+1.3**
	SNR=8.4						
KBK	**Karagaybulak**	**43.98**	**337**	P	**P**	**23 18 51.2**	**+1.4**
	SNR=15						
AML	**Almayashu**	**44.04**	**336**	P	**P**	**23 18 51.7**	**+1.4**
	SNR=13						
AAK	**Ala-Archa**	**44.14**	**337**	P	**P**	**23 18 53.5**	**+2.4**
	SNR=5.9						
AAK	**Ala-Archa**	**44.14**	**337**	*eP*	**P**	**23 18 50.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**44.14**	**337**	*eP*	**P**	**23 18 50.5**	**-0.6**
	comp=Z,5.3nm,0.7s,mb4.4						
EKS2	**Erkin-Say**	**44.45**	**336**	P	**P**	**23 18 55.2**	**+1.6**
	SNR=7.0						
USP	**Ospenovka**	**44.67**	**337**	P	**P**	**23 18 56.1**	**+0.7**
	SNR=17						
ASAR	**Alice Springs**	**45.10**	**128**	P	**P**	**23 18 59.7**	**+0.6**
	comp=Z,1.3nm,0.7s,mb3.9,baz=297,slow=7.6,SNR=13						
ASAR				pP	pP	23 19 07.5	+0.5
	comp=Z,2.3nm,0.7s,baz=300,slow=7.9,SNR=9.5						
MKAR	**Makanchi Array**	**45.43**	**346**	P	**P**	**23 19 01.4**	**0.0**
	comp=Z,7.6nm,0.5s,mb4.8,baz=162,slow=8.2,SNR=142						
MKAR				pP	pP	23 19 08.7	-0.7
	comp=Z,6.8nm,0.7s,baz=159,slow=8.6,SNR=12						
SONM	**Songino Array**	**45.65**	**10**	P	**P**	**23 19 03.0**	**-0.1**
	comp=Z,4.4nm,0.8s,mb4.5,baz=189,slow=9.2,SNR=46						
SONM				pP	pP	23 19 11.4	+0.3
	comp=Z,2.2nm,0.6s,baz=190,slow=9.7,SNR=7.5						
SONM				PcP	PcP	23 20 41.9	+0.4
	comp=Z,1.9nm,0.6s,baz=192,slow=3.3,SNR=11						
SONM				pPcP		23 20 49.4	
	comp=Z,0.9nm,0.5s,baz=188,slow=3.6,SNR=5.5						
ULN	**Ulaanbaatar**	**45.79**	**10**	*eP*	**P**	**23 19 03.3**	**-0.9**
ULN				*e*PP	pP	23 19 12.6	+0.4
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**45.79**	**10**	*eP*	**P**	**23 19 03.3**	**-0.9**
	comp=Z,3.8nm,1.0s,mb4.3						
ULN				*e*pP	pP	23 19 12.6	+0.4
ZAK	**Zakamensk**	**47.73**	**6**	*eP*	**P**	**23 19 18.4**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
CN2	**Changchun**	**48.26**	**28**	*eP*	**P**	**23 19 26.2**	**+2.5**
KURK	**Kurchatov**	**49.98**	**345**	*eP*	**P**	**23 19 35.8**	**-1.0**
KURK				*e*PP	pP	23 19 43.5	-1.4
KURK				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.9						
KURK	**Kurchatov**	**49.98**	**345**	*eP*	**P**	**23 19 35.8**	**-1.1**
	comp=Z,19nm,1.4s,mb4.9						
KURK				*e*pP	pP	23 19 43.5	-1.4
HIA	**Hailar**	**50.38**	**20**	*eP*	**P**	**23 19 39.8**	**-0.2**
HIA				*e*PP	pP	23 19 48.9	+0.9
HIA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HIA	**Hailar**	**50.38**	**20**	*eP*	**P**	**23 19 39.8**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.5						
HIA				*e*pP	pP	23 19 48.9	+0.9
MDJ	**Mudanjiang**	**50.88**	**30**	P	**P**	**23 19 45.1**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.5s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,113nm,4.0s						
ZAL	**Zalesovo**	**51.79**	**351**	P	**P**	**23 19 49.3**	**-1.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=290,slow=7.0,SNR=20						
NVS	**Novosibirsk**	**52.91**	**351**	*eP*	**P**	**23 19 56.6**	**-2.3**
CHKZ	**Chkalovo**	**54.88**	**342**	*eP*	**P**	**23 20 12.5**	**-1.0**
CHKZ				*e*PP	pP	23 20 19.9	-1.7
CHKZ				pmax	pmax		
	comp=Z,38nm,0.6s,mb5.6						
CHKZ	**Chkalovo**	**54.88**	**342**	*eP*	**P**	**23 20 12.5**	**-0.9**
	comp=Z,38nm,0.6s,mb5.6						
CHKZ				*e*pP	pP	23 20 19.9	-1.6
STKA	**Stephens Creek**	**55.12**	**133**	P	**P**	**23 20 16.0**	**+0.5**
	comp=Z,3.9nm,0.8s,mb4.5,baz=321,slow=14,SNR=3.0						
STKA				pP	pP	23 20 23.8	+0.2
	comp=Z,3.9nm,0.8s,baz=317,slow=9.5,SNR=2.8						
STKA	**Stephens Creek**	**55.12**	**133**	P	**P**	**23 20 16.0**	**+0.5**
STKA				pP	pP	23 20 23.8	+0.2
BOD	**Bodaibo**	**56.57**	**11**	*eP*	**P**	**23 20 21.4**	**-4.1**
KMBO	**Kilima Mbogo**	**59.17**	**267**	P	**P**	**23 20 45.6**	**+1.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=59,slow=11,SNR=13						
KMBO				pP	pP	23 20 54.1	+1.5
	comp=Z,1.4nm,0.7s,baz=54,slow=10,SNR=4.2						
KMBO	**Kilima Mbogo**	**59.17**	**267**	*eP*	**P**	**23 20 45.2**	**+0.8**
	comp=Z,2.2nm,0.8s,mb4.2						
KMBO				*e*pP	pP	23 20 54.1	+1.5
SVE	**Sverdlovsk**	**60.83**	**338**	*eP*	**P**	**23 20 55.1**	**-0.1**
SVE				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.7						
KIV	**Kislovodsk**	**62.48**	**319**	*eP*	**P**	**23 21 05.6**	**-0.9**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
BRTR	**Keskin Array B**	**67.35**	**312**	P	**P**	**23 21 36.8**	**-1.3**
	comp=Z,2.1nm,0.7s,mb4.2,baz=125,slow=7.4,SNR=9.4						
BRTR				pP	pP	23 21 45.9	-0.4
	comp=Z,1.8nm,0.7s,baz=128,slow=6.9,SNR=6.1						
OBN	**Obninsk**	**70.75**	**328**	‖*iP*	**P**	**23 21 57.5**	**-1.3**
OBN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
AKASG	**Malin Array Be**	**73.41**	**322**	P	**P**	**23 22 13.4**	**-1.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=89,slow=5.0,SNR=9.9						
AKASG				pP	pP	23 22 21.8	-1.2
	comp=Z,2.8nm,0.6s,baz=88,slow=5.3,SNR=7.7						
FINES	**FINESS Array B**	**78.13**	**332**	P	**P**	**23 22 41.0**	**-0.1**
	comp=Z,2.8nm,0.7s,mb4.3,baz=92,slow=6.8,SNR=19						
FINES				pP	pP	23 22 48.9	-0.6
	comp=Z,2.9nm,0.7s,baz=56,slow=6.9,SNR=5.5						
KAF	**Kangasniemi**	**78.21**	**333**	*ep*	**P**	**23 22 39.2**	**-2.4**
	comp=Z,2.3nm,0.6s,mb4.3						
KAF	**Kangasniemi**	**78.21**	**333**	*ep*	**P**	**23 22 39.2**	**-2.4**
	comp=Z,2.4nm,0.6s,mb4.3						
KAF	**Kangasniemi**	**78.21**	**333**	*eP*	**P**	**23 22 39.2**	**-2.4**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**80.69**	**340**	P	**P**	**23 22 55.0**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.3,baz=97,slow=5.4,SNR=19						
SYO	**Syowa Base**	**81.29**	**198**	‖PcP	PcP	23 23 08.2	+3.6
GERES	**GERESS Array B**	**82.99**	**319**	P	**P**	**23 23 07.2**	**0.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=108,slow=4.2,SNR=11						
GERES				pP	pP	23 23 16.6	+0.9
	comp=Z,1.0nm,0.9s,baz=104,slow=5.5,SNR=4.8						
NOA	**NORSAR Array B**	**85.14**	**331**	P	**P**	**23 23 16.6**	**-1.2**
	comp=Z,0.9nm,0.9s,mb3.9,baz=90,slow=3.9,SNR=3.1						
PDAR	**Pinedale Array**	**128.93**	**24**	PKP	PKPdf	23 29 50.5	-3.2
	comp=Z,0.3nm,0.5s,slow=1.5,SNR=4.0						
TXAR	**Lajitas Array**	**142.71**	**29**	PKP	PKPdf	23 30 13.5	-5.8
	comp=Z,0.2nm,0.6s,baz=180,slow=1.3,SNR=3.6						
LPAZ	**La Paz**	**159.69**	**228**	PKPab	PKPab	23 31 23.2	+2.1
	comp=Z,0.7nm,0.7s,baz=70,slow=7.2,SNR=4.8						

IDC 02 23:32:44.9±7.6, 9.67N×93.38E, mb3.3/3, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=404.0km s-min=29.9km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.19**	**348**	P	P	23 40 06.1	-1.8
	0.1nm,0.4s,baz=158,slow=7.8,SNR=4.1						
WRA	**Warramunga Arr**	**49.91**	**126**	P	P	23 41 40.9	-1.7
	0.8nm,0.7s,baz=307,slow=8.6,SNR=7.3						
ASAR	**Alice Springs**	**51.64**	**131**	P	P	23 41 53.2	-2.5
	0.3nm,0.4s,baz=303,slow=7.1,SNR=4.7						

*IDC **02** 23:39:26.6±0.6, 55.46N×35.12W, mb4.1/21, mb1 4.3/25, mb1mx4.1/30, mbtmp4.2/25, ML3.7/4, MS4.1/22, Ms1 4.2/22, ms1mx3.9/33, Error ellipse: s-maj=19.3km s-min=10.4km az=174.0*
*BJI **02** 23:39:26.1, 55.60N×35.20W, h10km, mB5.2, mb5.0, Ms4.8, Msz4.3*
*MOS **02** 23:39:26.6±0.8, 55.63N×35.14W, h10km, mb4.7/41, MS4.3/6, Error ellipse: s-maj=10.5km s-min=7.7km az=168.5*
*ZUR_RM **02** 23:39:28, 55.60N×35.19W, h12km, Mw4.9/7, Moment Tensor Solution. s7 Moment tensor: Scale 10^{16}Nm; M_{rr}=2.56; $M_{\theta\theta}$0.76; $M_{\phi\phi}$1.79; $M_{r\theta}$-0.40; $M_{\theta\phi}$0.04; $M_{r\phi}$1.12; Best double couple: M_0=2.47×10^{16} NP1:φs173°, δ59°, λ-96°. NP2:φs5°, δ32°, λ-79°. Principal axes: T 2.069, Plg14°, Azm268°; N .805, Plg5°, Azm176°; P -2.875, Plg75°, Azm65°;*
*NEIC **02** 23:39:28.1±0.2, 55.60N×35.19W, h10km, mb4.7/54, MS4.0/2 Error ellipse: s-maj=8.7km s-min=3.0km az=187.0*
*CSEM **02** 23:39:30.2±0.1, 55.60N×35.16W, h40km, mb4.6/45, Ms4.0, Error ellipse: s-maj=3.8km s-min=1.4km az=4.0*

ISC 02 23:39:26.6±0.2, 55.64N±0.06×35.18W±0.05, h10km, (h20km±3.6km: pP-P), n211, σ0§91/204, mb4.5/75, MS4.2/21, 1C-1D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**11.41**	**31**	Pn	**P**	**23 42 14.6**	**+2.0**
	0.5nm,0.3s,baz=225,slow=7.1,SNR=2.0						
BORG				LR	LR	23 45 27.0	
	comp=Z,2μm,18.4s,baz=175,slow=31						
BORG	**Borgarnes**	**11.41**	**31**	*eP*	**P**	**23 42 15.9**	**+3.4**
	502nm,2.0s						
BORG	**Borgarnes**	**11.41**	**31**	*eP*	**P**	**23 42 15.9**	**+3.4**
	502nm,2.0s						
DCN	**Croghan**	**16.33**	**86**	*eP*	**P**	**23 43 22.4**	**+5.2**
DCN				*e*		00 04 34.5	
SUMG	**Summit**	**17.06**	**357**	*eP*	**P**	**23 43 24.2**	**-2.1**
	25nm,1.2s						
SCHQ	**Schefferville**	**17.99**	**281**	P	**P**	**23 43 38.2**	**+0.1**
	1.9nm,0.3s,baz=72,slow=7.2,SNR=63						
SCHQ				LR	LR	23 49 16.5	
	comp=Z,495nm,20.2s,baz=251,slow=33						
SCHQ	**Schefferville**	**17.99**	**281**	P	**P**	**23 43 38.2**	**+0.1**
SCHQ				LR	LR	23 49 16.5	
ESK	**Eskdalemuir**	**18.05**	**78**	*eP*	**P**	**23 43 39.4**	**+0.6**
ESK				pmax	pmax		
	comp=Z,13nm,0.9s						
ESK	**Eskdalemuir**	**18.05**	**78**	*eP*	**P**	**23 43 39.4**	**+0.6**
	comp=Z,13nm,0.9s						
ESK	**Eskdalemuir**	**18.05**	**78**	*eP*	**P**	**23 43 39.4**	**+0.6**
	comp=Z,13nm,0.9s						
EKA	**Eskdalemuir Ar**	**18.07**	**78**	P	**P**	**23 43 39.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=275,slow=10.0,SNR=10.0						
EKA	**Eskdalemuir Ar**	**18.07**	**78**	P	**P**	**23 43 39.8**	**+0.7**
FRB	**Frobisher Bay**	**18.49**	**310**	P	**P**	**23 43 44.9**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=96,slow=9.1,SNR=8.4						
FRB				LR	LR	23 49 38.6	
	comp=Z,703nm,18.1s,baz=264,slow=33						
FRB	**Frobisher Bay**	**18.49**	**310**	P	**P**	**23 43 44.9**	**+0.7**
FRB				LR	LR	23 49 38.6	
JMIC	**Jan Mayen**	**19.22**	**27**	LR	LR	23 49 03.3	
	comp=Z,164nm,19.4s,baz=289,slow=30						
QUIF	**Quistinic**	**21.11**	**98**	*eP*	**P**	**23 44 13.1**	**-0.3**
	comp=Z,89nm,1.5s,mb4.6						
QUIF	**Quistinic**	**21.11**	**98**	*eP*	**P**	**23 44 13.1**	**-0.3**
QUIF				pmax	pmax		
	comp=Z,45nm,1.5s,mb4.6						
SGMF	**Saint Gilles**	**21.27**	**97**	*eP*	**P**	**23 44 14.6**	**-0.4**
	comp=Z,100nm,1.7s,mb4.6						
SGMF	**Saint Gilles**	**21.27**	**97**	*eP*	**P**	**23 44 14.6**	**-0.4**
SGMF				pmax	pmax		
	comp=Z,50nm,1.7s,mb4.6						
GRR	**Gorron**	**22.16**	**95**	*eP*	**P**	**23 44 24.0**	**+0.1**
	comp=Z,101nm,1.6s,mb4.7						
GRR	**Gorron**	**22.16**	**95**	*eP*	**P**	**23 44 24.0**	**+0.1**
GRR				pmax	pmax		
	comp=Z,51nm,1.6s,mb4.7						
FLN	**La Foliniere**	**22.17**	**93**	*eP*	**P**	**23 44 24.3**	**+0.2**
FLN				*e*R			
	comp=Z,1μm,21.8s						
LDF	**La Druitiere**	**22.46**	**94**	*eP*	**P**	**23 44 27.3**	**+0.3**
	comp=Z,62nm,1.4s,mb4.5						
LDF	**La Druitiere**	**22.46**	**94**	*eP*	**P**	**23 44 27.3**	**+0.3**
LDF				pmax	pmax		
	comp=Z,31nm,1.4s,mb4.5						
MFF	**Saint Martin d**	**23.55**	**98**	*eP*	**P**	**23 44 36.9**	**-0.6**
	comp=Z,45nm,1.4s,mb4.4						
MFF	**Saint Martin d**	**23.55**	**98**	*eP*	**P**	**23 44 36.9**	**-0.6**
MFF				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.4						
PTOM	**Tomar**	**23.91**	**121**	*eP*	**P**	**23 44 41.8**	**+0.7**
	comp=Z,66nm,1.4s,mb4.9						
KONO	**Kongsberg**	**23.94**	**62**	*eP*	**P**	**23 44 43.1**	**+2.0**
KONO				pmax	pmax		
	comp=Z,28nm,1.5s,mb4.5						
KONO	**Kongsberg**	**23.94**	**62**	*eP*	**P**	**23 44 43.0**	**+1.9**
	comp=Z,28nm,1.5s,mb4.5						
KONO	**Kongsberg**	**23.94**	**62**	*eP*	**P**	**23 44 43.0**	**+1.9**
	comp=Z,28nm,1.5s,mb4.5						
PCBR	**Castelo Branco**	**24.20**	**119**	*eP*	**P**	**23 44 44.4**	**+0.5**
	comp=Z,18nm,1.0s,mb4.5						
DOU	**Dourbes**	**24.39**	**86**	P	**P**	**23 44 46.9**	**+1.3**
NB2	**NORSAR Subarra**	**24.51**	**58**	P	**P**	**23 44 47.1**	**+0.4**
	comp=Z,22nm,1.7s,mb4.4,baz=279,slow=9.3						
NOA	**NORSAR Array B**	**24.51**	**58**	P	**P**	**23 44 47.2**	**+0.5**
	comp=Z,2.6nm,0.8s,mb3.8,baz=279,slow=9.7,SNR=5.9						
NOA				LR	LR	23 53 04.0	
	comp=Z,213nm,19.2s,MS3.6,baz=280,slow=33						
LFF	**La Frestale**	**25.04**	**100**	*eP*	**P**	**23 44 51.8**	**-0.2**
TCF	**Toulx Ste Croi**	**25.06**	**96**	*eP*	**P**	**23 44 52.0**	**-0.1**
SJPF	**Ste Jean**	**25.13**	**106**	*eP*	**P**	**23 44 52.4**	**-0.4**
	comp=Z,18nm,1.1s,mb4.2						
SJPF	**Ste Jean**	**25.13**	**106**	*eP*	**P**	**23 44 52.4**	**-0.4**
SJPF				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.2						
RJF	**Les Rejaudoux**	**25.25**	**99**	*eP*	**P**	**23 44 53.9**	**-0.1**
RJF				*e*R			
	comp=Z,1μm,22.2s						
BGF	**Bois d'Agland**	**25.26**	**95**	*eP*	**P**	**23 44 53.9**	**-0.1**
	comp=Z,16nm,0.9s,mb4.3						
BGF	**Bois d'Agland**	**25.26**	**95**	*eP*	**P**	**23 44 53.9**	**-0.1**
BGF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
SSF	**Saint Saulge**	**25.35**	**93**	*eP*	**P**	**23 44 54.7**	**-0.2**
SSF				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.4						
SSF	**Saint Saulge**	**25.35**	**93**	*eP*	**P**	**23 44 54.7**	**-0.2**
	comp=Z,15nm,1.2s,mb4.4						
AVF	**Avril sur Loir**	**25.41**	**94**	*eP*	**P**	**23 44 55.1**	**-0.4**
	comp=Z,19nm,1.3s,mb4.2						
AVF	**Avril sur Loir**	**25.41**	**94**	*eP*	**P**	**23 44 55.1**	**-0.4**
AVF				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.1						
MEZF	**Maizieres J'vi**	**25.44**	**89**	*eP*	**P**	**23 44 56.7**	**+1.0**
WLF	**Walferdange**	**25.48**	**86**	P	**P**	**23 44 53.8**	**-2.2**
WLF				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.4						
WLF	**Walferdange**	**25.48**	**86**	P	**P**	**23 44 53.8**	**-2.3**
	comp=Z,18nm,1.4s,mb4.4						
WLF	**Walferdange**	**25.48**	**86**	P	**P**	**23 44 53.8**	**-2.2**
	comp=Z,18nm,1.4s,mb4.4						
ETSF	**Etsaut**	**25.64**	**105**	*eP*	**P**	**23 44 58.5**	**+0.9**
	comp=Z,45nm,1.4s,mb4.5						
ETSF	**Etsaut**	**25.64**	**105**	*eP*	**P**	**23 44 58.5**	**+0.9**
ETSF				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.5						
SMF	**Signal de Mont**	**25.77**	**94**	*eP*	**P**	**23 44 58.1**	**-0.7**
	comp=Z,34nm,1.3s,mb4.4						
SMF	**Signal de Mont**	**25.77**	**94**	*eP*	**P**	**23 44 58.1**	**-0.7**
SMF				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.4						
HFS	**Hagfors**	**25.87**	**60**	P	**P**	**23 45 00.3**	**+0.7**
	comp=Z,3.7nm,0.8s,mb4.0,baz=270,slow=7.4,SNR=6.0						
HFS				LR	LR	23 53 55.2	
	comp=Z,300nm,18.7s,MS3.9,baz=73,slow=34						
EPF	**Esparros**	**26.04**	**104**	*eP*	**P**	**23 45 01.8**	**+0.4**
ESDC	**Sonseca Array**	**26.10**	**115**	P	**P**	**23 45 00.7**	**-1.3**
	comp=Z,2.9nm,0.9s,mb3.8,baz=313,slow=9.0,SNR=14						
HAU	**Haudompre**	**26.44**	**89**	*eP*	**P**	**23 45 05.2**	**+0.2**
HAU				*e*R			
	comp=Z,1μm,17.5s						
CDF	**Champ du Feu**	**26.75**	**88**	*eP*	**P**	**23 45 08.0**	**+0.2**
	comp=Z,20nm,1.4s,mb4.2						
CDF	**

PSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
PSZ Piszkesteto 34.12 79 *eP* **P 23 46 12.4 -0.8**
comp=Z,2.9nm,0.8s,mb4.3
PSZ Piszkesteto 34.12 79 *eP* **P 23 46 12.4 -0.9**
comp=Z,2.9nm,0.8s,mb4.3
KWP Kalwaria 34.74 75 P **P 23 46 18.6 +0.1**
KWP pmax pmax
comp=Z,24nm,1.5s,mb4.9
KWP Kalwaria 34.74 75 P **P 23 46 18.6 +0.1**
comp=Z,24nm,1.5s,mb4.9
ULM Lac du Bonnet 35.93 287 P **P 23 46 28.6 -0.1**
comp=Z,5.4nm,0.8s,mb4.5,baz=60,slow=9.6,SNR=9.3
ULM LR LR 00 00 05.5
comp=Z,474nm,18.0s,MS4.3,baz=169,slow=34
AKASG Malin Array Be 37.68 70 P **P 23 46 42.6 -0.7**
comp=Z,3.4nm,0.7s,mb4.2,baz=302,slow=8.6,SNR=20
YKW3 Yellowknife Ar 38.91 314 *eP* **P 23 46 51.1 -2.5**
YKA Yellowknife Ar 38.93 313 P **P 23 46 53.9 +0.1**
comp=Z,1.0nm,0.6s,mb3.7,baz=62,slow=9.0,SNR=18
YKA LR LR 00 01 40.2
comp=Z,334nm,18.1s,MS4.2,baz=85,slow=34
OBN Obninsk 39.09 60 ||*iP* **P 23 46 55.7 +0.6**
OBN *e* 23 48 28.2
OBN *e*S **S 23 52 52.3 -1.9**
OBN pmax pmax
comp=Z,22nm,2.0s,mb4.5
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.0
OBN Obninsk 39.09 60 *eP* **P 23 46 55.2 +0.1**
comp=Z,12nm,0.9s,mb4.6
OBN Obninsk 39.09 60 *eP* **P 23 46 55.2 +0.1**
comp=Z,12nm,0.9s,mb4.6
OBN *e*S **S 23 52 52.3 -1.9**
comp=Z,200nm,16.0s
WVT Waverly 40.36 264 P **P 23 47 05.7 -0.1**
WVT pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
WVT Waverly 40.36 264 P **P 23 47 05.7 -0.1**
comp=Z,7.6nm,1.0s,mb4.4
WVT Waverly 40.36 264 P **P 23 47 05.7 -0.1**
comp=Z,7.6nm,1.0s,mb4.4
OXF Oxford 42.42 263 P **P 23 47 22.7 0.0**
OXF pmax pmax
comp=Z,30nm,1.1s,mb4.8
OXF Oxford 42.42 263 P **P 23 47 22.7 0.0**
comp=Z,30nm,1.1s,mb4.8
OXF Oxford 42.42 263 P **P 23 47 22.7 0.0**
comp=Z,30nm,1.1s,mb4.8
INK Inuvik 42.77 327 *eP* **P 23 47 25.0 -0.1**
INK pmax pmax
comp=Z,8.0nm,1.3s
INK Inuvik 42.77 327 *eP* **P 23 47 25.0 -0.1**
comp=Z,7.7nm,1.3s,mb4.3
INK Inuvik 42.77 327 *eP* **P 23 47 25.0 -0.1**
comp=Z,7.7nm,1.3s,mb4.3
EDM Edmonton 43.27 301 *eP* **P 23 47 30.3 +0.9**
LAO LASA Array 43.59 289 *eP* **P 23 47 32.7 +0.6**
comp=Z,45nm,1.0s,mb5.2
LAO LASA Array 43.59 289 *eP* **P 23 47 32.7 +0.6**
comp=Z,45nm,1.0s,mb5.2
SJG San Juan 44.20 225 P **P 23 47 37.0 -0.4**
SJG pmax pmax
comp=Z,22nm,1.4s
SJG San Juan 44.20 225 P **P 23 47 36.4 -1.0**
comp=Z,7.0nm,0.4s,mb4.8,baz=275,slow=19,SNR=6.2
SJG San Juan 44.20 225 P **P 23 47 37.0 -0.4**
comp=Z,22nm,1.4s,mb4.7
SJG San Juan 44.20 225 P **P 23 47 37.0 -0.4**
comp=Z,22nm,1.4s,mb4.7
MIAR Mount Ida 44.74 267 *eP* **P 23 47 43.6 +2.0**
MIAR pmax pmax
comp=Z,17nm,1.1s,mb4.8
MIAR Mount Ida 44.74 267 *eP* **P 23 47 43.6 +2.0**
comp=Z,17nm,1.1s,mb4.8
MIAR Mount Ida 44.74 267 *eP* **P 23 47 43.6 +2.0**
comp=Z,17nm,1.1s,mb4.8
GVD Gavdhos 45.03 92 *eP* **P 23 47 42.2 -1.7**
comp=Z,98nm,1.2s,mb5.5
GVD Gavdhos 45.03 92 *eP* **P 23 47 42.2 -1.7**
comp=Z,98nm,1.2s,mb5.5
WALA Waterton Lakes 46.11 296 *eP* **P 23 47 53.1 +1.0**
comp=Z,22nm,1.3s,mb4.9
WALA Waterton Lakes 46.11 296 *eP* **P 23 47 53.2 +1.0**
comp=Z,22nm,1.3s,mb4.9
HRY Holter Researc 46.55 293 *eP* **P 23 47 56.4 +0.7**
HRY Holter Researc 46.55 293 *eP* **P 23 47 56.3 +0.6**
BRTR Keskin Array B 46.98 80 P **P 23 47 59.9 +0.7**
comp=Z,5.0nm,0.7s,mb4.5,baz=308,slow=5.3,SNR=19
BRTR Keskin Array B 46.98 80 P **P 23 47 59.8 +0.6**
BOZ Bozeman (W) 47.14 292 *eP* **P 23 48 01.6 +1.2**
BOZ pmax pmax
comp=Z,19nm,1.1s,mb4.9
BOZ Bozeman (W) 47.14 292 *eP* **P 23 48 01.6 +1.2**
comp=Z,19nm,1.1s,mb4.9
BOZ Bozeman (W) 47.14 292 *eP* **P 23 48 01.6 +1.2**
comp=Z,19nm,1.1s,mb4.9
DAWY Dawson 47.27 325 P **P 23 47 59.3 -1.9**
DAWY Dawson 47.27 325 P **P 23 47 59.3 -1.8**
DLBC Dease Lake 47.52 315 LR LR 00 07 51.6
comp=Z,327nm,18.4s,MS4.3,baz=180,slow=36
DLBC Dease Lake 47.52 315 *eP* **P 23 48 02.6 -0.6**
DLBC Dease Lake 47.52 315 *eP* **P 23 48 02.6 -0.6**
WMOK Wichita Mounta 47.56 272 P **P 23 48 04.1 +0.2**
WMOK *e* 23 48 09.4
WMOK pmax pmax
comp=Z,12nm,1.2s,mb4.8
WMOK Wichita Mounta 47.56 272 P **P 23 48 04.1 +0.3**
comp=Z,12nm,1.2s,mb4.8
WMOK *e* 23 48 09.4
ISCO Idaho Springs 47.82 282 *eP* **P 23 48 06.7 +0.8**
ISCO pmax pmax
comp=Z,11nm,1.2s,mb4.8
ISCO Idaho Springs 47.82 282 *eP* **P 23 48 06.7 +0.9**
comp=Z,11nm,1.2s,mb4.8
ISCO Idaho Springs 47.82 282 *eP* **P 23 48 06.7 +0.8**
comp=Z,11nm,1.2s,mb4.8
BW06 Boulder Array 47.95 287 *eP* **P 23 48 05.6 -1.3**
comp=Z,6.4nm,1.1s,mb4.6
BW06 Boulder Array 47.95 287 *eP* **P 23 48 05.6 -1.3**
comp=Z,6.3nm,1.1s,mb4.6
PDAR Pinedale Array 47.95 287 P **P 23 48 07.3 +0.5**
comp=Z,1.1nm,0.6s,mb4.1,baz=60,slow=7.9,SNR=12
PDAR LR LR 00 07 22.8
comp=Z,477nm,19.1s,MS4.5,baz=45,slow=35
PDAR Pinedale Array 47.95 287 P **P 23 48 07.3 +0.4**
NEW Newport 48.24 298 P **P 23 48 10.2 +1.2**
comp=Z,1.5nm,0.6s,mb4.2,baz=95,slow=9.3,SNR=4.1
ARU Arti 48.37 48 *eP* **P 23 48 10.4 +0.5**
comp=Z,8.7nm,0.9s,mb4.8
ARU Arti 48.37 48 *eP* **P 23 48 10.4 +0.5**
comp=Z,8.7nm,0.9s,mb4.8
GOF Gofitskoye 48.46 68⇑*iP* **P 23 48 10.8 +0.1**
GOF pmax pmax
comp=Z,20nm,1.3s,mb5.0
GOF Gofitskoye 48.46 68 *i*P **P 23 48 10.8 +0.1**
comp=Z,20nm,1.3s,mb5.0
SVE Sverdlovsk 48.97 46 *eP* **P 23 48 15.1 +0.6**
SVE pmax pmax
comp=Z,20nm,2.5s,mb4.7
SVE Sverdlovsk 48.97 46 *eP* **P 23 48 15.1 +0.6**
comp=Z,20nm,2.5s,mb4.7
KIV Kislovodsk 49.02 69 P **P 23 48 16.0 +0.9**
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
KIV Kislovodsk 49.02 69 P **P 23 48 16.0 +0.9**
comp=Z,8.2nm,1.0s,mb4.7
KIV Kislovodsk 49.02 69 P **P 23 48 16.0 +0.9**
comp=Z,8.2nm,1.0s,mb4.7
AMTX Amarillo 49.09 274 *eP* **P 23 48 14.3 -1.4**
comp=Z,15nm,0.7s,mb5.1
AMTX Amarillo 49.09 274 *eP* **P 23 48 14.3 -1.5**
comp=Z,15nm,0.7s,mb5.1
ILAR Eielson Array 49.13 328 LR LR 00 08 54.2
comp=Z,272nm,19.2s,MS4.3,baz=262,slow=36
SDCO Great Sand Dun 49.20 280 P **P 23 48 15.5 -1.0**
comp=Z,17nm,1.7s,mb4.8
SDCO Great Sand Dun 49.20 280 P **P 23 48 15.5 -1.0**
comp=Z,17nm,1.7s,mb4.8
COLA College 49.34 329 *eP* **P 23 48 15.1 -2.1**
COLA pmax pmax
comp=Z,17nm,1.4s,mb4.9
COLA College 49.34 329 *eP* **P 23 48 15.1 -2.2**
comp=Z,17nm,1.4s,mb4.9
HWUT Hardware Ranch 49.83 287 *eP* **P 23 48 21.3 -0.1**
comp=Z,9.9nm,1.1s,mb4.8
HWUT *e* 23 48 26.4
HWUT Hardware Ranch 49.83 287 *eP* **P 23 48 21.3 -0.1**
HLID Hailey 50.01 291 *eP* **P 23 48 24.1 +1.4**
comp=Z,10.0nm,1.3s,mb4.7
HLID *e* 23 48 29.2
HLID Hailey 50.01 291 *eP* **P 23 48 24.1 +1.4**
RW3 Ridgway 50.06 282 P **P 23 48 23.0 -0.1**
CSS Prodhromos 50.17 84 *eP* **P 23 48 19.7 -4.4**
comp=Z,16nm,0.8s,mb5.1
CSS *e* 23 48 25.1
MALT Malatya 50.62 78 *eP* **P 23 48 27.9 +0.5**
MALT *e* pP 23 48 32.9 +2.4
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MALT Malatya 50.62 78 *eP* **P 23 48 27.9 +0.5**
comp=Z,5.5nm,1.0s,mb4.4
MALT *e* pP 23 48 32.9 +2.4
PV10 Paradox Valley 50.72 283 P **P 23 48 21.1 -7.0**
ANMO Albuquerque 51.74 278 P **P 23 48 36.6 +0.7**
ANMO *e* 23 48 42.8
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO Albuquerque 51.74 278 P **P 23 48 36.5 +0.5**
comp=Z,0.3nm,0.3s,mb3.7,baz=8.1,slow=14,SNR=1.8
ANMO Albuquerque 51.74 278 P **P 23 48 36.6 +0.7**
comp=Z,4.0nm,1.3s,mb4.2
ANMO *e* 23 48 42.8
GDL2 Guadalupe Moun 52.58 274 *eP* **P 23 48 47.9 +5.6**
GNI Garni 52.77 71 *eP* **P 23 48 44.2 +0.6**
GNI pmax pmax
comp=Z,38nm,1.4s
GNI Garni 52.77 71 *eP* **P 23 48 44.2 +0.6**
comp=Z,38nm,1.4s,mb5.1
GNI Garni 52.77 71 *eP* **P 23 48 44.2 +0.6**
comp=Z,38nm,1.4s,mb5.1
TXAR Lajitas Array 54.34 271 P **P 23 48 55.0 -0.2**
comp=Z,3.2nm,1.2s,mb4.1,baz=49,slow=12,SNR=4.2
TXAR LR LR 00 11 44.5
comp=Z,419nm,18.8s,MS4.5,baz=95,slow=36
DBIC Dimbokro 54.47 142 *eP* **P 23 48 51.1 -5.3**
DBIC pmax pmax
comp=Z,27nm,1.5s
DBIC Dimbokro 54.47 142 P **P 23 48 53.9 -2.5**
comp=Z,4.3nm,1.0s,mb4.3,baz=313,slow=6.6,SNR=4.0
DBIC LR LR 00 09 52.8
comp=Z,230nm,18.2s,MS4.3,baz=337,slow=34
DBIC Dimbokro 54.47 142 *eP* **P 23 48 51.1 -5.3**
comp=Z,27nm,1.5s,mb5.0
CHKZ Chkalovo 55.23 44 *eP* **P 23 49 01.2 -0.3**
CHKZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CHKZ Chkalovo 55.23 44 *eP* **P 23 49 01.2 -0.4**
comp=Z,3.4nm,0.7s,mb4.5
CHKZ Chkalovo 55.23 44 *eP* **P 23 49 01.2 -0.3**
comp=Z,3.0nm,0.7s,mb4.4
TPH Tonopah 55.40 288 P **P 23 49 03.2 +0.2**
TPH *e* 23 49 09.3
TPH pmax pmax
comp=Z,14nm,1.3s,mb4.8
TPH Tonopah 55.40 288 P **P 23 49 03.2 +0.2**
comp=Z,14nm,1.3s,mb4.8
TPH *e* 23 49 09.3
TPH Tonopah 55.40 288 P **P 23 49 03.2 +0.2**
comp=Z,14nm,1.3s,mb4.8
NVAR Mina Array Bea 55.72 289 P **P 23 49 05.3 0.0**
comp=Z,1.1nm,0.5s,mb4.1,baz=50,slow=7.0,SNR=4.5
NVAR LR LR 00 12 16.6
comp=Z,415nm,19.2s,MS4.5,baz=60,slow=35
NVAR Mina Array Bea 55.72 289 P **P 23 49 05.3 0.0**
NVAR LR LR 00 12 16.6
NVS Novosibirsk 58.95 36 *eP* **P 23 49 28.5 +0.7**
ROSC El Rosal 59.51 227 P **P 23 49 32.4 +0.1**
comp=Z,9.2nm,0.7s,mb4.9,baz=98,slow=19,SNR=4.2
ZAL Zalesovo 60.21 36 P **P 23 49 36.6 0.0**
comp=Z,0.7nm,0.6s,mb3.9,baz=134,slow=8.3,SNR=4.2
KURK Kurchatov 60.64 42 *eP* **P 23 49 37.9 -1.6**
KURK pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
KURK Kurchatov 60.64 42 *eP* **P 23 49 37.9 -1.6**
comp=Z,4.7nm,0.7s,mb4.7
KURK Kurchatov 60.64 42 *eP* **P 23 49 37.9 -1.6**
comp=Z,5.0nm,0.7s,mb4.8
MKAR Makanchi Array 65.24 42 P **P 23 50 10.1 +0.1**
comp=Z,2.6nm,0.7s,mb4.4,baz=339,slow=5.6,SNR=26
MKAR LR LR 00 18 47.6
comp=Z,51nm,18.7s,MS3.7,baz=273,slow=36
AAK Ala-Archa 65.48 50 *eP* **P 23 50 09.4 -2.2**
AAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
AAK Ala-Archa 65.48 50 *eP* **P 23 50 09.4 -2.2**
comp=Z,7.3nm,1.4s,mb4.5
AAK Ala-Archa 65.48 50 *eP* **P 23 50 09.4 -2.2**
comp=Z,7.0nm,1.4s,mb4.5
WMQ Urumqi 69.78 40 *eP* **P 23 50 39.4 +0.9**
WMQ AP pP 23 50 45.4 +3.7
WMQ XP sP 23 50 48.4 +5.6
WMQ PCP PcP 23 51 02.3 +1.0
WMQ PP PP 23 53 15.5 +0.7
WMQ AMB AMB
comp=Z,2.0nm,0.8s,mb4.1
WMQ AMB AMB
comp=Z,96nm,4.0s
WMQ LR LR
comp=N,309nm,32.8s
WMQ LR LR
comp=E,105nm,27.3s
WMQ LR LR
comp=Z,65nm,21.8s
BDFB Brasilia 71.83 193 LR LR 00 17 39.2
comp=Z,143nm,18.1s,MS4.3,baz=158,slow=32
SONM Songino Array 71.98 26 P **P 23 50 53.2 +1.5**
comp=Z,0.6nm,0.7s,mb3.6,baz=333,slow=5.1,SNR=4.1
SONM LR LR 00 23 47.6
comp=Z,47nm,18.6s,MS3.8,baz=141,slow=37
CN2 Changchun 79.58 14 *eP* **P 23 51 33.7 -1.1**
HHC Hu-ho-hao-te 79.81 25 *eP* **P 23 51 39.9 +3.9**
HHC AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
HHC AMB AMB
comp=Z,143nm,5.5s
KMBO Kilima Mbogo 81.08 105 LR LR 00 29 20.9
comp=Z,84nm,18.0s,MS4.1,baz=279,slow=37
LZH Lanzhou 82.17 32 *eP* **P 23 51 48.7 +0.1**
LZH AP pP 23 51 56.7 +5.0
LZH XP sP 23 51 59.8 +7.0
LZH AMB AMB
comp=Z,22nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,92nm,4.0s
LZH LR LR
comp=N,315nm,15.0s
LZH LR LR
comp=Z,379nm,17.7s,MS4.8
LZH Lanzhou 82.17 32 *eP* **P 23 51 48.7 +0.1**
LZH *PP pP 23 51 56.7 +5.0
LZH pmax pmax
comp=Z,22nm,1.5s,mb4.9
LZH MLR MLR
comp=Z,380nm,17.7s,MS4.8
LZH Lanzhou 82.17 32 *eP* **P 23 51 48.7 +0.1**
comp=Z,22nm,1.5s,mb4.9
LZH pP pP 23 51 56.7 +5.0
LZH sP sP 23 51 59.8 +7.0
LZH LR LR
comp=Z,380nm,17.7s,MS4.8
PPT Papeete 118.07 280 *e*LR LR 00 34 14.9
comp=Z,99nm,23.0s
ASAR Alice Springs 147.06 19 PKPbc PKPdf 23 59 10.4 +0.2
comp=Z,1.0nm,0.5s,baz=350,slow=2.5,SNR=21

IDC 02 23:52:16.4±1.8, 1.38N×97.01E, h24km±5km, mb3.8/5, mb1 3.9/5, mb1mx3.5/16, mbtmp3.9/5, Error ellipse: s-maj=68.8km s-min=20.5km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.29**	**122**	P	P	00 00 09.0	-1.2
	0.2nm,0.4s,baz=301,slow=9.3,SNR=3.0						
WRA				pP	pP	00 00 14.9	-2.7
	0.3nm,0.3s,baz=304,slow=9.1,SNR=2.6						
SONM	**Songino Array**	**46.98**	**9**	P	P	00 00 45.4	-2.0
	1.6nm,0.6s,baz=189,slow=9.2,SNR=17						
SONM				pP	pP	00 00 53.3	-1.5
	0.8nm,0.5s,baz=194,slow=9.9,SNR=6.3						
MKAR	**Makanchi Array**	**47.02**	**346**	P	P	00 00 45.9	-1.9
	2.2nm,0.7s,baz=162,slow=8.9,SNR=26						
MKAR				pP	pP	00 00 54.2	-1.0
	0.6nm,0.5s,baz=163,slow=8.3,SNR=5.2						
ZAL	**Zalesovo**	**53.34**	**351**	P	P	00 01 33.1	-2.9
	0.8nm,0.3s,baz=324,slow=10,SNR=4.7						
FINES	**FINESS Array B**	**79.75**	**333**	P	P	00 04 21.6	-2.2
	2.3nm,1.1s,baz=117,slow=4.3,SNR=5.3						
FINES				pP	pP	00 04 29.7	-1.9
	0.5nm,0.4s,baz=101,slow=9.7,SNR=1.9						

IDC 02 23:52:49.4±64.0, 0.08S×96.02E, mb3.9/3, mb1 4.0/3, mb1mx3.5/15, mbtmp3.9/3, Error ellipse: s-maj=1247.0km s-min=158.6km az=177.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.21**	**347**	P	P	00 01 31.7	-2.0
	1.4nm,0.6s,baz=162,slow=7.7,SNR=8.5						
SONM	**Songino Array**	**48.57**	**9**	P	P	00 01 34.6	-1.9
	1.0nm,0.6s,baz=189,slow=9.1,SNR=6.1						
ZAL	**Zalesovo**	**54.63**	**352**	P	P	00 02 19.6	-2.5
	0.9nm,0.5s,baz=313,slow=8.5,SNR=3.5						

*BJI **03** 00:00:39.7, 55.60N×35.00W, h10km, mB5.2, mb4.5, Ms4.9, Msz4.4*
*MOS **03** 00:00:40.6±0.8, 55.45N×35.05W, h10km, mb4.9/53, MS4.0/11, Error ellipse: s-maj=8.1km s-min=6.3km az=174.5*
*IDC **03** 00:00:41.5±0.4, 55.60N×35.09W, mb4.4/25, mb1 4.5/28, mb1mx4.4/33, mbtmp4.4/28, ML3.9/3, MS4.1/28, Ms1 4.1/28, ms1mx3.9/37, Error ellipse: s-maj=15.7km s-min=9.5km az=169.0*
*CSEM **03** 00:00:41.7±0.0, 55.55N×35.03W, h20km, mb4.7/88, Error ellipse: s-maj=3.2km s-min=1.3km az=8.0*
*ZUR_RM **03** 00:00:42, 55.56N×35.03W, h6km, Mw4.7/7, Moment Tensor Solution. s7 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.35; $M_{\theta\theta}$0.29; $M_{\phi\phi}$1.06; $M_{r\theta}$-0.18; $M_{\theta\phi}$0.09; $M_{\phi r}$0.14; Best double couple: $M_0$1.23×10^{16} NP1:ϕs180°, δ48°, λ-99°. NP2:ϕs13°, δ43°, λ-80°. Principal axes: T 1.078, Plg3°, Azm276°; N .301, Plg7°, Azm185°; P -1.379, Plg83°, Azm28°;*
*NEIC **03** 00:00:42.7±0.1, 55.56N×35.03W, h10km, mb4.6/90 Error ellipse: s-maj=5.4km s-min=2.5km az=12.0*
ISC 03 00:00:41.0±0.2, 55.54N±0.04×35.06W±0.04, h10km, (h11km±1.7km:pP-P), n334, σ0s95/321, mb4.5/125, MS4.1/33, 11C-3D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**11.46**	**31**	Pn	P	**00 03 29.3**	**+1.6**
	0.4nm,0.3s,baz=292,slow=5.4,SNR=2.9						
BORG				LR	LR	00 06 33.3	
	comp=Z,833nm,19.7s,baz=174,slow=31						
BORG	**Borgarnes**	**11.46**	**31**	P	P	**00 03 26.9**	**-0.8**
BORG	**Borgarnes**	**11.46**	**31**	P	P	**00 03 26.9**	**-0.8**
SFJ	**Sondre**	**13.65**	**333**	*eP*	P	**00 03 53.1**	**-3.7**
DLF	**Lyons Farm**	**16.70**	**86**	*e*	P	**00 04 40.0**	**+3.6**
SUMG	**Summit**	**17.17**	**357**	*eP*	P	**00 04 40.3**	**-1.9**
	10nm,0.8s						
EKA	**Eskdalemuir Ar**	**18.02**	**77**	P	P	**00 04 54.9**	**+2.0**
	0.3nm,0.3s,baz=270,slow=10.0,SNR=17						
SCHQ	**Schefferville**	**18.08**	**281**	P	P	**00 04 53.8**	**+0.1**
	3.5nm,0.3s,baz=83,slow=9.4,SNR=85						
SCHQ				LR	LR	00 10 40.7	
	comp=Z,363nm,18.8s,baz=230,slow=33						
FRB	**Frobisher Bay**	**18.61**	**310**	P	P	**00 04 59.9**	**-0.3**
	0.2nm,0.3s,baz=100,slow=11,SNR=8.8						
FRB				LR	LR	00 10 43.7	
	comp=Z,587nm,19.3s,baz=151,slow=32						
FRB	**Frobisher Bay**	**18.61**	**310**	P	P	**00 04 59.9**	**-0.3**
FRB				LR	LR	00 10 43.7	
JMIC	**Jan Mayen**	**19.27**	**26**	LR	LR	00 10 42.8	
	comp=Z,193nm,21.7s,baz=256,slow=31						
ROSF	**Rostrenen**	**20.74**	**97**	*eP*	P	**00 05 23.5**	**-0.6**
	106nm,1.5s						
ROSF	**Rostrenen**	**20.74**	**97**	*eP*	P	**00 05 23.5**	**-0.6**
ROSF				pmax	pmax		
	comp=Z,54nm,1.5s						
QUIF	**Quistinic**	**21.02**	**98**	*eP*	P	**00 05 25.9**	**-1.1**
	comp=Z,158nm,1.4s,mb4.8						
QUIF	**Quistinic**	**21.02**	**98**	*eP*	P	**00 05 25.9**	**-1.1**
QUIF				pmax	pmax		
	comp=Z,79nm,1.4s,mb4.8						
EMAZ	**Mazaricos**	**21.03**	**116**	P	P	**00 05 26.3**	**-0.8**
	comp=Z,18nm,0.9s,mb4.4						
EMAZ	**Mazaricos**	**21.03**	**116**	P	P	**00 05 26.3**	**-0.8**
	comp=Z,18nm,0.9s,mb4.4						
SGMF	**Saint Gilles**	**21.19**	**96**	*eP*	P	**00 05 27.4**	**-1.2**
	comp=Z,128nm,1.4s,mb4.8						
SGMF	**Saint Gilles**	**21.19**	**96**	*eP*	P	**00 05 27.4**	**-1.2**
SGMF				pmax	pmax		
	comp=Z,64nm,1.4s,mb4.8						
STS	**Santiago**	**21.29**	**115**	P	P	**00 05 28.7**	**-1.0**
STS				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.4						
STS	**Santiago**	**21.29**	**115**	P	P	**00 05 28.7**	**-1.0**
	comp=Z,21nm,1.1s,mb4.4						
STS	**Santiago**	**21.29**	**115**	P	P	**00 05 28.7**	**-1.0**
	comp=Z,21nm,1.1s,mb4.4						
EPON	**Pontenova**	**21.71**	**113**	P	P	**00 05 33.0**	**-0.9**
	comp=Z,15nm,1.1s,mb4.3						
EPON	**Pontenova**	**21.71**	**113**	P	P	**00 05 33.0**	**-0.9**
	comp=Z,15nm,1.1s,mb4.3						
EZAM	**Zamans**	**21.75**	**117**	P	P	**00 05 25.4**	**-9.0**
EZAM				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.3						
EZAM	**Zamans**	**21.75**	**117**	P	P	**00 05 25.4**	**-8.9**
	comp=Z,6.6nm,0.5s,mb4.3						
EINC	**Incio**	**22.07**	**114**	P	P	**00 05 36.4**	**-1.2**
	comp=Z,7.9nm,0.9s,mb4.1						
EINC	**Incio**	**22.07**	**114**	P	P	**00 05 36.4**	**-1.2**
	comp=Z,7.9nm,0.9s,mb4.1						
GRR	**Gorron**	**22.08**	**95**	*eP*	P	**00 05 37.1**	**-0.5**
	comp=Z,117nm,1.5s,mb4.8						
GRR	**Gorron**	**22.08**	**95**	*eP*	P	**00 05 37.1**	**-0.5**
GRR				pmax	pmax		
	comp=Z,58nm,1.5s,mb4.8						
FLN	**La Foliniere**	**22.09**	**93**	*eP*	P	**00 05 37.3**	**-0.5**
	comp=Z,103nm,1.3s,mb4.8						
FLN				*e*R			
	comp=Z,950nm,21.8s						
FLN	**La Foliniere**	**22.09**	**93**	*eP*	P	**00 05 37.3**	**-0.5**
FLN				pmax	pmax		
	comp=Z,52nm,1.3s,mb4.8						
FLN				MLR	MLR		
	comp=Z,950nm,21.8s,MS4.2						
DAG	**Danmarks Havn**	**22.15**	**10**⇑*eP*		P	**00 05 41.0**	**+2.8**
DAG				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
DAG	**Danmarks Havn**	**22.15**	**10**⇑*eP*		P	**00 05 41.0**	**+2.8**
	comp=Z,13nm,1.1s,mb4.3						
DAG	**Danmarks Havn**	**22.15**	**10**⇑*iP*		P	**00 05 41.0**	**+2.8**
	comp=Z,13nm,1.1s,mb4.3						
ELOB	**Lobios**	**22.28**	**117**	P	P	**00 05 39.1**	**-0.5**
	comp=Z,4.9nm,0.8s,mb4.0						
ELOB	**Lobios**	**22.28**	**117**	P	P	**00 05 39.2**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.0						
LDF	**La Druitiere**	**22.39**	**93**	*eP*	P	**00 05 40.2**	**-0.5**
	comp=Z,88nm,1.3s,mb4.7						
LDF	**La Druitiere**	**22.39**	**93**	*eP*	P	**00 05 40.2**	**-0.5**
LDF				pmax	pmax		
	comp=Z,44nm,1.3s,mb4.7						
EARI	**Arriondas**	**22.75**	**110**	P	P	**00 05 43.2**	**-1.0**
	comp=Z,7.6nm,0.7s,mb4.2						
EARI	**Arriondas**	**22.75**	**110**	P	P	**00 05 43.2**	**-1.0**
	comp=Z,7.6nm,0.7s,mb4.2						
ECAL	**Calabor**	**22.90**	**115**	P	P	**00 05 46.1**	**+0.4**
	comp=Z,6.2nm,0.7s,mb4.2						
ECAL	**Calabor**	**22.90**	**115**	P	P	**00 05 46.2**	**+0.5**
	comp=Z,6.2nm,0.7s,mb4.2						
PBRG	**Braganca**	**23.00**	**115**	*eP*	P	**00 05 48.9**	**+2.2**
	comp=Z,11nm,1.5s,mb4.1						
MFF	**Saint Martin d**	**23.47**	**98**	*eP*	P	**00 05 50.3**	**-0.8**
	comp=Z,64nm,1.4s,mb4.6						
MFF	**Saint Martin d**	**23.47**	**98**	*eP*	P	**00 05 50.3**	**-0.8**
MFF				pmax	pmax		
	comp=Z,32nm,1.4s,mb4.6						
MTE	**Manteigas**	**23.63**	**118**	*eP*	P	**00 05 53.9**	**+1.1**
MTE				*e*LR	LR	00 11 33.2	
	comp=Z,484nm,18.8s						
ELAN	**Lanestosa**	**23.75**	**108**	P	P	**00 05 56.3**	**+2.3**

comp=Z,11nm,1.3s,mb4.1
PTOM Tomar 23.80 121 *eP* **P 00 05 56.2 +1.8**
comp=Z,101nm,1.3s,mb5.1
KONO Kongsberg 23.92 62 P **P 00 05 54.6 -0.8**
KONO pmax pmax
comp=Z,16nm,1.3s,mb4.3
KONO Kongsberg 23.92 62 P **P 00 05 54.6 -0.9**
comp=Z,16nm,1.3s,mb4.3
KONO Kongsberg 23.92 62 P **P 00 05 54.6 -0.8**
comp=Z,16nm,1.3s,mb4.3
PCBR Castelo Branco 24.09 119 *eP* **P 00 05 58.2 +0.9**
comp=Z,64nm,1.4s,mb4.9
BAIF Baives 24.12 87 *eP* **P 00 05 56.9 -0.6**
comp=Z,84nm,1.8s,mb4.6
BAIF Baives 24.12 87 *eP* **P 00 05 56.9 -0.6**
BAIF pmax pmax
comp=Z,42nm,1.8s,mb4.6
DOU Dourbes 24.32 86 P **P 00 06 01.3 +1.9**
NAO01 NORSAR Array S 24.37 59 *eP* **P 00 06 00.2 +0.4**
comp=Z,3.9nm,0.7s,mb4.0
NAO01 NORSAR Array S 24.37 59 *eP* **P 00 06 00.2 +0.4**
comp=Z,3.9nm,0.7s,mb4.0
GIVF Givet 24.45 86 *eP* **P 00 05 59.9 -0.8**
NB2 NORSAR Subarra 24.50 58 P **P 00 06 01.8 +0.7**
comp=Z,0.4nm,0.6s,baz=280,slow=9.3
NOA NORSAR Array B 24.50 58 P **P 00 06 02.0 +0.9**
comp=Z,4.0nm,0.8s,mb4.0,baz=280,slow=9.7,SNR=9.8
NOA LR LR 00 14 18.7
comp=Z,187nm,19.0s,MS3.6,baz=270,slow=33
HYF Humbligny 24.66 94 *eP* **P 00 06 02.4 -0.4**
comp=Z,167nm,1.3s,mb5.1
WTSB Winterswijk 24.73 81 *eP* **P 00 06 04.3 +1.0**
comp=Z,23nm,2.2s,mb4.3
HGN Heimansgroeve 24.77 84 *eP* **P 00 06 04.4 +0.6**
comp=Z,13nm,0.8s,mb4.5
EVO Evora 24.84 122 *eP* **P 00 06 02.5 -2.1**
comp=Z,37nm,1.2s,mb4.5
EVO *eR*
comp=Z,526nm,19.8s
MEM Membach 24.88 84 P **P 00 06 05.6 +0.8**
comp=Z,15nm,1.6s,mb4.3
LFF La Frestale 24.95 100 *eP* **P 00 06 04.6 -1.0**
comp=Z,58nm,1.3s,mb4.7
LFF La Frestale 24.95 100 *eP* **P 00 06 04.6 -1.0**
LFF pmax pmax
comp=Z,29nm,1.3s,mb4.7
TCF Toulx Ste Croi 24.98 96 *eP* **P 00 06 05.4 -0.4**
comp=Z,78nm,1.5s,mb4.7
TCF Toulx Ste Croi 24.98 96 *eP* **P 00 06 05.4 -0.4**
TCF pmax pmax
comp=Z,39nm,1.5s,mb4.7
SJPF Ste Jean 25.03 106 *eP* **P 00 06 05.6 -0.8**
EBAD Badajoz 25.15 120 P **P 00 06 07.4 -0.1**
comp=Z,8.5nm,0.9s,mb4.3
EBAD Badajoz 25.15 120 P **P 00 06 07.4 -0.1**
comp=Z,8.5nm,0.9s,mb4.3
RJF Les Rejaudoux 25.17 99 *eP* **P 00 06 06.8 -0.8**
comp=Z,50nm,1.5s,mb4.5
RJF *eR*
comp=Z,813nm,19.8s
RJF Les Rejaudoux 25.17 99 *eP* **P 00 06 06.8 -0.8**
RJF pmax pmax
comp=Z,25nm,1.5s,mb4.5
RJF MLR MLR
comp=Z,810nm,19.8s,MS4.2
BGF Bois d'Agland 25.18 95 *eP* **P 00 06 07.0 -0.7**
comp=Z,54nm,1.3s,mb4.6
BGF Bois d'Agland 25.18 95 *eP* **P 00 06 07.0 -0.7**
BGF pmax pmax
comp=Z,27nm,1.3s,mb4.6
SSF Saint Saulge 25.27 93 *eP* **P 00 06 07.5 -1.1**
comp=Z,16nm,1.1s,mb4.5
PBEJ Beja 25.31 122 *eP* **P 00 06 09.6 +0.6**
AVF Avril sur Loir 25.34 94 *eP* **P 00 06 08.1 -1.1**
comp=Z,23nm,1.0s,mb4.4
AVF Avril sur Loir 25.34 94 *eP* **P 00 06 08.1 -1.1**
AVF pmax pmax
comp=Z,11nm,1.0s,mb4.3
MEZF Maizieres J'vi 25.37 89 *eP* **P 00 06 08.9 -0.6**
comp=Z,58nm,1.4s,mb4.6
WLF Walferdange 25.41 86 P **P 00 06 10.8 +0.9**
comp=Z,9.1nm,2.2s,mb3.9
ETSF Etsaut 25.54 105 *eP* **P 00 06 10.1 -1.1**
comp=Z,29nm,1.1s,mb4.4
ETSF Etsaut 25.54 105 *eP* **P 00 06 10.1 -1.1**
ETSF pmax pmax
comp=Z,15nm,1.1s,mb4.4
SMF Signal de Mont 25.70 94 *eP* **P 00 06 11.1 -1.5**
comp=Z,38nm,1.2s,mb4.5
SMF Signal de Mont 25.70 94 *eP* **P 00 06 11.1 -1.5**
SMF pmax pmax
comp=Z,19nm,1.2s,mb4.5
CAF Calviac 25.71 99 *eP* **P 00 06 11.8 -0.9**
HFS Hagfors 25.86 60 P **P 00 06 13.8 -0.1**
comp=Z,13nm,1.0s,mb4.4,baz=292,slow=8.0,SNR=11
PALC Alcoutim 25.94 123 *eP* **P 00 06 15.1 +0.1**
comp=Z,9.3nm,1.0s,mb4.3
EPF Esparros 25.95 104 *eP* **P 00 06 14.0 -1.0**
ESDC Sonseca Array 25.99 115 P **P 00 06 15.7 +0.2**
comp=Z,7.0nm,0.9s,mb4.2,baz=317,slow=8.6,SNR=27
ESDC Sonseca Array 25.99 115 P **P 00 06 14.5 -1.0**
comp=Z,5.7nm,0.8s,mb4.2
ESDC Sonseca Array 25.99 115 P **P 00 06 14.5 -0.9**
comp=Z,5.7nm,0.8s,mb4.2
EBIE Bielsa 26.07 105 P **P 00 06 18.5 +2.4**
comp=Z,4.9nm,0.8s,mb4.1
EMIN Mina Concepcio 26.09 121 P **P 00 06 14.8 -1.5**
comp=Z,7.3nm,1.2s,mb4.1
EMIN Mina Concepcio 26.09 121 P **P 00 06 14.8 -1.5**
comp=Z,7.3nm,1.2s,mb4.1
HAU Haudompre 26.37 89 *eP* **P 00 06 18.1 -0.7**
comp=Z,39nm,1.3s,mb4.5
HAU *eR*
comp=Z,1μm,18.0s
HAU Haudompre 26.37 89 *eP* **P 00 06 18.1 -0.7**
HAU pmax pmax
comp=Z,19nm,1.3s,mb4.5
HAU MLR MLR
comp=Z,1μm,18.0s,MS4.4
ESAC San Caprasio 26.39 107 P **P 00 06 19.0 0.0**
comp=Z,6.9nm,1.0s,mb4.1
TNS Taunus Mts 26.44 83 *eP* **P 00 06 20.2 +0.8**
TNS pmax pmax
comp=Z,19nm,1.4s,mb4.4
TNS Taunus Mts 26.44 83 *eP* **P 00 06 20.2 +0.8**
comp=Z,19nm,1.4s,mb4.4
CDF Champ du Feu 26.68 88 *eP* **P 00 06 21.1 -0.6**
comp=Z,46nm,1.4s,mb4.5
CDF Champ du Feu 26.68 88 *eP* **P 00 06 21.1 -0.6**
CDF pmax pmax
comp=Z,23nm,1.4s,mb4.5
HINF Hinteralfeld 26.76 89 *eP* **P 00 06 21.7 -0.7**
comp=Z,22nm,1.2s,mb4.2
HINF Hinteralfeld 26.76 89 *eP* **P 00 06 21.7 -0.7**
HINF pmax pmax
comp=Z,11nm,1.2s,mb4.3
MTLF Montolieu 26.79 101 *eP* **P 00 06 22.1 -0.6**
comp=Z,70nm,1.5s,mb4.7
MTLF Montolieu 26.79 101 *eP* **P 00 06 22.1 -0.6**
MTLF pmax pmax
comp=Z,35nm,1.5s,mb4.7
EADA Adamuz 26.82 118 P **P 00 06 22.8 -0.2**
comp=Z,3.3nm,1.0s,mb3.8
EADA Adamuz 26.82 118 P **P 00 06 22.8 -0.2**
comp=Z,3.3nm,1.0s,mb3.8
CABF La Chapelle 26.99 92 *eP* **P 00 06 23.8 -0.7**
ESPR Espera 27.20 121 P **P 00 06 26.9 +0.4**
comp=Z,16nm,1.3s,mb4.4
ESPR Espera 27.20 121 P **P 00 06 26.9 +0.4**
comp=Z,16nm,1.3s,mb4.4
VIVF Saint-Julien-l 27.22 96 *eP* **P 00 06 26.0 -0.6**
EBAN Banos Encina 27.22 117 P **P 00 06 26.0 -0.7**
EBAN pmax pmax
comp=Z,4.0nm,0.8s,mb4.0
EBAN Banos Encina 27.22 117 P **P 00 06 26.0 -0.7**
comp=Z,4.0nm,0.8s,mb4.0
EBAN Banos Encina 27.22 117 P **P 00 06 26.0 -0.7**
comp=Z,4.0nm,0.8s,mb4.0
LASF Ste Croix 27.24 98 *eP* **P 00 06 26.1 -0.7**
comp=Z,147nm,1.8s,mb4.9
BFO Black Forest 27.32 87 *eP* **P 00 06 27.9 +0.4**
BFO pmax pmax
comp=Z,17nm,1.3s,mb4.4
BFO Black Forest 27.32 87 *eP* **P 00 06 27.9 +0.4**
comp=Z,17nm,1.3s,mb4.4
EVIA Vianos 27.52 114 P **P 00 06 29.8 +0.4**
EVIA pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
EVIA Vianos 27.52 114 P **P 00 06 29.8 +0.3**
comp=Z,8.1nm,1.1s,mb4.3
EVIA Vianos 27.52 114 P **P 00 06 29.8 +0.4**
comp=Z,8.1nm,1.1s,mb4.3
ECHE Chera 27.62 111 P **P 00 06 31.1 +0.7**
ECHE pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
ECHE Chera 27.62 111 P **P 00 06 31.1 +0.7**
comp=Z,2.2nm,0.7s,mb3.9
ECHE Chera 27.62 111 P **P 00 06 31.1 +0.7**
comp=Z,2.2nm,0.7s,mb3.9
EJIF Jimena Fronter 27.72 121 P **P 00 06 31.8 +0.6**
EJIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
EJIF Jimena Fronter 27.72 121 P **P 00 06 31.8 +0.5**
comp=Z,5.1nm,0.8s,mb4.2
EJIF Jimena Fronter 27.72 121 P **P 00 06 31.8 +0.6**
comp=Z,5.1nm,0.8s,mb4.2
ELOJ Sierra Loja 27.82 118 P **P 00 06 30.7 -1.5**
ELOJ pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
ELOJ Sierra Loja 27.82 118 P **P 00 06 30.7 -1.4**
comp=Z,1.9nm,0.8s,mb3.8
ELOJ Sierra Loja 27.82 118 P **P 00 06 30.7 -1.5**
comp=Z,1.9nm,0.8s,mb3.8
EQES Quesada 27.86 116 P **P 00 06 33.0 +0.5**
comp=Z,9.3nm,1.0s,mb4.4
EQES Quesada 27.86 116 P **P 00 06 33.0 +0.5**
comp=Z,9.3nm,1.0s,mb4.4
EMIJ Mijas 27.97 120 P **P 00 06 34.3 +0.8**
comp=Z,10nm,0.7s,mb4.6
EMIJ Mijas 27.97 120 P **P 00 06 34.3 +0.8**
comp=Z,10nm,0.7s,mb4.6
LPL La Plagne 27.99 93 *eP* **P 00 06 33.2 -0.4**
LPG La Plagne 28.01 93 *eP* **P 00 06 33.6 -0.2**
comp=Z,15nm,1.2s,mb4.2
LPG La Plagne 28.01 93 *eP* **P 00 06 33.6 -0.2**
LPG pmax pmax
comp=Z,8.0nm,1.2s,mb4.2
ETOB Tobarra 28.01 113 P **P 00 06 35.0 +1.1**
comp=Z,6.0nm,0.8s,mb4.3
ETOB Tobarra 28.01 113 P **P 00 06 35.0 +1.1**
comp=Z,6.0nm,0.8s,mb4.3
MOX Moxa 28.02 80 *eP* **P 00 06 34.4 +0.6**
MOX pmax pmax
comp=Z,20nm,1.4s,mb4.5
MOX MLR MLR
comp=Z,200nm,19.0s,MS3.7
MOX Moxa 28.02 80 *eP* **P 00 06 34.4 +0.6**
comp=Z,20nm,1.4s,mb4.5
MOX LR LR
comp=Z,200nm,19.0s,MS3.7
MOX Moxa 28.02 80 *i* P **P 00 06 34.4 +0.6**
comp=Z,logA/T=1.1,mb4.5
MOX L 00 17 10.0
ERON Agron 28.09 118 P **P 00 06 35.4 +0.7**
comp=Z,1.8nm,0.8s,mb3.8
ERON Agron 28.09 118 P **P 00 06 35.4 +0.8**
comp=Z,1.8nm,0.8s,mb3.8
GRA1 Grafenberg Arr 28.27 82 *eP* **P 00 06 36.6 +0.6**
comp=Z,37nm,1.3s,mb4.8
GRA1 LR LR
comp=Z,300nm,18.7s,MS3.9
GRF Grafenberg Arr 28.27 82 *eP* **P 00 06 36.6 +0.6**
GRF pmax pmax
comp=Z,37nm,1.3s,mb4.8
GRF MLR MLR
comp=Z,300nm,18.7s,MS3.9
GRF Grafenberg Arr 28.27 82 *eP* **P 00 06 36.6 +0.6**
GRF pmax pmax
comp=Z,37nm,1.3s,mb4.8
GRF MLR MLR
comp=Z,300nm,18.7s,MS3.9
GRF Grafenberg Arr 28.27 82 *eP* **P 00 06 36.6 +0.6**
GRF LR LR
comp=Z,300nm,18.7s,MS3.9
GRF Grafenberg Arr 28.27 82 *eP* **P 00 06 36.6 +0.6**
comp=Z,37nm,1.3s,mb4.8
CLL Collm 28.49 78 *i* P **P 00 06 37.6 -0.4**
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
CLL Collm 28.49 78 *i* P **P 00 06 37.6 -0.4**
comp=Z,7.0nm,1.0s,mb4.2
CLL *e* 00 06 48.0
CLL Collm 28.49 78 P **P 00 06 37.6 -0.4**
comp=Z,logA/T=0.8,mb4.2
CLL *e* 00 06 48.0
EBER Berja 28.65 117 P **P 00 06 41.7 +2.0**
comp=Z,11nm,0.8s,mb4.7
EBER Berja 28.65 117 P **P 00 06 41.7 +2.1**
comp=Z,11nm,0.8s,mb4.7
EBEN Beniarda 28.67 111 P **P 00 06 41.6 +1.8**
comp=Z,11nm,0.8s,mb4.6
EBEN Beniarda 28.67 111 P **P 00 06 41.6 +1.8**
comp=Z,11nm,0.8s,mb4.6
NKC Novy Kostel 28.69 81 *eP* **P 00 06 39.9 +0.1**
NKC AMS AMS 00 18 50.0
comp=Z,400nm,14.0s
DAVOX Davos 29.05 89 P **P 00 06 43.9 +0.8**
comp=Z,4.5nm,1.1s,mb4.1,baz=322,slow=14,SNR=4.6
DAVOX LR LR 00 18 01.0
comp=Z,759nm,18.0s,MS4.3,baz=267,slow=36
FUR Furstenfeldbru 29.08 85 *eP* **P 00 06 44.3 +0.9**
FUR pmax pmax
comp=Z,21nm,1.2s,mb4.7
FUR Furstenfeldbru 29.08 85 *eP* **P 00 06 44.3 +0.9**
comp=Z,21nm,1.2s,mb4.7
WET Wettzell 29.48 82 *eP* **P 00 06 47.2 +0.2**
WET pmax pmax
comp=Z,19nm,1.4s,mb4.6
WET Wettzell 29.48 82 *eP* **P 00 06 47.2 +0.2**
comp=Z,19nm,1.4s,mb4.6
ARCES ARCESS Array B 29.73 38 P **P 00 06 48.0 -1.0**
comp=Z,10nm,1.0s,mb4.5,baz=262,slow=8.6,SNR=8.8
ARCES LR LR 00 16 06.5
comp=Z,268nm,20.9s,MS3.9,baz=202,slow=31
ARCES ARCESS Array B 29.73 38 P **P 00 06 48.0 -1.0**
ARCES LR LR 00 16 06.5
PVCC Panska Ves 29.73 79 *eP* **P 00 06 48.9 -0.3**
PVCC AMS AMS 00 19 50.0
comp=Z,400nm,13.5s
SADO Sadowa 29.74 267 P **P 00 06 48.8 -0.6**
comp=Z,7.2nm,0.9s,mb4.4,baz=72,slow=9.5,SNR=6.1
SADO LR LR 00 18 12.8
comp=Z,201nm,19.6s,MS3.8,baz=293,slow=35
KHC Kasperske Hory 29.88 82 *eP* **P 00 06 51.1 +0.6**
KHC AMS AMS 00 17 20.0
comp=Z,300nm,16.8s
PRU Pruhonice 29.98 80 *eP* **P 00 06 51.3 -0.2**
PRU AMS AMS 00 18 30.0
comp=Z,300nm,13.4s
GEC2 GERESS Array S 30.09 82 *eP* **P 00 06 52.2 -0.3**
GEC2 pmax pmax
comp=Z,12nm,1.3s,mb4.5
GEC2 GERESS Array S 30.09 82 *eP* **P 00 06 52.2 -0.3**
comp=Z,12nm,1.3s,mb4.5
GERES GERESS Array B 30.09 82 P **P 00 06 53.0 +0.5**
comp=Z,2.0nm,0.8s,mb3.9,baz=292,slow=7.2,SNR=21
GERES LR LR 00 18 18.0
comp=Z,237nm,18.5s,MS3.9,baz=294,slow=35
UPC Upice 30.54 78 *eP* **P 00 06 56.3 -0.1**
DPC Dobruska-Polom 30.79 78 *eP* **P 00 06 58.6 0.0**
DPC AMS AMS 00 19 50.0
comp=Z,500nm,15.4s
KBA Koelnbreinsper 30.85 85⇑ *iP* **P 00 06 59.4 +0.3**
comp=Z,7.5nm,1.3s,mb4.4
KBA Koelnbreinsper 30.85 85⇑ *iP* **P 00 06 59.4 +0.3**
KBA pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
MOA Molln 30.95 83⇑ *iP* **P 00 07 00.7 +0.7**
comp=Z,13nm,1.3s,mb4.6
FCC Fort Churchill 31.29 301 *eP* **P 00 07 02.1 -0.8**
FCC pmax pmax
comp=Z,19nm,1.1s,mb4.8
FCC Fort Churchill 31.29 301 *eP* **P 00 07 02.0 -0.8**
comp=Z,19nm,1.1s,mb4.8
FCC Fort Churchill 31.29 301 *eP* **P 00 07 02.0 -0.9**
comp=Z,19nm,1.1s,mb4.8
KAF Kangasniemi 31.33 53 *ep* **P 00 07 02.4 -0.8**
comp=Z,20nm,1.1s,mb4.8,baz=285,slow=9.3
KAF Kangasniemi 31.33 53 *eP* **P 00 07 02.4 -0.8**
KAF pmax pmax
comp=Z,20nm,1.1s,mb4.9
FINES FINESS Array B 31.42 54 P **P 00 07 03.5 -0.5**
comp=Z,7.7nm,1.0s,mb4.5,baz=315,slow=7.9,SNR=12
FINES LR LR 00 17 40.7
comp=Z,175nm,18.9s,MS3.8,baz=159,slow=32
FINES FINESS Array B 31.42 54 P **P 00 07 03.5 -0.5**
MORC Moravsky Berou 31.76 78 *eP* **P 00 07 06.6 -0.6**
ARSA Arzberg 31.99 83⇑ *iP* **P 00 07 09.2 +0.1**
comp=Z,6.0nm,0.9s,mb4.4
OKC Ostrava-Krasne 32.07 78 *eP* **P 00 07 09.5 -0.3**
OKC AMS AMS 00 21 00.0
comp=Z,500nm,14.4s
ZST Bratislava 32.35 81 *eP* **P 00 07 12.6 +0.3**
ZST *eL* 00 20 40.6
SMOL Smolenice 32.36 80 *eP* **P 00 07 11.2 -1.2**
OJC Ojcow 32.78 76 *eP* **P 00 07 15.9 -0.1**
VYHS Vyhne 33.16 79 *eP* **P 00 07 19.8 +0.4**
SRO Srobarova 33.24 81 *i* P **P 00 07 21.0 +0.9**
NIE Niedzica 33.49 77 *eP* **P 00 07 22.0 -0.2**
PSZ Piszkesteto 34.07 79⇑ *eP* **P 00 07 28.1 +0.8**
PKSM Moragy 34.34 83⇓ *eP* **P 00 07 29.1 -0.5**
KOLS Kolonicke sedl 34.83 76 *eP* **P 00 07 33.8 0.0**
KOLS *e* 00 07 44.1
ULM Lac du Bonnet 36.03 288 P **P 00 07 43.1 -0.9**
comp=Z,6.5nm,0.7s,mb4.7,baz=62,slow=7.9,SNR=19
ULM LR LR 00 21 11.7
comp=Z,405nm,19.3s,MS4.2,baz=170,slow=34
DIVS Divcibare 36.37 85 *eP* **P 00 07 46.8 -0.1**
AKASG Malin Array Be 37.65 70 P **P 00 07 57.1 -0.4**
comp=Z,9.8nm,0.7s,mb4.6,baz=301,slow=8.6,SNR=26
SKO Skopje 38.54 86 *eP* **P 00 08 05.8 +0.6**
YKW3 Yellowknife Ar 39.03 314 *eP* **P 00 08 08.2 -0.8**
YKA Yellowknife Ar 39.06 314 P **P 00 08 08.4 -0.9**
comp=Z,3.6nm,0.8s,mb4.2,baz=61,slow=9.1,SNR=53
YKA PcP PcP 00 10 18.9 -0.9
comp=Z,0.7nm,0.8s,baz=58,slow=3.4,SNR=4.9
YKA LR LR 00 23 31.8
comp=Z,238nm,18.7s,MS4.0,baz=90,slow=35
YKA Yellowknife Ar 39.06 314 P **P 00 08 08.4 -0.9**
YKA PcP PcP 00 10 18.9 -0.9
YKA LR LR 00 23 31.8
YKA Yellowknife Ar 39.06 314 PcP PcP 00 10 18.9 -0.9
OBN Obninsk 39.08 60⇓ *iP* **P 00 08 09.4 -0.1**
OBN pmax pmax
comp=Z,33nm,1.2s,mb4.9
OBN Obninsk 39.08 60 *eP* **P 00 08 08.7 -0.8**
comp=Z,39nm,1.3s,mb5.0
OBN Obninsk 39.08 60 *eP* **P 00 08 08.7 -0.8**
comp=Z,39nm,1.3s,mb5.0
KIS Kishinev 39.55 75 *eP* **P 00 08 11.0 -2.5**
PECR Pechory 42.03 55 *i* P **P 00 08 34.6 +1.0**
PECR pmax pmax
comp=Z,700nm,1.4s
PECR Pechory 42.03 55 *i* P **P 00 08 34.6 +1.0**
comp=Z,700nm,1.4s
INK Inuvik 42.89 327 *eP* **P 00 08 39.4 -1.2**
INK pmax pmax
comp=Z,23nm,1.4s
INK Inuvik 42.89 327 LR LR 00 26 00.0
comp=Z,340nm,19.3s,MS4.3,baz=257,slow=36
INK Inuvik 42.89 327 *eP* **P 00 08 39.4 -1.2**
comp=Z,23nm,1.4s,mb4.7
INK Inuvik 42.89 327 *eP* **P 00 08 39.4 -1.2**
comp=Z,23nm,1.4s,mb4.7
KSU1 Kansas State U 43.33 274 *eP* **P 00 08 43.5 -1.0**
KSU1 Kansas State U 43.33 274 *eP* **P 00 08 43.5 -1.0**
EDM Edmonton 43.39 301 *eP* **P 00 08 45.1 +0.3**
EDM Edmonton 43.39 301 *eP* **P 00 08 45.0 +0.2**
LAO LASA Array 43.69 289 *eP* **P 00 08 48.7 +1.3**
comp=Z,59nm,1.1s,mb5.2
LAO LASA Array 43.69 289 *eP* **P 00 08 48.7 +1.4**
comp=Z,59nm,1.1s,mb5.2
SJG San Juan 44.18 225 LR LR 00 22 53.9
comp=Z,126nm,20.2s,MS3.8,baz=276,slow=30
MIAR Mount Ida 44.81 267 *eP* **P 00 08 56.6 0.0**
MIAR pmax pmax
comp=Z,20nm,1.2s,mb4.8
MIAR MLR MLR
comp=Z,870nm,20.0s,MS4.7
MIAR Mount Ida 44.81 267 *eP* **P 00 08 56.6 0.0**
comp=Z,20nm,1.2s,mb4.8
MIAR LR LR
comp=Z,870nm,20.0s,MS4.7
MIAR Mount Ida 44.81 267 *eP* **P 00 08 56.6 0.0**
comp=Z,20nm,1.2s,mb4.8
HRY Holter Researc 46.65 293 P **P 00 09 12.1 +1.1**
HRY Holter Researc 46.65 293 P **P 00 09 12.1 +1.1**
BRTR Keskin Array B 46.92 80 P **P 00 09 14.7 +1.5**
comp=Z,11nm,0.7s,mb4.9,baz=312,slow=5.9,SNR=42
BOZ Bozeman (W) 47.24 292 *eP* **P 00 09 16.0 +0.3**
BOZ pmax pmax
comp=Z,26nm,1.2s,mb5.0
BOZ Bozeman (W) 47.24 292 *eP* **P 00 09 16.0 +0.4**
comp=Z,26nm,1.2s,mb5.0
BOZ Bozeman (W) 47.24 292 *eP* **P 00 09 16.0 +0.3**
comp=Z,26nm,1.2s,mb5.0
CHMT Chamberlain Mo 47.26 294 *eP* **P 00 09 15.4 -0.4**
CHMT Chamberlain Mo 47.26 294 *eP* **P 00 09 15.4 -0.4**
DLBC Dease Lake 47.64 315 P **P 00 09 19.2 +0.6**
comp=Z,3.4nm,1.1s,mb4.3,baz=216,slow=6.3,SNR=2.8
DLBC LR LR 00 28 19.9
comp=Z,159nm,19.0s,MS4.0,baz=75,slow=35
DLBC Dease Lake 47.64 315 P **P 00 09 19.2 +0.6**
PDAR Pinedale Array 48.05 287 P **P 00 09 21.5 -0.6**
comp=Z,2.6nm,0.8s,mb4.3,baz=60,slow=7.7,SNR=18
PDAR LR LR 00 28 27.4
comp=Z,457nm,19.1s,MS4.5,baz=47,slow=35
TPAW Teton Pass 48.32 289 *eP* **P 00 09 24.2 +0.1**
comp=Z,9.9nm,1.1s,mb4.8
TPAW Teton Pass 48.32 289 *eP* **P 00 09 24.2 +0.1**
comp=Z,9.9nm,1.1s,mb4.8
NEW Newport 48.35 298 LR LR 00 28 44.6
comp=Z,464nm,18.6s,MS4.5,baz=49,slow=35
ARU Arti 48.38 48 *eP* **P 00 09 24.8 +0.4**
ARU Arti 48.38 48 *eP* **P 00 09 24.7 +0.3**
comp=Z,35nm,1.4s,mb5.2
ARU Arti 48.38 48 *eP* **P 00 09 24.7 +0.3**
comp=Z,35nm,1.4s,mb5.2
GOF Gofitskoye 48.43 68⇑ *iP* **P 00 09 25.6 +0.6**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.3
GOF Gofitskoye 48.43 68 *i* P **P 00 09 25.6 +0.6**
comp=Z,40nm,1.3s,mb5.3
RRI2 Red Ridge 48.61 289 *eP* **P 00 09 26.6 +0.2**
comp=Z,5.6nm,0.8s,mb4.7
SVE Sverdlovsk 48.99 46⇓ *iP* **P 00 09 29.7 +0.6**
SVE pmax pmax
comp=Z,5.0nm,0.3s,mb5.0
SVE Sverdlovsk 48.99 46 *i* P **P 00 09 29.7 +0.6**
comp=Z,5.0nm,0.3s,mb5.0
KIV Kislovodsk 48.99 69⇑ *iP* **P 00 09 27.6 -1.7**
KIV *i* pP 00 09 30.1 -2.2
KIV *i* 00 09 35.7
KIV *i* 00 10 50.8
KIV *i* S **S 00 16 36.0 +3.6**
KIV pmax pmax
comp=Z,19nm,1.2s,mb5.0
KIV MLR MLR
comp=Z,100nm,16.0s,MS3.9
KIV Kislovodsk 48.99 69 P **P 00 09 28.0 -1.2**
comp=Z,19nm,1.2s,mb5.0
KIV LR LR
comp=Z,36nm,21.0s,MS3.3
KIV Kislovodsk 48.99 69 P **P 00 09 28.0 -1.3**
comp=Z,19nm,1.2s,mb5.0
KIV Kislovodsk 48.99 69 *i* PcP PcP 00 10 50.8 -2.9
AMTX Amarillo 49.17 274 *eP* **P 00 09 30.8 -0.1**
comp=Z,20nm,0.7s,mb5.2
AMTX Amarillo 49.17 274 *eP* **P 00 09 30.8 0.0**
comp=Z,20nm,0.7s,mb5.2
ILAR Eielson Array 49.25 328 LR LR 00 29 48.8
comp=Z,246nm,20.3s,MS4.2,baz=264,slow=36
COLA College 49.47 329 *eP* **P 00 09 32.5 -0.2**
HWUT Hardware Ranch 49.93 288 *eP* **P 00 09 36.1 -0.5**
comp=Z,11nm,0.9s,mb4.9
RW3 Ridgway 50.15 282 *eP* **P 00 09 39.0 +0.7**
TCUT Toone Canyon 50.19 287 *eP* **P 00 09 39.1 +0.6**
TCUT Toone Canyon 50.19 287 *eP* **P 00 09 39.2 +0.7**
IMA Indian Mountai 50.20 332 *eP* **P 00 09 38.7 +0.4**
IMA pmax pmax
comp=Z,88nm,1.3s,mb5.6
IMA Indian Mountai 50.20 332 *eP* **P 00 09 38.6 +0.3**
comp=Z,88nm,1.3s,mb5.6
IMA Indian Mountai 50.20 332 *eP* **P 00 09 38.7 +0.4**
comp=Z,88nm,1.3s,mb5.6
DAU Daniels Canyon 50.59 286 *eP* **P 00 09 42.3 +0.7**
PV10 Paradox Valley 50.81 283 *eP* **P 00 09 45.0 +1.7**
PV10 Paradox Valley 50.81 283 *eP* **P 00 09 45.0 +1.7**

PCRV	Puerto La Cruz	50.87	219	LR	LR	00 25 51.1	
	comp=Z,141nm,21.3s,MS4.0,baz=21,slow=30						
BBB	Bella Bella	50.98	308	LR	LR	00 30 30.6	
	comp=Z,264nm,19.8s,MS4.3,baz=321,slow=35						
DUS	Dusheti	51.34	70	P	P	00 09 49.3	+2.0
JCT	Junction City	51.35	269	eP	P	00 09 46.5	-1.0
JCT				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.1						
JCT	Junction City	51.35	269	eP	P	00 09 46.5	-1.0
	comp=Z,25nm,1.1s,mb5.1						
JCT	Junction City	51.35	269	eP	P	00 09 46.5	-1.0
	comp=Z,25nm,1.1s,mb5.1						
NLU	North Lily Min	51.36	286	eP	P	00 09 47.6	+0.1
NLU	North Lily Min	51.36	286	eP	P	00 09 47.6	+0.1
CPRX	Cap Rock	51.76	274	P	P	00 09 50.8	+0.2
CPRX	Cap Rock	51.76	274	P	P	00 09 50.8	+0.2
ANMO	Albuquerque	51.82	278	LR	LR	00 31 36.7	
	comp=Z,287nm,18.4s,MS4.3,slow=36						
PMR	Palmer	52.29	327	eP	P	00 09 53.6	-0.6
MSU	Marysvale	52.44	285	eP	P	00 09 56.1	+0.5
PWA	Palmer West	52.48	327	eP	P	00 09 56.1	+0.5
BNM	Barren Site	52.50	277	eP	P	00 09 56.9	+0.7
GDL2	Guadalupe Moun	52.66	274	P	P	00 09 56.6	-0.7
GDL2	Guadalupe Moun	52.66	274	P	P	00 09 56.6	-0.8
GNI	Garni	52.73	71	eP	P	00 09 59.1	+1.3
GNI				pmax	pmax		
	comp=Z,68nm,1.4s						
GNI	Garni	52.73	71	eP	P	00 09 59.1	+1.3
	comp=Z,68nm,1.4s,mb5.4						
GNI	Garni	52.73	71	eP	P	00 09 59.1	+1.3
	comp=Z,68nm,1.4s,mb5.4						
MNTX	Cornudas Mount	53.61	274	eP	P	00 10 03.5	-0.8
	comp=Z,11nm,1.2s,mb4.7						
MNTX	Cornudas Mount	53.61	274	eP	P	00 10 03.5	-0.9
	comp=Z,11nm,1.2s,mb4.7						
SDV	Santo Domingo	54.33	225	P	P	00 10 11.2	+1.3
	comp=Z,3.5nm,0.9s,mb4.3,baz=15,slow=7.4,SNR=3.5						
DBIC	Dimbokro	54.34	142	P	P	00 10 08.5	-1.4
	comp=Z,7.9nm,0.9s,mb4.6,baz=341,slow=7.4,SNR=8.5						
DBIC				LR	LR	00 31 51.0	
	comp=Z,196nm,18.1s,MS4.2,baz=341,slow=34						
DBIC	Dimbokro	54.34	142	eP	P	00 10 08.5	-1.5
TXAR	Lajitas Array	54.41	271	P	P	00 10 09.4	-0.8
	comp=Z,0.6nm,0.6s,mb3.7,baz=68,slow=6.7,SNR=8.4						
TXAR				LR	LR	00 32 58.8	
	comp=Z,270nm,19.7s,MS4.3,baz=35,slow=36						
TXAR	Lajitas Array	54.41	271	P	P	00 10 09.4	-0.9
YBH	Yreka Blue Hor	55.74	295	LR	LR	00 32 53.4	
	comp=Z,265nm,19.8s,MS4.3,baz=19,slow=35						
NVAR	Mina Array Bea	55.82	289	P	P	00 10 19.9	-0.5
	comp=Z,0.6nm,0.4s,mb4.0,baz=34,slow=5.0,SNR=4.6						
NVAR				LR	LR	00 33 22.4	
	comp=Z,265nm,21.8s,MS4.3,baz=90,slow=35						
NVAR	Mina Array Bea	55.82	289	P	P	00 10 19.9	-0.5
NVAR				LR	LR	00 33 22.4	
PFO	Pinyon Flat Ob	58.38	284	eP	P	00 10 38.7	0.0
PFO				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
PFO	Pinyon Flat Ob	58.38	284	eP	P	00 10 38.7	0.0
	comp=Z,13nm,1.1s,mb4.9						
NVS	Novosibirsk	58.99	36	iP	P	00 10 42.3	-0.3
NVS				pmax	pmax		
	comp=N,12nm,1.6s						
NVS				pmax	pmax		
	comp=Z,27nm,1.6s,mb5.0						
ROSC	El Rosal	59.49	227	P	P	00 10 48.3	+1.7
	comp=Z,11nm,0.7s,mb5.0,baz=118,slow=4.4,SNR=8.8						
JTS	JuntasAbangare	59.58	241	P	P	00 10 46.8	-0.4
	comp=Z,4.2nm,0.8s,mb4.5,baz=354,slow=9.2,SNR=2.2						
JTS				LR	LR	00 35 24.8	
	comp=Z,65nm,19.9s,MS3.8,baz=158,slow=35						
ZAL	Zalesovo	60.25	36	P	P	00 10 50.8	-0.5
	comp=Z,0.7nm,0.4s,mb4.0,baz=157,slow=12,SNR=4.4						
KURK	Kurchatov	60.66	42	eP	P	00 10 53.0	-1.1
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
KURK	Kurchatov	60.66	42	eP	P	00 10 53.0	-1.1
	comp=Z,4.7nm,0.7s,mb4.7						
KURK	Kurchatov	60.66	42	eP	P	00 10 53.0	-1.1
	comp=Z,4.7nm,0.7s,mb4.7						
MA2	Magadan	65.14	357	eP	P	00 11 25.0	+1.5
MA2				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
MA2	Magadan	65.14	357	P	P	00 11 23.2	-0.3
	comp=Z,4.9nm,0.8s,mb4.6						
MA2	Magadan	65.14	357	P	P	00 11 23.2	-0.3
	comp=Z,4.9nm,0.8s,mb4.6						
EKS2	Erkin-Say	65.16	50	P	P	00 11 25.0	+1.1
	SNR=22						
MKAR	Makanchi Array	65.27	42	P	P	00 11 24.5	-0.1
	comp=Z,3.9nm,0.7s,mb4.6,baz=338,slow=5.8,SNR=54						
MKAR				LR	LR	00 42 10.0	
	comp=Z,49nm,18.7s,MS3.7,baz=273,slow=38						
AAK	Ala-Archa	65.49	50	P	P	00 11 27.8	+1.7
	SNR=7.7						
AAK	Ala-Archa	65.49	50	P	P	00 11 26.1	0.0
	comp=Z,40nm,1.3s,mb5.3,SNR=13						
AAK	Ala-Archa	65.49	50	eP	P	00 11 25.8	-0.3
AAK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
AAK	Ala-Archa	65.49	50	eP	P	00 11 25.8	-0.3
	comp=Z,13nm,1.3s,mb4.8						
AAK	Ala-Archa	65.49	50	eP	P	00 11 25.8	-0.3
	comp=Z,13nm,1.3s,mb4.8						
AML	Almayashu	65.55	51	P	P	00 11 28.3	+1.8
	SNR=12						
TKM2	Tokmak 2	65.74	49	P	P	00 11 29.0	+1.4
	SNR=11						
UCH	Uchtor	65.83	50	P	P	00 11 30.9	+2.6
	SNR=18						
KZA	Kyzart	66.27	50	P	P	00 11 33.4	+2.3
	SNR=6.4						
WMQ	Urumqi	69.82	40	⇑P	P	00 11 54.6	+1.4
WMQ				AP	pP	00 11 59.2	+2.9
WMQ				XP	sP	00 12 01.6	+4.2
WMQ				PCP	PcP	00 12 17.5	+1.6
WMQ				PP	PP	00 14 30.6	+1.1
WMQ				eS	S	00 21 01.6	+0.5
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,88nm,4.5s						
WMQ				LR	LR		
	comp=N,184nm,16.0s,MS4.7						
WMQ				LR	LR		
	comp=E,301nm,16.8s,MS4.7						
WMQ				LR	LR		
	comp=Z,75nm,21.8s,MS3.9						
BDFB	Brasilia	71.74	193	P	P	00 12 04.9	-0.4
	comp=Z,4.3nm,1.1s,mb4.3,baz=352,slow=11,SNR=3.3						
BDFB				LR	LR	00 40 36.0	
	comp=Z,115nm,19.3s,MS4.2,baz=66,slow=33						
SONM	Songino Array	72.04	26	P	P	00 12 06.6	+0.1
	comp=Z,1.0nm,1.0s,mb3.7,baz=324,slow=5.4,SNR=6.3						
ULN	Ulaanbaatar	72.17	26	eP	P	00 12 07.9	+0.6
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
ULN	Ulaanbaatar	72.17	26	eP	P	00 12 07.9	+0.5
	comp=Z,6.0nm,1.3s,mb4.4						
ULN	Ulaanbaatar	72.17	26	eP	P	00 12 07.9	+0.6
	comp=Z,6.0nm,1.3s,mb4.4						
SIV	San Ignacio	74.57	206	P	P	00 12 22.4	+0.6
	comp=Z,5.2nm,1.0s,mb4.4,baz=30,slow=5.1,SNR=6.8						
MDJ	Mudanjiang	79.38	11	P	P	00 12 45.7	-2.4
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.7s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,160nm,4.6s						
LZH	Lanzhou	82.22	33	eP	P	00 13 01.8	-1.5
LZH				PP	PP	00 16 11.3	-2.5
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,92nm,4.0s						
LZH				LR	LR		
	comp=N,254nm,15.2s						
LZH				LR	LR		
	comp=Z,343nm,17.8s,MS4.8						
LZH	Lanzhou	82.22	33	eP	P	00 13 01.8	-1.5
LZH				*PP	pP	00 13 05.0	-1.4
LZH				*SP	sP	00 13 06.6	-0.9
LZH						00 16 11.3	
LZH				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.9						
LZH				MLR	MLR		
	comp=Z,340nm,17.8s,MS4.8						
LZH	Lanzhou	82.22	33	eP	P	00 13 01.8	-1.5
	comp=Z,25nm,1.5s,mb4.9						
LZH				pP	pP	00 13 05.0	-1.4
LZH				sP	sP	00 13 06.6	-0.9
LZH				PP	PP	00 16 11.3	-2.5
LZH				LR	LR		
	comp=Z,340nm,17.8s,MS4.8						
KMI	Kunming	91.97	38	P	P	00 13 50.3	-0.5
KMI				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb5.1						
KMI	Kunming	91.97	38	P	P	00 13 50.3	-0.5
	comp=Z,5.0nm,0.5s,mb5.1						
WRA	Warramunga Arr	143.57	17	PKP	PKPdf	00 20 16.4	-2.4
	comp=Z,0.7nm,0.9s,baz=341,slow=2.9,SNR=3.8						
CTA	Charters Tower	144.59	358	PKP	PKPdf	00 20 19.0	-1.6
	comp=Z,7.7nm,0.9s,baz=55,slow=8.3,SNR=2.4						
ASAR	Alice Springs	147.13	19	PKPbc	PKPdf	00 20 25.1	+0.3
	comp=Z,8.8nm,1.1s,baz=358,slow=2.9,SNR=17						

KRSC 03 00:03:50.1±0.4, 49.67N×155.88E, h61km±24km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.03	8	eP		P	00 04 09.5	+0.7
SKR				i S		S	00 04 23.5	+0.9
ALID	Alaid	1.22	350	iP		P	00 04 11.1	-0.3
PAU	Pauzhetka	1.90	18	eP		P	00 04 21.1	+0.3
PAU				eS		S	00 04 43.9	+0.5
GRL	Gorelyy	3.20	25	eP		P	00 04 40.4	+1.2
GRL				eS		S	00 05 17.1	+0.8
RUS	Russkaya	3.23	30	eP		P	00 04 39.1	-0.5
RUS				eS		S	00 05 14.8	-2.2
APC	Apacha	3.36	13	P		P	00 04 40.4	-1.0
UGLR	Uglovaya	3.99	26	eP		P	00 04 51.6	+1.3
UGLR				eS		S	00 05 36.4	+0.1
KOK	Koryaka	4.01	24	eP		P	00 04 52.4	+1.8
AVH	Avacha	4.02	25	eP		P	00 04 52.4	+1.7
SMAR	Somma	4.04	26	eP		P	00 04 53.7	+2.8
NLC	Nalytchevo	4.12	30	eP		P	00 04 50.7	-1.5
NLC				eS		S	00 05 36.1	-3.4
GNL	Ganaly	4.23	17	eP		P	00 04 54.2	+0.5
SPN	Mys Shipunski	4.30	35	eP		P	00 04 54.3	-0.4
SPN				eS		S	00 05 41.9	-2.2
KBTR	Krutoberegovo	7.77	30	eP		P	00 05 41.0	-1.9

*IDC **03** 00:11:16.4±5.2, 10.56S×165.99E, h194km±47km, mb3.9/10, mb1 4.1/11, mb1mx4.0/18, mbtmp4.5/11, Error ellipse: s-maj=25.5km s-min=21.6km az=10.0*
*NEIC **03** 00:11:16.4±0.5, 10.62S×166.05E, h200km, mb4.5/6, Error ellipse: s-maj=11.5km s-min=9.1km az=103.0*

ISC 03 00:11:18.4±3.6, 10.9S±0.2×166.1E±0.1, h235km±36km, n27, σ0°68/26, mb4.2/14, 2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	11.17	178	eP		P	00 13 52.7	-0.1
DZM				eS		S	00 15 53.2	-1.2
DZM	Mont Dzumac	11.17	178	P		P	00 13 53.2	+0.3
	10nm,0.3s,baz=137,slow=21,SNR=89							
DZM				S		S	00 15 54.6	+0.3
	2.4nm,0.3s,baz=150,slow=21,SNR=6.1							
DZM	Mont Dzumac	11.17	178	eP		P	00 13 52.7	-0.1
DZM				eS		S	00 15 53.2	-1.2
NOUC	Port Laguerre	11.19	179	eP		P	00 13 53.6	+0.4
CTA	Charters Tower	21.19	242	P		P	00 15 47.0	+0.6
	2.9nm,0.4s,mb4.1,baz=100,slow=8.4,SNR=5.9							
CTAO	Charters Tower	21.19	242	eP		P	00 15 47.4	+1.0
	7.9nm,0.8s,mb4.3							
STKA	Stephens Creek	30.82	224	P		P	00 17 15.6	+1.0
	4.6nm,0.6s,mb4.3,baz=48,slow=8.1,SNR=11							
STKA	Stephens Creek	30.82	224	P		P	00 17 15.6	+0.9
SNZO	South Karori	31.28	167	eP		P	00 17 19.0	+0.5
	9.9nm,0.6s,mb4.6							
WRAB	Tennant Creek	31.86	250	eP		P	00 17 23.2	-0.6
	6.0nm,0.4s,mb4.5							
WB2	Warramunga Arr	31.86	250	⇓iP		P	00 17 23.2	-0.6
WRA	Warramunga Arr	31.87	250	P		P	00 17 23.4	-0.5
	4.0nm,0.4s,mb4.3,baz=82,slow=8.9,SNR=56							
WRA				PcP		PcP	00 20 09.3	+0.6
	0.6nm,0.6s,baz=74,slow=3.7,SNR=6.3							
RPZ	Rata Peaks	33.03	173	P		P	00 17 37.4	+3.8
	3.9nm,0.5s,mb4.2,baz=324,slow=7.5,SNR=3.5							
ASAR	Alice Springs	33.18	243	P		P	00 17 34.5	-0.6
	5.9nm,0.8s,mb4.2,baz=74,slow=9.4,SNR=33							
ASAR				PcP		PcP	00 20 11.5	-0.8
	0.7nm,0.6s,baz=72,slow=2.9,SNR=4.0							
ASPA	Alice Springs	33.19	243	eP		P	00 17 34.6	-0.6
FITZ	Fitzroy Crossi	39.76	255	⇓iP		P	00 18 30.5	+0.3
	14nm,0.7s,mb4.5							
FITZ	Fitzroy Crossi	39.76	255	P		P	00 18 30.8	+0.6
	19nm,0.7s,mb4.6,baz=106,slow=4.4,SNR=33							
KLBR	Kellerberrin	49.10	238	eP		P	00 19 44.3	+0.2
	245nm,1.3s,mb5.4							
SONM	Songino Array	78.71	324	P		P	00 22 56.7	+0.5
	0.9nm,0.5s,mb3.6,baz=142,slow=5.5,SNR=14							
HLID	Hailey	89.90	46	P		P	00 23 51.9	-0.2
	0.8nm,0.6s,mb3.7							
ZAL	Zalesovo	93.61	324	P		P	00 24 08.7	-0.3
	0.6nm,0.6s,mb3.8,baz=332,slow=8.9,SNR=3.4							
MKAR	Makanchi Array	93.61	317	P		P	00 24 09.9	+0.8
	1.8nm,0.6s,mb4.3,baz=90,slow=6.7,SNR=26							
YKA	Yellowknife Ar	94.64	27	P		P	00 24 12.4	-1.0
	0.3nm,0.6s,mb3.6,baz=258,slow=4.4,SNR=7.1							
ARCES	ARCESS Array B	116.23	346	PKP		PKPdf	00 29 34.7	+1.4
	6.7nm,1.0s,baz=83,slow=2.3,SNR=8.7							
ARCES	ARCESS Array B	116.23	346	PKP		PKPdf	00 29 34.7	+1.4
FINES	FINESS Array B	121.71	339	PKP		PKPdf	00 29 45.2	+1.2
	0.4nm,0.4s,baz=60,slow=1.9,SNR=8.2							
ESDC	Sonseca Array	149.96	345	PKPbc		PKPdf	00 30 43.0	+7.2
	0.4nm,0.5s,baz=5.6,slow=3.5,SNR=3.8							
ESDC				PKPab		PKPab	00 30 49.5	-0.4
	0.4nm,0.5s,baz=25,slow=3.5,SNR=4.9							

*CASC **03** 00:26:12.5±1.0, 13.77N×89.67W, h129km±3km, MD3.9, mb4.3(NEIC)*
*NEIC **03** 00:26:14.2±1.4, 13.86N×89.48W, h153km±13km, mb4.3/16, Error ellipse: s-maj=17.5km s-min=8.3km az=55.0*
*IDC **03** 00:26:16.0±2.6, 14.01N×89.32W, h166km±28km, mb3.7/10, mb1 3.9/12, mb1mx3.5/25, mbtmp4.2/12, Error ellipse: s-maj=31.2km s-min=17.4km az=36.0*

ISC 03 00:26:11.5±0.4, 13.82N±0.07×89.64W±0.05, h140km±2km, n60, σ0°99/74, mb4.0/19, 3C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.02	35	eP		P	00 26 30.3	-0.2
SBLS				eS		S	00 26 44.8	0.0
SNJE	San Jose	0.06	32	eP		P	00 26 30.7	+0.2
RTR	El Retiro	0.08	353	⇑eP		P	00 26 30.6	0.0
RTR				eS		S	00 26 44.6	-0.5
RBDL	Robledal	0.29	351	eP		P	00 26 31.2	-0.1
RBDL				eS		S	00 26 45.8	-0.6
BOQS	Boqueron	0.36	104	eP		P	00 26 31.2	-0.3
BOQS				eS		S	00 26 46.1	-0.8
LBRS	Las Brisas	0.58	98	eP		P	00 26 32.4	-0.2
LBRS				eS		S	00 26 47.3	-1.5
LFRS	El Faro	0.59	109	eP		P	00 26 32.4	-0.3
LFRS				eS		S	00 26 48.3	-0.6
MTO2	Montecristo 2	0.64	25	eP		P	00 26 33.2	+0.3
MTO2				eS		S	00 26 49.2	-0.1
LCBS	La Ceiba	0.66	104	eP		P	00 26 32.8	-0.2
LCBS				eS		S	00 26 48.4	-1.3
SNVI	San Vicente	0.80	105	eP		P	00 26 34.3	+0.3
SNVI				eS		S	00 26 51.8	+0.5
IXG	Ixpaco	0.87	294	⇑eP		P	00 26 34.0	-0.4
IXG				eS		S	00 26 51.0	-1.1
VSM	San Miguel	1.38	106	eP		P	00 26 40.2	+0.8
VSM				eS		S	00 27 02.6	+1.9
CAHU	Cacacuatique	1.39	92	eP		P	00 26 40.3	+0.8
BLLM	Bellamira	1.41	105	eP		P	00 26 40.2	+0.6
BLLM				eS		S	00 27 01.6	+0.3
TP2	Tecpan 2	1.65	306	⇓eP		P	00 26 43.5	+1.2
TP2				eS		S	00 27 07.4	+1.5
CNCH	Conchagua	1.83	107	eP		P	00 26 45.0	+0.6
JAT	Jato	2.00	285	⇓eP		P	00 26 46.6	+0.3
JAT				eS		S	00 27 12.9	-0.2
CNGN	Cerro Negro	3.15	114	eP		P	00 27 01.7	+0.6
APYN	Apoyeque	3.57	116	⇑eP		P	00 27 08.2	+1.5
JTS	JuntasAbangare	5.77	127	Pn		P	00 27 37.0	+1.1
	336nm,0.4s,SNR=37							
JTS	JuntasAbangare	5.77	127	P		P	00 27 37.7	+1.8
	10.0nm,0.3s,baz=292,slow=16,SNR=40							
JTS				S		S	00 28 36.9	-4.6
	1.8nm,0.3s,baz=329,slow=19,SNR=2.4							
JTS	JuntasAbangare	5.77	127	eP		P	00 27 36.5	+0.6
	35nm,0.6s							
JTS				eS		S	00 28 33.3	-8.2
TEIG	Tepich	6.50	11	eP		P	00 27 46.3	+0.5
	14nm,0.6s							
JCT	Junction City	19.05	332	eP		P	00 30 24.4	-0.8
	7.8nm,0.7s							
SDV	Santo Domingo	19.26	103	P		P	00 30 25.9	-1.7
	baz=302,slow=7.7,SNR=2.9							
SDV	Santo Domingo	19.26	103	eP		P	00 30 26.0	-1.6
	2.9nm,0.8s							
TXAR	Lajitas Array	20.18	322	P		P	00 30 38.5	+1.6
	3.6nm,0.5s,baz=144,slow=11,SNR=53							
OXF	Oxford	20.60	1	eP		P	00 30 41.7	+0.5
	56nm,0.6s							
MIAR	Mount Ida	20.94	351	eP		P	00 30 44.6	+0.1
	12nm,0.8s							
UALR	University of	21.01	354	eP		P	00 30 46.2	+1.0
	26nm,0.8s,mb4.6							
COW	Cow Castle Cre	21.10	21	eP		P	00 30 48.8	+2.5
PLAL	Pickwick Lake	21.12	4	eP		P	00 30 47.5	+1.2
	8.3nm,0.6s,mb4.2							
WMOK	Wichita Mounta	22.41	340	eP		P	00 30 58.5	-0.4
	10.0nm,0.9s,mb4.2							
AMTX	Amarillo	23.63	335	eP		P	00 31 10.4	-0.4
	10nm,0.5s,mb4.6							
CCM	Cathedral Cave	24.18	357	eP		P	00 31 15.8	-0.3
	7.8nm,0.6s,mb4.4							
ANMO	Albuquerque	25.95	327	P		P	00 31 34.9	+2.2
	0.5nm,0.5s,mb3.4,baz=169,slow=10,SNR=2.9							
ANMO	Albuquerque	25.95	327	P		P	00 31 34.9	+2.2
SDCO	Great Sand Dun	27.70	332	eP		P	00 31 49.3	+0.7
	1.1nm,0.6s,mb3.8							
SADO	Sadowa	32.12	14	P		P	00 32 26.1	-1.5
	4.2nm,0.5s,mb4.4,baz=208,slow=7.3,SNR=4.3							
PDAR	Pinedale Array	33.58	333	P		P	00 32 40.1	-0.1
	0.9nm,0.6s,mb3.7,baz=127,slow=12,SNR=8.5							
BW06	Boulder Array	33.58	333	eP		P	00 32 39.6	-0.6
	1.5nm,0.8s,mb3.8							
REDW	Red Top Meadow	34.63	332	eP		P	00 32 49.8	+0.7
SAML	Samuel	34.66	129	eP		P	00 32 47.7	-1.9
	2.8nm,1.0s,mb3.9							
SNOW	Snow King Moun	34.66	333	eP		P	00 32 50.4	+1.0
LOHW	Long Hollow	34.71	333	eP		P	00 32 50.0	+0.2
TPAW	Teton Pass	34.77	332	eP		P	00 32 51.2	+0.9
RRI2	Red Ridge	34.83	332	eP		P	00 32 51.1	+0.2
NVAR	Mina Array Bea	35.28	319	P		P	00 32 55.3	+0.7
	0.4nm,0.3s,mb3.5,baz=127,slow=9.0,SNR=6.0							
NVAR				PcP		PcP	00 35 22.4	-0.1
	0.8nm,0.7s,baz=126,slow=5.5,SNR=5.0							
NVAR	Mina Array Bea	35.28	319	P		P	00 32 55.3	+0.7
NVAR				PcP		PcP	00 35 22.4	-0.1
HLID	Hailey	36.47	329	eP		P	00 33 04.9	+0.3
	0.7nm,0.6s,mb3.5							
ULM	Lac du Bonnet	36.68	353	P		P	00 33 04.5	-1.9
	5.3nm,0.8s,mb4.2,baz=170,slow=9.6,SNR=9.7							
ULM	Lac du Bonnet	36.68	353	P		P	00 33 04.5	-1.9
SCHQ	Schefferville	44.62	19	P		P	00 34 10.0	-1.5
	8.8nm,0.6s,mb4.6,baz=213,slow=6.7,SNR=49							
SCHQ				PcP		PcP	00 35 49.6	-2.7
	1.4nm,0.9s,baz=243,slow=6.8,SNR=5.2							
FCC	Fort Churchill	44.98	357	eP		P	00 34 12.8	-1.5
	3.0nm,0.5s,mb4.2							
YKA	Yellowknife Ar	51.75	346	P		P	00 35 05.0	-1.4
	0.9nm,0.4s,mb3.8,baz=143,slow=7.8,SNR=47							
YKA	Yellowknife Ar	51.75	346	P		P	00 35 05.0	-1.4
FRB	Frobisher Bay	52.00	12	P		P	00 35 06.0	-2.3
	5.1nm,0.4s,mb4.5,baz=210,slow=8.6,SNR=22							
INK	Inuvik	61.27	343	P		P	00 36 12.2	-1.7
	0.5nm,0.5s,mb3.6,baz=126,slow=5.5,SNR=8.8							
WRA	Warramunga Arr	137.57	256	PKP		PKPdf	00 45 22.1	+2.4
	1.2nm,0.6s,baz=87,slow=2.3,SNR=18							
ASAR	Alice Springs	137.76	250	PKP		PKPdf	00 45 22.9	+2.9
	0.7nm,0.8s,baz=88,slow=0.9,SNR=5.7							

*ATH **03** 00:39:21.6, 38.95N×23.21E, h4km, MD2.9/7, ML3.0*
*NEIC **03** 00:39:21.4, 38.95N×23.23E, h7km, MD2.9(ATH), After ATH.*
*CSEM **03** 00:39:21.3±0.1, 38.97N×23.15E, h12km, MD2.9, Error ellipse: s-maj=6.4km s-min=2.8km az=88.0*

ISC 03 00:39:20.9±0.6, 38.94N±0.03×23.22E±0.08, h4km, n10, σ0°69/12, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LKR	Lokris	0.34	211	ePG		Pg	00 39 27.5	-0.2
LKR				eSG		Sg	00 39 32.8	+0.5
NEO	Neokhori	0.36	360	ePG		Pg	00 39 28.3	+0.2
NEO				eSG		Sg	00 39 33.9	+0.9
MPAR	Parnis Oros	0.89	153	ePG		Pg	00 39 39.0	+0.4
PTL	Penteli	1.02	150	ePB		Pb	00 39 41.0	+0.2
ATH	Athens Observa	1.04	158	ePB		Pb	00 39 41.0	-0.1
ATH	Athens Observa	1.04	158	ePb		Pb	00 39 39.4	-1.7

MKAR				pP	pP	01 00 36.9	+0.1	
	comp=Z,1.9nm,0.5s,baz=162,slow=8.0,SNR=13							
MKAR	**Makanchi Array**	**47.43**	**346**		**P**	**01 00 29.7**	**-0.1**	
MKAR				pP	pP	01 00 36.9	+0.1	
ULN	**Ulaanbaatar**	**47.46**	**9**	*eP*	**P**	**01 00 30.3**	**+0.3**	
	comp=Z,6.0nm,1.4s,mb4.3							
CN2	**Changchun**	**49.50**	**27**	*eP*	**P**	**01 00 45.1**	**-0.7**	
KURK	**Kurchatov**	**51.98**	**345**	*eP*	**P**	**01 01 04.1**	**-0.5**	
	comp=Z,4.0nm,1.0s,mb4.3							
STKA	**Stephens Creek**	**53.24**	**132**	P	**P**	**01 01 14.6**	**+0.3**	
	comp=Z,3.6nm,1.0s,mb4.3,baz=265,slow=5.2,SNR=4.0							
STKA				pP	pP	01 01 22.3	+0.8	
	comp=Z,4.4nm,0.9s,baz=299,slow=8.5,SNR=2.6							
STKA	**Stephens Creek**	**53.24**	**132**	P	**P**	**01 01 14.6**	**+0.3**	
STKA				pP	pP	01 01 22.3	+0.8	
ZAL	**Zalesovo**	**53.74**	**351**	P	**P**	**01 01 16.9**	**-0.7**	
	comp=Z,2.4nm,0.7s,mb4.2,baz=308,slow=7.2,SNR=14							
BVAR	**Borovoye Array**	**56.43**	**341**	P	**P**	**01 01 36.1**	**-1.1**	
	comp=Z,0.9nm,0.6s,mb4.0,baz=117,slow=6.6,SNR=5.4							
BVAR				pP	pP	01 01 42.2	-2.1	
	comp=Z,2.0nm,0.7s,baz=149,slow=8.6,SNR=5.2							
FINES	**FINESS Array B**	**80.16**	**333**	P	**P**	**01 04 04.5**	**-0.3**	
	comp=Z,0.7nm,0.8s,mb3.6,baz=90,slow=6.9,SNR=2.8							
FINES				pP	pP	01 04 11.2	-0.9	
	comp=Z,0.4nm,0.6s,baz=45,slow=2.7,SNR=1.1							
GERES	**GERESS Array B**	**84.94**	**319**	P	**P**	**01 04 30.5**	**+0.8**	
	comp=Z,0.1nm,0.3s,mb3.5,baz=108,slow=4.2,SNR=4.1							
TXAR	**Lajitas Array**	**143.85**	**32**	PKP	PKPdf	01 11 30.1	-3.5	
	comp=Z,0.4nm,0.9s,baz=180,slow=1.8,SNR=3.3							
JCT	**Junction City**	**144.77**	**26**	*e*PKP	PKPdf	01 11 32.1	-3.1	

KRSC 03 00:53:04.2±0.5, 49.16N×155.85E, h40km±56km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.53**	**6**	*e*P	P	00 53 30.2	+0.6
SKR				*e*S	S	00 53 48.9	+0.4
ALID	**Alaid**	**1.72**	**354**	*i* P	P	00 53 30.7	-1.5
PAU	**Pauzhetka**	**2.39**	**15**	*e*P	P	00 53 42.0	+0.2
PAU				*e*S	S	00 54 09.2	-0.9
PAU				Smax			
	220nm,0.2s						
GRL	**Gorelyy**	**3.68**	**22**	*e*P	P	00 54 00.5	+0.4
GRL				*e*S	S	00 54 42.3	-0.4
RUS	**Russkaya**	**3.69**	**26**	*e*P	P	00 53 59.2	-1.0
RUS				*e*S	S	00 54 39.2	-3.8
APC	**Apacha**	**3.86**	**12**	P	P	00 54 01.2	-1.4
UGLR	**Uglovaya**	**4.46**	**24**	*e*P	P	00 54 11.4	+0.2
AVH	**Avacha**	**4.49**	**23**	*e*P	P	00 54 12.3	+0.7
AVH				*e*S	S	00 55 02.2	-1.2
KOK	**Koryaka**	**4.49**	**22**	*e*P	P	00 54 12.6	+1.0
NLC	**Nalytchevo**	**4.58**	**27**	*e*S	S	00 54 59.2	-6.3
GNL	**Ganaly**	**4.73**	**15**	*e*P	P	00 54 14.0	-0.9
SPN	**Mys Shipunski**	**4.74**	**32**	*e*P	P	00 54 14.1	-1.0
SPN				*e*S	S	00 55 05.1	-4.4
MKZ	**Mys Kozlova**	**6.51**	**32**	*e*S	S	00 55 46.0	-8.0

BJI ***03*** *00:59:18.1, 0.05N×98.32E, h37km, mB6.2, mb5.9, Ms6.2, Msz6.2*

CRAAG ***03*** *00:59:20.5, 1.21N×98.23E, Mb5.9*

MOS ***03*** *00:59:20.3±0.9, 0.44N×98.39E, h33km, mb6.1/100, MS5.8/52, Error ellipse: s-maj=7.6km s-min=3.4km az=126.9*

BGS ***03*** *00:59:21.0, 0.37N×98.32E, h30km, mb5.8*

NEIC ***03*** *00:59:21.4±0.1, 0.37N×98.32E, h30km, mb5.9/123, ME5.9, MS5.9/132, MW6.0, Error ellipse: s-maj=4.2km s-min=2.5km az=38.0 Broadband fault plane solution: P waves. NP1:*ϕ_s*130°, δ80°, λ90°. NP2:*ϕ_s*310°, δ10°, λ90°. Principal axes: T Plg55°, Azm40°; N Plg0°, Azm0°; P Plg35°, Azm220°; Moment Tensor Solution. s36 Moment tensor: Scale 10*^{18} *Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M0 1.1×10*^{18} *NP1:*ϕ_s*275°, δ13°, λ66°. NP2:*ϕ_s*119°, δ78°, λ95°. Principal axes: T 1.26, Plg57°, Azm36°; N -.32, Plg5°, Azm298°; P -.94, Plg33°, Azm205°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] on Nias. Felt [IV] in Kepulauan Mentawai and [III] at Padangpanjang and Pariaman, Sumatra.

HRVD ***03*** *00:59:21.4±0.1, 0.24N×98.12E, h32km, MW6.0/82, Centroid moment Tensor Solution. LP body waves: s82, c197; Mantle waves: s78, c240; Half duration: 2s5 Moment tensor: Scale 10*^{18}*Nm; Mrr0.59±.01; Mθθ-0.29±.01; Mφφ-0.30±.01; Mrθ0.96±.01; Mθφ0.42±.01; Mφr-0.77±.02; Best double couple: M0 1.393×10*^{18} *NP1: φs325°, δ14°, λ105°. NP2:*ϕ_s*129°, δ76°, λ86°. Principal axes: T 1.338, Plg59°, Azm34°; N .111, Plg4°, Azm130°; P -1.449, Plg31°, Azm222°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***03*** *00:59:22.6±0.3, 0.41N×98.45E, h38km±2km, mb5.3/38, mb1 5.3/38, mb1mx5.3/39, mbtmp5.5/38, MS5.7/19, Ms1 5.8/19, ms1mx5.7/23 Error ellipse: s-maj=12.5km s-min=7.2km az=49.0*

ISC 03 00:59:20.9±0.1, 0.39N±0.02×98.34E±0.02, h38km, h38km±.8km: pP-P, n971, σ1901/818, mb5.8/197, MS5.9/192, 227C-28D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.95**	**33**	P	**P**	**01 00 37.2**	**+2.4**
KGM	**Kluang**	**5.23**	**72**	P	**P**	**01 00 40.7**	**+1.9**
KULM	**Kulim**	**5.39**	**25**	⇑*i*P	**P**	**01 00 43.2**	**+2.3**
SNG	**Songkhla**	**7.12**	**19**	P	**P**	**01 01 04.0**	**-1.2**
	2μm,1.0s						
PENI	**Pendagan**	**9.03**	**131**	*e*P	**P**	**01 01 28.0**	**-3.7**
PENI				pmax	pmax		
	comp=Z,1μm,0.6s						
PENI	**Pendagan**	**9.03**	**131**	*e*P	**P**	**01 01 28.0**	**-3.7**
	comp=Z,1μm,0.6s						
PASI	**Pasiripis**	**10.09**	**134**	*e*P	**P**	**01 01 41.5**	**-5.0**
PULI	**Pulasari**	**10.14**	**131**	⇑*e*P	**P**	**01 01 43.5**	**-3.7**
	comp=Z,1μm,0.4s						
KSM	**Kuching**	**12.02**	**85**	*e*P	**P**	**01 02 14.7**	**+2.0**
NNT	**Nongplab**	**12.20**	**6**	P	**P**	**01 02 14.5**	**-0.6**
UBT	**Ubonrachathani**	**16.17**	**24**	P	**P**	**01 03 08.5**	**+1.4**
BDT	**Bhumibol Dam**	**16.76**	**2**	P	**P**	**01 03 18.0**	**+3.4**
	comp=Z,76nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.96**	**2**	LR	LR	01 10 52.3	
	comp=Z,46μm,18.6s,baz=185,slow=38						
SRDI	**Scrawed**	**18.04**	**120**	*e*P	**P**	**01 03 28.0**	**-2.7**
SRDI				pmax	pmax		
	comp=Z,199nm,1.1s						
SRDI	**Scrawed**	**18.04**	**120**	*e*P	**P**	**01 03 28.0**	**-2.7**
	comp=Z,199nm,1.1s						
NANT	**Nan**	**18.44**	**7**	⇑P	**P**	**01 03 35.0**	**-0.6**
	comp=Z,1μm,0.6s						
KKM	**Kota Kinabalu**	**18.70**	**72**	⇑*i*P	**P**	**01 03 39.9**	**+1.1**
KKM	**Kota Kinabalu**	**18.70**	**72**	P	**P**	**01 03 39.9**	**+1.1**
PALK	**Pallekele**	**18.87**	**292**	*e*P	**P**	**01 03 41.2**	**+0.4**
	comp=Z,410nm,1.2s						
RATI	**Rata**	**19.37**	**118**	*e*P	**P**	**01 03 43.6**	**-2.9**
	comp=Z,632nm,0.5s						
CHRT	**Chiangrai**	**19.41**	**4**	⇑P	**P**	**01 03 45.5**	**-1.4**
	comp=Z,2μm,0.8s						
KEDI	**Kedomdong**	**19.79**	**117**	⇓*e*P	**P**	**01 03 46.8**	**-4.2**
TSM	**Tawau**	**19.89**	**78**	P	**P**	**01 03 52.2**	**+0.1**
BATP	**Bataraza**	**21.11**	**66**	*e*P	**P**	**01 04 05.3**	**+0.6**
TANI	**Tanete Lipujan**	**21.37**	**100**	*e*P	**P**	**01 04 06.9**	**-0.5**
QIZ	**Qiongzhong**	**21.69**	**31**	⇑*i*P	**P**	**01 04 10.9**	**+0.4**
QIZ				AP		01 04 21.4	
QIZ				S	**S**	**01 08 02.3**	**-1.1**
QIZ				LR	LR		
	comp=N,24μm,19.6s						
QIZ				LR	LR		
	comp=Z,29μm,23.0s,MS5.6						
QIZ	**Qiongzhong**	**21.69**	**31**	*e*P	**P**	**01 04 11.4**	**+0.9**
	comp=Z,398nm,1.1s,mb5.8						
MDRS	**Chennai**	**21.91**	**306**	⇑*i*P	**P**	**01 04 13.0**	**+0.2**
MDRS				*i* S	**S**	**01 08 12.0**	**+4.5**
MDRS				*e*		01 10 33.0	
MDRS				*e*		01 13 10.0	
NINI	**Niniconang**	**21.93**	**103**	*e*P	**P**	**01 04 12.2**	**-0.7**
PPR	**Puerto Princes**	**22.33**	**65**	⇑*i*P	**P**	**01 04 17.7**	**+0.8**
BUNI	**Buntu Taipa**	**22.34**	**101**	*e*P	**P**	**01 04 18.2**	**+1.2**
VIS	**Vishakhapatnam**	**22.68**	**320**	*e*P	**P**	**01 04 21.5**	**+1.0**
VIS				*e*		01 04 32.1	
	comp=Z,609nm,1.5s						
VIS				*e*S	**S**	**01 08 28.5**	**+6.9**
TRD	**Trivandrum**	**22.77**	**291**	*e*P	**P**	**01 04 23.6**	**+2.2**
TRD				*e*		01 04 35.8	
	comp=Z,258nm,1.6s						
TRD				*e*S	**S**	**01 08 29.0**	**+5.7**
BWNR	**Bhubaneshwar**	**23.28**	**329**	*e*P	**P**	**01 04 28.4**	**+2.1**
BWNR				*e*		01 04 33.4	
	comp=Z,541nm,1.0s						
BWNR				*e*S	**S**	**01 08 36.7**	**+4.6**
ENPP	**El Nido**	**23.54**	**62**	*e*P	**P**	**01 04 30.2**	**+1.3**
CAL	**Calcutta**	**24.08**	**337**	*e*	**P**	**01 04 35.9**	**+1.8**
	comp=Z,1μm,0.3s,mb6.9						
CAL				*e*S	**S**	**01 08 52.3**	**+6.3**
AGT	**Agartala**	**24.35**	**344**	⇓*i*P	**P**	**01 04 38.0**	**+1.4**
AGT				*i*		01 06 53.0	
BUSP	**Coron**	**24.57**	**61**	*e*P	**P**	**01 04 40.5**	**+1.6**
CUYO	**Cuyo Island**	**24.82**	**64**	*e*P	**P**	**01 04 43.0**	**+1.7**
KMI	**Kunming**	**24.95**	**9**	⇑P	**P**	**01 04 44.0**	**+1.5**
KMI				AP		01 04 53.7	
KMI				XP		01 04 58.0	
KMI				PP	PP	01 05 24.6	+4.2
KMI				S	**S**	**01 09 06.0**	**+5.1**
KMI				XS		01 09 19.8	
KMI				SS	SS	01 10 04.0	+3.2
KMI				AMB	AMB		
	comp=Z,168nm,1.1s,mb5.5						
KMI				AMB	AMB		
	comp=Z,4μm,8.7s						
KMI				LR	LR		
	comp=N,60μm,17.5s,MS6.2						
KMI				LR	LR		
	comp=E,26μm,15.0s,MS6.2						
KMI				LR	LR		
	comp=Z,63μm,16.4s,MS6.2						
KMI	**Kunming**	**24.95**	**9**	⇑P	**P**	**01 04 44.0**	**+1.5**
	comp=Z,168nm,1.1s,mb5.5						
KMI				pP		01 04 53.7	
KMI				sP		01 04 58.0	
KMI				PP	PP	01 05 24.6	+4.2
KMI				S	**S**	**01 09 06.0**	**+5.1**
KMI				sS		01 09 19.8	
KMI				SS	SS	01 10 04.0	+3.2
KMI				LR	LR		
	comp=Z,63μm,16.4s,MS6.2						
IPIL	**Ipil**	**25.25**	**72**	*e*P	**P**	**01 04 47.5**	**+2.1**
LUBP	**Lubang**	**25.42**	**58**	*e*P	**P**	**01 04 47.3**	**+0.3**
SJMP	**San Jose**	**25.58**	**61**	*e*P	**P**	**01 04 48.9**	**+0.4**
SHL	**Shillong**	**25.80**	**347**	*e*P	**P**	**01 04 51.0**	**+0.6**
	comp=Z,920nm,1.0s,mb6.3						
SHL				*e*S	**S**	**01 09 19.0**	**+4.2**
HYB	**Hyderabad**	**25.80**	**312**	*e*P	**P**	**01 04 51.0**	**+0.5**
HYB				*e*S	**S**	**01 09 14.0**	**-0.9**
HYB				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.5						
HYB	**Hyderabad**	**25.80**	**312**	*e*P	**P**	**01 04 51.0**	**+0.5**
	comp=Z,150nm,1.0s,mb5.5						
HYB				*e*S	**S**	**01 09 14.0**	**-0.9**
HYB	**Hyderabad**	**25.80**	**312**	*i* P	**P**	**01 04 51.0**	**+0.5**
	comp=Z,150nm,1.0s,mb5.5						
HYB				*e*sP	sP	01 05 03.5	-1.8
HYB				*e*S	**S**	**01 09 14.0**	**-0.9**
HYB				LR	LR		
	comp=Z,20nm,18.0s						
PAGZ	**Pagadian**	**26.04**	**73**	*e*P	**P**	**01 04 56.6**	**+3.8**
GUIM	**Jordan**	**26.16**	**66**	*e*P	**P**	**01 04 57.3**	**+3.3**
SCZP	**Santa Cruz**	**26.21**	**53**	*e*P	**P**	**01 04 52.3**	**-2.1**
BOK	**Bokaro**	**26.22**	**333**	⇑*i*P	**P**	**01 04 54.3**	**-0.1**
BOK				*i* S	**S**	**01 09 26.3**	**+4.5**
SNPH	**Sibulan**	**26.33**	**70**	⇓*e*P	**P**	**01 04 59.0**	**+3.5**
OTRP	**Odiongan**	**26.33**	**62**	*e*P	**P**	**01 04 56.0**	**+0.5**
MNCY	**Minicoy**	**26.40**	**286**	⇓*i*	**P**	**01 05 06.0**	**+10**
MNCY				*i*		01 09 07.0	
RCP	**Roxas**	**26.65**	**65**	⇑*e*P	**P**	**01 04 58.6**	**+0.1**
BOAC	**Boac**	**26.66**	**60**	*e*P	**P**	**01 04 56.4**	**-2.0**
BLSP	**Bilaspur**	**26.76**	**325**	*e*P	**P**	**01 04 59.8**	**+0.4**
BLSP				*e*	pP	01 05 12.5	+2.7
	comp=Z,508nm,0.8s						
GZH	**Guangzhou**	**26.87**	**32**	P	**P**	**01 05 03.2**	**+2.9**
GZH				LR	LR		
	comp=N,35μm,14.3s,MS6.1						
GZH				LR	LR		
	comp=E,9μm,12.1s,MS6.1						
GZH				LR	LR		
	comp=Z,44μm,14.6s,MS6.2						
LKP	**Lekhapani**	**26.88**	**356**	*e*P	**P**	**01 05 00.0**	**-0.4**
LKP				*e*	pP	01 05 10.0	-0.8
DGAR	**Diego Garcia**	**26.96**	**253**	PFAKE		01 05 10.0	+8.8
DGAR				LR	LR		
	comp=Z,8μm,20.0s,MS5.3						
PCPH	**Palayan**	**27.06**	**55**	⇓*e*P	**P**	**01 04 58.8**	**-3.4**
GYA	**Guiyang**	**27.13**	**17**	⇑*i*P	**P**	**01 05 02.3**	**-0.4**
GYA				AP	pP	01 05 11.4	-1.7
GYA				XP	sP	01 05 15.6	-2.2
GYA				PP	PP	01 05 48.7	-1.0
GYA				AMB	AMB		
	comp=Z,90nm,0.9s,mb5.3						
GYA				AMB	AMB		
	comp=Z,3μm,9.3s						
GYA				LR	LR		
	comp=N,29μm,24.2s						
GYA				LR	LR		
	comp=E,26μm,18.3s						
GYA				LR	LR		
	comp=Z,45μm,21.9s,MS6.0						
AUQP	**San Andres**	**27.32**	**61**	*e*P	**P**	**01 05 04.2**	**-0.3**
LLP	**Lapu-Lapu**	**27.32**	**68**	⇑*e*P	**P**	**01 05 04.5**	**-0.1**
	comp=Z,429μm,1.0s						
POLP	**Polillo Island**	**27.34**	**58**	*e*P	**P**	**01 05 03.3**	**-1.4**
KCP	**Kidapawan**	**27.48**	**76**	*e*P	**P**	**01 05 06.0**	**0.0**
BALP	**Baler**	**27.54**	**55**	*e*P	**P**	**01 05 03.4**	**-3.2**
BUKP	**Musuan**	**27.65**	**74**	*e*P	**P**	**01 05 07.8**	**+0.2**
ABRA	**Dolores**	**27.90**	**51**	*e*P	**P**	**01 05 08.9**	**-0.9**
LATR	**Latur**	**27.90**	**311**	*e*P	**P**	**01 05 10.2**	**+0.4**
NGP	**Nagpur**	**27.94**	**319**	*e*P	**P**	**01 05 10.6**	**+0.5**
NGP				*e*		01 06 18.0	
	comp=Z,333nm,1.6s						
NGP				*e*		01 09 32.2	
DAV	**Davao City (W)**	**27.96**	**76**	*e*P	**P**	**01 05 12.0**	**+1.6**
MSLP	**Maasin**	**28.10**	**69**	*e*P	**P**	**01 05 12.0**	**+0.4**
CAUP	**Cauayan**	**28.38**	**53**	*e*P	**P**	**01 05 13.3**	**-0.8**
APYP	**Conner**	**28.44**	**51**	*e*P	**P**	**01 05 12.1**	**-2.5**
BUTP	**Butuan**	**28.47**	**72**	*e*P	**P**	**01 05 18.0**	**+3.1**
GOA	**Goa**	**28.48**	**303**	⇓*e*P	**P**	**01 05 13.4**	**-1.6**
GOA				*e*		01 09 51.2	
PVCP	**Virac**	**28.73**	**62**	*e*P	**P**	**01 05 15.1**	**-2.2**
CNP	**Catarman**	**28.75**	**64**	*e*P	**P**	**01 05 17.2**	**-0.2**
CVP	**Callao Caves**	**28.80**	**52**	*e*P	**P**	**01 05 16.5**	**-1.3**
AKL	**Akola**	**29.02**	**315**	*e*P	**P**	**01 05 19.0**	**-0.7**
JIRN	**Jiri**	**29.52**	**338**	*e*P	**P**	**01 05 24.8**	**+0.7**
	comp=Z,565nm,1.1s,mb6.2						
PKI	**Pulchoki**	**29.74**	**336**	*e*P	**P**	**01 05 25.4**	**-0.7**
	comp=Z,575nm,1.2s,mb6.2						
PKI	**Pulchoki**	**29.74**	**336**	*e*P	**P**	**01 05 25.4**	**-0.7**
PKI				pmax	pmax		
	comp=Z,287nm,1.2s,mb5.9						
DMN	**Daman**	**29.90**	**336**	*e*P	**P**	**01 05 26.6**	**-0.9**
	comp=Z,381nm,0.9s,mb6.1						
MBWA	**Marble Bar**	**29.93**	**137**	*e*P	**P**	**01 05 27.4**	**-0.4**
	comp=Z,50nm,0.8s,mb5.3						
MBWA				LR	LR		
	comp=Z,27μm,21.0s,MS5.9						
LSA	**Lhasa**	**29.94**	**347**	P	**P**	**01 05 28.3**	**+0.4**
LSA				XP	sP	01 05 46.0	+2.6
LSA				PCP	PcP	01 08 30.2	+0.2
LSA				S	**S**	**01 10 20.4**	**-1.2**
LSA				XS		01 10 42.7	
LSA				PCS		01 12 14.0	
LSA				AMB	AMB		
	comp=Z,250nm,1.0s,mb5.9						
LSA				AMB	AMB		
	comp=Z,3μm,14.9s						
LSA				LR	LR		
	comp=N,10μm,25.9s,MS5.6						
LSA				LR	LR		
	comp=E,14μm,23.4s,MS5.6						
LSA				LR	LR		
	comp=Z,24μm,23.4s,MS5.8						
LSA	**Lhasa**	**29.94**	**347**	⇑*i*P	**P**	**01 05 28.9**	**+1.0**
LSA				pmax	pmax		
	comp=Z,405nm,1.0s,mb6.1						
LSA	**Lhasa**	**29.94**	**347**	⇑*i*P	**P**	**01 05 28.9**	**+1.0**
	comp=Z,405nm,1.0s,mb6.1						
KKN	**Kakani**	**29.99**	**336**	*e*P	**P**	**01 05 28.3**	**0.0**
	comp=Z,608nm,1.0s,mb6.3						
KKN	**Kakani**	**29.99**	**336**	*e*P	**P**	**01 05 28.3**	**0.0**
KKN				pmax	pmax		
	comp=Z,304nm,1.0s,mb6.0						
POO	**Poona**	**30.05**	**308**	*e*P	**P**	**01 05 29.8**	**+0.8**
POO				*e*		01 05 34.7	
	comp=Z,65nm,0.9s						
GKN	**Gorkha**	**30.44**	**336**	*e*P	**P**	**01 05 32.5**	**+0.2**
	comp=Z,905nm,1.0s,mb6.5						
BHPL	**Bhopal**	**30.48**	**320**	*e*P	**P**	**01 05 32.9**	**+0.2**
BHPL				*e*		01 05 37.2	
	comp=Z,87nm,0.8s						
BBP	**Basco**	**30.51**	**48**	*e*P	**P**	**01 05 35.3**	**+2.2**
KOLN	**Koldanda**	**30.68**	**334**	*e*P	**P**	**01 05 34.8**	**+0.4**
	comp=Z,871nm,1.3s,mb6.4						
CD2	**Chengdu**	**30.79**	**9**	P	**P**	**01 05 34.4**	**-1.0**
CD2				AP	pP	01 05 47.0	+1.0
CD2				PPP	PPP	01 06 53.0	+1.1
CD2				S	**S**	**01 10 37.0**	**+2.2**
CD2				XS		01 10 55.0	
CD2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.3						
CD2				AMB	AMB		
	comp=Z,2μm,8.0s						
CD2				LR	LR		
	comp=N,47μm,14.0s						
BOM	**Bombay**	**31.07**	**308**	*e*	**P**	**01 05 44.3**	**+6.3**
BOM				*e*S	**S**	**01 10 39.1**	**-0.4**
QZH	**Quanzhou**	**31.30**	**37**	⇑*i*P	**P**	**01 05 39.5**	**-0.5**
QZH				S	**S**	**01 10 42.0**	**-0.9**
QZH				AMB	AMB		
	comp=Z,190nm,1.0s,mb5.9						
QZH				AMB	AMB		
	comp=Z,3μm,5.8s						
QZH				LR	LR		
	comp=N,32μm,13.8s,MS6.2						
QZH				LR	LR		
	comp=E,12μm,14.0s,MS6.2						
QZH				LR	LR		
	comp=Z,53μm,19.0s,MS6.2						
JHNI	**Jhansi**	**31.42**	**324**	⇑*i*P	**P**	**01 05 40.5**	**-0.5**
JHNI				*e*	pP	01 05 52.0	+0.4
ENH	**Enshi**	**31.55**	**19**	⇑*i*P	**P**	**01 05 40.6**	**-1.5**
	comp=Z,512nm,1.1s,mb6.3						
FITZ	**Fitzroy Crossi**	**32.53**	**126**	⇑*i*P	**P**	**01 05 47.9**	**-2.9**
	comp=Z,74nm,0.9s,mb5.6						
FITZ				*i* S	**S**	**01 10 57.9**	**-4.4**
FITZ	**Fitzroy Crossi**	**32.53**	**126**	P	**P**	**01 05 48.1**	**-2.8**
	comp=Z,29nm,0.7s,mb5.3,baz=336,slow=7.7,SNR=26						
FITZ				LR	LR	01 20 30.0	
	comp=Z,6μm,18.8s,MS5.3,baz=287,slow=39						
NACB	**Ninganchiao**	**32.66**	**42**	⇑*e*P	**P**	**01 05 51.9**	**0.0**
YHNB	**Yeheng**	**32.86**	**41**	*e*P	**P**	**01 05 53.0**	**-0.6**
TATO	**Taipei**	**33.14**	**41**	*e*P	**P**	**01 05 55.8**	**-0.2**
	comp=Z,101nm,0.9s,mb5.8						
TATO				LR	LR		
	comp=Z,17μm,21.0s,MS5.7						
WHN	**Wuhan**	**33.63**	**25**	P	**P**	**01 06 00.0**	**-0.2**
WHN				S	**S**	**01 11 26.0**	**+6.8**
WHN				AMB	AMB		
	comp=Z,700nm,1.1s,mb6.5						
WHN				LR	LR		
	comp=Z,43μm,22.4s,MS6.1						
XAN	**Xi'an**	**34.91**	**15**	P	**P**	**01 06 10.3**	**-0.9**
XAN				S	**S**	**01 11 35.1**	**-4.0**
XAN				AMB	AMB		
	comp=Z,495nm,1.1s,mb6.3						
XAN				LR	LR		
	comp=N,23μm,18.4s,MS6.1						
XAN				LR	LR		
	comp=E,20μm,18.2s,MS6.1						
XAN				LR	LR		
	comp=Z,47μm,19.3s,MS6.2						
DDI	**Dehra Dun**	**35.47**	**329**	*e*P	**P**	**01 06 15.5**	**-0.5**
DDI				*e*		01 12 05.2	
LZH	**Lanzhou**	**35.88**	**8**	⇑*i*P	**P**	**01 06 19.8**	**+0.4**
LZH				AP	pP	01 06 29.1	-1.1
LZH				XP	sP	01 06 33.2	-1.8
LZH				PP	PP	01 07 42.5	+1.1
LZH				PCP	PcP	01 08 46.2	-0.2
LZH				S	**S**	**01 11 56.0**	**+2.0**
LZH				XS		01 12 11.2	
LZH				SCP		01 12 29.1	
LZH				SS	SS	01 14 19.5	+2.6
LZH				SCS	ScS	01 16 33.0	+0.9
LZH				AMB	AMB		
	comp=Z,527nm,1.5s,mb6.2						
LZH				AMB	AMB		
	comp=Z,2μm,6.7s						
LZH				LR	LR		
	comp=N,23μm,15.2s						
LZH				LR	LR		
	comp=Z,36μm,17.6s,MS6.2						
LZH	**Lanzhou**	**35.88**	**8**	⇑*i*P	**P**	**01 06 19.8**	**+0.4**
LZH				*PP	pP	01 06 29.1	-1.1
LZH				*SP	sP	01 06 33.2	-1.8
LZH						01 07 42.5	
LZH						01 08 46.2	
LZH				S	**S**	**01 11 56.0**	**+2.0**
LZH				*SS		01 12 11.2	
LZH				SS	SS	01 14 19.5	+2.6
LZH						01 16 33.0	
LZH				pmax	pmax		
	comp=Z,527nm,1.5s,mb6.2						
LZH				MLR	MLR		
	comp=Z,36μm,17.6s,MS6.2						
LZH	**Lanzhou**	**35.88**	**8**	⇑*i*P	**P**	**01 06 19.8**	**+0.4**
	comp=Z,527nm,1.5s,mb6.2						
LZH				pP	pP	01 06 29.1	-1.1
LZH				sP	sP	01 06 33.2	-1.8
LZH				PP	PP	01 07 42.5	+1.1
LZH				PcP	PcP	01 08 46.2	-0.2
LZH				S	**S**	**01 11 56.0**	**+2.0**
LZH				sS		01 12 11.2	
LZH				ScP		01 12 29.1	
LZH				SS	SS	01 14 19.5	+2.6
LZH				ScS	ScS	01 16 33.0	+0.9
LZH				LR	LR		
	comp=Z,36μm,17.6s,MS6.2						
BHJ	**Bhuj**	**35.95**	**311**	⇑*e*	**P**	**01 06 25.7**	**+5.5**
BHJ

SSE LR LR
comp=E,10μm,17.7s,MS6.1
SSE LR LR
comp=Z,30μm,17.3s,MS6.2
SSE Sheshan 37.44 33 P **P** **01 06 33.0 +0.4**
comp=Z,139nm,1.1s,mb5.7
SSE pP pP 01 06 42.0 -1.3
SSE sP sP 01 06 46.0 -2.1
SSE PP PP 01 07 59.4 -1.6
SSE S **S** **01 12 20.3 +2.3**
SSE sS 01 12 35.9
SSE SS SS 01 15 04.0 +12
SSE LR LR
comp=Z,30μm,17.3s,MS6.2
NWAO Narrogin (SRO) 37.62 154 *e*P **P** **01 06 35.0 +0.9**
NWAO pmax pmax
comp=Z,74nm,1.0s
NWAO MLR MLR
comp=Z,19μm,22.0s
NWAO Narrogin (SRO) 37.62 154 P **P** **01 06 32.3 -1.8**
comp=Z,56nm,1.0s,mb5.2,baz=316,slow=9.7,SNR=9.8
NWAO LR LR 01 19 55.8
comp=Z,24μm,21.8s,MS6.0,baz=329,slow=33
NWAO Narrogin (SRO) 37.62 154 *e*P **P** **01 06 35.0 +0.9**
comp=Z,74nm,1.0s,mb5.4
NWAO LR LR
comp=Z,19μm,22.0s,MS5.8
PONG Pong 37.86 328 *e*P **P** **01 06 36.0 -0.1**
PONG *e* 01 12 36.0
DLH Dalhousie 38.31 329 *e*P **P** **01 06 40.0 +0.2**
DLH *e* 01 07 10.0
THN Thein Dam 38.36 328 *e*P **P** **01 06 38.9 -1.3**
THN *e* 01 12 38.0
GTA Gaotai 38.86 2⇑*i*P **P** **01 06 44.7 +0.4**
GTA AP pP 01 06 55.3 +0.2
GTA XP sP 01 06 58.8 -1.1
GTA PP PP 01 08 19.1 +1.6
GTA SCP 01 12 40.4
GTA SCS ScS 01 16 48.9 0.0
GTA AMB AMB
comp=Z,170nm,1.0s,mb5.7
GTA AMB AMB
comp=Z,3μm,9.5s
GTA LR LR
comp=N,17μm,15.2s,MS6.1
GTA LR LR
comp=E,13μm,15.2s,MS6.1
GTA LR LR
comp=Z,15μm,15.2s,MS5.9
JOW Kunigami 38.98 45 P **P** **01 06 45.0 -0.4**
comp=Z,92nm,0.9s,mb5.5,baz=248,slow=7.6,SNR=9.0
JOW LR LR 01 24 02.8
comp=Z,6μm,19.6s,MS5.4,baz=252,slow=38
TIY Taiyuan 39.35 18⇑P **P** **01 06 50.0 +1.6**
TIY LR LR
comp=N,19μm,14.0s
TIA Tai'an 39.68 24⇑P **P** **01 06 51.3 +0.1**
TIA S **S** **01 12 50.1 -1.7**
TIA AMB AMB
comp=Z,249nm,1.2s,mb5.8
TIA AMB AMB
comp=Z,3μm,7.0s
TIA LR LR
comp=N,9μm,16.0s,MS6.0
TIA LR LR
comp=E,18μm,16.0s,MS6.0
WRA Warramunga Arr 40.64 122 P **P** **01 06 57.3 -2.0**
WRA 01 09 01.2
WRA S **S** **01 13 00.7 -5.6**
WRA Warramunga Arr 40.64 122 P **P** **01 06 57.3 -2.0**
comp=E,28nm,0.8s,mb5.0,baz=299,slow=9.0,SNR=131
WRA PcP PcP 01 09 01.2 -0.1
comp=E,17nm,0.8s,baz=314,slow=2.6,SNR=6.4
WRA pPcP 01 09 14.1
comp=E,17nm,0.8s,baz=312,slow=2.5,SNR=5.6
WRA S **S** **01 13 00.7 -5.6**
comp=E,21nm,1.1s,baz=292,slow=17,SNR=9.6
WRAB Tennant Creek 40.65 122⇑*e*P **P** **01 06 57.4 -1.9**
WRAB pmax pmax
comp=Z,125nm,0.8s,mb5.6
WRAB MLR MLR
comp=Z,4μm,20.0s,MS5.3
WRAB Tennant Creek 40.65 122⇑*e*P **P** **01 06 57.4 -1.9**
comp=Z,125nm,0.8s,mb5.6
WRAB LR LR
comp=Z,4μm,20.0s,MS5.3
WB2 Warramunga Arr 40.65 122⇑*i*P **P** **01 06 57.3 -2.1**
WB2 *e*S **S** **01 12 50.3 -16**
BTO Baotou 41.41 13 *e*P **P** **01 07 06.7 +1.3**
BTO S **S** **01 13 20.9 +3.3**
BTO AMB AMB
comp=Z,194nm,1.3s,mb5.6
FORT Forrest 41.93 140 *e*P **P** **01 07 11.1 +1.3**
comp=Z,5μm,0.7s
ASPA Alice Springs 42.00 127⇑*i*P **P** **01 07 09.2 -1.3**
ASPA *e*S **S** **01 13 21.3 -5.2**
ASAR Alice Springs 42.00 127 P **P** **01 07 09.2 -1.3**
comp=Z,28nm,0.8s,mb5.0,baz=299,slow=7.7,SNR=156
ASAR PcP PcP 01 09 06.0 +0.2
comp=Z,26nm,0.8s,baz=296,slow=3.1,SNR=8.6
ASAR pPcP 01 09 17.6
comp=Z,18nm,0.8s,baz=307,slow=2.4,SNR=4.0
ASAR S **S** **01 13 23.1 -3.4**
comp=Z,11nm,1.1s,baz=292,slow=15,SNR=5.0
ASAR LR LR 01 26 15.4
comp=Z,6μm,20.3s,MS5.5,baz=300,slow=38
ASAR PKPPKP 01 39 06.5
comp=Z,1.7nm,0.9s,baz=137,slow=2.7,SNR=4.5
HHC Hu-ho-hao-te 42.02 15⇑P **P** **01 07 11.4 +0.9**
HHC AP pP 01 07 22.2 +0.8
HHC XP sP 01 07 25.5 -0.5
HHC PP PP 01 08 57.6 +6.6
HHC SCP 01 12 52.9
HHC PCS 01 12 57.2
HHC S **S** **01 13 28.3 +1.7**
HHC XS 01 13 43.9
HHC SS SS 01 16 31.1 +2.1
HHC SCS ScS 01 17 08.3 +0.7
HHC AMB AMB
comp=Z,242nm,1.4s,mb5.6
HHC LR LR
comp=N,41μm,17.6s,MS6.4
HHC LR LR
comp=E,13μm,17.2s,MS6.4
HHC LR LR
comp=Z,41μm,16.5s,MS6.4
BJT Baijiatuau 42.66 20⇑*i*P **P** **01 07 17.1 +1.4**
BJT pmax pmax
comp=Z,633nm,1.0s
BJT Baijiatuau 42.66 20⇑*i*P **P** **01 07 17.1 +1.4**
comp=Z,633nm,1.0s,mb6.3
BJI Beijing 42.68 20 P **P** **01 07 17.2 +1.3**
BJI S **S** **01 13 40.9 +4.6**
BJI AMB AMB
comp=Z,618nm,1.0s,mb6.3
BJI AMB AMB
comp=Z,5μm,5.4s
BJI LR LR
comp=N,14μm,20.1s,MS6.0
BJI LR LR
comp=E,11μm,19.2s,MS6.0
BJI Beijing 42.68 20 P **P** **01 07 17.2 +1.3**
comp=E,618nm,1.0s,mb6.3
BJI S **S** **01 13 40.9 +4.6**
BJI SS SS 01 16 57.9 +17
BJI LR LR
comp=Z,110nm,21.9s
DL2 Dalian 43.87 26⇑*i*P **P** **01 07 26.5 +0.9**
DL2 XP sP 01 07 40.8 -0.4
DL2 S **S** **01 13 59.4 +5.7**
DL2 AMB AMB
comp=Z,300nm,1.2s,mb5.9
DL2 AMB AMB
comp=Z,1μm,5.7s
DL2 LR LR
comp=N,6μm,21.3s,MS5.6
DL2 LR LR
comp=E,5μm,18.0s,MS5.6
DL2 LR LR
comp=Z,9μm,21.2s,MS5.7
KSH Kashi 43.98 335⇑*i*P **P** **01 07 26.0 -0.4**
KSH AP pP 01 07 33.5 -3.9
KSH PP PP 01 09 10.0 -0.5
KSH PCP PcP 01 09 13.0 +0.7
KSH SCP 01 13 01.5
KSH PCS 01 13 04.5
KSH S **S** **01 13 54.9 -0.3**
KSH AMB AMB
comp=Z,3μm,5.3s
KSH LR LR
comp=N,12μm,18.2s,MS6.0
KSH LR LR
comp=E,8μm,13.6s,MS6.0
WBK Wadi Bani Khal 44.20 303⇓P **P** **01 07 29.3 +0.8**
SNR=39
WMQ Urumqi 44.27 349⇑*i*P **P** **01 07 29.9 +1.2**
WMQ AP pP 01 07 40.1 +0.4
WMQ XP sP 01 07 44.1 -0.2
WMQ PP PP 01 09 14.6 +1.2
WMQ PPP PPP 01 09 53.2 +0.9
WMQ SCP 01 13 02.0
WMQ PCS 01 13 05.9
WMQ S **S** **01 14 01.1 +1.7**
WMQ XS 01 14 17.6
WMQ SS SS 01 17 11.0 +1.2
WMQ SCS ScS 01 17 23.3 +1.9
WMQ AMB AMB
comp=Z,324nm,1.2s,mb5.9
WMQ AMB AMB
comp=Z,4μm,6.0s
WMQ LR LR
comp=N,11μm,20.0s,MS5.9
WMQ LR LR
comp=E,8μm,15.6s,MS5.9
WMQ LR LR
comp=Z,9μm,23.0s
JMDO Jabal Madar 44.83 302⇑P **P** **01 07 34.1 +0.6**
SNR=24
SMDO Samad 45.16 303⇓P **P** **01 07 36.9 +0.8**
SNR=24
INCN Inchon 45.21 32 *e*P **P** **01 07 35.3 -1.1**
comp=Z,161nm,1.3s,mb5.7
INCN LR LR
comp=Z,24μm,20.0s,MS6.1
BIDO Bidbid 45.28 303⇓P **P** **01 07 37.8 +0.7**
SNR=22
SHAO Shalim 45.48 295⇓P **P** **01 07 39.7 +1.0**
SNR=22
BSY Bisya 45.75 302⇑P **P** **01 07 41.7 +0.9**
SNR=73
ULHL Ulahol 46.17 337 P **P** **01 07 44.7 +0.8**
SNR=314
KZA Kyzart 46.42 336 P **P** **01 07 47.2 +1.3**
SNR=150
ARQ Araqi 46.55 302⇑P **P** **01 07 48.3 +1.1**
SNR=28
RBK Rabkut 46.62 294⇑P **P** **01 07 48.1 +0.4**
SNR=28
AAA Alma-Ata 46.79 339 *i*P **P** **01 07 49.0 +0.3**
AAA *i*S **S** **01 14 38.0 +2.6**
AAA pmax pmax
comp=Z,3μm,6.0s
AAA smax
comp=E,4μm,9.0s
AAA MLR MLR
comp=Z,4μm,20.0s,MS5.4
UCH Uchtor 46.85 336 P **P** **01 07 50.5 +1.3**
SNR=466
TKM2 Tokmak 2 47.00 337 P **P** **01 07 51.4 +1.0**
SNR=416
KBK Karagaybulak 47.03 336 P **P** **01 07 52.1 +1.5**
SNR=299
AML Almayashu 47.11 335 P **P** **01 07 52.5 +1.3**
SNR=205
SNY Shenyang 47.12 26⇑P **P** **01 07 50.8 -0.5**
SNY AP pP 01 08 00.3 -1.9
SNY XP sP 01 08 05.7 -1.2
SNY PP PP 01 09 43.4 +1.7
SNY S **S** **01 14 39.9 -0.1**
SNY AMB AMB
comp=Z,110nm,1.2s,mb5.7
SNY AMB AMB
comp=Z,2μm,6.1s
SNY LR LR
comp=N,14μm,23.4s
SNY LR LR
comp=E,10μm,16.2s
SNY LR LR
comp=Z,19μm,21.1s,MS6.0
WHFO Wadi Hawf 47.13 294⇑P **P** **01 07 51.6 -0.1**
SNR=38
AAK Ala-Archa 47.19 336 P **P** **01 07 53.0 +1.1**
SNR=69
AAK Ala-Archa 47.19 336 P **P** **01 07 52.6 +0.7**
comp=Z,909nm,1.0s,mb6.7
AAK Ala-Archa 47.19 336⇑*i*P **P** **01 07 51.8 -0.1**
AAK *e* 01 09 37.1
AAK pmax pmax
comp=Z,149nm,0.9s,mb5.9
AAK MLR MLR
comp=Z,3μm,22.0s,MS5.2
AAK Ala-Archa 47.19 336⇑*i*P **P** **01 07 51.8 -0.1**
comp=Z,149nm,0.9s,mb5.9
AAK *e*pP pP 01 07 56.1 -6.8
AAK *e*PP PP 01 09 37.1 -5.3
AAK LR LR
comp=Z,3μm,22.0s,MS5.2
FRU Bishkek 47.31 336α*i*P **P** **01 07 54.0 +1.1**
FRU *e* 01 09 45.0
FRU *e*S **S** **01 14 47.0 +4.2**
FRU *e*SS ScS 01 17 47.0 +6.1
FRU pmax pmax
comp=Z,720nm,2.6s,mb6.1
FRU pmax pmax
comp=Z,3μm,8.0s
FRU MLR MLR
comp=Z,17μm,22.0s,MS6.0
CHMS Chumysh 47.40 336 P **P** **01 07 53.8 +0.3**
SNR=125
ABTO Aybut 47.41 293⇑P **P** **01 07 54.1 +0.2**
SNR=30
ASHO Ashiyiah 47.48 304⇑P **P** **01 07 54.8 +0.3**
SNR=33
EKS2 Erkin-Say 47.51 335 P **P** **01 07 55.5 +1.1**
SNR=309
USP Ospenovka 47.72 336 P **P** **01 07 56.6 +0.6**
SNR=649
SONM Songino Array 47.77 7 P **P** **01 07 57.2 +0.8**
comp=Z,182nm,1.0s,mb6.0,baz=193,slow=7.1,SNR=380
SONM PcP PcP 01 09 25.3 -0.1
comp=Z,56nm,0.9s,baz=192,slow=4.0,SNR=3.2
SONM pPcP 01 09 39.5
comp=Z,84nm,1.0s,baz=178,slow=3.1,SNR=3.8
SONM LR LR 01 30 33.5
comp=Z,36μm,18.5s,MS6.4,baz=192,slow=39
SONM PKPPKP 01 39 06.8
comp=Z,1.3nm,1.0s,baz=315,slow=1.7,SNR=5.0
BANOM Banah 47.80 306⇓P **P** **01 07 57.5 +0.6**
SNR=17
ULN Ulaanbaatar 47.89 8⇑*i*P **P** **01 07 58.0 +0.7**
ULN *i* 01 09 25.9
ULN pmax pmax
comp=Z,166nm,1.1s,mb6.0
ULN MLR MLR
comp=Z,41μm,19.0s,MS6.4
ULN Ulaanbaatar 47.89 8⇑*i*P **P** **01 07 58.0 +0.7**
comp=Z,166nm,1.1s,mb6.0
ULN *i* PcP PcP 01 09 25.9 +0.1
ULN LR LR
comp=Z,41μm,19.0s,MS6.4
GUMO Guam 47.89 72 PFAKE 01 08 10.0 +12
GUMO LR LR
comp=Z,5μm,22.0s,MS5.5
MKAR Makanchi Array 48.30 345 P **P** **01 08 00.7 +0.2**
comp=Z,440nm,1.0s,mb6.4,baz=158,slow=6.5,SNR=1229
MKAR S **S** **01 14 59.0 +2.2**
comp=Z,12nm,1.2s,baz=165,slow=14,SNR=3.6
MKAR LR LR 01 32 45.6
comp=Z,8μm,21.7s,MS5.7,baz=252,slow=42
MKAR PKPPKP 01 39 09.2
comp=Z,2.5nm,1.0s,slow=1.2,SNR=6.2
CN2 Changchun 49.52 26 *e*P **P** **01 08 09.0 -1.0**
CN2 *e*AP pP 01 08 18.0 -2.9
CN2 PP PP 01 10 04.5 -0.3
CN2 *e*S **S** **01 15 13.2 -0.6**
CN2 *e*SS SS 01 18 44.2 +2.1
CN2 AMB AMB
comp=Z,410nm,1.0s,mb6.4
CN2 AMB AMB
comp=Z,3μm,6.0s
CN2 LR LR
comp=N,12μm,19.0s,MS6.1
CN2 LR LR
comp=E,14μm,19.0s,MS6.1
CN2 LR LR
comp=Z,15μm,21.0s,MS6.0
PMG Port Moresby 49.56 103 *e*P **P** **01 08 09.1 -1.6**
PMG pmax pmax
comp=Z,100nm,0.8s
PMG MLR MLR
comp=Z,9μm,22.0s
PMG Port Moresby 49.56 103 P **P** **01 08 09.6 -1.1**
comp=Z,100nm,0.8s,mb5.9,baz=284,slow=6.8,SNR=20
PMG LR LR 01 30 14.2
comp=Z,1μm,21.1s,MS4.9,baz=260,slow=37
PMG Port Moresby 49.56 103 *e*P **P** **01 08 09.1 -1.6**
comp=Z,100nm,0.8s,mb5.9
PMG LR LR
comp=Z,9μm,22.0s,MS5.7
CBIJ Chichi jima 49.76 54 P **P** **01 08 10.5 -1.5**
comp=Z,193nm,0.5s,mb6.3,baz=293,slow=12,SNR=3.1
ZAK Zakamensk 49.98 4⇓*i*P **P** **01 08 13.3 -0.1**
ZAK *e* 01 09 39.6
ZAK pmax pmax
comp=Z,44nm,1.1s,mb5.4
ZAK pmax pmax
comp=Z,29nm,1.2s,mb5.2
CTA Charters Tower 51.12 116 *e*P **P** **01 08 21.2 -1.3**
comp=Z,47nm,0.8s,mb5.5
CTA Charters Tower 51.12 116 *e*P **P** **01 08 21.2 -1.3**
CTA pmax pmax
comp=Z,47nm,0.8s
CTA Charters Tower 51.12 116 P **P** **01 08 21.2 -1.3**
comp=Z,23nm,1.0s,mb5.1,baz=296,slow=8.7,SNR=9.4
CTAO Charters Tower 51.12 116 *e*P **P** **01 08 20.7 -1.8**
CTAO pmax pmax
comp=Z,71nm,0.9s,mb5.6
CTAO MLR MLR
comp=Z,11μm,20.0s,MS5.9
CTAO Charters Tower 51.12 116 *e*P **P** **01 08 20.7 -1.8**
comp=Z,71nm,0.9s,mb5.6
CTAO LR LR
comp=Z,11μm,20.0s,MS5.9
MOY Mondy 51.14 2 *e*P **P** **01 08 22.5 +0.3**
MOY pmax pmax
comp=Z,203nm,3.4s
TLY Talaya 51.30 4 *e*P **P** **01 08 23.1 -0.3**
TLY *e* 01 10 23.3
TLY *e*S **S** **01 15 42.1 +3.8**
TLY *e*PS PS 01 16 01.8 +9.3
TLY pmax pmax
comp=Z,112nm,0.9s,mb5.8
TLY MLR MLR
comp=Z,40μm,18.0s,MS6.5
TLY Talaya 51.30 4⇑*i*P **P** **01 08 24.0 +0.6**
comp=Z,119nm,1.0s,mb5.8
TLY LR LR
comp=Z,8μm,19.0s,MS5.7
MAJO Matsushiro 51.53 41 *e*P **P** **01 08 23.3 -2.1**
MAJO pmax pmax
comp=Z,88nm,1.3s,mb5.5
MAJO MLR MLR
comp=Z,8μm,21.0s,MS5.7
MAJO Matsushiro 51.53 41 *e*P **P** **01 08 23.3 -2.1**
comp=Z,88nm,1.3s,mb5.5
MAJO LR LR
comp=Z,8μm,21.0s,MS5.7
MAT Matsushiro 51.53 41 *e*P **P** **01 08 24.0 -1.4**
MAT *e*S **S** **01 15 46.0 +4.3**
MAT pmax pmax
comp=Z,51nm,1.1s,mb5.4
MAT MLR MLR
comp=Z,7μm,20.0s,MS5.7
MAT Matsushiro 51.53 41 *e*P **P** **01 08 24.0 -1.4**
comp=Z,51nm,1.1s,mb5.4
MAT *e*S **S** **01 15 46.0 +4.3**
MAT LR LR
comp=Z,7μm,20.0s,MS5.7
MAT Matsushiro 51.53 41 P **P** **01 08 23.6 -1.8**
MAT S **S** **01 15 46.0 +4.3**
ADE Adelaide 51.55 137⇑*i*P **P** **01 08 26.3 +0.8**
IRK Irkutsk 51.91 5 *e*P **P** **01 08 27.9 -0.1**
IRK *e*S **S** **01 15 48.8 +2.1**
IRK pmax pmax
comp=Z,242nm,1.8s,mb5.8
STKA Stephens Creek 51.97 132⇑*i*P **P** **01 08 28.2 -0.5**
comp=Z,96nm,1.0s,mb5.7
STKA Stephens Creek 51.97 132 P **P** **01 08 28.2 -0.5**
comp=Z,50nm,0.9s,mb5.5,baz=309,slow=7.9,SNR=46
STKA LR LR 01 31 06.6
comp=Z,14μm,21.1s,MS6.0,baz=298,slow=37
MDJ Mudanjiang 52.03 28 P **P** **01 08 29.0 0.0**
MDJ AP pP 01 08 39.0 -1.0
MDJ XP sP 01 08 42.9 -1.6
MDJ PP PP 01 10 27.0 -0.9
MDJ S **S** **01 15 51.3 +2.9**
MDJ XS 01 16 07.2
MDJ SS SS 01 19 30.0 +6.3
MDJ AMB AMB
comp=Z,94nm,1.0s,mb5.7
MDJ AMB AMB
comp=Z,2μm,9.9s
MDJ LR LR
comp=N,21μm,16.9s,MS6.3
MDJ LR LR
comp=E,11μm,16.9s,MS6.3
MDJ LR LR
comp=Z,31μm,15.9s,MS6.4
MDJ Mudanjiang 52.03 28⇑*i*P **P** **01 08 28.8 -0.2**
comp=Z,103nm,1.0s,mb5.7
HIA Hailar 52.05 18⇑*i*P **P** **01 08 28.8 -0.2**
HIA pmax pmax
comp=Z,245nm,1.1s
HIA Hailar 52.05 18⇑*i*P **P** **01 08 28.8 -0.3**
comp=Z,245nm,1.1s,mb6.0
KURK Kurchatov 52.87 344 *i*P **P** **01 08 35.1 -0.1**
KURK pmax pmax
comp=Z,203nm,1.0s,mb6.0
KURK Kurchatov 52.87 344⇑*i*P **P** **01 08 34.8 -0.3**
comp=Z,446nm,1.0s,mb6.3
KURK LR LR
comp=Z,3μm,22.0s,MS5.2
OPO Ambohidratompo 53.64 247 P **P** **01 08 41.3 0.0**
comp=Z,24nm,0.8s,mb5.2,baz=69,slow=7.1,SNR=35
LBOS 54.21 287⇑*e*P **P** **01 08 45.7 +0.2**
ZAL Zalesovo 54.53 350 P **P** **01 08 46.6 -0.8**
comp=Z,158nm,1.0s,mb6.0,baz=301,slow=6.2,SNR=414
ZAL LR LR 01 35 25.4
comp=Z,11μm,21.8s,MS5.9,baz=295,slow=40
DHBB Dhamar BB 55.15 287⇑*e*P **P** **01 08 53.0 +0.7**
NVS Novosibirsk 55.67 349⇑*i*P **P** **01 08 54.1 -1.5**
NVS *i* *PP pP 01 09 05.0 -1.8
NVS *i* S **S** **01 16 36.6 -0.8**
NVS pmax pmax
comp=Z,212nm,1.1s,mb6.1
NVS pmax pmax
comp=N,165nm,1.4s
NVS pmax pmax
comp=E,81nm,1.3s
NVS pmax pmax
comp=Z,79nm,1.7s,mb5.5
NVS pmax pmax
comp=N,92nm,2.3s
NVS pmax pmax
comp=E,81nm,2.0s
NVS smax
comp=N,188nm,2.0s
NVS smax
comp=E,121nm,2.0s
RAYN Ar Rayn 56.14 298 P **P** **01 08 58.3 -1.1**
comp=E,590nm,0.9s,SNR=54
ATD Arta Tunnel 56.18 284 P **P** **01 09 01.7 +1.9**
comp=E,18nm,1.0s,mb5.1,baz=143,slow=7.6,SNR=5.0
KLR Kul'dur 56.48 26κ*i*P **P** **01 08 59.0 -2.5**
KLR *e* 01 11 02.5
KLR *e*S **S** **01 16 38.0 -10**
KLR *e*PS PS 01 17 11.8 +6.2
KLR pmax pmax
comp=N,2μm,8.0s
KLR pmax pmax
comp=Z,3μm,8.0s
KLR MLR MLR
comp=Z,16μm,14.0s,MS6.3
BVA0 Borovoye Array 57.39 340 *i*P **P** **01 09 06.5 -1.4**
BVA0 pmax pmax
comp=Z,56nm,1.5s,mb5.4
BVAR Borovoye Array 57.39 340 P **P** **01 09 06.6 -1.3**

comp=Z,88nm,0.9s,mb5.8,baz=143,slow=7.4,SNR=263
TOO Toolangi 57.57 136⇑ *i*P P 01 09 10.6 +1.2
comp=Z,3.6nm,1.1s
TOO Toolangi 57.57 136⇑ *i*P P 01 09 10.6 +1.2
TOO pmax pmax
comp=Z,4.0nm,1.1s
CHKZ Chkalovo 57.86 341⇑ *i*P P 01 09 10.2 -1.0
CHKZ pmax pmax
comp=Z,245nm,1.0s,mb6.2
CHKZ Chkalovo 57.86 341⇑ *i*P P 01 09 10.2 -1.0
comp=Z,245nm,1.0s,mb6.2
BOD Bodaibo 58.60 10 *e*P P 01 09 15.8 -0.5
BOD pmax pmax
comp=Z,314nm,1.1s,mb6.3
ASAJ Asahikawa 58.63 36 P P 01 09 16.1 -0.7
comp=Z,37nm,1.1s,mb5.3,baz=254,slow=11,SNR=8.7
CLNS Chul'man 60.18 16 *e*P P 01 09 27.1 -0.2
CLNS *e**PP pP 01 09 34.5 -4.0
CLNS *e* 01 10 08.2
CLNS *e* 01 11 34.3
CLNS *e*S **S 01 17 35.3 -1.1**
CLNS pmax pmax
comp=N,46nm,1.0s
CLNS pmax pmax
comp=Z,123nm,1.0s,mb5.9
CLNS pmax pmax
comp=E,50nm,0.9s
CLNS pmax pmax
comp=Z,34nm,1.1s,mb5.3
CLNS pmax pmax
comp=N,41nm,1.0s
CLNS pmax pmax
comp=E,52nm,1.0s
CLNS smax
comp=E,295nm,11.5s
CLNS smax
comp=Z,643nm,11.9s
CLNS smax
comp=N,815nm,12.9s
CLNS MLR MLR
comp=Z,10μm,15.0s,MS6.1
CLNS MLR MLR
comp=N,4μm,13.0s,MS5.8
CLNS MLR MLR
comp=E,2μm,14.0s,MS5.8
BHD Baghdad 60.23 309 *e*P P 01 09 16.0 -12
YSS Yuzh-Sakhalins 60.38 33α *i*P P 01 09 27.4 -1.4
YSS *e**PP pP 01 09 37.0 -3.0
YSS *e**SP sP 01 09 41.3 -3.2
YSS *i* 01 10 11.3
YSS *e* 01 11 45.0
YSS *e*S **S 01 17 36.0 -3.2**
YSS *e*PS PS 01 17 50.0 -10
YSS *e*PPS PPS 01 18 03.0 -5.3
YSS *e*SS SS 01 21 36.0 -2.3
YSS pmax pmax
comp=Z,370nm,1.1s,mb6.3
YSS pmax pmax
comp=E,80nm,0.9s
YSS pmax pmax
comp=Z,2μm,7.0s
YSS pmax pmax
comp=N,110nm,1.1s
YSS pmax pmax
comp=Z,270nm,1.1s,mb6.2
YSS MLR MLR
comp=Z,8μm,19.0s,MS5.9
YSS MLR MLR
comp=N,6μm,20.0s,MS5.9
YSS MLR MLR
comp=E,6μm,19.0s,MS5.9
YSS Yuzh-Sakhalins 60.38 33⇑ *i*P P 01 09 28.1 -0.7
comp=E,350nm,1.0s,mb6.3
YSS LR LR
comp=Z,9μm,20.0s,MS5.9
YUK Yuzh-Kuril'sk 60.55 38 *e*P P 01 09 26.0 -3.9
YUK *e* 01 10 11.0
YUK *e* 01 11 44.0
YUK S **S 01 17 47.0 +5.7**
YUK pmax pmax
comp=Z,2μm,3.0s
YUK MLR MLR
comp=N,4μm,16.0s,MS5.8
YUK MLR MLR
comp=Z,8μm,16.0s,MS6.0
YUK MLR MLR
comp=E,3μm,15.0s,MS5.8
KMBO Kilima Mbogo 61.10 269 *e*P P 01 09 34.6 +0.5
KMBO *e* pP 01 09 46.5 +1.1
KMBO pmax pmax
comp=Z,110nm,1.4s
KMBO MLR MLR
comp=Z,11μm,20.0s
KMBO Kilima Mbogo 61.10 269 P P 01 09 34.8 +0.7
comp=Z,16nm,0.9s,mb5.1,baz=62,slow=9.0,SNR=50
KMBO LR LR 01 32 42.1
comp=Z,11μm,19.3s,MS6.0,baz=83,slow=33
KMBO Kilima Mbogo 61.10 269 *e*P P 01 09 34.6 +0.5
comp=Z,110nm,1.4s,mb5.8
KMBO *e* pP 01 09 46.5 +1.1
KMBO LR LR
comp=Z,11μm,20.0s,MS6.0
TAU Tasmania Unive 61.47 141 P P 01 09 34.3 -1.9
TAU pmax pmax
comp=Z,206nm,1.4s,mb6.1
TAU MLR MLR
comp=Z,2μm,20.0s,MS5.3
TAU Tasmania Unive 61.47 141 P P 01 09 34.3 -1.9
comp=Z,206nm,1.4s,mb6.1
TAU LR LR
comp=Z,2μm,20.0s,MS5.3
MAK Makhachkala 62.08 320 *e*P P 01 09 38.0 -2.3
MAK *e* 01 10 19.0
MAK *e*S **S 01 17 58.0 -2.8**
MAK *i* PS PS 01 18 15.0 -7.9
MAK *i* 01 19 28.0
MAK pmax pmax
comp=Z,2μm,7.0s
MAK pmax pmax
comp=Z,1μm,8.0s
MAK smax
comp=N,3μm,8.0s
MAK smax
comp=E,2μm,8.0s
MAK MLR MLR
comp=Z,3μm,17.0s,MS5.5
MAK MLR MLR
comp=N,3μm,19.0s,MS5.5
MAK MLR MLR
comp=E,2μm,19.0s,MS5.5
HNR Honiara 62.09 101 *e*P P 01 09 38.9 -1.8
HNR pmax pmax
comp=Z,365nm,0.9s,mb6.5
HNR Honiara 62.09 101 *e*P P 01 09 38.9 -1.9
comp=Z,365nm,0.9s,mb6.5
MSL Mosul 62.32 311 *e*P P 01 09 41.5 -0.5
MSL *i* pP pP 01 09 52.0 -1.3
MSL *e*PcP PcP 01 10 12.5 -8.7
MSL *e*S **S 01 18 02.5 -1.5**
MSL *e*SP SP 01 18 22.0 +1.2
MSL *e*PPS PPS 01 18 46.0 +11
HKR Hakkari 62.33 313 *e*P P 01 09 40.9 -1.2
GNI Garni 62.66 316 *e*P P 01 09 42.0 -2.3
GNI Garni 62.66 316*c* *i*P P 01 09 43.2 -1.0
GNI pmax pmax
comp=Z,46nm,1.0s
GNI MLR MLR
comp=Z,4μm,22.0s
GNI Garni 62.66 316 P P 01 09 44.2 0.0
comp=Z,45nm,1.0s,mb5.6,baz=335,slow=7.5,SNR=16
GNI Garni 62.66 316 *e*P P 01 09 43.3 -1.0
comp=Z,165nm,1.1s,mb6.1
GNI LR LR
comp=Z,4μm,21.0s,MS5.5
DGRG David-gareji 62.79 318 P P 01 09 45.0 -0.1
VANB Van 62.99 314 *e*P P 01 09 43.6 -2.8
MTA Mtatsminda 63.29 318 P P 01 09 47.6 -0.8
TI2 Plekhanov 63.34 318⇑ *i*P P 01 09 48.0 -0.7
TI2 *i* S **S 01 18 15.4 -1.2**
TI2 *i* S **S 01 18 16.4 -0.2**
TI2 pmax pmax
comp=Z,200nm,1.0s,mb6.2
TBLG Delisi 63.34 318 P P 01 09 47.9 -0.9
DUS Dusheti 63.52 318 P P 01 09 50.4 +0.5
SVE Sverdlovsk 63.86 338*d* *i*P P 01 09 51.0 -0.8
SVE *e**PP pP 01 10 01.4 -1.8
SVE *i**SP sP 01 10 05.6 -1.9
SVE *e*S **S 01 18 22.6 -0.2**
SVE *e* 01 18 42.9
SVE pmax pmax
comp=Z,227nm,1.1s,mb6.1
SVE MLR MLR
comp=Z,9μm,22.0s,MS5.9
KARS Kars 64.00 316 *e*P P 01 09 51.6 -1.4
BTMT Batman 64.21 313 *e*P P 01 09 52.9 -1.6
BEST Besiri 64.26 313 *i*P P 01 09 53.9 -0.9
ZEI Tsey 64.36 318 *i*P P 01 09 55.2 -0.1
ZEI *i**PP pP 01 10 09.8 +3.1
ZEI *i* 01 12 19.0
ZEI *e*S **S 01 18 28.7 -0.6**
ZEI pmax pmax
comp=Z,48nm,0.9s,mb5.5
ARU Arti 64.37 337⇑ *i*P P 01 09 53.7 -1.4
ARU *i* 01 10 30.6
ARU *e* 01 12 12.2
ARU *e*PPP PPP 01 13 48.6 -2.9
ARU *i* S **S 01 18 31.3 +2.1**
ARU *e*SS SS 01 22 33.6 -7.4
ARU pmax pmax
comp=Z,99nm,1.0s,mb5.8
ARU MLR MLR
comp=N,4μm,19.0s,MS5.7
ARU MLR MLR
comp=E,3μm,19.0s,MS5.7
ARU MLR MLR
comp=Z,7μm,19.0s,MS5.9
ARU Arti 64.37 337 *e*P P 01 09 53.5 -1.6
comp=Z,134nm,1.0s,mb5.9
ARU *e* pP 01 10 04.8 -1.7
ARU LR LR
comp=Z,2μm,19.0s,MS5.3
BINT Bingol 65.19 313 *e*P P 01 09 58.8 -2.0
BCA Borcka 65.35 316 *e*P P 01 09 58.7 -3.1
KIV Kislovodsk 65.66 319*c* *i*P P 01 10 02.3 -1.4
KIV *i**PP pP 01 10 10.1 -5.0
KIV *i* 01 10 17.4
KIV *i* 01 12 28.8
KIV *i* S S 01 18 43.8 -1.4
KIV *i* 01 19 06.4
KIV *i* 01 19 55.4
KIV *e*SS SS 01 22 59.5 -1.7
KIV pmax pmax
comp=Z,103nm,1.0s,mb5.8
KIV MLR MLR
comp=Z,4μm,22.0s,MS5.6
KIV Kislovodsk 65.66 319⇑ *e*P P 01 10 02.2 -1.5
comp=Z,142nm,0.9s,mb6.0
KIV LR LR
comp=Z,942nm,21.0s,MS5.0
ASF Jabal al Asfar 65.86 305 P P 01 10 05.6 +0.4
comp=Z,22nm,0.9s,mb5.2,baz=63,slow=9.0,SNR=15
YAK Yakutsk 65.88 16⇑ *i*P P 01 10 03.6 -1.2
YAK pmax pmax
comp=Z,267nm,0.9s,mb6.3
YAK MLR MLR
comp=Z,18μm,21.0s,MS6.2
YAK Yakutsk 65.88 16⇑ *i*P P 01 10 03.6 -1.2
comp=Z,267nm,0.9s,mb6.3
YAK LR LR
comp=Z,18μm,21.0s,MS6.2
GOF Gofitskoye 65.91 320⇑ *i*P P 01 10 03.3 -2.0
GOF *i* S S 01 18 46.0 -2.2
GOF pmax pmax
comp=Z,700nm,1.0s,mb6.7
GOF smax
comp=E,1μm,4.0s
GOF smax
comp=N,1μm,5.0s
URFA Urfa 65.93 311 *e*P P 01 10 04.3 -1.2
EZC Erzincan 65.99 314 *e*P P 01 10 06.7 +0.8
PTK Pertek 66.00 313 *e*P P 01 10 04.6 -1.3
ELZG Elazig 66.16 312 *i*P P 01 10 06.9 -0.1
GUMT Gumushane 66.49 315 *e*P P 01 10 05.8 -3.2
MALT Malatya 66.51 312 *e*P P 01 10 06.5 -2.7
MALT Malatya 66.51 312⇑ *e*P P 01 10 08.9 -0.3
MALT pmax pmax
comp=Z,181nm,1.4s,mb5.9
MALT Malatya 66.51 312⇑ *e*P P 01 10 08.8 -0.4
comp=Z,181nm,1.4s,mb5.9
MYA Malataya 66.52 312 *e*P P 01 10 08.6 -0.6
EIL Elat 66.85 302 *e*P P 01 10 10.5 -1.0
comp=Z,217nm,1.4s,mb6.0
GZT Gaziantep 66.85 311 *i*P P 01 10 11.3 -0.1
MIR Mirnyy 66.90 182*c* *i*P P 01 10 20.2 +9.0
MIR *e* 01 10 44.0
MIR *e*S S 01 19 05.0 +5.1
MIR pmax pmax
comp=Z,2μm,3.2s
MIR smax
comp=N,1μm,8.0s
MIR MLR MLR
comp=N,3μm,16.0s,MS5.6
MIR MLR MLR
comp=E,890nm,16.0s,MS5.6
MIR MLR MLR
comp=Z,9μm,16.0s,MS6.1
GAZ Gaziantep 67.06 311 *e*P P 01 10 12.6 -0.1
CASY Casey 67.09 175 *e*P P 01 10 12.9 +0.5
SOC Sochi 67.48 318 *i*P P 01 10 13.4 -1.8
SOC *e* 01 10 43.5
SOC *e* 01 12 38.0
SOC *e*PPP PPP 01 14 25.1 +2.1
SOC *i* S S 01 19 01.7 -5.5
SOC *e* 01 20 04.0
SOC *e*SS SS 01 23 21.5 -8.0
SOC pmax pmax
comp=N,15nm,0.7s
SOC pmax pmax
comp=Z,103nm,0.7s,mb6.0
SOC pmax pmax
comp=E,51nm,1.1s
SOC MLR MLR
comp=Z,2μm,21.0s,MS5.2
SOC MLR MLR
comp=N,51nm,17.0s,MS5.3
SOC MLR MLR
comp=E,2μm,21.0s,MS5.3
COBT Iskenderun 67.60 310 *i*P P 01 10 14.5 -1.5
MBAR Mbarara 67.61 269 P P 01 10 16.7 +0.2
comp=E,136nm,1.0s,mb5.9,SNR=19
MBAR Mbarara 67.61 269 *e*P P 01 10 16.1 -0.4
MBAR *e* pP 01 10 27.3 -0.7
MBAR pmax pmax
comp=Z,348nm,1.8s,mb6.1
MBAR MLR MLR
comp=Z,1μm,20.0s,MS5.2
MBAR Mbarara 67.61 269 *e*P P 01 10 16.1 -0.4
comp=Z,348nm,1.8s,mb6.1
MBAR *e* pP 01 10 27.3 -0.7
MBAR LR LR
comp=Z,1μm,20.0s,MS5.2
TOKT Tokat 68.55 314 *e*P P 01 10 20.9 -1.0
AVNT Avonos 69.32 312 *i*P P 01 10 25.7 -1.0
ANN Anapa 69.46 318 *e*P P 01 10 25.2 -2.2
ANN *e* 01 10 56.5
ANN *e*S S 01 19 29.3 -1.4
ANN pmax pmax
comp=Z,33nm,0.8s,mb5.3
CSS Prodhromos 69.46 307 *e*P P 01 10 26.9 -0.8
comp=Z,145nm,1.3s,mb5.8
KWAJ Kwajalein Atol 69.46 81 PFAKE 01 10 40.0 +12
KWAJ LR LR
comp=Z,611nm,22.0s
NOUC Port Laguerre 69.79 114 *e*P P 01 10 29.8 0.0
SKR Severo-Kuril's 69.86 35 *e*P P 01 10 26.4 -3.4
SKR *e* pP 01 10 40.0 -1.2
SKR *e* 01 13 10.0
SKR *e*PPP PPP 01 14 40.0 -6.1
SKR *e*S S 01 19 34.0 -1.3
SKR *e*PS PS 01 19 59.0 -7.9
SKR *e* 01 20 09.0
SKR pmax pmax
comp=E,110nm,1.0s
SKR pmax pmax
comp=Z,110nm,1.0s,mb5.7
SKR pmax pmax
comp=Z,2μm,5.0s
SKR pmax pmax
comp=E,2μm,8.0s
SKR smax
comp=N,2μm,12.0s
SKR smax
comp=E,3μm,12.0s
SKR MLR MLR
comp=Z,6μm,20.0s,MS5.9
SKR MLR MLR
comp=N,4μm,18.0s,MS5.9
SKR MLR MLR
comp=E,4μm,18.0s,MS5.9
DZM Mont Dzumac 69.92 114 *e*P P 01 10 31.0 +0.4
DZM Mont Dzumac 69.92 114 P P 01 10 31.0 +0.3
comp=E,53nm,0.9s,mb5.5,baz=258,slow=7.0,SNR=14
DZM LR LR 01 43 31.1
comp=E,6μm,20.5s,MS5.8,baz=281,slow=38
BRTR Keskin Array B 70.50 312 P P 01 10 32.5 -1.4
comp=E,24nm,0.8s,mb5.2,baz=130,slow=6.9,SNR=106
PECR Pechory 70.67 331⇑ *i*P P 01 10 33.4 -1.2
PECR *i* pP 01 10 46.6 +0.6
PECR *i* 01 13 17.4
PECR *e*S S 01 19 40.4 -4.2
PECR *e* 01 20 21.0
PECR pmax pmax
comp=Z,220nm,2.0s,mb5.7
PECR pmax pmax
comp=Z,1μm,5.0s
PECR smax
comp=N,2μm,9.0s
PECR smax
comp=E,2μm,6.0s
PECR MLR MLR
comp=Z,7μm,22.0s,MS5.9
PECR MLR MLR
comp=N,2μm,17.0s,MS5.8
PECR MLR MLR
comp=E,4μm,20.0s,MS5.8
ELDT Eldivan 70.87 313 *i*P P 01 10 35.2 -0.9
LSZ Lusaka 70.98 254 P P 01 10 37.4 +0.3
LSZ pP pP 01 10 48.7 0.0
LSZ S S 01 19 51.0 +2.1
LSZ PnS 01 20 15.0
LSZ Lusaka 70.98 254 *e*P P 01 10 37.3 +0.1
LSZ pmax pmax
comp=Z,196nm,1.3s,mb5.9
LSZ MLR MLR
comp=Z,15μm,22.0s,MS6.2
LSZ Lusaka 70.98 254 *e*P P 01 10 37.3 +0.2
comp=Z,196nm,1.3s,mb5.9
LSZ LR LR
comp=Z,15μm,22.0s,MS6.2
VOR Voronezh 71.08 326 *e*P P 01 10 35.8 -1.4
VOR *e**SP sP 01 10 47.0 -5.8
VOR pmax pmax
comp=N,40nm,1.0s
VOR pmax pmax
comp=E,60nm,1.0s
VOR pmax pmax
comp=Z,140nm,1.0s,mb5.8
ANTO Ankara 71.16 312 ⇑P P 01 10 37.1 -0.8
BALT Daday 71.20 314 *i*P P 01 10 37.5 -0.6
MA2 Magadan 71.57 25*c* *i*P P 01 10 39.7 -0.3
MA2 pmax pmax
comp=Z,158nm,1.3s,mb5.8
MA2 MLR MLR
comp=Z,11μm,20.0s,MS6.1
MA2 Magadan 71.57 25⇑ *i*P P 01 10 39.9 -0.1
comp=Z,167nm,1.1s,mb5.9
MA2 LR LR
comp=Z,11μm,20.0s,MS6.1
SIM Simferopol' 71.73 318*c* *i*P P 01 10 40.0 -1.1
SIM *e* 01 13 22.0
SIM *i* S S 01 19 54.0 -3.1
SIM *e*SS SS 01 24 34.0 -1.1
SIM pmax pmax
comp=Z,105nm,0.9s,mb5.8
MAW Mawson 72.19 194⇓ *i*P P 01 10 44.4 +0.9
comp=Z,24nm,0.8s,mb5.2
MAW Mawson 72.19 194⇓ *i*P P 01 10 44.4 +0.9
MAW pmax pmax
comp=Z,24nm,0.8s
MAW Mawson 72.19 194 P P 01 10 44.4 +0.9
comp=Z,25nm,0.9s,mb5.2,baz=30,slow=7.1,SNR=16
MAW pP pP 01 10 55.4 +0.4
comp=Z,37nm,0.9s,baz=53,slow=12,SNR=7.3
MAW LR LR 01 35 32.0
comp=Z,11μm,21.1s,MS6.1,baz=23,slow=30
PET Petropavlovsk 72.27 33α *i*P P 01 10 44.0 -0.2
PET *i* 01 13 31.0
PET *e*PS PS 01 20 49.1 +10
PET pmax pmax
comp=E,49nm,1.1s
PET pmax pmax
comp=Z,220nm,1.0s,mb6.0
PET pmax pmax
comp=N,88nm,1.0s
PET pmax pmax
comp=Z,2μm,6.4s
PET pmax pmax
comp=Z,2μm,24.4s
PET pmax pmax
comp=Z,1μm,17.1s
PET MLR MLR
comp=Z,7μm,22.0s,MS5.9
PET MLR MLR
comp=Z,6μm,20.0s
PET MLR MLR
comp=Z,4μm,17.2s
PET Petropavlovsk 72.27 33⇑ *e*P P 01 10 43.0 -1.2
comp=Z,242nm,1.1s,mb6.0
PET LR LR
comp=Z,6μm,21.0s,MS5.8
ISP Isparta 72.37 310 *e*P P 01 10 44.9 -0.2
ISP pmax pmax
comp=Z,112nm,1.2s,mb5.7
ISP Isparta 72.37 310 *e*P P 01 10 44.9 -0.2
comp=Z,112nm,1.2s,mb5.7
ESKT Eskisehir 72.52 311 *i*P P 01 10 44.8 -1.2
HENT Hendek 72.81 313 *i*P P 01 10 46.3 -1.4
DRV Dumont d'Urvil 73.06 164 P pP 01 10 59.0 -1.1
MOS Moscow 73.61 329α *i*P P 01 10 51.7 -0.4
MOS *e* pP 01 11 01.2 -2.3
MOS *e* 01 11 08.5
MOS *e*PPP PPP 01 15 21.1 -1.4
MOS *e*S S 01 20 15.4 -2.9
MOS *e* 01 21 13.3
MOS pmax pmax
comp=Z,173nm,1.0s,mb5.9
MOS MLR MLR
comp=Z,6μm,22.2s,MS5.9
MOS MLR MLR
comp=N,5μm,22.6s,MS5.9
MOS MLR MLR
comp=E,4μm,21.0s,MS5.9
OBN Obninsk 73.90 328*c* *i*P P 01 10 52.7 -1.1
OBN *i* pP 01 11 04.0 -1.3
OBN *i* 01 13 38.6
OBN *i* S S 01 20 21.8 +0.2
OBN *i* SS SS 01 25 15.1 +6.5
OBN pmax pmax
comp=Z,146nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,5μm,22.0s,MS5.8
OBN Obninsk 73.90 328 *e*P P 01 10 52.7 -1.1
comp=Z,349nm,1.5s,mb6.1
OBN *e* pP 01 11 03.9 -1.3
OBN LR LR
comp=Z,1μm,21.0s,MS5.2
ULDT Uludag 73.95 312 *i*P P 01 10 53.7 -0.6
SEY Seymchan 74.06 23 *i*P P 01 10 56.5 +2.0
SEY pP 01 11 10.6 +4.6
SEY *e* 01 13 43.5
SEY *e*PPP PPP 01 15 20.5 -6.3
SEY *e*S S 01 20 26.5 +3.3
SEY 01 21 02.5
SEY pmax pmax
comp=Z,450nm,1.1s,mb6.3
SEY pmax pmax
comp=N,130nm,0.8s
SEY smax
comp=N,2μm,6.1s
SEY smax
comp=E,3μm,8.0s
LBTB Lobatse 74.55 244 *e*P P 01 10 58.6 +0.4
LBTB *e* pP 01 11 09.8 +0.1
LBTB pmax pmax
comp=Z,201nm,1.2s,mb5.9
LBTB Lobatse 74.55 244 *e*P P 01 10 58.6 +0.4

comp=Z,201nm,1.2s,mb5.9
LBTB e pP 01 11 09.8 +0.1
KDAG Bornova 74.99 310 *i* P **P 01 11 00.2 -0.3**
SMG Samos 75.18 309 *e*P **P 01 11 00.4 -1.2**
TLCR 75.40 317 ⇑P **P 01 11 02.4 -0.2**
PSN Preselentsi 75.47 315 *i* P **P 01 11 03.0 -0.1**
TIRR Tirgusor 75.49 316 ⇓P **P 01 11 02.8 -0.4**
TIRR Tirgusor 75.49 316 P **P 01 11 03.0 -0.2**
KIS Kishinev 75.86 319 *e*P **P 01 11 03.0 -2.2**
KIS *i* 01 11 20.0
KIS *e* 01 14 04.0
KIS *i* S S 01 20 40.0 -3.5
KIS *i* PS 01 21 04.0
KIS SS SS 01 25 42.0 +3.1
CFR Carcaliu 75.86 317⇑*i*P **P 01 11 04.6 -0.7**
HARR Harsova 75.88 316⇑*i*P **P 01 11 05.0 -0.4**
PRD Provadia 75.91 315 *i* P **P 01 11 05.0 -0.6**
PRK Paraskevi 75.92 310 *e*P **P 01 11 04.9 -0.8**
JMB Yambol 76.34 314 *i* P **P 01 11 08.0 0.0**
ALN Alexandroupoli 76.41 312 *e*P **P 01 11 03.5 -5.0**
AKASG Malin Array Be 76.59 322 P **P 01 11 08.0 -1.3**
comp=Z,36nm,0.8s,mb5.3,baz=89,slow=4.8,SNR=106
AKASG pP pP 01 11 19.2 -1.5
comp=Z,26nm,0.8s,baz=80,slow=4.6,SNR=7.2
AKASG Malin Array Be 76.59 322 P **P 01 11 08.0 -1.3**
AKASG pP pP 01 11 19.2 -1.5
IAS Iasi 76.73 319 P **P 01 11 09.8 -0.4**
RDO Rodhopi 76.84 312 *e*P **P 01 11 09.6 -1.3**
ISR Istrita 76.94 316⇑*i*P **P 01 11 12.0 +0.6**
SZH Strazhica 76.97 314 *i* P **P 01 11 11.3 -0.3**
VRI Vrincioaia 76.98 317 P **P 01 11 11.8 +0.2**
VRI Vrincioaia 76.98 317⇑*i*P **P 01 11 11.8 +0.2**
VRI Vrincioaia 76.98 317⇑*i*P **P 01 11 11.9 +0.3**
KDZ Kurdzhali 77.02 313 *i* P **P 01 11 11.5 -0.5**
BUC1 Bucharest 77.13 315 P **P 01 11 13.2 +0.7**
MLR Muntele Rosu 77.44 317 P **P 01 11 14.2 0.0**
MLR Muntele Rosu 77.44 317 P **P 01 11 14.0 -0.1**
comp=Z,100nm,1.0s,mb5.7,baz=110,slow=5.2,SNR=95
MLR pP pP 01 11 26.6 +0.9
comp=Z,103nm,0.9s,baz=256,slow=2.4,SNR=7.3
MLR LR LR 01 50 21.0
comp=Z,3μm,21.3s,MS5.5,baz=317,slow=40
MLR Muntele Rosu 77.44 317⇑*i*P **P 01 11 14.4 +0.2**
MLR Muntele Rosu 77.44 317⇑*i*P **P 01 11 14.4 +0.2**
RZN Rozhen 77.55 313 *i* P **P 01 11 14.0 -0.9**
PTL Penteli 77.56 309 *e*P **P 01 11 13.5 -1.5**
ATH Athens Observa 77.66 309 *e*P **P 01 11 14.5 -1.1**
MPAR Parnis Oros 77.67 309 *e*P **P 01 11 14.4 -1.2**
SNX Sinaia 77.70 316 P **P 01 11 16.5 +0.9**
NAIG Nisos Aigina 77.81 308 *e*P **P 01 11 13.8 -2.6**
RPZ Rata Peaks 77.83 135 P **P 01 11 16.8 +0.4**
comp=Z,36nm,0.8s,mb5.3,baz=244,slow=5.9,SNR=13
RPZ pP pP 01 11 27.7 -0.1
comp=Z,82nm,0.7s,baz=169,slow=1.0,SNR=12
NSAL Nisos Salamina 77.85 309 *e*P **P 01 11 10.8 -5.8**
MTUR Matau 77.99 316⇓*i*P **P 01 11 16.6 -0.6**
MGER Gerania Oros 78.02 309 *e*P **P 01 11 15.3 -2.2**
VLI Veliai 78.08 307 *e*P **P 01 11 18.0 +0.1**
PGB Panagyurishte 78.11 313 *i* P **P 01 11 17.5 -0.4**
MMB Musomiste 78.26 312 *i* P **P 01 11 17.3 -1.4**
PLG Polygyros 78.26 311 *e*P **P 01 11 09.2 -10**
SRS Serrai 78.28 312 *e*P **P 01 11 16.1 -2.7**
QRZ Quartz Range 78.33 132 PN **P 01 11 20.0 +0.8**
BURAR Bucovina Array 78.38 319 P **P 01 11 20.1 +0.8**
BURAR Bucovina Array 78.38 319⇓*i*P **P 01 11 20.3 +1.0**
SOH Sokhos 78.41 312 *e*P **P 01 11 09.4 -10**
MNK Minsk 78.46 326⇑*i*P **P 01 11 16.0 -3.5**
THE Thessaloniki 78.67 311 *e*P **P 01 11 17.9 -3.1**
THE Thessaloniki 78.67 311 *e*P **P 01 11 19.3 -1.7**
PUL Pulkovo 78.74 331 *e*P **P 01 11 19.9 -1.1**
PUL pmax pmax
comp=Z,172nm,0.9s,mb6.0
PUL pmax pmax
comp=N,46nm,0.8s
PUL pmax pmax
comp=E,38nm,0.6s
PUL pmax pmax
comp=Z,118nm,0.6s,mb6.0
PUL pmax pmax
comp=N,77nm,1.0s
PUL pmax pmax
comp=E,119nm,0.9s
PUL MLR MLR
comp=Z,6μm,24.0s,MS5.9
PUL MLR MLR
comp=N,4μm,19.0s
PUL MLR MLR
comp=E,3μm,25.0s
PUL Pulkovo 78.74 331⇑*i*P **P 01 11 20.0 -1.0**
KKB Krupnik 78.78 313 *i* P **P 01 11 20.2 -1.4**
KNT Kendrikon 78.80 312 *e*P **P 01 11 22.1 +0.3**
VTS Vitosha 78.81 313 P **P 01 11 21.5 -0.2**
VTS Vitosha 78.81 313 *i* P **P 01 11 21.0 -0.8**
AGG Agios Georgios 78.90 310 *e*P **P 01 11 17.1 -5.3**
LIT Litokhoron 78.94 311 *e*P **P 01 11 19.8 -2.8**
ITM Ithomi 78.95 308 *e*P **P 01 11 21.0 -1.6**
VAY Valandovo 79.07 312⇑*i*P **P 01 11 22.0 -1.2**
GRG Griva 79.14 312 *e*P **P 01 11 20.7 -2.9**
IDID Didziasalis 79.28 326 *i* P **P 01 11 23.7 -0.4**
IDID AMPb AMB 01 11 25.8
comp=Z,39nm,0.9s,mb5.3
EVR Evrytania 79.28 309 *e*P **P 01 11 23.1 -1.3**
IIGN Ignalina 79.58 326 *i* P **P 01 11 25.3 -0.3**
IIGN AMPb AMB 01 11 31.1
comp=Z,47nm,1.0s,mb5.4
SYO Syowa Base 79.59 198 ⇑P **P 01 11 26.4 +0.9**
SYO Syowa Base 79.59 198 ⇑pP pP 01 11 36.6 -0.5
LVV L'vov 79.61 321 *c i*P **P 01 11 25.5 -0.5**
LVV *e* 01 14 35.5
LVV *e*S S 01 21 17.9 -5.8
LVV *e*PS PS 01 22 05.5 -7.6
LVV *e*SS SS 01 26 35.1 -0.2
LVV MLR MLR
comp=E,2μm,21.0s,MS5.5
LVV MLR MLR
comp=N,2μm,20.0s,MS5.5
LVV MLR MLR
comp=Z,2μm,21.0s,MS5.3
IZAR Zarasai 79.67 327 *i* P **P 01 11 25.8 -0.3**
IZAR AMPb AMB 01 11 27.7
comp=Z,27nm,1.1s,mb5.1
IZAR *e*pP pP 01 11 35.0 -2.7
SUR Sutherland 79.68 237 *e*P **P 01 11 27.8 +1.1**
comp=Z,64nm,1.4s,mb5.4
ISAL Salakas 79.69 327 *i* P **P 01 11 26.0 -0.3**
ISAL AMPb AMB 01 11 27.8
comp=Z,30nm,0.9s,mb5.2
ISAL *e*pP pP 01 11 36.2 -1.6
MEV Metsovon 79.85 310 *e*P **P 01 11 24.7 -2.7**
FNA Florina 79.88 311 *e*P **P 01 11 17.9 -10**
BOLS Boljevac 79.92 314⇑*i*P **P 01 11 27.0 -0.8**
LVZ Lovozero 79.98 340 *e*P **P 01 11 27.0 -0.6**
LVZ *e*S S 01 21 23.4 -3.8
LVZ pmax pmax
comp=Z,66nm,0.9s,mb5.6
LVZ MLR MLR
comp=Z,9μm,21.0s,MS6.1
LVZ MLR MLR
comp=N,4μm,22.0s,MS6.0
LVZ MLR MLR
comp=E,6μm,21.0s,MS6.0
SKO Skopje 80.01 312⇑*i*P **P 01 11 26.8 -1.5**
comp=Z,0.0nm,0.9s
SNZO South Karori 80.03 132 PFAKE 01 11 40.0 +12
SNZO LR LR
comp=Z,15μm,21.0s,MS6.3
JAN Janina 80.12 310 *e*P **P 01 11 28.0 -0.9**
VLS Valsamata 80.13 309 *e*P **P 01 11 28.1 -0.9**
KWP Kalwaria 80.42 320 P **P 01 11 29.9 -0.4**
KWP pmax pmax
comp=Z,120nm,1.1s,mb5.7
KWP Kalwaria 80.42 320 *e*P **P 01 11 30.2 -0.1**
KWP MLR MLR 01 53 00.9
comp=Z,4μm,21.4s,MS5.7
BZS Buzias 80.44 316 ⇓P **P 01 11 30.6 +0.1**
UZH Uzhgorod 80.50 319 *c i*P **P 01 11 29.0 -1.7**
UZH *e*S S 01 21 28.0 -5.1
IGT Igoumenitsa 80.50 310 *e*P **P 01 11 28.3 -2.6**
SVIS Svilajnac 80.52 315⇓*i*P **P 01 11 30.2 -0.7**
FX1 Attu Island--F 80.56 36 *e*P **P 01 11 31.0 0.0**
KOLS Kolonicke sedl 80.57 320 *i* P **P 01 11 31.5 +0.4**
KOLS *e*pP pP 01 11 40.1 -2.6
GRUS Gruza 80.82 314⇑*i*P **P 01 11 31.9 -0.7**

KEK Kerkira 80.94 310 *e*P **P 01 11 32.4 -0.8**
SUW Suwalki 80.99 325 *e*P **P 01 11 32.5 -0.7**
SUW MLR MLR 01 53 48.0
comp=Z,4μm,18.6s,MS5.7
BKZ Black Stump Fm 81.06 130 PN **P 01 11 35.6 +1.6**
CRVS Cervenica-Dubn 81.09 319 *e*P **P 01 11 34.8 +1.0**
CRVS *e*S S 01 21 39.9 +0.7
CRVS *e* 01 21 57.6
CRVS Cervenica-Dubn 81.09 319 *e*S S 01 21 39.9 +0.7
CRVS *e*SCS ScS 01 21 57.6 +2.2
PVY Plav 81.17 313⇑*i*P **P 01 11 33.5 -1.0**
FINES FINESS Array B 81.24 332 P **P 01 11 34.1 -0.3**
comp=Z,55nm,0.8s,mb5.5,baz=104,slow=7.9,SNR=137
FINES pP pP 01 11 46.8 +0.8
comp=Z,47nm,0.9s,baz=98,slow=4.7,SNR=8.9
FINES PKKPbc 01 30 14.1
comp=Z,3.1nm,1.1s,slow=4.2,SNR=4.1
FINES LR LR 01 52 50.2
comp=Z,3μm,21.5s,MS5.7,baz=281,slow=40
IVA Berane 81.26 313⇑*i*P **P 01 11 33.9 -1.0**
KAF Kangasniemi 81.32 333 *e*p **P 01 11 34.9 +0.2**
comp=Z,107nm,0.9s,mb5.8,baz=103,slow=5.0
KAF Kangasniemi 81.32 333 *e*P **P 01 11 34.9 +0.2**
KAF pmax pmax
comp=Z,107nm,0.9s,mb5.8
DIVS Divcibare 81.36 314⇓*i*P **P 01 11 35.0 -0.4**
URZ Urewera 81.42 129 P **P 01 11 35.7 -0.2**
comp=Z,14nm,0.5s,mb5.2,baz=260,slow=3.0,SNR=24
BILL Bilibino 81.51 21 *c i*P **P 01 11 35.1 -0.6**
BILL *i* 01 14 47.2
BILL *i* S S 01 21 44.7 +1.6
BILL *i* PS PS 01 22 49.7 +13
BILL *e*SS SS 01 27 07.5 +4.1
BILL pmax pmax
comp=Z,34nm,1.6s,mb5.0
BILL MLR MLR
comp=Z,9μm,22.0s,MS6.1
BILL Bilibino 81.51 21 *e*P **P 01 11 34.6 -1.1**
comp=Z,52nm,1.2s,mb5.3
BILL LR LR
comp=Z,14μm,19.0s,MS6.3
ULC Ulcinj 81.62 312⇑*i*P **P 01 11 36.0 -0.8**
KECS Kecovo 81.66 319 *i* P **P 01 11 36.8 0.0**
KECS *e* pP 01 11 48.5 +0.1
KECS *e*S S 01 21 44.9 -0.1
TTG Podgorica 81.67 313⇑*i*P **P 01 11 35.8 -1.2**
PLE Pljevlja 81.69 314⇑*i*P **P 01 11 36.7 -0.4**
NKY Niksic 81.91 313⇑*i*P **P 01 11 37.5 -0.8**
NIE Niedzica 81.92 320⇑*i*P **P 01 11 36.7 -1.4**
BUM Brajici-Budva 81.92 313⇑*i*P **P 01 11 37.5 -0.9**
WAR Warsaw 81.93 323 *e*P **P 01 11 39.6 +1.5**
WAR MLR MLR 01 51 29.8
comp=Z,5μm,23.1s,MS5.8
PSZ Piszkesteto 81.97 318 *i*P **P 01 11 38.2 -0.2**
PSZ pmax pmax
comp=Z,325nm,1.6s,mb6.0
PSZ Piszkesteto 81.97 318⇑*i*P **P 01 11 38.2 -0.2**
comp=Z,325nm,1.6s,mb6.0
PSZ Piszkesteto 81.97 318⇑*e*P **P 01 11 38.4 0.0**
UPM Unac-Piva 82.03 313⇑*i*P **P 01 11 38.0 -0.9**
HCY Herceg Novi 82.24 313⇑*i*P **P 01 11 39.0 -0.9**
BRY Bratogost 82.26 313⇑*i*P **P 01 11 39.1 -0.9**
MXZ Matakaoa Point 82.28 128 *e*PN **P 01 11 41.2 +1.0**
OJC Ojcow 82.37 321 *e*P **P 01 11 40.5 +0.1**
OJC *e*S S 01 21 51.1 -1.1
OJC MLR MLR 01 27 09.0
comp=Z,3μm,19.7s,MS5.7
PKSM Moragy 82.59 316 ⇑P **P 01 11 41.4 -0.2**
LIKS Likavka 82.65 319 *e*P **P 01 11 42.9 +1.0**
VYHS Vyhne 82.75 319 *i* P **P 01 11 42.5 +0.1**
VYHS *e*sP sP 01 11 54.6 -3.5
SRO2 Moca 82.95 318 *e*P **P 01 11 44.1 +0.7**
SRO2 *e*sP sP 01 11 57.1 -2.1
SRO Srobarova 83.01 318 *e*P **P 01 11 44.2 +0.5**
SRO *e* pP 01 11 56.9 +1.5
SRO *e*S S 01 22 00.0 +1.3
SRO *e* 01 22 25.8
KOLL Kolacno 83.05 319 *i* P **P 01 11 43.9 0.0**
KOLL *e*pP pP 01 11 54.2 -1.4
SRO1 Iza 83.06 318 *e*P **P 01 11 44.6 +0.6**
SRO1 *e*sP sP 01 11 56.9 -2.8
TIP Timpagrande 83.22 309 *e*P **P 01 11 45.3 +0.3**
KEV Kevo 83.24 341 *e*p **P 01 11 44.6 +0.1**
comp=Z,69nm,0.9s,mb5.7
KEV Kevo 83.24 341 *e*P **P 01 11 44.6 +0.1**
KEV pmax pmax
comp=Z,69nm,0.9s,mb5.7
LTRZ Laterza 83.30 311 *e*P **P 01 11 45.8 +0.4**
OKC Ostrava-Krasne 83.37 320⇑*i*P **P 01 11 45.8 +0.3**
OKC *e*pP pP 01 11 58.0 +0.8
OKC *e*SKS SKS 01 22 02.5 +1.7
OKC *e*x x 01 22 25.6
OKC AMS AMS 01 57 50.0
comp=Z,3μm,18.4s
RAC Raciborz 83.37 320 *e*P **P 01 11 46.2 +0.7**
RAC *e*S S 01 22 06.3 +4.0
RAC MLR MLR 01 58 30.0
comp=Z,3μm,19.0s,MS5.7
GRI Girifalco 83.45 309 *e*P **P 01 11 47.2 +1.0**
ORI Oriolo Calabro 83.54 310 *e*P **P 01 11 47.7 +1.1**
ARCES ARCESS Array B 83.68 340 P **P 01 11 47.1 +0.5**
comp=Z,82nm,0.9s,mb5.8,baz=104,slow=5.0,SNR=48
ARCES pP pP 01 11 58.0 -0.3
comp=Z,51nm,0.8s,baz=93,slow=3.9,SNR=8.6
ARCES LR LR 01 52 40.1
comp=Z,9μm,21.7s,MS6.1,baz=273,slow=38
ARE0 ARCESS Array S 83.68 340 *e*P **P 01 11 46.9 +0.2**
SOI Samo 83.68 308 *e*P **P 01 11 47.9 +0.5**
SMOL Smolenice 83.68 319 *e*P **P 01 11 47.3 +0.1**
SMOL *e*sP sP 01 11 59.8 -3.1
MORC Moravsky Berou 83.75 320 *e*P **P 01 11 47.6 +0.1**
MORC *e* pP 01 12 00.1 +0.9
MORC pmax pmax
comp=Z,173nm,1.5s,mb6.0
MORC Moravsky Berou 83.75 320 *e*P **P 01 11 47.6 +0.1**
comp=Z,172nm,1.5s,mb6.0
MORC *e* pP 01 12 00.1 +0.9
ZST Bratislava 83.86 318 *i* P **P 01 11 48.4 +0.3**
ZST *e* pP 01 12 00.6 +0.8
ZST *e*S S 01 22 07.2 -0.1
ZST *e* 01 22 32.2
ZST Bratislava 83.86 318 *e*S S 01 22 07.2 -0.1
ZST *e* 01 22 32.2
ZST *e*L 01 57 51.2
MTTG Motta San Giov 83.96 308 *e*P **P 01 11 49.7 +0.9**
SCLL Scilla 83.96 308 *e*P **P 01 11 49.1 +0.3**
FGMS Monte Sant'Ang 84.05 312 *e*P **P 01 11 49.0 -0.2**
SISC Sisak 84.08 316 *i* P **P 01 11 49.5 +0.3**
SOP Sopron 84.17 318⇑*i*P **P 01 11 49.5 -0.2**
SLCN Sala Consilina 84.19 310 *e*P **P 01 11 50.9 +0.9**
MGR Morigerati 84.23 310 *e*P **P 01 11 48.9 -1.2**
VRAC Vranov 84.31 319⇓*i*P **P 01 11 50.5 +0.2**
VRAC Vranov 84.31 319 P **P 01 11 50.5 +0.1**
comp=Z,9.9nm,0.9s,mb5.0,baz=100,slow=6.5,SNR=12
VRAC pP pP 01 12 02.7 +0.7
comp=Z,11nm,0.9s,baz=87,slow=6.6,SNR=5.7
VRAC Vranov 84.31 319 P **P 01 11 50.6 +0.3**
RGNG Rignano Grg 84.32 312 *e*P **P 01 11 50.8 +0.2**
MRLC Muro Lucano 84.32 311 *e*P **P 01 11 51.1 +0.5**
KTK1 Kautokeino 84.32 340 *e*P **P 01 11 50.1 +0.1**
comp=Z,226nm,1.8s,mb6.0
KTK1 Kautokeino 84.32 340 *e*P **P 01 11 50.1 +0.1**
KTK1 AMb AMB 01 12 09.6
comp=Z,226nm,1.8s,mb6.0
FG4 Candela 84.33 311 *e*P **P 01 11 51.3 +0.7**
GKP Gorka Klasztor 84.36 323 *e*P **P 01 11 50.6 +0.1**
GKP MLR MLR 01 54 58.2
comp=Z,3μm,20.7s,MS5.7
SGO Sicignano 84.44 311 *e*P **P 01 11 51.5 +0.3**
FG5 Orsara di Pugl 84.53 311 *e*P **P 01 11 52.2 +0.6**
DPC Dobruska-Polom 84.60 320⇑*i*P **P 01 11 52.3 +0.6**
DPC *e*PP pP 01 12 04.3 +0.9
DPC *e* 01 22 15.0
DPC MLR MLR
comp=Z,3μm,21.4s,MS5.6
DPC Dobruska-Polom 84.60 320⇑*i*P **P 01 11 52.3 +0.6**
DPC *e*pP pP 01 12 04.3 +0.9
DPC *e*SKS SKS 01 22 15.0 +6.0
DPC *e*x x 01 22 38.0
DPC AMS AMS 01 54 30.0
comp=Z,3μm,21.4s
KSP Ksiaz 84.67 321⇑*e*P **P 01 11 52.5 +0.4**
KSP *e*pP pP 01 12 05.0 +1.2

KSP *e*SKS SKS 01 22 14.0 +4.5
KSP *e*SS SS 01 27 26.0 -24
KSP LR LR
comp=Z,6μm,23.4s,MS5.9
KSP Ksiaz 84.67 321 *e*P **P 01 11 52.7 +0.6**
KSP MLR MLR 01 54 44.4
comp=Z,5μm,23.4s,MS5.9
CSSN Cassano Irpino 84.68 311 *e*P **P 01 11 52.5 +0.1**
RAO Raoul Island 84.72 119 PFAKE 01 12 00.0 +7.1
RAO LR LR
comp=Z,5μm,20.0s,MS5.8
MNO Monte Soro 84.74 308 *e*P **P 01 11 53.9 +1.1**
MIDW Midway 84.78 62 PFAKE 01 12 00.0 +6.8
MIDW LR LR
comp=Z,3μm,20.0s,MS5.7
UPC Upice 84.81 321⇑*i*P **P 01 11 53.4 +0.6**
UPC *e*pP pP 01 12 05.8 +1.3
VNDA Vanda 84.81 169 P **P 01 11 53.5 +1.3**
comp=Z,12nm,1.1s,mb4.9,baz=285,slow=5.2,SNR=17
VNDA PKKPbc 01 30 01.9
comp=Z,1.5nm,0.8s,baz=27,slow=2.5,SNR=5.8
VNDA LR LR 01 43 54.6
comp=Z,5μm,21.1s,MS5.9,baz=308,slow=32
ARSA Arzberg 84.83 317⇑*i*P **P 01 11 53.2 +0.2**
comp=Z,652nm,4.5s
NVLJ Novalja 85.06 315 *i* P **P 01 11 53.0 -1.2**
CII Carovilli 85.28 312 *e*P **P 01 11 55.5 +0.2**
LJU Ljubljana 85.42 316 *e*P **P 01 11 56.4 +0.5**
OBKA Obir 85.44 316⇑*i*P **P 01 11 56.4 +0.4**
comp=Z,675nm,4.7s
SDI San Donato 85.65 312 *e*P **P 01 11 56.8 -0.4**
PRU Pruhonice 85.70 320⇑*i*P **P 01 11 57.6 +0.4**
PRU *e*PP pP 01 12 09.4 +0.5
PRU *e* 01 22 24.4
PRU MLR MLR
comp=Z,2μm,20.6s,MS5.5
PRU Pruhonice 85.70 320⇑*i*P **P 01 11 57.6 +0.4**
PRU *e*pP pP 01 12 09.4 +0.5
PRU *e*SKS SKS 01 22 24.4 +7.9
PRU *e*x x 01 22 45.5
PRU AMS AMS 01 54 20.0
comp=Z,2μm,20.6s
MOA Molln 85.73 318⇑*i*P **P 01 11 57.1 -0.3**
comp=Z,642nm,5.0s
PVCC Panska Ves 85.73 320⇑*i*P **P 01 11 58.1 +0.8**
PVCC *e*pP pP 01 12 09.7 +0.7
PVCC *e*S S 01 22 26.6 +1.0
PVCC AMS AMS 01 55 10.0
comp=Z,3μm,21.6s
VOY Vojsko 85.86 316 *e*P **P 01 11 58.1 +0.1**
VOY *e* pP 01 12 10.3 +0.5
SBA Scott Base 85.91 169 *e*P **P 01 12 00.2 +2.6**
SBA pmax pmax
comp=Z,390nm,1.9s,mb6.3
SBA MLR MLR
comp=Z,4μm,21.0s,MS5.8
SBA Scott Base 85.91 169 *e*P **P 01 12 00.2 +2.6**
comp=Z,390nm,1.9s,mb6.3
SBA LR LR
comp=Z,4μm,21.0s,MS5.8
BSD Bornholm Skovb 85.91 325 *i* P **P 01 11 57.7 -0.4**
BSD *i* pP 01 12 10.3 +0.5
BSD *e*S S 01 22 32.2 +5.0
BSD pmax pmax
comp=Z,41nm,0.9s,mb5.7
BSD Bornholm Skovb 85.91 325 *i* P **P 01 11 57.7 -0.4**
comp=Z,41nm,0.9s,mb5.7
BSD *i* pP 01 12 10.3 +0.5
BSD *e* 01 18 53.0
BSD *e*S S 01 22 32.2 +5.0
TRI Trieste 85.93 316 *e*P **P 01 11 58.3 -0.1**
TRO Tromso 85.95 340 *e*P **P 01 11 57.1 -0.9**
TRO MLR MLR
comp=Z,5274μm,17.1s
TRO Tromso 85.95 340 *e*P **P 01 11 57.1 -0.9**
TRO *e* 01 22 30.2
TRO AMS AMS 01 54 23.2
comp=Z,5μm,17.1s,MS6.0
AQU L'Aquila 85.99 312 P **P 01 11 59.2 +0.4**
AQU pmax pmax
comp=Z,130nm,1.0s,mb6.1
AQU L'Aquila 85.99 312 *e*P **P 01 11 59.4 +0.6**
BRG Berggiesshubel 86.15 321⇑*i*P **P 01 11 59.9 +0.5**
BRG *i* pP 01 12 12.2 +1.1
BRG *i* S S 01 22 31.0 +1.3
BRG pmax pmax
comp=Z,194nm,1.9s,mb6.0
BRG MLR MLR
comp=N,2μm,22.6s,MS5.7
BRG MLR MLR
comp=E,3μm,22.6s,MS5.7
BRG MLR MLR
comp=Z,3μm,20.1s,MS5.8
BRG Berggiesshubel 86.15 321⇑*i*P **P 01 11 59.9 +0.5**
comp=Z,194nm,1.9s,mb6.0
BRG *i* pP 01 12 12.2 +1.1
BRG *i* S S 01 22 31.0 +1.3
BRG *i* SS SS 01 27 52.0 -20
BRG LR LR
comp=Z,3μm,20.1s,MS5.8
GEC2 GERESS Array S 86.17 319 *e*P **P 01 12 00.0 +0.5**
GEC2 *e*S S 01 22 30.9 +1.0
GEC2 pmax pmax
comp=Z,52nm,1.1s,mb5.7
GEC2 GERESS Array S 86.17 319 *e*P **P 01 12 00.0 +0.5**
comp=Z,52nm,1.1s,mb5.7
GEC2 *e*S S 01 22 30.9 +1.0
GERES GERESS Array B 86.17 319 P **P 01 11 59.9 +0.4**
comp=Z,25nm,0.9s,mb5.4,baz=90,slow=4.0,SNR=140
GERES pP pP 01 12 12.4 +1.1
comp=Z,36nm,1.1s,baz=109,slow=2.2,SNR=10
NRCA Norcia 86.23 313 *e*P **P 01 12 00.1 +0.1**
PTCC Patocco-Chiusa 86.25 316 *e*P **P 01 12 00.1 +0.1**
KHC Kasperske Hory 86.27 319⇑*i*P **P 01 12 00.2 +0.2**
KHC *e*PP pP 01 12 12.3 +0.6
KHC *e* 01 15 24.0
KHC *e* 01 22 31.9
KHC MLR MLR
comp=Z,2μm,19.4s,MS5.6
KHC Kasperske Hory 86.27 319⇑*i*P **P 01 12 00.2 +0.2**
KHC *e*pP pP 01 12 12.3 +0.6
KHC *e*PP PP 01 15 24.0 +1.1
KHC *e*S S 01 22 31.9 +1.1
KHC *e*x x 01 22 54.0
KHC AMS AMS 02 00 30.0
comp=Z,2μm,19.4s
KBA Koelnbreinsper 86.30 317⇑*i*P **P 01 11 59.9 -0.3**
comp=Z,405nm,4.9s
KBA Koelnbreinsper 86.30 317⇑*i*P **P 01 11 59.9 -0.3**
KBA pmax pmax
comp=Z,405nm,4.9s
GMNA Gemona 86.33 316 *e*P **P 01 12 00.6 +0.2**
RUE Ruedersdorf 86.37 322 *e*P **P 01 12 00.8 +0.5**
comp=Z,306nm,1.5s,mb6.3
SNTG Esanatoglia 86.38 313 *e*P **P 01 12 00.7 0.0**
ARV Arcevia 86.39 313⇑*i*P **P 01 12 01.5 +0.8**
MA9 Marino 86.51 312 *e*P **P 01 12 01.8 +0.4**
FSSB Fossombrone 86.52 314 *e*P **P 01 12 01.9 +0.6**
MNS Montasola 86.53 312 *e*P **P 01 12 00.8 -0.6**
ASS Assisi 86.58 313 *e*P **P 01 12 01.5 -0.2**
ADK Adak 86.59 38 PFAKE 01 12 10.0 +8.5
ADK LR LR
comp=Z,840nm,19.0s,MS5.2
FVI Forni Avoltri 86.66 316 *e*P **P 01 12 02.0 0.0**
WET Wettzell 86.73 319 *e*P **P 01 12 02.6 +0.4**
WET *e*S S 01 22 37.4 +2.2
WET pmax pmax
comp=Z,36nm,1.0s,mb5.6
WET Wettzell 86.73 319 *e*P **P 01 12 02.6 +0.4**
comp=Z,36nm,1.0s,mb5.6
WET *e*S S 01 22 37.4 +2.2
RSM Repubblica di 86.76 314 *e*P **P 01 12 03.7 +1.1**
CLL Collm 86.77 321⇑*i*P **P 01 12 02.6 +0.2**
CLL *i* pP 01 12 15.0 +0.9
CLL *i* S S 01 22 36.0 +0.4
CLL pmax pmax
comp=Z,31nm,1.1s,mb5.5
CLL MLR MLR
comp=Z,3μm,21.6s,MS5.7
CLL Collm 86.77 321⇑*i*P **P 01 12 02.6 +0.2**
comp=Z,31nm,1.1s,mb5.5
CLL *i* pP 01 12 15.0 +0.9
CLL *i* S S 01 22 36.0 +0.4
CLL LR LR

comp=Z,3µm,21.6s,MS5.7
CLL Collm 86.77 321 ⇑P **P 01 12 02.6 +0.2**
comp=Z,logA/T=1.4,mb5.4
CLL *i* *SP sP 01 12 15.0 -3.1
CLL *i* 01 12 20.6
CLL *i* 01 12 56.1
CLL *i* PP PP 01 15 22.9 -4.5
CLL *e*PPP PPP 01 17 21.0 -3.5
CLL *i* S S 01 22 36.0 +0.4
CLL *e*SSS SSS 01 32 00.0 +8.5
RGN Rugen 86.79 324 *e*P **P 01 12 03.5 +1.1**
comp=Z,87nm,1.1s,mb5.9
HFS Hagfors 86.99 330 P **P 01 12 03.6 +0.3**
comp=Z,67nm,0.9s,mb5.9,baz=117,slow=3.3,SNR=74
HFS pP pP 01 12 15.4 +0.4
comp=Z,53nm,0.7s,baz=135,slow=4.2,SNR=11
HFS PP PP 01 15 29.5 +0.4
comp=Z,16nm,0.9s,baz=104,slow=6.1,SNR=4.1
NKC Novy Kostel 87.07 320 ⇑*i*P **P 01 12 04.5 +0.6**
NKC *e*pP pP 01 12 16.9 +1.3
NKC *e*S S 01 22 39.5 +1.1
NKC AMS AMS 01 57 50.0
comp=Z,3µm,17.1s
MOR8 Moi Rana 87.17 336 ⇑*i*P **P 01 12 03.8 -0.2**
comp=Z,138nm,1.7s,mb5.9
MOR8 Moi Rana 87.17 336 ⇑*i*P **P 01 12 03.8 -0.2**
MOR8 *e*pP pP 01 12 14.6 -1.2
MOR8 AMb AMB 01 12 21.2
comp=Z,138nm,1.7s,mb5.9
SFI Santa Sofia 87.20 314 ⇑*i*P **P 01 12 05.9 +1.2**
PGD Poggio Sodo 87.29 314 *e*P **P 01 12 06.2 +1.1**
COP Copenhagen 87.36 326 ⇑*i*P **P 01 12 06.0 +0.8**
COP *i* pP 01 12 18.0 +1.1
COP *i* S S 01 22 44.4 +3.3
COP pmax pmax
comp=Z,47nm,0.8s,mb5.8
COP MLR MLR
comp=Z,1µm,20.0s,MS5.3
COP Copenhagen 87.36 326 ⇑*i*P **P 01 12 06.0 +0.8**
comp=Z,47nm,0.8s,mb5.8
COP *i* pP 01 12 18.0 +1.1
COP *i* S S 01 22 44.4 +3.3
COP LR LR
comp=Z,1µm,20.0s,MS5.3
COP Copenhagen 87.36 326 ⇑*i*P **P 01 12 06.0 +0.8**
comp=Z,47nm,0.8s,mb5.8
COP *i* pP 01 12 18.0 +1.1
COP Copenhagen 87.36 326 *i* S S 01 22 44.4 +3.3
comp=Z,1µm,20.0s
CTI Castel Tesino 87.42 316 *e*P **P 01 12 06.4 +0.7**
VMG Vicchio 87.42 314 *e*P **P 01 12 06.8 +1.1**
WTTA Wattenberg 87.47 317 ⇑*i*P **P 01 12 05.7 -0.2**
comp=Z,221nm,1.9s,mb6.1
WTTA Wattenberg 87.47 317 ⇑*i*P **P 01 12 05.7 -0.2**
WTTA pmax pmax
comp=Z,221nm,1.9s,mb6.1
WATA Walderalm 87.52 317 ⇑*i*P **P 01 12 05.6 -0.5**
comp=Z,150nm,1.7s,mb6.0
WATA Walderalm 87.52 317 ⇑*i*P **P 01 12 05.6 -0.5**
WATA pmax pmax
comp=Z,150nm,1.7s,mb6.0
SEI Scarperia 87.56 314 *e*P **P 01 12 07.2 +0.9**
MOX Moxa 87.62 320 *e*P **P 01 12 06.9 +0.4**
MOX *e* pP 01 12 19.9 +1.6
MOX pmax pmax
comp=Z,147nm,1.8s,mb5.9
MOX MLR MLR
comp=Z,2µm,20.0s,MS5.6
MOX Moxa 87.62 320 *e*P **P 01 12 06.9 +0.4**
comp=Z,147nm,1.8s,mb5.9
MOX *e* pP 01 12 19.9 +1.6
MOX LR LR
comp=Z,2µm,20.0s,MS5.6
MOX Moxa 87.62 320 *i* P **P 01 12 06.9 +0.4**
MOX pP pP 01 12 20.0 +1.7
MOX S S 01 22 46.0 +2.4
MOX SS SS 01 28 04.0 -29
MOX L 01 59 51.0
LOF Lofoten 87.69 338 *e*P **P 01 12 08.9 +2.4**
comp=Z,160nm,1.6s,mb6.0
LOF Lofoten 87.69 338 *e*P **P 01 12 08.9 +2.4**
LOF AMb AMB 01 12 17.9
comp=Z,160nm,1.6s,mb6.0
FUR Furstenfeldbru 87.75 318 *e*P **P 01 12 07.0 -0.2**
FUR *e*S S 01 22 43.2 -1.7
FUR pmax pmax
comp=Z,23nm,1.1s,mb5.3
FUR Furstenfeldbru 87.75 318 *e*P **P 01 12 07.0 -0.2**
comp=Z,23nm,1.1s,mb5.3
FUR *e*S S 01 22 43.2 -1.7
SQTA Sankt Quirin 87.76 317 ⇑*i*P **P 01 12 07.1 -0.2**
comp=Z,136nm,2.0s,mb5.8
SQTA Sankt Quirin 87.76 317 ⇑*i*P **P 01 12 07.1 -0.2**
SQTA pmax pmax
comp=Z,136nm,2.0s,mb5.8
GRFL Gerfalco 87.81 313 *e*P **P 01 12 07.1 -0.5**
GRA1 Grafenberg Arr 87.83 320 *e*P **P 01 12 08.4 +0.8**
comp=Z,48nm,1.0s,mb5.7
GRA1 *e*pP pP 01 12 21.0 +1.7
GRA1 *e*S S 01 22 48.7 +3.0
GRA1 LR LR
comp=Z,3µm,20.8s,MS5.7
GRF Grafenberg Arr 87.83 320 *e*P **P 01 12 08.4 +0.8**
GRF *e**PP pP 01 12 21.0 +1.7
GRF *e*S S 01 22 48.7 +3.0
GRF pmax pmax
comp=Z,48nm,1.0s,mb5.7
GRF MLR MLR
comp=Z,3µm,20.8s,MS5.7
GRF Grafenberg Arr 87.83 320 *e*P **P 01 12 08.4 +0.8**
comp=Z,48nm,1.0s,mb5.7
GRF *e*pP pP 01 12 21.0 +1.7
GRF *e*S S 01 22 48.7 +3.0
GRF LR LR
comp=Z,3µm,20.8s,MS5.7
GRFO Grafenberg 87.84 320 P **P 01 12 08.3 +0.7**
GRFO S S 01 22 48.4 +2.8
GRFO sS 01 23 10.9
ZCCA Zocca 87.84 314 *e*P **P 01 12 09.4 +1.6**
HSP Hornsund 88.00 347 *e*P **P 01 12 07.6 -0.1**
NSS Namsos 88.08 334 *e*P **P 01 12 07.9 -0.5**
NSS *e* 01 22 47.4
NSS AMS AMS 01 57 36.2
comp=Z,4µm,22.3s,MS5.7
GSCL Gusciola 88.12 314 *e*P **P 01 12 10.2 +1.1**
SAL Salo 88.19 315 *e*P **P 01 12 10.4 +1.0**
ERBM Eremo 88.25 314 *e*P **P 01 12 11.1 +1.4**
SARO Sassorosso 88.25 314 P **P 01 12 09.3 -0.4**
NB2 NORSAR Subarra 88.26 331 P **P 01 12 09.2 -0.1**
comp=Z,132nm,1.2s,mb6.0,baz=96,slow=4.8
NB2 NORSAR Subarra 88.26 331 P **P 01 12 09.2 -0.1**
baz=96,slow=4.8
NOA NORSAR Array B 88.26 331 P **P 01 12 09.3 0.0**
comp=Z,26nm,1.0s,mb5.4,baz=95,slow=4.8,SNR=49
NOA pP pP 01 12 21.4 +0.3
comp=Z,49nm,1.0s,baz=94,slow=4.9,SNR=22
NOA LR LR 01 54 39.6
comp=Z,3µm,21.9s,MS5.7,baz=65,slow=38
NOA NORSAR Array B 88.26 331 P **P 01 12 09.3 0.0**
NOA pP pP 01 12 21.4 +0.3
NOA LR LR 01 54 39.5
BRMO Bormio 88.31 316 ⇑*i*P **P 01 12 10.7 +0.8**
VALM 88.36 314 P **P 01 12 09.7 -0.5**
NAO01 NORSAR Array S 88.42 331 *e*P **P 01 12 10.1 0.0**
comp=Z,107nm,1.2s,mb6.0
NAO01 *e* pP 01 12 20.6 -1.3
NAO01 LR LR
comp=Z,4µm,20.0s,MS5.9
VINC Vinca 88.43 314 P **P 01 12 09.7 -0.8**
CLZ Clausthal 88.44 322 *e*P **P 01 12 11.1 +0.7**
comp=Z,66nm,1.0s,mb5.8
CLZ *e*pP pP 01 12 23.8 +1.6
CLZ *e*S S 01 22 49.3 -1.9
HDH Heidenheim 88.47 318 ⇑*e*P **P 01 12 10.3 -0.3**
BACM 88.49 314 P **P 01 12 09.3 -1.6**
GRAM 88.50 314 P **P 01 12 11.4 +0.6**
BSEG Bad Segeberg 88.52 324 *e*P **P 01 12 11.5 +0.8**
BSEG *e**PP pP 01 12 24.2 +1.7
BSEG *e*S S 01 22 52.5 +0.6
BSEG pmax pmax
comp=Z,81nm,1.1s,mb6.0
UBR Uberruh 88.52 317 *e*P **P 01 12 10.8 -0.1**
CODM 88.65 314 P **P 01 12 11.3 -0.3**
DAVOX Davos 88.66 317 P **P 01 12 12.4 +0.8**
comp=Z,46nm,0.8s,mb5.8,baz=120,slow=5.5,SNR=65
DAVOX pP pP 01 12 24.6 +1.2
comp=Z,26nm,0.7s,baz=175,slow=12,SNR=6.6
DAVA Damuels 88.67 317 ⇑*i*P **P 01 12 12.1 +0.5**
comp=Z,321nm,3.0s
TRON Trondheim 88.71 333 *e*P **P 01 12 13.5 +2.0**
SIND Sindeldorf 88.88 319 ⇑*e*P **P 01 12 12.9 +0.3**
BOB Bobbio (Coli) 88.94 315 *e*P **P 01 12 13.6 +0.6**
VSL Villasalto 88.95 309 *e*P **P 01 12 13.0 -0.2**
comp=Z,120nm,1.4s,mb6.0
KONO Kongsberg 89.03 329 P **P 01 12 13.6 +0.6**
KONO pmax pmax
comp=Z,290nm,1.7s,mb6.3
KONO Kongsberg 89.03 329 *e*P **P 01 12 15.0 +1.9**
KONO LR LR
comp=Z,491µm,19.5s
KONO Kongsberg 89.03 329 *e*P **P 01 12 15.0 +1.9**
KONO *e*SKSa 01 22 40.3
BUCH Bad Urach 89.04 318 ⇑*e*P **P 01 12 13.6 +0.2**
STU Stuttgart 89.14 319 *e*P **P 01 12 13.7 -0.2**
STU pmax pmax
comp=Z,216nm,1.8s,mb6.2
STU Stuttgart 89.14 319 *e*P **P 01 12 13.7 -0.1**
comp=Z,216nm,1.8s,mb6.2
GUT Gutenstein 89.19 318 ⇑*e*P **P 01 12 14.2 +0.1**
NVL N'lazarevskaya 89.21 199 ⇓*i*P **P 01 12 15.0 +1.3**
NVL *e**PP pP 01 12 30.7 +5.2
NVL pmax pmax
comp=Z,62nm,1.0s,mb5.9
MUD Monsted U'grnd 89.22 326 ⇑*i*P **P 01 12 15.2 +1.2**
MUD *i* pP 01 12 27.0 +1.2
MUD *i* S S 01 23 03.6 +5.3
MUD pmax pmax
comp=Z,33nm,0.9s,mb5.7
MUD MLR MLR
comp=Z,2µm,19.0s,MS5.6
MUD Monsted U'grnd 89.22 326 ⇑*i*P **P 01 12 15.2 +1.2**
comp=Z,33nm,0.9s,mb5.7
MUD *i* pP 01 12 27.0 +1.2
MUD *e* 01 15 59.0
MUD *i* S S 01 23 03.6 +5.3
comp=Z,2µm,19.0s
MAIT Maitri 89.24 199 *e*P **P 01 12 16.5 +2.7**
MAIT *e*sP sP 01 12 22.5 -7.0
PGF Pioggiola 89.25 312 ⇑*i*P **P 01 12 14.8 +0.3**
comp=Z,292nm,1.7s,mb6.0
PGF Pioggiola 89.25 312 ⇑*i*P **P 01 12 14.8 +0.3**
PGF pmax pmax
comp=Z,146nm,1.7s,mb6.0
TOD Tromm 89.40 319 ⇑*e*P **P 01 12 15.5 +0.4**
TOD Tromm 89.40 319 *e*P **P 01 12 15.5 +0.4**
LBG Lerchenberg 89.41 318 ⇑*e*P **P 01 12 15.1 0.0**
SPAK Spaichingen 89.41 318 ⇑*e*P **P 01 12 15.5 +0.4**
VAI Varese 89.42 316 *e*P **P 01 12 14.7 -0.5**
SWS Schriesheim 89.47 319 *e*P **P 01 12 15.8 +0.4**
PCP Pian Castagno 89.58 314 P **P 01 12 15.5 -0.5**
TNS Taunus Mts 89.64 320 *e*P **P 01 12 16.8 +0.7**
comp=Z,54nm,0.9s,mb5.9
TNS *e*S S 01 23 01.5 -0.8
TNS LR LR
comp=Z,3µm,19.6s,MS5.7
BFO Black Forest 89.72 318 P **P 01 12 16.4 -0.2**
comp=Z,150nm,0.9s,mb6.3,SNR=12
BFO Black Forest 89.72 318 *e*P **P 01 12 16.4 -0.2**
BFO *e*S S 01 23 01.2 -1.9
BFO pmax pmax
comp=Z,25nm,1.0s,mb5.5
BFO Black Forest 89.72 318 *e*P **P 01 12 16.4 -0.2**
comp=Z,25nm,1.0s,mb5.5
BFO *e*S S 01 23 01.2 -1.9
FIN Finale Ligure 89.83 314 *e*P **P 01 12 17.3 +0.1**
KTD Kalmit 89.88 319 *e*P **P 01 12 16.9 -0.4**
FELD Feldberg 89.94 318 ⇑*e*P **P 01 12 17.7 +0.1**
MCGN Macugnaga 89.97 316 *e*P **P 01 12 18.4 +0.6**
ORO Oropa 89.98 315 *e*P **P 01 12 16.6 -1.2**
ORX Oropa 89.98 315 P **P 01 12 16.4 -1.4**
AFI Afiamalu 89.98 104 P **P 01 12 19.1 +0.6**
AFI MLR MLR
comp=Z,2µm,22.0s,MS5.5
AFI Afiamalu 89.98 104 P **P 01 12 19.1 +0.6**
comp=Z,130nm,1.1s,mb6.2,baz=257,slow=14,SNR=5.6
KIZ Kirchzarten 90.00 318 ⇑*e*P **P 01 12 17.9 0.0**
MOL Molde 90.02 332 *e*P **P 01 12 19.4 +1.7**
comp=Z,135nm,1.6s,mb6.0
MOL Molde 90.02 332 *e*P **P 01 12 19.4 +1.7**
MOL AMb AMB 01 12 36.8
comp=Z,135nm,1.6s,mb6.0
IMI Imperia 90.06 314 *e*P **P 01 12 18.5 +0.3**
LANF Langenberg 90.06 319 ⇑*e*P **P 01 12 18.7 +0.5**
ROB Roburent 90.07 314 P **P 01 12 17.6 -0.7**
TRAV 90.14 315 P **P 01 12 17.6 -1.0**
MONE Monesi 90.15 314 P **P 01 12 18.8 +0.1**
NEGI Negi 90.19 314 P **P 01 12 18.5 -0.4**
LIBD Limburg 90.21 318 ⇑*e*P **P 01 12 19.4 +0.5**
LIBD Limburg 90.21 318 ⇑*e*P **P 01 12 19.3 +0.4**
ABH Alteburg 90.22 320 ⇑*e*P **P 01 12 19.7 +0.8**
BBS Basel-Blauen 90.28 317 *e*P **P 01 12 19.2 0.0**
BBS Basel-Blauen 90.28 317 *e*P **P 01 12 19.3 +0.1**
SAOF Saorge 90.30 314 *e*P **P 01 12 19.6 +0.2**
QSPA South Pole Qui 90.34 180 *e*P **P 01 12 21.1 +2.3**
comp=Z,74nm,1.6s,mb5.8
WLS Welschbruch 90.37 318 ⇑*e*P **P 01 12 19.8 +0.2**
SBF Sospel 90.39 314 ⇑*i*P **P 01 12 20.1 +0.3**
comp=Z,161nm,1.0s,mb6.0
SBF Sospel 90.39 314 ⇑*i*P **P 01 12 20.1 +0.3**
SBF pmax pmax
comp=Z,81nm,1.0s,mb6.0
AUTN L'Aution 90.39 314 *e*P **P 01 12 19.4 -0.4**
ENR Entracque 90.39 314 P **P 01 12 19.0 -0.8**
CDF Champ du Feu 90.42 318 ⇑*i*P **P 01 12 19.9 0.0**
STV2 Anna di Valdie 90.46 314 P **P 01 12 19.7 -0.5**
STV Sta Anna Valdi 90.46 314 P **P 01 12 19.1 -1.1**
ABSA Djebel Ababsia 90.47 306 P **P 01 12 26.0 +5.6**
RSP Reno Superiore 90.49 315 P **P 01 12 19.3 -1.0**
BHB Bricherasio 90.49 315 P **P 01 12 19.4 -0.9**
ECH Echery 90.50 318 ⇑*e*P **P 01 12 20.3 +0.1**
CMAH Djebel Manchou 90.51 306 P **P 01 12 25.0 +4.4**
TOUF Mont Tournerai 90.52 314 *e*P **P 01 12 21.4 +1.0**
MOF Molkenrain 90.53 318 *e*P **P 01 12 20.4 0.0**
ODD1 Odda 90.53 330 *e*P **P 01 12 19.9 -0.2**
RUP Ruppelstein 90.54 320 ⇑*e*P **P 01 12 21.1 +0.7**
RUP Ruppelstein 90.54 320 ⇑*e*P **P 01 12 21.2 +0.8**
LSD Ceresole Reale 90.56 315 P **P 01 12 20.9 +0.3**
MVIF Mont Vial 90.59 314 *e*P **P 01 12 20.6 -0.2**
PZZ Prazzo 90.62 314 P **P 01 12 20.8 -0.1**
BLS5 Blasjo 90.63 329 *e*P **P 01 12 22.3 +1.7**
BLS5 *e*sP sP 01 12 34.1 -2.2
FENE Fenestrelle 90.63 315 P **P 01 12 20.3 -0.6**
WTSB Winterswijk 90.65 322 *e*P **P 01 12 20.5 -0.3**
comp=Z,34nm,0.9s,mb5.7
WIT Witteveen 90.71 323 *e*P **P 01 12 23.1 +2.0**
HINF Hinteralfeld 90.72 318 ⇑*i*P **P 01 12 20.9 -0.4**
LOMF Lomont 90.75 317 ⇑*e*P **P 01 12 21.6 +0.2**
SURF Saint Ours 90.82 314 *e*P **P 01 12 22.8 +0.9**
RRL Cesana Torines 90.83 315 P **P 01 12 21.5 -0.4**
LPG La Plagne 90.84 315 ⇑*i*P **P 01 12 22.5 +0.6**
comp=Z,158nm,1.0s,mb6.0
LPG La Plagne 90.84 315 ⇑*i*P **P 01 12 22.5 +0.6**
LPG pmax pmax
comp=Z,79nm,1.0s,mb6.0
MBDF Montbardon 90.85 315 ⇑*i*P **P 01 12 21.7 -0.3**
comp=Z,153nm,1.4s,mb5.8
MBDF Montbardon 90.85 315 ⇑*i*P **P 01 12 21.7 -0.3**
MBDF pmax pmax
comp=Z,76nm,1.4s,mb5.8
LPL La Plagne 90.86 315 ⇑*i*P **P 01 12 22.5 +0.5**
comp=Z,275nm,1.3s,mb6.1
BNI Bardonecchia 90.91 315 *e*P **P 01 12 22.0 -0.2**
BNI pmax pmax
comp=Z,36nm,0.9s,mb5.7
BNI Bardonecchia 90.91 315 *e*P **P 01 12 22.0 -0.2**
comp=Z,36nm,0.9s,mb5.7
FRF La Foret Royal 90.97 313 ⇑*i*P **P 01 12 22.8 +0.3**
comp=Z,390nm,1.5s,mb6.2
FRF La Foret Royal 90.97 313 ⇑*i*P **P 01 12 22.8 +0.3**
FRF pmax pmax
comp=Z,195nm,1.5s,mb6.2
HAU Haudompre 91.05 318 ⇑*i*P **P 01 12 22.8 0.0**
comp=Z,102nm,0.9s,mb5.9
HAU *e*R
comp=Z,3µm,22.5s
HAU Haudompre 91.05 318 ⇑*i*P **P 01 12 22.8 0.0**
HAU pmax pmax
comp=Z,51nm,0.9s,mb5.8
HAU MLR MLR
comp=Z,3µm,22.5s,MS5.7
LMR La Mourre 91.07 313 ⇑*i*P **P 01 12 23.3 +0.3**
comp=Z,250nm,1.5s,mb6.0
LMR La Mourre 91.07 313 ⇑*i*P **P 01 12 23.3 +0.3**
LMR pmax pmax
comp=Z,125nm,1.5s,mb6.0
WLF Walferdange 91.13 320 *e*P **P 01 12 23.6 +0.5**
WLF pmax pmax
comp=Z,185nm,1.5s,mb6.2
WLF Walferdange 91.13 320 *e*P **P 01 12 23.6 +0.4**
comp=Z,185nm,1.5s,mb6.2
BER Bergen 91.16 330 *e*P **P 01 12 15.0 -8.0**
BER MLR MLR
comp=Z,3763µm,20.8s
BER Bergen 91.16 330 *e*P **P 01 12 17.8 -5.2**
BER *e* 01 23 14.7
BER *e*SS SS 01 29 23.4 -0.6
BER AMS AMS 01 59 05.9
comp=Z,4µm,20.8s,MS5.8
HGN Heimansgroeve 91.23 321 *e*P **P 01 12 23.3 -0.3**
comp=Z,14nm,0.9s,mb5.3
HGN *e*PP PP 01 16 04.0 +0.7
HGN *e*PPP PPP 01 17 42.5 -21
HGN *i* S S 01 23 12.4 -4.2
HGN *e*SS SS 01 29 06.1 -19
HGN *e*x x 01 33 00.3
KMY Karmoy 91.26 329 *e*P **P 01 12 24.5 +1.0**
KMY *e*sP sP 01 12 36.4 -2.8
CASM Ain Smara 91.27 306 P **P 01 12 26.5 +2.4**
CABF La Chapelle 91.27 316 ⇑*i*P **P 01 12 24.5 +0.6**
THEF They Montfort 91.29 318 ⇑*e*P **P 01 12 24.0 +0.1**
CTEI Djebel Teioual 91.34 306 P **P 01 12 26.5 +2.0**
TAVF Tavernes 91.39 313 ⇑*e*P **P 01 12 25.6 +1.1**
ORIF Oris-en-Rattie 91.47 315 ⇑*i*P **P 01 12 25.4 +0.5**
comp=Z,415nm,1.7s,mb6.2
ORIF *e*R
comp=Z,4µm,22.5s
GRN Grenoble 91.56 315 *e*P **P 01 12 25.9 +0.7**
VILF Villemus 91.63 314 *e*P **P 01 12 26.6 +1.0**
PUYF Puyloubier 91.65 313 *e*P **P 01 12 26.7 +1.0**
DFRA Djebel Bou Aff 91.75 306 P **P 01 12 29.0 +2.6**
GELF Grande-Etoile 91.86 313 *e*P **P 01 12 26.8 +0.1**
MEZF Maizieres J'vi 91.90 318 ⇑*i*P **P 01 12 27.1 +0.4**
comp=Z,304nm,1.5s,mb6.1
GIVF Givet 91.97 320 ⇑*i*P **P 01 12 27.5 +0.5**
PRAF Pradon 92.03 314 ⇑*e*P **P 01 12 28.6 +1.2**
SET Setif 92.15 306 P **P 01 12 30.0 +1.8**
VIVF Saint-Julien-I 92.33 315 ⇑*i*P **P 01 12 29.2 +0.4**
comp=Z,212nm,1.6s,mb5.9
VIVF Saint-Julien-I 92.33 315 ⇑*i*P **P 01 12 29.2 +0.4**
VIVF pmax pmax
comp=Z,106nm,1.6s,mb5.9
BAIF Baives 92.37 320 ⇑*i*P **P 01 12 29.6 +0.8**
comp=Z,145nm,1.1s,mb5.9
BAIF Baives 92.37 320 ⇑*i*P **P 01 12 29.6 +0.8**
BAIF pmax pmax
comp=Z,72nm,1.1s,mb5.9
SMF Signal de Mont 92.82 317 ⇑*i*P **P 01 12 31.1 +0.1**
comp=Z,257nm,1.4s,mb6.2
SMF Signal de Mont 92.82 317 ⇑*i*P **P 01 12 31.1 +0.1**
SMF pmax pmax
comp=Z,128nm,1.4s,mb6.2
LASF Ste Croix 92.96 314 ⇑*i*P **P 01 12 32.2 +0.5**
comp=Z,216nm,1.7s,mb6.0
SSF Saint Saulge 93.02 317 ⇑*i*P **P 01 12 32.2 +0.3**
SSF pmax pmax
comp=Z,82nm,1.4s,mb6.0
SSF Saint Saulge 93.02 317 ⇑*i*P **P 01 12 32.2 +0.3**
comp=Z,82nm,1.4s,mb6.0
AVF Avril sur Loir 93.14 317 ⇑*i*P **P 01 12 32.7 +0.2**
comp=Z,196nm,1.5s,mb6.0
AVF Avril sur Loir 93.14 317 ⇑*i*P **P 01 12 32.7 +0.2**
AVF pmax pmax
comp=Z,98nm,1.5s,mb6.0
BGF Bois d'Agland 93.51 317 ⇑*i*P **P 01 12 34.8 +0.7**
comp=Z,291nm,1.5s,mb6.2
BGF Bois d'Agland 93.51 317 ⇑*i*P **P 01 12 34.8 +0.7**
BGF pmax pmax
comp=Z,146nm,1.5s,mb6.2
HYF Humbligny 93.59 317 *e*P **P 01 12 35.3 +0.8**
MENF Mencas 93.64 321 *e*P **P 01 12 34.7 +0.1**
SNAA Sanae 93.88 198 *e* pP 01 12 46.3 -0.8
SNAA Sanae 93.88 198 *e* sP 01 12 49.0 -2.0
SNAA Sanae 93.88 198 ⇑*i*P **P 01 12 37.3 +2.1**
SNAA *e* pP 01 12 46.3 -0.8
SNAA *e* pP 01 12 49.0 +1.9
SNAA *e* 01 23 08.0
TCF Toulx Ste Croi 93.97 316 *e*P **P 01 12 36.8 +0.6**
comp=Z,143nm,1.6s,mb5.8
TCF Toulx Ste Croi 93.97 316 *e*P **P 01 12 36.8 +0.6**
TCF pmax pmax
comp=Z,72nm,1.6s,mb5.8
EMHD Djebel Mahouad 94.13 306 P pP 01 12 52.0 +3.0
CAF Calviac 94.18 315 *e*P **P 01 12 37.0 -0.2**
comp=Z,88nm,1.3s,mb5.7
CAF Calviac 94.18 315 *e*P **P 01 12 37.0 -0.2**
CAF pmax pmax
comp=Z,44nm,1.3s,mb5.7
MTLF Montolieu 94.20 313 ⇑*i*P **P 01 12 37.7 +0.4**
comp=Z,101nm,1.4s,mb5.8
MTLF Montolieu 94.20 313 ⇑*i*P **P 01 12 37.7 +0.4**
MTLF pmax pmax
comp=Z,51nm,1.4s,mb5.8
JMIC Jan Mayen 95.09 342 P **P 01 12 42.5 +1.8**
comp=Z,52nm,0.4s,mb6.3,baz=155,slow=5.8,SNR=3.6
JMIC Jan Mayen 95.09 342 *e*PP PP 01 16 30.7 -2.0
JMIC *e*SS SS 01 30 25.1 +5.3
JMIC AMS AMS 01 59 07.3
comp=Z,4µm,23.7s,MS5.8
LFF La Frestale 95.12 315 *e*P **P 01 12 41.2 -0.3**
comp=Z,131nm,1.5s,mb5.8
LFF La Frestale 95.12 315 *e*P **P 01 12 41.2 -0.3**
LFF pmax pmax
comp=Z,66nm,1.5s,mb5.8
LDF La Druitiere 95.32 319 ⇑*i*P **P 01 12 42.3 0.0**
comp=Z,40nm,1.0s,mb5.5
LDF La Druitiere 95.32 319 ⇑*i*P **P 01 12 42.3 0.0**
LDF pmax pmax
comp=Z,20nm,1.0s,mb5.5
LCP Cassop 95.36 325 *e*P **P 01 12 42.9 +0.5**
VNA2 Neumayer--Watz 95.48 199 *e* pP 01 12 53.7 -0.7
VNA2 Neumayer--Watz 95.48 199 *e* sP 01 12 56.2 -2.1
VNA2 Neumayer--Watz 95.48 199 ⇑*i*P **P 01 12 44.4 +1.9**
VNA2 *e* pP 01 12 53.7 -0.7
VNA2 *e* pP 01 12 56.2 +1.8
VNA2 *e* 01 17 21.7
VNA2 *e* 01 17 32.4
VNA2 *e* 01 17 35.8
VNA2 *e* 01 23 15.6
FLN La Foliniere 95.53 319 ⇑*i*P **P 01 12 43.3 0.0**
comp=Z,40nm,1.0s,mb5.5
FLN *e*R
comp=Z,4µm,21.5s
HPK Haverah Park 95.56 324 *e*P **P 01 12 43.1 -0.2**
HPK AMb AMB 01 12 47.7
comp=Z,96nm,1.1s,mb6.1
MFF Saint Martin d 95.56 317 ⇑*i*P **P 01 12 43.6 +0.1**
comp=Z,24nm,0.8s,mb5.4
KBI1 Birley Grange 95.60 324 *e*P **P 01 12 43.3 -0.1**
KBI1 AMb AMB 01 12 48.2
comp=Z,37nm,1.2s,mb5.7
DAG Danmarks Havn 95.62 348 ⇓*e*P **P 01 12 42.8 -0.3**
DAG pmax pmax
comp=Z,15nm,1.0s,mb5.4
DAG MLR MLR
comp=Z,6µm,18.0s,MS6.1
DAG MLR MLR
comp=N,4µm,19.0s,MS6.1
DAG MLR MLR
comp=E,6µm,23.0s,MS6.1
DAG Danmarks Havn 95.62 348 ⇓*e*P **P 01 12 42.8 -0.3**
comp=E,15nm,1.0s,mb5.4
DAG LR LR
comp=Z,6µm,18.0s,MS6.1
DAG Danmarks Havn 95.62 348 ⇓*i*P **P 01 12 42.8 -0.3**
comp=Z,15nm,1.0s,mb5.4
comp=Z,6µm,18.0s
LHO Holmfirth 95.75 324 *e*P **P 01 12 44.3 +0.2**
KWE Weaver Farm 95.82 323 *e*P **P 01 12 44.6 +0.2**
KWE AMb AMB 01 12 49.9
comp=Z,45nm,1.6s,mb5.7
GRR Gorron 95.83 319 ⇑*i*P **P 01 12 45.7 +1.1**
VNA1 Neumayer--Stat 95.83 199 ⇑*i*P **P 01 12 42.8 -1.3**
VNA1 *e* pP 01 12 53.6 -2.4

VNA1 e pP 01 12 56.8 +0.8
VNA1 e 01 17 18.3
VNA1 e 01 17 30.5
VNA1 e 01 17 34.2
VNA3 Neumayer Olymp 96.11 198 ⇑i P **P 01 12 46.4 +1.0**
VNA3 e pP 01 12 57.8 +0.6
VNA3 e pP 01 13 00.6 +3.4
VNA3 e 01 17 23.8
VNA3 e 01 17 35.7
VNA3 e 01 17 38.8
VNA3 e 01 23 15.8
EKA Eskdalemuir Ar 96.22 326 P **P 01 12 46.9 +0.6**
comp=Z,9.3nm,0.8s,mb5.2,baz=99,slow=5.2,SNR=25
EKA pP pP 01 12 58.0 0.0
comp=Z,7.7nm,0.8s,baz=98,slow=5.1,SNR=7.9
EKA PP PP 01 16 41.0 -1.2
comp=Z,8.3nm,1.0s,baz=83,slow=8.2,SNR=5.5
ESK Eskdalemuir 96.25 326 PFAKE 01 13 00.0 +14
ESK LR LR
comp=Z,829nm,20.0s,MS5.2
ESK Eskdalemuir 96.25 326 eP **P 01 12 46.6 +0.2**
ESK AMb AMB 01 12 48.0
comp=Z,16nm,1.0s,mb5.4
ETSF Etsaut 96.26 313 eP **P 01 12 47.4 +0.7**
SJPF Ste Jean 96.72 313 eP **P 01 12 49.5 +0.7**
comp=Z,42nm,1.2s,mb5.4
SJPF Ste Jean 96.72 313 eP **P 01 12 49.5 +0.7**
SJPF pmax pmax
comp=Z,21nm,1.2s,mb5.4
IMA Indian Mountai 96.88 23 eP **P 01 12 49.5 +0.5**
SGMF Saint Gilles 96.97 319 eP **P 01 12 49.7 -0.1**
SVW2 Sparrevohn 97.39 28 eP **P 01 12 52.3 +0.9**
QUIF Quistinic 97.42 318 eP **P 01 12 51.3 -0.6**
comp=Z,76nm,1.5s,mb5.6
QUIF Quistinic 97.42 318 eP **P 01 12 51.3 -0.6**
QUIF pmax pmax
comp=Z,38nm,1.5s,mb5.6
ROSF Rostrenen 97.43 319 eP **P 01 12 51.8 -0.1**
ESDC Sonseca Array 99.22 310 P **P 01 13 00.3 +0.1**
comp=Z,1.1nm,0.7s,baz=59,slow=4.1,SNR=6.5
ESDC pP pP 01 13 12.6 +0.5
comp=Z,1.2nm,0.6s,baz=64,slow=4.3,SNR=6.2
COLA College 99.57 23 i P **P 01 13 01.5 +0.3**
COLA MLR MLR
comp=Z,3μm,19.0s,MS5.8
PWA Palmer West 99.86 27 eP **P 01 13 02.6 0.0**
ILAR Eielson Array 99.99 23 LR LR 02 04 44.2
comp=Z,3μm,18.0s,MS5.8,baz=182,slow=39
SLKM Skilak Lake 100.08 28 P P 01 13 03.5 -0.1
PMR Palmer 100.21 27 eP P 01 13 04.2 0.0
PMR MLR MLR
comp=Z,5μm,17.0s,MS6.1
RAR Rarotonga 101.22 111 PFAKE 01 13 20.0 +10
RAR LR LR
comp=Z,3μm,20.0s,MS5.8
BORG Borgarnes 101.90 338 PFAKE 01 13 20.0 +8.3
BORG LR LR
comp=Z,2μm,21.0s,MS5.5
MENT Mentasta 102.02 24 eP Pdif 01 13 13.6 +1.3
KIP Kipapa 102.56 68 PFAKE 01 13 30.0 +14
KIP LR LR
comp=Z,3μm,19.0s,MS5.8
INK Inuvik 102.91 17 eP Pdif 01 13 15.6 -0.5
INK pmax pmax
comp=Z,18nm,1.0s
INK Inuvik 102.91 17 ePdif Pdif 01 13 15.6 -0.5
comp=Z,18nm,1.0s
DAWY Dawson 103.22 22 ePdif Pdif 01 13 17.6 +0.1
RES Resolute Bay 104.61 4 eP Pdif 01 13 23.7 +0.2
RES pmax pmax
comp=Z,5.0nm,0.9s
RES Resolute Bay 104.61 4 ePdif Pdif 01 13 23.7 +0.2
comp=Z,5.2nm,0.9s
TRIS Tristan da Cun 106.63 231 PFAKE 01 18 00.0
TRIS LR LR
comp=Z,4μm,20.0s,MS5.9
SIT Sitka 108.55 28 PFAKE 01 18 00.0
SIT LR LR
comp=Z,5μm,20.0s,MS6.1
SFJ Sondre 109.30 348 PFAKE 01 18 00.0
SFJ LR LR
comp=Z,5μm,20.0s,MS6.1
TBI Tubuai 110.48 115 ePP PP 01 18 24.5 -6.0
TBI eSS SS 01 34 00.9 +7.9
TBI eLQ 01 46 09.1
TBI eLR LR 01 50 42.1
comp=Z,6μm,30.0s
PPT Papeete 111.14 109 ePP PP 01 18 26.2 -9.0
PPT eSP SP 01 28 12.6 +16
PPT eSS SS 01 34 00.9 -0.8
PPT eLQ 01 47 01.3
PPT eLR LR 01 51 02.9
comp=Z,2μm,21.8s
YKW3 Yellowknife Ar 112.50 16 ePKiKP 01 17 54.1
YKA Yellowknife Ar 112.56 16 Pdiff Pdif 01 13 59.5 +0.8
comp=Z,1.1nm,0.9s,baz=326,slow=4.4,SNR=14
YKA PKiKP 01 17 54.1
comp=Z,2.0nm,1.0s,baz=323,slow=3.0,SNR=9.6
YKA PKKPbc 01 28 44.7
comp=Z,1.0nm,1.0s,baz=143,slow=3.3,SNR=6.9
YKA PKKPab 01 28 53.7
comp=Z,2.9nm,0.9s,baz=141,slow=3.6,SNR=15
YKA PKKP PKKP 01 29 06.3 +11
comp=Z,4.5nm,1.0s,baz=141,slow=4.3,SNR=11
YKA Yellowknife Ar 112.56 16 Pdif Pdif 01 13 59.5 +0.8
YKA PKPdf PKPdf 01 17 54.1 +1.2
YKA PKKPbc 01 28 44.7
YKA PKKPab 01 28 53.7
YKA PKKP PKKP 01 29 06.3 +11
PMSA Palmer Station 114.49 188 PFAKE 01 18 10.0 +13
PMSA LR LR
comp=Z,10μm,20.0s,MS6.4
FCC Fort Churchill 120.21 7 PKIKP PKPdf 01 18 08.3 +0.3
EDM Edmonton 120.42 21 ePKIKP PKPdf 01 18 09.6 +1.1
NLW Nelson Butte 121.23 29 P PKPdf 01 18 12.0 +1.8
WPW White Pass 121.55 31 P PKPdf 01 18 13.1 +2.3
WTV Waterville 121.68 29 P PKPdf 01 18 12.6 +1.5
TBM Table Mountain 121.72 30 P PKPdf 01 18 13.1 +1.9
EBG Ellensburg 121.91 30 P PKPdf 01 18 13.7 +2.2
COR Corvallis 121.96 34 PFAKE 01 18 20.0 +8.3
COR LR LR
comp=Z,901nm,19.0s,MS5.4
NEW Newport 122.63 27 ePKIKP PKPdf 01 18 13.9 +1.0
NEW MLR MLR
comp=Z,3μm,21.0s
HAWA Hanford 122.79 30 ePKPdf PKPdf 01 18 14.7 +1.5
HAWA LR LR
comp=Z,370nm,19.0s,MS5.1
PRW Prosser 122.83 31 P PKPdf 01 18 16.1 +2.7
HUMO Hull Mountain 123.38 36 ePKPdf PKPdf 01 18 16.7 +2.2
HUMO LR LR
comp=Z,2μm,21.0s,MS5.8
WALA Waterton Lakes 123.45 25 ePKPdf PKPdf 01 18 16.1 +1.6
VIPM Ingram Point 123.48 33 PKIKP PKPdf 01 18 17.0 +2.3
RKT Rikitea 123.55 118 ePP PP 01 19 56.3 -5.7
RKT eSP SP 01 29 58.9 +8.8
RKT eSS SS 01 36 52.3 +9.0
RKT eLQ 01 52 22.6
RKT eLR LR 01 56 43.1
comp=Z,5μm,26.8s
SCHQ Schefferville 123.63 350 PKP PKPdf 01 18 15.9 +1.3
comp=Z,9.1nm,0.8s,baz=50,slow=2.6,SNR=26
SCHQ pPKP 01 18 28.7
comp=Z,7.1nm,0.6s,baz=16,slow=1.5,SNR=6.9
SCHQ Schefferville 123.63 350 PKP PKPdf 01 18 15.9 +1.3
SCHQ pPKP 01 18 28.7
KHMM Horse Mountain 123.95 38 ePKPdf PKPdf 01 18 17.9 +2.3
YBH Yreka Blue Hor 124.06 36 PKP PKPdf 01 18 17.5 +1.7
comp=Z,5.7nm,0.9s,baz=346,slow=4.2,SNR=6.6
YBH pPKP 01 18 30.3
comp=Z,5.3nm,0.7s,baz=88,slow=10,SNR=4.6
YBH Yreka Blue Hor 124.06 36 PKP PKPdf 01 18 17.5 +1.7
YBH pPKP 01 18 30.3
YBH LR LR
comp=Z,2μm,20.0s,MS5.8
USHA Ushuaia 124.66 189 pPKP 01 18 31.1
comp=Z,38nm,1.0s,baz=333,slow=2.1,SNR=9.1
WDC Whiskeytown Da 124.86 37 ePKIKP PKPdf 01 18 18.7 +1.3
WDC MLR MLR
comp=Z,2μm,20.0s,MS5.9
BMO Blue Mountains 124.98 30 PKIKP PKPdf 01 18 18.7 +1.2
BMO Blue Mountains 124.98 30 ePKPdf PKPdf 01 18 18.6 +1.0
BMO e 01 18 30.5
BMO LR LR
comp=Z,4μm,20.0s,MS6.0
LTIM Timbered Crate 125.12 36 P PKPdf 01 18 20.4 +2.5
MSO Missoula 125.14 27 ePKPdf PKPdf 01 18 18.7 +0.9
MSO LR LR
comp=Z,3μm,22.0s,MS5.9
MOD Modoc 125.35 35 ePKPdf PKPdf 01 18 20.4 +2.1
MOD LR LR
comp=Z,3μm,20.0s,MS5.9
CHMT Chamberlain Mo 125.38 26 ePKPdf PKPdf 01 18 19.6 +1.4
LBCM Butte Creek Ri 125.41 36 P PKPdf 01 18 20.8 +2.4
HOPS Hopland 125.47 39 ePKPdf PKPdf 01 18 21.2 +2.5
HOPS LR LR
comp=Z,3μm,21.0s,MS5.9
WVOR Wild Horse Val 125.94 33 ePKIKP PKPdf 01 18 21.2 +1.8
WVOR MLR MLR
comp=Z,3μm,20.0s,MS6.0
HRY Holter Researc 126.16 25 ePKPdf PKPdf 01 18 21.9 +2.1
BOZ Bozeman (W) 127.08 26 ePKIKP PKPdf 01 18 23.0 +1.4
BOZ e 01 18 34.2
BOZ MLR MLR
comp=Z,6μm,20.0s,MS6.3
MCMT McKenzie Canyo 127.16 28 ePKPdf PKPdf 01 18 23.4 +1.6
PTCN Pitcairn Islan 127.19 122 PFAKE 01 18 40.0 +18
PTCN LR LR
comp=Z,5μm,19.0s,MS6.2
WCN Washoe City 127.33 37 ePKIKP PKPdf 01 18 24.4 +2.1
HLID Hailey 127.35 30 ePKPdf PKPdf 01 18 24.1 +1.9
HLID LR LR
comp=Z,3μm,20.0s,MS6.0
CMB Columbia Colle 127.73 39 ePKIKP PKPdf 01 18 24.7 +1.6
CMB MLR MLR
comp=Z,3μm,20.0s,MS6.0
QLMT Earthquake Lak 127.80 27 ePKPdf PKPdf 01 18 25.9 +2.9
SAO San Andreas Ge 127.81 41 PFAKE 01 18 40.0 +17
SAO LR LR
comp=Z,2μm,20.0s,MS5.7
BMN Battle Mountai 128.07 34 ePKPdf PKPdf 01 18 26.3 +2.7
BMN LR LR
comp=Z,3μm,19.0s,MS6.0
ULM Lac du Bonnet 128.11 12 PKP PKPdf 01 18 24.6 +1.2
comp=Z,11nm,0.8s,baz=332,slow=2.8,SNR=21
ULM pPKP 01 18 36.8
comp=Z,25nm,0.9s,baz=356,slow=3.3,SNR=13
YMR Madison River 128.13 26 ePKPdf PKPdf 01 18 25.9 +2.2
YNR Norris Junctio 128.22 26 ePKPdf PKPdf 01 18 26.9 +3.1
LRV Little Rabbit 128.29 41 PKPdf PKPdf 01 18 25.4 +1.2
YFT Old Faithful 128.36 26 ePKPdf PKPdf 01 18 28.2 +4.1
LAO LASA Array 128.41 21 ePKPdf PKPdf 01 18 26.8 +2.7
LAO LR LR
comp=Z,4μm,20.0s,MS6.1
LKWY Lake 128.47 26 ePKIKP PKPdf 01 18 26.0 +1.7
LKWY e 01 18 40.4
LKWY Lake 128.47 26 PKPdf PKPdf 01 18 25.7 +1.4
LKWY LR LR
comp=Z,8μm,20.0s,MS6.4
IMW Indian Meadow 128.75 27 PKPdf PKPdf 01 18 25.8 +1.0
NVAR Mina Array Bea 128.76 37 PKP PKPdf 01 18 26.9 +1.9
comp=Z,20nm,0.9s,baz=267,slow=1.0,SNR=36
NVAR pPKP 01 18 38.8
comp=Z,18nm,0.8s,baz=255,slow=0.7,SNR=8.6
NVAR SKPbc 01 21 44.9
comp=Z,9.8nm,1.1s,baz=281,slow=4.6,SNR=3.7
MNV Mina 128.84 37 ePKPdf PKPdf 01 18 27.4 +2.2
MNV LR LR
comp=Z,2μm,19.0s,MS5.9
OMM Old Mammoth Mi 128.85 38 ePKPdf PKPdf 01 18 28.2 +3.0
ELK Elko 128.95 33 ePKHKP 01 17 57.8
ELK e 01 18 27.8
ELK Elko 128.95 33 ePKPdf PKPdf 01 18 27.2 +1.9
ELK LR LR
comp=Z,3μm,21.0s,MS5.9
MOOW Moose Ponds 128.95 27 ePKPdf PKPdf 01 18 27.7 +2.5
RRI2 Red Ridge 129.00 28 ePKPdf PKPdf 01 18 27.7 +2.4
TPAW Teton Pass 129.06 27 ePKPdf PKPdf 01 18 27.9 +2.5
TPAW ePP PP 01 20 36.4 -1.6
LOHW Long Hollow 129.12 27 ePKPdf PKPdf 01 18 28.0 +2.5
SNOW Snow King Moun 129.17 27 ePKPdf PKPdf 01 18 28.8 +3.2
REDW Red Top Meadow 129.20 27 ePKPdf PKPdf 01 18 28.5 +2.8
MTUM Tungsten Hills 129.28 38 ePKPdf PKPdf 01 18 29.0 +2.9
HVU Hansel Valley 129.48 30 ePKPdf PKPdf 01 18 28.7 +2.4
AHID Auburn Hatcher 129.55 28 ePKPdf PKPdf 01 18 28.6 +2.2
AHID LR LR
comp=Z,5μm,19.0s,MS6.3
TPH Tonopah 129.63 37 ePKPdf PKPdf 01 18 29.7 +3.0
TPH LR LR
comp=Z,2μm,20.0s,MS5.8
BGU Big Grassy Mou 129.98 31 ePKPdf PKPdf 01 18 29.8 +2.5
SPUT South Promonto 130.00 30 ePKPdf PKPdf 01 18 29.5 +2.3
HWUT Hardware Ranch 130.21 29 ePKPdf PKPdf 01 18 30.0 +2.4
HWUT ePP PP 01 20 41.6 -3.6
HWUT eSKP 01 21 49.5
HWUT LR LR
comp=Z,5μm,20.0s,MS6.2
BW06 Boulder Array 130.26 27 PFAKE 01 18 40.0 +12
BW06 LR LR
comp=Z,5μm,20.0s,MS6.2
PDAR Pinedale Array 130.26 27 PKhKP 01 18 21.4
comp=Z,1.5nm,0.9s,baz=135,slow=2.1,SNR=6.2
PDAR PKP PKPdf 01 18 30.4 +2.7
comp=Z,5.8nm,0.9s,SNR=22
PDAR pPKP 01 18 41.1
comp=Z,12nm,0.9s,baz=149,slow=0.7,SNR=9.9
PDAR PP PP 01 20 44.6 -0.9
comp=Z,14nm,1.2s,baz=315,slow=2.1,SNR=4.3
PDAR SKPbc 01 21 48.9
comp=Z,11nm,1.1s,slow=1.5,SNR=6.3
ISA Isabella 130.39 40 PFAKE 01 18 40.0 +12
ISA LR LR
comp=Z,274nm,21.0s,MS4.9
TRCR Troy Canyon 130.41 35 ePKPdf PKPdf 01 18 30.3 +2.1
TRCR eSKP 01 21 50.2
DAC Darwin (Calif) 130.56 39 PFAKE 01 18 40.0 +11
DAC LR LR
comp=Z,2μm,20.0s,MS5.9
DUG Dugway 130.63 31 ePKPdf PKPdf 01 18 30.7 +2.2
DUG LR LR
comp=Z,3μm,20.0s,MS6.0
TCUT Toone Canyon 130.66 30 ePKPdf PKPdf 01 18 31.5 +3.0
EYMN Ely 131.10 9 ePKPdf PKPdf 01 18 30.1 +0.9
EYMN LR LR
comp=Z,7μm,20.0s,MS6.3
NLU North Lily Min 131.19 31 ePKPdf PKPdf 01 18 31.7 +2.2
NLU eSKP 01 21 53.1
DAU Daniels Canyon 131.27 30 ePKPdf PKPdf 01 18 32.1 +2.4
RSSD Black Hills 131.40 21 PKIKP PKPdf 01 18 24.6 -5.3
RSSD Black Hills 131.40 21 ePKPdf PKPdf 01 18 32.1 +2.2
RSSD LR LR
comp=Z,2μm,20.0s,MS5.7
MWC Mount Wilson 131.54 41 ePKPdf PKPdf 01 18 31.2 +0.8
PQI Presque Isle 131.63 347 PFAKE 01 18 40.0 +10
PQI LR LR
comp=Z,17μm,20.0s,MS6.8
ARUT Antelope Range 132.02 34 ePKPdf PKPdf 01 18 34.0 +2.8
RWWY Rawlins 132.16 26 ePKPdf PKPdf 01 18 32.2 +0.8
MVU Marysvale 132.18 33 ePKPdf PKPdf 01 18 34.1 +2.6
MVU LR LR
comp=Z,2μm,19.0s,MS5.8
MSU Marysvale 132.19 33 ePKPdf PKPdf 01 18 34.5 +2.9
SRU San Rafael 132.62 31 ePKPdf PKPdf 01 18 33.8 +1.5
LDFC Landfair 132.88 38 ePKPdf PKPdf 01 18 36.0 +3.1
PFO Pinyon Flat Ob 132.97 41 ePKPdf PKPdf 01 18 35.4 +2.2
PFO eSKP 01 21 59.5
PFO LR LR
comp=Z,595nm,20.0s,MS5.3
PHWY Pilot Hill 133.23 25 ePKPdf PKPdf 01 18 35.1 +1.7
PHWY eSKP 01 21 59.6
EMMW East Machias 133.35 346 PFAKE 01 18 50.0 +16
EMMW LR LR
comp=Z,16μm,20.0s,MS6.7
BAR Barrett 133.40 42 ePKPdf PKPdf 01 18 36.0 +2.0
PV10 Paradox Valley 133.93 30 ePKPpre 01 18 21.9
PV10 ePKPdf PKPdf 01 18 36.9 +2.1
PV10 ePP PP 01 21 05.9 -3.4
PV10 eSKP 01 22 03.1
WVL Waterville 133.98 348 PFAKE 01 18 50.0 +15
WVL LR LR
comp=Z,14μm,22.0s,MS6.6
RCBR Riachuelo 134.01 262 PFAKE 01 18 50.0 +14
RCBR LR LR
comp=Z,4μm,20.0s,MS6.1
PV01 Paradox Valley 134.35 30 ePKPdf PKPdf 01 18 37.4 +1.8
ISCO Idaho Springs 134.41 26 ePKPdf PKPdf 01 18 36.7 +1.0
ISCO LR LR
comp=Z,3μm,19.0s,MS6.0
WUAZ Wupatki 134.80 35 ePKPdf PKPdf 01 18 38.9 +2.4
NCB Newcomb 135.34 352 ePKPdf PKPdf 01 18 39.7 +2.5
NCB e 01 18 51.3
NCB LR LR
comp=Z,4μm,21.0s,MS6.2
SDCO Great Sand Dun 136.13 28 ePKPdf PKPdf 01 18 30.3 -8.5
SDCO LR LR
comp=Z,5μm,22.0s,MS6.2
CAM4 Nova Friburgo 136.14 237 i PKPdf 01 18 32.7 -6.5
HRV Harvard--Oak R 136.34 349 PFAKE 01 18 50.0 +11
HRV LR LR
comp=Z,5μm,22.0s,MS6.2
WES Weston 136.41 349 PFAKE 01 18 50.0 +11
WES LR LR
comp=Z,6μm,21.0s,MS6.3
BINY Binghamton 137.30 354 ePKPdf PKPdf 01 18 43.8 +2.9
BINY LR LR
comp=Z,7μm,20.0s,MS6.4
TUC Tucson 137.40 38 ePKPpre 01 18 33.4
TUC LR LR
comp=Z,2μm,22.0s,MS5.8
AAM Ann Arbor 137.47 2 PFAKE 01 18 50.0 +8.8
AAM LR LR
comp=Z,6μm,22.0s,MS6.3
CBKS Cedar Bluff 137.60 21 PFAKE 01 18 50.0 +8.5
CBKS LR LR
comp=Z,4μm,20.0s,MS6.2
ERPA Erie 137.66 358 PFAKE 01 18 50.0 +8.5
ERPA LR LR
comp=Z,6μm,21.0s,MS6.3
ANMO Albuquerque 137.89 31 ePKPpre 01 18 33.2
ANMO LR LR
comp=Z,3μm,20.0s,MS6.0
LENM Lemitar 138.23 32 ePKPdf PKPdf 01 18 45.0 +2.2
TRQA Tornquist 138.37 204 ePKPdf PKPdf 01 18 45.6 +2.7
TRQA LR LR
comp=Z,5μm,20.0s,MS6.2
KSU1 Kansas State U 138.38 18 ePKPdf PKPdf 01 18 37.0 -5.9
BNM Barren Site 138.42 32 ePKPdf PKPdf 01 18 45.1 +2.0
PLCA Paso Flores 138.59 193 PKhKP 01 18 37.4
comp=Z,2.6nm,0.9s,baz=224,slow=4.7,SNR=3.5
PLCA PKP PKPdf 01 18 46.8 +3.6
comp=Z,6.6nm,1.2s,baz=166,slow=3.4,SNR=2.9
PLCA pPKP 01 18 57.5
comp=Z,64nm,1.3s,baz=174,slow=4.0,SNR=13
PLCA Paso Flores 138.59 193 PKP 01 18 37.4
PLCA PKPdf PKPdf 01 18 46.9 +3.6
SSPA Standing Stone 139.03 356 ePKPdf PKPdf 01 18 44.6 +0.6
SSPA LR LR
comp=Z,1μm,22.0s,MS5.5
MVL Millersville 139.51 354 ePKPdf PKPdf 01 18 47.1 +2.1
ACSO Alum Creek Sta 139.56 2 PFAKE 01 19 00.0 +15
ACSO LR LR
comp=Z,6μm,20.0s,MS6.3
MCWV Mont Chateau 140.11 358 PFAKE 01 19 00.0 +14
MCWV LR LR
comp=Z,7μm,21.0s,MS6.4
AMTX Amarillo 140.23 26 ePKPpre 01 18 40.8
AMTX LR LR
comp=Z,4μm,22.0s,MS6.1
CPRX Cap Rock 140.72 30 ePKPpre 01 18 41.8
CCM Cathedral Cave 140.74 12 ePKPpre 01 18 41.0
CCM LR LR
comp=Z,1μm,20.0s,MS5.7
FVM French Village 140.97 11 PKPpre 01 18 42.0
MNTX Cornudas Mount 140.97 33 ePKPdf PKPdf 01 18 49.7 +1.8
MNTX LR LR
comp=Z,4μm,22.0s,MS6.2
GDL2 Guadalupe Moun 141.13 31 ePKPdf PKPdf 01 18 43.2 -5.0
WCI Wyandotte Cave 141.34 6 ePKPpre 01 18 42.9
WCI LR LR
comp=Z,2μm,20.0s,MS5.8
CBN Corbin 141.39 355 PFAKE 01 19 00.0 +12
CBN LR LR
comp=Z,6μm,22.0s,MS6.3
WMOK Wichita Mounta 141.56 23 ePKPpre 01 18 43.3
WMOK LR LR
comp=Z,3μm,22.0s,MS6.0
RPN Rapa Nui 142.40 137 PFAKE 01 19 00.0 +10
RPN LR LR
comp=Z,533nm,22.0s,MS5.3
BLA Blacksburg 142.57 358 PFAKE 01 19 00.0 +10
BLA LR LR
comp=Z,4μm,21.0s,MS6.2
UTMT University of 142.85 10 ePKPpre 01 18 48.8
GNAR Gosnell 143.00 11 PKPpre 01 18 48.7
TZTN Tazewell 143.21 3 ePKPpre 01 18 48.8
WVT Waverly 143.22 8 ePKPpre 01 18 49.0
WVT LR LR
comp=Z,5μm,22.0s,MS6.3
BAO Brasilia Array 143.48 244 PKPdf PKPdf 01 18 51.5 -1.0
BAO PKPdf PKPdf 01 18 55.0 +2.5
BAO PP PP 01 22 04.0 -4.3
BDFB Brasilia 143.50 244 PKP PKPdf 01 18 52.6 0.0
comp=Z,7.5nm,0.8s,baz=92,slow=3.7,SNR=8.7
MIAR Mount Ida 143.50 17 ePKPpre 01 18 51.0
MIAR LR LR
comp=Z,4μm,19.0s,MS6.2
UALR University of 143.62 15 ePKPpre 01 18 51.4
BBSR BB Station 143.69 335 PKPpre 01 18 51.2
BBSR LR LR
comp=Z,3μm,20.0s,MS6.1
TXAR Lajitas Array 143.73 34 PKP PKPdf 01 18 52.6 0.0
comp=Z,24nm,0.9s,baz=275,slow=1.9,SNR=119
TXAR pPKP 01 19 05.9
comp=Z,15nm,0.7s,baz=105,slow=0.5,SNR=7.8
CPCT Cooper Cave 144.25 4 ePKPdf PKPdf 01 18 52.5 -0.9
PLAL Pickwick Lake 144.31 9 ePKPdf PKPdf 01 18 52.1 -1.4
PLAL e 01 19 02.2
PLAL LR LR
comp=Z,4μm,21.0s,MS6.2
OXF Oxford 144.53 11 ePKPdf PKPdf 01 18 53.7 -0.2
OXF LR LR
comp=Z,5μm,21.0s,MS6.2
JCT Junction City 144.78 28 ePKPdf PKPdf 01 18 55.2 +0.7
JCT LR LR
comp=Z,4μm,21.0s,MS6.1
LMEL Las Melosas 145.02 197 eP PKPdf 01 18 57.2 +2.4
JSC Jenkinsville 145.51 359 ePKPdf PKPdf 01 18 56.8 +1.1
FCH Farellones 145.53 197 i P PKPdf 01 18 59.6 +3.9
FCH eP 01 18 59.8
CLCH Cerro Calan 145.54 197 eP PKPdf 01 18 59.5 +3.7
NATX Nacogdoches 145.74 20 ePKPdf PKPdf 01 18 58.4 +2.3
NATX LR LR
comp=Z,4μm,20.0s,MS6.2
GOGA Godfrey 146.34 3 ePKPbc PKPbc 01 18 59.6 +1.3
GOGA LR LR
comp=Z,6μm,20.0s,MS6.3
LRAL Lakeview Retre 146.38 8 ePKPdf PKPdf 01 18 58.9 +1.8
LRAL LR LR
comp=Z,4μm,20.0s,MS6.2
COW Cow Castle Cre 146.40 359 ePKPbc PKPbc 01 18 59.7 +1.2
TWB Tillmans-White 146.64 358 ePKPbc PKPbc 01 19 00.3 +1.3
TWB e 01 19 13.2
NHSC New Hope 146.66 358 ePKPbc PKPbc 01 19 00.6 +1.5
NHSC LR LR
comp=Z,6μm,20.0s,MS6.4
HBF Harts Bluff 146.84 358 ePKPbc PKPbc 01 19 01.4 +1.9
ZAIG Zacatecas 149.27 40 eP PKPdf 01 19 05.9 +3.7
CJM Chamela 149.73 48 i P PKPdf 01 19 09.1 +6.2
CJM i P 01 19 09.7
SFJM Santa Fe 150.53 44 eP PKPdf 01 19 12.5 +8.3
COLM Colima 150.92 47 eP PKPdf 01 19 10.1 +5.3
DWPF Disney 151.66 360 ePKPbc PKPdf 01 19 13.4 +7.8
DWPF LR LR
comp=Z,2μm,22.0s,MS5.8
MOIG Morelia 152.35 43 i P PKPdf 01 19 15.6 +8.7
SIV San Ignacio 154.45 232 PKP PKPdf 01 19 11.7 +1.9
comp=Z,6.0nm,1.0s,baz=151,slow=2.5
SIV PKPbc PKPdf 01 19 21.3 +11
comp=Z,11nm,1.0s,baz=104,slow=2.3,SNR=1.6
SIV pPKP 01 19 24.4
comp=Z,14nm,0.9s,baz=102,slow=3.3,SNR=2.4
SIV PKPab PKPab 01 19 34.6 -0.5
comp=Z,23nm,0.9s,baz=105,slow=2.8,SNR=3.9
PPM Popocatepetl 154.48 40 eP PKPdf 01 19 12.0 +2.2
PPM eP 01 19 13.4
PPM i P 01 19 21.5
LVC Limon Verde 154.66 208 PKPbc PKPdf 01 19 22.1 +12
baz=81,slow=1.8
LVC pPKPbc 01 19 33.0
comp=Z,67nm,0.9s,baz=125,slow=4.7,SNR=5.0
LVC Limon Verde 154.66 208 ePKPbc PKPdf 01 19 21.9 +12
LVC LR LR

comp=Z,4μm,20.0s,MS6.2
SJG San Juan 156.11 321 PKP PKPdf 01 19 13.6 +1.7
comp=Z,4.4nm,0.4s,baz=332,slow=14,SNR=4.1
SJG PKPbc PKPdf 01 19 24.1 +12
comp=Z,6.7nm,0.3s,baz=277,slow=2.1,SNR=4.2
SJG PKPab PKPab 01 19 41.8 -0.3
comp=Z,8.7nm,0.4s,baz=72,slow=15,SNR=3.6
SJG San Juan 156.11 321 PKP PKPdf 01 19 13.6 +1.7
SJG PKPbc PKPdf 01 19 24.1 +12
SJG PKPab PKPab 01 19 41.8 -0.3
SJG LR LR
comp=Z,3μm,20.0s,MS6.2
TEIG Tepich 158.51 17 PFAKE 01 19 30.0 +15
TEIG LR LR
comp=Z,2μm,21.0s,MS5.9
LPAZ La Paz 159.32 220 PKP PKPdf 01 19 18.6 +2.6
comp=Z,6.1nm,1.0s,baz=113,slow=3.0,SNR=22
LPAZ pPKP 01 19 31.5
comp=Z,26nm,1.0s,baz=34,slow=4.8,SNR=21
LPAZ PKPab PKPab 01 19 56.1 +0.1
comp=Z,14nm,1.1s,baz=108,slow=3.2,SNR=2.3
LPAZ La Paz 159.32 220 *e*PKPdf PKPdf 01 19 18.7 +2.6
SAML Samuel 159.73 245 *e*PKPdf PKPdf 01 19 18.8 +2.2
SAML *e*PKPab PKPab 01 19 57.4 -0.5
SAML *e* 01 20 09.9
SAML LR LR
comp=Z,5μm,20.0s,MS6.4
ARE Arequipa 161.14 212 *e*P PKPdf 01 19 22.0 +4.1
SDV Santo Domingo 165.66 310 PKP PKPdf 01 19 23.8 +1.3
comp=Z,5.7nm,0.8s,baz=86,slow=2.0,SNR=12
SDV pPKP 01 19 35.9
comp=Z,22nm,1.0s,baz=35,slow=1.5,SNR=12
SDV PKPab PKPab 01 20 23.1 -0.5
comp=Z,14nm,0.8s,baz=40,slow=3.9,SNR=6.6
SDV pPKPab 01 20 35.7
comp=Z,37nm,1.3s,baz=9.5,slow=9.0,SNR=7.0
SDV Santo Domingo 165.66 310 *e*PKPdf PKPdf 01 19 23.1 +0.6
SDV *e*PKPab PKPab 01 20 22.9 -0.6
ROSC El Rosal 171.01 306 PKP PKPdf 01 19 28.0 +2.0
comp=Z,18nm,1.0s,baz=69,slow=5.0,SNR=8.8
ROSC pPKP 01 19 39.8
comp=Z,69nm,1.2s,baz=75,slow=1.9,SNR=11
OTAV Otavalo 176.73 281 *e*PKPdf PKPdf 01 19 29.8 +1.7

NEIC ***03*** *01:08:25.2±3.2, 4.67S×153.81E, h112km±24km, mb4.8/4, Error ellipse: s-maj=32.9km s-min=14.7km az=96.0*
IDC ***03*** *01:08:26.9±6.2, 4.70S×153.70E, h122km±48km, mb4.2/9, mb1 4.4/10, mb1mx4.3/16, mbtmp4.6/10, Error ellipse: s-maj=45.8km s-min=20.1km az=89.0*
ISC 03 01:08:26.3±4.9, 4.7S±0.1×153.6E±0.3, h129km±37km, n19, σ0:96/18, mb4.4/12, 1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.95**	**233**	P	**P**	**01 10 20.7**	**+0.4**
	42nm,0.3s,baz=39,slow=10,SNR=60						
PMG				S	**S**	**01 11 48.6**	**-0.5**
	12nm,0.3s,baz=311,slow=20,SNR=5.0						
PMG	**Port Moresby**	**7.95**	**233**	*e*P	**P**	**01 10 20.0**	**-0.4**
PMG				S	**S**	**01 11 48.6**	**-0.5**
WRAB	**Tennant Creek**	**24.13**	**229**	*e*P	**P**	**01 13 32.9**	**+1.3**
	45nm,0.7s,mb5.1						
WB2	**Warramunga Arr**	**24.13**	**229**	*e*P	**P**	**01 13 33.5**	**+1.9**
WRA	**Warramunga Arr**	**24.14**	**229**	P	**P**	**01 13 33.0**	**+1.3**
	27nm,0.7s,mb4.9,baz=54,slow=10.0,SNR=49						
ASAR	**Alice Springs**	**26.80**	**223**	P	**P**	**01 13 56.2**	**-0.1**
	3.9nm,0.6s,mb4.2,baz=55,slow=8.9,SNR=14						
STKA	**Stephens Creek**	**29.31**	**201**	P	**P**	**01 14 18.1**	**-0.9**
	7.6nm,0.7s,mb4.5,baz=36,slow=11,SNR=4.6						
FITZ	**Fitzroy Crossi**	**30.44**	**242**	⇓*i*P	**P**	**01 14 28.2**	**-0.9**
	19nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**30.44**	**242**	P	**P**	**01 14 28.2**	**-0.9**
	24nm,0.6s,mb5.1,baz=33,slow=8.5,SNR=19						
NWAO	**Narrogin (SRO)**	**44.06**	**226**	P	**P**	**01 16 21.4**	**-1.8**
	7.1nm,0.9s,mb4.3						
SONM	**Songino Array**	**66.67**	**327**	P	**P**	**01 19 05.2**	**-0.2**
	0.7nm,0.5s,mb3.8,baz=140,slow=5.6,SNR=12						
SONM				PcP	PcP	01 19 32.7	-0.6
	0.5nm,0.7s,baz=138,slow=4.2,SNR=3.0						
MKAR	**Makanchi Array**	**80.78**	**319**	P	**P**	**01 20 27.7**	**+0.7**
	1.4nm,0.7s,mb3.7,baz=124,slow=5.2,SNR=9.1						
ZAL	**Zalesovo**	**81.52**	**326**	P	**P**	**01 20 31.2**	**+0.5**
	0.9nm,0.5s,mb3.7,baz=90,slow=3.0,SNR=2.5						
MAW	**Mawson**	**86.00**	**203**	P	**P**	**01 20 53.2**	**+0.3**
	7.1nm,0.8s,mb4.5,baz=86,slow=5.8,SNR=9.0						
CHKZ	**Chkalovo**	**89.60**	**324**	*e*P	**P**	**01 21 09.3**	**-1.1**
	8.5nm,1.4s,mb4.5						
BVAR	**Borovoye Array**	**89.64**	**323**	P	**P**	**01 21 10.4**	**-0.2**
	1.9nm,0.8s,mb4.1,baz=104,slow=5.9,SNR=5.9						
GERES	**GERESS Array B**	**124.38**	**329**	PKP	PKPdf	01 27 11.7	+1.5
	0.4nm,0.7s,baz=90,slow=1.3,SNR=4.9						
BDFB	**Brasilia**	**150.56**	**134**	PKPbc	PKPdf	01 28 04.8	+6.6
	2.5nm,0.6s,baz=249,slow=2.4,SNR=5.1						
DBIC	**Dimbokro**	**158.50**	**276**	PKPab	PKPab	01 28 46.1	-0.9
	2.0nm,0.6s,baz=82,slow=5.0,SNR=5.9						

MOS ***03*** *01:41:28.1±0.8, 13.60N×120.85E, h101km, mb5.6/89, MS4.9/8, Error ellipse: s-maj=9.9km s-min=4.1km az=120.1*
MAN ***03*** *01:41:31.1, 13.56N×120.58E, h95km, mb5.9, ML4.9, MS5.3*
MAN Pto Galera Intensity III Manila Pasay Indang Cavite Alabang Intensity II Tagaytay Intensity I.
IDC ***03*** *01:41:31.2±0.4, 13.45N×120.74E, h116km±3km, mb5.0/22, mb1 5.1/23, mb1mx5.0/27, mbtmp5.4/23, MS4.8/3, Ms1 4.8/3, ms1mx4.0/27, Error ellipse: s-maj=15.2km s-min=6.8km az=66.0*
BJI ***03*** *01:41:31.6, 13.65N×120.92E, h129km, mB5.8, mb5.5*
HRVD ***03*** *01:41:32.8±0.2, 13.62N×120.79E, h119km±1km, MW5.6/79, Centroid moment Tensor Solution. LP body waves: s61,c107;Mantle waves: s79,c163; Half duration: 1ŝ6 Moment tensor: Scale 10^17^Nm; Mrr2.67±.07; Mθθ-1.02±.08; Mφφ-1.65±.08; Mrθ2.70±.05; Mθφ-0.29±.08; Mφr0.55±.06; Best double couple: M0 3.407×10^17^ NP1: φs220°, δ21°, λ64°. NP2: φs68°, δ72°, λ100°. Principal axes: T 4.117, Plg62°, Azm352°; N -1.419, Plg9°, Azm245°; P -2.697, Plg26°, Azm150°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
DHMR ***03*** *01:41:32.6±3.4, 13.54N×120.81E, h115km±999km, mb5.3*
NEIC ***03*** *01:41:32.8±0.6, 13.56N×120.80E, h129km±5km, mb5.3/109, Error ellipse: s-maj=4.3km s-min=3.0km az=72.0*
NEIC Felt [III PIVS] at Puerto Galera. Felt [II PIVS] at Ayala Sugar Central, Indang, Manila and Pasay; [I PIVS] at Tagaytay, Luzon. Also felt at Olongapo, Luzon.
ISC 03 01:41:30.6±0.1, 13.57N±0.02×120.69E±0.02, h116km, h116km±1.1km: pP-P, n554, σ1ŝ04/534, mb5.4/154, 100C-27D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.46**	**290**	*e*P	**P**	**01 41 48.2**	**+0.1**
LUBP				*e*S	**S**	**01 42 01.1**	**-0.1**
TGY	**Tagaytay City**	**0.58**	**24**	⇓*e*P	**P**	**01 41 49.5**	**+0.7**
TGY				*e*S	**S**	**01 42 03.1**	**+0.6**
PAZ	**Puerto Azul**	**0.65**	**359**	*e*P	**P**	**01 41 56.0**	**+6.8**
LBPH	**Los Banos**	**0.75**	**39**	*e*P	**P**	**01 41 50.7**	**+0.6**
ARP	**Angono**	**1.06**	**25**	*e*P	**P**	**01 41 54.5**	**+1.2**
BOAC	**Boac**	**1.13**	**96**	*e*P	**P**	**01 41 54.3**	**+0.3**
BOAC				*e*S	**S**	**01 42 11.7**	**+0.3**
QVPH	**Quezon City--P**	**1.13**	**18**	*e*P	**P**	**01 41 55.2**	**+1.1**
SJMP	**San Jose**	**1.18**	**159**	*e*P	**P**	**01 41 54.5**	**-0.1**
NBP	**Mount Natib**	**1.19**	**347**	*e*P	**P**	**01 41 53.0**	**-1.7**
BUSP	**Coron**	**1.63**	**197**	*e*P	**P**	**01 41 59.4**	**-0.4**
POLP	**Polilio Island**	**1.67**	**46**	*e*P	**P**	**01 42 01.7**	**+1.5**
GQP	**Guinayangan**	**1.74**	**79**	⇓*e*P	**P**	**01 42 02.4**	**+1.4**
GQP				*e*S	**S**	**01 42 26.1**	**+2.1**
OTRP	**Odiongan**	**1.77**	**133**	*e*P	**P**	**01 42 01.3**	**-0.1**
OTRP				*e*S	**S**	**01 42 23.7**	**-1.0**
AUQP	**San Andres**	**1.94**	**97**	*e*P	**P**	**01 42 06.0**	**+2.4**
PCPH	**Palayan**	**2.02**	**11**	⇓*e*P	**P**	**01 42 04.8**	**+0.2**
PCPH				*e*S	**S**	**01 42 35.0**	**+4.9**
SCZP	**Santa Cruz**	**2.32**	**341**	*e*P	**P**	**01 42 08.8**	**+0.3**
BALP	**Baler**	**2.32**	**22**	*e*P	**P**	**01 42 10.0**	**+1.4**
ENPP	**El Nido**	**2.66**	**208**	*e*P	**P**	**01 42 12.9**	**-0.2**
CUYO	**Cuyo Island**	**2.72**	**173**	*e*P	**P**	**01 42 13.5**	**-0.5**
BCPH	**Baguio City Da**	**2.79**	**358**	⇑*i*P	**P**	**01 42 15.3**	**+0.4**
BCPH				*i* S	**S**	**01 42 48.2**	**-0.3**
RCP	**Roxas**	**2.83**	**135**	⇓*e*P	**P**	**01 42 15.7**	**+0.2**
RCP				*e*S	**S**	**01 42 48.9**	**-0.4**
BOLP	**Bolinao**	**2.89**	**345**	*e*P	**P**	**01 42 16.5**	**+0.2**
AAP	**Anini-y**	**3.36**	**159**	*e*P	**P**	**01 42 18.0**	**-4.6**
	5μm,1.0s						
PVCP	**Virac**	**3.37**	**89**	*e*P	**P**	**01 42 23.6**	**+0.9**
GUIM	**Jordan**	**3.47**	**147**	*e*P	**P**	**01 42 25.4**	**+1.4**
GUIM				*e*S	**S**	**01 43 06.6**	**+2.0**
CAUP	**Cauayan**	**3.53**	**18**	*e*P	**P**	**01 42 26.2**	**+1.4**
PALP	**Palanan**	**3.85**	**25**	*e*P	**P**	**01 42 30.4**	**+1.2**
CNP	**Catarman**	**4.01**	**105**	*e*P	**P**	**01 42 32.7**	**+1.4**
ABRA	**Dolores**	**4.05**	**0**	*e*P	**P**	**01 42 32.5**	**+0.5**
PPR	**Puerto Princes**	**4.23**	**207**	⇓*i*P	**P**	**01 42 35.1**	**+0.8**
CVP	**Callao Caves**	**4.25**	**15**	*e*P	**P**	**01 42 35.5**	**+0.9**
APYP	**Conner**	**4.30**	**7**	*e*P	**P**	**01 42 36.6**	**+1.4**
LLP	**Lapu-Lapu**	**4.55**	**135**	⇓*e*P	**P**	**01 42 39.9**	**+1.3**
	992μm,1.0s						
LLP				*e*S	**S**	**01 43 27.3**	**-3.6**
SGCP	**Mt. Cagua**	**4.82**	**15**	*e*P	**P**	**01 42 44.2**	**+1.8**
SNPH	**Sibulan**	**4.89**	**149**	*e*P	**P**	**01 42 45.3**	**+2.1**
TBP	**Tagbilaran**	**4.95**	**141**	*e*P	**P**	**01 42 45.5**	**+1.4**
BESP	**Borongan**	**5.03**	**112**	*e*P	**P**	**01 42 48.8**	**+3.7**
MSLP	**Maasin**	**5.32**	**130**	*e*P	**P**	**01 42 50.9**	**+1.9**
BATP	**Bataraza**	**5.53**	**211**	*e*P	**P**	**01 42 52.2**	**+0.4**
IPIL	**Ipil**	**6.04**	**162**	*e*P	**P**	**01 43 00.1**	**+1.4**
PAGZ	**Pagadian**	**6.27**	**155**	*e*P	**P**	**01 43 04.4**	**+2.5**
CGP	**Cagayan de Oro**	**6.42**	**142**	*e*P	**P**	**01 43 04.4**	**+0.3**
BUTP	**Butuan**	**6.66**	**133**	*e*P	**P**	**01 43 10.0**	**+2.8**
ZMPH	**Zamboanga City**	**6.71**	**168**	⇓*e*P	**P**	**01 43 08.7**	**+0.6**
BBP	**Basco**	**6.94**	**10**	*e*P	**P**	**01 43 11.0**	**-0.1**
BIPH	**Bislig**	**7.72**	**133**	⇓*e*P	**P**	**01 43 23.1**	**+1.4**
DAV	**Davao City (W)**	**8.05**	**143**	⇓*e*P	**P**	**01 43 29.5**	**+3.3**
MATI	**Mati**	**8.56**	**140**	*e*P	**P**	**01 43 35.6**	**+2.6**
KKM	**Kota Kinabalu**	**8.68**	**211**	*e*P	**P**	**01 43 35.7**	**+1.1**
KKM	**Kota Kinabalu**	**8.68**	**211**	P	**P**	**01 43 36.4**	**+1.8**
TSM	**Tawau**	**9.63**	**197**	P	**P**	**01 43 50.7**	**+3.3**
NACB	**Ninganchiao**	**10.58**	**4**	*e*P	**P**	**01 43 58.8**	**-1.2**
YHNB	**Yeheng**	**11.06**	**3**	*e*P	**P**	**01 44 07.1**	**+0.7**
QZH	**Quanzhou**	**11.48**	**350**	⇑*i*P	**P**	**01 44 12.4**	**+0.4**
QZH				*e*S	**S**	**01 46 10.0**	**-8.4**
QZH				AMB	AMB		
	comp=Z,180nm,0.9s						
QZH				AMB	AMB		
	comp=Z,2μm,8.0s						
QZH				LR	LR		
	comp=N,5μm,18.3s						
QZH				LR	LR		
	comp=E,4μm,15.8s						
QZH				LR	LR		
	comp=Z,6μm,15.3s						
QIZ	**Qiongzhong**	**11.74**	**299**	P	**P**	**01 44 17.2**	**+1.7**
QIZ				XP		01 44 52.5	
QIZ				S	**S**	**01 46 24.6**	**0.0**
QIZ				AMB	AMB		
	comp=Z,95nm,1.3s						
QIZ	**Qiongzhong**	**11.74**	**299**	*e*P	**P**	**01 44 17.4**	**+1.9**
	comp=Z,89nm,0.7s						
QIZ				*e*S	**S**	**01 46 22.8**	**-1.8**
GZH	**Guangzhou**	**11.75**	**325**	P	**P**	**01 44 14.1**	**-1.5**
JOW	**Kunigami**	**14.98**	**27**	P	**P**	**01 44 58.5**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=214,slow=9.7,SNR=9.0						
KSM	**Kuching**	**15.81**	**221**	*e*P	**P**	**01 45 10.1**	**+2.1**
SSE	**Sheshan**	**17.45**	**1**	P	**P**	**01 45 28.6**	**+0.4**
SSE				XP		01 46 06.0	
SSE				S	**S**	**01 48 42.2**	**+5.9**
SSE				AMB	AMB		
	comp=Z,131nm,1.6s						
SSE				AMB	AMB		
	comp=Z,2μm,10.3s						
SSE				LR	LR		
	comp=N,1μm,18.0s						
SSE				LR	LR		
	comp=E,820nm,18.0s						
SSE				LR	LR		
	comp=Z,2μm,17.0s						
SSE	**Sheshan**	**17.45**	**1**	P	**P**	**01 45 28.6**	**+0.4**
	comp=Z,131nm,1.6s						
SSE				sP		01 46 06.0	
SSE				S	**S**	**01 48 42.2**	**+5.9**
SSE				sS		01 49 19.5	
WHN	**Wuhan**	**17.88**	**342**	⇑P	**P**	**01 45 34.0**	**+0.7**
WHN				S	**S**	**01 48 54.0**	**+8.2**
WHN				AMB	AMB		
	comp=Z,7μm,4.1s						
WHN				LR	LR		
	comp=Z,4μm,16.2s						
GYA	**Guiyang**	**18.36**	**316**	⇑*i*P	**P**	**01 45 40.9**	**+2.1**
GYA				XP		01 46 17.6	
GYA				S	**S**	**01 49 07.1**	**+11**
GYA				AMB	AMB		
	comp=Z,180nm,1.4s						
GYA				AMB	AMB		
	comp=Z,2μm,6.6s						
GYA				LR	LR		
	comp=N,2μm,15.3s						
GYA				LR	LR		
	comp=E,2μm,15.5s						
GYA				LR	LR		
	comp=Z,2μm,15.5s						
NJ2	**Nanjing**	**18.47**	**355**	*e*P	**P**	**01 45 41.0**	**+1.0**
NJ2				XP		01 46 18.1	
NJ2				S	**S**	**01 49 02.0**	**+3.2**
NJ2				PCP	PcP	01 50 06.4	+1.2
NJ2				AMB	AMB		
	comp=Z,380nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,2μm,4.2s						
NJ2				LR	LR		
	comp=N,5μm,11.9s						
NJ2				LR	LR		
	comp=E,5μm,17.9s						
NJ2				LR	LR		
	comp=Z,2μm,15.0s						
ENH	**Enshi**	**19.58**	**330**	⇑*e*P	**P**	**01 45 51.7**	**-0.1**
	comp=Z,260nm,1.1s						
NNT	**Nongplab**	**20.44**	**270**	P	**P**	**01 46 02.5**	**+1.7**
KMI	**Kunming**	**20.44**	**307**	⇑P	**P**	**01 46 03.7**	**+2.9**
KMI				AP		01 46 27.8	
KMI				PP	PP	01 46 34.2	+9.2
KMI				XP		01 46 40.4	
KMI				XS		01 50 26.2	
KMI				AMB	AMB		
	comp=Z,117nm,1.6s						
KMI				AMB	AMB		
	comp=Z,2μm,5.0s						
KMI				LR	LR		
	comp=N,1μm,16.2s						
KMI				LR	LR		
	comp=E,1μm,16.2s						
KMI				LR	LR		
	comp=Z,3μm,24.9s						
KMI	**Kunming**	**20.44**	**307**	⇑P	**P**	**01 46 03.7**	**+2.9**
KMI				*PP		01 46 27.8	
KMI						01 46 34.2	
KMI				S	**S**	**01 49 47.5**	**+10**
KMI				pmax	pmax		
	comp=Z,117nm,1.6s						
KMI				MLR	MLR		
	comp=Z,3μm,24.9s						
KMI	**Kunming**	**20.44**	**307**	⇑P	**P**	**01 46 03.7**	**+2.9**
	comp=Z,117nm,1.6s						
KMI				pP		01 46 27.8	
KMI				PP	PP	01 46 34.2	+9.2
KMI				sP		01 46 40.4	
KMI				S	**S**	**01 49 47.5**	**+10**
KMI				sS		01 50 26.2	
KMI				SS	SS	01 50 35.3	+18
KMI				LR	LR		
	comp=Z,3μm,24.9s						
KGM	**Kluang**	**20.67**	**238**	P	**P**	**01 46 04.8**	**+1.7**
CHRT	**Chiangrai**	**20.97**	**290**	⇑P	**P**	**01 46 08.5**	**+2.4**
	comp=Z,855nm,0.8s						
IPM	**Ipoh**	**21.36**	**247**	P	**P**	**01 46 12.0**	**+2.0**
KULM	**Kulim**	**21.40**	**249**	*e*P	**P**	**01 46 11.9**	**+1.4**
TIA	**Tai'an**	**22.77**	**353**	P	**P**	**01 46 24.0**	**+0.3**
TIA				AMB	AMB		
	comp=Z,244nm,1.5s,mb5.3						
XAN	**Xi'an**	**23.01**	**334**	P	**P**	**01 46 26.4**	**+0.3**
XAN				AMB	AMB		
	comp=Z,308nm,1.5s,mb5.4						
CD2	**Chengdu**	**23.26**	**321**	P	**P**	**01 46 28.5**	**0.0**
CD2				PP	PP	01 47 06.9	+3.4
CD2				XP		01 47 12.3	
CD2				S	**S**	**01 50 29.5**	**+1.1**
CD2				XS		01 51 17.4	
CD2				AMB	AMB		
	comp=Z,390nm,1.0s,mb5.7						
CD2				AMB	AMB		
	comp=Z,3μm,6.7s						
CD2				LR	LR		
	comp=N,2μm,12.7s						
CD2				LR	LR		
	comp=Z,3μm,11.4s						
GUMO	**Guam**	**23.50**	**87**	*e*P	**P**	**01 46 32.0**	**+1.1**
GUMO				pmax	pmax		
	comp=Z,522nm,1.1s,mb5.8						
GUMO	**Guam**	**23.50**	**87**	*e*P	**P**	**01 46 32.0**	**+1.1**
	comp=Z,522nm,1.1s,mb5.8						
CBIJ	**Chichi jima**	**24.18**	**53**	P	**P**	**01 46 37.3**	**-0.1**
	comp=Z,129nm,0.4s,mb5.6,baz=270,slow=13,SNR=6.4						
CBIJ				LR	LR	01 55 20.4	
	comp=Z,928nm,18.6s,baz=299,slow=34						
INCN	**Inchon**	**24.40**	**11**	*e*P	**P**	**01 46 39.2**	**-0.1**
	comp=Z,207nm,1.5s,mb5.2						
DL2	**Dalian**	**25.25**	**2**	P	**P**	**01 46 46.9**	**-0.5**
DL2				AP	pP	01 47 15.3	+3.2
DL2				XP	sP	01 47 27.6	+1.7
DL2				PCP	PcP	01 50 17.6	-0.9
DL2				*e*S	**S**	**01 51 03.3**	**+1.4**
DL2				AMB	AMB		
	comp=Z,50nm,0.9s,mb4.9						
JHJ	**Hachijo jima 2**	**26.10**	**39**	P	**P**	**01 46 55.9**	**+0.4**
	comp=Z,110nm,0.7s,mb5.4,baz=154,slow=4.5,SNR=5.8						
BJT	**Baijiatuau**	**26.64**	**352**	*e*P	**P**	**01 46 59.9**	**-0.4**
BJT				*e*PP	pP	01 47 25.8	+0.6
BJT				pmax	pmax		
	comp=Z,241nm,1.8s						
BJT	**Baijiatuau**	**26.64**	**352**	*e*P	**P**	**01 46 59.9**	**-0.4**
	comp=Z,241nm,1.8s,mb5.4						
BJT				*e*pP	pP	01 47 25.8	+0.6
BJI	**Beijing**	**26.66**	**352**	P	**P**	**01 46 59.9**	**-0.6**
BJI				AP	pP	01 47 25.4	0.0
BJI				XP	sP	01 47 39.7	+0.6
BJI				S	**S**	**01 51 27.6**	**+2.4**
BJI				AMB	AMB		
	comp=Z,80nm,2.0s,mb4.9						
BJI				AMB	AMB		
	comp=Z,2μm,3.6s						
BJI	**Beijing**	**26.66**	**352**	P	**P**	**01 46 59.9**	**-0.6**
BJI				*PP	pP	01 47 25.4	0.0
BJI						01 50 15.2	
BJI				S	**S**	**01 51 27.6**	**+2.4**
BJI				pmax	pmax		
	comp=Z,80nm,2.0s,mb4.9						
BJI	**Beijing**	**26.66**	**352**	P	**P**	**01 46 59.9**	**-0.6**
	comp=Z,80nm,2.0s,mb4.9						
BJI				pP	pP	01 47 25.4	0.0
BJI				sP	sP	01 47 39.7	+0.6
BJI				PcP	PcP	01 50 15.2	-6.5
BJI				S	**S**	**01 51 27.6**	**+2.4**
LZH	**Lanzhou**	**27.05**	**329**	⇑*i*P	**P**	**01 47 04.7**	**+0.6**
LZH				AP	pP	01 47 31.0	+1.9
LZH				XP	sP	01 47 45.9	+3.2
LZH				PP	PP	01 47 58.2	+3.7
LZH				*e*S	**S**	**01 51 32.8**	**+1.3**
LZH				XS		01 52 18.7	
LZH				SS	SS	01 52 58.9	+3.3
LZH				AMB	AMB		
	comp=Z,153nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,596nm,4.8s						
LZH				LR	LR		
	comp=N,2μm,11.0s						
LZH				LR	LR		
	comp=Z,2μm,13.7s						
LZH	**Lanzhou**	**27.05**	**329**	⇑*i*P	**P**	**01 47 04.7**	**+0.6**
LZH				*PP	pP	01 47 31.0	+1.9
LZH						01 47 58.2	
LZH				*e*S	**S**	**01 51 32.8**	**+1.3**
LZH				SS	SS	01 52 58.9	+3.3
LZH				pmax	pmax		
	comp=Z,153nm,1.5s,mb5.3						
LZH				MLR	MLR		
	comp=Z,2μm,13.7s						
LZH	**Lanzhou**	**27.05**	**329**	⇑*i*P	**P**	**01 47 04.7**	**+0.6**
	comp=Z,153nm,1.5s,mb5.3						
LZH				pP	pP	01 47 31.0	+1.9
LZH				sP	sP	01 47 45.9	+3.2
LZH				PP	PP	01 47 58.2	+3.7
LZH				*e*S	**S**	**01 51 32.8**	**+1.3**
LZH				sS		01 52 18.7	
LZH				SS	SS	01 52 58.9	+3.3
LZH				LR	LR		
	comp=Z,2μm,13.7s						
MAJO	**Matsushiro**	**27.74**	**31**	⇑*i*P	**P**	**01 47 07.7**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,106nm,1.4s,mb5.2						
MAJO	**Matsushiro**	**27.74**	**31**	⇑*i*P	**P**	**01 47 07.7**	**-2.7**
	comp=Z,106nm,1.4s,mb5.2						
MAT	**Matsushiro**	**27.74**	**31**	*e*P	**P**	**01 47 08.0**	**-2.4**
MAT				pmax	pmax		
	comp=Z,116nm,1.4s,mb5.2						
MAT	**Matsushiro**	**27.74**	**31**	*e*P	**P**	**01 47 08.0**	**-2.4**
	comp=Z,116nm,1.4s,mb5.2						
MAT	**Matsushiro**	**27.74**	**31**	P	**P**	**01 47 07.6**	**-2.8**
HHC	**Hu-ho-hao-te**	**28.32**	**345**	*e*P	**P**	**01 47 14.4**	**-1.2**
HHC				AP	pP	01 47 40.9	+0.1
HHC				XP	sP	01 47 55.8	+1.5
HHC				PP	PP	01 48 12.7	+1.7
HHC				PCP	PcP	01 50 22.3	-3.4
HHC				S	**S**	**01 51 51.8**	**-0.2**
HHC				SS	SS	01 53 28.9	+3.5
HHC				SCP		01 53 50.8	
HHC				PCS		01 54 03.5	
HHC				AMB	AMB		
	comp=Z,75nm,1.7s,mb4.9						
HHC				AMB	AMB		
	comp=Z,1μm,10.5s						
HHC				LR	LR		
	comp=N,2μm,16.5s						
HHC				LR	LR		
	comp=E,972nm,16.7s						
HHC				LR	LR		
	comp=Z,1μm,16.1s						
BTO	**Baotou**	**28.51**	**343**	*e*P	**P**	**01 47 16.7**	**-0.5**
BTO				AMB	AMB		
	comp=Z,53nm,0.6s,mb5.3						
BTO				LR	LR		
	comp=E,2μm,15.7s						
SHL	**Shillong**	**29.58**	**298**	*e*P	**P**	**01 47 27.0**	**+0.1**
SHL				*e*S	**S**	**01 52 12.0**	**0.0**
AGT	**Agartala**	**29.65**	**295**	⇓*i*P	**P**	**01 47 27.0**	**-0.6**
AGT				*i*		01 48 50.0	
CN2	**Changchun**	**30.40**	**7**	*e*P	**P**	**01 47 32.0**	**-2.0**
CN2				*e*AP	pP	01 47 56.4	-3.1
CN2				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.5						
CN2				AMB	AMB		
	comp=Z,1μm,10.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s						
CN2				LR	LR		
	comp=E,1μm,15.0s						
CN2				LR	LR		
	comp=Z,1μm,16.0s						
GTA	**Gaotai**	**31.64**	**328**	P	**P**	**01 47 44.7**	**-0.2**
GTA				AP	pP	01 48 09.0	-1.7
GTA				XP	sP	01 48 24.0	-0.2
GTA			

comp=Z,86nm,0.6s,mb5.7
LSA Lhasa 31.68 305 *e*P **P 01 47 47.0 +1.6**
comp=Z,86nm,0.6s,mb5.7
FITZ Fitzroy Crossi 31.85 171⇑ *i*P **P 01 47 45.3 -1.6**
comp=Z,30nm,0.9s,mb5.0
FITZ *i* pP pP 01 48 11.3 -1.4
FITZ *e*S **S 01 52 45.3 -2.4**
MDJ Mudanjiang 31.86 12 P **P 01 47 45.6 -1.1**
MDJ AP pP 01 48 12.5 0.0
MDJ XP sP 01 48 26.5 +0.4
MDJ PCP PcP 01 50 33.0 -1.8
MDJ S **S 01 52 49.4 +1.8**
MDJ PCS 01 54 18.0
MDJ AMB AMB
comp=Z,36nm,1.5s,mb4.9
MDJ AMB AMB
comp=Z,324nm,6.5s
MDJ LR LR
comp=N,2μm,40.2s
MDJ LR LR
comp=E,741nm,36.9s
MDJ LR LR
comp=Z,2μm,42.4s
MDJ Mudanjiang 31.86 12 *e*P **P 01 47 45.6 -1.1**
comp=Z,26nm,0.8s,mb5.0
MDJ pP pP 01 48 11.2 -1.3
BWNR Bhubaneshwar 33.99 286 *e*P **P 01 48 08.2 +2.9**
BWNR *e* 01 48 11.9
comp=Z,134nm,0.7s
MBWA Marble Bar 34.53 182⇓ *e*P **P 01 48 08.5 -1.4**
comp=Z,60nm,0.4s,mb5.8
PMG Port Moresby 34.80 130 *e*P **P 01 48 09.3 -3.0**
PMG pmax pmax
comp=Z,27nm,0.6s
PMG Port Moresby 34.80 130 *i* P **P 01 48 14.3 +2.0**
PMG Port Moresby 34.80 130 *e*P **P 01 48 09.3 -3.0**
comp=Z,27nm,0.6s,mb5.2
JIRN Jiri 35.06 299 *e*P **P 01 48 15.6 +1.2**
comp=Z,533nm,0.6s
GUN Gumba 35.40 299 *e*P **P 01 48 18.4 +1.2**
comp=Z,1μm,1.1s
HIA Hailar 35.60 359 *e*P **P 01 48 17.4 -1.3**
HIA pmax pmax
comp=Z,70nm,1.5s
HIA Hailar 35.60 359 *e*P **P 01 48 17.4 -1.3**
comp=Z,70nm,1.5s,mb5.4
PKI Pulchoki 35.71 299 *e*P **P 01 48 20.3 +0.5**
comp=Z,201nm,0.5s,mb6.3
PKI Pulchoki 35.71 299 *e*P **P 01 48 20.3 +0.5**
PKI pmax pmax
comp=Z,101nm,0.5s,mb6.0
ASAJ Asahikawa 35.75 27 P **P 01 48 20.2 +0.2**
comp=Z,86nm,1.0s,mb5.6,baz=247,slow=13,SNR=22
KKN Kakani 35.88 299 *e*P **P 01 48 21.9 +0.6**
comp=Z,500nm,1.0s,mb6.4
KKN Kakani 35.88 299 *e*P **P 01 48 21.9 +0.6**
KKN pmax pmax
comp=Z,250nm,1.0s,mb6.1
WRAB Tennant Creek 35.90 158 *e*P **P 01 48 19.3 -2.3**
WRAB *e**PP pP 01 48 45.0 -2.8
WRAB pmax pmax
comp=Z,336nm,1.1s,mb6.2
WRAB Tennant Creek 35.90 158 *e*P **P 01 48 19.3 -2.2**
comp=Z,336nm,1.1s,mb6.2
WRAB *e*pP pP 01 48 45.0 -2.8
WRA Warramunga Arr 35.91 158 P **P 01 48 19.4 -2.2**
comp=Z,38nm,0.5s,mb5.6,baz=333,slow=10,SNR=196
WRA pP pP 01 48 44.8 -3.1
comp=Z,113nm,0.9s,baz=336,slow=9.5,SNR=12
WRA S **S 01 53 46.0 -4.4**
comp=Z,22nm,1.0s,baz=338,slow=15,SNR=14
WRA ScS ScS 01 58 23.9 -0.9
comp=Z,1.0nm,0.8s,baz=333,slow=5.4,SNR=4.7
WB2 Warramunga Arr 35.91 158⇓ *i*P **P 01 48 19.4 -2.2**
WB2 *i* pP pP 01 48 45.2 -2.7
WB2 *e*S **S 01 53 44.0 -6.5**
WB2 *e*SCS ScS 01 58 22.8 -2.0
DMN Daman 35.98 298 *e*P **P 01 48 22.6 +0.5**
comp=Z,618nm,1.1s
ULN Ulaanbaatar 36.03 344 *e*P **P 01 48 22.1 -0.2**
ULN pmax pmax
comp=Z,40nm,0.8s,mb5.4
ULN Ulaanbaatar 36.03 344 *e*P **P 01 48 22.1 -0.2**
comp=Z,40nm,0.8s,mb5.4
VIS Vishakhapatnam 36.17 281 *e*P **P 01 48 25.6 +1.7**
VIS *e* 01 48 29.3
comp=Z,221nm,1.7s
VIS *e* 01 52 20.2
SONM Songino Array 36.18 344 P **P 01 48 23.4 -0.2**
comp=Z,40nm,0.6s,mb5.5,baz=163,slow=9.7,SNR=401
SONM PcP PcP 01 50 46.1 -0.9
comp=Z,5.8nm,0.7s,baz=157,slow=4.2,SNR=6.3
SONM ScP 01 54 20.7
comp=Z,1.8nm,0.7s,baz=136,slow=3.4,SNR=3.6
SONM PKiKP 01 58 04.3
comp=Z,0.3nm,0.4s,baz=179,slow=2.5,SNR=5.5
GKN Gorkha 36.48 299 *e*P **P 01 48 26.6 +0.2**
comp=Z,680nm,1.3s,mb6.4
KLR Kul'dur 36.70 12 *e*P **P 01 48 24.7 -3.3**
KLR pmax pmax
comp=E,85nm,1.6s
KLR pmax pmax
comp=Z,110nm,1.6s,mb5.5
KLR pmax pmax
comp=N,40μm,1.6s
KOLN Koldanda 37.31 298 *e*P **P 01 48 33.5 +0.2**
comp=N,1μm,1.8s
BLSP Bilaspur 37.59 289 *e*P **P 01 48 37.0 +1.3**
BLSP *e* 01 48 39.3
comp=Z,133nm,1.1s
BLSP *e* 01 51 51.2
YSS Yuzh-Sakhalins 38.07 25⇑ *i*P **P 01 48 38.9 -0.6**
YSS *e* 01 49 16.7
YSS *e* 01 50 50.7
YSS pmax pmax
comp=N,80nm,1.5s
YSS pmax pmax
comp=Z,160nm,1.5s,mb5.6
YSS Yuzh-Sakhalins 38.07 25 *e*P **P 01 48 38.4 -1.1**
comp=Z,121nm,1.3s,mb5.6
ALBI Allahabad 38.35 294 *e*P **P 01 48 41.0 -1.0**
ASPA Alice Springs 39.20 161 *e*P **P 01 48 47.5 -1.5**
ASPA *e*pP pP 01 49 14.4 -1.2
ASPA *e*S **S 01 54 35.4 -4.8**
ASAR Alice Springs 39.20 161 P **P 01 48 47.7 -1.4**
comp=Z,30nm,0.5s,mb5.4,baz=335,slow=6.5,SNR=602
ASAR pP pP 01 49 14.0 -1.6
comp=Z,88nm,1.1s,baz=338,slow=7.4,SNR=6.5
ASAR PcP PcP 01 50 55.4 -1.2
comp=Z,4.9nm,0.4s,baz=340,slow=3.7,SNR=4.6
ASAR ScP 01 54 31.2
comp=Z,3.8nm,0.8s,baz=344,slow=3.5,SNR=4.1
ASAR S **S 01 54 37.6 -2.6**
comp=Z,13nm,0.8s,baz=351,slow=17,SNR=15
ASAR ScS ScS 01 58 40.6 -2.8
comp=Z,1.5nm,0.9s,baz=333,slow=5.2,SNR=4.1
ZAK Zakamensk 39.36 342⇓ *i*P **P 01 48 49.6 -0.5**
ZAK *e* 01 49 29.0
ZAK *e* 01 54 51.8
ZAK pmax pmax
comp=Z,17nm,1.4s,mb4.7
ZAK pmax pmax
comp=Z,14nm,1.1s,mb4.7
NGP Nagpur 40.36 287 *e*P **P 01 49 00.3 +1.7**
TLY Talaya 40.42 344 *e*P **P 01 48 58.9 +0.1**
TLY pmax pmax
comp=Z,36nm,0.7s,mb5.3
TLY Talaya 40.42 344 *e*P **P 01 48 58.9 +0.1**
comp=Z,93nm,1.2s,mb5.5
LGTI Lohaghat 40.58 300 *e*P **P 01 49 01.5 +1.2**
PTH Pithoragarh 40.63 300 *e*P **P 01 49 00.9 +0.2**
HYB Hyderabad 40.73 281⇑ *e*P **P 01 49 03.0 +1.3**
HYB *e*S tx 01 51 01.5
HYB pmax pmax
comp=Z,130nm,1.0s,mb5.7
HYB Hyderabad 40.73 281⇑ *e*P **P 01 49 03.0 +1.3**
comp=Z,130nm,1.0s,mb5.7
HYB *e*S tx 01 51 01.5
HYB Hyderabad 40.73 281⇑ *i*P **P 01 49 03.0 +1.3**
comp=Z,130nm,1.0s,mb5.7
HYB *e*pP pP 01 49 33.0 +4.7
IRK Irkutsk 40.76 345 *e*P **P 01 49 01.1 -0.5**
IRK *e*S **S 01 55 07.1 +3.9**
IRK pmax pmax
comp=Z,106nm,1.6s,mb5.4
MOY Mondy 41.18 341 *e*P **P 01 49 05.5 +0.4**
MOY pmax pmax
comp=Z,132nm,1.8s,mb5.5
WMQ Urumqi 41.30 323⇑ *i*P **P 01 49 07.6 +1.5**
WMQ AP pP 01 49 36.1 +3.3
WMQ XP sP 01 49 50.6 +4.1
WMQ PP PP 01 50 48.1 +1.9
WMQ PCP PcP 01 51 04.1 +0.9
WMQ PPP PPP 01 51 22.6 +3.9
WMQ SCP 01 54 41.1
WMQ PCS 01 54 54.1
WMQ S **S 01 55 12.6 +1.3**
WMQ XS 01 56 02.2
WMQ SS SS 01 58 16.1 +2.0
WMQ SCS ScS 01 58 56.1 +0.4
WMQ AMB AMB
comp=Z,129nm,1.2s,mb5.6
WMQ AMB AMB
comp=Z,2μm,4.0s
WMQ LR LR
comp=N,3μm,14.4s
WMQ LR LR
comp=E,1μm,13.8s
WMQ LR LR
comp=Z,1μm,23.5s
CTA Charters Tower 41.85 143⇓ *i*P **P 01 49 10.2 -0.7**
comp=Z,17nm,1.5s,mb4.5
CTA *i* pP pP 01 49 37.2 -0.4
CTA Charters Tower 41.85 143⇓ *i*P **P 01 49 10.2 -0.7**
CTA *i* *PP pP 01 49 37.2 -0.4
CTA pmax pmax
comp=Z,17nm,1.5s
CTAO Charters Tower 41.85 143 *e*P **P 01 49 09.6 -1.3**
CTAO *e**PP pP 01 49 37.1 -0.5
CTAO pmax pmax
comp=Z,115nm,1.3s,mb5.5
CTAO Charters Tower 41.85 143 *e*P **P 01 49 09.6 -1.3**
comp=Z,115nm,1.3s,mb5.5
CTAO *e*pP pP 01 49 37.1 -0.5
BHPL Bhopal 42.03 290 *e*P **P 01 49 13.4 +1.0**
BHPL *e* 01 49 15.8
comp=Z,192nm,1.4s
LATR Latur 42.62 282 *e*P **P 01 49 19.1 +1.8**
DDI Dehra Dun 42.63 300 *e*P **P 01 49 17.5 +0.2**
NDI New Delhi 43.00 298 *e*P **P 01 49 17.7 -2.6**
CLNS Chul'man 43.30 3 *e*P **P 01 49 20.1 -2.1**
CLNS pmax pmax
comp=Z,82nm,1.5s,mb5.2
CLNS pmax pmax
comp=N,58nm,1.3s
CLNS pmax pmax
comp=E,32nm,1.7s
SMLA Simla 43.57 301⇓ *i* **P 01 49 16.3 -8.5**
SMLA *i* 01 55 31.7
SDNR Sundarnagar 43.82 301 *e*P **P 01 49 27.4 +0.6**
BHK Bhakra 44.26 301 *e*P **P 01 49 33.1 +2.7**
BOD Bodaibo 44.45 355 *e*P **P 01 49 30.1 -1.4**
BOD pmax pmax
comp=Z,34nm,1.7s,mb4.8
FORT Forrest 44.66 171 *e*P **P 01 49 31.9 -1.7**
comp=Z,2μm,0.7s
FORT *i* pP pP 01 49 59.7 -0.8
PONG Pong 44.77 302 *e*P **P 01 49 34.0 -0.5**
PONG *e* 01 51 15.0
AJM Ajmer 44.90 294 *e*P **P 01 49 36.2 +0.7**
AJM *e* 01 49 38.7
comp=Z,256nm,1.1s
KAD Karad 44.90 281 *e*P **P 01 49 36.7 +1.1**
KAD *e* 01 49 39.2
comp=Z,195nm,1.7s
KLBR Kellerberrin 44.99 184⇓ *i*P **P 01 49 35.0 -1.2**
comp=Z,1μm,0.8s
KLBR *i* pP pP 01 50 02.4 -0.7
THN Thein Dam 45.08 302 *e*P **P 01 49 36.1 -0.8**
POO Poona 45.19 283 *e*P **P 01 49 39.2 +1.3**
POO *e* 01 49 41.5
comp=Z,254nm,1.7s
MUN Mundaring 45.49 185 *e*P **P 01 49 39.0 -1.2**
comp=Z,31nm,1.0s,mb5.0
MUN *i* pP pP 01 50 06.9 -0.2
MUN Mundaring 45.49 185 *e*P **P 01 49 39.0 -1.2**
MUN *i* *PP pP 01 50 06.9 -0.2
MUN pmax pmax
comp=Z,31nm,1.0s,mb5.0
MKAR Makanchi Array 46.13 324 P **P 01 49 45.5 +0.5**
comp=Z,81nm,0.6s,mb5.6,baz=119,slow=7.9,SNR=550
MKAR PcP PcP 01 51 18.9 -0.8
comp=Z,13nm,0.7s,baz=90,slow=3.6,SNR=3.7
MKAR ScP 01 54 58.2
comp=Z,1.5nm,0.7s,baz=135,slow=4.1,SNR=2.7
NWAO Narrogin (SRO) 46.35 184 *e*P **P 01 49 46.1 -0.9**
NWAO *e**PP pP 01 50 11.8 -2.2
NWAO pmax pmax
comp=Z,172nm,1.1s
NWAO Narrogin (SRO) 46.35 184 LR LR 02 07 34.8
comp=Z,1μm,21.5s,baz=46,slow=34
NWAO Narrogin (SRO) 46.35 184 *e*P **P 01 49 46.0 -0.9**
comp=Z,172nm,1.1s,mb5.7
NWAO *e*pP pP 01 50 11.8 -2.2
KSH Kashi 46.98 312⇑ *i*P **P 01 49 53.1 +1.3**
KSH PP PP 01 51 40.6 -2.7
KSH S **S 01 56 34.6 +1.3**
KSH AMB AMB
comp=Z,680nm,1.2s,mb6.2
KSH LR LR
comp=N,1μm,11.8s
KSH LR LR
comp=E,1μm,7.7s
ULHL Ulahol 47.81 315 P **P 01 49 59.1 +0.9**
SNR=64
KZA Kyzart 48.42 315 P **P 01 50 04.2 +1.2**
SNR=207
TKM2 Tokmak 2 48.51 316 P **P 01 50 04.2 +0.5**
SNR=159
YAK Yakutsk 48.82 6 P **P 01 50 04.5 -1.2**
YAK pmax pmax
comp=Z,140nm,1.0s,mb5.8
YAK Yakutsk 48.82 6 *e*P **P 01 50 04.2 -1.5**
comp=Z,143nm,1.0s,mb5.9
KBK Karagaybulak 48.85 315 P **P 01 50 07.1 +0.9**
SNR=155
UCH Uchtor 48.99 315 P **P 01 50 08.3 +1.0**
SNR=249
CHMS Chumysh 49.11 316 P **P 01 50 08.8 +0.5**
SNR=66
FRU Bishkek 49.14 316⇑ *i*P **P 01 50 09.5 +1.0**
FRU *i* pP 01 50 33.0 -2.8
FRU pmax pmax
comp=Z,300nm,2.1s,mb5.8
AAK Ala-Archa 49.15 315 P **P 01 50 09.0 +0.4**
SNR=70
AAK Ala-Archa 49.15 315 P **P 01 50 08.0 -0.6**
comp=Z,459nm,0.8s,SNR=92
AAK Ala-Archa 49.15 315⇑ *e*P **P 01 50 08.1 -0.5**
AAK pmax pmax
comp=Z,162nm,1.4s,mb5.8
AAK Ala-Archa 49.15 315⇑ *e*P **P 01 50 08.1 -0.5**
comp=Z,162nm,1.4s,mb5.8
BHJ Bhuj 49.16 289 *e*P **P 01 50 10.4 +1.5**
BHJ *e* 01 50 12.9
comp=Z,337nm,1.8s
ZAL Zalesovo 49.17 333 P **P 01 50 07.0 -1.6**
comp=Z,42nm,0.5s,mb5.7,baz=359,slow=4.6,SNR=130
ZAL S **S 01 57 03.1 -0.6**
comp=Z,1.4nm,0.8s,baz=190,slow=17,SNR=3.4
STKA Stephens Creek 49.43 156 *e*P **P 01 50 08.7 -2.2**
comp=Z,6.9nm,0.4s,mb4.9
STKA *i* pP pP 01 50 36.2 -2.0
STKA Stephens Creek 49.43 156 P **P 01 50 08.4 -2.5**
comp=Z,11nm,0.6s,mb5.0,baz=330,slow=7.8,SNR=45
STKA pP pP 01 50 36.2 -2.0
comp=Z,51nm,1.0s,baz=335,slow=7.1,SNR=8.8
STKA S **S 01 57 03.8 -3.9**
comp=Z,6.4nm,1.0s,baz=251,slow=20,SNR=2.9
AML Almayashu 49.52 314 P **P 01 50 12.2 +0.8**
SNR=208
PET Petropavlovsk 49.54 29⇑ *e*P **P 01 50 10.6 -0.8**
PET pmax pmax
comp=Z,55nm,0.9s,mb5.5
PET Petropavlovsk 49.54 29⇑ *e*P **P 01 50 10.6 -0.8**
comp=Z,55nm,0.9s,mb5.5
EKS2 Erkin-Say 49.65 315 P **P 01 50 12.9 +0.5**
SNR=108
KURK Kurchatov 50.29 326*c* *i*P **P 01 50 16.7 -0.5**
KURK Kurchatov 50.29 326 *e*P **P 01 50 16.8 -0.4**
comp=Z,518nm,0.7s
NVS Novosibirsk 50.45 333 *i* P **P 01 50 17.0 -1.3**
NVS *i* pP 01 50 44.0 -1.8
NVS pmax pmax
comp=N,136nm,1.5s
NVS pmax pmax
comp=E,125nm,1.5s
NVS pmax pmax
comp=Z,184nm,1.5s,mb5.8
MA2 Magadan 51.02 19⇑ *i*P **P 01 50 21.9 -0.7**
ADE Adelaide 51.21 161 *e*P **P 01 50 22.9 -1.5**
KKAR Karatay Array 52.06 314 *i* P **P 01 50 30.0 -0.6**
KKAR pmax pmax
comp=Z,31nm,0.6s,mb5.5
SEY Seymchan 54.13 17 *e*P **P 01 50 47.4 +1.7**
SEY pmax pmax
comp=N,110nm,1.4s
SEY pmax pmax
comp=Z,110nm,1.4s,mb5.7
SEY pmax pmax
comp=E,30nm,0.9s
BVA0 Borovoye Array 55.87 326 *i* P **P 01 50 58.0 -0.4**
BVA0 pmax pmax
comp=Z,17nm,1.0s,mb5.0
BVAR Borovoye Array 55.87 326 P **P 01 50 57.7 -0.7**
comp=Z,25nm,0.6s,mb5.4,baz=117,slow=9.9,SNR=185
BVAR PcP PcP 01 51 55.1 -0.5
comp=Z,13nm,0.7s,baz=63,slow=3.2,SNR=3.6
CHKZ Chkalovo 56.03 327⇑ *e*P **P 01 50 58.4 -1.2**
CHKZ pmax pmax
comp=Z,146nm,1.2s,mb5.9
CHKZ Chkalovo 56.03 327⇑ *e*P **P 01 50 58.4 -1.1**
comp=Z,146nm,1.2s,mb5.9
FX1 Attu Island--F 57.01 35 P **P 01 51 06.0 -0.4**
DZM Mont Dzumac 57.16 128 *e*P **P 01 51 06.8 -1.1**
TIXI Tiksi 58.26 3 *i* P **P 01 51 12.5 -2.5**
WBK Wadi Bani Khal 59.01 288⇑ P **P 01 51 19.7 -1.2**
SNR=6.1
BIDO Bidbid 59.75 289⇑ P **P 01 51 25.3 -0.6**
SNR=10
JMDO Jabal Madar 59.83 288⇑ P **P 01 51 25.3 -1.1**
SNR=129
SMDO Samad 59.84 289⇑ P **P 01 51 25.5 -1.0**
SNR=49
BSY Bisya 60.64 289⇑ P **P 01 51 31.1 -0.9**
SNR=40
ARQ Araqi 61.23 289⇓ P **P 01 51 35.1 -0.8**
SNR=36
BANOM Banah 61.32 292⇓ P **P 01 51 36.2 -0.3**
SNR=90
ASHO Ashiyiah 61.59 291⇑ P **P 01 51 37.6 -0.7**
SNR=48
BILL Bilibino 61.83 18 *e*P **P 01 51 38.1 -1.3**
BILL pmax pmax
comp=Z,207nm,1.4s,mb6.0
BILL Bilibino 61.83 18 *e*P **P 01 51 38.1 -1.2**
comp=Z,207nm,1.4s,mb6.0
SHAO Shalim 62.50 283⇑ P **P 01 51 44.0 -0.4**
SNR=115
SVE Sverdlovsk 62.51 328*d* *i*P **P 01 51 43.2 -0.8**
SVE *e*S **S 01 59 57.0 -3.3**
SVE pmax pmax
comp=Z,145nm,1.3s,mb5.8
ARU Arti 63.49 327⇓ *i*P **P 01 51 48.7 -1.8**
ARU *i* 01 52 25.6
ARU *e* 01 54 09.1
ARU *e*PPP PPP 01 55 42.8 -2.4
ARU *e*S **S 02 00 13.9 +1.4**
ARU pmax pmax
comp=Z,43nm,0.8s,mb5.4
ARU Arti 63.49 327 *e*P **P 01 51 48.1 -2.4**
comp=Z,55nm,0.8s,mb5.5
RBK Rabkut 63.90 283⇑ P **P 01 51 53.4 -0.4**
SNR=34
WHFO Wadi Hawf 64.26 284⇓ P **P 01 51 55.1 -1.0**
SNR=12
ABTO Aybut 64.78 283⇑ P **P 01 51 59.3 -0.2**
SNR=123
MUKL Al Mukalla 69.25 281⇑ *e*P **P 01 52 28.1 +0.6**
MTA Mtatsminda 70.61 310 P **P 01 52 35.3 -0.1**
TI2 Plekhanov 70.64 310⇑ *i*P **P 01 52 35.6 0.0**
TI2 pmax pmax
comp=Z,260nm,1.0s,mb6.0
TBLG Delisi 70.65 310 P **P 01 52 35.5 -0.1**
DUS Dusheti 70.67 310 P **P 01 52 35.7 -0.1**
GNI Garni 70.69 308 *e*P **P 01 52 36.8 +0.9**
GNI pmax pmax
comp=Z,73nm,0.7s
GNI Garni 70.69 308 P **P 01 52 37.2 +1.3**
comp=Z,37nm,0.7s,mb5.3,baz=104,slow=1.0,SNR=30
GNI Garni 70.69 308 *e*P **P 01 52 36.8 +0.9**
comp=Z,73nm,0.7s,mb5.6
ZEI Tsey 71.26 311 *e*P **P 01 52 39.4 +0.2**
ZEI *i* *PP pP 01 53 03.3 -5.1
ZEI *e*S S 02 01 50.6 +4.9
ZEI pmax pmax
comp=Z,78nm,1.0s,mb5.5
RAYN Ar Rayn 71.30 290 P **P 01 52 40.5 +0.7**
comp=Z,2μm,0.9s
PECR Pechory 71.39 325 *i* P **P 01 52 38.4 -1.4**
PECR pmax pmax
comp=Z,230nm,2.0s,mb5.7
TVAN Van 71.79 306 *i* P **P 01 52 43.0 +0.5**
GOF Gofitskoye 71.83 313⇑ *i*P **P 01 52 41.6 -1.0**
GOF *e*S tx 02 02 37.9
GOF pmax pmax
comp=Z,250nm,2.0s,mb5.7
KIV Kislovodsk 72.11 312*c* *i*P **P 01 52 44.2 -0.1**
KIV *i* 01 52 57.8
KIV *e* 01 55 25.5
KIV *i* S S 02 02 01.9 +6.5
KIV *i* 02 02 37.6
KIV pmax pmax
comp=Z,127nm,0.7s,mb5.9
KIV MLR MLR
comp=Z,600nm,17.0s
KIV Kislovodsk 72.11 312 *e*P **P 01 52 44.3 0.0**
comp=Z,130nm,0.8s,mb5.8
MSL Mosul 72.18 304 *i* P **P 01 52 45.0 +0.2**
MSL *e*S tx 02 01 07.0
LBOS 72.97 281 *e*P **P 01 52 50.9 +1.0**
BEST Besiri 73.51 306 *i* P **P 01 52 53.3 +0.7**
DHBB Dhamar BB 73.67 281⇑ *e*P **P 01 52 55.0 +1.1**
TRBA At Turbah 74.17 280⇑ *e*P **P 01 52 57.9 +1.0**
TRBA AMb AMB 01 52 58.5
comp=Z,65nm,0.9s,mb5.4
VOR Voronezh 74.21 320 *e*P **P 01 52 55.5 -0.9**
VOR *e* pP 01 53 23.0 -2.9
VOR *e* 01 53 32.0
VOR *e* 01 55 47.0
VOR pmax pmax
comp=E,100nm,1.3s
VOR pmax pmax
comp=Z,200nm,1.3s,mb5.7
SOC Sochi 74.28 312 *i* P **P 01 52 55.8 -1.1**
SOC *e* 01 53 08.9
SOC *e* 01 55 41.1
SOC *e*PPP PPP 01 57 27.8 -3.6
SOC *e*S S 02 02 19.2 -0.5
SOC *e* 02 03 07.1
SOC *e*SS SS 02 07 05.6 -4.5
SOC *e*SSS SSS 02 10 30.3 +6.4
SOC pmax pmax
comp=Z,52nm,0.6s,mb5.4
SOC pmax pmax
comp=N,8.0nm,0.8s
SOC pmax pmax
comp=E,14nm,0.7s
MOS Moscow 75.01 324 *e*P **P 01 52 58.8 -2.0**
MOS *i* 01 55 50.1
MOS pmax pmax
comp=Z,135nm,0.7s,mb5.8
ELZG Elazig 75.25 307 *i* P **P 01 53 04.2 +1.6**
OBN Obninsk 75.64 324*c* *i*P **P 01 53 03.1 -1.3**
OBN *i* *PP pP 01 53 32.7 -1.3
OBN *i* 01 55 56.3
OBN pmax pmax
comp=Z,174nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,500nm,21.0s
OBN Obninsk 75.64 324⇑ *i*P **P 01 53 03.2 -1.2**
comp=Z,65nm,0.7s,mb5.5
MALT Malatya 75.70 306 *e*P **P 01 53 06.1 +0.9**
MALT pmax pmax
comp=Z,55nm,0.9s,mb5.3
MALT Malatya 75.70 306 *e*P **P 01 53 06.1 +0.9**

comp=Z,55nm,0.9s,mb5.3
ANN Anapa 75.82 313 *e*P **P 01 53 03.8 -1.9**
ANN *e**PP pP 01 53 34.0 -1.2
ANN pmax pmax
comp=Z,190nm,1.4s,mb5.6
IMA Indian Mountai 75.93 25 *e*P **P 01 53 06.6 +0.7**
IMA pmax pmax
comp=Z,255nm,1.1s,mb5.9
IMA Indian Mountai 75.93 25 *e*P **P 01 53 06.6 +0.7**
comp=Z,255nm,1.1s,mb5.9
GZT Gaziantep 76.49 306 *i* P **P 01 53 10.0 +0.4**
SPU Mount Spurr 76.91 30 *e*P **P 01 53 10.7 -0.7**
KAHT Ahir Dag 77.00 306 *i* P **P 01 53 13.4 +0.9**
ASF Jabal al Asfar 77.72 300 P **P 01 53 17.6 +1.1**
comp=Z,72nm,0.8s,mb5.4,baz=84,slow=1.2,SNR=64
ASF pP pP 01 53 46.4 +0.2
comp=Z,14nm,0.7s,baz=104,slow=4.2,SNR=2.3
SIM Simferopol' 78.15 314 *e*P **P 01 53 17.0 -1.6**
SIM pmax pmax
comp=Z,63nm,1.2s,mb5.2
AVNT Avonos 78.43 307 *i* P **P 01 53 20.8 +0.6**
COLA College 78.45 26 *e*P **P 01 53 19.6 -0.2**
COLA pmax pmax
comp=Z,25nm,1.0s,mb4.9
COLA College 78.45 26 *e*P **P 01 53 18.9 -0.9**
comp=Z,25nm,0.9s,mb5.0
KEV Kevo 78.65 339 *e*p **P 01 53 19.9 -1.0**
BALT Daday 79.14 310 *i* P **P 01 53 24.7 +0.6**
ARCES ARCESS Array B 79.20 339 P **P 01 53 22.8 -1.0**
comp=Z,30nm,0.7s,mb5.2,baz=78,slow=6.3,SNR=62
ARCES pP pP 01 53 52.0 -1.6
comp=Z,10nm,0.9s,baz=74,slow=6.6,SNR=1.7
BRTR Keskin Array B 79.22 308 P **P 01 53 23.9 -0.6**
comp=Z,11nm,0.8s,mb4.7,baz=114,slow=4.6,SNR=55
EIL Elat 79.77 298 *e*P **P 01 53 28.8 +1.0**
comp=Z,201nm,1.1s,mb5.9
CASY Casey 79.98 184 *e*P **P 01 53 26.3 -1.8**
comp=Z,18nm,0.5s,mb5.2
KTK1 Kautokeino 80.09 339 *e*P **P 01 53 27.9 -0.8**
KAF Kangasniemi 80.17 332 *e*p **P 01 53 28.2 -1.0**
comp=Z,18nm,0.7s,mb5.0,baz=75,slow=5.0
KAF Kangasniemi 80.17 332 *e*P **P 01 53 28.2 -1.0**
KAF pmax pmax
comp=Z,18nm,0.7s,mb5.0
CSS Prodhromos 80.22 304 *e*P **P 01 53 30.4 +0.3**
comp=Z,82nm,0.8s,mb5.6
HSP Hornsund 80.23 347 *e*P **P 01 53 27.9 -1.4**
FINES FINESS Array B 80.39 331 P **P 01 53 29.4 -1.0**
comp=Z,8.0nm,0.6s,mb4.7,baz=54,slow=6.2,SNR=57
FINES pP pP 01 53 59.6 -0.6
comp=Z,16nm,1.0s,baz=56,slow=6.9,SNR=4.6
FINES FINESS Array B 80.39 331 P **P 01 53 29.4 -1.0**
FINES pP pP 01 53 59.6 -0.6
AKASG Malin Array Be 80.56 320 P **P 01 53 29.7 -1.8**
AKASG 01 56 39.2
AKASG Malin Array Be 80.56 320 P **P 01 53 29.6 -1.8**
comp=Z,10nm,0.6s,mb4.8,baz=67,slow=4.9,SNR=38
AKASG pP pP 01 54 01.4 +0.1
comp=Z,4.0nm,0.8s,baz=69,slow=5.3,SNR=2.2
AKASG PP PP 01 56 39.1 +1.4
comp=Z,1.9nm,0.8s,baz=69,slow=7.6,SNR=5.1
HENT Hendek 81.11 310 *i* P **P 01 53 33.6 -1.0**
IDID Didziasalis 81.20 325 *e*P **P 01 53 34.0 -0.8**
ESKT Eskisehir 81.38 309 *i* P **P 01 53 35.6 -0.5**
IZAR Zarasai 81.39 325 *i* P **P 01 53 34.9 -0.9**
IZAR AMPb AMB 01 53 36.4
comp=Z,11nm,0.8s,mb4.7
TRO Tromso 81.43 340 *e*P **P 01 53 33.6 -2.1**
KIS Kishinev 81.48 316 *e*P **P 01 53 29.0 -7.4**
IIGN Ignalina 81.48 325 *e*P **P 01 53 35.5 -0.8**
IIGN AMPb AMB 01 53 37.0
comp=Z,5.9nm,0.8s,mb4.5
ISAL Salakas 81.49 325 *i* P **P 01 53 35.6 -0.7**
ISAL AMPb AMB 01 53 36.9
comp=Z,6.9nm,0.8s,mb4.5
ISP Isparta 81.95 307 *e*P **P 01 53 38.3 -0.8**
ISP pmax pmax
comp=Z,28nm,0.6s,mb5.3
ISP Isparta 81.95 307 *e*P **P 01 53 38.3 -0.8**
comp=Z,28nm,0.6s,mb5.3
DAWY Dawson 82.20 26 *e*P **P 01 53 40.0 +0.2**
CFR Carcaliu 82.29 315 P **P 01 53 40.7 0.0**
HARR Harsova 82.53 314 P **P 01 53 42.4 +0.5**
ULDT Uludag 82.56 309 *i* P **P 01 53 42.0 -0.1**
VRI Vrincioaia 83.12 315 P **P 01 53 45.5 +0.7**
PRD Provadia 83.21 313 *i* P **P 01 53 46.0 +0.6**
INK Inuvik 83.22 21 *e*P **P 01 53 44.5 -0.4**
INK pmax pmax
comp=Z,50nm,1.0s
INK Inuvik 83.22 21 *e*P **P 01 53 44.5 -0.4**
comp=Z,50nm,1.0s,mb5.3
ISR Istrita 83.41 315 P **P 01 53 47.6 +1.3**
SUW Suwalki 83.50 324 *e*P **P 01 53 45.8 -0.7**
MLR Muntele Rosu 83.73 315 P **P 01 53 48.8 +0.8**
comp=Z,30nm,0.6s,mb5.3,baz=78,slow=3.5,SNR=73
MLR Muntele Rosu 83.73 315 P **P 01 53 48.4 +0.5**
BURAR Bucovina Array 83.75 317 P **P 01 53 48.5 +0.5**
LOF Lofoten 83.76 339 *e*P **P 01 53 49.6 +2.1**
comp=Z,161nm,1.5s,mb5.6
LOF Lofoten 83.76 339 *e*P **P 01 53 49.6 +2.1**
LOF AMb AMB 01 53 54.3
comp=Z,161nm,1.5s,mb5.6
KMBO Kilima Mbogo 83.89 267⇑ *e*P **P 01 53 51.3 +1.8**
KMBO pmax pmax
comp=Z,154nm,1.4s
KMBO Kilima Mbogo 83.89 267 P **P 01 53 50.9 +1.5**
comp=Z,31nm,0.9s,mb5.2,baz=55,slow=7.4,SNR=124
KMBO Kilima Mbogo 83.89 267⇑ *e*P **P 01 53 51.3 +1.9**
comp=Z,154nm,1.4s,mb5.6
BUC1 Bucharest 83.93 314 P **P 01 53 50.3 +1.3**
JMB Yambol 83.96 312 *i* P **P 01 53 49.5 +0.4**
MOR8 Moi Rana 84.12 337 *e*P **P 01 53 47.8 -1.6**
comp=Z,57nm,1.7s,mb5.1
MOR8 Moi Rana 84.12 337 *e*P **P 01 53 47.8 -1.6**
MOR8 AMb AMB 01 53 51.8
comp=Z,57nm,1.7s,mb5.1
SZH Strazhica 84.24 313 *i* P **P 01 53 51.3 +0.7**
MTUR Matau 84.40 315 P **P 01 54 03.5 +12**
PVL Pavlikeni 84.68 313 *i* P **P 01 53 54.0 +1.3**
DIM Dimitrovgrad 84.81 312 *i* P **P 01 53 53.7 +0.3**
KWP Kalwaria 84.88 320 *e*P **P 01 53 53.9 +0.4**
KDZ Kurdzhali 84.99 311 *i* P **P 01 53 54.5 +0.2**
KOLS Kolonicke sedl 85.33 319 *i* P **P 01 53 56.2 +0.4**
KOLS *e* pP 01 54 31.0 +5.0
KOLS *e* 01 57 06.3
RZN Rozhen 85.49 312 *i* P **P 01 53 56.3 -0.5**
NSS Namsos 85.68 336 *e*P **P 01 53 55.1 -2.1**
comp=Z,60nm,1.4s,mb5.3
NSS Namsos 85.68 336 *e*P **P 01 53 55.1 -2.1**
NSS AMb AMB 01 54 07.9
comp=Z,60nm,1.4s,mb5.3
CRVS Cervenica-Dubn 85.86 319 *i* P **P 01 53 59.1 +0.7**
CRVS *e*pP pP 01 54 32.9 +4.3
MMB Musomiste 86.23 312 *i* P **P 01 54 00.0 -0.4**
VTS Vitosha 86.35 313 *i* P **P 01 54 01.3 +0.3**
NIE Niedzica 86.44 320⇑ *i*P **P 01 54 00.1 -1.1**
OJC Ojcow 86.52 321⇑ *i*P **P 01 54 01.8 +0.2**
HFS Hagfors 86.58 331 P **P 01 54 00.5 -1.1**
comp=Z,9.1nm,0.5s,mb5.0,baz=90,slow=4.4,SNR=59
HFS pP pP 01 54 30.7 -1.2
comp=Z,11nm,0.8s,baz=63,slow=3.3,SNR=3.5
KECS Kecovo 86.59 319 *i* P **P 01 54 02.2 +0.2**
KECS *e* pP 01 54 27.8 -4.4
KKB Krupnik 86.63 312 *i* P **P 01 54 01.5 -0.8**
BZS Buzias 86.65 316 P **P 01 54 02.1 -0.2**
DAG Danmarks Havn 86.73 351⇑ *e*P **P 01 54 01.0 -1.1**
DAG pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
DAG Danmarks Havn 86.73 351⇑ *e*P **P 01 54 01.0 -1.1**
comp=Z,7.3nm,0.6s,mb4.8
DAG Danmarks Havn 86.73 351⇑ *i*P **P 01 54 01.0 -1.1**
comp=Z,7.3nm,0.6s,mb4.8
BOLS Boljevac 86.90 314⇑ *i*P **P 01 54 02.8 -0.8**
GKP Gorka Klasztor 87.11 324 *e*P **P 01 54 04.1 -0.2**
GKP LR LR
comp=Z,3µm,20.7s
GKP Gorka Klasztor 87.11 324 *e*P **P 01 54 04.1 -0.3**
PSZ Piszkesteto 87.14 319 *e*P **P 01 54 04.4 -0.2**
PSZ pmax pmax
comp=Z,51nm,1.6s,mb5.2
PSZ Piszkesteto 87.14 319 P **P 01 54 04.6 0.0**
PSZ pmax pmax
comp=Z,51nm,1.6s,mb5.2
PSZ Piszkesteto 87.14 319 *e*P **P 01 54 04.4 -0.3**
comp=Z,51nm,1.6s,mb5.2
PSZ Piszkesteto 87.14 319⇑ *e*PcP PcP 01 54 04.7 -2.3
NB2 NORSAR Subarra 87.37 333 P **P 01 54 04.0 -1.4**
comp=Z,30nm,0.8s,mb5.3,baz=67,slow=4.6
NB2 NORSAR Subarra 87.37 333 P **P 01 54 04.0 -1.4**
baz=67,slow=4.6
NOA NORSAR Array B 87.37 333 P **P 01 54 04.2 -1.2**
comp=Z,22nm,0.7s,mb5.2,baz=68,slow=4.5,SNR=88
NOA pP pP 01 54 34.4 -1.3
comp=Z,12nm,0.8s,baz=69,slow=4.6,SNR=5.8
NOA PP PP 01 57 26.6 -6.8
comp=Z,2.8nm,0.7s,baz=71,slow=8.6,SNR=5.8
NAO01 NORSAR Array S 87.60 333 *e*P **P 01 54 05.4 -1.1**
comp=Z,19nm,0.7s,mb5.2
VYHS Vyhne 87.64 319 *i* P **P 01 54 07.1 +0.1**
VYHS *e* pP 01 54 35.6 -1.8
OKC Ostrava-Krasne 87.65 321 *e*P **P 01 54 07.3 +0.2**
OKC *e*pP pP 01 54 37.4 0.0
OKC *e*PP PP 01 57 32.5 -3.5
BSD Bornholm Skovb 87.77 326 *i* P **P 01 54 06.6 -0.9**
BSD pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
BSD Bornholm Skovb 87.77 326 *i* P **P 01 54 06.6 -0.9**
comp=Z,7.0nm,0.6s,mb4.9
SKO Skopje 87.78 313⇑ *i*P **P 01 54 07.7 -0.2**
MORC Moravsky Berou 88.05 321 *e*P **P 01 54 09.0 0.0**
MORC pmax pmax
comp=Z,39nm,1.5s,mb5.2
MORC Moravsky Berou 88.05 321 *e*P **P 01 54 09.0 0.0**
comp=Z,39nm,1.5s,mb5.2
DIVS Divcibare 88.19 315⇓ *i*P **P 01 54 09.3 -0.5**
KSP Ksiaz 88.45 322 *e*P **P 01 54 10.8 -0.1**
KSP *e**PP pP 01 54 40.6 -0.6
DPC Dobruska-Polom 88.60 322 *e*P **P 01 54 11.8 +0.2**
DPC *e*pP pP 01 54 42.2 +0.3
DPC *e*PP PP 01 57 41.9 -1.7
UPC Upice 88.73 322 *e*P **P 01 54 11.4 -0.8**
UPC *e*pP pP 01 54 49.2 +6.6
VRAC Vranov 88.78 321 P **P 01 54 13.1 +0.7**
ZST Bratislava 88.83 319 *e*P **P 01 54 12.9 +0.2**
RES Resolute Bay 89.16 9 *e*P **P 01 54 13.5 -0.2**
RES pmax pmax
comp=Z,29nm,0.9s,mb5.3
RES Resolute Bay 89.16 9 *e*P **P 01 54 13.3 -0.4**
comp=Z,30nm,0.9s,mb5.3
RUE Ruedersdorf 89.34 324 *e*P **P 01 54 14.5 -0.5**
comp=Z,29nm,0.8s,mb5.4
PVCC Panska Ves 89.59 322 *e*P **P 01 54 16.5 +0.3**
PVCC *e*pP pP 01 54 46.4 -0.2
PVCC *e*PP PP 01 57 46.1 -5.4
PRU Pruhonice 89.80 322 *e*P **P 01 54 17.2 0.0**
PRU *e*pP pP 01 54 47.4 -0.3
PRU *e*PP PP 01 57 52.3 -0.9
BRG Berggiesshubel 89.84 323 *i* P **P 01 54 17.5 +0.2**
BRG *i* *PP pP 01 54 54.7 +6.9
BRG *e* 01 57 49.7
BRG pmax pmax
comp=Z,27nm,1.2s,mb5.2
BRG Berggiesshubel 89.84 323 *i* P **P 01 54 17.5 +0.2**
comp=Z,27nm,1.2s,mb5.3
BRG *i* pP pP 01 54 54.7 +6.9
BRG *e*PP PP 01 57 49.7 -3.8
MBAR Mbarara 90.09 269 P **P 01 54 19.9 +0.4**
comp=Z,195nm,0.9s,mb6.2,SNR=11
MBAR Mbarara 90.09 269*c* *i*P **P 01 54 19.9 +0.4**
MBAR Mbarara 90.09 269 *e*P **P 01 54 18.8 -0.6**
comp=Z,18nm,0.8s,mb5.3
ARSA Arzberg 90.15 319⇑ *i*P **P 01 54 18.6 -0.3**
comp=Z,6.2nm,0.8s,mb4.8
CLL Collm 90.23 323⇑ *i*P **P 01 54 18.7 -0.5**
CLL *i* *PP pP 01 54 56.0 +6.4
CLL *i* 01 57 52.4
CLL pmax pmax
comp=Z,17nm,1.0s,mb5.1
CLL Collm 90.23 323⇑ *i*P **P 01 54 18.7 -0.5**
comp=Z,17nm,1.0s,mb5.1
CLL *i* pP pP 01 54 56.0 +6.4
CLL *i* PP PP 01 57 52.4 -4.2
CLL Collm 90.23 323 ⇑P **P 01 54 18.7 -0.5**
comp=Z,logA/T=1.2,mb5.1
CLL *e* pP 01 54 49.0 -0.6
CLL *i* *PP pP 01 54 56.0 +6.4
CLL *i* 01 55 28.3
CLL *i* 01 55 59.2
CLL *e* 01 57 48.0
CLL *i* PP PP 01 57 52.4 -4.2
CLL *e**PPP 01 58 28.0
MUD Monsted U'grnd 90.23 329⇑ *i*P **P 01 54 18.2 -0.9**
MUD pmax pmax
comp=Z,17nm,0.8s,mb5.2
MUD Monsted U'grnd 90.23 329⇑ *i*P **P 01 54 18.2 -0.9**
comp=Z,17nm,0.8s,mb5.2
GROS Grobnik 90.44 318 *e*P **P 01 54 19.7 -0.6**
BSEG Bad Segeberg 90.70 326 *e*P **P 01 54 21.1 -0.2**
BSEG pmax pmax
comp=Z,22nm,0.9s,mb5.3
KHC Kasperske Hory 90.70 321 *e*P **P 01 54 21.3 -0.1**
KHC *e*pP pP 01 54 51.6 -0.3
KHC *e*PP PP 01 57 55.1 -5.3
GEC2 GERESS Array S 90.73 321 *e*P **P 01 54 21.6 0.0**
GEC2 pmax pmax
comp=Z,21nm,1.1s,mb5.2
GEC2 GERESS Array S 90.73 321 *e*P **P 01 54 21.6 0.0**
comp=Z,21nm,1.1s,mb5.2
GERES GERESS Array B 90.73 321 P **P 01 54 21.3 -0.2**
comp=Z,6.8nm,0.8s,mb4.8,baz=72,slow=4.2,SNR=73
GERES pP pP 01 54 50.2 -1.9
comp=Z,2.1nm,0.9s,baz=63,slow=6.0,SNR=2.2
MOA Molln 90.74 320⇑ *i*P **P 01 54 21.8 +0.1**
comp=Z,30nm,0.8s,mb5.5
BOJS Bojanci 90.93 317 *e*P **P 01 54 22.5 -0.1**
NKC Novy Kostel 90.96 322 *e*P **P 01 54 22.3 -0.4**
NKC *e*pP pP 01 54 52.8 -0.4
NKC *e*x x 01 57 47.4
MAW Mawson 90.97 199 *e*P **P 01 54 21.9 -0.4**
comp=Z,5.3nm,0.9s,mb4.7
MAW *i* pP pP 01 54 51.1 -1.7
MAW Mawson 90.97 199 *e*P **P 01 54 21.9 -0.4**
MAW *i* *PP pP 01 54 51.1 -1.7
MAW pmax pmax
comp=Z,5.0nm,0.9s
MAW Mawson 90.97 199 pP pP 01 54 50.7 -2.1
comp=Z,17nm,1.0s,baz=47,slow=5.6,SNR=6.1
OBKA Obir 91.04 318⇑ *i*P **P 01 54 23.6 +0.5**
comp=Z,9.2nm,0.8s,mb5.0
WET Wettzell 91.12 321 *e*P **P 01 54 23.2 -0.2**
WET pmax pmax
comp=Z,41nm,1.8s,mb5.3
WET Wettzell 91.12 321 *e*P **P 01 54 23.2 -0.2**
comp=Z,41nm,1.8s,mb5.3
LJU Ljubljana 91.22 318 *e*P **P 01 54 23.8 -0.2**
MOX Moxa 91.29 323 *e*P **P 01 54 23.9 -0.3**
MOX *e* pP 01 54 54.4 -0.3
MOX *e* 01 57 57.3
MOX pmax pmax
comp=Z,51nm,1.8s,mb5.3
MOX Moxa 91.29 323 *e*P **P 01 54 23.9 -0.3**
comp=Z,51nm,1.8s,mb5.3
MOX *e* pP 01 54 54.4 -0.3
MOX *e* 01 57 57.3
MOX Moxa 91.29 323 *i* P **P 01 54 23.9 -0.3**
comp=Z,logA/T=1.4,mb5.3
MOX pP pP 01 54 54.0 -0.7
MOX PP PP 01 57 57.0 -8.1
CEY Cerknica 91.39 318 *e*P **P 01 54 24.6 -0.2**
CLZ Clausthal 91.53 324 *e*P **P 01 54 25.2 0.0**
comp=Z,95nm,2.1s,mb5.7
KBA Koelnbreinsper 91.60 319⇓ *i*P **P 01 54 24.9 -0.8**
comp=Z,13nm,0.8s,mb5.2
KBA Koelnbreinsper 91.60 319⇓ *i*P **P 01 54 24.9 -0.8**
KBA pmax pmax
comp=Z,13nm,0.8s,mb5.2
ROBS Robic 91.81 318 *e*P **P 01 54 25.6 -1.1**
PTCC Patocco-Chiusa 91.85 319 *e*P **P 01 54 25.9 -1.0**
GRA1 Grafenberg Arr 91.90 322 *e*P **P 01 54 27.1 +0.1**
comp=Z,31nm,1.2s,mb5.4
GRA1 *e*pP pP 01 54 57.1 -0.4
GRF Grafenberg Arr 91.90 322 *e*P **P 01 54 27.1 +0.1**
GRF *e**PP pP 01 54 57.1 -0.4
GRF pmax pmax
comp=Z,31nm,1.2s,mb5.4
GRF Grafenberg Arr 91.90 322 *e*P **P 01 54 27.1 +0.1**
GRF *e**PP pP 01 54 57.1 -0.4
GRF pmax pmax
comp=Z,31nm,1.2s,mb5.4
GRF Grafenberg Arr 91.90 322 *e*P **P 01 54 27.1 +0.1**
comp=Z,31nm,1.2s,mb5.4
GRF *e*pP pP 01 54 57.1 -0.4
TIP Timpagrande 92.02 311 *e*P **P 01 54 27.6 -0.2**
FVI Forni Avoltri 92.14 319 *e*P **P 01 54 27.6 -0.6**
MRLC Muro Lucano 92.41 313 *e*P **P 01 54 30.1 +0.5**
FUR Furstenfeldbru 92.48 321 *e*P **P 01 54 29.5 -0.2**
FUR pmax pmax
comp=Z,34nm,1.1s,mb5.5
FUR Furstenfeldbru 92.48 321 *e*P **P 01 54 29.5 -0.2**
comp=Z,34nm,1.1s,mb5.5
WTTA Wattenberg 92.61 320⇑ *i*P **P 01 54 29.9 -0.4**
comp=Z,37nm,0.8s,mb5.8
WTTA Wattenberg 92.61 320⇑ *i*P **P 01 54 29.9 -0.4**
WTTA pmax pmax
comp=Z,37nm,0.8s,mb5.8
SGO Sicignano 92.61 313 *e*P **P 01 54 30.2 -0.3**
WATA Walderalm 92.62 320⇑ *i*P **P 01 54 29.7 -0.6**
comp=Z,16nm,1.1s,mb5.2
WATA Walderalm 92.62 320⇑ *i*P **P 01 54 29.7 -0.6**
WATA pmax pmax
comp=Z,16nm,1.1s,mb5.3
YKW3 Yellowknife Ar 92.85 22 *e*P **P 01 54 31.0 -0.1**
SQTA Sankt Quirin 92.89 320⇑ *i*P **P 01 54 31.2 -0.4**
comp=Z,19nm,0.9s,mb5.4
SQTA Sankt Quirin 92.89 320⇑ *i*P **P 01 54 31.2 -0.4**
SQTA pmax pmax
comp=Z,19nm,0.9s,mb5.4
YKA Yellowknife Ar 92.90 22 P **P 01 54 30.8 -0.5**
comp=Z,10nm,0.7s,mb5.3,baz=307,slow=4.4,SNR=263
YKA PKiKP 01 59 17.9
comp=Z,0.5nm,0.5s,baz=313,slow=1.7,SNR=10
YKA PKKPbc 02 11 39.5
comp=Z,1.3nm,0.6s,baz=131,slow=2.8,SNR=22
MOTA Moosalm 92.91 320⇓ *i*P **P 01 54 31.1 -0.6**
CII Carovilli 92.91 314 *e*P **P 01 54 33.5 +1.6**
SUMG Summit 92.95 354 *e*P **P 01 54 31.4 +0.1**
comp=Z,31nm,1.4s,mb5.5
MTTG Motta San Giov 93.20 310 *e*P **P 01 54 33.6 +0.3**
SNTG Esanatoglia 93.29 316 *e*P **P 01 54 33.8 +0.3**
AQU L'Aquila 93.31 315 *e*P **P 01 54 33.3 -0.3**
AQU pmax pmax
comp=Z,13nm,0.7s,mb5.4
AQU L'Aquila 93.31 315 *e*P **P 01 54 33.3 -0.4**
comp=Z,13nm,0.7s,mb5.4
TNS Taunus Mts 93.31 323 *e*P **P 01 54 33.5 +0.1**
TNS pmax pmax
comp=Z,20nm,1.3s,mb5.3
TNS Taunus Mts 93.31 323 *e*P **P 01 54 33.5 +0.1**
comp=Z,20nm,1.3s,mb5.3
NRCA Norcia 93.33 315 *e*P **P 01 54 33.7 0.0**
PTQR Pietraquaria 93.43 315 *e*P **P 01 54 33.9 -0.3**
STU Stuttgart 93.49 322 *e*P **P 01 54 33.8 -0.5**
STU pmax pmax
comp=Z,25nm,1.0s,mb5.5
STU Stuttgart 93.49 322 *e*P **P 01 54 33.8 -0.5**
comp=Z,25nm,1.0s,mb5.5
ASS Assisi 93.56 316 *e*P **P 01 54 34.4 -0.3**
DAVA Damuels 93.69 320⇑ *i*P **P 01 54 35.1 -0.1**
comp=Z,13nm,1.0s,mb5.2
BRMO Bormio 93.72 319 *e*P **P 01 54 36.0 +0.6**
PPT Papeete 93.76 107 LR LR 02 33 20.6
comp=Z,758nm,19.2s,baz=338,slow=33
SFI Santa Sofia 93.78 317 *e*P **P 01 54 36.6 +0.9**
VMG Vicchio 93.96 317 *e*P **P 01 54 38.1 +1.6**
ZCCA Zocca 94.18 317 *e*P **P 01 54 39.4 +1.9**
BFO Black Forest 94.20 322 *e*P **P 01 54 37.1 -0.4**
BFO pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
BFO Black Forest 94.20 322 *e*P **P 01 54 37.1 -0.4**
comp=Z,7.0nm,0.9s,mb5.0
ERBM Eremo 94.53 318 *e*P **P 01 54 40.5 +1.4**
CDF Champ du Feu 94.80 322⇑ *i*P **P 01 54 39.9 -0.3**
comp=Z,34nm,1.0s,mb5.4
CDF Champ du Feu 94.80 322⇑ *i*P **P 01 54 39.9 -0.3**
CDF pmax pmax
comp=Z,17nm,1.0s,mb5.4
WLF Walferdange 94.89 324 *e*P **P 01 54 40.8 +0.2**
WLF pmax pmax
comp=Z,11nm,0.8s,mb5.3
WLF Walferdange 94.89 324 *e*P **P 01 54 40.8 +0.2**
comp=Z,11nm,0.8s,mb5.3
VAI Varese 94.98 319 *e*P **P 01 54 40.0 -1.2**
HINF Hinteralfeld 95.32 322⇑ *i*P **P 01 54 41.9 -0.7**
MCGN Macugnaga 95.44 320 *e*P **P 01 54 43.4 +0.1**
GIVF Givet 95.44 324⇑ *i*P **P 01 54 42.9 -0.2**
HAU Haudompre 95.53 322⇑ *i*P **P 01 54 42.9 -0.7**
comp=Z,22nm,1.3s,mb5.1
HAU *e*R
comp=Z,770nm,22.0s
HAU Haudompre 95.53 322⇑ *i*P **P 01 54 42.9 -0.7**
HAU pmax pmax
comp=Z,11nm,1.3s,mb5.1
HAU MLR MLR
comp=Z,770nm,22.0s
BAIF Baives 95.81 325⇑ *i*P **P 01 54 44.5 -0.3**
comp=Z,12nm,0.8s,mb5.1
BAIF Baives 95.81 325⇑ *i*P **P 01 54 44.5 -0.3**
BAIF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
LSZ Lusaka 95.86 256 *e*P **P 01 54 46.2 +0.4**
LSZ pmax pmax
comp=Z,19nm,0.7s,mb5.6
LSZ Lusaka 95.86 256 *e*P **P 01 54 46.2 +0.4**
comp=Z,19nm,0.7s,mb5.6
MEZF Maizieres J'vi 96.07 323⇑ *i*P **P 01 54 45.9 -0.1**
PGF Pioggiola 96.23 316⇑ *i*P **P 01 54 45.8 -1.1**
comp=Z,35nm,0.7s,mb5.6
PGF Pioggiola 96.23 316⇑ *i*P **P 01 54 45.8 -1.1**
PGF pmax pmax
comp=Z,17nm,0.7s,mb5.6
CABF La Chapelle 96.33 321 *e*P **P 01 54 46.5 -0.7**
comp=Z,16nm,1.0s,mb5.1
CABF La Chapelle 96.33 321 *e*P **P 01 54 46.5 -0.7**
CABF pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
LPG La Plagne 96.42 320⇑ *i*P **P 01 54 47.8 +0.1**
comp=Z,19nm,0.7s,mb5.3
LPG La Plagne 96.42 320⇑ *i*P **P 01 54 47.8 +0.1**
LPG pmax pmax
comp=Z,10.0nm,0.7s,mb5.3
LPL La Plagne 96.42 320⇑ *i*P **P 01 54 47.8 +0.1**
comp=Z,20nm,0.7s,mb5.3
LPL La Plagne 96.42 320⇑ *i*P **P 01 54 47.8 +0.1**
LPL pmax pmax
comp=Z,10.0nm,0.7s,mb5.3
SBF Sospel 96.70 318⇑ *i*P **P 01 54 48.1 -0.9**
comp=Z,72nm,1.1s,mb5.7
SBF Sospel 96.70 318⇑ *i*P **P 01 54 48.1 -0.9**
SBF pmax pmax
comp=Z,36nm,1.1s,mb5.7
MBDF Montbardon 96.75 319 *e*P **P 01 54 49.3 +0.1**
comp=Z,16nm,1.1s,mb5.1
MBDF Montbardon 96.75 319 *e*P **P 01 54 49.3 +0.1**
MBDF pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
ORIF Oris-en-Rattie 97.23 319⇑ *i*P **P 01 54 51.1 -0.3**
comp=Z,19nm,0.8s,mb5.3
ORIF *e*R
comp=Z,993nm,22.8s
FRF La Foret Royal 97.35 318⇑ *i*P **P 01 54 51.4 -0.6**
LMR La Mourre 97.54 318 *e*P **P 01 54 52.0 -0.9**
comp=Z,46nm,1.2s,mb5.6
LMR La Mourre 97.54 318 *e*P **P 01 54 52.0 -0.9**
LMR pmax pmax
comp=Z,23nm,1.2s,mb5.6
SSF Saint Saulge 97.68 322 *e*P **P 01 54 52.6 -0.8**
SSF pmax pmax
comp=Z,5.0nm,1.1s,mb5.0
SSF Saint Saulge 97.68 322 *e*P **P 01 54 52.6 -0.8**
comp=Z,5.2nm,1.1s,mb5.0
SMF Signal de Mont 97.68 322⇑ *i*P **P 01 54 52.7 -0.7**
comp=Z,5.6nm,0.8s,mb4.8
SMF Signal de Mont 97.68 322⇑ *i*P **P 01 54 52.7 -0.7**
SMF pmax pmax
comp=Z,3.0nm,0.8s,mb4.9
AVF Avril sur Loir 97.90 322⇑ *i*P **P 01 54 53.5 -0.9**
comp=Z,9.5nm,0.8s,mb5.1
AVF Avril sur Loir 97.90 322⇑ *i*P **P 01 54 53.5 -0.9**
AVF pmax pmax
comp=Z,5.0nm,0.8s,mb5.1
VIVF Saint-Julien-l 98.02 320 *e*P **P 01 54 54.4 -0.6**
comp=Z,10nm,0.8s,mb5.1
VIVF Saint-Julien-l 98.02 320 *e*P **P 01 54 54.4 -0.6**
VIVF pmax pmax

comp=Z,5.0nm,0.8s,mb5.1
BGF Bois d'Agland 98.32 322 *e*P **P 01 54 55.6 -0.7**
comp=Z,7.9nm,0.9s,mb4.9
BGF Bois d'Agland 98.32 322 *e*P **P 01 54 55.6 -0.7**
BGF pmax pmax
comp=Z,4.0nm,0.9s,mb5.0
TCF Toulx Ste Croi 98.83 322 *e*P **P 01 54 58.1 -0.6**
comp=Z,10nm,0.8s,mb5.1
TCF Toulx Ste Croi 98.83 322 *e*P **P 01 54 58.1 -0.6**
TCF pmax pmax
comp=Z,5.0nm,0.8s,mb5.1
LDF La Druitiere 99.00 325 *e*P **P 01 54 58.6 -0.7**
comp=Z,11nm,0.9s,mb5.1
LDF La Druitiere 99.00 325 *e*P **P 01 54 58.6 -0.7**
LDF pmax pmax
comp=Z,6.0nm,0.9s,mb5.1
FLN La Foliniere 99.11 325⇑*i*P **P 01 54 59.1 -0.7**
comp=Z,20nm,1.1s,mb5.3
FLN *e*R
comp=Z,544nm,20.8s
FLN La Foliniere 99.11 325⇑*i*P **P 01 54 59.1 -0.7**
FLN pmax pmax
comp=Z,10.0nm,1.1s,mb5.3
FLN MLR MLR
comp=Z,540nm,20.8s
SYO Syowa Base 99.40 201 ⇑X 01 55 39.2
CAF Calviac 99.61 321 *e*P **P 01 55 02.1 -0.1**
comp=Z,13nm,1.0s,mb5.2
CAF Calviac 99.61 321 *e*P **P 01 55 02.1 -0.1**
CAF pmax pmax
comp=Z,7.0nm,1.0s,mb5.2
RJF Les Rejaudoux 99.75 321 *e*P **P 01 55 02.9 +0.1**
RJF *e*R
comp=Z,692nm,20.0s
LFF La Frestale 100.41 321 *e*P P 01 55 05.2 -0.6
NVAR Mina Array Bea 104.42 44 PKiKP 01 59 40.7
comp=Z,0.9nm,0.4s,baz=270,slow=2.7,SNR=3.8
NVAR PKKPbc 02 11 09.4
comp=Z,1.5nm,0.6s,baz=123,slow=5.0,SNR=8.1
NVAR PKKPab 02 11 28.8
comp=Z,1.1nm,0.7s,baz=134,slow=6.0,SNR=4.9
ESDC Sonseca Array 106.17 319 PP PP 01 59 56.2 -2.9
comp=Z,1.6nm,0.7s,baz=51,slow=8.6,SNR=5.6
PDAR Pinedale Array 107.47 36 PKiKP 01 59 45.6
comp=Z,0.6nm,0.4s,baz=60,slow=2.0,SNR=16
PDAR PKKPbc 02 10 59.9
comp=Z,1.2nm,0.6s,baz=132,slow=4.2,SNR=14
PDAR PKKPab 02 11 14.9
comp=Z,2.0nm,0.8s,baz=118,slow=4.8,SNR=15
MSU Marysvale 108.42 41 *e*PKiKP 01 59 48.5
MSU *e*PP PP 02 00 11.5 -4.6
ULM Lac du Bonnet 108.82 24 PKiKP 01 59 46.7
comp=Z,1.2nm,0.5s,baz=1.5,slow=4.4,SNR=5.0
ULM PKKPab 02 11 08.8
comp=Z,0.9nm,0.4s,baz=172,slow=2.8,SNR=4.5
ULM Lac du Bonnet 108.82 24 PKPdf 01 59 46.7
ULM PKKPab 02 11 08.8
PV01 Paradox Valley 110.92 40 *e*PKiKP 01 59 52.6
SCHQ Schefferville 111.57 5 PKiKP 01 59 52.3
comp=Z,2.0nm,0.6s,baz=30,slow=2.1,SNR=13
SCHQ PKKPab 02 10 54.8
comp=Z,0.8nm,0.5s,baz=64,slow=12,SNR=6.3
ANMO Albuquerque 114.22 41 PKKPbc 02 10 45.5
comp=Z,1.1nm,0.6s,baz=156,slow=7.6,SNR=5.7
LPM Los Pinos Moun 114.51 42 *e*PKiKP 01 59 59.4
VNA2 Neumayer--Watz 114.67 197 *e* tx 02 03 19.9
VNA2 Neumayer--Watz 114.67 197 *e* tx 02 03 35.3
VNA2 Neumayer--Watz 114.67 197⇑*i*PKPdf PKPdf 01 59 58.1 +1.3
VNA2 *e* 02 00 34.8
VNA2 *e* 02 00 41.6
VNA2 *e* 02 00 51.0
VNA2 *e* 02 03 19.9
VNA2 *e* 02 03 35.3
VNA1 Neumayer--Stat 115.06 197 *e* tx 02 03 32.5
VNA1 Neumayer--Stat 115.06 197 *e* tx 02 03 47.9
VNA1 Neumayer--Stat 115.06 197⇑*i*PKPdf PKPdf 02 00 06.5 +8.9
VNA1 *e* 02 00 51.8
VNA1 *e* 02 00 59.3
VNA1 *e* 02 01 07.2
VNA1 *e* 02 03 32.5
VNA1 *e* 02 03 47.9
VNA3 Neumayer Olymp 115.11 196⇑*i*PKPdf PKPdf 01 59 59.1 +1.4
VNA3 *e* 02 00 36.8
VNA3 *e* 02 00 44.8
VNA3 *e* 02 00 53.6
MNTX Cornudas Mount 116.94 44 *e*PKPdf PKPdf 02 00 03.4 +1.3
GDL2 Guadalupe Moun 117.31 42 *e*PKPdf PKPdf 02 00 04.2 +1.5
CLNB Carlsbad 117.58 42 *e*PKPdf PKPdf 02 00 04.8 +1.5
WMOK Wichita Mounta 119.07 37 PKiKP PKPdf 02 00 07.1 +1.0
WMOK Wichita Mounta 119.07 37 *e*PKPdf PKPdf 02 00 06.5 +0.4
TXAR Lajitas Array 119.57 45 PKP PKPdf 02 00 08.8 +1.6
comp=Z,10nm,0.7s,baz=249,slow=0.6,SNR=110
TXAR PKKPbc 02 10 20.1
comp=Z,1.1nm,0.9s,baz=121,slow=6.4,SNR=7.5
TXAR PKKP PKKP 02 10 52.4 +17
comp=Z,1.6nm,0.9s,baz=135,slow=5.3,SNR=8.4
TXAR Lajitas Array 119.57 45 PKP PKPdf 02 00 08.8 +1.6
TXAR PKKPbc 02 10 20.1
TXAR PKKP PKKP 02 10 52.4 +17
CCM Cathedral Cave 120.55 29 PKiKP PKPdf 02 00 09.5 +0.6
CCM Cathedral Cave 120.55 29 *e*PKPdf PKPdf 02 00 09.4 +0.5
JCT Junction City 121.38 41 PKiKP PKPdf 02 00 11.7 +1.0
JCT Junction City 121.38 41 *e*PKPdf PKPdf 02 00 11.5 +0.7
MIAR Mount Ida 122.12 33 PKiKP PKPdf 02 00 13.3 +1.3
MIAR Mount Ida 122.12 33 *e*PKPdf PKPdf 02 00 12.6 +0.5
ACSO Alum Creek Sta 122.13 21 *e*PKPdf PKPdf 02 00 12.5 +0.6
DBIC Dimbokro 122.32 287 PKP PKPdf 02 00 13.2 +0.3
comp=Z,12nm,0.7s,baz=59,slow=2.1,SNR=46
DBIC PP PP 02 01 49.5 -5.1
comp=Z,5.3nm,0.7s,baz=50,slow=7.9,SNR=4.6
DBIC Dimbokro 122.32 287 *e*PKPdf PKPdf 02 00 13.4 +0.5
WCI Wyandotte Cave 122.60 25 *e*PKPdf PKPdf 02 00 13.6 +0.8
SSPA Standing Stone 123.38 17 *e*PKPdf PKPdf 02 00 14.3 0.0
NATX Nacogdoches 123.61 36 *e*PKPdf PKPdf 02 00 16.3 +1.3
WVT Waverly 123.70 28 PKiKP PKPdf 02 00 15.9 +0.8
WVT Waverly 123.70 28 *e*PKPdf PKPdf 02 00 15.4 +0.4
PLAL Pickwick Lake 124.53 29 *e*PKPdf PKPdf 02 00 16.3 -0.5
LRAL Lakeview Retre 126.64 29 *e*PKP PKPdf 02 00 21.4 +0.6
JTS JuntasAbangare 145.22 48 PKPbc PKPbc 02 00 55.6 -0.4
comp=Z,22nm,1.0s,baz=340,slow=1.7,SNR=4.3
JTS JuntasAbangare 145.22 48 *e*PKP PKPdf 02 00 55.3 -0.2
SJG San Juan 147.80 12 *e*PKP2 PKPab 02 01 03.0 -4.6
PLCA Paso Flores 151.21 162 PKP PKPdf 02 01 05.2 +0.9
comp=Z,1.5nm,0.8s,baz=216,slow=2.0,SNR=2.9
PLCA PKPbc PKPdf 02 01 11.7 +7.4
comp=Z,6.0nm,0.5s,baz=214,slow=3.6,SNR=21
PLCA Paso Flores 151.21 162 PKPdf PKPdf 02 01 05.7 +1.4
PLCA *e*PKPbc PKPdf 02 01 11.6 +7.2
SDV Santo Domingo 155.02 27 PKP PKPdf 02 01 12.1 +1.8
comp=Z,24nm,0.7s,baz=181,slow=0.6,SNR=42
SDV PKPbc PKPdf 02 01 21.1 +11
comp=Z,24nm,0.7s,baz=72,slow=2.2,SNR=14
SDV PKPab PKPab 02 01 36.8 -1.0
comp=Z,16nm,0.7s,baz=326,slow=3.3,SNR=6.0
SDV Santo Domingo 155.02 27 *e*PKPdf PKPdf 02 01 11.8 +1.4
SDV *e*PKPbc PKPdf 02 01 21.0 +11
SDV *e*PKPab PKPab 02 01 36.4 -1.4
PCRV Puerto La Cruz 155.82 13 PKPbc PKPdf 02 01 21.2 +10
baz=51,slow=7.5
PCRV PKPab PKPab 02 01 39.0 -2.3
comp=Z,6.7nm,0.7s,baz=332,slow=6.2,SNR=3.0
ROSC El Rosal 156.39 40 PKP PKPdf 02 01 14.9 +2.7
comp=Z,9.2nm,0.8s,baz=240,slow=1.5,SNR=7.3
ROSC PKPbc PKPdf 02 01 24.8 +13
comp=Z,7.8nm,0.6s,baz=308,slow=1.8,SNR=5.3
CAUB Caruaru 156.51 281||*i*P PKPab 02 01 44.1 -0.2
CAUB *i* 02 01 45.6
CAUB *i* 02 01 47.4
OTAV Otavalo 156.59 56 *e*PKPdf PKPdf 02 01 14.6 +2.1
OTAV *e*PKPab PKPab 02 01 43.4 -1.3
CAM4 Nova Friburgo 161.85 239 (P) PKPab 02 02 06.3 -0.7
CAM4 *i* 02 02 07.3
BAO Brasilia Array 168.86 258 P PKPdf 02 01 26.0 +1.8
BDFB Brasilia 168.88 258 PKP PKPdf 02 01 25.3 +1.0
comp=Z,8.0nm,0.8s,baz=222,slow=1.0,SNR=11
BDFB PKPab PKPab 02 02 38.5 +0.7
comp=Z,24nm,0.8s,baz=103,slow=3.1,SNR=30
LPAZ La Paz 171.06 109 PKP PKPdf 02 01 27.4 +1.8
comp=Z,4.6nm,0.9s,baz=72,slow=2.6,SNR=9.8
LPAZ PKPab PKPab 02 02 48.6 +1.2
comp=Z,3.5nm,0.8s,baz=201,slow=5.5,SNR=4.3
LPAZ La Paz 171.06 109 *e*PKPdf PKPdf 02 01 27.7 +2.2
SAML Samuel 174.04 40 *e*PKPdf PKPdf 02 01 27.6 +0.6
SIV San Ignacio 177.05 145 PKPab PKPab 02 03 14.0 -0.1
comp=Z,1.0nm,0.6s,baz=205,slow=4.0,SNR=2.5

IDC 03 01:45:26.2±4.1, 4.96N×94.72E, mb4.2/5, mb1 4.3/5, mb1mx4.0/18, mbtmp4.2/5, Error ellipse: s-maj=102.2km s-min=60.1km az=155.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**43.88**	**11**	P	P	01 53 34.7	-1.4
	2.5nm,0.7s,baz=192,slow=8.1,SNR=4.4						
SONM				PcP	PcP	01 55 20.4	-2.5
	0.6nm,0.8s,baz=191,slow=3.9,SNR=5.2						
BVAR	**Borovoye Array**	**51.92**	**342**	P	P	01 54 36.3	-2.5
	2.5nm,0.6s,baz=140,slow=11,SNR=3.6						
BRTR	**Keskin Array B**	**64.78**	**312**	P	P	01 56 07.2	-1.8
	0.8nm,0.5s,baz=120,slow=7.4,SNR=4.7						
ARCES	**ARCESS Array B**	**78.19**	**340**	P	P	01 57 27.2	-1.5
	1.7nm,0.5s,baz=90,slow=7.2,SNR=3.7						
GERES	**GERESS Array B**	**80.38**	**319**	P	P	01 57 39.8	-1.2
	1.7nm,0.7s,baz=90,slow=5.3,SNR=6.6						

OTT 03 01:46:30.6±0.1, 64.71N×110.61W, h1km, MN2.9/17, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.01**	**181**	PG	Pg	01 46 30.6	-0.3
DVKN	**Diavik Mine**	**0.24**	**147**	PG	Pg	01 46 35.0	-0.5
DVKN				SG	Sg	01 46 38.2	-0.4
DVKN				Trac		01 46 39.6	
	comp=Z,36nm,0.1s						
ACKN	**Achilles Lake**	**0.30**	**338**	PG	Pg	01 46 35.9	-0.8
ACKN				SG	Sg	01 46 40.2	-0.5
ACKN				Trac		01 46 41.1	
	comp=Z,285nm,0.2s						
YNEN	**Yamba Lake Nor**	**0.42**	**334**	PG	Pg	01 46 38.2	-0.9
YNEN				SG	Sg	01 46 44.1	-0.5
YNEN				Trac		01 46 45.4	
	comp=Z,53nm,0.1s						
YMBN	**Yamba Lake**	**0.43**	**293**	PG	Pg	01 46 38.0	-1.2
YMBN				SG	Sg	01 46 44.6	-0.2
YMBN				Trac		01 46 45.1	
	comp=Z,25nm,0.1s						
LGSN	**Lac de Gras So**	**0.43**	**151**	PG	Pg	01 46 38.5	-0.8
LGSN				SG	Sg	01 46 44.7	-0.3
LGSN				Trac		01 46 46.1	
	comp=Z,24nm,0.1s						
GLWN	**Glow Worm Lake**	**0.55**	**88**	PG	Pg	01 46 40.5	-1.1
GLWN				Trac		01 46 48.6	
	comp=Z,36nm,0.1s						
COWN	**Contwyoto Lake**	**0.61**	**337**	PG	Pg	01 46 41.8	-1.1
COWN				SG	Sg	01 46 49.7	-1.3
COWN				Trac		01 46 50.4	
	comp=Z,40nm,0.1s						
NODN	**Nodinka Narrow**	**0.77**	**192**	PG	Pg	01 46 44.6	-1.4
NODN				SG	Sg	01 46 54.7	-1.6
NODN				Trac		01 46 55.2	
	comp=Z,29nm,0.1s						
MLON	**Marlo Lake**	**0.81**	**157**	PG	Pg	01 46 45.4	-1.3
MLON				SG	Sg	01 46 56.8	-0.7
MLON				Trac		01 46 57.1	
	comp=Z,19nm,0.1s						
BOXN	**Box Lake**	**0.95**	**155**	PG	Pg	01 46 48.0	-1.6
BOXN				SG	Sg	01 47 00.7	-1.5
BOXN				Trac		01 47 01.4	
	comp=Z,41nm,0.1s						
CAMN	**Camsell Lake**	**0.99**	**187**	PG	Pg	01 46 48.8	-1.6
CAMN				SG	Sg	01 47 01.8	-1.9
CAMN				Trac		01 47 02.7	
	comp=Z,9.5nm,0.1s						
LUPN	**Lupin Mine**	**1.07**	**345**	PG	Pg	01 46 49.9	-2.0
LUPN				SG	Sg	01 47 03.6	-2.5
LUPN				Trac		01 47 08.5	
	comp=Z,90nm,0.2s						
MGTN	**Margaret Lake**	**1.12**	**156**	PG	Pg	01 46 51.1	-1.9
MGTN				SG	Sg	01 47 06.0	-2.0
MGTN				Trac		01 47 07.2	
	comp=Z,75nm,0.1s						
GBLN	**Grizzly Bear L**	**1.16**	**245**	PG	Pg	01 46 51.5	-2.2
GBLN				SG	Sg	01 47 07.1	-2.0
GBLN				Trac		01 47 10.9	
	comp=Z,121nm,0.1s						
SNPN	**Snap Lake**	**1.21**	**186**	PG	Pg	01 46 52.7	-2.0
SNPN				SG	Sg	01 47 08.2	-2.6
SNPN				Trac		01 47 12.8	
	comp=Z,288nm,0.1s						
IHLN	**Indian Hill La**	**1.42**	**185**	PG	Pg	01 46 56.0	-2.9
IHLN				SG	Sg	01 47 14.3	-3.5
IHLN				Trac		01 47 16.1	
	comp=Z,30nm,0.1s						
KNDN	**Kennady Lake**	**1.44**	**154**	PG	Pg	01 46 56.5	-2.9
KNDN				SG	Sg	01 47 14.7	-3.8
KNDN				Trac		01 47 18.1	
	comp=Z,19nm,0.1s						
ILKN	**Indian Lake**	**2.02**	**258**	PN	Pn	01 47 05.3	-0.9
ILKN				SN	Sn	01 47 31.3	-1.1
ILKN				Trac		01 47 34.3	
	comp=Z,12nm,0.1s						
DSMN	**Discovery Mine**	**2.12**	**225**	PN	Pn	01 47 04.2	-3.4
DSMN				SN	Sn	01 47 35.1	+0.2
DSMN				Trac		01 47 37.6	
	comp=Z,9.3nm,0.1s						
CTLN	**Castor Lake**	**2.35**	**266**	PN	Pn	01 47 09.7	-1.2
CTLN				SN	Sn	01 47 40.3	-0.6
CTLN				Trac		01 47 42.8	
	comp=Z,12nm,0.1s						
YKW3	**Yellowknife Ar**	**2.80**	**221**	PN	Pn	01 47 14.5	-2.9
YKW3				SG	Sg	01 47 56.0	-8.0
YKW3				Trac		01 48 02.3	
	comp=Z,5.2nm,0.1s						
GALN	**Gameti Lake**	**2.97**	**261**	PN	Pn	01 47 17.5	-2.3
GALN				SN	Sn	01 47 53.5	-3.1
GALN				Trac		01 48 05.9	
	comp=Z,6.2nm,0.1s						
YRTN	**Rankin Inlet**	**8.41**	**95**	PN	P	01 48 30.8	-5.7
YRTN				SN	Sn	01 49 56.4	-17
FCC	**Fort Churchill**	**9.83**	**120**	PN	P	01 48 49.6	-6.4
FCC				SN	Sn	01 50 33.9	-14
QILN	**Qililugaq Expl**	**10.16**	**68**	PN	P	01 48 52.9	-7.6
RES	**Resolute Bay**	**11.34**	**21**	PN	P	01 49 10.5	-6.2
RES				SN	S	01 51 07.0	-18

IDC 03 01:53:23.4±4.6, 1.46N×97.58E, mb3.4/3, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, Error ellipse: s-maj=178.5km s-min=29.3km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.85**	**122**	P	P	02 01 15.4	-1.7
	0.4nm,0.8s,baz=302,slow=9.2,SNR=3.1						
SONM	**Songino Array**	**46.83**	**8**	P	P	02 01 55.3	-1.5
	0.2nm,0.4s,baz=190,slow=7.5,SNR=3.6						
MKAR	**Makanchi Array**	**47.09**	**346**	P	P	02 01 56.8	-2.1
	0.3nm,0.5s,baz=167,slow=9.6,SNR=11						

*MOS **03** 01:53:50.7±1.4, 55.44N×163.55E, h32km, mb4.2/1, Error ellipse: s-maj=24.5km s-min=13.8km az=64.7*

KRSC 03 01:53:50.4±1.1, 55.43N×163.77E, h40km±17km, ML4.2, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.95**	**326**	*e*P	P	01 54 08.1	+0.7
KBTR				*e*S	S	01 54 20.4	+0.5
KBG	**Krutoberegovo**	**1.02**	**324**	*e*P	P	01 54 09.3	+0.9
KBG				*e*S	S	01 54 21.8	0.0
KBG				Smax			
	4μm,1.0s						
MKZ	**Mys Kozlova**	**1.47**	**234**	P	P	01 54 14.3	-0.5
MKZ				S	S	01 54 31.0	-2.0
MKZ	**Mys Kozlova**	**1.47**	**234**	*i* P	P	01 54 14.3	-0.5
MKZ				*e*S	S	01 54 31.3	-1.7
ZLN	**Zelenaya**	**1.78**	**291**	*e*P	P	01 54 20.9	+1.7
ZLN				*e*S	S	01 54 41.8	+1.0
LGNR	**Loginova**	**1.86**	**292**	*e*S	S	01 54 44.6	+1.8
KLY	**Klyuchi**	**1.97**	**298**	*e*P	P	01 54 20.4	-1.5
KLY				*e*S	S	01 54 41.9	-3.6
KRSR	**Krestovskiy**	**1.97**	**295**	*e*P	P	01 54 21.7	-0.3
KRSR				*e*S	S	01 54 44.8	-0.9
KMNR	**Kamenistaya**	**2.03**	**281**	*e*P	P	01 54 22.9	+0.1
KMNR				*e*S	S	01 54 46.7	-0.5
TUMR	**Tumrok**	**2.08**	**267**	*e*P	P	01 54 23.0	-0.5
TUMR				*e*S	S	01 54 48.4	+0.2
KPT	**Kopyto**	**2.08**	**286**	*e*P	P	01 54 23.6	+0.1
KPT				*e*S	S	01 54 47.8	-0.6
KOZR	**Kozyr**	**2.28**	**288**	PN	P	01 54 27.3	+0.9
KOZR				S	S	01 54 54.7	+1.2
KOZ	**Kozyrevsk**	**2.29**	**288**	P	P	01 54 27.3	+0.7
KOZ				S	S	01 54 54.7	+0.9
KOZ	**Kozyrevsk**	**2.29**	**288**	*e*P	P	01 54 27.4	+0.8
KOZ				*e*S	S	01 54 54.8	+1.0
SRDR	**Sredinnyy**	**2.45**	**293**	*e*P	P	01 54 29.3	+0.5
SRDR				*e*S	S	01 54 57.4	-0.4
KII	**Karymskiy**	**2.87**	**243**	P	P	01 54 35.1	+0.3
KII	**Karymskiy**	**2.87**	**243**	*e*P	P	01 54 34.8	0.0
ESO	**Esso**	**2.91**	**282**	*e*P	P	01 54 35.6	+0.1
ESO				*e*S	S	01 55 08.3	-1.3
ESO				Smax			
	160nm,0.9s						
SPN	**Mys Shipunski**	**3.21**	**225**	P	P	01 54 38.5	-1.1
SPN				S	S	01 55 14.0	-3.0
SPN	**Mys Shipunski**	**3.21**	**225**	*e*P	P	01 54 38.6	-1.0
SPN				*e*S	S	01 55 15.2	-1.8
NLC	**Nalytchevo**	**3.44**	**231**	P	P	01 54 43.5	+0.6
NLC				S	S	01 55 21.9	-1.1
NLC	**Nalytchevo**	**3.44**	**231**	*e*P	P	01 54 42.6	-0.3
NLC				*e*S	S	01 55 20.7	-2.3
SMAR	**Somma**	**3.63**	**235**	*e*P	P	01 54 46.2	+0.6
UGLR	**Uglovaya**	**3.65**	**234**	*e*P	P	01 54 46.3	+0.4
AVH	**Avacha**	**3.66**	**236**	*e*P	P	01 54 46.5	+0.5
KOK	**Koryaka**	**3.69**	**237**	*e*P	P	01 54 46.8	+0.4
GNL	**Ganaly**	**3.81**	**245**	*e*P	P	01 54 48.1	-0.1
PET	**Petropavlovsk**	**3.85**	**233**	P	P	01 54 49.9	+1.2
PET				S	S	01 55 33.4	+0.1
PET	**Petropavlovsk**	**3.85**	**233**	*e*PN	P	01 54 49.7	+1.0
PET				*e*S	S	01 55 33.0	-0.3
PET				pmax	pmax		
	comp=Z,83nm,0.5s						
PET				smax			
	comp=N,125nm,0.7s						
PET				smax			
	comp=E,162nm,0.9s						
PET	**Petropavlovsk**	**3.85**	**233**	*e*P	P	01 54 50.0	+1.3
PET				*e*S	S	01 55 33.5	+0.2
RUS	**Russkaya**	**4.32**	**228**	P	P	01 54 56.4	+1.0
RUS				S	S	01 55 44.4	-0.8
RUS	**Russkaya**	**4.32**	**228**	*e*P	P	01 54 56.4	+1.0
RUS				*e*S	S	01 55 45.5	+0.3
GRL	**Gorelyy**	**4.43**	**232**	*e*P	P	01 54 58.8	+1.9
APC	**Apacha**	**4.62**	**240**	*e*P	P	01 55 00.9	+1.2

*IDC **03** 02:00:34.7±1.2, 1.74N×99.38E, mb3.8/8, mb1 4.0/8, mb1mx3.8/18, mbtmp3.8/8, Error ellipse: s-maj=59.8km s-min=21.1km az=53.0*

*NEIC **03** 02:00:39.3±0.8, 1.81N×99.45E, h30km, mb4.4/2, Error ellipse: s-maj=42.0km s-min=13.1km az=54.0*

ISC 03 02:00:37.4±1.0, 1.9N±0.2×99.5E±0.3, h30km, n12, σ0°87/12, mb3.9/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.48**	**124**	P	P	**02 08 14.9**	**-0.5**
	1.2nm,0.9s,mb3.6,baz=300,slow=9.0,SNR=5.9						
SONM	**Songino Array**	**46.19**	**6**	P	P	**02 09 02.6**	**+1.2**
	0.7nm,0.7s,mb3.7,baz=190,slow=8.8,SNR=6.0						
MKAR	**Makanchi Array**	**47.20**	**344**	P	P	**02 09 09.9**	**+0.4**
	0.9nm,0.8s,mb3.8,baz=143,slow=7.2,SNR=9.7						
KURK	**Kurchatov**	**51.79**	**343**	*e*P	P	**02 09 43.8**	**-0.8**
	4.9nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**52.13**	**134**	P	P	**02 09 47.7**	**+0.2**
	6.5nm,1.1s,mb4.5,baz=282,slow=9.3,SNR=3.1						
STKA	**Stephens Creek**	**52.13**	**134**	P	P	**02 09 47.7**	**+0.2**
ZAL	**Zalesovo**	**53.30**	**349**	P	P	**02 09 55.7**	**-0.2**
	0.8nm,0.4s,mb4.0,baz=275,slow=12,SNR=4.3						
ZAL	**Zalesovo**	**53.30**	**349**	P	P	**02 09 55.7**	**-0.2**
BVAR	**Borovoye Array**	**56.41**	**339**	P	P	**02 10 18.3**	**-0.2**
	0.5nm,0.5s,mb3.8,baz=153,slow=9.7,SNR=3.5						
CHKZ	**Chkalovo**	**56.87**	**340**	*e*P	P	**02 10 20.3**	**-1.5**
	5.4nm,1.3s,mb4.4						
BRTR	**Keskin Array B**	**70.37**	**312**	P	P	**02 11 50.5**	**-0.3**
	0.2nm,0.6s,mb3.2,baz=164,slow=31,SNR=2.9						
GERES	**GERESS Array B**	**85.83**	**319**	P	P	**02 13 17.2**	**+1.7**
	0.1nm,0.3s,mb3.5,baz=98,slow=9.4,SNR=4.0						

*NEIC **03** 02:05:20.5±1.1, 15.45S×177.42W, h363km±12km, mb3.9/3, Error ellipse: s-maj=21.1km s-min=9.4km az=147.0*

*IDC **03** 02:05:22.2±1.6, 15.56S×177.37W, h380km±19km, mb3.4/8, mb1 3.7/9, mb1mx3.6/17, mbtmp4.2/9, Error ellipse: s-maj=32.3km s-min=13.8km az=154.0*

ISC 03 02:05:21.2±1.1, 15.5S±0.2×177.5W±0.1, h384km±14km, n19, σ0°60/21, mb3.7/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.74**	**75**	P	P	**02 06 51.1**	**+0.2**
	5.6nm,0.3s,baz=126,slow=12,SNR=6.1						
AFI				S	S	**02 08 01.9**	**+0.5**
	2.0nm,0.3s,baz=247,slow=20,SNR=2.3						
AFI	**Afiamalu**	**5.74**	**75**	*e*P	P	**02 06 48.3**	**-2.7**
AFI				S	S	**02 08 01.9**	**+0.5**
STKA	**Stephens Creek**	**40.59**	**239**	P	P	**02 12 26.8**	**+0.2**
	1.7nm,0.5s,mb3.6,baz=111,slow=9.6,SNR=5.6						
STKA	**Stephens Creek**	**40.59**	**239**	P	P	**02 12 26.8**	**+0.2**
WB2	**Warramunga Arr**	**45.98**	**257**	*e*P	P	**02 13 09.4**	**-0.2**
WRAB	**Tennant Creek**	**45.98**	**257**	*e*P	P	**02 13 09.3**	**-0.3**
	2.7nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**45.99**	**257**	P	P	**02 13 09.6**	**-0.1**
	1.6nm,0.3s,mb3.8,baz=88,slow=6.1,SNR=111						
ASAR	**Alice Springs**	**46.34**	**252**	P	P	**02 13 12.7**	**+0.3**
	19nm,0.6s,mb4.6,baz=84,slow=7.7,SNR=233						
ASPA	**Alice Springs**	**46.34**	**252**	*e*P	P	**02 13 12.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**54.34**	**259**	P	P	**02 14 12.8**	**+0.8**
	4.3nm,0.8s,mb3.8,baz=111,slow=3.9,SNR=6.6						
SBA	**Scott Base**	**62.86**	**184**	*e*P	P	**02 15 09.2**	**+0.2**
VNDA	**Vanda**	**62.90**	**185**	P	P	**02 15 08.4**	**-0.8**
	0.7nm,0.5s,mb3.5,baz=0.7,slow=7.5,SNR=6.7						
NVAR	**Mina Array Bea**	**77.08**	**44**	P	P	**02 16 34.8**	**+0.1**
	0.9nm,0.7s,mb3.5,baz=213,slow=9.0,SNR=5.0						
HLID	**Hailey**	**82.24**	**41**	*e*P	P	**02 17 02.2**	**+0.5**
	1.1nm,0.6s,mb3.8						
COLA	**College**	**83.25**	**12**	*e*P	P	**02 17 05.7**	**-0.7**
	2.0nm,0.7s,mb4.0						
MNTX	**Cornudas Mount**	**83.47**	**55**	*e*P	P	**02 17 08.4**	**+0.2**
TXAR	**Lajitas Array**	**83.96**	**57**	P	P	**02 17 11.4**	**+0.7**
	1.1nm,0.8s,mb3.6,baz=222,slow=6.8,SNR=11						
YKA	**Yellowknife Ar**	**91.79**	**24**	P	P	**02 17 46.2**	**-0.8**
	0.1nm,0.5s,mb3.0,baz=246,slow=5.5,SNR=4.0						
YKA	**Yellowknife Ar**	**91.79**	**24**	P	P	**02 17 46.2**	**-0.8**

IDC 03 02:23:41.1±4.3, 1.07N×96.77E, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=169.0km s-min=28.4km az=56.0, Off west coast of northern Sumatera

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AKASG	**Malin Array Be**	**145.50**	**329**	PKPbc	PKPbc	02 53 23.8	-2.5
	0.8nm,0.4s,baz=37,slow=4.2,SNR=5.5						
BRTR	**Keskin Array B**	**148.62**	**309**	PKPbc	PKPdf	02 53 35.8	+2.7
	0.6nm,0.8s,baz=108,slow=4.6,SNR=4.2						

*IDC **03** 02:35:08.2±0.9, 6.82N×73.08W, h150km±20km, mb2.9/1, mb1 3.5/3, mb1mx2.9/22, mbtmp3.8/3, MS4.0/2, Ms1 4.0/2, ms1mx4.0/7, Error ellipse: s-maj=74.2km s-min=7.6km az=132.0*

*FUNV **03** 02:35:08.6, 6.73N×73.14W, h165km, MW3.4*

ISC 03 02:35:08.0±0.8, 6.85N±0.08×73.00W±0.08, h170km±8km, n12, σ1§16/20, mb3.2/1, 5C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**34**	⇑*iP*	**P**	**02 35 37.8**	**+1.1**
CAPV				*eS*	**S**	**02 35 59.2**	**+0.3**
ROSC	**El Rosal**	**2.38**	**214**	P	**P**	**02 35 49.6**	**+0.3**
	24nm,0.3s,baz=285,slow=9.3,SNR=46						
ROSC				S	**S**	**02 36 17.9**	**-3.1**
	32nm,0.3s,baz=87,slow=22,SNR=18						
ROSC				LR	LR	02 36 58.2	
	comp=Z,4μm,19.9s,baz=198,slow=48						
VIGV	**El Vigia**	**2.55**	**39**	⇑*iP*	**P**	**02 35 52.5**	**+1.2**
VIGV				*eS*	**S**	**02 36 24.5**	**-0.1**
SOCV	**Socops**	**2.56**	**56**	⇑*iP*	**P**	**02 35 52.6**	**+1.3**
SOCV				*eS*	**S**	**02 36 24.9**	**+0.2**
SDV	**Santo Domingo**	**3.09**	**49**	P	**P**	**02 35 59.4**	**+1.4**
	18nm,0.3s,baz=264,slow=13,SNR=118						
SDV				S	**S**	**02 36 36.6**	**+0.3**
	19nm,0.3s,baz=270,slow=19,SNR=14						
SDV				LR	LR	02 36 54.3	
	comp=Z,2μm,21.4s,baz=62,slow=33						
VIRV	**Villa del Rosa**	**3.67**	**9**	⇑*iP*	**P**	**02 36 05.0**	**-0.4**
VIRV				*eS*	**S**	**02 36 47.8**	**-1.7**
SANV	**Sanarito**	**4.32**	**52**	*eP*	**P**	**02 36 14.5**	**+0.8**
SANV				*eS*	**S**	**02 37 03.2**	**-1.2**
CURV	**Curarigua**	**4.35**	**44**	⇑*iP*	**P**	**02 36 14.8**	**+0.8**
CURV				*eS*	**S**	**02 37 03.2**	**-1.7**
DABV	**Dabajuro**	**4.67**	**30**	*eP*	**P**	**02 36 19.2**	**+1.0**
BAUV	**El Baul**	**5.33**	**67**	*i* P	**P**	**02 36 26.3**	**-0.6**
BAUV				*eS*	**S**	**02 37 25.2**	**-2.9**
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**02 45 20.4**	**-0.1**
	0.2nm,0.5s,mb3.2,baz=132,slow=6.5,SNR=5.4						
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc	PKPdf	02 54 42.4	+7.7
	0.2nm,0.6s,baz=108,slow=2.6,SNR=4.7						

*IDC **03** 02:43:25.4±2.3, 0.67N×97.22E, mb3.7/6, mb1 3.9/6, mb1mx3.7/16, mbtmp3.7/6, Error ellipse: s-maj=104.2km s-min=21.1km az=56.0*

*NEIC **03** 02:43:30.2±1.6, 0.71N×97.30E, h30km, mb3.9/1, Error ellipse: s-maj=72.5km s-min=14.5km az=55.0*

ISC 03 02:43:28.4±2.0, 0.8N±0.4×97.3E±0.5, h30km, n8, σ0§61/8, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.70**	**122**	P	**P**	**02 51 16.3**	**-0.3**
	0.4nm,0.5s,mb3.3,baz=303,slow=9.1,SNR=6.8						
ASAR	**Alice Springs**	**43.03**	**127**	P	**P**	**02 51 27.7**	**+0.2**
	0.4nm,0.5s,mb3.4,baz=296,slow=7.8,SNR=8.0						
SONM	**Songino Array**	**47.54**	**8**	P	**P**	**02 52 03.6**	**+0.5**
	0.3nm,0.4s,mb3.7,baz=196,slow=7.7,SNR=6.3						
MKAR	**Makanchi Array**	**47.69**	**346**	P	**P**	**02 52 05.0**	**+0.6**
	1.2nm,0.5s,mb4.2,baz=160,slow=8.0,SNR=20						
MKAR	**Makanchi Array**	**47.69**	**346**	P	**P**	**02 52 05.0**	**+0.6**
KURK	**Kurchatov**	**52.24**	**345**	*eP*	**P**	**02 52 39.0**	**-0.1**
	1.2nm,0.8s,mb3.9						
ZAL	**Zalesovo**	**54.00**	**351**	P	**P**	**02 52 50.6**	**-1.3**
	0.9nm,0.5s,mb4.0,baz=337,slow=7.4,SNR=5.5						
FINES	**FINESS Array B**	**80.44**	**333**	P	**P**	**02 55 39.0**	**+0.3**
	1.2nm,0.9s,mb3.8,baz=90,slow=3.8,SNR=4.2						

IDC 03 02:55:37.3±3.8, 1.99N×96.52E, mb3.7/5, mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=159.1km s-min=22.7km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.03**	**122**	P	P	03 03 38.8	-2.0
	0.6nm,1.0s,baz=300,slow=9.1,SNR=3.1						
ASAR	**Alice Springs**	**44.41**	**127**	P	P	03 03 50.4	-1.6
	0.2nm,0.4s,baz=304,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**46.32**	**346**	P	P	03 04 05.3	-1.5
	0.9nm,0.6s,baz=162,slow=8.4,SNR=14						
SONM	**Songino Array**	**46.46**	**9**	P	P	03 04 06.7	-1.2
	0.3nm,0.6s,baz=198,slow=8.0,SNR=4.7						
ZAL	**Zalesovo**	**52.67**	**351**	P	P	03 04 52.1	-3.5
	0.9nm,0.4s,baz=271,slow=4.9,SNR=3.6						

IDC 03 03:00:51.5±8.9, 2.46N×128.19E, h183km±88km, mb3.3/6, mb1 3.5/6, mb1mx3.4/14, mbtmp3.8/6, Error ellipse: s-maj=77.8km s-min=16.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.58**	**187**	P	P	03 05 16.7	-0.9
	5.8nm,1.0s,baz=343,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**23.07**	**165**	P	P	03 05 41.0	-1.0
	2.1nm,0.3s,baz=344,slow=10,SNR=58						
ASAR	**Alice Springs**	**26.56**	**168**	P	P	03 06 12.3	-2.2
	0.6nm,0.6s,baz=359,slow=8.6,SNR=9.0						
ASAR				PcP	PcP	03 09 32.1	-2.3
	0.4nm,0.6s,baz=0.4,slow=1.6,SNR=3.9						
STKA	**Stephens Creek**	**36.44**	**161**	P	P	03 07 38.8	-1.7
	2.0nm,0.5s,baz=333,slow=17,SNR=3.2						
SONM	**Songino Array**	**48.97**	**341**	P	P	03 09 18.9	-2.2
	0.2nm,0.5s,baz=155,slow=6.1,SNR=2.8						
MKAR	**Makanchi Array**	**59.42**	**325**	P	P	03 10 35.2	-1.8
	0.5nm,0.4s,baz=118,slow=8.4,SNR=9.3						

*BJI **03** 03:10:52.2, 1.68N×97.98E, h39km, mB6.3, mb5.8, Ms6.3, Msz6.3*

*PDG **03** 03:10:54.0, 2.70N×97.90E, h10km*

*CRAAG **03** 03:10:54.0, 2.69N×97.86E, Mb6.1*

*DHMR **03** 03:10:54.2±3.0, 2.03N×97.97E, h10km, mb6.4*

*MOS **03** 03:10:54.4±0.8, 2.09N×98.04E, h33km, mb6.4/93, MS5.9/53, Error ellipse: s-maj=8.1km s-min=3.4km az=126.2*

*BGS **03** 03:10:56.1, 2.02N×97.94E, h33km, mb6.0*

*HRVD **03** 03:10:56.5±0.1, 1.81N×97.74E, h46km, MW6.2/82, Centroid moment Tensor Solution. LP body waves: s82, c201; Mantle waves: s78, c301; Half duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}1.98±.02; $M_{\theta\theta}$-0.90±.02; $M_{\phi\phi}$-1.08±.02; $M_{r\theta}$1.75±.02; $M_{\theta\phi}$1.19±.01; $M_{\phi r}$-1.12±.02; Best double couple: $M_0$2.945×10^{18} NP1: ϕ_s329°, δ24°, λ111°. NP2: ϕ_s127°, δ68°, λ81°. Principal axes: T 2.88, Plg66°, Azm21°; N .127, Plg8°, Azm130°; P -3.009, Plg22°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **03** 03:10:56.5±0.1, 2.02N×97.94E, h36km, mb6.0/158, ME6.1, MS5.9/38, MW6.3 Error ellipse: s-maj=4.1km s-min=2.4km az=33.0, Moment Tensor Solution. s35 Moment tensor: Scale 10^{18}Nm; M_{rr}2.48; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-2.57; $M_{r\theta}$1.70; $M_{\theta\phi}$1.09; $M_{\phi r}$-0.91; Best double couple: $M_0$3.4×10^{18} NP1: ϕ_s3°, δ36°, λ129°. NP2: ϕ_s138°, δ63°, λ66°. Principal axes: T 3.38, Plg63°, Azm7°; N -.04, Plg22°, Azm149°; P -3.34, Plg15°, Azm245°; Broadband fault plane solution: P waves. NP1: ϕ_s125°, δ70°, λ90°. NP2: ϕ_s305°, δ20°, λ90°. Principal axes: T Plg65°, Azm35°; N Plg0°, Azm0°; P Plg25°, Azm215°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] on Nias. Felt [III] at Padangpanjang, Pariaman and in Kepulauan Mentawai. Also felt at Meulaboh and Medan. Felt in Singapore and at Georgetown and Kuala Lumpur, Malaysia.

*IDC **03** 03:10:57.4±0.3, 2.01N×98.06E, h45km±2km, mb5.5/44, mb1 5.5/44, mb1mx5.5/44, mbtmp5.8/44, MS5.9/20, Ms1 5.9/20, ms1mx5.7/24 Error ellipse: s-maj=8.1km s-min=5.8km az=46.0*

*SVSA **03** 03:10:58.6, 2.03N×97.93E, h55km, Mb5.9*

ISC 03 03:10:56.1±0.1, 2.00N±0.02×97.97E±0.02, h47km, h47km±2.0km: pP-P, n1165, σ1§02/1054, mb6.0/253, MS6.0/114, 161C-44D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARI	**Lau Rambong**	**0.90**	**12**	*e*Pn	**P**	**03 11 15.2**	**+2.7**
HUTI	**Huta Ginjang**	**1.05**	**73**	*e*Pn	**P**	**03 11 19.6**	**+4.9**
PSI	**Prapat**	**1.18**	**54**	*e*P	**P**	**03 11 20.8**	**+4.4**
MRPI	**Mariponipon**	**1.41**	**106**	*e*Pn	**P**	**03 11 22.4**	**+2.6**
PPI	**Padang Panjang**	**3.45**	**135**	*e*P	**P**	**03 11 50.0**	**+1.3**
IPM	**Ipoh**	**3.98**	**50**	P	**P**	**03 11 59.1**	**+2.7**
KULM	**Kulim**	**4.22**	**39**	*e*P	**P**	**03 12 01.9**	**+2.2**
KGM	**Kluang**	**5.35**	**90**	P	**P**	**03 12 17.7**	**+2.2**
SNG	**Songkhla**	**5.78**	**27**	P	**P**	**03 12 24.0**	**+2.5**
	1μm,1.0s						
PENI	**Pendagan**	**10.41**	**136**	⇑*e*P	**P**	**03 13 21.0**	**-4.8**
NNT	**Nongplab**	**10.66**	**9**	P	**P**	**03 13 31.0**	**+1.8**
PULI	**Pulasari**	**11.52**	**136**	⇑*e*P	**P**	**03 13 35.8**	**-5.0**
KSM	**Kuching**	**12.35**	**92**	*e*P	**P**	**03 13 50.8**	**-1.1**
UBT	**Ubonrachathani**	**14.88**	**27**	P	**P**	**03 14 29.5**	**+4.1**
	1μm,0.9s						
BDT	**Bhumibol Dam**	**15.18**	**4**	P	**P**	**03 14 30.0**	**+0.8**
	227nm,0.7s						
NANT	**Nan**	**16.91**	**9**	⇑P	**P**	**03 14 48.0**	**-3.1**
	162nm,0.6s						
CHRT	**Chiangrai**	**17.85**	**6**	⇑P	**P**	**03 15 03.0**	**+0.2**
	2μm,0.9s						
PALK	**Pallekele**	**17.98**	**287**	*e*P	**P**	**03 15 05.5**	**+0.9**
	692nm,1.1s						
KKM	**Kota Kinabalu**	**18.64**	**77**	*e*P	**P**	**03 15 13.6**	**+1.0**
KKM	**Kota Kinabalu**	**18.64**	**77**	P	**P**	**03 15 14.2**	**+1.6**
SRDI	**Scrawed**	**19.20**	**123**	⇓*e*P	**P**	**03 15 16.0**	**-3.1**
TSM	**Tawau**	**20.01**	**83**	P	**P**	**03 15 28.0**	**+0.1**
RATI	**Rata**	**20.50**	**122**	⇑*e*P	**P**	**03 15 31.1**	**-1.9**
QIZ	**Qiongzhong**	**20.53**	**34**	P	**P**	**03 15 33.1**	**-0.2**
QIZ				XP		03 15 48.6	
QIZ				S	**S**	**03 19 17.9**	**+2.5**
QIZ				SS	SS	03 19 44.1	-3.4
QIZ				AMB	AMB		
	comp=Z,9μm,12.3s						
QIZ				LR	LR		
	comp=N,22μm,23.9s						
QIZ				LR	LR		
	comp=Z,48μm,34.2s						
QIZ	**Qiongzhong**	**20.53**	**34**	⇑*e*P	**P**	**03 15 32.5**	**-0.7**
	comp=Z,1μm,1.6s						
QIZ				LR	LR		
	comp=Z,32μm,20.0s,MS5.7						
MDRS	**Chennai**	**20.70**	**303**	*e*P	**P**	**03 15 34.2**	**-0.8**
MDRS				*e*		03 15 47.3	
	comp=Z,527nm,1.0s						
MDRS				*e*S	**S**	**03 19 19.7**	**+1.1**
BATP	**Bataraza**	**20.86**	**70**	*e*P	**P**	**03 15 37.2**	**+0.5**
KEDI	**Kedomdong**	**20.88**	**120**	⇑*e*P	**P**	**03 15 35.1**	**-1.8**
VIS	**Vishakhapatnam**	**21.23**	**318**	*e*P	**P**	**03 15 40.5**	**+0.1**
VIS				*e*		03 15 57.1	
	comp=Z,1μm,1.4s						
VIS				*e*S	**S**	**03 19 31.0**	**+2.5**
TRD	**Trivandrum**	**21.88**	**288**	⇓*e*	**P**	**03 15 54.2**	**+7.3**
TRD				*e*		03 19 24.2	
PPR	**Puerto Princes**	**22.04**	**69**	⇑*iP*	**P**	**03 15 49.5**	**+1.0**
CAL	**Calcutta**	**22.46**	**336**	*e*P	**P**	**03 15 53.4**	**+0.9**
	comp=Z,841nm,0.3s,mb6.7						
CAL				*e*S	**S**	**03 19 55.2**	**+4.1**
AGT	**Agartala**	**22.70**	**344**	⇓*iP*	**P**	**03 15 56.0**	**+1.0**
AGT				*i*		03 19 11.0	
ENPP	**El Nido**	**23.17**	**66**	*e*P	**P**	**03 16 00.6**	**+0.8**
KMI	**Kunming**	**23.44**	**11**	⇑P	**P**	**03 16 03.8**	**+1.6**
KMI				AP		03 16 12.9	
KMI				XP		03 16 17.0	
KMI				PP	PP	03 16 38.9	+3.9
KMI				PPP	PPP	03 16 46.8	+1.5
KMI				S	**S**	**03 20 13.6**	**+4.9**
KMI				XS		03 20 28.5	
KMI				SS	SS	03 21 02.8	+4.5
KMI				AMB	AMB		
	comp=Z,239nm,1.5s,mb5.4						
KMI				AMB	AMB		
	comp=Z,9μm,8.3s						
KMI				LR	LR		
	comp=N,95μm,15.8s,MS6.3						
KMI				LR	LR		
	comp=E,32μm,18.5s,MS6.3						
KMI				LR	LR		
	comp=Z,107μm,16.3s,MS6.4						
KMI	**Kunming**	**23.44**	**11**	⇑P	**P**	**03 16 03.8**	**+1.6**
KMI				*PP		03 16 12.9	
KMI				*SP		03 16 17.0	
KMI						03 16 38.9	
KMI				S	**S**	**03 20 13.6**	**+4.9**
KMI				*SS		03 20 28.5	
KMI				pmax	pmax		
	comp=Z,239nm,1.5s,mb5.4						
KMI				MLR	MLR		
	comp=Z,107μm,16.3s,MS6.4						
KMI	**Kunming**	**23.44**	**11**	⇑P	**P**	**03 16 03.8**	**+1.6**
	comp=Z,239nm,1.5s,mb5.4						
KMI				pP		03 16 12.9	
KMI				sP		03 16 17.0	
KMI				PP	PP	03 16 38.9	+3.9
KMI				PPP	PPP	03 16 46.8	+1.5
KMI				S	**S**	**03 20 13.6**	**+4.9**
KMI				sS		03 20 28.5	
KMI				SS	SS	03 21 02.8	+4.5
KMI				LR	LR		
	comp=Z,107μm,16.3s,MS6.4						
SHL	**Shillong**	**24.15**	**346**	*e*P	**P**	**03 16 08.0**	**-1.1**
	comp=Z,591nm,0.8s,mb6.1						
SHL				*e*S	**S**	**03 20 28.0**	**+7.1**
BUSP	**Coron**	**24.18**	**65**	*e*P	**P**	**03 16 11.4**	**+1.9**
HYB	**Hyderabad**	**24.46**	**310**	⇑*e*P	**P**	**03 16 13.5**	**+1.3**
HYB				*e*S	**S**	**03 20 28.0**	**+1.7**
HYB				*e*		03 20 40.0	
HYB				pmax	pmax		
	comp=Z,1μm,1.0s,mb6.3						
HYB	**Hyderabad**	**24.46**	**310**	⇑*e*P	**P**	**03 16 13.5**	**+1.3**
	comp=Z,1μm,1.0s,mb6.3						
HYB				*e*S	**S**	**03 20 28.0**	**+1.7**
HYB				*e*		03 20 40.0	
HYB	**Hyderabad**	**24.46**	**310**	⇑*iP*	**P**	**03 16 13.5**	**+1.3**
	comp=Z,1μm,1.0s,mb6.3						
HYB				LR	LR		
	comp=Z,26nm,24.0s						
CUYO	**Cuyo Island**	**24.51**	**68**	*e*P	**P**	**03 16 14.3**	**+1.5**
ZMPH	**Zamboanga City**	**24.52**	**78**	⇓*e*P	**P**	**03 16 29.2**	**+16**
BOK	**Bokaro**	**24.62**	**333**	*e*P	**P**	**03 16 15.1**	**+1.4**
BOK				*e*S	**S**	**03 20 32.8**	**+3.9**
LUBP	**Lubang**	**24.92**	**61**	*e*P	**P**	**03 16 17.1**	**+0.4**
LUBP	**Lubang**	**24.92**	**61**	*e*P	**P**	**03 16 16.8**	**+0.1**
IPIL	**Ipil**	**25.17**	**76**	*e*P	**P**	**03 16 19.7**	**+0.6**
BLSP	**Bilaspur**	**25.24**	**324**	*e*P	**P**	**03 16 20.9**	**+1.2**
BLSP				*e*		03 16 24.6	
	comp=Z,1μm,1.0s						
BLSP				*e*S	**S**	**03 20 42.2**	**+2.8**
LKP	**Lekhapani**	**25.25**	**356**	*e*P	**P**	**03 16 19.0**	**-0.7**
LKP				*e*		03 16 40.0	
MNGI	**Mangalore**	**25.36**	**297**	*e*P	**P**	**03 16 22.4**	**+1.6**
MNGI				*e*S	**S**	**03 20 47.0**	**+5.7**
GYA	**Guiyang**	**25.71**	**18**	⇑*iP*	**P**	**03 16 22.6**	**-1.4**
GYA				AP	pP	03 16 31.8	-4.2
GYA				XP	sP	03 16 35.9	-5.7
GYA				PP	PP	03 17 02.7	-2.3
GYA				S	**S**	**03 20 50.3**	**+3.2**
GYA				AMB	AMB		
	comp=Z,120nm,1.2s,mb5.3						
GYA				AMB	AMB		
	comp=Z,6μm,11.7s						
GYA				LR	LR		
	comp=N,28μm,18.3s,MS6.0						
GYA				LR	LR		
	comp=E,26μm,18.6s,MS6.0						
GYA				LR	LR		
	comp=Z,49μm,17.4s,MS6.1						
GZH	**Guangzhou**	**25.72**	**34**	P	**P**	**03 16 27.7**	**+3.5**
GZH				S	**S**	**03 20 57.1**	**+10**
GZH				LR	LR		
	comp=N,28μm,15.2s,MS6.0						
GZH				LR	LR		
	comp=E,19μm,16.8s,MS6.0						
GZH				LR	LR		
	comp=Z,53μm,14.9s,MS6.2						
BOLP	**Bolinao**	**25.90**	**55**	*e*P	**P**	**03 16 27.6**	**+1.7**
GUIM	**Jordan**	**25.91**	**70**	*e*P	**P**	**03 16 27.8**	**+1.9**
OTRP	**Odiongan**	**25.96**	**65**	*e*P	**P**	**03 16 26.9**	**+0.5**
PAGZ	**Pagadian**	**25.97**	**76**	*e*P	**P**	**03 16 27.5**	**+1.0**
KALP	**Kalibo**	**26.01**	**67**	*e*P	**P**	**03 16 21.0**	**-5.9**
SNPH	**Sibulan**	**26.17**	**73**	*e*P	**P**	**03 16 29.8**	**+1.4**
SLGI	**Shiliguri**	**26.21**	**340**	*e*	**P**	**03 16 30.8**	**+2.1**
RCP	**Roxas**	**26.35**	**68**	⇑*e*P	**P**	**03 16 31.0**	**+1.0**
NGP	**Nagpur**	**26.50**	**317**	*e*P	**P**	**03 16 32.2**	**+0.8**
NGP				*e*		03 16 36.7	
	comp=Z,1μm,2.0s						
NGP				*e*		03 21 06.5	
LATR	**Latur**	**26.58**	**309**	*e*P	**P**	**03 16 33.2**	**+1.1**
POLP	**Polilio Island**	**26.83**	**61**	*e*P	**P**	**03 16 36.4**	**+2.0**
TBP	**Tagbilaran**	**26.85**	**72**	*e*P	**P**	**03 16 34.5**	**-0.2**
AUQP	**San Andres**	**26.91**	**64**	*e*P	**P**	**03 16 35.4**	**+0.2**
BALP	**Baler**	**26.98**	**58**	*e*P	**P**	**03 16 36.5**	**+0.7**
LLP	**Lapu-Lapu**	**27.11**	**71**	⇑*e*P	**P**	**03 16 37.6**	**+0.6**
	comp=Z,499μm,1.0s						
DGAR	**Diego Garcia**	**27.12**	**250**	PFAKE		03 16 50.0	+13
DGAR				LR	LR		
	comp=Z,15μm,22.0s,MS5.5						
ABRA	**Dolores**	**27.22**	**54**	*e*P	**P**	**03 16 38.5**	**+0.6**
GOA	**Goa**	**27.31**	**301**	⇑*i*	**P**	**03 16 36.1**	**-2.8**
GOA				*i*		03 21 12.7	
KCP	**Kidapawan**	**27.48**	**79**	⇓*e*P	**P**	**03 16 42.0**	**+1.5**
	comp=Z,4μm,0.9s,mb6.7						
BUKP	**Musuan**	**27.61**	**77**	*e*P	**P**	**03 16 42.5**	**+0.9**
APYP	**Conner**	**27.76**	**54**	*e*P	**P**	**03 16 41.8**	**-1.1**
CAUP	**Cauayan**	**27.76**	**56**	*e*P	**P**	**03 16 42.7**	**-0.2**
KAD	**Karad**	**27.88**	**305**	*e*P	**P**	**03 16 45.0**	**+1.0**
KAD				*e*	pP	03 16 59.8	+3.7
	comp=Z,266nm,1.4s						
KAD				*e*S	**S**	**03 21 24.0**	**+1.4**
JIRN	**Jiri**	**27.89**	**337**	*e*P	**P**	**03 16 43.4**	**-0.6**
	comp=Z,1μm,0.9s,mb6.5						
MSLP	**Maasin**	**27.91**	**72**	*e*P	**P**	**03 16 45.0**	**+0.6**
ALBI	**Allahabad**	**27.92**	**327**	*e*	**P**	**03 16 48.0**	**+3.7**
DAV	**Davao City (W)**	**27.97**	**79**	⇓*e*P	**P**	**03 16 47.0**	**+2.1**
PKI	**Pulchoki**	**28.12**	**336**	*e*P	**P**	**03 16 45.0**	**-1.1**
	comp=Z,1μm,0.9s,mb6.5						
PKI	**Pulchoki**	**28.12**	**336**	*e*P	**P**	**03 16 45.0**	**-1.1**
PKI				pmax	pmax		
	comp=Z,567nm,0.9s,mb6.2						
GUN	**Gumba**	**28.23**	**337**	*e*P	**P**	**03 16 46.2**	**-0.9**
DMN	**Daman**	**28.28**	**335**	*e*P	**P**	**03 16 46.0**	**-1.5**
	comp=Z,794nm,0.8s,mb6.4						
LSA	**Lhasa**	**28.30**	**347**	P	**P**	**03 16 48.0**	**+0.4**
LSA				AP	pP	03 16 57.1	-2.7
LSA				XP	sP	03 17 03.3	-2.2
LSA				AMB	AMB		
	comp=Z,600nm,0.9s,mb6.2						
LSA				AMB	AMB		
	comp=Z,5μm,11.3s						
LSA				LR	LR		
	comp=N,11μm,23.9s,MS5.7						
LSA				LR	LR		
	comp=E,20μm,23.3s,MS5.7						
LSA				LR	LR		
	comp=Z,30μm,23.9s,MS5.8						
LSA	**Lhasa**	**28.30**	**347**	⇑*e*P	**P**	**03 16 47.2**	**-0.4**
LSA				pmax	pmax		
	comp=Z,560nm,0.9s,mb6.2						
LSA				MLR	MLR		
	comp=Z,21μm,20.0s,MS5.7						
LSA	**Lhasa**	**28.30**	**347**	⇑*e*P	**P**	**03 16 47.2**	**-0.4**
	comp=Z,560nm,0.9s,mb6.2						
LSA				LR	LR		
	comp=Z,21μm,20.0s,MS5.7						
PVCP	**Virac**	**28.34**	**65**	*e*P	**P**	**03 16 46.9**	**-1.3**
BUTP	**Butuan**	**28.37**	**75**	*e*P	**P**	**03 16 48.5**	**+0.1**
KKN	**Kakani**	**28.37**	**336**	*e*P	**P**	**03 16 47.8**	**-0.5**
	comp=Z,1μm,0.8s,mb6.6						
KKN	**Kakani**	**28.37**	**336**	*e*P	**P**	**03 16 47.8**	**-0.5**
KKN				pmax	pmax		
	comp=Z,666nm,0.8s,mb6.3						
CNP	**Catarman**	**28.43**	**67**	*e*P	**P**	**03 16 49.3**	**+0.3**
MATI	**Mati**	**28.62**	**79**	*e*P	**P**	**03 16 51.9**	**+1.2**
POO	**Poona**	**28.78**	**306**	*e*P	**P**	**03 16 52.9**	**+0.8**
POO				*e*		03 17 22.7	
	comp=Z,275nm,1.6s						
POO				*e*S	**S**	**03 21 37.2**	**+0.2**
GKN	**Gorkha**	**28.82**	**335**	*e*P	**P**	**03 16 51.2**	**-1.1**
	comp=Z,2μm,0.9s,mb6.8						
BHPL	**Bhopal**	**29.02**	**318**	*e*P	**P**	**03 16 55.0**	**+0.9**
BHPL				*e*		03 16 58.7	
	comp=Z,566nm,1.1s						
BHPL				*e*S	**S**	**03 21 41.6**	**+0.9**
KOLN	**Koldanda**	**29.07**	**333**	*e*P	**P**	**03 16 53.6**	**-1.0**
	comp=Z,2μm,0.9s,mb6.9						
CD2	**Chengdu**	**29.27**	**10**	⇑*iP*	**P**	**03 16 55.1**	**-1.2**
CD2				AP	pP	03 17 04.5	-4.0
CD2				XP	sP	03 17 09.4	-4.9
CD2				S	**S**	**03 21 44.8**	**+0.2**
CD2				AMB	AMB		
	comp=Z,90nm,0.7s,mb5.6						
CD2				AMB	AMB		
	comp=Z,5μm,7.5s						
CD2				LR	LR		
	comp=N,61μm,19.2s						
CD2				LR	LR		
	comp=Z,93μm,15.9s,MS6.5						
BBP	**Basco**	**29.74**	**50**	*e*P	**P**	**03 17 01.3**	**+0.7**
BOM	**Bombay**	**29.81**	**306**	*e*P	**P**	**03 17 02.6**	**+1.4**
BOM				*e*		03 20 12.4	
JHNI	**Jhansi**	**29.91**	**323**	⇑*iP*	**P**	**03 17 02.0**	**0.0**
JHNI				*e*	pP	03 17 17.0	+2.8
ENH	**Enshi**	**30.16**	**20**	*e*P	**P**	**03 17 02.1**	**-2.1**
	comp=Z,177nm,0.6s,mb6.0						
ENH				LR	LR		
	comp=Z,43μm,19.0s,MS6.1						
QZH	**Quanzhou**	**30.27**	**39**	⇑*iP*	**P**	**03 17 04.8**	**-0.4**
QZH				PCP	PcP	03 20 05.4	+0.3
QZH				S	**S**	**03 22 03.2**	**+2.7**
QZH				AMB	AMB		
	comp=Z,230nm,1.4s,mb5.7						
QZH				AMB	AMB		
	comp=Z,5μm,5.7s						
QZH				LR	LR		
	comp=N,56μm,14.6s,MS6.4						
QZH				L

FITZ Fitzroy Crossi 33.79 127 P **P** **03 17 32.9 -3.2**
comp=Z,111nm,0.7s,mb5.9,baz=335,slow=5.8,SNR=165
FITZ S **S** **03 22 48.5 -7.1**
comp=Z,60nm,1.0s,baz=180,slow=16,SNR=4.0
DDI Dehra Dun 33.91 328 *e*P **P** **03 17 37.5 +0.6**
DDI *e* 03 23 03.0
LZH Lanzhou 34.35 8⇑*i*P **P** **03 17 39.5 -1.2**
LZH AP pP 03 17 48.7 -4.4
LZH XP sP 03 17 52.5 -6.5
LZH PP PP 03 18 55.6 -1.4
LZH S **S** **03 23 04.6 +0.6**
LZH SCP 03 23 56.5
LZH SCS ScS 03 27 58.0 +0.8
LZH AMB AMB
comp=Z,319nm,1.5s,mb6.0
LZH AMB AMB
comp=Z,2μm,6.2s
LZH LR LR
comp=N,17μm,13.2s
LZH LR LR
comp=Z,33μm,17.3s,MS6.1
LZH Lanzhou 34.35 8⇑*i*P **P** **03 17 39.5 -1.2**
LZH *PP pP 03 17 48.7 -4.4
LZH *SP sP 03 17 52.5 -6.5
LZH 03 18 55.6
LZH S **S** **03 23 04.6 +0.6**
LZH *SS 03 23 19.5
LZH SS SS 03 25 05.7 -10
LZH 03 27 58.0
LZH pmax pmax
comp=Z,319nm,1.5s,mb6.0
LZH MLR MLR
comp=Z,33μm,17.3s,MS6.1
LZH Lanzhou 34.35 8⇑*i*P **P** **03 17 39.5 -1.2**
comp=Z,319nm,1.5s,mb6.0
LZH pP pP 03 17 48.7 -4.4
LZH sP sP 03 17 52.5 -6.5
LZH PP PP 03 18 55.6 -1.4
LZH PcP PcP 03 20 04.5 -12
LZH S **S** **03 23 04.6 +0.6**
LZH sS 03 23 19.5
LZH ScP 03 23 56.5
LZH SS SS 03 25 05.7 -10
LZH ScS ScS 03 27 58.0 +0.8
LZH LR LR
comp=Z,33μm,17.3s,MS6.1
BHJ Bhuj 34.63 310⇓*e* **P** **03 17 56.9 +14**
BHJ *e* 03 23 24.4
SMLA Simla 35.01 328⇓*i* **P** **03 17 37.6 -8.7**
comp=Z,745nm,0.4s,mb7.0
SMLA *i* 03 23 05.8
SDNR Sundarnagar 35.41 328 *e*P **P** **03 17 49.4 -0.4**
SDNR *e*S **S** **03 23 21.0 +0.6**
BHK Bhakra 35.64 327 *e*P **P** **03 17 52.0 +0.3**
BHK *e*S **S** **03 23 25.2 +1.3**
NJ2 Nanjing 35.78 31 *e*P **P** **03 17 52.6 -0.4**
NJ2 AP pP 03 18 02.8 -2.7
NJ2 XP sP 03 18 05.1 -6.2
NJ2 PP PP 03 19 14.6 -0.4
NJ2 S **S** **03 23 25.0 -1.2**
NJ2 XS 03 23 41.0
NJ2 AMB AMB
comp=Z,160nm,1.0s,mb5.9
NJ2 AMB AMB
comp=Z,2μm,4.2s
NJ2 LR LR
comp=N,66μm,16.0s,MS6.6
NJ2 LR LR
comp=E,30μm,14.6s,MS6.6
NJ2 LR LR
comp=Z,36μm,15.2s,MS6.2
PONG Pong 36.30 327⇓*e*P **P** **03 17 58.0 +0.7**
PONG *e* 03 23 40.0
SSE Sheshan 36.32 35 P **P** **03 17 56.6 -0.9**
SSE XP sP 03 18 09.3 -6.5
SSE PP PP 03 19 21.0 -0.6
SSE S **S** **03 23 35.2 +0.7**
SSE XS 03 23 49.7
SSE AMB AMB
comp=Z,66nm,0.8s,mb5.6
SSE AMB AMB
comp=Z,3μm,11.0s
SSE LR LR
comp=N,24μm,17.2s,MS6.1
SSE LR LR
comp=E,13μm,17.2s,MS6.1
SSE LR LR
comp=Z,37μm,16.3s,MS6.2
SSE Sheshan 36.32 35 P **P** **03 17 56.6 -0.9**
comp=Z,66nm,0.8s,mb5.6
SSE sP sP 03 18 09.3 -6.5
SSE PP PP 03 19 21.0 -0.6
SSE S **S** **03 23 35.2 +0.7**
SSE sS 03 23 49.7
SSE SS SS 03 26 14.5 +14
SSE LR LR
comp=Z,37μm,16.3s,MS6.2
DLH Dalhousie 36.75 328 *e*P **P** **03 18 01.0 -0.1**
DLH *e* pP 03 18 16.0 +2.4
THN Thein Dam 36.80 328 *e*P **P** **03 18 00.0 -1.5**
THN *e* 03 28 02.0
GTA Gaotai 37.27 2 P **P** **03 18 04.6 -0.8**
GTA AP pP 03 18 14.0 -3.9
GTA XP sP 03 18 17.8 -5.9
GTA PP PP 03 19 30.4 -3.0
GTA PCP PcP 03 20 26.2 +1.5
GTA S **S** **03 23 47.5 -1.4**
GTA SCP 03 24 09.5
GTA SCS ScS 03 28 12.8 -0.3
GTA AMB AMB
comp=Z,487nm,0.7s,mb6.4
GTA AMB AMB
comp=Z,4μm,9.5s
GTA LR LR
comp=N,11μm,26.6s,MS5.8
GTA LR LR
comp=E,14μm,24.0s,MS5.8
GTA LR LR
comp=Z,15μm,29.6s
TIY Taiyuan 37.94 19⇑P **P** **03 18 12.0 +1.0**
TIY LR LR
comp=N,27μm,15.0s
MUN Mundaring 37.97 154 *e*P **P** **03 18 13.1 +1.8**
comp=N,342nm,0.9s,mb6.1
MUN *e*S **S** **03 24 03.8 +4.2**
MUN Mundaring 37.97 154 *e*P **P** **03 18 13.1 +1.8**
MUN *e*S **S** **03 24 03.8 +4.2**
MUN pmax pmax
comp=Z,342nm,0.9s,mb6.1
JOW Kunigami 38.14 47 P **P** **03 18 13.1 +0.3**
comp=Z,103nm,0.5s,mb5.8,baz=245,slow=8.8,SNR=25
JOW LR LR 03 33 46.1
comp=Z,12μm,22.0s,MS5.7,baz=256,slow=36
KLBR Kellerberrin 38.34 152 *e*P **P** **03 18 15.1 +0.7**
comp=Z,2μm,0.9s,mb6.9
TIA Tai'an 38.38 25 *e*P **P** **03 18 13.4 -1.3**
TIA AMB AMB
comp=Z,66nm,1.0s,mb5.3
TIA LR LR
comp=N,19μm,15.0s,MS6.2
TIA LR LR
comp=E,22μm,15.0s,MS6.2
NWAO Narrogin (SRO) 39.23 154 P **P** **03 18 22.6 +0.9**
comp=E,162nm,0.8s,mb5.8,baz=320,slow=9.0,SNR=29
NWAO pP pP 03 18 34.0 -0.3
comp=E,202nm,0.8s,baz=324,slow=11,SNR=15
NWAO LR LR 03 33 14.9
comp=E,22μm,20.9s,MS6.0,baz=331,slow=34
NWAO Narrogin (SRO) 39.23 154 *e*P **P** **03 18 22.8 +1.1**
comp=E,689nm,1.4s,mb6.2
BTO Baotou 39.95 14 *e*P **P** **03 18 28.0 +0.4**
BTO PP PP 03 20 04.7 +1.0
BTO S **S** **03 24 31.8 +2.4**
BTO AMB AMB
comp=Z,81nm,1.1s,mb5.4
HHC Hu-ho-hao-te 40.58 16 *e*P **P** **03 18 31.8 -1.1**
HHC AP pP 03 18 46.3 +0.8
HHC XP sP 03 18 51.7 +0.6
HHC PP PP 03 20 11.2 +1.2
HHC PCP PcP 03 20 32.2 -2.9
HHC SCP 03 24 17.2
HHC PCS 03 24 24.1
HHC S **S** **03 24 36.3 -2.5**
HHC XS 03 25 01.4
HHC SCS ScS 03 28 30.1 -2.1
HHC SCS ScS 03 28 31.7 -0.5
HHC AMB AMB
comp=Z,71nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,5μm,4.9s
HHC LR LR
comp=N,34μm,16.7s,MS6.4
HHC LR LR
comp=E,20μm,15.5s,MS6.4
HHC LR LR
comp=Z,38μm,16.7s,MS6.3
BJT Baijiatuau 41.29 21⇑*e*P **P** **03 18 38.8 0.0**
BJT pmax pmax
comp=Z,258nm,0.7s
BJT MLR MLR
comp=Z,13μm,20.0s
BJT Baijiatuau 41.29 21⇑*e*P **P** **03 18 38.8 0.0**
comp=Z,258nm,0.7s,mb6.0
BJT LR LR
comp=Z,13μm,20.0s,MS5.8
BJI Beijing 41.31 21 P **P** **03 18 39.2 +0.3**
BJI AP pP 03 18 48.1 -3.5
BJI XP sP 03 18 52.1 -5.1
BJI PP PP 03 20 15.7 -2.0
BJI S **S** **03 24 46.4 -3.4**
BJI AMB AMB
comp=Z,95nm,0.7s,mb5.5
BJI AMB AMB
comp=Z,6μm,10.1s
BJI LR LR
comp=N,9μm,28.5s,MS5.7
BJI LR LR
comp=E,8μm,23.8s,MS5.7
BJI LR LR
comp=Z,20μm,34.1s
BJI Beijing 41.31 21 P **P** **03 18 39.2 +0.3**
comp=Z,95nm,0.7s,mb5.5
BJI pP pP 03 18 48.1 -3.5
BJI sP sP 03 18 52.1 -5.1
BJI PP PP 03 20 15.7 -2.0
BJI S **S** **03 24 46.4 -3.4**
BJI SS SS 03 28 03.6 +14
BJI LR LR
comp=Z,20μm,34.1s,MS5.8
WRA Warramunga Arr 41.82 123 P **P** **03 18 41.4 -2.0**
comp=Z,222nm,0.6s,mb6.0,baz=303,slow=9.0,SNR=756
WRA PcP PcP 03 20 38.7 -0.7
comp=Z,42nm,0.7s,baz=315,slow=2.7,SNR=5.5
WRA S **S** **03 24 50.9 -6.6**
comp=Z,60nm,1.1s,baz=297,slow=15,SNR=16
WRA P3KP 03 50 12.9
comp=Z,0.6nm,0.7s,baz=58,slow=3.2,SNR=5.0
WRAB Tennant Creek 41.83 123⇑*e*P **P** **03 18 41.9 -1.5**
WRAB pmax pmax
comp=Z,560nm,0.8s,mb6.2
WRAB MLR MLR
comp=Z,6μm,20.0s,MS5.5
WRAB Tennant Creek 41.83 123⇑*e*P **P** **03 18 41.9 -1.5**
comp=Z,560nm,0.8s,mb6.2
WRAB LR LR
comp=Z,6μm,20.0s,MS5.5
WB2 Warramunga Arr 41.83 123⇑*i*P **P** **03 18 41.9 -1.6**
WB2 *e*S **S** **03 24 50.7 -7.0**
WB2 *e*SCS ScS 03 28 39.0 -1.0
KSH Kashi 42.37 335⇑*i*P **P** **03 18 47.6 -0.1**
KSH AP pP 03 18 57.0 -3.3
KSH XP sP 03 19 01.1 -4.8
KSH S **S** **03 24 58.5 -6.8**
KSH SCS ScS 03 28 47.1 +4.1
KSH AMB AMB
comp=Z,9μm,4.0s
KSH LR LR
comp=N,14μm,14.8s,MS6.3
KSH LR LR
comp=E,30μm,18.6s,MS6.3
DL2 Dalian 42.61 28⇑*i*P **P** **03 18 49.6 -0.1**
DL2 S **S** **03 25 09.8 +0.9**
DL2 AMB AMB
comp=Z,140nm,0.7s,mb5.8
DL2 AMB AMB
comp=Z,2μm,5.8s
DL2 LR LR
comp=N,8μm,17.9s,MS5.8
DL2 LR LR
comp=E,6μm,16.5s,MS5.8
DL2 LR LR
comp=Z,10μm,27.4s
WMQ Urumqi 42.63 349⇓*i*P **P** **03 18 50.7 +1.0**
WMQ AP pP 03 19 04.5 +2.1
WMQ XP sP 03 19 10.2 +2.2
WMQ PP PP 03 20 33.0 +1.5
WMQ PCP PcP 03 20 42.8 +1.0
WMQ PPP PPP 03 21 06.5 +0.9
WMQ SCP 03 24 28.7
WMQ PCS 03 24 33.8
WMQ S **S** **03 25 10.1 +1.1**
WMQ XS 03 25 30.7
WMQ SS SS 03 28 14.9 +0.9
WMQ SCS ScS 03 28 45.7 +1.2
WMQ AMB AMB
comp=Z,1μm,0.9s,mb6.6
WMQ AMB AMB
comp=Z,8μm,4.6s
WMQ LR LR
comp=N,11μm,19.2s,MS5.8
WMQ LR LR
comp=E,5μm,17.0s,MS5.8
WMQ LR LR
comp=Z,18μm,26.0s
WBK Wadi Bani Khal 43.03 302 P **P** **03 18 54.5 +1.3**
SNR=32
ASPA Alice Springs 43.27 128⇓*i*P **P** **03 18 53.4 -1.9**
ASPA *e*S **S** **03 25 12.3 -6.5**
ASPA *e*SCS ScS 03 28 49.5 +0.7
ASAR Alice Springs 43.28 128 P **P** **03 18 53.2 -2.1**
comp=Z,61nm,0.5s,mb5.6,baz=300,slow=7.7,SNR=447
ASAR PcP PcP 03 20 44.6 +0.4
comp=Z,65nm,0.8s,baz=303,slow=3.9,SNR=6.8
ASAR S **S** **03 25 12.8 -6.1**
comp=Z,67nm,1.1s,baz=298,slow=14,SNR=13
ASAR LR LR 03 36 43.9
comp=Z,10μm,21.8s,MS5.7,baz=299,slow=36
ASAR P3KP 03 50 14.9
comp=Z,1.2nm,0.8s,baz=70,slow=2.2,SNR=6.0
FORT Forrest 43.41 141 *e*P **P** **03 18 56.0 -0.3**
comp=Z,8μm,0.5s
FORT *e*S **S** **03 25 18.7 -1.9**
JMDO Jabal Madar 43.68 301 P **P** **03 18 59.3 +0.8**
SNR=31
SMDO Samad 43.98 302 P **P** **03 19 02.0 +1.0**
SNR=68
INCN Inchon 44.06 33 *e*P **P** **03 19 00.1 -1.4**
comp=Z,52nm,0.7s,mb5.4
INCN LR LR
comp=Z,22μm,20.0s,MS6.1
BIDO Bidbid 44.10 302 P **P** **03 19 03.5 +1.5**
SNR=25
SHAO Shalim 44.47 294 P **P** **03 19 06.1 +1.1**
SNR=18
ULHL Ulahol 44.55 337 P **P** **03 19 06.2 +0.9**
SNR=368
BSY Bisya 44.59 301 P **P** **03 19 07.0 +1.1**
SNR=43
KZA Kyzart 44.80 336 P **P** **03 19 07.9 +0.6**
SNR=219
AAA Alma-Ata 45.16 338 *i*P **P** **03 19 10.0 -0.2**
AAA *i*S **S** **03 25 47.0 +1.2**
AAA pmax pmax
comp=Z,9μm,6.0s
AAA smax
comp=N,6μm,7.0s
AAA MLR MLR
comp=Z,4μm,17.0s,MS5.5
UCH Uchtor 45.23 335 P **P** **03 19 11.4 +0.6**
SNR=646
TKM2 Tokmak 2 45.38 337 P **P** **03 19 11.9 0.0**
SNR=390
ARQ Araqi 45.39 301 P **P** **03 19 13.6 +1.4**
SNR=24
KBK Karagaybulak 45.41 336 P **P** **03 19 13.9 +1.7**
SNR=186
AML Almayashu 45.50 335 P **P** **03 19 13.5 +0.6**
SNR=533
AAK Ala-Archa 45.58 336 P **P** **03 19 14.0 +0.5**
SNR=188
AAK Ala-Archa 45.58 336 P **P** **03 19 13.7 +0.2**
comp=Z,1μm,1.0s,mb6.8
AAK Ala-Archa 45.58 336*c i*P **P** **03 19 13.4 -0.1**
AAK pmax pmax
comp=Z,869nm,2.5s,mb6.2
AAK MLR MLR
comp=Z,38μm,24.0s,MS6.2
AAK Ala-Archa 45.58 336 *e*P **P** **03 19 13.2 -0.3**
comp=Z,437nm,1.2s,mb6.3
RBK Rabkut 45.64 293⇓P **P** **03 19 15.5 +1.2**
SNR=62
FRU Bishkek 45.69 336⇑*i*P **P** **03 19 15.0 +0.6**
FRU *i* pP 03 19 32.0 +4.9
FRU *e* 03 21 02.0
FRU *i*S **S** **03 25 55.0 +1.6**
FRU pmax pmax
comp=Z,9μm,6.0s
FRU MLR MLR
comp=N,27μm,21.5s,MS6.3
FRU MLR MLR
comp=E,26μm,21.5s,MS6.3
FRU MLR MLR
comp=Z,37μm,21.5s,MS6.3
CHMS Chumysh 45.78 336 P **P** **03 19 14.9 -0.1**
SNR=152
SNY Shenyang 45.84 27⇑P **P** **03 19 15.0 -0.6**
SNY XP sP 03 19 28.9 -5.0
SNY PP PP 03 21 02.4 -1.3
SNY S **S** **03 25 55.0 -0.6**
SNY AMB AMB
comp=Z,4μm,7.1s
SNY LR LR
comp=N,20μm,16.8s,MS6.3
SNY LR LR
comp=E,20μm,16.2s,MS6.3
SNY LR LR
comp=Z,16μm,32.2s
EKS2 Erkin-Say 45.90 335 P **P** **03 19 16.5 +0.5**
SNR=483
USP Ospenovka 46.10 336 P **P** **03 19 17.6 0.0**
SNR=857
WHFO Wadi Hawf 46.15 293⇓P **P** **03 19 18.5 +0.2**
SNR=14
SONM Songino Array 46.23 8 P **P** **03 19 18.4 -0.2**
comp=Z,261nm,0.9s,mb6.2,baz=189,slow=8.3,SNR=592
SONM PcP PcP 03 20 53.9 -0.2
comp=Z,43nm,0.8s,baz=189,slow=4.4,SNR=4.0
SONM LR LR 03 40 55.4
comp=Z,32μm,19.5s,MS6.3,baz=190,slow=39
SONM PKPPKP 03 50 28.8
comp=Z,0.9nm,1.0s,baz=225,slow=1.7,SNR=4.0
ASHO Ashiyiah 46.29 303 P **P** **03 19 19.9 +0.6**
SNR=39
ULN Ulaanbaatar 46.35 8 *e*P **P** **03 19 19.2 -0.4**
ULN pmax pmax
comp=Z,227nm,0.9s,mb6.1
ULN MLR MLR
comp=Z,20μm,20.0s,MS6.1
ULN Ulaanbaatar 46.35 8 *e*P **P** **03 19 19.2 -0.3**
comp=Z,227nm,0.9s,mb6.1
ULN LR LR
comp=Z,20μm,20.0s,MS6.1
ABTO Aybut 46.44 292 P **P** **03 19 21.2 +0.6**
SNR=57
BANOM Banah 46.57 304 P **P** **03 19 23.1 +1.5**
SNR=15
MKAR Makanchi Array 46.66 345 *i*P **P** **03 19 21.3 -0.7**
MKAR pmax pmax
comp=Z,2μm,1.1s
MKAR Makanchi Array 46.66 345 P **P** **03 19 21.4 -0.6**
comp=Z,741nm,0.8s,mb6.6,baz=158,slow=6.5,SNR=1690
MKAR S **S** **03 26 08.2 +1.2**
comp=Z,5.8nm,0.9s,baz=135,slow=12,SNR=2.7
MKAR LR LR 03 44 15.8
comp=Z,9μm,19.1s,MS5.8,baz=167,slow=43
MKAR PKPPKP 03 50 15.6
comp=Z,0.4nm,0.7s,baz=310,slow=1.6,SNR=3.5
MKAR Makanchi Array 46.66 345 P **P** **03 19 21.4 -0.6**
MKAR S **S** **03 26 08.2 +1.1**
MKAR LR LR 03 44 15.8
MKAR P'P' 03 50 15.6
KKAR Karatay Array 47.69 333 *i*P **P** **03 19 29.4 -0.7**
KKAR pmax pmax
comp=Z,357nm,1.2s,mb6.3
CN2 Changchun 48.25 27 *e*P **P** **03 19 33.2 -1.3**
CN2 *e*AP pP 03 19 42.3 -4.9
CN2 *e*XP sP 03 19 46.3 -6.4
CN2 *e*PP PP 03 21 24.6 -2.0
CN2 *e*S **S** **03 26 28.6 -1.0**
CN2 *e*SS SS 03 29 55.4 +1.2
CN2 AMB AMB
comp=Z,100nm,1.0s,mb5.8
CN2 AMB AMB
comp=Z,4μm,10.0s
CN2 LR LR
comp=N,20μm,16.0s,MS6.3
CN2 LR LR
comp=E,18μm,16.0s,MS6.3
CN2 LR LR
comp=Z,30μm,16.0s,MS6.4
ZAK Zakamensk 48.41 5⇑*i*P **P** **03 19 35.7 +0.1**
ZAK pmax pmax
comp=Z,134nm,0.9s,mb6.0
CBIJ Chichi jima 49.14 55 P **P** **03 19 40.0 -1.6**
comp=Z,879nm,0.6s,mb7.0,baz=302,slow=2.4,SNR=32
CBIJ LR LR 03 37 54.3
comp=Z,3μm,18.7s,MS5.3,baz=293,slow=33
SARN Sarigan 49.21 70 *e*P **P** **03 19 43.0 +0.8**
MOY Mondy 49.55 2 *e*P **P** **03 19 44.7 +0.3**
MOY pmax pmax
comp=Z,577nm,3.0s
TLY Talaya 49.73 5 *e*P **P** **03 19 45.7 -0.1**
TLY *e* 03 21 42.9
TLY *e*S **S** **03 26 53.3 +3.1**
TLY pmax pmax
comp=Z,217nm,0.8s,mb6.2
TLY MLR MLR
comp=Z,46μm,19.0s,MS6.5
TLY Talaya 49.73 5 *e*P **P** **03 19 45.6 -0.2**
comp=Z,257nm,0.9s,mb6.3
JHJ Hachijo jima 2 49.91 47 P **P** **03 19 46.1 -1.3**
comp=Z,79nm,0.4s,mb6.1,baz=97,slow=8.1,SNR=5.5
PMG Port Moresby 50.30 104 *e*P **P** **03 19 49.2 -1.4**
PMG pmax pmax
comp=Z,118nm,0.8s
PMG Port Moresby 50.30 104 P **P** **03 19 49.6 -1.0**
comp=Z,114nm,0.7s,mb6.0,baz=294,slow=3.4,SNR=29
PMG Port Moresby 50.30 104 *e*P **P** **03 19 49.2 -1.5**
comp=Z,118nm,0.8s,mb6.0
IRK Irkutsk 50.34 5 *e*P **P** **03 19 50.0 -0.5**
IRK *e*S **S** **03 27 02.4 +3.8**
IRK pmax pmax
comp=Z,622nm,1.9s,mb6.3
MAJO Matsushiro 50.58 42 *e*P **P** **03 19 51.9 -0.6**
MAJO pmax pmax
comp=Z,73nm,0.9s,mb5.6
MAJO Matsushiro 50.58 42 *e*P **P** **03 19 51.9 -0.6**
comp=Z,72nm,0.9s,mb5.6
MAT Matsushiro 50.58 42 *e*P **P** **03 19 51.0 -1.5**
MAT *e*S **S** **03 27 02.0 -0.2**
MAT pmax pmax
comp=Z,264nm,1.5s,mb6.0
MAT MLR MLR
comp=Z,7μm,20.0s,MS5.7
MAT Matsushiro 50.58 42 *e*P **P** **03 19 51.0 -1.5**
comp=Z,264nm,1.5s,mb6.0
MAT *e*S **S** **03 27 02.0 -0.2**
MAT LR LR
comp=Z,7μm,20.0s,MS5.7
MAT Matsushiro 50.58 42 P **P** **03 19 50.8 -1.7**
MAT S **S** **03 27 02.0 -0.2**
HIA Hailar 50.64 18⇑*e*P **P** **03 19 51.7 -1.1**
HIA pmax pmax
comp=Z,95nm,0.7s
HIA MLR MLR
comp=Z,24μm,19.0s
HIA Hailar 50.64 18⇑*e*P **P** **03 19 51.7 -1.0**
comp=Z,95nm,0.7s,mb5.8
HIA LR LR
comp=Z,24μm,19.0s,MS6.2
MDJ Mudanjiang 50.80 29 P **P** **03 19 53.9 -0.1**
MDJ AP pP 03 20 08.6 +1.7
MDJ XP sP 03 20 13.5 +1.2
MDJ PP PP 03 21 50.5 -0.7
MDJ SCP 03 25 01.9
MDJ PCS 03 25 07.6

MDJ				S	S	03 27 07.2	+2.2
MDJ				AMB	AMB		
comp=Z,80nm,1.4s,mb5.5							
MDJ				AMB	AMB		
comp=Z,5μm,10.9s							
MDJ				LR	LR		
comp=N,23μm,17.9s,MS6.3							
MDJ				LR	LR		
comp=E,6μm,15.9s,MS6.3							
MDJ				LR	LR		
comp=Z,30μm,17.2s,MS6.4							
MDJ	**Mudanjiang**	**50.80**	**29**	*e*P	**P**	**03 19 53.5**	**-0.5**
comp=Z,54nm,0.8s,mb5.5							
MDJ				LR	LR		
comp=Z,17μm,20.0s,MS6.1							
KURK	**Kurchatov**	**51.22 344**		*e*P	**P**	**03 19 56.1**	**-1.0**
KURK				pmax	pmax		
comp=Z,778nm,0.8s,mb6.7							
KURK	**Kurchatov**	**51.22 344**		*e*P	**P**	**03 19 56.1**	**-1.1**
comp=Z,778nm,0.8s,mb6.7							
CTA	**Charters Tower**	**52.18 117**	⇓	*i*P	**P**	**03 20 03.9**	**-0.8**
comp=Z,91nm,0.6s,mb5.9							
CTA				*e*S	**S**	**03 27 22.6**	**-1.8**
CTA	**Charters Tower**	**52.18 117**		P	**P**	**03 20 03.3**	**-1.4**
CTA				S	**S**	**03 27 23.3**	**-1.1**
CTA				pmax	pmax		
comp=Z,158nm,0.9s							
CTA				smax			
comp=N,18nm,1.1s							
CTA				MLR	MLR		
comp=Z,10μm,19.0s							
CTA	**Charters Tower**	**52.18 117**		P	**P**	**03 20 03.3**	**-1.4**
comp=Z,158nm,0.9s,mb5.9,baz=292,slow=9.2,SNR=58							
CTA				S	**S**	**03 27 23.3**	**-1.1**
comp=Z,18nm,1.1s,baz=62,slow=20,SNR=17							
CTA				LR	LR	03 47 27.4	
comp=Z,10μm,19.0s,MS5.9,baz=287,slow=42							
CTAO	**Charters Tower**	**52.18 117**		*e*P	**P**	**03 20 03.1**	**-1.6**
CTAO				pmax	pmax		
comp=Z,273nm,1.1s,mb6.1							
CTAO	**Charters Tower**	**52.18 117**		*e*P	**P**	**03 20 03.1**	**-1.7**
comp=Z,273nm,1.1s,mb6.1							
ZAL	**Zalesovo**	**52.89 350**		P	**P**	**03 20 08.1**	**-1.4**
comp=Z,425nm,0.6s,mb6.5,baz=314,slow=4.8,SNR=450							
ZAL				S	**S**	**03 27 34.6**	**+1.1**
comp=Z,2.8nm,0.8s,baz=180,slow=20,SNR=3.9							
ZAL				LR	LR	03 46 15.8	
comp=Z,13μm,21.5s,MS5.9,baz=301,slow=40							
ZAL				PKPPKP		03 50 29.9	
comp=Z,0.7nm,0.3s,baz=339,slow=3.1,SNR=5.5							
ADE	**Adelaide**	**52.98 138**		P	**P**	**03 20 10.3**	**-0.3**
STKA	**Stephens Creek**	**53.33 133**		*e*P	**P**	**03 20 11.4**	**-1.8**
comp=Z,143nm,0.6s,mb6.1							
STKA				*e*S	**S**	**03 27 37.4**	**-2.5**
STKA	**Stephens Creek**	**53.33 133**		P	**P**	**03 20 12.1**	**-1.1**
comp=Z,82nm,0.6s,mb5.8,baz=310,slow=7.1,SNR=117							
STKA				S	**S**	**03 27 37.6**	**-2.2**
comp=Z,30nm,1.2s,baz=234,slow=23,SNR=5.0							
STKA				LR	LR	03 43 34.3	
comp=Z,14μm,20.4s,MS6.0,baz=297,slow=37							
LBOS		**53.40 286**	⇑	*e*P	**P**	**03 20 14.6**	**+0.7**
comp=Z,627nm,1.1s,mb6.5							
OPO	**Ambohidratompo**	**53.95 245**		P	**P**	**03 20 19.1**	**+1.2**
comp=Z,22nm,0.9s,mb5.1,baz=50,slow=5.8,SNR=21							
OPO				pP	pP	03 20 30.4	-0.5
comp=Z,118nm,0.9s,baz=68,slow=9.1,SNR=25							
NVS	**Novosibirsk**	**54.02 350**	⇑	*i*P	**P**	**03 20 16.0**	**-2.0**
NVS				*i* *PP	pP	03 20 31.0	+0.1
NVS				*i* S	**S**	**03 27 47.7**	**-1.2**
NVS				pmax	pmax		
comp=Z,728nm,1.9s,mb6.3							
NVS				pmax	pmax		
comp=N,670nm,2.0s							
NVS				pmax	pmax		
comp=E,208nm,1.6s							
NVS				smax			
comp=N,325nm,1.9s							
NVS				smax			
comp=E,121nm,2.0s							
DHBB	**Dhamar BB**	**54.32 286**	⇑	*i*P	**P**	**03 20 21.3**	**+0.7**
TRBA	**At Turbah**	**54.41 285**	⇑	*e*P	**P**	**03 20 21.9**	**+0.6**
RAYN	**Ar Rayn**	**55.06 297**		P	**P**	**03 20 25.3**	**-0.7**
comp=E,1μm,0.8s,SNR=94							
KLR	**Kul'dur**	**55.20**	**26** ⇓	*i*P	**P**	**03 20 23.2**	**-3.4**
KLR				*e*PPP	PPP	03 23 48.0	+2.4
KLR				*e*S	**S**	**03 28 04.5**	**-0.2**
KLR				*e*SS	SS	03 31 44.5	-4.5
KLR				pmax	pmax		
comp=N,360nm,2.2s							
KLR				pmax	pmax		
comp=E,600nm,2.2s							
KLR				pmax	pmax		
comp=Z,800nm,2.2s,mb6.4							
KLR				pmax	pmax		
comp=N,3μm,8.0s							
KLR				pmax	pmax		
comp=E,2μm,8.0s							
KLR				pmax	pmax		
comp=Z,7μm,8.0s							
KLR				MLR	MLR		
comp=Z,22μm,14.0s,MS6.4							
ATD	**Arta Tunnel**	**55.45 283**		P	**P**	**03 20 28.6**	**-0.3**
comp=Z,9.6nm,0.7s,mb5.0,baz=98,slow=14,SNR=5.6							
ATD				pP	pP	03 20 41.9	-0.1
comp=Z,28nm,0.8s,baz=45,slow=3.3,SNR=5.5							
ATD				S	**S**	**03 28 12.8**	**+4.2**
comp=Z,2.5nm,0.3s,baz=306,slow=19,SNR=2.0							
ATD				LR	LR	03 42 23.9	
comp=Z,6μm,18.6s,MS5.7,baz=249,slow=34							
BVA0	**Borovoye Array**	**55.75 340**		*i* P	**P**	**03 20 29.2**	**-1.3**
BVA0				pmax	pmax		
comp=Z,55nm,0.8s,mb5.6							
BVAR	**Borovoye Array**	**55.75 340**		P	**P**	**03 20 28.8**	**-1.7**
comp=Z,546nm,0.9s,mb6.6,baz=135,slow=8.4,SNR=566							
BVAR				pP	pP	03 20 41.6	-2.0
comp=Z,307nm,0.8s,baz=141,slow=9.2,SNR=13							
BVAR				S	**S**	**03 28 12.9**	**+0.9**
comp=Z,4.4nm,0.9s,baz=135,slow=8.2,SNR=3.6							
BVAR				PKPPKP		03 50 31.6	
comp=Z,0.8nm,0.9s,slow=1.4,SNR=3.9							
BVAR				PKP2bc		03 50 41.6	
comp=Z,2.1nm,0.9s,baz=270,slow=2.9,SNR=4.7							
BVAR	**Borovoye Array**	**55.75 340**		P	**P**	**03 20 28.8**	**-1.7**
BVAR				pP	pP	03 20 41.6	-2.0
BVAR				S	**S**	**03 28 12.9**	**+0.9**
BVAR				P'P'		03 50 31.6	
BVAR			⇑	*e*		03 50 41.6	
CHKZ	**Chkalovo**	**56.22 341**		*i* P	**P**	**03 20 32.9**	**-1.0**
CHKZ				pmax	pmax		
comp=Z,977nm,1.2s,mb6.7							
ERM	**Erimo**	**56.77**	**39**	PFAKE		03 20 50.0	+12
ERM				LR	LR		
comp=Z,6.0nm,22.0s							
BOD	**Bodaibo**	**57.09**	**10**	*e*P	**P**	**03 20 39.4**	**-0.6**
BOD				pmax	pmax		
comp=Z,343nm,1.1s,mb6.3							
ASAJ	**Asahikawa**	**57.56**	**37**	P	**P**	**03 20 42.1**	**-1.5**
ASAJ				S	**S**	**03 28 38.3**	**+2.2**
ASAJ				pmax	pmax		
comp=Z,70nm,0.5s							
ASAJ	**Asahikawa**	**57.56**	**37**	P	**P**	**03 20 42.1**	**-1.5**
comp=Z,70nm,0.5s,mb6.0,baz=244,slow=9.0,SNR=77							
ASAJ				S	**S**	**03 28 38.2**	**+2.1**
comp=Z,8.0nm,1.0s,baz=242,slow=17,SNR=2.1							
CLNS	**Chul'man**	**58.75**	**17**	*e*P	**P**	**03 20 51.4**	**-0.3**
CLNS				*e*		03 21 34.6	
CLNS				*e*		03 22 58.4	
CLNS				*e*S	**S**	**03 28 44.7**	**-6.8**
CLNS				*e*SS	SS	03 32 51.3	+4.5
CLNS				pmax	pmax		
comp=N,139nm,0.7s							
CLNS				pmax	pmax		
comp=Z,264nm,0.7s,mb6.4							
CLNS				pmax	pmax		
comp=E,105nm,0.8s							
CLNS				pmax	pmax		
comp=Z,23nm,0.8s,mb5.3							
CLNS				pmax	pmax		
comp=N,24nm,0.7s							
CLNS				pmax	pmax		
comp=E,26nm,0.7s							
CLNS				smax			
comp=N,2μm,11.0s							
CLNS				smax			
comp=Z,2μm,11.3s							
CLNS				smax			
comp=E,462nm,10.9s							
CLNS				MLR	MLR		
comp=Z,24μm,16.0s,MS6.4							
CLNS				MLR	MLR		
comp=N,18μm,17.0s,MS6.3							
CLNS				MLR	MLR		
comp=E,3μm,14.0s,MS6.3							
BHD	**Baghdad**	**58.94 308**		*e*P	**P**	**03 20 40.0**	**-13**
TOO	**Toolangi**	**58.99 137**		*e*P	**P**	**03 20 54.5**	**+0.9**
comp=E,5.3nm,0.8s							
TOO				*e*S	**S**	**03 28 59.4**	**+4.5**
YSS	**Yuzh-Sakhalins**	**59.26**	**34**	*oe*P	**P**	**03 20 53.8**	**-1.5**
YSS				*e**PP	pP	03 21 03.5	-5.0
YSS				*e**SP	sP	03 21 07.9	-6.0
YSS				*e*		03 21 41.0	
YSS				*e*		03 23 14.0	
YSS				*e*S	**S**	**03 28 56.0**	**-2.2**
YSS				*e*PS	PS	03 29 10.0	-9.5
YSS				*e*PPS	PPS	03 29 22.0	-6.0
YSS				*e*SSS	SSS	03 35 22.0	-0.7
YSS				pmax	pmax		
comp=Z,630nm,1.0s,mb6.6							
YSS				pmax	pmax		
comp=N,250nm,1.1s							
YSS				pmax	pmax		
comp=E,200nm,0.9s							
YSS				pmax	pmax		
comp=Z,4μm,6.0s							
YSS				pmax	pmax		
comp=N,2μm,4.0s							
YSS				pmax	pmax		
comp=E,2μm,4.0s							
YSS				smax			
comp=E,2μm,10.0s							
YSS				smax			
comp=N,2μm,7.0s							
YSS				MLR	MLR		
comp=E,11μm,15.0s							
YSS				MLR	MLR		
comp=Z,11μm,15.0s,MS6.1							
YSS	**Yuzh-Sakhalins**	**59.26**	**34**	*e*P	**P**	**03 20 54.9**	**-0.4**
comp=Z,608nm,1.0s,mb6.6							
YUK	**Yuzh-Kuril'sk**	**59.51**	**38** ⇑	*i*P	**P**	**03 20 55.0**	**-2.1**
YUK				*e*		03 21 43.0	
YUK				*e*S		03 29 21.0	
YUK				*e*		03 30 44.0	
YUK				*e*SS	SS	03 32 56.0	-2.6
YUK				pmax	pmax		
comp=N,4μm,4.0s							
YUK				pmax	pmax		
comp=Z,10μm,4.0s							
YUK				pmax	pmax		
comp=E,5μm,3.0s							
YUK				MLR	MLR		
comp=N,5μm,15.0s,MS6.1							
YUK				MLR	MLR		
comp=Z,11μm,15.0s,MS6.1							
YUK				MLR	MLR		
comp=E,11μm,16.0s,MS6.1							
MAK	**Makhachkala**	**60.62 319**		*d* *i*P	**P**	**03 21 03.8**	**-0.9**
MAK				*e*		03 21 48.5	
MAK				*e*		03 23 22.0	
MAK				*i* PPP	PPP	03 24 53.8	+5.8
MAK				*i* S	**S**	**03 29 14.0**	**-1.7**
MAK				*i* PS	PS	03 29 43.0	+5.2
MAK				*i*		03 30 48.0	
MAK				*i* SSS	SSS	03 35 50.0	-2.0
MAK				pmax	pmax		
comp=E,170nm,1.3s							
MAK				pmax	pmax		
comp=Z,170nm,1.3s,mb6.0							
MAK				pmax	pmax		
comp=E,2μm,8.0s							
MAK				pmax	pmax		
comp=Z,6μm,8.0s							
MAK				pmax	pmax		
comp=E,2μm,7.0s							
MAK				pmax	pmax		
comp=Z,2μm,7.0s							
MAK				smax			
comp=N,7μm,9.0s							
MAK				smax			
comp=E,3μm,9.0s							
MAK				smax			
comp=Z,2μm,9.0s							
KMBO	**Kilima Mbogo**	**60.78 268**		P	**P**	**03 21 06.7**	**+0.5**
comp=Z,10nm,0.7s,mb5.0,baz=63,slow=11,SNR=43							
KMBO				pP	pP	03 21 19.0	-0.4
comp=Z,30nm,0.8s,baz=86,slow=8.5,SNR=19							
KMBO				S	**S**	**03 29 20.5**	**+2.3**
comp=Z,0.6nm,0.5s,baz=323,slow=19,SNR=4.3							
KMBO				LR	LR	03 42 57.6	
comp=Z,14μm,20.7s,MS6.1,baz=81,slow=32							
KMBO				PKP2bc		03 50 37.1	
comp=Z,0.8nm,0.6s,baz=236,slow=3.8,SNR=13							
KMBO	**Kilima Mbogo**	**60.78 268**		*e*P	**P**	**03 21 06.6**	**+0.4**
comp=Z,839nm,2.3s,mb6.5							
HKR	**Hakkari**	**60.97 313**		*e*P	**P**	**03 21 06.2**	**-0.9**
HKR	**Hakkari**	**60.97 313**		P	**P**	**03 21 06.7**	**-0.5**
MSL	**Mosul**	**60.98 311**		*e*P	**P**	**03 21 06.0**	**-1.3**
MSL				*e*pP	pP	03 21 14.5	-6.0
MSL				*e*S	**S**	**03 29 16.5**	**-4.0**
MSL				*e*SP	SP	03 29 35.0	-0.6
MSL				*e*ScS	ScS	03 30 48.5	-2.1
GNI	**Garni**	**61.25 316**		*e*P	**P**	**03 21 08.1**	**-1.0**
GNI	**Garni**	**61.25 316**		P	**P**	**03 21 08.9**	**-0.1**
GNI				pmax	pmax		
comp=Z,95nm,1.0s							
GNI				MLR	MLR		
comp=Z,4μm,20.2s							
GNI	**Garni**	**61.25 316**		P	**P**	**03 21 08.9**	**-0.2**
comp=Z,95nm,1.0s,mb5.9,baz=335,slow=4.7,SNR=46							
GNI				LR	LR	03 52 47.8	
comp=Z,4μm,20.1s,MS5.6,baz=96,slow=41							
RIV	**Riverview**	**61.37 131**		*e*P	**P**	**03 21 09.6**	**-0.3**
TVAN	**Van**	**61.57 313**		*i* P	**P**	**03 21 12.1**	**+0.9**
VANB	**Van**	**61.61 313**		*e*P	**P**	**03 21 06.7**	**-4.7**
TI2	**Plekhanov**	**61.90 317**	⇑	*i*P	**P**	**03 21 12.4**	**-1.0**
TI2				*i* S	**S**	**03 29 30.6**	**-1.5**
TI2				pmax	pmax		
comp=Z,260nm,1.0s,mb6.3							
TI2				pmax	pmax		
comp=Z,6μm,4.0s							
TI2				MLR	MLR		
comp=N,2μm,16.0s,MS5.5							
TI2				MLR	MLR		
comp=E,2μm,16.0s,MS5.5							
TI2				MLR	MLR		
comp=Z,2μm,16.0s,MS5.5							
TBLG	**Delisi**	**61.91 317**		P	**P**	**03 21 12.7**	**-0.8**
DUS	**Dusheti**	**62.09 318**		P	**P**	**03 21 13.7**	**-0.9**
SVE	**Sverdlovsk**	**62.23 338**	*d*	*i*P	**P**	**03 21 14.2**	**-1.2**
SVE				*i* *PP	pP	03 21 32.3	+3.7
SVE				*i*		03 23 37.8	
SVE				*i* PPP	PPP	03 25 04.4	+0.1
SVE				*i* S	**S**	**03 29 35.6**	**-0.4**
SVE				*i*		03 29 55.6	
SVE				*i*		03 29 59.9	
SVE				*i*		03 31 01.1	
SVE				pmax	pmax		
comp=Z,442nm,0.9s,mb6.6							
SVE				MLR	MLR		
comp=Z,21μm,21.0s,MS6.3							
KARS	**Kars**	**62.59 315**		*e*P	**P**	**03 21 17.8**	**-0.3**
ARU	**Arti**	**62.75 337**	⇑	*i*P	**P**	**03 21 17.8**	**-1.0**
ARU				*i* S	**S**	**03 29 46.4**	**+3.9**
ARU				*i*		03 31 05.5	
ARU				*e*SS	SS	03 33 46.4	-3.4
ARU				pmax	pmax		
comp=Z,203nm,1.0s,mb6.2							
ARU				MLR	MLR		
comp=N,11μm,21.0s,MS6.0							
ARU				MLR	MLR		
comp=Z,14μm,21.0s,MS6.1							
ARU				MLR	MLR		
comp=E,4μm,20.0s,MS6.0							
ARU	**Arti**	**62.75 337**		*e*P	**P**	**03 21 16.6**	**-2.2**
comp=E,187nm,0.8s,mb6.3							
ARU				LR	LR		
comp=Z,4μm,21.0s,MS5.5							
HNR	**Honiara**	**62.77 102**		*e*P	**P**	**03 21 16.9**	**-2.7**
HNR				pmax	pmax		
comp=Z,344nm,0.8s,mb6.5							
HNR				MLR	MLR		
comp=Z,3μm,21.0s,MS5.5							
HNR	**Honiara**	**62.77 102**		*e*P	**P**	**03 21 16.9**	**-2.7**
comp=Z,344nm,0.8s,mb6.5							
HNR				LR	LR		
comp=Z,3μm,21.0s,MS5.5							
BTMT	**Batman**	**62.85 312**		*e*P	**P**	**03 21 18.2**	**-1.6**
BEST	**Besiri**	**62.91 312**		*i* P	**P**	**03 21 18.6**	**-1.6**
ZEI	**Tsey**	**62.91 318**		*e*P	**P**	**03 21 19.5**	**-0.6**
ZEI				*i*		03 23 38.9	
ZEI				*i* S	**S**	**03 29 42.5**	**-2.2**
ZEI				pmax	pmax		
comp=Z,119nm,0.8s,mb6.1							
TAU	**Tasmania Unive**	**62.95 141**		*e*P	**P**	**03 21 20.2**	**-0.2**
TAU				pmax	pmax		
comp=Z,280nm,1.4s,mb6.2							
TAU	**Tasmania Unive**	**62.95 141**		*e*P	**P**	**03 21 20.2**	**-0.2**
comp=Z,280nm,1.4s,mb6.2							
DIY	**Diyarbakir**	**63.69 312**		*e*P	**P**	**03 21 22.3**	**-3.1**
BINT	**Bingol**	**63.82 313**		*e*P	**P**	**03 21 26.2**	**0.0**
BCA	**Borcka**	**63.94 316**		*e*P	**P**	**03 21 25.5**	**-1.4**
KIV	**Kislovodsk**	**64.21 319**	*c*	*i*P	**P**	**03 21 27.0**	**-1.6**
KIV				*i*	pP	03 21 38.2	-3.7
KIV				*i*		03 21 59.9	
KIV				*i*		03 23 49.6	
KIV				*i* S	**S**	**03 29 58.3**	**-2.6**
KIV				*i*		03 30 18.8	
KIV				*i*		03 31 16.5	
KIV				*i* SS	SS	03 34 12.6	+0.3
KIV				pmax	pmax		
comp=Z,258nm,0.7s,mb6.4							
KIV				MLR	MLR		
comp=Z,5μm,20.0s,MS5.7							
KIV	**Kislovodsk**	**64.21 319**	⇑	*e*P	**P**	**03 21 27.1**	**-1.4**
comp=Z,324nm,0.9s,mb6.4							
GOF	**Gofitskoye**	**64.44 320**	⇓	*i*P	**P**	**03 21 29.0**	**-1.1**
GOF				*i*		03 23 46.1	
GOF				*i* PPP	PPP	03 25 20.3	-6.7
GOF				*i* S	**S**	**03 30 03.2**	**-0.5**
GOF				*e*SS	SS	03 34 15.0	-1.0
GOF				pmax	pmax		
comp=Z,1μm,2.3s,mb6.5							
GOF				pmax	pmax		
comp=Z,7μm,4.0s							
GOF				pmax	pmax		
comp=Z,500nm,2.5s,mb6.1							
GOF				smax			
comp=N,650nm,2.8s							
GOF				smax			
comp=E,500nm,2.8s							
GOF				smax			
comp=Z,4μm,10.0s							
GOF				MLR	MLR		
comp=E,7μm,16.0s							
GOF				MLR	MLR		
comp=Z,4μm,16.0s,MS5.6							
YAK	**Yakutsk**	**64.44**	**16** *c*	*i*P	**P**	**03 21 28.5**	**-1.3**
YAK				*i* *PP	pP	03 21 34.9	-8.2
YAK				*e*		03 23 49.5	
YAK				*i* S	**S**	**03 30 02.8**	**-0.7**
YAK				*e*		03 31 19.5	
YAK				*e*SS	SS	03 34 12.9	-2.8
YAK				pmax	pmax		
comp=Z,371nm,0.9s,mb6.4							
YAK				pmax	pmax		
comp=N,108nm,1.0s							
YAK				pmax	pmax		
comp=E,92nm,1.1s							
YAK				pmax	pmax		
comp=Z,26nm,1.1s,mb5.2							
YAK				smax			
comp=N,327nm,12.7s							
YAK				smax			
comp=E,288nm,13.9s							
YAK				MLR	MLR		
comp=N,10μm,18.0s,MS6.2							
YAK				MLR	MLR		
comp=E,8μm,16.0s,MS6.2							
YAK				MLR	MLR		
comp=Z,12μm,16.0s,MS6.2							
YAK	**Yakutsk**	**64.44**	**16**	*e*P	**P**	**03 21 27.9**	**-1.9**
comp=Z,1μm,1.0s,mb6.8							
URFA	**Urfa**	**64.59 311**		*e*P	**P**	**03 21 31.3**	**+0.1**
EZC	**Erzincan**	**64.61 314**		*e*P	**P**	**03 21 32.8**	**+1.5**
ASF	**Jabal al Asfar**	**64.63 305**		P	**P**	**03 21 32.3**	**+0.7**
comp=Z,38nm,0.7s,mb5.5,baz=338,slow=5.8,SNR=48							
ASF				pP	pP	03 21 43.6	-1.3
comp=Z,57nm,0.8s,baz=334,slow=4.4,SNR=9.9							
ASF				S	**S**	**03 30 09.3**	**+2.9**
comp=Z,3.6nm,0.9s,baz=58,slow=18,SNR=3.2							
ASF				PKP2bc		03 50 23.1	
comp=Z,2.6nm,0.5s,baz=72,slow=3.2,SNR=2.4							
ASF				LR	LR	03 51 20.9	
comp=Z,10μm,19.3s,MS6.0,baz=204,slow=38							
ASF	**Jabal al Asfar**	**64.63 305**		P	**P**	**03 21 32.3**	**+0.7**
ASF				pP	pP	03 21 43.6	-1.3
ASF				S	**S**	**03 30 09.3**	**+2.9**
ASF			⇑	*e*		03 50 23.1	
ASF				LR	LR	03 51 20.9	
PTK	**Pertek**	**64.64 313**		*e*P	**P**	**03 21 31.0**	**-0.5**
ELZG	**Elazig**	**64.81 312**		*i* P	**P**	**03 21 32.5**	**-0.1**
GUMT	**Gumushane**	**65.10 314**		*e*P	**P**	**03 21 34.0**	**-0.5**
MALT	**Malatya**	**65.16 312**		*e*P	**P**	**03 21 33.9**	**-1.0**
MALT	**Malatya**	**65.16 312**		P	**P**	**03 21 34.8**	**-0.1**
MALT				pmax	pmax		
comp=Z,160nm,1.0s,mb6.0							
MYA	**Malataya**	**65.17 312**		*e*P	**P**	**03 21 35.2**	**+0.3**
GZT	**Gaziantep**	**65.52 310**		*i* P	**P**	**03 21 37.2**	**0.0**
ZFRI	**Zfri**	**65.68 303**		P	**P**	**03 21 38.1**	**-0.2**
EIL	**Elat**	**65.68 302**		P	**P**	**03 21 37.7**	**-0.6**
comp=Z,56nm,0.7s,mb5.7,baz=98,slow=3.0,SNR=52							
EIL				pP	pP	03 21 50.6	-1.1
comp=Z,79nm,0.7s,baz=49,slow=2.4,SNR=12							
EIL				LR	LR	03 51 25.6	
comp=Z,13μm,18.3s,MS6.2,baz=264,slow=37							
EIL	**Elat**	**65.68 302**		P	**P**	**03 21 38.0**	**-0.4**
KSHT	**Keshet**	**65.72 305**		P	**P**	**03 21 39.0**	**+0.4**
DRGI	**Dragot**	**65.74 304**		P	**P**	**03 21 38.6**	**-0.1**
GAZ	**Gaziantep**	**65.74 310**		*e*P	**P**	**03 21 38.8**	**+0.2**
MBH	**Mount Berech**	**65.74 302**		P	**P**	**03 21 38.7**	**0.0**
HMDT	**Nahal Hemdat**	**65.78 305**		P	**P**	**03 21 38.8**	**-0.1**
PRNI	**Paran**	**65.78 302**		P	**P**	**03 21 39.0**	**0.0**
MMLI	**Mount Malkishu**	**65.91 305**		P	**P**	**03 21 40.0**	**+0.2**
HWQ	**Hawqa**	**65.94 307**		*e*P	**P**	**03 21 40.4**	**+0.5**
KMTI	**Karmit**	**65.97 302**		P	**P**	**03 21 39.8**	**-0.4**
SOC	**Sochi**	**66.04 317**		*i* P	**P**	**03 21 39.2**	**-1.2**
SOC				*e*		03 22 09.6	
SOC				*e*		03 24 03.4	
SOC				*e*PPP	PPP	03 25 36.2	-7.4
SOC				*i* S	S	03 30 20.5	-2.9
SOC				*e*		03 31 24.5	
SOC				pmax	pmax		
comp=E,49nm,0.8s							
SOC				pmax	pmax		
comp=Z,367nm,0.8s,mb6.5							
SOC				pmax	pmax		
comp=N,53nm,0.7s							
SOC				MLR	MLR		
comp=N,1μm,21.0s,MS5.7							
SOC				MLR	MLR		
comp=E,5μm,21.0s,MS5.7							
SOC				MLR	MLR		
comp=Z,7μm,21.0s,MS5.9							
SOC	**Sochi**	**66.04 317**	⇑	*i*P	**P**	**03 21 38.4**	**-2.0**
BHL	**Bhannes**	**66.08 306**		*e*P	**P**	**03 21 41.3**	**+0.5**
MASH	**Mash'abbe Sade**	**66.11 303**		P	**P**	**03 21 40.7**	**-0.4**
KAHT	**Ahir Dag**	**66.13 311**		*i* P	**P**	**03 21 41.0**	**-0.1**
HTY	**Hatay**	**66.27 309**		*e*P	**P**	**03 21 41.5**	**-0.5**
COBT	**Iskenderun**	**66.29 309**		*i* P	**P**	**03 21 42.1**	**0.0**
OFRI	**'Ofer**	**66.31 305**		P	**P**	**03 21 42.3**	**0.0**
CEYT	**Ceyhan**	**66.81 310**		*e*P	**P**	**03 21 46.0**	**+0.6**
TOKT	**Tokat**	**67.17 313**		*e*P	**P**	**03 21 47.3**	**-0.3**
BNN	**Bunyan**	**67.25 312**		*e*P	**P**	**03 21 48.2**	**0.0**
MBAR	**Mbarara**	**67.27 269**		P	**P**	**03 21 48.2**	**-0.4**
comp=Z,191nm,1.1s,mb6.0,SNR=29							
MBAR	**Mbarara**	**67.27 269**		*e*P	**P**	**03 21 48.1**	**-0.5**
MBAR				pmax	pmax		
comp=Z,82nm,

comp=Z,139nm,1.6s,mb5.7
ANN Anapa 68.01 318 *e*P **P 03 21 51.5 -1.3**
CSS Prodhromos 68.19 307 *e*P **P 03 21 53.6 -0.4**
comp=Z,157nm,0.9s,mb6.0
MIR Mirnyy 68.49 182*d i*P **P 03 22 05.0 +10**
MIR *e*S S 03 30 50.0 -2.4
MIR pmax pmax
comp=Z,470nm,2.0s,mb6.2
MIR smax
comp=N,3μm,9.2s
CORM Corum 68.53 313 *e*P **P 03 21 53.4 -2.7**
LEF Lefka 68.58 307 *e*P **P 03 21 55.9 -0.6**
CASY Casey 68.72 175 *e*P **P 03 21 57.8 +1.0**
CASY *i*S S 03 30 58.0 +2.8
SKR Severo-Kuril's 68.76 35 *i*P **P 03 21 54.1 -3.2**
SKR *i* pP 03 22 11.6 +0.9
SKR *e* 03 22 20.0
SKR *e* 03 24 32.0
SKR *e*S S 03 30 50.0 -5.9
SKR *e*PS PS 03 31 22.0 -5.6
SKR *e* 03 31 42.0
SKR pmax pmax
comp=N,1μm,2.0s
SKR pmax pmax
comp=E,1μm,2.0s
SKR pmax pmax
comp=Z,3μm,2.0s,mb6.9
SKR pmax pmax
comp=E,5μm,4.0s
SKR pmax pmax
comp=Z,9μm,4.0s
SKR pmax pmax
comp=N,2μm,6.0s
SKR smax
comp=N,4μm,8.0s
SKR smax
comp=E,3μm,8.0s
SKR MLR MLR
comp=N,6μm,16.0s,MS6.0
SKR MLR MLR
comp=E,4μm,16.0s,MS6.0
SKR MLR MLR
comp=Z,4μm,16.0s,MS5.7
BYBT Boyabat 68.80 314 *e*P **P 03 21 56.7 -1.1**
KAMT Kaman 68.99 312 *e*P **P 03 21 57.2 -1.8**
PECR Pechory 69.08 331 *i*P **P 03 21 57.6 -1.6**
PECR *i* pP 03 22 14.0 +1.4
PECR *e* 03 24 34.4
PECR *e*S S 03 30 53.4 -6.2
PECR *e* 03 31 21.3
PECR pmax pmax
comp=Z,2μm,0.8s
PECR pmax pmax
comp=Z,4μm,10.0s
PECR pmax pmax
comp=N,2μm,7.4s
PECR pmax pmax
comp=E,2μm,7.4s
PECR smax
comp=N,4μm,10.8s
PECR smax
comp=E,3μm,10.8s
PECR MLR MLR
comp=N,2μm,16.0s
PECR MLR MLR
comp=E,14μm,22.0s
PECR MLR MLR
comp=Z,14μm,22.0s
BRTR Keskin Array B 69.14 312 P **P 03 21 58.3 -1.6**
BRTR S S 03 30 59.2 -1.4
BRTR Keskin Array B 69.14 312 P **P 03 21 58.3 -1.6**
comp=Z,71nm,0.7s,mb5.7,baz=130,slow=6.4,SNR=235
BRTR PP PP 03 24 25.4 -10
comp=Z,6.1nm,0.8s,baz=120,slow=6.5,SNR=2.1
BRTR S S 03 30 59.2 -1.4
comp=Z,0.7nm,0.8s,baz=117,slow=3.2,SNR=2.6
BRTR PKPPKP 03 50 10.2
comp=Z,5.6nm,1.2s,baz=315,slow=2.0,SNR=9.2
BRTR Keskin Array B 69.14 312 P **P 03 21 58.3 -1.6**
BRTR PP PP 03 24 25.4 -10
BRTR S S 03 30 59.2 -1.4
BRTR P'P' 03 50 10.2
TOS Tosya 69.22 313 *e*P **P 03 21 58.3 -2.0**
HDMB Hadim 69.33 309 *e*P **P 03 21 57.1 -4.0**
CANT Cankiri 69.39 313 *e*P **P 03 22 00.8 -0.5**
BZK Bozkurt 69.49 314 *e*P **P 03 22 01.2 -0.8**
ELDT Eldivan 69.50 313 *i*P **P 03 22 02.6 +0.5**
VOR Voronezh 69.54 325 *e*P **P 03 22 01.0 -1.1**
VOR *e**PP pP 03 22 09.0 -6.6
VOR *e**SP sP 03 22 15.0 -5.6
VOR *e* 03 24 33.0
VOR S S 03 31 04.5 -0.6
VOR pmax pmax
comp=N,260nm,1.5s
VOR pmax pmax
comp=E,350nm,1.5s
VOR pmax pmax
comp=Z,830nm,1.5s,mb6.4
VOR pmax pmax
comp=N,170nm,1.6s
VOR pmax pmax
comp=Z,170nm,1.6s,mb5.7
VOR pmax pmax
comp=E,270nm,1.5s
VOR smax
comp=E,150nm,1.7s
VOR smax
comp=N,110nm,1.6s
KONT Konya--Tatoy 69.66 310 *e*P **P 03 22 02.8 -0.3**
ANTO Ankara 69.81 312 *e*P **P 03 22 03.1 -0.8**
BALT Daday 69.82 314 *i*P **P 03 22 04.0 0.0**
LOD Lodumlu 69.84 312 *e*P **P 03 22 03.0 -1.1**
SAFT Safranbolu 70.24 313 *e*P **P 03 22 05.7 -0.9**
KIZT Kizilcal 70.25 311 *e*P **P 03 22 04.3 -2.3**
MA2 Magadan 70.28 26*c i*P **P 03 22 06.3 -0.1**
MA2 pmax pmax
comp=Z,253nm,0.6s,mb6.3
MA2 MLR MLR
comp=Z,14μm,17.0s,MS6.3
MA2 Magadan 70.28 26 *e*P **P 03 22 05.9 -0.6**
comp=Z,245nm,0.6s,mb6.3
SIM Simferopol' 70.29 317*c i*P **P 03 22 06.0 -0.8**
SIM *e* 03 24 40.0
SIM *e*S S 03 31 12.0 -2.0
SIM pmax pmax
comp=Z,298nm,0.8s,mb6.3
SIM MLR MLR
comp=Z,8μm,24.9s,MS5.8
DZM Mont Dzumac 70.91 114 *e*P **P 03 22 10.4 -0.5**
DZM Mont Dzumac 70.91 114 P **P 03 22 10.5 -0.4**
comp=Z,56nm,0.7s,mb5.6,baz=307,slow=5.6,SNR=20
DZM Mont Dzumac 70.91 114 *e*P **P 03 22 10.4 -0.5**
BCK Bucak 70.92 309 *e*P **P 03 22 08.5 -2.2**
ISP Isparta 71.06 309 *e*P **P 03 22 08.1 -3.5**
LSZ Lusaka 71.08 253 *e*P **P 03 22 11.9 -0.1**
LSZ pmax pmax
comp=Z,446nm,1.4s,mb6.2
LSZ Lusaka 71.08 253 *e*P **P 03 22 11.9 -0.1**
comp=Z,446nm,1.4s,mb6.2
MDU Mudurnu 71.13 312 *e*P **P 03 22 10.6 -1.4**
PET Petropavlovsk 71.14 34*ce*P **P 03 22 11.5 -0.3**
PET *e* 03 24 52.1
PET *e*S S 03 31 27.3 +3.6
PET pmax pmax
comp=Z,452nm,0.6s,mb6.6
PET pmax pmax
comp=N,171nm,0.7s
PET pmax pmax
comp=E,120nm,0.7s
PET pmax pmax
comp=Z,6μm,5.5s
PET pmax pmax
comp=Z,4μm,10.2s
PET smax
comp=E,1μm,10.6s
PET smax
comp=N,2μm,11.9s
PET MLR MLR
comp=Z,7μm,20.0s,MS5.9
PET MLR MLR
comp=Z,6μm,17.0s
PET Petropavlovsk 71.14 34 *e*P **P 03 22 10.6 -1.1**
comp=Z,295nm,0.8s,mb6.3
ESKT Eskisehir 71.18 311 *e*P **P 03 22 12.1 -0.1**
ESKT Eskisehir 71.18 311 *i*P **P 03 22 11.5 -0.8**

ELL Elmali 71.30 308 *e*P **P 03 22 12.9 -0.1**
AKAS Kas 71.43 308 *i*P **P 03 22 12.1 -1.7**
HENT Hendek 71.45 313 *i*P **P 03 22 12.9 -0.9**
ALT Altintas 71.63 311 *e*P **P 03 22 07.7 -7.3**
GPA Golpazari 71.76 312 *e*P **P 03 22 13.0 -2.7**
FETY Fethiye 71.92 308 *e*P **P 03 22 13.1 -3.6**
MOS Moscow 72.04 329*c i*P **P 03 22 16.4 -0.7**
MOS *e* pP 03 22 30.6 +0.1
MOS *e* pP 03 22 34.5 +4.0
MOS *e* 03 24 56.6
MOS *e*PPP PPP 03 26 42.5 +1.3
MOS *e*S S 03 31 31.1 -2.9
MOS *e*SS SS 03 36 12.7 -0.7
MOS pmax pmax
comp=Z,705nm,0.8s,mb6.7
MOS MLR MLR
comp=Z,15μm,22.1s,MS6.2
MOS MLR MLR
comp=E,13μm,22.3s
DENT Denizli 72.19 309 *e*P **P 03 22 15.9 -2.4**
TIXI Tiksi 72.27 10⇑*i*P **P 03 22 16.9 -1.3**
TIXI pmax pmax
comp=Z,310nm,0.8s,mb6.3
TIXI MLR MLR
comp=Z,23μm,20.0s,MS6.4
TIXI Tiksi 72.27 10⇑*i*P **P 03 22 16.0 -2.2**
DALT Dalyan (Mudla) 72.30 308 *e*P **P 03 22 18.4 -0.5**
OBN Obninsk 72.34 328*c i*P **P 03 22 18.2 -0.7**
OBN *i* pP 03 22 35.1 +2.8
OBN *i* 03 25 00.1
OBN *i*PPP PPP 03 26 48.6 +4.3
OBN *i*S S 03 31 35.1 -2.4
OBN *i*PS PS 03 32 08.2 -6.7
OBN *i*SS SS 03 36 22.5 +4.3
OBN pmax pmax
comp=Z,684nm,1.6s,mb6.3
OBN MLR MLR
comp=Z,7μm,20.0s,MS5.9
OBN Obninsk 72.34 328 *e*P **P 03 22 17.4 -1.5**
comp=Z,507nm,1.2s,mb6.3
HRT Hereke 72.36 312 *e*P **P 03 22 11.4 -7.8**
HRT Hereke 72.36 312 P **P 03 22 11.8 -7.4**
IZI Iznik 72.39 312 *e*P **P 03 22 17.9 -1.5**
YLV Yalova 72.52 312 *e*P **P 03 22 14.2 -6.0**
ARG Arkhangelos 72.60 307 *e*P **P 03 22 28.0 +7.2**
ULDT Uludag 72.60 311 *i*P **P 03 22 20.1 -0.6**
MANT Manisa 72.70 310 *i*P **P 03 22 21.1 -0.2**
SEY Seymchan 72.73 23 *i*P **P 03 22 23.4 +2.4**
SEY pP 03 22 37.2 +2.7
SEY *e* 03 25 04.8
SEY *e*PPP PPP 03 26 39.9 -8.1
SEY *e*S S 03 31 43.9 +2.2
SEY 03 32 25.6
SEY pmax pmax
comp=Z,300nm,0.9s,mb6.2
SEY pmax pmax
comp=N,240nm,0.8s
SEY pmax pmax
comp=E,200nm,0.8s
SEY smax
comp=N,7μm,9.0s
SEY smax
comp=E,7μm,7.4s
SEY MLR MLR
comp=Z,34μm,19.0s,MS6.6
SEY MLR MLR
comp=N,39μm,26.0s
SEY MLR MLR
comp=E,8μm,16.0s
ORLT Orhaneli 72.76 311 *e*P **P 03 22 20.5 -1.2**
ISK Istanbul-Kandi 72.86 312 *e*P **P 03 22 18.3 -3.9**
DST Dursunbey 72.87 311 *e*P **P 03 22 20.6 -1.7**
AYDN Tasoluk 73.06 309 *i*P **P 03 22 23.0 -0.5**
BTOK Toknak 73.36 311 *i*P **P 03 22 24.1 -1.1**
BALB Balikesir 73.44 311 *e*P **P 03 22 22.8 -2.9**
BNT Bandirma 73.56 312 *e*P **P 03 22 22.0 -4.3**
MAW Mawson 73.66 193 *e*P **P 03 22 27.7 +1.3**
comp=E,37nm,0.8s,mb5.4
MAW *e*S S 03 31 55.0 +2.9
MAW Mawson 73.66 193 P **P 03 22 27.4 +1.0**
comp=E,22nm,0.9s,mb5.1,baz=25,slow=6.0,SNR=18
MAW pP pP 03 22 39.8 -0.1
comp=E,51nm,0.9s,baz=354,slow=7.3,SNR=15
MAW S S 03 31 52.9 +0.8
comp=E,3.0nm,0.9s,slow=20,SNR=2.7
MAW LR LR 03 48 33.1
comp=E,13μm,21.0s,MS6.2,baz=21,slow=31
KDAG Bornova 73.68 309 *i*P **P 03 22 26.5 -0.6**
IZM Izmir 73.68 309 P **P 03 22 26.3 -0.8**
BLCB Balcova 73.85 309 *e*P **P 03 22 24.1 -4.0**
MRMT Marmara Adasi 73.85 312 *e*P **P 03 22 18.7 -9.3**
TLCR 73.97 317 ⇑P **P 03 22 28.7 +0.1**
PSN Preselentsi 74.07 315 *i*P **P 03 22 29.0 -0.2**
TIRR Tirgusor 74.08 316 ⇑P **P 03 22 29.0 -0.3**
KIS Kishinev 74.41 318⇑*i*P **P 03 22 29.0 -2.1**
KIS *i* pP 03 22 40.0 -4.6
KIS *e* 03 25 16.0
KIS *i*PS 03 32 25.0
KIS pmax pmax
comp=Z,600nm,1.8s,mb6.2
KIS pmax pmax
comp=Z,3μm,10.0s
KIS MLR MLR
comp=Z,5μm,21.0s,MS5.8
KIS MLR MLR
comp=N,3μm,20.0s,MS5.7
KIS MLR MLR
comp=E,3μm,20.0s,MS5.7
KIS MLR MLR
comp=Z,4μm,20.0s
CFR Carcaliu 74.44 316⇑*i*P **P 03 22 30.2 -1.1**
HARR Harsova 74.47 316⇓*i*P **P 03 22 31.1 -0.4**
PRD Provadia 74.52 314 *i*P **P 03 22 31.5 -0.4**
PRK Paraskevi 74.59 310 *e*P **P 03 22 30.6 -1.8**
EZN Ezine 74.66 311 *e*P **P 03 22 31.4 -1.4**
DRV Dumont d'Urvil 74.70 164 P **P 03 22 40.0 +7.6**
DRV S S 03 32 04.0 +0.2
DRV SS SS 03 36 43.0 -11
DRV L 03 42 00.0
LBTB Lobatse 74.93 244 *e*P **P 03 22 35.2 +0.6**
LBTB pmax pmax
comp=Z,203nm,1.0s,mb6.0
LBTB MLR MLR
comp=Z,17μm,21.0s,MS6.3
LBTB Lobatse 74.93 244 P **P 03 22 35.5 +0.9**
comp=Z,26nm,0.9s,mb5.2,baz=112,slow=5.8,SNR=23
LBTB pP pP 03 22 47.8 -0.3
comp=Z,145nm,0.8s,baz=105,slow=7.2,SNR=21
LBTB Lobatse 74.93 244 *e*P **P 03 22 35.2 +0.6**
comp=Z,203nm,1.0s,mb6.0
LBTB LR LR
comp=Z,17μm,21.0s,MS6.3
JMB Yambol 74.96 313 *i*P **P 03 22 35.0 +0.6**
IDI Anoyia 75.05 306 P **P 03 22 35.1 0.0**
comp=Z,116nm,0.7s,mb5.9,baz=93,slow=7.2,SNR=45
IDI pP pP 03 22 47.0 -1.6
comp=Z,119nm,0.7s,baz=64,slow=9.5,SNR=8.1
IDI S S 03 32 05.5 -2.8
comp=Z,12nm,0.9s,baz=282,slow=9.3,SNR=1.9
ALN Alexandroupoli 75.06 312 *e*P **P 03 22 31.8 -3.3**
AKASG Malin Array Be 75.09 322 P **P 03 22 33.1 -1.9**
comp=Z,183nm,0.7s,mb6.1,baz=88,slow=5.3,SNR=395
AKASG PP PP 03 25 20.7 -4.9
comp=Z,17nm,0.8s,baz=95,slow=7.4,SNR=4.4
AKASG S S 03 32 05.5 -2.9
comp=Z,1.3nm,0.7s,baz=100,slow=11,SNR=5.2
AKASG Malin Array Be 75.09 322 P **P 03 22 33.1 -1.9**
AKASG PP PP 03 25 20.7 -4.9
AKASG S S 03 32 05.5 -2.9
RDO Rodhopi 75.48 312 *e*P **P 03 22 37.0 -0.4**
ISR Istrita 75.53 316⇓*i*P **P 03 22 38.3 +0.7**
VRI Vrincioaia 75.55 317⇑*i*P **P 03 22 37.8 +0.1**
SZH Strazhica 75.59 314 *i*P **P 03 22 39.0 +1.0**
GVD Gavdhos 75.64 305 *e*P **P 03 22 37.7 -0.8**
comp=Z,266nm,0.9s,mb6.2
DIM Dimitrovgrad 75.65 313 *i*P **P 03 22 39.0 +0.6**
KDZ Kurdzhali 75.66 312 *e*P **P 03 22 38.0 -0.5**
BUC1 Bucharest 75.73 315⇓*i*P **P 03 22 38.5 -0.3**
PVL Pavlikeni 76.01 314 *i*P **P 03 22 41.0 +0.6**
MLR Muntele Rosu 76.01 316 P **P 03 22 40.6 +0.2**
MLR 03 25 28.4
MLR S S 03 32 17.1 -1.6
MLR pmax pmax
comp=Z,104nm,0.8s

MLR pmax pmax
comp=Z,25nm,0.8s
MLR Muntele Rosu 76.01 316 P **P 03 22 40.5 +0.2**
comp=Z,104nm,0.8s,mb5.8,baz=163,slow=2.8,SNR=112
MLR PP PP 03 25 28.4 -4.7
comp=Z,25nm,0.8s,baz=175,slow=16,SNR=2.9
MLR S S 03 32 17.1 -1.6
comp=Z,3.3nm,0.9s,baz=86,slow=17,SNR=2.6
MLR Muntele Rosu 76.01 316⇓*i*P **P 03 22 40.8 +0.4**
MLR Muntele Rosu 76.01 316⇓*i*P **P 03 22 40.8 +0.4**
RZN Rozhen 76.19 312 *e*P **P 03 22 41.0 -0.4**
PTL Penteli 76.26 309 *e*P **P 03 22 40.5 -1.4**
PLD Plovdiv 76.27 313 *e*P **P 03 22 41.0 -0.9**
SNX Sinaia 76.28 316 ⇓P **P 03 22 44.7 +2.8**
MPAR Parnis Oros 76.38 309 *e*P **P 03 22 41.5 -1.1**
AOS Alonnisos 76.42 310 *e*P **P 03 22 35.2 -7.6**
OUR Ouranopolis 76.52 311 *e*P **P 03 22 42.3 -1.1**
NAIG Nisos Aigina 76.52 308 *e*P **P 03 22 40.5 -2.9**
NSAL Nisos Salamina 76.56 308 *e*P **P 03 22 41.3 -2.3**
PAIG Paliouri 76.68 310 *e*P **P 03 22 36.6 -7.6**
MGER Gerania Oros 76.73 308 *e*P **P 03 22 43.0 -1.6**
VLI Veliai 76.81 307 *e*P **P 03 22 44.5 -0.6**
MMB Musomiste 76.90 312 *e*P **P 03 22 44.0 -1.5**
MNK Minsk 76.92 326⇓*i*P **P 03 22 41.0 -4.3**
PLG Polygyros 76.93 311 *e*P **P 03 22 43.8 -1.8**
SRS Serrai 76.93 312 *e*P **P 03 22 42.9 -2.7**
BURAR Bucovina Array 76.93 318 ⇑P **P 03 22 46.0 +0.5**
BURAR Bucovina Array 76.93 318 ⇑P **P 03 22 46.0 +0.5**
SOH Sokhos 77.06 311 *e*P **P 03 22 39.3 -7.1**
PUL Pulkovo 77.16 331 *e*P **P 03 22 45.8 -0.7**
PUL pmax pmax
comp=N,39nm,0.6s
PUL pmax pmax
comp=E,79nm,0.7s
PUL MLR MLR
comp=N,2μm,19.0s,MS6.2
PUL MLR MLR
comp=E,13μm,24.0s,MS6.2
PUL MLR MLR
comp=Z,14μm,24.0s,MS6.2
PUL Pulkovo 77.16 331⇑*i*P **P 03 22 46.3 -0.2**
MSZ Milford Sound 77.29 137 PN **P 03 22 48.0 +0.4**
THE Thessaloniki 77.33 311 *e*P **P 03 22 45.3 -2.6**
THE Thessaloniki 77.33 311 *e*P **P 03 22 43.5 -4.3**
KKB Krupnik 77.42 312 *i*P **P 03 22 47.0 -1.4**
VTS Vitosha 77.44 313 ⇑P **P 03 22 47.5 -1.0**
VTS Vitosha 77.44 313 *i*P **P 03 22 48.0 -0.5**
AGG Agios Georgios 77.59 309 *e*P **P 03 22 46.9 -2.5**
LIT Litokhoron 77.61 311 *e*P **P 03 22 46.7 -2.8**
ITM Ithomi 77.67 307 *e*P **P 03 22 50.0 +0.1**
VAY Valandovo 77.72 312⇑*i*P **P 03 22 48.3 -1.7**
IDID Didziasalis 77.74 326 *i*P **P 03 22 49.3 -0.5**
IDID AMPb AMB 03 22 52.4
comp=Z,79nm,0.9s,mb5.6
IDID *e*PP PP 03 25 45.2 -2.1
GRG Griva 77.80 311 *e*P **P 03 22 48.5 -1.9**
EVR Evrytania 77.98 309 *e*P **P 03 22 48.5 -3.0**
IIGN Ignalina 78.03 326⇑*i*P **P 03 22 51.1 -0.3**
IIGN AMPb AMB 03 22 54.1
comp=Z,77nm,0.9s,mb5.7
IIGN *e*PP PP 03 25 47.9 -2.0
IZAR Zarasai 78.12 327 *i*P **P 03 22 51.4 -0.5**
IZAR AMPb AMB 03 22 53.9
comp=Z,51nm,1.0s,mb5.4
LVV L'vov 78.14 321*c i*P **P 03 22 51.9 -0.2**
LVV *e*PPP PPP 03 27 39.1 -1.1
LVV *e*S S 03 32 34.9 -6.6
LVV *e*PS PS 03 33 26.3 -2.9
LVV *e*SS SS 03 37 53.5 +6.8
LVV L'vov 78.14 321 *i*P **P 03 22 50.9 -1.2**
ISAL Salakas 78.14 327⇑*i*P **P 03 22 51.6 -0.4**
ISAL AMPb AMB 03 22 54.1
comp=Z,54nm,0.9s,mb5.5
ISAL *e*PP PP 03 25 48.5 -2.3
LVZ Lovozero 78.35 340 *e*P **P 03 22 52.5 -0.4**
LVZ *e*S S 03 32 36.5 -6.9
LVZ pmax pmax
comp=Z,116nm,0.6s,mb6.0
LVZ pmax pmax
comp=N,18nm,1.0s
LVZ pmax pmax
comp=E,11nm,0.5s
LVZ smax
comp=N,2μm,4.2s
LVZ smax
comp=Z,2μm,2.9s
LVZ smax
comp=E,2μm,3.6s
LVZ MLR MLR
comp=Z,20μm,21.0s,MS6.4
LVZ MLR MLR
comp=N,8μm,23.0s,MS6.3
LVZ MLR MLR
comp=E,14μm,22.0s,MS6.3
LVZ Lovozero 78.35 340⇑*i*P **P 03 22 52.4 -0.5**
BOLS Boljevac 78.53 314⇑*i*P **P 03 22 53.3 -1.1**
FNA Florina 78.54 311 *e*P **P 03 22 53.8 -0.8**
APA Apatity 78.65 339⇑*i*P **P 03 22 54.0 -0.6**
APA *i* pP 03 23 07.0 -1.2
APA *i*S S 03 32 48.0 +1.3
APA pmax pmax
comp=Z,180nm,1.0s,mb6.0
APA MLR MLR
comp=Z,14μm,22.0s,MS6.2
SKO Skopje 78.65 312⇑*i*P **P 03 22 53.7 -1.4**
comp=Z,0.1nm,0.8s
SKO *i* 03 26 00.5
JAN Janina 78.81 310 *e*P **P 03 22 54.5 -1.5**
VLS Valsamata 78.84 308 *e*P **P 03 22 54.8 -1.4**
KWP Kalwaria 78.94 320 *e*P **P 03 22 57.1 +0.5**
comp=Z,1μm,2.3s,mb6.5
KWP *e*S S 03 32 50.2 0.0
KWP MLR MLR 04 03 33.3
comp=Z,5μm,24.1s,MS5.8
OHR Ohrid 79.02 311⇑*i*P **P 03 22 55.1 -2.1**
BZS Buzias 79.03 316 P **P 03 22 56.8 -0.3**
BZS Buzias 79.03 316 ⇓P **P 03 22 57.0 -0.1**
BZS Buzias 79.03 316 ⇓P **P 03 22 57.0 -0.1**
UZH Uzhgorod 79.04 319*c i*P **P 03 22 54.0 -3.1**
UZH *e*S S 03 32 46.7 -4.5
KOLS Kolonicke sedl 79.11 319 *i*P **P 03 22 57.6 +0.1**
KOLS *e*S S 03 32 53.2 +1.3
KOLS *e* 03 33 14.1
KOLS Kolonicke sedl 79.11 319 *i*P **P 03 22 57.6 +0.1**
KOLS *e* 03 23 17.9
KOLS *e*S S 03 32 53.2 +1.3
KOLS *e*SCS ScS 03 33 14.1 +1.5
SVIS Svilajnac 79.12 315⇑*i*P **P 03 22 57.0 -0.7**
IGT Igoumenitsa 79.19 310 *e*P **P 03 22 56.6 -1.5**
RPZ Rata Peaks 79.23 135 P **P 03 22 58.6 +0.3**
comp=Z,84nm,0.5s,mb5.9,baz=218,slow=0.7,SNR=27
GRUS Gruza 79.43 314⇑*i*P **P 03 22 58.7 -0.6**
SUW Suwalki 79.46 325 *e*P **P 03 22 58.4 -0.9**
comp=Z,1μm,1.0s,mb6.7
SUW *e*S S 03 32 50.8 -4.7
SUW MLR MLR 03 59 28.7
comp=Z,5μm,26.6s,MS5.7
FX1 Attu Island--F 79.49 37 P **P 03 22 59.9 +0.4**
FX1 pmax pmax
comp=Z,149nm,0.6s
FX1 Attu Island--F 79.49 37 P **P 03 22 59.9 +0.4**
comp=Z,149nm,0.6s,mb6.1,baz=205,slow=3.5,SNR=40
FX1 Attu Island--F 79.49 37 *e*P **P 03 22 59.4 0.0**
KEK Kerkira 79.62 310 *e*P **P 03 22 59.2 -1.2**
CRVS Cervenica-Dubn 79.63 319 *i*P **P 03 23 01.3 +1.0**
CRVS *e*S S 03 32 57.2 -0.2
FINES FINESS Array B 79.64 332 P **P 03 22 59.3 -0.8**
comp=Z,114nm,0.7s,mb5.9,baz=102,slow=5.0,SNR=249
FINES PKKPbc 03 41 46.9
comp=Z,0.8nm,0.6s,baz=90,slow=1.4,SNR=5.8
FINES LR LR 04 03 23.2
comp=Z,9μm,20.9s,MS6.1,baz=256,slow=40
QRZ Quartz Range 79.67 132 PN **P 03 23 01.3 +0.6**
KAF Kangasniemi 79.72 333 *e*p **P 03 23 00.2 -0.3**
comp=Z,134nm,0.6s,mb6.0,baz=102,slow=5.0
KAF Kangasniemi 79.72 333 *e*P **P 03 23 00.2 -0.3**
KAF pmax pmax
comp=Z,135nm,0.6s,mb6.0
PVY Plav 79.81 313⇓*i*P **P 03 23 00.6 -0.8**
IVA Berane 79.89 313⇓*i*P **P 03 23 01.0 -0.8**
DIVS Divcibare 79.97 314⇓*i*P **P 03 23 01.6 -0.7**
SMY Shemya 80.03 37 P **P 03 23 02.0 -0.3**
SMY pmax pmax

comp=Z,450nm,0.8s,mb6.5
SMY Shemya 80.03 37 *e*P **P 03 23 02.5 +0.2**
SMY LR LR
comp=Z,6µm,23.0s,MS5.9
BILL Bilibino 80.15 21*c i*P **P 03 23 01.9 -0.8**
BILL *i* pP 03 23 11.5 -4.8
BILL *i* pP 03 23 18.2 +1.9
BILL *i* S S 03 33 05.4 +3.0
BILL *e* 03 33 10.6
BILL pmax pmax
comp=Z,171nm,2.5s,mb5.5
BILL MLR MLR
comp=Z,11µm,22.0s,MS6.2
BILL Bilibino 80.15 21 *e*P **P 03 23 01.8 -0.9**
comp=Z,108nm,1.0s,mb5.7
KECS Kecovo 80.21 319 *i* P **P 03 23 03.3 -0.1**
KECS *es*P sP 03 23 19.5 -2.7
SUR Sutherland 80.24 237 P **P 03 23 03.8 -0.1**
comp=Z,772nm,1.5s,mb6.4,SNR=9.9
SUR Sutherland 80.24 237 P **P 03 23 04.3 +0.3**
comp=Z,26nm,0.6s,mb5.3,baz=86,slow=6.1,SNR=16
SUR pP pP 03 23 17.4 -0.2
comp=Z,44nm,0.7s,baz=111,slow=7.2,SNR=9.0
SUR Sutherland 80.24 237 *e*P **P 03 23 04.6 +0.7**
comp=Z,491nm,1.6s,mb6.2
SUR LR LR
comp=Z,3µm,20.0s,MS5.7
ULC Ulcinj 80.27 312⇓*i*P **P 03 23 02.9 -1.0**
TTG Podgorica 80.31 313⇓*i*P **P 03 23 02.7 -1.4**
PLE Pljevlja 80.31 313⇓*i*P **P 03 23 04.0 -0.1**
WAR Warsaw 80.43 323 *e*P **P 03 23 05.0 +0.5**
WAR *es* S S 03 33 04.8 -0.9
WAR MLR MLR 04 02 20.9
comp=Z,8µm,24.8s,MS5.9
NIE Niedzica 80.45 320 *e*P **P 03 23 03.2 -1.5**
PSZ Piszkesteto 80.52 318 *e*P **P 03 23 04.6 -0.5**
PSZ pmax pmax
comp=Z,92nm,0.8s,mb5.8
PSZ Piszkesteto 80.52 318 *e*P **P 03 23 04.6 -0.5**
comp=Z,92nm,0.8s,mb5.8
PSZ Piszkesteto 80.52 318⇑*e*P **P 03 23 05.6 +0.5**
NKY Niksic 80.55 313⇓*i*P **P 03 23 04.2 -1.1**
BUM Brajici-Budva 80.57 312⇓*i*P **P 03 23 04.6 -0.9**
UPM Unac-Piva 80.65 313⇓*i*P **P 03 23 04.9 -1.0**
HCY Herceg Novi 80.88 313⇓*i*P **P 03 23 06.1 -1.0**
BRY Bratogost 80.89 313⇓*i*P **P 03 23 05.7 -1.5**
OJC Ojcow 80.89 320 *e*P **P 03 23 07.1 +0.1**
OJC *es* S S 03 33 08.9 -1.6
OJC MLR MLR 04 07 16.6
comp=Z,4µm,22.8s,MS5.7
SYO Syowa Base 81.00 198⇓P **P 03 23 08.0 +0.8**
SYO Syowa Base 81.00 198⇑X 03 23 19.2
SYO Syowa Base 81.00 198⇑pP pP 03 23 21.0 +0.2
HIZ Hauiti 81.01 129 PN **P 03 23 07.8 0.0**
PKSM Moragy 81.17 316⇑P **P 03 23 08.2 -0.3**
LIKS Likavka 81.19 319 *e*P **P 03 23 06.5 -2.1**
VYHS Vyhne 81.30 319 *i* P **P 03 23 08.9 -0.2**
VYHS *es*P sP 03 23 24.4 -3.5
VYHS *es* S S 03 33 13.3 -1.4
SNZO South Karori 81.38 132 *e*P **P 03 23 08.1 -1.6**
comp=Z,126nm,0.9s,mb5.8
STON Ston 81.50 313 *i* P **P 03 23 08.9 -1.5**
SRO Srobarova 81.57 318 *e*P **P 03 23 10.3 -0.3**
KOLL Kolacno 81.59 319 *i* P **P 03 23 10.5 -0.2**
KEV Kevo 81.60 341 *e*p **P 03 23 10.1 -0.2**
comp=Z,128nm,0.8s,mb5.9
KEV Kevo 81.60 341 *e*P **P 03 23 10.1 -0.2**
KEV pmax pmax
comp=Z,128nm,0.8s,mb5.9
SRO1 Iza 81.61 318 *e*P **P 03 23 11.8 +1.0**
RAC Raciborz 81.90 320 *e*P **P 03 23 13.4 +1.2**
RAC *es* S S 03 33 21.8 +0.9
RAC MLR MLR 04 07 44.0
comp=Z,4µm,20.0s,MS5.8
OKC Ostrava-Krasne 81.90 320 *e*P **P 03 23 12.3 0.0**
OKC *es* S S 03 33 20.7 -0.2
OKC Ostrava-Krasne 81.90 320 *e*P **P 03 23 12.3 0.0**
OKC *es* S S 03 33 20.7 -0.2
OKC AMS AMS 04 09 10.0
comp=Z,3µm,19.2s
TIP Timpagrande 81.92 309 *e*P **P 03 23 12.7 +0.1**
LTRZ Laterza 81.97 311 *e*P **P 03 23 12.8 -0.1**
ARCES ARCESS Array B 82.04 340 P **P 03 23 12.5 -0.1**
comp=Z,90nm,0.7s,mb5.8,baz=93,slow=6.6,SNR=92
ARCES LR LR 04 03 04.5
comp=Z,15µm,21.7s,MS6.3,baz=108,slow=38
ARE0 ARCESS Array S 82.04 340 *e*P **P 03 23 12.9 +0.3**
GRI Girifalco 82.16 309 *e*P **P 03 23 14.5 +0.7**
ORI Oriolo Calabro 82.22 310 *e*P **P 03 23 15.2 +1.1**
SMOL Smolenice 82.23 319 *e*P **P 03 23 13.8 -0.2**
SMOL *es*P sP 03 23 28.1 -4.7
MORC Moravsky Berou 82.28 320 *e*P **P 03 23 14.1 -0.1**
MORC pmax pmax
comp=Z,108nm,1.0s,mb5.7
MORC Moravsky Berou 82.28 320 *e*P **P 03 23 14.1 -0.1**
comp=Z,108nm,1.0s,mb5.7
BKZ Black Stump Fm 82.38 130 PN **P 03 23 14.5 -0.5**
SOI Samo 82.40 308 *e*P **P 03 23 15.6 +0.5**
ZST Bratislava 82.42 318 *e*P **P 03 23 15.2 +0.3**
ZST *es*P sP 03 23 31.4 -2.3
ZST *es* S S 03 33 25.4 -0.8
ZST *e* 03 33 46.3
BFZ Birch Farm 82.42 131 PN **P 03 23 14.8 -0.3**
SCLL Scilla 82.67 308 *e*P **P 03 23 16.9 +0.4**
SISC Sisak 82.67 315 *i* P **P 03 23 16.7 +0.4**
MTTG Motta San Giov 82.68 308 *e*P **P 03 23 17.3 +0.8**
KTK1 Kautokeino 82.69 339 *e*P **P 03 23 15.6 -0.3**
comp=Z,342nm,0.8s,mb6.4
KTK1 Kautokeino 82.69 339 *e*P **P 03 23 15.6 -0.3**
KTK1 AMb AMB 03 23 19.5
comp=Z,342nm,0.8s,mb6.4
FGMS Monte Sant'Ang 82.70 312 *e*P **P 03 23 16.6 0.0**
URZ Urewera 82.72 129 P **P 03 23 15.6 -1.1**
comp=Z,40nm,0.6s,mb5.6,baz=263,slow=2.7,SNR=35
URZ PP PP 03 26 26.6 -2.2
comp=Z,6.7nm,0.8s,baz=180,slow=4.0,SNR=3.2
URZ S S 03 33 26.2 -3.2
comp=Z,2.3nm,0.3s,baz=133,slow=22,SNR=6.1
URZ Urewera 82.72 129 PN **P 03 23 15.7 -1.0**
SOP Sopron 82.73 318 *e*P **P 03 23 16.8 +0.2**
KOGS Kog 82.84 316 *e*P **P 03 23 17.1 0.0**
GKP Gorka Klasztor 82.85 323 *e*P **P 03 23 16.7 -0.3**
GKP *es* S S 03 33 29.6 -0.8
GKP pmax pmax
comp=Z,800nm,2.2s,mb6.4
GKP MLR MLR
comp=Z,7µm,27.1s,MS5.9
GKP Gorka Klasztor 82.85 323 *e*P **P 03 23 16.7 -0.3**
comp=Z,0.8nm,2.2s
GKP *es* S S 03 33 29.6 -0.8
GKP LR LR
comp=Z,7µm,27.1s
GKP Gorka Klasztor 82.85 323 *e*P **P 03 23 16.7 -0.4**
comp=Z,800nm,2.2s,mb6.4
GKP *es* S S 03 33 29.6 -0.8
GKP MLR MLR 04 01 13.0
comp=Z,7µm,27.1s,MS5.9
VRAC Vranov 82.85 319 P **P 03 23 17.6 +0.5**
comp=Z,12nm,0.8s,mb5.0,baz=99,slow=5.6,SNR=19
SLCN Sala Consilina 82.86 310 *e*P **P 03 23 18.3 +1.0**
MGR Morigerati 82.91 310 *e*P **P 03 23 17.1 -0.5**
RGNG Rignano Grg 82.97 312 *e*P **P 03 23 18.0 +0.1**
FG4 Candela 82.99 311 *e*P **P 03 23 18.7 +0.7**
MRLC Muro Lucano 82.99 311 *e*P **P 03 23 18.3 +0.3**
AGST Augusta-Monte 83.01 307 *e*P **P 03 23 18.4 +0.2**
SGO Sicignano 83.12 310 *e*P **P 03 23 18.5 -0.2**
DPC Dobruska-Polom 83.12 320 *e*P **P 03 23 19.0 +0.5**
DPC *es* S S 03 33 33.2 0.0
DPC AMS AMS 04 06 30.0
comp=Z,4µm,18.7s
KSP Ksiaz 83.19 321⇑*e*P **P 03 23 19.0 +0.2**
KSP *ep*P pP 03 23 34.9 +2.4
KSP *es* S S 03 33 33.0 -0.9
KSP LR LR
comp=Z,10µm,19.9s,MS6.2
KSP Ksiaz 83.19 321 *e*P **P 03 23 19.6 +0.8**
KSP *es* S S 03 33 32.2 -1.6
KSP MLR MLR 04 05 40.0
comp=Z,7µm,22.6s,MS6.0
FG5 Orsara di Pugl 83.19 311 *e*P **P 03 23 19.9 +0.9**
UPC Upice 83.33 320 *e*P **P 03 23 20.0 +0.5**
UPC *es* S S 03 33 37.4 +2.0
CSSN Cassano Irpino 83.35 311 *e*P **P 03 23 19.9 0.0**

SLNA Salina 83.38 308 *e*P **P 03 23 20.3 +0.2**
ARSA Arzberg 83.40 317⇑*i*P **P 03 23 20.0 +0.1**
comp=Z,2µm,3.7s
MNO Monte Soro 83.46 308 *e*P **P 03 23 21.5 +1.0**
BOJS Bojanci 83.46 315 *e*P **P 03 23 20.4 0.0**
BOJS *e* pP 03 23 39.0 +5.0
PERS Pernice 83.63 317 *e*P **P 03 23 21.3 +0.1**
VAE Valguarnera 83.67 307 P **P 03 23 22.9 +1.3**
comp=Z,54nm,0.7s,mb5.8,baz=214,slow=2.7,SNR=17
VAE pP pP 03 23 37.2 +1.9
comp=Z,138nm,0.9s,baz=234,slow=2.6,SNR=11
NVLJ Novalja 83.67 314⇑*i*P **P 03 23 20.9 -0.5**
CII Carovilli 83.94 312 *e*P **P 03 23 19.8 -3.0**
GIB Gibilmanna 83.99 308 *e*P **P 03 23 22.8 -0.4**
LJU Ljubljana 84.00 316 *e*P **P 03 23 23.4 +0.3**
LJU *e* pP 03 23 42.1 +5.3
LJU *e*SKSac 03 33 40.2
LJU *es* S 03 34 02.2
OBKA Obir 84.02 316⇑*i*P **P 03 23 23.3 +0.2**
comp=Z,2µm,3.5s
PRU Pruhonice 84.24 320 *e*P **P 03 23 24.5 +0.4**
PRU *es* S S 03 33 44.9 +0.5
PRU AMS AMS 04 07 20.0
comp=Z,3µm,19.3s
PVCC Panska Ves 84.25 320 *e*P **P 03 23 24.9 +0.7**
PVCC *es* S S 03 33 45.9 +1.4
PVCC AMS AMS 04 07 20.0
comp=Z,5µm,18.9s
MOA Molln 84.29 318⇑*i*P **P 03 23 24.1 -0.3**
comp=Z,1µm,4.7s
SDI San Donato 84.31 312 *e*P **P 03 23 24.0 -0.7**
PRA Prague 84.31 320 P **P 03 23 25.0 +0.5**
TRO Tromso 84.31 340 *e*P **P 03 23 22.8 -1.3**
TRO AMS AMS 04 04 45.8
comp=Z,8µm,19.0s,MS6.1
BSD Bornholm Skovb 84.38 325⇑*i*P **P 03 23 24.7 0.0**
BSD *i* pP 03 23 42.9 +4.4
BSD *i* S S 03 33 42.5 -3.2
BSD pmax pmax
comp=Z,100nm,0.8s,mb6.0
BSD MLR MLR
comp=Z,3µm,20.0s,MS5.6
BSD Bornholm Skovb 84.38 325⇑*i*P **P 03 23 24.7 0.0**
comp=Z,101nm,0.8s,mb6.0
BSD *i* pP 03 23 42.9 +4.4
BSD *i* S S 03 33 42.5 -3.2
comp=Z,3µm,20.0s
VOY Vojsko 84.44 316⇑*e*P **P 03 23 25.1 -0.2**
TRI Trieste 84.52 316 *e*P **P 03 23 24.9 -0.8**
CLTB Caltabellotta 84.62 307 *e*P **P 03 23 26.2 -0.2**
PTQR Pietraquaria 84.62 312 *e*P **P 03 23 26.2 0.0**
AQU L'Aquila 84.64 312 *e*P **P 03 23 26.5 +0.2**
BRG Berggiesshubel 84.67 321 *i* P **P 03 23 26.9 +0.6**
BRG *i* pP 03 23 43.4 +3.3
BRG *e* 03 33 45.0
BRG *i* S S 03 33 49.0 +0.3
BRG pmax pmax
comp=Z,95nm,1.2s,mb5.8
BRG MLR MLR
comp=N,3µm,22.0s,MS5.9
BRG MLR MLR
comp=E,4µm,22.0s,MS5.9
BRG MLR MLR
comp=Z,5µm,22.0s,MS5.8
BRG Berggiesshubel 84.67 321 *i* P **P 03 23 26.9 +0.6**
comp=Z,95nm,1.2s,mb5.8
BRG *i* pP 03 23 43.4 +3.3
BRG *i* PP PP 03 26 33.9 -10
BRG *e* 03 33 45.0
BRG *i* S S 03 33 49.0 +0.3
BRG LR LR
comp=Z,5µm,22.0s,MS5.8
USI Ustica 84.68 309 *e*P **P 03 23 26.2 -0.5**
GEC2 GERESS Array S 84.72 319 *e*P **P 03 23 26.4 -0.2**
GEC2 *es* S S 03 33 49.7 +0.5
GEC2 pmax pmax
comp=Z,458nm,1.9s,mb6.3
GEC2 GERESS Array S 84.72 319 *e*P **P 03 23 26.4 -0.2**
comp=Z,458nm,1.9s,mb6.3
GEC2 *es* S S 03 33 49.7 +0.5
GERES GERESS Array B 84.72 319 P **P 03 23 26.7 +0.1**
comp=Z,36nm,0.8s,mb5.5,baz=45,slow=1.9,SNR=171
GERES pP pP 03 23 40.5 +0.2
comp=Z,59nm,1.0s,baz=112,slow=5.3,SNR=8.8
GERES LR LR 04 06 40.7
comp=Z,3µm,21.2s,MS5.6,baz=205,slow=39
ROBS Robic 84.72 316 *e*P **P 03 23 26.2 -0.5**
KHC Kasperske Hory 84.81 319 *e*P **P 03 23 26.9 -0.1**
KHC *e* pP 03 23 39.0 -1.8
KHC *es* S S 03 33 50.3 +0.2
KHC MLR MLR
comp=Z,3µm,18.4s,MS5.7
KHC Kasperske Hory 84.81 319 *e*P **P 03 23 26.9 -0.1**
KHC *e* pP 03 23 39.0 -1.8
KHC *e* 03 23 48.0
KHC *es* S S 03 33 50.3 +0.2
KHC LR LR
comp=Z,3µm,18.4s,MS5.7
KHC Kasperske Hory 84.81 319 *e*P **P 03 23 26.9 -0.1**
KHC pP pP 03 23 39.0 -1.8
KHC x x 03 23 48.0
KHC *es* S S 03 33 50.3 +0.2
KHC AMS AMS 04 07 40.0
comp=Z,3µm,18.4s
PTCC Patocco-Chiusa 84.84 316 *e*P **P 03 23 27.1 -0.1**
NRCA Norcia 84.86 313 *e*P **P 03 23 27.2 -0.2**
RUE Ruedersdorf 84.87 322 *e*P **P 03 23 27.3 +0.1**
comp=Z,303nm,0.9s,mb6.4
KBA Koelnbreinsper 84.87 317⇑*i*P **P 03 23 26.9 -0.5**
comp=Z,899nm,4.7s
KBA Koelnbreinsper 84.87 317⇑*i*P **P 03 23 26.9 -0.5**
KBA pmax pmax
comp=Z,899nm,4.7s
GMNA Gemona 84.91 316 *e*P **P 03 23 27.5 -0.1**
SNTG Esanatoglia 85.01 313 *e*P **P 03 23 28.8 +0.7**
ARV Arcevia 85.01 313 *e*P **P 03 23 28.6 +0.4**
ERC Erice 85.13 308 *e*P **P 03 23 29.5 +0.6**
LAV9 Lanuvio 85.14 311 *e*P **P 03 23 29.1 +0.3**
FSSB Fossombrone 85.14 313 *e*P **P 03 23 29.3 +0.5**
MA9 Marino 85.17 312 *e*P **P 03 23 29.1 +0.1**
MNS Montasola 85.17 312 *e*P **P 03 23 28.1 -0.9**
ASS Assisi 85.21 313 *e*P **P 03 23 28.2 -1.0**
FVI Forni Avoltri 85.24 316 *e*P **P 03 23 28.9 -0.3**
RGN Rugen 85.26 324 *e*P **P 03 23 30.0 +0.9**
comp=Z,245nm,1.2s,mb6.2
KIWB Kanaga Island 85.27 38 *e*P **P 03 23 29.2 0.0**
WET Wettzell 85.27 319 *e*P **P 03 23 29.1 -0.2**
WET *es* S S 03 33 55.9 +1.3
WET pmax pmax
comp=Z,105nm,0.9s,mb6.0
WET Wettzell 85.27 319 *e*P **P 03 23 29.1 -0.2**
comp=Z,105nm,0.9s,mb6.0
WET *es* S S 03 33 55.9 +1.3
CLL Collm 85.29 321⇑*i*P **P 03 23 29.8 +0.5**
CLL *i* 03 23 38.4
CLL *es* S S 03 33 54.0 -0.7
CLL pmax pmax
comp=Z,465nm,2.5s,mb6.2
CLL MLR MLR
comp=Z,4µm,20.5s,MS5.8
CLL Collm 85.29 321⇑*i*P **P 03 23 29.8 +0.5**
comp=Z,465nm,2.5s,mb6.2
CLL *i* 03 23 38.4
CLL *es* S S 03 33 54.0 -0.7
CLL LR LR
comp=Z,4µm,20.5s,MS5.8
CLL Collm 85.29 321⇑*i*P **P 03 23 29.8 +0.5**
comp=Z,logA/T=2.3,mb6.2
CLL *i* *PP pP 03 23 39.0 -4.1
CLL *e* pP 03 23 46.0 +2.9
CLL *e*PP PP 03 27 15.0 +26
CLL *e*PPP PPP 03 28 44.0 -1.6
CLL *es* S S 03 33 54.0 -0.7
CLL *es*SCS ScS 03 34 12.0 +8.8
CLL *e*PS PS 03 34 56.0 -2.1
CLL *es*SSS SSS 03 43 06.0 +4.5
RSM Repubblica di 85.38 314 *e*P **P 03 23 31.2 +1.2**
HFS Hagfors 85.41 330 P **P 03 23 29.7 0.0**
comp=Z,125nm,0.7s,mb6.2,baz=153,slow=3.3,SNR=191
HFS pP pP 03 23 45.4 +1.9
comp=Z,90nm,1.0s,baz=51,slow=9.5,SNR=5.5
HFS PP PP 03 26 45.0 -4.9
comp=Z,29nm,0.9s,baz=124,slow=5.2,SNR=3.2
MOR8 Moi Rana 85.55 336 *e*P **P 03 23 29.4 -0.9**

comp=Z,237nm,1.5s,mb6.2
MOR8 Moi Rana 85.55 336 *e*P **P 03 23 29.4 -0.9**
MOR8 AMb AMB 03 23 33.6
comp=Z,237nm,1.5s,mb6.2
ADK Adak 85.56 38 P **P 03 23 30.3 -0.3**
ADK pmax pmax
comp=Z,160nm,1.0s,mb6.2
ADK Adak 85.56 38 *e*P **P 03 23 31.8 +1.2**
ADK LR LR
comp=Z,2µm,21.0s,MS5.5
NKC Novy Kostel 85.60 320 *e*P **P 03 23 31.4 +0.5**
NKC *es* S S 03 33 58.6 +0.9
NKC Novy Kostel 85.60 320 *e*P **P 03 23 31.4 +0.5**
NKC *es* S S 03 33 58.6 +0.9
NKC AMS AMS 04 08 10.0
comp=Z,4µm,18.8s
BRSN Barisano 85.66 314 *e*P **P 03 23 33.4 +2.0**
SFI Santa Sofia 85.82 314 *e*P **P 03 23 33.2 +1.1**
COP Copenhagen 85.83 326⇑*i*P **P 03 23 33.0 +1.1**
COP *i* S S 03 34 01.1 +1.3
COP pmax pmax
comp=Z,85nm,0.6s,mb6.2
COP MLR MLR
comp=Z,2µm,19.0s,MS5.5
COP Copenhagen 85.83 326⇑*i*P **P 03 23 33.0 +1.1**
comp=Z,85nm,0.6s,mb6.2
COP *i* 03 24 10.5
COP *i* S S 03 34 01.1 +1.3
comp=Z,2µm,19.0s
PGD Poggio Sodo 85.91 314 *e*P **P 03 23 34.2 +1.6**
GSTR Great Sitkin T 85.95 38 *e*P **P 03 23 32.3 -0.3**
CTI Castel Tesino 86.01 316 *e*P **P 03 23 33.4 +0.4**
VMG Vicchio 86.04 314 *e*P **P 03 23 34.0 +0.8**
WTTA Wattenberg 86.04 317⇑*i*P **P 03 23 32.6 -0.5**
comp=Z,791nm,2.5s,mb6.5
WTTA Wattenberg 86.04 317⇑*i*P **P 03 23 32.6 -0.5**
WTTA pmax pmax
comp=Z,791nm,2.5s,mb6.5
LOF Lofoten 86.07 338 *e*P **P 03 23 35.1 +2.3**
LOF AMb AMB 03 23 38.0
comp=Z,314nm,1.8s,mb6.2
WATA Walderalm 86.08 317⇑*i*P **P 03 23 32.5 -0.8**
comp=Z,38nm,0.7s,mb5.7
WATA Walderalm 86.08 317⇑*i*P **P 03 23 32.5 -0.8**
WATA pmax pmax
comp=Z,38nm,0.7s,mb5.7
MOX Moxa 86.14 320 *e*P **P 03 23 33.7 +0.2**
MOX *e* pP 03 23 51.8 +4.5
MOX pmax pmax
comp=Z,470nm,2.3s,mb6.3
MOX MLR MLR
comp=Z,3µm,19.0s,MS5.7
MOX Moxa 86.14 320 *e*P **P 03 23 33.7 +0.2**
comp=Z,470nm,2.3s,mb6.3
MOX *e* pP 03 23 51.8 +4.5
MOX LR LR
comp=Z,3µm,19.0s,MS5.7
MOX Moxa 86.14 320 *i* P **P 03 23 33.7 +0.2**
comp=Z,logA/T=2.3,mb6.3
MOX pP pP 03 23 52.0 +4.7
MOX S S 03 34 05.0 +2.0
MOX L 04 10 34.0
STOK Stokkvaagen 86.14 336 *e*P **P 03 23 32.8 -0.3**
comp=Z,242nm,1.5s,mb6.2
STOK Stokkvaagen 86.14 336 *e*P **P 03 23 32.8 -0.3**
STOK AMb AMB 03 23 36.7
comp=Z,242nm,1.5s,mb6.2
SEI Scarperia 86.18 314 *e*P **P 03 23 34.7 +0.9**
FUR Furstenfeldbru 86.31 318 *e*P **P 03 23 33.7 -0.7**
FUR *es* S S 03 34 04.0 -0.6
FUR pmax pmax
comp=Z,91nm,0.9s,mb6.0
FUR Furstenfeldbru 86.31 318 *e*P **P 03 23 33.7 -0.7**
comp=Z,91nm,0.9s,mb6.0
FUR *es* S S 03 34 04.0 -0.6
SQTA Sankt Quirin 86.33 317⇑*i*P **P 03 23 34.0 -0.6**
comp=Z,52nm,0.8s,mb5.8
SQTA Sankt Quirin 86.33 317⇑*i*P **P 03 23 34.0 -0.6**
SQTA pmax pmax
comp=Z,52nm,0.8s,mb5.8
HSP Hornsund 86.35 347 *e*P **P 03 23 34.2 +0.2**
GRA1 Grafenberg Arr 86.37 319 *e*P **P 03 23 34.9 +0.2**
comp=Z,133nm,0.9s,mb6.2
GRA1 *ep*P pP 03 23 52.3 +3.8
GRA1 *es* S S 03 34 07.1 +1.9
GRF Grafenberg Arr 86.37 319 *e*P **P 03 23 34.9 +0.2**
GRF *e**PP pP 03 23 52.3 +3.8
GRF *es* S S 03 34 07.1 +1.9
GRF pmax pmax
comp=Z,133nm,0.9s,mb6.2
GRF Grafenberg Arr 86.37 319 *e*P **P 03 23 34.9 +0.2**
GRF *e**PP pP 03 23 52.3 +3.8
GRF *es* S S 03 34 07.1 +1.9
GRF pmax pmax
comp=Z,133nm,0.9s,mb6.2
GRF Grafenberg Arr 86.37 319 *e*P **P 03 23 34.9 +0.2**
comp=Z,133nm,0.9s,mb6.2
GRF *ep*P pP 03 23 52.3 +3.8
GRF *es* S S 03 34 07.1 +1.9
MOTA Moosalm 86.41 317⇑*i*P **P 03 23 34.2 -0.7**
ZCCA Zocca 86.45 314 *e*P **P 03 23 37.1 +1.8**
VNDA Vanda 86.46 169 P **P 03 23 34.4 -0.1**
comp=Z,6.6nm,0.7s,mb5.0,baz=292,slow=7.0,SNR=33
VNDA LR LR 03 56 51.2
comp=Z,9µm,21.1s,MS6.2,baz=311,slow=32
VNDA Vanda 86.46 169 P **P 03 23 34.4 -0.1**
VNDA LR LR 03 56 51.2
NSS Namsos 86.47 334 *e*P **P 03 23 35.9 +1.1**
NSS AMS AMS 04 08 21.6
comp=Z,9µm,24.8s,MS6.1
NB2 NORSAR Subarra 86.68 331 P **P 03 23 35.8 -0.1**
comp=Z,154nm,0.7s,mb6.3,baz=94,slow=4.8
NB2 NORSAR Subarra 86.68 331 P **P 03 23 35.8 -0.1**
baz=94,slow=4.8
NOA NORSAR Array B 86.68 331 P **P 03 23 35.6 -0.3**
comp=Z,123nm,0.7s,mb6.2,baz=94,slow=4.9,SNR=432
NOA PP PP 03 26 56.6 -4.0
comp=Z,14nm,0.8s,baz=91,slow=7.4,SNR=5.7
NOA LR LR 04 05 37.8
comp=Z,7µm,21.8s,MS6.0,baz=80,slow=38
GSCL Gusciola 86.73 314 *e*P **P 03 23 37.8 +1.2**
PII Pisa 86.77 313 *e*P **P 03 23 36.0 -0.8**
SAL Salo 86.78 315 *e*P **P 03 23 37.9 +1.1**
NAO01 NORSAR Array S 86.83 331 *e*P **P 03 23 36.2 -0.5**
comp=Z,106nm,0.8s,mb6.1
ERBM Eremo 86.86 314 *e*P **P 03 23 39.0 +1.8**
SARO Sassorosso 86.86 314 P **P 03 23 36.5 -0.8**
VLC Villacollemand 86.88 314 *e*P **P 03 23 36.8 -0.5**
comp=Z,41nm,0.8s,mb5.7
OSL Oslo 86.89 330 *e*P **P 03 23 37.9 +0.9**
comp=Z,227nm,1.6s,mb6.2
OSL Oslo 86.89 330 *e*P **P 03 23 37.9 +0.9**
OSL AMb AMB 03 23 40.6
comp=Z,227nm,1.6s,mb6.2
BRMO Bormio 86.90 316 *e*P **P 03 23 37.7 +0.4**
CLZ Clausthal 86.95 322 *e*P **P 03 23 37.4 0.0**
comp=Z,120nm,0.9s,mb6.1
CLZ *es* S S 03 34 11.6 +1.0
FUORN Ofenpass 86.97 316⇑*i*P **P 03 23 38.4 +0.7**
FUORN Ofenpass 86.97 316⇑*i*P **P 03 23 38.3 +0.6**
VALM 86.98 314 P **P 03 23 38.5 +0.7**
BSEG Bad Segeberg 87.00 324 *e*P **P 03 23 37.9 +0.2**
BSEG *es* S S 03 34 12.3 +1.2
BSEG pmax pmax
comp=Z,163nm,0.9s,mb6.3
HDH Heidenheim 87.02 318 *e*P **P 03 23 37.4 -0.5**
VINC Vinca 87.04 314 P **P 03 23 37.5 -0.6**
UBR Uberruh 87.08 317 *e*P **P 03 23 37.8 -0.4**
BACM 87.10 314 P **P 03 23 37.4 -1.0**
GRAM 87.11 314 P **P 03 23 39.4 +1.0**
BERNI Berninapass 87.14 316⇑*i*P **P 03 23 39.0 +0.5**
DAVA Damuels 87.24 317⇑*i*P **P 03 23 39.4 +0.4**
comp=Z,2µm,4.0s
DAVOX Davos 87.24 317 P **P 03 23 39.4 +0.4**
comp=Z,141nm,0.7s,mb6.3,baz=114,slow=8.2,SNR=177
DAVOX Davos 87.24 317⇑*i*P **P 03 23 39.5 +0.5**
CODM 87.26 314 P **P 03 23 38.7 -0.5**
SIND Sindeldorf 87.42 319 *e*P **P 03 23 39.9 +0.1**
KONO Kongsberg 87.46 329 *e*P **P 03 23 39.0 -0.7**
KONO LR LR
comp=Z,809µm,22.2s
LIENZ Alp Oberkamor 87.50 317⇑*i*P **P 03 23 40.5 +0.3**
VDL Val di Lei 87.52 316⇓*i*P **P 03 23 40.9 +0.5**
BOB Bobbio (Coli) 87.55 315 *e*P **P 03 23 41.4 +0.9**

SBA Scott Base 87.56 169 *e*P **P 03 23 41.5 +1.6**
SBA pmax pmax
comp=Z,1µm,2.1s,mb6.8
SBA Scott Base 87.56 169 *e*P **P 03 23 41.5 +1.6**
comp=Z,1µm,2.1s,mb6.8
PLONS Plons 87.58 317⇑ *e*P **P 03 23 40.6 0.0**
BUCH Bad Urach 87.59 318 *e*P **P 03 23 40.6 0.0**
VSL Villasalto 87.65 309 *e*P **P 03 23 40.6 -0.6**
comp=Z,120nm,1.0s,mb6.1
MUD Monsted U'grnd 87.67 326⇑ *i*P **P 03 23 42.4 +1.6**
MUD *i* S S 03 34 18.8 +1.4
MUD pmax pmax
comp=Z,90nm,0.8s,mb6.0
MUD MLR MLR
comp=Z,4µm,20.0s,MS5.9
MUD Monsted U'grnd 87.67 326⇑ *i*P **P 03 23 42.4 +1.6**
comp=Z,90nm,0.8s,mb6.0
MUD *i* 03 24 01.5
MUD *i* S S 03 34 18.8 +1.4
MUD Monsted U'grnd 87.67 326⇑ *i*P **P 03 23 42.4 +1.6**
comp=Z,90nm,0.8s,mb6.0
MUD *i* 03 24 01.5
MUD Monsted U'grnd 87.67 326 *i* S S 03 34 18.8 +1.4
comp=Z,5µm,20.0s
STU Stuttgart 87.69 319 *e*P **P 03 23 41.3 +0.2**
STU pmax pmax
comp=Z,54nm,0.8s,mb5.8
STU Stuttgart 87.69 319 *e*P **P 03 23 41.3 +0.1**
comp=Z,54nm,0.8s,mb5.8
DOMB Dombas 87.73 332 *e*P **P 03 23 41.4 +0.4**
GUT Gutenstein 87.75 318 *e*P **P 03 23 41.2 -0.2**
MUGIO Muggio 87.82 316⇑ *e*P **P 03 23 40.6 -1.2**
LLS Linth-Limmern 87.84 317⇑ *e*P **P 03 23 41.8 -0.1**
WEIN Weingarten 87.84 317⇑ *i*P **P 03 23 41.3 -0.6**
GENL Genova Univers 87.89 314 P **P 03 23 41.1 -1.1**
PGF Pioggiola 87.89 312 *e*P **P 03 23 42.2 -0.1**
comp=Z,95nm,0.9s,mb5.7
PGF Pioggiola 87.89 312 *e*P **P 03 23 42.2 -0.1**
PGF pmax pmax
comp=Z,48nm,0.9s,mb5.7
WILA Wila 87.90 317⇑ *i*P **P 03 23 42.4 +0.3**
STEIN Stein am Rhein 87.92 317⇑ *i*P **P 03 23 42.1 -0.1**
TOD Tromm 87.94 319 *e*P **P 03 23 43.1 +0.8**
TOD Tromm 87.94 319 *e*P **P 03 23 42.2 -0.1**
LBG Lerchenberg 87.96 318 *e*P **P 03 23 42.1 -0.3**
SPAK Spaichingen 87.97 318 *e*P **P 03 23 43.1 +0.6**
SPAK Spaichingen 87.97 318 *e*P **P 03 23 42.5 0.0**
SWS Schriesheim 88.01 319 *e*P **P 03 23 42.9 +0.3**
VAI Varese 88.02 316 *e*P **P 03 23 41.5 -1.2**
FUSIO Fusio 88.08 316⇑ *i*P **P 03 23 43.0 0.0**
MUO Muotathal 88.09 317⇑ *i*P **P 03 23 43.4 +0.3**
MUO Muotathal 88.09 317⇑ *i*P **P 03 23 43.3 +0.2**
ZUR Zurich 88.12 317⇑ *i*P **P 03 23 43.7 +0.5**
FLACH Flaach 88.13 317⇑ *i*P **P 03 23 42.9 -0.3**
TNS Taunus Mts 88.17 320 *e*P **P 03 23 43.6 +0.3**
TNS *e* 03 27 11.0
TNS *e*S S 03 34 24.2 +2.1
TNS pmax pmax
comp=Z,381nm,1.9s,mb6.3
TNS Taunus Mts 88.17 320 *e*P **P 03 23 43.6 +0.3**
comp=Z,381nm,1.9s,mb6.3
TNS *e*PP PP 03 27 11.0 -2.1
TNS *e*S S 03 34 24.2 +2.1
SLE Schleitheim 88.17 318⇑ *i*P **P 03 23 43.5 +0.1**
PCP Pian Castagno 88.19 314 P **P 03 23 43.4 -0.2**
BNALP Bannalp 88.24 317⇑ *e*P **P 03 23 44.5 +0.7**
BFO Black Forest 88.28 318 P **P 03 23 44.4 +0.5**
comp=Z,373nm,0.7s,mb6.7,SNR=37
BFO Black Forest 88.28 318 *e*P **P 03 23 43.3 -0.6**
BFO *e*S S 03 34 23.7 +0.5
BFO pmax pmax
comp=Z,68nm,0.9s,mb5.9
BFO Black Forest 88.28 318 *e*P **P 03 23 43.3 -0.6**
comp=Z,68nm,0.9s,mb5.9
BFO *e*S S 03 34 23.7 +0.5
KTD Kalmit 88.42 319 *e*P **P 03 23 44.4 -0.2**
HASLI Hasliberg 88.43 317⇑ *i*P **P 03 23 44.7 0.0**
SULZ Sulz-Cheisache 88.44 317⇑ *e*P **P 03 23 44.3 -0.4**
FIN Finale Ligure 88.44 314 *e*P **P 03 23 45.0 +0.2**
FELD Feldberg 88.50 318 *e*P **P 03 23 44.5 -0.5**
KIZ Kirchzarten 88.56 318 *e*P **P 03 23 44.9 -0.4**
MCGN Macugnaga 88.56 316 *e*P **P 03 23 46.2 +0.9**
ORX Oropa 88.57 315 P **P 03 23 43.9 -1.5**
ORO Oropa 88.57 315 *e*P **P 03 23 44.0 -1.4**
MMK Mattmark 88.57 316⇑ *i*P **P 03 23 45.5 +0.1**
LANF Langenberg 88.61 319 *e*P **P 03 23 45.8 +0.3**
STR Strasbourg 88.64 318 *e*P **P 03 23 46.5 +0.8**
IMI Imperia 88.68 314 *e*P **P 03 23 46.2 +0.3**
ROB Roburent 88.68 314 P **P 03 23 45.4 -0.6**
BALST Balsthal 88.72 317⇑ *e*P **P 03 23 45.8 -0.3**
TRAV 88.74 315 P **P 03 23 46.0 -0.2**
ABH Alteburg 88.75 320 *e*P **P 03 23 47.3 +1.2**
ABH Alteburg 88.75 320 *e*P **P 03 23 46.6 +0.5**
LIBD Limburg 88.77 318 *e*P **P 03 23 47.9 +1.6**
LIBD Limburg 88.77 318 *e*P **P 03 23 46.1 -0.2**
MONE Monesi 88.77 314 P **P 03 23 46.5 +0.2**
WIMIS Wimmis 88.79 316⇑ *i*P **P 03 23 47.0 +0.6**
LKBD Leukerbad 88.80 316⇑ *e*P **P 03 23 46.6 +0.1**
NEGI Negi 88.81 314 P **P 03 23 46.2 -0.4**
BBS Basel-Blauen 88.85 317 *e*P **P 03 23 46.9 +0.2**
BBS Basel-Blauen 88.85 317 *e*P **P 03 23 45.4 -1.3**
SAOF Saorge 88.92 314 *e*P **P 03 23 47.9 +0.8**
WLS Welschbruch 88.92 318 *e*P **P 03 23 47.6 +0.6**
DIX Grande Dixence 88.96 316⇑ *i*P **P 03 23 48.0 +0.8**
CDF Champ du Feu 88.97 318 *e*P **P 03 23 47.0 -0.2**
comp=Z,56nm,0.8s,mb5.6
CDF Champ du Feu 88.97 318 *e*P **P 03 23 47.0 -0.2**
CDF pmax pmax
comp=Z,28nm,0.8s,mb5.6
ENR Entracque 89.01 314 P **P 03 23 47.1 -0.4**
SBF Sospel 89.01 314 *e*P **P 03 23 47.5 0.0**
comp=Z,215nm,0.8s,mb6.2
AUTN L'Aution 89.01 314 *e*P **P 03 23 48.3 +0.8**
SENIN Lac Senin 89.03 316⇑ *i*P **P 03 23 48.2 +0.7**
BOURR Bourrignon 89.04 317⇑ *e*P **P 03 23 47.3 -0.3**
ECH Echery 89.06 318 *e*P **P 03 23 48.3 +0.6**
BLS5 Blasjo 89.06 329 *e*P **P 03 23 49.1 +1.7**
comp=Z,74nm,1.7s,mb5.7
BLS5 Blasjo 89.06 329 *e*P **P 03 23 49.1 +1.7**
BLS5 AMb AMB 03 23 53.0
comp=Z,74nm,1.7s,mb5.7
REVF Revere 89.06 314 *e*P **P 03 23 48.5 +0.7**
RUP Ruppelstein 89.07 320 *e*P **P 03 23 48.7 +1.0**
RUP Ruppelstein 89.07 320 *e*P **P 03 23 48.0 +0.3**
STV2 Anna di Valdie 89.08 314 P **P 03 23 46.9 -0.9**
STV Sta Anna Valdi 89.08 314 P **P 03 23 46.4 -1.4**
MOF Molkenrain 89.09 318 *e*P **P 03 23 48.3 +0.5**
RSP Reno Superiore 89.09 315 P **P 03 23 47.1 -0.8**
BHB Bricherasio 89.10 315 P **P 03 23 46.4 -1.6**
TOUF Mont Tournerai 89.14 314 *e*P **P 03 23 49.3 +1.2**
LSD Ceresole Reale 89.16 315 P **P 03 23 48.6 +0.4**
WTSB Winterswijk 89.16 322⇑ *i*P **P 03 23 48.3 +0.3**
comp=Z,253nm,3.0s
WTSB *ex* x 03 24 05.3
GRYON Gryon 89.16 316⇑ *i*P **P 03 23 48.4 +0.2**
WIT Witteveen 89.20 323⇑ *i*P **P 03 23 50.0 +1.8**
WIT *ex* x 03 24 05.5
MVIF Mont Vial 89.21 314 *e*P **P 03 23 49.3 +0.8**
ABSA Djebel Ababsia 89.22 306 P **P 03 23 52.0 +3.3**
PZZ Prazzo 89.23 314 P **P 03 23 48.0 -0.5**
FENE Fenestrelle 89.24 315 P **P 03 23 48.0 -0.5**
TORNY Torny 89.25 317⇑ *e*P **P 03 23 48.7 +0.1**
CMAH Djebel Manchou 89.26 306 P **P 03 23 51.0 +2.1**
AIGLE Aigle 89.27 316⇑ *i*P **P 03 23 48.6 -0.1**
HINF Hinteralfeld 89.28 318 *e*P **P 03 23 47.9 -0.8**
EMV Vieux Emosson 89.31 316⇑ *i*P **P 03 23 49.8 +0.9**
LOMF Lomont 89.31 317 *e*P **P 03 23 48.7 -0.2**
SURF Saint Ours 89.44 314 *e*P **P 03 23 50.8 +1.3**
LPG La Plagne 89.44 315 *e*P **P 03 23 49.9 +0.4**
comp=Z,204nm,0.8s,mb6.2
LPG La Plagne 89.44 315 *e*P **P 03 23 49.9 +0.4**
LPG pmax pmax
comp=Z,102nm,0.8s,mb6.2
RRL Cesana Torines 89.44 315 P **P 03 23 49.0 -0.5**
LPL La Plagne 89.45 315 *e*P **P 03 23 49.9 +0.3**
comp=Z,200nm,0.8s,mb6.2
LPL La Plagne 89.45 315 *e*P **P 03 23 49.9 +0.3**
LPL pmax pmax
comp=Z,100nm,0.8s,mb6.2
MBDF Montbardon 89.45 315 *e*P **P 03 23 49.1 -0.5**
comp=Z,55nm,0.9s,mb5.6
MBDF Montbardon 89.45 315 *e*P **P 03 23 49.1 -0.5**
MBDF pmax pmax
comp=Z,27nm,0.9s,mb5.6
BNI Bardonecchia 89.51 315 P **P 03 23 49.8 0.0**
BNI pmax pmax
comp=Z,59nm,0.9s,mb5.9
BNI Bardonecchia 89.51 315 *e*P **P 03 23 50.0 +0.1**
comp=Z,59nm,0.9s,mb5.9
BRANT Les Verrieres 89.57 317⇑ *e*P **P 03 23 49.9 -0.2**
BER Bergen 89.58 330 *e*P **P 03 23 50.5 +0.7**
BER AMS AMS 04 10 37.4
comp=Z,7µm,19.2s,MS6.1
FRF La Foret Royal 89.59 313 *e*P **P 03 23 50.4 +0.1**
comp=Z,202nm,0.8s,mb6.2
FRF La Foret Royal 89.59 313 *e*P **P 03 23 50.4 +0.1**
FRF pmax pmax
comp=Z,101nm,0.8s,mb6.2
HAU Haudompre 89.61 318 *e*P **P 03 23 50.0 -0.3**
comp=Z,204nm,0.8s,mb6.2
HAU *e*R
comp=Z,3µm,23.0s
HAU Haudompre 89.61 318 *e*P **P 03 23 50.0 -0.3**
HAU pmax pmax
comp=Z,102nm,0.8s,mb6.2
HAU MLR MLR
comp=Z,3µm,23.0s,MS5.7
WLF Walferdange 89.66 319 *e*P **P 03 23 51.0 +0.5**
comp=Z,213nm,1.3s,mb6.3
LMR La Mourre 89.70 313 *e*P **P 03 23 50.8 0.0**
comp=Z,152nm,1.2s,mb5.9
CAEH 'Ain El Ouahch 89.71 307 P **P 03 23 53.0 +2.0**
GIMEL Gimel 89.73 316⇑ *i*P **P 03 23 51.5 +0.6**
HGN Heimansgroeve 89.75 321⇑ *i*P **P 03 23 51.3 +0.4**
comp=Z,129nm,2.2s,mb5.9
HGN *ex* x 03 24 07.5
HGN *e*PP PP 03 27 20.5 -5.3
HGN *e*PPP PPP 03 28 41.8 -43
HGN *i* S S 03 34 36.3 -0.5
HGN *e*SS SS 03 40 08.1 -30
HGN *e*SSS SSS 03 44 12.0 -0.9
comp=Z,23nm,2.2s
THEF They Montfort 89.84 318 *e*P **P 03 23 51.2 -0.1**
CABF La Chapelle 89.85 316 *e*P **P 03 23 51.8 +0.4**
comp=Z,211nm,0.9s,mb6.2
GDM Grand'Maison 89.90 315 *e*P **P 03 23 52.6 +0.9**
TAVF Tavernes 90.02 313 *e*P **P 03 23 53.6 +1.3**
CASM Ain Smara 90.02 306 P **P 03 23 54.0 +1.5**
ORIF Oris-en-Rattie 90.08 315 *e*P **P 03 23 52.9 +0.4**
comp=Z,145nm,0.9s,mb6.0
ORIF *e*R
comp=Z,4µm,21.5s
CTEI Djebel Teioual 90.10 306 P **P 03 23 55.0 +2.2**
STOF St-Etienne Org 90.11 314 *e*P **P 03 23 54.4 +1.7**
GRN Grenoble 90.16 315 *e*P **P 03 23 53.5 +0.6**
VILF Villemus 90.25 314 *e*P **P 03 23 54.9 +1.5**
PUYF Puyloubier 90.28 313 *e*P **P 03 23 54.9 +1.4**
BERF Bertagne 90.30 313 *e*P **P 03 23 54.9 +1.3**
MEZF Maizieres J'vi 90.45 318 *e*P **P 03 23 54.3 +0.1**
comp=Z,216nm,1.0s,mb6.2
GELF Grande-Etoile 90.49 313 *e*P **P 03 23 55.1 +0.6**
GIVF Givet 90.50 320 *e*P **P 03 23 54.7 +0.3**
comp=Z,167nm,0.8s,mb6.1
DFRA Djebel Bou Aff 90.50 306 P **P 03 23 58.0 +3.3**
TREF Trevaresse 90.50 313 *e*P **P 03 23 56.0 +1.4**
NVL N'lazarevskaya 90.60 199⇑ *i*P **P 03 23 56.4 +2.0**
NVL *i* *PP pP 03 24 07.8 -0.5
NVL *e* 03 34 44.4
NVL pmax pmax
comp=Z,15nm,0.8s,mb5.4
NVL MLR MLR
comp=Z,7µm,17.0s,MS6.1
MAIT Maitri 90.63 199 *e*P **P 03 23 58.1 +3.6**
PRAF Pradon 90.65 314 *e*P **P 03 23 56.5 +1.3**
AFI Afiamalu 90.73 104 P **P 03 23 56.9 +0.7**
comp=Z,77nm,1.0s,mb6.0,baz=248,slow=17,SNR=4.4
CKHR Kef el Ahmar 90.82 306 P **P 03 23 59.0 +2.8**
BAIF Baives 90.90 320 *e*P **P 03 23 56.8 +0.6**
comp=Z,330nm,0.8s,mb6.4
SET Setif 90.90 306 P **P 03 23 59.0 +2.4**
VIVF Saint-Julien-l 90.94 315 *e*P **P 03 23 56.7 +0.1**
comp=Z,139nm,0.8s,mb6.0
SMF Signal de Mont 91.39 317 *e*P **P 03 23 58.6 0.0**
comp=Z,260nm,0.8s,mb6.3
LASF Ste Croix 91.58 314 *e*P **P 03 24 00.0 +0.5**
comp=Z,123nm,0.9s,mb5.9
SSF Saint Saulge 91.59 317 *e*P **P 03 23 59.6 +0.1**
comp=Z,134nm,1.0s,mb5.9
PLDF La Plantade 91.60 316 *e*P **P 03 24 01.1 +1.5**
AVF Avril sur Loir 91.72 317 *e*P **P 03 24 00.2 +0.1**
comp=Z,199nm,0.9s,mb6.1
LBL Lubilhac 91.92 315 *e*P **P 03 24 02.8 +1.7**
AGO Saint Agoulin 91.93 316 *e*P **P 03 24 02.9 +1.8**
QSPA South Pole Qui 91.94 180 *e*P **P 03 24 01.4 +1.0**
comp=Z,18nm,0.6s,mb5.6
BGF Bois d'Agland 92.09 317 *e*P **P 03 24 02.2 +0.4**
comp=Z,242nm,0.9s,mb6.2
HYF Humbligny 92.16 317 *e*P **P 03 24 02.9 +0.8**
MENF Mencas 92.17 321 *e*P **P 03 24 03.9 +1.8**
EJON La Jonquera 92.41 312 P **P 03 24 03.5 +0.1**
comp=Z,24nm,0.8s,mb5.6
TCF Toulx Ste Croi 92.55 316 *e*P **P 03 24 04.3 +0.4**
comp=Z,103nm,0.9s,mb5.9
LRDF Laroque-de-Fa 92.63 313⇑ *e*P **P 03 24 05.5 +1.1**
FILF Fillols 92.64 313⇑ *e*P **P 03 24 05.9 +1.4**
ETOS Mallorca 92.69 310 P **P 03 24 05.9 +1.1**
comp=Z,25nm,0.8s,mb5.7
ABA Alger-Bouzarea 92.76 307 P **P 03 24 05.0 -0.2**
CAF Calviac 92.78 315 *e*P **P 03 24 05.6 +0.5**
comp=Z,108nm,1.0s,mb5.9
MTLF Montolieu 92.82 313 *e*P **P 03 24 05.6 +0.3**
comp=Z,117nm,0.9s,mb6.0
LRW Lerwick 92.83 330 *e*P **P 03 24 06.2 +1.3**
EMHD Djebel Mahouad 92.88 306 P **P 03 24 09.0 +3.3**
WAL1 Walls 93.03 331 *e*P **P 03 24 06.7 +0.9**
RJF Les Rejaudoux 93.13 315 *e*P **P 03 24 07.2 +0.6**
comp=Z,120nm,1.0s,mb6.0
RJF *e*R
comp=Z,4µm,23.0s
LMK Market Rasen 93.34 324 *e*P **P 03 24 07.7 +0.3**
LMK AMb AMB 03 24 10.4
comp=Z,199nm,1.0s,mb6.5
LWH Whinny Nab 93.42 325 *e*P **P 03 24 08.5 +0.7**
LWH AMb AMB 03 24 10.1
comp=Z,62nm,0.9s,mb6.0
JMIC Jan Mayen 93.45 342 *e*P **P 03 24 09.1 +1.6**
JMIC AMS AMS 04 09 33.1
comp=Z,6µm,19.9s,MS6.0
KTG1 Tilbrook Grang 93.55 323 *e*P **P 03 24 08.6 +0.3**
KTG1 AMb AMB 03 24 11.9
comp=Z,113nm,0.8s,mb6.3
MLS Moulis 93.68 313⇑ *e*P **P 03 24 09.3 +0.1**
LFF La Frestale 93.72 315 *e*P **P 03 24 09.9 +0.6**
comp=Z,187nm,1.3s,mb6.1
LCP Cassop 93.83 325 *e*P **P 03 24 10.0 +0.5**
LCP AMb AMB 03 24 13.6
comp=Z,197nm,0.8s,mb6.6
EPOB Poblet 93.86 311 P **P 03 24 10.6 +0.6**
comp=Z,35nm,0.8s,mb5.8
LDF La Druitiere 93.86 319 *e*P **P 03 24 09.9 +0.1**
comp=Z,91nm,1.0s,mb5.9
SKP1 Kophill 93.88 322 *e*P **P 03 24 10.5 +0.7**
EIBI Ibiza 93.90 309 P **P 03 24 11.2 +1.0**
comp=Z,38nm,0.8s,mb5.9
DAG Danmarks Havn 93.98 348⇓ *e*P **P 03 24 09.1 -0.7**
comp=Z,66nm,0.9s,mb6.1
DAG LR LR
comp=Z,10µm,22.0s,MS6.2
DAG Danmarks Havn 93.98 348⇓ *i*P **P 03 24 09.1 -0.7**
comp=Z,66nm,0.9s,mb6.1
comp=Z,10µm,22.0s
EBNR Beni Rached 94.02 306 P **P 03 24 14.0 +3.1**
HPK Haverah Park 94.03 324 *e*P **P 03 24 10.8 +0.4**
HPK AMb AMB 03 24 14.5
comp=Z,322nm,0.8s,mb6.8
FLN La Foliniere 94.08 319 *e*P **P 03 24 10.7 -0.1**
comp=Z,82nm,0.9s,mb5.9
FLN *e*R
comp=Z,3µm,21.0s
KBI1 Birley Grange 94.09 324 *e*P **P 03 24 10.9 +0.2**
KBI1 AMb AMB 03 24 13.3
comp=Z,125nm,1.0s,mb6.3
MFF Saint Martin d 94.13 317 *e*P **P 03 24 11.2 +0.1**
comp=Z,118nm,1.1s,mb5.9
ECHA Ech Chlef 94.16 306 P **P 03 24 14.0 +2.5**
EPF Esparros 94.22 313 *e*P **P 03 24 11.2 -0.4**
comp=Z,20nm,0.8s,mb5.3
LHO Holmfirth 94.23 324 *e*P **P 03 24 11.5 +0.1**
LHO AMb AMB 03 24 14.2
comp=Z,82nm,2.2s,mb5.8
RESF Ens 94.25 313 *e*P **P 03 24 13.1 +1.4**
MLA1 Latheron 94.25 329 *e*P **P 03 24 12.4 +1.1**
ETRT Tiaret 94.29 306 P **P 03 24 16.0 +3.9**
KWE Weaver Farm 94.31 323 *e*P **P 03 24 11.8 0.0**
KWE AMb AMB 03 24 15.5
comp=Z,103nm,1.2s,mb6.2
MCD Coleburn Disti 94.33 328 *e*P **P 03 24 12.2 +0.4**
EBR Ebro Roquetas 94.36 311 *e*PCP PcP 03 24 14.2 +1.2
GRR Gorron 94.38 319 *e*P **P 03 24 12.3 +0.1**
comp=Z,75nm,1.1s,mb5.8
EANR 'Ain N'Sour 94.39 306 P **P 03 24 15.0 +2.4**
EBIE Bielsa 94.41 313 P **P 03 24 12.9 +0.4**
comp=Z,7.8nm,0.7s,mb5.2
VIEF Viey 94.47 313⇑ *e*P **P 03 24 14.0 +1.2**
BTA Talkin 94.49 325 *e*P **P 03 24 12.9 +0.3**
BTA AMb AMB 03 24 14.3
comp=Z,23nm,0.7s,mb5.7
SWN1 Swindon 94.52 322 *e*P **P 03 24 12.9 +0.2**
BBH Bruntsheil 94.59 326 *e*P **P 03 24 13.3 +0.3**
BDL Dobcross Hall 94.65 325 *e*P **P 03 24 14.0 +0.7**
EKA Eskdalemuir Ar 94.69 326 P **P 03 24 13.8 +0.4**
comp=Z,32nm,0.7s,mb5.9,baz=99,slow=4.7,SNR=99
EKA PP PP 03 27 58.9 -5.6
comp=Z,10nm,0.8s,baz=79,slow=7.2,SNR=4.3
EKA PKKP PKKP 03 41 10.2 +8.6
comp=Z,1.6nm,0.7s,baz=261,slow=2.2,SNR=6.6
ESK Eskdalemuir 94.71 326 P **P 03 24 14.8 +1.2**
comp=Z,307nm,0.8s,mb6.8,SNR=12
ESK Eskdalemuir 94.71 326 *e*P **P 03 24 14.1 +0.5**
comp=Z,39nm,0.8s,mb5.9
ESK Eskdalemuir 94.71 326 *e*P **P 03 24 14.1 +0.5**
ESK AMb AMB 03 24 15.9
comp=Z,60nm,0.9s,mb6.0
REYF Montagne du Re 94.75 313 *e*P **P 03 24 15.4 +1.4**
MVH1 Achvaich 94.75 328 *e*P **P 03 24 14.2 +0.6**
BHH Howats Hill 94.76 326 *e*P **P 03 24 13.9 +0.1**
BHH AMb AMB 03 24 17.5
comp=Z,58nm,1.0s,mb6.0
BBO1 Bothel 94.84 325 *e*P **P 03 24 15.4 +1.2**
BBO1 AMb AMB 03 24 16.9
comp=Z,38nm,2.0s,mb5.5
SWK Warminster 94.86 322 *e*P **P 03 24 15.1 +0.8**
ETSF Etsaut 94.89 313 *e*P **P 03 24 15.9 +1.2**
comp=Z,49nm,0.8s,mb5.7
MDO Dochfour 94.94 328 *e*P **P 03 24 15.3 +0.7**
ESAC San Caprasio 94.97 312 P **P 03 24 15.6 +0.5**
comp=Z,43nm,0.6s,mb6.1
BWH Wardlaw 94.99 326 *e*P **P 03 24 14.8 -0.1**
BWH AMb AMB 03 24 17.4
comp=Z,56nm,0.8s,mb6.1
SMD Mendips 95.12 322 *e*P **P 03 24 15.8 +0.3**
EMOS Mosqueruela 95.14 311 P **P 03 24 17.0 +1.1**
comp=Z,51nm,0.8s,mb6.0
EBEN Beniarda 95.15 309 P **P 03 24 17.5 +1.5**
comp=Z,8.8nm,0.9s,mb5.2
SNAA Sanae 95.29 198 *e* **P 03 24 26.5 +11**
SNAA Sanae 95.29 198 *e* **P 03 24 31.2 +15**
SNAA Sanae 95.29 198 P **P 03 24 20.2 +4.4**
comp=Z,1.4nm,0.8s,baz=112,slow=4.8,SNR=4.3
SNAA Sanae 95.29 198⇑ *i*P **P 03 24 18.4 +2.5**
SNAA *e* 03 24 26.5
SNAA *e* pP 03 24 31.2 +1.4
SNAA *e* 03 28 02.3
SNAA *e* 03 41 06.1
SNAA *e* 03 41 08.8
SJPF Ste Jean 95.35 313 *e*P **P 03 24 17.4 +0.6**
comp=Z,49nm,0.9s,mb5.6
SGMF Saint Gilles 95.52 319 *e*P **P 03 24 17.1 -0.3**
comp=Z,36nm,0.8s,mb5.5
EALK Alkurruntz 95.54 314 P **P 03 24 19.3 +1.6**
comp=Z,16nm,0.8s,mb5.5
IMA Indian Mountai 95.55 23 *e*P **P 03 24 17.9 +0.8**
ECHE Chera 95.62 310 P **P 03 24 19.5 +1.4**
comp=Z,26nm,0.8s,mb5.7
CART Cartagena 95.89 308 *e*P **P 03 24 18.9 -0.4**
comp=Z,21nm,0.8s,mb5.6
QUIF Quistinic 95.97 318 *e*P **P 03 24 18.9 -0.6**
comp=Z,43nm,1.0s,mb5.5
ROSF Rostrenen 95.97 319 *e*P **P 03 24 19.2 -0.3**
comp=Z,33nm,0.9s,mb5.5
EMUR La Murta 96.05 308 P **P 03 24 21.4 +1.4**
comp=Z,10nm,0.9s,mb5.2
SVW2 Sparrevohn 96.15 28 *e*P **P 03 24 20.7 +0.8**
ETOB Tobarra 96.19 309 P **P 03 24 21.3 +0.6**
comp=Z,22nm,0.9s,mb5.6
VNA2 Neumayer--Watz 96.88 199⇑ *i*P **P 03 24 23.8 +0.7**
VNA2 *e* pP 03 24 33.3 -3.8
VNA2 *e* pP 03 24 37.7 +0.6
VNA2 *e* 03 28 13.5
VNA2 *e* 03 29 02.2
VNA2 *e* 03 29 10.9
VNA2 *e* 03 29 14.4
VNA2 *e* 03 41 03.5
VNA2 *e* 03 41 05.4
ENIJ Nijar 96.92 307 P **P 03 24 24.9 +0.8**
comp=Z,9.9nm,0.8s,mb5.3
EVIA Vianos 96.93 309 P **P 03 24 25.0 +1.0**
comp=Z,18nm,0.7s,mb5.6
ELAN Lanestosa 96.93 314 P **P 03 24 24.5 +0.5**
comp=Z,6.9nm,0.8s,mb5.1
DSB Dublin 96.95 324 *e*P **P 03 24 24.3 +0.5**
comp=Z,14nm,0.8s,mb5.5
DLF Lyons Farm 97.03 324 *e*P **P 03 24 25.1 +0.9**
VNA1 Neumayer--Stat 97.23 199 *e* **P 03 24 34.2 +9.5**
VNA1 Neumayer--Stat 97.23 199 *e* **P 03 24 39.2 +14**
VNA1 Neumayer--Stat 97.23 199⇑ *i*P **P 03 24 25.1 +0.4**
VNA1 *e* pP 03 24 34.2 -4.5
VNA1 *e* pP 03 24 39.2 +0.5
VNA1 *e* 03 28 09.4
VNA1 *e* 03 28 58.4
VNA1 *e* 03 29 08.3
VNA1 *e* 03 29 14.0
VNA1 *e* 03 41 02.8
VNA1 *e* 03 41 05.7
DCN Croghan 97.45 324 *e*P **P 03 24 26.7 +0.6**
EBER Berja 97.48 307 P **P 03 24 26.2 -0.4**
comp=Z,17nm,0.7s,mb5.6
EQES Quesada 97.49 308 P **P 03 24 25.7 -1.0**
comp=Z,6.8nm,0.7s,mb5.2
VNA3 Neumayer Olymp 97.52 198 *e* **P 03 24 34.2 +8.2**
VNA3 Neumayer Olymp 97.52 198 *e* **P 03 24 39.2 +13**
VNA3 Neumayer Olymp 97.52 198⇑ *i*P **P 03 24 25.4 -0.6**
VNA3 *e* 03 24 34.2
VNA3 *e* pP 03 24 39.2 -0.8
VNA3 *e* 03 28 18.3
VNA3 *e* 03 29 11.4
VNA3 *e* 03 29 15.8
VNA3 *e* 03 41 02.9
VNA3 *e* 03 41 05.2
ESDC Sonseca Array 97.89 310 P **P 03 24 29.0 +0.5**
comp=Z,3.1nm,0.6s,mb5.0,baz=58,slow=4.0,SNR=16
ESDC PP PP 03 28 19.8 -10
comp=Z,3.4nm,0.8s,baz=60,slow=9.3,SNR=5.8
ESDC PKKPbc 03 41 04.0
comp=Z,1.8nm,0.7s,baz=279,slow=3.3,SNR=9.5
ESDC Sonseca Array 97.89 310 P **P 03 24 27.9 -0.5**
comp=Z,8.8nm,0.9s,mb5.3
ECOG Cogollos-Vega 97.96 308 P **P 03 24 28.7 -0.1**
comp=Z,1.8nm,0.6s
EBAN Banos Encina 97.99 309 P **P 03 24 26.7 -2.2**
comp=Z,5.6nm,0.7s,mb5.2
ERON Agron 98.18 308 P **P 03 24 30.0 +0.2**
comp=Z,6.7nm,0.9s,mb5.2
COLA College 98.25 23⇑ *i*P **P 03 24 29.3 -0.1**
ELOJ Sierra Loja 98.44 308 P **P 03 24 30.6 -0.3**
comp=Z,2.4nm,0.8s
EADA Adamuz 98.61 309 P **P 03 24 32.0 +0.3**
comp=Z,5.8nm,0.8s,mb5.2
SLKM Skilak Lake 98.83 28 *e*Pdif **P 03 24 31.7 -0.5**
PMR Palmer 98.95 26 *e*P **P 03 24 33.4 +0.8**
PMR LR LR
comp=Z,4µm,22.0s,MS5.9
EMIJ Mijas 99.02 307 P **P 03 24 33.6 0.0**
comp=Z,8.2nm,0.8s,mb5.3
ECAL Calabor 99.56 313 P **P 03 24 37.2 +1.3**
comp=Z,4.6nm,1.1s
EJIF Jimena Fronter 99.59 307 P **P 03 24 39.1 +2.9**
comp=Z,9.0nm,0.6s,mb5.4
ESPR Espera 99.83 308 P **P 03 24 37.9 +0.6**
comp=Z,11nm,0.9s,mb5.3
EMIN Mina Concepcio 100.31 309 P P 03 24 39.0 -0.4
comp=Z,7.3nm,1.1s

MTE	Manteigas	100.47	312	ePdif	P	03 24 43.5	+3.4
MTE				ePP	PP	03 28 48.9	-0.9
MTE				i -		03 35 37.1	
MTE				eSS	SS	03 43 13.3	+3.8
MTE				eLQ		03 56 18.0	
MTE				eLR	LR	03 59 56.7	
	comp=Z,3μm,18.5s						
PCBR	Castelo Branco	100.53	311	ePP	PP	03 28 47.7	-2.6
SUMG	Summit	100.66	348	ePdif	P	03 24 41.9	+1.6
	comp=Z,14nm,0.8s						
STS	Santiago	100.68	314	P	P	03 24 42.3	+1.4
	comp=Z,6.9nm,1.0s						
MENT	Mentasta	100.72	24	eP	P	03 24 41.6	+1.0
EGRO	El Granado	100.98	309	P	P	03 24 44.0	+1.5
	comp=Z,7.5nm,0.9s						
PALC	Alcoutim	100.99	309	ePP	PP	03 28 51.8	-2.2
PBEJ	Beja	101.19	309	ePP	PP	03 28 52.2	-3.2
INK	Inuvik	101.49	17	P	P	03 24 43.7	-0.3
	comp=Z,6.7nm,0.8s,baz=343,slow=5.9,SNR=23						
INK				pP		03 24 58.7	
	comp=Z,9.2nm,1.0s,baz=296,slow=4.2,SNR=6.8						
INK				PKKPbc		03 40 51.9	
	comp=Z,1.6nm,0.7s,baz=88,slow=4.1,SNR=9.5						
INK	Inuvik	101.49	17	ePdif	P	03 24 43.5	-0.5
	comp=Z,14nm,1.0s						
DAWY	Dawson	101.88	22	ePdif	P	03 24 45.7	-0.1
DBIC	Dimbokro	102.49	277	P	Pdif	03 24 49.7	0.0
	comp=Z,2.9nm,0.7s,baz=121,slow=3.7,SNR=8.8						
DBIC				pP		03 25 03.9	
	comp=Z,9.5nm,1.0s,baz=105,slow=3.2,SNR=5.4						
DBIC	Dimbokro	102.49	277	P	Pdif	03 24 49.7	0.0
DBIC				pP		03 25 03.9	
DBIC				LR	LR		
	comp=Z,8μm,22.0s,MS6.2						
RES	Resolute Bay	103.03	3	ePdif	Pdif	03 24 51.4	+0.6
	comp=Z,10nm,0.8s						
DLBC	Dease Lake	108.80	24	PKiKP		03 29 21.3	
	comp=Z,4.3nm,0.9s,baz=27,slow=4.5,SNR=6.3						
YKA	Yellowknife Ar	111.12	16	Pdiff	Pdif	03 25 27.3	+0.8
	comp=Z,0.4nm,0.6s,baz=332,slow=4.9,SNR=14						
YKA				PKiKP		03 29 25.6	
	comp=Z,1.8nm,0.7s,baz=317,slow=0.5,SNR=16						
YKA				PP	PP	03 30 00.9	-7.4
	comp=Z,8.5nm,0.9s,baz=332,slow=7.7,SNR=12						
YKA				PKKPbc		03 40 21.9	
	comp=Z,1.3nm,0.7s,baz=148,slow=2.9,SNR=15						
YKA				PKKPab		03 40 33.7	
	comp=Z,2.9nm,0.9s,baz=145,slow=3.1,SNR=8.2						
YKA	Yellowknife Ar	111.12	16	Pdif	Pdif	03 25 27.3	+0.8
YKA				PKPdf	PKPdf	03 29 25.6	+1.3
YKA				PP	PP	03 30 00.9	-7.4
YKA				PKKPbc		03 40 21.9	
YKA				PKKPab		03 40 33.7	
TBI	Tubuai	111.49	114	ePP	PP	03 30 07.4	-4.4
TBI				eSP	SP	03 39 45.1	+12
TBI				eSS	SS	03 45 47.1	+7.5
TBI				eLR	LR	04 02 21.0	
	comp=Z,9μm,24.2s						
PPT	Papeete	112.00	108	ePP	PP	03 30 04.5	-11
PPT				eSP	SP	03 39 49.7	+11
PPT				eSS	SS	03 45 47.1	+0.7
PPT				eLR	LR	04 02 44.8	
	comp=Z,11μm,29.2s						
FRB	Frobisher Bay	113.65	353	Pdiff	Pdif	03 25 41.1	+3.5
	comp=Z,1.5nm,0.9s,baz=27,slow=2.3,SNR=2.1						
FRB				PKiKP		03 29 29.3	
	comp=Z,7.6nm,0.8s,baz=328,slow=1.2,SNR=10						
ADH	Angra Heroismo	115.43	315	erx		04 07 47.5	
FCC	Fort Churchill	118.67	7	ePKPdf	PKPdf	03 29 39.3	+0.2
EDM	Edmonton	119.06	21	ePKPdf	PKPdf	03 29 40.8	+0.9
WPW	White Pass	120.36	30	P	PKPdf	03 29 44.6	+1.9
WTV	Waterville	120.46	29	P	PKPdf	03 29 44.0	+1.1
TBM	Table Mountain	120.52	30	P	PKPdf	03 29 44.7	+1.7
EBG	Ellensburg	120.71	30	P	PKPdf	03 29 45.2	+1.8
EPH	Ephrata	120.88	29	P	PKPdf	03 29 45.0	+1.3
NEW	Newport	121.37	27	PKP	PKPdf	03 29 45.7	+1.1
	comp=Z,9.7nm,0.6s,baz=132,slow=2.6,SNR=22						
NEW	Newport	121.37	27	ePKPdf	PKPdf	03 29 45.8	+1.2
HAWA	Hanford	121.58	30	ePKPdf	PKPdf	03 29 46.5	+1.4
REDWA	Red Mountain	121.70	30	P	PKPdf	03 29 47.5	+2.2
SCHQ	Schefferville	121.98	350	PKP	PKPdf	03 29 46.4	+0.8
	comp=Z,16nm,0.6s,baz=27,slow=3.7,SNR=52						
SCHQ				PP	PP	03 31 18.9	-5.7
	comp=Z,36nm,0.9s,baz=15,slow=6.2,SNR=8.3						
SCHQ				PKKPbc		03 39 45.4	
	comp=Z,3.1nm,0.8s,baz=148,slow=2.4,SNR=5.2						
WALA	Waterton Lakes	122.15	24	ePKPdf	PKPdf	03 29 46.6	+0.5
HUMO	Hull Mountain	122.28	35	ePKPdf	PKPdf	03 29 48.6	+2.1
VIPM	Ingram Point	122.32	32	P	PKPdf	03 29 48.6	+2.1
KHMM	Horse Mountain	122.91	37	ePKPdf	PKPdf	03 29 50.2	+2.5
YBH	Yreka Blue Hor	122.98	36	PKP	PKPdf	03 29 49.8	+1.9
	comp=Z,11nm,0.7s,baz=5,9,slow=2.4,SNR=21						
LHEM	Herd Peak	123.33	35	P	PKPdf	03 29 50.4	+1.8
WDC	Whiskeytown Da	123.80	37	ePKPdf	PKPdf	03 29 50.6	+1.1
MSO	Missoula	123.87	26	ePKPdf	PKPdf	03 29 50.1	+0.7
LTIM	Timbered Crate	124.04	35	P	PKPdf	03 29 51.9	+2.0
CHMT	Chamberlain Mo	124.10	25	ePKPdf	PKPdf	03 29 50.9	+1.0
MOD	Modoc	124.24	34	ePKPdf	PKPdf	03 29 52.0	+1.7
MOD				LR	LR		
	comp=Z,4μm,21.0s,MS6.1						
HOPS	Hopland	124.45	38	ePKPdf	PKPdf	03 29 53.2	+2.4
RKT	Rikitea	124.62	117	ePP	PP	03 31 37.3	-5.9
RKT				eSP	SP	03 41 40.6	+7.8
RKT				eSS	SS	03 48 37.2	+6.9
RKT				eLR	LR	04 08 23.7	
	comp=Z,4μm,29.0s						
WVOR	Wild Horse Val	124.79	33	PKPdf	PKPdf	03 29 53.6	+2.2
HRY	Holter Researc	124.86	25	ePKPdf	PKPdf	03 29 52.7	+1.3
BOZ	Bozeman (W)	125.79	25	ePKPdf	PKPdf	03 29 54.7	+1.6
MCMT	McKenzie Canyo	125.90	27	ePKPdf	PKPdf	03 29 55.4	+2.0
HLID	Hailey	126.14	29	ePKPdf	PKPdf	03 29 56.1	+2.2
USHA	Ushuaia	126.18	190	PKP	PKPdf	03 29 53.9	+0.2
	comp=Z,7.0nm,0.8s,baz=215,slow=6.3,SNR=2.1						
USHA				PP	PP	03 31 49.5	-3.2
	baz=114,slow=2.8						
WCN	Washoe City	126.26	36	ePKPdf	PKPdf	03 29 56.3	+2.0
GCMT	Greycliff	126.49	24	ePKPdf	PKPdf	03 29 56.4	+1.8
QLMT	Earthquake Lak	126.53	26	ePKPdf	PKPdf	03 29 57.1	+2.4
ULM	Lac du Bonnet	126.61	11	PKP	PKPdf	03 29 55.2	+0.6
	comp=Z,40nm,0.7s,baz=356,slow=2.5,SNR=78						
ULM				PP	PP	03 32 04.7	+9.3
	comp=Z,18nm,0.9s,baz=345,slow=7.6,SNR=3.8						
CMB	Columbia Colle	126.70	38	ePKPdf	PKPdf	03 29 56.9	+1.7
YMR	Madison River	126.86	26	ePKPdf	PKPdf	03 29 57.5	+2.2
YNR	Norris Junctio	126.94	25	ePKPdf	PKPdf	03 29 58.3	+2.8
BMN	Battle Mountai	126.94	33	ePKPdf	PKPdf	03 29 57.6	+2.0
LAO	LASA Array	127.04	21	ePKPdf	PKPdf	03 29 58.0	+2.4
YFT	Old Faithful	127.08	26	ePKPdf	PKPdf	03 29 58.6	+2.9
LKWY	Lake	127.18	25	ePKPdf	PKPdf	03 29 59.4	+3.5
LRV	Little Rabbit	127.30	40	ePKPdf	PKPdf	03 29 59.6	+3.2
IMW	Indian Meadow	127.48	26	PKPdf	PKPdf	03 29 57.3	+0.8
NVAR	Mina Array Bea	127.69	36	PKP	PKPdf	03 29 58.0	+0.9
	comp=Z,30nm,0.8s,baz=329,slow=0.5,SNR=67						
NVAR				PP	PP	03 32 02.8	-0.1
	comp=Z,4.3nm,0.8s,baz=288,slow=5.7,SNR=2.7						
RRI2	Red Ridge	127.74	27	ePKPdf	PKPdf	03 29 58.9	+1.9
MNV	Mina	127.77	36	ePKPdf	PKPdf	03 29 59.4	+2.2
ELK	Elko	127.79	32	ePKPdf	PKPdf	03 29 59.3	+2.1
TPAW	Teton Pass	127.80	26	ePKPdf	PKPdf	03 29 59.0	+1.8
OMM	Old Mammoth Mi	127.81	37	ePKPdf	PKPdf	03 30 00.5	+3.2
LOHW	Long Hollow	127.85	26	ePKPdf	PKPdf	03 29 58.9	+1.6
SNOW	Snow King Moun	127.91	26	ePKPdf	PKPdf	03 29 59.4	+2.0
REDW	Red Top Meadow	127.94	26	ePKPdf	PKPdf	03 29 59.7	+2.2
HVU	Hansel Valley	128.27	29	ePKPdf	PKPdf	03 30 00.3	+2.2
AHID	Auburn Hatcher	128.30	27	ePKPdf	PKPdf	03 30 00.8	+2.7
TPH	Tonopah	128.56	36	ePKPdf	PKPdf	03 30 01.9	+3.1
BGU	Big Grassy Mou	128.79	30	ePKPdf	PKPdf	03 30 01.6	+2.5
HWUT	Hardware Ranch	128.99	28	ePKPdf	PKPdf	03 30 00.9	+1.4
PDAR	Pinedale Array	128.99	26	PKhKP		03 29 56.4	
	comp=Z,10.0nm,0.7s,baz=144,slow=1.7,SNR=16						
PDAR				PKP	PKPdf	03 30 01.3	+1.8
	comp=Z,12nm,0.7s,baz=225,slow=1.3,SNR=40						
PDAR				PP	PP	03 32 09.2	-2.7
	comp=Z,7.0nm,0.8s,baz=349,slow=1.4,SNR=4.3						
TRCR	Troy Canyon	129.30	34	ePKPdf	PKPdf	03 30 02.5	+2.3
TCUT	Toone Canyon	129.44	29	ePKPdf	PKPdf	03 30 02.9	+2.6
DUG	Dugway	129.45	31	ePKPdf	PKPdf	03 30 02.2	+1.8
NOQ	North Oquirrh	129.45	30	ePKPdf	PKPdf	03 30 02.1	+1.7
DAC	Darwin (Calif)	129.53	38	ePKPdf	PKPdf	03 30 03.6	+2.9
EYMN	Ely	129.57	8	ePKPdf	PKPdf	03 30 01.5	+1.1
NLU	North Lily Min	130.00	30	ePKPdf	PKPdf	03 30 03.4	+2.0
RSSD	Black Hills	130.04	21	ePKPdf	PKPdf	03 30 03.1	+1.7
DAU	Daniels Canyon	130.06	29	ePKPdf	PKPdf	03 30 03.8	+2.2
MWC	Mount Wilson	130.56	40	ePKPdf	PKPdf	03 30 05.4	+2.7
RWWY	Rawlins	130.88	25	ePKPdf	PKPdf	03 30 04.1	+1.1
ARUT	Antelope Range	130.89	33	ePKPdf	PKPdf	03 30 04.2	+1.0
TMUT	Trail Mountain	130.94	30	ePKPdf	PKPdf	03 30 05.6	+2.4
MVU	Marysvale	131.02	32	ePKPdf	PKPdf	03 30 06.2	+2.8
MSU	Marysvale	131.03	31	ePKPdf	PKPdf	03 30 06.3	+2.9
SRU	San Rafael	131.42	30	ePKPdf	PKPdf	03 30 06.0	+1.8
LDFC	Landfair	131.84	37	ePKPdf	PKPdf	03 30 08.1	+3.0
PHWY	Pilot Hill	131.92	24	ePKPdf	PKPdf	03 30 06.8	+1.7
PFO	Pinyon Flat Ob	131.98	39	ePKPdf	PKPdf	03 30 08.7	+3.3
PFO				LR	LR		
	comp=Z,780nm,22.0s,MS5.4						
WVL	Waterville	132.34	348	PFAKE		03 30 20.0	+14
WVL				LR	LR		
	comp=Z,12μm,20.0s,MS6.6						
BAR	Barrett	132.44	41	ePKPdf	PKPdf	03 30 09.2	+2.9
PV10	Paradox Valley	132.72	29	ePKPdf	PKPdf	03 30 08.3	+1.7
ISCO	Idaho Springs	133.12	25	ePKPdf	PKPdf	03 30 07.2	-0.2
PV01	Paradox Valley	133.14	29	ePKPdf	PKPdf	03 30 09.6	+2.1
SADO	Sadowa	133.36	357	PKhKP		03 30 02.6	
	baz=340,slow=12						
SADO				PKP	PKPdf	03 30 08.3	+0.7
	baz=226,slow=17						
WUAZ	Wupatki	133.68	34	ePKPdf	PKPdf	03 30 12.0	+3.4
WUAZ				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
SDCO	Great Sand Dun	134.88	26	ePKPdf	PKPdf	03 30 11.4	+0.8
GENY	Geneseo	135.27	356	ePKPdf	PKPdf	03 30 12.7	+1.4
BINY	Binghamton	135.66	354	ePKPdf	PKPdf	03 30 13.9	+2.0
TUC	Tucson	136.34	36	ePKPpre		03 30 02.1	
CS6B	Jaguaretama	136.60	264	c iP	PKPdf	03 30 16.3	+1.8
CS6B				e		03 30 29.8	
CAM4	Nova Friburgo	136.66	239	(P)	PKPdf	03 30 19.9	+5.6
CAM4				i		03 30 29.5	
ANMO	Albuquerque	136.69	30	PP	PP	03 33 00.2	0.0
	comp=Z,5.8nm,1.0s,baz=321,slow=8.9,SNR=3.8						
ANMO	Albuquerque	136.69	30	PKPdf	PKPdf	03 30 15.9	+1.8
KSU1	Kansas State U	136.95	17	ePKPdf	PKPdf	03 30 15.6	+1.1
LENM	Lemitar	137.05	31	ePKPdf	PKPdf	03 30 17.9	+3.1
LPM	Los Pinos Moun	137.11	30	PKPdf	PKPdf	03 30 16.2	+1.3
BNM	Barren Site	137.24	31	ePKPdf	PKPdf	03 30 15.5	+0.4
SSPA	Standing Stone	137.40	355	ePKPdf	PKPdf	03 30 16.1	+0.8
MVL	Millersville	137.88	353	ePKPdf	PKPdf	03 30 18.0	+1.9
ACSO	Alum Creek Sta	137.96	1	ePKPdf	PKPdf	03 30 17.1	+0.8
BLO	Bloomington	138.82	5	ePKPdf	PKPdf	03 30 19.4	+1.6
AMTX	Amarillo	138.94	25	PKPdf	PKPdf	03 30 20.2	+2.0
CCM	Cathedral Cave	139.24	11	ePKPpre		03 30 10.7	
FVM	French Village	139.46	10	ePKPpre		03 30 11.6	
CPRX	Cap Rock	139.51	29	ePKPpre		03 30 15.2	
TRQA	Tornquist	139.68	205	ePKPpre		03 30 12.5	
WCI	Wyandotte Cave	139.78	5	ePKPpre		03 30 13.2	
MNTX	Cornudas Mount	139.82	32	ePKPpre		03 30 13.7	
GDL2	Guadalupe Moun	139.94	30	ePKPdf	PKPdf	03 30 22.3	+2.2
PLCA	Paso Flores	140.07	194	PKhKP		03 30 17.6	
	comp=Z,8.2nm,0.7s,baz=180,slow=2.6,SNR=17						
PLCA				PKP	PKPdf	03 30 22.0	+1.9
	comp=Z,8.5nm,0.7s,baz=240,slow=0.8,SNR=15						
PLCA				PP	PP	03 33 22.1	+0.8
	comp=Z,4.2nm,1.0s,baz=223,slow=5.0,SNR=1.9						
PLCA	Paso Flores	140.07	194	ePKPpre		03 30 15.3	
PLCA				PKP	PKPdf	03 30 22.0	+1.9
PLCA				PP	PP	03 33 22.1	+0.9
PLCA				LR	LR		
	comp=Z,7μm,21.0s,MS6.4						
CLNB	Carlsbad	140.13	29	PKPdf	PKPdf	03 30 21.9	+1.5
WMOK	Wichita Mounta	140.22	22	ePKPpre		03 30 12.3	
WMOK				LR	LR		
	comp=Z,4μm,21.0s,MS6.2						
LPA	La Plata	140.31	212	ceP	KP	03 30 17.0	-3.7
LPA				PKIKP	PKPdf	03 30 23.0	+2.3
LPA				ePP	PP	03 33 18.0	-4.9
LPA				eSKP		03 33 53.0	
LPA				ePKS	PKS	03 33 58.0	+2.4
	comp=Z,6μm,22.0s						
FWV	Forest Hill	140.60	358	ePKPpre		03 30 10.4	
ELN	Prospectdale	140.95	358	ePKPdf	PKPdf	03 30 20.9	-0.9
GNAR	Gosnell	141.50	10	ePKPpre		03 30 19.6	
TZTN	Tazewell	141.62	2	ePKPpre		03 30 17.6	
WVT	Waverly	141.68	8	ePKPpre		03 30 18.2	
MIAR	Mount Ida	142.06	16	ePKPpre		03 30 19.1	
UALR	University of	142.16	14	ePKPpre		03 30 19.5	
TXAR	Lajitas Array	142.59	32	PKhKP		03 30 22.5	
	comp=Z,4.6nm,0.6s,baz=260,slow=1.1,SNR=43						
TXAR				PKP	PKPdf	03 30 27.7	+2.8
	comp=Z,23nm,0.7s,baz=270,slow=0.9,SNR=56						
TXAR				PP	PP	03 33 31.0	-5.8
	comp=Z,6.1nm,1.0s,baz=309,slow=5.8,SNR=2.3						
TXAR	Lajitas Array	142.59	32	PKP	PKPdf	03 30 22.5	-2.3
TXAR				PKP	PKPdf	03 30 27.7	+2.8
TXAR				PP	PP	03 33 31.0	-5.8
CPCT	Cooper Cave	142.67	3	ePKPpre		03 30 21.2	
PLAL	Pickwick Lake	142.78	8	ePKPpre		03 30 20.8	
OXF	Oxford	143.02	11	ePKPpre		03 30 21.8	
JCT	Junction City	143.52	26	ePKPpre		03 30 23.5	
BAO	Brasilia Array	143.82	246	PKPdf	PKPdf	03 30 27.0	-0.3
BAO				PKPdf	PKPdf	03 30 31.0	+3.7
BAO				PP	PP	03 33 41.0	-3.5
BDFB	Brasilia	143.84	246	PKP	PKPdf	03 30 26.7	-0.6
	comp=Z,28nm,0.7s,baz=122,slow=2.4,SNR=53						
BDFB				PP	PP	03 33 46.7	+2.1
	comp=Z,20nm,1.1s,baz=104,slow=12,SNR=2.5						
JSC	Jenkinsville	143.90	359	ePKPdf	PKPdf	03 30 26.2	-0.7
NATX	Nacogdoches	144.35	19	ePKP	PKPdf	03 30 28.1	+0.3
CCHI	Chillan	144.36	194	eP	PKPbc	03 30 26.0	-1.2
GOGA	Godfrey	144.75	2	ePKP	PKPdf	03 30 28.9	+0.5
COW	Cow Castle Cre	144.78	358	ePKPdf	PKPdf	03 30 29.6	+1.0
LRAL	Lakeview Retre	144.84	7	ePKP	PKPdf	03 30 28.2	-0.4
HBF	Harts Bluff	145.22	358	ePKP	PKPdf	03 30 30.3	+1.0
NICH	Los Niches	145.66	196	eP	PKPdf	03 30 31.3	+1.3
LMEL	Las Melosas	146.44	198	eP	PKPdf	03 30 34.2	+2.9
FCH	Farellones	146.95	198	eP	PKPdf	03 30 33.3	+1.1
CLCH	Cerro Calan	146.96	198	eP	PKPdf	03 30 35.9	+3.6
CFAA	Coronel Fontan	147.81	202	PKPbc	PKPdf	03 30 36.5	+2.8
	comp=Z,12nm,0.7s,baz=165,slow=2.3,SNR=66						
CFAA				pPKPbc		03 30 50.8	
	comp=Z,22nm,0.8s,baz=159,slow=2.7,SNR=15						
CFAA	Coronel Fontan	147.81	202	PKPbc	PKPdf	03 30 36.5	+2.8
CFAA				pPKPbc		03 30 50.8	
ZON	Zonda	148.03	202	eP	PKPdf	03 30 37.0	+3.0
ZAIG	Zacatecas	148.26	38	i P	PKPdf	03 30 36.1	+1.5
CJM	Chamela	148.90	46	eP	PKPdf	03 30 37.1	+1.4
SFJM	Santa Fe	149.61	42	eP	PKPdf	03 30 40.0	+3.1
DWPF	Disney	150.05	359	ePKPbc	PKPdf	03 30 44.1	+6.7
COLM	Colima	150.06	44	eP	PKPdf	03 30 40.3	+2.7
ZIIG	Zihuatanejo	152.68	44	eP	PKPdf	03 30 41.3	-0.2
YAIG	Yautepec	153.34	38	eP	PKPdf	03 30 51.5	+9.1
PLIG	Platanillo	153.42	40	i P	PKPdf	03 30 46.1	+3.6
PPM	Popocatepetl	153.46	37	eP	PKPdf	03 30 41.7	-0.9
PPM				i P		03 30 45.6	
PPM				eP		03 30 46.0	
ACX	Acapulco	154.25	43	eP	PKPdf	03 30 45.5	+1.8
SJG	San Juan	154.62	323	PKP	PKPdf	03 30 46.0	+1.8
	comp=Z,5.7nm,0.6s,baz=27,slow=14,SNR=2.4						
SJG				PKPab	PKPab	03 31 09.8	-0.1
	comp=Z,30nm,0.8s,baz=18,slow=5.5,SNR=7.2						
SJG	San Juan	154.62	323	PKP	PKPdf	03 30 46.0	+1.8
SJG				ePKPbc	PKPdf	03 30 53.7	+10
SJG				PKPab	PKPab	03 31 09.8	-0.1
SIV	San Ignacio	155.11	235	PKP	PKPdf	03 30 46.6	+1.8
	comp=Z,5.4nm,0.7s,baz=123,slow=2.9,SNR=36						
SIV				PKPab	PKPab	03 31 12.9	+0.9
	comp=Z,10nm,0.7s,baz=98,slow=6.8,SNR=8.0						
LVC	Limon Verde	155.87	211	PKP	PKPdf	03 30 47.9	+2.2
	comp=Z,3.9nm,0.8s,baz=122,slow=1.4,SNR=4.2						
LVC				PKPab	PKPab	03 31 15.5	+0.3
	comp=Z,24nm,0.8s,baz=182,slow=3.2,SNR=9.2						
LVC	Limon Verde	155.87	211	ePKPdf	PKPdf	03 30 48.1	+2.4
TRN	Trinidad (W)	155.93	302	eP	PKPdf	03 30 49.9	+3.9
OXX	Oaxaca	156.13	37	eP	PKPdf	03 30 49.5	+3.4
PCRV	Puerto La Cruz	158.87	305	PKP	PKPdf	03 30 49.9	+0.1
	comp=Z,18nm,1.2s,baz=16,slow=7.4,SNR=2.9						
PCRV				PKPab	PKPab	03 31 26.7	-1.6
	comp=Z,19nm,0.9s,baz=22,slow=10,SNR=3.6						
SAML	Samuel	160.02	249	PKPdf	PKPdf	03 30 52.9	+1.9
SAML				pPKPab		03 31 44.8	
SAML				SKKSac		03 41 55.5	
SAML	Samuel	160.02	249	ePKPdf	PKPdf	03 30 52.2	+1.2
LPAZ	La Paz	160.28	223	PKP	PKPdf	03 30 53.0	+1.8
	comp=Z,9.7nm,0.7s,baz=213,slow=1.9,SNR=56						
LPAZ				pPKP		03 31 06.9	
	comp=Z,15nm,0.8s,baz=157,slow=1.0,SNR=11						
LPAZ				PKPab	PKPab	03 31 33.5	-0.8
	comp=Z,11nm,0.9s,baz=172,slow=6.9,SNR=3.7						
LPAZ				PP	PP	03 35 22.9	+5.7
	comp=Z,5.5nm,1.2s,baz=202,slow=5.4,SNR=2.6						
LPAZ	La Paz	160.28	223	ePKPdf	PKPdf	03 30 53.9	+2.6
LPAZ				LR	LR		
	comp=Z,4μm,20.0s						
ARE	Arequipa	162.28	215	eP	PKPdf	03 31 03.0	+10
SDV	Santo Domingo	164.31	314	PKP	PKPdf	03 30 56.3	+1.0
	comp=Z,9.2nm,0.8s,baz=298,slow=1.3,SNR=12						
SDV				pPKP		03 31 11.0	
	comp=Z,11nm,0.8s,baz=299,slow=4.4,SNR=5.1						
SDV				PKPab	PKPab	03 31 51.7	-0.1
	comp=Z,14nm,0.8s,baz=38,slow=5.0,SNR=6.6						
SDV				PP	PP	03 35 37.6	-1.7
	comp=Z,16nm,0.8s,baz=67,slow=6.0,SNR=6.2						
SDV	Santo Domingo	164.31	314	ePKPdf	PKPdf	03 30 56.3	+1.0
JTS	JuntasAbangare	167.45	13	PKP	PKPdf	03 30 57.6	-0.2
	comp=Z,2.2nm,0.6s,baz=229,slow=11,SNR=3.3						
JTS				PKPab	PKPab	03 32 02.3	-3.2
	comp=Z,13nm,1.1s,baz=21,slow=14,SNR=3.4						
ROSC	El Rosal	169.72	312	PKP	PKPdf	03 31 01.2	+1.9
	comp=Z,17nm,0.8s,baz=116,slow=3.3,SNR=25						
ROSC				pPKP		03 31 14.4	
	comp=Z,19nm,0.9s,baz=255,slow=23,SNR=6.8						
ROSC				PKPab	PKPab	03 32 16.7	+1.2
	comp=Z,16nm,0.8s,baz=80,slow=12,SNR=3.0						
OTAV	Otavalo	175.78	302	ePKPdf	PKPdf	03 31 03.6	+1.5

IDC 03 03:30:44.0±3.1, 55.67N×35.20W, mb3.9/4, mb1 3.9/6, mb1mx3.6/24, mbtmp3.9/6, ML3.1/2, Error ellipse: s-maj=103.5km s-min=31.9km az=2.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	Schefferville	17.98	280	P	P	03 34 55.2	-1.4
	0.3nm,0.3s,baz=89,slow=15,SNR=6.1						
EKA	Eskdalemuir Ar	18.07	78	P	P	03 34 57.0	-0.9
	0.1nm,0.3s,baz=274,slow=9.3,SNR=3.1						
AKASG	Malin Array Be	37.68	70	P	P	03 37 59.6	-2.7
	0.4nm,0.4s,baz=299,slow=8.4,SNR=5.0						
BRTR	Keskin Array B	46.98	80	P	P	03 39 17.0	-1.2
	2.5nm,0.8s,baz=316,slow=6.7,SNR=9.7						
BVAR	Borovoye Array	55.62	45	P	P	03 40 21.4	-1.9
	1.0nm,0.7s,baz=323,slow=7.4,SNR=6.7						
MKAR	Makanchi Array	65.23	42	P	P	03 41 26.7	-2.3
	0.8nm,0.7s,baz=344,slow=6.1,SNR=6.7						

*NEIC **03** 03:32:51.0±0.9, 17.07N×120.70E, h94km±8km, mb4.0/2, Error ellipse: s-maj=13.0km s-min=8.3km az=75.0*
*MAN **03** 03:32:52, 17.31N×120.50E, h84km, mb4.3, ML3.2, MS3.0*
*IDC **03** 03:32:52.1±7.6, 17.05N×120.65E, h101km±69km, mb3.6/10, mb1 3.8/10

0.6nm,0.6s,mb3.5,baz=135,slow=8.4,SNR=6.3
CHKZ Chkalovo 77.20 330 *eP* **P 04 05 27.7 +0.4**
1.6nm,0.7s,mb3.9

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*NEIC **03** 03:54:48.7, 16.46N×101.14W, h16km, MD3.9(MEX), After MEX.*
MEX 03 03:54:48.7±0.7, 16.46N×101.14W, h15km±28km, MD3.9, 3C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.02**	**55**	*eP*	Pb	03 55 04.2	-3.3
CAIG				*eS*	Sb	03 55 16.9	-3.7
CAIG	**El Cayaco**	**1.02**	**55**	⇑*iP*	Pb	03 55 04.2	-3.4
CAIG				*eS*	Sb	03 55 16.9	-3.7
ZIIG	**Zihuatanejo**	**1.18**	**345**	*eP*	Pb	03 55 07.2	-3.1
ZIIG				*eS*	Sb	03 55 20.4	-4.8
ZIIG	**Zihuatanejo**	**1.18**	**345**	⇑*iP*	Pb	03 55 07.1	-3.2
ZIIG				*eS*	Sb	03 55 20.6	-4.6
ACX	**Acapulco**	**1.24**	**71**	*eP*	Pb	03 55 08.5	-2.8
ACX				*eS*	Sb	03 55 22.5	-4.5
PLIG	**Platanillo**	**2.48**	**39**	*eP*	Pn	03 55 26.0	-3.2
PLIG				*eS*	Sn	03 55 55.1	-4.3
PLIG	**Platanillo**	**2.48**	**39**	⇑*iP*	Pn	03 55 26.0	-3.2
PLIG				*eS*	Sn	03 55 55.1	-4.3
YAIG	**Yautepec**	**3.10**	**39**	*eP*	Pn	03 55 34.1	-4.0
YAIG				*eS*	Sn	03 56 11.9	-3.3
MOIG	**Morelia**	**3.20**	**359**	*eP*	Pn	03 55 36.0	-3.6
MOIG				*eS*	Sn	03 56 12.2	-5.6
PPM	**Popocatepetl**	**3.53**	**42**	*eP*	Pn	03 55 40.6	-3.6
PPM				*eS*	Sn	03 56 24.0	-2.1
PPM	**Popocatepetl**	**3.53**	**42**	*eP*	Pn	03 55 40.5	-3.7
PPM				*eP*		03 55 40.6	
PPM				*eS*	Sn	03 56 22.4	-3.7
PPM				*eS*	Sn	03 56 24.0	-2.1

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*BJI **03** 04:06:41.7, 1.83N×96.16E, h41km, mB5.2, mb5.0, Ms4.9, Msz4.5*
*MOS **03** 04:06:45.5±1.1, 2.36N×96.22E, h33km, mb4.9/20, Error ellipse: s-maj=16.5km s-min=7.8km az=100.2*
*IDC **03** 04:06:46.3±0.6, 2.48N×96.32E, h21km±3km, mb4.3/15, mb1 4.4/15, mb1mx4.3/18, mbtmp4.4/15, Error ellipse: s-maj=27.0km s-min=11.7km az=45.0*
*NEIC **03** 04:06:46.4±0.3, 2.37N×96.22E, mb4.9/21, Error ellipse: s-maj=8.9km s-min=4.9km az=223.0*
ISC 03 04:06:44.8±0.4, 2.40N±0.06×96.25E±0.05, h26km, h26km±1.9km: pP-P, n94, σ0§98/96, mb4.7/52, MS4.8/3, 7C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.23**	**65**	P	**Pn**	**04 08 04.6**	**+1.1**
KULM	**Kulim**	**5.24**	**57**	⇑*iP*	**Pn**	**04 08 04.7**	**+1.0**
SNG	**Songkhla**	**6.44**	**42**	P	**Pn**	**04 08 21.0**	**+0.5**
	378nm,1.0s						
KGM	**Kluang**	**7.07**	**93**	P	**Pn**	**04 08 30.5**	**+1.1**
KSM	**Kuching**	**14.08**	**93**	*eP*	**P**	**04 10 06.3**	**+1.3**
KSM				*e*		04 10 13.6	
KKTK	**Khon Kaen**	**15.29**	**25**	P	**P**	**04 10 25.0**	**+4.1**
	370nm,1.0s						
NANT	**Nan**	**16.88**	**15**	P	**P**	**04 10 39.0**	**-2.1**
NANT				P		04 10 41.0	
KKM	**Kota Kinabalu**	**20.23**	**79**	*eP*	**P**	**04 11 21.1**	**+0.1**
KKM	**Kota Kinabalu**	**20.23**	**79**	P	**P**	**04 11 21.1**	**+0.1**
HYB	**Hyderabad**	**22.91**	**312**	*eP*	**P**	**04 11 58.0**	**+10**
SHL	**Shillong**	**23.42**	**350**	*eP*	**P**	**04 11 48.0**	**-5.0**
KMI	**Kunming**	**23.45**	**15**	P	**P**	**04 11 55.0**	**+1.8**
KMI				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.5						
KMI	**Kunming**	**23.45**	**15**	P	**P**	**04 11 55.0**	**+1.8**
	comp=Z,16nm,0.9s,mb4.5						
GYA	**Guiyang**	**25.93**	**22**	P	**P**	**04 12 16.8**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
JIRN	**Jiri**	**26.90**	**340**	*eP*	**P**	**04 12 27.0**	**+1.1**
	comp=Z,96nm,0.8s,mb5.4						
PKI	**Pulchoki**	**27.10**	**338**	*eP*	**P**	**04 12 28.1**	**+0.4**
	comp=Z,45nm,0.9s,mb5.0						
PKI	**Pulchoki**	**27.10**	**338**	*eP*	**P**	**04 12 28.1**	**+0.4**
PKI				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.7						
GUN	**Gumba**	**27.24**	**340**	*eP*	**P**	**04 12 29.9**	**+0.9**
	comp=Z,78nm,0.7s,mb5.3						
DMN	**Daman**	**27.25**	**338**	*eP*	**P**	**04 12 29.4**	**+0.4**
	comp=Z,24nm,0.6s,mb4.9						
KKN	**Kakani**	**27.34**	**338**	*eP*	**P**	**04 12 30.4**	**+0.5**
	comp=Z,53nm,0.8s,mb5.1						
KKN	**Kakani**	**27.34**	**338**	*eP*	**P**	**04 12 30.4**	**+0.5**
KKN				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.8						
LSA	**Lhasa**	**27.58**	**350**	P	**P**	**04 12 32.2**	**+0.1**
LSA	**Lhasa**	**27.58**	**350**	*eP*	**P**	**04 12 32.8**	**+0.7**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6						
LSA	**Lhasa**	**27.58**	**350**	*eP*	**P**	**04 12 32.8**	**+0.7**
	comp=Z,11nm,0.7s,mb4.6						
GKN	**Gorkha**	**27.78**	**338**	*eP*	**P**	**04 12 34.4**	**+0.5**
	comp=Z,54nm,0.8s,mb5.2						
KOLN	**Koldanda**	**27.98**	**336**	*eP*	**P**	**04 12 36.4**	**+0.7**
	comp=Z,43nm,0.8s,mb5.2						
MBWA	**Marble Bar**	**32.81**	**137**	P	**P**	**04 13 17.9**	**-0.6**
WHN	**Wuhan**	**32.82**	**30**	⇓P	**P**	**04 13 18.4**	**-0.2**
XAN	**Xi'an**	**33.63**	**19**	P	**P**	**04 13 23.8**	**-1.8**
XAN				AMB	AMB		
	comp=Z,39nm,0.8s,mb5.4						
LZH	**Lanzhou**	**34.25**	**11**	⇑P	**P**	**04 13 29.8**	**-1.1**
LZH				AP	pP	04 13 38.1	-0.6
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
LZH	**Lanzhou**	**34.25**	**11**	⇑P	**P**	**04 13 29.8**	**-1.1**
LZH				*SP	sP	04 13 41.3	-0.7
LZH				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
LZH	**Lanzhou**	**34.25**	**11**	⇑P	**P**	**04 13 29.8**	**-1.1**
	comp=Z,26nm,1.2s,mb5.0						
LZH				pP	pP	04 13 38.1	-0.6
LZH				sP	sP	04 13 41.3	-0.7
FITZ	**Fitzroy Crossi**	**35.39**	**126**	P	**P**	**04 13 40.0**	**-0.8**
	comp=Z,6.7nm,0.6s,mb4.8,baz=332,slow=4.1,SNR=14						
NJ2	**Nanjing**	**36.37**	**33**	*eP*	**P**	**04 13 48.1**	**-0.9**
NJ2				AP	pP	04 13 59.1	+2.4
NJ2				XP	sP	04 14 01.8	+1.8
NJ2				PP	PP	04 15 15.5	+2.8
NJ2				S	**S**	**04 19 35.0**	**+7.1**
NJ2				XS		04 19 51.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,460nm,4.8s						
NJ2				LR	LR		
	comp=N,2μm,17.4s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,21.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,750nm,13.3s						
GTA	**Gaotai**	**36.98**	**5**	P	**P**	**04 13 53.8**	**-0.2**
GTA				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.2						
SSE	**Sheshan**	**37.01**	**37**	P	**P**	**04 13 53.2**	**-1.1**
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,219nm,10.1s						
SSE	**Sheshan**	**37.01**	**37**	P	**P**	**04 13 53.2**	**-1.1**
	comp=Z,21nm,0.8s,mb5.0						
HHC	**Hu-ho-hao-te**	**40.70**	**18**	*eP*	**P**	**04 14 23.6**	**-1.4**
HHC				AP	pP	04 14 33.9	+1.1
HHC				XP	sP	04 14 36.8	+0.7
HHC				PP	PP	04 16 04.2	+2.2
HHC				PCP	PcP	04 16 24.7	-2.2
HHC				SCP		04 20 10.1	
HHC				PCS		04 20 12.7	
HHC				S	**S**	**04 20 30.3**	**-3.1**
HHC				XS		04 20 50.8	
HHC				SS	SS	04 23 33.6	+4.1
HHC				SCS	ScS	04 24 24.8	-1.7
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,298nm,7.8s						
HHC				LR	LR		
	comp=N,553nm,18.1s,MS4.6						
HHC				LR	LR		
	comp=E,587nm,16.2s,MS4.6						
HHC				LR	LR		
	comp=Z,741nm,27.3s						
BJT	**Baijiatuau**	**41.58**	**23**	*eP*	**P**	**04 14 33.2**	**+0.9**
BJT				pmax	pmax		
	comp=Z,41nm,0.7s						
BJT	**Baijiatuau**	**41.58**	**23**	*eP*	**P**	**04 14 33.2**	**+0.9**
	comp=Z,41nm,0.7s,mb5.2						
BJI	**Beijing**	**41.60**	**23**	P	**P**	**04 14 33.5**	**+1.1**
BJI				AMB	AMB		
	comp=Z,62nm,0.7s,mb5.3						
BJI	**Beijing**	**41.60**	**23**	P	**P**	**04 14 33.5**	**+1.1**
	comp=Z,62nm,0.7s,mb5.3						
WMQ	**Urumqi**	**41.94**	**351**	⇑*iP*	**P**	**04 14 36.0**	**+0.8**
WMQ				AP	pP	04 14 45.6	+2.6
WMQ				XP	sP	04 14 50.0	+3.7
WMQ				PP	PP	04 16 16.7	+1.3
WMQ				PCP	PcP	04 16 32.0	+1.0
WMQ				S	**S**	**04 20 52.0**	**+0.2**
WMQ				XS		04 21 08.0	
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,162nm,6.2s						
WMQ				LR	LR		
	comp=N,638nm,17.1s,MS4.8						
WMQ				LR	LR		
	comp=E,943nm,16.1s,MS4.8						
WMQ				LR	LR		
	comp=Z,534nm,20.4s,MS4.4						
WRA	**Warramunga Arr**	**43.47**	**122**	P	**P**	**04 14 47.8**	**-0.2**
	comp=Z,2.0nm,0.4s,mb4.2,baz=302,slow=9.1,SNR=29						
WRA				pP	pP	04 14 55.3	-0.5
	comp=Z,3.1nm,0.5s,baz=301,slow=9.2,SNR=18						
WRAB	**Tennant Creek**	**43.47**	**122**	*eP*	**P**	**04 14 48.0**	**0.0**
WRAB				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**43.47**	**122**	*eP*	**P**	**04 14 48.0**	**+0.1**
	comp=Z,12nm,0.9s,mb4.6						
ULHL	**Ulahol**	**43.54**	**338**	P	**P**	**04 14 49.5**	**+1.3**
	SNR=14						
UCH	**Uchtor**	**44.18**	**337**	P	**P**	**04 14 55.0**	**+1.6**
	SNR=12						
TKM2	**Tokmak 2**	**44.36**	**338**	P	**P**	**04 14 56.3**	**+1.4**
	SNR=10						
AML	**Almayashu**	**44.43**	**336**	P	**P**	**04 14 57.4**	**+1.9**
	SNR=8.1						
AAK	**Ala-Archa**	**44.54**	**337**	*iP*	**P**	**04 14 56.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**44.54**	**337**	*eP*	**P**	**04 14 56.9**	**+0.6**
	comp=Z,7.4nm,1.1s,mb4.4						
ASAR	**Alice Springs**	**44.87**	**127**	P	**P**	**04 14 59.0**	**-0.2**
	comp=Z,1.3nm,0.7s,mb3.9,baz=299,slow=7.8,SNR=21						
USP	**Ospenovka**	**45.07**	**338**	P	**P**	**04 15 01.4**	**+0.9**
	SNR=12						
MKAR	**Makanchi Array**	**45.86**	**347**	*iP*	**P**	**04 15 06.8**	**0.0**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
MKAR	**Makanchi Array**	**45.86**	**347**	P	**P**	**04 15 06.9**	**+0.1**
	comp=Z,25nm,0.8s,mb5.2,baz=162,slow=7.7,SNR=224						
SONM	**Songino Array**	**46.11**	**9**	P	**P**	**04 15 08.8**	**+0.1**
	comp=Z,9.9nm,0.5s,mb5.0,baz=190,slow=9.3,SNR=94						
SONM				PcP	PcP	04 16 45.3	+0.2
	comp=Z,1.5nm,0.6s,baz=188,slow=3.2,SNR=3.5						
SONM				pPcP		04 16 52.7	
	comp=Z,1.1nm,0.6s,baz=197,slow=3.5,SNR=4.1						
ULN	**Ulaanbaatar**	**46.25**	**10**	*eP*	**P**	**04 15 09.7**	**-0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**46.25**	**10**	*eP*	**P**	**04 15 09.7**	**-0.1**
	comp=Z,5.1nm,0.6s,mb4.6						
KKAR	**Karatay Array**	**46.57**	**334**	*iP*	**P**	**04 15 13.1**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ZAK	**Zakamensk**	**48.18**	**6**	*eP*	**P**	**04 15 24.8**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
CN2	**Changchun**	**48.69**	**28**	*eP*	**P**	**04 15 27.9**	**-1.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
TLY	**Talaya**	**49.50**	**6**	*iP*	**P**	**04 15 36.2**	**+1.0**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**50.40**	**346**	*eP*	**P**	**04 15 41.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
KURK	**Kurchatov**	**50.40**	**346**	*eP*	**P**	**04 15 41.6**	**-0.4**
	comp=Z,16nm,1.1s,mb5.0						
PMG	**Port Moresby**	**52.05**	**104**	P	**P**	**04 15 54.9**	**-0.2**
	comp=Z,14nm,0.8s,mb5.0,baz=239,slow=5.9,SNR=3.1						
ZAL	**Zalesovo**	**52.23**	**351**	P	**P**	**04 15 55.2**	**-0.7**
	comp=Z,11nm,0.5s,mb5.1,baz=309,slow=5.6,SNR=47						
NVS	**Novosibirsk**	**53.35**	**351**	*iP*	**P**	**04 16 02.5**	**-1.6**
NVS				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
NVS				pmax	pmax		
	comp=N,11nm,1.4s						
BVA0	**Borovoye Array**	**54.82**	**341**	P	**P**	**04 16 13.9**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**54.82**	**341**	P	**P**	**04 16 14.0**	**-1.0**
	comp=Z,5.5nm,0.7s,mb4.7,baz=142,slow=8.7,SNR=48						
STKA	**Stephens Creek**	**54.85**	**132**	P	**P**	**04 16 16.0**	**+0.5**
	comp=Z,3.2nm,0.9s,mb4.4,baz=280,slow=11,SNR=3.1						
CHKZ	**Chkalovo**	**55.30**	**342**	⇑*iP*	**P**	**04 16 17.8**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.5						
CHKZ	**Chkalovo**	**55.30**	**342**	⇑*iP*	**P**	**04 16 17.8**	**-0.6**
	comp=Z,32nm,0.6s,mb5.5						
BOD	**Bodaibo**	**57.02**	**11**	*eP*	**P**	**04 16 29.6**	**-1.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
KMBO	**Kilima Mbogo**	**59.09**	**267**	*eP*	**P**	**04 16 46.8**	**+1.0**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	**Kilima Mbogo**	**59.09**	**267**	P	**P**	**04 16 47.1**	**+1.2**
	comp=Z,0.3nm,0.3s,mb3.8,baz=66,slow=13,SNR=6.4						
KMBO				pP	pP	04 16 54.0	+0.1
	comp=Z,1.3nm,0.8s,baz=64,slow=11,SNR=6.1						
KMBO	**Kilima Mbogo**	**59.09**	**267**	*eP*	**P**	**04 16 46.8**	**+1.0**
	comp=Z,1.9nm,0.8s,mb4.2						
SVE	**Sverdlovsk**	**61.24**	**339**	*eP*	**P**	**04 16 59.1**	**-0.8**
SVE				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.1						
ARU	**Arti**	**61.72**	**337**	⇓*iP*	**P**	**04 17 01.2**	**-2.0**
ARU				*e*		04 19 22.3	
ARU				*eS*	**S**	**04 25 26.8**	**+4.2**
ARU				*e*		04 26 52.7	
ARU				*eSS*	SS	04 29 26.2	+0.2
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
YAK	**Yakutsk**	**64.55**	**17**	*eP*	**P**	**04 17 20.2**	**-1.6**
YAK				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.4						
YAK	**Yakutsk**	**64.55**	**17**	*eP*	**P**	**04 17 20.2**	**-1.5**
	comp=Z,23nm,0.6s,mb5.4						
BRTR	**Keskin Array B**	**67.61**	**312**	P	**P**	**04 17 40.9**	**-0.8**
	comp=Z,1.1nm,0.7s,mb4.0,baz=27,slow=3.2,SNR=3.8						
BRTR				pP	pP	04 17 47.6	-2.2
	comp=Z,0.7nm,0.6s,baz=154,slow=9.4,SNR=3.7						
MA2	**Magadan**	**70.67**	**26**	*eP*	**P**	**04 17 59.8**	**-0.4**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
MA2	**Magadan**	**70.67**	**26**	*eP*	**P**	**04 17 59.8**	**-0.4**
	comp=Z,6.8nm,0.8s,mb4.6						
OBN	**Obninsk**	**71.11**	**328**	*eP*	**P**	**04 18 01.3**	**-1.6**
OBN				pmax	pmax		
	comp=Z,20nm,2.5s,mb4.6						
TIXI	**Tiksi**	**72.18**	**10**	*iP*	**P**	**04 18 08.3**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
AKASG	**Malin Array Be**	**73.74**	**322**	P	**P**	**04 18 17.7**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=91,slow=5.1,SNR=5.0						
AKASG				pP	pP	04 18 24.6	-2.2
	comp=Z,0.7nm,0.5s,baz=89,slow=5.2,SNR=4.4						
FINES	**FINESS Array B**	**78.51**	**333**	P	**P**	**04 18 45.2**	**0.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=90,slow=7.6,SNR=8.2						
BILL	**Biibino**	**80.39**	**21**	*iP*	**P**	**04 18 55.0**	**-0.2**
ARCES	**ARCESS Array B**	**81.10**	**340**	P	**P**	**04 18 59.4**	**+0.4**
	comp=Z,4.8nm,0.9s,mb4.4,baz=90,slow=4.9,SNR=6.4						
ARCES				pP	pP	04 19 06.2	-1.0
	comp=Z,2.0nm,0.6s,baz=80,slow=7.4,SNR=4.0						
ARCES	**ARCESS Array B**	**81.10**	**340**	P	**P**	**04 18 59.4**	**+0.4**
ARCES				pP	pP	04 19 06.2	-1.0
GERES	**GERESS Array B**	**83.30**	**319**	P	**P**	**04 19 12.2**	**+1.4**
	comp=Z,0.2nm,0.3s,mb3.6,baz=117,slow=6.0,SNR=7.5						
GERES				pP	pP	04 19 19.3	+0.2
	comp=Z,0.6nm,0.8s,baz=117,slow=6.0,SNR=4.3						
INK	**Inuvik**	**101.62**	**17**	P	P	04 20 33.6	-2.5
	comp=Z,0.7nm,0.9s,baz=270,slow=4.0,SNR=4.7						
TXAR	**Lajitas Array**	**143.13**	**30**	PKhKP		04 26 13.8	
	comp=Z,0.4nm,0.7s,slow=1.3,SNR=5.1						
TXAR				PKP	PKPdf	04 26 17.1	-4.8
	comp=Z,0.4nm,0.7s,baz=18,slow=2.6,SNR=5.2						

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*IDC **03** 04:17:11.6±6.9, 24.66N×126.39E, mb3.6/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.7/4, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx3.2/24, Error ellipse: s-maj=135.0km s-min=32.6km az=154.0*
*JMA **03** 04:17:17.8±0.2, 25.36N×126.24E, M3.7*
ISC 03 04:17:19.6±0.4, 25.40N±0.08×126.18E±0.07, h10km, n17, σ1§12/29, mb3.2/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.95**	**228**	P	**Pb**	**04 17 36.6**	**-1.0**
JOGS				S	**Sb**	**04 17 50.8**	**+0.8**
JMJ	**Miyako jima 2**	**0.99**	**234**	P	**Pb**	**04 17 37.5**	**-0.9**
JMJ				*eS*	**Sb**	**04 17 52.3**	**+1.0**
JKE	**Kume jima 2**	**1.07**	**31**	P	**Pb**	**04 17 38.8**	**-1.0**
JKE				*eS*	**Sb**	**04 17 55.6**	**+1.9**
JAGN	**Aguni-jima**	**1.52**	**39**	P	**Pn**	**04 17 45.4**	**-1.6**
JAGN				S	**Sb**	**04 18 06.9**	**+0.2**
JTJ	**Tarama**	**1.54**	**241**	P	**Pn**	**04 17 45.6**	**-1.7**
JTJ				*eS*	**Sb**	**04 18 07.7**	**+0.5**
NAH1	**Naha**	**1.58**	**59**	P	**Pn**	**04 17 47.0**	**-0.9**
NAH1				*eS*	**Sb**	**04 18 07.9**	**-0.5**
JJT2	**Tamagusuku 2**	**1.59**	**62**	P	**Pn**	**04 17 47.8**	**-0.3**
JJT2				S	**Sb**	**04 18 09.6**	**+0.8**
JIJ	**Ishigaki jima**	**2.12**	**241**	P	**Pn**	**04 17 55.4**	**-0.1**
JIJ				S	**Sn**	**04 18 23.3**	**+1.2**
JKRS	**Kuro-shima**	**2.29**	**240**	P	**Pn**	**04 17 58.3**	**+0.3**
JIH	**Iheya**	**2.29**	**44**	P	**Pn**	**04 17 58.1**	**+0.1**
JIH				*eS*	**Sn**	**04 18 27.4**	**+0.9**
JOW	**Kunigami**	**2.36**	**52**	Pn	**Pn**	**04 17 57.7**	**-1.4**
	28nm,0.3s,baz=204,slow=12,SNR=50						
JOW				Sn	**Sn**	**04 18 30.2**	**+1.8**
	15nm,0.3s,baz=137,slow=19,SNR=4.3						
JOW				LR	LR	04 18 44.9	
	comp=Z,511nm,19.6s,baz=114,slow=34						
JOW	**Kunigami**	**2.36**	**52**	P	**Pn**	**04 18 00.8**	**+1.7**
JOW				*eS*	**Sn**	**04 18 30.3**	**+1.9**
IRIF	**Iriomote-Funau**	**2.46**	**245**	P	**Pn**	**04 18 00.3**	**-0.2**
IRIF				*eS*	**Sn**	**04 18 32.1**	**+1.2**
JAM	**Amami Oshima**	**4.29**	**45**	P	**Pn**	**04 18 22.1**	**-4.3**
SONM	**Songino Array**	**27.30**	**330**	P	**P**	**04 23 05.4**	**-0.8**
	0.2nm,0.4s,mb3.0,baz=149,slow=9.7,SNR=5.7						
MKAR	**Makanchi Array**	**40.73**	**313**	P	**P**	**04 24 58.8**	**-3.3**
	0.1nm,0.4s,mb2.8,baz=101,slow=11,SNR=3.9						
FINES	**FINESS Array B**	**72.67**	**330**	P	**P**	**04 28 45.3**	**-3.8**
	0.9nm,0.9s,mb3.7,baz=63,slow=4.3,SNR=5.4						

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*IDC **03** 04:31:25.1±1.0, 1.83S×133.29E, mb4.1/8, mb1 4.4/10, mb1mx4.3/16, mbtmp4.3/10, ML4.5/2, MS5.1/4, Ms1 5.1/4, ms1mx4.2/24, Error ellipse: s-maj=61.9km s-min=15.1km az=72.0*
*NEIC **03** 04:31:26.4±0.6, 1.82S×133.56E, h10km, mb4.5/10, Error ellipse: s-maj=21.6km s-min=7.9km az=72.0*
*MOS **03** 04:31:28.1±1.2, 1.79S×133.52E, h33km, mb4.5/4, Error ellipse: s-maj=41.3km s-min=12.3km az=108.0*
ISC 03 04:31:28.5±0.6, 1.99S±0.05×133.2E±0.1, h33km, n36, σ1§43/40, mb4.4/17, MS5.2/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.67**	**204**	*eP*	**P**	**04 35 33.7**	**-0.1**
	11nm,0.4s						
FITZ				*eS*	**S**	**04 38 45.1**	**-2.0**
FITZ	**Fitzroy Crossi**	**17.67**	**204**	P	**P**	**04 35 33.6**	**-0.2**
	2.7nm,0.3s,baz=24,slow=11,SNR=36						
FITZ				S	**S**	**04 38 43.4**	**-3.7**
	2.1nm,0.3s,baz=143,slow=11,SNR=6.5						
WRAB	**Tennant Creek**	**17.87**	**177**	*eP*	**P**	**04 35 37.2**	**+0.9**
WRAB				*eS*	**S**	**04 38 46.1**	**-5.7**
WRAB				pmax	pmax		
	comp=Z,17nm,0.6s						
WRAB	**Tennant Creek**	**17.87**	**177**	*eP*	**P**	**04 35 37.2**	**+0.9**
	comp=Z,17nm,0.6s						
WRAB				*eS*	**S**	**04 38 46.1**	**-5.7**
WRA	**Warramunga Arr**	**17.88**	**177**	P	**P**	**04 35 37.4**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=356,slow=12,SNR=44						
WRA				S	**S**	**04 38 50.3**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=359,slow=23,SNR=5.7						
WB2	**Warramunga Arr**	**17.88**	**177**	*eP*	**P**	**04 35 37.2**	**+0.8**
WB2				*eS*	**S**	**04 38 48.4**	**-3.6**
ASAR	**Alice Springs**	**21.56**	**178**	P	**P**	**04 36 17.9**	**+0.7**
	comp=Z,11nm,0.7s,mb4.4,baz=9.8,slow=13,SNR=42						
ASAR				S	**S**	**04 40 13.8**	**+4.5**
	comp=Z,4.2nm,0.9s,slow=28,SNR=3.1						
ASPA	**Alice Springs**	**21.56**	**178**	*eP*	**P**	**04 36 19.5**	**+2.3**
ASPA				*eS*	**S**	**04 40 18.2**	**+8.9**
CTA	**Charters Tower**	**22.03**	**146**	P	**P**	**04 36 21.6**	**-0.3**
	comp=Z,4.3nm,0.8s,mb3.9,baz=338,slow=11,SNR=4.5						
CTAO	**Charters Tower**	**22.03**	**146**	*eP*	**P

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.24**	**26**	P	P	05 13 42.5	-1.7
	0.3nm,0.6s,baz=211,slow=10.0,SNR=4.4						
FINES	**FINESS Array B**	**55.74**	**343**	P	P	05 15 25.8	-2.4
	0.8nm,0.7s,baz=135,slow=9.8,SNR=5.0						
ESDC	**Sonseca Array**	**61.05**	**310**	P	P	05 16 03.4	-2.2
	0.4nm,0.5s,baz=84,slow=5.8,SNR=7.4						

IDC 03 05:09:21.5±4.8, 6.33S×102.26E, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=177.1km s-min=32.8km az=52.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.96**	**117**	P	P	05 16 06.8	-2.2
	0.5nm,0.8s,baz=290,slow=12,SNR=4.1						
SONM	**Songino Array**	**54.05**	**3**	P	P	05 18 48.7	-1.2
	0.2nm,0.4s,baz=178,slow=8.4,SNR=6.3						
MKAR	**Makanchi Array**	**55.78**	**344**	P	P	05 18 59.4	-3.3
	0.5nm,0.7s,baz=149,slow=7.1,SNR=5.8						

MAN 03 05:11:22.6, 8.46N×124.55E, h32km, mb3.7, ML2.4, MS2.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.14**	**93**	⇑*eP*	Pn	05 11 29.8	+1.6
CGP				*i* S	Sn	05 11 34.4	+2.7
SNPH	**Sibulan**	**1.57**	**304**	*eP*	Pn	05 11 52.0	+3.3

*IDC **03** 05:15:33.4±1.0, 0.75N×97.29E, mb4.2/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.2/14, ML4.5/1, Error ellipse: s-maj=51.0km s-min=14.8km az=53.0*
*BJI **03** 05:15:35.2, 0.83N×98.00E, h19km, mb4.9*
*NEIC **03** 05:15:38.1±0.4, 0.78N×97.40E, h30km, mb4.5/6, Error ellipse: s-maj=14.9km s-min=6.8km az=55.0*
ISC 03 05:15:36.9±0.6, 0.79N±0.08×97.38E±0.08, h33km, n30, σ0§78/29, mb4.3/20, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.24**	**44**	P	P	05 16 55.4	+0.5
KULM	**Kulim**	**5.54**	**36**	⇑*iP*	P	05 16 58.8	-0.3
KGM	**Kluang**	**6.07**	**78**	P	P	05 17 07.6	+1.1
CMAR	**Chiang Mai Arr**	**17.63**	**5**	Pn	P	05 19 40.7	-1.0
	0.7nm,0.3s,baz=193,slow=12,SNR=13						
SHL	**Shillong**	**25.20**	**348**	*eP*	P	05 21 02.5	+1.2
SHL				*eP*		05 23 08.0	
JIRN	**Jiri**	**28.79**	**339**	*eP*	P	05 21 35.3	+1.2
	5.6nm,0.4s,mb4.7						
PKI	**Pulchoki**	**29.00**	**338**	*eP*	P	05 21 35.7	-0.3
GUN	**Gumba**	**29.13**	**339**	*eP*	P	05 21 38.3	+1.2
	13nm,0.4s,mb5.0						
KKN	**Kakani**	**29.25**	**338**	*eP*	P	05 21 38.6	+0.5
	17nm,0.8s,mb4.8						
KOLN	**Koldanda**	**29.90**	**335**	*eP*	P	05 21 44.3	+0.3
	13nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.55**	**125**	P	P	05 22 15.3	-0.8
	4.6nm,0.8s,mb4.5,baz=347,slow=14,SNR=4.8						
XAN	**Xi'an**	**34.80**	**17**	P	P	05 22 25.4	-1.3
XAN				AP	pP	05 22 30.4	-6.0
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**41.67**	**122**	P	P	05 23 23.6	-0.7
	comp=Z,1.4nm,0.5s,mb3.8,baz=302,slow=9.0,SNR=11						
WRAB	**Tennant Creek**	**41.67**	**122**	*eP*	P	05 23 24.3	0.0
ASAR	**Alice Springs**	**43.01**	**127**	P	P	05 23 35.8	+0.5
	comp=Z,1.5nm,0.7s,mb3.9,baz=297,slow=7.7,SNR=15						
SONM	**Songino Array**	**47.51**	**8**	P	P	05 24 10.7	-0.2
	comp=Z,1.0nm,0.4s,mb4.2,baz=188,slow=10.0,SNR=16						
MKAR	**Makanchi Array**	**47.68**	**346**	P	P	05 24 12.6	+0.4
	comp=Z,4.1nm,0.5s,mb4.7,baz=162,slow=8.9,SNR=50						
KURK	**Kurchatov**	**52.23**	**345**	*eP*	P	05 24 46.5	-0.4
	comp=Z,4.1nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**52.95**	**132**	P	P	05 24 52.9	+0.3
	comp=Z,1.8nm,0.5s,mb4.2,baz=305,slow=22,SNR=2.9						
ZAL	**Zalesovo**	**53.98**	**351**	P	P	05 24 59.0	-0.9
	comp=Z,3.4nm,0.6s,mb4.5,baz=310,slow=5.6,SNR=16						
BVAR	**Borovoye Array**	**56.70**	**341**	P	P	05 25 18.2	-1.3
	comp=Z,1.5nm,0.7s,mb4.1,baz=135,slow=8.4,SNR=11						
CHKZ	**Chkalovo**	**57.17**	**341**	*eP*	P	05 25 21.8	-1.1
	comp=Z,5.5nm,1.0s,mb4.5						
AKASG	**Malin Array Be**	**75.69**	**322**	P	P	05 27 19.9	-0.8
	comp=Z,0.4nm,0.4s,mb3.7,baz=89,slow=5.5,SNR=5.0						
FINES	**FINESS Array B**	**80.44**	**333**	P	P	05 27 47.0	+0.3
	comp=Z,0.8nm,0.5s,mb3.9,baz=105,slow=6.0,SNR=10						
FINES	**FINESS Array B**	**80.44**	**333**	P	P	05 27 47.0	+0.3
GERES	**GERESS Array B**	**85.24**	**319**	P	P	05 28 12.6	+1.2
	comp=Z,0.1nm,0.4s,mb3.3,baz=108,slow=4.2,SNR=6.3						
HFS	**Hagfors**	**86.17**	**330**	P	P	05 28 16.2	+0.4
	comp=Z,1.2nm,0.6s,mb4.3,baz=143,slow=7.4,SNR=4.2						
NB2	**NORSAR Subarra**	**87.45**	**331**	P	P	05 28 22.0	0.0
	comp=Z,0.6nm,0.6s,mb4.0,baz=93,slow=5.3						
NOA	**NORSAR Array B**	**87.45**	**331**	P	P	05 28 21.9	-0.1
	comp=Z,0.9nm,0.7s,mb4.1,baz=94,slow=4.8,SNR=4.9						
TXAR	**Lajitas Array**	**143.92**	**32**	PKP	PKPdf	05 35 10.3	+0.8
	comp=Z,0.2nm,0.6s,baz=180,slow=1.3,SNR=3.6						

*IDC **03** 05:17:36.1±1.0, 0.22N×96.33E, mb4.3/14, mb1 4.4/14, mb1mx4.3/19, mbtmp4.3/14, Error ellipse: s-maj=53.3km s-min=14.8km az=50.0*
*MOS **03** 05:17:39.5±0.9, 0.34N×96.60E, h33km, mb4.8/2, Error ellipse: s-maj=41.4km s-min=12.9km az=116.5*
*NEIC **03** 05:17:40.7±0.6, 0.15N×96.41E, h30km, mb4.5/5, Error ellipse: s-maj=33.5km s-min=7.3km az=52.0*
ISC 03 05:17:39.6±0.8, 0.3N±0.2×96.5E±0.2, h33km, n30, σ0§90/28, mb4.4/19, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JIRN	**Jiri**	**28.98**	**341**	*eP*	P	05 23 39.9	+1.4
	15nm,0.7s,mb4.8						
PKI	**Pulchoki**	**29.17**	**339**	*eP*	P	05 23 39.6	-0.6
GUN	**Gumba**	**29.32**	**340**	*eP*	P	05 23 42.9	+1.4
KKN	**Kakani**	**29.41**	**339**	*eP*	P	05 23 42.8	+0.4
GKN	**Gorkha**	**29.84**	**338**	*eP*	P	05 23 47.0	+0.9
	22nm,1.0s,mb4.9						
KOLN	**Koldanda**	**30.02**	**337**	*eP*	P	05 23 48.7	+0.9
	16nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.94**	**124**	P	P	05 24 22.0	-0.2
	4.2nm,0.9s,mb4.4,baz=350,slow=14,SNR=4.6						
WRA	**Warramunga Arr**	**42.12**	**121**	P	P	05 25 31.3	+0.5
	0.6nm,0.4s,mb3.5,baz=302,slow=9.3,SNR=5.7						
WRAB	**Tennant Creek**	**42.12**	**121**	P	P	05 25 29.1	-1.7
ASAR	**Alice Springs**	**43.38**	**126**	P	P	05 25 41.8	+0.7
	1.4nm,1.0s,mb3.6,baz=300,slow=7.3,SNR=5.2						
MKAR	**Makanchi Array**	**47.98**	**347**	P	P	05 26 17.4	+0.1
	7.2nm,0.5s,mb5.0,baz=165,slow=8.8,SNR=37						
SONM	**Songino Array**	**48.14**	**9**	P	P	05 26 18.3	-0.1
	1.5nm,0.6s,mb4.2,baz=190,slow=9.2,SNR=8.6						
SONM				PcP	PcP	05 27 45.7	-0.3
	1.5nm,0.9s,baz=192,slow=4.4,SNR=4.5						
KURK	**Kurchatov**	**52.51**	**346**	*eP*	P	05 26 51.7	0.0
KURK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
KURK	**Kurchatov**	**52.51**	**346**	*eP*	P	05 26 51.7	0.0
	comp=Z,7.5nm,1.3s,mb4.5						
STKA	**Stephens Creek**	**53.24**	**131**	P	P	05 26 58.4	+1.0
	comp=Z,2.3nm,0.7s,mb4.2,baz=301,slow=5.9,SNR=2.8						
ZAL	**Zalesovo**	**54.36**	**351**	P	P	05 27 04.7	-0.6
	comp=Z,10nm,0.4s,mb5.1,baz=311,slow=4.8,SNR=28						
NVS	**Novosibirsk**	**55.47**	**351**	*eP*	P	05 27 11.6	-1.8
BVAR	**Borovoye Array**	**56.91**	**341**	P	P	05 27 22.4	-1.4
	comp=Z,2.6nm,0.8s,mb4.3,baz=141,slow=9.5,SNR=9.5						
CHKZ	**Chkalovo**	**57.39**	**342**	*eP*	P	05 27 26.4	-0.8
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**57.39**	**342**	*eP*	P	05 27 26.4	-0.8
	comp=Z,3.8nm,0.6s,mb4.6						
BRTR	**Keskin Array B**	**69.25**	**313**	P	P	05 28 44.4	-1.1
	comp=Z,1.3nm,0.8s,mb3.9,baz=101,slow=6.3,SNR=5.7						
AKASG	**Malin Array Be**	**75.59**	**323**	P	P	05 29 21.9	-0.9
	comp=Z,1.2nm,0.5s,mb4.1,baz=90,slow=5.3,SNR=5.5						
AKASG	**Malin Array Be**	**75.59**	**323**	P	P	05 29 21.9	-0.9
FINES	**FINESS Array B**	**80.51**	**333**	P	P	05 29 49.5	-0.3
	comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=3.8,SNR=6.6						
ARCES	**ARCESS Array B**	**83.18**	**340**	P	P	05 30 04.0	+0.6
	comp=Z,17nm,1.2s,mb4.9,slow=8.5,SNR=5.9						
HFS	**Hagfors**	**86.19**	**330**	P	P	05 30 19.4	+0.8
	comp=Z,1.9nm,0.5s,mb4.6,baz=117,slow=3.3,SNR=10						
NB2	**NORSAR Subarra**	**87.49**	**331**	P	P	05 30 25.4	+0.5
	comp=Z,2.7nm,0.9s,mb4.5,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**87.49**	**331**	P	P	05 30 25.6	+0.6
	comp=Z,1.6nm,0.8s,mb4.3,baz=95,slow=4.7,SNR=4.1						
TXAR	**Lajitas Array**	**144.79**	**32**	PKP	PKPdf	05 37 15.3	+1.4
	comp=Z,0.8nm,0.6s,baz=200,slow=1.7,SNR=20						
JCT	**Junction City**	**145.69**	**26**	*eP*	PKPdf	05 37 17.2	+1.8
JCT				*e*		05 37 27.0	

*IDC **03** 05:18:12.7±1.3, 0.01S×96.56E, mb4.1/9, mb1 4.2/9, mb1mx4.0/17, mbtmp4.1/9, Error ellipse: s-maj=62.1km s-min=18.4km az=52.0*
*NEIC **03** 05:18:17.2±0.7, 0.01N×96.60E, h30km, mb4.2/1, Error ellipse: s-maj=37.5km s-min=10.0km az=53.0*
ISC 03 05:18:15.8±1.1, 0.1N±0.2×96.6E±0.3, h33km, n13, σ0§48/11, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.93**	**121**	P	P	05 26 05.8	+0.5
	0.6nm,0.5s,mb3.5,baz=308,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**43.17**	**126**	P	P	05 26 15.2	-0.3
	1.2nm,0.6s,mb3.8,baz=309,slow=7.5,SNR=6.2						
MKAR	**Makanchi Array**	**48.20**	**347**	P	P	05 26 55.9	+0.8
	3.7nm,0.8s,mb4.5,baz=153,slow=8.1,SNR=5.5						
SONM	**Songino Array**	**48.32**	**9**	P	P	05 26 56.3	+0.2
	1.2nm,0.6s,mb4.1,baz=191,slow=9.6,SNR=4.9						
STKA	**Stephens Creek**	**53.02**	**131**	P	P	05 27 31.8	-0.2
	4.7nm,1.0s,mb4.4,baz=114,slow=21,SNR=3.0						
ZAL	**Zalesovo**	**54.57**	**351**	P	P	05 27 42.8	-0.3
	6.3nm,0.4s,mb5.0,baz=302,slow=4.5,SNR=7.5						
BVAR	**Borovoye Array**	**57.13**	**341**	P	P	05 28 01.3	-0.2
	0.7nm,0.8s,mb3.8,baz=153,slow=6.6,SNR=3.5						
CHKZ	**Chkalovo**	**57.62**	**342**	*eP*	P	05 28 03.9	-1.0
	1.1nm,0.5s,mb4.1						
BRTR	**Keskin Array B**	**69.46**	**313**	P	P	05 29 23.4	+0.4
	0.8nm,0.7s,mb3.8,baz=127,slow=7.2,SNR=3.1						
FINES	**FINESS Array B**	**80.74**	**333**	P	P	05 30 27.3	+0.1
	0.4nm,0.5s,mb3.6,baz=108,slow=6.0,SNR=4.7						
FINES	**FINESS Array B**	**80.74**	**333**	P	P	05 30 27.3	+0.1
TXAR	**Lajitas Array**	**144.91**	**32**	PKPbc	PKPbc	05 37 52.6	+2.2
	0.5nm,0.4s,baz=297,slow=0.7,SNR=6.0						
JCT	**Junction City**	**145.83**	**26**	*e*PKP	PKPdf	05 37 53.9	+2.1

IDC 03 05:25:40.6±6.8, 1.86N×98.51E, mb3.7/4, mb1 3.9/4, mb1mx3.5/17, mbtmp3.7/4, Error ellipse: s-maj=350.1km s-min=23.6km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.28**	**123**	P	P	05 33 27.0	-2.6
	0.4nm,0.7s,baz=300,slow=8.7,SNR=3.3						
ASAR	**Alice Springs**	**42.76**	**129**	P	P	05 33 41.4	-0.4
	0.3nm,0.6s,baz=300,slow=8.2,SNR=3.8						
MKAR	**Makanchi Array**	**46.94**	**345**	P	P	05 34 13.0	-1.9
	0.8nm,0.7s,baz=154,slow=8.3,SNR=8.9						
ZAL	**Zalesovo**	**53.12**	**350**	P	P	05 34 59.8	-2.4
	1.3nm,0.4s,baz=328,slow=7.3,SNR=5.4						

*STR **03** 05:27:55.1±0.1, 48.08N×7.54E, h6km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **03** 05:27:55.1±0.2, 48.09N×7.59E, h10km, ML2.4/6, Error ellipse: s-maj=2.2km s-min=2.2km az=161.0*
*LDG **03** 05:27:55.1±0.0, 48.09N×7.53E, h8km, Md3.4/3, Ml2.9/21, Error ellipse: s-maj=0.9km s-min=0.7km az=161.0*
*NEIC **03** 05:27:55.1, 48.09N×7.53E, h8km, ML2.9(LDG), ML2.6(LEDBW), ML2.6(VIE), ML2.5(STR), After LDG.*
NEIC Felt in the Breisach am Rhein area, Germany.
*CSEM **03** 05:27:55.1±0.0, 48.08N×7.54E, h10km, ML3.0/18, Error ellipse: s-maj=0.8km s-min=0.5km az=165.0*
*PRU **03** 05:27:56.2, 48.16N×7.66E*
LEDBW 03 05:27:55.2±0.1, 48.07N×7.57E, h7km±2km, ML2.6, 10C-14D, Error ellipse: s-maj=2.2km s-min=1.4km az=33.0, France

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
LIBD	**Limburg**	**0.08**	**16**	⇑*iPg*	Pg	05 27 57.7	+0.4
LIBD				*i* Sg	Sg	05 27 59.5	+0.8
LIBD				P*	Pb	05 28 01.1	+2.4
LIBD	**Limburg**	**0.08**	**16**	*		00 00 01.5	
LIBD				⇑*iP*		05 27 57.7	
LIBD				*i* S	Sg	05 27 59.5	+0.8
FBB	**Freiburg**	**0.20**	**110**	⇓*iPg*	Pg	05 27 59.6	+0.1
FBB				Sg	Sg	05 28 02.7	+0.4
FBB	**Freiburg**	**0.20**	**110**	*		00 00 03.0	
FBB				⇓*iP*		05 27 59.6	
FBB				S	Sg	05 28 02.7	+0.4
KIZ	**Kirchzarten**	**0.26**	**116**	⇓*iPg*	Pg	05 28 00.4	-0.2
KIZ				*i* PmP		05 28 03.9	
KIZ				Sg	Sg	05 28 04.2	0.0
KIZ	**Kirchzarten**	**0.26**	**116**	⇓*iP*	Pg	05 28 00.4	-0.2
KIZ				⇓*iP*		05 28 00.4	
KIZ				*i* P		05 28 03.9	
KIZ				*e*S	Sg	05 28 03.9	-0.3
KIZ				S	Sg	05 28 04.2	0.0
KIZ	**Kirchzarten**	**0.26**	**116**	⇓*iP*	Pg	05 28 00.4	-0.2
KIZ				S	Sg	05 28 04.2	0.0
ECH	**Echery**	**0.31**	**298**	⇓*iPg*	Pg	05 28 01.3	-0.3
ECH				*i* Sg	Sg	05 28 05.2	-0.5
ECH	**Echery**	**0.31**	**298**	Pg	Pg	05 28 01.1	-0.4
ECH				Sg	Sg	05 28 05.1	-0.6
FELD	**Feldberg**	**0.35**	**124**	⇓*iPg*	Pg	05 28 02.1	-0.2
FELD				*e*Sg	Sg	05 28 06.8	-0.4
FELD	**Feldberg**	**0.35**	**124**	⇓*eP*	Pg	05 28 02.1	-0.3
FELD				⇓*iP*		05 28 02.1	
FELD				*e*S	Sg	05 28 07.2	+0.1
FELD	**Feldberg**	**0.35**	**124**	Pg	Pg	05 28 02.0	-0.4
MOF	**Molkenrain**	**0.37**	**233**	⇑*iPg*	Pg	05 28 02.4	-0.3
MOF	**Molkenrain**	**0.37**	**233**	Pg	Pg	05 28 02.2	-0.4
WLS	**Welschbruch**	**0.37**	**337**	⇓*iPg*	Pg	05 28 02.6	-0.1
WLS				Sg	Sg	05 28 07.4	-0.3
WLS	**Welschbruch**	**0.37**	**337**	Pg	Pg	05 28 02.4	-0.3
CDF	**Champ du Feu**	**0.39**	**330**	*e*Pg	Pg	05 28 02.7	-0.5
CDF				*e*Sg	Sg	05 28 06.7	-1.8
	66nm,0.3s						
HINF	**Hinteralfeld**	**0.54**	**242**	*e*Pg	Pg	05 28 05.3	-0.9
HINF				*e*Pn	Pn	05 28 07.3	-1.7
HINF				*e*Sg	Sg	05 28 12.2	-1.3
HINF	**Hinteralfeld**	**0.54**	**242**	*e*Pn	Pn	05 28 07.3	-1.7
HINF				*e*Sg	Sg	05 28 12.2	-1.3
BFO	**Black Forest**	**0.57**	**63**	⇑*iPg*	Pg	05 28 06.0	-0.7
BFO				PmP		05 28 07.1	
BFO				Sg	Sg	05 28 13.8	-0.5
BFO				SmS		05 28 16.3	
BFO	**Black Forest**	**0.57**	**63**	*e*Pg	Pg	05 28 06.0	-0.7
BFO				*e*Sg	Sg	05 28 13.8	-0.6
BFO	**Black Forest**	**0.57**	**63**	*e*Sg	Sg	05 28 13.8	-0.6
BBS	**Basel-Blauen**	**0.61**	**184**	Pg	Pg	05 28 06.8	-0.6
BBS	**Basel-Blauen**	**0.61**	**184**	Pg	Pg	05 28 06.9	-0.5
SPAK	**Spaichingen**	**0.82**	**87**	PG	Pg	05 28 11.4	-0.2
SPAK	**Spaichingen**	**0.82**	**87**	Pg	Pg	05 28 10.8	-0.8
SPAK				Sg	Sg	05 28 22.6	+0.1
HAU	**Haudompre**	**0.82**	**266**	*e*Pg	Pg	05 28 10.5	-1.2
HAU				*e*Pn	Pn	05 28 11.2	-1.8
HAU				*e*Sg	Sg	05 28 21.1	-1.5
	209nm,0.2s						
LOMF	**Lomont**	**0.88**	**215**	⇑*e*Pn	Pn	05 28 11.9	-1.9
LOMF				Pg	Pg	05 28 12.5	-0.3
LANF	**Langenberg**	**0.92**	**10**	Pg	Pg	05 28 12.6	-1.1
LANF				Sg	Sg	05 28 24.8	-1.2
LANF	**Langenberg**	**0.92**	**10**	P	Pb	05 28 12.4	-0.7
LBG	**Lerchenberg**	**1.01**	**54**	⇑*iPn*	Pn	05 28 13.5	-2.2
LBG				Pg	Pg	05 28 14.4	-1.1
LBG				Sg	Sg	05 28 27.9	-1.0
LBG	**Lerchenberg**	**1.01**	**54**	⇑*iP*	Pb	05 28 13.5	-1.1
LBG				Pg	Pg	05 28 14.4	-1.0
LBG				Sg	Sg	05 28 27.9	-1.1
LBG	**Lerchenberg**	**1.01**	**54**	PG	Pg	05 28 14.4	-1.0
LBG				SG	Sg	05 28 27.9	-1.1
SISB	**Singen-Sch Ber**	**1.02**	**112**	⇓*iPn*	Pn	05 28 14.9	-0.8
SISB				Sn	Sn	05 28 28.3	-2.1
GUT	**Gutenstein**	**1.04**	**90**	Pn	Pn	05 28 15.1	-1.0
GUT				PmP		05 28 15.3	
GUT				Sg	Sg	05 28 29.1	-0.7
THEF	**They Montfort**	**1.07**	**279**	Pn	Pn	05 28 14.9	-1.7
THEF	**They Montfort**	**1.07**	**279**	Pg	Pg	05 28 15.0	-1.6
THEF				Sg	Sg	05 28 28.8	-2.1
BUCH	**Bad Urach**	**1.25**	**72**	Pn	Pn	05 28 17.0	-2.1
BUCH				Pg	Pg	05 28 18.9	-1.3
STU	**Stuttgart**	**1.29**	**57**	*e*Pg	Pg	05 28 19.5	-1.5
	SNR=13						
STU				*e*Sg	Sg	05 28 36.1	-2.1
KTD	**Kalmit**	**1.29**	**15**	Sg	Sg	05 28 37.4	-1.0
RFYF	**Reffroy**	**1.50**	**293**	*e*Pg	Pg	05 28 22.5	-2.8
	baz=110						
RFYF				*e*Sn	Sn	05 28 38.7	-4.1
	baz=117						
RFYF				*e*Sg	Sg	05 28 41.9	-3.4
	99nm,0.2s						
SWS	**Schriesheim**	**1.60**	**28**	Sg	Sg	05 28 46.0	-2.6
RUP	**Ruppelstein**	**1.67**	**349**	Pg	Pg	05 28 26.5	-2.0
RUP	**Ruppelstein**	**1.67**	**349**	Pg	Pg	05 28 26.4	-2.1
SFTF	**Sexfontaines**	**1.70**	**275**	*e*Pn	Pn	05 28 23.1	-2.4
SFTF				*e*Pg	Pg	05 28 26.2	-3.0
	baz=109						
SFTF				*e*Sn	Sn	05 28 43.5	-4.2
	baz=99						
SFTF				*e*Sg	Sg	05 28 48.1	-3.7
	37nm,0.2s						
SFTF	**Sexfontaines**	**1.70**	**275**	*e*Pg	Pg	05 28 26.2	-3.0
SFTF				*e*Sn	Sn	05 28 43.5	-4.2
SFTF				*e*Sg	Sg	05 28 48.1	-3.7
	19nm,0.2s						
MEZF	**Maizieres J'vi**	**1.73**	**285**	*e*Pn	Pn	05 28 23.5	-2.5
MEZF				*e*Pg	Pg	05 28 26.9	-3.0
	baz=103						
MEZF				*e*Sn	Sn	05 28 44.3	-4.3
	baz=106						
MEZF				*e*Sg	Sg	05 28 48.9	-4.1
	68nm,0.5s,baz=104						
MEZF	**Maizieres J'vi**	**1.73**	**285**	*e*Pg	Pg	05 28 26.9	-3.0
MEZF				*e*Sn	Sn	05 28 44.3	-4.3
MEZF				*e*Sg	Sg	05 28 48.9	-4.1
	34nm,0.5s						
TOD	**Tromm**	**1.74**	**28**	Sg	Sg	05 28 50.6	-2.6
DAVA	**Damuels**	**1.75**	**116**	⇑*i*PN	Pn	05 28 26.0	-0.2
DAVA				*i* SG	Sg	05 28 51.8	-1.7
	20nm,0.5s						
UBR	**Uberruh**	**1.75**	**102**	Pn	Pn	05 28 25.3	-1.0
UBR				Pg	Pg	05 28 29.0	-1.2
UBR				Sn	Sn	05 28 45.6	-3.5
UBR				Sg	Sg	05 28 51.2	-2.5
UBR	**Uberruh**	**1.75**	**102**	PN	Pn	05 28 25.3	-1.0
UBR				PG	Pg	05 28 29.0	-1.3
UBR				SG	Sg	05 28 51.2	-2.5
CABF	**La Chapelle**	**1.77**	**215**	*e*Pn	Pn	05 28 24.5	-2.1
CABF				*e*Pg	Pg	05 28 28.1	-2.6
CABF				*e*Sg	Sg	05 28 51.0	-3.3
	8.6nm,0.2s						
ABH	**Alteburg**	**1.81**	**360**	Pg	Pg	05 28 29.0	-2.4
HDH	**Heidenheim**	**1.83**	**73**	Pg	Pg	05 28 29.9	-2.0
HDH				Sg	Sg	05 28 53.0	-3.3
WLF	**Walferdange**	**1.85**	**330**	*e*Pg	Pg	05 28 29.8	-2.3
	SNR=5.3						
WLF				*e*Sg	Sg	05 28 53.1	-3.7
WLF	**Walferdange**	**1.85**	**330**	*e*P	Pn	05 28 28.9	+1.3
WLF				*e*S	Sn	05 28 53.3	+1.8
WLF	**Walferdange**	**1.85**	**330**	*e*P	Pn	05 28 28.9	+1.2
WLF				*e*S	Sn	05 28 53.3	+1.8
SIND	**Sindeldorf**	**1.86**	**46**	Pn	Pn	05 28 24.7	-3.1
SIND				Sg	Sg	05 28 53.6	-3.5
TNS	**Taunus Mts**	**2.23**	**15**	*e*Pn	Pn	05 28 31.3	-1.8
	SNR=0.9						
TNS				Sg	Sg	05 29 05.4	-4.1
TNS	**Taunus Mts**	**2.23**	**15**	*e*Pn	Pn	05 28 31.3	-1.8
TNS				*e*Sg	Sg	05 29 04.8	-4.6
FUR	**Furstenfeldbru**	**2.49**	**86**	*e*Pg	Pg	05 28 42.3	-2.5
	SNR=3.4						
FUR				*e*Sg	Sg	05 29 13.5	-4.5
MOTA	**Moosalm**	**2.50**	**106**	⇑*i*PN	Pn	05 28 37.5	+0.6
SQTA	**Sankt Quirin**	**2.60**	**108**	⇓*i*PN	Pn	05 28 39.1	+0.6
LPL	**La Plagne**	**2.62**	**193**	*e*Pn	Pn	05 28 36.2	-2.5
LPL				*e*Pg	Pg	05 28 44.6	-2.9
LPL				*e*Sg	Sg	05 29 16.0	-6.5
	5.4nm,0.3s						
LPG	**La Plagne**	**2.64**	**193**	*e*Pn	Pn	05 28 36.9	-2.0
LPG				*e*Pg	Pg

MTLF	Montolieu	6.03	220	*e*Pn	Pn	05 29 22.5	-4.6

IDC 03 05:42:07.2±7.8, 0.44N×122.48E, h160km±76km, mb3.3/5, mb1 3.4/6, mb1mx3.3/16, mbtmp3.8/6, Error ellipse: s-maj=103.7km s-min=17.2km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.69	171	P	P	05 46 12.3	-3.5
	0.2nm,0.3s,baz=356,slow=8.2,SNR=4.6						
WRA	Warramunga Arr	23.36	151	P	P	05 47 01.3	-1.1
	0.3nm,0.4s,baz=336,slow=8.8,SNR=8.1						
ASAR	Alice Springs	26.41	156	P	P	05 47 29.8	-1.2
	0.3nm,0.6s,baz=345,slow=14,SNR=4.0						
ASAR				PcP	PcP	05 50 49.9	-2.8
	0.4nm,0.3s,baz=348,slow=2.1,SNR=10.0						
STKA	Stephens Creek	36.89	152	P	P	05 49 00.9	-1.2
	2.6nm,0.9s,baz=337,slow=7.7,SNR=3.3						
SONM	Songino Array	49.23	346	P	P	05 50 39.9	-1.4
	0.6nm,0.7s,baz=161,slow=9.0,SNR=4.7						
MKAR	Makanchi Array	57.97	328	P	P	05 51 42.8	-2.5
	1.6nm,0.4s,baz=123,slow=8.5,SNR=35						

MAN 03 05:45:23.1, 10.85N×123.91E, h1km, mb3.7, ML2.5, MS2.0, 2D, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	Lapu-Lapu	0.53	174	⇓*e*P	Pg	05 45 33.5	-0.3
LLP				*i* S	Sg	05 45 42.1	+1.2
TBP	Tagbilaran	1.15	182	*e*P	Pb	05 45 45.5	0.0
RCP	Roxas	1.34	302	⇓*e*P	Pb	05 45 48.3	-0.4

*MOS **03** 06:19:05.1±1.1, 2.03N×93.24E, h33km, mb4.8/11, Error ellipse: s-maj=30.5km s-min=9.8km az=95.0*
*IDC **03** 06:19:12.8±1.0, 3.44N×93.60E, mb4.2/10, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, Error ellipse: s-maj=46.0km s-min=16.1km az=49.0*
*BJI **03** 06:19:16.0, 3.40N×93.60E, h21km, mb4.7*
*NEIC **03** 06:19:16.0±0.5, 3.42N×93.62E, mb4.7/16, Error ellipse: s-maj=14.4km s-min=7.2km az=47.0*

ISC 03 06:19:14.6±5.2, 3.5N±0.1×93.7E±0.1, h22km±36km, h22km±.8km: pP-P, n58, σ0s95/56, mb4.5/33, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.15	75	*e*P	Pn	06 21 00.9	+0.3
KSM	Kuching	16.71	97	*e*P	P	06 23 14.2	+4.9
VIS	Vishakhapatnam	17.41	325	*e*P	P	06 23 15.5	-2.5
HYB	Hyderabad	20.30	314	*e*P	P	06 23 46.0	-6.0
HYB	Hyderabad	20.30	314	*i* P	P	06 23 46.0	-6.0
SHL	Shillong	22.00	356	*e*P	P	06 24 08.0	-1.3
JIRN	Jiri	25.07	344	*e*P	P	06 24 40.1	+0.9
	16nm,0.7s,mb4.7						
PKI	Pulchoki	25.21	343	*e*P	P	06 24 42.0	+1.5
	27nm,1.1s,mb4.7						
PKI	Pulchoki	25.21	343	*e*P	P	06 24 42.0	+1.5
PKI				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.4						
DMN	Daman	25.34	342	*e*P	P	06 24 42.7	+1.0
	comp=Z,27nm,0.8s,mb4.8						
GUN	Gumba	25.39	344	*e*P	P	06 24 43.0	+0.7
	comp=Z,37nm,0.8s,mb5.0						
KKN	Kakani	25.45	342	*e*P	P	06 24 42.7	-0.1
	comp=Z,37nm,1.2s,mb4.8						
KKN	Kakani	25.45	342	*e*P	P	06 24 42.7	-0.1
KKN				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.5						
GKN	Gorkha	25.85	341	*e*P	P	06 24 46.7	+0.1
	comp=Z,32nm,0.8s,mb4.9						
KOLN	Koldanda	25.98	339	*e*P	P	06 24 48.4	+0.6
	comp=Z,52nm,0.8s,mb5.1						
GYA	Guiyang	25.99	27	P	P	06 24 48.0	+0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
LSA	Lhasa	26.16	355	P	P	06 24 52.0	+2.6
LSA	Lhasa	26.16	355	*e*P	P	06 24 51.6	+2.2
LSA				*e*	pP	06 24 57.8	+1.9
LSA				pmax	pmax		
	comp=Z,69nm,0.7s,mb5.3						
LSA	Lhasa	26.16	355	*e*P	P	06 24 51.6	+2.2
	comp=Z,69nm,0.7s,mb5.3						
LSA				*e*	pP	06 24 57.8	+1.9
ENH	Enshi	30.52	28	*e*P	P	06 25 27.7	-1.1
	comp=Z,11nm,0.8s,mb4.7						
ENH				*e*	pP	06 25 33.8	-1.5
XAN	Xi'an	33.53	23	P	P	06 25 53.7	-1.3
XAN				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.0						
GTA	Gaotai	36.17	8	P	P	06 26 17.1	-0.4
GTA				AP	pP	06 26 31.8	+7.6
GTA				XP	sP	06 26 35.5	+8.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
FITZ	Fitzroy Crossi	38.10	125	P	P	06 26 33.4	-0.6
	comp=Z,5.6nm,1.1s,mb4.2,baz=143,slow=5.0,SNR=2.7						
WMQ	Urumqi	40.50	353	P	P	06 26 55.5	+1.9
WMQ				AP	pP	06 27 03.0	+2.7
WMQ				XP	sP	06 27 07.0	+3.9
BJI	Beijing	41.67	26	P	P	06 27 04.5	+1.2
BJI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.6						
BJI	Beijing	41.67	26	P	P	06 27 04.5	+1.2
	comp=Z,14nm,0.9s,mb4.6						
MK02	Makanchi Array	44.22	349	P	P	06 27 24.7	+0.7
MK02				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
MKAR	Makanchi Array	44.24	349	P	P	06 27 24.7	+0.5
	comp=Z,5.0nm,0.6s,mb4.4,baz=169,slow=8.9,SNR=48						
SONM	Songino Array	45.50	12	P	P	06 27 34.4	+0.2
	comp=Z,5.1nm,0.8s,mb4.4,baz=192,slow=8.6,SNR=51						
ULN	Ulaanbaatar	45.66	13	*e*P	P	06 27 35.2	-0.4
ULN				*e*	pP	06 27 42.0	-0.2
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ULN	Ulaanbaatar	45.66	13	*e*P	P	06 27 35.2	-0.3
	comp=Z,2.1nm,0.6s,mb4.2						
ULN				*e*	pP	06 27 42.0	-0.3
WRA	Warramunga Arr	46.21	122	P	P	06 27 40.3	+0.1
	comp=Z,4.4nm,0.8s,mb4.5,baz=301,slow=8.9,SNR=18						
WRAB	Tennant Creek	46.22	122	*e*P	P	06 27 40.7	+0.4
WRAB				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
WRAB	Tennant Creek	46.22	122	*e*P	P	06 27 40.7	+0.4
	comp=Z,19nm,1.1s,mb4.9						
ZAK	Zakamensk	47.41	8	*e*P	P	06 27 49.5	+0.2
ASAR	Alice Springs	47.56	127	P	P	06 27 51.4	+0.5
	comp=Z,2.5nm,0.8s,mb4.3,baz=299,slow=7.6,SNR=15						
TLY	Talaya	48.73	8	*e*P	P	06 28 00.2	+0.7
TLY				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
TLY	Talaya	48.73	8	*e*P	P	06 28 00.2	+0.7
	comp=Z,1.1nm,0.8s,mb3.9						
KURK	Kurchatov	48.73	347	*i* P	P	06 27 59.8	+0.2
KURK				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
KURK	Kurchatov	48.73	347	*e*P	P	06 27 59.7	+0.1
	comp=Z,4.7nm,0.8s,mb4.6						
HIA	Hailar	50.70	22	*e*P	P	06 28 15.0	+0.3
HIA				pmax	pmax		
	comp=Z,11nm,1.0s						
HIA	Hailar	50.70	22	*e*P	P	06 28 15.0	+0.3
	comp=Z,11nm,1.0s,mb4.7						
ZAL	Zalesovo	50.80	353	P	P	06 28 15.0	-0.3
	comp=Z,2.5nm,0.5s,mb4.4,baz=292,slow=3.2,SNR=8.6						
ZAL	Zalesovo	50.80	353	P	P	06 28 15.0	-0.3
NVS	Novosibirsk	51.88	352	*e*P	P	06 28 22.4	-1.2
BVA0	Borovoye Array	52.98	343	*i* P	P	06 28 30.9	-0.9
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.6						
CHKZ	Chkalovo	53.48	343	*e*P	P	06 28 34.6	-0.9
CHKZ				*e*	pP	06 28 41.1	-1.2
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
CHKZ	Chkalovo	53.48	343	*e*P	P	06 28 34.6	-0.9
	comp=Z,7.2nm,0.8s,mb4.7						
CHKZ				*e*	pP	06 28 41.0	-1.2
KLR	Kul'dur	55.87	29	*e*P	P	06 28 50.6	-2.4
BOD	Bodaibo	56.48	13	*e*P	P	06 28 56.6	-0.6
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
SVE	Sverdlovsk	59.30	340	*e*P	P	06 29 16.5	-0.5
SVE				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
BRTR	Keskin Array B	64.99	312	P	P	06 29 54.4	-1.0
	comp=Z,0.7nm,0.8s,mb3.7,baz=135,slow=6.1,SNR=2.8						
FINES	FINESS Array B	76.36	333	P	P	06 31 02.9	-0.8
	comp=Z,3.7nm,1.1s,mb4.2,baz=315,slow=2.7,SNR=4.1						
FINES	FINESS Array B	76.36	333	P	P	06 31 02.9	-0.8
GERES	GERESS Array B	80.79	319	P	P	06 31 28.6	+0.5
	comp=Z,0.5nm,0.5s,mb3.7,baz=104,slow=5.5,SNR=8.9						
DAVOX	Davos	83.23	317	P	P	06 31 41.9	+1.1
	comp=Z,2.7nm,0.6s,mb4.4,baz=17,slow=7.8,SNR=9.0						
TXAR	Lajitas Array	143.34	26	PKhKP		06 38 47.4	
	comp=Z,0.2nm,0.5s,baz=250,slow=1.2,SNR=4.8						
TXAR	Lajitas Array	143.34	26	PKP		06 38 47.4	

IDC 03 06:26:42.2±1.1, 2.48N×97.49E, mb3.7/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=47.1km s-min=21.6km az=64.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.48	123	P	P	06 34 39.4	-1.7
	0.4nm,0.5s,baz=301,slow=9.1,SNR=7.3						
ASAR	Alice Springs	43.95	128	P	P	06 34 50.8	-2.2
	0.3nm,0.5s,baz=304,slow=8.4,SNR=5.0						
SONM	Songino Array	45.83	8	P	P	06 35 07.3	-0.4
	0.5nm,0.4s,baz=193,slow=8.6,SNR=7.8						
MKAR	Makanchi Array	46.08	346	P	P	06 35 07.5	-2.2
	1.1nm,0.6s,baz=162,slow=7.7,SNR=14						
ZAL	Zalesovo	52.34	351	P	P	06 35 54.4	-3.6
	0.9nm,0.4s,baz=349,slow=2.4,SNR=4.8						
LPAZ	La Paz	160.29	225	PKPab	PKPab	06 47 26.0	-1.3
	2.1nm,0.3s,baz=193,slow=6.4,SNR=17						

*IDC **03** 06:45:48.8±8.8, 33.54S×179.81W, h136km±87km, mb3.3/2, mb1 3.4/3, mb1mx3.2/14, mbtmp3.6/3, Error ellipse: s-maj=84.4km s-min=54.9km az=173.0*

ISC 03 06:45:51.0±3.0, 34.7S±0.2×178.5W±0.5, h275km±18km, n7, σ0s75/9, mb3.0/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	4.23	217	PN	P	06 46 59.2	+0.2
PUZ				SN	S	06 47 53.7	+1.7
MWZ	Matawai	4.80	220	PN	P	06 47 05.6	-0.1
MWZ				SN	S	06 48 04.1	0.0
URZ	Urewera	4.98	224	P	P	06 47 06.5	-1.3
	0.4nm,0.3s,baz=216,slow=2.0,SNR=13						
URZ				S	S	06 48 07.1	-0.8
	1.1nm,0.3s,baz=273,slow=22,SNR=7.5						
MQZ	McQueen's Vall	11.27	215	SN	S	06 50 28.0	-0.2
ASAR	Alice Springs	42.62	272	P	P	06 53 22.4	+0.2
	0.7nm,0.7s,mb3.0,baz=109,slow=7.5,SNR=8.3						
WRA	Warramunga Arr	44.00	277	P	P	06 53 33.5	+0.3
	0.5nm,0.4s,mb3.1,baz=116,slow=7.6,SNR=8.7						
FINES	FINESS Array B	149.00	337	PKPbc	PKPdf	07 05 15.2	+14
	0.4nm,0.5s,baz=27,slow=4.3,SNR=4.2						

GUC 03 06:45:59.2±1.1, 21.54S×69.20W, h8km±22km, ML3.6, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.10	166	*i* P	Pb	06 46 20.4	+0.4
LVC				*i* S	Sb	06 46 35.2	+0.8
SPCH	San Pedro de A	1.65	146	*i* P	Pn	06 46 28.2	-0.5
SPCH				*i* S	Sn	06 46 51.1	+0.9
SPCH				AMP		06 46 55.6	
	comp=E,329nm,0.5s						
ANCH	Antofagasta	2.41	207	*i* P	Pn	06 46 39.4	-0.1
ANCH				*i* S	Sn	06 47 10.9	+1.4
ANCH				AMP		06 47 13.7	
	comp=N,456nm,0.1s						
CPN1	Cerro Paranal	3.27	200	*i* P	Pn	06 46 52.6	+0.9
CPN1				*i* S	Sn	06 47 32.7	+1.4
CPN1				AMP		06 47 38.2	
	comp=E,278nm,0.7s						

*KRSC **03** 06:51:58.4±1.1, 53.30N×158.35E, h193km±2km, ML3.9*
*MOS **03** 06:51:58.1±1.3, 53.46N×157.65E, h182km, mb3.8/4, Error ellipse: s-maj=19.8km s-min=10.9km az=77.1*
*NEIC **03** 06:51:59.7±0.8, 53.36N×157.74E, h182km±8km, mb4.0/3, Error ellipse: s-maj=14.0km s-min=12.4km az=184.0*
*IDC **03** 06:52:02.9±3.7, 53.45N×157.72E, h211km±36km, mb3.2/13, mb1 3.5/14, mb1mx3.4/23, mbtmp3.8/14, Error ellipse: s-maj=16.8km s-min=15.1km az=3.0*

ISC 03 06:51:58.7±0.3, 53.34N±0.03×158.14E±0.08, h191km±2km, n63, σ1s19/93, mb3.5/14, 2D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOK	Koryaka	0.30	98	*i* P	P	06 52 24.9	+0.4
KOK				*e*S	S	06 52 45.2	+0.9
AVH	Avacha	0.37	101	*i* P	P	06 52 25.1	+0.4
AVH				*e*S	S	06 52 45.2	+0.6
GNL	Ganaly	0.38	342	*i* P	P	06 52 24.8	+0.1
GNL				*e*S	S	06 52 44.0	-0.7
SMAR	Somma	0.41	100	*e*P	P	06 52 25.4	+0.6
SMAR				*e*S	S	06 52 45.9	+1.1
UGLR	Uglovaya	0.43	107	*i* P	P	06 52 25.4	+0.5
UGLR				*e*S	S	06 52 45.2	+0.2
PET	Petropavlovsk	0.44	135	P	P	06 52 24.8	-0.1
PET				S	S	06 52 44.1	-1.0
PET	Petropavlovsk	0.44	135	⇓*i*PN	P	06 52 24.9	0.0
PET				*e*S	S	06 52 44.3	-0.8
PET				pmax	pmax		
	comp=Z,569nm,0.4s						
PET				smax			
	comp=E,318nm,0.7s						
PET				smax			
	comp=N,401nm,1.0s						
PET	Petropavlovsk	0.44	135	⇓*i*P	P	06 52 24.8	-0.1
PET				*e*S	S	06 52 44.5	-0.6
PET	Petropavlovsk	0.44	135	*i* P	P	06 52 24.8	-0.1
PET				*e*S	S	06 52 44.2	-0.9
KRMR	Karymshinskiy	0.51	180	*i* P	P	06 52 25.1	0.0
KRMR				*e*S	S	06 52 44.1	-1.4
APC	Apacha	0.72	236	*i* P	P	06 52 26.4	+0.4
APC				*i* S	S	06 52 46.4	-0.8
APC				Smax			
	comp=N,480nm,0.8s						
NLC	Nalytchevo	0.74	102	*i* P	P	06 52 26.0	-0.2
NLC				*e*S	S	06 52 46.5	-0.9
GRL	Gorelyy	0.79	183	*i* P	P	06 52 27.2	+0.8
RUS	Russkaya	0.93	166	P	P	06 52 26.9	-0.3
RUS				S	S	06 52 47.9	-1.4
RUS	Russkaya	0.93	166	*i* P	P	06 52 26.9	-0.3
RUS				*e*S	S	06 52 48.2	-1.1
KII	Karymskiy	1.05	48	P	P	06 52 29.0	+0.9
KII				S	S	06 52 51.4	+0.6
KII	Karymskiy	1.05	48	*e*P	P	06 52 28.9	+0.8
KII				*e*S	S	06 52 51.5	+0.7
SPN	Mys Shipunski	1.16	101	*i* P	P	06 52 28.3	-0.7
SPN				*e*S	S	06 52 49.8	-2.6
PAU	Pauzhetka	2.04	204	*i* P	P	06 52 38.3	+1.0
PAU				*e*S	S	06 53 07.8	+0.7
PAU				Smax			
	comp=N,120nm,1.1s						
TUMR	Tumrok	2.28	30	*i* P	P	06 52 41.2	+1.2
TUMR				*e*S	S	06 53 11.5	-0.4
MKZ	Mys Kozlova	2.45	59	P	P	06 52 41.4	-0.6
MKZ				S	S	06 53 11.8	-3.6
MKZ	Mys Kozlova	2.45	59	*e*P	P	06 52 41.4	-0.6
MKZ				*e*S	S	06 53 11.5	-3.9
ESO	Esso	2.62	7	*i* P	P	06 52 44.5	+0.6
ESO				*e*S	S	06 53 18.1	-0.6
ESO				Smax			
	comp=N,50nm,1.5s						
KMNR	Kamenistaya	2.72	26	*e*P	P	06 52 46.2	+1.1
KMNR				*e*S	S	06 53 21.3	+0.5
KOZ	Kozyrevsk	2.91	20	P	P	06 52 48.2	+0.9
KOZ				S	S	06 53 24.2	-0.7
KOZ	Kozyrevsk	2.91	20	*i* P	P	06 52 48.2	+0.9
KOZR	Kozyr	2.92	20	PN	P	06 52 48.2	+0.7
KOZR				S	S	06 53 24.2	-0.9
SKR	Severo-Kuril's	2.93	206	*e*PN	P	06 52 48.8	+1.2
SKR				*e*S	S	06 53 23.9	-1.5
SKR				smax			
	comp=N,460nm,0.9s						
SKR				smax			
	comp=E,350nm,0.9s						
ALID	Alaid	2.94	214	*e*P	P	06 52 50.7	+3.0
SRDR	Sredinnyy	3.13	16	*i* P	P	06 52 50.7	+0.7
SRDR				*e*S	S	06 53 30.6	+1.1
KLY	Klyuchi	3.32	25	P	P	06 52 53.9	+1.5
KLY	Klyuchi	3.32	25	P	P	06 52 54.0	+1.6
KBG	Krutoberegovo	3.94	40	P	P	06 53 01.8	+1.7
KBG				*e*S	S	06 53 45.4	-2.2
KBG				Smax			
	comp=E,110nm,0.9s						
KBTR	Krutoberegovo	3.96	41	P	P	06 52 59.9	-0.4
KBTR				S	S	06 53 44.3	-3.5
KBTR	Krutoberegovo	3.96	41	*e*P	P	06 52 59.4	-0.9
KBTR				*e*S	S	06 53 44.5	-3.3
BKI	Bering	4.96	65	*e*P	P	06 53 12.7	-0.4
BKI				*e*S	S	06 54 04.6	-6.2
BKI				Smax			
	comp=E,110nm,0.2s						
FX1	Attu Island--F	9.06	87	P	P	06 54 12.1	+5.5
	baz=44,slow=10.0,SNR=1.8						
FX1				S	S	06 55 44.7	-1.9
	comp=E,3.2nm,0.3s,baz=348,slow=6.5,SNR=5.1						
BILL	Bilibino	15.26	12	*e*P	P	06 55 27.3	+2.1
	comp=E,1.9nm,0.6s						
YAK	Yakutsk	17.39	311	*e*P	P	06 55 48.1	-2.6
	comp=E,16nm,0.6s						
SONM	Songino Array	32.70	282	P	P	06 58 13.8	-0.9
	comp=E,0.4nm,0.7s,mb3.3,baz=80,slow=7.5,SNR=3.9						
YKA	Yellowknife Ar	43.78	42	P	P	06 59 48.0	+1.7
	comp=E,0.1nm,0.4s,mb2.8,baz=300,slow=7.3,SNR=4.1						
YKA	Yellowknife Ar	43.78	42	P	P	06 59 48.0	+1.7
KURK	Kurchatov	46.60	301	*e*P	P	07 00 06.8	-1.9
	comp=E,2.3nm,0.5s,mb4.1						
MKAR	Makanchi Array	46.99	294	P	P	07 00 09.8	-2.0
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	46.99	294	P	P	07 00 09.8	-2.0
	comp=Z,0.5nm,0.6s,mb3.4,baz=60,slow=7.2,SNR=9.9						
ARCES	ARCESS Array B	52.68	341	P	P	07 00 55.5	+0.8
ARCES				pmax	pmax		
	comp=Z,12nm,1.0s						
ARCES	ARCESS Array B	52.68	341	P	P	07 00 55.5	+0.7
	comp=Z,12nm,1.0s,mb4.6,baz=25,slow=13,SNR=3.1						
NVAR	Mina Array Bea	56.76	69	P	P	07 01 26.7	+2.1
	comp=Z,0.1nm,0.3s,mb3.1,baz=309,slow=6.0,SNR=3.9						
PDAR	Pinedale Array	58.43	60	P	P	07 01 37.2	+1.1
	comp=Z,0.4nm,0.6s,mb3.4,baz=282,slow=1.9,SNR=4.3						
FINES	FINESS Array B	59.42	336	P	P	07 01 40.7	-2.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	59.42	336	P	P	07 01 40.7	-2.0
	comp=Z,0.7nm,0.5s,mb3.8,baz=33,slow=8.9,SNR=8.9						
NB2	NORSAR Subarra	62.97	343	P	P	07 02 05.2	-1.3
	comp=Z,0.1nm,0.6s,mb2.8,baz=22,slow=7.0						
NOA	NORSAR Array B	62.97	343	P	P	07 02 04.7	-1.8
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	62.97	343	P	P	07 02 04.7	-1.9
	comp=Z,0.7nm,0.6s,mb3.7,baz=20,slow=6.9,SNR=4.1						
HFS	Hagfors	63.35	341	P	P	07 02 06.6	-2.4
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	Hagfors	63.35	341	P	P	07 02 06.6	-2.5
	comp=Z,0.7nm,0.5s,mb3.8,baz=26,slow=2.6,SNR=6.5						
EKA	Eskdalemuir Ar	70.60	349	P	P	07 02 53.5	-0.8
EKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
EKA	Eskdalemuir Ar	70.60	349	P	P	07 02 53.5	-0.9
	comp=Z,0.7nm,0.5s,mb3.6,baz=20,slow=4.7,SNR=4.6						
TXAR	Lajitas Array	71.62	66	P	P	07 03 02.3	+1.5
	comp=Z,0.2nm,0.5s,mb3.1,baz=297,slow=5.2,SNR=6.5						
WRA	Warramunga Arr	75.82	203	P	P	07 03 25.6	+0.3
	comp=Z,0.3nm,0.4s,mb3.3,baz=17,slow=6.0,SNR=7.2						
ASAR	Alice Springs	79.51	203	P	P	07 03 46.3	+0.9
	comp=Z,0.6nm,0.5s,mb3.5,baz=18,slow=4.9,SNR=9.5						
BDFB	Brasilia	137.14	39	PKIKP	PKPdf	07 11 01.2	+2.2
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BDFB	Brasilia	137.14	39	PKP	PKPdf	07 11 01.2	+2.2
	comp=Z,1.4nm,0.5s,baz=207,slow=5.1,SNR=4.4						

*IDC **03** 06:55:52.5±0.8, 2.25N×96.28E, mb4.4/16, mb1 4.5/16, mb1mx4.4/21, mbtmp4.4/16, MS3.7/1, Ms1 3.7/1, ms1mx2.7/26, Error ellipse: s-maj=31.1km s-min=13.6km az=48.0*
*BJI **03** 06:55:53.4, 1.89N×96.39E, h36km, mB5.3, mb5.0, Ms4.9, Msz4.7*
*MOS **03** 06:55:56.9±1.9, 2.19N×96.26E, h33km, mb4.8/19, Error ellipse: s-maj=16.2km s-min=7.4km az=99.6*
*NEIC **03** 06:55:57.4±0.3, 2.24N×96.28E, h30km, mb4.8/21, Error ellipse: s-maj=9.1km s-min=5.5km az=221.0*

ISC 03 06:55:57.3±1.8, 2.26N±0.07×96.36E±0.07, h44km±15km, h29km±6.6km: pP-P, n85, σ0s97/85, mb4.7/51, MS4.5/3, 3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.23	55	⇑*i*P	P	06 57 15.3	+0.2
KSM	Kuching	13.96	93	P	P	06 59 16.2	+1.6
KSM				*e*		06 59 23.2	
KKM	Kota Kinabalu	20.15	79	*e*P	P	07 00 30.9	+0.1
KMI	Kunming	23.55	15	P	P	07 01 06.5	+1.8
KMI				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
KMI	Kunming	23.55	15	P	P	07 01 06.5	+1.8
	comp=Z,20nm,0.9s,mb4.5						
SHL	Shillong	23.57	350	*e*P	P	07 01 02.0	-2.9
GYA	Guiyang	26.02	21	P	P	07 01 28.8	+0.5
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,40nm,4.8s						
JIRN	Jiri	27.07	340	*e*P	P	07 01 38.5	+0.5
	comp=Z,66nm,0.8s,mb5.2						
PKI	Pulchoki	27.27	338	*e*P	P	07 01 40.1	+0.3
	comp=Z,33nm,0.9s,mb4.9						
PKI	Pulchoki	27.27	338	*e*P	P	07 01 40.1	+0.3
PKI				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.6						
GUN	Gumba	27.41	340	*e*P	P	07 01 41.5	+0.5
	comp=Z,55nm,0.8

NJ2				XS		07 09 01.0	
NJ2				AMB	AMB		
	comp=Z,1μm,5.0s						
NJ2				LR	LR		
	comp=N,910nm,11.0s,MS4.9						
NJ2				LR	LR		
	comp=E,430nm,10.1s,MS4.9						
NJ2				LR	LR		
	comp=Z,880nm,14.4s,MS4.7						
SSE	**Sheshan**	**37.05**	**37**	P	**P**	**07 03 04.2**	**-0.9**
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,74nm,3.2s						
SSE	**Sheshan**	**37.05**	**37**	P	**P**	**07 03 04.2**	**-0.9**
	comp=Z,44nm,0.7s,mb5.4						
GTA	**Gaotai**	**37.11**	**4**	P	**P**	**07 03 05.8**	**+0.3**
GTA				AP	pP	07 03 12.3	-5.2
GTA				XP	sP	07 03 15.6	-7.4
GTA				S	**S**	**07 08 50.4**	**+2.2**
GTA				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.9						
GTA				AMB	AMB		
	comp=Z,112nm,9.5s						
GTA				LR	LR		
	comp=N,921nm,18.3s,MS4.6						
GTA				LR	LR		
	comp=E,448nm,21.3s,MS4.6						
GTA				LR	LR		
	comp=Z,4μm,22.4s,MS5.2						
JOW	**Kunigami**	**39.15**	**48**	P	**P**	**07 03 22.6**	**0.0**
	comp=Z,1.1nm,0.3s,mb4.0,baz=159,slow=14,SNR=2.2						
NWAO	**Narrogin (SRO)**	**40.17**	**152**	LR	LR	07 20 27.0	
	comp=Z,97nm,18.1s,MS3.7,baz=30,slow=37						
BJT	**Baijiatuau**	**41.67**	**23**	*e*P	**P**	**07 03 44.5**	**+1.2**
BJT				pmax	pmax		
	comp=Z,31nm,0.8s						
BJT	**Baijiatuau**	**41.67**	**23**	*e*P	**P**	**07 03 44.5**	**+1.2**
	comp=Z,31nm,0.8s,mb5.0						
BJI	**Beijing**	**41.69**	**23**	P	**P**	**07 03 44.6**	**+1.1**
BJI				AMB	AMB		
	comp=Z,47nm,0.8s,mb5.2						
BJI	**Beijing**	**41.69**	**23**	P	**P**	**07 03 44.6**	**+1.1**
	comp=Z,47nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**43.30**	**122**	P	**P**	**07 03 56.9**	**-0.1**
	comp=Z,2.5nm,0.5s,mb4.2,baz=302,slow=9.1,SNR=23						
WRAB	**Tennant Creek**	**43.31**	**122**	*e*P	**P**	**07 03 57.8**	**+0.8**
ULHL	**Ulahol**	**43.71**	**338**	P	**P**	**07 04 01.0**	**+1.0**
	SNR=13						
UCH	**Uchtor**	**44.35**	**337**	P	**P**	**07 04 06.2**	**+1.1**
	SNR=8.1						
AML	**Almayashu**	**44.60**	**336**	P	**P**	**07 04 08.4**	**+1.3**
	SNR=8.1						
ASAR	**Alice Springs**	**44.70**	**127**	P	**P**	**07 04 08.5**	**+0.3**
	comp=Z,2.5nm,0.7s,mb4.2,baz=299,slow=7.9,SNR=23						
AAK	**Ala-Archa**	**44.70**	**337**	*i* P	**P**	**07 04 10.7**	**+2.7**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**44.70**	**337**	*e*P	**P**	**07 04 07.6**	**-0.4**
	comp=Z,3.9nm,0.9s,mb4.2						
EKS2	**Erkin-Say**	**45.01**	**336**	P	**P**	**07 04 12.1**	**+1.6**
	SNR=5.6						
USP	**Ospenovka**	**45.24**	**337**	P	**P**	**07 04 13.0**	**+0.7**
	SNR=10						
MK02	**Makanchi Array**	**46.00**	**347**	P	**P**	**07 04 18.3**	**+0.1**
MK02				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**46.02**	**347**	P	**P**	**07 04 18.1**	**-0.3**
	comp=Z,7.2nm,0.5s,mb4.9,baz=160,slow=8.9,SNR=176						
SONM	**Songino Array**	**46.22**	**9**	P	**P**	**07 04 19.9**	**0.0**
	comp=Z,4.0nm,0.4s,mb4.7,baz=190,slow=9.0,SNR=62						
SONM				PcP	PcP	07 05 56.0	+0.5
	comp=Z,3.1nm,0.6s,baz=186,slow=3.7,SNR=9.9						
SONM				ScP		07 09 48.7	
	comp=Z,0.1nm,0.3s,baz=207,slow=5.5,SNR=3.5						
ULN	**Ulaanbaatar**	**46.36**	**10**	*e*P	**P**	**07 04 21.3**	**+0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**46.36**	**10**	*e*P	**P**	**07 04 21.3**	**+0.3**
	comp=Z,4.0nm,0.9s,mb4.3						
KKAR	**Karatay Array**	**46.74**	**334**	*i* P	**P**	**07 04 24.5**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ZAK	**Zakamensk**	**48.31**	**6**	*e*P	**P**	**07 04 36.0**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
TLY	**Talaya**	**49.63**	**6**	*d i*P	**P**	**07 04 47.3**	**+0.9**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
KURK	**Kurchatov**	**50.56**	**345**	*i* P	**P**	**07 04 53.5**	**-0.1**
KURK				pmax	pmax		
	comp=Z,11nm,1.9s,mb4.5						
KURK	**Kurchatov**	**50.56**	**345**	*e*P	**P**	**07 04 52.8**	**-0.8**
	comp=Z,6.4nm,1.1s,mb4.5						
HIA	**Hailar**	**50.92**	**20**	*e*P	**P**	**07 04 55.0**	**-1.3**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
HIA	**Hailar**	**50.92**	**20**	*e*P	**P**	**07 04 55.0**	**-1.3**
	comp=Z,5.3nm,0.3s,mb5.0						
ZAL	**Zalesovo**	**52.38**	**351**	P	**P**	**07 05 06.4**	**-0.8**
	comp=Z,12nm,0.5s,mb5.1,baz=302,slow=4.7,SNR=60						
STKA	**Stephens Creek**	**54.68**	**132**	P	**P**	**07 05 24.1**	**-0.4**
	comp=Z,2.1nm,0.6s,mb4.4,baz=332,slow=9.6,SNR=5.4						
BVA0	**Borovoye Array**	**54.98**	**341**	*i* P	**P**	**07 05 25.4**	**-1.0**
BVAR	**Borovoye Array**	**54.98**	**341**	P	**P**	**07 05 25.3**	**-1.1**
	comp=Z,5.2nm,0.5s,mb4.8,baz=128,slow=8.0,SNR=12						
CHKZ	**Chkalovo**	**55.47**	**342**	*i* P	**P**	**07 05 28.4**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
KLR	**Kul'dur**	**55.70**	**27**	*e*P	**P**	**07 05 28.7**	**-2.9**
BOD	**Bodaibo**	**57.14**	**11**	*e*P	**P**	**07 05 40.5**	**-1.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ASAJ	**Asahikawa**	**58.34**	**38**	P	**P**	**07 05 49.0**	**-1.4**
	comp=Z,8.5nm,0.8s,mb4.8,baz=276,slow=18,SNR=3.4						
KMBO	**Kilima Mbogo**	**59.19**	**267**	P	**P**	**07 05 57.3**	**+0.5**
KMBO				*e*	pP	07 06 05.1	-4.3
KMBO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KMBO	**Kilima Mbogo**	**59.19**	**267**	P	**P**	**07 05 57.3**	**+0.5**
	comp=Z,2.4nm,1.0s,mb4.2						
KMBO				*e*	pP	07 06 05.1	-4.2
SVE	**Sverdlovsk**	**61.40**	**339**	*e*P	**P**	**07 06 10.5**	**-0.8**
SVE				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
KIV	**Kislovodsk**	**62.97**	**319**	*e*P	**P**	**07 06 19.6**	**-2.3**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
YAK	**Yakutsk**	**64.65**	**17**	*e*P	**P**	**07 06 31.1**	**-1.5**
YAK				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.5						
YAK	**Yakutsk**	**64.65**	**17**	*e*P	**P**	**07 06 31.1**	**-1.5**
	comp=Z,32nm,0.6s,mb5.5						
SOC	**Sochi**	**64.78**	**318**	*e*P	**P**	**07 06 28.9**	**-4.8**
SOC				*e*PPP	PPP	07 10 26.9	-5.2
SOC				*e*S	**S**	**07 15 11.2**	**+1.6**
SOC				*e*		07 16 27.1	
SOC				*e*SS	SS	07 19 25.7	+2.7
SOC				pmax	pmax		
	comp=N,14nm,0.9s						
SOC				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
SOC				pmax	pmax		
	comp=E,8.0nm,0.4s						
BRTR	**Keskin Array B**	**67.78**	**312**	P	**P**	**07 06 51.5**	**-1.4**
	comp=E,1.3nm,0.8s,mb4.0,baz=132,slow=6.9,SNR=6.2						
MA2	**Magadan**	**70.75**	**26**	*e*P	**P**	**07 07 11.0**	**+0.3**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
MA2	**Magadan**	**70.75**	**26**	*e*P	**P**	**07 07 11.0**	**+0.3**
	comp=Z,3.0nm,0.6s,mb4.4						
TIXI	**Tiksi**	**72.30**	**10**	⇓*i*P	**P**	**07 07 18.8**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
AKASG	**Malin Array Be**	**73.92**	**322**	P	**P**	**07 07 28.7**	**-0.9**
	comp=Z,1.5nm,0.5s,mb4.2,baz=83,slow=5.7,SNR=6.5						
FINES	**FINESS Array B**	**78.68**	**333**	P	**P**	**07 07 56.6**	**+0.3**
	comp=Z,1.6nm,0.5s,mb4.2,baz=97,slow=6.1,SNR=27						
KAF	**Kangasniemi**	**78.77**	**333**	*e*p	**P**	**07 07 57.3**	**+0.5**
	comp=Z,1.7nm,0.5s,mb4.2,baz=120,slow=5.5						
KAF	**Kangasniemi**	**78.77**	**333**	*e*P	**P**	**07 07 57.3**	**+0.5**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**81.27**	**340**	P	**P**	**07 08 10.7**	**+0.7**
	comp=Z,3.3nm,0.5s,mb4.6,baz=93,slow=5.5,SNR=24						
GERES	**GERESS Array B**	**83.47**	**319**	P	**P**	**07 08 22.9**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.6,baz=108,slow=4.2,SNR=7.7						
HFS	**Hagfors**	**84.39**	**330**	P	**P**	**07 08 26.6**	**+0.4**
	comp=Z,0.7nm,0.4s,mb4.1,baz=143,slow=7.4,SNR=6.2						
DAVOX	**Davos**	**85.95**	**317**	P	**P**	**07 08 33.8**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.3,baz=133,slow=7.5,SNR=5.4						
TXAR	**Lajitas Array**	**143.20**	**30**	PKP	PKPdf	07 15 27.4	0.0
	comp=Z,0.7nm,0.7s,baz=27,slow=2.3,SNR=8.8						
JCT	**Junction City**	**143.98**	**24**	*e*PKIKP	PKPdf	07 15 29.0	+0.3

*NEIC **03** 07:05:36.2,29.34S×71.63W,h42km, After GUC.*
GUC 03 07:05:36.4±0.8,29.33S×71.60W,h46km±5km,MD3.8,
ML4.0,3C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.66**	**152**	*i* P		07 07 43.0	
LSCH				*i* S		07 07 53.1	
LSCH				AMP		07 07 54.6	
	comp=N,13μm,0.7s						
LCO	**Las Campanas**	**0.85**	**69**	⇓*i*P	P	07 05 53.4	+1.3
LCO				*i* S	S	07 06 05.7	+2.1
LCO				AMP		07 06 06.4	
	comp=N,14μm,0.3s						
VACH	**Vallenar**	**1.05**	**45**	⇓*i*P	P	07 05 55.5	+0.5
VACH				*i* S	S	07 06 09.5	+0.9
TLL	**Tololo Astrono**	**1.09**	**141**	*i* P	P	07 05 56.6	+1.2
TLL				*i* S	S	07 06 11.4	+1.8
TLL				AMP		07 06 12.5	
	comp=E,9μm,0.2s						
OVCH	**Ovalle**	**1.32**	**165**	*i* P	P	07 05 59.0	+0.1
OVCH				*i* S	S	07 06 15.8	+0.1
ILCH	**Illapel**	**2.33**	**171**	*i* P	P	07 06 13.1	-0.1
ILCH				*i* S	S	07 06 41.1	+0.3
CHNG	**Los Chungos**	**2.55**	**178**	AMP		07 07 02.8	
	comp=E,444nm,0.9s						
ZON	**Zonda**	**3.36**	**132**	*e*P	P	07 06 31.0	+3.3
ZON				*e*S	S	07 07 11.0	+4.3
DSCH	**Colegio Aleman**	**4.16**	**168**	⇑*i*P	P	07 06 38.2	-0.8
DSCH				*i* S	S	07 07 24.9	-2.0
CLCH	**Cerro Calan**	**4.16**	**168**	*i* P	P	07 06 38.2	-0.8
ANTU	**Antumapu**	**4.31**	**169**	⇓*i*P	P	07 06 39.8	-1.4
ANTU				*i* S	S	07 07 28.4	-2.4
TACH	**Talagante**	**4.35**	**173**	⇑*i*P	P	07 06 40.4	-1.4
TACH				*i* S	S	07 07 29.2	-2.6
PCH	**Pirque**	**4.38**	**168**	⇓*i*P	P	07 06 41.3	-0.9
LNV	**Longovilo**	**4.62**	**178**	*i* S	S	07 07 35.7	-2.9
LMEL	**Las Melosas**	**4.66**	**166**	*i* P	P	07 06 46.0	-0.2
LMEL				*i* S	S	07 07 38.6	-1.1
CHCH	**Chadas Angostu**	**4.67**	**170**	⇑*i*P	P	07 06 44.5	-1.7
CHCH				*i* S	S	07 07 37.4	-2.4
CACH	**El Canelo**	**4.85**	**170**	*i* S	S	07 07 43.3	-1.2
CICH	**Cipreses**	**5.08**	**169**	*i* P	P	07 06 50.9	-1.1
CICH				*i* S	S	07 07 48.0	-2.2

MEX 03 07:08:36.1±0.5,18.01N×100.37W,h50km,MD3.5,1C,
Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.96**	**174**	⇑*i*P	P	07 08 51.4	-2.0
CAIG				*e*S	S	07 09 03.4	-2.9
CAIG				*i* S	S	07 09 04.0	-2.3
ZIIG	**Zihuatanejo**	**1.12**	**249**	*i* P	P	07 08 54.4	-1.4
ZIIG				*e*S	S	07 09 07.7	-2.6
ACX	**Acapulco**	**1.21**	**159**	*e*P	P	07 08 55.5	-1.5
ACX				*i* S	S	07 09 10.0	-2.6

*IDC **03** 07:09:12.1±2.7,0.18N×97.61E,mb4.3/6,mb1 4.5/6,*
mb1mx4.1/17,mbtmp4.3/6,Error ellipse: s-maj=115.0km
s-min=18.4km az=57.0
*NEIC **03** 07:09:16.9±0.8,0.23N×97.69E,h30km,mb4.3/4,Error*
ellipse: s-maj=22.9km s-min=8.6km az=65.0
ISC 03 07:09:14.8±1.1,0.3N±0.1×97.7E±0.2,h30km,n13,
σ0§70/13,mb4.3/10,1C-1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.82**	**31**	⇑*i*P	**Pn**	**07 10 41.1**	**-0.3**
ENH	**Enshi**	**31.89**	**20**	P	**P**	**07 15 39.2**	**-0.8**
	4.6nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.02**	**125**	P	**P**	**07 15 48.6**	**-1.3**
	5.2nm,0.8s,mb4.5,baz=339,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**41.16**	**121**	P	**P**	**07 16 58.3**	**0.0**
	2.3nm,0.5s,mb4.1,baz=302,slow=8.9,SNR=35						
WRAB	**Tennant Creek**	**41.16**	**121**	*e*P	**P**	**07 16 59.1**	**+0.7**
	4.4nm,0.4s,mb4.4						
WB2	**Warramunga Arr**	**41.17**	**121**	⇓*i*P	**P**	**07 16 58.7**	**+0.2**
ASAR	**Alice Springs**	**42.47**	**127**	P	**P**	**07 17 09.6**	**+0.3**
	2.4nm,0.7s,mb4.0,baz=296,slow=7.9,SNR=27						
SONM	**Songino Array**	**47.99**	**8**	P	**P**	**07 17 54.0**	**+1.0**
	2.4nm,0.6s,mb4.4,baz=189,slow=9.6,SNR=27						
ULN	**Ulaanbaatar**	**48.11**	**8**	*e*P	**P**	**07 17 55.2**	**+1.2**
	1.4nm,0.6s,mb4.2						
KURK	**Kurchatov**	**52.81**	**345**	*e*P	**P**	**07 18 29.5**	**-0.2**
	2.8nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**54.54**	**351**	P	**P**	**07 18 42.2**	**-0.1**
	4.7nm,0.4s,mb4.9,baz=310,slow=4.3,SNR=16						
ZAL	**Zalesovo**	**54.54**	**351**	P	**P**	**07 18 42.2**	**-0.1**
BVAR	**Borovoye Array**	**57.28**	**341**	P	**P**	**07 19 01.3**	**-0.8**
	1.4nm,0.7s,mb4.1,baz=145,slow=8.3,SNR=10						

*IDC **03** 07:15:06.6±0.8,0.70N×97.13E,mb4.4/15,mb1 4.6/15,*
mb1mx4.4/20,mbtmp4.4/15,Error ellipse: s-maj=40.5km
s-min=14.1km az=50.0
*BJI **03** 07:15:08.1,0.49N×97.62E,h35km,mB5.2,mb4.8,Ms4.1,*
Msz3.8
*MOS **03** 07:15:10.3±1.2,0.77N×97.29E,h33km,mb4.8/14,Error*
ellipse: s-maj=18.9km s-min=7.8km az=103.9
*NEIC **03** 07:15:11.7±0.4,0.77N×97.35E,h30km,mb4.7/13,Error*
ellipse: s-maj=12.8km s-min=7.8km az=47.0
ISC 03 07:15:11.8±1.4,0.85N±0.07×97.43E±0.07,h43km±11km,
n81,σ1§00/82,mb4.6/43,MS4.0/4,2C-1D,Northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.16**	**44**	P	**P**	**07 16 28.6**	**0.0**
KULM	**Kulim**	**5.46**	**36**	⇑*i*P	**P**	**07 16 32.0**	**-0.7**
KGM	**Kluang**	**6.00**	**79**	P	**P**	**07 16 41.1**	**+0.8**
NANT	**Nan**	**18.12**	**10**	P	**P**	**07 19 23.0**	**+0.8**
	62nm,0.7s						
CHRT	**Chiangrai**	**19.04**	**7**	⇑P	**P**	**07 19 31.5**	**-1.8**
	105nm,0.8s						
KKM	**Kota Kinabalu**	**19.44**	**74**	*e*P	**P**	**07 19 39.0**	**+1.3**
KKM	**Kota Kinabalu**	**19.44**	**74**	P	**P**	**07 19 39.7**	**+1.9**
KMI	**Kunming**	**24.67**	**12**	P	**P**	**07 20 32.3**	**+2.1**
KMI				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.4						
KMI				LR	LR		
	comp=N,220nm,14.7s						
KMI				LR	LR		
	comp=E,120nm,6.7s						
KMI				LR	LR		
	comp=Z,217nm,18.2s,MS3.7						
KMI	**Kunming**	**24.67**	**12**	P	**P**	**07 20 32.3**	**+2.1**
	comp=Z,17nm,1.3s,mb4.4						
KMI				LR	LR		
	comp=Z,220nm,18.2s,MS3.7						
HYB	**Hyderabad**	**24.82**	**313**	*e*P	**P**	**07 20 41.0**	**+9.3**
SHL	**Shillong**	**25.15**	**348**	*e*P	**P**	**07 20 34.5**	**-0.3**
GYA	**Guiyang**	**26.97**	**18**	P	**P**	**07 20 51.7**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**28.75**	**339**	*e*P	**P**	**07 21 08.5**	**+0.7**
	comp=Z,26nm,0.8s,mb5.0						
PKI	**Pulchoki**	**29.96**	**338**	*e*P	**P**	**07 21 10.0**	**+0.4**
GUN	**Gumba**	**29.09**	**339**	*e*P	**P**	**07 21 11.3**	**+0.5**
	comp=Z,24nm,0.5s,mb5.2						
DMN	**Daman**	**29.11**	**337**	*e*P	**P**	**07 21 11.4**	**+0.4**
KKN	**Kakani**	**29.21**	**338**	*e*P	**P**	**07 21 12.8**	**+1.0**
LSA	**Lhasa**	**29.31**	**349**	*e*P	**P**	**07 21 13.6**	**+0.9**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**29.31**	**349**	*e*P	**P**	**07 21 13.6**	**+0.9**
	comp=Z,7.6nm,0.6s,mb4.6						
GKN	**Gorkha**	**29.65**	**337**	*e*P	**P**	**07 21 15.4**	**-0.3**
	comp=Z,19nm,0.8s,mb4.9						
KOLN	**Koldanda**	**29.87**	**335**	*e*P	**P**	**07 21 18.2**	**+0.5**
	comp=Z,18nm,0.7s,mb4.9						
ENH	**Enshi**	**31.43**	**20**	*e*P	**P**	**07 21 29.9**	**-1.6**
	comp=Z,8.8nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.54**	**126**	P	**P**	**07 21 49.2**	**-0.8**
	comp=Z,4.5nm,0.6s,mb4.6,baz=332,slow=5.7,SNR=10						
XAN	**Xi'an**	**34.73**	**17**	P	**P**	**07 21 58.5**	**-1.5**
XAN				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.2						
NJ2	**Nanjing**	**37.04**	**31**	*e*P	**P**	**07 22 19.8**	**+0.2**
NJ2				AP	pP	07 22 30.1	-1.3
NJ2				XP	sP	07 22 32.6	-4.2
NJ2				PP	PP	07 23 49.2	+2.4
NJ2				S	**S**	**07 28 03.0**	**+1.1**
NJ2				XS		07 28 19.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				LR	LR		
	comp=N,960nm,12.9s						
NJ2				LR	LR		
	comp=E,710nm,18.8s						
NJ2				LR	LR		
	comp=Z,820nm,13.3s,MS4.7						
SSE	**Sheshan**	**37.57**	**35**	P	**P**	**07 22 21.8**	**-2.2**
SSE				XP	sP	07 22 34.7	-6.5
SSE				PP	PP	07 23 48.3	-4.7
SSE				S	**S**	**07 28 10.9**	**+1.0**
SSE				XS		07 28 25.8	
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,48nm,4.0s						
SSE				LR	LR		
	comp=N,69nm,19.7s,MS3.5						
SSE				LR	LR		
	comp=E,51nm,19.6s,MS3.5						
SSE				LR	LR		
	comp=Z,117nm,15.0s,MS3.8						
SSE	**Sheshan**	**37.57**	**35**	P	**P**	**07 22 21.8**	**-2.2**
	comp=Z,19nm,0.7s,mb4.9						
SSE				sP	sP	07 22 34.7	-6.5
SSE				PP	PP	07 23 48.3	-4.7
SSE				S	**S**	**07 28 10.9**	**+1.0**
SSE				sS		07 28 25.8	
SSE				SS	SS	07 30 58.7	+14
SSE				LR	LR		
	comp=Z,120nm,15.0s,MS3.8						
WRA	**Warramunga Arr**	**41.66**	**122**	P	**P**	**07 22 58.2**	**+0.1**
	comp=Z,3.4nm,0.7s,mb4.1,baz=300,slow=9.0,SNR=24						
WRAB	**Tennant Creek**	**41.66**	**122**	*e*P	**P**	**07 22 58.7**	**+0.5**
BJT	**Baijiatuau**	**42.56**	**21**	*e*P	**P**	**07 23 06.3**	**+1.0**
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJT	**Baijiatuau**	**42.56**	**21**	*e*P	**P**	**07 23 06.3**	**+1.0**
	comp=Z,18nm,0.8s,mb4.8						
BJI	**Beijing**	**42.58**	**21**	P	**P**	**07 23 06.3**	**+0.8**
BJI				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.1						
BJI	**Beijing**	**42.58**	**21**	P	**P**	**07 23 06.3**	**+0.8**
	comp=Z,29nm,0.7s,mb5.1						
ASAR	**Alice Springs**	**43.00**	**127**	P	**P**	**07 23 09.6**	**+0.5**
	comp=Z,3.1nm,0.7s,mb4.2,baz=298,slow=7.9,SNR=37						
WMQ	**Urumqi**	**43.66**	**350**	*e*P	**P**	**07 23 15.5**	**+1.3**
ULHL	**Ulahol**	**45.40**	**338**	P	**P**	**07 23 28.4**	**+0.2**
	SNR=6.0						
UCH	**Uchtor**	**46.06**	**336**	P	**P**	**07 23 34.8**	**+1.3**
	SNR=9.0						
TKM2	**Tokmak 2**	**46.23**	**338**	P	**P**	**07 23 35.7**	**+1.0**
	SNR=6.1						
AML	**Almayashu**	**46.31**	**336**	P	**P**	**07 23 36.7**	**+1.3**
	SNR=12						
AAK	**Ala-Archa**	**46.41**	**337**	*e*P	**P**	**07 23 36.8**	**+0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
EKS2	**Erkin-Say**	**46.72**	**336**	P	**P**	**07 23 39.6**	**+1.0**
	SNR=7.0						
USP	**Ospenovka**	**46.94**	**337**	P	**P**	**07 23 41.0**	**+0.7**
	SNR=12						
SONM	**Songino Array**	**47.44**	**8**	P	**P**	**07 23 44.1**	**-0.1**
	comp=Z,3.3nm,0.5s,mb4.5,baz=191,slow=9.7,SNR=35						
SONM				PcP	PcP	07 25 14.9	+0.4
	comp=Z,1.6nm,0.9s,baz=186,slow=3.9,SNR=4.1						
ULN	**Ulaanbaatar**	**47.57**	**9**	*e*P	**P**	**07 23 45.3**	**+0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**47.57**	**9**	*e*P	**P**	**07 23 45.3**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.4						
MK02	**Makanchi Array**	**47.61**	**346**	P	**P**	**07 23 45.7**	**+0.2**
MK02				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**47.63**	**346**	P	**P**	**07 23 45.8**	**+0.1**
CN2	**Changchun**	**49.51**	**27**	*e*P	**P**	**07 23 59.7**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
ZAK	**Zakamensk**	**49.60**	**5**	*e*P	**P**	**07 24 01.0**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
TLY	**Talaya**	**50.92**	**5**	*e*P	**P**	**07 24 10.5**	**-0.4**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
TLY				MLR	MLR		
	comp=Z,125nm,17.0s,MS4.0						
KURK	**Kurchatov**	**52.19**	**345**	*i* P	**P**	**07 24 19.9**	**-0.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
KURK	**Kurchatov**	**52.19**	**345**	*e*P	**P**	**07 24 19.8**	**-0.7**
	comp=Z,7.8nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**52.95**	**132**	P	**P**	**07 24 26.4**	**0.0**
	comp=Z,2.5nm,0.7s,mb4.3,baz=312,slow=11,SNR=4.0						
ZAL	**Zalesovo**	**53.93**	**

GRF	Grafenberg Arr	86.89	320	eP		P	07 27 53.8	+0.4
NB2	NORSAR Subarra	87.42	331	P		P	07 27 55.8	+0.2
	comp=Z,2.1nm,0.8s,mb4.4,baz=96,slow=4.6							
NOA	NORSAR Array B	87.42	331	P		P	07 27 55.3	-0.3
	comp=Z,1.5nm,0.7s,mb4.3,baz=95,slow=4.9,SNR=7.2							
TXAR	Lajitas Array	143.84	32	PKP		PKPdf	07 34 42.8	-0.3
	comp=Z,0.4nm,0.6s,baz=180,slow=3.8,SNR=5.3							
JCT	Junction City	144.79	26	ePKIKP		PKPdf	07 34 45.8	+1.0

*TAP **03** 07:20:51.8, 23.97N×122.85E, h18km±1km, ML3.2*
JMA 03 07:20:52.8±0.3, 24.05N×122.70E, h27km, M2.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.50	35	P	Pb	07 21 02.9	-0.1
YOJ				S	Sb	07 21 09.9	-0.1
IRIF	Iriomote-Funau	0.98	73	P	Pn	07 21 10.0	-0.9
IRIF				S	Sb	07 21 23.6	-0.1
HATJ	Hateruma jima	1.01	89	P	Pn	07 21 11.0	-0.3
HATJ				S	Sb	07 21 25.0	+0.5
JKRS	Kuro-shima	1.21	81	P	Pn	07 21 14.9	+0.7
JKRS				eS	Sn	07 21 30.3	+0.5
JIJ	Ishigaki jima	1.35	76	P	Pn	07 21 16.0	-0.2
JIJ				eS	Sn	07 21 33.4	-0.1
JTJ	Tarama	1.92	72	P	Pn	07 21 24.6	+0.3
JTJ				eS	Sn	07 21 48.8	+1.0

*IDC **03** 07:28:49.8±0.8, 1.35N×97.07E, mb4.3/14, mb1 4.4/14, mb1mx4.3/18, mbtmp4.3/14, MS3.9/5, Ms1 3.8/5, ms1mx3.6/17, Error ellipse: s-maj=42.6km s-min=14.0km az=52.0*
*BJI **03** 07:28:52.5, 1.27N×97.20E, h33km, mB5.1, mb4.9, Ms4.6, Msz4.5*
*MOS **03** 07:28:52.3±1.0, 1.25N×97.00E, h33km, mb5.1/22, Error ellipse: s-maj=18.7km s-min=7.8km az=99.5*
*NEIC **03** 07:28:54.9±0.3, 1.32N×97.09E, mb4.9/19, Error ellipse: s-maj=9.8km s-min=5.8km az=50.0*
ISC 03 07:28:49.4±2.3, 1.27N±0.07×97.03E±0.06, h10km±14km, h27km±1.9km: pP-P, n94, σ1°90/93, mb4.7/53, MS4.2/12, 11C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.17	50	P		Pn	07 30 09.3	+0.6
KULM	Kulim	5.39	42⇑	eP		Pn	07 30 11.6	-0.2
KGM	Kluang	6.33	83	P		Pn	07 30 26.6	+1.5
KKM	Kota Kinabalu	19.72	76	eP		P	07 33 21.6	-0.6
KKM	Kota Kinabalu	19.72	76	P		P	07 33 23.5	+1.3
VIS	Vishakhapatnam	21.18	321	e		P	07 33 38.0	+0.5
HYB	Hyderabad	24.24	313	eP		P	07 34 10.0	+2.2
HYB	Hyderabad	24.24	313	i P		P	07 34 10.0	+2.2
KMI	Kunming	24.35	13	⇑P		P	07 34 10.6	+1.8
KMI				AP			07 34 21.1	
KMI				XP			07 34 27.0	
KMI				SS	SS		07 39 18.1	-0.5
KMI				AMB	AMB			
	comp=Z,42nm,1.4s,mb4.7							
KMI				AMB	AMB			
	comp=Z,170nm,3.6s							
KMI				LR	LR			
	comp=N,961nm,16.3s,MS4.5							
KMI				LR	LR			
	comp=E,707nm,14.5s,MS4.5							
KMI				LR	LR			
	comp=Z,1μm,14.4s,MS4.5							
KMI	Kunming	24.35	13	⇑P		P	07 34 10.6	+1.8
KMI				*PP			07 34 21.1	
KMI				*SP			07 34 27.0	
KMI							07 35 01.2	
KMI				SS	SS		07 39 18.1	-0.5
KMI				pmax	pmax			
	comp=Z,42nm,1.4s,mb4.7							
KMI				MLR	MLR			
	comp=Z,1μm,14.4s,MS4.5							
KMI	Kunming	24.35	13	⇑P		P	07 34 10.6	+1.8
	comp=Z,42nm,1.4s,mb4.7							
KMI				pP			07 34 21.1	
KMI				sP			07 34 27.0	
KMI				PP	PP		07 35 01.2	+17
KMI				S	S		07 38 47.3	+22
KMI				sS			07 39 04.8	
KMI				SS	SS		07 39 18.1	-0.5
KMI				LR	LR			
	comp=Z,1μm,14.4s,MS4.5							
SHL	Shillong	24.66	349	eP		P	07 34 12.0	+0.2
GYA	Guiyang	26.70	20	⇓i P		P	07 34 30.7	-0.2
GYA				AP		pP	07 34 37.8	+3.9
GYA				XP		sP	07 34 40.7	+5.4
GYA				S		S	07 39 01.1	-3.2
GYA				AMB	AMB			
	comp=Z,20nm,1.1s,mb4.6							
GYA				AMB	AMB			
	comp=Z,210nm,8.1s							
GYA				LR	LR			
	comp=N,1μm,14.4s,MS4.6							
GYA				LR	LR			
	comp=E,450nm,11.4s,MS4.6							
GYA				LR	LR			
	comp=Z,1μm,14.1s,MS4.7							
JIRN	Jiri	28.22	339	eP		P	07 34 46.1	+1.4
	comp=Z,69nm,0.9s,mb5.3							
PKI	Pulchoki	28.43	338	eP		P	07 34 46.5	0.0
	comp=Z,43nm,1.1s,mb5.0							
PKI	Pulchoki	28.43	338	eP		P	07 34 46.5	0.0
PKI				pmax	pmax			
	comp=Z,21nm,1.1s,mb4.7							
GUN	Gumba	28.56	339	eP		P	07 34 49.1	+1.4
	comp=Z,65nm,0.8s,mb5.4							
DMN	Daman	28.58	337	eP		P	07 34 47.2	-0.7
	comp=Z,49nm,0.9s,mb5.2							
KKN	Kakani	28.67	338	eP		P	07 34 49.1	+0.4
	comp=Z,61nm,1.1s,mb5.2							
KKN	Kakani	28.67	338	eP		P	07 34 49.1	+0.4
KKN				pmax	pmax			
	comp=Z,30nm,1.1s,mb4.9							
LSA	Lhasa	28.82	349	P		P	07 34 51.0	+0.9
LSA	Lhasa	28.82	349	eP		P	07 34 50.7	+0.6
LSA				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.6							
LSA	Lhasa	28.82	349	eP		P	07 34 50.7	+0.6
	comp=Z,7.6nm,0.7s,mb4.5							
GKN	Gorkha	29.11	337	eP		P	07 34 53.5	+0.8
	comp=Z,72nm,1.1s,mb5.3							
KOLN	Koldanda	29.32	335	eP		P	07 34 55.8	+1.2
	comp=Z,44nm,0.8s,mb5.3							
ENH	Enshi	31.18	21	eP		P	07 35 09.3	-1.7
	comp=Z,38nm,0.8s,mb5.3							
MBWA	Marble Bar	31.46	136	P		P	07 35 15.1	+1.5
WHN	Wuhan	33.43	28	eP		P	07 35 30.0	-0.7
FITZ	Fitzroy Crossi	34.10	126	P		P	07 35 35.8	-0.9
	comp=Z,5.3nm,0.8s,mb4.5,baz=167,slow=9.7,SNR=5.5							
XAN	Xi'an	34.45	18	P		P	07 35 38.0	-1.5
XAN				AMB	AMB			
	comp=Z,28nm,1.1s,mb5.1							
XAN				LR	LR			
	comp=N,375nm,15.0s,MS4.4							
XAN				LR	LR			
	comp=E,316nm,13.3s,MS4.4							
XAN				LR	LR			
	comp=Z,677nm,14.3s,MS4.5							
LZH	Lanzhou	35.22	10	⇑P		P	07 35 45.4	-0.6
LZH				AMB	AMB			
	comp=Z,35nm,1.3s,mb5.1							
LZH	Lanzhou	35.22	10	⇑P		P	07 35 45.4	-0.6
LZH				*PP	pP		07 35 53.1	+4.0
LZH				pmax	pmax			
	comp=Z,35nm,1.3s,mb5.1							
LZH	Lanzhou	35.22	10	⇑P		P	07 35 45.4	-0.6
	comp=Z,35nm,1.3s,mb5.1							
LZH				sP	sP		07 35 46.9	-3.5
LZH				pP	pP		07 35 53.1	+4.0
NJ2	Nanjing	36.90	32	eP		P	07 36 03.0	+2.8
NJ2				XP		sP	07 36 17.1	+12
NJ2				AMB	AMB			
	comp=Z,980nm,4.8s							
NJ2				LR	LR			
	comp=N,800nm,12.5s,MS4.8							
NJ2				LR	LR			
	comp=E,610nm,13.4s,MS4.8							
NJ2				LR	LR			
	comp=Z,3μm,15.5s,MS5.2							
THN	Thein Dam	36.93	329	e		P	07 36 00.0	-0.5
SSE	Sheshan	37.45	35	P		P	07 36 04.7	-0.2
SSE				XP		sP	07 36 17.3	+8.0
SSE				AMB	AMB			
	comp=Z,25nm,1.0s,mb5.0							
SSE				AMB	AMB			
	comp=Z,126nm,3.5s							
SSE				LR	LR			
	comp=N,100nm,19.3s,MS3.8							
SSE				LR	LR			
	comp=E,115nm,19.3s,MS3.8							
SSE				LR	LR			
	comp=Z,192nm,16.8s,MS4.0							
SSE	Sheshan	37.45	35	P		P	07 36 04.7	-0.2
	comp=Z,25nm,1.0s,mb5.0							
SSE				sP	sP		07 36 17.3	+8.0
SSE				S	S		07 41 58.5	+5.6
SSE				sS			07 42 14.0	
SSE				SS	SS		07 44 46.6	+21
SSE				LR	LR			
	comp=Z,190nm,16.8s,MS4.0							
GTA	Gaotai	38.05	4	P		P	07 36 09.9	+0.1
GTA				AP		pP	07 36 17.5	+4.6
GTA				XP		sP	07 36 22.2	+8.0
GTA				S		S	07 42 03.7	+1.8
GTA				AMB	AMB			
	comp=Z,8.0nm,1.0s,mb4.4							
GTA				AMB	AMB			
	comp=Z,280nm,8.4s							
GTA				LR	LR			
	comp=N,932nm,14.1s,MS4.8							
GTA				LR	LR			
	comp=E,527nm,14.8s,MS4.8							
GTA				LR	LR			
	comp=Z,2μm,14.8s,MS5.1							
WRA	Warramunga Arr	42.21	122	P		P	07 36 44.7	+0.1
	comp=Z,3.4nm,0.8s,mb4.0,baz=301,slow=9.1,SNR=17							
WRAB	Tennant Creek	42.22	122	eP		P	07 36 44.6	0.0
WRAB				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.4							
WRAB	Tennant Creek	42.22	122	eP		P	07 36 44.6	0.0
	comp=Z,8.2nm,0.8s,mb4.4							
BJT	Baijiatuau	42.32	22	eP		P	07 36 46.0	+0.8
BJT				pmax	pmax			
	comp=Z,19nm,0.6s							
BJT	Baijiatuau	42.32	22	eP		P	07 36 46.0	+0.8
	comp=Z,19nm,0.6s,mb4.9							
BJI	Beijing	42.34	22	P		P	07 36 46.2	+0.8
BJI				AMB	AMB			
	comp=Z,30nm,0.7s,mb5.0							
BJI				LR	LR			
	comp=N,208nm,13.1s,MS4.4							
BJI				LR	LR			
	comp=E,165nm,10.0s,MS4.4							
BJI				LR	LR			
	comp=Z,107nm,21.1s							
BJI	Beijing	42.34	22	P		P	07 36 46.2	+0.8
	comp=Z,30nm,0.7s,mb5.0							
BJI				S	S		07 43 16.5	+10
BJI				LR	LR			
	comp=Z,110nm,21.1s,MS3.7							
WMQ	Urumqi	43.18	350	P		P	07 36 53.0	+0.8
WMQ				AP		pP	07 37 03.0	+7.8
WMQ				XP		sP	07 37 07.5	+11
ASAR	Alice Springs	43.57	127	P		P	07 36 55.8	+0.1
	comp=Z,4.2nm,1.0s,mb4.1,baz=301,slow=7.4,SNR=16							
ASAR				LR	LR		07 54 30.8	
	comp=Z,89nm,21.9s,MS3.6,baz=311,slow=35							
AAK	Ala-Archa	45.87	337	eP		P	07 37 14.4	+0.6
AAK				pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.4							
SONM	Songino Array	47.09	9	P		P	07 37 22.8	-0.5
	comp=Z,11nm,0.8s,mb4.8,baz=191,slow=8.4,SNR=77							
SONM				PcP	PcP		07 38 55.4	-0.3
	comp=Z,1.3nm,0.8s,baz=180,slow=3.6,SNR=2.8							
MK02	Makanchi Array	47.11	346	P		P	07 37 23.9	+0.4
MK02				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6							
MKAR	Makanchi Array	47.13	346	P		P	07 37 24.0	+0.3
MKAR				LR	LR		08 01 07.2	
	comp=Z,92nm,18.6s,MS3.8,baz=170,slow=41							
ULN	Ulaanbaatar	47.22	9	eP		P	07 37 24.5	+0.1
ULN				pmax	pmax			
	comp=Z,15nm,0.6s,mb5.1							
ULN	Ulaanbaatar	47.22	9	eP		P	07 37 24.5	+0.1
	comp=Z,15nm,0.6s,mb5.1							
ZAK	Zakamensk	49.22	5	eP		P	07 37 39.3	-0.6
ZAK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
CN2	Changchun	49.32	27	eP		P	07 37 40.3	-0.5
CN2				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.2							
TLY	Talaya	50.54	5c	i P		P	07 37 50.6	+0.6
TLY				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
KURK	Kurchatov	51.68	345	i P		P	07 37 58.7	0.0
KURK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
KURK	Kurchatov	51.68	345	eP		P	07 37 57.9	-0.8
	comp=Z,7.5nm,0.8s,mb4.7							
MDJ	Mudanjiang	51.89	29	P		P	07 38 00.5	+0.2
MDJ				AMB	AMB			
	comp=Z,11nm,0.9s,mb4.8							
MDJ				AMB	AMB			
	comp=Z,67nm,5.4s							
MDJ	Mudanjiang	51.89	29	eP		P	07 38 00.8	+0.5
	comp=Z,7.0nm,0.8s,mb4.6							
ZAL	Zalesovo	53.46	351	P		P	07 38 10.9	-0.9
	comp=Z,8.0nm,0.6s,mb4.8,baz=310,slow=5.9,SNR=44							
STKA	Stephens Creek	53.53	132	P		P	07 38 13.3	+0.6
	comp=Z,3.5nm,0.9s,mb4.3,baz=320,slow=15,SNR=5.7							
NVS	Novosibirsk	54.58	350	i P		P	07 38 18.8	-1.3
NVS				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.8							
NVS				pmax	pmax			
	comp=N,6.0nm,1.0s							
NVS				pmax	pmax			
	comp=E,7.0nm,0.9s							
BVA0	Borovoye Array	56.13	341	i P		P	07 38 30.3	-1.1
BVA0				pmax	pmax			
	comp=Z,1.0nm,1.0s,mb3.8							
BVAR	Borovoye Array	56.13	341	P		P	07 38 31.8	+0.5
	comp=Z,5.6nm,0.8s,mb4.6,baz=146,slow=9.0,SNR=31							
KLR	Kul'dur	56.27	27	eP		P	07 38 30.0	-2.4
CHKZ	Chkalovo	56.61	342	i P		P	07 38 33.7	-1.1
CHKZ				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.9							
BOD	Bodaibo	57.97	11	eP		P	07 38 42.9	-1.5
BOD				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.8							
KMBO	Kilima Mbogo	59.82	268	LR	LR		07 59 23.7	
	comp=Z,63nm,19.2s,MS3.8,baz=90,slow=31							
YSS	Yuzh-Sakhalins	60.39	34d	i P		P	07 39 01.1	-0.2
YSS				pmax	pmax			
	comp=Z,66nm,1.7s,mb5.4							
SVE	Sverdlovsk	62.56	338	eP		P	07 39 15.8	0.0
SVE				pmax	pmax			
	comp=Z,21nm,1.3s,mb5.1							
ARU	Arti	63.05	337	⇓i P		P	07 39 16.5	-2.5
ARU				e			07 41 33.9	
ARU				eS		S	07 47 49.9	+1.9
ARU				eSS		SS	07 51 54.0	-1.8
ARU				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.9							
KIV	Kislovodsk	64.14	319	⇑i P		P	07 39 21.6	-4.8
KIV				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8							
YAK	Yakutsk	65.40	16	eP		P	07 39 33.0	-1.3
YAK				pmax	pmax			
	comp=Z,56nm,0.9s,mb5.6							
YAK	Yakutsk	65.40	16	eP		P	07 39 33.0	-1.2
	comp=Z,56nm,0.9s,mb5.6							
SOC	Sochi	65.96	318	eP		P	07 39 30.1	-8.0
SOC				e			07 40 00.4	
SOC				eS		S	07 48 18.5	-5.5
SOC				e			07 49 24.7	
SOC				eSS		SS	07 52 39.3	-1.2
SOC				eSSS		SSS	07 55 30.5	-4.8
SOC				pmax	pmax			
	comp=Z,19nm,0.7s,mb5.2							
SOC				pmax	pmax			
	comp=N,32nm,1.0s							
SOC				pmax	pmax			
	comp=E,20nm,0.7s							
BRTR	Keskin Array B	68.94	312	P		P	07 39 56.8	-0.2
	comp=E,0.7nm,0.6s,mb3.8,baz=135,slow=8.7,SNR=3.7							
MA2	Magadan	71.34	26	eP		P	07 40 10.9	-0.4
MA2				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
MA2	Magadan	71.34	26	eP		P	07 40 10.9	-0.4
	comp=Z,8.4nm,0.8s,mb4.7							
OBN	Obninsk	72.47	328⇑	eP		P	07 40 14.4	-3.7
OBN				pmax	pmax			
	comp=Z,21nm,1.5s,mb4.8							
MAW	Mawson	72.74	193	LR	LR		08 07 20.4	
	comp=Z,126nm,21.6s,MS4.2,baz=75,slow=32							
TIXI	Tiksi	73.15	10c	i P		P	07 40 20.2	-1.5
TIXI				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
AKASG	Malin Array Be	75.10	322	P		P	07 40 32.6	-0.8
	comp=Z,0.7nm,0.5s,mb3.9,baz=80,slow=4.7,SNR=5.2							
FINES	FINESS Array B	79.86	333	P		P	07 40 58.7	-0.9
	comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=7.6,SNR=11							
FINES	FINESS Array B	79.86	333	P		P	07 40 58.7	-0.9
ARCES	ARCESS Array B	82.42	340	P		P	07 41 12.4	-0.4
	comp=Z,12nm,1.2s,mb4.7,baz=90,slow=4.9,SNR=15							
GERES	GERESS Array B	84.65	319	P		P	07 41 25.3	+0.7
	comp=Z,1.3nm,1.0s,mb4.0,baz=104,slow=5.5,SNR=7.9							
HFS	Hagfors	85.58	330	P		P	07 41 29.8	+0.8
	comp=Z,1.9nm,0.8s,mb4.3,baz=214,slow=5.2,SNR=4.3							
NB2	NORSAR Subarra	86.86	331	P		P	07 41 35.5	+0.2
	comp=Z,2.8nm,0.9s,mb4.5,baz=96,slow=4.8							
NOA	NORSAR Array B	86.86	331	P		P	07 41 35.3	-0.1
	comp=Z,1.9nm,0.8s,mb4.4,baz=94,slow=5.0,SNR=6.7							
SNAA	Sanae	94.31	198	LR	LR		08 22 45.0	
	comp=Z,77nm,19.1s,MS4.2,baz=330,slow=34							
YKA	Yellowknife Ar	112.07	15	PP		PP	07 48 04.8	-8.5
	comp=Z,0.7nm,1.1s,baz=328,slow=7.2,SNR=4.9							
TXAR	Lajitas Array	143.70	31	PKhKP			07 48 23.5	
	comp=Z,0.5nm,0.8s,baz=135,slow=3.8,SNR=4.8							
CFAA	Coronel Fontan	146.77	203	PKPbc		PKPbc	07 48 35.5	+3.4
	comp=Z,0.1nm,0.4s,baz=180,slow=2.0,SNR=3.0							

*IDC **03** 07:40:12.0±0.6, 15.82N×61.63W, mb4.0/14, mb1 4.2/18, mb1mx4.0/28, mbtmp4.0/18, ML3.9/4, Error ellipse: s-maj=13.5km s-min=8.8km az=141.0*
*TRN **03** 07:40:12.6, 15.83N×61.46W, h20km, MD4.1, M3.8(FDF)*
*NEIC **03** 07:40:15.5±0.5, 15.78N×61.61W, h24km±5km, mb4.0/3, MD4.1(TRN), MD3.5(FDF), Error ellipse: s-maj=6.8km s-min=4.5km az=66.0*
NEIC Felt [III] on Guadeloupe.
ISC 03 07:40:15.3±0.3, 15.78N±0.03×61.50W±0.06, h36km±4km, n43, σ1°03/56, mb4.0/17, 2C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBL	Barber's Block	0.25	173⇑	i P		P	07 40 22.2	-0.5
BBL				eS		S	07 40 27.0	-0.9
DWS	Wesley	0.28	138⇓	eP		P	07 40 22.5	-0.5
DWS				eS		S	07 40 26.3	-2.2
MDN	Morne-Daniel	0.47	167⇑	i P		P	07 40 26.0	+0.5
MDN				eS		S	07 40 32.8	+0.2
DBCT	Belle View Cho	0.53	163	eP		P	07 40 27.1	+0.8
DBCT				eS		S	07 40 35.0	+0.9
DSHT	Scott's Head	0.58	167	eP		P	07 40 27.7	+0.8
DSHT				eS		S	07 40 35.6	+0.3
BPA	Boggy Peak	1.30	345	eP		P	07 40 36.7	-0.7
BPA				eS		S	07 40 53.3	-0.6
NVRH	Round Hill, Ne	1.75	323	eP		P	07 40 44.4	+0.6
NVRH				eS		S	07 41 06.3	+1.3
SKTB	Turtle Beach	1.78	323	eP		P	07 40 44.3	+0.2
SKTB				eS		S	07 41 06.2	+0.5
CPB	Codrington	1.88	351	⇓i P		P	07 40 44.8	-0.8
CPB				eS		S	07 41 07.1	-1.1
SKI	Saint Kitts	1.95	323	eP		P	07 40 46.9	+0.4
SKI				eS		S	07 41 11.1	+1.0
SLB	Belfond	1.99	167	eP		P	07 40 48.5	+1.3
SLB				eS		S	07 41 13.9	+2.7
BSK	Brimstone Hill	2.02	321	eP		P	07 40 47.9	+0.3
BSK				eS		S	07 41 12.9	+1.1
SKDB	Saint Kitts 2	2.04	322	eP		P	07 40 48.5	+0.7
STAT	Sint Eustatius	2.22	321	eP		P	07 40 51.2	+0.8
SABS	Saba	2.48	318	eP		P	07 40 53.6	-0.6
SABT	Saba	2.48	318	eP		P	07 40 53.6	-0.6
STMA	St. Maarten, A	2.73	326	eP		P	07 41 01.4	+3.7
STMA				eS		S	07 41 31.8	+2.0
SJG	San Juan	5.01	298	Pn		P	07 41 28.5	-1.7
	12nm,0.3s,baz=145,slow=8.4,SNR=19							
PCRV	Puerto La Cruz	6.35	209	Pn		P	07 41 46.8	-2.1
	0.9nm,0.3s,baz=104,slow=4.5,SNR=6.0							
SDV	Santo Domingo	11.24	234	Pn		P	07 42 52.2	-4.5
	1.0nm,0.3s,baz=83,slow=9.0,SNR=20							
SDV	Santo Domingo	11.24	234	eP		P	07 42 52.1	-4.6
ROSC	El Rosal	16.63	231	Pn		P	07 44 06.7	-0.7
	0.7nm,0.3s,baz=86,slow=19,SNR=5.4							
SAML	Samuel	24.62	184	eP		P	07 45 34.2	+0.2
	1.7nm,0.7s,mb3.7							
SIV	San Ignacio	31.57	179	P		P	07 46 37.2	+0.2
	2.1nm,0.6s,mb4.1,baz=10,slow=9.1,SNR=14							
SCHQ	Schefferville	39.19	355	P		P	07 47 41.4	0.0
	1.2nm,0.8s,mb3.6,baz=180,slow=9.1,SNR=5.2							
SCHQ	Schefferville	39.19	355	P		P	07 47 41.4	0.0
TXAR	Lajitas Array	40.99	297	P		P	07 47 56.3	-0.3
	0.3nm,0.5s,mb3.1,baz=111,slow=8.1,SNR=6.5							
TXAR				PcP	PcP		07 49 57.6	+0.6
	0.4nm,0.7s,baz=90,slow=2.7,SNR=3.3							
ULM	Lac du Bonnet	44.16	329	P		P	07 48 21.0	-1.3
	3.7nm,0.5s,mb4.4,baz=129,slow=8.5,SNR=11							
BW06	Boulder Array	48.95	313	eP		P	07 48 59.7	-0.5
	1.8nm,0.7s,mb4.2							
PDAR	Pinedale Array	48.95	313	P		P	07 48 59.8	-0.4
	3.4nm,0.7s,mb4.5,baz=113,slow=9.3,SNR=30							
QLMT	Earthquake Lak	50.88	315	eP		P	07 49 16.0	+1.1
HLID	Hailey	52.58	313	P		P	07 49 26.2	-1.5
	1.5nm,0.8s,mb4.0							
NVAR	Mina Array Bea	54.46	306	P		P	07 49 40.1	-1.5
	0.5nm,0.6s,mb3.6,baz=106,slow=5.5,SNR=3.7							
NEW	Newport	55.64	318	P		P	07 49 48.6	-1.5
	3.0nm,0.7s,mb4.4,baz=126,slow=7.4,SNR=7.2							
DBIC	Dimbokro	56.15	93	P		P	07 49 55.2	+1.0
	2.0nm,0.8s,mb4.2,baz=222,slow=12,SNR=2.5							
EKA	Eskdalemuir Ar	59.30	34	P		P	07 50 15.1	-0.8
	0.9nm,0.7s,mb3.9,baz=256,slow=3.4,SNR=4.4							
YKA	Yellowknife Ar	59.49	334	P		P	07 50 15.3	-1.7
	2.7nm,0.6s,mb4.4,baz=106,slow=7.4,SNR=62							
DAVOX	Davos	65.95	45	P		P	07 51 01.3	+1.3
	1.5nm,0.7s,mb4.1,baz=302,slow=19,SNR=2.7							
NOA	NORSAR Array B	67.96	30	P		P	07 51 13.4	+0.9
	1.2nm,0.9s,mb3.9,baz=263,slow=6.6,SNR=3.2				

CALA					*e*S	Sg	08 06 30.4	-0.2
HOR	**Horta**	**0.40**	**116**		*e*P	Pg	08 06 27.0	-0.7
HOR					*e*S	Sg	08 06 32.7	-0.4
PICO	**Pico**	**0.56**	**111**		*i* P	Pg	08 06 29.8	-1.1
PICO					*e*S	Sg	08 06 37.7	-0.6
PICO	**Pico**	**0.56**	**111**		*e*S	Sg	08 06 37.7	-0.6
PMAN	**Manadas**	**0.79**	**95**		*e*P	Pg	08 06 33.4	-2.0
PMAN					*e*S	Sg	08 06 42.9	-3.0
	32nm,0.3s							

BJI ***03*** *08:06:20.0, 0.31N×97.66E, h30km, mB4.8, mb4.6, Ms3.8, Msz3.7*
IDC ***03*** *08:06:23.8±2.3, 1.09N×97.01E, mb4.1/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, MS3.6/2, Ms1 3.7/2, ms1mx3.0/29, Error ellipse: s-maj=98.6km s-min=18.4km az=58.0*
NEIC ***03*** *08:06:28.5±0.7, 1.17N×97.16E, h30km, mb4.5/4, Error ellipse: s-maj=19.7km s-min=10.5km az=68.0*
MOS ***03*** *08:06:29.1±2.1, 1.50N×97.42E, h33km, mb4.5/6, Error ellipse: s-maj=26.8km s-min=12.1km az=94.1*
ISC 03 08:06:27.3±0.8, 1.26N±0.09×97.3E±0.1, h33km, (h31km±4.7km:pP-P), n33, σ1§20/33, mb4.4/21, MS3.8/4, 2C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.23**	**40**	*e*P	**P**	**08 07 46.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**17.17**	**5**	LR	LR	08 18 02.5	
	comp=Z,110nm,18.3s,baz=185,slow=40						
KMI	**Kunming**	**24.31**	**12**	P	**P**	**08 11 46.2**	**+3.1**
KMI				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,158nm,5.7s						
KMI				LR	LR		
	comp=N,293nm,13.8s,MS4.0						
KMI				LR	LR		
	comp=E,174nm,13.8s,MS4.0						
KMI				LR	LR		
	comp=Z,340nm,15.2s,MS4.0						
KMI	**Kunming**	**24.31**	**12**	*e*P	**P**	**08 11 46.2**	**+3.1**
KMI				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.5						
KMI				MLR	MLR		
	comp=Z,340nm,15.2s,MS4.0						
KMI	**Kunming**	**24.31**	**12**	P	**P**	**08 11 46.2**	**+3.1**
	comp=Z,21nm,1.0s,mb4.5						
KMI				S	**S**	**08 16 16.6**	**+19**
KMI				LR	LR		
	comp=Z,340nm,15.2s,MS4.0						
SHL	**Shillong**	**24.73**	**348**	*e*P	**P**	**08 11 48.0**	**+0.9**
ENH	**Enshi**	**31.10**	**21**	*e*P	**P**	**08 12 44.9**	**-0.1**
	comp=Z,12nm,0.8s,mb4.8						
WHN	**Wuhan**	**33.33**	**27**	P	**P**	**08 13 01.6**	**-2.8**
FITZ	**Fitzroy Crossi**	**33.89**	**126**	P	**P**	**08 13 09.0**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.3,baz=329,slow=12,SNR=4.8						
XAN	**Xi'an**	**34.39**	**17**	P	**P**	**08 13 14.2**	**+0.7**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
NJ2	**Nanjing**	**36.77**	**31**	*e*P	**P**	**08 13 32.5**	**-1.3**
NJ2				AP	pP	08 13 44.0	+0.5
NJ2				XP	sP	08 13 46.4	-1.4
NJ2				PP	PP	08 15 00.2	+0.6
NJ2				S	**S**	**08 19 16.0**	**+1.0**
NJ2				XS		08 19 34.0	
NJ2				LR	LR		
	comp=N,380nm,16.3s,MS4.3						
NJ2				LR	LR		
	comp=E,180nm,16.2s,MS4.3						
NJ2				LR	LR		
	comp=Z,280nm,11.5s,MS4.3						
SSE	**Sheshan**	**37.32**	**35**	P	**P**	**08 13 34.0**	**-4.4**
SSE				AP	pP	08 13 42.6	-5.6
SSE				XP	sP	08 13 46.9	-5.5
SSE				S	**S**	**08 19 21.1**	**-2.3**
SSE				XS		08 19 36.6	
SSE				SS	SS	08 22 05.7	+10
SSE				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.7						
SSE				AMB	AMB		
	comp=Z,76nm,3.2s						
SSE				LR	LR		
	comp=N,18nm,26.8s,MS3.1						
SSE				LR	LR		
	comp=E,35nm,26.8s,MS3.1						
SSE				LR	LR		
	comp=Z,41nm,16.4s						
GTA	**Gaotai**	**38.05**	**3**	P	**P**	**08 13 44.9**	**+0.5**
GTA				AP	pP	08 13 52.7	-1.5
GTA				XP	sP	08 13 54.2	-4.2
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**41.99**	**122**	P	**P**	**08 14 18.3**	**+0.9**
	comp=Z,1.5nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=15						
ASAR	**Alice Springs**	**43.36**	**127**	P	**P**	**08 14 29.6**	**+1.1**
	comp=Z,0.9nm,0.8s,mb3.5,baz=298,slow=7.6,SNR=6.9						
AAK	**Ala-Archa**	**45.98**	**337**	*e*P	**P**	**08 14 54.2**	**+4.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
SONM	**Songino Array**	**47.06**	**8**	P	**P**	**08 14 58.8**	**+1.1**
	comp=Z,2.7nm,0.8s,mb4.2,baz=189,slow=8.6,SNR=30						
SONM				LR	LR	08 37 30.7	
	comp=Z,114nm,18.8s,MS3.9,baz=13,slow=40						
ULN	**Ulaanbaatar**	**47.19**	**9**	*d i*P	**P**	**08 14 59.5**	**+0.8**
ULN	**Ulaanbaatar**	**47.19**	**9**	*e*P	**P**	**08 14 58.9**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**08 14 59.5**	**+0.6**
	comp=Z,2.4nm,0.7s,mb4.2,baz=159,slow=7.7,SNR=28						
ZAK	**Zakamensk**	**49.21**	**5**	*e*P	**P**	**08 15 15.0**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
TLY	**Talaya**	**50.53**	**5**	⇓*i*P	**P**	**08 15 25.4**	**+1.0**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**51.76**	**345**	*c i*P	**P**	**08 15 34.2**	**+0.5**
KURK	**Kurchatov**	**51.76**	**345**	*e*P	**P**	**08 15 33.8**	**0.0**
	comp=Z,3.6nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**53.51**	**351**	P	**P**	**08 15 46.5**	**-0.2**
	comp=Z,2.4nm,0.4s,mb4.5,baz=287,slow=5.7,SNR=14						
KLR	**Kul'dur**	**56.17**	**27**	*e*P	**P**	**08 16 04.2**	**-1.9**
BOD	**Bodaibo**	**57.94**	**10**	*e*P	**P**	**08 16 17.5**	**-1.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
YAK	**Yakutsk**	**65.34**	**16**	*c i*P	**P**	**08 17 06.2**	**-2.0**
YAK				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
SOC	**Sochi**	**66.13**	**318**	*e*P	**P**	**08 17 13.0**	**-0.6**
SOC				*e*		08 17 46.3	
SOC				*e*		08 19 43.5	
SOC				*e*PPP	PPP	08 21 16.9	+0.1
SOC				*e*S	S	08 26 05.3	+7.0
SOC				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
SOC				pmax	pmax		
	comp=N,32nm,0.9s						
SOC				pmax	pmax		
	comp=E,33nm,1.0s						
MA2	**Magadan**	**71.25**	**26**	*e*P	**P**	**08 17 42.2**	**-2.7**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
TIXI	**Tiksi**	**73.12**	**10**	⇓*i*P	**P**	**08 17 55.4**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TXAR	**Lajitas Array**	**143.58**	**32**	PKP	PKPdf	08 26 01.0	+1.6
	comp=Z,0.4nm,0.8s,baz=12,slow=1.2,SNR=4.6						
SJG	**San Juan**	**154.78**	**320**	PKP	PKPdf	08 26 18.6	+1.4
	comp=Z,9.3nm,0.9s,baz=320,slow=5.3,SNR=4.5						

IDC ***03*** *08:16:04.9±7.2, 1.69N×96.47E, mb4.4/4, mb1 4.4/5, mb1mx3.9/18, mbtmp4.3/5, Error ellipse: s-maj=171.1km s-min=78.8km az=134.0*
NEIC ***03*** *08:16:10.7±2.7, 1.86N×96.20E, h30km, mb4.2/2, Error ellipse: s-maj=50.0km s-min=22.0km az=169.0*
ISC 03 08:16:08.6±3.2, 1.8N±0.4×96.2E±0.2, h30km, n10, σ0§89/10, mb4.3/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.59**	**52**	*e*P	**Pn**	**08 17 32.0**	**0.0**
CMAR	**Chiang Mai Arr**	**16.74**	**9**	Pn	**P**	**08 20 02.9**	**+0.2**
	baz=198,slow=11,SNR=11						
LSA	**Lhasa**	**28.14**	**351**	*e*P	**P**	**08 22 01.2**	**+0.9**
MKAR	**Makanchi Array**	**46.41**	**347**	P	**P**	**08 24 34.7**	**+0.4**
	4.4nm,0.7s,mb4.5,baz=162,slow=7.9,SNR=65						
SONM	**Songino Array**	**46.66**	**9**	P	**P**	**08 24 36.1**	**-0.2**
	2.6nm,0.5s,mb4.4,baz=190,slow=9.6,SNR=28						
ULN	**Ulaanbaatar**	**46.80**	**10**	*e*P	**P**	**08 24 37.5**	**+0.1**
	1.1nm,0.5s,mb4.0						
KURK	**Kurchatov**	**50.94**	**346**	P	**P**	**08 25 07.0**	**-2.4**
	2.5nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**52.78**	**352**	P	**P**	**08 25 22.5**	**-0.7**
	3.9nm,0.5s,mb4.6,baz=276,slow=7.2,SNR=10						
ZAL	**Zalesovo**	**52.78**	**352**	P	**P**	**08 25 22.5**	**-0.7**
FINES	**FINESS Array B**	**79.00**	**333**	P	**P**	**08 28 12.1**	**+1.1**
	1.0nm,0.8s,mb3.8,baz=121,slow=8.1,SNR=3.5						

NEIC ***03*** *08:16:09.2, 17.95N×101.24W, h48km, MD4.0(MEX), After MEX.*
MEX 03 08:16:09.4±0.9, 17.95N×101.23W, h45km±17km, MD4.0, 5C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.40**	**214**	*i* P	P	08 16 17.2	-2.0
ZIIG				*i* S	S	08 16 25.0	-1.1
ZIIG	**Zihuatanejo**	**0.40**	**214**	⇑*i*P	P	08 16 17.1	-2.0
ZIIG				*i* S	S	08 16 24.9	-1.2
CAIG	**El Cayaco**	**1.28**	**134**	*e*P	P	08 16 28.9	-2.3
CAIG				*i* S	S	08 16 44.9	-2.6
CAIG	**El Cayaco**	**1.28**	**134**	⇑*e*P	P	08 16 28.9	-2.3
CAIG				*i* S	S	08 16 44.9	-2.6
ACX	**Acapulco**	**1.65**	**130**	*i* P	P	08 16 35.2	-1.3
ACX				*e*S	S	08 16 56.0	-0.6
ACX	**Acapulco**	**1.65**	**130**	*i* P	P	08 16 35.2	-1.3
ACX				*e*S	S	08 16 54.0	-2.6
PLIG	**Platanillo**	**1.70**	**75**	⇑*e*P	P	08 16 36.1	-1.1
PLIG				*i* S	S	08 16 54.4	-3.5
MOIG	**Morelia**	**1.72**	**1**	⇑*i*P	P	08 16 35.1	-2.4
MOIG				*e*S	S	08 16 53.0	-5.4
MOIG	**Morelia**	**1.72**	**1**	⇑*i*P	P	08 16 35.1	-2.4
MOIG				*i* S	S	08 16 57.1	-1.3
YAIG	**Yautepec**	**2.25**	**66**	*e*P	P	08 16 42.9	-2.0
YAIG				*e*S	S	08 17 10.1	-1.5
COLM	**Colima**	**2.64**	**298**	*e*P	P	08 16 48.3	-2.2
COLM				*i* S	S	08 17 19.5	-2.1
PPM	**Popocatepetl**	**2.71**	**65**	*e*P	P	08 16 51.0	-0.6
PPM	**Popocatepetl**	**2.71**	**65**	*e*P	P	08 16 49.9	-1.6
PPM				*e*P		08 16 51.0	
PPM				*i* S	S	08 17 20.6	-2.7
SFJM	**Santa Fe**	**3.05**	**326**	*e*P	P	08 16 55.0	-1.4
SFJM				*e*S	S	08 17 30.0	-2.0
ZAIG	**Zacatecas**	**4.96**	**346**	*e*P	P	08 17 19.8	-3.6
ZAIG	**Zacatecas**	**4.96**	**346**	*e*P	P	08 17 19.8	-3.6
ZAIG				*i* S	S	08 18 18.7	-1.5

IDC ***03*** *08:16:41.6±3.0, 4.14S×152.36E, h88km±26km, mb4.1/10, mb1 4.2/13, mb1mx4.0/21, mbtmp4.5/13, MS3.5/4, Ms1 3.4/4, ms1mx3.2/21, Error ellipse: s-maj=20.6km s-min=17.3km az=49.0*
NEIC ***03*** *08:16:44.8±1.9, 4.54S×152.36E, h97km±17km, mb4.6/7, Error ellipse: s-maj=17.0km s-min=13.4km az=153.0*
MOS ***03*** *08:16:46.8±1.1, 4.48S×152.17E, h118km, mb4.4/5, Error ellipse: s-maj=22.8km s-min=11.0km az=66.5*
ISC 03 08:16:42.6±2.1, 4.49S±0.08×152.30E±0.09, h87km±20km, n49, σ1§16/40, mb4.3/18, 6C-3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.07**	**226**	*e*P	**P**	**08 18 26.8**	**+1.5**
PMG	**Port Moresby**	**7.07**	**226**	P	**P**	**08 18 25.4**	**+0.2**
	3.8nm,0.3s,baz=4.3,slow=9.7,SNR=9.9						
PMG	**Port Moresby**	**7.07**	**226**	*e*P	**P**	**08 18 26.0**	**+0.8**
HNR	**Honiara**	**9.04**	**123**	P	**P**	**08 18 51.1**	**-1.0**
	11nm,0.3s,baz=242,slow=1.7,SNR=5.6						
HNR	**Honiara**	**9.04**	**123**	*e*P	**P**	**08 18 50.5**	**-1.5**
CTA	**Charters Tower**	**16.59**	**200**	P	**P**	**08 20 34.8**	**+3.6**
	0.5nm,0.3s,baz=35,slow=13,SNR=6.7						
CTA				LR	LR	08 26 21.4	
	comp=Z,198nm,21.6s,baz=255,slow=34						
CTAO	**Charters Tower**	**16.59**	**200**	*e*P	**P**	**08 20 34.4**	**+3.2**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CTAO	**Charters Tower**	**16.59**	**200**	*e*P	**P**	**08 20 34.4**	**+3.2**
	comp=Z,9.6nm,0.8s						
DZM	**Mont Dzumac**	**22.21**	**143**	P	**P**	**08 21 33.0**	**0.0**
	comp=Z,6.2nm,0.7s,mb4.0,baz=80,slow=23,SNR=7.3						
WRAB	**Tennant Creek**	**23.27**	**227**	*e*P	**P**	**08 21 43.8**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,118nm,1.3s,mb5.1						
WRAB	**Tennant Creek**	**23.27**	**227**	*e*P	**P**	**08 21 43.8**	**+0.5**
	comp=Z,118nm,1.3s,mb5.1						
WB2	**Warramunga Arr**	**23.27**	**227**	⇓*i*P	**P**	**08 21 44.0**	**+0.6**
WRA	**Warramunga Arr**	**23.28**	**227**	P	**P**	**08 21 44.2**	**+0.7**
	comp=Z,17nm,0.6s,mb4.6,baz=55,slow=10,SNR=67						
ASAR	**Alice Springs**	**26.05**	**221**	P	**P**	**08 22 09.4**	**-0.4**
	comp=Z,4.7nm,0.6s,mb4.1,baz=51,slow=8.7,SNR=90						
ASAR				LR	LR	08 32 32.0	
	comp=Z,72nm,20.0s,baz=360,slow=36						
ASPA	**Alice Springs**	**26.05**	**221**	⇑*i*P	**P**	**08 22 09.6**	**-0.2**
STKA	**Stephens Creek**	**29.04**	**199**	P	**P**	**08 22 36.6**	**-0.2**
	comp=Z,4.1nm,0.7s,mb4.2,baz=12,slow=13,SNR=5.1						
STKA				LR	LR	08 34 51.2	
	comp=Z,60nm,18.1s,baz=204,slow=37						
FITZ	**Fitzroy Crossi**	**29.38**	**240**	*e*P	**P**	**08 22 38.2**	**-1.8**
	comp=Z,5.8nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**29.38**	**240**	P	**P**	**08 22 38.5**	**-1.5**
	comp=Z,3.6nm,0.4s,mb4.3,baz=36,slow=8.3,SNR=14						
FITZ				LR	LR	08 33 21.0	
	comp=Z,111nm,20.1s,baz=76,slow=34						
FORT	**Forrest**	**34.72**	**218**	⇑*i*P	**P**	**08 23 25.5**	**-0.8**
	comp=Z,623nm,0.6s						
JHJ	**Hachijo jima 2**	**39.24**	**343**	P	**P**	**08 23 59.8**	**-4.4**
	comp=Z,93nm,0.8s,baz=90,slow=20,SNR=2.8						
RPZ	**Rata Peaks**	**42.43**	**160**	P	**P**	**08 24 30.8**	**+0.4**
	comp=Z,23nm,0.7s,mb5.0,baz=35,slow=1.8,SNR=13						
SSE	**Sheshan**	**46.19**	**322**	P	**P**	**08 24 58.7**	**-2.1**
	comp=Z,24nm,0.7s,mb5.0						
MA2	**Magadan**	**63.88**	**359**	*e*P	**P**	**08 27 07.6**	**-0.6**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
MA2	**Magadan**	**63.88**	**359**	*e*P	**P**	**08 27 07.6**	**-0.6**
	comp=Z,4.5nm,0.6s,mb4.5						
ULN	**Ulaanbaatar**	**65.47**	**328**	*e*P	**P**	**08 27 17.6**	**-1.1**
SONM	**Songino Array**	**65.80**	**328**	P	**P**	**08 27 15.0**	**-5.8**
	comp=Z,0.5nm,0.8s,mb3.4,baz=153,slow=5.5,SNR=3.6						
YAK	**Yakutsk**	**68.57**	**349**	*d i*P	**P**	**08 27 39.1**	**+1.2**
YAK				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.0						
ZAK	**Zakamensk**	**68.97**	**329**	*e*P	**P**	**08 27 34.2**	**-6.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
TLY	**Talaya**	**69.56**	**330**	⇓*i*P	**P**	**08 27 44.8**	**+0.6**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
BILL	**Bilibino**	**73.03**	**5**	*e*P	**P**	**08 28 06.2**	**+1.7**
BILL				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
BILL	**Bilibino**	**73.03**	**5**	*e*P	**P**	**08 28 06.2**	**+1.7**
	comp=Z,11nm,0.9s,mb4.7						
VNDA	**Vanda**	**73.16**	**178**	P	**P**	**08 28 04.7**	**-0.4**
	comp=Z,1.2nm,0.6s,mb3.9,baz=347,slow=6.4,SNR=8.6						
VNDA	**Vanda**	**73.16**	**178**	P	**P**	**08 28 04.7**	**-0.4**
TIXI	**Tiksi**	**77.53**	**353**	⇑*i*P	**P**	**08 28 31.0**	**+0.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.0						
MKAR	**Makanchi Array**	**79.77**	**319**	P	**P**	**08 28 39.7**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=84,slow=7.5,SNR=3.3						
COLA	**College**	**81.75**	**22**	*e*P	**P**	**08 28 54.5**	**+1.6**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
COLA	**College**	**81.75**	**22**	*e*P	**P**	**08 28 54.5**	**+1.5**
	comp=Z,2.8nm,0.8s,mb4.1						
KURK	**Kurchatov**	**83.22**	**322**	*e*P	**P**	**08 29 02.6**	**+1.9**
AAK	**Ala-Archa**	**84.09**	**314**	*e*P	**P**	**08 29 04.1**	**-1.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.1						
ARU	**Arti**	**95.78**	**326**	⇑*i*P	**P**	**08 29 59.7**	**-0.4**
ARU				*e*		08 33 52.3	
ARU				*e*S		08 40 23.2	
ARU				*e*SS	SS	08 47 38.9	-3.5
ARU				pmax	pmax		
	comp=Z,18nm,0.7s						
SNAA	**Sanae**	**102.27**	**188**	*e*		08 34 48.5	
VNA3	**Neumayer Olymp**	**103.48**	**186**	⇑*i*Pdif	Pdif	08 30 35.0	+0.6
VNA3				*e*		08 34 51.0	
VNA3				*e*		08 34 52.0	
VNA2	**Neumayer--Watz**	**103.53**	**187**	⇑*i*Pdif	Pdif	08 30 38.6	+4.0
VNA2				*e*		08 34 53.0	
VNA2				*e*		08 34 54.1	
VNA1	**Neumayer--Stat**	**103.89**	**187**	*e*		08 34 57.3	
GOF	**Gofitskoye**	**106.74**	**316**	*e*P	Pdif	08 30 43.5	-5.8
LPAZ	**La Paz**	**135.00**	**118**	PKP	PKPdf	08 35 51.8	-1.1
	comp=Z,1.2nm,0.8s,baz=166,slow=4.2,SNR=6.1						
LPAZ	**La Paz**	**135.00**	**118**	*e*PKPdf	PKPdf	08 35 52.1	-0.7
SIV	**San Ignacio**	**141.21**	**122**	PKhKP		08 35 55.7	
	comp=Z,0.6nm,0.6s,baz=297,slow=2.5,SNR=4.0						
SIV				PKP	PKPdf	08 36 04.6	+0.4
	comp=Z,0.6nm,0.5s,baz=282,slow=0.6,SNR=4.6						
BDFB	**Brasilia**	**151.63**	**135**	PKPbc	PKPdf	08 36 26.1	+4.7
	comp=Z,4.2nm,0.6s,baz=173,slow=2.5,SNR=9.9						
BDFB				PKPab	PKPab	08 36 36.2	-2.9
	comp=Z,9.5nm,0.7s,baz=236,slow=2.8,SNR=14						

IDC 03 08:25:33.0±9.6, 0.45N×96.99E, mb3.7/3, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=197.5km s-min=123.9km az=141.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.00**	**6**	Pn	P	08 29 44.7	-1.8
	0.2nm,0.3s,baz=196,slow=13,SNR=4.2						
SONM	**Songino Array**	**47.90**	**9**	P	P	08 34 13.1	-1.8
	0.3nm,0.4s,baz=191,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**47.92**	**346**	P	P	08 34 13.6	-1.5
	0.6nm,0.6s,baz=165,slow=8.7,SNR=9.1						
ZAL	**Zalesovo**	**54.25**	**351**	P	P	08 34 59.9	-3.0
	1.0nm,0.5s,baz=32,slow=1.2,SNR=5.0						

NIED ***03*** *08:41:00, 37.20N×140.00E, h5km, Mw4.3 Best double couple: M0=3.7×10^15 NP1:φs=189°, δ60°, λ103°. NP2:φs=344°, δ32°, λ68°.*
IDC ***03*** *08:41:53.7±0.6, 37.07N×139.92E, mb4.2/19, mb1 4.3/21, mb1mx4.3/29, mbtmp4.2/21, ML3.6/2, MS3.6/5, Ms1 3.6/5, ms1mx3.1/34, Error ellipse: s-maj=19.0km s-min=14.8km az=67.0*
JMA ***03*** *08:41:53.9, 37.20N×139.95E, h5km±1km, M4.5 Broadband fault plane solution: P waves. NP1:φs=201°, δ65°, λ152°. NP2:φs=303°, δ65°, λ28°. Principal axes: T Plg37°, Azm162°; N Plg53°, Azm342°; P Plg0°, Azm72°;*
JMA Felt III J1.
BJI ***03*** *08:41:56.3, 37.07N×140.12E, h41km, mB5.0, mb4.7, Ms4.2, Msz3.7*
MOS ***03*** *08:41:56.6±1.4, 37.13N×139.99E, h33km, mb4.8/6, Error ellipse: s-maj=13.4km s-min=10.0km az=101.1*
NEIC ***03*** *08:41:58.7±4.1, 37.08N×139.91E, h32km±29km, mb4.7/11, MW4.3(NIED), Error ellipse: s-maj=13.0km s-min=9.6km az=84.0*
NEIC Recorded [3 JMA] in Fukushima, [2 JMA] in Tochigi and [1 JMA] in Gumma, Ibaraki and Saitama Prefectures.
ISC 03 08:41:53.8±0.5, 37.17N±0.02×139.96E±0.03, h9km±3km, n74, σ1§08/85, mb4.2/32, MS3.7/5, 2C-9D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.20**	**188**	⇑P	**Pg**	**08 41 58.9**	**+0.7**
JSB				*e*S	**Sg**	**08 42 02.8**	**+1.7**
JFY	**Yanaizu**	**0.31**	**320**	⇑P	**Pg**	**08 41 59.8**	**-0.3**
JFY				*e*S	**Sg**	**08 42 03.8**	**-0.6**
JFT	**Otama**	**0.46**	**41**	⇓P	**Pg**	**08 42 02.6**	**-0.5**
JFT				*e*S	**Sg**	**08 42 08.8**	**-0.5**
JKT	**Katashina**	**0.70**	**235**	⇓P	**Pg**	**08 42 07.4**	**-0.3**
JKT				*e*S	**Sg**	**08 42 16.6**	**-0.5**
JHK	**Hiroka**	**0.75**	**276**	⇓P	**Pb**	**08 42 08.1**	**-0.5**
JHK				*e*S	**Sb**	**08 42 17.7**	**-1.0**
JFK	**Kawauchi**	**0.76**	**75**	⇓P	**Pb**	**08 42 08.1**	**-0.6**
JFK				*e*S	**Sb**	**08 42 18.5**	**-0.3**
JNS	**Sasagawa**	**0.82**	**322**	⇓P	**Pb**	**08 42 09.3**	**-0.5**
JNS				*e*S	**Sb**	**08 42 19.7**	**-1.0**
JAG	**Ashikaga**	**0.85**	**209**	⇓P	**Pb**	**08 42 10.3**	**+0.1**
JAG				*e*S	**Sb**	**08 42 22.0**	**+0.6**
JMM	**Marumori**	**0.96**	**44**	⇓P	**Pb**	**08 42 11.6**	**-0.5**
JMM				*e*S	**Sb**	**08 42 24.9**	**+0.2**
MAJO	**Matsushiro**	**1.54**	**246**	⇓*e*P	**Pn**	**08 42 22.2**	**+0.7**
MAJO				*e*S	**Sb**	**08 42 40.5**	**-0.9**
MAT	**Matsushiro**	**1.54**	**246**	*e*P	**Pn**	**08 42 22.0**	**+0.5**
MAT				*e*S	**Sb**	**08 42 43.0**	**+1.6**
MAT	**Matsushiro**	**1.54**	**246**	P	**Pn**	**08 42 21.9**	**+0.4**
MAT				S	**Sb**	**08 42 43.1**	**+1.7**
JHJ	**Hachijo jima 2**	**4.04**	**182**	Pn	**Pn**	**08 42 56.4**	**-0.9**
	15nm,0.3s,baz=264,slow=22,SNR=10.0						
JHJ				Sn	**Sn**	**08 43 43.4**	**-2.0**
	24nm,0.3s,baz=66,slow=21,SNR=3.5						
ASAJ	**Asahikawa**	**7.22**	**15**	P	**Pn**	**08 43 42.1**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.22**	**15**	Pn	**Pn**	**08 43 42.0**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=202,slow=13,SNR=5.6						
CBIJ	**Chichi jima**	**10.22**	**169**	LR	LR	08 48 43.8	
	comp=Z,280nm,18.3s,baz=148,slow=40						
MDJ	**Mudanjiang**	**10.80

MKAR Makanchi Array 43.06 302 P **P** **08 49 54.6 -0.7**
comp=Z,1.4nm,0.7s,mb3.8,baz=88,slow=9.8,SNR=21
MKAR LR LR 09 07 43.8
comp=Z,65nm,18.8s,MS3.5,baz=358,slow=36
KURK Kurchatov 44.93 308 *e*P **P** **08 50 08.8 -1.6**
KURK pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
KURK Kurchatov 44.93 308 *e*P **P** **08 50 08.8 -1.6**
comp=Z,9.4nm,0.7s,mb4.7
CHKZ Chkalovo 49.37 313 *e*P **P** **08 50 43.1 -2.1**
CHKZ pmax pmax
comp=Z,11nm,1.4s,mb4.7
CHKZ Chkalovo 49.37 313 *e*P **P** **08 50 43.1 -2.1**
comp=Z,11nm,1.4s,mb4.7
BVAR Borovoye Array 49.62 312 P **P** **08 50 47.5 +0.4**
comp=Z,0.9nm,0.6s,mb4.0,baz=97,slow=12,SNR=6.2
BVAR PcP PcP 08 52 07.7 -1.2
comp=Z,0.6nm,0.6s,SNR=4.2
INK Inuvik 54.80 27 P **P** **08 51 25.2 -0.5**
INK pmax pmax
comp=Z,5.0nm,0.9s
INK Inuvik 54.80 27 P **P** **08 51 25.2 -0.5**
comp=Z,4.9nm,0.9s,mb4.5,baz=287,slow=8.2,SNR=25
INK Inuvik 54.80 27 *e*P **P** **08 51 24.9 -0.8**
comp=Z,5.8nm,0.9s,mb4.6
WRAB Tennant Creek 57.04 186 *e*P **P** **08 51 41.1 -1.5**
WRAB pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
WRAB Tennant Creek 57.04 186 *e*P **P** **08 51 41.1 -1.5**
comp=Z,7.6nm,0.8s,mb4.8
WB2 Warramunga Arr 57.05 186 *e*P **P** **08 51 42.3 -0.3**
WRA Warramunga Arr 57.05 186 P **P** **08 51 40.6 -2.0**
comp=Z,5.4nm,0.7s,mb4.7,baz=2.4,slow=7.5,SNR=51
MBWA Marble Bar 61.07 202 *e*P **P** **08 52 08.9 -1.6**
comp=Z,7.5nm,0.9s,mb4.8
DZM Mont Dzumac 64.00 153 P **P** **08 52 28.0 -2.0**
comp=Z,4.6nm,0.6s,mb4.7,baz=313,slow=19,SNR=2.9
YKA Yellowknife Ar 64.27 30 P **P** **08 52 30.7 -0.4**
comp=Z,1.1nm,0.9s,mb3.9,baz=302,slow=6.7,SNR=15
YKA Yellowknife Ar 64.27 30 P **P** **08 52 30.7 -0.4**
KAF Kangasniemi 67.65 332 *e*p **P** **08 52 50.2 -2.5**
comp=Z,5.6nm,0.7s,mb4.7,baz=50,slow=6.0
KAF Kangasniemi 67.65 332 *e*P **P** **08 52 50.2 -2.5**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
FINES FINESS Array B 68.15 332 P **P** **08 52 55.8 0.0**
comp=Z,5.2nm,0.8s,mb4.6,baz=68,slow=10,SNR=16
SUMG Summit 70.54 359 *e*P **P** **08 53 11.5 +1.1**
comp=Z,6.7nm,1.0s,mb4.5
AKASG Malin Array Be 73.47 322 P **P** **08 53 27.6 -0.4**
comp=Z,2.0nm,0.6s,mb4.2,baz=44,slow=6.2,SNR=5.3
HFS Hagfors 73.48 335 P **P** **08 53 28.2 +0.3**
comp=Z,3.0nm,1.0s,mb4.2,baz=45,slow=4.2,SNR=4.3
NB2 NORSAR Subarra 73.61 337 P **P** **08 53 28.3 -0.3**
comp=Z,1.3nm,0.7s,mb4.0,baz=41,slow=5.8
NOA NORSAR Array B 73.61 337 P **P** **08 53 28.7 +0.1**
comp=Z,4.3nm,1.0s,mb4.3,baz=39,slow=5.8,SNR=11
HLID Hailey 75.13 46 *e*P **P** **08 53 39.3 +1.5**
KONO Kongsberg 75.19 336 *e*P **P** **08 53 38.8 +1.0**
BOZ Bozeman (W) 75.42 43 *e*P **P** **08 53 39.8 +0.4**
BOZ pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
BOZ Bozeman (W) 75.42 43 *e*P **P** **08 53 39.8 +0.4**
comp=Z,8.7nm,1.6s,mb4.4
NVAR Mina Array Bea 75.83 52 P **P** **08 53 42.6 +0.7**
comp=Z,0.8nm,0.7s,mb3.8,baz=270,slow=4.4,SNR=6.2
BRTR Keskin Array B 77.89 311 P **P** **08 53 55.7 +2.4**
comp=Z,0.8nm,0.6s,mb3.8,baz=342,slow=7.8,SNR=3.7
BW06 Boulder Array 78.40 45 *e*P **P** **08 53 57.3 +1.3**
comp=Z,3.5nm,1.3s,mb4.1
PDAR Pinedale Array 78.40 45 P **P** **08 53 57.4 +1.3**
comp=Z,0.5nm,0.7s,mb3.5,baz=297,slow=3.3,SNR=4.8
ULM Lac du Bonnet 80.02 33 P **P** **08 54 05.0 +0.3**
comp=Z,0.8nm,0.5s,mb3.9,baz=14,slow=5.5,SNR=3.1
VRAC Vranov 80.37 326 P **P** **08 54 07.2 +0.6**
comp=Z,2.1nm,0.5s,mb4.3,baz=121,slow=3.3,SNR=3.5
CLL Collm 80.39 329 P **P** **08 54 07.0 +0.3**
MOX Moxa 81.46 330 *e*P **P** **08 54 12.0 -0.3**
PV10 Paradox Valley 81.55 48 *e*P **P** **08 54 14.8 +1.8**
KHC Kasperske Hory 81.81 328 *e*P **P** **08 54 15.5 +1.3**
GERES GERESS Array B 81.98 327 P **P** **08 54 14.9 -0.1**
comp=Z,0.6nm,0.6s,mb3.7,baz=32,slow=5.7,SNR=7.8
PPT Papeete 85.74 116 LR LR 09 24 33.8
comp=Z,79nm,20.1s,MS4.1,baz=20,slow=30
TXAR Lajitas Array 90.95 51 P **P** **08 55 00.6 +1.1**
comp=Z,0.3nm,0.7s,mb3.8,baz=297,slow=2.8,SNR=4.4
TXAR Lajitas Array 90.95 51 P **P** **08 55 00.6 +1.1**
LPAZ La Paz 147.62 58 PKPbc PKPdf 09 01 42.5 +3.3
comp=Z,1.0nm,0.6s,baz=34,slow=2.6,SNR=3.6
SIV San Ignacio 151.86 47 PKPbc PKPdf 09 01 50.6 +4.8
comp=Z,1.7nm,0.9s,baz=284,slow=5.8,SNR=5.5

IDC 03 08:45:15.8±1.8, 19.21N×64.18W, mb3.3/3, mb1 3.7/6, mb1mx3.5/23, mbtmp3.7/6, ML3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/15, Error ellipse: s-maj=35.4km s-min=23.4km az=100.0, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**2.16**	**240**	Pn	Pn	08 45 52.7	-0.9
	20nm,0.3s,baz=66,slow=8.3,SNR=31						
SJG				Sn	Sn	08 46 19.7	-1.7
	65nm,0.3s,baz=298,slow=18,SNR=15						
SDV	**Santo Domingo**	**12.02**	**212**	Pn	P	08 48 10.1	-1.3
	0.3nm,0.3s,baz=48,slow=12,SNR=4.7						
SDV				Sn	S	08 50 22.9	-4.5
	0.2nm,0.3s,baz=311,slow=20,SNR=3.8						
ROSC	**El Rosal**	**17.36**	**216**	P	P	08 49 21.9	+0.5
	0.4nm,0.3s,baz=80,slow=19,SNR=4.0						
ROSC				LR	LR	08 55 22.0	
	comp=Z,43nm,20.8s,baz=306,slow=35						
SIV	**San Ignacio**	**35.11**	**175**	P	P	08 52 10.8	-2.4
	0.7nm,0.5s,baz=25,slow=12,SNR=6.3						
TXAR	**Lajitas Array**	**37.23**	**293**	P	P	08 52 29.9	-1.0
	0.4nm,0.8s,baz=117,slow=8.4,SNR=4.1						
YKA	**Yellowknife Ar**	**55.30**	**334**	P	P	08 54 50.3	-2.9
	0.1nm,0.5s,baz=105,slow=7.3,SNR=4.6						

JMA 03 08:50:03.1, 37.20N×139.94E, h5km±1km, M0.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFY	**Yanaizu**	**0.28**	**318**	*e*S	Sg	08 50 12.9	+0.4

*NIED **03** 08:50:00, 37.20N×139.90E, h5km, Mw3.8 Best double couple: M0:5.36×10^14 NP1:φ195°, δ69°, λ107°. NP2: φ335°, δ27°, λ53°.*
JMA 03 08:50:31.1, 37.21N×139.94E, h5km±1km, M3.5, 1C-2D Broadband fault plane solution: P waves. NP1:φ316°, δ49°, λ35°. **NP2:**φ202°, δ64°, λ134°. **Principal axes:** T Plg50°, Azm161°; N Plg39°, Azm359°; P Plg9°, Azm262°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.24**	**184**	⇑P	Pg	08 50 36.2	+0.2
JSB				*e*S	Sg	08 50 39.7	+0.4
JFY	**Yanaizu**	**0.27**	**316**	⇓P	Pg	08 50 36.8	+0.2
JFY				S	Sg	08 50 40.6	+0.3
JFT	**Otama**	**0.44**	**46**	⇓P	Pg	08 50 39.9	-0.1
JFT				S	Sg	08 50 45.9	0.0
MAT	**Matsushiro**	**1.54**	**245**	P	Pn	08 50 59.3	-0.1
MAT				S	Sb	08 51 19.7	+0.2

*IDC **03** 08:54:12.3±3.1, 14.64S×167.15E, h183km±24km, mb3.7/7, mb1 3.8/9, mb1mx3.6/20, mbtmp4.3/9 Error ellipse: s-maj=31.5km s-min=15.8km az=47.0*
*NEIC **03** 08:54:12.1±2.2, 14.68S×167.19E, h181km±17km, Error ellipse: s-maj=29.8km s-min=15.1km az=51.0*
ISC 03 08:54:12.3±2.3, 14.8S±0.1×167.1E±0.2, h186km±16km, n14, σ1$04/16, **mb4.0/6, 2C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.27**	**185**	*e*P	**P**	**08 55 56.3**	**-0.5**
DZM				*e*S	**S**	**08 57 17.7**	**-0.7**
DZM	**Mont Dzumac**	**7.27**	**185**	P	**P**	**08 55 56.6**	**-0.2**
	2.3nm,0.3s,baz=50,slow=23,SNR=34						
DZM				S	**S**	**08 57 21.0**	**+2.7**
	1.2nm,0.3s,baz=145,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**7.27**	**185**	*e*P	**P**	**08 55 56.3**	**-0.6**
DZM				*e*S	**S**	**08 57 17.7**	**-0.7**
HNR	**Honiara**	**8.78**	**307**	P	**P**	**08 56 16.8**	**+0.1**
	16nm,0.3s,baz=154,slow=8.8,SNR=5.0						
CTA	**Charters Tower**	**20.56**	**252**	P	**P**	**08 58 39.3**	**+1.4**
	4.6nm,0.8s,baz=82,slow=12,SNR=3.7						
URZ	**Urewera**	**25.00**	**161**	P	**P**	**08 59 21.1**	**+0.6**
	4.5nm,0.9s,mb4.0,baz=201,slow=24,SNR=3.1						
STKA	**Stephens Creek**	**28.82**	**229**	P	**P**	**08 59 56.5**	**+1.2**
	2.8nm,0.6s,mb4.2,baz=23,slow=9.5,SNR=6.8						
WRA	**Warramunga Arr**	**31.64**	**256**	P	**P**	**09 00 17.3**	**-2.9**
	0.9nm,0.7s,mb3.6,baz=85,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**32.49**	**249**	P	**P**	**09 00 26.3**	**-1.2**
	1.1nm,0.6s,mb3.8,baz=78,slow=9.1,SNR=16						
FITZ	**Fitzroy Crossi**	**39.83**	**259**	P	**P**	**09 01 29.4**	**+0.2**
	5.5nm,0.7s,mb4.3,baz=333,slow=6.8,SNR=6.0						
VNDA	**Vanda**	**62.80**	**181**	P	**P**	**09 04 18.7**	**-1.1**
	1.1nm,0.5s,mb3.9,baz=5.4,slow=7.7,SNR=12						
VNA3	**Neumayer Olymp**	**94.15**	**181**	⇑*i*	**P**	**09 07 10.4**	**+0.1**
VNA2	**Neumayer-Watz**	**94.42**	**182**	⇑*i*	**P**	**09 07 12.1**	**+0.6**
ARCES	**ARCESS Array B**	**120.27**	**345**	PKP	PKPdf	09 12 39.8	-1.0
	4.1nm,0.9s,baz=45,slow=1.3,SNR=6.1						

*MOS **03** 09:04:23.9±1.2, 1.25N×97.30E, h33km, mb4.7/7, Error ellipse: s-maj=25.3km s-min=11.3km az=99.4*
*IDC **03** 09:04:25.3±1.6, 1.09N×97.09E, mb4.2/8, mb1 4.4/8, mb1mx4.1/19, mbtmp4.2/8, MS3.6/3, Ms1 3.6/3, ms1mx3.1/25, Error ellipse: s-maj=75.0km s-min=16.6km az=54.0*
*BJI **03** 09:04:26.4, 0.70N×97.32E, h43km, mB5.2, mb4.8, Ms4.1, Ms2.8*
*NEIC **03** 09:04:28.5±0.5, 1.07N×97.17E, mb4.7/11, Error ellipse: s-maj=15.8km s-min=7.9km az=54.0*
ISC 03 09:04:28.5±0.7, 1.14N±0.09×97.17E±0.08, h33km, n49, σ0$86/44, **mb4.5/27, MS3.7/4, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.15**	**48**	P	**P**	**09 05 45.7**	**+0.4**
KULM	**Kulim**	**5.39**	**40**	⇑*i*P	**P**	**09 05 48.7**	**-0.1**
KULM				*e*		09 05 54.9	
KGM	**Kluang**	**6.21**	**82**	P	**P**	**09 06 01.4**	**+1.2**
KSM	**Kuching**	**13.14**	**88**	*e*P	**P**	**09 07 46.9**	**+11**
SHL	**Shillong**	**24.82**	**349**	*e*P	**P**	**09 09 50.0**	**+0.7**
GYA	**Guiyang**	**26.78**	**19**	P	**P**	**09 10 07.8**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
PKI	**Pulchoki**	**28.60**	**338**	*e*P	**P**	**09 10 24.9**	**+0.8**
	comp=Z,50nm,1.5s,mb5.0						
PKI	**Pulchoki**	**28.60**	**338**	*e*P	**P**	**09 10 24.9**	**+0.8**
PKI				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.7						
GUN	**Gumba**	**28.73**	**339**	*e*P	**P**	**09 10 26.2**	**+0.9**
	comp=Z,28nm,0.8s,mb5.0						
DMN	**Daman**	**28.75**	**337**	*e*P	**P**	**09 10 26.1**	**+0.7**
KKN	**Kakani**	**28.85**	**338**	*e*P	**P**	**09 10 26.6**	**+0.3**
GKN	**Gorkha**	**29.29**	**337**	*e*P	**P**	**09 10 30.7**	**+0.5**
	comp=Z,33nm,1.0s,mb5.0						
KOLN	**Koldanda**	**29.50**	**335**	*e*P	**P**	**09 10 33.1**	**+1.0**
	comp=Z,19nm,0.8s,mb4.9						
ENH	**Enshi**	**31.25**	**21**	*e*P	**P**	**09 10 46.4**	**-1.2**
	comp=Z,17nm,1.0s,mb4.8						
ENH				*e*		09 10 52.8	
FITZ	**Fitzroy Crossi**	**33.92**	**126**	P	**P**	**09 11 10.2**	**-0.6**
	comp=Z,4.3nm,0.7s,mb4.5,baz=219,slow=2.8,SNR=5.4						
XAN	**Xi'an**	**34.53**	**17**	P	**P**	**09 11 14.8**	**-1.3**
XAN				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.9						
GTA	**Gaotai**	**38.17**	**3**	P	**P**	**09 11 47.4**	**+0.7**
GTA				AP	pP	09 11 58.6	+2.1
GTA				XP	sP	09 12 01.7	+1.0
GTA				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**42.03**	**122**	P	**P**	**09 12 19.2**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.0,baz=300,slow=9.1,SNR=26						
WRAB	**Tennant Creek**	**42.03**	**122**	*e*P	**P**	**09 12 18.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**42.03**	**122**	*e*P	**P**	**09 12 18.5**	**-0.5**
	comp=Z,4.0nm,0.6s,mb4.2						
BJI	**Beijing**	**42.41**	**22**	P	**P**	**09 12 22.8**	**+1.0**
BJI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.6						
BJI				LR	LR		
	comp=N,140nm,17.1s,MS4.1						
BJI				LR	LR		
	comp=E,135nm,16.9s,MS4.1						
BJI				LR	LR		
	comp=Z,68nm,17.0s,MS3.6						
WMQ	**Urumqi**	**43.33**	**350**	*e*P	**P**	**09 12 28.7**	**-0.6**
ASAR	**Alice Springs**	**43.38**	**127**	P	**P**	**09 12 30.7**	**+0.7**
	comp=Z,2.1nm,0.9s,mb3.9,baz=306,slow=7.6,SNR=13						
SONM	**Songino Array**	**47.20**	**8**	P	**P**	**09 13 00.4**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.3,baz=190,slow=9.3,SNR=26						
SONM				PcP	PcP	09 14 31.5	0.0
	comp=Z,0.3nm,0.4s,baz=192,slow=3.0,SNR=3.7						
MK02	**Makanchi Array**	**47.27**	**346**	P	**P**	**09 13 01.0**	**+0.4**
MK02				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
MKAR	**Makanchi Array**	**47.30**	**346**	P	**P**	**09 13 01.2**	**+0.4**
	comp=Z,3.2nm,0.7s,mb4.4,baz=161,slow=7.9,SNR=37						
MKAR				LR	LR	09 37 20.0	
	comp=Z,28nm,19.6s,MS3.2,baz=181,slow=42						
ULN	**Ulaanbaatar**	**47.33**	**9**	*e*P	**P**	**09 13 01.4**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**47.33**	**9**	*e*P	**P**	**09 13 01.4**	**+0.3**
	comp=Z,2.4nm,0.6s,mb4.3						
ZAK	**Zakamensk**	**49.34**	**5**	*e*P	**P**	**09 13 16.8**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
CN2	**Changchun**	**49.37**	**27**	*e*P	**P**	**09 13 16.5**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
HIA	**Hailar**	**51.71**	**19**	*e*P	**P**	**09 13 34.8**	**+0.1**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HIA	**Hailar**	**51.71**	**19**	*e*P	**P**	**09 13 34.8**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**53.61**	**351**	P	**P**	**09 13 48.4**	**-0.4**
	comp=Z,3.3nm,0.8s,mb4.3,baz=289,slow=7.2,SNR=21						
NVS	**Novosibirsk**	**54.73**	**350**	*e*P	**P**	**09 13 54.7**	**-2.3**
BVA0	**Borovoye Array**	**56.30**	**341**	*i* P	**P**	**09 14 07.1**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.8						
BVAR	**Borovoye Array**	**56.30**	**341**	P	**P**	**09 14 07.1**	**-1.2**
	comp=Z,2.7nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=21						
KLR	**Kul'dur**	**56.32**	**27**	*e*P	**P**	**09 14 05.2**	**-3.4**
CHKZ	**Chkalovo**	**56.78**	**341**	*e*P	**P**	**09 14 10.7**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.7						
CHKZ	**Chkalovo**	**56.78**	**341**	*e*P	**P**	**09 14 10.7**	**-1.0**
	comp=Z,64nm,0.9s,mb5.7						
CHKZ				*e*		09 14 17.0	
BOD	**Bodaibo**	**58.08**	**11**	*e*P	**P**	**09 14 19.6**	**-1.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
YAK	**Yakutsk**	**65.49**	**16**	*e*P	**P**	**09 15 09.9**	**-0.6**
MA2	**Magadan**	**71.40**	**26**	*e*P	**P**	**09 15 47.3**	**+0.1**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MA2	**Magadan**	**71.40**	**26**	*e*P	**P**	**09 15 47.2**	**+0.1**
	comp=Z,2.7nm,0.6s,mb4.3						
GERES	**GERESS Array B**	**84.84**	**319**	P	**P**	**09 17 02.6**	**+1.4**
	comp=Z,0.8nm,0.8s,mb3.9,baz=104,slow=11,SNR=5.2						
NOA	**NORSAR Array B**	**87.05**	**331**	LR	LR	10 01 51.5	
	comp=Z,32nm,18.7s,MS3.8,baz=135,slow=40						
ILAR	**Eielson Array**	**99.77**	**23**	LR	LR	10 09 49.8	
	comp=Z,37nm,18.9s,MS3.9,baz=0.2,slow=39						
TBI	**Tubuai**	**111.85**	**115**	*e*LR	LR	09 22 28.0	
	comp=Z,76nm,28.5s						
TXAR	**Lajitas Array**	**143.74**	**32**	PKP	PKPdf	09 24 00.7	-0.3
	comp=Z,0.2nm,0.6s,baz=162,slow=2.1,SNR=4.4						
JCT	**Junction City**	**144.65**	**26**	*e*PKPdf	PKPdf	09 24 03.2	+0.7

*IDC **03** 09:16:52.4±3.5, 0.03N×96.90E, mb3.9/6, mb1 4.1/6, mb1mx3.8/16, mbtmp3.9/6, Error ellipse: s-maj=149.1km s-min=20.0km az=57.0*
*NEIC **03** 09:16:57.8±0.8, 0.20N×97.16E, h30km, mb4.4/1, Error ellipse: s-maj=24.6km s-min=10.9km az=66.0*
ISC 03 09:16:56.2±1.3, 0.3N±0.1×97.2E±0.2, h30km, n11, σ0$80/9, **mb3.9/7, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.08**	**35**	*e*P	**Pn**	**09 18 26.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**33.39**	**125**	P	**P**	**09 23 32.4**	**-2.1**
	3.2nm,0.8s,mb4.3,baz=315,slow=1.4,SNR=4.0						
WRA	**Warramunga Arr**	**41.55**	**121**	P	**P**	**09 24 43.8**	**+0.7**
	3.6nm,0.7s,mb4.1,baz=302,slow=8.9,SNR=40						
WRAB	**Tennant Creek**	**41.55**	**121**	*e*P	**P**	**09 24 43.5**	**+0.4**
	4.9nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**41.56**	**121**	*e*P	**P**	**09 24 43.3**	**+0.1**
ASAR	**Alice Springs**	**42.84**	**126**	P	**P**	**09 24 54.2**	**+0.6**
	0.5nm,0.6s,mb3.4,baz=300,slow=7.9,SNR=7.6						
SONM	**Songino Array**	**48.06**	**8**	P	**P**	**09 25 35.7**	**+0.8**
	0.4nm,0.9s,mb3.4,baz=191,slow=9.4,SNR=4.2						
MKAR	**Makanchi Array**	**48.15**	**346**	P	**P**	**09 25 35.5**	**-0.1**
	0.6nm,0.6s,mb3.8,baz=158,slow=8.0,SNR=6.6						
ZAL	**Zalesovo**	**54.48**	**351**	P	**P**	**09 26 22.6**	**-0.6**
	1.2nm,0.4s,mb4.2,baz=303,slow=5.9,SNR=3.7						
TXAR	**Lajitas Array**	**144.47**	**32**	PKP	PKPdf	09 36 31.6	-3.9
	0.4nm,0.5s,baz=201,slow=1.1,SNR=12						
JCT	**Junction City**	**145.42**	**26**	*e*PKP	PKPdf	09 36 33.6	-3.4

JMA 03 09:20:04.2, 37.21N×139.94E, h5km±1km, M0.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFT	**Otama**	**0.44**	**46**	*e*S	Sg	09 20 19.2	+0.2

*NIED **03** 09:20:00, 37.20N×139.90E, h8km, Mw3.7 Best double couple: M0:4.04×10^14 NP1:φ235°, δ87°, λ176°. NP2: φ325°, δ86°, λ3°.*
JMA 03 09:20:14.7, 37.20N×139.95E, h6km±1km, M3.6, 2C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.23**	**186**	⇑P	Pg	09 20 19.8	+0.3
JFY	**Yanaizu**	**0.28**	**317**	⇑P	Pg	09 20 20.5	0.0
JFY				S	Sg	09 20 24.3	0.0
JFT	**Otama**	**0.44**	**44**	⇓P	Pg	09 20 23.4	-0.2
JFT				*e*S	Sg	09 20 29.5	0.0
JKT	**Katashina**	**0.71**	**233**	⇓P	Pg	09 20 28.2	-0.7
JKT				S	Sg	09 20 37.3	-1.1
JHK	**Hiroka**	**0.75**	**274**	⇓P	Pg	09 20 28.9	-0.7
JHK				S	Sg	09 20 38.4	-1.2
JFK	**Kawauchi**	**0.76**	**77**	⇓P	Pg	09 20 29.0	-0.8
JFK				*e*S	Sg	09 20 38.8	-1.1
JNS	**Sasagawa**	**0.80**	**321**	⇓P	Pb	09 20 30.0	-0.5
JNS				*e*S	Sg	09 20 40.4	-0.9
JAG	**Ashikaga**	**0.87**	**207**	⇓P	Pb	09 20 31.2	-0.6
JMM	**Marumori**	**0.94**	**45**	⇓P	Pb	09 20 32.2	-0.9
JMM				*e*S	Sb	09 20 44.6	-1.0
MAT	**Matsushiro**	**1.54**	**245**	P	Pn	09 20 43.0	+0.1
MAT				S	Sb	09 21 03.2	+0.2

*IDC **03** 09:24:03.0±1.2, 2.86S×129.12E, mb3.9/5, mb1 4.2/7, mb1mx4.0/17, mbtmp4.0/7, ML4.3/2, MS4.0/1, Ms1 4.0/1, ms1mx2.7/19, Error ellipse: s-maj=98.2km s-min=18.6km az=70.0*
*NEIC **03** 09:24:04.1±0.7, 2.80S×129.39E, h10km, mb4.1/4, Error ellipse: s-maj=27.6km s-min=8.8km az=74.0*
ISC 03 09:24:05.4±0.8, 2.85S±0.09×129.4E±0.2, h33km, n15, σ0$73/14, **mb3.9/6, MS3.9/1, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.59**	**193**	*e*P	**P**	**09 27 45.2**	**+0.7**
	3.8nm,0.3s						
FITZ	**Fitzroy Crossi**	**15.59**	**193**	Pn	**P**	**09 27 45.3**	**+0.8**
	0.7nm,0.3s,baz=18,slow=11,SNR=7.7						
WRAB	**Tennant Creek**	**17.67**	**164**	*e*P	**P**	**09 28 10.2**	**-0.5**
	8.9nm,0.5s						
WRA	**Warramunga Arr**	**17.68**	**164**	P	**P**	**09 28 10.5**	**-0.3**
	1.1nm,0.3s,baz=344,slow=13,SNR=37						
WB2	**Warramunga Arr**	**17.68**	**164**	*e*P	**P**	**09 28 10.4**	**-0.5**
MBWA	**Marble Bar**	**20.47**	**206**	*e*P	**P**	**09 28 42.2**	**-0.9**
	3.1nm,0.4s						
ASPA	**Alice Springs**	**21.16**	**168**	*e*P	**P**	**09 28 50.9**	**+0.7**
ASAR	**Alice Springs**	**21.16**	**168**	P	**P**	**09 28 51.4**	**+1.2**
	6.1nm,0.4s,mb4.3,baz=352,slow=11,SNR=110						
ASAR				PcP	PcP	09 32 56.6	+1.2
	0.7nm,0.6s,baz=2.7,slow=1.6,SNR=6.8						
STKA	**Stephens Creek**	**31.09**	**160**	P	**P**	**09 30 22.6**	**-0.4**
	1.1nm,0.5s,mb3.9,baz=343,slow=7.9,SNR=4.2						
NWAO	**Narrogin (SRO)**	**32.01**	**199**	P	**P**	**09 30 31.2**	**+0.1**
CBIJ	**Chichi jima**	**32.24**	**22**	LR	LR	09 41 05.6	
	comp=Z,276nm,19.9s,MS3.9,baz=141,slow=32						
MKAR	**Makanchi Array**	**64.43**	**326**	P	**P**	**09 34 40.9**	**+0.2**
	0.2nm,0.6s,mb3.4,baz=127,slow=7.2,SNR=3.4						
ZAL	**Zalesovo**	**67.60**	**333**	P	**P**	**09 35 01.8**	**+0.9**
	0.5nm,0.3s,mb4.0,baz=216,slow=5.9,SNR=3.1						
KURK	**Kurchatov**	**68.66**	**328**	*e*P	**P**	**09 35 07.7**	**+0.2**
	2.5nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**74.23**	**327**	P	**P**	**09 35 39.4**	**-1.4**
	1.1nm,0.9s,mb3.8,baz=148,slow=14,SNR=4.7						

DJA 03 09:35:01.1±1.0, 9.25S×113.88E, h33km, MD4.7/3, ML4.3/2, 4C-3D, Error ellipse: s-maj=22.8km s-min=13.5km az=47.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**0.81**	**19**	⇓*i*Pn	Pn	09 35 14.6	-1.6
	241nm,0.2s						
SRDI				⇑*i*Sn	Sn	09 35 24.8	-2.2
KELI	**Kelakatan**	**1.19**

ASAR	**Alice Springs**	**130.29**	**208**	PKP	PKPdf	10 02 38.1	+7.1
	comp=N,0.5nm,1.1s,baz=124,slow=1.6,SNR=4.5						
WRA	**Warramunga Arr**	**133.34**	**210**	PKP	PKPdf	10 02 44.0	+7.2
	comp=N,0.2nm,0.5s,baz=152,slow=2.0,SNR=5.1						
MKAR	**Makanchi Array**	**145.25**	**36**	PKP	PKPdf	10 03 04.1	+6.6
	comp=N,0.5nm,0.4s,baz=315,slow=2.0,SNR=8.6						
MKAR	**Makanchi Array**	**145.25**	**36**	PKP	PKPdf	10 03 04.1	+6.6

*DJA **03** 09:46:12.8±0.9, 11.26S×116.51E, h160km, MD4.6/4, ML4.9/4, Error ellipse: s-maj=22.4km s-min=19.1km az=51.0*

*IDC **03** 09:46:23.8±2.9, 12.18S×117.56E, h68km±27km, mb3.6/3, mb1 3.6/6, mb1mx3.5/14, mbtmp3.8/6, Error ellipse: s-maj=42.2km s-min=13.1km az=48.0*

ISC 03 09:46:08.8±1.6, 11.5S±0.1×116.9E±0.2, h64km±35km, n11, σ1§42/16, mb4.2/1, 8C-1D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**3.06**	**335**	⇑*i*Pn	**P**	**09 46 57.5**	**+1.5**
	517nm,0.2s						
RATI				⇑*i*Sn	**S**	**09 47 31.3**	**-0.3**
KEDI	**Kedomdong**	**3.09**	**346**	⇑*i*Pn	**P**	**09 46 58.1**	**+1.7**
	550nm,0.2s						
KEDI				⇑*i*Sn	**S**	**09 47 31.0**	**-1.3**
KELI	**Kelakatan**	**4.02**	**324**	⇑*i*Pn	**P**	**09 47 09.5**	**+0.1**
	172nm,0.2s						
KELI	**Kelakatan**	**4.02**	**324**	⇑*i*P	**P**	**09 47 09.7**	**+0.3**
KELI				⇑*i*Sn	**S**	**09 47 49.1**	**-6.5**
SRDI	**Scrawed**	**4.03**	**318**	⇑*i*Pn	**P**	**09 47 08.3**	**-1.3**
	586nm,0.2s						
SRDI				⇓*i*Sn	**S**	**09 47 50.6**	**-5.3**
FITZ	**Fitzroy Crossi**	**10.72**	**129**	P	**P**	**09 48 40.0**	**-1.9**
	1.2nm,0.3s,baz=323,slow=6.0,SNR=18						
FITZ				S	**S**	**09 50 31.0**	**-10**
	2.7nm,0.3s,baz=4.1,slow=23,SNR=11						
WRA	**Warramunga Arr**	**18.78**	**119**	P	**P**	**09 50 27.7**	**+2.1**
	0.2nm,0.3s,baz=290,slow=12,SNR=10						
WRA				S	**S**	**09 53 41.4**	**-7.9**
	0.2nm,0.3s,baz=288,slow=24,SNR=8.5						
ASAR	**Alice Springs**	**20.22**	**129**	P	**P**	**09 50 44.6**	**+3.5**
	0.1nm,0.3s,baz=304,slow=9.8,SNR=6.8						
ASAR				S	**S**	**09 54 18.6**	**-0.9**
	0.2nm,0.3s,baz=303,slow=22,SNR=8.5						
NWAO	**Narrogin (SRO)**	**21.32**	**179**	P	**P**	**09 50 58.0**	**+5.7**
	5.8nm,0.5s,mb4.2,baz=31,slow=8.9,SNR=11						
SONM	**Songino Array**	**59.81**	**352**	P	pP	09 56 27.0	+0.2
	0.3nm,0.7s,baz=172,slow=9.1,SNR=3.6						
MKAR	**Makanchi Array**	**65.76**	**335**	P	pP	09 57 07.3	+0.7
	0.6nm,0.4s,baz=152,slow=7.1,SNR=9.7						

IDC 03 09:50:50.3±3.5, 1.35N×97.50E, mb3.7/5, mb1 3.8/5, mb1mx3.6/15, mbtmp3.7/5, Error ellipse: s-maj=145.1km s-min=22.3km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.86**	**122**	P	P	09 58 42.3	-1.8
	0.6nm,0.6s,baz=303,slow=8.9,SNR=6.7						
ASAR	**Alice Springs**	**43.25**	**127**	P	P	09 58 53.8	-1.7
	0.4nm,0.6s,baz=303,slow=7.9,SNR=4.9						
SONM	**Songino Array**	**46.94**	**8**	P	P	09 59 23.8	-0.9
	0.5nm,0.4s,baz=189,slow=9.7,SNR=8.5						
MKAR	**Makanchi Array**	**47.17**	**346**	P	P	09 59 24.5	-2.0
	0.8nm,0.5s,baz=163,slow=8.6,SNR=20						
ZAL	**Zalesovo**	**53.45**	**351**	P	P	10 00 11.2	-3.1
	1.0nm,0.5s,baz=280,slow=6.9,SNR=5.7						

IDC 03 10:06:46.0±2.9, 4.91N×93.58E, mb3.7/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, Error ellipse: s-maj=122.5km s-min=20.7km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.85**	**349**	P	P	10 14 46.6	-1.0
	0.6nm,0.5s,baz=168,slow=9.0,SNR=9.7						
SONM	**Songino Array**	**44.16**	**12**	P	P	10 14 55.9	-2.2
	0.4nm,0.7s,baz=186,slow=9.4,SNR=3.8						
WRA	**Warramunga Arr**	**47.07**	**123**	P	P	10 15 19.9	-1.8
	2.7nm,0.6s,baz=301,slow=9.1,SNR=21						
ASAR	**Alice Springs**	**48.51**	**128**	P	P	10 15 30.9	-2.0
	0.3nm,0.6s,baz=304,slow=7.9,SNR=5.5						
ZAL	**Zalesovo**	**49.40**	**353**	P	P	10 15 38.0	-1.3
	1.1nm,0.3s,baz=310,slow=3.5,SNR=4.1						
BVAR	**Borovoye Array**	**51.61**	**342**	P	P	10 15 52.9	-3.4
	0.3nm,0.4s,baz=281,slow=38,SNR=3.8						

*IDC **03** 10:13:18.0±0.9, 3.92N×93.03E, mb4.0/10, mb1 4.1/10, mb1mx3.9/20, mbtmp4.0/10, MS3.9/2, Ms1 3.9/2, ms1mx3.1/29, Error ellipse: s-maj=47.4km s-min=15.1km az=57.0*

*NEIC **03** 10:13:21.1±0.6, 3.94N×93.11E, mb4.5/2, Error ellipse: s-maj=21.9km s-min=9.8km az=51.0*

ISC 03 10:13:21.1±0.7, 4.1N±0.1×93.2E±0.1, h33km, n20, σ1§02/17, mb4.1/12, MS3.9/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.50**	**80**	*e*P	**P**	**10 15 10.3**	**-0.6**
SHL	**Shillong**	**21.44**	**357**	*e*P	**P**	**10 18 07.0**	**-1.6**
MBWA	**Marble Bar**	**36.09**	**135**	*e*P	**P**	**10 20 20.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**38.80**	**126**	P	**P**	**10 20 44.5**	**-0.3**
	5.5nm,1.0s,mb4.2,baz=356,slow=18,SNR=3.3						
JOW	**Kunigami**	**40.43**	**52**	LR	LR	10 38 04.3	
	comp=Z,179nm,19.1s,MS3.9,baz=322,slow=36						
NWAO	**Narrogin (SRO)**	**43.24**	**150**	P	**P**	**10 21 20.2**	**-1.1**
	8.4nm,1.1s,mb4.4,baz=50,slow=16,SNR=1.7						
MKAR	**Makanchi Array**	**43.62**	**349**	P	**P**	**10 21 24.8**	**+0.5**
	1.9nm,0.7s,mb4.0,baz=168,slow=8.5,SNR=18						
MKAR	**Makanchi Array**	**43.62**	**349**	P	**P**	**10 21 24.8**	**+0.5**
SONM	**Songino Array**	**45.07**	**13**	P	**P**	**10 21 36.3**	**+0.4**
	0.3nm,0.6s,mb3.3,baz=191,slow=8.9,SNR=3.5						
SONM				PcP	PcP	10 23 17.9	+1.2
	0.6nm,0.7s,baz=194,slow=3.0,SNR=3.9						
WRA	**Warramunga Arr**	**46.90**	**122**	P	**P**	**10 21 51.8**	**+1.1**
	1.9nm,0.8s,mb4.1,baz=302,slow=8.9,SNR=8.8						
WRAB	**Tennant Creek**	**46.91**	**122**	*e*P	**P**	**10 21 51.7**	**+1.0**
KURK	**Kurchatov**	**48.10**	**348**	*e*P	**P**	**10 22 00.1**	**+0.4**
	2.9nm,0.6s,mb4.5						
KURK				*e*		10 22 06.6	
ASAR	**Alice Springs**	**48.27**	**127**	P	**P**	**10 22 02.2**	**+0.9**
	0.4nm,0.8s,mb3.5,baz=295,slow=7.9,SNR=3.8						
ASAR				PcP	PcP	10 23 29.9	+1.6
	0.6nm,0.7s,baz=309,slow=3.2,SNR=4.5						
ZAL	**Zalesovo**	**50.21**	**354**	P	**P**	**10 22 16.3**	**+0.5**
	2.1nm,0.4s,mb4.5,baz=286,slow=4.1,SNR=8.1						
ATD	**Arta Tunnel**	**50.40**	**282**	LR	LR	10 39 04.9	
	comp=Z,102nm,18.1s,MS3.9,baz=36,slow=31						
BVAR	**Borovoye Array**	**52.32**	**343**	P	**P**	**10 22 31.9**	**+0.1**
	1.9nm,0.8s,mb4.1,baz=143,slow=7.4,SNR=11						
CHKZ	**Chkalovo**	**52.83**	**343**	*e*P	**P**	**10 22 35.5**	**-0.1**
	5.6nm,0.9s,mb4.5						
CHKZ				*e*		10 22 42.0	
BRTR	**Keskin Array B**	**64.27**	**312**	P	**P**	**10 23 53.4**	**-2.2**
	0.7nm,0.6s,mb3.9,baz=90,slow=6.2,SNR=3.9						
GERES	**GERESS Array B**	**80.07**	**319**	P	**P**	**10 25 31.0**	**+1.8**
	1.4nm,0.8s,mb3.9,baz=104,slow=5.5,SNR=12						
TXAR	**Lajitas Array**	**143.06**	**25**	PKP	PKPdf	10 32 52.5	+0.1
	0.1nm,0.5s,baz=239,slow=1.4,SNR=4.0						

*IDC **03** 10:20:44.2±0.6, 1.20N×97.08E, mb4.6/17, mb1 4.7/17, mb1mx4.5/22, mbtmp4.6/17, MS4.6/13, Ms1 4.6/13, ms1mx4.3/30, Error ellipse: s-maj=25.1km s-min=12.5km az=47.0*

*BJI **03** 10:20:44.7, 0.84N×97.19E, h36km, mB5.3, mb5.0, Ms5.1, Msz5.0*

*MOS **03** 10:20:47.2±1.0, 1.17N×97.13E, h33km, mb5.2/34, MS4.8/14, Error ellipse: s-maj=12.2km s-min=6.3km az=107.5*

*HRVD **03** 10:20:48.1±0.5, 1.16N×96.81E, h20km, MW5.0/35, Centroid moment Tensor Solution. LP body waves: s33,c47;Mantle waves: s35,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.05±.14; $M_{\theta\theta}$-0.52±.09; $M_{\phi\phi}$-1.53±.12; $M_{r\theta}$1.68±.22; $M_{\theta\phi}$1.25±.08; $M_{\phi r}$-2.06±.22;*

Best double couple: $M_0$3.459×10^{16} NP1:ϕ_s331°, δ20°, λ99°. NP2:ϕ_s142°, δ70°, λ87°. Principal axes: T 3.304, Plg65°, Azm46°; N .308, Plg3°, Azm143°; P -3.615, Plg25°, Azm234°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **03** 10:20:48.1±0.3, 1.17N×97.14E, mb5.1/37, MS4.3/8 Error ellipse: s-maj=8.1km s-min=5.2km az=220.0*

ISC 03 10:20:46.2±0.3, 1.17N±0.04×97.15E±0.04, h25km, h25km±.7km: pP-P, n181, σ1§09/189, mb5.0/77, MS4.7/42, 19C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.14**	**49**	P	**Pn**	**10 22 04.1**	**+0.3**
KULM	**Kulim**	**5.38**	**40**	⇑*i*P	**Pn**	**10 22 06.9**	**-0.2**
KGM	**Kluang**	**6.22**	**82**	P	**Pn**	**10 22 20.2**	**+1.2**
SNG	**Songkhla**	**6.90**	**30**	P	**Pn**	**10 22 26.0**	**-2.4**
	436nm,0.9s						
NNT	**Nongplab**	**11.63**	**13**	P	**P**	**10 23 32.5**	**-1.4**
KSM	**Kuching**	**13.16**	**89**	P	**P**	**10 23 55.5**	**+1.1**
KKTK	**Khon Kaen**	**16.07**	**20**	P	**P**	**10 24 35.0**	**+2.5**
	494nm,1.0s						
BDT	**Bhumibol Dam**	**16.07**	**6**	P	**P**	**10 24 35.0**	**+2.5**
CMAR	**Chiang Mai Arr**	**17.27**	**6**	LR	LR	10 31 24.7	
	comp=Z,1μm,20.9s,baz=190,slow=37						
NANT	**Nan**	**17.86**	**11**	⇑P	**P**	**10 24 56.0**	**+1.1**
	500nm,0.5s						
KKM	**Kota Kinabalu**	**19.63**	**75**	*e*P	**P**	**10 25 15.6**	**-0.5**
KKM	**Kota Kinabalu**	**19.63**	**75**	P	**P**	**10 25 18.6**	**+2.5**
VIS	**Vishakhapatnam**	**21.33**	**321**	*e*P	**P**	**10 25 35.1**	**+1.3**
VIS				*e*S	**S**	**10 29 30.1**	**+5.6**
QIZ	**Qiongzhong**	**21.68**	**34**	P	**P**	**10 25 37.7**	**+0.4**
QIZ				S	**S**	**10 29 35.0**	**+4.1**
QIZ				LR	LR		
	comp=N,2μm,14.9s,MS4.8						
QIZ				LR	LR		
	comp=E,2μm,14.5s,MS4.8						
QIZ				LR	LR		
	comp=Z,2μm,12.9s,MS4.7						
HYB	**Hyderabad**	**24.39**	**313**	*e*P	**P**	**10 26 07.0**	**+3.0**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**24.39**	**313**	*e*P	**P**	**10 26 07.0**	**+3.0**
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**24.39**	**313**	*i* P	**P**	**10 26 07.0**	**+3.0**
	comp=Z,50nm,1.0s,mb4.9						
KMI	**Kunming**	**24.42**	**12**	⇑P	**P**	**10 26 05.8**	**+1.6**
KMI				AP		10 26 12.4	
KMI				XP		10 26 14.5	
KMI				PP	PP	10 26 41.1	+1.2
KMI				S	**S**	**10 30 19.1**	**-0.4**
KMI				SS	SS	10 31 20.5	+6.1
KMI				AMB	AMB		
	comp=Z,103nm,1.2s,mb5.1						
KMI				AMB	AMB		
	comp=Z,549nm,5.1s						
KMI				LR	LR		
	comp=N,5μm,16.5s,MS5.2						
KMI				LR	LR		
	comp=E,3μm,13.8s,MS5.2						
KMI				LR	LR		
	comp=Z,6μm,14.5s,MS5.2						
KMI	**Kunming**	**24.42**	**12**	⇑P	**P**	**10 26 05.8**	**+1.6**
KMI				*SP		10 26 14.5	
KMI						10 26 41.1	
KMI				S	**S**	**10 30 19.1**	**-0.4**
KMI				*SS		10 30 33.5	
KMI				SS	SS	10 31 20.5	+6.1
KMI				pmax	pmax		
	comp=Z,103nm,1.2s,mb5.1						
KMI				MLR	MLR		
	comp=Z,6μm,14.5s,MS5.2						
KMI	**Kunming**	**24.42**	**12**	⇑P	**P**	**10 26 05.8**	**+1.6**
	comp=Z,103nm,1.2s,mb5.1						
KMI				pP		10 26 12.4	
KMI				sP		10 26 14.5	
KMI				PP	PP	10 26 41.1	+1.2
KMI				S	**S**	**10 30 19.1**	**-0.4**
KMI				sS		10 30 33.5	
KMI				SS	SS	10 31 20.5	+6.1
KMI				LR	LR		
	comp=Z,6μm,14.5s,MS5.2						
SHL	**Shillong**	**24.78**	**349**	*e*P	**P**	**10 26 08.0**	**+0.3**
SHL				*e*		10 30 18.0	
GYA	**Guiyang**	**26.76**	**19**	⇑*i*P	**P**	**10 26 25.5**	**-0.6**
GYA				AP	pP	10 26 35.2	+1.8
GYA				XP	sP	10 26 38.8	+2.1
GYA				PP	PP	10 27 16.4	+5.3
GYA				S	**S**	**10 30 58.7**	**+0.2**
GYA				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
GYA				AMB	AMB		
	comp=Z,310nm,5.4s						
GYA				LR	LR		
	comp=N,1μm,19.2s,MS4.8						
GYA				LR	LR		
	comp=E,2μm,16.2s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,20.7s,MS4.5						
JIRN	**Jiri**	**28.36**	**339**	*e*P	**P**	**10 26 41.6**	**+1.0**
	comp=Z,223nm,1.1s,mb5.7						
PKI	**Pulchoki**	**28.56**	**338**	*e*P	**P**	**10 26 42.8**	**+0.3**
	comp=Z,114nm,1.1s,mb5.5						
PKI	**Pulchoki**	**28.56**	**338**	*e*P	**P**	**10 26 42.8**	**+0.3**
PKI				pmax	pmax		
	comp=Z,57nm,1.1s,mb5.2						
POO	**Poona**	**28.64**	**308**	*e*	**P**	**10 26 50.0**	**+6.8**
GUN	**Gumba**	**28.69**	**339**	*e*P	**P**	**10 26 44.3**	**+0.6**
	comp=Z,109nm,0.8s,mb5.6						
DMN	**Daman**	**28.71**	**337**	*e*P	**P**	**10 26 44.1**	**+0.3**
	comp=Z,78nm,1.0s,mb5.4						
KKN	**Kakani**	**28.81**	**338**	*e*P	**P**	**10 26 45.0**	**+0.3**
	comp=Z,115nm,1.0s,mb5.6						
KKN	**Kakani**	**28.81**	**338**	*e*P	**P**	**10 26 45.0**	**+0.3**
KKN				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.3						
LSA	**Lhasa**	**28.94**	**349**	*e*P	**P**	**10 26 45.6**	**-0.2**
LSA				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.1						
LSA				MLR	MLR		
	comp=Z,633nm,19.0s,MS4.2						
LSA	**Lhasa**	**28.94**	**349**	*e*P	**P**	**10 26 45.6**	**-0.3**
	comp=Z,47nm,1.2s,mb5.1						
LSA				LR	LR		
	comp=Z,633nm,19.0s,MS4.2						
GKN	**Gorkha**	**29.25**	**337**	*e*P	**P**	**10 26 48.8**	**+0.2**
	comp=Z,158nm,1.2s,mb5.6						
KOLN	**Koldanda**	**29.46**	**335**	*e*P	**P**	**10 26 51.0**	**+0.4**
	comp=Z,72nm,0.9s,mb5.4						
ENH	**Enshi**	**31.22**	**21**	*e*P	**P**	**10 27 04.0**	**-2.1**
	comp=Z,34nm,0.5s,mb5.4						
ENH				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
QZH	**Quanzhou**	**31.43**	**40**	⇓*i*P	**P**	**10 27 08.0**	**0.0**
QZH				S	**S**	**10 32 20.5**	**+7.5**
QZH				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.5						
AGRA	**Agra**	**31.80**	**326**	*e*P	**P**	**10 27 09.8**	**-1.4**
LGTI	**Lohaghat**	**32.40**	**332**	*e*P	**P**	**10 27 17.0**	**+0.5**
AYAN	**Aya Nagar**	**33.22**	**327**	*e*P	**P**	**10 27 21.9**	**-1.7**
AYAN				*e*	pP	10 27 30.7	-0.2
	comp=Z,8.4nm,1.1s						
KUDL	**Kundal**	**33.32**	**325**	*e*P	**P**	**10 27 25.1**	**+0.6**
KUDL				*e*	pP	10 27 31.0	-0.8
	comp=Z,11nm,1.1s						
NDI	**New Delhi**	**33.33**	**327**	*e*P	**P**	**10 27 23.0**	**-1.5**
WHN	**Wuhan**	**33.46**	**28**	P	**P**	**10 27 25.2**	**-0.5**
WHN				S	**S**	**10 32 43.2**	**-1.4**
WHN				LR	LR		
	comp=Z,4μm,15.8s,MS5.2						
JOSI	**Joshimath**	**33.65**	**332**	*e*	**P**	**10 27 22.5**	**-4.8**
	comp=Z,175nm,0.9s,mb6.0						
KHET	**Khetri**	**33.65**	**325**	*e*P	**P**	**10 27 27.4**	**0.0**
KHET				*e*		10 27 31.5	
	comp=Z,10nm,1.3s						
FITZ	**Fitzroy Crossi**	**33.95**	**126**	⇑*i*P	**P**	**10 27 29.2**	**-0.8**
	comp=Z,10nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.95**	**126**	P	**P**	**10 27 29.3**	**-0.8**
	comp=Z,8.5nm,0.6s,mb4.9,baz=304,slow=2.3,SNR=22						
XAN	**Xi'an**	**34.51**	**17**	P	**P**	**10 27 33.0**	**-1.7**
XAN				S	**S**	**10 33 03.0**	**+2.2**
XAN				SS	SS	10 35 18.8	+6.3
XAN				AMB	AMB		
	comp=Z,45nm,0.9s,mb5.4						
XAN				LR	LR		
	comp=N,1μm,17.3s,MS4.8						
XAN				LR	LR		
	comp=E,1μm,16.0s,MS4.8						
XAN				LR	LR		
	comp=Z,2μm,15.7s,MS5.0						
KLP	**Kalpa**	**35.09**	**331**	*e*P	**P**	**10 27 39.0**	**-0.7**
KLP				*e*	pP	10 27 47.8	+0.7
	comp=Z,25nm,1.3s						
LZH	**Lanzhou**	**35.29**	**9**	⇑P	**P**	**10 27 41.0**	**-0.4**
LZH				AP	pP	10 27 48.3	-0.5
LZH				XP	sP	10 27 51.5	-0.4
LZH				*e*PP	PP	10 28 59.0	-1.9
LZH				*e*S	**S**	**10 33 13.0**	**+0.1**
LZH				*SS		10 33 26.9	
LZH				SS	SS	10 35 31.5	+0.9
LZH				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.2						
LZH				MLR	MLR		
	comp=Z,3μm,16.8s,MS5.1						
LZH	**Lanzhou**	**35.29**	**9**	⇑P	**P**	**10 27 41.0**	**-0.4**
	comp=Z,35nm,1.1s,mb5.2						
LZH				pP	pP	10 27 48.3	-0.5
LZH				sP	sP	10 27 51.5	-0.4
LZH				*e*PP	PP	10 28 59.0	-1.9
LZH				*e*S	**S**	**10 33 13.0**	**+0.1**
LZH				sS		10 33 26.9	
LZH				SS	SS	10 35 31.5	+0.9
LZH				LR	LR		
	comp=Z,3μm,16.8s,MS5.1						
JASL	**Jaisalmer**	**35.93**	**318**	*e*	**P**	**10 27 54.0**	**+7.1**
NJ2	**Nanjing**	**36.91**	**32**	*e*P	**P**	**10 27 54.4**	**-0.7**
NJ2				AP	pP	10 28 02.0	-0.5
NJ2				XP	sP	10 28 05.3	-0.4
NJ2				PP	PP	10 29 21.6	+0.3
NJ2				S	**S**	**10 33 35.0**	**-2.9**
NJ2				XS		10 33 52.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,1μm,4.2s						
NJ2				LR	LR		
	comp=Z,2μm,14.2s,MS5.0						
THN	**Thein Dam**	**37.07**	**329**	*e*P	**P**	**10 27 54.9**	**-1.5**
SSE	**Sheshan**	**37.47**	**35**	P	**P**	**10 27 58.3**	**-1.4**
SSE				AP	pP	10 28 07.2	0.0
SSE				XP	sP	10 28 11.5	+1.2
SSE				PP	PP	10 29 24.2	-3.8
SSE				S	**S**	**10 33 44.9**	**-1.5**
SSE				XS		10 34 00.5	
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,174nm,3.4s						
SSE				LR	LR		
	comp=N,448nm,20.8s,MS4.4						
SSE				LR	LR		
	comp=E,487nm,20.8s,MS4.4						
SSE				LR	LR		
	comp=Z,693nm,18.5s,MS4.5						
SSE	**Sheshan**	**37.47**	**35**	P	**P**	**10 27 58.3**	**-1.4**
	comp=Z,33nm,0.7s,mb5.3						
SSE				pP	pP	10 28 07.2	0.0
SSE				sP	sP	10 28 11.5	+1.2
SSE				PP	PP	10 29 24.2	-3.8
SSE				S	**S**	**10 33 44.9**	**-1.5**
SSE				sS		10 34 00.5	
SSE				SS	SS	10 36 31.3	+12
SSE				LR	LR		
	comp=Z,690nm,18.5s,MS4.5						
GTA	**Gaotai**	**38.13**	**3**	P	**P**	**10 28 05.3**	**0.0**
GTA				AP	pP	10 28 13.4	+0.7
GTA				XP	sP	10 28 17.8	+1.9
GTA				PP	PP	10 29 37.3	+1.4
GTA				PCP	PcP	10 30 21.6	+1.2
GTA				S	**S**	**10 33 57.3**	**+0.8**
GTA				AMB	AMB		
	comp=Z,37nm,0.9s,mb5.1						
GTA				AMB	AMB		
	comp=Z,215nm,10.3s						
GTA				LR	LR		
	comp=N,1μm,14.1s,MS5.0						
GTA				LR	LR		
	comp=E,899nm,15.6s,MS5.0						
GTA				LR	LR		
	comp=Z,1μm,14.4s,MS4.9						
JOW	**Kunigami**	**39.30**	**47**	P	**P**	**10 28 15.6**	**+0.5**
	comp=Z,32nm,0.5s,mb5.3,baz=224,slow=9.7,SNR=8.7						
HHC	**Hu-ho-hao-te**	**41.60**	**17**	*e*P	**P**	**10 28 34.7**	**+0.8**
HHC				AP	pP	10 28 42.6	+1.2
HHC				XP	sP	10 28 44.9	+0.4
HHC				SCP		10 34 20.3	
HHC				PCS		10 34 22.0	
HHC				S	**S**	**10 34 50.1**	**+1.7**
HHC				XS		10 35 06.3	
HHC				SCS	ScS	10 38 34.5	+0.9
HHC				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,252nm,6.8s						
HHC				LR	LR		
	comp=N,2μm,15.7s,MS5.1						
HHC				LR	LR		
	comp=E,1μm,14.3s,MS5.1						
HHC				LR	LR		
	comp=Z,2μm,15.4s,MS5.0						
WRA	**Warramunga Arr**	**42.06**	**122**	P	**P**	**10 28 38.1**	**+0.1**
	comp=Z,6.3nm,0.5s,mb4.5,baz=302,slow=9.1,SNR=116						
WRAB	**Tennant Creek**	**42.07**	**122**	*i* P	**P**	**10 28 38.2**	**+0.1**
WRAB	**Tennant Creek**	**42.07**	**122**	*e*P	**P**	**10 28 37.9**	**-0.2**
	comp=Z,9.7nm,0.5s,mb4.7						
WRAB				LR	LR		
	comp=Z,261nm,20.0s,MS4.1						
WB2	**Warramunga Arr**	**42.07**	**122**	⇓*i*P	**P**	**10 28 38.5**	**+0.4**
BJT	**Baijiatuau**	**42.36**	**22**	*e*P	**P**	**10 28 41.1**	**+0.9**
BJT				pmax	pmax		
	comp=Z,43nm,0.9s						
BJT				MLR	MLR		
	comp=Z,770nm,19.0s						
BJT	**Baijiatuau**	**42.36**	**22**	*e*P	**P**	**10 28 41.1**	**+0.9**
	comp=Z,43nm,0.9s,mb5.1						
BJT				LR	LR		
	comp=Z,770nm,19.0s,MS4.6						
BJI	**Beijing**	**42.38**	**22**	P	**P**	**10 28 41.2**	**+0.8**
BJI				PP	PP	10 30 26.6	+5.1
BJI				AMB	AMB		
	comp=Z,38nm,0.9s,mb5.0						
BJI				AMB	AMB		
	comp=Z,330nm,5.8s						
BJI				LR	LR		
	comp=N,684nm,14.5s,MS4.8						
BJI				LR	LR		
	comp=E,637nm,18.9s,MS4.8						
BJI				LR	LR		
	comp=Z,577nm,16.8s,MS4.5						
KSH	**Kashi**	**42.77**	**336**	*e*P	**P**	**10 28 41.8**	**-1.8**
KSH				*e*PP	PP	10 30 22.5	-2.9
KSH				*e*PCP	PcP	10 30 35

WMQ PPP PPP 10 31 07.2 +1.1
WMQ SCP 10 34 25.7
WMQ S **S** **10 35 14.7 +1.5**
WMQ AMB AMB
comp=Z,31nm,1.2s,mb4.9
WMQ AMB AMB
comp=Z,102nm,4.4s
WMQ LR LR
comp=N,641nm,16.2s,MS4.7
WMQ LR LR
comp=E,453nm,16.6s,MS4.7
WMQ LR LR
comp=Z,296nm,20.8s,MS4.2
ASPA Alice Springs 43.42 127⇑ *i* P **P** **10 28 49.6 +0.6**
ASAR Alice Springs 43.42 127 P **P** **10 28 49.7 +0.7**
comp=Z,4.1nm,0.6s,mb4.3,baz=299,slow=8.0,SNR=60
DL2 Dalian 43.73 28 P **P** **10 28 52.4 +1.1**
DL2 S **S** **10 35 22.1 +2.6**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
DL2 LR LR
comp=N,330nm,15.7s,MS4.5
DL2 LR LR
comp=E,390nm,14.7s,MS4.5
DL2 LR LR
comp=Z,510nm,13.3s,MS4.6
ULHL Ulahol 45.00 338 P **P** **10 29 02.8 +1.2**
SNR=7.2
UCH Uchtor 45.65 336 P **P** **10 29 07.8 +1.1**
SNR=29
TKM2 Tokmak 2 45.82 338 P **P** **10 29 08.0 -0.1**
SNR=7.4
KBK Karagaybulak 45.85 337 P **P** **10 29 09.8 +1.6**
SNR=6.2
AML Almayashu 45.91 336 P **P** **10 29 10.1 +1.4**
SNR=17
AAK Ala-Archa 46.00 337 P pP 10 29 15.6 -1.5
SNR=5.8
AAK Ala-Archa 46.00 337⇓ *i* P **P** **10 29 09.9 +0.4**
AAK pmax pmax
comp=Z,15nm,1.1s,mb4.8
FRU Bishkek 46.12 337 *e*P **P** **10 29 12.5 +2.0**
FRU MLR MLR
comp=Z,600nm,18.0s,MS4.6
CHMS Chumysh 46.21 337 P **P** **10 29 11.8 +0.7**
SNR=5.3
EKS2 Erkin-Say 46.31 336 P **P** **10 29 13.2 +1.3**
SNR=12
SONM Songino Array 47.17 8 P **P** **10 29 18.8 +0.2**
comp=Z,12nm,0.8s,mb4.9,baz=193,slow=8.4,SNR=80
SONM PcP PcP 10 30 50.3 -0.1
comp=Z,2.4nm,0.5s,baz=190,slow=4.0,SNR=8.1
SONM ScP 10 34 41.1
comp=Z,0.4nm,0.8s,baz=252,slow=16,SNR=4.0
SONM LR LR 10 51 52.6
comp=Z,2μm,18.2s,MS5.2,baz=189,slow=40
MK02 Makanchi Array 47.23 346 P **P** **10 29 19.3 +0.2**
MK02 pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
MKAR Makanchi Array 47.26 346 P **P** **10 29 19.9 +0.6**
comp=Z,7.5nm,0.5s,mb4.9,baz=160,slow=7.9,SNR=128
MKAR LR LR 10 53 30.3
comp=Z,270nm,21.1s,MS4.2,baz=178,slow=42
MKAR Makanchi Array 47.26 346 P **P** **10 29 19.9 +0.6**
MKAR LR LR 10 53 30.3
ULN Ulaanbaatar 47.30 9 *e*P **P** **10 29 19.5 -0.2**
ULN pmax pmax
comp=Z,12nm,1.0s,mb4.8
ULN MLR MLR
comp=Z,1μm,22.0s,MS4.8
ULN Ulaanbaatar 47.30 9 *e*P **P** **10 29 19.5 -0.2**
comp=Z,12nm,1.0s,mb4.8
ULN LR LR
comp=Z,1μm,22.0s,MS4.8
KKAR Karatay Array 48.06 334 *i* P **P** **10 29 25.7 0.0**
KKAR pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ZAK Zakamensk 49.31 5 *e*P **P** **10 29 34.9 -0.3**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
CN2 Changchun 49.35 27 *e*P **P** **10 29 34.6 -1.1**
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.2
MOY Mondy 50.42 3 *e*P **P** **10 29 43.4 -0.3**
TLY Talaya 50.63 5 *e*P **P** **10 29 45.2 -0.1**
TLY *e* 10 31 43.0
TLY *e*PPP PPP 10 32 46.4 +6.0
TLY *e*S **S** **10 37 04.7 +7.6**
TLY *e* 10 39 32.8
TLY pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TLY MLR MLR
comp=Z,965nm,16.0s,MS4.9
PMG Port Moresby 50.90 103 *i* P **P** **10 29 47.0 -0.8**
HIA Hailar 51.68 19 *e*P **P** **10 29 52.6 -0.7**
HIA pmax pmax
comp=Z,29nm,1.1s
HIA Hailar 51.68 19 *e*P **P** **10 29 52.6 -0.7**
comp=Z,29nm,1.1s,mb5.1
KURK Kurchatov 51.81 345 *i* P **P** **10 29 54.0 -0.2**
KURK pmax pmax
comp=Z,15nm,1.2s,mb4.8
KURK Kurchatov 51.81 345 *e*P **P** **10 29 53.8 -0.4**
comp=Z,32nm,1.1s,mb5.2
KURK LR LR
comp=Z,124nm,19.0s,MS4.0
MDJ Mudanjiang 51.92 29 P **P** **10 29 55.0 -0.2**
MDJ AP pP 10 30 01.6 -1.2
MDJ PCP PcP 10 31 01.7 -6.0
MDJ PP PP 10 31 52.3 -1.5
MDJ PCS 10 35 05.0
MDJ S **S** **10 37 18.3 +3.3**
MDJ XS 10 37 29.2
MDJ AMB AMB
comp=Z,14nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,210nm,6.2s
MDJ LR LR
comp=N,725nm,15.8s,MS4.9
MDJ LR LR
comp=E,540nm,16.3s,MS4.9
MDJ LR LR
comp=Z,1μm,16.9s,MS5.0
MDJ Mudanjiang 51.92 29 *e*P **P** **10 29 55.0 -0.1**
comp=Z,9.2nm,0.8s,mb4.8
CTA Charters Tower 52.54 116 P **P** **10 30 00.0 -0.2**
comp=Z,4.3nm,0.9s,mb4.4,baz=274,slow=16,SNR=2.8
CTA LR LR 10 56 45.9
comp=Z,844nm,18.1s,MS4.8,baz=284,slow=41
OPO Ambohidratompo 52.87 246 P **P** **10 30 03.1 +0.4**
comp=Z,1.3nm,0.5s,mb4.1,baz=102,slow=14,SNR=3.6
STKA Stephens Creek 53.38 132 *e*P **P** **10 30 07.0 +0.8**
comp=Z,11nm,1.2s,mb4.7
STKA Stephens Creek 53.38 132 P **P** **10 30 07.2 +1.0**
comp=Z,3.9nm,0.6s,mb4.5,baz=308,slow=7.8,SNR=16
ZAL Zalesovo 53.57 351 P **P** **10 30 06.5 -0.8**
comp=Z,13nm,0.4s,mb5.2,baz=291,slow=7.2,SNR=64
NVS Novosibirsk 54.70 350 *i* P **P** **10 30 13.6 -2.0**
NVS *i* 10 30 30.4
NVS *i* S **S** **10 37 52.9 +0.4**
NVS pmax pmax
comp=N,13nm,1.1s
NVS pmax pmax
comp=E,6.0nm,1.1s
NVS pmax pmax
comp=Z,18nm,1.1s,mb5.0
NVS smax
comp=N,9.0nm,1.7s
NVS smax
comp=E,12nm,1.3s
BVA0 Borovoye Array 56.26 341 *i* P **P** **10 30 25.2 -1.7**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BVAR Borovoye Array 56.26 341 P **P** **10 30 25.6 -1.3**
comp=Z,10nm,0.7s,mb5.0,baz=149,slow=8.6,SNR=52
KLR Kul'dur 56.30 27 *e*P **P** **10 30 24.3 -3.0**
KLR MLR MLR
comp=E,700nm,13.5s
KLR MLR MLR
comp=Z,2μm,13.5s,MS5.2
CHKZ Chkalovo 56.74 341⇑ *e*P **P** **10 30 29.3 -1.0**
CHKZ pmax pmax
comp=Z,58nm,0.8s,mb5.7
CHKZ Chkalovo 56.74 341⇑ *e*P **P** **10 30 29.3 -1.0**
comp=Z,58nm,0.8s,mb5.7
BOD Bodaibo 58.05 11 *e*P **P** **10 30 38.5 -1.0**
BOD pmax pmax
comp=Z,19nm,1.0s,mb5.1
CLNS Chul'man 59.78 17 *e*P **P** **10 30 50.9 -0.7**
CLNS *e* 10 31 38.8
CLNS *e*S **S** **10 38 56.3 -3.2**
CLNS *e* 10 40 30.8
CLNS pmax pmax
comp=N,14nm,1.0s
CLNS pmax pmax
comp=Z,16nm,1.0s,mb5.0
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
CLNS pmax pmax
comp=E,2.0nm,0.7s
CLNS smax
comp=N,183nm,13.4s
CLNS smax
comp=Z,82nm,15.5s
CLNS smax
comp=E,41nm,12.6s
CLNS MLR MLR
comp=Z,1μm,14.0s,MS5.2
CLNS MLR MLR
comp=N,900nm,16.0s,MS5.0
CLNS MLR MLR
comp=E,300nm,14.0s,MS5.0
KMBO Kilima Mbogo 59.94 268 LR LR 10 55 37.2
comp=E,453nm,18.2s,MS4.7,baz=94,slow=35
YSS Yuzh-Sakhalins 60.40 34⇑ *e*P **P** **10 30 54.0 -1.9**
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 60.40 34 *e*P **P** **10 30 55.2 -0.7**
comp=Z,36nm,1.0s,mb5.3
GNI Garni 61.28 316 *i* P **P** **10 31 00.8 -1.2**
GNI Garni 61.28 316 LR LR 11 02 25.6
comp=Z,210nm,18.2s,MS4.3,baz=304,slow=41
TI2 Plekhanov 61.96 318 *e*P **P** **10 30 57.4 -9.2**
TI2 *e* 10 31 07.4
SVE Sverdlovsk 62.69 338⇑ *e*P **P** **10 31 09.5 -1.7**
SVE MLR MLR
comp=N,400nm,16.0s,MS4.8
SVE MLR MLR
comp=E,300nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,500nm,16.0s,MS4.8
ARU Arti 63.19 337⇑ *i* P **P** **10 31 13.4 -1.1**
ARU *e* 10 31 44.5
ARU *e* 10 33 31.2
ARU *e*S **S** **10 39 44.5 +1.8**
ARU *e*SS SS 10 43 51.6 +0.6
ARU pmax pmax
comp=Z,20nm,0.7s,mb5.4
HNR Honiara 63.41 101 P **P** **10 31 16.6 +0.1**
comp=Z,26nm,0.6s,mb5.5,baz=234,slow=15,SNR=3.6
KIV Kislovodsk 64.29 319⇓ *i* P **P** **10 31 20.7 -1.3**
KIV *i* *PP pP 10 31 27.2 -2.6
KIV *i* 10 31 54.7
KIV *e* 10 33 40.4
KIV *i* S **S** **10 39 49.9 -6.8**
KIV *i* SS SS 10 44 04.3 -3.8
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.9
KIV Kislovodsk 64.29 319 *e*P **P** **10 31 20.8 -1.2**
comp=Z,25nm,1.0s,mb5.2
KIV LR LR
comp=Z,48nm,20.0s,MS3.7
MALT Malatya 65.11 312 *e*P **P** **10 31 27.6 +0.2**
MALT *e* pP 10 31 34.8 -0.3
MALT pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
MALT Malatya 65.11 312 *e*P **P** **10 31 27.6 +0.2**
comp=Z,8.2nm,1.1s,mb4.7
MALT *e* pP 10 31 34.8 -0.4
YAK Yakutsk 65.46 16*c* *i* P **P** **10 31 28.0 -1.2**
YAK *i* *PP pP 10 31 34.3 -2.7
YAK pmax pmax
comp=Z,34nm,1.0s,mb5.3
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK MLR MLR
comp=Z,566nm,16.0s,MS4.9
YAK MLR MLR
comp=N,319nm,15.0s,MS4.8
YAK MLR MLR
comp=E,435nm,17.0s,MS4.8
YAK Yakutsk 65.46 16 *e*P **P** **10 31 26.7 -2.5**
comp=E,84nm,1.0s,mb5.7
SOC Sochi 66.11 318 *e*P **P** **10 31 30.8 -2.8**
SOC *e* 10 32 09.3
SOC *e* 10 33 57.7
SOC *e*PPP PPP 10 35 31.7 -5.0
SOC *e*S S 10 40 17.2 -1.7
SOC *e* 10 41 25.2
SOC *e*SS SS 10 44 27.7 -8.3
SOC pmax pmax
comp=Z,27nm,0.7s,mb5.4
SOC pmax pmax
comp=N,9.0nm,0.6s
SOC pmax pmax
comp=E,16nm,0.8s
MBAR Mbarara 66.43 269 *i* P **P** **10 31 35.1 -1.1**
ANN Anapa 68.09 318 *e*P **P** **10 31 48.9 +2.7**
ANN pmax pmax
comp=Z,59nm,1.3s,mb5.5
BRTR Keskin Array B 69.09 312 P **P** **10 31 51.5 -1.0**
comp=Z,0.8nm,0.5s,mb3.9,baz=144,slow=11,SNR=4.8
MA2 Magadan 71.38 26 *e*P **P** **10 32 05.5 -0.5**
MA2 pmax pmax
comp=Z,20nm,1.1s,mb5.0
MA2 Magadan 71.38 26 *e*P **P** **10 32 05.5 -0.5**
comp=Z,20nm,1.1s,mb5.0
PET Petropavlovsk 72.28 34 *e*P **P** **10 32 10.9 -0.6**
PET *e* 10 32 27.3
PET *e*S S 10 41 35.0 +3.4
PET pmax pmax
comp=Z,63nm,0.8s,mb5.6
PET pmax pmax
comp=Z,100nm,15.5s
PET smax
comp=N,100nm,16.9s
PET smax
comp=E,100nm,17.6s
PET MLR MLR
comp=Z,400nm,17.0s,MS4.8
OBN Obninsk 72.61 328⇓ *i* P **P** **10 32 13.9 +0.5**
OBN *i* 10 32 24.7
OBN pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
MAW Mawson 72.67 193 LR LR 11 00 47.0
comp=Z,340nm,18.1s,MS4.7,baz=183,slow=33
TIXI Tiksi 73.22 10⇑ *i* P **P** **10 32 15.5 -1.2**
TIXI pmax pmax
comp=Z,15nm,1.3s,mb4.8
SEY Seymchan 73.81 23 *e*P **P** **10 32 22.1 +1.9**
SEY 10 32 37.6
SEY *e* 10 35 09.7
SEY *e*PPP PPP 10 36 53.4 +2.1
SEY *e*S S 10 41 47.6 -1.0
SEY 10 42 24.6
SEY *e*SS SS 10 46 28.8 -6.3
SEY *e*SSS SSS 10 49 46.7 0.0
SEY pmax pmax
comp=Z,20nm,1.0s,mb5.0
SEY smax
comp=N,700nm,20.8s
SEY smax
comp=E,200nm,17.2s
AKASG Malin Array Be 75.25 322 P **P** **10 32 27.4 -1.4**
comp=E,0.9nm,0.3s,mb4.1,baz=86,slow=4.1,SNR=8.5
KOLS Kolonicke sedl 79.20 320 *e*P **P** **10 32 51.2 +0.4**
KOLS *e*pP pP 10 32 58.9 +0.2
RPZ Rata Peaks 79.22 135 LR LR 11 08 25.1
comp=E,649nm,18.9s,MS5.0,baz=20,slow=36
SUW Suwalki 79.67 325 P **P** **10 32 52.3 -0.9**
SUW *e* pP 10 33 00.3 -0.8
SUW pmax pmax
comp=Z,30nm,1.0s,mb5.2
SUW Suwalki 79.67 325 P **P** **10 32 52.3 -0.9**
comp=Z,30nm,1.0s,mb5.2
SUW *e* pP 10 33 00.3 -0.9
SUW Suwalki 79.67 325 *e*P pP 10 33 01.1 0.0
FINES FINESS Array B 80.00 333 P **P** **10 32 54.6 -0.2**
comp=Z,1.7nm,0.6s,mb4.2,baz=107,slow=6.4,SNR=18
KAF Kangasniemi 80.08 333 *e*p **P** **10 32 55.3 0.0**
comp=Z,4.2nm,0.7s,mb4.5
KAF Kangasniemi 80.08 333 *e*P **P** **10 32 55.3 0.0**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BILL Bilibino 81.21 21 *e*P **P** **10 33 00.8 -0.3**
BILL pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
BILL MLR MLR
comp=Z,700nm,16.0s,MS5.1
BILL Bilibino 81.21 21 *e*P **P** **10 33 00.9 -0.2**
comp=Z,2.6nm,0.4s,mb4.5
MORC Moravsky Berou 82.39 320 *e*P **P** **10 33 08.3 +0.7**
MORC pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
MORC Moravsky Berou 82.39 320 *e*P **P** **10 33 08.3 +0.7**
comp=Z,5.5nm,1.3s,mb4.3
ZST Bratislava 82.49 318 *e*P **P** **10 33 07.5 -0.6**
ZST *e*pP pP 10 33 15.5 -0.6
URZ Urewera 82.84 129 LR LR 11 11 17.9
comp=Z,584nm,18.6s,MS5.0,baz=270,slow=37
BOJS Bojanci 83.48 316 *i* P **P** **10 33 13.9 +0.5**
BOJS *e* pP 10 33 21.6 +0.3
VISS Visnje 83.79 316 *e*P **P** **10 33 16.3 +1.4**
VISS *e* pP 10 33 23.4 +0.5
BRG Berggiesshubel 84.80 321 *e*P **P** **10 33 20.4 +0.6**
BRG *e* pP 10 33 28.6 +0.7
BRG pmax pmax
comp=Z,11nm,1.5s,mb4.8
BRG Berggiesshubel 84.80 321 *e*P **P** **10 33 20.4 +0.6**
comp=Z,11nm,1.5s,mb4.8
BRG *e* pP 10 33 28.6 +0.7
GERES GERESS Array B 84.80 319 P **P** **10 33 20.5 +0.6**
comp=Z,3.2nm,1.0s,mb4.4,baz=90,slow=5.3,SNR=17
GERES LR LR 11 18 49.7
comp=Z,120nm,18.9s,MS4.3,baz=264,slow=41
KHC Kasperske Hory 84.90 319 *e*P **P** **10 33 20.5 +0.1**
CLL Collm 85.42 321 P **P** **10 33 23.0 +0.1**
CLL *e*PP pP 10 33 31.0 0.0
VNDA Vanda 85.81 169 LR LR 11 05 09.9
comp=Z,268nm,21.6s,MS4.6,baz=329,slow=31
RAO Raoul Island 86.14 119 LR LR 11 13 04.5
comp=Z,214nm,21.7s,MS4.5,baz=163,slow=36
MOX Moxa 86.26 320 *e*P **P** **10 33 28.0 +0.9**
MOX pP pP 10 33 36.0 +0.9
GRA1 Grafenberg Arr 86.47 320 *e*P **P** **10 33 28.9 +0.7**
comp=Z,2.0nm,0.8s,mb4.4
GRF Grafenberg Arr 86.47 320 *e*P **P** **10 33 28.9 +0.7**
GRF pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
GRF Grafenberg Arr 86.47 320 *e*P **P** **10 33 28.9 +0.7**
GRF pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
GRF Grafenberg Arr 86.47 320 *e*P **P** **10 33 28.9 +0.7**
comp=Z,2.0nm,0.8s,mb4.4
NB2 NORSAR Subarra 87.00 331 P **P** **10 33 30.1 -0.4**
comp=Z,2.5nm,0.8s,mb4.5,baz=94,slow=4.8
NOA NORSAR Array B 87.00 331 P **P** **10 33 30.8 +0.2**
comp=Z,2.7nm,0.9s,mb4.5,baz=93,slow=5.1,SNR=6.7
NOA LR LR 11 18 19.2
comp=Z,210nm,19.0s,MS4.6,baz=65,slow=40
LPG La Plagne 89.45 315 *e*P **P** **10 33 45.3 +2.7**
comp=Z,15nm,1.0s,mb5.0
LPG La Plagne 89.45 315 *e*P **P** **10 33 45.3 +2.7**
LPG pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
IMA Indian Mountai 96.63 23 *e*P **P** **10 34 16.1 +1.0**
IMA pmax pmax
comp=Z,26nm,1.1s,mb5.6
IMA Indian Mountai 96.63 23 *e*P **P** **10 34 16.1 +1.0**
comp=Z,26nm,1.1s,mb5.6
SCHQ Schefferville 122.64 349 PKP PKPdf 10 39 41.2 -3.3
comp=Z,1.8nm,0.9s,baz=80,slow=7.9,SNR=3.6
NVAR Mina Array Bea 128.84 36 PKP PKPdf 10 39 54.8 -2.2
comp=Z,0.4nm,0.5s,baz=329,slow=0.2,SNR=5.4
PDAR Pinedale Array 130.09 26 PKP PKPdf 10 39 56.8 -2.5
comp=Z,0.4nm,0.5s,baz=194,slow=2.0,SNR=4.4
PV10 Paradox Valley 133.84 29 *e*PKPdf PKPdf 10 40 04.4 -2.0
TXAR Lajitas Array 143.72 32 PKP PKPdf 10 40 19.7 -4.7
comp=Z,0.8nm,0.5s,baz=190,slow=0.6,SNR=23
JCT Junction City 144.62 26 *e*PKPdf PKPdf 10 40 21.5 -4.6
NATX Nacogdoches 145.39 18 *e*PKPdf PKPdf 10 40 23.6 -3.7
LRAL Lakeview Retre 145.75 6 *e*PKPdf PKPdf 10 40 24.1 -3.8

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*IDC **03** 10:40:38.6±0.9, 15.96S×176.56E, mb3.8/7, mb1 4.2/7, mb1mx4.0/15, mbtmp3.9/7, MS4.0/11, Ms1 4.0/11, ms1mx3.8/31, Error ellipse: s-maj=36.9km s-min=22.8km az=146.0*

ISC 03 10:40:42.4±0.8, 16.0S±0.2×176.5E±0.2, h33km, n25, σ1§22/8, mb3.8/7, MS4.0/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.27**	**236**	LR	LR	10 46 42.9	
	comp=Z,518nm,21.2s,baz=60,slow=32						
AFI	**Afiamalu**	**11.50**	**81**	LR	LR	10 46 36.3	
	comp=Z,611nm,19.2s,baz=248,slow=31						
RAO	**Raoul Island**	**14.14**	**160**	LR	LR	10 47 34.3	
	comp=Z,755nm,20.6s,baz=102,slow=29						
HNR	**Honiara**	**17.43**	**290**	LR	LR	10 49 58.6	
	comp=Z,243nm,20.0s,baz=11,slow=32						
URZ	**Urewera**	**22.17**	**179**	P	**P**	**10 45 37.7**	**+0.6**
	11nm,0.9s,mb4.3,baz=288,slow=3.2,SNR=4.8						
URZ				LR	LR	10 53 02.3	
	comp=Z,167nm,19.4s,MS3.5,baz=182,slow=34						
RAR	**Rarotonga**	**23.05**	**107**	LR	LR	10 51 38.2	
	comp=Z,348nm,21.4s,MS3.8,baz=278,slow=29						
PMG	**Port Moresby**	**29.36**	**279**	LR	LR	10 56 25.8	
	comp=Z,278nm,20.8s,MS3.9,baz=298,slow=32						
PPT	**Papeete**	**32.47**	**98**	LR	LR	10 56 23.3	
	comp=Z,233nm,20.1s,MS3.9,baz=265,slow=29						
TBI	**Tubuai**	**32.80**	**108**	*e*S	**S**	**10 52 21.1**	**-7.6**
TBI				*e*LQ		10 54 18.0	
TBI				*e*LR	LR	10 55 27.1	
	535nm,30.5s						
WRA	**Warramunga Arr**	**40.24**	**258**	P	**P**	**10 48 17.0**	**-0.9**
	1.3nm,0.7s,mb3.8,baz=92,slow=9.0,SNR=13						
ASAR	**Alice Springs**	**40.69**	**252**	P	**P**	**10 48 21.2**	**-0.4**
	3.6nm,1.1s,mb3.9,baz=79,slow=8.6,SNR=13						
NWAO	**Narrogin (SRO)**	**55.85**	**241**	LR	LR	11 12 17.1	
	comp=Z,284nm,19.8s,MS4.4,baz=173,slow=34						
NVAR	**Mina Array Bea**	**81.52**	**46**	P	**P**	**10 52 56.8**	**-1.5**
	0.7nm,0.8s,mb3.6,baz=243,slow=10,SNR=5.9						
NVAR				LR	LR	11 21 57.9	
	comp=Z,86nm,20.4s,MS4.1,baz=90,slow=30						
CMAR	**Chiang Mai Arr**	**83.68**	**291**	LR	LR	11 26 38.0	
	comp=Z,419nm,20.4s,MS4.8,baz=200,slow=33						
SONM	**Songino Array**	**88.98**	**321**	P	**P**	**10 53 37.1**	**+2.0**
	0.2nm,0.6s,mb3.6,baz=117,slow=9.7,SNR=2.6						
TXAR	**Lajitas Array**	**89.14**	**59**	P	**P**	**10 53 35.2**	**-1.1**
	0.3nm,0.8s,mb3.6,baz=239,slow=7.3,SNR=3.4						
PDAR	**Pinedale Array**	**89.39**	**45**	P	**P**	**10 53 38.6**	**+1.5**
	0.7nm,1.1s,mb3.9,baz=323,slow=4.5,SNR=2.4						
KHC	**Kasperske Hory**	**144.15**	**341**	*e*P	PKPbc	11 00 15.5	+1.4
KHC				x	x	11 00 25.0	
GERES	**GERESS Array B**	**144.36**	**340**	PKP	PKPdf	11 00 16.1	+1.0
	1.2nm,0.8s,baz=45,slow=3.8,SNR=6.6						
CDF	**Champ du Feu**	**146.50**	**347**	*e*PKIKP	PKPdf	11 00 22.2	+3.4
MEZF	**Maizieres J'vi**	**146.85**	**350**	*e*PKIKP	PKPdf	11 00 24.8	+5.4
HINF	**Hinteralfeld**	**147.15**	**347**	*e*PKIKP	PKPdf	11 00 25.4	+5.5
SSF	**Saint Saulge**	**148.50**	**351**	*e*PKIKP	PKPdf	11 00 27.4	+5.3
	22nm,1.2s						
BGF	**Bois d'Agland**	**149.09**	**351**	*e*PKIKP	PKPdf	11 00 28.8	+5.7
LPG	**La Plagne**	**149.37**	**346**	*e*PKIKP	PKPdf	11 00 29.3	+5.7

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*MAN **03** 10:56:02.0, 11.84N×125.46E, h39km, mb4.6, ML3.4, MS3.3*

*NEIC **03** 10:56:02.8±0.5, 11.72N×125.25E, h50km, mb4.1/1, Error ellipse: s-maj=41.0km s-min=9.3km az=70.0*

*IDC **03** 10:56:07.2±6.9, 11.69N×125.21E, h90km±62km, mb3.7/13, mb1 3.8/13, mb1mx3.7/21, mbtmp4.0/13, MS3.7/1, Ms1 3.7/1, ms1mx2.9/23, Error ellipse: s-maj=59.8km s-min=12.8km az=69.0*

ISC 03 10:56:01.9±0.7, 11.85N±0.05×125.46E±0.09, h59km±5km, n31, σ0§96/35, mb4.1/15, MS3.5/1, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.24**	**186**	*eP*	**P**	**10 56 11.2**	**-0.4**
BESP				*eS*	**S**	**10 56 17.6**	**-1.1**
CNP	**Cataram**	**1.02**	**310**	*eP*	**P**	**10 56 20.3**	**-0.2**
CNP				*eS*	**S**	**10 56 34.3**	**+0.1**
MSLP	**Maasin**	**1.80**	**199**	*eP*	**P**	**10 56 33.1**	**+1.8**
MSLP				*eS*	**S**	**10 56 58.3**	**+5.3**
SCPH	**Surigao**	**2.05**	**179⇑**	*eP*	**P**	**10 56 36.7**	**+1.9**
LLP	**Lapu-Lapu**	**2.11**	**224⇓**	*eP*	**P**	**10 56 35.2**	**-0.4**
LLP				*eS*	**S**	**10 56 57.2**	**-3.5**
PVCP	**Virac**	**2.16**	**324**	*eP*	**P**	**10 56 36.4**	**+0.1**
PVCP				*eS*	**S**	**10 57 09.2**	**+7.3**
TBP	**Tagbilaran**	**2.66**	**216**	*eP*	**P**	**10 56 43.5**	**+0.2**
RCP	**Roxas**	**2.68**	**264⇑**	*eP*	**P**	**10 56 43.7**	**0.0**
BUTP	**Butuan**	**2.86**	**177**	*eP*	**P**	**10 56 46.1**	**-0.2**
GUIM	**Jordan**	**3.07**	**247**	*eP*	**P**	**10 56 49.0**	**-0.2**
SNPH	**Sibulan**	**3.31**	**222**	*eP*	**P**	**10 56 53.0**	**+0.4**
BUKP	**Musuan**	**3.96**	**186**	*eP*	**P**	**10 56 53.5**	**-8.2**
PAGZ	**Pagadian**	**4.47**	**207**	*eP*	**P**	**10 57 11.3**	**+2.5**
CBIJ	**Chichi jima**	**21.84**	**44**	LR	LR	11 07 48.9	
	comp=Z,182nm,19.5s,MS3.5,baz=147,slow=32						
FITZ	**Fitzroy Crossi**	**29.76**	**180**	P	**P**	**11 02 03.4**	**-1.9**
	6.5nm,1.1s,mb4.2,baz=8.1,slow=7.1,SNR=3.2						
WRA	**Warramunga Arr**	**32.77**	**164**	P	**P**	**11 02 30.6**	**-1.2**
	0.4nm,0.7s,mb3.4,baz=342,slow=9.1,SNR=5.9						
WRA				PcP	PcP	11 05 15.1	-0.9
	0.5nm,0.5s,baz=339,slow=2.9,SNR=8.4						
ASAR	**Alice Springs**	**36.25**	**167**	P	**P**	**11 03 01.2**	**-0.2**
	0.4nm,0.3s,mb3.8,baz=345,slow=6.8,SNR=14						
ASAR				PcP	PcP	11 05 25.3	-0.6
	0.5nm,0.4s,baz=344,slow=2.9,SNR=12						
SONM	**Songino Array**	**39.27**	**340**	P	**P**	**11 03 27.8**	**+1.3**
	1.1nm,0.6s,mb3.8,baz=158,slow=9.5,SNR=17						
STKA	**Stephens Creek**	**46.14**	**161**	P	**P**	**11 04 22.5**	**-0.1**
	2.7nm,0.7s,mb4.3,baz=323,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**50.30**	**322**	P	**P**	**11 04 55.6**	**+0.9**
	2.1nm,0.7s,mb4.3,baz=118,slow=8.9,SNR=23						
MKAR				PcP	PcP	11 06 12.8	-0.2
	0.4nm,0.7s,baz=90,slow=4.3,SNR=2.9						
ZAL	**Zalesovo**	**52.87**	**331**	P	**P**	**11 05 13.2**	**-0.7**
	1.0nm,0.3s,mb4.2,baz=345,slow=6.9,SNR=6.2						
KURK	**Kurchatov**	**54.33**	**325**	*eP*	**P**	**11 05 24.7**	**+0.1**
	6.9nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**59.93**	**325**	P	**P**	**11 06 04.0**	**-0.2**
	1.9nm,0.7s,mb4.2,baz=135,slow=8.4,SNR=16						
CHKZ	**Chkalovo**	**60.05**	**326**	*eP*	**P**	**11 06 04.2**	**-0.9**
	0.8nm,0.5s,mb4.0						
INK	**Inuvik**	**83.12**	**22**	P	**P**	**11 08 23.9**	**+1.5**
	0.4nm,0.6s,mb3.6,baz=282,slow=9.3,SNR=3.7						
INK	**Inuvik**	**83.12**	**22**	*eP*	**P**	**11 08 24.0**	**+1.6**
BRTR	**Keskin Array B**	**83.93**	**309**	P	**P**	**11 08 26.7**	**-0.4**
	0.3nm,0.3s,mb3.8,baz=104,slow=5.1,SNR=3.6						
FINES	**FINESS Array B**	**84.14**	**332**	P	**P**	**11 08 26.7**	**-0.9**
	2.9nm,1.0s,mb4.4,baz=90,slow=1.9,SNR=6.0						
FINES	**FINESS Array B**	**84.14**	**332**	P	**P**	**11 08 26.7**	**-0.9**
AKASG	**Malin Array Be**	**84.85**	**321**	P	**P**	**11 08 31.1**	**-0.3**
	0.7nm,0.4s,mb4.2,baz=67,slow=5.3,SNR=4.6						
NOA	**NORSAR Array B**	**91.00**	**334**	P	**P**	**11 09 01.1**	**+0.4**
	0.8nm,0.8s,mb4.1,baz=65,slow=5.0,SNR=3.8						

IDC 03 11:10:15.3±1.4, 15.37S×172.40W, h217km±165km, mb3.4/4, mb1 3.6/4, mb1mx3.3/16, mbtmp4.0/4, Error ellipse: s-maj=320.4km s-min=35.7km az=65.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.57**	**23**	P	P	11 10 50.8	-0.7
	66nm,0.3s,baz=164,slow=1.3,SNR=149						
AFI				S	S	11 11 19.6	+0.2
	112nm,0.3s,baz=62,slow=23,SNR=11						
URZ	**Urewera**	**24.61**	**200**	P	P	11 15 16.1	-1.2
	3.4nm,0.6s,baz=262,slow=14,SNR=3.9						
STKA	**Stephens Creek**	**44.89**	**240**	P	P	11 18 08.2	-2.0
	1.4nm,0.6s,baz=99,slow=13,SNR=2.4						
WRA	**Warramunga Arr**	**50.80**	**257**	P	P	11 18 53.6	-2.1
	0.3nm,0.3s,baz=98,slow=6.0,SNR=28						
ASAR	**Alice Springs**	**51.04**	**252**	P	P	11 18 56.1	-1.4
	1.3nm,0.5s,baz=90,slow=7.6,SNR=57						

*IDC **03** 11:12:33.5±1.4, 2.53N×95.98E, mb4.1/8, mb1 4.2/8, mb1mx3.9/16, mbtmp4.1/8, Error ellipse: s-maj=67.0km s-min=19.5km az=54.0*
*BJI **03** 11:12:35.9, 2.50N×96.00E, h30km, mB4.9, mb4.7, Ms5.0, Msz4.5*
*MOS **03** 11:12:35.9±1.0, 2.42N×95.88E, h33km, mb4.7/6, Error ellipse: s-maj=32.4km s-min=13.5km az=101.6*
*NEIC **03** 11:12:38.0±0.5, 2.50N×96.01E, h30km, mb4.6/10, Error ellipse: s-maj=13.6km s-min=6.8km az=45.0*

ISC 03 11:12:36.2±0.8, 2.5N±0.1×96.0E±0.1, h30km, n30, σ0°69/30, mb4.4/20, MS4.6/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.35**	**59**	*eP*	**Pn**	**11 13 56.7**	**+0.5**
JIRN	**Jiri**	**26.70**	**340**	*eP*	**P**	**11 18 16.0**	**+1.1**
	38nm,0.7s,mb5.1						
GUN	**Gumba**	**27.03**	**340**	*eP*	**P**	**11 18 19.0**	**+1.0**
	31nm,0.7s,mb5.0						
DMN	**Daman**	**27.04**	**338**	*eP*	**P**	**11 18 17.3**	**-0.7**
KKN	**Kakani**	**27.14**	**339**	*eP*	**P**	**11 18 19.4**	**+0.5**
	22nm,0.8s,mb4.7						
KKN	**Kakani**	**27.14**	**339**	*eP*	**P**	**11 18 19.4**	**+0.5**
KKN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
LSA	**Lhasa**	**27.41**	**351**	*eP*	**P**	**11 18 22.4**	**+1.0**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.4						
LSA	**Lhasa**	**27.41**	**351**	*eP*	**P**	**11 18 22.4**	**+0.9**
	comp=Z,5.0nm,0.4s,mb4.4						
GKN	**Gorkha**	**27.57**	**338**	*eP*	**P**	**11 18 23.2**	**+0.3**
	comp=Z,23nm,0.7s,mb4.9						
KOLN	**Koldanda**	**27.77**	**336**	*eP*	**P**	**11 18 25.3**	**+0.6**
	comp=Z,17nm,0.7s,mb4.8						
GTA	**Gaotai**	**36.86**	**5**	P	**P**	**11 19 43.3**	**-0.6**
GTA				AP	pP	11 19 50.1	-2.7
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
BJI	**Beijing**	**41.56**	**23**	P	**P**	**11 20 23.4**	**+0.4**
BJI				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.7						
BJI				AMB	AMB		
	comp=Z,73nm,3.7s						
BJI				LR	LR		
	comp=N,715nm,13.1s,MS4.8						
BJI				LR	LR		
	comp=E,640nm,14.4s,MS4.8						
BJI				LR	LR		
	comp=Z,489nm,16.7s,MS4.5						
WRA	**Warramunga Arr**	**43.72**	**122**	P	**P**	**11 20 41.0**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.6,baz=301,slow=9.1,SNR=7.9						
WRAB	**Tennant Creek**	**43.73**	**122**	*eP*	**P**	**11 20 40.9**	**0.0**
ASAR	**Alice Springs**	**45.12**	**127**	P	**P**	**11 20 52.2**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.5,baz=300,slow=8.0,SNR=8.2						
MKAR	**Makanchi Array**	**45.68**	**347**	P	**P**	**11 20 56.1**	**-0.1**
	comp=Z,4.0nm,0.5s,mb4.6,baz=162,slow=8.5,SNR=66						
SONM	**Songino Array**	**46.00**	**10**	P	**P**	**11 20 58.7**	**0.0**
	comp=Z,2.9nm,0.6s,mb4.4,baz=190,slow=9.1,SNR=30						
SONM				PcP	PcP	11 22 35.9	+0.4
	comp=Z,0.8nm,0.6s,baz=195,slow=2.9,SNR=3.9						
ULN	**Ulaanbaatar**	**46.14**	**10**	*eP*	**P**	**11 20 59.7**	**-0.2**
ULN				*e*		11 21 06.4	
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**46.14**	**10**	*eP*	**P**	**11 20 59.7**	**-0.2**
	comp=Z,3.0nm,0.9s,mb4.2						
ULN				*e*		11 21 06.4	
ZAK	**Zakamensk**	**48.06**	**6**	*eP*	**P**	**11 21 15.1**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
KURK	**Kurchatov**	**50.21**	**346**	*eP*	**P**	**11 21 31.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**50.21**	**346**	*eP*	**P**	**11 21 31.2**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.4						
ZAL	**Zalesovo**	**52.06**	**352**	P	**P**	**11 21 44.6**	**-0.8**
	comp=Z,4.1nm,0.5s,mb4.6,baz=313,slow=5.0,SNR=18						
NVS	**Novosibirsk**	**53.17**	**351**	*eP*	**P**	**11 21 47.0**	**-6.7**
BVAR	**Borovoye Array**	**54.62**	**341**	P	**P**	**11 22 03.4**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.2,baz=140,slow=9.2,SNR=16						
CHKZ	**Chkalovo**	**55.10**	**342**	*eP*	**P**	**11 22 06.8**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**55.10**	**342**	*eP*	**P**	**11 22 06.8**	**-1.1**
	comp=Z,3.1nm,0.7s,mb4.5						
BOD	**Bodaibo**	**56.92**	**11**	*eP*	**P**	**11 22 19.2**	**-1.8**
FINES	**FINESS Array B**	**78.28**	**333**	P	**P**	**11 24 34.7**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=104,slow=7.9,SNR=6.3						
GERES	**GERESS Array B**	**83.05**	**319**	P	**P**	**11 25 01.2**	**+0.8**
	comp=Z,0.6nm,0.7s,mb3.7,baz=90,slow=5.3,SNR=4.9						

*IDC **03** 11:16:41.5±0.6, 2.87N×95.92E, mb4.4/17, mb1 4.5/17, mb1mx4.4/20, mbtmp4.4/17, MS4.4/11, Ms1 4.4/11, ms1mx4.2/17, Error ellipse: s-maj=33.7km s-min=13.5km az=46.0*
*BJI **03** 11:16:42.6, 2.41N×95.71E, h40km, mB5.2, mb5.0, Ms5.0, Msz4.8*
*MOS **03** 11:16:44.7±1.2, 2.80N×95.98E, h33km, mb5.1/34, MS4.9/12, Error ellipse: s-maj=12.4km s-min=6.6km az=101.5*
*HRVD **03** 11:16:46.3±1.1, 2.46N×95.64E, h39km±2km, MW5.0/37, Centroid moment Tensor Solution. LP body waves: s26,c43;Mantle waves: s37,c54; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}1.43±.26; $M_{\theta\theta}$-2.44±.16; $M_{\phi\phi}$1.01±.27; $M_{r\theta}$1.38±.18; $M_{\theta\phi}$2.58±.15; $M_{\phi r}$-1.14±.27; Best double couple: $M_0$3.465×10^16 NP1:φs252°, δ58°, λ8°. NP2:φs158°, δ83°, λ147°. Principal axes: T 2.578, Plg28°, Azm110°; N 1.775, Plg57°, Azm327°; P -4.353, Plg17°, Azm209°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 11:16:46.3±0.3, 2.80N×95.89E, h30km, mb4.9/29 Error ellipse: s-maj=9.1km s-min=6.0km az=217.0*

ISC 03 11:16:44.1±0.3, 2.75N±0.05×95.85E±0.04, h29km, h29km±2.0km:pP-P, n156, σ1°15/160, mb4.8/70, MS4.7/36, 11C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.41**	**62⇑**	*eP*	**Pn**	**11 18 06.0**	**+1.0**
IPM	**Ipoh**	**5.47**	**70**	P	**Pn**	**11 18 07.2**	**+1.3**
KGM	**Kluang**	**7.50**	**95**	P	**Pn**	**11 18 35.7**	**+1.3**
KSM	**Kuching**	**14.50**	**95**	P	**P**	**11 20 11.3**	**+1.8**
PALK	**Pallekele**	**15.74**	**287**	*eP*	**P**	**11 20 28.9**	**+3.2**
	24nm,0.9s						
NANT	**Nan**	**16.64**	**16**	P	**P**	**11 20 39.0**	**+1.9**
	188nm,0.9s						
VIS	**Vishakhapatnam**	**19.30**	**321**	*i* P	**P**	**11 21 07.1**	**-2.7**
VIS				*e*		11 21 37.4	
	comp=Z,42nm,0.6s						
VIS				*e*		11 24 31.9	
TRD	**Trivandrum**	**19.65**	**288⇓**	*eP*	**P**	**11 21 12.2**	**-1.5**
TRD				*eS*	**S**	**11 24 52.2**	**+4.2**
BWNR	**Bhubaneshwar**	**20.01**	**331**	*eP*	**P**	**11 21 11.9**	**-5.6**
BWNR				AMb	AMB	11 21 34.2	
	comp=Z,21nm,0.7s						
KKM	**Kota Kinabalu**	**20.56**	**80**	*eP*	**P**	**11 21 23.9**	**+0.6**
KKM	**Kota Kinabalu**	**20.56**	**80**	P	**P**	**11 21 25.0**	**+1.6**
QIZ	**Qiongzhong**	**21.20**	**39**	P	**P**	**11 21 30.5**	**+0.7**
QIZ				S	**S**	**11 25 17.4**	**-1.5**
QIZ				LR	LR		
	comp=N,3μm,16.3s,MS4.9						
QIZ				LR	LR		
	comp=E,2μm,15.3s,MS4.9						
QIZ				LR	LR		
	comp=Z,2μm,18.0s,MS4.5						
TSM	**Tawau**	**22.03**	**85**	P	**P**	**11 21 42.4**	**+4.2**
HYB	**Hyderabad**	**22.38**	**312**	*eP*	**P**	**11 21 53.0**	**+11**
HYB	**Hyderabad**	**22.38**	**312**	*i* P	**P**	**11 21 53.0**	**+11**
SHL	**Shillong**	**23.01**	**351**	*eP*	**P**	**11 21 45.0**	**-2.8**
SHL				*e*		11 25 47.0	
KMI	**Kunming**	**23.21**	**16**	P	**P**	**11 21 52.2**	**+2.4**
KMI				AP		11 22 00.0	
KMI				XP		11 22 03.0	
KMI				PP	PP	11 22 23.2	+2.4
KMI				PPP	PPP	11 22 33.3	+2.5
KMI				S	**S**	**11 25 58.2**	**+2.4**
KMI				SSS	SSS	11 26 59.6	+1.6
KMI				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,460nm,6.4s						
KMI				LR	LR		
	comp=N,3μm,14.8s,MS5.0						
KMI				LR	LR		
	comp=E,2μm,14.8s,MS5.0						
KMI				LR	LR		
	comp=Z,3μm,13.6s,MS5.0						
KMI	**Kunming**	**23.21**	**16**	P	**P**	**11 21 52.2**	**+2.4**
KMI				*PP		11 22 00.0	
KMI				*SP		11 22 03.0	
KMI						11 22 23.2	
KMI				PPP	PPP	11 22 33.3	+2.5
KMI				S	**S**	**11 25 58.2**	**+2.4**
KMI				*SS		11 26 10.9	
KMI				SSS	SSS	11 26 59.6	+1.6
KMI				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.6						
KMI				MLR	MLR		
	comp=Z,3μm,13.6s,MS5.0						
KMI	**Kunming**	**23.21**	**16**	P	**P**	**11 21 52.2**	**+2.4**
	comp=Z,30nm,1.3s,mb4.6						
KMI				pP		11 22 00.0	
KMI				sP		11 22 03.0	
KMI				PP	PP	11 22 23.2	+2.4
KMI				PPP	PPP	11 22 33.3	+2.5
KMI				S	**S**	**11 25 58.2**	**+2.4**
KMI				sS		11 26 10.9	
KMI				SSS	SSS	11 26 59.6	+1.6
KMI				LR	LR		
	comp=Z,3μm,13.6s,MS5.0						
BLSP	**Bilaspur**	**23.43**	**326**	*i* P	**P**	**11 21 53.2**	**+1.3**
BLSP				*e*		11 22 06.0	
	comp=Z,45nm,1.3s						
GYA	**Guiyang**	**25.76**	**23**	P	**P**	**11 22 15.2**	**+1.0**
GYA				AP	pP	11 22 25.4	+2.7
GYA				XP	sP	11 22 26.8	+0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,270nm,6.9s						
GYA				LR	LR		
	comp=N,2μm,17.3s,MS4.7						
GYA				LR	LR		
	comp=E,990nm,17.9s,MS4.7						
GYA				LR	LR		
	comp=Z,3μm,18.8s,MS4.8						
GZH	**Guangzhou**	**26.38**	**39**	P	**P**	**11 22 25.4**	**+5.4**
GZH				LR	LR		
	comp=N,1μm,17.7s,MS4.7						
GZH				LR	LR		
	comp=E,2μm,16.5s,MS4.7						
GZH				LR	LR		
	comp=Z,2μm,17.1s,MS4.7						
JIRN	**Jiri**	**26.44**	**340**	*eP*	**P**	**11 22 21.3**	**+0.8**
	comp=Z,211nm,0.7s,mb5.8						
PKI	**Pulchoki**	**26.63**	**339**	*eP*	**P**	**11 22 22.7**	**+0.5**
	comp=Z,61nm,0.8s,mb5.2						
PKI	**Pulchoki**	**26.63**	**339**	*eP*	**P**	**11 22 22.7**	**+0.5**
PKI				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.9						
DMN	**Daman**	**26.77**	**338**	*eP*	**P**	**11 22 23.9**	**+0.3**
GUN	**Gumba**	**26.77**	**340**	*eP*	**P**	**11 22 24.2**	**+0.6**
	comp=Z,193nm,0.7s,mb5.8						
KKN	**Kakani**	**26.87**	**339**	*eP*	**P**	**11 22 24.5**	**0.0**
	comp=Z,115nm,0.9s,mb5.4						
KKN	**Kakani**	**26.87**	**339**	*eP*	**P**	**11 22 24.5**	**0.0**
KKN				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.1						
LSA	**Lhasa**	**27.17**	**351**	P	**P**	**11 22 24.5**	**-2.7**
LSA				S	**S**	**11 27 11.1**	**+8.9**
LSA				LR	LR		
	comp=N,660nm,24.1s,MS4.3						
LSA				LR	LR		
	comp=E,860nm,22.2s,MS4.3						
LSA				LR	LR		
	comp=Z,1μm,24.1s,MS4.3						
LSA	**Lhasa**	**27.17**	**351**	*eP*	**P**	**11 22 28.5**	**+1.3**
LSA				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.8						
LSA	**Lhasa**	**27.17**	**351**	*eP*	**P**	**11 22 28.5**	**+1.3**
	comp=Z,28nm,0.8s,mb4.8						
GKN	**Gorkha**	**27.30**	**338**	*eP*	**P**	**11 22 28.5**	**+0.1**
	comp=Z,97nm,0.8s,mb5.4						
KOLN	**Koldanda**	**27.50**	**336**	*eP*	**P**	**11 22 30.5**	**+0.3**
	comp=Z,122nm,0.8s,mb5.5						
ENH	**Enshi**	**30.27**	**24**	*eP*	**P**	**11 22 54.0**	**-1.0**
	comp=Z,11nm,0.6s,mb4.8						
QZH	**Quanzhou**	**31.10**	**43**	*eP*	**P**	**11 23 02.8**	**+0.4**
QZH				LR	LR		
	comp=N,2μm,13.6s,MS5.1						
QZH				LR	LR		
	comp=E,2μm,12.8s,MS5.1						
QZH				LR	LR		
	comp=Z,3μm,15.1s,MS5.1						
WHN	**Wuhan**	**32.72**	**30**	P	**P**	**11 23 15.7**	**-0.8**
WHN				LR	LR		
	comp=Z,3μm,13.3s,MS5.2						
MBWA	**Marble Bar**	**33.34**	**137**	*eP*	**P**	**11 23 22.5**	**+0.5**
XAN	**Xi'an**	**33.44**	**20**	P	**P**	**11 23 21.8**	**-0.9**
XAN				S	**S**	**11 28 49.4**	**+8.3**
XAN				AMB	AMB		
	comp=Z,27nm,1.1s,mb5.1						
XAN				LR	LR		
	comp=N,821nm,16.0s,MS4.6						
XAN				LR	LR		
	comp=E,573nm,15.6s,MS4.6						
XAN				LR	LR		
	comp=Z,1μm,12.9s,MS4.8						
LZH	**Lanzhou**	**33.99**	**12**	⇑P	**P**	**11 23 26.4**	**-1.1**
LZH				AP	pP	11 23 33.7	-2.4
LZH				*e*PP	PP	11 24 45.6	+4.0
LZH				*e*S	**S**	**11 28 58.5**	**+8.8**
LZH				XS		11 29 11.5	
LZH				AMB	AMB		
	comp=Z,31nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,196nm,7.8s						
LZH				LR	LR		
	comp=N,1μm,13.2s						
LZH				LR	LR		
	comp=Z,2μm,16.5s,MS4.8						
LZH	**Lanzhou**	**33.99**	**12**	⇑P	**P**	**11 23 26.4**	**-1.1**
LZH				*SP	sP	11 23 37.1	-2.7
LZH				*e*		11 24 45.6	
LZH				SS	SS	11 31 17.6	+20
LZH				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.0						
LZH				MLR	MLR		
	comp=Z,2μm,16.5s,MS4.8						
LZH	**Lanzhou**	**33.99**	**12**	⇑P	**P**	**11 23 26.4**	**-1.1**
	comp=Z,31nm,1.4s,mb5.0						
LZH				pP	pP	11 23 33.7	-2.4
LZH				sP	sP	11 23 37.1	-2.7
LZH				*e*PP	PP	11 24 45.6	+4.0
LZH				*e*S	**S**	**11 28 58.5**	**+8.8**
LZH				sS		11 29 11.5	
LZH				SS	SS	11 31 17.6	+20
LZH				LR	LR		
	comp=Z,2μm,16.5s,MS4.8						
THN	**Thein Dam**	**35.07**	**330**	*eP*	**P**	**11 23 35.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**35.92**	**126**	*eP*	**P**	**11 23 43.1**	**-1.1**
	comp=Z,7.3nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**35.92**	**126**	P	**P**	**11 23 43.3**	**-0.9**
	comp=Z,6.9nm,0.8s,mb4.6,baz=329,slow=4.8,SNR=12						
NJ2	**Nanjing**	**36.30**	**34**	*eP*	**P**	**11 23 48.4**	**+1.2**
NJ2				AP	pP	11 23 59.5	+3.6
NJ2				XP	sP	11 24 02.0	+2.5
NJ2				PP	PP	11 25 12.4	+1.7
NJ2				S	**S**	**11 29 24.0**	**-1.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,4.9s						
NJ2				LR	LR		
	comp=N,2μm,15.9s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,14.2s,MS5.3						
NJ2				LR	LR		
	comp=Z,1μm,14.0s,MS4.8						
GTA	**Gaotai**	**36.67**	**5**	P	**P**	**11 23 49.6**	**-0.6**
GTA				AP	pP	11 23 56.8	-2.1
GTA				AMB	AMB		
	comp=Z,24nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,171nm,6.9s						
GTA				LR	LR		
	comp=N,707nm,16.0s,MS4.7						
GTA				LR	LR		
	comp=E,799nm,15.6s,MS4.7						
GTA				LR	LR		
	comp=Z,998nm,16.0s,MS4.7						
SSE	**Sheshan**	**36.97**	**38**	P	**P**	**11 23 50.2**	**-2.7**
SSE				AP	pP	11 23 59.1	-2.4
SSE				PP	PP	11 25 15.8	-3.6
SSE				S	**S**	**11 29 33.0**	**-2.7**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,115nm,3.8s						
SSE				LR	LR		
	comp=N,590nm,20.5s,MS4.5						
SSE				LR	LR		
	comp=E,593nm,20.5s,MS4.5						
SSE				LR	LR		
	comp=Z,785nm,17.8s,MS4.5						
SSE	**Sheshan**	**36.97**	**38**	P	**P**	**11 23 50.2**	**-2.7**
	comp=Z,28nm,0.7s,mb5.2						
SSE				pP	pP	11 23 59.1	-2.4
SSE				sP	sP	11 24 03.0	-2.2
SSE				PP	PP	11 25 15.8	-3.6
SSE				S	**S**	**11 29 33.0**	**-2.7**
SSE				sS		11 29 49.0	
SSE				SS	SS	11 32 14.9	+9.5
SSE				LR	LR		
	comp=Z,790nm,17.8s,MS4.5						
TIA	**Tai'an**	**38.67**	**28**	*eP*	**P**	**11 24 06.1**	**-1.0**
JOW	**Kunigami**	**39.21**	**49**	LR	LR	11 41 43.1	
	comp=Z,373nm,18.9s,MS4.2,baz=282,slow=38						
BTO	**Baotou**	**39.80**	**17**	*eP*	**P**	**11 24 16.7**	**+0.2**
BTO				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.0						
HHC	**Hu-ho-hao-te**	**40.49**	**18**	⇑P	**P**	**11 24 22.7**	**+0.6**
HHC				AP	pP	11 24 33.3	+2.4
HHC				XP	sP	11 24 37.1	+2.6
HHC				PP	PP	11 26 01.6	+2.8
HHC				PCP	PcP	11 26 25.3	+0.3
HHC				SCP		11 30 10.7	
HHC				PCS		11 30 14.4	
HHC				S	**S**	**11 30 29.5**	**+0.6**
HHC				XS		11 30 47.2	
HHC				SS	SS	11 33 24.3	+0.7
HHC				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,371nm,6.1s						
HH

WMQ LR LR
comp=N,661nm,17.8s,MS4.6
WMQ LR LR
comp=E,208nm,17.8s,MS4.6
WMQ LR LR
comp=Z,389nm,23.2s
DL2 Dalian 42.98 30 P **P 11 24 43.8 +1.2**
DL2 AP pP 11 24 50.2 -1.1
DL2 *e*S **S 11 31 06.5 +0.8**
DL2 AMB AMB
comp=Z,40nm,0.6s,mb5.3
DL2 LR LR
comp=N,390nm,17.6s,MS4.6
DL2 LR LR
comp=E,500nm,17.1s,MS4.6
DL2 LR LR
comp=Z,530nm,20.2s,MS4.4
ULHL Ulahol 43.07 339 P **P 11 24 44.5 +1.2**
SNR=6.2
UCH Uchtor 43.70 337 P **P 11 24 49.9 +1.5**
SNR=18
AML Almayashu 43.95 336 P **P 11 24 52.1 +1.7**
SNR=25
WRA Warramunga Arr 43.99 123 P **P 11 24 51.0 -0.1**
comp=Z,6.2nm,0.8s,mb4.4,baz=301,slow=9.1,SNR=33
WRAB Tennant Creek 44.00 123 *e*P **P 11 24 50.5 -0.6**
WRAB Tennant Creek 44.00 123 *e*P **P 11 24 50.4 -0.7**
comp=Z,13nm,0.8s,mb4.7
WB2 Warramunga Arr 44.01 123 *e*P **P 11 24 51.0 -0.1**
AAK Ala-Archa 44.06 337 P **P 11 24 53.1 +1.8**
SNR=5.6
AAK Ala-Archa 44.06 337 P **P 11 24 53.2 +1.9**
AAK pmax pmax
comp=Z,13nm,1.0s,mb4.6
FRU Bishkek 44.18 338 *e*P **P 11 24 53.0 +0.7**
FRU MLR MLR
comp=Z,600nm,20.0s,MS4.5
EKS2 Erkin-Say 44.36 337 P **P 11 24 55.3 +1.6**
SNR=12
USP Ospenovka 44.59 338 P **P 11 24 56.8 +1.2**
SNR=7.6
ASAR Alice Springs 45.40 127 P **P 11 25 02.0 -0.2**
comp=Z,2.4nm,0.7s,mb4.2,baz=299,slow=7.6,SNR=28
MK02 Makanchi Array 45.40 347 P **P 11 25 01.9 -0.1**
MK02 pmax pmax
comp=Z,15nm,0.7s,mb4.9
MKAR Makanchi Array 45.43 347 LR LR 11 47 02.8
comp=Z,338nm,20.7s,MS4.3,baz=165,slow=40
SONM Songino Array 45.83 10 P **P 11 25 05.1 -0.3**
comp=Z,13nm,0.8s,mb4.9,baz=190,slow=8.9,SNR=63
SONM PcP PcP 11 26 42.7 -0.1
comp=Z,2.7nm,0.6s,baz=194,slow=3.6,SNR=7.8
SONM LR LR 11 46 32.9
comp=Z,1μm,18.5s,MS4.8,baz=191,slow=39
ULN Ulaanbaatar 45.97 10 *e*P **P 11 25 05.9 -0.6**
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ULN Ulaanbaatar 45.97 10 *e*P **P 11 25 05.9 -0.5**
comp=Z,9.9nm,0.9s,mb4.7
KKAR Karatay Array 46.08 334 *i*P **P 11 25 08.3 +0.9**
KKAR pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
SNY Shenyang 46.17 29 ⇑P **P 11 25 08.9 +0.7**
SNY AMB AMB
comp=Z,30nm,0.5s,mb5.5
SNY LR LR
comp=N,1μm,17.4s,MS5.0
SNY LR LR
comp=E,810nm,15.6s,MS5.0
SNY LR LR
comp=Z,1μm,15.2s,MS4.9
ZAK Zakamensk 47.88 6 *e*P **P 11 25 20.6 -0.9**
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
CN2 Changchun 48.57 28 *e*P **P 11 25 26.8 -0.1**
CN2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
MOY Mondy 48.94 4 *e*P **P 11 25 29.5 -0.1**
TLY Talaya 49.20 6 *e*P **P 11 25 32.3 +0.7**
TLY *e* 11 27 29.8
TLY *e*S **S 11 32 39.1 +4.9**
TLY *e*SS SS 11 35 59.4 -2.0
TLY pmax pmax
comp=Z,11nm,0.8s,mb4.9
TLY MLR MLR
comp=Z,752nm,19.0s,MS4.7
TLY Talaya 49.20 6 *e*P **P 11 25 30.9 -0.7**
comp=Z,9.2nm,0.8s,mb4.9
IRK Irkutsk 49.82 7 *e*P **P 11 25 36.3 -0.1**
IRK pmax pmax
comp=Z,31nm,2.0s,mb5.0
KURK Kurchatov 49.96 346 *e*P **P 11 25 36.8 -0.7**
KURK pmax pmax
comp=Z,18nm,1.0s,mb5.1
KURK Kurchatov 49.96 346 *e*P **P 11 25 36.8 -0.7**
comp=Z,18nm,1.0s,mb5.1
HIA Hailar 50.64 20 *e*P **P 11 25 41.7 -1.0**
HIA pmax pmax
comp=Z,18nm,1.0s
HIA Hailar 50.64 20 *e*P **P 11 25 41.7 -0.9**
comp=Z,18nm,1.0s,mb5.0
MDJ Mudanjiang 51.20 31 P **P 11 25 46.5 -0.5**
comp=Z,15nm,0.9s,mb4.9
ZAL Zalesovo 51.83 352 P **P 11 25 50.8 -0.9**
comp=Z,13nm,0.5s,mb5.1,baz=321,slow=5.1,SNR=60
OPO Ambohidratompo 52.36 244 P **P 11 26 02.4 +6.2**
comp=Z,1.4nm,0.3s,mb4.4,baz=67,slow=6.9,SNR=4.1
PMG Port Moresby 52.52 104 *i*P **P 11 25 55.8 -1.6**
NVS Novosibirsk 52.94 351 *e*P **P 11 25 58.1 -1.9**
NVS *i*S **S 11 33 27.0 +1.4**
NVS pmax pmax
comp=Z,23nm,1.8s,mb4.8
NVS pmax pmax
comp=N,7.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.9s
NVS smax
comp=N,19nm,1.8s
BVA0 Borovoye Array 54.36 341 P **P 11 26 09.2 -1.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 54.36 341 P **P 11 26 09.4 -1.0**
comp=Z,7.5nm,0.6s,mb4.8,baz=140,slow=8.9,SNR=65
CTAO Charters Tower 54.40 117 *e*P **P 11 26 10.9 -0.2**
CTAO pmax pmax
comp=Z,11nm,1.0s,mb4.7
CTAO Charters Tower 54.40 117 *e*P **P 11 26 10.9 -0.2**
comp=Z,11nm,1.0s,mb4.8
CHKZ Chkalovo 54.84 342 *i*P **P 11 26 13.0 -1.0**
CHKZ pmax pmax
comp=Z,21nm,1.0s,mb5.1
CHKZ Chkalovo 54.84 342 *e*P **P 11 26 12.8 -1.2**
comp=Z,5.7nm,1.9s,mb4.3
STKA Stephens Creek 55.39 132 P **P 11 26 18.2 -0.1**
comp=Z,3.9nm,0.7s,mb4.5,baz=271,slow=9.9,SNR=7.8
STKA LR LR 11 52 06.5
comp=Z,187nm,19.7s,MS4.2,baz=23,slow=38
KLR Kul'dur 55.50 28 *e*P **P 11 26 15.8 -3.0**
KLR MLR MLR
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,2μm,14.0s,MS5.3
BOD Bodaibo 56.76 11 *e*P **P 11 26 26.6 -1.1**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
CLNS Chul'man 58.68 18 *e*P **P 11 26 39.4 -1.8**
CLNS pmax pmax
comp=Z,22nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,13nm,0.7s
CLNS pmax pmax
comp=E,5.0nm,0.7s
CLNS MLR MLR
comp=Z,2μm,16.0s,MS5.4
CLNS MLR MLR
comp=N,1μm,15.0s,MS5.2
CLNS MLR MLR
comp=E,300nm,15.0s,MS5.2
KMBO Kilima Mbogo 58.71 267 P **P 11 26 43.8 +1.8**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 58.71 267 P **P 11 26 44.1 +2.1**
comp=Z,1.1nm,0.5s,mb4.2,baz=51,slow=21,SNR=4.7
KMBO LR LR 11 48 58.0
comp=Z,934nm,19.2s,MS4.9,baz=276,slow=33
KMBO Kilima Mbogo 58.71 267 P **P 11 26 43.8 +1.8**
comp=Z,4.4nm,0.9s,mb4.5

GNI Garni 59.25 316⇑*i*P **P 11 26 44.9 -0.5**
GNI pmax pmax
comp=Z,12nm,1.5s
YSS Yuzh-Sakhalins 59.85 35⇑*i*P **P 11 26 47.1 -2.4**
YSS pmax pmax
comp=Z,35nm,1.8s,mb5.1
SVE Sverdlovsk 60.76 339 *e*P **P 11 26 54.8 -0.7**
SVE pmax pmax
comp=Z,19nm,0.7s,mb5.3
YAK Yakutsk 64.33 17 *e*P **P 11 27 16.9 -2.3**
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.2
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK MLR MLR
comp=Z,869nm,16.0s,MS5.0
YAK MLR MLR
comp=N,463nm,17.0s,MS4.9
YAK MLR MLR
comp=E,430nm,18.0s,MS4.9
YAK Yakutsk 64.33 17 *e*P **P 11 27 16.2 -3.0**
comp=E,71nm,0.9s,mb5.7
ANN Anapa 66.05 318 *e*P **P 11 27 29.9 -0.6**
ANN pmax pmax
comp=Z,75nm,1.0s,mb5.7
BRTR Keskin Array B 67.08 312 P **P 11 27 36.8 -0.4**
comp=Z,1.3nm,0.8s,mb4.0,baz=135,slow=7.0,SNR=4.7
MA2 Magadan 70.54 26 *e*P **P 11 27 57.9 -0.3**
MA2 pmax pmax
comp=Z,22nm,1.3s,mb4.9
MA2 Magadan 70.54 26 *e*P **P 11 27 57.9 -0.3**
comp=Z,22nm,1.3s,mb4.9
OBN Obninsk 70.60 328⇓*e*P **P 11 27 58.0 -0.7**
OBN *i* 11 28 16.5
OBN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.4
PET Petropavlovsk 71.72 34 *e*P **P 11 28 05.3 -0.1**
PET *e*S S 11 37 23.4 +1.4
PET pmax pmax
comp=Z,100nm,11.4s
PET pmax pmax
comp=Z,100nm,14.9s
PET smax
comp=N,100nm,19.5s
PET MLR MLR
comp=Z,500nm,20.0s,MS4.8
TIXI Tiksi 71.91 10⇑*i*P **P 11 28 04.4 -1.9**
TIXI pmax pmax
comp=Z,24nm,1.7s,mb4.8
SEY Seymchan 72.88 24 *e*P **P 11 28 13.9 +1.8**
SEY *e* 11 28 30.6
SEY *e* 11 30 57.5
SEY *e*S S 11 37 38.1 +3.0
SEY *e*SS SS 11 42 13.9 -4.0
SEY pmax pmax
comp=Z,40nm,1.1s,mb5.3
SEY smax
comp=N,500nm,21.5s
SEY smax
comp=E,400nm,20.1s
SEY MLR MLR
comp=Z,2μm,23.0s,MS5.4
SEY MLR MLR
comp=N,80nm,12.0s
SEY MLR MLR
comp=E,2μm,24.0s
DZM Mont Dzumac 73.14 114 LR LR 12 01 11.8
comp=E,240nm,21.8s,MS4.4,baz=270,slow=36
AKASG Malin Array Be 73.22 322 P **P 11 28 13.3 -1.0**
comp=E,1.7nm,0.6s,mb4.2,baz=88,slow=5.0,SNR=7.5
LBTB Lobatse 73.37 243 *e*P **P 11 28 16.1 +0.3**
LBTB pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LBTB Lobatse 73.37 243 *e*P **P 11 28 16.1 +0.4**
comp=Z,7.0nm,0.7s,mb4.7
VRI Vrincioaia 73.57 317⇑P **P 11 28 17.2 +0.7**
MAW Mawson 73.91 193 LR LR 11 57 32.9
comp=Z,268nm,18.2s,MS4.6,baz=69,slow=33
MLR Muntele Rosu 74.02 317 P **P 11 28 18.3 -0.8**
comp=Z,0.7nm,0.4s,mb3.9,baz=112,slow=12,SNR=3.1
MLR Muntele Rosu 74.02 317⇓P **P 11 28 18.4 -0.7**
MLR Muntele Rosu 74.02 317⇓P **P 11 28 18.4 -0.7**
BURAR Bucovina Array 74.98 319⇓P **P 11 28 23.8 -0.8**
SUW Suwalki 77.64 325 *e*P **P 11 28 39.1 -0.3**
FINES FINESS Array B 78.01 333 P **P 11 28 41.2 -0.1**
comp=Z,3.2nm,0.6s,mb4.4,baz=91,slow=5.9,SNR=21
FINES LR LR 12 08 24.7
comp=Z,282nm,18.2s,MS4.6,baz=129,slow=40
FINES FINESS Array B 78.01 333 P **P 11 28 41.2 -0.1**
FINES LR LR 12 08 24.7
KAF Kangasniemi 78.10 333 *e*p **P 11 28 41.5 -0.3**
comp=Z,2.6nm,0.6s,mb4.3
KAF Kangasniemi 78.10 333 *e*P **P 11 28 41.5 -0.3**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BILL Bilibino 80.21 21 *e*P **P 11 28 53.2 +0.1**
BILL pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
BILL MLR MLR
comp=Z,500nm,19.0s,MS4.9
RPZ Rata Peaks 81.25 135 LR LR 12 04 21.0
comp=Z,429nm,20.2s,MS4.8,baz=110,slow=35
GERES GERESS Array B 82.77 319 P **P 11 29 07.5 +0.6**
comp=Z,1.1nm,0.7s,mb4.0,baz=104,slow=5.5,SNR=12
GERES LR LR 12 12 32.4
comp=Z,125nm,19.8s,MS4.3,baz=281,slow=40
KHC Kasperske Hory 82.87 319 *e*P **P 11 29 10.0 +2.6**
KHC *e* 11 29 16.5
KHC Kasperske Hory 82.87 319 *e*P **P 11 29 10.0 +2.6**
KHC pP pP 11 29 16.5 -0.1
HFS Hagfors 83.72 330 P **P 11 29 12.0 +0.5**
comp=Z,1.6nm,0.5s,mb4.4,baz=124,slow=5.3,SNR=17
NB2 NORSAR Subarra 85.01 331 P **P 11 29 18.1 +0.2**
comp=Z,3.3nm,0.9s,mb4.5,baz=93,slow=5.6
NOA NORSAR Array B 85.01 331 P **P 11 29 17.7 -0.2**
comp=Z,0.4nm,0.7s,mb3.7,baz=104,slow=7.0,SNR=3.7
NOA LR LR 12 11 45.5
comp=Z,142nm,21.2s,MS4.3,baz=100,slow=39
DAVOX Davos 85.25 317 P **P 11 29 19.8 +0.4**
comp=Z,3.2nm,0.5s,mb4.7,baz=82,slow=2.6,SNR=11
LPG La Plagne 87.43 315 *e*P **P 11 29 33.2 +3.0**
comp=Z,8.6nm,0.9s,mb4.7
LPG La Plagne 87.43 315 *e*P **P 11 29 33.2 +3.0**
LPG pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
EKA Eskdalemuir Ar 92.88 326 P **P 11 29 56.0 +0.6**
comp=Z,0.6nm,0.5s,mb4.2,baz=98,slow=5.9,SNR=3.8
YKA Yellowknife Ar 110.95 15 PP PP 11 35 49.8 -7.3
comp=Z,0.3nm,0.8s,baz=336,slow=7.5,SNR=6.1
TBI Tubuai 113.72 114 *e*LR LR 12 09 27.4
comp=Z,199nm,27.8s
PPT Papeete 114.24 108 *e*LR LR 12 09 39.9
comp=Z,199nm,27.2s
ULM Lac du Bonnet 126.25 9 PKP PKPdf 11 35 45.3 -3.9
comp=Z,0.7nm,0.3s,baz=196,slow=2.1,SNR=3.5
RKT Rikitea 126.83 117 *e*SS SS 11 54 58.6 +8.9
RKT *e*LR LR 12 15 30.4
comp=Z,221nm,28.0s
NVAR Mina Array Bea 128.30 34 PKP PKPdf 11 35 51.8 -1.8
comp=Z,0.4nm,0.6s,baz=288,slow=2.9,SNR=3.7
PDAR Pinedale Array 129.21 24 PKP PKPdf 11 35 52.4 -2.8
comp=Z,0.5nm,0.5s,baz=123,slow=2.1,SNR=6.3
TXAR Lajitas Array 143.02 29 PKhKP 11 36 14.8
comp=Z,0.2nm,0.4s,baz=15,slow=0.6,SNR=6.4

IDC 03 11:34:18.8±8.4, 18.29S×175.67E, mb3.9/2, mb1 4.1/2, mb1mx3.7/12, mbtmp3.9/2, Error ellipse: s-maj=385.7km s-min=54.6km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.02**	**261**	P	P	11 41 47.3	-1.8
	1.3nm,1.1s,baz=84,slow=6.5,SNR=4.2						
ASAR	**Alice Springs**	**39.27**	**255**	P	P	11 41 49.5	-1.6
	1.1nm,0.7s,baz=86,slow=9.0,SNR=18						
GERES	**GERESS Array B**	**146.20**	**338**	PKPbc	PKPbc	11 54 00.4	-0.7
	0.2nm,0.4s,baz=63,slow=4.4,SNR=3.6						

IDC 03 11:45:04.1±2.9, 2.75N×96.49E, mb3.5/5, mb1 3.7/5, mb1mx3.5/16, mbtmp3.5/5, Error ellipse: s-maj=122.6km s-min=22.7km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.46**	**123**	P	P	11 53 09.2	-1.7
	0.6nm,0.6s,baz=301,slow=9.2,SNR=7.2						
ASAR	**Alice Springs**	**44.89**	**128**	P	P	11 53 20.7	-1.8
	0.3nm,0.6s,baz=298,slow=7.7,SNR=4.4						
SONM	**Songino Array**	**45.72**	**9**	P	P	11 53 27.1	-1.7
	0.2nm,0.3s,baz=200,slow=7.3,SNR=3.0						
ZAL	**Zalesovo**	**51.92**	**351**	P	P	11 54 14.2	-2.5
	0.5nm,0.5s,baz=347,slow=9.4,SNR=3.1						
BVAR	**Borovoye Array**	**54.57**	**341**	P	P	11 54 34.1	-2.2
	0.5nm,0.5s,baz=150,slow=8.0,SNR=4.7						

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*IDC **03** 11:49:26.2±5.0, 23.57S×64.56W, h27km±35km, mb3.7/6, mb1 3.9/12, mb1mx3.9/18, mbtmp3.8/12, ML3.7/6, MS4.1/5, Ms1 4.1/5, ms1mx3.9/19, Error ellipse: s-maj=24.4km s-min=20.1km az=110.0*
*NEIC **03** 11:49:26.8±2.4, 23.69S×64.61W, h34km±18km, mb4.0/2, Error ellipse: s-maj=12.3km s-min=9.9km az=107.0*
ISC 03 11:49:25.2±0.5, 23.74S±0.07×64.66W±0.08, h33km, n27, σ1§16/22, mb3.8/7, MS4.4/2, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**4.07**	**285**	Pn	**Pn**	**11 50 27.0**	**+0.1**
	1.2nm,0.3s,baz=100,slow=9.1,SNR=14						
LVC				LR	LR	11 52 00.8	
	comp=Z,544nm,21.3s,baz=239,slow=38						
LVC	**Limon Verde**	**4.07**	**285**	*e*P	**P**	**11 50 28.6**	**+1.9**
LVC				LR	LR	11 52 00.8	
LPAZ	**La Paz**	**8.10**	**336**	Pn	**P**	**11 51 21.4**	**-1.9**
	0.0nm,0.3s,baz=170,slow=12,SNR=1.7						
LPAZ	**La Paz**	**8.10**	**336**	*e*P	**P**	**11 51 22.3**	**-1.0**
	35nm,1.4s						
SIV	**San Ignacio**	**8.42**	**24**	Pn	**P**	**11 51 22.7**	**-5.0**
	8.8nm,0.3s,baz=212,slow=12,SNR=71						
SIV				Sn	**Sn**	**11 52 55.0**	**-7.8**
	5.9nm,0.3s,baz=294,slow=23,SNR=3.5						
CFAA	**Coronel Fontan**	**8.45**	**201**	Pn	**P**	**11 51 27.9**	**-0.3**
	0.2nm,0.3s,baz=14,slow=12,SNR=14						
CFAA				Lg		11 54 01.3	
	0.5nm,0.3s,baz=149,slow=12,SNR=5.7						
TRQA	**Tornquist**	**14.45**	**171**	*e*P	**P**	**11 52 48.9**	**-0.4**
SAML	**Samuel**	**14.78**	**6**	*e*P	**P**	**11 52 45.9**	**-7.9**
	0.4nm,0.5s						
BDFB	**Brasilia**	**17.61**	**66**	Pn	**P**	**11 53 29.9**	**0.0**
	0.2nm,0.3s,baz=256,slow=9.8,SNR=3.3						
BDFB				LR	LR	12 00 54.6	
	comp=Z,783nm,19.7s,baz=248,slow=39						
BAO	**Brasilia Array**	**17.64**	**66**	P	**P**	**11 53 32.0**	**+1.9**
BAO				S	S	11 57 05.0	+22
PLCA	**Paso Flores**	**17.65**	**195**	P	**P**	**11 53 34.2**	**+4.1**
	0.1nm,0.3s,baz=0.8,slow=15,SNR=2.8						
PLCA				LR	LR	12 00 29.9	
	comp=Z,694nm,19.7s,baz=350,slow=37						
PLCA	**Paso Flores**	**17.65**	**195**	P	**P**	**11 53 30.3**	**+0.2**
	6.2nm,1.1s						
PLCA				LR	LR	12 00 29.9	
ROSC	**El Rosal**	**29.95**	**340**	LR	LR	12 09 27.8	
	comp=Z,566nm,18.3s,MS4.2,baz=260,slow=40						
TXAR	**Lajitas Array**	**64.74**	**323**	P	**P**	**12 00 01.9**	**-0.9**
	0.1nm,0.6s,mb3.0,baz=170,slow=7.6,SNR=4.1						
DBIC	**Dimbokro**	**65.69**	**70**	P	**P**	**12 00 06.5**	**-2.7**
	2.2nm,0.8s,mb4.3,baz=217,slow=7.3,SNR=4.1						
DBIC				LR	LR	12 26 41.3	
	comp=Z,274nm,18.1s,MS4.5,baz=192,slow=34						
DBIC	**Dimbokro**	**65.69**	**70**	*e*P	**P**	**12 00 06.2**	**-2.9**
DBIC				LR	LR	12 26 41.3	
PDAR	**Pinedale Array**	**78.04**	**328**	P	**P**	**12 01 20.9**	**-1.3**
	0.6nm,0.6s,mb3.7,baz=139,slow=5.6,SNR=6.4						
NVAR	**Mina Array Bea**	**79.70**	**320**	P	**P**	**12 01 32.4**	**+1.0**
	0.6nm,0.8s,mb3.6,baz=139,slow=9.6,SNR=3.6						
HLID	**Hailey**	**81.06**	**326**	*e*P	**P**	**12 01 38.5**	**0.0**
	4.8nm,1.1s,mb4.3						
ESDC	**Sonseca Array**	**84.75**	**43**	P	**P**	**12 01 58.5**	**+1.1**
	1.6nm,0.9s,mb4.1,baz=244,slow=3.8,SNR=6.5						
YKA	**Yellowknife Ar**	**94.63**	**339**	P	**P**	**12 02 43.7**	**+0.2**
	0.3nm,0.8s,mb3.8,baz=125,slow=4.6,SNR=7.4						
YKA	**Yellowknife Ar**	**94.63**	**339**	P	**P**	**12 02 43.7**	**+0.2**
WRA	**Warramunga Arr**	**132.79**	**205**	PKP	PKPdf	12 08 39.2	+1.4
	0.3nm,0.6s,baz=171,slow=1.8,SNR=6.7						
ZAL	**Zalesovo**	**142.14**	**29**	PKP	PKPdf	12 08 55.0	+1.2
	0.7nm,0.3s,baz=106,slow=4.9,SNR=4.0						
HYB	**Hyderabad**	**145.06**	**93**	*e*P	PKPdf	12 09 01.0	+1.1
HYB	**Hyderabad**	**145.06**	**93**	*i*PKP	PKPdf	12 09 01.0	+1.1
SONM	**Songino Array**	**154.92**	**14**	PKPbc	PKPdf	12 09 24.1	+10
	0.3nm,0.6s,slow=1.4,SNR=3.1						

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*IDC **03** 12:00:57.6±1.1, 34.95N×141.93E, mb3.6/4, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=41.3km s-min=20.9km az=103.0*
*JMA **03** 12:01:01.1±0.2, 35.06N×141.38E, h28km±4km, M2.9*
ISC 03 12:00:59.0±1.2, 35.04N±0.04×141.52E±0.08, h25km±7km, n17, σ0§88/25, mb3.7/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.59**	**230**	P	**Pb**	**12 01 11.8**	**+1.2**
BSO1				*e*S	**Sb**	**12 01 17.8**	**-0.7**
BSO2	**Boso 2**	**0.69**	**246**	*e*S	**Sb**	**12 01 19.1**	**-2.3**
CHOJ	**Chosi**	**0.86**	**321**	P	**Pb**	**12 01 15.4**	**+0.3**
CHOJ				*e*S	**Sb**	**12 01 26.3**	**0.0**
BSO3	**Boso 3**	**0.86**	**255**	P	**Pb**	**12 01 15.2**	**0.0**
BSO3				*e*S	**Sb**	**12 01 26.8**	**+0.4**
BSO4	**Boso 4**	**0.97**	**268**	P	**Pb**	**12 01 17.0**	**-0.1**
BSO4				*e*S	**Sb**	**12 01 29.6**	**+0.1**
KTR	**Katsuura**	**1.00**	**277**	P	**Pb**	**12 01 18.0**	**+0.5**
KTR				*e*S	**Sb**	**12 01 30.0**	**-0.2**
JCN	**Nagara**	**1.15**	**290**	P	**Pn**	**12 01 20.8**	**+1.1**
JYT	**Yasato**	**1.61**	**318**	P	**Pn**	**12 01 27.1**	**+0.8**
JIM2	**Oshima 3**	**1.75**	**260**	P	**Pn**	**12 01 26.9**	**-1.4**
JHO	**Hitachi**	**1.75**	**334**	P	**Pn**	**12 01 28.6**	**+0.3**
JHO				*e*S	**Sn**	**12 01 49.3**	**-0.8**
JHJ	**Hachijo jima 2**	**2.40**	**218**	Pn	**Pn**	**12 01 38.3**	**+0.8**
	14nm,0.3s,baz=72,slow=16,SNR=15						
JHJ				Sn	**Sn**	**12 02 06.5**	**+0.1**
	51nm,0.3s,baz=254,slow=23,SNR=12						
MAT	**Matsushiro**	**3.09**	**300**	P	**Pn**	**12 01 48.6**	**+1.2**
MAT				*e*S	**Sn**	**12 02 23.8**	**-0.1**
ASAJ	**Asahikawa**	**9.11**	**5**	Pn	**P**	**12 03 10.3**	**-1.7**
	0.4nm,0.3s,baz=249,slow=12,SNR=2.8						
SONM	**Songino Array**	**29.01**	**307**	P	**P**	**12 07 02.9**	**+3.9**
	0.2nm,0.5s,mb3.1,baz=118,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**55.10**	**188**	P	**P**	**12 10 30.8**	**-0.7**
	3.4nm,0.7s,mb4.5,baz=5.5,slow=7.5,SNR=41						
ASAR	**Alice Springs**	**58.82**	**188**	P	**P**	**12 10 58.6**	**+0.7**
	0.7nm,0.7s,mb3.8,baz=16,slow=12,SNR=5.8						
YKA	**Yellowknife Ar**	**65.49**	**30**	P	**P**	**12 11 41.2**	**-0.7**
	0.3nm,0.9s,mb3.3,baz=294,slow=6.7,SNR=6.0						

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*IDC **03** 12:10:47.4±3.1, 0.13N×96.95E, mb3.9/6, mb1 4.1/6, mb1mx3.8/14, mbtmp3.9/6, Error ellipse: s-maj=138.4km s-min=19.8km az=59.0*
*NEIC **03** 12:10:52.3±0.8, 0.26N×97.14E, h30km, mb4.2/2, Error ellipse: s-maj=23.2km s-min=10.7km az=65.0*
ISC 03 12:10:50.5±1.1, 0.3N±0.1×97.2E±0.2, h30km, n12, σ0§56/10, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.07**	**35**	*e*P	**Pn**	**12 12 20.2**	**-0.3**
WRA	**Warramunga Arr**	**41.62**	**121**	P	**P**	**12 18 38.2**	**+0.2**
	3.7nm,0.6s,mb4.2,baz=302,slow=8.9,SNR=67						
WRAB	**Tennant Creek**	**41.62**	**121**	*e*P	**P**	**12 18 38.0**	**+0.1**
	5.5nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**42.91**	**126**	P	**P**	**12 18 48.6**	**+0.1**
	0.6nm,0.6s,mb3.5,baz=298,slow=8.1,SNR=11						
SONM	**Songino Array**	**48.02**	**8**	P	**P**	**12 19 29.8**	**+0.9**
	0.3nm,0.4s,mb3.7,baz=196,slow=9.6,SNR=4.9						
MKAR	**Makanchi Array**	**48.09**	**346**	P	**P**	**12 19 30.2**	**+0.7**
	0.8nm,0.6s,mb3.9,baz=158,slow=7.6,SNR=12						
STKA	**Stephens Creek**	**52.80**	**132**	P	**P**	**12 20 05.2**	**-0.4**
	1.8nm,0.7s,mb4.1,baz=53,slow=22,SNR=3.2						
ZAL	**Zalesovo**	**54.42**	**351**	P	**P**	**12 20 16.9**	**-0.2**
	1.5nm,0.5s,mb4.2,baz=314,slow=4.9,SNR=6.5						
ZAL	**Zalesovo**	**54.42**	**351**	P	**P**	**12 20 16.9**	**-0.2**
CHKZ	**Chkalovo**	**57.55**	**342**	*e*P	**P**	**12 20 38.6**	**-1.1**

1.0nm,1.0s,mb3.8
CHKZ e pP 12 20 48.3 -0.6
TXAR Lajitas Array 144.45 32 PKP PKPdf 12 30 25.7 -4.0
0.3nm,0.5s,baz=255,slow=0.8,SNR=6.3
TXAR Lajitas Array 144.45 32 PKP PKPdf 12 30 25.7 -4.1

*IDC **03** 12:21:15.6±0.5,3.03N×96.40E,mb4.7/17,mb1 4.8/17, mb1mx4.8/19,mbtmp4.7/17,MS4.4/21,Ms1 4.4/21, ms1mx4.2/33,Error ellipse: s-maj=23.5km s-min=12.2km az=51.0*
*BJI **03** 12:21:15.5,2.41N×96.37E,h42km,mB5.2,mb4.9,Ms5.0, Msz4.8*
*MOS **03** 12:21:19.2±0.9,3.04N×96.34E,h33km,mb5.2/45, MS4.7/13,Error ellipse: s-maj=9.8km s-min=5.1km az=119.9*
*HRVD **03** 12:21:20.4±0.3,2.89N×96.32E,h18km,MW5.1/62, Centroid moment Tensor Solution. LP body waves: s29,c47;Mantle waves: s62,c102; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.30±.22; $M_{\theta\theta}$-1.24±.13; $M_{\phi\phi}$-4.06±.17; $M_{r\theta}$0.74±.33; $M_{\theta\phi}$-2.13±.10; $M_{\phi r}$1.68±.35; Best double couple: $M_0$5.564×10^{16} NP1: ϕ_s210°,δ35°,λ92°. NP2:ϕ_s27°,δ55°,λ88°. Principal axes: T5.614, Plg80°, Azm290°; N -.099, Plg1°, Azm28°; P -5.515, Plg10°, Azm118°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 12:21:20.4±0.2,2.97N×96.28E,h30km,mb5.0/45 Error ellipse: s-maj=6.2km s-min=3.8km az=221.0*
ISC 03 12:21:18.9±0.2,2.98N±0.04×96.32E±0.03,h32km, h32km±.9km:pP-P,n247,σ1§06/243,mb5.0/86,MS4.6/42, 19C-14D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.89**	**62**	*e*P	**Pn**	**12 22 34.1**	**+1.8**
IPM	**Ipoh**	**4.96**	**71**	P	**Pn**	**12 22 35.1**	**+1.8**
KGM	**Kluang**	**7.06**	**98**	P	**Pn**	**12 23 04.3**	**+1.5**
NNT	**Nongplab**	**10.13**	**19**	P	**P**	**12 24 02.5**	**+17**
PENI	**Pendagan**	**12.26**	**134⇓**	*e*P	**P**	**12 24 07.6**	**-6.8**
PENI				pmax	pmax		
	comp=Z,273nm,0.5s						
PENI	**Pendagan**	**12.26**	**134⇓**	*e*P	**P**	**12 24 07.6**	**-6.8**
	comp=Z,273nm,0.5s						
PULI	**Pulasari**	**13.37**	**134⇓**	*i*P	**P**	**12 24 23.5**	**-5.7**
	comp=Z,179nm,0.6s						
KSM	**Kuching**	**14.06**	**96**	*e*P	**P**	**12 24 39.3**	**+0.9**
KSM				*e*		12 24 47.6	
KKTK	**Khon Kaen**	**14.74**	**25**	P	**P**	**12 24 53.0**	**+5.8**
PALK	**Pallekele**	**16.12**	**286**	*e*P	**P**	**12 25 09.1**	**+4.0**
	comp=Z,29nm,0.9s						
NANT	**Nan**	**16.30**	**15**	P	**P**	**12 25 10.0**	**+2.7**
	comp=Z,125nm,1.0s						
MDRS	**Chennai**	**18.79**	**303**	*e*P	**P**	**12 25 40.0**	**+1.7**
MDRS				*e*		12 29 16.0	
MDRS				*e*		12 32 03.0	
MDRS				*e*		12 40 02.0	
VIS	**Vishakhapatnam**	**19.42**	**320**	*e*P	**P**	**12 25 46.3**	**+0.7**
VIS				*e*		12 26 00.0	
	comp=Z,62nm,1.4s						
TRD	**Trivandrum**	**20.02**	**287⇑**	*e*	**P**	**12 25 46.2**	**-6.0**
TRD				*e*		12 29 20.4	
BWNR	**Bhubaneshwar**	**20.04**	**330**	*e*P	**P**	**12 25 53.6**	**+1.3**
BWNR				*e*		12 26 03.2	
	comp=Z,46nm,1.4s						
KKM	**Kota Kinabalu**	**20.07**	**81**	*e*P	**P**	**12 25 53.3**	**+0.6**
KKM	**Kota Kinabalu**	**20.07**	**81**	P	**P**	**12 25 54.7**	**+2.0**
QIZ	**Qiongzhong**	**20.73**	**39**	P	**P**	**12 26 00.8**	**+1.3**
QIZ				S	**S**	**12 29 45.8**	**+1.5**
QIZ				LR	LR		
	comp=N,2μm,14.6s,MS4.7						
QIZ				LR	LR		
	comp=E,2μm,15.4s,MS4.7						
QIZ				LR	LR		
	comp=Z,2μm,12.3s,MS4.7						
TSM	**Tawau**	**21.55**	**86**	P	**P**	**12 26 08.8**	**+0.9**
HYB	**Hyderabad**	**22.58**	**311**	*e*P	**P**	**12 26 19.0**	**+0.8**
HYB				*e*S	S	12 30 40.0	+21
HYB	**Hyderabad**	**22.58**	**311**	*i* P	**P**	**12 26 19.0**	**+0.8**
KEDI	**Kedomdong**	**22.79**	**120⇑**	*i*P	**P**	**12 26 19.6**	**-0.7**
KEDI				pmax	pmax		
	comp=Z,33nm,0.5s,mb5.0						
KEDI	**Kedomdong**	**22.79**	**120⇑**	*i*P	**P**	**12 26 19.6**	**-0.7**
	comp=Z,33nm,0.5s,mb5.0						
SHL	**Shillong**	**22.86**	**350**	*e*P	**P**	**12 26 19.0**	**-1.9**
SHL				*e*		12 30 27.0	
KMI	**Kunming**	**22.87**	**15**	P	**P**	**12 26 24.8**	**+3.8**
KMI				AP		12 26 33.0	
KMI				XP		12 26 36.7	
KMI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
KMI				AMB	AMB		
	comp=Z,147nm,6.8s						
KMI				LR	LR		
	comp=N,3μm,14.4s,MS5.0						
KMI				LR	LR		
	comp=E,2μm,16.6s,MS5.0						
KMI				LR	LR		
	comp=Z,3μm,13.6s,MS4.9						
KMI	**Kunming**	**22.87**	**15**	P	**P**	**12 26 24.8**	**+3.8**
	comp=Z,10.0nm,0.8s,mb4.3						
KMI				pP		12 26 33.0	
KMI				sP		12 26 36.7	
KMI				PP	PP	12 27 00.6	+10
KMI				S	**S**	**12 30 38.7**	**+15**
KMI				sS		12 30 53.0	
KMI				SS	SS	12 31 37.6	+29
KMI				LR	LR		
	comp=Z,3μm,13.6s,MS4.9						
MNGI	**Mangalore**	**23.45**	**296**	*e*	**P**	**12 26 22.0**	**-4.7**
MNGI				*e*		12 30 50.3	
BLSP	**Bilaspur**	**23.50**	**325**	*e*	**P**	**12 26 25.4**	**-1.7**
BLSP				*e*		12 26 41.5	
	comp=Z,65nm,1.3s						
TANI	**Tanete Lipujan**	**23.92**	**105**	*e*P	**P**	**12 26 32.3**	**+1.0**
NINI	**Niniconang**	**24.55**	**107**	*e*P	**P**	**12 26 38.3**	**+0.9**
BUNI	**Buntu Taipa**	**24.88**	**105**	*e*P	**P**	**12 26 42.0**	**+1.4**
GYA	**Guiyang**	**25.37**	**22**	P	**P**	**12 26 45.7**	**+0.6**
GYA				AP	pP	12 26 54.6	+0.2
GYA				XP	sP	12 26 58.9	+0.2
GYA				PP	PP	12 27 29.4	+5.2
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,310nm,5.7s						
GYA				LR	LR		
	comp=N,1μm,15.2s,MS4.7						
GYA				LR	LR		
	comp=E,1μm,16.1s,MS4.7						
GYA				LR	LR		
	comp=Z,2μm,16.4s,MS4.7						
JIRN	**Jiri**	**26.38**	**339**	*e*P	**P**	**12 26 54.4**	**-0.1**
	comp=Z,65nm,0.5s,mb5.4						
PKI	**Pulchoki**	**26.59**	**338**	*e*P	**P**	**12 26 56.5**	**+0.2**
	comp=Z,26nm,0.6s,mb4.9						
PKI	**Pulchoki**	**26.59**	**338**	*e*P	**P**	**12 26 56.5**	**+0.2**
PKI				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.6						
GUN	**Gumba**	**26.72**	**339**	*e*P	**P**	**12 26 57.5**	**-0.1**
	comp=Z,91nm,0.7s,mb5.4						
DMN	**Daman**	**26.73**	**337**	*e*P	**P**	**12 26 58.4**	**+0.7**
	comp=Z,41nm,0.7s,mb5.1						
KKN	**Kakani**	**26.83**	**338**	*e*P	**P**	**12 26 58.2**	**-0.4**
	comp=Z,39nm,0.7s,mb5.1						
KKN	**Kakani**	**26.83**	**338**	*e*P	**P**	**12 26 58.2**	**-0.4**
KKN				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.8						
POO	**Poona**	**26.89**	**307**	*e*P	**P**	**12 27 01.0**	**+1.8**
LSA	**Lhasa**	**27.03**	**350**	P	**P**	**12 27 00.1**	**-0.3**
LSA	**Lhasa**	**27.03**	**350**	*e*P	**P**	**12 26 59.9**	**-0.5**
LSA				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.8						
LSA	**Lhasa**	**27.03**	**350**	*e*P	**P**	**12 26 59.9**	**-0.5**
	comp=Z,19nm,0.6s,mb4.8						
BHPL	**Bhopal**	**27.21**	**319**	*e*P	**P**	**12 27 02.5**	**+0.4**
BHPL				*e*		12 27 16.8	
	comp=Z,30nm,1.8s						
GKN	**Gorkha**	**27.27**	**337**	*e*P	**P**	**12 27 02.4**	**-0.2**
	comp=Z,46nm,0.6s,mb5.2						
KOLN	**Koldanda**	**27.48**	**335**	*e*P	**P**	**12 27 05.0**	**+0.5**
	comp=Z,109nm,0.7s,mb5.5						
ENH	**Enshi**	**29.88**	**23**	*e*P	**P**	**12 27 24.0**	**-2.1**
	comp=Z,12nm,0.6s,mb4.8						
LGTI	**Lohaghat**	**30.43**	**332⇓**	*i*P	**P**	**12 27 31.3**	**+0.3**
PTH	**Pithoragarh**	**30.53**	**332**	*e*P	**P**	**12 27 32.8**	**+1.0**
NDI	**New Delhi**	**31.37**	**326**	*e*	**P**	**12 27 37.0**	**-2.3**
DDI	**Dehra Dun**	**32.23**	**329**	*e*P	**P**	**12 27 46.9**	**+0.2**
XAN	**Xi'an**	**33.07**	**19**	P	**P**	**12 27 52.2**	**-1.8**
XAN				S	**S**	**12 33 10.2**	**+0.6**
XAN				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
XAN				LR	LR		
	comp=N,1μm,13.1s,MS4.8						
XAN				LR	LR		
	comp=E,680nm,13.4s,MS4.8						
XAN				LR	LR		
	comp=Z,2μm,12.6s,MS5.0						
MBWA	**Marble Bar**	**33.19**	**137**	*e*P	**P**	**12 27 54.3**	**-0.8**
	comp=Z,8.0nm,0.7s,mb4.8						
LZH	**Lanzhou**	**33.67**	**11**	⇓P	**P**	**12 27 58.5**	**-0.7**
LZH				AP	pP	12 28 07.8	-0.9
LZH				XP	sP	12 28 11.6	-1.2
LZH				PP	PP	12 29 11.7	-0.6
LZH				*e*S	**S**	**12 33 18.4**	**-0.6**
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,201nm,8.2s						
LZH				LR	LR		
	comp=N,908nm,12.7s						
LZH				LR	LR		
	comp=Z,1μm,16.7s,MS4.7						
LZH	**Lanzhou**	**33.67**	**11**	⇓P	**P**	**12 27 58.5**	**-0.7**
	comp=Z,42nm,1.5s,mb5.2						
LZH				pP	pP	12 28 07.8	-0.9
LZH				sP	sP	12 28 11.6	-1.2
LZH				PP	PP	12 29 11.7	-0.6
LZH				*e*S	**S**	**12 33 18.4**	**-0.6**
LZH				sS		12 33 35.0	
LZH				SS	SS	12 35 25.6	+0.8
LZH				LR	LR		
	comp=Z,1μm,16.7s,MS4.7						
DLH	**Dalhousie**	**35.07**	**329**	*e*P	**P**	**12 28 11.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**35.69**	**127**	*e*P	**P**	**12 28 14.9**	**-1.8**
	comp=Z,12nm,0.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**35.69**	**127**	P	**P**	**12 28 15.3**	**-1.4**
	comp=Z,13nm,0.5s,mb5.2,baz=322,slow=4.7,SNR=47						
FITZ				LR	LR	12 46 11.8	
	comp=Z,598nm,18.3s,MS4.4,baz=286,slow=42						
NJ2	**Nanjing**	**35.85**	**34**	*e*P	**P**	**12 28 16.2**	**-1.7**
NJ2				AP	pP	12 28 26.9	-0.6
NJ2				XP	sP	12 28 29.5	-2.0
NJ2				S	**S**	**12 33 47.0**	**-5.8**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,1μm,6.4s						
NJ2				LR	LR		
	comp=N,2μm,18.9s,MS5.2						
NJ2				LR	LR		
	comp=E,4μm,20.4s,MS5.2						
NJ2				LR	LR		
	comp=Z,1μm,12.0s						
GTA	**Gaotai**	**36.40**	**5**	P	**P**	**12 28 22.4**	**-0.1**
GTA				AP	pP	12 28 31.2	-0.8
GTA				XP	sP	12 28 36.0	0.0
GTA				PCP	PcP	12 30 48.5	+1.8
GTA				S	**S**	**12 34 06.4**	**+5.2**
GTA				SCS	ScS	12 38 36.2	+1.9
GTA				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
GTA				AMB	AMB		
	comp=Z,185nm,9.9s						
GTA				LR	LR		
	comp=N,729nm,14.8s,MS4.7						
GTA				LR	LR		
	comp=E,577nm,12.9s,MS4.7						
GTA				LR	LR		
	comp=Z,841nm,15.2s,MS4.6						
SSE	**Sheshan**	**36.51**	**37**	P	**P**	**12 28 21.3**	**-2.2**
SSE				AP	pP	12 28 30.0	-3.0
SSE				PP	PP	12 29 46.3	-1.6
SSE				S	**S**	**12 34 01.8**	**-1.1**
SSE				sS		12 34 17.3	
SSE				SS	SS	12 36 42.4	+13
SSE				LR	LR		
	comp=Z,940nm,14.6s,MS4.7						
BTO	**Baotou**	**39.45**	**16**	P	**P**	**12 28 48.6**	**+0.6**
BTO				S	**S**	**12 34 46.2**	**-1.3**
BTO				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.8						
MUN	**Mundaring**	**39.57**	**153**	*e*P	**P**	**12 28 50.4**	**+1.3**
	comp=Z,3.9nm,0.4s,mb4.5						
MUN	**Mundaring**	**39.57**	**153**	*e*P	**P**	**12 28 50.4**	**+1.3**
MUN				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
KLBR	**Kellerberrin**	**39.97**	**151**	*e*P	**P**	**12 28 53.5**	**+1.1**
	comp=Z,491nm,1.8s,mb5.9						
HHC	**Hu-ho-hao-te**	**40.13**	**18**	*e*P	**P**	**12 28 52.7**	**-0.9**
HHC				AP	pP	12 29 03.7	+0.5
HHC				XP	sP	12 29 07.2	0.0
HHC				PP	PP	12 30 35.0	+5.4
HHC				PCP	PcP	12 30 52.5	-5.8
HHC				SCP		12 34 43.6	
HHC				PCS		12 34 45.4	
HHC				S	**S**	**12 34 56.5**	**-1.2**
HHC				SS	SS	12 37 59.4	+9.2
HHC				SCS	ScS	12 38 55.7	0.0
HHC				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,228nm,5.6s						
HHC				LR	LR		
	comp=N,990nm,13.9s,MS4.9						
HHC				LR	LR		
	comp=E,754nm,14.7s,MS4.9						
HHC				LR	LR		
	comp=Z,916nm,13.9s,MS4.8						
KSH	**Kashi**	**40.80**	**336**	*e*P	**P**	**12 29 01.2**	**+2.1**
KSH				*e*AP	pP	12 29 10.1	+1.4
KSH				*e*XP	sP	12 29 14.1	+1.4
KSH				*e*PP	PP	12 30 39.4	+3.2
KSH				*e*PCP	PcP	12 31 01.3	+0.9
KSH				*e*PPP	PPP	12 31 08.1	+2.7
KSH				*e*SCP		12 34 47.1	
KSH				*e*PCS		12 34 51.4	
KSH				*e*S	**S**	**12 35 10.0**	**+2.4**
KSH				*e*XS		12 35 27.7	
KSH				*e*SS	SS	12 38 09.3	+4.8
KSH				*e*SCS	ScS	12 39 00.5	+0.9
KSH				AMB	AMB		
	comp=Z,100nm,2.3s,mb5.0						
KSH				LR	LR		
	comp=N,170nm,5.1s						
KSH				LR	LR		
	comp=E,280nm,4.6s						
NWAO	**Narrogin (SRO)**	**40.83**	**153**	P	**P**	**12 28 59.8**	**+0.3**
	comp=E,16nm,1.0s,mb4.6,baz=348,slow=8.8,SNR=7.1						
NWAO				LR	LR	12 45 47.6	
	comp=E,686nm,20.0s,MS4.5,baz=292,slow=36						
NWAO	**Narrogin (SRO)**	**40.83**	**153**	*e*P	**P**	**12 28 59.8**	**+0.4**
BJT	**Baijiatuau**	**41.03**	**23**	*e*P	**P**	**12 29 01.9**	**+0.9**
BJT				pmax	pmax		
	comp=Z,18nm,0.6s						
BJT	**Baijiatuau**	**41.03**	**23**	*e*P	**P**	**12 29 01.9**	**+0.9**
	comp=Z,18nm,0.6s,mb4.9						
BJI	**Beijing**	**41.05**	**23**	P	**P**	**12 29 02.2**	**+1.0**
BJI				PP	PP	12 30 42.5	+3.7
BJI				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.0						
BJI				AMB	AMB		
	comp=Z,265nm,3.8s						
BJI				LR	LR		
	comp=N,729nm,11.5s,MS5.0						
BJI				LR	LR		
	comp=E,886nm,12.9s,MS5.0						
BJI				LR	LR		
	comp=Z,470nm,17.8s,MS4.4						
BJI	**Beijing**	**41.05**	**23**	P	**P**	**12 29 02.2**	**+1.0**
	comp=Z,31nm,0.7s,mb5.0						
BJI				PP	PP	12 30 42.5	+3.7
BJI				S	**S**	**12 35 23.4**	**+12**
BJI				SS	SS	12 38 33.8	+24
BJI				LR	LR		
	comp=Z,470nm,17.8s,MS4.4						
WMQ	**Urumqi**	**41.38**	**351⇓**	*i*P	**P**	**12 29 04.7**	**+0.8**
WMQ				AP	pP	12 29 14.7	+1.2
WMQ				XP	sP	12 29 18.4	+1.0
WMQ				PP	PP	12 30 44.0	+1.6
WMQ				PCP	PcP	12 31 03.2	+0.9
WMQ				SCP		12 34 49.2	
WMQ				S	**S**	**12 35 17.2**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,181nm,3.0s						
WMQ				LR	LR		
	comp=N,609nm,16.3s,MS4.7						
WMQ				LR	LR		
	comp=E,531nm,18.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,275nm,20.6s,MS4.1						
DL2	**Dalian**	**42.55**	**30**	P	**P**	**12 29 13.7**	**+0.1**
DL2				*e*S	**S**	**12 35 42.5**	**+8.9**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
DL2				LR	LR		
	comp=N,270nm,19.0s,MS4.6						
DL2				LR	LR		
	comp=E,760nm,18.2s,MS4.6						
DL2				LR	LR		
	comp=Z,280nm,18.0s,MS4.2						
ULHL	**Ulahol**	**43.03**	**338**	P	**P**	**12 29 18.2**	**+0.9**
	SNR=13						
KZA	**Kyzart**	**43.26**	**337**	P	**P**	**12 29 20.1**	**+0.9**
	SNR=10						
UCH	**Uchtor**	**43.68**	**336**	P	**P**	**12 29 24.1**	**+1.4**
	SNR=27						
WRA	**Warramunga Arr**	**43.73**	**123**	P	**P**	**12 29 22.3**	**-1.0**
	comp=Z,12nm,0.4s,mb5.0,baz=300,slow=9.2,SNR=109						
WRAB	**Tennant Creek**	**43.73**	**123**	*e*P	**P**	**12 29 22.4**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**43.73**	**123**	*e*P	**P**	**12 29 22.4**	**-1.0**
	comp=Z,35nm,0.8s,mb5.1						
WB2	**Warramunga Arr**	**43.74**	**123⇓**	*i*P	**P**	**12 29 22.6**	**-0.8**
KBK	**Karagaybulak**	**43.87**	**337**	P	**P**	**12 29 25.8**	**+1.6**
	SNR=9.9						
AML	**Almayashu**	**43.93**	**336**	P	**P**	**12 29 26.1**	**+1.4**
	SNR=25						
AAK	**Ala-Archa**	**44.03**	**337**	P	**P**	**12 29 26.9**	**+1.3**
	SNR=14						
AAK	**Ala-Archa**	**44.03**	**337**	P	**P**	**12 29 26.6**	**+1.1**
AAK				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
FRU	**Bishkek**	**44.15**	**337⇓**	*i*P	**P**	**12 29 28.0**	**+1.5**
FRU				pmax	pmax		
	comp=Z,150nm,2.1s,mb5.3						
FRU				MLR	MLR		
	comp=Z,700nm,20.0s,MS4.6						
CHMS	**Chumysh**	**44.24**	**337**	P	**P**	**12 29 27.9**	**+0.6**
	SNR=6.1						
EKS2	**Erkin-Say**	**44.34**	**336**	P	**P**	**12 29 29.1**	**+1.1**
	SNR=15						
ASPA	**Alice Springs**	**45.17**	**128**	*e*P	**P**	**12 29 34.3**	**-0.6**
ASAR	**Alice Springs**	**45.17**	**128**	P	**P**	**12 29 33.9**	**-1.1**
	comp=Z,5.4nm,0.5s,mb4.6,baz=299,slow=8.0,SNR=91						
FORT	**Forrest**	**45.20**	**140**	*e*P	**P**	**12 29 35.8**	**+0.7**
	comp=Z,1μm,0.7s						
MK02	**Makanchi Array**	**45.29**	**346**	P	**P**	**12 29 35.4**	**-0.2**
MK02				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.1						
MKAR	**Makanchi Array**	**45.32**	**346**	P	**P**	**12 29 35.7**	**-0.1**
	comp=Z,29nm,0.4s,mb5.4,baz=163,slow=7.3,SNR=299						
MKAR				LR	LR	12 52 11.4	
	comp=Z,383nm,18.9s,MS4.4,baz=172,slow=41						
MKAR	**Makanchi Array**	**45.32**	**346**	P	**P**	**12 29 35.7**	**-0.1**
MKAR				LR	LR	12 52 11.4	
SONM	**Songino Array**	**45.52**	**10**	P	**P**	**12 29 37.5**	**+0.1**
	comp=Z,6.9nm,0.5s,mb4.8,baz=189,slow=9.0,SNR=83						
SONM				PcP	PcP	12 31 16.2	0.0
	comp=Z,4.6nm,0.6s,baz=192,slow=3.4,SNR=9.3						
SONM				LR	LR	12 51 25.5	
	comp=Z,987nm,18.4s,MS4.8,baz=190,slow=40						
ULN	**Ulaanbaatar**	**45.67**	**10**	*e*P	**P**	**12 29 38.1**	**-0.4**
ULN				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
ULN	**Ulaanbaatar**	**45.67**	**10**	*e*P	**P**	**12 29 38.1**	**-0.4**
	comp=Z,15nm,1.1s,mb4.8						
KKAR	**Karatay Array**	**46.08**	**334**	*i* P	**P**	**12 29 41.7**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
ZAK	**Zakamensk**	**47.60**	**6⇑**	*e*P	**P**	**12 29 53.6**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.4						
MOY	**Mondy**	**48.68**	**4**	*e*P	**P**	**12 30 01.2**	**-0.9**
TLY	**Talaya**	**48.92**	**6**	*e*P	**P**	**12 30 04.5**	**+0.5**
TLY				*e*		12 31 33.3	
TLY				*e*S	**S**	**12 37 09.3**	**+4.7**
TLY				*e*SS	SS	12 40 23.4	-7.5
TLY				*e*SSS	SSS	12 41 57.3	+3.9
TLY				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
TLY				MLR	MLR		
	comp=Z,696nm,16.0s,MS4.7						
TLY	**Talaya**	**48.92**	**6**	*e*P	**P**	**12 30 04.9**	**+0.9**
IRK	**Irkutsk**	**49.55**	**6**	*e*P	**P**	**12 30 07.7**	**-1.1**
IRK				*e*		12 31 31.0	
IRK				pmax	pmax		
	comp=Z,37nm,2.3s,mb5.0						
KURK	**Kurchatov**	**49.86**	**345**	*e*P	**P**	**12 30 10.5**	**-0.7**
KURK				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
KURK	**Kurchatov**	**49.86**	**345**	*e*P	**P**	**12 30 10.4**	**-0.8**
	comp=Z,12nm,0.6s,mb5.1						
HIA	**Hailar**	**50.27**	**20**	*e*P	**P**	**12 30 13.7**	**-0.6**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**50.27**	**20**	*e*P	**P**	**12 30 13.7**	**-0.6**
	comp=Z,10nm,0.8s,mb4.9						
MDJ	**Mudanjiang**	**50.77**	**30**	P	**P**	**12 30 18.2**	**0.0**
MDJ				AP	pP	12 30 27.8	-0.2
MDJ				XP	sP	12 30 31.5	-0.3
MDJ				PP	PP	12 32 15.8	+0.6
MDJ				S	**S**	**12 37 37.4**	**+7.1**
MDJ				XS		12 37 53.0	
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,81nm,6.3s						
MDJ				LR	LR		
	comp=N,342nm,21.3s,MS4.7						
MDJ				LR	LR		
	comp=E,637nm,19.8s,MS4.7						
MDJ				LR	LR		
	comp=Z,327nm,21.3s,MS4.3						
ZAL	**Zalesovo**	**51.67**	**351**	P	**P**	**12 30 23.8**	**-1.1**
	comp=Z,6.5nm,0.4s,mb5.0,baz=293,slow=4.1,SNR=28						
ZAL				LR	LR	12 57 47.9	
	comp=Z,543nm,19.3s,MS4.6,baz=116,slow=42						
PMG	**Port Moresby**	**52.13**	**104**	*i* P	**P**	**12 30 28.1**	**-0.8**
NVS	**Novosibirsk**	**52.79**	**351**	*i* P	**P**	**12 30 31.3**	**-2.0**
NVS				*i*	pP	12 30 42.7	-0.4
NVS				*e*S	**S**	**12 37 50.6**	**-7.2**
NVS				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
NVS				pmax	pmax		
	comp=N,34nm,1.8s						
NVS				pmax	pmax		
	comp=E,14nm,1.4s						
NVS				smax			
	comp=N,13nm,1.8s						
NVS				smax			
	comp=E,4.0nm,1.0s						
OPO	**Ambohidratompo**	**52.87**	**244**	P	**P**	**12 30 34.8**	**+0.4**
	comp=E,2.0nm,0.5s,mb4.3,baz=55,slow=6.3,SNR=7.5						
RAYN	**Ar Rayn**	**53.15**	**297**	P	**P**	**12 30 36.9**	**+0.5**
	comp=E,86nm,0.7s,SNR=8.5						
ATD	**Arta Tunnel**	**53.64**	**282**	L

comp=E,136nm,19.7s,MS4.0,baz=123,slow=32
CTA Charters Tower 54.09 117 *e*P **P 12 30 43.2 -0.1**
comp=E,9.6nm,0.8s,mb4.8
CTA Charters Tower 54.09 117 *e*P **P 12 30 43.2 -0.1**
CTA pmax pmax
comp=Z,10.0nm,0.8s
CTA Charters Tower 54.09 117 LR LR 12 56 58.3
comp=Z,498nm,18.9s,MS4.6,baz=280,slow=40
CTAO Charters Tower 54.09 117 *e*P **P 12 30 42.7 -0.6**
CTAO pmax pmax
comp=Z,18nm,0.9s,mb5.0
CTAO Charters Tower 54.09 117 *e*P **P 12 30 42.7 -0.6**
comp=Z,18nm,0.9s,mb5.0
BVA0 Borovoye Array 54.29 341 P **P 12 30 43.0 -1.4**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BVAR Borovoye Array 54.29 341 P **P 12 30 43.2 -1.1**
comp=Z,9.0nm,0.5s,mb4.9,baz=141,slow=9.7,SNR=80
CHKZ Chkalovo 54.77 342⇑*i*P **P 12 30 47.0 -0.9**
CHKZ pmax pmax
comp=Z,25nm,0.6s,mb5.4
CHKZ Chkalovo 54.77 342⇑*i*P **P 12 30 47.0 -0.9**
comp=Z,25nm,0.6s,mb5.4
KLR Kul'dur 55.08 28 *e*P **P 12 30 46.7 -3.6**
KLR MLR MLR
comp=E,700nm,13.5s
KLR MLR MLR
comp=Z,2μm,13.5s,MS5.4
STKA Stephens Creek 55.20 133 *e*P **P 12 30 51.0 -0.3**
comp=Z,7.2nm,0.7s,mb4.8
STKA Stephens Creek 55.20 133 P **P 12 30 50.2 -1.1**
comp=Z,11nm,0.9s,mb4.9,baz=313,slow=7.9,SNR=10
STKA LR LR 12 56 55.8
comp=Z,872nm,20.4s,MS4.8,baz=116,slow=39
BOD Bodaibo 56.44 11 *e*P **P 12 30 59.0 -0.9**
BOD *e* pP 12 31 07.8 -1.9
BOD pmax pmax
comp=Z,10.0nm,1.8s,mb4.5
BOD pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
CLNS Chul'man 58.33 18 *e*P **P 12 31 12.3 -0.9**
CLNS pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,1.1s
CLNS MLR MLR
comp=N,500nm,13.0s,MS4.9
CLNS MLR MLR
comp=Z,700nm,13.0s,MS5.0
CLNS MLR MLR
comp=E,200nm,12.0s,MS4.9
KMBO Kilima Mbogo 59.18 267 *e*P **P 12 31 20.4 +0.6**
KMBO pmax pmax
comp=Z,28nm,1.5s
KMBO Kilima Mbogo 59.18 267 P **P 12 31 20.7 +0.9**
comp=Z,3.9nm,0.6s,mb4.6,baz=67,slow=12,SNR=16
KMBO LR LR 12 54 22.0
comp=Z,498nm,18.1s,MS4.7,baz=93,slow=34
KMBO Kilima Mbogo 59.18 267 *e*P **P 12 31 20.4 +0.6**
comp=Z,28nm,1.5s,mb5.1
YSS Yuzh-Sakhalins 59.40 35⇑*i*P **P 12 31 20.3 -0.5**
GNI Garni 59.41 316*d*/*i*P **P 12 31 21.2 +0.2**
GNI pmax pmax
comp=Z,40nm,1.7s
GNI Garni 59.41 316 P **P 12 31 19.4 -1.6**
TI2 Plekhanov 60.08 317 *e*P **P 12 31 25.6 +0.1**
SVE Sverdlovsk 60.72 338⇓*i*P **P 12 31 30.0 +0.3**
SVE *e* 12 35 08.0
SVE *e*S S 12 40 04.0 +21
SVE pmax pmax
comp=Z,96nm,2.0s,mb5.6
SVE MLR MLR
comp=N,200nm,15.0s,MS4.6
SVE MLR MLR
comp=E,300nm,15.0s,MS4.6
SVE MLR MLR
comp=Z,400nm,15.0s,MS4.7
ARU Arti 61.21 337⇑*i*P **P 12 31 31.8 -1.2**
ARU *e* 12 33 46.5
ARU *e*S **S 12 39 51.2 +2.4**
ARU *e*SS SS 12 43 50.2 -0.4
ARU pmax pmax
comp=Z,36nm,1.9s,mb5.2
ARU Arti 61.21 337 *i*P **P 12 31 32.1 -0.9**
KIV Kislovodsk 62.39 319α*i*P **P 12 31 40.2 -1.0**
KIV *i* *PP pP 12 31 52.0 +0.9
KIV *i* S **S 12 40 08.1 +4.1**
KIV *i* SS SS 12 44 09.4 -0.2
KIV pmax pmax
comp=Z,37nm,1.7s,mb5.2
KIV Kislovodsk 62.39 319 *e*P **P 12 31 40.1 -1.1**
comp=Z,11nm,0.8s,mb5.0
GOF Gofitskoye 62.64 320⇓*i*P **P 12 31 41.7 -1.1**
GOF pmax pmax
comp=Z,60nm,1.7s,mb5.5
MALT Malatya 63.29 312 *e*P **P 12 31 46.7 -0.5**
MALT pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
MALT Malatya 63.29 312 *e*P **P 12 31 46.7 -0.4**
comp=Z,5.7nm,0.7s,mb4.8
EIL Elat 63.77 302 *e*P **P 12 31 50.4 -0.2**
YAK Yakutsk 63.98 17 *e*P **P 12 31 49.4 -1.9**
YAK pmax pmax
comp=Z,13nm,1.0s,mb4.9
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK MLR MLR
comp=Z,308nm,17.0s,MS4.6
YAK MLR MLR
comp=N,166nm,14.0s,MS4.5
YAK MLR MLR
comp=E,148nm,16.0s,MS4.5
YAK Yakutsk 63.98 17 *e*P **P 12 31 49.7 -1.6**
comp=E,28nm,0.6s,mb5.5
SOC Sochi 64.22 318 *e*P **P 12 31 50.6 -2.6**
SOC *e* 12 34 09.2
SOC *e*PPP PPP 12 35 49.4 +0.7
SOC *e*S **S 12 40 24.4 -2.4**
SOC *e* 12 41 45.9
SOC pmax pmax
comp=Z,32nm,0.9s,mb5.3
SOC pmax pmax
comp=N,32nm,1.0s
SOC pmax pmax
comp=E,25nm,0.9s
MBAR Mbarara 65.65 268 *e*P **P 12 32 02.4 -0.5**
MBAR pmax pmax
comp=Z,30nm,1.6s,mb5.1
MBAR Mbarara 65.65 268 *e*P **P 12 32 02.4 -0.6**
comp=Z,30nm,1.6s,mb5.1
ANN Anapa 66.19 318 *e*P **P 12 32 01.7 -4.2**
ANN *e*S S 12 40 49.2 -1.8
ANN pmax pmax
comp=Z,103nm,1.6s,mb5.6
BRTR Keskin Array B 67.27 312 P **P 12 32 11.8 -1.1**
comp=Z,2.8nm,0.6s,mb4.5,baz=133,slow=7.1,SNR=14
VRSR Storozhevoye 67.60 325 *e*P **P 12 32 12.7 -2.0**
VRSR *e**PP pP 12 32 21.5 -3.2
VRSR *e**SP sP 12 32 25.1 -3.2
VRSR *e* 12 34 44.4
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,3.0nm,0.6s
VRSR pmax pmax
comp=E,7.0nm,0.7s
VRSR MLR MLR
comp=Z,270nm,19.0s,MS4.5
VRSR MLR MLR
comp=N,180nm,21.0s,MS4.5
VRSR MLR MLR
comp=E,200nm,19.0s,MS4.5
SIM Simferopol' 68.47 318*c*/*i*P **P 12 32 19.0 -1.2**
SIM pmax pmax
comp=Z,21nm,0.7s,mb5.3
LSZ Lusaka 69.78 253 *e*P **P 12 32 28.7 -0.1**
MA2 Magadan 70.13 26⇓*i*P **P 12 32 29.7 -0.4**
MOS Moscow 70.36 329 *e*P **P 12 32 29.6 -2.0**
MOS *e* 12 32 48.2
MOS pmax pmax
comp=Z,83nm,0.6s,mb5.8
OBN Obninsk 70.65 328⇑*i*P **P 12 32 32.5 -0.9**

OBN *i* 12 32 51.3
OBN pmax pmax
comp=Z,61nm,1.6s,mb5.3
OBN Obninsk 70.65 328 *e*P **P 12 32 32.1 -1.3**
comp=Z,45nm,1.1s,mb5.3
PET Petropavlovsk 71.27 34 *e*P **P 12 32 37.1 -0.1**
PET *e*S S 12 41 49.3 -1.7
PET smax
comp=N,100nm,12.3s
PET MLR MLR
comp=Z,400nm,19.0s,MS4.7
TIXI Tiksi 71.61 10⇑*i*P **P 12 32 37.0 -1.9**
TIRR Tirgusor 72.24 316⇑P **P 12 32 42.7 -0.4**
SEY Seymchan 72.49 23 *e*P **P 12 32 39.7 -4.6**
SEY pmax pmax
comp=Z,20nm,1.4s,mb4.8
KIS Kishinev 72.59 318 *e*P **P 12 32 43.0 -2.2**
KIS *e* pP 12 32 54.0 -1.2
CFR Carcaliu 72.60 317⇑P **P 12 32 44.5 -0.8**
HARR Harsova 72.63 316⇑P **P 12 32 45.2 -0.3**
IDI Anoyia 73.15 306 LR LR 13 04 57.2
comp=Z,160nm,21.0s,MS4.3,baz=274,slow=36
AKASG Malin Array Be 73.32 322 P **P 12 32 48.1 -1.2**
comp=Z,2.2nm,0.5s,mb4.4,baz=91,slow=4.5,SNR=21
VRI Vrincioaia 73.72 317⇑P **P 12 32 52.3 +0.5**
LBTB Lobatse 73.89 243 *e*P **P 12 32 53.2 0.0**
LBTB pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LBTB Lobatse 73.89 243 *e*P **P 12 32 53.2 0.0**
comp=Z,6.2nm,0.6s,mb4.7
MLR Muntele Rosu 74.18 316 P **P 12 32 54.6 +0.2**
comp=Z,6.0nm,0.6s,mb4.7,baz=118,slow=9.5,SNR=6.9
MLR LR LR 13 12 15.4
comp=Z,195nm,20.1s,MS4.4,baz=61,slow=41
MLR Muntele Rosu 74.18 316⇓P **P 12 32 55.4 +1.0**
MAW Mawson 74.23 193 LR LR 13 01 30.8
comp=Z,168nm,18.3s,MS4.4,baz=72,slow=32
BURAR Bucovina Array 75.12 319⇑P **P 12 33 00.6 +0.8**
KOLS Kolonicke sedl 77.30 319 *e*P **P 12 33 12.6 +0.5**
SUW Suwalki 77.72 325 *e*P **P 12 33 13.7 -0.6**
CRVS Cervenica-Dubn 77.82 319 *e*P **P 12 33 15.0 +0.1**
FINES FINESS Array B 78.03 332 P **P 12 33 15.7 -0.1**
comp=Z,5.9nm,0.6s,mb4.7,baz=88,slow=5.9,SNR=49
FINES LR LR 13 12 41.9
comp=Z,255nm,18.4s,MS4.6,baz=332,slow=40
KAF Kangasniemi 78.11 333 *e*p **P 12 33 15.4 -0.8**
comp=Z,6.5nm,0.6s,mb4.7,baz=102,slow=5.2
KAF Kangasniemi 78.11 333 *e*P **P 12 33 15.4 -0.8**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
PSZ Piszkesteto 78.70 318 *e*P **P 12 33 19.6 -0.2**
PSZ pmax pmax
comp=Z,27nm,1.5s,mb5.0
PSZ Piszkesteto 78.70 318 *e*P **P 12 33 19.6 -0.1**
comp=Z,27nm,1.5s,mb5.0
PSZ Piszkesteto 78.70 318 *e*P **P 12 33 19.7 -0.1**
VYHS Vyhne 79.48 319 *e*P **P 12 33 24.1 +0.1**
FX1 Attu Island--F 79.70 37 LR LR 13 11 54.4
comp=Z,6.1nm,20.0s,baz=125,slow=38
SRO Srobarova 79.75 318 *e*P **P 12 33 24.9 -0.5**
BILL Bilibino 79.83 21 *e*P **P 12 33 25.3 -0.2**
BILL pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
BILL MLR MLR
comp=Z,600nm,15.0s,MS5.1
BILL Bilibino 79.83 21⇑*i*P **P 12 33 25.3 -0.2**
OKC Ostrava-Krasne 80.10 320 *e*P **P 12 33 26.5 -0.8**
MORC Moravsky Berou 80.48 320 P **P 12 33 28.5 -0.8**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MORC Moravsky Berou 80.48 320 P **P 12 33 28.5 -0.8**
comp=Z,2.6nm,0.8s,mb4.2
ZST Bratislava 80.60 318 *e*P **P 12 33 30.2 +0.2**
ZST *e* 12 33 38.0
DPC Dobruska-Polom 81.33 320 *e*P **P 12 33 34.5 +0.7**
DPC AMS AMS 13 18 50.0
comp=Z,300nm,14.1s
KSP Ksiaz 81.40 321 *e*P **P 12 33 35.3 +1.2**
UPC Upice 81.54 320 *e*P **P 12 33 35.6 +0.7**
BOJS Bojanci 81.62 315 *e*P **P 12 33 35.7 +0.3**
BOJS *e* pP 12 33 44.9 -0.7
PERS Pernice 81.80 317 *e*P **P 12 33 36.7 +0.4**
PRU Pruhonice 82.44 320 *e*P **P 12 33 40.0 +0.5**
PRU AMS AMS 13 19 40.0
comp=Z,200nm,17.4s
PVCC Panska Ves 82.46 320 AMS AMS 13 17 50.0
VOY Vojsko 82.60 316 *e*P **P 12 33 40.4 -0.1**
AQU L'Aquila 82.77 312 *e*P **P 12 33 42.2 +0.8**
ROBS Robic 82.88 316 *e*P **P 12 33 41.1 -0.8**
BRG Berggiesshubel 82.88 321 *e*P **P 12 33 43.4 +1.6**
BRG pmax pmax
comp=Z,31nm,1.8s,mb5.0
BRG Berggiesshubel 82.88 321 *e*P **P 12 33 43.4 +1.6**
comp=Z,31nm,1.8s,mb5.0
GEC2 GERESS Array S 82.90 319 *e*P **P 12 33 43.1 +1.1**
GEC2 pmax pmax
comp=Z,30nm,1.6s,mb5.1
GEC2 GERESS Array S 82.90 319 *e*P **P 12 33 43.1 +1.1**
comp=Z,30nm,1.6s,mb5.1
GERES GERESS Array B 82.90 319 P **P 12 33 42.2 +0.3**
comp=Z,2.3nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=24
GERES LR LR 13 17 21.2
comp=Z,118nm,20.4s,MS4.2,baz=258,slow=41
KHC Kasperske Hory 83.00 319 *e*P **P 12 33 43.9 +1.4**
KHC *e* pP 12 33 53.0 +0.3
KHC Kasperske Hory 83.00 319 *e*P **P 12 33 43.9 +1.4**
KHC pP pP 12 33 53.0 +0.3
KHC AMS AMS 13 17 40.0
WET Wettzell 83.46 319 *e*P **P 12 33 46.1 +1.3**
WET pmax pmax
comp=Z,15nm,1.5s,mb4.8
WET Wettzell 83.46 319 *e*P **P 12 33 46.1 +1.3**
comp=Z,15nm,1.5s,mb4.8
HFS Hagfors 83.75 330 LR LR 13 18 04.3
comp=Z,269nm,18.3s,MS4.7,baz=159,slow=41
NKC Novy Kostel 83.80 320 AMS AMS 13 18 20.0
comp=Z,200nm,15.1s
MOX Moxa 84.35 320 *i* P **P 12 33 50.6 +1.3**
GRA1 Grafenberg Arr 84.57 319 *e*P **P 12 33 51.3 +0.9**
comp=Z,12nm,1.2s,mb4.9
GRF Grafenberg Arr 84.57 319 *e*P **P 12 33 51.3 +0.9**
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.9
GRF Grafenberg Arr 84.57 319 *e*P **P 12 33 51.3 +0.9**
GRF pmax pmax
comp=Z,12nm,1.2s,mb4.9
GRF Grafenberg Arr 84.57 319 *e*P **P 12 33 51.3 +0.9**
comp=Z,12nm,1.2s,mb4.9
NB2 NORSAR Subarra 85.03 331 P **P 12 33 52.0 -0.4**
comp=Z,50nm,2.0s,mb5.3,baz=94,slow=5.6
NB2 NORSAR Subarra 85.03 331 P **P 12 33 52.0 -0.4**
baz=94,slow=5.6
NOA NORSAR Array B 85.03 331 P **P 12 33 52.9 +0.4**
comp=Z,2.8nm,1.0s,mb4.3,baz=100,slow=5.2,SNR=4.2
NOA LR LR 13 17 51.2
comp=Z,162nm,18.2s,MS4.5,baz=110,slow=40
BSEG Bad Segeberg 85.25 324 *e*P **P 12 33 55.2 +1.5**
DAVOX Davos 85.40 317 LR LR 13 20 56.8
comp=Z,138nm,18.4s,MS4.4,baz=81,slow=42
TNS Taunus Mts 86.36 320 *e*P **P 12 34 00.7 +1.4**
LPG La Plagne 87.59 315 *e*P **P 12 34 06.1 +0.7**
comp=Z,9.5nm,0.7s,mb4.8
LPG La Plagne 87.59 315 *e*P **P 12 34 06.1 +0.7**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
RAO Raoul Island 87.75 119 LR LR 13 19 24.5
comp=Z,188nm,18.1s,MS4.5,baz=148,slow=40
JMIC Jan Mayen 92.01 342 LR LR 13 20 43.3
comp=Z,168nm,18.9s,MS4.5,baz=92,slow=39
IMA Indian Mountai 95.30 23 *e*P **P 12 34 40.8 +0.1**
IMA pmax pmax
comp=Z,18nm,0.8s,mb5.5
IMA Indian Mountai 95.30 23 *e*P **P 12 34 40.8 +0.1**
comp=Z,18nm,0.8s,mb5.5
VNA2 Neumayer--Watz 97.27 199 P **P 12 35 03.8 +14**
BORG Borgarnes 98.75 337 LR LR 13 26 28.2
comp=Z,235nm,18.2s,MS4.7,baz=57,slow=40
INK Inuvik 101.05 17 P P 12 35 06.3 -0.4
comp=Z,0.2nm,0.5s,baz=175,slow=11,SNR=4.1
TBI Tubuai 113.39 114 *e*LR LR 13 14 00.0
comp=Z,160nm,28.5s
PPT Papeete 113.87 108 *e*LR LR 13 14 13.6
comp=Z,184nm,23.2s
SCHQ Schefferville 120.72 349 PKP PKPdf 12 40 08.7 -4.4
comp=Z,2.4nm,0.9s,baz=230,slow=10,SNR=5.8

ULM Lac du Bonnet 125.95 10 PKP PKPdf 12 40 18.8 -4.5
comp=Z,2.0nm,0.7s,baz=344,slow=3.8,SNR=5.0
RKT Rikitea 126.52 117 *e*LR LR 13 20 04.9
comp=Z,194nm,25.0s
NVAR Mina Array Bea 127.85 34 PKP PKPdf 12 40 24.9 -2.4
comp=Z,0.9nm,0.8s,baz=270,slow=4.0,SNR=6.4
PDAR Pinedale Array 128.81 24 PKP PKPdf 12 40 25.4 -3.6
comp=Z,0.5nm,0.5s,baz=164,slow=2.0,SNR=7.7
PLCA Paso Flores 140.59 196 PKhKP 12 40 41.5
comp=Z,0.9nm,0.8s,baz=301,slow=13,SNR=3.4
TXAR Lajitas Array 142.60 29 PKhKP 12 40 47.0
comp=Z,0.5nm,0.5s,baz=290,slow=0.8,SNR=11
TXAR PKP PKPdf 12 40 50.2 -4.6
comp=Z,0.8nm,0.6s,baz=234,slow=0.8,SNR=10
TXAR Lajitas Array 142.60 29 PKP PKPdf 12 40 47.0 -7.9
TXAR PKP PKPdf 12 40 50.2 -4.6
JCT Junction City 143.34 24 *e*PKPpre 12 40 49.0
LRAL Lakeview Retre 144.05 5 *e*PKPdf PKPdf 12 40 51.6 -5.6

IDC 03 12:28:51.8±4.7,2.91N×96.37E,mb3.7/4,mb1 3.9/4, mb1mx3.6/15,mbtmp3.7/4,Error ellipse: s-maj=256.8km s-min=22.4km az=54.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.64**	**123**	P	P	P	12 36 58.3	-1.9
	1.0nm,0.5s,baz=301,slow=9.2,SNR=7.6							
ASAR	**Alice Springs**	**45.08**	**128**	P		P	12 37 10.1	-1.7
	0.5nm,0.6s,baz=297,slow=7.7,SNR=6.6							
MKAR	**Makanchi Array**	**45.40**	**346**	P		P	12 37 12.1	-1.8
	1.3nm,0.4s,baz=158,slow=8.3,SNR=28							
BVAR	**Borovoye Array**	**54.38**	**341**	P		P	12 38 20.2	-2.4
	0.3nm,0.5s,baz=141,slow=9.2,SNR=3.6							

NIED ***03*** *12:40:00,37.20N×139.90E,h14km,Mw3.7 Best double couple: M0 4.13×10^14 NP1:φs148°,δ88°,λ-16°. NP2: φs238°,δ74°,λ-178°.*
IDC ***03*** *12:40:30.9±1.0,37.12N×139.92E,mb3.6/8,mb1 3.8/9, mb1mx3.7/21,mbtmp3.6/9,ML3.7/1,Error ellipse: s-maj=35.4km s-min=18.6km az=74.0*
JMA ***03*** *12:40:31.3,37.21N×139.95E,h5km±1km,M3.6 Broadband fault plane solution: P waves. NP1:φs331°, δ67°,λ13°. NP2:φs236°,δ78°,λ157°. Principal axes: T Plg25°, Azm192°; N Plg64°, Azm30°; P Plg7°, Azm285°;*
JMA Felt II J1.
NEIC ***03*** *12:40:33.2±0.7,37.16N×139.93E,h15km,mb4.0/3 Error ellipse: s-maj=17.6km s-min=11.4km az=128.0*
ISC 03 12:40:31.0±0.7,37.19N±0.05×139.98E±0.05,h11km±5km, n19,σ0992/24,mb3.6/11,2C-2D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.23**	**192**	⇑P	**Pg**		**12 40 36.4**	**+0.4**
JFY	**Yanaizu**	**0.30**	**315**	⇓P	**Pg**		**12 40 37.1**	**-0.3**
JFY				*e*S	**Sg**		**12 40 41.0**	**-0.7**
JFT	**Otama**	**0.43**	**41**	⇑P	**Pg**		**12 40 40.0**	**+0.1**
JFT				*e*S	**Sg**		**12 40 46.0**	**+0.2**
MAJO	**Matsushiro**	**1.56**	**246**	⇓*e*P	**Pn**		**12 40 59.8**	**+1.0**
MAJO				*e*S	**Sb**		**12 41 18.2**	**-0.8**
MAT	**Matsushiro**	**1.56**	**246**	*e*P	**Pn**		**12 41 00.0**	**+1.2**
MAT				*e*S	**Sb**		**12 41 20.0**	**+1.0**
MAT	**Matsushiro**	**1.56**	**246**	P	**Pn**		**12 40 59.7**	**+0.9**
MAT				S	**Sb**		**12 41 20.2**	**+1.2**
JHJ	**Hachijo jima 2**	**4.07**	**182**	Pn	**Pn**		**12 41 33.8**	**-0.7**
	14nm,0.3s,baz=230,slow=8.9,SNR=5.5							
MA2	**Magadan**	**23.46**	**14**	P	**P**		**12 45 41.2**	**+0.4**
	3.9nm,0.8s,mb3.9							
SONM	**Songino Array**	**26.75**	**304**	P	**P**		**12 46 11.1**	**-1.0**
	0.2nm,0.4s,mb3.0,baz=102,slow=10,SNR=2.8							
ZAL	**Zalesovo**	**40.97**	**312**	P	**P**		**12 48 13.5**	**-1.5**
	0.6nm,0.4s,mb3.6,baz=2.4,slow=9.2,SNR=3.9							
MKAR	**Makanchi Array**	**43.06**	**302**	P	**P**		**12 48 32.4**	**+0.2**
	0.6nm,0.6s,mb3.5,baz=90,slow=9.7,SNR=6.5							
CHKZ	**Chkalovo**	**49.36**	**313**	*e*P	**P**		**12 49 21.7**	**-0.3**
	0.6nm,0.5s,mb3.9							
BVAR	**Borovoye Array**	**49.62**	**312**	P	**P**		**12 49 25.5**	**+1.6**
	0.4nm,0.5s,mb3.7,baz=90,slow=8.6,SNR=3.7							
INK	**Inuvik**	**54.77**	**27**	*e*P	**P**		**12 50 03.1**	**+0.7**
	1.3nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**57.07**	**186**	P	**P**		**12 50 17.5**	**-2.2**
	0.9nm,0.7s,mb3.9,baz=0.4,slow=7.3,SNR=7.5							
ASAR	**Alice Springs**	**60.80**	**186**	P	**P**		**12 50 44.8**	**-0.7**
	0.5nm,0.8s,mb3.7,baz=15,slow=10,SNR=3.7							
YKA	**Yellowknife Ar**	**64.25**	**30**	P	**P**		**12 51 07.5**	**-0.2**
	0.2nm,0.8s,mb3.2,baz=304,slow=6.8,SNR=7.1							
YKA	**Yellowknife Ar**	**64.25**	**30**	P	**P**		**12 51 07.5**	**-0.2**
NOA	**NORSAR Array B**	**73.59**	**337**	P	**P**		**12 52 06.6**	**+1.2**
	1.1nm,0.9s,mb3.8,baz=38,slow=5.7,SNR=3.8							

IDC 03 12:43:03.4±1.6,5.26N×94.82E,mb3.7/5,mb1 3.9/5, mb1mx3.6/16,mbtmp3.7/5,Error ellipse: s-maj=62.0km s-min=27.5km az=61.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.77**	**347**	P		P	12 51 02.5	-1.9
	0.6nm,0.5s,baz=170,slow=7.4,SNR=11							
SONM	**Songino Array**	**43.57**	**11**	P		P	12 51 08.2	-2.6
	0.7nm,0.8s,baz=191,slow=6.3,SNR=6.3							
ASAR	**Alice Springs**	**47.75**	**129**	P		P	12 51 42.8	-1.7
	0.5nm,0.7s,baz=301,slow=7.8,SNR=6.4							
ZAL	**Zalesovo**	**49.21**	**352**	P		P	12 51 53.7	-1.7
	1.3nm,0.5s,baz=305,slow=3.2,SNR=5.8							
GERES	**GERESS Array B**	**80.21**	**319**	P		P	12 55 16.6	-0.8
	0.4nm,0.6s,baz=104,slow=5.5,SNR=4.2							

CNRM ***03*** *12:49:37.8,35.02N×2.58W,h18km,MD2.9*
MDD ***03*** *12:49:38.7±1.1,34.89N×2.92W,h7km±5km,mbLg1.8/16, Error ellipse: s-maj=9.1km s-min=6.8km az=20.0,PRXIMO*
CSEM ***03*** *12:49:38.1±0.3,34.99N×2.91W,h10km,MD2.9,Error ellipse: s-maj=7.4km s-min=7.1km az=100.0*
NEIC ***03*** *12:49:39.3,34.92N×3.06W,h2km,MG3.4(MDD),After MDD.*
ISC 03 12:49:38.6±0.5,35.03N±0.03×2.94W±0.03,h7km,n40, σ1920/70,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.17**	**109**	P	**Pg**		**12 49 42.0**	**-0.2**
ZAI				S	**Sg**		**12 49 44.0**	**-0.6**
ZAI	**Zaio**	**0.17**	**109**	*i* P	**Pg**		**12 49 42.0**	**-0.2**
EMEL	**Melilla**	**0.28**	**357**	P	**Pg**		**12 49 46.6**	**+2.4**
	28nm,0.1s,SNR=8.2							
EMEL				S	**Sg**		**12 49 52.1**	**+4.1**
	149nm,0.1s,SNR=6.4							
EMLI	**Melilla**	**0.28**	**358**	P	**Pg**		**12 49 46.6**	**+2.3**
	28nm,0.1s,SNR=8.2							
EMLI				S	**Sg**		**12 49 52.1**	**+4.1**
	149nm,0.1s,SNR=6.4							
TAF	**Taforalt**	**0.48**	**116**	P	**Pg**		**12 49 47.0**	**-1.3**
TAF				S	**Sg**		**12 49 55.0**	**+0.3**
TOU	**Touzarine**	**0.67**	**265**	*i* P	**Pg**		**12 49 54.0**	**+1.9**
TOU				*i* S	**Sg**		**12 50 07.0**	**+5.9**
EALB	**Alboran**	**0.92**	**355**	P	**Pb**		**12 49 56.5**	**0.0**
EALB				S	**Sb**		**12 50 12.5**	**+3.8**
EALB	**Alboran**	**0.92**	**355**	P	**Pb**		**12 49 57.4**	**+0.9**
	7.2nm,0.1s,SNR=7.9							
EALB				S	**Sb**		**12 50 12.5**	**+3.8**
	23nm,0.2s,SNR=7.9							
EALB	**Alboran**	**0.92**	**355**	P	**Pb**		**12 49 56.5**	**0.0**
	7.2nm,0.1s,SNR=7.9							
EALB				S	**Sb**		**12 50 12.5**	**+3.8**
	23nm,0.2s,SNR=7.9							
TZK	**Tazeka**	**1.39**	**228**	*i* P	**Pb**		**12 50 04.0**	**-0.6**
TZK				*i* S	**Sb**		**12 50 23.5**	**+1.1**
EBER	**Berja**	**1.87**	**1**	P	**Pn**		**12 50 12.3**	**+0.8**
	0.1nm,0.0s							
EBER				S	**Sn**		**12 50 36.5**	**+1.0**
	4.0nm,0.3s,SNR=6.8							
EBER	**Berja**	**1.87**	**1**	P	**Pn**		**12 50 12.3**	**+0.9**
	0.1nm,0.0s							
EBER				S	**Sn**		**12 50 36.5**	**+0.9**
	4.0nm,0.3s,SNR=6.8							
ENIJ	**Nijar**	**2.03**	**17**	P	**Pn**		**12 50 14.2**	**+0.4**
	2.0nm,0.3s,SNR=7.9							
ENIJ				S	**Sn**		**12 50 39.8**	**+0.1**
	13nm,1.0s,SNR=7.9							
ERON	**Agron**	**2.11**	**341**	P	**Pn**		**12 50 15.4**	**+0.6**
	1.7nm,0.3s,SNR=7.9							

ERON S **Sn** **12 50 42.9 +1.2**
3.7nm,0.6s,SNR=7.9
EMIJ Mijas 2.14 316 P **Pn** **12 50 14.4 -0.9**
EMIJ S **Sn** **12 50 40.1 -2.3**
EMIJ Mijas 2.14 316 P **Pn** **12 50 14.4 -0.9**
1.6nm,0.3s,SNR=7.9
EMIJ S **Sn** **12 50 42.3 -0.2**
1.1nm,0.2s,SNR=7.9
EMIJ Mijas 2.14 316 P **Pn** **12 50 14.4 -0.9**
1.6nm,0.3s,SNR=7.9
EMIJ S **Sn** **12 50 40.1 -2.4**
1.1nm,0.2s,SNR=7.9
ECOG Cogollos-Vega 2.31 347 S **Sn** **12 50 47.0 +0.4**
5.1nm,1.5s,SNR=7.9
ELOJ Sierra Loja 2.34 335 P **Pn** **12 50 17.9 -0.2**
0.5nm,0.2s,SNR=7.9
ELOJ S **Sn** **12 50 47.4 0.0**
1.0nm,0.3s,SNR=7.9
ELUQ Luque 2.75 337 P **Pn** **12 50 23.6 -0.4**
0.9nm,0.1s,SNR=7.9
EQES Quesada 2.77 358 P **Pn** **12 50 27.0 +2.6**
EQES S **Sn** **12 50 59.5 +0.9**
EQES Quesada 2.77 358 P **Pn** **12 50 24.7 +0.3**
0.9nm,0.1s,SNR=7.9
EQES S **Sn** **12 50 58.0 -0.6**
0.3nm,0.1s,SNR=7.9
EQES Quesada 2.77 358 S **Sn** **12 50 59.5 +0.9**
0.3nm,0.1s,SNR=7.9
EMUR La Murta 3.13 25 P **Pn** **12 50 29.7 +0.3**
1.7nm,0.3s,SNR=7.9
EMUR S **Sn** **12 51 06.7 -0.8**
2.0nm,0.9s,SNR=7.9
EMUR La Murta 3.13 25 P **Pn** **12 50 29.7 +0.3**
1.7nm,0.3s,SNR=7.9
EADA Adamuz 3.40 338 P **Pn** **12 50 34.3 +1.0**
EADA S **Sn** **12 51 12.2 -2.3**
EADA Adamuz 3.40 338 P **Pn** **12 50 33.5 +0.2**
0.2nm,0.2s,SNR=7.9
EADA S **Sn** **12 51 12.2 -2.3**
0.9nm,0.3s,SNR=6.4
EADA Adamuz 3.40 338 P **Pn** **12 50 34.3 +1.0**
0.2nm,0.2s,SNR=7.9
EADA S **Sn** **12 51 12.2 -2.2**
0.9nm,0.3s,SNR=6.4
EVIA Vianos 3.62 5 S **Sn** **12 51 18.5 -1.6**
2.3nm,0.4s,SNR=7.9
ECAB El Cabril 3.64 327 P **Pn** **12 50 36.9 +0.2**
0.5nm,0.5s,SNR=7.9
ECAB S **Sn** **12 51 18.0 -2.5**
1.1nm,0.5s,SNR=7.9
ECAB El Cabril 3.64 327 S **Sn** **12 51 19.2 -1.3**
1.1nm,0.5s,SNR=7.9
ETOB Tobarra 3.78 17 P **Pn** **12 50 40.5 +1.8**
ETOB S **Sn** **12 51 22.7 -1.3**
ETOB Tobarra 3.78 17 P **Pn** **12 50 38.6 0.0**
0.9nm,0.3s,SNR=7.9
ETOB S **Sn** **12 51 22.7 -1.3**
2.0nm,0.3s,SNR=7.9
ETOB Tobarra 3.78 17 P **Pn** **12 50 40.5 +1.8**
0.9nm,0.3s,SNR=7.9
ETOB S **Sn** **12 51 22.7 -1.3**
2.0nm,0.3s,SNR=7.9
EMIN Mina Concepcio 4.07 313 P **Pn** **12 50 41.8 -1.0**
0.1nm,0.1s,SNR=7.9
EMIN S **Sn** **12 51 27.5 -3.8**
1.6nm,0.9s,SNR=7.9
EMIN Mina Concepcio 4.07 313 P **Pn** **12 50 41.8 -1.0**
0.1nm,0.1s,SNR=7.9
EGRO El Granado 4.44 306 P **Pn** **12 50 46.5 -1.6**
0.8nm,0.1s,SNR=7.9
EGRO El Granado 4.44 306 P **Pn** **12 50 46.5 -1.6**
0.8nm,0.1s,SNR=7.9
EBAD Badajoz 4.95 320 P **Pn** **12 50 54.2 -1.1**
0.3nm,0.1s,SNR=7.9
EBAD S **Sn** **12 51 49.1 -4.6**
0.1nm,0.1s,SNR=7.9
EBAD Badajoz 4.95 320 P **Pn** **12 50 54.2 -1.1**
0.3nm,0.1s,SNR=7.9
EBAD S **Sn** **12 51 49.1 -4.6**
0.1nm,0.1s,SNR=7.9

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*IDC **03** 12:52:15.8±1.3, 7.64N×94.32E, mb3.7/9, mb1 3.8/9, mb1mx3.7/16, mbtmp3.7/9, Error ellipse: s-maj=62.7km s-min=20.6km az=55.0*
*NEIC **03** 12:52:20.7±1.0, 7.54N×94.32E, h30km, mb4.2/4, Error ellipse: s-maj=38.2km s-min=9.9km az=50.0*
ISC 03 12:52:18.8±0.9, 7.5N±0.2×94.3E±0.2, h30km, n20, σ1§03/20, mb3.9/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.65**	**109**	*eP*	**Pn**	**12 53 57.7**	**+0.6**
JIRN	**Jiri**	**21.47**	**340**	*eP*	**P**	**12 57 09.7**	**+2.6**
PKI	**Pulchoki**	**21.67**	**338**	*eP*	**P**	**12 57 09.7**	**+0.6**
DMN	**Daman**	**21.82**	**337**	*eP*	**P**	**12 57 10.6**	**+0.1**
14nm,0.7s,mb4.5							
KKN	**Kakani**	**21.91**	**338**	*eP*	**P**	**12 57 12.2**	**+0.7**
LSA	**Lhasa**	**22.27**	**353**	*eP*	**P**	**12 57 14.8**	**-0.3**
9.2nm,0.6s,mb4.4							
KOLN	**Koldanda**	**22.57**	**335**	*eP*	**P**	**12 57 19.3**	**+1.2**
9.7nm,0.5s,mb4.5							
MKAR	**Makanchi Array**	**40.48**	**347**	P	**P**	**12 59 54.8**	**-1.8**
1.1nm,0.7s,mb3.7,baz=158,slow=6.5,SNR=7.7							
SONM	**Songino Array**	**41.47**	**12**	P	**P**	**13 00 04.2**	**-0.4**
0.9nm,0.8s,mb3.4,baz=190,slow=7.5,SNR=4.8							
ZAL	**Zalesovo**	**46.93**	**352**	P	**P**	**13 00 45.6**	**-2.8**
1.0nm,0.3s,mb4.2,baz=301,slow=8.8,SNR=4.2							
WRA	**Warramunga Arr**	**47.90**	**125**	P	**P**	**13 00 56.5**	**-0.1**
0.3nm,0.5s,mb3.6,baz=305,slow=8.5,SNR=6.7							
WRAB	**Tennant Creek**	**47.90**	**125**	*eP*	**P**	**13 00 56.5**	**-0.2**
BVAR	**Borovoye Array**	**49.39**	**341**	P	**P**	**13 01 07.0**	**-0.7**
0.6nm,0.4s,mb4.0,baz=74,slow=4.3,SNR=5.4							
ASAR	**Alice Springs**	**49.54**	**130**	P	**P**	**13 01 09.6**	**+0.3**
0.2nm,0.6s,mb3.3,baz=310,slow=7.9,SNR=4.4							
CHKZ	**Chkalovo**	**49.87**	**342**	*eP*	**P**	**13 01 12.0**	**+0.6**
2.5nm,0.9s,mb4.2							
FINES	**FINESS Array B**	**73.12**	**332**	P	**P**	**13 03 47.0**	**-1.1**
0.4nm,0.4s,mb3.8,baz=104,slow=5.7,SNR=3.9							
FINES	**FINESS Array B**	**73.12**	**332**	P	**P**	**13 03 47.0**	**-1.1**
GERES	**GERESS Array B**	**78.22**	**318**	P	**P**	**13 04 16.4**	**-0.8**
0.4nm,0.6s,mb3.6,baz=45,slow=1.9,SNR=4.6							
NB2	**NORSAR Subarra**	**80.14**	**331**	P	**P**	**13 04 28.0**	**+0.6**
1.7nm,0.9s,mb4.0,baz=91,slow=4.8							
NOA	**NORSAR Array B**	**80.14**	**331**	P	**P**	**13 04 28.8**	**+1.4**
0.9nm,0.7s,mb3.8,baz=90,slow=6.0,SNR=4.1							

IDC 03 13:08:31.6±7.7, 6.33S×148.43E, h82km±62km, mb2.5/1, mb1 2.8/3, mb1mx2.7/11, mbtmp2.9/3, ML2.5/2, Error ellipse: s-maj=120.7km s-min=55.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.31**	**202**	P	P	13 09 22.7	+0.3
1.2nm,0.3s,baz=163,slow=21,SNR=5.0							
PMG				S	S	13 09 59.2	-1.4
1.0nm,0.3s,baz=313,slow=15,SNR=3.1							
WRA	**Warramunga Arr**	**19.25**	**224**	P	P	13 12 50.0	-2.2
0.0nm,0.3s,baz=47,slow=11,SNR=4.8							
ASAR	**Alice Springs**	**22.19**	**218**	P	P	13 13 22.8	+0.7
0.2nm,0.5s,baz=53,slow=9.2,SNR=9.8							
DBIC	**Dimbokro**	**153.46**	**272**	PKPbc	PKPdf	13 28 20.6	+7.0
1.0nm,0.4s,baz=194,slow=4.2,SNR=5.2							

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*IDC **03** 13:08:57.6±2.2, 1.01N×97.95E, mb3.8/7, mb1 3.9/7, mb1mx3.7/17, mbtmp3.8/7, Error ellipse: s-maj=103.8km s-min=20.2km az=55.0*
*NEIC **03** 13:09:01.3±0.9, 0.78N×97.69E, h30km, mb4.0/1, Error ellipse: s-maj=25.8km s-min=12.9km az=59.0*
ISC 03 13:08:59.3±1.0, 0.8N±0.1×97.7E±0.2, h30km, n12, σ0§91/12, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.36**	**34**	*eP*	**Pn**	**13 10 19.9**	**+0.5**
WRA	**Warramunga Arr**	**41.45**	**122**	P	**P**	**13 16 45.2**	**-0.1**
0.5nm,0.4s,mb3.5,baz=304,slow=8.8,SNR=8.6							
WRAB	**Tennant Creek**	**41.45**	**122**	*eP*	**P**	**13 16 45.3**	**0.0**
ASAR	**Alice Springs**	**42.80**	**127**	P	**P**	**13 16 56.5**	**0.0**
0.7nm,0.6s,mb3.5,baz=298,slow=7.9,SNR=11							
SONM	**Songino Array**	**47.45**	**8**	P	**P**	**13 17 32.5**	**-0.8**
0.7nm,0.8s,mb3.7,baz=198,slow=6.7,SNR=5.3							
MKAR	**Makanchi Array**	**47.72**	**346**	P	**P**	**13 17 36.7**	**+1.2**
1.4nm,0.5s,mb4.2,baz=191,slow=7.3,SNR=2.1							
MKAR	**Makanchi Array**	**47.72**	**346**	P	**P**	**13 17 36.6**	**+1.2**
ZAL	**Zalesovo**	**54.00**	**351**	P	**P**	**13 18 21.2**	**-1.7**
1.2nm,0.3s,mb4.2,baz=288,slow=3.8,SNR=4.9							
ZAL	**Zalesovo**	**54.00**	**351**	P	**P**	**13 18 21.2**	**-1.7**
BVAR	**Borovoye Array**	**56.76**	**341**	P	**P**	**13 18 42.1**	**-0.9**
0.3nm,0.5s,mb3.6,baz=135,slow=6.1,SNR=3.8							
CHKZ	**Chkalovo**	**57.23**	**341**	P	**P**	**13 18 46.6**	**+0.2**
1.5nm,0.9s,mb4.0							
FINES	**FINESS Array B**	**80.55**	**332**	P	**P**	**13 21 11.8**	**+1.6**
1.0nm,0.8s,mb3.8,baz=101,slow=9.7,SNR=3.7							

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*MDD **03** 13:13:00.8±1.5, 35.80N×1.33W, mb3.4/21, Error ellipse: s-maj=16.4km s-min=8.8km az=140.0, PRXIMO*
*NEIC **03** 13:13:01.0, 35.77N×1.33W, MG3.5(MDD), After MDD.*
*CSEM **03** 13:13:01.9±0.2, 35.74N×1.34W, h89km±5km, mb3.5/10, Error ellipse: s-maj=5.0km s-min=2.4km az=155.0*
ISC 03 13:13:00.3±0.9, 35.81N±0.06×1.36W±0.06, h10km, n59, σ1§08/67, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**1.35**	**330**	P	**Pb**	**13 13 24.9**	**-0.3**
ENIJ	**Nijar**	**1.35**	**330**	P	**Pb**	**13 13 24.9**	**-0.3**
7.2nm,0.4s,SNR=7.7							
EALB	**Alboran**	**1.37**	**276**	P	**Pn**	**13 13 26.0**	**+0.4**
EALB	**Alboran**	**1.37**	**276**	P	**Pn**	**13 13 26.0**	**+0.4**
9.4nm,0.2s,SNR=7.9							
EALB	**Alboran**	**1.37**	**276**	P	**Pn**	**13 13 26.0**	**+0.4**
9.4nm,0.2s,SNR=7.9							
EMLI	**Melilla**	**1.39**	**249**	P	**Pn**	**13 13 26.7**	**+0.8**
33nm,0.1s,SNR=7.9							
EMEL	**Melilla**	**1.40**	**249**	P	**Pn**	**13 13 26.7**	**+0.6**
33nm,0.1s,SNR=7.9							
EBER	**Berja**	**1.65**	**312**	P	**Pn**	**13 13 29.7**	**+0.2**
EBER	**Berja**	**1.65**	**312**	P	**Pn**	**13 13 29.5**	**-0.1**
1.9nm,0.2s,SNR=8.3							
EBER	**Berja**	**1.65**	**312**	P	**Pn**	**13 13 29.7**	**+0.2**
EBER				S	**Sn**	**13 13 53.0**	**+2.1**
14nm,0.3s,SNR=4.0							
EMUR	**La Murta**	**2.03**	**3**	P	**Pn**	**13 13 34.6**	**-0.4**
EMUR	**La Murta**	**2.03**	**3**	P	**Pn**	**13 13 34.6**	**-0.4**
1.6nm,0.2s,SNR=8.8							
EMUR	**La Murta**	**2.03**	**3**	P	**Pn**	**13 13 34.6**	**-0.5**
1.6nm,0.2s,SNR=8.8							
ECOG	**Cogollos-Vega**	**2.30**	**310**	P	**Pn**	**13 13 40.0**	**+1.1**
ECOG	**Cogollos-Vega**	**2.30**	**310**	P	**Pn**	**13 13 38.5**	**-0.5**
1.4nm,0.2s,SNR=4.0							
ECOG	**Cogollos-Vega**	**2.30**	**310**	P	**Pn**	**13 13 40.0**	**+1.0**
1.4nm,0.2s,SNR=4.0							
ERON	**Agron**	**2.31**	**302**	P	**Pn**	**13 13 40.1**	**+1.0**
ERON	**Agron**	**2.31**	**302**	P	**Pn**	**13 13 39.6**	**+0.5**
16nm,0.3s,SNR=4.0							
ERON	**Agron**	**2.31**	**302**	P	**Pn**	**13 13 40.1**	**+1.0**
EQES	**Quesada**	**2.42**	**326**	P	**Pn**	**13 13 42.7**	**+2.1**
EQES	**Quesada**	**2.42**	**326**	P	**Pn**	**13 13 40.9**	**+0.3**
6.6nm,0.4s,SNR=13							
EQES				S	**Sn**	**13 14 10.4**	**-0.1**
3.7nm,0.4s,SNR=4.0							
EQES	**Quesada**	**2.42**	**326**	P	**Pn**	**13 13 42.7**	**+2.1**
6.6nm,0.4s,SNR=13							
ELOJ	**Sierra Loja**	**2.62**	**301**	P	**Pn**	**13 13 45.3**	**+1.9**
ELOJ	**Sierra Loja**	**2.62**	**301**	P	**Pn**	**13 13 43.1**	**-0.4**
0.9nm,0.1s,SNR=7.9							
ELOJ				S	**Sn**	**13 14 18.6**	**+3.0**
2.2nm,1.0s,SNR=7.9							
ELOJ	**Sierra Loja**	**2.62**	**301**	P	**Pn**	**13 13 45.3**	**+1.8**
ETOB	**Tobarra**	**2.83**	**357**	P	**Pn**	**13 13 47.2**	**+0.7**
ETOB	**Tobarra**	**2.83**	**357**	P	**Pn**	**13 13 47.0**	**+0.5**
1.2nm,0.2s,SNR=23							
ETOB				S	**Sn**	**13 14 20.3**	**-0.8**
16nm,1.6s,SNR=7.9							
ETOB	**Tobarra**	**2.83**	**357**	P	**Pn**	**13 13 47.2**	**+0.7**
ETOB				S	**Sn**	**13 14 21.5**	**+0.4**
SNR=7.9							
EMIJ	**Mijas**	**2.86**	**286**	P	**Pn**	**13 13 46.3**	**-0.7**
EMIJ				S	**Sn**	**13 14 20.5**	**-1.3**
EMIJ	**Mijas**	**2.86**	**286**	P	**Pn**	**13 13 46.6**	**-0.3**
0.5nm,0.2s,SNR=7.9							
EMIJ				S	**Sn**	**13 14 21.7**	**-0.1**
3.6nm,1.0s,SNR=4.0							
ELUQ	**Luque**	**2.92**	**308**	P	**Pn**	**13 13 47.0**	**-0.7**
1.3nm,0.2s,SNR=4.0							
ELUQ	**Luque**	**2.92**	**308**	P	**Pn**	**13 13 49.5**	**+1.8**
1.3nm,0.2s,SNR=4.0							
EVIA	**Vianos**	**2.97**	**342**	P	**Pn**	**13 13 50.6**	**+2.2**
EVIA	**Vianos**	**2.97**	**342**	P	**Pn**	**13 13 48.3**	**-0.2**
0.8nm,0.2s,SNR=4.0							
EVIA	**Vianos**	**2.97**	**342**	P	**Pn**	**13 13 50.1**	**+1.7**
0.8nm,0.2s,SNR=4.0							
EBEN	**Beniarda**	**3.03**	**17**	P	**Pn**	**13 13 48.9**	**-0.3**
EBEN	**Beniarda**	**3.03**	**17**	P	**Pn**	**13 13 48.9**	**-0.3**
0.8nm,0.4s,SNR=4.0							
EBEN	**Beniarda**	**3.03**	**17**	P	**Pn**	**13 13 48.9**	**-0.4**
0.8nm,0.4s,SNR=4.0							
EBAN	**Banos Encina**	**3.05**	**321**	P	**Pn**	**13 13 49.9**	**+0.3**
2.7nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**3.49**	**313**	P	**Pn**	**13 13 56.2**	**+0.3**
EADA	**Adamuz**	**3.49**	**313**	P	**Pn**	**13 13 55.4**	**-0.4**
1.7nm,0.6s,SNR=4.0							
EADA				S	**Sn**	**13 14 35.4**	**-2.2**
6.3nm,1.7s,SNR=7.9							
EADA	**Adamuz**	**3.49**	**313**	P	**Pn**	**13 13 56.2**	**+0.3**
SNR=4.0							
EIBI	**Ibiza**	**3.87**	**33**	P	**Pn**	**13 14 01.3**	**+0.1**
4.1nm,0.4s,SNR=4.0							
EIBI	**Ibiza**	**3.87**	**33**	P	**Pn**	**13 14 01.3**	**+0.1**
SNR=4.0							
EMOS	**Mosqueruela**	**4.60**	**8**	P	**Pn**	**13 14 12.8**	**+1.1**
EMOS	**Mosqueruela**	**4.60**	**8**	P	**Pn**	**13 14 10.6**	**-1.1**
0.8nm,0.9s,SNR=7.9							
EMOS	**Mosqueruela**	**4.60**	**8**	P	**Pn**	**13 14 12.4**	**+0.8**
SNR=7.9							
EMIN	**Mina Concepcio**	**4.69**	**296**	P	**Pn**	**13 14 11.2**	**-1.7**
0.2nm,0.1s,SNR=4.0							
EMIN	**Mina Concepcio**	**4.69**	**296**	P	**Pn**	**13 14 11.2**	**-1.7**
0.2nm,0.1s,SNR=4.0							
ETOS	**Mallorca**	**5.15**	**39**	P	**Pn**	**13 14 19.0**	**-0.4**
ETOS	**Mallorca**	**5.15**	**39**	P	**Pn**	**13 14 19.0**	**-0.4**
PALC	**Alcoutim**	**5.19**	**290**	*eP*	**Pn**	**13 14 19.3**	**-0.7**
EGRO	**El Granado**	**5.22**	**291**	P	**Pn**	**13 14 19.9**	**-0.5**
EGRO	**El Granado**	**5.22**	**291**	P	**Pn**	**13 14 19.6**	**-0.7**
0.5nm,0.2s,SNR=4.0							
EGRO	**El Granado**	**5.22**	**291**	P	**Pn**	**13 14 19.9**	**-0.4**
EBAD	**Badajoz**	**5.38**	**305**	P	**Pn**	**13 14 20.9**	**-1.8**
0.7nm,0.1s,SNR=4.0							
EBAD	**Badajoz**	**5.38**	**305**	P	**Pn**	**13 14 20.9**	**-1.8**
PBEJ	**Beja**	**5.66**	**295**	*eP*	**Pn**	**13 14 25.3**	**-1.4**
PCBR	**Castelo Branco**	**6.30**	**312**	*eP*	**Pn**	**13 14 34.6**	**-1.0**

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*NNC **03** 13:14:21.9±7.2, 44.04N×84.36E, mpv2.4, Error ellipse: s-maj=81.3km s-min=62.3km az=74.0*
BJI 03 13:14:30.9, 44.29N×83.81E, h14km, ML2.9, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.72**	**337**	⇑Pn	Pn	13 15 14.3	-0.7
0.1nm,0.2s,baz=308,slow=20,SNR=157							
MK31				⇓Pg	Pg	13 15 21.1	-4.2
1.6nm,0.2s,baz=152,slow=16,SNR=33							
MK31				⇑Lg		13 15 57.7	
9.7nm,0.4s,baz=150,slow=28,SNR=14							
WMQ	**Urumqi**	**2.84**	**98**	*eP*	Pn	13 15 18.5	+1.8
WMQ				SG	Sg	13 15 54.7	-11
WMQ				Smax			
comp=N,43nm,0.5s							
WMQ				Smax			
comp=E,54nm,0.4s							
AAK	**Ala-Archa**	**6.98**	**260**	⇓Lg		13 18 14.7	
comp=E,4.0nm,0.9s							
KURK	**Kurchatov**	**7.33**	**333**	⇓Lg		13 18 25.1	
comp=E,3.2nm,0.6s							

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*IDC **03** 13:17:26.9±1.5, 0.81N×97.41E, mb4.0/8, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, MS3.4/1, Ms1 3.4/1, ms1mx2.8/26, Error ellipse: s-maj=70.1km s-min=17.4km az=54.0*
*NEIC **03** 13:17:30.4±0.5, 0.80N×97.46E, mb4.3/7, Error ellipse: s-maj=14.3km s-min=6.6km az=53.0*
ISC 03 13:17:30.0±0.7, 0.81N±0.09×97.42E±0.09, h33km, n24, σ0§73/24, mb4.2/15, MS3.3/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.20**	**44**	P	**P**	**13 18 47.8**	**+0.4**
KULM	**Kulim**	**5.50**	**36**	⇑*i*P	**P**	**13 18 51.4**	**-0.3**
KGM	**Kluang**	**6.02**	**78**	P	**P**	**13 19 00.2**	**+1.2**
JIRN	**Jiri**	**28.79**	**339**	*eP*	**P**	**13 23 27.8**	**+0.6**
16nm,1.0s,mb4.7							
PKI	**Pulchoki**	**29.00**	**338**	*eP*	**P**	**13 23 29.4**	**+0.4**
GUN	**Gumba**	**29.13**	**339**	*eP*	**P**	**13 23 31.0**	**+0.8**
11nm,0.5s,mb4.9							
DMN	**Daman**	**29.15**	**337**	*eP*	**P**	**13 23 30.9**	**+0.5**
KKN	**Kakani**	**29.24**	**338**	*eP*	**P**	**13 23 31.4**	**+0.2**
KOLN	**Koldanda**	**29.90**	**335**	*eP*	**P**	**13 23 36.9**	**-0.2**
8.3nm,0.7s,mb4.6							
ENH	**Enshi**	**31.47**	**20**	*eP*	**P**	**13 23 49.0**	**-2.0**
FITZ	**Fitzroy Crossi**	**33.53**	**125**	P	**P**	**13 24 08.2**	**-0.8**
2.5nm,0.7s,mb4.2,baz=333,slow=5.0,SNR=5.0							
FITZ				LR	LR	13 40 38.0	
comp=Z,57nm,18.2s,MS3.3,baz=76,slow=42							
WRA	**Warramunga Arr**	**41.65**	**122**	P	**P**	**13 25 17.3**	**0.0**
0.9nm,0.5s,mb3.6,baz=302,slow=9.0,SNR=10							
WRAB	**Tennant Creek**	**41.65**	**122**	P	**P**	**13 25 16.9**	**-0.4**
ASAR	**Alice Springs**	**42.99**	**127**	P	**P**	**13 25 28.6**	**+0.4**
1.0nm,0.6s,mb3.7,baz=296,slow=7.7,SNR=13							
SONM	**Songino Array**	**47.49**	**8**	P	**P**	**13 26 03.8**	**0.0**
1.1nm,0.5s,mb4.0,baz=188,slow=9.4,SNR=16							
ULN	**Ulaanbaatar**	**47.61**	**9**	*eP*	**P**	**13 26 04.8**	**0.0**
1.2nm,0.9s,mb3.9							
ULN				*e*		13 26 11.6	
MKAR	**Makanchi Array**	**47.67**	**346**	P	**P**	**13 26 05.2**	**0.0**
3.0nm,0.5s,mb4.6,baz=162,slow=8.5,SNR=46							
MKAR	**Makanchi Array**	**47.67**	**346**	P	**P**	**13 26 05.2**	**0.0**
TLY	**Talaya**	**50.96**	**5**	*eP*	**P**	**13 26 30.8**	**+0.4**
1.3nm,0.6s,mb4.0							
KURK	**Kurchatov**	**52.23**	**345**	*eP*	**P**	**13 26 39.3**	**-0.6**
2.2nm,0.7s,mb4.2							
ZAL	**Zalesovo**	**53.97**	**351**	P	**P**	**13 26 51.9**	**-1.0**
2.6nm,0.6s,mb4.4,baz=299,slow=6.0,SNR=11							
CHKZ	**Chkalovo**	**57.16**	**341**	*eP*	**P**	**13 27 14.7**	**-1.3**
2.8nm,0.9s,mb4.3							
CHKZ				*e*		13 27 21.4	
FINES	**FINESS Array B**	**80.44**	**333**	P	**P**	**13 29 40.0**	**+0.2**
1.4nm,0.9s,mb3.9,baz=90,slow=7.6,SNR=7.5							
GERES	**GERESS Array B**	**85.25**	**319**	P	**P**	**13 30 05.9**	**+1.3**
0.6nm,0.6s,mb3.9,baz=72,slow=9.3,SNR=5.2							

IDC 03 13:26:13.1±7.3, 2.90N×96.41E, mb3.4/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=372.4km s-min=27.1km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.61**	**123**	P	P	13 34 19.2	-2.0
0.2nm,0.5s,baz=299,slow=9.2,SNR=4.2							
ASAR	**Alice Springs**	**45.05**	**128**	P	P	13 34 31.2	-1.5
0.4nm,0.8s,baz=299,slow=7.8,SNR=3.8							
MKAR	**Makanchi Array**	**45.41**	**346**	P	P	13 34 33.5	-1.9
0.4nm,0.4s,baz=155,slow=9.9,SNR=13							

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*IDC **03** 13:40:11.9±1.0, 1.07N×97.02E, mb4.3/12, mb1 4.4/12, mb1mx4.2/16, mbtmp4.3/12, Error ellipse: s-maj=53.4km s-min=14.5km az=52.0*
*BJI **03** 13:40:11.7, 0.55N×97.40E, h40km, mB5.0, mb4.8, Ms4.5, Msz4.3*
*MOS **03** 13:40:15.2±1.0, 1.07N×97.15E, h33km, mb4.8/14, Error ellipse: s-maj=20.6km s-min=8.7km az=104.2*
*NEIC **03** 13:40:16.9±0.4, 1.13N×97.20E, h30km, mb4.7/17, Error ellipse: s-maj=10.8km s-min=5.8km az=47.0*
ISC 03 13:40:15.4±0.5, 1.12N±0.07×97.19E±0.06, h33km, (h28km±4.4km:pP-P), n69, σ0§94/68, mb4.5/41, MS4.0/3, 4C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.14**	**48**	P	**P**	**13 41 32.4**	**+0.2**
KULM	**Kulim**	**5.39**	**40**	⇑*i*P	**P**	**13 41 35.1**	**-0.5**
KGM	**Kluang**	**6.19**	**82**	P	**P**	**13 41 48.0**	**+1.2**
KKTK	**Khon Kaen**	**16.11**	**20**	P	**P**	**13 44 04.0**	**+2.8**
NANT	**Nan**	**17.91**	**11**	⇑P	**P**	**13 44 25.0**	**+1.3**
175nm,0.9s							
KKM	**Kota Kinabalu**	**19.60**	**75**	*eP*	**P**	**13 44 43.3**	**-0.6**
KMI	**Kunming**	**24.46**	**12**	⇑P	**P**	**13 45 34.1**	**+1.4**
KMI				AP		13 45 40.5	
KMI				S	**S**	**13 49 47.4**	**-0.5**
KMI				AMB	AMB		
comp=Z,29nm,1.2s,mb4.6							
KMI				AMB	AMB		
comp=Z,89nm,3.3s							
KMI				LR	LR		
comp=N,449nm,15.7s,MS4.2							
KMI				LR	LR		
comp=E,264nm,12.6s,MS4.2							
KMI				LR	LR		
comp=Z,461nm,14.0s,MS4.1							
KMI	**Kunming**	**24.46**	**12**	⇑P	**P**	**13 45 34.1**	**+1.4**
comp=Z,29nm,1.2s,mb4.6							
KMI				pP		13 45 40.5	
KMI				S	**S**	**13 49 47.4**	**-0.5**
KMI				LR	LR		
comp=Z,460nm,14.0s,MS4.1							
HYB	**Hyderabad**	**24.46**	**313**	*eP*	**P**	**13 45 34.0**	**+1.2**
HYB	**Hyderabad**	**24.46**	**313**	*i* P	**P**	**13 45 34.0**	**+1.2**
SHL	**Shillong**	**24.84**	**349**	*eP*	**P**	**13 45 37.0**	**+0.6**
GYA	**Guiyang**	**26.79**	**19**	P	**P**	**13 45 54.4**	**-0.2**
GYA				AP	pP	13 46 03.7	-0.4
GYA				XP	sP	13 46 08.4	+0.3
GYA				PP	PP	13 46 42.8	+3.0
GYA				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.3							
GYA				AMB	AMB		
comp=Z,200nm,5.1s							

Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**42.00**	**122**	*eP*	**P**	**13 48 05.9**	**+0.3**
	comp=Z,5.2nm,0.6s,mb4.3						
BJT	**Baijiatuau**	**42.40**	**22**	*eP*	**P**	**13 48 09.5**	**+0.9**
BJT				pmax	pmax		
	comp=Z,11nm,0.6s						
BJT	**Baijiatuau**	**42.40**	**22**	*eP*	**P**	**13 48 09.5**	**+0.9**
	comp=Z,11nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**43.35**	**127**	P	**P**	**13 48 17.2**	**+0.6**
	comp=Z,2.3nm,0.7s,mb4.0,baz=298,slow=7.7,SNR=22						
WMQ	**Urumqi**	**43.35**	**350**	⇓P	**P**	**13 48 17.6**	**+1.2**
WMQ				AP	pP	13 48 27.6	+1.4
WMQ				XP	sP	13 48 31.6	+1.2
WMQ				PP	PP	13 50 00.6	+1.5
WMQ				*e*S	**S**	**13 54 43.0**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,28nm,4.6s						
WMQ				LR	LR		
	comp=N,149nm,26.0s,MS4.5						
WMQ				LR	LR		
	comp=E,740nm,21.2s,MS4.5						
WMQ				LR	LR		
	comp=Z,44nm,16.4s,MS3.5						
AAK	**Ala-Archa**	**46.07**	**337**	*eP*	**P**	**13 48 38.4**	**+0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
AAK	**Ala-Archa**	**46.07**	**337**	*eP*	**P**	**13 48 38.4**	**+0.3**
	comp=Z,6.0nm,1.2s,mb4.4						
SONM	**Songino Array**	**47.21**	**8**	P	**P**	**13 48 47.2**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.4,baz=190,slow=9.2,SNR=34						
SONM				PcP	PcP	13 50 18.4	-0.1
	comp=Z,1.2nm,0.5s,baz=189,slow=4.0,SNR=8.0						
MK02	**Makanchi Array**	**47.29**	**346**	P	**P**	**13 48 47.7**	**0.0**
MK02				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**13 48 47.9**	**0.0**
	comp=Z,5.4nm,0.6s,mb4.6,baz=164,slow=8.1,SNR=70						
ULN	**Ulaanbaatar**	**47.34**	**9**	*e*P	**P**	**13 48 47.8**	**-0.3**
KKAR	**Karatay Array**	**48.13**	**334**	*i*P	**P**	**13 48 54.6**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ZAK	**Zakamensk**	**49.36**	**5**	*e*P	**P**	**13 49 03.5**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.6						
CN2	**Changchun**	**49.38**	**27**	*e*P	**P**	**13 49 03.1**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HIA	**Hailar**	**51.72**	**19**	*e*P	**P**	**13 49 21.2**	**-0.4**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HIA	**Hailar**	**51.72**	**19**	*e*P	**P**	**13 49 21.2**	**-0.4**
	comp=Z,4.2nm,0.8s,mb4.4						
KURK	**Kurchatov**	**51.87**	**345**	*e*P	**P**	**13 49 21.9**	**-0.8**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**51.87**	**345**	*e*P	**P**	**13 49 21.9**	**-0.8**
	comp=Z,7.3nm,1.0s,mb4.6						
MDJ	**Mudanjiang**	**51.94**	**29**	P	**P**	**13 49 20.0**	**-3.3**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,49nm,3.4s						
STKA	**Stephens Creek**	**53.30**	**132**	P	**P**	**13 49 34.9**	**+1.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=300,slow=6.7,SNR=5.6						
ZAL	**Zalesovo**	**53.63**	**351**	P	**P**	**13 49 35.1**	**-0.7**
	comp=Z,5.1nm,0.5s,mb4.7,baz=307,slow=6.0,SNR=30						
NVS	**Novosibirsk**	**54.76**	**350**	*i*P	**P**	**13 49 41.6**	**-2.4**
BVA0	**Borovoye Array**	**56.33**	**341**	P	**P**	**13 49 54.0**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**56.33**	**341**	P	**P**	**13 49 54.3**	**-1.1**
	comp=Z,3.4nm,0.7s,mb4.5,baz=135,slow=8.4,SNR=19						
CHKZ	**Chkalovo**	**56.80**	**341**	*e*P	**P**	**13 49 57.6**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CHKZ	**Chkalovo**	**56.80**	**341**	*e*P	**P**	**13 49 57.6**	**-1.2**
	comp=Z,10nm,0.9s,mb4.9						
BOD	**Bodaibo**	**58.09**	**11**	*e*P	**P**	**13 50 06.9**	**-0.9**
BOD				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
YAK	**Yakutsk**	**65.50**	**16**	*e*P	**P**	**13 50 55.9**	**-1.5**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
YAK	**Yakutsk**	**65.50**	**16**	*e*P	**P**	**13 50 55.9**	**-1.5**
	comp=Z,14nm,0.8s,mb5.1						
BRTR	**Keskin Array B**	**69.16**	**312**	P	**P**	**13 51 19.9**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.6,baz=135,slow=5.2,SNR=4.2						
MA2	**Magadan**	**71.41**	**26**	*e*P	**P**	**13 51 33.8**	**-0.3**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**80.07**	**333**	P	**P**	**13 52 23.1**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=101,slow=5.1,SNR=8.8						
GERES	**GERESS Array B**	**84.87**	**319**	P	**P**	**13 52 49.2**	**+1.0**
	comp=Z,0.8nm,0.8s,mb3.9,baz=104,slow=5.5,SNR=6.1						
NB2	**NORSAR Subarra**	**87.07**	**331**	P	**P**	**13 52 57.9**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.9,baz=98,slow=4.8						
NOA	**NORSAR Array B**	**87.07**	**331**	P	**P**	**13 52 58.3**	**-0.5**
	comp=Z,1.3nm,0.8s,mb4.2,baz=94,slow=4.9,SNR=4.2						
ULM	**Lac du Bonnet**	**127.62**	**11**	PKP	PKPdf	13 59 18.9	+1.3
	comp=Z,0.7nm,0.4s,baz=348,slow=3.7,SNR=3.5						
ULM	**Lac du Bonnet**	**127.62**	**11**	PKP	PKPdf	13 59 18.9	+1.3
TXAR	**Lajitas Array**	**143.74**	**32**	PKP	PKPdf	13 59 47.1	-0.7
	comp=Z,0.2nm,0.5s,baz=204,slow=0.5,SNR=6.6						
JCT	**Junction City**	**144.65**	**26**	*e*PKPdf	PKPdf	13 59 50.4	+1.0

IDC 03 13:43:27.5±6.1, 1.32N×99.21E, mb3.5/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, MS3.4/1, Ms1 3.4/1, ms1mx3.0/14, Error ellipse: s-maj=325.9km s-min=27.9km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**32.39**	**128**	LR	LR	14 05 13.2	
	comp=Z,70nm,19.6s,baz=274,slow=40						
WRA	**Warramunga Arr**	**40.41**	**123**	P	P	13 51 08.6	-0.7
	0.1nm,0.3s,baz=307,slow=8.5,SNR=5.6						
ASAR	**Alice Springs**	**41.88**	**129**	P	P	13 51 18.8	-2.7
	0.4nm,0.6s,baz=297,slow=6.9,SNR=5.4						
MKAR	**Makanchi Array**	**47.64**	**344**	P	P	13 52 05.4	-1.9
	0.4nm,0.5s,baz=155,slow=8.4,SNR=5.5						
TXAR	**Lajitas Array**	**142.48**	**34**	PKhKP		14 02 58.7	
	0.1nm,0.7s,baz=297,slow=2.0,SNR=3.9						

DJA 03 13:46:07.8±0.8, 9.45S×114.76E, h33km, MD4.7/4, ML3.7/4, 6C-2D, Error ellipse: s-maj=19.5km s-min=6.7km az=8.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.05**	**47**	⇑*i*Pn	Pn	13 46 24.8	-1.5
	327nm,0.2s						
RATI				⇓*i*Sn	Sn	13 46 36.7	-3.2
SRDI	**Scrawed**	**1.14**	**327**	⇓*i*Pn	Pn	13 46 26.6	-1.1
	156nm,0.3s						
SRDI	**Scrawed**	**1.14**	**327**	⇑*i*P	P	13 46 26.9	-0.6
SRDI				*e*Sn	Sn	13 46 39.9	-2.4
KELI	**Kelakatan**	**1.25**	**348**	⇑*i*Pn	Pn	13 46 28.4	-0.9
	56nm,1.0s						
KELI				⇑*i*Sn	Sn	13 46 43.0	-2.1
KEDI	**Kedomdong**	**1.64**	**54**	⇑*i*Pn	Pn	13 46 33.5	-1.3
	22nm,0.2s						
KEDI				⇑*i*Sn	Sn	13 46 51.7	-3.3

IDC 03 13:55:24.1±4.5, 2.00N×96.99E, mb3.4/3, mb1 3.5/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=170.9km s-min=29.5km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.64**	**123**	P	P	14 03 22.4	-1.9
	0.3nm,0.5s,baz=305,slow=8.9,SNR=9.4						
SONM	**Songino Array**	**46.38**	**9**	P	P	14 03 53.4	-0.6
	0.2nm,0.4s,baz=191,slow=8.8,SNR=4.8						
MKAR	**Makanchi Array**	**46.42**	**346**	P	P	14 03 51.6	-2.8
	0.2nm,0.4s,baz=162,slow=7.7,SNR=5.4						

IDC 03 14:05:53.4±11.0, 7.58S×128.47E, h125km±131km, mb3.1/2, mb1 3.3/5, mb1mx3.2/13, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=73.0km s-min=56.3km az=22.0,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.82**	**194**	P	P	14 08 26.0	+0.2
	1.9nm,0.3s,baz=17,slow=10,SNR=58						
FITZ				S	S	14 10 21.3	-3.7
	1.0nm,0.3s,baz=4.8,slow=13,SNR=4.0						
WRA	**Warramunga Arr**	**13.55**	**156**	P	P	14 09 00.1	-1.5
	0.2nm,0.3s,baz=340,slow=12,SNR=28						
WRA				S	S	14 11 22.6	-6.8
	0.7nm,0.3s,baz=331,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**16.83**	**163**	P	P	14 09 42.7	-0.1
	0.2nm,0.3s,baz=333,slow=9.1,SNR=17						
ASAR				S	S	14 12 42.4	-2.1
	0.1nm,0.3s,baz=337,slow=38,SNR=4.5						
SONM	**Songino Array**	**58.52**	**343**	P	P	14 15 36.7	-2.2
	0.3nm,0.7s,baz=162,slow=6.9,SNR=2.9						
MKAR	**Makanchi Array**	**67.88**	**328**	P	P	14 16 38.2	-2.2
	0.4nm,0.5s,baz=120,slow=7.4,SNR=5.8						

IDC 03 14:07:59.9±2.6, 0.59N×127.72E, mb3.5/3, mb1 3.8/3, mb1mx3.5/14, mbtmp3.5/3, Error ellipse: s-maj=239.3km s-min=25.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.41**	**163**	P	P	14 12 49.2	-2.6
	1.9nm,0.6s,baz=343,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**24.85**	**166**	P	P	14 13 24.6	-1.0
	0.7nm,0.4s,baz=354,slow=15,SNR=6.5						
MKAR	**Makanchi Array**	**60.68**	**326**	P	P	14 18 13.1	-2.3
	0.2nm,0.4s,baz=123,slow=8.7,SNR=3.9						

MAN 03 14:13:34.4, 7.44N×124.96E, h27km, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.45**	**14**	*e*P	Pb	14 13 45.0	+1.2
BUKP				*e*S	Sb	14 13 53.8	+3.6
KCP	**Kidapawan**	**0.45**	**163**	*i*P	Pb	14 13 45.0	+1.1
CGP	**Cagayan de Oro**	**1.04**	**346**	⇑*i*P	Pn	14 13 53.1	-0.2
CGP				*e*S	Sb	14 14 07.0	+0.1
PAGZ	**Pagadian**	**1.61**	**285**	*e*P	Pn	14 13 59.1	-2.5
PAGZ				*e*S	Sn	14 14 19.8	-1.8

*IDC **03** 14:18:16.3±2.1, 2.91N×97.87E, mb3.9/7, mb1 4.1/7, mb1mx3.8/17, mbtmp3.9/7, MS2.8/1, Ms1 3.0/1, ms1mx2.6/20, Error ellipse: s-maj=103.2km s-min=18.2km az=57.0*

*NEIC **03** 14:18:19.3±0.8, 2.61N×97.41E, h30km, mb4.4/2, Error ellipse: s-maj=24.2km s-min=11.7km az=58.0*

ISC 03 14:18:16.6±1.0, 2.6N±0.1×97.3E±0.2, h30km, n13, σ0°54/12, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.30**	**51**	*e*P	**Pn**	**14 19 21.8**	**0.0**
CMAR	**Chiang Mai Arr**	**15.84**	**6**	LR	LR	14 29 06.5	
	comp=Z,34nm,19.7s,baz=285,slow=42						
FITZ	**Fitzroy Crossi**	**34.70**	**127**	P	**P**	**14 25 05.4**	**-0.8**
	2.4nm,0.5s,mb4.4,baz=156,slow=8.8,SNR=2.7						
WRA	**Warramunga Arr**	**42.72**	**123**	P	**P**	**14 26 12.9**	**-0.3**
	4.5nm,0.5s,mb4.5,baz=302,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**42.73**	**123**	*e*P	**P**	**14 26 13.2**	**0.0**
	6.0nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**42.73**	**123**	*e*P	**P**	**14 26 14.2**	**+0.9**
ASAR	**Alice Springs**	**44.19**	**128**	P	**P**	**14 26 25.1**	**+0.1**
	0.5nm,0.6s,mb3.4,baz=300,slow=7.7,SNR=11						
SONM	**Songino Array**	**45.74**	**9**	P	**P**	**14 26 37.1**	**0.0**
	0.2nm,0.5s,mb3.4,baz=190,slow=8.1,SNR=5.0						
MKAR	**Makanchi Array**	**45.91**	**346**	P	**P**	**14 26 38.5**	**0.0**
	0.4nm,0.5s,mb3.6,baz=165,slow=8.7,SNR=5.8						
MKAR	**Makanchi Array**	**45.91**	**346**	P	**P**	**14 26 38.5**	**0.0**
ZAL	**Zalesovo**	**52.19**	**351**	P	**P**	**14 27 26.5**	**-0.3**
	1.1nm,0.3s,mb4.2,baz=153,slow=2.0,SNR=5.0						
CHKZ	**Chkalovo**	**55.43**	**341**	*e*P	**P**	**14 27 50.6**	**-0.1**
	1.8nm,0.8s,mb4.2						
FINES	**FINESS Array B**	**78.80**	**332**	P	**P**	**14 30 21.8**	**+3.7**
	0.4nm,0.5s,mb3.6,baz=130,slow=11,SNR=4.2						

*NEIC **03** 14:29:04.0, 37.59N×13.28W, MG3.6(MDD), After MDD.*

*MDD **03** 14:29:04.2±3.1, 37.37N×13.53W, h99km±131km, mb2.7/7, Error ellipse: s-maj=38.9km s-min=18.1km az=80.0, PRXIMO*

INMG 03 14:29:05.9±0.6, 37.21N×13.63W, h10km, ML2.1, Error ellipse: s-maj=8.7km s-min=5.9km az=157.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**3.91**	**63**	*e*Pn	Pn	14 30 00.2	-7.2
PLOU				*e*Sn	Sn	14 30 40.4	-13
	6.1nm,0.2s						
PLOU	**Loures**	**3.91**	**63**	P	Pn	14 30 00.2	-7.2
PLOU				S	Sn	14 30 40.4	-13
	3.0nm,0.2s						
PTEO	**Sao Teotonio**	**3.92**	**84**	*e*Pn	Pn	14 30 00.3	-7.2
PTEO				*e*Sn	Sn	14 30 41.1	-13
	3.1nm,0.3s						
PTEO	**Sao Teotonio**	**3.92**	**84**	P	Pn	14 30 00.3	-7.2
PTEO				S	Sn	14 30 41.1	-13
	1.6nm,0.3s						
PBEJ	**Beja**	**4.65**	**78**	*e*Sn	Sn	14 30 58.5	-14
	1.3nm,0.1s						
PBEJ	**Beja**	**4.65**	**78**	S	Sn	14 30 58.5	-14
	0.6nm,0.1s						
PTOM	**Tomar**	**4.75**	**58**	*e*Sn	Sn	14 31 00.2	-15
	5.0nm,0.2s						
PTOM	**Tomar**	**4.75**	**58**	S	Sn	14 31 00.2	-15
	2.5nm,0.2s						
EGRO	**El Granado**	**4.91**	**84**	Pn	Pn	14 30 13.5	-8.1
EGRO				Sn	Sn	14 31 04.1	-15
EGRO	**El Granado**	**4.91**	**84**	P	Pn	14 30 13.5	-8.1
	1.1nm,0.2s,SNR=5.7						
EGRO				S	Sn	14 31 04.7	-14
	24nm,1.6s,SNR=7.9						
PALC	**Alcoutim**	**4.91**	**85**	*e*Pn	Pn	14 30 13.4	-8.2
PALC				*e*Sn	Sn	14 31 05.7	-13
	2.2nm,0.1s						
PALC	**Alcoutim**	**4.91**	**85**	P	Pn	14 30 13.4	-8.2
PALC				S	Sn	14 31 05.7	-13
	1.1nm,0.1s						
EBAD	**Badajoz**	**5.45**	**72**	Pn	Pn	14 30 20.9	-8.3
EBAD				Sn	Sn	14 31 15.9	-17
EBAD	**Badajoz**	**5.45**	**72**	P	Pn	14 30 20.9	-8.3
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	14 31 16.5	-16
	0.6nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**5.49**	**60**	*e*Sn	Sn	14 31 18.9	-15
	1.1nm,0.1s						
PCBR	**Castelo Branco**	**5.49**	**60**	S	Sn	14 31 18.9	-15
	0.6nm,0.1s						
EMIN	**Mina Concepcio**	**5.56**	**82**	P	Pn	14 30 22.0	-8.8
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	14 31 19.9	-16
	0.2nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**6.23**	**36**	S	Sn	14 31 34.0	-18
	6.3nm,0.7s,SNR=7.9						
ELOB	**Lobios**	**6.33**	**41**	S	Sn	14 31 36.5	-18
	0.9nm,0.1s,SNR=5.8						
ECAB	**El Cabril**	**6.57**	**80**	P	Pn	14 30 36.6	-8.4
	0.3nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.75**	**30**	Pn	Pn	14 30 37.2	-10
EMAZ				Sn	Sn	14 31 43.4	-22
EMAZ	**Mazaricos**	**6.75**	**30**	P	Pn	14 30 37.2	-10
	0.4nm,0.2s,SNR=4.0						
EMAZ				S	Sn	14 31 46.1	-19
	18nm,1.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.75**	**30**	Sn	Sn	14 31 43.4	-22
	0.9nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**7.11**	**46**	Pn	Pn	14 30 40.7	-12
ECAL				Sn	Sn	14 31 54.7	-20
ECAL	**Calabor**	**7.11**	**46**	P	Pn	14 30 42.8	-10
	0.3nm,0.2s,SNR=7.9						
ECAL				S	Sn	14 31 54.7	-20
	12nm,1.4s,SNR=7.9						
EADA	**Adamuz**	**7.24**	**80**	P	Pn	14 30 45.5	-9.0
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	14 32 00.1	-17
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**7.24**	**80**	Sn	Sn	14 32 00.1	-17
	0.3nm,0.2s,SNR=7.9						
EINC	**Incio**	**7.27**	**40**	S	Sn	14 31 58.2	-20
	0.3nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**7.86**	**37**	S	Sn	14 32 12.3	-21
	31nm,1.5s,SNR=7.9						

NEIC 03 14:33:20.3±2.9, 33.71S×178.95W, h342km±13km, Error ellipse: s-maj=40.0km s-min=24.4km az=56.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.45**	**209**	*e*P	P	14 34 32.3	-1.7
MXZ	**Matakaoa Point**	**4.45**	**209**	PN	P	14 34 32.3	-1.7
MXZ				SN	S	14 35 29.1	-2.8
PUZ	**Puketiti**	**4.91**	**207**	*e*P	P	14 34 38.4	-0.6
PUZ				S	S	14 35 40.0	-0.9
PUZ	**Puketiti**	**4.91**	**207**	PN	P	14 34 38.4	-0.7
PUZ				SN	S	14 35 41.2	+0.3
MWZ	**Matawai**	**5.43**	**211**	*e*P	P	14 34 43.6	-1.2
MWZ	**Matawai**	**5.43**	**211**	PN	P	14 34 43.6	-1.2
MWZ				SN	S	14 35 50.2	-1.0
URZ	**Urewera**	**5.55**	**214**	*e*P	P	14 34 44.7	-1.6
URZ	**Urewera**	**5.55**	**214**	PN	P	14 34 44.7	-1.5
URZ				SN	S	14 35 49.1	-4.7
KNZ	**Kokohu**	**5.96**	**206**	*e*P	P	14 34 51.1	+0.1
KNZ	**Kokohu**	**5.96**	**206**	PN	P	14 34 51.1	+0.1
KNZ				SN	S	14 36 03.7	+1.5
BKZ	**Black Stump Fm**	**6.57**	**213**	*e*P	P	14 34 56.7	-1.4
BKZ	**Black Stump Fm**	**6.57**	**213**	PN	P	14 34 56.7	-1.4
BKZ				SN	S	14 36 15.7	+0.8
MGZ	**Maungaku**	**6.90**	**218**	P	P	14 35 01.7	-0.3
MGZ	**Maungaku**	**6.90**	**218**	PN	P	14 35 01.7	-0.3
HIZ	**Hauiti**	**6.94**	**224**	*e*P	P	14 35 02.9	+0.5
HIZ	**Hauiti**	**6.94**	**224**	PN	P	14 35 02.9	+0.4
NGZ	**Ngauruhoe**	**7.00**	**217**	P	P	14 35 03.3	+0.1
NGZ	**Ngauruhoe**	**7.00**	**217**	PN	P	14 35 03.3	+0.1
TUVZ	**Tukino**	**7.05**	**217**	*e*P	P	14 35 03.5	-0.2
TUVZ	**Tukino**	**7.05**	**217**	PN	P	14 35 03.5	-0.2
CNZ	**Chateau**	**7.05**	**217**	*e*P	P	14 35 04.2	+0.5
CNZ	**Chateau**	**7.05**	**217**	PN	P	14 35 04.2	+0.5
WPVZ	**Whakapapa**	**7.05**	**217**	*e*P	P	14 35 03.9	+0.1
WPVZ	**Whakapapa**	**7.05**	**217**	PN	P	14 35 03.9	+0.1
FWVZ	**Far West T-bar**	**7.09**	**217**	*e*P	P	14 35 03.7	-0.5
MOVZ	**Moawhango**	**7.11**	**215**	P	P	14 35 04.0	-0.4
WNVZ	**Wahianoa**	**7.12**	**216**	*e*P	P	14 35 04.3	-0.3
PWZ	**Pawanui**	**7.14**	**207**	*e*P	P	14 35 04.2	-0.7
PWZ	**Pawanui**	**7.14**	**207**	*e*PN	P	14 35 04.2	-0.7
TSZ	**Takapari Road**	**7.54**	**211**	*e*P	P	14 35 09.1	-0.4
TSZ	**Takapari Road**	**7.54**	**211**	*e*PN	P	14 35 08.1	-1.4
WAZ	**Wanganui**	**7.75**	**217**	*e*P	P	14 35 11.0	-1.1
MRZ	**Mangatainoka R**	**8.20**	**211**	*e*P	P	14 35 16.6	-0.8
MTW	**Mount Morrison**	**8.64**	**209**	*e*P	P	14 35 22.2	-0.6
KIW	**Kapiti Island**	**8.65**	**213**	*e*P	P	14 35 22.0	-0.9
KIW	**Kapiti Island**	**8.65**	**213**	*e*PN	P	14 35 21.8	-1.0
CAW	**Cannon Point**	**8.78**	**211**	*e*P	P	14 35 22.8	-1.6
CAW	**Cannon Point**	**8.78**	**211**	*e*PN	P	14 35 22.7	-1.7
SNZO	**South Karori**	**9.11**	**212**	*e*P	P	14 35 27.6	-0.7
SNZO				*e*S	S	14 37 05.8	-3.5
NNZ	**Nelson**	**9.66**	**217**	*e*P	P	14 35 31.7	-3.2
BSWZ	**Blackbirch Sta**	**9.80**	**213**	*e*P	P	14 35 35.0	-1.7
THZ	**Tophouse**	**10.30**	**216**	*e*P	P	14 35 40.6	-2.1
THZ	**Tophouse**	**10.30**	**216**	*e*PN	P	14 35 40.3	-2.4
KHZ	**Kahutara**	**10.51**	**212**	*e*P	P	14 35 44.2	-1.0
KHZ	**Kahutara**	**10.51**	**212**	*e*PN	P	14 35 44.2	-1.0
DSZ	**Denniston Nort**	**10.86**	**220**	*e*P	P	14 35 46.6	-2.8
DSZ	**Denniston Nort**	**10.86**	**220**	*e*PN	P	14 35 46.3	-3.0
CRLZ	**Canterbury Las**	**11.85**	**211**	*e*P	P	14 36 01.8	+0.5
MQZ	**McQueen's Vall**	**11.94**	**211**	*e*P	P	14 36 02.0	-0.4
MQZ	**McQueen's Vall**	**11.94**	**211**	*e*PN	P	14 36 01.8	-0.6
WRAB	**Tennant Creek**	**43.52**	**276**	*e*P	P	14 40 51.5	-1.2
	1.0nm,0.6s						
SBA	**Scott Base**	**44.69**	**184**	P	P	14 40 59.7	-1.6

IDC 03 14:37:59.4±2.5, 26.77N×99.44E, mb3.5/3, mb1 3.7/3, mb1mx3.3/18, mbtmp3.5/3, Error ellipse: s-maj=520.2km s-min=27.0km az=57.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**24.16**	**330**	P	P	14 43 17.1	-0.8
	0.4nm,0.5s,baz=140,slow=7.9,SNR=9.0						
WRA	**Warramunga Arr**	**57.45**	**140**	P	P	14 47 49.5	-3.2
	0.2nm,0.5s,baz=330,slow=7.6,SNR=4.9						
ASAR	**Alice Springs**	**60.19**	**143**	P	P	14 48 09.8	-1.8
	0.8nm,0.8s,baz=325,slow=7.0,SNR=9.2						

NEIC 03 14:39:17.0±5.4, 28.39N×100.31W, h5km, MN3.5, Error ellipse: s-maj=69.3km s-min=13.8km az=173.0, Texas-Mexico border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCT	**Junction City**	**2.12**	**12**	*e*Pn	Pn	14 39 54.5	+0.9
JCT				*e*S	Sn	14 40 23.5	+2.8
CLNB	**Carlsbad**	**4.94**	**322**	*e*Pn	Pn	14 40 31.8	-1.9
GDL2	**Guadalupe Moun**	**5.17

BJI ***03*** *14:42:47.8, 9.62N×93.44E, h39km, mB5.3, mb5.0, Ms4.9, Msz4.7*

MOS ***03*** *14:42:48.7±0.9, 9.83N×93.72E, h33km, mb5.4/44, MS4.4/17, Error ellipse: s-maj=9.4km s-min=4.2km az=122.8*

HRVD ***03*** *14:42:49.4±0.2, 9.75N×93.71E, h12km, MW5.2/63, Centroid moment Tensor Solution. LP body waves: s29,c46; Mantle waves: s63,c113; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.33±.15; $M_{\theta\theta}$0.52±.12; $M_{\phi\phi}$3.82±.14; $M_{r\theta}$-4.30±.41; $M_{r\phi}$3.90±.11; $M_{\theta\phi}$-1.24±.38; Best double couple: $M_0$7.199×10^{16} NP1: ϕ_s184°, δ37°, λ-140°. NP2:ϕ_s60°, δ67°, λ-60°. Principal axes: T 7.467, Plg17°, Azm129°; N -.531, Plg27°, Azm228°; P -6.931, Plg57°, Azm10°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***03*** *14:42:49.4±0.1, 9.78N×93.66E, mb5.2/82, MS4.3/10 Error ellipse: s-maj=5.5km s-min=3.6km az=220.0*

IDC ***03*** *14:42:50.4±1.7, 9.77N×93.59E, h32km±11km, mb4.5/21, mb1 4.6/21, mb1mx4.5/23, mbtmp4.7/21, MS4.4/6, Ms1 4.3/6, ms1mx4.2/11, Error ellipse: s-maj=17.6km s-min=9.9km az=59.0*

ISC 03 14:42:47.5±0.2, 9.76N±0.03×93.72E±0.03, h24km, h24km±1.2km: pP-P, n409, σ1§04/409, mb5.0/121, MS4.5/34, 38C-45D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NNT	**Nongplab**	**6.54**	**64**	P	**Pn**	**14 44 25.3**	**+0.6**
SNG	**Songkhla**	**7.29**	**110**	P	**Pn**	**14 44 34.0**	**-1.3**
	646nm,1.0s						
KULM	**Kulim**	**8.18**	**122**	*e*P	**P**	**14 44 45.9**	**-1.8**
BDT	**Bhumibol Dam**	**9.04**	**34**	P	**P**	**14 45 02.0**	**+2.4**
KKTK	**Khon Kaen**	**11.02**	**53**	P	**P**	**14 45 27.0**	**+0.2**
	556nm,0.8s						
NANT	**Nan**	**11.24**	**36**	⇑P	**P**	**14 45 33.0**	**+3.0**
	438nm,0.9s						
VIS	**Vishakhapatnam**	**12.82**	**309**	*e*P	**P**	**14 45 48.9**	**-2.2**
VIS				*e*S	**S**	**14 47 58.9**	**-15**
VIS				*e*		14 48 06.3	
	comp=N,390nm,0.2s						
VIS				*e*		14 48 10.1	
	comp=E,456nm,0.7s						
VIS				*i*		14 49 03.4	
PALK	**Pallekele**	**13.11**	**260**	*e*P	**P**	**14 45 57.0**	**+2.0**
	comp=E,33nm,0.9s						
PALK				*e*S	**S**	**14 48 05.6**	**-15**
MDRS	**Chennai**	**13.61**	**285**	*e*P	**P**	**14 46 02.0**	**+0.3**
MDRS				*e*		14 48 52.0	
MDRS				*e*		14 55 28.0	
AGT	**Agartala**	**14.24**	**351**	*e*	**P**	**14 46 17.0**	**+7.1**
SALM	**Salem**	**15.37**	**278**	*e*P	**P**	**14 46 27.0**	**+2.3**
SALM				*e*		14 49 07.4	
SHL	**Shillong**	**15.82**	**354**	*e*P	**P**	**14 46 29.0**	**-1.5**
SHL				*e*		14 49 20.0	
BLSP	**Bilaspur**	**16.58**	**319**	*e*P	**P**	**14 46 40.8**	**+0.6**
BLSP				*e*		14 46 55.9	
	comp=Z,229nm,2.2s						
BLSP				*e*		14 49 34.4	
BLSP				*i*		14 51 05.6	
HYB	**Hyderabad**	**16.58**	**299**	*e*P	**P**	**14 46 40.0**	**-0.2**
HYB				*e*S	**S**	**14 49 44.0**	**+1.2**
HYB				pmax	pmax		
	comp=Z,120nm,1.0s						
HYB	**Hyderabad**	**16.58**	**299**	*e*P	**P**	**14 46 40.0**	**-0.2**
	comp=Z,120nm,1.0s						
HYB				*e*		14 49 33.0	
HYB				*e*S	**S**	**14 49 44.0**	**+1.2**
HYB	**Hyderabad**	**16.58**	**299**	*i* P	**P**	**14 46 40.0**	**-0.2**
	comp=Z,120nm,1.0s						
HYB				*e*		14 49 33.0	
HYB				*e*S	**S**	**14 49 44.0**	**+1.2**
TRD	**Trivandrum**	**16.60**	**267**	⇓*e*P	**P**	**14 46 43.2**	**+2.8**
TRD				*e*		14 49 47.2	
KMI	**Kunming**	**17.52**	**28**	P	**P**	**14 46 55.9**	**+3.9**
KMI				AP		14 47 02.8	
KMI				XP		14 47 06.9	
KMI				PP	PP	14 47 11.6	+5.1
KMI				PPP	PPP	14 47 20.0	+5.0
KMI				S	**S**	**14 50 13.8**	**+10**
KMI				XS		14 50 24.7	
KMI				AMB	AMB		
	comp=Z,131nm,1.2s						
KMI				AMB	AMB		
	comp=Z,2μm,5.3s						
KMI				LR	LR		
	comp=N,2μm,14.6s						
KMI				LR	LR		
	comp=E,2μm,12.0s						
KMI				LR	LR		
	comp=Z,2μm,15.3s						
KMI	**Kunming**	**17.52**	**28**	P	**P**	**14 46 55.9**	**+3.9**
KMI				pmax	pmax		
	comp=Z,131nm,1.2s						
KMI	**Kunming**	**17.52**	**28**	P	**P**	**14 46 55.9**	**+3.9**
	comp=Z,131nm,1.2s						
KMI				pP		14 47 02.8	
KMI				sP		14 47 06.9	
KMI				PP	PP	14 47 11.6	+5.1
KMI				PPP	PPP	14 47 20.0	+5.0
KMI				S	**S**	**14 50 13.8**	**+10**
KMI				sS		14 50 24.7	
KMI				SS	SS	14 50 37.3	+11
KMI				SSS	SSS	14 50 50.2	+10
QIZ	**Qiongzhong**	**18.12**	**58**	P	**P**	**14 47 02.5**	**+3.0**
QIZ				S	**S**	**14 50 24.0**	**+6.1**
QIZ				AMB	AMB		
	comp=Z,657nm,6.5s						
QIZ				LR	LR		
	comp=N,2μm,17.1s						
QIZ				LR	LR		
	comp=E,1μm,16.2s						
QIZ				LR	LR		
	comp=Z,2μm,16.2s						
KSM	**Kuching**	**18.43**	**116**	*e*P	**P**	**14 47 06.0**	**+2.6**
LATR	**Latur**	**18.72**	**299**	*e*P	**P**	**14 47 07.7**	**+0.8**
MNGI	**Mangalore**	**18.79**	**281**	*e*	**P**	**14 47 10.5**	**+2.7**
MNGI				*e*		14 50 25.9	
JIRN	**Jiri**	**19.17**	**339**	*e*P	**P**	**14 47 12.6**	**+0.5**
	comp=Z,177nm,0.7s						
PKI	**Pulchoki**	**19.37**	**337**	*e*P	**P**	**14 47 14.7**	**+0.2**
	comp=Z,240nm,0.9s						
PKI	**Pulchoki**	**19.37**	**337**	*e*P	**P**	**14 47 14.7**	**+0.2**
PKI				pmax	pmax		
	comp=Z,120nm,0.9s						
DMN	**Daman**	**19.52**	**337**	*e*P	**P**	**14 47 16.2**	**0.0**
	comp=Z,367nm,0.9s						
KKN	**Kakani**	**19.62**	**337**	*e*P	**P**	**14 47 17.1**	**-0.1**
	comp=Z,174nm,0.8s						
KKN	**Kakani**	**19.62**	**337**	*e*P	**P**	**14 47 17.1**	**-0.1**
KKN				pmax	pmax		
	comp=Z,87nm,0.8s						
LSA	**Lhasa**	**19.98**	**353**	P	**P**	**14 47 16.8**	**-4.4**
LSA				S	**S**	**14 51 03.8**	**+4.6**
LSA				AMB	AMB		
	comp=Z,530nm,11.7s						
LSA				LR	LR		
	comp=N,640nm,21.4s						
LSA				LR	LR		
	comp=E,510nm,14.8s						
LSA				LR	LR		
	comp=Z,1μm,22.9s						
LSA	**Lhasa**	**19.98**	**353**	*e*P	**P**	**14 47 20.4**	**-0.8**
LSA				pmax	pmax		
	comp=Z,86nm,0.7s						
LSA	**Lhasa**	**19.98**	**353**	*e*P	**P**	**14 47 20.4**	**-0.8**
	comp=Z,86nm,0.7s						
GKN	**Gorkha**	**20.06**	**336**	*e*P	**P**	**14 47 22.1**	**+0.1**
	comp=Z,213nm,0.6s						
GOA	**Goa**	**20.23**	**288**	*e*P	**P**	**14 47 22.8**	**-1.0**
GOA				*e*		14 50 52.5	
KOLN	**Koldanda**	**20.29**	**333**	*e*P	**P**	**14 47 24.7**	**+0.3**
	comp=Z,287nm,0.8s						
KAD	**Karad**	**20.41**	**294**	*e*P	**P**	**14 47 24.4**	**-1.3**
KAD				*e*		14 47 37.9	
	comp=Z,192nm,1.0s						
KAD				*e*S	**S**	**14 51 10.2**	**+2.2**
KAD				*i*		14 53 40.0	
BHPL	**Bhopal**	**20.55**	**313**	*e*P	**P**	**14 47 27.7**	**+0.5**
BHPL				*e*		14 47 42.0	
	comp=Z,196nm,0.9s						
BHPL				*e*		14 51 07.6	
BHPL				*i*		14 53 29.2	
GYA	**Guiyang**	**20.64**	**35**	⇑*i*P	**P**	**14 47 29.8**	**+1.8**
GYA				AP		14 47 36.6	
GYA				XP		14 47 40.5	
GYA				AMB	AMB		
	comp=Z,230nm,1.1s						
GYA				AMB	AMB		
	comp=Z,430nm,3.0s						
GYA				LR	LR		
	comp=N,2μm,15.2s,MS4.8						
GYA				LR	LR		
	comp=E,2μm,16.8s,MS4.8						
GYA				LR	LR		
	comp=Z,3μm,15.6s,MS4.7						
BOM	**Bombay**	**22.18**	**296**	*e*	**P**	**14 47 46.4**	**+2.8**
BOM				*e*S	**S**	**14 51 43.7**	**+2.2**
KKM	**Kota Kinabalu**	**22.58**	**98**	P	**P**	**14 47 49.0**	**+1.3**
CD2	**Chengdu**	**23.02**	**23**	⇑*i*P	**P**	**14 47 53.0**	**+1.1**
CD2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.0						
LGTI	**Lohaghat**	**23.30**	**329**	*e*P	**P**	**14 47 57.0**	**+2.4**
PTH	**Pithoragarh**	**23.39**	**329**	*e*P	**P**	**14 47 57.4**	**+1.9**
PTH				*e*		14 52 15.9	
NDI	**New Delhi**	**24.38**	**323**	*e*P	**P**	**14 48 06.0**	**+0.9**
NDI				*e*		14 52 20.0	
AJM	**Ajmer**	**24.54**	**315**	*e*P	**P**	**14 48 09.0**	**+2.3**
DDI	**Dehra Dun**	**25.14**	**327**	*e*P	**P**	**14 48 13.7**	**+1.3**
ENH	**Enshi**	**25.16**	**34**	*e*P	**P**	**14 48 13.2**	**+0.6**
	comp=Z,126nm,0.9s,mb5.5						
ENH				LR	LR		
	comp=Z,1μm,20.0s,MS4.3						
PONG	**Pong**	**27.54**	**326**	*e*P	**P**	**14 48 35.0**	**+0.4**
LZH	**Lanzhou**	**27.78**	**18**	⇓P	**P**	**14 48 36.0**	**-0.6**
LZH				AP	pP	14 48 45.1	+1.3
LZH				XP	sP	14 48 49.2	+2.2
LZH				AMB	AMB		
	comp=Z,83nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,241nm,5.1s						
LZH				LR	LR		
	comp=N,1μm,10.2s						
LZH				LR	LR		
	comp=Z,2μm,11.9s,MS4.9						
LZH	**Lanzhou**	**27.78**	**18**	⇓P	**P**	**14 48 36.0**	**-0.6**
	comp=Z,83nm,1.4s,mb5.2						
LZH				pP	pP	14 48 45.1	+1.3
LZH				sP	sP	14 48 49.2	+2.2
LZH				*e*PP	PP	14 49 15.6	-10
LZH				*e*S	**S**	**14 52 57.0**	**-19**
LZH				sS		14 53 11.8	
LZH				SS	SS	14 53 42.5	-54
LZH				LR	LR		
	comp=Z,2μm,11.9s,MS4.9						
XAN	**Xi'an**	**27.90**	**28**	P	**P**	**14 48 37.0**	**-0.8**
XAN				S	**S**	**14 53 22.9**	**+4.6**
XAN				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.8						
XAN				LR	LR		
	comp=N,1μm,13.9s,MS4.7						
XAN				LR	LR		
	comp=E,766nm,15.1s,MS4.7						
XAN				LR	LR		
	comp=Z,2μm,14.5s,MS4.9						
THN	**Thein Dam**	**28.04**	**326**	*e*P	**P**	**14 48 37.6**	**-1.4**
THN				*e*S	**S**	**14 53 22.1**	**+1.6**
WHN	**Wuhan**	**28.23**	**40**	⇑P	**P**	**14 48 42.3**	**+1.5**
WHN				S	**S**	**14 53 29.0**	**+5.3**
WHN				AMB	AMB		
	comp=Z,130nm,1.2s,mb5.4						
WHN				LR	LR		
	comp=Z,2μm,13.7s,MS4.9						
GTA	**Gaotai**	**30.02**	**9**	P	**P**	**14 48 56.4**	**-0.4**
GTA				AP	pP	14 49 03.9	0.0
GTA				XP	sP	14 49 07.4	+0.3
GTA				SCP		14 55 38.7	
GTA				SCS	ScS	14 59 33.1	+1.1
GTA				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,309nm,10.6s						
GTA				LR	LR		
	comp=N,489nm,12.5s,MS4.5						
GTA				LR	LR		
	comp=E,586nm,14.1s,MS4.5						
GTA				LR	LR		
	comp=Z,584nm,23.2s						
NJ2	**Nanjing**	**32.14**	**43**	*e*P	**P**	**14 49 17.2**	**+1.7**
NJ2				AP	pP	14 49 27.6	+4.9
NJ2				XP	sP	14 49 30.4	+4.6
NJ2				PP	PP	14 50 26.1	+3.5
NJ2				S	**S**	**14 54 33.0**	**+7.5**
NJ2				XS		14 54 48.0	
NJ2				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,1μm,4.2s						
NJ2				LR	LR		
	comp=N,710nm,21.6s,MS4.5						
NJ2				LR	LR		
	comp=E,860nm,21.8s,MS4.5						
NJ2				LR	LR		
	comp=Z,240nm,11.8s						
SSE	**Sheshan**	**33.19**	**46**	P	**P**	**14 49 22.3**	**-2.4**
SSE				PP	PP	14 50 33.1	-3.0
SSE				S	**S**	**14 54 40.2**	**-1.7**
SSE				XS		14 54 57.0	
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,55nm,4.9s						
SSE				LR	LR		
	comp=N,375nm,17.5s,MS4.2						
SSE				LR	LR		
	comp=E,140nm,17.4s,MS4.2						
SSE				LR	LR		
	comp=Z,317nm,17.3s,MS4.1						
SSE	**Sheshan**	**33.19**	**46**	P	**P**	**14 49 22.3**	**-2.4**
	comp=Z,26nm,0.8s,mb5.2						
SSE				sP	sP	14 49 35.4	+0.4
SSE				PP	PP	14 50 33.1	-3.0
SSE				S	**S**	**14 54 40.2**	**-1.7**
SSE				sS		14 54 57.0	
SSE				SS	SS	14 57 02.5	+19
SSE				LR	LR		
	comp=Z,320nm,17.3s,MS4.1						
KSH	**Kashi**	**33.60**	**335**	*e*P	**P**	**14 49 28.2**	**+0.1**
KSH				*e*AP	pP	14 49 37.2	+1.9
KSH				*e*XP	sP	14 49 41.0	+2.6
KSH				AMB	AMB		
	comp=Z,420nm,4.0s						
BTO	**Baotou**	**33.95**	**22**	*e*P	**P**	**14 49 30.1**	**-1.0**
BTO				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.9						
WMQ	**Urumqi**	**34.33**	**352**	⇑P	**P**	**14 49 34.5**	**+0.1**
WMQ				AP	pP	14 49 44.0	+2.4
WMQ				XP	sP	14 49 48.0	+3.3
WMQ				PP	PP	14 50 49.7	-0.3
WMQ				PPP	PPP	14 51 08.5	+0.5
WMQ				PCP	PcP	14 52 11.3	+1.0
WMQ				S	**S**	**14 54 58.0**	**-1.4**
WMQ				XS		14 55 14.0	
WMQ				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,387nm,5.0s						
WMQ				LR	LR		
	comp=N,723nm,16.0s,MS4.7						
WMQ				LR	LR		
	comp=E,982nm,17.8s,MS4.7						
WMQ				LR	LR		
	comp=Z,436nm,18.4s,MS4.2						
HHC	**Hu-ho-hao-te**	**34.76**	**24**	*e*P	**P**	**14 49 36.8**	**-1.3**
HHC				PP	PP	14 50 56.7	+1.2
HHC				PCP	PcP	14 52 07.6	-4.0
HHC				S	**S**	**14 55 06.2**	**+0.2**
HHC				SCP		14 55 51.4	
HHC				PCS		14 55 54.5	
HHC				SS	SS	14 57 22.0	+2.3
HHC				SCS	ScS	14 59 54.2	-1.8
HHC				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.1						
HHC				AMB	AMB		
	comp=Z,252nm,6.0s						
HHC				LR	LR		
	comp=N,772nm,12.4s,MS4.7						
HHC				LR	LR		
	comp=E,492nm,12.3s,MS4.7						
HHC				LR	LR		
	comp=Z,963nm,12.5s,MS4.7						
WBK	**Wadi Bani Khal**	**35.63**	**295**	⇓P	**P**	**14 49 48.5**	**+2.9**
	SNR=10						
ULHL	**Ulahol**	**35.81**	**338**	P	**P**	**14 49 47.4**	**+0.4**
	SNR=22						
KZA	**Kyzart**	**36.05**	**336**	P	**P**	**14 49 49.9**	**+0.8**
	SNR=31						
BJT	**Baijiatuau**	**36.15**	**30**	*e*P	**P**	**14 49 49.2**	**-0.7**
BJT				pmax	pmax		
	comp=Z,18nm,0.6s						
BJT	**Baijiatuau**	**36.15**	**30**	*e*P	**P**	**14 49 49.2**	**-0.6**
	comp=Z,18nm,0.6s,mb5.2						
BJI	**Beijing**	**36.17**	**30**	P	**P**	**14 49 51.7**	**+1.7**
BJI				PP	PP	14 51 17.1	+4.3
BJI				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
BJI				AMB	AMB		
	comp=Z,416nm,5.8s						
BJI				LR	LR		
	comp=N,889nm,15.2s,MS4.8						
BJI				LR	LR		
	comp=E,921nm,13.4s,MS4.8						
BJI				LR	LR		
	comp=Z,754nm,16.4s,MS4.5						
BJI	**Beijing**	**36.17**	**30**	P	**P**	**14 49 51.7**	**+1.7**
	comp=Z,29nm,0.7s,mb5.3						
BJI				PP	PP	14 51 17.1	+4.3
BJI				S	**S**	**14 55 39.4**	**+12**
BJI				SS	SS	14 58 28.7	+37
BJI				LR	LR		
	comp=Z,750nm,16.4s,MS4.5						
JMDO	**Jabal Madar**	**36.34**	**295**	⇓P	**P**	**14 49 54.4**	**+2.7**
	SNR=8.2						
UCH	**Uchtor**	**36.47**	**336**	P	**P**	**14 49 53.7**	**+1.1**
	SNR=34						
BIDO	**Bidbid**	**36.62**	**296**	⇑P	**P**	**14 49 57.3**	**+3.2**
TKM2	**Tokmak 2**	**36.64**	**337**	P	**P**	**14 49 54.5**	**+0.6**
	SNR=12						
KBK	**Karagaybulak**	**36.66**	**337**	P	**P**	**14 49 55.4**	**+1.3**
	SNR=28						
AML	**Almayashu**	**36.73**	**335**	P	**P**	**14 49 55.8**	**+1.0**
	SNR=104						
JOW	**Kunigami**	**36.77**	**58**	LR	LR	15 05 58.7	
	comp=Z,367nm,18.8s,MS4.2,baz=263,slow=38						
AAK	**Ala-Archa**	**36.82**	**336**	P	**P**	**14 49 56.7**	**+1.2**
	SNR=47						
AAK	**Ala-Archa**	**36.82**	**336**	P	**P**	**14 49 55.1**	**-0.4**
	comp=Z,285nm,0.9s,mb6.1,SNR=61						
AAK	**Ala-Archa**	**36.82**	**336**	*d i*P	**P**	**14 49 55.5**	**0.0**
AAK				pmax	pmax		
	comp=Z,57nm,1.0s,mb5.4						
AAK	**Ala-Archa**	**36.82**	**336**	*e*P	**P**	**14 49 55.0**	**-0.5**
	comp=Z,48nm,1.0s,mb5.3						
CHMS	**Chumysh**	**37.03**	**337**	P	**P**	**14 49 56.9**	**-0.3**
	SNR=29						
EKS2	**Erkin-Say**	**37.13**	**335**	P	**P**	**14 49 59.4**	**+1.3**
	SNR=76						
BSY	**Bisya**	**37.25**	**295**	⇓P	**P**	**14 50 02.6**	**+3.3**
	SNR=10.0						
USP	**Ospenovka**	**37.35**	**337**	P	**P**	**14 50 00.5**	**+0.6**
	SNR=47						
SHAO	**Shalim**	**37.82**	**287**	⇑P	**P**	**14 50 07.0**	**+2.9**
ARQ	**Araqi**	**38.00**	**295**	⇑P	**P**	**14 50 08.8**	**+3.3**
MKAR	**Makanchi Array**	**38.17**	**347**	*i* P	**P**	**14 50 06.3**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,20nm,0.8s						
MKAR	**Makanchi Array**	**38.17**	**347**	P	**P**	**14 50 06.4**	**-0.4**
	comp=Z,19nm,0.8s,mb4.9,baz=164,slow=8.8,SNR=86						
DL2	**Dalian**	**38.28**	**36**	P	**P**	**14 50 09.8**	**+2.0**
DL2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
DL2				LR	LR		
	comp=N,480nm,14.1s,MS4.6						
DL2				LR	LR		
	comp=E,240nm,10.2s,MS4.6						
DL2				LR	LR		
	comp=Z,450nm,13.9s,MS4.4						
ASHO	**Ashiyiah**	**38.76**	**297**	P	**P**	**14 50 15.0**	**+3.0**
	SNR=23						
BANOM	**Banah**	**38.90**	**299**	⇑P	**P**	**14 50 15.8**	**+2.6**
	SNR=9.0						
KKAR	**Karatay Array**	**38.90**	**333**	*i* P	**P**	**14 50 13.0**	**0.0**
KKAR				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1						
RBK	**Rabkut**	**39.10**	**286**	⇑P	**P**	**14 50 17.9**	**+3.0**
SONM	**Songino Array**	**39.43**	**13**	P	**P**	**14 50 17.5**	**+0.2**
	comp=Z,15nm,0.9s,mb4.7,baz=200,slow=6.9,SNR=84						
SONM				PcP	PcP	14 52 26.0	+0.3
	comp=Z,5.2nm,0.7s,baz=197,slow=3.6,SNR=5.9						
SONM				ScP		14 56 11.2	
	comp=Z,1.5nm,0.8s,baz=189,slow=3.1,SNR=5.3						
WHFO	**Wadi Hawf**	**39.56**	**286**	P	**P**	**14 50 21.5**	**+2.8**
	SNR=55						
ULN	**Ulaanbaatar**	**39.61**	**14**	*e*P	**P**	**14 50 18.4**	**-0.4**
ULN				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
ULN				MLR	MLR		
	comp=Z,962nm,22.0s,MS4.6						
ULN	**Ulaanbaatar**	**39.61**	**14**	*e*P	**P**	**14 50 18.4**	**-0.4**
	comp=Z,15nm,0.9s,mb4.7						
ULN				LR	LR		
	comp=Z,962nm,22.0s,MS4.6						
ABTO	**Aybut**	**39.95**	**285**	⇓P	**P**	**14 50 24.6**	**+2.7**
	SNR=8.5						
ZAK	**Zakamensk**	**41.26**	**9**	⇑*i*P	**P**	**14 50 32.2**	**-0.2**
ZAK				*e*		14 52 31.9	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb3.9						
SNY	**Shenyang**	**41.34**	**34**	⇓P	**P**	**14 50 34.2**	**+1.1**
SNY				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.7						
SNY				LR	LR		
	comp=N,510nm,13.2s,MS4.8						
SNY				LR	LR		
	comp=E,810nm,13.8s,MS4.8						
SNY				LR	LR		
	comp=Z,1μm,13.8s,MS4.8						
FITZ	**Fitzroy Crossi**	**41.95**	**131**	*e*P	**P**	**14 50 39.4**	**+1.0**
	comp=Z,9,9nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**41.95**	**131**	P	**P**	**14 50 39.0**	**+0.6**
	comp=Z,8.5nm,0.8s,mb4.4,baz=316,slow=3.6,SNR=6.2						
FITZ				PcP	PcP	14 52 34.5	+0.3
	comp=Z,6.2nm,0.6s,baz=233,slow=3.6,SNR=2.2						
MOY	**Mondy**	**42.21**	**7**	*e*P	**P**	**14 50 40.9**	**+0.8**
TLY	**Talaya**	**42.58**	**9**	⇓*i*P	**P**	**14 50 43.8**	**+0.6**
TLY				*e*PPP	PPP	14 52 34.9	-23
TLY				*e*S	**S**	**14 57 03.7**	**-0.4**
TLY				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.5						
TLY				MLR	MLR		
	comp=Z,243nm,15.0s,MS4.2						
TLY	**Talaya**	**42.58**	**9**	*e*P	**P**	**14 50 43.9**	**+0.8**
	comp=Z,14nm,1.2s,mb4.6						
KURK	**Kurchatov**	**42.69**	**346**	P	**P**	**14 50 43.7**	**-0.4**
KURK				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
KURK	**Kurchatov**	**42.69**	**346**	*e*P	**P**	**14 50 43.5**	**-0.6**
	comp=Z,33nm,1.1s,mb5.0						
KURK				LR	LR		
	comp=Z,186nm,21.0s,MS4.0						
CN2	**Changchun**	**43.68**	**33**	*e*P	**P**	**14 50 53.1**	**+0.9**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
ZAL	**Zalesovo**	**44.63**	**353**	P	**P**	**14 50 59.2**	**-0.6**
	comp=Z,11nm,0.4s,mb5.0,baz=298,slow=9.4,SNR=52						
ZAL	**Zalesovo**	**44.63**	**353**	P	**P**	**14 50 59.2**	**-0.6**
HIA	**Hailar**	**44.97**	**24**	*e*P	**P**	**14 51 02.6**	**0.0**
HIA				pmax	pmax		
	comp=Z,28nm,1.1s						
HIA	**Hailar**	**44.97**	**24**	*e*P	**P**	**14 51 02.6**	**0.0**
	comp=Z,28nm,1.1s,mb5.0						
NVS	**Novosibirsk**	**45.73**	**352**	*i* P	**P**	**14 51 07.0**	**-1.5**
NVS				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
NVS				pmax	pmax		
	comp=N,26nm,1.5s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.3s						
MDJ	**Mudanjiang**	**46.50**	**35**	P	**P**	**14 51 15.8**	**+1.1**

MDJ AMB AMB
comp=Z,12nm,2.1s,mb4.5
MDJ AMB AMB
comp=Z,210nm,6.4s
MDJ LR LR
comp=N,441nm,14.0s,MS4.7
MDJ LR LR
comp=E,396nm,14.6s,MS4.7
MDJ LR LR
comp=Z,523nm,16.9s,MS4.6
BVAR Borovoye Array 47.08 341 P **P** **14 51 18.4 -0.8**
comp=Z,12nm,0.8s,mb4.9,baz=143,slow=7.4,SNR=50
BVAR PcP PcP 14 52 51.2 -0.1
comp=Z,7.1nm,0.8s,baz=180,slow=3.0,SNR=4.1
BVAR S **S** **14 58 08.7 -0.2**
comp=Z,0.3nm,0.3s,baz=131,slow=15,SNR=2.3
KLBR Kellerberrin 47.12 152 *eP* **P** **14 51 19.9 +0.1**
comp=Z,357nm,1.8s,mb6.0
CHKZ Chkalovo 47.56 342 *i* P **P** **14 51 22.4 -0.6**
CHKZ pmax pmax
comp=Z,38nm,0.9s,mb5.4
RAYN Ar Rayn 47.96 293 P **P** **14 51 28.9 +2.4**
comp=Z,329nm,0.8s,SNR=36
NWAO Narrogin (SRO) 48.01 153 P **P** **14 51 25.7 -1.1**
comp=Z,8.5nm,1.0s,mb4.7,baz=73,slow=6.1,SNR=4.6
NWAO Narrogin (SRO) 48.01 153 *eP* **P** **14 51 25.7 -1.1**
MAT Matsushiro 48.23 49 *eP* **P** **14 51 29.0 +0.6**
MAT pmax pmax
comp=Z,65nm,1.7s,mb5.4
MAT Matsushiro 48.23 49 *eP* **P** **14 51 29.0 +0.6**
comp=Z,65nm,1.7s,mb5.4
MAT Matsushiro 48.23 49 P **P** **14 51 28.7 +0.3**
WRA Warramunga Arr 49.70 127 P **P** **14 51 39.7 -0.3**
comp=Z,4.7nm,0.3s,mb4.9,baz=300,slow=10,SNR=47
WRA PP PP 14 53 38.6 +3.4
comp=Z,2.1nm,0.9s,baz=300,slow=12,SNR=4.6
WRA ScP 14 56 51.6
comp=Z,0.6nm,0.7s,baz=316,slow=3.6,SNR=5.4
WRAB Tennant Creek 49.70 127⇑ *iP* **P** **14 51 40.3 +0.3**
WRAB Tennant Creek 49.70 127 *eP* **P** **14 51 40.1 +0.1**
comp=Z,16nm,0.6s,mb5.2
WRAB LR LR
comp=Z,163nm,21.0s,MS4.0
WB2 Warramunga Arr 49.71 127 *iP* **P** **14 51 40.3 +0.3**
ATD Arta Tunnel 49.98 277 P **P** **14 51 40.1 -2.0**
comp=Z,5.7nm,0.5s,mb4.9,baz=288,slow=21,SNR=3.6
BOD Bodaibo 50.42 14 *eP* **P** **14 51 43.7 -1.3**
BOD pmax pmax
comp=Z,13nm,1.7s,mb4.7
ASPA Alice Springs 51.44 131 *eP* **P** **14 51 52.9 -0.3**
ASAR Alice Springs 51.45 131 P **P** **14 51 52.9 -0.4**
comp=Z,2.0nm,0.3s,mb4.5,baz=318,slow=4.6,SNR=68
ASAR LR LR 15 18 52.7
comp=Z,235nm,18.2s,MS4.2,baz=297,slow=42
CLNS Chul'man 52.83 21 *eP* **P** **14 52 02.4 -0.8**
CLNS pmax pmax
comp=N,14nm,0.7s
CLNS pmax pmax
comp=Z,31nm,0.7s,mb5.3
CLNS pmax pmax
comp=E,16nm,0.8s
CLNS MLR MLR
comp=N,900nm,13.0s,MS5.0
CLNS MLR MLR
comp=E,200nm,13.0s,MS5.0
CLNS MLR MLR
comp=Z,1μm,13.0s,MS5.2
GNI Garni 52.84 313 *eP* **P** **14 52 04.5 +1.0**
GNI pmax pmax
comp=Z,79nm,1.0s
GNI Garni 52.84 313 *eP* **P** **14 52 04.5 +1.1**
comp=Z,79nm,1.0s,mb5.6
MTA Mtatsminda 53.37 315 P **P** **14 52 07.8 +0.4**
TI2 Plekhanov 53.41 315⇓ *iP* **P** **14 52 08.2 +0.5**
TI2 pmax pmax
comp=Z,80nm,0.8s,mb5.7
TBLG Delisi 53.42 315 P **P** **14 52 08.1 +0.4**
SVE Sverdlovsk 53.51 336⇓ *iP* **P** **14 52 08.0 -0.1**
SVE *e* 14 53 16.0
SVE pmax pmax
comp=Z,66nm,1.4s,mb5.4
SVE MLR MLR
comp=N,500nm,21.0s,MS4.7
SVE MLR MLR
comp=E,500nm,21.0s,MS4.7
SVE MLR MLR
comp=Z,800nm,21.0s,MS4.8
DUS Dusheti 53.58 316 P **P** **14 52 08.9 -0.1**
OPO Ambohidratompo 53.85 238 P **P** **14 52 09.8 -1.4**
comp=Z,0.8nm,0.3s,mb4.1,baz=312,slow=12,SNR=2.3
ARU Arti 54.00 337 *eP* **P** **14 52 11.3 -0.5**
ARU *e* 14 53 11.3
ARU *e* 14 54 10.2
ARU *eS* **S** **14 59 44.8 +0.2**
ARU Arti 54.00 337⇑ *iP* **P** **14 52 11.0 -0.8**
YSS Yuzh-Sakhalins 55.57 39⇓ *eP* **P** **14 52 22.8 -0.6**
YSS *e* pP 14 52 29.4 -1.5
YSS pmax pmax
comp=Z,20nm,0.8s,mb5.2
YSS MLR MLR
comp=Z,500nm,14.0s,MS4.8
YSS Yuzh-Sakhalins 55.57 39 *eP* **P** **14 52 24.0 +0.6**
comp=Z,9.4nm,0.6s,mb5.0
KIV Kislovodsk 55.65 317κ *iP* **P** **14 52 23.6 -0.4**
KIV *e* pP 14 52 29.8 -1.7
KIV *i* *PP pP 14 52 36.9 +5.4
KIV *i* 14 53 20.5
KIV *i* 14 54 29.7
KIV *i* S **S** **15 00 09.0 +2.1**
KIV *i* 15 02 11.5
KIV *i* SS SS 15 03 57.1 +4.9
KIV pmax pmax
comp=Z,137nm,1.0s,mb5.9
KIV MLR MLR
comp=Z,300nm,21.0s,MS4.3
KIV Kislovodsk 55.65 317 *eP* **P** **14 52 24.1 0.0**
comp=Z,103nm,0.8s,mb5.9
KIV LR LR
comp=Z,79nm,21.0s,MS3.8
GOF Gofitskoye 55.84 318⇑ *iP* **P** **14 52 25.4 0.0**
GOF pmax pmax
comp=Z,80nm,1.0s,mb5.7
PMG Port Moresby 56.49 108 P **P** **14 52 32.1 +1.6**
comp=Z,16nm,0.7s,mb5.1,baz=295,slow=19,SNR=3.4
MALT Malatya 56.94 310⇓ P **P** **14 52 32.9 -0.5**
KMBO Kilima Mbogo 57.24 262 P **P** **14 52 38.4 +2.5**
comp=Z,6.1nm,1.0s,mb4.6,baz=50,slow=10.0,SNR=12
KMBO LR LR 15 15 52.1
comp=Z,335nm,18.6s,MS4.5,baz=95,slow=35
GZT Gaziantep 57.37 308 *iP* **P** **14 52 36.0 -0.4**
SOC Sochi 57.54 316 *eP* **P** **14 52 35.1 -2.4**
SOC *e* 14 53 22.8
SOC *e* 14 54 42.8
SOC *e*PPP PPP 14 56 04.4 -3.7
SOC *eS* **S** **15 00 30.1 -1.7**
SOC *e* 15 02 24.0
SOC *e*SS SS 15 04 21.6 -1.8
SOC pmax pmax
comp=Z,41nm,0.8s,mb5.5
SOC pmax pmax
comp=N,30nm,1.0s
SOC pmax pmax
comp=E,13nm,0.9s
SOC MLR MLR
comp=N,379nm,20.0s,MS4.6
SOC MLR MLR
comp=Z,501nm,20.0s,MS4.6
SOC MLR MLR
comp=E,347nm,21.0s,MS4.6
KAHT Ahir Dag 57.97 308 *iP* **P** **14 52 39.8 -0.7**
EIL Elat 58.15 299 *eP* **P** **14 52 42.1 +0.2**
comp=E,27nm,1.0s,mb5.2
YAK Yakutsk 58.35 19 *eP* **P** **14 52 41.6 -1.3**
YAK pmax pmax
comp=Z,44nm,0.8s,mb5.5
YAK Yakutsk 58.35 19 *eP* **P** **14 52 41.6 -1.3**
comp=Z,44nm,0.8s,mb5.5
ANN Anapa 59.48 317 *eP* **P** **14 52 50.4 -0.6**
ANN *eS* **S** **15 01 00.9 +3.7**
ANN pmax pmax
comp=Z,45nm,1.0s,mb5.5
AVNT Avonos 59.77 309 *iP* **P** **14 52 52.0 -1.1**
CSS Prodhromos 60.26 305 *eP* **P** **14 52 55.6 -0.9**
comp=Z,32nm,1.0s,mb5.3
VRSR Storozhevoye 60.61 324 *eP* **P** **14 52 57.0 -1.6**
VRSR *e*PP pP 14 53 07.0 +0.8
VRSR *e* 14 53 41.3
VRSR *e* 14 55 11.9
VRSR *eS* **S** **15 01 09.4 -2.2**
VRSR *e*SS 15 01 25.5
VRSR pmax pmax
comp=Z,20nm,0.8s,mb5.3
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.7s
VRSR smax
comp=N,10.0nm,0.9s
VRSR smax
comp=Z,5.0nm,0.9s
VRSR smax
comp=E,6.0nm,0.8s
VRSR MLR MLR
comp=Z,330nm,21.0s,MS4.5
VRSR MLR MLR
comp=N,270nm,19.0s,MS4.6
VRSR MLR MLR
comp=E,360nm,21.0s,MS4.6
VOR Voronezh 60.81 325 P **P** **14 52 59.0 -1.0**
VOR *e*PP pP 14 53 06.0 -1.6
VOR pmax pmax
comp=Z,60nm,1.3s,mb5.6
BRTR Keskin Array B 60.90 310 P **P** **14 52 59.1 -1.6**
comp=Z,18nm,0.8s,mb5.3,baz=122,slow=7.2,SNR=64
BRTR ScP 14 57 42.4
comp=Z,2.2nm,1.0s,baz=127,slow=6.2,SNR=4.3
ELDT Eldivan 61.22 311 *iP* **P** **14 53 01.4 -1.6**
BALT Daday 61.48 312 *iP* **P** **14 52 58.0 -6.7**
STKA Stephens Creek 61.71 134 P **P** **14 53 05.7 -0.7**
comp=Z,1.9nm,0.3s,mb4.7,baz=341,slow=14,SNR=4.6
STKA LR LR 15 18 50.6
comp=Z,385nm,21.6s,MS4.5,baz=116,slow=35
SIM Simferopol' **61.79 316** *eP* **P** **14 53 06.0 -0.7**
SIM pmax pmax
comp=Z,30nm,0.8s,mb5.5
ISP Isparta 62.96 307 *eP* **P** **14 53 12.5 -2.1**
ISP pmax pmax
comp=Z,43nm,1.0s,mb5.5
ISP Isparta 62.96 307 *eP* **P** **14 53 12.5 -2.1**
comp=Z,43nm,1.0s,mb5.5
MOS Moscow 63.26 328 *eP* **P** **14 53 14.8 -1.5**
MOS *e* 14 55 39.2
MOS pmax pmax
comp=Z,45nm,0.7s,mb5.7
MBAR Mbarara 63.51 264 *eP* **P** **14 53 19.5 +0.8**
MBAR pmax pmax
comp=Z,40nm,1.2s,mb5.3
MBAR Mbarara 63.51 264 *eP* **P** **14 53 19.4 +0.8**
comp=Z,40nm,1.2s,mb5.3
OBN Obninsk 63.57 327⇑ *iP* **P** **14 53 17.5 -0.9**
OBN *e* 14 55 34.5
OBN *i* S **S** **15 01 49.1 +0.2**
OBN pmax pmax
comp=Z,43nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,400nm,21.0s,MS4.6
OBN Obninsk 63.57 327 *eP* **P** **14 53 15.5 -2.9**
comp=Z,62nm,1.3s,mb5.5
ULDT Uludag 64.38 310 *iP* **P** **14 53 21.5 -2.4**
MA2 Magadan 65.30 28 *eP* **P** **14 53 29.3 -0.2**
MA2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MA2 Magadan 65.30 28 *eP* **P** **14 53 29.3 -0.2**
comp=Z,5.5nm,0.8s,mb4.6
TIXI Tiksi 65.48 12⇓ *iP* **P** **14 53 28.9 -1.6**
TIRR Tirgusor 65.64 314⇓ P **P** **14 53 30.9 -1.1**
PSN Preselentsi 65.67 314 *eP* **P** **14 53 32.0 -0.1**
KIS Kishinev 65.86 317 *eP* **P** **14 53 31.0 -2.3**
KIS *e* 14 54 07.0
KIS MLR MLR
comp=Z,300nm,18.0s,MS4.5
CFR Carcaliu 65.97 315 P **P** **14 53 33.3 -0.7**
CFR Carcaliu 65.97 315⇓ *iP* **P** **14 53 33.1 -1.0**
CFR Carcaliu 65.97 315⇓ *iP* **P** **14 53 33.1 -0.9**
PRD Provadia 66.15 313 *eP* **P** **14 53 35.0 -0.2**
AKASG Malin Array Be 66.43 321 P **P** **14 53 35.0 -1.9**
comp=Z,9.6nm,0.7s,mb4.9,baz=88,slow=5.0,SNR=31
AKASG PP PP 14 55 54.8 -10
comp=Z,0.4nm,0.4s,baz=100,slow=5.6,SNR=4.6
JMB Yambol 66.63 312 *eP* **P** **14 53 37.0 -1.3**
VRI Vrincioaia 67.06 316⇑ *iP* **P** **14 53 41.0 0.0**
ISR Istrita 67.07 315⇓ *iP* **P** **14 53 41.6 +0.5**
SZH Strazhica 67.22 313 *eP* **P** **14 53 42.0 -0.1**
KDZ Kurdzhali 67.38 311 *iP* **P** **14 53 43.0 -0.1**
MLR Muntele Rosu 67.54 315⇑ *iP* **P** **14 53 44.2 +0.1**
SNX Sinaia 67.82 315 P **P** **14 53 45.7 -0.1**
RZN Rozhen 67.91 311 *iP* **P** **14 53 46.0 -0.4**
PLD Plovdiv 67.96 311 *eP* **P** **14 53 51.0 +4.2**
MNK Minsk 68.18 325 *eP* **P** **14 53 44.0 -3.9**
BURAR Bucovina Array 68.38 317⇑ P **P** **14 53 49.3 0.0**
BURAR Bucovina Array 68.38 317⇑ P **P** **14 53 49.3 0.0**
PGB Panagyurishte 68.41 312 *eP* **P** **14 53 49.0 -0.5**
MMB Musomiste 68.63 311 *iP* **P** **14 53 51.0 +0.1**
VTS Vitosha 69.12 312⇑ P **P** **14 53 53.2 -0.7**
VTS Vitosha 69.12 312 *iP* **P** **14 53 53.0 -0.9**
KKB Krupnik 69.14 311 *iP* **P** **14 53 53.0 -1.0**
LVV L'vov 69.52 320 *eP* **P** **14 53 54.9 -1.3**
BOLS Boljevac 70.15 313⇓ *iP* **P** **14 53 58.9 -1.3**
KWP Kalwaria 70.34 319 *eP* **P** **14 54 00.5 -0.7**
KWP pmax pmax
comp=Z,69nm,1.4s,mb5.4
KWP Kalwaria 70.34 319 *eP* **P** **14 54 00.5 -0.7**
comp=Z,69nm,1.4s,mb5.4
KOLS Kolonicke sedl 70.52 318 *iP* **P** **14 54 02.0 -0.3**
BZS Buzias 70.58 315⇑ P **P** **14 54 01.7 -1.0**
SUW Suwalki 70.74 324 *eP* **P** **14 54 02.1 -1.5**
MATP Matopo 70.79 244 P **P** **14 54 05.1 +0.6**
comp=Z,3.8nm,0.6s,mb4.5,baz=56,slow=8.1,SNR=7.0
MATP Matopo 70.79 244 P **P** **14 54 05.1 +0.6**
FINES FINESS Array B 70.86 332 P **P** **14 54 03.2 -1.0**
comp=Z,7.0nm,0.7s,mb4.7,baz=104,slow=7.9,SNR=23
KAF Kangasniemi 70.93 333 *ep* **P** **14 54 03.5 -1.1**
comp=Z,14nm,1.1s,mb4.8,baz=104,slow=5.7
KAF Kangasniemi 70.93 333 *eP* **P** **14 54 03.5 -1.1**
KAF pmax pmax
comp=Z,14nm,1.1s,mb4.8
CRVS Cervenica-Dubn 71.05 318 *eP* **P** **14 54 05.3 -0.2**
CRVS *es*P sP 14 54 17.7 +1.8
GRUS Gruza 71.06 313⇓ *iP* **P** **14 54 04.6 -1.1**
DIVS Divcibare 71.59 313⇑ *iP* **P** **14 54 07.5 -1.4**
KECS Kecovo 71.64 318 *eP* **P** **14 54 08.5 -0.6**
KECS *ep*P pP 14 54 17.0 +0.3
NIE Niedzica 71.86 319 *eP* **P** **14 54 08.5 -1.9**
PSZ Piszkesteto 71.98 317⇓ P **P** **14 54 10.6 -0.6**
PSZ Piszkesteto 71.98 317⇓ *eP* **P** **14 54 10.7 -0.5**
OJC Ojcow 72.28 320 *eP* **P** **14 54 12.4 -0.5**
PKSM Moragy 72.70 315⇑ P **P** **14 54 14.7 -0.7**
VYHS Vyhne 72.74 318 *iP* **P** **14 54 15.2 -0.4**
VYHS *e* pP 14 54 21.3 -2.0
KEV Kevo 72.93 340 *ep* **P** **14 54 15.3 -1.0**
SRO2 Moca 72.97 317 *eP* **P** **14 54 17.2 +0.2**
KOLL Kolacno 73.03 318 *eP* **P** **14 54 17.9 +0.6**
SRO Srobarova 73.03 317 *iP* **P** **14 54 17.2 -0.2**
OKC Ostrava-Krasne 73.30 319 *eP* **P** **14 54 19.0 +0.1**
MORC Moravsky Berou 73.69 319⇓ P **P** **14 54 21.3 +0.2**
ZST Bratislava 73.87 317 *eP* **P** **14 54 22.0 -0.2**
SOP Sopron 74.21 317⇑ *eP* **P** **14 54 24.3 +0.1**
KOGS Kog 74.36 315 *eP* **P** **14 54 24.8 -0.3**
KOGS *e* pP 14 54 31.3 -1.5
BILL Bilibino 74.50 22 *eP* **P** **14 54 25.1 -0.4**
DPC Dobruska-Polom 74.51 320 *eP* **P** **14 54 26.3 +0.4**
DPC AMS AMS 15 31 40.0
comp=Z,200nm,23.7s
KSP Ksiaz 74.56 320 *eP* **P** **14 54 26.0 -0.1**
KSP *ep*P pP 14 54 29.2 -4.6
KSP Ksiaz 74.56 320 *eP* **P** **14 54 26.2 +0.1**
UPC Upice 74.72 320 *eP* **P** **14 54 27.2 +0.1**
LBTB Lobatse 74.79 241 *eP* **P** **14 54 30.1 +2.1**
LBTB pmax pmax
comp=Z,29nm,0.9s,mb5.2
LBTB Lobatse 74.79 241 *eP* **P** **14 54 30.1 +2.0**
comp=Z,29nm,0.9s,mb5.2
ARSA Arzberg 74.89 316⇑ *iP* **P** **14 54 27.8 -0.4**
comp=Z,19nm,1.4s,mb4.8
BOJS Bojanci 75.03 314 *eP* **P** **14 54 28.4 -0.6**
PERS Pernice 75.15 316 *eP* **P** **14 54 29.5 -0.2**
PERS *e* pP 14 54 35.8 -1.5
OBKA Obir 75.54 316⇑ *iP* **P** **14 54 31.9 0.0**
comp=Z,14nm,0.9s,mb4.9
LJU Ljubljana 75.55 315 *iP* **P** **14 54 32.0 +0.1**
LJU *e* pP 14 54 39.3 -0.3
PRU Pruhonice 75.64 319 *eP* **P** **14 54 32.5 +0.2**
PRU AMS AMS 15 32 40.0
comp=Z,200nm,15.7s
PVCC Panska Ves 75.64 320 *eP* **P** **14 54 32.6 +0.3**
PVCC AMS AMS 15 32 00.0
comp=Z,300nm,17.0s
BSD Bornholm Skovb 75.65 324 *iP* **P** **14 54 31.1 -1.2**
BSD *i* 14 54 41.7
BSD pmax pmax
comp=Z,12nm,0.8s,mb4.9
BSD Bornholm Skovb 75.65 324 *iP* **P** **14 54 31.1 -1.2**
comp=Z,12nm,0.8s,mb4.9
BSD *i* 14 54 41.7
MOA Molln 75.76 317⇑ *iP* **P** **14 54 32.6 -0.5**
comp=Z,14nm,1.2s,mb4.8
VOY Vojsko 75.99 315 *eP* **P** **14 54 33.9 -0.5**
VOY *e* pP 14 54 40.8 -1.3
BRG Berggiesshubel 76.05 320 *eP* **P** **14 54 34.9 +0.2**
BRG *e* 14 57 25.5
BRG pmax pmax
comp=Z,37nm,1.9s,mb5.0
BRG Berggiesshubel 76.05 320 *eP* **P** **14 54 34.9 +0.2**
comp=Z,37nm,1.8s,mb5.0
BRG *e* 14 57 25.5
GERES GERESS Array B 76.15 318 P **P** **14 54 35.3 0.0**
comp=Z,10nm,0.7s,mb4.9,baz=89,slow=5.8,SNR=103
KHC Kasperske Hory 76.24 318 *eP* **P** **14 54 35.6 -0.2**
KHC *e* pP 14 54 42.5 -1.0
KHC MLR MLR
comp=Z,200nm,18.6s,MS4.5
KHC Kasperske Hory 76.24 318 *eP* **P** **14 54 35.6 -0.2**
KHC pP pP 14 54 42.5 -1.0
KHC AMS AMS 15 32 10.0
comp=Z,200nm,18.6s
ROBS Robic 76.26 315 *eP* **P** **14 54 35.3 -0.7**
PTCC Patocco-Chiusa 76.36 315 *eP* **P** **14 54 36.2 -0.4**
KBA Koelnbreinsper 76.37 316⇑ *iP* **P** **14 54 35.5 -1.1**
comp=Z,15nm,0.8s,mb5.0
KBA Koelnbreinsper 76.37 316⇑ *iP* **P** **14 54 35.5 -1.1**
KBA pmax pmax
comp=Z,15nm,0.8s,mb5.0
CLL Collm 76.65 320⇓ *iP* **P** **14 54 37.6 -0.4**
CLL pmax pmax
comp=Z,13nm,1.1s,mb4.8
CLL Collm 76.65 320⇓ *iP* **P** **14 54 37.6 -0.4**
comp=Z,13nm,1.1s,mb4.8
CLL *i* 14 54 41.2
CLL Collm 76.65 320 ⇓P **P** **14 54 37.6 -0.4**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 14 54 41.2 -4.5
CLL *i* 14 54 50.0
CLL *e* 14 55 24.0
ARV Arcevia 76.67 312 *eP* **P** **14 54 38.1 -0.2**
SNTG Esanatoglia 76.68 312 *eP* **P** **14 54 37.9 -0.5**
FVI Forni Avoltri 76.76 316 *eP* **P** **14 54 38.3 -0.5**
NKC Novy Kostel 76.99 319 *eP* **P** **14 54 40.5 +0.6**
NKC AMS AMS 15 35 20.0
comp=Z,200nm,15.2s
COP Copenhagen 77.09 325 *eP* **P** **14 54 34.6 -5.8**
COP pmax pmax
comp=Z,35nm,1.0s,mb5.2
COP Copenhagen 77.09 325 *eP* **P** **14 54 34.6 -5.8**
comp=Z,35nm,1.0s,mb5.2
COP Copenhagen 77.09 325 *iP* **P** **14 54 34.6 -5.8**
comp=Z,35nm,1.0s,mb5.2
SFI Santa Sofia 77.46 313 *eP* **P** **14 54 43.3 +0.6**
MOX Moxa 77.52 320 *eP* **P** **14 54 42.9 0.0**
MOX pmax pmax
comp=Z,22nm,1.6s,mb4.8
MOX Moxa 77.52 320 *eP* **P** **14 54 42.9 0.0**
comp=Z,22nm,1.6s,mb4.8
MOX Moxa 77.52 320 *iP* **P** **14 54 42.9 0.0**
comp=Z,logA/T=1.1,mb4.8
WTTA Wattenberg 77.54 316⇓ *iP* **P** **14 54 42.4 -0.6**
comp=Z,18nm,0.8s,mb5.0
WTTA Wattenberg 77.54 316⇓ *iP* **P** **14 54 42.4 -0.6**
WTTA pmax pmax
comp=Z,18nm,0.8s,mb5.0
CTI Castel Tesino 77.55 315 *eP* **P** **14 54 43.3 +0.2**
PGD Poggio Sodo 77.55 313 *eP* **P** **14 54 44.1 +0.9**
WATA Walderalm 77.58 316⇑ *iP* **P** **14 54 42.4 -0.9**
comp=Z,8.7nm,1.1s,mb4.6
WATA Walderalm 77.58 316⇑ *iP* **P** **14 54 42.4 -0.9**
WATA pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
VMG Vicchio 77.68 313 *eP* **P** **14 54 44.8 +0.9**
GRA1 Grafenberg Arr 77.78 319 *eP* **P** **14 54 44.8 +0.5**
comp=Z,60nm,2.0s,mb5.2
GRA1 *ep*P pP 14 54 52.9 +0.9
GRA1 LR LR
comp=Z,100nm,20.1s,MS4.1
GRF Grafenberg Arr 77.78 319 *eP* **P** **14 54 44.8 +0.5**
GRF *e*PP pP 14 54 52.9 +0.9
GRF pmax pmax
comp=Z,60nm,2.0s,mb5.2
GRF pmax pmax
comp=Z,22nm,1.3s,mb4.9
GRF MLR MLR
comp=Z,100nm,20.1s,MS4.1
GRF Grafenberg Arr 77.78 319 *eP* **P** **14 54 44.8 +0.5**
GRF *e*PP pP 14 54 52.9 +0.9
GRF pmax pmax
comp=Z,60nm,2.0s,mb5.2
GRF MLR MLR
comp=Z,100nm,20.1s,MS4.1
GRF Grafenberg Arr 77.78 319 *eP* **P** **14 54 44.8 +0.5**
comp=Z,60nm,2.0s,mb5.2
GRF *ep*P pP 14 54 52.9 +0.9
GRF LR LR
comp=Z,100nm,20.1s,MS4.1
SEI Scarperia 77.81 313 *eP* **P** **14 54 46.1 +1.5**
SQTA Sankt Quirin 77.83 316⇑ *iP* **P** **14 54 44.2 -0.4**
comp=Z,7.2nm,0.8s,mb4.7
SQTA Sankt Quirin 77.83 316⇑ *iP* **P** **14 54 44.2 -0.4**
SQTA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NB2 NORSAR Subarra 77.89 330 P **P** **14 54 43.6 -1.1**
comp=Z,10nm,0.8s,mb4.8,baz=96,slow=5.0
NOA NORSAR Array B 77.89 330 P **P** **14 54 43.9 -0.8**
comp=Z,8.7nm,0.8s,mb4.7,baz=92,slow=5.7,SNR=21
NOA PP PP 14 57 38.7 -3.9
comp=Z,1.0nm,0.8s,baz=106,slow=5.8,SNR=3.6
NOA NORSAR Array B 77.89 330 P **P** **14 54 43.9 -0.8**
NOA PP PP 14 57 38.7 -3.9
DZM Mont Dzumac 77.96 115 LR LR 15 28 28.5
comp=Z,195nm,20.2s,MS4.4,baz=241,slow=35
NAO01 NORSAR Array S 78.05 330 *eP* **P** **14 54 44.5 -1.1**
comp=Z,7.6nm,0.8s,mb4.7
ZCCA Zocca 78.07 313 *eP* **P** **14 54 47.5 +1.5**
GSCL Gusciola 78.35 313 *eP* **P** **14 54 48.7 +1.2**
BRMO Bormio 78.42 316 *eP* **P** **14 54 48.4 +0.4**
SARO Sassorosso 78.49 313 P **P** **14 54 47.4 -1.0**
VALM 78.60 313 P **P** **14 54 49.4 +0.4**
GRAM 78.72 314 P **P** **14 54 49.9 +0.3**
BACM 78.72 313 P **P** **14 54 49.8 +0.1**
DAVA Damuels 78.73 316⇑ *iP* **P** **14 54 49.3 -0.3**
comp=Z,28nm,1.0s,mb5.2
CODM 78.88 313 P **P** **14 54 49.9 -0.6**
MUD Monsted U'grnd 78.92 326 *eP* **P** **14 54 50.5 0.0**
MUD pmax pmax
comp=Z,11nm,0.5s,mb5.0
MUD Monsted U'grnd 78.92 326 *eP* **P** **14 54 50.5 0.0**
comp=Z,11nm,0.5s,mb5.0
MUD *e* 14 54 54.2
MUD Monsted U'grnd 78.92 326 *iP* **P** **14 54 50.5 0.0**
comp=Z,11nm,0.5s,mb5.0
MUD *e* 14 54 54.2
STU Stuttgart 79.13 318 *eP* **P** **14 54 50.9 -0.9**
STU pmax pmax
comp=Z,16nm,0.8s,mb5.0
STU Stuttgart 79.13 318 *eP* **P** **14 54 50.9 -0.9**
comp=Z,16nm,0.8s,mb5.0
VAI Varese 79.57 315 *eP* **P** **14 54 53.5 -0.7**
PGF Pioggiola 79.60 312 *eP* **P** **14 54 54.7 +0.3**
PCP Pian Castagno 79.80 314 P **P** **14 54 54.3 -1.2**
FELD Feldberg 79.97 317 *eP* **P** **14 54 56.2 -0.1**
LANF Langenberg 80.04 318 *eP* **P** **14 54 57.0 +0.4**
FIN Finale Ligure 80.07 313 *eP* **P** **14 54 57.0 +0.1**
MCGN Macugnaga 80.11 315 *eP* **P** **14 54 58.0 +0.9**
ORX Oropa 80.13 315 P **P** **14 54 59.1 +2.0**
ABH Alteburg 80.15 319 *eP* **P** **14 54 57.3 +0.1**
LIBD Limburg 80.22 317 *eP* **P** **14 54 55.3 -2.3**

MAW	**Mawson**	**80.29 192**	P	**P**	**14 54 57.1**	**-0.5**
	comp=Z,6.5nm,1.0s,mb4.5,baz=123,slow=5.1,SNR=3.3					
MAW			LR	LR	15 25 40.9	
	comp=Z,284nm,20.0s,MS4.6,baz=173,slow=32					
ROB	**Roburent**	**80.30 313**	P	**P**	**14 54 57.7**	**-0.4**
TRAV		**80.30 315**	P	**P**	**14 54 59.0**	**+0.9**
BBS	**Basel-Blauen**	**80.33 317**	*e*P	**P**	**14 54 57.9**	**-0.3**
MONE	**Monesi**	**80.40 313**	P	**P**	**14 54 58.5**	**-0.2**
CDF	**Champ du Feu**	**80.42 318** ⇓	*i*P	**P**	**14 54 58.4**	**-0.3**
	comp=Z,14nm,0.9s,mb4.6					
NEGI	**Negi**	**80.45 313**	P	**P**	**14 54 56.9**	**-2.1**
ENR	**Entracque**	**80.63 313**	P	**P**	**14 55 00.5**	**+0.6**
SBF	**Sospel**	**80.65 313**	*e*P	**P**	**14 55 00.0**	**0.0**
	comp=Z,68nm,1.0s,mb5.2					
RSP	**Reno Superiore**	**80.67 314**	P	**P**	**14 54 59.8**	**-0.3**
BHB	**Bricherasio**	**80.69 314**	P	**P**	**14 54 58.5**	**-1.7**
STV2	**Anna di Valdie**	**80.70 313**	P	**P**	**14 54 58.5**	**-1.7**
STV	**Sta Anna Valdi**	**80.70 313**	P	**P**	**14 54 58.9**	**-1.3**
LSD	**Ceresole Reale**	**80.72 315**	P	**P**	**14 55 00.5**	**+0.1**
HINF	**Hinteralfeld**	**80.75 317**	*e*P	**P**	**14 55 00.2**	**-0.2**
	comp=Z,7.2nm,0.7s,mb4.4					
LOMF	**Lomont**	**80.80 317**	*e*P	**P**	**14 54 59.9**	**-0.8**
FENE	**Fenestrelle**	**80.82 314**	P	**P**	**14 55 00.2**	**-0.7**
PZZ	**Prazzo**	**80.84 314**	P	**P**	**14 54 59.3**	**-1.7**
LPG	**La Plagne**	**81.00 315** ⇓	*i*P	**P**	**14 55 02.4**	**+0.6**
	comp=Z,58nm,0.9s,mb5.2					
LPL	**La Plagne**	**81.01 315** ⇓	*i*P	**P**	**14 55 02.5**	**+0.6**
	comp=Z,60nm,0.7s,mb5.3					
RRL	**Cesana Torines**	**81.03 314**	P	**P**	**14 55 01.9**	**0.0**
MBDF	**Montbardon**	**81.05 314**	*e*P	**P**	**14 55 01.6**	**-0.5**
	comp=Z,18nm,0.8s,mb4.8					
SUR	**Sutherland**	**81.06 235**	*e*P	**P**	**14 55 05.5**	**+3.1**
	comp=Z,67nm,1.1s,mb5.5					
HAU	**Haudompre**	**81.08 317** ⇓	*i*P	**P**	**14 55 01.9**	**-0.2**
	comp=Z,34nm,0.9s,mb5.0					
HAU			*e*R			
	comp=Z,183nm,22.8s					
BNI	**Bardonecchia**	**81.09 314**	*e*P	**P**	**14 55 01.9**	**-0.3**
	comp=Z,42nm,1.3s,mb5.2					
FRF	**La Foret Royal**	**81.24 313** ⇓	*i*P	**P**	**14 55 03.3**	**+0.2**
THEF	**They Montfort**	**81.30 317**	*e*P	**P**	**14 55 03.1**	**-0.2**
LMR	**La Mourre**	**81.36 313**	*e*P	**P**	**14 55 03.8**	**+0.1**
CABF	**La Chapelle**	**81.37 316** ⇓	*i*P	**P**	**14 55 04.0**	**+0.3**
	comp=Z,21nm,0.8s,mb4.8					
ORIF	**Oris-en-Rattie**	**81.67 314**	*e*P	**P**	**14 55 05.1**	**-0.2**
	comp=Z,17nm,0.9s,mb4.7					
ORIF			*e*R			
	comp=Z,257nm,22.8s					
GIVF	**Givet**	**81.89 319**	*e*P	**P**	**14 55 06.5**	**+0.2**
MEZF	**Maizieres J'vi**	**81.89 318**	*e*P	**P**	**14 55 06.5**	**+0.1**
BAIF	**Baives**	**82.29 319** ⇓	*i*P	**P**	**14 55 08.7**	**+0.3**
	comp=Z,66nm,1.4s,mb5.1					
VIVF	**Saint-Julien-l**	**82.53 314**	*e*P	**P**	**14 55 09.9**	**+0.2**
	comp=Z,66nm,1.4s,mb5.2					
SMF	**Signal de Mont**	**82.91 316** ⇓	*i*P	**P**	**14 55 11.6**	**-0.1**
	comp=Z,23nm,0.8s,mb4.9					
SSF	**Saint Saulge**	**83.08 316** ⇓	*i*P	**P**	**14 55 12.6**	**0.0**
PLDF	**La Plantade**	**83.14 315**	*e*P	**P**	**14 55 13.2**	**+0.3**
LASF	**Ste Croix**	**83.20 313**	*e*P	**P**	**14 55 13.3**	**+0.1**
	comp=Z,94nm,1.5s,mb5.3					
AVF	**Avril sur Loir**	**83.22 316** ⇓	*i*P	**P**	**14 55 13.2**	**-0.1**
	comp=Z,14nm,0.8s,mb4.7					
BGF	**Bois d'Agland**	**83.60 316**	*e*P	**P**	**14 55 15.6**	**+0.4**
TCF	**Toulx Ste Croi**	**84.07 316**	*e*P	**P**	**14 55 18.0**	**+0.4**
	comp=Z,59nm,1.5s,mb5.2					
CAF	**Calviac**	**84.36 314**	*e*P	**P**	**14 55 19.0**	**-0.1**
MTLF	**Montolieu**	**84.47 313**	*e*P	**P**	**14 55 20.1**	**+0.4**
	comp=Z,21nm,1.0s,mb4.9					
RJF	**Les Rejaudoux**	**84.69 315** ⇓	*i*P	**P**	**14 55 21.4**	**+0.6**
	comp=Z,14nm,0.8s,mb4.8					
RJF			*e*R			
	comp=Z,220nm,22.0s					
LFF	**La Frestale**	**85.29 315**	*e*P	**P**	**14 55 24.4**	**+0.7**
LDF	**La Druitiere**	**85.29 318** ⇓	*i*P	**P**	**14 55 23.9**	**+0.2**
	comp=Z,28nm,0.9s,mb5.1					
FLN	**La Foliniere**	**85.50 319**	*e*P	**P**	**14 55 24.9**	**+0.2**
	comp=Z,66nm,1.4s,mb5.3					
FLN			*e*R			
	comp=Z,213nm,21.2s					
DAG	**Danmarks Havn**	**85.56 348** ⇑	*e*P	**P**	**14 55 24.0**	**-0.4**
DAG			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6					
DAG	**Danmarks Havn**	**85.56 348** ⇑	*e*P	**P**	**14 55 24.0**	**-0.4**
	comp=Z,4.0nm,1.0s,mb4.6					
DAG	**Danmarks Havn**	**85.56 348** ⇑	*i*P	**P**	**14 55 24.0**	**-0.4**
	comp=Z,4.0nm,1.0s,mb4.6					
MFF	**Saint Martin d**	**85.63 316**	*e*P	**P**	**14 55 25.7**	**+0.3**
	comp=Z,90nm,1.5s,mb5.5					
GRR	**Gorron**	**85.81 318**	*e*P	**P**	**14 55 26.6**	**+0.3**
ETSF	**Etsaut**	**86.55 313**	*e*P	**P**	**14 55 30.7**	**+0.6**
	comp=Z,22nm,1.1s,mb5.0					
SGMF	**Saint Gilles**	**86.95 318**	*e*P	**P**	**14 55 32.1**	**+0.2**
	comp=Z,38nm,1.3s,mb5.2					
SJPF	**Ste Jean**	**86.99 313**	*e*P	**P**	**14 55 33.0**	**+0.8**
	comp=Z,29nm,1.2s,mb5.1					
SYO	**Syowa Base**	**87.08 197** ⇓	pP	pP	14 55 41.0	+1.2
SYO	**Syowa Base**	**87.08 197** ⇓	sP	sP	14 55 42.7	+0.4
ESDC	**Sonseca Array**	**89.69 310**	P	**P**	**14 55 45.8**	**+0.6**
	comp=Z,0.9nm,0.4s,mb4.4,baz=63,slow=4.1,SNR=17					
IMA	**Indian Mountai**	**90.04 22**	*e*P	**P**	**14 55 47.5**	**+1.3**
SUMG	**Summit**	**92.22 347**	*e*P	**P**	**14 55 57.2**	**+1.1**
	comp=Z,14nm,1.0s,mb5.2					
COLA	**College**	**92.75 22**	*i*P	**P**	**14 55 59.4**	**+0.7**
PWA	**Palmer West**	**93.51 25**	*e*P	**P**	**14 56 02.6**	**+0.4**
THY	**Trims Highway**	**94.29 23**	P	**P**	**14 56 07.4**	**+1.6**
VNDA	**Vanda**	**94.85 168**	P	**P**	**14 56 09.2**	**+1.1**
	comp=Z,0.3nm,0.4s,mb4.0,baz=270,slow=14,SNR=2.5					
INK	**Inuvik**	**95.31 16**	*e*P	**P**	**14 56 10.8**	**+0.5**
	comp=Z,14nm,1.1s,mb5.3					
INK			*e*	pP	14 56 18.6	+0.4
RES	**Resolute Bay**	**95.55 2**	*e*P	**P**	**14 56 12.3**	**+0.9**
	comp=Z,13nm,0.9s,mb5.4					
RES			*e*	pP	14 56 19.8	+0.6
DAWY	**Dawson**	**96.25 21**	*e*P	**P**	**14 56 15.5**	**+0.8**
DAWY			*e*	pP	14 56 23.5	+0.9
YKA	**Yellowknife Ar**	**104.70 13**	Pdiff	Pdif	14 56 53.0	+0.4
	comp=Z,0.7nm,1.0s,baz=326,slow=4.2,SNR=7.2					
YKA			PKIKP		15 01 09.7	
	comp=Z,1.3nm,1.1s,baz=332,slow=7.2,SNR=6.2					
YKA			PKKP	PKKP	15 12 43.3	+3.1
	comp=Z,0.3nm,0.5s,baz=151,slow=3.2,SNR=6.6					
YKA	**Yellowknife Ar**	**104.70 13**	Pdif	Pdif	14 56 53.0	+0.4
PPT	**Papeete**	**118.23 105**	*e*SS	SS	15 19 05.2	+0.8
PPT			*e*LR	LR	15 37 28.9	
	comp=Z,158nm,23.8s					
TBI	**Tubuai**	**118.37 111**	*e*SS	SS	15 19 03.3	-2.8
TBI			*e*LR	LR	15 37 34.1	
	comp=Z,190nm,30.0s					
ULM	**Lac du Bonnet**	**119.66 7**	PKP	PKPdf	15 01 36.6	-3.5
	comp=Z,1.3nm,0.7s,baz=13,slow=3.4,SNR=4.1					
NVAR	**Mina Array Bea**	**123.51 30**	PKP	PKPdf	15 01 46.2	-1.7
	comp=Z,2.5nm,0.7s,baz=3.7,slow=1.7,SNR=20					
NVAR	**Mina Array Bea**	**123.51 30**	PKP	PKPdf	15 01 46.2	-1.7
PDAR	**Pinedale Array**	**123.56 20**	PKP	PKPdf	15 01 45.3	-2.6
	comp=Z,2.6nm,0.8s,baz=34,slow=1.3,SNR=20					
MSU	**Marysvale**	**126.24 25**	*e*PKPdf	PKPdf	15 01 52.1	-1.1
ANMO	**Albuquerque**	**131.60 22**	PKP	PKPdf	15 02 01.6	-2.0
	comp=Z,1.8nm,0.8s,baz=228,slow=1.7,SNR=5.5					
ANMO			SKPbc		15 05 23.5	
	comp=Z,5.6nm,1.0s,baz=315,slow=4.5,SNR=13					
BNM	**Barren Site**	**132.25 23**	*e*PKPdf	PKPdf	15 02 03.9	-0.9
GDL2	**Guadalupe Moun**	**134.84 22**	PKPdf	PKPdf	15 02 07.0	-2.7
TXAR	**Lajitas Array**	**137.67 23**	PKP	PKPdf	15 02 11.7	-3.3
	comp=Z,1.2nm,0.6s,baz=309,slow=0.6,SNR=12					
TXAR			PP	PP	15 05 00.6	-0.5
	comp=Z,0.7nm,0.9s,baz=315,slow=1.8,SNR=4.2					
TXAR			SKPbc		15 05 42.9	
	comp=Z,3.9nm,1.1s,baz=270,slow=1.3,SNR=8.1					
JCT	**Junction City**	**137.94 18**	*e*PKPdf	PKPdf	15 02 13.8	-1.6
BDFB	**Brasilia**	**142.26 257**	PKP	PKPdf	15 02 20.9	-2.6
	comp=Z,2.6nm,0.7s,baz=141,slow=2.6,SNR=4.4					
SJG	**San Juan**	**145.91 324**	PKPbc	PKPbc	15 02 27.3	+1.1
	comp=Z,7.8nm,0.4s,baz=323,slow=15,SNR=4.5					
PLCA	**Paso Flores**	**146.15 202**	PKPbc	PKPbc	15 02 28.6	+2.4
	comp=Z,3.8nm,0.8s,baz=177,slow=6.4,SNR=12					
PLCA	**Paso Flores**	**146.15 202**	*e*PKPdf	PKPdf	15 02 28.6	-1.0
PLCA			*e*		15 02 35.8	
PCRV	**Puerto La Cruz**	**150.74 312**	PKPbc	PKPdf	15 02 38.6	+0.9
	comp=Z,12nm,0.7s,baz=17,slow=17,SNR=11					
CFAA	**Coronel Fontan**	**152.56 215**	PKPbc	PKPdf	15 02 44.8	+4.9
	comp=Z,0.4nm,0.3s,baz=127,slow=2.3,SNR=14					
SDV	**Santo Domingo**	**155.80 319**	PKP	PKPdf	15 02 42.4	-2.3
	comp=Z,1.3nm,0.3s,baz=252,slow=17,SNR=3.0					
SDV			PKPab	PKPab	15 03 07.7	-1.7
	comp=Z,12nm,0.7s,baz=84,slow=2.2,SNR=7.5					
SAML	**Samuel**	**157.20 270**	*e*PKPdf	PKPdf	15 02 43.6	-3.0
LPAZ	**La Paz**	**161.17 248**	PKP	PKPdf	15 02 48.7	-2.3
	comp=Z,0.5nm,0.3s,baz=332,slow=8.4,SNR=3.6					
LPAZ			PKPab	PKPab	15 03 31.3	-1.1
	comp=Z,0.6nm,0.5s,baz=271,slow=13,SNR=1.6					
LPAZ	**La Paz**	**161.17 248**	PKP	PKPdf	15 02 48.7	-2.3
LPAZ			PKPab	PKPab	15 03 31.3	-1.1
OTAV	**Otavalo**	**167.38 321**	*e*PKPdf	PKPdf	15 02 55.2	-1.6

IDC 03 14:51:01.0±10.0, 14.33N×92.64W, mb3.7/3, mb1 4.1/4, mb1mx3.6/20, mbtmp3.7/4, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=214.7km s-min=102.3km az=12.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**8.51**	**117**	LR	LR	14 56 44.2	
	comp=Z,100nm,19.8s,baz=14,slow=40						
TXAR	**Lajitas Array**	**18.09**	**327**	P	P	14 55 13.8	-1.6
	0.0nm,0.3s,baz=156,slow=11,SNR=5.7						
ANMO	**Albuquerque**	**24.02**	**331**	P	P	14 56 17.9	-0.5
	0.5nm,0.4s,baz=135,slow=2.9,SNR=4.1						
NVAR	**Mina Array Bea**	**33.03**	**321**	P	P	14 57 38.3	-1.9
	0.9nm,0.8s,baz=137,slow=12,SNR=5.0						
YKA	**Yellowknife Ar**	**50.57**	**347**	P	P	15 00 01.0	-2.2
	1.9nm,0.7s,baz=152,slow=7.4,SNR=38						

IDC 03 15:00:32.7±3.1, 2.41N×96.37E, mb3.7/5, mb1 3.8/5, mb1mx3.6/15, mbtmp3.7/5, Error ellipse: s-maj=131.1km s-min=22.1km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.38**	**123**	P	P	15 08 36.9	-2.0
	0.3nm,0.6s,baz=300,slow=9.5,SNR=2.7						
ASAR	**Alice Springs**	**44.78**	**128**	P	P	15 08 48.7	-1.6
	0.3nm,1.0s,baz=299,slow=8.1,SNR=4.5						
MKAR	**Makanchi Array**	**45.88**	**347**	P	P	15 08 56.7	-2.0
	1.1nm,0.6s,baz=157,slow=8.3,SNR=14						
SONM	**Songino Array**	**46.07**	**9**	P	P	15 08 58.8	-1.4
	0.8nm,0.5s,baz=192,slow=9.1,SNR=9.8						
SONM				PcP	PcP	15 10 35.3	-1.9
	0.3nm,0.5s,baz=180,slow=2.9,SNR=3.5						
ZAL	**Zalesovo**	**52.24**	**351**	P	P	15 09 44.8	-3.0
	1.2nm,0.4s,baz=274,slow=3.1,SNR=4.9						

*INMG **03** 15:05:54.2±1.0, 39.21N×9.74W, h16km±3km, ML2.2, Error ellipse: s-maj=5.7km s-min=2.1km az=82.0*
*IGIL **03** 15:05:55.6, 39.20N×9.60W, h0km, ML2.7*

MDD 03 15:05:54.3±0.8, 39.22N×9.69W, h22km±1km, mbLg2.3/16, Error ellipse: s-maj=8.1km s-min=3.6km az=72.0, PRXIMO, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**0.53**	**128**	*e*Pg	Pb	15 06 04.6	-0.3
PLOU				*e*Sg	Sb	15 06 12.2	+0.1
	185nm,0.1s						
PLOU	**Loures**	**0.53**	**128**	Pg	Pb	15 06 04.6	-0.3
PLOU				Lg		15 06 12.2	
	93nm,0.1s						
ALMR	**Almeirim**	**0.86**	**94**	*e*P	Pb	15 06 10.0	-0.6
ALMR				*e*S	Sb	15 06 20.2	-1.4
ALMR				*e*S	Sb	15 06 20.2	-1.4
ALMR				AML	AML	15 06 22.6	
	comp=E,219nm,0.2s						
PTOM	**Tomar**	**1.06**	**68**	*e*P	Pb	15 06 13.8	-0.2
PTOM				*e*S	Sb	15 06 28.1	+0.6
	comp=E,66nm,0.1s						
PTOM	**Tomar**	**1.06**	**68**	Pg	Pb	15 06 13.8	-0.2
PTOM				Lg		15 06 28.1	
	comp=E,33nm,0.1s						
MOE	**Montemor**	**1.25**	**123**	*e*S	Sb	15 06 30.2	-2.7
MOE	**Montemor**	**1.25**	**123**	Pn	Pn	15 06 15.7	-1.1
	SNR=7.9						
MOE				Sn	Sn	15 06 30.2	-2.8
PCBR	**Castelo Branco**	**1.82**	**69**	*e*Pn	Pn	15 06 23.7	-1.1
PCBR				*e*Sn	Sn	15 06 45.3	-2.1
	comp=E,10nm,0.5s						
PTEO	**Sao Teotonio**	**1.83**	**155**	*e*Pn	Pn	15 06 23.6	-1.4
PTEO				*e*Sn	Sn	15 06 45.3	-2.5
	comp=E,12nm,0.5s						
PTEO	**Sao Teotonio**	**1.83**	**155**	Pn	Pn	15 06 23.6	-1.4
PTEO				Sn	Sn	15 06 45.3	-2.5
	comp=E,6.0nm,0.5s						
PBEJ	**Beja**	**1.86**	**129**	*e*Pn	Pn	15 06 23.5	-1.9
PBEJ				*e*Sn	Sn	15 06 46.8	-1.6
	comp=E,11nm,0.3s						
PBEJ	**Beja**	**1.86**	**129**	Pn	Pn	15 06 23.5	-1.9
PBEJ				Sn	Sn	15 06 44.8	-3.6
MTE	**Manteigas**	**2.03**	**54**	*e*Pn	Pn	15 06 26.8	-1.1
MTE				*e*Sn	Sn	15 06 50.9	-1.9
	comp=E,10nm,0.4s						
MTE	**Manteigas**	**2.03**	**54**	Pn	Pn	15 06 26.8	-1.1
MTE				Sn	Sn	15 06 50.9	-1.9
	comp=E,5.1nm,0.4s						
EBAD	**Badajoz**	**2.13**	**102**	Pn	Pn	15 06 27.2	-2.1
	comp=E,0.1nm,0.0s,SNR=10						
EBAD				Pg	Pn	15 06 31.4	+2.1
	comp=E,1.3nm,0.1s,SNR=20						
EBAD				Sn	Sn	15 06 53.0	-2.4
	comp=E,5.5nm,0.1s,SNR=11						
EBAD				Lg		15 06 59.6	
	comp=E,10nm,0.1s,SNR=8.2						
EGRO	**El Granado**	**2.41**	**133**	Pn	Pn	15 06 30.9	-2.5
	comp=E,0.1nm,0.0s,SNR=16						
EGRO				Sn	Sn	15 06 58.5	-4.0
	comp=E,5.8nm,0.2s,SNR=5.9						
EGRO				Lg		15 07 08.4	
	comp=E,1.7nm,0.1s,SNR=5.0						
PALC	**Alcoutim**	**2.47**	**135**	*e*Pn	Pn	15 06 32.1	-2.0
PALC				*e*Sn	Sn	15 07 00.4	-3.5
	comp=E,9.4nm,0.1s						
PALC	**Alcoutim**	**2.47**	**135**	Pn	Pn	15 06 32.1	-2.0
PALC				Sn	Sn	15 07 00.4	-3.5
	comp=E,4.7nm,0.1s						
EMIN	**Mina Concepcio**	**2.77**	**121**	Pn	Pn	15 06 36.5	-2.0
	comp=E,0.3nm,0.1s,SNR=8.4						
EMIN				Pg	Pn	15 06 42.7	+4.2
	comp=E,0.7nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	15 07 07.6	-4.0
	comp=E,3.8nm,0.2s,SNR=13						
EMIN				Lg		15 07 18.9	
	comp=E,3.0nm,0.1s,SNR=5.0						
ELOB	**Lobios**	**2.92**	**25**	Pn	Pn	15 06 38.7	-1.9
	comp=E,0.6nm,0.0s,SNR=10						
ELOB				Sn	Sn	15 07 10.4	-5.0
	comp=E,3.9nm,0.1s,SNR=7.1						
ELOB				Lg		15 07 23.5	
	comp=E,6.0nm,0.2s,SNR=5.0						
EZAM	**Zamans**	**3.02**	**14**	Pn	Pn	15 06 39.8	-2.3
	comp=E,7.7nm,0.6s,SNR=7.3						
EZAM				Sn	Sn	15 07 13.2	-4.8
	comp=E,2.6nm,0.2s,SNR=5.9						
EZAM				Lg		15 07 26.4	
	comp=E,5.4nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**3.42**	**40**	*e*Pn	Pn	15 06 45.3	-2.4
PBRG				*e*Sn	Sn	15 07 22.2	-5.9
	comp=E,2.6nm,0.1s						
PBRG	**Braganca**	**3.42**	**40**	Pn	Pn	15 06 45.2	-2.5
PBRG				Sn	Sn	15 07 22.2	-5.9
ECAL	**Calabor**	**3.53**	**39**	Pn	Pn	15 06 46.8	-2.4
	comp=E,1.5nm,0.2s,SNR=6.5						
ECAL				Sn	Sn	15 07 25.5	-5.2
	comp=E,1.3nm,0.3s,SNR=5.7						
ECAL				Lg		15 07 41.6	
	comp=E,7.8nm,0.3s,SNR=5.0						
ECAB	**El Cabril**	**3.53**	**108**	Pn	Pn	15 06 47.1	-2.1
	comp=E,1.4nm,0.2s,SNR=8.1						
ECAB				Sn	Sn	15 07 25.5	-5.3
	comp=E,6.4nm,0.2s,SNR=20						
ECAB				Lg		15 07 41.1	
	comp=E,6.0nm,0.2s,SNR=6.9						
STS	**Santiago**	**3.76**	**13**	Pn	Pn	15 06 50.9	-1.7
	comp=E,4.5nm,0.1s,SNR=7.9						
STS				Pg	Pn	15 06 58.7	+6.1
	comp=E,0.7nm,0.2s,SNR=7.9						
STS				Sn	Sn	15 07 31.1	-5.6
	comp=E,6.0nm,1.0s,SNR=7.9						
STS				Lg		15 07 47.1	
	comp=E,2.3nm,2.0s,SNR=7.9						
EMAZ	**Mazaricos**	**3.77**	**8**	Pn	Pn	15 06 49.7	-2.9
	comp=E,0.4nm,0.1s,SNR=7.9						
EMAZ				Sn	Sn	15 07 30.7	-6.1
	comp=E,2.4nm,0.2s,SNR=7.8						
ESPR	**Espera**	**3.83**	**127**	Pn	Pn	15 06 50.5	-3.0
	comp=E,0.6nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	15 07 33.4	-4.9
	comp=E,4.0nm,0.5s,SNR=7.9						
EINC	**Incio**	**3.87**	**26**	Pn	Pn	15 06 52.0	-2.0
	comp=E,0.6nm,0.3s,SNR=6.6						
EINC				Sn	Sn	15 07 33.4	-5.9
	comp=E,0.5nm,0.1s,SNR=5.0						
EINC				Lg		15 07 51.3	
	comp=E,0.8nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**4.13**	**103**	Pn	Pn	15 06 55.1	-2.7
	comp=E,1.4nm,0.1s,SNR=14						
EADA				Sn	Sn	15 07 39.8	-6.3
	comp=E,1.1nm,0.1s,SNR=7.4						
EADA				Lg		15 07 59.3	
	comp=E,3.3nm,0.4s,SNR=5.0						
ESDC	**Sonseca Array**	**4.45**	**82**	Pn	Pn	15 06 59.7	-2.7
	comp=E,1.5nm,0.2s,baz=266,slow=13,SNR=3.8						
ESDC				Sn	Sn	15 07 48.4	-5.8
	comp=E,2.0nm,0.2s,baz=264,slow=24,SNR=6.8						
ESDC				Lg		15 08 08.6	
	comp=E,1.4nm,0.3s,baz=264,slow=29,SNR=33						
EPON	**Pontenova**	**4.53**	**24**	Pn	Pn	15 07 00.2	-3.2
	comp=E,0.3nm,0.2s,SNR=7.9						
EPON				Sn	Sn	15 07 49.3	-6.8
	comp=E,1.0nm,0.2s,SNR=7.9						
EPON				Lg		15 08 10.0	
	comp=E,1.4nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**4.57**	**110**	Sn	Sn	15 07 51.2	-5.9
	comp=E,18nm,1.0s,SNR=7.9						
EMIJ	**Mijas**	**4.70**	**123**	Sn	Sn	15 07 54.0	-6.5
	comp=E,1.9nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**5.29**	**38**	Pn	Pn	15 07 11.6	-2.6
	comp=E,0.2nm,0.2s,SNR=7.9						
EARI				Sn	Sn	15 08 08.1	-7.3
	comp=E,0.3nm,0.4s,SNR=4.0						
EQES	**Quesada**	**5.38**	**103**	Sn	Sn	15 08 10.1	-7.3
	comp=E,0.6nm,0.2s,SNR=7.9						
EQES				Lg		15 08 35.7	
	comp=E,0.4nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**5.63**	**94**	Lg		15 08 42.6	
	comp=E,3.1nm,0.6s,SNR=7.9						

IDC 03 15:08:13.6±6.4, 1.53N×97.54E, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, MS2.9/1, Ms1 3.1/1, ms1mx2.9/19, Error ellipse: s-maj=316.4km s-min=24.2km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.88**	**5**	LR	LR	15 19 42.7	
	comp=Z,43nm,19.5s,baz=295,slow=41						
WRA	**Warramunga Arr**	**41.92**	**122**	P	P	15 16 06.3	-1.6
	0.3nm,0.5s,baz=300,slow=9.3,SNR=4.8						
ASAR	**Alice Springs**	**43.33**	**128**	P	P	15 16 17.6	-1.8
	0.2nm,0.3s,baz=298,slow=7.5,SNR=4.6						
MKAR	**Makanchi Array**	**47.00**	**346**	P	P	15 16 46.7	-1.7
	0.6nm,0.4s,baz=169,slow=8.7,SNR=5.8						
ZAL	**Zalesovo**	**53.28**	**351**	P	P	15 17 33.6	-2.7
	1.3nm,0.4s,baz=321,slow=9.4,SNR=4.6						

*MOS **03** 15:14:04.5±1.9, 53.30N×108.45E, h10km, mb4.5/1, Error ellipse: s-maj=11.8km s-min=7.3km az=52.6*

BYKL 03 15:14:04.9±0.2, 53.29N×108.43E, h14km±3km, 8C-7D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.19**	**98**	⇓*i*Pg	Pg	15 14 09.0	-0.5
MXMB				*e*Sg	Sg	15 14 11.9	-0.6
MXMB				Pmax			
	2μm,0.2s						
MXMB				Smax			
	45μm,0.7s						
OGRR	**Ongureny**	**0.61**	**306**	⇑*i*PG	Pg	15 14 16.7	-0.7
OGRR				*e*		15 14 24.7	
OGRR				pmax	pmax		
	comp=Z,281nm,0.2s						
OGRR				smax			
	comp=E,1μm,0.2s						
OGRR	**Ongureny**	**0.61**	**306**	⇑*i*Pg	Pg	15 14 16.7	-0.7
	comp=E,314nm,0.3s						
OGRR				⇓*i*Pg	Pg	15 14 16.7	-0.7
	comp=E,282nm,0.3s				

NIZ			*e*			15 15 24.0	
NIZ			pmax	pmax			
	comp=Z,39nm,0.7s						
NIZ			smax				
	comp=E,203nm,0.6s						
NIZ	**Nizh Angarsk**	**2.57 14**	*e*	Pn		15 14 45.9	-1.0
NIZ			*e*Pg	Pg		15 14 50.1	-6.2
NIZ			*e*Sn	Sn		15 15 17.6	-0.7
NIZ			*e*Sg	Sg		15 15 24.0	-6.7
NIZ			Pmax				
	comp=E,45nm,0.6s						
NIZ			Smax				
	comp=E,233nm,0.5s						
LSTR	**Listvyanka**	**2.62 238**	*e*PN	Pn		15 14 46.9	-0.7
LSTR			*e*			15 14 50.6	
LSTR			*e*S	Sn		15 15 19.0	-0.4
LSTR			*e*			15 15 25.3	
LSTR			pmax	pmax			
	comp=Z,27nm,0.5s						
LSTR			smax				
	comp=N,193nm,1.0s						
LSTR	**Listvyanka**	**2.62 238**	⇑*i*Pn	Pn		15 14 47.2	-0.4
	comp=N,7.0nm,0.6s						
LSTR			⇑*i*Pn	Pn		15 14 47.2	-0.4
	comp=N,31nm,0.6s						
LSTR			⇓*i*Pn	Pn		15 14 47.2	-0.4
	comp=N,56nm,0.6s						
LSTR			*e*Pg	Pg		15 14 51.6	-5.6
LSTR			*e*			15 15 19.1	
LSTR			*e*Sg	Sg		15 15 25.2	-6.9
LSTR			Pmax				
	comp=N,56nm,0.6s						
LSTR			Smax				
	comp=N,148nm,0.8s						
IRK	**Irkutsk**	**2.74 249**	*e*PN	Pn		15 14 54.0	+4.8
IRK			*e*			15 15 28.5	
IRK			pmax	pmax			
	comp=Z,49nm,0.2s						
IRK			smax				
	comp=N,501nm,0.3s						
IRK	**Irkutsk**	**2.74 249**	*e*Pn	Pn		15 14 48.3	-0.9
IRK			*e*Pg	Pg		15 14 53.3	-6.3
IRK			*e*Sg	Sg		15 15 29.5	-6.6
IRK			Pmax				
	comp=N,50nm,0.1s						
IRK			Smax				
	comp=N,497nm,0.3s						
KMO	**Kumora**	**3.06 31**	*e*PN	Pn		15 14 53.6	-0.3
KMO			*e*			15 14 58.8	
KMO			*e*S	Sn		15 15 29.8	-0.8
KMO			*e*			15 15 38.5	
KMO			pmax	pmax			
	comp=Z,56nm,0.7s						
KMO			smax				
	comp=N,309nm,0.9s						
KMO	**Kumora**	**3.06 31**	*e*Pn	Pn		15 14 53.6	-0.3
KMO			*e*Pg	Pg		15 14 58.6	-7.5
KMO			*e*Sg	Sg		15 15 39.7	-7.2
KMO			Pmax				
	comp=N,62nm,0.7s						
KMO			Smax				
	comp=N,317nm,1.0s						
TLY	**Talaya**	**3.34 243**	*e*PN	Pn		15 14 57.0	-0.8
TLY			*e*			15 15 04.6	
TLY			*e*			15 15 48.8	
TLY			pmax	pmax			
	comp=Z,24nm,0.4s						
TLY			smax				
	comp=E,113nm,1.1s						
TLY	**Talaya**	**3.34 243**	*e*Pn	Pn		15 14 57.1	-0.7
TLY			*e*Pg	Pg		15 15 04.5	-7.1
TLY			*e*Sg	Sg		15 15 47.2	-9.0
TLY			Pmax				
	comp=E,32nm,0.9s						
TLY			Smax				
	comp=E,94nm,0.8s						
CIT	**Chita**	**3.37 110**	*e*PN	Pn		15 14 56.7	-1.5
CIT			*e*			15 15 06.4	
CIT			*e*			15 15 47.9	
CIT			pmax	pmax			
	comp=Z,103nm,0.6s						
CIT			smax				
	comp=N,517nm,0.8s						
CIT	**Chita**	**3.37 110**	⇓*i*Pn	Pn		15 14 56.9	-1.3
	comp=N,6.0nm,0.5s						
CIT			⇑*i*Pn	Pn		15 14 56.9	-1.3
	comp=N,10.0nm,0.5s						
CIT			⇑*i*Pn	Pn		15 14 56.9	-1.3
	comp=N,20nm,0.5s						
CIT			*e*Pg	Pg		15 15 06.4	-5.8
CIT			*e*Sn	Sn		15 15 38.4	0.0
CIT			*e*Sg	Sg		15 15 48.0	-9.1
CIT			Pmax				
	comp=N,94nm,0.6s						
CIT			Smax				
	comp=N,512nm,0.8s						
YOA	**Uoyan**	**3.43 33**	*e*PN	Pn		15 15 06.3	+7.2
YOA			*e*			15 15 49.7	
YOA			pmax	pmax			
	comp=Z,65nm,0.6s						
YOA			smax				
	comp=E,512nm,1.1s						
YOA	**Uoyan**	**3.43 33**	*e*Sg	Sg		15 15 51.7	-7.5
YOA			Smax				
	comp=E,720nm,1.3s						
UKT	**Uakit**	**3.75 52**	*e*Pn	Pn		15 15 03.7	0.0
UKT			*e*Pg	Pg		15 15 12.6	-7.3
UKT			*e*			15 15 15.0	
UKT			*e*Sg	Sg		15 16 01.2	-8.7
UKT			max				
	comp=E,23nm,0.9s						
UKT			Smax				
	comp=E,107nm,1.5s						
ARS	**Arshan**	**3.91 252**	*e*PN	Pn		15 15 05.9	0.0
ARS			*e*			15 15 16.1	
ARS			*e*			15 16 04.3	
ARS			pmax	pmax			
	comp=Z,49nm,0.5s						
ARS			smax				
	comp=E,539nm,0.5s						
ARS	**Arshan**	**3.91 252**	*e*Pn	Pn		15 15 05.4	-0.5
ARS			*e*Pg	Pg		15 15 13.8	-9.2
ARS			*e*Sg	Sg		15 16 04.1	-11
ARS			Pmax				
	comp=E,55nm,0.8s						
ARS			Smax				
	comp=E,528nm,0.8s						
SVKR	**Severomuysk**	**4.11 44**	*e*PN	Pn		15 15 18.3	+10
SVKR			*e*			15 16 12.4	
SVKR			pmax	pmax			
	comp=Z,33nm,0.3s						
SVKR			smax				
	comp=N,236nm,1.0s						
SVKR	**Severomuysk**	**4.11 44**	*e*Sg	Sg		15 16 14.2	-7.5
SVKR			Smax				
	comp=N,352nm,1.1s						
ZAK	**Zakamensk**	**4.32 230**	*e*PN	Pn		15 15 11.4	-0.4
ZAK			*e*			15 15 23.2	
ZAK			*e*			15 16 19.5	
ZAK			pmax	pmax			
	comp=Z,13nm,0.8s						
ZAK			smax				
	comp=N,106nm,1.0s						
ZAK	**Zakamensk**	**4.32 230**	*e*Pn	Pn		15 15 11.2	-0.6
ZAK			*e*Pg	Pg		15 15 23.0	-8.2
ZAK			*e*Sg	Sg		15 16 19.6	-9.2
ZAK			Pmax				
	comp=N,8.0nm,0.6s						
ZAK			Smax				
	comp=N,102nm,1.0s						
KPC	**Khapcheranga**	**4.36 144**	*e*PN	Pn		15 15 09.9	-2.4
KPC			*e*			15 15 22.6	
KPC			*e*S	Sn		15 16 00.4	-3.0
KPC			*e*			15 16 19.1	
KPC			pmax	pmax			
	comp=Z,47nm,1.2s						
KPC			smax				
	comp=E,172nm,1.1s						
KPC	**Khapcheranga**	**4.36 144**	⇑*i*Pn	Pn		15 15 09.9	-2.4
KPC			*e*Pg	Pg		15 15 23.8	-8.1
KPC			*e*Sn	Sn		15 16 00.9	-2.5
KPC			*e*Sg	Sg		15 16 20.6	-9.4
KPC			Pmax				
	comp=E,55nm,1.8s						
KPC			Smax				
	comp=E,170nm,1.1s						
MOY	**Mondy**	**4.83 253**	*e*PN	Pn		15 15 18.5	-0.5
MOY			*e*			15 15 31.2	
MOY			*e*			15 16 32.3	
MOY			pmax	pmax			
	comp=Z,7.0nm,0.2s						
MOY			smax				
	comp=E,228nm,1.5s						
MOY	**Mondy**	**4.83 253**	*e*Pn	Pn		15 15 19.0	0.0
MOY			*e*Pg	Pg		15 15 30.2	-11
MOY			*e*			15 16 18.7	
MOY			*e*Sg	Sg		15 16 32.6	-13
MOY			Pmax				
	comp=E,24nm,0.9s						
MOY			Smax				
	comp=E,219nm,1.5s						
ORL	**Orlik**	**5.27 265**	*e*PN	Pn		15 15 25.6	+0.4
ORL			*e*			15 15 41.3	
ORL			*e*			15 16 47.9	
ORL			pmax	pmax			
	comp=Z,24nm,1.0s						
ORL			smax				
	comp=N,130nm,1.1s						
ORL	**Orlik**	**5.27 265**	*e*Pn	Pn		15 15 24.6	-0.6
ORL			*e*Sn	Sn		15 16 24.2	-2.3
ORL			*e*Sg	Sg		15 16 47.5	-13
ORL			Smax				
	comp=N,127nm,1.3s						
NLYR	**Nelyaty**	**5.28 50**	*e*PN	Pn		15 15 39.1	+14
NLYR			*e*			15 16 46.0	
NLYR			pmax	pmax			
	comp=Z,3.0nm,0.3s						
NLYR			smax				
	comp=E,190nm,1.5s						
NLYR	**Nelyaty**	**5.28 50**	*e*Pn	Pn		15 15 27.2	+1.8
NLYR			*e*Pg	Pg		15 15 41.7	-8.7
NLYR			*e*Sg	Sg		15 16 50.9	-10
NLYR			Pmax				
	comp=E,11nm,1.0s						
NLYR			Smax				
	comp=E,189nm,1.4s						
BOD	**Bodaibo**	**5.53 33**	*e*Pn	Pn		15 15 27.2	-1.7
BOD			*e*Pg	Pg		15 15 43.5	-12
BOD			*e*Sn	Sn		15 16 30.7	-2.3
BOD			*e*Sg	Sg		15 16 55.1	-14
BOD			Pmax				
	comp=E,2.0nm,0.4s						
BOD			Smax				
	comp=E,57nm,1.3s						
CRS	**Chara**	**6.70 53**	*e*Pn	Pn		15 15 44.5	-0.9
CRS			*e*Pg	Pg		15 16 05.7	-13
CRS			*e*Sg	Sg		15 17 33.1	-15
CRS			Pmax				
	comp=E,19nm,1.8s						
CRS			Smax				
	comp=E,122nm,1.9s						
TUP	**Tupik**	**6.91 76**	*e*PN	Pn		15 15 47.1	-1.3
TUP			*e*			15 16 08.5	
TUP			*e*			15 17 37.0	
TUP			pmax	pmax			
	comp=Z,3.0nm,0.4s						
TUP			smax				
	comp=N,123nm,1.2s						
TUP	**Tupik**	**6.91 76**	*e*Pn	Pn		15 15 45.2	-3.2
TUP			*e*Pg	Pg		15 16 07.3	-16
TUP			*e*Sg	Sg		15 17 37.1	-18
TUP			Pmax				
	comp=N,4.0nm,0.8s						
TUP			Smax				
	comp=N,192nm,1.8s						

DJA 03 15:16:06.3±1.0, 6.99S×106.70E, h28km±5km, MD4.4/1, ML5.0/2, 5C-2D, Error ellipse: s-maj=29.8km s-min=10.4km az=178.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACI	**Pancar Gunung**	**0.45**	**28**	⇑*i*Pn	Pn	15 16 15.4	-1.3
PACI				⇓*i*Sn	Sn	15 16 21.2	-2.6
PULI	**Pulasari**	**0.96**	**312**	⇑*i*Pn	Pn	15 16 21.4	-2.7
	5μm,0.2s						
PULI				⇓*i*Sn	Sn	15 16 34.3	-2.7
PENI	**Pendagan**	**2.08**	**313**	⇑*e*Pn	Pn	15 16 39.1	-0.9
	413nm,0.2s						
PENI	**Pendagan**	**2.08**	**313**	⇑*i*P	Pn	15 16 39.8	-0.2
PENI				⇑*i*Sn	Sn	15 17 01.4	-3.8

*IDC **03** 15:16:19.6±3.9, 3.57N×95.87E, mb3.8/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.8/4, Error ellipse: s-maj=150.9km s-min=27.4km az=58.0*
*NEIC **03** 15:16:24.2±1.2, 3.49N×95.88E, h30km, mb4.2/7, Error ellipse: s-maj=27.9km s-min=12.1km az=210.0*

ISC 03 15:16:22.3±1.5, 3.5N±0.2×95.9E±0.1, h30km, n15, σ0°93/15, mb4.0/11, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.08**	**69**	⇑*i*P	**Pn**	**15 17 38.8**	**+0.4**
JIRN	**Jiri**	**25.77**	**340**	*e*P	**P**	**15 21 53.8**	**+1.3**
	20nm,0.7s,mb4.8						
PKI	**Pulchoki**	**25.96**	**338**	*e*P	**P**	**15 21 55.0**	**+0.7**
DMN	**Daman**	**26.11**	**338**	*e*P	**P**	**15 21 57.2**	**+1.6**
KKN	**Kakani**	**26.21**	**338**	*e*P	**P**	**15 21 56.7**	**+0.1**
	13nm,0.9s,mb4.5						
GKN	**Gorkha**	**26.64**	**337**	*e*P	**P**	**15 22 00.5**	**0.0**
	11nm,0.8s,mb4.5						
KOLN	**Koldanda**	**26.85**	**335**	*e*P	**P**	**15 22 02.7**	**+0.2**
	6.3nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**44.36**	**123**	P	**P**	**15 24 32.5**	**+0.3**
	0.5nm,0.8s,mb3.3,baz=300,slow=9.0,SNR=6.2						
MKAR	**Makanchi Array**	**44.73**	**347**	P	**P**	**15 24 34.4**	**-0.4**
	1.2nm,0.5s,mb4.0,baz=162,slow=7.7,SNR=14						
MKAR	**Makanchi Array**	**44.73**	**347**	P	**P**	**15 24 34.4**	**-0.4**
SONM	**Songino Array**	**45.10**	**10**	P	**P**	**15 24 37.1**	**-0.6**
	0.8nm,0.7s,mb3.6,baz=192,slow=8.9,SNR=6.5						
ULN	**Ulaanbaatar**	**45.25**	**11**	*e*P	**P**	**15 24 39.0**	**0.0**
	0.9nm,0.8s,mb3.6						
KURK	**Kurchatov**	**49.27**	**346**	*e*P	**P**	**15 25 10.2**	**-0.2**
	1.2nm,0.7s,mb4.0						
ZAL	**Zalesovo**	**51.11**	**352**	P	**P**	**15 25 22.3**	**-2.1**
	1.1nm,0.6s,mb4.0,baz=318,slow=8.0,SNR=5.4						
CHKZ	**Chkalovo**	**54.16**	**342**	*e*P	**P**	**15 25 45.3**	**-1.8**
	1.5nm,0.7s,mb4.0						

*NEIC **03** 15:22:19.7, 35.82S×178.34E, h209km, MG4.1(WEL), After WEL.*

WEL 03 15:22:19.8±0.3, 35.83S×178.35E, h209km±4km, ML4.0/9, Error ellipse: s-maj=7.1km s-min=4.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.73**	**181**	P	P	15 22 56.4	-0.3
MXZ				S	S	15 23 24.7	-0.5
MXZ	**Matakaoa Point**	**1.73**	**181**	PN	P	15 22 56.4	-0.3
MXZ				SN	S	15 23 24.7	-0.5
PUZ	**Puketiti**	**2.24**	**182**	P	P	15 23 01.8	0.0
PUZ				S	S	15 23 33.4	-0.9
PUZ	**Puketiti**	**2.24**	**182**	PN	P	15 23 01.8	-0.1
PUZ				SN	S	15 23 33.4	-0.9
MWZ	**Matawai**	**2.59**	**194**	*e*P	P	15 23 05.2	-0.4
MWZ	**Matawai**	**2.59**	**194**	PN	P	15 23 05.2	-0.4
MWZ				SN	S	15 23 40.1	-1.0
URZ	**Urewera**	**2.62**	**202**	PN	P	15 23 05.9	-0.1
URZ				SN	S	15 23 41.1	-0.7
KNZ	**Kokohu**	**3.23**	**189**	*e*P	P	15 23 12.5	-0.6
KNZ	**Kokohu**	**3.23**	**189**	PN	P	15 23 12.5	-0.6
KNZ				SN	S	15 23 53.3	-1.1
BKZ	**Black Stump Fm**	**3.65**	**203**	*e*P	P	15 23 17.5	-0.6
BKZ	**Black Stump Fm**	**3.65**	**203**	PN	P	15 23 17.5	-0.6
BKZ				SN	S	15 24 02.8	-0.5
FWVZ	**Far West T-bar**	**4.08**	**212**	*e*P	P	15 23 23.0	-0.4
FWVZ	**Far West T-bar**	**4.08**	**212**	PN	P	15 23 23.0	-0.5
MOVZ	**Moawhango**	**4.13**	**209**	*e*P	P	15 23 22.9	-1.1
MOVZ	**Moawhango**	**4.13**	**209**	*e*PN	P	15 23 22.9	-1.1
PWZ	**Pawanui**	**4.36**	**195**	*e*P	P	15 23 25.0	-1.9
PWZ				S	S	15 24 16.2	-2.7
PWZ	**Pawanui**	**4.36**	**195**	PN	P	15 23 25.0	-1.9
PWZ				SN	S	15 24 16.2	-2.7
TSZ	**Takapari Road**	**4.63**	**203**	*e*P	P	15 23 28.7	-1.6
TSZ				S	S	15 24 23.4	-1.6
TSZ	**Takapari Road**	**4.63**	**203**	PN	P	15 23 28.7	-1.6
MRZ	**Mangatainoka R**	**5.30**	**203**	PN	P	15 23 36.7	-2.1
MRZ				SN	S	15 24 36.4	-3.8
MTW	**Mount Morrison**	**5.77**	**202**	*e*P	P	15 23 41.9	-3.0
MTW	**Mount Morrison**	**5.77**	**202**	*e*PN	P	15 23 41.9	-3.0
CAW	**Cannon Point**	**5.87**	**205**	*e*P	P	15 23 41.6	-4.5
NNZ	**Nelson**	**6.64**	**214**	*e*P	P	15 23 52.0	-4.2
NNZ				S	S	15 25 08.2	-3.2

*IDC **03** 15:34:09.2±3.7, 0.39N×97.41E, mb3.8/6, mb1 4.0/6, mb1mx3.8/15, mbtmp3.8/6, Error ellipse: s-maj=147.7km s-min=21.7km az=61.0*
*NEIC **03** 15:34:12.7±1.1, 0.24N×97.19E, h30km, mb4.4/1, Error ellipse: s-maj=28.0km s-min=11.1km az=73.0*

ISC 03 15:34:10.7±1.5, 0.3N±0.1×97.2E±0.3, h30km, n8, σ0°29/8, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.07**	**35**	*e*P	**Pn**	**15 35 40.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**33.40**	**125**	P	**P**	**15 40 48.7**	**-0.4**
	3.6nm,0.8s,mb4.3,baz=335,slow=4.9,SNR=3.3						
WRA	**Warramunga Arr**	**41.56**	**121**	P	**P**	**15 41 57.5**	**-0.1**
	3.2nm,0.7s,mb4.0,baz=301,slow=9.0,SNR=17						
WRAB	**Tennant Creek**	**41.56**	**121**	*e*P	**P**	**15 41 57.7**	**0.0**
	4.5nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**42.85**	**126**	P	**P**	**15 42 08.5**	**+0.3**
	0.7nm,0.8s,mb3.5,baz=291,slow=8.3,SNR=9.2						
SONM	**Songino Array**	**48.05**	**8**	P	**P**	**15 42 49.9**	**+0.5**
	0.1nm,0.3s,mb3.3,baz=202,slow=7.8,SNR=2.6						
MKAR	**Makanchi Array**	**48.14**	**346**	P	**P**	**15 42 49.7**	**-0.4**
	0.4nm,0.7s,mb3.6,baz=158,slow=6.5,SNR=3.7						
STKA	**Stephens Creek**	**52.74**	**132**	P	**P**	**15 43 25.6**	**+0.3**
	3.4nm,0.9s,mb4.3,baz=333,slow=6.8,SNR=2.8						

IDC 03 15:38:21.1±3.6, 1.06N×97.65E, mb3.7/5, mb1 3.8/5, mb1mx3.6/15, mbtmp3.7/5, MS3.0/1, Ms1 3.2/1, ms1mx2.7/22, Error ellipse: s-maj=149.7km s-min=21.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.33**	**4**	LR	LR	15 50 13.7	
	comp=Z,50nm,19.2s,baz=315,slow=41						
WRA	**Warramunga Arr**	**41.58**	**122**	P	P	15 46 11.3	-1.4
	0.2nm,0.4s,baz=303,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**42.96**	**127**	P	P	15 46 21.8	-2.1
	0.2nm,0.5s,baz=299,slow=7.4,SNR=4.2						
SONM	**Songino Array**	**47.20**	**8**	P	P	15 46 56.2	-1.4
	0.5nm,0.4s,baz=190,slow=9.0,SNR=7.7						
MKAR	**Makanchi Array**	**47.48**	**346**	P	P	15 46 57.9	-1.8
	1.3nm,0.5s,baz=163,slow=8.3,SNR=19						
ZAL	**Zalesovo**	**53.76**	**351**	P	P	15 47 44.3	-3.1
	1.4nm,0.3s,baz=307,slow=7.4,SNR=4.4						

IDC 03 15:46:02.4±3.8, 0.74N×97.26E, mb3.6/5, mb1 3.8/5, mb1mx3.6/15, mbtmp3.6/5, Error ellipse: s-maj=157.5km s-min=22.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.74**	**122**	P	P	15 53 53.4	-1.8
	0.4nm,0.7s,baz=297,slow=9.1,SNR=3.4						
ASAR	**Alice Springs**	**43.07**	**127**	P	P	15 54 04.6	-1.5
	0.2nm,0.6s,baz=296,slow=7.8,SNR=4.5						
SONM	**Songino Array**	**47.58**	**8**	P	P	15 54 39.9	-1.9
	0.2nm,0.3s,baz=198,slow=8.1,SNR=4.4						
MKAR	**Makanchi Array**	**47.70**	**346**	P	P	15 54 41.2	-1.6
	0.8nm,0.5s,baz=160,slow=9.0,SNR=19						
ZAL	**Zalesovo**	**54.01**	**351**	P	P	15 55 27.6	-3.0
	0.8nm,0.3s,baz=74,slow=17,SNR=3.1						

IDC 03 15:47:41.9±3.3, 0.34S×96.85E, mb3.7/5, mb1 3.9/5, mb1mx3.7/14, mbtmp3.7/5, Error ellipse: s-maj=139.6km s-min=21.9km az=57.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.55**	**120**	P	P	15 55 31.3	-1.9
	0.4nm,0.7s,baz=300,slow=8.8,SNR=2.5						
ASAR	**Alice Springs**	**42.78**	**126**	P	P	15 55 41.8	-1.4
	0.3nm,0.5s,baz=297,slow=7.7,SNR=6.6						
MKAR	**Makanchi Array**	**48.64**	**347**	P	P	15 56 27.9	-1.6
	1.5nm,0.6s,baz=157,slow=8.2,SNR=14						
SONM	**Songino Array**	**48.69**	**9**	P	P	15 56 28.0	-1.9
	0.6nm,1.0s,baz=194,slow=5.9,SNR=3.7						
ZAL	**Zalesovo**	**55.00**	**351**	P	P	15 57 14.4	-2.9
	1.7nm,0.4s,baz=331,slow=3.8,SNR=6.0						
TXAR	**Lajitas Array**	**145.15**	**32**	PKP	PKPdf	16 07 21.5	-2.5
	0.5nm,0.7s,baz=297,slow=2.0,SNR=6.3						

*IDC **03** 15:51:28.0±0.8, 22.17S×68.16W, h101km±12km, mb3.5/2, mb1 3.6/5, mb1mx3.3/15, mbtmp3.8/5, Error ellipse: s-maj=27.8km s-min=16.4km az=115.0*
*GUC **03** 15:51:29.2±0.4, 22.05S×68.80W, h117km±3km, ML4.0*
*NEIC **03** 15:51:29.2, 22.05S×68.80W, h117km, mb3.8/2, After GUC.*

ISC 03 15:51:28.4±0.6, 22.03S±0.07×68.67W±0.10, h126km±7km, n16, σ1°42/24, mb3.6/2, 2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.62**	**201**	P	**P**	**15 51 48.2**	**+0.3**
	270nm,0.3s,baz=42,slow=7.1,SNR=3205						
LVC				S	**S**	**15 52 01.9**	**-0.9**
	498nm,0.3s,baz=96,slow=24,SNR=86						
LVC	**Limon Verde**	**0.62**	**201**	*e*P	**P**	**15 51 47.9**	**0.0**
LVC				*e*S	**S**	**15 52 01.3**	**-1.5**
LVC				S	**S**	**15 52 01.9**	**-0.9**
LVC	**Limon Verde**	**0.62**	**201**	⇓*i*P	**P**	**15 51 48.2**	**+0.3**
LVC				*i* S	**S**	**15 52 02.4**	**-0.4**
LVC				AMP		15 52 03.2	
	comp=E,5μm,0.2s						
SPCH	**San Pedro de A**	**0.97**	**154**	⇓*i*P	**P**	**15 51 52.0**	**+1.1**
SPCH				*i* S	**S**	**15 52 09.6**	**+1.6**
SPCH				AMP		15 52 10.0	
	comp=N,2μm,0.5s						
ANCH	**Antofagasta**	**2.30**	**224**	*e*P	**P**	**15 52 07.3**	**+0.9**
ANCH				*i* S	**S**	**15 52 33.6**	**-1.8**
ANCH				AMP		15 52 43.4	
	comp=N,1μm,0.6s						
CPN1	**Cerro Paranal**	**3.04**	**211**	*e*P	**P**	**15 52 16.7**	**+0.5**
CPN1				AMP		15 53 04.5	
	comp=E,855nm,0.4s						
LPAZ	**La Paz**	**5.73**	**5**	P	**P**	**15 52 53.1**	**+0.8**
	comp=E,2.5nm,0.3s,baz=167,slow=14,SNR=34						
SIV	**San Ignacio**	**9.36**	**51**	P	**P**	**15 53 37.5**	**-3.8**
	comp=E,1.7nm,0.3s,baz=238,slow=14,SNR=41						
SIV				S	**S**	**15 55 14.4**	**-11**
	comp=E,0.2nm,0.3s,baz=323,slow=23,SNR=5.3						
CFAA	**Coronel Fontan**	**9.54**	**178**	P	**P**	**15 53 41.3**	**-2.4**
	comp=E,0.2nm,0.3s,baz=13,slow=13,SNR=13						
CFAA				S	**S**	**15 55 22.1**	**-7.4**
	comp=E,0.1nm,0.3s,baz=286,slow=21,SNR=3.3						
SAML	**Samuel**	**14.04**	**23**	*e*P	**P**	**15 54 41.3**	**-1.4**
TRQA	**Tornquist**	**16.98**	**162**	*e*P	**P**	**15 55 20.4**	**+0.9**
	comp=E,4.2nm,0.7s						
OTAV	**Otavalo**	**24.10**	**335**	*e*P	**P**	**15 56 34.2**	**+0.6**
DBIC	**Dimbokro**	**68.67**	**73**	P	**P**	**16 02 18.8**	**-1.8**
	comp=E,1.2nm,0.5s,mb4.0,baz=201,slow=8.8,SNR=3.3						
DBIC	**Dimbokro**	**68.67**	**73**	*e*P	**P**	**16 02 20.4**	**-0.3**
	comp=E,1.0nm,0.6s,mb3.8						
YKA	**Yellowknife Ar**	**91.76**	**340**	P	**P**	**16 04 24.4**	**+2.0**
	comp=E,0.1nm,0.4s,mb3.4,baz=137,slow=4.5,SNR=4.9						
YKA				pP	pP	16 04 54.4	-0.9
	comp=E,0.2nm,0.7s,baz=134,slow=4.4,SNR=4.3						
YKA	**Yellowknife Ar**	**91.76**	**340**	P	**P**	**16 04 24.4**	**+2.0**
YKA				pP	pP	16 04 54.4	-0.9

*IDC **03** 16:10:13.5±0.8, 2.53N×97.25E, mb4.2/15, mb1 4.3/15, mb1mx4.2/19, mbtmp4.2/15, MS3.9/2, Ms1 4.0/2, ms1mx3.1/24, Error ellipse: s-maj=45.4km s-min=12.4km az=53.0*
*MOS **03** 16:10:17.7±0.8, 2.96N×97.64E, h33km, mb

ellipse: s-maj=40.5km s-min=11.7km az=123.7
*BJI **03** 16:10:18.7, 2.70N×97.40E, h30km, mB4.9, mb4.3, Ms4.6, Msz4.2*
*NEIC **03** 16:10:18.7±0.4, 2.72N×97.41E, h30km, mb4.5/9, Error ellipse: s-maj=15.5km s-min=6.7km az=49.0*

ISC 03 16:10:15.8±2.5, 2.62N±0.07×97.28E±0.08, h26km±17km, n50, σ1º05/49, mb4.3/25, MS4.2/2, 4C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.22**	**62**	P	**Pn**	**16 11 20.4**	**+0.2**
KULM	**Kulim**	**4.29**	**52** ⇑	*e*P	**Pn**	**16 11 21.6**	**+0.4**
KGM	**Kluang**	**6.07**	**96**	P	**Pn**	**16 11 47.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**15.83**	**6**	LR	LR	16 20 15.5	
comp=Z,177nm,18.1s,baz=190,slow=38							
KKM	**Kota Kinabalu**	**19.19**	**79**	P	**P**	**16 14 37.2**	**-3.4**
KKM	**Kota Kinabalu**	**19.19**	**79**	P	**P**	**16 14 40.6**	**-0.1**
SHL	**Shillong**	**23.40**	**348**	*e*P	**P**	**16 15 23.0**	**-0.9**
HYB	**Hyderabad**	**23.54**	**310** ⇑	*e*P	**P**	**16 15 29.0**	**+3.7**
HYB	**Hyderabad**	**23.54**	**310** ⇑	*i*P	**P**	**16 15 29.0**	**+3.7**
JIRN	**Jiri**	**27.07**	**338**	*e*P	**P**	**16 15 57.6**	**-0.9**
8.9nm,0.6s,mb4.5							
PKI	**Pulchoki**	**27.29**	**337**	*e*P	**P**	**16 16 01.1**	**+0.6**
DMN	**Daman**	**27.44**	**336**	*e*P	**P**	**16 16 02.5**	**+0.6**
12nm,0.9s,mb4.5							
KKN	**Kakani**	**27.54**	**337**	*e*P	**P**	**16 16 00.8**	**-1.9**
6.0nm,0.5s,mb4.5							
KKN	**Kakani**	**27.54**	**337**	*e*P	**P**	**16 16 00.8**	**-1.9**
KKN				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.2							
GKN	**Gorkha**	**27.98**	**336**	*e*P	**P**	**16 16 04.7**	**-2.1**
comp=Z,5.4nm,0.3s,mb4.6							
KOLN	**Koldanda**	**28.22**	**334**	*e*P	**P**	**16 16 08.7**	**-0.3**
comp=Z,7.3nm,0.4s,mb4.6							
MBWA	**Marble Bar**	**32.28**	**138**	P	**P**	**16 16 45.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**34.70**	**127**	*e*P	**P**	**16 17 04.9**	**-1.1**
comp=Z,7.6nm,0.7s,mb4.7							
FITZ	**Fitzroy Crossi**	**34.70**	**127**	P	**P**	**16 17 04.8**	**-1.3**
comp=Z,9.1nm,0.7s,mb4.8,baz=359,slow=10.0,SNR=11							
JOW	**Kunigami**	**38.23**	**48**	LR	LR	16 32 18.9	
comp=Z,455nm,19.6s,MS4.3,baz=233,slow=35							
NWAO	**Narrogin (SRO)**	**40.08**	**154**	*e*P	**P**	**16 17 53.6**	**+2.6**
NWAO				pmax	pmax		
comp=Z,5.0nm,0.8s							
NWAO	**Narrogin (SRO)**	**40.08**	**154**	P	**P**	**16 17 49.2**	**-1.8**
comp=Z,6.5nm,1.0s,mb4.3,baz=131,slow=9.0,SNR=2.6							
NWAO	**Narrogin (SRO)**	**40.08**	**154**	*e*P	**P**	**16 17 53.6**	**+2.6**
comp=Z,5.4nm,0.8s,mb4.3							
HHC	**Hu-ho-hao-te**	**40.19**	**17**	*e*P	**P**	**16 17 52.1**	**+0.2**
HHC				AP	pP	16 18 02.5	+2.9
HHC				XP	sP	16 18 05.7	+2.9
HHC				PP	PP	16 19 30.3	+2.3
HHC				PCP	PcP	16 19 58.0	+1.6
HHC				SCP		16 23 42.5	
HHC				PCS		16 23 46.7	
HHC				S	**S**	**16 23 55.9**	**-1.0**
HHC				XS		16 24 10.7	
HHC				SS	SS	16 26 46.9	-2.5
HHC				SCS	ScS	16 27 54.5	-0.1
HHC				AMB	AMB		
comp=Z,11nm,1.0s,mb4.5							
HHC				AMB	AMB		
comp=Z,139nm,5.8s							
HHC				LR	LR		
comp=N,186nm,15.1s,MS4.2							
HHC				LR	LR		
comp=E,213nm,15.1s,MS4.2							
HHC				LR	LR		
comp=Z,159nm,15.3s,MS4.0							
WMQ	**Urumqi**	**41.90**	**350**	*e*P	**P**	**16 18 08.4**	**+2.5**
WMQ				AP	pP	16 18 18.1	+4.4
WMQ				XP	sP	16 18 22.2	+5.3
WMQ				PP	PP	16 19 48.9	+2.9
WMQ				S	**S**	**16 24 23.6**	**+1.3**
WMQ				XS		16 24 39.9	
WMQ				AMB	AMB		
comp=Z,4.0nm,1.1s,mb4.0							
WMQ				AMB	AMB		
comp=Z,87nm,4.4s							
WRA	**Warramunga Arr**	**42.73**	**123**	P	**P**	**16 18 12.2**	**-0.8**
comp=Z,6.6nm,0.7s,mb4.5,baz=302,slow=9.2,SNR=26							
WRAB	**Tennant Creek**	**42.73**	**123**	*e*P	**P**	**16 18 12.7**	**-0.3**
WRAB				pmax	pmax		
comp=Z,18nm,0.5s,mb5.1							
WRAB	**Tennant Creek**	**42.73**	**123**	*e*P	**P**	**16 18 12.7**	**-0.3**
comp=Z,18nm,0.5s,mb5.1							
WB2	**Warramunga Arr**	**42.74**	**123** ⇑	*i*P	**P**	**16 18 12.8**	**-0.3**
ASPA	**Alice Springs**	**44.19**	**128**	*e*P	**P**	**16 18 26.3**	**+1.4**
ASAR	**Alice Springs**	**44.19**	**128**	P	**P**	**16 18 24.4**	**-0.4**
comp=Z,4.7nm,1.1s,mb4.1,baz=298,slow=7.4,SNR=21							
ASAR				PcP	PcP	16 20 11.1	+1.2
comp=Z,0.6nm,0.8s,baz=325,slow=2.8,SNR=4.2							
AAK	**Ala-Archa**	**44.74**	**336**	*e*P	**P**	**16 18 29.1**	**+0.1**
AAK				pmax	pmax		
comp=Z,14nm,1.5s,mb4.6							
AAK	**Ala-Archa**	**44.74**	**336**	*e*P	**P**	**16 18 29.1**	**0.0**
comp=Z,14nm,1.5s,mb4.6							
SONM	**Songino Array**	**45.73**	**9**	P	**P**	**16 18 37.1**	**+0.3**
comp=Z,0.8nm,0.6s,mb3.9,baz=187,slow=10,SNR=6.8							
SONM				PcP	PcP	16 20 16.3	+1.4
comp=Z,1.1nm,1.1s,baz=174,slow=5.0,SNR=2.5							
MKAR	**Makanchi Array**	**45.90**	**346**	P	**P**	**16 18 38.2**	**+0.1**
comp=Z,0.8nm,0.3s,mb4.1,baz=158,slow=9.3,SNR=32							
ZAL	**Zalesovo**	**52.17**	**351**	P	**P**	**16 19 25.6**	**-0.9**
comp=Z,2.5nm,0.4s,mb4.5,baz=311,slow=3.9,SNR=11							
CTA	**Charters Tower**	**53.07**	**117**	P	**P**	**16 19 32.4**	**-1.2**
comp=Z,3.1nm,0.8s,mb4.3,baz=316,slow=11,SNR=2.4							
CTA	**Charters Tower**	**53.07**	**117**	P	**P**	**16 19 32.4**	**-1.3**
NVS	**Novosibirsk**	**53.30**	**350**	*e*P	**P**	**16 19 37.6**	**+2.7**
STKA	**Stephens Creek**	**54.25**	**133**	*e*P	**P**	**16 19 42.6**	**+0.5**
comp=Z,3.8nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**54.25**	**133**	P	**P**	**16 19 42.4**	**+0.3**
comp=Z,4.0nm,0.7s,mb4.5,baz=323,slow=5.2,SNR=4.4							
BVAR	**Borovoye Array**	**54.95**	**341**	P	**P**	**16 19 46.4**	**-0.6**
comp=Z,1.1nm,0.5s,mb4.2,baz=146,slow=11,SNR=6.6							
CHKZ	**Chkalovo**	**55.42**	**341**	*e*P	**P**	**16 19 49.6**	**-0.8**
CHKZ				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**55.42**	**341**	*e*P	**P**	**16 19 49.6**	**-0.8**
comp=Z,3.3nm,0.6s,mb4.5							
BRTR	**Keskin Array B**	**68.22**	**312**	P	**P**	**16 21 17.2**	**+0.6**
comp=Z,1.2nm,0.7s,mb4.0,baz=116,slow=6.9,SNR=5.1							
AKASG	**Malin Array Be**	**74.19**	**322**	P	**P**	**16 21 51.8**	**-0.5**
comp=Z,0.8nm,0.5s,mb3.9,baz=88,slow=5.1,SNR=4.4							
FINES	**FINESS Array B**	**78.79**	**332**	P	**P**	**16 22 18.6**	**+0.8**
comp=Z,1.0nm,0.6s,mb3.9,baz=102,slow=7.2,SNR=6.8							
GERES	**GERESS Array B**	**83.81**	**319**	P	**P**	**16 22 44.7**	**+0.2**
comp=Z,0.2nm,0.6s,mb3.4,baz=63,slow=2.2,SNR=3.9							
NOA	**NORSAR Array B**	**85.81**	**331**	P	**P**	**16 22 55.5**	**+1.3**
comp=Z,0.9nm,0.9s,mb4.0,baz=118,slow=4.5,SNR=2.8							
TXAR	**Lajitas Array**	**142.43**	**31**	PKhKP		16 29 46.0	
comp=Z,0.1nm,0.4s,baz=180,slow=2.5,SNR=3.4							

IDC 03 16:14:25.9±4.2, 3.05N×96.63E, mb3.5/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.5/3, Error ellipse: s-maj=156.6km s-min=28.8km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.50**	**123**	P	P	16 22 31.4	-1.7
0.6nm,0.7s,baz=300,slow=9.1,SNR=4.4							
MKAR	**Makanchi Array**	**45.33**	**346**	P	P	16 22 45.7	-1.8
0.5nm,0.3s,baz=158,slow=9.1,SNR=12							
SONM	**Songino Array**	**45.41**	**9**	P	P	16 22 46.2	-1.9
0.3nm,0.6s,baz=191,slow=7.3,SNR=3.0							

IDC 03 16:20:44.3±3.7, 0.92N×97.88E, mb3.5/5, mb1 3.7/5, mb1mx3.5/15, mbtmp3.5/5, 1D, Error ellipse: s-maj=152.2km s-min=22.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRT	**Chiangrai**	**18.92**	**6**	⇓P	P	16 25 05.0	-4.1
176nm,0.7s							
WRA	**Warramunga Arr**	**41.31**	**122**	P	P	16 28 30.4	-3.1
0.3nm,0.7s,baz=304,slow=8.9,SNR=2.3							
ASAR	**Alice Springs**	**42.68**	**127**	P	P	16 28 44.9	0.0
0.3nm,0.6s,baz=298,slow=7.7,SNR=4.0							
SONM	**Songino Array**	**47.31**	**8**	P	P	16 29 20.6	-0.9
0.2nm,0.3s,baz=191,slow=7.3,SNR=3.0							
MKAR	**Makanchi Array**	**47.68**	**346**	P	P	16 29 22.3	-2.1
0.6nm,0.5s,baz=161,slow=8.9,SNR=12							
ZAL	**Zalesovo**	**53.93**	**350**	P	P	16 30 08.4	-3.3
0.7nm,0.3s,baz=359,slow=2.2,SNR=3.1							

*BJI **03** 16:21:41.4, 1.23N×96.23E, h26km, mB4.9, mb4.7, Ms5.0, Msz4.6*
*MOS **03** 16:21:50.4±0.9, 2.19N×96.29E, h33km, mb4.7/24, Error ellipse: s-maj=13.7km s-min=7.0km az=110.3*
*NEIC **03** 16:21:51.5±0.2, 2.20N×96.27E, mb4.7/27, Error ellipse: s-maj=6.6km s-min=4.3km az=220.0*
*IDC **03** 16:21:54.9±9.3, 2.25N×96.31E, h56km±86km, mb4.3/17, mb1 4.4/17, mb1mx4.3/21, mbtmp4.6/17, MS4.1/3, Ms1 4.1/3, ms1mx3.5/19, Error ellipse: s-maj=20.0km s-min=12.7km az=50.0*

ISC 03 16:21:49.7±0.3, 2.19N±0.05×96.28E±0.04, h27km, h27km±1.2km: pP-P, n120, σ0º91/123, mb4.6/57, MS4.3/8, 9C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.30**	**63**	P	**Pn**	**16 23 09.8**	**+0.5**
KULM	**Kulim**	**5.33**	**55** ⇑	*i*P	**Pn**	**16 23 10.3**	**+0.5**
KULM				*e*		16 23 16.9	
SNG	**Songkhla**	**6.57**	**41**	P	**Pn**	**16 23 27.0**	**-0.2**
714nm,1.0s							
KGM	**Kluang**	**7.04**	**91**	P	**Pn**	**16 23 34.4**	**+0.6**
KSM	**Kuching**	**14.04**	**93**	*e*P	**P**	**16 25 10.6**	**+1.2**
KSM				*e*		16 25 17.4	
KKTK	**Khon Kaen**	**15.46**	**24**	P	**P**	**16 25 32.0**	**+4.1**
247nm,1.0s							
PALK	**Pallekele**	**16.32**	**289**	*e*P	**P**	**16 25 39.2**	**+0.3**
35nm,0.9s							
PALK				*e*		16 25 43.5	
NANT	**Nan**	**17.06**	**14**	P	**P**	**16 25 55.0**	**+6.7**
VIS	**Vishakhapatnam**	**20.00**	**321**	*e*P	**P**	**16 26 22.1**	**-1.3**
VIS				*e*		16 26 32.8	
comp=Z,28nm,1.8s							
VIS				*i*S	**S**	**16 29 55.7**	**-5.6**
KKM	**Kota Kinabalu**	**20.24**	**78**	*e*P	**P**	**16 26 25.3**	**-0.6**
KKM	**Kota Kinabalu**	**20.24**	**78**	P	**P**	**16 26 25.6**	**-0.3**
TSM	**Tawau**	**21.66**	**84**	P	**P**	**16 26 41.1**	**+0.7**
HYB	**Hyderabad**	**23.07**	**312**	*e*P	**P**	**16 26 56.0**	**+1.6**
HYB	**Hyderabad**	**23.07**	**312**	*i*P	**P**	**16 26 56.0**	**+1.6**
SHL	**Shillong**	**23.62**	**350**	*e*P	**P**	**16 26 59.0**	**-0.7**
SHL				*e*		16 30 45.0	
KMI	**Kunming**	**23.63**	**15**	P	**P**	**16 27 01.3**	**+1.5**
KMI				AMB	AMB		
comp=Z,9.0nm,1.0s,mb4.2							
KMI	**Kunming**	**23.63**	**15**	P	**P**	**16 27 01.3**	**+1.5**
comp=Z,9.0nm,1.0s,mb4.2							
BLSP	**Bilaspur**	**24.12**	**326**	*i*P	**P**	**16 27 05.2**	**+0.6**
BLSP				AMb	AMB	16 27 09.2	
comp=Z,24nm,1.7s,mb4.4							
BLSP				*i*		16 35 45.9	
GYA	**Guiyang**	**26.11**	**22** ⇑	*i*P	**P**	**16 27 24.7**	**+1.3**
GYA				AP	pP	16 27 33.8	+2.5
GYA				XP	sP	16 27 37.4	+2.5
GYA				AMB	AMB		
comp=Z,20nm,0.7s,mb4.8							
GYA				AMB	AMB		
comp=Z,130nm,4.0s							
GYA				LR	LR		
comp=N,1μm,5.7s							
GYA				LR	LR		
comp=E,2μm,9.3s							
GYA				LR	LR		
comp=Z,2μm,8.4s							
JIRN	**Jiri**	**27.10**	**340**	*e*P	**P**	**16 27 33.3**	**+0.8**
comp=Z,63nm,0.8s,mb5.2							
PKI	**Pulchoki**	**27.30**	**339**	*e*P	**P**	**16 27 35.6**	**+1.3**
comp=Z,22nm,0.6s,mb4.8							
PKI	**Pulchoki**	**27.30**	**339**	*e*P	**P**	**16 27 35.6**	**+1.3**
PKI				pmax	pmax		
comp=Z,11nm,0.6s,mb4.6							
DMN	**Daman**	**27.44**	**338**	*e*P	**P**	**16 27 36.5**	**+0.9**
comp=Z,33nm,0.8s,mb4.9							
KKN	**Kakani**	**27.54**	**339**	*e*P	**P**	**16 27 36.8**	**+0.3**
comp=Z,35nm,0.9s,mb5.0							
KKN	**Kakani**	**27.54**	**339**	*e*P	**P**	**16 27 36.8**	**+0.3**
KKN				pmax	pmax		
comp=Z,18nm,0.9s,mb4.7							
BHPL	**Bhopal**	**27.78**	**320**	*e*P	**P**	**16 27 38.0**	**-0.8**
BHPL				AMb	AMB	16 27 50.8	
comp=Z,12nm,1.4s,mb4.4							
LSA	**Lhasa**	**27.79**	**350**	P	**P**	**16 27 40.0**	**+1.3**
LSA	**Lhasa**	**27.79**	**350**	*e*P	**P**	**16 27 39.2**	**+0.5**
LSA				pmax	pmax		
comp=Z,16nm,0.8s,mb4.7							
LSA	**Lhasa**	**27.79**	**350**	*e*P	**P**	**16 27 39.1**	**+0.4**
comp=Z,16nm,0.8s,mb4.7							
GKN	**Gorkha**	**27.97**	**338**	*e*P	**P**	**16 27 40.9**	**+0.5**
comp=Z,44nm,0.9s,mb5.1							
KOLN	**Koldanda**	**28.18**	**336**	*e*P	**P**	**16 27 42.6**	**+0.3**
comp=Z,37nm,0.8s,mb5.1							
ENH	**Enshi**	**30.61**	**23**	*e*P	**P**	**16 28 02.6**	**-1.4**
comp=Z,12nm,0.7s,mb4.8							
NDI	**New Delhi**	**32.01**	**327**	*e*P	**P**	**16 28 19.5**	**+3.2**
MBWA	**Marble Bar**	**32.64**	**136**	*e*P	**P**	**16 28 22.3**	**+0.5**
comp=Z,16nm,1.0s,mb4.9							
MBWA				*e*	pP	16 28 29.9	0.0
XAN	**Xi'an**	**33.81**	**19**	P	**P**	**16 28 30.5**	**-1.4**
XAN				LG2		16 32 33.2	
XAN				AMB	AMB		
comp=Z,23nm,0.9s,mb5.1							
XAN				LR	LR		
comp=N,623nm,11.1s							
XAN				LR	LR		
comp=E,1μm,7.6s							
XAN				LR	LR		
comp=Z,2μm,8.1s							
LZH	**Lanzhou**	**34.44**	**11**	*e*P	**P**	**16 28 36.8**	**-0.6**
LZH				AMB	AMB		
comp=Z,19nm,1.3s,mb4.9							
LZH	**Lanzhou**	**34.44**	**11**	*e*P	**P**	**16 28 36.8**	**-0.6**
LZH				*SP	sP	16 28 45.0	-3.9
LZH				pmax	pmax		
comp=Z,19nm,1.3s,mb4.9							
LZH	**Lanzhou**	**34.44**	**11**	*e*P	**P**	**16 28 36.8**	**-0.6**
comp=Z,19nm,1.3s,mb4.9							
LZH				pP	pP	16 28 42.1	-3.3
LZH				sP	sP	16 28 45.0	-3.9
FITZ	**Fitzroy Crossi**	**35.25**	**126** ⇑	*i*P	**P**	**16 28 43.5**	**-0.9**
comp=Z,18nm,0.7s,mb5.1							
FITZ				*i*	pP	16 28 52.3	-0.2
FITZ	**Fitzroy Crossi**	**35.25**	**126**	P	**P**	**16 28 43.6**	**-0.8**
comp=Z,26nm,0.7s,mb5.2,baz=330,slow=3.4,SNR=34							
FITZ				LR	LR	16 43 04.5	
comp=Z,152nm,19.6s,MS3.8,baz=273,slow=36							
NJ2	**Nanjing**	**36.52**	**33**	*e*P	**P**	**16 28 55.4**	**+0.4**
NJ2				AP	pP	16 29 05.8	+2.7
NJ2				XP	sP	16 29 09.2	+2.7
NJ2				PP	PP	16 30 19.0	-0.5
NJ2				S	**S**	**16 34 35.0**	**0.0**
NJ2				XS		16 34 51.0	
NJ2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.8							
NJ2				LR	LR		
comp=N,510nm,13.1s							
NJ2				LR	LR		
comp=E,1μm,19.2s							
NJ2				LR	LR		
comp=Z,370nm,12.6s,MS4.4							
SSE	**Sheshan**	**37.15**	**37**	P	**P**	**16 28 58.9**	**-1.4**
SSE				XP	sP	16 29 11.8	0.0
SSE				S	**S**	**16 34 44.3**	**-0.3**
SSE				XS		16 34 59.2	
SSE				AMB	AMB		
comp=Z,40nm,0.8s,mb5.3							
SSE				AMB	AMB		
comp=Z,29nm,5.7s							
SSE				LR	LR		
comp=N,124nm,22.9s,MS3.9							
SSE				LR	LR		
comp=E,193nm,22.9s,MS3.9							
SSE	**Sheshan**	**37.15**	**37**	P	**P**	**16 28 58.9**	**-1.4**
comp=E,40nm,0.8s,mb5.3							
SSE				sP	sP	16 29 11.8	0.0
SSE				S	**S**	**16 34 44.3**	**-0.3**
SSE				sS		16 34 59.2	
SSE				SS	SS	16 37 28.7	+13
SSE				LR	LR		
comp=Z,110nm,21.5s,MS3.6							
GTA	**Gaotai**	**37.18**	**5**	P	**P**	**16 29 00.5**	**0.0**
GTA				AP	pP	16 29 08.2	-0.4
GTA				XP	sP	16 29 10.5	-1.5
GTA				AMB	AMB		
comp=Z,6.0nm,0.7s,mb4.5							
GTA				AMB	AMB		
comp=Z,87nm,9.1s							
GTA				LR	LR		
comp=N,299nm,18.6s,MS4.4							
GTA				LR	LR		
comp=E,416nm,13.7s,MS4.4							
GTA				LR	LR		
comp=Z,367nm,14.1s,MS4.3							
NWAO	**Narrogin (SRO)**	**40.16**	**152**	LR	LR	16 43 32.4	
comp=Z,177nm,20.5s,MS3.9,baz=205,slow=32							
HHC	**Hu-ho-hao-te**	**40.88**	**18**	*e*P	**P**	**16 29 31.5**	**+0.2**
HHC				AP	pP	16 29 38.7	-0.7
HHC				XP	sP	16 29 44.9	+2.1
HHC				AMB	AMB		
comp=Z,17nm,1.3s,mb4.5							
HHC				AMB	AMB		
comp=Z,151nm,7.2s							
HHC				LR	LR		
comp=N,950nm,10.0s,MS5.0							
HHC				LR	LR		
comp=E,666nm,11.8s,MS5.0							
HHC				LR	LR		
comp=Z,634nm,10.2s,MS4.8							
WMQ	**Urumqi**	**42.15**	**351** ⇑	P	**P**	**16 29 42.5**	**+0.9**
WMQ				AP	pP	16 29 50.1	+0.3
WMQ				XP	sP	16 29 53.6	+0.5
WMQ				PP	PP	16 31 23.4	+1.1
WMQ				S	**S**	**16 36 01.0**	**+1.5**
WMQ				AMB	AMB		
comp=Z,5.0nm,0.8s,mb4.2							
WMQ				AMB	AMB		
comp=Z,81nm,5.5s							
WMQ				LR	LR		
comp=N,472nm,12.6s,MS4.6							
WMQ				LR	LR		
comp=E,259nm,14.2s,MS4.6							
WMQ				LR	LR		
comp=Z,140nm,21.5s							
WRA	**Warramunga Arr**	**43.34**	**122**	P	**P**	**16 29 51.5**	**-0.2**
comp=Z,8.1nm,0.8s,mb4.5,baz=300,slow=9.2,SNR=32							
WRAB	**Tennant Creek**	**43.34**	**122**	*e*P	**P**	**16 29 51.6**	**-0.1**
WRAB				*e*	pP	16 30 00.0	+0.2
WRAB				pmax	pmax		
comp=Z,15nm,0.8s,mb4.8							
WRAB	**Tennant Creek**	**43.34**	**122**	*e*P	**P**	**16 29 51.6**	**-0.1**
comp=Z,15nm,0.8s,mb4.8							
WRAB				*e*	pP	16 30 00.0	+0.2
WB2	**Warramunga Arr**	**43.35**	**122**	*e*P	**P**	**16 29 51.4**	**-0.3**
UCH	**Uchtor**	**44.38**	**337**	P	**P**	**16 30 01.1**	**+1.3**
SNR=12							
KBK	**Karagaybulak**	**44.58**	**338**	P	**P**	**16 30 03.2**	**+1.7**
SNR=10.0							
FORT	**Forrest**	**44.62**	**140**	*e*P	**P**	**16 30 03.1**	**+1.1**
comp=Z,600nm,0.5s							
AML	**Almayashu**	**44.63**	**336**	P	**P**	**16 30 03.0**	**+1.2**
SNR=11							
ASPA	**Alice Springs**	**44.72**	**127** ⇑	*i*P	**P**	**16 30 02.8**	**0.0**
ASAR	**Alice Springs**	**44.72**	**127**	P	**P**	**16 30 02.9**	**0.0**
comp=Z,4.4nm,0.6s,mb4.4,baz=299,slow=7.9,SNR=61							
AAK	**Ala-Archa**	**44.73**	**337**	*e*P	**P**	**16 30 02.8**	**+0.1**
AAK				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.3							
AAK	**Ala-Archa**	**44.73**	**337**	*e*P	**P**	**16 30 02.8**	**+0.2**
comp=Z,6.2nm,1.1s,mb4.3							
FRU	**Bishkek**	**44.85**	**337**	*e*P	**P**	**16 30 05.0**	**+1.3**
EKS2	**Erkin-Say**	**45.04**	**336**	P	**P**	**16 30 06.6**	**+1.5**
SNR=6.1							
USP	**Ospenovka**	**45.27**	**338**	P	**P**	**16 30 07.5**	**+0.6**
SNR=11							
MKAR	**Makanchi Array**	**46.07**	**347**	*i*P	**P**	**16 30 12.9**	**-0.3**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
MKAR	**Makanchi Array**	**46.07**	**347**	P	**P**	**16 30 13.4**	**+0.2**
comp=Z,6.8nm,0.7s,mb4.7,baz=162,slow=7.7,SNR=47							
SONM	**Songino Array**	**46.30**	**9**	P	**P**	**16 30 15.0**	**0.0**
comp=Z,2.7nm,0.4s,mb4.5,baz=189,slow=9.5,SNR=29							
ULN	**Ulaanbaatar**	**46.44**	**10**	*e*P	**P**	**16 30 15.9**	**-0.2**
ULN				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
ULN	**Ulaanbaatar**	**46.44**	**10**	*e*P	**P**	**16 30 15.9**	**-0.2**
comp=Z,3.8nm,0.9s,mb4.3							
KKAR	**Karatay Array**	**46.77**	**334**	*i*P	**P**	**16 30 18.8**	**0.0**
KKAR				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4							
ZAK	**Zakamensk**	**48.38**	**6**	*e*P	**P**	**16 30 32.3**	**+1.0**
ZAK				*e*	pP	16 30 39.1	-0.4
ZAK				pmax	pmax		
comp=Z,1.0nm,1.4s,mb3.6							
ZAK				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.1							
TLY	**Talaya**	**49.70**	**6**	*i*P	**P**	**16 30 41.4**	**-0.1**
KURK	**Kurchatov**	**50.60**	**346**	*i*P	**P**	**16 30 48.0**	**-0.4**
KURK				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
KURK	**Kurchatov**	**50.60**	**346**	*e*P	**P**	**16 30 47.7**	**-0.7**
comp=Z,8.5nm,1.0s,mb4.6							
HIA	**Hailar**	**51.01**	**20**	P	**P**	**16 30 51.0**	**-0.5**
HIA				pmax	pmax		
comp=Z,6.0nm,0.8s							
HIA	**Hailar**	**51.01**	**20**	P	**P**	**16 30 51.0**	**-0.5**
comp=Z,5.9nm,0.8s,mb4.6							
PMG	**Port Moresby**	**51.98**	**104**	P	**P**	**16 30 59.1**	**-0.2**
comp=Z,15nm,0.7s,mb5.0,baz=280,slow=4.7,SNR=5.5							
ZAL	**Zalesovo**	**52.43**	**351**	P	**P**	**16 31 01.4**	**-0.8**
comp=Z,8.3nm,0.6s,mb4.8,baz=303,slow=6.2,SNR=42							
OPO	**Ambohidratompo**	**52.51**	**245**	P	**P**	**16 31 03.6**	**+0.4**
comp=Z,3.8nm,0.7s,mb4.5,baz=52,slow=6.6,SNR=7.9							
NVS	**Novosibirsk**	**53.55**	**351**	*e*P	**P**	**16 31 08.9**	**-1.5**
NVS				pmax	pmax		
comp=N,4.0nm

SOC			*e*			16 42 12.1	
SOC			*e*SS	SS		16 45 16.7	-2.0
SOC			pmax	pmax			
	comp=Z,34nm,1.0s,mb5.3						
SOC			pmax	pmax			
	comp=N,28nm,0.9s						
SOC			pmax	pmax			
	comp=E,10.0nm,0.8s						
BRTR	**Keskin Array B**	**67.77 312**	P	**P**		**16 32 46.1**	**-1.4**
	comp=E,1.9nm,0.8s,mb4.2,baz=130,slow=7.0,SNR=9.6						
LSZ	**Lusaka**	**69.52 253**	*e*P	**P**		**16 32 58.1**	**-0.6**
LSZ			pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1						
LSZ	**Lusaka**	**69.52 253**	*e*P	**P**		**16 32 58.1**	**-0.6**
	comp=Z,2.4nm,0.8s,mb4.2						
MATP	**Matopo**	**70.05 247**	P	**P**		**16 33 02.0**	**+0.1**
	comp=Z,7.0nm,1.0s,mb4.5,baz=89,slow=6.8,SNR=8.5						
MA2	**Magadan**	**70.84 26**	*e*P	**P**		**16 33 05.0**	**-1.0**
MA2			pmax	pmax			
	comp=Z,13nm,1.8s,mb4.6						
OBN	**Obninsk**	**71.30 328**⇑	*e*P	**P**		**16 33 07.9**	**-0.9**
OBN			pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7						
TIXI	**Tiksi**	**72.38 10**⇑	*i*P	**P**		**16 33 14.2**	**-0.8**
TIXI			pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.4						
AKASG	**Malin Array Be**	**73.92 322**	P	**P**		**16 33 22.9**	**-1.4**
	comp=Z,1.9nm,0.6s,mb4.2,baz=89,slow=4.9,SNR=9.2						
AKASG	**Malin Array Be**	**73.92 322**	P	**P**		**16 33 22.9**	**-1.4**
VRI	**Vrincioaia**	**74.27 317**	⇑P	**P**		**16 33 26.9**	**+0.4**
MLR	**Muntele Rosu**	**74.72 317**	⇑P	**P**		**16 33 28.4**	**-0.7**
BURAR	**Bucovina Array**	**75.68 319**	⇓P	**P**		**16 33 34.7**	**+0.2**
KOLS	**Kolonicke sedl**	**77.87 320**	*e*P	**P**		**16 33 47.8**	**+1.1**
KOLS			*e*pP	pP		16 33 56.9	+1.6
FINES	**FINESS Array B**	**78.70 333**	P	**P**		**16 33 50.8**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.4,baz=98,slow=5.9,SNR=19						
KAF	**Kangasniemi**	**78.79 333**	*e*p	**P**		**16 33 50.5**	**-1.0**
	comp=Z,5.0nm,0.6s,mb4.6,baz=104,slow=5.1						
KAF	**Kangasniemi**	**78.79 333**	*e*P	**P**		**16 33 50.5**	**-1.0**
KAF			pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6						
GERES	**GERESS Array B**	**83.47 319**	P	**P**		**16 34 17.0**	**+0.6**
	comp=Z,3.5nm,1.0s,mb4.3,baz=104,slow=5.5,SNR=20						
GRA1	**Grafenberg Arr**	**85.14 320**	*e*P	**P**		**16 34 25.4**	**+0.6**
	comp=Z,5.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**85.14 320**	*e*P	**P**		**16 34 25.4**	**+0.6**
GRF			pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**85.14 320**	*e*P	**P**		**16 34 25.4**	**+0.6**
GRF			pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.5						
GRF	**Grafenberg Arr**	**85.14 320**	*e*P	**P**		**16 34 25.4**	**+0.6**
	comp=Z,5.0nm,1.2s,mb4.5						
VNDA	**Vanda**	**86.97 169**	LR	LR		17 08 50.3	
	comp=Z,216nm,19.3s,MS4.6,baz=357,slow=32						
PDAR	**Pinedale Array**	**129.54 25**	PKP	PKPdf		16 40 58.6	-3.0
	comp=Z,0.3nm,0.6s,baz=270,slow=0.9,SNR=2.5						
TXAR	**Lajitas Array**	**143.29 30**	PKP	PKPdf		16 41 22.1	-5.0
	comp=Z,0.3nm,0.5s,baz=173,slow=1.2,SNR=5.3						

*IDC **03** 16:25:18.1±0.6,22.47N×118.72E,mb4.2/13,mb1 4.4/13, mb1mx4.3/19,mbtmp4.2/13,MS3.7/2,Ms1 3.7/2, ms1mx3.1/20,Error ellipse: s-maj=45.2km s-min=14.6km az=63.0*

*NEIC **03** 16:25:19.9±0.3,22.39N×118.67E,h10km,mb4.5/19,Error ellipse: s-maj=6.9km s-min=6.3km az=114.0*

*BJI **03** 16:25:20.4,22.44N×118.67E,h19km,mB4.6,mb4.5, ML5.2,Ms4.5,Msz4.4*

*MOS **03** 16:25:21.5±1.3,22.39N×118.68E,h33km,mb4.7/17,Error ellipse: s-maj=15.2km s-min=8.4km az=102.0*

ISC 03 16:25:18.9±1.8,22.40N±0.04×118.65E±0.05,h15km±13km, h19km±4.3km:pP-P,n78,σ0§95/83,mb4.3/30,MS3.8/3, 3C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**2.53**	**359**⇑	*i*P	**Pn**	**16 26 00.2**	**-0.1**
QZH				S	**Sn**	**16 26 29.6**	**-1.4**
QZH				Smax			
	comp=N,4μm,0.6s						
QZH				Smax			
	comp=E,10μm,0.6s						
NACB	**Ninganchiao**	**3.23**	**56**	*e*Pn	**Pn**	**16 26 11.6**	**+1.4**
NACB				*e*Sn	**Sn**	**16 26 47.9**	**-0.8**
YHNB	**Yeheng**	**3.37**	**47**	*e*Pn	**Pn**	**16 26 12.6**	**+0.4**
TATO	**Taipei**	**3.65**	**45**	*e*Pn	**Pn**	**16 26 15.9**	**-0.2**
CVP	**Callao Caves**	**5.54**	**147**	*e*P	**Pn**	**16 26 43.0**	**+0.1**
QIZ	**Qiongzhong**	**8.90**	**249**	*e*P	**P**	**16 27 30.0**	**0.0**
QIZ				LR	LR		
	comp=N,1μm,10.3s						
QIZ				LR	LR		
	comp=E,1μm,11.5s						
QIZ				LR	LR		
	comp=Z,2μm,11.5s						
QIZ	**Qiongzhong**	**8.90**	**249**	*e*Pn	**P**	**16 27 29.1**	**-0.9**
WHN	**Wuhan**	**8.98**	**335**	P	**P**	**16 27 28.7**	**-2.4**
WHN				Smax			
	comp=N,465nm,1.0s						
WHN				Smax			
	comp=E,579nm,1.0s						
WHN				LR	LR		
	comp=Z,6μm,8.2s						
NJ2	**Nanjing**	**9.61**	**1**	*e*P	**P**	**16 27 39.8**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,70nm,0.9s						
NJ2				LR	LR		
	comp=N,600nm,12.1s						
NJ2				LR	LR		
	comp=E,710nm,19.2s						
TIA	**Tai'an**	**13.83**	**355**	*e*P	**P**	**16 28 37.5**	**+0.7**
TIA				LR	LR		
	comp=E,916nm,5.0s						
KMI	**Kunming**	**14.82**	**284**	P	**P**	**16 28 58.6**	**+8.7**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
CD2	**Chengdu**	**15.77**	**306**⇑	*i*P	**P**	**16 29 07.2**	**+5.0**
CD2				AMB	AMB		
	comp=Z,90nm,0.9s						
BJT	**Baijiatuau**	**17.69**	**354**	*e*P	**P**	**16 29 25.5**	**-0.9**
BJT				pmax	pmax		
	comp=Z,36nm,0.9s						
BJT	**Baijiatuau**	**17.69**	**354**	*e*P	**P**	**16 29 25.5**	**-0.9**
	comp=Z,36nm,0.9s						
BJI	**Beijing**	**17.71**	**354**	P	**P**	**16 29 29.0**	**+2.4**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s						
BJI	**Beijing**	**17.71**	**354**	P	**P**	**16 29 29.0**	**+2.4**
	comp=Z,9.0nm,0.8s						
LZH	**Lanzhou**	**18.75**	**320**	*e*P	**P**	**16 29 40.5**	**+0.9**
LZH				AP		16 29 43.7	
LZH				*e*PP	PP	16 29 56.6	+0.8
LZH				*e*S	**S**	**16 33 04.9**	**-0.2**
LZH				SS	SS	16 33 29.3	-0.9
LZH				AMB	AMB		
	comp=Z,39nm,1.3s						
LZH				AMB	AMB		
	comp=Z,123nm,4.6s						
LZH				LR	LR		
	comp=N,803nm,10.0s						
LZH				LR	LR		
	comp=Z,1μm,12.3s						
LZH	**Lanzhou**	**18.75**	**320**	*e*P	**P**	**16 29 40.5**	**+0.9**
LZH				*e*S	**S**	**16 33 04.9**	**-0.2**
LZH				pmax	pmax		
	comp=Z,39nm,1.3s						
LZH	**Lanzhou**	**18.75**	**320**	*e*P	**P**	**16 29 40.5**	**+0.9**
	comp=Z,39nm,1.3s						
LZH				pP		16 29 43.7	
LZH				sP		16 29 45.2	
LZH				*e*PP	PP	16 29 56.6	+0.8
LZH				*e*S	**S**	**16 33 04.9**	**-0.2**
LZH				sS		16 33 10.5	
LZH				SS	SS	16 33 29.3	-0.9
MAJO	**Matsushiro**	**22.04**	**46**	P	**P**	**16 30 14.8**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.4						
MAJO	**Matsushiro**	**22.04**	**46**	P	**P**	**16 30 14.8**	**+0.1**
	comp=Z,19nm,1.1s,mb4.4						
MAT	**Matsushiro**	**22.04**	**46**	*e*P	**P**	**16 30 14.0**	**-0.7**
MAT				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.4						
MAT	**Matsushiro**	**22.04**	**46**	*e*P	**P**	**16 30 14.0**	**-0.7**
	comp=Z,16nm,1.1s,mb4.4						
MAT	**Matsushiro**	**22.04**	**46**	P	**P**	**16 30 14.4**	**-0.3**
CN2	**Changchun**	**22.07**	**13**	*e*P	**P**	**16 30 16.2**	**+1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
GTA	**Gaotai**	**23.35**	**321**	P	**P**	**16 30 28.4**	**+0.8**
GTA				AP		16 30 32.8	
GTA				XP		16 30 36.6	
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.7						
GTA				AMB	AMB		
	comp=Z,100nm,10.3s						
GTA				LR	LR		
	comp=N,446nm,8.0s						
GTA				LR	LR		
	comp=E,331nm,11.4s						
GTA				LR	LR		
	comp=Z,473nm,9.9s						
MDJ	**Mudanjiang**	**23.92**	**20**	P	**P**	**16 30 33.7**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.0s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,79nm,4.3s						
LSA	**Lhasa**	**25.72**	**292**	P	**P**	**16 30 51.0**	**+0.6**
LSA	**Lhasa**	**25.72**	**292**	*e*P	**P**	**16 30 50.8**	**+0.4**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**25.72**	**292**	*e*P	**P**	**16 30 50.8**	**+0.3**
	comp=Z,10.0nm,0.8s,mb4.4						
HIA	**Hailar**	**26.82**	**2**	*e*P	**P**	**16 30 58.7**	**-1.7**
HIA	**Hailar**	**26.82**	**2**	*e*P	**P**	**16 30 58.6**	**-1.8**
ULN	**Ulaanbaatar**	**27.06**	**343**	*e*P	**P**	**16 31 02.2**	**-0.4**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
ULN	**Ulaanbaatar**	**27.06**	**343**	*e*P	**P**	**16 31 02.2**	**-0.4**
	comp=Z,5.3nm,1.1s,mb4.0						
SONM	**Songino Array**	**27.22**	**342**	P	**P**	**16 31 03.7**	**-0.3**
	comp=Z,1.5nm,0.6s,mb3.7,baz=168,slow=9.8,SNR=2.1						
SONM				LR	LR	16 42 29.0	
	comp=Z,162nm,20.1s,MS3.6,baz=187,slow=38						
ASAJ	**Asahikawa**	**29.30**	**37**	LR	LR	16 42 56.6	
	comp=Z,137nm,19.5s,MS3.6,baz=66,slow=36						
YSS	**Yuzh-Sakhalins**	**31.27**	**33**	*e*P	**P**	**16 31 40.5**	**+0.2**
YSS				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.9						
YSS	**Yuzh-Sakhalins**	**31.27**	**33**	*e*P	**P**	**16 31 40.5**	**+0.1**
	comp=Z,17nm,0.8s,mb4.9						
MKAR	**Makanchi Array**	**38.06**	**319**	P	**P**	**16 32 38.5**	**0.0**
	comp=Z,3.1nm,0.9s,mb4.0,baz=117,slow=8.2,SNR=4.2						
MKAR				PcP	PcP	16 34 54.0	-0.3
	comp=Z,1.5nm,0.9s,baz=108,slow=3.8,SNR=4.0						
WRAB	**Tennant Creek**	**44.78**	**159**	*e*P	**P**	**16 33 33.3**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**44.78**	**159**	*e*P	**P**	**16 33 33.3**	**-0.8**
	comp=Z,7.2nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**44.79**	**159**	P	**P**	**16 33 33.3**	**-0.8**
	comp=Z,3.7nm,0.7s,mb4.3,baz=341,slow=9.0,SNR=10						
WRA				PcP	PcP	16 35 15.9	-0.7
	comp=Z,1.2nm,0.7s,baz=342,slow=3.8,SNR=4.8						
WB2	**Warramunga Arr**	**44.79**	**159**⇓	*i*P	**P**	**16 33 33.4**	**-0.8**
BVAR	**Borovoye Array**	**47.62**	**322**	P	**P**	**16 33 55.4**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.8,baz=72,slow=9.1,SNR=2.7						
BVAR				PcP	PcP	16 35 25.1	-1.0
	comp=Z,2.9nm,0.8s,baz=117,slow=3.3,SNR=8.2						
CHKZ	**Chkalovo**	**47.73**	**323**	*e*P	**P**	**16 33 56.1**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
CHKZ	**Chkalovo**	**47.73**	**323**	*e*P	**P**	**16 33 56.1**	**-0.8**
	comp=Z,2.9nm,1.0s,mb4.3						
ASAR	**Alice Springs**	**48.13**	**161**	P	**P**	**16 34 00.3**	**-0.2**
	comp=Z,6.4nm,0.8s,mb4.7,baz=346,slow=6.8,SNR=30						
ASAR				PcP	PcP	16 35 27.7	-0.7
	comp=Z,0.7nm,0.5s,baz=343,slow=3.2,SNR=4.9						
ASPA	**Alice Springs**	**48.13**	**161**	*e*P	**P**	**16 34 00.3**	**-0.2**
BILL	**Bilibino**	**54.15**	**20**	*e*P	**P**	**16 34 44.8**	**-0.6**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
BILL	**Bilibino**	**54.15**	**20**	*e*P	**P**	**16 34 44.8**	**-0.5**
	comp=Z,6.6nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**58.27**	**157**	P	**P**	**16 35 15.0**	**-0.4**
	comp=Z,5.8nm,0.8s,mb4.7,baz=113,slow=1.2,SNR=5.3						
KIV	**Kislovodsk**	**64.91**	**309**⇑	*i*P	**P**	**16 35 57.9**	**-2.0**
KIV				*i* *PP	pP	16 36 07.1	+2.4
KIV				*i* *SP	sP	16 36 11.3	+5.0
KIV				*e*		16 38 28.4	
KIV				*e*S	**S**	**16 44 28.5**	**-11**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
KIV	**Kislovodsk**	**64.91**	**309**	*e*P	**P**	**16 36 00.1**	**+0.1**
	comp=Z,5.7nm,0.7s,mb4.7						
IMA	**Indian Mountai**	**68.82**	**26**	*e*P	**P**	**16 36 25.8**	**+1.4**
MCK	**McKinley**	**71.22**	**28**	*e*P	**P**	**16 36 39.1**	**+0.1**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
MCK	**McKinley**	**71.22**	**28**	*e*P	**P**	**16 36 39.1**	**+0.1**
	comp=Z,4.6nm,1.1s,mb4.3						
COLA	**College**	**71.42**	**27**	*e*P	**P**	**16 36 40.7**	**+0.5**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
COLA	**College**	**71.42**	**27**	*e*P	**P**	**16 36 40.7**	**+0.5**
	comp=Z,5.2nm,0.9s,mb4.5						
FINES	**FINESS Array B**	**71.80**	**330**	P	**P**	**16 36 41.8**	**-0.8**
	comp=Z,2.1nm,0.9s,mb4.1,baz=27,slow=8.5,SNR=4.2						
BRTR	**Keskin Array B**	**72.35**	**306**	P	**P**	**16 36 45.9**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=107,slow=5.3,SNR=4.6						
AKASG	**Malin Array Be**	**72.65**	**318**	P	**P**	**16 36 46.4**	**-1.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=60,slow=6.0,SNR=4.9						
INK	**Inuvik**	**75.73**	**21**	*e*P	**P**	**16 37 05.2**	**0.0**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**75.73**	**21**	*e*P	**P**	**16 37 05.2**	**-0.1**
	comp=Z,4.4nm,0.9s,mb4.4						
NB2	**NORSAR Subarra**	**78.70**	**332**	P	**P**	**16 37 21.2**	**-0.6**
	comp=Z,5.9nm,0.8s,mb4.6,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**78.70**	**332**	P	**P**	**16 37 21.6**	**-0.2**
	comp=Z,3.9nm,0.8s,mb4.4,baz=66,slow=5.4,SNR=11						
BRG	**Berggiesshubel**	**81.71**	**322**	*e*P	**P**	**16 37 40.6**	**+2.6**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
BRG	**Berggiesshubel**	**81.71**	**322**	*e*P	**P**	**16 37 40.6**	**+2.6**
	comp=Z,3.2nm,0.9s,mb4.2						
CLL	**Collm**	**82.05**	**322**	P	**P**	**16 37 41.0**	**+1.2**
CLL				*e*SP	sP	16 37 45.0	-1.2
KMBO	**Kilima Mbogo**	**82.48**	**266**	*e*P	**P**	**16 37 45.3**	**+2.5**
KMBO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMBO	**Kilima Mbogo**	**82.48**	**266**	P	**P**	**16 37 45.0**	**+2.2**
	comp=Z,3.5nm,0.9s,mb4.3,baz=227,slow=23,SNR=6.0						
KMBO	**Kilima Mbogo**	**82.48**	**266**	*e*P	**P**	**16 37 45.3**	**+2.5**
	comp=Z,6.0nm,1.0s,mb4.5						
GERES	**GERESS Array B**	**82.72**	**320**	P	**P**	**16 37 44.0**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.8,baz=63,slow=3.0,SNR=6.7						
GRA1	**Grafenberg Arr**	**83.80**	**321**	*e*P	**P**	**16 37 49.9**	**+1.1**
	comp=Z,7.0nm,1.3s,mb4.6						
GRA1				*e*pP	pP	16 37 54.5	+0.8
GRF	**Grafenberg Arr**	**83.80**	**321**	*e*P	**P**	**16 37 49.9**	**+1.1**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.6						
GRF	**Grafenberg Arr**	**83.80**	**321**	*e*P	**P**	**16 37 49.9**	**+1.1**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.6						
GRF	**Grafenberg Arr**	**83.80**	**321**	*e*P	**P**	**16 37 49.9**	**+1.1**
	comp=Z,7.0nm,1.3s,mb4.6						
GRF				*e*pP	pP	16 37 54.5	+0.8
YKA	**Yellowknife Ar**	**85.50**	**22**	P	**P**	**16 37 57.7**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.4,baz=319,slow=4.9,SNR=48						
YKA	**Yellowknife Ar**	**85.50**	**22**	P	**P**	**16 37 57.7**	**+0.7**

*IDC **03** 16:27:43.5±2.8,1.14N×97.04E,mb3.9/6,mb1 4.1/6, mb1mx3.8/17,mbtmp3.9/6,Error ellipse: s-maj=122.3km s-min=20.4km az=57.0*

*NEIC **03** 16:27:48.5±0.8,1.22N×97.15E,h30km,mb4.3/1,Error ellipse: s-maj=21.2km s-min=10.7km az=57.0*

ISC 03 16:27:46.4±1.0,1.3N±0.1×97.1E±0.2,h30km,n11, σ0§60/11,mb4.0/7,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.35**	**41**⇑	*e*P	**Pn**	**16 29 06.1**	**-0.3**
WRA	**Warramunga Arr**	**42.13**	**122**	P	**P**	**16 35 37.7**	**-0.4**
	0.8nm,0.5s,mb3.6,baz=300,slow=9.1,SNR=3.9						
WRAB	**Tennant Creek**	**42.14**	**122**	*e*P	**P**	**16 35 38.6**	**+0.4**
ASAR	**Alice Springs**	**43.49**	**127**	P	**P**	**16 35 49.2**	**0.0**
	0.5nm,0.4s,mb3.6,baz=292,slow=7.9,SNR=4.0						
SONM	**Songino Array**	**47.10**	**9**	P	**P**	**16 36 18.4**	**+0.8**
	1.4nm,0.7s,mb4.0,baz=190,slow=9.1,SNR=9.2						
MKAR	**Makanchi Array**	**47.17**	**346**	P	**P**	**16 36 19.3**	**+1.1**
	1.2nm,0.5s,mb4.1,baz=162,slow=9.0,SNR=24						
MKAR	**Makanchi Array**	**47.17**	**346**	P	**P**	**16 36 19.3**	**+1.1**
KURK	**Kurchatov**	**51.72**	**345**	*e*P	**P**	**16 36 53.3**	**+0.2**
ZAL	**Zalesovo**	**53.49**	**351**	P	**P**	**16 37 05.5**	**-0.7**
	1.9nm,0.4s,mb4.3,baz=315,slow=5.3,SNR=6.4						
BVAR	**Borovoye Array**	**56.18**	**341**	P	**P**	**16 37 24.9**	**-0.9**
	1.1nm,0.7s,mb4.0,baz=149,slow=8.4,SNR=4.1						
CHKZ	**Chkalovo**	**56.65**	**341**	*e*P	**P**	**16 37 29.0**	**-0.3**
	2.5nm,0.8s,mb4.3						

*BJI **03** 16:38:58.6,2.29N×96.20E,h41km,mB5.1,mb4.8,Ms4.6, Msz4.3*

*MOS **03** 16:39:02.4±1.0,2.95N×96.32E,h33km,mb5.0/35,Error ellipse: s-maj=13.0km s-min=5.9km az=109.3*

*IDC **03** 16:39:03.5±3.9,2.94N×96.36E,h27km±26km,mb4.4/18, mb1 4.4/19,mb1mx4.4/22,mbtmp4.5/19,ML4.3/1,MS4.0/8, Ms1 4.0/8,ms1mx3.9/15,Error ellipse: s-maj=21.6km s-min=11.8km az=52.0*

*NEIC **03** 16:39:03.3±0.2,2.91N×96.31E,mb4.8/35,Error ellipse: s-maj=6.7km s-min=5.0km az=47.0*

ISC 03 16:39:01.5±0.3,2.89N±0.05×96.33E±0.05,h27km, h27km±1.1km:pP-P,n159,σ1§00/165,mb4.8/72,MS4.1/16, 7C-8D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.92**	**61**	*e*P	**Pn**	**16 40 17.7**	**+1.9**
NNT	**Nongplab**	**10.21**	**19**	P	**P**	**16 41 38.5**	**+8.9**
KKTK	**Khon Kaen**	**14.81**	**25**	P	**P**	**16 42 39.0**	**+7.8**
	988nm,0.6s						
CMAR	**Chiang Mai Arr**	**15.68**	**9**	Pn	**P**	**16 42 43.1**	**+0.6**
	0.4nm,0.3s,baz=201,slow=13,SNR=14						
CMAR				Sn	**S**	**16 45 51.0**	**+15**
	0.1nm,0.3s,baz=215,slow=25,SNR=2.8						
CMAR				Lg		16 46 53.6	
	0.0nm,0.3s,baz=68,slow=38,SNR=4.1						
CMAR				LR	LR	16 48 55.1	
	comp=Z,611nm,19.5s,baz=200,slow=38						
NANT	**Nan**	**16.38**	**15**	P	**P**	**16 42 56.0**	**+4.6**
	125nm,0.6s						
VIS	**Vishakhapatnam**	**19.49**	**320**	*e*P	**P**	**16 43 29.6**	**0.0**
VIS				*e*		16 43 36.9	
	comp=Z,66nm,1.3s						
VIS				*e*		16 46 52.1	
TRD	**Trivandrum**	**20.06**	**287**⇓	*e*	**P**	**16 43 28.2**	**-7.6**
TRD				*e*		16 47 28.2	
KKM	**Kota Kinabalu**	**20.07**	**80**	*e*P	**P**	**16 43 36.1**	**+0.2**
HYB	**Hyderabad**	**22.65**	**311**	*e*P	**P**	**16 44 03.0**	**+0.9**
HYB				pmax	pmax		
	comp=Z,125nm,1.4s,mb5.2						
HYB	**Hyderabad**	**22.65**	**311**	*e*P	**P**	**16 44 03.0**	**+0.9**
	comp=Z,125nm,1.4s,mb5.2						
HYB	**Hyderabad**	**22.65**	**311**	*i* P	**P**	**16 44 03.0**	**+0.9**
	comp=Z,125nm,1.4s,mb5.2						
KMI	**Kunming**	**22.95**	**15**	P	**P**	**16 44 07.4**	**+2.4**
KMI				AP		16 44 16.4	
KMI				XP		16 44 19.8	
KMI				S	**S**	**16 48 13.0**	**+4.0**
KMI				XS		16 48 27.6	
KMI				SS	SS	16 48 59.3	+5.6
KMI				SSS	SSS	16 49 14.7	+5.5
KMI				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,197nm,8.3s						
KMI				LR	LR		
	comp=N,991nm,13.4s,MS4.5						
KMI				LR	LR		
	comp=E,483nm,12.1s,MS4.5						
KMI				LR	LR		
	comp=Z,907nm,13.0s,MS4.4						
KMI	**Kunming**	**22.95**	**15**	P	**P**	**16 44 07.4**	**+2.4**
	comp=Z,21nm,1.1s,mb4.5						
KMI				pP		16 44 16.4	
KMI				sP		16 44 19.8	
KMI				S	**S**	**16 48 13.0**	**+4.0**
KMI				sS		16 48 27.6	
KMI				SS	SS	16 48 59.3	+5.6
KMI				SSS	SSS	16 49 14.7	+5.5
KMI				LR	LR		
	comp=Z,910nm,13.0s,MS4.4						
BLSP	**Bilaspur**	**23.58**	**325**	*e*P	**P**	**16 44 12.6**	**+1.5**
BLSP				*e*		16 44 15.7	
	comp=Z,50nm,0.9s						
BLSP				*e*		16 47 12.7	
GYA	**Guiyang**	**25.45**	**22**⇑	*i*P	**P**	**16 44 29.7**	**+0.7**
GYA				AP	pP	16 44 38.6	+1.6
GYA				XP	sP	16 44 43.9	+3.3
GYA				PP	PP	16 45 12.8	+4.5
GYA				S	**S**	**16 48 57.5**	**+5.9**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,4.5s						
GYA				LR	LR		
	comp=N,550nm,14.1s,MS4.3						
GYA				LR	LR		
	comp=E,450nm,13.5s,MS4.3						
GYA				LR	LR		
	comp=Z,830nm,14.4s,MS4.4						
KAD	**Karad**	**26.04**	**305**	*e*P	**P**	**16 44 36.1**	**+1.5**
KAD				*e*		16 44 41.2	
	comp=Z,39nm,1.7s						
JIRN	**Jiri**	**26.47**	**339**	*e*P	**P**	**16 44 38.6**	**+0.1**
	comp=Z,41nm,0.6s,mb5.2						
PKI	**Pulchoki**	**26.67**	**338**	*e*P	**P**	**16 44 40.4**	**+0.1**
	comp=Z,60nm,1.1s,mb5.0						
PKI	**

THN Thein Dam 35.19 329 *eP* **P 16 45 53.7 -1.8**
FITZ Fitzroy Crossi 35.62 127 P **P 16 45 58.7 -0.6**
comp=Z,6.9nm,0.5s,mb4.9,baz=313,slow=5.4,SNR=6.7
NJ2 Nanjing 35.92 34 *eP* **P 16 46 01.1 -0.6**
NJ2 AP pP 16 46 11.0 +1.1
NJ2 XP sP 16 46 15.1 +1.7
NJ2 PP PP 16 47 20.9 -2.6
NJ2 S **S 16 51 30.0 -7.5**
NJ2 LR LR
comp=N,310nm,16.8s,MS4.2
NJ2 LR LR
comp=E,260nm,19.7s,MS4.2
NJ2 LR LR
comp=Z,160nm,18.0s,MS3.8
GTA Gaotai 36.49 5 P **P 16 46 05.6 -0.8**
GTA AP pP 16 46 18.2 +3.6
GTA XP sP 16 46 21.6 +3.5
GTA PCP PcP 16 48 31.4 +1.1
GTA AMB AMB
comp=Z,15nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,174nm,9.2s
GTA LR LR
comp=N,189nm,11.5s,MS4.3
GTA LR LR
comp=E,256nm,11.5s,MS4.3
GTA LR LR
comp=Z,209nm,15.3s,MS4.0
SSE Sheshan 36.57 37 P **P 16 46 06.1 -1.1**
SSE AP pP 16 46 14.9 -0.5
SSE XP sP 16 46 18.8 0.0
SSE PP PP 16 47 30.1 -1.8
SSE S **S 16 51 48.2 +0.8**
SSE AMB AMB
comp=Z,39nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,45nm,6.2s
SSE LR LR
comp=N,265nm,21.1s,MS4.1
SSE LR LR
comp=E,245nm,21.1s,MS4.1
SSE LR LR
comp=Z,137nm,16.2s,MS3.8
SSE Sheshan 36.57 37 P **P 16 46 06.1 -1.1**
comp=Z,39nm,0.7s,mb5.3
SSE pP pP 16 46 14.9 -0.5
SSE sP sP 16 46 18.8 0.0
SSE PP PP 16 47 30.1 -1.8
SSE S **S 16 51 48.2 +0.8**
SSE sS 16 52 03.5
SSE SS SS 16 54 28.4 +14
SSE LR LR
comp=Z,140nm,16.2s,MS3.8
HHC Hu-ho-hao-te 40.21 18 *eP* **P 16 46 38.4 +0.9**
HHC AP pP 16 46 45.8 +0.1
HHC PP PP 16 48 15.1 +1.4
HHC PCP PcP 16 48 43.5 +1.6
HHC PCS 16 52 32.3
HHC S **S 16 52 43.9 +1.4**
HHC SCS ScS 16 56 36.2 -3.8
HHC AMB AMB
comp=Z,19nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,112nm,5.8s
HHC LR LR
comp=N,329nm,14.7s,MS4.4
HHC LR LR
comp=E,263nm,15.5s,MS4.4
HHC LR LR
comp=Z,255nm,15.3s,MS4.2
NWAO Narrogin (SRO) 40.75 153 P **P 16 46 43.2 +1.2**
comp=Z,8.8nm,0.7s,mb4.5,baz=343,slow=16,SNR=4.7
NWAO Narrogin (SRO) 40.75 153 P **P 16 46 43.2 +1.2**
KSH Kashi 40.88 336 *eP* **P 16 46 43.6 +0.6**
KSH *e*AP pP 16 46 52.6 +1.3
KSH *e*XP sP 16 46 56.0 +1.3
KSH AMB AMB
comp=Z,410nm,5.9s
BJT Baijiatuau 41.10 23 P **P 16 46 42.2 -2.6**
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuau 41.10 23 P **P 16 46 42.2 -2.6**
comp=Z,8.9nm,0.6s,mb4.6
BJI Beiging 41.12 23 P **P 16 46 46.1 +1.1**
BJI AMB AMB
comp=Z,15nm,0.7s,mb4.7
BJI AMB AMB
comp=Z,165nm,4.5s
BJI LR LR
comp=N,179nm,12.3s
BJI LR LR
comp=E,293nm,20.9s
BJI LR LR
comp=Z,104nm,29.2s
WMQ Urumqi 41.47 351 ⇑P **P 16 46 47.8 0.0**
WMQ AP pP 16 46 55.3 -0.7
WMQ PP PP 16 48 27.0 +0.3
WMQ PCP PcP 16 48 46.3 +0.4
WMQ PPP PPP 16 48 57.3 -0.2
WMQ S **S 16 53 01.0 -0.2**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.3
WMQ AMB AMB
comp=Z,269nm,5.5s
WMQ LR LR
comp=N,253nm,20.6s,MS4.5
WMQ LR LR
comp=E,625nm,19.6s,MS4.5
WMQ LR LR
comp=Z,136nm,19.7s,MS3.8
ULHL Ulahol 43.11 338 P **P 16 47 02.1 +0.8**
SNR=6.4
KZA Kyzart 43.34 337 P **P 16 47 04.6 +1.4**
SNR=12
WRA Warramunga Arr 43.67 123 P **P 16 47 05.9 -0.2**
comp=Z,4.6nm,0.4s,mb4.5,baz=300,slow=9.3,SNR=22
WRAB Tennant Creek 43.68 123 *eP* **P 16 47 06.3 +0.1**
WRAB pmax pmax
comp=Z,17nm,0.6s,mb5.0
WRAB Tennant Creek 43.68 123 *eP* **P 16 47 06.3 +0.1**
comp=Z,17nm,0.6s,mb4.9
UCH Uchtor 43.76 336 P **P 16 47 08.0 +1.4**
SNR=24
TKM2 Tokmak 2 43.93 338 P **P 16 47 08.9 +1.0**
SNR=19
KBK Karagaybulak 43.95 337 P **P 16 47 09.7 +1.6**
SNR=27
AML Almayashu 44.01 336 P **P 16 47 09.9 +1.3**
SNR=26
AAK Ala-Archa 44.11 337 P **P 16 47 11.2 +1.8**
SNR=15
AAK Ala-Archa 44.11 337 P **P 16 47 10.1 +0.7**
comp=Z,85nm,0.9s,mb5.5,SNR=31
AAK Ala-Archa 44.11 337 *eP* **P 16 47 09.5 +0.1**
AAK pmax pmax
comp=Z,21nm,1.1s,mb4.8
AAK Ala-Archa 44.11 337 *eP* **P 16 47 09.5 +0.1**
comp=Z,21nm,1.1s,mb4.8
FRU Bishkek 44.23 337 *i* P **P 16 47 12.0 +1.6**
FRU pmax pmax
comp=Z,90nm,2.0s,mb5.2
CHMS Chumysh 44.32 337 P **P 16 47 11.9 +0.8**
SNR=8.7
EKS2 Erkin-Say 44.42 336 P **P 16 47 11.9 0.0**
SNR=9.9
USP Ospenovka 44.65 337 P **P 16 47 14.4 +0.7**
SNR=15
ASAR Alice Springs 45.11 128 P **P 16 47 17.5 -0.2**
comp=Z,3.1nm,0.6s,mb4.3,baz=300,slow=8.1,SNR=20
ASAR LR LR 17 05 03.3
comp=Z,127nm,21.5s,MS3.8,baz=305,slow=35
MKAR Makanchi Array 45.40 346 P **P 16 47 19.5 -0.2**
comp=Z,16nm,0.4s,mb5.2,baz=158,slow=8.7,SNR=198
MKAR S **S 16 53 59.4 +1.0**
comp=Z,0.5nm,0.8s,baz=170,slow=14,SNR=2.5
MKAR LR LR 17 11 22.1
comp=Z,127nm,18.3s,MS3.9,baz=176,slow=43
MKAR Makanchi Array 45.40 346 P **P 16 47 19.5 -0.2**
MKAR S **S 16 53 59.4 +1.0**
MKAR LR LR 17 11 22.1
SONM Songino Array 45.61 9 P **P 16 47 21.7 +0.4**
comp=Z,11nm,0.8s,mb4.8,baz=189,slow=8.6,SNR=82
SONM PcP PcP 16 49 00.2 +0.3
comp=Z,2.6nm,0.6s,baz=195,slow=3.3,SNR=7.6
SONM LR LR 17 09 34.5
comp=Z,193nm,19.7s,MS4.0,baz=188,slow=40
SONM Songino Array 45.61 9 P **P 16 47 21.7 +0.4**
SONM PcP PcP 16 49 00.2 +0.3
SONM LR LR 17 09 34.5
ULN Ulaanbaatar 45.75 10 *eP* **P 16 47 20.6 -1.8**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ULN Ulaanbaatar 45.75 10 *eP* **P 16 47 20.6 -1.8**
comp=Z,7.2nm,0.9s,mb4.6
KKAR Karatay Array 46.16 334 *i* P **P 16 47 25.7 -0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ZAK Zakamensk 47.69 6⇑*eP* **P 16 47 37.7 0.0**
ZAK pmax pmax
comp=Z,5.0nm,1.6s,mb4.3
TLY Talaya 49.01 6⇑*iP* **P 16 47 48.0 +0.1**
TLY pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,160nm,15.0s,MS4.1
TLY Talaya 49.01 6 *eP* **P 16 47 47.9 +0.1**
comp=Z,7.5nm,0.8s,mb4.8
KURK Kurchatov 49.95 345 *eP* **P 16 47 54.7 -0.4**
KURK pmax pmax
comp=Z,89nm,1.7s,mb5.5
KURK Kurchatov 49.95 345 *eP* **P 16 47 54.7 -0.4**
comp=Z,89nm,1.7s,mb5.5
HIA Hailar 50.34 20 *eP* **P 16 47 58.2 +0.1**
HIA pmax pmax
comp=Z,9.0nm,0.8s
HIA Hailar 50.34 20 *eP* **P 16 47 58.2 0.0**
comp=Z,9.2nm,0.8s,mb4.9
ZAL Zalesovo 51.76 351 P **P 16 48 08.1 -0.8**
comp=Z,7.1nm,0.4s,mb4.9,baz=304,slow=5.3,SNR=34
ZAL LR LR 17 15 23.5
comp=Z,161nm,19.4s,MS4.1,baz=202,slow=42
OPO Ambohidratompo 52.85 244 P **P 16 48 18.1 +0.6**
comp=Z,1.1nm,0.5s,mb4.0,baz=82,slow=4.2,SNR=5.0
NVS Novosibirsk 52.87 351 *i* P **P 16 48 14.5 -2.7**
NVS *e*S **S 16 55 42.9 +0.3**
NVS pmax pmax
comp=Z,11nm,1.1s,mb4.7
NVS pmax pmax
comp=N,17nm,1.5s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS smax
comp=N,7.0nm,1.6s
NVS smax
comp=E,5.0nm,0.8s
BVA0 Borovoye Array 54.38 341 *i* P **P 16 48 26.9 -1.4**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BVAR Borovoye Array 54.38 341 P **P 16 48 27.0 -1.3**
comp=Z,5.4nm,0.6s,mb4.7,baz=142,slow=11,SNR=9.2
CHKZ Chkalovo 54.86 342 *eP* **P 16 48 30.7 -1.1**
CHKZ pmax pmax
comp=Z,65nm,0.8s,mb5.7
CHKZ Chkalovo 54.86 342 *eP* **P 16 48 30.7 -1.1**
comp=Z,65nm,0.8s,mb5.7
STKA Stephens Creek 55.13 133 P **P 16 48 34.5 +0.4**
comp=Z,4.7nm,0.8s,mb4.5,baz=310,slow=8.8,SNR=9.0
STKA LR LR 17 14 51.1
comp=Z,149nm,20.0s,MS4.1,baz=339,slow=39
STKA Stephens Creek 55.13 133 P **P 16 48 34.5 +0.4**
STKA LR LR 17 14 51.1
BOD Bodaibo 56.52 11 *eP* **P 16 48 42.9 -0.9**
BOD pmax pmax
comp=Z,11nm,1.1s,mb4.8
KMBO Kilima Mbogo 59.19 267 P **P 16 49 03.7 +0.6**
comp=Z,3.5nm,0.6s,mb4.5,baz=60,slow=12,SNR=12
KMBO LR LR 17 12 14.3
comp=Z,130nm,19.0s,MS4.1,baz=87,slow=34
KMBO Kilima Mbogo 59.19 267 *eP* **P 16 49 03.7 +0.6**
comp=Z,5.7nm,0.9s,mb4.6
YSS Yuzh-Sakhalins 59.46 35 *i* P **P 16 49 04.1 -0.4**
GNI Garni 59.48 316 P **P 16 49 04.6 -0.2**
comp=Z,3.4nm,0.5s,mb4.7,baz=38,slow=4.6,SNR=5.3
SVE Sverdlovsk 60.80 338 *eP* **P 16 49 12.6 -0.9**
SVE pmax pmax
comp=Z,23nm,1.7s,mb5.0
ARU Arti 61.30 337 *i* P **P 16 49 15.1 -1.8**
KIV Kislovodsk 62.47 319⇑*iP* **P 16 49 23.0 -1.9**
KIV *i* *PP pP 16 49 32.0 -1.5
KIV *i* *SP sP 16 49 37.8 +1.2
KIV *i* 16 50 00.3
KIV *i* 16 51 39.8
KIV *i* S **S 16 57 43.0 -5.6**
KIV pmax pmax
comp=Z,27nm,1.7s,mb5.1
KIV Kislovodsk 62.47 319 *eP* **P 16 49 23.9 -1.0**
comp=Z,21nm,1.2s,mb5.1
GOF Gofitskoye 62.71 320⇑*iP* **P 16 49 25.9 -0.6**
GOF pmax pmax
comp=Z,40nm,1.7s,mb5.3
MALT Malatya 63.36 312 *eP* **P 16 49 30.3 -0.6**
MALT pmax pmax
comp=Z,19nm,1.6s,mb5.0
MALT Malatya 63.36 312 *eP* **P 16 49 30.3 -0.6**
comp=Z,18nm,1.6s,mb5.0
YAK Yakutsk 64.06 17 *eP* **P 16 49 33.9 -1.2**
YAK *e* pP 16 49 42.7 -1.0
YAK pmax pmax
comp=Z,53nm,1.0s,mb5.5
YAK Yakutsk 64.06 17 *eP* **P 16 49 33.9 -1.2**
comp=Z,53nm,1.0s,mb5.5
YAK *e* pP 16 49 42.7 -0.9
SOC Sochi 64.29 318 *eP* **P 16 49 32.8 -4.2**
SOC *e* 16 51 52.8
SOC *e*PPP PPP 16 53 27.0 -5.8
SOC *e*S **S 16 58 07.8 -3.6**
SOC *e* 16 59 24.2
SOC *e*SS SS 17 02 20.4 -2.4
SOC pmax pmax
comp=Z,56nm,1.3s,mb5.4
SOC pmax pmax
comp=N,14nm,1.1s
SOC pmax pmax
comp=E,11nm,1.1s
ANN Anapa 66.27 318 *eP* **P 16 49 41.5 -8.1**
ANN pmax pmax
comp=Z,71nm,1.4s,mb5.5
BRTR Keskin Array B 67.34 312 P **P 16 49 55.5 -1.1**
comp=Z,2.0nm,0.5s,mb4.4,baz=138,slow=7.2,SNR=11
VRSR Storozhevoye 67.68 325 *eP* **P 16 49 56.6 -1.9**
VRSR pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
VRSR pmax pmax
comp=N,2.0nm,0.5s
VRSR pmax pmax
comp=E,6.0nm,0.7s
LSZ Lusaka 69.77 253 *eP* **P 16 50 10.9 -1.1**
LSZ pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
LSZ Lusaka 69.77 253 *eP* **P 16 50 10.9 -1.1**
comp=Z,2.8nm,0.5s,mb4.5
MA2 Magadan 70.20 26 *eP* **P 16 50 13.9 0.0**
MA2 pmax pmax
comp=Z,16nm,1.6s,mb4.7
MOS Moscow 70.44 329 *eP* **P 16 50 13.4 -2.0**
MOS *e* 16 50 33.2
MOS pmax pmax
comp=Z,41nm,0.6s,mb5.5
OBN Obninsk 70.73 328⇓*iP* **P 16 50 16.4 -0.8**
OBN pmax pmax
comp=Z,41nm,1.6s,mb5.1
TIXI Tiksi 71.69 10⇓⇓*iP* **P 16 50 21.2 -1.5**
TIXI pmax pmax
comp=Z,9.0nm,1.7s,mb4.4
TIRR Tirgusor 72.31 316 ⇓P **P 16 50 26.7 -0.1**
CFR Carcaliu 72.67 317 ⇓P **P 16 50 28.8 -0.2**
AKASG Malin Array Be 73.40 322 P **P 16 50 32.0 -1.1**
comp=Z,1.3nm,0.4s,mb4.2,baz=82,slow=5.2,SNR=19
VRI Vrincioaia 73.80 317 ⇓P **P 16 50 36.3 +0.8**
MLR Muntele Rosu 74.25 316 ⇑P **P 16 50 38.6 +0.5**
BURAR Bucovina Array 75.19 319 ⇓P **P 16 50 44.6 +1.1**
KOLS Kolonicke sedl 77.37 319 *eP* **P 16 50 56.3 +0.5**
KOLS *e*pP pP 16 51 03.0 -1.4
SUW Suwalki 77.80 325 *eP* **P 16 50 57.4 -0.6**
FINES FINESS Array B 78.11 332 P **P 16 50 59.5 0.0**
comp=Z,2.5nm,0.6s,mb4.3,baz=94,slow=5.9,SNR=31
FINES LR LR 17 29 11.0
comp=Z,110nm,18.4s,MS4.2,baz=315,slow=38
KAF Kangasniemi 78.19 333 *ep* **P 16 50 59.4 -0.6**
comp=Z,4.5nm,0.6s,mb4.6,baz=103,slow=5.1
KAF Kangasniemi 78.19 333 *eP* **P 16 50 59.4 -0.6**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
PSZ Piszkesteto 78.78 318 *eP* **P 16 51 03.5 0.0**
PSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
PSZ Piszkesteto 78.78 318 *eP* **P 16 51 03.5 0.0**
comp=Z,7.5nm,1.0s,mb4.6
VYHS Vyhne 79.56 319 *eP* pP 16 51 17.8 +1.4
VYHS Vyhne 79.56 319 *e*pP pP 16 51 17.8 +1.4
BILL Bilibino 79.91 21 *eP* **P 16 51 10.2 +1.0**
BILL pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
MORC Moravsky Berou 80.56 320 *eP* **P 16 51 13.7 +0.7**
MORC pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
MORC Moravsky Berou 80.56 320 *eP* **P 16 51 13.7 +0.7**
comp=Z,8.1nm,1.3s,mb4.5
ZST Bratislava 80.67 318 *eP* **P 16 51 14.1 +0.5**
RPZ Rata Peaks 81.01 135 P **P 16 51 15.7 +0.1**
comp=Z,12nm,0.8s,mb4.9,baz=156,slow=20,SNR=2.2
BRG Berggiesshubel 82.96 321 *eP* **P 16 51 26.4 +0.9**
BRG pmax pmax
comp=Z,7.0nm,1.6s,mb4.4
BRG Berggiesshubel 82.96 321 *eP* **P 16 51 26.4 +0.9**
comp=Z,6.8nm,1.6s,mb4.4
GERES GERESS Array B 82.98 319 P **P 16 51 26.8 +1.2**
comp=Z,0.7nm,0.5s,mb4.0,baz=90,slow=4.0,SNR=14
KHC Kasperske Hory 83.08 319 *eP* **P 16 51 26.5 +0.3**
KHC *e* pP 16 51 34.0 -0.9
KHC Kasperske Hory 83.08 319 *eP* **P 16 51 26.5 +0.3**
KHC *e*P pP 16 51 34.0 -0.9
CLL Collm 83.58 321 *eP* **P 16 51 29.0 +0.3**
CLL Collm 83.58 321 P **P 16 51 29.0 +0.3**
GRA1 Grafenberg Arr 84.64 319 *eP* **P 16 51 34.7 +0.6**
comp=Z,5.0nm,1.1s,mb4.6
GRA1 *e*pP pP 16 51 43.2 +0.3
GRF Grafenberg Arr 84.64 319 *eP* **P 16 51 34.7 +0.6**
GRF *e**PP pP 16 51 43.2 +0.3
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
GRF pmax pmax
comp=Z,5.0nm,0.4s,mb5.0
GRF Grafenberg Arr 84.64 319 *eP* **P 16 51 34.7 +0.6**
GRF *e**PP pP 16 51 43.2 +0.3
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
GRF Grafenberg Arr 84.64 319 *eP* **P 16 51 34.7 +0.6**
comp=Z,5.0nm,1.1s,mb4.6
GRF *e*pP pP 16 51 43.2 +0.3
NOA NORSAR Array B 85.11 331 P **P 16 51 37.3 +1.1**
comp=Z,1.0nm,0.7s,mb4.0,baz=93,slow=4.8,SNR=2.9
LPG La Plagne 87.66 315 *eP* **P 16 51 48.9 -0.1**
comp=Z,10nm,0.8s,mb4.8
LPG La Plagne 87.66 315 *eP* **P 16 51 48.9 -0.1**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
IMA Indian Mountai 95.37 23 *eP* **P 16 52 26.2 +1.9**
IMA pmax pmax
comp=Z,13nm,1.2s,mb5.2
IMA Indian Mountai 95.37 23 *eP* **P 16 52 26.2 +1.9**
comp=Z,13nm,1.2s,mb5.2
YKA Yellowknife Ar 110.69 15 PP PP 16 58 06.4 -6.6
comp=Z,0.1nm,0.5s,baz=327,slow=6.7,SNR=3.9
ULM Lac du Bonnet 126.03 10 PKP PKPdf 16 58 01.7 -4.7
comp=Z,1.4nm,0.5s,baz=346,slow=2.2,SNR=3.2
PDAR Pinedale Array 128.89 24 PKP PKPdf 16 58 09.3 -2.8
comp=Z,0.3nm,0.6s,baz=315,slow=2.1,SNR=3.7
TXAR Lajitas Array 142.66 29 PKhKP 16 58 31.2
comp=Z,0.2nm,0.5s,baz=146,slow=0.7,SNR=5.3
TXAR Lajitas Array 142.66 29 PKP PKPdf 16 58 31.2 -6.7
JCT Junction City 143.42 24 *e*PKPpre 16 58 34.6

NEIC ***03*** *16:41:42.1, 26.53S×70.82W, h55km, After GUC.*
GUC 03 16:41:42.0±0.5, 26.56S×70.70W, h48km, ML3.8, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.85**	**159**	⇑*iP*		P		16 41 59.8	+2.0
CPCH				*i* S		S		16 42 12.0	+2.5
CPCH				AMP				16 42 12.6	
comp=E,59μm,0.1s									
CPN1	**Cerro Paranal**	**1.94**	**8**	*eP*		P		16 42 14.0	+0.8
CPN1				*i* S		S		16 42 37.6	+1.2
CPN1				AMP				16 42 38.7	
comp=E,433nm,0.5s									
VACH	**Vallenar**	**2.01**	**182**	⇓*iP*		P		16 42 15.0	+0.9
VACH	**Vallenar**	**2.01**	**182**	*eP*		P		16 42 13.9	-0.2
VACH				*i* S		S		16 42 38.5	+0.3
VACH				AMP				16 42 42.7	
comp=E,1μm,0.1s									
LCO	**Las Campanas**	**2.44**	**180**	⇑*iP*		P		16 42 20.6	+0.2
LCO				*i* S		S		16 42 49.7	+0.6
LCO				AMP				16 42 52.5	
comp=E,122nm,0.2s									
ANCH	**Antofagasta**	**2.87**	**5**	⇓*iP*		P		16 42 25.7	-0.8
ANCH				*i* S		S		16 42 58.8	-1.2
ANCH	**Antofagasta**	**2.87**	**5**	⇓*iP*		P		16 42 25.7	-0.8
ANCH				*i* S		S		16 42 58.4	-1.7
TLL	**Tololo Astrono**	**3.60**	**181**	⇓⇓*iP*		P		16 42 37.0	+0.3
TLL				*i* S		S		16 43 17.9	-0.5
TLL	**Tololo Astrono**	**3.60**	**181**	*eP*		P		16 42 36.7	0.0
TLL				*i* S		S		16 43 17.9	-0.6
LVC	**Limon Verde**	**4.25**	**23**	*eP*		P		16 42 46.0	0.0
LVC	**Limon Verde**	**4.25**	**23**	*eP*		P		16 42 45.5	-0.5

IDC 03 16:44:10.5±7.2, 2.39N×96.68E, mb3.9/4, mb1 3.9/5, mb1mx3.6/17, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=163.6km s-min=78.9km az=135.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.13**	**8**	Pn		P		16 47 59.2	-1.1
0.1nm,0.3s,baz=193,slow=12,SNR=5.5									
MKAR	**Makanchi Array**	**45.97**	**346**	P		P		16 52 35.1	-2.1
1.2nm,0.3s,baz=158,slow=9.1,SNR=32									
SONM	**Songino Array**	**46.05**	**9**	P		P		16 52 36.4	-1.4
0.8nm,0.6s,baz=188,slow=8.5,SNR=6.1									
BVAR	**Borovoye Array**	**54.97**	**341**	P		P		16 53 42.7	-3.0
0.7nm,0.5s,baz=146,slow=10,SNR=4.3									
FINES	**FINESS Array B**	**78.71**	**332**	P		P		16 56 15.0	-1.1
0.8nm,0.8s,baz=101,slow=7.1,SNR=3.5									

IDC 03 17:06:00.9±2.9, 0.30S×97.03E, mb3.6/4, mb1 3.8/5, mb1mx3.6/15, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=109.9km s-min=22.1km az=61.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.73**	**6**	P		P		17 10 21.6	-1.8
0.1nm,0.3s,baz=196,slow=12,SNR=13									
WRA	**Warramunga Arr**	**41.41**	**120**	P		P		17 13 50.3	-0.7
0.5nm,0.8s,baz=294,slow=8.5,SNR=2.6									
ASAR	**Alice Springs**	**42.65**	**126**	P		P		17 13 58.6	-2.6
0.6nm,0.6s,baz=301,slow=8.0,SNR=9.1									
SONM	**Songino Array**	**48.63**	**8**	P		P		17 14 46.0	-2.4
0.3nm,0.6s,baz=135,slow=2.0,SNR=3.9									
MKAR	**Makanchi Array**	**48.65**	**347**	P		P		17 14 46.7	-1.9
1.4nm,0.6s,baz=163,slow=8.8,SNR=22									
TXAR	**Lajitas Array**	**145.02**	**33**	PKP		PKPdf		17 25 40.8	-2.0
0.9nm,0.9s,baz=315,slow=1.3,SNR=5.4									

BJI ***03*** *17:11:22.8, 0.74N×97.38E, h38km, mB5.1, mb4.9, Ms4.8, Msz4.5*
IDC ***03*** *17:11:25.2±0.5, 0.99N×97.02E, h24km±2km, mb4.1/13, mb1 4.2/13, mb1mx4.2/17, mbtmp4.2/13, MS4.0/3, Ms1 4.1/3, ms1mx3.5/15, Error ellipse: s-maj=30.5km s-min=10.2km az=51.0*
MOS ***03*** *17:11:25.2±0.9, 1.19N×97.45E, h33km, mb5.0/18, Error ellipse: s-maj=24.3km s-min=8.9km az=106.1*
NEIC ***03*** *17:11:25.5±0.3, 1.04N×97.23E, mb4.7/21, Error ellipse: s-maj=9.4km s-min=5.6km az=47.0*
ISC 03 17:11:24.1±0.4, 1.07N±0.06×97.28E±0.05, h25km, h25km±1.0km: pP-P, n93, σ0=99/97, mb4.6/45, MS4.3/11, 7C-3D, Northern Sumatera

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

IPM Ipoh 5.11 47 P **Pn 17 12 42.0 +0.9**
KULM Kulim 5.37 39⇑ *i*P **Pn 17 12 44.9 +0.1**
KGM Kluang 6.11 81 P **Pn 17 12 56.5 +1.3**
CMAR Chiang Mai Arr 17.35 5 LR LR 17 22 55.7
comp=Z,593nm,19.2s,baz=190,slow=40
PALK Pallekele 17.63 291 *e*P **P 17 15 29.6 -0.3**
4.7nm,0.7s
KKM Kota Kinabalu 19.53 75 *e*P **P 17 15 52.7 -0.1**
KKM Kota Kinabalu 19.53 75 P **P 17 15 53.0 +0.2**
VIS Vishakhapatnam 21.49 321 *e* **P 17 16 15.0 +1.8**
QIZ Qiongzhong 21.68 34 P **P 17 16 14.2 -0.9**
QIZ *e*S **S 17 20 11.8 +3.0**
QIZ LR LR
comp=E,1μm,14.4s
QIZ LR LR
comp=Z,738nm,12.3s,MS4.3
KMI Kunming 24.48 12 P **P 17 16 44.9 +2.2**
KMI AP 17 16 51.5
KMI PP PP 17 17 20.0 +1.4
KMI S **S 17 21 02.4 +4.0**
KMI XS 17 21 14.8
KMI SS SS 17 22 02.9 +9.1
KMI AMB AMB
comp=Z,41nm,1.7s,mb4.6
KMI AMB AMB
comp=Z,257nm,3.1s
KMI LR LR
comp=N,2μm,15.3s,MS4.7
KMI LR LR
comp=E,715nm,15.3s,MS4.7
KMI LR LR
comp=Z,2μm,15.0s,MS4.7
KMI Kunming 24.48 12 P **P 17 16 44.9 +2.2**
comp=Z,41nm,1.7s,mb4.6
KMI pP 17 16 51.5
KMI PP PP 17 17 20.0 +1.4
KMI S **S 17 21 02.4 +4.0**
KMI sS 17 21 14.8
KMI SS SS 17 22 02.9 +9.1
KMI LR LR
comp=Z,2μm,15.0s,MS4.7
SHL Shillong 24.90 348⇑ *i* **P 17 16 47.5 +0.8**
JIRN Jiri 28.49 339 *e*P **P 17 17 20.0 +0.4**
comp=Z,32nm,0.7s,mb5.0
PKI Pulchoki 28.70 338 *e*P **P 17 17 22.0 +0.5**
comp=Z,39nm,1.2s,mb5.0
PKI Pulchoki 28.70 338 *e*P **P 17 17 22.0 +0.5**
PKI pmax pmax
comp=Z,20nm,1.2s,mb4.7
DMN Daman 28.85 337 *e*P **P 17 17 22.0 -0.9**
comp=Z,22nm,0.7s,mb5.0
KKN Kakani 28.95 338 *e*P **P 17 17 23.8 +0.1**
comp=Z,25nm,0.8s,mb5.0
KKN Kakani 28.95 338 *e*P **P 17 17 23.8 +0.1**
KKN pmax pmax
comp=Z,13nm,0.8s,mb4.7
LSA Lhasa 29.06 349 P **P 17 17 25.2 +0.5**
LSA Lhasa 29.06 349 *e*P **P 17 17 25.6 +0.9**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
LSA Lhasa 29.06 349 *e*P **P 17 17 25.6 +0.9**
comp=Z,6.7nm,0.6s,mb4.5
GKN Gorkha 29.39 337 *e*P **P 17 17 27.7 0.0**
comp=Z,45nm,1.0s,mb5.2
KOLN Koldanda 29.60 335 *e*P **P 17 17 30.0 +0.3**
comp=Z,36nm,0.7s,mb5.2
ENH Enshi 31.27 21 *e*P **P 17 17 42.4 -1.9**
comp=Z,22nm,0.6s,mb5.2
LGTI Lohaghat 32.55 332⇑ *i*P **P 17 17 56.0 +0.4**
FITZ Fitzroy Crossi 33.79 126 *e*P **P 17 18 05.6 -0.8**
comp=Z,5.5nm,0.6s,mb4.7
FITZ Fitzroy Crossi 33.79 126 P **P 17 18 06.0 -0.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=352,slow=9.5,SNR=7.8
FITZ pP pP 17 18 13.6 -0.3
comp=Z,7.3nm,0.6s,baz=170,slow=8.9,SNR=5.8
XAN Xi'an 34.56 17 P **P 17 18 11.3 -1.6**
XAN S **S 17 23 39.4 +0.1**
XAN AMB AMB
comp=Z,22nm,0.8s,mb5.1
XAN LR LR
comp=N,271nm,15.9s,MS4.5
XAN LR LR
comp=E,618nm,16.7s,MS4.5
XAN LR LR
comp=Z,773nm,18.1s,MS4.5
LZH Lanzhou 35.37 9⇓P **P 17 18 18.3 -1.5**
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,112nm,4.0s
LZH LR LR
comp=N,436nm,13.1s
LZH LR LR
comp=Z,587nm,17.2s,MS4.4
LZH Lanzhou 35.37 9⇓P **P 17 18 18.3 -1.5**
comp=Z,31nm,1.5s,mb5.0
LZH pP pP 17 18 25.1 -2.2
LZH sP sP 17 18 28.6 -2.0
LZH LR LR
comp=Z,590nm,17.2s,MS4.4
GTA Gaotai 38.23 3 P **P 17 18 43.5 -0.3**
GTA AP pP 17 18 51.6 +0.2
GTA XP sP 17 18 55.5 +0.9
GTA AMB AMB
comp=Z,13nm,0.7s,mb4.8
GTA AMB AMB
comp=Z,165nm,10.3s
GTA LR LR
comp=N,435nm,16.4s,MS4.5
GTA LR LR
comp=E,271nm,14.5s,MS4.5
GTA LR LR
comp=Z,430nm,18.7s,MS4.3
HHC Hu-ho-hao-te 41.66 16 *e*P **P 17 19 07.4 -4.8**
HHC SCP 17 24 49.0
HHC PCS 17 24 58.1
HHC S **S 17 25 18.1 -8.9**
HHC AMB AMB
comp=Z,7.0nm,1.0s,mb4.2
HHC AMB AMB
comp=Z,171nm,5.7s
HHC LR LR
comp=N,732nm,16.8s,MS4.7
HHC LR LR
comp=E,463nm,15.2s,MS4.7
HHC LR LR
comp=Z,641nm,17.3s,MS4.6
WRA Warramunga Arr 41.90 122 P **P 17 19 15.5 +1.0**
comp=Z,1.5nm,0.4s,mb3.9,baz=302,slow=9.0,SNR=12
WRA pP pP 17 19 23.3 +1.1
comp=Z,3.6nm,0.7s,baz=302,slow=9.1,SNR=7.1
WRAB Tennant Creek 41.91 122 *e*P **P 17 19 14.0 -0.5**
WRAB pmax pmax
comp=Z,28nm,1.1s,mb4.8
WRAB Tennant Creek 41.91 122 *e*P **P 17 19 14.0 -0.5**
comp=Z,28nm,1.1s,mb4.8
WB2 Warramunga Arr 41.91 122 *e*P **P 17 19 14.9 +0.3**
BJT Baijiatuau 42.40 22 *e*P **P 17 19 19.4 +1.0**
BJT pmax pmax
comp=Z,16nm,0.6s
BJT Baijiatuau 42.40 22 *e*P **P 17 19 19.4 +1.0**
comp=Z,16nm,0.6s,mb4.8
BJI Beijing 42.43 22 P **P 17 19 19.3 +0.8**
BJI PP PP 17 21 00.4 +0.7
BJI S **S 17 25 44.9 +6.5**
BJI AMB AMB
comp=Z,25nm,0.6s,mb5.0
BJI AMB AMB
comp=Z,187nm,4.3s
BJI LR LR
comp=N,305nm,12.2s
BJI LR LR
comp=E,462nm,19.2s
BJI LR LR
comp=Z,195nm,22.2s
BJI Beijing 42.43 22 P **P 17 19 19.3 +0.8**
comp=Z,25nm,0.6s,mb5.0
BJI PP PP 17 21 00.4 +0.7
BJI S **S 17 25 44.9 +6.5**
BJI SS SS 17 29 02.5 +21
BJI LR LR
comp=Z,200nm,22.2s,MS4.0
ASPA Alice Springs 43.26 127 *e*P **P 17 19 25.6 +0.1**
ASAR Alice Springs 43.26 127 P **P 17 19 25.4 -0.2**
comp=Z,3.7nm,0.9s,mb4.1,baz=299,slow=6.9,SNR=21
ASAR pP pP 17 19 34.7 +1.5
comp=Z,0.9nm,0.4s,baz=293,slow=8.0,SNR=6.0
ASAR PcP PcP 17 21 14.9 -0.1
comp=Z,0.5nm,0.8s,baz=317,slow=4.7,SNR=2.7
ASAR pPcP 17 21 22.6
comp=Z,0.5nm,0.6s,baz=299,slow=2.9,SNR=3.9
ASAR LR LR 17 40 59.8
comp=Z,191nm,18.9s,MS4.0,baz=298,slow=41
WMQ Urumqi 43.41 350⇑P **P 17 19 27.1 +0.6**
WMQ AP pP 17 19 37.5 +3.4
WMQ XP sP 17 19 41.3 +4.0
WMQ PP PP 17 21 10.1 +0.6
WMQ S **S 17 25 52.9 +0.3**
WMQ XS 17 26 09.3
WMQ AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
WMQ AMB AMB
comp=Z,114nm,4.4s
WMQ LR LR
comp=N,258nm,14.0s,MS4.3
WMQ LR LR
comp=E,71nm,15.0s,MS4.3
WMQ LR LR
comp=Z,133nm,20.4s
UCH Uchtor 45.80 336 P **P 17 19 47.0 +1.4**
SNR=7.8
TKM2 Tokmak 2 45.96 338 P **P 17 19 48.0 +1.0**
SNR=5.9
AML Almayashu 46.05 336 P **P 17 19 49.0 +1.3**
SNR=5.6
AAK Ala-Archa 46.14 337 *e*P **P 17 19 48.7 +0.3**
AAK pmax pmax
comp=Z,12nm,1.4s,mb4.6
AAK Ala-Archa 46.14 337 *e*P **P 17 19 48.7 +0.3**
comp=Z,12nm,1.4s,mb4.6
EKS2 Erkin-Say 46.46 336 P **P 17 19 51.6 +0.7**
SNR=10.0
USP Ospenovka 46.68 337 P **P 17 19 53.2 +0.6**
SNR=10
SONM Songino Array 47.24 8 P **P 17 19 57.2 +0.2**
comp=Z,6.8nm,0.5s,mb4.8,baz=192,slow=9.1,SNR=50
SONM pP pP 17 20 05.8 +1.0
comp=Z,6.6nm,0.6s,baz=195,slow=9.6,SNR=14
SONM PcP PcP 17 21 28.4 -0.1
comp=Z,2.0nm,0.7s,baz=189,slow=3.3,SNR=5.5
SONM pPcP 17 21 35.2
comp=Z,1.6nm,0.6s,baz=197,slow=3.8,SNR=6.4
ULN Ulaanbaatar 47.37 9 *e*P **P 17 19 58.2 +0.1**
ULN pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ULN Ulaanbaatar 47.37 9 *e*P **P 17 19 58.2 +0.2**
comp=Z,4.4nm,0.6s,mb4.6
MKAR Makanchi Array 47.38 346 *i*P **P 17 19 58.0 -0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 47.38 346 P **P 17 19 57.7 -0.4**
comp=Z,7.5nm,0.6s,mb4.8,baz=159,slow=7.6,SNR=93
MKAR LR LR 17 43 50.5
comp=Z,154nm,20.6s,MS4.0,slow=41
KKAR Karatay Array 48.20 334 *i*P **P 17 20 05.8 +1.2**
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
CN2 Changchun 49.38 27 *e*P **P 17 20 13.3 -0.4**
CN2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
ZAK Zakamensk 49.39 5 *e*P **P 17 20 13.1 -0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb3.9
TLY Talaya 50.71 5⇑*i*P **P 17 20 23.5 -0.2**
TLY *e*S **S 17 27 40.7 +4.7**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TLY MLR MLR
comp=Z,451nm,20.0s,MS4.5
HIA Hailar 51.73 19 *e*P **P 17 20 30.9 -0.6**
HIA pmax pmax
comp=Z,9.0nm,0.6s
HIA Hailar 51.73 19 *e*P **P 17 20 30.9 -0.7**
comp=Z,9.4nm,0.6s,mb4.9
KURK Kurchatov 51.93 345 *e*P **P 17 20 32.0 -1.0**
KURK pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KURK Kurchatov 51.93 345 *e*P **P 17 20 32.0 -1.0**
comp=Z,8.0nm,1.0s,mb4.6
STKA Stephens Creek 53.21 132 *e*P **P 17 20 44.0 +1.2**
comp=Z,5.1nm,0.6s,mb4.6
STKA Stephens Creek 53.21 132 P **P 17 20 42.9 0.0**
comp=Z,2.7nm,0.5s,mb4.4,baz=317,slow=8.8,SNR=9.7
STKA pP pP 17 20 51.3 +0.6
comp=Z,8.7nm,0.8s,baz=313,slow=6.3,SNR=5.6
ZAL Zalesovo 53.69 351 P **P 17 20 45.2 -0.8**
comp=Z,5.2nm,0.5s,mb4.7,baz=310,slow=5.1,SNR=30
ZAL Zalesovo 53.69 351 P **P 17 20 45.2 -0.8**
NVS Novosibirsk 54.81 350 *i*P **P 17 20 52.1 -2.1**
BVA0 Borovoye Array 56.39 341 *i*P **P 17 21 03.9 -1.8**
BVA0 pmax pmax
comp=Z,1.0nm,1.4s,mb3.6
BVAR Borovoye Array 56.39 341 P **P 17 21 04.3 -1.4**
comp=Z,2.9nm,0.6s,mb4.5,baz=141,slow=8.6,SNR=31
BVAR pP pP 17 21 11.4 -2.1
comp=Z,2.5nm,0.5s,baz=144,slow=10.0,SNR=11
CHKZ Chkalovo 56.87 341 *e*P **P 17 21 07.3 -1.8**
CHKZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
CHKZ Chkalovo 56.87 341 *e*P **P 17 21 07.3 -1.8**
comp=Z,7.0nm,0.8s,mb4.7
BOD Bodaibo 58.12 10 *e*P **P 17 21 15.7 -2.1**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
KIV Kislovodsk 64.45 319 *e*P **P 17 22 01.3 +0.5**
KIV *e*S **S 17 30 42.9 +6.5**
KIV *e*SS SS 17 34 49.8 +1.5
KIV pmax pmax
comp=Z,13nm,1.6s,mb4.7
YAK Yakutsk 65.52 16 *e*P **P 17 22 05.8 -1.5**
YAK pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
YAK Yakutsk 65.52 16 *e*P **P 17 22 05.8 -1.6**
comp=Z,8.4nm,0.5s,mb5.0
BRTR Keskin Array B 69.25 312 P **P 17 22 30.3 -0.9**
comp=Z,1.1nm,0.7s,mb3.9,baz=126,slow=7.4,SNR=5.8
BRTR pP pP 17 22 36.8 -2.4
comp=Z,1.3nm,0.6s,baz=130,slow=6.3,SNR=6.1
MA2 Magadan 71.41 26 *e*P **P 17 22 43.3 -0.7**
MA2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CFR Carcaliu 74.64 317⇓P pP 17 23 11.1 -0.1
AKASG Malin Array Be 75.40 322 P **P 17 23 06.2 -1.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=88,slow=4.8,SNR=6.4
AKASG pP pP 17 23 13.1 -2.4
comp=Z,1.1nm,0.5s,baz=86,slow=4.8,SNR=7.2
VRI Vrincioaia 75.76 317⇑P **P 17 23 09.5 -0.1**
BURAR Bucovina Array 77.17 319⇑P **P 17 23 17.9 +0.4**
FINES FINESS Array B 80.14 333 P **P 17 23 33.0 -0.5**
comp=Z,0.9nm,0.5s,mb3.9,baz=63,slow=4.3,SNR=12
FINES pP pP 17 23 41.1 -0.4
comp=Z,0.6nm,0.5s,baz=108,slow=6.0,SNR=1.8
GERES GERESS Array B 84.96 319 P **P 17 23 59.1 +0.6**
comp=Z,1.3nm,0.8s,mb4.1,baz=90,slow=5.3,SNR=12
GERES pP pP 17 24 06.5 -0.1
comp=Z,0.6nm,0.6s,baz=90,slow=4.0,SNR=5.5
KHC Kasperske Hory 85.06 319 *e*P **P 17 24 00.0 +1.0**
NB2 NORSAR Subarra 87.15 331 P **P 17 24 08.9 -0.1**
comp=Z,1.2nm,0.7s,mb4.2,baz=97,slow=4.8
NOA NORSAR Array B 87.15 331 P **P 17 24 09.4 +0.4**
comp=Z,1.9nm,0.8s,mb4.4,baz=94,slow=4.9,SNR=7.2
NOA pP pP 17 24 16.2 -1.0
comp=Z,0.7nm,0.7s,baz=95,slow=4.7,SNR=2.7
LPG La Plagne 89.61 315 *e*P **P 17 24 22.7 +1.6**
comp=Z,6.0nm,0.7s,mb4.7
LPG La Plagne 89.61 315 *e*P **P 17 24 22.7 +1.6**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
YKA Yellowknife Ar 112.19 15 PP PP 17 30 38.1 -8.4
comp=Z,0.4nm,0.8s,baz=330,slow=7.1,SNR=4.7
TXAR Lajitas Array 143.73 32 PKP PKPdf 17 30 58.0 -4.2
comp=Z,0.6nm,0.5s,baz=180,slow=0.4,SNR=10.0
TXAR pPKP 17 31 06.5
comp=Z,1.0nm,0.5s,baz=112,slow=0.7,SNR=9.2
TXAR Lajitas Array 143.73 32 PKP PKPdf 17 30 58.0 -4.3
TXAR pPKP 17 31 06.5
CFAA Coronel Fontan 146.69 203 PKPbc PKPbc 17 31 04.8 +0.7
comp=Z,0.2nm,0.4s,baz=146,slow=7.3,SNR=3.2
CFAA pPKPbc 17 31 12.7
comp=Z,0.4nm,0.6s,baz=161,slow=1.1,SNR=3.3

IDC ***03*** *17:21:06.8±1.5, 6.83N×92.23E, mb3.7/7, mb1 3.9/7, mb1mx3.7/17, mbtmp3.7/7, Error ellipse: s-maj=63.2km s-min=21.5km az=57.0*
NEIC ***03*** *17:21:11.1±1.4, 6.73N×92.17E, h30km, mb4.0/2, Error ellipse: s-maj=56.2km s-min=17.4km az=60.0*
ISC 03 17:21:09.6±1.1, 6.7N±0.2×92.3E±0.2, h30km, n13, σ1§48/15, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**14.05**	**322**	*e*P		**P**		**17 24 33.6**	**+4.6**
VIS				*i*				17 24 36.6	
VIS				*e*S		**S**		**17 27 09.9**	**+5.1**
VIS				AML		AML		17 27 15.6	
	comp=N,8.2nm,0.3s								
VIS				AML		AML		17 27 15.7	
	comp=E,9.2nm,0.1s								
BWNR	**Bhubaneshwar**	**14.93**	**336**	*e*P		**P**		**17 24 46.4**	**+5.8**
BWNR				*e*S		**S**		**17 27 26.0**	**+0.4**
BWNR				AML		AML		17 27 39.7	
	comp=N,9.7nm,0.4s								
BWNR				AML		AML		17 27 39.9	
	comp=E,9.0nm,0.3s								
BLSP	**Bilaspur**	**18.23**	**328**	*e*P		**P**		**17 25 23.4**	**+0.9**
BLSP				AMb		AMB		17 25 32.0	
	comp=Z,12nm,0.8s								
SHL	**Shillong**	**18.77**	**359**	*e*P		**P**		**17 25 30.0**	**+1.0**
LSA	**Lhasa**	**22.91**	**357**	*e*P		**P**		**17 26 14.6**	**+2.3**
	comp=Z,2.9nm,0.8s,mb3.8								
MKAR	**Makanchi Array**	**40.88**	**349**	P		**P**		**17 28 50.6**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.6,baz=167,slow=8.5,SNR=13								
SONM	**Songino Array**	**42.72**	**14**	P		**P**		**17 29 03.2**	**-2.5**
	comp=Z,1.0nm,0.8s,mb3.6,baz=194,slow=7.6,SNR=11								
ZAL	**Zalesovo**	**47.50**	**354**	P		**P**		**17 29 42.5**	**-1.4**
	comp=Z,1.2nm,0.5s,mb4.2,baz=302,slow=5.6,SNR=5.9								
WRA	**Warramunga Arr**	**49.07**	**124**	P		**P**		**17 29 57.1**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.8,baz=297,slow=8.9,SNR=4.8								
BVAR	**Borovoye Array**	**49.55**	**343**	P		**P**		**17 29 58.7**	**-1.0**
	comp=Z,0.9nm,0.8s,mb3.9,baz=143,slow=7.4,SNR=7.0								
CHKZ	**Chkalovo**	**50.06**	**343**	*e*P		**P**		**17 30 02.4**	**-1.2**
	comp=Z,2.6nm,1.3s,mb4.1								
ASAR	**Alice Springs**	**50.57**	**128**	P		**P**		**17 30 09.4**	**+1.5**
	comp=Z,0.3nm,0.6s,mb3.4,baz=302,slow=7.3,SNR=4.8								
GERES	**GERESS Array B**	**77.51**	**318**	P		**P**		**17 33 02.5**	**-1.6**
	comp=Z,0.6nm,0.7s,mb3.7,baz=90,slow=4.0,SNR=6.8								

IDC ***03*** *17:21:44.8±1.5, 17.87S×69.27W, h146km±12km, mb3.8/6, mb1 3.9/7, mb1mx3.7/14, mbtmp4.3/7, Error ellipse: s-maj=26.7km s-min=15.2km az=95.0*
NEIC ***03*** *17:21:44.4±0.8, 17.89S×69.04W, h146km±8km, mb4.1/5, Error ellipse: s-maj=13.7km s-min=10.2km az=85.0*
ISC 03 17:21:43.2±0.6, 17.95S±0.05×69.12W±0.06, h155km±6km, n20, σ1§47/26, mb4.1/7, 1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.90**	**30**	P		**P**		**17 22 19.9**	**+2.0**
	164nm,0.3s,baz=230,slow=7.5,SNR=3327								
LPAZ					S		**S**	**17 22 46.0**	**+1.5**
	12nm,0.3s,baz=1.4,slow=24,SNR=6.9								
LPAZ	**La Paz**	**1.90**	**30**	⇓*i*Pn		**P**		**17 22 19.8**	**+2.0**
ARE	**Arequipa**	**2.71**	**303**	*e*P		**P**		**17 22 28.0**	**+0.3**
ARE				*i*S		S		**17 23 00.3**	**-1.5**
LVC	**Limon Verde**	**4.65**	**178**	P		**P**		**17 22 53.9**	**+1.0**
	26nm,0.3s,baz=360,slow=9.0,SNR=153								
LVC					S		**S**	**17 23 45.4**	**-1.3**
	25nm,0.3s,baz=96,slow=21,SNR=13								
LVC	**Limon Verde**	**4.65**	**178**	*e*P		**P**		**17 22 53.6**	**+0.7**
LVC				*e*S		**S**		**17 23 42.5**	**-4.1**
SIV	**San Ignacio**	**7.94**	**77**	P		**P**		**17 23 35.8**	**-1.0**
	10nm,0.3s,baz=270,slow=11,SNR=94								
SIV					S		**S**	**17 25 04.4**	**-1.0**
	0.7nm,0.3s,baz=349,slow=22,SNR=8.2								
SAML	**Samuel**	**10.64**	**34**	*e*P		**P**		**17 24 09.8**	**-2.8**
	5.8nm,0.7s								
SAML					S		**S**	**17 26 02.6**	**-6.9**
CFAA	**Coronel Fontan**	**13.62**	**177**	P		**P**		**17 24 48.6**	**-2.4**
	0.1nm,0.3s,baz=351,slow=13,SNR=11								
CFAA					S		**S**	**17 27 12.6**	**-6.4**
	0.0nm,0.3s,baz=223,slow=15,SNR=4.2								
OTAV	**Otavalo**	**20.27**	**332**	*e*P		**P**		**17 26 10.0**	**+1.6**
	2.6nm,0.6s								
BDFB	**Brasilia**	**20.34**	**87**	P		**P**		**17 26 12.5**	**+3.4**
	5.7nm,0.5s,baz=260,slow=8.8,SNR=13								
TRQA	**Tornquist**	**20.99**	**164**	*e*P		**P**		**17 26 16.6**	**+1.1**
	7.9nm,1.2s								
PLCA	**Paso Flores**	**22.74**	**183**	P		**P**		**17 26 35.5**	**+2.9**
	1.2nm,0.7s,mb3.4,baz=346,slow=13,SNR=4.1								
PLCA	**Paso Flores**	**22.74**	**183**	*e*P		**P**		**17 26 35.0**	**+2.4**
	3.7nm,1.1s,mb3.7								
TXAR	**Lajitas Array**	**57.63**	**324**	P		**P**		**17 31 14.6**	**-4.9**
	0.4nm,0.5s,mb3.5,baz=105,slow=1.6,SNR=3.5								
FVM	**French Village**	**59.13**	**340**	*e*P		**P**		**17 31 28.3**	**-1.5**
	5.7nm,0.3s,mb4.9								
DBIC	**Dimbokro**	**67.96**	**75**	P		**P**		**17 32 28.1**	**+0.1**
	3.6nm,0.6s,mb4.2,baz=226,slow=6.3,SNR=6.7								
ULM	**Lac du Bonnet**	**71.89**	**342**	P		**P**		**17 32 50.8**	**-0.3**
	6.4nm,0.4s,mb4.7,baz=155,slow=6.5,SNR=14								
SCHQ	**Schefferville**	**72.51**	**1**	P		**P**		**17 32 53.8**	**-0.9**
	0.5nm,0.3s,mb3.7,baz=128,slow=2.4,SNR=5.3								
YKA	**Yellowknife Ar**	**87.79**	**341**	P		**P**		**17 34 16.8**	**+1.4**
	1.1nm,0.5s,mb3.9,baz=132,slow=4.8,SNR=42								
SONM	**Songino Array**	**149.97**	**6**	PKPbc		PKPdf		17 41 18.9	+9.0
	0.4nm,0.5s,baz=305,slow=1.7,SNR=7.0								

NIED ***03*** *17:57:00, 37.40N×141.80E, h38km, Mw5.1 Best double couple: M0 5.5×10^16 NP1:φ=68°, δ=51°, λ=94°. NP2:φ=242°, δ=39°, λ=85°.*
BJI ***03*** *17:57:08.2, 37.30N×141.79E, h37km, mB5.3, mb5.1, Ms4.7, Msz4.4*
JMA ***03*** *17:57:10.2±0.1, 37.37N×141.75E, h44km±3km, M5.3 Broadband fault plane solution: P waves. NP1:φ=215°, δ=30°, λ=66°. NP2:φ=63°, δ=63°, λ=103°. Principal axes: T Plg69°, Azm0°; N Plg12°, Azm237°; P Plg17°, Azm143°;*
JMA Felt IV J1.
IDC ***03*** *17:57:11.3±3.6, 37.36N×141.63E, h35km±29km, mb4.5/23, mb1 4.7/26, mb1mx4.7/28, mbtmp4.8/26, ML4.8/3, MS4.4/27, Ms1 4.4/27, ms1mx4.3/37 Error ellipse: s-maj=15.5km s-min=10.6km az=97.0*
NEIC ***03*** *17:57:11.7±0.1, 37.39N×141.65E, mb5.2/102, MS4.9/10, MW5.1(NIED), Error ellipse: s-maj=4.5km s-min=2.9km az=159.0*
NEIC Felt at Sakae, Sendai, Tokyo, Utsunomiya, Yokohama and Zushi. Recorded [4 JMA] in Fukushima, Ibaraki and Tochigi; [2 JMA] in Chiba, Gumma, Miyagi, Saitama and Yamagata; [1 JMA] in Iwate, Kanagawa, Tokyo and Yamanashi Prefectures.
MOS ***03*** *17:57:11.8±0.9, 37.66N×141.52E, h38km, mb5.4/62, MS4.8/19, Error ellipse: s-maj=8.0km s-min=4.4km az=114.5*
HRVD ***03*** *17:57:11.7±0.2, 37.40N×141.78E, h38km, MW5.1/55, Centroid moment Tensor Solution. LP body waves: s52, c84; Mantle waves: s55, c97; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 5.52±.20; Mθθ -4.75±.13; Mφφ -0.77±.14; Mrθ 1.52±.14; Mθφ -2.51±.09; Mφr 0.06±.12; Best double couple: M0 5.944×10^16 NP1:φ=238°, δ=39°, λ=80°. NP2:φ=71°, δ=52°, λ=98°. Principal axes: T 5.756, Plg81°, Azm18°; N .367, Plg6°, Azm246°; P -6.132, Plg7°, Azm155°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 17:57:10.1±0.1, 37.34N±0.02×141.71E±0.02, h37km, h37km±.6km: pP-P, n471, σ0§96/480, mb5.1/148, MS4.6/61, 82C-39D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.67**	**273**	⇓P		**P**		**17 57 23.8**	**+0.7**
JFK					S		**S**	**17 57 33.1**	**+0.6**
ONAJ	**Iwakimizuishiy**	**0.77**	**252**	⇑P		**P**		**17 57 25.2**	**+0.7**
ONAJ					S		**S**	**17 57 35.4**	**+0.4**
JMM	**Marumori**	**0.90**	**306**	⇓P		**P**		**17 57 26.7**	**+0.4**
JMM					S		**S**	**17 57 38.4**	**+0.1**
JFT	**Otama**	**1.11**	**280**	⇓P		**P**		**17 57 30.8**	**+1.5**
JFT					S		**S**	**17 57 44.9**	**+1.3**
JIO	**Ouri**	**1.15**	**346**	⇓P		**P**		**17 57 29.7**	**-0.2**
JIO					S		**S**	**17 57 43.2**	**-1.5**
JHO	**Hitachi**	**1.17**	**232**	⇓P		**P**		**17 57 30.6**	**+0.4**
JHO					S		**S**	**17 57 44.8**	**-0.4**

JOU	**Okura**	**1.32 321**	⇓P	**P**	**17 57 32.8**	**+0.4**
JOU			S	**S**	**17 57 50.0**	**+1.0**
JSB	**Shiboa**	**1.48 256**	⇓P	**P**	**17 57 36.2**	**+1.5**
JYS	**Shiratake**	**1.57 305**	⇓P	**P**	**17 57 36.9**	**+0.9**
JMK	**Ichinoseki**	**1.66 347**	⇓P	**P**	**17 57 37.1**	**-0.1**
JMK			S	**S**	**17 57 57.8**	**+0.4**
OFUJ	**Ofunato**	**1.74 359**	⇓P	**P**	**17 57 37.7**	**-0.7**
JYK	**Kaneyama**	**1.90 326**	⇓P	**P**	**17 57 41.2**	**+0.5**
JYA	**Atsumi**	**2.01 309**	⇓P	**P**	**17 57 43.1**	**+0.8**
JAG	**Ashikaga**	**2.03 244**	⇓P	**P**	**17 57 43.3**	**+0.8**
JHK	**Hiroka**	**2.15 268**	⇓P	**P**	**17 57 45.4**	**+1.2**
JRY	**Ryogami san**	**2.62 241**	⇓P	**P**	**17 57 51.5**	**+0.6**
JSD	**Sado**	**2.82 285**	⇓P	**P**	**17 57 54.1**	**+0.2**
MAJO	**Matsushiro**	**2.92 255**	*e*P	**P**	**17 57 56.4**	**+1.2**
MAT	**Matsushiro**	**2.92 255**	*e*P	**P**	**17 57 57.0**	**+1.8**
MAT			S	**S**	**17 58 30.0**	**+0.6**
MAT	**Matsushiro**	**2.92 255**	P	**P**	**17 57 57.0**	**+1.8**
MAT			*e*S	**S**	**17 58 29.6**	**+0.2**
MAT	**Matsushiro**	**2.92 255**	P	**P**	**17 57 56.7**	**+1.5**
JNG	**Nsakai**	**3.04 253**	⇓P	**P**	**17 57 58.7**	**+1.7**
JYN	**Shimob**	**3.15 235**	P	**P**	**17 57 59.6**	**+1.1**
JIM2	**Oshima 3**	**3.20 216**	P	**P**	**17 58 00.2**	**+0.9**
JNT	**Takato**	**3.23 244**	P	**P**	**17 58 01.5**	**+1.9**
JKO	**Kozu shima**	**3.78 214**	P	**P**	**17 58 08.7**	**+1.3**
JHJ2	**Mitsune**	**4.49 201**	P	**P**	**17 58 16.9**	**-0.7**
JHJ	**Hachijo jima 2**	**4.50 201**	Pn	**P**	**17 58 17.1**	**-0.5**
	577nm,0.3s,baz=78,slow=0.4,SNR=148					
JHJ			Sn	**S**	**17 59 07.5**	**-1.9**
	1μm,0.3s,baz=73,slow=22,SNR=14					
ERM	**Erimo**	**4.80 13**	Pn	**P**	**17 58 20.6**	**-1.3**
	1μm,0.5s,SNR=34					
ASAJ	**Asahikawa**	**6.80 5**	P	**P**	**17 58 47.4**	**-2.6**
ASAJ					18 00 01.7	
ASAJ			pmax	pmax		
	comp=Z,7.0nm,0.3s					
ASAJ			smax			
	comp=N,5.0nm,0.3s					
ASAJ	**Asahikawa**	**6.80 5**	Pn	**P**	**17 58 47.4**	**-2.6**
	comp=N,6.5nm,0.3s,baz=217,slow=11,SNR=33					
ASAJ			Sn	**S**	**18 00 01.7**	**-5.4**
	comp=N,4.6nm,0.3s,baz=31,slow=18,SNR=2.4					
YUK	**Yuzh-Kuril'sk**	**7.39 24**	*e*P	**P**	**17 58 52.5**	**-5.7**
YUK			*e*S	**S**	**18 00 11.0**	**-11**
YUK			pmax	pmax		
	comp=Z,350nm,0.4s					
YUK			pmax	pmax		
	comp=N,210nm,0.5s					
YUK			smax			
	comp=E,5μm,2.0s					
YUK			smax			
	comp=N,2μm,0.8s					
YUK			smax			
	comp=N,1μm,0.5s					
YUK			smax			
	comp=E,480nm,0.5s					
YUK			MLR	MLR		
	comp=N,2μm,15.0s					
YUK			MLR	MLR		
	comp=E,2μm,15.0s					
YUK			MLR	MLR		
	comp=Z,3μm,15.0s					
KUR	**Kuril'sk**	**9.14 28**	⇓*e*P	**P**	**17 59 16.0**	**-6.5**
KUR			*i* S	**S**	**18 00 54.0**	**-11**
KUR			pmax	pmax		
	comp=N,160nm,0.9s					
KUR			pmax	pmax		
	comp=E,140nm,0.9s					
KUR			pmax	pmax		
	comp=Z,240nm,0.9s					
KUR			smax			
	comp=N,430nm,0.9s					
KUR			smax			
	comp=E,90nm,0.9s					
JKIT	**Kitakata**	**9.64 244**	P	**P**	**17 59 30.9**	**+1.5**
YSS	**Yuzh-Sakhalins**	**9.64 4**	⇓*i*P	**P**	**17 59 25.8**	**-3.5**
YSS			*e*S	**S**	**18 01 11.0**	**-6.5**
YSS			pmax	pmax		
	comp=N,30nm,1.0s					
YSS			pmax	pmax		
	comp=Z,60nm,1.0s					
YSS			pmax	pmax		
	comp=N,210nm,1.1s					
YSS			pmax	pmax		
	comp=Z,180nm,1.1s					
YSS			smax			
	comp=E,80nm,1.1s					
YSS			MLR	MLR		
	comp=Z,1μm,15.0s					
YSS			MLR	MLR		
	comp=N,1μm,14.0s					
YSS			MLR	MLR		
	comp=E,2μm,18.0s					
YSS	**Yuzh-Sakhalins**	**9.64 4**	*e*P	**P**	**17 59 25.5**	**-3.8**
	comp=E,186nm,1.0s					
JNU	**Nakatsue**	**9.81 248**	P	**P**	**17 59 33.0**	**+1.3**
CBIJ	**Chichi jima**	**10.22 178**	Pn	**P**	**17 59 34.3**	**-3.1**
	comp=E,40nm,0.3s,baz=301,slow=18,SNR=7.5					
CBIJ			Sn	**S**	**18 01 22.4**	**-9.5**
	comp=E,57nm,0.3s,baz=295,slow=22,SNR=6.7					
JTZ	**Takazaki**	**10.29 241**	P	**P**	**17 59 39.7**	**+1.3**
JUR	**Ureshino**	**10.51 250**	P	**P**	**17 59 43.8**	**+2.5**
MDJ	**Mudanjiang**	**11.69 312**	P	**P**	**17 59 58.9**	**+1.7**
MDJ			AP		18 00 05.7	
MDJ			PP	PP	18 00 09.1	+2.9
MDJ			S	**S**	**18 02 09.4**	**+2.0**
MDJ			SCP		18 09 12.5	
MDJ			PCS		18 09 15.7	
MDJ			AMB	AMB		
	comp=Z,66nm,1.5s					
MDJ			AMB	AMB		
	comp=Z,237nm,4.5s					
MDJ			LR	LR		
	comp=N,1μm,20.1s					
MDJ			LR	LR		
	comp=E,2μm,18.1s					
MDJ			LR	LR		
	comp=Z,3μm,20.1s					
MDJ	**Mudanjiang**	**11.69 312**	*e*P	**P**	**17 59 58.1**	**+0.9**
	comp=Z,146nm,1.3s					
UGL	**Uglegorsk**	**11.74 1**	*e*P	**P**	**18 00 06.0**	**+8.1**
UGL			*e*		18 02 12.0	
UGL			pmax	pmax		
	comp=Z,37nm,0.7s					
UGL			MLR	MLR		
	comp=N,2μm,17.0s					
UGL			MLR	MLR		
	comp=Z,3μm,17.0s					
UGL			MLR	MLR		
	comp=E,2μm,19.0s					
INCN	**Inchon**	**11.99 275**	*e*P	**P**	**18 00 02.1**	**+0.7**
	comp=E,74nm,1.1s					
TYV	**Tymovskoe**	**13.54 3**	*e*P	**P**	**18 00 15.7**	**-6.1**
TYV			*e*S	**S**	**18 02 43.5**	**-8.4**
TYV			pmax	pmax		
	comp=Z,51nm,1.0s					
TYV			pmax	pmax		
	comp=Z,410nm,4.0s					
TYV			smax			
	comp=E,102nm,1.6s					
TYV			smax			
	comp=N,1μm,0.5s					
TYV			smax			
	comp=E,820nm,5.0s					
TYV			MLR	MLR		
	comp=N,2μm,20.0s					
TYV			MLR	MLR		
	comp=E,2μm,20.0s					
TYV			MLR	MLR		
	comp=Z,3μm,20.0s					
KLR	**Kul'dur**	**13.91 332**	*e*P	**P**	**18 00 27.1**	**+0.5**
CN2	**Changchun**	**13.94 303**	*e*P	**P**	**18 00 27.0**	**0.0**
CN2			PP	PP	18 00 39.2	+1.2
CN2			*e*S	**S**	**18 03 00.2**	**-1.2**
CN2			*e*SS	SS	18 03 16.3	-1.6
CN2			AMB	AMB		
	comp=Z,30nm,1.3s					
CN2			AMB	AMB		
	comp=Z,300nm,5.0s					
CN2			LR	LR		
	comp=N,2μm,14.0s					
CN2			LR	LR		
	comp=E,2μm,14.0s					
CN2			LR	LR		
	comp=Z,2μm,19.0s					
SNY	**Shenyang**	**14.68 293**	⇓P	**P**	**18 00 38.1**	**+1.3**
SNY			AMB	AMB		
	comp=Z,30nm,1.3s					
SNY			LR	LR		
	comp=E,3μm,15.6s					
SNY			LR	LR		
	comp=Z,3μm,16.2s					
JOW	**Kunigami**	**15.46 231**	LR	LR	18 07 09.7	
	comp=Z,553nm,18.2s,baz=256,slow=39					
DL2	**Dalian**	**15.88 282**	P	**P**	**18 00 53.8**	**+1.4**
DL2			S	**S**	**18 03 53.6**	**+6.4**
DL2			AMB	AMB		
	comp=Z,50nm,1.0s					
DL2			AMB	AMB		
	comp=Z,300nm,7.6s					
DL2			LR	LR		
	comp=E,610nm,17.3s					
DL2			LR	LR		
	comp=Z,760nm,17.5s					
SSE	**Sheshan**	**18.07 256**	P	**P**	**18 01 19.6**	**-0.3**
SSE			AP		18 01 29.2	
SSE			XP		18 01 35.7	
SSE			S	**S**	**18 04 38.2**	**+1.1**
SSE			AMB	AMB		
	comp=Z,57nm,0.8s					
SSE			LR	LR		
	comp=N,597nm,21.2s					
SSE			LR	LR		
	comp=E,574nm,21.2s					
SSE			LR	LR		
	comp=Z,836nm,25.1s					
SSE	**Sheshan**	**18.07 256**	P	**P**	**18 01 19.6**	**-0.3**
	comp=Z,57nm,0.8s					
SSE			pP		18 01 29.2	
SSE			sP		18 01 35.7	
SSE			S	**S**	**18 04 38.2**	**+1.1**
SSE			sS		18 04 59.3	
NJ2	**Nanjing**	**19.50 261**	*e*P	**P**	**18 01 33.3**	**-3.5**
NJ2			AP		18 01 41.8	
NJ2			S	**S**	**18 05 10.0**	**+0.5**
NJ2			XS		18 05 24.0	
NJ2			AMB	AMB		
	comp=Z,120nm,1.0s					
NJ2			AMB	AMB		
	comp=Z,760nm,4.0s					
NJ2			LR	LR		
	comp=N,2μm,20.9s					
NJ2			LR	LR		
	comp=E,2μm,22.1s					
NJ2			LR	LR		
	comp=Z,1μm,21.5s					
PET	**Petropavlovsk**	**19.63 32**	*e*P	**P**	**18 01 41.9**	**+3.8**
PET			*e*S	**S**	**18 05 15.0**	**+2.9**
PET			pmax	pmax		
	comp=Z,46nm,1.3s					
PET			smax			
	comp=E,700nm,5.3s					
PET			smax			
	comp=E,700nm,11.3s					
PET			MLR	MLR		
	comp=Z,900nm,16.0s					
PET	**Petropavlovsk**	**19.63 32**	P	**P**	**18 01 37.0**	**-1.1**
	comp=Z,53nm,1.1s					
TIA	**Tai'an**	**19.72 274**	*e*P	**P**	**18 01 36.2**	**-3.0**
TIA			AMB	AMB		
	comp=Z,100nm,1.0s					
HIA	**Hailar**	**19.86 314**	*e*P	**P**	**18 01 37.5**	**-3.1**
HIA			pmax	pmax		
	comp=Z,21nm,1.0s					
HIA	**Hailar**	**19.86 314**	*e*P	**P**	**18 01 37.5**	**-3.1**
	comp=Z,21nm,1.0s					
BJI	**Beijing**	**20.09 286**	P	**P**	**18 01 40.2**	**-3.0**
BJI			S	**S**	**18 05 12.9**	**-9.0**
BJI			AMB	AMB		
	comp=Z,27nm,1.4s					
BJI			LR	LR		
	comp=N,721nm,14.0s,MS4.2					
BJI			LR	LR		
	comp=E,423nm,17.2s,MS4.2					
BJI			LR	LR		
	comp=Z,627nm,25.2s					
BJI	**Beijing**	**20.09 286**	P	**P**	**18 01 40.2**	**-3.0**
	comp=Z,27nm,1.4s					
BJI			S	**S**	**18 05 12.9**	**-9.0**
BJI			LR	LR		
	comp=Z,630nm,25.2s,MS3.9					
BJT	**Baijiatuau**	**20.10 286**	*e*P	**P**	**18 01 39.7**	**-3.5**
BJT			pmax	pmax		
	comp=Z,42nm,0.8s					
BJT	**Baijiatuau**	**20.10 286**	*e*P	**P**	**18 01 39.7**	**-3.5**
	comp=Z,42nm,0.8s					
CLNS	**Chul'man**	**22.50 335**	*e*P	**P**	**18 02 07.1**	**-0.2**
CLNS			*e**PP		18 02 14.1	
CLNS			*e*		18 02 25.2	
CLNS			*e*PPP	PP	18 02 30.6	-5.0
CLNS			*e*S	**S**	**18 06 00.4**	**-6.5**
CLNS			*e*SS	SS	18 06 49.2	-0.4
CLNS			pmax	pmax		
	comp=Z,78nm,1.2s,mb5.0					
CLNS			pmax	pmax		
	comp=N,87nm,1.3s					
CLNS			pmax	pmax		
	comp=E,29nm,1.1s					
CLNS			pmax	pmax		
	comp=Z,51nm,1.0s,mb4.9					
CLNS			pmax	pmax		
	comp=N,112nm,1.6s					
CLNS			pmax	pmax		
	comp=E,20nm,0.8s					
CLNS			smax			
	comp=N,535nm,10.3s					
CLNS			smax			
	comp=Z,999nm,19.6s					
CLNS			smax			
	comp=E,158nm,10.5s					
CLNS			MLR	MLR		
	comp=Z,2μm,18.0s,MS4.6					
CLNS			MLR	MLR		
	comp=N,2μm,17.0s,MS4.5					
CLNS			MLR	MLR		
	comp=E,200nm,15.0s,MS4.5					
MA2	**Magadan**	**23.01 12**	*d i*P	**P**	**18 02 13.5**	**+1.3**
MA2			pmax	pmax		
	comp=Z,600nm,19.0s					
MA2	**Magadan**	**23.01 12**	*e*P	**P**	**18 02 11.4**	**-0.8**
	comp=Z,52nm,1.0s,mb4.9					
QZH	**Quanzhou**	**23.26 245**	⇑*i*P	**P**	**18 02 13.5**	**-1.6**
QZH			S	**S**	**18 06 15.0**	**-5.8**
QZH			AMB	AMB		
	comp=Z,130nm,0.9s,mb5.4					
QZH			LR	LR		
	comp=Z,1μm,20.0s,MS4.4					
HHC	**Hu-ho-hao-te**	**23.60 288**	*e*P	**P**	**18 02 17.5**	**-0.7**
HHC			AP		18 02 27.8	
HHC			XP		18 02 31.0	
HHC			PP	PP	18 02 45.8	-5.4
HHC			PCP	PcP	18 06 03.1	-1.1
HHC			S	**S**	**18 06 28.9**	**+2.3**
HHC			AMB	AMB		
	comp=Z,23nm,1.3s,mb4.5					
HHC			AMB	AMB		
	comp=Z,95nm,3.1s					
HHC			LR	LR		
	comp=N,714nm,13.9s,MS4.4					
HHC			LR	LR		
	comp=E,570nm,14.1s,MS4.4					
HHC			LR	LR		
	comp=Z,832nm,14.8s,MS4.3					
BTO	**Baotou**	**24.78 287**	*e*P	**P**	**18 02 29.6**	**-0.1**
BTO			S	**S**	**18 06 41.6**	**-5.3**
BTO			AMB	AMB		
	comp=Z,19nm,1.1s,mb4.5					
YAK	**Yakutsk**	**25.82 347**	*e*P	**P**	**18 02 37.4**	**-1.9**
YAK			pmax	pmax		
	comp=Z,76nm,0.9s,mb5.2					
YAK	**Yakutsk**	**25.82 347**	*e*P	**P**	**18 02 37.4**	**-1.9**
	comp=Z,76nm,0.9s,mb5.2					
SEY	**Seymchan**	**26.45 11**	*e*P	**P**	**18 02 47.3**	**+2.2**
SEY			*e*		18 03 41.1	
SEY			*e*S	**S**	**18 07 18.7**	**+4.6**
SEY			pmax	pmax		
	comp=Z,60nm,0.9s,mb5.1					
SEY			pmax	pmax		
	comp=N,30nm,0.7s					
SEY			pmax	pmax		
	comp=E,9.0nm,0.7s					
SEY			smax			
	comp=N,1μm,7.4s					
SEY			smax			
	comp=E,900nm,8.2s					
SEY			MLR	MLR		
	comp=Z,4μm,17.0s,MS5.0					
SEY			MLR	MLR		
	comp=E,92μm,15.0s					
XAN	**Xi'an**	**26.76 273**	P	**P**	**18 02 46.8**	**-1.5**
XAN			S	**S**	**18 07 17.5**	**-2.1**
XAN			AMB	AMB		
	comp=Z,32nm,0.9s,mb4.8					
XAN			LR	LR		
	comp=N,675nm,18.2s,MS4.2					
XAN			LR	LR		
	comp=E,220nm,22.0s,MS4.2					
XAN			LR	LR		
	comp=Z,602nm,15.0s					
ULN	**Ulaanbaatar**	**27.38 304**	*e*P	**P**	**18 02 52.6**	**-1.2**
ULN			pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5					
ULN	**Ulaanbaatar**	**27.38 304**	*e*P	**P**	**18 02 52.6**	**-1.2**
	comp=Z,13nm,0.8s,mb4.5					
BOD	**Bodaibo**	**27.40 327**	*e*P	**P**	**18 02 52.0**	**-1.9**
BOD			pmax	pmax		
	comp=Z,31nm,1.2s,mb4.7					
ENH	**Enshi**	**27.60 265**	*e*P	**P**	**18 02 54.3**	**-1.6**
	comp=Z,166nm,0.9s,mb5.7					
SONM	**Songino Array**	**27.81 303**	P	**P**	**18 02 57.0**	**-0.8**
	comp=Z,21nm,0.9s,mb4.8,baz=101,slow=8.6,SNR=106					
SONM			LR	LR	18 14 10.6	
	comp=Z,645nm,19.6s,MS4.2,baz=91,slow=37					
IRK	**Irkutsk**	**30.07 312**	*e*P	**P**	**18 03 16.8**	**-1.0**
IRK			*e*		18 04 17.4	
IRK			pmax	pmax		
	comp=Z,24nm,4.2s					
LZH	**Lanzhou**	**30.25 279**	⇑P	**P**	**18 03 18.5**	**-1.1**
LZH			AP	pP	18 03 28.5	-1.6
LZH			XP	sP	18 03 32.6	-2.3
LZH			*e*PP	PP	18 04 17.2	-1.9
LZH			*e*S	**S**	**18 08 13.5**	**-1.9**
LZH			XS		18 08 29.6	
LZH			SS	SS	18 09 51.5	-4.0
LZH			AMB	AMB		
	comp=Z,53nm,1.5s,mb5.0					
LZH			AMB	AMB		
	comp=Z,236nm,5.3s					
LZH			LR	LR		
	comp=N,2μm,13.0s					
LZH			LR	LR		
	comp=Z,3μm,16.8s,MS5.0					
LZH	**Lanzhou**	**30.25 279**	⇑P	**P**	**18 03 18.5**	**-1.1**
	comp=Z,53nm,1.5s,mb5.0					
LZH			pP	pP	18 03 28.5	-1.6
LZH			sP	sP	18 03 32.6	-2.3
LZH			*e*PP	PP	18 04 17.2	-1.9
LZH			*e*S	**S**	**18 08 13.5**	**-1.9**
LZH			sS		18 08 29.6	
LZH			SS	SS	18 09 51.5	-4.0
LZH			LR	LR		
	comp=Z,3μm,16.8s,MS5.0					
ZAK	**Zakamensk**	**30.27 308**	*e*P	**P**	**18 03 18.4**	**-1.2**
ZAK			*e*		18 06 18.5	
ZAK			pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5					
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.4s					
TLY	**Talaya**	**30.31 310**	⇑*i*P	**P**	**18 03 19.1**	**-0.8**
TLY			*e*PPP	PPP	18 04 29.1	-4.9
TLY			*e*S	**S**	**18 08 15.8**	**-0.4**
TLY			*e*SS	SS	18 09 53.3	-3.4
TLY			pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7					
TLY			MLR	MLR		
	comp=Z,1μm,18.0s,MS4.6					
TLY	**Talaya**	**30.31 310**	*e*P	**P**	**18 03 18.9**	**-1.1**
	comp=Z,9.2nm,0.8s,mb4.6					
GYA	**Guiyang**	**31.51 260**	⇑*i*P	**P**	**18 03 29.5**	**-1.3**
GYA			AP	pP	18 03 39.4	-1.9
GYA			XP	sP	18 03 42.6	-3.6
GYA			S	**S**	**18 08 31.7**	**-3.5**
GYA			AMB	AMB		
	comp=Z,120nm,1.0s,mb5.7					
GYA			AMB	AMB		
	comp=Z,210nm,4.5s					
GYA			LR	LR		
	comp=N,480nm,13.8s,MS4.5					
GYA			LR	LR		
	comp=E,600nm,14.4s,MS4.5					
GYA			LR	LR		
	comp=Z,740nm,16.1s,MS4.5					
CD2	**Chengdu**	**31.91 270**	P	**P**	**18 03 32.3**	**-2.0**
CD2			AP	pP	18 03 41.7	-3.1
CD2			XP	sP	18 03 47.7	-2.0
CD2			S	**S**	**18 08 36.4**	**-5.1**
CD2			AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2					
CD2			AMB	AMB		
	comp=Z,120nm,4.1s					
CD2			LR	LR		
	comp=E,950nm,16.9s					
CD2			LR	LR		
	comp=Z,1μm,15.3s,MS4.7					
MOY	**Mondy**	**31.92 310**	*e*P	**P**	**18 03 33.4**	**-0.8**
MOY			pmax	pmax		
	comp=Z,18nm,1.5s,mb4.7					
GTA	**Gaotai**	**32.70 287**	P	**P**	**18 03 39.5**	**-1.6**
GTA			AP	pP	18 03 51.3	-0.3
GTA			XP	sP	18 03 55.3	-1.2
GTA			PP	PP	18 04 51.4	+0.5
GTA			PCP	PcP	18 06 25.9	-0.4
GTA			S	**S**	**18 08 51.9**	**-1.9**
GTA			XS		18 09 07.9	
GTA			SCP		18 10 07.3	
GTA			SS	SS	18 10 50.6	-2.1
GTA			SCS	ScS	18 14 05.3	+1.0
GTA			AMB	AMB		
	comp=Z,14nm,0.9s,mb4.9					
GTA			AMB	AMB		
	comp=Z,111nm,11.9s					
GTA			LR	LR		
	comp=N,518nm,17.2s,MS4.4					
GTA			LR	LR		
	comp=E,463nm,21.8s,MS4.4					
GTA			LR	LR		
	comp=Z,771nm,18.7s,MS4.4					
QIZ	**Qiongzhong**	**33.27 246**	P	**P**	**18 03 49.0**	**+2.8**
QIZ			S	**S**	**18 09 03.6**	**+0.8**
QIZ			LR	LR		
	comp=N,696nm,19.4s,MS4.4					
QIZ			LR	LR		
	comp=E,451nm,21.0s,MS4.4					
QIZ			LR	LR		
	comp=Z,497nm,18.9s,MS4.2					
BILL	**Bilibino**	**33.67 16**	⇓*i*P	**P**	**18 03 48.1**	**-1.0**
BILL			*i*	pP	18 03 58.7	-1.0
BILL			pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0					
BILL			MLR	MLR		
	comp=Z,400nm,17.0s,MS4.2					
BILL	**Bilibino**	**33.67 16**	*e*P	**P**	**18 03 47.2**	**-1.9**
	comp=Z,43nm,1.5s,mb5.2					
TIXI	**Tiksi**	**35.02 353**	*c i*P	**P**	**18 03 58.7**	**-2.0**
TIXI			pmax	pmax		
	comp=Z,13nm,1.7s,mb4.6					
TIXI			MLR	MLR		
	comp=Z,1μm,18.0s,MS4.6					
KMI	**Kunming**	**35.24 261**	⇑P	**P**	**18 04 02.2**	**-0.9**
KMI			AP	pP	18 04 14.9	+1.2
KMI			XP	sP	18 04 19.8	+1.3
KMI			PP	PP	18 05 24.1	+1.3
KMI			S	**S**	**18 09 32.5**	**-0.8**
KMI			XS		18 09 51.5	
KMI			SS	SS	18 11 49.1	-2.2
KMI			AMB	AMB		
	comp=Z,81nm,1.2s,mb5.5					
KMI			AMB	AMB		
	comp=Z,149nm,3.1s					
KMI			LR	LR		
	comp=N,555nm,17.2s,MS4.5					
KMI			LR	LR		
	comp=E,631nm,18.6s,MS4.5					
KMI			LR	LR		
	comp=Z,683nm,17.9s,MS4.5					
KMI	**Kunming**	**35.24 261**	⇑P	**P**	**18 04 02.2**	**-0.9**
	comp=Z,81nm,1.2s,mb5.5					

KMI pP pP 18 04 14.9 +1.2
KMI sP sP 18 04 19.8 +1.3
KMI PP PP 18 05 24.1 +1.3
KMI S **S** **18 09 32.5 -0.8**
KMI sS 18 09 51.5
KMI SS SS 18 11 49.1 -2.2
KMI LR LR
comp=Z,680nm,17.9s,MS4.5
KKTK Khon Kaen 40.14 249 P **P** **18 04 44.0 -0.1**
comp=Z,556nm,0.7s
NANT Nan 40.25 254 ⇑P **P** **18 04 45.0 -0.1**
comp=Z,250nm,0.9s,mb5.9
TNA Tin City 40.47 30 *e*P **P** **18 04 46.2 -0.2**
comp=Z,15nm,1.1s,mb4.6
WMQ Urumqi 40.91 297⇑ *i*P **P** **18 04 50.8 +0.5**
WMQ AP pP 18 05 00.8 -0.3
WMQ XP sP 18 05 04.8 -0.9
WMQ PP PP 18 06 28.3 +0.5
WMQ PCP PcP 18 06 51.8 +0.8
WMQ PPP PPP 18 06 57.3 -0.2
WMQ S **S** **18 10 58.9 -0.3**
WMQ XS 18 11 15.0
WMQ AMB AMB
comp=Z,48nm,0.9s,mb5.1
WMQ AMB AMB
comp=Z,167nm,3.0s
WMQ LR LR
comp=N,690nm,18.0s,MS4.7
WMQ LR LR
comp=E,579nm,19.0s,MS4.7
WMQ LR LR
comp=Z,476nm,19.6s,MS4.4
CMAR Chiang Mai Arr 41.80 255 LR LR 18 23 36.3
comp=Z,376nm,19.4s,MS4.3,baz=62,slow=38
ZAL Zalesovo 41.90 312 P **P** **18 04 57.6 -0.6**
comp=Z,28nm,1.1s,mb4.8,baz=22,slow=8.7,SNR=70
ZAL LR LR 18 23 40.9
comp=Z,2µm,18.3s,MS4.9,baz=17,slow=38
LSA Lhasa 42.42 275 *e*P **P** **18 05 03.6 +0.8**
LSA pmax pmax
comp=Z,33nm,0.9s,mb5.0
LSA Lhasa 42.42 275 *e*P **P** **18 05 03.6 +0.8**
comp=Z,33nm,0.9s,mb5.0
BDT Bhumibol Dam 42.47 254 P **P** **18 05 04.0 +0.6**
NVS Novosibirsk 42.80 313 *i*P **P** **18 05 04.4 -1.2**
NVS *i*S **S** **18 11 25.5 -1.2**
NVS pmax pmax
comp=Z,42nm,1.0s,mb5.1
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=E,55nm,1.4s
NVS smax
comp=N,34nm,2.5s
NVS smax
comp=E,50nm,2.1s
SHL Shillong 43.65 269 *e*P **P** **18 05 13.0 +0.1**
SHL *e* 18 11 35.0
MKAR Makanchi Array 44.16 302 *i*P **P** **18 05 15.9 -0.8**
MKAR pmax pmax
comp=Z,31nm,0.7s
MKAR Makanchi Array 44.16 302 P **P** **18 05 16.3 -0.4**
comp=Z,23nm,0.8s,mb5.0,baz=90,slow=9.7,SNR=155
MKAR LR LR 18 24 50.7
comp=Z,427nm,18.4s,MS4.4,baz=86,slow=38
NNT Nongplab 44.83 248 P **P** **18 05 22.5 +0.1**
SVW2 Sparrevohn 45.14 38 *e*P **P** **18 05 24.6 +0.3**
KURK Kurchatov 45.93 308⇑ *e*P **P** **18 05 29.9 -0.9**
KURK *e**PP pP 18 05 41.3 -0.3
KURK pmax pmax
comp=Z,126nm,0.8s,mb5.9
KURK Kurchatov 45.93 308⇑ *e*P **P** **18 05 29.9 -1.0**
comp=Z,126nm,0.8s,mb5.9
KURK *e*pP pP 18 05 41.3 -0.4
KSM Kuching 45.93 226 *e*P **P** **18 05 31.1 -0.3**
KSM *e* pP 18 05 42.3 +0.1
IMA Indian Mountai 46.30 31 *e*P **P** **18 05 35.1 +1.6**
PMG Port Moresby 46.78 173 LR LR 18 23 43.9
comp=Z,331nm,20.3s,MS4.3,baz=162,slow=34
JIRN Jiri 47.23 275 *e*P **P** **18 05 41.6 +0.3**
comp=Z,131nm,1.0s,mb5.8
PWA Palmer West 47.88 37 *e*P **P** **18 05 45.8 -0.2**
PKI Pulchoki 47.89 275 *e*P **P** **18 05 46.1 -0.4**
comp=Z,94nm,1.1s,mb5.7
PKI Pulchoki 47.89 275 *e*P **P** **18 05 46.1 -0.4**
PKI pmax pmax
comp=Z,47nm,1.1s,mb5.4
KKN Kakani 47.89 276 *e*P **P** **18 05 46.4 -0.1**
comp=Z,142nm,1.0s,mb6.0
KKN Kakani 47.89 276 *e*P **P** **18 05 46.4 -0.1**
KKN pmax pmax
comp=Z,71nm,1.0s,mb5.7
DMN Daman 48.11 276 *e*P **P** **18 05 47.9 -0.3**
comp=Z,124nm,1.4s,mb5.7
PMR Palmer 48.24 37 *e*P **P** **18 05 47.6 -1.2**
PMR MLR MLR
comp=Z,300nm,22.0s,MS4.2
GKN Gorkha 48.31 276 *e*P **P** **18 05 49.4 -0.3**
comp=Z,286nm,1.0s,mb6.2
SML Sawmill 48.61 36 *e*P **P** **18 05 51.4 -0.2**
COLA College 48.69 32 *e*P **P** **18 05 53.0 +0.8**
ILAR Eielson Array 49.11 33 P **P** **18 05 54.6 -0.8**
comp=Z,7.1nm,0.7s,mb4.8,baz=265,slow=4.9,SNR=71
ILAR LR LR 18 26 38.8
comp=Z,186nm,18.3s,MS4.1,baz=91,slow=36
KOLN Koldanda 49.23 277 *e*P **P** **18 05 56.6 -0.3**
comp=Z,163nm,1.2s,mb5.9
HNR Honiara 49.57 156 LR LR 18 26 06.0
comp=Z,721nm,19.4s,MS4.7,baz=161,slow=35
TKM2 Tokmak 2 49.69 298 P **P** **18 06 00.3 +0.1**
SNR=21
DIV Divide 49.89 37 *e*P **P** **18 06 01.7 +0.2**
comp=Z,176nm,1.3s,mb5.9
KBK Karagaybulak 50.23 298 P **P** **18 06 04.3 0.0**
SNR=23
CHMS Chumysh 50.26 299 P **P** **18 06 03.9 -0.7**
SNR=7.9
CHKZ Chkalovo 50.28 313 *e*P **P** **18 06 02.7 -1.8**
CHKZ *e**PP pP 18 06 14.6 -0.8
CHKZ pmax pmax
comp=Z,14nm,0.7s,mb5.1
CHKZ Chkalovo 50.28 313 *e*P **P** **18 06 02.7 -1.8**
comp=Z,14nm,0.7s,mb5.1
CHKZ *e*pP pP 18 06 14.6 -0.9
USP Ospenovka 50.36 299 P **P** **18 06 04.8 -0.6**
SNR=9.6
FRU Bishkek 50.41 298 *i*P **P** **18 06 05.5 -0.2**
FRU pmax pmax
comp=Z,40nm,1.4s,mb5.3
FRU MLR MLR
comp=Z,1µm,19.0s,MS4.8
KSH Kashi 50.50 294 *e*P **P** **18 06 06.5 +0.1**
KSH *e*AP pP 18 06 16.5 -0.8
KSH *e*PP PP 18 08 00.0 -3.1
KSH *e*S **S** **18 13 08.7 -7.6**
KSH AMB AMB
comp=Z,310nm,4.8s
KSH LR LR
comp=N,1µm,13.0s,MS5.3
KSH LR LR
comp=E,2µm,16.4s,MS5.3
BVA0 Borovoye Array 50.54 312 P **P** **18 06 05.5 -1.1**
BVA0 pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
AAK Ala-Archa 50.55 298 P **P** **18 06 06.4 -0.4**
SNR=8.7
AAK Ala-Archa 50.55 298 P **P** **18 06 05.9 -0.9**
comp=Z,74nm,1.1s,mb5.5,SNR=10
AAK Ala-Archa 50.55 298 *e*P **P** **18 06 05.0 -1.8**
AAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
AAK Ala-Archa 50.55 298 *e*P **P** **18 06 05.0 -1.8**
comp=Z,9.6nm,0.8s,mb4.8
MENT Mentasta 50.65 35 *e*P **P** **18 06 07.4 +0.2**
UCH Uchtor 50.67 298 P **P** **18 06 08.1 +0.4**
SNR=10
EKS2 Erkin-Say 51.05 298 P **P** **18 06 10.1 -0.5**
SNR=16
LGTI Lohaghat 51.13 280 *e*P **P** **18 06 12.0 +0.6**
AML Almayashu 51.27 298 P **P** **18 06 12.8 +0.5**
SNR=36
KLP Kalpa 51.80 284 *e*P **P** **18 06 16.8 +0.5**
KLP *e* 18 06 18.8
comp=Z,76nm,1.1s
SMLA Simla 52.81 284⇓ *i* **P** **18 06 13.4 -11**
comp=Z,184nm,0.6s,mb6.2
SMLA *i* 18 13 42.8
KKAR Karatay Array 53.18 300 *i*P **P** **18 06 25.2 -1.3**
KKAR pmax pmax
comp=Z,66nm,1.3s,mb5.4
THN Thein Dam 53.38 286 *e*P **P** **18 06 25.2 -2.9**
PONG Pong 53.40 285 *e*P **P** **18 06 27.0 -1.3**
NDI New Delhi 53.85 281 *e*P **P** **18 06 29.0 -2.7**
INK Inuvik 54.01 27 *e*P **P** **18 06 31.6 -0.7**
INK pmax pmax
comp=Z,38nm,1.4s
INK Inuvik 54.01 27 P **P** **18 06 32.3 0.0**
comp=Z,7.7nm,0.9s,mb4.6,baz=282,slow=7.0,SNR=18
INK LR LR 18 35 21.3
comp=Z,224nm,18.6s,MS4.3,baz=48,slow=42
INK Inuvik 54.01 27 *e*P **P** **18 06 31.6 -0.7**
comp=Z,38nm,1.4s,mb5.1
AYAN Aya Nagar 54.01 281 *e*P **P** **18 06 30.8 -2.1**
SONA Sohna 54.15 280 *e*P **P** **18 06 32.6 -1.3**
SONA *e* 18 06 34.5
comp=Z,34nm,1.1s
VIS Vishakhapatnam 54.48 266 *e*P **P** **18 06 34.8 -1.6**
VIS *e* 18 06 38.7
comp=Z,31nm,0.7s
SVE Sverdlovsk 55.08 319⇑ *i*P **P** **18 06 39.2 -1.0**
SVE *e*S **S** **18 14 12.0 -6.4**
SVE pmax pmax
comp=Z,100nm,1.8s,mb5.5
SVE MLR MLR
comp=N,500nm,18.0s,MS5.0
SVE MLR MLR
comp=E,1µm,18.0s,MS5.0
SVE MLR MLR
comp=Z,2µm,18.0s,MS5.1
KHET Khetri 55.23 281 *e*P **P** **18 06 40.6 -1.2**
KHET *e* 18 06 42.3
comp=Z,29nm,0.9s
BHPL Bhopal 56.29 275 *e*P **P** **18 06 47.8 -1.6**
BHPL *e* 18 06 49.9
comp=Z,35nm,1.2s
ARU Arti 56.29 318⇑ *i*P **P** **18 06 47.8 -1.2**
ARU *e* 18 07 41.4
ARU *e* 18 08 49.0
ARU *e*S **S** **18 14 37.4 +2.8**
ARU pmax pmax
comp=Z,56nm,10.0s
ARU MLR MLR
comp=N,400nm,18.0s,MS4.9
ARU MLR MLR
comp=Z,1µm,18.0s,MS5.0
ARU MLR MLR
comp=E,800nm,17.0s,MS4.9
FITZ Fitzroy Crossi 57.19 198⇑ *i*P **P** **18 06 55.4 -0.5**
comp=E,13nm,0.6s,mb5.1
FITZ Fitzroy Crossi 57.19 198 P **P** **18 06 55.7 -0.2**
comp=E,23nm,1.0s,mb5.2,baz=14,slow=6.8,SNR=19
WRAB Tennant Creek 57.38 188 *e*P **P** **18 06 55.3 -2.0**
WRAB pmax pmax
comp=Z,31nm,0.9s,mb5.3
WRAB Tennant Creek 57.38 188 *e*P **P** **18 06 55.3 -2.0**
comp=Z,31nm,0.9s,mb5.3
WB2 Warramunga Arr 57.39 188⇑ *i*P **P** **18 06 55.7 -1.6**
WB2 *e*S **S** **18 15 06.5 +17**
WRA Warramunga Arr 57.40 188 P **P** **18 06 55.8 -1.5**
comp=Z,15nm,0.5s,mb5.2,baz=6.0,slow=7.5,SNR=102
DLBC Dease Lake 58.24 38 P **P** **18 07 03.2 +0.5**
comp=Z,5.3nm,0.9s,mb4.5,baz=292,slow=7.2,SNR=7.6
DLBC LR LR 18 30 42.9
comp=Z,142nm,18.5s,MS4.1,baz=320,slow=34
DLBC Dease Lake 58.24 38 *e*P **P** **18 07 03.5 +0.8**
DLBC *e*pP pP 18 07 13.8 0.0
HYB Hyderabad 58.45 268⇑ *e*P **P** **18 07 04.0 -0.7**
HYB *e* pP 18 07 13.0 -2.8
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.5
HYB Hyderabad 58.45 268⇑ *e*P **P** **18 07 04.0 -0.7**
comp=Z,50nm,1.0s,mb5.5
HYB *e* pP 18 07 13.0 -2.8
HYB Hyderabad 58.45 268⇑ *i*P **P** **18 07 04.0 -0.7**
comp=Z,50nm,1.0s,mb5.5
HYB *e* pP 18 07 15.0 -0.8
ASAR Alice Springs 61.12 188 P **P** **18 07 21.9 -1.2**
comp=Z,7.5nm,0.8s,mb4.9,baz=12,slow=11,SNR=84
ASAR LR LR 18 31 44.2
comp=Z,282nm,19.8s,MS4.4,baz=1.1,slow=34
ASPA Alice Springs 61.12 188⇑ *i*P **P** **18 07 21.7 -1.3**
BBB Bella Bella 61.68 44 LR LR 18 29 24.3
comp=Z,165nm,20.8s,MS4.2,baz=293,slow=31
KAD Karad 61.99 271 *e*P **P** **18 07 27.4 -1.5**
KAD *e* 18 07 30.1
comp=Z,63nm,1.0s
RES Resolute Bay 62.25 15 *e*P **P** **18 07 28.3 -1.6**
RES *e**PP pP 18 07 39.1 -2.0
RES pmax pmax
comp=Z,13nm,0.8s,mb5.1
RES Resolute Bay 62.25 15 *e*P **P** **18 07 28.3 -1.6**
comp=Z,13nm,0.8s,mb5.1
RES *e*pP pP 18 07 39.1 -2.0
APA Apatity 62.51 336⇑ *e*P **P** **18 07 38.5 +6.8**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.2
APA MLR MLR
comp=Z,2µm,18.0s,MS5.3
YKW3 Yellowknife Ar 63.39 30 *e*P **P** **18 07 36.0 -1.6**
YKW3 *e*pP pP 18 07 47.1 -1.8
YKA Yellowknife Ar 63.43 30 P **P** **18 07 36.7 -1.2**
comp=Z,2.1nm,0.7s,mb4.4,baz=295,slow=6.5,SNR=36
YKA Yellowknife Ar 63.43 30 P **P** **18 07 36.7 -1.2**
DZM Mont Dzumac 63.52 154 LR LR 18 32 58.9
comp=Z,672nm,20.5s,MS4.8,baz=131,slow=34
DAG Danmarks Havn 65.49 355⇓ *e*P **P** **18 07 49.9 -1.1**
DAG pmax pmax
comp=Z,11nm,1.0s,mb4.8
DAG Danmarks Havn 65.49 355⇓ *e*P **P** **18 07 49.9 -1.1**
comp=Z,11nm,1.0s,mb4.8
DAG Danmarks Havn 65.49 355⇓ *i*P **P** **18 07 49.9 -1.1**
comp=Z,11nm,1.0s,mb4.8
MOS Moscow 67.15 323 *e*P **P** **18 08 00.5 -1.2**
MOS *e* pP 18 08 10.8 -2.3
MOS *e* 18 08 28.8
MOS pmax pmax
comp=Z,65nm,1.2s,mb5.5
OBN Obninsk 67.99 323⇓ *i*P **P** **18 08 06.3 -0.8**
OBN *i* pP 18 08 18.0 -0.4
OBN pmax pmax
comp=Z,58nm,1.6s,mb5.4
OBN MLR MLR
comp=Z,300nm,14.0s,MS4.7
OBN Obninsk 67.99 323 *e*P **P** **18 08 06.3 -0.7**
comp=Z,58nm,1.3s,mb5.5
OBN *e*pP pP 18 08 17.4 -1.1
KAF Kangasniemi 68.14 333 *e*p **P** **18 08 06.3 -1.6**
comp=Z,6.6nm,0.6s,mb4.8,baz=49,slow=6.0
KAF Kangasniemi 68.14 333 *e*P **P** **18 08 06.3 -1.6**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
VOR Voronezh 68.56 319 P **P** **18 08 09.5 -1.1**
VOR *e* pP 18 08 21.5 -0.5
VOR pmax pmax
comp=Z,50nm,1.7s,mb5.2
VOR pmax pmax
comp=E,70nm,1.5s
FINES FINESS Array B 68.66 332 P **P** **18 08 10.0 -1.1**
comp=E,7.4nm,0.8s,mb4.7,baz=53,slow=9.5,SNR=23
FINES LR LR 18 40 18.2
comp=E,314nm,18.6s,MS4.6,baz=16,slow=38
VRSR Storozhevoye 68.85 319 *e*P **P** **18 08 11.9 -0.5**
VRSR *e**PP pP 18 08 23.6 -0.2
VRSR *e**SP sP 18 08 28.3 +0.4
VRSR *e* 18 08 36.1
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=Z,20nm,0.8s,mb5.1
VRSR pmax pmax
comp=E,10.0nm,0.7s
VRSR MLR MLR
comp=Z,760nm,16.0s,MS5.0
VRSR MLR MLR
comp=N,680nm,21.0s,MS5.0
VRSR MLR MLR
comp=E,440nm,17.0s,MS5.0
STKA Stephens Creek 68.86 180 *e*P **P** **18 08 12.4 -0.4**
comp=E,13nm,0.8s,mb4.9
STKA Stephens Creek 68.86 180 P **P** **18 08 12.4 -0.4**
comp=E,17nm,0.8s,mb5.0,baz=337,slow=7.3,SNR=16
STKA PcP PcP 18 08 36.4 -0.9
comp=E,10nm,0.9s,baz=10,slow=10.0,SNR=4.0
FORT Forrest 68.96 193 *e*P **P** **18 08 13.3 -0.2**
comp=E,1µm,0.7s
EDM Edmonton 68.96 38 *e*P **P** **18 08 12.5 -0.6**
NEW Newport 69.75 44 LR LR 18 35 51.8
comp=E,162nm,20.3s,MS4.3,baz=104,slow=33
GOF Gofitskoye 70.07 312 *i*P **P** **18 08 19.3 -0.7**
GOF *i* pP 18 08 31.0 -0.4
GOF *i*S S 18 17 26.7 -0.1
GOF pmax pmax
comp=Z,80nm,1.7s,mb5.4
GOF smax
comp=E,1µm,5.0s
SUMG Summit 70.38 0 *e*P **P** **18 08 21.6 +0.1**
comp=E,15nm,0.9s,mb4.9
TI2 Plekhanov 70.84 308 *e*P **P** **18 08 24.4 -0.4**
TI2 *i* pP 18 08 37.0 +0.9
KIV Kislovodsk 70.89 311 *c i*P **P** **18 08 24.5 -0.5**
KIV *i* *PP pP 18 08 36.1 -0.2
KIV *e* 18 11 06.3
KIV *e*S S 18 17 32.8 -3.5
KIV *e*SS SS 18 22 09.9 -1.4
KIV pmax pmax
comp=Z,63nm,1.2s,mb5.4
KIV MLR MLR
comp=Z,200nm,17.0s,MS4.4
KIV Kislovodsk 70.89 311 *e*P **P** **18 08 25.0 0.0**
comp=Z,105nm,0.9s,mb5.8
KIV *e*pP pP 18 08 36.4 0.0
WALA Waterton Lakes 71.05 42 *e*P **P** **18 08 26.1 +0.2**
comp=Z,80nm,1.7s,mb5.4
WBK Wadi Bani Khal 71.10 284⇓P **P** **18 08 26.0 -0.7**
SNR=9.2
BANOM Banah 71.34 289⇑P **P** **18 08 27.8 -0.2**
SNR=14
BMO Blue Mountains 71.55 47 *e*P **P** **18 08 28.8 -0.2**
comp=Z,50nm,1.7s,mb5.2
GNI Garni 71.71 307 *e*P **P** **18 08 30.4 +0.4**
GNI pmax pmax
comp=Z,25nm,1.7s
GNI MLR MLR
comp=Z,300nm,18.0s
GNI Garni 71.71 307 LR LR 18 42 44.3
comp=Z,335nm,18.2s,MS4.6,baz=49,slow=38
GNI Garni 71.71 307 pP pP 18 08 38.7 -2.7
comp=Z,37nm,1.2s
JMDO Jabal Madar 71.90 285⇓P **P** **18 08 30.8 -0.6**
SNR=9.7
ASHO Ashiyiah 72.19 288⇑P **P** **18 08 32.8 -0.3**
SNR=14
IZAR Zarasai 72.28 328 *e*P pP 18 08 44.1 -0.3
IZAR AMPb AMB 18 08 47.4
comp=Z,9.8nm,1.5s,mb4.5
IDID Didziasalis 72.35 327 *e*P pP 18 08 44.8 0.0
BSY Bisya 72.39 285⇓P **P** **18 08 33.7 -0.5**
SNR=11
MNK Minsk 72.40 326 *e*P **P** **18 08 43.0 +9.2**
ISAL Salakas 72.45 328 *e*P pP 18 08 45.5 +0.1
ISAL AMPb AMB 18 08 47.0
comp=Z,13nm,1.0s,mb4.8
IIGN Ignalina 72.55 327 *e*P pP 18 08 46.0 0.0
IIGN AMPb AMB 18 08 47.5
comp=Z,14nm,0.9s,mb4.9
IIGN *e*sP sP 18 08 50.3 +0.2
ARQ Araqi 72.58 286⇑P **P** **18 08 35.1 -0.3**
SNR=6.2
CHMT Chamberlain Mo 72.67 44 *e*P **P** **18 08 35.4 -0.1**
SOC Sochi 72.87 312 *e*P **P** **18 08 33.9 -2.9**
SOC *e* 18 08 53.5
SOC *e* 18 11 16.0
SOC *e*PPP PPP 18 13 04.6 +0.4
SOC *e*S S 18 17 55.2 -3.9
SOC *e* 18 18 38.3
SOC *e*SS SS 18 22 35.1 -6.9
SOC pmax pmax
comp=Z,45nm,1.1s,mb5.3
SOC pmax pmax
comp=N,67nm,1.4s
SOC pmax pmax
comp=E,23nm,0.9s
SOC MLR MLR
comp=N,265nm,18.0s,MS4.7
SOC MLR MLR
comp=Z,461nm,18.0s,MS4.8
SOC MLR MLR
comp=E,210nm,16.0s,MS4.7
FFC Flin Flon 73.32 33 P **P** **18 08 39.2 0.0**
comp=E,107nm,1.5s,mb5.5,SNR=11
NWAO Narrogin (SRO) 73.54 201 P **P** **18 08 40.0 -1.0**
comp=E,16nm,1.1s,mb4.9,baz=30,slow=8.1,SNR=3.2
NWAO Narrogin (SRO) 73.54 201 P **P** **18 08 40.0 -1.0**
HRY Holter Researc 73.57 43 *e*P **P** **18 08 41.1 +0.3**
FCC Fort Churchill 73.62 27 *e*P **P** **18 08 40.1 -0.8**
FCC pmax pmax
comp=Z,54nm,1.3s,mb5.3
FCC Fort Churchill 73.62 27 *e*P **P** **18 08 40.1 -0.7**
comp=Z,54nm,1.3s,mb5.3
NB2 NORSAR Subarra 74.00 337 P **P** **18 08 42.5 -0.5**
comp=Z,28nm,1.1s,mb5.1,baz=39,slow=5.8
NB2 NORSAR Subarra 74.00 337 P **P** **18 08 42.5 -0.5**
baz=39,slow=5.9
NOA NORSAR Array B 74.00 337 P **P** **18 08 42.5 -0.5**
comp=Z,11nm,1.0s,mb4.7,baz=39,slow=5.8,SNR=17
NOA LR LR 18 43 40.1
comp=Z,742nm,21.7s,MS4.9,baz=20,slow=38
AKASG Malin Array Be 74.20 322 P **P** **18 08 43.6 -0.8**
comp=Z,3.0nm,0.4s,mb4.5,baz=44,slow=6.0,SNR=41
NAO01 NORSAR Array S 74.25 337 *e*P **P** **18 08 43.6 -0.9**
comp=Z,14nm,0.8s,mb4.9
NAO01 *e*pP pP 18 08 54.1 -1.7
BOZ Bozeman (W) 74.33 44 *e*P **P** **18 08 45.4 +0.2**
BOZ *e**PP pP 18 08 55.8 -0.8
BOZ pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
BOZ Bozeman (W) 74.33 44 *e*P **P** **18 08 45.4 +0.2**
comp=Z,10nm,0.6s,mb4.9
BOZ *e*pP pP 18 08 55.8 -0.8
NVAR Mina Array Bea 74.62 53 P **P** **18 08 48.4 +1.4**
comp=Z,4.4nm,0.8s,mb4.4,baz=313,slow=4.4,SNR=18
NVAR LR LR 18 36 39.6
comp=Z,60nm,20.5s,MS3.9,baz=165,slow=32
SUW Suwalki 74.76 327 *e*P **P** **18 08 47.3 -0.2**
SUW *e* pP 18 08 59.0 +0.1
QLMT Earthquake Lak 74.94 45 *e*P **P** **18 08 49.9 +1.2**
MTUM Tungsten Hills 75.07 54 *e*P **P** **18 08 50.6 +0.8**
SIM Simferopol' 75.28 316 *e*P pP 18 09 02.0 -0.1
SIM pmax pmax
comp=Z,32nm,1.0s,mb5.2
TPH Tonopah 75.51 53 *e*P **P** **18 08 53.0 +0.8**
TPH pmax pmax
comp=Z,290nm,1.3s,mb6.0
TPH Tonopah 75.51 53 *e*P **P** **18 08 53.0 +0.8**
comp=Z,290nm,1.3s,mb6.0
LKWY Lake 75.68 45 *e*P **P** **18 08 55.4 +2.3**
comp=Z,20nm,1.1s,mb5.0
IMW Indian Meadow 75.79 45 *e*P **P** **18 08 55.0 +1.4**
comp=Z,42nm,1.3s,mb5.2
IMW *e*pP pP 18 09 04.9 -0.1
RRI2 Red Ridge 75.91 46 *e*P **P** **18 08 55.5 +1.1**
comp=Z,63nm,1.6s,mb5.3
TPAW Teton Pass 76.04 46 *e*P **P** **18 08 56.4 +1.3**
comp=Z,76nm,1.7s,mb5.3
REDW Red Top Meadow 76.17 46 *e*P **P** **18 08 56.5 +0.7**
comp=Z,36nm,1.4s,mb5.1
TRCR Troy Canyon 76.39 52 *e*P **P** **18 08 58.0 +0.8**
FRB Frobisher Bay 76.42 13 LR LR 18 45 05.9
comp=Z,258nm,18.7s,MS4.6,baz=322,slow=38
LAO LASA Array 76.59 41 *e*P **P** **18 08 58.5 +0.4**
comp=Z,124nm,1.7s,mb5.6
LAO *e* pP 18 09 07.4 -2.1
MALT Malatya 76.77 308 P **P** **18 09 00.3 +0.9**
MALT Malatya 76.77 308⇑ *e*P **P** **18 09 00.0 +0.7**
comp=Z,22nm,1.1s,mb5.0
MALT *e* pP 18 09 10.3 -0.4
KIS Kishinev 76.82 320 *e*P **P** **18 08 57.0 -2.4**
KIS *e* pP 18 09 09.0 -1.8
KIS MLR MLR
comp=N,500nm,17.0s,MS5.2
KIS MLR MLR
comp=Z,1µm,17.0s,MS5.2
KIS MLR MLR
comp=E,700nm,16.0s,MS5.2
KIS MLR MLR
comp=Z,1µm,18.0s
PDAR Pinedale Array 77.28 46 P **P** **18 09 02.4 +0.2**
comp=Z,2.1nm,0.6s,mb4.2,baz=270,slow=1.5,SNR=20

IAS Iasi 77.33 320 P **P 18 09 02.6 +0.3**
BORG Borgarnes 77.38 353 LR LR 18 45 55.2
comp=Z,285nm,19.6s,MS4.6,baz=191,slow=38
RBK Rabkut 77.67 283 ⇑P **P 18 09 03.2 -1.5**
SNR=6.5
WHFO Wadi Hawf 77.76 283 ⇑P **P 18 09 03.9 -1.4**
SNR=16
DAU Daniels Canyon 77.78 48 *e*P **P 18 09 06.0 +1.1**
GZT Gaziantep 77.90 308 *i* P **P 18 09 06.4 +0.8**
KWP Kalwaria 78.02 324 *e*P **P 18 09 06.9 +0.9**
KWP *e* pP 18 09 18.0 +0.5
BURAR Bucovina Array 78.22 322 P **P 18 09 07.3 +0.1**
BURAR Bucovina Array 78.22 322 ⇑P **P 18 09 07.0 -0.2**
CFR Carcaliu 78.38 319 ⇓P **P 18 09 08.2 +0.1**
MSU Marysvale 78.41 50 *e*P **P 18 09 09.7 +1.3**
ABTO Aybut 78.46 283 ⇓P **P 18 09 07.7 -1.4**
SNR=9.8
VRI Vrincioaia 78.65 320 ⇑P **P 18 09 11.2 +1.6**
PFO Pinyon Flat Ob 78.68 56 *e*P **P 18 09 10.7 +0.7**
PFO pmax pmax
comp=Z,17nm,1.5s,mb4.8
PFO Pinyon Flat Ob 78.68 56 *e*P **P 18 09 10.7 +0.7**
comp=Z,17nm,1.5s,mb4.8
AVNT Avonos 78.69 310 *i* P **P 18 09 10.7 +0.7**
KOLS Kolonicke sedl 78.71 324 *i* P **P 18 09 09.4 -0.5**
KOLS *e*pP pP 18 09 21.8 +0.5
BRTR Keskin Array B 78.83 312 P **P 18 09 10.6 -0.1**
comp=Z,7.2nm,1.0s,mb4.5,baz=99,slow=5.3,SNR=20
OJC Ojcow 78.92 326 *e*P **P 18 09 11.0 0.0**
SRU San Rafael 79.03 49 *e*P **P 18 09 12.3 +0.5**
CRVS Cervenica-Dubn 79.11 325 *e*P **P 18 09 11.8 -0.2**
CRVS *e*pP pP 18 09 24.8 +1.3
ULM Lac du Bonnet 79.12 33 P **P 18 09 11.7 -0.4**
comp=Z,7.2nm,1.0s,mb4.6,baz=322,slow=5.7,SNR=11
NIE Niedzica 79.27 325 *e*P **P 18 09 12.7 -0.2**
MLR Muntele Rosu 79.31 320 P **P 18 09 13.7 +0.5**
MLR Muntele Rosu 79.31 320 ⇑P **P 18 09 14.1 +0.9**
MLR Muntele Rosu 79.31 320 ⇑P **P 18 09 14.1 +0.9**
MLR Muntele Rosu 79.31 320 ⇑P **P 18 09 14.1 +0.9**
PSN Preselentsi 79.35 317 *e*P **P 18 09 14.0 +0.6**
RSSD Black Hills 79.44 42 *e*P **P 18 09 13.6 -0.3**
RSSD pmax pmax
comp=Z,42nm,1.8s,mb5.1
RSSD Black Hills 79.44 42 *e*P **P 18 09 13.6 -0.4**
comp=Z,42nm,1.8s,mb5.1
SNX Sinaia 79.62 320 P **P 18 09 15.5 +0.6**
KECS Kecovo 79.86 325 *e*P pP 18 09 27.4 -0.2
KECS Kecovo 79.86 325 *e*pP pP 18 09 27.4 -0.2
BSEG Bad Segeberg 79.90 333 *e*P **P 18 09 16.1 -0.1**
BSEG pmax pmax
comp=Z,42nm,1.2s,mb5.2
OKC Ostrava-Krasne 79.92 327 *e*P **P 18 09 16.6 +0.2**
OKC *e*pP pP 18 09 28.2 +0.3
OKC AMS AMS 18 47 40.0
comp=Z,600nm,20.1s
KSP Ksiaz 79.97 328 *e*P **P 18 09 16.7 +0.1**
KSP *e**PP pP 18 09 27.3 -0.8
KSP MLR MLR
comp=Z,1μm,20.3s,MS5.2
KSP Ksiaz 79.97 328 *e*P **P 18 09 17.5 +0.8**
KSP *e* pP 18 09 28.9 +0.8
PRD Provadia 80.09 317 *e*P **P 18 09 18.0 +0.5**
MORC Moravsky Berou 80.23 327 *e*P **P 18 09 17.6 -0.5**
MORC *e**PP pP 18 09 29.8 +0.3
MORC pmax pmax
comp=Z,36nm,1.3s,mb5.1
MORC Moravsky Berou 80.23 327 P **P 18 09 18.3 +0.2**
MORC Moravsky Berou 80.23 327 *e*P **P 18 09 17.6 -0.5**
comp=Z,36nm,1.3s,mb5.1
MORC *e*pP pP 18 09 29.8 +0.3
DPC Dobruska-Polom 80.33 328 *e*P **P 18 09 19.1 +0.6**
DPC *e*pP pP 18 09 31.1 +1.1
DPC AMS AMS 18 48 00.0
comp=Z,700nm,15.5s
UPC Upice 80.34 328 *e*P **P 18 09 19.4 +0.8**
UPC *e*pP pP 18 09 30.9 +0.8
PV10 Paradox Valley 80.39 49 *e*P **P 18 09 20.6 +1.4**
PSZ Piszkesteto 80.55 325 *e*P **P 18 09 20.0 +0.2**
PSZ *e**PP pP 18 09 31.8 +0.6
PSZ pmax pmax
comp=Z,60nm,1.4s,mb5.3
PSZ Piszkesteto 80.55 325 P **P 18 09 20.4 +0.6**
PSZ Piszkesteto 80.55 325 *e*P **P 18 09 20.0 +0.3**
comp=Z,60nm,1.4s,mb5.3
PSZ *e*pP pP 18 09 31.8 +0.6
PSZ Piszkesteto 80.55 325⇑ *e*P **P 18 09 20.2 +0.4**
ESKT Eskisehir 80.60 313 *i* P **P 18 09 20.1 -0.2**
VYHS Vyhne 80.61 326 *e*P **P 18 09 20.1 0.0**
VYHS *e* pP 18 09 29.4 -2.2
RAYN Ar Rayn 80.76 292 P **P 18 09 21.8 +0.4**
comp=Z,93nm,0.9s,SNR=8.0
PV01 Paradox Valley 80.83 49 P **P 18 09 22.8 +1.3**
SZH Strazhica 80.83 318 *e*P **P 18 09 23.0 +1.6**
BRG Berggiesshubel 80.91 330 *e*P **P 18 09 22.1 +0.5**
BRG *e* pP 18 09 33.6 +0.5
BRG pmax pmax
comp=Z,21nm,1.2s,mb4.9
BRG MLR MLR
comp=N,420nm,15.5s,MS5.0
BRG MLR MLR
comp=E,330nm,15.5s,MS5.0
BRG MLR MLR
comp=Z,650nm,14.3s,MS5.1
BRG Berggiesshubel 80.91 330 *e*P **P 18 09 22.1 +0.5**
comp=Z,21nm,1.1s,mb5.0
BRG *e* pP 18 09 33.6 +0.5
BRG LR LR
comp=Z,650nm,14.3s,MS5.1
PVCC Panska Ves 80.92 329 *e*P **P 18 09 22.0 +0.3**
PVCC *e*pP pP 18 09 33.4 +0.2
PVCC AMS AMS 18 48 50.0
comp=Z,600nm,16.6s
CLL Collm 80.95 330 *i* P **P 18 09 21.4 -0.4**
CLL *i* pP 18 09 33.6 +0.3
CLL pmax pmax
comp=Z,48nm,1.2s,mb5.3
CLL MLR MLR
comp=Z,600nm,21.2s,MS4.9
CLL Collm 80.95 330 *i* P **P 18 09 21.4 -0.4**
comp=Z,48nm,1.2s,mb5.3
CLL *i* pP 18 09 33.6 +0.3
CLL LR LR
comp=Z,600nm,21.2s,MS4.9
CLL Collm 80.95 330 P **P 18 09 21.4 -0.4**
comp=Z,logA/T=1.6,mb5.3
CLL *i* *PP pP 18 09 33.6 +0.3
CLL *e* 18 09 45.0
VRAC Vranov 80.99 327 P **P 18 09 22.9 +0.8**
JMB Yambol 81.03 317 *e*P **P 18 09 24.0 +1.5**
ULDT Uludag 81.18 314 *i* P **P 18 09 23.6 +0.4**
SMOL Smolenice 81.22 326 *e*P **P 18 09 24.0 +0.7**
SMOL *e*pP pP 18 09 35.8 +1.0
RW3 Ridgway 81.28 48 *e*P **P 18 09 25.4 +1.5**
PRU Pruhonice 81.35 329 *e*P **P 18 09 24.3 +0.4**
PRU *e*pP pP 18 09 36.4 +1.0
PRU AMS AMS 18 48 30.0
comp=Z,500nm,18.0s
SRO Srobarova 81.35 325 *e*P **P 18 09 24.8 +0.8**
SRO *e*pP pP 18 09 36.4 +0.9
SRO2 Moca 81.35 325 *e*P **P 18 09 25.7 +1.7**
BZS Buzias 81.39 322 P **P 18 09 24.3 +0.1**
BZS Buzias 81.39 322 ⇓P **P 18 09 24.6 +0.4**
BZS Buzias 81.39 322 ⇓P **P 18 09 24.6 +0.4**
BZS Buzias 81.39 322 ⇓P **P 18 09 24.6 +0.4**
ASF Jabal al Asfar 81.53 304 LR LR 18 49 24.5
comp=Z,273nm,18.4s,MS4.6,baz=271,slow=38
CLZ Clausthal 81.54 332 *e*P **P 18 09 25.0 +0.1**
comp=Z,50nm,1.2s,mb5.3
ZST Bratislava 81.61 326 *e*P **P 18 09 26.4 +1.1**
ZST *e*pP pP 18 09 37.6 +0.8
ISP Isparta 81.91 312 *e*P **P 18 09 25.9 -1.2**
NKC Novy Kostel 82.01 330 *e*P **P 18 09 27.7 +0.3**
NKC *e*pP pP 18 09 39.6 +0.7
NKC AMS AMS 18 52 50.0
comp=Z,600nm,15.0s
MOX Moxa 82.02 331 *e*P **P 18 09 27.3 -0.1**
MOX *e* pP 18 09 39.3 +0.4
MOX pmax pmax
comp=Z,37nm,1.8s,mb5.0
MOX MLR MLR
comp=Z,400nm,19.0s,MS4.8
MOX Moxa 82.02 331 *e*P **P 18 09 27.3 -0.1**
comp=Z,37nm,1.8s,mb5.0
MOX *e* pP 18 09 39.3 +0.4
MOX LR LR
comp=Z,400nm,19.0s,MS4.8
MOX Moxa 82.02 331 *i* P **P 18 09 27.3 -0.1**
comp=Z,logA/T=1.3,mb5.0
MOX pP pP 18 09 39.0 +0.1
MOX L 18 49 05.0
WIT Witteveen 82.09 334 *i* P **P 18 09 28.2 +0.5**
WIT *ex* x 18 09 40.7
KHC Kasperske Hory 82.41 329*c i* P **P 18 09 29.4 0.0**
KHC Kasperske Hory 82.41 329 *e*P **P 18 09 29.7 +0.3**
KHC *e**PP pP 18 09 40.5 -0.4
KHC MLR MLR
comp=Z,600nm,16.6s,MS5.0
KHC Kasperske Hory 82.41 329 *e*P **P 18 09 29.7 +0.3**
KHC *e*pP pP 18 09 40.5 -0.4
KHC AMS AMS 18 50 00.0
comp=Z,600nm,16.6s
RZN Rozhen 82.58 318 *e*P **P 18 09 32.0 +1.6**
GEC2 GERESS Array S 82.58 328 *e*P **P 18 09 30.1 -0.2**
GEC2 pmax pmax
comp=Z,17nm,1.1s,mb5.0
GEC2 GERESS Array S 82.58 328 *e*P **P 18 09 30.1 -0.2**
comp=Z,17nm,1.1s,mb5.0
GERES GERESS Array B 82.58 328 P **P 18 09 30.3 0.0**
comp=Z,6.2nm,0.9s,mb4.6,baz=45,slow=3.8,SNR=38
GERES LR LR 18 51 09.8
comp=Z,596nm,18.0s,MS5.0,baz=208,slow=39
WET Wettzell 82.69 329 *e*P **P 18 09 31.2 +0.4**
WET pmax pmax
comp=Z,27nm,1.3s,mb5.1
WET Wettzell 82.69 329 *e*P **P 18 09 31.2 +0.4**
comp=Z,27nm,1.3s,mb5.1
VTS Vitosha 82.74 319 P **P 18 09 31.8 +0.5**
VTS Vitosha 82.74 319 *i* P **P 18 09 33.0 +1.7**
VTS Vitosha 82.74 319 *i* P **P 18 09 33.0 +1.7**
WTSB Winterswijk 82.74 334 *i* P **P 18 09 30.4 -0.7**
comp=Z,18nm,2.6s,mb4.7
WTSB *ex* x 18 09 43.3
EYMN Ely 82.75 33 *e*P **P 18 09 30.7 -0.5**
comp=Z,58nm,1.5s,mb5.4
SDCO Great Sand Dun 82.91 47 *e*P **P 18 09 33.2 +0.9**
comp=Z,31nm,1.7s,mb5.1
GRA1 Grafenberg Arr 82.92 330 *e*P **P 18 09 32.6 +0.6**
comp=Z,79nm,1.3s,mb5.6
GRA1 *e*pP pP 18 09 44.9 +1.3
GRA1 LR LR
comp=Z,400nm,20.3s,MS4.8
GRF Grafenberg Arr 82.92 330 *e*P **P 18 09 32.6 +0.6**
GRF *e**PP pP 18 09 44.9 +1.3
GRF pmax pmax
comp=Z,79nm,1.3s,mb5.6
GRF MLR MLR
comp=Z,400nm,20.3s,MS4.8
GRF Grafenberg Arr 82.92 330 *e*P **P 18 09 32.6 +0.6**
comp=Z,79nm,1.3s,mb5.6
GRF *e*pP pP 18 09 44.9 +1.3
GRF LR LR
comp=Z,400nm,20.3s,MS4.8
GRF Grafenberg Arr 82.92 330 *e*P **P 18 09 32.6 +0.6**
comp=Z,79nm,1.3s,mb5.6
GRF *e**PP pP 18 09 44.9 +1.3
GRF pmax pmax
comp=Z,79nm,1.3s,mb5.6
GRF MLR MLR
comp=Z,400nm,20.3s,MS4.8
GRF Grafenberg Arr 82.92 330 *e*P **P 18 09 32.6 +0.6**
comp=Z,79nm,1.3s,mb5.6
GRF *e*pP pP 18 09 44.9 +1.3
GRF LR LR
comp=Z,400nm,20.3s,MS4.8
ARSA Arzberg 83.02 326⇑ *i*P **P 18 09 33.0 +0.4**
comp=Z,17nm,1.4s,mb4.9
GRUS Gruza 83.08 321⇓ *i*P **P 18 09 32.8 -0.1**
MOA Molln 83.11 327⇑ *i*P **P 18 09 33.3 +0.3**
comp=Z,18nm,1.2s,mb5.0
MMB Musomiste 83.17 318 *i* P **P 18 09 34.0 +0.5**
DIVS Divcibare 83.29 322⇓ *i*P **P 18 09 34.0 0.0**
KKB Krupnik 83.32 319 *i* P **P 18 09 35.0 +0.8**
TNS Taunus Mts 83.57 332 *e*P **P 18 09 35.3 +0.1**
TNS pmax pmax
comp=Z,12nm,1.1s,mb4.9
TNS Taunus Mts 83.57 332 *e*P **P 18 09 35.3 +0.1**
comp=Z,12nm,1.1s,mb4.9
PERS Pernice 83.67 326 *i* P **P 18 09 36.0 +0.2**
PERS *e* pP 18 09 47.8 +0.4
TOD Tromm 83.94 331⇑ *e*P **P 18 09 37.3 +0.2**
OBKA Obir 84.02 326⇑ *i*P **P 18 09 37.6 0.0**
comp=Z,6.9nm,1.1s,mb4.7
HGN Heimansgroeve 84.04 334⇑ *i*P **P 18 09 37.5 -0.1**
HGN *ex* x 18 09 49.8
HGN Heimansgroeve 84.04 334 *e*S S 18 19 59.6 +1.8
SKO Skopje 84.10 320⇑ *i*P **P 18 09 39.2 +1.1**
KBA Koelnbreinsper 84.10 327⇑ *i*P **P 18 09 38.2 +0.2**
comp=Z,14nm,1.1s,mb5.0
KBA Koelnbreinsper 84.10 327⇑ *i*P **P 18 09 38.2 +0.2**
KBA pmax pmax
comp=Z,14nm,1.1s,mb5.0
FUR Furstenfeldbru 84.11 329 *e*P **P 18 09 38.3 +0.2**
FUR pmax pmax
comp=Z,48nm,1.0s,mb5.6
FUR Furstenfeldbru 84.11 329 *e*P **P 18 09 38.3 +0.2**
comp=Z,48nm,1.0s,mb5.6
LAZ Ladron 84.15 51 *e*P **P 18 09 40.4 +1.8**
ABH Alteburg 84.18 332⇑ *e*P **P 18 09 38.4 0.0**
ANMO Albuquerque 84.20 50 *e*P **P 18 09 40.1 +1.2**
ANMO Albuquerque 84.20 50 LR LR 18 45 36.0
comp=Z,127nm,18.6s,MS4.3,slow=34
EIL Elat 84.41 303 LR LR 18 52 21.9
comp=Z,165nm,18.4s,MS4.5,baz=285,slow=39
EIL Elat 84.41 303 *e*P **P 18 09 39.6 -0.4**
comp=Z,31nm,1.0s,mb5.4
EIL *e*pP pP 18 09 51.5 0.0
STU Stuttgart 84.46 331 *e*P **P 18 09 39.7 -0.1**
STU *e* pP 18 09 52.3 +1.0
STU pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
STU Stuttgart 84.46 331 *e*P **P 18 09 39.7 -0.1**
comp=Z,9.1nm,0.6s,mb5.1
STU *e* pP 18 09 52.3 +0.9
BOJS Bojanci 84.47 325 *e*P **P 18 09 39.6 -0.3**
BOJS *e* pP 18 09 49.3 -2.2
RUP Ruppelstein 84.51 332⇑ *e*P **P 18 09 40.1 +0.1**
PPT Papeete 84.56 117 *e*LR LR 18 35 54.4
comp=Z,502nm,29.2s,baz=315
PPT Papeete 84.56 117 LR LR 18 43 39.3
comp=Z,254nm,19.2s,MS4.6,baz=295,slow=33
PTCC Patocco-Chiusa 84.62 327 *e*P **P 18 09 40.1 -0.5**
BNM Barren Site 84.64 51 *e*P **P 18 09 42.1 +1.1**
ROBS Robic 84.68 327 *e*P **P 18 09 40.0 -0.9**
WTTA Wattenberg 84.68 328⇑ *i*P **P 18 09 41.4 +0.5**
comp=Z,18nm,1.7s,mb4.9
WTTA Wattenberg 84.68 328⇑ *i*P **P 18 09 41.4 +0.5**
WTTA pmax pmax
comp=Z,18nm,1.7s,mb4.9
WLF Walferdange 84.88 333 *e*P **P 18 09 42.0 +0.2**
WLF *e* pP 18 09 54.3 +0.9
WLF pmax pmax
comp=Z,75nm,1.8s,mb5.5
WLF Walferdange 84.88 333 *e*P **P 18 09 42.0 +0.2**
comp=Z,75nm,1.8s,mb5.5
WLF *e* pP 18 09 54.3 +0.9
SCHQ Schefferville 84.98 16 P **P 18 09 42.5 +0.3**
comp=Z,2.7nm,0.9s,mb4.4,baz=31,slow=4.5,SNR=7.9
SCHQ LR LR 18 50 42.9
comp=Z,204nm,19.1s,MS4.5,baz=7.5,slow=38
GIVF Givet 84.99 334⇑ *i*P **P 18 09 42.1 -0.3**
comp=Z,111nm,1.7s,mb5.4
GIVF Givet 84.99 334⇑ *i*P **P 18 09 42.1 -0.3**
GIVF pmax pmax
comp=Z,55nm,1.7s,mb5.4
BFO Black Forest 85.15 331 P **P 18 09 43.4 +0.2**
comp=Z,161nm,1.0s,mb6.1,SNR=19
BFO Black Forest 85.15 331 *e*P **P 18 09 43.2 0.0**
BFO pmax pmax
comp=Z,47nm,1.2s,mb5.5
BFO Black Forest 85.15 331 *e*P **P 18 09 43.2 0.0**
comp=Z,47nm,1.2s,mb5.5
SPAK Spaichingen 85.16 330⇑ *e*P **P 18 09 43.1 -0.2**
BAIF Baives 85.24 334⇑ *i*P **P 18 09 43.5 -0.1**
comp=Z,29nm,1.1s,mb5.0
BAIF Baives 85.24 334⇑ *i*P **P 18 09 43.5 -0.1**
BAIF pmax pmax
comp=Z,14nm,1.1s,mb5.0
DAVA Damuels 85.38 329⇑ *i*P **P 18 09 44.9 +0.5**
comp=Z,33nm,1.1s,mb5.4
WLS Welschbruch 85.46 331⇑ *e*P **P 18 09 44.9 +0.2**
CDF Champ du Feu 85.49 331⇑ *i*P **P 18 09 45.0 +0.1**
comp=Z,71nm,1.2s,mb5.4
CDF Champ du Feu 85.49 331⇑ *i*P **P 18 09 45.0 +0.1**
CDF pmax pmax
comp=Z,36nm,1.2s,mb5.4
LIBD Limburg 85.58 331⇑ *e*P **P 18 09 45.5 +0.2**
FELD Feldberg 85.65 331⇑ *e*P **P 18 09 45.5 -0.2**
ECH Echery 85.70 331⇑ *e*P **P 18 09 45.9 0.0**
BRMO Bormio 85.83 329 *e*P **P 18 09 47.6 +1.0**
MOF Molkenrain 86.01 331⇑ *e*P **P 18 09 47.5 +0.1**
THEF They Montfort 86.13 332⇑ *e*P **P 18 09 47.7 -0.3**
HINF Hinteralfeld 86.14 331⇑ *i*P **P 18 09 47.8 -0.3**
comp=Z,22nm,1.0s,mb5.0
HINF Hinteralfeld 86.14 331⇑ *i*P **P 18 09 47.8 -0.3**
HINF pmax pmax
comp=Z,11nm,1.0s,mb5.0
HAU Haudompre 86.18 332⇑ *i*P **P 18 09 48.0 -0.3**
comp=Z,18nm,1.0s,mb5.0
HAU *e*R
comp=Z,536nm,18.0s
HAU Haudompre 86.18 332⇑ *i*P **P 18 09 48.0 -0.3**
HAU pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,540nm,18.0s,MS5.0
BBS Basel-Blauen 86.18 331⇑ *e*P **P 18 09 47.0 -1.3**
MEZF Maizieres J'vi 86.25 333⇑ *i*P **P 18 09 48.9 +0.3**
comp=Z,55nm,1.1s,mb5.4
LOMF Lomont 86.54 331 *e*P **P 18 09 49.2 -0.8**
KSU1 Kansas State U 86.92 42 *e*P **P 18 09 52.0 -0.2**
VAI Varese 86.98 329 *e*P **P 18 09 52.1 -0.2**
CPRX Cap Rock 87.09 50 *e*P **P 18 09 53.0 -0.1**
SNTG Esanatoglia 87.26 325 *e*P **P 18 09 54.2 +0.5**
PGD Poggio Sodo 87.32 326 *e*P **P 18 09 55.5 +1.5**
VMG Vicchio 87.33 326 *e*P **P 18 09 55.9 +1.9**
GDL2 Guadalupe Moun 87.35 51 *e*P **P 18 09 55.0 +0.6**
NRCA Norcia 87.51 325 *e*P **P 18 09 55.3 +0.4**
ASS Assisi 87.55 325 *e*P **P 18 09 55.0 -0.1**
CII Carovilli 87.82 323 *e*P **P 18 09 56.5 +0.1**
comp=Z,32nm,1.3s,mb5.4
FLN La Foliniere 87.93 336⇑ *i*P **P 18 09 56.7 0.0**
comp=Z,44nm,1.2s,mb5.3
FLN *e*R
comp=Z,773nm,19.5s
FLN La Foliniere 87.93 336⇑ *i*P **P 18 09 56.7 0.0**
FLN pmax pmax
comp=Z,22nm,1.2s,mb5.3
FLN MLR MLR
comp=Z,770nm,19.5s,MS5.1
LDF La Druitiere 87.96 336⇑ *i*P **P 18 09 56.9 0.0**
comp=Z,60nm,1.5s,mb5.3
SSF Saint Saulge 88.02 333⇑ *i*P **P 18 09 57.3 +0.1**
comp=Z,35nm,1.2s,mb5.2
LPL La Plagne 88.09 330 *e*P **P 18 09 58.1 +0.5**
comp=Z,11nm,1.0s,mb4.8
LPG La Plagne 88.10 330 *e*P **P 18 09 58.3 +0.7**
comp=Z,30nm,1.3s,mb5.0
HYF Humbligny 88.16 333 *e*P **P 18 09 58.5 +0.6**
SMF Signal de Mont 88.25 332⇑ *i*P **P 18 09 58.4 +0.1**
comp=Z,63nm,1.4s,mb5.4
AVF Avril sur Loir 88.31 333⇑ *i*P **P 18 09 58.6 0.0**
comp=Z,90nm,1.4s,mb5.5
GRR Gorron 88.38 336⇑ *i*P **P 18 09 59.0 +0.1**
comp=Z,56nm,1.1s,mb5.4
TBI Tubuai 88.48 121 *e*LR LR 18 37 42.5
comp=Z,435nm,25.5s,baz=305
BGF Bois d'Agland 88.69 333⇑ *i*P **P 18 10 00.5 +0.1**
MBDF Montbardon 88.72 330 *e*P **P 18 10 00.4 -0.2**
PLDF La Plantade 88.90 332 *e*P **P 18 10 02.6 +1.1**
SGMF Saint Gilles 89.03 337 *e*P **P 18 10 02.4 +0.4**
comp=Z,12nm,0.8s,mb5.0
TCF Toulx Ste Croi 89.15 333⇑ *i*P **P 18 10 02.8 +0.2**
comp=Z,35nm,1.4s,mb5.2
SBF Sospel 89.17 329 *e*P **P 18 10 03.3 +0.5**
ROSF Rostrenen 89.18 337 *e*P **P 18 10 03.0 +0.3**
comp=Z,21nm,1.0s,mb5.1
QUIF Quistinic 89.52 337 *e*P **P 18 10 04.3 0.0**
PGF Pioggiola 89.58 327 *e*P **P 18 10 05.7 +1.0**
comp=Z,332nm,1.9s,mb6.0
MFF Saint Martin d 89.70 335⇑ *i*P **P 18 10 05.5 +0.3**
comp=Z,34nm,1.1s,mb5.3
TXAR Lajitas Array 89.75 53 P **P 18 10 06.4 +0.6**
comp=Z,2.5nm,0.8s,mb4.6,baz=297,slow=2.8,SNR=21
TXAR LR LR 18 49 43.1
comp=Z,146nm,20.2s,MS4.4,baz=320,slow=35
LMR La Mourre 89.98 329 *e*P **P 18 10 07.5 +0.9**
comp=Z,190nm,1.6s,mb5.9
RJF Les Rejaudoux 90.24 333 *e*P **P 18 10 08.0 +0.2**
comp=Z,20nm,1.0s,mb5.1
RJF *e*R
comp=Z,534nm,18.2s
CAF Calviac 90.37 333⇑ *i*P **P 18 10 08.9 +0.5**
comp=Z,20nm,1.1s,mb5.1
LASF Ste Croix 90.42 331 *e*P **P 18 10 08.7 +0.1**
CCM Cathedral Cave 90.48 39 *e*P **P 18 10 09.0 -0.1**
comp=Z,38nm,1.6s,mb5.5
LFF La Frestale 90.83 333⇑ *i*P **P 18 10 11.0 +0.4**
comp=Z,24nm,1.0s,mb5.2
MTLF Montolieu 91.67 332 *e*P **P 18 10 14.7 +0.2**
EPF Esparros 92.63 333 *e*P **P 18 10 18.6 -0.3**
comp=Z,35nm,1.4s,mb5.3
ESDC Sonseca Array 97.12 334 P **P 18 10 38.9 -0.5**
comp=Z,1.0nm,0.8s,mb4.3,baz=30,slow=3.1,SNR=5.6
RKT Rikitea 98.65 112 *e*LR LR 18 42 27.5
comp=Z,376nm,25.5s,baz=306
QSPA South Pole Qui 127.08 180⇓ *i*P PKPdf 18 16 10.3 +0.9
VNA2 Neumayer--Watz 142.68 196⇑ *i*P PKPdf 18 16 37.1 -1.0
VNA2 Neumayer--Watz 142.68 196⇓ *i* PKPdf 18 16 46.3 +8.2
VNA3 Neumayer Olymp 142.92 195⇑ *i*P PKPdf 18 16 37.7 -0.8
LPAZ La Paz 146.33 60 PKP2 PKPab 18 16 49.2 -1.0
LPAZ pmax pmax
comp=Z,9.0nm,0.9s
LPAZ La Paz 146.33 60 PKPbc PKPbc 18 16 49.2 +1.9
comp=Z,8.8nm,0.9s,baz=349,slow=5.1,SNR=31
LPAZ La Paz 146.33 60 *e*PKPdf PKPdf 18 16 48.7 +2.7
CS6B Jaguaretama 148.30 1 *e*(P) PKPdf 18 16 54.0 +4.7
PLCA Paso Flores 154.79 108 PKP2 PKPab 18 17 21.8 -2.5
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA Paso Flores 154.79 108 PKPab PKPab 18 17 21.8 -2.5
comp=Z,2.4nm,0.9s,baz=287,slow=7.6,SNR=3.3
BDFB Brasilia 156.73 24 PKIKP PKPdf 18 16 59.5 -1.9
BDFB 18 17 31.1
BDFB pmax pmax
comp=Z,1.0nm,0.4s
BDFB pmax pmax
comp=Z,3.0nm,0.8s
BDFB Brasilia 156.73 24 PKP PKPdf 18 16 59.5 -1.9
comp=Z,1.0nm,0.4s,baz=287,slow=9.3,SNR=3.5
BDFB PKPab PKPab 18 17 31.1 -2.3
comp=Z,2.7nm,0.8s,baz=305,slow=5.9,SNR=4.2

IDC ***03*** *18:16:47.5±1.6, 0.06N×97.41E, h26km±5km, mb3.7/6, mb1 3.9/6, mb1mx3.7/14, mbtmp3.9/6, Error ellipse: s-maj=63.6km s-min=15.8km az=56.0*
NEIC ***03*** *18:16:48.3±0.7, 0.23N×97.62E, mb4.2/2, Error ellipse: s-maj=20.1km s-min=10.5km az=58.0*
ISC 03 18:16:46.2±0.9, 0.3N±0.1×97.6E±0.2, h26km, (h26km±1.4km:pP-P), n11, σ0=48/11, mb3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.84**	**31**	*e*P	**Pn**	**18 18 13.1**	**-0.3**
WRA	**Warramunga Arr**	**41.21**	**121**	P	**P**	**18 24 30.2**	**-0.5**
0.3nm,0.4s,mb3.2,baz=301,slow=9.0,SNR=4.6							
WRA				pP	pP	18 24 38.1	-0.4
1.1nm,0.6s,baz=301,slow=9.1,SNR=6.8							
WRAB	**Tennant Creek**	**41.21**	**121**	*e*P	**P**	**18 24 30.9**	**+0.1**
2.7nm,0.6s,mb4.0							
WRAB				*e*	pP	18 24 38.3	-0.2
ASAR	**Alice Springs**	**42.52**	**127**	P	**P**	**18 24 42.0**	**+0.4**
0.6nm,0.6s,mb3.5,baz=299,slow=7.7,SNR=12							
ASAR				pP	pP	18 24 49.5	+0.2
1.3nm,0.5s,baz=299,slow=8.1,SNR=12							
SONM	**Songino Array**	**47.99**	**8**	P	**P**	**18 25 25.8**	**+0.8**
0.5nm,0.5s,mb3.9,baz=192,slow=9.3,SNR=9.8							
SONM				pP	pP	18 25 35.5	+2.7
1.1nm,0.9s,baz=185,slow=10,SNR=5.2							
MKAR	**Makanchi Array**	**48.23**	**346**	P	**P**	**18 25 27.5**	**+0.7**
1.0nm,0.6s,mb4.0,baz=167,slow=8.0,SNR=12							
MKAR	**Makanchi Array**	**48.23**	**346**	P	**P**	**18 25 27.5**	**+0.7**
KURK	**Kurchatov**	**52.79**	**345**	*e*P	**P**	**18 26 01.6**	**+0.1**
ZAL	**Zalesovo**	**54.52**	**351**	P	**P**	**18 26 13.9**	**-0.2**
2.5nm,0.5s,mb4.5,baz=313,slow=5.3,SNR=11							
ZAL				pP	pP	18 26 21.2	-0.8
1.2nm,0.4s,baz=316,slow=2.4,SNR=3.6							
CHKZ	**Chkalovo**	**57.73**	**341**	*e*P	**P**	**18 26 36.5**	**-0.7**

2.5nm,0.8s,mb4.3
BRTR Keskin Array B 70.03 312 P **P** **18 27 57.8 -0.3**
1.0nm,0.7s,mb3.8,baz=135,slow=3.5,SNR=4.0

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*IDC **03** 18:20:54.8±3.0,51.24N×150.26E,h354km±33km,mb3.0/8, mb1 3.3/9,mb1mx3.0/23,mbtmp3.8/9,Error ellipse: s-maj=28.1km s-min=12.5km az=121.0*
*KRSC **03** 18:20:57.6±1.2,49.86N×152.16E,h542km±13km,ML4.1*
*MOS **03** 18:20:59.1±2.1,50.29N×151.32E,h487km,mb4.1/1,Error ellipse: s-maj=45.6km s-min=14.3km az=57.6*
*NEIC **03** 18:21:04.0±0.8,51.33N×150.77E,h458km±12km,mb3.9/1, Error ellipse: s-maj=23.8km s-min=11.9km az=141.0*
ISC 03 18:21:04.1±0.7,50.9N±0.1×151.5E±0.2,h459km±8km,n41, σ1§23/54,mb3.3/8,1C,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**4.04**	**57**	*e*P	**P**	**18 22 20.2**	**-0.6**
GRL	**Gorelyy**	**4.40**	**65**	P	**P**	**18 22 25.1**	**+1.1**
RUS	**Russkaya**	**4.62**	**67**	P	**P**	**18 22 25.8**	**-0.2**
RUS				S	**S**	**18 23 29.0**	**-1.7**
RUS	**Russkaya**	**4.62**	**67**	*e*P	**P**	**18 22 25.9**	**-0.1**
RUS				*e*S	**S**	**18 23 28.9**	**-1.8**
GNL	**Ganaly**	**4.84**	**52**	*i* P	**P**	**18 22 28.0**	**-0.2**
PET	**Petropavlovsk**	**4.90**	**61**	*e*PN	**P**	**18 22 29.9**	**+1.2**
PET				*e*S	**S**	**18 23 37.2**	**+1.7**
PET				smax			
	comp=N,38nm,0.6s						
PET				smax			
	comp=E,23nm,0.6s						
PET	**Petropavlovsk**	**4.90**	**61**	P	**P**	**18 22 29.1**	**+0.4**
PET	**Petropavlovsk**	**4.90**	**61**	P	**P**	**18 22 28.0**	**-0.7**
PET				*e*S	**S**	**18 23 33.4**	**-2.1**
KOK	**Koryaka**	**5.00**	**58**	*i* P	**P**	**18 22 30.1**	**+0.4**
KOK				*e*S	**S**	**18 23 36.6**	**-0.7**
AVH	**Avacha**	**5.05**	**59**	*e*P	**P**	**18 22 30.1**	**0.0**
UGLR	**Uglovaya**	**5.07**	**60**	*e*P	**P**	**18 22 31.3**	**+1.0**
UGLR				*e*S	**S**	**18 23 40.3**	**+1.9**
SMAR	**Somma**	**5.08**	**59**	*e*P	**P**	**18 22 30.9**	**+0.5**
NLC	**Nalytchevo**	**5.34**	**61**	P	**P**	**18 22 32.4**	**-0.6**
NLC				S	**S**	**18 23 41.0**	**-2.2**
NLC	**Nalytchevo**	**5.34**	**61**	*e*P	**P**	**18 22 32.4**	**-0.6**
NLC				*e*S	**S**	**18 23 41.8**	**-1.4**
ESO	**Esso**	**6.63**	**37**	*e*P	**P**	**18 22 47.4**	**+1.2**
TUMR	**Tumrok**	**6.81**	**46**	*e*P	**P**	**18 22 49.0**	**+0.9**
TUMR				*e*S	**S**	**18 24 09.8**	**-0.6**
YSS	**Yuzh-Sakhalins**	**6.99**	**239⇑**	*e*PN	**P**	**18 22 47.0**	**-2.9**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**6.99**	**239**	*e*P	**P**	**18 22 48.2**	**-1.7**
KMNR	**Kamenistaya**	**7.15**	**43**	*e*P	**P**	**18 22 54.3**	**+2.6**
KOZ	**Kozyrevsk**	**7.20**	**40**	*e*P	**P**	**18 22 54.5**	**+2.3**
MKZ	**Mys Kozlova**	**7.21**	**55**	*e*P	**P**	**18 22 50.6**	**-1.7**
MKZ				*e*S	**S**	**18 24 13.1**	**-4.9**
KPT	**Kopyto**	**7.28**	**42**	*e*P	**P**	**18 22 57.3**	**+4.2**
SRDR	**Sredinnyy**	**7.31**	**39**	*e*P	**P**	**18 22 54.7**	**+1.3**
KRSR	**Krestovskiy**	**7.59**	**42**	*e*P	**P**	**18 22 57.4**	**+1.0**
KLY	**Klyuchi**	**7.69**	**41**	P	**P**	**18 22 58.5**	**+1.0**
KLY	**Klyuchi**	**7.69**	**41**	*e*P	**P**	**18 22 58.4**	**+0.9**
KBG	**Krutoberegovo**	**8.56**	**47**	*i* P	**P**	**18 23 06.0**	**-1.0**
KBG				*e*S	**S**	**18 24 40.9**	**-3.5**
KBG				Smax			
	comp=Z,60nm,1.2s						
KBTR	**Krutoberegovo**	**8.58**	**47**	P	**P**	**18 23 06.0**	**-1.3**
KBTR				S	**S**	**18 24 40.0**	**-4.9**
KBTR	**Krutoberegovo**	**8.58**	**47**	*e*P	**P**	**18 23 04.3**	**-3.0**
KBTR				*e*S	**S**	**18 24 38.9**	**-6.0**
FX1	**Attu Island--F**	**13.50**	**73**	*e*P	**P**	**18 24 01.8**	**+1.6**
KAMR	**Kamenskoye**	**14.10**	**29**	*e*P	**P**	**18 24 05.1**	**-1.2**
ILAR	**Eielson Array**	**34.08**	**42**	P	**P**	**18 27 08.9**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.1,baz=279,slow=11,SNR=16						
INK	**Inuvik**	**38.80**	**35**	*e*P	**P**	**18 27 47.4**	**-1.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**38.80**	**35**	P	**P**	**18 27 48.0**	**-0.5**
	comp=Z,1.8nm,0.3s,mb3.9,baz=297,slow=6.6,SNR=40						
INK	**Inuvik**	**38.80**	**35**	*e*P	**P**	**18 27 47.4**	**-1.1**
	comp=Z,2.0nm,0.4s,mb3.9						
YKA	**Yellowknife Ar**	**48.29**	**38**	P	**P**	**18 29 01.9**	**-1.2**
	comp=Z,0.4nm,0.5s,mb3.0,baz=302,slow=7.2,SNR=11						
FINES	**FINESS Array B**	**59.89**	**333**	P	**P**	**18 30 19.5**	**-5.9**
	comp=Z,0.6nm,0.8s,mb3.0,baz=34,slow=6.9,SNR=4.5						
PDAR	**Pinedale Array**	**63.18**	**55**	P	**P**	**18 30 47.8**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.3,baz=20,slow=1.9,SNR=5.9						
AKASG	**Malin Array Be**	**67.57**	**324**	P	**P**	**18 31 07.7**	**-6.9**
	comp=Z,0.1nm,0.4s,mb2.8,baz=8.8,slow=7.9,SNR=4.1						
WRA	**Warramunga Arr**	**72.11**	**197**	P	**P**	**18 31 42.0**	**-0.1**
	comp=Z,1.2nm,0.5s,mb3.7,baz=14,slow=6.4,SNR=7.8						
ASAR	**Alice Springs**	**75.82**	**197**	P	**P**	**18 32 03.8**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.4,baz=10,slow=4.9,SNR=19						

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*NEIC **03** 18:39:37.0,49.85N×130.09W,h10km,mb3.6/2, ML3.9(PGC),After PGC.*
*PGC **03** 18:39:37.1,49.85N×130.09W,h10km,MLSn3.3/1,Mw3.9, West of Vancouver Island, British Columbia*
*IDC **03** 18:39:40.0±2.6,49.82N×129.75W,mb3.4/2,mb1 3.7/8, mb1mx3.5/24,mbtmp3.4/8,ML3.4/6,MS3.3/4,Ms1 3.3/4, ms1mx3.0/16,Error ellipse: s-maj=50.1km s-min=16.4km az=63.0*
ISC 03 18:39:39.2±1.3,49.95N±0.05×129.63W±0.09,h8km±12km, n33,σ1§24/49,mb3.4/4,1D,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.18**	**54**	Pn	**Pn**	**18 40 01.4**	**-0.5**
HOLB				Sn	**Sn**	**18 40 19.5**	**+1.2**
BPBC	**Brooks Peninsu**	**1.21**	**80**	Pn	**Pn**	**18 40 01.4**	**-1.0**
BPBC				Sn	**Sn**	**18 40 20.4**	**+1.2**
	comp=Z,144nm,0.2s						
BPBC				Trac		18 40 22.2	
	comp=Z,144nm,0.2s						
PHC	**Port Hardy**	**1.59**	**61**	Pn	**Pn**	**18 40 07.5**	**-0.4**
PHC				Sn	**Sn**	**18 40 30.1**	**+1.2**
PHC				Trac		18 40 34.0	
	comp=Z,29nm,0.3s						
EDB	**Eliza Dome**	**1.62**	**92**	Pn	**Pn**	**18 40 07.5**	**-0.8**
EDB				Sn	**Sn**	**18 40 28.8**	**-0.8**
EDB				Trac		18 40 32.6	
	comp=Z,35nm,0.7s						
MAYB	**Maynard**	**1.64**	**73**	Pn	**Pn**	**18 40 07.8**	**-0.8**
MAYB				Sn	**Sn**	**18 40 28.8**	**-1.2**
	comp=Z,12nm,0.3s						
MAYB				Trac		18 40 33.8	
	comp=Z,12nm,0.3s						
WOSB	**Woss**	**1.98**	**83**	Pn	**Pn**	**18 40 13.9**	**+0.5**
WOSB				Sn	**Sn**	**18 40 40.3**	**+1.7**
	comp=Z,9.0nm,0.2s						
WOSB				Trac		18 40 41.4	
	comp=Z,9.0nm,0.2s						
NCRB	**Newcastle Ridg**	**2.34**	**78**	Pn	**Pn**	**18 40 19.0**	**+0.5**
NCRB				Sn	**Sn**	**18 40 47.8**	**+0.1**
	comp=Z,22nm,0.5s						
NCRB				Trac		18 40 52.2	
	comp=Z,22nm,0.5s						
BBB	**Bella Bella**	**2.43**	**23**	Pn	**Pn**	**18 40 18.8**	**-1.1**
	40nm,0.3s,baz=217,slow=12,SNR=177						
BBB				Sn	**Sn**	**18 40 49.2**	**-0.8**
	23nm,0.3s,baz=294,slow=23,SNR=18						
BBB				LR	LR	18 41 23.0	
	comp=Z,226nm,18.8s,baz=130,slow=40						
BBB	**Bella Bella**	**2.43**	**23**	Pn	**Pn**	**18 40 18.8**	**-1.1**
BBB				Sn	**Sn**	**18 40 49.2**	**-0.8**
BBB				LR	LR	18 41 23.0	
BBB	**Bella Bella**	**2.43**	**23**	⇓Pn	**Pn**	**18 40 18.8**	**-1.1**
BBB				Sn	**Sn**	**18 40 48.2**	**-1.8**
BBB				Trac		18 40 50.9	
	comp=Z,39nm,0.2s						
BTB	**Buttle Lake**	**2.71**	**99**	Pn	**Pn**	**18 40 25.2**	**+1.4**
BTB				Sn	**Sn**	**18 40 58.4**	**+1.3**
	comp=Z,39nm,0.8s						
BTB				Trac		18 41 03.4	
	comp=Z,39nm,0.8s						
CBB	**Campbell River**	**2.75**	**87**	Pn	**Pn**	**18 40 24.5**	**+0.1**
CBB				Sn	**Sn**	**18 40 57.0**	**-1.3**
CBB				Trac		18 41 03.0	
	comp=Z,7.0nm,0.3s						
OZB	**Mount Ozzard**	**2.87**	**109**	Pn	**Pn**	**18 40 26.1**	**-0.1**
OZB				Sn	**Sn**	**18 41 00.4**	**-0.9**
OZB				Trac		18 41 04.7	
	comp=Z,17nm,0.5s						
MGB	**Mount Grey**	**3.36**	**105**	Pn	**Pn**	**18 40 33.2**	**+0.2**
MGB				Sn	**Sn**	**18 41 12.7**	**-0.8**
	comp=Z,3.0nm,0.2s						
MGB				Trac		18 41 13.8	
	comp=Z,3.0nm,0.2s						
TXB	**Texada**	**3.37**	**92**	Pn	**Pn**	**18 40 33.9**	**+0.7**
NLLB	**Nanaimo Lost L**	**3.74**	**99**	Pn	**Pn**	**18 40 36.8**	**-1.7**
NLLB				Sn	**Sn**	**18 41 21.3**	**-1.9**
NLLB				Trac		18 41 31.2	
	comp=Z,5.0nm,0.4s						
SHB	**Sechelt**	**3.74**	**93**	Pn	**Pn**	**18 40 39.3**	**+0.8**
SHB				Sn	**Sn**	**18 41 22.2**	**-1.2**
SHB				Trac		18 41 30.2	
	comp=Z,25nm,0.7s						
WSLR	**Whistler**	**4.33**	**85**	Pn	**Pn**	**18 40 49.1**	**+2.3**
WSLR				Sn	**Sn**	**18 41 40.5**	**+2.4**
WSLR				Trac		18 41 50.9	
	comp=Z,4.0nm,0.6s						
RUBB	**Prince Rupert**	**4.40**	**355**	Pn	**Pn**	**18 40 44.9**	**-2.9**
LLLB	**Lillooet**	**5.01**	**80**	Pn	**Pn**	**18 40 55.5**	**-0.9**
FSB	**Fort Saint Jam**	**5.58**	**34**	Pn	**Pn**	**18 41 04.2**	**-0.3**
FSB				Trac		18 42 38.5	
	comp=Z,2.0nm,0.7s						
BMBC	**Bull Mountain**	**7.59**	**34**	Pn	**Pn**	**18 41 33.3**	**+0.5**
DLBC	**Dease Lake**	**8.51**	**359**	Pn	**P**	**18 41 46.2**	**+0.6**
	0.3nm,0.3s,baz=198,slow=19,SNR=3.2						
DLBC				LR	LR	18 45 24.3	
	comp=Z,130nm,19.3s,baz=64,slow=40						
YBH	**Yreka Blue Hor**	**9.53**	**147**	LR	LR	18 45 19.5	
	comp=Z,291nm,18.2s,baz=288,slow=36						
NVAR	**Mina Array Bea**	**14.07**	**141**	Pn	**P**	**18 43 01.1**	**+0.2**
	0.4nm,0.3s,baz=356,slow=14,SNR=3.8						
YKA	**Yellowknife Ar**	**15.03**	**28**	Pn	**P**	**18 43 11.7**	**-1.6**
	0.1nm,0.3s,baz=214,slow=12,SNR=6.8						
PDAR	**Pinedale Array**	**15.58**	**110**	Pn	**P**	**18 43 23.0**	**+2.4**
	0.0nm,0.3s,baz=310,slow=7.0,SNR=7.5						
ILAR	**Eielson Array**	**17.43**	**335**	P	**P**	**18 43 44.9**	**+0.9**
	0.0nm,0.3s,baz=146,slow=12,SNR=6.1						
INK	**Inuvik**	**18.51**	**355**	P	**P**	**18 43 58.8**	**+1.4**
	0.0nm,0.3s,baz=168,slow=11,SNR=3.5						
INK				LR	LR	18 51 20.6	
	comp=Z,157nm,18.2s,baz=239,slow=38						
SDCO	**Great Sand Dun**	**21.14**	**116**	P	**P**	**18 44 24.4**	**-2.4**
	1.8nm,0.9s,mb3.4						
ULM	**Lac du Bonnet**	**21.55**	**76**	P	**P**	**18 44 32.8**	**+2.0**
	1.8nm,0.7s,mb3.6,baz=305,slow=12,SNR=4.1						
WMOK	**Wichita Mounta**	**27.16**	**112**	P	**P**	**18 45 23.1**	**-1.6**
	1.4nm,0.7s,mb3.6						
TXAR	**Lajitas Array**	**28.45**	**127**	P	**P**	**18 45 38.2**	**+1.8**
	0.2nm,0.8s,mb2.8,baz=338,slow=6.7,SNR=4.1						

IDC 03 18:42:13.9±1.5,0.42N×122.08E,mb3.5/3,mb1 3.9/4, mb1mx3.6/16,mbtmp3.7/4,ML4.3/1,Error ellipse: s-maj=135.1km s-min=22.8km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.74**	**169**	P	P	18 46 35.7	-0.8
	0.8nm,0.3s,baz=3.5,slow=8.4,SNR=19						
WRA	**Warramunga Arr**	**23.54**	**150**	P	P	18 47 26.2	-0.7
	0.9nm,0.5s,baz=326,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**26.56**	**155**	P	P	18 47 53.0	-2.5
	0.4nm,0.5s,baz=341,slow=14,SNR=11						
MKAR	**Makanchi Array**	**57.77**	**329**	P	P	18 52 06.9	-2.3
	0.4nm,0.4s,baz=128,slow=8.5,SNR=9.3						

IDC 03 18:53:59.1±7.0,0.14N×97.60E,mb3.7/3,mb1 3.8/3, mb1mx3.4/14,mbtmp3.7/3,Error ellipse: s-maj=377.3km s-min=27.9km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.44**	**126**	P	P	19 01 56.1	-1.6
	0.5nm,0.6s,baz=300,slow=7.9,SNR=8.4						
MKAR	**Makanchi Array**	**48.36**	**346**	P	P	19 02 42.5	-2.1
	0.8nm,0.5s,baz=167,slow=9.2,SNR=13						
ZAL	**Zalesovo**	**54.65**	**351**	P	P	19 03 29.8	-2.2
	0.6nm,0.6s,baz=305,slow=6.6,SNR=4.6						
TXAR	**Lajitas Array**	**144.34**	**33**	PKP	PKPdf	19 13 36.9	-2.8
	0.4nm,0.6s,baz=230,slow=0.8,SNR=5.3						

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*BJI **03** 19:25:40.3,0.73N×97.28E,h41km,mB5.1,mb4.6,Ms4.0, Msz3.7*
*MOS **03** 19:25:43.3±1.4,1.25N×96.98E,h33km,mb4.7/10,Error ellipse: s-maj=32.4km s-min=12.7km az=98.2*
*IDC **03** 19:25:44.4±0.9,1.32N×97.10E,h23km±3km,mb3.9/9, mb1 4.0/10,mb1mx3.9/16,mbtmp4.0/10,ML4.2/1,MS3.6/3, Ms1 3.7/3,ms1mx3.0/26,Error ellipse: s-maj=40.7km s-min=12.5km az=55.0*
*NEIC **03** 19:25:44.6±0.5,1.32N×97.17E,mb4.6/16,Error ellipse: s-maj=13.4km s-min=7.5km az=56.0*
ISC 03 19:25:42.7±0.6,1.34N±0.08×97.2E±0.1,h23km, h23km±.8km:pP-P,n55,σ0§94/52,mb4.4/31,MS3.9/4,2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.22**	**41⇑**	*e*P	**Pn**	**19 27 02.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**17.09**	**6**	P	**P**	**19 29 40.9**	**-1.2**
	0.3nm,0.3s,baz=196,slow=11,SNR=16						
CMAR				LR	LR	19 37 16.3	
	comp=Z,150nm,21.7s,baz=185,slow=40						
CMAR	**Chiang Mai Arr**	**17.09**	**6**	P	**P**	**19 29 40.9**	**-1.2**
CMAR				LR	LR	19 37 16.2	
KMI	**Kunming**	**24.24**	**12**	P	**P**	**19 31 01.5**	**+2.3**
KMI				AP		19 31 07.9	
KMI				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.3						
KMI				AMB	AMB		
	comp=Z,98nm,4.3s						
KMI				LR	LR		
	comp=N,364nm,14.4s,MS4.1						
KMI				LR	LR		
	comp=E,203nm,12.3s,MS4.1						
KMI				LR	LR		
	comp=Z,419nm,13.2s,MS4.1						
KMI	**Kunming**	**24.24**	**12**	P	**P**	**19 31 01.5**	**+2.3**
	comp=Z,16nm,1.3s,mb4.3						
KMI				pP		19 31 07.9	
KMI				S	S	19 35 34.5	+21
KMI				LR	LR		
	comp=Z,420nm,13.2s,MS4.1						
SHL	**Shillong**	**24.62**	**348**	*e*P	**P**	**19 31 04.0**	**+1.0**
GYA	**Guiyang**	**26.58**	**19⇑**	*i*P	**P**	**19 31 21.9**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**28.21**	**339**	*e*P	**P**	**19 31 37.1**	**+1.0**
	comp=Z,43nm,1.0s,mb5.0						
PKI	**Pulchoki**	**28.42**	**338**	*e*P	**P**	**19 31 38.6**	**+0.6**
DMN	**Daman**	**28.57**	**337**	*e*P	**P**	**19 31 40.3**	**+1.0**
	comp=Z,20nm,1.2s,mb4.7						
KKN	**Kakani**	**28.67**	**338**	*e*P	**P**	**19 31 40.6**	**+0.4**
	comp=Z,19nm,1.0s,mb4.8						
KKN	**Kakani**	**28.67**	**338**	*e*P	**P**	**19 31 40.6**	**+0.4**
KKN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
LSA	**Lhasa**	**28.78**	**349**	P	**P**	**19 31 42.3**	**+1.1**
LSA	**Lhasa**	**28.78**	**349**	*e*P	**P**	**19 31 42.2**	**+1.0**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
LSA	**Lhasa**	**28.78**	**349**	*e*P	**P**	**19 31 42.2**	**+1.0**
	comp=Z,6.2nm,0.7s,mb4.5						
GKN	**Gorkha**	**29.11**	**337**	*e*P	**P**	**19 31 44.6**	**+0.4**
	comp=Z,30nm,0.9s,mb5.0						
KOLN	**Koldanda**	**29.33**	**335**	*e*P	**P**	**19 31 46.8**	**+0.6**
	comp=Z,18nm,0.6s,mb4.9						
ENH	**Enshi**	**31.05**	**21**	*e*P	**P**	**19 32 00.2**	**-1.2**
	comp=Z,12nm,0.5s,mb5.0						
ENH				*e*	pP	19 32 06.3	-1.8
GTA	**Gaotai**	**37.96**	**3**	P	**P**	**19 33 00.6**	**0.0**
GTA				AP	pP	19 33 09.9	+2.4
GTA				XP	sP	19 33 14.0	+3.6
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**42.11**	**122**	P	**P**	**19 33 35.5**	**+0.3**
	comp=Z,1.5nm,0.5s,mb3.9,baz=301,slow=9.1,SNR=8.2						
WRA				pP	pP	19 33 42.5	+0.4
	comp=Z,1.9nm,0.5s,baz=302,slow=9.1,SNR=7.5						
WRAB	**Tennant Creek**	**42.11**	**122**	*e*P	**P**	**19 33 35.3**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
WRAB	**Tennant Creek**	**42.11**	**122**	*e*P	**P**	**19 33 35.3**	**+0.1**
	comp=Z,3.9nm,0.5s,mb4.3						
BJT	**Baijiatuau**	**42.18**	**22**	*e*P	**P**	**19 33 36.6**	**+1.1**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**42.18**	**22**	*e*P	**P**	**19 33 36.6**	**+1.1**
	comp=Z,9.6nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**19 33 46.5**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.6,baz=305,slow=7.5,SNR=7.3						
ASAR				pP	pP	19 33 53.5	+0.2
	comp=Z,1.1nm,0.6s,baz=302,slow=8.2,SNR=7.0						
SONM	**Songino Array**	**46.99**	**8**	P	**P**	**19 34 14.4**	**+0.4**
	comp=Z,4.6nm,0.8s,mb4.5,baz=189,slow=9.4,SNR=39						
SONM				pP	pP	19 34 20.9	-0.1
	comp=Z,3.8nm,0.8s,baz=190,slow=9.3,SNR=12						
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**19 34 15.0**	**+0.1**
	comp=Z,2.0nm,0.5s,mb4.3,baz=161,slow=8.3,SNR=23						
MKAR				pP	pP	19 34 22.4	+0.5
	comp=Z,2.0nm,0.5s,baz=158,slow=8.3,SNR=8.3						
MKAR	**Makanchi Array**	**47.10**	**346**	P	**P**	**19 34 15.0**	**+0.1**
MKAR				pP	pP	19 34 22.4	+0.5
ULN	**Ulaanbaatar**	**47.12**	**9**	*e*P	**P**	**19 34 15.2**	**+0.2**
ULN				*e*	pP	19 34 21.9	-0.1
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ULN	**Ulaanbaatar**	**47.12**	**9**	*e*P	**P**	**19 34 15.2**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.9						
ULN				*e*	pP	19 34 21.9	-0.2
ZAK	**Zakamensk**	**49.13**	**5**	*e*P	**P**	**19 34 30.5**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
CN2	**Changchun**	**49.18**	**27**	*e*P	**P**	**19 34 30.4**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
TLY	**Talaya**	**50.45**	**5**	*e*P	**P**	**19 34 41.2**	**+0.5**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
TLY				MLR	MLR		
	comp=Z,95nm,20.0s,MS3.8						
KURK	**Kurchatov**	**51.66**	**345**	*e*P	**P**	**19 34 49.3**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
KURK	**Kurchatov**	**51.66**	**345**	*e*P	**P**	**19 34 49.3**	**-0.6**
	comp=Z,3.4nm,0.8s,mb4.3						
CTA	**Charters Tower**	**52.56**	**117**	LR	LR	19 59 04.8	
	comp=Z,63nm,18.0s,MS3.7,baz=66,slow=38						
ZAL	**Zalesovo**	**53.41**	**351**	P	**P**	**19 35 02.1**	**-0.9**
	comp=Z,4.8nm,0.4s,mb4.8,baz=314,slow=5.8,SNR=21						
ZAL				pP	pP	19 35 09.8	-0.3
	comp=Z,3.1nm,0.5s,baz=303,slow=6.4,SNR=5.5						
STKA	**Stephens Creek**	**53.45**	**132**	P	**P**	**19 35 04.2**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.2,baz=21,slow=9.6,SNR=3.8						
STKA				pP	pP	19 35 11.6	+0.9
	comp=Z,1.9nm,0.5s,baz=266,slow=4.5,SNR=2.3						
STKA	**Stephens Creek**	**53.45**	**132**	P	**P**	**19 35 04.2**	**+0.7**
STKA				pP	pP	19 35 11.6	+0.9
NVS	**Novosibirsk**	**54.54**	**350**	*e*P	**P**	**19 35 09.0**	**-2.2**
KLR	**Kul'dur**	**56.13**	**27**	*e*P	**P**	**19 35 20.2**	**-2.6**
CHKZ	**Chkalovo**	**56.59**	**341**	*e*P	**P**	**19 35 25.0**	**-1.1**
CHKZ				*e*		19 35 30.1	
CHKZ				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.5						
CHKZ	**Chkalovo**	**56.59**	**341**	*e*P	**P**	**19 35 25.0**	**-1.1**
	comp=Z,34nm,0.6s,mb5.6						
CHKZ				*e*	pP	19 35 30.1	-3.1
BOD	**Bodaibo**	**57.87**	**11**	*e*P	**P**	**19 35 33.2**	**-1.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
YSS	**Yuzh-Sakhalins**	**60.23**	**34**	*e*P	**P**	**19 35 52.0**	**+0.4**
YSS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**60.23**	**34**	*e*P	**P**	**19 35 52.0**	**+0.4**
	comp=Z,11nm,1.0s,mb4.8						
YAK	**Yakutsk**	**65.28**	**16**	*e*P	**P**	**19 36 23.6**	**-1.2**
YAK				*e*	pP	19 36 30.4	-1.7
YAK				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
YAK	**Yakutsk**	**65.28**	**16**	*e*P	**P**	**19 36 23.6**	**-1.2**
	comp=Z,18nm,0.8s,mb5.1						
YAK				*e*	pP	19 36 30.4	-1.7
MA2	**Magadan**	**71.20**	**26**	*e*P	**P**	**19 37 01.1**	**-0.7**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
MA2	**Magadan**	**71.20**	**26**	*e*P	**P**	**19 37 01.1**	**-0.7**
	comp=Z,3.9nm,0.7s,mb4.5						
LBTB	**Lobatse**	**73.95**	**244**	LR	LR	20 09 33.2	
	comp=Z,56nm,18.3s,MS3.9,baz=135,slow=36						
AKASG	**Malin Array Be**	**75.15**	**322**	P	**P**	**19 37 24.3**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.6,baz=94,slow=4.3,SNR=4.5						
AKASG				pP	pP	19 37 31.5	-0.8
	comp=Z,0.2nm,0.3s,baz=85,slow=5.1,SNR=2.7						
FINES	**FINESS Array B**	**79.87**	**332**	P	**P**	**19 37 50.5**	**-0.5**
	comp=Z,0.4nm,0.4s,mb3.7,baz=104,slow=7.9,SNR=9.3						
FINES				pP	pP	19 37 57.8	-0.6
	comp=Z,0.4nm,0.5s,baz=88,slow=6.0,SNR=2.0						
GERES	**GERESS Array B**	**84.71**	**319**	P	**P**	**19 38

ATH.
*CSEM **03** 19:38:26.4±0.1, 40.50N×23.76E, h8km, MD3.1, Error ellipse: s-maj=2.1km s-min=1.9km az=102.0*
ISC 03 19:38:25.3±0.5, 40.50N±0.03×23.76E±0.04, h8km±6km, n13, σ0°67/20, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.24**	**134**	*e*Pg	**Pg**	**19 38 30.9**	**+0.7**
PLG	**Polygyros**	**0.27**	**243**	⇑*i*PB	**Pb**	**19 38 31.9**	**0.0**
PLG				*e*SB	**Sb**	**19 38 35.8**	**-0.5**
SOH	**Sokhos**	**0.45**	**317**	*e*Pg	**Pg**	**19 38 34.6**	**+0.3**
PAIG	**Paliouri**	**0.57**	**186**	*e*Pg	**Pg**	**19 38 37.0**	**+0.1**
PAIG				*e*Sg	**Sg**	**19 38 45.0**	**+0.5**
THE	**Thessaloniki**	**0.62**	**283**	*e*Pg	**Pg**	**19 38 37.9**	**+0.2**
THE				*e*Sg	**Sg**	**19 38 46.0**	**-0.1**
SRS	**Serrai**	**0.63**	**348**	*e*Pg	**Pg**	**19 38 37.3**	**-0.6**
SRS				*e*Sg	**Sg**	**19 38 47.2**	**+0.8**
NVR	**Nevrokopi**	**0.85**	**5**	*e*PN	**Pn**	**19 38 42.8**	**-0.6**
LIT	**Litokhoron**	**1.05**	**248**	*e*Pg	**Pg**	**19 38 46.1**	**-0.2**
LIT				*e*Sg	**Sg**	**19 39 00.3**	**0.0**
LOS	**Limnos**	**1.16**	**119**	*e*Pg	**Pg**	**19 38 46.2**	**-2.2**
LOS				*e*Sg	**Sg**	**19 39 04.1**	**+0.1**
NEO	**Neokhori**	**1.26**	**199**	*e*PB	**Pb**	**19 38 48.6**	**-0.2**
NEO				*e*SN	**Sn**	**19 39 07.0**	**+0.6**
RDO	**Rodhopi**	**1.50**	**64**	*e*PN	**Pn**	**19 38 53.8**	**+1.2**
ALN	**Alexandroupoli**	**1.78**	**76**	*e*Pb	**Pb**	**19 38 57.5**	**-0.3**
ALN	**Alexandroupoli**	**1.78**	**76**	*e*Pb	**Pb**	**19 38 57.5**	**-0.3**

*MEX **03** 19:49:30.4±0.4, 13.69N×92.77W, h75km±173km, MD4.4*
*NEIC **03** 19:49:42.9±2.5, 14.49N×92.10W, h114km±25km, mb4.1/8, Error ellipse: s-maj=37.0km s-min=11.1km az=57.0*
*IDC **03** 19:49:44.2±4.7, 14.33N×92.28W, h123km±44km, mb3.5/6, mb1 3.7/8, mb1mx3.4/22, mbtmp3.9/8, MS3.5/1, Ms1 3.4/1, ms1mx2.6/20, Error ellipse: s-maj=89.2km s-min=17.5km az=48.0*
ISC 03 19:49:27.0±2.3, 13.87N±0.06×92.85W±0.04, h2km±16km, n33, σ1°15/37, mb4.0/11, MS3.5/1, 4C, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.26**	**69**	⇑*e*P	**Pb**	**19 49 51.7**	**+0.5**
JAT				*e*S	**Sb**	**19 50 09.1**	**+1.3**
TP2	**Tecpan 2**	**1.99**	**63**	⇑*e*P	**Pn**	**19 50 01.7**	**-0.5**
IXG	**Ixpaco**	**2.35**	**82**	*e*P	**Pn**	**19 50 06.2**	**-1.0**
CCIG	**Comitan**	**2.50**	**16**	⇑*i*P	**Pn**	**19 50 10.0**	**+0.7**
CCIG				*i* S	**Sn**	**19 50 40.8**	**0.0**
RBDL	**Robledal**	**3.08**	**85**	*e*P	**Pn**	**19 50 16.9**	**-0.8**
RTR	**El Retiro**	**3.12**	**89**	*e*P	**Pn**	**19 50 19.3**	**+1.1**
SNJE	**San Jose**	**3.15**	**90**	*e*P	**Pn**	**19 50 16.7**	**-2.0**
BOQS	**Boqueron**	**3.47**	**92**	*e*P	**Pn**	**19 50 22.2**	**-1.1**
LFRS	**El Faro**	**3.69**	**93**	*e*P	**Pn**	**19 50 26.9**	**+0.5**
CMIG	**Matias Romero**	**3.75**	**329**	*i* P	**Pn**	**19 50 27.5**	**+0.3**
CMIG				*i* S	**Sn**	**19 51 12.7**	**0.0**
LCBS	**La Ceiba**	**3.77**	**93**	⇑*e*P	**Pn**	**19 50 26.8**	**-0.7**
OXX	**Oaxaca**	**4.91**	**311**	*e*P	**Pn**	**19 50 50.0**	**+6.3**
OXX				*i* S	**Sn**	**19 51 50.0**	**+8.1**
VHO	**Vista Hermosa**	**4.91**	**311**	*e*P	**Pn**	**19 50 44.3**	**+0.7**
VHO				*i* S	**Sn**	**19 51 40.5**	**-1.5**
PPM	**Popocatepetl**	**7.57**	**314**	*e*P	**Pn**	**19 51 20.5**	**-0.7**
TEIG	**Tepich**	**7.69**	**34**	*e*P	**Pn**	**19 51 19.4**	**-3.3**
	12nm,0.4s						
JTS	**JuntasAbangare**	**8.51**	**114**	P	**P**	**19 51 40.0**	**+5.8**
	0.8nm,0.3s,baz=310,slow=18,SNR=3.5						
TXAR	**Lajitas Array**	**18.36**	**329**	P	**P**	**19 53 47.8**	**+3.1**
	0.1nm,0.3s,baz=151,slow=13,SNR=21						
OTAV	**Otavalo**	**19.67**	**132**	P	**P**	**19 54 00.6**	**+0.3**
ROSC	**El Rosal**	**20.34**	**114**	P	**P**	**19 54 10.1**	**+2.5**
	1.1nm,0.3s,baz=103,slow=21,SNR=4.6						
MNTX	**Cornudas Mount**	**21.14**	**329**	*e*P	**P**	**19 54 15.8**	**0.0**
	2.5nm,0.8s,mb3.6						
WMOK	**Wichita Mounta**	**21.46**	**347**	*e*P	**P**	**19 54 18.7**	**-0.2**
	1.1nm,0.6s,mb3.4						
CPRX	**Cap Rock**	**21.55**	**334**	*e*P	**P**	**19 54 19.2**	**-0.7**
AMTX	**Amarillo**	**22.39**	**341**	*e*P	**P**	**19 54 27.0**	**-1.3**
	10nm,0.8s,mb4.3						
ANMO	**Albuquerque**	**24.32**	**332**	P	**P**	**19 54 49.2**	**+2.0**
	0.8nm,0.5s,mb3.4,baz=143,slow=14,SNR=4.5						
ANMO	**Albuquerque**	**24.32**	**332**	*e*P	**P**	**19 54 48.7**	**+1.6**
	1.5nm,0.8s,mb3.5						
BLO	**Bloomington**	**25.81**	**11**	*e*P	**P**	**19 54 56.2**	**-5.2**
	16nm,0.7s,mb4.7						
NVAR	**Mina Array Bea**	**33.26**	**322**	P	**P**	**19 56 10.2**	**+2.3**
	0.8nm,0.5s,mb3.9,baz=127,slow=9.7,SNR=4.7						
SNOW	**Snow King Moun**	**33.26**	**336**	*e*P	**P**	**19 56 08.6**	**+0.7**
	12nm,1.0s,mb4.8						
HLID	**Hailey**	**34.90**	**332**	P	**P**	**19 56 23.1**	**+1.1**
	2.1nm,0.9s,mb4.1						
SIV	**San Ignacio**	**43.21**	**132**	P	**P**	**19 57 31.4**	**-0.2**
	0.7nm,0.6s,mb3.6,baz=312,slow=8.7,SNR=4.7						
SCHQ	**Schefferville**	**45.63**	**21**	LR	LR	20 16 54.7	
	comp=Z,52nm,19.7s,MS3.5,baz=37,slow=36						
YKA	**Yellowknife Ar**	**50.96**	**347**	P	**P**	**19 58 30.1**	**-1.8**
	3.2nm,0.7s,mb4.4,baz=150,slow=7.4,SNR=86						
ILAR	**Eielson Array**	**62.63**	**337**	P	**P**	**19 59 54.2**	**-0.8**
	1.0nm,0.9s,mb3.9,baz=138,slow=4.7,SNR=6.2						

*IDC **03** 19:51:39.1±1.0, 7.46N×123.94E, mb3.8/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, Error ellipse: s-maj=80.6km s-min=18.7km az=72.0*
*NEIC **03** 19:51:41.6±0.7, 7.36N×123.70E, h15km, mb4.3/1, Error ellipse: s-maj=21.0km s-min=13.5km az=66.0*
*MAN **03** 19:51:42.3, 7.34N×123.41E, h14km, mb4.8, ML3.7, MS3.7*
ISC 03 19:51:41.3±1.1, 7.23N±0.04×123.43E±0.04, h21km±8km, n26, σ1°09/31, mb3.9/8, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.62**	**355**	*e*P	**Pb**	**19 51 52.6**	**-0.7**
PAGZ				*e*S	**Sb**	**19 52 00.5**	**-1.0**
IPIL	**Ipil**	**1.02**	**303**	*e*P	**Pb**	**19 52 00.2**	**+0.1**
IPIL				*e*S	**Sb**	**19 52 14.0**	**+0.9**
ZMPH	**Zamboanga City**	**1.39**	**259**	⇓*i*P	**Pn**	**19 52 06.4**	**+0.7**
BUKP	**Musuan**	**1.74**	**68**	*e*P	**Pn**	**19 52 11.5**	**+0.7**
BUKP				*e*S	**Sn**	**19 52 34.6**	**+2.2**
CGP	**Cagayan de Oro**	**1.75**	**46**	⇓*e*P	**Pn**	**19 52 10.5**	**-0.4**
CGP				*e*S	**Sn**	**19 52 32.5**	**-0.1**
SNPH	**Sibulan**	**2.11**	**355**	⇑*i*P	**Sn**	**19 52 43.9**	**+2.0**
TBP	**Tagbilaran**	**2.48**	**10**	*e*P	**Pn**	**19 52 21.4**	**0.0**
TBP						19 52 49.7	
BUTP	**Butuan**	**2.77**	**51**	*e*P	**Pn**	**19 52 29.9**	**+4.4**
MATI	**Mati**	**2.82**	**96**	*e*P	**Pn**	**19 52 25.0**	**-1.2**
LLP	**Lapu-Lapu**	**3.11**	**10**	*e*P	**Pn**	**19 52 30.9**	**+0.5**
LLP				*e*S	**Sn**	**19 53 06.5**	**-0.8**
MSLP	**Maasin**	**3.21**	**26**	*e*P	**Pn**	**19 52 32.0**	**+0.2**
SCPH	**Surigao**	**3.25**	**39**	⇑*e*P	**Pn**	**19 52 33.4**	**+1.1**
GUIM	**Jordan**	**3.48**	**346**	*e*P	**Pn**	**19 52 36.2**	**+0.7**
CUYO	**Cuyo Island**	**4.32**	**327**	*e*P	**Pn**	**19 52 47.0**	**-0.5**
ENPP	**El Nido**	**5.59**	**315**	*e*P	**Pn**	**19 53 03.9**	**-1.6**
BATP	**Bataraza**	**5.79**	**286**	*e*P	**Pn**	**19 53 08.1**	**-0.2**
KKM	**Kota Kinabalu**	**7.27**	**261**	*e*P	**Pn**	**19 53 30.7**	**+1.7**
FITZ	**Fitzroy Crossi**	**25.26**	**175**	P	**P**	**19 57 08.0**	**+0.1**
	4.9nm,0.9s,mb4.0,baz=354,slow=9.4,SNR=4.7						
ASAR	**Alice Springs**	**32.36**	**162**	P	**P**	**19 58 12.1**	**+0.3**
	0.5nm,0.7s,mb3.5,baz=337,slow=6.6,SNR=7.3						
STKA	**Stephens Creek**	**42.58**	**157**	P	**P**	**19 59 36.6**	**-1.1**
	2.9nm,0.6s,mb4.2,baz=344,slow=11,SNR=8.1						
SONM	**Songino Array**	**42.99**	**343**	P	**P**	**19 59 39.2**	**-1.6**
	0.5nm,0.8s,mb3.3,baz=172,slow=8.7,SNR=4.2						
MKAR	**Makanchi Array**	**52.83**	**325**	P	**P**	**20 00 56.5**	**-1.1**
	0.7nm,0.8s,mb3.6,baz=121,slow=8.8,SNR=5.6						
KURK	**Kurchatov**	**57.05**	**328**	*e*P	**P**	**20 01 27.7**	**-0.5**
	2.3nm,0.7s,mb4.3						
AKASG	**Malin Array Be**	**87.13**	**321**	P	**P**	**20 04 29.3**	**+2.3**
	0.5nm,0.2s,mb4.4,baz=92,slow=9.4,SNR=4.4						
AKASG	**Malin Array Be**	**87.13**	**321**	P	**P**	**20 04 29.3**	**+2.3**
YKA	**Yellowknife Ar**	**97.65**	**23**	P	**P**	**20 05 13.3**	**-2.1**
	0.2nm,0.6s,mb3.8,baz=304,slow=5.0,SNR=5.6						

*MOS **03** 19:56:24.6±1.5, 6.01N×61.01E, h10km, mb4.9/3, Error ellipse: s-maj=24.4km s-min=15.3km az=108.2*
*IDC **03** 19:56:26.7±1.2, 6.12N×60.82E, mb3.9/11, mb1 4.0/11, mb1mx3.9/18, mbtmp3.9/11, MS3.5/6, Ms1 3.5/6, ms1mx3.3/25, Error ellipse: s-maj=29.4km s-min=23.9km az=160.0*
*BJI **03** 19:56:27.2, 5.90N×60.90E, h10km, mB5.1, mb4.4*
*NEIC **03** 19:56:27.2±0.5, 5.93N×60.89E, h10km, mb4.6/2, Error ellipse: s-maj=14.7km s-min=12.5km az=82.0*
ISC 03 19:56:25.3±0.6, 5.95N±0.10×60.8E±0.1, h10km, n28, σ1°15/25, mb3.9/13, MS3.6/5, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**17.62**	**139**	P	**P**	**20 00 30.9**	**-1.9**
ATD	**Arta Tunnel**	**18.62**	**289**	LR	LR	20 06 38.9	
	comp=Z,68nm,21.3s,baz=0.8,slow=33						
HYB	**Hyderabad**	**20.73**	**55**	*i* P	**P**	**20 01 14.0**	**+5.2**
RAYN	**Ar Rayn**	**22.87**	**321**	P	**P**	**20 01 30.7**	**+0.4**
	113nm,1.1s,SNR=8.2						
KMBO	**Kilima Mbogo**	**24.57**	**254**	P	**P**	**20 01 49.8**	**+2.8**
	4.5nm,1.0s,mb4.0,baz=54,slow=13,SNR=12						
KMBO				LR	LR	20 10 35.9	
	comp=Z,156nm,18.9s,MS3.5,baz=90,slow=34						
KMBO	**Kilima Mbogo**	**24.57**	**254**	*e*P	**P**	**20 01 50.0**	**+3.0**
KMBO				LR	LR	20 10 35.9	
LSA	**Lhasa**	**37.08**	**47**	P	**P**	**20 03 39.0**	**+1.3**
AAK	**Ala-Archa**	**38.49**	**16**	*e*P	**P**	**20 03 50.4**	**+1.0**
AAK				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.3						
AAK	**Ala-Archa**	**38.49**	**16**	*e*P	**P**	**20 03 50.4**	**+1.0**
	comp=Z,12nm,1.7s,mb4.3						
LSZ	**Lusaka**	**38.61**	**237**	P	**P**	**20 03 50.8**	**+0.1**
KIV	**Kislovodsk**	**41.08**	**340**	*e*P	**P**	**20 04 07.8**	**-3.0**
BRTR	**Keskin Array B**	**41.60**	**328**	P	**P**	**20 04 15.7**	**+0.5**
	comp=Z,1.8nm,1.0s,mb3.7,baz=150,slow=10.0,SNR=7.2						
MKAR	**Makanchi Array**	**44.70**	**21**	P	**P**	**20 04 40.9**	**+0.6**
	comp=Z,1.4nm,0.9s,mb3.8,baz=210,slow=9.8,SNR=7.4						
MKAR				LR	LR	20 24 37.1	
	comp=Z,57nm,18.3s,MS3.5,baz=240,slow=38						
BVAR	**Borovoye Array**	**47.58**	**8**	P	**P**	**20 05 03.4**	**+0.3**
	comp=Z,0.1nm,0.3s,mb3.3,baz=90,slow=3.0,SNR=4.3						
CHKZ	**Chkalovo**	**48.25**	**8**	*e*P	**P**	**20 05 08.1**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.8						
CHKZ	**Chkalovo**	**48.25**	**8**	*e*P	**P**	**20 05 08.1**	**-0.1**
	comp=Z,17nm,1.6s,mb4.8						
ZAL	**Zalesovo**	**51.65**	**18**	P	**P**	**20 05 33.0**	**-1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=280,slow=7.8,SNR=6.8						
ZAL				LR	LR	20 28 02.5	
	comp=Z,51nm,20.8s,MS3.5,baz=344,slow=37						
ZAL	**Zalesovo**	**51.65**	**18**	P	**P**	**20 05 33.0**	**-1.3**
ZAL				LR	LR	20 28 02.5	
AKASG	**Malin Array Be**	**51.82**	**335**	P	**P**	**20 05 35.4**	**-0.2**
	comp=Z,0.2nm,0.2s,mb3.6,baz=138,slow=6.7,SNR=9.7						
AKASG	**Malin Array Be**	**51.82**	**335**	P	**P**	**20 05 35.4**	**-0.2**
SONM	**Songino Array**	**56.95**	**35**	P	**P**	**20 06 13.5**	**+0.2**
	comp=Z,2.8nm,1.1s,mb4.2,baz=225,slow=5.2,SNR=13						
FINES	**FINESS Array B**	**61.12**	**342**	P	**P**	**20 06 40.5**	**-1.5**
	comp=Z,0.8nm,0.8s,mb3.9,baz=162,slow=4.4,SNR=4.2						
FINES				LR	LR	20 35 28.5	
	comp=Z,43nm,20.6s,MS3.6,baz=142,slow=38						
FINES	**FINESS Array B**	**61.12**	**342**	P	**P**	**20 06 40.5**	**-1.5**
FINES				LR	LR	20 35 28.5	
DBIC	**Dimbokro**	**65.25**	**275**	LR	LR	20 34 13.7	
	comp=Z,80nm,20.5s,MS3.9,baz=182,slow=35						
NOA	**NORSAR Array B**	**66.20**	**336**	P	**P**	**20 07 14.1**	**-1.1**
	comp=Z,1.0nm,0.8s,mb3.9,baz=120,slow=7.5,SNR=4.1						
ESDC	**Sonseca Array**	**66.90**	**311**	P	**P**	**20 07 20.1**	**0.0**
	comp=Z,1.0nm,0.8s,mb3.9,baz=90,slow=6.2,SNR=5.6						
ASAR	**Alice Springs**	**77.03**	**116**	P	**P**	**20 08 22.5**	**+1.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=302,slow=6.0,SNR=4.7						
TXAR	**Lajitas Array**	**141.89**	**338**	PKP	PKPdf	20 16 01.0	-0.2
	comp=Z,0.3nm,0.7s,baz=135,slow=1.8,SNR=3.7						

*NEIC **03** 20:01:04.8±0.7, 8.67S×116.80E, h167km±16km, mb4.4/2, Error ellipse: s-maj=25.6km s-min=18.0km az=179.0*
*DJA **03** 20:01:08.5±0.7, 8.41S×116.50E, h160km, MD4.6/4, ML5.4/3, Error ellipse: s-maj=56.1km s-min=25.4km az=4.0*
*IDC **03** 20:01:10.8±3.6, 9.19S×116.83E, h194km±29km, mb3.5/4, mb1 3.6/5, mb1mx3.2/15, mbtmp4.0/5, Error ellipse: s-maj=64.9km s-min=28.8km az=16.0*
ISC 03 20:01:04.3±0.8, 8.8S±0.2×116.8E±0.1, h165km±9km, n18, σ1°06/29, mb4.2/3, 6C-1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.71**	**293**	⇑*i*Pn	**P**	**20 01 30.5**	**+1.7**
	1μm,0.2s						
KEDI				⇑*i*Sn	**S**	**20 01 46.3**	**-1.3**
RATI	**Rata**	**1.23**	**272**	⇑*i*Pn	**P**	**20 01 34.5**	**+1.8**
RATI				*i* Sn	**S**	**20 01 50.4**	**-4.3**
RATI	**Rata**	**1.23**	**272**	⇑*i*Pn	**P**	**20 01 34.5**	**+1.8**
	5μm,0.2s						
RATI				⇓*i*Sn	**S**	**20 01 53.4**	**-1.3**
KELI	**Kelakatan**	**2.32**	**283**	⇑*i*Pn	**P**	**20 01 44.8**	**+0.2**
	1μm,0.2s						
SRDI	**Scrawed**	**2.62**	**276**	⇑*i*Pn	**P**	**20 01 48.0**	**-0.2**
	4μm,0.2s						
MBWA	**Marble Bar**	**12.64**	**167**	*e*P	**P**	**20 03 59.4**	**+0.1**
MBWA				*e*S	**S**	**20 06 08.6**	**-8.3**
FITZ	**Fitzroy Crossi**	**12.66**	**138**	*e*P	**P**	**20 04 05.3**	**+5.8**
	11nm,2.0s						
FITZ				*e*S	**S**	**20 06 16.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**12.66**	**138**	P	**P**	**20 04 01.8**	**+2.3**
	0.8nm,0.3s,baz=327,slow=6.2,SNR=15						
FITZ				S	**S**	**20 06 17.1**	**-0.2**
	1.3nm,0.3s,baz=184,slow=18,SNR=9.2						
FITZ	**Fitzroy Crossi**	**12.66**	**138**	*e*P	**P**	**20 04 05.3**	**+5.8**
FITZ				*e*S	**S**	**20 06 16.7**	**-0.6**
FITZ				S	**S**	**20 06 17.1**	**-0.2**
WRA	**Warramunga Arr**	**20.30**	**125**	P	**P**	**20 05 28.2**	**-0.9**
	1.0nm,0.3s,baz=299,slow=12,SNR=7.7						
WRA				S	**S**	**20 09 03.7**	**+1.5**
	0.7nm,0.6s,baz=293,slow=21,SNR=4.8						
WRAB	**Tennant Creek**	**20.30**	**125**	*e*P	**P**	**20 05 28.0**	**-1.1**
	2.4nm,0.4s						
WB2	**Warramunga Arr**	**20.31**	**125**	*e*P	**P**	**20 05 28.4**	**-0.8**
WB2				*e*S	**S**	**20 09 02.5**	**+0.1**
ASPA	**Alice Springs**	**22.09**	**134**	*e*P	**P**	**20 05 46.9**	**+0.2**
ASAR	**Alice Springs**	**22.10**	**134**	P	**P**	**20 05 46.8**	**0.0**
	3.4nm,0.6s,mb3.9,baz=308,slow=9.2,SNR=49						
ASAR				S	**S**	**20 09 36.5**	**+2.0**
	0.6nm,1.1s,baz=350,slow=33,SNR=3.1						
NWAO	**Narrogin (SRO)**	**24.04**	**179**	P	**P**	**20 06 04.2**	**-1.3**
	16nm,1.1s,mb4.5,baz=20,slow=9.7,SNR=2.9						
NWAO	**Narrogin (SRO)**	**24.04**	**179**	*e*P	**P**	**20 06 04.4**	**-1.1**
	38nm,1.3s,mb4.8						
FORT	**Forrest**	**24.30**	**156**	*e*P	**P**	**20 06 09.3**	**+1.3**
	377nm,0.5s						
STKA	**Stephens Creek**	**32.56**	**138**	P	**P**	**20 07 21.3**	**-0.8**
	0.8nm,0.3s,mb3.9,baz=310,slow=14,SNR=5.2						

KRSC 03 20:01:23.3±1.2, 53.83N×162.15E, h17km±2km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.77**	**341**	*e*P	Pb	20 01 37.9	+0.1
MKZ				*e*S	Sb	20 01 49.3	+1.5
SPN	**Mys Shipunski**	**1.47**	**241**	*e*P	Pn	20 01 49.7	+0.5
SPN				*e*S	Sb	20 02 08.9	+0.9
NLC	**Nalytchevo**	**1.80**	**250**	*e*P	Pn	20 01 53.6	-0.4
NLC				*e*S	Sn	20 02 15.7	-0.9
TUMR	**Tumrok**	**1.87**	**322**	*e*P	Pn	20 01 54.3	-0.6
TUMR				*e*S	Sn	20 02 17.0	-1.2
SMAR	**Somma**	**2.08**	**255**	*e*P	Pn	20 01 58.6	+0.6
SMAR				*e*S	Sn	20 02 24.7	+1.1
UGLR	**Uglovaya**	**2.08**	**254**	*e*P	Pn	20 01 58.1	+0.1
UGLR				*e*S	Sn	20 02 24.4	+0.7
AVH	**Avacha**	**2.11**	**256**	*e*P	Pn	20 01 58.9	+0.4
AVH				*e*S	Sn	20 02 25.7	+1.2
KOK	**Koryaka**	**2.16**	**257**	*i* P	Pn	20 01 59.6	+0.4
KOK				*e*S	Sn	20 02 27.0	+1.2
KMNR	**Kamenistaya**	**2.23**	**331**	*e*P	Pn	20 02 01.3	+1.2
KMNR				*e*S	Sn	20 02 29.0	+1.6
PET	**Petropavlovsk**	**2.24**	**250**	*e*P	Pn	20 02 00.4	+0.1
PET				*e*S	Sn	20 02 28.1	+0.3
KBTR	**Krutoberegovo**	**2.41**	**9**	*e*P	Pn	20 02 04.8	+2.0
KBTR				*e*S	Sn	20 02 34.7	+2.5
KBG	**Krutoberegovo**	**2.45**	**7**	*e*S	Sn	20 02 32.7	-0.4
KBG				Smax			
	290nm,0.9s						
GNL	**Ganaly**	**2.50**	**269**	*e*P	Pn	20 02 04.8	+0.8
GNL				*e*S	Sn	20 02 33.1	-1.3
KOZ	**Kozyrevsk**	**2.59**	**330**	*e*P	Pn	20 02 07.7	+2.4
RUS	**Russkaya**	**2.60**	**239**	*e*P	Pn	20 02 05.7	+0.3
RUS				*e*S	Sn	20 02 35.2	-1.7
KRMR	**Karymshinskiy**	**2.61**	**249**	*e*S	Sn	20 02 37.5	+0.3
BKI	**Bering**	**2.62**	**57**	*e*P	Pn	20 02 03.6	-2.1
BKI				*e*S	Sn	20 02 32.4	-5.0
KLY	**Klyuchi**	**2.63**	**342**	*e*P	Pn	20 02 06.5	+0.6
GRL	**Gorelyy**	**2.77**	**244**	*e*P	Pn	20 02 09.0	+1.2
GRL				*e*S	Sn	20 02 41.3	+0.2
SRDR	**Sredinnyy**	**2.86**	**332**	*e*P	Pn	20 02 09.2	+0.1
ESO	**Esso**	**2.90**	**318**	*i* P	Pn	20 02 10.3	+0.7
ESO				Smax			
	30nm,0.9s						
APC	**Apacha**	**3.12**	**255**	*e*P	Pn	20 02 13.6	+0.7
APC				*e*S	Sn	20 02 51.3	+1.1

*IDC **03** 20:20:14.7±0.9, 2.73N×96.08E, mb4.1/12, mb1 4.2/13, mb1mx4.1/18, mbtmp4.1/13, ML4.0/1, Error ellipse: s-maj=43.8km s-min=14.4km az=52.0*
*MOS **03** 20:20:17.2±1.2, 2.67N×96.04E, h33km, mb4.8/10, Error ellipse: s-maj=23.5km s-min=8.4km az=103.8*
*BJI **03** 20:20:18.4, 2.80N×96.20E, h30km, mB4.9, mb4.3, Ms4.7, Msz4.3*
*NEIC **03** 20:20:19.5±0.5, 2.76N×96.20E, h30km, mb4.6/12, Error ellipse: s-maj=14.0km s-min=6.9km az=47.0*
ISC 03 20:20:18.4±0.5, 2.80N±0.08×96.27E±0.08, h33km, (h32km±8km: pP-P), n70, σ1°08/67, mb4.3/32, MS4.1/2, 2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.02**	**60**	*e*P	**P**	**20 21 34.2**	**+0.9**
SNG	**Songkhla**	**6.13**	**45**	P	**P**	**20 21 55.0**	**+6.0**
	594nm,0.9s						
KKTK	**Khon Kaen**	**14.91**	**25**	P	**P**	**20 23 54.0**	**+5.3**
	370nm,0.7s						
CMAR	**Chiang Mai Arr**	**15.78**	**9**	Pn	**P**	**20 24 01.4**	**+1.6**
	0.2nm,0.3s,baz=205,slow=12,SNR=12						
NANT	**Nan**	**16.48**	**15**	P	**P**	**20 24 17.0**	**+8.2**
KKM	**Kota Kinabalu**	**20.14**	**80**	*e*P	**P**	**20 24 53.6**	**+0.9**
HYB	**Hyderabad**	**22.66**	**311**	*i* P	**P**	**20 25 20.0**	**+1.8**
HYB				*e*S	**S**	**20 29 24.0**	**+4.6**
SHL	**Shillong**	**23.02**	**350**	*e*	**P**	**20 25 21.0**	**-0.7**
KMI	**Kunming**	**23.05**	**15**	P	**P**	**20 25 27.5**	**+5.5**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.0						
KMI	**Kunming**	**23.05**	**15**	P	**P**	**20 25 27.5**	**+5.5**
	comp=Z,6.0nm,0.9s,mb4.0						
JIRN	**Jiri**	**26.53**	**340**	*e*P	**P**	**20 25 56.8**	**+1.7**
	comp=Z,30nm,0.7s,mb4.9						
PKI	**Pulchoki**	**26.73**	**338**	*e*P	**P**	**20 25 58.0**	**+1.0**
DMN	**Daman**	**26.88**	**338**	*e*P	**P**	**20 25 59.5**	**+1.2**
	comp=Z,26nm,1.1s,mb4.7						
KKN	**Kakani**	**26.98**	**338**	*e*P	**P**	**20 25 59.7**	**+0.5**
	comp=Z,27nm,0.9s,mb4.8						
KKN	**Kakani**	**26.98**	**338**	*e*P	**P**	**20 25 59.7**	**+0.5**
KKN				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5						
LSA	**Lhasa**	**27.19**	**350**	P	**P**	**20 26 00.8**	**-0.4**
LSA	**Lhasa**	**27.19**	**350**	*e*P	**P**	**20 26 00.5**	**-0.7**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
LSA	**Lhasa**	**27.19**	**350**	*e*P	**P**	**20 26 00.5**	**-0.7**
	comp=Z,6.8nm,0.8s,mb4.2						
GKN	**Gorkha**	**27.41**	**337**	*e*P	**P**	**20 26 03.7**	**+0.5**
	comp=Z,30nm,0.8s,mb4.9						
KOLN	**Koldanda**	**27.62**	**335**	*e*P	**P**	**20 26 05.2**	**+0.1**
	comp=Z,28nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**35.62**	**127**	P	**P**	**20 27 14.9**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.5,baz=335,slow=3.7,SNR=6.7						
GTA	**Gaotai**	**36.58**	**5**	P	**P**	**20 27 23.0**	**-0.2**
GTA				AP	pP	20 27 32.4	-0.5
GTA				XP	sP	20 27 36.4	-0.8
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
HHC	**Hu-ho-hao-te**	**40.31**	**18**	*e*P	**P**	**20 27 51.5**	**-2.8**
HHC				AP	pP	20 28 01.4	-2.7
HHC				XP	sP	20 28 04.

BVAR Borovoye Array 54.44 341 P **P** **20 29 43.5 -1.2**
comp=Z,1.9nm,0.8s,mb4.1,baz=142,slow=9.9,SNR=13
CHKZ Chkalovo 54.92 342 *eP* **P** **20 29 46.9 -1.3**
STKA Stephens Creek 55.12 132 P **P** **20 29 50.0 +0.1**
comp=Z,2.9nm,1.0s,mb4.3,baz=243,slow=16,SNR=3.4
STKA Stephens Creek 55.12 132 P **P** **20 29 50.0 0.0**
KLR Kul'dur 55.26 28 *eP* **P** **20 29 46.7 -4.0**
BOD Bodaibo 56.62 11 *eP* **P** **20 29 59.9 -0.5**
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
YAK Yakutsk 64.16 17 *eP* **P** **20 30 56.0 +4.3**
YAK *e* pP 20 31 05.7 +3.8
YAK pmax pmax
comp=Z,11nm,1.1s,mb4.8
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.9
BRTR Keskin Array B 67.35 312 P **P** **20 31 11.8 -0.7**
comp=Z,0.7nm,0.6s,mb3.9,baz=143,slow=7.2,SNR=3.3
MOS Moscow 70.49 329 *eP* **P** **20 31 29.9 -1.6**
AKASG Malin Array Be 73.43 322 P **P** **20 31 47.0 -2.2**
comp=Z,0.2nm,0.3s,mb3.5,baz=89,slow=4.5,SNR=6.9
AKASG Malin Array Be 73.43 322 P **P** **20 31 47.0 -2.2**
FINES FINESS Array B 78.16 332 P **P** **20 32 14.8 -0.9**
comp=Z,0.7nm,0.5s,mb3.9,baz=112,slow=10,SNR=5.7
GERES GERESS Array B 83.00 319 P **P** **20 32 43.6 +1.9**
comp=Z,1.0nm,0.8s,mb3.9,baz=98,slow=6.9,SNR=9.9
YKA Yellowknife Ar 110.80 15 PP PP 20 39 32.3 +2.6
comp=Z,0.3nm,0.9s,baz=324,slow=7.1,SNR=4.0
PDAR Pinedale Array 128.99 24 PKP PKPdf 20 39 24.5 +1.1
comp=Z,0.1nm,0.4s,baz=90,slow=2.7,SNR=2.7
TXAR Lajitas Array 142.77 29 PKP PKPdf 20 39 49.4 +0.3
comp=Z,0.3nm,0.8s,baz=90,slow=0.9,SNR=2.6
TXAR Lajitas Array 142.77 29 PKP PKPdf 20 39 49.4 +0.3

*IDC **03** 20:23:03.0±0.9, 2.03N×96.68E, mb4.3/13, mb1 4.5/14, mb1mx4.3/19, mbtmp4.3/14, ML4.5/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/14, Error ellipse: s-maj=42.4km s-min=13.4km az=50.0*
*BJI **03** 20:23:04.8, 1.77N×96.93E, h40km, mB5.0, mb4.8, Ms4.4, Msz4.4*
*MOS **03** 20:23:06.4±0.9, 2.11N×96.81E, h33km, mb4.9/12, Error ellipse: s-maj=19.6km s-min=8.9km az=106.8*
*NEIC **03** 20:23:07.5±0.3, 2.03N×96.72E, h30km, mb4.6/12, Error ellipse: s-maj=11.7km s-min=5.1km az=52.0*
ISC 03 20:23:06.5±0.5, 2.06N±0.07×96.75E±0.08, h35km, h35km±1.8km: pP-P, n66, σ0s85/64, mb4.6/37, MS4.2/6, 3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.04**	**50**	*eP*	**P**	**20 24 22.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.44**	**7**	Pn	**P**	**20 26 55.5**	**-0.7**
0.7nm,0.3s,baz=198,slow=12,SNR=51							
NANT	**Nan**	**17.09**	**13**	P	**P**	**20 27 06.0**	**+1.7**
138nm,1.0s							
SHL	**Shillong**	**23.84**	**349**	*e*	**P**	**20 28 18.0**	**+0.5**
GYA	**Guiyang**	**26.07**	**21**	⇑*iP*	**P**	**20 28 39.4**	**+0.6**
GYA				AP	pP	20 28 49.8	+1.2
GYA				XP	sP	20 28 52.9	+0.1
GYA				AMB	AMB		
comp=Z,20nm,0.7s,mb4.8							
GYA				AMB	AMB		
comp=Z,90nm,3.8s							
GYA				LR	LR		
comp=N,510nm,19.8s,MS4.3							
GYA				LR	LR		
comp=E,570nm,15.8s,MS4.3							
GYA				LR	LR		
comp=Z,840nm,16.2s,MS4.4							
JIRN	**Jiri**	**27.39**	**339**	*eP*	**P**	**20 28 51.2**	**+0.2**
comp=Z,43nm,0.9s,mb5.0							
PKI	**Pulchoki**	**27.60**	**338**	*eP*	**P**	**20 28 52.5**	**-0.3**
DMN	**Daman**	**27.75**	**337**	*eP*	**P**	**20 28 54.5**	**+0.3**
comp=Z,17nm,0.8s,mb4.7							
KKN	**Kakani**	**27.84**	**338**	*eP*	**P**	**20 28 54.7**	**-0.3**
comp=Z,22nm,0.9s,mb4.8							
KKN	**Kakani**	**27.84**	**338**	*eP*	**P**	**20 28 54.7**	**-0.3**
KKN				pmax	pmax		
comp=Z,11nm,0.9s,mb4.5							
LSA	**Lhasa**	**28.00**	**350**	P	**P**	**20 28 57.0**	**+0.5**
LSA	**Lhasa**	**28.00**	**350**	*eP*	**P**	**20 28 56.9**	**+0.4**
GKN	**Gorkha**	**28.28**	**337**	*eP*	**P**	**20 28 58.0**	**-1.0**
comp=Z,16nm,0.6s,mb4.8							
KOLN	**Koldanda**	**28.50**	**335**	*eP*	**P**	**20 29 01.5**	**+0.6**
comp=Z,18nm,0.8s,mb4.8							
XAN	**Xi'an**	**33.79**	**18**	P	**P**	**20 29 45.5**	**-1.9**
XAN				AMB	AMB		
comp=Z,4.0nm,0.8s,mb4.4							
SMLA	**Simla**	**34.34**	**329**	*i*	**P**	**20 29 43.1**	**-9.0**
comp=Z,24nm,0.6s,mb5.3							
FITZ	**Fitzroy Crossi**	**34.79**	**126**	*eP*	**P**	**20 29 55.6**	**-0.5**
comp=Z,14nm,2.0s,mb4.5							
FITZ	**Fitzroy Crossi**	**34.79**	**126**	P	**P**	**20 29 55.7**	**-0.4**
comp=Z,3.0nm,0.6s,mb4.4,baz=320,slow=5.6,SNR=4.2							
THN	**Thein Dam**	**36.12**	**329**	*e*	**P**	**20 30 05.7**	**-1.6**
GTA	**Gaotai**	**37.28**	**4**	P	**P**	**20 30 16.9**	**-0.1**
GTA				AP	pP	20 30 25.8	-1.5
GTA				XP	sP	20 30 28.3	-3.5
GTA				AMB	AMB		
comp=Z,23nm,0.8s,mb5.1							
GTA				AMB	AMB		
comp=Z,159nm,5.7s							
GTA				LR	LR		
comp=N,236nm,19.9s,MS4.1							
GTA				LR	LR		
comp=E,237nm,22.2s,MS4.1							
GTA				LR	LR		
comp=Z,277nm,21.8s,MS4.0							
KSH	**Kashi**	**41.81**	**336**	*eP*	**P**	**20 30 56.0**	**+1.4**
KSH				*e*AP	pP	20 31 06.1	+1.1
KSH				*e*XP	sP	20 31 09.0	-0.4
KSH				AMB	AMB		
comp=Z,370nm,4.2s							
WRA	**Warramunga Arr**	**42.87**	**122**	P	**P**	**20 31 03.7**	**+0.2**
comp=Z,3.5nm,0.6s,mb4.2,baz=301,slow=9.3,SNR=12							
WRAB	**Tennant Creek**	**42.87**	**122**	*eP*	**P**	**20 31 03.1**	**-0.4**
WRAB				pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.6							
WRAB	**Tennant Creek**	**42.87**	**122**	*eP*	**P**	**20 31 03.1**	**-0.4**
comp=Z,6.8nm,0.6s,mb4.5							
WB2	**Warramunga Arr**	**42.88**	**122**	⇓*iP*	**P**	**20 31 03.7**	**+0.1**
ASPA	**Alice Springs**	**44.26**	**128**	*eP*	**P**	**20 31 15.1**	**+0.3**
ASAR	**Alice Springs**	**44.26**	**128**	P	**P**	**20 31 14.9**	**+0.2**
comp=Z,2.2nm,0.7s,mb4.0,baz=302,slow=8.1,SNR=13							
AAK	**Ala-Archa**	**45.04**	**337**	*i* P	**P**	**20 31 22.6**	**+1.9**
AAK				pmax	pmax		
comp=Z,18nm,1.2s,mb4.8							
AAK	**Ala-Archa**	**45.04**	**337**	*eP*	**P**	**20 31 21.4**	**+0.6**
comp=Z,6.2nm,1.1s,mb4.3							
MKAR	**Makanchi Array**	**46.31**	**346**	*i* P	**P**	**20 31 30.7**	**0.0**
MKAR				pmax	pmax		
comp=Z,14nm,0.7s							
MKAR	**Makanchi Array**	**46.31**	**346**	P	**P**	**20 31 31.0**	**+0.3**
comp=Z,13nm,0.8s,mb4.9,baz=162,slow=7.5,SNR=34							
SONM	**Songino Array**	**46.36**	**9**	P	**P**	**20 31 31.4**	**+0.3**
comp=Z,7.2nm,0.8s,mb4.6,baz=190,slow=8.8,SNR=20							
SONM				PcP	PcP	20 33 06.7	+0.5
comp=Z,1.5nm,0.8s,baz=198,slow=4.6,SNR=2.9							
ULN	**Ulaanbaatar**	**46.49**	**10**	*eP*	**P**	**20 31 33.0**	**+0.8**
ULN				pmax	pmax		
comp=Z,13nm,1.1s,mb4.8							
ULN	**Ulaanbaatar**	**46.49**	**10**	*eP*	**P**	**20 31 33.0**	**+0.8**
comp=Z,13nm,1.1s,mb4.8							
KKAR	**Karatay Array**	**47.10**	**334**	*i* P	**P**	**20 31 38.0**	**+1.0**
KKAR				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.7							
ZAK	**Zakamensk**	**48.47**	**6**	*eP*	**P**	**20 31 47.5**	**-0.1**
ZAK				*e*		20 33 40.0	
ZAK				pmax	pmax		
comp=Z,2.0nm,1.7s,mb3.9							
ZAK				pmax	pmax		
comp=Z,7.0nm,1.6s,mb4.4							
ZAK				pmax	pmax		
comp=Z,2.0nm,1.5s,mb3.9							
CN2	**Changchun**	**48.75**	**28**	*eP*	**P**	**20 31 49.4**	**-0.5**
CN2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb5.0							
TLY	**Talaya**	**49.79**	**6**	*eP*	**P**	**20 31 58.7**	**+0.9**
TLY				pmax	pmax		
comp=Z,10.0nm,2.5s,mb4.4							
KURK	**Kurchatov**	**50.86**	**345**	⇓*iP*	**P**	**20 32 05.9**	**0.0**
KURK				pmax	pmax		
comp=Z,15nm,1.4s,mb4.7							
KURK	**Kurchatov**	**50.86**	**345**	*eP*	**P**	**20 32 06.2**	**+0.3**
comp=Z,4.6nm,0.8s,mb4.5							
MDJ	**Mudanjiang**	**51.35**	**30**	P	**P**	**20 32 09.9**	**+0.2**
MDJ				AP	pP	20 32 21.4	+1.2
MDJ				XP	sP	20 32 25.5	+1.0
MDJ				AMB	AMB		
comp=Z,8.0nm,1.3s,mb4.5							
MDJ				AMB	AMB		
comp=Z,55nm,5.6s							
MDJ				LR	LR		
comp=N,188nm,20.6s,MS4.4							
MDJ				LR	LR		
comp=E,304nm,20.6s,MS4.4							
MDJ				LR	LR		
comp=Z,286nm,16.9s,MS4.4							
PMG	**Port Moresby**	**51.49**	**104**	P	**P**	**20 32 11.0**	**-0.1**
comp=Z,12nm,0.6s,mb5.0,baz=352,slow=4.2,SNR=5.6							
ZAL	**Zalesovo**	**52.64**	**351**	P	**P**	**20 32 18.8**	**-0.5**
comp=Z,5.5nm,0.5s,mb4.8,baz=289,slow=6.1,SNR=20							
ZAL	**Zalesovo**	**52.64**	**351**	P	**P**	**20 32 18.8**	**-0.5**
NVS	**Novosibirsk**	**53.76**	**350**	⇑*iP*	**P**	**20 32 26.2**	**-1.4**
NVS				*e*S		20 40 15.7	
NVS				pmax	pmax		
comp=N,5.0nm,0.8s							
NVS				pmax	pmax		
comp=E,6.0nm,0.9s							
NVS				smax			
comp=N,28nm,2.1s							
NVS				smax			
comp=E,11nm,1.8s							
STKA	**Stephens Creek**	**54.26**	**132**	P	**P**	**20 32 31.9**	**+0.4**
comp=E,1.9nm,0.9s,mb4.0,baz=129,slow=23,SNR=2.8							
BVA0	**Borovoye Array**	**55.30**	**341**	*i* P	**P**	**20 32 37.9**	**-0.9**
BVA0				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.1							
BVAR	**Borovoye Array**	**55.30**	**341**	P	**P**	**20 32 38.0**	**-0.8**
comp=Z,2.7nm,0.7s,mb4.4,baz=141,slow=8.7,SNR=14							
KLR	**Kul'dur**	**55.70**	**27**	*eP*	**P**	**20 32 34.2**	**-7.5**
KLR				MLR	MLR		
comp=E,500nm,14.0s							
KLR				MLR	MLR		
comp=Z,1μm,14.0s,MS5.0							
CHKZ	**Chkalovo**	**55.78**	**342**	*eP*	**P**	**20 32 41.7**	**-0.6**
CHKZ				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.7							
CHKZ	**Chkalovo**	**55.78**	**342**	*eP*	**P**	**20 32 41.7**	**-0.6**
comp=Z,5.8nm,0.7s,mb4.7							
BOD	**Bodaibo**	**57.26**	**11**	*eP*	**P**	**20 32 50.8**	**-2.0**
BOD				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.4							
BOD				pmax	pmax		
comp=Z,11nm,1.1s,mb4.8							
BOD				pmax	pmax		
comp=Z,13nm,1.5s,mb4.7							
YSS	**Yuzh-Sakhalins**	**59.90**	**35**	*eP*	**P**	**20 33 10.2**	**-1.1**
KIV	**Kislovodsk**	**63.37**	**319**	⇑*iP*	**P**	**20 33 40.0**	**+5.3**
KIV				*e*PP	pP	20 33 50.8	+5.3
KIV				*e*SP	sP	20 33 55.9	+6.3
KIV				*i*		20 34 15.5	
KIV				*e*		20 35 53.5	
KIV				*i* S	**S**	**20 42 16.2**	**+13**
KIV				pmax	pmax		
comp=Z,15nm,1.5s,mb4.9							
KIV				MLR	MLR		
comp=Z,100nm,22.0s,MS4.0							
YAK	**Yakutsk**	**64.73**	**16**	*eP*	**P**	**20 33 42.2**	**-1.0**
YAK				pmax	pmax		
comp=Z,25nm,0.9s,mb5.2							
YAK	**Yakutsk**	**64.73**	**16**	*eP*	**P**	**20 33 42.2**	**-1.1**
comp=Z,25nm,0.9s,mb5.2							
BRTR	**Keskin Array B**	**68.21**	**312**	P	**P**	**20 34 05.7**	**0.0**
comp=Z,0.5nm,0.6s,mb3.7,baz=90,slow=4.3,SNR=2.5							
SEY	**Seymchan**	**73.16**	**23**	*eP*	**P**	**20 34 37.1**	**+1.9**
SEY				*e*		20 44 46.6	
SEY				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
IDI	**Anoyia**	**74.04**	**306**	LR	LR	21 12 17.2	
comp=Z,42nm,19.1s,MS3.8,baz=274,slow=40							
AKASG	**Malin Array Be**	**74.31**	**322**	P	**P**	**20 34 41.4**	**-0.7**
comp=Z,1.1nm,0.6s,mb4.0,baz=90,slow=4.7,SNR=5.9							
FINES	**FINESS Array B**	**79.04**	**332**	P	**P**	**20 35 08.8**	**+0.4**
comp=Z,2.0nm,0.6s,mb4.2,baz=91,slow=5.6,SNR=13							
GERES	**GERESS Array B**	**83.88**	**319**	P	**P**	**20 35 35.3**	**+1.3**
comp=Z,1.0nm,0.8s,mb4.0,baz=90,slow=4.0,SNR=6.4							
KHC	**Kasperske Hory**	**83.98**	**319**	*eP*	**P**	**20 35 35.0**	**+0.5**
KHC				*ex*	x	20 35 57.5	
MOX	**Moxa**	**85.33**	**320**	*eP*	**P**	**20 35 36.0**	**-5.2**
TXAR	**Lajitas Array**	**143.17**	**31**	PKP	PKPdf	20 42 37.4	-0.2
comp=Z,0.3nm,0.6s,baz=348,slow=1.5,SNR=4.7							
TXAR	**Lajitas Array**	**143.17**	**31**	PKP	PKPdf	20 42 37.4	-0.2

*IDC **03** 20:23:25.9±0.7, 2.04N×96.72E, mb4.6/16, mb1 4.7/17, mb1mx4.5/22, mbtmp4.6/17, ML4.2/1, Error ellipse: s-maj=29.8km s-min=13.1km az=48.0*
*BJI **03** 20:23:27.4, 1.78N×96.86E, h39km, mB5.2, mb5.1, Ms4.6, Msz4.4*
*MOS **03** 20:23:28.0±1.9, 2.01N×96.69E, h33km, mb5.1/25, Error ellipse: s-maj=13.2km s-min=6.7km az=105.5*
*HRVD **03** 20:23:29.9±1.3, 1.98N×96.72E, h35km±2km, MW4.8/33, Centroid moment Tensor Solution. LP body waves: s19,c22;Mantle waves: s33,c51; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.20±.23; $M_{\theta\theta}$-0.96±.13; $M_{\phi\phi}$-0.23±.17; $M_{r\theta}$0.86±.12; $M_{\theta\phi}$1.14±.09; $M_{\phi r}$-0.64±.21; Best double couple: $M_0$1.841×10^{16} NP1:ϕ_s305°, δ27°, λ89°. NP2:ϕ_s127°, δ63°, λ91°. Principal axes: T 1.542, Plg72°, Azm38°; N .595, Plg0°, Azm306°; P -2.14, Plg18°, Azm216°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **03** 20:23:29.9±0.3, 2.09N×96.75E, mb4.9/14 Error ellipse: s-maj=10.6km s-min=6.1km az=54.0*
ISC 03 20:23:27.9±0.4, 2.07N±0.06×96.75E±0.07, h27km, h27km±1.0km: pP-P, n88, σ1s19/88, mb4.8/43, MS4.4/9, 7C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.04**	**50**	*eP*	**Pn**	**20 24 45.0**	**+1.3**
KKTK	**Khon Kaen**	**15.38**	**23**	P	**P**	**20 27 10.0**	**+4.9**
CMAR	**Chiang Mai Arr**	**16.43**	**7**	Pn	**P**	**20 27 18.9**	**+0.5**
0.3nm,0.3s,baz=197,slow=12,SNR=18							
VIS	**Vishakhapatnam**	**20.39**	**321**	*eP*	**P**	**20 28 08.0**	**+2.4**
VIS				*e*S	**S**	**20 31 50.0**	**+2.6**
KMI	**Kunming**	**23.63**	**14**	P	**P**	**20 28 40.2**	**+2.2**
KMI				PP	PP	20 29 17.0	+6.2
KMI				S	**S**	**20 32 57.1**	**+10**
KMI				XS		20 33 05.6	
KMI				AMB	AMB		
comp=Z,25nm,1.5s,mb4.4							
KMI				AMB	AMB		
comp=Z,198nm,4.2s							
KMI				LR	LR		
comp=N,807nm,17.3s,MS4.4							
KMI				LR	LR		
comp=E,902nm,20.2s,MS4.4							
KMI				LR	LR		
comp=Z,836nm,15.7s,MS4.3							
KMI	**Kunming**	**23.63**	**14**	P	**P**	**20 28 40.2**	**+2.2**
KMI				*SP		20 28 47.4	
KMI						20 29 17.0	
KMI				S	**S**	**20 32 57.1**	**+10**
KMI				pmax	pmax		
comp=Z,25nm,1.5s,mb4.4							
KMI				MLR	MLR		
comp=Z,840nm,15.7s,MS4.3							
KMI	**Kunming**	**23.63**	**14**	P	**P**	**20 28 40.2**	**+2.2**
comp=Z,25nm,1.5s,mb4.4							
KMI				pP		20 28 44.5	
KMI				sP		20 28 47.4	
KMI				PP	PP	20 29 17.0	+6.2
KMI				S	**S**	**20 32 57.1**	**+10**
KMI				sS		20 33 05.6	
KMI				SS	SS	20 33 19.7	-17
KMI				LR	LR		
comp=Z,840nm,15.7s,MS4.3							
SHL	**Shillong**	**23.82**	**349**	*eP*	**P**	**20 28 41.0**	**+1.1**
SHL				*e*S	**S**	**20 32 58.0**	**+7.3**
LSA	**Lhasa**	**27.99**	**350**	*eP*	**P**	**20 29 17.0**	**-1.7**
LSA				pmax	pmax		
comp=Z,30nm,1.0s,mb4.9							
LSA	**Lhasa**	**27.99**	**350**	*eP*	**P**	**20 29 17.0**	**-1.7**
comp=Z,30nm,1.0s,mb4.9							
MBWA	**Marble Bar**	**32.23**	**137**	*eP*	**P**	**20 29 57.7**	**+1.2**
comp=Z,3.0nm,0.5s,mb4.4							
MBWA				*e*	pP	20 30 05.0	+0.4
LZH	**Lanzhou**	**34.48**	**10**	⇑*iP*	**P**	**20 30 14.5**	**-1.3**
LZH				AP	pP	20 30 23.5	-0.4
LZH				XP	sP	20 30 27.5	+0.1
LZH				AMB	AMB		
comp=Z,41nm,1.5s,mb5.1							
LZH				AMB	AMB		
comp=Z,103nm,5.0s							
LZH				LR	LR		
comp=N,385nm,12.8s							
LZH				LR	LR		
comp=Z,492nm,16.8s,MS4.3							
LZH	**Lanzhou**	**34.48**	**10**	⇑*iP*	**P**	**20 30 14.5**	**-1.3**
comp=Z,41nm,1.5s,mb5.1							
LZH				pP	pP	20 30 23.5	-0.4
LZH				sP	sP	20 30 27.5	+0.1
LZH				PP	PP	20 31 27.7	-4.3
LZH				LR	LR		
comp=Z,490nm,16.8s,MS4.3							
FITZ	**Fitzroy Crossi**	**34.80**	**126**	P	**P**	**20 30 18.8**	**+0.1**
comp=Z,5.2nm,0.7s,mb4.5,baz=312,slow=6.8,SNR=4.3							
NJ2	**Nanjing**	**36.37**	**33**	*eP*	**P**	**20 30 31.1**	**-0.8**
NJ2				AP	pP	20 30 40.4	+0.4
NJ2				XP	sP	20 30 44.1	+0.6
NJ2				AMB	AMB		
comp=Z,110nm,0.5s,mb6.0							
NJ2				AMB	AMB		
comp=Z,1μm,4.1s							
NJ2				LR	LR		
comp=N,2μm,24.0s,MS4.9							
NJ2				LR	LR		
comp=E,2μm,26.0s,MS4.9							
NJ2				LR	LR		
comp=Z,3μm,16.0s							
GTA	**Gaotai**	**37.27**	**4**	P	**P**	**20 30 39.6**	**+0.2**
GTA				AP	pP	20 30 47.1	-0.4
GTA				XP	sP	20 30 50.6	-0.4
GTA				PCP	PcP	20 32 59.1	0.0
GTA				S	**S**	**20 36 28.4**	**+3.9**
GTA				AMB	AMB		
comp=Z,34nm,1.0s,mb5.1							
GTA				AMB	AMB		
comp=Z,170nm,6.1s							
GTA				LR	LR		
comp=N,247nm,19.5s,MS4.2							
GTA				LR	LR		
comp=E,275nm,19.1s,MS4.2							
GTA				LR	LR		
comp=Z,277nm,21.4s,MS4.0							
BTO	**Baotou**	**40.20**	**16**	*eP*	**P**	**20 31 02.8**	**-1.0**
BTO				AMB	AMB		
comp=Z,11nm,0.4s,mb4.9							
HHC	**Hu-ho-hao-te**	**40.86**	**17**	⇑*iP*	**P**	**20 31 10.2**	**+1.0**
HHC				AP	pP	20 31 20.1	+2.7
HHC				XP	sP	20 31 24.1	+3.3
HHC				PP	PP	20 32 49.1	+2.6
HHC				PCS		20 36 54.9	
HHC				S	**S**	**20 37 20.0**	**+1.4**
HHC				XS		20 37 38.0	
HHC				SS	SS	20 40 21.8	+6.1
HHC				SCS	ScS	20 41 11.3	+1.1
HHC				AMB	AMB		
comp=Z,25nm,1.2s,mb4.7							
HHC				AMB	AMB		
comp=Z,138nm,6.7s							
HHC				LR	LR		
comp=N,321nm,16.3s,MS4.6							
HHC				LR	LR		
comp=E,587nm,17.6s,MS4.6							
HHC				LR	LR		
comp=Z,321nm,17.1s,MS4.2							
WMQ	**Urumqi**	**42.34**	**350**	*eP*	**P**	**20 31 22.5**	**+1.1**
WRA	**Warramunga Arr**	**42.88**	**123**	P	**P**	**20 31 26.6**	**+0.5**
comp=Z,8.9nm,0.7s,mb4.6,baz=301,slow=9.3,SNR=10							
WRAB	**Tennant Creek**	**42.88**	**122**	*eP*	**P**	**20 31 26.6**	**+0.5**
WRAB				pmax	pmax		
comp=Z,12nm,0.6s,mb4.8							
WRAB	**Tennant Creek**	**42.88**	**122**	*eP*	**P**	**20 31 26.6**	**+0.4**
comp=Z,12nm,0.6s,mb4.8							
ASAR	**Alice Springs**	**44.28**	**128**	P	**P**	**20 31 38.2**	**+0.8**
comp=Z,6.7nm,0.9s,mb4.4,baz=300,slow=7.4,SNR=12							
AAK	**Ala-Archa**	**45.03**	**337**	P	**P**	**20 31 37.3**	**-5.9**
AAK				pmax	pmax		
comp=Z,30nm,1.5s,mb4.9							
AAK	**Ala-Archa**	**45.03**	**337**	P	**P**	**20 31 37.3**	**-5.9**
comp=Z,30nm,1.5s,mb4.9							
FRU	**Bishkek**	**45.15**	**337**	*eP*	**P**	**20 31 39.0**	**-5.2**
FRU				*e*	pP	20 31 46.0	-6.3
MKAR	**Makanchi Array**	**46.29**	**346**	P	**P**	**20 31 53.8**	**+0.7**
comp=Z,18nm,0.8s,mb5.0,baz=153,slow=8.1,SNR=16							
SONM	**Songino Array**	**46.34**	**9**	P	**P**	**20 31 54.7**	**+1.2**
comp=Z,9.5nm,0.9s,mb4.7,baz=196,slow=9.0,SNR=14							
SONM				PcP	PcP	20 33 28.8	-0.1
comp=Z,0.9nm,0.6s,baz=189,slow=3.8,SNR=2.4							
ULN	**Ulaanbaatar**	**46.48**	**10**	*eP*	**P**	**20 31 54.7**	**+0.1**
ULN				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7							
ULN	**Ulaanbaatar**	**46.48**	**10**	*eP*	**P**	**20 31 54.7**	**+0.1**
comp=Z,9.0nm,1.0s,mb4.7							
ZAK	**Zakamensk**	**48.45**	**6**	*eP*	**P**	**20 32 10.3**	**+0.3**
MOY	**Mondy**	**49.55**	**3**	*eP*	**P**	**20 32 17.0**	**-1.5**
MOY				pmax	pmax		
comp=Z,32nm,3.1s							
TLY	**Talaya**	**49.77**	**6**	⇑*iP*	**P**	**20 32 20.4**	**+0.2**
TLY				*e*S	**S**	**20 39 37.9**	**+11**
TLY				pmax	pmax		
comp=Z,20nm,2.1s,mb4.8							
TLY				MLR	MLR		
comp=Z,350nm,17.0s,MS4.4							
IRK	**Irkutsk**	**50.39**	**6**	*eP*	**P**	**20 32 25.2**	**+0.3**
IRK				pmax	pmax		
comp=Z,39nm,2.1s,mb5.1							
KURK	**Kurchatov**	**50.84**	**345**	*eP*	**P**	**20 32 28.4**	**+0.1**
KURK				pmax	pmax		
comp=Z,25nm,1.2s,mb5.0							
KURK	**Kurchatov**	**50.84**	**345**	*eP*	**P**	**20 32 28.4**	**0.0**
comp=Z,25nm,1.2s,mb5.0							
PMG	**Port Moresby**	**51.49**	**104**	P	**P**	**20 32 33.8**	**+0.1**
comp=Z,30nm,0.7s,mb5.3,baz=356,slow=2.7,SNR=7.4							
ZAL	**Zalesovo**	**52.62**	**351**	P	**P**	**20 32 41.8**	**0.0**
comp=Z,31nm,1.2s,mb5.1,baz=289,slow=7.0,SNR=18							
CTA	**Charters Tower**	**53.29**	**117**	P	**P**	**20 32 46.9**	**-0.3**
comp=Z,7.2nm,0.8s,mb4.7,baz=273,slow=5.3,SNR=4.5							
CTAO	**Charters Tower**	**53.29**	**117**	*eP*	**P**	**20 32 46.3**	**-0.9**
CTAO				pmax	pmax		
comp=Z,30nm,1.3s,mb5.1							
CTAO	**Charters Tower**	**53.29**	**117**	*eP*	**P**	**20 32 46.3**	**-0.9**
comp=Z,30nm,1.3s,mb5.1							
NVS	**Novosibirsk**	**53.75**	**350**	*i* P	**

YAK Yakutsk 64.72 16 *eP* **P 20 34 05.0 -0.8**
YAK pmax pmax
comp=Z,47nm,0.9s,mb5.5
YAK Yakutsk 64.72 16 *eP* **P 20 34 05.0 -0.8**
comp=Z,47nm,0.9s,mb5.5
SOC Sochi 65.18 318 *eP* **P 20 34 07.4 -1.7**
SOC *e* 20 43 57.6
SOC pmax pmax
comp=Z,53nm,1.7s,mb5.3
SOC pmax pmax
comp=N,45nm,1.2s
SOC pmax pmax
comp=E,33nm,1.0s
BRTR Keskin Array B 68.20 312 P **P 20 34 28.6 +0.3**
comp=E,1.4nm,0.8s,mb4.1,baz=127,slow=6.2,SNR=5.1
VRSR Storozhevoye 68.59 325 *eP* **P 20 34 28.5 -2.1**
VRSR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
VRSR pmax pmax
comp=N,10.0nm,1.5s
VRSR pmax pmax
comp=E,5.0nm,0.9s
MATP Matopo 70.44 248 P **P 20 34 43.5 +1.1**
comp=E,5.1nm,1.0s,mb4.4,baz=55,slow=6.3,SNR=4.3
MA2 Magadan 70.75 26 *eP* **P 20 34 42.8 -0.8**
MA2 pmax pmax
comp=Z,19nm,1.3s,mb4.9
MOS Moscow 71.36 329 *eP* **P 20 34 44.4 -3.0**
MOS *e* pP 20 34 54.0 -1.9
MOS pmax pmax
comp=Z,47nm,1.6s,mb5.2
OBN Obninsk 71.65 328⇑ *iP* **P 20 34 47.8 -1.3**
OBN *i* pP 20 34 57.3 -0.3
OBN pmax pmax
comp=Z,25nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
PET Petropavlovsk 71.76 34 *eP* **P 20 34 54.7 +4.9**
PET *e* 20 44 34.9
PET MLR MLR
comp=Z,200nm,17.0s,MS4.5
TIXI Tiksi 72.41 10⇑ *eP* **P 20 34 51.0 -2.4**
TIXI pmax pmax
comp=Z,30nm,2.5s,mb4.8
SEY Seymchan 73.14 23 *eP* **P 20 34 59.7 +1.9**
AKASG Malin Array Be 74.30 322 P **P 20 35 04.2 -0.5**
comp=Z,1.9nm,0.6s,mb4.2,baz=90,slow=4.8,SNR=6.9
KWP Kalwaria 78.12 320 *eP* **P 20 35 32.1 +5.8**
KOLS Kolonicke sedl 78.27 320 *eP* **P 20 35 28.7 +1.6**
KOLS *e*pP pP 20 35 36.9 +1.2
CRVS Cervenica-Dubn 78.79 319 *eP* **P 20 35 35.8 +5.9**
CRVS *e* 20 35 46.7
CRVS Cervenica-Dubn 78.79 319 *e* **P 20 35 35.8 +5.9**
CRVS *e* 20 35 46.7
FINES FINESS Array B 79.02 332 P **P 20 35 31.1 +0.1**
comp=Z,1.8nm,0.6s,mb4.2,baz=108,slow=6.0,SNR=7.3
BILL Bilibino 80.52 21 *eP* **P 20 35 39.5 +0.6**
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.7
SRO Srobarova 80.70 318 *eP* pP 20 35 49.2 +0.3
SRO *e* 20 36 01.6
SRO Srobarova 80.70 318 *e*pP pP 20 35 49.2 +0.3
SRO *e* 20 36 01.6
ZST Bratislava 81.56 318 *eP* pP 20 35 51.7 -1.7
ZST Bratislava 81.56 318 *e* pP 20 35 51.7 -1.7
KSP Ksiaz 82.37 321 *eP* pP 20 35 58.6 +1.1
GERES GERESS Array B 83.87 319 P **P 20 35 57.9 +1.2**
comp=Z,2.9nm,0.9s,mb4.4,baz=90,slow=5.3,SNR=8.7
MOX Moxa 85.32 320 *eP* pP 20 36 14.0 +1.4
GRA1 Grafenberg Arr 85.53 320 *eP* **P 20 36 06.6 +1.7**
comp=Z,4.0nm,0.9s,mb4.7
GRA1 *e*pP pP 20 36 14.6 +0.9
GRF Grafenberg Arr 85.53 320 *eP* **P 20 36 06.6 +1.7**
GRF *e**PP pP 20 36 14.6 +0.9
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
GRF Grafenberg Arr 85.53 320 *eP* **P 20 36 06.6 +1.7**
GRF *e**PP pP 20 36 14.6 +0.9
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
GRF Grafenberg Arr 85.53 320 *eP* **P 20 36 06.6 +1.7**
comp=Z,4.0nm,0.9s,mb4.7
GRF *e*pP pP 20 36 14.6 +0.9
NB2 NORSAR Subarra 86.03 331 P pP 20 36 15.4 -0.5
comp=Z,13nm,1.4s,baz=95,slow=4.8
TXAR Lajitas Array 143.16 31 PKP PKPdf 20 43 00.1 -5.0
comp=Z,1.2nm,1.0s,baz=270,slow=2.5,SNR=6.5

IDC ***03*** *20:29:46.9±3.8, 2.92N×96.01E, mb4.0/5, mb1 4.0/6, mb1mx3.7/18, mbtmp4.0/6, ML3.9/1, Error ellipse: s-maj=90.9km s-min=70.7km az=119.0*
NEIC ***03*** *20:29:49.8±0.9, 2.74N×96.13E, h30km, mb4.2/3, Error ellipse: s-maj=17.9km s-min=12.8km az=214.0*
ISC 03 20:29:49.9±8.4, 2.8N±0.3×96.2E±0.4, h46km±64km, n11, σ0§46/11, mb4.1/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.08**	**61**	*eP*	**P**	**20 31 05.6**	**0.0**
CMAR	**Chiang Mai Arr**	**15.79**	**10**	Pn	**P**	**20 33 31.0**	**+0.2**
	0.2nm,0.3s,baz=200,slow=12,SNR=12						
WRAB	**Tennant Creek**	**43.74**	**123**	P	**P**	**20 37 52.9**	**-0.1**
MKAR	**Makanchi Array**	**45.46**	**347**	P	**P**	**20 38 06.8**	**+0.5**
	3.0nm,0.5s,mb4.4,baz=159,slow=8.9,SNR=61						
SONM	**Songino Array**	**45.72**	**10**	P	**P**	**20 38 08.7**	**+0.3**
	1.3nm,0.7s,mb4.0,baz=190,slow=9.6,SNR=9.7						
SONM				PcP	PcP	20 39 47.7	+1.6
	0.6nm,0.6s,baz=213,slow=2.0,SNR=4.5						
ULN	**Ulaanbaatar**	**45.86**	**10**	*eP*	**P**	**20 38 09.3**	**-0.2**
	0.7nm,0.6s,mb3.8						
KURK	**Kurchatov**	**50.00**	**345**	*eP*	**P**	**20 38 41.7**	**0.0**
	3.3nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**51.83**	**351**	P	**P**	**20 38 54.8**	**-0.6**
	1.1nm,0.5s,mb4.1,baz=303,slow=5.5,SNR=4.6						
BVAR	**Borovoye Array**	**54.42**	**341**	P	**P**	**20 39 14.4**	**-0.3**
	0.8nm,0.5s,mb3.9,baz=141,slow=11,SNR=8.3						
CHKZ	**Chkalovo**	**54.90**	**342**	*eP*	**P**	**20 39 17.4**	**-0.7**
	2.7nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**78.12**	**332**	P	**P**	**20 41 46.6**	**+0.9**
	0.8nm,0.7s,mb3.8,baz=76,slow=5.7,SNR=4.7						

BJI ***03*** *20:32:29.9, 12.39N×143.02E, h110km, mB4.8, mb5.1*
IDC ***03*** *20:32:32.9±0.6, 12.52N×142.64E, h97km±4km, mb4.2/17, mb1 4.4/18, mb1mx4.3/25, mbtmp4.6/18, MS3.6/1, Ms1 3.6/1, ms1mx2.7/25, Error ellipse: s-maj=15.8km s-min=10.2km az=83.0*
HRVD ***03*** *20:32:32.9±0.8, 12.47N×142.68E, h115km±10km, MW4.7/49, Centroid moment Tensor Solution. Mantle waves: s49,c70; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.78±.14; Mθθ=0.09±.11; Mφφ=0.68±.15; Mrθ=-0.02±.07; Mθφ=-0.62±.13; Mφr=1.21±.08; Best double couple: Mo=1.547×10^16 NP1:φs=120°, δ=27°, λ=-141°. NP2: φs=354°, δ=73°, λ=-69°. Principal axes: T 1.565, Plg25°, Azm67°; N -.038, Plg20°, Azm168°; P -1.528, Plg56°, Azm292°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***03*** *20:32:32.9±0.3, 12.49N×142.62E, mb5.1/18 Error ellipse: s-maj=7.4km s-min=5.7km az=87.0*
MOS ***03*** *20:32:33.7±1.0, 12.50N×142.73E, h129km, mb4.8/13, Error ellipse: s-maj=12.6km s-min=9.0km az=118.4*
ISC 03 20:32:30.9±0.3, 12.48N±0.05×142.61E±0.05, h97km, h97km±2.2km: pP-P, n96, σ0§97/93, mb4.8/43, 10C-11D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.46**	**63**⇑	*ePn*	**P**	**20 33 12.6**	**+2.4**
GUMO				*eSn*	**S**	**20 33 39.5**	**-0.1**
JOW	**Kunigami**	**19.61**	**319**	P	**P**	**20 36 54.8**	**+0.6**
	11nm,0.3s,baz=136,slow=11,SNR=11						
LUBP	**Lubang**	**21.81**	**276**	*eP*	**P**	**20 37 18.4**	**+1.9**
YHNB	**Yeheng**	**23.45**	**304**	*eP*	**P**	**20 37 33.9**	**+1.5**
WRAB	**Tennant Creek**	**33.22**	**194**	*eP*	**P**	**20 39 00.7**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**33.22**	**194**	*eP*	**P**	**20 39 00.7**	**-0.2**
	comp=Z,32nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**33.23**	**194**⇓	*iP*	**P**	**20 39 00.9**	**-0.1**
WRA	**Warramunga Arr**	**33.23**	**194**	P	**P**	**20 39 01.0**	**-0.1**
	comp=Z,16nm,0.7s,mb5.0,baz=15,slow=9.5,SNR=26						
WRA				ScP		20 45 16.4	
	comp=Z,0.8nm,0.7s,baz=7.1,slow=3.5,SNR=6.2						
KSM	**Kuching**	**33.82**	**254**	*eP*	**P**	**20 39 05.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**34.70**	**209**	*eP*	**P**	**20 39 12.9**	**-0.7**
	comp=Z,9.1nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.70**	**209**	P	**P**	**20 39 13.1**	**-0.5**
	comp=Z,12nm,0.7s,mb4.8,baz=18,slow=7.9,SNR=16						
FITZ				PcP	PcP	20 41 46.1	+0.4
	comp=Z,1.9nm,0.5s,baz=104,slow=3.2,SNR=3.8						
BJT	**Baijiatuau**	**35.98**	**324**	*eP*	**P**	**20 39 24.9**	**+0.6**
BJT				pmax	pmax		
	comp=Z,29nm,0.6s						
BJT	**Baijiatuau**	**35.98**	**324**	*eP*	**P**	**20 39 24.9**	**+0.6**
	comp=Z,29nm,0.6s,mb5.4						
GYA	**Guiyang**	**36.48**	**298**⇓	*iP*	**P**	**20 39 30.4**	**+1.8**
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
ASAR	**Alice Springs**	**36.92**	**193**	P	**P**	**20 39 33.0**	**+0.6**
	comp=Z,5.2nm,0.6s,mb4.6,baz=21,slow=12,SNR=57						
ASAR				PcP	PcP	20 41 52.3	+0.1
	comp=Z,1.4nm,0.9s,baz=356,slow=2.5,SNR=4.2						
ASAR				ScP		20 45 30.2	
	comp=Z,0.5nm,0.8s,baz=9.1,slow=3.1,SNR=4.0						
ASPA	**Alice Springs**	**36.92**	**193**	*eP*	**P**	**20 39 32.8**	**+0.4**
XAN	**Xi'an**	**37.39**	**311**	P	**P**	**20 39 35.8**	**-0.3**
XAN				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
KMI	**Kunming**	**39.62**	**294**	P	**P**	**20 39 57.0**	**+2.2**
KMI				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.0						
KMI	**Kunming**	**39.62**	**294**	P	**P**	**20 39 57.0**	**+2.2**
	comp=Z,24nm,1.0s,mb5.0						
CD2	**Chengdu**	**40.22**	**303**⇑	*iP*	**P**	**20 40 00.8**	**+1.2**
CD2				AMB	AMB		
	comp=Z,110nm,0.7s,mb5.8						
HIA	**Hailar**	**41.25**	**337**	*eP*	**P**	**20 40 08.4**	**+0.5**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**41.25**	**337**	*eP*	**P**	**20 40 08.4**	**+0.5**
	comp=Z,5.5nm,0.6s,mb4.6						
DZM	**Mont Dzumac**	**41.55**	**146**	P	**P**	**20 40 12.5**	**+1.8**
	comp=Z,5.7nm,0.5s,mb4.6,baz=333,slow=16,SNR=8.7						
DZM				pP	pP	20 40 32.9	-0.6
	comp=Z,12nm,0.6s,baz=134,slow=20,SNR=3.5						
KULM	**Kulim**	**42.02**	**264**	*eP*	**P**	**20 40 15.7**	**+1.0**
LZH	**Lanzhou**	**42.03**	**311**	⇓ *iP*	**P**	**20 40 16.1**	**+1.6**
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,93nm,5.6s						
LZH				LR	LR		
	comp=N,332nm,10.3s						
LZH				LR	LR		
	comp=Z,583nm,12.8s						
CMAR	**Chiang Mai Arr**	**42.42**	**284**	P	**P**	**20 40 19.3**	**+1.4**
	comp=Z,17nm,0.7s,mb4.9,baz=87,slow=6.4,SNR=123						
CMAR				PcP	PcP	20 42 10.4	+0.5
	comp=Z,1.8nm,0.7s,baz=102,slow=1.6,SNR=6.2						
STKA	**Stephens Creek**	**44.12**	**181**	P	**P**	**20 40 30.5**	**-1.0**
	comp=Z,4.9nm,0.7s,mb4.4,baz=360,slow=5.3,SNR=6.5						
FORT	**Forrest**	**45.23**	**198**⇑	*iP*	**P**	**20 40 41.1**	**+0.7**
	comp=Z,936nm,0.9s						
ULN	**Ulaanbaatar**	**46.06**	**327**	*eP*	**P**	**20 40 47.3**	**+0.5**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**46.06**	**327**	*eP*	**P**	**20 40 47.3**	**+0.6**
	comp=Z,8.0nm,0.8s,mb4.5						
GTA	**Gaotai**	**46.29**	**313**	P	**P**	**20 40 49.8**	**+1.1**
GTA				AMB	AMB		
	comp=Z,19nm,0.6s,mb5.0						
GTA				AMB	AMB		
	comp=Z,80nm,10.3s						
GTA				LR	LR		
	comp=N,96nm,14.9s						
GTA				LR	LR		
	comp=E,137nm,14.9s						
GTA				LR	LR		
	comp=Z,175nm,17.6s						
SONM	**Songino Array**	**46.40**	**327**	P	**P**	**20 40 50.3**	**+0.9**
	comp=Z,5.0nm,0.5s,mb4.5,baz=140,slow=7.9,SNR=103						
SHL	**Shillong**	**49.41**	**293**	*eP*	**P**	**20 41 10.0**	**-3.1**
ZAK	**Zakamensk**	**49.56**	**328**	*eP*	**P**	**20 41 14.0**	**+0.1**
ZAK				*e*	pP	20 41 39.0	+1.7
ZAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
KLBR	**Kellerberrin**	**49.88**	**208**⇓	*iP*	**P**	**20 41 16.1**	**-0.6**
	comp=Z,106nm,0.7s,mb5.9						
TLY	**Talaya**	**50.14**	**329**	*eP*	**P**	**20 41 16.2**	**-2.2**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BOD	**Bodaibo**	**50.18**	**341**	*eP*	**P**	**20 41 16.4**	**-2.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**50.55**	**298**	P	**P**	**20 41 23.6**	**+1.8**
LSA	**Lhasa**	**50.55**	**298**	*eP*	**P**	**20 41 23.2**	**+1.4**
LSA				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
LSA	**Lhasa**	**50.55**	**298**	*eP*	**P**	**20 41 23.2**	**+1.4**
	comp=Z,14nm,0.9s,mb5.0						
MUN	**Mundaring**	**50.93**	**209**⇓	*iP*	**P**	**20 41 24.3**	**-0.4**
	comp=Z,10nm,0.6s,mb5.0						
MUN	**Mundaring**	**50.93**	**209**⇓	*iP*	**P**	**20 41 24.3**	**-0.4**
MUN				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.1						
NWAO	**Narrogin (SRO)**	**51.25**	**208**	P	**P**	**20 41 26.8**	**-0.3**
	comp=Z,5.2nm,0.6s,mb4.7,baz=44,slow=4.4,SNR=7.0						
MOY	**Mondy**	**51.48**	**328**	*eP*	**P**	**20 41 29.2**	**+0.7**
AFI	**Afiamalu**	**52.26**	**119**	LR	LR	21 00 47.9	
	comp=Z,59nm,19.6s,baz=143,slow=32						
JIRN	**Jiri**	**54.66**	**295**	*eP*	**P**	**20 41 52.6**	**+0.2**
	comp=Z,31nm,0.8s,mb5.4						
PKI	**Pulchoki**	**55.35**	**295**	*eP*	**P**	**20 41 56.9**	**-0.5**
	comp=Z,24nm,0.8s,mb5.3						
PKI	**Pulchoki**	**55.35**	**295**	*eP*	**P**	**20 41 56.9**	**-0.5**
PKI				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
KKN	**Kakani**	**55.48**	**295**	*eP*	**P**	**20 41 57.9**	**-0.4**
	comp=Z,37nm,0.9s,mb5.4						
KKN	**Kakani**	**55.48**	**295**	*eP*	**P**	**20 41 57.9**	**-0.4**
KKN				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
DMN	**Daman**	**55.62**	**295**	*eP*	**P**	**20 41 59.1**	**-0.2**
	comp=Z,45nm,0.9s,mb5.5						
GKN	**Gorkha**	**56.06**	**295**	*eP*	**P**	**20 42 01.9**	**-0.5**
	comp=Z,79nm,1.2s,mb5.6						
WMQ	**Urumqi**	**56.32**	**315**	*eP*	**P**	**20 42 04.2**	**+0.1**
KOLN	**Koldanda**	**56.96**	**295**	*eP*	**P**	**20 42 08.5**	**-0.4**
	comp=Z,53nm,1.0s,mb5.5						
MKAR	**Makanchi Array**	**60.77**	**317**	P	**P**	**20 42 34.8**	**-0.1**
	comp=Z,5.2nm,0.6s,mb4.7,baz=93,slow=9.1,SNR=46						
MKAR				pP	pP	20 42 59.6	+0.5
	comp=Z,3.5nm,1.0s,baz=90,slow=11,SNR=3.1						
ZAL	**Zalesovo**	**61.26**	**325**	P	**P**	**20 42 36.7**	**-1.4**
	comp=Z,1.9nm,0.5s,mb4.3,baz=350,slow=6.5,SNR=12						
ZAL				pP	pP	20 43 03.0	+0.7
	comp=Z,1.1nm,0.5s,baz=351,slow=6.2,SNR=3.3						
ZAL	**Zalesovo**	**61.26**	**325**	P	**P**	**20 42 36.7**	**-1.4**
ZAL				pP	pP	20 43 03.0	+0.7
KLP	**Kalpa**	**61.79**	**299**	*eP*	**P**	**20 42 42.1**	**+0.1**
HYB	**Hyderabad**	**61.84**	**283**	*eP*	**P**	**20 42 42.0**	**-0.5**
HYB	**Hyderabad**	**61.84**	**283**	*i P*	**P**	**20 42 42.0**	**-0.5**
NVS	**Novosibirsk**	**62.42**	**326**	*i P*	**P**	**20 42 44.8**	**-1.0**
BHPL	**Bhopal**	**62.52**	**290**	*eP*	**P**	**20 42 46.0**	**-1.0**
BHPL				*e*		20 42 46.9	
	comp=Z,24nm,0.8s						
KURK	**Kurchatov**	**64.02**	**321**	*eP*	**P**	**20 42 55.6**	**-0.8**
KURK				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.0						
KURK	**Kurchatov**	**64.02**	**321**	*eP*	**P**	**20 42 55.6**	**-0.8**
	comp=Z,21nm,0.8s,mb5.0						
KURK				*e*pP	pP	20 43 19.9	-1.0
AJM	**Ajmer**	**64.93**	**293**	*eP*	**P**	**20 43 01.6**	**-1.2**
AJM				*e*		20 43 03.4	
	comp=Z,29nm,1.1s						
KAD	**Karad**	**66.01**	**284**	*eP*	**P**	**20 43 08.6**	**-1.2**
SLKM	**Skilak Lake**	**68.03**	**29**	*eP*	**P**	**20 43 20.8**	**-0.9**
KKAR	**Karatay Array**	**68.52**	**312**	*i P*	**P**	**20 43 24.6**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
CHKZ	**Chkalovo**	**69.37**	**323**	*eP*	**P**	**20 43 29.2**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**69.37**	**323**	*eP*	**P**	**20 43 29.2**	**-1.0**
	comp=Z,6.6nm,0.9s,mb4.5						
BVA0	**Borovoye Array**	**69.43**	**322**	*i P*	**P**	**20 43 29.7**	**-0.8**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
BVAR	**Borovoye Array**	**69.43**	**322**	P	**P**	**20 43 30.2**	**-0.3**
	comp=Z,9.3nm,0.7s,mb4.8,baz=106,slow=7.9,SNR=73						
BVAR				pP	pP	20 43 54.5	-0.9
	comp=Z,3.5nm,0.7s,baz=105,slow=7.8,SNR=3.7						
ILAR	**Eielson Array**	**70.50**	**25**	P	**P**	**20 43 34.8**	**-2.0**
	comp=Z,1.2nm,0.5s,mb4.0,baz=251,slow=5.6,SNR=33						
THY	**Trims Highway**	**70.72**	**27**	*eP*	**P**	**20 43 37.7**	**-0.4**
INK	**Inuvik**	**76.22**	**22**	*eP*	**P**	**20 44 09.3**	**-0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	**Inuvik**	**76.22**	**22**	P	**P**	**20 44 09.7**	**-0.4**
	comp=Z,0.9nm,0.4s,mb3.8,baz=255,slow=4.9,SNR=7.8						
INK	**Inuvik**	**76.22**	**22**	*eP*	**P**	**20 44 09.3**	**-0.7**
	comp=Z,2.5nm,0.9s,mb3.9						
DLBC	**Dease Lake**	**78.10**	**32**	P	**P**	**20 44 22.1**	**+1.5**
	comp=Z,1.6nm,0.7s,mb3.8,baz=141,slow=20,SNR=5.9						
WBK	**Wadi Bani Khal**	**79.50**	**291**⇑		**P**	**20 44 28.9**	**-0.1**
BIDO	**Bidbid**	**80.12**	**292**⇓		**P**	**20 44 32.5**	**+0.2**
SMDO	**Samad**	**80.27**	**292**⇑		**P**	**20 44 32.8**	**-0.3**
JMDO	**Jabal Madar**	**80.33**	**291**⇑		**P**	**20 44 32.8**	**-0.6**
BSY	**Bisya**	**81.09**	**291**⇑		**P**	**20 44 37.3**	**-0.2**
BANOM	**Banah**	**81.37**	**295**⇑		**P**	**20 44 39.0**	**+0.1**
ARQ	**Araqi**	**81.61**	**292**⇓		**P**	**20 44 40.4**	**+0.2**
	SNR=5.5						
ASHO	**Ashiyiah**	**81.80**	**293**⇓		**P**	**20 44 40.8**	**-0.3**
RBK	**Rabkut**	**84.82**	**287**⇑		**P**	**20 44 56.3**	**-0.3**
	SNR=5.8						
YKA	**Yellowknife Ar**	**84.84**	**27**	P	**P**	**20 44 56.1**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=288,slow=5.0,SNR=15						
YKA				pP	pP	20 45 21.0	-0.3
	comp=Z,0.5nm,0.6s,baz=286,slow=4.9,SNR=2.9						
WHFO	**Wadi Hawf**	**85.15**	**287**⇓		**P**	**20 44 57.7**	**-0.5**
	SNR=11						
ABTO	**Aybut**	**85.70**	**287**⇓		**P**	**20 45 00.8**	**-0.1**
	SNR=17						
EDM	**Edmonton**	**88.33**	**36**	P	**P**	**20 45 12.7**	**-0.1**
NVAR	**Mina Array Bea**	**89.33**	**51**	P	**P**	**20 45 19.6**	**+1.7**
	comp=Z,2.3nm,0.6s,mb4.4,baz=266,slow=6.9,SNR=8.8						
NVAR				pP	pP	20 45 45.5	+1.7
	comp=Z,3.3nm,0.7s,baz=274,slow=4.2,SNR=5.6						
FINES	**FINESS Array B**	**91.22**	**335**	P	**P**	**20 45 24.9**	**-1.2**
	comp=Z,0.7nm,0.4s,mb4.1,baz=63,slow=4.5,SNR=13						
FINES				pP	pP	20 45 50.8	-1.5
	comp=Z,1.1nm,0.7s,baz=90,slow=5.7,SNR=2.3						
SNAA	**Sanae**	**117.27**	**192**⇑	*i*	PKPdf	20 51 08.6	+4.1
LPAZ	**La Paz**	**150.01**	**101**	*e*PKP2	PKPab	20 52 13.8	-5.5
LPAZ	**La Paz**	**150.01**	**101**	PKPbc	PKPdf	20 52 14.8	+8.9
	comp=Z,3.0nm,0.6s,baz=285,slow=3.6,SNR=15						

MOS 03 20:42:04.1±2.3, 55.98N×112.10E, h19km, mb4.2/1, 1C, Error ellipse: s-maj=22.7km s-min=21.2km az=157.4, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOA	**Uoyan**	**0.26**	**306**⇑	*iPG*	Pb	20 42 09.0	-1.1
YOA				*i*		20 42 13.7	
YOA				pmax	pmax		
	comp=Z,2μm,0.3s						
YOA				smax			
	comp=N,8μm,0.4s						
KMO	**Kumora**	**0.52**	**260**	*e*PG	Pb	20 42 13.6	-0.7
KMO				*e*		20 42 21.1	
KMO				pmax	pmax		
	comp=Z,140nm,0.3s						
KMO				smax			
	comp=N,714nm,0.7s						
UKT	**Uakit**	**0.99**	**119**	*e*PG	Pb	20 42 21.9	-0.6
UKT				*e*		20 42 35.6	
UKT				pmax	pmax		
	comp=Z,85nm,0.2s						
UKT				smax			
	comp=N,953nm,0.7s						
YLYR	**Ulyunkhan**	**1.23**	**206**	*e*PG	Pn	20 42 26.5	+0.1
YLYR				*e*		20 42 42.7	
YLYR				pmax	pmax		
	comp=Z,83nm,0.3s						
YLYR				smax			
	comp=E,630nm,0.4s						
NIZ	**Nizh Angarsk**	**1.46**	**263**	*e*PN	Pn	20 42 30.5	+0.8
NIZ				*e*		20 42 50.4	
NIZ				pmax	pmax		
	comp=Z,28nm,0.5s						
NIZ				smax			
	comp=N,190nm,0.5s						
ARS	**Arshan**	**7.01**	**239**	*e*PG	Pn	20 44 09.9	+21
ARS				*e*		20 45 41.2	
ARS				pmax	pmax		
	comp=Z,2.0nm,0.2s						
ARS				smax			
	comp=E,32nm,0.7s						

IDC ***03*** *20:53:22.5±2.9, 0.05S×97.95E, mb3.8/5, mb1 3.9/6, mb1mx3.7/15, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=122.3km s-min=21.4km az=59.0*
NEIC ***03*** *20:53:26.3±1.2, 0.11S×97.93E, h30km, mb4.3/1, Error ellipse: s-maj=34.7km s-min=13.3km az=69.0*
ISC 03 20:53:25.0±1.4, 0.1S±0.1×97.9E±0.3, h33km, n9, σ0§92/8, mb3.8/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.98**	**27**	*eP*	**P**	**20 54 54.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**18.44**	**3**	Pn	**P**	**20 57 38.7**	**-1.3**
	0.1nm,0.3s,baz=193,slow=11,SNR=10.0						
WRA	**Warramunga Arr**	**40.76**	**121**	P	**P**	**21 01 05.2**	**+0.3**
	0.7nm,0.5s,mb3.5,baz=301,slow=9.0,SNR=5.2						
WRAB	**Tennant Creek**	**40.77**	**121**	P	**P**	**21 01 03.3**	**-1.6**
	7.8nm,1.1s,mb4.2						
ASAR	**Alice Springs**	**42.06**	**126**	P	**P**	**21 01 16.6**	**+0.9**
	0.5nm,0.6s,mb3.3,baz=300,slow=7.8,SNR=8.8						
SONM	**Songino Array**	**48.28**	**8**	P	**P**	**21 02 05.8**	**+0.8**
	0.3nm,0.9s,mb3.3,baz=197,slow=6.7,SNR=3.6						
MKAR	**Makanchi Array**	**48.64**	**346**	P	**P**	**21 02 08.5**	**+0.7**
	1.2nm,0.5s,mb4.2,baz=161,slow=8.2,SNR=18						
ZAL	**Zalesovo**	**54.91**	**351**	P	**P**	**21 02 54.2**	**-0.

AAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.2
AAK Ala-Archa 44.08 337 *eP* **P 21 06 03.5 +0.1**
comp=Z,6.0nm,1.3s,mb4.2
ASAR Alice Springs 45.16 128 P **P 21 06 12.3 0.0**
comp=Z,0.3nm,0.5s,mb3.4,baz=298,slow=7.9,SNR=6.2
MKAR Makanchi Array 45.38 347 *i P* **P 21 06 13.5 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 45.38 347 P **P 21 06 14.1 +0.4**
comp=Z,5.2nm,0.8s,mb4.4,baz=160,slow=8.8,SNR=9.0
SONM Songino Array 45.60 10 P **P 21 06 15.8 +0.3**
comp=Z,1.4nm,0.7s,mb4.0,baz=188,slow=9.4,SNR=14
SONM PcP PcP 21 07 53.8 +0.1
comp=Z,0.3nm,0.6s,baz=180,slow=3.7,SNR=4.8
KURK Kurchatov 49.92 345 *eP* **P 21 06 48.1 -1.0**
KURK pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
KURK Kurchatov 49.92 345 *eP* **P 21 06 48.1 -1.0**
comp=Z,5.8nm,1.3s,mb4.5
ZAL Zalesovo 51.73 351 P **P 21 07 02.5 -0.3**
comp=Z,0.9nm,0.4s,mb4.0,baz=320,slow=12,SNR=3.8
BVA0 Borovoye Array 54.35 341 P **P 21 07 19.0 -3.2**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
BVAR Borovoye Array 54.35 341 P **P 21 07 21.4 -0.8**
comp=Z,1.2nm,0.6s,mb4.0,baz=146,slow=9.5,SNR=9.2
CHKZ Chkalovo 54.83 342 *eP* **P 21 07 25.1 -0.6**
CHKZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CHKZ Chkalovo 54.83 342 *eP* **P 21 07 25.1 -0.6**
comp=Z,3.3nm,0.7s,mb4.5
KMBO Kilima Mbogo 59.14 267 P **P 21 07 56.6 -0.2**
comp=Z,1.0nm,0.8s,mb3.9,baz=39,slow=22,SNR=4.0
BRTR Keskin Array B 67.29 312 P **P 21 08 49.0 -1.2**
comp=Z,0.8nm,0.8s,mb3.8,baz=121,slow=7.2,SNR=3.9
AKASG Malin Array Be 73.35 322 P **P 21 09 26.1 -0.6**
comp=Z,0.6nm,0.5s,mb3.8,baz=95,slow=4.2,SNR=5.1
FINES FINESS Array B 78.07 332 P **P 21 09 53.7 +0.4**
comp=Z,2.1nm,1.1s,mb4.0,baz=72,slow=6.0,SNR=4.9
FINES FINESS Array B 78.07 332 P **P 21 09 53.7 +0.4**
GERES GERESS Array B 82.93 319 P **P 21 10 20.8 +1.4**
comp=Z,0.1nm,0.4s,mb3.2,baz=112,slow=5.3,SNR=4.0

IDC 03 21:30:22.0±65.0, 0.86N×97.78E, mb3.7/3, mb1 3.8/3, mb1mx3.4/15, mbtmp3.7/3, Error ellipse: s-maj=1263.0km s-min=154.0km az=174.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**47.39**	**8**	P	P	21 38 58.0	-1.9
	0.6nm,0.7s,baz=186,slow=8.2,SNR=7.1						
MKAR	**Makanchi Array**	**47.72**	**346**	P	P	21 39 00.4	-2.0
	0.8nm,0.7s,baz=163,slow=8.2,SNR=7.6						
ZAL	**Zalesovo**	**53.98**	**351**	P	P	21 39 47.5	-2.3
	0.9nm,0.4s,baz=45,slow=0.7,SNR=4.0						

*ATH **03** 21:34:49.2, 41.05N×20.80E, h20km±5km, MD3.3/4*
*NEIC **03** 21:34:49.2, 41.05N×20.80E, h20km, MD3.3(ATH), After ATH.*
*CSEM **03** 21:34:52.4±0.2, 40.80N×20.70E, h2km, ML3.1, Error ellipse: s-maj=3.5km s-min=2.0km az=151.0*
*THE **03** 21:34:54.2, 40.73N×20.77E, h10km, ML3.1*
ISC 03 21:34:53.7±0.6, 40.72N±0.03×20.77E±0.04, h11km±5km, n14, σ0§95/23, 1C-1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.40**	**3**	⇑*i* Pg	**Pg**	**21 35 00.5**	**-1.4**
OHR				*i*		21 35 02.4	
OHR				⇓*i* Sg	**Sg**	**21 35 07.4**	**+0.1**
FNA	**Florina**	**0.47**	**81**	*e* Pg	**Pg**	**21 35 02.2**	**-1.0**
FNA				*e* Sg	**Sg**	**21 35 10.6**	**+1.0**
KZN	**Kozani**	**0.86**	**118**	*e* PN	**Pn**	**21 35 09.4**	**-2.2**
KZN				*e* SN	**Sn**	**21 35 23.8**	**-0.4**
MEV	**Metsovon**	**0.99**	**159**	*e* Pg	**Pg**	**21 35 13.6**	**0.0**
MEV				*e* Sg	**Sg**	**21 35 27.6**	**+0.6**
QSH	**Qafa e Shtames**	**1.04**	**321**	*i* Pg	**Pg**	**21 35 15.4**	**+0.9**
QSH				*i* Sg	**Sg**	**21 35 29.6**	**+1.2**
JAN	**Janina**	**1.06**	**177**	*e* PN	**Pn**	**21 35 15.6**	**+1.2**
IGT	**Igoumenitsa**	**1.23**	**196**	*e* Pb	**Pb**	**21 35 16.8**	**+0.4**
KEK	**Kerkira**	**1.25**	**217**	*e* PN	**Pn**	**21 35 17.3**	**+0.2**
GRG	**Griva**	**1.26**	**78**	*e* Pb	**Pb**	**21 35 16.6**	**-0.4**
GRG				*e* Sb	**Sb**	**21 35 34.7**	**+1.6**
SKO	**Skopje**	**1.35**	**22**	*e* Pn	**Pn**	**21 35 18.0**	**-0.6**
LIT	**Litokhoron**	**1.45**	**115**	*e* Pb	**Pb**	**21 35 19.9**	**-0.3**
LIT				*e* Sb	**Sb**	**21 35 39.4**	**+0.9**
PUK	**Puka**	**1.48**	**334**	*i* Pg	**Pg**	**21 35 21.7**	**-1.7**
PUK				*i* Sg	**Sg**	**21 35 43.9**	**+0.7**
EVR	**Evrytania**	**1.97**	**156**	*e* PB	**Pb**	**21 35 28.0**	**-1.1**
AGG	**Agios Georgios**	**2.07**	**144**	*e* Pn	**Pn**	**21 35 28.6**	**-0.3**
AGG				*e* Sn	**Sn**	**21 35 55.2**	**+0.2**

*THE **03** 21:36:00.8, 40.60N×20.07E, h20km, ML3.2*
*ATH **03** 21:36:02.4, 40.98N×20.81E, h5km, MD3.1/4*
*NEIC **03** 21:36:02.4, 40.98N×20.81E, h5km, MD3.1(ATH), After ATH.*
*CSEM **03** 21:36:06.8±0.4, 40.72N×20.80E, h8km, ML3.2, Error ellipse: s-maj=8.9km s-min=6.6km az=152.0*
ISC 03 21:36:05.2±0.7, 40.73N±0.03×20.71E±0.06, h5km, n12, σ1§25/19, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.39**	**10**	*i* Pg	**Pg**	**21 36 12.3**	**-0.7**
OHR				*i* Sg	**Sg**	**21 36 19.4**	**+1.2**
FNA	**Florina**	**0.51**	**84**	*e* Pg	**Pg**	**21 36 14.6**	**-0.8**
FNA				*e* Sg	**Sg**	**21 36 22.8**	**+0.6**
KZN	**Kozani**	**0.91**	**117**	*e* PB	**Pb**	**21 36 21.5**	**-1.6**
KZN				*e* SB	**Sb**	**21 36 35.7**	**+0.4**
QSH	**Qafa e Shtames**	**1.00**	**323**	*i* Pg	**Pg**	**21 36 30.4**	**+5.2**
QSH				*i* Sg	**Sg**	**21 36 43.4**	**+4.9**
MEV	**Metsovon**	**1.02**	**157**	*e* Pb	**Pb**	**21 36 23.9**	**-1.2**
MEV				*e* Sb	**Sb**	**21 36 40.1**	**+1.4**
JAN	**Janina**	**1.08**	**174**	*e* PB	**Pb**	**21 36 27.5**	**+1.5**
IGT	**Igoumenitsa**	**1.23**	**194**	*e* Pg	**Pg**	**21 36 29.7**	**-0.2**
KEK	**Kerkira**	**1.23**	**215**	*e* PB	**Pb**	**21 36 30.4**	**+1.7**
GRG	**Griva**	**1.30**	**79**	*e* Pb	**Pb**	**21 36 29.5**	**-0.3**
GRG				*e* Sb	**Sb**	**21 36 48.2**	**+1.5**
SKO	**Skopje**	**1.35**	**24**	*e* Pn	**Pn**	**21 36 29.8**	**-1.1**
LIT	**Litokhoron**	**1.50**	**114**	*e* Pb	**Pb**	**21 36 31.9**	**-1.2**
LIT				*e* Sb	**Sb**	**21 36 55.9**	**+3.6**
EVR	**Evrytania**	**2.00**	**155**	*e* PG	**Pg**	**21 36 43.0**	**-2.1**

IDC 03 21:40:02.2±56.0, 18.25S×177.31W, mb4.3/3, mb1 4.5/3, mb1mx3.9/14, mbtmp4.3/3, 1C, Error ellipse: s-maj=1032.0km s-min=164.4km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.38**	**242**	P	P	21 47 34.5	-0.9
	1.7nm,0.7s,baz=84,slow=6.9,SNR=3.6						
WB2	**Warramunga Arr**	**45.58**	**260**	⇑*i* P	P	21 48 24.0	-2.1
WRA	**Warramunga Arr**	**45.59**	**260**	P	P	21 48 24.3	-1.9
	1.8nm,0.4s,baz=98,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**45.70**	**254**	P	P	21 48 24.9	-2.2
	4.3nm,0.7s,baz=90,slow=7.8,SNR=47						
ASPA	**Alice Springs**	**45.70**	**254**	*e* P	P	21 48 24.8	-2.3

*NEIC **03** 21:43:41.5, 16.88N×99.57W, h46km, MD3.7(MEX), After MEX.*
MEX 03 21:43:41.5±0.9, 16.88N×99.57W, h46km±17km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.33**	**267**	*i* P	P	21 43 48.7	-1.9
ACX				*i* S	S	21 43 55.5	-1.5
CAIG	**El Cayaco**	**0.69**	**284**	*e* P	P	21 43 54.1	-0.8
CAIG				*i* S	S	21 44 02.3	-2.5
PLIG	**Platanillo**	**1.50**	**2**	*e* P	P	21 44 04.1	-2.4
PLIG				*e* S	S	21 44 22.4	-2.7
PPM	**Popocatepetl**	**2.35**	**22**	*e* P	P	21 44 17.3	-1.2
PPM				*i* S	S	21 44 45.1	-1.2

IDC 03 21:59:20.1±8.3, 0.15S×96.48E, mb3.9/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=180.0km s-min=90.6km az=138.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.65**	**7**	P	P	22 03 40.0	-1.5
	0.1nm,0.3s,baz=195,slow=12,SNR=17						
MKAR	**Makanchi Array**	**48.38**	**347**	P	P	22 08 04.6	-1.1
	1.6nm,0.6s,baz=162,slow=8.7,SNR=20						
SONM	**Songino Array**	**48.56**	**9**	P	P	22 08 05.0	-2.1
	0.4nm,0.7s,baz=190,slow=7.5,SNR=4.8						
ZAL	**Zalesovo**	**54.76**	**352**	P	P	22 08 51.0	-2.7
	1.5nm,0.5s,baz=305,slow=7.3,SNR=5.7						
BVAR	**Borovoye Array**	**57.28**	**342**	P	P	22 09 08.7	-3.2
	0.4nm,0.8s,baz=124,slow=10,SNR=2.6						

*IDC **03** 21:59:21.2±0.8, 1.06S×96.80E, mb4.1/10, mb1 4.2/11, mb1mx4.0/18, mbtmp4.0/11, ML3.9/1, Error ellipse: s-maj=32.7km s-min=16.0km az=56.0*
*NEIC **03** 21:59:25.8±0.6, 1.00S×96.91E, h30km, mb4.2/3, Error ellipse: s-maj=24.3km s-min=10.4km az=57.0*
ISC 03 21:59:24.3±0.7, 1.0S±0.1×96.9E±0.2, h33km, n20, σ1§01/19, mb4.0/13, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.39**	**6**	P	**P**	**22 03 48.3**	**-2.1**
	0.1nm,0.3s,baz=196,slow=12,SNR=10						
CMAR	**Chiang Mai Arr**	**19.39**	**6**	P	**P**	**22 03 48.3**	**-2.1**
FITZ	**Fitzroy Crossi**	**32.95**	**123**	P	**P**	**22 05 57.5**	**-0.9**
	3.8nm,0.8s,mb4.4,baz=272,slow=2.6,SNR=4.2						
WRA	**Warramunga Arr**	**41.18**	**120**	P	**P**	**22 07 07.8**	**+0.2**
	0.7nm,0.7s,mb3.4,baz=302,slow=9.5,SNR=3.7						
WRAB	**Tennant Creek**	**41.18**	**120**	P	**P**	**22 07 06.8**	**-0.9**
	3.8nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**42.36**	**125**	P	**P**	**22 07 18.1**	**+0.7**
	2.0nm,0.7s,mb3.9,baz=296,slow=7.9,SNR=14						
MKAR	**Makanchi Array**	**49.25**	**347**	P	**P**	**22 08 12.7**	**+1.0**
	3.7nm,0.6s,mb4.6,baz=158,slow=8.3,SNR=23						
MKAR	**Makanchi Array**	**49.25**	**347**	P	**P**	**22 08 12.7**	**+1.0**
SONM	**Songino Array**	**49.29**	**8**	P	**P**	**22 08 13.0**	**+1.1**
	0.7nm,0.8s,mb3.8,baz=184,slow=8.1,SNR=5.8						
SONM	**Songino Array**	**49.29**	**8**	P	**P**	**22 08 13.0**	**+1.1**
STKA	**Stephens Creek**	**52.15**	**131**	P	**P**	**22 08 34.8**	**+0.8**
	1.3nm,0.6s,mb4.1,baz=137,slow=12,SNR=3.7						
KURK	**Kurchatov**	**53.79**	**346**	P	**P**	**22 08 42.0**	**-3.9**
	1.8nm,0.8s,mb4.0						
ZAL	**Zalesovo**	**55.62**	**351**	P	**P**	**22 08 59.4**	**+0.2**
	3.4nm,0.5s,mb4.6,baz=301,slow=5.7,SNR=13						
ZAL	**Zalesovo**	**55.62**	**351**	P	**P**	**22 08 59.4**	**+0.2**
BVAR	**Borovoye Array**	**58.18**	**341**	P	**P**	**22 09 17.0**	**-0.4**
	1.2nm,0.7s,mb4.0,baz=141,slow=9.5,SNR=5.9						
BVAR	**Borovoye Array**	**58.18**	**341**	P	**P**	**22 09 17.0**	**-0.4**
CHKZ	**Chkalovo**	**58.67**	**342**	*eP*	**P**	**22 09 20.4**	**-0.4**
	1.3nm,0.6s,mb4.1						
MATP	**Matopo**	**69.47**	**249**	P	**P**	**22 10 30.8**	**-1.0**
	1.3nm,0.7s,mb4.0,baz=115,slow=4.8,SNR=6.0						
FINES	**FINESS Array B**	**81.77**	**333**	P	**P**	**22 11 42.6**	**+1.6**
	0.3nm,0.4s,mb3.5,baz=90,slow=5.7,SNR=4.6						
TXAR	**Lajitas Array**	**145.62**	**33**	PKPbc	PKPbc	22 18 58.7	-1.9
	1.0nm,0.7s,baz=273,slow=1.1,SNR=13						

*IDC **03** 21:59:38.3±1.7, 11.69S×164.59E, mb3.8/4, mb1 4.1/6, mb1mx3.9/17, mbtmp4.0/6, ML4.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=31.8km s-min=27.8km az=62.0*
ISC 03 21:59:41.2±1.3, 11.8S±0.1×164.6E±0.1, h33km, n7, σ0§95/9, mb3.8/4, MS3.2/1, 1C, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.14**	**296**	Pn	**Pn**	**22 00 56.1**	**-1.9**
	13nm,0.3s,baz=169,slow=8.3,SNR=3.4						
HNR				Sn	**Sn**	**22 01 58.4**	**+1.4**
	12nm,0.3s,baz=178,slow=22,SNR=6.3						
DZM	**Mont Dzumac**	**10.39**	**171**	Pn	**P**	**22 02 10.7**	**-0.4**
	1.7nm,0.3s,baz=343,slow=19,SNR=18						
DZM				Sn	**S**	**22 04 08.1**	**+0.6**
	0.4nm,0.3s,baz=101,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**30.20**	**251**	P	**P**	**22 05 50.7**	**-0.3**
	0.7nm,0.5s,mb3.7,baz=80,slow=9.5,SNR=4.1						
ASAR	**Alice Springs**	**31.48**	**244**	P	**P**	**22 06 02.2**	**-0.1**
	0.6nm,0.4s,mb3.8,baz=64,slow=10,SNR=7.5						
ASAR				LR	LR	22 17 18.9	
	comp=Z,45nm,18.5s,MS3.2,baz=279,slow=34						
FITZ	**Fitzroy Crossi**	**38.13**	**256**	P	**P**	**22 06 58.8**	**-0.4**
	2.5nm,0.7s,mb4.0,baz=181,slow=8.1,SNR=4.2						
ILAR	**Eielson Array**	**84.55**	**19**	P	**P**	**22 12 12.7**	**+0.8**
	0.4nm,0.8s,mb3.6,baz=236,slow=4.8,SNR=4.8						
SYO	**Syowa Base**	**90.77**	**197**	⇑P	**P**	**22 12 46.0**	**+4.2**

*NIED **03** 21:59:00, 34.10N×142.50E, h5km, Mw3.7 Best double couple: M0=4.65×10^14 NP1:φs=206°, δ=68°, λ=-90°. NP2:φs=27°, δ=22°, λ=-89°.*
*JMA **03** 21:59:59.5±0.4, 34.14N×142.55E, h55km, M3.5*
ISC 03 22:00:00.7±1.6, 34.28N±0.10×142.54E±0.09, h56km±39km, n13, σ0§74/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.34**	**287**	P	**P**	**22 00 23.0**	**-0.8**
BSO1				S	**S**	**22 00 40.5**	**-0.3**
BSO3	**Boso 3**	**1.76**	**288**	P	**P**	**22 00 29.4**	**0.0**
BSO3				S	**S**	**22 00 51.9**	**+1.3**
BSO4	**Boso 4**	**1.95**	**292**	S	**S**	**22 00 57.7**	**+2.3**
JHO	**Hitachi**	**2.83**	**326**	P	**P**	**22 00 44.6**	**0.0**
JHO				*eS*	**S**	**22 01 16.6**	**-1.0**
JOD2	**Odawara 2**	**3.01**	**290**	P	**P**	**22 00 46.2**	**-0.9**
JOD2				*eS*	**S**	**22 01 20.8**	**-1.3**
JIZS	**Izushimoda**	**3.06**	**279**	*eS*	**S**	**22 01 22.9**	**-0.5**
JHU	**Hanno**	**3.10**	**301**	P	**P**	**22 00 48.7**	**+0.3**
JHU				*eS*	**S**	**22 01 25.0**	**+0.5**
JAG	**Ashikaga**	**3.31**	**311**	P	**P**	**22 00 51.5**	**+0.1**
JAG				*eS*	**S**	**22 01 29.9**	**+0.1**
JRY	**Ryogami san**	**3.45**	**301**	P	**P**	**22 00 53.9**	**+0.5**
JRY				*eS*	**S**	**22 01 33.7**	**+0.4**
JYN	**Shimob**	**3.50**	**291**	P	**P**	**22 00 53.4**	**-0.7**
JYN				*eS*	**S**	**22 01 34.0**	**-0.6**
JMM	**Marumori**	**3.85**	**339**	P	**P**	**22 00 59.3**	**+0.3**
JMM				*eS*	**S**	**22 01 43.2**	**-0.2**
MAT	**Matsushiro**	**4.20**	**304**	P	**P**	**22 01 04.7**	**+0.8**
MAT				*eS*	**S**	**22 01 52.2**	**0.0**
JNG	**Nsakai**	**4.21**	**302**	P	**P**	**22 01 04.5**	**+0.5**
JNG				S	**S**	**22 01 52.0**	**-0.3**

*IDC **03** 22:01:32.8±0.8, 0.34S×96.86E, mb4.3/10, mb1 4.4/11, mb1mx4.2/18, mbtmp4.2/11, ML4.2/1, MS2.7/1, Ms1 2.9/1, ms1mx2.7/26, Error ellipse: s-maj=33.8km s-min=15.9km az=56.0*
*MOS **03** 22:01:35.1±0.6, 0.36S×96.83E, h33km, mb4.5/5, Error ellipse: s-maj=32.3km s-min=13.6km az=101.9*
*BJI **03** 22:01:37.2, 0.30S×97.00E, h30km, mB5.0, mb4.5, Ms4.0, Msz4.0*
*NEIC **03** 22:01:37.3±0.4, 0.28S×96.96E, h30km, mb4.3/6, Error ellipse: s-maj=11.9km s-min=7.4km az=60.0*
ISC 03 22:01:35.0±3.7, 0.28S±0.08×97.0E±0.1, h27km±25km, h30km±2.0km: pP-P, n32, σ0§88/33, mb4.2/20, MS3.9/1, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.64**	**34**	*eP*	**Pn**	**22 03 12.0**	**-1.5**
KULM				*e*		22 03 20.4	
CMAR	**Chiang Mai Arr**	**18.72**	**6**	Pn	**P**	**22 05 54.4**	**+0.3**
	0.3nm,0.3s,baz=197,slow=11,SNR=18						
CMAR				LR	LR	22 12 14.7	
	comp=Z,25nm,20.8s,baz=175,slow=34						
KKM	**Kota Kinabalu**	**20.21**	**72**	P	**P**	**22 06 10.5**	**-0.4**
KMI	**Kunming**	**25.87**	**12**	P	**P**	**22 07 06.6**	**+0.2**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.0						
KMI				AMB	AMB		
	comp=Z,126nm,4.8s						
KMI	**Kunming**	**25.87**	**12**	P	**P**	**22 07 06.6**	**+0.2**
	comp=Z,6.0nm,1.3s,mb4.0						
SHL	**Shillong**	**26.16**	**350**	*eP*	**P**	**22 07 11.0**	**+1.8**
LSA	**Lhasa**	**30.33**	**350**	*eP*	**P**	**22 07 47.7**	**+1.0**
ENH	**Enshi**	**32.64**	**20**	*eP*	**P**	**22 08 07.2**	**+0.2**
	comp=Z,5.6nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.28**	**124**	P	**P**	**22 08 12.5**	**-0.2**
	comp=Z,11nm,0.9s,mb4.8,baz=302,slow=3.4,SNR=6.6						
GTA	**Gaotai**	**39.59**	**3**	P	**P**	**22 09 07.3**	**+1.4**
GTA				AP	pP	22 09 15.4	+1.4
GTA				XP	sP	22 09 18.5	+1.1
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**41.47**	**120**	P	**P**	**22 09 22.0**	**+0.5**
	comp=Z,2.7nm,0.9s,mb3.9,baz=297,slow=9.4,SNR=5.6						
WRAB	**Tennant Creek**	**41.47**	**120**	P	**P**	**22 09 21.3**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
WRAB	**Tennant Creek**	**41.47**	**120**	P	**P**	**22 09 21.3**	**-0.3**
	comp=Z,7.1nm,1.0s,mb4.2						
ASAR	**Alice Springs**	**42.71**	**126**	P	**P**	**22 09 32.8**	**+1.1**
	comp=Z,3.5nm,0.8s,mb4.1,baz=299,slow=8.0,SNR=13						
HHC	**Hu-ho-hao-te**	**43.04**	**16**	*eP*	**P**	**22 09 38.6**	**+4.4**
HHC				AP	pP	22 09 49.3	+7.0
HHC				XP	sP	22 09 52.4	+6.7
HHC				PP	PP	22 11 16.7	+0.3
HHC				PCP	PcP	22 11 23.8	-0.8
HHC				SCP		22 15 13.3	
HHC				PCS		22 15 17.4	
HHC				S	**S**	**22 16 06.2**	**+8.4**
HHC				SCS	ScS	22 19 35.0	+4.5
HHC				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.3						
HHC				AMB	AMB		
	comp=Z,115nm,4.8s						
HHC				LR	LR		
	comp=N,102nm,17.3s,MS3.9						
HHC				LR	LR		
	comp=E,83nm,17.6s,MS3.9						
HHC				LR	LR		
	comp=Z,102nm,15.3s,MS3.8						
WMQ	**Urumqi**	**44.69**	**350**	*eP*	**P**	**22 09 48.0**	**+0.5**
WMQ				AP	pP	22 09 57.5	+1.9
WMQ				XP	sP	22 10 01.5	+2.5
WMQ				PP	PP	22 11 33.4	+0.5
WMQ				S	**S**	**22 16 21.2**	**-0.5**
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,122nm,4.2s						
WMQ				LR	LR		
	comp=E,105nm,25.6s						
MKAR	**Makanchi Array**	**48.62**	**347**	*i P*	**P**	**22 10 18.6**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**48.62**	**347**	P	**P**	**22 10 19.1**	**+0.7**
	comp=Z,5.5nm,0.6s,mb4.8,baz=156,slow=8.1,SNR=23						
SONM	**Songino Array**	**48.62**	**8**	P	**P**	**22 10 19.5**	**+1.1**
	comp=Z,1.5nm,0.9s,mb4.0,baz=187,slow=7.8,SNR=7.1						
ZAK	**Zakamensk**	**50.76**	**5**	*eP*	**P**	**22 10 35.1**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
STKA	**Stephens Creek**	**52.55**	**131**	P	**P**	**22 10 48.0**	**-0.5**
	comp=Z,2.7nm,0.7s,mb4.3,baz=339,slow=9.2,SNR=5.0						
KURK	**Kurchatov**	**53.16**	**346**	*eP*	**P**	**22 10 51.3**	**-1.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
KURK	**Kurchatov**	**53.16**	**346**	*eP*	**P**	**22 10 51.3**	**-1.5**
	comp=Z,3.1nm,1.0s,mb4.2						
ZAL	**Zalesovo**	**54.97**	**351**	P	**P**	**22 11 05.7**	**-0.4**
	comp=Z,3.9nm,0.6s,mb4.6,baz=319,slow=5.3,SNR=13						
BVAR	**Borovoye Array**	**57.57**	**341**	P	**P**	**22 11 23.4**	**-1.3**
	comp=Z,1.1nm,0.7s,mb4.0,baz=141,slow=9.5,SNR=5.0						
CHKZ	**Chkalovo**	**58.05**	**342**	*eP*	**P**	**22 11 26.6**	**-1.4**
CHKZ				*e*	pP	22 11 35.1	-1.3
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**58.05**	**342**	*eP*	**P**	**22 11 26.6**	**-1.4**
	comp=Z,2.2nm,0.7s,mb4.3						
CHKZ				*e*	pP	22 11 35.1	-1.3
KIV	**Kislovodsk**	**65.28**	**320**	P	**P**	**22 12 16.4**	**-0.4**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KIV	**Kislovodsk**	**65.28**	**320**	P	**P**	**22 12 16.4**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.5						
MATP	**Matopo**	**69.76**	**248**	P	**P**	**22 12 45.4**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=70,slow=5.7,SNR=5.5						
FINES	**FINESS Array B**	**81.20**	**333**	P	**P**	**22 13 48.9**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=90,slow=1.9,SNR=4.4						
TXAR	**Lajitas Array**	**145.04**	**32**	PKPbc	PKPbc	22 21 12.9	+2.0
	comp=Z,2.3nm,0.7s,baz=263,slow=1.8,SNR=22						

IDC 03 22:04:12.5±2.2, 0.27S×96.98E, mb4.1/4, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=96.6km s-min=27.5km az=58.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.71**	**6**	P	P	22 08 33.5	-1.2
	0.2nm,0.3s,baz=200,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**42.70**	**126**	P	P	22 12 11.5	-1.7
	1.0nm,0.7s,baz=298,slow=8.0,SNR=5.8						
MKAR	**Makanchi Array**	**48.61**	**347**	P	P	22 12 58.0	-1.8
	2.0nm,0.5s,baz=170,slow=9.4,SNR=15						
ZAL	**Zalesovo**	**54.96**	**351**	P	P	22 13 43.6	-3.9
	1.8nm,0.4s,baz=320,slow=7.6,SNR=4.5						
FINES	**FINESS Array B**	**81.19**	**333**	P	P	22 16 30.8	-0.6
	0.8nm,0.9s,baz=90,slow=9.7,SNR=3.4						

IDC 03 22:10:34.8±3.1, 0.36S×96.86E, mb3.9/3, mb1 3.9/4, mb1mx3.6/15, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=130.6km s-min=27.9km az=60.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.82**	**6

of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.80	8	Pn	P	22 21 28.2	-1.4
	0.2nm,0.3s,baz=199,slow=12,SNR=19						
MKAR	Makanchi Array	46.57	347	P	P	22 26 00.8	-1.8
	1.8nm,0.8s,baz=162,slow=7.7,SNR=13						
SONM	Songino Array	46.72	9	P	P	22 26 02.0	-1.8
	0.6nm,0.4s,baz=193,slow=8.9,SNR=9.9						
ZAL	Zalesovo	52.92	351	P	P	22 26 48.5	-2.9
	0.9nm,0.6s,baz=300,slow=5.7,SNR=6.4						
BVAR	Borovoye Array	55.53	341	P	P	22 27 08.4	-2.0
	0.5nm,0.6s,baz=117,slow=6.4,SNR=4.1						

NIC ***03*** *22:21:11.1±0.2,35.31N×31.64E,h25km,ML3.3,MW3.1*
NEIC ***03*** *22:21:11.1,35.31N×31.64E,h25km,ML3.3(NIC),After NIC.*
CSEM ***03*** *22:21:11.6±0.2,35.33N×31.91E,h20km,ML3.3,Error ellipse: s-maj=6.5km s-min=2.4km az=39.0*
ISK ***03*** *22:21:12.1,35.29N×31.93E,h28km,MD3.3*

ISC 03 22:21:12.9±0.9,35.28N±0.06×31.86E±0.07,h33km,n13, σ0§78/21,1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	Paphos	0.56	135	P	P	22 21 23.6	-0.6
ALFC	Alevga	0.62	101	P	P	22 21 24.9	-0.1
	36nm,0.2s						
ALFC				S	S	22 21 35.9	+2.0
LEF	Lefka	0.86	100	*i* PG	P	22 21 27.6	-0.9
LEF				*i* SG	S	22 21 39.2	-0.8
SZAC	Souni-Zanaja	0.99	122	P	P	22 21 30.4	0.0
	33nm,0.2s						
SZAC				S	S	22 21 44.9	+1.5
MAMC	Mammari	1.12	95	P	P	22 21 32.2	0.0
CSS	Prodhromos	1.25	104	*e*PN	P	22 21 33.8	-0.2
CSS				*e*SN	Sn	22 21 49.3	-0.7
CSS	Prodhromos	1.25	104	*i* P	P	22 21 34.1	+0.1
CSS				*i* S	S	22 21 48.9	-1.0
CSS	Prodhromos	1.25	104	⇓P	P	22 21 33.8	-0.2
CSS				*e*Sn	Sn	22 21 49.3	-0.7
HDMB	Hadim	1.76	17	PN	Pn	22 21 40.9	-0.7
ELL	Elmali	2.16	313	*e*PN	Pn	22 21 47.7	+0.4
MEST	Erdemli	2.27	54	*i* P	P	22 21 49.0	+0.3
MEST				*i* S	S	22 22 16.1	+0.3
BCK	Bucak	2.41	335	*e*PN	Pn	22 21 51.0	+0.1
COBT	Iskenderun	3.78	70	*i* P	P	22 22 11.2	+0.9
COBT				*i* S	S	22 22 53.9	-0.2

BJI ***03*** *22:24:02.8,0.46N×97.40E,h38km,mB5.1,mb4.9,Ms4.3, Msz4.2*
IDC ***03*** *22:24:03.4±0.7,1.03N×97.31E,mb4.2/14,mb1 4.3/15, mb1mx4.2/19,mbtmp4.2/15,ML4.5/1,Error ellipse: s-maj=29.3km s-min=16.3km az=53.0*
MOS ***03*** *22:24:03.2±1.4,0.61N×97.68E,h33km,mb4.9/12,Error ellipse: s-maj=22.6km s-min=8.5km az=96.9*
NEIC ***03*** *22:24:06.7±0.4,1.00N×97.32E,mb4.7/17,Error ellipse: s-maj=12.1km s-min=8.4km az=61.0*

ISC 03 22:24:08.2±2.7,1.08N±0.09×97.39E±0.10,h45km±22km, n68,σ1§01/68,mb4.5/38,MS4.1/2,1C-4D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.29	38	⇑*i* P	P	22 25 26.9	+0.1
CMAR	Chiang Mai Arr	17.33	5	P	P	22 28 06.9	-1.7
	0.6nm,0.3s,baz=196,slow=12,SNR=28						
VIS	Vishakhapatnam	21.55	321	*e*	P	22 28 56.0	+0.2
KMI	Kunming	24.45	12	⇓P	P	22 29 27.0	+2.7
KMI				AP		22 29 32.2	
KMI				PP	PP	22 30 02.2	+1.4
KMI				S	S	22 33 46.2	+7.7
KMI				SS	SS	22 34 42.8	+7.7
KMI				AMB	AMB		
	comp=Z,41nm,1.3s,mb4.7						
KMI				AMB	AMB		
	comp=Z,176nm,3.8s						
KMI				LR	LR		
	comp=N,541nm,18.9s,MS4.2						
KMI				LR	LR		
	comp=E,306nm,15.3s,MS4.2						
KMI				LR	LR		
	comp=Z,601nm,15.4s,MS4.2						
KMI	Kunming	24.45	12	⇓P	P	22 29 27.0	+2.7
KMI				*SP		22 29 34.8	
KMI						22 30 02.2	
KMI				S	S	22 33 46.2	+7.7
KMI				SS	SS	22 34 42.8	+7.7
KMI				pmax	pmax		
	comp=Z,41nm,1.3s,mb4.7						
KMI				MLR	MLR		
	comp=Z,600nm,15.4s,MS4.2						
KMI	Kunming	24.45	12	⇓P	P	22 29 27.0	+2.7
	comp=Z,41nm,1.3s,mb4.7						
KMI				pP		22 29 32.2	
KMI				sP		22 29 34.8	
KMI				PP	PP	22 30 02.2	+1.4
KMI				S	S	22 33 46.2	+7.7
KMI				SS	SS	22 34 42.8	+7.7
KMI				LR	LR		
	comp=Z,600nm,15.4s,MS4.2						
HYB	Hyderabad	24.63	312	*e*P	P	22 29 30.0	+3.9
HYB	Hyderabad	24.63	312	*i* P	P	22 29 30.0	+3.9
SHL	Shillong	24.92	348	*e*P	P	22 29 30.0	+1.2
GYA	Guiyang	26.76	19	⇓*i*P	P	22 29 47.5	+1.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	Jiri	28.53	339	*e*P	P	22 30 02.4	+0.5
	comp=Z,42nm,1.1s,mb5.1						
PKI	Pulchoki	28.74	337	*e*P	P	22 30 04.8	+1.0
	comp=Z,39nm,1.2s,mb5.0						
PKI	Pulchoki	28.74	337	*e*P	P	22 30 04.8	+1.0
PKI				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
DMN	Daman	28.89	337	*e*P	P	22 30 05.8	+0.7
	comp=Z,24nm,1.1s,mb4.8						
KKN	Kakani	28.98	337	*e*P	P	22 30 06.1	+0.1
	comp=Z,35nm,1.0s,mb5.0						
KKN	Kakani	28.98	337	*e*P	P	22 30 06.1	+0.1
KKN				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
LSA	Lhasa	29.07	349	*e*P	P	22 30 07.0	+0.2
LSA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
LSA	Lhasa	29.07	349	*e*P	P	22 30 07.0	+0.2
	comp=Z,4.8nm,0.7s,mb4.3						
GKN	Gorkha	29.42	337	*e*P	P	22 30 09.7	-0.2
	comp=Z,26nm,1.0s,mb4.9						
KOLN	Koldanda	29.65	335	*e*P	P	22 30 12.0	+0.1
	comp=Z,26nm,1.0s,mb4.9						
ENH	Enshi	31.22	20	*e*P	P	22 30 24.2	-1.6
	comp=Z,14nm,1.0s,mb4.8						
ENH				*e*		22 30 31.0	
LZH	Lanzhou	35.34	9	*e*P	P	22 31 01.0	-0.4
LZH				AP	pP	22 31 08.5	-5.0
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.0						
LZH	Lanzhou	35.34	9	*e*P	P	22 31 01.0	-0.4
	comp=Z,28nm,1.3s,mb5.0						
LZH				pP	pP	22 31 08.5	-5.0
GTA	Gaotai	38.21	3	P	P	22 31 25.6	+0.1
GTA				AP	pP	22 31 32.1	-5.5
GTA				XP	sP	22 31 36.5	-6.7
GTA				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
GTA				AMB	AMB		
	comp=Z,99nm,5.3s						
GTA				LR	LR		
	comp=N,134nm,18.3s,MS4.0						
GTA				LR	LR		
	comp=E,131nm,14.1s,MS4.0						
GTA				LR	LR		
	comp=Z,210nm,16.8s,MS4.0						
WRA	Warramunga Arr	41.81	122	P	P	22 31 54.2	-1.3
	comp=Z,1.7nm,1.0s,mb3.6,baz=298,slow=10,SNR=3.3						
WRAB	Tennant Creek	41.81	122	*e*P	P	22 31 56.7	+1.1
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
WRAB	Tennant Creek	41.81	122	*e*P	P	22 31 56.7	+1.1
	comp=Z,4.6nm,0.8s,mb4.2						
BJT	Baijiatuau	42.35	22	*e*P	P	22 32 00.9	+1.1
BJT				*e*		22 32 07.4	
BJT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJT	Baijiatuau	42.35	22	*e*P	P	22 32 00.9	+1.1
	comp=Z,8.8nm,0.7s,mb4.5						
BJT				*e*		22 32 07.4	
BJI	Beijing	42.38	22	P	P	22 32 00.9	+1.0
BJI				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.8						
BJI	Beijing	42.38	22	P	P	22 32 00.9	+1.0
	comp=Z,19nm,0.7s,mb4.8						
ASAR	Alice Springs	43.17	127	P	P	22 32 06.7	+0.1
	comp=Z,1.8nm,0.9s,mb3.8,baz=299,slow=7.5,SNR=11						
WMQ	Urumqi	43.42	350	*e*P	P	22 32 09.5	+1.1
AAK	Ala-Archa	46.18	337	P	P	22 32 36.4	+5.9
AAK				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.6						
SONM	Songino Array	47.22	8	P	P	22 32 39.4	+0.8
	comp=Z,7.2nm,0.9s,mb4.6,baz=191,slow=8.8,SNR=29						
SONM				PcP	PcP	22 34 10.2	+0.4
	comp=Z,2.0nm,0.7s,baz=190,slow=3.6,SNR=6.6						
ULN	Ulaanbaatar	47.35	9	*e*P	P	22 32 39.1	-0.5
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ULN	Ulaanbaatar	47.35	9	*e*P	P	22 32 39.1	-0.5
	comp=Z,4.2nm,0.8s,mb4.4						
MKAR	Makanchi Array	47.40	346	*i* P	P	22 32 40.1	+0.1
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	Makanchi Array	47.40	346	P	P	22 32 40.3	+0.2
	comp=Z,6.5nm,0.8s,mb4.6,baz=153,slow=8.1,SNR=20						
CN2	Changchun	49.32	27	*e*P	P	22 32 55.1	+0.1
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
ZAK	Zakamensk	49.37	5	*e*P	P	22 32 55.1	-0.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
HIA	Hailar	51.69	19	*e*P	P	22 33 13.1	+0.2
HIA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HIA	Hailar	51.69	19	*e*P	P	22 33 13.1	+0.2
	comp=Z,5.3nm,0.8s,mb4.5						
KURK	Kurchatov	51.95	345	*e*P	P	22 33 14.1	-0.7
KURK				*e*		22 33 19.3	
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KURK	Kurchatov	51.95	345	*e*P	P	22 33 14.1	-0.7
	comp=Z,4.3nm,0.9s,mb4.4						
KURK				*e*		22 33 19.3	
STKA	Stephens Creek	53.13	132	P	P	22 33 24.2	+0.3
	comp=Z,3.2nm,0.8s,mb4.3,baz=299,slow=12,SNR=3.9						
ZAL	Zalesovo	53.70	351	P	P	22 33 27.2	-0.6
	comp=Z,5.7nm,0.8s,mb4.6,baz=307,slow=6.2,SNR=25						
ZAL	Zalesovo	53.70	351	P	P	22 33 27.2	-0.6
NVS	Novosibirsk	54.83	350	*i* P	P	22 33 34.7	-1.3
KLR	Kul'dur	56.27	26	*e*P	P	22 33 43.6	-2.9
BVA0	Borovoye Array	56.42	341	P	P	22 33 45.8	-1.8
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
CHKZ	Chkalovo	56.90	341	*e*P	P	22 33 49.5	-1.5
CHKZ				pmax	pmax		
	comp=Z,59nm,0.9s,mb5.6						
CHKZ	Chkalovo	56.90	341	*e*P	P	22 33 49.5	-1.5
	comp=Z,59nm,0.9s,mb5.6						
BOD	Bodaibo	58.09	10	*e*P	P	22 33 57.7	-1.6
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
BRTR	Keskin Array B	69.33	312	P	P	22 35 11.8	-1.5
	comp=Z,0.8nm,0.8s,mb3.7,baz=150,slow=10.0,SNR=5.0						
MATP	Matopo	70.66	248	P	P	22 35 21.9	+0.3
	comp=Z,2.7nm,1.1s,mb4.1,baz=63,slow=11,SNR=2.2						
MATP	Matopo	70.66	248	P	P	22 35 21.9	+0.3
AKASG	Malin Array Be	75.47	322	P	P	22 35 48.4	-1.0
	comp=Z,0.3nm,0.4s,mb3.5,baz=87,slow=5.1,SNR=5.6						
MLR	Muntele Rosu	76.28	317	P	P	22 35 54.6	+0.5
	comp=Z,1.6nm,0.9s,mb4.0,baz=101,slow=4.7,SNR=4.0						
FINES	FINESS Array B	80.19	332	P	P	22 36 15.1	-0.2
	comp=Z,1.9nm,1.0s,mb4.0,baz=135,slow=11,SNR=6.5						
FINES	FINESS Array B	80.19	332	P	P	22 36 15.1	-0.2
GERES	GERESS Array B	85.03	319	P	P	22 36 41.1	+0.7
	comp=Z,1.4nm,0.9s,mb4.1,baz=90,slow=2.7,SNR=11						
HFS	Hagfors	85.92	330	P	P	22 36 45.8	+1.3
	comp=Z,0.7nm,0.6s,mb4.0,baz=178,slow=40,SNR=3.5						
NB2	NORSAR Subarra	87.20	331	P	P	22 36 51.0	+0.3
	comp=Z,1.1nm,0.8s,mb4.1,baz=94,slow=4.8						
NOA	NORSAR Array B	87.20	331	P	P	22 36 51.0	+0.3
	comp=Z,1.8nm,0.8s,mb4.3,baz=94,slow=4.8,SNR=5.4						
YKA	Yellowknife Ar	112.15	15	PP	PP	22 43 22.3	-5.6
	comp=Z,0.3nm,0.8s,baz=329,slow=7.1,SNR=3.8						
TXAR	Lajitas Array	143.67	32	PKP	PKPdf	22 43 39.4	+0.5
	comp=Z,0.3nm,0.7s,baz=332,slow=2.0,SNR=3.6						
JCT	Junction City	144.60	26	*e*PKP	PKPdf	22 43 41.2	+0.6

NNC ***03*** *22:27:35.9±8.9,44.15N×85.88E,h21km±37km,mpv2.5, Error ellipse: s-maj=150.3km s-min=65.2km az=51.0*

BJI 03 22:27:36.2,44.04N×85.79E,h13km,ML2.8,4C,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	1.39	98	*e*PG	Pg	22 28 01.0	-3.1
WMQ				SG	Sg	22 28 20.0	-2.8
WMQ				Smax			
	comp=N,27nm,0.3s						
WMQ				Smax			
	comp=E,48nm,0.4s						
MK31	Makanchi Array	3.69	319	⇑Pn	Pn	22 28 34.1	-0.2
	comp=E,0.3nm,0.6s,baz=130,slow=17,SNR=37						
MK31				⇑Pg	Pg	22 28 42.7	-7.3
	comp=E,2.0nm,0.5s,baz=130,slow=18,SNR=17						
MK31				⇑Lg		22 29 32.0	
	comp=E,8.5nm,0.6s,baz=137,slow=33,SNR=9.4						
KURK	Kurchatov	8.26	326	⇑Lg		22 31 59.2	
	comp=E,1.0nm,0.7s						

BJI ***03*** *22:31:48.9,0.86N×97.53E,h31km,mB5.0,mb5.1,Ms4.6, Msz4.3*
HRVD ***03*** *22:31:51.6±1.1,1.00N×97.17E,h33km±2km,MW4.7/24, Centroid moment Tensor Solution. LP body waves: s16,c20;Mantle waves: s24,c33; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.66±.19; $M_{\theta\theta}$-0.47±.10; $M_{\phi\phi}$-1.19±.13; $M_{r\theta}$0.49±.11; $M_{\theta\phi}$-0.01±.09; $M_{\phi r}$-0.58±.14; Best double couple: $M_0$1.592×10^{16} NP1:φs7°,δ34°,λ108°. NP2:φs165°,δ58°,λ78°. Principal axes: T 1.873, Plg74°, Azm42°; N -.567, Plg10°, Azm172°; P -1.311, Plg12°, Azm264°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***03*** *22:31:51.0±0.9,1.09N×97.46E,h33km,mb5.1/32 Error ellipse: s-maj=12.7km s-min=5.9km az=110.2*
NEIC ***03*** *22:31:51.6±0.2,1.03N×97.41E,mb4.9/35,Error ellipse: s-maj=6.1km s-min=4.6km az=49.0*
IDC ***03*** *22:31:55.5±6.0,1.08N×97.46E,h58km±55km,mb4.4/21, mb1 4.6/22,mb1mx4.5/24,mbtmp4.7/22,ML5.2/1,MS4.1/13, Ms1 4.1/13,ms1mx3.9/28,Error ellipse: s-maj=19.0km s-min=12.5km az=56.0*

ISC 03 22:31:50.0±0.3,1.04N±0.04×97.42E±0.04,h26km, h26km±1.3km:pP-P,n177,σ0§95/175,mb4.8/72,MS4.2/23, 16C-7D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.03	46	P	Pn	22 33 06.9	+1.0
KULM	Kulim	5.31	37	⇑*e*P	Pn	22 33 10.5	+0.6
KGM	Kluang	5.98	81	P	Pn	22 33 20.7	+1.5
KKTK	Khon Kaen	16.11	19	P	P	22 35 38.0	+1.4
	340nm,0.7s						
BDT	Bhumibol Dam	16.18	5	P	P	22 35 39.0	+1.5
	24nm,0.7s						
CMAR	Chiang Mai Arr	17.38	5	P	P	22 35 52.1	-0.5
	2.9nm,0.3s,baz=193,slow=11,SNR=52						
CMAR				LR	LR	22 43 21.2	
	comp=Z,739nm,18.6s,baz=195,slow=40						
NANT	Nan	17.94	10	⇑P	P	22 36 00.0	+0.4
	512nm,1.0s						
KKM	Kota Kinabalu	19.40	75	*e*P	P	22 36 16.9	-0.3
KKM	Kota Kinabalu	19.40	75	P	P	22 36 19.1	+1.9
VIS	Vishakhapatnam	21.60	321	*e*P	P	22 36 41.2	+1.0
VIS				*e*		22 36 43.2	
	comp=Z,52nm,0.6s						
VIS				*e*S	S	22 40 33.4	+0.3
QIZ	Qiongzhong	21.63	34	P	P	22 36 40.4	-0.1
BWNR	Bhubaneshwar	22.25	330	*e*P	P	22 36 44.5	-2.2
BWNR				*e*		22 36 50.1	
	comp=Z,47nm,0.5s						
BWNR				*e*		22 39 16.9	
KMI	Kunming	24.49	12	P	P	22 37 10.0	+1.4
KMI				AP		22 37 22.7	
KMI				PP	PP	22 37 49.0	+4.5
KMI				PPP	PPP	22 38 00.3	+5.3
KMI				S	S	22 41 27.8	+3.5
KMI				AMB	AMB		
	comp=Z,58nm,1.1s,mb4.9						
KMI				AMB	AMB		
	comp=Z,285nm,4.2s						
KMI				LR	LR		
	comp=N,764nm,15.6s,MS4.5						
KMI				LR	LR		
	comp=E,727nm,13.1s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,14.8s,MS4.5						
KMI	Kunming	24.49	12	P	P	22 37 10.0	+1.4
KMI				*PP		22 37 22.7	
KMI						22 37 49.0	
KMI				S	S	22 41 27.8	+3.5
KMI				SS	SS	22 42 28.8	+9.0
KMI				pmax	pmax		
	comp=Z,58nm,1.1s,mb4.9						
KMI				MLR	MLR		
	comp=Z,1μm,14.8s,MS4.5						
KMI	Kunming	24.49	12	P	P	22 37 10.0	+1.4
	comp=Z,58nm,1.1s,mb4.9						
KMI				pP		22 37 22.7	
KMI				sP		22 37 28.6	
KMI				PP	PP	22 37 49.0	+4.5
KMI				PPP	PPP	22 38 00.3	+5.3
KMI				S	S	22 41 27.8	+3.5
KMI				sS		22 41 49.7	
KMI				SS	SS	22 42 28.8	+9.0
KMI				SSS	SSS	22 42 45.9	+10
KMI				LR	LR		
	comp=Z,1μm,14.8s,MS4.5						
HYB	Hyderabad	24.68	312	*e*P	P	22 37 20.0	+10
HYB				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
HYB	Hyderabad	24.68	312	*e*P	P	22 37 20.0	+10
	comp=Z,30nm,1.0s,mb4.8						
HYB	Hyderabad	24.68	312	*i* P	P	22 37 20.0	+10
	comp=Z,30nm,1.0s,mb4.8						
SHL	Shillong	24.96	348	⇑*i*P	P	22 37 14.0	+0.9
SHL				*e*S	S	22 41 36.0	+3.7
BLSP	Bilaspur	25.71	326	*e*P	P	22 37 20.9	+0.7
BLSP				*e*		22 37 23.7	
	comp=Z,24nm,0.8s						
BLSP				*e*		22 41 42.1	
GYA	Guiyang	26.79	19	⇑*i*P	P	22 37 29.4	-0.7
GYA				AP	pP	22 37 38.3	+0.5
GYA				XP	sP	22 37 42.7	+1.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,140nm,3.8s						
GYA				LR	LR		
	comp=N,470nm,13.2s,MS4.4						
GYA				LR	LR		
	comp=E,550nm,15.2s,MS4.4						
GYA				LR	LR		
	comp=Z,600nm,16.0s,MS4.2						
JIRN	Jiri	28.58	339	*e*P	P	22 37 46.7	+0.4
	comp=Z,73nm,0.9s,mb5.4						
PKI	Pulchoki	28.79	337	*e*P	P	22 37 47.3	-0.8
	comp=Z,35nm,1.0s,mb5.1						
PKI	Pulchoki	28.79	337	*e*P	P	22 37 47.3	-0.8
PKI				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
DMN	Daman	28.94	337	*e*P	P	22 37 48.4	-1.1
	comp=Z,45nm,1.0s,mb5.2						
KKN	Kakani	29.03	337	*e*P	P	22 37 50.6	+0.2
	comp=Z,47nm,0.9s,mb5.2						
KKN	Kakani	29.03	337	*e*P	P	22 37 50.6	+0.2
KKN				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.9						
LSA	Lhasa	29.12	349	*e*P	P	22 37 51.8	+0.6
LSA				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.0						
LSA	Lhasa	29.12	349	*e*P	P	22 37 51.8	+0.7
	comp=Z,24nm,0.8s,mb5.0						
GKN	Gorkha	29.47	337	*e*P	P	22 37 54.4	0.0
	comp=Z,43nm,0.9s,mb5.2						
KOLN	Koldanda	29.70	335	*e*P	P	22 37 56.9	+0.5
	comp=Z,42nm,0.8s,mb5.2						
MBWA	Marble Bar	31.03	137	*e*P	P	22 38 08.0	-0.1
ENH	Enshi	31.25	20	*e*P	P	22 38 08.3	-1.8
	comp=Z,58nm,0.8s,mb5.5						
LGTI	Lohaghat	32.65	331	⇓*i*P	P	22 38 23.0	+0.7
FITZ	Fitzroy Crossi	33.66	126	⇑*i*P	P	22 38 29.6	-1.5
	comp=Z,6.5nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	33.66	126	P	P	22 38 30.1	-1.1
	comp=Z,7.2nm,0.5s,mb4.8,baz=334,slow=4.8,SNR=19						
FITZ				LR	LR	22 54 20.3	
	comp=Z,236nm,18.4s,MS3.9,baz=284,slow=40						
LZH	Lanzhou	35.38	9	⇑P	P	22 38 44.9	-0.9
LZH				AP	pP	22 38 53.1	-0.4
LZH				XP	sP	22 38 56.5	-0.4
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,97nm,4.6s						
LZH				LR	LR		
	comp=N,322nm,13.5s						
LZH				LR	LR		
	comp=Z,424nm,17.6s,MS4.2						
LZH	Lanzhou	35.38	9	⇑P	P	22 38 44.9	-0.9
LZH				*SP	sP	22 38 56.5	-0.4
LZH				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
LZH				MLR	MLR		
	comp=Z,420nm,17.6s,MS4.2						
LZH	Lanzhou	35.38	9	⇑P	P	22 38 44.9	-0.9
	comp=Z,29nm,1.3s,mb5.0						
LZH				pP	pP	22 38 53.1	-0.4
LZH				sP	sP	22 38 56.5	-0.4
LZH				LR	LR		
	comp=Z,420nm,17.6s,MS4.2						
NJ2	Nanjing	36.89	31	*e*P	P	22 38 57.5	-1.0
NJ2				AP	pP	22 39 08.2	+1.9
NJ2				XP	sP	22 39 13.5	+3.9
NJ2				PP	PP	22 40 21.8	-2.8
NJ2				S	S	22 44 41.0	0.0
NJ2				XS		22 44 56.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,160nm,9.0s						
NJ2				LR	LR		
	comp=N,520nm,17.6s,MS4.5						
NJ2				LR	LR		
	comp=E,590nm,18.8s,MS4.5						
NJ2				LR	LR		
	comp=Z,270nm,12.4s						
SSE	Sheshan	37.42	35	P	P	22 39 02.0	-1.0
SSE				AP	pP	22 39 10.9	+0.1
SSE				XP	sP	22 39 15.2	+1.1
SSE				PP	PP	22 40 25.8	-5.3
SSE				S	S	22 44 49.0	-0.2
SSE				XS		22 45 04.1	
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,67nm,4.7s						
SSE				LR	LR		
	comp=N,187nm,19.4s,MS3.9						
SSE				LR	LR		
	comp=E,53nm,19.4s,MS3.9						
SSE				LR	LR		
	comp=Z,223nm,20.5s,MS4.0						
SSE	Sheshan

GTA AP pP 22 39 16.9 -0.8
GTA XP sP 22 39 21.4 +0.4
GTA PCP PcP 22 41 24.9 +0.5
GTA S **S** **22 45 05.6 +3.8**
GTA AMB AMB
comp=Z,29nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,74nm,8.0s
GTA LR LR
comp=N,238nm,17.6s,MS4.2
GTA LR LR
comp=E,204nm,16.0s,MS4.2
GTA LR LR
comp=Z,246nm,16.4s,MS4.1
NWAO Narrogin (SRO) 38.61 153 LR LR 22 54 57.6
comp=Z,317nm,20.2s,MS4.1,baz=142,slow=36
JOW Kunigami 39.19 46 P **P** **22 39 18.3 +0.4**
comp=Z,34nm,0.6s,mb5.2,baz=243,slow=7.8,SNR=5.3
HHC Hu-ho-hao-te 41.65 16 *eP* **P** **22 39 36.7 -1.3**
HHC AP pP 22 39 50.4 +4.5
HHC XP sP 22 39 54.4 +5.3
HHC PP PP 22 41 18.3 +0.9
HHC PCP PcP 22 41 33.7 -1.6
HHC SCP 22 45 18.7
HHC PCS 22 45 23.7
HHC S **S** **22 45 48.8 -3.9**
HHC XS 22 46 06.7
HHC SS SS 22 48 50.4 -2.9
HHC SCS ScS 22 49 37.1 -0.3
HHC AMB AMB
comp=Z,21nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,172nm,5.5s
HHC LR LR
comp=N,573nm,15.9s,MS4.6
HHC LR LR
comp=E,363nm,17.1s,MS4.6
HHC LR LR
comp=Z,485nm,16.6s,MS4.5
WRA Warramunga Arr 41.76 122 P **P** **22 39 39.0 -0.2**
comp=Z,5.8nm,0.6s,mb4.4,baz=301,slow=9.0,SNR=29
WRAB Tennant Creek 41.77 122 ⇓*iP* **P** **22 39 39.1 -0.2**
WRAB Tennant Creek 41.77 122 *eP* **P** **22 39 38.5 -0.7**
comp=Z,13nm,0.7s,mb4.7
WB2 Warramunga Arr 41.77 122 ⇓*iP* **P** **22 39 39.0 -0.3**
BJT Baijiatuau 42.38 21 *eP* **P** **22 39 44.9 +0.8**
BJT pmax pmax
comp=Z,55nm,0.8s
BJT Baijiatuau 42.38 21 *eP* **P** **22 39 44.9 +0.8**
comp=Z,55nm,0.8s,mb5.2
BJI Beijing 42.41 21 P **P** **22 39 45.2 +1.0**
BJI AMB AMB
comp=Z,86nm,0.7s,mb5.5
BJI LR LR
comp=N,245nm,15.2s,MS4.4
BJI LR LR
comp=E,246nm,14.6s,MS4.4
BJI LR LR
comp=Z,123nm,27.4s
BJI Beijing 42.41 21 P **P** **22 39 45.2 +1.0**
comp=Z,86nm,0.7s,mb5.5
BJI S S 22 46 24.4 +21
BJI LR LR
comp=Z,120nm,27.4s,MS3.6
FORT Forrest 43.01 140 *eP* **P** **22 39 51.4 +2.1**
comp=Z,641nm,0.7s
ASPA Alice Springs 43.12 127 *eP* **P** **22 39 50.2 -0.1**
ASAR Alice Springs 43.12 127 P **P** **22 39 50.3 0.0**
comp=Z,5.0nm,0.8s,mb4.3,baz=300,slow=7.6,SNR=36
WMQ Urumqi 43.47 350 ⇑P **P** **22 39 53.8 +1.0**
WMQ AP pP 22 40 06.3 +5.6
WMQ XP sP 22 40 11.8 +7.8
WMQ PP PP 22 41 37.3 +1.4
WMQ PCP PcP 22 41 42.0 +0.7
WMQ PPP PPP 22 42 13.8 +1.7
WMQ S **S** **22 46 18.6 -0.7**
WMQ XS 22 46 39.3
WMQ AMB AMB
comp=Z,31nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,144nm,5.0s
WMQ LR LR
comp=E,595nm,22.4s
WMQ LR LR
comp=Z,145nm,23.8s,MS3.8
KZA Kyzart 45.47 337 P **P** **22 40 09.9 +1.0**
SNR=5.5
UCH Uchtor 45.88 336 P **P** **22 40 13.2 +1.0**
SNR=26
TKM2 Tokmak 2 46.05 338 P **P** **22 40 14.3 +0.8**
SNR=17
KBK Karagaybulak 46.07 337 P **P** **22 40 15.1 +1.4**
SNR=16
AML Almayashu 46.14 335 P **P** **22 40 15.2 +1.0**
SNR=12
AAK Ala-Archa 46.23 337 P **P** **22 40 15.3 +0.3**
SNR=7.6
AAK Ala-Archa 46.23 337 *eP* **P** **22 40 14.8 -0.2**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AAK Ala-Archa 46.23 337 *eP* **P** **22 40 14.8 -0.2**
comp=Z,6.1nm,0.8s,mb4.6
FRU Bishkek 46.35 337 *eP* **P** **22 40 16.5 +0.6**
EKS2 Erkin-Say 46.55 336 P **P** **22 40 18.2 +0.8**
SNR=16
USP Ospenovka 46.77 337 P **P** **22 40 19.8 +0.6**
SNR=25
SONM Songino Array 47.26 8 P **P** **22 40 23.3 +0.3**
comp=Z,9.8nm,0.5s,mb5.0,baz=190,slow=10.0,SNR=119
SONM PcP PcP 22 41 54.2 -0.2
comp=Z,7.5nm,0.8s,baz=186,slow=3.8,SNR=10
SONM LR LR 23 02 50.5
comp=Z,478nm,19.2s,MS4.5,baz=197,slow=39
ULN Ulaanbaatar 47.38 9 *eP* **P** **22 40 24.2 +0.2**
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ULN Ulaanbaatar 47.38 9 *eP* **P** **22 40 24.1 +0.1**
comp=Z,9.5nm,0.9s,mb4.7
MKAR Makanchi Array 47.45 346 *iP* **P** **22 40 24.5 0.0**
MKAR pmax pmax
comp=Z,25nm,0.7s
MKAR Makanchi Array 47.45 346 P **P** **22 40 24.6 0.0**
comp=Z,28nm,0.7s,mb5.3,baz=159,slow=7.8,SNR=243
MKAR LR LR 23 04 08.3
comp=Z,136nm,20.6s,MS3.9,baz=90,slow=41
KKAR Karatay Array 48.30 334 *iP* **P** **22 40 30.9 -0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
CN2 Changchun 49.35 27 *eP* **P** **22 40 38.8 -0.5**
CN2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
ZAK Zakamensk 49.41 5⇑*eP* **P** **22 40 39.6 -0.1**
ZAK *e* 22 42 00.6
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MOY Mondy 50.54 3 *eP* **P** **22 40 48.3 0.0**
TLY Talaya 50.73 5 *eP* **P** **22 40 48.0 -1.7**
TLY *e*SS 22 48 13.6
TLY pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
TLY Talaya 50.73 5 *eP* **P** **22 40 49.6 -0.1**
comp=Z,9.0nm,0.8s,mb4.8
HIA Hailar 51.72 18 *eP* **P** **22 40 56.9 -0.4**
HIA pmax pmax
comp=Z,25nm,0.8s
HIA Hailar 51.72 18 *eP* **P** **22 40 56.9 -0.4**
comp=Z,25nm,0.8s,mb5.2
MDJ Mudanjiang 51.90 29 P **P** **22 40 58.9 +0.2**
MDJ AP pP 22 41 07.0 +0.3
MDJ XP sP 22 41 11.1 +1.3
MDJ AMB AMB
comp=Z,12nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,57nm,8.1s
MDJ LR LR
comp=N,150nm,17.1s,MS4.1
MDJ LR LR
comp=E,75nm,17.1s,MS4.1
MDJ LR LR
comp=Z,210nm,17.1s,MS4.2
KURK Kurchatov 52.00 345 *iP* **P** **22 40 59.0 -0.4**
KURK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KURK Kurchatov 52.00 345 *eP* **P** **22 40 58.9 -0.5**
comp=Z,25nm,0.9s,mb5.1
CTA Charters Tower 52.23 116 LR LR 23 06 22.1
comp=Z,196nm,19.5s,MS4.2,baz=248,slow=40
OPO Ambohidratompo 53.06 246 P **P** **22 41 07.8 0.0**
comp=Z,5.3nm,0.9s,mb4.5,baz=97,slow=12,SNR=6.2
STKA Stephens Creek 53.09 132⇑*iP* **P** **22 41 08.1 +0.4**
comp=Z,8.2nm,1.0s,mb4.6
STKA Stephens Creek 53.09 132 P **P** **22 41 08.2 +0.4**
comp=Z,11nm,0.9s,mb4.8,baz=318,slow=5.8,SNR=12
STKA LR LR 23 06 17.1
comp=Z,289nm,19.1s,MS4.3,baz=23,slow=39
ZAL Zalesovo 53.74 351 P **P** **22 41 11.4 -0.9**
comp=Z,31nm,0.5s,mb5.5,baz=311,slow=5.4,SNR=154
NVS Novosibirsk 54.87 350 *iP* **P** **22 41 18.9 -1.6**
NVS *i* 22 42 17.4
NVS pmax pmax
comp=Z,14nm,0.8s,mb5.0
NVS pmax pmax
comp=N,9.0nm,0.6s
NVS pmax pmax
comp=E,6.0nm,0.5s
KLR Kul'dur 56.30 26 *eP* **P** **22 41 27.9 -3.0**
KLR MLR MLR
comp=Z,600nm,13.0s,MS4.9
BVA0 Borovoye Array 56.47 341 P **P** **22 41 30.6 -1.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BVAR Borovoye Array 56.47 341 P **P** **22 41 30.7 -1.4**
comp=Z,16nm,0.7s,mb5.2,baz=139,slow=9.1,SNR=132
CHKZ Chkalovo 56.95 341 *eP* **P** **22 41 34.3 -1.2**
CHKZ pmax pmax
comp=Z,29nm,0.7s,mb5.4
CHKZ Chkalovo 56.95 341 *eP* **P** **22 41 34.3 -1.2**
comp=Z,29nm,0.7s,mb5.4
BOD Bodaibo 58.13 10 *eP* **P** **22 41 42.8 -0.9**
BOD pmax pmax
comp=Z,28nm,0.8s,mb5.3
KMBO Kilima Mbogo 60.20 268 *eP* **P** **22 41 59.2 +0.5**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 60.20 268 P **P** **22 41 59.4 +0.7**
comp=Z,0.8nm,0.6s,mb3.9,baz=64,slow=13,SNR=7.5
KMBO LR LR 23 04 42.6
comp=Z,100nm,20.1s,MS4.0,baz=94,slow=33
KMBO Kilima Mbogo 60.20 268 *eP* **P** **22 41 59.2 +0.5**
comp=Z,2.6nm,0.9s,mb4.3
YSS Yuzh-Sakhalins 60.36 34⇑*iP* **P** **22 41 58.0 -1.3**
YSS *e* pP 22 42 05.7 -1.8
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 60.36 34 *eP* **P** **22 41 58.7 -0.5**
comp=Z,21nm,0.8s,mb5.2
GNI Garni 61.56 316 *eP* **P** **22 42 06.1 -1.5**
GNI pmax pmax
comp=Z,22nm,1.7s
GNI Garni 61.56 316 LR LR 23 13 57.3
comp=Z,53nm,18.5s,MS3.7,baz=353,slow=41
TI2 Plekhanov 62.24 318 *eP* **P** **22 42 12.4 +0.3**
SVE Sverdlovsk 62.92 336⇓*eP* **P** **22 42 14.6 -1.7**
SVE pmax pmax
comp=Z,20nm,1.0s,mb5.2
KIV Kislovodsk 64.57 319⇑*iP* **P** **22 42 25.4 -2.0**
KIV *e**PP pP 22 42 42.4 +6.8
KIV *e* 22 42 57.9
KIV *e* 22 44 47.3
KIV *e*S **S** **22 51 00.6 -3.0**
KIV *e*SS SS 22 55 13.2 -2.8
KIV pmax pmax
comp=Z,13nm,1.3s,mb4.8
KIV Kislovodsk 64.57 319 *eP* **P** **22 42 26.4 -1.0**
comp=Z,12nm,1.1s,mb4.8
YAK Yakutsk 65.51 16 *eP* **P** **22 42 31.2 -2.0**
YAK pmax pmax
comp=Z,13nm,0.8s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.0s
EIL Elat 65.73 302 LR LR 23 12 09.3
comp=E,194nm,18.2s,MS4.3,baz=284,slow=37
SOC Sochi 66.39 318 *eP* **P** **22 42 35.1 -4.0**
SOC *e* 22 43 04.8
SOC *e*S S 22 51 21.2 -4.7
SOC *e* 22 52 28.6
SOC *e*SS SS 22 55 41.9 -2.1
SOC pmax pmax
comp=Z,19nm,0.7s,mb5.2
SOC pmax pmax
comp=N,19nm,0.9s
SOC pmax pmax
comp=E,22nm,0.9s
ANN Anapa 68.36 318 *eP* pP 22 43 03.4 +3.7
BRTR Keskin Array B 69.38 312 P **P** **22 42 56.5 -1.3**
comp=E,1.6nm,0.8s,mb4.0,baz=133,slow=7.1,SNR=9.5
VRSR Storozhevoye 69.81 325 *eP* **P** **22 42 58.3 -2.0**
VRSR pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
VRSR pmax pmax
comp=N,2.0nm,0.6s
VRSR pmax pmax
comp=E,4.0nm,0.7s
MATP Matopo 70.67 248 P **P** **22 43 06.4 +0.4**
comp=E,6.7nm,0.9s,mb4.6,baz=66,slow=5.1,SNR=10
MATP LR LR 23 09 17.8
comp=E,114nm,18.8s,MS4.2,baz=69,slow=32
MA2 Magadan 71.38 26 *eP* **P** **22 43 09.3 -0.4**
MA2 pmax pmax
comp=Z,13nm,0.7s,mb5.0
MA2 Magadan 71.38 26 *eP* **P** **22 43 09.3 -0.4**
comp=Z,13nm,0.7s,mb5.0
MOS Moscow 72.58 329 *eP* **P** **22 43 15.7 -1.2**
MOS *e* 22 43 34.2
MOS pmax pmax
comp=Z,31nm,1.1s,mb5.2
MAW Mawson 72.61 193 LR LR 23 12 06.6
comp=Z,137nm,18.6s,MS4.3,baz=279,slow=33
OBN Obninsk 72.87 328⇓*iP* **P** **22 43 17.8 -0.8**
OBN *i* 22 43 40.2
OBN pmax pmax
comp=Z,20nm,1.6s,mb4.8
TIXI Tiksi 73.31 10⇓*iP* **P** **22 43 19.6 -1.2**
TIXI pmax pmax
comp=Z,14nm,0.8s,mb4.9
LBTB Lobatse 74.01 244 *eP* **P** **22 43 25.5 -0.3**
LBTB pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LBTB Lobatse 74.01 244 *eP* **P** **22 43 25.5 -0.3**
comp=Z,2.6nm,0.7s,mb4.3
HARR Harsova 74.78 316 ⇑P **P** **22 43 29.2 -0.7**
AKASG Malin Array Be 75.52 322 P **P** **22 43 32.7 -1.3**
comp=Z,4.5nm,0.7s,mb4.5,baz=89,slow=4.9,SNR=16
VRI Vrincioaia 75.89 317 ⇑P **P** **22 43 36.6 +0.4**
MLR Muntele Rosu 76.33 317 P **P** **22 43 39.1 +0.4**
comp=Z,5.6nm,0.9s,mb4.5,baz=132,slow=3.8,SNR=12
MLR Muntele Rosu 76.33 317 ⇑P **P** **22 43 38.9 +0.2**
BURAR Bucovina Array 77.29 319 ⇓P **P** **22 43 45.1 +1.1**
KOLS Kolonicke sedl 79.48 320 *iP* **P** **22 43 57.3 +1.3**
SUW Suwalki 79.93 325 *eP* **P** **22 43 57.6 -0.7**
CRVS Cervenica-Dubn 80.00 319 *eP* **P** **22 44 01.1 +2.3**
CRVS Cervenica-Dubn 80.00 319 *e* **P** **22 44 01.1 +2.3**
FINES FINESS Array B 80.24 332 P **P** **22 43 59.4 -0.4**
comp=Z,3.5nm,0.7s,mb4.4,baz=94,slow=5.8,SNR=21
FINES LR LR 23 22 46.4
comp=Z,88nm,19.2s,MS4.1,baz=133,slow=38
KAF Kangasniemi 80.33 333 *ep* **P** **22 43 59.4 -0.8**
comp=Z,7.9nm,0.8s,mb4.7
KAF Kangasniemi 80.33 333 *eP* **P** **22 43 59.4 -0.8**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KECS Kecovo 80.57 319 *eP* **P** **22 44 02.4 +0.6**
PSZ Piszkesteto 80.88 318 *eP* **P** **22 44 03.6 +0.2**
PSZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
PSZ Piszkesteto 80.88 318 *eP* **P** **22 44 03.6 +0.2**
comp=Z,5.1nm,0.9s,mb4.5
BILL Bilibino 81.24 21 *eP* **P** **22 44 04.7 -0.2**
BILL pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
OJC Ojcow 81.29 321 *eP* **P** **22 44 05.7 +0.2**
OKC Ostrava-Krasne 82.29 320 *eP* **P** **22 44 11.3 +0.6**
OKC *e*pP pP 22 44 19.3 +0.2
MORC Moravsky Berou 82.67 320 *eP* **P** **22 44 12.7 0.0**
MORC *e* pP 22 44 20.4 -0.7
MORC pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MORC Moravsky Berou 82.67 320 *eP* **P** **22 44 12.7 0.0**
comp=Z,5.4nm,0.9s,mb4.6
MORC *e* pP 22 44 20.4 -0.7
ZST Bratislava 82.77 318 *eP* **P** **22 44 13.8 +0.6**
ZST *e*pP pP 22 44 20.9 -0.7
GKP Gorka Klasztor 83.29 323 *eP* **P** **22 44 15.6 -0.2**
GKP Gorka Klasztor 83.29 323 *eP* **P** **22 44 15.7 -0.2**
DPC Dobruska-Polom 83.52 320 *eP* **P** **22 44 16.8 -0.2**
DPC *e*pP pP 22 44 25.4 0.0
KSP Ksiaz 83.59 321 *eP* **P** **22 44 18.4 +1.0**
UPC Upice 83.73 321 *eP* **P** **22 44 17.7 -0.4**
PRU Pruhonice 84.62 320 *eP* **P** **22 44 23.3 +0.7**
PRU *e*pP pP 22 44 30.3 -0.7
PVCC Panska Ves 84.65 321 *eP* **P** **22 44 23.7 +1.0**
PVCC *e*pP pP 22 44 30.8 -0.4
BRG Berggiesshubel 85.07 321 *eP* **P** **22 44 25.8 +1.0**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
BRG Berggiesshubel 85.07 321 *eP* **P** **22 44 25.8 +1.0**
comp=Z,3.2nm,0.9s,mb4.5
GERES GERESS Array B 85.08 319 P **P** **22 44 25.7 +0.8**
comp=Z,4.2nm,0.9s,mb4.6,baz=104,slow=5.5,SNR=36
KHC Kasperske Hory 85.18 319 *eP* **P** **22 44 25.8 +0.4**
KHC *e*pP pP 22 44 33.4 -0.5
CLL Collm 85.69 321 *iP* **P** **22 44 28.3 +0.4**
CLL *e* pP 22 44 36.0 -0.4
CLL Collm 85.69 321 P **P** **22 44 28.3 +0.4**
CLL *e**PP pP 22 44 36.0 -0.4
HFS Hagfors 85.97 330 P **P** **22 44 29.7 +0.6**
comp=Z,3.3nm,0.6s,mb4.8,baz=135,slow=4.2,SNR=13
GRA1 Grafenberg Arr 86.75 320 *eP* **P** **22 44 34.0 +0.8**
comp=Z,6.0nm,0.8s,mb4.9
GRF Grafenberg Arr 86.75 320 *eP* **P** **22 44 34.0 +0.8**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
GRF Grafenberg Arr 86.75 320 *eP* **P** **22 44 34.0 +0.8**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
GRF Grafenberg Arr 86.75 320 *eP* **P** **22 44 34.0 +0.8**
comp=Z,6.0nm,0.8s,mb4.9
NB2 NORSAR Subarra 87.25 331 P **P** **22 44 34.8 -0.5**
comp=Z,6.3nm,0.8s,mb4.9,baz=95,slow=4.6
NOA NORSAR Array B 87.25 331 P **P** **22 44 35.4 0.0**
comp=Z,4.8nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=19
DAVOX Davos 87.56 317 P **P** **22 44 38.0 +0.8**
comp=Z,5.2nm,0.6s,mb4.9,baz=114,slow=3.8,SNR=13
LPG La Plagne 89.74 315 *eP* **P** **22 44 48.2 +0.6**
comp=Z,9.4nm,0.8s,mb4.9
LPG La Plagne 89.74 315 *eP* **P** **22 44 48.2 +0.6**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
EKA Eskdalemuir Ar 95.17 326 P **P** **22 45 13.1 +0.7**
comp=Z,1.7nm,0.8s,mb4.5,baz=90,slow=5.8,SNR=5.8
ILAR Eielson Array 99.76 23 PP PP 22 49 36.7 -3.2
comp=Z,0.3nm,0.7s,baz=301,slow=6.6,SNR=4.4
YKA Yellowknife Ar 112.19 15 PP PP 22 51 06.3 -6.1
comp=Z,0.4nm,0.8s,baz=331,slow=8.0,SNR=3.6
PDAR Pinedale Array 130.09 26 PKP PKPdf 22 50 56.8 -6.2
comp=Z,0.2nm,0.4s,baz=90,slow=0.9,SNR=3.1
WMOK Wichita Mounta 141.31 22 *e*PKPpre 22 51 15.2
TXAR Lajitas Array 143.69 32 PKP PKPdf 22 51 23.1 -5.0
comp=Z,1.4nm,0.8s,baz=236,slow=2.6,SNR=14
JCT Junction City 144.62 26 *e*PKPdf PKPdf 22 51 25.5 -4.3
NATX Nacogdoches 145.43 18 *e*PKP PKPdf 22 51 27.7 -3.4
LRAL Lakeview Retre 145.85 7 *e*PKP PKPdf 22 51 28.4 -3.4
LRAL *e* 22 51 35.9

IDC 03 22:37:06.0±3.7, 1.98N×95.98E, mb3.6/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=133.7km s-min=31.2km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.63**	**10**	Pn	P	P	22 41 00.9	-1.3
	0.2nm,0.3s,baz=200,slow=11,SNR=7.3							
WRA	**Warramunga Arr**	**43.48**	**122**	P	P	P	22 45 11.4	-1.8
	0.3nm,0.4s,baz=301,slow=9.4,SNR=6.0							
MKAR	**Makanchi Array**	**46.20**	**347**	P	P	P	22 45 32.5	-1.9
	0.7nm,0.5s,baz=160,slow=9.3,SNR=6.7							

IDC 03 22:40:49.1±15.0, 0.13N×96.14E, mb4.0/2, mb1 4.0/3, mb1mx3.5/15, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=392.3km s-min=117.4km az=125.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.42**	**8**	P	P	P	22 45 06.3	-1.4
	0.1nm,0.3s,baz=198,slow=12,SNR=4.5							
MKAR	**Makanchi Array**	**48.03**	**347**	P	P	P	22 49 30.3	-1.7
	0.8nm,0.5s,baz=163,slow=9.0,SNR=12							
ZAL	**Zalesovo**	**54.44**	**352**	P	P	P	22 50 17.2	-3.1
	0.5nm,0.4s,baz=321,slow=7.4,SNR=3.1							

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*IDC **03** 22:44:10.4±1.7, 1.19N×97.09E, mb4.1/7, mb1 4.2/8, mb1mx3.9/18, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=74.3km s-min=20.1km az=57.0*
*MOS **03** 22:44:13.7±1.1, 1.21N×97.13E, h33km, mb4.3/6, Error ellipse: s-maj=35.9km s-min=12.9km az=105.7*
*NEIC **03** 22:44:15.4±0.5, 1.26N×97.21E, h30km, mb4.2/10, Error ellipse: s-maj=14.9km s-min=7.5km az=53.0*
ISC 03 22:44:15.7±5.7, 1.3N±0.2×97.3E±0.3, h47km±46km, n27, σ0=58/27, mb4.2/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.18**	**40**	*eP*	**P**	**P**	**22 45 32.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.10**	**5**	P	**P**	**P**	**22 48 12.2**	**-0.9**
	0.2nm,0.3s,baz=196,slow=11,SNR=9.6							
JIRN	**Jiri**	**28.25**	**339**	*eP*	**P**	**P**	**22 50 07.3**	**+0.5**
	16nm,0.9s,mb4.7							
PKI	**Pulchoki**	**28.46**	**337**	*eP*	**P**	**P**	**22 50 08.5**	**-0.2**
	3.6nm,0.6s,mb4.2							
PKI	**Pulchoki**	**28.46**	**337**	*eP*	**P**	**P**	**22 50 08.5**	**-0.2**
PKI				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb3.9							
DMN	**Daman**	**28.62**	**337**	*eP*	**P**	**P**	**22 50 10.5**	**+0.5**
	comp=Z,9.2nm,0.9s,mb4.5							
KKN	**Kakani**	**28.71**	**337**	*eP*	**P**	**P**	**22 50 11.5**	**+0.6**
	comp=Z,5.1nm,0.6s,mb4.4							
KKN	**Kakani**	**28.71**	**337**	*eP*	**P**	**P**	**22 50 11.5**	**+0.6**
KKN				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.2							
LSA	**Lhasa**	**28.81**	**349**	P	**P**	**P**	**22 50 12.8**	**+1.0**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.1							
LSA	**Lhasa**	**28.81**	**349**	P	**P**	**P**	**22 50 12.8**	**+1.0**
	comp=Z,2.9nm,0.8s,mb4.1							
GKN	**Gorkha**	**29.15**	**337**	*eP*	**P**	**P**	**22 50 14.7**	**-0.1**
	comp=Z,5.6nm,0.5s,mb4.5							
KOLN	**Koldanda**	**29.37**	**335**	*eP*	**P**	**P**	**22 50 17.1**	**+0.3**
	comp=Z,7.5nm,0.7s,mb4.5							
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**P**	**22 52 04.1**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.7,baz=302,slow=9.1,SNR=6.0							
WRAB	**Tennant Creek**	**42.04**	**122**	*eP*	**P**	**P**	**22 52 05.2**	**+0.4**
ASAR	**Alice Springs**	**43.41**	**127**	P	**P**	**P**	**22 52 16.2**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.2,baz=294,slow=8.6,SNR=5.2							
SONM	**Songino Array**	**46.99**	**8**	P	**P**	**P**	**22 52 44.8**	**+0.7**
	comp=Z,1.2nm,0.5s,mb4.1,baz=189,slow=9.6,SNR=19							
SONM				PcP	PcP	PcP	22 54 16.9	+0.6
	comp=Z,0.3nm,0.4s,baz=212,slow=3.6,SNR=4.4							
ULN	**Ulaanbaatar**	**47.12**	**9**	*eP*	**P**	**P**	**22 52 45.5**	**+0.3**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
ULN	**Ulaanbaatar**	**47.12**	**9**	*eP*	**P**	**P**	**22 52 45.5**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.8							
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**P**	**22 52 45.7**	**+0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=166,slow=8.5,SNR=21							
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**P**	**22 52 45.7**	**+0.4**
KURK	**Kurchatov**	**51.69**	**345**	*eP*	**P**	**P**	**22 53 19.8**	**-0.4**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
KURK	**Kurchatov**	**51.69**	**345**	*eP*	**P**	**P**	**22 53 19.8**	**-0.3**
	comp=Z,2.1nm,0.9s,mb4.1							
ZAL	**Zalesovo**	**53.44**	**351**	P	**P**	**P**	**22 53 32.5**	**-0.7**
	comp=Z,3.2nm,0.3s,mb4.7,baz=301,slow=4.5,SNR=12							
BVAR	**Borovoye Array**	**56.15**	**341**	P	**P**	**P**	**22 53 52.0**	**-1.0**
	comp=Z,1.6nm,0.7s,mb4.2,baz=147,slow=9.9,SNR=14							
CHKZ	**Chkalovo**	**56.63**	**341**	*eP*	**P**	**P**	**22 53 55.4**	**-1.0**
CHKZ				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
CHKZ	**Chkalovo**	**56.63**	**341**	*eP*	**P**	**P**	**22 53 55.4**	**-1.0**

comp=Z,2.7nm,0.8s,mb4.3
FINES FINESS Array B 79.92 332 P **P 22 56 20.9 -0.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=63,slow=4.3,SNR=5.4

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*IDC **03** 22:46:00.9±1.9, 0.49S×96.61E, mb4.1/5, mb1 4.1/6, mb1mx3.8/16, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=79.8km s-min=24.3km az=60.0*
*NEIC **03** 22:46:06.1±0.8, 0.31S×96.95E, h30km, mb4.2/2, Error ellipse: s-maj=23.7km s-min=13.5km az=66.0*
ISC 03 22:46:04.6±1.1, 0.3S±0.1×97.0E±0.2, h33km, n13, σ0§85/11, mb4.1/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.63**	**34**	*e*P	**P**	**22 47 41.4**	**-0.8**
KULM				*e*		22 47 49.4	
CMAR	**Chiang Mai Arr**	**18.70**	**6**	P	**P**	**22 50 23.6**	**+0.7**
	0.1nm,0.3s,baz=198,slow=12,SNR=12						
WRAB	**Tennant Creek**	**41.49**	**120**	*e*P	**P**	**22 53 50.2**	**-0.3**
	11nm,1.1s,mb4.4						
ASAR	**Alice Springs**	**42.72**	**126**	P	**P**	**22 54 01.2**	**+0.5**
	1.3nm,0.4s,mb4.0,baz=297,slow=7.8,SNR=16						
MKAR	**Makanchi Array**	**48.60**	**347**	P	**P**	**22 54 47.9**	**+0.9**
	3.5nm,0.5s,mb4.6,baz=164,slow=9.0,SNR=24						
SONM	**Songino Array**	**48.60**	**8**	P	**P**	**22 54 48.3**	**+1.2**
	0.5nm,0.7s,mb3.7,baz=180,slow=5.8,SNR=3.8						
SONM	**Songino Array**	**48.60**	**8**	P	**P**	**22 54 48.3**	**+1.2**
ZAL	**Zalesovo**	**54.95**	**351**	P	**P**	**22 55 34.5**	**-0.2**
	2.6nm,0.5s,mb4.5,baz=319,slow=4.7,SNR=9.2						
ZAL	**Zalesovo**	**54.95**	**351**	P	**P**	**22 55 34.5**	**-0.2**
CHKZ	**Chkalovo**	**58.03**	**342**	*e*P	**P**	**22 55 55.0**	**-1.7**
	0.6nm,0.5s,mb3.9						
FINES	**FINESS Array B**	**81.18**	**333**	P	**P**	**22 58 17.9**	**-0.4**
	0.6nm,0.8s,mb3.6,baz=72,slow=6.0,SNR=4.9						
TXAR	**Lajitas Array**	**145.02**	**32**	PKPbc	PKPbc	23 05 41.6	+2.0
	1.0nm,0.6s,baz=260,slow=1.4,SNR=14						
JCT	**Junction City**	**145.98**	**26**	*e*PKP	PKPdf	23 05 43.2	+2.3

CASC 03 22:53:24.8±1.2, 12.03N×89.14W, h31km±28km, MD3.7, 4C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**1.59**	**3⇓**	*e*P	Pn	22 53 50.7	-0.5
LFRS				*e*S	Sn	22 54 10.9	0.0
LCBS	**La Ceiba**	**1.63**	**6**	*e*P	Pn	22 53 51.0	-0.8
VSM	**San Miguel**	**1.63**	**31⇑**	*e*P	Pn	22 53 51.4	-0.5
VSM				*e*S	Sn	22 54 13.3	+1.3
BLLM	**Bellamira**	**1.66**	**32⇑**	*e*P	Pn	22 53 52.0	-0.3
BLLM				*e*S	Sn	22 54 13.0	+0.2
BLLM				*e*S	Sn	22 54 13.3	+0.5
BOQS	**Boqueron**	**1.70**	**356⇓**	*e*P	Pn	22 53 53.1	+0.2
BOQS				*e*S	Sn	22 54 15.5	+1.7
CNCH	**Conchagua**	**1.78**	**46⇓**	*e*P	Pn	22 53 53.1	-0.9
CNCH				*e*S	Sn	22 54 16.6	+0.7
SBLS	**San Blas**	**1.86**	**346⇓**	*e*P	Pn	22 53 55.3	+0.1
SBLS				*e*S	Sn	22 54 17.9	+0.1
RTR	**El Retiro**	**1.92**	**345⇑**	*e*P	Pn	22 53 56.3	+0.3
RTR				*e*S	Sn	22 54 19.6	+0.2
CAHU	**Cacacuatique**	**1.96**	**28⇓**	*e*P	Pn	22 53 56.5	-0.1
RBDL	**Robledal**	**2.14**	**346⇑**	*e*P	Pn	22 53 59.8	+0.7
RBDL				*e*S	Sn	22 54 25.0	+0.1
IXG	**Ixpaco**	**2.49**	**329⇓**	*e*P	Pn	22 54 03.0	-1.1
IXG				*e*S	Sn	22 54 33.5	-0.2
TP2	**Tecpan 2**	**3.29**	**327⇓**	*e*P	Pn	22 54 15.7	+0.1
TP2				*e*S	Sn	22 54 54.7	+0.6

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*IDC **03** 22:55:52.2±2.9, 2.76N×94.56E, mb3.6/5, mb1 3.7/6, mb1mx3.6/18, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=107.1km s-min=22.6km az=62.0*
*NEIC **03** 22:56:00.8±1.1, 2.97N×95.41E, h30km, mb4.2/5, Error ellipse: s-maj=37.9km s-min=13.5km az=57.0*
ISC 03 22:55:59.0±1.2, 3.0N±0.2×95.4E±0.2, h30km, n12, σ0§98/12, mb4.0/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.78**	**12**	Pn	**P**	**22 59 42.2**	**+1.1**
	0.1nm,0.3s,baz=196,slow=16,SNR=3.6						
JIRN	**Jiri**	**26.09**	**341**	*e*P	**P**	**23 01 32.6**	**+0.4**
	14nm,0.6s,mb4.7						
PKI	**Pulchoki**	**26.27**	**340**	*e*P	**P**	**23 01 34.0**	**+0.2**
	3.3nm,0.5s,mb4.1						
DMN	**Daman**	**26.41**	**339**	*e*P	**P**	**23 01 35.2**	**+0.1**
KKN	**Kakani**	**26.52**	**340**	*e*P	**P**	**23 01 36.1**	**0.0**
	12nm,0.9s,mb4.4						
GKN	**Gorkha**	**26.94**	**339**	*e*P	**P**	**23 01 40.3**	**+0.3**
	18nm,0.9s,mb4.6						
KOLN	**Koldanda**	**27.12**	**337**	*e*P	**P**	**23 01 42.4**	**+0.8**
	6.3nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**44.48**	**122**	P	**P**	**23 04 10.0**	**+0.1**
	1.5nm,0.6s,mb3.9,baz=301,slow=9.2,SNR=4.9						
MKAR	**Makanchi Array**	**45.12**	**347**	P	**P**	**23 04 09.0**	**-5.6**
	0.2nm,0.4s,mb3.3,baz=180,slow=8.6,SNR=4.2						
SONM	**Songino Array**	**45.69**	**10**	P	**P**	**23 04 17.0**	**-2.1**
	0.2nm,0.4s,mb3.4,baz=187,slow=9.2,SNR=3.4						
ASAR	**Alice Springs**	**45.88**	**127**	P	**P**	**23 04 21.4**	**+0.5**
	0.6nm,0.8s,mb3.6,baz=304,slow=7.4,SNR=4.7						
ZAL	**Zalesovo**	**51.55**	**352**	P	**P**	**23 05 02.1**	**-2.3**
	0.7nm,0.5s,mb3.9,baz=325,slow=7.9,SNR=3.7						

IDC 03 22:59:02.6±8.7, 1.34N×97.58E, mb4.0/3, mb1 4.0/4, mb1mx3.6/17, mbtmp3.9/4, ML3.2/1, MS2.9/1, Ms1 3.1/1, ms1mx2.7/18, Error ellipse: s-maj=174.6km s-min=116.5km az=143.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.07**	**4**	P	P	23 03 02.6	-1.8
	0.0nm,0.3s,baz=198,slow=11,SNR=6.8						
CMAR				LR	LR	23 09 16.0	
	comp=Z,40nm,18.6s,baz=160,slow=36						
SONM	**Songino Array**	**46.94**	**8**	P	P	23 07 35.0	-2.0
	1.3nm,0.9s,baz=191,slow=7.2,SNR=9.7						
MKAR	**Makanchi Array**	**47.20**	**346**	P	P	23 07 37.5	-1.5
	3.6nm,0.8s,baz=162,slow=7.7,SNR=27						
ZAL	**Zalesovo**	**53.47**	**351**	P	P	23 08 24.2	-2.7
	1.5nm,0.8s,baz=268,slow=4.4,SNR=8.9						

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*IDC **03** 23:07:07.9±1.1, 1.87N×96.55E, mb4.0/8, mb1 4.2/9, mb1mx4.0/16, mbtmp4.1/9, ML4.3/1, MS3.2/1, Ms1 3.4/1, ms1mx2.8/13, Error ellipse: s-maj=47.3km s-min=19.6km az=53.0*
*BJI **03** 23:07:07.8, 1.41N×96.89E, h46km, mB5.2, mb4.5*
*MOS **03** 23:07:09.0±0.9, 1.69N×96.89E, h33km, mb4.6/7, Error ellipse: s-maj=37.6km s-min=11.7km az=100.2*
*NEIC **03** 23:07:12.6±0.4, 1.90N×96.68E, h30km, mb4.3/9, Error ellipse: s-maj=12.3km s-min=6.8km az=50.0*
ISC 03 23:07:11.4±0.7, 2.0N±0.1×96.8E±0.1, h33km, n36, σ0§90/35, mb4.2/20, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.10**	**50**	*e*P	**P**	**23 08 27.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**16.52**	**7**	Pn	**P**	**23 11 04.8**	**+2.4**
	0.4nm,0.3s,baz=198,slow=11,SNR=46						
CMAR				LR	LR	23 17 36.7	
	comp=Z,78nm,19.7s,baz=190,slow=38						
SHL	**Shillong**	**23.92**	**349**	*e*P	**P**	**23 12 23.0**	**-0.4**
JIRN	**Jiri**	**27.46**	**339**	*e*P	**P**	**23 12 57.2**	**+0.4**
PKI	**Pulchoki**	**27.67**	**338**	*e*P	**P**	**23 12 58.5**	**-0.1**
	5.5nm,0.7s,mb4.3						
PKI	**Pulchoki**	**27.67**	**338**	*e*P	**P**	**23 12 58.5**	**-0.1**
PKI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
DMN	**Daman**	**27.82**	**337**	*e*P	**P**	**23 13 00.8**	**+0.8**
	comp=Z,10nm,0.8s,mb4.5						
KKN	**Kakani**	**27.91**	**338**	*e*P	**P**	**23 13 01.2**	**+0.3**
	comp=Z,8.3nm,0.7s,mb4.5						
KKN	**Kakani**	**27.91**	**338**	*e*P	**P**	**23 13 01.2**	**+0.3**
KKN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
LSA	**Lhasa**	**28.08**	**350**	P	**P**	**23 13 02.0**	**-0.3**
LSA	**Lhasa**	**28.08**	**350**	*e*P	**P**	**23 13 02.4**	**+0.1**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
LSA	**Lhasa**	**28.08**	**350**	*e*P	**P**	**23 13 02.4**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.1						
GKN	**Gorkha**	**28.35**	**337**	*e*P	**P**	**23 13 04.8**	**0.0**
	comp=Z,12nm,0.8s,mb4.6						
KOLN	**Koldanda**	**28.57**	**335**	*e*P	**P**	**23 13 06.7**	**0.0**
	comp=Z,17nm,0.8s,mb4.8						
GTA	**Gaotai**	**37.36**	**4**	P	**P**	**23 14 22.2**	**-0.7**
GTA				AP	pP	23 14 31.4	-1.2
GTA				XP	sP	23 14 34.9	-2.0
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**42.83**	**122**	P	**P**	**23 15 08.7**	**+0.3**
	comp=Z,0.7nm,0.4s,mb3.7,baz=301,slow=9.1,SNR=6.6						
WRAB	**Tennant Creek**	**42.83**	**122**	*e*P	**P**	**23 15 08.6**	**+0.1**
ASAR	**Alice Springs**	**44.22**	**127**	P	**P**	**23 15 20.0**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.6,baz=313,slow=6.9,SNR=7.1						
AAK	**Ala-Archa**	**45.11**	**337**	*e*P	**P**	**23 15 27.2**	**+0.7**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**45.11**	**337**	*e*P	**P**	**23 15 27.2**	**+0.6**
	comp=Z,4.5nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**46.38**	**346**	P	**P**	**23 15 36.6**	**+0.1**
	comp=Z,4.5nm,0.7s,mb4.5,baz=162,slow=7.7,SNR=38						
SONM	**Songino Array**	**46.44**	**9**	P	**P**	**23 15 37.3**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.3,baz=189,slow=8.6,SNR=25						
SONM				PcP	PcP	23 17 11.9	+0.2
	comp=Z,0.5nm,0.7s,baz=178,slow=3.1,SNR=3.5						
ZAK	**Zakamensk**	**48.55**	**6**	*e*P	**P**	**23 15 53.2**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s,mb3.5						
KURK	**Kurchatov**	**50.93**	**345**	*e*P	**P**	**23 16 11.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.6						
KURK	**Kurchatov**	**50.93**	**345**	*e*P	**P**	**23 16 11.2**	**-0.5**
	comp=Z,12nm,1.5s,mb4.6						
ZAL	**Zalesovo**	**52.72**	**351**	P	**P**	**23 16 24.2**	**-0.8**
	comp=Z,4.2nm,0.4s,mb4.7,baz=294,slow=7.2,SNR=26						
NVS	**Novosibirsk**	**53.84**	**350**	*i* P	**P**	**23 16 30.0**	**-3.4**
CHKZ	**Chkalovo**	**55.85**	**342**	*e*P	**P**	**23 16 47.0**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**55.85**	**342**	*e*P	**P**	**23 16 47.0**	**-1.0**
	comp=Z,3.3nm,0.7s,mb4.5						
BOD	**Bodaibo**	**57.33**	**11**	*e*P	**P**	**23 16 56.6**	**-2.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
YSS	**Yuzh-Sakhalins**	**59.97**	**35**	*e*P	**P**	**23 17 16.0**	**-1.0**
SVE	**Sverdlovsk**	**61.80**	**338**	*e*P	**P**	**23 17 32.0**	**+2.7**
SVE				pmax	pmax		
	comp=Z,35nm,5.0s						
BRTR	**Keskin Array B**	**68.26**	**312**	P	**P**	**23 18 10.5**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.8,baz=135,slow=6.1,SNR=3.4						
FINES	**FINESS Array B**	**79.11**	**332**	P	**P**	**23 19 14.1**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=74,slow=10,SNR=5.7						
GERES	**GERESS Array B**	**83.94**	**319**	P	**P**	**23 19 40.5**	**+0.9**
	comp=Z,0.4nm,0.7s,mb3.7,baz=117,slow=6.0,SNR=4.9						
TXAR	**Lajitas Array**	**143.24**	**31**	PKP	PKPdf	23 26 44.6	+1.6
	comp=Z,0.2nm,0.7s,baz=305,slow=0.3,SNR=3.9						

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*IDC **03** 23:30:13.9±3.0, 1.91N×96.74E, mb3.8/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, ML4.5/1, MS2.8/1, Ms1 3.0/1, ms1mx2.4/25, Error ellipse: s-maj=116.4km s-min=28.1km az=62.0*
*NEIC **03** 23:30:18.5±0.8, 1.91N×96.78E, h30km, mb4.2/2, Error ellipse: s-maj=19.6km s-min=11.6km az=60.0*
ISC 03 23:30:16.4±1.1, 1.9N±0.1×96.7E±0.2, h30km, n10, σ0§48/10, mb3.9/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.14**	**49**	*e*P	**Pn**	**23 31 33.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**16.58**	**7**	Pn	**P**	**23 34 09.7**	**+1.1**
	0.7nm,0.3s,baz=196,slow=11,SNR=12						
CMAR				LR	LR	23 41 55.9	
	comp=Z,35nm,18.8s,baz=180,slow=42						
WRAB	**Tennant Creek**	**42.81**	**122**	*e*P	**P**	**23 38 13.8**	**+0.1**
ASAR	**Alice Springs**	**44.19**	**127**	P	**P**	**23 38 25.1**	**+0.3**
	0.4nm,0.7s,mb3.2,baz=302,slow=8.5,SNR=4.6						
MKAR	**Makanchi Array**	**46.44**	**346**	P	**P**	**23 38 42.7**	**+0.3**
	1.9nm,0.8s,mb4.1,baz=162,slow=7.7,SNR=15						
MKAR	**Makanchi Array**	**46.44**	**346**	P	**P**	**23 38 42.7**	**+0.3**
SONM	**Songino Array**	**46.49**	**9**	P	**P**	**23 38 42.3**	**-0.5**
	0.9nm,0.8s,mb3.7,baz=196,slow=9.0,SNR=5.3						
KURK	**Kurchatov**	**50.98**	**345**	*e*P	**P**	**23 39 17.2**	**-0.3**
	2.4nm,1.0s,mb4.1						
ZAL	**Zalesovo**	**52.77**	**351**	P	**P**	**23 39 30.6**	**-0.3**
	1.4nm,0.7s,mb4.0,baz=288,slow=6.5,SNR=11						
CHKZ	**Chkalovo**	**55.90**	**342**	*e*P	**P**	**23 39 53.6**	**-0.3**
	2.6nm,0.8s,mb4.3						

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*GCG **03** 23:37:44.7, 13.78N×88.31W, h38km, MD4.1*
*SSS **03** 23:37:46.2, 14.36N×88.57W, h24km, MD3.1*
CASC 03 23:37:45.7±1.6, 14.33N×88.57W, h1km±7km, MD3.7, 5C-5D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAHU	**Cacacuatique**	**0.65**	**148**	*e*P	Pg	23 37 59.5	+0.8
LBRS	**Las Brisas**	**0.74**	**218**	*e*P	Pg	23 38 00.9	+0.3
LBRS				*e*S	Sg	23 38 12.0	+1.5
SNVI	**San Vicente**	**0.76**	**200⇓**	*e*P	Pg	23 38 01.6	+0.8
SNVI				*e*S	Sg	23 38 13.4	+2.4
MTO2	**Montecristo 2**	**0.77**	**275⇓**	*e*P	Pg	23 38 00.4	-0.7
MTO2				*e*S	Sg	23 38 13.7	+2.3
LCBS	**La Ceiba**	**0.78**	**211⇓**	*e*P	Pg	23 38 01.5	+0.3
LCBS				*e*S	Sg	23 38 13.4	+1.8
LFU	**La Fuente**	**0.78**	**223**	*e*P	Pg	23 38 01.5	+0.2
LFRS	**El Faro**	**0.85**	**214⇓**	*e*P	Pg	23 38 02.8	+0.1
LFRS				*e*S	Sg	23 38 14.8	+0.9
BOQS	**Boqueron**	**0.91**	**230⇑**	*e*P	Pg	23 38 03.4	-0.4
BOQS				*e*S	Sg	23 38 18.4	+2.4
BLLM	**Bellamira**	**0.94**	**160**	*e*P	Pb	23 38 04.9	+0.5
BLLM				*e*S	Sg	23 38 18.1	+1.2
VSM	**San Miguel**	**0.94**	**162**	*e*P	Pb	23 38 04.7	+0.3
VSM				*e*S	Sg	23 38 19.0	+2.0
RBDL	**Robledal**	**1.10**	**259⇓**	*e*P	Pb	23 38 06.2	-1.0
RBDL				*e*S	Sb	23 38 24.0	+2.1
SNJE	**San Jose**	**1.10**	**246⇑**	*e*P	Pb	23 38 06.7	-0.5
SNJE				*e*S	Sb	23 38 22.4	+0.5
RTR	**El Retiro**	**1.13**	**248⇓**	*e*P	Pb	23 38 07.2	-0.5
RTR				*e*S	Sb	23 38 23.4	+0.7
SBLS	**San Blas**	**1.13**	**245⇑**	*e*P	Pb	23 38 07.2	-0.5
SBLS				*e*S	Sb	23 38 24.0	+1.2
CNCH	**Conchagua**	**1.27**	**146**	*e*P	Pb	23 38 09.2	-0.8
CNCH				*e*S	Sb	23 38 26.6	0.0
IXG	**Ixpaco**	**1.83**	**265⇓**	*e*P	Pn	23 38 18.1	-0.5
IXG				*e*S	Sn	23 38 44.6	+1.9
TP2	**Tecpan 2**	**2.42**	**281**	*e*P	Pn	23 38 29.0	+2.0
TP2				*e*S	Sn	23 38 55.0	-2.5

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*NIED **03** 23:45:00, 34.10N×142.50E, h5km, Mw4.0 Best double couple: $M_0$1.31×10^15 NP1:φs173°,δ71°,λ-86°. NP2: φs342°,δ20°,λ-100°.*
*IDC **03** 23:45:42.5±0.6, 34.13N×142.45E, mb4.0/18, mb1 4.2/20, mb1mx4.2/24, mbtmp4.0/20, ML4.3/2, MS3.3/4, Ms1 3.4/4, ms1mx2.8/29, Error ellipse: s-maj=18.2km s-min=15.3km az=133.0*
*JMA **03** 23:45:43.1±0.4, 34.09N×142.51E, h32km, M3.8*
*BJI **03** 23:45:45.0, 33.81N×141.92E, h7km, mB4.9, mb4.2, Ms3.7, Msz3.6*
*MOS **03** 23:45:45.4±1.0, 34.13N×142.40E, h33km, mb4.5/4, Error ellipse: s-maj=21.5km s-min=10.5km az=124.2*
*NEIC **03** 23:45:46.9±0.4, 34.19N×142.40E, mb4.4/6, Error ellipse: s-maj=11.1km s-min=9.6km az=208.0*
ISC 03 23:45:43.4±1.7, 34.12N±0.05×142.39E±0.05, h17km±12km, n62, σ1§00/70, mb4.1/26, MS3.5/2, 1C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.28**	**295**	P	**Pn**	**23 46 07.0**	**+0.3**
BSO1				*e*S	**Sn**	**23 46 24.8**	**+1.3**
BSO3	**Boso 3**	**1.69**	**294**	P	**Pn**	**23 46 13.4**	**+0.8**
BSO4	**Boso 4**	**1.90**	**298**	P	**Pn**	**23 46 16.8**	**+1.2**
BSO4				S	**Sn**	**23 46 41.8**	**+2.5**
JHJ	**Hachijo jima 2**	**2.39**	**246**	Pn	**Pn**	**23 46 22.6**	**0.0**
	161nm,0.3s,baz=73,slow=22,SNR=18						
JHJ				Sn	**Sn**	**23 46 50.9**	**-0.8**
	95nm,0.3s,baz=49,slow=19,SNR=7.3						
JHJ				LR	LR	23 46 57.6	
	comp=Z,1μm,21.9s,baz=285,slow=31						
JOD2	**Odawara 2**	**2.95**	**294**	P	**Pn**	**23 46 30.3**	**-0.2**
JOD2				*e*S	**Sn**	**23 47 05.5**	**-0.3**
JIZS	**Izushimoda**	**2.96**	**283**	P	**Pn**	**23 46 30.2**	**-0.5**
JAG	**Ashikaga**	**3.33**	**315**	P	**Pn**	**23 46 35.6**	**-0.3**
JAG				*e*S	**Sn**	**23 47 14.4**	**-1.0**
JRY	**Ryogami san**	**3.43**	**305**	P	**Pn**	**23 46 37.1**	**-0.2**
JYN	**Shimob**	**3.45**	**295**	P	**Pn**	**23 46 37.8**	**+0.2**
JYN				*e*S	**Sn**	**23 47 18.3**	**-0.2**
JMM	**Marumori**	**3.96**	**341**	P	**Pn**	**23 46 42.9**	**-1.9**
JMM				*e*S	**Sn**	**23 47 26.1**	**-5.2**
MAJO	**Matsushiro**	**4.19**	**306**	*e*P	**Pn**	**23 46 46.5**	**-1.6**
MAT	**Matsushiro**	**4.19**	**306**	P	**Pn**	**23 46 49.0**	**+0.9**
MAT				S	**Sn**	**23 47 36.0**	**-1.2**
MAT	**Matsushiro**	**4.19**	**306**	P	**Pn**	**23 46 48.5**	**+0.4**
MAT				*e*S	**Sn**	**23 47 36.2**	**-1.0**
CBIJ	**Chichi jima**	**7.00**	**181**	Sn	**Sn**	**23 48 36.4**	**-11**
	6.8nm,0.3s,baz=290,slow=19,SNR=4.9						
ERM	**Erimo**	**7.91**	**4**	Pn	**Pn**	**23 47 35.6**	**-4.9**
	610nm,0.5s,SNR=19						
ASAJ	**Asahikawa**	**9.99**	**1**	P	**P**	**23 48 05.0**	**-4.2**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,79nm,19.8s						
ASAJ	**Asahikawa**	**9.99**	**1**	Pn	**P**	**23 48 05.0**	**-4.2**
	comp=Z,3.2nm,0.3s,baz=226,slow=9.7,SNR=7.8						
ASAJ				LR	LR	23 52 15.7	
	comp=Z,79nm,19.8s,baz=194,slow=39						
YSS	**Yuzh-Sakhalins**	**12.82**	**1⇑**	*i*P	**P**	**23 48 42.3**	**-5.4**
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**12.82**	**1**	*e*P	**P**	**23 48 43.4**	**-4.4**
HHC	**Hu-ho-hao-te**	**25.28**	**294**	*e*P	**P**	**23 51 12.4**	**+2.1**
HHC				PCP	PcP	23 54 43.6	-0.6
HHC				S	**S**	**23 55 38.5**	**+5.9**
HHC				PCS		23 58 22.0	
HHC				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,143nm,5.9s						
HHC				LR	LR		
	comp=N,114nm,11.0s,MS3.9						
HHC				LR	LR		
	comp=E,150nm,11.2s,MS3.9						
HHC				LR	LR		
	comp=Z,117nm,10.3s,MS3.7						
ENH	**Enshi**	**28.04**	**271**	*e*P	**P**	**23 51 33.8**	**-2.0**
	comp=Z,6.7nm,0.6s,mb4.5						
FX1	**Attu Island--F**	**28.83**	**40**	LR	LR	00 01 35.7	
	comp=Z,4.4nm,20.2s,baz=101,slow=33						
ULN	**Ulaanbaatar**	**29.71**	**308**	P	**P**	**23 51 50.8**	**+0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
ULN	**Ulaanbaatar**	**29.71**	**308**	P	**P**	**23 51 50.8**	**0.0**
	comp=Z,1.3nm,0.7s,mb3.8						
SONM	**Songino Array**	**30.14**	**308**	P	**P**	**23 51 56.2**	**+1.7**
	comp=Z,1.4nm,0.9s,mb3.7,baz=110,slow=8.0,SNR=8.3						
BOD	**Bodaibo**	**30.43**	**330**	*e*P	**P**	**23 51 54.5**	**-2.4**
GTA	**Gaotai**	**34.28**	**291**	P	**P**	**23 52 31.0**	**+0.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
CMAR	**Chiang Mai Arr**	**41.63**	**259**	P	**P**	**23 53 32.0**	**-0.5**
	comp=Z,1.2nm,0.4s,mb3.8,baz=45,slow=7.5,SNR=10						
WMQ	**Urumqi**	**42.92**	**300**	*e*P	**P**	**23 53 43.0**	**+0.2**
WMQ				AP	pP	23 53 52.6	+4.6
WMQ				XP	sP	23 53 56.2	+6.1
WMQ				PP	PP	23 55 25.2	+0.3
WMQ				S	**S**	**00 00 04.4**	**-2.1**
WMQ				XS		00 00 20.6	
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,262nm,5.0s						
WMQ				LR	LR		
	comp=N,30nm,17.4s,MS3.3						
WMQ				LR	LR		
	comp=E,21nm,17.4s,MS3.3						
WMQ				LR	LR		
	comp=Z,28nm,18.3s,MS3.2						
ZAL	**Zalesovo**	**44.51**	**315**	P	**P**	**23 53 56.1**	**+0.6**
	comp=Z,0.6nm,0.2s,mb4.0,baz=33,slow=7.4,SNR=4.1						
NVS	**Novosibirsk**	**45.45**	**316**	*i* P	**P**	**23 54 04.0**	**+1.0**
MKAR	**Makanchi Array**	**46.38**	**305**	P	**P**	**23 54 11.5**	**+1.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=94,slow=9.1,SNR=7.0						
KURK	**Kurchatov**	**48.39**	**310**	*e*P	**P**	**23 54 25.3**	**-0.8**
KURK				*e*		23 54 34.8	
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**48.39**	**310**	*e*P	**P**	**23 54 25.3**	**-0.8**
	comp=Z,7.5nm,1.0s,mb4.7						
KURK				*e*		23 54 34.8	
ILAR	**Eielson Array**	**51.55**	**31**	P	**P**	**23 54 49.2**	**-0.9**
	comp=Z,1.4nm,0.9s,mb3.9,baz=263,slow=5.7,SN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.47**	**40**	*eP*	**P**	**00 00 17.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**16.54**	**4**	Pn	**P**	**00 03 00.9**	**+0.1**
	0.7nm,0.3s,baz=196,slow=12,SNR=15						
KMI	**Kunming**	**23.62**	**11**	P		00 04 31.3	
KMI				LR	LR		
	comp=Z,220nm,16.1s,MS3.7						
SHL	**Shillong**	**24.24**	**347**	*eP*	**P**	**00 04 25.0**	**+0.1**
HYB	**Hyderabad**	**24.39**	**311**	*eP*	**P**	**00 04 31.0**	**+4.6**
JIRN	**Jiri**	**27.94**	**338**	*eP*	**P**	**00 04 59.5**	**+0.1**
	comp=Z,17nm,0.8s,mb4.7						
PKI	**Pulchoki**	**28.17**	**336**	*eP*	**P**	**00 05 02.5**	**+1.1**
	comp=Z,9.9nm,0.5s,mb4.7						
DMN	**Daman**	**28.32**	**336**	*eP*	**P**	**00 05 02.3**	**-0.5**
	comp=Z,6.9nm,0.6s,mb4.4						
LSA	**Lhasa**	**28.39**	**348**	P	**P**	**00 05 03.4**	**0.0**
	comp=Z,4.1nm,0.4s,mb4.4						
KKN	**Kakani**	**28.41**	**336**	*eP*	**P**	**00 05 03.3**	**-0.3**
	comp=Z,9.7nm,0.5s,mb4.7						
GKN	**Gorkha**	**28.87**	**335**	*eP*	**P**	**00 05 07.5**	**-0.1**
	comp=Z,8.5nm,0.5s,mb4.8						
KOLN	**Koldanda**	**29.11**	**334**	*eP*	**P**	**00 05 10.2**	**+0.5**
	comp=Z,9.5nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.87**	**127**	P	**P**	**00 05 53.2**	**+1.6**
	comp=Z,1.5nm,0.5s,mb4.2,baz=348,slow=14,SNR=3.1						
GTA	**Gaotai**	**37.42**	**3**	P	**P**	**00 06 21.4**	**-0.2**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**41.92**	**123**	P	**P**	**00 06 58.5**	**-0.7**
	comp=Z,1.2nm,0.3s,mb4.1,baz=322,slow=11,SNR=12						
WRAB	**Tennant Creek**	**41.92**	**123**	*eP*	**P**	**00 06 59.1**	**-0.1**
	comp=Z,13nm,1.0s,mb4.5						
ASAR	**Alice Springs**	**43.35**	**128**	P	**P**	**00 07 10.2**	**-0.7**
	comp=Z,0.5nm,0.7s,mb3.4,baz=310,slow=8.3,SNR=4.2						
ASAR				LR	LR	00 26 49.2	
	comp=Z,32nm,18.8s,MS3.2,baz=106,slow=38						
SONM	**Songino Array**	**46.41**	**8**	P	**P**	**00 07 34.6**	**-0.3**
	comp=Z,2.7nm,0.4s,mb4.5,baz=190,slow=9.2,SNR=31						
SONM				LR	LR	00 29 07.0	
	comp=Z,71nm,20.0s,MS3.6,baz=218,slow=39						
ULN	**Ulaanbaatar**	**46.53**	**9**	*eP*	**P**	**00 07 35.5**	**-0.4**
	comp=Z,1.3nm,0.4s,mb4.2						
MKAR	**Makanchi Array**	**46.74**	**345**	P	**P**	**00 07 37.5**	**-0.1**
	comp=Z,3.3nm,0.4s,mb4.6,baz=158,slow=8.2,SNR=69						
KURK	**Kurchatov**	**51.31**	**345**	*eP*	**P**	**00 08 12.4**	**-0.3**
	comp=Z,3.5nm,0.4s,mb4.6						
ZAL	**Zalesovo**	**52.99**	**350**	P	**P**	**00 08 24.2**	**-1.2**
	comp=Z,14nm,0.4s,mb5.2,baz=316,slow=4.5,SNR=88						
ZAL				LR	LR	00 34 26.7	
	comp=Z,32nm,20.6s,MS3.4,baz=67,slow=40						
ZAL	**Zalesovo**	**52.99**	**350**	P	**P**	**00 08 24.2**	**-1.2**
ZAL				LR	LR	00 34 26.7	
KMBO	**Kilima Mbogo**	**60.57**	**268**	LR	LR	00 30 53.1	
	comp=Z,62nm,18.7s,MS3.8,baz=92,slow=32						
BRTR	**Keskin Array B**	**69.08**	**312**	P	**P**	**00 10 15.1**	**+0.5**
	comp=Z,0.7nm,0.9s,mb3.6,baz=129,slow=9.2,SNR=3.8						
BRTR	**Keskin Array B**	**69.08**	**312**	P	**P**	**00 10 15.1**	**+0.5**
MAW	**Mawson**	**73.47**	**193**	LR	LR	00 38 56.3	
	comp=Z,152nm,19.0s,MS4.3,baz=197,slow=32						
AKASG	**Malin Array Be**	**75.08**	**322**	P	**P**	**00 10 49.7**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=87,slow=4.6,SNR=8.0						
FINES	**FINESS Array B**	**79.68**	**332**	P	**P**	**00 11 15.7**	**+0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=98,slow=6.2,SNR=17						
FX1	**Attu Island--F**	**79.73**	**37**	LR	LR	00 46 08.5	
	comp=Z,0.7nm,19.4s,baz=88,slow=35						
KAF	**Kangasniemi**	**79.75**	**333**	*ep*	**P**	**00 11 15.0**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.6						
KEV	**Kevo**	**81.67**	**341**	*ep*	**P**	**00 11 16.5**	**-9.3**
	comp=Z,3.6nm,0.8s,mb4.3						
GERES	**GERESS Array B**	**84.69**	**319**	P	**P**	**00 11 42.2**	**+0.6**
	comp=Z,0.9nm,1.0s,mb3.9,baz=104,slow=5.5,SNR=5.1						
NB2	**NORSAR Subarra**	**86.70**	**331**	P	**P**	**00 11 51.7**	**+0.5**
	comp=Z,0.7nm,0.7s,mb4.0,baz=94,slow=4.8						
NOA	**NORSAR Array B**	**86.70**	**331**	P	**P**	**00 11 51.8**	**+0.6**
	comp=Z,1.3nm,0.8s,mb4.2,baz=94,slow=4.8,SNR=4.4						
NOA				LR	LR	00 54 11.8	
	comp=Z,19nm,21.1s,MS3.5,baz=340,slow=38						
TXAR	**Lajitas Array**	**142.82**	**32**	PKP	PKPdf	00 18 41.4	+0.9
	comp=Z,0.1nm,0.6s,baz=135,slow=1.3,SNR=2.4						

OTT 04 00:06:01.1±0.1, 64.66N×110.67W, h1km, MN2.6/17, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.05**	**32**	PG	Pg	00 06 01.8	-0.2
DVKN	**Diavik Mine**	**0.22**	**134**	PG	Pg	00 06 05.0	-0.4
DVKN				SG	Sg	00 06 08.1	-0.2
DVKN				Trac		00 06 08.7	
	comp=Z,47nm,0.1s						
ACKN	**Achilles Lake**	**0.34**	**346**	PG	Pg	00 06 07.5	-0.5
ACKN				SG	Sg	00 06 12.1	-0.5
ACKN				Trac		00 06 12.2	
	comp=Z,43nm,0.1s						
LGSN	**Lac de Gras So**	**0.40**	**144**	PG	Pg	00 06 08.4	-0.7
LGSN				SG	Sg	00 06 14.0	-0.4
LGSN				Trac		00 06 15.8	
	comp=Z,11nm,0.1s						
YMBN	**Yamba Lake**	**0.43**	**301**	PG	Pg	00 06 08.8	-0.8
YMBN				SG	Sg	00 06 14.6	-0.8
YMBN				Trac		00 06 16.3	
	comp=Z,68nm,0.2s						
YNEN	**Yamba Lake Nor**	**0.46**	**339**	PG	Pg	00 06 09.6	-0.7
YNEN				SG	Sg	00 06 15.2	-1.2
YNEN				Trac		00 06 18.1	
	comp=Z,52nm,0.2s						
GLWN	**Glow Worm Lake**	**0.58**	**83**	PG	Pg	00 06 11.7	-1.0
GLWN				SG	Sg	00 06 19.4	-1.0
GLWN				Trac		00 06 19.8	
	comp=Z,26nm,0.1s						
COWN	**Contwyoto Lake**	**0.65**	**340**	PG	Pg	00 06 13.1	-1.0
COWN				SG	Sg	00 06 21.8	-1.0
COWN				Trac		00 06 22.9	
	comp=Z,22nm,0.1s						
NODN	**Nodinka Narrow**	**0.71**	**190**	PG	Pg	00 06 14.1	-1.3
NODN				SG	Sg	00 06 23.1	-1.7
NODN				Trac		00 06 23.7	
	comp=Z,22nm,0.1s						
MLON	**Marlo Lake**	**0.77**	**154**	PG	Pg	00 06 15.0	-1.5
MLON				SG	Sg	00 06 25.9	-0.8
MLON				Trac		00 06 25.9	
	comp=Z,16nm,0.1s						
BOXN	**Box Lake**	**0.91**	**152**	PG	Pg	00 06 17.9	-1.4
BOXN				SG	Sg	00 06 29.8	-1.6
BOXN				Trac		00 06 32.2	
	comp=Z,16nm,0.1s						
CAMN	**Camsell Lake**	**0.94**	**186**	PG	Pg	00 06 18.1	-1.7
CAMN				SG	Sg	00 06 30.6	-1.6
CAMN				Trac		00 06 35.6	
	comp=Z,28nm,0.1s						
MGTN	**Margaret Lake**	**1.08**	**154**	PG	Pg	00 06 21.0	-1.8
MGTN				SG	Sg	00 06 35.1	-2.2
MGTN				Trac		00 06 35.8	
	comp=Z,29nm,0.1s						
LUPN	**Lupin Mine**	**1.11**	**347**	PG	Pg	00 06 21.4	-2.0
LUPN				SG	Sg	00 06 35.6	-2.5
LUPN				Trac		00 06 40.1	
	comp=Z,36nm,0.1s						
SNPN	**Snap Lake**	**1.15**	**185**	PG	Pg	00 06 22.1	-2.0
SNPN				SG	Sg	00 06 36.4	-3.0
SNPN				Trac		00 06 41.7	
	comp=Z,111nm,0.1s						
IHLN	**Indian Hill La**	**1.36**	**184**	PG	Pg	00 06 25.4	-2.9
IHLN				SG	Sg	00 06 43.0	-3.5
IHLN				Trac		00 06 44.7	
	comp=Z,14nm,0.1s						
KNDN	**Kennady Lake**	**1.40**	**152**	PG	Pg	00 06 26.3	-2.8
KNDN				SG	Sg	00 06 43.8	-4.0
KNDN				Trac		00 06 45.5	
	comp=Z,19nm,0.1s						
ILKN	**Indian Lake**	**1.98**	**259**	PN	Pn	00 06 35.1	-1.1
ILKN				SN	Sn	00 07 00.8	-1.1
ILKN				Trac		00 07 03.8	
	comp=Z,11nm,0.2s						
DSMN	**Discovery Mine**	**2.06**	**225**	PN	Pn	00 06 35.4	-1.9
DSMN				SN	Sn	00 07 03.6	-0.3
DSMN				Trac		00 07 05.8	
	comp=Z,8.0nm,0.1s						
CTLN	**Castor Lake**	**2.32**	**267**	PN	Pn	00 06 40.0	-1.0
CTLN				SN	Sn	00 07 10.6	0.0
CTLN				Trac		00 07 14.8	
	comp=Z,3.6nm,0.1s						
YKW3	**Yellowknife Ar**	**2.75**	**222**	PN	Pn	00 06 44.2	-2.8
YKW3				SN	Sn	00 07 18.3	-3.1
YKW3				SG	Sg	00 07 24.4	-8.1
YKW3				Trac		00 07 32.1	
	comp=Z,2.3nm,0.1s						
GALN	**Gameti Lake**	**2.94**	**262**	PN	Pn	00 06 47.6	-2.2
GALN				SN	Sn	00 07 23.6	-2.7
GALN				Trac		00 07 35.9	
	comp=Z,4.9nm,0.2s						
YRTN	**Rankin Inlet**	**8.43**	**94**	PN	P	00 08 00.4	-6.9
YRTN				SN	Sn	00 09 30.7	-14
QILN	**Qililugaq Expl**	**10.20**	**68**	PN	P	00 08 26.4	-5.1
QILN				SN	S	00 10 13.8	-14

*MDD **04** 00:07:56.7±2.4, 35.36N×5.71E, h44km±18km, mb3.8/5, Error ellipse: s-maj=30.7km s-min=11.1km az=167.0, PRXIMO*
*CRAAG **04** 00:08:00.7, 35.77N×5.84E, Ml3.0*
*CSEM **04** 00:08:00.7, 35.77N×5.84E, ML3.0, After ALG*
ISC 04 00:07:55.3±2.5, 35.3N±0.2×5.6E±0.1, h44km, n12, σ0°75/12, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMER	**Merouana**	**0.35**	**39**	P	**P**	**00 08 05.0**	**+0.5**
CKHR	**Kef el Ahmar**	**0.68**	**352**	P	**P**	**00 08 09.0**	**+0.4**
SET	**Setif**	**0.87**	**348**	P	**P**	**00 08 12.0**	**+0.7**
CTEI	**Djebel Teioual**	**0.96**	**41**	P	**P**	**00 08 12.0**	**-0.5**
CASM	**Ain Smara**	**1.15**	**37**	P	**P**	**00 08 15.0**	**-0.2**
ATAF	**Djebel Tarf**	**1.22**	**296**	P	**P**	**00 08 16.6**	**+0.4**
AKET	**Djebel Ketaf**	**1.58**	**297**	P	**P**	**00 08 23.3**	**+1.8**
ETOS	**Mallorca**	**4.95**	**334**	P	**P**	**00 09 08.5**	**-0.6**
	0.2nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**5.02**	**318**	P	**P**	**00 09 09.8**	**-0.3**
	1.7nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**5.76**	**307**	P	**P**	**00 09 19.8**	**-0.6**
	4.0nm,0.7s,SNR=7.9						
EMUR	**La Murta**	**6.06**	**296**	P	**P**	**00 09 23.5**	**-1.2**
	0.7nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**6.54**	**287**	P	**P**	**00 09 31.3**	**-0.2**
	5.4nm,0.7s,SNR=7.9						

*IDC **04** 00:08:41.6±3.1, 1.89N×97.30E, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, MS2.9/1, Ms1 3.1/1, ms1mx2.5/23, Error ellipse: s-maj=123.6km s-min=26.3km az=55.0*
*NEIC **04** 00:08:46.7±2.0, 1.98N×97.31E, h30km, mb4.0/2, Error ellipse: s-maj=78.9km s-min=15.2km az=57.0*
ISC 04 00:08:44.6±2.4, 1.9N±0.4×97.2E±0.5, h33km, n8, σ0°69/7, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.54**	**6**	LR	LR	00 19 50.1	
	comp=Z,40nm,19.7s,baz=195,slow=40						
WRA	**Warramunga Arr**	**42.45**	**123**	P	**P**	**00 16 37.4**	**-1.1**
	0.4nm,0.3s,mb3.5,baz=303,slow=9.2,SNR=2.8						
WRAB	**Tennant Creek**	**42.46**	**123**	P	**P**	**00 16 39.7**	**+1.1**
	3.7nm,0.9s,mb4.0						
SONM	**Songino Array**	**46.44**	**9**	P	**P**	**00 17 10.3**	**+0.2**
	0.9nm,0.5s,mb4.0,baz=189,slow=9.0,SNR=12						
MKAR	**Makanchi Array**	**46.54**	**346**	P	**P**	**00 17 11.7**	**+0.8**
	0.4nm,0.4s,mb3.7,baz=161,slow=8.4,SNR=11						
ULN	**Ulaanbaatar**	**46.57**	**9**	P	**P**	**00 17 10.9**	**-0.3**
	1.0nm,0.8s,mb3.8						
ZAL	**Zalesovo**	**52.84**	**351**	P	**P**	**00 17 58.9**	**-0.3**
	2.1nm,0.4s,mb4.4,baz=300,slow=4.7,SNR=8.2						
BVAR	**Borovoye Array**	**55.57**	**341**	P	**P**	**00 18 18.7**	**-0.4**
	0.2nm,0.3s,mb3.6,baz=149,slow=8.4,SNR=5.2						

*JMA **04** 00:12:29.8±0.5, 34.11N×142.61E, h35km, M3.2*
*IDC **04** 00:12:35.1±5.0, 33.59N×142.47E, h57km±45km, mb3.1/6, mb1 3.4/7, mb1mx3.2/22, mbtmp3.5/7, ML4.0/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/7, Error ellipse: s-maj=34.9km s-min=21.2km az=84.0*
ISC 04 00:12:32.5±0.9, 34.07N±0.06×142.44E±0.07, h33km, n15, σ0°99/22, mb3.4/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.34**	**296**	P	**P**	**00 12 54.6**	**-0.4**
BSO3	**Boso 3**	**1.75**	**295**	P	**P**	**00 13 00.9**	**0.0**
BSO3				*eS*	**S**	**00 13 24.0**	**+1.7**
BSO4	**Boso 4**	**1.96**	**298**	P	**P**	**00 13 04.4**	**+0.5**
BSO4				*eS*	**S**	**00 13 29.0**	**+1.4**
JHJ2	**Mitsune**	**2.39**	**247**	P	**P**	**00 13 10.1**	**+0.1**
JHJ2				*eS*	**S**	**00 13 39.1**	**+0.7**
JHJ	**Hachijo jima 2**	**2.41**	**248**	P	**P**	**00 13 10.2**	**-0.1**
	93nm,0.3s,baz=72,slow=23,SNR=16						
JHJ				S	**S**	**00 13 37.6**	**-1.4**
	71nm,0.3s,baz=235,slow=23,SNR=10						
JHJ				LR	LR	00 13 40.1	
	comp=Z,1μm,18.6s,baz=328,slow=29						
JHO	**Hitachi**	**2.96**	**329**	P	**P**	**00 13 16.7**	**-1.5**
JOD2	**Odawara 2**	**3.01**	**294**	P	**P**	**00 13 17.7**	**-1.2**
JOD2				*eS*	**S**	**00 13 54.3**	**+0.2**
JHU	**Hanno**	**3.14**	**305**	P	**P**	**00 13 20.3**	**-0.5**
JHU				*eS*	**S**	**00 13 57.2**	**-0.4**
JRY	**Ryogami san**	**3.49**	**305**	P	**P**	**00 13 24.8**	**-0.9**
JRY				*eS*	**S**	**00 14 05.8**	**-0.7**
SONM	**Songino Array**	**30.20**	**308**	P	**P**	**00 18 43.5**	**+1.7**
	0.5nm,0.9s,mb3.2,baz=104,slow=5.9,SNR=3.7						
BVAR	**Borovoye Array**	**53.21**	**314**	P	**P**	**00 21 49.8**	**+0.3**
	0.1nm,0.4s,mb3.1,baz=90,slow=8.6,SNR=2.5						
WRA	**Warramunga Arr**	**54.26**	**189**	P	**P**	**00 21 52.3**	**-5.4**
	0.7nm,0.5s,mb3.8,baz=5.9,slow=7.6,SNR=5.6						
ASAR	**Alice Springs**	**57.99**	**189**	P	**P**	**00 22 17.8**	**-6.5**
	0.3nm,0.8s,mb3.4,baz=6.3,slow=8.2,SNR=2.3						
YKA	**Yellowknife Ar**	**65.95**	**30**	P	**P**	**00 23 16.2**	**-0.8**
	0.2nm,0.9s,mb3.1,baz=302,slow=6.3,SNR=4.1						
TXAR	**Lajitas Array**	**91.25**	**53**	P	**P**	**00 25 37.8**	**+1.9**
	0.3nm,0.6s,mb3.8,baz=309,slow=2.8,SNR=4.8						

*NEIC **04** 00:25:25.1±0.5, 29.12S×67.86W, h105km±6km, mb4.0/5, Error ellipse: s-maj=10.2km s-min=5.8km az=84.0*
*IDC **04** 00:25:26.6±0.7, 29.21S×67.91W, h118km±6km, mb3.6/5, mb1 3.9/8, mb1mx3.8/16, mbtmp4.0/8, Error ellipse: s-maj=25.7km s-min=9.8km az=96.0*
*GUC **04** 00:25:26.3±0.9, 29.02S×68.25W, h150km, ML4.5*
ISC 04 00:25:24.3±0.6, 29.11S±0.04×67.94W±0.07, h108km±8km, n35, σ0°91/41, mb3.9/8, 3C-1D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**2.42**	**272**	↑*iP*	**P**	**00 26 04.5**	**+1.1**
LCO				*i* S	**S**	**00 26 32.8**	**+0.1**
LCO				AMP		00 26 35.5	
	comp=E,1μm,0.3s						
CFAA	**Coronel Fontan**	**2.50**	**186**	P	**P**	**00 26 05.7**	**+1.3**
	comp=E,17nm,0.3s,baz=357,slow=13,SNR=1936						
CFAA				S	**S**	**00 26 34.5**	**0.0**
	comp=E,6.9nm,0.3s,baz=15,slow=6.9,SNR=6.1						
ZON	**Zonda**	**2.51**	**195**	↑*iP*	**P**	**00 26 04.0**	**-0.5**
ZON				*eS*	**S**	**00 26 35.0**	**+0.2**
VACH	**Vallenar**	**2.53**	**282**	*eP*	**P**	**00 26 05.4**	**+0.5**
VACH				*i* S	**S**	**00 26 34.0**	**-1.3**
TLL	**Tololo Astrono**	**2.71**	**246**	↑*iP*	**P**	**00 26 08.4**	**+1.1**
TLL				*i* S	**S**	**00 26 40.3**	**+0.7**
TLL				AMP		00 26 47.0	
	comp=N,1μm,0.5s						
CPCH	**Copiapo**	**2.76**	**309**	*eP*	**P**	**00 26 07.7**	**-0.2**
CPCH				*i* S	**S**	**00 26 39.1**	**-1.6**
CPCH				AMP		00 26 44.9	
	comp=E,6μm,0.1s						
MDZ	**Mendoza**	**3.84**	**192**	*eP*	**P**	**00 26 23.2**	**+0.6**
MDZ				*i* S	**S**	**00 27 00.3**	**-6.7**
CHNG	**Los Chungos**	**4.13**	**227**	*eP*	**P**	**00 26 24.8**	**-1.8**
FCH	**Farellones**	**4.66**	**205**	*eP*	**P**	**00 26 34.2**	**+0.4**
CLCH	**Cerro Calan**	**4.81**	**207**	*eP*	**P**	**00 26 35.5**	**-0.4**
CPN1	**Cerro Paranal**	**4.98**	**333**	*eP*	**P**	**00 26 39.0**	**+0.9**
ANCH	**Antofagasta**	**5.84**	**337**	*eP*	**P**	**00 26 49.3**	**-0.5**
LVC	**Limon Verde**	**6.53**	**352**	P	**P**	**00 27 00.0**	**+0.7**
	comp=E,13nm,0.3s,baz=178,slow=8.8,SNR=168						
LVC				S	**S**	**00 28 08.3**	**-4.6**
	comp=E,9.7nm,0.3s,baz=118,slow=21,SNR=10						
LVC	**Limon Verde**	**6.53**	**352**	*eP*	**P**	**00 26 59.8**	**+0.5**
LVC				*eS*	**S**	**00 28 01.9**	**-11**
LVC				S	**S**	**00 28 08.3**	**-4.6**
LVC	**Limon Verde**	**6.53**	**352**	⇓*iP*	**P**	**00 26 59.9**	**+0.7**
TRQA	**Tornquist**	**10.21**	**152**	*eP*	**P**	**00 27 48.4**	**-0.5**
PLCA	**Paso Flores**	**11.79**	**190**	*eP*	**P**	**00 28 08.3**	**-1.6**
LPAZ	**La Paz**	**12.77**	**359**	P	**P**	**00 28 24.1**	**+1.2**
	comp=E,0.4nm,0.3s,baz=189,slow=4.4,SNR=9.4						
LPAZ	**La Paz**	**12.77**	**359**	*eP*	**P**	**00 28 23.8**	**+0.9**
SIV	**San Ignacio**	**14.51**	**27**	P	**P**	**00 28 43.7**	**-1.8**
	comp=E,0.3nm,0.3s,baz=202,slow=12,SNR=9.1						
SAML	**Samuel**	**20.55**	**13**	*eP*	**P**	**00 29 57.1**	**+0.9**
	comp=E,4.9nm,0.6s						
BDFB	**Brasília**	**22.74**	**58**	P	**P**	**00 30 17.5**	**-0.3**
	comp=E,2.0nm,0.4s,mb3.8,baz=245,slow=7.6,SNR=6.1						
BDFB				pP		00 30 42.8	
	comp=E,1.3nm,0.4s,baz=205,slow=14,SNR=2.0						
SNAA	**Sanae**	**54.85**	**159**	P	**P**	**00 34 44.3**	**-0.8**
	comp=E,0.3nm,0.4s,mb3.6,baz=199,slow=22,SNR=7.8						
SNAA	**Sanae**	**54.85**	**159**	*eP*	**P**	**00 34 44.2**	**-0.9**
	comp=E,0.9nm,0.5s,mb4.1						
TXAR	**Lajitas Array**	**67.40**	**326**	P	**P**	**00 36 10.6**	**+0.3**
	comp=E,0.7nm,0.6s,mb3.6,baz=149,slow=8.3,SNR=11						
TXAR	**Lajitas Array**	**67.40**	**326**	P	**P**	**00 36 10.6**	**+0.3**
MNTX	**Cornudas Mount**	**70.18**	**327**	*eP*	**P**	**00 36 26.7**	**-0.6**
	comp=E,2.3nm,1.0s,mb4.0						
BW06	**Boulder Array**	**81.13**	**330**	*eP*	**P**	**00 37 28.8**	**-0.3**
	comp=E,1.3nm,0.6s,mb3.9						
PDAR	**Pinedale Array**	**81.13**	**330**	P	**P**	**00 37 29.8**	**+0.8**
	comp=E,1.2nm,0.6s,mb3.9,baz=125,slow=6.8,SNR=12						
HLID	**Hailey**	**83.93**	**328**	*eP*	**P**	**00 37 44.9**	**+1.5**
	comp=E,2.2nm,1.1s,mb3.9						
YKA	**Yellowknife Ar**	**98.62**	**340**	P	**P**	**00 38 51.1**	**-0.5**
	comp=E,0.3nm,0.5s,mb4.0,baz=137,slow=4.4,SNR=11						
ASAR	**Alice Springs**	**123.47**	**204**	PKP	PKPdf	00 44 09.3	+0.1
	comp=E,0.7nm,0.4s,baz=134,slow=1.7,SNR=9.1						
WRA	**Warramunga Arr**	**126.70**	**206**	PKP	PKPdf	00 44 16.3	+0.7
	comp=E,1.7nm,0.5s,baz=156,slow=1.8,SNR=13						
ZAL	**Zalesovo**	**148.24**	**31**	PKPbc	PKPdf	00 44 58.5	+5.0
	comp=E,2.4nm,0.3s,baz=192,slow=3.4,SNR=7.2						
ZAL				pPKPbc		00 45 30.1	
	comp=E,1.4nm,0.6s,baz=144,slow=3.1,SNR=3.4						
MKAR	**Makanchi Array**	**150.87**	**45**	PKPbc	PKPdf	00 45 05.4	+7.5
	comp=E,1.4nm,0.7s,baz=307,slow=2.1,SNR=9.4						
MKAR				PKPab	PKPab	00 45 12.7	-1.0
	comp=E,0.7nm,0.6s,baz=306,slow=2.4,SNR=4.7						
MKAR				pPKPbc		00 45 37.0	
	comp=E,1.0nm,0.7s,baz=316,slow=1.2,SNR=5.7						

*NIED **04** 00:32:00, 34.10N×142.60E, h8km, Mw3.9 Best double couple: M0:8.66×10^14 NP1:φ=187°, δ60°, λ-93°. NP2:φ=14°, δ30°, λ-84°.*
*IDC **04** 00:32:48.4±0.8, 34.08N×142.49E, mb3.7/14, mb1 3.9/16, mb1mx3.8/24, mbtmp3.7/16, ML3.8/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/24, Error ellipse: s-maj=20.3km s-min=18.2km az=127.0*
*JMA **04** 00:32:48.3±0.4, 34.06N×142.59E, h28km, M3.7*
*NEIC **04** 00:32:52.2±4.8, 34.06N×142.50E, h24km±32km, mb4.2/1, Error ellipse: s-maj=16.4km s-min=13.1km az=104.0*
ISC 04 00:32:49.2±1.9, 34.10N±0.05×142.46E±0.05, h16km±14km, n31, σ0°93/40, mb3.7/15, MS3.4/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.34**	**295**	P	**Pn**	**00 33 13.5**	**+0.1**
BSO1				*eS*	**Sn**	**00 33 31.8**	**+0.8**
BSO3	**Boso 3**	**1.76**	**294**	P	**Pn**	**00 33 19.9**	**+0.6**
BSO3				*eS*	**Sn**	**00 33 42.8**	**+1.4**
BSO4	**Boso 4**	**1.96**	**297**	P	**Pn**	**00 33 23.3**	**+1.0**
BSO4				*eS*	**Sn**	**00 33 47.1**	**+0.4**
JHJ2	**Mitsune**	**2.42**	**247**	P	**Pn**	**00 33 28.9**	**+0.1**
JHJ	**Hachijo jima 2**	**2.44**	**247**	Pn	**Pn**	**00 33 28.9**	**-0.2**
	159nm,0.3s,baz=110,slow=4.9,SNR=17						
JHJ				Sn	**Sn**	**00 33 57.2**	**-1.5**
	74nm,0.3s,baz=46,slow=23,SNR=7.7						
JOD2	**Odawara 2**	**3.01**	**294**	P	**Pn**	**00 33 36.9**	**-0.3**
JOD2				*eS*	**Sn**	**00 34 12.2**	**-1.1**
JAG	**Ashikaga**	**3.38**	**314**	P	**Pn**	**00 33 43.2**	**+0.7**
JRY	**Ryogami san**	**3.49**	**304**	P	**Pn**	**00 33 43.4**	**-0.6**
JRY				*eS*	**Sn**	**00 34 25.4**	**0.0**
JYN	**Shimob**	**3.51**	**294**	P	**Pn**	**00 33 44.2**	**-0.1**
JYN				*eS*	**Sn**	**00 34 27.0**	**+1.1**
JMM	**Marumori**	**3.99**	**341**	P	**Pn**	**00 33 49.6**	**-1.6**
JMM				*eS*	**Sn**	**00 34 35.1**	**-3.0**
MJAR	**Matsushiro Arr**	**4.24**	**306**	Pn	**Pn**	**00 33 54.9**	**+0.1**
	1.8nm,0

DGRG	David-gareji	4.04	56	P	Pn	00 46 13.3	+0.1

BJI ***04*** *00:54:58.8, 0.61N×97.89E, h24km, mB4.9, mb4.7, Ms4.0, Msz3.9*
IDC ***04*** *00:55:00.7±1.0, 0.72N×97.38E, h25km±4km, mb3.9/13, mb1 4.1/14, mb1mx4.0/18, mbtmp4.1/14, ML4.5/1, MS3.3/1, Ms1 3.5/1, ms1mx2.8/17, Error ellipse: s-maj=42.2km s-min=12.0km az=55.0*
NEIC ***04*** *00:55:00.7±0.5, 0.73N×97.43E, mb4.4/10, Error ellipse: s-maj=15.4km s-min=7.3km az=55.0*
ISC 04 00:54:59.0±0.6, 0.75N±0.08×97.5E±0.1, h26km, h26km±1.3km; pP-P, n35, σ0s89/35, mb4.3/27, MS3.7/2, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.52	35	*eP*		Pn		00 56 21.9	0.0
CMAR	Chiang Mai Arr	17.66	5	P		P		00 59 03.8	-1.4
	0.6nm,0.3s,baz=193,slow=11,SNR=18								
CMAR				LR		LR	LR	01 06 45.5	
	comp=Z,105nm,20.8s,baz=200,slow=40								
GYA	Guiyang	27.05	18	⇑*iP*		P		01 00 40.3	-1.2
GYA						AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5								
JIRN	Jiri	28.85	339	*eP*		P		01 00 58.6	+0.8
	comp=Z,13nm,0.9s,mb4.7								
PKI	Pulchoki	29.06	338	*eP*		P		01 00 59.9	+0.2
	comp=Z,6.6nm,0.6s,mb4.5								
DMN	Daman	29.21	337	*eP*		P		01 01 01.5	+0.4
	comp=Z,9.9nm,0.8s,mb4.6								
KKN	Kakani	29.31	338	*eP*		P		01 01 02.2	+0.3
	comp=Z,12nm,0.8s,mb4.7								
LSA	Lhasa	29.41	349	*eP*		P		01 01 03.9	+1.1
GKN	Gorkha	29.75	337	*eP*		P		01 01 04.5	-1.4
	comp=Z,13nm,0.9s,mb4.7								
KOLN	Koldanda	29.97	335	*eP*		P		01 01 07.7	-0.1
	comp=Z,11nm,0.8s,mb4.7								
FITZ	Fitzroy Crossi	33.46	125	P		P		01 01 37.6	-0.9
	comp=Z,4.0nm,0.7s,mb4.4,baz=45,slow=1.2,SNR=5.9								
FITZ				pP		pP		01 01 45.1	-1.1
	comp=Z,4.1nm,0.7s,baz=176,slow=15,SNR=3.0								
XAN	Xi'an	34.81	17	P		P		01 01 48.7	-1.3
XAN						AMB	AMB		
	comp=Z,12nm,0.6s,mb5.0								
LZH	Lanzhou	35.66	9	*eP*		P		01 02 02.0	+4.8
LZH						AMB	AMB		
	comp=Z,22nm,1.3s,mb4.9								
LZH						AMB	AMB		
	comp=Z,95nm,4.5s								
LZH						LR	LR		
	comp=E,158nm,13.0s								
LZH						LR	LR		
	comp=Z,246nm,17.2s,MS4.0								
LZH	Lanzhou	35.66	9	*eP*		P		01 02 02.0	+4.8
	comp=Z,22nm,1.3s,mb4.9								
LZH						pP	pP	01 02 11.2	+6.3
LZH						sP	sP	01 02 15.3	+7.1
LZH						LR	LR		
	comp=Z,250nm,17.2s,MS4.0								
GTA	Gaotai	38.54	3	P		P		01 02 21.9	+0.6
GTA						AP	pP	01 02 29.0	-0.1
GTA						AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4								
WRA	Warramunga Arr	41.58	122	P		P		01 02 47.0	+0.2
	comp=Z,1.3nm,0.6s,mb3.8,baz=303,slow=8.8,SNR=5.0								
WRA						pP	pP	01 02 54.3	-0.3
	comp=Z,2.6nm,0.7s,baz=301,slow=9.2,SNR=7.3								
WRAB	Tennant Creek	41.59	122	*eP*		P		01 02 45.8	-1.0
BJI	Beijing	42.66	21	P		P		01 02 56.5	+1.1
BJI						AMB	AMB		
	comp=Z,15nm,0.8s,mb4.8								
BJI	Beijing	42.66	21	P		P		01 02 56.5	+1.1
	comp=Z,15nm,0.8s,mb4.8								
ASAR	Alice Springs	42.92	127	P		P		01 02 58.6	+0.9
	comp=Z,1.2nm,0.5s,mb3.9,baz=298,slow=8.0,SNR=16								
ASAR						pP	pP	01 03 05.0	-0.6
	comp=Z,0.7nm,0.4s,baz=304,slow=7.5,SNR=5.8								
WMQ	Urumqi	43.76	350	⇑P		P		01 03 05.6	+1.4
WMQ						AP	pP	01 03 15.6	+3.6
WMQ						XP	sP	01 03 19.6	+4.4
WMQ						PP	PP	01 04 49.8	+2.0
WMQ						S	S	01 09 34.1	+1.6
WMQ						AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.5								
WMQ						LR	LR		
	comp=N,16nm,15.3s,MS3.5								
WMQ						LR	LR		
	comp=E,46nm,18.6s,MS3.5								
WMQ						LR	LR		
	comp=Z,23nm,16.4s,MS3.2								
SONM	Songino Array	47.54	8	P		P		01 03 34.5	+0.3
	comp=Z,1.2nm,0.5s,mb4.2,baz=187,slow=9.8,SNR=16								
SONM						pP	pP	01 03 42.9	+0.8
	comp=Z,0.9nm,0.6s,baz=194,slow=10,SNR=6.0								
MKAR	Makanchi Array	47.74	346	P		P		01 03 36.1	+0.3
	comp=Z,3.9nm,0.6s,mb4.6,baz=162,slow=8.9,SNR=36								
MKAR						pP	pP	01 03 43.3	-0.4
	comp=Z,1.8nm,0.5s,baz=163,slow=8.4,SNR=7.1								
CN2	Changchun	49.59	27	*eP*		P		01 03 51.6	+1.4
KURK	Kurchatov	52.29	345	*eP*		P		01 04 10.3	-0.3
	comp=Z,3.1nm,1.0s,mb4.2								
STKA	Stephens Creek	52.87	132	P		P		01 04 16.1	+0.9
	comp=Z,1.8nm,0.8s,mb4.1,baz=52,slow=6.8,SNR=5.4								
STKA						pP	pP	01 04 23.6	+0.5
	comp=Z,1.6nm,0.4s,baz=136,slow=23,SNR=2.9								
ZAL	Zalesovo	54.03	351	P		P		01 04 22.8	-0.6
	comp=Z,3.8nm,0.5s,mb4.6,baz=315,slow=5.2,SNR=18								
BVAR	Borovoye Array	56.75	341	P		P		01 04 42.3	-0.9
	comp=Z,0.8nm,0.6s,mb3.9,baz=149,slow=8.6,SNR=3.8								
CHKZ	Chkalovo	57.23	341	*eP*		P		01 04 45.5	-1.0
	comp=Z,3.4nm,0.9s,mb4.4								
BRTR	Keskin Array B	69.60	312	P		P		01 06 07.8	-0.5
	comp=Z,0.7nm,0.8s,mb3.7,baz=127,slow=6.2,SNR=4.2								
AKASG	Malin Array Be	75.77	322	P		P		01 06 43.6	-0.8
	comp=Z,0.3nm,0.2s,mb3.8,baz=85,slow=4.4,SNR=5.9								
FINES	FINESS Array B	80.51	333	P		P		01 07 10.2	-0.1
	comp=Z,0.8nm,0.6s,mb3.9,baz=113,slow=4.6,SNR=6.9								
GERES	GERESS Array B	85.32	319	P		P		01 07 36.7	+1.5
	comp=Z,0.7nm,0.8s,mb3.8,baz=90,slow=4.0,SNR=6.4								
NOA	NORSAR Array B	87.52	331	P		P		01 07 45.0	-0.7
	comp=Z,1.3nm,0.8s,mb4.2,baz=94,slow=5.0,SNR=3.7								
TXAR	Lajitas Array	143.91	32	PKP		PKPdf		01 14 33.2	-4.3
	comp=Z,0.3nm,0.7s,baz=27,slow=2.8,SNR=3.9								

JMA 04 00:55:04.1±0.4, 33.87N×142.49E, h59km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.48	302	P		P	P	00 55 28.9	-0.1
BSO1						*eS*	S	00 55 47.1	-0.3
BSO3	Boso 3	1.88	300	P		P	P	00 55 35.3	+0.7
BSO3						*eS*	S	00 55 58.2	+1.1
JHU	Hanno	3.30	308	*eS*		S	S	00 56 32.4	-0.4
JYN	Shimob	3.63	298	*eS*		S	S	00 56 40.3	-1.0

NEIC 04 01:02:18.2, 9.52S×115.29E, h33km, ML3.8(DJA), 3C-1D, After DJA., South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RATI	Rata	0.82	17	⇑*eP*		Pn	Pn	01 02 32.2	-1.4
RATI				*i* Sn		Sn	Sn	01 02 42.9	-1.8
KEDI	Kedomdong	1.31	38	⇓*iP*		Pn	Pn	01 02 39.1	-1.4
KEDI				*i* Sn		Sn	Sn	01 02 53.6	-3.3
KELI	Kelakatan	1.52	328	⇑*iPn*		Pn	Pn	01 02 42.5	-1.0
SRDI	Scrawed	1.54	312	⇑*iPn*		Pn	Pn	01 02 42.1	-1.6
SRDI				*i* Sn		Sn	Sn	01 02 59.7	-3.0

DJA 04 01:04:56.1±0.9, 9.46S×112.40E, h90km±23km, MD4.9/4, ML4.8/4, 4C-5D, Error ellipse: s-maj=40.2km s-min=21.4km az=6.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.98	61	⇓*iPn*		P		01 05 28.1	-0.4
	342nm,0.2s								
SRDI	Scrawed	1.98	61	⇑*iP*		P		01 05 28.6	+0.1
SRDI				⇓*iSn*		S		01 05 49.6	-2.8
KELI	Kelakatan	2.41	59	⇑*iPn*		P		01 05 33.9	-0.6
	2μm,0.3s								
KELI				⇓*iSn*		S		01 06 02.8	-0.2
RATI	Rata	3.18	77	⇑*iPn*		P		01 05 45.0	-0.1
	428nm,0.2s								
RATI				⇓*iSn*		S		01 06 19.7	-2.4
KEDI	Kedomdong	3.79	75	⇓*iPn*		P		01 05 51.9	-1.7
	68nm,0.2s								
KEDI				⇑*iSn*		S		01 06 34.4	-2.9

IDC ***04*** *01:16:20.5±4.0, 2.76N×96.26E, mb3.9/4, mb1 4.0/4, mb1mx3.6/17, mbtmp3.9/4, MS2.8/1, Ms1 3.0/1, ms1mx2.2/26, Error ellipse: s-maj=156.1km s-min=27.7km az=58.0*
NEIC ***04*** *01:16:24.6±2.1, 2.73N×96.17E, h30km, mb4.1/1, Error ellipse: s-maj=89.9km s-min=14.2km az=56.0*
ISC 04 01:16:22.0±2.9, 2.7N±0.5×96.0E±0.7, h30km, n7, σ0s46/6, mb3.9/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.97	10	LR		LR	LR	01 26 17.0	
	comp=Z,32nm,19.1s,baz=11,slow=38								
WRA	Warramunga Arr	43.82	123	P		P		01 24 27.2	-0.2
	0.6nm,0.5s,mb3.6,baz=301,slow=9.3,SNR=3.7								
WRAB	Tennant Creek	43.82	123	*eP*		P		01 24 27.7	+0.2
MKAR	Makanchi Array	45.56	347	P		P		01 24 41.7	+0.6
	1.4nm,0.6s,mb4.1,baz=158,slow=9.1,SNR=10.0								
SONM	Songino Array	45.90	10	P		P		01 24 43.7	0.0
	0.6nm,0.7s,mb3.6,baz=195,slow=7.2,SNR=5.5								
ZAL	Zalesovo	51.95	352	P		P		01 25 30.1	-0.3
	1.1nm,0.4s,mb4.2,baz=206,slow=9.0,SNR=4.0								
CHKZ	Chkalovo	54.98	342	*eP*		P		01 25 52.6	-0.3
	1.5nm,0.8s,mb4.1								

IDC ***04*** *01:22:59.5±0.8, 51.80N×176.04W, h50km±6km, mb3.6/9, mb1 3.9/11, mb1mx3.6/26, mbtmp3.9/11, Error ellipse: s-maj=26.1km s-min=12.9km az=176.0*
NEIC ***04*** *01:22:59.3±0.5, 51.60N×176.03W, mb4.2/3, ML3.6(AEIC), Error ellipse: s-maj=10.8km s-min=6.6km az=183.0*
ISC 04 01:22:57.8±0.6, 51.51N±0.07×175.96W±0.06, h46km, h46km±1.5km; pP-P, n30, σ1s08/35, mb4.0/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETKA	Kagalaska Isla	0.45	322	P		P		01 23 08.5	+0.2
ETKA				S		S		01 23 15.5	-0.2
GSIG	Igitkin Island	0.48	2	P		P		01 23 09.3	+0.7
GSMY	Great Sitkin M	0.54	353	P		P		01 23 10.2	+0.8
GSTD	Great Sitkin T	0.56	348	P		P		01 23 10.6	+0.9
ADK	Adak	0.59	310	P		P		01 23 10.1	0.0
ADK				S		S		01 23 18.6	-0.2
GSTR	Great Sitkin T	0.59	354	P		P		01 23 11.1	+1.1
ADAG	Mount Adagdak	0.62	320	P		P		01 23 11.2	+0.8
KIWB	Kanaga Island	0.82	295	P		P		01 23 13.9	+0.8
KIWB				S		S		01 23 24.9	+0.5
KIKV	Kanaga Island	0.84	297	P		P		01 23 14.2	+0.8
ATKA	Atka Island	1.29	57	P		P		01 23 20.3	+0.5
ATKA				S		S		01 23 36.0	-0.2
FX1	Attu Island--F	6.83	286	P		P		01 24 36.9	-1.0
	3.3nm,0.3s,baz=22,slow=12,SNR=27								
FX1				S		S		01 25 52.3	-2.9
	1.7nm,0.3s,baz=256,slow=19,SNR=2.2								
MCK	McKinley	18.77	39	P		P		01 27 14.4	-0.8
	4.5nm,1.0s								
THY	Trims Highway	19.92	42	P		P		01 27 27.2	-0.8
ILAR	Eielson Array	20.04	37	P		P		01 27 25.9	-3.4
	0.1nm,0.3s,baz=238,slow=9.6,SNR=14								
INK	Inuvik	26.34	34	P		P		01 28 28.9	-1.8
	0.3nm,0.3s,mb3.3,baz=360,slow=21,SNR=7.3								
INK	Inuvik	26.34	34	P		P		01 28 28.9	-1.8
YKA	Yellowknife Ar	33.85	47	P		P		01 29 35.2	-2.2
	0.5nm,0.7s,mb3.6,baz=284,slow=8.6,SNR=12								
YKA	Yellowknife Ar	33.85	47	P		P		01 29 35.2	-2.2
HLID	Hailey	41.19	76	P		P		01 30 41.7	+2.5
BW06	Boulder Array	44.57	74	*eP*		P		01 31 07.0	+0.4
	4.0nm,0.8s,mb4.3								
PDAR	Pinedale Array	44.57	74	P		P		01 31 06.5	-0.1
	0.7nm,0.6s,mb3.7,baz=304,slow=4.4,SNR=6.8								
PDAR						pP	pP	01 31 19.6	+0.3
	2.9nm,0.8s,baz=315,slow=4.9,SNR=16								
PDAR						sP	sP	01 31 25.1	+0.3
	3.0nm,0.6s,baz=317,slow=3.7,SNR=11								
SDCO	Great Sand Dun	50.09	77	P		P		01 31 50.8	+0.8
	2.8nm,0.7s,mb4.4								
MNTX	Cornudas Mount	54.17	83	*eP*		P		01 32 20.5	-0.1
MNTX						*epP*	pP	01 32 32.7	-0.8
WMOK	Wichita Mounta	56.15	75	*eP*		P		01 32 35.4	+0.6
TXAR	Lajitas Array	56.87	83	P		P		01 32 39.5	-0.7
	0.4nm,0.7s,mb3.6,baz=299,slow=4.7,SNR=6.0								
TXAR						pP	pP	01 32 52.9	-0.3
	0.4nm,0.5s,baz=297,slow=5.4,SNR=4.8								
MKAR	Makanchi Array	61.33	310	P		P		01 33 06.8	-3.9
	0.4nm,0.3s,mb4.0,baz=51,slow=7.8,SNR=8.5								
BVAR	Borovoye Array	61.92	321	P		P		01 33 11.5	-3.1
	0.8nm,0.4s,mb4.2,baz=58,slow=6.2,SNR=10.0								
CMAR	Chiang Mai Arr	72.76	278	P		P		01 34 22.0	-1.0
	1.2nm,0.4s,mb4.2,baz=27,slow=7.4,SNR=7.4								
ASAR	Alice Springs	86.81	225	P		P		01 35 39.0	+0.8
	0.8nm,0.6s,mb4.1,baz=27,slow=4.3,SNR=9.6								
STKA	Stephens Creek	91.03	215	P		P		01 35 58.8	+0.7
	2.0nm,0.9s,mb4.4,baz=68,slow=5.4,SNR=4.2								

IDC ***04*** *01:45:14.9±1.2, 0.18N×96.31E, mb3.9/8, mb1 4.0/9, mb1mx3.8/17, mbtmp3.9/9, MS2.7/1, Ms1 2.9/1, ms1mx2.4/23, Error ellipse: s-maj=45.9km s-min=25.4km az=50.0*
NEIC ***04*** *01:45:19.8±0.8, 0.31N×96.44E, h30km, mb4.2/2, Error ellipse: s-maj=26.6km s-min=16.3km az=61.0*
ISC 04 01:45:18.7±1.1, 0.4N±0.2×96.5E±0.2, h33km, n12, σ0s75/11, mb3.9/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.14	8	P		P		01 49 29.6	-0.3
	baz=202,slow=9.7,SNR=4.8								
CMAR						LR	LR	01 56 36.2	
	comp=Z,26nm,19.4s,baz=96,slow=37								
WRA	Warramunga Arr	42.23	121	P		P		01 53 10.5	-0.2
	0.5nm,0.6s,mb3.3,baz=298,slow=8.8,SNR=3.0								
MKAR	Makanchi Array	47.87	347	P		P		01 53 56.4	+0.8
	2.1nm,0.5s,mb4.4,baz=161,slow=7.9,SNR=21								
SONM	Songino Array	48.06	9	P		P		01 53 57.7	+0.8
	0.7nm,0.8s,mb3.7,baz=191,slow=9.3,SNR=5.5								
KURK	Kurchatov	52.41	346	*eP*		P		01 54 28.3	-1.7
	1.2nm,0.6s,mb4.0								
ZAL	Zalesovo	54.25	352	P		P		01 54 43.8	+0.1
	3.4nm,0.6s,mb4.5,baz=318,slow=7.0,SNR=14								
CHKZ	Chkalovo	57.28	342	*eP*		P		01 55 05.2	-0.2
	4.1nm,1.0s,mb4.4								
BRTR	Keskin Array B	69.13	313	P		P		01 56 23.6	-0.2
	0.5nm,0.7s,mb3.5,baz=135,slow=6.1,SNR=3.1								
AKASG	Malin Array Be	75.47	323	P		P		01 57 01.1	-0.1
	0.3nm,0.4s,mb3.6,baz=89,slow=4.9,SNR=6.3								
GERES	GERESS Array B	84.95	319	P		P		01 57 51.6	-0.3
	0.2nm,0.7s,mb3.4,baz=63,slow=3.0,SNR=4.8								
NOA	NORSAR Array B	87.37	331	P		P		01 58 04.8	+1.3
	1.1nm,0.8s,mb4.1,baz=94,slow=4.9,SNR=3.7								
TXAR	Lajitas Array	144.76	31	PKP		PKPdf		02 04 54.4	+1.5
	0.9nm,0.9s,baz=302,slow=2.1,SNR=7.3								

WEL 04 01:46:32.0±0.5, 37.81S×179.00E, h20km±1km, ML3.5/7, 2C, Error ellipse: s-maj=3.9km s-min=1.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.60	294	⇑P*		Pb		01 46 43.3	-0.3
MXZ				S*		Sb		01 46 51.5	-0.2
PUZ	Puketiti	0.64	246	⇑P*		Pb		01 46 44.4	+0.1
PUZ				S*		Sb		01 46 53.4	+0.6
MWZ	Matawai	1.27	245	PN		Pn		01 46 53.4	-1.4
MWZ				SN		Sn		01 47 11.0	-0.4
URZ	Urewera	1.56	253	PN		Pn		01 46 58.2	-0.7
URZ				SN		Sn		01 47 17.3	-1.3
KNZ	Kokohu	1.59	220	PN		Pn		01 46 57.8	-1.6
KNZ				SN		Sn		01 47 17.3	-2.3
BKZ	Black Stump Fm	2.39	235	PN		Pn		01 47 09.3	-1.5
BKZ				SN		Sn		01 47 36.8	-2.9
KUZ	Kuaotunu	2.82	291	PN		Pn		01 47 14.2	-2.7
NGZ	Ngauruhoe	2.99	242	PN		Pn		01 47 17.7	-1.7
WNVZ	Wahianoa	3.06	239	PN		Pn		01 47 18.1	-2.3
WNVZ				SN		Sn		01 47 53.4	-3.5

IDC 04 01:55:04.7±3.4, 22.37S×179.20W, mb3.9/3, mb1 4.1/4, mb1mx3.8/16, mbtmp4.0/4, ML4.6/1, Error ellipse: s-maj=67.5km s-min=60.9km az=95.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	Urewera	16.15	190	Pn		P		01 58 53.8	-0.8
	2.1nm,0.3s,baz=80,slow=3.5,SNR=5.6								
STKA	Stephens Creek	35.99	246	P		P		02 02 05.8	-3.6
	0.5nm,0.3s,baz=89,slow=9.0,SNR=2.8								
ASAR	Alice Springs	43.03	259	P		P		02 03 05.7	-2.3
	0.5nm,0.6s,baz=92,slow=8.3,SNR=8.6								
WRA	Warramunga Arr	43.27	264	P		P		02 03 09.6	-0.3
	0.7nm,0.3s,baz=99,slow=6.8,SNR=11								
HFS	Hagfors	141.19	350	PKP		PKPdf		02 14 36.3	-2.4
	2.3nm,0.4s,baz=45,slow=4.1,SNR=16								
AKASG	Malin Array Be	144.07	329	PKP		PKPdf		02 14 41.6	-2.2
	0.5nm,0.4s,baz=43,slow=4.2,SNR=5.3								

NIED ***04*** *02:01:00, 34.10N×142.50E, h8km, Mw3.7 Best double couple: Ms3.42×10^14 NP1:φs211°, δ63°, λ-78°. NP2:φs6°, δ30°, λ-112°.*
IDC ***04*** *02:01:39.8±1.1, 34.14N×142.46E, mb3.7/5, mb1 3.9/7, mb1mx3.6/22, mbtmp3.7/7, ML3.7/2, MS3.2/1, Ms1 3.4/1, ms1mx2.5/23, Error ellipse: s-maj=27.3km s-min=23.2km az=89.0*
JMA ***04*** *02:01:39.6±0.6, 34.05N×142.50E, h9km, M3.5*
NEIC ***04*** *02:01:44.1±7.8, 34.13N×142.44E, h28km±55km, mb4.2/1, Error ellipse: s-maj=29.9km s-min=17.8km az=93.0*
ISC 04 02:01:39.4±0.7, 34.07N±0.06×142.51E±0.06, h10km, n19, σ0s98/25, mb3.9/6, MS3.1/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.40	295	P		Pn		02 02 05.2	+0.1
BSO1				*eS*		Sb		02 02 22.8	-0.1
BSO2	Boso 2	1.60	296	*eS*		Sn		02 02 30.7	+1.8
BSO3	Boso 3	1.81	294	P		Pn		02 02 11.7	+0.8
BSO3				*eS*		Sn		02 02 35.4	+1.3
BSO4	Boso 4	2.02	298	P		Pn		02 02 15.0	+1.1
JHJ2	Mitsune	2.44	248	P		Pn		02 02 20.8	+0.7
JHJ2				*eS*		Sn		02 02 49.6	-0.7
JHJ	Hachijo jima 2	2.47	248	Pn		Pn		02 02 20.8	+0.4
	109nm,0.3s,baz=237,slow=23,SNR=6.2								
JHJ				Sn		Sn		02 02 48.0	-2.8
	86nm,0.3s,baz=62,slow=22,SNR=8.0								
JAG	Ashikaga	3.43	314	P		Pn		02 02 34.2	+0.1
JRY	Ryogami san	3.54	304	P		Pn		02 02 35.3	-0.4
JRY				*eS*		Sn		02 02 17.8	-0.3
JYN	Shimob	3.56	295	P		Pn		02 02 35.6	-0.4
JMM	Marumori	4.04	340	P		Pn		02 02 41.4	-1.3
JMM				*eS*		Sn		02 03 24.4	-6.2
MJAR	Matsushiro Arr	4.30	306	Pn		Pn		02 02 46.4	0.0
	1.6nm,0.3s,baz=157,slow=14,SNR=6.6								
MJAR				Sn		Sn		02 03 35.0	-2.2
	0.4nm,0.3s,baz=286,slow=27,SNR=4.3								
MAJO	Matsushiro	4.30	306	P		Pn		02 02 46.9	+0.4
CMAR	Chiang Mai Arr	41.72	259	LR		LR		02 26 45.1	
	comp=Z,26nm,19.3s,MS3.1,baz=74,slow=36								
ZAL	Zalesovo	44.61	315	P		P		02 09 52.3	-1.1
	1.2nm,0.2s,mb4.3,baz=118,slow=16,SNR=3.1								
KURK	Kurchatov	48.50	310	*eP*		P		02 10 24.1	+0.1
	1.8nm,0.8s,mb4.2								
ILAR	Eielson Array	51.54	31	P		P		02 10 46.2	-0.9
	0.4nm,0.9s,mb3.3,baz=279,slow=6.4,SNR=4.2								
WRA	Warramunga Arr	54.27	189	P		P		02 11 08.0	-0.1
	1.1nm,0.4s,mb4.1,baz=6.5,slow=7.5,SNR=8.3								
ASAR	Alice Springs	58.00	189	P		P		02 11 34.6	-0.1
	0.4nm,0.7s,mb3.6,baz=360,slow=6.1,SNR=5.1								
TXAR	Lajitas Array	91.20	53	P		P		02 14 48.1	+2.0
	0.2nm,0.5s,mb3.7,baz=290,slow=3.4,SNR=4.0								

IDC ***04*** *02:12:45.8±1.5, 6.61N×123.78E, h606km±17km, mb3.4/14, mb1 3.5/14, mb1mx3.4/22, mbtmp4.4/14, Error ellipse: s-maj=30.5km s-min=7.2km az=67.0*
BJI ***04*** *02:12:45.1, 6.60N×123.60E, h597km, mB4.7, mb4.4*
NEIC ***04*** *02:12:45.2±1.2, 6.58N×123.63E, h598km±15km, mb4.4/10, Error ellipse: s-maj=20.3km s-min=6.5km az=64.0*
ISC 04 02:12:44.6±1.2, 6.53N±0.07×123.6E±0.1, h612km±16km, n43, σ0s91/42, mb4.1/22, 4C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TSM	Tawau	6.13	249	P		P		02 14 26.7	-1.2
KKM	Kota Kinabalu	7.37	267	⇑*iP*		P		02 14 37.4	-1.5
KKM	Kota Kinabalu	7.37	267	P		P		02 14 37.7	-1.1
KSM	Kuching	14.18	250	*eP*		P		02 15 45

MKAR			PcP	PcP		02 22 07.1	-1.0
ZAL	**Zalesovo**	**56.71 334**	P	**P**		**02 21 32.2**	**-1.2**
comp=Z,1.0nm,0.3s,mb3.5,baz=74,slow=4.1,SNR=3.7							
KURK	**Kurchatov**	**57.73 328**	*eP*	**P**		**02 21 40.3**	**0.0**
comp=Z,7.1nm,0.6s,mb4.0							
KK31	**Karatay Array**	**59.08 317**	⇑P	PcP		02 22 32.5	+2.4
comp=Z,0.2nm,0.4s,baz=159,slow=12,SNR=4.8							
KK31			S	pP		02 23 37.3	-10
comp=Z,0.2nm,0.2s,baz=157,slow=25,SNR=9.2							
BVAR	**Borovoye Array**	**63.30 327**	P	**P**		**02 22 16.8**	**+0.1**
comp=Z,2.0nm,0.8s,mb3.5,baz=127,slow=7.4,SNR=13							
CHKZ	**Chkalovo**	**63.47 328**	*eP*	**P**		**02 22 17.4**	**-0.4**
comp=Z,1.0nm,0.4s,mb3.5							
ILAR	**Eielson Array**	**83.93 26**	P	**P**		**02 24 11.2**	**-1.0**
comp=Z,0.3nm,0.6s,baz=238,slow=5.3,SNR=9.6							
BRTR	**Keskin Array B**	**85.85 309**	P	**P**		**02 24 21.9**	**-0.3**
comp=Z,0.5nm,0.4s,mb3.5,baz=131,slow=2.8,SNR=12							
KEV	**Kevo**	**86.21 340**	*ep*	**P**		**02 24 18.6**	**-4.6**
comp=Z,0.3nm,0.4s,mb3.3							
VNDA	**Vanda**	**86.59 172**	P	**P**		**02 24 25.9**	**+1.1**
comp=Z,1.5nm,0.6s,mb3.9,baz=321,slow=7.4,SNR=16							
KAF	**Kangasniemi**	**87.69 332**	*ep*	**P**		**02 24 28.9**	**-1.4**
comp=Z,0.4nm,0.3s,mb3.6							
FINES	**FINESS Array B**	**87.91 332**	P	**P**		**02 24 30.7**	**-0.6**
comp=Z,0.5nm,0.4s,mb3.6,baz=72,slow=6.0,SNR=8.7							
PLCA	**Paso Flores**	**143.66 162**	PKP	PKPdf		02 31 13.8	+2.6
comp=Z,3.5nm,0.8s,baz=210,slow=6.5,SNR=4.6							
LPAZ	**La Paz**	**164.96 131**	PKP	PKPdf		02 31 43.2	+3.0
comp=Z,0.9nm,0.8s,baz=257,slow=7.0,SNR=4.4							
LPAZ	**La Paz**	**164.96 131**	PKP	PKPdf		02 31 43.2	+3.0

IDC 04 02:16:59.2±2.6, 2.96N×96.09E, mb3.8/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.7/6, ML4.1/1, Error ellipse: s-maj=95.4km s-min=28.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.65**	**10**	Pn	P	02 20 43.3	+0.4
0.3nm,0.3s,baz=193,slow=12,SNR=5.2							
WRA	**Warramunga Arr**	**43.91**	**123**	P	P	02 25 08.1	-1.7
0.5nm,0.7s,baz=303,slow=9.0,SNR=4.6							
MKAR	**Makanchi Array**	**45.28**	**347**	P	P	02 25 18.9	-1.5
0.7nm,0.4s,baz=157,slow=8.4,SNR=8.8							
SONM	**Songino Array**	**45.58**	**10**	P	P	02 25 20.8	-2.0
0.5nm,0.5s,baz=190,slow=8.3,SNR=6.1							
ZAL	**Zalesovo**	**51.65**	**352**	P	P	02 26 06.3	-3.4
1.0nm,0.4s,baz=214,slow=3.8,SNR=3.5							
BVAR	**Borovoye Array**	**54.23**	**341**	P	P	02 26 26.8	-2.1
0.3nm,0.5s,baz=143,slow=7.2,SNR=3.5							

IGQ 04 02:25:03.0, 0.95N×78.43W, h12km±3km, mb4.0, 5C-7D, Error ellipse: s-maj=2.8km s-min=1.7km az=128.0, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECEN	**Cerro Negro**	**0.47**	**105**	⇑P	Pg	02 25 12.4	-0.3
LORE	**San Lorenzo**	**0.54**	**310**	P	Pb	02 25 13.3	-0.7
COTA	**Cotacachi**	**0.61**	**171**	⇓P	Pb	02 25 16.2	+1.0
JOR1	**San Jorge 1**	**0.96**	**193**	⇓P	Pb	02 25 25.1	+3.9
CAYA	**Cayambe**	**0.97**	**153**	⇓P	Pb	02 25 22.1	+0.8
CAYA				S	Sb	02 25 36.3	+2.4
CAYR	**Refugio Cayamb**	**1.02**	**155**	P	Pb	02 25 22.9	+0.8
CAYR				S	Sb	02 25 37.8	+2.7
ELAGU	**Cayambe Volc**	**1.06**	**156**	⇓P	Pb	02 25 23.6	+0.8
ELAGU				S	Sb	02 25 38.2	+1.9
YANA	**Yana**	**1.07**	**188**	⇓P	Pb	02 25 23.6	+0.7
PINO	**Pino**	**1.11**	**189**	⇓P	Pb	02 25 24.6	+0.9
JUA2	**San Juan 2**	**1.17**	**189**	⇓P	Pb	02 25 25.2	+0.6
JUA2				S	Sb	02 25 41.4	+1.9
CONE	**Cono NE Rev Vo**	**1.28**	**142**	⇑P	Pb	02 25 27.2	+0.6
CONE				S	Sb	02 25 44.7	+1.9
ANTI	**Antisana**	**1.41**	**169**	⇑P	Pn	02 25 30.0	+1.4
NAS1	**Nasa**	**1.57**	**182**	⇑P	Pn	02 25 33.0	+2.1
NAS1				S	Sb	02 25 57.1	+5.9
VC1	**Cotopaxi 1**	**1.58**	**179**	⇑P	Pn	02 25 32.5	+1.5
TAMB	**Tambo**	**1.63**	**178**	P	Pn	02 25 33.5	+1.7
TAMB				S	Sn	02 25 58.4	+5.7
MAGD	**Magdalena**	**1.68**	**233**	P	Pn	02 25 29.9	-2.6
PISA	**Pisayambo**	**1.99**	**179**	P	Pn	02 25 40.2	+3.3
JAMA	**Jama**	**2.14**	**236**	P	Pn	02 25 39.2	+0.1
ULBA	**Ulba**	**2.38**	**179**	P	Pn	02 25 46.5	+4.1
IGUA	**Igualata**	**2.43**	**185**	P	Pn	02 25 47.2	+4.0
ARRY	**Arrayan**	**2.44**	**181**	P	Pn	02 25 47.0	+3.8
HOJA	**Cerro de Hojas**	**2.90**	**227**	P	Pn	02 25 48.9	-1.1
HOJA				S	Sn	02 26 26.1	+1.1

NIED ***04*** *02:26:00, 34.10N×142.40E, h8km, Mw3.9 Best double couple: M0 7.98×10^14 NP1:φs175°, δ60°, λ-102°. NP2: φs18°, δ32°, λ-70°.*
IDC ***04*** *02:26:08.7±0.7, 34.10N×142.41E, mb3.9/12, mb1 4.1/14, mb1mx4.0/22, mbtmp3.9/14, ML3.9/2, Error ellipse: s-maj=21.6km s-min=16.3km az=89.0*
JMA ***04*** *02:26:10.4±0.3, 34.08N×142.45E, h61km, M3.8*
NEIC ***04*** *02:26:13.0±3.8, 34.08N×142.41E, h28km±26km, mb4.6/2, MW3.9(NIED), Error ellipse: s-maj=15.8km s-min=8.3km az=86.0*

ISC 04 02:26:11.3±1.7, 34.17N±0.04×142.38E±0.05, h32km±12km, n38, σ1§19/52, mb4.0/14, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.25**	**293**	P	**Pn**	**02 26 33.4**	**+0.5**
BSO1				*eS*	**Sn**	**02 26 50.5**	**+1.7**
BSO3	**Boso 3**	**1.67**	**293**	P	**Pn**	**02 26 39.8**	**+1.0**
BSO4	**Boso 4**	**1.87**	**297**	P	**Pn**	**02 26 43.1**	**+1.4**
BSO4				S	**Sn**	**02 27 07.4**	**+2.9**
JHJ2	**Mitsune**	**2.38**	**244**	P	**Pn**	**02 26 47.7**	**-1.3**
JHJ2				*eS*	**Sn**	**02 27 16.9**	**-0.5**
JHJ	**Hachijo jima 2**	**2.40**	**245**	Pn	**Pn**	**02 26 48.8**	**-0.6**
277nm,0.3s,baz=74,slow=21,SNR=15							
JHJ				Sn	**Sn**	**02 27 16.5**	**-1.5**
64nm,0.3s,baz=49,slow=19,SNR=4.7							
JHO	**Hitachi**	**2.85**	**329**	P	**Pn**	**02 26 55.4**	**-0.3**
JHO				S	**Sn**	**02 27 27.3**	**-2.0**
JOD2	**Odawara 2**	**2.92**	**293**	P	**Pn**	**02 26 56.6**	**-0.1**
JOD2				*eS*	**Sn**	**02 27 31.2**	**+0.1**
JIZS	**Izushimoda**	**2.94**	**282**	P	**Pn**	**02 26 56.9**	**-0.1**
JIZS				*eS*	**Sn**	**02 27 31.1**	**-0.6**
JAG	**Ashikaga**	**3.28**	**314**	P	**Pn**	**02 27 02.0**	**+0.2**
JRY	**Ryogami san**	**3.39**	**304**	P	**Pn**	**02 27 03.7**	**+0.3**
JFK	**Kawauchi**	**3.42**	**339**	P	**Pn**	**02 27 02.7**	**-1.0**
JFK				*eS*	**Sn**	**02 27 40.8**	**-2.8**
JYN	**Shimob**	**3.42**	**294**	P	**Pn**	**02 27 04.0**	**+0.2**
JYN				*eS*	**Sn**	**02 27 44.2**	**+0.5**
JFT	**Otama**	**3.73**	**334**	P	**Pn**	**02 27 08.3**	**+0.1**
JFT				S	**Sn**	**02 27 49.3**	**-2.3**
JMM	**Marumori**	**3.91**	**341**	P	**Pn**	**02 27 08.3**	**-2.4**
JMM				S	**Sn**	**02 27 53.3**	**-2.7**
MJAR	**Matsushiro Arr**	**4.15**	**306**	Pn	**Pn**	**02 27 15.2**	**+1.1**
1.9nm,0.3s,baz=166,slow=14,SNR=7.6							
MJAR				Sn	**Sn**	**02 28 02.5**	**+0.3**
2.7nm,0.3s,baz=229,slow=7.1,SNR=6.3							
MJAR	**Matsushiro Arr**	**4.15**	**306**	Pn	**Pn**	**02 27 15.2**	**+1.1**
MJAR				Sn	**Sn**	**02 28 02.5**	**+0.3**
MAJO	**Matsushiro**	**4.15**	**306**	P	**Pn**	**02 27 16.6**	**+2.4**
MAT	**Matsushiro**	**4.15**	**306**	*eP*	**Pn**	**02 27 15.0**	**+0.8**
MAT				*eS*	**Sn**	**02 28 00.0**	**-2.2**
MAT	**Matsushiro**	**4.15**	**306**	P	**Pn**	**02 27 14.1**	**-0.1**
MAT				S	**Sn**	**02 27 59.5**	**-2.7**
SONM	**Songino Array**	**30.10**	**308**	P	**P**	**02 32 20.6**	**+0.6**
0.7nm,0.8s,mb3.5,baz=112,slow=8.4,SNR=6.2							
MKAR	**Makanchi Array**	**46.35**	**305**	P	**P**	**02 34 36.6**	**+0.6**
0.4nm,0.5s,mb3.6,baz=86,slow=10.0,SNR=4.7							
KURK	**Kurchatov**	**48.35**	**310**	*eP*	**P**	**02 34 51.8**	**+0.1**
2.4nm,0.7s,mb4.3							
ILAR	**Eielson Array**	**51.51**	**31**	P	**P**	**02 35 16.1**	**+0.4**
0.4nm,0.7s,mb3.5,baz=266,slow=6.0,SNR=9.0							
WRAB	**Tennant Creek**	**54.34**	**189**	*eP*	**P**	**02 35 36.2**	**-1.1**
11nm,1.0s,mb4.8							
WB2	**Warramunga Arr**	**54.35**	**189**	*eP*	**P**	**02 35 36.5**	**-0.8**
WRA	**Warramunga Arr**	**54.35**	**189**	P	**P**	**02 35 36.1**	**-1.2**
3.0nm,0.5s,mb4.5,baz=7.4,slow=7.8,SNR=16							
FITZ	**Fitzroy Crossi**	**54.37**	**200**	P	**P**	**02 35 37.2**	**-0.2**
3.9nm,0.7s,mb4.4,baz=351,slow=11,SNR=7.5							
ASAR	**Alice Springs**	**58.08**	**189**	P	**P**	**02 36 03.1**	**-0.9**
1.9nm,0.8s,mb4.2,baz=9.9,slow=8.0,SNR=17							
YKA	**Yellowknife Ar**	**65.89**	**30**	P	**P**	**02 36 55.3**	**-0.4**
0.1nm,0.4s,mb3.2,baz=295,slow=6.5,SNR=3.6							
YKA	**Yellowknife Ar**	**65.89**	**30**	P	**P**	**02 36 55.3**	**-0.4**
FINES	**FINESS Array B**	**71.72**	**333**	P	**P**	**02 37 32.4**	**+0.7**
1.3nm,0.7s,mb4.0,baz=72,slow=6.0,SNR=4.9							
FINES	**FINESS Array B**	**71.72**	**333**	P	**P**	**02 37 32.4**	**+0.7**
AKASG	**Malin Array Be**	**77.05**	**323**	P	**P**	**02 38 03.7**	**+1.1**
1.6nm,0.7s,mb4.1,baz=45,slow=5.7,SNR=10							
NB2	**NORSAR Subarra**	**77.13**	**338**	P	**P**	**02 38 03.8**	**+1.0**
1.2nm,0.7s,mb3.9,baz=41,slow=5.6							
NOA	**NORSAR Array B**	**77.13**	**338**	P	**P**	**02 38 04.5**	**+1.7**
1.0nm,0.7s,mb3.9,baz=40,slow=5.5,SNR=4.3							
BRTR	**Keskin Array B**	**81.35**	**312**	P	**P**	**02 38 28.1**	**+2.1**
1.9nm,0.9s,mb4.0,baz=76,slow=5.1,SNR=7.2							
TXAR	**Lajitas Array**	**91.23**	**53**	P	**P**	**02 39 16.4**	**+1.7**
0.3nm,0.6s,mb3.8,baz=309,slow=3.4,SNR=4.7							
LPAZ	**La Paz**	**147.34**	**65**	PKPbc	PKPdf	02 45 56.0	+1.0
1.1nm,0.8s,baz=283,slow=5.9,SNR=4.2							

IDC ***04*** *02:31:06.8±1.2, 0.87N×97.38E, mb3.9/10, mb1 4.1/11, mb1mx3.9/20, mbtmp3.9/11, ML4.2/1, MS3.4/1, Ms1 3.6/1, ms1mx2.6/27, Error ellipse: s-maj=55.4km s-min=16.1km az=54.0*
NEIC ***04*** *02:31:11.3±0.5, 0.87N×97.40E, h30km, mb4.2/2, Error ellipse: s-maj=16.7km s-min=8.3km az=61.0*

ISC 04 02:31:09.4±0.7, 0.9N±0.1×97.4E±0.1, h30km, n16, σ0§74/16, mb3.9/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.45**	**36**	*eP*	**Pn**	**02 32 31.2**	**+0.5**
KULM				*e*		02 32 38.5	
CMAR	**Chiang Mai Arr**	**17.53**	**5**	P	**P**	**02 35 13.2**	**-0.2**
0.3nm,0.3s,baz=192,slow=12,SNR=9.0							
CMAR				LR	LR	02 43 01.8	
comp=Z,109nm,18.4s,baz=205,slow=41							
FITZ	**Fitzroy Crossi**	**33.58**	**126**	P	**P**	**02 37 48.3**	**-1.0**
3.4nm,0.8s,mb4.3,baz=296,slow=2.9,SNR=4.6							
WRA	**Warramunga Arr**	**41.70**	**122**	P	**P**	**02 38 57.3**	**-0.2**
0.7nm,0.5s,mb3.6,baz=301,slow=9.1,SNR=3.4							
WRAB	**Tennant Creek**	**41.70**	**122**	*eP*	**P**	**02 38 57.3**	**-0.2**
6.1nm,1.0s,mb4.2							
ASAR	**Alice Springs**	**43.04**	**127**	P	**P**	**02 39 08.9**	**+0.4**
0.8nm,0.6s,mb3.6,baz=299,slow=7.9,SNR=7.9							
SONM	**Songino Array**	**47.41**	**8**	P	**P**	**02 39 43.5**	**+0.5**
0.9nm,0.6s,mb3.9,baz=187,slow=8.9,SNR=13							
STKA	**Stephens Creek**	**52.99**	**132**	P	**P**	**02 40 26.7**	**+0.8**
1.1nm,0.6s,mb4.0,baz=289,slow=8.6,SNR=3.1							
STKA	**Stephens Creek**	**52.99**	**132**	P	**P**	**02 40 26.7**	**+0.8**
ZAL	**Zalesovo**	**53.89**	**351**	P	**P**	**02 40 31.5**	**-0.6**
2.2nm,0.5s,mb4.4,baz=60,slow=20,SNR=8.3							
ZAL	**Zalesovo**	**53.89**	**351**	P	**P**	**02 40 31.5**	**-0.6**
BVAR	**Borovoye Array**	**56.61**	**341**	P	**P**	**02 40 51.3**	**-0.6**
1.1nm,0.8s,mb4.0,baz=143,slow=7.4,SNR=5.6							
CHKZ	**Chkalovo**	**57.09**	**341**	*eP*	**P**	**02 40 54.2**	**-1.1**
0.9nm,0.5s,mb4.1							
AKASG	**Malin Array Be**	**75.63**	**322**	P	**P**	**02 42 53.4**	**0.0**
0.3nm,0.4s,mb3.6,baz=87,slow=4.7,SNR=4.8							
FINES	**FINESS Array B**	**80.37**	**333**	P	**P**	**02 43 19.3**	**+0.1**
0.3nm,0.4s,mb3.6,baz=108,slow=4.4,SNR=4.1							
GERES	**GERESS Array B**	**85.18**	**319**	P	**P**	**02 43 46.1**	**+1.9**
0.1nm,0.3s,mb3.4,baz=90,slow=5.3,SNR=3.7							

JMA 04 02:32:42.4±0.4, 34.14N×142.53E, h18km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.38**	**292**	P	Pn	02 33 07.1	+0.1
BSO1				S	Sb	02 33 24.3	-0.3
BSO2	**Boso 2**	**1.59**	**293**	S	Sn	02 33 30.6	+0.4
BSO3	**Boso 3**	**1.79**	**292**	P	Pn	02 33 13.4	+0.5
BSO4	**Boso 4**	**2.00**	**296**	P	Pn	02 33 16.7	+0.9
BSO4				S	Sn	02 33 41.6	+1.0
JHJ2	**Mitsune**	**2.48**	**246**	P	Pn	02 33 23.1	+0.3
JIM2	**Oshima 3**	**2.62**	**284**	S	Sn	02 33 57.6	+1.1
JOD2	**Odawara 2**	**3.05**	**293**	P	Pn	02 33 30.6	-0.2
JOD2				S	Sn	02 34 05.7	-1.5
JIZS	**Izushimoda**	**3.07**	**282**	P	Pn	02 33 30.7	-0.5
JAG	**Ashikaga**	**3.40**	**313**	P	Pn	02 33 35.5	-0.3
JAG				S	Sn	02 34 15.7	-0.3
JFK	**Kawauchi**	**3.49**	**338**	P	Pn	02 33 36.5	-0.6
JFK				S	Sn	02 34 14.9	-3.5
JRY	**Ryogami san**	**3.52**	**303**	S	Sn	02 34 18.4	-0.6
JYN	**Shimob**	**3.55**	**294**	P	Pn	02 33 37.5	-0.4
JYN				S	Sn	02 34 17.6	-2.2
JMM	**Marumori**	**3.98**	**340**	P	Pn	02 33 43.4	-0.6
JMM				S	Sn	02 34 28.2	-2.5

IDC 04 02:36:12.9±2.6, 1.90N×96.75E, mb3.9/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=94.8km s-min=26.2km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.60**	**7**	Pn	P	02 40 08.8	0.0
0.3nm,0.3s,baz=199,slow=14,SNR=4.2							
WRA	**Warramunga Arr**	**42.78**	**122**	P	P	02 44 12.7	-1.7
0.4nm,0.5s,baz=304,slow=9.3,SNR=3.2							
MKAR	**Makanchi Array**	**46.46**	**346**	P	P	02 44 41.9	-1.6
2.0nm,0.6s,baz=153,slow=8.1,SNR=5.0							
SONM	**Songino Array**	**46.51**	**9**	P	P	02 44 41.7	-2.2
1.4nm,0.7s,baz=190,slow=8.9,SNR=15							
ZAL	**Zalesovo**	**52.79**	**351**	P	P	02 45 29.8	-2.3
1.0nm,0.4s,baz=290,slow=9.7,SNR=3.0							
BVAR	**Borovoye Array**	**55.45**	**341**	P	P	02 45 49.1	-2.5
0.4nm,0.4s,baz=153,slow=6.4,SNR=3.0							

NIED ***04*** *02:45:00, 34.10N×142.50E, h8km, Mw4.0 Best double couple: M0 1.13×10^15 NP1:φs171°, δ57°, λ-98°. NP2:φs5°, δ34°, λ-78°.*
IDC ***04*** *02:45:18.6±0.7, 34.11N×142.41E, mb4.1/16, mb1 4.2/19, mb1mx4.2/24, mbtmp4.1/19, ML4.0/3, Error ellipse: s-maj=20.0km s-min=14.8km az=89.0*
JMA ***04*** *02:45:19.9±0.4, 34.09N×142.49E, h28km, M3.8*
MOS ***04*** *02:45:21.2±1.3, 34.19N×142.51E, h33km, mb4.7/10, Error ellipse: s-maj=14.7km s-min=8.2km az=121.7*
BJI ***04*** *02:45:22.1, 33.99N×142.28E, h34km, mB4.8, mb4.7, Ms4.4, Msz3.8*
NEIC ***04*** *02:45:23.6±0.3, 34.09N×142.33E, mb4.7/14, MW4.0(NIED), Error ellipse: s-maj=8.7km s-min=6.3km az=60.0*

ISC 04 02:45:21.3±0.4, 34.12N±0.04×142.45E±0.05, h32km, h32km±3.4km: pP-P, n73, σ1§01/86, mb4.4/34, MS3.6/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.33**	**294**	P	**Pn**	**02 45 43.7**	**-0.2**
BSO1				S	**Sn**	**02 46 01.3**	**+0.7**
BSO2	**Boso 2**	**1.54**	**295**	S	**Sn**	**02 46 07.8**	**+1.9**
BSO3	**Boso 3**	**1.74**	**294**	P	**Pn**	**02 45 50.1**	**+0.3**
BSO3				S	**Sn**	**02 46 11.6**	**+0.5**
BSO4	**Boso 4**	**1.95**	**297**	P	**Pn**	**02 45 53.5**	**+0.7**
BSO4				S	**Sn**	**02 46 18.2**	**+1.9**
CHOJ	**Chosi**	**2.05**	**321**	P	**Pn**	**02 45 55.5**	**+1.2**
CHOJ				S	**Sn**	**02 46 18.8**	**-0.2**
JHJ2	**Mitsune**	**2.42**	**246**	P	**Pn**	**02 45 59.2**	**-0.3**
JHJ	**Hachijo jima 2**	**2.44**	**247**	Pn	**Pn**	**02 45 59.3**	**-0.5**
263nm,0.3s,baz=112,slow=8.3,SNR=14							
JHJ				Sn	**Sn**	**02 46 25.9**	**-2.9**
174nm,0.3s,baz=231,slow=23,SNR=9.2							
JOD2	**Odawara 2**	**3.00**	**293**	P	**Pn**	**02 46 06.9**	**-0.8**
JOD2				S	**Sn**	**02 46 41.9**	**-1.0**
JIZS	**Izushimoda**	**3.01**	**282**	P	**Pn**	**02 46 09.1**	**+1.2**
JAG	**Ashikaga**	**3.36**	**314**	P	**Pn**	**02 46 12.3**	**-0.6**
JAG				S	**Sn**	**02 46 50.2**	**-2.0**
JRY	**Ryogami san**	**3.47**	**304**	P	**Pn**	**02 46 13.8**	**-0.7**
JRY				S	**Sn**	**02 46 54.6**	**-0.4**
JFK	**Kawauchi**	**3.48**	**339**	P	**Pn**	**02 46 12.9**	**-1.8**
JFK				S	**Sn**	**02 46 50.7**	**-4.6**
JYN	**Shimob**	**3.49**	**294**	P	**Pn**	**02 46 14.4**	**-0.4**
JYN				S	**Sn**	**02 46 55.2**	**-0.3**
JMM	**Marumori**	**3.97**	**341**	P	**Pn**	**02 46 19.8**	**-1.8**
JMM				S	**Sn**	**02 47 02.8**	**-4.9**
MJAR	**Matsushiro Arr**	**4.22**	**306**	Pn	**Pn**	**02 46 24.5**	**-0.7**
2.4nm,0.3s,baz=171,slow=16,SNR=10							
MJAR				Sn	**Sn**	**02 47 15.0**	**+1.0**
3.2nm,0.3s,baz=232,slow=20,SNR=5.8							
MAJO	**Matsushiro**	**4.23**	**306**	*eP*	**Pn**	**02 46 25.6**	**+0.4**
MAT	**Matsushiro**	**4.23**	**306**	*eP*	**Pn**	**02 46 24.0**	**-1.2**
MAT				*eS*	**Sn**	**02 47 10.0**	**-4.1**
MAT	**Matsushiro**	**4.23**	**306**	P	**Pn**	**02 46 24.1**	**-1.1**
MAT				S	**Sn**	**02 47 10.2**	**-3.9**
ASAJ	**Asahikawa**	**9.98**	**1**	P	**P**	**02 47 41.9**	**-3.8**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
ASAJ	**Asahikawa**	**9.98**	**1**	Pn	**P**	**02 47 41.9**	**-3.8**
comp=Z,1.5nm,0.3s,baz=186,slow=14,SNR=5.5							
YSS	**Yuzh-Sakhalins**	**12.82**	**1**	*eP*	**P**	**02 48 20.4**	**-3.7**
YSS				pmax	pmax		
comp=Z,30nm,1.0s							
HHC	**Hu-ho-hao-te**	**25.32**	**294**	*eP*	**P**	**02 50 48.5**	**+1.8**
HHC				XP	sP	02 51 02.4	+2.1
HHC				AMB	AMB		
comp=Z,17nm,1.3s,mb4.4							
HHC				AMB	AMB		
comp=Z,119nm,5.5s							
HHC				LR	LR		
comp=N,141nm,14.3s,MS3.8							
HHC				LR	LR		
comp=E,140nm,15.7s,MS3.8							
HHC				LR	LR		
comp=Z,106nm,14.3s,MS3.5							
XAN	**Xi'an**	**27.70**	**279**	P	**P**	**02 51 07.5**	**-1.1**
XAN				AP	pP	02 51 17.8	-0.2
XAN				AMB	AMB		
comp=Z,14nm,1.0s,mb4.5							
ENH	**Enshi**	**28.09**	**271**	*eP*	**P**	**02 51 10.2**	**-1.9**
comp=Z,8.1nm,0.6s,mb4.5							
ULN	**Ulaanbaatar**	**29.75**	**308**	*eP*	**P**	**02 51 28.8**	**+1.9**
ULN				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.1							
ULN	**Ulaanbaatar**	**29.75**	**308**	*eP*	**P**	**02 51 28.8**	**+1.8**
comp=Z,2.8nm,0.8s,mb4.0							
SONM	**Songino Array**	**30.18**	**308**	P	**P**	**02 51 30.9**	**+0.2**
comp=Z,2.6nm,0.8s,mb4.0,baz=108,slow=8.2,SNR=19							
BOD	**Bodaibo**	**30.45**	**330**	*eP*	**P**	**02 51 32.7**	**-0.3**
BOD				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.2							
LZH	**Lanzhou**	**31.51**	**285**	*eP*	**P**	**02 51 41.8**	**-0.7**
LZH				AP	pP	02 51 52.0	0.0
LZH				XP	sP	02 51 55.9	-0.2
LZH				AMB	AMB		
comp=Z,19nm,1.3s,mb4.8							
LZH	**Lanzhou**	**31.51**	**285**	*eP*	**P**	**02 51 41.8**	**-0.7**
comp=Z,19nm,1.3s,mb4.8							
LZH				pP	pP	02 51 52.0	0.0
LZH				sP	sP	02 51 55.9	-0.2
KMI	**Kunming**	**35.48**	**266**	P	**P**	**02 52 16.3**	**-0.7**
KMI				AP	pP	02 52 24.1	-2.4
KMI				AMB	AMB		
comp=Z,9.0nm,0.7s,mb4.8							
KMI	**Kunming**	**35.48**	**266**	P	**P**	**02 52 16.3**	**-0.7**
comp=Z,9.0nm,0.7s,mb4.8							
KMI				pP	pP	02 52 24.1	-2.4
CMAR	**Chiang Mai Arr**	**41.68**	**259**	P	**P**	**02 53 07.8**	**-0.9**
comp=Z,1.2nm,0.4s,mb3.9,baz=49,slow=7.7,SNR=7.8							
ZAL	**Zalesovo**	**44.54**	**315**	P	**P**	**02 53 31.6**	**0.0**
comp=Z,1.1nm,0.6s,mb3.9,baz=34,slow=6.6,SNR=4.6							
NVS	**Novosibirsk**	**45.49**	**316**	*i P*	**P**	**02 53 39.4**	**+0.3**
MKAR	**Makanchi Array**	**46.42**	**305**	P	**P**	**02 53 46.5**	**-0.1**
comp=Z,1.9nm,0.7s,mb4.1,baz=90,slow=10,SNR=13							
JIRN	**Jiri**	**48.20**	**278**	*eP*	**P**	**02 54 01.8**	**+1.0**
comp=Z,6.6nm,0.3s,mb5.1							
GUN	**Gumba**	**48.36**	**279**	*eP*	**P**	**02 54 02.9**	**+0.9**
comp=Z,26nm,0.7s,mb5.4							
KURK	**Kurchatov**	**48.42**	**310**	*eP*	**P**	**02 54 02.5**	**+0.3**
KURK				pmax	pmax		
comp=Z,11nm,0.8s,mb4.9							
KURK	**Kurchatov**	**48.42**	**310**	*eP*	**P**	**02 54 02.5**	**+0.3**
comp=Z,11nm,0.8s,mb4.9							
PKI	**Pulchoki**	**48.87**	**279**	*eP*	**P**	**02 54 06.3**	**+

BSO4	**Boso 4**	**1.93 299**	P	**Pn**	**02 53 22.8 +1.1**
BSO4			*e*S	**Sn**	**02 53 47.4 +2.1**
CHOJ	**Chosi**	**2.05 322**	P	**Pn**	**02 53 24.3 +0.8**
CHOJ			*e*S	**Sn**	**02 53 47.9 -0.6**
JHJ2	**Mitsune**	**2.36 246**	P	**Pn**	**02 53 28.5 +0.5**
JHJ2			*e*S	**Sn**	**02 53 56.4 -0.1**
JHJ	**Hachijo jima 2**	**2.39 247**	Pn	**Pn**	**02 53 28.6 +0.3**
	229nm,0.3s,baz=116,slow=8.7,SNR=11				
JHJ			Sn	**Sn**	**02 53 57.2 +0.2**
	113nm,0.3s,baz=65,slow=23,SNR=7.9				
JIM2	**Oshima 3**	**2.53 285**	P	**Pn**	**02 53 30.8 +0.4**
JIM2			*e*S	**Sn**	**02 53 59.6 -1.2**
JOD2	**Odawara 2**	**2.97 294**	P	**Pn**	**02 53 36.1 -0.5**
JOD2			*e*S	**Sn**	**02 54 11.4 -0.5**
JAG	**Ashikaga**	**3.35 315**	P	**Pn**	**02 53 41.5 -0.6**
JAG			*e*S	**Sn**	**02 54 19.5 -2.1**
JRY	**Ryogami san**	**3.46 305**	P	**Pn**	**02 53 43.3 -0.2**
JRY			*e*S	**Sn**	**02 54 24.0 -0.1**
JYN	**Shimobe**	**3.47 295**	P	**Pn**	**02 53 43.8 +0.1**
JYN			*e*S	**Sn**	**02 54 24.4 -0.1**
JMM	**Marumori**	**3.99 341**	P	**Pn**	**02 53 49.1 -2.0**
JMM			*e*S	**Sn**	**02 54 31.9 -5.8**
MJAR	**Matsushiro Arr**	**4.21 307**	P	**Pn**	**02 53 53.5 -0.7**
MJAR					02 54 44.5
MJAR			pmax	pmax	
MJAR	comp=Z,4.0nm,0.3s				
			smax		
MJAR	comp=N,3.0nm,0.3s				
MJAR	**Matsushiro Arr**	**4.21 307**	Pn	**Pn**	**02 53 53.5 -0.8**
	comp=N,4.1nm,0.3s,baz=164,slow=13,SNR=14				
MJAR			Sn	**Sn**	**02 54 44.5 +1.2**
	comp=N,2.8nm,0.3s,baz=135,slow=3.5,SNR=4.3				
MAJO	**Matsushiro**	**4.21 307**	*e*P	**Pn**	**02 53 53.9 -0.4**
MAT	**Matsushiro**	**4.21 307**	*e*P	**Pn**	**02 53 54.0 -0.3**
MAT			*e*S	**Sn**	**02 54 39.0 -4.3**
MAT	**Matsushiro**	**4.21 307**	P	**Pn**	**02 53 53.6 -0.7**
MAT			S	**Sn**	**02 54 39.4 -3.9**
ERM	**Erimo**	**7.94 4**	Pn	**Pn**	**02 54 42.2 -4.5**
	comp=N,193nm,0.4s,SNR=12				
ASAJ	**Asahikawa**	**10.02 1**	P	**P**	**02 55 11.2 -4.2**
ASAJ			pmax	pmax	
	comp=Z,2.0nm,0.3s				
ASAJ	**Asahikawa**	**10.02 1**	Pn	**P**	**02 55 11.2 -4.2**
	comp=Z,1.5nm,0.3s,baz=243,slow=28,SNR=5.6				
YSS	**Yuzh-Sakhalins**	**12.86 1**	*e*P	**P**	**02 55 48.3 -5.6**
YSS			pmax	pmax	
	comp=Z,20nm,0.9s				
BJT	**Baijiatuan**	**21.72 293**	P	**P**	**02 57 39.4 -1.7**
	comp=Z,6.5nm,0.4s,mb4.4				
HHC	**Hu-ho-hao-te**	**25.30 295**	*e*P	**P**	**02 58 16.6 +0.6**
HHC			AP	pP	02 58 27.0 +3.8
HHC			XP	sP	02 58 30.5 +4.1
HHC			AMB	AMB	
	comp=Z,19nm,1.1s,mb4.5				
HHC			AMB	AMB	
	comp=Z,157nm,4.5s				
CLNS	**Chul'man**	**25.70 338**	*e*P	**P**	**02 58 20.3 +0.7**
CLNS			pmax	pmax	
	comp=N,11nm,0.9s				
CLNS			pmax	pmax	
	comp=Z,13nm,0.9s,mb4.5				
CLNS			pmax	pmax	
	comp=E,10.0nm,1.0s				
XAN	**Xi'an**	**27.67 279**	P	**P**	**02 58 37.2 -0.6**
XAN			AP	pP	02 58 47.6 +2.6
XAN			AMB	AMB	
	comp=Z,13nm,1.0s,mb4.5				
ENH	**Enshi**	**28.05 271**	*e*P	**P**	**02 58 39.6 -1.7**
	comp=Z,9.6nm,0.6s,mb4.6				
ULN	**Ulaanbaatar**	**29.74 308**	*e*P	**P**	**02 58 57.7 +1.3**
	comp=Z,3.0nm,0.9s,mb4.0				
SONM	**Songino Array**	**30.16 308**	P	**P**	**02 59 00.7 +0.6**
	comp=Z,2.2nm,0.8s,mb4.0,baz=108,slow=7.7,SNR=18				
SONM			LR	LR	03 11 51.9
	comp=Z,59nm,18.5s,MS3.3,baz=217,slow=38				
BOD	**Bodaibo**	**30.46 330**	*e*P	**P**	**02 59 01.8 -0.8**
BOD			pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.2				
LZH	**Lanzhou**	**31.48 285**	⇑P	**P**	**02 59 11.4 -0.4**
LZH			AP	pP	02 59 19.5 +0.4
LZH			XP	sP	02 59 22.6 +0.3
LZH			AMB	AMB	
	comp=Z,21nm,1.3s,mb4.8				
LZH	**Lanzhou**	**31.48 285**	⇑P	**P**	**02 59 11.4 -0.4**
	comp=Z,21nm,1.3s,mb4.8				
LZH			pP	pP	02 59 19.5 +0.4
LZH			sP	sP	02 59 22.6 +0.3
GTA	**Gaotai**	**34.30 292**	P	**P**	**02 59 37.3 +1.0**
GTA			AP	pP	02 59 45.2 +1.6
GTA			XP	sP	02 59 48.0 +1.3
GTA			AMB	AMB	
	comp=Z,7.0nm,1.2s,mb4.5				
CMAR	**Chiang Mai Arr**	**41.63 259**	P	**P**	**03 00 36.2 -1.8**
CMAR			pmax	pmax	
	comp=Z,1.0nm,0.5s				
CMAR	**Chiang Mai Arr**	**41.63 259**	P	**P**	**03 00 36.2 -1.8**
	comp=Z,1.1nm,0.5s,mb3.8,baz=50,slow=8.0,SNR=7.0				
WMQ	**Urumqi**	**42.94 300**	*e*P	**P**	**03 00 50.0 +1.6**
ZAL	**Zalesovo**	**44.53 315**	P	**P**	**03 01 00.4 -0.7**
ZAL			pmax	pmax	
	comp=Z,1.0nm,0.5s				
ZAL	**Zalesovo**	**44.53 315**	P	**P**	**03 01 00.4 -0.7**
	comp=Z,1.1nm,0.5s,mb3.9,baz=19,slow=6.6,SNR=4.7				
NVS	**Novosibirsk**	**45.48 316**	*e*P	**P**	**03 01 08.5 -0.2**
MKAR	**Makanchi Array**	**46.41 305**	P	**P**	**03 01 16.0 -0.1**
MKAR			pmax	pmax	
	comp=Z,1.0nm,0.4s				
MKAR	**Makanchi Array**	**46.41 305**	P	**P**	**03 01 16.0 -0.1**
	comp=Z,0.9nm,0.4s,mb4.0,baz=86,slow=10,SNR=8.4				
KURK	**Kurchatov**	**48.41 310**	*e*P	**P**	**03 01 31.1 -0.6**
	comp=Z,7.1nm,0.8s,mb4.8				
ILAR	**Eielson Array**	**51.58 31**	P	**P**	**03 01 56.0 +0.2**
ILAR			pmax	pmax	
	comp=Z,1.0nm,0.6s				
ILAR	**Eielson Array**	**51.58 31**	P	**P**	**03 01 56.0 +0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=259,slow=6.0,SNR=13				
WRAB	**Tennant Creek**	**54.26 189**	*e*P	**P**	**03 02 15.7 -0.6**
	comp=Z,8.8nm,0.8s,mb4.7				
WB2	**Warramunga Arr**	**54.27 189**	*e*P	**P**	**03 02 16.0 -0.4**
WRA	**Warramunga Arr**	**54.27 189**	P	**P**	**03 02 16.1 -0.3**
WRA			pmax	pmax	
	comp=Z,5.0nm,0.5s				
WRA	**Warramunga Arr**	**54.27 189**	P	**P**	**03 02 16.1 -0.3**
	comp=Z,4.5nm,0.5s,mb4.6,baz=7.6,slow=7.7,SNR=27				
INK	**Inuvik**	**56.66 26**	*e*P	**P**	**03 02 34.0 +1.0**
	comp=Z,0.3nm,0.6s,mb3.5				
ASAR	**Alice Springs**	**58.00 189**	P	**P**	**03 02 42.7 -0.4**
	comp=Z,2.3nm,0.8s,mb4.3,baz=11,slow=8.5,SNR=23				
YKA	**Yellowknife Ar**	**65.96 30**	P	**P**	**03 03 35.2 -0.5**
	comp=Z,0.2nm,0.5s,mb3.4,baz=306,slow=6.5,SNR=5.0				
YKA	**Yellowknife Ar**	**65.96 30**	P	**P**	**03 03 35.2 -0.5**
KAF	**Kangasniemi**	**71.30 334**	*e*p	**P**	**03 04 07.4 -1.5**
	comp=Z,1.2nm,0.4s,mb4.2				
KAF	**Kangasniemi**	**71.30 334**	*e*P	**P**	**03 04 07.4 -1.5**
KAF			pmax	pmax	
	comp=Z,1.0nm,0.4s,mb4.1				
FINES	**FINESS Array B**	**71.80 333**	P	**P**	**03 04 10.9 -1.0**
FINES			pmax	pmax	
	comp=Z,2.0nm,0.7s				
FINES	**FINESS Array B**	**71.80 333**	P	**P**	**03 04 10.9 -1.0**
	comp=Z,1.5nm,0.7s,mb4.1,baz=56,slow=6.9,SNR=9.5				
AKASG	**Malin Array Be**	**77.12 323**	P	**P**	**03 04 43.0 +0.3**
AKASG			pmax	pmax	
	comp=Z,3.0nm,0.7s				
AKASG	**Malin Array Be**	**77.12 323**	P	**P**	**03 04 43.0 +0.3**
	comp=Z,2.6nm,0.7s,mb4.3,baz=46,slow=5.8,SNR=18				
NB2	**NORSAR Subarra**	**77.21 338**	P	**P**	**03 04 43.7 +0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=40,slow=5.6				
NOA	**NORSAR Array B**	**77.21 338**	P	**P**	**03 04 43.2 +0.2**
NOA			pmax	pmax	
	comp=Z,2.0nm,0.8s				
NOA	**NORSAR Array B**	**77.21 338**	P	**P**	**03 04 43.1 +0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=42,slow=5.4,SNR=5.3				
BRTR	**Keskin Array B**	**81.42 312**	P	**P**	**03 05 07.7 +1.6**
BRTR			pmax	pmax	
	comp=Z,2.0nm,0.8s				
BRTR	**Keskin Array B**	**81.42 312**	P	**P**	**03 05 07.7 +1.6**
	comp=Z,2.4nm,0.8s,mb4.2,baz=104,slow=3.9,SNR=9.3				
PV10	**Paradox Valley**	**82.11 49**	P	**P**	**03 05 12.5 +2.8**
GERES	**GERESS Array B**	**85.64 329**	P	**P**	**03 05 28.0 +0.7**
	comp=Z,0.3nm,0.4s,mb3.9,baz=18,slow=4.2,SNR=5.2				
TXAR	**Lajitas Array**	**91.27 53**	P	**P**	**03 05 56.8 +2.2**
	comp=Z,0.3nm,0.5s,mb3.9,baz=310,slow=3.1,SNR=7.7				
LPAZ	**La Paz**	**147.36 65**	PKP2	PKPab	03 12 35.4 -0.5
LPAZ			pmax	pmax	
	comp=Z,1.0nm,0.6s				
LPAZ	**La Paz**	**147.36 65**	PKPbc	PKPdf	03 12 35.4 +1.3
	comp=Z,1.0nm,0.6s,baz=272,slow=4.0,SNR=6.0				

*IDC **04** 03:05:44.0±1.3, 0.76N×97.26E, mb4.2/10, mb1 4.3/11, mb1mx4.1/18, mbtmp4.1/11, ML4.2/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/14, Error ellipse: s-maj=49.5km s-min=16.0km az=57.0*

*BJI **04** 03:05:46.7, 0.80N×97.40E, h30km, mb4.5*

*NEIC **04** 03:05:48.8±0.7, 0.84N×97.38E, h30km, mb4.3/4, Error ellipse: s-maj=25.8km s-min=8.1km az=60.0*

ISC 04 03:05:47.0±0.9, 0.9N±0.1×97.4E±0.2, h30km, n16, σ0=64/16, mb4.1/15, MS3.6/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.57**	**5**	P	**P**	**03 09 50.6**	**-0.9**
	0.3nm,0.3s,baz=194,slow=12,SNR=9.5						
LSA	**Lhasa**	**29.30**	**349**	P	**P**	**03 11 48.3**	**-1.0**
	5.1nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.56**	**126**	P	**P**	**03 12 25.6**	**-1.2**
	2.4nm,0.6s,mb4.3,baz=53,slow=4.8,SNR=5.9						
GTA	**Gaotai**	**38.44**	**3**	P	**P**	**03 13 09.2**	**+1.2**
GTA				AP	pP	03 13 17.3	+0.4
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**41.68**	**122**	P	**P**	**03 13 35.1**	**+0.2**
	comp=Z,1.9nm,0.7s,mb3.8,baz=299,slow=9.0,SNR=8.0						
WRAB	**Tennant Creek**	**41.68**	**122**	*e*P	**P**	**03 13 35.1**	**+0.1**
	comp=Z,4.3nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**43.02**	**127**	P	**P**	**03 13 46.8**	**+0.8**
	comp=Z,1.4nm,0.6s,mb3.9,baz=299,slow=7.5,SNR=19						
SONM	**Songino Array**	**47.45**	**8**	P	**P**	**03 14 21.4**	**+0.5**
	comp=Z,1.1nm,0.4s,mb4.1,baz=189,slow=9.3,SNR=16						
SONM				LR	LR	03 36 41.2	
	comp=Z,66nm,19.2s,MS3.6,baz=220,slow=39						
ULN	**Ulaanbaatar**	**47.58**	**9**	*e*P	**P**	**03 14 21.7**	**-0.3**
	comp=Z,1.0nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**47.63**	**346**	P	**P**	**03 14 22.7**	**+0.3**
	comp=Z,3.0nm,0.5s,mb4.6,baz=162,slow=8.7,SNR=46						
MJAR	**Matsushiro Arr**	**51.81**	**42**	P	**P**	**03 14 55.2**	**+0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=214,slow=6.3,SNR=4.1						
KURK	**Kurchatov**	**52.18**	**345**	*e*P	**P**	**03 14 57.3**	**+0.1**
	comp=Z,3.5nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**52.97**	**132**	P	**P**	**03 15 02.9**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=327,slow=11,SNR=3.5						
ZAL	**Zalesovo**	**53.93**	**351**	P	**P**	**03 15 09.8**	**-0.1**
	comp=Z,2.9nm,0.5s,mb4.5,baz=316,slow=4.7,SNR=12						
FINES	**FINESS Array B**	**80.40**	**333**	P	**P**	**03 17 56.7**	**-0.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=90,slow=1.9,SNR=4.9						
GERES	**GERESS Array B**	**85.21**	**319**	P	**P**	**03 18 22.4**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.7,baz=104,slow=5.5,SNR=4.9						

IDC 04 03:38:20.7±2.6, 0.23N×97.56E, mb3.8/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, ML4.1/1, MS2.7/1, Ms1 2.9/1, ms1mx2.4/17, Error ellipse: s-maj=104.9km s-min=20.7km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.17**	**4**	P	P	03 42 33.5	-2.8
	0.2nm,0.3s,baz=192,slow=12,SNR=4.9						
CMAR				LR	LR	03 50 29.0	
	comp=Z,28nm,21.8s,baz=205,slow=40						
WRA	**Warramunga Arr**	**41.22**	**121**	P	P	03 46 09.3	+0.1
	0.3nm,0.3s,baz=305,slow=8.9,SNR=5.6						
ASAR	**Alice Springs**	**42.53**	**126**	P	P	03 46 16.6	-3.3
	0.3nm,0.7s,baz=295,slow=6.9,SNR=3.3						
SONM	**Songino Array**	**48.03**	**8**	P	P	03 47 02.4	-1.3
	0.6nm,0.5s,baz=190,slow=9.4,SNR=5.6						
MKAR	**Makanchi Array**	**48.27**	**346**	P	P	03 47 03.0	-2.5
	1.0nm,0.6s,baz=146,slow=7.5,SNR=6.2						
ZAL	**Zalesovo**	**54.56**	**351**	P	P	03 47 49.4	-3.4
	2.5nm,0.3s,baz=128,slow=1.2,SNR=3.6						
BVAR	**Borovoye Array**	**57.28**	**341**	P	P	03 48 11.2	-1.3
	0.4nm,0.4s,baz=148,slow=14,SNR=3.6						

*CSEM **04** 03:40:05.4±0.8, 38.60N×29.07W, ML2.3, Error ellipse: s-maj=9.7km s-min=8.0km az=175.0, After PDA*

*PDA **04** 03:40:05.4±0.8, 38.60N×29.07W, MD3.2, ML2.3, Error ellipse: s-maj=9.7km s-min=8.0km az=175.0*

SVSA 04 03:40:05.4±0.8, 38.60N×29.07W, MD3.2, ML2.3, Error ellipse: s-maj=9.7km s-min=8.0km az=175.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.29**	**94**	*e*P	Pg	03 40 11.0	-0.2
CALA				*e*S	Sg	03 40 15.0	0.0
PCED	**Cedros**	**0.29**	**84**	*i* P	Pg	03 40 10.8	-0.4
PCED				*i* S	Sg	03 40 14.9	-0.1
	145nm,0.3s						
PCED	**Cedros**	**0.29**	**84**	*i* S	Sg	03 40 14.9	-0.1
	145nm,0.3s						
HOR	**Horta**	**0.35**	**102**	*e*P	Pg	03 40 11.8	-0.6
HOR				*e*S	Sg	03 40 16.7	-0.4
PICO	**Pico**	**0.51**	**101**	*i* P	Pg	03 40 14.7	-1.0
PICO				*e*S	Sg	03 40 22.0	-0.5
PICO	**Pico**	**0.51**	**101**	*e*S	Sg	03 40 22.0	-0.5
PMAN	**Manadas**	**0.77**	**87**	*e*S	Sg	03 40 28.7	-2.3
	50nm,0.2s						

*IDC **04** 04:00:53.1±2.6, 0.18N×97.03E, mb4.1/7, mb1 4.2/8, mb1mx3.9/18, mbtmp4.0/8, ML3.8/1, MS2.7/1, Ms1 2.9/1, ms1mx2.6/20, Error ellipse: s-maj=105.3km s-min=18.1km az=61.0*

*NEIC **04** 04:00:57.5±1.1, 0.19N×97.05E, h30km, mb4.3/2, Error ellipse: s-maj=44.1km s-min=8.8km az=60.0*

ISC 04 04:00:55.7±1.6, 0.2N±0.2×97.0E±0.4, h33km, n12, σ0=58/11, mb4.1/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.27**	**6**	P	**P**	**04 05 08.7**	**0.0**
	0.1nm,0.3s,baz=195,slow=11,SNR=5.2						
CMAR				LR	LR	04 13 27.1	
	comp=Z,24nm,18.6s,baz=185,slow=41						
FITZ	**Fitzroy Crossi**	**33.53**	**124**	P	**P**	**04 07 33.4**	**-1.4**
	6.7nm,0.9s,mb4.6,baz=200,slow=4.3,SNR=5.8						
WRA	**Warramunga Arr**	**41.70**	**121**	P	**P**	**04 08 43.6**	**+0.2**
	4.2nm,0.6s,mb4.3,baz=301,slow=9.0,SNR=27						
WRAB	**Tennant Creek**	**41.70**	**121**	*e*P	**P**	**04 08 43.7**	**+0.3**
	6.3nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**41.71**	**121**	*e*P	**P**	**04 08 43.3**	**-0.2**
ASAR	**Alice Springs**	**42.97**	**126**	P	**P**	**04 08 54.1**	**+0.3**
	0.8nm,0.6s,mb3.6,baz=300,slow=7.9,SNR=8.8						
SONM	**Songino Array**	**48.17**	**9**	P	**P**	**04 09 35.0**	**+0.2**
	0.4nm,0.4s,mb3.8,baz=183,slow=7.7,SNR=4.9						
MKAR	**Makanchi Array**	**48.18**	**346**	P	**P**	**04 09 35.6**	**+0.7**
	0.7nm,0.6s,mb3.8,baz=162,slow=8.0,SNR=5.3						
STKA	**Stephens Creek**	**52.84**	**131**	P	**P**	**04 10 11.3**	**+0.8**
	2.0nm,0.7s,mb4.2,baz=287,slow=10.0,SNR=3.5						
ZAL	**Zalesovo**	**54.52**	**351**	P	**P**	**04 10 22.2**	**-0.4**
	1.9nm,0.4s,mb4.5,baz=358,slow=5.2,SNR=4.5						
CHKZ	**Chkalovo**	**57.62**	**342**	*e*P	**P**	**04 10 44.3**	**-0.6**
	1.0nm,0.7s,mb4.0						
TXAR	**Lajitas Array**	**144.65**	**32**	PKP	PKPdf	04 20 31.3	+1.6
	0.4nm,0.5s,baz=218,slow=1.1,SNR=10						

*IDC **04** 04:26:45.8±0.6, 2.86N×96.42E, mb4.5/15, mb1 4.6/15, mb1mx4.5/20, mbtmp4.5/15, MS4.5/1, Ms1 4.5/1, ms1mx3.7/21, Error ellipse: s-maj=31.4km s-min=13.5km az=49.0*

*BJI **04** 04:26:45.5, 2.25N×96.43E, h39km, mB4.9, mb4.8, Ms4.8, Msz4.4*

*MOS **04** 04:26:48.7±1.3, 2.75N×96.36E, h33km, mb5.0/19, Error ellipse: s-maj=13.6km s-min=6.7km az=103.3*

*NEIC **04** 04:26:50.2±0.3, 2.75N×96.34E, mb4.8/17, Error ellipse: s-maj=10.0km s-min=6.3km az=219.0*

ISC 04 04:26:48.2±0.3, 2.75N±0.04×96.36E±0.04, h29km, h29km±.6km: pP-P, n121, σ1=22/126, mb4.7/53, MS4.5/10, 6C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.97**	**59**	*e*P	**Pn**	**04 28 04.3**	**+1.3**
SNG	**Songkhla**	**6.11**	**44**	P	**Pn**	**04 28 20.0**	**+0.9**
	412nm,0.8s						
KSM	**Kuching**	**13.99**	**95**	P	**P**	**04 30 08.9**	**+1.7**
KSM				*e*		04 30 18.2	
KKTK	**Khon Kaen**	**14.93**	**25**	P	**P**	**04 30 25.0**	**+5.7**
	1μm,0.6s						
CMAR	**Chiang Mai Arr**	**15.82**	**9**	Pn	**P**	**04 30 33.2**	**+2.4**
	0.9nm,0.3s,baz=200,slow=12,SNR=15						
PALK	**Pallekele**	**16.23**	**287**	P	**P**	**04 30 37.3**	**+1.1**
	68nm,1.1s						
NANT	**Nan**	**16.51**	**15**	⇑P	**P**	**04 30 42.0**	**+2.4**
	69nm,0.8s						
VIS	**Vishakhapatnam**	**19.62**	**320**	*e*P	**P**	**04 31 14.4**	**-3.2**
VIS				*e*		04 31 30.8	
	comp=Z,50nm,1.0s						
VIS				*e*S	**S**	**04 34 51.5**	**-0.1**
KKM	**Kota Kinabalu**	**20.06**	**80**	*e*P	**P**	**04 31 21.2**	**-1.2**
BWNR	**Bhubaneshwar**	**20.26**	**330**	*e*P	**P**	**04 31 20.8**	**-3.6**
BWNR				AMb	AMB	04 31 27.4	
	comp=Z,28nm,0.7s						
HYB	**Hyderabad**	**22.76**	**311**	*i* P	**P**	**04 31 51.0**	**+1.2**
KMI	**Kunming**	**23.08**	**15**	P	**P**	**04 31 55.2**	**+2.4**
KMI				AP		04 32 03.8	
KMI				XP		04 32 06.7	
KMI				PP	PP	04 32 24.2	+1.0
KMI				S	**S**	**04 36 01.4**	**+3.7**
KMI				XS		04 36 14.5	
KMI				SS	SS	04 36 46.4	+3.2
KMI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.0						
KMI				AMB	AMB		
	comp=Z,62nm,4.6s						
KMI				LR	LR		
	comp=N,605nm,12.7s,MS4.4						
KMI				LR	LR		
	comp=E,700nm,14.0s,MS4.4						
KMI				LR	LR		
	comp=Z,346nm,12.7s,MS4.0						
KMI	**Kunming**	**23.08**	**15**	P	**P**	**04 31 55.2**	**+2.4**
	comp=Z,9.0nm,1.3s,mb4.0						
KMI				pP		04 32 03.8	
KMI				sP		04 32 06.7	
KMI				PP	PP	04 32 24.2	+1.0
KMI				S	**S**	**04 36 01.4**	**+3.7**
KMI				sS		04 36 14.5	
KMI				SS	SS	04 36 46.4	+3.2
KMI				LR	LR		
	comp=Z,350nm,12.7s,MS4.0						
SHL	**Shillong**	**23.09**	**350**	*e*P	**P**	**04 31 51.0**	**-1.9**
SHL				*e*S	**S**	**04 35 59.0**	**+1.1**
GYA	**Guiyang**	**25.57**	**22**	⇑*i*P	**P**	**04 32 15.9**	**-0.8**
GYA				AP	pP	04 32 25.2	+0.2
GYA				PP	PP	04 33 00.2	+3.8
GYA				S	**S**	**04 36 41.6**	**+1.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,270nm,3.6s						
GYA				LR	LR		
	comp=N,800nm,16.0s,MS4.4						
GYA				LR	LR		
	comp=E,770nm,20.6s,MS4.4						
GYA				LR	LR		
	comp=Z,800nm,17.9s,MS4.3						
LSA	**Lhasa**	**27.26**	**350**	*e*P	**P**	**04 32 31.8**	**-0.4**
LSA				*e**PP	pP	04 32 40.2	-0.4
LSA				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
LSA	**Lhasa**	**27.26**	**350**	*e*P	**P**	**04 32 31.8**	**-0.4**
	comp=Z,12nm,0.8s,mb4.5						
LSA				*e*pP	pP	04 32 40.2	-0.4
BHPL	**Bhopal**	**27.41**	**320**	*e*P	**P**	**04 32 28.3**	**-5.3**
BHPL				AMb	AMB	04 32 28.5	
	comp=Z,27nm,0.9s,mb4.8						
BHPL				*e*		04 39 48.8	
LGTI	**Lohaghat**	**30.65**	**332**	*e*P	**P**	**04 33 03.0**	**+0.3**
MBWA	**Marble Bar**	**32.99**	**137**	P	**P**	**04 33 23.4**	**+0.2**
	comp=Z,5.2nm,0.9s,mb4.5						
XAN	**Xi'an**	**33.27**	**19**	P	**P**	**04 33 22.9**	**-2.6**
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
LZH	**Lanzhou**	**33.89**	**11**	*e*P	**P**	**04 33 32.1**	**+1.2**
LZH				AP	pP	04 33 40.5	+1.2
LZH				XP	sP	04 33 44.3	+1.3
LZH				PP	PP	04 34 46.2	+1.6
LZH				AMB	AMB		
	comp=Z,25nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,91nm,5.4s						
LZH				LR	LR		
	comp=E,793nm,12.9s						
LZH				LR	LR		
	comp=Z,933nm,16.7s,MS4.6						
LZH	**Lanzhou**	**33.89**	**11**	*e*P	**P**	**04 33 32.1**	**+1.2**
	comp=Z,25nm,1.3s,mb5.0						
LZH				pP	pP	04 33 40.5	+1.2
LZH				sP	sP	04 33 44.3	+1.3
LZH				PP	PP	04 34 46.2	+1.6
LZH				LR	LR		
	comp=Z,930nm,16.7s,MS4.6						
FITZ	**Fitzroy Crossi**	**35.51**	**127**	*e*P	**P**	**04 33 44.0**	**-0.9**
	comp=Z,9.7nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**35.51**	**127**	P	**P**	**04 33 44.2**	**-0.7**
	comp=Z,8.7nm,0.8s,mb4.7,baz=282,slow=3.7,SNR=15						
NJ2	**Nanjing**	**36.02**	**34**	*e*P	**P**	**04 33 50.8**	**+1.7**
NJ2				AP	pP	04 34 00.1	+2.5
NJ2				XP	sP	04 34 04.4	+3.2
NJ2				PP	PP	04 35 10.9	-0.3
NJ2				S	**S**	**04 39 27.0**	**+1.6**
NJ2				XS		04 39 41.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,180nm,10.8s						
NJ2				LR	LR		
	comp=N,3μm,28.8s,MS5.1						
NJ2				LR	LR		
	comp=E,3μm,25.

KSH				*e*PCS			04 40 21.3
KSH				*e*S	**S**		**04 40 41.8 +0.7**
KSH				*e*XS			04 40 57.3
KSH				AMB	AMB		
	comp=Z,140nm,3.2s						
KSH				LR	LR		
	comp=N,560nm,7.0s						
KSH				LR	LR		
	comp=E,640nm,5.0s						
BJI	**Beijing**	**41.24**	**23**	P	**P**		**04 34 33.1 +0.6**
BJI				AP	pP		04 34 41.8 +0.7
BJI				XP	sP		04 34 45.6 +1.0
BJI				S	**S**		**04 40 42.4 -1.8**
BJI				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.6						
BJI				LR	LR		
	comp=N,303nm,12.7s,MS4.8						
BJI				LR	LR		
	comp=E,701nm,12.7s,MS4.8						
BJI				LR	LR		
	comp=Z,660nm,27.9s						
BJI	**Beijing**	**41.24**	**23**	P	**P**		**04 34 33.1 +0.6**
	comp=Z,13nm,0.8s,mb4.6						
BJI				pP	pP		04 34 41.8 +0.7
BJI				sP	sP		04 34 45.6 +1.0
BJI				S	**S**		**04 40 42.4 -1.8**
BJI				LR	LR		
	comp=Z,660nm,27.9s,MS4.4						
WMQ	**Urumqi**	**41.62**	**351**	*e*P	**P**		**04 34 35.9 +0.3**
WMQ				AP	pP		04 34 43.4 -0.8
WMQ				XP	sP		04 34 46.9 -0.8
WMQ				PP	PP		04 36 15.3 +0.5
WMQ				PCP	PcP		04 36 33.9 +1.0
WMQ				S	**S**		**04 40 49.9 +0.1**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,65nm,3.6s						
WMQ				LR	LR		
	comp=N,525nm,15.4s,MS4.6						
WMQ				LR	LR		
	comp=E,346nm,18.6s,MS4.6						
WMQ				LR	LR		
	comp=Z,303nm,20.0s,MS4.2						
KZA	**Kyzart**	**43.49**	**337**	P	**P**		**04 34 52.2 +1.3**
	SNR=5.7						
WRA	**Warramunga Arr**	**43.57**	**123**	P	**P**		**04 34 52.0 +0.2**
	comp=Z,5.0nm,0.4s,mb4.6,baz=302,slow=8.8,SNR=30						
WRAB	**Tennant Creek**	**43.57**	**123**	*e*P	**P**		**04 34 52.0 +0.2**
WRAB				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	**43.57**	**123**	*e*P	**P**		**04 34 52.0 +0.1**
	comp=Z,32nm,1.0s,mb5.0						
WB2	**Warramunga Arr**	**43.58**	**123**	⇓*i*P	**P**		**04 34 51.9 0.0**
UCH	**Uchtor**	**43.91**	**337**	P	**P**		**04 34 55.6 +1.3**
	SNR=20						
TKM2	**Tokmak 2**	**44.08**	**338**	P	**P**		**04 34 56.3 +0.7**
	SNR=12						
KBK	**Karagaybulak**	**44.10**	**337**	P	**P**		**04 34 57.4 +1.5**
	SNR=12						
AML	**Almayashu**	**44.16**	**336**	P	**P**		**04 34 57.6 +1.3**
	SNR=15						
AAK	**Ala-Archa**	**44.26**	**337**	P	**P**		**04 34 59.4 +2.3**
	SNR=8.8						
AAK	**Ala-Archa**	**44.26**	**337**	P	**P**		**04 34 58.6 +1.5**
	comp=Z,77nm,1.0s,mb5.4,SNR=12						
FRU	**Bishkek**	**44.38**	**337**	*e*P	**P**		**04 34 58.5 +0.4**
EKS2	**Erkin-Say**	**44.56**	**336**	P	**P**		**04 35 00.8 +1.2**
	SNR=9.1						
USP	**Ospenovka**	**44.79**	**337**	P	**P**		**04 35 02.0 +0.6**
	SNR=22						
ASPA	**Alice Springs**	**44.99**	**128**	*e*P	**P**		**04 35 03.2 -0.1**
FORT	**Forrest**	**44.99**	**140**	*e*P	**P**		**04 35 04.6 +1.4**
	comp=Z,459nm,0.6s						
ASAR	**Alice Springs**	**44.99**	**128**	P	**P**		**04 35 03.5 +0.2**
	comp=Z,3.6nm,0.7s,mb4.3,baz=302,slow=7.6,SNR=26						
MKAR	**Makanchi Array**	**45.55**	**346**	P	**P**		**04 35 07.1 -0.3**
	comp=Z,21nm,0.7s,mb5.2,baz=164,slow=7.9,SNR=114						
SONM	**Songino Array**	**45.74**	**9**	P	**P**		**04 35 08.8 -0.1**
	comp=Z,4.1nm,0.5s,mb4.7,baz=188,slow=9.4,SNR=47						
SONM				PcP	PcP		04 36 47.0 +0.2
	comp=Z,4.1nm,0.7s,baz=188,slow=3.7,SNR=8.9						
ULN	**Ulaanbaatar**	**45.88**	**10**	*e*P	**P**		**04 35 09.0 -1.0**
ULN				*e**PP	pP		04 35 18.1 -0.5
ULN				*e*			04 36 47.3
ULN				*e*			04 36 56.1
ULN				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**45.88**	**10**	*e*P	**P**		**04 35 09.0 -1.0**
	comp=Z,11nm,1.0s,mb4.8						
ULN				*e*pP	pP		04 35 18.1 -0.5
ULN				*e*PcP	PcP		04 36 47.3 0.0
ULN				*e*PP	PP		04 36 56.1 -1.7
ZAK	**Zakamensk**	**47.82**	**6**	⇓*e*P	**P**		**04 35 24.7 -0.6**
ZAK				*e*			04 36 52.3
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.8						
CN2	**Changchun**	**48.33**	**28**	*e*P	**P**		**04 35 28.0 -1.3**
CN2				*e*S	**S**		**04 42 24.5 -1.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,800nm,15.0s,MS5.0						
CN2				LR	LR		
	comp=E,700nm,15.0s,MS5.0						
CN2				LR	LR		
	comp=Z,900nm,15.0s,MS4.9						
MOY	**Mondy**	**48.90**	**4**	*e*P	**P**		**04 35 33.6 0.0**
TLY	**Talaya**	**49.15**	**6**	*e*P	**P**		**04 35 35.4 -0.1**
TLY				*e*	pP		04 35 44.7 +0.5
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
KURK	**Kurchatov**	**50.09**	**345**	*e*P	**P**		**04 35 41.9 -0.9**
KURK				*e**PP	pP		04 35 51.0 -0.5
KURK				*e**SP	sP		04 35 55.3 +0.4
KURK				*e*			04 37 02.5
KURK				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.2						
KURK	**Kurchatov**	**50.09**	**345**	*e*P	**P**		**04 35 41.9 -0.8**
	comp=Z,36nm,1.3s,mb5.2						
KURK				*e*pP	pP		04 35 51.0 -0.5
KURK				*e*sP	sP		04 35 55.3 +0.4
KURK				*e*PcP	PcP		04 37 02.5 +0.2
HIA	**Hailar**	**50.46**	**20**	*e*P	**P**		**04 35 44.6 -1.0**
HIA				*e**PP	pP		04 35 53.3 -1.1
HIA				pmax	pmax		
	comp=Z,28nm,1.0s						
HIA	**Hailar**	**50.46**	**20**	*e*P	**P**		**04 35 44.6 -1.0**
	comp=Z,28nm,1.0s,mb5.2						
HIA				*e*pP	pP		04 35 53.3 -1.1
MDJ	**Mudanjiang**	**50.95**	**30**	P	**P**		**04 35 49.8 +0.5**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,67nm,4.9s						
ZAL	**Zalesovo**	**51.90**	**351**	P	**P**		**04 35 55.2 -1.2**
	comp=Z,4.7nm,0.6s,mb4.6,baz=307,slow=6.2,SNR=13						
ZAL	**Zalesovo**	**51.90**	**351**	P	**P**		**04 35 55.2 -1.2**
NVS	**Novosibirsk**	**53.02**	**351**	*e*P	**P**		**04 36 02.2 -2.6**
NVS				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
NVS				pmax	pmax		
	comp=N,12nm,1.3s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.3s						
BVA0	**Borovoye Array**	**54.52**	**341**	*i* P	**P**		**04 36 14.3 -1.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**54.52**	**341**	P	**P**		**04 36 14.7 -1.2**
	comp=Z,5.2nm,0.6s,mb4.7,baz=149,slow=8.6,SNR=28						
CHKZ	**Chkalovo**	**55.00**	**342**	*i* P	**P**		**04 36 17.9 -1.5**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**55.01**	**132**	*e*P	**P**		**04 36 19.4 -0.4**
	comp=Z,7.5nm,1.0s,mb4.7						
STKA	**Stephens Creek**	**55.01**	**132**	P	**P**		**04 36 19.8 0.0**
	comp=Z,7.0nm,0.7s,mb4.8,baz=308,slow=5.4,SNR=9.3						
KLR	**Kul'dur**	**55.27**	**28**	*e*P	**P**		**04 36 17.6 -3.8**
BOD	**Bodaibo**	**56.66**	**11**	*e*P	**P**		**04 36 28.9 -2.3**
BOD				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
KMBO	**Kilima Mbogo**	**59.22**	**267**	*e*P	**P**		**04 36 51.3 +1.5**
KMBO				*e**PP	pP		04 36 58.8 +0.1
KMBO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KMBO	**Kilima Mbogo**	**59.22**	**267**	P	**P**		**04 36 51.2 +1.4**
	comp=Z,3.2nm,0.8s,mb4.4,baz=46,slow=7.9,SNR=10						
KMBO	**Kilima Mbogo**	**59.22**	**267**	*e*P	**P**		**04 36 51.3 +1.6**
	comp=Z,8.0nm,1.0s,mb4.7						
KMBO				*e*pP	pP		04 36 58.8 +0.1
YSS	**Yuzh-Sakhalins**	**59.56**	**35**	P	**P**		**04 36 49.6 -2.1**
ARU	**Arti**	**61.44**	**337**	*i* P	**P**		**04 37 03.7 -0.7**
KIV	**Kislovodsk**	**62.60**	**319**	⇓*i*P	**P**		**04 37 12.4 +0.1**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
GOF	**Gofitskoye**	**62.84**	**320**	⇓*i*P	**P**		**04 37 21.9 +8.0**
GOF				pmax	pmax		
	comp=Z,40nm,1.7s,mb5.3						
MALT	**Malatya**	**63.48**	**312**	*e*P	**P**		**04 37 18.7 +0.5**
MALT				*e**PP	pP		04 37 27.8 +0.7
MALT				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
MALT	**Malatya**	**63.48**	**312**	*e*P	**P**		**04 37 18.7 +0.5**
	comp=Z,9.1nm,1.1s,mb4.8						
MALT				*e*pP	pP		04 37 27.8 +0.7
YAK	**Yakutsk**	**64.18**	**17**	*i* P	**P**		**04 37 20.6 -1.8**
YAK				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2						
SOC	**Sochi**	**64.42**	**318**	*e*P	**P**		**04 37 21.5 -2.8**
SOC				*e*			04 37 52.7
SOC				*e*			04 39 42.6
SOC				*e*PPP	PPP		04 41 18.5 -2.2
SOC				*e*S	**S**		**04 45 57.5 -1.9**
SOC				*e*			04 47 07.0
SOC				*e*SS	SS		04 50 08.4 -2.8
SOC				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.3						
SOC				pmax	pmax		
	comp=N,14nm,0.7s						
SOC				pmax	pmax		
	comp=E,24nm,0.9s						
BRTR	**Keskin Array B**	**67.46**	**312**	P	**P**		**04 37 42.9 -1.0**
	comp=E,1.6nm,0.8s,mb4.1,baz=135,slow=7.0,SNR=4.6						
MA2	**Magadan**	**70.31**	**26**	⇑*i*P	**P**		**04 38 00.3 -0.8**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
MOS	**Moscow**	**70.58**	**329**	*e*P	**P**		**04 38 11.1 +8.3**
MOS				pmax	pmax		
	comp=Z,61nm,0.8s,mb5.6						
OBN	**Obninsk**	**70.87**	**328**	⇑*e*P	**P**		**04 38 03.8 -0.7**
OBN				*i*	pP		04 38 12.5 -1.0
OBN							04 38 24.0
OBN				pmax	pmax		
	comp=Z,43nm,1.7s,mb5.1						
TIXI	**Tiksi**	**71.82**	**10**	⇑*i*P	**P**		**04 38 08.4 -1.6**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
AKASG	**Malin Array Be**	**73.53**	**322**	P	**P**		**04 38 19.3 -1.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=79,slow=4.9,SNR=5.4						
AKASG	**Malin Array Be**	**73.53**	**322**	P	**P**		**04 38 19.3 -1.1**
JOF	**Joensuu**	**76.40**	**335**	*e*p	pP		04 38 50.2 +4.6
APA	**Apatity**	**77.39**	**339**	⇓*e*P	**P**		**04 38 42.0 0.0**
APA				*i*	pP		04 38 51.5 +0.4
KOLS	**Kolonicke sedl**	**77.50**	**319**	*e*P	**P**		**04 38 44.9 +1.9**
KOLS				*e*pP	pP		04 38 53.2 +1.2
SUW	**Suwalki**	**77.94**	**325**	*e*P	**P**		**04 38 44.8 -0.4**
SUW				*e*	pP		04 38 53.5 -0.9
FINES	**FINESS Array B**	**78.25**	**332**	P	**P**		**04 38 46.7 -0.1**
	comp=Z,2.4nm,0.7s,mb4.2,baz=104,slow=7.9,SNR=10						
FINES	**FINESS Array B**	**78.25**	**332**	P	**P**		**04 38 46.7 -0.1**
KAF	**Kangasniemi**	**78.33**	**333**	*e*p	**P**		**04 38 47.0 -0.3**
	comp=Z,4.2nm,1.0s,mb4.3,baz=104,slow=5.1						
KAF	**Kangasniemi**	**78.33**	**333**	*e*P	**P**		**04 38 47.0 -0.3**
KAF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
VYHS	**Vyhne**	**79.68**	**319**	*e*pP	pP		04 39 04.0 0.0
BILL	**Bilibino**	**80.03**	**21**	*e*P	**P**		**04 38 55.9 -0.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
KEV	**Kevo**	**80.37**	**341**	*e*p	**P**		**04 38 58.2 0.0**
	comp=Z,0.2nm,0.4s						
DPC	**Dobruska-Polom**	**81.53**	**320**	*e*P	**P**		**04 39 05.8 +1.2**
GERES	**GERESS Array B**	**83.11**	**319**	P	**P**		**04 39 13.6 +0.7**
	comp=Z,1.4nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=13						
KHC	**Kasperske Hory**	**83.20**	**319**	*e*P	**P**		**04 39 11.0 -2.3**
KHC				*e*	pP		04 39 21.2 -1.3
KHC	**Kasperske Hory**	**83.20**	**319**	*e*P	**P**		**04 39 11.0 -2.3**
KHC				pP	pP		04 39 21.2 -1.3
HFS	**Hagfors**	**83.97**	**330**	P	**P**		**04 39 17.3 +0.3**
	comp=Z,2.0nm,0.8s,mb4.3,baz=112,slow=8.0,SNR=5.0						
MOX	**Moxa**	**84.55**	**320**	*e*P	**P**		**04 39 30.0 +10**
NB2	**NORSAR Subarra**	**85.25**	**331**	P	**P**		**04 39 23.2 -0.2**
	comp=Z,4.5nm,0.8s,mb4.7,baz=91,slow=5.6						
NOA	**NORSAR Array B**	**85.25**	**331**	P	**P**		**04 39 23.5 +0.1**
	comp=Z,0.9nm,0.8s,mb4.0,baz=94,slow=5.9,SNR=3.7						
LPG	**La Plagne**	**87.79**	**315**	*e*P	**P**		**04 39 37.5 +1.4**
	comp=Z,8.9nm,0.9s,mb4.7						
LPG	**La Plagne**	**87.79**	**315**	*e*P	**P**		**04 39 37.5 +1.4**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
IMA	**Indian Mountai**	**95.49**	**23**	*e*P	**P**		**04 40 12.3 +0.9**
IMA				*e**PP	pP		04 40 21.3 +0.7
EYAK	**Cordova Ski Ar**	**100.92**	**26**	P	P		04 40 36.8 +0.6
YKA	**Yellowknife Ar**	**110.83**	**15**	PP	PP		04 45 53.9 -6.5
	comp=Z,0.5nm,1.0s,baz=326,slow=6.8,SNR=4.1						
ULM	**Lac du Bonnet**	**126.17**	**10**	PKP	PKPdf		04 45 49.5 -3.8
	comp=Z,2.1nm,0.7s,baz=310,slow=4.8,SNR=5.8						
ULM	**Lac du Bonnet**	**126.17**	**10**	PKP	PKPdf		04 45 49.5 -3.8
TXAR	**Lajitas Array**	**142.77**	**30**	PKP	PKPdf		04 46 19.2 -5.4
	comp=Z,0.1nm,0.3s,baz=4.1,slow=1.3,SNR=4.4						
JCT	**Junction City**	**143.53**	**24**	*e*PKPpre			04 46 19.1

BJI ***04*** *04:33:43.0, 1.44N×97.96E, h28km, mB5.5, mb5.6, Ms5.5, Msz5.3*

MOS ***04*** *04:33:45.6±0.9, 1.67N×97.94E, h33km, mb5.7/98, MS5.0/43, Error ellipse: s-maj=7.4km s-min=3.6km az=124.9*

HRVD ***04*** *04:33:46.6±0.2, 1.49N×97.76E, h36km, MW5.6/75, Centroid moment Tensor Solution. LP body waves: s69,c142;Mantle waves: s75,c149; Half duration: 1s5 Moment tensor: Scale 10^17^Nm; Mrr1.65±.05; Mθθ-0.60±.03; Mφφ-1.05±.04; Mre1.71±.04; Mθφ1.06±.03; Mθr-1.63±.05; Best double couple: M0=2.959×10^17^ NP1: φs329°, δ19°, λ104°. NP2:φs135°, δ72°, λ85°. Principal axes: T 2.842, Plg63°, Azm38°; N .237, Plg4°, Azm136°; P -3.076, Plg26°, Azm228°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***04*** *04:33:46.6±0.1, 1.61N×97.87E, h30km, mb5.5/114, MS5.3/108, MW5.6 Error ellipse: s-maj=4.5km s-min=2.7km az=216.0, Moment Tensor Solution. s26 Moment tensor: Scale 10^17^Nm; Mrr1.54; Mθθ0.58; Mφφ-2.11; Mre1.47; Mθφ-0.28; Mθr-1.20; Best double couple: M0=2.7×10^17^ NP1:φs34°, δ38°, λ145°. NP2:φs153°, δ69°, λ57°. Principal axes: T 2.87, Plg54°, Azm22°; N -.38, Plg30°, Azm165°; P -2.49, Plg18°, Azm266°;*

NEIC Felt [IV] at Gunungsitoli. Felt [III] at Padangsidempuan, Sibolga and in Pasaman, Sumatra.

IDC ***04*** *04:33:51.7±1.5, 1.58N×98.05E, h74km±13km, mb5.1/32, mb1 5.1/33, mb1mx5.1/34, mbtmp5.4/33, MS4.9/17, Ms1 5.0/17, ms1mx4.8/28 Error ellipse: s-maj=11.7km s-min=6.7km az=51.0*

ISC 04 04:33:45.3±0.1, 1.60N±0.03×97.93E±0.02, h32km, h32km±1.5km:pP-P, n730, σ0893/619, mb5.6/177, MS5.2/159, 185C-32D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC
PPI	**Padang Panjang**	**3.20**	**130**	*e*P	**Pn**	**04 34 41.0**	**+6.3**
IPM	**Ipoh**	**4.28**	**46**	P	**Pn**	**04 34 53.9**	**+3.9**
KULM	**Kulim**	**4.56**	**36**	*e*P	**Pn**	**04 34 57.5**	**+3.5**
KGM	**Kluang**	**5.40**	**86**	P	**Pn**	**04 35 09.6**	**+3.7**
PENI	**Pendagan**	**10.15**	**135**	⇓*i*P	**P**	**04 36 11.5**	**-0.6**
PENI				pmax	pmax		
	comp=Z,603nm,0.4s						
PENI	**Pendagan**	**10.15**	**135**	⇓*i*P	**P**	**04 36 11.5**	**-0.6**
	comp=Z,603nm,0.4s						
PULI	**Pulasari**	**11.26**	**135**	⇓*i*P	**P**	**04 36 25.9**	**-1.4**
	comp=Z,1μm,0.5s						
KSM	**Kuching**	**12.38**	**90**	*e*P	**P**	**04 36 45.3**	**+3.0**
KSM				*e*		04 36 56.0	
UBT	**Ubonrachathani**	**15.26**	**27**	⇑P	**P**	**04 37 26.5**	**+6.1**
	comp=Z,451nm,0.6s						
KKTK	**Khon Kaen**	**15.42**	**18**	PN	**P**	**04 37 25.0**	**+2.5**
KKTK				PG	**P**	**04 37 28.0**	**+5.5**
BDT	**Bhumibol Dam**	**15.58**	**4**	P	**P**	**04 37 25.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**16.78**	**3**	P	**P**	**04 37 40.5**	**+0.6**
	comp=Z,5.2nm,0.3s,baz=195,slow=12,SNR=179						
CMAR				LR	LR	04 44 38.5	
	comp=Z,6μm,18.4s,baz=185,slow=38						
NANT	**Nan**	**17.31**	**9**	⇑P	**P**	**04 37 46.0**	**-0.4**
	comp=Z,1μm,0.8s						
PALK	**Pallekele**	**18.07**	**289**	*e*P	**P**	**04 37 57.4**	**+1.4**
	comp=Z,103nm,1.1s						
KKM	**Kota Kinabalu**	**18.77**	**76**	*e*P	**P**	**04 38 05.6**	**+1.1**
KKM	**Kota Kinabalu**	**18.77**	**76**	P	**P**	**04 38 06.1**	**+1.6**
SRDI	**Scrawed**	**19.01**	**122**	⇑*i*P	**P**	**04 38 09.4**	**+2.0**
SRDI				pmax	pmax		
	comp=Z,124nm,0.9s						
SRDI	**Scrawed**	**19.01**	**122**	⇑*i*P	**P**	**04 38 09.4**	**+2.0**
	comp=Z,124nm,0.9s						
TSM	**Tawau**	**20.09**	**82**	P	**P**	**04 38 19.8**	**+0.5**
RATI	**Rata**	**20.32**	**121**	⇑*i*P	**P**	**04 38 22.4**	**+0.7**
	comp=Z,293nm,0.3s						
KEDI	**Kedomdong**	**20.71**	**119**	⇑*i*P	**P**	**04 38 24.5**	**-1.3**
KEDI				*i* S	**S**	**04 42 11.7**	**+1.3**
KEDI				pmax	pmax		
	comp=Z,196nm,0.9s						
KEDI	**Kedomdong**	**20.71**	**119**	⇑*i*P	**P**	**04 38 24.5**	**-1.3**
	comp=Z,196nm,0.9s						
KEDI				*i* S	**S**	**04 42 11.7**	**+1.3**
QIZ	**Qiongzhong**	**20.89**	**33**	P	**P**	**04 38 27.8**	**+0.3**
QIZ				S	**S**	**04 42 14.0**	**+0.1**
QIZ				XS		04 42 28.0	
QIZ				SS	SS	04 42 48.6	+2.5
QIZ				AMB	AMB		
	comp=Z,102nm,0.9s						
QIZ				LR	LR		
	comp=N,3μm,14.3s						
QIZ				LR	LR		
	comp=Z,5μm,20.4s						
QIZ	**Qiongzhong**	**20.89**	**33**	*e*P	**P**	**04 38 27.1**	**-0.4**
	comp=Z,189nm,1.0s						
BATP	**Bataraza**	**21.03**	**69**	*e*P	**P**	**04 38 29.8**	**+0.8**
BATP	**Bataraza**	**21.03**	**69**	*e*P	**P**	**04 38 29.8**	**+0.8**
VIS	**Vishakhapatnam**	**21.50**	**319**	*e*P	**P**	**04 38 34.0**	**+0.3**
VIS				*e*		04 38 42.0	
	comp=Z,276nm,1.4s						
TRD	**Trivandrum**	**21.98**	**289**	*e*P	**P**	**04 38 38.9**	**+0.3**
TRD				*e*		04 38 56.1	
	comp=Z,157nm,1.2s						
TANI	**Tanete Lipujan**	**22.02**	**103**	*e*P	**P**	**04 38 39.4**	**+0.4**
BWNR	**Bhubaneshwar**	**22.04**	**328**	*e*P	**P**	**04 38 40.5**	**+1.5**
BWNR				*e*		04 38 42.3	
	comp=Z,404nm,1.0s						
BWNR				*e*S	**S**	**04 42 40.0**	**+4.7**
PPR	**Puerto Princes**	**22.22**	**68**	⇑*i*P	**P**	**04 38 42.1**	**+1.2**
NINI	**Niniconang**	**22.62**	**105**	*e*P	**P**	**04 38 45.9**	**+0.9**
BUNI	**Buntu Taipa**	**22.98**	**103**	*e*P	**P**	**04 38 50.0**	**+1.4**
AGT	**Agartala**	**23.08**	**344**	⇑*i*P	**P**	**04 38 50.0**	**+0.6**
AGT				*i*		04 39 39.0	
ENPP	**El Nido**	**23.38**	**65**	*e*P	**P**	**04 38 54.6**	**+2.2**
ENPP	**El Nido**	**23.38**	**65**	*e*P	**P**	**04 38 54.6**	**+2.2**
KMI	**Kunming**	**23.84**	**11**	⇑P	**P**	**04 38 58.3**	**+1.5**
KMI				AP		04 39 05.3	
KMI				XP		04 39 08.5	
KMI				PP	PP	04 39 31.4	+0.8
KMI				S	**S**	**04 43 10.4**	**+3.0**
KMI				XS		04 43 20.6	
KMI				SS	SS	04 44 01.8	+3.7
KMI				AMB	AMB		
	comp=Z,107nm,1.2s,mb5.2						
KMI				AMB	AMB		
	comp=Z,1μm,5.6s						
KMI				LR	LR		
	comp=N,11μm,16.5s,MS5.4						
KMI				LR	LR		
	comp=E,5μm,16.5s,MS5.4						
KMI				LR	LR		
	comp=Z,13μm,16.7s,MS5.5						
KMI	**Kunming**	**23.84**	**11**	⇑P	**P**	**04 38 58.3**	**+1.5**
KMI				*SP		04 39 08.5	
KMI						04 39 31.4	
KMI				S	**S**	**04 43 10.4**	**+3.0**
KMI				*SS		04 43 20.6	
KMI				SS	SS	04 44 01.8	+3.7
KMI				pmax	pmax		
	comp=Z,107nm,1.2s,mb5.2						
KMI				MLR	MLR		
	comp=Z,13μm,16.7s,MS5.5						
KMI	**Kunming**	**23.84**	**11**	⇑P	**P**	**04 38 58.3**	**+1.5**
	comp=Z,107nm,1.2s,mb5.2						
KMI				pP		04 39 05.3	
KMI				sP		04 39 08.5	
KMI				PP	PP	04 39 31.4	+0.8
KMI				S	**S**	**04 43 10.4**	**+3.0**
KMI				sS		04 43 20.6	
KMI				SS	SS	04 44 01.8	+3.7
KMI				LR	LR		
	comp=Z,13μm,16.7s,MS5.5						
BUSP	**Coron**	**24.38**	**64**	*e*P	**P**	**04 39 04.0**	**+1.9**
SHL	**Shillong**	**24.53**	**347**	*e*P	**P**	**04 39 04.0**	**+0.5**
SHL				*e*S	**S**	**04 43 22.0**	**+2.9**
ZMPH	**Zamboanga City**	**24.64**	**77**	⇑*e*P	**P**	**04 39 05.6**	**+1.0**
HYB	**Hyderabad**	**24.70**	**311**	⇑*e*P	**P**	**04 39 06.0**	**+0.9**
HYB				*e*S	**S**	**04 43 30.0**	**+8.1**
HYB				pmax	pmax		
	comp=Z,77nm,0.8s,mb5.3						
HYB	**Hyderabad**	**24.70**	**311**	⇑*e*P	**P**	**04 39 06.0**	**+0.9**
	comp=Z,77nm,0.8s,mb5.3						
HYB				*e*S	**S**	**04 43 30.0**	**+8.1**
HYB	**Hyderabad**	**24.70**	**311**	⇑*i*P	**P**	**04 39 06.0**	**+0.9**
	comp=Z,77nm,0.8s,mb5.3						
HYB				*e*S	**S**	**04 43 30.0**	**+8.1**
CUYO	**Cuyo Island**	**24.70**	**67**	*e*P	**P**	**04 39 06.7**	**+1.5**
BOK	**Bokaro**	**24.96**	**333**	⇑*i*P	**P**	**04 39 07.0**	**-0.6**
BOK				*i* S	**S**	**04 43 32.2**	**+5.9**
BLSP	**Bilaspur**	**25.55**

POO e 04 40 14.7
comp=Z,52nm,1.2s
POO i 04 44 40.0
GKN Gorkha 29.17 335 eP **P 04 39 46.5 +0.3**
comp=Z,974nm,1.1s,mb6.5
BHPL Bhopal 29.30 319 eP **P 04 39 47.0 -0.3**
BHPL e 04 40 03.3
comp=Z,85nm,1.2s
KOLN Koldanda 29.42 333 eP **P 04 39 48.9 +0.5**
comp=Z,379nm,0.7s,mb6.2
CD2 Chengdu 29.67 10⇑iP **P 04 39 49.1 -1.5**
CD2 AP pP 04 39 58.4 -1.6
CD2 XP sP 04 40 03.4 -0.8
CD2 S **S 04 44 38.9 -3.9**
CD2 XS 04 44 54.3
CD2 AMB AMB
comp=Z,100nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,460nm,5.7s
CD2 LR LR
comp=N,8μm,15.6s
CD2 LR LR
comp=Z,11μm,15.6s,MS5.6
ENH Enshi 30.55 20⇑iP **P 04 39 56.7 -1.7**
comp=Z,323nm,0.8s,mb6.2
QZH Quanzhou 30.61 39 P **P 04 39 58.3 -0.6**
QZH S **S 04 44 55.0 -2.7**
QZH AMB AMB
comp=Z,150nm,0.8s,mb5.9
QZH LR LR
comp=N,12μm,16.7s,MS5.7
QZH LR LR
comp=E,5μm,14.2s,MS5.7
QZH LR LR
comp=Z,12μm,15.0s,MS5.7
MBWA Marble Bar 31.09 138 eP **P 04 40 02.8 -0.5**
comp=Z,35nm,0.8s,mb5.2
MBWA LR LR
comp=Z,2μm,20.0s,MS4.8
YHNB Yeheng 32.24 43 eP **P 04 40 12.7 -0.6**
LGTI Lohaghat 32.41 330⇑iP **P 04 40 15.5 +0.8**
LGTI e 04 41 53.5
PTH Pithoragarh 32.51 330 eP **P 04 40 16.4 +0.9**
PTH e 04 45 24.9
TATO Taipei 32.52 42 PFAKE 04 40 30.0 +14
TATO LR LR
comp=Z,4μm,21.0s,MS5.1
WHN Wuhan 32.73 27 P **P 04 40 16.5 -1.0**
WHN S **S 04 45 34.0 +3.2**
WHN LR LR
comp=N,1μm,12.8s,MS5.3
WHN LR LR
comp=E,4μm,10.9s,MS5.3
WHN LR LR
comp=Z,12μm,13.5s,MS5.8
AJM Ajmer 33.36 320⇑iP **P 04 40 23.0 0.0**
NDI New Delhi 33.41 326 eP **P 04 40 21.0 -2.4**
comp=Z,33nm,0.6s,mb5.4
NDI e 04 45 21.0
FITZ Fitzroy Crossi 33.58 127 eP **P 04 40 22.7 -2.2**
comp=Z,58nm,0.8s,mb5.6
FITZ e 04 43 04.9
FITZ Fitzroy Crossi 33.58 127 P **P 04 40 22.8 -2.2**
comp=Z,81nm,0.8s,mb5.7,baz=308,slow=5.8,SNR=65
FITZ PcP PcP 04 43 05.0 0.0
comp=Z,35nm,0.8s,baz=247,slow=3.7,SNR=4.0
XAN Xi'an 33.87 17 P **P 04 40 25.9 -1.5**
XAN AMB AMB
comp=Z,430nm,1.0s,mb6.3
XAN AMB AMB
comp=Z,368nm,10.6s
XAN LR LR
comp=N,2μm,16.2s,MS5.2
XAN LR LR
comp=E,3μm,17.2s,MS5.2
XAN LR LR
comp=Z,4μm,16.7s,MS5.3
DDI Dehra Dun 34.23 328 eP **P 04 40 31.0 +0.5**
LZH Lanzhou 34.75 8⇑P **P 04 40 33.9 -1.0**
LZH AP pP 04 40 49.2 +4.8
LZH PP PP 04 41 53.3 +0.9
LZH PCP PcP 04 43 05.2 -3.0
LZH eS **S 04 46 00.4 -1.7**
LZH SS SS 04 48 19.5 +3.5
LZH SCS ScS 04 50 46.8 -4.9
LZH AMB AMB
comp=Z,106nm,1.3s,mb5.6
LZH AMB AMB
comp=Z,315nm,5.2s
LZH LR LR
comp=N,2μm,13.1s
LZH LR LR
comp=Z,3μm,16.7s,MS5.2
LZH Lanzhou 34.75 8⇑P **P 04 40 33.9 -1.0**
comp=Z,106nm,1.3s,mb5.6
LZH pP pP 04 40 49.2 +4.8
LZH sP sP 04 40 56.3 +7.8
LZH PP PP 04 41 53.3 +0.9
LZH PcP PcP 04 43 05.2 -3.0
LZH eS **S 04 46 00.4 -1.7**
LZH sS 04 46 26.5
LZH SS SS 04 48 19.5 +3.5
LZH ScS ScS 04 50 46.8 -4.9
LZH LR LR
comp=Z,3μm,16.7s,MS5.2
SMLA Simla 35.33 328⇓i **P 04 40 30.9 -9.0**
comp=Z,54nm,0.2s,mb6.1
SMLA i 04 46 00.1
BHK Bhakra 35.96 328 eP **P 04 40 46.9 +1.7**
BHK eS **S 04 46 23.9 +3.1**
NJ2 Nanjing 36.15 31 eP **P 04 40 45.5 -1.3**
NJ2 AP pP 04 40 55.1 -1.2
NJ2 XP sP 04 40 59.9 -0.5
NJ2 PP PP 04 42 11.2 +1.6
NJ2 S **S 04 46 15.0 -8.7**
NJ2 AMB AMB
comp=Z,40nm,0.6s,mb5.5
NJ2 AMB AMB
comp=Z,440nm,7.6s
NJ2 LR LR
comp=N,8μm,17.3s
NJ2 LR LR
comp=E,5μm,11.6s
NJ2 LR LR
comp=Z,4μm,16.3s,MS5.3
SSE Sheshan 36.67 35 P **P 04 40 51.2 0.0**
SSE XP sP 04 41 03.5 -1.3
SSE PP PP 04 42 14.1 -2.3
SSE S **S 04 46 32.1 +0.4**
SSE XS 04 46 47.7
SSE AMB AMB
comp=Z,75nm,0.8s,mb5.6
SSE AMB AMB
comp=Z,320nm,10.7s
SSE LR LR
comp=N,4μm,15.9s,MS5.4
SSE LR LR
comp=E,2μm,15.9s,MS5.4
SSE LR LR
comp=Z,6μm,16.6s,MS5.4
SSE Sheshan 36.67 35 P **P 04 40 51.2 0.0**
comp=Z,75nm,0.8s,mb5.6
SSE sP sP 04 41 03.5 -1.3
SSE PP PP 04 42 14.1 -2.3
SSE S **S 04 46 32.1 +0.4**
SSE sS 04 46 47.7
SSE SS SS 04 49 12.2 +13
SSE LR LR
comp=Z,6μm,16.6s,MS5.4
DLH Dalhousie 37.07 328 eP **P 04 40 54.0 -0.5**
DLH e pP 04 41 05.0 +0.9
THN Thein Dam 37.12 328 eP **P 04 40 53.6 -1.3**
THN eS **S 04 46 38.9 +0.3**
MUN Mundaring 37.62 154⇑iP **P 04 41 01.3 +2.1**
comp=Z,264nm,0.5s,mb6.2
MUN Mundaring 37.62 154⇑iP **P 04 41 01.3 +2.1**
MUN pmax pmax
comp=Z,264nm,0.5s,mb6.2
GTA Gaotai 37.67 2⇑iP **P 04 40 59.6 +0.1**
GTA AP pP 04 41 08.3 -0.8
GTA XP sP 04 41 12.2 -0.9
GTA PP PP 04 42 26.2 -2.5
GTA PCP PcP 04 43 17.6 +0.7
GTA S **S 04 46 42.5 -4.5**
GTA SCP 04 46 59.6
GTA SCS ScS 04 51 07.9 +0.1
GTA AMB AMB
comp=Z,215nm,0.9s,mb5.9
GTA AMB AMB
comp=Z,593nm,8.0s
GTA LR LR
comp=N,2μm,18.7s,MS5.1
GTA LR LR
comp=E,2μm,17.6s,MS5.1
GTA LR LR
comp=Z,2μm,26.4s
KLBR Kellerberrin 38.00 152⇑iP **P 04 41 03.9 +1.6**
comp=Z,8μm,0.9s
TIY Taiyuan 38.34 19⇑P **P 04 41 06.0 +0.9**
TIY LR LR
comp=N,6μm,13.0s
TIY LR LR
comp=Z,2μm,12.0s,MS5.0
JOW Kunigami 38.44 47 P **P 04 41 06.8 +0.8**
comp=Z,48nm,0.4s,mb5.6,baz=228,slow=6.5
TIA Tai'an 38.76 25 P **P 04 41 08.0 -0.7**
TIA AMB AMB
comp=Z,52nm,0.8s,mb5.3
NWAO Narrogin (SRO) 38.88 154 eP **P 04 41 10.3 +0.6**
NWAO pmax pmax
comp=Z,78nm,1.0s
NWAO MLR MLR
comp=Z,2μm,21.0s
NWAO Narrogin (SRO) 38.88 154 P **P 04 41 10.7 +1.0**
comp=Z,40nm,0.8s,mb5.2,baz=326,slow=9.1,SNR=17
NWAO LR LR 04 56 03.9
comp=Z,2μm,21.1s,MS5.0,baz=332,slow=34
NWAO Narrogin (SRO) 38.88 154 eP **P 04 41 10.3 +0.6**
comp=Z,78nm,1.0s,mb5.4
NWAO LR LR
comp=Z,2μm,21.0s,MS4.9
BTO Baotou 40.35 14 eP **P 04 41 22.0 +0.2**
BTO S **S 04 47 21.1 -6.2**
BTO AMB AMB
comp=Z,73nm,0.9s,mb5.4
HHC Hu-ho-hao-te 40.98 16 eP **P 04 41 28.3 +1.4**
HHC PP PP 04 43 08.6 +4.2
HHC PCP PcP 04 43 29.5 +2.2
HHC SCP 04 47 10.4
HHC PCS 04 47 16.5
HHC S **S 04 47 36.7 +0.1**
HHC SCS ScS 04 51 22.3 -4.7
HHC AMB AMB
comp=Z,52nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,597nm,9.2s
HHC LR LR
comp=N,4μm,16.7s,MS5.4
HHC LR LR
comp=E,2μm,17.6s,MS5.4
HHC LR LR
comp=Z,4μm,17.8s,MS5.3
WRA Warramunga Arr 41.63 123 P **P 04 41 31.6 -1.0**
comp=Z,203nm,0.7s,mb5.9,baz=301,slow=9.1,SNR=324
WRA PcP PcP 04 43 29.4 -0.4
comp=Z,21nm,0.8s,baz=305,slow=2.9,SNR=6.8
WRA S **S 04 47 40.9 -5.8**
comp=Z,29nm,1.2s,baz=297,slow=16,SNR=15
WRAB Tennant Creek 41.64 123⇑eP **P 04 41 31.7 -1.0**
WRAB e 04 41 38.2
WRAB pmax pmax
comp=Z,270nm,0.6s,mb6.0
WRAB MLR MLR
comp=Z,485nm,20.0s,MS4.4
WRAB Tennant Creek 41.64 123⇑eP **P 04 41 31.7 -1.0**
comp=Z,270nm,0.6s,mb6.0
WRAB e 04 41 38.2
WRAB LR LR
comp=Z,485nm,20.0s,MS4.4
WB2 Warramunga Arr 41.64 123⇑iP **P 04 41 31.6 -1.1**
WB2 eS **S 04 47 41.1 -5.7**
BJT Baijiatuau 41.68 21⇑iP **P 04 41 33.4 +0.6**
BJT pmax pmax
comp=Z,112nm,0.8s
BJT Baijiatuau 41.68 21⇑iP **P 04 41 33.4 +0.6**
comp=Z,112nm,0.8s,mb5.5
BJI Beijing 41.70 21 P **P 04 41 33.6 +0.6**
BJI PP PP 04 43 11.1 -1.3
BJI S **S 04 47 49.1 +1.6**
BJI AMB AMB
comp=Z,143nm,0.8s,mb5.7
BJI AMB AMB
comp=Z,955nm,4.3s
BJI LR LR
comp=N,895nm,17.2s,MS4.7
BJI LR LR
comp=E,264nm,17.2s,MS4.7
BJI LR LR
comp=Z,2μm,21.2s,MS4.9
BJI Beijing 41.70 21 P **P 04 41 33.6 +0.6**
comp=Z,143nm,0.8s,mb5.7
BJI PP PP 04 43 11.1 -1.3
BJI S **S 04 47 49.1 +1.6**
BJI sS 04 48 09.4
BJI SS SS 04 51 01.4 +13
BJI LR LR
comp=Z,2μm,21.2s,MS4.9
KSH Kashi 42.72 335 eP **P 04 41 43.0 +1.7**
KSH eAP pP 04 41 52.4 +1.5
KSH eXP sP 04 41 56.0 +1.1
KSH ePP PP 04 43 28.2 +5.4
KSH ePPP PPP 04 44 02.1 +5.1
KSH eSCP 04 47 22.8
KSH ePCS 04 47 25.5
KSH eS **S 04 48 01.6 -0.8**
KSH eXS 04 48 23.8
KSH eSS SS 04 51 12.6 +5.3
KSH eSCS ScS 04 51 42.2 +4.6
KSH AMB AMB
comp=Z,500nm,5.0s
KSH LR LR
comp=N,670nm,13.6s,MS5.0
KSH LR LR
comp=E,1μm,15.2s,MS5.0
DL2 Dalian 42.99 27 P **P 04 41 41.7 -1.8**
DL2 eS **S 04 48 13.1 +6.8**
DL2 AMB AMB
comp=Z,60nm,0.7s,mb5.4
DL2 AMB AMB
comp=Z,300nm,5.3s
DL2 LR LR
comp=N,1μm,18.0s,MS5.0
DL2 LR LR
comp=E,1μm,14.5s,MS5.0
DL2 LR LR
comp=Z,2μm,15.7s,MS5.1
WMQ Urumqi 43.02 349⇑P **P 04 41 44.6 +1.0**
WMQ PP PP 04 43 27.6 +1.8
WMQ PCP PcP 04 43 34.6 +0.5
WMQ S **S 04 48 05.1 -1.6**
WMQ AMB AMB
comp=Z,140nm,1.1s,mb5.6
WMQ AMB AMB
comp=Z,873nm,3.5s
WMQ LR LR
comp=N,2μm,18.6s,MS5.1
WMQ LR LR
comp=E,1μm,18.0s,MS5.1
WMQ LR LR
comp=Z,2μm,22.3s,MS5.0
ASPA Alice Springs 43.05 128⇑iP **P 04 41 43.5 -0.7**
ASPA eS **S 04 48 01.2 -6.3**
ASAR Alice Springs 43.06 128 P **P 04 41 43.5 -0.8**
comp=Z,57nm,0.7s,mb5.4,baz=304,slow=7.8,SNR=379
ASAR PcP PcP 04 43 34.8 +0.3
comp=Z,18nm,0.8s,baz=310,slow=3.1,SNR=9.7
ASAR S **S 04 48 01.7 -5.8**
comp=Z,10nm,0.9s,baz=299,slow=15,SNR=7.7
ASAR LR LR 05 03 10.6
comp=Z,1μm,19.4s,MS4.8,baz=298,slow=41
FORT Forrest 43.12 141⇑iP **P 04 41 45.8 +1.2**
comp=Z,4μm,0.6s
WBK Wadi Bani Khal 43.21 302 P **P 04 41 46.7 +1.2**
SNR=13
JMDO Jabal Madar 43.85 301 P **P 04 41 51.5 +0.8**
SNR=12
SMDO Samad 44.17 302 P **P 04 41 54.3 +1.1**
SNR=25
BIDO Bidbid 44.28 303 P **P 04 41 55.6 +1.4**
SNR=7.0
INCN Inchon 44.42 33 PFAKE 04 42 10.0 +15
INCN LR LR
comp=Z,4μm,20.0s,MS5.3
SHAO Shalim 44.60 294⇑P **P 04 41 57.9 +1.0**
BSY Bisya 44.77 301 P **P 04 41 59.3 +1.1**
SNR=21
ULHL Ulahol 44.91 337 P **P 04 42 00.2 +1.2**
SNR=12
KZA Kyzart 45.16 336 P **P 04 42 02.2 +1.2**
SNR=9.0
ARQ Araqi 45.57 302⇓P **P 04 42 05.4 +0.9**
UCH Uchtor 45.59 336 P **P 04 42 05.6 +1.3**
SNR=67
TKM2 Tokmak 2 45.73 337 P **P 04 42 06.3 +0.8**
SNR=74
RBK Rabkut 45.76 293 P **P 04 42 07.1 +1.0**
SNR=8.9
KBK Karagaybulak 45.77 336 P **P 04 42 06.8 +1.1**
SNR=76
AML Almayashu 45.85 335 P **P 04 42 07.6 +1.2**
SNR=50
AAK Ala-Archa 45.93 336 P **P 04 42 08.1 +1.1**
SNR=23
AAK Ala-Archa 45.93 336 P **P 04 42 07.6 +0.6**
comp=Z,268nm,1.2s,mb6.0,SNR=41
AAK Ala-Archa 45.93 336 iP **P 04 42 08.0 +1.0**
AAK pmax pmax
comp=Z,133nm,1.6s,mb5.6
AAK Ala-Archa 45.93 336⇑iP **P 04 42 06.8 -0.3**
comp=Z,62nm,1.0s,mb5.5
FRU Bishkek 46.05 336⇑iP **P 04 42 08.8 +0.8**
FRU i pP 04 42 16.5 -1.1
FRU e 04 48 53.0
FRU pmax pmax
comp=Z,90nm,1.8s,mb5.4
FRU MLR MLR
comp=Z,2μm,23.0s,MS5.0
CHMS Chumysh 46.13 336 P **P 04 42 09.1 +0.5**
SNR=20
EKS2 Erkin-Say 46.25 335 P **P 04 42 10.7 +1.1**
SNR=30
WHFO Wadi Hawf 46.27 293 P **P 04 42 10.5 +0.5**
SNR=37
USP Ospenovka 46.46 336 P **P 04 42 11.8 +0.6**
SNR=72
ASHO Ashiyiah 46.48 303 P **P 04 42 12.2 +0.6**
SNR=14
ABTO Aybut 46.56 292 P **P 04 42 13.3 +0.9**
SNR=6.3
SONM Songino Array 46.64 8 P **P 04 42 13.0 +0.5**
comp=Z,132nm,0.8s,mb5.9,baz=189,slow=9.3,SNR=363
SONM PcP PcP 04 43 46.3 -0.2
comp=Z,49nm,0.7s,baz=190,slow=3.9,SNR=14
SONM LR LR 05 03 56.4
comp=Z,3μm,20.4s,MS5.2,baz=185,slow=39
ULN Ulaanbaatar 46.76 8⇑iP **P 04 42 13.9 +0.4**
ULN pmax pmax
comp=Z,94nm,0.9s,mb5.7
ULN MLR MLR
comp=Z,2μm,20.0s,MS5.2
ULN Ulaanbaatar 46.76 8⇑iP **P 04 42 13.9 +0.4**
comp=Z,94nm,0.9s,mb5.7
ULN LR LR
comp=Z,2μm,20.0s,MS5.2
MKAR Makanchi Array 47.04 345 P **P 04 42 16.4 +0.7**
comp=Z,270nm,0.7s,mb6.3,baz=157,slow=8.6,SNR=571
MKAR S **S 04 49 06.7 +2.2**
comp=Z,4.9nm,1.1s,baz=176,slow=16,SNR=4.0
MKAR LR LR 05 04 50.2
comp=Z,993nm,21.7s,MS4.7,baz=163,slow=40
GUMO Guam 47.92 73 P **P 04 42 21.3 -1.8**
comp=Z,40nm,0.3s,mb5.9,baz=170,slow=16,SNR=5.3
GUMO Guam 47.92 73 P **P 04 42 21.4 -1.8**
GUMO LR LR
comp=Z,667nm,19.0s,MS4.6
CN2 Changchun 48.62 26 eP **P 04 42 27.1 -1.1**
CN2 eAP pP 04 42 38.5 +0.6
CN2 PCP PcP 04 43 49.6 -4.1
CN2 AMB AMB
comp=Z,100nm,0.9s,mb5.8
CN2 AMB AMB
comp=Z,560nm,7.0s
CN2 LR LR
comp=N,4μm,15.0s,MS5.6
CN2 LR LR
comp=E,2μm,15.0s,MS5.6
CN2 LR LR
comp=Z,5μm,15.0s,MS5.6
ZAK Zakamensk 48.82 5⇓iP **P 04 42 29.2 -0.4**
ZAK e 04 43 53.9
ZAK pmax pmax
comp=Z,23nm,1.6s,mb5.0
ZAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
CBIJ Chichi jima 49.40 55 P **P 04 42 33.4 -1.0**
comp=Z,246nm,0.9s,mb6.2,baz=275,slow=10,SNR=4.0
MOY Mondy 49.96 2 eP **P 04 42 38.6 +0.3**
MOY pmax pmax
comp=Z,55nm,2.6s,mb5.1
TLY Talaya 50.14 5 eP **P 04 42 39.8 +0.1**
TLY e 04 44 35.1
TLY eS **S 04 49 46.2 -1.6**
TLY eSS ScS 04 52 23.9 -1.3
TLY pmax pmax
comp=Z,24nm,0.8s,mb5.3
TLY MLR MLR
comp=Z,5μm,19.0s,MS5.5
TLY Talaya 50.14 5⇑iP **P 04 42 40.2 +0.5**
comp=Z,35nm,0.6s,mb5.6
TLY LR LR
comp=Z,1μm,19.0s,MS5.0
PMG Port Moresby 50.24 104 eP **P 04 42 39.7 -1.2**
PMG pmax pmax
comp=Z,60nm,0.7s
PMG MLR MLR
comp=Z,2μm,22.0s
PMG Port Moresby 50.24 104 eP **P 04 42 39.7 -1.2**
comp=Z,60nm,0.7s,mb5.7
PMG LR LR
comp=Z,2μm,22.0s,MS5.1
IRK Irkutsk 50.75 5 eP **P 04 42 43.4 -0.9**
IRK e 04 44 34.4
IRK pmax pmax
comp=Z,91nm,2.0s,mb5.4
MAJO Matsushiro 50.91 42 eP **P 04 42 44.5 -1.2**
MAJO pmax pmax
comp=Z,79nm,0.8s,mb5.7
MAJO MLR MLR
comp=Z,2μm,19.0s,MS5.1
MAJO Matsushiro 50.91 42 eP **P 04 42 44.5 -1.2**
comp=Z,79nm,0.8s,mb5.7
MAJO LR LR
comp=Z,2μm,19.0s,MS5.1
MAT Matsushiro 50.91 42 eP **P 04 42 45.0 -0.7**
MAT eS **S 04 50 00.0 +1.4**
MAT pmax pmax
comp=Z,71nm,0.8s,mb5.7
MAT MLR MLR
comp=Z,1μm,20.0s,MS5.0
MAT Matsushiro 50.91 42 eP **P 04 42 45.0 -0.7**
comp=Z,71nm,0.8s,mb5.7
MAT eS **S 04 50 00.0 +1.4**
MAT LR LR
comp=Z,1μm,20.0s,MS5.0
MAT Matsushiro 50.91 42 P **P 04 42 44.7 -1.0**
MAT S **S 04 50 00.2 +1.6**
MJAR Matsushiro Arr 50.91 42 P **P 04 42 45.2 -0.6**
comp=Z,89nm,0.8s,mb5.7,baz=222,slow=6.2,SNR=111
MJAR LR LR 05 06 06.3
comp=Z,1μm,18.1s,MS5.0,baz=230,slow=38
MJAR Matsushiro Arr 50.91 42 P **P 04 42 45.2 -0.6**
MJAR LR LR 05 06 06.3
HIA Hailar 51.03 18⇑iP **P 04 42 46.1 -0.4**
HIA pmax pmax
comp=Z,94nm,0.8s
HIA Hailar 51.03 18⇑iP **P 04 42 46.1 -0.4**
comp=Z,94nm,0.8s,mb5.8
MDJ Mudanjiang 51.17 29 P **P 04 42 47.9 +0.3**
MDJ PP PP 04 44 44.0 -1.1
MDJ SCP 04 47 55.6
MDJ PCS 04 48 02.2
MDJ S **S 04 49 59.0 -3.1**
MDJ AMB AMB
comp=Z,90nm,0.9s,mb5.7
MDJ AMB AMB
comp=Z,527nm,5.5s
MDJ LR LR

comp=N,4μm,17.2s,MS5.5
MDJ LR LR
comp=E,1μm,16.6s,MS5.5
MDJ LR LR
comp=Z,5μm,16.0s,MS5.7
MDJ Mudanjiang 51.17 29 *e*P **P 04 42 47.4 -0.2**
comp=Z,85nm,0.9s,mb5.7
KURK Kurchatov 51.60 344⇑ *i*P **P 04 42 50.4 -0.4**
comp=Z,162nm,0.9s,mb6.0
KURK LR LR
comp=Z,741nm,22.0s,MS4.7
CTA Charters Tower 52.03 117⇑ *i*P **P 04 42 54.1 -0.4**
comp=Z,78nm,0.8s,mb5.7
CTA Charters Tower 52.03 117⇑ *i*P **P 04 42 54.1 -0.4**
CTA pmax pmax
comp=Z,78nm,0.8s
CTAO Charters Tower 52.03 117⇑ *i*P **P 04 42 53.9 -0.6**
CTAO pmax pmax
comp=Z,99nm,0.8s,mb5.8
CTAO MLR MLR
comp=Z,2μm,22.0s,MS5.1
CTAO Charters Tower 52.03 117⇑ *i*P **P 04 42 53.9 -0.5**
comp=Z,99nm,0.8s,mb5.8
CTAO LR LR
comp=Z,2μm,22.0s,MS5.1
ADE Adelaide 52.71 138 *e*P **P 04 43 00.1 +0.7**
STKA Stephens Creek 53.09 133⇑ *i*P **P 04 43 01.7 -0.5**
comp=Z,48nm,0.6s,mb5.6
STKA *e*S **S 04 50 26.4 -2.1**
STKA Stephens Creek 53.09 133 P **P 04 43 01.8 -0.5**
comp=Z,52nm,0.6s,mb5.6,baz=308,slow=7.0,SNR=123
STKA S **S 04 50 26.3 -2.2**
comp=Z,4.3nm,1.1s,baz=197,slow=19,SNR=2.9
STKA LR LR 05 05 36.2
comp=Z,2μm,21.6s,MS5.1,baz=297,slow=36
ZAL Zalesovo 53.28 350 P **P 04 43 02.4 -0.9**
comp=Z,79nm,0.4s,mb6.0,baz=314,slow=5.0,SNR=202
ZAL S **S 04 50 30.3 -0.5**
comp=Z,2.7nm,0.8s,baz=193,slow=20,SNR=12
ZAL Zalesovo 53.28 350 P **P 04 43 02.4 -0.9**
ZAL S **S 04 50 30.3 -0.5**
OPO Ambohidratompo 53.75 246 P **P 04 43 07.9 +0.6**
comp=Z,20nm,1.0s,mb5.0,baz=67,slow=7.5,SNR=13
NVS Novosibirsk 54.41 350 *i*P **P 04 43 09.9 -1.7**
NVS *i*S **S 04 50 45.9 -0.3**
NVS pmax pmax
comp=Z,88nm,1.0s,mb5.6
NVS pmax pmax
comp=N,47nm,0.8s
NVS pmax pmax
comp=E,25nm,0.5s
NVS smax
comp=N,38nm,1.6s
NVS smax
comp=E,27nm,1.6s
RAYN Ar Rayn 55.22 298 P **P 04 43 17.2 -0.7**
comp=E,211nm,0.7s,SNR=18
ATD Arta Tunnel 55.51 283 P **P 04 43 20.4 +0.3**
comp=E,10nm,0.9s,mb4.9,baz=111,slow=11,SNR=4.3
ATD LR LR 05 04 16.6
comp=E,672nm,19.6s,MS4.7,baz=106,slow=33
ATD Arta Tunnel 55.51 283 P **P 04 43 20.4 +0.3**
ATD LR LR 05 04 16.6
KLR Kul'dur 55.58 26κ *i*P **P 04 43 17.8 -2.4**
KLR *e*PPP PPP 04 46 43.0 +2.6
KLR *e*S **S 04 51 03.5 +1.7**
KLR *e*SS SS 04 54 52.0 +5.2
KLR pmax pmax
comp=N,160nm,1.2s
KLR pmax pmax
comp=E,240nm,1.2s
KLR pmax pmax
comp=Z,320nm,1.2s,mb6.2
KLR MLR MLR
comp=E,2μm,14.0s
KLR MLR MLR
comp=Z,4μm,14.0s,MS5.7
BVA0 Borovoye Array 56.12 340 P **P 04 43 22.7 -1.3**
BVA0 pmax pmax
comp=Z,12nm,0.8s,mb5.0
BVAR Borovoye Array 56.12 340 P **P 04 43 22.8 -1.2**
comp=Z,96nm,0.7s,mb5.9,baz=135,slow=8.4,SNR=337
BVAR S **S 04 51 08.1 -0.9**
comp=Z,2.4nm,0.8s,baz=132,slow=18,SNR=5.9
CHKZ Chkalovo 56.59 341 *i*P **P 04 43 26.4 -1.0**
CHKZ pmax pmax
comp=Z,142nm,0.9s,mb6.0
BOD Bodaibo 57.49 10⇓ *i*P **P 04 43 33.2 -0.5**
BOD pmax pmax
comp=Z,122nm,0.9s,mb5.9
ASAJ Asahikawa 57.91 37 P **P 04 43 36.9 0.0**
comp=Z,75nm,1.1s,mb5.7,baz=244,slow=13,SNR=18
ASAJ LR LR 05 07 49.1
comp=Z,1μm,21.8s,MS5.0,baz=291,slow=35
TOO Toolangi 58.73 137 *e*P **P 04 43 43.5 +0.9**
comp=Z,17nm,0.7s,mb5.2
TOO Toolangi 58.73 137 *e*P **P 04 43 43.5 +0.9**
TOO pmax pmax
comp=Z,17nm,0.7s,mb5.2
CLNS Chul'man 59.15 17⇑ *i*P **P 04 43 45.5 +0.2**
CLNS *e* 04 44 32.2
CLNS *e* 04 45 53.4
CLNS *e*PPP PPP 04 47 17.1 -5.4
CLNS *e*S **S 04 51 52.2 +3.5**
CLNS pmax pmax
comp=Z,199nm,0.9s,mb6.1
CLNS pmax pmax
comp=N,87nm,0.7s
CLNS pmax pmax
comp=E,77nm,0.8s
CLNS pmax pmax
comp=Z,16nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,24nm,0.8s
CLNS pmax pmax
comp=E,21nm,0.8s
CLNS smax
comp=N,9.0nm,1.0s
CLNS smax
comp=Z,5.0nm,0.8s
CLNS smax
comp=E,8.0nm,0.9s
CLNS MLR MLR
comp=Z,5μm,17.0s,MS5.7
CLNS MLR MLR
comp=N,3μm,16.0s,MS5.5
CLNS MLR MLR
comp=E,500nm,15.0s,MS5.5
YSS Yuzh-Sakhalins 59.61 34α *i*P **P 04 43 48.0 -0.6**
YSS *e**SP sP 04 44 03.8 +1.5
YSS *e* 04 44 36.0
YSS S **S 04 51 56.0 +1.1**
YSS *e*SS SS 04 55 48.0 -3.8
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=E,40nm,1.0s
YSS pmax pmax
comp=Z,130nm,1.0s,mb5.9
YSS MLR MLR
comp=E,1μm,16.0s
YSS MLR MLR
comp=Z,1μm,16.0s,MS5.2
YSS Yuzh-Sakhalins 59.61 34 *e*P **P 04 43 48.2 -0.4**
comp=Z,208nm,0.9s,mb6.2
YSS LR LR
comp=Z,1μm,19.0s,MS5.1
ARMA Armidale 60.18 127⇑ *i*P **P 04 43 53.8 +1.0**
CNB Canberra Magne 60.42 133 *e*P **P 04 43 52.9 -1.4**
comp=Z,4μm,2.0s
KMBO Kilima Mbogo 60.73 268 P **P 04 43 57.7 +1.0**
KMBO pmax pmax
comp=Z,21nm,1.2s
KMBO Kilima Mbogo 60.73 268 P **P 04 43 58.7 +2.0**
comp=Z,1.8nm,0.3s,mb4.6,baz=26,slow=4.1,SNR=8.5
KMBO LR LR 05 05 22.3
comp=Z,2μm,21.4s,MS5.2,baz=80,slow=31
KMBO Kilima Mbogo 60.73 268 P **P 04 43 55.2 -1.5**
comp=Z,21nm,1.2s,mb5.1
KMBO LR LR 05 05 22.4
GNI Garni 61.52 316*c* *i*P **P 04 44 00.8 -0.9**
GNI pmax pmax
comp=Z,48nm,1.3s
GNI Garni 61.52 316 P **P 04 44 01.1 -0.6**
comp=Z,15nm,0.7s,mb5.2,baz=24,slow=5.2,SNR=8.4
GNI Garni 61.52 316 *e*P **P 04 44 00.5 -1.2**
comp=Z,35nm,0.7s,mb5.6
GNI LR LR
comp=Z,652nm,19.0s,MS4.8
DGRG David-gareji 61.63 317 P **P 04 44 02.3 -0.2**
MTA Mtatsminda 62.13 317 P **P 04 44 05.0 -0.9**
TBLG Delisi 62.18 317 P **P 04 44 05.4 -0.8**
DUS Dusheti 62.36 318 P **P 04 44 03.5 -3.8**
SVE Sverdlovsk 62.59 338⇑ *i*P **P 04 44 08.2 -0.5**
SVE *e*S **S 04 52 30.0 -2.6**
SVE *e*PS PS 04 53 00.0 +5.6
SVE *e*SS SS 04 56 44.0 +5.0
SVE *e* 05 53 48.0
SVE pmax pmax
comp=Z,240nm,1.4s,mb6.1
SVE MLR MLR
comp=N,500nm,18.0s,MS4.9
SVE MLR MLR
comp=E,500nm,18.0s,MS4.9
SVE MLR MLR
comp=Z,900nm,18.0s,MS5.0
HNR Honiara 62.73 101 *e*P **P 04 44 08.3 -1.8**
comp=Z,146nm,0.7s,mb6.2
HNR LR LR
comp=Z,928nm,21.0s,MS4.9
ARU Arti 63.10 337⇑ *i*P **P 04 44 10.6 -1.4**
ARU *e* 04 44 45.0
ARU *e* 04 46 28.9
ARU *e*S **S 04 52 41.1 +2.0**
ARU *e*SS SS 04 56 43.0 -4.1
ARU pmax pmax
comp=Z,81nm,1.0s,mb5.8
ARU MLR MLR
comp=Z,1μm,19.0s,MS5.0
ARU MLR MLR
comp=N,500nm,18.0s,MS5.1
ARU MLR MLR
comp=E,1μm,20.0s,MS5.1
ARU Arti 63.10 337 *e*P **P 04 44 10.4 -1.6**
comp=E,67nm,0.9s,mb5.8
ZEI Tsey 63.19 318 *i*P **P 04 44 12.4 -0.4**
ZEI *i* *PP pP 04 44 23.2 +0.4
ZEI *i* 04 46 32.0
ZEI pmax pmax
comp=Z,44nm,0.8s,mb5.6
KIV Kislovodsk 64.48 319*c* *i*P **P 04 44 20.2 -1.1**
KIV *e* 04 46 42.8
KIV *i*S **S 04 52 55.8 -0.6**
KIV *e*SS SS 04 57 08.5 0.0
KIV pmax pmax
comp=Z,114nm,1.0s,mb5.9
KIV Kislovodsk 64.48 319⇑ *e*P **P 04 44 20.1 -1.2**
comp=Z,78nm,0.8s,mb5.8
KIV LR LR
comp=Z,151nm,20.0s,MS4.2
GOF Gofitskoye 64.72 320⇑ *i*P **P 04 44 20.8 -2.0**
GOF *i*S **S 04 53 08.8 +9.5**
GOF pmax pmax
comp=Z,120nm,1.3s,mb5.8
GOF smax
comp=N,120nm,2.5s
ASF Jabal al Asfar 64.83 305 P **P 04 44 24.0 +0.2**
comp=N,11nm,0.8s,mb5.0,baz=321,slow=7.1,SNR=8.5
YAK Yakutsk 64.84 16*c* *i*P **P 04 44 22.3 -1.0**
YAK *e* pP 04 44 34.0 +0.7
YAK *e* 04 46 43.2
YAK *e*S **S 04 52 56.7 -3.8**
YAK *e* 04 53 12.3
YAK *e*SS SS 04 57 05.9 -7.9
YAK pmax pmax
comp=N,42nm,1.0s
YAK pmax pmax
comp=Z,170nm,1.0s,mb6.0
YAK pmax pmax
comp=E,30nm,1.1s
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK smax
comp=N,8.0nm,1.0s
YAK smax
comp=Z,3.0nm,0.8s
YAK smax
comp=E,9.0nm,1.2s
YAK MLR MLR
comp=Z,2μm,17.0s,MS5.3
YAK MLR MLR
comp=N,2μm,24.0s
YAK MLR MLR
comp=E,1μm,30.0s
YAK Yakutsk 64.84 16⇑ *i*P **P 04 44 22.2 -1.1**
comp=E,312nm,0.9s,mb6.3
YAK LR LR
comp=Z,3μm,19.0s,MS5.5
MALT Malatya 65.41 312 P **P 04 44 27.1 -0.2**
MALT pmax pmax
comp=Z,38nm,1.2s,mb5.3
MALT Malatya 65.41 312 ⇓P **P 04 44 26.9 -0.4**
MALT Malatya 65.41 312 ⇓P **P 04 44 26.9 -0.4**
GZT Gaziantep 65.76 311 *i*P **P 04 44 29.4 -0.3**
EIL Elat 65.86 302 *e*P **P 04 44 29.5 -0.9**
comp=Z,34nm,1.0s,mb5.3
SOC Sochi 66.32 318 *i*P **P 04 44 31.2 -1.9**
SOC *e* 04 45 01.1
SOC *e* 04 46 54.8
SOC *e*PPP PPP 04 48 33.3 -3.5
SOC *i*S S 04 53 13.7 -5.2
SOC *e* 04 54 28.0
SOC *e*SS SS 04 57 37.4 +0.6
SOC pmax pmax
comp=Z,76nm,0.6s,mb5.9
SOC pmax pmax
comp=N,23nm,0.9s
SOC pmax pmax
comp=E,6.0nm,0.5s
KAHT Ahir Dag 66.36 311 *i*P **P 04 44 33.0 -0.4**
COBT Iskenderun 66.52 309 *i*P **P 04 44 34.2 -0.2**
MBAR Mbarara 67.22 269 *e*P **P 04 44 38.6 -0.7**
MBAR pmax pmax
comp=Z,23nm,1.3s,mb5.0
MBAR MLR MLR
comp=Z,292nm,22.0s,MS4.5
MBAR Mbarara 67.22 269 *e*P **P 04 44 38.5 -0.8**
comp=Z,23nm,1.3s,mb5.0
MBAR LR LR
comp=Z,292nm,22.0s,MS4.5
AVNT Avonos 68.22 311 *i*P **P 04 44 44.0 -1.2**
ANN Anapa 68.29 318 *e*P **P 04 44 37.2 -8.3**
ANN pmax pmax
comp=Z,135nm,7.2s
ANN MLR MLR
comp=N,349nm,18.0s,MS4.7
ANN MLR MLR
comp=E,207nm,18.0s,MS4.7
ANN MLR MLR
comp=Z,339nm,18.0s,MS4.6
CASY Casey 68.33 175 *e*P **P 04 44 45.6 +0.2**
CTKT Corum 68.79 313 *i*P **P 04 44 48.7 0.0**
BOYT Boyabat 68.94 314 *i*P **P 04 44 48.3 -1.3**
BRTR Keskin Array B 69.39 312 P **P 04 44 50.9 -1.5**
comp=Z,19nm,0.8s,mb5.1,baz=129,slow=7.0,SNR=78
WAKE Wake Island 69.41 70 PFAKE 04 45 00.0 +7.2
WAKE LR LR
comp=Z,164μm,20.0s
VRSR Storozhevoye 69.65 325 *e*P **P 04 44 51.8 -1.9**
VRSR pmax pmax
comp=Z,100nm,0.7s,mb5.8
VRSR pmax pmax
comp=N,20nm,0.8s
VRSR pmax pmax
comp=E,70nm,0.8s
VOR Voronezh 69.86 326 *e*P **P 04 44 53.7 -1.3**
VOR *e**PP pP 04 45 01.5 -3.5
VOR *e**SP sP 04 45 06.0 -2.6
VOR pmax pmax
comp=E,100nm,1.1s
VOR pmax pmax
comp=Z,130nm,1.1s,mb5.8
SIM Simferopol' 70.56 317*c* *i*P **P 04 44 58.6 -0.8**
SIM *e* 04 47 36.0
SIM *e*S S 04 54 03.0 -6.4
SIM pmax pmax
comp=Z,69nm,0.8s,mb5.6
NOUC Port Laguerre 70.65 114 *e*P **P 04 45 00.4 0.0**
NOUC Port Laguerre 70.65 114 *e*P **P 04 45 00.4 0.0**
MA2 Magadan 70.66 25*c* *i*P **P 04 44 59.6 -0.2**
MA2 pmax pmax
comp=Z,78nm,0.7s,mb5.8
MA2 Magadan 70.66 25⇑ *i*P **P 04 44 59.7 -0.1**
MA2 LR LR
comp=Z,1μm,21.0s,MS5.2
DZM Mont Dzumac 70.78 114 LR LR 05 15 55.5
comp=Z,723nm,21.8s,MS4.9,baz=263,slow=36
LSZ Lusaka 70.92 253 *e*P **P 04 45 02.8 +0.7**
LSZ pmax pmax
comp=Z,15nm,0.9s,mb4.9
LSZ MLR MLR
comp=Z,2μm,21.0s,MS5.4
LSZ Lusaka 70.92 253 *e*P **P 04 45 02.8 +0.7**
comp=Z,15nm,0.9s,mb4.9
LSZ LR LR
comp=Z,2μm,21.0s,MS5.4
ISP Isparta 71.29 309 *e*P **P 04 45 02.3 -1.6**
ISP pmax pmax
comp=Z,20nm,0.8s,mb5.1
ISP Isparta 71.29 309 *e*P **P 04 45 02.3 -1.6**
comp=Z,20nm,0.8s,mb5.1
MATP Matopo 71.35 248 P **P 04 45 05.3 +0.7**
comp=Z,40nm,1.1s,mb5.3,baz=81,slow=6.3,SNR=38
PET Petropavlovsk 71.50 34 *e*P **P 04 45 05.0 +0.1**
PET *e* 04 45 21.8
PET *e* 04 47 50.6
PET *e*S S 04 54 20.7 +0.7
PET *e*SS SS 04 58 59.5 +2.5
PET pmax pmax
comp=Z,122nm,0.7s,mb5.9
PET pmax pmax
comp=Z,200nm,12.0s
PET pmax pmax
comp=Z,121nm,0.8s,mb5.9
PET pmax pmax
comp=Z,300nm,13.7s
PET pmax pmax
comp=Z,100nm,14.5s
PET smax
comp=N,200nm,13.4s
PET MLR MLR
comp=Z,1μm,19.0s,MS5.2
PET Petropavlovsk 71.50 34 *e*P **P 04 45 04.5 -0.5**
comp=Z,69nm,0.6s,mb5.8
PET LR LR
comp=Z,1μm,19.0s,MS5.2
MOS Moscow 72.37 329α *i*P **P 04 45 09.4 -0.6**
MOS *e* 04 45 26.3
MOS *e* 04 47 50.5
MOS pmax pmax
comp=Z,300nm,0.8s,mb6.3
MOS pmax pmax
comp=Z,178nm,0.6s,mb6.2
MOS MLR MLR
comp=Z,1μm,21.8s,MS5.0
OBN Obninsk 72.67 328α *i*P **P 04 45 10.8 -1.0**
OBN *e* 04 45 17.4
OBN *e* 04 45 31.0
OBN 04 47 59.0
OBN *e*S S 04 54 26.6 -6.7
OBN *e*PS PS 04 54 58.2 -11
OBN *e*SS SS 04 59 16.6 +1.4
OBN pmax pmax
comp=Z,200nm,1.1s,mb6.0
OBN pmax pmax
comp=Z,162nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.7
OBN Obninsk 72.67 328 *e*P **P 04 45 10.1 -1.7**
comp=Z,162nm,1.3s,mb5.8
OBN LR LR
comp=Z,140nm,19.0s,MS4.3
TIXI Tiksi 72.67 10⇑ *i*P **P 04 45 10.2 -1.3**
TIXI LR LR
comp=Z,2μm,21.0s,MS5.4
SEY Seymchan 73.11 23 *i*P **P 04 45 14.2 -0.1**
SEY 04 45 36.8
SEY 04 48 04.4
SEY *e*S S 04 54 39.1 +0.9
SEY 04 55 16.0
SEY *e*SSS SSS 05 02 37.0 +4.7
SEY pmax pmax
comp=N,100nm,0.7s
SEY pmax pmax
comp=E,40nm,0.7s
SEY pmax pmax
comp=Z,100nm,0.7s,mb5.8
SEY MLR MLR
comp=Z,5μm,19.0s,MS5.8
SEY MLR MLR
comp=N,5μm,24.0s
SEY MLR MLR
comp=E,3μm,18.0s
MAW Mawson 73.26 193 LR LR 05 11 22.3
comp=E,2μm,20.2s,MS5.3,baz=23,slow=31
DRV Dumont d'Urvil 74.33 164 P **P 04 45 30.0 +8.8**
DRV S S 04 54 55.0 +3.2
DRV SS SS 04 59 40.0 -0.2
DRV L 05 05 00.0
TIRR Tirgusor 74.34 316 P **P 04 45 20.9 -0.9**
TIRR Tirgusor 74.34 316 ⇓P **P 04 45 21.1 -0.7**
TIRR Tirgusor 74.34 316 ⇓P **P 04 45 21.1 -0.7**
KIS Kishinev 74.68 318 *e*P **P 04 45 21.0 -2.7**
KIS *e* pP 04 45 31.0 -2.8
KIS *e*S S 04 54 49.0 -7.1
KIS MLR MLR
comp=E,300nm,18.0s
KIS MLR MLR
comp=Z,300nm,18.0s,MS4.6
KIS MLR MLR
comp=Z,400nm,20.0s
CFR Carcaliu 74.70 317 ⇑P **P 04 45 23.2 -0.7**
CFR Carcaliu 74.70 317 ⇓P **P 04 45 23.3 -0.6**
CFR Carcaliu 74.70 317 ⇓P **P 04 45 23.3 -0.6**
LBTB Lobatse 74.72 244 *e*P **P 04 45 25.4 +1.1**
LBTB pmax pmax
comp=Z,38nm,1.1s,mb5.2
LBTB MLR MLR
comp=Z,2μm,21.0s,MS5.4
LBTB Lobatse 74.72 244 *e*P **P 04 45 25.4 +1.0**
comp=Z,38nm,1.1s,mb5.2
LBTB LR LR
comp=Z,2μm,21.0s,MS5.4
HARR Harsova 74.73 316 ⇑P **P 04 45 23.5 -0.5**
PPE Popeni 75.15 318 ⇑P **P 04 45 24.0 -2.4**
JMB Yambol 75.21 314 *e*P **P 04 45 26.0 -0.9**
AKASG Malin Array Be 75.39 322 P **P 04 45 26.3 -1.4**
comp=Z,41nm,0.6s,mb5.5,baz=88,slow=4.9,SNR=165
AKASG Malin Array Be 75.39 322 P **P 04 45 26.3 -1.4**
ISR Istrita 75.79 316⇑ *i*P **P 04 45 30.7 +0.6**
VRI Vrincioaia 75.82 317⇑ *i*P **P 04 45 30.5 +0.2**
SZH Strazhica 75.84 314 *e*P **P 04 45 30.0 -0.4**
PVL Pavlikeni 76.26 314 *e*P **P 04 45 33.0 +0.2**
MLR Muntele Rosu 76.28 316⇑ *i*P **P 04 45 32.7 -0.1**
MLR Muntele Rosu 76.28 316⇑ *i*P **P 04 45 32.7 -0.1**
ZIMR 76.32 315 ⇑P **P 04 45 32.7 -0.4**
ZIMR 76.32 315 ⇑P **P 04 45 32.7 -0.4**
RZN Rozhen 76.43 312 *e*P **P 04 45 32.0 -1.8**
MMB Musomiste 77.14 312 *e*P **P 04 45 36.0 -1.7**
BURAR Bucovina Array 77.21 319 ⇓P **P 04 45 38.9 +0.9**
BURAR Bucovina Array 77.21 319 ⇓P **P 04 45 38.9 +0.9**
MNK Minsk 77.23 326 *e*P **P 04 45 35.0 -2.9**
PUL Pulkovo 77.49 331⇓ *e*P **P 04 45 38.2 -1.1**
PUL *e* pP 04 45 47.3 -2.1
PUL *e*S S 04 55 22.8 -3.8
PUL *e* 04 55 43.6
PUL pmax pmax
comp=Z,162nm,0.8s,mb6.0
PUL pmax pmax
comp=N,84nm,1.1s
PUL pmax pmax
comp=E,80nm,1.0s
PUL MLR MLR
comp=Z,887nm,21.0s,MS5.1
PUL MLR MLR
comp=E,650nm,18.0s
KKB Krupnik 77.67 312 *e*P **P 04 45 39.0 -1.6**
VTS Vitosha 77.69 313 *e*P **P 04 45 40.0 -0.7**
VTS Vitosha 77.69 313 ⇑P **P 04 45 40.1 -0.6**
JOF Joensuu 78.10 335 *e*p **P 04 45 46.9 +4.4**
LVV L'vov 78.42 321 *e*P **P 04 45 42.5 -2.1**
LVV *e* 04 48 38.5

LVV *e*PPP PPP 04 50 26.1 -7.3
LVV *e*S S 04 55 26.9 -10
LVV MLR MLR
comp=Z,500nm,18.0s,MS4.9
LVV MLR MLR
comp=E,700nm,10.0s
LVV MLR MLR
comp=N,600nm,18.0s
LVZ Lovozero 78.71 340⇓ *e*P **P 04 45 45.3 -0.5**
LVZ *e*S S 04 55 34.6 -4.9
LVZ *e* 04 55 50.7
LVZ pmax pmax
comp=Z,49nm,0.8s,mb5.5
LVZ pmax pmax
comp=E,12nm,0.9s
LVZ smax
comp=N,386nm,3.3s
LVZ smax
comp=E,584nm,3.9s
LVZ MLR MLR
comp=Z,2µm,21.0s,MS5.4
LVZ MLR MLR
comp=E,845nm,15.0s
BOLS Boljevac 78.78 314⇓ *i*P **P 04 45 45.6 -1.1**
SKO Skopje 78.89 312 *i* P **P 04 45 46.0 -1.3**
RPZ Rata Peaks 78.97 135 P **P 04 45 47.9 +0.2**
comp=E,70nm,0.8s,mb5.7,baz=270,slow=1.8,SNR=24
APA Apatity 79.01 339⇓ *i*P **P 04 45 46.7 -0.8**
APA *i* 04 45 51.8
APA *e*S S 04 55 42.0 -0.7
APA pmax pmax
comp=Z,59nm,0.9s,mb5.5
APA MLR MLR
comp=Z,2µm,19.0s,MS5.4
KWP Kalwaria 79.23 320⇑ *e*P **P 04 45 48.9 -0.1**
BZS Buzias 79.30 316 ⇓P **P 04 45 48.9 -0.5**
KOLS Kolonicke sedl 79.39 319 *i* P **P 04 45 50.6 +0.7**
GRUS Gruza 79.68 314⇓ *i*P **P 04 45 50.9 -0.6**
SUW Suwalki 79.77 325 P **P 04 45 51.1 -0.7**
SUW pmax pmax
comp=Z,180nm,1.0s,mb6.0
SUW Suwalki 79.77 325⇑ *i*P **P 04 45 51.0 -0.8**
SUW Suwalki 79.77 325⇑ *i*P **P 04 45 51.0 -0.8**
FX1 Attu Island--F 79.84 37 P **P 04 45 52.5 +0.3**
comp=Z,28nm,0.6s,mb5.4,baz=254,slow=4.9,SNR=11
CRVS Cervenica-Dubn 79.91 319 *e*P **P 04 45 53.4 +0.7**
CRVS *es*P sP 04 46 07.5 +1.2
FINES FINESS Array B 79.98 332 P **P 04 45 52.5 -0.3**
comp=Z,57nm,0.8s,mb5.6,baz=98,slow=5.7,SNR=205
FINES PKKPbc 05 04 39.1
comp=Z,1.4nm,0.9s,baz=297,slow=6.2,SNR=6.2
FINES LR LR 05 30 48.7
comp=Z,278nm,18.1s,MS4.6,baz=301,slow=43
PVY Plav 80.05 313⇑ *i*P **P 04 45 52.5 -1.1**
KAF Kangasniemi 80.06 333 *ep* **P 04 45 52.7 -0.5**
comp=Z,46nm,0.6s,mb5.6,baz=101,slow=5.0
KAF Kangasniemi 80.06 333 *e*P **P 04 45 52.7 -0.5**
KAF pmax pmax
comp=Z,47nm,0.6s,mb5.6
IVA Berane 80.14 313⇑ *i*P **P 04 45 53.1 -0.9**
DIVS Divcibare 80.23 314⇓ *i*P **P 04 45 54.1 -0.4**
KECS Kecovo 80.49 319 *e*P **P 04 45 55.3 -0.5**
KECS *es*P sP 04 46 09.8 +0.4
ULC Ulcinj 80.51 312⇑ *i*P **P 04 45 55.0 -1.1**
BILL Bilibino 80.54 21 *i* P **P 04 45 54.7 -0.9**
BILL *e* 04 46 01.9
BILL pmax pmax
comp=Z,20nm,1.1s,mb5.0
BILL Bilibino 80.54 21 *e*P **P 04 45 55.3 -0.3**
comp=Z,12nm,0.7s,mb4.9
BILL LR LR
comp=Z,1µm,19.0s,MS5.3
PLE Pljevlja 80.56 314⇑ *i*P **P 04 45 56.2 -0.1**
SYO Syowa Base 80.61 198 ⇑P **P 04 45 55.5 -0.5**
NIE Niedzica 80.74 320 *e*P **P 04 45 55.7 -1.3**
NKY Niksic 80.79 313⇑ *i*P **P 04 45 56.0 -1.5**
PSZ Piszkesteto 80.80 318 P **P 04 45 56.8 -0.6**
PSZ pmax pmax
comp=Z,33nm,0.9s,mb5.3
PSZ Piszkesteto 80.80 318 ⇓P **P 04 45 57.6 +0.2**
PSZ Piszkesteto 80.80 318⇑ *i*P **P 04 45 57.3 -0.1**
PSZ Piszkesteto 80.80 318 ⇓P **P 04 45 57.6 +0.2**
BUM Brajici-Budva 80.81 312⇑ *i*P **P 04 45 56.7 -0.9**
UPM Unac-Piva 80.90 313⇑ *i*P **P 04 45 57.1 -1.0**
HCY Herceg Novi 81.12 313⇑ *i*P **P 04 45 58.0 -1.2**
BRY Bratogost 81.14 313⇑ *i*P **P 04 45 58.1 -1.2**
SNZO South Karori 81.14 132 PFAKE 04 46 10.0 +11
SNZO LR LR
comp=Z,1µm,19.0s,MS5.3
OJC Ojcow 81.18 320 *e*P **P 04 45 59.1 -0.3**
OJC *e*S S 04 56 05.4 -0.3
OJC MLR MLR 05 31 14.8
comp=Z,400nm,21.5s,MS4.7
PKSM Moragy 81.43 316 ⇑P **P 04 46 00.7 -0.1**
PKSM Moragy 81.43 316 ⇑P **P 04 46 00.6 -0.2**
VYHS Vyhne 81.58 319 *i* P **P 04 46 01.3 -0.2**
VYHS *e* 04 46 08.0
SRO Srobarova 81.84 318 *i* P **P 04 46 03.5 +0.7**
SRO1 Iza 81.89 318 *e*P **P 04 46 03.9 +0.8**
KEV Kevo 81.97 341 *ep* **P 04 46 01.8 -1.3**
comp=Z,25nm,0.8s,mb5.2
KEV Kevo 81.97 341 *e*P **P 04 46 01.8 -1.3**
KEV pmax pmax
comp=Z,25nm,0.8s,mb5.2
TIP Timpagrande 82.14 309 *e*P **P 04 46 04.6 0.0**
OKC Ostrava-Krasne 82.19 320 *e*P **P 04 46 04.8 +0.2**
OKC *e*S S 04 56 16.4 +0.4
OKC AMS AMS 05 32 30.0
comp=Z,300nm,17.9s
URZ Urewera 82.49 129 P **P 04 46 06.2 -0.3**
comp=Z,19nm,0.6s,mb5.2,baz=259,slow=2.8,SNR=16
MORC Moravsky Berou 82.57 320⇑ *e*P **P 04 46 06.7 +0.1**
MORC pmax pmax
comp=Z,34nm,1.1s,mb5.3
MORC Moravsky Berou 82.57 320 ⇓P **P 04 46 07.2 +0.6**
ZST Bratislava 82.69 318 *e*P **P 04 46 07.6 +0.3**
FGMS Monte Sant'Ang 82.94 312 *e*P **P 04 46 08.3 -0.4**
KTK1 Kautokeino 83.06 340 *e*P **P 04 46 08.4 -0.3**
KTK1 Kautokeino 83.06 340⇑ *e*P **P 04 46 08.8 0.0**
KTK1 AMb AMB 04 46 09.6
comp=Z,98nm,0.7s,mb5.9
KTK1 *ep*P pP 04 46 18.5 -0.5
SLCN Sala Consilina 83.09 310 *e*P **P 04 46 10.4 +0.9**
KOGS Kog 83.11 316 *i* P **P 04 46 09.5 0.0**
MGR Morigerati 83.14 310 *e*P **P 04 46 09.1 -0.7**
GKP Gorka Klasztor 83.15 323 *e*P **P 04 46 09.6 0.0**
MRLC Muro Lucano 83.23 311 *e*P **P 04 46 10.2 0.0**
FG4 Candela 83.23 311 *e*P **P 04 46 10.6 +0.4**
SGO Sicignano 83.35 310 *e*P **P 04 46 10.8 0.0**
DPC Dobruska-Polom 83.41 320 *e*P **P 04 46 11.6 +0.7**
DPC *ep*P pP 04 46 20.0 -1.2
DPC *e*S S 04 56 28.0 -0.4
DPC AMS AMS 05 32 30.0
comp=Z,600nm,14.4s
KSP Ksiaz 83.48 321⇑ *e*P **P 04 46 11.6 +0.4**
KSP *e* 04 56 28.0
CSSN Cassano Irpino 83.59 311 *e*P **P 04 46 12.1 0.0**
UPC Upice 83.62 320 *e*P **P 04 46 12.4 +0.4**
ARSA Arzberg 83.67 317⇑ *i*P **P 04 46 12.6 +0.3**
comp=Z,67nm,1.9s,mb5.5
BOJS Bojanci 83.72 315 *e*P **P 04 46 12.5 -0.1**
BOJS *e* 04 46 26.6
PERS Pernice 83.90 317 *e*P **P 04 46 13.7 +0.1**
LJU Ljubljana 84.27 316 *e*P **P 04 46 15.6 +0.3**
OBKA Obir 84.28 316⇑ *i*P **P 04 46 15.7 +0.3**
comp=Z,56nm,1.8s,mb5.4
PRU Pruhonice 84.52 320 *e*P **P 04 46 16.7 +0.2**
PRU *ep*P pP 04 46 30.7 +3.9
PRU *e*S S 04 56 38.9 -0.6
PRU AMS AMS 05 33 10.0
comp=Z,400nm,19.5s
PVCC Panska Ves 84.54 320 *e*P **P 04 46 16.6 0.0**
PVCC *e*S S 04 56 40.6 +0.9
PVCC AMS AMS 05 33 20.0
comp=Z,500nm,18.0s
SDI San Donato 84.55 312 *e*P **P 04 46 16.5 -0.4**
MOA Molln 84.56 318⇑ *i*P **P 04 46 16.5 -0.3**
comp=Z,240nm,4.4s
MIDW Midway 84.58 62 PFAKE 04 46 30.0 +13
MIDW LR LR
comp=Z,1µm,20.0s,MS5.3
TRO Tromso 84.68 340 *e*P **P 04 46 15.9 -1.0**
TRO LR LR
comp=Z,635µm,15.8s
TRO Tromso 84.68 340 *e*P **P 04 46 14.8 -2.1**
TRO *e*P 04 46 15.9
TRO *e*SKSa 04 56 33.2
TRO AMS AMS 05 27 47.6
comp=Z,635nm,15.8s,MS5.1
BSD Bornholm Skovb 84.69 325⇑ *i*P **P 04 46 16.8 -0.5**
BSD pmax pmax
comp=Z,28nm,0.8s,mb5.4
BSD Bornholm Skovb 84.69 325⇑ *i*P **P 04 46 16.8 -0.5**
comp=Z,28nm,0.8s,mb5.5
VOY Vojsko 84.71 316 *i* P **P 04 46 17.4 -0.2**
VOY *e* 04 46 31.9
PTQR Pietraquaria 84.86 312 *e*P **P 04 46 18.6 +0.1**
AQU L'Aquila 84.88 312⇑ *e*P **P 04 46 18.6 +0.1**
AQU pmax pmax
comp=Z,62nm,0.9s,mb5.7
AQU L'Aquila 84.88 312⇑ *e*P **P 04 46 18.6 +0.1**
comp=Z,62nm,0.9s,mb5.7
BRG Berggiesshubel 84.96 321 *i* P **P 04 46 19.3 +0.6**
BRG *i* pP 04 46 28.5 -0.5
BRG *e*S S 04 56 44.0 +0.2
BRG pmax pmax
comp=Z,20nm,0.9s,mb5.2
BRG MLR MLR
comp=N,340nm,14.6s,MS5.1
BRG MLR MLR
comp=E,480nm,14.6s,MS5.1
BRG MLR MLR
comp=Z,650nm,14.6s,MS5.2
BRG Berggiesshubel 84.96 321 *i* P **P 04 46 19.3 +0.6**
comp=Z,20nm,0.9s,mb5.2
BRG *i* pP 04 46 28.5 -0.5
BRG *e*S S 04 56 44.0 +0.2
BRG LR LR
comp=Z,650nm,14.6s,MS5.2
ROBS Robic 84.99 316 *e*P **P 04 46 18.6 -0.3**
GEC2 GERESS Array S 85.00 319 *e*P **P 04 46 19.3 +0.4**
GEC2 *e*S S 04 56 43.4 -0.8
GEC2 pmax pmax
comp=Z,40nm,1.1s,mb5.5
GEC2 GERESS Array S 85.00 319 *e*P **P 04 46 19.3 +0.4**
comp=Z,40nm,1.1s,mb5.5
GEC2 *e*S S 04 56 43.4 -0.8
GERES GERESS Array B 85.00 319 P **P 04 46 19.2 +0.3**
comp=Z,24nm,0.9s,mb5.3,baz=104,slow=5.5,SNR=106
GERES LR LR 05 31 11.4
comp=Z,270nm,20.8s,MS4.6,baz=213,slow=40
KHC Kasperske Hory 85.09 319 *e*P **P 04 46 19.5 +0.1**
KHC *e**PP pP 04 46 32.6 +2.9
KHC *e*S S 04 56 44.9 -0.2
KHC MLR MLR
comp=Z,300nm,20.1s,MS4.7
KHC Kasperske Hory 85.09 319 *e*P **P 04 46 19.5 +0.1**
KHC *ep*P pP 04 46 32.6 +2.9
KHC *e* 04 47 04.5
KHC *e*S S 04 56 44.9 -0.2
KHC LR LR
comp=Z,300nm,20.1s,MS4.7
KHC Kasperske Hory 85.09 319 *e*P **P 04 46 19.5 +0.1**
KHC *e*pP pP 04 46 32.6 +2.9
KHC x x 04 47 04.5
KHC *e*S S 04 56 44.9 -0.2
KHC AMS AMS 05 31 20.0
comp=Z,300nm,20.1s
PTCC Patocco-Chiusa 85.10 316 *e*P **P 04 46 19.5 0.0**
NRCA Norcia 85.11 313 *e*P **P 04 46 19.7 0.0**
KBA Koelnbreinsper 85.14 317⇑ *i*P **P 04 46 19.3 -0.4**
comp=Z,20nm,1.2s,mb5.1
KBA Koelnbreinsper 85.14 317⇑ *i*P **P 04 46 19.3 -0.4**
KBA pmax pmax
comp=Z,20nm,1.2s,mb5.1
GMNA Gemona 85.18 316 *e*P **P 04 46 20.0 +0.1**
SNTG Esanatoglia 85.25 313 *e*P **P 04 46 20.9 +0.5**
ARV Arcevia 85.27 313 *e*P **P 04 46 21.0 +0.6**
FSSB Fossombrone 85.39 314 *e*P **P 04 46 21.8 +0.7**
MNS Montasola 85.41 312 *e*P **P 04 46 20.5 -0.7**
ASS Assisi 85.46 313 *e*P **P 04 46 20.9 -0.5**
FVI Forni Avoltri 85.51 316 *e*P **P 04 46 21.3 -0.2**
WET Wettzell 85.55 319 *e*P **P 04 46 21.9 +0.2**
WET *e*S S 04 56 49.7 +0.1
WET pmax pmax
comp=Z,27nm,0.8s,mb5.5
WET Wettzell 85.55 319 *e*P **P 04 46 21.9 +0.2**
comp=Z,27nm,0.8s,mb5.5
WET *e*S S 04 56 49.7 +0.1
CLL Collm 85.58 321⇑ *i*P **P 04 46 21.6 -0.2**
CLL *e*S S 04 56 48.0 -1.8
CLL pmax pmax
comp=Z,16nm,1.0s,mb5.2
CLL MLR MLR
comp=Z,400nm,19.6s,MS4.8
CLL Collm 85.58 321⇑ *i*P **P 04 46 21.6 -0.2**
comp=Z,16nm,1.0s,mb5.2
CLL *i* 04 46 24.7
CLL *e*S S 04 56 48.0 -1.8
CLL LR LR
comp=Z,400nm,19.6s,MS4.8
CLL Collm 85.58 321 ⇑P **P 04 46 21.6 -0.2**
comp=Z,logA/T=1.2,mb5.2
CLL *i* PCP PcP 04 46 24.7 -0.4
CLL *i* *PP pP 04 46 29.7 -2.4
CLL *i* 04 46 36.2
CLL *e*S S 04 56 48.0 -1.8
RSM Repubblica di 85.64 314 *e*P **P 04 46 23.5 +1.2**
HFS Hagfors 85.74 330 P **P 04 46 22.5 +0.2**
comp=Z,33nm,0.6s,mb5.7,baz=124,slow=5.3,SNR=86
HFS PP PP 04 49 45.2 +1.9
comp=Z,7.4nm,0.8s,baz=135,slow=10,SNR=3.6
NKC Novy Kostel 85.88 320 *e*P **P 04 46 23.8 +0.5**
NKC *ep*P pP 04 46 33.4 -0.2
NKC *e*S S 04 56 52.9 +0.2
NKC AMS AMS 05 31 00.0
comp=Z,500nm,21.3s
MOR8 Moi Rana 85.91 336 *e*P **P 04 46 23.4 +0.3**
MOR8 Moi Rana 85.91 336⇑ *i*P **P 04 46 22.6 -0.5**
MOR8 AMb AMB 04 46 23.5
comp=Z,54nm,1.0s,mb5.7
VNDA Vanda 86.07 169 P **P 04 46 25.0 +1.3**
comp=Z,3.0nm,0.9s,mb4.5,baz=300,slow=5.6,SNR=13
VNDA LR LR 05 22 21.0
comp=Z,1µm,18.8s,MS5.3,baz=306,slow=34
SFI Santa Sofia 86.07 314 *e*P **P 04 46 25.6 +1.2**
COP Copenhagen 86.14 326 *e*P **P 04 46 25.0 +0.5**
COP pmax pmax
comp=Z,34nm,0.8s,mb5.6
COP Copenhagen 86.14 326 *e*P **P 04 46 25.0 +0.5**
comp=Z,34nm,0.8s,mb5.6
COP Copenhagen 86.14 326 *i* P **P 04 46 25.0 +0.5**
comp=Z,34nm,0.8s,mb5.6
PGD Poggio Sodo 86.16 314 *e*P **P 04 46 26.0 +1.1**
CTI Castel Tesino 86.27 316 *e*P **P 04 46 25.9 +0.6**
VMG Vicchio 86.29 314 *e*P **P 04 46 26.3 +0.8**
WTTA Wattenberg 86.31 317⇑ *i*P **P 04 46 25.0 -0.5**
comp=Z,30nm,0.7s,mb5.6
WTTA Wattenberg 86.31 317⇑ *i*P **P 04 46 25.0 -0.5**
WTTA pmax pmax
comp=Z,30nm,0.7s,mb5.6
WATA Walderalm 86.36 317⇑ *i*P **P 04 46 25.1 -0.6**
comp=Z,16nm,1.0s,mb5.2
WATA Walderalm 86.36 317⇑ *i*P **P 04 46 25.1 -0.6**
WATA pmax pmax
comp=Z,16nm,1.0s,mb5.2
MOX Moxa 86.43 320 *e*P **P 04 46 26.1 +0.1**
MOX pmax pmax
comp=Z,16nm,1.0s,mb5.2
MOX MLR MLR
comp=Z,300nm,19.0s,MS4.7
MOX Moxa 86.43 320 *e*P **P 04 46 26.1 +0.1**
comp=Z,16nm,1.0s,mb5.2
MOX LR LR
comp=Z,300nm,19.0s,MS4.7
MOX Moxa 86.43 320 *i* P **P 04 46 26.1 +0.1**
comp=Z,logA/T=1.2,mb5.2
MOX S S 04 56 59.0 +1.0
MOX L 05 31 39.0
SEI Scarperia 86.43 314 *e*P **P 04 46 28.1 +1.9**
SQTA Sankt Quirin 86.60 317⇑ *i*P **P 04 46 26.7 -0.2**
comp=Z,13nm,0.8s,mb5.2
SQTA Sankt Quirin 86.60 317⇑ *i*P **P 04 46 26.7 -0.2**
SQTA pmax pmax
comp=Z,13nm,0.8s,mb5.2
GRA1 Grafenberg Arr 86.66 319 *e*P **P 04 46 27.7 +0.6**
comp=Z,37nm,0.8s,mb5.7
GRA1 LR LR
comp=Z,400nm,20.1s,MS4.8
GRF Grafenberg Arr 86.66 319 *e*P **P 04 46 27.7 +0.6**
GRF pmax pmax
comp=Z,37nm,0.8s,mb5.7
GRF MLR MLR
comp=Z,400nm,20.1s,MS4.8
GRF Grafenberg Arr 86.66 319 *e*P **P 04 46 27.7 +0.6**
comp=Z,37nm,0.8s,mb5.7
GRF LR LR
comp=Z,400nm,20.1s,MS4.8
MOTA Moosalm 86.68 317⇓ *i*P **P 04 46 26.7 -0.6**
ZCCA Zocca 86.71 314 *e*P **P 04 46 28.9 +1.4**
HSP Hornsund 86.73 347 *e*P **P 04 46 26.4 -0.6**
GSCL Gusciola 86.99 314 *e*P **P 04 46 30.3 +1.4**
NB2 NORSAR Subarra 87.01 331 P **P 04 46 28.4 -0.2**
comp=Z,32nm,0.7s,mb5.7,baz=95,slow=4.8
NB2 NORSAR Subarra 87.01 331 P **P 04 46 28.4 -0.2**
baz=95,slow=4.8
NOA NORSAR Array B 87.01 331 P **P 04 46 28.5 -0.1**
comp=Z,30nm,0.8s,mb5.6,baz=94,slow=4.9,SNR=95
NOA LR LR 05 35 18.6
comp=Z,319nm,18.1s,MS4.8,baz=100,slow=42
ERBM Eremo 87.11 314 *e*P **P 04 46 31.1 +1.6**
SARO Sassorosso 87.12 314 P **P 04 46 28.8 -0.7**
BRMO Bormio 87.16 316 *e*P **P 04 46 30.3 +0.7**
NAO01 NORSAR Array S 87.17 331 *e*P **P 04 46 29.1 -0.3**
comp=Z,30nm,0.8s,mb5.6
SBA Scott Base 87.17 169 PFAKE 04 46 40.0 +11
SBA LR LR
comp=Z,901nm,19.0s,MS5.2
VALM 87.23 314 P **P 04 46 30.4 +0.3**
CLZ Clausthal 87.24 322 *e*P **P 04 46 30.3 +0.4**
comp=Z,28nm,0.8s,mb5.5
BSEG Bad Segeberg 87.31 324 *e*P **P 04 46 30.9 +0.7**
BSEG pmax pmax
comp=Z,41nm,1.0s,mb5.6
BACM 87.36 314 P **P 04 46 29.6 -1.1**
GRAM 87.36 314 P **P 04 46 30.1 -0.6**
DAVA Damuels 87.51 317⇑ *i*P **P 04 46 31.6 +0.3**
comp=Z,106nm,2.4s,mb5.7
CODM 87.52 314 P **P 04 46 30.9 -0.5**
KONO Kongsberg 87.78 329⇑ *i*P **P 04 46 32.5 +0.2**
KONO MLR MLR
comp=Z,41µm,23.7s
KONO Kongsberg 87.78 329 *e*P **P 04 46 35.8 +3.4**
MUD Monsted U'grnd 87.99 326 *i* P **P 04 46 35.2 +1.8**
MUD pmax pmax
comp=Z,36nm,0.8s,mb5.7
MUD Monsted U'grnd 87.99 326 *i* P **P 04 46 35.2 +1.8**
comp=Z,36nm,0.8s,mb5.7
PGF Pioggiola 88.14 312⇑ *i*P **P 04 46 34.5 0.0**
comp=Z,27nm,0.8s,mb5.2
PGF Pioggiola 88.14 312⇑ *i*P **P 04 46 34.5 0.0**
PGF pmax pmax
comp=Z,14nm,0.8s,mb5.2
VAI Varese 88.28 316 *e*P **P 04 46 34.2 -0.8**
PCP Pian Castagno 88.45 314 P **P 04 46 35.3 -0.6**
TNS Taunus Mts 88.45 320 *e*P **P 04 46 36.3 +0.5**
TNS pmax pmax
comp=Z,39nm,1.2s,mb5.5
TNS Taunus Mts 88.45 320 *e*P **P 04 46 36.3 +0.5**
comp=Z,39nm,1.2s,mb5.5
BFO Black Forest 88.55 318 P **P 04 46 36.0 -0.3**
comp=Z,116nm,0.7s,mb6.3,SNR=8.3
BFO Black Forest 88.55 318 *e*P **P 04 46 36.0 -0.3**
BFO pmax pmax
comp=Z,16nm,0.8s,mb5.4
BFO Black Forest 88.55 318 *e*P **P 04 46 36.0 -0.3**
comp=Z,16nm,0.8s,mb5.4
FIN Finale Ligure 88.70 314 *e*P **P 04 46 37.4 +0.3**
MCGN Macugnaga 88.82 316 *e*P **P 04 46 38.4 +0.7**
ORX Oropa 88.83 315 P **P 04 46 35.8 -1.9**
LANF Langenberg 88.89 319 *e*P **P 04 46 38.2 +0.3**
IMI Imperia 88.93 314 P **P 04 46 38.3 +0.1**
ROB Roburent 88.94 314 P **P 04 46 37.4 -0.8**
TRAV 89.00 315 P **P 04 46 38.5 -0.1**
MONE Monesi 89.03 314 P **P 04 46 38.3 -0.3**
ABH Alteburg 89.04 320 *e*P **P 04 46 39.0 +0.4**
NEGI Negi 89.07 314 P **P 04 46 38.3 -0.6**
WLS Welschbruch 89.20 318 *e*P **P 04 46 39.2 -0.2**
CDF Champ du Feu 89.25 318⇑ *i*P **P 04 46 39.4 -0.2**
comp=Z,18nm,0.8s,mb5.2
CDF Champ du Feu 89.25 318⇑ *i*P **P 04 46 39.4 -0.2**
CDF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
SBF Sospel 89.26 314⇑ *i*P **P 04 46 39.9 +0.1**
comp=Z,71nm,0.8s,mb5.8
SBF Sospel 89.26 314⇑ *i*P **P 04 46 39.9 +0.1**
SBF pmax pmax
comp=Z,35nm,0.8s,mb5.7
ENR Entracque 89.26 314 P **P 04 46 40.6 +0.8**
STV2 Anna di Valdie 89.33 314 P **P 04 46 38.9 -1.3**
STV Sta Anna Valdi 89.33 314 P **P 04 46 39.2 -0.9**
ECH Echery 89.33 318 *e*P **P 04 46 39.7 -0.3**
RSP Reno Superiore 89.35 315 P **P 04 46 39.2 -1.0**
RUP Ruppelstein 89.36 320 *e*P **P 04 46 40.4 +0.3**
BHB Bricherasio 89.36 315 P **P 04 46 40.2 -0.1**
MOF Molkenrain 89.36 318 *e*P **P 04 46 39.9 -0.3**
LSD Ceresole Reale 89.42 315 P **P 04 46 40.7 +0.2**
PZZ Prazzo 89.48 314 P **P 04 46 40.7 -0.1**
FENE Fenestrelle 89.50 315 P **P 04 46 40.4 -0.4**
HINF Hinteralfeld 89.55 318⇑ *i*P **P 04 46 40.5 -0.6**
comp=Z,5.7nm,0.6s,mb4.8
HINF Hinteralfeld 89.55 318⇑ *i*P **P 04 46 40.5 -0.6**
HINF pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
LOMF Lomont 89.58 317 *e*P **P 04 46 40.9 -0.3**
RRL Cesana Torines 89.70 315 P **P 04 46 41.5 -0.3**
LPG La Plagne 89.70 315⇑ *i*P **P 04 46 42.3 +0.5**
comp=Z,70nm,0.8s,mb5.7
LPG La Plagne 89.70 315⇑ *i*P **P 04 46 42.3 +0.5**
LPG pmax pmax
comp=Z,35nm,0.8s,mb5.7
LPL La Plagne 89.71 315⇑ *i*P **P 04 46 42.3 +0.4**
comp=Z,79nm,0.8s,mb5.8
LPL La Plagne 89.71 315⇑ *i*P **P 04 46 42.3 +0.4**
LPL pmax pmax
comp=Z,39nm,0.8s,mb5.8
MBDF Montbardon 89.71 315⇑ *i*P **P 04 46 41.5 -0.4**
comp=Z,23nm,0.8s,mb5.2
MBDF Montbardon 89.71 315⇑ *i*P **P 04 46 41.5 -0.4**
MBDF pmax pmax
comp=Z,11nm,0.8s,mb5.2
OG01 Vacheresse 89.72 316 *e*P **P 04 46 42.3 +0.4**
BNI Bardonecchia 89.77 315 *e*P **P 04 46 41.5 -0.6**
BNI pmax pmax
comp=Z,19nm,0.9s,mb5.4
BNI Bardonecchia 89.77 315 *e*P **P 04 46 41.5 -0.6**
comp=Z,18nm,0.9s,mb5.4
RSL Roselend 89.78 316 *e*P **P 04 46 42.2 0.0**
HAU Haudompre 89.89 318⇑ *i*P **P 04 46 42.5 -0.1**
comp=Z,61nm,0.8s,mb5.7
HAU *e*R
comp=Z,450nm,23.0s
HAU Haudompre 89.89 318⇑ *i*P **P 04 46 42.5 -0.1**
HAU pmax pmax
comp=Z,30nm,0.8s,mb5.7
HAU MLR MLR
comp=Z,450nm,23.0s,MS4.8
BER Bergen 89.91 330 AMS AMS 05 35 12.8
comp=Z,464nm,16.8s,MS5.0
WLF Walferdange 89.95 319 P **P 04 46 43.6 +0.7**
WLF *e* pP 04 46 52.8 -0.4
WLF pmax pmax
comp=Z,34nm,1.1s,mb5.6
WLF Walferdange 89.95 319 *e*P **P 04 46 43.4 +0.5**
comp=Z,34nm,1.1s,mb5.6
LMR La Mourre 89.95 313 *e*P **P 04 46 43.1 +0.1**
comp=Z,34nm,1.0s,mb5.3
LMR La Mourre 89.95 313 *e*P **P 04 46 43.1 +0.1**
LMR pmax pmax
comp=Z,17nm,1.0s,mb5.3
THEF They Montfort 90.12 318 *e*P **P 04 46 43.6 -0.1**
CABF La Chapelle 90.12 316⇑ *i*P **P 04 46 44.2 +0.5**
comp=Z,60nm,0.8s,mb5.7
CABF La Chapelle 90.12 316⇑ *i*P **P 04 46 44.2 +0.5**
CABF pmax pmax
comp=Z,30nm,0.8s,mb5.7
NVL N'lazarevskaya 90.20 199⇓ *i*P **P 04 46 44.8 +1.2**
NVL *i* *PP pP 04 46 57.7 +3.8
NVL *e*SS SS 05 03 39.2 +3.1
NVL *e*SSS SSS 05 07 17.3 +5.8
NVL pmax pmax
comp=Z,21nm,0.8s,mb5.5
NVL MLR MLR

comp=Z,850nm,16.0s,MS5.3
MAIT Maitri 90.24 199 *e*P **P 04 46 46.4 +2.7**
TAVF Tavernes 90.27 313 *e*P **P 04 46 45.3 +0.8**
TNA Tin City 90.28 25 *e*P **P 04 46 43.7 -0.3**
comp=Z,6.0nm,0.8s,mb5.0
TNA LR LR
comp=Z,546nm,21.0s,MS5.0
ORIF Oris-en-Rattie 90.34 315⇑*i*P **P 04 46 45.4 +0.6**
comp=Z,39nm,0.8s,mb5.5
ORIF *e*R
comp=Z,470nm,20.8s
OG05 Jujurieux 90.58 316 *e*P **P 04 46 46.2 +0.3**
MEZF Maizieres J'vi 90.73 318⇑*i*P **P 04 46 46.8 +0.3**
comp=Z,66nm,0.9s,mb5.7
TREF Trevaresse 90.76 313 *e*P **P 04 46 43.4 -3.3**
GIVF Givet 90.78 320⇑*i*P **P 04 46 47.1 +0.4**
comp=Z,45nm,0.8s,mb5.5
GIVF Givet 90.78 320⇑*i*P **P 04 46 47.1 +0.4**
GIVF pmax pmax
comp=Z,23nm,0.8s,mb5.6
BAIF Baives 91.18 320⇑*i*P **P 04 46 49.3 +0.8**
comp=Z,109nm,0.8s,mb5.9
BAIF Baives 91.18 320⇑*i*P **P 04 46 49.3 +0.8**
BAIF pmax pmax
comp=Z,55nm,0.8s,mb5.9
VIVF Saint-Julien-l 91.20 315⇑*i*P **P 04 46 49.1 +0.4**
comp=Z,43nm,0.8s,mb5.5
VIVF Saint-Julien-l 91.20 315⇑*i*P **P 04 46 49.1 +0.4**
VIVF pmax pmax
comp=Z,22nm,0.8s,mb5.5
QSPA South Pole Qui 91.54 180 PFAKE 04 47 00.0 +10
QSPA LR LR
comp=Z,2µm,20.0s,MS5.6
SMF Signal de Mont 91.66 317⇑*i*P **P 04 46 51.0 +0.2**
comp=Z,109nm,0.8s,mb5.9
SMF Signal de Mont 91.66 317⇑*i*P **P 04 46 51.0 +0.2**
SMF pmax pmax
comp=Z,54nm,0.8s,mb5.9
LASF Ste Croix 91.83 314⇑*i*P **P 04 46 52.3 +0.6**
comp=Z,21nm,0.8s,mb5.2
SSF Saint Saulge 91.86 317⇑*i*P **P 04 46 52.1 +0.4**
SSF pmax pmax
comp=Z,16nm,0.9s,mb5.3
SSF Saint Saulge 91.86 317⇑*i*P **P 04 46 52.1 +0.4**
comp=Z,16nm,0.9s,mb5.3
PLDF La Plantade 91.86 316 *e*P **P 04 46 53.2 +1.4**
UNV Unalaska Valle 92.02 36 PFAKE 04 47 00.0 +7.7
UNV LR LR
comp=Z,3µm,19.0s,MS5.7
LBL Lubilhac 92.18 315 *e*P **P 04 46 55.1 +1.9**
AGO Saint Agoulin 92.20 316 *e*P **P 04 46 55.1 +1.8**
BGF Bois d'Agland 92.35 317⇑*i*P **P 04 46 54.7 +0.7**
comp=Z,93nm,0.9s,mb5.8
BGF Bois d'Agland 92.35 317⇑*i*P **P 04 46 54.7 +0.7**
BGF pmax pmax
comp=Z,47nm,0.9s,mb5.8
HYF Humbligny 92.43 317⇑*i*P **P 04 46 55.2 +0.8**
TCF Toulx Ste Croi 92.81 316⇑*i*P **P 04 46 56.7 +0.6**
comp=Z,24nm,0.9s,mb5.3
CAF Calviac 93.04 315⇑*i*P **P 04 46 58.0 +0.8**
comp=Z,30nm,1.0s,mb5.4
CAF Calviac 93.04 315⇑*i*P **P 04 46 58.0 +0.8**
CAF pmax pmax
comp=Z,15nm,1.0s,mb5.4
MTLF Montolieu 93.07 313⇑*i*P **P 04 46 57.9 +0.5**
comp=Z,27nm,0.9s,mb5.4
MTLF Montolieu 93.07 313⇑*i*P **P 04 46 57.9 +0.5**
MTLF pmax pmax
comp=Z,14nm,0.9s,mb5.4
RJF Les Rejaudoux 93.39 315⇑*i*P **P 04 46 59.6 +0.8**
comp=Z,19nm,0.8s,mb5.3
RJF *e*R
comp=Z,341nm,23.0s
RJF Les Rejaudoux 93.39 315⇑*i*P **P 04 46 59.6 +0.8**
RJF pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
RJF MLR MLR
comp=Z,340nm,23.0s,MS4.7
JMIC Jan Mayen 93.82 342 AMS AMS 05 32 32.5
comp=Z,404nm,19.1s,MS4.9
LFF La Frestale 93.98 315⇑*i*P **P 04 47 02.4 +0.9**
comp=Z,16nm,0.8s,mb5.2
LFF La Frestale 93.98 315⇑*i*P **P 04 47 02.4 +0.9**
LFF pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
LDF La Druitiere 94.14 319⇑*i*P **P 04 47 02.3 +0.1**
comp=Z,18nm,0.8s,mb5.2
LDF La Druitiere 94.14 319⇑*i*P **P 04 47 02.3 +0.1**
LDF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
FLN La Foliniere 94.36 319⇑*i*P **P 04 47 03.2 0.0**
comp=Z,25nm,0.6s,mb5.5
FLN *e*R
comp=Z,431nm,20.0s
FLN La Foliniere 94.36 319⇑*i*P **P 04 47 03.2 0.0**
FLN pmax pmax
comp=Z,12nm,0.6s,mb5.5
FLN MLR MLR
comp=Z,430nm,20.0s,MS4.9
DAG Danmarks Havn 94.36 348⇓*e*P **P 04 47 02.0 -0.6**
DAG pmax pmax
comp=Z,15nm,0.9s,mb5.4
DAG Danmarks Havn 94.36 348⇓*e*P **P 04 47 02.0 -0.6**
comp=Z,15nm,0.9s,mb5.4
DAG Danmarks Havn 94.36 348⇓*i*P **P 04 47 02.0 -0.6**
comp=Z,15nm,0.9s,mb5.4
MFF Saint Martin d 94.40 317⇑*i*P **P 04 47 03.6 +0.2**
comp=Z,24nm,0.8s,mb5.4
MFF Saint Martin d 94.40 317⇑*i*P **P 04 47 03.6 +0.2**
MFF pmax pmax
comp=Z,12nm,0.8s,mb5.4
EPF Esparros 94.47 313 *e*P **P 04 47 03.9 +0.1**
GRR Gorron 94.65 319⇑*i*P **P 04 47 04.8 +0.3**
comp=Z,7.2nm,0.6s,mb5.0
GRR Gorron 94.65 319⇑*i*P **P 04 47 04.8 +0.3**
GRR pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
SNAA Sanae 94.90 198 *e* sP 04 47 25.5 +6.7
SNAA Sanae 94.90 198⇑*i*P pP 04 47 20.0 +4.6
SNAA *e* 04 47 25.5
ESK Eskdalemuir 95.03 326 PFAKE 04 47 20.0 +14
ESK LR LR
comp=Z,112nm,19.0s,MS4.3
ETSF Etsaut 95.14 313⇑*i*P **P 04 47 07.5 +0.6**
comp=Z,12nm,0.8s,mb5.1
ETSF Etsaut 95.14 313⇑*i*P **P 04 47 07.5 +0.6**
ETSF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
SJPF Ste Jean 95.60 313⇑*i*P **P 04 47 09.7 +0.7**
comp=Z,9.1nm,0.9s,mb4.9
SJPF Ste Jean 95.60 313⇑*i*P **P 04 47 09.7 +0.7**
SJPF pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
SGMF Saint Gilles 95.80 319⇑*i*P **P 04 47 09.6 -0.2**
comp=Z,13nm,0.9s,mb5.0
SGMF Saint Gilles 95.80 319⇑*i*P **P 04 47 09.6 -0.2**
SGMF pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
IMA Indian Mountai 95.93 23 *e*P **P 04 47 11.0 +1.0**
IMA pmax pmax
comp=Z,72nm,0.7s,mb6.2
IMA Indian Mountai 95.93 23 *e*P **P 04 47 10.7 +0.7**
QUIF Quistinic 96.25 318 *e*P **P 04 47 11.3 -0.6**
comp=Z,11nm,0.8s,mb5.1
QUIF Quistinic 96.25 318 *e*P **P 04 47 11.3 -0.6**
QUIF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
ROSF Rostrenen 96.25 319⇑*i*P **P 04 47 11.8 -0.1**
comp=Z,13nm,0.8s,mb5.1
ROSF Rostrenen 96.25 319⇑*i*P **P 04 47 11.8 -0.1**
ROSF pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
VNA2 Neumayer--Watz 96.49 199 *e* sP 04 47 28.4 +2.4
VNA2 Neumayer--Watz 96.49 199⇑*i*P pP 04 47 23.3 +0.5
VNA2 *e* 04 47 28.4
SVW2 Sparrevohn 96.53 28 *e*P **P 04 47 14.0 +1.2**
VNA1 Neumayer--Stat 96.84 199 *e* sP 04 47 28.2 +0.6
VNA1 Neumayer--Stat 96.84 199⇑*i*P pP 04 47 22.3 -2.0
VNA1 *e* 04 47 28.2
VNA3 Neumayer Olymp 97.12 198 P pP 04 47 23.4 -2.2
ESDC Sonseca Array 98.13 310 P **P 04 47 20.5 0.0**
comp=Z,0.3nm,0.4s,baz=63,slow=6.6,SNR=4.7
ESDC PKKPbc 05 03 55.2
comp=Z,0.2nm,0.4s,baz=303,slow=2.6,SNR=5.1
MCK McKinley 98.62 24 P **P 04 47 22.3 +0.1**
MCK pmax pmax
comp=Z,7.0nm,1.0s,mb5.2
MCK McKinley 98.62 24 *e*P **P 04 47 21.6 -0.5**
comp=Z,6.6nm,1.0s,mb5.1
MCK LR LR
comp=Z,327nm,21.0s,MS4.8
COLA College 98.63 23 *i*P **P 04 47 22.1 -0.1**
COLA College 98.63 23 PFAKE 04 47 30.0 +7.8
COLA LR LR
comp=Z,709nm,19.0s,MS5.2
FIB Fire Island 99.00 27 PFAKE 04 47 40.0 +16
FIB LR LR
comp=Z,2µm,21.0s,MS5.6
ILAR Eielson Array 99.05 23 P **P 04 47 22.9 -1.2**
comp=Z,1.0nm,0.8s,baz=282,slow=4.2,SNR=13
ILAR LR LR 05 39 30.5
comp=Z,706nm,18.9s,baz=315,slow=40
SML Sawmill 99.60 26 P **P 04 47 27.2 +0.6**
SML Sawmill 99.60 26 *e*P **P 04 47 26.3 -0.3**
DIV Divide 101.00 26 PFAKE 04 47 40.0 +7.0
DIV LR LR
comp=Z,2µm,19.0s,MS5.6
MENT Mentasta 101.10 24 *e*P P 04 47 34.0 +0.6
INK Inuvik 101.88 17 P P 04 47 36.7 -0.1
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 101.88 17 P P 04 47 36.5 -0.3
comp=Z,5.5nm,0.9s,baz=317,slow=4.3,SNR=18
INK PP PP 04 51 49.2 -1.2
comp=Z,5.6nm,0.9s,baz=289,slow=9.1,SNR=5.5
INK Inuvik 101.88 17 *e*P P 04 47 36.3 -0.5
comp=Z,6.5nm,0.9s
SFJ Sondre 108.04 348 PFAKE 04 52 20.0
SFJ LR LR
comp=Z,894nm,19.0s,MS5.3
TBI Tubuai 111.35 114 *e*PP PP 04 52 56.9 -4.8
TBI *e*PS PS 05 02 33.9 +5.5
TBI *e*SS SS 05 08 34.4 +4.5
TBI *e*LR LR 05 25 28.2
comp=Z,603nm,23.8s
YKA Yellowknife Ar 111.52 16 Pdiff Pdif 04 48 19.5 +0.2
comp=Z,0.4nm,0.8s,baz=325,slow=4.3,SNR=8.1
YKA PKiKP 04 52 16.5
comp=Z,0.3nm,0.5s,baz=343,slow=0.7,SNR=13
YKA PP PP 04 52 55.3 -6.6
comp=Z,7.0nm,1.0s,baz=332,slow=7.6,SNR=15
YKA PKKPbc 05 03 10.4
comp=Z,0.9nm,0.8s,baz=146,slow=3.2,SNR=17
PPT Papeete 111.91 108 *e*PP PP 04 52 55.4 -10
PPT *e*PS PS 05 02 38.3 +4.8
PPT *e*LR LR 05 25 43.8
comp=Z,967nm,27.2s
PMSA Palmer Station 115.62 188 PFAKE 04 52 40.0 +11
PMSA LR LR
comp=Z,2µm,21.0s,MS5.8
EDM Edmonton 119.44 21 PKIKP PKPdf 04 52 33.0 -4.0
EDM Edmonton 119.44 21 *e*PKPdf PKPdf 04 52 32.6 -4.4
TBM Table Mountain 120.89 30 P PKPdf 04 52 36.4 -3.6
EBG Ellensburg 121.08 30 P PKPdf 04 52 37.1 -3.4
EPH Ephrata 121.25 29 P PKPdf 04 52 37.0 -3.7
OD2 Odessa Site #2 121.65 28 P PKPdf 04 52 37.7 -3.8
NEW Newport 121.75 27 PKP PKPdf 04 52 37.3 -4.3
comp=Z,5.2nm,0.8s,baz=46,slow=2.1,SNR=11
NEW Newport 121.75 27 *e*PKPdf PKPdf 04 52 37.2 -4.4
NEW LR LR
comp=Z,988nm,20.0s,MS5.5
GBB Gable Butte 121.75 30 P PKPdf 04 52 38.3 -3.4
GBL Gable Mountain 121.84 30 P PKPdf 04 52 38.7 -3.2
REDWA Red Mountain 122.06 30 P PKPdf 04 52 39.4 -2.9
SCHQ Schefferville 122.37 350 PKP PKPdf 04 52 38.3 -4.4
comp=Z,5.3nm,0.8s,baz=308,slow=1.0,SNR=10.0
SCHQ PP PP 04 54 15.1 -2.9
comp=Z,10.0nm,0.9s,baz=23,slow=6.0,SNR=5.6
HUMO Hull Mountain 122.63 35 PFAKE 04 52 50.0 +6.5
HUMO LR LR
comp=Z,538nm,19.0s,MS5.2
BSMT Bassoo Peak 123.09 26 P PKPdf 04 52 40.4 -3.8
YBH Yreka Blue Hor 123.33 36 PKP PKPdf 04 52 40.8 -4.1
comp=Z,2.7nm,0.7s,baz=306,slow=3.7,SNR=7.2
LHEM Herd Peak 123.68 36 P PKPdf 04 52 42.5 -3.1
BMO Blue Mountains 124.14 30 PFAKE 04 52 50.0 +3.6
BMO LR LR
comp=Z,422nm,21.0s,MS5.1
MSO Missoula 124.25 26 *e*PKPdf PKPdf 04 52 42.0 -4.6
MSO LR LR
comp=Z,719nm,19.0s,MS5.3
LTIM Timbered Crate 124.39 36 P PKPdf 04 52 43.6 -3.3
CHMT Chamberlain Mo 124.48 26 *e*PKPdf PKPdf 04 52 42.5 -4.5
MOD Modoc 124.59 34 *e*PKPdf PKPdf 04 52 44.2 -3.2
MOD LR LR
comp=Z,489nm,20.0s,MS5.2
HOPS Hopland 124.79 39 PFAKE 04 53 00.0 +12
HOPS LR LR
comp=Z,524nm,19.0s,MS5.2
WVOR Wild Horse Val 125.15 33 PKIKP PKPdf 04 52 45.8 -2.6
WVOR Wild Horse Val 125.15 33 *e*PKPdf PKPdf 04 52 45.2 -3.2
WVOR LR LR
comp=Z,668nm,19.0s,MS5.3
HRY Holter Researc 125.24 25 *e*PKPdf PKPdf 04 52 44.3 -4.2
BOZ Bozeman (W) 126.17 25 *e*PKPdf PKPdf 04 52 46.8 -3.5
BOZ LR LR
comp=Z,723nm,20.0s,MS5.3
MCMT McKenzie Canyo 126.28 27 *e*PKPdf PKPdf 04 52 46.5 -4.0
HLID Hailey 126.51 29 PFAKE 04 53 00.0 +9.1
HLID LR LR
comp=Z,672nm,19.0s,MS5.3
WCN Washoe City 126.61 36 PKIKP PKPdf 04 52 48.8 -2.5
WCN Washoe City 126.61 36 *e*PKPdf PKPdf 04 52 47.1 -4.2
GCMT Greycliff 126.87 24 *e*PKPdf PKPdf 04 52 47.8 -3.8
QLMT Earthquake Lak 126.90 26 *e*PKPdf PKPdf 04 52 49.2 -2.5
ULM Lac du Bonnet 127.01 11 PKP PKPdf 04 52 47.1 -4.6
comp=Z,9.2nm,0.8s,baz=23,slow=2.4,SNR=22
CMB Columbia Colle 127.04 38 PFAKE 04 53 00.0 +7.9
CMB LR LR
comp=Z,487nm,20.0s,MS5.2
YMR Madison River 127.23 26 *e*PKPdf PKPdf 04 52 48.9 -3.5
BMN Battle Mountai 127.30 34 PFAKE 04 53 00.0 +7.4
BMN LR LR
comp=Z,578nm,20.0s,MS5.2
LAO LASA Array 127.43 21 *e*PKPdf PKPdf 04 52 49.8 -2.9
LAO LR LR
comp=Z,877nm,22.0s,MS5.4
YFT Old Faithful 127.46 26 *e*PKPdf PKPdf 04 52 51.4 -1.4
LKWY Lake 127.56 25 PKIKP PKPdf 04 52 51.6 -1.4
LKWY Lake 127.56 25 *e*PKPdf PKPdf 04 52 51.4 -1.6
LKWY LR LR
comp=Z,1µm,19.0s,MS5.5
NVAR Mina Array Bea 128.03 36 PKP PKPdf 04 52 50.9 -3.2
comp=Z,10nm,0.9s,baz=19,slow=0.2,SNR=18
MOOW Moose Ponds 128.06 26 *e*PKPdf PKPdf 04 52 51.0 -3.0
MNV Mina 128.12 36 PFAKE 04 53 00.0 +5.7
MNV LR LR
comp=Z,526nm,22.0s,MS5.2
TPAW Teton Pass 128.17 27 *e*PKPdf PKPdf 04 52 51.4 -2.9
LOHW Long Hollow 128.23 26 *e*PKPdf PKPdf 04 52 51.2 -3.2
SNOW Snow King Moun 128.28 26 *e*PKPdf PKPdf 04 52 51.6 -2.9
MTUM Tungsten Hills 128.58 37 *e*PKPdf PKPdf 04 52 52.8 -2.4
AHID Auburn Hatcher 128.68 27 PFAKE 04 53 00.0 +4.8
AHID LR LR
comp=Z,805nm,22.0s,MS5.4
TPH Tonopah 128.91 36 PFAKE 04 53 00.0 +4.2
TPH LR LR
comp=Z,426nm,21.0s,MS5.1
HWUT Hardware Ranch 129.36 29 PFAKE 04 53 00.0 +3.5
HWUT LR LR
comp=Z,999nm,20.0s,MS5.5
BW06 Boulder Array 129.37 26 PFAKE 04 53 00.0 +3.5
BW06 LR LR
comp=Z,730nm,22.0s,MS5.3
DUG Dugway 129.81 31 PKIKP PKPdf 04 52 54.8 -2.6
DUG Dugway 129.81 31 *e*PKPdf PKPdf 04 52 54.2 -3.2
DUG LR LR
comp=Z,398nm,21.0s,MS5.1
DAC Darwin (Calif) 129.87 38 PFAKE 04 53 10.0 +12
DAC LR LR
comp=Z,552nm,19.0s,MS5.3
EYMN Ely 129.98 8 *e*PKPdf PKPdf 04 52 53.5 -4.0
EYMN LR LR
comp=Z,1µm,20.0s,MS5.5
PQI Presque Isle 130.37 347 PFAKE 04 53 10.0 +12
PQI LR LR
comp=Z,5µm,21.0s,MS6.2
NLU North Lily Min 130.37 30 *e*PKPdf PKPdf 04 52 55.6 -2.9
RSSD Black Hills 130.43 21 PKIKP PKPdf 04 52 47.9 -11
RSSD Black Hills 130.43 21 *e*PKPdf PKPdf 04 52 54.8 -3.7
RWWY Rawlins 131.26 25 *e*PKPdf PKPdf 04 52 55.7 -4.4
TMUT Trail Mountain 131.30 30 *e*PKPdf PKPdf 04 52 57.6 -2.7
MVU Marysvale 131.38 32 PFAKE 04 53 10.0 +10
MVU LR LR
comp=Z,710nm,20.0s,MS5.4
SRU San Rafael 131.79 30 PKIKP PKPdf 04 52 58.7 -2.5
SRU San Rafael 131.79 30 *e*PKPdf PKPdf 04 52 58.2 -3.0
EMMW East Machias 132.09 346 PFAKE 04 53 10.0 +8.4
EMMW LR LR
comp=Z,4µm,22.0s,MS6.1
PFO Pinyon Flat Ob 132.31 40 PFAKE 04 53 10.0 +7.6
PFO LR LR
comp=Z,147nm,21.0s,MS4.7
WVL Waterville 132.72 348 PFAKE 04 53 10.0 +7.1
WVL LR LR
comp=Z,7µm,20.0s,MS6.3
RCBR Riachuelo 133.75 264 PFAKE 04 53 10.0 +4.5
RCBR LR LR
comp=Z,742nm,20.0s,MS5.4
WUAZ Wupatki 134.04 34 *e*PKPdf PKPdf 04 53 02.9 -2.6
WUAZ LR LR
comp=Z,570nm,20.0s,MS5.3
NCB Newcomb 134.09 352 PFAKE 04 53 10.0 +4.6
NCB LR LR
comp=Z,1µm,21.0s,MS5.6
WES Weston 135.16 349 PFAKE 04 53 20.0 +13
WES LR LR
comp=Z,2µm,20.0s,MS5.9
SDCO Great Sand Dun 135.25 27 PFAKE 04 53 20.0 +12
SDCO LR LR
comp=Z,778nm,20.0s,MS5.4
BINY Binghamton 136.06 353 PFAKE 04 53 20.0 +11
BINY LR LR
comp=Z,1µm,21.0s,MS5.6
LSCT Lakeside 136.18 350 PFAKE 04 53 20.0 +11
LSCT LR LR
comp=Z,6.0nm,20.0s
AAM Ann Arbor 136.28 2 PFAKE 04 53 20.0 +11
AAM LR LR
comp=Z,1µm,20.0s,MS5.6
ERPA Erie 136.45 358 PFAKE 04 53 20.0 +10
ERPA LR LR
comp=Z,761nm,20.0s,MS5.4
CBKS Cedar Bluff 136.62 20 PFAKE 04 53 20.0 +10
CBKS LR LR
comp=Z,674nm,19.0s,MS5.4
TUC Tucson 136.69 36 PFAKE 04 53 20.0 +10
TUC LR LR
comp=Z,301nm,19.0s,MS5.0
ANMO Albuquerque 137.06 30 PKIKP PKPdf 04 53 00.4 -11
ANMO Albuquerque 137.06 30 *e*PKPpre 04 52 55.2
ANMO LR LR
comp=Z,677nm,22.0s,MS5.3
KSU1 Kansas State U 137.35 17 PKPpre 04 52 58.9
LPM Los Pinos Moun 137.48 31 *e*PKPdf PKPdf 04 53 09.1 -2.8
BNM Barren Site 137.61 31 PKPdf PKPdf 04 53 08.9 -3.2
SSPA Standing Stone 137.79 355 PFAKE 04 53 20.0 +7.7
SSPA LR LR
comp=Z,218nm,20.0s,MS4.9
ACSO Alum Creek Sta 138.36 1 *e*PKPdf PKPdf 04 53 08.5 -4.9
ACSO LR LR
comp=Z,1µm,20.0s,MS5.7
MCWV Mont Chateau 138.89 357 PFAKE 04 53 20.0 +5.7
MCWV LR LR
comp=Z,988nm,19.0s,MS5.6
TRQA Tornquist 139.30 205 PFAKE 04 53 20.0 +4.9
TRQA LR LR
comp=Z,848nm,19.0s,MS5.5
AMTX Amarillo 139.32 25 PFAKE 04 53 20.0 +4.8
AMTX LR LR
comp=Z,871nm,21.0s,MS5.5
CCM Cathedral Cave 139.64 11 PFAKE 04 53 20.0 +4.3
CCM LR LR
comp=Z,224nm,22.0s,MS4.9
PLCA Paso Flores 139.67 194 PKhKP 04 53 08.2
comp=Z,3.8nm,0.8s,baz=191,slow=2.9,SNR=8.5
PLCA Paso Flores 139.67 194 PKP PKPdf 04 53 08.2 -7.4
PLCA LR LR
comp=Z,1µm,19.0s,MS5.7
CBN Corbin 140.16 354 PFAKE 04 53 20.0 +3.4
CBN LR LR
comp=Z,1µm,19.0s,MS5.6
MNTX Cornudas Mount 140.18 32 *e*PKPpre 04 53 05.2
WCI Wyandotte Cave 140.18 5 PKHKP 04 53 05.5
WCI Wyandotte Cave 140.18 5 *e*PKPpre 04 53 02.8
WCI LR LR
comp=Z,240nm,20.0s,MS4.9
GDL2 Guadalupe Moun 140.31 30 *e*PKPpre 04 53 05.5
CLNB Carlsbad 140.50 30 *e*PKPpre 04 53 07.4
WMOK Wichita Mounta 140.60 22 PKHKP 04 53 05.5
WMOK Wichita Mounta 140.60 22 *e*PKPpre 04 53 05.0
WMOK LR LR
comp=Z,668nm,20.0s,MS5.4
BLA Blacksburg 141.36 358 PFAKE 04 53 30.0 +11
BLA LR LR
comp=Z,1µm,20.0s,MS5.6
TZTN Tazewell 142.03 2 *e*PKPpre 04 53 09.8
WVT Waverly 142.08 8 *e*PKPpre 04 53 10.1
WVT LR LR
comp=Z,815nm,20.0s,MS5.5
MIAR Mount Ida 142.46 16 PKHKP 04 53 11.6
MIAR Mount Ida 142.46 16 *e*PKPpre 04 53 11.4
MIAR LR LR
comp=Z,880nm,20.0s,MS5.5
UALR University of 142.56 14 *e*PKPpre 04 53 11.9
TXAR Lajitas Array 142.95 32 PKP PKPdf 04 53 15.1 -6.8
comp=Z,14nm,0.9s,baz=259,slow=1.2,SNR=53
TXAR SKPbc 04 56 53.8
comp=Z,3.6nm,0.9s,baz=333,slow=2.8,SNR=3.8
CPCT Cooper Cave 143.07 3 *e*PKPpre 04 53 13.1
PLAL Pickwick Lake 143.18 8 *e*PKPpre 04 53 13.1
PLAL LR LR
comp=Z,863nm,22.0s,MS5.5
OXF Oxford 143.43 10 PKIKP PKPdf 04 53 15.2 -7.2
OXF Oxford 143.43 10 *e*PKPpre 04 53 14.9
OXF LR LR
comp=Z,695nm,19.0s,MS5.4
BAO Brasilia Array 143.62 246 PKPdf PKPdf 04 53 18.0 -5.3
BAO PKPdf PKPdf 04 53 22.0 -1.3
BDFB Brasilia 143.64 246 PKP PKPdf 04 53 16.8 -6.5
comp=Z,13nm,1.0s,baz=170,slow=3.1,SNR=19
JCT Junction City 143.90 27 PKIKP PKPdf 04 53 17.2 -6.2
JCT Junction City 143.90 27 *e*PKPpre 04 53 16.9
JCT LR LR
comp=Z,491nm,20.0s,MS5.3
JSC Jenkinsville 144.30 359 PKIKP PKPdf 04 53 18.5 -5.5
JSC Jenkinsville 144.30 359 *e*PKPdf PKPdf 04 53 17.9 -6.1
NATX Nacogdoches 144.74 19 *e*PKP PKPdf 04 53 19.8 -5.1
NATX LR LR
comp=Z,1µm,21.0s,MS5.7
GOGA Godfrey 145.15 2 *e*PKP PKPdf 04 53 20.9 -4.7
GOGA LR LR
comp=Z,974nm,22.0s,MS5.5
COW Cow Castle Cre 145.18 358 *e*PKP PKPdf 04 53 21.0 -4.6
LRAL Lakeview Retre 145.24 7 *e*PKP PKPdf 04 53 20.5 -5.2
LRAL LR LR
comp=Z,312nm,19.0s,MS5.1
TWB Tillmans-White 145.43 357 *e*PKP PKPdf 04 53 22.0 -4.0
NHSC New Hope 145.44 357 *e*PKP PKPdf 04 53 21.9 -4.2
CSU Charleston Sou 145.55 357 *e*PKP PKPdf 04 53 21.6 -4.7
HBF Harts Bluff 145.62 357 PKP2 PKPab 04 53 23.1 -0.5
HBF Harts Bluff 145.62 357 *e*PKP PKPdf 04 53 22.5 -3.8
DWPF Disney 150.46 359 PFAKE 04 53 40.0 +5.7
DWPF LR LR
comp=Z,213nm,20.0s,MS4.9
SJG San Juan 154.91 322 PFAKE 04 53 50.0 +9.1
SJG LR LR
comp=Z,760nm,20.0s,MS5.5
LVC Limon Verde 155.51 210 PFAKE 04 53 50.0 +8.5
LVC LR LR
comp=Z,920nm,21.0s,MS5.6
TEIG Tepich 157.47 15 PFAKE 04 53 50.0 +5.7
TEIG LR LR
comp=Z,338nm,21.0s,MS5.2
LPAZ La Paz 159.96 222 PKP PKPdf 04 53 45.1 -2.2
comp=Z,3.2nm,0.8s,baz=71,slow=1.4,SNR=15
LPAZ La Paz 159.96 222 *e*PKPdf PKPdf 04 53 44.5 -2.8
LPAZ LR LR
comp=Z,604nm,20.0s,MS5.4
SDV Santo Domingo 164.56 313 PFAKE 04 54 00.0 +8.0
SDV LR LR
comp=Z,493nm,22.0s
JTS JuntasAbangare 167.85 14 PFAKE 04 54 00.0 +5.5
JTS LR LR

comp=Z,192nm,20.0s
ROSC **El Rosal** 169.95 310 PKP PKPdf 04 53 52.7 -3.1
comp=Z,5.1nm,0.8s,baz=97,slow=6.4,SNR=4.8
PAYG **Puerto Ayora** 171.74 84 PFAKE 04 54 00.0 +3.1
PAYG LR LR
comp=Z,560nm,21.0s
OTAV **Otavalo** 175.95 297 *e*PKPdf PKPdf 04 53 54.9 -3.6
OTAV LR LR
comp=Z,1μm,19.0s

*IDC **04** 04:49:27.6±1.4, 39.35S×175.52E, h234km±19km, mb3.3/2, mb1 3.5/3, mb1mx3.3/13, mbtmp3.9/3, Error ellipse: s-maj=53.7km s-min=16.4km az=130.0*
*NEIC **04** 04:49:30.5, 38.79S×175.13E, h213km, MG4.7(WEL), After WEL.*
*WEL **04** 04:49:30.5±0.2, 38.79S×175.15E, h212km±2km, ML4.7/19, Error ellipse: s-maj=2.0km s-min=1.9km az=0.0*
ISC 04 04:49:28.6±0.5, 38.95S±0.04×175.11E±0.07, h221km±3km, n116, σ0°98/146, mb3.5/2, 24C-5D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.28**	**116**	P	**P**	**04 49 58.5**	**+0.6**
TWVZ				S	**S**	**04 50 19.8**	**-0.7**
TWVZ	**Taurewa**	**0.28**	**116**	⇑PN	**P**	**04 49 58.5**	**+0.6**
TWVZ				SN	**S**	**04 50 19.8**	**-0.6**
VRZ	**Vera Road**	**0.33**	**237**	P	**P**	**04 49 58.4**	**+0.4**
VRZ				S	**S**	**04 50 20.1**	**-0.6**
VRZ	**Vera Road**	**0.33**	**237**	⇑PN	**P**	**04 49 58.4**	**+0.4**
VRZ				SN	**S**	**04 50 20.1**	**-0.6**
MGZ	**Maungaku**	**0.34**	**100**	⇑PN	**P**	**04 49 58.8**	**+0.8**
WTVZ	**West Tongariro**	**0.41**	**115**	P	**P**	**04 49 59.0**	**+0.8**
WTVZ	**West Tongariro**	**0.41**	**115**	⇑PN	**P**	**04 49 59.0**	**+0.8**
WTVZ				SN	**S**	**04 50 20.2**	**-0.9**
CNZ	**Chateau**	**0.42**	**127**	P	**P**	**04 49 59.2**	**+1.0**
CNZ	**Chateau**	**0.42**	**127**	⇓PN	**P**	**04 49 59.2**	**+1.0**
WPVZ	**Whakapapa**	**0.43**	**128**	P	**P**	**04 49 59.2**	**+1.0**
WPVZ	**Whakapapa**	**0.43**	**128**	⇑PN	**P**	**04 49 59.3**	**+1.1**
WPVZ				SN	**S**	**04 50 20.5**	**-0.6**
NGZ	**Ngauruhoe**	**0.45**	**121**	P	**P**	**04 49 59.4**	**+1.1**
NGZ	**Ngauruhoe**	**0.45**	**121**	PN	**P**	**04 49 59.3**	**+1.1**
NGZ				SN	**S**	**04 50 20.5**	**-0.8**
KATZ	**Kakaramea**	**0.46**	**94**	P	**P**	**04 49 59.1**	**+0.8**
KATZ				S	**S**	**04 50 20.4**	**-0.9**
KATZ	**Kakaramea**	**0.46**	**94**	PN	**P**	**04 49 58.9**	**+0.6**
KATZ				SN	**S**	**04 50 20.4**	**-0.9**
FWVZ	**Far West T-bar**	**0.46**	**132**	P	**P**	**04 49 59.5**	**+1.2**
FWVZ	**Far West T-bar**	**0.46**	**132**	⇓PN	**P**	**04 49 59.5**	**+1.2**
FWVZ				SN	**S**	**04 50 20.7**	**-0.6**
HIZ	**Hauiti**	**0.47**	**335**	P	**P**	**04 49 58.5**	**+0.1**
HIZ				S	**S**	**04 50 19.5**	**-1.9**
HIZ	**Hauiti**	**0.47**	**335**	⇑PN	**P**	**04 49 58.5**	**+0.1**
HIZ				SN	**S**	**04 50 19.3**	**-2.1**
DRZ	**Dome Shelter**	**0.48**	**133**	P	**P**	**04 49 59.7**	**+1.3**
DRZ	**Dome Shelter**	**0.48**	**133**	PN	**P**	**04 49 59.7**	**+1.3**
DRZ				SN	**S**	**04 50 21.1**	**-0.4**
OTVZ	**Oturere**	**0.48**	**117**	PN	**P**	**04 49 59.3**	**+0.9**
OTVZ				SN	**S**	**04 50 21.4**	**-0.1**
RATZ	**Rangitukua**	**0.52**	**82**	P	**P**	**04 49 59.1**	**+0.6**
RATZ	**Rangitukua**	**0.52**	**82**	⇑PN	**P**	**04 49 59.0**	**+0.5**
RATZ				SN	**S**	**04 50 20.8**	**-0.9**
TUVZ	**Tukino**	**0.53**	**128**	P	**P**	**04 49 59.8**	**+1.3**
TUVZ	**Tukino**	**0.53**	**128**	⇑PN	**P**	**04 49 59.8**	**+1.3**
TUVZ				SN	**S**	**04 50 21.4**	**-0.3**
WNVZ	**Wahianoa**	**0.54**	**135**	P	**P**	**04 49 59.8**	**+1.2**
WNVZ	**Wahianoa**	**0.54**	**135**	PN	**P**	**04 49 59.8**	**+1.2**
WNVZ				SN	**S**	**04 50 21.3**	**-0.5**
WATZ	**Wairara**	**0.54**	**64**	P	**P**	**04 49 59.2**	**+0.6**
WATZ	**Wairara**	**0.54**	**64**	⇑PN	**P**	**04 49 59.2**	**+0.6**
WATZ				SN	**S**	**04 50 20.6**	**-1.1**
RITZ	**Rihia Road**	**0.58**	**93**	P	**P**	**04 49 59.6**	**+0.9**
RITZ	**Rihia Road**	**0.58**	**93**	PN	**P**	**04 49 59.6**	**+0.9**
RITZ				SN	**S**	**04 50 21.9**	**-0.2**
RAEZ	**Rainy Point**	**0.65**	**238**	P	**P**	**04 49 59.9**	**+0.9**
RAEZ	**Rainy Point**	**0.65**	**238**	PN	**P**	**04 49 59.8**	**+0.8**
MOVZ	**Moawhango**	**0.68**	**133**	⇑PN	**P**	**04 49 59.9**	**+0.8**
MOVZ				SN	**S**	**04 50 21.1**	**-1.7**
HATZ	**Hinemaiaia**	**0.77**	**86**	P	**P**	**04 49 59.9**	**+0.4**
HATZ				S	**S**	**04 50 21.7**	**-1.8**
HATZ	**Hinemaiaia**	**0.77**	**86**	PN	**P**	**04 49 59.9**	**+0.4**
HATZ				SN	**S**	**04 50 21.6**	**-1.9**
WAZ	**Wanganui**	**0.81**	**187**	P	**P**	**04 50 01.2**	**+1.5**
WAZ	**Wanganui**	**0.81**	**187**	⇑PN	**P**	**04 50 01.2**	**+1.5**
WAZ				SN	**S**	**04 50 24.4**	**+0.6**
NEZ	**North Egmont**	**0.85**	**247**	P	**P**	**04 50 01.2**	**+1.3**
NEZ	**North Egmont**	**0.85**	**247**	PN	**P**	**04 50 01.1**	**+1.2**
PKE	**Pukeiti**	**0.91**	**254**	P	**P**	**04 50 01.1**	**+0.9**
PKE	**Pukeiti**	**0.91**	**254**	⇑PN	**P**	**04 50 01.1**	**+0.9**
PKE				SN	**S**	**04 50 25.6**	**+0.9**
NRZ	**Ngariki Road**	**1.00**	**247**	P	**P**	**04 50 01.6**	**+0.9**
NRZ	**Ngariki Road**	**1.00**	**247**	PN	**P**	**04 50 01.7**	**+1.0**
NWEZ	**Newall Road**	**1.02**	**251**	P	**P**	**04 50 01.9**	**+1.0**
NWEZ	**Newall Road**	**1.02**	**251**	PN	**P**	**04 50 02.0**	**+1.1**
PATZ	**Paeroa**	**1.06**	**58**	P	**P**	**04 50 01.6**	**+0.5**
PATZ	**Paeroa**	**1.06**	**58**	PN	**P**	**04 50 01.6**	**+0.4**
BKZ	**Black Stump Fm**	**1.10**	**102**	P	**P**	**04 50 02.2**	**+0.8**
BKZ	**Black Stump Fm**	**1.10**	**102**	⇓PN	**P**	**04 50 02.2**	**+0.8**
UTU	**Utuhina**	**1.14**	**48**	P	**P**	**04 50 01.8**	**0.0**
UTU	**Utuhina**	**1.14**	**48**	PN	**P**	**04 50 01.6**	**-0.1**
TSZ	**Takapari Road**	**1.29**	**150**	⇑PN	**P**	**04 50 04.3**	**+1.4**
TAZ	**Tarawera**	**1.31**	**57**	P	**P**	**04 50 03.1**	**+0.1**
TAZ	**Tarawera**	**1.31**	**57**	PN	**P**	**04 50 03.1**	**+0.1**
EDRZ	**Edgecumbe**	**1.53**	**57**	P	**P**	**04 50 04.3**	**-0.5**
EDRZ	**Edgecumbe**	**1.53**	**57**	PN	**P**	**04 50 04.2**	**-0.6**
MARZ	**Manawahe**	**1.56**	**53**	P	**P**	**04 50 04.8**	**-0.3**
MARZ	**Manawahe**	**1.56**	**53**	PN	**P**	**04 50 04.8**	**-0.3**
URZ	**Urewera**	**1.71**	**67**	P	**P**	**04 50 05.6**	**-0.8**
	267nm,0.3s,baz=253,slow=6.9,SNR=1167						
URZ				S	**S**	**04 50 31.6**	**-3.9**
	197nm,0.3s,baz=138,slow=23,SNR=36						
URZ	**Urewera**	**1.71**	**67**	P	**P**	**04 50 05.6**	**-0.8**
URZ	**Urewera**	**1.71**	**67**	⇓PN	**P**	**04 50 05.6**	**-0.8**
URZ				SN	**S**	**04 50 31.4**	**-4.1**
PWZ	**Pawanui**	**1.73**	**129**	P	**P**	**04 50 07.8**	**+1.2**
PWZ	**Pawanui**	**1.73**	**129**	⇑PN	**P**	**04 50 07.9**	**+1.2**
PWZ				SN	**S**	**04 50 32.5**	**-3.4**
MRZ	**Mangatainoka R**	**1.75**	**168**	⇑PN	**P**	**04 50 07.8**	**+1.0**
MYRZ	**Mayor Island**	**1.89**	**29**	PN	**P**	**04 50 07.6**	**-0.4**
KIW	**Kapiti Island**	**1.92**	**185**	P	**P**	**04 50 09.2**	**+0.9**
KIW	**Kapiti Island**	**1.92**	**185**	⇑PN	**P**	**04 50 09.2**	**+0.9**
BFZ	**Birch Farm**	**1.94**	**154**	P	**P**	**04 50 09.6**	**+1.1**
BFZ	**Birch Farm**	**1.94**	**154**	PN	**P**	**04 50 09.5**	**+1.0**
MWZ	**Matawai**	**1.99**	**73**	P	**P**	**04 50 08.5**	**-0.5**
MWZ	**Matawai**	**1.99**	**73**	⇓PN	**P**	**04 50 08.5**	**-0.4**
MWZ				SN	**S**	**04 50 36.5**	**-3.5**
KNZ	**Kokohu**	**2.00**	**93**	P	**P**	**04 50 09.5**	**+0.4**
KNZ	**Kokohu**	**2.00**	**93**	PN	**P**	**04 50 09.5**	**+0.4**
DUWZ	**D'Urville Isla**	**2.07**	**206**	⇑PN	**P**	**04 50 10.4**	**+0.7**
CAW	**Cannon Point**	**2.16**	**181**	P	**P**	**04 50 11.6**	**+0.9**
CAW	**Cannon Point**	**2.16**	**181**	⇑PN	**P**	**04 50 11.6**	**+0.9**
WIZ	**White Island**	**2.16**	**50**	PN	**P**	**04 50 09.5**	**-1.2**
MTW	**Mount Morrison**	**2.23**	**172**	P	**P**	**04 50 12.0**	**+0.6**
MTW	**Mount Morrison**	**2.23**	**172**	⇑PN	**P**	**04 50 12.0**	**+0.6**
MRW	**Makara Radio**	**2.30**	**188**	P	**P**	**04 50 12.9**	**+0.7**
MRW	**Makara Radio**	**2.30**	**188**	⇑PN	**P**	**04 50 12.9**	**+0.7**
WEL	**Wellington**	**2.35**	**186**	P	**P**	**04 50 13.3**	**+0.6**
WEL	**Wellington**	**2.35**	**186**	PN	**P**	**04 50 13.2**	**+0.5**
SNZO	**South Karori**	**2.38**	**187**	⇑*i*P	**P**	**04 50 13.5**	**+0.4**
SNZO				*e*S	**S**	**04 50 46.1**	**-1.2**
SNZO	**South Karori**	**2.38**	**187**	PN	**P**	**04 50 13.5**	**+0.5**
SNZO				PN	**P**	**04 50 13.6**	**+0.6**
PAWZ	**Paruwai Farm**	**2.44**	**174**	⇑PN	**P**	**04 50 14.3**	**+0.6**
BHW	**Baring Head**	**2.47**	**184**	P	**P**	**04 50 14.3**	**+0.4**
BHW	**Baring Head**	**2.47**	**184**	PN	**P**	**04 50 14.3**	**+0.4**
MSWZ	**Moikau Station**	**2.47**	**178**	P	**P**	**04 50 14.4**	**+0.4**
MSWZ	**Moikau Station**	**2.47**	**178**	⇑PN	**P**	**04 50 14.4**	**+0.5**
PUZ	**Puketiti**	**2.62**	**72**	P	**P**	**04 50 14.7**	**-0.9**
PUZ	**Puketiti**	**2.62**	**72**	PN	**P**	**04 50 14.5**	**-1.1**
NNZ	**Nelson**	**2.63**	**210**	P	**P**	**04 50 15.7**	**0.0**
NNZ	**Nelson**	**2.63**	**210**	⇑PN	**P**	**04 50 15.7**	**0.0**
QRZ	**Quartz Range**	**2.73**	**226**	P	**P**	**04 50 16.1**	**-0.7**
MXZ	**Matakaoa Point**	**2.87**	**62**	P	**P**	**04 50 17.3**	**-1.0**
MXZ	**Matakaoa Point**	**2.87**	**62**	PN	**P**	**04 50 17.1**	**-1.3**
BSWZ	**Blackbirch Sta**	**2.92**	**198**	P	**P**	**04 50 19.7**	**+0.8**
THZ	**Tophouse**	**3.28**	**210**	P	**P**	**04 50 22.7**	**-0.4**
KHZ	**Kahutara**	**3.67**	**198**	P	**P**	**04 50 27.8**	**+0.1**
DSZ	**Denniston Nort**	**3.77**	**221**	P	**P**	**04 50 28.0**	**-1.0**
LTZ	**Lake Taylor**	**4.40**	**208**	P	**P**	**04 50 35.7**	**-0.9**
MQZ	**McQueen's Vall**	**5.10**	**200**	P	**P**	**04 50 43.9**	**-1.6**
WVZ	**Waitaha Valley**	**5.29**	**217**	*e*P	**P**	**04 50 46.8**	**-1.0**
RPZ	**Rata Peaks**	**5.66**	**211**	P	**P**	**04 50 50.1**	**-2.4**
	1.8nm,0.3s,baz=269,slow=61.4,SNR=13						
RPZ				S	**S**	**04 51 53.5**	**-4.4**
	32nm,0.3s,baz=7.8,slow=22,SNR=40						
RPZ	**Rata Peaks**	**5.66**	**211**	*e*P	**P**	**04 50 51.0**	**-1.6**
FOZ	**Fox Glacier**	**6.16**	**220**	*e*P	**P**	**04 50 56.4**	**-2.6**
LBZ	**Lake Benmore**	**6.57**	**213**	*e*P	**P**	**04 51 02.3**	**-1.9**
ODZ	**Otahua Downs**	**6.94**	**207**	*e*P	**P**	**04 51 08.1**	**-0.9**
WKZ	**Wanaka**	**7.43**	**216**	*e*P	**P**	**04 51 13.2**	**-2.1**
TUZ	**Tuapeka**	**8.09**	**208**	*e*P	**P**	**04 51 23.3**	**-0.5**
ASAR	**Alice Springs**	**38.02**	**281**	P	**P**	**04 56 26.8**	**-0.3**
	2.7nm,0.8s,mb3.8,baz=126,slow=8.2,SNR=14						
ASAR				PcP	PcP	04 58 34.9	-3.3
	0.5nm,0.6s,baz=113,slow=4.8,SNR=4.2						
WRA	**Warramunga Arr**	**39.84**	**286**	P	**P**	**04 56 41.7**	**-0.5**
	0.9nm,0.7s,mb3.3,baz=130,slow=7.3,SNR=5.6						
FINES	**FINESS Array B**	**150.50**	**330**	PKPab	PKPab	05 08 59.2	-3.3
	1.6nm,1.0s,baz=27,slow=4.3,SNR=5.9						

SKHL 04 04:52:36.3±0.2, 53.62N×124.85E, h20km, mb3.8/5, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEA	**Zeya**	**1.43**	**84**	*e*Pn	Pn	04 53 02.2	+0.7
ZEA				*i* Pg	Pn	04 53 02.9	+1.4
ZEA				AMB	AMB	04 53 03.2	
	79nm,0.2s						
ZEA				*e*Sn	Sn	04 53 21.6	+1.8
ZEA				*e*Sg	Sn	04 53 22.5	+2.7
ZEA				A		04 53 25.7	
	97nm,0.5s						
KROS	**Kirovskiy**	**1.49**	**56**	*e*Pn	Pn	04 53 02.6	+0.3
KROS				*i* Pg	Pn	04 53 03.8	+1.5
KROS				AMB	AMB	04 53 04.5	
	9.0nm,0.4s						
KROS				AMB	AMB	04 53 04.5	
	25nm,0.4s						
KROS				AMB	AMB	04 53 04.5	
	30nm,0.4s						
KROS				*e*Sn	Sn	04 53 22.1	+0.7
KROS				*i* Sg	Sn	04 53 23.5	+2.1
KROS				A		04 53 25.0	
	50nm,0.5s						
KROS				A		04 53 25.0	
	29nm,0.5s						
KROS				A		04 53 25.0	
	23nm,0.5s						
YASR	**Yasnyy**	**1.90**	**99**	*e*Pn	Pn	04 53 08.3	+0.1
YASR				*i* Pg	Pn	04 53 10.5	+2.3
YASR				AMB	AMB	04 53 10.8	
	10.0nm,0.4s						
YASR				AMB	AMB	04 53 10.8	
	15nm,0.4s						
YASR				AMB	AMB	04 53 10.8	
	20nm,0.4s						
YASR				*e*rx	rx	04 53 14.6	
YASR				*i* Sg	Sn	04 53 35.8	+4.1
YASR				A		04 53 39.7	
	30nm,0.5s						
YASR				A		04 53 39.7	
	13nm,0.5s						
BMKR	**Bomnak**	**2.59**	**63**	*e*Pn	Pn	04 53 17.4	-0.6
BMKR				*e*rx	rx	04 53 21.5	
BMKR				*e*Pg	Pn	04 53 22.5	+4.5
BMKR				AMB	AMB	04 53 23.2	
	19nm,0.4s						
BMKR				AMB	AMB	04 53 23.2	
	16nm,0.4s						
BMKR				*e*Sg	Sn	04 53 56.5	+7.3
BMKR				A		04 53 59.5	
	40nm,0.5s						
TUP	**Tupik**	**3.00**	**288**	*e*Pn	Pn	04 53 24.1	+0.2
TUP				*e*Pg	Pn	04 53 30.9	+7.0
TUP				AMB	AMB	04 53 34.9	
	7.0nm,0.3s						
TUP				*e*Sn	Sn	04 54 00.8	+1.2
TUP				*e*Sg	Sn	04 54 09.4	+10
EKMR	**Ekimchan**	**4.88**	**93**	*e*Pn	Pn	04 53 50.5	-0.1
EKMR				*e*Pg	Pn	04 54 04.1	+13
EKMR				*e*Sg	Sn	04 55 08.3	+21
EKMR				A		04 55 21.0	
	10.0nm,0.7s						
EKMR				A		04 55 21.0	
	4.0nm,0.7s						
CRS	**Chara**	**5.00**	**314**	*e*rx	rx	04 54 03.8	
CRS				*e*Sg	Sn	04 55 13.5	+23

WEL 04 04:53:24.8±0.1, 40.99S×175.59E, h24km±1km, ML3.5/16, 5C-1D, Error ellipse: s-maj=1.3km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTW	**Mount Morrison**	**0.19**	**201**	⇑P*	Pb	04 53 30.4	+0.3
MTW				S*	Sb	04 53 34.8	+1.0
MRZ	**Mangatainoka R**	**0.32**	**358**	⇓P*	Pb	04 53 32.1	+0.1
MRZ				S*	Sb	04 53 37.4	+0.4
CAW	**Cannon Point**	**0.41**	**252**	P*	Pb	04 53 33.7	+0.2
CAW				S*	Sb	04 53 40.0	+0.5
PAWZ	**Paruwai Farm**	**0.42**	**197**	⇑P*	Pb	04 53 33.8	+0.2
PAWZ				S*	Sb	04 53 40.9	+1.4
MSWZ	**Moikau Station**	**0.50**	**211**	⇑P*	Pb	04 53 34.9	0.0
MSWZ				S*	Sb	04 53 42.3	+0.5
KIW	**Kapiti Island**	**0.53**	**283**	⇑P*	Pb	04 53 35.6	+0.2
KIW				S*	Sb	04 53 43.4	+0.7
BFZ	**Birch Farm**	**0.58**	**59**	S*	Sb	04 53 44.6	+0.5
BHW	**Baring Head**	**0.69**	**232**	P*	Pb	04 53 37.9	-0.2
BHW				S*	Sb	04 53 47.4	+0.3
WEL	**Wellington**	**0.69**	**244**	P*	Pb	04 53 38.0	-0.1
WEL				S*	Sb	04 53 48.2	+1.0
MRW	**Makara Radio**	**0.72**	**250**	⇑P*	Pb	04 53 38.3	-0.2
MRW				S*	Sb	04 53 48.2	+0.3
SNZO	**South Karori**	**0.74**	**244**	P*	Pb	04 53 38.6	-0.3
SNZO				P*	Pb	04 53 38.8	-0.2
SNZO				S*	Sb	04 53 48.8	+0.1
TSZ	**Takapari Road**	**0.97**	**17**	P*	Pb	04 53 42.0	-0.7
TSZ				S*	Sb	04 53 53.0	-2.1
DUWZ	**D'Urville Isla**	**1.28**	**278**	P*	Pb	04 53 47.0	-1.1
DUWZ				S*	Sb	04 54 02.9	-1.2
WAZ	**Wanganui**	**1.31**	**339**	PN	Pn	04 53 48.5	+0.7
BSWZ	**Blackbirch Sta**	**1.48**	**240**	PN	Pn	04 53 48.4	-1.9
BSWZ				S*	Sb	04 54 07.9	-2.1
MOVZ	**Moawhango**	**1.58**	**5**	PN	Pn	04 53 51.0	-0.6
TUVZ	**Tukino**	**1.71**	**2**	PN	Pn	04 53 52.8	-0.8
FWVZ	**Far West T-bar**	**1.73**	**359**	PN	Pn	04 53 53.6	-0.1
WPVZ	**Whakapapa**	**1.78**	**359**	PN	Pn	04 53 54.4	-0.1
CNZ	**Chateau**	**1.78**	**359**	PN	Pn	04 53 54.6	0.0
NGZ	**Ngauruhoe**	**1.81**	**0**	PN	Pn	04 53 54.7	-0.2
OTVZ	**Oturere**	**1.82**	**2**	PN	Pn	04 53 54.5	-0.5
WTVZ	**West Tongariro**	**1.87**	**360**	PN	Pn	04 53 55.6	-0.2
TWVZ	**Taurewa**	**1.91**	**356**	PN	Pn	04 53 56.1	-0.3
BKZ	**Black Stump Fm**	**1.94**	**21**	PN	Pn	04 53 54.9	-1.9
QRZ	**Quartz Range**	**2.33**	**273**	PN	Pn	04 54 01.9	-0.5
QRZ				SN	Sn	04 54 28.9	-1.6
LTZ	**Lake Taylor**	**3.06**	**233**	PN	Pn	04 54 09.2	-3.6
LTZ				SN	Sn	04 54 43.1	-6.1
MQZ	**McQueen's Vall**	**3.49**	**218**	*e*SN	Sn	04 54 51.2	-8.6

IDC 04 05:06:04.6±3.1, 0.39S×96.95E, mb3.9/2, mb1 4.0/3, mb1mx3.6/17, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=130.8km s-min=28.8km az=61.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.83**	**6**	P	P	05 10 26.1	-2.2
	0.2nm,0.3s,baz=198,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**42.66**	**126**	P	P	05 14 03.0	-1.9
	0.6nm,0.6s,baz=300,slow=8.2,SNR=6.1						
MKAR	**Makanchi Array**	**48.72**	**347**	P	P	05 14 50.5	-2.3
	1.8nm,0.6s,baz=166,slow=9.6,SNR=17						
TXAR	**Lajitas Array**	**145.14**	**33**	PKPbc	PKPbc	05 25 44.1	-1.0
	0.9nm,0.7s,baz=286,slow=0.9,SNR=13						

*ATH **04** 05:25:31.9, 40.42N×26.26E, h27km±2km, MD3.4/4*
*ISK **04** 05:25:31.2, 40.42N×26.35E, h15km, MD3.4*
*NEIC **04** 05:25:31.9, 40.42N×26.26E, h27km, MD3.4(ATH), After ATH.*
*CSEM **04** 05:25:31.0±0.1, 40.44N×26.36E, h12km, MD3.4, Error ellipse: s-maj=2.8km s-min=2.3km az=136.0*
ISC 04 05:25:30.5±0.8, 40.46N±0.03×26.29E±0.05, h6km±5km, n25, σ0°70/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.37**	**104**	*i* PG	**Pg**	**05 25 38.6**	**+0.6**
EZN	**Ezine**	**0.64**	**177**	PG	**Pg**	**05 25 43.1**	**-0.1**
EZN				SG	**Sg**	**05 25 51.8**	**+0.1**
SART	**Tekirdag**	**0.72**	**71**	*i* P	**Pg**	**05 25 44.8**	**0.0**
SART				*i* S	**Sg**	**05 25 55.3**	**+0.9**
RDO	**Rodhopi**	**0.89**	**320**	*e*PN	**Pn**	**05 25 49.7**	**+0.4**
MRMT	**Marmara Adasi**	**1.01**	**81**	PG	**Pg**	**05 25 49.2**	**-1.4**
MRMT				SG	**Sg**	**05 26 03.9**	**-0.1**
LIA	**Limnos Island**	**1.02**	**237**	*e*PN	**Pn**	**05 25 50.8**	**-0.3**
TKR	**Tekirdag**	**1.09**	**60**	PG	**Pg**	**05 25 52.1**	**-0.1**
AYVA	**Ayvalik**	**1.19**	**165**	*i* P	**Pb**	**05 25 53.7**	**+0.5**
AYVA				*i* S	**Sb**	**05 26 09.4**	**+0.7**
EDC	**Edincik**	**1.21**	**95**	PN	**Pn**	**05 25 53.6**	**-0.3**
PRK	**Paraskevi**	**1.21**	**181**	*e*PN	**Pn**	**05 25 53.9**	**-0.1**
PRK				*e*SN	**Sn**	**05 26 10.5**	**-0.4**
BNT	**Bandirma**	**1.25**	**94**	PN	**Pn**	**05 25 53.8**	**-0.7**
EDRB	**Edirne**	**1.43**	**14**	*e*PN	**Pn**	**05 25 58.3**	**+1.3**
BALB	**Balikesir**	**1.47**	**123**	PN	**Pn**	**05 25 57.4**	**-0.3**
BTOK	**Tokmak**	**1.51**	**117**	*i* P	**Pn**	**05 25 58.6**	**+0.4**
BTOK				*i* S	**Sb**	**05 26 19.3**	**+1.5**
KCT	**Karacabey**	**1.59**	**96**	*e*PN	**Pn**	**05 25 58.8**	**-0.6**
SLVT	**Silivri**	**1.65**	**62**	*e*PN	**Pn**	**05 25 59.7**	**-0.5**
CTT	**Catalca**	**1.77**	**66**	PN	**Pn**	**05 26 01.5**	**-0.4**
NVR	**Nevrokopi**	**2.04**	**297**	*e*PN	**Pn**	**05 26 06.6**	**+0.8**
ISK	**Istanbul-Kandi**	**2.19**	**73**	*e*PN	**Pn**	**05 26 07.1**	**-0.8**
KDAG	**Bornova**	**2.19**	**159**	*i* P	**Pn**	**05 26 13.1**	**+5.1**
KDAG				*i* S	**Sn**	**05 26 34.9**	**-0.8**
ULDT	**Uludag**	**2.20**	**97**	*i* P	**Pn**	**05 26 12.0**	**+3.9**
ULDT				*i* S	**Sn**	**05 26 39.5**	**+3.6**
YLV	**Yalova**	**2.35**	**86**	*e*PN	**Pn**	**05 26 09.8**	**-0.5**
IZI	**Iznik**	**2.44**	**92**	*e*PN	**Pn**	**05 26 11.5**	**0.0**
SILT	**Sile**	**2.64**	**74**	*e*PN	**Pn**	**05 26 14.2**	**-0.2**
ESKT	**Eskisehir**	**3.63**	**104**	*i* P	**Pn**	**05 26 28.1**	**-0.4**

IDC 04 05:29:00.2±20.0, 22.73S×176.95W, h193km±192km, mb3.6/5, mb1 3.9/5, mb1mx3.6/15, mbtmp4.1/5, Error ellipse: s-maj=121.1km s-min=49.6km az=166.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.30**	**267**	P	P	05 35 29.9	-0.3
	5.4nm,0.4s,baz=96,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**45.00**	**259**	P	P	05 36 56.1	-2.1
	0.8nm,0.8s,baz=92,slow=7.2,SNR=7.0						
WRA	**Warramunga Arr**	**45.30**	**264**	P	P	05 36 58.1	-2.6
	1.6nm,0.6s,baz=97,slow=8.4,SNR=10						
TXAR	**Lajitas Array**	**87.44**	**57**	P	P	05 41 26.0	-1.2
	0.5nm,0.8s,baz=216,slow=6.4,SNR=5.8						
ILAR	**Eielson Array**	**90.27**	**12**	P	P	05 41 38.2	-1.4
	0.8nm,1.0s,baz=217,slow=6.1,SNR=4.7						
AKASG	**Malin Array Be**	**145.43**	**330**	PKPbc	PKPbc	05 48 15.2	-0.4
	1.2nm,0.4s,baz=43,slow=3.9,SNR=8.0						

*IDC **04** 05:40:33.8±2.6, 1.09N×97.07E, mb3.9/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, ML4.4/1, MS3.1/1, Ms1 3.3/1, ms1mx2.9/17, Error ellipse: s-maj=96.1km s-min=26.2km az=58.0*
*NEIC **04** 05:40:38.0±1.3, 1.14N×97.10E, h30km, mb4.4/2, Error ellipse: s-maj=27.0km s-min=20.7km az=58.0*
ISC 04 05:40:36.3±1.4, 1.2N±0.2×97.1E±0.2, h30km, n9, σ0°81/9, mb4.1/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**41**	*e*P	**Pn**	**05 41 56.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.27**	**6**	P	**P**	**05 44 38.0**	**+0.8**

CMAR Chiang Mai Arr 16.95 3 Pn P 06 12 47.4 +0.3
baz=188,slow=11,SNR=5.3
ASAR Alice Springs 43.00 128 P P 06 16 48.2 -1.6
0.3nm,0.4s,baz=299,slow=7.7,SNR=3.9
MKAR Makanchi Array 47.19 345 P P 06 17 20.6 -2.4
1.7nm,0.7s,baz=152,slow=6.8,SNR=11
ZAL Zalesovo 53.43 350 P P 06 18 07.3 -3.2
1.6nm,0.3s,baz=214,slow=6.8,SNR=6.4
BVAR Borovoye Array 56.26 340 P P 06 18 29.4 -1.7
0.4nm,0.4s,baz=129,slow=9.2,SNR=3.2

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*IDC **04** 06:11:48.4±2.5,0.18N×96.98E,mb4.1/7,mb1 4.3/8, mb1mx4.0/18,mbtmp4.1/8,ML3.9/1,Error ellipse: s-maj=103.1km s-min=18.1km az=61.0*
*NEIC **04** 06:11:53.0±1.1,0.23N×97.05E,h30km,mb4.4/1,Error ellipse: s-maj=43.0km s-min=9.8km az=63.0*
ISC 04 06:11:51.8±1.8,0.3N±0.2×97.1E±0.4,h33km,n14, σ0§39/11,mb4.1/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.17**	**6**	P	**P**	**06 16 03.3**	**-0.1**
	0.2nm,0.3s,baz=194,slow=11,SNR=12						
SHL	**Shillong**	**25.65**	**349**	*eP*	**P**	**06 17 20.5**	**0.0**
FITZ	**Fitzroy Crossi**	**33.48**	**125**	P	**P**	**06 18 29.9**	**-0.5**
	7.0nm,0.8s,mb4.6,baz=330,slow=6.6,SNR=5.1						
WRA	**Warramunga Arr**	**41.64**	**121**	P	**P**	**06 19 38.8**	**-0.3**
	4.3nm,0.8s,mb4.2,baz=300,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	**41.64**	**121**	*eP*	**P**	**06 19 39.1**	**0.0**
	5.9nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**42.92**	**126**	P	**P**	**06 19 49.8**	**+0.2**
	0.3nm,0.6s,mb3.2,baz=297,slow=8.1,SNR=4.4						
SONM	**Songino Array**	**48.06**	**8**	P	**P**	**06 20 30.8**	**+0.7**
	0.7nm,0.7s,mb3.8,baz=186,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**48.12**	**346**	P	**P**	**06 20 30.6**	**+0.1**
	0.8nm,0.6s,mb3.9,baz=155,slow=7.6,SNR=6.8						
STKA	**Stephens Creek**	**52.81**	**132**	P	**P**	**06 21 07.0**	**+0.5**
	4.1nm,1.1s,mb4.3,baz=291,slow=6.9,SNR=4.2						
STKA	**Stephens Creek**	**52.81**	**132**	P	**P**	**06 21 07.0**	**+0.5**
ZAL	**Zalesovo**	**54.45**	**351**	P	**P**	**06 21 17.6**	**-0.6**
	1.4nm,0.4s,mb4.3,baz=320,slow=4.1,SNR=4.6						
TXAR	**Lajitas Array**	**144.51**	**32**	PKP	PKPdf	06 31 26.3	+0.7
	0.3nm,0.6s,baz=236,slow=1.3,SNR=5.9						
TXAR	**Lajitas Array**	**144.51**	**32**	PKP	PKPdf	06 31 26.3	+0.7
JCT	**Junction City**	**145.45**	**26**	*e*PKP	PKPdf	06 31 28.9	+1.7

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*BJI **04** 06:31:10.3,0.81N×120.39E,h37km,mB5.2,mb4.8,Ms4.5, Msz4.1*
*MOS **04** 06:31:11.5±0.9,1.06N×120.17E,h33km,mb5.0/19,Error ellipse: s-maj=23.1km s-min=8.0km az=120.1*
*IDC **04** 06:31:12.5±4.2,0.95N×120.03E,h24km±27km,mb4.5/16, mb1 4.7/17,mb1mx4.5/24,mbtmp4.7/17,ML5.0/1,MS3.8/6, Ms1 3.8/6,ms1mx3.4/32,Error ellipse: s-maj=25.7km s-min=11.1km az=62.0*
*NEIC **04** 06:31:13.5±0.2,0.98N×120.05E,mb4.7/20,Error ellipse: s-maj=11.1km s-min=4.0km az=61.0*
ISC 04 06:31:11.6±0.3,1.00N±0.05×120.11E±0.08,h33km, (h33km±1.6km:pP-P),n88,σ0§94/88,mb4.7/47,MS3.8/9, 6C-4D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZMPH	**Zamboanga City**	**6.23**	**18**	⇓*eP*	**P**	**06 32 40.4**	**-3.2**
KKM	**Kota Kinabalu**	**6.34**	**322**	*eP*	**P**	**06 32 43.7**	**-1.4**
FITZ	**Fitzroy Crossi**	**19.75**	**164**	⇑*iP*	**P**	**06 35 41.3**	**-0.3**
	64nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.75**	**164**	P	**P**	**06 35 41.5**	**-0.1**
	3.4nm,0.3s,baz=0.4,slow=8.1,SNR=73						
FITZ				LR	LR	06 44 32.9	
	comp=Z,332nm,19.0s,baz=326,slow=41						
MBWA	**Marble Bar**	**22.02**	**181**	*eP*	**P**	**06 36 04.9**	**0.0**
	26nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**25.06**	**147**	*eP*	**P**	**06 36 34.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,118nm,1.0s,mb5.4						
WRAB	**Tennant Creek**	**25.06**	**147**	*eP*	**P**	**06 36 34.0**	**-0.6**
	comp=Z,118nm,1.0s,mb5.4						
WRA	**Warramunga Arr**	**25.06**	**147**	P	**P**	**06 36 34.4**	**-0.3**
	comp=Z,79nm,1.0s,mb5.2,baz=328,slow=9.9,SNR=118						
WRA				PcP	PcP	06 40 09.2	-0.6
	comp=Z,3.2nm,0.8s,baz=321,slow=2.3,SNR=6.8						
WB2	**Warramunga Arr**	**25.06**	**147**	⇑*iP*	**P**	**06 36 34.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**27.06**	**311**	P	**P**	**06 36 53.5**	**+0.1**
	comp=Z,1.7nm,0.6s,mb3.8,baz=135,slow=8.9,SNR=8.8						
CMAR				LR	LR	06 49 17.7	
	comp=Z,226nm,18.6s,MS3.8,baz=130,slow=40						
ASPA	**Alice Springs**	**27.95**	**152**	⇑*iP*	**P**	**06 37 01.1**	**-0.2**
ASAR	**Alice Springs**	**27.95**	**152**	P	**P**	**06 37 01.1**	**-0.3**
	comp=Z,27nm,0.9s,mb4.9,baz=332,slow=9.3,SNR=207						
ASAR				PcP	PcP	06 40 16.2	-0.2
	comp=Z,4.4nm,0.7s,baz=347,slow=2.2,SNR=15						
ASAR				ScP		06 43 55.8	
	comp=Z,1.0nm,0.9s,baz=335,slow=2.5,SNR=4.6						
ASAR				LR	LR	06 50 25.5	
	comp=Z,117nm,18.9s,MS3.5,baz=168,slow=41						
PMG	**Port Moresby**	**28.86**	**112**	P	**P**	**06 37 09.1**	**-0.5**
	comp=Z,7.1nm,0.5s,mb4.6,baz=209,slow=16,SNR=3.6						
KMI	**Kunming**	**29.27**	**326**	P	**P**	**06 37 17.3**	**+4.2**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
KMI	**Kunming**	**29.27**	**326**	P	**P**	**06 37 17.3**	**+4.2**
	comp=Z,10.0nm,0.5s,mb4.8						
SSE	**Sheshan**	**29.95**	**2**	P	**P**	**06 37 17.1**	**-2.0**
SSE				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7						
SSE				AMB	AMB		
	comp=Z,41nm,4.5s						
SSE	**Sheshan**	**29.95**	**2**	P	**P**	**06 37 17.1**	**-2.0**
	comp=Z,13nm,0.8s,mb4.7						
ENH	**Enshi**	**30.81**	**342**	*eP*	**P**	**06 37 26.8**	**0.0**
NJ2	**Nanjing**	**30.91**	**358**	*eP*	**P**	**06 37 28.1**	**+0.5**
NJ2				AP	pP	06 37 36.3	-1.0
NJ2				XP	sP	06 37 41.2	-0.4
NJ2				PP	PP	06 38 29.4	-0.3
NJ2				PPP	PPP	06 38 42.8	-1.8
NJ2				S	**S**	**06 42 28.0**	**-0.3**
NJ2				XS		06 42 43.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,310nm,3.6s						
NJ2				LR	LR		
	comp=N,430nm,12.2s,MS4.3						
NJ2				LR	LR		
	comp=E,250nm,15.0s,MS4.3						
NJ2				LR	LR		
	comp=Z,150nm,14.4s,MS3.8						
KLBR	**Kellerberrin**	**32.49**	**184**	⇑*iP*	**P**	**06 37 40.6**	**-0.9**
	comp=Z,3μm,0.7s						
FORT	**Forrest**	**32.49**	**167**	*eP*	**P**	**06 37 40.2**	**-1.4**
	comp=Z,792nm,0.7s						
CTA	**Charters Tower**	**33.10**	**131**	P	**P**	**06 37 47.3**	**+0.4**
	comp=Z,7.9nm,0.6s,mb4.8,baz=292,slow=11,SNR=5.6						
CTA				LR	LR	06 51 13.6	
	comp=Z,144nm,19.2s,MS3.7,baz=139,slow=36						
CTAO	**Charters Tower**	**33.10**	**131**	*eP*	**P**	**06 37 47.3**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
CTAO	**Charters Tower**	**33.10**	**131**	*eP*	**P**	**06 37 47.3**	**+0.3**
	comp=Z,19nm,1.1s,mb4.9						
NWAO	**Narrogin (SRO)**	**33.85**	**184**	*eP*	**P**	**06 37 53.0**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,40nm,0.7s						
NWAO	**Narrogin (SRO)**	**33.85**	**184**	P	**P**	**06 37 53.3**	**0.0**
	comp=Z,54nm,0.7s,mb5.6,baz=7.1,slow=9.1,SNR=47						
NWAO	**Narrogin (SRO)**	**33.85**	**184**	*eP*	**P**	**06 37 53.0**	**-0.2**
	comp=Z,40nm,0.7s,mb5.5						
SHL	**Shillong**	**36.57**	**314**	*eP*	**P**	**06 38 16.0**	**-0.5**
STKA	**Stephens Creek**	**38.52**	**150**	⇑*iP*	**P**	**06 38 33.3**	**+0.5**
	comp=Z,25nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**38.52**	**150**	P	**P**	**06 38 33.4**	**+0.6**
	comp=Z,41nm,0.9s,mb5.2,baz=321,slow=8.7,SNR=65						
STKA				LR	LR	06 57 40.9	
	comp=Z,191nm,19.5s,MS3.9,baz=20,slow=41						
BJI	**Beijing**	**39.02**	**355**	P	**P**	**06 38 37.0**	**+0.1**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
BJI				LR	LR		
	comp=Z,124nm,20.2s,MS3.7						
BJI	**Beijing**	**39.02**	**355**	P	**P**	**06 38 37.0**	**+0.1**
	comp=Z,6.0nm,0.9s,mb4.3						
BJI				S	**S**	**06 44 50.6**	**+17**
BJI				LR	LR		
	comp=Z,120nm,20.2s,MS3.7						
LSA	**Lhasa**	**39.67**	**319**	P	**P**	**06 38 44.2**	**+1.9**
LSA	**Lhasa**	**39.67**	**319**	*eP*	**P**	**06 38 44.4**	**+2.1**
LSA				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
LSA	**Lhasa**	**39.67**	**319**	*eP*	**P**	**06 38 44.4**	**+2.0**
	comp=Z,16nm,0.8s,mb4.8						
HHC	**Hu-ho-hao-te**	**40.42**	**350**	*eP*	**P**	**06 38 49.0**	**+0.6**
HHC				PCP	PcP	06 40 49.1	-2.6
HHC				S	**S**	**06 44 58.0**	**+3.6**
HHC				SS	SS	06 47 53.9	+5.2
HHC				SCS	ScS	06 48 46.4	-3.3
HHC				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,93nm,5.5s						
HHC				LR	LR		
	comp=N,203nm,17.2s,MS4.4						
HHC				LR	LR		
	comp=E,374nm,17.2s,MS4.4						
HHC				LR	LR		
	comp=Z,168nm,16.2s,MS4.0						
JIRN	**Jiri**	**41.93**	**212**	*eP*	**P**	**06 39 01.6**	**+0.5**
	comp=Z,2.1nm,0.2s,mb4.3						
GUN	**Gumba**	**42.30**	**312**	*eP*	**P**	**06 39 04.9**	**+0.8**
	comp=Z,21nm,0.7s,mb4.9						
GTA	**Gaotai**	**42.48**	**337**	P	**P**	**06 39 06.8**	**+1.3**
GTA				AP	pP	06 39 17.2	+1.8
GTA				XP	sP	06 39 22.2	+2.7
GTA				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.6						
KKN	**Kakani**	**42.68**	**312**	*eP*	**P**	**06 39 07.2**	**0.0**
	comp=Z,12nm,0.8s,mb4.7						
KKN	**Kakani**	**42.68**	**312**	*eP*	**P**	**06 39 07.2**	**0.0**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
DMN	**Daman**	**42.71**	**311**	*eP*	**P**	**06 39 06.9**	**-0.6**
	comp=Z,14nm,0.9s,mb4.7						
GKN	**Gorkha**	**43.27**	**312**	*eP*	**P**	**06 39 12.3**	**+0.2**
	comp=Z,14nm,0.7s,mb4.8						
ARMA	**Armidale**	**43.32**	**139**	⇓*iP*	**P**	**06 39 14.6**	**+2.1**
KOLN	**Koldanda**	**43.93**	**311**	*eP*	**P**	**06 39 17.8**	**+0.4**
	comp=Z,22nm,0.7s,mb5.0						
MDJ	**Mudanjiang**	**44.24**	**10**	*eP*	**P**	**06 39 20.3**	**+0.6**
	comp=Z,20nm,1.0s,mb4.8						
TOO	**Toolangi**	**44.99**	**151**	*eP*	**P**	**06 39 27.4**	**+1.6**
	comp=Z,6.2nm,0.7s,mb4.5						
TOO	**Toolangi**	**44.99**	**151**	*eP*	**P**	**06 39 27.4**	**+1.6**
TOO				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
CNB	**Canberra Magne**	**45.30**	**146**	*eP*	**P**	**06 39 29.8**	**+1.5**
	comp=Z,428nm,0.7s						
ASAJ	**Asahikawa**	**47.36**	**22**	P	**P**	**06 39 45.5**	**+1.0**
	comp=Z,8.3nm,0.7s,mb4.8,baz=222,slow=14,SNR=6.8						
ULN	**Ulaanbaatar**	**48.04**	**348**	*eP*	**P**	**06 39 50.2**	**+0.5**
ULN				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
ULN	**Ulaanbaatar**	**48.04**	**348**	*eP*	**P**	**06 39 50.2**	**+0.5**
	comp=Z,13nm,0.9s,mb5.0						
SONM	**Songino Array**	**48.15**	**348**	P	**P**	**06 39 51.0**	**+0.5**
	comp=Z,5.6nm,0.9s,mb4.6,baz=165,slow=8.8,SNR=34						
ZAK	**Zakamensk**	**51.24**	**346**	⇓*iP*	**P**	**06 40 14.4**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
WMQ	**Urumqi**	**51.47**	**330**	⇑P	**P**	**06 40 17.3**	**+1.3**
WMQ				PCP	PcP	06 41 32.0	+1.8
WMQ				PP	PP	06 42 15.3	+1.3
WMQ				S	**S**	**06 47 35.3**	**+3.0**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,133nm,4.0s						
WMQ				LR	LR		
	comp=N,69nm,22.2s						
WMQ				LR	LR		
	comp=Z,47nm,22.2s,MS3.5						
TLY	**Talaya**	**52.37**	**347**	*i* P	**P**	**06 40 21.8**	**-0.8**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
TLY	**Talaya**	**52.37**	**347**	*eP*	**P**	**06 40 23.5**	**+0.9**
	comp=Z,2.1nm,0.7s,mb4.2						
MOY	**Mondy**	**52.99**	**345**	*eP*	**P**	**06 40 28.3**	**+1.0**
MKAR	**Makanchi Array**	**56.27**	**330**	*i* P	**P**	**06 40 50.9**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**56.27**	**330**	P	**P**	**06 40 51.5**	**+0.2**
	comp=Z,5.8nm,0.8s,mb4.7,baz=130,slow=8.4,SNR=42						
MKAR				LR	LR	07 04 45.5	
	comp=Z,73nm,21.5s,MS3.7,baz=271,slow=36						
MKAR	**Makanchi Array**	**56.27**	**330**	P	**P**	**06 40 51.5**	**+0.2**
MKAR				LR	LR	07 04 45.5	
BOD	**Bodaibo**	**56.86**	**356**	*eP*	**P**	**06 40 55.2**	**-0.2**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
AAK	**Ala-Archa**	**58.14**	**322**	*eP*	**P**	**06 41 04.0**	**-0.6**
AAK				*e*	pP	06 41 14.5	-0.2
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
AAK	**Ala-Archa**	**58.14**	**322**	*eP*	**P**	**06 41 04.0**	**-0.5**
	comp=Z,7.6nm,0.9s,mb4.7						
AAK				*e*	pP	06 41 14.5	-0.2
ZAL	**Zalesovo**	**60.24**	**337**	P	**P**	**06 41 17.7**	**-1.3**
	comp=Z,2.7nm,0.8s,mb4.3,baz=348,slow=5.1,SNR=17						
ZAL	**Zalesovo**	**60.24**	**337**	P	**P**	**06 41 17.7**	**-1.3**
KURK	**Kurchatov**	**60.69**	**331**	*eP*	**P**	**06 41 21.5**	**-0.6**
KURK				*e*	pP	06 41 32.1	-0.1
KURK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.3						
KURK	**Kurchatov**	**60.69**	**331**	*eP*	**P**	**06 41 21.5**	**-0.6**
	comp=Z,28nm,1.0s,mb5.3						
KURK				*e*	pP	06 41 32.1	-0.1
YAK	**Yakutsk**	**61.31**	**5**	*i* P	**P**	**06 41 24.5**	**-1.6**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.1						
BVAO	**Borovoye Array**	**66.15**	**330**	*i* P	**P**	**06 41 57.6**	**-0.3**
BVAO				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**66.15**	**330**	P	**P**	**06 41 58.0**	**+0.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=135,slow=8.4,SNR=12						
CHKZ	**Chkalovo**	**66.40**	**330**	P	**P**	**06 41 59.2**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,18nm,2.0s,mb4.8						
TIXI	**Tiksi**	**70.77**	**3**	*i* P	**P**	**06 42 24.9**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SVE	**Sverdlovsk**	**72.92**	**330**	*eP*	**P**	**06 42 38.0**	**-1.3**
ARU	**Arti**	**73.80**	**329**	*d iP*	**P**	**06 42 43.9**	**-0.5**
ARU				*e*		06 45 29.3	
ARU				*e*S	S	06 52 14.0	+1.9
ARU				*e*SS	SS	06 56 56.8	-1.7
ARU				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
ARU	**Arti**	**73.80**	**329**	*eP*	**P**	**06 42 44.0**	**-0.4**
	comp=Z,5.6nm,0.3s,mb5.0						
ARU				*e*	pP	06 42 54.4	-0.3
OPO	**Ambohidratompo**	**74.15**	**250**	P	**P**	**06 42 46.7**	**-0.5**
	comp=Z,11nm,1.3s,mb4.6,baz=63,slow=9.0,SNR=3.7						
VNDA	**Vanda**	**81.64**	**172**	P	**P**	**06 43 27.1**	**-0.4**
	comp=Z,2.9nm,0.8s,mb4.3,baz=304,slow=5.0,SNR=7.1						
SOC	**Sochi**	**82.34**	**314**	*eP*	**P**	**06 43 29.8**	**-1.9**
SOC				*e*		06 46 36.6	
SOC				*e*PPP	PPP	06 48 27.8	-7.2
SOC				*e*S	S	06 53 43.5	-0.4
SOC				*e*SS	SS	06 59 09.0	+1.0
SOC				*e*SSS	SSS	07 02 36.3	+4.6
SOC				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.7						
SOC				pmax	pmax		
	comp=N,8.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.4s						
KMBO	**Kilima Mbogo**	**82.88**	**269**	*eP*	**P**	**06 43 36.4**	**+1.4**
KMBO				*e*		06 43 44.8	
KMBO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KMBO	**Kilima Mbogo**	**82.88**	**269**	P	**P**	**06 43 35.6**	**+0.6**
	comp=Z,1.2nm,0.8s,mb4.0,baz=41,slow=11,SNR=4.2						
KMBO	**Kilima Mbogo**	**82.88**	**269**	*eP*	**P**	**06 43 36.4**	**+1.4**
	comp=Z,5.3nm,1.1s,mb4.5						
KMBO				*e*		06 43 44.8	
OBN	**Obninsk**	**85.48**	**325**	*eP*	**P**	**06 43 47.7**	**+0.4**
OBN				*e*		06 43 56.1	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.7						
BRTR	**Keskin Array B**	**86.64**	**310**	P	**P**	**06 43 54.1**	**+0.8**
	comp=Z,0.9nm,0.7s,mb4.1,baz=141,slow=4.4,SNR=3.1						
PLCA	**Paso Flores**	**139.28**	**168**	PKP	PKPdf	06 50 38.7	+2.8
	comp=Z,1.8nm,0.9s,baz=265,slow=2.9,SNR=4.0						
PLCA	**Paso Flores**	**139.28**	**168**	PKP	PKPdf	06 50 38.7	+2.8
LPAZ	**La Paz**	**162.78**	**152**	PKP	PKPdf	06 51 15.0	+4.1
	comp=Z,2.3nm,0.9s,baz=38,slow=5.6,SNR=9.3						
LPAZ	**La Paz**	**162.78**	**152**	PKP	PKPdf	06 51 15.0	+4.1

IDC 04 06:45:28.8±6.2,22.84S×179.46W,mb3.8/2,mb1 4.1/2, mb1mx3.8/13,mbtmp3.8/2,MS3.8/1,Ms1 3.7/1, ms1mx3.0/23,Error ellipse: s-maj=284.4km s-min=68.0km az=152.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.59**	**247**	LR	LR	07 06 23.6	
	comp=Z,147nm,19.8s,baz=22,slow=35						
ASAR	**Alice Springs**	**42.71**	**259**	P	P	06 53 27.7	-1.7
	0.6nm,0.5s,baz=91,slow=7.9,SNR=8.0						
WRA	**Warramunga Arr**	**42.98**	**265**	P	P	06 53 30.0	-1.7
	1.5nm,0.8s,baz=102,slow=8.1,SNR=3.9						
BRTR	**Keskin Array B**	**147.32**	**309**	PKPbc	PKPdf	07 05 14.0	+0.1
	2.3nm,1.0s,baz=56,slow=4.5,SNR=4.7						

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*IDC **04** 06:49:50.2±2.3,1.81N×97.77E,mb3.9/6,mb1 4.0/6, mb1mx3.7/17,mbtmp3.9/6,Error ellipse: s-maj=100.0km s-min=26.0km az=54.0*
*NEIC **04** 06:49:54.6±0.9,1.77N×97.66E,h30km,Error ellipse: s-maj=22.1km s-min=13.6km az=56.0*
ISC 04 06:49:52.7±1.1,1.8N±0.1×97.6E±0.2,h30km,n9,σ0§59/9, mb3.9/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.60**	**41**	*eP*	**Pn**	**06 51 02.4**	**+0.2**
WRA	**Warramunga Arr**	**41.98**	**123**	P	**P**	**06 57 42.5**	**-0.7**
	0.9nm,0.6s,mb3.6,baz=300,slow=9.3,SNR=4.3						
WRAB	**Tennant Creek**	**41.99**	**123**	P	**P**	**06 57 43.9**	**+0.6**
SONM	**Songino Array**	**46.49**	**8**	P	**P**	**06 58 18.8**	**-0.3**
	0.4nm,0.4s,mb3.7,baz=184,slow=9.5,SNR=5.8						
MKAR	**Makanchi Array**	**46.78**	**346**	P	**P**	**06 58 21.9**	**+0.5**
	2.8nm,0.8s,mb4.2,baz=161,slow=8.1,SNR=16						
ZAL	**Zalesovo**	**53.04**	**351**	P	**P**	**06 59 08.6**	**-0.7**
	1.9nm,0.5s,mb4.3,baz=302,slow=8.5,SNR=6.4						
ZAL	**Zalesovo**	**53.04**	**351**	P	**P**	**06 59 08.6**	**-0.7**
BVAR	**Borovoye Array**	**55.84**	**340**	P	**P**	**06 59 29.2**	**-0.5**
	0.8nm,0.5s,mb4.0,baz=139,slow=9.5,SNR=8.1						
FINES	**FINESS Array B**	**79.68**	**332**	P	**P**	**07 01 59.7**	**+0.9**
	0.3nm,0.4s,mb3.6,baz=117,slow=3.1,SNR=3.4						

IDC 04 06:52:36.9±26.0,20.95S×179.76W,h689km±223km, mb3.3/6,mb1 3.5/6,mb1mx3.2/15,mbtmp4.5/6,Error ellipse: s-maj=253.8km s-min=86.0km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.81**	**265**	P	P	06 58 10.0	-1.3
	1.7nm,0.5s,baz=83,slow=13,SNR=4.2						
STKA	**Stephens Creek**	**36.12**	**244**	P	P	06 58 45.2	-1.4
	3.3nm,0.4s,baz=86,slow=11,SNR=15						
ASAR	**Alice Springs**	**42.82**	**257**	P	P	06 59 38.5	-1.5
	7.0nm,0.5s,baz=98,slow=7.6,SNR=102						
ASPA	**Alice Springs**	**42.82**	**257**	*eP*	P	06 59 38.4	-1.7
WB2	**Warramunga Arr**	**42.90**	**263**	*eP*	P	06 59 38.5	-2.3
WRA	**Warramunga Arr**	**42.91**	**263**	P	P	06 59 38.9	-2.0
	3.6nm,0.6s,baz=97,slow=8.3,SNR=19						
FITZ	**Fitzroy Crossi**	**51.34**	**263**	P	P	07 00 42.1	-1.5
	3.7nm,0.5s,baz=148,slow=2.4,SNR=7.1						
CMAR	**Chiang Mai Arr**	**88.72**	**290**	P	P	07 04 20.2	-1.5
	0.8nm,0.4s,baz=139,slow=3.9,SNR=4.5						

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*LDG **04** 06:58:53.3±0.3,12.92S×167.26E,h10km,Mb4.8/1,Error ellipse: s-maj=63.8km s-min=12.6km az=92.0*
*BJI **04** 06:59:06.4,14.00S×167.20E,h145km,mB4.7,mb4.8*
*NEIC **04** 06:59:08.4±0.3,13.98S×167.16E,mb4.8/15,Error ellipse: s-maj=11.8km s-min=7.8km az=124.0*
*IDC **04** 06:59:09.8±2.2,14.03S×167.12E,h156km±18km, mb4.3/12,mb1 4.4/14,mb1mx4.4/18,mbtmp4.7/14,MS3.4/2, Ms1 3.3/2,ms1mx2.9/21,Error ellipse: s-maj=18.1km s-min=13.9km az=84.0*
ISC 04 06:59:07.0±0.5,14.01S±0.05×167.12E±0.08,h145km, h145km±2.4km:pP-P,n97,σ1§15/41,mb4.6/23,32C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.05**	**184**	P	**P**	**07 01 04.9**	**+2.8**
	2.4nm,0.3s,baz=23,slow=18,SNR=13						
DZM				S	**S**	**07 02 33.4**	**+1.6**
	baz=322,slow=22,SNR=3.1						
HNR	**Honiara**	**8.37**	**302**	P	**P**	**07 01 10.2**	**+3.8**
	13nm,0.3s,baz=234,slow=5.5,SNR=6.8						
HNR				S	**S**	**07 02 41.8**	**+2.3**
	14nm,0.3s,baz=193,slow=22,SNR=9.6						
CTA	**Charters Tower**	**20.84**	**250**	⇓*iP*	**P**	**07 03 41.7**	**+3.0**
	9.2nm,0.7s						
CTA	**Charters Tower**	**20.84**	**250**	P	**P**	**07 03 39.5**	**+0.8**
	14nm,0.8s

LZH				XP	sP	07 11 42.5	+0.8
LZH				AMB	AMB		
	comp=Z,35nm,1.3s,mb4.8						
LZH	**Lanzhou**	**77.73**	**312**	⇑P	**P**	**07 10 50.4**	**+0.8**
	comp=Z,35nm,1.3s,mb4.8						
LZH				pP	pP	07 11 27.0	+1.1
LZH				sP	sP	07 11 42.5	+0.8
ULN	**Ulaanbaatar**	**81.47**	**324**	*e*P	**P**	**07 11 09.8**	**+0.4**
	comp=Z,17nm,1.6s,mb4.4						
SONM	**Songino Array**	**81.83**	**324**	P	**P**	**07 11 11.9**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=135,slow=5.2,SNR=9.7						
GTA	**Gaotai**	**82.07**	**314**	P	**P**	**07 11 14.3**	**+1.6**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.1						
GTA				AMB	AMB		
	comp=Z,110nm,8.8s						
GTA				LR	LR		
	comp=N,241nm,16.8s						
GTA				LR	LR		
	comp=E,155nm,17.2s						
GTA				LR	LR		
	comp=Z,217nm,13.8s						
COLA	**College**	**85.67**	**18**	*e*P	**P**	**07 11 30.1**	**-0.1**
	comp=Z,1.7nm,0.7s,mb3.9						
ILAR	**Eielson Array**	**85.89**	**18**	P	**P**	**07 11 31.0**	**-0.2**
	comp=Z,1.1nm,0.6s,mb3.7,baz=238,slow=5.0,SNR=17						
ILAR				pP	pP	07 12 06.8	-1.4
	comp=Z,2.3nm,0.7s,baz=238,slow=5.4,SNR=9.1						
NVAR	**Mina Array Bea**	**86.91**	**49**	pP	pP	07 12 14.7	+0.9
	comp=Z,2.3nm,0.9s,baz=210,slow=7.3,SNR=4.7						
MKAR	**Makanchi Array**	**96.58**	**316**	P	**P**	**07 12 22.0**	**+0.6**
	comp=Z,2.3nm,0.7s,mb4.6,baz=96,slow=5.9,SNR=19						
YKA	**Yellowknife Ar**	**96.97**	**27**	P	**P**	**07 12 22.0**	**-0.8**
	comp=Z,0.4nm,0.8s,mb3.8,baz=261,slow=4.8,SNR=6.6						
KEV	**Kevo**	**119.00**	**345**	*e*p	PKPdf	07 17 38.0	0.0
	comp=Z,0.4nm,0.4s						
JOF	**Joensuu**	**122.17**	**338**	*e*p	PKPdf	07 17 56.6	+12
KAF	**Kangasniemi**	**124.47**	**339**	*e*p	PKPdf	07 17 48.7	0.0
	comp=Z,0.8nm,0.3s						
FINES	**FINESS Array B**	**125.00**	**338**	PKP	PKPdf	07 17 50.8	+1.1
	comp=Z,1.2nm,0.3s,baz=64,slow=2.6,SNR=16						
NB2	**NORSAR Subarra**	**129.89**	**345**	PKPdf	PKPdf	07 18 00.0	+0.9
	comp=Z,1.5nm,0.8s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.89**	**345**	PKP	PKPdf	07 18 00.6	+1.4
	comp=Z,2.0nm,0.7s,baz=31,slow=2.0,SNR=7.3						
AKASG	**Malin Array Be**	**130.06**	**326**	PKP	PKPdf	07 18 01.3	+1.6
	comp=Z,0.2nm,0.3s,baz=15,slow=2.1,SNR=5.8						
CLL	**Collm**	**137.34**	**336**	*e*PKIKP	PKPdf	07 18 17.0	+3.8
GERES	**GERESS Array B**	**138.94**	**333**	PKP	PKPdf	07 18 18.4	+2.2
	comp=Z,1.3nm,0.5s,baz=45,slow=1.9,SNR=6.9						
CDF	**Champ du Feu**	**141.86**	**338**	*e*PKP1	PKPdf	07 18 25.2	+3.8
CABF	**La Chapelle**	**143.81**	**338**	⇑*i*PKP1	PKPbc	07 18 26.8	+2.9
	comp=Z,34nm,1.2s						
FLN	**La Foliniere**	**143.86**	**346**	*e*PKP1	PKPbc	07 18 23.9	-0.1
	comp=Z,5.6nm,0.5s						
LDF	**La Druitiere**	**143.94**	**346**	*e*PKP1	PKPbc	07 18 24.7	+0.5
	comp=Z,5.7nm,0.5s						
GRR	**Gorron**	**144.30**	**346**	⇑*i*PKP1	PKPbc	07 18 25.7	+0.5
	comp=Z,8.4nm,0.4s						
SSF	**Saint Saulge**	**144.31**	**341**	*e*PKP1	PKPbc	07 18 26.3	+1.0
	comp=Z,22nm,0.9s						
LPL	**La Plagne**	**144.48**	**336**	*e*PKP1	PKPbc	07 18 27.3	+1.5
	comp=Z,6.3nm,0.5s						
LPG	**La Plagne**	**144.49**	**336**	*e*PKP1	PKPbc	07 18 27.4	+1.5
	comp=Z,15nm,0.6s						
SMF	**Signal de Mont**	**144.57**	**340**	⇑*i*PKP1	PKPbc	07 18 26.8	+0.8
	comp=Z,22nm,0.8s						
AVF	**Avril sur Loir**	**144.60**	**341**	⇑*i*PKP1	PKPbc	07 18 26.9	+0.8
	comp=Z,25nm,0.9s						
SGMF	**Saint Gilles**	**144.80**	**348**	⇑*i*PKP1	PKPbc	07 18 27.5	+0.9
	comp=Z,57nm,0.7s						
ROSF	**Rostrenen**	**144.86**	**349**	⇑*i*PKP1	PKPbc	07 18 27.6	+0.8
	comp=Z,35nm,0.7s						
BNI	**Bardonecchia**	**144.88**	**336**	*e*PKP	PKPdf	07 18 28.6	+1.8
BGF	**Bois d'Agland**	**144.97**	**341**	⇑*i*PKP1	PKPbc	07 18 28.3	+1.1
	comp=Z,41nm,0.8s						
MBDF	**Montbardon**	**145.11**	**335**	⇑*i*PKP1	PKPbc	07 18 28.8	+1.2
	comp=Z,19nm,0.7s						
QUIF	**Quistinic**	**145.24**	**349**	⇑*i*PKP1	PKPbc	07 18 28.7	+0.9
	comp=Z,19nm,0.6s						
ORIF	**Oris-en-Rattie**	**145.31**	**336**	⇑*i*PKP1	PKPbc	07 18 29.8	+1.7
	comp=Z,72nm,0.8s						
TCF	**Toulx Ste Croi**	**145.41**	**341**	⇑*i*PKP1	PKPbc	07 18 29.7	+1.4
	comp=Z,42nm,1.1s						
SBF	**Sospel**	**145.54**	**334**	⇑*i*PKP1	PKPbc	07 18 29.9	+1.2
	comp=Z,73nm,0.9s						
MFF	**Saint Martin d**	**145.79**	**344**	⇑*i*PKP1	PKPbc	07 18 30.8	+1.6
	comp=Z,26nm,0.7s						
VIVF	**Saint-Julien-l**	**145.82**	**338**	⇑*i*PKP1	PKPbc	07 18 31.3	+1.9
	comp=Z,33nm,1.0s						
PGF	**Pioggiola**	**145.86**	**331**	⇑*i*PKP1	PKPbc	07 18 31.1	+1.6
	comp=Z,59nm,0.8s						
LMR	**La Mourre**	**146.36**	**334**	⇑*i*PKP1	PKPbc	07 18 32.5	+1.8
	comp=Z,39nm,0.6s						
RJF	**Les Rejaudoux**	**146.50**	**341**	⇑*i*PKP1	PKPbc	07 18 33.1	+2.1
	comp=Z,22nm,0.9s						
CAF	**Calviac**	**146.67**	**341**	⇑*i*PKP1	PKPbc	07 18 33.8	+2.4
	comp=Z,18nm,0.9s						
LASF	**Ste Croix**	**146.79**	**338**	⇑*i*PKP1	PKPbc	07 18 34.2	+2.5
	comp=Z,30nm,0.7s						
LFF	**La Frestale**	**147.07**	**342**	⇑*i*PKP1	PKPdf	07 18 34.8	+4.4
	comp=Z,35nm,0.7s						
MTLF	**Montolieu**	**148.02**	**339**	⇑*i*PKP1	PKPdf	07 18 37.5	+5.4
	comp=Z,36nm,0.7s						
EPF	**Esparros**	**148.92**	**341**	*e*PKP1	PKPdf	07 18 40.1	+6.6
	comp=Z,5.5nm,0.5s						
EALK	**Alkurruntz**	**149.29**	**344**	PKP	PKPdf	07 18 41.9	+7.8
EBIE	**Bielsa**	**149.29**	**341**	PKP	PKPdf	07 18 41.4	+7.3
SJPF	**Ste Jean**	**149.31**	**343**	*e*PKP1	PKPdf	07 18 41.0	+6.9
	comp=Z,11nm,0.6s						
ETSF	**Etsaut**	**149.31**	**342**	⇑*i*PKP1	PKPdf	07 18 41.2	+7.1
	comp=Z,24nm,0.9s						
EMIR	**Miracle**	**149.51**	**339**	PKP	PKPdf	07 18 42.0	+7.5
ELAN	**Lanestosa**	**149.76**	**346**	PKP	PKPdf	07 18 40.6	+5.8
EARI	**Arriondas**	**150.07**	**349**	PKP	PKPdf	07 18 42.4	+7.1
EPOB	**Poblet**	**150.17**	**339**	PKP	PKPdf	07 18 42.3	+6.8
ESAC	**San Caprasio**	**150.36**	**341**	PKP	PKPdf	07 18 43.7	+7.9
EPON	**Pontenova**	**150.37**	**352**	PKP	PKPdf	07 18 43.4	+7.7
ETOS	**Mallorca**	**150.87**	**335**	PKP	PKPdf	07 18 45.3	+8.7
EMAZ	**Mazaricos**	**150.97**	**354**	PKP	PKPdf	07 18 44.4	+7.7
STS	**Santiago**	**150.98**	**353**	PKP	PKPdf	07 18 45.0	+8.4
EINC	**Incio**	**151.05**	**352**	PKP	PKPdf	07 18 44.9	+8.2
EMOS	**Mosqueruela**	**151.58**	**340**	PKP	PKPdf	07 18 46.9	+9.2
ECAL	**Calabor**	**151.66**	**350**	PKP	PKPdf	07 18 46.4	+8.7
ECHE	**Chera**	**152.44**	**340**	PKP	PKPdf	07 18 48.7	+10
ESDC	**Sonseca Array**	**153.26**	**345**	PKPbc	PKPdf	07 18 49.1	+9.1
	comp=Z,0.5nm,0.4s,baz=12,slow=3.6,SNR=7.3						

*BJI **04** 07:04:38.9, 0.75N×97.26E, h40km, mB5.1, mb4.8, Ms4.6, Msz4.4*
*IDC **04** 07:04:39.0±0.8, 1.31N×97.09E, mb4.3/11, mb1 4.5/12, mb1mx4.3/20, mbtmp4.3/12, ML4.2/1, MS3.5/2, Ms1 3.6/2, ms1mx3.1/23, Error ellipse: s-maj=34.5km s-min=15.1km az=56.0*
*MOS **04** 07:04:42.0±1.1, 1.34N×97.18E, h33km, mb4.8/18, Error ellipse: s-maj=19.8km s-min=8.2km az=96.4*
*NEIC **04** 07:04:43.5±0.4, 1.35N×97.20E, h30km, mb4.7/15, Error ellipse: s-maj=12.4km s-min=7.3km az=60.0*
ISC 04 07:04:42.2±0.5, 1.36N±0.06×97.21E±0.07, h33km, n65, σ0§90/66, mb4.6/41, MS3.8/4, 2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.20**	**41**	*e*P	**P**	**07 06 00.8**	**+1.1**
KULM				*e*		07 06 07.4	
CMAR	**Chiang Mai Arr**	**17.08**	**6**	Pn	**P**	**07 08 39.5**	**-0.6**
	0.3nm,0.3s,baz=194,slow=13,SNR=13						
CMAR				LR	LR	07 15 46.3	
	comp=Z,196nm,18.1s,baz=190,slow=39						
KMI	**Kunming**	**24.22**	**12**	P	**P**	**07 09 59.0**	**+1.8**
KMI				AP		07 10 07.3	
KMI				XP		07 10 11.1	
KMI				PP	PP	07 10 36.1	+3.7
KMI				S	**S**	**07 14 18.5**	**+7.9**
KMI				XS		07 14 32.4	
KMI				AMB	AMB		
	comp=Z,34nm,1.5s,mb4.6						
KMI				AMB	AMB		
	comp=Z,131nm,3.1s						
KMI				LR	LR		
	comp=N,649nm,14.8s,MS4.3						
KMI				LR	LR		
	comp=E,406nm,13.6s,MS4.3						
KMI				LR	LR		
	comp=Z,659nm,12.1s,MS4.3						
KMI	**Kunming**	**24.22**	**12**	P	**P**	**07 09 59.0**	**+1.8**
	comp=Z,34nm,1.5s,mb4.6						
KMI				pP		07 10 07.3	
KMI				sP		07 10 11.1	
KMI				PP	PP	07 10 36.1	+3.7
KMI				S	**S**	**07 14 18.5**	**+7.9**
KMI				sS		07 14 32.4	
KMI				LR	LR		
	comp=Z,660nm,12.1s,MS4.3						
SHL	**Shillong**	**24.61**	**348**	*e*P	**P**	**07 10 01.0**	**+0.1**
PKI	**Pulchoki**	**28.41**	**338**	*e*P	**P**	**07 10 35.4**	**-0.6**
	comp=Z,15nm,0.8s,mb4.7						
PKI	**Pulchoki**	**28.41**	**338**	*e*P	**P**	**07 10 35.4**	**-0.6**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
GUN	**Gumba**	**28.54**	**339**	*e*P	**P**	**07 10 37.6**	**+0.4**
	comp=Z,39nm,0.8s,mb5.2						
DMN	**Daman**	**28.56**	**337**	*e*P	**P**	**07 10 37.5**	**+0.1**
	comp=Z,27nm,0.9s,mb5.0						
KKN	**Kakani**	**28.66**	**338**	*e*P	**P**	**07 10 37.6**	**-0.6**
	comp=Z,36nm,1.0s,mb5.1						
KKN	**Kakani**	**28.66**	**338**	*e*P	**P**	**07 10 37.6**	**-0.6**
KKN				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
LSA	**Lhasa**	**28.77**	**349**	*e*P	**P**	**07 10 40.6**	**+1.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**28.77**	**349**	*e*P	**P**	**07 10 40.6**	**+1.4**
	comp=Z,7.2nm,0.6s,mb4.6						
GKN	**Gorkha**	**29.10**	**337**	*e*P	**P**	**07 10 42.7**	**+0.6**
	comp=Z,35nm,0.9s,mb5.1						
KOLN	**Koldanda**	**29.32**	**335**	*e*P	**P**	**07 10 44.8**	**+0.7**
	comp=Z,27nm,0.7s,mb5.1						
ENH	**Enshi**	**31.03**	**21**	*e*P	**P**	**07 10 58.2**	**-1.1**
	comp=Z,18nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**34.01**	**126**	P	**P**	**07 11 24.8**	**-0.6**
	comp=Z,3.1nm,0.6s,mb4.4,baz=315,slow=8.2,SNR=4.7						
XAN	**Xi'an**	**34.31**	**17**	P	**P**	**07 11 27.3**	**-0.5**
XAN				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.0						
NJ2	**Nanjing**	**36.73**	**32**	*e*P	**P**	**07 11 48.2**	**-0.1**
NJ2				AP	pP	07 11 58.1	+0.1
NJ2				XP	sP	07 12 02.1	-0.2
NJ2				PP	PP	07 13 12.2	-1.7
NJ2				S	**S**	**07 17 29.0**	**-0.2**
NJ2				XS		07 17 47.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,160nm,4.7s						
NJ2				LR	LR		
	comp=N,450nm,12.3s						
NJ2				LR	LR		
	comp=E,300nm,18.9s						
NJ2				LR	LR		
	comp=Z,250nm,17.9s						
SSE	**Sheshan**	**37.28**	**35**	P	**P**	**07 11 51.4**	**-1.6**
SSE				XP	sP	07 12 04.6	-2.4
SSE				S	**S**	**07 17 37.4**	**-0.3**
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,55nm,6.5s						
SSE				LR	LR		
	comp=N,86nm,19.2s,MS3.6						
SSE				LR	LR		
	comp=E,54nm,19.2s,MS3.6						
SSE				LR	LR		
	comp=Z,108nm,18.2s,MS3.7						
SSE	**Sheshan**	**37.28**	**35**	P	**P**	**07 11 51.4**	**-1.6**
	comp=Z,21nm,0.7s,mb5.1						
SSE				sP	sP	07 12 04.6	-2.4
SSE				PP	PP	07 13 15.9	-4.9
SSE				S	**S**	**07 17 37.4**	**-0.3**
SSE				sS		07 17 53.3	
SSE				SS	SS	07 20 23.9	+14
SSE				LR	LR		
	comp=Z,110nm,18.2s,MS3.7						
WRA	**Warramunga Arr**	**42.11**	**122**	P	**P**	**07 12 33.6**	**+0.3**
	comp=Z,3.1nm,0.6s,mb4.1,baz=301,slow=9.1,SNR=9.1						
WRAB	**Tennant Creek**	**42.12**	**122**	*e*P	**P**	**07 12 33.4**	**+0.1**
BJI	**Beijing**	**42.19**	**22**	P	**P**	**07 12 32.4**	**-1.3**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
BJI	**Beijing**	**42.19**	**22**	P	**P**	**07 12 32.4**	**-1.3**
	comp=Z,10.0nm,0.8s,mb4.5						
WMQ	**Urumqi**	**43.12**	**350**	⇓P	**P**	**07 12 42.9**	**+1.7**
WMQ				AP	pP	07 12 52.9	+1.8
WMQ				XP	sP	07 12 56.9	+1.7
WMQ				PP	PP	07 14 25.7	+2.2
WMQ				PCP	PcP	07 14 32.4	+1.3
WMQ				S	**S**	**07 19 07.1**	**+2.3**
WMQ				XS		07 19 23.4	
WMQ				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,244nm,4.0s						
WMQ				LR	LR		
	comp=N,98nm,22.4s,MS3.9						
WMQ				LR	LR		
	comp=E,132nm,22.5s,MS3.9						
WMQ				LR	LR		
	comp=Z,73nm,22.5s,MS3.5						
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**07 12 45.1**	**+0.7**
	comp=Z,1.9nm,0.7s,mb3.9,baz=297,slow=7.9,SNR=7.7						
AAK	**Ala-Archa**	**45.86**	**337**	*i*P	**P**	**07 13 04.7**	**+1.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
AAK	**Ala-Archa**	**45.86**	**337**	*e*P	**P**	**07 13 03.7**	**+0.5**
	comp=Z,2.7nm,0.9s,mb4.2						
SONM	**Songino Array**	**46.97**	**8**	P	**P**	**07 13 12.8**	**+0.9**
	comp=Z,6.9nm,0.8s,mb4.7,baz=190,slow=9.3,SNR=30						
MKAR	**Makanchi Array**	**47.09**	**346**	*e*P	**P**	**07 13 13.2**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**47.09**	**346**	P	**P**	**07 13 13.5**	**+0.7**
	comp=Z,4.1nm,0.5s,mb4.6,baz=158,slow=8.9,SNR=44						
ULN	**Ulaanbaatar**	**47.10**	**9**	*e*P	**P**	**07 13 12.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**47.10**	**9**	*e*P	**P**	**07 13 12.7**	**-0.2**
	comp=Z,4.4nm,0.8s,mb4.4						
ZAK	**Zakamensk**	**49.12**	**5**	*e*P	**P**	**07 13 28.6**	**+0.1**
CN2	**Changchun**	**49.16**	**27**	*e*P	**P**	**07 13 29.1**	**+0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
TLY	**Talaya**	**50.44**	**5**	*i*P	**P**	**07 13 39.4**	**+0.8**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**51.64**	**345**	*i*P	**P**	**07 13 48.0**	**+0.2**
KURK	**Kurchatov**	**51.64**	**345**	*e*P	**P**	**07 13 47.7**	**0.0**
	comp=Z,4.8nm,0.8s,mb4.5						
MDJ	**Mudanjiang**	**51.73**	**29**	P	**P**	**07 13 49.8**	**+1.3**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,60nm,4.4s						
ZAL	**Zalesovo**	**53.40**	**351**	P	**P**	**07 14 00.6**	**-0.3**
	comp=Z,7.5nm,0.6s,mb4.8,baz=311,slow=5.7,SNR=31						
ZAL	**Zalesovo**	**53.40**	**351**	P	**P**	**07 14 00.6**	**-0.3**
STKA	**Stephens Creek**	**53.45**	**132**	P	**P**	**07 14 02.5**	**+0.9**
	comp=Z,1.4nm,0.5s,mb4.1,baz=320,slow=13,SNR=5.2						
ATD	**Arta Tunnel**	**54.86**	**283**	LR	LR	07 32 53.2	
	comp=Z,26nm,19.1s,MS3.3,baz=60,slow=31						
BVA0	**Borovoye Array**	**56.10**	**341**	*i*P	**P**	**07 14 19.5**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**56.10**	**341**	P	**P**	**07 14 19.6**	**-0.9**
	comp=Z,4.8nm,0.7s,mb4.6,baz=143,slow=7.4,SNR=28						
KLR	**Kul'dur**	**56.11**	**27**	*e*P	**P**	**07 14 18.4**	**-2.2**
CHKZ	**Chkalovo**	**56.58**	**341**	P	**P**	**07 14 23.2**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
BOD	**Bodaibo**	**57.85**	**11**	*e*P	**P**	**07 14 31.6**	**-1.3**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
YSS	**Yuzh-Sakhalins**	**60.21**	**34**	*e*P	**P**	**07 14 49.9**	**+0.5**
SVE	**Sverdlovsk**	**62.55**	**338**	*e*P	**P**	**07 15 04.9**	**-0.1**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
YAK	**Yakutsk**	**65.27**	**16**	*e*P	**P**	**07 15 21.9**	**-0.8**
YAK				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.3						
YAK	**Yakutsk**	**65.27**	**16**	*e*P	**P**	**07 15 21.9**	**-0.7**
	comp=Z,31nm,0.9s,mb5.3						
SOC	**Sochi**	**66.01**	**318**	*e*P	**P**	**07 15 25.4**	**-2.3**
SOC				*e*		07 15 56.4	
SOC				*e*		07 17 55.7	
SOC				*e*PPP	PPP	07 19 29.8	-0.7
SOC				*e*S	S	07 24 12.4	+0.7
SOC				*e*		07 25 18.3	
SOC				*e*SS	SS	07 28 32.9	+4.4
SOC				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
SOC				pmax	pmax		
	comp=N,3.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.3s						
MATP	**Matopo**	**70.59**	**248**	P	**P**	**07 15 56.5**	**0.0**
	comp=E,2.0nm,0.8s,mb4.1,baz=96,slow=4.9,SNR=3.9						
MA2	**Magadan**	**71.19**	**26**	*i*P	**P**	**07 15 59.0**	**-0.5**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
OBN	**Obninsk**	**72.49**	**328**	*e*P	**P**	**07 16 07.7**	**+0.4**
OBN				*e*		07 16 12.8	
OBN				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
TIXI	**Tiksi**	**73.03**	**10**	*i*P	**P**	**07 16 09.8**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
FINES	**FINESS Array B**	**79.86**	**332**	P	**P**	**07 16 48.9**	**-0.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=108,slow=6.0,SNR=7.2						
SYO	**Syowa Base**	**80.16**	**198**	⇓X		07 16 44.5	
BILL	**Bilibino**	**81.01**	**21**	*i*P	**P**	**07 16 55.4**	**+0.5**
BILL				pmax	pmax		
	comp=Z,11nm,2.5s,mb4.3						
GERES	**GERESS Array B**	**84.70**	**319**	P	**P**	**07 17 14.6**	**+0.5**
	comp=Z,0.4nm,0.2s,mb4.1,baz=117,slow=6.0,SNR=4.1						
TXAR	**Lajitas Array**	**143.53**	**32**	PKP	PKPdf	07 24 13.9	-0.3
	comp=Z,0.3nm,0.7s,baz=171,slow=1.0,SNR=6.0						
JCT	**Junction City**	**144.43**	**26**	*e*PKP	PKPdf	07 24 16.6	+0.8
LRAL	**Lakeview Retre**	**145.56**	**6**	*e*PKP	PKPdf	07 24 19.1	+1.5

*MDD **04** 07:05:31.9±1.0, 34.97N×3.87W, h5km±4km, mbLg2.5/33, Error ellipse: s-maj=7.9km s-min=4.2km az=15.0, PRXIMO*
*NEIC **04** 07:05:32.4, 34.95N×3.86W, h11km, MG3.9(MDD), After MDD.*
*CSEM **04** 07:05:32.4±0.1, 34.96N×3.69W, h50km±3km, ML3.3/2, Error ellipse: s-maj=2.6km s-min=1.7km az=126.0*
*CNRM **04** 07:05:32.5, 35.00N×3.80W, h2km, MD3.7*
ISC 04 07:05:31.1±0.3, 35.03N±0.02×3.83W±0.02, h10km, n97, σ1§23/171, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.21**	**335**	P	**Pg**	**07 05 37.0**	**+1.3**
MPAL				S	**Sg**	**07 05 40.0**	**+1.2**
EMEL	**Melilla**	**0.77**	**69**	P	**Pb**	**07 05 47.0**	**+1.0**
	339nm,0.2s,SNR=21						
EMEL				S	**Sb**	**07 05 58.7**	**+2.4**
	1μm,0.2s,SNR=8.2						
EMLI	**Melilla**	**0.77**	**69**	P	**Pb**	**07 05 47.0**	**+0.9**
	339nm,0.2s,SNR=21						
EMLI				S	**Sb**	**07 05 58.7**	**+2.3**
	1μm,0.2s,SNR=8.2						
ZAI	**Zaio**	**0.89**	**93**	*i*P	**Pb**	**07 05 49.0**	**+0.8**
ZAI				*i*S	**Sb**	**07 06 00.0**	**0.0**
TZK	**Tazeka**	**0.98**	**197**	*i*P	**Pb**	**07 05 50.0**	**+0.3**
TZK				*i*S	**Sb**	**07 06 04.0**	**+1.5**
EALB	**Alboran**	**1.12**	**35**	P	**Pb**	**07 05 54.8**	**+2.8**
EALB				S	**Sb**	**07 06 08.1**	**+1.7**
EALB	**Alboran**	**1.12**	**35**	P	**Pb**	**07 05 53.2**	**+1.1**
	49nm,0.2s,SNR=9.8						
EALB				S	**Sb**	**07 06 09.9**	**+3.4**
	101nm,0.2s,SNR=4.0						
EALB	**Alboran**	**1.12**	**35**	P	**Pb**	**07 05 54.8**	**+2.7**
	49nm,0.2s,SNR=9.8						
EALB				S	**Sb**	**07 06 08.1**	**+1.6**
TAF	**Taforalt**	**1.19**	**100**	P	**Pb**	**07 05 52.0**	**-1.2**
DKH	**Dar Kharkhour**	**1.33**	**291**	*i*P	**Pb**	**07 05 56.0**	**+0.3**
DKH				*i*S	**Sb**	**07 06 15.0**	**+2.3**
TGT	**Taghat**	**1.39**	**227**	*i*P	**Pn**	**07 05 57.0**	**+0.4**
TGT				*i*S	**Sb**	**07 06 15.0**	**+0.6**
MDAL	**Dalia**	**1.60**	**303**	*i*P	**Pn**	**07 06 01.5**	**+1.8**
MDAL				*i*S	**Sb**	**07 06 22.0**	**+1.5**
RSA	**Sarsar**	**1.65**	**265**	*i*P	**Pn**	**07 06 02.0**	**+1.7**
RSA				*i*S	**Sn**	**07 06 23.0**	**+1.4**
EMIJ	**Mijas**	**1.71**	**334**	P	**Pn**	**07 06 02.5**	**+1.2**
EMIJ				S	**Sn**	**07 06 19.3**	**-4.0**
EMIJ	**Mijas**	**1.71**	**334**	P	**Pn**	**07 06 01.7**	**+0.5**
	6.7nm,0.2s,SNR=8.8						
EMIJ				S	**Sn**	**07 06 24.1**	**+0.8**
	14nm,0.1s,SNR=6.5						
EMIJ	**Mijas**	**1.71**	**334**	P	**Pn**	**07 06 02.5**	**+1.3**
EMIJ				S	**Sn**	**07 06 19.8**	**-3.5**

EQES				S	Sn	07 06 51.8	-0.1
	10.0nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.95**	**19**	P	Pn	07 06 19.9	+0.9
EHUE				S	Sn	07 06 56.5	+1.6
EHUE	**Huescar**	**2.95**	**19**	P	Pn	07 06 19.9	+0.9
	1.0nm,0.1s,SNR=4.0						
EHUE				S	Sn	07 06 54.0	-0.9
	2.2nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.95**	**19**	P	Pn	07 06 19.9	+0.9
	1.0nm,0.1s,SNR=4.0						
EHUE				S	Sn	07 06 53.5	-1.4
	2.2nm,0.3s,SNR=7.9						
EHOR	**Hornachuelos**	**3.01**	**338**	P	Pn	07 06 20.3	+0.5
	2.3nm,0.4s,SNR=7.9						
EHOR				S	Sn	07 06 55.1	-1.2
	3.5nm,0.4s,SNR=7.9						
KIB	**El Ksiba**	**3.06**	**218**	*i* P	Pn	07 06 20.0	-0.5
KIB				*i* S	Sn	07 06 56.0	-1.5
EBAN	**Banos Encina**	**3.13**	**1**	P	Pn	07 06 22.0	+0.5
	1.2nm,0.6s,SNR=7.9						
EBAN				S	Sn	07 06 58.8	-0.5
	6.6nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.19**	**349**	P	Pn	07 06 21.5	-0.8
EADA				S	Sn	07 07 00.8	0.0
EADA	**Adamuz**	**3.19**	**349**	P	Pn	07 06 22.3	-0.1
	0.9nm,0.1s,SNR=7.9						
EADA				S	Sn	07 06 59.7	-1.1
	2.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.19**	**349**	P	Pn	07 06 22.3	0.0
	0.9nm,0.1s,SNR=7.9						
EADA				S	Sn	07 07 00.8	0.0
ECAB	**El Cabril**	**3.30**	**338**	P	Pn	07 06 23.6	-0.3
	1.6nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**3.30**	**338**	P	Pn	07 06 23.6	-0.3
	1.6nm,0.4s,SNR=7.9						
AVE	**Averroes**	**3.43**	**241**	P	Pn	07 06 25.5	-0.3
EMUR	**La Murta**	**3.50**	**36**	P	Pn	07 06 28.5	+1.8
EMUR				S	Sn	07 07 06.2	-2.5
EMUR	**La Murta**	**3.50**	**36**	P	Pn	07 06 26.6	-0.2
	5.8nm,0.4s,SNR=4.0						
EMUR				S	Sn	07 07 07.4	-1.2
	2.8nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.50**	**36**	P	Pn	07 06 28.1	+1.4
	1.0nm,0.2s,SNR=4.0						
EMUR				S	Sn	07 07 06.2	-2.5
EMIN	**Mina Concepcio**	**3.57**	**321**	P	Pn	07 06 26.6	-1.1
EMIN				S	Sn	07 07 05.9	-4.4
EMIN	**Mina Concepcio**	**3.57**	**321**	P	Pn	07 06 26.9	-0.8
	1.4nm,0.2s,SNR=25						
EMIN				S	Sn	07 07 07.4	-2.9
	1.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.57**	**321**	P	Pn	07 06 26.9	-0.8
	1.4nm,0.2s,SNR=25						
TZC	**Tazercounte**	**3.63**	**218**	*i* P	Pn	07 06 28.0	-0.6
TZC				*i* S	Sn	07 07 10.0	-2.0
EVIA	**Vianos**	**3.76**	**16**	P	Pn	07 06 30.3	-0.1
	3.0nm,0.4s,SNR=7.9						
EVIA				S	Sn	07 07 12.9	-2.3
	9.5nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**3.87**	**311**	P	Pn	07 06 30.4	-1.5
EGRO				S	Sn	07 07 12.7	-5.2
EGRO	**El Granado**	**3.87**	**311**	P	Pn	07 06 30.6	-1.4
	5.3nm,0.2s,SNR=13						
EGRO				S	Sn	07 07 13.5	-4.4
	6.9nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.87**	**311**	P	Pn	07 06 30.5	-1.4
	5.3nm,0.2s,SNR=13						
ETOB	**Tobarra**	**4.05**	**26**	P	Pn	07 06 35.4	+0.9
ETOB				S	Sn	07 07 21.9	-0.6
ETOB	**Tobarra**	**4.05**	**26**	P	Pn	07 06 35.2	+0.7
	1.4nm,0.2s,SNR=12						
ETOB				S	Sn	07 07 20.6	-2.0
	1.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.05**	**26**	P	Pn	07 06 35.2	+0.7
	1.4nm,0.2s,SNR=12						
ETOB				S	Sn	07 07 20.5	-2.0
	1.2nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**4.42**	**314**	*e*Pn	Pn	07 06 37.7	-2.1
PBEJ				*e*Sn	Sn	07 07 26.7	-5.2
	4.2nm,0.2s						
PBEJ	**Beja**	**4.42**	**314**	*e*Pn	Pn	07 06 37.7	-2.1
PBEJ				*e*Sn	Sn	07 07 26.7	-5.2
	4.2nm,0.2s						
EBAD	**Badajoz**	**4.51**	**327**	P	Pn	07 06 40.2	-0.9
EBAD				S	Sn	07 07 29.5	-4.7
EBAD	**Badajoz**	**4.51**	**327**	P	Pn	07 06 39.8	-1.3
	5.4nm,0.3s,SNR=7.1						
EBAD				S	Sn	07 07 29.8	-4.4
	7.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.51**	**327**	P	Pn	07 06 40.2	-0.9
	5.4nm,0.3s,SNR=7.1						
ESDC	**Sonseca Array**	**4.64**	**359**	P	Pn	07 06 43.4	+0.5
ESDC	**Sonseca Array**	**4.64**	**359**	P	Pn	07 06 42.6	-0.3
	3.9nm,0.1s,baz=178,slow=12,SNR=3.5						
ESDC				S	Sn	07 07 33.5	-4.0
	1.7nm,0.4s,baz=182,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**4.64**	**359**	P	Pn	07 06 43.4	+0.5
	3.9nm,0.1s,SNR=3.5						
EBEN	**Beniarda**	**4.67**	**37**	P	Pn	07 06 42.4	-1.0
EBEN				S	Sn	07 07 31.1	-7.2
EBEN	**Beniarda**	**4.67**	**37**	P	Pn	07 06 42.4	-1.0
	0.4nm,0.2s,SNR=7.9						
EBEN				S	Sn	07 07 35.0	-3.3
	0.4nm,0.2s,SNR=4.0						
EBEN	**Beniarda**	**4.67**	**37**	P	Pn	07 06 42.4	-1.0
	0.4nm,0.2s,SNR=7.9						
EBEN				S	Sn	07 07 35.0	-3.3
	0.4nm,0.2s,SNR=4.0						
PTEO	**Sao Teotonio**	**4.68**	**304**	*e*Sn	Sn	07 07 32.7	-5.9
	4.8nm,0.3s						
PTEO	**Sao Teotonio**	**4.68**	**304**	*e*Sn	Sn	07 07 32.7	-5.9
	4.8nm,0.3s						
ECHE	**Chera**	**5.09**	**26**	P	Pn	07 06 48.8	-0.5
	1.2nm,0.5s,SNR=7.9						
ECHE				S	Sn	07 07 45.2	-3.8
	2.9nm,0.6s,SNR=7.9						
OUK	**Oukaimeden**	**5.10**	**223**	*i* P	Pn	07 06 48.0	-1.4
CIA	**Chichaoua**	**5.38**	**231**	*i* P	Pn	07 06 52.0	-1.4
PCBR	**Castelo Branco**	**5.61**	**330**	*e*Pn	Pn	07 06 55.7	-0.9
PCBR				*e*Sn	Sn	07 07 56.9	-5.0
	4.1nm,0.5s						
PCBR	**Castelo Branco**	**5.61**	**330**	P	Pn	07 06 55.7	-0.9
PCBR				S	Sn	07 07 56.9	-5.0
	2.0nm,0.5s						
EIBI	**Ibiza**	**5.75**	**45**	P	Pn	07 06 58.1	-0.5
EIBI				S	Sn	07 07 59.7	-5.7
EIBI	**Ibiza**	**5.75**	**45**	P	Pn	07 06 58.1	-0.5
	2.3nm,0.2s,SNR=7.9						
EIBI				S	Sn	07 08 00.1	-5.3
	1.2nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**5.75**	**45**	P	Pn	07 06 58.1	-0.5
	2.3nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**5.86**	**323**	*e*Pn	Pn	07 06 58.3	-1.8
EMOS	**Mosqueruela**	**5.95**	**26**	S	Sn	07 08 06.4	-4.2
	5.7nm,0.9s,SNR=7.9						
ECAL	**Calabor**	**7.27**	**343**	P	Pn	07 07 19.0	-1.0
ECAL	**Calabor**	**7.27**	**343**	P	Pn	07 07 18.4	-1.6
	1.1nm,0.2s,SNR=6.9						
ECAL				S	Sn	07 08 36.8	-6.6
	8.1nm,0.7s,SNR=7.9						
ECAL	**Calabor**	**7.27**	**343**	P	Pn	07 07 19.0	-1.0
EPOB	**Poblet**	**7.40**	**30**	S	Sn	07 08 40.8	-6.0
	3.2nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**7.59**	**335**	P	Pn	07 07 22.7	-1.8
	2.5nm,0.4s,SNR=7.9						
ELOB				S	Sn	07 08 43.9	-7.6
	4.8nm,0.6s,SNR=7.9						
EARI	**Arriondas**	**8.33**	**353**	P	P	07 07 33.2	-1.6
	7.4nm,1.4s,SNR=7.9						
EALK	**Alkurruntz**	**8.38**	**12**	P	P	07 07 34.2	-1.2
	2.6nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**8.68**	**344**	P	P	07 07 38.1	-1.5
	3.3nm,0.6s,SNR=7.9						

IDC 04 07:28:10.2±4.1, 2.57N×96.84E, mb3.9/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, Error ellipse: s-maj=160.2km s-min=27.4km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.07**	**123**	P	P	07 36 12.2	-1.7
	0.9nm,0.6s,baz=300,slow=9.3,SNR=5.4						
MKAR	**Makanchi Array**	**45.84**	**346**	P	P	07 36 34.1	-1.7
	1.0nm,0.4s,baz=157,slow=9.1,SNR=20						
SONM	**Songino Array**	**45.84**	**9**	P	P	07 36 34.1	-1.8
	0.4nm,0.4s,baz=200,slow=5.6,SNR=5.8						
ZAL	**Zalesovo**	**52.15**	**351**	P	P	07 37 21.9	-2.6
	1.0nm,0.5s,baz=331,slow=6.1,SNR=3.9						

*IDC **04** 07:50:52.8±4.8, 28.23S×178.57W, h203km±63km, mb3.3/2, mb1 3.6/2, mb1mx3.3/12, mbtmp3.9/2, Error ellipse: s-maj=222.2km s-min=46.3km az=172.0*

ISC 04 07:50:51.6±2.3, 29.9S±0.1×178.4W±0.7, h222km±24km, n11, σ1°33/13, mb3.4/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.71**	**34**	P	P	07 51 23.9	+1.6
	734nm,0.3s,baz=281,slow=22,SNR=40						
RAO				S	S	07 51 45.2	-1.1
	325nm,0.3s,baz=66,slow=22,SNR=4.2						
MXZ	**Matakaoa Point**	**8.18**	**199**	SN	S	07 54 20.0	+1.1
PUZ	**Puketiti**	**8.67**	**198**	PN	P	07 52 52.9	-1.3
PUZ				SN	S	07 54 32.6	+2.5
MWZ	**Matawai**	**9.12**	**201**	PN	P	07 52 59.1	-0.9
MWZ				SN	S	07 54 43.0	+2.4
KNZ	**Kokohu**	**9.71**	**199**	SN	S	07 54 53.2	-0.9
KIW	**Kapiti Island**	**12.27**	**205**	SN	S	07 55 51.7	-1.4
NNZ	**Nelson**	**13.17**	**208**	SN	S	07 56 12.7	-0.7
MQZ	**McQueen's Vall**	**15.57**	**205**	SN	S	07 57 03.2	-3.8
ASAR	**Alice Springs**	**42.82**	**267**	P	P	07 58 29.7	+0.4
	0.4nm,0.4s,mb3.2,baz=99,slow=6.0,SNR=5.5						
WRA	**Warramunga Arr**	**43.76**	**272**	P	P	07 58 37.2	+0.3
	1.4nm,0.4s,mb3.6,baz=110,slow=7.7,SNR=11						
FINES	**FINESS Array B**	**144.52**	**340**	PKP	PKPdf	08 10 01.1	+0.6
	0.7nm,0.4s,baz=45,slow=2.7,SNR=9.1						

*IDC **04** 08:00:39.5±2.0, 17.48S×178.67W, h514km±24km, mb3.6/9, mb1 3.8/11, mb1mx3.6/19, mbtmp4.5/11, Error ellipse: s-maj=57.4km s-min=12.0km az=154.0*

*NEIC **04** 08:00:39.5±1.0, 17.49S×178.67W, h518km±13km, mb4.1/5, Error ellipse: s-maj=48.6km s-min=8.9km az=154.0*

ISC 04 08:00:38.4±1.4, 17.2S±0.5×178.9W±0.2, h508km±20km, n22, σ0°89/21, mb4.0/13, 4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.58**	**66**	P	P	08 02 31.0	-0.7
	5.9nm,0.3s,baz=288,slow=19,SNR=9.6						
DZM	**Mont Dzumac**	**14.65**	**248**	P	P	08 03 47.9	+2.7
	0.4nm,0.3s,baz=90,slow=19,SNR=3.4						
ARMA	**Armidale**	**29.93**	**238**	*e*P	P	08 06 06.3	+0.2
CTA	**Charters Tower**	**33.12**	**259**	P	P	08 06 34.1	+0.8
	2.5nm,0.4s,mb4.0,baz=95,slow=5.1,SNR=3.6						
PMG	**Port Moresby**	**33.88**	**279**	P	P	08 06 43.2	+3.5
	18nm,0.8s,mb4.6,baz=84,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**38.59**	**240**	‖*i*P	P	08 07 18.7	+0.3
	4.8nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**38.59**	**240**	P	P	08 07 18.8	+0.4
	5.9nm,0.5s,mb4.3,baz=91,slow=9.3,SNR=34						
WB2	**Warramunga Arr**	**44.31**	**259**	‖*i*P	P	08 08 03.5	-0.7
WRAB	**Tennant Creek**	**44.31**	**259**	*e*P	P	08 08 03.6	-0.7
	6.3nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**44.32**	**259**	P	P	08 08 03.8	-0.6
	2.2nm,0.4s,mb3.9,baz=96,slow=7.1,SNR=26						
ASAR	**Alice Springs**	**44.55**	**254**	P	P	08 08 05.9	-0.2
	30nm,0.6s,mb4.9,baz=88,slow=8.1,SNR=540						
ASPA	**Alice Springs**	**44.56**	**254**	‖*i*P	P	08 08 05.9	-0.3
FITZ	**Fitzroy Crossi**	**52.70**	**260**	‖*i*P	P	08 09 06.7	-0.5
	3.8nm,0.4s,mb4.1						
MBWA	**Marble Bar**	**57.81**	**255**	*e*P	P	08 09 41.4	-1.5
	3.1nm,0.3s,mb4.1						
YBH	**Yreka Blue Hor**	**78.24**	**39**	P	P	08 11 46.6	+0.2
	1.2nm,0.8s,mb3.4,baz=177,slow=3.2,SNR=2.7						
NVAR	**Mina Array Bea**	**79.21**	**44**	P	P	08 11 52.0	+0.5
	1.3nm,0.7s,mb3.6,baz=228,slow=9.6,SNR=6.9						
NVAR	**Mina Array Bea**	**79.21**	**44**	P	P	08 11 52.0	+0.5
HLID	**Hailey**	**84.37**	**41**	*e*P	P	08 12 18.3	+0.7
	0.7nm,0.7s,mb3.3						
TXAR	**Lajitas Array**	**85.99**	**58**	P	P	08 12 26.4	+0.6
	1.3nm,0.8s,mb3.6,baz=217,slow=5.9,SNR=17						
YKA	**Yellowknife Ar**	**93.85**	**25**	P	P	08 13 00.9	-0.5
	0.4nm,0.7s,mb3.5,baz=247,slow=4.4,SNR=10						
YKA	**Yellowknife Ar**	**93.85**	**25**	P	P	08 13 00.9	-0.5
GERES	**GERESS Array B**	**146.77**	**345**	PKPbc	PKPbc	08 19 23.8	+1.8
	0.5nm,0.3s,baz=297,slow=3.0,SNR=3.7						

*BJI **04** 08:04:56.5, 0.41N×97.49E, h40km, mB5.0, mb4.7, Ms4.6, Msz4.2*

*MOS **04** 08:04:59.0±1.3, 0.86N×97.34E, h33km, mb5.0/13, Error ellipse: s-maj=12.5km s-min=6.9km az=105.0*

*NEIC **04** 08:05:00.5±0.4, 0.84N×97.35E, h30km, mb4.7/26, Error ellipse: s-maj=12.2km s-min=6.5km az=52.0*

NEIC Felt [II] at Padang, Sumatra.

*IDC **04** 08:05:03.2±7.2, 0.93N×97.40E, h53km±65km, mb4.1/14, mb1 4.3/15, mb1mx4.2/19, mbtmp4.4/15, ML4.5/1, MS3.9/5, Ms1 4.0/5, ms1mx3.5/27, Error ellipse: s-maj=26.7km s-min=13.1km az=59.0*

ISC 04 08:04:58.7±1.7, 0.85N±0.05×97.37E±0.06, h31km±12km, h33km±1.2km: pP-P, n107, σ1°17/113, mb4.6/51, MS4.1/14, 6C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**3.29**	**113**	*e*P	Pn	08 05 54.0	+4.6
IPM	**Ipoh**	**5.20**	**44**	P	Pn	08 06 17.3	+0.8
KULM	**Kulim**	**5.49**	**36**	↑*e*P	Pn	08 06 20.5	-0.1
KGM	**Kluang**	**6.05**	**79**	P	Pn	08 06 30.1	+1.5
PENI	**Pendagan**	**10.06**	**129**	↑*i*P	P	08 07 19.3	-5.2
PENI				pmax	pmax		
	comp=Z,71nm,0.5s						
PENI	**Pendagan**	**10.06**	**129**	↑*i*P	P	08 07 19.3	-5.2
	comp=Z,71nm,0.5s						
PASI	**Pasiripis**	**11.11**	**133**	↑*i*P	P	08 07 31.5	-7.2
PULI	**Pulasari**	**11.17**	**130**	↑*i*P	P	08 07 33.6	-6.0
CMAR	**Chiang Mai Arr**	**17.56**	**5**	P	P	08 09 02.5	-0.5
	comp=Z,0.6nm,0.3s,baz=193,slow=12,SNR=15						
CMAR				LR	LR	08 16 32.1	
	comp=Z,548nm,18.5s,baz=195,slow=39						
KKM	**Kota Kinabalu**	**19.50**	**74**	*e*P	P	08 09 26.0	-0.5
VIS	**Vishakhapatnam**	**21.72**	**321**	*e*P	P	08 09 52.0	+2.6
TANI	**Tanete Lipujan**	**22.41**	**101**	*e*P	P	08 09 56.3	0.0
NINI	**Niniconang**	**22.97**	**103**	*e*P	P	08 10 04.0	+2.0
KMI	**Kunming**	**24.68**	**12**	P	P	08 10 21.2	+2.7
KMI				AP		08 10 29.9	
KMI				PP	PP	08 10 56.4	+1.3
KMI				S	S	08 14 37.6	+2.4
KMI				XS		08 14 51.5	
KMI				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.3						
KMI				AMB	AMB		
	comp=Z,162nm,4.4s						
KMI				LR	LR		
	comp=N,915nm,14.9s,MS4.5						
KMI				LR	LR		
	comp=E,715nm,14.2s,MS4.5						
KMI				LR	LR		
	comp=Z,967nm,14.2s,MS4.4						
KMI	**Kunming**	**24.68**	**12**	P	P	08 10 21.2	+2.7
	comp=Z,14nm,1.4s,mb4.3						
KMI				pP		08 10 29.9	
KMI				PP	PP	08 10 56.4	+1.3
KMI				S	S	08 14 37.6	+2.4
KMI				sS		08 14 51.5	
KMI				SS	SS	08 15 30.5	-1.9
KMI				LR	LR		
	comp=Z,970nm,14.2s,MS4.5						
SHL	**Shillong**	**25.14**	**348**	*e*P	P	08 10 23.0	+0.2
PKI	**Pulchoki**	**28.94**	**338**	*e*P	P	08 11 00.0	+2.4
	comp=Z,47nm,1.3s,mb5.1						
PKI	**Pulchoki**	**28.94**	**338**	*e*P	P	08 11 00.0	+2.4
PKI				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.8						
GUN	**Gumba**	**29.07**	**339**	*e*P	P	08 10 59.4	+0.6
	comp=Z,78nm,1.2s,mb5.3						
DMN	**Daman**	**29.09**	**337**	*e*P	P	08 11 01.2	+2.3
	comp=Z,27nm,0.9s,mb5.0						
KKN	**Kakani**	**29.19**	**338**	*e*P	P	08 11 01.3	+1.5
	comp=Z,26nm,0.9s,mb5.0						
KKN	**Kakani**	**29.19**	**338**	*e*P	P	08 11 01.3	+1.5
KKN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
LSA	**Lhasa**	**29.29**	**349**	*e*P	P	08 11 01.2	+0.4
LSA				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.7						
LSA	**Lhasa**	**29.29**	**349**	*e*P	P	08 11 01.2	+0.5
	comp=Z,5.6nm,0.4s,mb4.7						
GKN	**Gorkha**	**29.63**	**337**	*e*P	P	08 11 03.6	-0.2
	comp=Z,52nm,1.1s,mb5.2						
KOLN	**Koldanda**	**29.84**	**335**	*e*P	P	08 11 05.7	0.0
	comp=Z,26nm,0.7s,mb5.1						
MBWA	**Marble Bar**	**30.93**	**136**	*e*P	P	08 11 15.2	-0.1
	comp=Z,7.5nm,0.9s,mb4.5						
ENH	**Enshi**	**31.44**	**20**	*e*P	P	08 11 16.3	-3.4
	comp=Z,6.8nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.59**	**125**	*e*P	P	08 11 37.2	-1.3
	comp=Z,8.3nm,0.7s,mb4.8						
XAN	**Xi'an**	**34.74**	**17**	P	P	08 11 47.1	-1.3
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
LZH	**Lanzhou**	**35.57**	**9**	*e*P	P	08 11 54.5	-0.9
LZH				AP	pP	08 12 03.9	-0.8
LZH				XP	sP	08 12 07.5	-1.1
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,105nm,5.0s						
LZH				LR	LR		
	comp=E,216nm,13.0s						
LZH				LR	LR		
	comp=Z,321nm,17.3s,MS4.1						
LZH	**Lanzhou**	**35.57**	**9**	*e*P	P	08 11 54.5	-0.9
	comp=Z,28nm,1.3s,mb5.0						
LZH				pP	pP	08 12 03.9	-0.8
LZH				sP	sP	08 12 07.5	-1.1
LZH				LR	LR		
	comp=Z,320nm,17.3s,MS4.1						
NJ2	**Nanjing**	**37.07**	**31**	*e*P	P	08 12 08.0	-0.1
NJ2				AP	pP	08 12 18.3	+0.9
NJ2				XP	sP	08 12 23.2	+1.9
NJ2				PP	PP	08 13 34.1	-0.9
NJ2				S	S	08 17 54.0	+2.6
NJ2				XS		08 18 08.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,130nm,5.5s						
NJ2				LR	LR		
	comp=N,760nm,14.0s,MS4.8						
NJ2				LR	LR		
	comp=E,900nm,14.6s,MS4.8						
NJ2				LR	LR		
	comp=Z,440nm,16.0s,MS4.3						
SSE	**Sheshan**	**37.60**	**35**	P	P	08 12 09.6	-2.9
SSE				AP	pP	08 12 18.4	-3.4
SSE				S	S	08 17 55.8	-3.7
SSE				SS	SS	08 20 40.7	+6.7
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,62nm,3.7s						
SSE				LR	LR		
	comp=N,218nm,18.5s,MS4.1						
SSE				LR	LR		
	comp=E,140nm,18.5s,MS4.1						
SSE				LR	LR		
	comp=Z,174nm,21.3s,MS3.8						
SSE	**Sheshan**	**37.60**	**35**	P	P	08 12 09.6	-2.9
	comp=Z,31nm,0.7s,mb5.2						
SSE				pP	pP	08 12 18.4	-3.4
SSE				PP	PP	08 13 35.4	-6.0
SSE				S	S	08 17 55.8	-3.7
SSE				sS		08 18 09.5	
SSE				SS	SS	08 20 40.7	+6.7
SSE				LR	LR		
	comp=Z,170nm,21.3s,MS3.8						
GTA	**Gaotai**	**38.44**	**3**	P	P	08 12 19.4	-0.1
GTA				S	S	08 18 05.7	-6.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
GTA				AMB	AMB		
	comp=Z,127nm,7.3s						
GTA				LR	LR		
	comp=N,236nm,11.5s						
GTA				LR	LR		
	comp=E,303nm,16.8s						
GTA				LR	LR		
	comp=Z,186nm,12.2s,MS4.1						
NWAO	**Narrogin (SRO)**	**38.47**	**153**	P	P	08 12 21.6	+1.7
	comp=Z,10nm,1.0s,mb4.5,baz=327,slow=15,SNR=3.9						
NWAO				LR	LR	08 28 26.1	
	comp=Z,217nm,19.8s,MS4.0,baz=42,slow=36						
WRA	**Warramunga Arr**	**41.70**	**122**	P	P	08 12 46.0	-0.7
	comp=Z,6.8nm,0.7s,mb4.4,baz=299,slow=9.1,SNR=26						
WRAB	**Tennant Creek**	**41.71**	**122**	*i* P	P	08 12 46.9	+0.1
WRAB	**Tennant Creek**	**41.71**	**122**	*e*P	P	08 12 46.4	-0.4
	comp=Z,9.9nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**41.72**	**122**	‖*i*P	P	08 12 46.4	-0.4
HHC	**Hu-ho-hao-te**	**41.84**	**16**	*e*P	P	08 12 47.6	0.0
HHC				AP	pP	08 12 58.2	+1.2
HHC				XP	sP	08 13 05.6	+4.8
HHC				PP	PP	08 14 27.4	0.0
HHC				PCS		08 18 35.8	
HHC				S	S	08 19 03.3	+0.2
HHC				XS		08 19 20.0	
HHC				SS	SS	08 22 05.4	+0.9
HHC				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
HHC				AMB	AMB		
	comp=Z,93nm,5.9s						
HHC				LR	LR		
	comp=N,317nm,14.9s						
HHC				LR	LR		
	comp=E,744nm,22.7s						
HHC				LR	LR		
	comp=Z,352nm,14.1s,MS4.4						
BJT	**Baijiatuau**	**42.57**	**21**	*e*P	P	08 12 55.0	+1.4
BJT				pmax	pmax		
	comp=Z,28nm,1.1s						
BJT	**Baijiatuau**	**42.57**	**21**	*e*P	P	08 12 55.0	+1.3
	comp=Z,28nm,1.1s,mb4.9						
BJI	**Beijing**	**42.60**	**21**	P	P	08 12 54.8	+1.0
BJI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=N,285nm,13.3s,MS4.4						
BJ

MKAR Makanchi Array 47.62 346 *e*P P 08 13 33.5 -0.4
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 47.62 346 P P 08 13 33.9 0.0
comp=Z,7.3nm,0.6s,mb4.9,baz=162,slow=8.7,SNR=83
CN2 Changchun 49.53 27 *e*P P 08 13 48.4 -0.3
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
ZAK Zakamensk 49.60 5 *e*P P 08 13 49.2 +0.1
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
TLY Talaya 50.92 5 *e*P P 08 13 58.0 -1.2
TLY pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
TLY MLR MLR
comp=Z,224nm,17.0s,MS4.2
HIA Hailar 51.91 18 *e*P P 08 14 05.5 -1.2
HIA pmax pmax
comp=Z,6.0nm,0.9s
HIA Hailar 51.91 18 *e*P P 08 14 05.5 -1.2
comp=Z,5.6nm,0.9s,mb4.5
KURK Kurchatov 52.17 345 *i* P P 08 14 08.2 -0.5
KURK Kurchatov 52.17 345 *e*P P 08 14 06.8 -1.8
comp=Z,8.6nm,1.0s,mb4.6
CTAO Charters Tower 52.19 116 P P 08 14 08.4 -0.8
CTAO pmax pmax
comp=Z,12nm,1.0s,mb4.8
CTAO Charters Tower 52.19 116 P P 08 14 08.3 -0.9
comp=Z,12nm,1.0s,mb4.8
STKA Stephens Creek 52.99 132 *e*P P 08 14 15.3 +0.2
comp=Z,11nm,1.1s,mb4.7
STKA Stephens Creek 52.99 132 P P 08 14 15.7 +0.6
comp=Z,13nm,1.0s,mb4.8,baz=307,slow=7.1,SNR=17
ZAL Zalesovo 53.92 351 P P 08 14 20.6 -0.9
comp=Z,7.7nm,0.5s,mb4.9,baz=314,slow=6.2,SNR=34
NVS Novosibirsk 55.05 350 *i* P P 08 14 27.8 -2.0
KLR Kul'dur 56.48 26 *e*P P 08 14 34.8 -5.4
BVA0 Borovoye Array 56.63 341 *i* P P 08 14 39.1 -2.2
BVA0 pmax pmax
comp=Z,1.0nm,1.3s,mb3.7
CHKZ Chkalovo 57.11 341 P P 08 14 43.3 -1.3
CHKZ pmax pmax
comp=Z,19nm,1.6s,mb4.9
BOD Bodaibo 58.32 10 *e*P P 08 14 52.3 -0.7
KMBO Kilima Mbogo 60.15 268 *e*P P 08 15 07.9 +1.6
KMBO pmax pmax
comp=Z,3.0nm,1.1s
KMBO Kilima Mbogo 60.15 268 P P 08 15 07.8 +1.5
comp=Z,0.9nm,0.6s,mb4.0,baz=70,slow=18,SNR=4.3
KMBO Kilima Mbogo 60.15 268 *e*P P 08 15 07.9 +1.6
comp=Z,3.4nm,1.1s,mb4.3
YSS Yuzh-Sakhalins 60.54 34 *e*P P 08 15 08.5 0.0
SVE Sverdlovsk 63.07 338 *e*P P 08 15 29.0 +3.6
ARU Arti 63.57 337⇑ *i*P P 08 15 28.0 -0.6
ARU *e* 08 16 00.0
ARU *e* 08 17 48.0
ARU *e*S S 08 24 01.0 +2.5
ARU pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
KIV Kislovodsk 64.68 319 *i* P P 08 15 36.6 +0.5
KIV Kislovodsk 64.68 319 *e*P P 08 15 37.2 +1.1
comp=Z,11nm,0.8s,mb4.9
YAK Yakutsk 65.70 16 *i* P P 08 15 41.4 -1.0
YAK Yakutsk 65.70 16 P P 08 15 40.1 -2.3
comp=Z,24nm,0.6s,mb5.4
SOC Sochi 66.49 318 *e*P P 08 15 46.1 -1.6
SOC *e* 08 16 15.2
SOC *e* 08 18 13.6
SOC *e*PPP PPP 08 19 48.7 -3.4
SOC *e*S S 08 24 36.6 +1.9
SOC *e* 08 25 39.4
SOC *e*SS SS 08 28 51.3 -1.9
SOC pmax pmax
comp=Z,33nm,1.4s,mb5.2
SOC pmax pmax
comp=N,31nm,1.3s
SOC pmax pmax
comp=E,27nm,1.3s
ANN Anapa 68.47 319 *e*P P 08 15 52.5 -7.7
BRTR Keskin Array B 69.47 312 P P 08 16 06.5 0.0
comp=E,4.3nm,1.1s,mb4.3,baz=127,slow=6.2,SNR=6.6
MATP Matopo 70.56 248 P P 08 16 12.9 -0.4
comp=E,3.4nm,0.8s,mb4.3,baz=90,slow=5.7,SNR=3.9
MA2 Magadan 71.57 26 *i* P P 08 16 18.2 -0.6
OBN Obninsk 73.00 328 *e*P P 08 16 28.4 +1.1
OBN 08 19 15.0
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
TIXI Tiksi 73.50 10 *i* P P 08 16 29.0 -0.9
AKASG Malin Array Be 75.64 322 P P 08 16 41.2 -1.4
comp=Z,1.3nm,0.4s,mb4.2,baz=87,slow=4.5,SNR=10.0
LVZ Lovozero 79.22 340 *i* P P 08 17 03.2 +1.1
FINES FINESS Array B 80.39 333 P P 08 17 07.6 -0.9
comp=Z,1.2nm,0.6s,mb4.0,baz=90,slow=3.8,SNR=7.9
FINES LR LR 08 53 45.3
comp=Z,56nm,21.5s,MS3.9,baz=179,slow=36
FINES FINESS Array B 80.39 333 P P 08 17 07.6 -0.9
FINES LR LR 08 53 45.3
KAF Kangasniemi 80.47 333 *e*p P 08 17 08.3 -0.6
KEV Kevo 82.48 341 *e*p P 08 17 17.2 -2.1
comp=Z,3.4nm,0.9s,mb4.3
KEV Kevo 82.48 341 *e*P P 08 17 17.2 -2.1
KEV pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
GERES GERESS Array B 85.19 319 P P 08 17 33.8 +0.4
comp=Z,0.7nm,0.3s,mb4.3,baz=108,slow=4.2,SNR=13
GRA1 Grafenberg Arr 86.86 320 *e*P P 08 17 45.0 +3.3
GRF Grafenberg Arr 86.86 320 *e*P P 08 17 45.0 +3.3
NB2 NORSAR Subarra 87.39 331 P P 08 17 43.8 -0.2
comp=Z,7.9nm,1.4s,mb4.8,baz=95,slow=4.8
NOA NORSAR Array B 87.39 331 P P 08 17 44.2 +0.2
comp=Z,1.7nm,0.8s,mb4.3,baz=93,slow=5.0,SNR=3.8
NOA LR LR 09 02 28.2
comp=Z,44nm,20.7s,MS3.9,baz=295,slow=39
TXAR Lajitas Array 143.87 32 PKP PKPdf 08 24 31.8 -5.1
comp=Z,0.3nm,0.5s,baz=52,slow=0.1,SNR=6.2
JCT Junction City 144.81 26 *e*P PKPbc 08 24 33.6 +0.3
CFAA Coronel Fontan 146.52 203 PKPbc PKPbc 08 24 39.2 +1.7
comp=Z,0.4nm,0.5s,baz=249,slow=1.5,SNR=11
CFAA Coronel Fontan 146.52 203 PKPbc PKPbc 08 24 39.2 +1.7

IDC 04 08:07:58.9±3.6, 1.06N×97.41E, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=150.5km s-min=21.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.79**	**122**	P	P	08 15 50.7	-1.4
	0.6nm,0.7s,baz=300,slow=9.1,SNR=2.7						
ASAR	**Alice Springs**	**43.15**	**127**	P	P	08 16 01.2	-2.0
	0.4nm,0.8s,baz=298,slow=7.1,SNR=3.0						
SONM	**Songino Array**	**47.24**	**8**	P	P	08 16 34.0	-1.6
	1.5nm,0.6s,baz=188,slow=9.0,SNR=8.8						
MKAR	**Makanchi Array**	**47.42**	**346**	P	P	08 16 35.5	-1.5
	0.9nm,0.6s,baz=160,slow=8.0,SNR=6.1						
ZAL	**Zalesovo**	**53.72**	**351**	P	P	08 17 21.8	-3.1
	1.3nm,0.4s,baz=295,slow=8.0,SNR=4.6						

MOS ***04*** *08:16:19.4±0.9, 20.33S×178.32W, h514km, mb5.2/33, Error ellipse: s-maj=9.5km s-min=8.3km az=73.4*
BJI ***04*** *08:16:21.3, 20.16S×177.99W, h539km, mB5.1, mb5.0*
HRVD ***04*** *08:16:22.4±0.3, 20.40S×178.27W, h563km±1km, MW5.4/67, Centroid moment Tensor Solution. LP body waves: s67, c116; Half duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-1.14±.04; Mθθ0.95±.06; Mφφ0.19±.07; Mrθ-0.89±.07; Mrφ0.55±.06; Mθφ-0.83±.07; Best double couple: M0 1.699×10^17 NP1: ϕs254°, δ24°, λ-68°. NP2: ϕs51°, δ68°, λ-99°. Principal axes: T 1.722, Plg23°, Azm148°; N -.044, Plg8°, Azm55°; P -1.676, Plg66°, Azm305°; nsta1 refers to body waves, cutoff=40s.*
NEIC ***04*** *08:16:22.4±0.1, 20.50S×178.32W, mb5.2/79 Error ellipse: s-maj=5.5km s-min=3.3km az=145.0*
BGS ***04*** *08:16:23.9±6.2, 20.50S×178.32W, h542km*
IDC ***04*** *08:16:23.0±0.5, 20.57S×178.26W, h547km±4km, mb4.5/24, mb1 4.6/28, mb1mx4.6/28, mbtmp5.4/28, Error ellipse: s-maj=9.8km s-min=7.4km az=155.0*
ISC 04 08:16:21.6±0.1, **20.53S**±0.03×**178.33W**±0.03, **h542**km,
h542km±2.0km; **pP-P, n730, c0**:**90**/288, **mb5.1**/112, **57C-94D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.69**	**178**	⇑*i*P	P	**08 18 25.8**	**-1.0**
RAO				pmax	pmax		
	comp=Z,941nm,0.8s						
RAO	**Raoul Island**	**8.69**	**178**	P	P	**08 18 25.9**	**-0.9**
	comp=Z,317nm,0.3s,baz=260,slow=23,SNR=12						
RAO				S	S	**08 20 08.3**	**+1.6**
	comp=Z,148nm,0.3s,baz=102,slow=23,SNR=3.9						
RAO	**Raoul Island**	**8.69**	**178**	⇑*i*P	P	**08 18 25.8**	**-1.0**
	comp=Z,941nm,0.8s						
AFI	**Afiamalu**	**9.09**	**45**	*e*P	P	**08 18 26.8**	**-4.1**
AFI				*e*S	S	**08 20 04.4**	**-10**
AFI				pmax	pmax		
	comp=Z,562nm,0.6s						
AFI	**Afiamalu**	**9.09**	**45**	P	P	**08 18 27.4**	**-3.5**
	comp=Z,16nm,0.3s,baz=250,slow=12,SNR=31						
AFI				S	S	**08 20 05.2**	**-8.9**
	comp=Z,156nm,0.3s,baz=41,slow=20,SNR=18						
AFI	**Afiamalu**	**9.09**	**45**	*e*P	P	**08 18 26.8**	**-4.1**
	comp=Z,562nm,0.6s						
AFI				*e*S	S	**08 20 04.4**	**-10**
DZM	**Mont Dzumac**	**14.27**	**261**	*e*P	P	**08 19 25.9**	**+2.2**
DZM	**Mont Dzumac**	**14.27**	**261**	P	P	**08 19 25.8**	**+2.1**
	comp=Z,7.8nm,0.3s,baz=74,slow=16,SNR=32						
DZM	**Mont Dzumac**	**14.27**	**261**	*e*P	P	**08 19 25.9**	**+2.2**
NOUC	**Port Laguerre**	**14.40**	**261**	*e*P	P	**08 19 26.9**	**+1.9**
RAR	**Rarotonga**	**17.36**	**96**	*e*P	P	**08 19 53.6**	**-0.3**
RAR				pmax	pmax		
	comp=Z,99nm,0.8s						
RAR	**Rarotonga**	**17.36**	**96**	P	P	**08 19 53.7**	**-0.2**
	comp=Z,3.4nm,0.3s,baz=239,slow=7.3,SNR=15						
RAR	**Rarotonga**	**17.36**	**96**	*e*P	P	**08 19 53.6**	**-0.3**
	comp=Z,99nm,0.8s						
PUZ	**Puketiti**	**17.73**	**189**	PN	P	**08 19 56.6**	**-0.8**
URZ	**Urewera**	**18.10**	**192**	P	P	**08 19 59.9**	**-1.0**
	comp=Z,12nm,0.3s,baz=302,slow=2.7,SNR=64						
URZ				S	S	**08 22 50.5**	**-7.3**
	comp=Z,0.8nm,0.3s,baz=240,slow=14,SNR=3.1						
URZ	**Urewera**	**18.10**	**192**	PN	P	**08 19 58.5**	**-2.5**
HIZ	**Hauiti**	**18.86**	**197**	PN	P	**08 20 09.4**	**+1.3**
BKZ	**Black Stump Fm**	**19.10**	**192**	PN	P	**08 20 08.1**	**-2.3**
BKZ				*e*SN	S	**08 23 08.3**	**-6.4**
MGZ	**Maungaku**	**19.15**	**195**	PN	P	**08 20 10.8**	**-0.1**
NGZ	**Ngauruhoe**	**19.30**	**194**	PN	P	**08 20 12.1**	**-0.2**
CNZ	**Chateau**	**19.34**	**194**	PN	P	**08 20 11.7**	**-0.9**
TUVZ	**Tukino**	**19.38**	**194**	PN	P	**08 20 12.1**	**-0.9**
SNZO	**South Karori**	**21.54**	**194**	*e*P	P	**08 20 32.0**	**-1.0**
	comp=Z,26nm,0.6s,mb5.0						
RPZ	**Rata Peaks**	**24.76**	**199**	P	P	**08 21 00.1**	**-1.9**
	comp=Z,11nm,0.4s,mb4.9,baz=102,slow=0.1,SNR=9.6						
TBI	**Tubuai**	**26.91**	**101**	*e*P	P	**08 21 20.5**	**-0.6**
	comp=Z,145nm,0.9s,mb5.6						
TBI				*e*pP		08 22 41.3	
	comp=Z,128nm,1.1s						
PAE	**Paea**	**27.30**	**89**	*e*P	P	**08 21 23.2**	**-1.5**
	comp=Z,218nm,1.1s,mb5.7						
PAE				*e*pP		08 22 45.7	
	comp=Z,300nm,1.5s						
PPT	**Papeete**	**27.32**	**89**	*e*P	P	**08 21 23.7**	**-1.2**
	comp=Z,64nm,0.9s,mb5.3						
PPT				*e*pP		08 22 45.2	
	comp=Z,98nm,1.5s						
PPT	**Papeete**	**27.32**	**89**	P	P	**08 21 23.6**	**-1.3**
	comp=Z,65nm,0.7s,mb5.4,baz=202,slow=4.9,SNR=8.0						
TIAR	**Tiarei**	**27.54**	**89**	*e*P	P	**08 21 25.5**	**-1.3**
	comp=Z,249nm,0.9s,mb5.8						
TIAR				*e*pP		08 22 48.4	
	comp=Z,402nm,1.3s						
TVO	**Taravao**	**27.59**	**89**	*e*P	P	**08 21 25.8**	**-1.4**
	comp=Z,96nm,0.7s,mb5.5						
TVO				*e*pP		08 22 48.9	
	comp=Z,410nm,1.4s						
MEH	**Mehetia**	**28.68**	**90**	*e*P	P	**08 21 36.0**	**-0.7**
	comp=Z,70nm,0.9s,mb5.3						
MEH				*e*pP		08 22 58.4	
	comp=Z,45nm,1.1s						
ARMA	**Armidale**	**28.77**	**244**	⇓*i*P	P	**08 21 38.6**	**+1.3**
PMOR	**Pomariorio Ree**	**29.48**	**84**	*e*P	P	**08 21 42.1**	**-1.4**
	comp=Z,88nm,0.8s,mb5.4						
VAH	**Vaihoa**	**29.66**	**85**	*e*P	P	**08 21 43.6**	**-1.5**
	comp=Z,76nm,0.9s,mb5.2						
CNB	**Canberra Magne**	**31.95**	**236**	*e*P	P	**08 22 05.4**	**+1.0**
	comp=Z,1μm,1.0s						
CTA	**Charters Tower**	**33.18**	**264**	⇓*i*P	P	**08 22 15.6**	**+0.8**
	comp=Z,88nm,0.9s,mb5.3						
CTA				*e*PCP	PcP	08 24 42.1	-0.1
CTA	**Charters Tower**	**33.18**	**264**	⇓*i*P	P	**08 22 15.6**	**+0.8**
CTA				*e*		08 24 42.1	
CTA				pmax	pmax		
	comp=Z,88nm,0.9s						
CTA	**Charters Tower**	**33.18**	**264**	P	P	**08 22 15.7**	**+0.8**
	comp=Z,43nm,0.3s,mb5.4,baz=94,slow=11,SNR=128						
CTA				PcP	PcP	08 24 40.8	-1.4
	comp=Z,18nm,0.8s,baz=80,slow=5.9,SNR=4.0						
CTAO	**Charters Tower**	**33.18**	**264**	⇓*i*P	P	**08 22 15.6**	**+0.8**
CTAO				*e**PP		08 23 46.0	
CTAO				*i*		08 24 42.1	
CTAO				pmax	pmax		
	comp=Z,137nm,0.9s,mb5.5						
CTAO	**Charters Tower**	**33.18**	**264**	⇓*i*P	P	**08 22 15.6**	**+0.8**
	comp=Z,137nm,0.9s,mb5.5						
CTAO				*e*pP		08 23 46.0	
CTAO				*i* PcP	PcP	08 24 42.1	-0.1
PMG	**Port Moresby**	**35.05**	**283**	*e*P	P	**08 22 30.7**	**+0.2**
PMG				pmax	pmax		
	comp=Z,185nm,1.3s						
PMG	**Port Moresby**	**35.05**	**283**	P	P	**08 22 31.0**	**+0.5**
	comp=Z,85nm,0.9s,mb5.3,baz=80,slow=6.0,SNR=13						
PMG	**Port Moresby**	**35.05**	**283**	*e*P	P	**08 22 30.7**	**+0.3**
	comp=Z,185nm,1.3s,mb5.5						
TOO	**Toolangi**	**35.63**	**234**	*e*P	P	**08 22 35.8**	**+0.7**
	comp=Z,22nm,0.9s,mb4.7						
TOO	**Toolangi**	**35.63**	**234**	*e*P	P	**08 22 35.8**	**+0.7**
TOO				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**37.49**	**244**	⇓*i*P	P	**08 22 51.5**	**+1.1**
	comp=Z,35nm,1.2s,mb4.8						
STKA				*i* PCP	PcP	08 24 55.3	+0.3
STKA				*i* S		08 28 44.3	
STKA				*e*SCS	ScS	08 32 02.3	+2.4
STKA	**Stephens Creek**	**37.49**	**244**	P	P	**08 22 51.5**	**+1.1**
	comp=Z,22nm,0.5s,mb5.0,baz=92,slow=9.6,SNR=72						
STKA				PcP	PcP	08 24 55.2	+0.2
	comp=Z,6.1nm,0.7s,baz=88,slow=6.5,SNR=4.7						
RKT	**Rikitea**	**40.23**	**102**	*e*P	P	**08 23 12.4**	**-0.2**
	comp=Z,145nm,1.2s,mb5.4						
ASAR	**Alice Springs**	**44.21**	**257**	P	P	**08 23 44.5**	**+0.2**
	comp=Z,133nm,0.5s,mb5.7,baz=96,slow=7.6,SNR=1769						
ASAR				PcP	PcP	08 25 16.9	-0.5
	comp=Z,30nm,0.7s,baz=105,slow=3.8,SNR=15						
ASAR				sP	sP	08 26 25.2	+2.8
	comp=Z,6.9nm,0.9s,baz=90,slow=9.9,SNR=1.4						
ASAR				S	S	**08 29 37.0**	**-1.8**
	comp=Z,7.0nm,0.9s,baz=93,slow=15,SNR=12						
ASAR				PKiKP		08 32 13.2	
	comp=Z,0.5nm,0.5s,baz=88,slow=1.5,SNR=4.7						
ASPA	**Alice Springs**	**44.21**	**257**	⇓*i*P	P	**08 23 44.4**	**+0.2**
ASPA				*i* PCP	PcP	08 25 16.9	-0.6
ASPA				*e*PCS		08 29 09.6	
ASPA				*i* S	S	**08 29 36.9**	**-1.9**
ASPA				*e*SCS	ScS	08 32 43.8	+2.9
ASPA	**Alice Springs**	**44.21**	**257**	⇓*i*P	P	**08 23 44.4**	**+0.2**
ASPA				*i*		08 25 16.9	
ASPA				*i* S	S	**08 29 36.9**	**-1.9**
ASPA				*e*		08 32 43.8	
WB2	**Warramunga Arr**	**44.28**	**262**	⇓*i*P	P	**08 23 44.3**	**-0.5**
WB2				*i* S	S	**08 29 37.8**	**-1.9**
WB2				*e*SCS	ScS	08 32 44.6	+3.3
WRAB	**Tennant Creek**	**44.28**	**262**	⇓*i*P	P	**08 23 44.4**	**-0.4**
WRAB				*i*		08 25 17.5	
WRAB				pmax	pmax		
	comp=Z,284nm,1.0s,mb5.8						
WRAB	**Tennant Creek**	**44.28**	**262**	⇓*i*P	P	**08 23 44.4**	**-0.5**
	comp=Z,284nm,1.0s,mb5.8						
WRAB				*i* PcP	PcP	08 25 17.4	-0.3
WRA	**Warramunga Arr**	**44.29**	**262**	P	P	**08 23 44.4**	**-0.5**
WRA						08 25 17.3	
WRA				S	S	**08 29 36.8**	**-3.1**
WRA	**Warramunga Arr**	**44.29**	**262**	P	P	**08 23 44.4**	**-0.5**
	comp=Z,37nm,0.3s,mb5.4,baz=97,slow=7.6,SNR=326						
WRA				PcP	PcP	08 25 17.3	-0.4
	comp=Z,24nm,1.0s,baz=97,slow=3.9,SNR=9.3						
WRA				sP	sP	08 26 27.2	+4.2
	comp=Z,5.9nm,0.6s,baz=101,slow=8.3,SNR=3.3						
WRA				S	S	**08 29 36.8**	**-3.1**
	comp=Z,6.5nm,1.0s,baz=95,slow=13,SNR=7.0						
WRA				PKiKP		08 32 13.5	
	comp=Z,1.4nm,0.9s,baz=89,slow=0.5,SNR=6.0						
FORT	**Forrest**	**49.00**	**247**	⇓*i*P	P	**08 24 19.8**	**-0.9**
	comp=Z,2μm,0.6s						
GUMO	**Guam**	**49.58**	**310**	⇓*e*P	P	**08 24 24.6**	**-0.6**
GUMO				pmax	pmax		
	comp=Z,204nm,0.8s,mb5.6						
GUMO	**Guam**	**49.58**	**310**	P	P	**08 24 24.9**	**-0.3**
	comp=Z,221nm,0.7s,mb5.7,baz=160,slow=6.6,SNR=9.2						
GUMO	**Guam**	**49.58**	**310**	⇓*e*P	P	**08 24 24.6**	**-0.6**
	comp=Z,204nm,0.8s,mb5.6						
FITZ	**Fitzroy Crossi**	**52.72**	**262**	⇓*i*P	P	**08 24 47.6**	**-0.3**
	comp=Z,47nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**52.72**	**262**	P	P	**08 24 47.6**	**-0.3**
	comp=Z,57nm,0.5s,mb5.2,baz=144,slow=2.8,SNR=175						
FITZ				PcP	PcP	08 25 47.3	-1.3
	comp=Z,38nm,1.2s,baz=180,slow=6.1,SNR=1.9						
MBWA	**Marble Bar**	**57.54**	**257**	⇓*i*P	P	**08 25 20.6**	**-0.9**
	comp=Z,120nm,0.9s,mb5.1						
MBWA				⇓*e*PcP	PcP	08 26 06.7	-0.7
KLBR	**Kellerberrin**	**57.76**	**245**	⇓*i*P	P	**08 25 22.0**	**-0.8**
	comp=Z,22μm,1.0s						
SBA	**Scott Base**	**57.82**	**184**	⇑*e*P	P	**08 25 24.1**	**+1.4**
SBA				pmax	pmax		
	comp=Z,69nm,1.4s,mb4.7						
SBA	**Scott Base**	**57.82**	**184**	⇑*e*P	P	**08 25 24.1**	**+1.4**
	comp=Z,69nm,1.4s,mb4.7						
VNDA	**Vanda**	**57.85**	**185**	P	P	**08 25 23.7**	**+0.8**
VNDA						08 29 14.8	
VNDA	**Vanda**	**57.85**	**185**	P	P	**08 25 23.6**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=357,slow=7.7,SNR=26						
VNDA				pP	pP	08 27 12.9	+3.0
	comp=Z,3.4nm,1.0s,baz=12,slow=11,SNR=3.3						
VNDA				ScP		08 29 14.8	
	comp=Z,5.3nm,1.1s,baz=357,slow=4.6,SNR=4.9						
BLDU	**Ballidu**	**58.76**	**246**	⇓*i*P	P	**08 25 28.7**	**-0.9**
	comp=Z,53nm,0.9s,mb4.8						
BLDU				*e*PCP	PcP	08 26 11.1	-1.0
MUN	**Mundaring**	**59.03**	**244**	⇓*i*P	P	**08 25 31.0**	**-0.4**
	comp=Z,381nm,1.1s,mb5.5						
MUN	**Mundaring**	**59.03**	**244**	⇓*i*P	P	**08 25 31.0**	**-0.4**
MUN				pmax	pmax		
	comp=Z,381nm,1.1s,mb5.5						
CASY	**Casey**	**63.80**	**205**	⇓*i*P	P	**08 26 01.5**	**-0.3**
KKM	**Kota Kinabalu**	**69.47**	**285**	*e*P	P	**08 26 37.6**	**+0.1**
QSPA	**South Pole Qui**	**69.53**	**180**	*e*P	P	**08 26 38.0**	**+1.1**
	comp=Z,30nm,0.8s,mb4.9						
JOW	**Kunigami**	**69.95**	**310**	P	P	**08 26 40.8**	**+0.6**
	comp=Z,14nm,0.3s,mb4.9,baz=145,slow=11,SNR=4.0						
MAJO	**Matsushiro**	**70.05**	**324**	*e*P	P	**08 26 39.5**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**70.05**	**324**	*e*P	P	**08 26 39.5**	**-1.1**
	comp=Z,20nm,0.8s,mb4.7						
MAT	**Matsushiro**	**70.05**	**324**	*e*P	P	**08 26 39.0**	**-1.6**
MAT				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
MAT	**Matsushiro**	**70.05**	**324**	*e*P	P	**08 26 39.0**	**-1.6**
	comp=Z,30nm,1.0s,mb4.8						
MAT	**Matsushiro**	**70.05**	**324**	P	P	**08 26 39.0**	**-1.6**
KIWB	**Kanaga Island**	**72.08**	**1**	⇓*e*P	P	**08 26 50.9**	**-1.3**
KSM	**Kuching**	**73.11**	**278**	*e*P	P	**08 26 59.1**	**+0.3**
SMY	**Shemya**	**73.25**	**355**	*e*P	P	**08 26 56.9**	**-1.9**
SMY				pmax	pmax		
	comp=Z,105nm,0.8s,mb5.3						
SMY	**Shemya**	**73.25**	**355**	*e*P	P	**08 26 56.9**	**-1.9**
	comp=Z,105nm,0.8s,mb5.3						
ASAJ	**Asahikawa**	**73.61**	**332**	P	P	**08 27 02.0**	**+1.0**
	comp=Z,82nm,0.8s,mb5.2,baz=218,slow=6.5,SNR=60						
YHNB	**Yeheng**	**73.87**	**305**	*e*P	P	**08 27 02.2**	**-0.6**
UNV	**Unalaska Valle**	**74.77**	**7**	*e*P	P	**08 27 05.5**	**-1.8**
	comp=Z,195nm,0.6s,mb5.7						
YSS	**Yuzh-Sakhalins**	**75.78**	**334**	*j* *i*P	P	**08 27 13.6**	**+0.5**
YSS				pmax	pmax		
	comp=Z,140nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**75.78**	**334**	*e*P	P	**08 27 12.7**	**-0.4**
	comp=Z,114nm,0.9s,mb5.3						
PET	**Petropavlovsk**	**75.92**	**346**	*e*P	P	**08 27 14.1**	**+0.4**
PET				*e*		08 30 08.1	
PET				pmax	pmax		
	comp=Z,100nm,15.1s						
QZH	**Quanzhou**	**76.17**	**304**	P	P	**08 27 15.7**	**+0.1**
QZH				AMB	AMB		
	comp=Z,190nm,1.1s,mb5.4						
SDPT	**Sand Point**	**77.09**	**10**	*e*P	P	**08 27 16.0**	**-4.0**
SSE	**Sheshan**	**77.47**	**310**	P	P	**08 27 21.1**	**-1.4**
SSE				AMB	AMB		
	comp=Z,31nm,0.9s,mb4.7						
SSE				AMB	AMB		
	comp=Z,98nm,4.0s						
SSE	**Sheshan**	**77.47**	**310**	P	P	**08 27 21.1**	**-1.4**
	comp=Z,31nm,0.9s,mb4.7						
SAO	**San Andreas Ge**	**78.26**	**43**	*e*P	P	**08 27 27.1**	**+0.4**
	comp=Z,85nm,0.9s,mb5.1						
LRV	**Little Rabbit**	**78.34**	**44**	*e*P	P	**08 27 27.4**	**+0.4**
HOPS	**Hopland**	**78.60**	**41**	*e*P	P	**08 27 28.9**	**+0.5**
	comp=Z,111nm,1.1s,mb5.1						
TYV	**Tymovskoe**	**78.94**	**336**	⇓*i*P	P	**08 27 27.0**	**-2.9**
TYV				*e*	pP	08 29 23.0	-3.6
TYV				pmax	pmax		
	comp=Z,69nm,0.9s,mb5.0						
TYV				pmax	pmax		
	comp=Z,500nm,2.0s,mb5.5						
TYV				pmax	pmax		
	comp=E,13nm,1.0s						
MWC	**Mount Wilson**	**79.05**	**47**	*e*P	P	**08 27 30.8**	**-0.1**
BAR	**Barrett**	**79.17**	**49**	*e*P	P	**08 27 31.6**	**0.0**
NJ2	**Nanjing**	**79.66**	**310**	*e*P	P	**08 27 35.2**	**+1.1**
NJ2				PCP	PcP	08 27 40.4	0.0
NJ2				AP	pP	08 29 33.0	+2.0
NJ2				XP	sP	08 30 25.0	-0.4
NJ2				PP	PP	08 30 46.0	+0.9
NJ2				S	S	08 36 52.0	+0.2
NJ2				AMB	AMB		
	comp=Z,60nm,1.2s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,240nm,5.6s						
CMB	**Columbia Colle**	**79.70**	**43**	*e*P	P	**08 27 34.1**	**-0.1**
CMB				pmax	pmax		
	comp=Z,60nm,0.9s,mb4.9						
CMB	**Columbia Colle**	**79.70**	**43**	*e*P	P	**08 27 34.1**	**-0.1**

DL2 eAP pP 08 29 42.6 +1.4
DL2 S S 08 37 04.8 -5.8
DL2 AMB AMB
comp=Z,30nm,0.8s,mb4.8
DL2 AMB AMB
comp=Z,270nm,3.4s
LDFC Landfair 81.56 48 eP **P 08 27 44.7 +0.9**
TPH Tonopah 81.76 44 eP **P 08 27 45.2 +0.4**
TPH pmax pmax
comp=Z,103nm,1.2s,mb5.1
TPH Tonopah 81.76 44 eP **P 08 27 45.2 +0.5**
comp=Z,103nm,1.2s,mb5.1
COR Corvallis 81.96 36 eP **P 08 27 45.9 +0.3**
COR pmax pmax
comp=Z,71nm,0.9s,mb5.1
COR Corvallis 81.96 36 eP **P 08 27 45.9 +0.3**
comp=Z,71nm,0.9s,mb5.1
MOD Modoc 82.04 40 eP **P 08 27 46.5 +0.4**
comp=Z,92nm,0.9s,mb5.2
CN2 Changchun 82.14 323 eP **P 08 27 46.6 +0.1**
CN2 eAP pP 08 29 44.9 +0.7
CN2 eXP sP 08 30 39.5 +1.1
CN2 eS S 08 37 16.2 -0.1
CN2 AMB AMB
comp=Z,80nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,420nm,3.0s
WHN Wuhan 82.21 307 P **P 08 27 48.0 +0.8**
KLR Kul'dur 82.40 330 eP **P 08 27 45.3 -2.4**
KLR pmax pmax
comp=Z,34nm,1.2s,mb4.7
SSOR Sweet Springs 82.59 36 P **P 08 27 49.3 +0.5**
TRCR Troy Canyon 82.99 45 eP **P 08 27 51.3 +0.3**
BMN Battle Mountai 83.08 42 eP **P 08 27 51.7 +0.3**
BMN pmax pmax
comp=Z,91nm,1.1s,mb5.2
BMN Battle Mountai 83.08 42 eP **P 08 27 51.6 +0.2**
comp=Z,91nm,1.1s,mb5.2
TUC Tucson 83.24 52 eP **P 08 27 53.5 +1.1**
comp=Z,47nm,1.0s,mb5.0
WVOR Wild Horse Val 83.36 40 eP **P 08 27 53.1 +0.4**
WVOR pmax pmax
comp=Z,74nm,1.0s,mb5.2
WVOR Wild Horse Val 83.36 40 eP **P 08 27 53.1 +0.4**
comp=Z,74nm,1.0s,mb5.2
SVW2 Sparrevohn 83.39 11 eP **P 08 27 50.9 -1.6**
VIPM Ingram Point 83.42 38 P **P 08 27 53.7 +0.7**
OOW Octopus West 83.49 33 P **P 08 27 54.5 +1.2**
CROR Criterion Ridg 83.50 37 P **P 08 27 53.8 +0.4**
MA2 Magadan 83.73 345 eP **P 08 27 53.1 -1.0**
MA2 pmax pmax
comp=Z,69nm,0.9s,mb5.2
MA2 Magadan 83.73 345 eP **P 08 27 53.1 -1.0**
comp=Z,69nm,0.9s,mb5.2
SLKM Skilak Lake 83.91 14 eP **P 08 27 54.2 -0.8**
ARUT Antelope Range 84.13 46 eP **P 08 27 55.3 -1.3**
SPU Mount Spurr 84.14 12 eP **P 08 27 54.4 -1.6**
USHA Ushuaia 84.27 147 P **P 08 27 57.3 +0.4**
comp=Z,7.9nm,0.9s,mb4.2,baz=225,slow=1.4,SNR=2.8
PGC Sidney 84.46 33 eP **P 08 27 57.8 -0.2**
comp=Z,124nm,1.0s,mb5.4
ELK Elko 84.52 43 eP **P 08 27 58.6 +0.2**
comp=Z,28nm,1.0s,mb4.7
TTW Tolt Reservoir 84.78 35 P **P 08 27 59.8 +0.2**
EYAK Cordova Ski Ar 85.00 15 eP **P 08 27 59.5 -0.9**
PMR Palmer 85.12 14 eP **P 08 28 00.3 -0.6**
MSU Marysvale 85.35 46 eP **P 08 28 03.3 +0.7**
SML Sawmill 85.49 14 eP **P 08 28 01.8 -0.8**
DIV Divide 85.50 15 eP **P 08 28 02.0 -0.7**
comp=Z,350nm,1.0s,mb5.8
BMO Blue Mountains 85.53 39 eP **P 08 28 03.3 0.0**
comp=Z,38nm,0.8s,mb5.1
BJT Baijiatuau 85.69 316 eP **P 08 28 04.6 +0.5**
BJT pmax pmax
comp=Z,26nm,0.8s
BJT Baijiatuau 85.69 316 eP **P 08 28 04.6 +0.4**
comp=Z,26nm,0.8s,mb4.9
BJI Beijing 85.70 316 P **P 08 28 04.6 +0.4**
BJI AP pP 08 30 00.8 -2.2
BJI XP sP 08 30 55.5 -1.3
BJI AMB AMB
comp=Z,48nm,0.8s,mb5.2
BJI AMB AMB
comp=Z,444nm,3.2s
BJI Beijing 85.70 316 P **P 08 28 04.6 +0.4**
BJI *PP pP 08 30 00.8 -2.2
BJI S 08 37 35.3
BJI pmax pmax
comp=Z,48nm,0.8s,mb5.2
BJI Beijing 85.70 316 P **P 08 28 04.6 +0.4**
comp=Z,48nm,0.8s,mb5.2
BJI pP pP 08 30 00.8 -2.2
BJI sP sP 08 30 55.5 -1.3
BJI S 08 37 35.3
DUG Dugway 85.79 44 eP **P 08 28 04.1 -0.5**
DUG pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
DUG Dugway 85.79 44 eP **P 08 28 04.1 -0.5**
comp=Z,6.3nm,0.8s,mb4.3
ENH Enshi 85.80 304 eP **P 08 28 05.4 +0.5**
comp=Z,156nm,1.3s,mb5.5
NLU North Lily Min 86.16 45 eP **P 08 28 06.4 +0.1**
TNA Tin City 86.19 4⇓ iP **P 08 28 05.3 -0.6**
comp=Z,26nm,0.8s,mb4.9
OD2 Odessa Site #2 86.20 36 P **P 08 28 06.7 +0.3**
SEY Seymchan 86.34 347 eP **P 08 28 09.5 +2.9**
SEY 08 37 48.6
SEY eS S 08 38 06.2 +10
SEY pmax pmax
comp=Z,50nm,0.8s,mb5.2
SEY pmax pmax
comp=N,10.0nm,0.7s
SEY pmax pmax
comp=E,30nm,0.7s
SEY smax
comp=N,300nm,24.2s
SEY smax
comp=E,400nm,28.3s
GYA Guiyang 86.39 300⇓ iP **P 08 28 08.7 +0.9**
GYA AP pP 08 30 04.6 -2.2
GYA XP sP 08 31 01.8 +1.2
GYA PP PP 08 31 42.5 +2.6
GYA S S 08 37 59.4 +1.9
GYA AMB AMB
comp=Z,30nm,0.9s,mb4.9
GYA AMB AMB
comp=Z,130nm,4.2s
TMUT Trail Mountain 86.40 46 eP **P 08 28 08.3 +0.7**
HLID Hailey 86.55 41 eP **P 08 28 08.6 +0.4**
comp=Z,39nm,0.9s,mb5.0
SYO Syowa Base 86.63 193 ⇑P **P 08 28 07.6 -0.3**
HVU Hansel Valley 86.64 43 eP **P 08 28 09.0 +0.4**
SRU San Rafael 86.77 46 eP **P 08 28 09.4 +0.2**
MNTX Cornudas Mount 87.02 55 eP **P 08 28 11.2 +0.5**
comp=Z,65nm,1.2s,mb5.1
MCK McKinley 87.07 13 eP **P 08 28 08.9 -1.2**
MCK pmax pmax
comp=Z,44nm,0.9s,mb5.1
MCK McKinley 87.07 13 eP **P 08 28 08.9 -1.2**
comp=Z,44nm,0.9s,mb5.1
BNM Barren Site 87.18 52 eP **P 08 28 11.8 +0.5**
TCUT Toone Canyon 87.18 44 eP **P 08 28 11.9 +0.8**
LPM Los Pinos Moun 87.25 52 eP **P 08 28 11.9 +0.3**
HWUT Hardware Ranch 87.33 44 eP **P 08 28 11.4 -0.4**
comp=Z,15nm,1.2s,mb4.5
TXAR Lajitas Array 87.33 57 P **P 08 28 13.0 +0.9**
comp=Z,26nm,0.9s,mb4.9,baz=218,slow=6.4,SNR=188
TXAR pP pP 08 30 11.8 +0.4
comp=Z,4.5nm,1.1s,baz=217,slow=6.3,SNR=5.3
TXAR PKKPbc 08 45 59.2
comp=Z,0.8nm,0.8s,baz=45,slow=1.3,SNR=9.5
TXAR Lajitas Array 87.33 57 P **P 08 28 13.0 +0.9**
TXAR pP pP 08 30 11.8 +0.4
TXAR PKKPbc 08 45 59.2
PV10 Paradox Valley 87.43 47 eP **P 08 28 12.4 +0.1**
THY Trims Highway 87.48 14 eP **P 08 28 11.8 -0.2**
MENT Mentasta 87.55 15 eP **P 08 28 12.3 0.0**
NEW Newport 87.58 36 eP **P 08 28 12.4 -0.4**
NEW pmax pmax
comp=Z,29nm,1.0s
NEW Newport 87.58 36 P **P 08 28 12.7 -0.1**
comp=Z,19nm,0.9s,mb4.8,baz=237,slow=3.6,SNR=37
NEW Newport 87.58 36 eP **P 08 28 12.4 -0.4**
comp=Z,30nm,1.0s,mb5.0
PV01 Paradox Valley 87.64 48 eP **P 08 28 13.5 +0.1**

ANMO Albuquerque 87.67 51 eP **P 08 28 13.9 +0.3**
ANMO pmax pmax
comp=Z,26nm,1.0s
ANMO Albuquerque 87.67 51 P **P 08 28 14.0 +0.4**
comp=Z,23nm,1.1s,mb4.8,baz=233,slow=5.3,SNR=56
ANMO pP pP 08 30 13.0 0.0
comp=Z,1.7nm,0.9s,baz=222,slow=5.6,SNR=2.5
ANMO Albuquerque 87.67 51 eP **P 08 28 13.8 +0.3**
comp=Z,26nm,1.0s,mb4.9
XAN Xi'an 87.90 307 P **P 08 28 15.8 +1.1**
XAN AMB AMB
comp=Z,67nm,1.3s,mb5.2
SNAA Sanae 87.99 179 e **P 08 28 16.2 +2.0**
SNAA Sanae 87.99 179 e **P 08 28 27.7 +13**
SNAA Sanae 87.99 179 P **P 08 28 15.2 +1.0**
SNAA e pP 08 30 13.4 -0.3
SNAA Sanae 87.99 179 P **P 08 28 15.2 +1.0**
SNAA e 08 28 16.2
SNAA e 08 28 27.7
SNAA e pP 08 30 13.4 -0.3
GDL2 Guadalupe Moun 88.02 55 eP **P 08 28 15.9 +0.6**
GDL2 epP pP 08 30 15.1 +0.4
VNA3 Neumayer Olymp 88.13 176 e **P 08 28 16.4 +1.5**
VNA3 Neumayer Olymp 88.13 176 e **P 08 28 28.5 +14**
VNA3 Neumayer Olymp 88.13 176 ⇑iP **P 08 28 15.3 +0.4**
VNA3 e 08 28 16.4
VNA3 e 08 28 28.5
VNA3 e pP 08 30 14.1 -0.3
VNA3 e 08 33 10.6
MCMT McKenzie Canyo 88.18 40 eP **P 08 28 16.4 +0.6**
MCMT pP pP 08 30 16.0 +0.7
DLBC Dease Lake 88.20 23 eP **P 08 28 15.9 +0.4**
AHID Auburn Hatcher 88.21 43 P **P 08 28 16.0 +0.1**
comp=Z,24nm,0.7s,mb5.0
COLA College 88.31 13 eP **P 08 28 14.7 -1.1**
IMA Indian Mountai 88.33 10 eP **P 08 28 15.8 -0.1**
RRI2 Red Ridge 88.36 42⇓ eP **P 08 28 17.4 +0.7**
comp=Z,78nm,0.9s,mb5.4
NANT Nan 88.41 291 ⇓P **P 08 28 17.0 -0.4**
comp=Z,256nm,1.0s,mb5.9
ILAR Eielson Array 88.42 13 P **P 08 28 15.2 -1.2**
comp=Z,45nm,0.9s,mb5.2,baz=223,slow=5.3,SNR=358
ILAR PKiKP 08 33 11.1
comp=Z,0.5nm,0.5s,baz=234,slow=5.8,SNR=8.0
CLNB Carlsbad 88.42 55 eP **P 08 28 17.4 +0.2**
HIA Hailar 88.54 325 eP **P 08 28 17.3 0.0**
HIA pmax pmax
comp=Z,23nm,0.9s
HIA Hailar 88.54 325 eP **P 08 28 17.3 -0.1**
comp=Z,23nm,0.9s,mb5.0
VNA2 Neumayer--Watz 88.57 177 e **P 08 28 18.7 +1.7**
VNA2 Neumayer--Watz 88.57 177 e **P 08 28 31.0 +14**
VNA2 Neumayer--Watz 88.57 177 ⇑iP **P 08 28 17.6 +0.6**
VNA2 e 08 28 18.7
VNA2 e 08 28 31.0
VNA2 e pP 08 30 16.8 +0.2
VNA2 e 08 33 13.7
MSO Missoula 88.59 38 eP **P 08 28 16.8 -0.8**
comp=Z,7.3nm,0.8s,mb4.6
MAIT Maitri 88.66 183 eP **P 08 28 17.5 +0.1**
REDW Red Top Meadow 88.67 42 eP **P 08 28 18.3 +0.3**
comp=Z,102nm,1.1s,mb5.6
TPAW Teton Pass 88.67 42 eP **P 08 28 18.7 +0.6**
comp=Z,55nm,1.0s,mb5.3
CPRX Cap Rock 88.76 54 eP **P 08 28 18.7 0.0**
CPRX epP pP 08 30 19.4 +1.0
SNOW Snow King Moun 88.78 42 eP **P 08 28 19.1 +0.5**
comp=Z,78nm,0.9s,mb5.5
VNA1 Neumayer--Stat 88.80 177 e **P 08 28 19.4 +1.4**
VNA1 Neumayer--Stat 88.80 177 e **P 08 28 30.7 +13**
VNA1 Neumayer--Stat 88.80 177 ⇑iP **P 08 28 18.5 +0.5**
VNA1 e 08 28 19.4
VNA1 e 08 28 30.7
VNA1 e pP 08 30 18.1 +0.4
VNA1 e 08 33 12.3
IMW Indian Meadow 88.88 42⇓ iP **P 08 28 19.8 +0.7**
comp=Z,69nm,0.9s,mb5.5
MOOW Moose Ponds 88.93 42 eP **P 08 28 19.3 0.0**
comp=Z,51nm,1.4s,mb5.2
LOHW Long Hollow 88.95 42 eP **P 08 28 19.6 +0.2**
comp=Z,68nm,1.1s,mb5.4
CHMT Chamberlain Mo 89.03 38 eP **P 08 28 19.5 -0.2**
BILL Bilibino 89.04 354 dP **P 08 28 18.6 -0.6**
BILL pmax pmax
comp=Z,29nm,0.9s,mb5.1
BILL Bilibino 89.04 354 eP **P 08 28 18.6 -0.6**
comp=Z,28nm,0.8s,mb5.1
QLMT Earthquake Lak 89.05 41 eP **P 08 28 20.9 +1.1**
QLMT pP pP 08 30 22.8 +3.2
KMI Kunming 89.09 297 ⇑P **P 08 28 21.9 +1.4**
KMI AP pP 08 30 20.7 +0.5
KMI S S 08 38 24.4 +2.5
KMI AMB AMB
comp=Z,42nm,1.3s,mb5.1
KMI AMB AMB
comp=Z,165nm,3.6s
KMI Kunming 89.09 297 ⇑P **P 08 28 21.9 +1.4**
comp=Z,42nm,1.3s,mb5.1
KMI pP pP 08 30 20.7 +0.5
KMI S S 08 38 24.4 +2.5
KMI LR LR
comp=Z,110nm,31.5s
HHC Hu-ho-hao-te 89.15 314 eP **P 08 28 21.1 +0.7**
HHC AP pP 08 30 19.8 -0.4
HHC XP sP 08 31 14.0 +0.3
HHC PP PP 08 31 59.3 -2.6
HHC SKS SKS 08 37 53.7 -4.3
HHC S S 08 38 15.1 -7.0
HHC AMB AMB
comp=Z,35nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,159nm,5.1s
YFT Old Faithful 89.22 41 eP **P 08 28 22.5 +1.8**
YMR Madison River 89.25 41 eP **P 08 28 22.0 +1.2**
BDT Bhumibol Dam 89.33 289 P **P 08 28 23.0 +1.2**
BOZ Bozeman (W) 89.34 40 eP **P 08 28 21.2 +0.1**
comp=Z,51nm,1.0s,mb5.3
YNR Norris Junctio 89.45 41 eP **P 08 28 23.1 +1.4**
PLCA Paso Flores 89.48 134 PKKPbc 08 45 54.1
comp=Z,4.4nm,1.1s,baz=70,slow=7.4,SNR=3.5
LKWY Lake 89.55 41⇓ eP **P 08 28 23.8 +1.6**
comp=Z,56nm,1.1s,mb5.3
DAWY Dawson 89.58 16 eP **P 08 28 21.6 -0.2**
HRY Holter Researc 89.76 39 eP **P 08 28 23.3 +0.3**
WALA Waterton Lakes 89.80 36 eP **P 08 28 23.1 -0.1**
comp=Z,32nm,0.9s,mb5.2
CMAR Chiang Mai Arr 89.83 290 P **P 08 28 25.7 +1.7**
comp=Z,31nm,0.9s,mb5.1,baz=120,slow=3.1,SNR=119
CMAR PKKPbc 08 45 53.0
comp=Z,1.5nm,0.5s,baz=275,slow=3.9,SNR=5.2
RWWY Rawlins 90.22 45 eP **P 08 28 25.4 +0.1**
comp=Z,58nm,1.1s,mb5.3
ISCO Idaho Springs 90.45 47 eP **P 08 28 26.8 +0.4**
ISCO pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
ISCO Idaho Springs 90.45 47 eP **P 08 28 26.8 +0.4**
comp=Z,5.7nm,0.8s,mb4.5
CLNS Chul'man 90.52 333 eP **P 08 28 26.0 -0.3**
CLNS pmax pmax
comp=Z,21nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,11nm,0.9s
JCT Junction City 90.86 58 eP **P 08 28 28.0 -0.5**
comp=E,16nm,0.8s,mb5.0
PHWY Pilot Hill 91.22 46 eP **P 08 28 29.9 0.0**
YAK Yakutsk 92.03 338 eP **P 08 28 31.5 -1.6**
YAK pmax pmax
comp=Z,46nm,0.9s,mb5.5
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK Yakutsk 92.03 338 eP **P 08 28 31.6 -1.5**
comp=E,98nm,0.9s,mb5.8
EDM Edmonton 92.31 33 eP **P 08 28 33.8 -0.8**
LZH Lanzhou 92.54 308 ⇓P **P 08 28 37.0 +0.9**

LZH AP pP 08 30 37.5 +1.1
LZH XP sP 08 31 30.6 +0.9
LZH PP PP 08 32 31.2 +2.6
LZH SKS SKS 08 38 18.3 +0.9
LZH S S 08 38 52.9 +1.0
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,246nm,6.1s
LZH Lanzhou 92.54 308 ⇓P **P 08 28 37.0 +0.9**
LZH 08 32 31.2
LZH 08 38 18.3
LZH S S 08 38 52.9 +1.0
LZH pmax pmax
comp=Z,56nm,1.5s,mb5.4
LZH Lanzhou 92.54 308 ⇓P **P 08 28 37.0 +0.9**
comp=Z,56nm,1.5s,mb5.4
LZH pP pP 08 30 37.5 +1.1
LZH sP sP 08 31 30.6 +0.9
LZH PP PP 08 32 31.2 +2.6
LZH SKS SKS 08 38 18.3 +0.9
LZH S S 08 38 52.9 +1.0
RSSD Black Hills 93.39 44 eP **P 08 28 39.3 -0.5**
RSSD pmax pmax
comp=Z,21nm,1.1s,mb5.1
RSSD Black Hills 93.39 44 eP **P 08 28 39.3 -0.5**
comp=Z,21nm,1.1s,mb5.1
CBKS Cedar Bluff 94.18 50 eP **P 08 28 43.5 0.0**
comp=Z,48nm,1.3s,mb5.5
INK Inuvik 94.39 15 eP **P 08 28 42.4 -1.4**
INK pmax pmax
comp=Z,28nm,1.1s
INK Inuvik 94.39 15 eP **P 08 28 42.4 -1.3**
comp=Z,28nm,1.1s,mb5.3
ULN Ulaanbaatar 95.18 319 eP **P 08 28 47.7 -0.1**
ULN pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ULN Ulaanbaatar 95.18 319 eP **P 08 28 47.7 -0.2**
comp=Z,6.7nm,0.8s,mb4.8
CFAA Coronel Fontan 95.33 126 P **P 08 28 49.0 +0.1**
comp=Z,0.3nm,0.8s,baz=275,slow=4.1,SNR=3.9
CFAA Coronel Fontan 95.33 126 P **P 08 28 49.0 +0.1**
SONM Songino Array 95.57 319 P **P 08 28 49.4 -0.2**
comp=Z,2.9nm,0.7s,mb4.6,baz=135,slow=3.4,SNR=16
SONM pP pP 08 30 53.4 +3.4
comp=Z,1.1nm,1.0s,baz=146,slow=5.2,SNR=2.9
SONM PP PP 08 32 45.3 -5.6
comp=Z,2.3nm,1.1s,baz=112,slow=6.7,SNR=4.8
SONM PKiKP 08 33 25.5
comp=Z,0.4nm,0.3s,baz=114,slow=2.2,SNR=5.2
BOD Bodaibo 95.97 330 eP **P 08 28 47.6 -3.5**
YKA Yellowknife Ar 96.67 25 P **P 08 28 53.3 -0.9**
comp=Z,3.6nm,0.7s,mb4.7,baz=242,slow=4.5,SNR=89
YKA pP pP 08 30 54.5 -0.2
comp=Z,1.0nm,1.0s,baz=242,slow=3.8,SNR=3.9
YKA PP PP 08 32 47.3 -12
comp=Z,0.5nm,0.9s,baz=251,slow=7.5,SNR=4.5
YKA PKiKP 08 33 26.1
comp=Z,0.3nm,0.5s,baz=232,slow=1.5,SNR=10
YKA PKKPbc 08 45 33.9
comp=Z,0.3nm,0.5s,baz=39,slow=2.3,SNR=18
YKA Yellowknife Ar 96.67 25 P **P 08 28 53.3 -0.9**
YKA pP pP 08 30 54.5 -0.2
YKA PP PP 08 32 47.3 -12
YKW3 Yellowknife Ar 96.70 25 eP **P 08 28 53.4 -1.0**
GTA Gaotai 96.75 309 P **P 08 28 55.4 +0.2**
GTA AP pP 08 30 55.6 -0.1
GTA XP sP 08 31 43.7 -5.0
GTA PP PP 08 32 57.9 -2.4
GTA S S 08 39 23.0 -4.3
GTA AMB AMB
comp=Z,11nm,1.2s,mb5.0
GTA AMB AMB
comp=Z,88nm,10.7s
ZAK Zakamensk 98.46 321 eP **P 08 29 01.3 -1.3**
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb4.3
TIXI Tiksi 98.70 345 iP **P 08 29 01.8 -1.4**
TLY Talaya 98.73 322 iP **P 08 29 02.7 -1.1**
ULM Lac du Bonnet 100.86 40 P P 08 29 15.9 +2.6
comp=Z,1.1nm,0.6s,baz=259,slow=1.7,SNR=3.6
ULM PKiKP 08 33 33.1
comp=Z,1.2nm,0.5s,baz=195,slow=4.6,SNR=3.5
LPAZ La Paz 102.34 113 P Pdif 08 29 24.5 +3.9
comp=Z,0.9nm,0.7s,baz=243,slow=4.5,SNR=3.4
LPAZ PKKPbc 08 45 19.1
comp=Z,1.1nm,0.8s,baz=252,slow=3.2,SNR=3.0
LPAZ La Paz 102.34 113 P Pdif 08 29 24.5 +3.9
LPAZ PKKPbc 08 45 19.1
GUN Gumba 104.24 295 eP 08 33 41.2
comp=Z,17nm,0.8s
PKI Pulchoki 104.55 294 eP 08 33 41.7
comp=Z,32nm,1.0s
KKN Kakani 104.72 294 eP 08 33 42.1
comp=Z,12nm,0.7s
DMN Daman 104.82 294 eP 08 33 42.3
comp=Z,8.0nm,0.6s
GKN Gorkha 105.33 295 eP 08 33 42.7
comp=Z,6.0nm,0.4s
KOLN Koldanda 106.15 294 eP 08 33 44.3
comp=Z,14nm,0.9s
SDV Santo Domingo 109.58 88 PKiKP 08 33 50.5
comp=Z,2.0nm,0.7s,baz=276,slow=6.9,SNR=3.9
SDV PP PP 08 34 25.9 -10
comp=Z,2.2nm,0.8s,baz=281,slow=4.6,SNR=3.2
ZAL Zalesovo 110.33 321 PKiKP 08 33 51.0
comp=Z,3.9nm,0.6s,baz=316,slow=2.8,SNR=20
MKAR Makanchi Array 110.99 313 Pdiff Pdif 08 30 00.8 +2.8
comp=Z,1.1nm,0.9s,baz=90,slow=4.9,SNR=6.5
MKAR PKiKP 08 33 52.9
comp=Z,7.0nm,0.6s,baz=69,slow=1.4,SNR=59
MKAR PKKPbc 08 44 52.6
comp=Z,0.8nm,0.7s,baz=258,slow=3.1,SNR=4.6
NVS Novosibirsk 111.34 322 iPKiKP PKPdf 08 33 53.4 0.0
KURK Kurchatov 113.81 317⇓ iPKiKP 08 33 57.8
TKM2 Tokmak 2 115.29 309 P PKPdf 08 34 01.8 +0.4
SNR=9.5
KZA Kyzart 115.47 308 P PKPdf 08 34 03.2 +1.4
SNR=5.9
KBK Karagaybulak 115.74 308 P PKPdf 08 34 02.4 +0.2
SNR=8.6
CHMS Chumysh 115.91 309 P PKPdf 08 34 03.0 +0.5
SNR=7.3
UCH Uchtor 116.03 308 P PKPdf 08 34 04.2 +1.4
SNR=12
AAK Ala-Archa 116.07 308 P PKPdf 08 34 02.9 0.0
SNR=5.5
AAK Ala-Archa 116.07 308 ePKPdf PKPdf 08 34 02.3 -0.6
USP Ospenovka 116.12 309 P PKPdf 08 34 03.3 +0.4
SNR=11
EKS2 Erkin-Say 116.60 308 P PKPdf 08 34 04.7 +0.8
SNR=7.3
AML Almayashu 116.63 308 P PKPdf 08 34 05.1 +1.1
SNR=16
CHKZ Chkalovo 118.72 321 ePKIKP PKPdf 08 34 07.3 -0.5
SCHQ Schefferville 118.89 38 PKP PKPdf 08 34 07.6 -0.5
comp=Z,2.0nm,0.7s,baz=255,slow=12,SNR=5.4
BVA0 Borovoye Array 118.90 320 PKIKP PKPdf 08 34 08.2 0.0
BVA0 pmax pmax
comp=Z,7.0nm,1.1s
BVAR Borovoye Array 118.90 320 PKP PKPdf 08 34 08.2 0.0
comp=Z,17nm,0.4s,baz=90,slow=1.5,SNR=112
BDFB Brasilia 119.39 123 PKP PKPdf 08 34 10.3 +0.3
comp=Z,4.9nm,0.8s,baz=170,slow=2.6,SNR=6.4
BDFB PKKPbc 08 44 25.3
comp=Z,5.6nm,0.7s,baz=122,slow=2.5,SNR=8.3
OPO Ambohidratompo 120.83 232 PKP PKPdf 08 34 14.0 +1.4
comp=Z,6.3nm,0.8s,baz=312,slow=0.3,SNR=11
DAG Danmarks Havn 122.80 5⇑ ePKIKP PKPdf 08 34 14.1 -1.1
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 122.80 5⇑ iP PKPdf 08 34 14.1 -1.1
comp=Z,3.0nm,0.8s
SFJD Kangerlussuaq 123.09 22 iPKIKP PKPdf 08 34 15.6 -0.3
SFJD pmax pmax
comp=Z,15nm,0.6s
SFJD Kangerlussuaq 123.09 22 iP PKPdf 08 34 15.6 -0.3
comp=Z,15nm,0.6s
SUMG Summit 123.26 13 ePKPdf PKPdf 08 34 16.9 +0.8
SVE Sverdlovsk 123.84 325 ePKIKP PKPdf 08 34 18.0 +0.4
SVE pmax pmax
comp=Z,56nm,1.3s
ARU Arti 125.05 325 iPKIKP PKPdf 08 34 20.4 +0.5
ARU e 08 36 14.7
ARU Arti 125.05 325 ePKPdf PKPdf 08 34 20.1 +0.3
JMDO Jabal Madar 127.70 283 ⇓P PKPdf 08 34 26.7 +0.8

SNR=8.9
SMDO Samad 127.86 284 ⇓P PKPdf 08 34 26.8 +0.6
SNR=7.5
KEV Kevo 128.44 349 epkp PKPdf 08 34 25.0 -1.1
BSY Bisya 128.59 283 ⇑P PKPdf 08 34 28.1 +0.5
SNR=9.5
SHAO Shalim 129.19 277 ⇑P PKPdf 08 34 30.2 +1.3
ASHO Ashiyiah 129.88 285 ⇑P PKPdf 08 34 30.1 0.0
SNR=15
RBK Rabkut 130.41 276 ⇓P PKPdf 08 34 32.3 +1.0
SNR=8.4
WHFO Wadi Hawf 130.90 276 ⇑P PKPdf 08 34 32.8 +0.6
SNR=8.3
ABTO Aybut 131.22 275 P PKPdf 08 34 33.5 +0.7
SNR=8.5
MATP Matopo 131.56 214 SKPbc 08 37 09.7
comp=Z,7.8nm,1.0s,baz=154,slow=6.8,SNR=4.4
KAF Kangasniemi 135.10 344 epkp 08 34 25.0
FINES FINESS Array B 135.72 343 PKhKP 08 34 25.0
comp=Z,0.5nm,0.3s,baz=71,slow=2.4,SNR=7.9
FINES PKP PKPdf 08 34 40.0 +0.1
comp=Z,8.9nm,0.7s,baz=90,slow=2.8,SNR=16
FINES SKP 08 37 23.1
comp=Z,5.0nm,0.9s,baz=63,slow=4.3,SNR=7.1
FINES FINESS Array B 135.72 343 PKP 08 34 25.0
FINES PKP PKPdf 08 34 40.0 +0.1
FINES SKP 08 37 23.1
LSZ Lusaka 135.90 218 ePKPdf PKPdf 08 34 42.8 +1.4
OBN Obninsk 136.64 331 ⇑iPKIKP PKPdf 08 34 42.2 +0.5
OBN pmax pmax
comp=Z,41nm,0.9s
OBN Obninsk 136.64 331 i PKP PKPdf 08 34 43.7 +2.0
GOF Gofitskoye 138.12 315 ePKIKP PKPdf 08 34 45.5 +0.7
GNI Garni 138.48 308 i PKIKP PKPdf 08 34 47.6 +2.0
KIV Kislovodsk 138.75 314 i PKIKP PKPdf 08 34 46.2 +0.2
KIV pmax pmax
comp=Z,24nm,1.6s
KIV Kislovodsk 138.75 314 PKPdf PKPdf 08 34 46.7 +0.8
NB2 NORSAR Subarra 138.98 353 PKPabc PKPdf 08 34 37.0 -8.9
comp=Z,6.3nm,0.9s,baz=16,slow=3.1
NOA NORSAR Array B 138.98 353 PKhKP 08 34 37.3
comp=Z,9.8nm,0.7s,baz=18,slow=2.4,SNR=26
NOA PKP PKPdf 08 34 46.5 +0.6
comp=Z,0.8nm,0.4s,baz=34,slow=2.2,SNR=4.4
NOA SKPbc 08 37 31.9
comp=Z,6.5nm,1.0s,baz=15,slow=4.4,SNR=6.6
NOA NORSAR Array B 138.98 353 PKP 08 34 37.3
NOA PKP PKPdf 08 34 46.5 +0.6
NOA SKPbc 08 37 31.9
KMBO Kilima Mbogo 139.05 243 PKhKP 08 34 40.6
comp=Z,1.8nm,0.6s,baz=88,slow=3.1,SNR=6.7
KMBO PKP PKPdf 08 34 50.9 +3.6
comp=Z,7.5nm,0.9s,baz=78,slow=4.8,SNR=9.5
KMBO SKPbc 08 37 34.4
comp=Z,2.5nm,0.9s,baz=72,slow=5.3,SNR=4.3
KMBO Kilima Mbogo 139.05 243 ePKPpre 08 34 39.8
KMBO PKP PKPdf 08 34 50.9 +3.6
KMBO SKPbc 08 37 34.4
KONO Kongsberg 140.51 354 ePKHKP 08 34 41.1
SOC Sochi 140.88 315 i PKIKP PKPdf 08 34 50.0 +0.3
SOC ePPP PPP 08 41 04.7 -7.9
SOC e 08 41 17.7
SOC eSSS SSS 09 01 01.6 -7.2
SOC pmax pmax
comp=Z,35nm,1.3s
SOC pmax pmax
comp=N,14nm,1.0s
SOC pmax pmax
comp=E,26nm,1.2s
BEST Besiri 141.68 306 i P PKPdf 08 34 48.6 -2.7
ANN Anapa 141.84 318 i PKHKP 08 34 48.4
ANN pmax pmax
comp=Z,55nm,1.5s
BINT Bingol 141.99 307 P PKPdf 08 34 49.6 -2.2
BINT Bingol 141.99 307 P PKPdf 08 34 48.5 -3.3
MLA1 Latheron 142.10 4 eP PKPdf 08 34 47.7 -3.6
GUMT Gumushane 142.22 310 P PKPdf 08 34 50.0 -2.1
GUMT Gumushane 142.22 310 P PKPdf 08 34 50.5 -1.6
KELT Kelkit 142.49 310 i P PKPdf 08 34 48.5 -4.0
SUW Suwalki 142.76 339 ⇓ePKP PKPdf 08 34 50.2 -2.4
PTK Pertek 142.80 308 P PKPdf 08 34 52.6 -0.6
MCD Coleburn Disti 142.82 4 ⇓eP PKPdf 08 34 49.9 -2.6
MDO Dochfour 142.87 5 ⇓eP PKPdf 08 34 50.6 -2.1
AKASG Malin Array Be 142.89 331 PKhKP 08 34 50.8
comp=Z,135nm,0.6s,baz=41,slow=4.3,SNR=621
ELZG Elazig 143.23 307 i P PKPbc 08 34 54.8 +2.1
MUD Monsted U'grnd 143.70 353 ⇓iPKIKP PKPdf 08 34 53.8 -0.3
MUD pmax pmax
comp=Z,300nm,1.0s
MUD Monsted U'grnd 143.70 353 ⇓i P PKPbc 08 34 53.8 +0.3
comp=Z,301nm,1.0s
MYA Malataya 143.70 307 P PKPbc 08 34 55.6 +1.5
MALT Malatya 143.70 307 P PKPbc 08 34 54.6 +0.5
MALT Malatya 143.70 307 PKIKP PKPdf 08 34 56.1 +1.4
MALT Malatya 143.70 307 ⇑P PKPbc 08 34 55.2 +1.0
MALT Malatya 143.70 307 ⇑P PKPbc 08 34 55.2 +1.1
SIM Simferopol' 143.82 320 dP Pdif 08 32 25.0 +2.5
SIM i 08 34 55.0
SIM e 08 38 12.0
SIM pmax pmax
comp=Z,270nm,0.7s
SIM pmax pmax
comp=Z,90nm,17.7s
COP Copenhagen 143.98 350 ⇓iPKIKP PKPdf 08 34 54.7 +0.1
COP pmax pmax
comp=Z,150nm,0.9s
COP Copenhagen 143.98 350 ⇓i P PKPbc 08 34 54.7 +0.3
comp=Z,152nm,0.9s
BSD Bornholm Skovb 144.05 347 ⇓iPKIKP PKPdf 08 34 54.7 -0.1
BSD pmax pmax
comp=Z,280nm,0.8s
BSD Bornholm Skovb 144.05 347 ⇓i P PKPbc 08 34 54.7 +0.1
comp=Z,279nm,0.8s
SVST Sivas 144.27 310 i P PKPdf 08 34 58.0 +2.3
TOKT Tokat 144.35 311 P PKPdf 08 34 57.4 +1.6
TOKT Tokat 144.35 311 P PKPdf 08 34 57.2 +1.4
MBAR Mbarara 144.64 237 ePKP PKPdf 08 34 58.5 +1.4
GZT Gaziantep 144.65 306 i P PKPdf 08 34 58.2 +1.7
GMK Mull of Kintyr 144.81 7 ⇓eP PKPdf 08 34 56.9 +0.8
WAR Warsaw 144.96 339 ePKP PKPdf 08 34 58.2 +1.7
WAR e 08 34 59.5
WAR Warsaw 144.96 339 ePKP PKPdf 08 34 58.1 +1.7
WAR e 08 34 59.5
GAZ Gaziantep 144.98 306 P PKPdf 08 34 59.5 +2.5
GCL Cushendall 145.01 8 eP PKPdf 08 34 57.5 +1.1
BOYT Boyabat 145.02 314 i P PKPdf 08 34 59.5 +2.5
ESK Eskdalemuir 145.08 5 ePKPdf PKPdf 08 34 57.6 +1.0
KAHT Ahir Dag 145.09 307 i P PKPdf 08 34 59.6 +2.4
BYBT Boyabat 145.09 314 P PKPdf 08 34 59.6 +2.5
BYBT Boyabat 145.09 314 P PKPdf 08 34 59.3 +2.2
BWH Wardlaw 145.18 5 ⇓eP PKPdf 08 34 58.0 +1.2
GKP Gorka Klasztor 145.19 344 ePKP PKPdf 08 34 58.6 +1.8
BBH Bruntsheil 145.28 5 eP PKPdf 08 34 58.3 +1.4
BHH Howats Hill 145.30 5 eP PKPdf 08 34 58.3 +1.3
BZK Bozkurt 145.38 315 P PKPdf 08 34 59.8 +2.3
BZK Bozkurt 145.38 315 P PKPdf 08 35 00.0 +2.5
GAL1 Galloway 145.38 6 eP PKPdf 08 34 58.0 +0.8
BNN Bunyan 145.41 309 P PKPdf 08 35 00.2 +2.5
BTA Talkin 145.52 4 ⇓eP PKPdf 08 34 59.6 +2.2
KIS Kishinev 145.59 326 κ iPKIKP PKPdf 08 34 59.0 +1.3
BDL Dobcross Hall 145.61 5 eP PKPdf 08 34 59.3 +1.8
BBO1 Bothel 145.65 5 eP PKPdf 08 34 59.5 +1.9
CORM Corum 145.75 312 P PKPdf 08 35 00.5 +2.3
TOS Tosya 145.79 314 P PKPdf 08 35 01.4 +3.1
TOS Tosya 145.79 314 P PKPdf 08 35 01.6 +3.3
LVV L'vov 145.80 334 i PKIKP PKPdf 08 35 00.5 +2.5
LVV i 08 41 44.3
GMM Mts of Mourne 145.85 8 eP PKPdf 08 34 60.0 +2.0
COBT Iskenderun 145.91 305 i P PKPdf 08 35 01.9 +3.3
BALT Daday 145.98 315 i P PKPdf 08 35 02.0 +3.4
BSEG Bad Segeberg 146.00 351 ePKPdf PKPdf 08 34 59.2 +1.0
BSEG ePKPbc PKPbc 08 35 01.3 +1.5
WIM Isle of Man 146.09 7 ⇓eP PKPdf 08 35 01.0 +2.7
WIM AMb AMB 08 35 02.3
comp=Z,242nm,1.3s
IAS Iasi 146.10 328 ⇓P PKPdf 08 35 02.2 +3.6
HTY Hatay 146.12 305 P PKPdf 08 35 02.4 +3.4
HTY Hatay 146.12 305 P PKPdf 08 35 02.6 +3.6
CEYT Ceyhan 146.14 306 P PKPdf 08 35 02.6 +3.6
AVNT Avonos 146.16 310 i P PKPdf 08 35 01.9 +3.0
CDAG Cicekdag 146.16 311 i P PKPdf 08 35 02.3 +3.3
CANT Cankiri 146.26 314 P PKPdf 08 35 02.9 +3.8
CANT Cankiri 146.26 314 P PKPdf 08 35 02.8 +3.8

ELDT Eldivan 146.44 313 i P PKPdf 08 35 03.3 +4.0
FKH Fakeheh 146.45 301 eP PKPdf 08 35 04.0 +4.5
KWP Kalwaria 146.48 335 ePKPdf PKPdf 08 34 59.7 +0.6
KWP ePKPbc PKPbc 08 35 02.6 +1.6
KWP ⇓ePKP PKPdf 08 35 02.8 +3.7
KWP ePKPab PKPab 08 35 05.7 -0.9
KWP Kalwaria 146.48 335 ⇓ePKP PKPdf 08 35 02.8 +3.7
KWP e 08 35 05.7
ASF Jabal al Asfar 146.51 298 PKP PKPdf 08 35 01.1 +1.3
comp=Z,66nm,0.8s,baz=336,slow=2.8,SNR=49
ASF PKPbc PKPbc 08 35 04.1 +2.4
comp=Z,66nm,0.8s,baz=329,slow=2.2,SNR=54
DCN Croghan 146.53 10 eP PKPdf 08 35 02.2 +3.1
SAFT Safranbolu 146.59 315 P PKPdf 08 35 02.6 +3.0
SAFT Safranbolu 146.59 315 P PKPdf 08 35 03.3 +3.8
BRTR Keskin Array B 146.63 312 PKP PKPdf 08 35 00.0 +0.3
comp=Z,45nm,0.8s,baz=154,slow=3.8,SNR=110
BRTR PKPbc PKPbc 08 35 03.0 +1.3
comp=Z,46nm,0.8s,baz=134,slow=4.4,SNR=128
BRTR SKPbc 08 37 46.2
comp=Z,4.0nm,0.8s,baz=84,slow=2.3,SNR=4.2
DLF Lyons Farm 146.69 9 eP PKPdf 08 35 02.5 +3.2
KAMT Kaman 146.73 311 P PKPdf 08 35 03.3 +3.5
KAMT Kaman 146.73 311 P PKPdf 08 35 03.5 +3.6
TLCR 146.75 324 ⇑P PKPdf 08 35 03.8 +4.1
RUE Ruedersdorf 146.75 346 ePKPbc PKPbc 08 35 03.2 +1.6
DSB Dublin 146.76 9 ePKPbc PKPbc 08 35 02.6 +1.1
HWQ Hawqa 146.80 302 eP PKPdf 08 35 04.3 +4.2
WCB1 Church Bay 146.87 7 ⇓eP PKPdf 08 35 02.9 +3.3
WCB1 AMb AMB 08 35 04.1
comp=Z,113nm,1.4s
WME Myndd Eilian 146.87 7 ⇓eP PKPdf 08 35 03.0 +3.3
BURAR Bucovina Array 146.94 330 ⇑P PKPdf 08 35 04.8 +4.9
BURAR Bucovina Array 146.94 330 ⇑P PKPdf 08 35 04.8 +4.9
YRC Rhoscolyn 146.99 7 ⇓eP PKPdf 08 35 02.8 +3.0
YRC AMb AMB 08 35 04.5
comp=Z,97nm,1.5s
WPM1 Penmaenmawr 147.05 6 ⇓eP PKPdf 08 35 03.5 +3.6
WPM1 AMb AMB 08 35 05.0
comp=Z,188nm,1.4s
OJC Ojcow 147.08 338 ⇓iPKP PKPdf 08 35 04.3 +4.3
CFR Carcaliu 147.13 324 ⇑P PKPdf 08 35 04.8 +4.5
BHL Bhannes 147.13 301 eP PKPdf 08 35 05.5 +4.8
YLL Llanberis 147.14 6 ⇓eP PKPdf 08 35 03.6 +3.5
YLL AMb AMB 08 35 08.2
comp=Z,160nm,1.0s
ANTO Ankara 147.15 313 P PKPdf 08 35 04.2 +3.7
ANTO Ankara 147.15 313 P PKPdf 08 35 03.5 +3.0
LOD Lodumlu 147.16 313 P PKPdf 08 35 04.4 +3.9
LOD Lodumlu 147.16 313 P PKPdf 08 35 05.0 +4.5
KOLS Kolonicke sedl 147.21 335 ePKIKP PKPdf 08 35 02.0 +1.7
KOLS e 08 35 08.5
KOLS Kolonicke sedl 147.21 335 ePKP PKPdf 08 35 02.0 +1.7
KOLS i 08 35 05.4
KOLS e 08 35 08.5
YRE Yr Eifl 147.27 7 ⇓eP PKPdf 08 35 03.7 +3.4
YRE AMb AMB 08 35 06.9
comp=Z,82nm,2.3s
VRI Vrincioaia 147.42 327 ⇓P PKPdf 08 35 05.3 +4.6
TIRR Tirgusor 147.43 323 ⇓P PKPdf 08 35 05.3 +4.5
UZH Uzhgorod 147.44 334 c iPKIKP PKPdf 08 35 02.5 +1.8
UZH i 08 35 05.8
SBD1 Bryn Du 147.46 6 ⇓iP PKPdf 08 35 04.8 +4.2
SBD1 AMb AMB 08 35 06.1
comp=Z,194nm,1.2s
MEST Erdemli 147.49 306 i P PKPdf 08 35 05.7 +4.5
WIT Witteveen 147.55 354 ePKP PKPdf 08 35 06.1 +5.4
HARR Harsova 147.55 324 ⇓P PKPdf 08 35 06.1 +5.1
CRVS Cervenica-Dubn 147.56 335 i PKP PKPdf 08 35 06.2 +5.3
CRVS e 08 35 10.0
NIE Niedzica 147.56 337 ePKP PKPdf 08 35 00.9 0.0
KSP Ksiaz 147.63 343 ePKIKP PKPdf 08 35 02.0 +1.1
KSP e 08 35 10.4
KSP Ksiaz 147.63 343 ePKP PKPdf 08 35 02.0 +1.1
KSP i PKPdf PKPdf 08 35 06.2 +5.3
KSP e 08 35 10.4
KSP epPKP 08 37 13.4
KSP Ksiaz 147.63 343 ⇓ePKP PKPdf 08 35 02.2 +1.3
KSP e 08 35 06.2
KSP e 08 35 10.5
HLM1 Long Mynd 147.88 5 ⇓iP PKPdf 08 35 05.8 +4.5
HLM1 AMb AMB 08 35 07.1
comp=Z,164nm,1.2s
MDU Mudurnu 147.94 315 P PKPdf 08 35 06.5 +4.8
MDU Mudurnu 147.94 315 P PKPdf 08 35 06.8 +5.1
OKC Ostrava-Krasne 147.96 340 ePKHKP 08 35 02.9
OKC e 08 35 11.9
OKC Ostrava-Krasne 147.96 340 ePKPDF PKPdf 08 35 02.9 +1.4
OKC ⇑ePKPB PKPdf 08 35 06.7 +5.2
OKC ePKPAB PKPab 08 35 11.9 -0.5
OKC ex x 08 38 05.3
SSP1 Stoney Pound 147.96 6 i P PKPdf 08 35 06.0 +4.6
SSP1 AMb AMB 08 35 07.4
comp=Z,223nm,1.1s
HENT Hendek 147.97 316 i P PKPdf 08 35 06.4 +4.6
UPC Upice 148.01 343 ePKHKP 08 35 03.0
UPC e 08 35 12.1
UPC Upice 148.01 343 ePKPDF PKPdf 08 35 03.0 +1.5
UPC ⇑ePKPB PKPdf 08 35 07.1 +5.6
UPC ePKPAB PKPab 08 35 12.1 -0.5
CLZ Clausthal 148.02 350 ePKPdf PKPdf 08 35 02.9 +1.4
CLL Collm 148.02 347 i PKHKP 08 35 02.4
CLL pmax pmax
comp=Z,26nm,1.1s
CLL pmax pmax
comp=Z,249nm,0.9s
CLL Collm 148.02 347 i PKP PKPdf 08 35 02.4 +0.9
CLL i PKP PKPdf 08 35 06.8 +5.3
CLL epPKP 08 37 15.0
CLL Collm 148.02 347 i PKIKP PKPdf 08 35 02.4 +0.9
comp=Z,logA/T=1.4
CLL i PKP1 PKPdf 08 35 06.8 +5.3
CLL i PKP2 PKPab 08 35 11.3 -1.3
CLL e*PPKP 08 37 15.0
CLL e 08 37 46.0
ISR Istrita 148.02 326 PKP2 PKPab 08 35 07.2 -5.6
ISR Istrita 148.02 326 ⇑P PKPdf 08 35 07.4 +5.7
ISR Istrita 148.02 326 ⇑P PKPdf 08 35 07.4 +5.7
PSN Preselentsi 148.04 322 eP PKPdf 08 35 07.0 +5.2
DPC Dobruska-Polom 148.06 342 ePKHKP 08 35 03.3
DPC e 08 35 12.5
DPC Dobruska-Polom 148.06 342 ePKPDF PKPdf 08 35 03.3 +1.7
DPC ⇑ePKPB PKPdf 08 35 07.4 +5.8
DPC ePKPAB PKPab 08 35 12.5 -0.3
DPC ex x 08 38 09.7
MLR Muntele Rosu 148.08 327 PKHKP 08 35 06.6
MLR Muntele Rosu 148.08 327 ⇑P PKPdf 08 35 06.8 +5.0
MLR Muntele Rosu 148.08 327 ⇑P PKPdf 08 35 06.8 +5.0
PHNC Paralimni 148.10 304 P PKPdf 08 35 05.6 +3.4
comp=Z,2.6nm,1.1s
MORC Moravsky Berou 148.20 340 ePKPdf PKPdf 08 35 01.9 0.0
MORC ePKPbc PKPdf 08 35 07.3 +5.4
MORC ePKPab PKPab 08 35 12.4 -1.0
MORC Moravsky Berou 148.20 340 ⇑P PKPdf 08 35 07.3 +5.4
BRG Berggiesshubel 148.21 345 i PKHKP 08 35 03.2
BRG i 08 35 12.1
BRG e 08 38 36.4
BRG pmax pmax
comp=Z,117nm,0.9s
BRG Berggiesshubel 148.21 345 i PKP PKPdf 08 35 03.2 +1.4
BRG i 08 35 07.5
BRG i 08 35 12.1
BRG epPKP 08 37 17.0
BRG ePP PP 08 38 36.4 -6.2
KIZT Kizilcal 148.23 312 eP PKPdf 08 35 07.4 +5.1
KIZT Kizilcal 148.23 312 P PKPdf 08 35 07.6 +5.3
KECS Kecovo 148.27 336 i PKP PKPdf 08 35 08.0 +6.0
KECS e 08 35 13.1
HTR Trewern Hill 148.28 6 ⇓iP PKPdf 08 35 06.6 +4.7
HTR AMb AMB 08 35 08.7
comp=Z,116nm,1.5s
LIKS Likavka 148.31 338 ePKP PKPdf 08 35 09.0 +7.0
LIKS e 08 35 14.1
WTSB Winterswijk 148.37 354 ex x 08 35 02.7
comp=Z,52nm,1.8s
WTSB i PKP PKPdf 08 35 07.2 +5.2
PVCC Panska Ves 148.38 344 ePKHKP 08 35 03.7
PVCC e 08 35 13.2
PVCC Panska Ves 148.38 344 ePKPDF PKPdf 08 35 03.7 +1.6
PVCC ⇑ePKPB PKPdf 08 35 08.0 +5.9
PVCC ePKPAB PKPab 08 35 13.2 -0.9

HAE Alders End 148.38 5 ⇓iP PKPdf 08 35 06.9 +4.8
HAE AMb AMB 08 35 08.6
comp=Z,184nm,1.2s
MCH1 Michaelchurch 148.39 6 ⇓iP PKPdf 08 35 06.8 +4.8
SNX Sinaia 148.40 327 ⇓P PKPdf 08 35 08.5 +6.2
SNX Sinaia 148.40 327 ⇓P PKPdf 08 35 08.5 +6.2
HDMB Hadim 148.59 308 eP PKPdf 08 35 07.2 +4.3
EIL Elat 148.61 294 PKPdf PKPdf 08 35 04.9 +1.7
EIL ePKPbc PKPdf 08 35 09.1 +6.0
ESKT Eskisehir 148.64 314 eP PKPdf 08 35 08.3 +5.4
ESKT Eskisehir 148.64 314 i P PKPdf 08 35 08.2 +5.3
CSS Prodhromos 148.66 304 ePKPbc PKPdf 08 35 08.3 +5.2
HGH Gray Hill 148.76 5 ⇓eP PKPdf 08 35 07.5 +4.8
HGH AMb AMB 08 35 09.9
comp=Z,230nm,1.4s
HRT Hereke 148.77 317 P PKPdf 08 35 08.2 +5.2
PRD Provadia 148.79 322 eP PKPdf 08 35 09.0 +6.0
VYHS Vyhne 148.87 338 i PKP PKPdf 08 35 09.1 +6.1
VYHS i 08 35 15.8
PRU Pruhonice 148.88 344 ePKHKP 08 35 04.4
PRU e 08 35 15.4
PRU Pruhonice 148.88 344 ePKPDF PKPdf 08 35 04.4 +1.5
PRU ⇑ePKPB PKPdf 08 35 09.1 +6.2
PRU ePKPAB PKPab 08 35 15.4 -0.8
PRU ex x 08 38 19.3
VRAC Vranov 148.91 341 ⇓P PKPdf 08 35 09.3 +6.3
MOX Moxa 148.94 348 ePKHKP 08 35 04.2
MOX pmax pmax
comp=Z,157nm,1.3s
MOX Moxa 148.94 348 ePKP PKPdf 08 35 04.2 +1.2
MOX e 08 35 09.0
MOX Moxa 148.94 348 i P PKPdf 08 35 04.2 +1.2
MOX PP2 08 35 09.0
LEF Lefka 148.95 305 eP PKPdf 08 35 09.4 +5.9
KOLL Kolacno 148.95 338 i PKP PKPdf 08 35 09.7 +6.6
KOLL e 08 35 16.0
PSZ Piszkesteto 148.96 336 PKHKP 08 35 09.0
PSZ Piszkesteto 148.96 336 ePKPdf PKPdf 08 35 03.8 +0.7
PSZ ePKPbc PKPdf 08 35 08.9 +5.8
PSZ Piszkesteto 148.96 336 ⇓iPKP/F PKPdf 08 35 09.2 +6.1
PSZ Piszkesteto 148.96 336 ⇓P PKPdf 08 35 09.3 +6.2
ISK Istanbul-Kandi 149.03 317 P PKPdf 08 35 08.2 +4.7
SZAC Souni-Zanaja 149.08 304 ⇓P PKPdf 08 35 09.8 +6.0
comp=Z,4.2nm,1.0s
SZAC Souni-Zanaja 149.08 304 ⇓eP PKPdf 08 35 09.8 +6.0
YLV Yalova 149.09 316 eP PKPdf 08 35 07.4 +3.8
YLV Yalova 149.09 316 P PKPdf 08 35 08.7 +5.1
NKC Novy Kostel 149.16 346 ePKHKP 08 35 04.9
NKC e 08 35 16.4
NKC Novy Kostel 149.16 346 ePKPDF PKPdf 08 35 04.9 +1.5
NKC ⇑ePKPB PKPdf 08 35 09.9 +6.5
NKC ePKPAB PKPab 08 35 16.4 -0.9
NKC ex x 08 38 07.5
ALFC Alevga 149.16 305 ⇓P PKPdf 08 35 09.5 +5.6
comp=Z,2.3nm,0.6s
ALFC Alevga 149.16 305 ⇓eP PKPdf 08 35 09.5 +5.6
SMOL Smolenice 149.34 339 ePKP PKPdf 08 35 11.1 +7.4
SMOL e 08 35 18.5
ULDT Uludag 149.47 316 i P PKPdf 08 35 10.7 +6.5
SRO Srobarova 149.64 338 ePKP PKPdf 08 35 11.1 +6.9
SRO e 08 35 18.9
HGN Heimansgroeve 149.65 355 ex x 08 35 04.7
comp=Z,23nm,1.2s
HGN i PKP PKPdf 08 35 10.1 +6.0
BUD Budapest 149.65 336 ⇑ePKP/F PKPdf 08 35 11.1 +6.8
ISP Isparta 149.65 311 PKHKP 08 35 10.5
ISP Isparta 149.65 311 ⇓P PKPdf 08 35 10.6 +6.0
ISP Isparta 149.65 311 ⇓P PKPdf 08 35 10.6 +6.0
ORLT Orhaneli 149.68 316 eP PKPdf 08 35 10.4 +5.9
SRO1 Iza 149.71 338 ePKP PKPdf 08 35 11.3 +7.0
SRO1 e 08 35 19.5
JMB Yambol 149.71 322 eP PKPdf 08 35 11.0 +6.5
ZST Bratislava 149.72 339 ePKP PKPdf 08 35 11.5 +7.1
ZST e 08 35 19.9
TNS Taunus Mts 149.89 351 ePKPdf PKPdf 08 35 05.8 +1.3
TNS ePKPbc PKPdf 08 35 11.5 +7.0
TNS ePKPab PKPab 08 35 19.0 -1.3
KHC Kasperske Hory 149.91 344 ePKIKP PKPdf 08 35 05.9 +1.3
KHC e 08 35 19.9
KHC Kasperske Hory 149.91 344 ePKPDF PKPdf 08 35 05.9 +1.3
KHC ⇑ePKPB PKPdf 08 35 11.6 +7.0
KHC ePKPAB PKPab 08 35 19.9 -0.5
KHC ex x 08 38 16.5
GRA1 Grafenberg Arr 149.93 348 ePKPdf PKPdf 08 35 05.5 +0.9
GRA1 ePKPbc PKPdf 08 35 11.6 +7.0
GRA1 ePKPab PKPab 08 35 19.2 -1.2
GRF Grafenberg Arr 149.93 348 ePKIKP PKPdf 08 35 05.5 +0.9
PVL Pavlikeni 149.94 324 eP PKPdf 08 35 11.5 +6.6
CRAR CRAIOVA 149.99 327 ⇓P PKPdf 08 35 12.4 +7.5
EDRB Edirne 150.00 321 eP PKPdf 08 35 09.8 +4.8
WET Wettzell 150.08 345 ePKPdf PKPdf 08 35 05.5 +0.6
WET ePKPbc PKPdf 08 35 11.7 +6.8
WET ePKPab PKPab 08 35 20.2 -0.9
BZS Buzias 150.08 331 PKHKP 08 35 11.0
KHL Karahalli 150.12 312 eP PKPdf 08 35 11.6 +6.2
BNT Bandirma 150.14 317 eP PKPdf 08 35 11.2 +5.9
GEC2 GERESS Array S 150.15 344 ePKPdf PKPdf 08 35 05.7 +0.7
GEC2 ePKPbc PKPdf 08 35 11.9 +6.9
GEC2 ePKPab PKPab 08 35 20.5 -0.9
GERES GERESS Array B 150.15 344 PKP PKPdf 08 35 05.9 +0.9
comp=Z,5.1nm,0.9s,baz=90,slow=1.3,SNR=26
GERES PKPbc PKPdf 08 35 12.0 +7.0
comp=Z,42nm,0.8s,baz=45,slow=1.9,SNR=105
GERES PKPab PKPab 08 35 20.6 -0.8
comp=Z,13nm,0.7s,baz=16,slow=4.2,SNR=12
GERES pPKPbc 08 37 19.7
comp=Z,2.6nm,0.7s,slow=1.3,SNR=4.3
ABH Alteburg 150.34 352 PKP PKPdf 08 35 12.1 +6.8
ABH Alteburg 150.34 352 ⇑eP PKPdf 08 35 06.9 +1.6
GIVF Givet 150.39 356 ePKIKP PKPdf 08 35 05.9 +0.6
BTOK Tokmak 150.39 316 i P PKPdf 08 35 12.2 +6.5
TOD Tromm 150.44 351 PKP PKPdf 08 35 12.1 +6.7
TOD Tromm 150.44 351 ⇑eP PKPdf 08 35 06.8 +1.4
BAIF Baives 150.47 357 ePKIKP PKPdf 08 35 06.1 +0.7
SIND Sindeldorf 150.56 349 ⇑eP PKPdf 08 35 06.8 +1.2
ELL Elmali 150.56 309 eP PKPdf 08 35 12.7 +6.7
ELL Elmali 150.56 309 P PKPdf 08 35 13.1 +7.0
SWS Schriesheim 150.57 351 eP PKPdf 08 35 06.8 +1.2
RUP Ruppelstein 150.58 353 PKP PKPdf 08 35 13.0 +7.4
RUP Ruppelstein 150.58 353 ⇑P PKPdf 08 35 07.5 +1.9
MANT Manisa 150.70 314 i P PKPdf 08 35 13.1 +6.9
WLF Walferdange 150.71 354 PKPdf PKPdf 08 35 07.5 +1.7
WLF ePKPbc PKPdf 08 35 13.6 +7.8
WLF ePKPab PKPab 08 35 22.4 -1.4
DENT Denizli 150.73 312 eP PKPdf 08 35 13.7 +7.5
DENT Denizli 150.73 312 P PKPdf 08 35 13.2 +7.0
DNZL Cakiroluk 150.75 312 i P PKPdf 08 35 14.1 +7.8
KTD Kalmit 150.82 351 PKP PKPdf 08 35 13.2 +7.2
PKSM Moragy 150.85 335 ⇓P PKPdf 08 35 13.1 +7.0
MOA Molln 150.91 342 ⇑iP PKPdf 08 35 07.0 +0.8
MOA i 08 35 13.6
MOA i 08 35 24.2
AKAS Kas 151.00 309 i P PKPdf 08 35 14.0 +7.3
PGB Panagyurishte 151.02 324 eP PKPdf 08 35 13.0 +6.5
ARSA Arzberg 151.07 340 ⇑iP PKPdf 08 35 07.3 +0.9
ARSA i 08 35 13.5
ARSA i 08 35 21.1
HDH Heidenheim 151.18 348 ⇑eP PKPdf 08 35 07.8 +1.3
STU Stuttgart 151.18 350 PKPdf PKPdf 08 35 07.7 +1.2
STU ePKPbc PKPdf 08 35 14.2 +7.7
STU ePKPab PKPab 08 35 23.8 -2.0
LANF Langenberg 151.19 352 PKP PKPdf 08 35 08.3 +1.8
FETY Fethiye 151.21 310 eP PKPdf 08 35 13.8 +6.9
BOLS Boljevac 151.26 329 ⇑iPKP PKPdf 08 35 13.8 +7.0
SVIS Svilajnac 151.27 330 ⇑iPKP PKPdf 08 35 14.4 +7.6
RZN Rozhen 151.28 322 eP PKPdf 08 35 14.0 +7.1
LBG Lerchenberg 151.35 350 ⇑eP PKPdf 08 35 08.3 +1.5
FUR Furstenfeldbru 151.36 347 ePKIKP PKPdf 08 35 14.4 +7.6
BUCH Bad Urach 151.47 349 ⇑eP PKPdf 08 35 08.4 +1.5
DALT Dalyan (Mudla) 151.47 310 eP PKPdf 08 35 14.7 +7.4
DALT Dalyan (Mudla) 151.47 310 P PKPdf 08 35 15.0 +7.7
AYVA Ayvalik 151.51 317 i P PKPdf 08 35 14.6 +7.3
VTS Vitosha 151.51 325 ⇓P PKPdf 08 35 15.2 +8.0
VTS Vitosha 151.51 325 eP PKPdf 08 35 15.0 +7.8
VTS Vitosha 151.51 325 ⇓P PKPdf 08 35 15.2 +8.0
KDAG Bornova 151.62 314 i P PKPdf 08 35 15.1 +7.6
IZM Izmir 151.62 314 eP PKPdf 08 35 15.0 +7.5
IZM Izmir 151.62 314 P PKPab 08 35 38.6 +11
PERS Pernice 151.74 340 ePKPdf PKPdf 08 35 08.2 +0.8
PERS ePKPbc PKPdf 08 35 14.8 +7.4

PERS *e*PKPab PKPab 08 35 26.9 -1.2
BFO Black Forest 151.75 351 *e*PKIKP PKPdf 08 35 15.3 +8.0
FLN La Foliniere 151.78 3 *e*PKIKP PKPdf 08 35 07.8 +0.4
comp=Z,95nm,1.1s
WLS Welschbruch 151.81 352 PKP PKPdf 08 35 08.8 +1.4
GRUS Gruza 151.81 330 ⇓*i*PKP PKPdf 08 35 08.1 +0.5
CDF Champ du Feu 151.82 352 *e*PKIKP PKPdf 08 35 07.8 +0.4
KBA Koelnbreinsper 151.87 343 ⇑*i*P PKPdf 08 35 08.2 +0.7
KBA *i* 08 35 15.4
KBA *i* 08 35 28.9
GUT Gutenstein 151.88 349 *e*P PKPdf 08 35 08.8 +1.3
MMB Musomiste 151.91 323 *e*P PKPdf 08 35 15.0 +7.2
MEZF Maizieres J'vi 151.96 355 *e*PKIKP PKPdf 08 35 08.9 +1.3
LDF La Drutiere 151.97 3 *e*PKIKP PKPdf 08 35 07.9 +0.3
comp=Z,45nm,1.0s
ROSF Rostrenen 151.98 7 *e*PKIKP PKPdf 08 35 07.5 -0.1
DIVS Divcibare 151.99 331 ⇓*i*PKP PKPdf 08 35 08.8 +1.0
ECH Echery 152.03 352 PKP PKPdf 08 35 08.8 +1.1
UBR Uberruh 152.07 348⇑*e*P PKPdf 08 35 08.9 +1.1
KKB Krupnik 152.07 324 *e*P PKPdf 08 35 16.0 +8.0
WATA Walderalm 152.08 346 ⇑*i*P PKPdf 08 35 08.9 +1.1
WATA *i* 08 35 15.9
WATA *i* 08 35 28.8
WTTA Wattenberg 152.13 345 ⇓*i*P PKPdf 08 35 08.8 +0.9
WTTA *i* 08 35 16.4
WTTA *i* 08 35 29.0
SGMF Saint Gilles 152.13 6 *e*PKIKP PKPdf 08 35 07.9 0.0
THEF They Montfort 152.15 354 PKP PKPdf 08 35 09.2 +1.3
THEF They Montfort 152.15 354 PKP PKPdf 08 35 06.9 -1.0
MOTA Moosalm 152.18 346 ⇓*i*P PKPdf 08 35 09.0 +1.0
MOTA *i* 08 35 16.0
MOTA *i* 08 35 29.0
KIZ Kirchzarten 152.18 351⇑*e*P PKPdf 08 35 09.0 +1.1
FELD Feldberg 152.25 351⇑*e*P PKPdf 08 35 09.5 +1.5
SQTA Sankt Quirin 152.27 346 ⇑*i*P PKPdf 08 35 09.3 +1.2
SQTA *i* 08 35 16.6
SQTA *i* 08 35 29.5
HAU Haudompre 152.33 353 *e*PKIKP PKPdf 08 35 08.8 +0.6
MOF Molkenrain 152.39 352 PKP PKPdf 08 35 09.2 +1.0
QUIF Quistinic 152.40 7 *e*PKIKP PKPdf 08 35 08.6 +0.3
LJU Ljubljana 152.45 340 *e*PKPdf PKPdf 08 35 09.1 +0.7
LJU *e*PKPbc PKPdf 08 35 16.9 +8.5
LJU *i* PKPab PKPab 08 35 29.4 -1.8
LJU *e* 08 37 26.5
HINF Hinteralfeld 152.46 352 *e*PKIKP PKPdf 08 35 08.9 +0.6
PTCC Patocco-Chiusa 152.48 342 *e*PKP PKPdf 08 35 08.7 +0.3
DAVA Damuels 152.49 348 ⇑*i*P PKPdf 08 35 09.7 +1.3
DAVA *i* 08 35 17.3
DAVA *i* 08 35 30.3
VOY Vojsko 152.66 341 *e*PKPdf PKPdf 08 35 09.1 +0.4
VOY *i* PKPbc PKPdf 08 35 17.0 +8.3
VOY *e*PKPab PKPab 08 35 30.1 -1.9
BOJS Bojanci 152.69 339 *e*PKPdf PKPdf 08 35 09.7 +1.0
BOJS *i* PKPbc PKPdf 08 35 17.7 +8.9
BOJS *e*PKPab PKPab 08 35 30.7 -1.5
BOJS *e*pPKPbc 08 36 05.1
BBS Basel-Blauen 152.72 351 PKP PKPdf 08 35 10.2 +1.5
BBS Basel-Blauen 152.72 351 *e*P PKPdf 08 35 09.2 +0.5
VAY Valandovo 152.73 324 *i* PKP PKPdf 08 35 16.6 +7.7
VAY ⇑*i* 08 35 32.2
SKO Skopje 152.88 326 *i* PKP PKPdf 08 35 18.0 +8.9
LOMF Lomont 152.92 352 PKP PKPdf 08 35 10.9 +1.9
DAVOX Davos 152.97 348 PKP PKPdf 08 35 10.6 +1.5
comp=Z,9.3nm,0.8s,baz=326,slow=1.7,SNR=12
DAVOX *e*PKPbc PKPdf 08 35 18.5 +9.4
comp=Z,37nm,0.7s,baz=242,slow=1.5,SNR=23
DAVOX PKPab PKPab 08 35 32.7 -0.7
comp=Z,30nm,0.8s,baz=63,slow=2.3,SNR=10
SSF Saint Saulge 153.50 357 *e*PKIKP PKPdf 08 35 10.5 +0.7
comp=Z,28nm,1.1s
CABF La Chapelle 153.74 353 *e*PKIKP PKPdf 08 35 11.5 +1.4
comp=Z,54nm,1.2s
AVF Avril sur Loir 153.77 357 *e*PKIKP PKPdf 08 35 10.5 +0.4
comp=Z,50nm,1.5s
SMF Signal de Mont 153.89 357 *e*PKIKP PKPdf 08 35 10.9 +0.6
comp=Z,36nm,1.3s
MFF Saint Martin d 153.96 3 *e*PKIKP PKPdf 08 35 11.1 +0.7
comp=Z,42nm,1.1s
BGF Bois d'Agland 154.02 358 *e*PKIKP PKPdf 08 35 11.3 +0.8
comp=Z,47nm,1.2s
VAI Varese 154.07 349 *e*PKP PKPdf 08 35 11.6 +1.0
TCF Toulx Ste Croi 154.31 359 *e*PKIKP PKPdf 08 35 11.5 +0.6
comp=Z,71nm,1.3s
OG05 Jujurieux 154.37 354 PKP PKPab 08 35 38.2 -1.0
ORX Oropa 154.43 350 P PKPab 08 35 37.7 -1.8
TRAV 154.59 350 P PKPab 08 35 38.1 -2.1
LSD Ceresole Reale 154.73 351 P PKPab 08 35 40.4 -0.4
LPL La Plagne 154.74 352 *e*PKIKP PKPdf 08 35 12.9 +1.4
LPG La Plagne 154.75 352 *e*PKIKP PKPdf 08 35 13.0 +1.5
RSP Reno Superiore 155.02 351 P PKPab 08 35 40.9 -1.1
GRAM 155.11 346 P PKPab 08 35 41.2 -1.2
BNI Bardonecchia 155.20 352 *e*PKPdf PKPdf 08 35 13.8 +1.6
FRNF Fournols 155.20 358 PKP PKPab 08 35 41.6 -1.2
VALM 155.20 345 P PKPab 08 35 41.7 -1.1
ARV Arcevia 155.24 340 *e*PKP PKPdf 08 35 13.8 +1.5
CODM 155.25 346 P PKPab 08 35 41.3 -1.7
RJF Les Rejaudoux 155.29 0 *e*PKIKP PKPdf 08 35 13.1 +0.8
comp=Z,29nm,0.9s
BACM 155.31 345 P PKPab 08 35 42.2 -1.1
RRL Cesana Torines 155.31 351 P PKPab 08 35 42.5 -0.8
BHB Bricherasio 155.32 350 P PKPab 08 35 40.9 -2.4
SARO Sassorosso 155.32 345 P PKPab 08 35 41.9 -1.4
VLC Villacollemand 155.35 345 *e*PKPab PKPab 08 35 42.0 -1.4
PCP Pian Castagno 155.39 348 P PKPab 08 35 41.4 -2.2
VINC Vinca 155.42 345 P PKPab 08 35 41.7 -2.1
ORIF Oris-en-Rattie 155.43 353 *e*PKIKP PKPdf 08 35 13.5 +1.0
MBDF Montbardon 155.50 351 *e*PKIKP PKPdf 08 35 13.6 +1.0
comp=Z,23nm,1.1s
VIVF Saint-Julien-l 155.62 355 *e*PKIKP PKPdf 08 35 13.7 +1.0
comp=Z,66nm,1.4s
LFF La Frestale 155.65 2 *e*PKIKP PKPdf 08 35 13.5 +0.8
CAF Calviac 155.67 359 *e*PKIKP PKPdf 08 35 13.8 +1.0
comp=Z,29nm,1.1s
PZZ Prazzo 155.67 351 P PKPab 08 35 42.5 -2.4
ROB Roburent 155.75 349 P PKPab 08 35 42.9 -2.3
FIN Finale Ligure 155.77 348 P PKPab 08 35 42.2 -3.0
STV2 Anna di Valdie 155.89 350 P PKPab 08 35 42.8 -3.0
STV Sta Anna Valdi 155.89 350 P PKPab 08 35 42.4 -3.4
ENR Entracque 155.89 350 P PKPab 08 35 42.6 -3.1
EMAZ Mazaricos 155.93 19 PKP PKPdf 08 35 14.2 +1.0
MONE Monesi 155.98 349 P PKPab 08 35 44.1 -2.1
EPON Pontenova 156.10 16 PKP PKPdf 08 35 14.1 +0.7
STS Santiago 156.12 19 PKP PKPdf 08 35 14.8 +1.4
IMI Imperia 156.12 349 P PKPab 08 35 44.7 -2.1
NEGI Negi 156.21 349 P PKPab 08 35 43.2 -4.0
SBF Sospel 156.24 350 *e*PKIKP PKPdf 08 35 13.9 +0.4
LASF Ste Croix 156.45 356 *e*PKIKP PKPdf 08 35 14.8 +1.0
comp=Z,62nm,1.3s
EARI Arriondas 156.58 13 PKP PKPdf 08 35 15.6 +1.6
EINC Incio 156.67 17 PKP PKPdf 08 35 16.8 +2.7
LMR La Mourre 156.91 351 *e*PKIKP PKPdf 08 35 15.2 +0.8
ELAN Lanestosa 156.97 10 PKP PKPdf 08 35 17.1 +2.5
ERUA La Rua 156.97 17 PKP PKPdf 08 35 18.1 +3.5
ELOB Lobios 157.19 19 PKP PKPdf 08 35 15.9 +1.1
PGF Pioggiola 157.20 346 *e*PKIKP PKPdf 08 35 15.2 +0.4
comp=Z,35nm,0.9s
EALK Alkurruntz 157.22 6 PKP PKPdf 08 35 18.2 +3.4
MTLF Montolieu 157.25 359 *e*PKIKP PKPdf 08 35 15.8 +0.9
comp=Z,36nm,1.2s
TIP Timpagrande 157.33 328 *e*PKPdf PKPdf 08 35 15.9 +0.8
TIP *e*PKPab PKPab 08 35 51.5 -0.6
SJPF Ste Jean 157.35 6 *e*PKIKP PKPdf 08 35 16.0 +1.0
ECAL Calabor 157.50 17 PKP PKPdf 08 35 15.8 +0.5
EPF Esparros 157.54 3 *e*PKIKP PKPdf 08 35 16.3 +1.0
comp=Z,31nm,1.2s
ETSF Etsaut 157.62 4 *e*PKIKP PKPdf 08 35 16.6 +1.2
comp=Z,24nm,1.0s
PBRG Braganca 157.63 17 *e*PKPab PKPab 08 35 52.5 -0.8
MLS Moulis 157.64 1 PKP PKPab 08 35 52.1 -1.2
LRDF Laroque-de-Fa 157.65 358 PKP PKPab 08 35 52.8 -0.6
EJON La Jonquera 158.13 358 PKP PKPdf 08 35 19.3 +3.2
EMIR Miracle 158.68 0 PKP PKPdf 08 35 19.6 +3.0
MTE Manteigas 158.69 20 *e*PKPdf PKPdf 08 35 18.8 +2.1
MTE *e*PKPab PKPab 08 35 57.0 -0.9
ESAC San Caprasio 158.80 4 PKP PKPdf 08 35 19.3 +2.5
PTOM Tomar 159.10 22 *e*PKPab PKPab 08 35 58.6 -1.1
PCBR Castelo Branco 159.22 20 *e*PKPdf PKPdf 08 35 19.2 +1.9
PCBR *e*PKPab PKPab 08 35 58.8 -1.4
EPOB Poblet 159.24 1 PKP PKPdf 08 35 19.0 +1.7
EMOS Mosqueruela 160.15 5 PKP PKPdf 08 35 20.4 +2.0
EVO Evora 160.21 23 *e*PKIKP PKPdf 08 35 19.9 +1.4
comp=Z,48nm,1.2s
ESDC Sonseca Array 160.32 13 PKP PKPdf 08 35 20.3 +1.7
comp=Z,0.3nm,0.3s,baz=343,slow=1.3,SNR=8.4
ESDC PKPab PKPab 08 36 04.1 -0.9
comp=Z,20nm,1.0s,baz=344,slow=4.1,SNR=36
ESDC Sonseca Array 160.32 13 PKP PKPdf 08 35 21.2 +2.7
EBAD Badajoz 160.35 21 PKP PKPdf 08 35 18.9 +0.2
PBEJ Beja 160.71 23 *e*PKPdf PKPdf 08 35 21.3 +2.3
PBEJ *e*PKPab PKPab 08 36 05.7 -1.0
ETOS Mallorca 160.80 357 PKP PKPdf 08 35 21.4 +2.4
ECHE Chera 160.87 6 PKP PKPdf 08 35 21.0 +2.0
EGRO El Granado 161.28 23 PKP PKPdf 08 35 21.2 +1.6
EMIN Mina Concepcio 161.36 21 PKP PKPdf 08 35 21.3 +1.7
ECAB El Cabril 161.47 18 PKP PKPdf 08 35 21.5 +1.8
EVIA Vianos 161.60 10 PKP PKPdf 08 35 21.8 +2.0
EADA Adamuz 161.61 16 PKP PKPdf 08 35 20.9 +1.0
ETOB Tobarra 161.74 8 PKP PKPdf 08 35 22.3 +2.4
EBAN Banos Encina 161.81 14 PKP PKPdf 08 35 21.2 +1.2
EQES Quesada 162.31 12 PKP PKPdf 08 35 22.4 +1.8
EHUE Huescar 162.39 11 PKP PKPdf 08 35 22.1 +1.5
ESPR Espera 162.45 20 PKP PKPdf 08 35 23.8 +3.1
ELOJ Sierra Loja 162.69 16 PKP PKPdf 08 35 24.0 +3.1
ERON Agron 162.89 15 PKP PKPdf 08 35 23.0 +1.8
EJIF Jimena Fronter 162.96 20 PKP PKPdf 08 35 22.3 +1.1
EMIJ Mijas 163.06 18 PKP PKPdf 08 35 22.5 +1.1
DBIC Dimbokro 164.84 154 PKP PKPdf 08 35 24.6 +0.9
comp=Z,12nm,0.8s,baz=131,slow=0.7,SNR=13
DBIC PKPab PKPab 08 36 25.1 -0.2
comp=Z,6.3nm,0.8s,baz=197,slow=8.2,SNR=5.5

IDC 04 08:19:45.2±5.6, 26.99N×141.59E, mb3.8/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=207.3km s-min=94.0km az=24.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**34.43**	**317**	P	P	08 26 35.5	-0.9
	0.2nm,0.3s,baz=122,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**50.13**	**310**	P	P	08 28 41.8	-2.4
	0.3nm,0.4s,baz=89,slow=8.9,SNR=6.1						
BVAR	**Borovoye Array**	**57.76**	**317**	P	P	08 29 37.4	-2.8
	1.2nm,0.4s,baz=88,slow=7.9,SNR=7.8						
BVAR				PcP	PcP	08 30 31.2	-1.6
	0.6nm,0.5s,baz=72,slow=4.6,SNR=3.5						
FINES	**FINESS Array B**	**77.81**	**334**	P	P	08 31 44.0	-1.6
	0.5nm,0.3s,baz=72,slow=4.1,SNR=11						

DJA 04 08:23:20.6±1.0, 10.71S×112.42E, h33km, MD4.7/3, ML4.6/3, 1C-6D, Error ellipse: s-maj=30.3km s-min=21.0km az=140.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**2.79**	**38**	⇓*i*Pn	Pn	08 24 02.5	-1.6
	222nm,0.2s						
SRDI				⇓*i*Sn	Sn	08 24 33.3	-3.7
RATI	**Rata**	**3.65**	**57**	⇓*i*Pn	Pn	08 24 14.6	-1.6
	374nm,0.2s						
RATI	**Rata**	**3.65**	**57**	⇑*i*Pg	P	08 24 15.4	-0.7
RATI				⇓*i*Sn	Sn	08 24 52.9	-5.7
KEDI	**Kedomdong**	**4.26**	**59**	⇓*i*Pn	Pn	08 24 22.4	-2.5
	62nm,0.2s						
KEDI				⇓*i*Sn	Sn	08 25 10.1	-4.0

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*IDC **04** 08:25:30.8±12.0, 20.42S×178.13W, h539km±111km, mb3.3/6, mb1 3.5/6, mb1mx3.3/15, mbtmp4.3/6, Error ellipse: s-maj=126.7km s-min=43.8km az=132.0*
*NEIC **04** 08:25:32.8±0.7, 20.17S×178.40W, h550km, mb4.1/2, Error ellipse: s-maj=24.3km s-min=15.8km az=151.0*
ISC 04 08:25:27.1±1.3, 20.2S±0.2×178.3W±0.2, h500km, n15, σ0°68/10, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.26**	**264**	P	P	**08 31 24.9**	**+1.3**
	2.5nm,0.3s,mb4.1,baz=87,slow=12,SNR=8.5						
CTAO	**Charters Tower**	**33.26**	**264**	*e*P	P	**08 31 24.7**	**+1.1**
	2.2nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**37.69**	**244**	P	P	**08 32 00.9**	**+0.7**
	2.1nm,0.9s,mb3.6,baz=77,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**44.34**	**256**	P	P	**08 32 53.9**	**+0.2**
	4.8nm,0.5s,mb4.2,baz=93,slow=7.8,SNR=47						
ASAR				PcP	PcP	08 34 26.2	-1.3
	0.8nm,0.6s,baz=106,slow=3.8,SNR=5.8						
WRAB	**Tennant Creek**	**44.38**	**262**	*e*P	P	**08 32 53.1**	**-0.9**
	4.0nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**44.39**	**262**	P	P	**08 32 53.9**	**-0.2**
	1.5nm,0.3s,mb3.9,baz=97,slow=7.4,SNR=23						
FITZ	**Fitzroy Crossi**	**52.81**	**262**	P	P	**08 33 57.3**	**0.0**
	2.8nm,0.6s,mb3.8,baz=135,slow=4.2,SNR=5.7						
MBWA	**Marble Bar**	**57.67**	**257**	*e*P	P	**08 34 29.9**	**-1.2**
SBA	**Scott Base**	**58.17**	**184**	*e*P	P	**08 34 33.8**	**0.0**
ILAR	**Eielson Array**	**88.06**	**13**	P	P	**08 37 24.2**	**+0.2**
	0.4nm,0.5s,mb3.4,baz=217,slow=5.0,SNR=7.6						
AKASG	**Malin Array Be**	**142.61**	**331**	PKP	PKPdf	08 43 59.9	-2.3
	2.4nm,0.5s,baz=40,slow=4.2,SNR=12						
AKASG	**Malin Array Be**	**142.61**	**331**	PKP	PKPdf	08 43 59.9	-2.3
BRTR	**Keskin Array B**	**146.43**	**312**	PKPbc	PKPbc	08 44 12.6	+1.6
	0.9nm,0.6s,baz=135,slow=5.2,SNR=3.6						
CLL	**Collm**	**147.70**	**347**	*i* PKP1	PKPdf	08 44 15.8	+5.0
GERES	**GERESS Array B**	**149.83**	**344**	PKPbc	PKPdf	08 44 21.2	+6.9
	0.6nm,0.4s,slow=2.7,SNR=6.5						

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*NEIC **04** 08:34:01.9±0.7, 1.15N×97.16E, mb4.2/4, Error ellipse: s-maj=20.4km s-min=8.7km az=64.0*
*IDC **04** 08:34:02.2±1.7, 1.17N×97.21E, h22km±4km, mb4.0/8, mb1 4.1/9, mb1mx3.8/19, mbtmp4.1/9, ML4.2/1, Error ellipse: s-maj=83.9km s-min=13.0km az=58.0*
ISC 04 08:33:59.6±0.9, 1.14N±0.10×97.1E±0.2, h21km, h21km±1.0km: pP-P, n16, σ0°70/16, mb4.1/12, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.42**	**40**	⇑*i*P	Pn	**08 35 21.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**17.30**	**6**	P	P	**08 38 01.0**	**-0.7**
	0.3nm,0.3s,baz=197,slow=12,SNR=4.7						
SHL	**Shillong**	**24.80**	**349**	*e*P	P	**08 39 22.5**	**+0.7**
ENH	**Enshi**	**31.26**	**21**	*e*P	P	**08 40 19.4**	**-1.0**
	7.1nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.96**	**126**	P	P	**08 40 42.8**	**-1.2**
	3.4nm,0.8s,mb4.3,baz=354,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**42.07**	**122**	P	P	**08 41 51.9**	**-0.1**
	1.2nm,0.5s,mb3.8,baz=301,slow=9.1,SNR=9.4						
WRAB	**Tennant Creek**	**42.08**	**122**	*e*P	P	**08 41 52.2**	**+0.1**
	2.8nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**43.42**	**127**	P	P	**08 42 03.4**	**+0.4**
	0.7nm,0.5s,mb3.6,baz=296,slow=7.7,SNR=8.6						
ASAR				pP	pP	08 42 09.4	0.0
	0.4nm,0.4s,baz=299,slow=7.9,SNR=6.6						
SONM	**Songino Array**	**47.20**	**9**	P	P	**08 42 33.7**	**+0.8**
	1.0nm,0.4s,mb4.1,baz=191,slow=9.3,SNR=17						
SONM				PcP	PcP	08 44 04.5	0.0
	0.6nm,0.8s,baz=174,slow=3.2,SNR=3.6						
MKAR	**Makanchi Array**	**47.28**	**346**	P	P	**08 42 34.5**	**+1.0**
	1.6nm,0.6s,mb4.1,baz=161,slow=9.0,SNR=28						
MKAR				pP	pP	08 42 41.3	+1.4
	1.6nm,0.5s,baz=165,slow=8.8,SNR=11						
MKAR	**Makanchi Array**	**47.28**	**346**	P	P	**08 42 34.5**	**+1.0**
MKAR				pP	pP	08 42 41.3	+1.4
KURK	**Kurchatov**	**51.83**	**345**	*e*P	P	**08 43 08.6**	**+0.2**
	1.6nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**53.38**	**132**	P	P	**08 43 21.1**	**+0.8**
	1.1nm,0.7s,mb3.9,baz=320,slow=7.9,SNR=3.1						
STKA				pP	pP	08 43 27.6	+0.8
	4.4nm,1.1s,baz=206,slow=5.8,SNR=3.9						
ZAL	**Zalesovo**	**53.59**	**351**	P	P	**08 43 21.1**	**-0.4**
	2.7nm,0.4s,mb4.6,baz=304,slow=6.2,SNR=9.1						
BVAR	**Borovoye Array**	**56.28**	**341**	P	P	**08 43 40.0**	**-1.0**
	0.8nm,0.6s,mb4.0,baz=153,slow=9.9,SNR=6.2						
BVAR				pP	pP	08 43 47.4	-0.2
	0.7nm,0.5s,baz=135,slow=12,SNR=4.4						
CHKZ	**Chkalovo**	**56.75**	**341**	*e*P	P	**08 43 44.2**	**-0.2**
	2.2nm,0.8s,mb4.2						
CHKZ				*e*	pP	08 43 49.9	-1.1

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*NIED **04** 08:43:00, 35.90N×140.50E, h35km, Mw3.7 Best double couple: M0 3.52×10^14 NP1:φs70°, δ65°, λ106°. NP2:φs217°, δ29°, λ60°.*
*JMA **04** 08:43:33.9, 35.88N×140.49E, h36km±1km, M3.7 Broadband fault plane solution: P waves. NP1:φs221°, δ30°, λ63°. NP2:φs72°, δ63°, λ105°. Principal axes: T Plg68°, Azm11°; N Plg13°, Azm245°; P Plg17°, Azm151°;*
JMA Felt II J1.
ISC 04 08:43:33.8±1.1, 35.91N±0.06×140.53E±0.10, h35km±25km, n6, σ0°60/11, 1C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.34**	**127**	⇑P	P	**08 43 42.1**	**0.0**
CHOJ				S	S	**08 43 48.0**	**+0.1**
JYT	**Yasato**	**0.42**	**320**	⇓P	P	**08 43 43.6**	**+0.3**
JYT				S	S	**08 43 50.1**	**+0.2**
JHO	**Hitachi**	**0.70**	**3**	⇓P	P	**08 43 47.5**	**+0.2**
JHO				S	S	**08 43 56.9**	**-0.1**
JAG	**Ashikaga**	**1.01**	**301**	⇓P	P	**08 43 51.4**	**-0.3**
JAG				*e*S	S	**08 44 03.4**	**-1.5**
BSO3	**Boso 3**	**1.10**	**181**	P	P	**08 43 52.6**	**-0.3**
MAT	**Matsushiro**	**1.98**	**289**	P	P	**08 44 05.9**	**+0.3**
MAT				S	S	**08 44 30.5**	**+1.1**

IDC 04 08:50:46.0±3.5, 5.59N×94.59E, mb3.6/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=140.9km s-min=23.3km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.47**	**18**	Pn	P	08 54 07.4	+6.3
	0.1nm,0.3s,baz=207,slow=14,SNR=5.7						
MKAR	**Makanchi Array**	**42.40**	**347**	P	P	08 58 42.0	-1.9
	1.0nm,0.4s,baz=165,slow=7.4,SNR=16						
SONM	**Songino Array**	**43.28**	**12**	P	P	08 58 49.6	-1.5
	0.2nm,0.4s,baz=185,slow=9.2,SNR=3.1						
WRA	**Warramunga Arr**	**46.60**	**124**	P	P	08 59 16.1	-1.9
	0.2nm,0.3s,baz=303,slow=9.8,SNR=3.0						
ASAR	**Alice Springs**	**48.13**	**129**	P	P	08 59 28.1	-1.9
	0.4nm,0.5s,baz=300,slow=7.5,SNR=8.0						

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*IDC **04** 09:12:52.5±0.7, 6.81N×72.97W, h154km±7km, mb3.3/5, mb1 3.6/8, mb1mx3.3/22, mbtmp3.8/8, Error ellipse: s-maj=17.2km s-min=7.3km az=130.0*
*NEIC **04** 09:12:53.7±0.5, 6.81N×72.98W, h166km±6km, mb4.0/3, Error ellipse: s-maj=8.7km s-min=6.8km az=109.0*
*FUNV **04** 09:12:57.0, 7.27N×73.09W, h159km, MW3.4*
ISC 04 09:12:52.2±0.5, 6.88N±0.06×72.99W±0.06, h161km±5km, n26, σ1°13/36, mb3.6/7, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**34**⇑	*e*P	P	**09 13 21.8**	**+2.0**
CAPV				*e*S	S	**09 13 40.5**	**-0.6**
ROSC	**El Rosal**	**2.41**	**214**	P	P	**09 13 34.2**	**+0.9**
	31nm,0.3s,baz=282,slow=6.1,SNR=30						
ROSC				S	S	**09 14 03.6**	**-1.2**
	112nm,0.3s,baz=75,slow=20,SNR=24						
VIGV	**El Vigia**	**2.53**	**40**	*e*P	P	**09 13 35.5**	**+0.8**
VIGV				*e*S	S	**09 14 03.9**	**-3.4**
SOCV	**Socops**	**2.54**	**56**⇑	*e*P	P	**09 13 36.7**	**+1.9**
SOCV				*e*S	S	**09 14 06.2**	**-1.3**
SDV	**Santo Domingo**	**3.07**	**49**	P	P	**09 13 43.2**	**+1.7**
	19nm,0.3s,baz=236,slow=4.7,SNR=252						
SDV				S	S	**09 14 19.4**	**+0.1**
	62nm,0.3s,baz=110,slow=22,SNR=28						
SDV	**Santo Domingo**	**3.07**	**49**⇑	*e*Pn	P	**09 13 42.9**	**+1.4**
SDV				*e*Sn	S	**09 14 19.6**	**+0.3**
VIRV	**Villa del Rosa**	**3.65**	**9**	*e*P	P	**09 13 47.1**	**-1.8**
VIRV				*e*S	S	**09 14 24.2**	**-8.3**
SANV	**Sanarito**	**4.30**	**52**	*e*P	P	**09 13 58.2**	**+0.8**
SANV				*e*S	S	**09 14 43.5**	**-4.2**
CURV	**Curarigua**	**4.32**	**44**	*e*P	P	**09 13 57.8**	**+0.1**
CURV				*e*S	S	**09 14 42.7**	**-5.4**
DABV	**Dabajuro**	**4.64**	**30**	*e*P	P	**09 14 00.8**	**-1.1**
SIQV	**Siquisique**	**4.89**	**40**	*e*P	P	**09 14 04.8**	**-0.3**
SIQV				*e*S	S	**09 14 54.6**	**-6.9**
TURV	**Turiamo**	**6.21**	**55**	*e*P	P	**09 14 22.8**	**+0.2**
TURV				*e*S	S	**09 15 26.1**	**-6.7**
OTAV	**Otavalo**	**8.55**	**220**	*e*P	P	**09 14 54.5**	**+0.7**
PCRV	**Puerto La Cruz**	**8.89**	**68**	P	P	**09 14 59.4**	**+1.2**
	0.5nm,0.3s,baz=211,slow=18,SNR=5.3						
PCRV				S	S	**09 16 36.6**	**-0.1**
	1.0nm,0.3s,baz=140,slow=17,SNR=4.6						
SAML	**Samuel**	**18.52**	**148**	*e*P	P	**09 16 57.3**	**-1.6**
	2.8nm,0.4s						
LPAZ	**La Paz**	**23.52**	**168**	P	P	**09 17 49.5**	**+0.6**
	1.2nm,0.8s,mb3.5,baz=348,slow=15,SNR=3.2						
SIV	**San Ignacio**	**25.61**	**153**	P	P	**09 18 06.7**	**-1.8**
	0.2nm,0.3s,mb3.2,baz=341,slow=13,SNR=3.6						
CCM	**Cathedral Cave**	**35.17**	**335**	*e*P	P	**09 19 32.7**	**+0.2**
	2.4nm,0.6s,mb4.0						
TXAR	**Lajitas Array**	**36.52**	**312**	P	P	**09 19 44.0**	**+0.2**
	0.6nm,0.6s,mb3.4,baz=125,slow=9.4,SNR=12						
MNTX	**Cornudas Mount**	**39.02**	**314**	*e*P	P	**09 20 04.9**	**+0.1**
	0.9nm,0.5s,mb3.7						
ULM	**Lac du Bonnet**	**47.27**	**340**	P	P	**09 21 10.8**	**-0.1**
	0.5nm,0.3s,mb3.5,baz=142,slow=3.3,SNR=3.3						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	P	**09 23 04.6**	**-0.9**
	0.7nm,0.6s,mb3.7,baz=132,slow=6.7,SNR=27						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	P	**09 23 04.6**	**-0.9**
BFO	**Black Forest**	**79.13**	**42**	P	P	**09 24 41.4**	**+1.1**
	201nm,0.6s,SNR=12						
ASAR	**Alice Springs**	**149.25**	**234**	PKPbc	PKPdf	09 32 23.1	+5.2
	0.7nm,0.6s,baz=125,slow=3.4,SNR=6.9						
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPdf	09 32 26.2	+6.4
	0.4nm,0.3s,baz=107,slow=2.8,SNR=23						

IDC 04 09:22:15.8±9.2, 0.36N×97.56E, mb3.5/3, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, Error ellipse: s-maj=462.6km s-min=27.2km az=54.0, Northern Sumatera

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

MTO2 *e*S **S** **09 25 57.1 +1.1**
SNVI San Vicente 1.63 73 *e*P **P** **09 25 36.3 +0.2**
SNVI *e*S **S** **09 25 58.2 +2.2**
JAT Jato 1.64 315⇑*e*P **P** **09 25 36.6 +0.4**
JAT *e*S **S** **09 25 57.2 +0.9**
VSM San Miguel 2.13 82 *e*P **P** **09 25 43.6 +0.4**
VSM *e*S **S** **09 26 09.8 +1.3**
BLLM Bellamira 2.17 82⇑*e*P **P** **09 25 44.0 +0.2**
BLLM *e*S **S** **09 26 13.1 +3.6**
CAHU Cacacuatique 2.26 74⇑*e*P **P** **09 25 45.2 +0.2**
CNCH Conchagua 2.54 87 *e*P **P** **09 25 49.2 0.0**
CNCH *e*S **S** **09 26 20.8 +1.7**
CRIN San Cristobal 3.34 97⇓*e*P **P** **09 26 01.2 +0.8**
CCIG Comitan 3.52 332 *e*P **P** **09 26 05.4 +2.5**
CCIG *i*S **S** **09 26 49.6 +5.9**
CCIG Comitan 3.52 332⇓*e*P **P** **09 26 05.4 +2.5**
CCIG *i*S **S** **09 26 49.5 +5.8**
TEL3 Telica 3 3.56 99 *e*P **P** **09 26 02.4 -1.0**
TELN Telica 3.56 98 *e*P **P** **09 26 03.4 -0.2**
CNGN Cerro Negro 3.71 100 *e*P **P** **09 26 05.3 -0.4**
MOMJ Momotombo 3.88 101 *e*P **P** **09 26 07.8 -0.3**
APYN Apoyeque 4.10 102⇑*e*P **P** **09 26 10.3 -0.8**
XAVN Gruta Xavier 4.14 103 *e*P **P** **09 26 11.2 -0.5**
MGAN Managua 4.22 103⇑*e*P **P** **09 26 12.0 -0.8**
MGAN *i* 09 27 09.0
comp=N,396nm,0.7s
TICN Ticuantepe 4.26 105 *e*P **P** **09 26 14.4 +1.0**
PYTN Playitas 4.32 98⇑*e*P **P** **09 26 13.1 -1.2**
CMIG Matias Romero 5.81 313 *e*P **P** **09 26 34.4 -0.7**
CMIG *i*S **S** **09 27 41.1 -0.2**
CMIG Matias Romero 5.81 313 *e*P **P** **09 26 34.4 -0.7**
CMIG *i*S **S** **09 27 41.5 +0.2**
HUIG Huatulco 6.07 296 *i*S **S** **09 27 45.5 -2.4**
JTS JuntasAbangare 6.08 117 P **P** **09 26 38.6 -0.3**
comp=N,4.2nm,0.3s,baz=281,slow=6.9,SNR=27
JTS S **S** **09 27 44.1 -4.1**
comp=N,1.1nm,0.3s,baz=322,slow=19,SNR=1.1
JTS JuntasAbangare 6.08 117 *e*Pn **P** **09 26 37.2 -1.7**
comp=N,103nm,0.6s
OXX Oaxaca 7.21 304 *e*P **P** **09 26 56.0 +1.2**
OXX *i*S **S** **09 28 13.0 -3.2**
VHO Vista Hermosa 7.22 303 *e*P **P** **09 26 54.4 -0.5**
VHO *i*S **S** **09 28 13.3 -3.0**
VHO Vista Hermosa 7.22 303 *i*P **P** **09 26 56.7 +1.9**
VHO *i*S **S** **09 28 15.1 -1.2**
TEIG Tepich 7.33 16 *e*Pn **P** **09 26 55.9 -0.6**
comp=N,38nm,0.7s
PPM Popocatepetl 9.82 308 *e*P **P** **09 27 30.8 0.0**
PPM *i*S **S** **09 29 20.3 -0.5**
PPM Popocatepetl 9.82 308 *e*P **P** **09 27 34.7 +3.8**
PPM *e*P 09 27 36.0
PPM *i*S **S** **09 29 24.5 +3.7**
PPM *i*S **S** **09 29 25.0 +4.2**
MOIG Morelia 12.18 304 *i*P **P** **09 28 08.1 +5.2**
SDV Santo Domingo 19.90 100 P **P** **09 29 37.1 -2.8**
comp=N,0.3nm,0.3s,baz=320,slow=3.8,SNR=9.8
SDV LR LR 09 37 18.7
comp=N,83nm,20.3s,baz=225,slow=37
SDV Santo Domingo 19.90 100 *e*P **P** **09 29 35.7 -4.2**
comp=N,6.4nm,0.7s
TXAR Lajitas Array 20.25 325 P **P** **09 29 45.9 +2.4**
comp=N,1.7nm,0.5s,baz=145,slow=11,SNR=46
TXAR PcP PcP 09 33 56.9 +0.9
comp=N,0.5nm,0.7s,baz=90,slow=0.9,SNR=4.6
MIAR Mount Ida 21.49 353 *e*P **P** **09 29 55.1 -1.0**
comp=N,9.3nm,0.9s,mb4.1
WMOK Wichita Mounta 22.78 342 *e*P **P** **09 30 10.4 +1.5**
comp=N,1.6nm,0.6s,mb3.6
MNTX Cornudas Mount 23.00 326 *e*P **P** **09 30 12.6 +1.5**
comp=N,13nm,0.9s,mb4.4
MNTX *e* 09 30 21.9
TZTN Tazewell 24.10 14 *e*P **P** **09 30 20.2 -1.6**
BNM Barren Site 25.56 328 *e*P **P** **09 30 38.4 +2.6**
BNM *e* pP 09 30 46.6 -0.9
ANMO Albuquerque 26.10 329 P **P** **09 30 41.8 +1.0**
comp=N,0.7nm,0.5s,mb3.4,baz=156,slow=12,SNR=4.2
ANMO LR LR 09 42 52.3
comp=N,83nm,21.3s,MS3.2,baz=140,slow=41
BW06 Boulder Array 33.83 334 P **P** **09 31 49.7 +0.3**
SAML Samuel 34.86 128 *e*P **P** **09 31 55.5 -3.0**
comp=N,4.9nm,0.9s,mb4.4
NVAR Mina Array Bea 35.28 321 P **P** **09 32 05.0 +3.1**
comp=N,8.0nm,0.7s,mb4.8,baz=146,slow=7.3,SNR=56
NVAR PcP PcP 09 34 34.0 +2.0
comp=N,0.8nm,0.6s,baz=146,slow=2.7,SNR=4.8
LPAZ La Paz 36.64 142 P **P** **09 32 15.2 +1.7**
comp=N,1.5nm,0.7s,mb3.9,baz=320,slow=9.5,SNR=6.4
LPAZ LR LR 09 47 22.7
comp=N,69nm,21.3s,MS3.4,baz=293,slow=36
LPAZ La Paz 36.64 142 *e*P **P** **09 32 15.2 +1.6**
comp=N,1.3nm,0.6s,mb3.9
ULM Lac du Bonnet 37.26 354 P **P** **09 32 15.8 -2.6**
comp=N,3.7nm,0.6s,mb4.4,baz=170,slow=9.5,SNR=7.8
ULM LR LR 09 49 40.9
comp=N,53nm,18.4s,MS3.4,baz=311,slow=40
YBH Yreka Blue Hor 39.97 322 P **P** **09 32 41.9 +0.8**
comp=N,1.6nm,0.6s,mb3.9,baz=72,slow=7.9,SNR=5.8
SIV San Ignacio 41.01 134 P **P** **09 32 50.7 +0.7**
comp=N,2.1nm,0.6s,mb4.0,baz=313,slow=9.7,SNR=16
LVC Limon Verde 41.33 149 P **P** **09 32 54.2 +1.7**
comp=N,2.2nm,0.8s,mb3.9,baz=280,slow=12,SNR=3.0
LVC Limon Verde 41.33 149 P **P** **09 32 53.0 +0.4**
EDM Edmonton 43.93 340 *e*P **P** **09 33 12.6 -0.9**
SCHQ Schefferville 45.51 19 P **P** **09 33 23.7 -2.4**
comp=N,3.9nm,0.5s,mb4.6,baz=218,slow=6.7,SNR=24
SCHQ PcP PcP 09 35 02.8 -1.9
comp=N,2.6nm,1.0s,baz=169,slow=5.2,SNR=2.7
SCHQ LR LR 09 55 33.4
comp=N,52nm,19.3s,MS3.5,baz=242,slow=40
SCHQ Schefferville 45.51 19 P **P** **09 33 23.7 -2.4**
SCHQ PcP PcP 09 35 02.8 -1.9
SCHQ LR LR 09 55 33.4
YKA Yellowknife Ar 52.20 346 P **P** **09 34 15.9 -1.7**
comp=N,0.5nm,0.5s,mb3.7,baz=149,slow=7.8,SNR=20
YKA PcP PcP 09 35 28.5 -0.2
comp=N,0.2nm,0.5s,baz=155,slow=4.1,SNR=4.0
PLCA Paso Flores 56.69 162 P **P** **09 34 51.1 +0.4**
comp=N,1.7nm,0.7s,mb4.2,baz=358,slow=6.0,SNR=3.6
PLCA Paso Flores 56.69 162 *e*P **P** **09 34 51.0 +0.3**
ILAR Eielson Array 64.21 337 P **P** **09 35 40.7 -0.8**
comp=N,0.5nm,0.9s,mb3.6,baz=127,slow=4.5,SNR=6.0
ILAR LR LR 10 06 27.9
comp=N,49nm,20.2s,MS3.7,baz=180,slow=39
JMIC Jan Mayen 75.02 20 LR LR 10 14 20.9
comp=N,48nm,18.6s,MS3.8,baz=266,slow=40
RAR Rarotonga 76.14 244 LR LR 10 01 57.5
comp=N,125nm,18.2s,MS4.3,baz=289,slow=29
EKA Eskdalemuir Ar 77.77 36 P **P** **09 37 01.3 -1.9**
comp=N,0.7nm,0.5s,mb3.9,baz=270,slow=5.0,SNR=4.3
WRA Warramunga Arr 136.64 255 PKP PKPdf 09 44 31.6 +4.0
comp=N,0.8nm,0.7s,baz=86,slow=2.6,SNR=7.6
ASAR Alice Springs 136.80 249 PKhKP 09 44 27.4
comp=N,0.7nm,0.8s,baz=102,slow=2.7,SNR=2.6
ASAR PKP PKPdf 09 44 32.3 +4.5
comp=N,0.7nm,0.7s,baz=124,slow=2.1,SNR=7.1
FITZ Fitzroy Crossi 144.94 257⇑*i*P PKPdf 09 44 45.3 +2.9
comp=N,10nm,1.2s
FITZ Fitzroy Crossi 144.94 257 PKPbc PKPbc 09 44 45.7 +3.1
comp=N,9.5nm,0.7s,baz=128,slow=3.6,SNR=6.0
CMAR Chiang Mai Arr 147.26 343 PKPbc PKPdf 09 44 51.1 +4.8
comp=N,4.3nm,0.8s,baz=339,slow=3.4,SNR=15
MBWA Marble Bar 150.13 250 *e*PKPbc PKPdf 09 44 59.0 +8.1

BJI ***04*** *09:42:59.5,2.06N×96.12E,h40km,mB5.0,mb4.5,Ms4.8, Msz4.5*
MOS ***04*** *09:43:05.2±0.9,3.04N×96.87E,h33km,mb4.7/9, Error ellipse: s-maj=26.1km s-min=10.1km az=119.0*
IDC ***04*** *09:43:07.9±0.7,2.93N×96.74E,h40km±6km,mb4.1/18, mb1 4.2/18,mb1mx4.1/22,mbtmp4.3/18, Error ellipse: s-maj=22.0km s-min=10.7km az=54.0*
NEIC ***04*** *09:43:07.8±0.3,2.82N×96.63E,mb4.5/13, Error ellipse: s-maj=10.8km s-min=6.5km az=56.0*
ISC 04 09:43:05.9±0.4,**2.84N**±0.06×**96.65E**±0.08,**h40**km, **h40**km±2.2km:**pP-P,n59,**σ1§11/55,**mb4.4**/32,**MS4.3**/2,**3C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.67**	**58**⇑	*e*P	**P**	**09 44 17.4**	**+1.5**
CMAR	**Chiang Mai Arr**	**15.68**	**8**	P	**P**	**09 46 49.1**	**+3.3**
	0.6nm,0.3s,baz=196,slow=11,SNR=12						
KMI	**Kunming**	**22.92**	**14**	P	**P**	**09 48 09.7**	**+2.1**
	comp=Z,13nm,1.3s,mb4.2						
KMI	**Kunming**	**22.92**	**14**	P	**P**	**09 48 09.7**	**+2.1**
	comp=Z,13nm,1.3s,mb4.2						
HYB	**Hyderabad**	**22.93**	**310**	*e*P	**P**	**09 48 10.0**	**+2.2**
HYB	**Hyderabad**	**22.93**	**310**	*i*P	**P**	**09 48 10.0**	**+2.2**
SHL	**Shillong**	**23.06**	**349**	*e*P	**P**	**09 48 10.5**	**+1.5**
PKI	**Pulchoki**	**26.84**	**337**	*e*P	**P**	**09 48 44.6**	**-0.3**
	comp=Z,15nm,0.8s,mb4.6						
PKI	**Pulchoki**	**26.84**	**337**	*e*P	**P**	**09 48 44.6**	**-0.3**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
GUN	**Gumba**	**26.97**	**339**	*e*P	**P**	**09 48 45.9**	**-0.2**
	comp=Z,18nm,0.6s,mb4.8						
DMN	**Daman**	**26.99**	**337**	*e*P	**P**	**09 48 46.7**	**+0.4**
KKN	**Kakani**	**27.09**	**337**	*e*P	**P**	**09 48 46.1**	**-1.1**
	comp=Z,7.3nm,0.5s,mb4.5						
KKN	**Kakani**	**27.09**	**337**	*e*P	**P**	**09 48 46.1**	**-1.1**
KKN				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.2						
LSA	**Lhasa**	**27.22**	**349**	P	**P**	**09 48 47.2**	**-1.2**
GKN	**Gorkha**	**27.53**	**337**	*e*P	**P**	**09 48 50.9**	**-0.3**
	comp=Z,25nm,1.0s,mb4.8						
KOLN	**Koldanda**	**27.75**	**335**	*e*P	**P**	**09 48 53.2**	**-0.1**
	comp=Z,16nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**35.33**	**127**⇑	*i*P	**P**	**09 49 58.4**	**-1.4**
	comp=Z,5.3nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**35.33**	**127**	P	**P**	**09 49 58.6**	**-1.2**
	comp=Z,2.8nm,0.6s,mb4.4,baz=300,slow=5.2,SNR=14						
FITZ				pP	pP	09 50 10.6	-0.3
	comp=Z,9.3nm,1.0s,baz=202,slow=3.3,SNR=3.6						
NJ2	**Nanjing**	**35.78**	**33**	*e*P	**P**	**09 50 05.2**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
HHC	**Hu-ho-hao-te**	**40.16**	**18**	*e*P	**P**	**09 50 44.0**	**+4.0**
HHC				AP	pP	09 50 52.8	+1.7
HHC				XP	sP	09 50 58.1	+2.1
HHC				PP	PP	09 52 19.0	+2.8
HHC				PCP	PcP	09 52 44.9	+0.5
HHC				S	**S**	**09 56 52.0**	**+8.3**
HHC				XS		09 57 06.9	
HHC				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
HHC				AMB	AMB		
	comp=Z,145nm,5.1s						
HHC				LR	LR		
	comp=N,766nm,15.7s,MS4.7						
HHC				LR	LR		
	comp=E,459nm,16.5s,MS4.7						
HHC				LR	LR		
	comp=Z,605nm,17.4s,MS4.5						
NWAO	**Narrogin (SRO)**	**40.55**	**153**	P	**P**	**09 50 44.9**	**+1.6**
	comp=Z,3.1nm,0.5s,mb4.2,baz=280,slow=6.1,SNR=3.0						
NWAO	**Narrogin (SRO)**	**40.55**	**153**	P	**P**	**09 50 44.9**	**+1.6**
WMQ	**Urumqi**	**41.58**	**350**	P	**P**	**09 50 51.0**	**-0.6**
WMQ				AP	pP	09 51 01.0	-1.8
WMQ				XP	sP	09 51 05.0	-2.7
WMQ				PP	PP	09 52 30.4	-0.5
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,91nm,4.6s						
WMQ				LR	LR		
	comp=N,134nm,15.4s,MS4.3						
WMQ				LR	LR		
	comp=E,314nm,18.6s,MS4.3						
WMQ				LR	LR		
	comp=Z,95nm,20.0s,MS3.7						
WRA	**Warramunga Arr**	**43.37**	**123**	P	**P**	**09 51 06.3**	**-0.3**
	comp=Z,5.2nm,0.4s,mb4.6,baz=301,slow=9.1,SNR=63						
WRA				pP	pP	09 51 17.7	-0.1
	comp=Z,2.8nm,0.5s,baz=301,slow=9.3,SNR=7.4						
WRAB	**Tennant Creek**	**43.37**	**123**	*e*P	**P**	**09 51 06.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**43.37**	**123**	*e*P	**P**	**09 51 06.1**	**-0.5**
	comp=Z,13nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**43.38**	**123**⇑	*i*P	**P**	**09 51 06.3**	**-0.4**
ASAR	**Alice Springs**	**44.82**	**128**	P	**P**	**09 51 18.0**	**-0.2**
	comp=Z,1.4nm,0.7s,mb3.9,baz=304,slow=8.3,SNR=14						
ASAR				pP	pP	09 51 29.4	-0.1
	comp=Z,1.6nm,0.6s,baz=300,slow=8.2,SNR=8.2						
MKAR	**Makanchi Array**	**45.53**	**346**	P	**P**	**09 51 23.0**	**-0.6**
	comp=Z,2.8nm,0.5s,mb4.5,baz=160,slow=7.8,SNR=25						
MKAR	**Makanchi Array**	**45.53**	**346**	P	**P**	**09 51 23.0**	**-0.6**
SONM	**Songino Array**	**45.61**	**9**	P	**P**	**09 51 24.1**	**-0.2**
	comp=Z,1.7nm,0.4s,mb4.3,baz=189,slow=9.7,SNR=24						
SONM				pP	pP	09 51 35.1	-0.3
	comp=Z,0.8nm,0.3s,baz=192,slow=9.6,SNR=3.8						
SONM				PcP	PcP	09 53 02.4	-0.1
	comp=Z,2.9nm,0.6s,baz=194,slow=3.8,SNR=12						
KURK	**Kurchatov**	**50.08**	**345**	*e*P	**P**	**09 51 58.0**	**-1.0**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
KURK	**Kurchatov**	**50.08**	**345**	*e*P	**P**	**09 51 58.0**	**-1.0**
	comp=Z,4.4nm,1.1s,mb4.4						
ZAL	**Zalesovo**	**51.86**	**351**	P	**P**	**09 52 10.9**	**-1.5**
	comp=Z,3.3nm,0.4s,mb4.6,baz=297,slow=3.9,SNR=11						
STKA	**Stephens Creek**	**54.85**	**133**	*e*P	**P**	**09 52 34.1**	**-0.8**
	comp=Z,1.8nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**54.85**	**133**	P	**P**	**09 52 34.1**	**-0.8**
	comp=Z,1.4nm,0.5s,mb4.2,baz=336,slow=11,SNR=8.7						
CHKZ	**Chkalovo**	**55.01**	**341**	*e*P	**P**	**09 52 34.0**	**-1.7**
CHKZ				*e*	pP	09 52 47.0	-0.2
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**55.01**	**341**	*e*P	**P**	**09 52 34.0**	**-1.7**
	comp=Z,5.3nm,0.7s,mb4.7						
CHKZ				*e*	pP	09 52 47.0	-0.3
BOD	**Bodaibo**	**56.51**	**11**	*e*P	**P**	**09 52 43.9**	**-2.6**
KMBO	**Kilima Mbogo**	**59.51**	**267**	*e*P	**P**	**09 53 08.8**	**+0.7**
KMBO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KMBO	**Kilima Mbogo**	**59.51**	**267**	P	**P**	**09 53 09.2**	**+1.1**
	comp=Z,2.3nm,0.9s,mb4.2,baz=52,slow=13,SNR=6.8						
KMBO	**Kilima Mbogo**	**59.51**	**267**	*e*P	**P**	**09 53 08.8**	**+0.7**
	comp=Z,2.5nm,1.0s,mb4.2						
BRTR	**Keskin Array B**	**67.61**	**312**	P	**P**	**09 54 00.0**	**-1.0**
	comp=Z,1.6nm,0.8s,mb4.1,baz=130,slow=6.7,SNR=5.7						
MATP	**Matopo**	**70.64**	**247**	P	**P**	**09 54 20.7**	**+0.9**
	comp=Z,2.0nm,0.6s,mb4.2,baz=32,slow=1.8,SNR=4.9						
OBN	**Obninsk**	**70.95**	**328**	*e*P	**P**	**09 54 20.3**	**-0.9**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
AKASG	**Malin Array Be**	**73.64**	**322**	P	**P**	**09 54 36.0**	**-1.2**
	comp=Z,0.8nm,0.3s,mb4.1,baz=88,slow=5.0,SNR=13						
MAW	**Mawson**	**74.17**	**193**	P	**P**	**09 54 40.4**	**+0.4**
	comp=Z,4.4nm,0.6s,mb4.6,baz=103,slow=14,SNR=3.4						
MLR	**Muntele Rosu**	**74.51**	**316**	P	**P**	**09 54 43.0**	**+0.6**
	comp=Z,1.3nm,0.6s,mb4.0,baz=204,slow=5.4,SNR=5.2						
FINES	**FINESS Array B**	**78.30**	**332**	P	**P**	**09 55 02.9**	**-0.5**
	comp=Z,1.9nm,0.7s,mb4.2,baz=108,slow=6.0,SNR=8.7						
GERES	**GERESS Array B**	**83.23**	**319**	P	**P**	**09 55 30.2**	**+0.6**
	comp=Z,0.4nm,0.3s,mb4.0,baz=104,slow=5.5,SNR=6.0						
GERES				pP	pP	09 55 43.0	+1.3
	comp=Z,0.4nm,0.3s,slow=1.3,SNR=2.0						
HFS	**Hagfors**	**84.04**	**330**	P	**P**	**09 55 34.2**	**+0.7**
	comp=Z,1.5nm,0.7s,mb4.2,baz=135,slow=8.2,SNR=3.1						
DAVOX	**Davos**	**85.74**	**317**	P	**P**	**09 55 43.4**	**+1.1**
	comp=Z,5.2nm,0.6s,mb4.9,baz=155,slow=6.9,SNR=5.3						
LPG	**La Plagne**	**87.93**	**315**	*e*P	**P**	**09 55 54.2**	**+1.2**
	comp=Z,6.1nm,0.7s,mb4.6						
LPG	**La Plagne**	**87.93**	**315**	*e*P	**P**	**09 55 54.2**	**+1.2**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
TBI	**Tubuai**	**113.02**	**114**	*e*LR	LR	09 56 38.6	
	comp=Z,45nm,24.8s						
ULM	**Lac du Bonnet**	**126.03**	**10**	PKP	PKPdf	10 02 04.8	+0.6
	comp=Z,0.6nm,0.3s,baz=327,slow=2.6,SNR=4.4						
NVAR	**Mina Array Bea**	**127.77**	**35**	PKP	PKPdf	10 02 10.2	+2.3
	comp=Z,0.4nm,0.6s,baz=270,slow=4.5,SNR=3.2						
TXAR	**Lajitas Array**	**142.55**	**30**	PKhKP		10 02 34.3	
	comp=Z,0.2nm,0.5s,baz=315,slow=2.6,SNR=3.1						
TXAR				PKP	PKPdf	10 02 38.4	+3.0
	comp=Z,0.6nm,0.7s,baz=301,slow=0.3,SNR=8.0						
TXAR	**Lajitas Array**	**142.55**	**30**	PKP	PKPdf	10 02 34.3	-1.2
TXAR				PKP	PKPdf	10 02 38.4	+3.0

IDC ***04*** *09:44:34.5±0.5,0.91N×97.30E,mb4.5/20,mb1 4.6/21, mb1mx4.6/25,mbtmp4.5/21,ML4.5/1,MS4.0/9,Ms1 4.0/9, ms1mx3.8/14, Error ellipse: s-maj=21.0km s-min=11.0km az=45.0*
BJI ***04*** *09:44:35.5,0.44N×97.46E,h38km,mB5.2,mb4.8,Ms4.6, Msz4.4*
MOS ***04*** *09:44:37.6±1.3,0.85N×97.29E,h33km,mb5.1/16, Error ellipse: s-maj=15.2km s-min=8.0km az=101.6*
NEIC ***04*** *09:44:39.1±0.4,0.84N×97.31E,h30km,mb4.8/24, Error ellipse: s-maj=13.2km s-min=7.1km az=57.0*
ISC 04 09:44:38.1±0.4,**0.87N**±0.06×**97.40E**±0.07,**h33**km,**n86,** σ1§**27**/**88**,**mb4.7**/48,**MS4.2**/13,**2C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.55**	**5**	Pn	**P**	**09 48 41.4**	**-0.5**
	0.5nm,0.3s,baz=194,slow=12,SNR=6.9						
CMAR				LR	LR	09 55 50.5	
	comp=Z,902nm,18.1s,baz=190,slow=39						
VIS	**Vishakhapatnam**	**21.72**	**321**	*e*P	**P**	**09 49 30.5**	**+2.0**
KMI	**Kunming**	**24.66**	**12**	P	**P**	**09 49 59.5**	**+2.1**
KMI				AP		09 50 08.6	
KMI				XP		09 50 12.3	
KMI				PP	PP	09 50 31.8	-2.2
KMI				S	**S**	**09 54 13.9**	**-0.1**
KMI				AMB	AMB		
	comp=Z,17nm,1.7s,mb4.3						
KMI				AMB	AMB		
	comp=Z,261nm,4.3s						
KMI				LR	LR		
	comp=N,2μm,13.4s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,13.4s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,13.2s,MS4.8						
KMI	**Kunming**	**24.66**	**12**	P	**P**	**09 49 59.5**	**+2.1**
	comp=Z,17nm,1.7s,mb4.3						
KMI				pP		09 50 08.6	
KMI				sP		09 50 12.3	
KMI				PP	PP	09 50 31.8	-2.2
KMI				S	**S**	**09 54 13.9**	**-0.1**
KMI				sS		09 54 29.6	
KMI				SS	SS	09 55 07.5	-3.4
KMI				LR	LR		
	comp=Z,2μm,13.2s,MS4.8						
PKI	**Pulchoki**	**28.93**	**338**	*e*P	**P**	**09 50 39.6**	**+3.0**
	comp=Z,49nm,1.2s,mb5.1						
PKI	**Pulchoki**	**28.93**	**338**	*e*P	**P**	**09 50 39.6**	**+3.0**
PKI				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.8						
GUN	**Gumba**	**29.07**	**339**	*e*P	**P**	**09 50 38.2**	**+0.4**
	comp=Z,117nm,1.4s,mb5.4						
DMN	**Daman**	**29.09**	**337**	*e*P	**P**	**09 50 39.8**	**+1.8**
	comp=Z,21nm,0.7s,mb5.0						
KKN	**Kakani**	**29.18**	**338**	*e*P	**P**	**09 50 38.9**	**+0.1**
	comp=Z,32nm,0.9s,mb5.0						
KKN	**Kakani**	**29.18**	**338**	*e*P	**P**	**09 50 38.9**	**+0.1**
KKN				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
LSA	**Lhasa**	**29.28**	**349**	P	**P**	**09 50 38.5**	**-1.2**
LSA	**Lhasa**	**29.28**	**349**	P	**P**	**09 50 39.9**	**+0.2**
LSA				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.7						
LSA	**Lhasa**	**29.28**	**349**	P	**P**	**09 50 39.9**	**+0.1**
	comp=Z,21nm,1.5s,mb4.6						
GKN	**Gorkha**	**29.62**	**337**	*e*P	**P**	**09 50 42.3**	**-0.4**
	comp=Z,67nm,1.3s,mb5.2						
KOLN	**Koldanda**	**29.84**	**335**	*e*P	**P**	**09 50 45.0**	**+0.3**
	comp=Z,31nm,0.8s,mb5.1						
MBWA	**Marble Bar**	**30.92**	**136**	P	**P**	**09 50 56.7**	**+2.3**
ENH	**Enshi**	**31.42**	**20**	*e*P	**P**	**09 50 57.7**	**-1.0**
	comp=Z,20nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.57**	**126**	*e*P	**P**	**09 51 16.8**	**-0.7**
	comp=Z,5.8nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.57**	**126**	P	**P**	**09 51 16.8**	**-0.7**
	comp=Z,7.2nm,0.9s,mb4.6,baz=290,slow=5.3,SNR=7.1						
FITZ				LR	LR	10 07 28.2	
	comp=Z,355nm,19.6s,MS4.1,baz=316,slow=41						
XAN	**Xi'an**	**34.72**	**17**	P	**P**	**09 51 26.2**	**-1.0**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
LZH	**Lanzhou**	**35.55**	**9**	⇓P	**P**	**09 51 34.0**	**-0.3**
LZH				AP	pP	09 51 42.1	-1.9
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,87nm,6.3s						
LZH				LR	LR		
	comp=N,382nm,13.3s						
LZH				LR	LR		
	comp=Z,638nm,17.2s,MS4.4						
LZH	**Lanzhou**	**35.55**	**9**	⇓P	**P**	**09 51 34.0**	**-0.3**
	comp=Z,39nm,1.5s,mb5.1						
LZH				sP	sP	09 51 35.4	-13
LZH				pP	pP	09 51 42.1	-1.9
LZH				LR	LR		
	comp=Z,640nm,17.2s,MS4.5						
GTA	**Gaotai**	**38.42**	**3**	P	**P**	**09 51 58.7**	**+0.3**
GTA				AP	pP	09 52 14.9	+6.7
GTA				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.5						
GTA				AMB	AMB		
	comp=Z,131nm,8.8s						
GTA				LR	LR		
	comp=N,370nm,10.7s,MS4.5						
GTA				LR	LR		
	comp=E,299nm,14.5s,MS4.5						
GTA				LR	LR		
	comp=Z,327nm,12.2s,MS4.4						
NWAO	**Narrogin (SRO)**	**38.47**	**153**	P	**P**	**09 52 00.3**	**+1.4**
	comp=Z,10nm,0.9s,mb4.5,baz=312,slow=13,SNR=3.7						
JOW	**Kunigami**	**39.32**	**46**	P	**P**	**09 52 04.2**	**-1.8**
	comp=Z,18nm,0.8s,mb4.8,baz=190,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**41.69**	**122**	P	**P**	**09 52 25.5**	**-0.3**
	comp=Z,5.3nm,0.7s,mb4.3,baz=300,slow=9.1,SNR=6.8						
WRAB	**Tennant Creek**	**41.70**	**122**	*e*P	**P**	**09 52 25.8**	**0.0**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**41.70**	**122**	*e*P	**P**	**09 52 25.8**	**-0.1**
	comp=Z,8.9nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**41.70**	**122**	*e*P	**P**	**09 52 26.0**	**+0.1**
BJT	**Baijiatuau**	**42.55**	**21**

MKAR Makanchi Array 47.61 346 P **P** **09 53 12.9 0.0**
comp=Z,8.9nm,0.5s,mb5.0,baz=160,slow=8.4,SNR=40
MKAR LR LR 10 18 26.3
comp=Z,88nm,18.8s,MS3.8,baz=197,slow=43
CN2 Changchun 49.51 27 *e*P **P** **09 53 27.8 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
ZAK Zakamensk 49.58 5 *e*P **P** **09 53 27.3 -0.8**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
ZAK pmax pmax
comp=Z,2.0nm,2.1s,mb3.8
PMG Port Moresby 50.59 103 P **P** **09 53 34.6 -1.6**
comp=Z,32nm,1.1s,mb5.2,baz=257,slow=14,SNR=2.5
TLY Talaya 50.90 5 *e*P **P** **09 53 38.1 0.0**
TLY pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
TLY Talaya 50.90 5 *e*P **P** **09 53 38.1 -0.1**
comp=Z,2.9nm,0.7s,mb4.3
HIA Hailar 51.89 18 *e*P **P** **09 53 44.4 -1.2**
HIA pmax pmax
comp=Z,10.0nm,1.1s
HIA Hailar 51.89 18 *e*P **P** **09 53 44.4 -1.2**
comp=Z,10nm,1.1s,mb4.7
KURK Kurchatov 52.16 345 *e*P **P** **09 53 46.5 -1.1**
KURK pmax pmax
comp=Z,13nm,1.1s,mb4.8
KURK Kurchatov 52.16 345 *e*P **P** **09 53 46.5 -1.1**
comp=Z,13nm,1.1s,mb4.8
STKA Stephens Creek 52.99 132⇑*i*P **P** **09 53 54.6 +0.5**
comp=Z,4.3nm,0.7s,mb4.5
STKA Stephens Creek 52.99 132 P **P** **09 53 53.5 -0.6**
comp=Z,6.0nm,0.8s,mb4.6,baz=311,slow=8.5,SNR=7.5
ZAL Zalesovo 53.91 351 P **P** **09 53 59.5 -1.0**
comp=Z,10.0nm,0.5s,mb5.0,baz=321,slow=4.5,SNR=20
ZAL LR LR 10 20 48.6
comp=Z,115nm,20.1s,MS3.9,baz=293,slow=40
NVS Novosibirsk 55.03 350 *e*P **P** **09 54 07.1 -1.7**
KLR Kul'dur 56.46 26 *e*P **P** **09 54 16.7 -2.4**
CHKZ Chkalovo 57.10 341 *e*P **P** **09 54 21.6 -2.1**
CHKZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
CHKZ Chkalovo 57.10 341 *e*P **P** **09 54 21.6 -2.1**
comp=Z,8.4nm,0.8s,mb4.8
BOD Bodaibo 58.30 10 *e*P **P** **09 54 30.9 -1.1**
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ASAJ Asahikawa 58.81 37 LR LR 10 20 33.2
comp=Z,149nm,19.0s,MS4.1,baz=168,slow=37
KMBO Kilima Mbogo 60.18 268 P **P** **09 54 44.3 -1.3**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 60.18 268 P **P** **09 54 44.5 -1.1**
comp=Z,1.4nm,0.8s,mb4.0,baz=78,slow=14,SNR=3.0
KMBO LR LR 10 16 01.8
comp=Z,110nm,19.8s,MS4.0,baz=95,slow=31
KMBO Kilima Mbogo 60.18 268 P **P** **09 54 44.3 -1.3**
comp=Z,1.6nm,0.9s,mb4.0
KMBO LR LR 10 16 01.8
YSS Yuzh-Sakhalins 60.51 34 *e*P **P** **09 54 50.2 +2.8**
GNI Garni 61.67 316 LR LR 10 22 58.5
comp=Z,30nm,19.6s,MS3.5,baz=318,slow=37
KIV Kislovodsk 64.69 319 P **P** **09 55 12.7 -2.5**
KIV pmax pmax
comp=Z,25nm,1.5s,mb5.0
KIV Kislovodsk 64.69 319 P **P** **09 55 12.7 -2.5**
comp=Z,25nm,1.5s,mb5.0
BRTR Keskin Array B 69.48 312 P **P** **09 55 44.2 -1.2**
comp=Z,6.2nm,0.9s,mb4.2,baz=117,slow=8.3,SNR=6.3
MATP Matopo 70.59 248 P **P** **09 55 51.6 -0.9**
comp=Z,4.1nm,0.8s,mb4.4,baz=79,slow=6.2,SNR=8.5
OBN Obninsk 73.00 328 *e*P **P** **09 56 08.1 +1.8**
OBN pmax pmax
comp=Z,17nm,1.1s,mb4.9
AKASG Malin Array Be 75.64 322 P **P** **09 56 19.1 -2.6**
comp=Z,3.0nm,0.8s,mb4.3,baz=92,slow=4.5,SNR=10
MLR Muntele Rosu 76.44 317 P **P** **09 56 25.0 -1.4**
comp=Z,6.0nm,0.9s,mb4.5,baz=135,slow=2.8,SNR=7.1
FINES FINESS Array B 80.38 333 P **P** **09 56 47.3 -0.3**
comp=Z,3.0nm,0.9s,mb4.2,baz=98,slow=5.0,SNR=7.3
FINES LR LR 10 38 33.3
comp=Z,68nm,18.7s,MS4.0,baz=133,slow=40
BRG Berggiesshubel 85.19 321 *e*P **P** **09 57 15.8 +3.3**
BRG pmax pmax
comp=Z,24nm,1.8s,mb5.0
BRG Berggiesshubel 85.19 321 *e*P **P** **09 57 15.8 +3.3**
comp=Z,24nm,1.8s,mb5.0
GERES GERESS Array B 85.19 319 P **P** **09 57 13.2 +0.7**
comp=Z,2.0nm,0.7s,mb4.4,baz=104,slow=5.5,SNR=11
CLL Collm 85.81 321 P **P** **09 57 18.0 +2.5**
HFS Hagfors 86.11 330 P **P** **09 57 16.8 +0.1**
comp=Z,3.2nm,0.8s,mb4.6,baz=135,slow=8.4,SNR=4.8
NB2 NORSAR Subarra 87.39 331 P **P** **09 57 23.2 +0.2**
comp=Z,1.5nm,0.8s,mb4.3,baz=92,slow=4.8
NOA NORSAR Array B 87.39 331 P **P** **09 57 23.6 +0.6**
comp=Z,2.8nm,0.8s,mb4.5,baz=94,slow=4.8,SNR=6.4
DAVOX Davos 87.67 317 P **P** **09 57 25.3 +0.6**
comp=Z,1.5nm,0.4s,mb4.6,baz=130,slow=7.9,SNR=3.5
DAVOX Davos 87.67 317 P **P** **09 57 25.3 +0.6**
LPG La Plagne 89.84 315 *e*P **P** **09 57 35.6 +0.6**
comp=Z,9.4nm,0.7s,mb4.9
LPG La Plagne 89.84 315 *e*P **P** **09 57 35.6 +0.6**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
TXAR Lajitas Array 143.84 32 PKP PKPdf 10 04 10.6 -0.1
comp=Z,0.6nm,0.7s,baz=228,slow=0.6,SNR=7.1
JCT Junction City 144.78 26 *e*PKP PKPdf 10 04 13.3 +1.0

*NEIC **04** 09:47:13.2, 32.76S×71.30W, h55km, MD3.5(GUC), After GUC.*
GUC 04 09:47:13.2±0.7, 32.76S×71.30W, h55km±4km, MD3.5, ML2.4, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.25**	**333**	⇓*i*P	P	09 47 22.8	+0.4
PACH				*i*S	S	09 47 29.6	+0.6
ROCH	**El Roble**	**0.32**	**131**	⇓*i*P	P	09 47 23.9	+0.8
ROCH				*i*S	S	09 47 31.4	+1.3
JACH	**Jahuel**	**0.60**	**83**	⇓*i*P	P	09 47 26.6	+0.6
JACH				*i*S	S	09 47 36.9	+1.5
LCCH	**Las Cruces**	**0.75**	**197**	⇑*i*P	P	09 47 28.3	+0.4
LCCH				*i*S	S	09 47 39.3	+0.6
DSCH	**Colegio Aleman**	**0.89**	**136**	⇓*i*P	P	09 47 30.3	+0.7
DSCH				*i*S	S	09 47 42.8	+0.9
DSCH				AMP		09 47 43.4	
	comp=E,307nm,0.4s						
CHNG	**Los Chungos**	**0.89**	**349**	⇑*i*P	P	09 47 30.1	+0.4
CHNG				*i*S	S	09 47 42.0	-0.1
CHNG				AMP		09 47 43.1	
	comp=E,99nm,0.1s						
CLCH	**Cerro Calan**	**0.90**	**135**	*e*P	P	09 47 30.4	+0.5
CLCH				*i*S	S	09 47 43.1	+0.7
CLCH				AMP		09 47 45.0	
	comp=N,253nm,0.7s						
TACH	**Talagante**	**0.94**	**161**	⇑*i*P	P	09 47 31.4	+1.0
TACH				*i*S	S	09 47 44.5	+1.2
ANTU	**Antumapu**	**0.98**	**145**	*i*S	S	09 47 44.9	+0.7
ANTU				AMP		09 47 48.3	
	comp=N,295nm,0.4s						
FCH	**Farellones**	**1.02**	**124**	⇑*i*P	P	09 47 32.4	+0.8
FCH				*i*S	S	09 47 46.6	+1.4
FCH				AMP		09 47 46.9	
	comp=N,134nm,0.3s						
PCH	**Pirque**	**1.08**	**143**	*e*P	P	09 47 32.5	0.0
PCH				*i*S	S	09 47 47.6	+1.0
LNV	**Longovilo**	**1.20**	**184**	*e*P	P	09 47 33.7	-0.3
CHCH	**Chadas Angostu**	**1.29**	**155**	*e*P	P	09 47 35.5	+0.1
CHCH				*i*S	S	09 47 52.6	+0.8
CACH	**El Canelo**	**1.48**	**157**	*e*P	P	09 47 39.3	+1.3
CACH				*i*S	S	09 47 58.1	+1.8

*IDC **04** 09:56:37.4±0.8, 17.67S×173.82W, mb4.0/10, mb1 4.3/12, mb1mx4.2/20, mbtmp4.1/12, ML3.5/2, Error ellipse: s-maj=35.4km s-min=16.0km az=144.0*
*NEIC **04** 09:56:38.6±0.5, 17.70S×173.84W, h10km, mb4.1/1, Error ellipse: s-maj=16.3km s-min=9.1km az=151.0*
ISC 04 09:56:40.4±0.6, 17.7S±0.1×173.9W±0.1, h33km, n18, σ1♀04/19, mb4.0/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.25**	**29**	Pn	**Pn**	**09 57 43.7**	**-1.0**
	14nm,0.3s,baz=141,slow=17,SNR=50						
AFI				Sn	**Sn**	**09 58 26.2**	**-7.7**
	19nm,0.3s,baz=193,slow=23,SNR=4.0						
RAR	**Rarotonga 13.77 107**			Pn	**P**	**09 59 52.2**	**-3.4**
	3.1nm,0.3s,baz=313,slow=9.4,SNR=7.5						
RAR	**Rarotonga 13.77 107**			*e*P	**P**	**09 59 52.5**	**-3.2**
URZ	**Urewera 21.98 199**			P	**P**	**10 01 33.4**	**+0.2**
	8.7nm,0.4s,mb4.6,baz=34,slow=5.8,SNR=17						
CTA	**Charters Tower 37.74 260**			P	**P**	**10 03 57.1**	**+2.0**
	4.6nm,0.9s,mb4.2,baz=66,slow=10.0,SNR=4.1						
STKA	**Stephens Creek 42.53 242**			P	**P**	**10 04 35.5**	**+0.7**
	0.9nm,0.6s,mb3.7,baz=111,slow=8.6,SNR=3.1						
WB2	**Warramunga Arr 48.90 259**			*e*P	**P**	**10 05 23.1**	**-2.4**
WRAB	**Tennant Creek 48.90 259**			*e*P	**P**	**10 05 24.3**	**-1.1**
WRA	**Warramunga Arr 48.91 259**			P	**P**	**10 05 24.5**	**-1.0**
	0.9nm,0.4s,mb4.2,baz=98,slow=7.0,SNR=22						
ASAR	**Alice Springs 49.00 254**			P	**P**	**10 05 26.4**	**+0.2**
	6.8nm,0.6s,mb4.9,baz=90,slow=8.5,SNR=117						
ASPA	**Alice Springs 49.00 254**			*e*P	**P**	**10 05 26.2**	**0.0**
FITZ	**Fitzroy Crossi 57.32 260**			P	**P**	**10 06 27.9**	**0.0**
	3.0nm,0.8s,mb4.4,baz=113,slow=7.7,SNR=3.2						
NVAR	**Mina Array Bea 76.32 42**			P	**P**	**10 08 28.7**	**+0.7**
	2.4nm,0.9s,mb4.2,baz=231,slow=11,SNR=9.9						
MNTX	**Cornudas Mount 81.95 53**			*e*P	**P**	**10 08 59.1**	**+0.5**
	1.0nm,0.6s,mb3.9						
TXAR	**Lajitas Array 82.26 56**			P	**P**	**10 09 01.2**	**+0.9**
	0.3nm,0.8s,mb3.3,baz=202,slow=6.7,SNR=3.5						
TXAR	**Lajitas Array 82.26 56**			P	**P**	**10 09 01.2**	**+0.9**
ILAR	**Eielson Array 84.75 11**			P	**P**	**10 09 12.5**	**+0.4**
	0.4nm,0.6s,mb3.8,baz=230,slow=6.3,SNR=14						
YKA	**Yellowknife Ar 92.35 24**			P	**P**	**10 09 48.9**	**+0.4**
	0.1nm,0.4s,mb3.5,baz=240,slow=4.4,SNR=5.4						

*IDC **04** 10:19:03.0±0.8, 33.98N×142.42E, mb3.7/9, mb1 4.0/10, mb1mx3.9/20, mbtmp3.7/10, ML4.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.5/24, Error ellipse: s-maj=23.6km s-min=17.7km az=130.0*
*JMA **04** 10:19:03.4±0.3, 34.02N×142.49E, h20km, M4.0*
*NEIC **04** 10:19:05.0±8.6, 33.96N×142.43E, h13km±53km, mb4.0/2, Error ellipse: s-maj=21.6km s-min=12.2km az=101.0*
ISC 04 10:19:04.5±1.7, 34.00N±0.04×142.43E±0.04, h23km±13km, n35, σ1♀17/50, mb3.7/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1 1.36 299**			P	**Pn**	**10 19 28.3**	**-0.1**
BSO1				S	**Sn**	**10 19 46.5**	**+0.6**
BSO2	**Boso 2 1.57 299**			S	**Sn**	**10 19 52.7**	**+1.5**
BSO3	**Boso 3 1.77 297**			P	**Pn**	**10 19 34.6**	**+0.3**
BSO3				S	**Sn**	**10 19 57.7**	**+1.4**
BSO4	**Boso 4 1.98 300**			P	**Pn**	**10 19 38.0**	**+0.7**
BSO4				S	**Sn**	**10 20 02.6**	**+0.9**
KTR	**Katsuura 2.08 304**			P	**Pn**	**10 19 39.6**	**+0.9**
KTR				S	**Sn**	**10 20 06.1**	**+1.9**
CHOJ	**Chosi 2.13 323**			P	**Pn**	**10 19 39.8**	**+0.4**
CHOJ				S	**Sn**	**10 20 05.5**	**+0.1**
JHJ2	**Mitsune 2.35 249**			P	**Pn**	**10 19 43.5**	**+0.9**
JHJ2				S	**Sn**	**10 20 10.9**	**-0.1**
JHJ	**Hachijo jima 2 2.38 249**			Pn	**Pn**	**10 19 43.6**	**+0.7**
	283nm,0.3s,baz=60,slow=23,SNR=21						
JHJ				Sn	**Sn**	**10 20 11.1**	**-0.5**
	75nm,0.3s,baz=75,slow=23,SNR=6.3						
JIM2	**Oshima 3 2.58 287**			P	**Pn**	**10 19 44.2**	**-1.6**
JIM2				S	**Sn**	**10 20 14.6**	**-2.1**
JOD2	**Odawara 2 3.02 295**			P	**Pn**	**10 19 51.1**	**-1.1**
JOD2				S	**Sn**	**10 20 26.8**	**-1.3**
JAG	**Ashikaga 3.43 316**			P	**Pn**	**10 19 57.2**	**-0.7**
JAG				S	**Sn**	**10 20 35.7**	**-2.6**
JRY	**Ryogami san 3.52 306**			P	**Pn**	**10 19 58.5**	**-0.7**
JRY				S	**Sn**	**10 20 41.1**	**+0.5**
JYN	**Shimob 3.53 296**			P	**Pn**	**10 19 58.8**	**-0.5**
JYN				S	**Sn**	**10 20 39.3**	**-1.4**
SHZ3	**Shizuoka 3 3.64 288**			P	**Pn**	**10 20 03.2**	**+2.3**
SHZ3				S	**Sn**	**10 20 44.2**	**+0.6**
JMM	**Marumori 4.08 342**			P	**Pn**	**10 20 04.3**	**-2.8**
JMM				S	**Sn**	**10 20 48.8**	**-5.9**
MAJO	**Matsushiro 4.28 307**			*e*Pn	**Pn**	**10 20 10.5**	**+0.5**
MAT	**Matsushiro 4.28 307**			*e*P	**Pn**	**10 20 10.0**	**0.0**
MAT				*e*S	**Sn**	**10 20 57.0**	**-2.9**
MAT	**Matsushiro 4.28 307**			P	**Pn**	**10 20 10.0**	**0.0**
MAT				S	**Sn**	**10 20 57.4**	**-2.5**
MAT	**Matsushiro 4.28 307**			P	**Pn**	**10 20 11.3**	**+1.3**
MAT				S	**Sn**	**10 20 59.2**	**-0.7**
ASAJ	**Asahikawa 10.10 1**			Pn	**P**	**10 21 26.2**	**-5.1**
	2.4nm,0.3s,baz=248,slow=4.0,SNR=15						
YSS	**Yuzh-Sakhalins 12.94 1**			*e*Pn	**P**	**10 22 05.2**	**-4.6**
JOW	**Kunigami 14.14 243**			LR	LR	10 27 38.8	
	comp=Z,25nm,19.4s,baz=329,slow=36						
SONM	**Songino Array 30.23 308**			P	**P**	**10 25 16.7**	**+1.2**
	0.4nm,0.8s,mb3.2,baz=90,slow=8.6,SNR=3.6						
MKAR	**Makanchi Array 46.48 305**			P	**P**	**10 27 30.7**	**-0.7**
	0.7nm,0.8s,mb3.6,baz=90,slow=8.5,SNR=4.9						
ILAR	**Eielson Array 51.63 31**			P	**P**	**10 28 10.4**	**-0.6**
	0.4nm,0.7s,mb3.5,baz=263,slow=5.8,SNR=8.9						
WRAB	**Tennant Creek 54.18 189**			P	**P**	**10 28 29.8**	**-0.7**
	1.2nm,0.5s,mb4.1						
WRA	**Warramunga Arr 54.19 189**			P	**P**	**10 28 30.7**	**0.0**
	1.1nm,0.7s,mb3.9,baz=6.4,slow=7.6,SNR=17						
INK	**Inuvik 56.72 26**			P	**P**	**10 28 47.9**	**-0.5**
	0.8nm,0.8s,mb3.8						
ASAR	**Alice Springs 57.92 189**			P	**P**	**10 28 55.6**	**-1.7**
	0.8nm,0.8s,mb3.8,baz=13,slow=6.5,SNR=7.8						
YKA	**Yellowknife Ar 66.02 30**			P	**P**	**10 29 50.4**	**-0.5**
	0.2nm,0.7s,mb3.3,baz=293,slow=6.2,SNR=5.3						
YKA	**Yellowknife Ar 66.02 30**			P	**P**	**10 29 50.4**	**-0.5**
NVAR	**Mina Array Bea 76.15 53**			P	**P**	**10 30 54.2**	**+1.9**
	0.6nm,0.7s,mb3.7,baz=301,slow=8.6,SNR=3.9						
NOA	**NORSAR Array B 77.30 338**			P	**P**	**10 30 59.0**	**+0.8**
	0.5nm,0.7s,mb3.5,baz=4.8,slow=5.6,SNR=3.0						
TXAR	**Lajitas Array 91.30 53**			P	**P**	**10 32 11.4**	**+1.7**
	0.4nm,0.5s,mb4.0,baz=299,slow=2.9,SNR=8.4						
LPAZ	**La Paz 147.37 65**			PKPbc	PKPdf	10 38 50.0	+1.2
	0.6nm,0.7s,baz=323,slow=3.9,SNR=3.8						

*IDC **04** 10:23:46.3±2.4, 0.07N×96.86E, h33km±8km, mb3.5/5, mb1 3.7/5, mb1mx3.5/15, mbtmp3.7/5, Error ellipse: s-maj=103.5km s-min=20.4km az=60.0*
*NEIC **04** 10:23:47.5±1.0, 0.30N×97.23E, mb4.1/1, Error ellipse: s-maj=28.1km s-min=12.7km az=73.0*
ISC 04 10:23:45.8±1.5, 0.30N±0.1×97.3E±0.3, h33km, n8, σ0♀45/7, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim 5.96 34**			*e*Pn	**Pn**	**10 25 14.0**	**-0.3**
WRA	**Warramunga Arr 41.51 121**			P	**P**	**10 31 32.4**	**+0.3**
	3.2nm,0.6s,mb4.2,baz=302,slow=8.9,SNR=38						
WRAB	**Tennant Creek 41.52 121**			*e*P	**P**	**10 31 32.1**	**0.0**
	2.4nm,0.6s,mb4.0						
ASAR	**Alice Springs 42.81 126**			P	**P**	**10 31 43.1**	**+0.4**
	0.5nm,0.6s,mb3.4,baz=299,slow=8.0,SNR=6.9						
SONM	**Songino Array 47.97 8**			P	**P**	**10 32 24.3**	**+0.7**
	0.5nm,0.8s,mb3.6,baz=193,slow=8.2,SNR=2.6						
SONM				pP	pP	10 32 34.5	+1.0
	0.2nm,0.5s,baz=196,slow=10,SNR=1.7						
MKAR	**Makanchi Array 48.10 346**			P	**P**	**10 32 24.1**	**-0.4**
	0.3nm,0.6s,mb3.5,baz=146,slow=8.6,SNR=3.3						
MKAR				pP	pP	10 32 34.0	-0.4
	1.0nm,0.7s,baz=156,slow=8.0,SNR=6.0						
STKA	**Stephens Creek 52.72 132**			P	**P**	**10 32 59.3**	**-0.7**
	1.3nm,0.9s,mb3.9,baz=350,slow=11,SNR=3.0						
TXAR	**Lajitas Array 144.35 32**			PKP	PKPdf	10 43 20.0	-4.8
	0.2nm,0.6s,baz=61,slow=1.2,SNR=3.9						
TXAR				pPKP		10 43 30.4	
	0.7nm,1.0s,SNR=4.3						

*BJI **04** 11:05:35.5, 1.09N×97.21E, h32km, mB5.2, mb5.2, Ms5.0, Msz4.9*
*IDC **04** 11:05:37.6±0.4, 1.33N×97.18E, h21km±2km, mb4.6/17, mb1 4.7/18, mb1mx4.6/21, mbtmp4.7/18, ML4.8/1, MS4.4/15, Ms1 4.4/15, ms1mx4.1/32, Error ellipse: s-maj=20.7km s-min=9.0km az=51.0*
*MOS **04** 11:05:37.4±1.0, 1.33N×97.19E, h33km, mb5.3/37, MS4.8/7, Error ellipse: s-maj=12.3km s-min=5.9km az=107.3*
*NEIC **04** 11:05:37.8±0.2, 1.28N×97.16E, mb5.1/42, Error ellipse: s-maj=7.2km s-min=4.9km az=51.0*
*HRVD **04** 11:05:37.8±0.9, 1.18N×97.17E, h30km±1km, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s23,c36;Mantle waves: s37,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.07±.17; $M_{\theta\theta}$-0.89±.09; $M_{\phi\phi}$-1.17±.13; $M_{r\theta}$1.13±.14; $M_{r\phi}$1.33±.08; $M_{\theta r}$-0.03±.19; Best double couple: $M_0$2.505×10^{16} NP1:ϕ_s337°, δ39°, λ122°. NP2:ϕ_s119°, δ58°, λ67°. Principal axes: T2.499, Plg68°, Azm341°; N.016, Plg19°, Azm131°; P-2.51, Plg10°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 04 11:05:36.2±0.3, 1.27N±0.04×97.18E±0.04, h24km, h24km±.6km: pP-P, n198, σ1♀03/196, mb5.0/78, MS4.6/38, 18C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh 5.05 49**			P	**Pn**	**11 06 53.6**	**+1.1**
KULM	**Kulim 5.28 41**			*e*Pn	**Pn**	**11 06 56.4**	**+0.6**
KGM	**Kluang 6.18 83**			P	**Pn**	**11 07 10.0**	**+1.6**
SNG	**Songkhla 6.79 30**			P	**Pn**	**11 07 17.0**	**0.0**
	566nm,1.0s						
KKTK	**Khon Kaen 15.97 20**			P	**P**	**11 09 24.0**	**+2.8**
	679nm,0.5s						
BDT	**Bhumibol Dam 15.97 6**			P	**P**	**11 09 23.0**	**+1.7**
CMAR	**Chiang Mai Arr 17.17 6**			P	**P**	**11 09 34.5**	**-1.8**
	1.3nm,0.3s,baz=194,slow=13,SNR=41						
CMAR				PcP	PcP	11 14 21.1	+0.4
	0.2nm,0.3s,baz=248,slow=2.0,SNR=6.6						
CMAR				LR	LR	11 17 11.8	
	comp=Z,1μm,19.3s,baz=190,slow=41						
KKM	**Kota Kinabalu 19.57 76**			*e*P	**P**	**11 10 05.1**	**-0.4**
KKM	**Kota Kinabalu 19.57 76**			P	**P**	**11 10 05.7**	**+0.2**
TSM	**Tawau 20.88 81**			P	**P**	**11 10 19.3**	**-0.1**
VIS	**Vishakhapatnam 21.27 321**			*e*P	**P**	**11 10 23.5**	**+0.2**
TRD	**Trivandrum 21.38 290**⇓*e*				**P**	**11 10 34.2**	**+10**
TRD				*e*S	**S**	**11 14 16.2**	**+0.7**
QIZ	**Qiongzhong 21.57 34**			*e*P	**P**	**11 10 26.0**	**-0.3**
QIZ				*e*S	**S**	**11 14 22.1**	**+3.0**
QIZ				XS		11 14 37.6	
QIZ				LR	LR		
	comp=N,1μm,15.1s,MS4.5						
QIZ				LR	LR		
	comp=E,1μm,16.2s,MS4.5						
QIZ				LR	LR		
	comp=Z,1μm,15.1s,MS4.3						
QIZ	**Qiongzhong 21.57 34**			*e*P	**P**	**11 10 26.5**	**+0.2**
	comp=Z,23nm,0.7s,mb4.7						
KMI	**Kunming 24.31 12**⇑P				**P**	**11 10 54.9**	**+1.6**
KMI				AP		11 11 02.0	
KMI				XP		11 11 05.0	
KMI				PP	PP	11 11 31.4	+2.8
KMI				S	**S**	**11 15 11.9**	**+4.0**
KMI				XS		11 15 25.3	
KMI				SS	SS	11 16 04.0	+2.1
KMI				AMB	AMB		
	comp=Z,111nm,1.5s,mb5.1						
KMI				AMB	AMB		
	comp=Z,481nm,4.6s						
KMI				LR	LR		
	comp=N,4μm,14.3s,MS5.1						
KMI				LR	LR		
	comp=E,2μm,13.6s,MS5.1						
KMI				LR	LR		
	comp=Z,4μm,15.7s,MS5.0						
KMI	**Kunming 24.31 12**⇑P				**P**	**11 10 54.9**	**+1.6**
KMI				*SP		11 11 05.0	
KMI						11 11 31.4	
KMI				S	**S**	**11 15 11.9**	**+4.0**
KMI				*SS		11 15 25.3	
KMI				SS	SS	11 16 04.0	+2.1
KMI				pmax	pmax		
	comp=Z,111nm,1.5s,mb5.1						
KMI				MLR	MLR		
	comp=Z,4μm,15.7s,MS5.0						
KMI	**Kunming 24.31 12**⇑P				**P**	**11 10 54.9**	**+1.6**
	comp=Z,111nm,1.5s,mb5.1						
KMI				pP		11 11 02.0	
KMI				sP		11 11 05.0	
KMI				PP	PP	11 11 31.4	+2.8
KMI				S	**S**	**11 15 11.9**	**+4.0**
KMI				sS		11 15 25.3	
KMI				SS	SS	11 16 04.0	+2.1
KMI				LR	LR		
	comp=Z,4μm,15.7s,MS5.0						
HYB	**Hyderabad 24.35 312**			*e*P	**P**	**11 10 55.5**	**+1.8**
HYB	**Hyderabad 24.35 312**			*i*P	**P**	**11 10 55.5**	**+1.8**
SHL	**Shillong 24.69 348**⇑*i*				**P**	**11 10 56.5**	**-0.4**
SHL				*e*S	**S**	**11 15 16.5**	**+2.2**
SHL				*e*		11 18 39.5	
GYA	**Guiyang 26.65 19**⇑*i*P				**P**	**11 11 14.3**	**-0.9**
GYA				AP	pP	11 11 24.2	+1.9
GYA				XP	sP	11 11 27.9	+2.3
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,180nm,3.8s						
GYA				LR	LR		
	comp=N,3μm,13.4s,MS5.0						
GYA				LR	LR		
	comp=E,1μm,13.4s,MS5.0						
GYA				LR	LR		
	comp=Z,3μm,13.2s,MS5.1						
GZH	**Guangzhou 26.77 35**			P	**P**	**11 11 20.2**	**+3.9**
GZH				LR	LR		
	comp=N,732nm,15.6s,MS4.7						
GZH				LR	LR		
	comp=E,1μm,13.1s,MS4.7						
GZH				LR	LR		
	comp=Z,2μm,14.9s,MS4.8						
JIRN	**Jiri 28.27 339**			*e*P	**P**	**11 11 31.2**	**+1.2**
	comp=Z,24nm,0.7s,mb4.9						
PKI	**Pulchoki 28.48 338**			*e*P	**P**	**11 11 32.2**	**+0.4**
	comp=Z,68nm,0.8s,mb5.3						
PKI	**Pulchoki 28.48 338**			*e*P	**P**	**11 11 32.2**	**+0.4**
PKI				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.0						
GUN	**Gumba 28.61 339**			*e*P	**P**	**11 11 33.9**	**+0.9**
	comp=Z,166nm,0.7s,mb5.9						
DMN	**Daman 28.63 337**			*e*P	**P**	**11 11 33.7**	**+0.5**
	comp=Z,55nm,0.8s,mb5.3						
KKN	**Kakani 28.73 338**			*e*P	**P**	**11 11 34.6**	**+0.6**
	comp=Z,101nm,0.9s,mb5.5						
KKN	**Kakani 28.73 338**			*e*P	**P**	**11 11 34.6**	**+0.6**
KKN				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.2						
LSA	**Lhasa 28.85 349**			P	**P**	**11 11 34.8**	**-0.3**
LSA	**Lhasa 28.85 349**			*e*P	**P**	**11 11 36.9**	**+1.8**
LSA

XAN AMB AMB
comp=Z,48nm,1.0s,mb5.4
LZH Lanzhou 35.19 9 ⇑P P 11 12 29.9 -0.7
LZH AP pP 11 12 37.5 -0.3
LZH XP sP 11 12 41.5 +0.6
LZH *e*S **S 11 17 59.0 -2.5**
LZH SS SS 11 20 14.8 -3.5
LZH AMB AMB
comp=Z,49nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,196nm,5.4s
LZH LR LR
comp=N,1µm,13.2s
LZH LR LR
comp=Z,2µm,16.5s,MS4.9
LZH Lanzhou 35.19 9 ⇑P P 11 12 29.9 -0.7
LZH *SP sP 11 12 41.5 +0.6
LZH *e*S **S 11 17 59.0 -2.5**
LZH *SS 11 18 11.5
LZH SS SS 11 20 14.8 -3.5
LZH pmax pmax
comp=Z,49nm,1.4s,mb5.2
LZH MLR MLR
comp=Z,2µm,16.5s,MS4.9
LZH Lanzhou 35.19 9 ⇑P P 11 12 29.9 -0.7
comp=Z,49nm,1.4s,mb5.2
LZH pP pP 11 12 37.5 -0.3
LZH sP sP 11 12 41.5 +0.6
LZH *e*PP PP 11 13 58.5 +8.8
LZH *e*S **S 11 17 59.0 -2.5**
LZH sS 11 18 11.5
LZH SS SS 11 20 14.8 -3.5
LZH LR LR
comp=Z,2µm,16.5s,MS4.9
SDNR Sundarnagar 35.62 330 *e*P **P 11 12 34.0 -0.3**
NJ2 Nanjing 36.81 32 *e*P **P 11 12 44.9 +0.6**
NJ2 AP pP 11 12 53.1 +1.5
NJ2 XP sP 11 12 57.9 +3.3
NJ2 PP PP 11 14 10.0 -0.1
NJ2 S **S 11 18 26.5 0.0**
NJ2 XS 11 18 42.5
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb4.9
NJ2 AMB AMB
comp=Z,200nm,3.5s
NJ2 LR LR
comp=N,2µm,16.4s,MS5.1
NJ2 LR LR
comp=E,1µm,14.2s,MS5.1
NJ2 LR LR
comp=Z,1µm,15.7s,MS4.8
THN Thein Dam 37.01 329 *e*P **P 11 12 44.6 -1.3**
SSE Sheshan 37.37 35 P **P 11 12 47.5 -1.5**
SSE XP sP 11 13 00.4 +1.1
SSE PP PP 11 14 13.4 -3.5
SSE S **S 11 18 34.7 -0.3**
SSE XS 11 18 49.7
SSE AMB AMB
comp=Z,37nm,0.7s,mb5.3
SSE LR LR
comp=N,326nm,20.6s,MS4.2
SSE LR LR
comp=E,271nm,20.6s,MS4.2
SSE LR LR
comp=Z,460nm,16.2s,MS4.4
SSE Sheshan 37.37 35 P **P 11 12 47.5 -1.5**
comp=Z,37nm,0.7s,mb5.3
SSE sP sP 11 13 00.4 +1.1
SSE PP PP 11 14 13.4 -3.5
SSE S **S 11 18 34.7 -0.3**
SSE sS 11 18 49.7
SSE SS SS 11 21 17.4 +10
SSE LR LR
comp=Z,460nm,16.2s,MS4.4
GTA Gaotai 38.03 3 P **P 11 12 54.4 -0.1**
GTA AP pP 11 13 02.1 +0.3
GTA XP sP 11 13 05.2 +0.4
GTA PP PP 11 14 27.3 +2.5
GTA PCP PcP 11 15 10.1 -0.1
GTA S **S 11 18 47.5 +2.4**
GTA SCP 11 18 57.5
GTA XS 11 18 59.0
GTA AMB AMB
comp=Z,40nm,0.8s,mb5.2
GTA AMB AMB
comp=Z,121nm,10.7s
GTA LR LR
comp=N,875nm,14.1s,MS4.8
GTA LR LR
comp=E,646nm,14.9s,MS4.8
GTA LR LR
comp=Z,916nm,14.5s,MS4.7
NWAO Narrogin (SRO) 38.93 153 P **P 11 13 03.3 +1.2**
comp=Z,7.4nm,1.0s,mb4.4,baz=3.6,slow=15,SNR=3.0
JOW Kunigami 39.20 47 P **P 11 13 04.9 +0.5**
comp=Z,70nm,0.6s,mb5.6,baz=239,slow=7.7,SNR=26
BTO Baotou 40.85 15 *e*P **P 11 13 18.2 +0.4**
HHC Hu-ho-hao-te 41.49 17 *e*P **P 11 13 21.0 -2.1**
HHC AP pP 11 13 30.7 +0.3
HHC XP sP 11 13 34.6 +1.2
HHC PP PP 11 14 58.2 -3.9
HHC PCP PcP 11 15 19.8 -1.4
HHC SCP 11 19 04.8
HHC PCS 11 19 11.5
HHC S **S 11 19 33.9 -3.1**
HHC SS SS 11 22 32.4 -4.5
HHC SCS ScS 11 23 20.0 -3.1
HHC AMB AMB
comp=Z,28nm,1.5s,mb4.7
HHC AMB AMB
comp=Z,217nm,4.4s
HHC LR LR
comp=N,1µm,15.3s,MS5.0
HHC LR LR
comp=E,702nm,14.5s,MS5.0
HHC LR LR
comp=Z,1µm,16.3s,MS4.9
WRA Warramunga Arr 42.09 122 P **P 11 13 28.1 -0.2**
comp=Z,13nm,0.5s,mb4.8,baz=302,slow=9.1,SNR=187
WRA pP pP 11 13 35.5 -0.1
comp=Z,6.4nm,0.4s,baz=301,slow=9.0,SNR=14
WRA PcP PcP 11 15 23.6 +0.2
comp=Z,2.3nm,0.8s,baz=309,slow=2.7,SNR=4.6
WRA pPcP 11 15 30.4
comp=Z,1.7nm,0.7s,baz=313,slow=2.6,SNR=4.6
WRAB Tennant Creek 42.09 122 *e*P **P 11 13 28.2 -0.2**
WRAB *e*PP pP 11 13 35.9 +0.2
WRAB pmax pmax
comp=Z,19nm,0.5s,mb5.0
WRAB MLR MLR
comp=Z,186nm,19.0s,MS4.0
WRAB Tennant Creek 42.09 122 *e*P **P 11 13 28.1 -0.2**
comp=Z,19nm,0.5s,mb5.0
WRAB *e*pP pP 11 13 35.9 +0.2
WRAB LR LR
comp=Z,186nm,19.0s,MS4.0
WB2 Warramunga Arr 42.10 122 *e*P **P 11 13 28.1 -0.3**
WB2 *e* pP 11 13 35.7 0.0
BJT Baijiatuau 42.26 22 *e*P **P 11 13 30.1 +0.6**
BJT *e*PP pP 11 13 37.3 +0.5
BJT pmax pmax
comp=Z,38nm,0.6s
BJT Baijiatuau 42.26 22 *e*P **P 11 13 30.1 +0.6**
comp=Z,38nm,0.6s,mb5.2
BJT *e*pP pP 11 13 37.3 +0.6
BJI Beijing 42.28 22 P **P 11 13 30.5 +0.9**
BJI AP pP 11 13 36.9 0.0
BJI PP PP 11 15 13.0 +2.5
BJI AMB AMB
comp=Z,55nm,0.7s,mb5.3
BJI LR LR
comp=N,473nm,14.4s,MS4.6
BJI LR LR
comp=E,289nm,14.4s,MS4.6
BJI LR LR
comp=Z,372nm,20.7s
BJI Beijing 42.28 22 P **P 11 13 30.5 +0.9**
comp=Z,55nm,0.7s,mb5.3
BJI pP pP 11 13 36.9 0.0
BJI PP PP 11 15 13.0 +2.5
BJI S **S 11 20 00.2 +12**
BJI sS 11 20 13.7
BJI SS SS 11 23 20.9 +29
BJI LR LR
comp=Z,370nm,20.7s,MS4.2
KSH Kashi 42.70 336 *e*P **P 11 13 33.1 0.0**
KSH AMB AMB
comp=Z,320nm,4.5s
WMQ Urumqi 43.20 350 ⇑*i*P **P 11 13 38.2 +1.1**
WMQ AP pP 11 13 45.7 +1.3
WMQ XP sP 11 13 49.2 +1.8
WMQ PP PP 11 15 21.0 +1.3
WMQ PCP PcP 11 15 28.0 +1.2
WMQ S **S 11 20 03.2 +1.2**
WMQ XS 11 20 15.6
WMQ AMB AMB
comp=Z,39nm,1.0s,mb5.1
WMQ LR LR
comp=N,489nm,23.0s,MS4.4
WMQ LR LR
comp=E,292nm,21.8s,MS4.4
WMQ LR LR
comp=Z,226nm,20.6s,MS4.1
FORT Forrest 43.34 140 *e*P **P 11 13 40.3 +1.9**
comp=Z,629nm,0.5s
ASPA Alice Springs 43.45 127 *e*P **P 11 13 39.7 +0.3**
ASAR Alice Springs 43.45 127 P **P 11 13 39.8 +0.3**
comp=Z,6.8nm,0.6s,mb4.6,baz=299,slow=8.0,SNR=131
ASAR pP pP 11 13 46.5 -0.2
comp=Z,2.6nm,0.5s,baz=298,slow=7.8,SNR=8.9
ASAR PcP PcP 11 15 28.8 +0.8
comp=Z,2.7nm,0.8s,baz=304,slow=2.9,SNR=8.3
ASAR pPcP 11 15 35.5
comp=Z,2.8nm,0.8s,baz=302,slow=2.9,SNR=6.9
ASAR ScP 11 19 19.5
comp=Z,1.5nm,0.9s,baz=295,slow=4.4,SNR=5.6
ASAR S **S 11 20 04.9 -1.1**
comp=Z,0.7nm,0.8s,baz=301,slow=14,SNR=4.2
ASAR LR LR 11 34 46.3
comp=Z,273nm,20.5s,MS4.1,baz=293,slow=40
DL2 Dalian 43.62 28 *e*P **P 11 13 41.4 +0.8**
DL2 *e*S **S 11 20 09.4 +1.2**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
DL2 AMB AMB
comp=Z,290nm,4.6s
DL2 LR LR
comp=N,280nm,14.9s,MS4.4
DL2 LR LR
comp=E,270nm,15.3s,MS4.4
DL2 LR LR
comp=Z,390nm,19.6s,MS4.3
UCH Uchtor 45.58 336 P **P 11 13 57.6 +1.4**
SNR=20
TKM2 Tokmak 2 45.74 338 P **P 11 13 58.5 +0.9**
SNR=12
KBK Karagaybulak 45.77 337 P **P 11 13 59.2 +1.4**
SNR=16
AML Almayashu 45.83 336 P **P 11 13 59.6 +1.4**
SNR=12
AAK Ala-Archa 45.93 337 P **P 11 14 00.0 +1.0**
SNR=6.3
AAK Ala-Archa 45.93 337 *e*P **P 11 13 59.3 +0.3**
AAK pmax pmax
comp=Z,17nm,1.1s,mb4.9
AAK Ala-Archa 45.93 337 *e*P **P 11 13 59.3 +0.3**
comp=Z,17nm,1.1s,mb4.9
FRU Bishkek 46.05 337 *e*P **P 11 14 01.0 +1.1**
FRU pmax pmax
comp=Z,99nm,2.5s,mb5.3
CHMS Chumysh 46.13 337 P **P 11 14 01.1 +0.5**
SNR=5.5
EKS2 Erkin-Say 46.24 336 P **P 11 14 02.7 +1.2**
SNR=16
USP Ospenovka 46.46 337 P **P 11 14 03.9 +0.7**
SNR=21
SNY Shenyang 46.85 27 ⇑P **P 11 14 05.7 -0.6**
SNY AP pP 11 14 12.0 -1.6
SNY S **S 11 20 47.4 -7.1**
SNY XS 11 21 06.4
SNY AMB AMB
comp=Z,20nm,0.9s,mb5.0
SNY AMB AMB
comp=Z,120nm,5.7s
SNY LR LR
comp=N,650nm,16.2s,MS4.9
SNY LR LR
comp=E,860nm,14.2s,MS4.9
SNY LR LR
comp=Z,1µm,14.5s,MS5.0
SONM Songino Array 47.06 8 P **P 11 14 08.3 +0.4**
comp=Z,22nm,0.7s,mb5.2,baz=189,slow=9.0,SNR=223
SONM PcP PcP 11 15 39.9 -0.3
comp=Z,5.2nm,0.6s,baz=196,slow=3.7,SNR=7.4
SONM LR LR 11 36 31.3
comp=Z,2µm,18.0s,MS5.0,baz=190,slow=39
MKAR Makanchi Array 47.17 346 P **P 11 14 08.8 +0.1**
comp=Z,19nm,0.6s,mb5.2,baz=159,slow=8.1,SNR=164
MKAR LR LR 11 37 44.1
comp=Z,249nm,21.4s,MS4.1,baz=94,slow=41
ULN Ulaanbaatar 47.19 9 *e*P **P 11 14 08.8 -0.1**
ULN *e*PP pP 11 14 16.3 0.0
ULN pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ULN MLR MLR
comp=Z,385nm,21.0s,MS4.3
ULN Ulaanbaatar 47.19 9 *e*P **P 11 14 08.8 -0.1**
comp=Z,10nm,0.8s,mb4.8
ULN *e*pP pP 11 14 16.3 0.0
ULN LR LR
comp=Z,385nm,21.0s,MS4.3
KKAR Karatay Array 47.98 334 *i*P **P 11 14 14.3 -0.9**
KKAR pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ZAK Zakamensk 49.20 5 ⇑*i*P **P 11 14 24.6 +0.1**
ZAK *e* 11 16 18.1
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ZAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
CN2 Changchun 49.25 27 *e*P **P 11 14 24.1 -0.9**
CN2 AMB AMB
comp=Z,40nm,0.8s,mb5.5
MOY Mondy 50.32 3 *e*P **P 11 14 32.4 -0.6**
TLY Talaya 50.52 5 *e*P **P 11 14 35.0 +0.4**
TLY *e*S **S 11 21 50.3 +4.5**
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,664nm,16.0s,MS4.8
TLY Talaya 50.52 5 *e*P **P 11 14 34.8 +0.2**
comp=Z,13nm,0.7s,mb5.0
TLY *e*pP pP 11 14 42.3 +0.3
HIA Hailar 51.58 19 *e*P **P 11 14 42.0 -0.6**
HIA pmax pmax
comp=Z,21nm,0.8s
HIA Hailar 51.58 19 *e*P **P 11 14 42.0 -0.7**
comp=Z,21nm,0.8s,mb5.1
KURK Kurchatov 51.72 345 *e*P **P 11 14 43.2 -0.5**
KURK *e*PP pP 11 14 52.3 +1.2
KURK pmax pmax
comp=Z,22nm,0.9s,mb5.1
KURK Kurchatov 51.72 345 *e*P **P 11 14 43.2 -0.5**
comp=Z,22nm,0.9s,mb5.1
KURK *e*pP pP 11 14 52.3 +1.2
MDJ Mudanjiang 51.81 29 P **P 11 14 44.8 +0.3**
MDJ AP pP 11 14 52.9 +1.0
MDJ XP sP 11 14 56.8 +2.0
MDJ PCP PcP 11 15 53.6 -3.9
MDJ PP PP 11 16 45.0 +2.0
MDJ S **S 11 22 11.0 +7.3**
MDJ AMB AMB
comp=Z,23nm,0.7s,mb5.2
MDJ AMB AMB
comp=Z,129nm,5.8s
MDJ LR LR
comp=N,531nm,15.2s,MS4.8
MDJ LR LR
comp=E,382nm,12.6s,MS4.8
MDJ LR LR
comp=Z,800nm,15.2s,MS4.9
MDJ Mudanjiang 51.81 29 *e*P **P 11 14 43.9 -0.6**
comp=Z,18nm,0.8s,mb5.1
CTA Charters Tower 52.55 117 LR LR 11 41 36.9
comp=Z,554nm,18.2s,MS4.6,baz=127,slow=41
CTAO Charters Tower 52.55 117 *e*P **P 11 14 50.3 -0.1**
CTAO pmax pmax
comp=Z,12nm,1.1s,mb4.7
CTAO MLR MLR
comp=Z,607nm,21.0s,MS4.6
CTAO Charters Tower 52.55 117 *e*P **P 11 14 50.3 -0.1**
comp=Z,12nm,1.1s,mb4.7
CTAO LR LR
comp=Z,607nm,21.0s,MS4.6
OPO Ambohidratompo 52.94 246 P **P 11 14 53.7 +0.5**
comp=Z,2.0nm,0.8s,mb4.1,baz=216,slow=8.7,SNR=3.4
STKA Stephens Creek 53.42 132 ⇑*i*P **P 11 14 57.2 +0.6**
comp=Z,7.3nm,0.6s,mb4.8
STKA *i* pP 11 15 03.8 -0.3
STKA Stephens Creek 53.42 132 P **P 11 14 57.2 +0.6**
comp=Z,8.7nm,0.7s,mb4.8,baz=304,slow=8.1,SNR=28
STKA pP pP 11 15 04.0 0.0
comp=Z,10nm,0.7s,baz=297,slow=7.6,SNR=11
STKA LR LR 11 40 03.8
comp=Z,718nm,21.5s,MS4.7,baz=118,slow=39
ZAL Zalesovo 53.48 351 P **P 11 14 55.9 -0.8**
comp=Z,28nm,0.5s,mb5.4,baz=307,slow=6.7
ZAL Zalesovo 53.48 351 P **P 11 14 55.9 -0.8**
NVS Novosibirsk 54.60 350 ⇑*i*P **P 11 15 03.4 -1.6**
NVS *e*S **S 11 22 40.4 -1.0**
NVS pmax pmax
comp=Z,17nm,0.8s,mb5.1
NVS pmax pmax
comp=N,12nm,0.8s
NVS pmax pmax
comp=E,9.0nm,0.7s
NVS smax
comp=N,23nm,2.0s
ATD Arta Tunnel 54.85 283 LR LR 11 35 57.0
comp=N,138nm,18.4s,MS4.1,baz=34,slow=33
BVA0 Borovoye Array 56.18 341 P **P 11 15 14.9 -1.5**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
BVAR Borovoye Array 56.18 341 P **P 11 15 15.2 -1.2**
comp=Z,19nm,0.7s,mb5.3,baz=142,slow=8.6,SNR=117
KLR Kul'dur 56.20 27 *e*P **P 11 15 14.0 -2.6**
KLR pmax pmax
comp=N,20nm,0.9s
KLR pmax pmax
comp=E,28nm,0.9s
KLR pmax pmax
comp=Z,40nm,0.9s,mb5.5
KLR MLR MLR
comp=E,500nm,13.5s
KLR MLR MLR
comp=Z,1µm,13.5s,MS5.2
CHKZ Chkalovo 56.65 341 *e*P **P 11 15 18.9 -0.9**
CHKZ pmax pmax
comp=Z,38nm,0.7s,mb5.5
CHKZ Chkalovo 56.65 341 *e*P **P 11 15 18.9 -1.0**
comp=Z,38nm,0.7s,mb5.5
BOD Bodaibo 57.94 11 *e*P **P 11 15 27.8 -1.1**
BOD pmax pmax
comp=Z,23nm,0.9s,mb5.2
CLNS Chul'man 59.68 17 *e*P **P 11 15 41.0 +0.1**
CLNS pmax pmax
comp=Z,29nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS MLR MLR
comp=Z,1µm,15.0s,MS5.1
CLNS MLR MLR
comp=N,500nm,16.0s,MS4.8
CLNS MLR MLR
comp=E,200nm,15.0s,MS4.8
KMBO Kilima Mbogo 59.97 268 LR LR 11 40 36.1
comp=E,309nm,18.2s,MS4.5,baz=92,slow=35
YSS Yuzh-Sakhalins 60.30 34 ⇑*e*P **P 11 15 44.9 -0.4**
YSS *e* pP 11 15 51.9 -1.0
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS MLR MLR
comp=Z,300nm,14.0s,MS4.6
YSS Yuzh-Sakhalins 60.30 34 *e*P **P 11 15 44.5 -0.8**
comp=Z,37nm,1.0s,mb5.4
YSS *e*pP pP 11 15 52.2 -0.7
GNI Garni 61.23 316 *e*P **P 11 15 49.6 -2.2**
GNI pmax pmax
comp=Z,28nm,1.2s
GNI Garni 61.23 316 P **P 11 15 53.0 +1.3**
comp=Z,4.6nm,0.6s,mb4.8,baz=139,slow=11,SNR=3.2
GNI Garni 61.23 316 *e*P **P 11 15 49.6 -2.2**
comp=Z,28nm,1.2s,mb5.3
SVE Sverdlovsk 62.61 338 *e*P **P 11 16 07.0 +6.2**
SVE *e* 11 16 20.0
SVE MLR MLR
comp=N,200nm,16.0s,MS4.4
SVE MLR MLR
comp=E,100nm,16.0s,MS4.4
SVE MLR MLR
comp=Z,400nm,16.0s,MS4.7
KIV Kislovodsk 64.24 319 *e*P **P 11 16 09.3 -2.4**
KIV *e* pP 11 16 17.1 -2.2
KIV *i*S **S 11 24 48.6 +2.4**
KIV *e*SS SS 11 28 55.2 -2.2
KIV pmax pmax
comp=Z,15nm,0.9s,mb5.0
KIV Kislovodsk 64.24 319 *e*P **P 11 16 10.4 -1.3**
comp=Z,9.2nm,0.4s,mb5.2
ASF Jabal al Asfar 64.41 305 LR LR 11 45 32.4
comp=Z,204nm,19.1s,MS4.3,baz=163,slow=37
GOF Gofitskoye 64.50 320 *e*P **P 11 16 18.2 +4.8**
MALT Malatya 65.07 312 *e*P **P 11 16 16.2 -1.0**
MALT *e*PP pP 11 16 23.2 -1.6
MALT pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MALT Malatya 65.07 312 *e*P **P 11 16 16.2 -1.0**
comp=Z,2.7nm,0.8s,mb4.3
MALT *e*pP pP 11 16 23.2 -1.6
YAK Yakutsk 65.36 16 *e*P **P 11 16 17.3 -1.3**
YAK *e*PP pP 11 16 24.9 -1.3
YAK pmax pmax
comp=Z,89nm,0.9s,mb5.8
YAK Yakutsk 65.36 16 *e*P **P 11 16 17.2 -1.4**
comp=Z,89nm,0.9s,mb5.8
YAK *e*pP pP 11 16 24.9 -1.3
EIL Elat 65.40 302 *e*P **P 11 16 18.6 -0.9**
comp=Z,3.4nm,0.5s,mb4.6
BRTR Keskin Array B 69.05 312 P **P 11 16 41.0 -1.3**
comp=Z,2.4nm,0.7s,mb4.2,baz=136,slow=7.1,SNR=12
BRTR pP pP 11 16 48.5 -1.4
comp=Z,2.4nm,0.7s,baz=131,slow=6.5,SNR=7.4
VRSR Storozhevoye 69.49 325 *e*P **P 11 16 42.9 -1.9**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,8.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.8s
MATP Matopo 70.53 248 LR LR 11 44 12.6
comp=E,230nm,18.9s,MS4.5,baz=65,slow=33
MA2 Magadan 71.28 26 *e*P **P 11 16 55.1 -0.4**
MA2 *e*PP pP 11 17 02.4 -0.7
MA2 pmax pmax
comp=Z,13nm,0.6s,mb5.0
MA2 Magadan 71.28 26 *e*P **P 11 16 55.1 -0.4**
comp=Z,13nm,0.6s,mb5.0
MA2 *e*pP pP 11 17 02.4 -0.7
PET Petropavlovsk 72.18 34 *e*P **P 11 17 00.4 -0.6**
PET pmax pmax
comp=Z,23nm,0.6s,mb5.3
PET Petropavlovsk 72.18 34 *e*P **P 11 17 00.4 -0.7**
comp=Z,23nm,0.6s,mb5.3
MOS Moscow 72.26 329 *e*P **P 11 16 56.7 -4.7**
OBN Obninsk 72.55 328 *e*P **P 11 17 02.5 -0.6**
OBN *e* pP 11 17 10.3 -0.5
OBN *e*S S 11 26 28.8 +4.0
OBN *e* 11 27 16.2
OBN pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
TIXI Tiksi 73.12 10 *i*P **P 11 17 05.4 -0.8**
SEY Seymchan 73.70 23 *e*P **P 11 17 11.9 +2.2**
SEY *e* 11 19 54.5
SEY *e*S S 11 26 41.2 +3.6
SEY *e*SS SS 11 31 25.5 +1.8
SEY pmax pmax
comp=Z,70nm,1.4s,mb5.4
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax

comp=E,30nm,0.8s
SEY smax
comp=N,200nm,18.9s
SEY smax
comp=E,200nm,20.2s
TIRR Tirgusor 74.06 316 ⇓P **P 11 17 11.5 -0.7**
AKASG Malin Array Be 75.19 322 P **P 11 17 17.3 -1.3**
comp=E,2.8nm,0.5s,mb4.5,baz=90,slow=4.7,SNR=16
AKASG pP pP 11 17 24.0 -2.3
comp=E,2.6nm,0.5s,baz=90,slow=4.7,SNR=4.5
AKASG Malin Array Be 75.19 322 P **P 11 17 17.3 -1.3**
AKASG pP pP 11 17 24.0 -2.3
VRI Vrincioaia 75.55 317 ⇓P **P 11 17 21.1 +0.3**
MLR Muntele Rosu 76.00 317 ⇑P **P 11 17 23.9 +0.6**
BURAR Bucovina Array 76.96 319 ⇑P **P 11 17 29.3 +0.7**
APA Apatity 79.05 339 ⇓*i*P **P 11 17 39.0 -0.7**
APA pmax pmax
comp=Z,12nm,0.8s,mb4.9
KOLS Kolonicke sedl 79.15 320 *e*P **P 11 17 41.1 +0.5**
KOLS epP pP 11 17 48.4 +0.1
SUW Suwalki 79.61 325 *e*P **P 11 17 42.5 -0.4**
FINES FINESS Array B 79.93 333 P **P 11 17 44.3 -0.2**
comp=Z,3.7nm,0.6s,mb4.5,baz=94,slow=6.0,SNR=16
FINES pP pP 11 17 50.9 -1.4
comp=Z,1.8nm,0.5s,baz=90,slow=5.7,SNR=4.9
FINES FINESS Array B 79.93 333 P **P 11 17 44.3 -0.2**
FINES pP pP 11 17 50.9 -1.4
PSZ Piszkesteto 80.54 318 *e*P **P 11 17 48.2 +0.1**
PSZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
PSZ Piszkesteto 80.54 318 *e*P **P 11 17 48.2 +0.1**
comp=Z,5.1nm,0.7s,mb4.6
OJC Ojcow 80.96 321 *e*P **P 11 17 50.1 -0.1**
BILL Bilibino 81.10 21 *e*P **P 11 17 50.3 -0.4**
BILL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BILL Bilibino 81.10 21 *e*P **P 11 17 50.3 -0.3**
comp=Z,3.4nm,0.6s,mb4.5
PKSM Moragy 81.15 316 ⇑P **P 11 17 51.3 -0.1**
VYHS Vyhne 81.33 319 *e*P **P 11 17 51.1 -1.1**
MORC Moravsky Berou 82.34 320 *e*P **P 11 17 57.4 0.0**
MORC *e**PP pP 11 18 04.8 -0.4
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MORC Moravsky Berou 82.34 320 *e*P **P 11 17 57.4 0.0**
comp=Z,3.2nm,0.8s,mb4.3
MORC epP pP 11 18 04.8 -0.4
URZ Urewera 82.87 129 LR LR 11 56 30.0
comp=Z,322nm,18.1s,MS4.7,baz=274,slow=37
DPC Dobruska-Polom 83.19 320 *e*P **P 11 18 02.8 +1.0**
DPC epP pP 11 18 09.5 -0.1
PRU Pruhonice 84.29 320 *e*P **P 11 18 07.7 +0.3**
PVCC Panska Ves 84.32 320 *e*P **P 11 18 06.5 -1.1**
GERES GERESS Array B 84.75 319 P **P 11 18 10.0 +0.2**
comp=Z,3.8nm,0.9s,mb4.5,baz=90,slow=5.3,SNR=22
GERES pP pP 11 18 17.1 -0.5
comp=Z,2.6nm,0.9s,baz=90,slow=4.0,SNR=3.8
GERES LR LR 12 02 49.4
comp=Z,74nm,18.2s,MS4.1,baz=263,slow=40
KHC Kasperske Hory 84.85 319 *e*P **P 11 18 10.2 0.0**
KHC epP pP 11 18 17.6 -0.4
VNDA Vanda 85.90 169 P **P 11 18 16.2 +1.3**
comp=Z,0.6nm,0.6s,mb4.0,baz=294,slow=5.8,SNR=3.8
VNDA pP pP 11 18 22.4 -0.3
comp=Z,2.6nm,1.0s,baz=332,slow=7.4,SNR=6.3
VNDA LR LR 11 51 37.6
comp=Z,176nm,18.6s,MS4.5,baz=300,slow=32
GRA1 Grafenberg Arr 86.42 320 *e*P **P 11 18 18.0 0.0**
comp=Z,5.0nm,0.9s,mb4.7
GRF Grafenberg Arr 86.42 320 *e*P **P 11 18 18.0 0.0**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
GRF Grafenberg Arr 86.42 320 *e*P **P 11 18 18.0 0.0**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
GRF Grafenberg Arr 86.42 320 *e*P **P 11 18 18.0 0.0**
comp=Z,5.0nm,0.9s,mb4.7
NB2 NORSAR Subarra 86.93 331 P **P 11 18 20.1 -0.2**
comp=Z,2.2nm,0.8s,mb4.4,baz=96,slow=5.3
NOA NORSAR Array B 86.93 331 P **P 11 18 20.0 -0.3**
comp=Z,3.2nm,0.8s,mb4.6,baz=95,slow=4.9,SNR=10
NOA pP pP 11 18 27.1 -1.0
comp=Z,2.8nm,0.8s,baz=94,slow=4.8,SNR=6.7
NOA LR LR 12 02 57.2
comp=Z,116nm,20.0s,MS4.3,baz=110,slow=40
LPG La Plagne 89.41 315 *e*P **P 11 18 33.0 +0.5**
comp=Z,6.7nm,0.7s,mb4.8
LPG La Plagne 89.41 315 *e*P **P 11 18 33.0 +0.5**
LPG pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
IMA Indian Mountai 96.52 23 *e*P **P 11 19 05.8 +1.1**
IMA pmax pmax
comp=Z,18nm,0.8s,mb5.5
IMA Indian Mountai 96.52 23 *e*P **P 11 19 05.8 +1.1**
comp=Z,18nm,0.8s,mb5.5
ILAR Eielson Array 99.64 23 P **P 11 19 16.3 -2.5**
comp=Z,0.3nm,0.7s,baz=284,slow=4.7,SNR=6.2
ILAR pP pP 11 19 24.6 -2.1
comp=Z,0.3nm,0.7s,baz=304,slow=4.9,SNR=2.8
ILAR PP PP 11 23 09.1 -16
comp=Z,0.3nm,0.7s,baz=296,slow=7.7,SNR=5.2
ILAR PKKP PKKP 11 35 47.2 +9.3
comp=Z,0.4nm,0.8s,baz=135,slow=2.6,SNR=4.2
TBI Tubuai 111.90 115 *e*LR LR 11 57 30.0
comp=Z,202nm,24.8s
YKA Yellowknife Ar 112.03 15 Pdiff Pdif 11 20 16.1 +2.5
comp=Z,0.2nm,0.9s,baz=315,slow=5.5,SNR=3.7
YKA PKiKP 11 24 07.9
comp=Z,0.3nm,0.8s,baz=333,slow=1.9,SNR=3.0
YKA PP PP 11 24 46.1 -11
comp=Z,0.3nm,0.8s,baz=331,slow=7.9,SNR=4.2
YKA PKKPab 11 35 09.4
comp=Z,0.2nm,0.7s,baz=139,slow=3.0,SNR=4.0
PPT Papeete 112.52 108 *e*LR LR 11 57 48.1
comp=Z,136nm,25.0s
SCHQ Schefferville 122.55 349 PKP PKPdf 11 24 30.9 -3.4
comp=Z,1.0nm,0.5s,baz=315,slow=1.4,SNR=6.2
SCHQ pPKP 11 24 38.7
comp=Z,2.9nm,0.8s,baz=63,slow=4.5,SNR=2.1
SCHQ Schefferville 122.55 349 PKP PKPdf 11 24 30.9 -3.4
SCHQ pPKP 11 24 38.7
MSO Missoula 124.86 26 *e*PKPdf PKPdf 11 24 35.8 -3.3
RKT Rikitea 124.98 117 *e*LR LR 12 03 33.2
comp=Z,248nm,29.8s
MOD Modoc 125.28 34 *e*PKPdf PKPdf 11 24 36.9 -3.2
BOZ Bozeman (W) 126.78 25 *e*PKPdf PKPdf 11 24 40.1 -2.7
ULM Lac du Bonnet 127.47 11 PKP PKPdf 11 24 39.6 -4.4
comp=Z,1.9nm,0.6s,baz=286,slow=0.7,SNR=5.6
ULM pPKP 11 24 47.4
comp=Z,1.2nm,0.4s,baz=142,slow=2.0,SNR=2.8
ULM Lac du Bonnet 127.47 11 PKP PKPdf 11 24 39.6 -4.4
ULM pPKP 11 24 47.4
NVAR Mina Array Bea 128.74 36 PKP PKPdf 11 24 44.7 -2.1
comp=Z,1.3nm,0.8s,baz=38,slow=1.7,SNR=7.4
NVAR Mina Array Bea 128.74 36 PKP PKPdf 11 24 44.7 -2.1
PV10 Paradox Valley 133.73 29 *e*PKPdf PKPdf 11 24 54.0 -2.2
TXAR Lajitas Array 143.62 32 PKP PKPdf 11 25 09.2 -5.1
comp=Z,1.6nm,0.6s,baz=58,slow=0.5,SNR=29
JCT Junction City 144.52 26 *e*PKPdf PKPdf 11 25 11.4 -4.5
NATX Nacogdoches 145.28 18 *e*PKPbc PKPbc 11 25 13.5 +0.4
LRAL Lakeview Retre 145.65 6 *e*PKPbc PKPbc 11 25 13.9 0.0

MOS ***04*** *11:13:22.6±1.3, 1.41N×97.08E, h33km, mb4.7/11, Error ellipse: s-maj=33.5km s-min=11.4km az=87.6*
IDC ***04*** *11:13:25.1±0.9, 1.58N×96.91E, h26km±3km, mb4.0/10, mb1 4.1/11, mb1mx3.9/18, mbtmp4.1/11, ML4.2/1, Error ellipse: s-maj=43.1km s-min=12.2km az=55.0*
NEIC ***04*** *11:13:25.2±0.4, 1.61N×96.96E, mb4.5/9, Error ellipse: s-maj=11.5km s-min=6.7km az=68.0*
BJI ***04*** *11:13:25.2, 1.60N×97.00E, h26km, mB5.0, mb4.7, Ms4.6, Msz4.3*
ISC 04 11:13:23.3±0.6, 1.65N±0.08×97.0E±0.1, h27km, h27km±.7km:pP-P, n40, σ0§97/39, mb4.3/26, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.13**	**45**	*e*Pn	**Pn**	**11 14 41.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.81**	**6**	Pn	**P**	**11 17 19.9**	**+1.1**
	0.3nm,0.3s,baz=197,slow=12,SNR=6.8						
KMI	**Kunming**	**23.99**	**13**	P	**P**	**11 18 39.7**	**+2.8**
KMI	comp=Z,8.0nm,0.8s,mb4.2			AMB	AMB		
KMI	**Kunming**	**23.99**	**13**	P	**P**	**11 18 39.7**	**+2.8**
	comp=Z,8.0nm,0.8s,mb4.2						
ENH	**Enshi**	**30.83**	**21**	*e*P	**P**	**11 19 38.5**	**-1.1**
	comp=Z,9.4nm,0.5s,mb4.9						
ENH				*e*pP	pP	11 19 46.6	-0.9
XAN	**Xi'an**	**34.10**	**18**	P	**P**	**11 20 06.8**	**-1.2**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
GTA	**Gaotai**	**37.67**	**4**	P	**P**	**11 20 38.9**	**+0.6**
GTA				AP	pP	11 20 46.4	+0.1
GTA				XP	sP	11 20 49.8	+0.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
JOW	**Kunigami**	**39.08**	**47**	P	**P**	**11 20 47.0**	**-3.2**
	comp=Z,36nm,1.1s,mb5.0,baz=223,slow=4.8,SNR=3.0						
BJT	**Baijiatuau**	**41.98**	**22**	*e*P	**P**	**11 21 14.6**	**+0.7**
BJT				*e**PP	pP	11 21 23.8	+1.8
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**41.98**	**22**	*e*P	**P**	**11 21 14.6**	**+0.7**
	comp=Z,10nm,0.6s,mb4.6						
BJT				*e*pP	pP	11 21 23.8	+1.8
BJI	**Beijing**	**42.00**	**22**	P	**P**	**11 21 15.0**	**+0.9**
BJI				AP	pP	11 21 22.4	+0.2
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.5						
BJI	**Beijing**	**42.00**	**22**	P	**P**	**11 21 15.0**	**+0.9**
	comp=Z,8.0nm,0.7s,mb4.5						
BJI				pP	pP	11 21 22.4	+0.2
WRA	**Warramunga Arr**	**42.43**	**122**	P	**P**	**11 21 18.0**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.6,baz=301,slow=9.2,SNR=9.8						
WRA				pP	pP	11 21 25.8	-0.2
	comp=Z,2.2nm,0.8s,baz=302,slow=9.1,SNR=6.8						
WRAB	**Tennant Creek**	**42.44**	**122**	*e*P	**P**	**11 21 18.2**	**+0.2**
WRAB				*e**PP	pP	11 21 26.0	-0.1
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**42.44**	**122**	*e*P	**P**	**11 21 18.2**	**+0.2**
	comp=Z,3.5nm,0.5s,mb4.2						
WRAB				epP	pP	11 21 26.0	0.0
WMQ	**Urumqi**	**42.80**	**350**	⇑P	**P**	**11 21 20.6**	**-0.1**
WMQ				AP	pP	11 21 30.1	+1.4
WMQ				XP	sP	11 21 34.1	+2.0
WMQ				PP	PP	11 23 02.6	+0.1
WMQ				AMB	AMB		
	comp=Z,1.0nm,0.7s,mb3.6						
ASAR	**Alice Springs**	**43.82**	**127**	P	**P**	**11 21 29.4**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.7,baz=300,slow=8.0,SNR=11						
ASAR				pP	pP	11 21 37.9	+0.7
	comp=Z,1.1nm,0.5s,baz=302,slow=7.9,SNR=5.7						
AAK	**Ala-Archa**	**45.52**	**337**	*e*P	**P**	**11 21 42.8**	**+0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**45.52**	**337**	*e*P	**P**	**11 21 42.8**	**+0.3**
	comp=Z,2.2nm,0.8s,mb4.1						
SONM	**Songino Array**	**46.72**	**9**	P	**P**	**11 21 52.5**	**+0.6**
	comp=Z,3.5nm,0.7s,mb4.4,baz=192,slow=8.6,SNR=10						
SONM				pP	pP	11 22 00.6	+0.5
	comp=Z,2.0nm,0.4s,baz=191,slow=9.6,SNR=11						
SONM				PcP	PcP	11 23 25.6	0.0
	comp=Z,0.6nm,0.4s,baz=200,slow=3.6,SNR=3.8						
SONM				pPcP		11 23 33.8	
	comp=Z,0.5nm,0.5s,baz=194,slow=4.0,SNR=5.1						
MKAR	**Makanchi Array**	**46.76**	**346**	*i*P	**P**	**11 21 52.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**46.76**	**346**	P	**P**	**11 21 52.7**	**+0.4**
	comp=Z,6.4nm,0.7s,mb4.7,baz=161,slow=7.6,SNR=45						
ZAK	**Zakamensk**	**48.85**	**5**	*e*P	**P**	**11 22 08.4**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
KURK	**Kurchatov**	**51.31**	**345**	*e*P	**P**	**11 22 27.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**51.31**	**345**	*e*P	**P**	**11 22 27.1**	**-0.3**
	comp=Z,4.6nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**53.08**	**351**	P	**P**	**11 22 40.3**	**-0.3**
	comp=Z,6.2nm,0.7s,mb4.7,baz=306,slow=6.1,SNR=25						
ZAL				pP	pP	11 22 48.8	-0.1
	comp=Z,5.5nm,0.6s,baz=307,slow=5.8,SNR=10						
STKA	**Stephens Creek**	**53.80**	**132**	P	**P**	**11 22 46.5**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=304,slow=17,SNR=2.6						
STKA				pP	pP	11 22 53.4	-1.0
	comp=Z,2.9nm,0.7s,baz=324,slow=7.3,SNR=5.0						
BVAR	**Borovoye Array**	**55.77**	**341**	P	**P**	**11 22 59.4**	**-0.8**
	comp=Z,1.5nm,0.5s,mb4.3,baz=142,slow=10,SNR=9.0						
KLR	**Kul'dur**	**55.94**	**27**	*e*P	**P**	**11 22 59.0**	**-2.6**
CHKZ	**Chkalovo**	**56.24**	**341**	*e*P	**P**	**11 23 02.8**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
CHKZ	**Chkalovo**	**56.24**	**341**	*e*P	**P**	**11 23 02.8**	**-0.9**
	comp=Z,2.6nm,0.5s,mb4.5						
BOD	**Bodaibo**	**57.61**	**11**	*e*P	**P**	**11 23 19.9**	**+6.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
YSS	**Yuzh-Sakhalins**	**60.09**	**34**	*e*P	**P**	**11 23 30.9**	**+0.2**
YSS				*e*	pP	11 23 38.7	-0.4
YAK	**Yakutsk**	**65.05**	**16**	*e*P	**P**	**11 24 00.9**	**-2.5**
YAK				*e*	pP	11 24 10.3	-1.5
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
CASY	**Casey**	**68.47**	**174**	*e*P	**P**	**11 24 24.9**	**-0.1**
	comp=Z,7.1nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**79.52**	**332**	P	**P**	**11 25 29.1**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.0,baz=63,slow=4.3,SNR=4.7						
FINES				pP	pP	11 25 37.5	-0.2
	comp=Z,1.3nm,0.7s,SNR=3.3						
GERES	**GERESS Array B**	**84.35**	**319**	P	**P**	**11 25 55.8**	**+1.2**
	comp=Z,0.7nm,0.7s,mb3.9,baz=104,slow=5.5,SNR=6.0						
GERES				pP	pP	11 26 03.8	+0.6
	comp=Z,0.3nm,0.3s,baz=90,slow=5.3,SNR=3.7						
NOA	**NORSAR Array B**	**86.52**	**331**	P	**P**	**11 26 05.5**	**+0.5**
	comp=Z,0.8nm,0.8s,mb4.0,baz=95,slow=5.3,SNR=2.9						
NOA				pP	pP	11 26 14.1	+0.4
	comp=Z,1.1nm,0.8s,baz=94,slow=4.9,SNR=3.0						
NOA	**NORSAR Array B**	**86.52**	**331**	P	**P**	**11 26 05.5**	**+0.5**
NOA				pP	pP	11 26 14.1	+0.4
TXAR	**Lajitas Array**	**143.39**	**31**	PKP	PKPdf	11 32 57.3	-3.6
	comp=Z,0.3nm,0.7s,baz=288,slow=2.9,SNR=3.4						
TXAR				pPKP		11 33 05.7	
	comp=Z,0.2nm,0.5s,baz=52,slow=2.3,SNR=2.1						

IDC 04 11:20:01.4±5.4, 16.28S×173.17W, mb3.7/2, mb1 3.8/3, mb1mx3.6/17, mbtmp3.6/3, ML1.5/1, Error ellipse: s-maj=214.6km s-min=29.2km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.71**	**30**	Pn	Pn	11 20 45.3	-1.7
	4.7nm,0.3s,baz=207,slow=18,SNR=13						
AFI				Sn	Sn	11 21 14.3	-6.8
	12nm,0.3s,baz=243,slow=23,SNR=4.4						
WRA	**Warramunga Arr**	**49.87**	**257**	P	P	11 28 56.2	-2.6
	0.3nm,0.5s,baz=94,slow=6.2,SNR=6.7						
ASAR	**Alice Springs**	**50.06**	**253**	P	P	11 28 58.1	-2.1
	1.0nm,0.5s,baz=90,slow=8.1,SNR=23						
BRTR	**Keskin Array B**	**146.98**	**320**	PKPbc	PKPbc	11 39 47.4	+1.6
	0.8nm,0.7s,baz=76,slow=2.8,SNR=3.8						

BJI ***04*** *11:27:09.2, 0.96N×97.34E, h36km, mB5.0, mb5.0, Ms4.7, Msz4.5*
MOS ***04*** *11:27:09.8±1.3, 1.11N×97.06E, h33km, mb5.0/19, Error ellipse: s-maj=23.6km s-min=9.7km az=100.1*
IDC ***04*** *11:27:11.1±0.8, 1.18N×97.01E, h25km±5km, mb4.3/15, mb1 4.4/16, mb1mx4.3/21, mbtmp4.4/16, ML4.4/1, MS4.0/2, Ms1 4.1/2, ms1mx3.6/20, Error ellipse: s-maj=32.9km s-min=11.8km az=50.0*
NEIC ***04*** *11:27:11.2±0.4, 1.17N×97.10E, mb4.8/23, Error ellipse: s-maj=10.6km s-min=6.0km az=52.0*
ISC 04 11:27:08.8±1.8, 1.17N±0.06×97.11E±0.06, h22km±12km, h25km±1.2km:pP-P, n99, σ1§01/100, mb4.8/52, MS4.4/8, 5C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.17**	**49**	P	**Pn**	**11 28 27.3**	**+0.3**
KULM	**Kulim**	**5.41**	**41**	*e*Pn	**Pn**	**11 28 29.9**	**-0.4**
KGM	**Kluang**	**6.27**	**82**	P	**Pn**	**11 28 43.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**17.27**	**6**	Pn	**P**	**11 31 09.6**	**-0.9**
	0.4nm,0.3s,baz=192,slow=13,SNR=20						
CMAR				PcP	PcP	11 35 54.1	+0.3
	baz=189,slow=3.0,SNR=4.2						
CMAR				LR	LR	11 37 57.0	
	comp=Z,459nm,20.7s,baz=200,slow=37						
KKM	**Kota Kinabalu**	**19.67**	**75**	P	**P**	**11 31 39.6**	**0.0**
KMI	**Kunming**	**24.42**	**12**	⇑P	**P**	**11 32 28.5**	**+1.2**
KMI				AP		11 32 37.4	
KMI				XP		11 32 41.3	
KMI				PP	PP	11 33 02.5	-0.5
KMI				PPP	PPP	11 33 15.8	+2.4
KMI				S	**S**	**11 36 43.3**	**+0.3**
KMI				XS		11 36 56.0	
KMI				SS	SS	11 37 38.2	+0.4
KMI				AMB	AMB		
	comp=Z,56nm,1.5s,mb4.8						
KMI				AMB	AMB		
	comp=Z,208nm,3.7s						
KMI				LR	LR		
	comp=N,2μm,15.3s,MS4.7						
KMI				LR	LR		
	comp=E,992nm,14.4s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,13.2s,MS4.7						
KMI	**Kunming**	**24.42**	**12**	⇑P	**P**	**11 32 28.5**	**+1.2**
	comp=Z,56nm,1.5s,mb4.8						
KMI				pP		11 32 37.4	
KMI				sP		11 32 41.3	
KMI				PP	PP	11 33 02.5	-0.5
KMI				PPP	PPP	11 33 15.8	+2.4
KMI				S	**S**	**11 36 43.3**	**+0.3**
KMI				sS		11 36 56.0	
KMI				SS	SS	11 37 38.2	+0.4
KMI				LR	LR		
	comp=Z,2μm,13.2s,MS4.7						
SHL	**Shillong**	**24.77**	**349**	*e*P	**P**	**11 32 31.0**	**+0.4**
GYA	**Guiyang**	**26.77**	**19**	⇑*i*P	**P**	**11 32 48.9**	**-0.4**
GYA				AP	pP	11 32 55.9	+0.3
GYA				XP	sP	11 32 59.1	+0.7
GYA				S	**S**	**11 37 26.0**	**+3.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
GYA				AMB	AMB		
	comp=Z,140nm,4.0s						
GYA				LR	LR		
	comp=N,2μm,13.8s,MS5.0						
GYA				LR	LR		
	comp=E,840nm,12.2s,MS5.0						
GYA				LR	LR		
	comp=Z,2μm,12.6s,MS4.8						
JIRN	**Jiri**	**28.34**	**339**	*e*P	**P**	**11 33 04.6**	**+1.1**
	comp=Z,25nm,0.9s,mb4.8						
PKI	**Pulchoki**	**28.54**	**338**	*e*P	**P**	**11 33 06.1**	**+0.8**
	comp=Z,36nm,1.0s,mb5.1						
PKI	**Pulchoki**	**28.54**	**338**	*e*P	**P**	**11 33 06.1**	**+0.8**
PKI				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
GUN	**Gumba**	**28.68**	**339**	*e*P	**P**	**11 33 07.5**	**+0.9**
	comp=Z,69nm,0.7s,mb5.5						
DMN	**Daman**	**28.69**	**337**	*e*P	**P**	**11 33 07.7**	**+1.0**
	comp=Z,42nm,1.0s,mb5.1						
KKN	**Kakani**	**28.79**	**338**	*e*P	**P**	**11 33 08.1**	**+0.5**
	comp=Z,63nm,1.0s,mb5.3						
KKN	**Kakani**	**28.79**	**338**	*e*P	**P**	**11 33 08.1**	**+0.5**
KKN				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.0						
LSA	**Lhasa**	**28.93**	**349**	P	**P**	**11 33 11.1**	**+2.3**
LSA	**Lhasa**	**28.93**	**349**	*e*P	**P**	**11 33 11.3**	**+2.5**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
LSA	**Lhasa**	**28.93**	**349**	*e*P	**P**	**11 33 11.3**	**+2.5**
	comp=Z,14nm,0.8s,mb4.7						
GKN	**Gorkha**	**29.23**	**337**	*e*P	**P**	**11 33 12.1**	**+0.6**
	comp=Z,55nm,0.9s,mb5.3						
KOLN	**Koldanda**	**29.44**	**335**	*e*P	**P**	**11 33 14.2**	**+0.7**
	comp=Z,43nm,0.9s,mb5.2						
ENH	**Enshi**	**31.24**	**21**	*e*P	**P**	**11 33 27.4**	**-2.0**
	comp=Z,27nm,0.6s,mb5.3						
ENH				*e*pP	pP	11 33 34.6	-1.1
FITZ	**Fitzroy Crossi**	**33.99**	**126**	P	**P**	**11 33 52.7**	**-0.6**
	comp=Z,7.7nm,0.8s,mb4.7,baz=274,slow=6.5,SNR=6.8						
XAN	**Xi'an**	**34.52**	**17**	P	**P**	**11 33 56.2**	**-1.6**
XAN				AMB	AMB		
	comp=Z,26nm,0.9s,mb5.2						
LZH	**Lanzhou**	**35.30**	**9**	*e*P	**P**	**11 34 04.0**	**-0.5**
LZH				AP	pP	11 34 11.5	+0.7
LZH				XP	sP	11 34 17.0	+3.4
LZH				AMB	AMB		
	comp=Z,28nm,1.6s,mb4.9						
LZH	**Lanzhou**	**35.30**	**9**	*e*P	**P**	**11 34 04.0**	**-0.5**
	comp=Z,28nm,1.6s,mb4.9						
LZH				pP	pP	11 34 11.5	+0.7
LZH				sP	sP	11 34 17.0	+3.4
NJ2	**Nanjing**	**36.94**	**32**	*e*P	**P**	**11 34 19.6**	**+1.3**
NJ2				AP	pP	11 34 29.1	+4.4
NJ2				XP	sP	11 34 34.9	+7.5
NJ2				PP	PP	11 35 43.5	-1.1
NJ2				S	**S**	**11 40 03.0**	**+1.4**
NJ2				XS		11 40 21.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,290nm,9.8s						
NJ2				LR	LR		
	comp=N,1μm,13.9s,MS4.9						
NJ2				LR	LR		
	comp=E,400nm,12.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,470nm,15.4s,MS4.4						
THN	**Thein Dam**	**37.05**	**329**	*e*P	**P**	**11 34 18.9**	**-0.4**
SSE	**Sheshan**	**37.49**	**35**	P	**P**	**11 34 22.1**	**-0.9**
SSE				AP	pP	11 34 30.7	+1.3
SSE				XP	sP	11 34 34.3	+2.2
SSE				S	**S**	**11 40 11.0**	**+0.9**
SSE				XS		11 40 26.3	
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,109nm,5.7s						
SSE				LR	LR		
	comp=N,216nm,18.7s,MS4.0						
SSE				LR	LR		
	comp=E,68nm,18.7s,MS4.0						
SSE				LR	LR		
	comp=Z,221nm,16.7s,MS4.0						
SSE	**Sheshan**	**37.49**	**35**	P	**P**	**11 34 22.1**	**-0.9**
	comp=Z,26nm,0.7s,mb5.2						
SSE				pP	pP	11 34 30.7	+1.3
SSE				sP	sP	11 34 34.3	+2.2
SSE				S	**S**	**11 40 11.0**	**+0.9**
SSE				sS		11 40 26.3	
SSE				SS	SS	11 42 56.6	+13
SSE				LR	LR		
	comp=Z,220nm,16.7s,MS4.0						
GTA	**Gaotai**	**38.14**	**3**	P	**P**	**11 34 28.4**	**+0.1**
GTA				AP	pP	11 34 37.0	+2.2
GTA				XP	sP	11 34 40.8	+3.3
GTA				PP	PP	11 36 00.8	+1.9
GTA				S	**S**	**11 40 12.7**	**-7.1**
GTA				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.9						
GTA		

BJT	**Baijiatuau**	**42.38**	**22**	*e*P	**P**	**11 35 03.9**	**+0.5**
BJT				pmax	pmax		
	comp=Z,16nm,0.7s						
BJT	**Baijiatuau**	**42.38**	**22**	*e*P	**P**	**11 35 03.9**	**+0.5**
	comp=Z,16nm,0.7s,mb4.8						
BJI	**Beiging**	**42.40**	**22**	P	**P**	**11 35 04.4**	**+0.8**
BJI				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=N,209nm,13.5s,MS4.4						
BJI				LR	LR		
	comp=E,279nm,13.5s,MS4.4						
BJI				LR	LR		
	comp=Z,149nm,22.4s						
BJI	**Beiging**	**42.40**	**22**	P	**P**	**11 35 04.4**	**+0.8**
	comp=Z,21nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=Z,150nm,22.4s,MS3.8						
WMQ	**Urumqi**	**43.28**	**350**	⇓P	**P**	**11 35 11.8**	**+1.1**
WMQ				AP	pP	11 35 19.3	+2.1
WMQ				XP	sP	11 35 22.8	+2.9
WMQ				PP	PP	11 36 54.8	+1.3
WMQ				S	**S**	**11 41 37.2**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**43.45**	**127**	P	**P**	**11 35 13.2**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.1,baz=302,slow=7.6,SNR=24						
ASAR				PcP	PcP	11 36 59.2	-1.7
	comp=Z,1.0nm,0.9s,baz=334,slow=3.0,SNR=5.5						
UCH	**Uchtor**	**45.64**	**336**	P	**P**	**11 35 31.3**	**+1.6**
	SNR=12						
TKM2	**Tokmak 2**	**45.81**	**338**	P	**P**	**11 35 32.0**	**+1.0**
	SNR=5.2						
KBK	**Karagaybulak**	**45.83**	**337**	P	**P**	**11 35 33.3**	**+2.1**
	SNR=8.4						
AML	**Almayashu**	**45.89**	**336**	P	**P**	**11 35 32.9**	**+1.3**
	SNR=6.9						
AAK	**Ala-Archa**	**45.99**	**337**	*i* P	**P**	**11 35 32.5**	**+0.1**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**45.99**	**337**	*e*P	**P**	**11 35 32.9**	**+0.5**
	comp=Z,8.8nm,1.1s,mb4.6						
EKS2	**Erkin-Say**	**46.30**	**336**	P	**P**	**11 35 36.3**	**+1.4**
	SNR=8.1						
USP	**Ospenovka**	**46.52**	**337**	P	**P**	**11 35 37.4**	**+0.7**
	SNR=14						
SONM	**Songino Array**	**47.17**	**9**	P	**P**	**11 35 41.9**	**+0.2**
	comp=Z,10nm,0.8s,mb4.8,baz=189,slow=8.4,SNR=79						
SONM				PcP	PcP	11 37 13.5	0.0
	comp=Z,1.9nm,0.7s,baz=180,slow=2.9,SNR=3.6						
MKAR	**Makanchi Array**	**47.24**	**346**	*i* P	**P**	**11 35 42.2**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MKAR	**Makanchi Array**	**47.24**	**346**	P	**P**	**11 35 42.5**	**+0.2**
	comp=Z,8.3nm,0.7s,mb4.8,baz=158,slow=7.8,SNR=75						
ULN	**Ulaanbaatar**	**47.30**	**9**	*e*P	**P**	**11 35 42.6**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**47.30**	**9**	*e*P	**P**	**11 35 42.6**	**-0.2**
	comp=Z,5.3nm,0.8s,mb4.5						
ZAK	**Zakamensk**	**49.31**	**5**	*e*P	**P**	**11 35 57.5**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CN2	**Changchun**	**49.37**	**27**	*e*P	**P**	**11 35 57.7**	**-1.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
TLY	**Talaya**	**50.63**	**5**	*e*P	**P**	**11 36 08.7**	**+0.3**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
TLY	**Talaya**	**50.63**	**5**	*e*P	**P**	**11 36 08.7**	**+0.3**
	comp=Z,5.3nm,0.7s,mb4.6						
HIA	**Hailar**	**51.70**	**19**	*e*P	**P**	**11 36 15.9**	**-0.6**
HIA				pmax	pmax		
	comp=Z,13nm,0.8s						
HIA	**Hailar**	**51.70**	**19**	*e*P	**P**	**11 36 15.9**	**-0.6**
	comp=Z,12nm,0.8s,mb4.9						
KURK	**Kurchatov**	**51.79**	**345**	*i* P	**P**	**11 36 16.4**	**-0.8**
KURK				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
KURK	**Kurchatov**	**51.79**	**345**	*e*P	**P**	**11 36 16.6**	**-0.7**
	comp=Z,8.6nm,0.9s,mb4.7						
MDJ	**Mudanjiang**	**51.94**	**29**	P	**P**	**11 36 18.4**	**0.0**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,86nm,6.2s						
CTA	**Charters Tower**	**52.57**	**116**	P	**P**	**11 36 23.7**	**+0.2**
	comp=Z,2.2nm,0.5s,mb4.3,baz=281,slow=10,SNR=2.0						
STKA	**Stephens Creek**	**53.41**	**132**	*e*P	**P**	**11 36 30.7**	**+1.2**
	comp=Z,3.5nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**53.41**	**132**	P	**P**	**11 36 30.6**	**+1.1**
	comp=Z,4.2nm,0.9s,mb4.4,baz=315,slow=7.2,SNR=5.3						
STKA				pP	pP	11 36 37.9	+1.8
	comp=Z,3.8nm,0.9s,baz=303,slow=12,SNR=3.6						
ZAL	**Zalesovo**	**53.56**	**351**	P	**P**	**11 36 29.3**	**-1.1**
	comp=Z,9.1nm,0.7s,mb4.8,baz=308,slow=6.0,SNR=48						
ZAL				LR	LR	12 05 40.2	
	comp=Z,178nm,18.3s,MS4.2,baz=118,slow=43						
ZAL	**Zalesovo**	**53.56**	**351**	P	**P**	**11 36 29.3**	**-1.1**
ZAL				LR	LR	12 05 40.2	
NVS	**Novosibirsk**	**54.69**	**350**	*e*P	**P**	**11 36 36.4**	**-2.2**
BVA0	**Borovoye Array**	**56.24**	**341**	P	**P**	**11 36 48.5**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**56.24**	**341**	P	**P**	**11 36 48.7**	**-1.2**
	comp=Z,8.5nm,0.7s,mb4.9,baz=143,slow=7.4,SNR=40						
KLR	**Kul'dur**	**56.32**	**27**	*e*P	**P**	**11 36 48.3**	**-2.2**
CHKZ	**Chkalovo**	**56.72**	**341**	*e*P	**P**	**11 36 52.1**	**-1.2**
CHKZ				*e**PP	pP	11 36 58.3	-1.6
CHKZ				pmax	pmax		
	comp=Z,68nm,1.0s,mb5.6						
CHKZ	**Chkalovo**	**56.72**	**341**	*e*P	**P**	**11 36 52.1**	**-1.2**
	comp=Z,68nm,1.0s,mb5.6						
CHKZ				*e*pP	pP	11 36 58.3	-1.6
BOD	**Bodaibo**	**58.05**	**11**	*e*P	**P**	**11 37 01.5**	**-1.1**
YSS	**Yuzh-Sakhalins**	**60.42**	**34**⇑	*e*P	**P**	**11 37 18.7**	**-0.5**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
SVE	**Sverdlovsk**	**62.68**	**338**	*e*P	**P**	**11 37 33.6**	**-0.6**
SVE				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.3						
YAK	**Yakutsk**	**65.47**	**16**	*e*P	**P**	**11 37 49.8**	**-2.5**
YAK				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
SOC	**Sochi**	**66.08**	**318**	*e*P	**P**	**11 37 53.2**	**-3.3**
SOC				*e*		11 38 21.2	
SOC				*e*		11 40 21.1	
SOC				*e*S	S	11 46 36.5	-5.5
SOC				*e*		11 47 48.3	
SOC				*e*SS	SS	11 50 52.9	-6.1
SOC				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.2						
SOC				pmax	pmax		
	comp=N,14nm,0.7s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.7s						
BRTR	**Keskin Array B**	**69.06**	**312**	P	**P**	**11 38 14.7**	**-0.7**
	comp=E,1.2nm,0.7s,mb4.0,baz=136,slow=6.3,SNR=5.8						
BRTR				pP	pP	11 38 22.4	+0.4
	comp=E,1.4nm,0.9s,baz=128,slow=7.9,SNR=4.4						
MA2	**Magadan**	**71.40**	**26**	*e*P	**P**	**11 38 28.7**	**-0.5**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
MA2	**Magadan**	**71.40**	**26**	*e*P	**P**	**11 38 28.7**	**-0.5**
	comp=Z,4.4nm,0.6s,mb4.6						
OBN	**Obninsk**	**72.59**	**328**	*e*P	**P**	**11 38 35.1**	**-1.3**
OBN				*e*		11 38 44.6	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
TIXI	**Tiksi**	**73.23**	**10**	*i* P	**P**	**11 38 39.1**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
AKASG	**Malin Array Be**	**75.22**	**322**	P	**P**	**11 38 50.7**	**-1.0**
	comp=Z,0.5nm,0.3s,mb3.9,baz=87,slow=5.0,SNR=6.7						
AKASG	**Malin Array Be**	**75.22**	**322**	P	**P**	**11 38 50.7**	**-1.0**
KWP	**Kalwaria**	**79.03**	**320**	*e*P	**P**	**11 39 12.3**	**-0.6**
SYO	**Syowa Base**	**79.95**	**198**	⇑PcP	PcP	11 39 24.0	-1.4
FINES	**FINESS Array B**	**79.98**	**333**	P	**P**	**11 39 17.6**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=79,slow=9.7,SNR=4.8						
GERES	**GERESS Array B**	**84.77**	**319**	P	**P**	**11 39 44.0**	**+1.2**
	comp=Z,0.8nm,0.6s,mb4.0,baz=108,slow=4.2,SNR=7.7						
GERES				pP	pP	11 39 51.0	+1.2
	comp=Z,0.5nm,0.3s,baz=101,slow=6.8,SNR=4.0						
NB2	**NORSAR Subarra**	**86.98**	**331**	P	**P**	**11 39 53.3**	**-0.2**
	comp=Z,3.2nm,0.9s,mb4.5,baz=91,slow=4.8						
NOA	**NORSAR Array B**	**86.98**	**331**	P	**P**	**11 39 53.4**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.3,baz=89,slow=5.7,SNR=4.0						
YKA	**Yellowknife Ar**	**112.14**	**15**	PP	PP	11 46 23.2	-8.2
	comp=Z,0.6nm,1.0s,baz=328,slow=7.0,SNR=5.5						
ULM	**Lac du Bonnet**	**127.58**	**10**	PKP	PKPdf	11 46 13.6	-3.4
	comp=Z,0.5nm,0.3s,baz=315,slow=1.4,SNR=2.7						
NVAR	**Mina Array Bea**	**128.86**	**36**	PKP	PKPdf	11 46 17.0	-2.8
	comp=Z,0.3nm,0.3s,baz=284,slow=7.4,SNR=3.7						
TXAR	**Lajitas Array**	**143.74**	**32**	PKP	PKPdf	11 46 43.0	-4.3
	comp=Z,0.7nm,0.9s,baz=45,slow=1.8,SNR=6.5						
JCT	**Junction City**	**144.64**	**26**	*e*PKPdf	PKPdf	11 46 45.2	-3.7
LRAL	**Lakeview Retre**	**145.76**	**6**	*e*PKPbc	PKPbc	11 46 47.8	+0.5

*IDC **04** 11:29:40.6±2.7, 13.63N×90.09W, mb3.5/4, mb1 3.9/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=62.8km s-min=50.4km az=20.0*
*CASC **04** 11:29:51.1±1.2, 13.79N×90.74W, h61km±12km, MD4.1, ML3.3*

ISC 04 11:29:50.1±0.7,**13.78N**±0.08×**90.76W**±0.05,**h77**km±6km, **n30**,σ0**75/42**,**mb3.6**/3,**5C-7D**,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.49**	**37**	*e*P	**P**	**11 30 02.7**	**-0.8**
IXG				*e*S	**S**	**11 30 12.6**	**-1.0**
PCG	**Pacaya**	**0.62**	**14**⇑	*e*P	**P**	**11 30 05.1**	**+0.1**
PCG				⇑*e*		11 30 05.1	
PCG				*e*S	**S**	**11 30 16.6**	**+0.8**
FUG	**Fuego 3**	**0.67**	**353**	*e*P	**P**	**11 30 05.3**	**0.0**
JAT	**Jato**	**1.00**	**302**⇑	*e*P	**P**	**11 30 09.4**	**+0.2**
JAT				*e*S	**S**	**11 30 24.1**	**+0.5**
RTR	**El Retiro**	**1.09**	**84**⇓	*e*P	**P**	**11 30 10.4**	**+0.1**
RTR				*e*S	**S**	**11 30 25.0**	**-0.5**
RBDL	**Robledal**	**1.09**	**72**⇓	*e*P	**P**	**11 30 10.7**	**+0.3**
RBDL				*e*S	**S**	**11 30 25.7**	**+0.2**
SBLS	**San Blas**	**1.11**	**87**⇓	*i*P	**P**	**11 30 10.4**	**-0.2**
SBLS				*e*S	**S**	**11 30 25.4**	**-0.4**
SNJE	**San Jose**	**1.12**	**86**⇓	*i*P	**P**	**11 30 10.7**	**-0.1**
SNJE				*e*S	**S**	**11 30 25.9**	**-0.4**
BOQS	**Boqueron**	**1.44**	**92**⇓	*e*P	**P**	**11 30 14.9**	**-0.1**
BOQS				*e*S	**S**	**11 30 33.7**	**+0.3**
MTO2	**Montecristo 2**	**1.49**	**66**⇓	*i*P	**P**	**11 30 15.8**	**+0.1**
MTO2				*e*S	**S**	**11 30 35.0**	**+0.5**
SNET	**Serv Nac Est T**	**1.49**	**94**	*e*P	**P**	**11 30 15.3**	**-0.4**
SNET				*e*S	**S**	**11 30 34.4**	**-0.2**
LFU	**La Fuente**	**1.60**	**91**	*e*P	**P**	**11 30 16.8**	**-0.3**
LFRS	**El Faro**	**1.66**	**95**	*e*P	**P**	**11 30 17.5**	**-0.4**
LBRS	**Las Brisas**	**1.67**	**91**	*e*P	**P**	**11 30 17.9**	**-0.2**
LCBS	**La Ceiba**	**1.74**	**94**⇑	*e*P	**P**	**11 30 18.8**	**-0.2**
LCBS				*e*S	**S**	**11 30 40.5**	**+0.3**
SNVI	**San Vicente**	**1.88**	**95**	*e*P	**P**	**11 30 21.0**	**+0.1**
SNVI				*e*P		11 30 21.0	
SNVI				*e*S	**S**	**11 30 44.6**	**+1.2**
SNVI				*e*S	**S**	**11 30 45.6**	**+2.2**
BLLM	**Bellamira**	**2.48**	**98**	*e*P	**P**	**11 30 28.8**	**-0.5**
BLLM				*e*S	**S**	**11 31 00.0**	**+1.6**
CNCH	**Conchagua**	**2.89**	**100**⇑	*e*P	**P**	**11 30 34.4**	**-0.7**
CRIN	**San Cristobal**	**3.77**	**106**	*e*P	**P**	**11 30 48.2**	**+0.9**
TEL3	**Telica 3**	**4.00**	**107**	*e*P	**P**	**11 30 50.7**	**+0.2**
LEON	**Leon**	**4.01**	**109**	*e*P	**P**	**11 30 50.4**	**-0.2**
CNGN	**Cerro Negro**	**4.16**	**107**	*e*P	**P**	**11 30 51.9**	**-0.8**
CNGN				*i*		11 31 56.4	
	comp=Z,82nm,0.4s						
MOMJ	**Momotombo**	**4.33**	**108**	*e*P	**P**	**11 30 55.4**	**+0.3**
APYN	**Apoyeque**	**4.57**	**109**	*e*P	**P**	**11 30 58.3**	**-0.1**
TXAR	**Lajitas Array**	**19.55**	**324**	P	**P**	**11 34 15.4**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=152,slow=11,SNR=7.7						
NVAR	**Mina Array Bea**	**34.60**	**320**	P	**P**	**11 36 37.0**	**+3.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=139,slow=8.0,SNR=9.7						
SCHQ	**Schefferville**	**45.02**	**19**	P	**P**	**11 37 57.6**	**-2.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=233,slow=9.0,SNR=6.2						
YKA	**Yellowknife Ar**	**51.52**	**346**	P	**P**	**11 38 48.5**	**-1.4**
	comp=Z,0.1nm,0.4s,mb3.2,baz=146,slow=6.9,SNR=3.9						
WRA	**Warramunga Arr**	**136.51**	**256**	PKP	PKPdf	11 49 05.2	+1.0
	comp=Z,0.3nm,0.8s,baz=89,slow=2.4,SNR=3.3						
CMAR	**Chiang Mai Arr**	**146.57**	**343**	PKPbc	PKPbc	11 49 25.6	+2.1
	comp=Z,1.3nm,0.6s,baz=349,slow=2.9,SNR=6.8						

IDC 04 11:45:36.6±3.8,**0.10N**×**97.14E**,**mb3.5**/3,**mb1 3.7**/3, **mb1mx3.5**/15,**mbtmp3.5**/3,**Error ellipse: s-maj=152.8km s-min=29.8km az=57.0**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.52**	**121**	P	P	11 53 25.9	-1.7
	0.5nm,0.8s,baz=301,slow=9.2,SNR=3.6						
SONM	**Songino Array**	**48.22**	**8**	P	P	11 54 19.6	-1.5
	0.4nm,0.7s,baz=190,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**48.29**	**346**	P	P	11 54 19.3	-2.3
	0.8nm,0.7s,baz=164,slow=7.9,SNR=8.6						
TXAR	**Lajitas Array**	**144.63**	**32**	PKP	PKPdf	12 05 15.3	-2.5
	0.4nm,0.8s,baz=243,slow=2.0,SNR=3.6						

*NEIC **04** 11:59:52.2, 11.06N×62.08W, h122km, MD3.1(TRN), After TRN.*
*FUNV **04** 11:59:52.2, 11.14N×62.05W, h111km, MW2.9*
*TRN **04** 11:59:52.2, 11.06N×62.08W, h123km, MD3.1*

ISC 04 11:59:51.2±0.8,**11.03N**±0.05×**62.18W**±0.04,**h121**km±6km, **n31**,σ0**97/56**,**7C**,**Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.39**	**186**	*e*P	**P**	**12 00 09.0**	**+0.2**
GUIV				*e*S	**S**	**12 00 21.2**	**-0.9**
GUIV	**Guiria**	**0.39**	**186**⇑	*i*P	**P**	**12 00 09.9**	**+1.1**
GUIV				*e*S	**S**	**12 00 20.7**	**-1.4**
TRN	**Trinidad (W)**	**0.85**	**117**⇑	*i*P	**P**	**12 00 13.0**	**+0.8**
TRN				*e*S	**S**	**12 00 26.9**	**-1.1**
ITEV	**Isla Los Testi**	**0.99**	**289**	*e*P	**P**	**12 00 13.6**	**0.0**
ITEV				*e*S	**S**	**12 00 29.6**	**-0.5**
ITEV	**Isla Los Testi**	**0.99**	**289**	*e*P	**P**	**12 00 13.5**	**-0.1**
ITEV				*e*S	**S**	**12 00 29.6**	**-0.5**
TPP	**Pointe-a-Pierr**	**1.01**	**135**	*e*P	**P**	**12 00 13.7**	**-0.1**
TPP				*e*S	**S**	**12 00 30.6**	**+0.1**
CRUV	**Carupano**	**1.10**	**251**	*e*P	**P**	**12 00 15.6**	**+0.9**
CRUV				*e*S	**S**	**12 00 32.5**	**+0.3**
CRUV	**Carupano**	**1.10**	**251**⇑	*i*P	**P**	**12 00 15.7**	**+1.1**
CRUV				*e*S	**S**	**12 00 32.5**	**+0.3**
GUNV	**Guanoco**	**1.15**	**221**	*e*P	**P**	**12 00 16.9**	**+1.7**
GUNV				*e*S	**S**	**12 00 34.2**	**+1.1**
GUNV	**Guanoco**	**1.15**	**221**	*e*P	**P**	**12 00 16.9**	**+1.7**
GUNV				*e*S	**S**	**12 00 34.2**	**+1.1**
TBH	**Brigand Hill**	**1.22**	**116**	*e*P	**P**	**12 00 16.8**	**+0.8**
GRW	**Mount Saint Ca**	**1.23**	**24**	*e*P	**P**	**12 00 15.9**	**-0.2**
GRW				*e*S	**S**	**12 00 34.3**	**-0.4**
BOT	**Bacolet**	**1.44**	**85**	*e*P	**P**	**12 00 17.8**	**-0.7**
ORIV	**Oritupano**	**2.30**	**212**	*e*P	**P**	**12 00 31.3**	**+2.2**
ORIV	**Oritupano**	**2.30**	**212**	*e*P	**P**	**12 00 31.3**	**+2.2**
PCRV	**Puerto La Cruz**	**2.56**	**251**	*e*P	**P**	**12 00 33.9**	**+1.3**
PCRV				*e*S	**S**	**12 01 04.1**	**+0.2**
PCRV	**Puerto La Cruz**	**2.56**	**251**	*e*P	**P**	**12 00 33.9**	**+1.3**
PCRV				*e*S	**S**	**12 01 04.1**	**+0.2**
GURV	**El Guri**	**3.37**	**195**	*e*P	**P**	**12 00 44.0**	**+0.5**
GURV				*e*S	**S**	**12 01 21.7**	**-1.5**
GURV	**El Guri**	**3.37**	**195**	*e*P	**P**	**12 00 44.7**	**+1.3**
GURV				*e*S	**S**	**12 01 21.7**	**-1.5**
CUPV	**Cœpira**	**3.68**	**255**⇑	*e*P	**P**	**12 00 48.2**	**+0.7**
CUPV				*e*S	**S**	**12 01 29.5**	**-1.0**
CUPV	**Cœpira**	**3.68**	**255**⇑	*i*P	**P**	**12 00 48.1**	**+0.6**
CUPV				*e*S	**S**	**12 01 30.0**	**-0.6**
BIRV	**Birongo**	**4.06**	**263**	*e*P	**P**	**12 00 53.1**	**+0.4**
BIRV	**Birongo**	**4.06**	**263**	*e*P	**P**	**12 00 53.1**	**+0.4**
MERV	**Las Mercedes**	**4.42**	**247**	*e*P	**P**	**12 00 57.1**	**-0.5**
MERV				*e*S	**S**	**12 01 46.7**	**-1.8**
MERV	**Las Mercedes**	**4.42**	**247**	*e*P	**P**	**12 00 57.1**	**-0.5**
MERV				*e*S	**S**	**12 01 46.7**	**-1.8**
LUEV	**Luepa**	**5.21**	**172**⇑	*i*P	**P**	**12 01 07.3**	**-0.8**
LUEV				*e*S	**S**	**12 02 02.9**	**-4.5**
LUEV	**Luepa**	**5.21**	**172**⇑	*i*P	**P**	**12 01 07.3**	**-0.8**
LUEV				*e*S	**S**	**12 02 02.9**	**-4.5**
CAOV	**Caicara del Or**	**5.50**	**228**	*e*P	**P**	**12 01 11.8**	**-0.2**
CAOV				*e*S	**S**	**12 02 10.7**	**-4.0**
CAOV	**Caicara del Or**	**5.50**	**228**	*e*P	**P**	**12 01 11.7**	**-0.4**
CAOV				*e*S	**S**	**12 02 10.7**	**-4.0**
BAUV	**El Baul**	**6.14**	**251**	*e*P	**P**	**12 01 19.4**	**-1.3**
BAUV				*e*S	**S**	**12 02 25.4**	**-4.7**
BAUV	**El Baul**	**6.14**	**251**	*e*P	**P**	**12 01 19.4**	**-1.3**
BAUV				*e*S	**S**	**12 02 25.6**	**-4.5**

*IDC **04** 12:03:44.9±2.5, 0.93N×97.45E, mb3.9/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.9/7, ML4.2/1, Error ellipse: s-maj=103.2km s-min=19.9km az=58.0*
*NEIC **04** 12:03:49.3±0.8, 0.95N×97.44E, h30km, mb4.1/3, Error ellipse: s-maj=22.0km s-min=10.6km az=62.0*

ISC 04 12:03:47.1±1.0,**1.0N**±0.1×**97.4E**±0.2,**h30**km,**n11**, σ0**57**/11,**mb3.9**/9,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.40**	**37**	*e*Pn	**Pn**	**12 05 08.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**17.46**	**5**	Pn	**P**	**12 07 49.1**	**-1.1**
	0.3nm,0.3s,baz=192,slow=12,SNR=7.2						
WRA	**Warramunga Arr**	**41.75**	**122**	P	**P**	**12 11 35.2**	**-0.5**
	0.3nm,0.5s,mb3.2,baz=303,slow=9.2,SNR=7.5						
WRAB	**Tennant Creek**	**41.76**	**122**	*e*P	**P**	**12 11 35.7**	**0.0**
	3.1nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**43.10**	**127**	P	**P**	**12 11 46.9**	**+0.2**
	0.5nm,0.7s,mb3.4,baz=299,slow=7.9,SNR=8.1						
SONM	**Songino Array**	**47.34**	**8**	P	**P**	**12 12 21.1**	**+0.9**
	0.5nm,0.4s,mb3.8,baz=191,slow=9.0,SNR=6.3						
MKAR	**Makanchi Array**	**47.52**	**346**	P	**P**	**12 12 22.6**	**+1.0**
	2.2nm,0.5s,mb4.5,baz=162,slow=8.9,SNR=36						
KURK	**Kurchatov**	**52.07**	**345**	*e*P	**P**	**12 12 56.5**	**+0.1**
	1.5nm,0.8s,mb4.0						
ZAL	**Zalesovo**	**53.82**	**351**	P	**P**	**12 13 09.2**	**-0.1**
	2.0nm,0.3s,mb4.5,baz=338,slow=4.1,SNR=7.4						
BVAR	**Borovoye Array**	**56.54**	**341**	P	**P**	**12 13 28.7**	**-0.4**
	0.8nm,0.7s,mb3.9,baz=158,slow=8.0,SNR=5.1						
CHKZ	**Chkalovo**	**57.01**	**341**	*e*P	**P**	**12 13 32.3**	**-0.3**
	1.7nm,0.9s,mb4.1						

*NAO **04** 12:07:36.1±1.5, 71.45N×9.35E, ML2.3*
*BER **04** 12:07:36.9±3.1, 71.37N×9.08E, h10km, MD3.2, ML2.3, ML2.3(NAO)*
*HEL **04** 12:07:38.6±0.6, 71.28N×9.56E, h10km, ML3.5, ML2.3(BER), ML2.7(UPP)*
*CSEM **04** 12:07:38.6±0.6, 71.28N×9.56E, h10km, ML3.5, After HEL*

ISC 04 12:07:33.6±0.8,**71.29N**±0.05×**9.3E**±0.2,**h10**km,**n63**, σ1**29**/90,**Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**3.50**	**153**	*e*P	**Pn**	**12 08 32.4**	**+3.1**
LOF				*e*S	**Sn**	**12 09 11.6**	**+0.5**
LOF	**Lofoten**	**3.50**	**153**	P	**Pn**	**12 08 32.3**	**+3.1**
LOF				S	**Sn**	**12 09 11.6**	**+0.4**
TRO	**Tromso**	**3.64**	**113**	*e*P	**Pn**	**12 08 31.7**	**+0.5**
TRO				*e*S	**Sn**	**12 09 12.6**	**-2.1**
TRO				AML	AML	12 09 18.0	
	comp=Z,13nm,0.3s						
TRO	**Tromso**	**3.64**	**113**	P	**Pn**	**12 08 31.7**	**+0.5**
TRO				S	**Sn**	**12 09 12.5**	**-2.1**
	comp=Z,13nm,0.3s						
TRO				AML	AML	12 09 18.0	
	comp=Z,13nm,0.3s						
KIF	**Kilpisjarvi**	**4.54**	**115**	*e*P	**Pn**	**12 08 45.8**	**+1.7**
KIF				*e*S	**Sn**	**12 09 35.9**	**-1.6**
KIF	**Kilpisjarvi**	**4.54**	**115**	P	**Pn**	**12 08 45.7**	**+1.7**
KIF				S	**Sn**	**12 09 35.9**	**-1.6**
NIKU	**Nikkaluokta**	**4.84**	**131**	*e*P	**Pn**	**12 08 50.5**	**+2.3**
NIKU	**Nikkaluokta**	**4.84**	**131**	P	**Pn**	**12 08 50.4**	**+2.2**
KUA	**Kurravaara**	**5.10**	**126**	*e*P	**Pn**	**12 08 54.0**	**+2.0**
STOK	**Stokkvaagen**	**5.16**	**163**	*e*P	**Pn**	**12 08 53.2**	**+0.5**
STOK				*e*S	**Sn**	**12 09 49.0**	**-4.1**
STOK	**Stokkvaagen**	**5.16**	**163**	P	**Pn**	**12 08 53.2**	**+0.5**
STOK				S	**Sn**	**12 09 48.9**	**-4.2**
KTK1	**Kautokeino**	**5.27**	**109**	*e*P	**Pn**

SUF MPN 12 10 11.9
comp=Z,1.0nm,0.2s
KEF Keuruu 10.98 139 *eP* **P 12 10 13.6 -0.1**
HFS Hagfors 11.34 169 Pn **P 12 10 17.1 -1.4**
baz=360,slow=14
HFS Hagfors 11.34 169 *eP* **P 12 10 17.1 -1.4**
KAF Kangasniemi 11.35 136 *eP* **P 12 10 18.1 -0.5**
FIA0 FINESS Array S 11.89 138 Pn **P 12 10 25.3 -0.7**
baz=339,slow=12
FIA0 FINESS Array S 11.89 138 *eP* **P 12 10 25.5 -0.5**
PVF Pernaja 12.66 140 *eP* **P 12 10 35.5 -0.8**
PVF MPN 12 10 38.5
comp=Z,1.4nm,0.2s

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*NEIC **04** 12:15:48.2, 57.34N×154.83W, h27km, ML3.2(AEIC), After AEIC.*
*IDC **04** 12:16:06.6±6.0, 58.21N×151.83W, mb3.2/1, mb1 3.3/4, mb1mx3.2/20, mbtmp3.0/4, ML3.0/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/14, Error ellipse: s-maj=108.9km s-min=28.1km az=77.0*
ISC 04 12:15:44.5±0.6, 57.25N±0.04×154.68W±0.07, h27km, n49, σ1°10/53, mb3.2/1, MS3.4/1, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAHL	**Cahill**	**0.87**	**338**	P	**Pb**	**12 16 01.7**	**+0.8**
KJL	**Kejulik**	**0.94**	**329**	P	**Pn**	**12 16 02.5**	**+0.5**
ACHA	**Angle Creek He**	**1.02**	**340**	P	**Pn**	**12 16 03.8**	**+0.6**
ACHA				S	**Sb**	**12 16 15.6**	**-1.0**
ANCK	**Angle Creek**	**1.05**	**336**	P	**Pn**	**12 16 04.0**	**+0.4**
ANCK				S	**Sb**	**12 16 16.4**	**-0.9**
KAWH	**Katmai**	**1.14**	**357**	P	**Pn**	**12 16 05.4**	**+0.5**
KAWH				S	**Sn**	**12 16 19.4**	**-0.3**
KAPH	**Katmai Pasha**	**1.36**	**7**	P	**Pn**	**12 16 09.3**	**+1.2**
KAHC	**Katmai Hardscr**	**1.41**	**353**	P	**Pn**	**12 16 09.3**	**+0.5**
KAHC				S	**Sn**	**12 16 26.2**	**-0.5**
SYI	**Shuyak Island**	**1.83**	**41**	P	**Pn**	**12 16 17.1**	**+2.4**
MCNL	**McNeil River**	**1.95**	**5**	P	**Pn**	**12 16 16.9**	**+0.4**
AGU	**Augustine-Summ**	**2.22**	**17**	P	**Pn**	**12 16 21.8**	**+1.6**
OPT	**Oil Point**	**2.53**	**17**	P	**Pn**	**12 16 26.1**	**+1.4**
CNPM	**China Poot**	**2.91**	**37**	P	**Pn**	**12 16 31.6**	**+1.3**
ILW	**Iliamna West**	**2.93**	**15**	P	**Pn**	**12 16 31.5**	**+1.0**
INE	**Iliamna NE**	**2.94**	**16**	P	**Pn**	**12 16 31.7**	**+1.0**
ILIM	**Iliamna**	**2.98**	**17**	P	**Pn**	**12 16 32.1**	**+1.0**
BRLK	**Bradley Lake**	**3.21**	**37**	P	**Pn**	**12 16 35.0**	**+0.5**
RDN	**Redoubt North**	**3.42**	**16**	P	**Pn**	**12 16 38.8**	**+1.4**
NCT	**North Crescent**	**3.44**	**15**	P	**Pn**	**12 16 38.8**	**+1.0**
DFR	**Drift River**	**3.51**	**16**	P	**Pn**	**12 16 39.8**	**+1.1**
SVW2	**Sparrevohn**	**3.89**	**354**	P	**Pn**	**12 16 43.1**	**-1.0**
SLKM	**Skilak Lake**	**4.00**	**33**	*eP*	**Pn**	**12 16 48.1**	**+2.4**
CKL	**Chakachamna La**	**4.14**	**16**	P	**Pn**	**12 16 48.1**	**+0.5**
BLHA	**Black Hill**	**4.38**	**252**	P	**Pn**	**12 16 50.6**	**-0.4**
PN7A	**Pavlof North-7**	**4.46**	**249**	P	**Pn**	**12 16 52.3**	**+0.1**
HAG	**Hague Volcano**	**4.47**	**247**	P	**Pn**	**12 16 52.2**	**-0.1**
STLK	**Strandline Lak**	**4.50**	**18**	P	**Pn**	**12 16 53.0**	**+0.1**
RC01	**Rabbit Creek A**	**4.61**	**31**	P	**Pn**	**12 16 54.2**	**-0.2**
PWA	**Palmer West**	**5.05**	**27**	P	**Pn**	**12 17 00.4**	**-0.1**
KNK	**Knik Glacier**	**5.25**	**35**	P	**Pn**	**12 17 02.7**	**-0.6**
HIN	**Hinchinbrook I**	**5.29**	**50**	P	**Pn**	**12 17 03.5**	**-0.5**
GHO	**Glory Hole Cre**	**5.40**	**30**	P	**Pn**	**12 17 04.6**	**-0.8**
SML	**Sawmill**	**5.59**	**33**	P	**Pn**	**12 17 07.3**	**-0.9**
EYAK	**Cordova Ski Ar**	**5.69**	**51**	P	**Pn**	**12 17 08.8**	**-0.8**
TT01	**Tatalina**	**5.71**	**354**	P	**Pn**	**12 17 08.4**	**-1.5**
VLZ	**Valdez**	**5.79**	**44**	P	**Pn**	**12 17 10.4**	**-0.5**
SCM	**Sheep Creek Mo**	**5.92**	**36**	P	**Pn**	**12 17 11.8**	**-1.0**
TRF	**Thorofare Moun**	**6.59**	**17**	P	**Pn**	**12 17 20.9**	**-1.3**
PAX	**Paxson**	**7.35**	**35**	P	**Pn**	**12 17 31.6**	**-1.3**
BALM	**Baldy**	**7.39**	**54**	P	**Pn**	**12 17 32.5**	**-0.9**
PCA	**Pinnacle**	**8.04**	**63**	P	**P**	**12 17 41.6**	**-0.9**
PNL	**Peninsula**	**8.37**	**67**	P	**P**	**12 17 45.5**	**-1.6**
ILAR	**Eielson Array**	**8.43**	**23**	Pn	**P**	**12 17 45.5**	**-2.6**
	0.2nm,0.3s,baz=205,slow=14,SNR=10						
ILAR				Sn	**Sn**	**12 19 09.8**	**-13**
	0.0nm,0.3s,baz=180,slow=11,SNR=3.2						
BCA3	**Beaver Creek A**	**8.67**	**42**	P	**P**	**12 17 49.5**	**-1.7**
IM3	**Indian Mountai**	**8.78**	**2**	P	**P**	**12 17 49.7**	**-3.1**
TNA	**Tin City**	**10.45**	**328**	*eP*	**P**	**12 18 12.3**	**-3.3**
INK	**Inuvik**	**14.61**	**32**	Pn	**P**	**12 19 11.4**	**+0.5**
	0.0nm,0.3s,baz=229,slow=9.4,SNR=3.8						
YKA	**Yellowknife Ar**	**20.52**	**58**	P	**P**	**12 20 24.4**	**+1.4**
	0.0nm,0.3s,baz=274,slow=9.8,SNR=4.2						
YBH	**Yreka Blue Hor**	**25.61**	**114**	LR	LR	12 30 07.1	
	comp=Z,106nm,19.5s,MS3.4,baz=344,slow=34						
TXAR	**Lajitas Array**	**44.95**	**106**	P	**P**	**12 24 14.5**	**+16**
	0.3nm,0.8s,mb3.2,baz=338,slow=6.7,SNR=3.8						

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*BJI **04** 12:16:06.3, 2.42N×128.98E, h86km, mB5.1, mb4.3*
*MOS **04** 12:16:06.3±0.9, 3.09N×128.30E, h33km, mb4.8/6, Error ellipse: s-maj=33.3km s-min=13.8km az=104.3*
*IDC **04** 12:16:11.7±6.4, 2.99N×128.39E, h68km±60km, mb3.9/14, mb1 4.1/14, mb1mx4.0/20, mbtmp4.2/14, MS3.6/5, Ms1 3.6/5, ms1mx3.3/22, Error ellipse: s-maj=33.2km s-min=13.3km az=71.0*
*NEIC **04** 12:16:13.8±4.9, 2.99N×128.44E, h87km±47km, mb4.6/8, Error ellipse: s-maj=20.5km s-min=7.8km az=60.0*
ISC 04 12:16:11.2±5.4, 3.04N±0.09×128.4E±0.1, h79km±51km, n38, σ0°92/35, mb4.2/22, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**18.12**	**265**	*eP*	**P**	**12 20 19.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**21.18**	**187**	*eP*	**P**	**12 20 51.4**	**-0.7**
	4.9nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**21.18**	**187**	P	**P**	**12 20 51.5**	**-0.6**
	5.7nm,0.4s,mb4.2,baz=27,slow=9.0,SNR=24						
FITZ				LR	LR	12 29 10.9	
	comp=Z,73nm,19.8s,baz=171,slow=37						
WRAB	**Tennant Creek**	**23.57**	**166**	*eP*	**P**	**12 21 16.1**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,17nm,0.3s,mb4.8						
WRAB	**Tennant Creek**	**23.57**	**166**	*eP*	**P**	**12 21 16.1**	**+0.6**
	comp=Z,17nm,0.3s,mb4.8						
WRA	**Warramunga Arr**	**23.57**	**166**	P	**P**	**12 21 15.6**	**0.0**
	comp=Z,12nm,0.4s,mb4.6,baz=344,slow=10,SNR=69						
WB2	**Warramunga Arr**	**23.58**	**166**	*eP*	**P**	**12 21 16.1**	**+0.5**
JOW	**Kunigami**	**23.66**	**360**	LR	LR	12 30 00.1	
	comp=Z,99nm,20.0s,baz=320,slow=35						
ASAR	**Alice Springs**	**27.08**	**169**	P	**P**	**12 21 47.7**	**-1.0**
	comp=Z,1.6nm,0.4s,mb3.9,baz=349,slow=7.3,SNR=44						
ASAR				PcP	PcP	12 25 08.3	+0.2
	comp=Z,0.9nm,0.5s,baz=353,slow=2.5,SNR=7.0						
ASPA	**Alice Springs**	**27.08**	**169**	*eP*	**P**	**12 21 48.6**	**-0.1**
KULM	**Kulim**	**27.74**	**276**	P	**P**	**12 21 56.2**	**+1.4**
CMAR	**Chiang Mai Arr**	**32.64**	**300**	P	**P**	**12 22 38.8**	**+0.8**
	comp=Z,1.3nm,0.6s,mb3.9,baz=122,slow=7.6,SNR=7.7						
HNR	**Honiara**	**33.81**	**112**	LR	LR	12 35 25.6	
	comp=Z,91nm,20.7s,baz=293,slow=34						
XAN	**Xi'an**	**35.78**	**332**	P	**P**	**12 23 03.2**	**-1.6**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**36.92**	**161**	*eP*	**P**	**12 23 14.8**	**+0.4**
	comp=Z,5.2nm,0.3s,mb4.9						
STKA	**Stephens Creek**	**36.92**	**161**	P	**P**	**12 23 13.8**	**-0.6**
	comp=Z,6.4nm,0.4s,mb4.9,baz=346,slow=8.9,SNR=16						
LZH	**Lanzhou**	**39.94**	**328**	*eP*	**P**	**12 23 42.5**	**+3.1**
LZH				AMB	AMB		
	comp=Z,28nm,1.7s,mb4.8						
LZH	**Lanzhou**	**39.94**	**328**	*eP*	**P**	**12 23 42.5**	**+3.1**
LZH				*PP	pP	12 23 52.0	-6.6
LZH				*SP	sP	12 23 55.0	-13
LZH				pmax	pmax		
	comp=Z,28nm,1.7s,mb4.8						
LZH	**Lanzhou**	**39.94**	**328**	*eP*	**P**	**12 23 42.5**	**+3.1**
	comp=Z,28nm,1.7s,mb4.8						
LZH				pP	pP	12 23 52.0	-6.6
LZH				sP	sP	12 23 55.0	-13
ASAJ	**Asahikawa**	**42.80**	**15**	P	**P**	**12 24 03.2**	**+0.3**
	comp=Z,3.6nm,0.5s,mb4.4,baz=219,slow=15,SNR=9.6						
GTA	**Gaotai**	**44.54**	**328**	P	**P**	**12 24 20.8**	**+3.8**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.1						
YSS	**Yuzh-Sakhalins**	**45.49**	**14**	*eP*	**P**	**12 24 23.5**	**-1.0**
YSS				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
YSS	**Yuzh-Sakhalins**	**45.49**	**14**	*eP*	**P**	**12 24 23.5**	**-0.9**
	comp=Z,6.5nm,0.6s,mb4.5						
SONM	**Songino Array**	**48.49**	**340**	P	**P**	**12 24 47.5**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.5,baz=151,slow=8.9,SNR=6.2						
MA2	**Magadan**	**58.99**	**13**	*eP*	**P**	**12 26 05.3**	**+0.5**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
MA2	**Magadan**	**58.99**	**13**	*eP*	**P**	**12 26 05.3**	**+0.5**
	comp=Z,2.4nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**59.06**	**325**	P	**P**	**12 26 05.2**	**-0.3**
	comp=Z,2.1nm,0.4s,mb4.5,baz=113,slow=8.0,SNR=25						
MKAR				LR	LR	12 53 40.5	
	comp=Z,54nm,20.1s,baz=132,slow=38						
RAO	**Raoul Island**	**60.60**	**126**	LR	LR	12 49 01.4	
	comp=Z,249nm,20.5s,baz=132,slow=32						
ZAL	**Zalesovo**	**61.95**	**332**	P	**P**	**12 26 24.3**	**-0.7**
	comp=Z,0.9nm,0.3s,mb4.3,baz=342,slow=10,SNR=4.7						
KURK	**Kurchatov**	**63.21**	**327**	*eP*	**P**	**12 26 32.2**	**-1.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KURK	**Kurchatov**	**63.21**	**327**	*eP*	**P**	**12 26 32.1**	**-1.3**
	comp=Z,3.3nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**68.79**	**327**	P	**P**	**12 27 08.2**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.0,baz=135,slow=6.3,SNR=9.1						
CHKZ	**Chkalovo**	**68.95**	**327**	P	**P**	**12 27 09.0**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
CHKZ	**Chkalovo**	**68.95**	**327**	P	**P**	**12 27 09.0**	**-0.8**
	comp=Z,0.7nm,0.4s,mb3.8						
VNDA	**Vanda**	**82.54**	**173**	P	**P**	**12 28 26.0**	**-0.4**
	comp=Z,1.6nm,0.8s,mb3.9,baz=327,slow=5.8,SNR=10						
ILAR	**Eielson Array**	**85.02**	**25**	P	**P**	**12 28 40.0**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=246,slow=5.1,SNR=17						
INK	**Inuvik**	**90.20**	**22**	P	**P**	**12 29 04.4**	**+0.7**
	comp=Z,0.3nm,0.5s,mb3.7,baz=307,slow=19,SNR=5.3						
YKA	**Yellowknife Ar**	**99.44**	**25**	P	**P**	**12 29 47.6**	**+1.5**
	comp=Z,0.2nm,0.7s,mb3.8,baz=303,slow=4.8,SNR=4.2						

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*IDC **04** 12:20:17.0±1.2, 1.82N×97.72E, mb4.2/10, mb1 4.3/11, mb1mx4.1/19, mbtmp4.2/11, ML4.1/1, Error ellipse: s-maj=59.2km s-min=16.1km az=54.0*
*NEIC **04** 12:20:21.5±0.5, 1.82N×97.73E, h30km, mb4.4/3, Error ellipse: s-maj=16.8km s-min=7.9km az=58.0*
ISC 04 12:20:19.6±0.7, 1.8N±0.1×97.7E±0.1, h30km, n17, σ0°69/17, mb4.2/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.53**	**40**	*e*Pn	**Pn**	**12 21 29.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**16.58**	**4**	Pn	**P**	**12 24 10.2**	**-1.5**
	0.3nm,0.3s,baz=191,slow=11,SNR=8.1						
FITZ	**Fitzroy Crossi**	**33.89**	**127**	P	**P**	**12 27 01.0**	**-1.2**
	4.6nm,1.0s,mb4.3,baz=345,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**41.94**	**123**	P	**P**	**12 28 10.1**	**+0.4**
	2.7nm,0.5s,mb4.1,baz=302,slow=9.1,SNR=16						
WRAB	**Tennant Creek**	**41.94**	**123**	*eP*	**P**	**12 28 10.1**	**+0.4**
	2.3nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**41.95**	**123**	*eP*	**P**	**12 28 09.4**	**-0.4**
ASAR	**Alice Springs**	**43.37**	**128**	P	**P**	**12 28 21.6**	**+0.3**
	0.4nm,0.4s,mb3.5,baz=301,slow=8.1,SNR=5.5						
SONM	**Songino Array**	**46.45**	**8**	P	**P**	**12 28 45.4**	**-0.3**
	1.0nm,0.4s,mb4.1,baz=189,slow=8.8,SNR=12						
MKAR	**Makanchi Array**	**46.77**	**345**	P	**P**	**12 28 48.9**	**+0.7**
	7.7nm,0.8s,mb4.7,baz=160,slow=8.1,SNR=23						
KURK	**Kurchatov**	**51.33**	**345**	*eP*	**P**	**12 29 23.5**	**+0.2**
	1.4nm,0.3s,mb4.4						
ZAL	**Zalesovo**	**53.02**	**350**	P	**P**	**12 29 35.6**	**-0.4**
	6.1nm,0.5s,mb4.8,baz=325,slow=5.4,SNR=32						
BVAR	**Borovoye Array**	**55.83**	**340**	P	**P**	**12 29 56.2**	**-0.4**
	2.1nm,0.5s,mb4.5,baz=138,slow=9.7,SNR=15						
CHKZ	**Chkalovo**	**56.30**	**341**	*eP*	**P**	**12 29 59.6**	**-0.3**
	3.8nm,0.6s,mb4.6						
AKASG	**Malin Array Be**	**75.08**	**322**	P	**P**	**12 32 00.5**	**0.0**
	0.2nm,0.2s,mb3.6,baz=92,slow=4.3,SNR=5.4						
FINES	**FINESS Array B**	**79.69**	**332**	P	**P**	**12 32 26.2**	**+0.4**
	0.8nm,0.5s,mb3.9,baz=108,slow=6.0,SNR=7.7						
NB2	**NORSAR Subarra**	**86.71**	**331**	P	**P**	**12 33 02.8**	**+1.1**
	0.5nm,0.5s,mb4.0,baz=90,slow=5.0						
NOA	**NORSAR Array B**	**86.71**	**331**	P	**P**	**12 33 02.9**	**+1.2**
	0.8nm,0.7s,mb4.0,baz=92,slow=4.8,SNR=4.1						

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*BJI **04** 12:21:05.9, 0.73N×97.46E, h40km, mB5.1, mb4.8, Ms4.1, Msz4.0*
*IDC **04** 12:21:07.1±1.1, 1.40N×97.54E, mb4.4/10, mb1 4.4/11, mb1mx4.2/20, mbtmp4.4/11, ML4.4/1, MS3.7/2, Ms1 3.8/2, ms1mx3.2/19, Error ellipse: s-maj=44.7km s-min=15.2km az=56.0*
*NEIC **04** 12:21:10.8±0.5, 1.22N×97.34E, h30km, mb4.7/17, Error ellipse: s-maj=12.9km s-min=6.3km az=48.0*
*MOS **04** 12:21:11.7±1.2, 1.59N×97.37E, h33km, mb4.9/11, Error ellipse: s-maj=29.9km s-min=10.5km az=90.3*
ISC 04 12:21:09.5±0.6, 1.28N±0.08×97.39E±0.09, h33km, n57, σ0°94/56, mb4.6/32, MS3.7/3, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.14**	**39**	*e*Pn	**Pn**	**12 22 28.0**	**+1.7**
KSM	**Kuching**	**12.92**	**89**	Pn	**P**	**12 24 13.5**	**0.0**
CMAR	**Chiang Mai Arr**	**17.14**	**5**	Pn	**P**	**12 25 05.6**	**-2.5**
	0.5nm,0.3s,baz=192,slow=13,SNR=9.5						
CMAR				LR	LR	12 32 36.4	
	comp=Z,161nm,19.5s,baz=86,slow=40						
KMI	**Kunming**	**24.26**	**12**	P	**P**	**12 26 26.9**	**+2.1**
KMI				AP		12 26 34.8	
KMI				XP		12 26 37.9	
KMI				PP	PP	12 27 00.9	+0.8
KMI				S	**S**	**12 30 43.2**	**+4.7**
KMI				XS		12 30 58.3	
KMI				SS	SS	12 31 41.2	+8.9
KMI				AMB	AMB		
	comp=Z,34nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,93nm,3.6s						
KMI				LR	LR		
	comp=N,428nm,17.5s						
KMI				LR	LR		
	comp=E,245nm,10.4s						
KMI				LR	LR		
	comp=Z,465nm,15.8s,MS4.1						
KMI	**Kunming**	**24.26**	**12**	P	**P**	**12 26 26.9**	**+2.1**
	comp=Z,34nm,1.3s,mb4.6						
KMI				pP		12 26 34.8	
KMI				sP		12 26 37.9	
KMI				PP	PP	12 27 00.9	+0.8
KMI				S	**S**	**12 30 43.2**	**+4.7**
KMI				sS		12 30 58.3	
KMI				SS	SS	12 31 41.2	+8.9
KMI				LR	LR		
	comp=Z,470nm,15.8s,MS4.1						
SHL	**Shillong**	**24.72**	**348**	*eP*	**P**	**12 26 29.0**	**-0.3**
GYA	**Guiyang**	**26.57**	**19**	P/*P*	**P**	**12 26 47.4**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**28.34**	**339**	*eP*	**P**	**12 27 03.3**	**+0.6**
	comp=Z,26nm,0.8s,mb4.9						
PKI	**Pulchoki**	**28.55**	**337**	*eP*	**P**	**12 27 04.9**	**+0.3**
	comp=Z,16nm,0.8s,mb4.8						
PKI	**Pulchoki**	**28.55**	**337**	*eP*	**P**	**12 27 04.9**	**+0.3**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
GUN	**Gumba**	**28.68**	**338**	*eP*	**P**	**12 27 06.2**	**+0.5**
	comp=Z,30nm,0.7s,mb5.1						
DMN	**Daman**	**28.70**	**337**	*eP*	**P**	**12 27 06.5**	**+0.6**
	comp=Z,13nm,0.8s,mb4.7						
KKN	**Kakani**	**28.80**	**337**	*eP*	**P**	**12 27 06.7**	**-0.1**
	comp=Z,19nm,0.8s,mb4.8						
KKN	**Kakani**	**28.80**	**337**	*eP*	**P**	**12 27 06.7**	**-0.1**
KKN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
GKN	**Gorkha**	**29.24**	**336**	*eP*	**P**	**12 27 10.7**	**0.0**
	comp=Z,29nm,0.9s,mb5.0						
KOLN	**Koldanda**	**29.46**	**335**	*eP*	**P**	**12 27 13.0**	**+0.3**
	comp=Z,24nm,0.7s,mb5.0						
ENH	**Enshi**	**31.04**	**21**	*eP*	**P**	**12 27 25.9**	**-0.8**
	comp=Z,12nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.82**	**126**	*eP*	**P**	**12 27 50.2**	**-0.8**
	comp=Z,4.2nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.82**	**126**	P	**P**	**12 27 50.1**	**-1.0**
	comp=Z,5.4nm,0.7s,mb4.6,baz=308,slow=3.8,SNR=7.3						
XAN	**Xi'an**	**34.33**	**17**	P	**P**	**12 27 54.3**	**-0.9**
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0						
GTA	**Gaotai**	**38.01**	**3**	P	**P**	**12 28 26.2**	**-0.1**
GTA				XP	sP	12 28 38.8	-1.5
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
NWAO	**Narrogin (SRO)**	**38.84**	**153**	LR	LR	12 43 59.9	
	comp=Z,134nm,20.0s,MS3.8,baz=337,slow=35						
JOW	**Kunigami**	**39.05**	**47**	P	**P**	**12 28 35.0**	**0.0**
	comp=Z,10nm,0.6s,mb4.7,baz=228,slow=8.0,SNR=4.0						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**12 28 58.9**	**-0.1**
	comp=Z,3.8nm,0.7s,mb4.2,baz=300,slow=9.1,SNR=9.7						
WRAB	**Tennant Creek**	**41.92**	**122**	*eP*	**P**	**12 28 58.9**	**-0.1**
WB2	**Warramunga Arr**	**41.93**	**122**	*eP*	**P**	**12 28 59.1**	**0.0**
BJT	**Baijiatuau**	**42.17**	**22**	*eP*	**P**	**12 29 01.6**	**+0.8**
BJT				pmax	pmax		
	comp=Z,11nm,0.6s						
BJT	**Baijiatuau**	**42.17**	**22**	*eP*	**P**	**12 29 01.6**	**+0.8**
	comp=Z,11nm,0.6s,mb4.7						
BJI	**Beijing**	**42.19**	**22**	P	**P**	**12 29 01.8**	**+0.8**
BJI				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.7						
BJI				LR	LR		
	comp=Z,43nm,19.9s,MS3.3						
BJI	**Beijing**	**42.19**	**22**	P	**P**	**12 29 01.8**	**+0.8**
	comp=Z,16nm,0.8s,mb4.7						
BJI				LR	LR		
	comp=Z,40nm,19.9s,MS3.3						
WMQ	**Urumqi**	**43.23**	**350**	*eP*	**P**	**12 29 10.5**	**+1.1**
ASAR	**Alice Springs**	**43.29**	**127**	P	**P**	**12 29 10.5**	**+0.3**
	comp=Z,2.1nm,0.7s,mb4.0,baz=306,slow=7.9,SNR=13						
AAK	**Ala-Archa**	**46.00**	**336**	*eP*	**P**	**12 29 31.9**	**+0.3**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
AAK	**Ala-Archa**	**46.00**	**336**	*eP*	**P**	**12 29 31.9**	**+0.3**
	comp=Z,1.4nm,0.3s,mb4.4						
SONM	**Songino Array**	**47.02**	**8**	P	**P**	**12 29 40.2**	**+0.6**
	comp=Z,3.3nm,0.7s,mb4.4,baz=189,slow=8.8,SNR=16						
SONM				PcP	PcP	12 31 11.8	-0.1
	comp=Z,0.7nm,0.4s,baz=180,slow=3.5,SNR=4.9						
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**12 29 40.9**	**-0.1**
	comp=Z,3.4nm,0.5s,mb4.5,baz=160,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**12 29 40.9**	**-0.1**
CN2	**Changchun**	**49.15**	**27**	*eP*	**P**	**12 29 55.6**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
ZAK	**Zakamensk**	**49.17**	**5**	*eP*	**P**	**12 29 56.0**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.7s,mb3.6						
HIA	**Hailar**	**51.50**	**19**	*eP*	**P**	**12 30 14.1**	**+0.1**
HIA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HIA	**Hailar**	**51.50**	**19**	*eP*	**P**	**12 30 14.1**	**0.0**
	comp=Z,7.6nm,1.1s,mb4.5						
KURK	**Kurchatov**	**51.76**	**345**	*eP*	**P**	**12 30 15.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
KURK	**Kurchatov**	**51.76**	**345**	*eP*	**P**	**12 30 15.4**	**-0.5**
	comp=Z,4.9nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**12 30 28.2**	**+0.7**
	comp=Z,3.4nm,0.7s,mb4.4,baz=182,slow=20,SNR=5.0						
ZAL	**Zalesovo**	**53.50**	**351**	P	**P**	**12 30 27.9**	**-0.9**
	comp=Z,4.2nm,0.7s,mb4.5,baz=302,slow=7.2,SNR=14						
KLR	**Kul'dur**	**56.10**	**26**	*eP*	**P**	**12 30 45.2**	**-2.6**
BVAR	**Borovoye Array**	**56.23**	**341**	P	**P**	**12 30 47.1**	**-1.7**
	comp=Z,3.0nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=8.4						
CHKZ	**Chkalovo**	**56.71**	**341**	*eP*	**P**	**12 30 50.6**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**56.71**	**341**	*eP*	**P**	**12 30 50.6**	**-1.6**
	comp=Z,6.7nm,0.8s,mb4.7						
BOD	**Bodaibo**	**57.90**	**10**	*eP*	**P**	**12 30 59.1**	**-1.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
YSS	**Yuzh-Sakhalins**	**60.17**	**34**	*eP*	**P**	**12 31 17.0**	**+0.5**
BRTR	**Keskin Array B**	**69.20**	**312**	P	**P**	**12 32 17.8**	**+2.7**
	comp=Z,1.2nm,0.8s,mb3.9,baz=129,slow=7.9,SNR=4.0						
MA2	**Magadan**	**71.18**	**26**	*eP*	**P**	**12 32 26.5**	**-0.2**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MA2	**Magadan**	**71.18**	**26**	*eP*	**P**	**12 32 26.5**	**-0.3**
	comp=Z,4.6nm,0.7s,mb4.5						
MOX	**Moxa**	**86.33**	**320**	*eP*	**P**	**12 33 50.0**

23nm,0.3s,baz=302,slow=22,SNR=20
BBB Bella Bella 2.47 23 Pn **Pn 12 42 07.8 -0.6**
BBB Sn **Sn 12 42 37.5 -1.7**
BBB Bella Bella 2.47 23 Pn **Pn 12 42 07.8 -0.5**
BBB Sn **Sn 12 42 37.4 -1.8**
BBB Trac 12 42 40.4
comp=Z,45nm,0.2s
BTB Buttle Lake 2.76 98 Pn **Pn 12 42 12.8 +0.4**
BTB Sn **Sn 12 42 46.2 -0.3**
comp=Z,9.0nm,0.3s
BTB Trac 12 42 50.6
comp=Z,9.0nm,0.3s
CBB Campbell River 2.81 86 Pn **Pn 12 42 13.0 -0.1**
CBB Sn **Sn 12 42 48.3 +0.6**
CBB Trac 12 42 54.8
comp=Z,8.0nm,0.5s
OZB Mount Ozzard 2.92 108 Pn **Pn 12 42 14.8 +0.1**
OZB Sn **Sn 12 42 49.1 -1.4**
OZB Trac 12 42 51.8
comp=Z,4.0nm,0.2s
MGB Mount Grey 3.40 104 Pn **Pn 12 42 21.8 +0.2**
MGB Sn **Sn 12 43 01.7 -1.1**
comp=Z,3.0nm,0.3s
MGB Trac 12 43 04.9
comp=Z,3.0nm,0.3s
TXB Texada 3.42 92 Pn **Pn 12 42 22.3 +0.4**
NLLB Nanaimo Lost L 3.79 99 Sn **Sn 12 43 13.1 +0.4**
SHB Sechelt 3.80 93 Pn **Pn 12 42 27.8 +0.6**
SHB Sn **Sn 12 43 11.8 -1.0**
SHB Trac 12 43 17.6
comp=Z,17nm,0.6s
WPB Watts Point 4.22 91 Pn **Pn 12 42 33.6 +0.4**
PGC Sidney 4.29 105 *eP* **Pn 12 42 33.8 -0.5**
WSLR Whistler 4.38 85 Pn **Pn 12 42 36.6 +1.1**
LLLB Lillooet 5.07 79 Pn **Pn 12 42 45.0 -0.2**
LLLB Sn **Sn 12 43 45.5 +0.5**
LLLB Trac 12 43 46.8
comp=Z,1.0nm,0.3s
FSB Fort Saint Jam 5.62 34 Pn **Pn 12 42 53.1 0.0**
BMBC Bull Mountain 7.64 34 Pn **Pn 12 43 22.1 +0.7**
DLBC Dease Lake 8.52 359 Pn **P 12 43 33.3 -0.4**
0.1nm,0.3s,baz=186,slow=14,SNR=5.2
YBH Yreka Blue Hor 9.54 147 LR LR 12 47 02.0
comp=Z,174nm,21.8s,baz=3.2,slow=34
YKA Yellowknife Ar 15.08 28 Pn **P 12 44 59.3 -2.5**
0.1nm,0.3s,baz=214,slow=12,SNR=7.5
YKA Yellowknife Ar 15.08 28 Pn **P 12 44 59.3 -2.5**
ILAR Eielson Array 17.42 335 P **P 12 45 33.4 +1.6**
baz=146,slow=11,SNR=4.8
ULM Lac du Bonnet 21.61 76 P **P 12 46 21.9 +2.6**
1.5nm,0.6s,mb3.6,baz=294,slow=10.0,SNR=3.4
ULM Lac du Bonnet 21.61 76 P **P 12 46 21.9 +2.6**

IDC 04 12:47:38.3±3.3, 1.06N×97.29E, mb3.6/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=119.4km s-min=27.5km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.37**	**5**	Pn	P	12 51 44.3	+0.4
	0.1nm,0.3s,baz=197,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**41.89**	**122**	P	P	12 55 30.8	-1.6
	0.5nm,0.6s,baz=300,slow=9.1,SNR=6.7						
SONM	**Songino Array**	**47.26**	**8**	P	P	12 56 12.4	-2.8
	0.4nm,0.6s,baz=185,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**47.40**	**346**	P	P	12 56 14.3	-2.1
	0.5nm,0.6s,baz=162,slow=7.7,SNR=6.1						
ZAL	**Zalesovo**	**53.70**	**351**	P	P	12 57 02.4	-1.8
	0.6nm,0.5s,baz=319,slow=9.6,SNR=3.9						

IDC 04 12:57:49.0±1.1, 27.63N×139.72E, mb3.7/4, mb1 4.0/4, mb1mx3.5/19, mbtmp3.7/4, MS4.1/1, Ms1 4.1/1, ms1mx2.5/27, Error ellipse: s-maj=62.7km s-min=27.4km az=101.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**47.47**	**198**	LR	LR	13 25 51.8	
	comp=Z,172nm,18.0s,baz=321,slow=36						
WRA	**Warramunga Arr**	**47.58**	**187**	P	P	13 06 26.5	-2.1
	0.2nm,0.3s,baz=5.0,slow=7.6,SNR=10						
ILAR	**Eielson Array**	**58.30**	**29**	P	P	13 07 46.4	-1.1
	0.7nm,1.1s,baz=245,slow=5.5,SNR=5.4						
YKA	**Yellowknife Ar**	**72.70**	**28**	P	P	13 09 17.4	-2.7
	0.3nm,0.5s,baz=297,slow=6.1,SNR=8.9						
FINES	**FINESS Array B**	**76.49**	**333**	P	P	13 09 40.6	-1.4
	0.7nm,0.4s,baz=62,slow=4.7,SNR=12						

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*BJI **04** 13:09:31.7, 6.73S×105.39E, h30km, mB5.1, mb4.7, Ms4.8, Msz4.5*
*DJA **04** 13:09:35.2±0.9, 6.21S×105.00E, h33km, MD5.1/2, ML5.3/1, Error ellipse: s-maj=28.3km s-min=6.3km az=62.0*
*MOS **04** 13:09:38.5±1.3, 5.80S×105.48E, h33km, mb5.0/21, Error ellipse: s-maj=12.8km s-min=6.8km az=44.2*
*NEIC **04** 13:09:39.8±0.2, 5.86S×105.48E, h30km, mb4.8/30, Error ellipse: s-maj=10.6km s-min=5.0km az=46.0*
*IDC **04** 13:09:40.3±3.8, 5.81S×105.59E, h32km±27km, mb4.5/15, mb1 4.6/15, mb1mx4.5/18, mbtmp4.7/15, MS3.8/6, Ms1 3.8/6, ms1mx3.6/15, Error ellipse: s-maj=31.1km s-min=10.6km az=48.0*
ISC 04 13:09:36.0±1.1, 5.96S±0.05×105.45E±0.05, h19km±7km, h31km±.5km: pP-P, n143, σ1°27/117, mb4.7/55, MS4.0/14, 8C-7D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**0.48**	**325**	⇓*i*P	**Pb**	**13 09 46.9**	**+1.3**
PENI	**Pendagan**	**0.48**	**325**	⇓*i*Pn	**Pn**	**13 09 46.8**	**-0.8**
PENI	**Pendagan**	**0.48**	**325**	*e*Pg	**Pb**	**13 09 47.3**	**+1.7**
PULI	**Pulasari**	**0.65**	**126**	⇑*i*Pn	**Pn**	**13 09 47.2**	**-2.9**
PULI	**Pulasari**	**0.65**	**126**	⇑*i*Pn	**Pn**	**13 09 47.1**	**-3.0**
PASI	**Pasiripis**	**0.74**	**169**	*e*Pn	**Pn**	**13 09 48.2**	**-3.2**
PASI				*e*Sn	**Sn**	**13 09 58.0**	**-4.2**
DJA	**Jakarta**	**1.40**	**99**	*e*Pn	**Pn**	**13 10 02.8**	**+2.0**
PACI	**Pancar Gunung**	**1.58**	**114**	*e*Pn	**Pn**	**13 10 04.6**	**+1.1**
PACI	**Pancar Gunung**	**1.58**	**114**	*e*Pg	**Pn**	**13 10 22.9**	**+19**
SRDI	**Scrawed**	**8.98**	**107**	*e*P	**P**	**13 11 51.3**	**+3.4**
SRDI	**Scrawed**	**8.98**	**107**	*e*Pn	**P**	**13 11 50.9**	**+3.0**
KEDI	**Kedomdong**	**10.88**	**104**	*e*P	**P**	**13 12 13.6**	**-0.4**
KEDI	**Kedomdong**	**10.88**	**104**	*e*Pn	**P**	**13 12 17.9**	**+3.9**
	36nm,0.6s						
MBWA	**Marble Bar**	**20.49**	**139**	*e*P	**P**	**13 14 14.7**	**-1.1**
	32nm,1.2s						
FITZ	**Fitzroy Crossi**	**23.11**	**123**	*e*P	**P**	**13 14 42.3**	**+0.1**
	31nm,1.1s,mb4.7						
FITZ	**Fitzroy Crossi**	**23.11**	**123**	P	**P**	**13 14 42.7**	**+0.5**
	38nm,1.0s,mb4.8,baz=301,slow=7.4,SNR=25						
CMAR	**Chiang Mai Arr**	**25.09**	**345**	P	**P**	**13 15 01.2**	**-0.2**
	3.5nm,0.9s,mb3.9,baz=175,slow=8.6,SNR=11						
CMAR				PcP	PcP	13 18 36.3	-0.3
	1.9nm,0.9s,baz=211,slow=2.8,SNR=6.6						
CMAR				LR	LR	13 25 39.7	
	comp=Z,116nm,18.2s,MS3.4,baz=170,slow=38						
QIZ	**Qiongzhong**	**25.20**	**10**	*e*P	**P**	**13 15 00.3**	**-2.1**
QIZ				S	**S**	**13 19 20.7**	**-3.3**
QIZ				LR	LR		
	comp=N,802nm,11.7s						
QIZ				LR	LR		
	comp=Z,664nm,13.1s,MS4.3						
KLBR	**Kellerberrin**	**27.99**	**157**	*e*P	**P**	**13 15 27.1**	**-0.8**
	comp=Z,5μm,1.2s						
NWAO	**Narrogin (SRO)**	**28.99**	**159**	LR	LR	13 27 03.3	
	comp=Z,397nm,18.6s,MS4.1,baz=310,slow=36						
KMI	**Kunming**	**31.00**	**355**	P	**P**	**13 15 57.9**	**+3.0**
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.6						
KMI	**Kunming**	**31.00**	**355**	P	**P**	**13 15 57.9**	**+3.0**
	comp=Z,12nm,1.2s,mb4.6						
WRA	**Warramunga Arr**	**31.32**	**119**	P	**P**	**13 15 56.6**	**-1.2**
	comp=Z,7.4nm,0.7s,mb4.6,baz=302,slow=9.1,SNR=67						
WRA				PcP	PcP	13 18 51.2	-0.6
	comp=Z,1.9nm,0.8s,baz=295,slow=2.5,SNR=5.9						
WRAB	**Tennant Creek**	**31.33**	**119**	*e*P	**P**	**13 15 57.1**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.1						
WRAB	**Tennant Creek**	**31.33**	**119**	*e*P	**P**	**13 15 57.1**	**-0.7**
	comp=Z,34nm,1.1s,mb5.1						
WB2	**Warramunga Arr**	**31.33**	**119**	⇑*i*P	**P**	**13 15 57.1**	**-0.8**
GYA	**Guiyang**	**32.24**	**2**	⇑*i*P	**P**	**13 16 07.4**	**+1.6**
GYA				AP	pP	13 16 16.2	+4.9
GYA				XP	sP	13 16 20.7	+7.0
GYA				S	**S**	**13 21 19.8**	**+2.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,90nm,3.4s						
GYA				LR	LR		
	comp=N,730nm,10.8s,MS4.7						
GYA				LR	LR		
	comp=E,520nm,10.0s,MS4.7						
GYA				LR	LR		
	comp=Z,510nm,11.4s,MS4.5						
ASPA	**Alice Springs**	**32.54**	**126**	*e*P	**P**	**13 16 07.9**	**-0.5**
ASPA				*e*		13 18 55.2	
ASAR	**Alice Springs**	**32.55**	**126**	P	**P**	**13 16 08.0**	**-0.4**
	comp=Z,6.3nm,0.6s,mb4.7,baz=300,slow=7.8,SNR=66						
ASAR				PcP	PcP	13 18 54.9	-0.1
	comp=Z,5.2nm,1.1s,baz=312,slow=2.7,SNR=9.5						
ASAR				S	**S**	**13 21 21.6**	**0.0**
	comp=Z,2.5nm,1.1s,baz=298,slow=15,SNR=5.9						
ASAR				LR	LR	13 29 54.0	
	comp=Z,90nm,18.5s,MS3.5,baz=305,slow=37						
ENH	**Enshi**	**36.23**	**6**	*e*P	**P**	**13 16 40.8**	**+0.8**
	comp=Z,13nm,1.0s,mb4.8						
LSA	**Lhasa**	**38.02**	**340**	*e*P	**P**	**13 16 55.8**	**+0.8**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
LSA	**Lhasa**	**38.02**	**340**	*e*P	**P**	**13 16 55.8**	**+0.7**
	comp=Z,3.3nm,0.4s,mb4.4						
JIRN	**Jiri**	**38.25**	**332**	*e*P	**P**	**13 16 56.8**	**-0.2**
	comp=Z,25nm,1.1s,mb4.9						
PKI	**Pulchoki**	**38.55**	**331**	*e*P	**P**	**13 16 59.2**	**-0.3**
	comp=Z,9.6nm,0.7s,mb4.7						
PKI	**Pulchoki**	**38.55**	**331**	*e*P	**P**	**13 16 59.2**	**-0.3**
PKI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
GUN	**Gumba**	**38.61**	**332**	*e*P	**P**	**13 16 58.8**	**-1.2**
	comp=Z,32nm,1.2s,mb4.9						
DMN	**Daman**	**38.73**	**330**	*e*P	**P**	**13 17 00.5**	**-0.5**
	comp=Z,30nm,1.2s,mb4.9						
KKN	**Kakani**	**38.80**	**331**	*e*P	**P**	**13 17 00.4**	**-1.2**
	comp=Z,24nm,1.1s,mb4.8						
KKN	**Kakani**	**38.80**	**331**	*e*P	**P**	**13 17 00.4**	**-1.2**
KKN				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.5						
GKN	**Gorkha**	**39.29**	**330**	*e*P	**P**	**13 17 03.3**	**-2.4**
	comp=Z,46nm,1.3s,mb5.0						
KOLN	**Koldanda**	**39.62**	**329**	*e*P	**P**	**13 17 05.2**	**-3.2**
	comp=Z,24nm,1.3s,mb4.8						
SSE	**Sheshan**	**39.80**	**21**	P	**P**	**13 17 08.9**	**-1.0**
SSE				XP	sP	13 17 22.1	+4.3
SSE				PP	PP	13 18 43.7	-1.6
SSE				S	**S**	**13 23 12.4**	**-0.5**
SSE				SS	SS	13 26 07.5	+5.1
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,89nm,4.1s						
SSE				LR	LR		
	comp=N,42nm,14.8s,MS3.7						
SSE				LR	LR		
	comp=E,66nm,14.8s,MS3.7						
SSE	**Sheshan**	**39.80**	**21**	P	**P**	**13 17 08.9**	**-1.0**
	comp=E,31nm,0.7s,mb5.2						
SSE				sP	sP	13 17 22.1	+4.3
SSE				PP	PP	13 18 43.7	-1.6
SSE				S	**S**	**13 23 12.4**	**-0.5**
SSE				sS		13 23 25.0	
SSE				SS	SS	13 26 07.5	+5.1
SSE				LR	LR		
	comp=Z,60nm,19.4s,MS3.5						
NJ2	**Nanjing**	**39.90**	**18**	*e*P	**P**	**13 17 11.2**	**+0.5**
NJ2				AP	pP	13 17 20.4	+4.1
NJ2				XP	sP	13 17 25.9	+7.3
NJ2				PP	PP	13 18 48.1	+1.8
NJ2				S	**S**	**13 23 16.0**	**+1.6**
NJ2				XS		13 23 33.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,260nm,4.6s						
NJ2				LR	LR		
	comp=N,650nm,11.3s,MS4.8						
NJ2				LR	LR		
	comp=E,610nm,13.5s,MS4.8						
NJ2				LR	LR		
	comp=Z,380nm,14.0s,MS4.4						
XAN	**Xi'an**	**39.91**	**4**	P	**P**	**13 17 11.0**	**+0.2**
XAN				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.4						
PMG	**Port Moresby**	**41.46**	**97**	P	**P**	**13 17 24.1**	**+0.5**
	comp=Z,33nm,1.1s,mb4.9,baz=196,slow=11,SNR=3.8						
CTA	**Charters Tower**	**42.02**	**113**	*e*P	**P**	**13 17 28.9**	**+0.5**
	comp=Z,13nm,1.4s,mb4.4						
CTA	**Charters Tower**	**42.02**	**113**	*e*P	**P**	**13 17 28.9**	**+0.5**
CTA				pmax	pmax		
	comp=Z,13nm,1.4s						
CTA	**Charters Tower**	**42.02**	**113**	P	**P**	**13 17 28.9**	**+0.6**
	comp=Z,17nm,1.1s,mb4.6,baz=295,slow=9.9,SNR=5.1						
CTAO	**Charters Tower**	**42.02**	**113**	*e*P	**P**	**13 17 28.8**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,40nm,1.4s,mb4.9						
CTAO	**Charters Tower**	**42.02**	**113**	*e*P	**P**	**13 17 28.8**	**+0.5**
	comp=Z,40nm,1.4s,mb4.8						
STKA	**Stephens Creek**	**42.48**	**132**	⇑*i*P	**P**	**13 17 32.4**	**+0.4**
	comp=Z,19nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**42.48**	**132**	P	**P**	**13 17 32.5**	**+0.6**
	comp=Z,28nm,0.8s,mb5.0,baz=297,slow=7.5,SNR=33						
STKA				LR	LR	13 36 42.9	
	comp=Z,166nm,18.7s,MS4.0,baz=24,slow=38						
GTA	**Gaotai**	**45.44**	**354**	P	**P**	**13 17 57.2**	**+1.4**
GTA				AP	pP	13 18 06.5	+5.1
GTA				XP	sP	13 18 10.9	+7.2
GTA				PCP	PcP	13 19 35.8	+0.5
GTA				PP	PP	13 19 48.7	+5.9
GTA				SCP		13 23 24.2	
GTA				S	**S**	**13 24 39.5**	**+4.0**
GTA				XS		13 24 56.6	
GTA				SS	SS	13 27 56.4	+5.8
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,70nm,8.8s						
GTA				LR	LR		
	comp=N,228nm,17.6s						
GTA				LR	LR		
	comp=E,274nm,12.6s						
GTA				LR	LR		
	comp=Z,220nm,20.2s,MS4.1						
HHC	**Hu-ho-hao-te**	**46.91**	**6**	*e*P	**P**	**13 18 09.6**	**+2.2**
HHC				AP	pP	13 18 19.2	+6.2
HHC				XP	sP	13 18 23.0	+7.7
HHC				PP	PP	13 20 02.0	+4.5
HHC				PCS		13 23 34.7	
HHC				S	**S**	**13 24 58.0**	**+1.4**
HHC				XS		13 25 14.3	
HHC				SCS	ScS	13 28 00.1	+1.6
HHC				SS	SS	13 28 21.2	+5.0
HHC				AMB	AMB		
	comp=Z,14nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,65nm,4.3s						
HHC				LR	LR		
	comp=N,306nm,12.1s,MS4.5						
HHC				LR	LR		
	comp=E,215nm,13.3s,MS4.5						
HHC				LR	LR		
	comp=Z,305nm,13.7s,MS4.4						
WMQ	**Urumqi**	**52.08**	**344**	⇑P	**P**	**13 18 46.8**	**-0.3**
WMQ				AP	pP	13 18 56.8	+4.0
WMQ				XP	sP	13 19 00.8	+5.8
WMQ				PCP	PcP	13 19 59.1	-0.1
WMQ				PP	PP	13 20 45.8	-0.3
WMQ				S	**S**	**13 26 07.8**	**-0.7**
WMQ				PS	PS	13 26 20.5	-0.1
WMQ				XS		13 26 23.2	
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,111nm,4.0s						
WMQ				LR	LR		
	comp=N,36nm,20.0s,MS4.1						
WMQ				LR	LR		
	comp=E,195nm,23.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,51nm,20.0s,MS3.6						
CN2	**Changchun**	**52.72**	**18**	*e*P	**P**	**13 18 52.3**	**+0.4**
CN2				*e*XP	sP	13 19 05.0	+5.2
CN2				*e*S	**S**	**13 26 17.0**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,14.0s,MS4.6						
CN2				LR	LR		
	comp=Z,220nm,15.0s,MS4.3						
SONM	**Songino Array**	**53.57**	**1**	P	**P**	**13 18 58.5**	**+0.4**
	comp=Z,5.2nm,1.0s,mb4.4,baz=186,slow=5.4,SNR=23						
SONM				PcP	PcP	13 20 03.3	-1.3
	comp=Z,1.9nm,0.9s,baz=176,slow=4.7,SNR=5.1						
ULN	**Ulaanbaatar**	**53.61**	**1**	*e*P	**P**	**13 18 58.2**	**-0.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**53.61**	**1**	*e*P	**P**	**13 18 58.2**	**-0.2**
	comp=Z,6.6nm,1.0s,mb4.5						
MDJ	**Mudanjiang**	**54.82**	**21**	P	**P**	**13 19 07.9**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,87nm,4.0s						
ZAK	**Zakamensk**	**56.14**	**358**	*e*P	**P**	**13 19 15.4**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
HIA	**Hailar**	**56.39**	**11**	*e*P	**P**	**13 19 17.5**	**-1.1**
HIA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HIA	**Hailar**	**56.39**	**11**	*e*P	**P**	**13 19 17.4**	**-1.2**
	comp=Z,8.3nm,1.0s,mb4.7						
MKAR	**Makanchi Array**	**56.40**	**341**	P	**P**	**13 19 16.9**	**-1.8**
	comp=Z,5.8nm,1.0s,mb4.5,baz=135,slow=6.9,SNR=17						
MKAR				PcP	PcP	13 20 14.9	-0.7
	comp=Z,1.8nm,1.0s,baz=135,slow=5.1,SNR=3.9						
MKAR				LR	LR	13 46 28.6	
	comp=Z,58nm,18.5s,MS3.7,baz=125,slow=39						
CASY	**Casey**	**60.32**	**178**	*e*P	**P**	**13 19 46.6**	**+0.8**
	comp=Z,26nm,1.5s,mb5.0						
KURK	**Kurchatov**	**61.01**	**341**	*e*P	**P**	**13 19 48.6**	**-2.1**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
KURK	**Kurchatov**	**61.01**	**341**	*e*P	**P**	**13 19 48.6**	**-2.1**
	comp=Z,6.7nm,1.1s,mb4.7						
ZAL	**Zalesovo**	**62.15**	**346**	P	**P**	**13 19 56.1**	**-2.3**
	comp=Z,7.7nm,1.0s,mb4.8,baz=302,slow=5.9,SNR=21						
YSS	**Yuzh-Sakhalins**	**62.17**	**28**	⇑*e*P	**P**	**13 19 58.8**	**+0.2**
YSS	**Yuzh-Sakhalins**	**62.17**	**28**	*e*P	**P**	**13 19 58.4**	**-0.3**
	comp=Z,15nm,1.0s,mb5.1						
BOD	**Bodaibo**	**63.94**	**5**	*e*P	**P**	**13 20 07.9**	**-2.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
CHKZ	**Chkalovo**	**66.24**	**338**	*e*P	**P**	**13 20 23.0**	**-2.0**
CHKZ				*e*		13 20 54.3	
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
CHKZ	**Chkalovo**	**66.24**	**338**	*e*P	**P**	**13 20 23.0**	**-2.1**
	comp=Z,7.4nm,1.1s,mb4.6						
CHKZ				*e*PcP	PcP	13 20 54.3	-0.8
YAK	**Yakutsk**	**70.32**	**12**	*e*P	**P**	**13 20 49.4**	**-0.9**
YAK				pmax	pmax		
	comp=Z,11nm,0.4s,mb5.1						
YAK	**Yakutsk**	**70.32**	**12**	*e*P	**P**	**13 20 49.4**	**-0.9**
	comp=Z,11nm,0.4s,mb5.1						
GNI	**Garni**	**72.13**	**315**	*i* P	**P**	**13 20 59.6**	**-2.0**
GNI				pmax	pmax		
	comp=Z,17nm,1.4s						
ARU	**Arti**	**73.03**	**335**	⇓*i*P	**P**	**13 21 06.2**	**-0.3**
ARU				*e*		13 21 23.8	
ARU				*e*		13 23 43.6	
ARU				*e*S	S	13 30 33.6	+2.3
ARU				*e*SS	SS	13 35 13.8	-1.0
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
ZEI	**Tsey**	**73.79**	**318**	*e*P	**P**	**13 21 11.2**	**-0.1**
ZEI				*i*		13 23 50.3	
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
MBAR	**Mbarara**	**74.73**	**271**	*e*P	**P**	**13 21 17.9**	**+0.6**
	comp=Z,12nm,1.4s,mb4.7						
KIV	**Kislovodsk**	**75.08**	**318**	*i* P	**P**	**13 21 18.5**	**-0.2**
KIV				*e*		13 21 29.2	
KIV				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**75.08**	**318**	*e*P	**P**	**13 21 19.0**	**+0.3**
	comp=Z,25nm,1.1s,mb5.0						
MALT	**Malatya**	**76.01**	**312**	⇑P	**P**	**13 21 24.9**	**+0.8**
LSZ	**Lusaka**	**76.19**	**256**	*e*P	**P**	**13 21 26.1**	**+0.5**
LSZ				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.7						
LSZ	**Lusaka**	**76.19**	**256**	*e*P	**P**	**13 21 26.1**	**+0.5**
	comp=Z,17nm,1.7s,mb4.7						
EIL	**Elat**	**76.22**	**302**	*e*P	**P**	**13 21 25.3**	**-0.2**
	comp=Z,15nm,1.0s,mb4.9						
SOC	**Sochi**	**76.92**	**317**	*e*P	**P**	**13 21 25.4**	**-3.7**
SOC				*e*		13 21 38.6	
SOC				*e*		13 24 24.9	
SOC				*e*PPP	PPP	13 26 13.9	+2.2
SOC				*e*S	S	13 31 12.0	-2.8
SOC				*e*		13 31 44.0	
SOC				*e*SS	SS	13 36 13.0	-1.6
SOC				*e*SSS	SSS	13 39 32.3	+1.8
SOC				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.2						
SOC				pmax	pmax		
	comp=N,23nm,1.0s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.6s						
VNDA	**Vanda**	**77.27**	**169**	P	**P**	**13 21 31.1**	**+0.7**
	comp=E,6.5nm,1.0s,mb4.5,baz=300,slow=5.7,SNR=13						
VNDA				LR	LR	13 51 22.7	
	comp=E,70nm,19.3s,MS4.0,baz=30,slow=32						
TIXI	**Tiksi**	**78.97**	**7**	*i* P	**P**	**13 21 38.8**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**79.99**	**312**	P	**P**	**13 21 46.0**	**0.0**
	comp=Z,9.0nm,1.1s,mb4.6,baz=127,slow=6.2,SNR=15						
OBN	**Obninsk**	**83.02**	**327**	*e*P	**P**	**13 22 03.3**	**+1.8**
OBN				*e*		13 22 14.4	
OBN				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
QSPA	**South Pole Qui**	**84.03**	**180**	*e*P	**P**	**13 22 07.1**	**+1.0**
	comp=Z,20nm,1.1s,mb5.2						
AKASG	**Malin Array Be**	**85.92**	**322**	P	**P**	**13 22 16.1**	**-0.1**
	comp=Z,1.9nm,0.5s,mb4.5,baz=86,slow=4.6,SNR=12						
VRI	**Vrincioaia**	**86.43**	**317**	⇓P	**P**	**13 22 20.5**	**+1.7**
MLR	**Muntele Rosu**	**86.89**	**316**	⇓P	**P**	**13 22 23.1**	**+2.0**
BURAR	**Bucovina Array**	**87.81**	**318**	⇓P	**P**	**13 22 28.0**	**+2.6**
BURAR	**Bucovina Array**	**87.81**	**318**	⇓P	**P**	**13 22 28.0**	**+2.6**
LVV	**L'vov**	**88.99**	**320**	*e*P

NVAR	Mina Array Bea	128.91	44	PKP	PKPdf	13 28 46.7	-0.6
	comp=Z,0.8nm,0.6s,baz=93,slow=1.4,SNR=3.9						
QLMT	Earthquake Lak	129.69	34	PKPdf	PKPdf	13 28 49.3	+0.8
YMR	Madison River	130.05	34	ePKPdf	PKPdf	13 28 47.8	-1.4
REDW	Red Top Meadow	130.93	35	ePKPdf	PKPdf	13 28 50.2	-0.8
ULM	Lac du Bonnet	132.37	18	PKP	PKPdf	13 28 51.4	-2.2
	comp=Z,3.0nm,0.8s,baz=330,slow=5.6,SNR=7.5						
RSSD	Black Hills	134.04	30	ePKPdf	PKPdf	13 28 55.1	-1.6
PV10	Paradox Valley	135.08	39	ePKPdf	PKPdf	13 28 58.6	-0.3
TXAR	Lajitas Array	144.00	46	PKP	PKPdf	13 29 12.3	-2.8
	comp=Z,7.0nm,1.0s,baz=270,slow=2.5,SNR=19						
TXAR	Lajitas Array	144.00	46	PKP	PKPdf	13 29 12.3	-2.8
CCM	Cathedral Cave	144.63	23	ePKPdf	PKPdf	13 29 11.7	-4.2
ACSO	Alum Creek Sta	145.04	11	ePKPdf	PKPdf	13 29 13.8	-2.8
SSPA	Standing Stone	145.34	4	ePKPdf	PKPdf	13 29 14.5	-2.6
JCT	Junction City	145.96	41	ePKPbc	PKPbc	13 29 17.8	+2.3
BAO	Brasilia Array	146.06	230	P	PKPbc	13 29 19.0	+2.9
BDFB	Brasilia	146.07	230	PKPbc	PKPbc	13 29 20.1	+4.0
	comp=Z,13nm,1.1s,baz=180,slow=3.5,SNR=7.3						
MIAR	Mount Ida	146.56	29	ePKPbc	PKPbc	13 29 18.4	+1.6
GNAR	Gosnell	146.93	23	ePKPbc	PKPbc	13 29 19.6	+2.0
WVT	Waverly	147.59	20	ePKPbc	PKPdf	13 29 20.9	-0.1
OXF	Oxford	148.44	24	ePKPbc	PKPdf	13 29 23.3	+0.9
TZTN	Tazewell	148.46	14	ePKPbc	PKPdf	13 29 22.8	+0.4
CPCT	Cooper Cave	149.25	16	ePKPbc	PKPdf	13 29 25.9	+2.2
LRAL	Lakeview Retre	150.67	22	ePKPbc	PKPdf	13 29 29.1	+3.1
LVC	Limon Verde	151.07	191	ePKPbc	PKPdf	13 29 32.8	+5.9
JSC	Jenkinsville	151.14	12	ePKPbc	PKPdf	13 29 30.4	+3.8
GOGA	Godfrey	151.45	16	ePKPbc	PKPdf	13 29 31.4	+4.2
OTAV	Otavalo	173.11	145	ePKPdf	PKPdf	13 29 48.4	-0.7

*NEIC **04** 13:25:19.9, 17.15N×101.33W, h47km, MD3.6(MEX), After MEX.*

MEX 04 13:25:20.1±0.7, 17.07N×101.34W, h16km±22km, MD3.6, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.55	347	*i* P		Pb	13 25 29.4	-1.5
ZIIG				*i* S		Sb	13 25 36.5	-1.9
ZIIG	Zihuatanejo	0.55	347	⇓*i*P		Pb	13 25 29.4	-1.5
ZIIG				*i* S		Sb	13 25 36.3	-2.0
CAIG	El Cayaco	1.02	91	*e*P		Pb	13 25 35.4	-3.5
CAIG				*i* S		Sb	13 25 48.6	-3.3
ACX	Acapulco	1.37	98	*i* P		Pn	13 25 41.5	-3.2
ACX				*i* S		Sb	13 25 59.0	-3.1
ACX	Acapulco	1.37	98	*i* P		Pn	13 25 41.5	-3.2
ACX				*i* S		Sb	13 25 57.0	-5.1
PLIG	Platanillo	2.19	53	*i* P		Pn	13 25 52.2	-4.2
PLIG				*i* S		Sn	13 26 16.4	-6.9
PLIG	Platanillo	2.19	53	*i* P		Pn	13 25 52.2	-4.2
PLIG				*i* S		Sn	13 26 19.1	-4.2

IDC 04 13:52:46.6±6.1, 2.86N×97.73E, mb3.4/4, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=308.5km s-min=24.9km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.49	124	P		P	14 00 43.6	-1.9
	0.7nm,0.5s,baz=303,slow=8.9,SNR=7.8							
ASAR	Alice Springs	43.99	129	P		P	14 00 56.1	-1.6
	0.3nm,0.8s,baz=297,slow=7.4,SNR=5.0							
MKAR	Makanchi Array	45.77	345	P		P	14 01 09.2	-2.4
	0.2nm,0.5s,baz=161,slow=9.5,SNR=4.2							
ZAL	Zalesovo	52.01	350	P		P	14 01 58.2	-1.6
	0.6nm,0.4s,baz=10,slow=2.4,SNR=3.0							

*NEIC **04** 13:55:47.6±0.8, 18.11N×68.85W, h88km±11km, mb3.9/2, MD3.9(RSPR), Error ellipse: s-maj=12.5km s-min=7.2km az=107.0*
*IDC **04** 13:55:48.2±2.3, 18.09N×68.69W, h97km±31km, mb3.5/4, mb1 3.9/7, mb1mx3.5/22, mbtmp4.0/7, Error ellipse: s-maj=26.2km s-min=18.6km az=130.0*
*RSPR **04** 13:55:50.0, 17.71N×68.75W, h25km±33km, MD3.9/15, MD3.9/15*

ISC 04 13:55:47.4±0.8, 18.05N±0.07×68.74W±0.09, h107km±11km, n28, σ0°70/42, mb3.9/6, 12C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRPR	Cabo Rojo, PR	1.55	91	⇑*i*P		P	13 56 14.8	-0.3
CRPR				*e*S		S	13 56 34.9	-1.0
MGP	Maguayo	1.57	91	⇓*e*P		P	13 56 15.1	-0.2
LSP	Las Mesas	1.58	85	⇓*e*P		P	13 56 15.4	0.0
AGPR	Aguadilla, PR	1.60	75	⇑*e*P		P	13 56 16.0	+0.3
AGPR				*e*S		S	13 56 37.3	+0.4
LRS	Lares	1.82	82	⇑*e*P		P	13 56 18.9	+0.5
LRS				*e*S		S	13 56 41.1	-0.4
AOPR	Arecibo Observ	1.91	81	⇑*e*P		P	13 56 20.3	+0.7
AOPR				*e*S		S	13 56 43.9	+0.2
PORP	Portuguez	2.00	90	⇓*e*P		P	13 56 21.1	+0.4
PORP				*e*S		S	13 56 45.7	+0.2
CELP	Cerrillos	2.05	89	⇑*e*P		P	13 56 21.7	+0.2
CELP				*e*S		S	13 56 46.9	0.0
ICM	Isla Caja Muer	2.12	94	⇑*e*P		P	13 56 22.3	0.0
ICM				*e*S		S	13 56 47.9	-0.5
SJG	San Juan	2.46	88	⇑*e*P		P	13 56 26.6	-0.4
SJG				*e*S		S	13 56 56.4	-0.3
SJG	San Juan	2.46	88	⇑*e*P		P	13 56 27.4	+0.4
SJG	San Juan	2.46	88	P		P	13 56 27.4	+0.4
	17nm,0.3s,baz=300,slow=11,SNR=6.3							
SJG				S		S	13 56 55.3	-1.5
	65nm,0.3s,baz=320,slow=19,SNR=10.0							
CPD	Cerro la Pandu	2.69	90	⇑*e*P		P	13 56 29.9	-0.2
CPD				*e*S		S	13 57 01.2	-0.9
HUMP	Col San Antoni	2.75	88	⇑*e*P		P	13 56 31.4	+0.5
HUMP				*e*S		S	13 57 03.9	+0.3
CBYP	Canovanas	2.75	85	⇑*e*P		P	13 56 31.4	+0.5
CBYP				*e*S		S	13 57 04.0	+0.3
MTP	Monte Pirata	3.03	89	⇑*e*P		P	13 56 35.1	+0.4
MTP				*e*S		S	13 57 09.9	-0.4
PCRV	Puerto La Cruz	8.78	153	P		P	13 57 54.1	+1.2
	1.4nm,0.3s,baz=321,slow=8.2,SNR=9.1							
PCRV				S		S	13 59 26.2	-4.6
	2.0nm,0.3s,baz=310,slow=19,SNR=6.5							
SDV	Santo Domingo	9.29	192	P		P	13 57 59.6	-0.2
	1.1nm,0.3s,baz=16,slow=5.6,SNR=25							
SDV				S		S	13 59 35.6	-7.5
	0.5nm,0.3s,baz=14,slow=19,SNR=4.3							
SAML	Samuel	27.38	168	P		P	14 01 25.6	+0.6
TXAR	Lajitas Array	33.78	296	P		P	14 02 20.0	-1.1
	0.5nm,0.4s,mb3.7,baz=104,slow=7.5,SNR=6.0							
TXAR	Lajitas Array	33.78	296	P		P	14 02 20.0	-1.1
MNTX	Cornudas Mount	35.74	299	*e*P		P	14 02 36.6	-1.1
	1.7nm,0.4s,mb4.3							
SCHQ	Schefferville	36.74	2	P		P	14 02 47.1	+1.2
	1.9nm,0.4s,mb4.4,baz=205,slow=11,SNR=13							
BW06	Boulder Array	42.39	314	P		P	14 03 32.7	-0.1
	0.4nm,0.5s,mb3.4							
NVAR	Mina Array Bea	47.53	306	P		P	14 04 14.5	+0.7
	0.9nm,0.7s,mb3.7,baz=90,slow=5.4,SNR=4.2							
YKA	Yellowknife Ar	54.53	336	P		P	14 05 04.9	-1.3
	0.6nm,0.7s,mb3.8,baz=113,slow=7.3,SNR=12							
YKA				pP		pP	14 05 24.4	-7.7
	1.2nm,0.6s,baz=113,slow=7.3,SNR=13							
YKA	Yellowknife Ar	54.53	336	P		P	14 05 05.0	-1.3
YKA				pP		pP	14 05 24.4	-7.7
ASAR	Alice Springs	158.13	251	PKPab		PKPab	14 16 08.2	-0.5
	0.6nm,0.7s,baz=97,slow=4.7,SNR=6.6							

*IDC **04** 14:06:06.0±1.7, 5.41N×94.39E, mb3.8/7, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, Error ellipse: s-maj=75.7km s-min=21.0km az=56.0*
*NEIC **04** 14:06:09.5±0.8, 5.18N×94.12E, h30km, mb4.3/3, Error ellipse: s-maj=20.0km s-min=10.2km az=50.0*

ISC 04 14:06:07.8±1.0, 5.2N±0.1×94.2E±0.1, h30km, n12, σ0°76/12, mb3.9/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.46	89	*e*Pn		Pn	14 07 43.2	-0.3
CMAR	Chiang Mai Arr	13.96	19	Pn		P	14 09 27.6	+1.5
	0.3nm,0.3s,baz=206,slow=14,SNR=7.3							
MKAR	Makanchi Array	42.67	348	P		P	14 14 03.6	+0.1
	2.1nm,0.6s,mb4.0,baz=166,slow=8.1,SNR=26							
SONM	Songino Array	43.74	12	P		P	14 14 10.9	-1.2
	0.2nm,0.4s,mb3.2,baz=206,slow=12,SNR=3.9							
WRA	Warramunga Arr	46.75	124	P		P	14 14 36.6	+0.1
	0.4nm,0.4s,mb3.7,baz=302,slow=9.6,SNR=4.8							
WRAB	Tennant Creek	46.75	124	*e*P		P	14 14 36.5	-0.1
	1.1nm,0.5s,mb4.0							
KURK	Kurchatov	47.18	347	*e*P		P	14 14 39.5	0.0
	1.3nm,0.3s,mb4.3							
ASAR	Alice Springs	48.23	128	P		P	14 14 48.5	+0.3
	0.3nm,0.5s,mb3.5,baz=305,slow=8.1,SNR=7.7							
ZAL	Zalesovo	49.17	353	P		P	14 14 54.2	-0.7
	1.2nm,0.3s,mb4.4,baz=324,slow=9.4,SNR=4.1							
BVAR	Borovoye Array	51.50	342	P		P	14 15 12.2	-0.5
	0.7nm,0.6s,mb3.8,baz=135,slow=10,SNR=3.9							
CHKZ	Chkalovo	51.99	342	*e*P		P	14 15 15.9	-0.6
	2.3nm,0.6s,mb4.3							
GERES	GERESS Array B	79.81	319	P		P	14 18 16.4	+1.5
	0.5nm,0.6s,mb3.6,baz=90,slow=2.7,SNR=4.3							

*IDC **04** 14:20:16.3±1.4, 1.42N×98.17E, mb3.9/9, mb1 4.1/9, mb1mx4.0/17, mbtmp3.9/9, MS3.3/1, Ms1 3.5/1, ms1mx2.9/16, Error ellipse: s-maj=73.6km s-min=16.6km az=53.0*
*NEIC **04** 14:20:19.0±0.9, 0.94N×97.57E, h30km, mb4.1/3, Error ellipse: s-maj=27.3km s-min=12.4km az=62.0*

ISC 04 14:20:16.1±0.9, 0.9N±0.1×97.4E±0.2, h30km, n15, σ0°92/15, mb3.9/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.44	36	*e*Pn		Pn	14 21 38.3	+0.9
CMAR	Chiang Mai Arr	17.52	5	Pn		P	14 24 20.0	-0.1
	0.1nm,0.3s,baz=194,slow=11,SNR=9.4							
CMAR				LR		LR	14 31 31.4	
	comp=Z,98nm,20.6s,baz=200,slow=40							
FITZ	Fitzroy Crossi	33.58	126	P		P	14 26 55.9	-0.2
	2.7nm,0.8s,mb4.3,baz=90,slow=23,SNR=4.0							
WRA	Warramunga Arr	41.70	122	P		P	14 28 04.2	-0.1
	1.7nm,0.7s,mb3.8,baz=300,slow=9.0,SNR=7.1							
WRAB	Tennant Creek	41.70	122	*e*P		P	14 28 03.8	-0.5
	5.9nm,1.0s,mb4.2							
ASAR	Alice Springs	43.04	127	P		P	14 28 15.8	+0.6
	1.3nm,0.6s,mb3.8,baz=298,slow=8.0,SNR=21							
SONM	Songino Array	47.41	8	P		P	14 28 48.1	-1.7
	0.6nm,0.8s,mb3.6,baz=190,slow=4.7,SNR=4.2							
MKAR	Makanchi Array	47.59	346	P		P	14 28 50.9	-0.3
	0.8nm,0.5s,mb4.0,baz=161,slow=8.7,SNR=9.3							
KURK	Kurchatov	52.14	345	P		P	14 29 26.6	+0.6
	1.2nm,0.9s,mb3.8							
STKA	Stephens Creek	53.00	132	P		P	14 29 32.7	0.0
	2.3nm,0.7s,mb4.2,baz=338,slow=18,SNR=4.1							
STKA	Stephens Creek	53.00	132	P		P	14 29 32.7	0.0
ZAL	Zalesovo	53.89	351	P		P	14 29 37.7	-1.1
	1.0nm,0.3s,mb4.2,baz=331,slow=8.0,SNR=3.6							
CHKZ	Chkalovo	57.08	341	*e*P		P	14 30 02.1	+0.1
	1.7nm,0.8s,mb4.1							
FINES	FINESS Array B	80.37	333	P		P	14 32 28.6	+2.6
	0.6nm,0.7s,mb3.6,baz=153,slow=3.1,SNR=2.6							
GERES	GERESS Array B	85.18	319	P		P	14 32 55.8	+4.8
	0.2nm,0.3s,mb3.7,baz=278,slow=39,SNR=3.1							

IDC 04 14:32:26.2±3.7, 2.22N×97.41E, mb3.8/3, mb1 4.0/4, mb1mx3.5/18, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=151.1km s-min=25.7km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.20	5	Pn		P	14 36 17.1	0.0
	0.1nm,0.3s,baz=201,slow=9.9,SNR=4.2							
FITZ	Fitzroy Crossi	34.36	127	P		P	14 39 15.5	-1.7
	4.4nm,1.0s,baz=22,slow=3.4,SNR=3.8							
WRA	Warramunga Arr	42.40	123	P		P	14 40 22.2	-2.2
	0.7nm,0.9s,baz=306,slow=9.4,SNR=5.9							
MKAR	Makanchi Array	46.31	346	P		P	14 40 53.3	-2.2
	0.5nm,0.7s,baz=153,slow=8.1,SNR=6.5							

*IDC **04** 14:33:09.5±2.4, 12.93S×167.45E, mb4.0/7, mb1 4.1/7, mb1mx4.0/16, mbtmp4.0/7, Error ellipse: s-maj=85.3km s-min=24.5km az=132.0*

ISC 04 14:33:13.1±2.2, 13.0S±0.4×167.4E±0.4, h33km, n7, σ0°59/7, mb3.8/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	30.20	227	P		P	14 39 23.3	+0.6
	1.4nm,0.5s,mb3.9,baz=47,slow=6.4,SNR=6.7							
WRA	Warramunga Arr	32.39	253	P		P	14 39 41.5	-0.7
	0.3nm,0.6s,mb3.3,baz=87,slow=9.0,SNR=4.7							
ASAR	Alice Springs	33.42	247	P		P	14 39 50.3	-0.8
	1.1nm,0.6s,mb4.0,baz=77,slow=9.1,SNR=34							
FITZ	Fitzroy Crossi	40.48	257	P		P	14 40 51.3	+0.8
	5.6nm,1.1s,mb4.2,baz=45,slow=8.6,SNR=3.2							
SONM	Songino Array	81.22	323	P		P	14 45 27.8	+0.6
	0.2nm,0.6s,mb3.2,baz=153,slow=6.4,SNR=2.6							
ILAR	Eielson Array	84.89	18	P		P	14 45 45.2	-0.3
	0.8nm,0.6s,mb4.0,baz=245,slow=5.0,SNR=22							
MKAR	Makanchi Array	96.07	316	P		P	14 46 38.3	-0.1
	0.5nm,0.5s,mb4.2,baz=89,slow=5.9,SNR=11							

*IDC **04** 15:12:21.0±0.7, 14.60N×93.43E, mb4.0/13, mb1 4.1/14, mb1mx4.1/20, mbtmp4.0/14, ML4.1/1, MS3.7/5, Ms1 3.8/5, ms1mx3.5/21, Error ellipse: s-maj=27.9km s-min=13.3km az=56.0*
*BJI **04** 15:12:24.1, 14.94N×93.62E, h7km, mB4.7, mb4.5, Ms4.2, Msz3.9*
*MOS **04** 15:12:24.0±1.1, 14.72N×93.50E, h33km, mb4.7/14, Error ellipse: s-maj=13.4km s-min=8.1km az=105.9*
*NEIC **04** 15:12:24.7±0.5, 14.70N×93.47E, mb4.5/15, Error ellipse: s-maj=11.3km s-min=7.1km az=46.0*

ISC 04 15:12:22.8±0.5, 14.68N±0.06×93.45E±0.04, h25km, h25km±1.9km: pP-P, n76, σ1°23/82, mb4.3/32, MS3.7/8, 2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BDT	Bhumibol Dam	5.92	64	P		Pn	15 13 52.0	+0.7
	42nm,0.6s							
NNT	Nongplab	6.45	108	P		Pn	15 14 05.5	+6.7
CMAR	Chiang Mai Arr	6.47	54	Pn		Pn	15 13 58.8	-0.2
	1.2nm,0.3s,baz=242,slow=15,SNR=45							
CMAR				Sn		Sn	15 15 12.6	-0.3
	3.9nm,0.3s,baz=242,slow=29,SNR=7.5							
CMAR				LR		LR	15 17 05.7	
	comp=Z,449nm,18.2s,baz=235,slow=44							
NANT	Nan	8.07	58	⇓P		P	15 14 22.0	+0.7
	169nm,0.9s							
BWNR	Bhubaneshwar	9.18	309	*e*P		P	15 14 35.9	-0.9
BWNR				*i* P			15 14 38.9	
BWNR				AMb		AMB	15 14 41.0	
	comp=Z,68nm,0.8s							
BWNR				*e*S		Sn	15 16 13.3	-7.1
KKTK	Khon Kaen	9.19	78	P		P	15 14 40.0	+3.1
	comp=Z,617nm,0.7s							
VIS	Vishakhapatnam	10.18	289	*e*P		P	15 14 49.9	-0.7
VIS				*e*S		S	15 16 35.6	-9.4
BLSP	Bilaspur	13.04	306	*e*P		P	15 15 30.0	+0.7
BLSP				AMb		AMB	15 15 31.5	
	comp=Z,20nm,0.2s							
BLSP				*e*S		S	15 17 48.3	-6.3
HYB	Hyderabad	14.57	283	*e*P		P	15 15 50.0	+0.5
HYB				*e*S		S	15 18 22.0	-9.1
HYB	Hyderabad	14.57	283	*i* P		P	15 15 50.0	+0.5
HYB				*e*S		S	15 18 32.0	+0.9
JIRN	Jiri	14.58	334	*e*P		P	15 15 48.7	-0.8
	comp=Z,36nm,0.7s							
PKI	Pulchoki	14.85	331	*e*P		P	15 15 52.0	-1.1
	comp=Z,52nm,0.9s							
PKI	Pulchoki	14.85	331	*e*P		P	15 15 52.0	-1.1
PKI				pmax		pmax		
	comp=Z,26nm,0.9s							
GUN	Gumba	14.93	333	*e*P		P	15 15 54.0	-0.1
	comp=Z,47nm,0.8s							
DMN	Daman	15.03	330	*e*P		P	15 15 54.5	-0.9
	comp=Z,44nm,0.8s							
KKN	Kakani	15.10	331	*e*P		P	15 15 55.4	-0.9
LSA	Lhasa	15.10	352	P		P	15 15 54.7	-1.7
LSA	Lhasa	15.10	352	*e*P		P	15 15 54.6	-1.8
LSA				pmax		pmax		
	comp=Z,14nm,0.8s							
LSA	Lhasa	15.10	352	*e*Pn		P	15 15 54.6	-1.8
	comp=Z,14nm,0.8s							
GKN	Gorkha	15.58	330	*e*P		P	15 16 01.6	-1.0
	comp=Z,42nm,0.6s							
KOLN	Koldanda	15.92	326	*e*P		P	15 16 04.2	-2.8
	comp=Z,36nm,0.7s							
GYA	Guiyang	17.03	44	⇓*i*P		P	15 16 24.0	+3.0
GYA				AMB		AMB		
	comp=Z,10.0nm,0.9s							
BHPL	Bhopal	17.37	302	*e*P		P	15 16 28.2	+2.9
BHPL				AMb		AMB	15 16 37.2	
	comp=Z,14nm,0.9s							
CD2	Chengdu	18.73	29	*e*P		P	15 16 40.5	-1.5
CD2				AMB		AMB		
	comp=Z,10.0nm,0.4s							
POO	Poona	19.17	284	*e*		P	15 16 42.0	-5.3
	comp=Z,20nm,1.0s							
POO				*i*			15 20 07.0	
NDI	New Delhi	20.50	315	*e*		S	15 20 40.0	-4.9
DDI	Dehra Dun	21.05	320	*e*P		P	15 17 11.0	+3.6
ENH	Enshi	21.42	41	*e*P		P	15 17 10.4	-0.7
	comp=Z,17nm,0.9s,mb4.4							
LZH	Lanzhou	23.26	22	*e*P		P	15 17 29.5	+0.1
LZH				AP			15 17 38.7	
LZH				XP			15 17 42.8	
LZH				AMB		AMB		
	comp=Z,29nm,1.3s,mb4.5							
LZH				AMB		AMB		
	comp=Z,113nm,5.5s							
LZH				LR		LR		
	comp=N,521nm,12.8s							
LZH				LR		LR		
	comp=Z,571nm,16.9s,MS4.1							
XAN	Xi'an	23.82	33	P		P	15 17 35.3	+0.5
XAN				AP			15 17 41.3	
XAN				AMB		AMB		
	comp=Z,15nm,0.9s,mb4.4							
GTA	Gaotai	25.27	12	*e*P		P	15 17 50.0	+1.3
GTA				AP		pP	15 17 58.3	+2.3
GTA				XP		sP	15 18 01.5	+2.2
GTA				PPP		PPP	15 18 51.1	+13
GTA				PCP		PcP	15 21 24.4	+2.0
GTA				AMB		AMB		
	comp=Z,7.0nm,0.8s,mb4.2							
GTA				AMB		AMB		
	comp=Z,120nm,9.9s							
GTA				LR		LR		
	comp=N,155nm,21.0s,MS3.6							
GTA				LR		LR		
	comp=E,101nm,18.7s,MS3.6							
GTA				LR		LR		
	comp=Z,154nm,20.3s,MS3.5							
NJ2	Nanjing	28.92	49	*e*P		P	15 18 19.9	-2.2
NJ2				AP		pP	15 18 29.1	-0.4
NJ2				XP		sP	15 18 34.5	+1.7
NJ2				PP		PP	15 19 16.0	+0.1
NJ2				S		S	15 23 13.0	+3.2
NJ2				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,200nm,4.4s							
NJ2				LR		LR		
	comp=N,690nm,19.7s							
NJ2				LR		LR		
	comp=E,350nm,14.6s							
NJ2				LR		LR		
	comp=Z,250nm,13.0s							
SSE	Sheshan	30.21	53	P		P	15 18 28.9	-4.8
	comp=Z,28nm,0.7s,mb5.1							
SSE				pP		pP	15 18 37.8	-3.3
SSE				PP		PP	15 19 38.2	+5.5
SSE				S		S	15 23 30.3	0.0
SSE				sS			15 23 43.0	
SSE				SS		SS	15 25 41.0	+32
SSE				LR		LR		
	comp=Z,70nm,15.6s,MS3.4							
MKAR	Makanchi Array	33.35	346	P		P	15 19 02.3	+1.3
	comp=Z,1.4nm,0.8s,mb3.9,baz=157,slow=9.2,SNR=12							
SONM	Songino Array	34.76	15	P		P	15 19 13.7	+0.5
	comp=Z,5.3nm,1.0s,mb4.4,baz=203,slow=9.4,SNR=25							
SONM				LR		LR	15 35 06.2	
	comp=Z,109nm,21.9s,MS3.5,baz=199,slow=39							
ULN	Ulaanbaatar	34.96	16	*e*P		P	15 19 15.8	+0.9
ULN				*e*PP		pP	15 19 22.8	+0.4
ULN				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
ULN	Ulaanbaatar	34.96	16	*e*P		P	15 19 15.8	+0.9
	comp=Z,2.5nm,0.7s,mb4.2							
ULN				*e*pP		pP	15 19 22.8	+0.4
ZAK	Zakamensk	36.49	11	*e*P		P	15 19 28.0	+0.1
ZAK				*e*			15 20 52.0	
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.4s,mb3.9							
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.3s,mb3.6							
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.4s,mb3.5							
TLY	Talaya	37.81	10	*e*P		P	15 19 37.7	-1.2
TLY				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.0							
TLY				MLR		MLR		
	comp=Z,88nm,17.0s,MS3.6							
KURK	Kurchatov	37.90	345	*e*P		P	15 19 40.8	+1.2
KURK				*e*PP		pP	15 19 46.5	-0.6
KURK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.3							
KURK	Kurchatov	37.90	345	*e*P		P	15 19 40.8	+1.2
	comp=Z,5.1nm,0.8s,mb4.3							
KURK				*e*pP		pP	15 19 46.5	-0.7
ZAL	Zalesovo	39.76	352	P		P	15 19 56.2	+1.0
	comp=Z,1.7nm,0.7s,mb3.9,baz=301,slow=7.2,SNR=11							
ZAL				LR		LR	15 40 22.8	
	comp=Z,67nm,18.1s,MS3.5,baz=120,slow=42							
ZAL	Zales

SOC				pmax	pmax		
	comp=E,13nm,0.7s						
ASAR	**Alice Springs**	**54.92 133**		**P**	**P**	**15 21 52.0**	**-2.2**
	comp=E,1.0nm,0.8s,mb3.9,baz=313,slow=6.6,SNR=14						
ASAR				PcP	PcP	15 22 58.5	+2.6
	comp=E,0.5nm,0.6s,baz=306,slow=3.5,SNR=5.6						
BRTR	**Keskin Array B**	**57.61 308**		P	**P**	**15 22 13.1**	**-0.2**
	comp=E,0.4nm,0.5s,mb3.8,baz=154,slow=9.1,SNR=3.2						
OBN	**Obninsk**	**59.34 326**		P	**P**	**15 22 28.0**	**+2.9**
OBN				*e*	pP	15 22 35.4	+2.5
OBN						15 23 10.0	
TIXI	**Tiksi**	**60.75**	**12**	*i* P	**P**	**15 22 33.5**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,13nm,1.8s,mb4.8						
MA2	**Magadan**	**61.14**	**29**	*e*P	**P**	**15 22 36.5**	**-0.8**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
MA2	**Magadan**	**61.14**	**29**	*e*P	**P**	**15 22 36.5**	**-0.7**
	comp=Z,5.9nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**65.35 136**		P	**P**	**15 23 03.8**	**-1.8**
	comp=Z,1.1nm,0.7s,mb4.0,baz=305,slow=22,SNR=3.2						
FINES	**FINESS Array B**	**66.44 331**		P	**P**	**15 23 10.9**	**-1.0**
	comp=Z,1.2nm,0.8s,mb4.0,baz=124,slow=6.9,SNR=4.1						
FINES				LR	LR	15 57 06.2	
	comp=Z,55nm,18.2s,MS3.8,baz=138,slow=40						
GERES	**GERESS Array B**	**72.37 317**		P	**P**	**15 23 49.4**	**+0.8**
	comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=14						
KHC	**Kasperske Hory**	**72.44 317**		*e*P	**P**	**15 23 56.0**	**+7.0**
KHC	**Kasperske Hory**	**72.44 317**		epP	pP	15 23 56.0	-0.9
NOA	**NORSAR Array B**	**73.52 330**		P	**P**	**15 23 55.7**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=56,slow=20,SNR=2.5						
LPG	**La Plagne**	**77.40 314**		*e*P	**P**	**15 24 19.2**	**+1.8**
	comp=Z,13nm,0.9s,mb4.5						
LPG	**La Plagne**	**77.40 314**		*e*P	**P**	**15 24 19.2**	**+1.8**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
LPL	**La Plagne**	**77.41 314**		*e*P	**P**	**15 24 19.2**	**+1.7**
	comp=Z,15nm,0.8s,mb4.7						
LPL	**La Plagne**	**77.41 314**		*e*P	**P**	**15 24 19.2**	**+1.7**
LPL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ORIF	**Oris-en-Rattie**	**78.09 313**		*e*P	**P**	**15 24 22.6**	**+1.3**
ILAR	**Eielson Array**	**88.73 22**		P	**P**	**15 25 16.4**	**+1.3**
	comp=Z,0.5nm,0.9s,mb3.8,baz=279,slow=2.6,SNR=4.3						
VNDA	**Vanda**	**99.69 168**		LR	LR	16 06 06.3	
	comp=Z,77nm,18.1s,MS4.2,baz=177,slow=32						

IDC 04 15:21:08.9±30.0, 20.97S×178.87W, mb4.5/4, mb1 4.6/4, mb1mx4.1/15, mbtmp4.5/4, 4D, Error ellipse: s-maj=566.4km s-min=130.7km az=89.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.64**	**265**	⇓*i*P	P	15 27 48.9	+4.0
	5.1nm,0.3s						
STKA	**Stephens Creek**	**36.85**	**245**	⇓*i*P	P	15 28 17.5	-3.4
	2.6nm,0.6s						
STKA	**Stephens Creek**	**36.85**	**245**	P	P	15 28 17.5	-3.4
	2.9nm,0.6s,baz=92,slow=8.0,SNR=14						
ASAR	**Alice Springs**	**43.62**	**257**	P	P	15 29 15.4	-1.6
	3.5nm,0.7s,baz=93,slow=7.2,SNR=99						
ASPA	**Alice Springs**	**43.62**	**257**	*e*P	P	15 29 15.5	-1.5
WB2	**Warramunga Arr**	**43.72**	**263**	⇓*i*P	P	15 29 17.3	-0.6
WRA	**Warramunga Arr**	**43.73**	**263**	P	P	15 29 17.5	-0.5
	1.7nm,0.3s,baz=91,slow=8.4,SNR=69						
KNA	**Kununurra**	**49.80**	**267**	⇓*i*P	P	15 30 03.8	-2.0
	1.3nm,1.0s						
FITZ	**Fitzroy Crossi**	**52.16**	**263**	P	P	15 30 21.7	-2.0
	4.8nm,0.6s,baz=63,slow=4.1,SNR=12						

CASC 04 15:35:41.6±2.0, 13.14N×90.43W, h25km±6km, MD4.0, 6C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.03**	**358**	⇑*e*P	Pn	15 35 59.8	-0.8
IXG				*e*S	Sb	15 36 14.4	+0.7
SBLS	**San Blas**	**1.04**	**48**	⇑*e*P	Pn	15 36 00.7	-0.1
RTR	**El Retiro**	**1.07**	**45**	⇓*e*P	Pn	15 36 01.4	+0.3
RTR				*e*S	Sb	15 36 17.7	+2.9
SNJE	**San Jose**	**1.08**	**48**	⇑*e*P	Pn	15 36 01.1	-0.1
SNJE				*e*S	Sb	15 36 16.1	+1.0
RBDL	**Robledal**	**1.20**	**37**	⇓*e*P	Pn	15 36 03.3	+0.2
RBDL				*e*S	Sn	15 36 20.0	+1.4
BOQS	**Boqueron**	**1.26**	**62**	⇑*e*P	Pn	15 36 03.7	-0.2
BOQS				*e*S	Sn	15 36 21.3	+1.2
LFRS	**El Faro**	**1.41**	**70**	⇓*e*P	Pn	15 36 05.4	-0.6
LFRS				*e*S	Sn	15 36 22.9	-1.0
LBRS	**Las Brisas**	**1.47**	**66**	⇓*e*P	Pn	15 36 07.0	+0.2
LBRS				*e*S	Sn	15 36 25.3	-0.1
LCBS	**La Ceiba**	**1.50**	**70**	⇓*e*P	Pn	15 36 06.6	-0.6
LCBS				*e*S	Sn	15 36 25.8	-0.3
SNVI	**San Vicente**	**1.61**	**73**	*e*P	Pn	15 36 08.2	-0.7
MTO2	**Montecristo 2**	**1.62**	**39**	⇑*e*P	Pn	15 36 09.6	+0.5
TP2	**Tecpan 2**	**1.73**	**341**	⇑*e*P	Pn	15 36 10.6	0.0
TP2				*e*S	Sn	15 36 34.3	+2.2
BLLM	**Bellamira**	**2.15**	**82**	*e*P	Pn	15 36 17.2	+0.6
BLLM				*e*S	Sn	15 36 44.5	+1.8

IDC 04 15:53:42.7±1.3, 26.53N×142.51E, mb3.9/6, mb1 4.0/6, mb1mx3.6/21, mbtmp3.9/6, Error ellipse: s-maj=47.0km s-min=13.1km az=70.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.64**	**333**	Pn	Pn	15 53 59.2	+0.6
	177nm,0.3s,baz=90,slow=23,SNR=20						
CBIJ				Sn	Sn	15 54 10.7	+1.1
	263nm,0.3s,baz=297,slow=23,SNR=24						
HNR	**Honiara**	**39.55**	**152**	P	P	16 01 16.8	-0.6
	58nm,0.7s,baz=238,slow=14,SNR=6.4						
CMAR	**Chiang Mai Arr**	**40.89**	**268**	P	P	16 01 27.8	-0.5
	0.4nm,0.5s,baz=72,slow=5.7,SNR=4.4						
WRA	**Warramunga Arr**	**46.87**	**191**	P	P	16 02 14.3	-2.3
	1.3nm,0.5s,baz=10,slow=8.5,SNR=8.1						
ASAR	**Alice Springs**	**50.59**	**190**	P	P	16 02 41.8	-3.6
	0.4nm,1.0s,baz=4.5,slow=5.4,SNR=4.8						
MKAR	**Makanchi Array**	**51.06**	**310**	P	P	16 02 46.6	-2.1
	0.1nm,0.5s,baz=91,slow=8.6,SNR=4.1						
FINES	**FINESS Array B**	**78.58**	**334**	P	P	16 05 45.4	-1.9
	0.7nm,0.5s,baz=56,slow=6.9,SNR=6.9						

*TAP **04** 15:56:16.7, 24.47N×121.83E, h18km, ML3.4*
TAP Felt IV J at Nanau, I J at Suao, I J at Nioudou, I J at Nanshan.
*JMA **04** 15:56:16.3±0.4, 24.09N×121.89E, h27km, M2.4*
ISC 04 15:56:16.7±0.4, 24.45N±0.02×121.92E±0.02, h14km±2km, n52, σ0°88/79, 2C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.17**	**261**	⇑*i*P	**Pg**	**15 56 20.9**	**0.0**
ENA				S	**Sg**	**15 56 23.6**	**0.0**
TWC	**Suao**	**0.17**	**337**	*i* P	**Pg**	**15 56 21.5**	**+0.6**
TWC				S	**Sg**	**15 56 24.2**	**+0.5**
ILA	**Ilan**	**0.35**	**333**	*i* P	**Pg**	**15 56 24.2**	**+0.1**
ILA				S	**Sg**	**15 56 29.0**	**-0.1**
TWE	**Neicheng**	**0.35**	**319**	⇓*i*P	**Pg**	**15 56 23.9**	**-0.3**
TWE				S	**Sg**	**15 56 28.3**	**-0.9**
ENTT	**Nioudou**	**0.37**	**300**	⇓*i*P	**Pg**	**15 56 24.0**	**-0.6**
ENTT				S	**Sg**	**15 56 28.9**	**-0.9**
EGS		**0.39**	**1**	⇑*i*P	**Pg**	**15 56 25.3**	**+0.4**
EGS				S	**Sg**	**15 56 31.2**	**+0.9**
TWD	**Chiawan**	**0.48**	**219**	*i* P	**Pb**	**15 56 25.7**	**-0.7**
TWD				S	**Sb**	**15 56 32.1**	**-0.8**
NNS	**Nan Shan**	**0.50**	**269**	⇓*i*P	**Pb**	**15 56 26.0**	**-0.8**
NNS				S	**Sb**	**15 56 32.0**	**-1.6**
HWA	**Hwalien**	**0.56**	**211**	*e*P	**Pb**	**15 56 27.8**	**0.0**
HWA				S	**Sb**	**15 56 35.8**	**+0.6**
TWB1	**Santiao Chiao**	**0.56**	**6**	*i* P	**Pb**	**15 56 28.0**	**+0.2**
TWB1				S	**Sb**	**15 56 35.0**	**-0.2**
NSK	**Sanguang**	**0.56**	**293**	⇓*i*P	**Pb**	**15 56 27.0**	**-0.8**
NSK				S	**Sb**	**15 56 33.8**	**-1.6**
TWA	**Mucha**	**0.61**	**330**	*e*P	**Pb**	**15 56 29.1**	**+0.4**
TWA				S	**Sb**	**15 56 36.6**	**-0.2**
NWF	**Wu-fen Shan**	**0.63**	**348**	P	**Pb**	**15 56 29.1**	**+0.2**
NWF				S	**Sb**	**15 56 37.0**	**-0.3**
TAP1	**Taipei**	**0.69**	**328**	*e*P	**Pb**	**15 56 30.3**	**+0.3**
TAP1				S	**Sb**	**15 56 39.0**	**0.0**
TAP	**Taipei**	**0.69**	**327**	*e*P	**Pb**	**15 56 30.1**	**0.0**
TAP				S	**Sb**	**15 56 39.0**	**-0.3**
TWT	**Tachien**	**0.71**	**254**	*e*P	**Pb**	**15 56 30.0**	**-0.4**
ESL	**Shilin**	**0.78**	**215**	*e*P	**Pb**	**15 56 30.9**	**-0.7**
ESL				S	**Sb**	**15 56 42.1**	**+0.4**
TWS1	**Kuangyinshan**	**0.79**	**325**	*e*P	**Pb**	**15 56 32.4**	**+0.6**
TWS1				S	**Sb**	**15 56 43.2**	**+1.2**
NCU	**National Centr**	**0.84**	**308**	*e*P	**Pb**	**15 56 33.1**	**+0.4**
NCU				S	**Sb**	**15 56 43.9**	**+0.3**
NSTT	**Nanjuang**	**0.86**	**282**	*e*P	**Pb**	**15 56 32.4**	**-0.5**
NSTT				S	**Sb**	**15 56 42.6**	**-1.4**
TWY	**Chenhua**	**0.87**	**340**	*e*P	**Pb**	**15 56 33.7**	**+0.6**
TWY				S	**Sb**	**15 56 45.1**	**+0.8**
HSN	**Hsinchu**	**0.93**	**292**	*e*P	**Pb**	**15 56 34.1**	**-0.1**
HSN				S	**Sb**	**15 56 46.6**	**+0.4**
YOJ	**Yonaguni jima**	**0.99**	**89**	P	**Pb**	**15 56 35.9**	**+0.7**
YOJ				S	**Sb**	**15 56 50.0**	**+2.0**
TWQ1	**Liyutan**	**1.05**	**265**	*e*P	**Pb**	**15 56 36.8**	**+0.6**
NSY	**Sanyi**	**1.06**	**268**	*e*P	**Pb**	**15 56 37.4**	**+1.1**
EHY	**Hungye**	**1.09**	**210**	*e*P	**Pb**	**15 56 35.3**	**-1.6**
EHY				S	**Sb**	**15 56 52.4**	**+1.7**
SMLT	**Sun Moon Lake**	**1.09**	**239**	*e*P	**Pb**	**15 56 36.6**	**-0.3**
TYC	**Yuchr**	**1.11**	**241**	*e*P	**Pb**	**15 56 36.4**	**-0.9**
TCU	**Taichung**	**1.18**	**255**	*e*P	**Pb**	**15 56 39.7**	**+1.4**
PCYT	**Pengchaiyu**	**1.18**	**7**	*e*P	**Pb**	**15 56 34.9**	**-3.6**
TWF1	**Yuli**	**1.24**	**208**	*e*P	**Pb**	**15 56 37.7**	**-1.7**
WNT	**Mingjian**	**1.27**	**243**	*e*P	**Pb**	**15 56 41.4**	**+1.5**
YUS	**Yu-Shan**	**1.31**	**223**	*e*P	**Pb**	**15 56 40.0**	**-0.5**
ALS	**Alishan**	**1.39**	**228**	*e*P	**Pn**	**15 56 42.2**	**+0.4**
CHN5	**Tsauling**	**1.42**	**233**	*e*P	**Pn**	**15 56 42.8**	**+0.5**
WGK	**Gukeng**	**1.46**	**239**	*e*P	**Pn**	**15 56 42.8**	**-0.1**
ELDTW	**Lidau**	**1.51**	**214**	*e*P	**Pn**	**15 56 42.6**	**-0.9**
CHN4	**Tsaushan**	**1.64**	**228**	*e*P	**Pn**	**15 56 46.4**	**+1.0**
CHN4				S	**Sn**	**15 57 08.7**	**+2.3**
IRIF	**Iriomote-Funau**	**1.65**	**94**	P	**Pn**	**15 56 45.1**	**-0.5**
IRIF				S	**Sn**	**15 57 05.4**	**-1.4**
STYT	**Tauyuan**	**1.67**	**220**	*e*P	**Pn**	**15 56 45.1**	**-0.8**
WTP	**Ta-pu**	**1.70**	**225**	*e*P	**Pn**	**15 56 46.5**	**+0.3**
HATJ	**Hateruma jima**	**1.77**	**103**	P	**Pn**	**15 56 45.6**	**-1.6**
TWK	**Hsinying**	**1.77**	**228**	*e*P	**Pn**	**15 56 47.7**	**+0.5**
CHN1	**Nanshi**	**1.79**	**226**	*e*P	**Pn**	**15 56 48.8**	**+1.2**
TWG	**Pinlang**	**1.80**	**206**	*e*P	**Pn**	**15 56 46.5**	**-1.3**
SGST	**Jiashian**	**1.83**	**222**	*e*P	**Pn**	**15 56 49.3**	**+1.0**
JKRS	**Kuro-shima**	**1.92**	**96**	P	**Pn**	**15 56 49.2**	**-0.2**
JKRS				S	**Sn**	**15 57 13.2**	**-0.3**
JIJ	**Ishigaki jima**	**2.03**	**92**	P	**Pn**	**15 56 50.4**	**-0.6**
JIJ				S	**Sn**	**15 57 15.1**	**-1.2**
ECL	**Taimali**	**2.05**	**206**	*e*P	**Pn**	**15 56 47.3**	**-4.0**
SSD	**Sandimen**	**2.07**	**215**	*e*P	**Pn**	**15 56 52.5**	**+0.9**
EAST	**Anshuo**	**2.28**	**206**	*e*P	**Pn**	**15 56 56.4**	**+1.7**
JTJ	**Tarama**	**2.54**	**85**	P	**Pn**	**15 56 58.8**	**+0.5**

IDC 04 16:05:28.6±2.1, 6.64S×129.40E, mb3.4/1, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML3.7/3, MS4.4/1, Ms1 4.4/1, ms1mx2.9/17, Error ellipse: s-maj=79.9km s-min=28.1km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.97**	**198**	Pn	P	16 08 22.0	-1.6
	0.8nm,0.3s,baz=20,slow=11,SNR=21						
FITZ				Sn	S	16 10 23.3	-16
	0.5nm,0.3s,baz=10,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**14.06**	**161**	Pn	P	16 08 48.5	-3.1
	0.4nm,0.3s,baz=338,slow=12,SNR=9.1						
WRA				Sn	S	16 11 10.0	-20
	0.4nm,0.3s,baz=334,slow=22,SNR=7.8						
ASAR	**Alice Springs**	**17.47**	**166**	P	P	16 09 33.4	-2.1
	0.3nm,0.3s,baz=345,slow=9.7,SNR=33						
ASAR				S	S	16 12 36.2	-13
	0.1nm,0.3s,baz=350,slow=26,SNR=5.0						
DZM	**Mont Dzumac**	**38.88**	**117**	LR	LR	16 25 49.3	
	comp=Z,564nm,21.3s,baz=298,slow=31						
MKAR	**Makanchi Array**	**67.60**	**327**	P	P	16 16 27.2	-2.1
	0.2nm,0.4s,baz=119,slow=7.6,SNR=5.6						

*LDG **04** 16:13:43.8±0.4, 14.44S×169.43E, h10km, Error ellipse: s-maj=78.8km s-min=3.8km az=104.0*
*IDC **04** 16:13:53.7±7.7, 14.68S×167.22E, h83km±80km, mb3.8/7, mb1 4.0/8, mb1mx3.8/17, mbtmp4.1/8, ML4.5/1, Error ellipse: s-maj=61.7km s-min=29.3km az=149.0*
*NEIC **04** 16:13:54.3±2.8, 14.70S×167.17E, h86km±27km, Error ellipse: s-maj=30.7km s-min=14.1km az=161.0*
ISC 04 16:13:53.2±3.7, 14.7S±0.2×167.2E±0.2, h90km±39km, n32, σ0°75/17, mb3.8/7, 13C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.32**	**185**	*e*P	**P**	**16 15 39.4**	**+0.2**
DZM				*e*S	**S**	**16 17 00.5**	**-0.9**
DZM	**Mont Dzumac**	**7.32**	**185**	P	**P**	**16 15 39.3**	**0.0**
	8.1nm,0.3s,baz=287,slow=23,SNR=76						
DZM				S	**S**	**16 17 02.0**	**+0.6**
	4.5nm,0.3s,baz=329,slow=22,SNR=6.4						
DZM	**Mont Dzumac**	**7.32**	**185**	*e*P	**P**	**16 15 39.4**	**+0.2**
DZM				*e*S	**S**	**16 17 00.5**	**-0.9**
NOUC	**Port Laguerre**	**7.36**	**186**	*e*P	**P**	**16 15 39.8**	**0.0**
NOUC	**Port Laguerre**	**7.36**	**186**	*e*S	**S**	**16 17 02.9**	**+0.5**
NOUC	**Port Laguerre**	**7.36**	**186**	*e*P	**P**	**16 15 39.8**	**0.0**
NOUC				*e*S	**S**	**16 17 02.9**	**+0.5**
STKA	**Stephens Creek**	**28.90**	**229**	P	**P**	**16 19 46.1**	**+0.3**
	2.0nm,0.5s,mb4.0,baz=43,slow=9.3,SNR=11						
WRA	**Warramunga Arr**	**31.71**	**256**	P	**P**	**16 20 09.5**	**-1.1**
	0.4nm,0.5s,mb3.4,baz=90,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**32.56**	**249**	P	**P**	**16 20 17.2**	**-0.9**
	1.4nm,0.5s,mb4.1,baz=79,slow=9.0,SNR=78						
FITZ	**Fitzroy Crossi**	**39.90**	**259**	P	**P**	**16 21 20.9**	**+0.9**
	3.7nm,0.6s,mb4.4,baz=38,slow=6.0						
SONM	**Songino Array**	**82.44**	**24**	P	**P**	**16 26 07.8**	**+0.9**
	0.3nm,0.4s,mb3.5,baz=132,slow=5.9,SNR=4.2						
ILAR	**Eielson Array**	**86.57**	**18**	P	**P**	**16 26 26.0**	**-1.1**
	0.5nm,0.7s,mb3.5,baz=237,slow=4.8,SNR=5.8						
MKAR	**Makanchi Array**	**97.14**	**316**	P	**P**	**16 27 17.2**	**+0.7**
	0.3nm,0.5s,mb4.0,baz=86,slow=6.6,SNR=7.7						
GIVF	**Givet**	**141.92**	**342**	*e*PKP1	PKPdf	16 33 16.9	+2.5
CDF	**Champ du Feu**	**142.54**	**338**	*e*PKP1	PKPdf	16 33 16.9	+1.4
CABF	**La Chapelle**	**144.50**	**337**	⇑*i*PKP1	PKPbc	16 33 20.1	+1.3
FLN	**La Foliniere**	**144.58**	**346**	*e*PKP1	PKPbc	16 33 20.9	+2.0
LDF	**La Druitiere**	**144.65**	**345**	⇑*i*PKP1	PKPbc	16 33 20.9	+1.8
SSF	**Saint Saulge**	**145.01**	**340**	⇑*i*PKP1	PKPbc	16 33 21.5	+1.3
	8.8nm,0.6s						
GRR	**Gorron**	**145.02**	**346**	⇑*i*PKP1	PKPbc	16 33 21.0	+0.8
	5.2nm,0.5s						
LPL	**La Plagne**	**145.16**	**336**	⇑*i*PKP1	PKPbc	16 33 22.4	+1.8
	4.5nm,0.6s						
LPG	**La Plagne**	**145.17**	**336**	⇑*i*PKP1	PKPbc	16 33 22.5	+1.9
	7.5nm,0.7s						
SMF	**Signal de Mont**	**145.26**	**340**	⇑*i*PKP1	PKPbc	16 33 22.1	+1.3
AVF	**Avril sur Loir**	**145.30**	**340**	*e*PKP1	PKPbc	16 33 22.3	+1.4
ROSF	**Rostrenen**	**145.58**	**349**	*e*PKP1	PKPbc	16 33 21.9	+0.3
BGF	**Bois d'Agland**	**145.67**	**341**	⇑*i*PKP1	PKPbc	16 33 23.3	+1.5
	7.7nm,0.5s						
MBDF	**Montbardon**	**145.79**	**335**	⇑*i*PKP1	PKPbc	16 33 24.3	+2.1
	7.1nm,0.7s						
ORIF	**Oris-en-Rattie**	**145.99**	**336**	⇑*i*PKP1	PKPbc	16 33 25.3	+2.6
	10nm,0.8s						
TCF	**Toulx Ste Croi**	**146.11**	**341**	⇑*i*PKP1	PKPbc	16 33 24.5	+1.6
MFF	**Saint Martin d**	**146.50**	**344**	⇑*i*PKP1	PKPbc	16 33 25.6	+1.8
	7.8nm,0.7s						
RJF	**Les Rejaudoux**	**147.21**	**341**	⇑*i*PKP1	PKPdf	16 33 26.8	+3.2
MTLF	**Montolieu**	**148.71**	**339**	*e*PKP1	PKPdf	16 33 31.7	+5.6

*IDC **04** 16:31:54.9±3.0, 0.33S×96.98E, mb3.9/6, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=117.1km s-min=19.2km az=59.0*
*NEIC **04** 16:31:59.5±0.9, 0.28S×97.06E, h30km, mb4.1/1, Error ellipse: s-maj=25.4km s-min=11.1km az=66.0*
ISC 04 16:31:57.2±1.2, 0.3S±0.1×97.0E±0.2, h30km, n11, σ0°69/10, mb3.9/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.58**	**33**	*e*Pn	**Pn**	**16 33 34.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**18.68**	**6**	P	**P**	**16 36 15.8**	**+0.2**
	0.1nm,0.3s,baz=195,slow=12,SNR=9.2						
FITZ	**Fitzroy Crossi**	**33.24**	**124**	P	**P**	**16 38 33.9**	**-0.4**
	4.3nm,1.0s,mb4.3,baz=280,slow=4.1,SNR=3.5						
WRA	**Warramunga Arr**	**41.43**	**120**	P	**P**	**16 39 42.8**	**-0.3**
	0.9nm,0.8s,mb3.4,baz=292,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**42.67**	**126**	P	**P**	**16 39 54.0**	**+0.7**
	1.3nm,0.7s,mb3.8,baz=296,slow=7.9,SNR=19						
SONM	**Songino Array**	**48.58**	**8**	P	**P**	**16 40 41.3**	**+1.3**
	0.2nm,0.5s,mb3.4,baz=180,slow=8.6,SNR=2.8						
MKAR	**Makanchi Array**	**48.60**	**347**	P	**P**	**16 40 40.7**	**+0.5**
	1.1nm,0.5s,mb4.1,baz=156,slow=8.3,SNR=15						
ZAL	**Zalesovo**	**54.95**	**351**	P	**P**	**16 41 27.3**	**-0.5**
	1.2nm,0.4s,mb4.3,baz=321,slow=6.6,SNR=4.9						
ZAL	**Zalesovo**	**54.95**	**351**	P	**P**	**16 41 27.3**	**-0.5**
CHKZ	**Chkalovo**	**58.04**	**342**	P	**P**	**16 41 48.8**	**-1.1**
	1.4nm,0.8s,mb4.0						
TXAR	**Lajitas Array**	**144.98**	**33**	PKPbc	PKPbc	16 51 35.0	+2.6
	0.8nm,1.0s,baz=315,slow=3.5,SNR=3.8						

*NIED **04** 16:59:00, 32.90N×141.80E, h5km, Mw4.4 Best double couple: M0 5.25×10^15 NP1:φs 175°, δ58°, λ90°. NP2:φs 355°, δ32°, λ90°.*
*IDC **04** 16:59:29.2±0.6, 32.74N×141.75E, mb4.1/18, mb1 4.3/19, mb1mx4.2/25, mbtmp4.2/19, ML4.2/1, MS3.9/9, Ms1 3.9/9, ms1mx3.5/31, Error ellipse: s-maj=18.5km s-min=14.1km az=83.0*
*JMA **04** 16:59:29.5±0.5, 32.90N×141.83E, M3.9*
*MOS **04** 16:59:31.9±1.2, 32.72N×141.76E, h33km, mb4.6/8, Error ellipse: s-maj=19.5km s-min=9.4km az=115.4*
*BJI **04** 16:59:32.2, 32.80N×141.80E, h33km, mB4.6, mb3.9, Ms4.3, Msz4.0*
*NEIC **04** 16:59:34.3±3.8, 32.76N×141.75E, h33km±26km, mb4.5/13, MW4.4(NIED), Error ellipse: s-maj=11.7km s-min=8.0km az=91.0*
ISC 04 16:59:29.8±1.6, 32.79N±0.04×141.95E±0.06, h18km±12km, n79, σ1°01/86, mb4.3/32, MS3.9/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.82**	**281**	P	**Pn**	**17 00 01.2**	**+0.5**
JHJ	**Hachijo jima 2**	**1.85**	**281**	Pn	**Pn**	**17 00 01.0**	**-0.2**
	62nm,0.3s,baz=69,slow=18,SNR=6.8						
JHJ				LR	LR	17 00 22.3	
	comp=Z,3μm,20.9s,baz=294,slow=32						
JHJ				Sn	**Sn**	**17 00 26.1**	**+1.9**
	120nm,0.3s,baz=78,slow=22,SNR=6.9						
BSO1	**Boso 1**	**2.02**	**337**	P	**Pn**	**17 00 03.9**	**+0.3**
BSO1				*e*S	**Sn**	**17 00 28.1**	**-0.6**
BSO3	**Boso 3**	**2.34**	**329**	P	**Pn**	**17 00 08.4**	**+0.3**
BSO4	**Boso 4**	**2.57**	**329**	P	**Pn**	**17 00 12.0**	**+0.6**
BSO4				S	**Sn**	**17 00 45.0**	**+2.5**
KTR	**Katsuura**	**2.71**	**330**	S	**Sn**	**17 00 45.5**	**-0.7**
JIZS	**Izushimoda**	**3.20**	**308**	P	**Pn**	**17 00 20.5**	**+0.1**
JIZS				S	**Sn**	**17 00 58.3**	**-0.2**
JOD2	**Odawara 2**	**3.42**	**317**	P	**Pn**	**17 00 23.0**	**-0.6**
JYN	**Shimob**	**3.91**	**315**	P	**Pn**	**17 00 31.5**	**+1.1**
JYN				S	**Sn**	**17 01 20.4**	**+4.1**
JRY	**Ryogami san**	**4.09**	**323**	P	**Pn**	**17 00 34.0**	**+1.0**
JRY				S	**Sn**	**17 01 21.2**	**+0.3**
JAG	**Ashikaga**	**4.17**	**331**	P	**Pn**	**17 00 33.9**	**-0.2**
JAG				*e*S	**Sn**	**17 01 21.2**	**-1.8**
JIE	**Ise**	**4.66**	**291**	P	**Pn**	**17 00 41.4**	**+0.3**
MAJO	**Matsushiro**	**4.85**	**322**	*e*P	**Pn**	**17 00 43.6**	**-0.2**
MAT	**Matsushiro**	**4.85**	**322**	*e*P	**Pn**	**17 00 44.0**	**+0.2**
MAT				*e*S	**Sn**	**17 01 38.0**	**-2.2**
MAT	**Matsushiro**	**4.85**	**322**	P	**Pn**	**17 00 44.2**	**+0.4**
MAT				S	**Sn**	**17 01 37.9**	**-2.3**
MAT	**Matsushiro**	**4.85**	**322**	P	**Pn**	**17 00 44.3**	**+0.5**
JMM	**

RES	**Resolute Bay**	**66.59**	**14**	*e*P	**P**	**17 10 20.8**	**+0.2**
RES				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
RES	**Resolute Bay**	**66.59**	**14**	*e*P	**P**	**17 10 20.8**	**+0.3**
	comp=Z,3.0nm,1.1s,mb4.2						
YKA	**Yellowknife Ar**	**67.26**	**29**	P	**P**	**17 10 26.3**	**+1.4**
	comp=Z,1.1nm,0.9s,mb3.9,baz=293,slow=6.3,SNR=9.9						
NWAO	**Narrogin (SRO)**	**69.40**	**202**	P	**P**	**17 10 38.5**	**-0.3**
	comp=Z,6.1nm,0.7s,mb4.7,baz=9.5,slow=6.9,SNR=4.6						
FINES	**FINESS Array B**	**72.78**	**333**	P	**P**	**17 10 57.8**	**-0.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=3.8,SNR=6.0						
FFC	**Flin Flon**	**77.04**	**32**	*e*P	**P**	**17 11 24.0**	**+1.0**
FFC				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
FFC	**Flin Flon**	**77.04**	**32**	*e*P	**P**	**17 11 24.0**	**+1.0**
	comp=Z,6.7nm,1.4s,mb4.4						
NVAR	**Mina Array Bea**	**77.19**	**53**	P	**P**	**17 11 27.4**	**+3.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=278,slow=6.4,SNR=3.5						
RAR	**Rarotonga**	**77.33**	**126**	LR	LR	17 37 38.7	
	comp=Z,527nm,21.8s,MS4.8,baz=174,slow=30						
BOZ	**Bozeman (W)**	**77.46**	**44**	*e*P	**P**	**17 11 27.1**	**+1.5**
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BOZ	**Bozeman (W)**	**77.46**	**44**	*e*P	**P**	**17 11 27.1**	**+1.6**
	comp=Z,3.0nm,1.0s,mb4.2						
AKASG	**Malin Array Be**	**77.93**	**323**	P	**P**	**17 11 28.6**	**+0.5**
	comp=Z,0.2nm,0.2s,mb3.6,baz=46,slow=5.9,SNR=6.3						
HFS	**Hagfors**	**78.14**	**336**	P	**P**	**17 11 29.5**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=72,slow=4.6,SNR=2.9						
NB2	**NORSAR Subarra**	**78.27**	**338**	P	**P**	**17 11 29.9**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**78.27**	**338**	P	**P**	**17 11 29.9**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=40,slow=5.6,SNR=6.1						
NOA				LR	LR	17 50 46.5	
	comp=Z,37nm,18.6s,MS3.7,baz=45,slow=39						
NOA	**NORSAR Array B**	**78.27**	**338**	P	**P**	**17 11 29.9**	**+0.2**
NOA				LR	LR	17 50 46.5	
BRTR	**Keskin Array B**	**82.01**	**312**	P	**P**	**17 11 50.1**	**0.0**
	comp=Z,1.3nm,0.9s,mb3.9,baz=108,slow=3.9,SNR=4.9						
SCHQ	**Schefferville**	**89.28**	**16**	LR	LR	17 57 24.9	
	comp=Z,48nm,21.8s,MS3.9,baz=154,slow=39						
TXAR	**Lajitas Array**	**92.34**	**53**	P	**P**	**17 12 43.9**	**+3.4**
	comp=Z,0.8nm,0.9s,mb4.0,baz=278,slow=6.4,SNR=1.8						
TXAR				LR	LR	17 54 49.5	
	comp=Z,80nm,18.5s,MS4.2,baz=185,slow=36						
LPAZ	**La Paz**	**148.23**	**66**	PKPbc	PKPdf	17 19 20.3	+4.5
	comp=Z,0.6nm,0.3s,baz=355,slow=8.4,SNR=4.2						

*LDG **04** 17:07:54.6±0.1, 45.94N×1.39W, h5km, MI4.1/40, Error ellipse: s-maj=1.3km s-min=1.0km az=124.0*
*MDD **04** 17:07:54.8±0.3, 45.92N×1.39W, h11km, mb4.2/30, Error ellipse: s-maj=3.2km s-min=2.6km az=115.0, PRXIMO*
*CSEM **04** 17:07:54.6±0.0, 45.92N×1.38W, h10km, ML4.0/46, Error ellipse: s-maj=0.8km s-min=0.7km az=115.0*
*NEIC **04** 17:07:55.0, 45.92N×1.43W, h10km, ML4.2(STR), ML4.1(LDG), After STR.*
STR 04 17:07:55.0±0.1, 45.92N×1.43W, h10km±1km, MI4.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLEF	**Ile d'Oleron**	**0.06**	**67**	Pg	Pg	17 07 56.9	-0.3
OLEF				Sg	Sg	17 07 58.0	-0.6
LRYF	**La Roche-sur-Y**	**0.66**	**353**	Pg	Pg	17 08 07.3	-1.1
LRYF				Sg	Sg	17 08 16.4	-0.9
CHIF	**Chize**	**0.74**	**73**	Pg	Pg	17 08 08.9	-1.0
MATF	**Mathat**	**0.80**	**96**	Pg	Pg	17 08 10.5	-0.6
MATF				Sg	Sg	17 08 20.8	-1.1
LCHF	**La Chataignera**	**0.89**	**32**	Pg	Pg	17 08 12.3	-0.5
LCHF				Sg	Sg	17 08 24.3	-0.4
MFF	**Saint Martin d**	**1.12**	**52**	*e*Pn	Pn	17 08 15.6	-1.1
MFF				*e*Pg	Pg	17 08 15.8	-1.7
MFF				*e*Sn	Sn	17 08 28.5	-3.8
MFF				*e*Sg	Sg	17 08 29.4	-3.1
	1μm,0.3s						
MFF	**Saint Martin d**	**1.12**	**52**	Pn	Pn	17 08 15.7	-1.0
MFF				Sn	Sn	17 08 29.3	-3.0
MFF	**Saint Martin d**	**1.12**	**52**	*e*Pg	Pg	17 08 15.8	-1.7
MFF				*e*Sg	Sg	17 08 29.4	-3.1
	554nm,0.3s						
LFF	**La Frestale**	**1.82**	**122**	*e*Pn	Pn	17 08 25.2	-1.4
LFF				*e*Pg	Pg	17 08 27.6	-3.7
LFF				*e*Sn	Sn	17 08 45.5	-4.4
LFF				*e*Sg	Sg	17 08 51.4	-4.1
	906nm,0.3s						
LFF	**La Frestale**	**1.82**	**122**	Pn	Pn	17 08 23.7	-2.9
LFF				Sn	Sn	17 08 47.3	-2.6
LFF	**La Frestale**	**1.82**	**122**	*e*Pg	Pg	17 08 27.6	-3.7
LFF				*e*Sn	Sn	17 08 45.5	-4.4
LFF				*e*Sg	Sg	17 08 51.4	-4.1
	453nm,0.3s						
RJF	**Les Rejaudoux**	**2.16**	**106**	*e*Pn	Pn	17 08 28.8	-2.7
RJF				*e*Pg	Pg	17 08 33.6	-4.5
RJF				*e*Sn	Sn	17 08 53.7	-4.9
RJF				*e*Sg	Sg	17 09 00.8	-6.1
	394nm,0.2s						
RENF	**Rennes**	**2.20**	**356**	Pg	Pg	17 08 37.2	-1.8
QUIF	**Quistinic**	**2.33**	**330**	*e*Pn	Pn	17 08 32.4	-1.5
QUIF				*e*Pg	Pg	17 08 37.4	-4.0
QUIF				*e*Sn	Sn	17 08 58.6	-4.2
QUIF				*e*Sg	Sg	17 09 06.8	-5.7
	235nm,0.3s						
SGMF	**Saint Gilles**	**2.46**	**342**	*e*Pn	Pn	17 08 34.3	-1.5
SGMF				*e*Pg	Pg	17 08 40.0	-4.1
SGMF				*e*Sn	Sn	17 09 01.7	-4.5
SGMF				*e*Sg	Sg	17 09 12.2	-4.7
	228nm,0.3s						
GRR	**Gorron**	**2.50**	**9**	*e*Pn	Pn	17 08 33.6	-2.8
GRR				*e*Pg	Pg	17 08 39.7	-5.2
GRR				*e*Sn	Sn	17 09 02.3	-5.0
GRR				*e*Sg	Sg	17 09 12.0	-6.3
	345nm,0.4s						
TCF	**Toulx Ste Croi**	**2.56**	**80**	*e*Pn	Pn	17 08 35.1	-2.2
TCF				*e*Pg	Pg	17 08 41.8	-4.3
TCF				*e*Sn	Sn	17 09 03.1	-5.7
	226nm,0.2s						
TCF				*e*Sg	Sg	17 09 14.0	-6.2
	282nm,0.2s						
TCF	**Toulx Ste Croi**	**2.56**	**80**	Pn	Pn	17 08 35.3	-2.0
TCF	**Toulx Ste Croi**	**2.56**	**80**	Pn	Pn	17 08 35.1	-2.2
TCF				Sn	Sn	17 09 03.1	-5.7
	113nm,0.2s						
TCF				Lg		17 09 14.0	
	141nm,0.2s						
CAF	**Calviac**	**2.65**	**111**	*e*Pn	Pn	17 08 36.6	-2.0
CAF				*e*Pg	Pg	17 08 43.0	-5.0
CAF				*e*Sn	Sn	17 09 05.4	-5.8
CAF				*e*Sg	Sg	17 09 16.0	-7.4
	252nm,0.2s						
CAF	**Calviac**	**2.65**	**111**	Pn	Pn	17 08 36.8	-1.8
CAF				Lg		17 09 15.4	
OSSF	**Osses**	**2.67**	**177**	Pn	Pn	17 08 36.5	-2.3
EALK	**Alkurruntz**	**2.70**	**181**	Pn	Pn	17 08 37.3	-2.0
	1.4nm,0.1s,SNR=7.9						
ROSF	**Rostrenen**	**2.73**	**333**	*e*Pn	Pn	17 08 37.5	-2.2
ROSF				*e*Pg	Pg	17 08 45.2	-4.2
ROSF				*e*Sn	Sn	17 09 08.1	-4.9
ROSF				*e*Sg	Sg	17 09 20.1	-5.7
	147nm,0.4s						
ROSF	**Rostrenen**	**2.73**	**333**	Pn	Pn	17 08 38.8	-0.9
ROSF				Sn	Sn	17 09 06.9	-6.1
ROSF				Lg		17 09 19.4	
ORDF	**Ordiarp**	**2.73**	**172**	Pn	Pn	17 08 37.2	-2.5
VERF	**Verneugheol**	**2.74**	**92**	Pn	Pn	17 08 37.8	-2.1
SJPF	**Ste Jean**	**2.81**	**177**	*e*Pn	Pn	17 08 38.2	-2.7
SJPF				*e*Pg	Pg	17 08 46.1	-5.0
SJPF				*e*Sn	Sn	17 09 10.4	-4.7
SJPF				*e*Sg	Sg	17 09 21.9	-6.7
	144nm,0.3s						
SJPF	**Ste Jean**	**2.81**	**177**	Pn	Pn	17 08 38.3	-2.6
LDF	**La Druitiere**	**2.82**	**18**	*e*Pn	Pn	17 08 38.2	-2.8
LDF				*e*Pg	Pg	17 08 45.0	-6.3
LDF				*e*Sn	Sn	17 09 08.4	-7.0
LDF				*e*Sg	Sg	17 09 21.8	-7.1
	286nm,0.4s						
FRNF	**Fournols**	**2.85**	**99**	Pn	Pn	17 08 39.0	-2.4
LARF	**Larrau**	**2.90**	**174**	Pn	Pn	17 08 39.3	-2.8
LARF				Pg	Pg	17 08 49.4	-3.5
FLN	**La Foliniere**	**2.92**	**12**	*e*Pn	Pn	17 08 39.4	-3.0
	baz=200						
FLN				*e*Pg	Pg	17 08 46.6	-6.6
	baz=189						
FLN				*e*Sn	Sn	17 09 09.9	-7.9
	baz=190						
FLN				*e*Sg	Sg	17 09 24.7	-7.4
	389nm,0.5s						
FLN	**La Foliniere**	**2.92**	**12**	Pn	Pn	17 08 39.8	-2.6
FLN	**La Foliniere**	**2.92**	**12**	*e*Pg	Pg	17 08 46.6	-6.6
FLN				*e*Sn	Sn	17 09 09.9	-7.9
FLN				*e*Sg	Sg	17 09 24.7	-7.4
	194nm,0.5s						
BGF	**Bois d'Agland**	**3.04**	**76**	*e*Pn	Pn	17 08 41.5	-2.6
BGF				*e*Pg	Pg	17 08 50.3	-5.3
BGF				*e*Sn	Sn	17 09 13.9	-6.9
BGF				*e*Sg	Sg	17 09 28.8	-7.3
	605nm,0.3s						
BGF	**Bois d'Agland**	**3.04**	**76**	Pn	Pn	17 08 41.8	-2.3
BGF				Sn	Sn	17 09 13.9	-6.9
ELAN	**Lanestosa**	**3.04**	**209**	Pn	Pn	17 08 42.0	-2.2
ELAN				Sn	Sn	17 09 15.1	-6.0
ELAN	**Lanestosa**	**3.04**	**209**	Pn	Pn	17 08 42.0	-2.3
	3.3nm,0.2s,SNR=12						
ELAN				Pg	Pg	17 08 49.7	-6.1
	12nm,0.3s,SNR=7.9						
ELAN				Sn	Sn	17 09 16.4	-4.7
	31nm,0.2s						
ELAN	**Lanestosa**	**3.04**	**209**	Pn	Pn	17 08 42.0	-2.2
	3.3nm,0.2s,SNR=12						
ELAN				Sn	Sn	17 09 15.1	-6.0
	31nm,0.2s						
ETSF	**Etsaut**	**3.08**	**168**	*e*Pn	Pn	17 08 41.3	-3.5
ETSF				*e*Pg	Pg	17 08 51.7	-4.9
ETSF				*e*Sn	Sn	17 09 17.0	-5.1
ETSF				*e*Sg	Sg	17 09 30.7	-7.0
	146nm,0.5s						
ETSF	**Etsaut**	**3.08**	**168**	Pn	Pn	17 08 41.3	-3.5
ETSF				Sn	Sn	17 09 17.0	-5.1
ETSF				Lg		17 09 30.7	
	73nm,0.5s						
HYF	**Humbligny**	**3.11**	**63**	*e*Pn	Pn	17 08 42.4	-2.8
HYF				*e*Pg	Pg	17 08 51.6	-5.6
HYF				*e*Sg	Sg	17 09 30.9	-7.8
HYF	**Humbligny**	**3.11**	**63**	*e*Pg	Pg	17 08 51.6	-5.6
HYF				*e*Sg	Sg	17 09 30.9	-7.8
EPF	**Esparros**	**3.15**	**156**	*e*Pn	Pn	17 08 42.8	-3.0
EPF				*e*Pg	Pg	17 08 52.3	-5.7
EPF				*e*Sn	Sn	17 09 18.5	-5.4
EPF				*e*Sg	Sg	17 09 33.7	-6.4
	174nm,0.3s						
EPF	**Esparros**	**3.15**	**156**	Pn	Pn	17 08 42.8	-3.0
EPF				Lg		17 09 32.0	
AGO	**Saint Agoulin**	**3.18**	**86**	Pn	Pn	17 08 43.9	-2.3
LBL	**Lubilhac**	**3.36**	**100**	Pn	Pn	17 08 46.5	-2.1
LBL				Lg		17 09 39.1	
RESF	**Ens**	**3.36**	**157**	Pg	Pg	17 08 57.4	-4.7
ECRI	**Cripan**	**3.40**	**194**	Pn	Pn	17 08 46.6	-2.6
ECRI				Sn	Sn	17 09 25.4	-4.7
ECRI	**Cripan**	**3.40**	**194**	Pn	Pn	17 08 46.6	-2.6
	1.8nm,0.3s,SNR=7.9						
ECRI				Pg	Pg	17 08 56.2	-6.7
	7.5nm,0.4s,SNR=7.9						
ECRI				Sn	Sn	17 09 24.2	-5.9
	6.4nm,0.2s,SNR=7.9						
ECRI				Lg		17 09 40.1	
	23nm,0.3s,SNR=7.9						
ECRI	**Cripan**	**3.40**	**194**	Pn	Pn	17 08 46.6	-2.6
	1.8nm,0.3s,SNR=7.9						
ECRI				Sn	Sn	17 09 25.4	-4.7
	6.4nm,0.2s,SNR=7.9						
AVF	**Avril sur Loir**	**3.42**	**74**	*e*Pn	Pn	17 08 46.3	-3.3
AVF				*e*Pg	Pg	17 08 57.8	-5.6
AVF				*e*Sn	Sn	17 09 23.0	-7.7
AVF				*e*Sg	Sg	17 09 40.5	-8.5
	164nm,0.3s						
AVF	**Avril sur Loir**	**3.42**	**74**	Pn	Pn	17 08 46.3	-3.3
AVF				Lg		17 09 40.5	
	82nm,0.3s						
AVF	**Avril sur Loir**	**3.42**	**74**	Pn	Pn	17 08 45.8	-3.8
EBIE	**Bielsa**	**3.42**	**160**	Pn	Pn	17 08 47.2	-2.4
EBIE				Sn	Sn	17 09 27.0	-3.7
EBIE	**Bielsa**	**3.42**	**160**	Pn	Pn	17 08 47.2	-2.4
	1.9nm,0.1s,SNR=4.9						
EBIE				Pg	Pg	17 08 56.3	-7.1
	15nm,0.2s,SNR=7.9						
EBIE				Sn	Sn	17 09 25.7	-5.0
	13nm,0.1s,SNR=4.9						
EBIE				Lg		17 09 42.0	
	24nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**3.42**	**160**	Pn	Pn	17 08 47.2	-2.4
	1.9nm,0.1s,SNR=21						
EBIE	**Bielsa**	**3.42**	**160**	Pg	Pg	17 08 57.2	-6.2
	11nm,0.2s,SNR=20						
EBIE				Sn	Sn	17 09 27.0	-3.7
	13nm,0.1s,SNR=4.9						
MELF	**Melles**	**3.43**	**152**	Pn	Pn	17 08 45.9	-3.7
MLS	**Moulis**	**3.47**	**148**	Pn	Pn	17 08 48.1	-2.1
PLDF	**La Plantade**	**3.52**	**87**	Pn	Pn	17 08 48.1	-2.9
PLDF				Lg		17 09 44.5	
SSF	**Saint Saulge**	**3.60**	**70**	*e*Pn	Pn	17 08 48.7	-3.3
SSF				*e*Pg	Pg	17 09 00.4	-6.4
SSF				*e*Sn	Sn	17 09 27.2	-7.8
SSF				*e*Sg	Sg	17 09 46.1	-8.6
	100nm,0.3s						
SSF	**Saint Saulge**	**3.60**	**70**	Pn	Pn	17 08 48.8	-3.2
MTLF	**Montolieu**	**3.66**	**133**	*e*Pn	Pn	17 08 50.4	-2.6
MTLF				*e*Pg	Pg	17 09 01.6	-6.6
MTLF				*e*Sn	Sn	17 09 29.9	-6.9
MTLF				*e*Sg	Sg	17 09 49.0	-8.0
	63nm,0.2s						
MTLF	**Montolieu**	**3.66**	**133**	Pn	Pn	17 08 49.8	-3.2
MTLF				Lg		17 09 47.0	
SALF	**Salau**	**3.68**	**148**	Pn	Pn	17 08 50.2	-3.0
SALF				Pg	Pg	17 09 03.3	-5.1
SMF	**Signal de Mont**	**3.73**	**77**	*e*Pn	Pn	17 08 50.8	-3.1
SMF				*e*Pg	Pg	17 09 02.9	-6.5
SMF				*e*Sn	Sn	17 09 30.7	-7.6
SMF				*e*Sg	Sg	17 09 50.4	-8.7
	120nm,0.3s						
EARI	**Arriondas**	**3.76**	**227**	Pn	Pn	17 08 51.4	-3.0
EARI				Sn	Sn	17 09 32.6	-6.6
EARI	**Arriondas**	**3.76**	**227**	Pn	Pn	17 08 51.4	-3.0
	1.8nm,0.1s,SNR=24						
EARI				Sn	Sn	17 09 33.4	-5.8
	3.7nm,0.2s						
EARI	**Arriondas**	**3.76**	**227**	Pn	Pn	17 08 51.4	-3.0
	1.8nm,0.1s,SNR=24						
EARI				Sn	Sn	17 09 32.6	-6.6
	3.7nm,0.2s						
LPEF	**Le Peyrat**	**3.81**	**140**	Pn	Pn	17 08 52.6	-2.5
LRDF	**Laroque-de-Fa**	**4.12**	**135**	Pn	Pn	17 08 56.8	-2.7
LASF	**Ste Croix**	**4.18**	**114**	*e*Pn	Pn	17 08 57.4	-2.9
LASF				*e*Pg	Pg	17 09 11.4	-7.0
LASF				*e*Sn	Sn	17 09 42.1	-7.7
LASF				*e*Sg	Sg	17 10 04.8	-9.3
	137nm,0.4s						
LASF	**Ste Croix**	**4.18**	**114**	Pn	Pn	17 08 57.9	-2.4
LASF				Pg	Pg	17 09 11.4	-7.0
LASF	**Ste Croix**	**4.18**	**114**	Pn	Pn	17 08 57.4	-2.9
LASF				Sn	Sn	17 09 42.1	-7.7
LASF				Lg		17 10 04.8	
	69nm,0.4s						
ESAC	**San Caprasio**	**4.25**	**170**	Pn	Pn	17 08 59.0	-2.4
ESAC				Sn	Sn	17 09 44.5	-7.2
ESAC	**San Caprasio**	**4.25**	**170**	Pn	Pn	17 08 59.0	-2.4
	2.7nm,0.2s,SNR=7.9						
ESAC				Sn	Sn	17 09 45.4	-6.3
	46nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**4.25**	**170**	Pn	Pn	17 08 59.0	-2.4
	2.7nm,0.2s,SNR=7.9						
ESAC				Sn	Sn	17 09 44.5	-7.2
	46nm,0.2s,SNR=7.9						
VALF	**Valcebollere**	**4.30**	**144**	Pn	Pn	17 08 58.8	-3.3
VIVF	**Saint-Julien-l**	**4.43**	**102**	*e*Pn	Pn	17 08 59.9	-4.0
VIVF				*e*Pg	Pg	17 09 16.0	-7.4
VIVF				*e*Sn	Sn	17 09 47.4	-8.7
VIVF				*e*Sg	Sg	17 10 12.0	-10
	108nm,0.3s						
VIVF	**Saint-Julien-l**	**4.43**	**102**	Pn	Pn	17 09 00.4	-3.5
VIVF				Pg	Pg	17 09 14.4	-9.0
VIVF	**Saint-Julien-l**	**4.43**	**102**	Pn	Pn	17 08 59.9	-4.0
VIVF				Pg	Pg	17 09 14.4	-9.0
VIVF				Sn	Sn	17 09 47.4	-8.7
VIVF				Lg		17 10 12.0	
	54nm,0.3s						
EMIR	**Miracle**	**4.54**	**151**	Pn	Pn	17 09 03.4	-2.0
EMIR				Sn	Sn	17 09 53.0	-5.9
EMIR	**Miracle**	**4.54**	**151**	Pn	Pn	17 09 02.6	-2.8
	13nm,0.2s,SNR=21						
EMIR				Pg	Pg	17 09 15.4	-10
	27nm,0.4s,SNR=7.9						
EMIR				Sn	Sn	17 09 51.5	-7.4
	19nm,0.4s,SNR=7.9						
EMIR				Lg		17 10 15.3	
	10nm,0.6s,SNR=7.9						
EMIR	**Miracle**	**4.54**	**151**	Pn	Pn	17 09 03.4	-2.0
	13nm,0.2s,SNR=21						
EMIR	**Miracle**	**4.54**	**151**	Pg	Pg	17 09 18.6	-7.0
	21nm,0.2s,SNR=7.2						
EMIR				Sn	Sn	17 09 53.0	-5.9
SJAF	**Saint Jean de**	**4.63**	**136**	Pn	Pn	17 09 03.4	-3.3
EJON	**La Jonquera**	**4.66**	**137**	Pn	Pn	17 09 04.2	-2.9
EJON				Pg	Pg	17 09 19.9	-8.1
EJON				Sn	Sn	17 09 55.8	-6.1
EJON				Lg		17 10 21.5	
EJON	**La Jonquera**	**4.66**	**137**	Pn	Pn	17 09 04.2	-2.9
	43nm,0.2s,SNR=45						
EJON				Pg	Pg	17 09 17.5	-10
	14nm,0.4s,SNR=7.9						
EJON				Sn	Sn	17 09 54.5	-7.4
	9.3nm,0.2s						
EJON				Lg		17 10 18.7	
	14nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**4.66**	**137**	Pn	Pn	17 09 04.2	-2.9
	43nm,0.2s,SNR=45						
EJON	**La Jonquera**	**4.66**	**137**	Pg	Pg	17 09 19.9	-8.1
	SNR=7.9						
EJON				Sn	Sn	17 09 55.8	-6.1
	9.3nm,0.2s						
EPON	**Pontenova**	**4.84**	**240**	Pn	Pn	17 09 06.2	-3.4
	6.0nm,0.2s,SNR=16						
EPON				Sn	Sn	17 09 59.2	-7.2
	18nm,0.3s						
EPON	**Pontenova**	**4.84**	**240**	Pn	Pn	17 09 06.2	-3.4
	6.0nm,0.2s,SNR=16						
EPON				Sn	Sn	17 09 59.2	-7.2
	18nm,0.3s						
EPOB	**Poblet**	**4.92**	**157**	Pn	Pn	17 09 09.1	-1.6
EPOB				Pg	Pg	17 09 24.2	-9.0
EPOB				Sn	Sn	17 10 02.5	-5.9
EPOB				Lg		17 10 28.2	
EPOB	**Poblet**	**4.92**	**157**	Pn	Pn	17 09 07.6	-3.2
	1.9nm,0.2s,SNR=7.4						
EPOB				Pg	Pg	17 09 22.2	-11
	12nm,0.4s,SNR=7.9						
EPOB				Sn	Sn	17 09 59.7	-8.7
	7.0nm,0.3s						
EPOB				Lg		17 10 27.0	
	26nm,0.5s,SNR=7.9						
EPOB	**Poblet**	**4.92**	**157**	Pn	Pn	17 09 09.1	-1.7
	1.9nm,0.2s,SNR=7.4						
EPOB	**Poblet**	**4.92**	**157**	Pg	Pg	17 09 24.2	-8.9
	SNR=7.9						
EPOB				Sn	Sn	17 10 02.5	-5.9
	7.0nm,0.3s						
SFTF	**Sexfontaines**	**4.98**	**60**	*e*Pn	Pn	17 09 07.2	-4.4
	baz=239						
SFTF				*e*Pg	Pg	17 09 26.1	-8.2
SFTF				*e*Sn	Sn	17 10 00.5	-9.4
SFTF				*e*Sg	Sg	17 10 29.3	-11
	64nm,0.4s						
SFTF	**Sexfontaines**	**4.98**	**60**	Pn	Pn	17 09 07.2	-4.4
SFTF				Sn	Sn	17 10 00.5	-9.4
SFTF				Lg		17 10 29.3	
	64nm,0.4s						
MEZF	**Maizieres J'vi**	**5.12**	**57**	*e*Pn	Pn	17 09 09.3	-4.3
	baz=231						
MEZF				*e*Pg	Pg	17 09 28.9	-8.3
	baz=249						
MEZF				*e*Sn	Sn	17 10 03.8	-10
MEZF				*e*Sg	Sg	17 10 33.0	-12
	63nm,0.4s						
MEZF	**Maizieres J'vi**	**5.12**	**57**	Pn	Pn	17 09 09.4	-4.2
MEZF				Sn	Sn	17 10 03.8	-10
MEZF	**Maizieres J'vi**	**5.12**	**57**	*e*Pg	Pg	17 09 28.9	-8.3
MEZF				*e*Sn	Sn	17 10 03.8	-10
MEZF				*e*Sg	Sg	17 10 33.0	-12
	31nm,0.4s						
ERTA	**Horta de San J**	**5.12**	**165**	Pn	Pn	17 09 11.1	-2.6
ERTA				Sn	Sn	17 10 07.1	-6.6
ERTA	**Horta de San J**	**5.12**	**165**	Pn	Pn	17 09 11.1	-2.6
	3.0nm,0.3s,SNR=7.9						
ERTA				Pg	Pg	17 09 27.1	-10
	2.7nm,0.3s,SNR=7.9						
ERTA				Sn	Sn	17 10 05.3	-8.4
	4.3nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.12**	**165**	Pn	Pn	17 09 11.1	-2.6
	3.0nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**5.12**	**165**	Pg	Pg	17 09 29.0	-8.3
	SNR=4.0						
ERTA				Sn	Sn	17 10 07.1	-6.6
	4.3nm,0.2s,SNR=7.9						
ORIF	**Oris-en-Rattie**	**5.24**	**98**	*e*Pn	Pn	17 09 12.5	-2.9
ORIF				*e*Pg	Pg	17 09 31.5	-8.2
ORIF				*e*Sn	Sn	17 10 07.3	-9.3
ORIF				*e*Sg	Sg	17 10 37.5	-12
	47nm,0.6s						
ORIF	**Oris-en-Rattie**	**5.24**	**98**	Pn	Pn	17 09 13.4	-2.0
ORIF				Lg		17 10 40.7	
ORIF	**

BAIF	**Baives**	**5.61**	**40**	Pn	Pn	17 09 16.4	-4.1
BAIF				Sn	Sn	17 10 15.6	-10
BAIF				*e*Sg	Sg	17 10 48.3	-13
11nm,0.5s							
PBRG	**Braganca**	**5.63**	**225**	*e*Pn	Pn	17 09 16.9	-3.9
PBRG				*e*Sn	Sn	17 10 17.4	-8.9
6.0nm,0.4s							
PBRG	**Braganca**	**5.63**	**225**	*e*Pn	Pn	17 09 16.9	-3.9
PBRG				*e*Sn	Sn	17 10 17.4	-8.9
6.0nm,0.4s							
HAU	**Haudompre**	**5.72**	**66**	*e*Pn	Pn	17 09 16.4	-5.7
HAU				*e*Pg	Pg	17 09 39.2	-10
HAU	**Haudompre**	**5.72**	**66**	Pn	Pn	17 09 16.4	-5.7
HAU				Lg		17 10 53.3	
HAU	**Haudompre**	**5.72**	**66**	*e*Pg	Pg	17 09 39.2	-10
HAU				*e*Sn	Sn	17 10 18.3	-10
HAU				*e*Sg	Sg	17 10 53.3	-12
38nm,0.6s							
LPL	**La Plagne**	**5.73**	**91**	*e*Pg	Pg	17 09 40.6	-8.8
LPL				*e*Sg	Sg	17 10 52.8	-13
28nm,0.5s							
LPL	**La Plagne**	**5.73**	**91**	Pg	Pg	17 09 42.5	-6.9
LPL				Lg		17 10 52.8	
LPL	**La Plagne**	**5.73**	**91**	Lg		17 10 52.8	
14nm,0.5s							
LPG	**La Plagne**	**5.75**	**91**	*e*Pn	Pn	17 09 19.4	-3.1
LPG				*e*Sg	Sg	17 10 52.9	-13
34nm,0.5s							
LPG	**La Plagne**	**5.75**	**91**	Pn	Pn	17 09 20.4	-2.1
MBDF	**Montbardon**	**5.91**	**99**	*e*Pn	Pn	17 09 19.8	-4.9
MBDF				*e*Sn	Sn	17 10 23.1	-10
MBDF				*e*Sg	Sg	17 10 56.8	-15
24nm,0.7s							
GIVF	**Givet**	**5.92**	**43**	*e*Pn	Pn	17 09 20.4	-4.6
GIVF				*e*Sn	Sn	17 10 24.2	-10
GIVF				*e*Sg	Sg	17 10 58.8	-13
45nm,0.5s							
GIVF	**Givet**	**5.92**	**43**	Pn	Pn	17 09 20.4	-4.6
GIVF				Sn	Sn	17 10 24.2	-10
GIVF				Lg		17 11 00.8	
11nm,0.5s							
STS	**Santiago**	**5.93**	**242**	Pn	Pn	17 09 21.8	-3.3
STS				Sn	Sn	17 10 24.3	-10
STS	**Santiago**	**5.93**	**242**	Pn	Pn	17 09 21.8	-3.3
11nm,0.2s,SNR=6.6							
STS				Sn	Sn	17 10 24.9	-9.0
5.4nm,0.2s							
HINF	**Hinteralfeld**	**5.99**	**69**	*e*Pn	Pn	17 09 20.6	-5.3
HINF				*e*Pg	Pg	17 09 44.3	-10
HINF				*e*Sn	Sn	17 10 25.1	-10
HINF				*e*Sg	Sg	17 10 59.8	-15
52nm,0.4s							
HINF	**Hinteralfeld**	**5.99**	**69**	*e*Pn	Pn	17 09 20.6	-5.3
HINF				*e*Pg	Pg	17 09 44.3	-10
HINF				Pg	Pg	17 09 45.0	-10
HINF				Sn	Sn	17 10 24.2	-11
HINF				*e*Sn	Sn	17 10 25.1	-10
HINF				*e*Sg	Sg	17 10 59.8	-15
HINF	**Hinteralfeld**	**5.99**	**69**	Pn	Pn	17 09 20.6	-5.3
HINF				Sn	Sn	17 10 25.1	-10
HINF	**Hinteralfeld**	**5.99**	**69**	Pg	Pg	17 09 45.0	-10
HINF				*e*Sn	Sn	17 10 25.1	-10
HINF				*e*Sg	Sg	17 10 59.8	-15
26nm,0.4s							
EMAZ	**Mazaricos**	**6.17**	**244**	Pn	Pn	17 09 24.7	-3.7
7.2nm,0.1s,SNR=9.3							
EMAZ				Sn	Sn	17 10 30.1	-10
11nm,0.2s							
EMAZ	**Mazaricos**	**6.17**	**244**	Pn	Pn	17 09 24.7	-3.7
7.2nm,0.1s,SNR=9.3							
FRF	**La Foret Royal**	**6.22**	**109**	*e*Pn	Pn	17 09 24.8	-4.3
FRF				*e*Sn	Sn	17 10 30.7	-10
FRF				*e*Sg	Sg	17 11 07.4	-15
21nm,0.7s							
FRF	**La Foret Royal**	**6.22**	**109**	Pn	Pn	17 09 25.5	-3.6
FRF				Sn	Sn	17 10 30.7	-10
FRF				Lg		17 11 06.8	
LMR	**La Mourre**	**6.23**	**112**	*e*Pn	Pn	17 09 25.5	-3.8
LMR				*e*Pg	Pg	17 09 49.2	-10
LMR				*e*Sn	Sn	17 10 30.8	-10
LMR				*e*Sg	Sg	17 11 08.4	-14
21nm,0.9s							
LMR	**La Mourre**	**6.23**	**112**	Pn	Pn	17 09 25.5	-3.8
LMR				Pg	Pg	17 09 48.5	-11
LMR				Lg		17 11 07.3	
LMR	**La Mourre**	**6.23**	**112**	Pn	Pn	17 09 25.5	-3.8
LMR				Sn	Sn	17 10 30.8	-10
LMR				Lg		17 11 08.4	
10nm,0.9s							
LMR	**La Mourre**	**6.23**	**112**	Pg	Pg	17 09 48.5	-11
ELOB	**Lobios**	**6.27**	**232**	Pn	Pn	17 09 26.3	-3.6
ELOB				Sn	Sn	17 10 32.7	-10
ELOB	**Lobios**	**6.27**	**232**	Pn	Pn	17 09 26.3	-3.6
2.4nm,0.1s,SNR=12							
ELOB				Sn	Sn	17 10 33.0	-9.5
3.8nm,0.2s							
ELOB	**Lobios**	**6.27**	**232**	Pn	Pn	17 09 26.3	-3.6
2.4nm,0.1s,SNR=12							
ECHE	**Chera**	**6.33**	**177**	Sn	Sn	17 10 34.1	-10
1.8nm,0.4s,SNR=7.9							
CDF	**Champ du Feu**	**6.44**	**64**	*e*Pn	Pn	17 09 25.7	-6.5
CDF				*e*Pg	Pg	17 09 52.0	-12
CDF				*e*Sn	Sn	17 10 35.4	-11
CDF				*e*Sg	Sg	17 11 15.3	-14
34nm,0.4s							
CDF	**Champ du Feu**	**6.44**	**64**	Pn	Pn	17 09 25.5	-6.7
CDF				Pg	Pg	17 09 52.6	-11
CDF				Sn	Sn	17 10 34.7	-12
CDF				Lg		17 11 15.3	
CDF	**Champ du Feu**	**6.44**	**64**	Sn	Sn	17 10 35.4	-11
CDF				Lg		17 11 15.3	
0.0nm,0.4s							
EZAM	**Zamans**	**6.45**	**237**	Pn	Pn	17 09 28.7	-3.7
3.6nm,0.4s,SNR=7.9							
EZAM				Sn	Sn	17 10 37.7	-9.2
8.0nm,0.5s,SNR=7.9							
WLS	**Welschbruch**	**6.49**	**64**	Pn	Pn	17 09 28.4	-4.5
ESDC	**Sonseca Array**	**6.51**	**197**	Pn	Pn	17 09 29.3	-4.0
ESDC				Sn	Sn	17 10 37.6	-11
ESDC	**Sonseca Array**	**6.51**	**197**	Pn	Pn	17 09 29.3	-4.0
0.4nm,0.2s,baz=16,slow=13,SNR=52							
ESDC				Sn	Sn	17 10 38.9	-10
baz=18,slow=23,SNR=7.9							
ESDC	**Sonseca Array**	**6.51**	**197**	Pn	Pn	17 09 29.3	-4.0
RUP	**Ruppelstein**	**6.85**	**53**	Pn	Pn	17 09 33.7	-4.4
ETOS	**Mallorca**	**6.89**	**152**	Pn	Pn	17 09 35.3	-3.4
ETOS				Sn	Sn	17 10 49.0	-8.9
ETOS	**Mallorca**	**6.89**	**152**	Pn	Pn	17 09 35.3	-3.4
2.8nm,0.3s,SNR=4.0							
ETOS				Sn	Sn	17 10 47.6	-10
3.2nm,0.3s,SNR=4.0							
ETOS	**Mallorca**	**6.89**	**152**	Pn	Pn	17 09 35.3	-3.4
ETOS				Sn	Sn	17 10 49.0	-9.0
MTE	**Manteigas**	**7.10**	**221**	*e*Sn	Sn	17 10 52.1	-11
4.5nm,0.5s							
MTE	**Manteigas**	**7.10**	**221**	*e*Sn	Sn	17 10 52.1	-11
4.5nm,0.5s							
EIBI	**Ibiza**	**7.19**	**162**	Pn	Pn	17 09 38.3	-4.4
EIBI				Sn	Sn	17 10 55.0	-10
EIBI	**Ibiza**	**7.19**	**162**	Pn	Pn	17 09 38.3	-4.4
13nm,0.5s,SNR=4.0							
EIBI				Sn	Sn	17 10 53.6	-12
1.8nm,0.2s,SNR=4.0							
EIBI	**Ibiza**	**7.19**	**162**	Pn	Pn	17 09 38.3	-4.5
EIBI				Sn	Sn	17 10 55.0	-10
ABH	**Alteburg**	**7.22**	**53**	Pn	Pn	17 09 38.4	-4.8
EBEN	**Beniarda**	**7.27**	**173**	Pn	Pn	17 09 40.4	-3.5
EBEN				Sn	Sn	17 10 57.6	-10
EBEN	**Beniarda**	**7.27**	**173**	Pn	Pn	17 09 40.4	-3.5
1.8nm,0.4s,SNR=4.0							
EBEN				Sn	Sn	17 10 55.9	-11
1.6nm,0.4s,SNR=4.0							
EBEN	**Beniarda**	**7.27**	**173**	Pn	Pn	17 09 40.4	-3.5
EBEN				Sn	Sn	17 10 57.6	-10
ETOB	**Tobarra**	**7.27**	**181**	Pn	Pn	17 09 38.9	-5.1
ETOB				Sn	Sn	17 10 57.0	-10
ETOB	**Tobarra**	**7.27**	**181**	Pn	Pn	17 09 39.5	-4.4
10nm,0.7s,SNR=4.0							
ETOB				Sn	Sn	17 10 56.8	-11
1.6nm,0.3s,SNR=4.0							
ETOB	**Tobarra**	**7.27**	**181**	Pn	Pn	17 09 38.9	-5.0
ETOB				Sn	Sn	17 10 57.0	-10
EVIA	**Vianos**	**7.32**	**187**	Pn	Pn	17 09 40.9	-3.7
1.8nm,0.6s,SNR=7.9							
EVIA				Sn	Sn	17 10 57.7	-11
12nm,1.4s,SNR=7.9							
PCBR	**Castelo Branco**	**7.52**	**218**	*e*Sn	Sn	17 11 02.6	-11
EADA	**Adamuz**	**8.09**	**198**	Pn	P	17 09 52.1	-3.3
EADA				Sn	Sn	17 11 15.1	-13
EADA	**Adamuz**	**8.09**	**198**	Pn	P	17 09 51.1	-4.3
0.3nm,0.2s,SNR=7.9							
EADA				Sn	Sn	17 11 16.0	-12
0.4nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**8.09**	**198**	Pn	P	17 09 52.1	-3.3
EBAD	**Badajoz**	**8.27**	**212**	Pn	P	17 09 52.6	-5.3
EBAD				Sn	Sn	17 11 19.4	-13
EBAD	**Badajoz**	**8.27**	**212**	Pn	P	17 09 53.1	-4.7
1.7nm,0.2s,SNR=7.9							
EBAD				Sn	Sn	17 11 20.4	-12
1.4nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**8.27**	**212**	Pn	P	17 09 52.6	-5.2
ECAB	**El Cabril**	**8.38**	**202**	Pn	P	17 09 54.0	-5.5
ECAB				Sn	Sn	17 11 22.1	-13
ECAB	**El Cabril**	**8.38**	**202**	Pn	P	17 09 54.8	-4.6
0.7nm,0.2s,SNR=7.9							
ECAB				Sn	Sn	17 11 23.3	-12
1.2nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**8.38**	**202**	Pn	P	17 09 54.0	-5.4
EMIN	**Mina Concepcio**	**9.03**	**207**	Pn	P	17 10 03.4	-5.1
EMIN				Sn	Sn	17 11 37.2	-14
EMIN	**Mina Concepcio**	**9.03**	**207**	Pn	P	17 10 03.4	-5.1
2.6nm,0.4s,SNR=7.9							
EMIN				Sn	Sn	17 11 38.9	-12
1.8nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**9.03**	**207**	Pn	P	17 10 03.4	-5.1
EGRO	**El Granado**	**9.52**	**210**	Pn	P	17 10 10.3	-4.8
1.2nm,0.6s,SNR=7.9							
EGRO				Sn	Sn	17 11 50.6	-13
2.1nm,0.7s,SNR=7.9							
KHC	**Kasperske Hory**	**10.65**	**67**	*e*P	P	17 10 25.0	-5.6
KHC				*ex*	x	17 10 34.5	
KHC				*ex*	x	17 13 23.3	

*CSEM **04** 17:11:37.8±0.1,45.90N×1.41W,h10km,ML3.7/37,Error ellipse: s-maj=1.6km s-min=1.3km az=110.0*
*LDG **04** 17:11:38.3±0.1,45.93N×1.38W,h5km,Ml3.7/33,Error ellipse: s-maj=1.9km s-min=1.4km az=61.0*
*MDD **04** 17:11:38.3±0.4,45.92N×1.41W,h10km,mb4.2/15,Error ellipse: s-maj=3.5km s-min=3.0km az=93.0,PRXIMO*
*NEIC **04** 17:11:39.0,45.94N×1.40W,h10km,ML3.7(STR), ML3.7(LDG),After STR.*
STR 04 17:11:39.0±0.3,45.94N×1.40W,h10km±1km,Ml3.7,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLEF	**Ile d'Oleron**	**0.04**	**83**	Pg	Pg	17 11 40.5	-0.4
OLEF				Sg	Sg	17 11 42.1	-0.1
LRYF	**La Roche-sur-Y**	**0.65**	**351**	Pg	Pg	17 11 51.2	-0.8
LRYF				Sg	Sg	17 12 00.2	-0.5
CHIF	**Chize**	**0.72**	**74**	Pg	Pg	17 11 52.6	-0.8
MATF	**Mathat**	**0.78**	**98**	Pg	Pg	17 11 54.2	-0.6
MATF				Pn	Pn	17 11 54.9	-1.0
MATF				Sg	Sg	17 12 05.4	+0.1
MATF	**Mathat**	**0.78**	**98**	Pn	Pn	17 11 54.9	-1.0
MATF				Sg	Sg	17 12 05.4	+0.1
LCHF	**La Chataignera**	**0.86**	**32**	Pg	Pg	17 11 56.0	-0.3
LCHF				Sg	Sg	17 12 07.6	-0.2
MFF	**Saint Martin d**	**1.09**	**52**	*e*Pn	Pn	17 11 59.2	-1.1
MFF				*e*Pg	Pg	17 11 59.4	-1.5
MFF				*e*Sn	Sn	17 12 12.2	-3.3
MFF				*e*Sg	Sg	17 12 13.2	-2.3
396nm,0.3s							
MFF	**Saint Martin d**	**1.09**	**52**	*e*Pg	Pg	17 11 59.4	-1.5
MFF				*e*Sn	Sn	17 12 12.2	-3.3
MFF				*e*Sg	Sg	17 12 13.2	-2.3
198nm,0.3s							
LFF	**La Frestale**	**1.81**	**123**	*e*Pn	Pn	17 12 08.8	-1.7
LFF				*e*Pg	Pg	17 12 11.1	-4.1
LFF				*e*Sn	Sn	17 12 29.1	-4.6
LFF				*e*Sg	Sg	17 12 35.0	-4.3
324nm,0.3s							
RJF	**Les Rejaudoux**	**2.14**	**106**	*e*Pn	Pn	17 12 12.9	-2.4
RJF				*e*Pg	Pg	17 12 17.3	-4.5
RJF				*e*Sg	Sg	17 12 43.5	-6.9
175nm,0.3s							
RENF	**Rennes**	**2.19**	**356**	Pn	Pn	17 12 14.0	-1.9
QUIF	**Quistinic**	**2.32**	**329**	*e*Pn	Pn	17 12 16.2	-1.6
QUIF				*e*Pg	Pg	17 12 20.8	-4.5
QUIF				*e*Sn	Sn	17 12 42.1	-4.6
QUIF				*e*Sg	Sg	17 12 50.7	-5.5
89nm,0.2s							
SGMF	**Saint Gilles**	**2.45**	**342**	*e*Pn	Pn	17 12 18.2	-1.5
SGMF				*e*Pg	Pg	17 12 23.4	-4.5
SGMF				*e*Sn	Sn	17 12 45.2	-4.7
SGMF				*e*Sg	Sg	17 12 55.8	-4.7
92nm,0.3s							
GRR	**Gorron**	**2.48**	**8**	*e*Pn	Pn	17 12 17.4	-2.7
GRR				*e*Pg	Pg	17 12 23.5	-5.0
GRR				*e*Sn	Sn	17 12 45.9	-4.8
GRR				*e*Sg	Sg	17 12 55.6	-5.9
102nm,0.3s							
TCF	**Toulx Ste Croi**	**2.54**	**81**	*e*Pn	Pn	17 12 18.8	-2.1
TCF				*e*Pg	Pg	17 12 25.5	-4.1
TCF				*e*Sn	Sn	17 12 46.8	-5.4
TCF				*e*Sg	Sg	17 12 57.6	-5.9
78nm,0.2s							
CAF	**Calviac**	**2.64**	**111**	*e*Pn	Pn	17 12 20.3	-2.2
CAF				*e*Pg	Pg	17 12 26.9	-4.9
CAF				*e*Sn	Sn	17 12 49.1	-5.8
CAF				*e*Sg	Sg	17 12 59.7	-7.3
102nm,0.2s							
ROSF	**Rostrenen**	**2.72**	**333**	*e*Pn	Pn	17 12 21.6	-1.9
ROSF				*e*Pg	Pg	17 12 28.6	-4.7
ROSF				*e*Sn	Sn	17 12 51.6	-5.2
ROSF				*e*Sg	Sg	17 13 03.4	-6.1
43nm,0.3s							
VERF	**Verneugheol**	**2.72**	**93**	Pn	Pn	17 12 21.5	-2.1
LDF	**La Druitiere**	**2.79**	**18**	*e*Pn	Pn	17 12 22.0	-2.6
LDF				*e*Pg	Pg	17 12 28.5	-6.3
LDF				*e*Sn	Sn	17 12 52.0	-6.7
LDF				*e*Sg	Sg	17 13 05.3	-6.8
95nm,0.4s							
SJPF	**Ste Jean**	**2.83**	**177**	*e*Pn	Pn	17 12 21.8	-3.3
SJPF				*e*Pg	Pg	17 12 29.7	-5.8
SJPF				*e*Sn	Sn	17 12 54.0	-5.6
SJPF				*e*Sg	Sg	17 13 05.4	-7.8
48nm,0.2s							
FLN	**La Foliniere**	**2.89**	**12**	*e*Pn	Pn	17 12 23.1	-2.9
FLN				*e*Pg	Pg	17 12 30.1	-6.7
baz=191							
FLN				*e*Sn	Sn	17 12 53.4	-7.8
baz=199							
FLN				*e*Sg	Sg	17 13 08.3	-7.0
138nm,0.5s							
BGF	**Bois d'Agland**	**3.01**	**77**	*e*Pn	Pn	17 12 25.2	-2.5
BGF				*e*Pg	Pg	17 12 33.8	-5.3
BGF				*e*Sn	Sn	17 12 57.5	-6.7
BGF				*e*Sg	Sg	17 13 12.6	-6.7
231nm,0.3s							
BGF	**Bois d'Agland**	**3.01**	**77**	Pn	Pn	17 12 25.2	-2.5
BGF				Pg	Pg	17 12 33.8	-5.3
BGF				Lg		17 13 12.6	
116nm,0.3s							
ELAN	**Lanestosa**	**3.07**	**209**	Pn	Pn	17 12 25.0	-3.6
ELAN				Sn	Sn	17 12 58.6	-7.1
ELAN	**Lanestosa**	**3.07**	**209**	Pn	Pn	17 12 25.0	-3.6
1.6nm,0.2s,SNR=7.9							
ELAN				Pg	Pg	17 12 33.3	-7.1
2.0nm,0.2s,SNR=7.9							
ELAN				Sn	Sn	17 12 60.0	-5.8
3.2nm,0.1s,SNR=7.9							
ELAN	**Lanestosa**	**3.07**	**209**	Pn	Pn	17 12 25.0	-3.6
1.6nm,0.2s,SNR=7.9							
ELAN				Sn	Sn	17 12 58.7	-7.1
HYF	**Humbligny**	**3.08**	**63**	*e*Pn	Pn	17 12 26.4	-2.4
HYF				*e*Pg	Pg	17 12 35.1	-5.5
HYF				*e*Sg	Sg	17 13 14.5	-7.3
HYF	**Humbligny**	**3.08**	**63**	*e*Pg	Pg	17 12 35.1	-5.5
HYF				*e*Sg	Sg	17 13 14.5	-7.3
ETSF	**Etsaut**	**3.10**	**168**	*e*Pn	Pn	17 12 24.9	-4.1
ETSF				*e*Pg	Pg	17 12 35.2	-5.7
ETSF				*e*Sn	Sn	17 13 00.3	-6.2
ETSF				*e*Sg	Sg	17 13 14.2	-8.0
26nm,0.3s							
AGO	**Saint Agoulin**	**3.16**	**86**	*e*Pn	Pn	17 12 27.4	-2.4
EPF	**Esparros**	**3.16**	**156**	*e*Pn	Pn	17 12 24.6	-5.3
EPF				*e*Pg	Pg	17 12 35.9	-6.3
EPF				*e*Sn	Sn	17 13 02.1	-6.0
EPF				*e*Sg	Sg	17 13 17.6	-6.8
44nm,0.2s							
LBL	**Lubilhac**	**3.34**	**101**	Pn	Pn	17 12 30.3	-2.1
AVF	**Avril sur Loir**	**3.40**	**74**	*e*Pn	Pn	17 12 30.1	-3.1
AVF				*e*Pg	Pg	17 12 40.8	-6.1
AVF				*e*Sn	Sn	17 13 06.7	-7.3
AVF				*e*Sg	Sg	17 13 24.2	-8.0
42nm,0.3s							
ECRI	**Cripan**	**3.42**	**194**	Pg	Pg	17 12 40.2	-7.2
1.8nm,0.3s,SNR=7.9							
ECRI				Sn	Sn	17 13 09.0	-5.7
1.3nm,0.3s,SNR=7.9							
ECRI				Lg		17 13 25.3	
6.9nm,0.5s,SNR=7.9							
EBIE	**Bielsa**	**3.44**	**161**	Pn	Pn	17 12 30.5	-3.2
EBIE				Sn	Sn	17 13 10.6	-4.4
EBIE	**Bielsa**	**3.44**	**161**	Pn	Pn	17 12 30.5	-3.3
1.4nm,0.1s,SNR=7.1							
EBIE				Pg	Pg	17 12 40.6	-7.0
3.0nm,0.1s,SNR=7.9							
EBIE				Sn	Sn	17 13 10.1	-4.9
3.4nm,0.1s,SNR=5.8							
EBIE				Lg		17 13 26.8	
12nm,0.2s,SNR=7.9							
EBIE	**Bielsa**	**3.44**	**161**	Pn	Pn	17 12 30.5	-3.3
1.4nm,0.1s,SNR=7.1							
EBIE				Sn	Sn	17 13 10.6	-4.4
3.4nm,0.1s,SNR=5.8							
PLDF	**La Plantade**	**3.50**	**88**	Pn	Pn	17 12 32.1	-2.6
SSF	**Saint Saulge**	**3.57**	**70**	*e*Pn	Pn	17 12 32.4	-3.2
SSF				*e*Pg	Pg	17 12 43.8	-6.5
SSF				*e*Sn	Sn	17 13 10.5	-7.8
SSF				*e*Sg	Sg	17 13 29.7	-8.2
38nm,0.3s							
MTLF	**Montolieu**	**3.66**	**134**	*e*Pn	Pn	17 12 34.0	-3.0
MTLF				*e*Sn	Sn	17 13 12.9	-7.8
MTLF				*e*Sg	Sg	17 13 32.9	-8.1
33nm,0.3s							
MTLF	**Montolieu**	**3.66**	**134**	Pn	Pn	17 12 34.0	-3.0
MTLF				Lg		17 13 32.9	
16nm,0.3s							
SMF	**Signal de Mont**	**3.70**	**77**	*e*Pn	Pn	17 12 34.3	-3.2
SMF				*e*Pg	Pg	17 12 46.2	-6.7
SMF				*e*Sn	Sn	17 13 14.3	-7.4
SMF				*e*Sg	Sg	17 13 33.4	-8.9
41nm,0.3s							
EARI	**Arriondas**	**3.79**	**227**	Pn	Pn	17 12 35.0	-3.8
EARI				Sn	Sn	17 13 15.8	-8.1
EARI	**Arriondas**	**3.79**	**227**	Pn	Pn	17 12 35.0	-3.8
1.3nm,0.2s,SNR=6.2							
EARI				Pg	Pg	17 12 46.1	-8.5
1.9nm,0.1s,SNR=7.9							
EARI				Sn	Sn	17 13 17.0	-6.9
4.9nm,0.2s,SNR=5.9							
EARI	**Arriondas**	**3.79**	**227**	Pn	Pn	17 12 35.0	-3.8
1.3nm,0.2s,SNR=6.2							
EARI				Sn	Sn	17 13 15.8	-8.1
4.9nm,0.2s,SNR=5.9							
LASF	**Ste Croix**	**4.17**	**115**	*e*Pn	Pn	17 12 41.2	-3.0
LASF				*e*Pg	Pg	17 12 54.8	-7.4
LASF				*e*Sn	Sn	17 13 25.4	-8.1
LASF				*e*Sg	Sg	17 13 48.3	-9.5
40nm,0.5s							
ESAC	**San Caprasio**	**4.27**	**171**	Pn	Pn	17 12 41.6	-4.0
2.9nm,0.2s,SNR=7.9							
ESAC				Sn	Sn	17 13 29.4	-6.7
9.4nm,0.2s,SNR=7.9							
ESAC	**San Caprasio**	**4.27**	**171**	Pn	Pn	17 12 41.6	-4.0
2.9nm,0.2s,SNR=7.9							
ESAC				Sn	Sn	17 13 29.4	-6.7
9.4nm,0.2s,SNR=7.9							
VIVF	**Saint-Julien-l**	**4.41**	**102**	*e*Pn	Pn	17 12 43.9	-3.7
VIVF				*e*Pg	Pg	17 12 59.7	-7.4
VIVF				*e*Sg	Sg	17 13 55.5	-10
52nm,0.5s							
EMIR	**Miracle**	**4.54**	**151**	Pn	Pn	17 12 46.8	-2.7
EMIR				Sn	Sn	17 13 36.1	-7.0
EMIR	**Miracle**	**4.54**	**151**	Pn	Pn	17 12 46.4	-3.2
10nm,0.3s,SNR=7.9							
EMIR				Pg	Pg	17 13 00.3	-9.5
1.3nm,0.1s,SNR=7.9							
EMIR				Sn	Sn	17 13 36.1	-7.0
5.8nm,0.3s,SNR=7.9							
EMIR				Lg		17 14 01.4	
15nm,0.5s,SNR=7.9							
EMIR	**Miracle**	**4.54**	**151**	Pn	Pn	17 12 46.8	-2.7
10nm,0.3s,SNR=7.9							
EMIR				Sn	Sn	17 13 36.1	-7.0
5.8nm,0.3s,SNR=7.9							
EJON	**La Jonquera**	**4.66**	**137**	Pn	Pn	17 12 48.1	-3.0
EJON				Pg	Pg	17 13 03.9	-8.1
EJON				Sn	Sn	17 13 37.9	-8.0
EJON				Lg		17 14 04.7	
EJON	**La Jonquera**	**4.66**	**137**	Pn	Pn	17 12 47.8	-3.3
16nm,0.2s,SNR=15							
EJON				Pg	Pg	17 13 02.2	-10
2.2nm,0.3s,SNR=7.9							
EJON				Sn	Sn	17 13 37.9	-8.0
2.3nm,0.1s,SNR=7.9							
EJON				Lg		17 14 04.7	
4.7nm,0.4s,SNR=7.9							
EJON	**La Jonquera**	**4.66**	**137**	Pn	Pn	17 12 48.1	-3.0
16nm,0.2s,SNR=15							
EJON	**La Jonquera**	**4.66**	**137**	Pg	Pg	17 13 03.9	-8.1
SNR=7.9							
EJON				Sn	Sn	17 13 37.9	-8.0
2.3nm,0.1s,

4.1nm,0.2s,SNR=7.9
ERUA Sn Sn 17 13 56.7 -8.9
4.3nm,0.2s,SNR=7.9
THEF They Montfort 5.54 63 Pn Pn 17 12 58.6 -5.0
ECAL Calabor 5.55 226 Pn Pn 17 12 57.7 -6.0
ECAL Sn Sn 17 13 58.0 -10
ECAL Calabor 5.55 226 Pn Pn 17 12 59.5 -4.2
5.0nm,0.4s,SNR=7.0
ECAL Sn Sn 17 13 59.4 -8.9
2.2nm,0.1s,SNR=5.0
ECAL Calabor 5.55 226 Pn Pn 17 12 57.7 -6.0
5.0nm,0.4s,SNR=7.0
BAIF Baives 5.58 40 *e*Pn Pn 17 13 00.2 -3.9
BAIF *e*Sn Sn 17 13 59.4 -10
BAIF *e*Sg Sg 17 14 32.0 -13
7.8nm,0.4s
EMOS Mosqueruela 5.62 173 Pn Pn 17 12 59.6 -5.1
EMOS Sn Sn 17 13 59.7 -10
EMOS Mosqueruela 5.62 173 Pn Pn 17 13 01.3 -3.3
1.2nm,0.3s,SNR=4.0
EMOS Sn Sn 17 14 01.1 -8.9
0.8nm,0.2s,SNR=7.9
EMOS Mosqueruela 5.62 173 Pn Pn 17 12 59.6 -5.0
EMOS Sn Sn 17 13 59.7 -10
0.8nm,0.2s,SNR=7.9
HAU Haudompre 5.69 66 *e*Pn Pn 17 13 00.2 -5.5
HAU *e*Sn Sn 17 14 02.0 -10
HAU *e*Sg Sg 17 14 37.2 -11
12nm,0.3s
LPL La Plagne 5.71 91 *e*Sg Sg 17 14 36.5 -13
11nm,0.6s
LPG La Plagne 5.72 92 *e*Sg Sg 17 14 36.6 -13
10nm,0.5s
GIVF Givet 5.90 43 *e*Pn Pn 17 13 04.3 -4.3
GIVF *e*Sg Sg 17 14 42.4 -13
18nm,0.5s
HINF Hinteralfeld 5.96 69 *e*Pn Pn 17 13 04.4 -5.1
HINF *e*Sg Sg 17 14 42.6 -15
14nm,0.4s
STS Santiago 5.96 242 Pn Pn 17 13 05.4 -4.1
7.5nm,0.1s,SNR=7.9
STS Sn Sn 17 14 09.2 -9.5
4.5nm,0.6s,SNR=7.9
EMAZ Mazaricos 6.19 244 Pn Pn 17 13 08.3 -4.5
5.6nm,0.1s,SNR=7.3
EMAZ Sn Sn 17 14 13.8 -11
6.3nm,0.2s,SNR=5.0
EMAZ Mazaricos 6.19 244 Pn Pn 17 13 08.3 -4.5
5.6nm,0.1s,SNR=7.3
EMAZ Sn Sn 17 14 13.8 -11
6.3nm,0.2s,SNR=5.0
FRF La Foret Royal 6.20 110 *e*Pn Pn 17 13 08.1 -4.8
ELOB Lobios 6.30 232 Pn Pn 17 13 09.9 -4.4
ELOB Sn Sn 17 14 14.1 -13
ELOB Lobios 6.30 232 Pn Pn 17 13 09.9 -4.4
1.7nm,0.1s,SNR=6.4
ELOB Sn Sn 17 14 16.6 -11
0.7nm,0.2s,SNR=5.0
ELOB Lobios 6.30 232 Pn Pn 17 13 09.9 -4.4
1.7nm,0.1s,SNR=6.4
CDF Champ du Feu 6.41 64 *e*Pn Pn 17 13 09.4 -6.5
CDF *e*Sg Sg 17 14 59.2 -13
14nm,0.5s
WLS Welschbruch 6.46 64 Pn Pn 17 13 11.6 -4.9

*NEIC **04** 17:13:01.9, 45.92N×1.40W, h5km, ML2.8(LDG), After LDG.*
*CSEM **04** 17:13:01.7±0.1, 45.91N×1.40W, h5km, ML2.8/21, Error ellipse: s-maj=2.3km s-min=1.5km az=61.0*
*MDD **04** 17:13:02.6±1.1, 45.92N×1.39W, h10km±1km, mbLg2.0/4, Error ellipse: s-maj=7.4km s-min=5.2km az=73.0, PRXIMO*
LDG 04 17:13:01.9±0.1, 45.92N×1.40W, h5km, Ml2.8/22, Error ellipse: s-maj=1.9km s-min=1.3km az=62.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d**	**1.10**	**52**	*e*Pg	Pg	17 13 23.6	-0.4
MFF				*e*Sg	Sg	17 13 37.3	-1.4
25nm,0.2s							
LFF	**La Frestale**	**1.80**	**122**	*e*Pn	Pn	17 13 33.0	-0.9
LFF				*e*Pg	Pg	17 13 35.0	-2.8
LFF				*e*Sg	Sg	17 13 59.2	-2.6
26nm,0.3s							
RJF	**Les Rejaudoux**	**2.14**	**106**	*e*Pg	Pg	17 13 41.2	-3.4
RJF				*e*Sn	Sn	17 14 01.7	-4.2
RJF				*e*Sg	Sg	17 14 08.5	-4.6
12nm,0.2s							
QUIF	**Quistinic**	**2.33**	**329**	*e*Pg	Pg	17 13 44.9	-3.6
QUIF				*e*Sg	Sg	17 14 14.7	-4.9
15nm,0.3s							
SGMF	**Saint Gilles**	**2.46**	**342**	*e*Pg	Pg	17 13 47.8	-3.3
SGMF				*e*Sg	Sg	17 14 19.2	-4.7
9.8nm,0.2s							
GRR	**Gorron**	**2.50**	**8**	*e*Pg	Pg	17 13 47.6	-4.1
GRR				*e*Sg	Sg	17 14 19.8	-5.2
10.0nm,0.3s							
TCF	**Toulx Ste Croi**	**2.54**	**80**	*e*Sn	Sn	17 14 10.9	-5.2
TCF				*e*Sg	Sg	17 14 21.8	-4.6
7.1nm,0.2s							
CAF	**Calviac**	**2.63**	**111**	*e*Pn	Pn	17 13 44.3	-1.5
CAF				*e*Pg	Pg	17 13 50.5	-4.0
CAF				*e*Sg	Sg	17 14 23.8	-5.8
5.4nm,0.2s							
ROSF	**Rostrenen**	**2.73**	**333**	*e*Pg	Pg	17 13 53.2	-3.3
ROSF				*e*Sg	Sg	17 14 27.9	-5.0
3.9nm,0.2s							
LDF	**La Druitiere**	**2.81**	**18**	*e*Pn	Pn	17 13 46.0	-2.3
LDF				*e*Pg	Pg	17 13 52.9	-5.1
LDF				*e*Sg	Sg	17 14 29.6	-5.9
5.8nm,0.3s							
SJPF	**Ste Jean**	**2.81**	**177**	*e*Pg	Pg	17 13 53.8	-4.2
SJPF				*e*Sg	Sg	17 14 29.9	-5.6
4.8nm,0.3s							
FLN	**La Foliniere**	**2.91**	**12**	*e*Pg	Pg	17 13 54.3	-5.7
FLN				*e*Sg	Sg	17 14 32.4	-6.4
7.0nm,0.3s,baz=190							
BGF	**Bois d'Agland**	**3.02**	**76**	*e*Pg	Pg	17 13 57.9	-4.2
BGF				*e*Sg	Sg	17 14 36.1	-6.2
30nm,0.3s							
ELAN	**Lanestosa**	**3.06**	**209**	Sn	Sn	17 14 24.5	-4.8
1.2nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**3.08**	**168**	*e*Pn	Pn	17 13 49.2	-3.0
ETSF				*e*Pg	Pg	17 13 59.3	-4.1
ETSF				*e*Sg	Sg	17 14 38.3	-6.2
3.9nm,0.3s							
EPF	**Esparros**	**3.15**	**156**	*e*Pg	Pg	17 14 00.0	-4.7
EPF				*e*Sg	Sg	17 14 41.5	-5.2
9.2nm,0.3s							
AVF	**Avril sur Loir**	**3.40**	**74**	*e*Pn	Pn	17 13 54.1	-2.7
AVF				*e*Pg	Pg	17 14 05.6	-4.3
AVF				*e*Sg	Sg	17 14 48.1	-7.1
5.3nm,0.3s							
EBIE	**Bielsa**	**3.42**	**161**	Lg		17 14 51.4	
1.6nm,0.8s,SNR=7.9							
SSF	**Saint Saulge**	**3.58**	**70**	*e*Sn	Sn	17 14 35.0	-7.4
SSF				*e*Sg	Sg	17 14 53.5	-7.4
1.9nm,0.4s							
MTLF	**Montolieu**	**3.65**	**134**	*e*Sg	Sg	17 14 56.9	-6.5
8.0nm,0.6s							
SMF	**Signal de Mont**	**3.71**	**77**	*e*Pg	Pg	17 14 10.6	-5.3
SMF				*e*Sg	Sg	17 14 58.0	-7.3
3.6nm,0.2s							
LASF	**Ste Croix**	**4.16**	**114**	*e*Sg	Sg	17 15 12.5	-7.9
4.2nm,0.4s							
VIVF	**Saint-Julien-l**	**4.41**	**102**	*e*Sg	Sg	17 15 19.9	-8.8
3.4nm,0.4s							

*IDC **04** 17:16:01.8±1.4, 18.22S×178.20W, h467km±17km, mb3.7/13, mb1 3.9/16, mb1mx3.8/21, mbtmp4.5/16, Error ellipse: s-maj=28.8km s-min=9.0km az=156.0*
*NEIC **04** 17:16:01.7±0.7, 18.24S×178.18W, h465km±8km, mb4.2/19, Error ellipse: s-maj=15.2km s-min=5.5km az=158.0*
ISC 04 17:15:59.7±1.0, 18.1S±0.1×178.24W±0.09, h447km±11km, n84, σ0$67/46, mb4.1/27, 3C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.51**	**57**	P	**P**	**17 17 51.7**	**+0.8**
6.0nm,0.3s,baz=285,slow=18,SNR=8.3							
AFI				S	**S**	**17 19 17.9**	**-1.0**
1.2nm,0.3s,baz=68,slow=23,SNR=2.8							
DZM	**Mont Dzumac**	**14.90**	**252**	P	**P**	**17 19 12.7**	**+1.5**
0.8nm,0.3s,baz=78,slow=21,SNR=7.3							
RAR	**Rarotonga**	**17.66**	**103**	P	**P**	**17 19 39.1**	**+0.1**
1.3nm,0.3s,baz=233,slow=10,SNR=3.0							
RAR	**Rarotonga**	**17.66**	**103**	P	**P**	**17 19 39.1**	**+0.1**
URZ	**Urewera**	**20.45**	**191**	P	**P**	**17 20 01.7**	**-4.3**
6.2nm,0.5s,baz=200,slow=6.5,SNR=5.6							
CTA	**Charters Tower**	**33.56**	**261**	*e*P	**P**	**17 22 02.9**	**+0.7**
7.1nm,0.6s,mb4.3							
CTA	**Charters Tower**	**33.56**	**261**	P	**P**	**17 22 02.9**	**+0.7**
12nm,0.8s,mb4.3,baz=22,slow=16,SNR=17							
CTAO	**Charters Tower**	**33.56**	**261**	*e*P	**P**	**17 22 02.7**	**+0.5**
10nm,0.7s,mb4.4							
STKA	**Stephens Creek**	**38.66**	**241**	*e*P	**P**	**17 22 44.9**	**+0.4**
3.1nm,0.8s,mb3.8							
STKA	**Stephens Creek**	**38.66**	**241**	P	**P**	**17 22 44.5**	**0.0**
3.7nm,0.8s,mb3.9,baz=72,slow=9.7,SNR=7.8							
WRAB	**Tennant Creek**	**44.74**	**260**	*e*P	**P**	**17 23 32.7**	**-0.6**
2.8nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**44.74**	**260**	P	**P**	**17 23 32.6**	**-0.8**
1.7nm,0.5s,mb3.7,baz=97,slow=6.6,SNR=14							
WRA				S	**S**	**17 29 29.4**	**-7.3**
1.0nm,0.9s,baz=94,slow=13,SNR=3.2							
WRA	**Warramunga Arr**	**44.74**	**260**	P	**P**	**17 23 32.6**	**-0.8**
WRA				S	**S**	**17 29 29.4**	**-7.3**
ASAR	**Alice Springs**	**44.88**	**254**	P	**P**	**17 23 34.1**	**-0.3**
9.5nm,0.5s,mb4.5,baz=90,slow=8.4,SNR=192							
ASAR				S	**S**	**17 29 32.8**	**-5.8**
1.4nm,0.9s,baz=96,slow=15,SNR=7.5							
ASPA	**Alice Springs**	**44.88**	**254**	⇑*i*P	**P**	**17 23 34.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.15**	**261**	*e*P	**P**	**17 24 36.1**	**-0.5**
2.8nm,0.6s,mb3.8							
FITZ	**Fitzroy Crossi**	**53.15**	**261**	P	**P**	**17 24 35.8**	**-0.8**
3.2nm,0.6s,mb3.8,baz=163,slow=5.1,SNR=14							
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**	**17 27 20.2**	**+0.4**
2.6nm,0.7s,mb3.9,baz=220,slow=9.2,SNR=9.1							
MA2	**Magadan**	**81.46**	**345**	*e*P	**P**	**17 27 29.2**	**-0.4**
5.2nm,0.7s,mb4.2							
WVOR	**Wild Horse Val**	**81.48**	**40**	*e*P	**P**	**17 27 30.6**	**+0.5**
2.4nm,0.4s,mb4.1							
TUC	**Tucson**	**81.72**	**52**	*e*P	**P**	**17 27 32.4**	**+0.8**
1.2nm,0.6s,mb3.6							
TNA	**Tin City**	**83.81**	**4**	*e*P	**P**	**17 27 41.9**	**+0.5**
6.0nm,0.8s,mb4.2							
ENH	**Enshi**	**84.53**	**304**	*e*P	**P**	**17 27 45.8**	**+0.1**
11nm,1.2s,mb4.4							
HLID	**Hailey**	**84.70**	**41**	*e*P	**P**	**17 27 46.8**	**+0.5**
0.8nm,0.5s,mb3.6							
MCK	**McKinley**	**84.73**	**13**	*e*P	**P**	**17 27 45.4**	**-0.5**
10nm,1.0s,mb4.4							
THY	**Trims Highway**	**85.16**	**14**	*e*P	**P**	**17 27 48.0**	**+0.1**
COLA	**College**	**85.97**	**13**	*e*P	**P**	**17 27 50.5**	**-1.2**
15nm,1.0s,mb4.6							
IMA	**Indian Mountai**	**85.97**	**10**	*e*P	**P**	**17 27 52.4**	**+0.6**
13nm,0.9s,mb4.5							
TXAR	**Lajitas Array**	**85.99**	**58**	P	**P**	**17 27 53.1**	**+0.3**
1.5nm,0.6s,mb3.8,baz=219,slow=7.0,SNR=22							
ILAR	**Eielson Array**	**86.08**	**13**	P	**P**	**17 27 51.6**	**-0.7**
4.7nm,0.6s,mb4.3,baz=221,slow=4.8,SNR=46							
BILL	**Bilibino**	**86.68**	**354**	*e*P	**P**	**17 27 55.1**	**-0.1**
5.8nm,0.8s,mb4.4							
LOHW	**Long Hollow**	**87.13**	**42**	*e*P	**P**	**17 27 58.3**	**+0.4**
1.3nm,0.6s,mb3.8							
QLMT	**Earthquake Lak**	**87.19**	**41**	*e*P	**P**	**17 27 59.5**	**+1.4**
BW06	**Boulder Array**	**87.41**	**43**	*e*P	**P**	**17 27 58.8**	**-0.4**
0.9nm,0.4s,mb3.9							
PDAR	**Pinedale Array**	**87.41**	**43**	P	**P**	**17 27 59.0**	**-0.3**
0.8nm,0.6s,mb3.6,baz=198,slow=2.2,SNR=8.0							
BOZ	**Bozeman (W)**	**87.47**	**40**	*e*P	**P**	**17 27 59.7**	**+0.2**
2.1nm,1.0s,mb3.8							
CMAR	**Chiang Mai Arr**	**89.11**	**290**	P	**P**	**17 28 08.1**	**+0.3**
1.4nm,0.9s,mb3.8,baz=110,slow=3.5,SNR=6.1							
PLCA	**Paso Flores**	**91.06**	**134**	P	**P**	**17 28 15.3**	**-0.9**
2.1nm,0.6s,mb4.3,baz=226,slow=8.1,SNR=5.4							
PLCA	**Paso Flores**	**91.06**	**134**	P	**P**	**17 28 15.3**	**-0.9**
INK	**Inuvik**	**92.07**	**15**	P	**P**	**17 28 19.7**	**-0.5**
7.7nm,0.9s,mb4.7,baz=228,slow=4.7,SNR=24							
INK	**Inuvik**	**92.07**	**15**	*e*P	**P**	**17 28 19.8**	**-0.4**
9.4nm,0.9s,mb4.7							
YKA	**Yellowknife Ar**	**94.48**	**25**	P	**P**	**17 28 31.0**	**-0.4**
1.2nm,0.6s,mb4.1,baz=242,slow=4.4,SNR=29							
MKAR	**Makanchi Array**	**109.41**	**314**	PKiKP		17 33 37.0	
0.3nm,0.7s,baz=132,slow=1.0,SNR=4.1							
FINES	**FINESS Array B**	**133.46**	**344**	PKP	PKPdf	17 34 22.9	-0.7
2.9nm,1.0s,baz=45,slow=2.7,SNR=4.4							
AKASG	**Malin Array Be**	**140.84**	**332**	PKhKP		17 34 30.1	
0.7nm,0.3s,baz=44,slow=4.3,SNR=6.5							
BRTR	**Keskin Array B**	**145.06**	**315**	PKPbc	PKPbc	17 34 45.5	-0.3
2.4nm,0.9s,baz=135,slow=5.2,SNR=9.8							
BRTR	**Keskin Array B**	**145.06**	**315**	PKPbc	PKPbc	17 34 45.5	-0.3
KOLS	**Kolonicke sedl**	**145.08**	**336**	*e*PKP	PKPdf	17 34 46.5	+1.8
KSP	**Ksiaz**	**145.38**	**344**	*e*P	PKPdf	17 34 47.5	+2.3
CLL	**Collm**	**145.73**	**347**	⇓*i*PKP1	PKPbc	17 34 47.9	+0.8
UPC	**Upice**	**145.76**	**344**	*e*PKP	PKPdf	17 34 48.4	+2.6
DPC	**Dobruska-Polom**	**145.82**	**343**	*e*PKP	PKPdf	17 34 48.8	+2.9
BRG	**Berggiesshubel**	**145.93**	**346**	*i* P	PKPdf	17 34 48.9	+2.8
PVCC	**Panska Ves**	**146.11**	**345**	*e*PKP	PKPdf	17 34 49.7	+3.3
PRU	**Pruhonice**	**146.61**	**345**	*e*P	PKPdf	17 34 50.6	+3.3
VYHS	**Vyhne**	**146.69**	**339**	*e*PKP	PKPdf	17 34 51.3	+3.9
PSZ	**Piszkesteto**	**146.81**	**338**	*e*PKPbc	PKPbc	17 34 51.3	+1.6
GRA1	**Grafenberg Arr**	**147.62**	**348**	*e*PKPbc	PKPdf	17 34 52.4	+3.5
GRA1				*e*PKPab	PKPab	17 34 57.8	-0.6
GRF	**Grafenberg Arr**	**147.62**	**348**	*e*PKP	PKPdf	17 34 52.4	+3.5
GRF				*e*PKP	PKPdf	17 34 57.8	+8.9
KHC	**Kasperske Hory**	**147.64**	**345**	*e*P	PKPdf	17 34 53.6	+4.7
KHC				*e*		17 34 58.7	
GEC2	**GERESS Array S**	**147.88**	**345**	*e*PKPbc	PKPdf	17 34 53.6	+4.3
GERES	**GERESS Array B**	**147.88**	**345**	PKPbc	PKPdf	17 34 53.9	+4.6
3.5nm,0.6s,baz=24,slow=2.9,SNR=37							
GIVF	**Givet**	**148.02**	**356**	*e*PKP1	PKPdf	17 34 53.8	+4.3
10nm,0.5s							
BAIF	**Baives**	**148.10**	**357**	*e*PKP1	PKPdf	17 34 54.5	+4.9
6.1nm,0.6s							
WLF	**Walferdange**	**148.36**	**355**	*e*PKPbc	PKPdf	17 34 55.5	+5.5
FLN	**La Foliniere**	**149.41**	**3**	*e*PKP1	PKPdf	17 34 56.8	+5.0
12nm,0.7s							
CDF	**Champ du Feu**	**149.48**	**353**	*e*PKP1	PKPdf	17 34 57.3	+5.4
8.6nm,0.8s							
LDF	**La Druitiere**	**149.59**	**2**	*e*PKP1	PKPdf	17 34 57.1	+5.0
MEZF	**Maizieres J'vi**	**149.60**	**356**	*e*PKP1	PKPdf	17 34 57.9	+5.8
8.4nm,0.6s							
KBA	**Koelnbreinsper**	**149.61**	**344**	⇑*i*P	PKPdf	17 34 57.5	+5.3
GRR	**Gorron**	**149.76**	**3**	*e*PKP1	PKPdf	17 34 57.8	+5.4
9.0nm,0.5s							
SGMF	**Saint Gilles**	**149.76**	**6**	*e*PKP1	PKPdf	17 34 57.9	+5.5
9.7nm,0.7s							
WTTA	**Wattenberg**	**149.84**	**347**	⇓*i*P	PKPdf	17 34 58.7	+6.2
MOTA	**Moosalm**	**149.88**	**347**	⇓*i*P	PKPdf	17 34 59.1	+6.5
SQTA	**Sankt Quirin**	**149.98**	**347**	⇑*i*P	PKPdf	17 34 58.8	+6.1
HAU	**Haudompre**	**149.98**	**354**	*e*PKP1	PKPdf	17 34 58.4	+5.7
6.0nm,0.6s							
HINF	**Hinteralfeld**	**150.11**	**353**	*e*PKP1	PKPdf	17 34 58.6	+5.7
5.1nm,0.5s							
SSF	**Saint Saulge**	**151.13**	**358**	*e*PKP1	PKPdf	17 35 01.2	+6.7
7.2nm,0.7s							
CABF	**La Chapelle**	**151.39**	**354**	*e*PKP1	PKPdf	17 35 02.2	+7.3
11nm,0.9s							
MFF	**Saint Martin d**	**151.58**	**3**	*e*PKP1	PKPdf	17 35 01.9	+6.8
BGF	**Bois d'Agland**	**151.65**	**358**	*e*PKP1	PKPdf	17 35 03.4	+8.2
8.8nm,0.7s							
TCF	**Toulx Ste Croi**	**151.93**	**359**	*e*PKP1	PKPdf	17 35 03.4	+7.8
7.8nm,0.8s							
MBDF	**Montbardon**	**153.17**	**352**	*e*PKP1	PKPdf	17 35 06.5	+9.1
8.0nm,0.7s							
ESDC	**Sonseca Array**	**157.98**	**12**	PKPab	PKPab	17 35 40.8	-1.5
0.4nm,0.5s,baz=346,slow=4.3,SNR=6.5							

DJA 04 17:17:24.2±1.0, 9.24S×113.00E, h33km, MD4.6/3, ML4.2/3, 5C, Error ellipse: s-maj=31.8km s-min=22.4km az=165.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.36**	**56**	⇑*i*Pn	Pn	17 17 46.0	-1.2
301nm,0.2s							
SRDI				⇑*i*Sn	Sn	17 18 01.5	-2.7
RATI	**Rata**	**2.56**	**79**	⇑*i*Pn	Pn	17 18 02.8	-1.5
205nm,0.2s							
RATI				⇑*i*Sn	Sn	17 18 30.5	-4.1
KEDI	**Kedomdong**	**3.17**	**77**	*e*Pn	Pn	17 18 10.9	-2.1
35nm,0.2s							
KEDI				⇑*i*Sn	Sn	17 18 46.1	-4.0

*IDC **04** 17:19:06.2±0.7, 22.89N×144.02E, mb3.9/11, mb1 4.2/13, mb1mx4.0/26, mbtmp4.1/13, ML4.3/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/28, Error ellipse: s-maj=30.7km s-min=13.8km az=92.0*
*BJI **04** 17:19:06.4, 22.90N×144.00E, h10km, mb4.1*
*NEIC **04** 17:19:07.5±0.4, 22.89N×143.97E, h10km, mb4.2/5, Error ellipse: s-maj=15.5km s-min=7.7km az=90.0*
ISC 04 17:19:08.9±0.6, 22.89N±0.06×144.0E±0.2, h33km, n28, σ0$87/24, mb4.0/17, MS3.7/2, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.51**	**339**	Pn	**Pn**	**17 20 15.9**	**-0.8**
18nm,0.3s,baz=284,slow=22,SNR=1.9							
CBIJ				Sn	**Sn**	**17 21 03.5**	**-5.3**
43nm,0.3s,baz=288,slow=23,SNR=6.3							
JHJ	**Hachijo jima 2**	**10.86**	**341**	Pn	**P**	**17 21 44.6**	**-0.5**
17nm,0.3s,baz=61,slow=23,SNR=1.8							
ASAJ	**Asahikawa**	**21.21**	**357**	P	**P**	**17 23 55.0**	**+1.2**
5.3nm,0.8s,mb3.9,baz=180,slow=19,SNR=4.2							
HNR	**Honiara**	**35.70**	**152**	LR	LR	17 39 24.3	
comp=Z,80nm,18.4s,MS3.5,baz=7.1,slow=34							
SONM	**Songino Array**	**38.94**	**319**	P	**P**	**17 26 34.2**	**+1.0**
0.5nm,0.7s,mb3.4,baz=119,slow=5.3,SNR=4.2							
GTA	**Gaotai**	**40.84**	**304**	P	**P**	**17 26 50.1**	**+1.0**
GTA				XP	sP	17 26 57.8	-5.3
GTA				AMB	AMB		
comp=Z,3.0nm,0.8s,mb4.0							
CTA	**Charters Tower**	**42.77**	**177**	P	**P**	**17 27 05.8**	**+0.6**
comp=Z,11nm,1.2s,mb4.5,baz=7.1,slow=8.1,SNR=2.6							
CTA	**Charters Tower**	**42.77**	**177**	P	**P**	**17 27 05.8**	**+0.6**
WRAB	**Tennant Creek**	**43.59**	**193**	*e*P	**P**	**17 27 11.9**	**0.0**
comp=Z,2.0nm,0.3s,mb4.3							
WRA	**Warramunga Arr**	**43.61**	**193**	P	**P**	**17 27 12.2**	**+0.2**
comp=Z,0.6nm,0.3s,mb3.8,baz=13,slow=8.7,SNR=9.5							
FITZ	**Fitzroy Crossi**	**44.53**	**205**	P	**P**	**17 27 19.6**	**+0.1**
comp=Z,2.9nm,0.7s,mb4.2,baz=7.5,slow=13,SNR=4.3							
BILL	**Bilibino**	**47.21**	**11**	P	**P**	**17 27 40.7**	**+0.7**
comp=Z,1.1nm,0.5s,mb4.0							
ASAR	**Alice Springs**	**47.31**	**193**	P	**P**	**17 27 41.2**	**-0.2**
comp=Z,0.6nm,0.6s,mb3.7,baz=17,slow=8.8,SNR=6.2							
WMQ	**Urumqi**	**50.44**	**309**	*e*P	**P**	**17 28 08.0**	**+2.6**
MKAR	**Makanchi Array**	**54.48**	**312**	P	**P**	**17 28 34.7**	**-0.7**
comp=Z,0.7nm,0.7s,mb3.7,baz=86,slow=8.3,SNR=5.6							
MKAR	**Makanchi Array**	**54.48**	**312**	P	**P**	**17 28 34.7**	**-0.8**
STKA	**Stephens Creek**	**54.50**	**183**	P	**P**	**17 28 34.9**	**-1.0**
comp=Z,1.3nm,0.5s,mb4.2,baz=341,slow=11,SNR=4.7							
KURK	**Kurchatov**	**57.15**	**317**	*e*P	**P**	**17 28 54.1**	**-0.5**
comp=Z,0.8nm,0.5s,mb4.0							
AAK	**Ala-Archa**	**60.07**	**307**	*e*P	**P**	**17 29 14.0**	**-1.1**
comp=Z,0.8nm,0.5s,mb4.0							
ILAR	**Eielson Array**	**60.63**	**27**	P	**P**	**17 29 17.4**	**-1.2**
comp=Z,1.1nm,0.9s,mb4.0,baz=258,slow=5.7,SNR=6.9							
CHKZ	**Chkalovo**	**62.13**	**320**	*e*P	**P**	**17 29 28.1**	**-0.7**
comp=Z,1.3nm,0.7s,mb4.2							
INK	**Inuvik**	**66.17**	**24**	P	**P**	**17 29 54.7**	**-0.2**
comp=Z,1.8nm,1.0s,mb4.1,baz=266,slow=3.4,SNR=4.7							
INK	**Inuvik**	**66.17**	**24**	*e*P	**P**	**17 29 55.2**	**+0.4**
YKA	**Yellowknife Ar**	**75.04**	**28**	P	**P**	**17 30 49.1**	**+0.5**
comp=Z,0.8nm,0.8s,mb3.7,baz=293,slow=5.6,SNR=10.0							
PDAR	**Pinedale Array**	**86.00**	**45**	LR	LR	18 09 59.4	
comp=Z,46nm,18.9s,MS3.9,baz=66,slow=36							
PLCA	**Paso Flores**	**145.93**	**130**	PKPbc	PKPbc	17 38 49.1	+3.8
comp=Z,1.8nm,0.6s,baz=304,slow=3.6,SNR=2.4							
LPAZ	**La Paz**	**149.04**	**84**	PKPbc	PKPdf	17 38 58.5	+8.3
comp=Z,0.8nm,0.3s,baz=256,slow=7.3,SNR=3.6							
LPAZ	**La Paz**	**149.04**	**84**	PKPbc	PKPdf	17 38 58.5	+8.3

*ISK **04** 17:21:43.2, 37.82N×26.90E, h20km, MD3.5*
*NEIC **04** 17:21:43.3, 37.82N×26.88E, h21km, MD3.4(ISK), MD3.3(ATH), After ISK.*
*ATH **04** 17:21:44.2, 37.69N×27.07E, h23km, MD3.3/4*
*CSEM **04** 17:21:44.5±0.1, 37.86N×27.03E, h21km±1km, MD3.3, Error ellipse: s-maj=6.1km s-min=2.4km az=92.0*
ISC 04 17:21:43.9±0.6, 37.80N±0.02×27.10E±0.04, h5km±5km, n49, σ1$09/64, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.22**	**246**	⇑*i*PB	**Pb**	**17 21 49.7**	**-0.3**
SMG				*e*SB	**Sb**	**17 21 53.4**	**-0.7**
BLCB	**Balcova**	**0.59**	**356**	*i* PG	**Pg**	**17 21 55.9**	**+0.3**
BLCB				*i* SG	**Sg**	**17 22 03.6**	**+0.1**
BLCB	**Balcova**	**0.59**	**356**	Pg	**Pg**	**17 21 56.0**	**+0.4**
BLCB				Sg	**Sg**	**17 22 03.0**	**-0.5**
BLCB	**Balcova**	**0.59**	**356**	Pg	**Pg**	**17 21 56.0**	**+0.4**
BLCB				*i* Sg	**Sg**	**17 22 03.6**	**+0.1**
IZM	**Izmir**	**0.61**	**12**	*i* PG	**

IVRN Sn **S** **17 24 05.6 -18**
AKASG Malin Array Be 18.09 313 P **P** **17 26 16.2 -0.9**
1.1nm,0.3s,baz=127,slow=11,SNR=4.2
IDI Anoyia 20.45 265 P **P** **17 26 42.7 -0.5**
8.3nm,0.9s,baz=41,slow=11,SNR=3.6
MKAR Makanchi Array 24.28 63 P **P** **17 27 21.4 +0.5**
0.8nm,0.4s,mb3.5,baz=257,slow=10,SNR=23
FINES FINESS Array B 26.04 334 P **P** **17 27 37.2 -0.1**
0.3nm,0.4s,mb3.2,baz=135,slow=9.8,SNR=3.7
DBIC Dimbokro 59.16 251 P **P** **17 32 06.1 +0.6**
0.8nm,0.3s,mb4.2,baz=36,slow=9.5,SNR=5.3

*MOS **04** 17:34:18.3±0.7, 1.83N×97.04E, h33km, mb4.6/7, Error ellipse: s-maj=38.5km s-min=13.4km az=101.1*
*IDC **04** 17:34:19.5±0.8, 1.83N×96.87E, h26km±3km, mb3.8/12, mb1 3.9/13, mb1mx3.9/19, mbtmp3.9/13, ML3.7/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/18, Error ellipse: s-maj=36.2km s-min=11.8km az=53.0*
*NEIC **04** 17:34:19.7±0.4, 1.85N×96.92E, mb4.3/13, Error ellipse: s-maj=11.3km s-min=6.2km az=56.0*
ISC 04 17:34:17.8±0.6, 1.87N±0.09×96.9E±0.1, h27km, h27km±8km:pP-P, n38, σ0§87/35, mb4.2/25, MS3.5/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.02**	**47**	*e*Pn	**Pn**	**17 35 34.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**16.60**	**7**	Pn	**P**	**17 38 09.9**	**-0.6**
	0.1nm,0.3s,baz=196,slow=11,SNR=12						
JIRN	**Jiri**	**27.64**	**339**	*e*P	**P**	**17 40 06.5**	**+1.0**
	9.4nm,0.7s,mb4.5						
GUN	**Gumba**	**27.98**	**339**	*e*P	**P**	**17 40 08.5**	**-0.1**
	13nm,0.6s,mb4.7						
DMN	**Daman**	**27.99**	**337**	*e*P	**P**	**17 40 11.1**	**+2.4**
	6.1nm,0.7s,mb4.3						
KKN	**Kakani**	**28.09**	**338**	*e*P	**P**	**17 40 10.0**	**+0.4**
	8.3nm,0.6s,mb4.5						
KKN	**Kakani**	**28.09**	**338**	*e*P	**P**	**17 40 10.0**	**+0.4**
KKN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**28.22**	**349**	P	**P**	**17 40 11.7**	**+0.9**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
LSA	**Lhasa**	**28.22**	**349**	P	**P**	**17 40 11.7**	**+1.0**
	comp=Z,2.3nm,0.6s,mb4.0						
GKN	**Gorkha**	**28.53**	**337**	*e*P	**P**	**17 40 10.6**	**-2.9**
	comp=Z,8.8nm,0.7s,mb4.6						
KOLN	**Koldanda**	**28.75**	**335**	*e*P	**P**	**17 40 15.0**	**-0.5**
	comp=Z,8.3nm,0.6s,mb4.6						
ENH	**Enshi**	**30.65**	**22**	*e*P	**P**	**17 40 31.0**	**-1.5**
	comp=Z,3.3nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**34.52**	**126**	P	**P**	**17 41 06.4**	**0.0**
	comp=Z,4.8nm,1.0s,mb4.4,baz=11,slow=5.2,SNR=2.5						
NWAO	**Narrogin (SRO)**	**39.56**	**153**	LR	LR	17 57 43.7	
	comp=Z,87nm,20.5s,MS3.6,baz=294,slow=36						
WRA	**Warramunga Arr**	**42.60**	**122**	P	**P**	**17 42 13.7**	**-0.1**
	comp=Z,1.3nm,0.7s,mb3.7,baz=301,slow=9.1,SNR=5.4						
WRA				pP	pP	17 42 21.0	-0.9
	comp=Z,0.8nm,0.5s,baz=320,slow=11,SNR=3.6						
WRAB	**Tennant Creek**	**42.61**	**122**	*e*P	**P**	**17 42 13.9**	**0.0**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
WRAB	**Tennant Creek**	**42.61**	**122**	*e*P	**P**	**17 42 13.9**	**0.0**
	comp=Z,2.2nm,0.4s,mb4.2						
ASAR	**Alice Springs**	**44.00**	**127**	P	**P**	**17 42 25.7**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.5,baz=299,slow=7.6,SNR=14						
ASAR				pP	pP	17 42 33.6	+0.4
	comp=Z,0.5nm,0.7s,baz=301,slow=8.0,SNR=2.9						
AAK	**Ala-Archa**	**45.29**	**337**	*e*P	**P**	**17 42 36.9**	**+1.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
AAK	**Ala-Archa**	**45.29**	**337**	*e*P	**P**	**17 42 36.9**	**+1.6**
	comp=Z,2.0nm,0.9s,mb4.0						
SONM	**Songino Array**	**46.51**	**9**	P	**P**	**17 42 44.7**	**-0.1**
	comp=Z,1.6nm,0.9s,mb4.0,baz=197,slow=8.6,SNR=9.7						
SONM				PcP	PcP	17 44 19.2	-0.2
	comp=Z,0.4nm,0.4s,baz=191,slow=4.8,SNR=5.0						
SONM				pPcP		17 44 26.8	
	comp=Z,1.5nm,0.6s,baz=190,slow=3.4,SNR=8.3						
MKAR	**Makanchi Array**	**46.53**	**346**	P	**P**	**17 42 45.4**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=160,slow=7.6,SNR=19						
MKAR				pP	pP	17 42 54.4	+1.3
	comp=Z,2.2nm,0.7s,baz=159,slow=7.3,SNR=8.5						
ZAL	**Zalesovo**	**52.85**	**351**	P	**P**	**17 43 33.3**	**-0.1**
	comp=Z,3.2nm,0.5s,mb4.5,baz=322,slow=4.8,SNR=14						
ZAL				pP	pP	17 43 40.7	-0.9
	comp=Z,3.1nm,0.5s,baz=335,slow=6.2,SNR=7.6						
STKA	**Stephens Creek**	**53.99**	**132**	P	**P**	**17 43 41.9**	**-0.2**
	comp=Z,3.4nm,1.1s,mb4.2,baz=342,slow=9.6,SNR=3.4						
ATD	**Arta Tunnel**	**54.49**	**283**	LR	LR	18 02 51.7	
	comp=Z,38nm,20.8s,MS3.4,baz=134,slow=32						
BVAR	**Borovoye Array**	**55.54**	**341**	P	**P**	**17 43 52.3**	**-0.8**
	comp=Z,1.1nm,0.6s,mb4.1,baz=141,slow=8.2,SNR=10						
CHKZ	**Chkalovo**	**56.02**	**341**	*e*P	**P**	**17 43 55.9**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**56.02**	**341**	*e*P	**P**	**17 43 55.9**	**-0.6**
	comp=Z,4.6nm,0.8s,mb4.6						
YSS	**Yuzh-Sakhalins**	**59.95**	**35**	*e*P	**P**	**17 44 23.8**	**-0.4**
YSS				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
YSS	**Yuzh-Sakhalins**	**59.95**	**35**	*e*P	**P**	**17 44 23.8**	**-0.4**
	comp=Z,4.1nm,0.6s,mb4.6						
YAK	**Yakutsk**	**64.85**	**16**	*e*P	**P**	**17 44 56.4**	**-0.2**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
YAK	**Yakutsk**	**64.85**	**16**	*e*P	**P**	**17 44 56.4**	**-0.3**
	comp=Z,7.0nm,0.9s,mb4.7						
BRTR	**Keskin Array B**	**68.48**	**312**	P	**P**	**17 45 19.9**	**-0.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=90,slow=7.2,SNR=2.8						
AKASG	**Malin Array Be**	**74.58**	**322**	P	**P**	**17 45 55.0**	**-1.2**
	comp=Z,0.3nm,0.4s,mb3.6,baz=78,slow=7.0,SNR=3.0						
AKASG				pP	pP	17 46 04.1	-0.6
	comp=Z,1.5nm,0.7s,baz=88,slow=5.3,SNR=2.7						
FINES	**FINESS Array B**	**79.29**	**332**	P	**P**	**17 46 22.3**	**-0.1**
	comp=Z,0.6nm,0.4s,mb3.8,baz=98,slow=6.4,SNR=8.0						
FINES				pP	pP	17 46 31.0	+0.1
	comp=Z,0.9nm,0.6s,baz=80,slow=12,SNR=2.8						
FINES	**FINESS Array B**	**79.29**	**332**	P	**P**	**17 46 22.3**	**-0.1**
FINES				pP	pP	17 46 31.0	+0.1
GERES	**GERESS Array B**	**84.15**	**319**	P	**P**	**17 46 48.5**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.9,baz=90,slow=6.7,SNR=5.6						
GERES				pP	pP	17 46 57.0	+0.4
	comp=Z,0.3nm,0.3s,baz=90,slow=5.3,SNR=3.1						
CFAA	**Coronel Fontan**	**147.28**	**204**	PKPbc	PKPdf	17 54 00.8	-1.2
	comp=Z,0.3nm,0.5s,baz=142,slow=4.6,SNR=4.4						

*IDC **04** 17:54:29.1±2.3, 0.20N×97.01E, h36km±7km, mb3.6/6, mb1 3.7/7, mb1mx3.5/16, mbtmp3.7/7, ML3.6/1, MS2.7/1, Ms1 2.9/1, ms1mx2.7/15, Error ellipse: s-maj=91.8km s-min=15.6km az=60.0*
*NEIC **04** 17:54:30.0±0.9, 0.29N×97.21E, mb4.1/1, Error ellipse: s-maj=24.1km s-min=8.7km az=70.0*
ISC 04 17:54:27.8±1.2, 0.3N±0.1×97.2E±0.2, h36km, (h37km±9km:pP-P), n11, σ0§51/11, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.05**	**35**	*e*Pn	**P**	**17 55 56.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**18.13**	**5**	P	**P**	**17 58 39.8**	**+1.2**
	0.1nm,0.3s,baz=193,slow=12,SNR=6.8						
CMAR				LR	LR	18 06 31.7	
	comp=Z,23nm,21.1s,baz=160,slow=40						
WRA	**Warramunga Arr**	**41.59**	**121**	P	**P**	**18 02 14.5**	**+0.3**
	3.2nm,0.5s,mb4.2,baz=301,slow=9.0,SNR=16						
WRA				pP	pP	18 02 25.2	+0.4
	0.8nm,0.5s,baz=303,slow=8.9,SNR=2.5						
WRAB	**Tennant Creek**	**41.59**	**121**	*e*P	**P**	**18 02 14.5**	**+0.3**
	1.8nm,0.5s,mb4.0						
WB2	**Warramunga Arr**	**41.60**	**121**	*e*P	**P**	**18 02 14.5**	**+0.2**
ASAR	**Alice Springs**	**42.88**	**126**	P	**P**	**18 02 24.5**	**-0.3**
	0.6nm,0.5s,mb3.6,baz=294,slow=8.1,SNR=14						
SONM	**Songino Array**	**48.02**	**8**	P	**P**	**18 03 05.4**	**0.0**
	0.2nm,0.3s,mb3.6,baz=192,slow=7.3,SNR=2.8						
SONM				pP	pP	18 03 16.8	+0.8
	0.6nm,0.8s,baz=190,slow=7.5,SNR=4.4						
MKAR	**Makanchi Array**	**48.10**	**346**	P	**P**	**18 03 06.0**	**0.0**
	0.3nm,0.6s,mb3.5,baz=157,slow=7.3,SNR=3.7						
MKAR				pP	pP	18 03 16.4	-0.2
	1.3nm,0.7s,baz=162,slow=9.0,SNR=8.1						
STKA	**Stephens Creek**	**52.78**	**132**	P	**P**	**18 03 41.7**	**-0.1**
	2.4nm,1.0s,mb4.1,baz=317,slow=9.3,SNR=3.6						
STKA	**Stephens Creek**	**52.78**	**132**	P	**P**	**18 03 41.7**	**-0.1**
ZAL	**Zalesovo**	**54.43**	**351**	P	**P**	**18 03 52.9**	**-0.8**
	1.0nm,0.4s,mb4.1,baz=211,slow=1.4,SNR=4.9						
ZAL				pP	pP	18 04 03.6	-0.9
	1.4nm,0.5s,baz=325,slow=6.4,SNR=4.6						

IDC 04 17:57:26.3±57.0, 18.87S×175.73W, mb4.1/3, mb1 4.3/3, mb1mx3.9/15, mbtmp4.1/3, Error ellipse: s-maj=1064.0km s-min=163.9km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.43**	**243**	P	P	18 05 06.5	-1.7
	2.4nm,1.0s,baz=100,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**46.97**	**260**	P	P	18 05 59.5	-1.6
	0.3nm,0.3s,baz=96,slow=7.4,SNR=9.6						
ASAR	**Alice Springs**	**46.99**	**255**	P	P	18 05 59.3	-2.0
	1.8nm,0.5s,baz=92,slow=7.3,SNR=51						

*IDC **04** 18:12:27.2±1.0, 13.82N×93.14E, mb3.6/7, mb1 3.8/8, mb1mx3.7/17, mbtmp3.6/8, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/20, Error ellipse: s-maj=39.5km s-min=18.3km az=59.0*
*NEIC **04** 18:12:31.7±1.0, 13.94N×93.17E, h30km, mb3.9/7, Error ellipse: s-maj=25.1km s-min=12.1km az=47.0*
ISC 04 18:12:29.8±0.8, 13.99N±0.09×93.30E±0.07, h30km, n16, σ1§23/17, mb3.6/8, MS3.3/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.00**	**50**	Pn	**Pn**	**18 14 13.4**	**+0.3**
	0.9nm,0.3s,baz=240,slow=15,SNR=35						
CMAR				Sn	**Sn**	**18 15 31.1**	**-1.4**
	0.3nm,0.3s,baz=239,slow=28,SNR=7.5						
VIS	**Vishakhapatnam**	**10.29**	**292**	*e*P	**P**	**18 14 56.5**	**-2.2**
JIRN	**Jiri**	**15.13**	**335**	*e*P	**P**	**18 16 04.0**	**+0.7**
	15nm,0.9s						
GUN	**Gumba**	**15.48**	**335**	*e*P	**P**	**18 16 06.3**	**-1.6**
	10.0nm,0.7s						
DMN	**Daman**	**15.56**	**332**	*e*P	**P**	**18 16 10.8**	**+1.9**
	12nm,0.8s						
KKN	**Kakani**	**15.63**	**333**	*e*P	**P**	**18 16 09.4**	**-0.4**
	8.6nm,0.6s						
GKN	**Gorkha**	**16.11**	**331**	*e*P	**P**	**18 16 13.5**	**-2.4**
	17nm,0.8s						
KOLN	**Koldanda**	**16.42**	**328**	*e*P	**P**	**18 16 19.7**	**-0.2**
	15nm,0.8s						
MKAR	**Makanchi Array**	**33.98**	**346**	P	**P**	**18 19 14.0**	**+1.1**
	1.0nm,0.9s,mb3.8,baz=163,slow=8.9,SNR=7.5						
SONM	**Songino Array**	**35.46**	**15**	P	**P**	**18 19 27.8**	**+2.2**
	0.2nm,0.4s,mb3.4,baz=198,slow=9.1,SNR=2.8						
ZAL	**Zalesovo**	**40.41**	**352**	P	**P**	**18 20 07.5**	**+0.6**
	0.9nm,0.6s,mb3.7,baz=352,slow=3.8,SNR=5.9						
ZAL				LR	LR	18 41 11.1	
	comp=Z,44nm,20.2s,MS3.3,baz=333,slow=42						
CHKZ	**Chkalovo**	**43.45**	**341**	*e*P	**P**	**18 20 33.1**	**+1.3**
	1.2nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**52.60**	**129**	P	**P**	**18 21 42.7**	**-0.8**
	0.3nm,0.7s,mb3.3,baz=305,slow=10.0,SNR=3.8						
WRA				PcP	PcP	18 22 53.6	+0.3
	0.2nm,0.3s,baz=321,slow=3.1,SNR=3.2						
ASAR	**Alice Springs**	**54.56**	**133**	P	**P**	**18 21 57.7**	**-0.1**
	0.3nm,0.4s,mb3.6,baz=310,slow=6.9,SNR=17						
FINES	**FINESS Array B**	**66.97**	**331**	P	**P**	**18 23 22.0**	**+0.3**
	1.2nm,0.9s,mb3.9,baz=111,slow=12,SNR=2.8						
GERES	**GERESS Array B**	**72.78**	**317**	P	**P**	**18 23 57.5**	**+0.1**
	0.4nm,0.5s,mb3.6,baz=90,slow=6.7,SNR=6.9						

*IDC **04** 18:16:14.4±0.7, 0.10N×96.82E, h31km±3km, mb3.9/11, mb1 4.0/12, mb1mx4.0/16, mbtmp4.1/12, ML4.3/1, MS3.0/1, Ms1 3.2/1, ms1mx2.8/22, Error ellipse: s-maj=34.4km s-min=11.7km az=51.0*
*BJI **04** 18:16:15.1, 0.30N×97.10E, h31km, mB5.2, mb4.3, Ms4.3, Msz3.9*
*NEIC **04** 18:16:15.1±0.5, 0.31N×97.10E, mb4.3/9, Error ellipse: s-maj=16.3km s-min=8.4km az=50.0*
ISC 04 18:16:12.9±0.6, 0.2N±0.1×97.0E±0.1, h32km, h32km±9km:pP-P, n33, σ0§86/29, mb4.2/21, MS3.7/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.25**	**36**	*e*Pn	**Pn**	**18 17 40.4**	**-5.0**
CMAR	**Chiang Mai Arr**	**18.25**	**6**	P	**P**	**18 20 25.1**	**-0.7**
	0.4nm,0.3s,baz=195,slow=11,SNR=30						
CMAR				LR	LR	18 28 06.5	
	comp=Z,48nm,19.2s,baz=190,slow=39						
KKM	**Kota Kinabalu**	**20.06**	**73**	*e*P	**P**	**18 20 45.4**	**-1.2**
KMI	**Kunming**	**25.40**	**12**	P	**P**	**18 21 41.1**	**+1.7**
KMI				AP	pP	18 21 48.8	+0.1
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.2						
KMI				LR	LR		
	comp=N,162nm,13.3s,MS3.8						
KMI				LR	LR		
	comp=E,106nm,14.2s,MS3.8						
KMI				LR	LR		
	comp=Z,135nm,12.3s,MS3.7						
KMI	**Kunming**	**25.40**	**12**	P	**P**	**18 21 41.1**	**+1.7**
	comp=Z,8.0nm,1.1s,mb4.2						
KMI				pP	pP	18 21 48.8	+0.1
KMI				LR	LR		
	comp=Z,140nm,12.3s,MS3.7						
SHL	**Shillong**	**25.70**	**349**	*e*P	**P**	**18 21 43.2**	**+1.1**
JIRN	**Jiri**	**29.20**	**340**	*e*P	**P**	**18 22 15.3**	**+1.3**
	comp=Z,6.6nm,0.6s,mb4.5						
PKI	**Pulchoki**	**29.40**	**339**	*e*P	**P**	**18 22 16.1**	**+0.3**
GUN	**Gumba**	**29.54**	**340**	*e*P	**P**	**18 22 18.4**	**+1.3**
	comp=Z,16nm,0.8s,mb4.8						
DMN	**Daman**	**29.54**	**338**	*e*P	**P**	**18 22 16.3**	**-0.8**
	comp=Z,5.1nm,0.7s,mb4.4						
KKN	**Kakani**	**29.64**	**339**	*e*P	**P**	**18 22 17.8**	**-0.2**
	comp=Z,10nm,0.9s,mb4.5						
GKN	**Gorkha**	**30.07**	**338**	*e*P	**P**	**18 22 19.9**	**-1.9**
	comp=Z,12nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**41.71**	**121**	P	**P**	**18 24 00.6**	**-0.2**
	comp=Z,9.2nm,0.5s,mb4.6,baz=301,slow=9.0,SNR=50						
WRA				pP	pP	18 24 10.5	0.0
	comp=Z,2.8nm,0.7s,baz=299,slow=9.1,SNR=5.7						
WRAB	**Tennant Creek**	**41.71**	**121**	*e*P	**P**	**18 24 01.1**	**+0.2**
	comp=Z,8.9nm,0.5s,mb4.7						
WB2	**Warramunga Arr**	**41.72**	**121**	*e*P	**P**	**18 24 01.2**	**+0.3**
ASAR	**Alice Springs**	**42.98**	**126**	P	**P**	**18 24 11.5**	**+0.2**
	comp=Z,1.6nm,0.7s,mb3.9,baz=297,slow=8.1,SNR=25						
ASAR				sP	sP	18 24 23.4	-1.4
	comp=Z,0.5nm,0.4s,baz=293,slow=7.4,SNR=4.2						
WMQ	**Urumqi**	**44.22**	**350**	*e*P	**P**	**18 24 21.0**	**0.0**
WMQ				AMB	AMB		
	comp=Z,1.0nm,0.7s,mb3.6						
SONM	**Songino Array**	**48.15**	**9**	P	**P**	**18 24 52.5**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.2,baz=190,slow=9.3,SNR=15						
SONM				pP	pP	18 25 02.9	+1.0
	comp=Z,0.5nm,0.5s,baz=190,slow=8.6,SNR=3.8						
SONM				PcP	PcP	18 26 19.3	-0.2
	comp=Z,0.5nm,0.6s,baz=197,slow=4.1,SNR=3.2						
SONM				pPcP		18 26 29.8	
	comp=Z,0.5nm,0.7s,baz=201,slow=5.1,SNR=2.8						
MKAR	**Makanchi Array**	**48.16**	**346**	P	**P**	**18 24 52.5**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.3,baz=157,slow=7.8,SNR=25						
MKAR				pP	pP	18 25 01.9	0.0
	comp=Z,2.1nm,0.6s,baz=161,slow=8.8,SNR=9.9						
KURK	**Kurchatov**	**52.70**	**345**	*e*P	**P**	**18 25 26.3**	**-0.4**
	comp=Z,0.9nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**52.86**	**131**	P	**P**	**18 25 28.4**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.4,baz=305,slow=11,SNR=7.6						
STKA				pP	pP	18 25 39.0	+1.0
	comp=Z,3.9nm,0.7s,baz=306,slow=3.2,SNR=4.6						
STKA	**Stephens Creek**	**52.86**	**131**	P	**P**	**18 25 28.4**	**+0.3**
STKA				pP	pP	18 25 39.0	+1.0
ZAL	**Zalesovo**	**54.50**	**351**	P	**P**	**18 25 39.5**	**-0.3**
	comp=Z,3.8nm,0.5s,mb4.6,baz=309,slow=5.0,SNR=18						
ZAL				pP	pP	18 25 49.1	-0.5
	comp=Z,3.3nm,0.5s,baz=319,slow=5.1,SNR=8.1						
CHKZ	**Chkalovo**	**57.60**	**342**	*e*P	**P**	**18 26 01.0**	**-1.2**
	comp=Z,2.2nm,0.7s,mb4.3						
CHKZ				*e*	pP	18 26 11.6	-0.5
BRTR	**Keskin Array B**	**69.62**	**313**	P	**P**	**18 27 20.4**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=153,slow=6.4,SNR=3.0						
BRTR				pP	pP	18 27 30.6	-0.8
	comp=Z,1.0nm,0.6s,baz=130,slow=6.8,SNR=4.6						
MATP	**Matopo**	**69.94**	**248**	pP	pP	18 27 32.6	-1.1
	comp=Z,1.7nm,0.7s,baz=76,slow=6.7,SNR=3.2						
AKASG	**Malin Array Be**	**75.91**	**323**	P	**P**	**18 27 57.0**	**-1.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=90,slow=5.4,SNR=4.3						
AKASG				pP	pP	18 28 07.7	-0.7
	comp=Z,1.1nm,0.5s,baz=85,slow=5.1,SNR=5.2						
FINES	**FINESS Array B**	**80.78**	**333**	P	**P**	**18 28 25.1**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.9,baz=124,slow=6.9,SNR=4.6						
GERES	**GERESS Array B**	**85.42**	**319**	P	**P**	**18 28 49.0**	**+0.4**
	comp=Z,0.3nm,0.7s,mb3.5,baz=117,slow=11,SNR=3.6						
GERES				pP	pP	18 28 59.5	+0.6
	comp=Z,0.7nm,0.8s,baz=101,slow=6.8,SNR=4.3						
NOA	**NORSAR Array B**	**87.77**	**331**	P	**P**	**18 29 00.7**	**+0.8**
	comp=Z,0.7nm,0.8s,mb3.9,baz=85,slow=5.9,SNR=2.8						
NOA				pP	pP	18 29 09.9	-0.2
	comp=Z,1.0nm,0.8s,baz=95,slow=4.7,SNR=3.3						
ULM	**Lac du Bonnet**	**128.56**	**11**	PKP	PKPdf	18 35 19.8	-2.6
	comp=Z,0.4nm,0.4s,baz=79,slow=3.7,SNR=3.4						
ULM	**Lac du Bonnet**	**128.56**	**11**	PKP	PKPdf	18 35 19.8	-2.6
TXAR	**Lajitas Array**	**144.63**	**32**	PKP	PKPdf	18 35 48.2	-4.1
	comp=Z,1.3nm,0.7s,baz=310,slow=1.0,SNR=9.2						
TXAR				pPKP		18 35 57.6	
	comp=Z,0.6nm,0.6s,baz=180,slow=1.3,SNR=4.1						

*IDC **04** 18:18:49.8±2.4, 0.22N×97.05E, h33km±5km, mb3.7/6, mb1 3.9/7, mb1mx3.7/16, mbtmp3.9/7, ML3.5/1, Error ellipse: s-maj=104.0km s-min=15.1km az=59.0*
*NEIC **04** 18:18:50.3±0.8, 0.29N×97.15E, mb4.2/2, Error ellipse: s-maj=21.6km s-min=8.4km az=67.0*
ISC 04 18:18:48.0±1.1, 0.3N±0.1×97.1E±0.2, h33km, (h35km±5km:pP-P), n13, σ0§62/13, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.08**	**35**	Pn	**Pn**	**18 20 17.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**18.13**	**6**	P	**P**	**18 23 00.1**	**+1.0**
	0.1nm,0.3s,baz=194,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**41.64**	**121**	P	**P**	**18 26 35.2**	**0.0**
	4.8nm,0.6s,mb4.3,baz=301,slow=9.0,SNR=22						
WRA				pP	pP	18 26 45.4	+0.4
	1.5nm,0.7s,baz=301,slow=9.0,SNR=4.2						
WRAB	**Tennant Creek**	**41.65**	**121**	*e*P	**P**	**18 26 35.4**	**+0.1**
	5.0nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	**41.65**	**121**	*e*P	**P**	**18 26 35.5**	**+0.2**
ASAR	**Alice Springs**	**42.93**	**126**	P	**P**	**18 26 45.8**	**+0.1**
	0.7nm,0.6s,mb3.6,baz=297,slow=7.9,SNR=7.1						
ASAR				sP	sP	18 26 59.4	-0.4
	0.3nm,0.5s,baz=296,slow=7.4,SNR=2.4						
SONM	**Songino Array**	**48.02**	**8**	P	**P**	**18 27 26.8**	**+0.9**
	0.4nm,0.9s,mb3.4,baz=195,slow=9.1,SNR=3.7						
MKAR	**Makanchi Array**	**48.08**	**346**	P	**P**	**18 27 26.8**	**+0.4**
	0.7nm,0.6s,mb3.9,baz=152,slow=7.3,SNR=4.7						
MKAR				pP	pP	18 27 36.9	+0.6
	1.0nm,0.7s,baz=159,slow=8.6,SNR=5.5						
MKAR	**Makanchi Array**	**48.08**	**346**	P	**P**	**18 27 26.8**	**+0.4**
MKAR				pP	pP	18 27 36.9	+0.6
STKA	**Stephens Creek**	**52.83**	**132**	P	**P**	**18 28 02.6**	**-0.1**
	2.2nm,0.7s,mb4.2,baz=334,slow=9.8,SNR=4.5						
ZAL	**Zalesovo**	**54.41**	**351**	P	**P**	**18 28 13.3**	**-0.8**
	1.2nm,0.5s,mb4.0,baz=303,slow=7.1,SNR=4.2						
ZAL				pP	pP	18 28 23.9	-0.2
	1.2nm,0.6s,baz=316,slow=8.6,SNR=4.0						
ZAL	**Zalesovo**	**54.41**	**351**	P	**P**	**18 28 13.3**	**-0.8**
ZAL				pP	pP	18 28 23.9	-0.2
CHKZ	**Chkalovo**	**57.54**	**342**	*e*P	**P**	**18 28 35.6**	**-1.0**
	0.7nm,0.5s,mb4.0						

*LDG **04** 18:23:44.6±0.1, 45.93N×1.39W, h5km, Md2.6/1, Ml2.4/22, Error ellipse: s-maj=2.0km s-min=1.4km az=60.0*
*NEIC **04** 18:23:45.6, 45.94N×1.37W, h10km, ML2.8(STR), ML2.4(LDG), After STR.*
*MDD **04** 18:23:45.3±0.7, 45.93N×1.36W, h10km±2km, mb3.2/3, Error ellipse: s-maj=5.4km s-min=4.3km az=68.0, PRXIMO*
STR 04 18:23:45.6±0.6, 45.94N×1.37W, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

| Code | Station Name | Δ° | AZ° |

EBIE				Lg		18 25 34.6	
	2.9nm,1.3s,SNR=7.9						
SSF	**Saint Saulge**	**3.55**	**70**	*e*Pg	Pg	18 24 50.7	-5.8
SSF				*e*Sn	Sn	18 25 18.1	-6.4
	1.6nm,0.3s						
SSF				*e*Sg	Sg	18 25 36.6	-7.2
	1.8nm,0.3s						
MTLF	**Montolieu**	**3.65**	**134**	*e*Pn	Pn	18 24 40.7	-2.7
MTLF				*e*Sn	Sn	18 25 20.2	-6.7
MTLF				*e*Sg	Sg	18 25 39.3	-7.8
	0.9nm,0.3s						
SMF	**Signal de Mont**	**3.68**	**77**	*e*Pn	Pn	18 24 41.1	-2.7
SMF				*e*Pg	Pg	18 24 53.0	-6.1
SMF				*e*Sg	Sg	18 25 40.6	-7.6
	1.4nm,0.3s						
EARI	**Arriondas**	**3.81**	**227**	Pn	Pn	18 24 43.3	-2.3
	5.2nm,1.2s,SNR=7.9						
EARI				Sn	Sn	18 25 24.9	-6.0
	9.5nm,1.6s,SNR=7.9						
LASF	**Ste Croix**	**4.15**	**115**	*e*Pn	Pn	18 24 47.7	-2.8
LASF				*e*Sg	Sg	18 25 55.1	-8.7
	0.6nm,0.3s						

*IDC **04** 18:30:44.3±2.7, 1.15N×96.96E, mb3.7/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=109.6km s-min=21.0km az=60.0*
*NEIC **04** 18:30:49.1±0.9, 1.19N×97.05E, h30km, mb4.0/1, Error ellipse: s-maj=21.9km s-min=12.0km az=66.0*

ISC 04 18:30:47.0±1.2, 1.2N±0.1×97.0E±0.2, h30km, n8, σ0≧47/8, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.45**	**42**	*e*Pn	**Pn**	**18 32 08.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.25**	**6**	P	**P**	**18 34 48.4**	**+0.8**
	0.1nm,0.3s,baz=198,slow=11,SNR=6.3						
WRA	**Warramunga Arr**	**42.19**	**122**	P	**P**	**18 38 38.9**	**-0.3**
	0.4nm,0.4s,mb3.4,baz=302,slow=8.9,SNR=2.9						
ASAR	**Alice Springs**	**43.55**	**127**	P	**P**	**18 38 50.8**	**+0.6**
	0.3nm,0.5s,mb3.3,baz=300,slow=7.7,SNR=7.7						
SONM	**Songino Array**	**47.16**	**9**	P	**P**	**18 39 18.7**	**0.0**
	0.5nm,0.6s,mb3.7,baz=188,slow=8.9,SNR=6.5						
SONM				PcP	PcP	18 40 50.1	-0.3
	0.2nm,0.5s,baz=180,slow=4.3,SNR=2.5						
MKAR	**Makanchi Array**	**47.20**	**346**	P	**P**	**18 39 19.4**	**+0.4**
	0.4nm,0.4s,mb3.7,baz=162,slow=7.7,SNR=13						
ZAL	**Zalesovo**	**53.52**	**351**	P	**P**	**18 40 06.5**	**-0.6**
	1.0nm,0.5s,mb4.0,baz=293,slow=6.0,SNR=4.7						
CHKZ	**Chkalovo**	**56.67**	**342**	*e*P	**P**	**18 40 29.6**	**-0.4**
	1.4nm,0.8s,mb4.0						

DJA 04 18:35:38.5±1.3, 8.39S×115.76E, h92km±13km, MD4.4/3, ML3.8/1, 4C-1D, Error ellipse: s-maj=69.7km s-min=17.4km az=164.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.36**	**105**	⇑*i*Pn	P	18 35 52.6	0.0
	2μm,0.2s						
KEDI				⇓*i*Sn	S	18 36 01.2	-2.1
RATI	**Rata**	**0.40**	**214**	⇑*i*Pn	P	18 35 52.2	-0.7
	292nm,0.2s						
RATI				⇑*i*Sn	S	18 36 03.8	+0.1
SRDI	**Scrawed**	**1.60**	**267**	⇑*i*Pn	P	18 36 05.5	-0.6
	76nm,0.2s						

IDC 04 18:38:27.4±1.8, 5.86S×128.37E, mb3.7/2, mb1 3.9/4, mb1mx3.6/13, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=79.5km s-min=26.3km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.46**	**192**	Pn	P	18 41 27.5	-1.5
	0.7nm,0.3s,baz=11,slow=10,SNR=14						
FITZ				Sn	S	18 43 46.7	-3.0
	0.3nm,0.3s,baz=352,slow=15,SNR=2.5						
WRA	**Warramunga Arr**	**15.16**	**158**	Pn	P	18 42 12.5	+7.8
	0.1nm,0.3s,baz=325,slow=13,SNR=4.6						
ASAR	**Alice Springs**	**18.49**	**164**	P	P	18 42 46.9	0.0
	0.2nm,0.3s,baz=333,slow=11,SNR=20						
STKA	**Stephens Creek**	**28.69**	**156**	P	P	18 44 24.3	-4.0
	0.8nm,0.4s,baz=350,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**66.39**	**327**	P	P	18 49 18.6	-1.8
	0.2nm,0.4s,baz=119,slow=7.4,SNR=3.6						

*IDC **04** 18:46:22.4±1.4, 6.86S×129.66E, mb3.7/4, mb1 4.0/7, mb1mx3.9/14, mbtmp3.9/7, ML4.0/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/21, Error ellipse: s-maj=69.8km s-min=19.9km az=70.0*
*NEIC **04** 18:46:29.5±2.7, 7.03S×129.51E, h53km±28km, Error ellipse: s-maj=34.9km s-min=15.5km az=50.0*

ISC 04 18:46:34.5±3.1, 7.4S±0.1×129.3E±0.3, h126km±32km, n9, σ0≧86/11, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.27**	**198**	Pn	**P**	**18 49 12.8**	**0.0**
	0.9nm,0.3s,baz=16,slow=10.0,SNR=29						
FITZ				Sn	**S**	**18 51 09.6**	**-7.3**
	3.3nm,0.3s,baz=170,slow=20,SNR=11						
WRAB	**Tennant Creek**	**13.43**	**159**	*e*P	**P**	**18 49 40.6**	**-0.4**
	1.7nm,0.4s						
WRA	**Warramunga Arr**	**13.44**	**159**	Pn	**P**	**18 49 40.4**	**-0.7**
	0.9nm,0.3s,baz=327,slow=14,SNR=20						
WRA				Sn	**S**	**18 52 01.4**	**-6.4**
	2.5nm,0.3s,baz=339,slow=19,SNR=15						
ASAR	**Alice Springs**	**16.82**	**165**	P	**P**	**18 50 25.1**	**+1.3**
	1.1nm,0.3s,baz=340,slow=9.8,SNR=83						
ASAR				S	**S**	**18 53 24.4**	**-0.8**
	0.6nm,0.3s,baz=346,slow=24,SNR=7.1						
STKA	**Stephens Creek**	**26.96**	**156**	P	**P**	**18 52 08.0**	**+1.7**
	1.4nm,0.5s,mb3.8,baz=347,slow=14,SNR=3.2						
NWAO	**Narrogin (SRO)**	**27.81**	**202**	LR	LR	19 04 53.1	
	comp=Z,64nm,19.6s,baz=230,slow=39						
CMAR	**Chiang Mai Arr**	**39.43**	**311**	P	**P**	**18 53 54.5**	**+0.5**
	0.5nm,0.7s,mb3.5,baz=137,slow=7.1,SNR=5.1						
SONM	**Songino Array**	**58.55**	**342**	P	**P**	**18 56 19.6**	**-0.6**
	0.1nm,0.3s,mb3.3,baz=154,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**68.14**	**327**	P	**P**	**18 57 22.4**	**-0.7**
	0.4nm,0.3s,mb3.7,baz=125,slow=7.7,SNR=20						

MAN 04 18:50:31.1, 8.90N×126.54E, h22km, mb4.0, ML2.8, MS2.4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.73**	**194**	⇓*e*P	Pb	18 50 45.1	0.0
BIPH				*i* S	Sb	18 50 53.9	-0.8
BUTP	**Butuan**	**0.91**	**274**	*e*P	Pb	18 50 47.5	-0.7
BUTP				*e*S	Sb	18 50 58.2	-1.6
SCPH	**Surigao**	**1.36**	**310**	⇑*e*P	Pn	18 50 54.9	-0.2
SCPH				*e*S	Sn	18 51 13.0	+0.4
MATI	**Mati**	**1.96**	**188**	*e*P	Pn	18 51 04.1	+0.4
MATI				*e*S	Sn	18 51 27.9	0.0
MSLP	**Maasin**	**2.06**	**307**	*e*P	Pn	18 51 04.9	-0.3
MSLP				*e*S	Sn	18 51 30.2	-0.2
BESP	**Borongan**	**2.89**	**338**	*e*P	Pn	18 51 16.0	-1.0

IDC 04 18:56:38.2±3.8, 1.76N×98.15E, mb3.3/4, mb1 3.5/4, mb1mx3.4/15, mbtmp3.3/4, Error ellipse: s-maj=152.2km s-min=23.8km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.53**	**123**	P	P	19 04 27.7	-1.7
	0.4nm,0.6s,baz=303,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**42.98**	**128**	P	P	19 04 39.4	-1.8
	0.2nm,0.4s,baz=298,slow=7.1,SNR=5.0						
SONM	**Songino Array**	**46.45**	**8**	P	P	19 05 07.2	-1.5
	0.1nm,0.3s,baz=169,slow=7.3,SNR=4.3						
MKAR	**Makanchi Array**	**46.94**	**345**	P	P	19 05 10.5	-2.1
	0.3nm,0.5s,baz=164,slow=9.1,SNR=9.5						

*SOF **04** 18:59:04.5, 45.48N×26.33E, h120km, MD3.0*
*BUC **04** 18:59:04.2±0.6, 45.42N×26.36E, h141km±5km, MD4.4/5, Error ellipse: s-maj=5.1km s-min=3.7km az=11.0*
*CSEM **04** 18:59:05.1±0.1, 45.42N×26.38E, h121km±1km, MD4.3/6, Error ellipse: s-maj=2.2km s-min=1.7km az=169.0*
*NEIC **04** 18:59:07.0, 45.39N×26.48E, h116km, MG4.2(BUC), After BUC.*

ISC 04 18:59:04.5±0.5, 45.45N±0.03×26.41E±0.04, h133km±4km, n57, σ0≧90/90, 23C-19D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.33**	**278**	⇑*i*P	**P**	**18 59 24.0**	**+0.8**
MLR				*i* S	**S**	**18 59 37.5**	**-0.1**
MLR	**Muntele Rosu**	**0.33**	**278**	⇑*i*P	**P**	**18 59 24.0**	**+0.8**
MLR				*i* S	**S**	**18 59 37.5**	**0.0**
ISR	**Istrita**	**0.34**	**164**	⇑*i*P	**P**	**18 59 24.1**	**+0.8**
ISR				*i* S	**S**	**18 59 38.0**	**+0.5**
ISR	**Istrita**	**0.34**	**164**	⇑*i*P	**P**	**18 59 24.1**	**+0.9**
ISR				*i* S	**S**	**18 59 38.0**	**+0.4**
BRD	**Bordesti**	**0.45**	**76**	⇑*i*P	**P**	**18 59 25.7**	**+1.9**
BRD	**Bordesti**	**0.45**	**76**	⇑*i*P	**P**	**18 59 25.7**	**+1.9**
SECR		**0.47**	**211**	⇓*i*P	**P**	**18 59 24.8**	**+0.9**
SECR				*i* S	**S**	**18 59 38.8**	**+0.1**
VRI	**Vrincioaia**	**0.48**	**28**	⇑*i*P	**P**	**18 59 24.9**	**+1.0**
VRI				*i* S	**S**	**18 59 38.9**	**+0.2**
VRI	**Vrincioaia**	**0.48**	**28**	⇑*i*P	**P**	**18 59 24.9**	**+1.0**
VRI				*i* S	**S**	**18 59 38.9**	**+0.2**
FULR		**0.56**	**178**	⇑*i*P	**P**	**18 59 25.3**	**+0.9**
FULR				*i* S	**S**	**18 59 40.1**	**+0.5**
SNX	**Sinaia**	**0.64**	**262**	⇓*i*P	**P**	**18 59 25.6**	**+0.7**
SNX				*i* S	**S**	**18 59 40.3**	**-0.2**
SNX	**Sinaia**	**0.64**	**262**	⇓*i*P	**P**	**18 59 25.6**	**+0.7**
SNX				*i* S	**S**	**18 59 40.3**	**-0.2**
PGOR	**Pogoanele**	**0.67**	**143**	⇑*i*P	**P**	**18 59 26.2**	**+1.0**
PGOR				*i* S	**S**	**18 59 41.8**	**+0.9**
SULR		**0.77**	**188**	⇓*i*P	**P**	**18 59 26.6**	**+0.7**
SULR				*i* S	**S**	**18 59 42.5**	**+0.3**
OZUR		**0.78**	**326**	⇑*i*P	**P**	**18 59 26.3**	**+0.4**
OZUR		**0.78**	**326**	S	**S**	**18 59 41.0**	**-1.4**
VOIR		**0.96**	**270**	⇓*i*P	**P**	**18 59 27.8**	**+0.4**
VOIR		**0.96**	**270**	⇓*i*P	**P**	**18 59 27.8**	**+0.3**
VOIR		**0.96**	**270**	S	**S**	**18 59 43.3**	**-1.7**
MTUR	**Matau**	**0.97**	**258**	⇓*i*P	**P**	**18 59 27.7**	**+0.1**
MTUR	**Matau**	**0.97**	**258**	⇓*i*P	**P**	**18 59 27.7**	**+0.1**
BUC	**Bucharest**	**1.05**	**192**	*i* S	**S**	**18 59 47.1**	**+0.5**
AMRR		**1.06**	**141**	⇑*i*P	**P**	**18 59 29.2**	**+0.7**
AMRR				*i* S	**S**	**18 59 46.4**	**-0.3**
BUC1	**Bucharest**	**1.13**	**194**	⇓*i*P	**P**	**18 59 29.6**	**+0.5**
BUC1				*i* S	**S**	**18 59 47.1**	**-0.8**
BUC1	**Bucharest**	**1.13**	**194**	⇓*i*P	**P**	**18 59 29.6**	**+0.4**
BUC1				*i* S	**S**	**18 59 47.1**	**-0.8**
CFR	**Carcaliu**	**1.25**	**102**	⇑*i*P	**P**	**18 59 30.6**	**+0.2**
CFR				*i* S	**S**	**18 59 48.6**	**-1.5**
CFR	**Carcaliu**	**1.25**	**102**	⇑*i*P	**P**	**18 59 30.6**	**+0.2**
CFR				*i* S	**S**	**18 59 48.6**	**-1.5**
PPE	**Popeni**	**1.29**	**51**	⇑P	**P**	**18 59 31.5**	**+0.6**
PPE				S	**S**	**18 59 50.6**	**-0.4**
PPE	**Popeni**	**1.29**	**51**	⇑P	**P**	**18 59 31.5**	**+0.6**
PPE				S	**S**	**18 59 50.7**	**-0.3**
HARR	**Harsova**	**1.32**	**124**	⇑*i*P	**P**	**18 59 31.6**	**+0.4**
HARR				*i* S	**S**	**18 59 50.5**	**-1.2**
HARR	**Harsova**	**1.32**	**124**	⇑*i*P	**P**	**18 59 31.6**	**+0.4**
HARR				*i* S	**S**	**18 59 50.5**	**-1.1**
TLCR		**1.72**	**98**	⇑*i*P	**P**	**18 59 36.4**	**+0.7**
TLCR				*i* S	**S**	**18 59 58.3**	**-1.2**
TLCR		**1.72**	**98**	⇑*i*P	**P**	**18 59 36.3**	**+0.6**
TLCR				*i* S	**S**	**18 59 58.3**	**-1.2**
TIRR	**Tirgusor**	**1.73**	**124**	⇑*i*P	**P**	**18 59 36.2**	**+0.4**
TIRR				*i* S	**S**	**18 59 57.8**	**-2.0**
TIRR	**Tirgusor**	**1.73**	**124**	⇑*i*P	**P**	**18 59 36.2**	**+0.4**
TIRR				*i* S	**S**	**18 59 57.8**	**-1.9**
IAS	**Iasi**	**1.92**	**24**	⇓*i*P	**P**	**18 59 38.8**	**+0.8**
IAS				*i* S	**S**	**19 00 02.6**	**-1.1**
IAS	**Iasi**	**1.92**	**24**	⇓*i*P	**P**	**18 59 38.8**	**+0.7**
IAS				*i* S	**S**	**19 00 02.6**	**-1.1**
CRAR	**CRAIOVA**	**2.17**	**240**	⇓*i*P	**P**	**18 59 40.8**	**-0.4**
CRAR				*i* S	**S**	**19 00 07.6**	**-1.5**
PSN	**Preselentsi**	**2.17**	**144**	*i* P	**P**	**18 59 41.5**	**+0.3**
SZH	**Strazhica**	**2.20**	**189**	*i* P	**P**	**18 59 41.0**	**-0.6**
KIS	**Kishinev**	**2.28**	**46**	*e*P	**P**	**18 59 42.5**	**-0.1**
KIS				*i* S	**S**	**19 00 09.0**	**-2.7**
	700nm,1.0s						
BURAR	**Bucovina Array**	**2.32**	**340**	⇓P	**P**	**18 59 45.6**	**+2.5**
BURAR	**Bucovina Array**	**2.32**	**340**	⇓P	**P**	**18 59 44.9**	**+1.7**
BURAR				*i* S	**S**	**19 00 12.6**	**0.0**
BURAR	**Bucovina Array**	**2.32**	**340**	⇓P	**P**	**18 59 45.6**	**+2.4**
BURAR				*i* S	**S**	**19 00 12.6**	**0.0**
PRD	**Provadia**	**2.35**	**162**	*i* P	**P**	**18 59 44.0**	**+0.4**
PVL	**Pavlikeni**	**2.36**	**200**	*i* P	**P**	**18 59 45.0**	**+1.4**
JMB	**Yambol**	**2.98**	**178**	*i* P	**P**	**18 59 51.0**	**-0.8**
PGB	**Panagyurishte**	**3.32**	**210**	*i* P	**P**	**18 59 56.0**	**-0.2**
BZS	**Buzias**	**3.37**	**275**	⇓*i*P	**P**	**18 59 56.1**	**-0.9**
BZS				*i* S	**S**	**19 00 32.3**	**-4.7**
BZS	**Buzias**	**3.37**	**275**	⇓*i*P	**P**	**18 59 56.1**	**-0.9**
BZS				*i* S	**S**	**19 00 32.3**	**-4.7**
PLD	**Plovdiv**	**3.56**	**201**	*i* P	**P**	**18 59 59.0**	**-0.4**
VTS	**Vitosha**	**3.67**	**220**	⇓*i*P	**P**	**18 59 59.9**	**-1.0**
VTS	**Vitosha**	**3.67**	**220**	*i* P	**P**	**19 00 00.0**	**-0.9**
RZN	**Rozhen**	**3.95**	**199**	*e*P	**P**	**19 00 04.0**	**-0.6**
KKB	**Krupnik**	**4.32**	**215**	*i* P	**P**	**19 00 10.0**	**+0.5**
MMB	**Musomiste**	**4.32**	**208**	*i* P	**P**	**19 00 09.5**	**0.0**
DIVS	**Divcibare**	**4.76**	**256**	⇑*i*Pn	**P**	**19 00 13.9**	**-1.6**

IDC 04 19:13:32.0±3.2, 0.25N×97.04E, mb3.7/5, mb1 3.9/6, mb1mx3.6/17, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=125.8km s-min=21.3km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.19**	**6**	P	P	19 17 47.5	-0.3
	0.0nm,0.3s,baz=194,slow=11,SNR=4.4						
FITZ	**Fitzroy Crossi**	**33.51**	**124**	P	P	19 20 13.1	-2.5
	5.7nm,1.1s,baz=309,slow=6.5,SNR=4.0						
WRA	**Warramunga Arr**	**41.67**	**121**	P	P	19 21 23.0	-1.4
	1.7nm,0.5s,baz=302,slow=9.0,SNR=9.0						
ASAR	**Alice Springs**	**42.96**	**126**	P	P	19 21 33.1	-1.7
	0.4nm,0.6s,baz=301,slow=8.2,SNR=5.4						
MKAR	**Makanchi Array**	**48.12**	**346**	P	P	19 22 13.6	-2.0
	0.2nm,0.5s,baz=166,slow=7.0,SNR=3.6						
ZAL	**Zalesovo**	**54.46**	**351**	P	P	19 23 00.4	-3.0
	0.5nm,0.5s,baz=288,slow=3.2,SNR=2.7						

*ISK **04** 19:27:38.7, 37.85N×26.96E, h28km, MD3.1*
*CSEM **04** 19:27:38.6±0.1, 37.82N×27.19E, h2km, MD3.2, Error ellipse: s-maj=2.2km s-min=1.8km az=96.0*
*ATH **04** 19:27:41.5, 37.82N×26.91E, h15km±5km, MD3.2/4*
*NEIC **04** 19:27:41.5, 37.82N×26.91E, h15km, MD3.2(ATH), MD3.1(ISK), After ATH.*

ISC 04 19:27:39.2±0.5, 37.78N±0.02×27.07E±0.04, h2km, n24, σ0≧98/37, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.20**	**250**	⇑*i*PB	**Pb**	**19 27 44.5**	**-0.7**
SMG				*e*SB	**Sb**	**19 27 48.3**	**-0.7**
BLCB	**Balcova**	**0.61**	**358**	*i* PG	**Pg**	**19 27 50.8**	**-0.5**
BLCB				*i* SG	**Sg**	**19 27 58.4**	**-1.0**
BLCB	**Balcova**	**0.61**	**358**	Pg	**Pg**	**19 27 50.8**	**-0.5**
BLCB				Sg	**Sg**	**19 27 58.8**	**-0.7**
BLCB	**Balcova**	**0.61**	**358**	*i* Pg	**Pg**	**19 27 50.8**	**-0.5**
BLCB				Sg	**Sg**	**19 27 58.8**	**-0.6**
IZM	**Izmir**	**0.64**	**13**	PG	**Pg**	**19 27 51.1**	**-0.8**
IZM	**Izmir**	**0.64**	**13**	Pg	**Pg**	**19 27 51.2**	**-0.7**
KDAG	**Bornova**	**0.64**	**14**	*i* P	**Pg**	**19 27 51.2**	**-0.8**
KDAG				*i* S	**Sg**	**19 28 01.1**	**+0.4**
AYDN	**Tasoluk**	**0.65**	**100**	*i* P	**Pg**	**19 27 51.7**	**-0.5**
AYDN				*i* S	**Sg**	**19 27 59.5**	**-1.3**
BODT	**Bodrum**	**0.74**	**165**	PG	**Pg**	**19 27 54.3**	**+0.4**
BODT	**Bodrum**	**0.74**	**165**	Pg	**Pg**	**19 27 54.5**	**+0.6**
BDRM	**Kayabasi**	**0.77**	**157**	*i* P	**Pg**	**19 27 54.0**	**-0.5**
BDRM				*i* S	**Sg**	**19 28 05.2**	**+0.4**
MANT	**Manisa**	**1.37**	**58**	*i* P	**Pb**	**19 28 05.4**	**+0.2**
MANT				*i* S	**Sb**	**19 28 19.9**	**-3.2**
APE	**Apeiranthos**	**1.42**	**241**	*e*PN	**Pn**	**19 28 02.7**	**-3.3**
APE	**Apeiranthos**	**1.42**	**241**	Pn	**Pn**	**19 28 06.7**	**+0.7**
APE	**Apeiranthos**	**1.42**	**241**	*e*Pn	**Pn**	**19 28 06.7**	**+0.7**
DENT	**Denizli**	**1.55**	**90**	PN	**Pn**	**19 28 06.9**	**-1.1**
DENT	**Denizli**	**1.55**	**90**	Pn	**Pn**	**19 28 08.8**	**+0.8**
AYVA	**Ayvalik**	**1.56**	**349**	*e*P	**Pn**	**19 28 08.9**	**+0.9**
AYVA				*i* S	**Sb**	**19 28 29.2**	**+0.7**
DNZL	**Cakiroluk**	**1.57**	**93**	*i* P	**Pn**	**19 28 08.7**	**+0.6**
DNZL				*i* S	**Sb**	**19 28 30.6**	**+1.8**
PRK	**Paraskevi**	**1.60**	**337**	*e*PN	**Pn**	**19 28 09.1**	**+0.5**
PRK				*e*SN	**Sn**	**19 28 31.1**	**+1.1**
ARG	**Arkhangelos**	**1.77**	**151**	*e*PN	**Pn**	**19 28 15.5**	**+4.4**
FETY	**Fethiye**	**1.97**	**125**	*e*PN	**Pn**	**19 28 13.2**	**-0.7**
AKAS	**Kas**	**2.54**	**126**	*i* P	**Pn**	**19 28 25.3**	**+3.2**
AKAS				*i* S	**Sn**	**19 29 00.8**	**+6.7**
ULDT	**Uludag**	**2.86**	**34**	*i* P	**Pn**	**19 28 32.1**	**+5.4**
ULDT				*i* S	**Sn**	**19 29 07.9**	**+5.8**

*NIED **04** 19:35:00, 31.90N×132.00E, h23km, Mw4.1 Best double couple: M0 1.34×10^15 NP1:φ178°, δ79°, λ-88°. NP2: φ347°, δ12°, λ-100°.*
*JMA **04** 19:35:26.3±0.1, 31.94N×132.02E, h34km±2km, M4.2*
JMA Felt II J1.
*IDC **04** 19:35:27.8±0.8, 31.91N×131.67E, h53km±7km, mb3.4/8, mb1 3.6/8, mb1mx3.5/22, mbtmp3.7/8, Error ellipse: s-maj=31.2km s-min=14.4km az=71.0*
*NEIC **04** 19:35:27.6±0.8, 31.90N×131.94E, mb4.0/2, Error ellipse: s-maj=15.9km s-min=15.4km az=139.0*

ISC 04 19:35:25.6±0.7, 31.93N±0.06×132.03E±0.06, h53km±6km, h54km±1.9km: pP-P, n16, σ0≧97/21, mb3.7/9, 5C, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.54**	**306**	⇑P	**P**	**19 35 37.0**	**-0.6**
JTSN				S	**S**	**19 35 44.9**	**-1.4**
JNAR	**Kushima--Naru**	**0.76**	**238**	⇑P	**P**	**19 35 40.7**	**+0.4**
JNAR				S	**S**	**19 35 51.6**	**+0.5**
JTZ	**Takazaki**	**0.80**	**268**	⇑P	**P**	**19 35 40.8**	**0.0**
JTZ				S	**S**	**19 35 52.3**	**+0.2**
JTO	**Tosashimizu**	**1.14**	**35**	⇑P	**P**	**19 35 45.6**	**+0.1**
JTO				*e*S	**S**	**19 35 59.5**	**-0.8**
JIU2	**Izumi 2**	**1.20**	**301**	⇑P	**P**	**19 35 47.1**	**+0.8**
JIU2				S	**S**	**19 36 03.0**	**+1.3**
MAJO	**Matsushiro**	**6.88**	**46**	Pn	**P**	**19 37 07.1**	**+0.8**
ENH	**Enshi**	**19.37**	**271**	*e*P	**P**	**19 39 48.5**	**-1.1**
	20nm,1.3s						
ENH				*e*		19 40 01.9	
ULN	**Ulaanbaatar**	**24.75**	**317**	*e*P	**P**	**19 40 44.1**	**+0.7**
	1.5nm,0.8s,mb3.6						
ULN				*e*		19 40 57.5	
SONM	**Songino Array**	**25.12**	**317**	P	**P**	**19 40 46.8**	**-0.1**
	1.0nm,0.7s,mb3.5,baz=135,slow=10,SNR=9.5						
SONM				pP	pP	19 41 00.6	+0.7
	2.1nm,0.7s,baz=128,slow=9.6,SNR=12						
MKAR	**Makanchi Array**	**40.54**	**306**	P	**P**	**19 43 00.0**	**-1.0**
	0.6nm,0.6s,mb3.4,baz=90,slow=12,SNR=9.9						
MKAR				pP	pP	19 43 13.1	-1.9
	0.5nm,0.5s,baz=92,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**51.62**	**177**	P	**P**	**19 44 27.2**	**-1.9**
	0.8nm,0.7s,mb3.8,baz=355,slow=8.0,SNR=4.6						
WRA				pP	pP	19 44 42.4	-0.9
	0.3nm,0.4s,baz=192,slow=9.9,SNR=2.2						
ASAR	**Alice Springs**	**55.31**	**178**	P	**P**	**19 44 56.6**	**+0.3**
	0.8nm,0.8s,mb3.8,baz=5.0,slow=6.3,SNR=7.3						
ASAR				pP	pP	19 45 12.0	+1.3
	0.5nm,0.6s,baz=11,slow=13,SNR=4.1						
ILAR	**Eielson Array**	**57.86**	**30**	P	**P**	**19 45 15.2**	**+1.4**
	0.7nm,1.0s,mb3.6,baz=278,slow=8.8,SNR=6.4						
STKA	**Stephens Creek**	**64.10**	**171**	P	**P**	**19 45 56.9**	**+0.3**
	2.2nm,0.9s,mb4.2,baz=39,slow=6.5,SNR=3.1						
FINES	**FINESS Array B**	**69.56**	**330**	P	**P**	**19 46 28.7**	**-1.7**
	2.4nm,1.1s,mb4.0,baz=56,slow=6.9,SNR=4.7						
FINES				pP	pP	19 46 42.9	-2.5
	0.8nm,0.5s,baz=72,slow=6.0,SNR=2.0						
YKA	**Yellowknife Ar**	**71.97**	**27**	P	**P**	**19 46 46.6**	**+1.7**
	0.1nm,0.3s,mb3.2,baz=303,slow=5.7,SNR=6.2						

*MOS **04** 19:37:07.9±0.8, 4.82N×94.86E, h43km, mb5.5/82, Error ellipse: s-maj=9.1km s-min=4.0km az=124.8*
*BJI **04** 19:37:08.6, 4.70N×94.82E, h56km, mB5.1, mb5.1, Ms4.6, Msz4.3*
*IDC **04** 19:37:09.1±0.5, 4.80N×94.84E, h38km±3km, mb4.8/22, mb1 4.9/22, mb1mx4.9/23, mbtmp5.0/22, MS4.1/17, Ms1 4.1/17, ms1mx3.9/27, Error ellipse: s-maj=17.2km s-min=10.4km az=47.0*
*HRVD **04** 19:37:10.3±0.7, 4.75N×94.73E, h43km±2km, MW4.7/25, Centroid moment Tensor Solution. LP body waves: s23,c31;Mantle waves: s25,c36; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.44±.14; Mθθ 1.32±.08; Mφφ 0.11±.10; Mrθ 0.21±.09; Mθφ 0.60±.07; Mφr-0.39±.10; Best double couple: M0 1.575×10^16 NP1:φ51°, δ47°, λ-114°. NP2:φ264°, δ

KKM	**Kota Kinabalu**	**21.35**	**86**	*e*P	**P**	**19 41 54.4**	**+0.6**
KKM	**Kota Kinabalu**	**21.35**	**86**	P	**P**	**19 41 58.5**	**+4.6**
KMI	**Kunming**	**21.65**	**20**	P	**P**	**19 41 58.8**	**+2.0**
KMI				AP		19 42 06.1	
KMI				PP	PP	19 42 26.7	+4.1
KMI				S	**S**	**19 45 54.0**	**+5.6**
KMI				XS		19 46 07.0	
KMI				AMB	AMB		
	comp=Z,40nm,1.4s,mb4.7						
KMI				AMB	AMB		
	comp=Z,185nm,3.9s						
KMI				LR	LR		
	comp=N,395nm,19.0s,MS4.1						
KMI				LR	LR		
	comp=E,527nm,14.5s,MS4.1						
KMI				LR	LR		
	comp=Z,537nm,25.2s						
KMI	**Kunming**	**21.65**	**20**	P	**P**	**19 41 58.8**	**+2.0**
KMI				*SP		19 42 10.2	
KMI						19 42 26.7	
KMI				S	**S**	**19 45 54.0**	**+5.6**
KMI				*SS		19 46 07.0	
KMI				SS	SS	19 46 34.4	+7.0
KMI				pmax	pmax		
	comp=Z,40nm,1.4s,mb4.7						
KMI				MLR	MLR		
	comp=Z,540nm,25.2s,MS3.9						
KMI	**Kunming**	**21.65**	**20**	P	**P**	**19 41 58.8**	**+2.0**
	comp=Z,40nm,1.4s,mb4.7						
KMI				pP		19 42 06.1	
KMI				sP		19 42 10.2	
KMI				PP	PP	19 42 26.7	+4.1
KMI				S	**S**	**19 45 54.0**	**+5.6**
KMI				sS		19 46 07.0	
KMI				SS	SS	19 46 34.4	+7.0
KMI				LR	LR		
	comp=Z,540nm,25.2s,MS3.9						
NGP	**Nagpur**	**22.37**	**318**	*e*	**P**	**19 42 07.6**	**+3.8**
NGP				*e*		19 42 33.9	
	comp=Z,103nm,1.2s						
NGP				*e*		19 46 07.8	
LATR	**Latur**	**22.42**	**309**	*e*P	**P**	**19 42 06.5**	**+2.1**
LATR				*e*		19 46 08.5	
SRDI	**Scrawed**	**23.32**	**124**⇑	*i*P		19 42 24.2	
KAD	**Karad**	**23.75**	**303**	*e*P	**P**	**19 42 20.2**	**+2.8**
KAD				*i*		19 49 40.5	
JIRN	**Jiri**	**24.23**	**341**	*e*P	**P**	**19 42 21.7**	**-0.3**
	comp=Z,112nm,0.7s,mb5.4						
GYA	**Guiyang**	**24.39**	**26**⇑	*i*P	**P**	**19 42 24.5**	**+0.8**
GYA				AP		19 42 38.6	
GYA				XP		19 42 44.7	
GYA				AMB	AMB		
	comp=Z,90nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,130nm,4.8s						
GYA				LR	LR		
	comp=N,760nm,18.2s,MS4.3						
GYA				LR	LR		
	comp=E,690nm,18.4s,MS4.3						
GYA				LR	LR		
	comp=Z,470nm,17.6s,MS4.0						
PKI	**Pulchoki**	**24.41**	**339**	*e*P	**P**	**19 42 23.7**	**-0.1**
	comp=Z,91nm,1.0s,mb5.2						
PKI	**Pulchoki**	**24.41**	**339**	*e*P	**P**	**19 42 23.7**	**-0.1**
PKI				pmax	pmax		
	comp=Z,46nm,1.0s,mb4.9						
DMN	**Daman**	**24.55**	**339**	*e*P	**P**	**19 42 25.2**	**0.0**
	comp=Z,83nm,0.8s,mb5.3						
GUN	**Gumba**	**24.56**	**341**	*e*P	**P**	**19 42 25.4**	**+0.1**
	comp=Z,146nm,0.8s,mb5.5						
POO	**Poona**	**24.64**	**306**⇑	*i*P	**P**	**19 42 27.0**	**+0.9**
	comp=Z,30nm,1.0s,mb4.8						
POO				*i*		19 46 58.0	
KKN	**Kakani**	**24.66**	**339**	*e*P	**P**	**19 42 26.0**	**-0.2**
	comp=Z,164nm,1.0s,mb5.5						
KKN	**Kakani**	**24.66**	**339**	*e*P	**P**	**19 42 26.0**	**-0.2**
KKN				pmax	pmax		
	comp=Z,82nm,1.0s,mb5.2						
BHPL	**Bhopal**	**24.90**	**319**	*e*P	**P**	**19 42 29.8**	**+1.2**
BHPL				*e*		19 42 31.0	
	comp=Z,38nm,0.6s						
BHPL				*e*S	**S**	**19 46 47.9**	**+2.4**
KEDI	**Kedomdong**	**24.98**	**122**⇑	*i*P	**P**	**19 42 28.0**	**-1.4**
KEDI				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.1						
KEDI	**Kedomdong**	**24.98**	**122**⇑	*i*P	**P**	**19 42 28.0**	**-1.4**
	comp=Z,50nm,0.8s,mb5.1						
LSA	**Lhasa**	**25.07**	**352**	P	**P**	**19 42 31.0**	**+0.9**
LSA	**Lhasa**	**25.07**	**352**	*e*P	**P**	**19 42 30.6**	**+0.5**
LSA				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.1						
LSA	**Lhasa**	**25.07**	**352**	*e*P	**P**	**19 42 30.6**	**+0.4**
	comp=Z,40nm,0.6s,mb5.1						
GKN	**Gorkha**	**25.08**	**338**	*e*P	**P**	**19 42 30.2**	**-0.1**
	comp=Z,200nm,1.0s,mb5.6						
KOLN	**Koldanda**	**25.27**	**336**	*e*P	**P**	**19 42 32.5**	**+0.4**
	comp=Z,112nm,0.7s,mb5.5						
TANI	**Tanete Lipujan**	**25.86**	**108**	*e*P	**P**	**19 42 37.6**	**-0.1**
NINI	**Niniconang**	**26.53**	**110**	*e*P	**P**	**19 42 44.3**	**+0.4**
BUNI	**Buntu Taipa**	**26.82**	**108**	*e*P	**P**	**19 42 46.8**	**+0.2**
CD2	**Chengdu**	**27.36**	**17**⇑	*i*P	**P**	**19 42 50.1**	**-1.3**
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.1						
LGTI	**Lohaghat**	**28.18**	**332**	*e*	**P**	**19 43 01.3**	**+2.5**
PTH	**Pithoragarh**	**28.28**	**332**	*e*P	**P**	**19 42 58.8**	**-0.8**
ENH	**Enshi**	**28.93**	**27**	*e*P	**P**	**19 43 03.8**	**-1.6**
	comp=Z,37nm,0.7s,mb5.2						
QZH	**Quanzhou**	**30.42**	**46**	P	**P**	**19 43 19.0**	**+0.2**
QZH				*e*S	**S**	**19 48 14.3**	**-0.3**
QZH				AMB	AMB		
	comp=Z,90nm,0.8s,mb5.5						
QZH				LR	LR		
	comp=Z,640nm,16.0s,MS4.4						
SDNR	**Sundarnagar**	**31.46**	**330**	*e*P	**P**	**19 43 27.0**	**-0.8**
WHN	**Wuhan**	**31.59**	**33**	⇑P	**P**	**19 43 29.5**	**+0.5**
XAN	**Xi'an**	**31.97**	**22**	P	**P**	**19 43 30.9**	**-1.4**
XAN				AMB	AMB		
	comp=Z,101nm,0.9s,mb5.7						
LZH	**Lanzhou**	**32.29**	**14**	⇓P	**P**	**19 43 33.9**	**-1.1**
LZH				AP	pP	19 43 47.0	-1.4
LZH				XP	sP	19 43 53.1	-1.7
LZH				PP	PP	19 44 42.2	-1.4
LZH				*e*S	**S**	**19 48 43.5**	**-0.3**
LZH				XS		19 49 05.8	
LZH				SS	SS	19 50 42.3	+1.4
LZH				AMB	AMB		
	comp=Z,37nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,253nm,5.9s						
LZH				LR	LR		
	comp=N,1μm,13.5s						
LZH				LR	LR		
	comp=Z,2μm,16.5s,MS4.8						
LZH	**Lanzhou**	**32.29**	**14**	⇓P	**P**	**19 43 33.9**	**-1.1**
	comp=Z,37nm,1.3s,mb5.0						
LZH				pP	pP	19 43 47.0	-1.4
LZH				sP	sP	19 43 53.1	-1.7
LZH				PP	PP	19 44 42.2	-1.4
LZH				*e*S	**S**	**19 48 43.5**	**-0.3**
LZH				sS		19 49 05.8	
LZH				SS	SS	19 50 42.3	+1.4
LZH				LR	LR		
	comp=Z,2μm,16.5s,MS4.8						
YHNB	**Yeheng**	**32.32**	**50**	*e*P	**P**	**19 43 36.4**	**+0.9**
THN	**Thein Dam**	**32.84**	**329**	*e*	PcP	19 46 23.4	-0.5
GTA	**Gaotai**	**34.81**	**7**	P	**P**	**19 43 56.1**	**-0.7**
GTA				AP	pP	19 44 10.0	-0.2
GTA				XP	sP	19 44 13.4	-3.3
GTA				PPP	PPP	19 45 28.3	-5.2
GTA				PCP	PcP	19 46 30.1	+0.7
GTA				S	**S**	**19 49 17.0**	**-5.9**
GTA				AMB	AMB		
	comp=Z,57nm,0.8s,mb5.5						
GTA				AMB	AMB		
	comp=Z,68nm,7.7s						
GTA				LR	LR		
	comp=N,166nm,21.0s,MS3.8						
GTA				LR	LR		
	comp=E,108nm,21.8s,MS3.8						
GTA				LR	LR		
	comp=Z,267nm,20.3s,MS4.0						
NJ2	**Nanjing**	**35.29**	**37**	*e*P	**P**	**19 44 01.5**	**+0.5**
NJ2				AP	pP	19 44 11.0	-3.4
NJ2				PP	PP	19 45 21.1	-0.3
NJ2				S	**S**	**19 49 31.0**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,130nm,4.7s						
NJ2				LR	LR		
	comp=N,480nm,12.8s						
NJ2				LR	LR		
	comp=E,610nm,22.0s						
NJ2				LR	LR		
	comp=Z,270nm,21.4s						
MBWA	**Marble Bar**	**35.49**	**137**	P	**P**	**19 44 00.9**	**-1.8**
SSE	**Sheshan**	**36.09**	**40**	P	**P**	**19 44 05.1**	**-2.6**
SSE				PP	PP	19 45 25.7	-5.3
SSE				S	**S**	**19 49 42.8**	**+0.1**
SSE				AMB	AMB		
	comp=Z,54nm,0.7s,mb5.6						
SSE				AMB	AMB		
	comp=Z,71nm,5.0s						
SSE				LR	LR		
	comp=N,93nm,22.5s,MS3.7						
SSE				LR	LR		
	comp=E,101nm,22.5s,MS3.7						
SSE				LR	LR		
	comp=Z,145nm,19.4s,MS3.8						
SSE	**Sheshan**	**36.09**	**40**	P	**P**	**19 44 05.1**	**-2.6**
	comp=Z,54nm,0.7s,mb5.6						
SSE				sP	sP	19 44 18.0	-10
SSE				PP	PP	19 45 25.7	-5.3
SSE				S	**S**	**19 49 42.8**	**+0.1**
SSE				sS		19 49 58.3	
SSE				SS	SS	19 52 19.7	+12
SSE				LR	LR		
	comp=Z,150nm,19.4s,MS3.8						
TIA	**Tai'an**	**37.45**	**30**	*e*P	**P**	**19 44 19.3**	**+0.2**
TIA				AMB	AMB		
	comp=Z,42nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**37.94**	**128**⇓	*i*P	**P**	**19 44 22.3**	**-1.0**
	comp=Z,28nm,0.8s,mb5.0						
FITZ				*i* PCP	PcP	19 46 39.5	+0.5
FITZ	**Fitzroy Crossi**	**37.94**	**128**	P	**P**	**19 44 22.5**	**-0.9**
	comp=Z,48nm,0.9s,mb5.2,baz=321,slow=4.1,SNR=45						
FITZ				PcP	PcP	19 46 39.6	+0.6
	comp=Z,22nm,0.7s,baz=298,slow=0.8,SNR=6.5						
FITZ				LR	LR	19 59 47.6	
	comp=Z,296nm,20.8s,MS4.1,baz=282,slow=36						
KSH	**Kashi**	**38.59**	**336**	*e*P	**P**	**19 44 29.8**	**+1.3**
KSH				*e*AP	pP	19 44 41.5	-0.6
KSH				*e*XP	sP	19 44 46.2	-2.1
KSH				*e*PP	PP	19 46 02.5	+1.4
KSH				*e*PPP	PPP	19 46 24.3	-0.2
KSH				*e*PCP	PcP	19 46 40.0	-0.8
KSH				*e*S	**S**	**19 50 21.6**	**+0.9**
KSH				*e*SCP		19 50 24.1	
KSH				*e*PCS		19 50 29.2	
KSH				*e*XS		19 50 42.4	
KSH				*e*SS	SS	19 53 03.6	-0.2
KSH				*e*SCS	ScS	19 54 34.5	+2.3
KSH				AMB	AMB		
	comp=Z,250nm,4.8s						
KSH				LR	LR		
	comp=N,320nm,5.0s						
KSH				LR	LR		
	comp=E,300nm,4.4s						
JOW	**Kunigami**	**38.76**	**52**	P	**P**	**19 44 29.9**	**-0.1**
	comp=E,32nm,0.5s,mb5.3,baz=232,slow=8.7,SNR=24						
JOW				LR	LR	19 59 28.2	
	comp=E,191nm,21.9s,MS3.9,baz=258,slow=35						
HHC	**Hu-ho-hao-te**	**38.98**	**20**	*e*P	**P**	**19 44 31.9**	**+0.2**
HHC				AP	pP	19 44 41.7	-3.6
HHC				PP	PP	19 46 05.1	-0.5
HHC				PCP	PcP	19 46 43.4	+1.4
HHC				S	**S**	**19 50 25.3**	**-1.3**
HHC				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.9						
HHC				LR	LR		
	comp=N,375nm,19.6s,MS4.4						
HHC				LR	LR		
	comp=E,443nm,17.1s,MS4.4						
HHC				LR	LR		
	comp=Z,437nm,20.6s,MS4.3						
WMQ	**Urumqi**	**39.43**	**352**	P	**P**	**19 44 35.9**	**+0.5**
WMQ				AP	pP	19 44 49.4	+0.4
WMQ				XP	sP	19 44 55.4	+0.2
WMQ				PP	PP	19 46 11.4	+1.1
WMQ				PPP	PPP	19 46 35.7	+0.4
WMQ				PCP	PcP	19 46 42.9	-0.5
WMQ				S	**S**	**19 50 34.0**	**+0.7**
WMQ				XS		19 50 54.9	
WMQ				AMB	AMB		
	comp=Z,23nm,0.8s,mb5.0						
WMQ				LR	LR		
	comp=N,139nm,16.2s,MS4.0						
WMQ				LR	LR		
	comp=E,156nm,18.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,99nm,21.3s,MS3.6						
BJT	**Baijiatuau**	**40.06**	**26**	*e*P	**P**	**19 44 41.2**	**+0.5**
BJT				pmax	pmax		
	comp=Z,56nm,0.8s						
BJT	**Baijiatuau**	**40.06**	**26**	*e*P	**P**	**19 44 41.2**	**+0.4**
	comp=Z,56nm,0.8s,mb5.3						
BJI	**Beijing**	**40.08**	**26**	P	**P**	**19 44 41.6**	**+0.7**
BJI				AP	pP	19 44 50.6	-3.9
BJI				PP	PP	19 46 16.8	-0.5
BJI				S	**S**	**19 50 50.9**	**+7.7**
BJI				AMB	AMB		
	comp=Z,73nm,1.1s,mb5.3						
BJI				LR	LR		
	comp=N,302nm,20.4s,MS4.2						
BJI				LR	LR		
	comp=E,136nm,20.4s,MS4.2						
BJI				LR	LR		
	comp=Z,275nm,20.4s,MS4.1						
BJI	**Beijing**	**40.08**	**26**	P	**P**	**19 44 41.6**	**+0.7**
BJI				*SP	sP	19 44 54.4	-6.3
BJI						19 46 16.8	
BJI				S	**S**	**19 50 50.9**	**+7.7**
BJI				pmax	pmax		
	comp=Z,73nm,1.1s,mb5.3						
BJI				MLR	MLR		
	comp=Z,280nm,20.4s,MS4.1						
BJI	**Beijing**	**40.08**	**26**	P	**P**	**19 44 41.6**	**+0.7**
	comp=Z,73nm,1.1s,mb5.3						
BJI				pP	pP	19 44 50.6	-3.9
BJI				sP	sP	19 44 54.4	-6.3
BJI				PP	PP	19 46 16.8	-0.5
BJI				S	**S**	**19 50 50.9**	**+7.7**
BJI				SS	SS	19 53 57.7	+21
BJI				LR	LR		
	comp=Z,280nm,20.4s,MS4.1						
ULHL	**Ulahol**	**40.85**	**339**	P	**P**	**19 44 47.8**	**+0.6**
	SNR=13						
KZA	**Kyzart**	**41.07**	**338**	P	**P**	**19 44 50.4**	**+1.4**
	SNR=8.3						
UCH	**Uchtor**	**41.48**	**337**	P	**P**	**19 44 53.6**	**+1.2**
	SNR=39						
TKM2	**Tokmak 2**	**41.67**	**339**	P	**P**	**19 44 54.9**	**+0.9**
	SNR=11						
KBK	**Karagaybulak**	**41.68**	**338**	P	**P**	**19 44 55.7**	**+1.6**
	SNR=31						
AML	**Almayashu**	**41.72**	**336**	P	**P**	**19 44 55.8**	**+1.4**
	SNR=44						
MUN	**Mundaring**	**41.81**	**152**	*e*P	**P**	**19 44 55.7**	**+0.4**
	comp=Z,51nm,0.5s,mb5.4						
MUN	**Mundaring**	**41.81**	**152**	*e*P	**P**	**19 44 55.7**	**+0.4**
MUN				pmax	pmax		
	comp=Z,51nm,0.5s,mb5.4						
DL2	**Dalian**	**41.82**	**32**	P	**P**	**19 44 56.6**	**+1.3**
DL2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.2						
AAK	**Ala-Archa**	**41.83**	**337**	P	**P**	**19 44 56.5**	**+1.1**
	SNR=15						
AAK	**Ala-Archa**	**41.83**	**337**	P	**P**	**19 44 55.9**	**+0.6**
	comp=Z,128nm,0.6s,mb5.7,SNR=19						
AAK	**Ala-Archa**	**41.83**	**337**	*i* P	**P**	**19 44 55.6**	**+0.3**
AAK				pmax	pmax		
	comp=Z,29nm,1.6s,mb4.7						
AAK				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.1						
AAK	**Ala-Archa**	**41.83**	**337**	*e*P	**P**	**19 44 55.1**	**-0.2**
	comp=Z,22nm,0.8s,mb4.8						
FRU	**Bishkek**	**41.96**	**338**	*e*P	**P**	**19 44 57.5**	**+1.2**
FRU				pmax	pmax		
	comp=Z,66nm,2.0s,mb4.9						
CHMS	**Chumysh**	**42.05**	**338**	P	**P**	**19 44 57.6**	**+0.5**
	SNR=6.7						
EKS2	**Erkin-Say**	**42.13**	**337**	P	**P**	**19 44 59.1**	**+1.3**
	SNR=27						
USP	**Ospenovka**	**42.37**	**338**	P	**P**	**19 45 00.5**	**+0.7**
	SNR=33						
NWAO	**Narrogin (SRO)**	**43.08**	**152**	P	**P**	**19 45 04.6**	**-1.1**
	comp=Z,14nm,0.8s,mb4.7,baz=343,slow=6.8,SNR=6.5						
MKAR	**Makanchi Array**	**43.27**	**347**	P	**P**	**19 45 06.9**	**-0.2**
	comp=Z,38nm,0.6s,mb5.3,baz=167,slow=8.3,SNR=313						
MKAR				sP	sP	19 45 22.7	-4.2
	comp=Z,32nm,0.8s,baz=169,slow=7.6,SNR=8.9						
MKAR				PcP	PcP	19 46 56.3	+0.4
	comp=Z,2.1nm,0.6s,baz=180,slow=1.4,SNR=2.0						
MKAR				LR	LR	20 05 59.7	
	comp=Z,152nm,20.7s,MS3.9,baz=176,slow=40						
MKAR	**Makanchi Array**	**43.27**	**347**	P	**P**	**19 45 06.9**	**-0.2**
MKAR				sP	sP	19 45 22.7	-4.2
MKAR				PcP	PcP	19 46 56.3	+0.4
MKAR				LR	LR	20 05 59.7	
SONM	**Songino Array**	**44.08**	**11**	P	**P**	**19 45 12.3**	**-1.3**
	comp=Z,11nm,0.8s,mb4.6,baz=190,slow=8.4,SNR=84						
SONM				PcP	PcP	19 46 58.1	-0.5
	comp=Z,12nm,0.8s,baz=191,slow=3.9,SNR=11						
SONM				pPcP		19 47 08.7	
	comp=Z,4.2nm,0.6s,baz=196,slow=2.8,SNR=4.2						
SONM				ScP		19 50 45.4	
	comp=Z,0.9nm,0.9s,baz=191,slow=4.5,SNR=4.1						
SONM				LR	LR	20 05 55.1	
	comp=Z,224nm,18.4s,MS4.1,baz=196,slow=39						
SONM	**Songino Array**	**44.08**	**11**	P	**P**	**19 45 12.3**	**-1.3**
SONM				PcP	PcP	19 46 58.1	-0.5
SONM				pPcP		19 47 08.7	
SONM				ScP		19 50 45.4	
SONM				LR	LR	20 05 55.1	
ULN	**Ulaanbaatar**	**44.24**	**12**	*e*P	**P**	**19 45 13.5**	**-1.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**44.24**	**12**	*e*P	**P**	**19 45 13.5**	**-1.3**
	comp=Z,4.3nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**45.95**	**124**	P	**P**	**19 45 28.2**	**-0.6**
	comp=Z,76nm,0.6s,mb5.8,baz=302,slow=9.1,SNR=258						
WRA				pP	pP	19 45 40.4	-2.2
	comp=Z,26nm,0.6s,baz=301,slow=9.2,SNR=7.8						
WRAB	**Tennant Creek**	**45.95**	**124**⇓	*i*P	**P**	**19 45 29.0**	**+0.1**
WRAB	**Tennant Creek**	**45.95**	**124**	*e*P	**P**	**19 45 28.9**	**0.0**
	comp=Z,120nm,0.6s,mb6.0						
WB2	**Warramunga Arr**	**45.95**	**124**⇓	*i*P	**P**	**19 45 29.0**	**+0.1**
ZAK	**Zakamensk**	**46.04**	**8**	*i* P	**P**	**19 45 28.6**	**-0.6**
ZAK				*e*P		19 47 05.4	
ZAK				*e*		19 47 17.6	
MOY	**Mondy**	**47.06**	**5**	*e*P	**P**	**19 45 36.9**	**-0.2**
CN2	**Changchun**	**47.35**	**30**	*e*P	**P**	**19 45 39.3**	**-0.3**
CN2				*e*XP	sP	19 45 58.0	-1.4
CN2				*e*S	**S**	**19 52 29.0**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,18.0s,MS4.4						
CN2				LR	LR		
	comp=E,300nm,18.0s,MS4.4						
CN2				LR	LR		
	comp=Z,700nm,19.0s,MS4.7						
TLY	**Talaya**	**47.36**	**7**	*e*P	**P**	**19 45 39.4**	**-0.2**
TLY				*e*		19 52 48.9	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
TLY				MLR	MLR		
	comp=Z,202nm,22.0s,MS4.0						
TLY	**Talaya**	**47.36**	**7**	*i* P	**P**	**19 45 39.5**	**-0.1**
ASPA	**Alice Springs**	**47.43**	**128**⇓	*i*P	**P**	**19 45 40.3**	**-0.2**
ASAR	**Alice Springs**	**47.43**	**128**	P	**P**	**19 45 40.3**	**-0.2**
	comp=Z,21nm,0.6s,mb5.2,baz=299,slow=7.9,SNR=254						
ASAR				PcP	PcP	19 47 10.7	0.0
	comp=Z,5.5nm,0.7s,baz=306,slow=3.7,SNR=5.7						
FORT	**Forrest**	**47.50**	**140**	*e*P	**P**	**19 45 41.3**	**+0.3**
	comp=Z,672nm,0.6s						
KURK	**Kurchatov**	**47.80**	**346**	*e*P	**P**	**19 45 43.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,72nm,0.9s,mb5.7						
KURK	**Kurchatov**	**47.80**	**346**	*e*P	**P**	**19 45 43.1**	**+0.1**
	comp=Z,72nm,0.9s,mb5.7						
HIA	**Hailar**	**49.16**	**21**	*e*P	**P**	**19 45 52.8**	**-0.7**
HIA				*e*		19 47 15.9	
HIA				pmax	pmax		
	comp=Z,25nm,0.8s						
HIA	**Hailar**	**49.16**	**21**	*e*P	**P**	**19 45 52.8**	**-0.7**
	comp=Z,25nm,0.8s,mb5.3						
HIA				*e*PcP	PcP	19 47 15.9	-0.7
ZAL	**Zalesovo**	**49.73**	**352**	P	**P**	**19 45 57.1**	**-0.7**
	comp=Z,15nm,0.6s,mb5.2,baz=304,slow=6.0,SNR=83						
ZAL				sP	sP	19 46 12.2	-5.4
	comp=Z,16nm,0.4s,baz=340,slow=7.4,SNR=8.2						
ZAL				LR	LR	20 12 09.0	
	comp=Z,134nm,19.7s,MS4.0,baz=30,slow=42						
MDJ	**Mudanjiang**	**50.06**	**32**	P	**P**	**19 45 59.5**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,89nm,4.6s						
MDJ				LR	LR		
	comp=N,152nm,17.0s,MS4.1						
MDJ				LR	LR		
	comp=E,68nm,18.3s,MS4.1						
MDJ				LR	LR		
	comp=Z,213nm,15.2s,MS4.3						
NVS	**Novosibirsk**	**50.83**	**351**⇓	*i*P	**P**	**19 46 04.7**	**-1.5**
NVS				*e*PP	pP	19 46 15.7	-4.4
NVS				*e*S	**S**	**19 53 16.7**	**-0.2**
NVS				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.2						
NVS				pmax	pmax		
	comp=N,26nm,1.2s						
NVS				pmax	pmax		
	comp=E,18nm,1.2s						
NVS				smax			
	comp=N,26nm,1.6s						
RAYN	**Ar Rayn**	**51.02**	**296**	P	**P**	**19 46 08.7**	**+0.6**
	comp=N,163nm,0.8s,SNR=20						
ATD	**Arta Tunnel**	**51.82**	**281**	LR	LR	20 03 50.3	
	comp=N,73nm,20.8s,MS3.7,baz=116,slow=31						
BVA0	**Borovoye Array**	**52.16**	**342**	*i* P	**P**	**19 46 15.1**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
CHKZ	**Chkalovo**	**52.64**	**342**	P	**P**	**19 46 19.5**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,67nm,1.2s,mb5.5						
KLR	**Kul'dur**	**54.26**	**29**	*e*P	**P**	**19 46 29.3**	**-2.6**
BOD	**Bodaibo**	**55.04**	**12**	*e*P	**P**	**19 46 35.3**	**-2.1**
BOD				pmax	pmax		
	comp=Z,71nm,0.9s,mb5.7						
CTA	**Charters Tower**	**56.23**	**118**	*e*P	**P**	**19 46 45.8**	**-0.7**
	comp=Z,16nm,1.0s,mb5.0						
CTA	**Charters Tower**	**56.23**	**118**	*e*P	**P**	**19 46 45.8**	**-0.7**
CTA				pmax	pmax		
	comp=Z,16nm,1.0s						
CTA	**Charters Tower**	**56.23**	**118**	LR	LR	20 11 05.6	
	comp=Z,222nm,21.7s,MS4.2,baz=286,slow=36						
CTAO	**Charters Tower**	**56.23**	**118**	*e*P	**P**	**19 46 45.8**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
CTAO	**Charters Tower**	**56.23**	**118**	*e*P	**P**	**19 46 45.8**	**-0.8**
	comp=Z,23nm,0.9s,mb5.2						
GNI	**Garni**	**57.11**	**316**	*e*P	**P**	**19 46 51.9**	**-0.7**
GNI				pmax	pmax		
	comp=Z,24nm,0.9s						
**G

KMBO LR LR 20 07 32.6
comp=Z,159nm,20.8s,MS4.1,baz=100,slow=32
KMBO Kilima Mbogo 57.80 266 *eP* **P 19 46 58.7 +1.0**
comp=Z,17nm,0.9s,mb5.1
KMBO *e* pP 19 47 13.3 +1.4
SVE Sverdlovsk 58.55 339⇓ *eP* **P 19 47 02.0 -0.3**
SVE *e* 19 47 23.0
SVE pmax pmax
comp=Z,44nm,1.0s,mb5.4
SVE MLR MLR
comp=N,100nm,17.0s
SVE MLR MLR
comp=Z,400nm,17.0s,MS4.6
ZEI Tsey 58.79 318 *eP* **P 19 47 03.8 -0.4**
ZEI *i* *PP pP 19 47 20.5 +2.1
ZEI *i* 19 49 13.1
ZEI pmax pmax
comp=Z,20nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 58.86 36⇑ *iP* **P 19 47 04.4 -0.3**
YSS *e* pP 19 47 18.2 -0.7
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 58.86 36 *eP* **P 19 47 03.5 -1.1**
comp=Z,58nm,1.0s,mb5.6
ARU Arti 59.02 337⇑ *iP* **P 19 47 04.7 -0.9**
ARU *e* 19 47 53.4
ARU *e* 19 49 13.6
ARU *e*S **S 19 55 09.5 +2.8**
ARU *e*SS SS 19 59 02.8 -0.1
ARU pmax pmax
comp=Z,14nm,1.2s,mb4.9
ARU Arti 59.02 337 *eP* **P 19 47 03.9 -1.7**
comp=Z,6.1nm,0.6s,mb4.8
KIV Kislovodsk 60.09 319 *i* P **P 19 47 12.0 -1.2**
KIV pmax pmax
comp=Z,65nm,1.3s,mb5.5
KIV Kislovodsk 60.09 319 *eP* **P 19 47 12.3 -0.9**
comp=Z,50nm,1.1s,mb5.5
GOF Gofitskoye 60.33 320⇑ *iP* **P 19 47 12.7 -2.2**
GOF pmax pmax
comp=Z,30nm,1.0s,mb5.3
ASF Jabal al Asfar 60.50 304 P **P 19 47 16.9 +0.8**
comp=Z,4.6nm,0.6s,mb4.7,baz=351,slow=5.9,SNR=4.9
ASF LR LR 20 13 05.3
comp=Z,162nm,21.7s,MS4.1,baz=143,slow=36
MALT Malatya 61.01 312 ⇓P **P 19 47 19.3 -0.2**
GZT Gaziantep 61.36 310 *i* P **P 19 47 22.1 +0.1**
EIL Elat 61.58 301 *eP* **P 19 47 23.6 +0.1**
comp=Z,36nm,1.2s,mb5.4
SOC Sochi 61.91 318 *i* P **P 19 47 24.0 -1.5**
SOC *e* 19 48 02.8
SOC *e* 19 49 41.7
SOC *e*PPP PPP 19 51 08.1 -5.5
SOC *e*S **S 19 55 47.5 +3.6**
SOC *e* 19 57 12.5
SOC *e*SS SS 19 59 48.5 +0.1
SOC pmax pmax
comp=Z,47nm,1.0s,mb5.6
SOC pmax pmax
comp=N,11nm,0.8s
SOC pmax pmax
comp=E,16nm,0.9s
COBT Iskenderun 62.13 309 *i* P **P 19 47 26.9 -0.2**
YAK Yakutsk 62.75 18*d iP* **P 19 47 28.0 -2.9**
YAK *e* pP 19 47 41.0 -4.2
YAK *e* 19 48 04.4
YAK *e*S **S 19 55 52.1 -2.1**
YAK *e**SS 19 56 12.4
YAK *e* 19 56 30.6
YAK pmax pmax
comp=Z,28nm,1.0s,mb5.3
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax
comp=N,10.0nm,1.1s
YAK smax
comp=E,1.0nm,0.9s
YAK MLR MLR
comp=N,83nm,14.0s,MS4.2
YAK MLR MLR
comp=Z,136nm,14.0s,MS4.3
YAK MLR MLR
comp=E,94nm,17.0s,MS4.2
YAK Yakutsk 62.75 18 *eP* **P 19 47 28.7 -2.2**
comp=E,67nm,1.1s,mb5.7
MEST Erdemli 63.79 309 *i* P **P 19 47 37.6 -0.6**
ANN Anapa 63.89 318 *eP* **P 19 47 35.0 -3.6**
ANN pmax pmax
comp=Z,30nm,1.2s,mb5.2
MBAR Mbarara 64.22 267 P **P 19 47 41.4 +0.1**
comp=Z,78nm,0.9s,mb5.7,SNR=8.8
MBAR Mbarara 64.22 267 *eP* **P 19 47 41.5 +0.2**
MBAR *e* pP 19 47 56.4 +0.7
MBAR pmax pmax
comp=Z,20nm,1.1s,mb5.1
MBAR Mbarara 64.22 267 *eP* **P 19 47 41.5 +0.2**
comp=Z,20nm,1.1s,mb5.1
MBAR *e* pP 19 47 56.4 +0.7
BOYT Boyabat 64.54 314 *i* P **P 19 47 42.1 -0.8**
BRTR Keskin Array B 64.98 312 P **P 19 47 44.8 -1.1**
comp=Z,25nm,0.7s,mb5.3,baz=126,slow=7.3,SNR=107
VRSR Storozhevoye 65.31 325*d iP* **P 19 47 45.6 -2.1**
VRSR *e*S S 19 56 28.0 +2.1
VRSR *e* 19 57 34.1
VRSR *e*SS SS 20 00 45.5 +4.2
VRSR *e*SSS SSS 20 03 33.6 -0.7
VRSR pmax pmax
comp=Z,40nm,0.8s,mb5.5
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,40nm,0.9s
VRSR smax
comp=N,120nm,4.1s
VRSR smax
comp=Z,60nm,4.4s
VRSR smax
comp=E,90nm,3.6s
VRSR Storozhevoye 65.31 325 *eP* pP 19 48 00.9 -1.2
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.8s
ELDT Eldivan 65.35 313 *i* P **P 19 47 47.4 -0.7**
VOR Voronezh 65.52 326 *eP* **P 19 47 47.0 -2.0**
VOR pmax pmax
comp=N,30nm,1.2s
VOR pmax pmax
comp=E,30nm,1.2s
VOR pmax pmax
comp=Z,80nm,1.2s,mb5.6
BALT Daday 65.66 314 *i* P **P 19 47 49.6 -0.6**
SIM Simferopol' 66.16 317 *eP* **P 19 47 52.1 -1.1**
SIM pmax pmax
comp=Z,31nm,0.9s,mb5.3
ESKT Eskisehir 67.02 311 *i* P **P 19 47 57.9 -0.8**
MOS Moscow 68.09 329κ *iP* **P 19 48 04.5 -0.7**
MOS *e* 19 48 12.1
MOS *e* pP 19 48 23.3 +3.6
MOS *e* 19 48 31.3
MOS pmax pmax
comp=Z,82nm,0.7s,mb5.9
OBN Obninsk 68.38 328κ *iP* **P 19 48 05.8 -1.1**
OBN *i* pP 19 48 24.6 +3.1
OBN *e*S S 19 57 00.1 -2.8
OBN pmax pmax
comp=Z,106nm,1.6s,mb5.6
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.0
OBN Obninsk 68.38 328 *eP* **P 19 48 05.4 -1.5**
comp=Z,55nm,1.2s,mb5.5
ULDT Uludag 68.44 311 *i* P **P 19 48 07.0 -0.7**
LSZ Lusaka 68.89 252 *eP* **P 19 48 11.0 +0.3**
LSZ *e* pP 19 48 26.3 +1.0
LSZ pmax pmax
comp=Z,22nm,0.9s,mb5.1
LSZ Lusaka 68.89 252 *eP* **P 19 48 11.0 +0.3**
comp=Z,22nm,0.9s,mb5.1
LSZ *e* pP 19 48 26.2 +0.9
MA2 Magadan 69.23 27*d iP* **P 19 48 11.5 -0.7**
MA2 *e* pP 19 48 24.9 -1.8
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
MA2 pmax pmax
comp=E,4.0nm,0.8s
MA2 pmax pmax
comp=N,9.0nm,1.2s
MA2 Magadan 69.23 27 *eP* **P 19 48 11.2 -0.9**
comp=N,28nm,0.7s,mb5.3
MA2 *e*pP pP 19 48 24.8 -2.0
KDAG Bornova 69.52 309 *i* P **P 19 48 14.3 +0.1**
MATP Matopo 69.69 246 LR LR 20 14 46.6
comp=N,222nm,19.6s,MS4.4,baz=48,slow=32
PSN Preselentsi 69.92 315 *eP* **P 19 48 16.0 -0.6**
TIRR Tirgusor 69.94 316 ⇑P **P 19 48 15.7 -1.0**
TIXI Tiksi 70.16 11⇓ *iP* **P 19 48 16.2 -1.4**
CFR Carcaliu 70.30 316⇓ *iP* **P 19 48 18.2 -0.7**
HARR Harsova 70.33 316⇓ *iP* **P 19 48 18.9 -0.2**
PRD Provadia 70.37 314 *eP* **P 19 48 19.0 -0.4**
JMB Yambol 70.81 313 *eP* **P 19 48 22.0 0.0**
AKASG Malin Array Be 71.02 322 P **P 19 48 21.4 -1.8**
comp=N,19nm,0.6s,mb5.2,baz=89,slow=5.3,SNR=82
AKASG pP pP 19 48 33.4 -4.3
comp=N,5.7nm,0.5s,baz=87,slow=5.8,SNR=7.2
ISR Istrita 71.38 316⇑ *iP* **P 19 48 24.4 -1.0**
VRI Vrincioaia 71.42 317⇓ *iP* **P 19 48 26.1 +0.5**
CASY Casey 71.75 173 *eP* **P 19 48 27.5 +0.2**
comp=N,8.3nm,0.9s,mb4.7
MLR Muntele Rosu 71.88 316⇓ *iP* **P 19 48 28.6 +0.3**
RZN Rozhen 72.03 312 *eP* **P 19 48 29.0 -0.3**
PLD Plovdiv 72.11 313 *eP* **P 19 48 29.0 -0.8**
OUR Ouranopolis 72.36 311 *eP* **P 19 48 29.8 -1.5**
PAIG Paliouri 72.52 310 *eP* **P 19 48 32.0 -0.4**
MMB Musomiste 72.74 312 *eP* **P 19 48 32.0 -1.6**
SRS Serrai 72.77 312 *eP* **P 19 48 32.9 -0.9**
BURAR Bucovina Array 72.81 318 ⇑P **P 19 48 34.4 +0.5**
BURAR Bucovina Array 72.81 318 ⇑P **P 19 48 34.3 +0.4**
SOH Sokhos 72.90 311 *eP* **P 19 48 33.6 -1.0**
KKB Krupnik 73.26 312 *eP* **P 19 48 35.0 -1.7**
VTS Vitosha 73.28 313 ⇑P **P 19 48 35.9 -0.9**
VTS Vitosha 73.28 313 *eP* **P 19 48 36.0 -0.8**
VTS Vitosha 73.28 313 ⇑P **P 19 48 35.9 -0.9**
KNT Kendrikon 73.30 311 *eP* **P 19 48 36.0 -0.9**
LBTB Lobatse 73.36 242 *eP* **P 19 48 38.2 +0.7**
LBTB *e**PP pP 19 48 53.4 +1.2
LBTB pmax pmax
comp=Z,39nm,0.8s,mb5.4
LBTB Lobatse 73.36 242 *eP* **P 19 48 38.1 +0.6**
comp=Z,39nm,0.8s,mb5.4
LBTB *e*pP pP 19 48 53.4 +1.2
AGG Agios Georgios 73.43 309 *eP* **P 19 48 35.7 -2.0**
LIT Litokhoron 73.45 310 *eP* **P 19 48 36.6 -1.2**
GRG Griva 73.64 311 *eP* **P 19 48 37.9 -1.0**
JOF Joensuu 73.95 335 *ep* pP 19 48 49.8 -5.1
comp=Z,124nm,0.4s
JOF Joensuu 73.95 335 *eP* pP 19 48 49.8 -5.1
JOF pmax pmax
comp=Z,124nm,0.4s,mb6.2
BOLS Boljevac 74.38 314⇓ *iP* **P 19 48 42.5 -0.6**
FNA Florina 74.39 311 *eP* **P 19 48 41.8 -1.4**
LKD Levkas 74.70 309 *eP* **P 19 48 42.2 -2.8**
LVZ Lovozero 74.72 340 *eP* **P 19 48 44.0 -0.6**
KWP Kalwaria 74.84 320⇓ *iP* **P 19 48 45.9 +0.2**
SVIS Svilajnac 74.97 315 *eP* **P 19 48 45.7 -0.8**
KOLS Kolonicke sedl 75.00 319 *i* P **P 19 48 47.4 +0.9**
APA Apatity 75.00 340⇓ *iP* **P 19 48 45.8 -0.4**
APA *i* 19 48 54.0
APA *i* pP 19 49 03.5 +2.6
APA pmax pmax
comp=Z,20nm,0.8s,mb5.1
IGT Igoumenitsa 75.03 310 *eP* **P 19 48 45.8 -1.1**
SUW Suwalki 75.43 325 *eP* **P 19 48 48.4 -0.5**
CRVS Cervenica-Dubn 75.52 319 *eP* **P 19 48 50.2 +0.7**
MAW Mawson 75.62 192 LR LR 20 14 08.2
comp=Z,250nm,18.5s,MS4.5,baz=197,slow=29
FINES FINESS Array B 75.78 332 P **P 19 48 50.2 -0.5**
comp=Z,9.2nm,0.5s,mb5.0,baz=94,slow=5.7,SNR=98
FINES pP pP 19 49 02.4 -3.1
comp=Z,4.2nm,0.4s,baz=98,slow=5.5,SNR=6.6
FINES LR LR 20 26 14.0
comp=Z,121nm,18.3s,MS4.2,baz=153,slow=39
DIVS Divcibare 75.82 314⇑ *iP* **P 19 48 50.7 -0.7**
KAF Kangasniemi 75.87 333 *ep* **P 19 48 49.7 -1.6**
comp=Z,3.3nm,0.4s,mb4.6,baz=105,slow=5.4
KAF Kangasniemi 75.87 333 *eP* **P 19 48 49.7 -1.6**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
KECS Kecovo 76.09 319 *i* P **P 19 48 53.2 +0.4**
NIE Niedzica 76.34 320 *eP* **P 19 48 53.4 -0.8**
PSZ Piszkesteto 76.40 318⇓ *iP* **P 19 48 54.7 +0.1**
PSZ Piszkesteto 76.40 318 ⇑P **P 19 48 54.1 -0.5**
OJC Ojcow 76.79 320⇓ *iP* **P 19 48 56.9 +0.2**
PKSM Moragy 77.03 316 ⇑P **P 19 48 57.4 -0.7**
VYHS Vyhne 77.18 319 *i* P **P 19 48 59.0 +0.1**
SRO2 Moca 77.38 318 *eP* **P 19 49 00.6 +0.5**
SRO Srobarova 77.44 318 *i* P **P 19 49 01.2 +0.8**
SRO *e* pP 19 49 13.4 -1.7
SRO1 Iza 77.49 318 *eP* **P 19 49 01.5 +0.8**
OKC Ostrava-Krasne 77.80 320 *eP* **P 19 49 02.5 +0.2**
KEV Kevo 78.00 341 *ep* **P 19 49 02.2 -0.8**
comp=Z,1.2nm,0.4s,mb4.2
KEV Kevo 78.00 341 *eP* **P 19 49 02.2 -0.8**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
MORC Moravsky Berou 78.18 320 *eP* **P 19 49 04.6 +0.2**
MORC *e**PP pP 19 49 19.4 +0.3
MORC pmax pmax
comp=Z,35nm,1.1s,mb5.2
MORC Moravsky Berou 78.18 320 *eP* **P 19 49 04.6 +0.2**
comp=Z,35nm,1.1s,mb5.2
MORC *e*pP pP 19 49 19.4 +0.3
ZST Bratislava 78.29 318 *eP* **P 19 49 05.6 +0.5**
ZST *e*pP pP 19 49 18.5 -1.3
KOGS Kog 78.70 316 *i* P **P 19 49 07.6 +0.3**
BILL Biilibino 78.74 21 *eP* **P 19 49 05.8 -1.4**
BILL pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
BILL Biilibino 78.74 21 *eP* **P 19 49 05.8 -1.3**
comp=Z,4.9nm,0.5s,mb4.7
GKP Gorka Klasztor 78.79 323 *eP* **P 19 49 07.4 -0.3**
DPC Dobruska-Polom 79.02 320 *eP* **P 19 49 09.8 +0.8**
DPC *e*pP pP 19 49 24.9 +1.1
KSP Ksiaz 79.09 321⇓ *eP* **P 19 49 09.8 +0.4**
KSP *e**PP pP 19 49 24.1 -0.1
KSP Ksiaz 79.09 321⇓ *iP* **P 19 49 10.0 +0.6**
SUR Sutherland 79.12 236 *eP* **P 19 49 11.2 +1.2**
comp=Z,33nm,0.9s,mb5.3
CSSN Cassano Irpino 79.19 311 *eP* **P 19 49 09.6 -0.6**
FX1 Attu Island--F 79.21 37 P **P 19 49 10.2 +0.2**
comp=Z,28nm,0.6s,mb5.4,baz=144,slow=6.6,SNR=9.6
FX1 Attu Island--F 79.21 37 *eP* **P 19 49 10.0 -0.1**
UPC Upice 79.24 320 *eP* **P 19 49 10.8 +0.6**
ARSA Arzberg 79.27 317⇓ *iP* **P 19 49 11.0 +0.6**
comp=Z,56nm,1.4s,mb5.3
BOJS Bojanci 79.32 315 *i* P **P 19 49 10.9 +0.1**
LJU Ljubljana 79.86 316 *i* P **P 19 49 14.2 +0.6**
OBKA Obir 79.88 316⇑ *iP* **P 19 49 14.3 +0.6**
comp=Z,63nm,1.6s,mb5.3
PRU Pruhonice 80.13 320 *eP* **P 19 49 15.6 +0.6**
PRU *e*pP pP 19 49 30.5 +0.7
PVCC Panska Ves 80.16 320 *eP* **P 19 49 16.0 +0.9**
PVCC *e*pP pP 19 49 31.0 +1.1
MOA Molln 80.16 318⇑ *iP* **P 19 49 15.2 0.0**
comp=Z,22nm,1.4s,mb4.9
VOY Vojsko 80.30 316⇓ *eP* **P 19 49 16.0 0.0**
VOY *e* pP 19 49 30.4 -0.4
BSD Bornholm Skovb 80.35 325⇓ *iP* **P 19 49 15.5 -0.6**
BSD *i* pP 19 49 30.2 -0.7
BSD pmax pmax
comp=Z,28nm,0.6s,mb5.4
BSD Bornholm Skovb 80.35 325⇓ *iP* **P 19 49 15.5 -0.6**
comp=Z,28nm,0.6s,mb5.4
BSD *i* pP 19 49 30.2 -0.7
PTQR Pietraquaria 80.47 312 *eP* **P 19 49 17.2 +0.2**
AQU L'Aquila 80.48 312 *eP* **P 19 49 17.6 +0.6**
BRG Berggiesshubel 80.58 321 *i* P **P 19 49 18.1 +0.7**
BRG *i* pP 19 49 32.6 +0.4
BRG pmax pmax
comp=Z,23nm,1.1s,mb5.0
BRG Berggiesshubel 80.58 321 *i* P **P 19 49 18.1 +0.7**
comp=Z,23nm,1.1s,mb5.0
BRG *i* pP 19 49 32.6 +0.4
ROBS Robic 80.58 316 *i* P **P 19 49 17.4 0.0**
GEC2 GERESS Array S 80.60 319 *eP* **P 19 49 18.1 +0.6**
GEC2 pmax pmax
comp=Z,45nm,0.9s,mb5.4
GEC2 GERESS Array S 80.60 319 *eP* **P 19 49 18.1 +0.6**
comp=Z,45nm,0.9s,mb5.4
GERES GERESS Array B 80.60 319 P **P 19 49 18.1 +0.6**
comp=Z,27nm,0.8s,mb5.2,baz=104,slow=5.5,SNR=189
GERES pP pP 19 49 29.7 -2.6
comp=Z,13nm,0.7s,baz=104,slow=5.5,SNR=9.5
GERES LR LR 20 29 11.4
comp=Z,92nm,18.4s,MS4.2,baz=259,slow=39
PTCC Patocco-Chiusa 80.70 316 *eP* **P 19 49 18.4 +0.3**
KHC Kasperske Hory 80.70 319 *eP* **P 19 49 18.5 +0.5**
KHC *e*pP pP 19 49 33.0 +0.1
KHC *e* 19 49 50.5
KHC Kasperske Hory 80.70 319 *eP* **P 19 49 18.5 +0.5**
KHC *e*pP pP 19 49 33.0 +0.1
KHC *x* x 19 49 50.5
NRCA Norcia 80.71 312 *eP* **P 19 49 18.3 +0.1**
KBA Koelnbreinsper 80.74 317⇑ *iP* **P 19 49 18.2 -0.1**
comp=Z,26nm,1.4s,mb5.0
KBA Koelnbreinsper 80.74 317⇑ *iP* **P 19 49 18.2 -0.1**
KBA pmax pmax
comp=Z,26nm,1.4s,mb5.0
GMNA Gemona 80.77 316 *eP* **P 19 49 18.8 +0.3**
RUE Ruedersdorf 80.80 322 *eP* **P 19 49 18.8 +0.3**
comp=Z,26nm,0.8s,mb5.2
SNTG Esanatoglia 80.85 313 *eP* **P 19 49 19.3 +0.3**
ARV Arcevia 80.86 313 *eP* **P 19 49 19.7 +0.7**
FSSB Fossombrone 80.99 313 *eP* **P 19 49 20.5 +0.8**
MNS Montasola 81.01 312 *eP* **P 19 49 19.4 -0.5**
ASS Assisi 81.06 313 *eP* **P 19 49 19.6 -0.5**
FVI Forni Avoltri 81.10 316 *eP* **P 19 49 20.5 +0.2**
WET Wettzell 81.16 319 *eP* **P 19 49 20.9 +0.4**
WET pmax pmax
comp=Z,20nm,0.9s,mb5.0
WET Wettzell 81.16 319 *eP* **P 19 49 20.9 +0.4**
comp=Z,20nm,0.9s,mb5.0
CLL Collm 81.20 321⇓ *iP* **P 19 49 20.6 0.0**
CLL *i* pP 19 49 35.8 +0.3
CLL pmax pmax
comp=Z,21nm,1.0s,mb5.0
CLL Collm 81.20 321⇓ *iP* **P 19 49 20.6 0.0**
comp=Z,21nm,1.0s,mb5.0
CLL *i* pP 19 49 35.8 +0.3
CLL Collm 81.20 321 ⇓P **P 19 49 20.6 0.0**
comp=Z,logA/T=1.3,mb5.0
CLL *i* *PP pP 19 49 35.8 +0.3
RSM Repubblica di 81.23 314 *eP* **P 19 49 22.2 +1.2**
NKC Novy Kostel 81.49 320 *eP* **P 19 49 22.8 +0.6**
SFI Santa Sofia 81.67 314 *eP* **P 19 49 24.7 +1.5**
PGD Poggio Sodo 81.76 313 *eP* **P 19 49 24.9 +1.2**
CTI Castel Tesino 81.86 316 *eP* **P 19 49 25.0 +0.8**
VMG Vicchio 81.89 314 *eP* **P 19 49 25.7 +1.3**
WTTA Wattenberg 81.91 317⇑ *iP* **P 19 49 24.4 0.0**
comp=Z,52nm,1.2s,mb5.3
WTTA Wattenberg 81.91 317⇑ *iP* **P 19 49 24.4 0.0**
WTTA pmax pmax
comp=Z,52nm,1.2s,mb5.3
WATA Walderalm 81.95 317⇓ *iP* **P 19 49 24.3 -0.3**
comp=Z,20nm,1.1s,mb5.0
WATA Walderalm 81.95 317⇓ *iP* **P 19 49 24.3 -0.3**
WATA pmax pmax
comp=Z,21nm,1.1s,mb5.0
MOX Moxa 82.04 320 *eP* **P 19 49 25.4 +0.4**
MOX pmax pmax
comp=Z,18nm,1.0s,mb5.0
MOX Moxa 82.04 320 *eP* **P 19 49 25.4 +0.4**
comp=Z,18nm,1.0s,mb5.0
MOX Moxa 82.04 320 *i* P **P 19 49 25.4 +0.4**
comp=Z,logA/T=1.3,mb5.0
FUR Furstenfeldbru 82.18 318 *eP* **P 19 49 25.7 -0.1**
FUR pmax pmax
comp=Z,24nm,0.9s,mb5.1
FUR Furstenfeldbru 82.18 318 *eP* **P 19 49 25.7 -0.1**
comp=Z,24nm,0.9s,mb5.1
SQTA Sankt Quirin 82.20 317⇑ *iP* **P 19 49 26.0 +0.1**
comp=Z,14nm,0.8s,mb4.9
SQTA Sankt Quirin 82.20 317⇑ *iP* **P 19 49 26.0 +0.1**
SQTA pmax pmax
comp=Z,14nm,0.8s,mb4.9
GRA1 Grafenberg Arr 82.26 319 *eP* **P 19 49 27.0 +0.8**
comp=Z,32nm,1.0s,mb5.2
GRA1 *e*pP pP 19 49 41.7 +0.7
GRF Grafenberg Arr 82.26 319 *eP* **P 19 49 27.0 +0.8**
GRF *e**PP pP 19 49 41.7 +0.7
GRF pmax pmax
comp=Z,32nm,1.0s,mb5.2
GRF Grafenberg Arr 82.26 319 *eP* **P 19 49 27.0 +0.8**
GRF *e**PP pP 19 49 41.7 +0.7
GRF pmax pmax
comp=Z,32nm,1.0s,mb5.2
GRF Grafenberg Arr 82.26 319 *eP* **P 19 49 27.0 +0.8**
comp=Z,32nm,1.0s,mb5.2
GRF *e*pP pP 19 49 41.7 +0.7
MOTA Moosalm 82.27 317⇓ *iP* **P 19 49 26.2 -0.1**
GRFL Gerfalco 82.28 313 *eP* **P 19 49 26.4 -0.1**
ZCCA Zocca 82.30 314 *eP* **P 19 49 28.7 +2.2**
GSCL Gusciola 82.58 314 *eP* **P 19 49 29.3 +1.4**
SYO Syowa Base 82.63 197 ⇑P **P 19 49 29.0 +1.3**
BRMO Bormio 82.76 316 *eP* **P 19 49 29.6 +0.8**
NB2 NORSAR Subarra 82.78 331 P **P 19 49 28.2 -0.3**
comp=Z,17nm,0.9s,mb5.1,baz=96,slow=5.3
NB2 NORSAR Subarra 82.78 331 P **P 19 49 28.2 -0.3**
baz=96,slow=5.6
NOA NORSAR Array B 82.78 331 P **P 19 49 28.2 -0.4**
comp=Z,9.8nm,0.9s,mb4.8,baz=94,slow=5.5,SNR=21
NOA NORSAR Array B 82.78 331 P **P 19 49 28.2 -0.4**
CLZ Clausthal 82.86 322 *eP* **P 19 49 29.6 +0.4**
comp=Z,26nm,0.9s,mb5.3
BSEG Bad Segeberg 82.95 324 *eP* **P 19 49 30.2 +0.6**
BSEG *e**PP pP 19 49 45.0 +0.5
BSEG pmax pmax
comp=Z,49nm,1.1s,mb5.5
DAVA Damuels 83.11 317⇑ *iP* **P 19 49 31.1 +0.6**
comp=Z,63nm,1.4s,mb5.5
MUD Monsted U'grnd 83.67 326 *eP* **P 19 49 34.2 +1.1**
MUD pmax pmax
comp=Z,26nm,1.2s,mb5.2
MUD Monsted U'grnd 83.67 326 *eP* **P 19 49 34.2 +1.1**
comp=Z,26nm,1.2s,mb5.2
MUD Monsted U'grnd 83.67 326 *i* P **P 19 49 34.2 +1.1**
comp=Z,26nm,1.2s,mb5.2
PGF Pioggiola 83.74 312 *eP* **P 19 49 34.3 +0.4**
VAI Varese 83.87 315 *eP* **P 19 49 34.1 -0.4**
TNS Taunus Mts 84.06 320 *eP* **P 19 49 35.9 +0.6**
TNS pmax pmax
comp=Z,20nm,1.0s,mb5.2
TNS Taunus Mts 84.06 320 *eP* **P 19 49 35.9 +0.6**
comp=Z,20nm,1.0s,mb5.2
BFO Black Forest 84.15 318 P **P 19 49 36.0 +0.2**
comp=Z,122nm,0.7s,mb6.1,SNR=9.1
BFO Black Forest 84.15 318 *eP* **P 19 49 35.7 -0.1**
BFO pmax pmax
comp=Z,15nm,0.8s,mb5.2
BFO Black Forest 84.15 318 *eP* **P 19 49 35.7 -0.1**
comp=Z,15nm,0.8s,mb5.2
FIN Finale Ligure 84.29 314 *eP* **P 19 49 37.0 +0.4**
MCGN Macugnaga 84.42 316 *eP* **P 19 49 38.2 +1.0**
CDF Champ du Feu 84.85 318⇓ *iP* **P 19 49 39.3 0.0**
comp=Z,12nm,0.7s,mb4.8
CDF Champ du Feu 84.85 318⇓ *iP* **P 19 49 39.3 0.0**
CDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
SBF Sospel 84.86 313⇓ *iP* **P 19 49 39.9 +0.5**
comp=Z,75nm,0.8s,mb5.6
SBF Sospel 84.86 313⇓ *iP* **P 19 49 39.9 +0.5**
SBF pmax pmax
comp=Z,37nm,0.8s,mb5.6
HINF Hinteralfeld 85.15 317 *eP* **P 19 49 40.7 -0.1**
comp=Z,4.4nm,0.5s,mb4.5
HINF Hinteralfeld 85.15 317 *eP* **P 19 49 40.7 -0.1**
HINF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
LPG La Plagne 85.29 315⇓ *iP* **P 19 49 42.4 +0.8**
comp=Z,38nm,0.8s,mb5.2
LPG La Plagne 85.29 315⇓ *iP* **P 19 49 42.4 +0.8**
LPG pmax pmax
comp=Z,19nm,0.8s,mb5.3
MBDF Montbardon 85.31 314⇓ *iP* **P 19 49 41.6 0.0**

comp=Z,25nm,1.2s,mb4.9
MBDF Montbardon 85.31 314⇓*iP* **P 19 49 41.6 0.0**
MBDF pmax pmax
comp=Z,13nm,1.2s,mb4.9
LPL La Plagne 85.31 315⇓*iP* **P 19 49 42.4 +0.8**
comp=Z,49nm,0.8s,mb5.4
LPL La Plagne 85.31 315⇓*iP* **P 19 49 42.4 +0.8**
LPL pmax pmax
comp=Z,25nm,0.8s,mb5.4
BNI Bardonecchia 85.36 315 *eP* **P 19 49 41.9 0.0**
BNI pmax pmax
comp=Z,16nm,1.0s,mb5.1
BNI Bardonecchia 85.36 315 *eP* **P 19 49 41.9 0.0**
comp=Z,16nm,1.0s,mb5.1
FRF La Foret Royal 85.44 313⇓*iP* **P 19 49 42.9 +0.6**
comp=Z,35nm,0.7s,mb5.3
FRF La Foret Royal 85.44 313⇓*iP* **P 19 49 42.9 +0.6**
FRF pmax pmax
comp=Z,17nm,0.7s,mb5.3
HAU Haudompre 85.48 318⇓*iP* **P 19 49 42.5 +0.1**
comp=Z,48nm,0.9s,mb5.3
HAU Haudompre 85.48 318⇓*iP* **P 19 49 42.5 +0.1**
HAU pmax pmax
comp=Z,24nm,0.9s,mb5.3
LMR La Mourre 85.55 313 *eP* **P 19 49 43.2 +0.3**
comp=Z,86nm,1.4s,mb5.5
LMR La Mourre 85.55 313 *eP* **P 19 49 43.2 +0.3**
LMR pmax pmax
comp=Z,43nm,1.4s,mb5.5
CABF La Chapelle 85.71 316⇓*iP* **P 19 49 44.3 +0.7**
comp=Z,26nm,0.7s,mb5.2
CABF La Chapelle 85.71 316⇓*iP* **P 19 49 44.3 +0.7**
CABF pmax pmax
comp=Z,13nm,0.7s,mb5.3
ORIF Oris-en-Rattie 85.93 315⇓*iP* **P 19 49 45.5 +0.8**
comp=Z,18nm,0.8s,mb5.0
MEZF Maizieres J'vi 86.33 318 *eP* **P 19 49 46.9 +0.4**
GIVF Givet 86.39 320 *eP* **P 19 49 47.4 +0.6**
BAIF Baives 86.79 320⇓*iP* **P 19 49 49.5 +0.7**
comp=Z,40nm,0.9s,mb5.3
VIVF Saint-Julien-l 86.79 315⇓*iP* **P 19 49 49.4 +0.5**
comp=Z,15nm,0.8s,mb5.0
SMF Signal de Mont 87.26 316⇓*iP* **P 19 49 51.4 +0.3**
comp=Z,40nm,0.8s,mb5.4
SMF Signal de Mont 87.26 316⇓*iP* **P 19 49 51.4 +0.3**
SMF pmax pmax
comp=Z,20nm,0.8s,mb5.4
LASF Ste Croix 87.42 314 *eP* **P 19 49 52.8 +0.8**
comp=Z,16nm,1.0s,mb4.9
SSF Saint Saulge 87.46 317⇓*iP* **P 19 49 52.4 +0.3**
AVF Avril sur Loir 87.58 317⇓*iP* **P 19 49 53.0 +0.3**
comp=Z,24nm,0.9s,mb5.1
BGF Bois d'Agland 87.95 316⇓*iP* **P 19 49 55.2 +0.8**
comp=Z,27nm,0.9s,mb5.2
BGF Bois d'Agland 87.95 316⇓*iP* **P 19 49 55.2 +0.8**
BGF pmax pmax
comp=Z,14nm,0.9s,mb5.2
HYF Humbligny 88.03 317 *eP* **P 19 49 55.8 +1.0**
TCF Toulx Ste Croi 88.41 316⇓*iP* **P 19 49 57.3 +0.6**
comp=Z,7.2nm,0.8s,mb4.7
TCF Toulx Ste Croi 88.41 316⇓*iP* **P 19 49 57.3 +0.6**
TCF pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
CAF Calviac 88.64 315⇓*iP* **P 19 49 58.7 +0.9**
comp=Z,11nm,1.0s,mb4.8
CAF Calviac 88.64 315⇓*iP* **P 19 49 58.7 +0.9**
CAF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
MTLF Montolieu 88.67 313 *eP* **P 19 49 58.7 +0.7**
comp=Z,54nm,1.3s,mb5.4
MTLF Montolieu 88.67 313 *eP* **P 19 49 58.7 +0.7**
MTLF pmax pmax
comp=Z,27nm,1.3s,mb5.4
TNA Tin City 88.73 24 *eP* **P 19 49 57.3 -0.4**
comp=Z,2.8nm,0.7s,mb4.7
RJF Les Rejaudoux 88.98 315 *eP* **P 19 50 00.5 +1.1**
comp=Z,16nm,0.8s,mb5.1
RJF Les Rejaudoux 88.98 315 *eP* **P 19 50 00.5 +1.1**
RJF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
LFF La Frestale 89.57 315⇓*iP* **P 19 50 03.2 +1.0**
comp=Z,17nm,0.9s,mb5.1
LFF La Frestale 89.57 315⇓*iP* **P 19 50 03.2 +1.0**
LFF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
LDF La Druitiere 89.75 319⇓*iP* **P 19 50 03.6 +0.7**
comp=Z,37nm,0.9s,mb5.4
LDF La Druitiere 89.75 319⇓*iP* **P 19 50 03.6 +0.7**
LDF pmax pmax
comp=Z,18nm,0.9s,mb5.4
FLN La Foliniere 89.96 319⇓*iP* **P 19 50 04.6 +0.7**
comp=Z,56nm,0.9s,mb5.6
FLN La Foliniere 89.96 319⇓*iP* **P 19 50 04.6 +0.7**
FLN pmax pmax
comp=Z,28nm,0.9s,mb5.6
MFF Saint Martin d 90.00 317⇓*iP* **P 19 50 04.7 +0.6**
comp=Z,24nm,1.0s,mb5.2
MFF Saint Martin d 90.00 317⇓*iP* **P 19 50 04.7 +0.6**
MFF pmax pmax
comp=Z,12nm,1.0s,mb5.2
GRR Gorron 90.26 318 *eP* **P 19 50 06.2 +0.9**
comp=Z,22nm,0.9s,mb5.2
GRR Gorron 90.26 318 *eP* **P 19 50 06.2 +0.9**
GRR pmax pmax
comp=Z,11nm,0.9s,mb5.2
ETSF Etsaut 90.74 313 *eP* **P 19 50 09.0 +1.3**
comp=Z,14nm,0.9s,mb5.0
ETSF Etsaut 90.74 313 *eP* **P 19 50 09.0 +1.3**
ETSF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
SJPF Ste Jean 91.20 313 *eP* **P 19 50 11.2 +1.3**
comp=Z,22nm,1.0s,mb5.2
SJPF Ste Jean 91.20 313 *eP* **P 19 50 11.2 +1.3**
SJPF pmax pmax
comp=Z,11nm,1.0s,mb5.1
SGMF Saint Gilles 91.40 318 *eP* **P 19 50 11.2 +0.5**
comp=Z,40nm,1.0s,mb5.4
SGMF Saint Gilles 91.40 318 *eP* **P 19 50 11.2 +0.5**
SGMF pmax pmax
comp=Z,20nm,1.0s,mb5.4
QUIF Quistinic 91.85 318⇓*iP* **P 19 50 13.1 +0.4**
comp=Z,14nm,0.7s,mb5.1
QUIF Quistinic 91.85 318⇓*iP* **P 19 50 13.1 +0.4**
QUIF pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
ROSF Rostrenen 91.86 319 *eP* **P 19 50 13.4 +0.6**
comp=Z,64nm,1.4s,mb5.5
ROSF Rostrenen 91.86 319 *eP* **P 19 50 13.4 +0.6**
ROSF pmax pmax
comp=Z,32nm,1.4s,mb5.5
ESDC Sonseca Array 93.74 310 P **P 19 50 22.5 +0.9**
comp=Z,2.8nm,0.7s,mb4.8,baz=52,slow=4.2,SNR=28
IMA Indian Mountai 94.25 22 *eP* **P 19 50 25.4 +2.1**
ILAR Eielson Array 97.38 22 P **P 19 50 36.4 -1.1**
comp=Z,0.2nm,0.5s,baz=295,slow=4.1,SNR=3.5
ILAR LR LR 20 37 32.7
comp=Z,72nm,18.5s,baz=177,slow=37
DBIC Dimbokro 99.02 277 P **P 19 50 46.0 -0.2**
comp=Z,0.9nm,0.4s,mb4.7,baz=63,slow=3.8,SNR=3.1
DBIC LR LR 20 35 20.8
comp=Z,95nm,18.5s,MS4.3,baz=70,slow=35
INK Inuvik 99.80 16 P **P 19 50 47.8 -0.6**
comp=Z,1.5nm,0.9s,mb4.4,baz=297,slow=2.2,SNR=4.7
YKA Yellowknife Ar 109.30 14 PP PP 19 55 58.3 -9.3
comp=Z,0.2nm,0.4s,baz=330,slow=7.8,SNR=5.4
TBI Tubuai 115.47 114 *e*LR LR 20 30 38.4
comp=Z,101nm,23.5s
PPT Papeete 115.83 107 *e*LR LR 20 30 47.5
comp=Z,65nm,23.5s
EDM Edmonton 117.57 19 *e*PKPdf PKPdf 19 55 50.6 +1.5
MSO Missoula 122.71 23 *e*PKPdf PKPdf 19 56 00.2 +0.9
MOD Modoc 123.64 31 *e*PKPdf PKPdf 19 56 03.5 +2.4
ULM Lac du Bonnet 124.46 8 PKP PKPdf 19 56 03.5 +0.9
comp=Z,4.9nm,0.7s,baz=22,slow=2.6,SNR=12
BOZ Bozeman (W) 124.58 22 *e*PKPdf PKPdf 19 56 04.5 +1.6
NVAR Mina Array Bea 127.22 33 PKP PKPdf 19 56 11.0 +2.8
comp=Z,2.1nm,0.5s,baz=266,slow=3.3,SNR=11
PDAR Pinedale Array 127.81 23 PKP PKPdf 19 56 11.2 +1.9
comp=Z,2.4nm,0.5s,baz=98,slow=1.9,SNR=24
TXAR Lajitas Array 141.76 27 PKP PKPdf 19 56 35.4 0.0
comp=Z,1.6nm,0.5s,SNR=7.6
PLCA Paso Flores 141.82 198 PKhKP 19 56 31.4
comp=Z,4.0nm,0.7s,baz=225,slow=1.2,SNR=9.3
BDFB Brasilia 141.91 251 PKhKP 19 56 32.8
comp=Z,1.6nm,0.4s,baz=153,slow=13,SNR=3.0
LVC Limon Verde 156.26 220 *e*PKPab PKPab 19 57 29.5 +0.6
SAML Samuel 157.76 258 *e*PKPab PKPab 19 57 35.0 -0.6
LPAZ La Paz 159.70 234 PKP PKPdf 19 57 05.2 +2.5
comp=Z,4.2nm,0.8s,baz=15,slow=2.0,SNR=11
LPAZ PKPab PKPab 19 57 44.7 +0.9
comp=Z,6.2nm,0.8s,baz=118,slow=5.0,SNR=11
LPAZ La Paz 159.70 234 *e*PKPdf PKPdf 19 57 05.9 +3.3
ROSC El Rosal 165.56 311 PKP PKPdf 19 57 10.7 +2.1
comp=Z,6.6nm,0.4s,baz=110,slow=16,SNR=3.7

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*IDC **04** 19:45:36.8±2.2, 1.33N×97.25E, h21km±6km, mb3.6/6, mb1 3.7/7, mb1mx3.5/18, mbtmp3.7/7, ML4.0/1, Error ellipse: s-maj=94.5km s-min=17.1km az=57.0*
*NEIC **04** 19:45:36.0±0.9, 1.23N×97.03E, mb4.1/1, Error ellipse: s-maj=22.5km s-min=13.0km az=63.0*
ISC 04 19:45:33.9±1.1, 1.2N±0.1×97.0E±0.2, h20km, h20km±.5km: pP-P, n9, σ0s54/9, mb3.8/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.44**	**42**	*e*Pn	**Pn**	**19 46 56.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**17.23**	**6**	P	**P**	**19 49 34.7**	**-0.5**
	0.2nm,0.3s,baz=203,slow=6.9,SNR=9.0						
WRA	**Warramunga Arr**	**42.23**	**122**	P	**P**	**19 53 27.8**	**0.0**
	0.8nm,0.8s,mb3.4,baz=301,slow=9.1,SNR=3.3						
WRA				pP	pP	19 53 33.4	-0.3
	0.7nm,0.5s,baz=302,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**43.59**	**127**	P	**P**	**19 53 38.6**	**-0.1**
	0.9nm,0.8s,mb3.5,baz=292,slow=7.7,SNR=4.1						
ASAR				pP	pP	19 53 44.7	0.0
	0.3nm,0.5s,baz=300,slow=8.2,SNR=1.6						
SONM	**Songino Array**	**47.13**	**9**	P	**P**	**19 54 06.4**	**-0.3**
	0.5nm,0.5s,mb3.7,baz=190,slow=8.3,SNR=5.7						
MKAR	**Makanchi Array**	**47.16**	**346**	P	**P**	**19 54 08.3**	**+1.4**
	1.1nm,0.8s,mb3.9,baz=161,slow=8.8,SNR=8.6						
MKAR				pP	pP	19 54 14.6	+1.6
	0.3nm,0.4s,baz=165,slow=8.4,SNR=2.8						
ZAL	**Zalesovo**	**53.48**	**351**	P	**P**	**19 54 54.5**	**-0.5**
	1.4nm,0.5s,mb4.2,baz=324,slow=6.6,SNR=4.9						
BVAR	**Borovoye Array**	**56.15**	**341**	P	**P**	**19 55 14.2**	**-0.3**
	1.0nm,0.8s,mb3.9,baz=141,slow=9.2,SNR=3.8						
CHKZ	**Chkalovo**	**56.63**	**342**	*e*P	**P**	**19 55 18.0**	**+0.1**
	1.4nm,0.7s,mb4.1						

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*IDC **04** 19:51:42.9±0.5, 1.06N×97.44E, h22km±3km, mb4.2/16, mb1 4.3/17, mb1mx4.2/22, mbtmp4.3/17, ML4.6/1, MS4.2/4, Ms1 4.2/4, ms1mx3.7/22, Error ellipse: s-maj=18.2km s-min=10.6km az=49.0*
*BJI **04** 19:51:42.0, 1.00N×97.50E, h30km, mB5.3, mb4.8, Ms4.6, Msz4.4*
*MOS **04** 19:51:42.4±1.1, 1.03N×97.43E, h33km, mb5.0/19, Error ellipse: s-maj=17.1km s-min=8.1km az=99.0*
*NEIC **04** 19:51:44.0±0.3, 1.00N×97.46E, h30km, mb4.7/19, Error ellipse: s-maj=9.1km s-min=6.5km az=58.0*
ISC 04 19:51:41.6±0.4, 0.99N±0.05×97.46E±0.05, h26km, h26km±.9km: pP-P, n86, σ0s98/88, mb4.6/47, MS4.3/9, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.04**	**45**	P	**Pn**	**19 52 58.9**	**+1.3**
KULM	**Kulim**	**5.33**	**37**	*e*Pn	**Pn**	**19 53 02.2**	**+0.6**
KGM	**Kluang**	**5.94**	**80**	P	**Pn**	**19 53 12.2**	**+1.9**
CMAR	**Chiang Mai Arr**	**17.42**	**5**	Pn	**P**	**19 55 42.8**	**-1.9**
	0.8nm,0.3s,baz=193,slow=12,SNR=34						
CMAR				LR	LR	20 03 05.9	
	comp=Z,503nm,18.4s,baz=190,slow=39						
KKM	**Kota Kinabalu**	**19.38**	**75**	*e*P	**P**	**19 56 08.4**	**-0.2**
KMI	**Kunming**	**24.53**	**12**	P	**P**	**19 57 02.1**	**+1.5**
KMI				AMB	AMB		
	comp=Z,24nm,1.7s,mb4.5						
KMI	**Kunming**	**24.53**	**12**	P	**P**	**19 57 02.1**	**+1.5**
	comp=Z,24nm,1.7s,mb4.5						
SHL	**Shillong**	**25.02**	**348**	*e*P	**P**	**19 57 05.5**	**+0.3**
JIRN	**Jiri**	**28.63**	**339**	*e*P	**P**	**19 57 39.0**	**+0.6**
	comp=Z,70nm,1.1s,mb5.3						
PKI	**Pulchoki**	**28.84**	**337**	*e*P	**P**	**19 57 40.8**	**+0.5**
	comp=Z,33nm,1.1s,mb5.0						
PKI	**Pulchoki**	**28.84**	**337**	*e*P	**P**	**19 57 40.8**	**+0.5**
PKI				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
GUN	**Gumba**	**28.97**	**338**	*e*P	**P**	**19 57 42.3**	**+0.8**
DMN	**Daman**	**29.00**	**337**	*e*P	**P**	**19 57 42.4**	**+0.7**
	comp=Z,39nm,1.1s,mb5.1						
KKN	**Kakani**	**29.09**	**337**	*e*P	**P**	**19 57 42.8**	**+0.3**
	comp=Z,41nm,1.1s,mb5.1						
KKN	**Kakani**	**29.09**	**337**	*e*P	**P**	**19 57 42.8**	**+0.3**
KKN				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.8						
LSA	**Lhasa**	**29.18**	**349**	P	**P**	**19 57 44.0**	**+0.7**
LSA	**Lhasa**	**29.18**	**349**	*e*P	**P**	**19 57 44.0**	**+0.7**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
LSA	**Lhasa**	**29.18**	**349**	*e*P	**P**	**19 57 44.0**	**+0.7**
	comp=Z,14nm,0.8s,mb4.7						
GKN	**Gorkha**	**29.53**	**337**	*e*P	**P**	**19 57 46.8**	**+0.3**
	comp=Z,50nm,1.1s,mb5.2						
KOLN	**Koldanda**	**29.75**	**335**	*e*P	**P**	**19 57 48.9**	**+0.4**
	comp=Z,17nm,0.6s,mb4.9						
LGTI	**Lohaghat**	**32.71**	**331**	*e*P	**P**	**19 58 15.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**33.60**	**126**	P	**P**	**19 58 21.6**	**-0.6**
	comp=Z,2.7nm,0.8s,mb4.2,baz=332,slow=5.2,SNR=3.8						
FITZ				pP	pP	19 58 29.0	-0.8
	comp=Z,6.5nm,0.7s,baz=320,slow=3.8,SNR=4.5						
XAN	**Xi'an**	**34.58**	**17**	P	**P**	**19 58 29.0**	**-1.6**
XAN				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
NJ2	**Nanjing**	**36.91**	**31**	*e*P	**P**	**19 58 50.9**	**+0.6**
NJ2				AP	pP	19 59 00.1	+2.1
NJ2				XP	sP	19 59 05.6	+4.3
NJ2				PP	PP	20 00 15.1	-1.4
NJ2				S	**S**	**20 04 41.0**	**+8.0**
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,250nm,5.0s						
NJ2				LR	LR		
	comp=N,550nm,14.2s,MS4.7						
NJ2				LR	LR		
	comp=E,740nm,15.1s,MS4.7						
NJ2				LR	LR		
	comp=Z,490nm,13.1s,MS4.5						
SSE	**Sheshan**	**37.43**	**35**	P	**P**	**19 58 53.2**	**-1.5**
SSE				AP	pP	19 59 01.6	-0.8
SSE				XP	sP	19 59 05.8	+0.1
SSE				S	**S**	**20 04 40.2**	**-0.9**
SSE				XS		20 04 55.8	
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,90nm,10.2s						
SSE				LR	LR		
	comp=N,97nm,15.0s,MS3.9						
SSE				LR	LR		
	comp=E,127nm,15.0s,MS3.9						
SSE				LR	LR		
	comp=Z,241nm,14.6s,MS4.1						
SSE	**Sheshan**	**37.43**	**35**	P	**P**	**19 58 53.2**	**-1.5**
	comp=Z,35nm,0.7s,mb5.3						
SSE				pP	pP	19 59 01.6	-0.8
SSE				sP	sP	19 59 05.8	+0.1
SSE				PP	PP	20 00 18.7	-4.2
SSE				S	**S**	**20 04 40.2**	**-0.9**
SSE				sS		20 04 55.8	
SSE				SS	SS	20 07 24.1	+10
SSE				LR	LR		
	comp=Z,240nm,14.6s,MS4.1						
GTA	**Gaotai**	**38.30**	**3**	P	**P**	**19 59 01.9**	**0.0**
GTA				AP	pP	19 59 09.0	-0.6
GTA				XP	sP	19 59 12.2	-0.7
GTA				PCP	PcP	20 01 16.7	+0.6
GTA				S	**S**	**20 04 53.6**	**-0.5**
GTA				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,334nm,7.7s						
GTA				LR	LR		
	comp=N,223nm,21.4s,MS4.1						
GTA				LR	LR		
	comp=E,172nm,16.8s,MS4.1						
GTA				LR	LR		
	comp=Z,251nm,21.0s,MS4.0						
NWAO	**Narrogin (SRO)**	**38.55**	**153**	P	**P**	**19 59 05.7**	**+1.5**
	comp=Z,4.3nm,0.9s,mb4.2,baz=13,slow=14,SNR=2.6						
JOW	**Kunigami**	**39.19**	**46**	P	**P**	**19 59 09.3**	**-0.2**
	comp=Z,12nm,0.7s,mb4.8,baz=281,slow=30,SNR=4.3						
WRA	**Warramunga Arr**	**41.70**	**122**	P	**P**	**19 59 29.6**	**-0.8**
	comp=Z,1.2nm,0.5s,mb3.8,baz=302,slow=9.0,SNR=10						
WRA				pP	pP	19 59 38.2	+0.1
	comp=Z,2.1nm,0.7s,baz=300,slow=9.0,SNR=11						
WRAB	**Tennant Creek**	**41.71**	**122**	*e*P	**P**	**19 59 30.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**41.71**	**122**	*e*P	**P**	**19 59 30.1**	**-0.3**
	comp=Z,5.0nm,0.7s,mb4.2						
BJT	**Baijiatuau**	**42.41**	**21**	*e*P	**P**	**19 59 36.5**	**+0.6**
BJT				pmax	pmax		
	comp=Z,32nm,1.1s						
BJT	**Baijiatuau**	**42.41**	**21**	*e*P	**P**	**19 59 36.5**	**+0.6**
	comp=Z,32nm,1.1s,mb4.9						
BJI	**Beijing**	**42.44**	**21**	P	**P**	**19 59 37.1**	**+1.0**
BJI				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.9						
BJI				LR	LR		
	comp=N,337nm,13.7s,MS4.5						
BJI				LR	LR		
	comp=E,230nm,13.8s,MS4.5						
BJI				LR	LR		
	comp=Z,166nm,16.4s,MS4.0						
BJI	**Beijing**	**42.44**	**21**	P	**P**	**19 59 37.1**	**+1.0**
	comp=Z,23nm,0.8s,mb4.9						
BJI				LR	LR		
	comp=Z,170nm,16.4s,MS4.0						
ASAR	**Alice Springs**	**43.06**	**127**	P	**P**	**19 59 41.6**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.7,baz=299,slow=7.3,SNR=16						
ASAR				pP	pP	19 59 48.5	-0.7
	comp=Z,1.5nm,0.7s,baz=300,slow=7.9,SNR=9.8						
WMQ	**Urumqi**	**43.52**	**350**	⇑P	**P**	**19 59 45.9**	**+1.0**
WMQ				AP	pP	19 59 56.0	+3.4
WMQ				XP	sP	19 59 59.9	+4.0
WMQ				PP	PP	20 01 29.3	+1.2
WMQ				PCP	PcP	20 01 34.4	+1.3
WMQ				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.6						
UCH	**Uchtor**	**45.94**	**336**	P	**P**	**20 00 05.7**	**+1.4**
	SNR=8.7						
TKM2	**Tokmak 2**	**46.11**	**338**	P	**P**	**20 00 06.7**	**+1.1**
	SNR=7.5						
KBK	**Karagaybulak**	**46.13**	**337**	P	**P**	**20 00 07.1**	**+1.3**
	SNR=8.7						
AML	**Almayashu**	**46.20**	**335**	P	**P**	**20 00 07.4**	**+1.1**
	SNR=8.0						
AAK	**Ala-Archa**	**46.29**	**337**	*i* P	**P**	**20 00 07.3**	**+0.2**
AAK	**Ala-Archa**	**46.29**	**337**	*e*P	**P**	**20 00 07.5**	**+0.5**
	comp=Z,4.5nm,0.8s,mb4.5						
EKS2	**Erkin-Say**	**46.60**	**336**	P	**P**	**20 00 10.8**	**+1.3**
	SNR=8.5						
USP	**Ospenovka**	**46.82**	**337**	P	**P**	**20 00 12.1**	**+0.9**
	SNR=13						
SNY	**Shenyang**	**46.97**	**27**	⇓P	**P**	**20 00 12.5**	**+0.1**
SNY				AP	pP	20 00 19.4	-0.8
SNY				AMB	AMB		
	comp=Z,20nm,2.2s,mb4.7						
SNY				LR	LR		
	comp=N,370nm,14.1s						
SNY				LR	LR		
	comp=Z,460nm,13.9s,MS4.6						
SONM	**Songino Array**	**47.30**	**8**	P	**P**	**20 00 14.9**	**0.0**
	comp=Z,3.0nm,0.4s,mb4.5,baz=190,slow=10.0,SNR=16						
SONM				pP	pP	20 00 21.8	-1.0
	comp=Z,2.6nm,0.6s,baz=189,slow=9.7,SNR=6.6						
SONM				PcP	PcP	20 01 46.0	-0.1
	comp=Z,1.1nm,0.6s,baz=184,slow=4.4,SNR=4.3						
ULN	**Ulaanbaatar**	**47.42**	**9**	*e*P	**P**	**20 00 16.1**	**+0.2**
MKAR	**Makanchi Array**	**47.51**	**346**	P	**P**	**20 00 16.8**	**+0.2**
	comp=Z,8.6nm,0.5s,mb5.0,baz=162,slow=8.7,SNR=27						
CN2	**Changchun**	**49.37**	**27**	*e*P	**P**	**20 00 30.4**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
ZAK	**Zakamensk**	**49.46**	**5**	*e*P	**P**	**20 00 30.7**	**-0.9**
ZAK				*e*		20 02 29.9	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
TLY	**Talaya**	**50.78**	**5**	*i* P	**P**	**20 00 42.0**	**+0.3**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
HIA	**Hailar**	**51.75**	**18**	*e*P	**P**	**20 00 48.7**	**-0.4**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HIA	**Hailar**	**51.75**	**18**	*e*P	**P**	**20 00 48.6**	**-0.5**
	comp=Z,5.9nm,0.8s,mb4.6						
KURK	**Kurchatov**	**52.06**	**345**	*e*P	**P**	**20 00 50.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
KURK	**Kurchatov**	**52.06**	**345**	*e*P	**P**	**20 00 50.8**	**-0.7**
	comp=Z,12nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**53.02**	**132**	P	**P**	**20 00 59.2**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=283,slow=13,SNR=4.4						
STKA				LR	LR	20 25 45.6	
	comp=Z,271nm,21.1s,MS4.3,baz=285,slow=38						
ZAL	**Zalesovo**	**53.80**	**351**	P	**P**	**20 01 03.3**	**-0.9**
	comp=Z,8.5nm,0.5s,mb5.0,baz=314,slow=4.6,SNR=15						
KLR	**Kul'dur**	**56.32**	**26**	*e*P	**P**	**20 01 19.3**	**-3.4**
BVAR	**Borovoye Array**	**56.53**	**341**	P	**P**	**20 01 22.4**	**-1.8**
	comp=Z,3.1nm,0.5s,mb4.6,baz=141,slow=9.5,SNR=9.7						
BVAR				pP	pP	20 01 29.6	-2.5
	comp=Z,1.9nm,0.5s,baz=129,slow=9.2,SNR=3.2						
CHKZ	**Chkalovo**	**57.01**	**341**	*e*P	**P**	**20 01 26.4**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**57.01**	**341**	*e*P	**P**	**20 01 26.4**	**-1.1**
	comp=Z,5.6nm,0.8s,mb4.7						
BOD	**Bodaibo**	**58.17**	**10**	*e*P	**P**	**20 01 34.3**	**-1.3**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
KMBO	**Kilima Mbogo**	**60.24**	**268**	*e*P	**P**	**20 01 50.7**	**+0.1**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	**Kilima Mbogo**	**60.24**	**268**	P	**P**	**20 01 51.0**	**+0.4**
	comp=Z,1.3nm,0.9s,mb4.0,baz=65,slow=12,SNR=6.2						
KMBO				pP	pP	20 01 58.4	-0.2
	comp=Z,1.9nm,0.9s,baz=53,slow=11,SNR=4.1						
KMBO	**Kilima Mbogo**	**60.24**	**268**	*e*P	**P**	**20 01 50.7**	**+0.1**
	comp=Z,2.5nm,1.0s,mb4.2						
YSS	**Yuzh-Sakhalins**	**60.37**	**34**	*i* P	**P**	**20 01 50.7**	**-0.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
SVE	**Sverdlovsk**	**62.98**	**338**	⇓*e*P	**P**	**20 02 08.0**	**-0.3**
ARU	**Arti**	**63.48**	**337**	*i* P	**P**	**20 02 09.7**	**-1.9**
ARU				*e*S	**S**	**20 10 41.1**	**-0.4**
ARU				*e*SS	SS	20 14 45.2	-5.2
KIV	**Kislovodsk**	**64.63**	**319**	*i* P	**P**	**20 02 17.8**	**-1.7**
KIV				*e*		20 02 52.6	
KIV				*e*		20 04 42.5	
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
YAK	**Yakutsk**	**65.55**	**16**	*e*P	**P**	**20 02 23.9**	**-1.1**
YAK				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
YAK	**Yakutsk**	**65.55**	**16**	*e*P	**P**	**20 02 23.9**	**-1.1**
	comp=Z,16nm,0.8s,mb5.1						
SOC	**Sochi**	**66.45**	**318**	*i* P	**P**	**20 02 26.8**	**-4.3**
SOC				*e*		20 02 56.7	
SOC				*e*		20 04 50.9	
SOC				*e*PPP	PPP	20 06 27.3	-8.1
SOC				*e*S	S	20 11 16.6	-1.6

TIXI	**Tiksi**	73.34	10	*i* P	P	20 03 11.1	-1.6
TIXI				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.5							
LBTB	**Lobatse**	74.03	244	*e*P	P	20 03 18.0	+0.4
LBTB				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
LBTB	**Lobatse**	74.03	244	*e*P	P	20 03 18.0	+0.4
comp=Z,3.4nm,0.8s,mb4.3							
FINES	**FINESS Array B**	80.30	332	P	P	20 03 51.5	-0.3
comp=Z,0.9nm,0.7s,mb3.8,baz=108,slow=4.4,SNR=2.9							
GERES	**GERESS Array B**	85.14	319	P	P	20 04 17.8	+0.9
comp=Z,1.8nm,1.0s,mb4.2,baz=104,slow=5.5,SNR=9.9							
HFS	**Hagfors**	86.03	330	LR	LR	20 46 01.9	
comp=Z,90nm,18.2s,MS4.2,baz=269,slow=38							
NB2	**NORSAR Subarra**	87.31	331	P	P	20 04 27.2	-0.1
comp=Z,1.4nm,0.8s,mb4.2,baz=95,slow=4.6							
NOA	**NORSAR Array B**	87.31	331	P	P	20 04 25.7	-1.5
comp=Z,0.8nm,0.8s,mb4.0,baz=260,slow=13,SNR=4.1							
NOA				pP	pP	20 04 34.3	-1.3
comp=Z,0.8nm,0.7s,baz=95,slow=4.6,SNR=2.4							

NIED ***04*** *19:52:00, 34.70N×137.00E, h340km, Mw4.4 Best double couple: M0=4.35×10^15 NP1:φs=199°, δ74°, λ90°. NP2:φs=19°, δ16°, λ90°.*
MOS ***04*** *19:52:15.5±0.7, 34.51N×136.74E, h322km, mb4.2/24, Error ellipse: s-maj=13.8km s-min=8.0km az=88.6*
BJI ***04*** *19:52:16.7, 34.74N×137.03E, h345km, mB4.6, mb4.7*
NEIC ***04*** *19:52:17.5±0.4, 34.56N×136.84E, h324km±4km, mb4.3/50, Error ellipse: s-maj=4.5km s-min=3.6km az=142.0*
JMA ***04*** *19:52:17.2±0.2, 34.69N×136.98E, h335km±2km, M4.4*
IDC ***04*** *19:52:18.1±1.1, 34.55N×136.82E, h329km±11km, mb3.9/25, mb1 4.1/27, mb1mx4.0/31, mbtmp4.6/27, Error ellipse: s-maj=10.0km s-min=7.8km az=97.0*
ISC 04 19:52:17.0±0.2, 34.60N±0.04×136.89E±0.04, h332km±1km, n165, σ0±98/176, mb4.2/70, 16C-7D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	0.21	80	⇑P	P	19 52 59.7	+0.8
JAA				*e*S	S	19 53 31.9	+0.2
JIE	**Ise**	0.26	217	⇑P	P	19 52 59.8	+0.9
JIE				*e*S	S	19 53 32.1	+0.3
TK01	**Tokai 1**	1.01	145	P	P	19 53 01.8	+0.8
TK01				*e*S	S	19 53 37.1	+1.7
JGM	**Miyama**	1.11	353	⇑P	P	19 53 01.8	+0.4
JGM				*e*S	S	19 53 36.3	0.0
JWY	**Kouya**	1.14	251	⇑P	P	19 53 02.6	+1.0
JWY				*e*S	S	19 53 37.3	+0.8
JWT	**Wachi**	1.40	300	⇑P	P	19 53 03.5	+0.5
JWZ	**Kozaga**	1.44	223	⇑P	P	19 53 03.8	+0.6
JWZ				*e*S	S	19 53 40.0	+0.5
JYN	**Shimob**	1.63	56	⇓P	P	19 53 04.1	-0.3
JKG	**Kaga**	1.74	345	⇑P	P	19 53 04.9	-0.2
JKG				*e*S	S	19 53 42.0	-0.7
JOD2	**Odawara 2**	1.92	69	⇓P	P	19 53 06.0	-0.3
JIM2	**Oshima 3**	2.10	86	⇓P	P	19 53 07.3	-0.3
JRY	**Ryogami san**	2.17	49	⇓P	P	19 53 08.0	-0.2
JRY				S	S	19 53 46.9	-1.4
JAI	**Aioi**	2.18	249	⇑P	P	19 53 09.1	+0.9
MAJO	**Matsushiro**	2.22	29	*e*P	P	19 53 07.9	-0.7
MAT	**Matsushiro**	2.22	29	*e*P	P	19 53 08.0	-0.6
MAT				*e*S	S	19 53 47.0	-2.0
MAT	**Matsushiro**	2.22	29	P	P	19 53 08.1	-0.5
MAT				S	S	19 53 47.3	-1.7
MAT	**Matsushiro**	2.22	29	P	P	19 53 08.2	-0.4
MAT				*e*S	S	19 53 47.4	-1.6
JAG	**Ashikaga**	2.77	48	⇓P	P	19 53 11.5	-1.8
JAG				*e*S	S	19 53 53.4	-3.9
JHJ	**Hachijo jima 2**	2.82	121	P	P	19 53 13.8	0.0
98nm,0.3s,baz=83,slow=23,SNR=11							
JHJ				S	S	19 54 03.5	+5.4
47nm,0.3s,baz=245,slow=23,SNR=3.0							
JHJ2	**Mitsune**	2.85	120	P	P	19 53 13.6	-0.4
JHS	**Saijyo**	3.13	278	⇑P	P	19 53 17.5	+0.9
JHS				*e*S	S	19 54 04.8	+1.5
SAI	**Saigo**	3.32	300	P	P	19 53 18.8	+0.4
BSO1	**Boso 1**	3.37	88	P	P	19 53 16.4	-2.5
BSO1				*e*S	S	19 54 04.1	-3.3
JTO	**Tosashimizu**	3.82	244	⇑P	P	19 53 24.5	+1.0
CBIJ	**Chichi jima**	8.75	147	S	S	19 55 49.0	-9.1
92nm,0.3s,baz=298,slow=22,SNR=9.0							
INCN	**Inchon**	8.79	292	*e*Pn	P	19 54 22.1	+0.9
49nm,0.9s							
ASAJ	**Asahikawa**	10.48	23	P	P	19 54 39.6	-2.0
3.9nm,0.3s,baz=242,slow=12,SNR=26							
ASAJ				S	S	19 56 32.2	-3.7
0.6nm,0.3s,baz=72,slow=27,SNR=5.8							
JOW	**Kunigami**	10.71	226	P	P	19 54 44.9	+0.4
2.8nm,0.3s,baz=54,slow=11,SNR=6.2							
MDJ	**Mudanjiang**	11.47	333	P	P	19 54 53.5	-0.2
MDJ				AMB	AMB		
comp=Z,14nm,1.1s							
MDJ				AMB	AMB		
comp=Z,108nm,4.0s							
MDJ	**Mudanjiang**	11.47	333	*e*Pn	P	19 54 53.5	-0.2
comp=Z,7.6nm,0.8s							
SNY	**Shenyang**	12.71	309	⇑P	P	19 55 09.1	+0.5
SNY				LR	LR		
comp=E,320nm,19.6s							
SNY				LR	LR		
comp=Z,260nm,16.7s							
CN2	**Changchun**	12.77	319	*e*P	P	19 55 08.6	-0.7
CN2				AMB	AMB		
comp=Z,50nm,0.7s							
YSS	**Yuzh-Sakhalins**	13.11	18	*e*Pn	P	19 55 13.0	-0.5
comp=Z,50nm,0.3s							
BJI	**Beijing**	17.34	294	P	P	19 55 57.7	-1.8
BJI				AMB	AMB		
comp=Z,26nm,0.6s							
BJI	**Beijing**	17.34	294	P	P	19 55 57.7	-1.8
comp=Z,26nm,0.6s							
BJT	**Baijiatuan**	17.34	294	*e*P	P	19 55 57.5	-2.0
BJT				pmax	pmax		
comp=Z,20nm,0.4s							
BJT	**Baijiatuan**	17.34	294	*e*P	P	19 55 57.5	-2.1
comp=Z,20nm,0.4s							
HIA	**Hailar**	19.37	324	*e*P	P	19 56 17.8	-2.0
comp=Z,42nm,0.9s							
HHC	**Hu-ho-hao-te**	20.95	295	⇑P	P	19 56 36.9	+1.6
HHC				XP		19 58 09.0	
HHC				S	S	20 00 06.2	+2.4
HHC				PCP	PcP	20 00 29.8	-0.6
HHC				PCS		20 04 05.7	
HHC				SCS	ScS	20 07 18.7	+2.0
HHC				AMB	AMB		
comp=Z,52nm,0.9s							
HHC				AMB	AMB		
comp=Z,148nm,5.4s							
HHC				LR	LR		
comp=N,141nm,13.5s							
HHC				LR	LR		
comp=E,156nm,13.9s							
HHC				LR	LR		
comp=Z,93nm,13.5s							
XAN	**Xi'an**	23.08	277	P	P	19 56 55.3	-0.3
XAN				AP		19 56 58.7	
XAN				AMB	AMB		
comp=Z,66nm,0.7s,mb5.0							
ENH	**Enshi**	23.50	267	*e*P	P	19 56 58.3	-1.2
comp=Z,37nm,0.8s,mb4.7							
ULN	**Ulaanbaatar**	25.88	310	*e*P	P	19 57 21.8	+0.8
comp=Z,22nm,0.8s,mb4.4							
SONM	**Songino Array**	26.29	309	P	P	19 57 25.4	+0.7
comp=Z,11nm,0.5s,mb4.4,baz=116,slow=9.6,SNR=121							
SONM				ScP		20 03 48.6	
comp=Z,0.3nm,0.5s,baz=114,slow=3.4,SNR=4.5							
LZH	**Lanzhou**	26.93	283	⇓P	P	19 57 35.0	+4.4
LZH				AMB	AMB		
comp=Z,37nm,1.4s,mb4.4							
LZH				AMB	AMB		
comp=Z,122nm,4.5s							
LZH				LR	LR		
comp=N,317nm,12.7s							
LZH				LR	LR		
comp=Z,493nm,16.8s							
GYA	**Guiyang**	27.20	261	⇓*i*P	P	19 57 31.9	-1.2
GYA				AMB	AMB		
comp=Z,30nm,0.7s,mb4.6							
CD2	**Chengdu**	28.04	272	⇑*i*P	P	19 57 39.4	-1.1
CD2				AMB	AMB		
comp=Z,120nm,0.6s,mb5.3							
GTA	**Gaotai**	29.86	290	P	P	19 57 55.6	-0.8
GTA				AMB	AMB		
comp=Z,7.0nm,0.8s,mb3.9							
KMI	**Kunming**	30.96	262	P	P	19 58 04.9	-1.2
KMI				AP	pP	19 59 08.1	-1.4
KMI				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.2							
KMI	**Kunming**	30.96	262	P	P	19 58 04.9	-1.2
comp=Z,10.0nm,0.7s,mb4.2							
KMI				pP	pP	19 59 08.1	-1.4
FX1	**Attu Island--F**	31.50	43	P	P	19 58 11.8	+1.4
comp=Z,16nm,0.5s,mb4.5,baz=42,slow=22,SNR=11							
FX1	**Attu Island--F**	31.50	43	*e*P	P	19 58 11.5	+1.1
CMAR	**Chiang Mai Arr**	37.31	254	P	P	19 58 59.8	0.0
comp=Z,1.6nm,0.6s,mb3.5,baz=50,slow=7.2,SNR=16							
CMAR				ScP		20 04 26.5	
comp=Z,0.9nm,0.8s,baz=34,slow=3.3,SNR=6.1							
BILL	**Bilibino**	37.43	18	*e*P	P	19 59 00.7	+0.4
BILL				pmax	pmax		
comp=Z,4.0nm,0.5s,mb3.9							
BILL	**Bilibino**	37.43	18	*e*P	P	19 59 00.7	+0.4
comp=Z,4.2nm,0.5s,mb3.9							
LSA	**Lhasa**	38.78	276	P	P	19 59 12.8	+1.0
comp=Z,3.4nm,0.4s,mb3.9							
ZAL	**Zalesovo**	40.93	315	P	P	19 59 28.4	-0.7
comp=Z,9.0nm,0.4s,mb4.3,baz=13,slow=5.9,SNR=19							
ZAL	**Zalesovo**	40.93	315	P	P	19 59 28.4	-0.7
MKAR	**Makanchi Array**	42.35	304	P	P	19 59 41.0	+0.3
comp=Z,10nm,0.5s,mb4.2,baz=86,slow=10.0,SNR=185							
MKAR				ScP		20 04 45.0	
comp=Z,0.9nm,0.6s,baz=78,slow=3.8,SNR=5.4							
MKAR	**Makanchi Array**	42.35	304	P	P	19 59 41.0	+0.3
MKAR				ScP		20 04 45.0	
JIRN	**Jiri**	43.58	275	*e*P	P	19 59 51.4	+0.7
comp=Z,90nm,0.4s,mb5.2							
GUN	**Gumba**	43.74	276	*e*P	P	19 59 52.2	+0.2
comp=Z,69nm,0.8s,mb4.8							
PKI	**Pulchoki**	44.25	276	*e*P	P	19 59 55.8	-0.3
comp=Z,35nm,0.7s,mb4.6							
KKN	**Kakani**	44.28	276	*e*P	P	19 59 56.2	-0.1
comp=Z,40nm,0.6s,mb4.7							
DMN	**Daman**	44.49	276	*e*P	P	19 59 57.7	-0.2
comp=Z,18nm,0.6s,mb4.3							
KURK	**Kurchatov**	44.59	310	*e*P	P	19 59 57.9	-0.6
KURK				pmax	pmax		
comp=Z,21nm,0.6s,mb4.4							
KURK	**Kurchatov**	44.59	310	*e*P	P	19 59 57.9	-0.6
comp=Z,22nm,0.6s,mb4.5							
GKN	**Gorkha**	44.72	276	*e*P	P	19 59 59.7	-0.1
comp=Z,47nm,0.7s,mb4.7							
TNA	**Tin City**	44.77	29	*e*P	P	20 00 00.6	+0.9
comp=Z,6.9nm,0.9s,mb3.8							
PMG	**Port Moresby**	44.83	166	*e*P	P	19 59 59.9	-0.9
comp=Z,8.7nm,0.7s,mb4.0							
KOLN	**Koldanda**	45.66	277	*e*P	P	20 00 07.1	0.0
comp=Z,37nm,0.8s,mb4.5							
AAK	**Ala-Archa**	48.43	299	*e*P	P	20 00 27.1	-1.2
AAK				pmax	pmax		
comp=Z,3.0nm,0.6s,mb3.7							
AAK	**Ala-Archa**	48.43	299	*e*P	P	20 00 27.1	-1.2
comp=Z,3.4nm,0.6s,mb3.8							
CHKZ	**Chkalovo**	49.33	314	*e*P	P	20 00 33.9	-1.0
CHKZ				pmax	pmax		
comp=Z,11nm,0.7s,mb4.2							
CHKZ	**Chkalovo**	49.33	314	*e*P	P	20 00 33.9	-1.0
comp=Z,11nm,0.7s,mb4.2							
BVA0	**Borovoye Array**	49.53	313	*e*P	P	20 00 35.8	-0.6
BVAR	**Borovoye Array**	49.53	313	P	P	20 00 35.8	-0.6
comp=Z,2.9nm,0.3s,mb3.9,baz=104,slow=8.8,SNR=47							
BVAR				ScP		20 05 14.9	
comp=Z,1.0nm,0.7s,baz=90,slow=5.8,SNR=5.2							
IMA	**Indian Mountai**	50.63	30	*e*P	P	20 00 45.6	+1.1
MCK	**McKinley**	52.68	33	*e*P	P	20 00 59.3	-0.3
MCK				pmax	pmax		
comp=Z,2.0nm,0.5s,mb3.7							
MCK	**McKinley**	52.68	33	*e*P	P	20 00 59.3	-0.2
comp=Z,2.3nm,0.5s,mb3.8							
COLA	**College**	53.08	31	*e*P	P	20 01 01.8	-0.7
COLA				pmax	pmax		
comp=Z,4.0nm,0.6s,mb3.9							
COLA	**College**	53.08	31	*e*P	P	20 01 01.8	-0.7
comp=Z,4.3nm,0.6s,mb4.0							
SML	**Sawmill**	53.11	35	*e*P	P	20 01 02.3	-0.4
FITZ	**Fitzroy Crossi**	53.49	193	⇑*i*P	P	20 01 05.3	-0.7
comp=Z,13nm,0.8s,mb4.3							
FITZ	**Fitzroy Crossi**	53.49	193	P	P	20 01 05.4	-0.6
comp=Z,16nm,0.6s,mb4.5,baz=9.1,slow=7.9,SNR=44							
ILAR	**Eielson Array**	53.50	31	P	P	20 01 04.8	-0.6
comp=Z,2.9nm,0.5s,mb3.8,baz=265,slow=5.1,SNR=49							
WRAB	**Tennant Creek**	54.28	183	*e*P	P	20 01 10.1	-1.6
WRAB				pmax	pmax		
comp=Z,13nm,0.5s,mb4.5							
WRAB	**Tennant Creek**	54.28	183	*e*P	P	20 01 10.1	-1.6
comp=Z,13nm,0.5s,mb4.5							
WB2	**Warramunga Arr**	54.29	183	⇑*i*P	P	20 01 10.4	-1.4
WRA	**Warramunga Arr**	54.29	183	P	P	20 01 10.5	-1.3
comp=Z,11nm,0.3s,mb4.6,baz=0.4,slow=7.6,SNR=155							
WRA				PcP	PcP	20 02 11.1	-0.3
comp=Z,1.2nm,0.3s,baz=357,slow=4.2,SNR=3.7							
CTA	**Charters Tower**	55.10	169	P	P	20 01 15.9	-1.7
comp=Z,7.0nm,0.9s,mb4.0,baz=54,slow=12,SNR=3.7							
CTAO	**Charters Tower**	55.10	169	*e*P	P	20 01 16.3	-1.3
CTAO				pmax	pmax		
comp=Z,12nm,1.0s,mb4.2							
CTAO	**Charters Tower**	55.10	169	*e*P	P	20 01 16.3	-1.3
comp=Z,12nm,1.0s,mb4.2							
ARU	**Arti**	55.76	319	*e*P	P	20 01 20.7	-1.0
ARU				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.2							
ARU	**Arti**	55.76	319	*e*P	P	20 01 20.7	-1.0
comp=Z,8.7nm,0.7s,mb4.2							
ASAR	**Alice Springs**	58.01	183	P	P	20 01 36.9	-1.0
comp=Z,4.2nm,0.3s,mb4.2,baz=0.2,slow=6.2,SNR=102							
ASPA	**Alice Springs**	58.01	183	⇑*i*P	P	20 01 36.8	-1.0
INK	**Inuvik**	58.20	26	*e*P	P	20 01 38.2	-0.3
INK				pmax	pmax		
comp=Z,3.0nm,0.6s							
INK	**Inuvik**	58.20	26	P	P	20 01 38.5	0.0
comp=Z,3.1nm,0.4s,mb4.0,baz=283,slow=5.7,SNR=40							
INK	**Inuvik**	58.20	26	*e*P	P	20 01 38.1	-0.4
comp=Z,3.4nm,0.6s,mb3.9							
DLBC	**Dease Lake**	62.78	36	P	P	20 02 10.7	+1.5
comp=Z,1.2nm,0.5s,mb3.7,baz=308,slow=19,SNR=2.3							
KEV	**Kevo**	64.39	339	*e*p	P	20 02 18.8	-0.5
comp=Z,0.4nm,0.3s,mb3.5							
FORT	**Forrest**	65.56	188	*e*P	P	20 02 26.8	-0.6
comp=Z,658nm,0.6s							
RES	**Resolute Bay**	65.84	13	*e*P	P	20 02 28.1	-0.3
RES				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.3							
RES	**Resolute Bay**	65.84	13	*e*P	P	20 02 28.1	-0.4
comp=Z,5.8nm,0.9s,mb4.3							
STKA	**Stephens Creek**	66.27	176	*e*P	P	20 02 31.5	-0.3
comp=Z,3.2nm,0.7s,mb4.2							
STKA	**Stephens Creek**	66.27	176	P	P	20 02 31.6	-0.2
comp=Z,3.8nm,0.6s,mb4.3,baz=330,slow=5.1,SNR=7.0							
JOF	**Joensuu**	66.35	331	*e*p	P	20 02 27.6	-4.2
YKW3	**Yellowknife Ar**	67.69	28	*e*P	P	20 02 39.9	-0.2
YKA	**Yellowknife Ar**	67.73	28	P	P	20 02 40.4	0.0
comp=Z,1.1nm,0.4s,mb3.9,baz=295,slow=6.1,SNR=33							
YKA				PcP	PcP	20 03 05.2	+0.2
comp=Z,0.6nm,0.7s,baz=305,slow=4.2,SNR=6.7							
YKA	**Yellowknife Ar**	67.73	28	P	P	20 02 40.4	0.0
YKA				PcP	PcP	20 03 05.2	+0.2
VRSR	**Storozhevoye**	68.29	318	*e*P	P	20 02 44.1	+0.1
VRSR				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.3							
VRSR				pmax	pmax		
comp=N,10.0nm,1.1s							
VRSR				pmax	pmax		
comp=E,6.0nm,0.9s							
KAF	**Kangasniemi**	68.75	332	*e*p	P	20 02 45.3	-1.3
comp=E,1.6nm,0.3s,mb4.2							
KAF	**Kangasniemi**	68.75	332	*e*P	P	20 02 45.3	-1.3
KAF				pmax	pmax		
comp=Z,2.0nm,0.3s,mb4.3							
FINES	**FINESS Array B**	69.22	331	P	P	20 02 48.7	-0.7
comp=Z,2.9nm,0.6s,mb4.2,baz=50,slow=6.1,SNR=41							
FINES	**FINESS Array B**	69.22	331	P	P	20 02 48.7	-0.7
NWAO	**Narrogin (SRO)**	69.66	198	P	P	20 02 51.4	-1.3
comp=Z,7.7nm,0.9s,mb4.4,baz=173,slow=6.7,SNR=7.8							
KIV	**Kislovodsk**	69.68	310	*e*P	P	20 02 52.9	+0.3
KIV				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.7							
KIV	**Kislovodsk**	69.68	310	*e*P	P	20 02 52.9	+0.3
comp=Z,9.8nm,0.7s,mb4.7							
EDM	**Edmonton**	73.51	36	*e*P	P	20 03 15.6	+0.5
AKASG	**Malin Array Be**	73.92	321	P	P	20 03 16.9	-0.7
comp=Z,2.3nm,0.5s,mb4.2,baz=49,slow=6.2,SNR=20							
NEW	**Newport**	74.41	42	*e*P	P	20 03 20.6	+0.2
NEW				pmax	pmax		
comp=Z,3.0nm,0.8s							
NEW	**Newport**	74.41	42	*e*P	P	20 03 20.6	+0.2
comp=Z,3.2nm,0.8s,mb4.1							
NB2	**NORSAR Subarra**	74.95	336	P	P	20 03 22.8	-0.5
comp=Z,0.9nm,0.6s,mb3.7,baz=43,slow=5.6							
NOA	**NORSAR Array B**	74.95	336	P	P	20 03 22.8	-0.4
comp=Z,1.5nm,0.6s,mb3.9,baz=44,slow=5.6,SNR=4.9							
WVOR	**Wild Horse Val**	76.86	47	*e*P	P	20 03 35.1	+0.9
WVOR				pmax	pmax		
comp=Z,2.0nm,0.8s,mb3.9							
WVOR	**Wild Horse Val**	76.86	47	*e*P	P	20 03 35.1	+0.9
comp=Z,2.5nm,0.8s,mb4.0							
CHMT	**Chamberlain Mo**	77.33	41	*e*P	P	20 03 37.0	+0.4
BRTR	**Keskin Array B**	77.65	310	P	P	20 03 39.0	+0.4
BRTR				pmax	pmax		
comp=Z,1.0nm,0.4s							
BRTR	**Keskin Array B**	77.65	310	P	P	20 03 39.0	+0.4
comp=Z,0.7nm,0.4s,mb3.7,baz=127,slow=3.5,SNR=4.0							
FFC	**Flin Flon**	77.70	31	*e*P	P	20 03 38.4	-0.2
FFC				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.3							
FFC	**Flin Flon**	77.70	31	*e*P	P	20 03 38.4	-0.2
comp=Z,4.0nm,0.6s,mb4.3							
FCC	**Fort Churchill**	77.78	24	*e*P	P	20 03 39.0	+0.1
FCC				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.1							
FCC	**Fort Churchill**	77.78	24	*e*P	P	20 03 39.0	+0.1
comp=Z,2.6nm,0.8s,mb4.0							
HRY	**Holter Researc**	78.22	41	*e*P	P	20 03 42.1	+0.6
HLID	**Hailey**	78.70	45	*e*P	P	20 03 45.2	+1.0
comp=Z,2.6nm,0.7s,mb4.1							
BOZ	**Bozeman (W)**	78.99	42	*e*P	P	20 03 46.8	+1.2
BOZ				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.3							
BOZ	**Bozeman (W)**	78.99	42	*e*P	P	20 03 46.8	+1.2
comp=Z,3.6nm,0.7s,mb4.2							
NVAR	**Mina Array Bea**	79.38	51	P	P	20 03 49.2	+1.4
comp=Z,3.5nm,0.6s,mb4.3,baz=306,slow=5.4,SNR=15							
NVAR	**Mina Array Bea**	79.38	51	P	P	20 03 49.2	+1.4
MOOW	**Moose Ponds**	80.68	43	*e*P	P	20 03 56.0	+1.5
comp=Z,1.5nm,0.6s,mb3.9							
TPAW	**Teton Pass**	80.73	43	*e*P	P	20 03 56.8	+2.0
comp=Z,8.8nm,0.7s,mb4.6							
SNOW	**Snow King Moun**	80.85	43	*e*P	P	20 03 56.9	+1.5
comp=Z,4.3nm,0.5s,mb4.4							
CLL	**Collm**	81.30	328	P	P	20 03 58.0	+0.4
HWUT	**Hardware Ranch**	81.56	45	*e*P	P	20 04 00.6	+1.4
comp=Z,9.9nm,0.9s,mb4.6							
BW06	**Boulder Array**	81.97	43	*e*P	P	20 04 02.1	+0.8
comp=Z,4.9nm,0.8s,mb4.4							
PDAR	**Pinedale Array**	81.97	43	P	P	20 04 02.4	+1.1
comp=Z,5.0nm,0.7s,mb4.5,baz=301,slow=2.5,SNR=47							
GERES	**GERESS Array B**	82.76	326	P	P	20 04 05.2	+0.1
GERES				pmax	pmax		
comp=Z,1.0nm,0.6s							
GERES	**GERESS Array B**	82.76	326	P	P	20 04 05.2	+0.1
comp=Z,1.4nm,0.6s,mb4.0,baz=33,slow=5.9,SNR=16							
MSU	**Marysvale**	83.15	48	*e*P	P	20 04 09.1	+1.8
ULM	**Lac du Bonnet**	83.52	31	P	P	20 04 09.1	+0.2
comp=Z,1.3nm,0.5s,mb4.0,baz=291,slow=3.9,SNR=5.7							
ULM	**Lac du Bonnet**	83.52	31	P	P	20 04 09.1	+0.2
SRU	**San Rafael**	83.77	46	*e*P	P	20 04 11.6	+1.2
PV10	**Paradox Valley**	85.12	46	*e*P	P	20 04 19.0	+1.8
ANMO	**Albuquerque**	88.95	47	*e*P	P	20 04 37.6	+2.2
ANMO				pmax	pmax		
comp=Z,1.0nm,0.4s							
ANMO	**Albuquerque**	88.95	47	*e*P	P	20 04 37.5	+2.1
comp=Z,1.3nm,0.4s,mb4.1							
MNTX	**Cornudas Mount**	91.81	49	*e*P	P	20 04 49.5	+0.7
comp=Z,1.1nm,0.5s,mb4.0							
WMOK	**Wichita Mounta**	93.58	43	*e*P	P	20 04 56.9	0.0
WMOK				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.3							
WMOK	**Wichita Mounta**	93.58	43	*e*P	P	20 04 56.9	0.0
comp=Z,1.6nm,0.7s,mb4.2							
TXAR	**Lajitas Array**	94.51	50	P	P	20 05 02.3	+1.1
comp=Z,1.8nm,0.6s,mb4.3,baz=288,slow=4.0,SNR=16							
SAML	**Samuel**	148.53	41	*e*PKPbc	PKPdf

AAK	**Ala-Archa**	**45.75**	**337**	P	**P**	**20 33 12.5**	**+0.2**
	0.7nm,0.7s,mb3.7						
SONM	**Songino Array**	**47.02**	**9**	P	**P**	**20 33 22.5**	**+0.2**
	0.7nm,0.6s,mb3.8,baz=192,slow=9.4,SNR=7.9						
MKAR	**Makanchi Array**	**47.03**	**346**	P	**P**	**20 33 23.1**	**+0.7**
	1.5nm,0.7s,mb4.0,baz=161,slow=7.9,SNR=18						
KURK	**Kurchatov**	**51.58**	**345**	*e*P	**P**	**20 33 55.7**	**-1.6**
	1.2nm,0.9s,mb3.8						
ZAL	**Zalesovo**	**53.36**	**351**	P	**P**	**20 34 10.8**	**+0.2**
	3.5nm,0.5s,mb4.6,baz=300,slow=6.0,SNR=15						
ZAL	**Zalesovo**	**53.36**	**351**	P	**P**	**20 34 10.8**	**+0.2**
BVAR	**Borovoye Array**	**56.02**	**341**	P	**P**	**20 34 29.8**	**-0.2**
	1.3nm,0.7s,mb4.1,baz=149,slow=8.6,SNR=13						
CHKZ	**Chkalovo**	**56.50**	**342**	*e*P	**P**	**20 34 33.0**	**-0.4**
	3.2nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**79.74**	**333**	P	**P**	**20 36 59.2**	**+1.0**
	1.7nm,0.9s,mb4.0,baz=90,slow=6.9,SNR=3.4						

PRU ***04*** *20:35:09.6, 50.14N×19.01E*

WAR 04 20:35:08.0, 50.10N×19.18E, h0km, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.42**	**74**	*e*PG	Pg	20 35 17.0	+0.7
OJC				*e*SG	Sg	20 35 23.0	+1.1
OKC	**Ostrava-Krasne**	**0.72**	**249**	*e*PG	Pg	20 35 22.0	-0.3
OKC				*e*SG	Sg	20 35 32.0	+0.2
	11nm,0.2s						
NIE	**Niedzica**	**1.01**	**132**	*e*PG	Pg	20 35 26.0	-2.1
NIE				*e*SG	Sg	20 35 42.0	+0.5
LIKS	**Likavka**	**1.05**	**183**	*e*SN	Sn	20 35 41.7	-3.7
VYHS	**Vyhne**	**1.63**	**188**	*i* PN	Pn	20 35 37.6	-0.4
VYHS				*e*SN	Sn	20 35 58.9	-1.0
DPC	**Dobruska-Polom**	**1.85**	**279**	*e*PG	Pg	20 35 40.2	-4.7
DPC				*e*SG	Sg	20 36 04.9	-4.7
	25nm,0.6s						
CRVS	**Cervenica-Dubn**	**1.91**	**128**	*e*PN	Pn	20 35 44.2	+2.1
CRVS				*e*SN	Sn	20 36 10.6	+3.4
KSP	**Ksiaz**	**1.98**	**293**	*e*PG	Pg	20 35 45.0	-2.6
KSP				*e*SG	Sg	20 36 12.0	-2.1
PSZ	**Piszkesteto**	**2.24**	**168**	*e*P	Pn	20 35 48.5	+1.8
PSZ				*e*S	Sn	20 36 13.1	-2.3
KOLS	**Kolonicke sedl**	**2.33**	**119**	*e*PN	Pn	20 35 51.6	+3.5
PVCC	**Panska Ves**	**2.98**	**280**	*e*PG	Pg	20 36 01.8	-5.8
PRU	**Pruhonice**	**2.99**	**270**	*e*PN	Pn	20 35 55.8	-1.7
PRU				*e*PG	Pg	20 36 01.7	-6.0
PRU				*e*SG	Sg	20 36 40.8	-6.7
KHC	**Kasperske Hory**	**3.77**	**257**	*e*PN	Pn	20 36 07.1	-1.4
KHC				*ex*	x	20 36 14.3	
KHC				*e*PG	Pg	20 36 19.5	-3.7
KHC				*e*SG	Sg	20 37 07.3	-6.1
MOA	**Molln**	**3.94**	**237**	*i*	Pg	20 36 23.7	-3.0
MOA	**Molln**	**3.94**	**237**	*i* SG	Sg	20 37 14.3	-5.0
	2.4nm,0.5s						

JMA ***04*** *20:52:38.3±0.4, 28.75N×128.32E, h5km±4km, M3.1*
IDC ***04*** *20:52:39.5±3.0, 28.69N×127.98E, mb3.4/5, mb1 3.6/5, mb1mx3.4/21, mbtmp3.4/5, Error ellipse: s-maj=153.7km s-min=16.5km az=68.0*

ISC 04 20:52:37.2±2.8, 28.81N±0.05×128.33E±0.06, h2km±19km, n11, σ0°81/15, mb3.4/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.16**	**151**	P	**Pb**	**20 52 59.3**	**-0.3**
JTK				S	**Sb**	**20 53 14.4**	**-0.5**
JAM	**Amami Oshima**	**1.19**	**109**	P	**Pb**	**20 53 00.7**	**+0.5**
JAM				*e*S	**Sb**	**20 53 16.5**	**+0.5**
JZK	**Kikaishima**	**1.53**	**108**	*e*S	**Sb**	**20 53 25.2**	**-0.6**
JIH	**Iheya**	**1.79**	**190**	P	**Pn**	**20 53 09.5**	**0.0**
JIH				*e*S	**Sn**	**20 53 32.2**	**-0.9**
JOW	**Kunigami**	**1.97**	**181**	Pn	**Pn**	**20 53 12.2**	**+0.2**
	18nm,0.3s,baz=2.6,slow=15,SNR=46						
JOW				Sn	**Sn**	**20 53 38.9**	**+1.4**
	16nm,0.3s,baz=169,slow=24,SNR=7.6						
JOW	**Kunigami**	**1.97**	**181**	P	**Pn**	**20 53 12.1**	**+0.2**
SONM	**Songino Array**	**25.48**	**324**	P	**P**	**20 58 08.3**	**+0.1**
	0.2nm,0.7s,mb2.8,baz=106,slow=10,SNR=2.1						
MKAR	**Makanchi Array**	**39.92**	**310**	P	**P**	**21 00 15.0**	**+0.7**
	0.6nm,0.9s,mb3.3,baz=106,slow=8.8,SNR=5.8						
BVAR	**Borovoye Array**	**48.44**	**317**	P	**P**	**21 01 21.7**	**-1.0**
	1.1nm,0.9s,mb3.9,baz=90,slow=8.9,SNR=6.5						
WRA	**Warramunga Arr**	**48.81**	**172**	P	**P**	**21 01 24.7**	**-1.3**
	0.7nm,0.7s,mb3.8,baz=352,slow=8.2,SNR=6.4						
ASAR	**Alice Springs**	**52.44**	**174**	P	**P**	**21 01 55.2**	**+1.5**
	0.2nm,0.5s,mb3.3,baz=355,slow=11,SNR=3.9						

IDC ***04*** *21:00:42.0±0.5, 2.00N×97.85E, mb4.7/18, mb1 4.7/19, mb1mx4.6/22, mbtmp4.7/19, ML5.0/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/19, Error ellipse: s-maj=23.4km s-min=12.2km az=56.0*
BJI ***04*** *21:00:44.6, 1.98N×98.08E, h30km, mB5.0, mb4.9, Ms4.4, Msz4.0*
MOS ***04*** *21:00:44.9±0.8, 1.97N×97.88E, h33km, mb5.1/27, Error ellipse: s-maj=14.8km s-min=6.5km az=107.3*
HRVD ***04*** *21:00:46.5±0.9, 2.04N×97.59E, h66km±6km, MW4.7/25, Centroid moment Tensor Solution. LP body waves: s10,c14;Mantle waves: s25,c37; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.68±.16; $M_{\theta\theta}$-0.73±.11; $M_{\phi\phi}$0.05±.15; $M_{r\theta}$0.56±.07; $M_{\theta\phi}$0.94±.10; $M_{\phi r}$-0.02±.10; Best double couple: $M_0$1.241×10^{16} NP1:φ±340°, δ46°, λ148°. NP2:φ±93°, δ68°, λ48°. Principal axes: T 1.021, Plg49°, Azm317°; N .441, Plg38°, Azm112°; P -1.461, Plg13°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***04*** *21:00:46.5±0.3, 1.97N×97.86E, h30km, mb4.9/28 Error ellipse: s-maj=8.9km s-min=5.6km az=52.0*

ISC 04 21:00:45.1±0.3, 1.96N±0.05×97.88E±0.05, h32km, h32km±1.8km: pP-P, n146, σ1s03/151, mb4.8/66, MS3.9/19, 10C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.08**	**50**	P	**Pn**	**21 01 50.0**	**+3.1**
KULM	**Kulim**	**4.31**	**40**	*e*P	**Pn**	**21 01 52.8**	**+2.6**
KGM	**Kluang**	**5.43**	**89**	P	**Pn**	**21 02 09.5**	**+3.5**
CMAR	**Chiang Mai Arr**	**16.43**	**4**	Pn	**P**	**21 04 35.6**	**+0.5**
	1.8nm,0.3s,baz=192,slow=11,SNR=71						
CMAR				LR	LR	21 11 24.9	
	comp=Z,168nm,19.8s,baz=180,slow=39						
KKM	**Kota Kinabalu**	**18.73**	**77**	*e*P	**P**	**21 05 05.2**	**+1.4**
KKM	**Kota Kinabalu**	**18.73**	**77**	P	**P**	**21 05 06.0**	**+2.2**
KMI	**Kunming**	**23.50**	**11**	P	**P**	**21 05 54.2**	**+0.9**
KMI				XP		21 06 06.2	
KMI				S	**S**	**21 10 08.2**	**+6.9**
KMI				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,120nm,4.9s						
KMI				LR	LR		
	comp=N,364nm,15.7s,MS4.0						
KMI				LR	LR		
	comp=E,162nm,11.3s,MS4.0						
KMI				LR	LR		
	comp=Z,345nm,15.7s,MS3.9						
KMI	**Kunming**	**23.50**	**11**	P	**P**	**21 05 54.2**	**+0.9**
	comp=Z,24nm,1.2s,mb4.5						
KMI				sP		21 06 06.2	
KMI				S	**S**	**21 10 08.2**	**+6.9**
KMI				sS		21 10 21.9	
KMI				LR	LR		
	comp=Z,350nm,15.7s,MS3.9						
SHL	**Shillong**	**24.18**	**347**	*e*P	**P**	**21 05 59.0**	**-0.8**
HYB	**Hyderabad**	**24.43**	**310**	*e*P	**P**	**21 06 05.0**	**+2.6**
HYB				pmax	pmax		
	comp=Z,62nm,0.8s,mb5.1						
HYB	**Hyderabad**	**24.43**	**310**	*e*P	**P**	**21 06 05.0**	**+2.6**
	comp=Z,62nm,0.8s,mb5.1						
HYB	**Hyderabad**	**24.43**	**310**	*i* P	**P**	**21 06 05.0**	**+2.6**
	comp=Z,62nm,0.8s,mb5.1						
GYA	**Guiyang**	**25.78**	**18**	⇑*i*P	**P**	**21 06 14.1**	**-1.0**
GYA				AP	pP	21 06 23.4	-1.0
GYA				XP	sP	21 06 27.9	-0.7
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,680nm,18.9s,MS4.5						
GYA				LR	LR		
	comp=E,970nm,17.0s,MS4.5						
GYA				LR	LR		
	comp=Z,750nm,18.2s,MS4.3						
JIRN	**Jiri**	**27.90**	**337**	*e*P	**P**	**21 06 34.7**	**+0.2**
	comp=Z,49nm,0.8s,mb5.2						
PKI	**Pulchoki**	**28.13**	**336**	*e*P	**P**	**21 06 36.4**	**-0.1**
	comp=Z,29nm,0.6s,mb5.1						
PKI	**Pulchoki**	**28.13**	**336**	*e*P	**P**	**21 06 36.4**	**-0.1**
PKI				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.8						
DMN	**Daman**	**28.29**	**336**	*e*P	**P**	**21 06 37.9**	**-0.1**
	comp=Z,30nm,0.8s,mb5.0						
LSA	**Lhasa**	**28.32**	**348**	P	**P**	**21 06 38.2**	**-0.1**
LSA	**Lhasa**	**28.32**	**348**	*e*P	**P**	**21 06 37.8**	**-0.5**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**28.32**	**348**	*e*P	**P**	**21 06 37.8**	**-0.5**
	comp=Z,10nm,0.6s,mb4.6						
KKN	**Kakani**	**28.38**	**336**	*e*P	**P**	**21 06 38.2**	**-0.6**
	comp=Z,52nm,0.8s,mb5.2						
KKN	**Kakani**	**28.38**	**336**	*e*P	**P**	**21 06 38.2**	**-0.6**
KKN				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.9						
GKN	**Gorkha**	**28.83**	**335**	*e*P	**P**	**21 06 42.4**	**-0.4**
	comp=Z,32nm,0.3s,mb5.5						
KOLN	**Koldanda**	**29.08**	**333**	*e*P	**P**	**21 06 45.2**	**+0.1**
	comp=Z,49nm,0.5s,mb5.5						
ENH	**Enshi**	**30.24**	**20**	*e*P	**P**	**21 06 52.0**	**-3.4**
	comp=Z,17nm,0.5s,mb5.0						
LGTI	**Lohaghat**	**32.08**	**330**	⇓*i*P	**P**	**21 07 12.0**	**+0.4**
XAN	**Xi'an**	**33.54**	**17**	P	**P**	**21 07 22.0**	**-2.3**
XAN				AP	pP	21 07 28.1	-5.6
XAN				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	**33.83**	**127**	*e*P	**P**	**21 07 25.7**	**-1.2**
	comp=Z,5.5nm,0.9s,mb4.5						
LZH	**Lanzhou**	**34.41**	**9**	*e*P	**P**	**21 07 33.5**	**+1.8**
LZH				AP	pP	21 07 42.7	+1.5
LZH				XP	sP	21 07 46.8	+1.5
LZH				PP	PP	21 08 50.4	+2.7
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,99nm,4.5s						
LZH				LR	LR		
	comp=N,299nm,12.7s						
LZH				LR	LR		
	comp=Z,447nm,15.8s,MS4.3						
LZH	**Lanzhou**	**34.41**	**9**	*e*P	**P**	**21 07 33.5**	**+1.8**
	comp=Z,26nm,1.3s,mb5.0						
LZH				pP	pP	21 07 42.7	+1.5
LZH				sP	sP	21 07 46.8	+1.5
LZH				PP	PP	21 08 50.4	+2.7
LZH				LR	LR		
	comp=Z,450nm,15.8s,MS4.3						
SMLA	**Simla**	**35.01**	**328**	⇓*i*P	**P**	**21 07 27.7**	**-9.3**
	comp=Z,13nm,0.3s,mb5.3						
SMLA				*i* S	**S**	**21 12 59.9**	**-6.0**
SDNR	**Sundarnagar**	**35.40**	**328**	*e*P	**P**	**21 07 41.0**	**+0.7**
NJ2	**Nanjing**	**35.87**	**31**	*e*P	**P**	**21 07 45.2**	**+1.0**
NJ2				AP	pP	21 07 55.6	+1.9
NJ2				XP	sP	21 08 00.0	+2.3
NJ2				PP	PP	21 09 07.5	+1.7
NJ2				S	**S**	**21 13 21.0**	**+1.8**
NJ2				XS		21 13 35.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,170nm,4.3s						
NJ2				LR	LR		
	comp=N,220nm,20.8s						
NJ2				LR	LR		
	comp=E,330nm,13.5s						
NJ2				LR	LR		
	comp=Z,210nm,15.3s						
PONG	**Pong**	**36.30**	**328**	*e*P	**P**	**21 07 48.0**	**+0.2**
SSE	**Sheshan**	**36.41**	**35**	P	**P**	**21 07 46.3**	**-2.4**
SSE				XP	sP	21 07 58.5	-3.8
SSE				PP	PP	21 09 10.3	-2.4
SSE				S	**S**	**21 13 26.1**	**-1.3**
SSE				XS		21 13 41.8	
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,74nm,4.4s						
SSE				LR	LR		
	comp=N,59nm,29.8s,MS3.4						
SSE				LR	LR		
	comp=E,65nm,29.8s,MS3.4						
SSE				LR	LR		
	comp=Z,97nm,27.0s,MS3.5						
SSE	**Sheshan**	**36.41**	**35**	P	**P**	**21 07 46.3**	**-2.4**
	comp=Z,37nm,0.7s,mb5.4						
SSE				sP	sP	21 07 58.5	-3.8
SSE				PP	PP	21 09 10.3	-2.4
SSE				S	**S**	**21 13 26.1**	**-1.3**
SSE				sS		21 13 41.8	
SSE				SS	SS	21 16 06.5	+13
SSE				LR	LR		
	comp=Z,100nm,27.0s,MS3.5						
THN	**Thein Dam**	**36.80**	**328**	*e*P	**P**	**21 07 51.0**	**-1.0**
GTA	**Gaotai**	**37.32**	**2**	P	**P**	**21 07 55.6**	**-0.7**
GTA				AP	pP	21 08 08.4	+2.5
GTA				XP	sP	21 08 12.1	+2.2
GTA				PCP	PcP	21 10 15.8	+0.2
GTA				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
JOW	**Kunigami**	**38.23**	**47**	P	**P**	**21 08 03.8**	**-0.3**
	comp=Z,10.0nm,0.7s,mb4.7,baz=328,slow=19,SNR=4.1						
NWAO	**Narrogin (SRO)**	**39.22**	**154**	P	**P**	**21 08 12.3**	**0.0**
	comp=Z,3.9nm,0.6s,mb4.3,baz=357,slow=10.0,SNR=2.6						
HHC	**Hu-ho-hao-te**	**40.65**	**16**	*e*P	**P**	**21 08 25.2**	**+1.2**
HHC				AP	pP	21 08 35.0	+1.4
HHC				XP	sP	21 08 39.0	+1.5
HHC				PP	PP	21 10 03.8	+3.0
HHC				PCP	PcP	21 10 24.9	-1.2
HHC				SCP		21 14 10.5	
HHC				PCS		21 14 15.9	
HHC				S	**S**	**21 14 34.1**	**+2.6**
HHC				XS		21 14 50.1	
HHC				SCS	ScS	21 18 25.8	+1.0
HHC				AMB	AMB		
	comp=Z,6.0nm,0.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,127nm,4.9s						
HHC				LR	LR		
	comp=N,162nm,15.9s,MS4.1						
HHC				LR	LR		
	comp=E,115nm,13.3s,MS4.1						
HHC				LR	LR		
	comp=Z,150nm,15.2s,MS4.0						
BJT	**Baijiatuau**	**41.37**	**21**	*e*P	**P**	**21 08 29.4**	**-0.5**
BJT				pmax	pmax		
	comp=Z,20nm,0.6s						
BJT	**Baijiatuau**	**41.37**	**21**	*e*P	**P**	**21 08 29.4**	**-0.5**
	comp=Z,20nm,0.6s,mb4.9						
BJI	**Beijing**	**41.39**	**21**	P	**P**	**21 08 30.2**	**+0.1**
BJI				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.8						
BJI				LR	LR		
	comp=Z,56nm,24.6s,MS3.3						
BJI	**Beijing**	**41.39**	**21**	P	**P**	**21 08 30.2**	**+0.1**
	comp=Z,14nm,0.6s,mb4.8						
BJI				S		21 14 08.3	
BJI				LR	LR		
	comp=Z,60nm,24.6s,MS3.4						
WRA	**Warramunga Arr**	**41.86**	**123**	P	**P**	**21 08 34.1**	**-0.2**
	comp=Z,7.5nm,0.5s,mb4.6,baz=301,slow=9.1,SNR=56						
WRA				PcP	PcP	21 10 30.8	+0.4
	comp=Z,2.6nm,0.5s,baz=312,slow=2.6,SNR=6.0						
WRAB	**Tennant Creek**	**41.87**	**123**	*e*P	**P**	**21 08 33.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**41.87**	**123**	*e*P	**P**	**21 08 33.9**	**-0.5**
	comp=Z,26nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**41.87**	**123**	*e*P	**P**	**21 08 34.4**	**0.0**
KSH	**Kashi**	**42.38**	**335**	*e*P	**P**	**21 08 41.3**	**+3.0**
KSH				*e*AP	pP	21 08 50.3	+2.5
KSH				*e*XP	sP	21 08 54.1	+2.3
KSH				*e*PP	PP	21 10 23.4	+4.2
KSH				*e*PCP	PcP	21 10 32.4	+0.6
KSH				*e*PPP	PPP	21 10 56.5	+4.2
KSH				*e*SCP		21 14 19.4	
KSH				*e*PCS		21 14 23.7	
KSH				*e*S	**S**	**21 15 02.5**	**+5.3**
KSH				*e*XS		21 15 18.5	
KSH				*e*SS	SS	21 18 07.2	+6.5
KSH				*e*SCS	ScS	21 18 37.5	+2.2
KSH				AMB	AMB		
	comp=Z,130nm,3.7s						
KSH				LR	LR		
	comp=N,180nm,5.0s						
KSH				LR	LR		
	comp=E,200nm,4.4s						
WMQ	**Urumqi**	**42.66**	**349**	⇑*i*P	**P**	**21 08 40.9**	**+0.4**
WMQ				AP	pP	21 08 50.9	+0.8
WMQ				XP	sP	21 08 54.9	+0.8
WMQ				PP	PP	21 10 22.9	+0.9
WMQ				PCP	PcP	21 10 33.4	+0.7
WMQ				S	**S**	**21 15 01.3**	**0.0**
WMQ				XS		21 15 17.7	
WMQ				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.0						
WMQ				LR	LR		
	comp=N,193nm,25.5s						
WMQ				LR	LR		
	comp=E,83nm,17.2s						
WMQ				LR	LR		
	comp=Z,51nm,21.3s,MS3.4						
ASPA	**Alice Springs**	**43.31**	**128**	*e*P	**P**	**21 08 46.1**	**0.0**
ASAR	**Alice Springs**	**43.31**	**128**	P	**P**	**21 08 46.0**	**0.0**
	comp=Z,1.8nm,0.5s,mb4.0,baz=296,slow=7.5,SNR=18						
ASAR				PcP	PcP	21 10 35.9	+0.8
	comp=Z,3.0nm,0.7s,baz=301,slow=2.9,SNR=14						
ASAR				LR	LR	21 25 56.8	
	comp=Z,63nm,20.1s,MS3.5,baz=130,slow=35						
FORT	**Forrest**	**43.42**	**141**	*e*P	**P**	**21 08 48.9**	**+2.0**
	comp=Z,393nm,0.6s						
ULHL	**Ulahol**	**44.56**	**337**	P	**P**	**21 08 56.8**	**+0.8**
	SNR=11						
KZA	**Kyzart**	**44.82**	**336**	P	**P**	**21 08 59.4**	**+1.4**
	SNR=5.1						
UCH	**Uchtor**	**45.24**	**335**	P	**P**	**21 09 02.7**	**+1.3**
	SNR=16						
TKM2	**Tokmak 2**	**45.39**	**337**	P	**P**	**21 09 03.8**	**+1.3**
	SNR=21						
KBK	**Karagaybulak**	**45.42**	**336**	P	**P**	**21 09 04.2**	**+1.4**
	SNR=19						
AML	**Almayashu**	**45.51**	**335**	P	**P**	**21 09 05.1**	**+1.6**
	SNR=18						
AAK	**Ala-Archa**	**45.59**	**336**	P	**P**	**21 09 06.7**	**+2.6**
	SNR=7.4						
AAK	**Ala-Archa**	**45.59**	**336**	P	**P**	**21 09 04.7**	**+0.6**
	comp=Z,48nm,0.5s,mb5.7,SNR=9.1						
AAK	**Ala-Archa**	**45.59**	**336**	*i* P	**P**	**21 09 04.3**	**+0.2**
AAK				pmax	pmax		
	comp=Z,17nm,2.1s,mb4.6						
AAK	**Ala-Archa**	**45.59**	**336**	*e*P	**P**	**21 09 03.5**	**-0.6**
	comp=Z,6.6nm,0.8s,mb4.6						
CHMS	**Chumysh**	**45.79**	**336**	P	**P**	**21 09 06.1**	**+0.4**
	SNR=6.2						
EKS2	**Erkin-Say**	**45.91**	**335**	P	**P**	**21 09 07.2**	**+0.6**
	SNR=15						
USP	**Ospenovka**	**46.11**	**336**	P	**P**	**21 09 08.6**	**+0.3**
	SNR=29						
SONM	**Songino Array**	**46.29**	**8**	P	**P**	**21 09 09.7**	**+0.1**
	comp=Z,8.1nm,0.4s,mb5.0,baz=191,slow=9.2,SNR=118						
SONM				PcP	PcP	21 10 44.8	-0.3
	comp=Z,2.2nm,0.4s,baz=199,slow=3.8,SNR=11						
SONM				LR	LR	21 30 42.1	
	comp=Z,118nm,20.2s,MS3.8,baz=186,slow=39						
SONM	**Songino Array**	**46.29**	**8**	P	**P**	**21 09 09.7**	**+0.1**
SONM				PcP	PcP	21 10 44.8	-0.3
SONM				LR	LR	21 30 42.1	
ULN	**Ulaanbaatar**	**46.41**	**9**	⇓*i*P	**P**	**21 09 10.9**	**+0.3**
MKAR	**Makanchi Array**	**46.68**	**345**	P	**P**	**21 09 12.6**	**-0.1**
	comp=Z,22nm,0.5s,mb5.4,baz=157,slow=8.1,SNR=317						
MKAR				LR	LR	21 31 16.7	
	comp=Z,38nm,21.1s,MS3.3,baz=0.8,slow=39						
CN2	**Changchun**	**48.33**	**27**	*e*P	**P**	**21 09 25.5**	**-0.1**
CN2				*e*AP	pP	21 09 34.5	-0.8
CN2				*e*S	**S**	**21 16 24.0**	**+1.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,17.0s						
CN2				LR	LR		
	comp=E,1μm,17.0s						
CN2				LR	LR		
	comp=Z,2μm,18.0s,MS5.0						
ZAK	**Zakamensk**	**48.47**	**5**	*e*P	**P**	**21 09 26.0**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
MOY	**Mondy**	**49.60**	**3**	*e*P	**P**	**21 09 35.4**	**0.0**
TLY	**Talaya**	**49.79**	**5**	*e*P	**P**	**21 09 37.1**	**+0.3**
TLY				*e*		21 16 55.9	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
TLY				MLR	MLR		
	comp=Z,125nm,20.0s,MS3.9						
TLY	**Talaya**	**49.79**	**5**	*e*P	**P**	**21 09 36.3**	**-0.5**
	comp=Z,7.8nm,0.8s,mb4.8						
MDJ	**Mudanjiang**	**50.88**	**29**	P	**P**	**21 09 44.6**	**-0.6**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,65nm,3.8s						
MDJ				LR	LR		
	comp=N,46nm,24.1s,MS3.5						
MDJ				LR	LR		
	comp=E,28nm,24.8s,MS3.5						
MDJ				LR	LR		
	comp=Z,65nm,18.4s						
KURK	**Kurchatov**	**51.25**	**344**	*e*P	**P**	**21 09 47.4**	**-0.5**
KURK				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.3						
KURK	**Kurchatov**	**51.25**	**344**	*e*P	**P**	**21 09 47.4**	**-0.5**
	comp=Z,36nm,0.8s,mb5.3						
ZAL	**Zalesovo**	**52.92**	**350**	P	**P**	**21 09 59.2**	**-1.3**
	comp=Z,42nm,0.4s,mb5.7,baz=316,slow=4.8,SNR=229						
STKA	**Stephens Creek**	**53.36**	**133**	*e*P	**P**	**21 10 04.1**	**+0.1**
	comp=Z,3.2nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**53.36**	**133**	P	**P**	**21 10 04.2**	**+0.2**
	comp=Z,3.3nm,0.6s,mb4.5,baz=307,slow=7.0,SNR=20						
STKA				LR	LR	21 34 04.8	
	comp=Z,81nm,18.5s,MS3.8,baz=205,slow=38						
NVS	**Novosibirsk**	**54.06**	**350**	*e*P	**P**	**21 10 06.9**	**-1.8**
NVS				pmax	pmax		
	comp=N,6.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
NVS				pmax	pmax		
	comp=E,4.0nm,0.5s						
KLR	**Kul'dur**	**55.28**	**26**	*e*P	**P**	**21 10 14.7**

comp=Z,14nm,0.8s,mb5.1
GOF Gofitskoye 64.42 320 *e*P **P 21 11 23.0 +2.3**
YAK Yakutsk 64.51 16⇑*i*P **P 21 11 19.6 -1.3**
YAK pmax pmax
comp=Z,49nm,0.8s,mb5.6
YAK Yakutsk 64.51 16 *e*P **P 21 11 19.1 -1.9**
comp=Z,26nm,0.4s,mb5.6
MALT Malatya 65.14 312 *e*P **P 21 11 25.0 -0.4**
MALT pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
MALT Malatya 65.14 312 *e*P **P 21 11 25.0 -0.4**
comp=Z,4.2nm,1.1s,mb4.4
SOC Sochi 66.02 317 *i*P **P 21 11 29.0 -2.0**
SOC *e* 21 12 02.7
SOC *e* 21 13 52.1
SOC *e*S S 21 20 15.1 0.0
SOC *e* 21 21 20.6
SOC *e*SS SS 21 24 33.0 +1.1
SOC pmax pmax
comp=Z,25nm,0.6s,mb5.4
SOC pmax pmax
comp=N,6.0nm,0.7s
SOC pmax pmax
comp=E,8.0nm,0.8s
BRTR Keskin Array B 69.11 312 P **P 21 11 49.8 -0.7**
comp=E,2.9nm,0.7s,mb4.3,baz=123,slow=6.5,SNR=17
VRSR Storozhevoye 69.33 325 *e*P **P 21 11 50.1 -1.5**
VRSR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,3.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,0.9s
MATP Matopo 71.44 248 P **P 21 12 05.7 +0.8**
comp=E,1.9nm,0.8s,mb4.0,baz=54,slow=4.6,SNR=4.9
MATP Matopo 71.44 248 P **P 21 12 05.7 +0.8**
MOS Moscow 72.04 329 *e*P pP 21 12 19.2 +1.3
TIXI Tiksi 72.33 10 *i*P **P 21 12 08.1 -1.3**
TIXI pmax pmax
comp=Z,15nm,0.8s,mb5.0
OBN Obninsk 72.34 328⇓*i*P **P 21 12 09.1 -0.6**
OBN *e* 21 12 26.8
OBN pmax pmax
comp=Z,35nm,2.0s,mb4.9
MAW Mawson 73.60 193 LR LR 21 38 26.7
comp=Z,281nm,18.1s,MS4.6,baz=130,slow=31
TIRR Tirgusor 74.06 316 ⇑P **P 21 12 19.6 -0.3**
AKASG Malin Array Be 75.08 322 P **P 21 12 24.7 -1.0**
comp=Z,6.8nm,0.7s,mb4.7,baz=88,slow=5.3,SNR=30
AKASG Malin Array Be 75.08 322 P **P 21 12 24.7 -1.0**
VRI Vrincioaia 75.53 317 ⇑P **P 21 12 28.6 +0.2**
MLR Muntele Rosu 75.99 316 ⇑P **P 21 12 30.6 -0.4**
BURAR Bucovina Array 76.91 318 ⇑P **P 21 12 37.2 +1.1**
BURAR Bucovina Array 76.91 318 ⇑P **P 21 12 37.2 +1.1**
KOLS Kolonicke sedl 79.09 319 *e*P **P 21 12 48.6 +0.6**
RPZ Rata Peaks 79.25 135 P **P 21 12 49.7 +0.6**
comp=Z,14nm,1.0s,mb4.8,baz=222,slow=11,SNR=2.8
RPZ LR LR 21 45 45.5
comp=Z,176nm,21.1s,MS4.4,baz=188,slow=34
SUW Suwalki 79.46 325 *e*P **P 21 12 49.7 -0.2**
FINES FINESS Array B 79.65 332 P **P 21 12 50.6 -0.1**
comp=Z,4.9nm,0.5s,mb4.7,baz=99,slow=6.1,SNR=61
FINES LR LR 21 50 09.2
comp=Z,38nm,18.7s,MS3.8,baz=158,slow=37
KAF Kangasniemi 79.72 333 *e*p **P 21 12 50.7 -0.5**
comp=Z,6.4nm,0.6s,mb4.7,baz=99,slow=5.0
KAF Kangasniemi 79.72 333 *e*P **P 21 12 50.7 -0.5**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BILL Bilibino 80.22 21 *i*P **P 21 12 53.2 -0.5**
BILL pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
KEV Kevo 81.62 341 *e*p **P 21 13 00.9 -0.2**
comp=Z,0.4nm,0.3s,mb3.8
MORC Moravsky Berou 82.27 320 *e*P **P 21 13 04.1 -0.7**
URZ Urewera 82.75 129 P **P 21 13 08.2 +0.6**
comp=Z,7.7nm,0.9s,mb4.7,baz=321,slow=6.5,SNR=3.6
KOGS Kog 82.82 316 *i*P **P 21 13 08.2 +0.5**
BOJS Bojanci 83.44 315 *e*P **P 21 13 11.5 +0.5**
PERS Pernice 83.61 317 *e*P **P 21 13 12.6 +0.8**
ROBS Robic 84.70 316 *e*P **P 21 13 17.5 +0.2**
GERES GERESS Array B 84.70 319 P **P 21 13 18.1 +0.9**
comp=Z,1.0nm,0.5s,mb4.2,baz=106,slow=5.8,SNR=15
KHC Kasperske Hory 84.80 319 *e*P **P 21 13 18.0 +0.3**
GRA1 Grafenberg Arr 86.36 319 *e*P **P 21 13 26.5 +1.0**
comp=Z,3.0nm,0.8s,mb4.6
GRF Grafenberg Arr 86.36 319 *e*P **P 21 13 26.5 +1.0**
GRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
GRF Grafenberg Arr 86.36 319 *e*P **P 21 13 26.5 +1.0**
GRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
GRF Grafenberg Arr 86.36 319 *e*P **P 21 13 26.5 +1.0**
comp=Z,3.0nm,0.8s,mb4.6
NB2 NORSAR Subarra 86.68 331 P **P 21 13 26.9 +0.1**
comp=Z,4.2nm,0.6s,mb4.8,baz=96,slow=5.3
NOA NORSAR Array B 86.68 331 P **P 21 13 26.9 +0.2**
comp=Z,5.1nm,0.7s,mb4.9,baz=94,slow=4.9,SNR=22
NOA LR LR 21 55 37.8
comp=Z,35nm,21.8s,MS3.7,baz=115,slow=38
LPG La Plagne 89.42 315 *e*P **P 21 13 40.7 +0.4**
comp=Z,15nm,1.0s,mb5.0
LPG La Plagne 89.42 315 *e*P **P 21 13 40.7 +0.4**
LPG pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
IMA Indian Mountai 95.62 23 *e*P **P 21 14 07.6 -0.8**
IMA pmax pmax
comp=Z,10.0nm,0.6s,mb5.4
IMA Indian Mountai 95.62 23 *e*P **P 21 14 07.6 -0.8**
comp=Z,10nm,0.6s,mb5.4
ILAR Eielson Array 98.74 23 P **P 21 14 21.2 -1.2**
comp=Z,0.3nm,0.6s,mb4.0,baz=311,slow=4.8,SNR=4.6
YKA Yellowknife Ar 111.19 16 PP PP 21 19 48.8 -11
comp=Z,0.4nm,0.8s,baz=334,slow=7.0,SNR=3.6
NVAR Mina Array Bea 127.77 36 PKP PKPdf 21 19 51.0 -2.3
comp=Z,0.4nm,0.3s,baz=260,slow=1.5,SNR=5.9
TXAR Lajitas Array 142.67 32 PKhKP 21 20 14.1
comp=Z,0.7nm,0.7s,baz=225,slow=1.3,SNR=4.1
TXAR PKP PKPdf 21 20 18.9 -2.2
comp=Z,0.7nm,0.6s,baz=276,slow=1.8,SNR=5.1

*IDC **04** 21:02:48.8±3.0,21.66S×69.89W,mb3.6/1,mb1 3.9/2, mb1mx3.5/14,mbtmp3.6/2,ML3.6/1, Error ellipse: s-maj=139.7km s-min=65.3km az=111.0*
*NEIC **04** 21:03:06.2±1.0,20.90S×68.67W,h114km±12km,mb3.2/1, Error ellipse: s-maj=30.8km s-min=13.3km az=93.0*
ISC 04 21:03:04.6±1.1,20.77S±0.09×69.3W±0.2,h114km,n8, σ0§62/7,mb3.2/1,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.86**	**170**	*e*P	**P**	**21 03 36.1**	**-0.3**
LPAZ	**La Paz**	**4.59**	**14**	Pn	**P**	**21 04 13.9**	**+0.8**
	1.0nm,0.3s,baz=197,slow=6.5,SNR=17						
ARE	**Arequipa**	**4.78**	**333**	*e*P	**P**	**21 04 22.1**	**+6.4**
ARE				*e*S	**S**	**21 05 10.0**	**-0.4**
SAML	**Samuel**	**13.14**	**27**	*e*P	**P**	**21 06 07.0**	**-0.8**
	0.5nm,0.6s						
YKA	**Yellowknife Ar**	**90.39**	**341**	P	**P**	**21 15 54.5**	**+0.7**
	0.1nm,0.5s,mb3.2,baz=139,slow=4.6,SNR=4.0						
YKA				pP	pP	21 16 21.5	-2.3
	0.2nm,0.8s,baz=143,slow=4.7,SNR=2.7						
YKA	**Yellowknife Ar**	**90.39**	**341**	P	**P**	**21 15 54.5**	**+0.7**
YKA				pP	pP	21 16 21.5	-2.3
MKAR	**Makanchi Array**	**145.24**	**35**	PKPbc	PKPbc	21 22 30.6	+1.4
	0.1nm,0.3s,baz=315,slow=4.1,SNR=4.5						
MKAR				pPKPbc		21 22 57.7	
	0.6nm,0.8s,baz=325,slow=2.3,SNR=5.0						
MKAR	**Makanchi Array**	**145.24**	**35**	PKPbc	PKPbc	21 22 30.6	+1.4
MKAR				pPKPbc		21 22 57.7	

*NEIC **04** 21:08:06.8±1.2,16.03S×177.47W,h10km,mb4.5/1,Error ellipse: s-maj=26.1km s-min=19.1km az=91.0*
IDC 04 21:08:05.0±3.7,16.07S×177.44W,mb4.3/4,mb1 4.6/4, mb1mx4.0/14,mbtmp4.3/4,Error ellipse: s-maj=157.8km s-min=40.3km az=137.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.34**	**240**	P	P	21 15 44.6	-1.5
	0.9nm,0.3s,baz=95,slow=12,SNR=9.6						
WB2	**Warramunga Arr**	**45.89**	**258**	*e*P	P	21 16 30.2	-1.2

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WRAB	**Tennant Creek**	**45.89**	**258**	*e*P	P	21 16 29.9	-1.5
	2.4nm,0.5s						
WRA	**Warramunga Arr**	**45.90**	**258**	P	P	21 16 29.6	-1.9
	0.8nm,0.3s,baz=92,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**46.20**	**252**	P	P	21 16 32.2	-1.6
	14nm,0.7s,baz=88,slow=8.3,SNR=134						
ASPA	**Alice Springs**	**46.21**	**252**	*e*P	P	21 16 32.4	-1.4
CMAR	**Chiang Mai Arr**	**89.15**	**289**	P	P	21 21 02.6	-1.9
	1.0nm,1.1s,baz=132,slow=2.1,SNR=4.8						
BRTR	**Keskin Array B**	**144.11**	**317**	PKP	PKPdf	21 27 40.2	-4.5
	0.7nm,0.7s,baz=77,slow=1.4,SNR=4.2						
GERES	**GERESS Array B**	**146.06**	**347**	PKPbc	PKPbc	21 27 47.3	+0.2
	0.5nm,0.5s,slow=2.7,SNR=6.7						

*IDC **04** 21:42:48.2±8.1,32.25S×179.99E,h341km±92km,mb2.7/2, mb1 3.2/3,mb1mx3.2/12,mbtmp3.8/3,Error ellipse: s-maj=105.3km s-min=40.5km az=2.0*
ISC 04 21:42:53.0±1.8,32.6S±0.1×179.5E±0.3,h400km,n15, σ1§13/14,mb2.9/2,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.02**	**191**	PN	**P**	**21 44 16.2**	**+0.3**
PUZ	**Puketiti**	**5.53**	**190**	PN	**P**	**21 44 21.9**	**+0.7**
MWZ	**Matawai**	**5.92**	**195**	*e*PN	**P**	**21 44 26.2**	**+0.8**
URZ	**Urewera**	**5.95**	**198**	P	**P**	**21 44 25.6**	**-0.1**
	15nm,0.3s,baz=349,slow=4.0,SNR=53						
URZ				S	**S**	**21 45 39.2**	**+0.7**
	7.0nm,0.3s,baz=182,slow=23,SNR=14						
URZ	**Urewera**	**5.95**	**198**	*e*PN	**P**	**21 44 25.8**	**+0.1**
URZ				*e*SN	**S**	**21 45 39.4**	**+0.9**
BFZ	**Birch Farm**	**8.45**	**197**	PN	**P**	**21 44 54.2**	**+0.1**
MRZ	**Mangatainoka R**	**8.62**	**200**	*e*PN	**P**	**21 44 54.0**	**-2.0**
THZ	**Tophouse**	**10.53**	**208**	*e*PN	**P**	**21 45 16.2**	**-2.0**
THZ				*e*SN	**S**	**21 47 13.3**	**+0.2**
KHZ	**Kahutara**	**10.86**	**204**	PN	**P**	**21 45 18.5**	**-3.6**
ASAR	**Alice Springs**	**40.93**	**271**	P	**P**	**21 50 03.4**	**+3.6**
	0.1nm,0.3s,mb2.6,baz=111,slow=7.7,SNR=2.8						
WRA	**Warramunga Arr**	**42.12**	**276**	P	**P**	**21 50 09.5**	**+0.1**
	0.4nm,0.3s,mb3.2,baz=113,slow=8.0,SNR=5.6						
KEV	**Kevo**	**139.78**	**346**	*e*p	PKPdf	22 01 41.2	+8.1
KAF	**Kangasniemi**	**145.86**	**338**	*e*p	PKPdf	22 01 43.7	0.0
FINES	**FINESS Array B**	**146.43**	**337**	PKPbc	PKPbc	22 01 47.1	+0.8
	1.8nm,0.5s,baz=44,slow=4.6,SNR=15						
NB2	**NORSAR Subarra**	**150.56**	**348**	PKPabc	PKPdf	22 01 57.3	+6.0
	0.6nm,0.5s,baz=15,slow=2.6						

*IDC **04** 22:07:15.3±0.9,0.70N×97.23E,mb4.1/14,mb1 4.3/15, mb1mx4.2/19,mbtmp4.1/15,ML4.3/1,MS3.4/1,Ms1 3.6/1, ms1mx3.0/24,Error ellipse: s-maj=44.6km s-min=14.4km az=51.0*
*BJI **04** 22:07:15.9,0.29N×97.67E,h42km,mB5.0,mb4.8,Ms4.4, Msz4.1*
*MOS **04** 22:07:19.6±1.0,0.85N×97.14E,h33km,mb4.8/9,Error ellipse: s-maj=23.3km s-min=9.7km az=97.0*
*NEIC **04** 22:07:20.3±0.4,0.79N×97.41E,h30km,mb4.5/14,Error ellipse: s-maj=12.2km s-min=6.5km az=55.0*
ISC 04 22:07:15.1±3.1,0.73N±0.07×97.31E±0.07,h9km±19km, n53,σ0§86/55,mb4.3/32,MS3.9/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.33**	**44**	P	**Pn**	**22 08 37.1**	**+0.3**
KULM	**Kulim**	**5.63**	**36**	*e*P	**Pn**	**22 08 40.4**	**-0.5**
KGM	**Kluang**	**6.15**	**78**	P	**Pn**	**22 08 49.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**17.69**	**5**	Pn	**P**	**22 11 22.5**	**-1.0**
	0.4nm,0.3s,baz=192,slow=11,SNR=26						
CMAR				LR	LR	22 19 05.4	
	comp=Z,121nm,19.1s,baz=196,slow=40						
KMI	**Kunming**	**24.81**	**12**	P	**P**	**22 12 40.6**	**+1.6**
KMI				AP		22 12 49.1	
KMI				S	**S**	**22 16 59.2**	**+0.5**
KMI				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.7						
KMI				LR	LR		
	comp=N,229nm,12.4s,MS4.0						
KMI				LR	LR		
	comp=E,175nm,11.8s,MS4.0						
KMI				LR	LR		
	comp=Z,225nm,13.6s,MS3.8						
KMI	**Kunming**	**24.81**	**12**	P	**P**	**22 12 40.6**	**+1.6**
	comp=Z,14nm,0.6s,mb4.7						
KMI				pP		22 12 49.1	
KMI				S	**S**	**22 16 59.2**	**+0.5**
KMI				LR	LR		
	comp=Z,230nm,13.6s,MS3.8						
DGAR	**Diego Garcia**	**26.07**	**251**	P	**P**	**22 12 50.3**	**-0.7**
JIRN	**Jiri**	**28.82**	**339**	*e*P	**P**	**22 13 17.0**	**+1.1**
	comp=Z,19nm,0.9s,mb4.8						
PKI	**Pulchoki**	**29.02**	**338**	*e*P	**P**	**22 13 18.1**	**+0.4**
	comp=Z,20nm,1.1s,mb4.7						
PKI	**Pulchoki**	**29.02**	**338**	*e*P	**P**	**22 13 18.1**	**+0.4**
PKI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
DMN	**Daman**	**29.17**	**337**	*e*P	**P**	**22 13 19.9**	**+0.8**
	comp=Z,15nm,0.8s,mb4.8						
KKN	**Kakani**	**29.27**	**338**	*e*P	**P**	**22 13 20.1**	**+0.2**
	comp=Z,14nm,0.9s,mb4.7						
KKN	**Kakani**	**29.27**	**338**	*e*P	**P**	**22 13 20.1**	**+0.2**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
LSA	**Lhasa**	**29.40**	**349**	P	**P**	**22 13 22.0**	**+0.9**
LSA	**Lhasa**	**29.40**	**349**	*e*P	**P**	**22 13 22.0**	**+0.9**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**29.40**	**349**	*e*P	**P**	**22 13 22.0**	**+0.9**
	comp=Z,6.2nm,0.8s,mb4.4						
GKN	**Gorkha**	**29.71**	**337**	*e*P	**P**	**22 13 24.7**	**+0.8**
	comp=Z,16nm,0.9s,mb4.8						
KOLN	**Koldanda**	**29.92**	**335**	*e*P	**P**	**22 13 26.9**	**+1.1**
	comp=Z,12nm,0.6s,mb4.8						
ENH	**Enshi**	**31.58**	**20**	*e*P	**P**	**22 13 38.3**	**-2.1**
FITZ	**Fitzroy Crossi**	**33.57**	**125**	P	**P**	**22 13 57.0**	**-0.9**
	comp=Z,2.5nm,0.5s,mb4.4,baz=15,slow=17,SNR=5.6						
XAN	**Xi'an**	**34.88**	**17**	P	**P**	**22 14 07.3**	**-1.6**
XAN				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.9						
GTA	**Gaotai**	**38.56**	**3**	P	**P**	**22 14 40.4**	**+0.4**
GTA				AP	pP	22 14 47.4	+4.6
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**41.70**	**122**	P	**P**	**22 15 06.0**	**-0.1**
	comp=Z,1.7nm,0.6s,mb3.9,baz=303,slow=8.9,SNR=9.7						
WRAB	**Tennant Creek**	**41.71**	**122**	*e*P	**P**	**22 15 06.0**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
WRAB	**Tennant Creek**	**41.71**	**122**	*e*P	**P**	**22 15 06.0**	**-0.2**
	comp=Z,4.1nm,0.5s,mb4.3						
BJI	**Beijing**	**42.73**	**21**	P	**P**	**22 15 14.9**	**+0.5**
BJI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
BJI	**Beijing**	**42.73**	**21**	P	**P**	**22 15 14.9**	**+0.5**
	comp=Z,13nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**43.03**	**127**	P	**P**	**22 15 17.6**	**+0.5**
	comp=Z,1.8nm,0.6s,mb4.0,baz=297,slow=8.0,SNR=21						
WMQ	**Urumqi**	**43.75**	**350**	*e*P	**P**	**22 15 23.0**	**+0.4**
WMQ				AP	pP	22 15 33.0	+7.6
WMQ				XP	sP	22 15 37.0	+10
SONM	**Songino Array**	**47.58**	**8**	P	**P**	**22 15 53.2**	**+0.2**
	comp=Z,1.2nm,0.4s,mb4.3,baz=189,slow=9.9,SNR=16						
ULN	**Ulaanbaatar**	**47.70**	**9**	*e*P	**P**	**22 15 53.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**47.70**	**9**	*e*P	**P**	**22 15 53.8**	**-0.2**
	comp=Z,1.1nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**47.72**	**346**	P	**P**	**22 15 54.6**	**+0.4**
	comp=Z,4.5nm,0.5s,mb4.8,baz=159,slow=8.4,SNR=41						
ZAK	**Zakamensk**	**49.73**	**5**	*e*P	**P**	**22 16 08.7**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
KURK	**Kurchatov**	**52.27**	**345**	*e*P	**P**	**22 16 27.8**	**-1.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KURK	**Kurchatov**	**52.27**	**345**	*e*P	**P**	**22 16 27.8**	**-1.2**
	comp=Z,4.7nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**52.97**	**132**	P	**P**	**22 16 35.2**	**+0.8**
	comp=Z,2.2nm,0.8s,mb4.1,baz=250,slow=18,SNR=3.5						
STKA	**Stephens Creek**	**52.97**	**132**	P	**P**	**22 16 35.2**	**+0.8**
ZAL	**Zalesovo**	**54.03**	**351**	P	**P**	**22 16 41.2**	**-0.6**
	comp=Z,3.7nm,0.6s,mb4.5,baz=314,slow=5.4,SNR=20						
NVS	**Novosibirsk**	**55.15**	**350**	*e*P	**P**	**22 16 49.3**	**-0.8**
BVAR	**Borovoye Array**	**56.72**	**341**	P	**P**	**22 17 00.4**	**-1.0**
	comp=Z,1.6nm,0.7s,mb4.1,baz=135,slow=8.5,SNR=16						
CHKZ	**Chkalovo**	**57.20**	**341**	*e*P	**P**	**22 17 03.9**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**57.20**	**341**	*e*P	**P**	**22 17 03.9**	**-0.9**
	comp=Z,4.0nm,0.7s,mb4.6						
BOD	**Bodaibo**	**58.45**	**10**	*e*P	**P**	**22 17 12.4**	**-1.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**69.50**	**312**	P	**P**	**22 18 25.4**	**-0.9**
	comp=Z,0.5nm,0.7s,mb3.6,baz=135,slow=8.2,SNR=3.3						
BRTR	**Keskin Array B**	**69.50**	**312**	P	**P**	**22 18 25.4**	**-0.9**
AKASG	**Malin Array Be**	**75.69**	**322**	P	**P**	**22 19 02.0**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.9,baz=88,slow=5.2,SNR=7.4						
FINES	**FINESS Array B**	**80.46**	**333**	P	**P**	**22 19 28.6**	**+0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=109,slow=6.0,SNR=11						
KAF	**Kangasniemi**	**80.55**	**333**	*e*p	**P**	**22 19 29.4**	**+0.4**
	comp=Z,0.4nm,0.3s,mb3.8						
GERES	**GERESS Array B**	**85.23**	**319**	P	**P**	**22 19 54.4**	**+1.0**
	comp=Z,0.6nm,0.8s,mb3.8,baz=76,slow=5.5,SNR=6.3						
HFS	**Hagfors**	**86.18**	**330**	P	**P**	**22 19 58.8**	**+1.0**
	comp=Z,0.6nm,0.5s,mb4.1,baz=150,slow=12,SNR=4.9						
NB2	**NORSAR Subarra**	**87.46**	**331**	P	**P**	**22 20 04.7**	**+0.7**
	comp=Z,0.8nm,0.8s,mb4.0,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**87.46**	**331**	P	**P**	**22 20 05.0**	**+1.0**
	comp=Z,1.0nm,0.7s,mb4.1,baz=95,slow=4.9,SNR=4.6						

*IDC **04** 22:14:08.2±1.4,0.73N×96.99E,mb4.2/9,mb1 4.3/10, mb1mx4.1/17,mbtmp4.1/10,ML4.3/1,Error ellipse: s-maj=66.9km s-min=15.7km az=57.0*
*MOS **04** 22:14:09.9±0.9,0.57N×96.92E,h33km,mb4.7/9,Error ellipse: s-maj=23.3km s-min=10.6km az=101.0*
*BJI **04** 22:14:11.7,0.86N×97.05E,h28km,mB5.3,mb4.5,Ms4.0, Msz4.0*
*NEIC **04** 22:14:11.8±0.6,0.65N×97.05E,h30km,mb4.5/14,Error ellipse: s-maj=14.5km s-min=10.1km az=58.0*
ISC 04 22:14:11.3±2.7,0.74N±0.10×97.1E±0.1,h37km±22km,n49, σ1§06/48,mb4.3/26,MS4.0/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.49**	**46**	P	**P**	**22 15 32.3**	**-0.4**
KULM	**Kulim**	**5.76**	**38**	*e*P	**P**	**22 15 35.4**	**-1.2**
KGM	**Kluang**	**6.37**	**78**	P	**P**	**22 15 45.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.71**	**6**	Pn	**P**	**22 18 17.4**	**+0.6**
	0.4nm,0.3s,baz=195,slow=12,SNR=28						
KMI	**Kunming**	**24.85**	**12**	P	**P**	**22 19 34.4**	**+2.4**
KMI				AP		22 19 41.1	
KMI				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.4						
KMI				LR	LR		
	comp=N,241nm,11.1s,MS4.1						
KMI				LR	LR		
	comp=E,220nm,12.6s,MS4.1						
KMI				LR	LR		
	comp=Z,289nm,11.5s,MS4.0						
KMI	**Kunming**	**24.85**	**12**	P	**P**	**22 19 34.4**	**+2.4**
	comp=Z,15nm,1.2s,mb4.4						
KMI				pP		22 19 41.1	
KMI				LR	LR		
	comp=Z,290nm,11.5s,MS4.0						
SHL	**Shillong**	**25.19**	**349**	*e*P	**P**	**22 19 36.0**	**+0.8**
JIRN	**Jiri**	**28.73**	**340**	*e*P	**P**	**22 20 08.7**	**+1.1**
	comp=Z,28nm,1.0s,mb4.9						
PKI	**Pulchoki**	**28.93**	**338**	*e*P	**P**	**22 20 09.7**	**+0.3**
	comp=Z,17nm,1.1s,mb4.7						
PKI	**Pulchoki**	**28.93**	**338**	*e*P	**P**	**22 20 09.7**	**+0.3**
PKI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.4						
DMN	**Daman**	**29.08**	**338**	*e*P	**P**	**22 20 11.8**	**+1.1**
	comp=Z,14nm,0.9s,mb4.7						
KKN	**Kakani**	**29.18**	**338**	*e*P	**P**	**22 20 12.0**	**+0.4**
	comp=Z,21nm,1.0s,mb4.8						
KKN	**Kakani**	**29.18**	**338**	*e*P	**P**	**22 20 12.0**	**+0.4**
KKN				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
LSA	**Lhasa**	**29.35**	**349**	P	**P**	**22 20 14.0**	**+0.9**
LSA	**Lhasa**	**29.35**	**349**	*e*P	**P**	**22 20 13.6**	**+0.5**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**29.35**	**349**	*e*P	**P**	**22 20 13.6**	**+0.5**
	comp=Z,8.0nm,0.8s,mb4.5						
GKN	**Gorkha**	**29.61**	**337**	*e*P	**P**	**22 20 16.1**	**+0.7**
	comp=Z,25nm,1.1s,mb4.9						
KOLN	**Koldanda**	**29.82**	**335**	*e*P	**P**	**22 20 18.0**	**+0.7**
	comp=Z,9.0nm,0.7s,mb4.6						
ENH	**Enshi**	**31.66**	**21**	*e*P	**P**	**22 20 31.6**	**-1.9**
FITZ	**Fitzroy Crossi**	**33.76**	**125**	P	**P**	**22 20 52.2**	**+0.3**
	comp=Z,3.4nm,0.6s,mb4.4,baz=185,slow=20,SNR=5.2						
XAN	**Xi'an**	**34.94**	**17**	P	**P**	**22 21 01.0**	**-0.9**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
GTA	**Gaotai**	**38.57**	**3**	P	**P**	**22 21 32.0**	**-0.4**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**41.90**	**121**	P	**P**	**22 22 00.4**	**+0.2**
	comp=Z,1.7nm,0.4s,mb4.0,baz=300,slow=9.0,SNR=7.7						
WRAB	**Tennant Creek**	**41.91**	**121**	*e*P	**P**	**22 21 58.9**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**41.91**	**121**	*e*P	**P**	**22 21 58.9**	**-1.3**
	comp=Z,3.8nm,0.6s,mb4.2						
BJI	**Beijing**	**42.81**	**22**	P	**P**	**22 22 08.6**	**+1.2**
BJI				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7						
BJI	**Beijing**	**42.81**	**22**	P	**P**	**22 22 08.6**	**+1.2**
	comp=Z,13nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**43.22**	**127**	P	**P**	**22 22 11.9**	**+0.9**
	comp=Z,2.2nm,0.9s,mb3.9,baz=302,slow=7.6,SNR=9.7						
WMQ	**Urumqi**	**43.70**	**350**	*e*P	**P**	**22 22 15.0**	**+0.4**
WMQ				AP	pP	22 22 25.0	-0.4
WMQ				XP	sP	22 22 29.0	-1.0
AAK	**Ala-Archa**	**46.37**	**337**	P	**P**	**22 22 34.9**	**-1.0**
SONM	**Songino Array**	**47.60**	**8**	P	**P**	**22 22 46.1**	**+0.6**
	comp=Z,1.2nm,0.5s,mb4.2,baz=192,slow=9.2,SNR=11	

mb3.8/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.93**	**182**	P	**P**	**22 19 30.8**	**-0.2**
	1.9nm,0.6s,baz=8.1,slow=7.1,SNR=4.0						
WRAB	**Tennant Creek**	**23.08**	**161**	*eP*	**P**	**22 20 02.5**	**-0.4**
	2.7nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**23.08**	**161**	P	**P**	**22 20 02.2**	**-0.7**
	1.8nm,0.6s,mb3.7,baz=341,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**26.47**	**165**	P	**P**	**22 20 36.5**	**+1.4**
	0.8nm,0.7s,mb3.4,baz=349,slow=9.7,SNR=8.6						
ASAR	**Alice Springs**	**26.47**	**165**	P	**P**	**22 20 36.5**	**+1.4**
MKAR	**Makanchi Array**	**58.87**	**326**	P	**P**	**22 24 57.0**	**+0.1**
	1.0nm,0.5s,mb4.1,baz=120,slow=8.7,SNR=7.1						
KURK	**Kurchatov**	**63.10**	**328**	*eP*	**P**	**22 25 24.9**	**-0.7**
	1.4nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**68.67**	**327**	P	**P**	**22 26 01.6**	**+0.6**
	0.3nm,0.7s,mb3.4,baz=127,slow=7.2,SNR=2.8						

OTT 04 22:18:43.9±0.1, 64.71N×110.62W, h1km, MN2.5/17, 1C, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.01**	**161**	PG	Pg	22 18 44.0	-0.3
DVKN	**Diavik Mine**	**0.24**	**146**	PG	Pg	22 18 48.3	-0.4
DVKN				SG	Sg	22 18 51.6	-0.3
ACKN	**Achilles Lake**	**0.30**	**339**	PG	Pg	22 18 49.3	-0.6
ACKN				SG	Sg	22 18 53.3	-0.6
ACKN				Trac		22 18 54.3	
	comp=Z,103nm,0.2s						
YNEN	**Yamba Lake Nor**	**0.42**	**334**	PG	Pg	22 18 51.5	-0.8
YNEN				SG	Sg	22 18 57.1	-0.8
YNEN				Trac		22 18 57.6	
	comp=Z,13nm,0.1s						
YMBN	**Yamba Lake**	**0.42**	**293**	⇑PG	Pg	22 18 51.5	-0.8
YMBN				SG	Sg	22 18 56.9	-1.1
YMBN				Trac		22 18 58.1	
	comp=Z,26nm,0.1s						
LGSN	**Lac de Gras So**	**0.43**	**151**	PG	Pg	22 18 51.9	-0.7
LGSN				SG	Sg	22 18 57.9	-0.5
LGSN				Trac		22 18 57.9	
	comp=Z,16nm,0.1s						
GLWN	**Glow Worm Lake**	**0.55**	**88**	PG	Pg	22 18 53.8	-1.1
GLWN				SG	Sg	22 19 01.1	-1.2
GLWN				Trac		22 19 01.9	
	comp=Z,9.1nm,0.1s						
COWN	**Contwyoto Lake**	**0.61**	**337**	PG	Pg	22 18 55.0	-1.1
COWN				SG	Sg	22 19 03.1	-1.0
COWN				Trac		22 19 03.7	
	comp=Z,11nm,0.1s						
NODN	**Nodinka Narrow**	**0.77**	**191**	PG	Pg	22 18 58.0	-1.2
NODN				SG	Sg	22 19 08.1	-1.4
NODN				Trac		22 19 09.8	
	comp=Z,18nm,0.2s						
MLON	**Marlo Lake**	**0.81**	**157**	PG	Pg	22 18 58.7	-1.3
MLON				SG	Sg	22 19 09.6	-1.2
MLON				Trac		22 19 09.9	
	comp=Z,11nm,0.1s						
BOXN	**Box Lake**	**0.95**	**155**	PG	Pg	22 19 01.1	-1.7
BOXN				SG	Sg	22 19 14.1	-1.4
BOXN				Trac		22 19 14.4	
	comp=Z,19nm,0.1s						
CAMN	**Camsell Lake**	**0.99**	**187**	PG	Pg	22 19 02.0	-1.7
CAMN				SG	Sg	22 19 14.8	-2.0
CAMN				Trac		22 19 18.1	
	comp=Z,12nm,0.1s						
LUPN	**Lupin Mine**	**1.07**	**346**	PG	Pg	22 19 03.1	-2.0
LUPN				SG	Sg	22 19 16.7	-2.7
LUPN				Trac		22 19 21.4	
	comp=Z,25nm,0.1s						
MGTN	**Margaret Lake**	**1.12**	**156**	PG	Pg	22 19 04.5	-1.9
MGTN				SG	Sg	22 19 18.9	-2.3
MGTN				Trac		22 19 19.6	
	comp=Z,55nm,0.1s						
GBLN	**Grizzly Bear L**	**1.15**	**245**	PG	Pg	22 19 04.8	-2.1
GBLN				SG	Sg	22 19 20.8	-1.4
GBLN				Trac		22 19 24.2	
	comp=Z,97nm,0.1s						
SNPN	**Snap Lake**	**1.20**	**186**	PG	Pg	22 19 05.9	-2.0
SNPN				SG	Sg	22 19 21.4	-2.5
SNPN				Trac		22 19 27.0	
	comp=Z,34nm,0.1s						
IHLN	**Indian Hill La**	**1.42**	**185**	PG	Pg	22 19 09.2	-2.9
IHLN				SG	Sg	22 19 27.5	-3.5
IHLN				Trac		22 19 30.2	
	comp=Z,16nm,0.1s						
KNDN	**Kennady Lake**	**1.44**	**154**	PG	Pg	22 19 09.7	-3.0
KNDN				SG	Sg	22 19 27.9	-3.8
KNDN				Trac		22 19 29.8	
	comp=Z,9.0nm,0.1s						
ILKN	**Indian Lake**	**2.01**	**258**	PN	Pn	22 19 18.5	-0.9
ILKN				SN	Sn	22 19 44.4	-1.1
ILKN				Trac		22 19 46.2	
	comp=Z,8.0nm,0.1s						
DSMN	**Discovery Mine**	**2.11**	**225**	PN	Pn	22 19 18.9	-1.8
DSMN				SN	Sn	22 19 47.7	-0.3
DSMN				Trac		22 19 48.6	
	comp=Z,5.2nm,0.1s						
CTLN	**Castor Lake**	**2.35**	**266**	PN	Pn	22 19 22.9	-1.3
CTLN				SG	Sg	22 19 55.4	-6.7
CTLN				Trac		22 19 59.8	
	comp=Z,6.9nm,0.2s						
YKW3	**Yellowknife Ar**	**2.80**	**221**	PN	Pn	22 19 27.7	-2.9
YKW3				SG	Sg	22 20 08.2	-8.9
YKW3				Trac		22 20 17.4	
	comp=Z,3.4nm,0.1s						
GALN	**Gameti Lake**	**2.97**	**261**	PN	Pn	22 19 30.7	-2.3
GALN				SN	Sn	22 20 06.5	-3.2
GALN				Trac		22 20 21.8	
	comp=Z,2.9nm,0.1s						
YRTN	**Rankin Inlet**	**8.41**	**95**	SN	Sn	22 22 09.9	-17
QILN	**Qililugaq Expl**	**10.16**	**68**	PN	P	22 21 06.1	-7.6
QILN				SN	S	22 22 53.8	-16

*NEIC **04** 22:37:42.8±2.6, 4.40S×153.46E, h15km, mb4.4/1, Error ellipse: s-maj=84.8km s-min=14.8km az=115.0*
*IDC **04** 22:37:43.9±4.0, 4.28S×152.90E, mb4.0/4, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, MS3.9/1, Ms1 3.9/1, ms1mx2.8/27, Error ellipse: s-maj=115.2km s-min=33.5km az=109.0*

ISC 04 22:37:46.0±3.8, 4.3S±0.4×153.0E±0.8, h33km, n9, σ0§70/8, mb3.9/5, MS3.9/1, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.73**	**229**	*eP*	**P**	**22 39 37.9**	**-1.0**
WRAB	**Tennant Creek**	**23.94**	**228**	*eP*	**P**	**22 42 58.4**	**+0.1**
	5.6nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**23.95**	**228**	P	**P**	**22 42 59.5**	**+1.1**
	4.5nm,0.7s,mb4.0,baz=55,slow=10,SNR=6.0						
ASAR	**Alice Springs**	**26.68**	**222**	P	**P**	**22 43 23.6**	**-0.5**
	0.5nm,0.5s,mb3.3,baz=51,slow=9.0,SNR=6.6						
FITZ	**Fitzroy Crossi**	**30.10**	**241**	P	**P**	**22 43 55.7**	**+0.7**
	5.8nm,0.7s,mb4.4,baz=35,slow=2.5,SNR=11						
RAR	**Rarotonga**	**48.78**	**114**	LR	LR	23 04 51.5	
	comp=Z,131nm,19.1s,MS3.9,baz=129,slow=33						
MKAR	**Makanchi Array**	**80.09**	**319**	P	**P**	**22 49 54.8**	**+0.5**
	0.5nm,0.9s,mb3.5,baz=90,slow=7.3,SNR=3.7						
KURK	**Kurchatov**	**83.51**	**322**	P	**P**	**22 50 11.7**	**-0.1**
CHKZ	**Chkalovo**	**88.93**	**324**	P	**P**	**22 50 37.6**	**-0.8**

IDC 04 22:38:49.5±5.1, 5.85S×148.02E, mb4.1/3, mb1 4.2/5, mb1mx3.8/15, mbtmp4.0/5, ML3.4/2, Error ellipse: s-maj=79.1km s-min=45.9km az=63.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.64**	**193**	Pn	Pn	22 39 49.1	+0.9
	5.2nm,0.3s,baz=77,slow=6.2,SNR=13						
PMG				Sn	Sn	22 40 32.2	-0.2
	4.8nm,0.3s,baz=198,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**19.32**	**222**	P	P	22 43 15.7	-3.2
	0.4nm,0.3s,baz=51,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**22.32**	**216**	P	P	22 43 48.5	-1.9
	1.3nm,0.5s,baz=48,slow=9.5,SNR=29						
FITZ	**Fitzroy Crossi**	**25.01**	**239**	P	P	22 44 15.2	-1.5
	6.1nm,0.6s,baz=61,slow=4.1,SNR=16						
STKA	**Stephens Creek**	**26.58**	**192**	P	P	22 44 29.6	-1.7
	2.3nm,0.9s,baz=11,slow=9.9,SNR=5.4						

*BJI **04** 22:55:50.5, 0.16N×97.59E, h41km, mB4.9, mb4.9, Ms4.1, Msz3.9*
*IDC **04** 22:55:52.0±1.0, 0.79N×97.20E, mb4.1/12, mb1 4.2/13, mb1mx4.1/18, mbtmp4.1/13, ML4.3/1, MS3.6/1, Ms1 3.8/1, ms1mx2.9/21, Error ellipse: s-maj=45.3km s-min=16.0km az=51.0*
*MOS **04** 22:55:54.5±1.2, 0.84N×97.57E, h33km, mb4.7/9, Error ellipse: s-maj=23.8km s-min=9.4km az=100.1*
*NEIC **04** 22:55:56.3±0.5, 0.81N×97.46E, h30km, mb4.4/13, Error ellipse: s-maj=12.6km s-min=9.4km az=48.0*

ISC 04 22:55:54.9±0.6, 0.90N±0.08×97.48E±0.10, h30km, n52, σ1§07/52, mb4.3/30, MS3.9/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**36**	*eP*	**Pn**	**22 57 16.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**17.51**	**5**	Pn	**P**	**22 59 57.8**	**-0.9**
	0.4nm,0.3s,baz=194,slow=12,SNR=19						
CMAR				LR	LR	23 07 37.1	
	comp=Z,197nm,18.8s,baz=195,slow=40						
KMI	**Kunming**	**24.61**	**12**	P	**P**	**23 01 16.0**	**+1.8**
KMI				AP		23 01 23.6	
KMI				XP		23 01 27.5	
KMI				S		23 05 42.5	
KMI				SS	SS	23 06 34.8	+7.7
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,45nm,3.8s						
KMI				LR	LR		
	comp=N,226nm,12.3s,MS3.9						
KMI				LR	LR		
	comp=E,148nm,14.4s,MS3.9						
KMI				LR	LR		
	comp=Z,238nm,13.0s,MS3.9						
KMI	**Kunming**	**24.61**	**12**	P	**P**	**23 01 16.0**	**+1.8**
KMI				*PP		23 01 23.6	
KMI				*SP		23 01 27.5	
KMI				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.4						
KMI				MLR	MLR		
	comp=Z,240nm,13.0s,MS3.9						
KMI	**Kunming**	**24.61**	**12**	P	**P**	**23 01 16.0**	**+1.8**
	comp=Z,15nm,1.1s,mb4.4						
KMI				pP		23 01 23.6	
KMI				sP		23 01 27.5	
KMI				S		23 05 42.5	
KMI				SS	SS	23 06 34.8	+7.7
KMI				LR	LR		
	comp=Z,240nm,13.0s,MS3.9						
SHL	**Shillong**	**25.11**	**348**	*eP*	**P**	**23 01 20.0**	**+1.1**
JIRN	**Jiri**	**28.73**	**339**	*eP*	**P**	**23 01 52.8**	**+0.8**
	comp=Z,20nm,0.8s,mb4.9						
PKI	**Pulchoki**	**28.94**	**337**	*eP*	**P**	**23 01 54.3**	**+0.4**
	comp=Z,8.1nm,0.6s,mb4.6						
PKI	**Pulchoki**	**28.94**	**337**	*eP*	**P**	**23 01 54.3**	**+0.4**
PKI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
DMN	**Daman**	**29.09**	**337**	*eP*	**P**	**23 01 55.8**	**+0.5**
	comp=Z,16nm,1.0s,mb4.7						
KKN	**Kakani**	**29.18**	**337**	*eP*	**P**	**23 01 56.7**	**+0.6**
	comp=Z,12nm,0.9s,mb4.6						
KKN	**Kakani**	**29.18**	**337**	*eP*	**P**	**23 01 56.7**	**+0.6**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
LSA	**Lhasa**	**29.27**	**349**	*eP*	**P**	**23 01 57.8**	**+0.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
LSA	**Lhasa**	**29.27**	**349**	*eP*	**P**	**23 01 57.8**	**+0.9**
	comp=Z,2.7nm,0.5s,mb4.2						
GKN	**Gorkha**	**29.62**	**337**	*eP*	**P**	**23 01 59.7**	**-0.4**
KOLN	**Koldanda**	**29.85**	**335**	*eP*	**P**	**23 02 02.9**	**+0.8**
	comp=Z,12nm,0.8s,mb4.7						
ENH	**Enshi**	**31.36**	**20**	*eP*	**P**	**23 02 14.3**	**-1.1**
	comp=Z,6.1nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.53**	**126**	P	**P**	**23 02 33.7**	**-0.7**
	comp=Z,2.6nm,0.8s,mb4.2,baz=255,slow=6.2,SNR=3.7						
XAN	**Xi'an**	**34.67**	**17**	P	**P**	**23 02 43.2**	**-0.9**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GTA	**Gaotai**	**38.39**	**3**	P	**P**	**23 03 16.4**	**+1.0**
GTA				AP	pP	23 03 24.3	-0.1
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**41.64**	**122**	P	**P**	**23 03 43.8**	**+1.3**
	comp=Z,1.3nm,0.7s,mb3.7,baz=301,slow=9.0,SNR=5.8						
WRAB	**Tennant Creek**	**41.65**	**122**	P	**P**	**23 03 41.8**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**41.65**	**122**	P	**P**	**23 03 41.8**	**-0.8**
	comp=Z,2.6nm,0.5s,mb4.1						
BJI	**Beijing**	**42.52**	**21**	P	**P**	**23 03 50.4**	**+0.9**
BJI				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.8						
BJI	**Beijing**	**42.52**	**21**	P	**P**	**23 03 50.4**	**+0.9**
	comp=Z,14nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**42.99**	**127**	P	**P**	**23 03 55.6**	**+2.0**
	comp=Z,0.8nm,0.7s,mb3.6,baz=297,slow=7.5,SNR=9.4						
WMQ	**Urumqi**	**43.62**	**350**	*eP*	**P**	**23 03 58.4**	**0.0**
WMQ				AP	pP	23 04 08.4	+1.0
WMQ				XP	sP	23 04 12.4	+1.3
AAK	**Ala-Archa**	**46.38**	**337**	P	**P**	**23 04 21.1**	**+0.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**46.38**	**337**	P	**P**	**23 04 21.1**	**+0.6**
	comp=Z,1.2nm,0.7s,mb3.9						
SONM	**Songino Array**	**47.39**	**8**	P	**P**	**23 04 29.1**	**+0.7**
	comp=Z,1.9nm,0.5s,mb4.3,baz=192,slow=9.6,SNR=20						
SONM				PcP	PcP	23 05 59.7	+0.7
	comp=Z,0.9nm,0.7s,baz=188,slow=4.0,SNR=4.5						
ULN	**Ulaanbaatar**	**47.51**	**9**	*eP*	**P**	**23 04 29.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**47.51**	**9**	*eP*	**P**	**23 04 29.7**	**+0.3**
	comp=Z,2.8nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	**47.60**	**346**	P	**P**	**23 04 30.7**	**+0.6**
	comp=Z,5.2nm,0.5s,mb4.8,baz=162,slow=8.4,SNR=95						
ZAK	**Zakamensk**	**49.55**	**5**	*eP*	**P**	**23 04 44.5**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
KURK	**Kurchatov**	**52.15**	**345**	*eP*	**P**	**23 05 04.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**52.15**	**345**	*eP*	**P**	**23 05 04.6**	**-0.2**
	comp=Z,6.3nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**53.89**	**351**	P	**P**	**23 05 17.4**	**-0.2**
	comp=Z,4.6nm,0.7s,mb4.5,baz=309,slow=5.8,SNR=24						
NVS	**Novosibirsk**	**55.02**	**350**	*eP*	**P**	**23 05 24.0**	**-2.0**
KLR	**Kul'dur**	**56.40**	**26**	*eP*	**P**	**23 05 33.0**	**-3.0**
BVAR	**Borovoye Array**	**56.62**	**341**	P	**P**	**23 05 36.1**	**-1.4**
	comp=Z,3.1nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=16						
CHKZ	**Chkalovo**	**57.10**	**341**	*eP*	**P**	**23 05 39.9**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,77nm,1.1s,mb5.7						
CHKZ	**Chkalovo**	**57.10**	**341**	*eP*	**P**	**23 05 39.9**	**-1.0**
	comp=Z,77nm,1.1s,mb5.7						
BOD	**Bodaibo**	**58.26**	**10**	*eP*	**P**	**23 05 47.5**	**-1.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KIV	**Kislovodsk**	**64.72**	**319**	P	**P**	**23 06 32.7**	**0.0**
KIV	**Kislovodsk**	**64.72**	**319**	P	**P**	**23 06 32.7**	**+0.1**
BRTR	**Keskin Array B**	**69.52**	**312**	P	**P**	**23 07 01.5**	**-1.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=166,slow=5.9,SNR=3.3						
SKR	**Severo-Kuril's**	**69.94**	**35**	*eP*	**P**	**23 07 02.9**	**-2.5**
AKASG	**Malin Array Be**	**75.66**	**322**	P	**P**	**23 07 37.9**	**-1.3**
	comp=Z,1.1nm,0.5s,mb4.0,baz=90,slow=5.0,SNR=5.6						
FINES	**FINESS Array B**	**80.39**	**332**	P	**P**	**23 08 05.2**	**+0.3**
	comp=Z,1.4nm,1.0s,mb3.9,baz=90,slow=3.8,SNR=4.5						
GERES	**GERESS Array B**	**85.22**	**319**	P	**P**	**23 08 31.4**	**+1.5**
	comp=Z,1.1nm,0.8s,mb4.0,baz=108,slow=4.2,SNR=9.1						
NB2	**NORSAR Subarra**	**87.40**	**331**	P	**P**	**23 08 41.0**	**+0.6**
	comp=Z,0.6nm,0.6s,mb4.0,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**87.40**	**331**	P	**P**	**23 08 40.3**	**0.0**
	comp=Z,1.2nm,0.8s,mb4.2,baz=94,slow=4.5,SNR=3.9						

MAN 04 23:01:38.1, 8.54N×122.03E, h33km, mb4.4, ML3.2, MS3.0, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.92**	**144**	*eP*	P	23 01 54.9	+0.3
IPIL				*eS*	S	23 02 06.1	-0.7
SNPH	**Sibulan**	**1.44**	**56**	⇑*eP*	P	23 01 01.8	-60
PAGZ	**Pagadian**	**1.51**	**117**	*eP*	P	23 02 03.4	+0.4
PAGZ				*eS*	S	23 02 21.4	-0.3
TBP	**Tagbilaran**	**2.14**	**58**	*eP*	P	23 02 12.6	+0.5
GUIM	**Jordan**	**2.15**	**15**	*eP*	P	23 02 11.9	-0.3
GUIM				*eS*	S	23 02 36.1	-1.9
LLP	**Lapu-Lapu**	**2.60**	**47**	⇑*eP*	P	23 02 18.3	-0.5
LLP				*eS*	S	23 02 48.4	-1.1
MSLP	**Maasin**	**3.21**	**60**	*eP*	P	23 02 27.9	+0.5
ENPP	**El Nido**	**3.69**	**316**	*eP*	P	23 02 34.1	-0.1

MEX 04 23:03:36.7±0.7, 17.87N×99.71W, h97km±14km, MD3.8, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.55**	**21**	⇑*iP*	P	23 03 51.7	-1.1
PLIG				*i* S	S	23 04 02.7	-2.1
CAIG	**El Cayaco**	**0.98**	**213**	*i P*	P	23 03 55.7	-1.2
CAIG				*i* S	S	23 04 10.0	-2.1
ACX	**Acapulco**	**1.02**	**191**	*i P*	P	23 03 55.0	-2.4
ACX				*i* S	S	23 04 12.0	-0.9
PPM	**Popocatepetl**	**1.57**	**41**	*i P*	P	23 04 03.5	-0.6
PPM				*eP*		23 04 06.0	
PPM				*i* S	S	23 04 23.5	-1.0
PPM				*i* S	S	23 04 30.0	+5.6

IDC 04 23:31:50.9±4.1, 1.55N×99.52E, mb3.6/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=160.5km s-min=29.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.27**	**124**	P	P	23 39 29.9	-1.7
	0.7nm,0.3s,baz=302,slow=9.0,SNR=5.9						
SONM	**Songino Array**	**46.48**	**6**	P	P	23 40 19.8	-1.8
	0.2nm,0.4s,baz=180,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**47.50**	**344**	P	P	23 40 27.7	-2.0
	0.3nm,0.4s,baz=156,slow=8.6,SNR=8.4						

*IDC **04** 23:59:27.5±9.6, 0.66N×97.31E, mb3.8/3, mb1 4.0/4, mb1mx3.6/16, mbtmp3.8/4, ML4.4/1, Error ellipse: s-maj=199.0km s-min=125.7km az=138.0*
*NEIC **04** 23:59:31.9±0.9, 0.67N×97.47E, h30km, mb3.7/1, Error ellipse: s-maj=21.1km s-min=14.7km az=64.0*

ISC 04 23:59:29.8±1.4, 0.7N±0.2×97.4E±0.2, h30km, n11, σ0§40/11, mb3.9/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.59**	**35**	*eP*	**Pn**	**00 00 52.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.73**	**5**	Pn	**P**	**00 03 36.4**	**0.0**
	0.5nm,0.3s,baz=196,slow=12,SNR=8.0						
WRAB	**Tennant Creek**	**41.58**	**122**	P	**P**	**00 07 16.9**	**0.0**
SONM	**Songino Array**	**47.61**	**8**	P	**P**	**00 08 05.5**	**+0.5**
	0.4nm,0.4s,mb3.8,baz=189,slow=9.0,SNR=3.7						
ULN	**Ulaanbaatar**	**47.73**	**9**	P	**P**	**00 08 06.8**	**+0.8**
	0.4nm,0.5s,mb3.7						
MKAR	**Makanchi Array**	**47.80**	**346**	P	**P**	**00 08 06.7**	**+0.2**
	0.8nm,0.6s,mb3.9,baz=161,slow=8.0,SNR=9.3						
MKAR	**Makanchi Array**	**47.80**	**346**	P	**P**	**00 08 06.7**	**+0.2**
KURK	**Kurchatov**	**52.35**	**345**	P	**P**	**00 08 41.1**	**-0.1**
ZAL	**Zalesovo**	**54.09**	**351**	P	**P**	**00 08 53.7**	**-0.3**
	1.2nm,0.4s,mb4.1,baz=314,slow=6.7,SNR=5.7						
ZAL	**Zalesovo**	**54.09**	**351**	P	**P**	**00 08 53.7**	**-0.3**
CHKZ	**Chkalovo**	**57.28**	**341**	*eP*	**P**	**00 09 16.5**	**-0.6**

IDC 05 00:10:35.0±3.2, 1.35N×96.86E, mb3.5/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, MS3.0/1, Ms1 3.2/1, ms1mx2.5/15, Error ellipse: s-maj=127.1km s-min=26.7km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.12**	**7**	LR	LR	00 21 14.8	
	comp=Z,44nm,18.0s,baz=175,slow=37						
WRA	**Warramunga Arr**	**42.40**	**122**	P	P	00 18 31.7	-1.7
	0.5nm,0.8s,baz=298,slow=8.8,SNR=2.4						
MKAR	**Makanchi Array**	**47.01**	**346**	P	P	00 19 09.0	-1.0
	0.5nm,0.7s,baz=153,slow=8.1,SNR=5.0						
SONM	**Songino Array**	**47.03**	**9**	P	P	00 19 08.2	-1.9
	0.4nm,0.8s,baz=188,slow=10,SNR=3.4						
ZAL	**Zalesovo**	**53.35**	**351**	P	P	00 19 55.6	-2.7
	0.6nm,0.3s,baz=281,slow=9.9,SNR=4.5						
BVAR	**Borovoye Array**	**56.00**	**341**	P	P	00 20 14.8	-2.8
	0.4nm,0.8s,baz=149,slow=8.4,SNR=2.6						

IDC 05 00:19:54.7±2.9, 0.35S×96.81E, mb3.9/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=118.4km s-min=25.9km az=61.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.81**	**6**	P	P	00 24 15.9	-2.2
	0.2nm,0.3s,baz=194,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**42.80**	**126**	P	P	00 27 54.2	-1.9
	0.8nm,0.6s,baz=296,slow=7.9,SNR=8.4						
MKAR	**Makanchi Array**	**48.65**	**347**	P	P	00 28 40.5	-2.0
	1.5nm,0.6s,baz=160,slow=8.2,SNR=19						
SONM	**Songino Array**	**48.72**	**9**	P	P	00 28 41.1	-1.8
	0.1nm,0.5s,baz=180,slow=6.2,SNR=4.1						
ZAL	**Zalesovo**	**55.01**	**351**	P	P	00 29 27.2	-3.0
	1.3nm,0.4s,baz=312,slow=7.1,SNR=6.1						
TXAR	**Lajitas Array**	**145.18**	**32**	PKPbc	PKPbc	00 39 34.5	-0.8
	0.8nm,0.8s,baz=270,slow=1.8,SNR=9.0						

*ISK **05** 00:27:58.6, 39.08N×40.33E, h5km, MD3.6*
*NEIC **05** 00:27:58.

*BJI **05** 00:42:44.7, 0.98S×96.99E, h40km, mB5.2, mb4.9, Ms4.8, Msz4.3*
*IDC **05** 00:42:45.3±0.7, 0.35S×96.76E, mb4.4/13, mb1 4.6/14, mb1mx4.5/18, mbtmp4.4/14, ML4.5/1, MS3.4/2, Ms1 3.5/2, ms1mx3.0/23, Error ellipse: s-maj=28.4km s-min=14.1km az=54.0*
*MOS **05** 00:42:48.4±0.8, 0.30S×96.83E, h33km, mb4.7/9, Error ellipse: s-maj=20.9km s-min=9.9km az=103.7*
*NEIC **05** 00:42:50.2±0.3, 0.30S×96.94E, h30km, mb4.6/16, Error ellipse: s-maj=9.8km s-min=5.8km az=57.0*

ISC 05 00:42:48.8±0.4, 0.32S±0.06×96.93E±0.07, h33km, (h35km±2.0km:pP-P), n73, σ0§99/71, mb4.5/36, MS4.6/3, 1C-1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.70**	**34**	*e*P	**P**	**00 44 24.9**	**-2.3**
BDT	**Bhumibol Dam**	**17.57**	**7**	P	**P**	**00 46 54.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**18.76**	**6**	P	**P**	**00 47 06.8**	**-0.9**
	0.6nm,0.3s,baz=196,slow=11,SNR=59						
CMAR				LR	LR	00 55 31.8	
	comp=Z,53nm,18.6s,baz=165,slow=41						
NANT	**Nan**	**19.35**	**11**	⇑P	**P**	**00 47 15.0**	**+0.5**
	69nm,1.0s						
KKM	**Kota Kinabalu**	**20.26**	**72**	*e*P	**P**	**00 47 21.9**	**-2.4**
KMI	**Kunming**	**25.91**	**12**	P	**P**	**00 48 20.9**	**+1.1**
KMI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.5						
KMI	**Kunming**	**25.91**	**12**	P	**P**	**00 48 20.9**	**+1.1**
	comp=Z,16nm,1.0s,mb4.5						
SHL	**Shillong**	**26.19**	**350**	*e*P	**P**	**00 48 23.0**	**+0.6**
JIRN	**Jiri**	**29.66**	**340**	*e*P	**P**	**00 48 54.5**	**+0.7**
	comp=Z,17nm,0.9s,mb4.8						
DMN	**Daman**	**30.00**	**339**	*e*P	**P**	**00 48 57.6**	**+0.9**
	comp=Z,8.6nm,0.7s,mb4.6						
KKN	**Kakani**	**30.10**	**339**	*e*P	**P**	**00 48 58.0**	**+0.4**
LSA	**Lhasa**	**30.35**	**350**	P	**P**	**00 48 53.7**	**-6.2**
GKN	**Gorkha**	**30.53**	**338**	*e*P	**P**	**00 49 01.6**	**+0.1**
	comp=Z,17nm,0.8s,mb4.9						
KOLN	**Koldanda**	**30.72**	**336**	*e*P	**P**	**00 49 03.5**	**+0.4**
	comp=Z,19nm,0.8s,mb5.0						
ENH	**Enshi**	**32.68**	**20**	*e*P	**P**	**00 49 19.3**	**-1.1**
	comp=Z,24nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**33.30**	**124**	*e*P	**P**	**00 49 25.5**	**-0.3**
	comp=Z,11nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.30**	**124**	P	**P**	**00 49 25.6**	**-0.1**
	comp=Z,16nm,0.9s,mb4.9,baz=297,slow=2.6,SNR=9.4						
XAN	**Xi'an**	**35.98**	**17**	P	**P**	**00 49 48.2**	**-0.4**
XAN				AMB	AMB		
	comp=Z,21nm,0.9s,mb5.1						
NJ2	**Nanjing**	**38.29**	**31**	*e*P	**P**	**00 50 09.1**	**+1.0**
NJ2				AP	pP	00 50 18.9	+1.1
NJ2				XP	sP	00 50 22.8	+0.7
NJ2				PP	PP	00 51 41.0	+1.6
NJ2				S	**S**	**00 56 01.0**	**+1.3**
NJ2				XS		00 56 18.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
NJ2				LR	LR		
	comp=N,3μm,16.6s,MS5.4						
NJ2				LR	LR		
	comp=E,4μm,17.6s,MS5.4						
NJ2				LR	LR		
	comp=Z,950nm,12.0s						
GTA	**Gaotai**	**39.62**	**4**	P	**P**	**00 50 20.1**	**+1.1**
GTA				AP	pP	00 50 31.8	+3.0
GTA				XP	sP	00 50 34.9	+1.9
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**41.49**	**120**	P	**P**	**00 50 34.9**	**+0.3**
	comp=Z,3.6nm,0.8s,mb4.0,baz=298,slow=9.2,SNR=8.6						
WRAB	**Tennant Creek**	**41.49**	**120**	*e*P	**P**	**00 50 35.4**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
WRAB	**Tennant Creek**	**41.49**	**120**	*e*P	**P**	**00 50 35.4**	**+0.7**
	comp=Z,4.7nm,0.9s,mb4.1						
WB2	**Warramunga Arr**	**41.50**	**120**	*e*P	**P**	**00 50 35.4**	**+0.7**
ASPA	**Alice Springs**	**42.72**	**126**	*e*P	**P**	**00 50 44.4**	**-0.4**
ASAR	**Alice Springs**	**42.72**	**126**	P	**P**	**00 50 45.4**	**+0.5**
	comp=Z,5.3nm,0.7s,mb4.4,baz=300,slow=8.0,SNR=38						
BJT	**Baijiatuau**	**43.82**	**21**	*e*P	**P**	**00 50 54.2**	**+0.7**
BJT				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BJT	**Baijiatuau**	**43.82**	**21**	*e*P	**P**	**00 50 54.2**	**+0.7**
	comp=Z,5.3nm,0.6s,mb4.5						
BJI	**Beijing**	**43.84**	**21**	P	**P**	**00 50 54.0**	**+0.3**
BJI				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
BJI	**Beijing**	**43.84**	**21**	P	**P**	**00 50 54.0**	**+0.3**
	comp=Z,20nm,0.8s,mb4.9						
WMQ	**Urumqi**	**44.71**	**350**	⇓*i*P	**P**	**00 51 01.2**	**+0.6**
WMQ				AP	pP	00 51 11.2	+0.7
WMQ				XP	sP	00 51 15.2	+0.6
WMQ				PP	PP	00 52 46.5	+0.5
WMQ				S	**S**	**00 57 34.4**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
UCH	**Uchtor**	**46.92**	**337**	P	**P**	**00 51 19.3**	**+1.2**
	SNR=8.7						
TKM2	**Tokmak 2**	**47.11**	**339**	P	**P**	**00 51 20.8**	**+1.2**
	SNR=6.5						
KBK	**Karagaybulak**	**47.13**	**338**	P	**P**	**00 51 21.0**	**+1.3**
	SNR=6.5						
EKS2	**Erkin-Say**	**47.58**	**337**	P	**P**	**00 51 24.4**	**+1.0**
	SNR=12						
USP	**Ospenovka**	**47.82**	**338**	P	**P**	**00 51 25.5**	**+0.3**
	SNR=17						
MKAR	**Makanchi Array**	**48.64**	**347**	*i*P	**P**	**00 51 31.6**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MKAR	**Makanchi Array**	**48.64**	**347**	P	**P**	**00 51 31.5**	**0.0**
	comp=Z,12nm,0.6s,mb5.1,baz=157,slow=8.2,SNR=126						
SONM	**Songino Array**	**48.66**	**8**	P	**P**	**00 51 31.9**	**+0.2**
	comp=Z,4.3nm,0.8s,mb4.5,baz=189,slow=8.8,SNR=34						
ULN	**Ulaanbaatar**	**48.79**	**9**	*e*P	**P**	**00 51 32.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.3						
ULN	**Ulaanbaatar**	**48.79**	**9**	*e*P	**P**	**00 51 32.7**	**0.0**
	comp=Z,5.4nm,1.4s,mb4.4						
CN2	**Changchun**	**50.77**	**27**	*e*P	**P**	**00 51 49.2**	**+1.3**
CN2				*e*AP	pP	00 51 59.1	+1.3
CN2				*e*S	**S**	**00 59 01.4**	**+1.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,17.0s,MS4.6						
CN2				LR	LR		
	comp=E,400nm,17.0s,MS4.6						
CN2				LR	LR		
	comp=Z,500nm,18.0s,MS4.6						
ZAK	**Zakamensk**	**50.80**	**5**	*e*P	**P**	**00 51 43.5**	**-4.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**52.56**	**131**	*e*P	**P**	**00 52 02.6**	**+1.1**
	comp=Z,3.9nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**52.56**	**131**	P	**P**	**00 52 02.2**	**+0.7**
	comp=Z,4.6nm,0.7s,mb4.5,baz=302,slow=5.9,SNR=9.2						
KURK	**Kurchatov**	**53.18**	**346**	*e*P	**P**	**00 52 05.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
KURK	**Kurchatov**	**53.18**	**346**	*e*P	**P**	**00 52 05.1**	**-0.8**
	comp=Z,5.2nm,0.9s,mb4.5						
MDJ	**Mudanjiang**	**53.32**	**29**	P	**P**	**00 52 05.0**	**-2.0**
MDJ				AMB	AMB		
	comp=Z,11nm,2.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,135nm,3.6s						
ZAL	**Zalesovo**	**54.99**	**351**	P	**P**	**00 52 18.0**	**-1.1**
	comp=Z,10nm,0.6s,mb5.0,baz=312,slow=5.9,SNR=48						
NVS	**Novosibirsk**	**56.11**	**351**	*e*P	**P**	**00 52 25.3**	**-1.9**
KLR	**Kul'dur**	**57.72**	**26**	*e*P	**P**	**00 52 32.7**	**-6.0**
CHKZ	**Chkalovo**	**58.07**	**342**	P	**P**	**00 52 39.6**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**58.07**	**342**	*e*P	**P**	**00 52 39.6**	**-1.5**
	comp=Z,5.4nm,0.8s,mb4.6						
BOD	**Bodaibo**	**59.54**	**11**	*e*P	**P**	**00 52 49.4**	**-1.9**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
SVE	**Sverdlovsk**	**63.99**	**339**	*e*P	**P**	**00 53 20.4**	**-0.7**
SVE				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.8						
ARU	**Arti**	**64.47**	**338**	*e*P	**P**	**00 53 22.4**	**-1.8**
MALT	**Malatya**	**65.94**	**313**	*e*P	**P**	**00 53 33.2**	**-0.8**
MALT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
MALT	**Malatya**	**65.94**	**313**	*e*P	**P**	**00 53 33.2**	**-0.8**
	comp=Z,5.0nm,1.0s,mb4.5						
YAK	**Yakutsk**	**66.94**	**16**	P	**P**	**00 53 39.3**	**-0.6**
YAK				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.5						
YAK	**Yakutsk**	**66.94**	**16**	P	**P**	**00 53 39.3**	**-0.6**
	comp=Z,28nm,0.6s,mb5.5						
MATP	**Matopo**	**69.71**	**248**	P	**P**	**00 53 57.3**	**-0.5**
	comp=Z,2.9nm,0.7s,mb4.3,baz=132,slow=3.5,SNR=5.6						
MATP				LR	LR	01 19 25.0	
	comp=Z,67nm,21.5s,MS3.9,baz=67,slow=32						
BRTR	**Keskin Array B**	**69.93**	**313**	P	**P**	**00 53 57.5**	**-1.3**
	comp=Z,1.1nm,0.9s,mb3.8,baz=136,slow=6.8,SNR=5.9						
AKASG	**Malin Array Be**	**76.29**	**323**	P	**P**	**00 54 35.2**	**-0.8**
	comp=Z,1.6nm,0.7s,mb4.0,baz=90,slow=5.1,SNR=7.3						
FINES	**FINESS Array B**	**81.21**	**333**	P	**P**	**00 55 02.4**	**-0.2**
	comp=Z,1.9nm,0.7s,mb4.1,baz=103,slow=4.5,SNR=8.9						
FINES	**FINESS Array B**	**81.21**	**333**	P	**P**	**00 55 02.4**	**-0.2**
VNDA	**Vanda**	**84.40**	**169**	P	**P**	**00 55 19.3**	**+0.6**
	comp=Z,0.5nm,0.4s,mb4.0,baz=260,slow=11,SNR=4.6						
VNDA	**Vanda**	**84.40**	**169**	P	**P**	**00 55 19.3**	**+0.6**
GERES	**GERESS Array B**	**85.77**	**319**	P	**P**	**00 55 26.6**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.8,baz=45,slow=1.9,SNR=5.3						
MIAR	**Mount Ida**	**144.56**	**15**	*e*PKP	PKPdf	01 02 20.9	-1.6
TXAR	**Lajitas Array**	**145.09**	**32**	PKPbc	PKPbc	01 02 25.3	+1.5
	comp=Z,6.2nm,0.8s,baz=266,slow=1.7,SNR=73						
TXAR	**Lajitas Array**	**145.09**	**32**	PKPbc	PKPbc	01 02 25.3	+1.5
PLAL	**Pickwick Lake**	**145.20**	**7**	*e*PKP	PKPdf	01 02 23.7	+0.2
JCT	**Junction City**	**146.05**	**26**	*e*PKP	PKPdf	01 02 27.9	+2.7

*IDC **05** 01:06:12.6±3.8, 16.54S×174.30W, h105km±30km, mb3.6/6, mb1 3.9/7, mb1mx3.7/16, mbtmp4.0/7, Error ellipse: s-maj=116.1km s-min=17.3km az=146.0*
*NEIC **05** 01:06:13.2±1.7, 16.35S×174.43W, h107km±13km, mb4.7/6, Error ellipse: s-maj=75.5km s-min=10.8km az=146.0*

ISC 05 01:06:11.8±2.4, 16.3S±0.7×174.5W±0.5, h106km±20km, n17, σ0§44/18, mb4.2/10, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.55**	**49**	P	**P**	**01 07 06.4**	**+0.3**
	7.3nm,0.3s,baz=169,slow=5.2,SNR=3.3						
AFI				S	**S**	**01 07 42.8**	**-4.6**
	28nm,0.3s,baz=39,slow=23,SNR=13						
AFI	**Afiamalu**	**3.55**	**49**	P	**P**	**01 07 06.4**	**+0.3**
AFI				S	**S**	**01 07 42.8**	**-4.6**
DZM	**Mont Dzumac**	**18.87**	**249**	P	**P**	**01 10 32.2**	**+5.9**
	1.3nm,0.3s,baz=80,slow=19,SNR=10						
CTA	**Charters Tower**	**37.40**	**258**	⇓*i*P	**P**	**01 13 22.1**	**+5.8**
	10nm,0.8s,mb4.8						
CTAO	**Charters Tower**	**37.40**	**258**	P	**P**	**01 13 21.7**	**+5.4**
	22nm,0.9s,mb5.1						
STKA	**Stephens Creek**	**42.66**	**240**	*e*P	**P**	**01 14 00.2**	**+0.5**
	1.5nm,0.6s,mb3.9						
STKA				*i*		01 14 08.7	
STKA	**Stephens Creek**	**42.66**	**240**	P	**P**	**01 13 59.6**	**-0.1**
	2.1nm,0.7s,mb4.0,baz=108,slow=16,SNR=5.1						
WRAB	**Tennant Creek**	**48.59**	**258**	*e*P	**P**	**01 14 46.7**	**0.0**
	8.0nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**48.60**	**258**	P	**P**	**01 14 46.7**	**-0.1**
	0.5nm,0.4s,mb3.8,baz=94,slow=7.0,SNR=5.3						
ASAR	**Alice Springs**	**48.81**	**253**	P	**P**	**01 14 48.2**	**-0.2**
	5.9nm,0.6s,mb4.7,baz=88,slow=8.2,SNR=94						
ASPA	**Alice Springs**	**48.82**	**253**	*e*P	**P**	**01 14 48.4**	**-0.1**
ASPA				*i*		01 14 55.3	
FITZ	**Fitzroy Crossi**	**56.98**	**259**	*e*P	**P**	**01 15 57.2**	**+8.3**
	3.2nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**62.08**	**254**	P	**P**	**01 16 33.1**	**+9.1**
	19nm,1.1s,mb5.0						
NVAR	**Mina Array Bea**	**75.70**	**42**	P	**P**	**01 17 47.3**	**-0.2**
	0.7nm,0.9s,mb3.4,baz=232,slow=10,SNR=2.9						
ILAR	**Eielson Array**	**83.51**	**12**	P	**P**	**01 18 29.1**	**+0.4**
	0.2nm,0.4s,mb3.3,baz=219,slow=5.2,SNR=4.6						
PDAR	**Pinedale Array**	**83.64**	**42**	P	**P**	**01 18 29.8**	**-0.1**
	1.2nm,0.7s,mb3.9,baz=195,slow=2.1,SNR=11						
BRTR	**Keskin Array B**	**146.13**	**319**	PKPbc	PKPbc	01 25 42.1	+2.3
	0.7nm,0.7s,baz=63,slow=2.8,SNR=4.4						

CASC 05 01:07:12.2±1.9, 12.70N×90.32W, h2km±9km, MD4.0, 6C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.32**	**31**	*e*P	Pb	01 07 37.0	-0.4
SBLS				*e*S	Sb	01 07 57.6	+2.9
SNJE	**San Jose**	**1.36**	**31**	⇑*e*P	Pb	01 07 37.4	-0.6
RTR	**El Retiro**	**1.36**	**29**	*e*P	Pb	01 07 38.1	0.0
RTR				*e*S	Sb	01 07 56.8	+0.9
BOQS	**Boqueron**	**1.44**	**44**	⇑*e*P	Pn	01 07 38.5	-1.0
IXG	**Ixpaco**	**1.48**	**355**	⇑*e*P	Pn	01 07 39.6	-0.3
IXG				*e*S	Sb	01 07 59.5	+0.3
LFRS	**El Faro**	**1.53**	**53**	⇑*e*P	Pn	01 07 39.4	-1.3
RBDL	**Robledal**	**1.54**	**23**	⇑*e*P	Pn	01 07 40.8	0.0
RBDL				*e*S	Sb	01 08 02.8	+1.9
LFU	**La Fuente**	**1.57**	**48**	*e*P	Pn	01 07 40.1	-1.1
LCBS	**La Ceiba**	**1.61**	**54**	⇑*e*P	Pn	01 07 40.5	-1.4
LBRS	**Las Brisas**	**1.62**	**50**	⇓*e*P	Pn	01 07 41.0	-0.9
SNVI	**San Vicente**	**1.70**	**58**	*e*P	Pn	01 07 42.3	-0.9
SNVI				*e*S	Sb	01 08 07.8	+2.0
MTO2	**Montecristo 2**	**1.93**	**29**	⇓*e*P	Pn	01 07 47.0	+0.6
MTO2				*e*S	Sn	01 08 12.8	+1.2
BLLM	**Bellamira**	**2.16**	**70**	*e*P	Pn	01 07 49.5	-0.2
BLLM				*e*S	Sn	01 08 17.6	+0.2
TP2	**Tecpan 2**	**2.19**	**342**	*e*P	Pn	01 07 51.6	+1.5
TP2				*e*S	Sn	01 08 18.9	+0.8

*JSN **05** 01:22:49.7±0.9, 18.88N×73.37W, MD4.5*
*IDC **05** 01:22:58.8±4.1, 18.23N×73.50W, h60km±49km, mb3.2/2, mb1 4.0/5, mb1mx3.4/22, mbtmp4.0/5, ML4.6/3, Error ellipse: s-maj=47.1km s-min=28.7km az=83.0*

ISC 05 01:22:55.3±1.4, 18.23N±0.10×73.46W±0.06, h46km±20km, n11, σ1§44/13, mb3.4/2, 2D, Haiti region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**3.11**	**268**	⇓*e*P	**P**	**01 23 41.0**	**-2.1**
HOJ	**Hope**	**3.13**	**266**	*e*S	**S**	**01 24 21.4**	**+1.4**
STH	**Stony Hill**	**3.18**	**268**	⇓*i*P	**P**	**01 23 42.3**	**-1.9**
STH				*e*S	**S**	**01 24 21.6**	**+0.4**
PCJ	**Portland Cotta**	**3.55**	**263**	*e*S	**S**	**01 24 32.2**	**+1.8**
MCJ	**Malvern**	**4.03**	**266**	*e*P	**P**	**01 23 54.8**	**-1.3**
MCJ				*e*S	**S**	**01 24 42.7**	**+0.1**
SJG	**San Juan**	**6.96**	**90**	P	**P**	**01 24 38.3**	**+1.1**
	1.4nm,0.3s,baz=225,slow=11,SNR=2.5						
SDV	**Santo Domingo**	**9.69**	**163**	P	**P**	**01 25 16.2**	**+1.2**
	1.9nm,0.3s,baz=9.5,slow=11,SNR=14						
SDV				S	**S**	**01 27 01.5**	**-2.1**
	1.1nm,0.3s,baz=258,slow=16,SNR=3.7						
PCRV	**Puerto La Cruz**	**11.72**	**132**	P	**P**	**01 25 46.0**	**+3.4**
	1.6nm,0.3s,baz=204,slow=2.7,SNR=5.4						
TXAR	**Lajitas Array**	**29.68**	**297**	P	**P**	**01 28 59.5**	**+0.4**
	0.3nm,0.8s,mb3.1,baz=117,slow=8.4,SNR=3.7						
YKA	**Yellowknife Ar**	**52.57**	**337**	P	**P**	**01 32 05.2**	**-1.0**
	0.8nm,0.7s,mb3.8,baz=129,slow=7.9,SNR=24						
WRA	**Warramunga Arr**	**153.68**	**262**	PKPbc	PKPdf	01 42 52.2	+10
	0.5nm,0.7s,baz=85,slow=2.3,SNR=3.7						

*IDC **05** 01:24:38.1±3.2, 0.04N×97.95E, mb4.0/5, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, Error ellipse: s-maj=133.8km s-min=20.5km az=58.0*
*NEIC **05** 01:24:41.3±1.4, 0.16S×97.65E, h30km, mb4.3/2, Error ellipse: s-maj=57.1km s-min=10.1km az=58.0*

ISC 05 01:24:39.0±1.8, 0.2S±0.3×97.6E±0.4, h30km, n8, σ0§39/8, mb4.0/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.55**	**4**	P	**P**	**01 28 55.5**	**-0.1**
	baz=192,slow=13,SNR=2.6						
FITZ	**Fitzroy Crossi**	**32.85**	**124**	P	**P**	**01 31 12.2**	**-0.3**
	3.1nm,0.6s,mb4.4,baz=2.8,slow=18,SNR=6.0						
WRA	**Warramunga Arr**	**41.01**	**121**	P	**P**	**01 32 21.9**	**+0.5**
	2.4nm,0.6s,mb4.0,baz=302,slow=9.0,SNR=9.8						
WRAB	**Tennant Creek**	**41.02**	**121**	*e*P	**P**	**01 32 21.7**	**+0.2**
	5.8nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**42.29**	**126**	P	**P**	**01 32 31.6**	**-0.4**
	0.2nm,0.5s,mb3.0,baz=298,slow=8.3,SNR=4.0						
MKAR	**Makanchi Array**	**48.64**	**346**	P	**P**	**01 33 22.9**	**+0.7**
	0.7nm,0.6s,mb3.9,baz=156,slow=7.7,SNR=6.3						
ZAL	**Zalesovo**	**54.94**	**351**	P	**P**	**01 34 09.4**	**-0.1**
	1.1nm,0.3s,mb4.3,baz=329,slow=2.5,SNR=4.8						
CHKZ	**Chkalovo**	**58.12**	**341**	*e*P	**P**	**01 34 31.7**	**-0.4**
	1.2nm,0.7s,mb4.0						

*IDC **05** 01:27:40.5±1.0, 24.11S×66.92W, h172km±9km, mb3.9/13, mb1 4.0/19, mb1mx4.0/21, mbtmp4.4/19, Error ellipse: s-maj=15.5km s-min=9.4km az=77.0*
*BJI **05** 01:27:40.5, 24.10S×66.90W, h173km, mB4.6*
*NEIC **05** 01:27:40.5±0.6, 24.12S×66.87W, h173km±5km, mb4.5/8, Error ellipse: s-maj=10.4km s-min=6.0km az=85.0*
*GUC **05** 01:27:42.0±1.1, 24.08S×67.46W, h209km±14km, ML4.6*

ISC 05 01:27:39.4±0.6, 24.17S±0.03×66.98W±0.07, h177km±6km, n55, σ1§07/63, mb4.1/18, 4C-2D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.68**	**318**	*e*P	**P**	**01 28 16.6**	**+3.3**
SPCH				*i* S	**S**	**01 28 43.5**	**+4.1**
SPCH				AMP		01 28 48.2	
	comp=E,2μm,0.3s						
LVC	**Limon Verde**	**2.35**	**311**	P	**P**	**01 28 23.1**	**+2.3**
	comp=E,148nm,0.3s,baz=129,slow=6.1,SNR=2241						
LVC				S	**S**	**01 28 53.4**	**+0.8**
	comp=E,458nm,0.3s,baz=192,slow=5.2,SNR=35						
LVC	**Limon Verde**	**2.35**	**311**	⇑*i*Pn	**P**	**01 28 22.7**	**+1.9**
LVC				*e*S	**S**	**01 28 53.5**	**+0.9**
LVC	**Limon Verde**	**2.35**	**311**	*e*P	**P**	**01 28 22.5**	**+1.7**
LVC				*i* S	**S**	**01 28 53.5**	**+0.9**
LVC				AMP		01 28 55.5	
	comp=E,3μm,0.7s						
CPN1	**Cerro Paranal**	**3.16**	**261**	⇑*i*P	**P**	**01 28 31.9**	**+1.4**
CPN1				*i* S	**S**	**01 29 08.9**	**-0.9**
CPN1				AMP		01 29 11.3	
	comp=E,2μm,0.2s						
ANCH	**Antofagasta**	**3.18**	**278**	⇑*i*P	**P**	**01 28 32.2**	**+1.5**
ANCH				*i* S	**S**	**01 29 08.9**	**-1.4**
CPCH	**Copiapo**	**4.40**	**223**	*e*P	**P**	**01 28 45.8**	**-0.5**
CPCH				*i* S	**S**	**01 29 36.6**	**-1.4**
LCO	**Las Campanas**	**5.86**	**214**	*e*P	**P**	**01 29 05.3**	**-0.1**
LCO				*i* S	**S**	**01 30 11.5**	**-0.7**
CFAA	**Coronel Fontan**	**7.49**	**188**	P	**P**	**01 29 28.1**	**+1.2**
	comp=E,0.4nm,0.3s,baz=16,slow=11,SNR=21						
CFAA				S	**S**	**01 30 48.4**	**-2.3**
	comp=E,0.9nm,0.3s,baz=285,slow=20,SNR=12						
CFAA	**Coronel Fontan**	**7.49**	**188**	P	**P**	**01 29 28.1**	**+1.2**
CFAA				S	**S**	**01 30 48.4**	**-2.4**
LPAZ	**La Paz**	**7.91**	**352**	P	**P**	**01 29 33.6**	**+1.1**
	comp=E,4.3nm,0.3s,baz=169,slow=8.6,SNR=101						
LPAZ				S	**S**	**01 30 59.8**	**-0.9**
	comp=E,0.5nm,0.3s,baz=241,slow=9.0,SNR=5.4						
LPAZ	**La Paz**	**7.91**	**352**	*e*Pn	**P**	**01 29 33.1**	**+0.6**
ARE	**Arequipa**	**8.76**	**330**	P	**P**	**01 29 49.0**	**+5.5**
ARE				*e*S	**S**	**01 31 16.0**	**-4.5**
SIV	**San Ignacio**	**9.84**	**35**	P	**P**	**01 29 56.9**	**-0.9**
	comp=E,5.0nm,0.3s,baz=219,slow=14,SNR=103						
SIV				S	**S**	**01 31 33.4**	**-13**
	comp=E,0.4nm,0.3s,baz=230,slow=18,SNR=4.6						
TRQA	**Tornquist**	**14.49**	**164**	*e*P	**P**	**01 30 56.8**	**-0.4**
SAML	**Samuel**	**15.56**	**14**	*e*P	**P**	**01 31 09.5**	**-1.3**
	comp=E,2.8nm,0.6s						
PLCA	**Paso Flores**	**16.79**	**189**	P	**P**	**01 31 26.0**	**+0.4**
	comp=E,0.5nm,0.3s,baz=8.7,slow=11,SNR=9.1						
PLCA	**Paso Flores**	**16.79**	**189**	*e*P	**P**	**01 31 25.9**	**+0.4**
	comp=E,10nm,0.8s						
BDFB	**Brasilia**	**19.73**	**68**	P	**P**	**01 31 57.0**	**-0.4**
	comp=E,4.7nm,0.3s,baz=250,slow=11,SNR=104						
BAO	**Brasilia Array**	**19.75**	**68**	P	**P**	**01 31 54.0**	**-3.6**
BAO				pP		01 32 53.0	
JTS	**JuntasAbangare**	**38.49**	**331**	P	**P**	**01 34 46.1**	**0.0**
	comp=E,4.4nm,0.7s,mb4.2,baz=130,slow=19,SNR=2.6						
SJG	**San Juan**	**42.03**	**1**	P	**P**	**01 35 14.6**	**-0.6**
	comp=E,16nm,1.0s,mb4.6,baz=319,slow=9.8,SNR=2.4						
VNA3	**Neumayer Olymp**	**56.99**	**161**		**P**	**01 37 09.2**	**+0.9**
VNA2	**Neumayer--Watz**	**57.55**	**160**	⇑*i*	**P**	**01 37 12.8**	**+0.6**
SNAA	**Sanae**	**59.19**	**161**	P	**P**	**01 37 23.

comp=E,2µm,0.6s
THN Thein Dam 5.08 137 *e*P **P 01 40 37.4 +1.2**
THN *e*S **S 01 41 34.4 +0.3**
DLH Dalhousie 5.14 134 *e*P **P 01 40 40.0 +3.0**
TAS Tashkent 5.41 341⇓*e*PN **P 01 40 35.0 -5.6**
TAS pmax pmax
comp=Z,540µm,1.2s
PONG Pong 5.58 138⇓*e*P **P 01 40 44.0 +1.1**
PONG *e*S **S 01 41 47.0 +0.7**
AML Almayashu 6.13 15 P **P 01 40 50.0 -0.4**
SNR=727
UCH Uchtor 6.41 20 P **P 01 40 54.8 +0.4**
SNR=55
SDNR Sundarnagar 6.49 135 *e*P **P 01 40 55.8 +0.4**
SDNR *e*S **S 01 42 07.0 -1.5**
KZA Kyzart 6.50 25 P **P 01 40 56.2 +0.5**
SNR=85
EKS2 Erkin-Say 6.65 14 P **P 01 40 57.3 -0.4**
SNR=227
AAK Ala-Archa 6.79 18 P **P 01 40 59.3 -0.3**
SNR=327
AAK Ala-Archa 6.79 18 Pn **P 01 40 59.1 -0.5**
comp=Z,2µm,0.6s
AAK Ala-Archa 6.79 18⇓Pn **P 01 40 59.5 -0.1**
comp=Z,175nm,0.7s
AAK ⇑Sn **S 01 42 12.0 -3.9**
comp=Z,207nm,0.8s
AAK Ala-Archa 6.79 18 *e*P **P 01 40 58.3 -1.3**
AAK *e*S **S 01 42 12.6 -3.3**
SMLA Simla 6.88 136⇓*i* **P 01 40 51.9 -8.9**
SMLA *i* 01 42 07.9
KBK Karagaybulak 6.93 21 P **P 01 41 02.0 +0.4**
SNR=21
FRU Bishkek 7.01 19 *e*PN **P 01 41 03.0 +0.4**
FRU pmax pmax
comp=Z,260nm,1.4s
ULHL Ulahol 7.01 29 P **P 01 41 02.9 +0.2**
SNR=18
CHMS Chumysh 7.20 19 P **P 01 41 04.6 -0.6**
SNR=166
KLP Kalpa 7.24 128 *e*P **P 01 41 06.8 +1.0**
KLP *e*S **S 01 42 25.1 -1.8**
TKM2 Tokmak 2 7.37 24 P **P 01 41 08.1 +0.5**
SNR=134
USP Ospenovka 7.39 17 P **P 01 41 06.8 -0.9**
SNR=96
KKR Kurukshetra 7.62 143 *e*P **P 01 41 11.1 +0.2**
DDI Dehra Dun 7.98 136 *e*P **P 01 41 15.9 0.0**
DDI *e* 01 42 50.0
AAA Alma-Ata 8.16 29 PN **P 01 41 21.0 +2.8**
AAA *e* 01 42 51.0
AAA MLR MLR
comp=N,800nm,3.0s
AAA MLR MLR
comp=E,900nm,3.0s
AAA MLR MLR
comp=Z,800nm,3.0s
KHET Khetri 8.87 155 *e*P **P 01 41 26.6 -1.2**
KHET *e*S **S 01 43 00.5 -6.1**
KHET *e* 01 43 07.1
comp=E,218nm,0.3s
KHET *e* 01 43 07.1
comp=N,238nm,0.5s
NDI New Delhi 8.88 146 *e*P **P 01 41 25.5 -2.5**
NDI *e*S **S 01 43 00.0 -7.0**
SONA Sohna 9.20 148 *e*P **P 01 41 30.9 -1.4**
SONA *e*S **S 01 43 07.9 -6.7**
SONA *e* 01 43 11.5
comp=E,252nm,0.7s
JASL Jaisalmer 9.28 184 *e*P **P 01 41 29.4 -4.0**
PTH Pithoragarh 9.83 130 *e*P **P 01 41 39.2 -1.5**
PTH *e* 01 43 26.9
LGTI Lohaghat 9.92 130 *e*P **P 01 41 41.0 -0.9**
LGTI *e* 01 43 28.3
AJM Ajmer 10.05 164⇑*i*P **P 01 41 43.0 -0.7**
AJM *i*S **S 01 43 28.0 -7.1**
AGRA Agra 10.46 147 *e*P **P 01 41 49.1 -0.1**
AGRA *e*S **S 01 43 38.6 -6.3**
AGRA *e* 01 43 45.5
comp=E,490nm,0.9s
AGRA *e* 01 43 45.7
comp=N,422nm,0.8s
JHNI Jhansi 12.26 149⇓*i*P **P 01 42 12.0 -1.1**
JHNI *i*S **S 01 44 19.0 -8.9**
KOLN Koldanda 13.21 126 *e*P **P 01 42 23.4 -2.1**
comp=N,100nm,0.4s
KOLN *e*S **S 01 44 44.4 -5.8**
MK31 Makanchi Array 13.25 34 Pn **P 01 42 26.9 +0.9**
comp=N,10nm,0.6s,baz=211,slow=13,SNR=82
MKAR Makanchi Array 13.25 34 *i*P **P 01 42 25.9 -0.1**
MKAR pmax pmax
comp=Z,10.0nm,0.6s
MKAR Makanchi Array 13.25 34 P **P 01 42 26.4 +0.4**
comp=Z,0.7nm,0.3s,baz=217,slow=12,SNR=26
GKN Gorkha 13.74 123 *e*P **P 01 42 30.8 -1.6**
comp=Z,337nm,0.5s
BHPL Bhopal 13.88 157 *e* **P 01 42 32.8 -1.4**
BHPL *e* 01 44 59.3
ALBI Allahabad 13.96 138 *e* **S 01 45 00.0 -8.0**
DMN Daman 14.31 123 *e*P **P 01 42 37.9 -1.9**
comp=Z,166nm,0.5s
DMN *e*S **S 01 45 11.2 -5.1**
KKN Kakani 14.32 122 *e*P **P 01 42 37.9 -2.0**
comp=Z,202nm,0.7s
KKN Kakani 14.32 122 *e*P **P 01 42 37.9 -2.0**
KKN pmax pmax
comp=Z,101nm,0.7s
WMQ Urumqi 14.47 53⇓P **P 01 42 43.0 +1.3**
WMQ AP 01 42 56.5
WMQ PP PP 01 42 57.6 +3.2
WMQ XP 01 43 11.0
WMQ S **S 01 45 20.5 +0.6**
WMQ SS SS 01 45 43.0 +2.4
WMQ AMB AMB
comp=Z,5.0nm,0.6s
WMQ AMB AMB
comp=Z,87nm,3.1s
WMQ LR LR
comp=N,184nm,6.0s
WMQ LR LR
comp=E,149nm,6.6s
WMQ LR LR
comp=Z,45nm,21.5s
PKI Pulchoki 14.54 122 *e*P **P 01 42 41.1 -1.7**
comp=Z,166nm,0.6s
PKI Pulchoki 14.54 122 *e*P **P 01 42 41.1 -1.7**
PKI pmax pmax
comp=Z,83nm,0.6s
GUN Gumba 14.66 120 *e*P **P 01 42 42.4 -1.8**
comp=Z,191nm,0.6s
JIRN Jiri 15.03 120 *e*P **P 01 42 47.4 -1.6**
comp=Z,297nm,0.6s
JIRN *e*S **S 01 45 27.3 -5.6**
KURK Kurchatov 15.35 17⇑Pn **P 01 42 55.3 +2.4**
comp=Z,30nm,1.1s
KURK ⇑Sn **S 01 45 44.6 +4.4**
comp=Z,38nm,1.7s
KURK Kurchatov 15.35 17 *e*P **P 01 42 48.7 -4.2**
KURK pmax pmax
comp=Z,54nm,0.9s
KURK Kurchatov 15.35 17 *e*P **P 01 42 48.7 -4.2**
comp=Z,54nm,0.9s
KURK *e* 01 42 55.3
AB31 Akbulak array 15.57 330⇓Pn **P 01 42 50.7 -5.0**
comp=Z,16nm,0.3s
AB31 ⇑Sn **S 01 45 32.3 -13**
comp=Z,25nm,0.5s
NGP Nagpur 16.36 155 *e*P **P 01 43 07.4 +1.6**
NGP *e* 01 43 21.6
comp=Z,30nm,0.6s
NGP *e* 01 45 57.0
BLSP Bilaspur 16.76 144 *e* **P 01 43 10.8 +0.1**
BLSP *e* 01 46 03.0
BLSP *e* 01 46 07.0
BVA0 Borovoye Array 16.83 357⇓Pn **P 01 43 08.1 -3.2**
comp=Z,8.5nm,1.1s,baz=168,slow=11,SNR=96
BVA0 ⇑Sn **S 01 46 08.5 -5.2**
comp=Z,23nm,1.6s,baz=170,slow=23,SNR=5.0
BVA0 Borovoye Array 16.83 357 *i*P **P 01 43 08.0 -3.3**
BVA0 01 46 15.7
BVA0 pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 16.83 357 P **P 01 43 07.9 -3.5**
comp=Z,2.1nm,0.3s,baz=161,slow=14,SNR=37
BVAR S **S 01 46 17.3 +3.5**
comp=Z,0.5nm,0.3s,baz=175,slow=16,SNR=7.2
CHKZ Chkalovo 17.47 358⇑Pn **P 01 43 16.8 -2.5**
comp=Z,38nm,1.6s
CHKZ ⇑Sn **S 01 46 23.2 -4.9**
comp=Z,86nm,2.2s
CHKZ Chkalovo 17.47 358 *i*P **P 01 43 16.8 -2.5**
CHKZ pmax pmax
comp=Z,7.0nm,0.5s
CHKZ Chkalovo 17.47 358 *e*P **P 01 43 16.7 -2.6**
comp=Z,18nm,0.4s
LSA Lhasa 17.63 106 *e*P **P 01 43 22.7 +1.2**
LSA pmax pmax
comp=Z,23nm,0.5s
LSA Lhasa 17.63 106 *e*P **P 01 43 22.7 +1.2**
comp=Z,23nm,0.5s
POO Poona 17.73 173 *e*P **P 01 43 22.0 -0.7**
POO *i*S **S 01 46 43.0 +8.9**
LATR Latur 18.27 165 *e* **P 01 43 32.5 +3.6**
LATR *e* 01 46 42.5
KAD Karad 18.97 172 *e* **P 01 43 39.0 +2.2**
KAD *e* 01 47 11.5
HYB Hyderabad 19.71 160 *e*P **P 01 43 47.5 +2.8**
HYB Hyderabad 19.71 160 *i*P **P 01 43 47.5 +2.8**
MAK Makhachkala 19.72 297 *e*P **P 01 43 49.3 +4.7**
MAK *e*S **S 01 47 21.0 +4.9**
MAK pmax pmax
comp=Z,204nm,0.7s
MAK pmax pmax
comp=Z,231nm,1.2s
MAK smax
comp=N,360nm,1.5s
MAK smax
comp=E,480nm,1.5s
ZAL Zalesovo 19.96 23 P **P 01 43 45.2 -1.9**
comp=E,69nm,0.3s,baz=257,slow=6.4,SNR=315
ZAL S **S 01 47 20.8 -0.1**
comp=E,0.5nm,0.3s,baz=165,slow=24,SNR=4.6
ZAL LR LR 01 51 39.1
comp=E,69nm,18.5s,baz=248,slow=37
ZAL Zalesovo 19.96 23 P **P 01 43 45.2 -1.9**
ZAL S **S 01 47 20.8 -0.1**
NVS Novosibirsk 20.28 20⇑*i*P **P 01 43 48.4 -1.9**
NVS *e*S **S 01 47 26.6 -0.3**
NVS *i*SS SS 01 48 02.0 -1.4
NVS pmax pmax
comp=Z,65nm,1.0s
NVS pmax pmax
comp=N,80nm,1.3s
NVS pmax pmax
comp=E,19nm,1.1s
NVS smax
comp=N,31nm,1.8s
NVS smax
comp=E,38nm,1.3s
SHL Shillong 20.35 116 *e*P **P 01 43 54.0 +2.8**
SHL *e* 01 47 26.0
DGRG David-gareji 21.05 292 P **P 01 43 59.1 +0.9**
VIS Vishakhapatnam 21.15 148 *e* **S 01 47 48.0 +4.6**
GNI Garni 21.44 289 *i*P **P 01 44 02.8 +0.7**
GNI pmax pmax
comp=Z,224nm,1.2s
GNI MLR MLR
comp=Z,100nm,21.0s
GNI Garni 21.44 289 P **P 01 44 02.9 +0.7**
comp=Z,42nm,0.6s,mb4.9,baz=5.1,slow=2.3,SNR=37
GNI LR LR 01 54 10.3
comp=Z,113nm,19.8s,baz=138,slow=41
GNI Garni 21.44 289 *e*P **P 01 44 02.8 +0.6**
comp=Z,165nm,1.1s,mb5.3
TBLG Delisi 21.55 293 P **P 01 44 04.2 +1.0**
DUS Dusheti 21.62 294 P **P 01 44 05.2 +1.3**
SVE Sverdlovsk 21.90 344⇑*i*P **P 01 44 06.6 +0.1**
SVE *e* 01 44 37.0
SVE *e*S **S 01 48 02.0 +5.2**
SVE pmax pmax
comp=Z,120nm,1.5s,mb5.0
SVE MLR MLR
comp=N,200nm,10.0s
SVE MLR MLR
comp=Z,400nm,10.0s
ARU Arti 22.06 341⇑*i*P **P 01 44 08.3 +0.2**
ARU *i* 01 44 37.3
ARU *e*S **S 01 48 04.9 +5.2**
ARU pmax pmax
comp=Z,80nm,1.0s,mb5.0
ARU Arti 22.06 341 *e*P **P 01 44 07.6 -0.5**
comp=Z,77nm,1.0s,mb5.0
ZEI Tsey 22.30 296 *i*P **P 01 44 10.1 -0.4**
ZEI pmax pmax
comp=Z,14nm,0.7s,mb4.4
SHRR Shira 22.34 29 *i*P **P 01 44 09.0 -1.8**
SHRR *i*S **S 01 48 09.6 +5.0**
GTA Gaotai 22.48 73 P **P 01 44 17.0 +4.7**
GTA AP 01 44 37.6
GTA SCP 01 51 30.9
GTA AMB AMB
comp=Z,46nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,152nm,8.8s
GTA LR LR
comp=N,169nm,16.8s
GTA LR LR
comp=E,98nm,18.7s
GTA LR LR
comp=Z,134nm,16.8s
GOF Gofitskoye 23.31 301⇑*i*P **P 01 44 20.4 +0.2**
GOF pmax pmax
comp=Z,100nm,1.3s,mb5.0
KIV Kislovodsk 23.35 298 *i*P **P 01 44 21.4 +0.8**
KIV *e* 01 44 58.0
KIV *e*S **S 01 48 30.0 +7.8**
KIV pmax pmax
comp=Z,31nm,1.1s,mb4.5
KIV MLR MLR
comp=Z,200nm,16.0s
KIV Kislovodsk 23.35 298 *e*P **P 01 44 20.8 +0.2**
comp=Z,59nm,0.7s,mb5.0
SOC Sochi 25.43 297 *e*P **P 01 44 41.0 +0.4**
SOC *e* 01 45 18.7
SOC *e* 01 48 09.7
SOC *e*S **S 01 49 00.0 +2.6**
SOC pmax pmax
comp=Z,23nm,0.7s,mb4.7
SOC pmax pmax
comp=N,7.0nm,0.8s
SOC pmax pmax
comp=E,3.0nm,0.6s
SOC MLR MLR
comp=Z,217nm,19.0s
SOC MLR MLR
comp=N,140nm,21.0s
SOC MLR MLR
comp=E,113nm,19.0s
MOY Mondy 25.97 44 *e*P **P 01 44 47.8 +2.4**
MOY pmax pmax
comp=Z,26nm,1.8s,mb4.4
MALT Malatya 26.41 285 *e*P **P 01 44 46.4 -3.2**
MALT pmax pmax
comp=Z,5.0nm,0.9s,mb3.9
MALT Malatya 26.41 285 *e*P **P 01 44 46.4 -3.2**
comp=Z,5.2nm,0.9s,mb4.0
ZAK Zakamensk 26.81 48⇑*i*P **P 01 44 54.4 +1.2**
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.1
ANN Anapa 27.20 299 *e*P **P 01 44 56.3 -0.5**
ANN *e* 01 45 33.7
ANN *e*PPP PP 01 45 44.5 -2.6
ANN *e*S **S 01 49 28.5 +2.2**
ANN pmax pmax
comp=Z,41nm,1.2s,mb4.8
TLY Talaya 27.49 46 *e*P **P 01 45 00.5 +1.1**
TLY *e* 01 45 36.7
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
TLY MLR MLR
comp=Z,46nm,14.0s
VRSR Storozhevoye 27.54 313 *e*P **P 01 44 59.0 -0.8**
VRSR *e*PPP PP 01 45 52.7 +1.2
VRSR pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
VRSR pmax pmax
comp=N,6.0nm,1.2s
VRSR pmax pmax
comp=E,10.0nm,0.7s
VRSR MLR MLR
comp=Z,120nm,19.0s
VRSR MLR MLR
comp=N,200nm,15.0s
VRSR MLR MLR
comp=E,140nm,20.0s
VOR Voronezh 27.71 314 P **P 01 45 00.0 -1.4**
VOR pmax pmax
comp=N,30nm,1.5s
VOR pmax pmax
comp=Z,40nm,1.5s,mb4.7
SONM Songino Array 28.10 55 P **P 01 45 06.1 +1.2**
comp=Z,8.4nm,0.9s,mb4.3,baz=262,slow=9.3,SNR=54
SONM LR LR 01 57 57.8
comp=Z,80nm,20.7s,baz=286,slow=39
ULN Ulaanbaatar 28.54 55 *e*P **P 01 45 08.7 -0.2**
ULN pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
ULN Ulaanbaatar 28.54 55 *e*P **P 01 45 08.7 -0.2**
comp=Z,4.7nm,0.8s,mb4.2
KMI Kunming 28.86 104 P **P 01 45 13.3 +1.3**
KMI AMB AMB
comp=Z,9.0nm,0.5s,mb4.7
KMI Kunming 28.86 104 P **P 01 45 13.3 +1.3**
comp=Z,9.0nm,0.5s,mb4.7
SIM Simferopol' 29.56 299 P **P 01 45 18.8 +0.8**
SIM pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
SIM MLR MLR
comp=Z,100nm,17.0s
CMAR Chiang Mai Arr 29.89 119 P **P 01 45 23.8 +2.5**
comp=Z,1.2nm,0.5s,mb3.8,baz=303,slow=7.5,SNR=9.5
BRTR Keskin Array B 29.98 288 P **P 01 45 20.3 -1.5**
comp=Z,2.3nm,0.8s,mb3.8,baz=104,slow=8.6,SNR=11
BRTR PcP PcP 01 48 19.9 -1.8
comp=Z,0.8nm,0.5s,baz=134,slow=2.8,SNR=4.9
MOS Moscow 30.18 321 *e*P **P 01 45 23.5 +0.1**
MOS *e* 01 45 59.7
MOS *e* 01 46 28.1
MOS pmax pmax
comp=Z,67nm,1.2s,mb5.2
OBN Obninsk 30.47 319⇓*i*P **P 01 45 25.4 -0.5**
OBN *e* 01 46 26.1
OBN *i* 01 48 22.4
OBN *e*S **S 01 50 17.8 -0.4**
OBN pmax pmax
comp=Z,55nm,1.1s,mb5.1
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 30.47 319 *e*P **P 01 45 24.4 -1.5**
comp=Z,25nm,0.6s,mb5.0
HHC Hu-ho-hao-te 31.41 69 *e*P **P 01 45 36.4 +2.1**
HHC AP pP 01 45 59.3 +1.8
HHC PP PP 01 46 46.1 +4.8
HHC PCP PcP 01 48 26.8 +1.3
HHC S **S 01 50 37.9 +4.8**
HHC XS 01 51 17.4
HHC SCP 01 52 00.3
HHC PCS 01 52 08.8
HHC SCS ScS 01 55 55.8 +1.6
HHC AMB AMB
comp=Z,50nm,1.7s,mb5.0
HHC LR LR
comp=N,119nm,15.9s
HHC LR LR
comp=E,188nm,17.7s
HHC LR LR
comp=Z,90nm,15.5s
ENH Enshi 32.09 90 *e*P **P 01 45 42.2 +1.8**
comp=Z,13nm,0.8s,mb4.7
AKASG Malin Array Be 33.50 309 P **P 01 45 50.4 -2.0**
comp=Z,4.8nm,0.4s,mb4.7,baz=80,slow=7.8,SNR=38
CFR Carcaliu 33.80 299⇓P **P 01 45 54.8 -0.2**
VRI Vrincioaia 34.79 300⇑P **P 01 46 05.1 +1.7**
BOD Bodaibo 35.27 39 *e*P **P 01 46 06.6 -0.7**
BOD pmax pmax
comp=Z,7.0nm,1.3s,mb4.3
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
MLR Muntele Rosu 35.34 300⇑P **P 01 46 10.9 +2.8**
SNX Sinaia 35.65 299⇑P **P 01 46 13.5 +2.8**
BURAR Bucovina Array 35.84 303⇑P **P 01 46 12.1 -0.3**
BURAR Bucovina Array 35.84 303⇑P **P 01 46 12.1 -0.2**
WHN Wuhan 35.93 86⇑P **P 01 46 11.7 -1.5**
LVV L'vov 36.72 307 *e*P **P 01 46 19.6 -0.1**
LVV *e* 01 47 46.0
VTS Vitosha 37.51 295⇑P **P 01 46 28.1 +1.7**
KWP Kalwaria 37.57 307 *e*P **P 01 46 27.5 +0.7**
SUW Suwalki 37.66 314 *e*P **P 01 46 27.4 -0.1**
KOLS Kolonicke sedl 37.84 305 *e*P **P 01 46 28.7 -0.3**
KOLS *e* 01 47 43.4
KOLS *e* 01 47 51.9
LVZ Lovozero 37.90 338 *e*P **P 01 46 28.8 -0.5**
LVZ Lovozero 37.90 338 *i*P **P 01 46 28.9 -0.4**
LVZ pmax pmax
comp=Z,120nm,2.6s,mb5.3
FINES FINESS Array B 37.99 326 P **P 01 46 29.4 -0.7**
comp=Z,12nm,0.4s,mb5.0,baz=118,slow=9.8,SNR=162
FINES LR LR 02 02 58.4
comp=Z,115nm,18.8s,baz=158,slow=37
KAF Kangasniemi 38.13 327 *e*p **P 01 46 31.2 -0.1**
comp=Z,21nm,1.1s,mb4.9,baz=103,slow=4.2
KAF Kangasniemi 38.13 327 *e*P **P 01 46 31.2 -0.1**
KAF pmax pmax
comp=Z,21nm,1.1s,mb4.9
CRVS Cervenica-Dubn 38.37 305 *e*P **P 01 46 34.8 +1.4**
CRVS *e* 01 48 01.7
CRVS Cervenica-Dubn 38.37 305 *e*P **P 01 46 34.8 +1.4**
CRVS *e*PP PP 01 48 01.6 -4.2
NJ2 Nanjing 39.03 82 *e*P **P 01 46 40.4 +1.3**
NJ2 PP PP 01 48 16.0 +2.1
NJ2 S **S 01 52 32.0 +1.7**
NJ2 XS 01 53 13.0
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.4
NJ2 AMB AMB
comp=Z,1µm,5.1s
NJ2 LR LR
comp=N,5µm,18.1s
NJ2 LR LR
comp=E,3µm,23.6s
NJ2 LR LR
comp=Z,920nm,14.9s
NIE Niedzica 39.12 306 *e*P **P 01 46 38.7 -1.0**
PSZ Piszkesteto 39.43 304 *e*P **P 01 46 44.1 +1.8**
OJC Ojcow 39.46 307 *e*P **P 01 46 42.3 -0.2**
DIVS Divcibare 39.67 298 *e*P **P 01 46 43.1 -1.1**
VYHS Vyhne 40.12 305 *e*P **P 01 46 49.2 +1.3**
VYHS *e* 01 47 03.4
SNY Shenyang 40.26 66⇓P **P 01 46 51.3 +2.2**
SNY AMB AMB
comp=Z,20nm,0.7s,mb5.1
PKSM Moragy 40.40 301⇑P **P 01 46 51.0 +0.8**
SRO2 Moca 40.45 304 *e*P **P 01 46 52.7 +2.1**
SRO2 *e* 01 46 56.3
SRO Srobarova 40.50 304 *e*P **P 01 46 53.5 +2.4**
OKC Ostrava-Krasne 40.53 307 *e*P **P 01 46 51.8 +0.6**
SRO1 Iza 40.56 304 *e*P **P 01 46 54.0 +2.5**
MORC Moravsky Berou 40.92 307 *e*P **P 01 46 54.8 +0.3**
MORC pmax pmax
comp=Z,18nm,1.0s,mb4.9
MORC Moravsky Berou 40.92 307 *e*P **P 01 46 54.8 +0.3**
comp=Z,18nm,1.0s,mb4.8
SMOL Smolenice 41.05 305 *e*P **P 01 46 57.1 +1.5**
GKP Gorka Klasztor 41.12 312 *e*P **P 01 46 55.8 -0.2**
SSE Sheshan 41.23 82 P **P 01 46 55.1 -2.1**
SSE S **S 01 53 02.4 -0.6**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,66nm,3.8s
SSE LR LR
comp=N,54nm,23.6s
SSE LR LR
comp=E,18nm,23.7s
SSE LR LR
comp=Z,45nm,28.3s
SSE Sheshan 41.23 82 P **P 01 46 55.1 -2.1**
comp=Z,30nm,0.7s,mb5.2
SSE S **S 01 53 02.4 -0.6**
SSE sS 01 53 44.1
KEV Kevo 41.24 338 *e*p **P 01 46 55.7 -1.2**
comp=Z,14nm,0.6s,mb5.0
KEV Kevo 41.24 338 *e*P **P 01 46 55.7 -1.2**
KEV pmax pmax
comp=Z,14nm,0.6s,mb5.0

CN2 Changchun 41.31 62 *eP* **P 01 46 58.5 +0.8**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
CN2 AMB AMB
comp=Z,200nm,5.0s
DPC Dobruska-Polom 41.69 308 *eP* **P 01 47 01.1 +0.4**
DPC *ep*P pP 01 47 26.1 +1.4
DPC *eP*P PP 01 48 32.4 -9.4
KSP Ksiaz 41.69 308 *eP* **P 01 47 02.0 +1.2**
UPC Upice 41.88 308 *eP* **P 01 47 02.3 0.0**
UPC *ep*P pP 01 47 26.5 +0.3
UPC *eP*P PP 01 48 45.7 +1.8
KOGS Kog 42.02 302 *eP* **P 01 47 04.7 +1.2**
KTK1 Kautokeino 42.07 336 *eP* **P 01 47 03.5 -0.1**
KTK1 AMb AMB 01 47 22.1
comp=Z,70nm,2.1s,mb5.0
BSD Bornholm Skovb 42.55 315 *eP* **P 01 47 09.5 +1.8**
BSD pmax pmax
comp=Z,12nm,0.6s,mb4.8
BSD Bornholm Skovb 42.55 315 *eP* **P 01 47 09.5 +1.8**
comp=Z,12nm,0.6s,mb4.8
BSD Bornholm Skovb 42.55 315 *i* P **P 01 47 09.5 +1.8**
comp=Z,12nm,0.6s,mb4.8
PERS Pernice 42.78 302 *eP* **P 01 47 11.1 +1.4**
PVCC Panska Ves 42.80 308 *eP* **P 01 47 11.1 +1.3**
PVCC *eP*P PP 01 48 49.8 -3.4
BOJS Bojanci 42.83 301 *eP* **P 01 47 12.0 +1.8**
BOJS *i* 01 47 20.1
PRU Pruhonice 42.85 307 *eP* **P 01 47 10.9 +0.7**
PRU *ep*P pP 01 47 34.4 +0.2
PRU *eP*P PP 01 48 50.3 -3.4
BRG Berggiesshubel 43.18 309 *eP* **P 01 47 13.4 +0.5**
BRG *e* pP 01 47 38.5 +1.6
BRG *e* 01 49 00.6
BRG pmax pmax
comp=Z,25nm,1.1s,mb4.9
BRG Berggiesshubel 43.18 309 *eP* **P 01 47 13.4 +0.5**
comp=Z,24nm,1.1s,mb4.8
BRG *e* pP 01 47 38.5 +1.6
BRG *e* 01 49 00.6
OBKA Obir 43.18 302⇑ *iP* **P 01 47 14.4 +1.4**
comp=Z,6.8nm,0.9s,mb4.4
MOA Molln 43.22 304⇑ *iP* **P 01 47 13.4 +0.2**
comp=Z,14nm,0.9s,mb4.7
GEC2 GERESS Array S 43.49 306 *eP* **P 01 47 16.5 +1.1**
GEC2 pmax pmax
comp=Z,11nm,1.5s,mb4.4
GEC2 GERESS Array S 43.49 306 *eP* **P 01 47 16.5 +1.1**
comp=Z,11nm,1.5s,mb4.4
GERES GERESS Array B 43.49 306 P **P 01 47 16.2 +0.8**
comp=Z,1.6nm,0.8s,mb3.8,baz=90,slow=8.0,SNR=16
GERES PcP PcP 01 48 58.4 -3.9
comp=Z,2.8nm,0.8s,baz=90,slow=4.0,SNR=7.9
KHC Kasperske Hory 43.54 306 *eP* **P 01 47 16.4 +0.5**
KHC *ep*P pP 01 47 38.7 -1.2
KHC *eP*P PP 01 48 55.8 -4.8
TRO Tromso 43.72 336 *eP* **P 01 47 16.1 -0.9**
comp=Z,40nm,1.4s,mb5.0
TRO Tromso 43.72 336 *eP* **P 01 47 16.1 -0.9**
TRO AMb AMB 01 47 21.4
comp=Z,40nm,1.4s,mb5.0
CLL Collm 43.75 309⇓ *iP* **P 01 47 18.2 +0.7**
CLL *e**SP sP 01 47 56.0 +2.6
CLL pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
CLL Collm 43.75 309⇓ *iP* **P 01 47 18.2 +0.7**
comp=Z,10.0nm,0.9s,mb4.5
CLL *e*sP sP 01 47 56.0 +2.6
CLL Collm 43.75 309⇓P **P 01 47 18.2 +0.7**
comp=Z,logA/T=1.0,mb4.5
CLL *i* 01 47 21.7
CLL *e**SP sP 01 47 56.0 +2.6
CLL *i* PCP PcP 01 49 01.5 -1.6
CLL *eP*P PP 01 49 08.0 +5.4
CLL *e**PPP 01 49 22.0
CLL *eP*PP PPP 01 49 44.0 +2.8
YAK Yakutsk 43.92 35 *eP* **P 01 47 18.2 -0.5**
YAK pmax pmax
comp=Z,15nm,0.9s,mb4.7
KBA Koelnbreinsper 43.93 303⇑ *iP* **P 01 47 19.2 +0.2**
comp=Z,15nm,1.4s,mb4.5
KBA Koelnbreinsper 43.93 303⇑ *iP* **P 01 47 19.2 +0.2**
KBA pmax pmax
comp=Z,15nm,1.4s,mb4.5
ROBS Robic 43.93 302 *eP* **P 01 47 19.8 +0.7**
WET Wettzell 44.00 306 *eP* **P 01 47 19.4 -0.1**
WET *e* 01 49 03.8
WET pmax pmax
comp=Z,14nm,1.7s,mb4.4
WET Wettzell 44.00 306 *eP* **P 01 47 19.4 -0.1**
comp=Z,14nm,1.7s,mb4.4
WET *eP*P PP 01 49 03.8 -1.4
MDJ Mudanjiang 44.12 60 P **P 01 47 21.9 +1.3**
MDJ AMB AMB
comp=Z,6.0nm,0.7s,mb4.4
MDJ AMB AMB
comp=Z,93nm,4.2s
NKC Novy Kostel 44.18 308 *eP* **P 01 47 22.3 +1.3**
NKC *ep*P pP 01 47 46.5 +1.5
NKC *eP*P PP 01 49 11.4 +4.5
MOR8 Moi Rana 44.30 331 *eP* **P 01 47 20.9 -0.9**
MOR8 AMb AMB 01 47 26.0
comp=Z,72nm,1.1s,mb5.3
FVI Forni Avoltri 44.38 302 *eP* **P 01 47 23.6 +1.0**
MOX Moxa 44.67 308 *eP* **P 01 47 25.2 +0.3**
MOX pmax pmax
comp=Z,47nm,2.0s,mb4.9
MOX Moxa 44.67 308 *eP* **P 01 47 25.2 +0.3**
comp=Z,47nm,2.0s,mb4.9
MOX Moxa 44.67 308 *i* P **P 01 47 25.2 +0.3**
comp=Z,logA/T=1.4,mb4.9
NB2 NORSAR Subarra 44.90 323 P **P 01 47 25.8 -0.8**
comp=Z,19nm,0.5s,mb5.1,baz=97,slow=7.9
NB2 NORSAR Subarra 44.90 323 P **P 01 47 25.8 -0.8**
baz=97,slow=7.9
NOA NORSAR Array B 44.90 323 P **P 01 47 25.1 -1.4**
comp=Z,24nm,0.6s,mb5.1,baz=96,slow=7.7,SNR=114
NOA LR LR 02 09 32.7
comp=Z,60nm,18.5s,baz=70,slow=40
STOK Stokkvaagen 44.90 331 *eP* **P 01 47 26.3 -0.2**
comp=Z,111nm,2.1s,mb5.2
STOK Stokkvaagen 44.90 331 *eP* **P 01 47 26.3 -0.2**
STOK AMb AMB 01 47 29.5
comp=Z,111nm,2.1s,mb5.2
GRA1 Grafenberg Arr 45.02 307 *eP* **P 01 47 28.3 +0.6**
comp=Z,33nm,1.3s,mb4.9
GRA1 *ep*P pP 01 47 53.8 +2.0
GRF Grafenberg Arr 45.02 307 *eP* **P 01 47 28.3 +0.6**
GRF *e**PP pP 01 47 53.8 +2.0
GRF pmax pmax
comp=Z,33nm,1.3s,mb4.9
GRF Grafenberg Arr 45.02 307 *eP* **P 01 47 28.3 +0.6**
GRF *e**PP pP 01 47 53.8 +2.0
GRF pmax pmax
comp=Z,33nm,1.3s,mb4.9
GRF Grafenberg Arr 45.02 307 *eP* **P 01 47 28.3 +0.6**
comp=Z,33nm,1.3s,mb4.9
GRF *ep*P pP 01 47 53.8 +2.0
NAO01 NORSAR Array S 45.04 323 *eP* **P 01 47 26.5 -1.2**
comp=Z,18nm,0.7s,mb4.9
WTTA Wattenberg 45.06 304⇑ *iP* **P 01 47 27.9 -0.1**
comp=Z,16nm,1.0s,mb4.7
WTTA Wattenberg 45.06 304⇑ *iP* **P 01 47 27.9 -0.1**
WTTA pmax pmax
comp=Z,16nm,1.0s,mb4.7
WATA Walderalm 45.09 304⇑ *iP* **P 01 47 27.8 -0.5**
comp=Z,7.8nm,1.1s,mb4.3
WATA Walderalm 45.09 304⇑ *iP* **P 01 47 27.8 -0.5**
WATA pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
ASS Assisi 45.10 298 *eP* **P 01 47 31.3 +2.9**
LOF Lofoten 45.11 333 *eP* **P 01 47 29.6 +1.4**
comp=Z,129nm,2.0s,mb5.3
LOF Lofoten 45.11 333 *eP* **P 01 47 29.6 +1.4**
LOF AMb AMB 01 47 37.1
comp=Z,129nm,2.0s,mb5.3
FUR Furstenfeldbru 45.17 305 *eP* **P 01 47 29.1 +0.2**
FUR pmax pmax
comp=Z,43nm,1.4s,mb5.0
FUR Furstenfeldbru 45.17 305 *eP* **P 01 47 29.1 +0.2**
comp=Z,43nm,1.4s,mb5.0
BSEG Bad Segeberg 45.24 313 *eP* **P 01 47 29.8 +0.4**
BSEG *e* 01 49 18.1
BSEG pmax pmax
comp=Z,19nm,0.9s,mb4.8

CLZ Clausthal 45.34 310 *eP* **P 01 47 29.9 -0.3**
comp=Z,29nm,1.2s,mb4.9
CLZ *eP*P PP 01 49 19.9 +1.4
SQTA Sankt Quirin 45.35 304⇑ *iP* **P 01 47 30.0 -0.4**
comp=Z,12nm,1.3s,mb4.5
SQTA Sankt Quirin 45.35 304⇑ *iP* **P 01 47 30.0 -0.4**
SQTA pmax pmax
comp=Z,13nm,1.3s,mb4.5
VMG Vicchio 45.70 299 *eP* **P 01 47 36.3 +3.1**
TIXI Tiksi 45.86 22 *i P* **P 01 47 33.6 -0.4**
DOMB Dombas 46.01 324 *eP* **P 01 47 35.8 +0.5**
DAVA Damuels 46.23 304⇓ *iP* **P 01 47 36.9 -0.4**
comp=Z,40nm,1.1s,mb5.1
TNS Taunus Mts 46.73 308 *eP* **P 01 47 40.8 -0.4**
TNS pmax pmax
comp=Z,13nm,1.1s,mb4.6
TNS Taunus Mts 46.73 308 *eP* **P 01 47 40.8 -0.4**
comp=Z,13nm,1.1s,mb4.6
MOL Molde 46.75 325 *eP* **P 01 47 42.9 +1.8**
comp=Z,44nm,1.8s,mb4.9
MOL Molde 46.75 325 *eP* **P 01 47 42.9 +1.8**
MOL AMb AMB 01 47 53.3
comp=Z,44nm,1.8s,mb4.9
BFO Black Forest 47.09 306 *eP* **P 01 47 44.6 +0.5**
BFO pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
BFO Black Forest 47.09 306 *eP* **P 01 47 44.6 +0.5**
comp=Z,6.0nm,1.1s,mb4.2
BER Bergen 47.76 322 *eP* **P 01 47 49.6 +0.4**
CDF Champ du Feu 47.77 306 *eP* **P 01 47 49.6 +0.2**
comp=Z,10.0nm,0.9s,mb4.3
CDF Champ du Feu 47.77 306 *eP* **P 01 47 49.6 +0.2**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
EGD Espegrend 47.82 322 *eP* **P 01 47 50.0 +0.4**
ASK Askoy 47.83 322 *eP* **P 01 47 49.9 +0.2**
comp=Z,177nm,1.6s,mb5.6
ASK Askoy 47.83 322 *eP* **P 01 47 49.9 +0.2**
ASK AMb AMB 01 47 53.4
comp=Z,177nm,1.6s,mb5.6
PGF Pioggiola 47.83 298 *eP* **P 01 47 49.3 -0.6**
HINF Hinteralfeld 48.16 305 *eP* **P 01 47 51.3 -1.1**
comp=Z,21nm,0.9s,mb4.7
HINF Hinteralfeld 48.16 305 *eP* **P 01 47 51.3 -1.1**
HINF pmax pmax
comp=Z,11nm,0.9s,mb4.7
WLF Walferdange 48.28 308 *eP* **P 01 47 52.8 -0.5**
WLF pmax pmax
comp=Z,16nm,0.8s,mb4.9
WLF Walferdange 48.28 308 *eP* **P 01 47 52.8 -0.5**
comp=Z,16nm,0.8s,mb4.9
HAU Haudompre 48.45 305 *eP* **P 01 47 53.6 -1.1**
comp=Z,18nm,0.9s,mb4.6
HAU *eR*
comp=Z,68nm,20.0s
SBF Sospel 48.62 300 *eP* **P 01 47 53.4 -2.6**
comp=Z,35nm,1.0s,mb4.9
SBF Sospel 48.62 300 *eP* **P 01 47 53.4 -2.6**
SBF pmax pmax
comp=Z,17nm,1.0s,mb4.9
LPG La Plagne 48.71 302 *eP* **P 01 47 56.3 -0.4**
comp=Z,16nm,0.8s,mb4.7
LPG La Plagne 48.71 302 *eP* **P 01 47 56.3 -0.4**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LPL La Plagne 48.72 302 *eP* **P 01 47 56.4 -0.3**
MBDF Montbardon 48.87 301 *eP* **P 01 47 56.8 -1.1**
comp=Z,11nm,0.6s,mb4.7
MBDF Montbardon 48.87 301 *eP* **P 01 47 56.8 -1.1**
MBDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
CABF La Chapelle 48.91 304 *eP* **P 01 47 57.6 -0.6**
comp=Z,9.4nm,0.6s,mb4.6
CABF La Chapelle 48.91 304 *eP* **P 01 47 57.6 -0.6**
CABF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KMBO Kilima Mbogo 49.00 228 *i* P **P 01 48 00.8 +1.5**
KMBO pmax pmax
comp=Z,3.0nm,0.6s
KMBO Kilima Mbogo 49.00 228 P **P 01 48 00.5 +1.1**
comp=Z,3.2nm,0.6s,mb4.4,baz=40,slow=11,SNR=11
KMBO Kilima Mbogo 49.00 228 P **P 01 48 00.5 +1.1**
GIVF Givet 49.05 308 *eP* **P 01 47 56.4 -2.8**
MEZF Maizieres J'vi 49.21 306 *eP* **P 01 47 59.9 -0.6**
FRF La Foret Royal 49.24 300 *eP* **P 01 47 59.9 -0.9**
BAIF Baives 49.45 308 *eP* **P 01 48 01.9 -0.4**
comp=Z,55nm,1.2s,mb5.1
BAIF Baives 49.45 308 *eP* **P 01 48 01.9 -0.4**
BAIF pmax pmax
comp=Z,28nm,1.2s,mb5.1
VIVF Saint-Julien-l 50.29 302 *eP* **P 01 48 07.9 -0.9**
comp=Z,8.9nm,0.7s,mb4.5
VIVF Saint-Julien-l 50.29 302 *eP* **P 01 48 07.9 -0.9**
VIVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SMF Signal de Mont 50.41 304 *eP* **P 01 48 08.5 -1.2**
comp=Z,28nm,0.8s,mb4.9
SMF Signal de Mont 50.41 304 *eP* **P 01 48 08.5 -1.2**
SMF pmax pmax
comp=Z,14nm,0.8s,mb4.9
SSF Saint Saulge 50.54 305 *eP* **P 01 48 09.3 -1.4**
SSF pmax pmax
comp=Z,11nm,1.2s,mb4.8
SSF Saint Saulge 50.54 305 *eP* **P 01 48 09.3 -1.4**
comp=Z,11nm,1.2s,mb4.8
AVF Avril sur Loir 50.70 304 *eP* **P 01 48 10.7 -1.2**
comp=Z,28nm,0.8s,mb5.1
AVF Avril sur Loir 50.70 304 *eP* **P 01 48 10.7 -1.2**
AVF pmax pmax
comp=Z,14nm,0.8s,mb5.0
LASF Ste Croix 51.06 301 *eP* **P 01 48 14.2 -0.5**
comp=Z,25nm,1.1s,mb4.9
HYF Humbligny 51.06 305 *eP* **P 01 48 13.8 -0.8**
BGF Bois d'Agland 51.10 304 *eP* **P 01 48 13.6 -1.3**
comp=Z,21nm,1.0s,mb4.8
BGF Bois d'Agland 51.10 304 *eP* **P 01 48 13.6 -1.3**
BGF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
TCF Toulx Ste Croi 51.59 304 *eP* **P 01 48 17.8 -0.9**
comp=Z,29nm,1.0s,mb5.0
TCF Toulx Ste Croi 51.59 304 *eP* **P 01 48 17.8 -0.9**
TCF pmax pmax
comp=Z,15nm,1.0s,mb5.0
CAF Calviac 52.06 302 *eP* **P 01 48 21.5 -0.6**
RJF Les Rejaudoux 52.33 303 *eP* **P 01 48 23.6 -0.5**
comp=Z,20nm,1.1s,mb4.8
RJF *eR*
comp=Z,71nm,23.0s
MTLF Montolieu 52.41 300 *eP* **P 01 48 21.8 -3.0**
LDF La Druitiere 52.53 307 *eP* **P 01 48 24.0 -1.7**
comp=Z,12nm,0.7s,mb4.8
LDF La Druitiere 52.53 307 *eP* **P 01 48 24.0 -1.7**
LDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
YSS Yuzh-Sakhalins 52.59 55 *i* P **P 01 48 26.6 +0.5**
MAJO Matsushiro 52.60 68 *eP* **P 01 48 24.7 -1.7**
MAJO pmax pmax
comp=Z,38nm,1.1s,mb5.3
MAJO Matsushiro 52.60 68 *eP* **P 01 48 24.7 -1.7**
comp=Z,38nm,1.1s,mb5.3
MAT Matsushiro 52.60 68 *eP* **P 01 48 27.0 +0.6**
MAT pmax pmax
comp=Z,24nm,1.0s,mb5.2
MAT Matsushiro 52.60 68 *eP* **P 01 48 27.0 +0.6**
comp=Z,24nm,1.0s,mb5.2
MAT Matsushiro 52.60 68 P **P 01 48 26.5 +0.1**
MAT X 01 56 13.6
FLN La Foliniere 52.72 308 *eP* **P 01 48 25.3 -1.8**
comp=Z,19nm,0.7s,mb4.9
FLN *eR*
comp=Z,71nm,21.3s
LFF La Frestale 52.96 303 *eP* **P 01 48 28.0 -0.9**
comp=Z,15nm,0.6s,mb4.9
LFF La Frestale 52.96 303 *eP* **P 01 48 28.0 -0.9**
LFF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
GRR Gorron 53.06 307 *eP* **P 01 48 27.8 -1.8**
comp=Z,20nm,0.8s,mb4.9
GRR Gorron 53.06 307 *eP* **P 01 48 27.8 -1.8**
GRR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MFF Saint Martin d 53.08 305 *eP* **P 01 48 28.0 -1.8**
comp=Z,11nm,0.8s,mb4.7
MFF Saint Martin d 53.08 305 *eP* **P 01 48 28.0 -1.8**
MFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7

EPF Esparros 53.81 301 *eP* **P 01 48 31.1 -4.0**
comp=Z,3.7nm,0.6s,mb4.3
EPF Esparros 53.81 301 *eP* **P 01 48 31.1 -4.0**
EPF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
SGMF Saint Gilles 54.19 308 *eP* **P 01 48 36.4 -1.4**
comp=Z,14nm,0.7s,mb4.8
SGMF Saint Gilles 54.19 308 *eP* **P 01 48 36.4 -1.4**
SGMF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
ETSF Etsaut 54.48 301 *eP* **P 01 48 38.6 -1.4**
comp=Z,12nm,0.6s,mb4.8
ETSF Etsaut 54.48 301 *eP* **P 01 48 38.6 -1.4**
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ROSF Rostrenen 54.62 308 *eP* **P 01 48 39.4 -1.6**
comp=Z,33nm,0.9s,mb5.1
ROSF Rostrenen 54.62 308 *eP* **P 01 48 39.4 -1.6**
ROSF pmax pmax
comp=Z,16nm,0.9s,mb5.0
QUIF Quistinic 54.68 307 *eP* **P 01 48 39.6 -1.8**
comp=Z,11nm,0.7s,mb4.7
QUIF Quistinic 54.68 307 *eP* **P 01 48 39.6 -1.8**
QUIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ESDC Sonseca Array 58.02 298 P **P 01 49 02.7 -2.6**
comp=Z,1.0nm,0.5s,mb4.1,baz=55,slow=7.3,SNR=11
BILL Bilibino 58.65 26 *i* P **P 01 49 09.3 0.0**
BILL *e**PP pP 01 49 33.5 -1.1
BILL *i* *SP sP 01 49 47.2 +1.2
BILL *e* 01 49 59.0
BILL *e* 01 51 18.6
BILL *e*S **S 01 57 03.8 +0.1**
BILL pmax pmax
comp=Z,16nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,700nm,20.0s
OPO Ambohidratompo 59.18 207 P **P 01 49 14.4 +0.8**
comp=Z,3.8nm,0.9s,mb4.4,baz=71,slow=3.8,SNR=3.4
SUMG Summit 61.49 341 *eP* **P 01 49 28.4 -0.2**
comp=Z,20nm,0.6s,mb5.3
TNA Tin City 68.64 23 *eP* **P 01 50 13.9 -0.6**
comp=Z,4.4nm,0.8s,mb4.3
RES Resolute Bay 69.02 356 *eP* **P 01 50 15.8 -1.0**
RES pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
RES Resolute Bay 69.02 356 *eP* **P 01 50 15.8 -0.9**
comp=Z,1.4nm,0.5s,mb4.0
IMA Indian Mountai 72.25 18 *eP* **P 01 50 35.5 -0.8**
IMA pmax pmax
comp=Z,47nm,0.8s,mb5.4
IMA Indian Mountai 72.25 18 *eP* **P 01 50 35.5 -0.8**
comp=Z,47nm,0.8s,mb5.4
MBWA Marble Bar 72.98 133 *eP* **P 01 50 42.7 +1.4**
comp=Z,14nm,0.8s,mb4.8
INK Inuvik 74.11 9 *eP* **P 01 50 47.0 0.0**
INK pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 74.11 9 *eP* **P 01 50 47.0 0.0**
comp=Z,15nm,0.9s,mb4.7
FITZ Fitzroy Crossi 74.33 127 *eP* **P 01 50 50.6 +1.3**
comp=Z,15nm,0.9s,mb4.7
COLA College 74.61 16 *eP* **P 01 50 49.6 -0.4**
COLA pmax pmax
comp=Z,25nm,0.8s,mb5.0
COLA College 74.61 16 *eP* **P 01 50 49.6 -0.4**
comp=Z,26nm,0.8s,mb5.0
LBTB Lobatse 74.79 223⇑ *eP* **P 01 50 52.1 +0.3**
LBTB pmax pmax
comp=Z,15nm,0.5s,mb5.0
LBTB Lobatse 74.79 223⇑ *eP* **P 01 50 52.1 +0.3**
comp=Z,15nm,0.5s,mb5.0
ILAR Eielson Array 74.92 16 P **P 01 50 51.1 -0.7**
comp=Z,5.4nm,0.8s,mb4.3,baz=318,slow=4.9,SNR=59
DBIC Dimbokro 75.17 267 P **P 01 50 51.8 -2.3**
comp=Z,2.5nm,0.6s,mb4.2,baz=49,slow=5.7,SNR=12
MCK McKinley 75.33 17 *eP* **P 01 50 53.2 -0.8**
MCK pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
MCK McKinley 75.33 17 *eP* **P 01 50 53.2 -0.8**
comp=Z,1.8nm,0.5s,mb4.1
THY Trims Highway 76.34 16 *eP* **P 01 50 59.1 -0.7**
DAWY Dawson 77.09 13 *eP* **P 01 51 03.3 -0.7**
SML Sawmill 77.10 18 *eP* **P 01 51 04.1 0.0**
KLBR Kellerberrin 80.13 141 *eP* **P 01 51 18.8 -2.4**
comp=Z,2μm,0.7s
NWAO Narrogin (SRO) 80.95 142 P **P 01 51 25.6 +0.1**
comp=Z,7.6nm,0.6s,mb4.7,baz=289,slow=13,SNR=7.8
WRA Warramunga Arr 81.43 122 P **P 01 51 28.8 +0.5**
comp=Z,6.5nm,0.7s,mb4.6,baz=323,slow=5.0,SNR=29
YKW3 Yellowknife Ar 81.44 3 *eP* **P 01 51 27.2 -0.2**
WB2 Warramunga Arr 81.44 122⇓ *iP* **P 01 51 29.2 +0.9**
YKA Yellowknife Ar 81.50 3 P **P 01 51 27.8 -0.1**
comp=Z,9.4nm,0.6s,mb4.8,baz=348,slow=5.3,SNR=272
SCHQ Schefferville 82.55 337 P **P 01 51 33.2 -0.1**
comp=Z,7.0nm,1.0s,mb4.4,baz=11,slow=5.3,SNR=8.2
ASPA Alice Springs 83.69 125⇓ *iP* **P 01 51 40.7 +0.9**
ASAR Alice Springs 83.69 125 P **P 01 51 40.1 +0.3**
comp=Z,5.9nm,0.7s,mb4.5,baz=310,slow=5.0,SNR=62
FORT Forrest 85.12 134⇓ *iP* **P 01 51 48.2 +1.4**
comp=Z,424nm,0.7s
FFC Flin Flon 89.26 356 *eP* **P 01 52 06.2 +0.1**
FFC pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
FFC Flin Flon 89.26 356 *eP* **P 01 52 06.2 +0.1**
comp=Z,10nm,1.0s,mb4.8
CTA Charters Tower 89.98 115⇓ *iP* **P 01 52 11.3 +1.0**
comp=Z,4.8nm,0.6s,mb4.8
CTA Charters Tower 89.98 115⇓ *iP* **P 01 52 11.3 +1.0**
CTA pmax pmax
comp=Z,5.0nm,0.6s
EDM Edmonton 90.83 3 *eP* **P 01 52 14.0 +0.5**
ULM Lac du Bonnet 93.20 352 P **P 01 52 24.0 -0.5**
comp=Z,4.9nm,0.9s,mb4.8,baz=359,slow=5.9,SNR=6.9
ULM LR LR 02 38 08.0
comp=Z,43nm,18.6s,baz=13,slow=38
STKA Stephens Creek 94.23 127 P **P 01 52 30.6 +1.1**
comp=Z,1.1nm,0.7s,mb4.3,baz=322,slow=11,SNR=2.7
QSPA South Pole Qui 126.01 180⇓ *iP* PKPdf 01 58 10.9 +0.9
SIV San Ignacio 133.49 283 PKP PKPdf 01 58 26.0 +0.1
comp=Z,0.5nm,0.7s,baz=90,slow=7.1,SNR=5.4
LPAZ La Paz 139.16 288 PKIKP PKPdf 01 58 37.4 +1.2
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 139.16 288 PKP PKPdf 01 58 37.4 +1.1
comp=Z,0.6nm,0.6s,baz=72,slow=1.4,SNR=3.2
LVC Limon Verde 143.28 281 PKhKP 01 58 40.6
comp=Z,2.8nm,0.7s,baz=42,slow=2.5,SNR=6.4
CFAA Coronel Fontan 146.52 266 PKPbc PKPbc 01 58 50.0 -0.1
comp=Z,0.9nm,0.6s,baz=35,slow=3.4,SNR=17
PLCA Paso Flores 150.18 250 PKIKP PKPdf 01 59 00.1 +5.8
PLCA pmax pmax
comp=Z,11nm,1.0s
PLCA Paso Flores 150.18 250 PKPbc PKPdf 01 59 00.1 +5.8
comp=Z,10nm,1.0s,baz=118,slow=3.5,SNR=11

MAN 05 01:40:14.1, 13.51N×120.57E, h60km, mb3.8, ML2.5, MS2.1, 4C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.69**	**31**⇑	*eP*			P	01 40 29.9	+1.7
TGY				*eS*			S	01 40 41.6	+2.8
LBPH	**Los Banos**	**0.87**	**43**⇑	*iP*			P	01 40 32.0	+1.3
ARP	**Angono**	**1.17**	**29**⇑	*eP*			P	01 40 34.8	+0.2
QVPH	**Quezon City--P**	**1.23**	**23**⇑	*eP*			P	01 40 31.6	-3.9
QVPH				*i* S			S	01 40 37.6	-14
NBP	**Mount Natib**	**1.23**	**353**	*eP*			P	01 40 36.3	+0.8
BALP	**Baler**	**2.42**	**24**	*eP*			P	01 40 36.2	-16
BALP				*eS*			S	01 40 52.9	-28

NEIC ***05*** *01:42:32.7, 34.92S×70.32W, ML2.6(GUC), After GUC.*

GUC 05 01:42:32.7±0.7, 34.92S×70.32W, MD3.9, ML2.6, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.60**	**352**⇓	*iP*			Pg	01 42 45.1	+0.4
CICH				*i* S			Sg	01 42 54.2	+1.5
SFDO	**San Fernando**	**0.65**	**298**⇓	*iP*			Pg	01 42 45.8	+0.2
SFDO				*i* S			Sg	01 42 55.9	+1.7
CACH	**El Canelo**	**0.83**	**344**	*eP*			Pg	01 42 48.6	-0.6
CACH				*i* S			Sg	01 43 01.8	+1.4
CHCH	**Chadas Angostu**	**1.02**	**344**	*eP*			Pb	01 42 52.3	-0.6

CHCH				*i* S	Sg	01 43 07.7	+1.0
LMEL	**Las Melosas**	**1.07**	**5⇑**	*i* P	Pb	01 42 53.4	-0.4
LMEL				*i* S	Sb	01 43 09.3	+1.1
LMEL				AMP		01 43 11.2	
	comp=E,278nm,0.6s						
PCH	**Pirque**	**1.30**	**353**	*e*P	Pb	01 42 56.9	-0.9
PCH				*i* S	Sb	01 43 15.8	+0.8
LNV	**Longovilo**	**1.32**	**317**	*e*P	Pb	01 42 57.1	-0.9
TACH	**Talagante**	**1.36**	**338⇑**	*i* P	Pb	01 42 58.8	0.0
RCDM	**Rinconada Maip**	**1.48**	**344**	*e*P	Pn	01 42 59.9	-0.8
RCDM				AMP		01 43 23.0	
	comp=E,203nm,0.2s						
CLCH	**Cerro Calan**	**1.53**	**353**	*e*P	Pn	01 43 00.2	-1.1
FCH	**Farellones**	**1.59**	**1**	*e*P	Pn	01 43 02.5	+0.3
FCH				*e*S	Sb	01 43 24.4	+1.2
FCH				AMP		01 43 27.1	
	comp=N,144nm,0.2s						
LCCH	**Las Cruces**	**1.77**	**324**	*e*P	Pn	01 43 05.2	+0.4

ISK ***05*** *02:07:34.6, 39.89N×30.51E, h9km, MD3.1*
NEIC ***05*** *02:07:34.7, 39.88N×30.51E, h9km, MD3.1(ISK), After ISK.*
CSEM ***05*** *02:07:34.7±0.1, 39.87N×30.50E, h10km, MD3.1, Error ellipse: s-maj=2.3km s-min=1.5km az=45.0*

ISC 05 02:07:35.3±0.5, 39.90N±0.04×30.55E±0.05, h9km, n33, σ1§08/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPA	**Golpazari**	**0.43**	**335**	*i* PG	**Pg**	**02 07 43.7**	**-0.3**
GPA				*i* SG	**Sg**	**02 07 49.3**	**-0.5**
GPA	**Golpazari**	**0.43**	**335**	Pg	**Pg**	**02 07 43.7**	**-0.3**
ESKT	**Eskisehir**	**0.44**	**149**	PG	**Pg**	**02 07 43.9**	**-0.4**
ESKT				SG	**Sg**	**02 07 50.3**	**0.0**
ESKT	**Eskisehir**	**0.44**	**149**	Pg	**Pg**	**02 07 43.8**	**-0.5**
ESKT				Sg	**Sg**	**02 07 50.8**	**+0.5**
ESKT	**Eskisehir**	**0.44**	**149**	*i* P	**Pg**	**02 07 43.9**	**-0.4**
ESKT				*i* S	**Sg**	**02 07 50.6**	**+0.3**
ESKT	**Eskisehir**	**0.44**	**149**	*e*Pg	**Pg**	**02 07 43.9**	**-0.4**
ESKT				Sg	**Sg**	**02 07 50.8**	**+0.5**
MDU	**Mudurnu**	**0.76**	**42**	PG	**Pg**	**02 07 50.7**	**+0.2**
MDU	**Mudurnu**	**0.76**	**42**	Pg	**Pg**	**02 07 50.7**	**+0.2**
ALT	**Altintas**	**0.91**	**202**	PG	**Pg**	**02 07 51.7**	**-1.8**
ALT	**Altintas**	**0.91**	**202**	Pg	**Pg**	**02 07 51.7**	**-1.8**
HENT	**Hendek**	**0.96**	**16**	*i* P	**Pb**	**02 07 54.6**	**+0.9**
HENT				*i* S	**Sb**	**02 08 10.1**	**+3.8**
ULDT	**Uludag**	**1.11**	**283**	*i* P	**Pb**	**02 07 55.1**	**-1.2**
ULDT				*i* S	**Sb**	**02 08 13.2**	**+2.5**
YLV	**Yalova**	**1.12**	**307**	*e*PN	**Pn**	**02 07 56.3**	**-0.8**
YLV	**Yalova**	**1.12**	**307**	Pn	**Pn**	**02 07 56.3**	**-0.8**
HRT	**Hereke**	**1.14**	**324**	*e*PN	**Pn**	**02 07 56.7**	**-0.7**
HRT	**Hereke**	**1.14**	**324**	Pn	**Pn**	**02 07 56.7**	**-0.7**
ORLT	**Orhaneli**	**1.28**	**277**	*e*PN	**Pn**	**02 07 58.5**	**-0.9**
ORLT	**Orhaneli**	**1.28**	**277**	Pn	**Pn**	**02 07 58.5**	**-0.9**
KIZT	**Kizilcal**	**1.45**	**134**	PN	**Pn**	**02 08 02.1**	**+0.3**
KIZT	**Kizilcal**	**1.45**	**134**	Pn	**Pn**	**02 08 02.2**	**+0.4**
DST	**Dursunbey**	**1.51**	**259**	*e*PN	**Pn**	**02 08 02.3**	**-0.4**
DST	**Dursunbey**	**1.51**	**259**	Pn	**Pn**	**02 08 02.4**	**-0.3**
ISK	**Istanbul-Kandi**	**1.63**	**316**	*e*PN	**Pn**	**02 08 04.2**	**-0.1**
ISK	**Istanbul-Kandi**	**1.63**	**316**	Pn	**Pn**	**02 08 04.2**	**-0.1**
LOD	**Lodumlu**	**1.70**	**90**	*e*PN	**Pn**	**02 08 05.6**	**+0.2**
LOD	**Lodumlu**	**1.70**	**90**	Pn	**Pn**	**02 08 05.6**	**+0.2**
KCT	**Karacabey**	**1.72**	**283**	*e*PN	**Pn**	**02 08 05.5**	**-0.2**
KCT	**Karacabey**	**1.72**	**283**	Pn	**Pn**	**02 08 05.5**	**-0.2**
ANTO	**Ankara**	**1.73**	**90**	*e*PN	**Pn**	**02 08 05.3**	**-0.4**
ANTO	**Ankara**	**1.73**	**90**	Pn	**Pn**	**02 08 05.3**	**-0.4**
BTOK	**Tokmak**	**1.94**	**267**	*i* P	**Pn**	**02 08 11.1**	**+2.3**
BTOK				*i* S	**Sn**	**02 08 37.7**	**+4.1**
MANT	**Manisa**	**2.09**	**228**	*i* P	**Pn**	**02 08 13.3**	**+2.3**
MANT				*i* S	**Sn**	**02 08 42.0**	**+4.6**
ELDT	**Eldivan**	**2.28**	**74**	*i* P	**Pn**	**02 08 19.7**	**+6.0**
ELDT				*i* S	**Sn**	**02 08 49.7**	**+7.6**

IDC ***05*** *02:10:32.5±2.1, 10.46S×161.35E, h95km±16km, mb3.4/6, mb1 3.7/7, mb1mx3.6/16, mbtmp3.7/7, Error ellipse: s-maj=28.0km s-min=17.4km az=66.0*
NEIC ***05*** *02:10:33.3±1.3, 10.40S×161.30E, h102km±12km, mb3.8/1, Error ellipse: s-maj=19.3km s-min=14.6km az=66.0*

ISC 05 02:10:32.0±1.2, 10.51S±0.09×161.3E±0.1, h104km±10km, n10, σ0§92/12, mb3.4/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.71**	**309**	P	**P**	**02 11 01.4**	**-0.1**
	78nm,0.3s,baz=171,slow=5.5,SNR=19						
HNR				S	**S**	**02 11 23.1**	**-0.3**
	173nm,0.3s,baz=162,slow=22,SNR=15						
DZM	**Mont Dzumac**	**12.51**	**157**	P	**P**	**02 13 29.6**	**+2.2**
	0.2nm,0.3s,baz=123,slow=22,SNR=9.6						
DZM				S	**S**	**02 15 43.7**	**-1.1**
	0.2nm,0.3s,baz=236,slow=23,SNR=3.1						
CTA	**Charters Tower**	**17.34**	**235**	P	**P**	**02 14 33.3**	**+4.4**
	0.4nm,0.3s,baz=59,slow=12,SNR=2.4						
WRAB	**Tennant Creek**	**27.59**	**247**	P	**P**	**02 16 11.7**	**0.0**
	1.9nm,0.7s,mb3.7						
WRA	**Warramunga Arr**	**27.61**	**247**	P	**P**	**02 16 12.1**	**+0.3**
	0.4nm,0.5s,mb3.2,baz=75,slow=9.2,SNR=4.8						
ASAR	**Alice Springs**	**29.19**	**240**	P	**P**	**02 16 25.2**	**-0.7**
	0.4nm,0.5s,mb3.3,baz=71,slow=8.8,SNR=5.1						
SONM	**Songino Array**	**75.70**	**325**	P	**P**	**02 22 09.1**	**+1.4**
	0.2nm,0.4s,mb3.2,baz=146,slow=5.2,SNR=2.9						
ILAR	**Eielson Array**	**84.45**	**20**	P	**P**	**02 22 53.6**	**-0.2**
	0.3nm,0.7s,mb3.3,baz=248,slow=4.9,SNR=5.1						
MKAR	**Makanchi Array**	**90.16**	**318**	P	**P**	**02 23 21.6**	**-0.1**
	0.2nm,0.6s,mb3.4,baz=90,slow=5.8,SNR=3.3						
YKA	**Yellowknife Ar**	**96.52**	**28**	P	**P**	**02 23 49.4**	**-1.1**
	0.1nm,0.4s,mb3.6,baz=257,slow=4.3,SNR=3.7						

MOS ***05*** *02:14:26.6±0.9, 31.86N×56.76E, h10km, mb3.9/2, Error ellipse: s-maj=24.3km s-min=16.3km az=85.3*
IDC ***05*** *02:14:28.8±3.6, 32.27N×56.89E, mb3.5/6, mb1 3.9/8, mb1mx3.6/23, mbtmp3.7/8, ML3.8/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/19, Error ellipse: s-maj=84.2km s-min=22.6km az=164.0*
THR ***05*** *02:14:30.5±0.5, 32.30N×56.66E, h18km±6km, ML4.0*
CSEM ***05*** *02:14:31.2±0.1, 32.29N×56.64E, h25km, ML4.6, Error ellipse: s-maj=2.0km s-min=1.6km az=125.0*
TEH ***05*** *02:14:32.3, 32.29N×56.60E, h10km, Mn4.6*
NEIC ***05*** *02:14:32.3, 32.29N×56.60E, h10km, mb3.7/2, ML4.0(THR), After TEH.*

ISC 05 02:14:29.5±1.8, 32.32N±0.05×56.65E±0.05, h7km±13km, n52, σ1§01/52, mb3.5/7, MS3.3/1, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**1.17**	**232**	Pg	**Pg**	**02 14 52.2**	**-0.7**
ICHK	**Chekchek**	**1.90**	**268**	Pn	**Pn**	**02 15 03.7**	**+1.0**
IMEH	**Mehriz**	**1.96**	**243**	Pn	**Pn**	**02 15 04.7**	**+1.1**
KRBR	**Kerman**	**2.33**	**178**	*e*PN	**Pn**	**02 15 10.2**	**+1.4**
KRBR	**Kerman**	**2.33**	**178**	*e*Pn	**Pn**	**02 15 10.0**	**+1.2**
NASN	**Na'in**	**3.28**	**279**	*e*Pn	**Pn**	**02 15 23.0**	**+0.6**
NASN				*e*Pg	**Pg**	**02 15 29.0**	**-6.0**
NASN	**Na'in**	**3.28**	**279**	*e*PN	**Pn**	**02 15 23.5**	**+1.1**
NASN				*e*PG	**Pg**	**02 15 29.9**	**-5.1**
NASN				AML	AML	02 16 20.8	
	comp=N,454nm,0.7s						
IANJ	**Anjiloo**	**3.88**	**325**	Pn	**Pn**	**02 15 31.6**	**+0.7**
IPAR	**Pars**	**3.95**	**232**	Pn	**Pn**	**02 15 24.8**	**-7.1**
ISRV	**Sarvestan**	**4.22**	**227**	Pn	**Pn**	**02 15 29.1**	**-6.6**
IPAY	**Payeh**	**4.56**	**25**	Pn	**Pn**	**02 15 41.0**	**+0.5**
MHI	**Mashhad**	**4.62**	**30**	Pn	**Pn**	**02 15 43.2**	**+1.9**
IFIR	**Firoozkooh**	**4.63**	**317**	Pn	**Pn**	**02 15 41.9**	**+0.3**
IFIR				Lg		02 16 55.8	
IMOK	**Mook**	**4.70**	**227**	Pn	**Pn**	**02 15 35.6**	**-7.0**
IKRD	**Kardeh**	**4.70**	**19**	Pn	**Pn**	**02 15 47.8**	**+5.2**
IVRN	**Varamin**	**4.90**	**304**	Pn	**Pn**	**02 15 45.7**	**+0.3**
BNDS	**Bandar-Abbas**	**4.92**	**185**	*e*Pn	**Pn**	**02 15 45.0**	**-0.6**
BNDS	**Bandar-Abbas**	**4.92**	**185**	*e*PN	**Pn**	**02 15 45.4**	**-0.2**
BNDS				AML	AML	02 17 26.3	
	comp=N,90nm,0.6s						
IMYA	**Miamay**	**4.93**	**34**	Pn	**Pn**	**02 15 45.9**	**+0.2**
IDMV	**Damavand**	**5.03**	**312**	Pn	**Pn**	**02 15 47.7**	**+0.5**
DAMV	**Damavand**	**5.10**	**312**	*e*Pn	**Pn**	**02 15 48.0**	**-0.2**
DAMV	**Damavand**	**5.10**	**312**	*e*PN	**Pn**	**02 15 48.5**	**+0.3**
DAMV				AML	AML	02 17 38.0	
	comp=N,156nm,0.6s						
DAMV	**Damavand**	**5.10**	**312**	*e*Pn	**Pn**	**02 15 48.5**	**+0.3**
	SNR=52						
GHIR	**Ghir-Karzin**	**5.12**	**219**	*e*PN	**Pn**	**02 15 48.4**	**-0.1**
GHIR				AML	AML	02 17 34.8	
	comp=N,78nm,0.6s						
GHIR	**Ghir-Karzin**	**5.12**	**219**	*e*Pn	**Pn**	**02 15 48.0**	**-0.4**
IQOM	**Qom**	**5.29**	**300**	Pn	**Pn**	**02 15 50.8**	**-0.1**
ASAO	**Ashtian**	**5.97**	**294**	*e*PN	**Pn**	**02 16 00.8**	**+0.3**
ASAO				AML	AML	02 18 04.4	
	comp=N,40nm,0.6s						
ASAO	**Ashtian**	**5.97**	**294**	*e*Pn	**Pn**	**02 16 00.0**	**-0.5**
IRAZ	**Razeghan**	**6.38**	**301**	Pn	**Pn**	**02 16 05.9**	**-0.4**
SHGR	**Shooshtar-Gavs**	**6.66**	**270**	*e*Pn	**Pn**	**02 16 09.0**	**-1.1**
SHGR	**Shooshtar-Gavs**	**6.66**	**270**	*e*PN	**Pn**	**02 16 09.5**	**-0.7**
IKOM	**Komasi**	**7.88**	**286**	Pn	**Pn**	**02 16 24.9**	**-2.3**
SNGE	**Sanandaj**	**8.23**	**292**	*e*PN	**P**	**02 16 31.7**	**-0.5**
SNGE	**Sanandaj**	**8.23**	**292**	*e*Pn	**P**	**02 16 31.0**	**-1.2**
IDHR	**Dehrash**	**8.89**	**288**	Pn	**P**	**02 16 39.5**	**-1.9**
GNI	**Garni**	**12.38**	**312**	LR	LR	02 22 32.1	
	comp=N,67nm,19.7s,baz=323,slow=38						
KIV	**Kislovodsk**	**15.96**	**321**	P	**P**	**02 18 19.3**	**+3.2**
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
KIV	**Kislovodsk**	**15.96**	**321**	P	**P**	**02 18 19.3**	**+3.2**
	comp=Z,15nm,1.1s						
ASF	**Jabal al Asfar**	**16.72**	**275**	Pn	**P**	**02 18 26.8**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=135,slow=8.6,SNR=4.5						
AAK	**Ala-Archa**	**17.48**	**49**	*e*P	**P**	**02 18 34.9**	**-0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AAK	**Ala-Archa**	**17.48**	**49**	*e*P	**P**	**02 18 34.9**	**-0.3**
	comp=Z,2.0nm,0.8s						
EIL	**Elat**	**18.79**	**268**	P	**P**	**02 18 52.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=11,slow=17,SNR=3.4						
EIL	**Elat**	**18.79**	**268**	P	**P**	**02 18 52.0**	**+0.4**
BRTR	**Keskin Array B**	**20.00**	**298**	P	**P**	**02 19 04.5**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=116,slow=13,SNR=7.6						
BVAR	**Borovoye Array**	**22.95**	**22**	P	**P**	**02 19 34.0**	**-1.2**
	comp=Z,1.5nm,0.7s,mb3.5,baz=198,slow=9.4,SNR=10						
CHKZ	**Chkalovo**	**23.58**	**21**	*e*P	**P**	**02 19 40.6**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
MKAR	**Makanchi Array**	**24.35**	**46**	P	**P**	**02 19 47.0**	**-1.9**
	comp=Z,0.5nm,1.0s,mb2.9,baz=240,slow=32,SNR=2.9						
KURK	**Kurchatov**	**24.51**	**35**	*e*P	**P**	**02 19 50.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
MLR	**Muntele Rosu**	**27.09**	**308**	P	**P**	**02 20 16.5**	**+1.9**
	comp=Z,0.8nm,0.7s,mb3.4,baz=289,slow=5.2,SNR=3.6						
ZAL	**Zalesovo**	**29.48**	**35**	LR	LR	02 34 48.7	
	comp=Z,63nm,19.2s,MS3.3,baz=112,slow=42						
GERES	**GERESS Array B**	**36.02**	**310**	P	**P**	**02 21 32.4**	**-0.7**
	comp=Z,1.4nm,0.8s,mb3.9,baz=108,slow=8.4,SNR=10						
YKA	**Yellowknife Ar**	**85.26**	**356**	P	**P**	**02 27 07.8**	**+0.3**
	comp=Z,0.1nm,0.5s,mb3.2,baz=1.9,slow=5.3,SNR=3.1						

IDC ***05*** *02:16:50.7±0.9, 4.48N×92.58E, mb3.9/10, mb1 4.1/11, mb1mx3.9/21, mbtmp3.8/11, ML4.3/1, Error ellipse: s-maj=31.7km s-min=19.2km az=48.0*
NEIC ***05*** *02:16:51.5±1.0, 4.15N×93.18E, h30km, mb4.3/1, Error ellipse: s-maj=21.8km s-min=12.5km az=171.0*

ISC 05 02:16:53.4±0.8, 4.6N±0.1×92.7E±0.1, h30km, n14, σ0§85/14, mb3.9/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.97**	**85**	*e*P	**Pn**	**02 18 39.2**	**-11**
CMAR	**Chiang Mai Arr**	**15.09**	**23**	Pn	**P**	**02 20 25.6**	**-0.8**
	0.4nm,0.3s,baz=222,slow=12,SNR=3.5						
FITZ	**Fitzroy Crossi**	**39.55**	**126**	P	**P**	**02 24 23.0**	**-0.8**
	4.2nm,0.9s,mb4.2,baz=348,slow=3.1,SNR=4.2						
MKAR	**Makanchi Array**	**43.00**	**350**	P	**P**	**02 24 52.4**	**+0.5**
	0.5nm,0.6s,mb3.4,baz=169,slow=8.1,SNR=6.3						
MKAR	**Makanchi Array**	**43.00**	**350**	P	**P**	**02 24 52.4**	**+0.5**
SONM	**Songino Array**	**44.67**	**13**	P	**P**	**02 25 08.0**	**+2.6**
	0.2nm,0.5s,mb3.2,baz=194,slow=5.9,SNR=2.5						
WRA	**Warramunga Arr**	**47.64**	**122**	P	**P**	**02 25 29.9**	**+0.7**
	1.5nm,0.8s,mb4.0,baz=298,slow=9.0,SNR=4.0						
ZAL	**Zalesovo**	**49.62**	**354**	P	**P**	**02 25 44.0**	**-0.1**
	1.2nm,0.5s,mb4.2,baz=288,slow=6.2,SNR=5.4						
BVAR	**Borovoye Array**	**51.66**	**343**	P	**P**	**02 25 58.7**	**-0.9**
	0.8nm,0.6s,mb3.8,baz=164,slow=11,SNR=5.6						
CHKZ	**Chkalovo**	**52.17**	**344**	P	**P**	**02 26 03.7**	**+0.3**
	2.3nm,0.7s,mb4.2						
KMBO	**Kilima Mbogo**	**55.67**	**266**	P	**P**	**02 26 29.8**	**+0.1**
	0.9nm,0.4s,mb4.1,baz=79,slow=16,SNR=3.5						
BRTR	**Keskin Array B**	**63.52**	**312**	P	**P**	**02 27 22.5**	**-0.9**
	1.0nm,0.7s,mb4.0,baz=135,slow=7.0,SNR=7.0						
MLR	**Muntele Rosu**	**70.53**	**317**	P	**P**	**02 28 08.1**	**+0.5**
	1.9nm,0.9s,mb4.0,baz=151,slow=10,SNR=3.7						
GERES	**GERESS Array B**	**79.32**	**319**	P	**P**	**02 28 57.9**	**0.0**
	0.7nm,0.8s,mb3.7,baz=104,slow=4.0,SNR=6.3						

IDC ***05*** *02:19:27.9±0.5, 5.19N×94.27E, mb4.7/24, mb1 4.8/24, mb1mx4.7/27, mbtmp4.7/24, MS4.1/22, Ms1 4.1/22, ms1mx4.0/33, Error ellipse: s-maj=21.0km s-min=11.3km az=43.0*
BJI ***05*** *02:19:29.8, 4.94N×94.33E, h39km, mB5.0, mb5.0, Ms4.4, Msz4.1*
MOS ***05*** *02:19:31.4±1.0, 5.30N×94.38E, h33km, mb5.1/42, Error ellipse: s-maj=11.0km s-min=5.1km az=119.4*
HRVD ***05*** *02:19:32.8±0.6, 4.91N×94.22E, h38km±1km, MW4.8/37, Centroid moment Tensor Solution. LP body waves: s15,c17;Mantle waves: s37,c47; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.76±.24; $M_{\theta\theta}$-1.15±.14; $M_{\phi\phi}$-0.61±.18; $M_{r\theta}$0.61±.10; $M_{\theta\phi}$1.28±.08; $M_{\phi r}$-0.45±.13; Best double couple: $M_0$2.114×10^{16} NP1:ϕ_s311°, δ35°, λ92°. NP2:ϕ_s128°, δ55°, λ88°. Principal axes: T 1.9, Plg79°, Azm31°; N .425, Plg1°, Azm129°; P -2.328, Plg10°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***05*** *02:19:32.8±0.2, 5.26N×94.33E, h30km, mb4.9/46 Error ellipse: s-maj=6.7km s-min=4.3km az=218.0*
NEIC Felt at Banda Aceh.

ISC 05 02:19:31.6±0.3, 5.16N±0.04×94.30E±0.03, h36km, h36km±2.7km: pP-P, n246, σ0§98/245, mb4.9/88, MS4.1/33, 29C-11D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.32**	**89**	*e*P	**P**	**02 21 05.1**	**+0.3**
SNG	**Songkhla**	**6.59**	**72**	P	**P**	**02 21 11.0**	**+2.4**
	258nm,0.9s						
NNT	**Nongplab**	**9.13**	**36**	P	**P**	**02 21 45.5**	**+1.6**
BDT	**Bhumibol Dam**	**12.86**	**21**	P	**P**	**02 22 37.0**	**+2.2**
KKTK	**Khon Kaen**	**13.90**	**36**	P	**P**	**02 22 58.0**	**+9.5**
CMAR	**Chiang Mai Arr**	**13.97**	**19**	Pn	**P**	**02 22 51.4**	**+2.0**
	3.4nm,0.3s,baz=207,slow=14,SNR=19						
CMAR				LR	LR	02 29 05.5	
	comp=Z,201nm,18.1s,baz=205,slow=41						
CMAR				ScP		02 31 41.6	
	0.3nm,0.3s,baz=230,slow=2.7,SNR=6.4						
CMAR	**Chiang Mai Arr**	**13.97**	**19**	Pn	**P**	**02 22 51.4**	**+2.0**
CMAR				ScP		02 31 41.6	
CHG	**Chiang Mai**	**14.31**	**18**	⇓P	**P**	**02 22 57.5**	**+3.6**
	82nm,0.6s						
NANT	**Nan**	**14.93**	**24**	⇑P	**P**	**02 23 04.0**	**+2.0**
	438nm,0.7s						
VIS	**Vishakhapatnam**	**16.46**	**320**	*e*P	**P**	**02 23 21.8**	**+0.1**
VIS				*e*		02 26 08.6	
TRD	**Trivandrum**	**17.54**	**282⇓**	*e*P	**P**	**02 23 50.2**	**+15**
TRD				*e*S	**S**	**02 27 06.2**	**+19**
HYB	**Hyderabad**	**19.65**	**310**	*e*P	**P**	**02 24 00.0**	**-0.3**
HYB				*e*S	**S**	**02 27 36.0**	**+1.5**
HYB	**Hyderabad**	**19.65**	**310**	*i* P	**P**	**02 24 00.0**	**-0.3**
HYB				*e*S	**S**	**02 27 36.0**	**+1.5**
SHL	**Shillong**	**20.43**	**354**	*e*P	**P**	**02 24 04.4**	**-4.1**
SHL				*e*		02 27 48.0	
QIZ	**Qiongzhong**	**20.49**	**46**	P	**P**	**02 24 08.6**	**-0.6**
QIZ				PP	PP	02 24 28.0	-2.6
QIZ				S	**S**	**02 27 51.0**	**-0.6**
QIZ				SS	SS	02 28 22.6	+0.1
QIZ				AMB	AMB		
	comp=Z,228nm,4.1s						
QIZ				LR	LR		
	comp=N,733nm,13.9s						
QIZ				LR	LR		
	comp=Z,714nm,18.9s						
KMI	**Kunming**	**21.44**	**21**	P	**P**	**02 24 19.4**	**+0.5**
KMI				S	**S**	**02 28 15.8**	**+6.2**
KMI				AMB	AMB		
	comp=Z,37nm,1.0s,mb4.7						
KMI				LR	LR		
	comp=N,322nm,15.9s,MS4.0						
KMI				LR	LR		
	comp=E,367nm,14.6s,MS4.0						
KMI				LR	LR		
	comp=Z,391nm,20.0s						
KMI	**Kunming**	**21.44**	**21**	P	**P**	**02 24 19.4**	**+0.5**
	comp=Z,37nm,1.0s,mb4.7						
KMI				S	**S**	**02 28 15.8**	**+6.2**
KKM	**Kota Kinabalu**	**21.83**	**87**	*e*P	**P**	**02 24 27.4**	**+4.6**
JIRN	**Jiri**	**23.67**	**342**	*e*P	**P**	**02 24 40.8**	**-0.1**
	comp=Z,90nm,0.9s,mb5.2						
PKI	**Pulchoki**	**23.84**	**340**	*e*P	**P**	**02 24 42.3**	**-0.3**
	comp=Z,79nm,1.0s,mb5.1						
PKI	**Pulchoki**	**23.84**	**340**	*e*P	**P**	**02 24 42.3**	**-0.3**
PKI				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.8						
DMN	**Daman**	**23.98**	**340**	*e*P	**P**	**02 24 44.4**	**+0.5**
	comp=Z,46nm,0.7s,mb5.0						
POO	**Poona**	**23.99**	**305**	*e*P	**P**	**02 24 55.0**	**+11**
	comp=Z,20nm,1.0s,mb4.5						
POO				*e*S	**S**	**02 29 07.0**	**+12**
GUN	**Gumba**	**24.00**	**341**	*e*P	**P**	**02 24 43.8**	**-0.3**
	comp=Z,51nm,0.6s,mb5.1						
KKN	**Kakani**	**24.09**	**340**	*e*P	**P**	**02 24 44.4**	**-0.6**
	comp=Z,31nm,0.7s,mb4.8						
KKN	**Kakani**	**24.09**	**340**	*e*P	**P**	**02 24 44.4**	**-0.6**
KKN				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.5						
GYA	**Guiyang**	**24.25**	**28⇑**	*i* P	**P**	**02 24 47.2**	**+0.6**
GYA				XP		02 25 01.6	
GYA				S	**S**	**02 29 07.2**	**+7.2**
GYA				AMB	AMB		
	comp=Z,120nm,0.7s,mb5.4						
GYA				AMB	AMB		
	comp=Z,280nm,3.0s						
GYA				LR	LR		
	comp=N,580nm,16.2s,MS4.3						
GYA				LR	LR		
	comp=E,560nm,17.6s,MS4.3						
GYA				LR	LR		
	comp=Z,710nm,17.3s,MS4.2						
GKN	**Gorkha**	**24.51**	**339**	*e*P	**P**	**02 24 49.1**	**0.0**
	comp=Z,131nm,0.8s,mb5.5						
LSA	**Lhasa**	**24.59**	**353**	P	**P**	**02 24 50.5**	**+0.6**
LSA	**Lhasa**	**24.59**	**353**	*e*P	**P**	**02 24 49.3**	**-0.6**
LSA				pmax	pmax		
	comp=Z,62nm,0.8s,mb5.2						
LSA	**Lhasa**	**24.59**	**353**	*e*P	**P**	**02 24 49.3**	**-0.5**
	comp=Z,62nm,0.8s,mb5.2						
KOLN	**Koldanda**	**24.69**	**337**	*e*P	**P**	**02 24 51.2**	**+0.4**
	comp=Z,106nm,0.7s,mb5.5						
CD2	**Chengdu**	**27.12**	**18**	P	**P**	**02 25 12.2**	**-1.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.0						
ENH	**Enshi**	**28.79**	**28⇑**	*e*P	**P**	**02 25 26.6**	**-1.9**
	comp=Z,41nm,0.7s,mb5.3						
WHN	**Wuhan**	**31.53**	**34**	P	**P**	**02 25 53.0**	**+0.2**
XAN	**Xi'an**	**31.78**	**23**	P	**P**	**02 25 52.8**	**-2.2**
XAN				AP	pP	02 26 05.5	+0.2
XAN				AMB	AMB		
	comp=Z,75nm,0.8s,mb5.6						
LZH	**Lanzhou**	**32.01**	**15**	⇑P	**P**	**02 25 55.0**	**-2.0**
LZH				AP	pP	02 26 07.5	+0.2
LZH				XP	sP	02 26 10.4	-1.6
LZH				AMB	AMB		
	comp=Z,33nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,103nm,4.5s						
LZH				LR	LR		
	comp=N,256nm,13.2s						
LZH				LR	LR		
	comp=Z,393nm,17.0s,MS4.2						
LZH	**Lanzhou**	**32.01**	**15**	⇑P	**P**	**02 25 55.0**	**-2.0**
	comp=Z,33nm,1.4s,mb5.0						
LZH				pP	pP	02 26 07.5	+0.2
LZH				sP	sP	02 26 10.4	-1.6
GTA	**Gaotai**	**34.46**	**8**	P	**P**	**02 26 17.4**	**-0.7**
GTA				AP	pP	02 26 31.0	+2.5
GTA				XP	sP	02 26 38.5	+5.3
GTA				S	**S**	**02 31 35.7**	**-7.4**
GTA				AMB	AMB		
	comp=Z,35nm,0.8s,mb

BJI AMB AMB
comp=Z,30nm,0.9s,mb5.0
BJI AMB AMB
comp=Z,245nm,4.8s
BJI LR LR
comp=N,236nm,18.4s,MS4.2
BJI LR LR
comp=E,185nm,18.5s,MS4.2
BJI LR LR
comp=Z,248nm,20.7s,MS4.0
BJI Beijing 39.93 26 P **P 02 27 05.2 +1.1**
comp=Z,30nm,0.9s,mb5.0
BJI sP sP 02 27 18.8 -0.3
BJI S **S 02 33 09.5 +3.0**
BJI SS 02 33 38.9
ULHL Ulahol 40.28 339 P **P 02 27 07.2 +0.3**
SNR=10
UCH Uchtor 40.90 337 P **P 02 27 12.9 +0.9**
SNR=12
KBK Karagaybulak 41.10 338 P **P 02 27 14.9 +1.1**
SNR=14
AML Almayashu 41.13 337 P **P 02 27 14.8 +0.8**
SNR=24
AAK Ala-Archa 41.25 338 P **P 02 27 16.2 +1.2**
SNR=6.5
AAK Ala-Archa 41.25 338 P **P 02 27 14.5 -0.5**
comp=Z,96nm,0.8s,mb5.5,SNR=8.6
AAK Ala-Archa 41.25 338 *i* P **P 02 27 15.2 +0.2**
AAK pmax pmax
comp=Z,12nm,1.7s,mb4.2
AAK Ala-Archa 41.25 338 *e*P **P 02 27 14.4 -0.6**
comp=Z,14nm,0.9s,mb4.6
EKS2 Erkin-Say 41.55 337 P **P 02 27 18.1 +0.6**
SNR=16
USP Ospenovka 41.80 338 P **P 02 27 19.6 +0.1**
SNR=15
MKAR Makanchi Array 42.76 348 P **P 02 27 26.9 -0.4**
comp=Z,21nm,0.7s,mb5.0,baz=167,slow=8.2,SNR=137
MKAR PcP PcP 02 29 18.8 -0.1
comp=Z,3.1nm,0.7s,baz=169,slow=3.0,SNR=4.5
MKAR LR LR 02 48 04.3
comp=Z,148nm,21.4s,MS3.9,baz=176,slow=40
MKAR Makanchi Array 42.76 348 P **P 02 27 26.9 -0.4**
MKAR PcP PcP 02 29 18.8 -0.1
NWAO Narrogin (SRO) 43.68 152 LR LR 02 46 24.8
comp=Z,132nm,18.4s,MS3.9,baz=147,slow=37
SONM Songino Array 43.77 12 P **P 02 27 34.7 -0.8**
comp=Z,17nm,0.7s,mb4.9,baz=192,slow=8.2,SNR=118
SONM PcP PcP 02 29 21.7 -0.6
comp=Z,4.2nm,0.7s,baz=199,slow=3.8,SNR=6.0
SONM LR LR 02 48 38.5
comp=Z,139nm,18.8s,MS3.9,baz=11,slow=40
ULN Ulaanbaatar 43.93 12 *i* P **P 02 27 36.2 -0.6**
ZAK Zakamensk 45.70 8⇑*i* P **P 02 27 50.3 -0.6**
ZAK *e* 02 29 28.9
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
WRA Warramunga Arr 46.60 124 P **P 02 27 58.2 -0.2**
comp=Z,17nm,0.7s,mb5.1,baz=302,slow=9.1,SNR=58
WRAB Tennant Creek 46.60 124⇑*i* P **P 02 27 58.6 +0.2**
WRAB pmax pmax
comp=Z,76nm,0.8s,mb5.7
WRAB Tennant Creek 46.60 124⇑*i* P **P 02 27 58.6 +0.2**
comp=Z,76nm,0.8s,mb5.7
WB2 Warramunga Arr 46.61 124⇑*i* P **P 02 27 58.6 +0.1**
TLY Talaya 47.02 8 *e*P **P 02 28 01.3 0.0**
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TLY MLR MLR
comp=Z,172nm,20.0s,MS4.0
TLY Talaya 47.02 8 *e*P **P 02 28 01.0 -0.2**
comp=Z,7.7nm,0.8s,mb4.7
CN2 Changchun 47.25 31 *e*P **P 02 28 05.0 +1.8**
CN2 *e*AP pP 02 28 15.1 +1.3
CN2 *e*S **S 02 34 55.3 +2.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,16.0s,MS5.1
CN2 LR LR
comp=E,810nm,16.0s,MS5.1
CN2 LR LR
comp=Z,300nm,19.0s,MS4.3
KURK Kurchatov 47.27 346⇑*e*P **P 02 28 03.1 -0.2**
KURK *e* pP 02 28 11.7 -2.2
KURK pmax pmax
comp=Z,31nm,0.8s,mb5.3
KURK Kurchatov 47.27 346⇑*e*P **P 02 28 03.1 -0.2**
comp=Z,31nm,0.8s,mb5.3
KURK *e* pP 02 28 11.7 -2.2
ASPA Alice Springs 48.09 128 *e*P **P 02 28 09.8 -0.3**
ASAR Alice Springs 48.09 128 P **P 02 28 09.8 -0.3**
comp=Z,6.9nm,0.8s,mb4.7,baz=305,slow=7.5,SNR=40
ASAR LR LR 02 52 52.0
comp=Z,83nm,18.4s,MS3.8,baz=153,slow=42
HIA Hailar 48.95 22 *e*P **P 02 28 15.7 -0.7**
HIA pmax pmax
comp=Z,4.0nm,0.6s
HIA Hailar 48.95 22 *e*P **P 02 28 15.7 -0.7**
comp=Z,4.5nm,0.6s,mb4.7
ZAL Zalesovo 49.24 353 P **P 02 28 17.9 -0.7**
comp=Z,10nm,0.5s,mb5.1,baz=301,slow=6.1,SNR=45
ZAL LR LR 02 53 48.5
comp=Z,152nm,20.9s,MS4.0,baz=206,slow=42
MDJ Mudanjiang 49.98 33 P **P 02 28 22.4 -1.9**
MDJ AP pP 02 28 30.9 -4.0
MDJ XP sP 02 28 35.4 -4.0
MDJ PP PP 02 30 21.9 +1.7
MDJ S **S 02 35 40.2 +9.1**
MDJ SCS ScS 02 38 03.4 -6.2
MDJ AMB AMB
comp=Z,16nm,1.3s,mb4.9
MDJ AMB AMB
comp=Z,165nm,3.9s
MDJ LR LR
comp=N,51nm,29.8s
MDJ LR LR
comp=E,119nm,23.1s
MDJ LR LR
comp=Z,124nm,20.2s
NVS Novosibirsk 50.34 352 *e*P **P 02 28 24.2 -2.7**
NVS *e*S **S 02 35 35.8 -0.1**
NVS pmax pmax
comp=N,15nm,1.0s
NVS pmax pmax
comp=Z,16nm,1.0s,mb5.0
NVS pmax pmax
comp=E,9.0nm,0.7s
NVS smax
comp=E,15nm,1.7s
ATD Arta Tunnel 51.24 281 LR LR 02 48 04.5
comp=E,77nm,18.5s,MS3.8,baz=86,slow=34
BVAR Borovoye Array 51.60 342 P **P 02 28 35.2 -1.3**
comp=E,10nm,0.7s,mb4.8,baz=140,slow=8.9,SNR=58
CHKZ Chkalovo 52.09 342⇑*e*P **P 02 28 39.5 -0.7**
CHKZ pmax pmax
comp=Z,26nm,0.7s,mb5.3
CHKZ Chkalovo 52.09 342⇑*e*P **P 02 28 39.5 -0.7**
comp=Z,26nm,0.7s,mb5.3
KLR Kul'dur 54.14 29 *e*P **P 02 28 52.1 -3.4**
PMG Port Moresby 54.63 105 P **P 02 28 59.0 -0.5**
comp=Z,18nm,0.8s,mb5.1,baz=102,slow=14,SNR=3.4
BOD Bodaibo 54.74 13⇓*i* P **P 02 28 58.2 -1.5**
BOD pmax pmax
comp=Z,28nm,0.9s,mb5.3
GNI Garni 56.46 316 *e*P **P 02 29 11.2 -1.2**
GNI pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 56.46 316 P **P 02 29 12.3 -0.1**
comp=Z,6.0nm,0.8s,mb4.7,baz=359,slow=14,SNR=3.1
GNI Garni 56.46 316 *e*P **P 02 29 11.2 -1.2**
comp=Z,9.7nm,0.8s,mb4.9
CTA Charters Tower 56.87 118 P **P 02 29 15.6 0.0**
comp=Z,3.7nm,0.7s,mb4.5,baz=310,slow=14,SNR=3.2
KMBO Kilima Mbogo 57.32 265 *i* P **P 02 29 21.8 +2.9**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
KMBO Kilima Mbogo 57.32 265 P **P 02 29 19.3 +0.4**
comp=Z,1.8nm,0.9s,mb4.1,baz=67,slow=15,SNR=5.4
KMBO LR LR 02 49 41.1
comp=Z,206nm,20.8s,MS4.2,baz=278,slow=32
KMBO Kilima Mbogo 57.32 265 *e*P **P 02 29 19.6 +0.7**
comp=Z,16nm,1.3s,mb4.9

SVE Sverdlovsk 57.97 339⇑*e*P **P 02 29 22.8 0.0**
SVE *e* 02 29 39.2
SVE *e* 02 30 15.0
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.2
STKA Stephens Creek 58.14 133⇓*i*P **P 02 29 24.2 -0.2**
comp=Z,3.9nm,0.9s,mb4.4
STKA *i* pP 02 29 37.7 +2.4
STKA Stephens Creek 58.14 133 P **P 02 29 23.9 -0.5**
comp=Z,5.1nm,0.9s,mb4.5,baz=303,slow=7.4,SNR=7.7
ARU Arti 58.44 338⇑*i*P **P 02 29 24.8 -1.3**
ARU *e* 02 30 13.5
ARU *e* 02 31 34.1
ARU *e*S **S 02 37 28.8 +3.9**
ARU *e*SS SS 02 41 23.1 +4.0
ARU pmax pmax
comp=Z,16nm,1.2s,mb4.9
ARU Arti 58.44 338 *e*P **P 02 29 24.5 -1.6**
comp=Z,17nm,0.9s,mb5.1
YSS Yuzh-Sakhalins 58.83 37 *e*P **P 02 29 25.2 -3.8**
KIV Kislovodsk 59.44 319 *e*P **P 02 29 31.9 -1.4**
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
KIV Kislovodsk 59.44 319 *e*P **P 02 29 31.9 -1.4**
comp=Z,9.9nm,0.8s,mb4.9
GOF Gofitskoye 59.69 320 *e*P sP 02 29 50.7 +0.6
ASF Jabal al Asfar 59.84 304 P **P 02 29 36.9 +0.6**
comp=Z,1.2nm,0.4s,mb4.3,baz=330,slow=5.1,SNR=3.3
ASF LR LR 02 57 41.0
comp=Z,153nm,18.6s,MS4.2,baz=145,slow=38
ELZG Elazig 59.99 312 *i* P **P 02 29 37.0 -0.1**
MALT Malatya 60.35 311 *e*P **P 02 29 38.8 -0.8**
MALT pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
MALT Malatya 60.35 311 *e*P **P 02 29 38.8 -0.8**
comp=Z,2.2nm,0.7s,mb4.3
GZT Gaziantep 60.71 310 *i* P **P 02 29 42.1 +0.1**
EIL Elat 60.93 301 P **P 02 29 44.4 +0.7**
comp=Z,3.6nm,0.8s,mb4.5,baz=322,slow=33,SNR=3.3
EIL LR LR 02 56 58.2
comp=Z,222nm,18.3s,MS4.3,baz=283,slow=37
SOC Sochi 61.26 318 *e*P **P 02 29 42.9 -2.8**
SOC *e* 02 30 21.8
SOC *e* 02 31 56.9
SOC *e*S **S 02 38 04.5 +3.0**
SOC *e* 02 39 31.0
SOC *e*SS SS 02 42 05.6 +2.2
SOC pmax pmax
comp=N,13nm,0.9s
SOC pmax pmax
comp=E,14nm,0.9s
SOC pmax pmax
comp=Z,14nm,0.9s,mb5.1
KAHT Ahir Dag 61.31 310 *i* P **P 02 29 46.2 +0.1**
YAK Yakutsk 62.51 18 *e*P **P 02 29 50.7 -3.1**
YAK pmax pmax
comp=Z,15nm,0.9s,mb5.1
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
ANN Anapa 63.24 318 *e*P **P 02 29 54.0 -4.9**
ANN *i* *PP pP 02 30 04.8 -5.0
ANN *e*S **S 02 38 24.2 -2.1**
ANN pmax pmax
comp=Z,46nm,1.4s,mb5.4
BRTR Keskin Array B 64.33 312 P **P 02 30 05.0 -1.0**
comp=Z,9.1nm,0.7s,mb4.9,baz=128,slow=7.4,SNR=51
VRSR Storozhevoye 64.68 325 *e*P **P 02 30 05.8 -2.3**
VRSR pmax pmax
comp=N,4.0nm,0.7s
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRSR pmax pmax
comp=E,8.0nm,0.6s
SIM Simferopol' 65.51 317 P **P 02 30 12.7 -0.9**
SIM pmax pmax
comp=Z,14μm,0.8s
MOS Moscow 67.47 329 *e*P **P 02 30 25.1 -0.7**
MOS MLR MLR
comp=Z,600nm,20.9s,MS4.8
OBN Obninsk 67.75 328⇑*i*P **P 02 30 26.3 -1.3**
OBN *e* pP 02 30 40.1 +1.4
OBN *e* 02 30 51.3
OBN *e*S S 02 39 24.7 +3.4
OBN pmax pmax
comp=Z,51nm,1.5s,mb5.3
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
OBN Obninsk 67.75 328 *e*P **P 02 30 25.7 -1.9**
comp=Z,15nm,0.8s,mb5.1
LSZ Lusaka 68.54 251 P **P 02 30 33.8 +0.7**
LSZ pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
LSZ Lusaka 68.54 251 P **P 02 30 33.8 +0.7**
comp=Z,10nm,1.3s,mb4.6
MA2 Magadan 69.09 27 *e*P **P 02 30 34.8 -1.0**
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
TIRR Tirgusor 69.29 316⇑P **P 02 30 36.8 -0.5**
MATP Matopo 69.40 246 LR LR 02 57 22.9
comp=Z,289nm,19.2s,MS4.5,baz=57,slow=33
CFR Carcaliu 69.65 316⇓P **P 02 30 38.8 -0.7**
IDI Anoyia 70.25 306 P **P 02 30 42.0 -1.3**
comp=Z,8.3nm,1.0s,mb4.6,baz=95,slow=17,SNR=2.8
AKASG Malin Array Be 70.38 322 P **P 02 30 42.2 -1.6**
comp=Z,5.4nm,0.6s,mb4.6,baz=90,slow=5.2,SNR=25
VRI Vrincioaia 70.77 317⇑P **P 02 30 46.6 +0.3**
MLR Muntele Rosu 71.22 316 P **P 02 30 49.0 -0.1**
comp=Z,14nm,0.8s,mb5.0,baz=179,slow=8.9
MLR Muntele Rosu 71.22 316⇑P **P 02 30 49.2 +0.1**
MLR Muntele Rosu 71.22 316⇑P **P 02 30 49.2 +0.1**
SNX Sinaia 71.49 316⇑P **P 02 30 52.7 +2.1**
BURAR Bucovina Array 72.16 318⇑P **P 02 30 55.0 +0.4**
BURAR Bucovina Array 72.16 318⇑P **P 02 30 55.0 +0.5**
VTS Vitosha 72.63 313⇓P **P 02 30 57.4 -0.1**
LBTB Lobatse 73.10 242 LR LR 02 59 02.9
comp=Z,206nm,19.8s,MS4.4,baz=316,slow=32
IDID Didziasalis 73.11 326 *e*P **P 02 30 59.4 -0.6**
IDID AMPb AMB 02 31 01.2
comp=Z,7.1nm,0.9s,mb4.6
IIGN Ignalina 73.40 326 *e*P **P 02 31 01.2 -0.5**
IIGN AMPb AMB 02 31 03.0
comp=Z,9.5nm,1.0s,mb4.7
IZAR Zarasai 73.50 327 *e*P **P 02 31 01.6 -0.7**
IZAR AMPb AMB 02 31 03.5
comp=Z,6.9nm,1.3s,mb4.4
ISAL Salakas 73.51 327 *e*P **P 02 31 01.7 -0.7**
KWP Kalwaria 74.20 320 *e*P **P 02 31 06.6 +0.1**
KOLS Kolonicke sedl 74.35 319 *e*P **P 02 31 07.9 +0.5**
SUW Suwalki 74.79 325 *e*P **P 02 31 09.0 -0.9**
SUW Suwalki 74.79 325 *e*P **P 02 31 09.0 -0.9**
CRVS Cervenica-Dubn 74.87 319 *e*P **P 02 31 12.5 +2.1**
FINES FINESS Array B 75.18 333 P **P 02 31 11.2 -0.7**
comp=Z,11nm,0.7s,mb4.9,baz=93,slow=5.4,SNR=59
FINES LR LR 03 08 16.6
comp=Z,82nm,20.4s,MS4.0,baz=146,slow=39
KAF Kangasniemi 75.27 333 *e*p **P 02 31 11.3 -1.1**
comp=Z,15nm,0.8s,mb5.0,baz=101,slow=4.3
KAF Kangasniemi 75.27 333 *e*P **P 02 31 11.3 -1.1**
KAF pmax pmax
comp=Z,15nm,0.8s,mb5.0
KECS Kecovo 75.44 319 *e*P **P 02 31 13.4 -0.3**
DZM Mont Dzumac 75.53 114 LR LR 03 04 46.0
comp=Z,93nm,19.7s,MS4.1,baz=226,slow=36
NIE Niedzica 75.70 320 *e*P **P 02 31 15.0 -0.1**
PSZ Piszkesteto 75.75 318⇑*e*P **P 02 31 15.4 -0.1**
PSZ Piszkesteto 75.75 318⇓P **P 02 31 15.3 -0.2**
MAW Mawson 75.92 192 LR LR 02 55 42.4
comp=Z,172nm,20.1s,MS4.3,baz=78,slow=29
OJC Ojcow 76.15 320 *e*P **P 02 31 17.7 0.0**
PKSM Moragy 76.38 316⇑P **P 02 31 18.7 -0.4**
VYHS Vyhne 76.53 319 *e*P **P 02 31 19.9 0.0**
OKC Ostrava-Krasne 77.15 320 *e*P **P 02 31 24.0 +0.6**
OKC *e*pP pP 02 31 34.1 -0.4
KEV Kevo 77.44 341 *e*p pP 02 31 37.4 +1.7
comp=Z,38nm,1.4s
MORC Moravsky Berou 77.53 320 *e*P **P 02 31 25.6 +0.1**
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MORC Moravsky Berou 77.53 320 *e*P **P 02 31 25.6 +0.1**
comp=Z,5.7nm,0.9s,mb4.5
ZST Bratislava 77.64 318 *e*P **P 02 31 26.6 +0.5**
ZST *e*pP pP 02 31 34.1 -3.2
KOGS Kog 78.05 316 *e*P **P 02 31 28.3 -0.1**

GKP Gorka Klasztor 78.15 323 *e*P **P 02 31 28.5 -0.3**
GKP Gorka Klasztor 78.15 323 *e*P **P 02 31 28.6 -0.2**
DPC Dobruska-Polom 78.38 320 *e*P **P 02 31 31.0 +0.9**
KSP Ksiaz 78.45 321 *e*P **P 02 31 30.7 +0.2**
KSP Ksiaz 78.45 321 *e*P **P 02 31 31.1 +0.6**
BILL Bilibino 78.54 21⇓*i*P **P 02 31 30.3 -0.3**
BILL *e* 02 31 37.1
BILL *i* S S 02 41 24.6 +1.5
BILL *e*SS SS 02 46 28.7 -1.1
BILL pmax pmax
comp=Z,29nm,2.5s,mb4.8
BILL MLR MLR
comp=Z,5μm,24.0s
BILL Bilibino 78.54 21 *e*P **P 02 31 29.7 -0.9**
comp=Z,7.1nm,0.5s,mb4.8
UPC Upice 78.59 320 *e*P **P 02 31 32.2 +0.9**
BOJS Bojanci 78.67 315 *e*P **P 02 31 31.7 -0.1**
PERS Pernice 78.84 316 *e*P **P 02 31 32.9 +0.2**
LJU Ljubljana 79.21 316 *e*P **P 02 31 34.9 +0.2**
LJU *e* pP 02 31 44.3 -1.7
PRU Pruhonice 79.48 320 *e*P **P 02 31 36.9 +0.7**
VOY Vojsko 79.65 316 *e*P **P 02 31 36.8 -0.3**
VOY *e* pP 02 31 46.9 -1.4
BSD Bornholm Skovb 79.72 325⇓*i*P **P 02 31 36.9 -0.4**
BSD pmax pmax
comp=Z,18nm,0.6s,mb5.2
BSD Bornholm Skovb 79.72 325⇓*i*P **P 02 31 36.9 -0.4**
comp=Z,18nm,0.6s,mb5.2
ROBS Robic 79.93 316 *e*P **P 02 31 38.6 0.0**
BRG Berggiesshubel 79.94 321 *i* P **P 02 31 38.9 +0.3**
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BRG Berggiesshubel 79.94 321 *i* P **P 02 31 38.9 +0.3**
comp=Z,7.6nm,1.0s,mb4.6
GEC2 GERESS Array S 79.95 319 *e*P **P 02 31 39.1 +0.4**
GEC2 pmax pmax
comp=Z,43nm,1.9s,mb5.0
GEC2 GERESS Array S 79.95 319 *e*P **P 02 31 39.1 +0.4**
comp=Z,43nm,1.9s,mb5.0
GERES GERESS Array B 79.95 319 P **P 02 31 39.3 +0.6**
comp=Z,6.1nm,0.8s,mb4.6,baz=104,slow=5.5,SNR=52
PTCC Patocco-Chiusa 80.04 316 *e*P **P 02 31 39.3 +0.1**
KHC Kasperske Hory 80.05 319 *e*P **P 02 31 39.5 +0.3**
KHC *e* 02 31 44.5
KHC Kasperske Hory 80.05 319 *e*P **P 02 31 39.5 +0.3**
KHC pP pP 02 31 44.5 -5.9
ARV Arcevia 80.20 313 *e*P **P 02 31 40.9 +0.7**
WET Wettzell 80.51 319 *e*P **P 02 31 42.0 +0.3**
WET pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
WET Wettzell 80.51 319 *e*P **P 02 31 42.0 +0.3**
comp=Z,10.0nm,1.2s,mb4.6
CLL Collm 80.56 321 *i* P **P 02 31 41.8 -0.1**
CLL *e* pP 02 31 55.0 +1.9
CLL pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
CLL Collm 80.56 321 *i* P **P 02 31 41.8 -0.1**
comp=Z,10.0nm,1.3s,mb4.6
CLL *e* pP 02 31 55.0 +1.9
CLL Collm 80.56 321 P **P 02 31 41.8 -0.1**
comp=Z,logA/T=0.9,mb4.6
CLL *e*SP sP 02 31 55.0 -2.1
NKC Novy Kostel 80.85 320 *e*P **P 02 31 44.2 +0.8**
SFI Santa Sofia 81.01 313 *e*P **P 02 31 46.0 +1.6**
PGD Poggio Sodo 81.10 313 *e*P **P 02 31 46.5 +1.6**
CTI Castel Tesino 81.21 316 *e*P **P 02 31 46.1 +0.7**
VMG Vicchio 81.23 314 *e*P **P 02 31 47.1 +1.5**
MOX Moxa 81.40 320 *e*P **P 02 31 46.9 +0.6**
MOX Moxa 81.40 320 *i* P **P 02 31 46.9 +0.6**
FUR Furstenfeldbru 81.53 318 *e*P **P 02 31 46.2 -0.8**
GRA1 Grafenberg Arr 81.61 319 *e*P **P 02 31 48.2 +0.8**
comp=Z,25nm,1.4s,mb5.0
GRF Grafenberg Arr 81.61 319 *e*P **P 02 31 48.2 +0.8**
GRF pmax pmax
comp=Z,25nm,1.4s,mb5.0
GRF Grafenberg Arr 81.61 319 *e*P **P 02 31 48.2 +0.8**
GRF pmax pmax
comp=Z,25nm,1.4s,mb5.0
GRF Grafenberg Arr 81.61 319 *e*P **P 02 31 48.2 +0.8**
comp=Z,25nm,1.4s,mb5.0
ZCCA Zocca 81.65 314 *e*P **P 02 31 49.5 +1.8**
BRMO Bormio 82.11 316 *e*P **P 02 31 50.8 +0.7**
NB2 NORSAR Subarra 82.16 331 P **P 02 31 49.2 -0.8**
comp=Z,4.2nm,0.8s,mb4.4,baz=98,slow=5.3
NOA NORSAR Array B 82.16 331 P **P 02 31 49.6 -0.4**
comp=Z,3.7nm,0.7s,mb4.4,baz=94,slow=5.4,SNR=11
NOA LR LR 03 11 41.5
comp=Z,76nm,18.4s,MS4.1,baz=35,slow=38
CLZ Clausthal 82.22 321 *e*P **P 02 31 50.9 +0.4**
comp=Z,10.0nm,1.0s,mb4.7
BSEG Bad Segeberg 82.31 324 *e*P **P 02 31 51.5 +0.5**
BSEG pmax pmax
comp=Z,21nm,1.0s,mb5.0
BSEG Bad Segeberg 82.31 324 *e*P **P 02 31 51.5 +0.5**
SYO Syowa Base 82.87 197⇓P sP 02 32 07.9 -0.8
MUD Monsted U'grnd 83.04 326 *e*P **P 02 31 55.0 +0.4**
MUD pmax pmax
comp=Z,11nm,0.8s,mb4.9
MUD Monsted U'grnd 83.04 326 *e*P **P 02 31 55.0 +0.4**
comp=Z,11nm,0.8s,mb4.9
MUD Monsted U'grnd 83.04 326 *i* P **P 02 31 55.0 +0.4**
comp=Z,11nm,0.8s,mb4.9
TNS Taunus Mts 83.41 320 *e*P **P 02 31 57.0 +0.4**
TNS pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
TNS Taunus Mts 83.41 320 *e*P **P 02 31 57.0 +0.4**
comp=Z,8.0nm,0.9s,mb4.8
BFO Black Forest 83.50 318 *e*P **P 02 31 57.1 0.0**
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
BFO Black Forest 83.50 318 *e*P **P 02 31 57.1 0.0**
comp=Z,6.0nm,0.9s,mb4.7
FIN Finale Ligure 83.64 314 *e*P **P 02 31 58.4 +0.5**
WVZ Waitaha Valley 83.66 134 *e*P **P 02 31 59.6 +1.5**
LPG La Plagne 84.64 315⇑*i*P **P 02 32 03.6 +0.6**
comp=Z,16nm,0.9s,mb4.9
LPG La Plagne 84.64 315⇑*i*P **P 02 32 03.6 +0.6**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BNI Bardonecchia 84.71 315 *e*P **P 02 32 02.0 -1.3**
BNI pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BNI Bardonecchia 84.71 315 *e*P **P 02 32 02.0 -1.3**
comp=Z,4.6nm,0.8s,mb4.7
URZ Urewera 87.53 129 LR LR 03 10 13.3
comp=Z,142nm,21.0s,MS4.4,baz=209,slow=35
TNA Tin City 88.56 24 *e*P **P 02 32 21.5 -0.1**
comp=Z,1.7nm,0.6s,mb4.5
VNDA Vanda 90.25 168 P **P 02 32 30.7 +1.3**
comp=Z,0.8nm,0.7s,mb4.2,baz=255,slow=4.2,SNR=4.1
VNDA LR LR 03 09 00.2
comp=Z,172nm,19.8s,MS4.5,baz=207,slow=33
IMA Indian Mountai 94.06 22 *e*P **P 02 32 47.8 +0.8**
IMA pmax pmax
comp=Z,32nm,1.2s,mb5.6
IMA Indian Mountai 94.06 22 *e*P **P 02 32 47.8 +0.8**
comp=Z,32nm,1.2s,mb5.6
ILAR Eielson Array 97.18 22 P **P 02 33 00.8 -0.5**
comp=Z,0.5nm,0.9s,mb4.0,baz=270,slow=4.3,SNR=4.5
ILAR LR LR 03 21 23.4
comp=Z,75nm,21.0s,MS4.2,slow=38
DBIC Dimbokro 98.46 277 LR LR 03 14 19.4
comp=Z,98nm,19.6s,MS4.3,baz=101,slow=33
ULM Lac du Bonnet 124.12 8 PKP PKPdf 02 38 27.6 +0.9
comp=Z,1.4nm,0.5s,baz=333,slow=2.2,SNR=5.8
NVAR Mina Array Bea 127.14 32 PKP PKPdf 02 38 35.9 +3.1
comp=Z,1.5nm,0.7s,baz=325,slow=1.8,SNR=9.5
PDAR Pinedale Array 127.62 22 PKP PKPdf 02 38 35.6 +2.0
comp=Z,1.3nm,0.8s,baz=45,slow=2.1,SNR=9.3
JLU Jordanelle 128.69 25 PKP PKPdf 02 38 34.2 -1.5
ANMO Albuquerque 135.57 25 PKP PKPdf 02 38 52.7 +3.9
comp=Z,1.8nm,0.9s,baz=309,slow=2.2,SNR=4.4
BDFB Brasilia 141.57 251 PKP PKPdf 02 39 04.3 +4.1
comp=Z,1.6nm,0.7s,baz=185,slow=9.4,SNR=2.6
TXAR Lajitas Array 141.61 26 PKhKP 02 38 54.7
comp=Z,0.7nm,0.7s,baz=276,slow=1.1,SNR=9.9
PLCA Paso Flores 142.06 199 PKP PKPdf 02 39 02.6 +2.2
comp=Z,2.4nm,1.0s,baz=307,slow=21,SNR=2.6
SJG San Juan 149.89 321 PKPbc PKPdf 02 39 20.4 +6.2
comp=Z,8.4nm,0.6s,baz=53,slow=10,SNR=3.7
SIV San Ignacio 153.54 244 PKPbc PKPdf 02 39 28.2 +8.7
comp=Z,0.8nm,0.6s,baz=103,slow=3.6,SNR=4.7
LPAZ La Paz 159.52 236 PKP PKPdf 02 39 30.1 +2.9
comp=Z,1.6nm,0.9s,baz=67,slow=4.5,SNR=4.4
LPAZ PKPab PKPab 02 40 07.5 -0.3

comp=Z,1.3nm,0.7s,baz=78,slow=1.5,SNR=5.2

*BJI **05** 02:27:57.5,24.10S×179.70E,h506km,mB4.8,mb4.5*
*NEIC **05** 02:27:57.6±0.1,24.06S×179.74E,mb4.8/23,Error ellipse: s-maj=6.5km s-min=4.3km az=124.0*
*IDC **05** 02:27:58.6±0.6,24.03S×179.71E,h516km±5km,mb4.1/21, mb1 4.2/25,mb1mx4.2/25,mbtmp4.9/25,Error ellipse: s-maj=10.3km s-min=7.7km az=168.0*
*MOS **05** 02:28:02.7±3.4,23.63S×178.90E,h513km,mb4.9/5,Error ellipse: s-maj=24.7km s-min=15.8km az=3.3*

ISC 05 02:27:56.8±0.8,23.98S±0.04×179.72E±0.05,h501km±9km, h510km±8.7km;pP-P,n290,σ0=93/155,mb4.6/48,33C-10D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.67**	**159**	P		**P**	**P**	**02 29 33.7**	**+2.9**
	429nm,0.3s,baz=116,slow=2.0,SNR=16								
RAO				S			**S**	**02 30 47.9**	**+2.6**
	71nm,0.3s,baz=96,slow=22,SNR=1.8								
RAO	**Raoul Island**	**5.67**	**159**	*e*P		**P**	**P**	**02 29 33.6**	**+2.7**
	1μm,0.4s								
DZM	**Mont Dzumac**	**12.37**	**276**	P		**P**	**P**	**02 30 42.3**	**+2.1**
	0.9nm,0.3s,baz=93,slow=18,SNR=10.0								
OUZ	**Omahuta**	**12.40**	**204**	*e*P		**P**	**P**	**02 30 44.4**	**+3.9**
OUZ	**Omahuta**	**12.40**	**204**	PN		**P**	**P**	**02 30 44.4**	**+3.9**
WCZ	**Waipu Caves**	**12.80**	**200**	*e*P		**P**	**P**	**02 30 48.2**	**+3.6**
WCZ	**Waipu Caves**	**12.80**	**200**	PN		**P**	**P**	**02 30 48.6**	**+3.9**
AFI	**Afiamalu**	**12.84**	**40**	P		**P**	**P**	**02 30 40.7**	**-4.4**
	8.9nm,0.3s,baz=11,slow=1.7,SNR=10.0								
AFI				S			**S**	**02 32 52.5**	**-8.0**
	4.1nm,0.3s,baz=221,slow=19,SNR=2.6								
AFI	**Afiamalu**	**12.84**	**40**	*e*P		**P**	**P**	**02 30 41.0**	**-4.1**
	105nm,0.9s								
PUZ	**Puketiti**	**14.11**	**185**	*e*P		**P**	**P**	**02 30 57.9**	**-0.2**
PUZ	**Puketiti**	**14.11**	**185**	PN		**P**	**P**	**02 30 58.2**	**0.0**
PUZ				SN			**S**	**02 33 22.8**	**-1.5**
URZ	**Urewera**	**14.41**	**188**	P		**P**	**P**	**02 31 00.4**	**-0.9**
	35nm,0.3s,baz=17,slow=4.3,SNR=62								
URZ				S			**S**	**02 33 31.1**	**+1.1**
	4.8nm,0.3s,baz=204,slow=22,SNR=16								
URZ	**Urewera**	**14.41**	**188**	*e*P		**P**	**P**	**02 30 58.9**	**-2.3**
URZ	**Urewera**	**14.41**	**188**	PN		**P**	**P**	**02 31 01.1**	**-0.1**
BKZ	**Black Stump Fm**	**15.39**	**189**	*e*P		**P**	**P**	**02 31 10.0**	**-1.1**
BKZ	**Black Stump Fm**	**15.39**	**189**	PN		**P**	**P**	**02 31 11.8**	**+0.7**
BKZ				SN			**S**	**02 33 48.0**	**-0.1**
MGZ	**Maungaku**	**15.39**	**192**	P		**P**	**P**	**02 31 11.8**	**+0.7**
MGZ	**Maungaku**	**15.39**	**192**	PN		**P**	**P**	**02 31 11.6**	**+0.5**
NGZ	**Ngauruhoe**	**15.55**	**192**	P		**P**	**P**	**02 31 12.1**	**-0.6**
NGZ	**Ngauruhoe**	**15.55**	**192**	PN		**P**	**P**	**02 31 12.1**	**-0.5**
CNZ	**Chateau**	**15.59**	**192**	P		**P**	**P**	**02 31 15.0**	**+2.0**
TUVZ	**Tukino**	**15.63**	**192**	P		**P**	**P**	**02 31 12.7**	**-0.8**
TUVZ	**Tukino**	**15.63**	**192**	PN		**P**	**P**	**02 31 12.1**	**-1.3**
BFZ	**Birch Farm**	**16.91**	**189**	SN		**S**	**S**	**02 34 12.6**	**-2.8**
MRZ	**Mangatainoka R**	**17.00**	**191**	P		**P**	**P**	**02 31 25.6**	**-1.4**
MRZ				S			Px	02 31 30.8	
MRZ	**Mangatainoka R**	**17.00**	**191**	PN		**P**	**P**	**02 31 25.6**	**-1.4**
MRZ				SN			**S**	**02 34 18.3**	**+1.2**
KIW	**Kapiti Island**	**17.32**	**192**	P		**P**	**P**	**02 31 28.8**	**-1.3**
KIW	**Kapiti Island**	**17.32**	**192**	PN		**P**	**P**	**02 31 28.8**	**-1.4**
CAW	**Cannon Point**	**17.52**	**192**	PN		**P**	**P**	**02 31 32.5**	**+0.3**
MRW	**Makara Radio**	**17.71**	**193**	P		**P**	**P**	**02 31 33.0**	**-1.0**
MRW				S			Px	02 31 38.6	
MRW	**Makara Radio**	**17.71**	**193**	PN		**P**	**P**	**02 31 33.0**	**-1.0**
SNZO	**South Karori**	**17.79**	**192**	*e*P		**P**	**P**	**02 31 34.0**	**-0.7**
	228nm,0.8s								
QRZ	**Quartz Range**	**17.85**	**198**	*e*P		**P**	**P**	**02 31 36.9**	**+1.5**
QRZ	**Quartz Range**	**17.85**	**198**	PN		**P**	**P**	**02 31 37.0**	**+1.6**
THZ	**Tophouse**	**18.63**	**196**	SN		**S**	**S**	**02 34 45.3**	**+0.1**
DSZ	**Denniston Nort**	**18.91**	**199**	*e*P		**P**	**P**	**02 31 46.8**	**+1.2**
DSZ	**Denniston Nort**	**18.91**	**199**	PN		**P**	**P**	**02 31 46.8**	**+1.2**
KHZ	**Kahutara**	**19.09**	**194**	*e*P		**P**	**P**	**02 31 46.5**	**-0.9**
KHZ	**Kahutara**	**19.09**	**194**	PN		**P**	**P**	**02 31 47.2**	**-0.2**
RAR	**Rarotonga**	**19.14**	**86**	P		**P**	**P**	**02 31 47.2**	**-0.7**
	2.9nm,0.3s,baz=228,slow=7.6,SNR=6.5								
RPZ	**Rata Peaks**	**20.94**	**198**	P		**P**	**P**	**02 32 03.5**	**-1.2**
	51nm,0.5s,baz=1.5,slow=1.4,SNR=34								
RPZ				S			**S**	**02 35 19.5**	**-4.7**
	13nm,0.9s,baz=56,slow=22,SNR=3.0								
RPZ	**Rata Peaks**	**20.94**	**198**	PN		**P**	**P**	**02 32 04.1**	**-0.6**
JCZ	**Jackson Bay**	**21.97**	**201**	PN		**P**	**P**	**02 32 14.1**	**-0.1**
MLZ	**Mavora Lakes**	**23.29**	**201**	PN		**P**	**P**	**02 32 26.3**	**+0.1**
HNR	**Honiara**	**23.78**	**304**	P		**P**	**P**	**02 32 29.2**	**-1.6**
	109nm,0.7s,mb5.4,baz=213,slow=4.9,SNR=4.8								
TBI	**Tubuai**	**28.21**	**95**	*e*P		**P**	**P**	**02 33 08.6**	**-1.5**
	87nm,0.9s,mb5.2								
PAE	**Paea**	**29.34**	**84**	*e*P		**P**	**P**	**02 33 19.0**	**-0.9**
	60nm,0.9s,mb5.0								
PAE				*e*pP				02 34 46.0	
	82nm,1.2s								
PPT	**Papeete**	**29.37**	**83**	*e*P		**P**	**P**	**02 33 19.6**	**-0.6**
	86nm,1.3s,mb5.0								
PPT	**Papeete**	**29.37**	**83**	P		**P**	**P**	**02 33 20.1**	**0.0**
	29nm,0.6s,mb4.9,baz=201,slow=2.3,SNR=3.5								
TIAR	**Tiarei**	**29.58**	**83**	*e*P		**P**	**P**	**02 33 21.5**	**-0.5**
	228nm,1.0s,mb5.6								
MEH	**Mehetia**	**30.65**	**85**	*e*P		**P**	**P**	**02 33 30.3**	**-0.9**
	50nm,1.1s,mb4.8								
CTA	**Charters Tower**	**31.22**	**270**	*e*P		**P**	**P**	**02 33 36.5**	**+0.5**
	15nm,0.4s,mb4.8								
CTA	**Charters Tower**	**31.22**	**270**	*e*P		**P**	**P**	**02 33 36.5**	**+0.5**
CTA				pmax		pmax			
	comp=Z,15nm,0.4s								
CTA	**Charters Tower**	**31.22**	**270**	P		**P**	**P**	**02 33 36.5**	**+0.5**
	comp=Z,17nm,0.4s,mb4.8,baz=92,slow=10,SNR=46								
CTAO	**Charters Tower**	**31.22**	**270**	*e*P		**P**	**P**	**02 33 36.2**	**+0.2**
CTAO				pmax		pmax			
	comp=Z,22nm,0.4s,mb4.9								
CTAO	**Charters Tower**	**31.22**	**270**	*e*P		**P**	**P**	**02 33 36.2**	**+0.2**
	comp=Z,22nm,0.4s,mb4.9								
VAH	**Vaihoa**	**31.90**	**80**	*e*P		**P**	**P**	**02 33 41.3**	**-0.5**
	comp=Z,96nm,1.0s,mb5.2								
PMG	**Port Moresby**	**34.27**	**289**	P		**P**	**P**	**02 34 01.9**	**+0.2**
	comp=Z,51nm,0.8s,mb5.0,baz=71,slow=4.1,SNR=10								
STKA	**Stephens Creek**	**34.45**	**248**	*e*P		**P**	**P**	**02 34 04.1**	**+1.0**
	comp=Z,3.1nm,0.8s,mb3.8								
STKA	**Stephens Creek**	**34.45**	**248**	P		**P**	**P**	**02 34 04.1**	**+1.0**
	comp=Z,1.2nm,0.4s,mb3.6,baz=102,slow=12,SNR=8.9								
STKA				PcP		PcP		02 36 24.4	-0.7
	comp=Z,3.6nm,0.5s,baz=78,slow=6.6,SNR=5.7								
STKA				ScP				02 39 21.3	
	comp=Z,4.9nm,0.8s,baz=77,slow=1.4,SNR=6.2								
RKT	**Rikitea**	**41.41**	**98**	*e*P		**P**	**P**	**02 34 58.7**	**-1.4**
	comp=Z,80nm,1.1s,mb5.1								
ASAR	**Alice Springs**	**41.77**	**261**	P		**P**	**P**	**02 35 02.5**	**-0.5**
ASAR				PP		pP		02 36 36.0	+0.3
ASAR				S		**S**	**P**	**02 40 39.8**	**-4.5**
ASAR	**Alice Springs**	**41.77**	**261**	P		**P**	**P**	**02 35 02.5**	**-0.5**
	comp=Z,5.8nm,0.8s,mb4.0,baz=96,slow=8.3,SNR=21								
ASAR				pP		pP		02 36 36.0	+0.2
	comp=Z,6.3nm,1.0s,baz=93,slow=8.3,SNR=4.5								
ASAR				ScP				02 39 49.4	
	comp=Z,4.7nm,0.7s,baz=108,slow=4.3,SNR=12								
ASAR				S		**S**	**P**	**02 40 39.8**	**-4.5**
	comp=Z,1.2nm,0.8s,baz=105,slow=14,SNR=4.4								
ASPA	**Alice Springs**	**41.77**	**261**	*e*P		**P**	**P**	**02 35 03.0**	**0.0**
WB2	**Warramunga Arr**	**42.13**	**266**	⇑*i*P		**P**	**P**	**02 35 05.4**	**-0.5**
WRAB	**Tennant Creek**	**42.13**	**266**	*e*P		**P**	**P**	**02 35 04.8**	**-1.2**
WRAB				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.2								
WRAB	**Tennant Creek**	**42.13**	**266**	*e*P		**P**	**P**	**02 35 04.8**	**-1.2**
	comp=Z,8.2nm,0.9s,mb4.2								
WRA	**Warramunga Arr**	**42.14**	**266**	P		**P**	**P**	**02 35 05.2**	**-0.8**
WRA				S		**S**	**P**	**02 40 45.1**	**-4.7**
WRA	**Warramunga Arr**	**42.14**	**266**	P		**P**	**P**	**02 35 05.2**	**-0.8**
	comp=Z,4.4nm,0.5s,mb4.2,baz=103,slow=8.2,SNR=19								
WRA				ScP				02 39 51.4	
	comp=Z,10.0nm,0.9s,baz=100,slow=4.0,SNR=22								
WRA				S		**S**	**P**	**02 40 45.1**	**-4.7**
	comp=Z,3.8nm,0.9s,baz=100,slow=14,SNR=5.6								
FORT	**Forrest**	**46.04**	**250**	*e*P		**P**	**P**	**02 35 35.3**	**-1.1**
	comp=Z,228nm,0.5s								
FITZ	**Fitzroy Crossi**	**50.56**	**266**	P		**P**	**P**	**02 36 09.7**	**-0.9**
	comp=Z,10.0nm,0.6s,mb4.3,baz=155,slow=4.6,SNR=19								
FITZ				pP		pP		02 37 48.1	+0.6
	comp=Z,24nm,1.1s,baz=138,slow=6.8,SNR=5.9								
FITZ				ScP				02 40 26.9	
	comp=Z,3.5nm,0.8s,baz=144,slow=4.2,SNR=3.9								
VNDA	**Vanda**	**54.28**	**185**	P		**P**	**P**	**02 36 37.8**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=12,slow=7.5,SNR=11								
VNDA				PcP		PcP		02 37 32.7	-0.3
	comp=Z,3.4nm,0.6s,baz=345,slow=3.5,SNR=14								
NWAO	**Narrogin (SRO)**	**54.97**	**246**	P		**P**	**P**	**02 36 41.0**	**-1.0**
	comp=Z,3.1nm,0.7s,mb3.8,baz=31,slow=11,SNR=3.4								
NWAO	**Narrogin (SRO)**	**54.97**	**246**	P		**P**	**P**	**02 36 41.0**	**-1.0**
CASY	**Casey**	**59.93**	**206**	P		**P**	**P**	**02 37 04.7**	**-11**
	comp=Z,7.4nm,0.7s,mb4.2								
QSPA	**South Pole Qui**	**66.11**	**180**	⇓*i*P		PcP		02 38 20.9	+0.3
JOW	**Kunigami**	**70.85**	**312**	P		**P**	**P**	**02 38 23.9**	**-0.3**
	comp=Z,14nm,0.3s,mb5.0								
MAT	**Matsushiro**	**71.81**	**326**	*e*P		**P**	**P**	**02 38 28.0**	**-1.6**
MAT				pmax		pmax			
	comp=Z,12nm,0.8s,mb4.5								
MAT	**Matsushiro**	**71.81**	**326**	*e*P		**P**	**P**	**02 38 28.0**	**-1.6**
	comp=Z,12nm,0.8s,mb4.5								
MAT	**Matsushiro**	**71.81**	**326**	P		**P**	**P**	**02 38 28.2**	**-1.4**
MAT				S		S		02 47 13.0	+3.6
MAW	**Mawson**	**77.59**	**200**	P		**P**	**P**	**02 39 02.1**	**+0.9**
	comp=Z,13nm,0.8s,mb4.4,baz=132,slow=8.8,SNR=6.1								
NJ2	**Nanjing**	**80.51**	**311**	*e*P		**P**	**P**	**02 39 20.4**	**+3.1**
NJ2				PP		PP		02 42 36.3	+6.2
NJ2				S		S		02 48 44.0	+2.0
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.5								
NJ2				AMB		AMB			
	comp=Z,2μm,5.1s								
SYO	**Syowa Base**	**82.88**	**193**	⇓P		**P**	**P**	**02 39 28.3**	**-0.3**
CMB	**Columbia Colle**	**83.43**	**43**	⇑*e*P		**P**	**P**	**02 39 31.9**	**-0.1**
	comp=Z,28nm,0.8s,mb4.8								
WDC	**Whiskeytown Da**	**83.68**	**40**	*e*P		**P**	**P**	**02 39 33.4**	**+0.2**
	comp=Z,30nm,1.0s,mb4.8								
CN2	**Changchun**	**83.79**	**324**	*e*P		**P**	**P**	**02 39 34.3**	**+0.6**
CN2				*e*S			S	02 49 13.1	-1.1
MTUM	**Tungsten Hills**	**84.19**	**45**	*e*P		**P**	**P**	**02 39 35.6**	**-0.2**
YBH	**Yreka Blue Hor**	**84.31**	**39**	P		**P**	**P**	**02 39 36.6**	**+0.3**
	comp=Z,11nm,0.9s,mb4.4,baz=183,slow=1.4,SNR=17								
LBCM	**Butte Creek Ri**	**84.55**	**41**	P		**P**	**P**	**02 39 37.9**	**+0.5**
WCN	**Washoe City**	**84.59**	**43**	*e*P		**P**	**P**	**02 39 37.8**	**+0.1**
	comp=Z,34nm,1.2s,mb4.8								
SNAA	**Sanae**	**84.60**	**179**	⇑*i*		**P**	**P**	**02 39 38.9**	**+1.9**
SNAA	**Sanae**	**84.60**	**179**	⇑*i*P		**P**	**P**	**02 39 36.4**	**-0.6**
SNAA				⇑*i*P				02 39 38.9	
LTIM	**Timbered Crate**	**84.68**	**40**	P		**P**	**P**	**02 39 38.6**	**+0.5**
HUMO	**Hull Mountain**	**84.72**	**39**	P		**P**	**P**	**02 39 38.7**	**+0.5**
	comp=Z,20nm,1.1s,mb4.7								
VNA3	**Neumayer Olymp**	**84.81**	**177**			**P**	**P**	**02 39 41.7**	**+3.7**
VNA3	**Neumayer Olymp**	**84.81**	**177**	⇑*i*P		**P**	**P**	**02 39 37.8**	**-0.2**
VNA3						P		02 39 41.7	
NVAR	**Mina Array Bea**	**84.98**	**44**	P		**P**	**P**	**02 39 39.7**	**0.0**
	comp=Z,6.6nm,0.7s,mb4.4,baz=225,slow=8.5,SNR=34								
NVAR	**Mina Array Bea**	**84.98**	**44**	P		**P**	**P**	**02 39 39.7**	**0.0**
LDFC	**Landfair**	**85.19**	**48**	*e*P		**P**	**P**	**02 39 41.2**	**+0.5**
VNA2	**Neumayer--Watz**	**85.23**	**178**			**P**	**P**	**02 39 42.9**	**+2.8**
VNA2	**Neumayer--Watz**	**85.23**	**178**	⇓*i*P		**P**	**P**	**02 39 40.6**	**+0.5**
VNA2						P		02 39 42.9	
TPH	**Tonopah**	**85.47**	**45**	*e*P		**P**	**P**	**02 39 42.0**	**0.0**
	comp=Z,27nm,1.2s,mb4.8								
MOD	**Modoc**	**85.83**	**40**	*e*P		**P**	**P**	**02 39 43.6**	**0.0**
	comp=Z,16nm,0.8s,mb4.7								
HBO	**Huckleberry Mo**	**85.86**	**38**	P		**P**	**P**	**02 39 44.5**	**+0.8**
GYA	**Guiyang**	**86.56**	**301**	P		**P**	**P**	**02 39 48.2**	**+0.7**
GYA				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.7								
TUC	**Tucson**	**86.77**	**53**	*e*P		**P**	**P**	**02 39 48.3**	**0.0**
	comp=Z,23nm,0.9s,mb4.9								
BMN	**Battle Mountai**	**86.83**	**43**	*e*P		**P**	**P**	**02 39 48.5**	**+0.1**
	comp=Z,10nm,0.9s,mb4.6								
WVOR	**Wild Horse Val**	**87.14**	**41**	*e*P		**P**	**P**	**02 39 49.9**	**+0.1**
	comp=Z,26nm,0.9s,mb5.0								
ARUT	**Antelope Range**	**87.80**	**47**	*e*P		**P**	**P**	**02 39 53.7**	**+0.6**
STW	**Striped Peak**	**87.88**	**34**	P		**P**	**P**	**02 39 54.7**	**+1.6**
LON	**Longmire**	**87.96**	**36**	P		**P**	**P**	**02 39 53.8**	**+0.2**
FMW	**Mount Fremont**	**88.15**	**36**	P		**P**	**P**	**02 39 55.0**	**+0.5**
PLCA	**Paso Flores**	**88.40**	**134**	P		**P**	**P**	**02 39 56.7**	**+1.0**
	comp=Z,5.5nm,0.9s,mb4.3,baz=201,slow=4.8,SNR=9.0								
PLCA	**Paso Flores**	**88.40**	**134**	P		**P**	**P**	**02 39 56.7**	**+0.9**
HTW	**Haystack Looko**	**88.64**	**35**	P		**P**	**P**	**02 39 57.1**	**+0.4**
EBG	**Ellensburg**	**88.73**	**36**	P		**P**	**P**	**02 39 57.9**	**+0.7**
PRW	**Prosser**	**88.79**	**37**	P		**P**	**P**	**02 39 58.3**	**+0.9**
TBM	**Table Mountain**	**88.88**	**36**	P		**P**	**P**	**02 39 58.5**	**+0.6**
MSU	**Marysvale**	**89.02**	**47**	*e*P		**P**	**P**	**02 39 59.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**89.31**	**290**	P		**P**	**P**	**02 40 02.0**	**+1.5**
	comp=Z,3.2nm,0.8s,mb4.2,baz=136,slow=3.3,SNR=16								
CMAR				pP		pP		02 41 54.2	+1.3
	comp=Z,0.7nm,0.3s,baz=143,slow=3.0,SNR=1.8								
CMAR				PKKPbc				02 57 33.0	
	comp=Z,1.3nm,0.5s,baz=287,slow=4.1,SNR=4.8								
BMO	**Blue Mountains**	**89.33**	**39**	*e*P		**P**	**P**	**02 39 59.6**	**-0.4**
	comp=Z,16nm,1.5s,mb4.6								
WTV	**Waterville**	**89.55**	**36**	P		**P**	**P**	**02 40 01.1**	**+0.1**
TNA	**Tin City**	**89.75**	**5**	*e*P		**P**	**P**	**02 40 00.2**	**-1.2**
	comp=Z,7.9nm,1.2s,mb4.4								
NLU	**North Lily Min**	**89.85**	**46**	*e*P		**P**	**P**	**02 40 02.5**	**0.0**
TMUT	**Trail Mountain**	**90.08**	**46**	*e*P		**P**	**P**	**02 40 04.7**	**+1.1**
HLID	**Hailey**	**90.32**	**42**	*e*P		**P**	**P**	**02 40 04.6**	**0.0**
	comp=Z,7.7nm,0.8s,mb4.6								
HVU	**Hansel Valley**	**90.37**	**44**	*e*P		**P**	**P**	**02 40 05.1**	**+0.2**
SRU	**San Rafael**	**90.44**	**47**	⇑*e*P		**P**	**P**	**02 40 05.3**	**0.0**
MNTX	**Cornudas Mount**	**90.47**	**55**	⇑*e*P		**P**	**P**	**02 40 05.7**	**+0.1**
	comp=Z,8.0nm,0.9s,mb4.5								
JLU	**Jordanelle**	**90.60**	**45**	*e*P		**P**	**P**	**02 40 05.9**	**0.0**
TXAR	**Lajitas Array**	**90.69**	**58**	P		**P**	**P**	**02 40 07.4**	**+0.7**
	comp=Z,12nm,0.7s,mb4.9,baz=214,slow=6.4,SNR=79								
TXAR				PKKPbc				02 57 30.0	
	comp=Z,0.5nm,0.6s,baz=70,slow=4.1,SNR=8.3								
TCUT	**Toone Canyon**	**90.89**	**45**	*e*P		**P**	**P**	**02 40 07.8**	**+0.5**
HWUT	**Hardware Ranch**	**91.05**	**44**	*e*P		**P**	**P**	**02 40 07.3**	**-0.7**
	comp=Z,9.7nm,0.6s,mb4.9								
PV10	**Paradox Valley**	**91.07**	**48**	*e*P		**P**	**P**	**02 40 07.2**	**-1.0**
ANMO	**Albuquerque**	**91.21**	**52**	*e*P		**P**	**P**	**02 40 08.9**	**0.0**
	comp=Z,8.0nm,0.9s,mb4.7								
PV01	**Paradox Valley**	**91.27**	**48**	*e*P		**P**	**P**	**02 40 09.1**	**0.0**
NEW	**Newport**	**91.41**	**37**	P		**P**	**P**	**02 40 08.6**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.9,baz=36,slow=17,SNR=3.9								
ILAR	**Eielson Array**	**92.16**	**14**	P		**P**	**P**	**02 40 10.8**	**-1.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=237,slow=5.6,SNR=8.5								
BILL	**Bilibino**	**92.28**	**355**	⇓*i*P		**P**	**P**	**02 40 12.9**	**-0.1**
BILL				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
QLMT	**Earthquake Lak**	**92.81**	**42**	*e*P		**P**	**P**	**02 40 16.7**	**+0.7**
PDAR	**Pinedale Array**	**92.92**	**44**	P		**P**	**P**	**02 40 16.1**	**-0.5**
	comp=Z,4.8nm,0.7s,mb4.6,baz=221,slow=2.6,SNR=22								
LZH	**Lanzhou**	**93.22**	**308**	⇑P		**P**	**P**	**02 40 18.9**	**+0.8**
LZH				AP		pP		02 42 17.8	+6.8
LZH				PP		PP		02 44 16.0	+4.2
LZH				AMB		AMB			
	comp=Z,23nm,1.3s,mb5.0								
LZH	**Lanzhou**	**93.22**	**308**	⇑P		**P**	**P**	**02 40 18.9**	**+0.8**
	comp=Z,23nm,1.3s,mb5.0								
LZH				pP		pP		02 42 17.8	+6.8
LZH				sP		sP		02 43 11.2	+10
LZH				PP		PP		02 44 16.0	+4.2
DAWY	**Dawson**	**93.37**	**17**	*e*P		**P**	**P**	**02 40 17.6**	**-0.6**
SONM	**Songino Array**	**96.99**	**319**	P		**P**	**P**	**02 40 33.9**	**-1.1**
	comp=Z,0.2nm,0.3s,mb3.8,baz=45,slow=1.7,SNR=3.8								
SONM				PKKPbc				02 57 13.2	
	comp=Z,1.2nm,0.6s,baz=277,slow=3.4,SNR=6.2								
INK	**Inuvik**	**98.17**	**16**	PKKPbc				02 57 09.1	
	comp=Z,0.8nm,0.9s,baz=291,slow=11,SNR=4.0								
YKA	**Yellowknife Ar**	**100.54**	**25**	P		P		02 40 48.2	-2.4
	comp=Z,0.3nm,0.7s,baz=244,slow=4.3,SNR=5.0								
YKA				PP		PP		02 45 01.0	-5.7
	comp=Z,0.4nm,0.8s,baz=241,slow=7.0,SNR=5.0								
YKA				PKiKP				02 45 11.9	
	comp=Z,0.2nm,0.5s,baz=238,slow=1.7,SNR=7.9								
YKA				PKKPbc				02 57 00.8	
	comp=Z,0.3nm,0.5s,baz=37,slow=2.5,SNR=13								
YKA	**Yellowknife Ar**	**100.54**	**25**	P		P		02 40 48.2	-2.4
YKA				PP		PP		02 45 01.0	-5.7
ZAL	**Zalesovo**	**111.85**	**321**	PKiKP				02 45 31.8	
	comp=Z,1.3nm,0.4s,baz=352,slow=4.8,SNR=6.1								
ZAL	**Zalesovo**	**111.85**	**321**	PKPdf		PKPdf		02 45 31.8	-1.9
MKAR	**Makanchi Array**	**112.01**	**313**	PKiKP				02 45 33.5	
	comp=Z,2.0nm,0.7s,baz=139,slow=0.4,SNR=20								
ULHL	**Ulahol**	**115.40**	**307**	P		PKPdf		02 45 41.5	+0.7
	SNR=5.2								
TKM2	**Tokmak 2**	**115.98**	**308**	P		PKPdf		02 45 42.1	+0.1
	SNR=5.2								
UCH	**Uchtor**	**116.66**	**307**	P		PKPdf		02 45 44.5	+1.1
	SNR=7.7								
USP	**Ospenovka**	**116.83**	**308**	P		PKPdf		02 45 43.6	-0.1
	SNR=6.9								
AML	**Almayashu**	**117.25**	**306**	P		PKPdf		02 45 45.3	+0.8
	SNR=9.7								
OPO	**Ambohidratompo**	**117.30**	**232**	PKP		PKPdf		02 45 45.3	+0.2
	comp=Z,2.5nm,0.7s,baz=131,slow=8.8,SNR=5.8								
SJG	**San Juan**	**118.72**	**82**	PKP		PKPdf		02 45 47.2	-0.7
	comp=Z,5.9nm,0.3s,baz=33,slow=3.0,SNR=5.3								
BDFB	**Brasilia**	**118.98**	**125**	PKP		PKPdf		02 45 48.4	0.0
	comp=Z,5.5nm,0.6s,baz=4.7,slow=0.6,SNR=9.7								
CHKZ	**Chkalovo**	**120.19**	**319**	*e*PKiKP		PKPdf		02 45 48.9	-1.0
BVAR	**Borovoye Array**	**120.32**	**319**	PKP		PKPdf		02 45 49.2	-1.0
	comp=Z,6.0nm,0.6s,baz=106,slow=1.2,SNR=42								
BVAR				PKKPbc				02 55 59.8	
	comp=Z,0.5nm,0.5s,baz=270,slow=3.0,SNR=4.4								
SUR	**Sutherland**	**120.45**	**201**	PKP		PKPdf		02 45 51.7	+0.8
	comp=Z,13nm,0.6s,baz=121,slow=4.2,SNR=18								
SCHQ	**Schefferville**	**122.69**	**39**	PKP		PKPdf		02 45 53.7	-1.0
	comp=Z,2.9nm,0.7s,baz=313,slow=2.6,SNR=8.4								
LBTB	**Lobatse**	**125.22**	**209**	PKP		PKPdf		02 46 00.9	+0.5
	comp=Z,5.2nm,0.8s,baz=154,slow=3.2,SNR=12								
SVE	**Sverdlovsk**	**125.59**	**324**	*e*PKiKP		PKPdf		02 46 00.8	+0.6
SVE				pmax		pmax			
	comp=Z,15nm,0.6s								
ARU	**Arti**	**126.79**	**324**	*e*PKiKP		PKPdf		02 46 02.7	+0.2
ARU

MOX	**Moxa**	**151.82**	**344**	*e*PKIKP	PKPdf	02 46 54.2	+7.6
MOX				pmax	pmax		
comp=Z,18nm,1.1s							
NKC	**Novy Kostel**	**151.97**	**342**	*e*PKPDF	PKPdf	02 46 47.8	+0.9
NKC			⇑	*e*PKPB	PKPdf	02 46 54.9	+8.0
NKC				*e*PKPAB	PKPab	02 47 07.0	-1.0
BZS	**Buzias**	**152.07**	**326**	⇓P	PKPdf	02 46 47.7	+0.5
KHC	**Kasperske Hory**	**152.62**	**340**	*e*PKPDF	PKPdf	02 46 48.7	+0.9
KHC			⇑	*e*PKPB	PKPdf	02 46 56.3	+8.5
KHC				*e*PKPAB	PKPab	02 47 09.9	-0.9
GRA1	**Grafenberg Arr**	**152.79**	**344**	*e*PKPbc	PKPdf	02 46 56.6	+8.6
GRA1				*e*PKPab	PKPab	02 47 10.3	-1.2
GRF	**Grafenberg Arr**	**152.79**	**344**	*e*PKIKP	PKPdf	02 46 56.6	+8.6
WET	**Wettzell**	**152.83**	**341**	*e*PKIKP	PKPdf	02 46 48.7	+0.6
GEC2	**GERESS Array S**	**152.84**	**340**	*e*PKIKP	PKPdf	02 46 56.5	+8.4
GEC2	**GERESS Array S**	**152.84**	**340**	*e*PKPbc	PKPdf	02 46 56.5	+8.4
GERES	**GERESS Array B**	**152.84**	**340**	PKP	PKPdf	02 46 48.1	-0.1
comp=Z,1.1nm,0.8s,SNR=10							
GERES				PKPbc	PKPdf	02 46 56.1	+8.0
comp=Z,3.9nm,0.7s,slow=1.3,SNR=14							
GERES				PKPab	PKPab	02 47 10.4	-1.3
comp=Z,0.8nm,0.7s,baz=45,slow=1.9,SNR=3.1							
GERES				pPKPbc		02 48 59.1	
comp=Z,0.8nm,0.8s,baz=68,slow=5.3,SNR=2.7							
TNS	**Taunus Mts**	**152.93**	**348**	*e*PKIKP	PKPdf	02 46 56.9	+8.7
TNS	**Taunus Mts**	**152.93**	**348**	*e*PKPbc	PKPdf	02 46 56.9	+8.7
TNS				*e*PKPab	PKPab	02 47 10.1	-1.9
PKSM	**Moragy**	**153.08**	**330**	⇓P	PKPdf	02 46 48.8	+0.3
VTS	**Vitosha**	**153.12**	**319**	⇓P	PKPdf	02 46 55.6	+6.9
BAIF	**Baives**	**153.73**	**353**	*e*PKIKP	PKPdf	02 46 50.0	+0.7
FUR	**Furstenfeldbru**	**154.17**	**342**	*e*PKIKP	PKPdf	02 46 59.6	+10
FUR	**Furstenfeldbru**	**154.17**	**342**	*e*PKPbc	PKPdf	02 46 59.6	+10
FUR				*e*PKPab	PKPab	02 47 16.8	-0.5
KBA	**Koelnbreinsper**	**154.49**	**338**	⇑*i*P	PKPdf	02 46 50.9	+0.5
KBA				*i*		02 46 59.5	
KBA				*i*		02 47 18.2	
BFO	**Black Forest**	**154.75**	**346**	*e*PKIKP	PKPdf	02 47 00.5	+10
BFO	**Black Forest**	**154.75**	**346**	*e*PKPbc	PKPdf	02 47 00.5	+10
BFO				*e*PKPab	PKPab	02 47 17.6	-2.2
WTTA	**Wattenberg**	**154.88**	**341**	⇓*i*P	PKPdf	02 46 51.7	+0.8
WTTA				*i*		02 47 01.0	
WTTA				*i*		02 47 20.0	
CDF	**Champ du Feu**	**154.89**	**348**	*e*PKIKP	PKPdf	02 46 51.4	+0.5
FLN	**La Foliniere**	**155.26**	**0**	*e*PKIKP	PKPdf	02 46 51.7	+0.3
comp=Z,13nm,0.8s							
LDF	**La Druitiere**	**155.43**	**360**	*e*PKIKP	PKPdf	02 46 52.0	+0.4
comp=Z,6.0nm,0.7s							
HAU	**Haudompre**	**155.45**	**349**	*e*PKIKP	PKPdf	02 46 52.2	+0.5
HINF	**Hinteralfeld**	**155.54**	**348**	*e*PKIKP	PKPdf	02 46 52.1	+0.3
QUIF	**Quistinic**	**156.00**	**5**	*e*PKIKP	PKPdf	02 46 52.8	+0.4
HYF	**Humbligny**	**156.64**	**355**	*e*PKIKP	PKPdf	02 46 54.4	+1.2
SSF	**Saint Saulge**	**156.76**	**353**	*e*PKIKP	PKPdf	02 46 54.1	+0.7
comp=Z,4.7nm,0.7s							
CABF	**La Chapelle**	**156.84**	**349**	*e*PKIKP	PKPdf	02 46 54.7	+1.2
comp=Z,21nm,1.1s							
BGF	**Bois d'Agland**	**157.33**	**354**	*e*PKIKP	PKPdf	02 46 54.9	+0.7
comp=Z,15nm,1.1s							
MFF	**Saint Martin d**	**157.42**	**360**	*e*PKIKP	PKPdf	02 46 54.9	+0.6
TCF	**Toulx Ste Croi**	**157.65**	**355**	*e*PKIKP	PKPdf	02 46 55.2	+0.6
comp=Z,17nm,1.1s							
ORIF	**Oris-en-Rattie**	**158.51**	**348**	*e*PKIKP	PKPdf	02 46 58.5	+2.8
RJF	**Les Rejaudoux**	**158.67**	**357**	*e*PKIKP	PKPdf	02 46 56.6	+0.7
CAF	**Calviac**	**159.01**	**355**	*e*PKIKP	PKPdf	02 46 57.2	+1.0
LFF	**La Frestale**	**159.07**	**358**	*e*PKIKP	PKPdf	02 46 57.3	+1.0
comp=Z,12nm,0.8s							
FRF	**La Foret Royal**	**159.65**	**345**	*e*PKIKP	PKPdf	02 46 58.8	+1.8
comp=Z,17nm,1.1s							
LMR	**La Mourre**	**159.90**	**345**	*e*PKIKP	PKPdf	02 46 59.1	+1.8
SJPF	**Ste Jean**	**160.90**	**2**	*e*PKIKP	PKPdf	02 46 59.6	+1.3
comp=Z,36nm,1.5s							
EPF	**Esparros**	**160.99**	**359**	*e*PKIKP	PKPdf	02 46 59.5	+1.2
comp=Z,12nm,0.9s							
ETSF	**Etsaut**	**161.12**	**1**	*e*PKIKP	PKPdf	02 46 59.6	+1.1
comp=Z,11nm,1.0s							
DBIC	**Dimbokro**	**162.24**	**165**	PKP	PKPdf	02 47 00.9	+0.4
comp=Z,4.8nm,0.7s,baz=78,slow=4.7,SNR=8.9							
DBIC				PKPab	PKPab	02 47 52.9	-0.2
comp=Z,5.1nm,0.7s,baz=183,slow=6.2,SNR=5.6							
ESDC	**Sonseca Array**	**164.04**	**10**	PKPab	PKPab	02 47 58.3	-1.9
comp=Z,2.3nm,0.8s,baz=342,slow=4.3,SNR=13							
EVO	**Evora**	**164.07**	**23**	⇑*i*PKIKP	PKPdf	02 47 03.0	+1.4
comp=Z,20nm,1.0s							

CSEM ***05*** *02:45:00.3, 32.28N×56.68E, h10km, ML3.6, After TEH*

TEH 05 02:45:00.3, 32.28N×56.68E, h10km, Mn3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**1.17**	**234**	Pg	Pg	02 45 20.9	-2.8
ICHK	**Chekchek**	**1.92**	**270**	Pn	Pn	02 45 32.9	-0.6
IMEH	**Mehriz**	**1.97**	**244**	Pn	Pn	02 45 34.0	-0.1
IPAR	**Pars**	**3.95**	**233**	Pn	Pn	02 46 06.8	+4.4
ISRN	**Sarvestan**	**4.21**	**228**	Pn	Pn	02 46 10.5	+4.4
ILAS	**Lasjerd**	**4.38**	**316**	Pn	Pn	02 46 09.1	+0.7
IPAY	**Payeh**	**4.58**	**24**	Pn	Pn	02 46 09.1	-2.2
IFIR	**Firoozkooh**	**4.68**	**317**	Lg		02 47 25.5	
IFIR	**Firoozkooh**	**4.68**	**317**	Pn	Pn	02 46 09.5	-3.2
IKRD	**Kardeh**	**4.73**	**18**	Pn	Pn	02 46 15.5	+2.1
IVRN	**Varamin**	**4.94**	**305**	Pn	Pn	02 46 13.8	-2.6
IMYA	**Miamay**	**4.94**	**34**	Pn	Pn	02 46 14.0	-2.5
IDMV	**Damavand**	**5.07**	**312**	Pn	Pn	02 46 15.7	-2.5
IRAZ	**Razeghan**	**6.42**	**301**	Pn	Pn	02 46 34.1	-3.2
IRAZ	**Razeghan**	**6.42**	**301**	Lg		02 48 21.0	

NEIC ***05*** *02:50:30.5, 35.78S×70.54W, h3km, ML3.1(GUC), After GUC.*

GUC 05 02:50:30.5±0.6, 35.78S×70.54W, h3km, MD3.9, ML3.1, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.96**	**324**	*e*P	Pb	02 50 48.5	-0.9
TALC	**Talca**	**0.97**	**293**	*e*P	Pb	02 50 48.6	-1.1
TALC				*i* S	Sb	02 51 03.1	+0.5
TALC				AMP		02 51 03.8	
comp=N,3μm,0.3s							
CICH	**Cipreses**	**1.46**	**4**	*e*P	Pn	02 50 57.0	-0.7
CCHI	**Chillan**	**1.50**	**236**	⇓*i*P	Pn	02 50 57.4	-1.0
CCHI				*i* S	Sb	02 51 18.0	+0.1
CCHI				AMP		02 51 24.0	
comp=E,403nm,0.8s							
CACH	**El Canelo**	**1.66**	**358**	⇓*i*P	Pn	02 51 00.8	+0.1
CACH				*i* S	Sb	02 51 23.0	+0.5
CHCH	**Chadas Angostu**	**1.84**	**357**	*e*P	Pn	02 51 03.1	-0.2
LMEL	**Las Melosas**	**1.94**	**8**	*e*P	Pn	02 51 05.0	+0.3
LMEL				*i* S	Sn	02 51 31.4	+1.4
LMEL				AMP		02 51 33.0	
comp=E,76nm,0.3s							
LNV	**Longovilo**	**1.95**	**338**	*e*P	Pn	02 51 04.8	-0.1
CLCH	**Cerro Calan**	**2.38**	**360**	*e*P	Pn	02 51 11.3	+0.4
CLCH				AMP		02 51 56.3	
comp=E,159nm,0.8s							
FCH	**Farellones**	**2.45**	**5**	⇑*e*P	Pn	02 51 13.2	+1.1
FCH				AMP		02 52 00.5	
comp=E,72nm,0.7s							

IDC ***05*** *03:07:03.8±0.9, 0.94N×98.46E, mb4.0/12, mb1 4.2/12, mb1mx4.1/19, mbtmp4.0/12, Error ellipse: s-maj=53.8km s-min=15.2km az=47.0*

NEIC ***05*** *03:07:07.9±0.7, 0.41N×97.98E, h30km, mb4.4/3, Error ellipse: s-maj=24.0km s-min=12.5km az=56.0*

ISC 05 03:07:07.1±0.7, 0.6N±0.1×98.2E±0.2, h33km, n21, σ1°15/20, mb4.0/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.21**	**28**	*e*P	**P**	**03 08 30.9**	**+6.1**
CMAR	**Chiang Mai Arr**	**17.72**	**2**	P	**P**	**03 11 14.2**	**+1.0**
0.2nm,0.3s,baz=196,slow=10,SNR=2.6							
FITZ	**Fitzroy Crossi**	**32.76**	**126**	*e*P	**P**	**03 13 39.3**	**-0.2**
5.0nm,1.1s,mb4.4							
FITZ	**Fitzroy Crossi**	**32.76**	**126**	P	**P**	**03 13 39.1**	**-0.4**
5.2nm,0.7s,mb4.6,baz=358,slow=2.0,SNR=9.8							
WRA	**Warramunga Arr**	**40.86**	**122**	P	**P**	**03 14 47.9**	**0.0**
5.5nm,0.7s,mb4.3,baz=302,slow=9.0,SNR=29							
WRAB	**Tennant Creek**	**40.87**	**122**	*e*P	**P**	**03 14 48.7**	**+0.9**
9.9nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**40.87**	**122**	*e*P	**P**	**03 14 48.8**	**+0.9**
ASAR	**Alice Springs**	**42.23**	**127**	P	**P**	**03 14 58.9**	**-0.3**
0.8nm,0.6s,mb3.5,baz=299,slow=8.1,SNR=6.5							
SONM	**Songino Array**	**47.54**	**7**	P	**P**	**03 15 40.1**	**-1.2**
0.5nm,0.5s,mb3.8,baz=198,slow=9.1,SNR=3.2							
MKAR	**Makanchi Array**	**48.04**	**345**	P	**P**	**03 15 41.4**	**-3.9**
0.8nm,0.7s,mb3.9,baz=153,slow=8.1,SNR=5.2							
STKA	**Stephens Creek**	**52.22**	**132**	P	**P**	**03 16 16.0**	**-1.3**
2.2nm,0.9s,mb4.1,baz=295,slow=13,SNR=7.4							
ZAL	**Zalesovo**	**54.27**	**350**	P	**P**	**03 16 28.1**	**-4.1**
1.1nm,0.4s,mb4.1,baz=260,slow=10.0,SNR=3.1							
CHKZ	**Chkalovo**	**57.59**	**341**	P	**P**	**03 16 53.7**	**-2.4**
1.5nm,0.7s,mb4.1							
BRTR	**Keskin Array B**	**70.25**	**312**	P	**P**	**03 18 18.6**	**-0.6**
0.6nm,0.7s,mb3.6,baz=142,slow=7.8,SNR=4.9							
IDI	**Anoyia**	**76.06**	**306**	P	**P**	**03 18 52.9**	**-0.5**
3.6nm,0.6s,mb4.5,baz=72,slow=15,SNR=2.7							
AKASG	**Malin Array Be**	**76.33**	**322**	P	**P**	**03 18 55.0**	**+0.4**
0.2nm,0.3s,mb3.6,baz=90,slow=5.1,SNR=4.1							
MLR	**Muntele Rosu**	**77.18**	**317**	P	**P**	**03 19 00.2**	**+0.7**
0.6nm,0.5s,mb3.8,baz=120,slow=9.1,SNR=3.3							
MLR	**Muntele Rosu**	**77.18**	**317**	P	**P**	**03 19 00.2**	**+0.7**
FINES	**FINESS Array B**	**80.97**	**332**	P	**P**	**03 19 23.3**	**+3.6**
0.6nm,0.6s,mb3.7,baz=90,slow=6.9,SNR=3.5							
GERES	**GERESS Array B**	**85.92**	**319**	P	**P**	**03 19 47.3**	**+2.2**
0.1nm,0.2s,mb3.6,baz=90,slow=2.7,SNR=4.9							
TXAR	**Lajitas Array**	**143.59**	**33**	PKhKP		03 26 35.9	
0.4nm,0.6s,baz=232,slow=0.7,SNR=7.8							

IDC ***05*** *03:22:59.9±0.8, 22.46N×92.22E, mb4.0/10, mb1 4.2/11, mb1mx4.0/20, mbtmp4.0/11, ML4.3/1, MS3.0/2, Ms1 3.1/2, ms1mx2.8/26, Error ellipse: s-maj=44.7km s-min=16.0km az=52.0*

BJI ***05*** *03:22:59.7, 22.48N×92.54E, h9km, mB4.5, mb4.4, Ms3.6, Msz4.0*

NEIC ***05*** *03:23:01.9±0.5, 22.49N×92.39E, h10km, mb4.4/8, Error ellipse: s-maj=12.0km s-min=6.5km az=213.0*

NEIC Felt at Chittagong, Bangladesh.

MOS ***05*** *03:23:02.8±1.0, 22.52N×92.36E, h33km, mb4.5/6, Error ellipse: s-maj=19.2km s-min=8.8km az=119.4*

ISC 05 03:23:04.5±0.9, 22.61N±0.04×92.26E±0.04, h43km±9km, n65, σ1°19/78, mb4.3/21, MS3.2/2, 1C-1D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	**Agartala**	**1.57**	**324**	⇑*i*PG	**P**	**03 23 32.0**	**+1.5**
AGT				*e*		03 24 31.0	
SHL	**Shillong**	**2.96**	**353**	*e*P	**P**	**03 23 51.0**	**+0.7**
SHL				*e*S	**S**	**03 24 24.0**	**-0.9**
SHL	**Shillong**	**2.96**	**353**	*e*P	**P**	**03 23 51.0**	**+0.7**
SHL				*e*S	**S**	**03 24 24.5**	**-0.4**
BOK	**Bokaro**	**5.98**	**283**	*e*P	**P**	**03 24 34.4**	**+1.7**
BOK				*e*S	**S**	**03 25 40.4**	**-0.5**
BOK				*e*		03 25 45.0	
comp=E,182nm,0.4s							
BOK				*e*		03 25 45.6	
comp=N,546nm,0.3s							
BWNR	**Bhubaneshwar**	**6.44**	**250**	*e*P	**P**	**03 24 42.0**	**+2.8**
BWNR				*e*S	**S**	**03 25 49.6**	**-2.7**
BWNR				*e*		03 25 54.3	
comp=N,172nm,0.4s							
BWNR				*e*		03 25 55.4	
comp=E,87nm,0.3s							
LSA	**Lhasa**	**7.13**	**352**	P	**P**	**03 24 47.1**	**-1.8**
LSA				S	**S**	**03 26 08.7**	**-0.7**
JIRN	**Jiri**	**7.45**	**314**	*e*Pn	**P**	**03 24 54.7**	**+1.4**
JIRN				*e*Sn	**S**	**03 26 17.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**7.50**	**122**	Pn	**P**	**03 24 51.2**	**-2.9**
comp=E,1.2nm,0.3s,baz=300,slow=13,SNR=30							
CMAR				LR	LR	03 27 26.8	
comp=E,44nm,20.2s,baz=300,slow=36							
GUN	**Gumba**	**7.82**	**314**	*e*Pn	**P**	**03 24 59.8**	**+1.3**
GUN				*e*Sn	**S**	**03 26 26.6**	**0.0**
comp=E,130nm,0.6s							
PKI	**Pulchoki**	**7.93**	**310**	*e*Pn	**P**	**03 25 00.7**	**+0.7**
PKI				*e*Sn	**S**	**03 26 28.6**	**-0.8**
comp=E,70nm,0.4s							
KKN	**Kakani**	**8.15**	**311**	*e*Pn	**P**	**03 25 03.8**	**+0.7**
KKN				*e*Sn	**S**	**03 26 33.8**	**-1.1**
comp=E,81nm,0.6s							
DMN	**Daman**	**8.17**	**309**	*e*Pn	**P**	**03 25 04.2**	**+0.9**
DMN				*e*Sn	**S**	**03 26 33.5**	**-1.8**
comp=E,94nm,0.6s							
GKN	**Gorkha**	**8.74**	**309**	*e*Pn	**P**	**03 25 11.1**	**-0.1**
GKN				*e*Sn	**S**	**03 26 47.6**	**-1.8**
comp=E,93nm,0.4s							
KOLN	**Koldanda**	**9.37**	**305**	*e*Pn	**P**	**03 25 19.5**	**-0.4**
KOLN				*e*Sn	**S**	**03 27 01.1**	**-4.0**
comp=E,100nm,0.4s							
BLSP	**Bilaspur**	**9.38**	**269**	*e*P	**P**	**03 25 20.6**	**+0.5**
BLSP				*e*S	**S**	**03 27 01.0**	**-4.4**
BLSP				*e*		03 27 05.0	
comp=N,1μm,0.2s							
BLSP				*e*		03 27 05.0	
comp=E,620nm,0.2s							
VIS	**Vishakhapatnam**	**9.70**	**241**	*e*P	**P**	**03 25 25.2**	**+0.8**
VIS				*e*S	**S**	**03 27 04.2**	**-8.9**
VIS				*e*		03 27 08.3	
comp=E,20nm,0.3s							
VIS				*e*		03 27 08.7	
comp=N,13nm,0.2s							
NGP	**Nagpur**	**12.35**	**266**	*e*P	**P**	**03 26 00.9**	**+0.4**
NGP				*e*S	**S**	**03 28 09.2**	**-8.5**
NGP				*e*		03 28 15.0	
comp=N,36nm,0.5s							
NGP	**Nagpur**	**12.35**	**266**	*e*P	**P**	**03 26 00.9**	**+0.4**
NGP				*e*S	**S**	**03 28 09.2**	**-8.5**
NGP				*e*		03 28 15.0	
comp=N,36nm,0.5s							
BHPL	**Bhopal**	**13.69**	**275**	*e*P	**P**	**03 26 18.6**	**+0.4**
BHPL				*e*		03 28 46.2	
HYB	**Hyderabad**	**13.88**	**251**	*e*P	**P**	**03 26 12.0**	**-8.7**
HYB	**Hyderabad**	**13.88**	**251**	*i* P	**P**	**03 26 12.0**	**-8.7**
SONA	**Sohna**	**14.81**	**295**	*e*	**P**	**03 26 31.7**	**-1.2**
SONA				*e*		03 29 05.5	
NDI	**New Delhi**	**14.85**	**297**	*e*	**P**	**03 26 39.0**	**+5.7**
NDI				*e*		03 29 07.0	
AYAN	**Aya Nagar**	**14.85**	**296**	*e*	**P**	**03 26 28.9**	**-4.5**
AYAN				*e*		03 29 08.0	
KLP	**Kalpa**	**15.31**	**308**	*e*P	**P**	**03 26 38.9**	**-0.3**
SDNR	**Sundarnagar**	**16.23**	**306**	*e*	**S**	**03 29 43.4**	**-5.8**
LZH	**Lanzhou**	**16.78**	**34**	*e*P	**P**	**03 26 58.3**	**+0.4**
LZH				AMB	AMB		
comp=Z,31nm,1.5s							
LZH	**Lanzhou**	**16.78**	**34**	*e*P	**P**	**03 26 58.3**	**+0.4**
comp=Z,31nm,1.5s							
LZH				pP		03 27 09.5	
LZH				sP		03 27 12.6	
ENH	**Enshi**	**17.20**	**60**	*e*P	**P**	**03 27 02.1**	**-1.1**
comp=Z,17nm,0.4s							
XAN	**Xi'an**	**18.54**	**48**	P	**P**	**03 27 17.1**	**-2.8**
XAN				AMB	AMB		
comp=Z,7.0nm,0.7s							
WMQ	**Urumqi**	**21.49**	**351**	⇓P	**P**	**03 27 52.8**	**+1.4**
WMQ				AP		03 27 56.8	
WMQ				XP		03 27 59.8	
WMQ				PP	PP	03 28 17.3	+0.9
WMQ				PPP	PPP	03 28 27.1	+0.9
WMQ				S	**S**	**03 31 46.8**	**+4.7**
WMQ				AMB	AMB		
comp=Z,7.0nm,0.5s,mb4.2							
WMQ				AMB	AMB		
comp=Z,65nm,4.7s							
WMQ				LR	LR		
comp=N,10.0nm,15.0s,MS3.0							
WMQ				LR	LR		
comp=E,42nm,15.1s,MS3.0							
AAK	**Ala-Archa**	**24.85**	**328**	*e*P	**P**	**03 28 26.4**	**+2.0**
AAK				*e*		03 28 41.3	
AAK				pmax	pmax		
comp=Z,9.0nm,1.1s,mb4.2							
AAK	**Ala-Archa**	**24.85**	**328**	*e*P	**P**	**03 28 26.4**	**+2.1**
comp=Z,9.2nm,1.1s,mb4.2							
AAK				*e*		03 28 41.2	
NJ2	**Nanjing**	**25.37**	**63**	*e*P	**P**	**03 28 29.6**	**+0.2**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.6							
MKAR	**Makanchi Array**	**25.43**	**344**	P	**P**	**03 28 31.3**	**+1.4**
comp=Z,3.5nm,0.7s,mb4.0,baz=155,slow=9.5,SNR=31							
MKAR	**Makanchi Array**	**25.43**	**344**	P	**P**	**03 28 31.3**	**+1.4**
SONM	**Songino Array**	**27.60**	**21**	P	**P**	**03 28 49.8**	**0.0**
comp=Z,0.8nm,0.6s,mb3.5,baz=202,slow=6.7,SNR=4.1							
KURK	**Kurchatov**	**30.01**	**343**	*e*P	**P**	**03 29 11.7**	**+0.5**
KURK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.0							
KURK	**Kurchatov**	**30.01**	**343**	*e*P	**P**	**03 29 11.7**	**+0.4**
comp=Z,1.5nm,0.6s,mb3.9							
ZAL	**Zalesovo**	**31.78**	**352**	P	**P**	**03 29 27.6**	**+0.6**
comp=Z,0.9nm,0.3s,mb4.1,baz=177,slow=12,SNR=3.5							
INCN	**Inchon**	**33.03**	**55**	P	**P**	**03 29 38.6**	**+0.6**
comp=Z,85nm,0.8s,mb5.7							
CN2	**Changchun**	**34.55**	**44**	*e*P	**P**	**03 29 51.5**	**+0.5**
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
CHKZ	**Chkalovo**	**35.09**	**338**	*e*P	**P**	**03 29 55.5**	**+0.1**
CHKZ				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
CHKZ	**Chkalovo**	**35.09**	**338**	*e*P	**P**	**03 29 55.5**	**+0.1**
comp=Z,2.4nm,0.7s,mb4.2							
MDJ	**Mudanjiang**	**37.60**	**45**	P	**P**	**03 30 12.8**	**-3.9**
MDJ				AMB	AMB		
comp=Z,5.0nm,1.2s,mb4.1							
MDJ				AMB	AMB		
comp=Z,48nm,4.6s							
MJAR	**Matsushiro Arr**	**41.92**	**60**	LR	LR	03 50 51.1	
comp=Z,54nm,18.7s,MS3.5,baz=25,slow=40							
AKASG	**Malin Array Be**	**55.84**	**317**	P	**P**	**03 32 39.0**	**-0.8**
comp=Z,0.6nm,0.5s,mb3.9,baz=77,slow=7.0,SNR=5.7							
AKASG	**Malin Array Be**	**55.84**	**317**	P	**P**	**03 32 39.0**	**-0.8**
WRA	**Warramunga Arr**	**58.96**	**133**	P	**P**	**03 33 00.5**	**-1.7**
comp=Z,0.9nm,0.5s,mb4.1,baz=321,slow=7.4,SNR=6.1							
WRAB	**Tennant Creek**	**58.96**	**133**	P	**P**	**03 32 59.4**	**-2.9**
WRAB				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.6							
WRAB	**Tennant Creek**	**58.96**	**133**	P	**P**	**03 32 59.4**	**-2.9**
comp=Z,6.0nm,0.9s,mb4.6							
FINES	**FINESS Array B**	**59.03**	**329**	P	**P**	**03 33 01.6**	**-0.5**
comp=Z,1.0nm,0.6s,mb4.1,baz=117,slow=8.5,SNR=6.5							
ASAR	**Alice Springs**	**61.28**	**136**	P	**P**	**03 33 16.9**	**-1.2**
comp=Z,1.3nm,0.6s,mb4.3,baz=314,slow=6.6,SNR=23							
HFS	**Hagfors**	**65.00**	**327**	P	**P**	**03 33 42.5**	**+0.5**
comp=Z,2.4nm,0.5s,mb4.5,baz=90,slow=5.8,SNR=12							
GERES	**GERESS Array B**	**65.92**	**315**	P	**P**	**03 33 49.0**	**+0.9**
comp=Z,1.2nm,0.6s,mb4.1,baz=76,slow=5.5,SNR=13							
NB2	**NORSAR Subarra**	**66.17**	**328**	P	**P**	**03 33 49.2**	**-0.3**
comp=Z,1.1nm,0.6s,mb4.1,baz=84,slow=6.5							
NOA	**NORSAR Array B**	**66.17**	**328**	P	**P**	**03 33 49.2**	**-0.3**
comp=Z,1.6nm,0.7s,mb4.2,baz=86,slow=6.5,SNR=5.9							
NOA	**NORSAR Array B**	**66.17**	**328**	P	**P**	**03 33 49.2**	**-0.3**
LSZ	**Lusaka**	**73.15**	**245**	*e*P	**P**	**03 34 34.2**	**+1.2**
LSZ				*e*	pP	03 34 46.7	+0.9
LSZ				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3							
LSZ	**Lusaka**	**73.15**	**245**	*e*P	**P**	**03 34 34.1**	**+1.2**
comp=Z,3.0nm,0.7s,mb4.3							
LSZ				*e*	pP	03 34 46.7	+0.9
INK	**Inuvik**	**83.38**	**16**	*e*P	**P**	**03 35 29.3**	**+1.3**
INK				pmax	pmax		
comp=Z,3.0nm,0.9s							
INK	**Inuvik**	**83.38**	**16**	*e*P	**P**	**03 35 29.3**	**+1.3**
comp=Z,2.8nm,0.9s,mb4.3							
SDV	**Santo Domingo**	**144.49**	**330**	PKP	PKPdf	03 42 37.5	+0.4
comp=Z,7.4nm,0.8s,baz=80,slow=2.7,SNR=11							
SDV	**Santo Domingo**	**144.49**	**330**	*e*PKP	PKPdf	03 42 37.8	+0.7
ROSC	**El Rosal**	**149.71**	**333**	PKPbc	PKPdf	03 42 54.2	+8.5
comp=Z,2.2nm,0.4s,baz=109,slow=22,SNR=4.1							

IDC ***05*** *03:37:10.6±3.0, 3.28N×95.93E, mb3.8/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=122.4km s-min=26.4km az=56.0*

ISC 05 03:37:14.7±2.1, 3.3N±0.4×96.2E±0.5, h33km, n11, σ0°89/11, mb4.2/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**26.00**	**339**	*e*P	**P**	**03 42 47.7**	**+1.2**
16nm,0.8s,mb4.6							
GUN	**Gumba**	**26.34**	**339**	*e*P	**P**	**03 42 50.5**	**+0.9**
13nm,0.7s,mb4.5							
DMN	**Daman**	**26.35**	**337**	*e*P	**P**	**03 42 49.1**	**-0.7**
KKN	**Kakani**	**26.45**	**338**

SONM	**Songino Array**	**45.92**	**10**	P	**P**	**03 50 42.1**	**-1.8**
	0.8nm,0.4s,mb4.0,baz=191,slow=9.7,SNR=5.5						
ZAL	**Zalesovo**	**51.84**	**352**	P	**P**	**03 51 27.6**	**-2.0**
	1.6nm,0.3s,mb4.5,baz=320,slow=5.6,SNR=5.2						
CHKZ	**Chkalovo**	**54.82**	**342**	*eP*	**P**	**03 51 50.6**	**-1.0**
	1.2nm,0.6s,mb4.1						

*NEIC **05** 03:45:40.0±1.7, 9.59N×69.99W, h24km±13km, mb3.7/1, MD3.8(CAR), Error ellipse: s-maj=14.8km s-min=11.6km az=127.0*
*FUNV **05** 03:45:39.4, 9.71N×69.92W, MW3.2*
*IDC **05** 03:45:41.0±2.6, 9.55N×70.00W, h31km±24km, mb3.6/6, mb1 3.9/7, mb1mx3.5/20, mbtmp3.8/7, ML4.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.4/25, Error ellipse: s-maj=34.0km s-min=22.8km az=162.0*

ISC 05 03:45:38.9±0.6, 9.70N±0.02×69.92W±0.02, h9km±4km, n35, σ1°18/50, mb3.8/7, 5C-2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.31**	**352**	⇑*iP*	**Pg**	**03 45 45.0**	**-0.3**
CURV				*eS*	**Sg**	**03 45 49.3**	**-0.3**
SANV	**Sanarito**	**0.43**	**118**	⇑*iP*	**Pg**	**03 45 47.9**	**+0.4**
SANV				*eS*	**Sg**	**03 45 54.1**	**+0.8**
TEPV	**Terepaima**	**0.76**	**70**	⇓*iP*	**Pb**	**03 45 54.1**	**+0.3**
TEPV				*eS*	**Sb**	**03 46 04.4**	**+0.4**
SIQV	**Siquisique**	**0.95**	**7**	⇑*iP*	**Pb**	**03 45 57.1**	**+0.1**
SIQV				*eS*	**Sb**	**03 46 11.3**	**+1.9**
SDV	**Santo Domingo**	**1.07**	**221**	Pg	**Pg**	**03 45 58.1**	**-2.3**
	74nm,0.3s,baz=69,slow=13,SNR=390						
SDV				Lg		03 46 11.2	
	287nm,0.3s,baz=229,slow=23,SNR=56						
DABV	**Dabajuro**	**1.40**	**330**	*eP*	**Pn**	**03 46 06.0**	**+1.2**
DABV				*eS*	**Sb**	**03 46 24.7**	**+2.0**
VIGV	**El Vigia**	**1.67**	**239**	*iP*	**Pn**	**03 46 09.5**	**+1.1**
VIGV				*eS*	**Sn**	**03 46 31.4**	**+1.3**
SOCV	**Socops**	**1.69**	**213**	⇑*iP*	**Pn**	**03 46 09.4**	**+0.6**
SOCV				*eS*	**Sn**	**03 46 32.2**	**+1.5**
JACV	**Jacura**	**1.74**	**38**	*eP*	**Pn**	**03 46 11.1**	**+1.5**
BAUV	**El Baul**	**2.00**	**112**	*eP*	**Pn**	**03 46 14.2**	**+1.0**
BAUV				*eS*	**Sn**	**03 46 40.3**	**+1.7**
TURV	**Turiamo**	**2.18**	**70**	*iP*	**Pn**	**03 46 15.9**	**+0.1**
TURV				*eS*	**Sn**	**03 46 44.1**	**+0.9**
MONV	**Montecano**	**2.24**	**359**	*eP*	**Pn**	**03 46 17.1**	**+0.4**
MONV				*eS*	**Sn**	**03 46 44.8**	**0.0**
VIRV	**Villa del Rosa**	**2.58**	**288**	*eP*	**Pn**	**03 46 20.9**	**-0.6**
VIRV				*eS*	**Sn**	**03 46 52.9**	**-0.4**
ELOV	**Elorza**	**2.72**	**171**	⇑*iP*	**Pn**	**03 46 23.5**	**0.0**
ELOV				*eS*	**Sn**	**03 46 56.4**	**-0.4**
IMOV	**Isla Los Monje**	**2.81**	**340**	*iP*	**Pn**	**03 46 24.8**	**-0.1**
IMOV				*eS*	**Sn**	**03 46 58.5**	**-0.7**
CAPV	**Capacho**	**2.99**	**233**	*eP*	**Pn**	**03 46 28.0**	**+0.6**
FUNV	**FUNVISIS**	**3.15**	**76**	*eP*	**Pn**	**03 46 30.1**	**+0.3**
FUNV				*eS*	**Sn**	**03 47 06.4**	**-1.5**
CAOV	**Caicara del Or**	**4.27**	**123**	⇓*iP*	**Pn**	**03 46 44.4**	**-1.2**
CAOV				*eS*	**Sn**	**03 47 32.4**	**-3.8**
PAYV	**Puerto Ayacuch**	**4.81**	**152**	*eP*	**Pn**	**03 46 51.1**	**-2.2**
PAYV				*eS*	**Sn**	**03 47 44.9**	**-4.9**
PCRV	**Puerto La Cruz**	**5.22**	**84**	Pn	**Pn**	**03 46 59.3**	**+0.2**
	7.5nm,0.3s,baz=331,slow=6.0,SNR=21						
PCRV				Sn	**Sn**	**03 47 60.0**	**-0.3**
	7.2nm,0.3s,baz=226,slow=6.5,SNR=8.9						
PCRV				LR	LR	03 49 32.6	
	comp=Z,130nm,21.1s,baz=0.6,slow=43						
ROSC	**El Rosal**	**6.51**	**223**	Pn	**Pn**	**03 47 18.0**	**+0.8**
	8.3nm,0.3s,baz=70,slow=16,SNR=17						
ROSC				LR	LR	03 50 01.1	
	comp=Z,134nm,18.8s,baz=52,slow=41						
SJG	**San Juan**	**9.12**	**23**	*eP*	**P**	**03 47 50.3**	**-3.5**
SAML	**Samuel**	**19.70**	**160**	P	**P**	**03 50 05.8**	**-5.8**
	2.4nm,0.6s						
LPAZ	**La Paz**	**25.88**	**176**	P	**P**	**03 51 17.1**	**+4.1**
	0.9nm,0.7s,mb3.4,baz=339,slow=14,SNR=5.2						
SCHQ	**Schefferville**	**45.08**	**3**	P	**P**	**03 53 55.8**	**-1.1**
	2.0nm,0.9s,mb4.0,baz=200,slow=12,SNR=3.6						
PDAR	**Pinedale Array**	**47.75**	**321**	P	**P**	**03 54 16.8**	**-1.5**
	0.4nm,0.5s,mb3.7,baz=126,slow=10.0,SNR=3.7						
FRB	**Frobisher Bay**	**53.96**	**1**	P	**P**	**03 55 02.2**	**-2.9**
	2.0nm,0.7s,mb4.2,baz=147,slow=4.6,SNR=8.3						
FRB	**Frobisher Bay**	**53.96**	**1**	P	**P**	**03 55 02.2**	**-2.9**
YKA	**Yellowknife Ar**	**61.72**	**338**	P	**P**	**03 55 56.2**	**-3.5**
	1.0nm,0.6s,mb4.1,baz=122,slow=7.0,SNR=13						
YKA	**Yellowknife Ar**	**61.72**	**338**	P	**P**	**03 55 56.2**	**-3.5**
ILAR	**Eielson Array**	**75.73**	**334**	P	**P**	**03 57 24.1**	**-2.2**
	0.2nm,0.5s,mb3.3,baz=95,slow=4.1,SNR=5.8						
ILAR	**Eielson Array**	**75.73**	**334**	P	**P**	**03 57 24.1**	**-2.2**
GERES	**GERESS Array B**	**78.58**	**42**	P	**P**	**03 57 41.1**	**-1.4**
	0.5nm,0.6s,mb3.6,baz=270,slow=5.3,SNR=4.8						
ASAR	**Alice Springs**	**153.35**	**236**	PKPbc	PKPdf	04 05 36.5	+3.1
	0.7nm,1.0s,baz=162,slow=2.9,SNR=3.4						
WRA	**Warramunga Arr**	**154.47**	**244**	PKPbc	PKPdf	04 05 39.2	+4.1
	0.2nm,0.4s,baz=105,slow=2.7,SNR=2.7						

IDC 05 04:04:33.0±3.2, 0.78N×97.28E, mb3.7/4, mb1 4.0/5, mb1mx3.6/17, mbtmp3.7/5, ML4.3/1, MS2.8/1, Ms1 3.0/1, ms1mx2.7/25, Error ellipse: s-maj=114.1km s-min=30.3km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.64**	**5**	P	P	04 08 41.0	-0.9
	0.4nm,0.3s,baz=197,slow=12,SNR=3.8						
CMAR				LR	LR	04 16 23.0	
	comp=Z,31nm,20.4s,baz=238,slow=40						
WRA	**Warramunga Arr**	**41.74**	**122**	P	P	04 12 24.2	-1.7
	0.3nm,0.6s,baz=302,slow=9.1,SNR=3.1						
SONM	**Songino Array**	**47.53**	**8**	P	P	04 13 10.0	-2.0
	1.1nm,1.0s,baz=191,slow=7.3,SNR=3.4						
MKAR	**Makanchi Array**	**47.66**	**346**	P	P	04 13 11.1	-1.9
	0.5nm,0.5s,baz=161,slow=9.1,SNR=12						
ZAL	**Zalesovo**	**53.97**	**351**	P	P	04 13 58.2	-2.6
	0.7nm,0.4s,baz=334,slow=5.7,SNR=3.6						

*NEIC **05** 04:16:15.3, 46.19N×122.19W, h1km, MD3.3(SEA), After SEA.*
*IDC **05** 04:16:17.7±0.9, 46.03N×122.27W, mb3.5/3, mb1 3.9/10, mb1mx3.7/27, mbtmp3.6/10, ML3.2/7, Error ellipse: s-maj=14.5km s-min=10.0km az=99.0*

ISC 05 04:16:15.1±0.3, 46.20N±0.02×122.20W±0.04, h4km±2km, n73, σ0°88/73, mb3.5/3, 9C-18D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEL	**Yellow Rock**	**0.01**	**26**	⇓P	**Pg**	**04 16 15.7**	**-0.2**
HSR	**South Ridge**	**0.03**	**164**	⇓P	**Pg**	**04 16 16.1**	**+0.1**
SHW	**Mount Saint He**	**0.03**	**255**	⇓P	**Pg**	**04 16 16.2**	**+0.2**
ESD	**East Dome**	**0.03**	**96**	⇓P	**Pg**	**04 16 16.1**	**0.0**
STD	**Studebaker Rid**	**0.04**	**332**	⇑P	**Pg**	**04 16 16.5**	**+0.3**
SOSW	**Source of Smit**	**0.06**	**42**	⇓P	**Pg**	**04 16 16.7**	**+0.3**
JLK	**June Lake**	**0.06**	**152**	⇓P	**Pg**	**04 16 16.7**	**+0.2**
CDFW	**Cedar Flats**	**0.13**	**129**	⇑P	**Pg**	**04 16 18.4**	**+0.5**
ERK	**Elk Rock**	**0.15**	**316**	⇓P	**Pg**	**04 16 18.5**	**+0.4**
MTMW	**Mount Mitchell**	**0.17**	**184**	⇓P	**Pg**	**04 16 19.1**	**+0.5**
LVP	**Lakeview Peak**	**0.20**	**228**	⇓P	**Pg**	**04 16 19.5**	**+0.4**
KOSW	**Kosmos**	**0.26**	**1**	⇑P	**Pg**	**04 16 20.7**	**+0.4**
ASR	**Mount Adams--S**	**0.42**	**97**	⇓P	**Pg**	**04 16 23.5**	**0.0**
LMW	**Ladd Mountain**	**0.47**	**352**	⇓P	**Pg**	**04 16 25.2**	**+0.6**
GULW	**Guler Mountain**	**0.50**	**123**	⇑P	**Pg**	**04 16 25.3**	**+0.2**
GLK	**Glacier Lake**	**0.55**	**48**	⇑P	**Pg**	**04 16 25.9**	**-0.1**
LCW	**Lucas Creek**	**0.59**	**324**	P	**Pg**	**04 16 26.8**	**-0.1**
LON	**Longmire**	**0.61**	**26**	⇓P	**Pg**	**04 16 27.2**	**-0.1**
REMR	**Mount Rainier-**	**0.67**	**21**	⇓P	**Pg**	**04 16 28.2**	**-0.2**
WPW	**White Pass**	**0.67**	**42**	⇑P	**Pg**	**04 16 28.1**	**-0.3**
VLMM	**Larch Mountain**	**0.67**	**171**	P	**Pg**	**04 16 28.3**	**-0.2**
RCM	**Mount Rainier-**	**0.71**	**27**	⇓P	**Pg**	**04 16 29.1**	**-0.2**
RCS	**Mount Rainier-**	**0.74**	**25**	⇓P	**Pg**	**04 16 29.6**	**-0.4**
PGO	**Gresham**	**0.76**	**194**	P	**Pg**	**04 16 30.1**	**-0.1**
BMW	**Boistfort Moun**	**0.77**	**291**	⇓P	**Pg**	**04 16 29.9**	**-0.5**
FMW	**Mount Fremont**	**0.82**	**26**	⇓P	**Pg**	**04 16 30.9**	**-0.5**
VLL	**Laurance Lake**	**0.82**	**154**	P	**Pg**	**04 16 31.2**	**-0.3**
RRHS	**Rochester High**	**0.84**	**316**	P	**Pb**	**04 16 31.2**	**-0.6**
NLO	**Nicolai Mounta**	**0.88**	**263**	P	**Pb**	**04 16 32.3**	**-0.2**
TDH	**Tom, Dick, Har**	**0.95**	**163**	⇑P	**Pb**	**04 16 33.2**	**-0.6**
CPW	**Capitol Peak**	**1.01**	**320**	⇓P	**Pb**	**04 16 34.1**	**-0.7**
VFP	**Flag Point**	**1.02**	**150**	P	**Pb**	**04 16 34.3**	**-0.6**
GSM	**Grass Mountain**	**1.04**	**15**	⇑P	**Pb**	**04 16 34.6**	**-0.7**
MEW	**McNeil Island**	**1.05**	**343**	P	**Pb**	**04 16 35.4**	**0.0**
KMOR	**Kings Mountain**	**1.07**	**238**	⇑P	**Pb**	**04 16 35.0**	**-0.7**
EBG	**Ellensburg**	**1.33**	**57**	P	**Pb**	**04 16 40.5**	**+0.3**
SSOR	**Sweet Springs**	**1.36**	**188**	P	**Pb**	**04 16 39.7**	**-1.0**
GMW	**Gold Mountain**	**1.41**	**343**	P	**Pn**	**04 16 40.6**	**-0.9**
TBM	**Table Mountain**	**1.47**	**48**	P	**Pn**	**04 16 42.3**	**-0.1**
CROR	**Criterion Ridg**	**1.48**	**145**	P	**Pn**	**04 16 42.7**	**+0.1**
VTHM	**Trough**	**1.53**	**131**	P	**Pn**	**04 16 43.7**	**+0.3**
HTW	**Haystack Looko**	**1.63**	**10**	P	**Pn**	**04 16 44.7**	**-0.1**
BVW	**Beverly**	**1.71**	**68**	P	**Pn**	**04 16 46.8**	**+0.9**
PRW	**Prosser**	**1.74**	**89**	P	**Pn**	**04 16 47.5**	**+1.2**
SNIWA	**Snively Ranch**	**1.78**	**81**	P	**Pn**	**04 16 47.7**	**+0.9**
COR	**Corvallis**	**1.79**	**206**	*eP*	**Pn**	**04 16 46.6**	**-0.4**
RSW	**Rattlesnake Hi**	**1.81**	**83**	P	**Pn**	**04 16 48.3**	**+0.9**
BLN	**Blyn Mountain**	**1.88**	**344**	P	**Pn**	**04 16 48.2**	**-0.1**
WAH2	**Wahluke Slope**	**1.90**	**72**	P	**Pn**	**04 16 49.1**	**+0.5**
FRIS	**Frissel Point**	**1.99**	**178**	P	**Pn**	**04 16 51.1**	**+1.3**
PGC	**Sidney**	**2.59**	**341**	*eP*	**Pn**	**04 16 58.9**	**+0.3**
HUMO	**Hull Mountain**	**3.63**	**189**	*eP*	**Pn**	**04 17 12.8**	**-0.5**
BMO	**Blue Mountains**	**3.69**	**110**	*eP*	**Pn**	**04 17 12.5**	**-1.6**
NEW	**Newport**	**4.03**	**57**	Pn	**Pn**	**04 17 24.7**	**+5.8**
	0.4nm,0.3s,baz=241,slow=13,SNR=8.6						
NEW				Lg		04 18 26.8	
	0.8nm,0.3s,baz=122,slow=18,SNR=6.0						
NEW	**Newport**	**4.03**	**57**	*eP*	**Pn**	**04 17 17.6**	**-1.3**
YBH	**Yreka Blue Hor**	**4.48**	**185**	Pn	**Pn**	**04 17 27.4**	**+2.0**
	0.4nm,0.3s,baz=17,slow=10,SNR=7.6						
MOD	**Modoc**	**4.51**	**162**	P	**Pn**	**04 17 24.5**	**-1.3**
WVOR	**Wild Horse Val**	**4.55**	**145**	*eP*	**Pn**	**04 17 25.1**	**-1.2**
MSO	**Missoula**	**5.73**	**81**	*eP*	**Pn**	**04 17 41.3**	**-1.7**
HLID	**Hailey**	**6.12**	**113**	*eP*	**Pn**	**04 17 46.5**	**-2.1**
CHMT	**Chamberlain Mo**	**6.21**	**80**	*eP*	**Pn**	**04 17 46.4**	**-3.4**
NVAR	**Mina Array Bea**	**8.28**	**158**	Pn	**P**	**04 18 19.7**	**+0.9**
	0.1nm,0.3s,baz=340,slow=9.7,SNR=6.1						
NVAR	**Mina Array Bea**	**8.28**	**158**	Pn	**P**	**04 18 19.7**	**+0.9**
PDAR	**Pinedale Array**	**9.66**	**106**	Pn	**P**	**04 18 42.8**	**+4.9**
	0.1nm,0.3s,baz=290,slow=11,SNR=3.4						
DLBC	**Dease Lake**	**13.14**	**342**	Pn	**P**	**04 19 29.0**	**+3.9**
	0.1nm,0.3s,baz=185,slow=12,SNR=4.0						
YKA	**Yellowknife Ar**	**16.89**	**12**	Pn	**P**	**04 20 12.8**	**-0.8**
	0.1nm,0.3s,baz=197,slow=11,SNR=25						
YKW3	**Yellowknife Ar**	**16.96**	**12**	*eP*	**P**	**04 20 13.3**	**-1.1**
ULM	**Lac du Bonnet**	**17.96**	**67**	P	**P**	**04 20 29.7**	**+2.6**
	0.2nm,0.3s,baz=300,slow=8.1,SNR=2.6						
ULM	**Lac du Bonnet**	**17.96**	**67**	P	**P**	**04 20 29.7**	**+2.6**
TXAR	**Lajitas Array**	**22.23**	**133**	P	**P**	**04 21 15.7**	**+1.5**
	0.6nm,0.9s,mb3.0,baz=301,slow=5.3,SNR=5.9						
INK	**Inuvik**	**22.92**	**349**	P	**P**	**04 21 23.2**	**+2.7**
	2.4nm,1.0s,mb3.6,baz=153,slow=9.0,SNR=5.9						
ILAR	**Eielson Array**	**23.00**	**333**	P	**P**	**04 21 24.2**	**+2.7**
	5.2nm,1.0s,mb3.9,baz=146,slow=9.8,SNR=26						
IMA	**Indian Mountai**	**26.04**	**331**	*eP*	**P**	**04 21 51.1**	**+0.5**

DJA 05 04:17:54.9±1.1, 8.48S×116.30E, h111km±6km, MD4.4/3, ML4.2/1, 3C-3D, Error ellipse: s-maj=62.3km s-min=19.0km az=173.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.18**	**268**	⇑*iPn*	P	04 18 10.4	0.0
	366nm,0.2s						
KEDI				⇑*iSn*	S	04 18 21.2	-1.0
RATI	**Rata**	**0.79**	**252**	⇑*iPn*	P	04 18 14.1	-0.3
	418nm,0.2s						
RATI				⇓*iSn*	S	04 18 28.1	-0.8
SRDI	**Scrawed**	**2.13**	**270**	⇓*iPn*	P	04 18 29.6	-0.5
	123nm,0.2s						
SRDI				⇓*iSn*	S	04 18 55.5	-1.1

*IDC **05** 04:43:05.2±7.9, 31.42S×179.92E, h370km±93km, mb3.1/4, mb1 3.4/5, mb1mx3.2/16, mbtmp4.1/5, Error ellipse: s-maj=99.2km s-min=43.8km az=177.0*
*NEIC **05** 04:43:10.5±3.5, 31.82S×179.81E, h434km±45km, mb3.6/1, Error ellipse: s-maj=59.4km s-min=33.5km az=180.0*

ISC 05 04:43:09.1±2.6, 32.0S±0.3×179.9W±0.5, h461km±46km, n27, σ0°78/31, mb3.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.80**	**195**	P	**P**	**04 44 43.6**	**+0.9**
MXZ	**Matakaoa Point**	**5.80**	**195**	PN	**P**	**04 44 42.6**	**-0.1**
PUZ	**Puketiti**	**6.30**	**194**	*eP*	**P**	**04 44 47.3**	**-0.5**
PUZ				S	**S**	**04 46 03.6**	**-2.2**
PUZ	**Puketiti**	**6.30**	**194**	PN	**P**	**04 44 47.8**	**0.0**
PUZ				SN	**S**	**04 46 06.1**	**+0.3**
MWZ	**Matawai**	**6.72**	**198**	*eP*	**P**	**04 44 52.3**	**+0.2**
MWZ	**Matawai**	**6.72**	**198**	PN	**P**	**04 44 52.3**	**+0.2**
URZ	**Urewera**	**6.76**	**201**	P	**P**	**04 44 51.1**	**-1.5**
	19nm,0.3s,baz=11,slow=3.6,SNR=76						
URZ				S	**S**	**04 46 15.1**	**+0.6**
	6.0nm,0.3s,baz=38,slow=23,SNR=11						
URZ	**Urewera**	**6.76**	**201**	*eP*	**P**	**04 44 51.0**	**-1.6**
URZ	**Urewera**	**6.76**	**201**	PN	**P**	**04 44 53.1**	**+0.4**
URZ				SN	**S**	**04 46 14.8**	**+0.2**
KNZ	**Kokohu**	**7.33**	**195**	P	**P**	**04 45 00.3**	**+1.6**
KNZ	**Kokohu**	**7.33**	**195**	PN	**P**	**04 44 59.3**	**+0.6**
MGZ	**Maungaku**	**7.97**	**207**	P	**P**	**04 45 05.6**	**0.0**
MGZ	**Maungaku**	**7.97**	**207**	PN	**P**	**04 45 05.6**	**+0.1**
NGZ	**Ngauruhoe**	**8.10**	**206**	P	**P**	**04 45 07.6**	**+0.6**
NGZ	**Ngauruhoe**	**8.10**	**206**	PN	**P**	**04 45 07.6**	**+0.6**
TUVZ	**Tukino**	**8.16**	**205**	P	**P**	**04 45 06.5**	**-1.2**
TUVZ	**Tukino**	**8.16**	**205**	PN	**P**	**04 45 08.2**	**+0.5**
BFZ	**Birch Farm**	**9.26**	**199**	PN	**P**	**04 45 19.9**	**+0.2**
MRZ	**Mangatainoka R**	**9.44**	**202**	*eP*	**P**	**04 45 21.1**	**-0.5**
MRZ	**Mangatainoka R**	**9.44**	**202**	PN	**P**	**04 45 21.5**	**-0.1**
KIW	**Kapiti Island**	**9.84**	**204**	P	**P**	**04 45 25.0**	**-0.9**
KIW	**Kapiti Island**	**9.84**	**204**	PN	**P**	**04 45 25.6**	**-0.3**
STKA	**Stephens Creek**	**32.60**	**260**	P	**P**	**04 49 03.8**	**+1.4**
	0.7nm,0.4s,mb3.4,baz=100,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**41.46**	**270**	P	**P**	**04 50 15.6**	**0.0**
	0.5nm,0.5s,mb3.2,baz=103,slow=7.1,SNR=7.1						
WRAB	**Tennant Creek**	**42.59**	**275**	P	**P**	**04 50 23.5**	**-1.1**
	1.3nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**42.59**	**275**	P	**P**	**04 50 24.3**	**-0.3**
	0.6nm,0.2s,mb3.6,baz=111,slow=8.1,SNR=9.0						
FITZ	**Fitzroy Crossi**	**50.78**	**272**	P	**P**	**04 51 27.6**	**+0.1**
	4.1nm,1.0s,mb3.7,baz=157,slow=13,SNR=5.3						

*NEIC **05** 04:44:21.6±0.5, 50.35N×18.87E, h5km, MG2.8(WAR), Error ellipse: s-maj=8.5km s-min=4.5km az=181.0*
*CSEM **05** 04:44:21.2±0.1, 50.33N×18.90E, h0km, ML3.3/5, Error ellipse: s-maj=2.5km s-min=1.5km az=6.0*
*WAR **05** 04:44:22.1, 50.26N×18.89E, h0km, ML2.8, Mining Induced*
*PRU **05** 04:44:22.2, 50.30N×18.86E*
*IPEC **05** 04:44:22.0±0.2, 50.31N×18.88E, h1km±1km, ML2.3/3, Error ellipse: s-maj=2.5km s-min=1.1km az=169.0*
*MOS **05** 04:44:22.0±2.4, 50.32N×18.94E, h10km, mb3.8/1, Error ellipse: s-maj=9.2km s-min=8.1km az=52.8*
*IDC **05** 04:44:23.8±0.9, 50.22N×18.79E, mb1 3.1/4, mb1mx3.0/20, mbtmp3.0/4, ML2.8/4, Error ellipse: s-maj=24.7km s-min=8.3km az=153.0*

ISC 05 04:44:20.6±0.5, 50.30N±0.04×18.87E±0.03, n49, σ1°35/73, 3C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.48**	**243**	*ePG*	**Pg**	**04 44 32.0**	**+1.8**
RAC				*eSG*	**Sg**	**04 44 39.0**	**+2.3**
OJC	**Ojcow**	**0.60**	**97**	⇓*iPG*	**Pg**	**04 44 33.8**	**+1.2**
OJC				⇓*iSG*	**Sg**	**04 44 42.2**	**+1.6**
OKC	**Ostrava-Krasne**	**0.66**	**225**	*eP*	**Pg**	**04 44 34.7**	**+1.0**
OKC				*e*		04 44 43.9	
OKC				smax			
	comp=N,38nm,0.4s						
OKC	**Ostrava-Krasne**	**0.66**	**225**	*ePG*	**Pg**	**04 44 34.7**	**+1.0**
OKC				*eSG*	**Sg**	**04 44 43.9**	**+1.5**
	comp=N,38nm,0.4s						
MORC	**Moravsky Berou**	**1.00**	**239**	⇓P	**Pb**	**04 44 40.6**	**+0.1**
MORC	**Moravsky Berou**	**1.00**	**239**	⇓P	**Pb**	**04 44 40.6**	**+0.1**
MORC	**Moravsky Berou**	**1.00**	**239**	*ePg*	**Pg**	**04 44 40.8**	**+0.2**
MORC				*eSg*	**Sg**	**04 44 54.2**	**+0.2**
	comp=N,51nm,0.3s						
LIKS	**Likavka**	**1.26**	**173**	*ePN*	**Pn**	**04 44 45.9**	**+0.5**
LIKS				*eSN*	**Sn**	**04 45 02.0**	**-1.3**
NIE	**Niedzica**	**1.29**	**133**	*ePG*	**Pg**	**04 44 44.0**	**-2.3**
NIE				*eSG*	**Sg**	**04 45 01.0**	**-2.4**
DPC	**Dobruska-Polom**	**1.63**	**273**	*eP*	**Pn**	**04 44 51.6**	**+0.9**
DPC				*e*		04 45 13.5	
DPC				smax			
	comp=N,48nm,0.4s						
DPC	**Dobruska-Polom**	**1.63**	**273**	*ePG*	**Pn**	**04 44 51.6**	**+0.9**
DPC				*eSG*	**Sg**	**04 45 13.5**	**-1.4**
	comp=N,48nm,0.4s						
DPC	**Dobruska-Polom**	**1.63**	**273**	*eP*	**Pn**	**04 44 51.6**	**+0.9**
	comp=N,48nm,0.4s						
DPC	**Dobruska-Polom**	**1.63**	**273**	*ePn*	**Pn**	**04 44 51.7**	**+1.0**
DPC				*eSg*	**Sg**	**04 45 13.6**	**-1.3**
KSP	**Ksiaz**	**1.73**	**289**	*eP*	**Pn**	**04 44 53.4**	**+1.3**
KSP				*e*		04 45 18.0	
KSP	**Ksiaz**	**1.73**	**289**	*ePn*	**Pn**	**04 44 53.4**	**+1.3**
KSP				*i Pg*	**Pg**	**04 44 55.2**	**+0.1**
KSP				*eSg*	**Sg**	**04 45 18.0**	**-0.1**
KSP	**Ksiaz**	**1.73**	**289**	*ePN*	**Pn**	**04 44 53.0**	**+0.9**
KSP				*ePG*	**Pg**	**04 44 55.0**	**-0.1**
KSP				*eSG*	**Sg**	**04 45 18.0**	**-0.1**
KSP	**Ksiaz**	**1.73**	**289**	*i Pg*	**Pg**	**04 44 55.2**	**+0.1**
KSP				*eSg*	**Sg**	**04 45 18.0**	**-0.1**
VRAC	**Vranov**	**1.78**	**237**	Pn	**Pn**	**04 44 54.1**	**+1.3**
	comp=N,5.3nm,0.3s,baz=60,slow=14,SNR=29						
VRAC				Lg		04 45 17.6	
	comp=N,13nm,0.3s,baz=134,slow=21,SNR=15						
VRAC	**Vranov**	**1.78**	**237**	⇓P	**Pn**	**04 44 54.4**	**+1.6**
VRAC	**Vranov**	**1.78**	**237**	⇓P	**Pn**	**04 44 54.4**	**+1.6**
VRAC	**Vranov**	**1.78**	**237**	*ePn*	**Pn**	**04 44 53.6**	**+0.8**
VRAC	**Vranov**	**1.78**	**237**	P	**Pn**	**04 44 54.1**	**+1.3**
VRAC				*eSg*	**Sg**	**04 45 17.6**	**-2.1**
	comp=N,30nm,0.3s						
VYHS	**Vyhne**	**1.81**	**181**	*ePN*	**Pn**	**04 44 53.4**	**+0.2**
VYHS				*eSN*	**Sn**	**04 45 16.3**	**-0.9**
UPC	**Upice**	**1.84**	**278**	*ePG*	**Pg**	**04 44 55.9**	**-1.4**
KRUC	**Moravsky**	**2.03**	**233**	*ePn*	**Pn**	**04 44 57.6**	**+1.2**
KRUC				*eSn*	**Sn**	**04 45 24.7**	**+1.9**
	comp=N,18nm,0.4s						
CRVS	**Cervenica-Dubn**	**2.19**	**129**	*ePN*	**Pn**	**04 44 59.4**	**+0.7**
PSZ	**Piszkesteto**	**2.48**	**164**	⇓*ePB*	**Pb**	**04 45 09.3**	**+3.5**
PSZ	**Piszkesteto**	**2.48**	**164**	⇑P	**Pn**	**04 45 09.5**	**+6.7**
PSZ	**Piszkesteto**	**2.48**	**164**	P	**Pn**	**04 45 04.3**	**+1.5**
KWP	**Kalwaria**	**2.57**	**104**	P	**Pn**	**04 45 04.5**	**+0.4**
KOLS	**Kolonicke sedl**	**2.60**	**120**	*ePG*	**Pg**	**04 45 09.4**	**-3.2**
PRU	**Pruhonice**	**2.80**	**265**	*eP*	**Pg**	**04 45 12.9**	**-3.6**
PRU				*e*		04 45 50.0	
PRU				smax			
	comp=N,8.0nm,0.3s						
PRU	**Pruhonice**	**2.80**	**265**	*ePG*	**Pg**	**04 45 12.9**	**-3.6**
PRU				*eSG*	**Sg**	**04 45 50.0**	**-3.8**
	comp=N,8.3nm,0.3s						
BRG	**Berggiesshubel**	**3.19**	**282**	*i P*	**Pn**	**04 45 20.7**	**+7.7**
KHC	**Kasperske Hory**	**3.63**	**253**	*eP*	**Pn**	**04 45 18.0**	**-1.2**
KHC				*e*		04 45 59.5	
KHC				smax			

comp=Z,107nm,18.7s,baz=25,slow=36
ZAL Zalesovo 53.73 351 P P 05 00 14.8 -2.3
0.7nm,0.4s
BVAR Borovoye Array 56.41 341 P P 05 00 34.3 -2.4
1.0nm,0.7s,baz=143,slow=7.4,SNR=4.0

IDC 05 05:02:31.0±8.8, 13.36S×70.92W, h64km±103km, mb3.2/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=108.7km s-min=48.2km az=24.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.96	137	P	P	05 03 30.0	-0.9
	0.9nm,0.3s,baz=303,slow=12,SNR=30						
LPAZ				S	S	05 04 16.1	-0.3
	0.4nm,0.3s,baz=331,slow=19,SNR=3.3						
BDFB	Brasilia	22.29	99	P	P	05 07 23.4	-0.7
	1.1nm,0.4s,baz=259,slow=11,SNR=5.2						
YKA	Yellowknife Ar	82.91	341	P	P	05 14 48.4	-1.5
	0.1nm,0.6s,baz=133,slow=5.3,SNR=5.8						

*IDC **05** 05:04:29.8±2.8, 1.15N×97.39E, mb3.9/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, Error ellipse: s-maj=114.1km s-min=18.3km az=61.0*
*NEIC **05** 05:04:33.9±0.7, 1.12N×97.32E, h30km, mb4.2/5, Error ellipse: s-maj=21.0km s-min=8.4km az=66.0*

ISC 05 05:04:31.7±0.9, 1.1N±0.1×97.3E±0.2, h30km, n15, σ0§68/15, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.34	39	eP	Pn	05 05 52.1	+0.6
CMAR	Chiang Mai Arr	17.31	5	P	P	05 08 32.3	-0.7
	baz=192,slow=13,SNR=4.5						
ENH	Enshi	31.23	21	P	P	05 10 50.1	-1.0
	4.8nm,0.4s,mb4.7						
FITZ	Fitzroy Crossi	33.82	126	P	P	05 11 12.3	-1.5
	1.4nm,0.7s,mb4.0,baz=315,slow=5.7,SNR=2.1						
WRA	Warramunga Arr	41.93	122	P	P	05 12 22.2	+0.4
	0.7nm,0.6s,mb3.5,baz=300,slow=9.0,SNR=6.4						
WRAB	Tennant Creek	41.94	122	eP	P	05 12 22.4	+0.6
	4.6nm,0.9s,mb4.1						
ASAR	Alice Springs	43.29	127	P	P	05 12 33.0	+0.2
	0.6nm,0.7s,mb3.5,baz=298,slow=7.5,SNR=4.5						
SONM	Songino Array	47.20	8	P	P	05 13 04.4	+0.7
	1.2nm,0.5s,mb4.1,baz=196,slow=9.0,SNR=6.9						
ULN	Ulaanbaatar	47.33	9	P	P	05 13 04.6	-0.1
	1.4nm,0.6s,mb4.1						
MKAR	Makanchi Array	47.34	346	P	P	05 13 05.5	+0.6
	1.4nm,0.7s,mb4.0,baz=156,slow=7.6,SNR=13						
KURK	Kurchatov	51.89	345	eP	P	05 13 40.5	+0.8
	2.8nm,1.1s,mb4.1						
STKA	Stephens Creek	53.25	132	P	P	05 13 50.4	+0.2
	1.7nm,0.6s,mb4.2,baz=311,slow=9.3,SNR=3.1						
ZAL	Zalesovo	53.64	351	P	P	05 13 52.4	-0.2
	1.0nm,0.5s,mb4.0,baz=260,slow=3.2,SNR=5.4						
ZAL	Zalesovo	53.64	351	P	P	05 13 52.4	-0.2
CHKZ	Chkalovo	56.82	341	eP	P	05 14 15.2	-0.6
	1.2nm,0.9s,mb3.9						
CHKZ				e		05 14 22.2	

DJA 05 05:05:58.1±1.0, 9.91S×117.16E, h320km, MD4.5/3, ML4.3/3, 6D, Error ellipse: s-maj=51.6km s-min=27.0km az=6.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.75	324	⇓iPn	P	05 06 44.7	-0.5
	79nm,0.2s						
KEDI				⇓iSn	S	05 07 22.5	+0.6
RATI	Rata	1.99	306	⇓iPn	P	05 06 48.3	+1.4
	231nm,0.2s						
RATI				⇓iSn	S	05 07 23.4	-1.6
SRDI	Scrawed	3.30	295	⇓iPn	P	05 06 59.4	+0.8
	142nm,0.2s						
SRDI	Scrawed	3.30	295	ePg	P	05 07 00.1	+1.5
SRDI				⇓iSn	S	05 07 43.3	-2.6

*PRU **05** 05:06:35.4, 50.22N×18.63E*

WAR 05 05:06:32.8, 50.19N×18.81E, h0km, ML2.6, 3C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.55	231	ePG	Pg	05 06 44.7	+0.8
OKC				eSG	Sg	05 06 52.6	+1.3
	20nm,0.2s						
OJC	Ojcow	0.64	87	ePG	Pg	05 06 46.0	+0.5
OJC				eSG	Sg	05 06 55.0	+1.0
MORC	Moravsky Berou	0.92	244	⇓P	Pg	05 06 53.0	+1.9
NIE	Niedzica	1.24	128	ePG	Pg	05 06 55.0	-2.6
NIE				eSG	Sg	05 07 14.0	-0.2
DPC	Dobruska-Polom	1.60	277	ePG	Pg	05 07 02.7	-2.1
DPC				eSG	Sg	05 07 22.0	-4.2
	31nm,0.5s						
VRAC	Vranov	1.69	239	⇑P	Pn	05 07 04.7	+1.0
VYHS	Vyhne	1.70	179	ePN	Pn	05 07 03.6	-0.2
VYHS				eSN	Sn	05 07 28.7	+2.2
KSP	Ksiaz	1.73	293	ePG	Pg	05 07 06.0	-1.4
KSP				eSG	Sg	05 07 28.0	-2.5
KSP	Ksiaz	1.73	293	ePn	Pn	05 07 05.6	+1.3
KSP				ePg	Pg	05 07 07.4	-0.1
KSP				eSn	Sn	05 07 26.2	-1.3
KSP				eSg	Sg	05 07 28.8	-1.7
CRVS	Cervenica-Dubn	2.15	126	ePN	Pn	05 07 13.8	+3.4
KOLS	Kolonicke sedl	2.58	118	ePN	Pn	05 07 22.3	+5.8
PRU	Pruhonice	2.76	267	eSG	Sg	05 07 58.7	-5.9
	4.7nm,0.2s						
KHC	Kasperske Hory	3.56	255	eSG	Sg	05 08 25.5	-5.8
	7.5nm,0.3s						
KHC	Kasperske Hory	3.56	255	eSg	Sg	05 08 25.5	-5.8
MOA	Molln	3.80	234	⇑iPN	Pn	05 07 34.4	+0.6
MOA				i SG	Sg	05 08 33.3	-6.0
	3.2nm,0.4s						
CLL	Collm	3.85	289	eSG	Sg	05 08 35.0	-6.1
NKC	Novy Kostel	4.09	273	eSG	Sg	05 08 41.4	-7.5
BURAR	Bucovina Array	4.95	119	⇑P	Pn	05 07 48.1	-2.0

*IDC **05** 05:11:40.7±1.0, 18.91N×81.37W, mb4.0/13, mb1 4.3/14, mb1mx4.1/24, mbtmp4.1/14, ML3.9/1, MS4.1/18, Ms1 4.1/18, ms1mx3.9/25, Error ellipse: s-maj=25.8km s-min=20.6km az=173.0*
*JSN **05** 05:11:41.2±0.8, 19.03N×81.15W, h15km±999km, MD4.6*
*BJI **05** 05:11:44.0, 19.00N×81.40W, h26km, mB4.9, Ms4.6, Msz4.5*
*NEIC **05** 05:11:45.1±0.5, 18.97N×81.40W, mb4.4/18, Error ellipse: s-maj=12.0km s-min=8.6km az=82.0*
NEIC Felt [III] at George Town. Also felt at Bodden Town and West Bay.

ISC 05 05:11:41.2±0.4, 18.82N±0.06×81.10W±0.05, h26km, h26km±.3km: pP-P, n74, σ0§99/60, mb4.1/23, MS4.2/18, 2C-3D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	Malvern	3.36	105	⇓eP	Pn	05 12 33.6	+0.2
MCJ				eS	Sn	05 13 12.9	0.0
PCJ	Portland Cotta	3.90	105	⇑eP	Pn	05 12 40.9	0.0
PCJ				eS	Sn	05 13 26.8	+0.3
STH	Stony Hill	4.14	100	⇓eP	Pn	05 12 44.0	-0.5
STH				eS	Sn	05 13 30.8	-1.8
HOJ	Hope	4.21	100	⇓eP	Pn	05 12 45.5	+0.1
GWJ	Greenwich	4.21	99	⇓eP	Pn	05 12 45.3	-0.2
TEIG	Tepich	6.91	283	eP	Pn	05 13 18.6	-5.0
	75nm,0.3s						
TEIG				eS	Sn	05 14 32.4	-10
DWPF	Disney	9.26	358	ePn	P	05 13 52.1	-4.1
JTS	JuntasAbangare	9.26	204	Pn	P	05 13 55.2	-1.0
	1.3nm,0.3s,baz=358,slow=14,SNR=6.0						
JTS				LR	LR	05 17 29.7	
	comp=Z,2μm,18.7s,baz=42,slow=38						
SDV	Santo Domingo	14.16	133	Pn	P	05 15 02.1	-0.4
	1.2nm,0.3s,baz=338,slow=7.9,SNR=8.0						
SDV				LR	LR	05 20 56.5	
	comp=Z,910nm,18.7s,baz=40,slow=39						
GOGA	Godfrey	14.69	352	ePn	P	05 15 06.1	-3.2
LRAL	Lakeview Retre	15.12	341	ePn	P	05 15 10.0	-4.9
JSC	Jenkinsville	15.40	360	ePn	P	05 15 13.8	-4.8
CPCT	Cooper Cave	16.84	350	ePn	P	05 15 33.8	-3.2
SWET	Sewanee	16.89	346	P	P	05 15 36.8	-0.7
PLAL	Pickwick Lake	17.25	340	eP	P	05 15 42.2	+0.1
	5.0nm,0.6s						
NATX	Nacogdoches	17.77	319	P	P	05 15 44.5	-4.0
	61nm,1.4s						
TZTN	Tazewell	17.79	354	eP	P	05 15 49.5	+0.7
PCRV	Puerto La Cruz	18.09	116	LR	LR	05 23 41.2	
	comp=Z,542nm,19.0s,baz=356,slow=39						
WVT	Waverly	18.24	342	eP	P	05 15 52.8	-1.6
	11nm,0.9s						
WVT				eS	S	05 19 02.8	-11
OTAV	Otavalo	18.64	172	P	P	05 16 04.2	+4.7
	13nm,1.1s						
UALR	University of	18.77	330	eP	P	05 15 60.0	-0.9
MIAR	Mount Ida	19.20	327	eP	P	05 16 06.0	0.0
	15nm,0.9s						
WCI	Wyandotte Cave	19.87	348	eP	P	05 16 12.5	-0.9
	18nm,0.9s						
JCT	Junction City	20.55	308	eP	P	05 16 16.1	-4.5
	12nm,0.8s						
FVM	French Village	20.76	339	P	P	05 16 22.2	-0.5
	27nm,1.3s						
CCM	Cathedral Cave	21.11	337	eP	P	05 16 27.0	+0.7
	16nm,0.9s,mb4.4						
SLM	Saint Louis	21.29	340	P	P	05 16 31.7	+3.6
ACSO	Alum Creek Sta	21.40	356	P	P	05 16 28.6	-0.7
	11nm,0.8s,mb4.2						
WMOK	Wichita Mounta	22.32	319	eP	P	05 16 38.9	+0.5
	12nm,1.1s,mb4.2						
TXAR	Lajitas Array	23.07	301	P	P	05 16 45.3	-0.6
	1.8nm,0.9s,mb3.5,baz=113,slow=8.9,SNR=9.5						
SADO	Sadowa	25.93	3	P	P	05 17 14.4	+1.3
	1.5nm,0.4s,mb3.9,baz=206,slow=7.1,SNR=3.3						
SADO				LR	LR	05 26 56.5	
	comp=Z,523nm,18.9s,MS4.1,baz=195,slow=35						
ANMO	Albuquerque	27.63	311	P	P	05 17 29.2	+0.4
	0.2nm,0.3s,mb3.2,baz=132,slow=12,SNR=2.4						
ANMO				LR	LR	05 30 27.1	
	comp=Z,199nm,20.2s,MS3.7,baz=126,slow=41						
ISCO	Idaho Springs	29.73	320	eP	P	05 17 48.4	+0.7
	7.9nm,1.1s,mb4.4						
PV10	Paradox Valley	31.14	315	eP	P	05 18 00.7	+0.6
ULM	Lac du Bonnet	33.51	343	LR	LR	05 31 21.4	
	comp=Z,395nm,18.0s,MS4.2,baz=129,slow=35						
PDAR	Pinedale Array	33.89	321	P	P	05 18 23.3	-0.7
	2.4nm,0.9s,mb4.1,baz=121,slow=8.6,SNR=16						
PDAR				LR	LR	05 33 25.6	
	comp=Z,107nm,18.7s,MS3.6,baz=147,slow=39						
HWUT	Hardware Ranch	34.48	318	eP	P	05 18 28.9	-0.2
	7.7nm,1.1s,mb4.5						
SNOW	Snow King Moun	35.00	321	eP	P	05 18 34.0	+0.4
REDW	Red Top Meadow	35.01	321	eP	P	05 18 34.0	+0.3
REDW				epP	pP	05 18 41.9	+0.6
TPAW	Teton Pass	35.14	321	eP	P	05 18 34.4	-0.4
MOOW	Moose Ponds	35.16	322	eP	P	05 18 35.2	+0.2
MOOW				epP	pP	05 18 43.0	+0.3
BOZ	Bozeman (W)	36.79	323	eP	P	05 18 48.7	0.0
	9.9nm,1.3s,mb4.5						
BOZ				epP	pP	05 18 56.2	-0.2
LPAZ	La Paz	37.14	159	LR	LR	05 35 25.9	
	comp=Z,136nm,18.1s,MS3.8,baz=118,slow=38						
HLID	Hailey	37.29	319	eP	P	05 18 53.7	+0.7
	12nm,1.2s,mb4.6						
HLID				epP	pP	05 19 01.5	+0.8
HRY	Holter Researc	37.54	325	eP	P	05 18 55.4	+0.4
HRY				epP	pP	05 19 03.6	+0.9
SCHQ	Schefferville	37.57	14	P	P	05 18 56.0	+0.9
	2.3nm,0.6s,mb4.1,baz=212,slow=11,SNR=9.9						
SCHQ				LR	LR	05 34 17.1	
	comp=Z,330nm,19.7s,MS4.1,baz=314,slow=36						
NVAR	Mina Array Bea	37.72	309	P	P	05 18 56.3	-0.3
	0.4nm,0.5s,mb3.4,baz=124,slow=6.2,SNR=5.1						
NVAR				LR	LR	05 37 51.3	
	comp=Z,217nm,19.4s,MS4.0,baz=90,slow=42						
NEW	Newport	41.37	324	P	P	05 19 27.1	+0.4
	3.5nm,0.8s,mb4.0						
NEW				epP	pP	05 19 34.7	+0.2
BDFB	Brasilia	47.26	134	LR	LR	05 42 35.5	
	comp=Z,320nm,18.4s,MS4.3,baz=157,slow=39						
YKA	Yellowknife Ar	49.41	340	P	P	05 20 29.3	-1.3
	0.9nm,0.9s,mb3.8,baz=130,slow=7.4,SNR=3.6						
SUMG	Summit	58.96	14	P	P	05 21 42.2	+1.7
	11nm,1.0s,mb4.8						
INK	Inuvik	59.18	340	eP	P	05 21 42.0	-0.1
	10nm,1.0s,mb4.8						
INK				epP	pP	05 21 49.6	-0.5
INK				esP	sP	05 21 55.0	+2.0
ILAR	Eielson Array	62.86	334	P	P	05 22 06.3	-0.6
	0.8nm,0.7s,mb4.0,baz=118,slow=4.2,SNR=9.7						
IMA	Indian Mountai	65.90	335	P	P	05 22 27.1	+0.5
IMA				epP	pP	05 22 35.0	+0.3
EKA	Eskdalemuir Ar	67.90	37	P	P	05 22 41.9	+2.3
	4.4nm,1.1s,mb4.4,baz=288,slow=6.7,SNR=3.0						
ESDC	Sonseca Array	68.49	54	P	P	05 22 45.0	+1.5
	1.1nm,0.7s,mb4.0,baz=292,slow=6.9,SNR=4.6						
NOA	NORSAR Array B	74.84	30	LR	LR	05 52 44.3	
	comp=Z,102nm,19.7s,MS4.1,baz=295,slow=33						
DAVOX	Davos	77.19	45	LR	LR	05 51 55.5	
	comp=Z,175nm,20.8s,MS4.4,baz=276,slow=31						
GERES	GERESS Array B	79.15	42	P	P	05 23 47.8	+2.6
	0.3nm,0.3s,mb3.7,baz=270,slow=5.3,SNR=3.8						
GERES				LR	LR	05 54 22.4	
	comp=Z,154nm,19.3s,MS4.3,baz=179,slow=32						
FINES	FINESS Array B	81.56	28	P	P	05 24 02.1	+4.3
	1.9nm,1.0s,mb4.0,baz=300,slow=38,SNR=3.0						
FINES				LR	LR	05 55 51.1	
	comp=Z,113nm,20.7s,MS4.2,baz=338,slow=32						
VAE	Valguarnera	83.00	53	LR	LR	05 54 22.1	
	comp=Z,190nm,21.4s,MS4.4,baz=314,slow=31						
MLR	Muntele Rosu	88.13	42	P	P	05 24 35.0	+4.0
	2.4nm,0.9s,mb4.4,baz=204,slow=8.2,SNR=2.8						
MLR				LR	LR	06 00 32.1	
	comp=Z,120nm,18.8s,MS4.3,baz=149,slow=33						
IDI	Anoyia	91.67	52	LR	LR	06 00 36.6	
	comp=Z,51nm,20.1s,MS4.0,baz=87,slow=32						
CN2	Changchun	113.11	339	ePKP	PKPdf	05 30 17.6	-3.5
ULN	Ulaanbaatar	113.23	354	eP	PKPdf	05 30 24.4	+3.1
WMQ	Urumqi	116.83	9	PKP	PKPdf	05 30 25.7	-2.6
WMQ				XPKP		05 30 40.2	
WMQ				PP	PP	05 31 38.2	+1.0
WMQ				PP	PP		
	comp=Z,108nm,4.7s						
WMQ				LR	LR		
	comp=N,69nm,20.0s,MS4.3						
WMQ				LR	LR		
	comp=E,34nm,23.5s,MS4.3						
WMQ				LR	LR		
	comp=Z,104nm,20.6s,MS4.4						
BJI	Beijing	119.27	345	PKP	PKPdf	05 30 30.4	-2.8
BJI				LR	LR		
	comp=Z,146nm,21.2s,MS4.6						
LZH	Lanzhou	125.20	355	ePKP	PKPdf	05 30 42.7	-2.1
LZH				XPKP		05 30 54.3	
LZH				LR	LR		
	comp=N,147nm,18.0s						
LZH				LR	LR		
	comp=Z,249nm,20.1s,MS4.9						
LZH	Lanzhou	125.20	355	ePKP	PKPdf	05 30 42.7	-2.1
LZH				pPKP		05 30 51.2	
LZH				sPKP		05 30 54.3	
NJ2	Nanjing	125.93	339	ePKP	PKPdf	05 30 42.9	-3.4
WB2	Warramunga Arr	146.57	262	eP	PKPbc	05 31 23.9	+2.9
WRA	Warramunga Arr	146.59	262	PKPbc	PKPbc	05 31 23.5	+2.4
	comp=Z,2.1nm,0.8s,baz=86,slow=3.4,SNR=9.1						
ASAR	Alice Springs	147.07	255	PKPbc	PKPdf	05 31 24.8	-0.3
	comp=Z,2.0nm,0.9s,baz=105,slow=3.8,SNR=12						
ASPA	Alice Springs	147.07	255	eP	PKPdf	05 31 26.7	+1.6

*WAR **05** 05:18:47.4, 50.07N×18.46E, h0km, ML2.5, Mining Induced*
*PRU **05** 05:18:48.3, 50.11N×18.41E*

ISC 05 05:18:45.6±0.5, 50.12N±0.03×18.41E±0.03, n16, σ1§41/28, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.14	254	⇓iPG	Pg	05 18 51.8	+3.3
RAC				⇓eSG	Sg	05 18 55.8	+5.4
RAC	Raciborz	0.14	254	⇓iPg	Pg	05 18 51.8	+3.3
RAC				eSg	Sg	05 18 55.2	+4.8
OKC	Ostrava-Krasne	0.33	211	ePG	Pg	05 18 53.9	+1.7
OKC				eSG	Sg	05 18 58.9	+2.2
	82nm,0.4s						
OJC	Ojcow	0.90	83	ePG	Pg	05 19 04.0	+0.5
OJC				eSG	Sg	05 19 16.0	+0.5
LIKS	Likavka	1.17	157	eSN	Sn	05 19 27.3	+1.4
DPC	Dobruska-Polom	1.36	280	ePG	Pg	05 19 13.4	+0.7
DPC				eSG	Sg	05 19 31.8	+1.0
	38nm,0.3s						
NIE	Niedzica	1.42	119	ePG	Pg	05 19 12.0	-2.0
NIE				eSG	Sg	05 19 31.0	-1.9
KSP	Ksiaz	1.53	299	ePN	Pn	05 19 15.0	+0.7
KSP				ePG	Pg	05 19 16.0	-0.1
KSP				eSG	Sg	05 19 38.0	+1.4
KOLL	Kolacno	1.55	180	ePN	Pn	05 19 15.5	+1.0
KOLL				eSN	Sn	05 19 34.8	-0.8
UPC	Upice	1.58	285	ePG	Pg	05 19 17.0	-0.2
VYHS	Vyhne	1.66	170	ePN	Pn	05 19 16.5	+0.5
VYHS				eSN	Sn	05 19 39.1	+0.8
CRVS	Cervenica-Dubn	2.33	120	eSG	Sg	05 20 02.8	-0.5
PRU	Pruhonice	2.50	268	eSG	Sg	05 20 06.3	-2.4
	5.0nm,0.3s						
KHC	Kasperske Hory	3.29	254	ePG	Pg	05 19 48.3	-3.0
KHC				eSG	Sg	05 20 32.1	-3.2
	6.5nm,0.4s						
MOA	Molln	3.55	232	⇑iPG	Pg	05 19 54.4	-2.1
MOA				i SG	Sg	05 20 43.2	-0.7
	4.1nm,0.4s						
NKC	Novy Kostel	3.83	274	eSG	Sg	05 20 51.1	-2.1

IDC 05 05:30:08.5±3.7, 1.00N×97.84E, mb3.6/2, mb1 3.9/3, mb1mx3.5/18, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=144.8km s-min=29.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.39	3	P	P	05 34 12.5	-1.8
	0.2nm,0.3s,baz=197,slow=10,SNR=5.5						
WRA	Warramunga Arr	41.38	122	P	P	05 37 56.7	-1.6
	0.3nm,0.5s,baz=301,slow=9.1,SNR=2.8						
MKAR	Makanchi Array	47.59	346	P	P	05 38 46.0	-2.0
	0.8nm,0.7s,baz=160,slow=8.4,SNR=9.1						

*IDC **05** 05:36:37.2±1.0, 0.98N×97.14E, mb4.0/10, mb1 4.2/11, mb1mx4.1/19, mbtmp4.0/11, ML4.3/1, MS3.2/1, Ms1 3.4/1, ms1mx3.0/16, Error ellipse: s-maj=48.2km s-min=16.8km az=54.0*
*NEIC **05** 05:36:41.8±0.5, 1.04N×97.30E, h30km, mb4.4/9, Error ellipse: s-maj=16.6km s-min=9.0km az=57.0*

ISC 05 05:36:40.7±0.7, 1.09N±0.09×97.3E±0.1, h33km, n28, σ0§80/24, mb4.3/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.33	38	eP	P	05 38 00.9	+0.9
CMAR	Chiang Mai Arr	17.34	5	P	P	05 40 41.0	-0.9
	0.4nm,0.3s,baz=194,slow=13,SNR=12						
CMAR				LR	LR	05 48 11.8	
	comp=Z,82nm,19.5s,baz=190,slow=40						
SHL	Shillong	24.90	348	e	P	05 42 02.0	-0.2
JIRN	Jiri	28.50	339	eP	P	05 42 36.3	+1.0
	8.8nm,0.7s,mb4.5						
GUN	Gumba	28.84	339	eP	P	05 42 39.1	+0.8
	19nm,0.8s,mb4.9						
DMN	Daman	28.86	337	eP	P	05 42 40.1	+1.6
	9.5nm,0.8s,mb4.6						
KKN	Kakani	28.95	338	eP	P	05 42 40.2	+0.9
KOLN	Koldanda	29.61	335	eP	P	05 42 45.5	+0.3
	12nm,0.7s,mb4.7						
ENH	Enshi	31.24	21	eP	P	05 42 57.8	-1.9
	12nm,0.8s,mb4.8						
NDI	New Delhi	33.50	327	e	pP	05 43 35.0	+6.0
WRA	Warramunga Arr	41.87	122	P	P	05 44 29.9	+0.2
	1.0nm,0.6s,mb3.6,baz=301,slow=9.1,SNR=5.6						
WRAB	Tennant Creek	41.87	122	P	P	05 44 29.6	-0.2
	3.4nm,0.8s,mb4.0						
ASAR	Alice Springs	43.23	127	P	P	05 44 41.4	+0.5
	1.3nm,0.9s,mb3.7,baz=298,slow=8.0,SNR=8.7						
SONM	Songino Array	47.23	8	P	P	05 45 13.2	+0.8
	3.2nm,0.6s,mb4.5,baz=190,slow=8.8,SNR=13						
SONM				PcP	PcP	05 46 44.2	+0.4
	0.8nm,0.6s,baz=180,slow=2.9,SNR=3.7						
ULN	Ulaanbaatar	47.35	9	P	P	05 45 13.4	0.0
	3.2nm,0.6s,mb4.4						
MKAR	Makanchi Array	47.38	346	P	P	05 45 14.2	+0.6
	2.8nm,0.7s,mb4.3,baz=158,slow=7.8,SNR=25						
HIA	Hailar	51.71	19	P	P	05 45 46.9	+0.1
	9.3nm,0.8s,mb4.8						
KURK	Kurchatov	51.93	345	eP	P	05 45 47.8	-0.7
	3.3nm,0.9s,mb4.3						
STKA	Stephens Creek	53.19	132	P	P	05 45 58.1	0.0
	2.0nm,0.6s,mb4.2,baz=325,slow=11,SNR=4.4						
ZAL	Zalesovo	53.68	351	P	P	05 46 01.1	-0.4
	2.1nm,0.5s,mb4.3,baz=294,slow=3.4,SNR=12						
BVAR	Borovoye Array	56.40	341	P	P	05 46 20.2	-1.0
	1.0nm,0.6s,mb4.1,baz=143,slow=7.4,SNR=6.6						
CHKZ	Chkalovo	56.87	341	eP	P	05 46 23.1	-1.5
	46nm,0.6s,mb5.7						
BRTR	Keskin Array B	69.28	312	P	P	05 47 46.9	+0.1
	0.3nm,0.4s,mb3.6,baz=124,slow=5.2,SNR=2.9						
FINES	FINESS Array B	80.16	332	P	P	05 48 48.8	-0.2
	0.7nm,0.6s,mb3.8,baz=169,slow=31,SNR=3.0						
GERES	GERESS Array B	84.98	319	P	P	05 49 13.2	-0.9
	0.4nm,0.2s,mb4.2,baz=63,slow=3.0,SNR=3.8						
TXAR	Lajitas Array	143.70	32	PKP	PKPdf	05 56 13.1	+0.1
	0.2nm,0.6s,baz=135,slow=1.8,SNR=3.9						
TXAR	Lajitas Array	143.70	32	PKP	PKPdf	05 56 13.1	+0.1
JCT	Junction City	144.62	26	PKP	PKPdf	05 56 15.1	+0.5

*NNC **05** 05:42:40.0±6.0, 37.83N×70.58E, mpv4.1, Error ellipse: s-maj=66.8km s-min=27.7km az=5.0*

ISC 05 05:42:30.9±1.7, 36.75N±0.09×71.0E±0.2, h100km, n15, σ0§47/19, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	Almayashu	5.77	20	P	P	05 43 55.6	+0.2
	SNR=51						
UCH	Uchtor	6.11	25	P	P	05 44 00.4	+0.2
	SNR=20						
KZA	Kyzart	6.26	31	P	P	05 44 01.9	-0.3
	SNR=10.0						
EKS2	Erkin-Say	6.29	19	P	P	05 44 03.2	+0

SRDI 26nm,0.2s ⇓*i*Sn S 05 48 00.6 -2.8

*IDC **05** 05:49:08.6±1.8, 36.90N×35.46E, mb3.6/1, mb1 3.7/5, mb1mx3.4/20, mbtmp3.5/5, ML3.5/4, Error ellipse: s-maj=49.4km s-min=19.4km az=68.0*
*CSEM **05** 05:49:09.9±0.1, 36.99N×35.34E, h5km, MD3.6, Error ellipse: s-maj=2.7km s-min=2.1km az=25.0*
*ISK **05** 05:49:11.0, 36.92N×35.32E, h16km, MD3.6*
*NEIC **05** 05:49:11.5, 36.92N×35.27E, h20km, MD3.6(ISK), After ISK.*

ISC 05 05:49:11.1±0.4, 36.88N±0.04×35.28E±0.03, h16km, n52, σ1§18/69, mb3.3/1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.40**	**71**	PG	**Pb**	**05 49 18.9**	**-0.4**
CEYT	**Ceyhan**	**0.40**	**71**	**Pg**	**Pb**	**05 49 19.4**	**0.0**
CEYT				Sg	**Sb**	**05 49 27.4**	**+2.4**
CEYT	**Ceyhan**	**0.40**	**71**	*e*Pg	**Pb**	**05 49 18.9**	**-0.4**
CEYT				Sg	**Sb**	**05 49 27.4**	**+2.5**
COBT	**Iskenderun**	**0.86**	**114**	*i* P	**Pb**	**05 49 26.4**	**-0.8**
COBT				*i* S	**Sb**	**05 49 40.0**	**+1.6**
MEST	**Erdemli**	**0.95**	**253**	*i* P	**Pb**	**05 49 27.4**	**-1.3**
MEST				*i* S	**Sb**	**05 49 43.2**	**+2.3**
HTY	**Hatay**	**1.03**	**137**	PG	**Pb**	**05 49 30.8**	**+0.8**
HTY				SG	**Sb**	**05 49 46.6**	**+3.6**
HTY	**Hatay**	**1.03**	**137**	Pg	**Pb**	**05 49 31.1**	**+1.1**
HTY				Sg	**Sb**	**05 49 47.1**	**+4.1**
KAHT	**Ahir Dag**	**1.48**	**59**	*i* P	**Pn**	**05 49 36.1**	**-1.2**
KAHT				*i* S	**Sb**	**05 50 14.1**	**+18**
GAZ	**Gaziantep**	**1.58**	**79**	PN	**Pn**	**05 49 38.3**	**-0.3**
GAZ	**Gaziantep**	**1.58**	**79**	Pn	**Pn**	**05 49 39.1**	**+0.5**
GAZ				Sg	**Sn**	**05 49 59.1**	**+0.3**
GAZ	**Gaziantep**	**1.58**	**79**	*e*Pn	**Pn**	**05 49 38.3**	**-0.3**
GAZ				Sg	**Sn**	**05 49 59.1**	**+0.3**
GZT	**Gaziantep**	**1.89**	**75**	*i* P	**Pn**	**05 49 42.0**	**-1.2**
GZT				*i* S	**Sn**	**05 50 16.7**	**+10**
AVNT	**Avonos**	**1.93**	**350**	*i* P	**Pn**	**05 49 43.7**	**+0.1**
AVNT				*i* S	**Sn**	**05 50 10.6**	**+2.9**
BNN	**Bunyan**	**2.02**	**13**	PN	**Pn**	**05 49 45.3**	**+0.3**
BNN	**Bunyan**	**2.02**	**13**	Pn	**Pn**	**05 49 45.3**	**+0.3**
HDMB	**Hadím**	**2.24**	**273**	*e*PN	**Pn**	**05 49 49.3**	**+1.2**
HDMB	**Hadim**	**2.24**	**273**	Pn	**Pn**	**05 49 49.4**	**+1.3**
HDMB	**Hadim**	**2.24**	**273**	Pn	**Pn**	**05 49 49.4**	**+1.3**
KONT	**Konya--Tatoy**	**2.55**	**296**	PN	**Pn**	**05 49 53.5**	**+0.9**
KONT	**Konya--Tatoy**	**2.55**	**296**	Pn	**Pn**	**05 49 53.5**	**+0.9**
LEF	**Lefka**	**2.61**	**228**	*e*PN	**Pn**	**05 49 53.9**	**+0.5**
LEF	**Lefka**	**2.61**	**228**	Pn	**Pn**	**05 49 54.0**	**+0.6**
LEF	**Lefka**	**2.61**	**228**	Pn	**Pn**	**05 49 54.0**	**+0.6**
KAMT	**Kaman**	**2.78**	**334**	*e*PN	**Pn**	**05 49 55.4**	**-0.4**
KAMT	**Kaman**	**2.78**	**334**	Pn	**Pn**	**05 49 55.4**	**-0.4**
CDAG	**Cicekdag**	**2.83**	**346**	*i* P	**Pn**	**05 49 56.9**	**+0.3**
CDAG				*i* S	**Pn**	**05 50 11.0**	**+14**
MALT	**Malatya**	**2.89**	**59**	*e*PN	**Pn**	**05 49 56.3**	**-1.1**
MALT	**Malatya**	**2.89**	**59**	Pn	**Pn**	**05 49 56.4**	**-1.0**
MYA	**Malataya**	**2.89**	**59**	*e*PN	**Pn**	**05 49 56.4**	**-1.0**
MYA	**Malataya**	**2.89**	**59**	Pn	**Pn**	**05 49 56.5**	**-0.9**
MYA	**Malataya**	**2.89**	**59**	Pn	**Pn**	**05 49 56.5**	**-0.9**
BRTR	**Keskin Array B**	**3.12**	**336**	Pn	**Pn**	**05 50 01.6**	**+1.0**
	2.6nm,0.3s,baz=170,slow=15,SNR=22						
BRTR				Pg	**Pn**	**05 50 06.5**	**+5.8**
	2.7nm,0.3s,baz=162,slow=16,SNR=29						
BRTR				Lg		05 50 50.6	
	2.3nm,0.3s,baz=150,slow=28,SNR=8.4						
BRTR	**Keskin Array B**	**3.12**	**336**	Pn	**Pn**	**05 50 01.6**	**+0.9**
BRTR	**Keskin Array B**	**3.12**	**336**	Pg	**Pn**	**05 50 06.5**	**+5.8**
CORM	**Corum**	**3.33**	**351**	*e*PN	**Pn**	**05 50 03.0**	**-0.7**
KIZT	**Kizilcal**	**3.35**	**308**	*e*PN	**Pn**	**05 50 04.8**	**+0.9**
KIZT	**Kizilcal**	**3.35**	**308**	Pn	**Pn**	**05 50 04.9**	**+1.0**
ELZG	**Elazig**	**3.36**	**60**	*i* P	**Pn**	**05 50 11.4**	**+7.4**
ELZG				*i* S	**Sn**	**05 51 01.3**	**+17**
CTKT	**Corum**	**3.76**	**354**	*i* P	**Pn**	**05 50 11.0**	**+1.2**
CTKT				*i* S	**Sn**	**05 51 09.8**	**+16**
PTK	**Pertek**	**3.83**	**57**	*e*PN	**Pn**	**05 50 10.6**	**-0.1**
ELDT	**Eldivan**	**3.89**	**339**	*i* P	**Pn**	**05 50 11.1**	**-0.5**
ELDT				*i* S	**Sn**	**05 51 09.4**	**+12**
TOS	**Tosya**	**4.27**	**347**	*e*PN	**Pn**	**05 50 16.3**	**-0.7**
TOS	**Tosya**	**4.27**	**347**	Pn	**Pn**	**05 50 16.4**	**-0.6**
TOS	**Tosya**	**4.27**	**347**	Pn	**Pn**	**05 50 16.4**	**-0.6**
BOYT	**Boyabat**	**4.55**	**356**	*i* P	**Pn**	**05 50 20.7**	**-0.2**
BOYT				*i* S	**Sn**	**05 51 20.4**	**+6.3**
BALT	**Daday**	**4.88**	**343**	*i* P	**Pn**	**05 50 26.2**	**+0.6**
BALT				*i* S	Sn	05 51 46.7	+24
ASF	**Jabal al Asfar**	**4.88**	**164**	Pn	**Pn**	**05 50 25.1**	**-0.6**
	0.3nm,0.3s,baz=219,slow=11,SNR=2.9						
ASF				Lg		05 51 37.8	
	1.1nm,0.3s,baz=218,slow=19,SNR=2.9						
IDI	**Anoyia**	**8.56**	**262**	Pn	**P**	**05 51 15.3**	**-2.0**
	0.8nm,0.3s,baz=0.6,slow=15,SNR=5.1						
IDI	**Anoyia**	**8.56**	**262**	Pn	**P**	**05 51 15.2**	**-2.1**
GERES	**GERESS Array B**	**19.75**	**314**	P	**P**	**05 53 40.5**	**-2.5**
	0.2nm,0.3s,baz=119,slow=12,SNR=3.2						
YKA	**Yellowknife Ar**	**78.05**	**346**	P	**P**	**06 01 08.0**	**-1.8**
	0.3nm,0.8s,mb3.3,baz=24,slow=5.3,SNR=8.3						
YKA	**Yellowknife Ar**	**78.05**	**346**	P	**P**	**06 01 08.1**	**-1.8**

IDC 05 06:28:22.3±2.5, 0.96N×97.51E, mb3.9/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, ML4.4/1, MS3.3/1, Ms1 3.5/1, ms1mx2.8/26, Error ellipse: s-maj=97.2km s-min=25.9km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.45**	**5**	P	P	06 32 27.5	-1.3
	0.5nm,0.3s,baz=195,slow=11,SNR=9.7						
CMAR				LR	LR	06 39 30.7	
	comp=Z,93nm,18.8s,baz=3.2,slow=38						
WRA	**Warramunga Arr**	**41.65**	**122**	P	P	06 36 12.6	-1.8
	0.7nm,0.9s,baz=304,slow=9.0,SNR=7.5						
SONM	**Songino Array**	**47.32**	**8**	P	P	06 36 58.4	-1.3
	0.5nm,0.4s,baz=190,slow=7.5,SNR=4.4						
MKAR	**Makanchi Array**	**47.55**	**346**	P	P	06 36 59.8	-1.6
	1.6nm,0.5s,baz=164,slow=8.6,SNR=25						
ZAL	**Zalesovo**	**53.83**	**351**	P	P	06 37 46.5	-2.6
	1.9nm,0.4s,baz=310,slow=3.9,SNR=8.0						
BVAR	**Borovoye Array**	**56.58**	**341**	P	P	06 38 05.9	-3.1
	0.8nm,0.5s,baz=141,slow=9.5,SNR=5.1						

*IDC **05** 06:33:32.6±1.6, 20.39S×177.73W, h485km±21km, mb3.3/11, mb1 3.6/14, mb1mx3.5/20, mbtmp4.2/14, Error ellipse: s-maj=17.8km s-min=10.9km az=138.0*
*NEIC **05** 06:33:32.7±1.0, 20.44S×177.68W, h488km±12km, mb4.1/6, Error ellipse: s-maj=12.9km s-min=9.1km az=143.0*

ISC 05 06:33:30.8±1.1, 20.42S±0.09×177.69W±0.09, h477km±15km, n27, σ0§92/28, mb3.8/16, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.59**	**42**	P	**P**	**06 35 35.1**	**+0.8**
	6.1nm,0.3s,baz=69,slow=9.0,SNR=9.1						
AFI				S	**S**	**06 37 11.1**	**-1.2**
	10nm,0.3s,baz=43,slow=20,SNR=7.9						
AFI	**Afiamalu**	**8.59**	**42**	P	**P**	**06 35 35.1**	**+0.8**
AFI				S	**S**	**06 37 11.1**	**-1.2**
DZM	**Mont Dzumac**	**14.88**	**261**	P	**P**	**06 36 43.3**	**+2.4**
	0.8nm,0.3s,baz=99,slow=16,SNR=4.4						
URZ	**Urewera**	**18.34**	**193**	P	**P**	**06 37 15.2**	**-0.1**
	3.8nm,0.3s,baz=349,slow=5.2,SNR=18						
RPZ	**Rata Peaks**	**25.07**	**200**	P	**P**	**06 38 16.4**	**-1.1**
	5.7nm,0.7s,mb4.1,baz=295,slow=13,SNR=2.9						
CTAO	**Charters Tower**	**33.79**	**264**	*e*P	**P**	**06 39 33.8**	**+0.6**
	7.5nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**38.09**	**244**	*e*P	**P**	**06 40 09.5**	**+0.8**
	3.5nm,1.4s,mb3.6						
STKA	**Stephens Creek**	**38.09**	**244**	P	**P**	**06 40 09.2**	**+0.5**
	2.7nm,0.8s,mb3.7,baz=91,slow=6.8,SNR=6.8						
ASAR	**Alice Springs**	**44.82**	**257**	P	**P**	**06 41 02.8**	**0.0**
	5.3nm,0.8s,mb4.0,baz=96,slow=7.7,SNR=50						
ASAR				S	**S**	**06 47 01.0**	**-3.7**
	0.9nm,0.8s,baz=91,slow=16,SNR=5.7						
ASPA	**Alice Springs**	**44.82**	**257**	*e*P	**P**	**06 41 02.9**	**+0.1**
WB2	**Warramunga Arr**	**44.89**	**262**	*e*P	**P**	**06 41 03.2**	**-0.2**
WRAB	**Tennant Creek**	**44.89**	**262**	*e*P	**P**	**06 41 02.7**	**-0.7**
	1.8nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**44.90**	**262**	P	**P**	**06 41 03.4**	**-0.1**
	2.0nm,0.3s,mb4.0,baz=97,slow=7.5,SNR=39						
FITZ	**Fitzroy Crossi**	**53.33**	**262**	P	**P**	**06 42 05.8**	**-0.7**

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	1.3nm,0.3s,mb3.7,baz=45,slow=4.6,SNR=7.8						
SBA	**Scott Base**	**57.97**	**184**	*e*P	**P**	**06 42 39.1**	**+1.1**
	5.3nm,0.6s,mb4.0						
VNDA	**Vanda**	**58.02**	**185**	P	**P**	**06 42 38.5**	**+0.2**
	1.4nm,0.5s,mb3.5,baz=1.3,slow=6.4,SNR=12						
MBWA	**Marble Bar**	**58.15**	**257**	*e*P	**P**	**06 42 38.1**	**-1.8**
	3.0nm,0.6s,mb3.8						
QSPA	**South Pole Qui**	**69.65**	**180**	*e*P	**P**	**06 43 50.8**	**-1.5**
	9.5nm,0.5s,mb4.6						
MJAR	**Matsushiro Arr**	**70.31**	**323**	P	**P**	**06 43 56.7**	**-0.2**
	3.9nm,0.5s,mb4.2,baz=158,slow=5.6,SNR=7.5						
NVAR	**Mina Array Bea**	**80.77**	**43**	P	**P**	**06 44 54.6**	**-0.2**
	0.1nm,0.4s,mb2.7,baz=243,slow=8.1,SNR=3.1						
TXAR	**Lajitas Array**	**86.77**	**57**	P	**P**	**06 45 26.2**	**+1.5**
	0.3nm,0.6s,mb3.2,baz=225,slow=5.3,SNR=4.2						
ILAR	**Eielson Array**	**88.17**	**13**	P	**P**	**06 45 29.9**	**-0.5**
	0.4nm,0.4s,mb3.5,baz=218,slow=5.2,SNR=11						
VNA3	**Neumayer Olymp**	**88.21**	**176**	⇑*i*	**P**	**06 45 30.5**	**0.0**
VNA2	**Neumayer--Watz**	**88.65**	**177**	⇑*i*	**P**	**06 45 33.0**	**+0.4**
PDAR	**Pinedale Array**	**88.70**	**43**	P	**P**	**06 45 34.6**	**+1.1**
	0.3nm,0.8s,mb3.2,baz=277,slow=7.3,SNR=3.5						
NOA	**NORSAR Array B**	**138.93**	**353**	PKP	PKPdf	06 52 02.7	+1.2
	1.3nm,0.9s,baz=15,slow=5.0,SNR=3.3						
NOA	**NORSAR Array B**	**138.93**	**353**	PKP	PKPdf	06 52 02.7	+1.2

*IDC **05** 06:36:45.8±0.6, 1.08N×97.21E, mb4.4/15, mb1 4.5/16, mb1mx4.4/22, mbtmp4.4/16, ML4.7/1, MS3.6/4, Ms1 3.7/4, ms1mx3.2/27, Error ellipse: s-maj=27.3km s-min=13.8km az=51.0*
*BJI **05** 06:36:47.1, 0.75N×97.30E, h39km, mB4.9, mb4.9, Ms4.5, Msz4.3*
*MOS **05** 06:36:48.6±1.1, 1.00N×97.18E, h33km, mb5.0/19, Error ellipse: s-maj=20.2km s-min=8.1km az=96.8*
*NEIC **05** 06:36:50.5±0.4, 1.08N×97.28E, h30km, mb4.8/20, Error ellipse: s-maj=11.0km s-min=6.6km az=57.0*

ISC 05 06:36:48.2±0.4, 1.08N±0.06×97.26E±0.06, h27km, h27km±2.1km: pP-P, n90, σ0§96/87, mb4.7/50, MS4.0/10, 3C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.12**	**47**	P	**Pn**	**06 38 06.0**	**+0.8**
KULM	**Kulim**	**5.38**	**39**	*e*P	**Pn**	**06 38 08.7**	**-0.2**
KGM	**Kluang**	**6.13**	**81**	P	**Pn**	**06 38 20.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**17.35**	**5**	P	**P**	**06 40 49.7**	**-0.6**
	1.0nm,0.3s,baz=195,slow=12,SNR=20						
CMAR				LR	LR	06 48 09.8	
	comp=Z,178nm,18.4s,baz=190,slow=39						
KKM	**Kota Kinabalu**	**19.55**	**75**	*e*P	**P**	**06 41 16.2**	**-0.8**
VIS	**Vishakhapatnam**	**21.47**	**321**	*e*P	**P**	**06 41 37.5**	**+0.6**
KMI	**Kunming**	**24.48**	**12**	P	**P**	**06 42 09.0**	**+2.5**
KMI				AP		06 42 14.9	
KMI				S	**S**	**06 46 32.3**	**+10**
KMI				AMB	AMB		
	comp=Z,52nm,1.1s,mb4.9						
KMI				LR	LR		
	comp=N,529nm,16.1s,MS4.2						
KMI				LR	LR		
	comp=E,256nm,14.2s,MS4.2						
KMI				LR	LR		
	comp=Z,625nm,15.8s,MS4.2						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**06 42 09.0**	**+2.5**
	comp=Z,52nm,1.1s,mb4.9						
KMI				pP		06 42 14.9	
KMI				S	**S**	**06 46 32.3**	**+10**
SHL	**Shillong**	**24.89**	**348**	*e*P	**P**	**06 42 10.0**	**-0.4**
SHL				*e*S	**S**	**06 46 36.0**	**+7.0**
GYA	**Guiyang**	**26.80**	**19**	⇓*i*P	**P**	**06 42 27.9**	**-0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
JIRN	**Jiri**	**28.48**	**339**	*e*P	**P**	**06 42 44.5**	**+1.1**
	comp=Z,54nm,1.1s,mb5.1						
PKI	**Pulchoki**	**28.68**	**338**	*e*P	**P**	**06 42 47.2**	**+1.9**
	comp=Z,39nm,1.0s,mb5.1						
PKI	**Pulchoki**	**28.68**	**338**	*e*P	**P**	**06 42 47.2**	**+1.9**
PKI				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
GUN	**Gumba**	**28.82**	**339**	*e*P	**P**	**06 42 46.7**	**+0.2**
	comp=Z,45nm,0.7s,mb5.3						
DMN	**Daman**	**28.83**	**337**	*e*P	**P**	**06 42 48.1**	**+1.5**
	comp=Z,34nm,1.0s,mb5.0						
KKN	**Kakani**	**28.93**	**338**	*e*P	**P**	**06 42 48.2**	**+0.7**
	comp=Z,32nm,0.9s,mb5.0						
KKN	**Kakani**	**28.93**	**338**	*e*P	**P**	**06 42 48.2**	**+0.7**
KKN				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
LSA	**Lhasa**	**29.05**	**349**	P	**P**	**06 42 49.0**	**+0.5**
LSA	**Lhasa**	**29.05**	**349**	*e*P	**P**	**06 42 46.6**	**-1.9**
LSA				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8						
LSA	**Lhasa**	**29.05**	**349**	*e*P	**P**	**06 42 46.6**	**-1.9**
	comp=Z,15nm,0.8s,mb4.8						
GKN	**Gorkha**	**29.37**	**337**	*e*P	**P**	**06 42 50.6**	**-0.9**
	comp=Z,25nm,0.8s,mb5.0						
KOLN	**Koldanda**	**29.59**	**335**	*e*P	**P**	**06 42 54.0**	**+0.6**
	comp=Z,21nm,0.7s,mb5.0						
ENH	**Enshi**	**31.27**	**21**	*e*P	**P**	**06 43 06.2**	**-2.0**
	comp=Z,22nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.81**	**126**	P	**P**	**06 43 29.4**	**-1.1**
	comp=Z,5.1nm,0.8s,mb4.5,baz=192,slow=4.0,SNR=5.4						
FITZ				LR	LR	06 57 07.8	
	comp=Z,111nm,19.7s,MS3.6,baz=283,slow=36						
XAN	**Xi'an**	**34.56**	**17**	P	**P**	**06 43 35.6**	**-1.2**
XAN				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.0						
LZH	**Lanzhou**	**35.36**	**9**	*e*P	**P**	**06 43 43.5**	**-0.1**
LZH				AP	pP	06 43 52.7	+1.0
LZH				XP	sP	06 43 56.9	+1.7
LZH				PP	PP	06 45 04.5	+1.1
LZH				AMB	AMB		
	comp=Z,28nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,87nm,5.3s						
LZH				LR	LR		
	comp=N,445nm,13.2s						
LZH				LR	LR		
	comp=Z,592nm,16.8s,MS4.4						
LZH	**Lanzhou**	**35.36**	**9**	*e*P	**P**	**06 43 43.5**	**-0.1**
	comp=Z,28nm,1.4s,mb5.0						
LZH				pP	pP	06 43 52.7	+1.0
LZH				sP	sP	06 43 56.9	+1.7
LZH				PP	PP	06 45 04.5	+1.1
NJ2	**Nanjing**	**36.93**	**31**	*e*P	**P**	**06 43 58.1**	**+1.2**
NJ2				AP	pP	06 44 07.8	+2.8
NJ2				XP	sP	06 44 11.8	+3.3
NJ2				PP	PP	06 45 24.9	+1.6
NJ2				S	**S**	**06 49 41.0**	**+1.3**
NJ2				XS		06 49 57.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NJ2				LR	LR		
	comp=N,2μm,13.8s						
NJ2				LR	LR		
	comp=E,4μm,17.6s						
NJ2				LR	LR		
	comp=Z,650nm,17.3s,MS4.5						
GTA	**Gaotai**	**38.22**	**3**	P	**P**	**06 44 08.1**	**+0.4**
GTA				AP	pP	06 44 14.1	-1.7
GTA				PCP	PcP	06 46 23.1	+0.8
GTA				S	**S**	**06 49 54.6**	**-4.6**
GTA				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,99nm,8.8s						
GTA				LR	LR		
	comp=N,196nm,18.7s,MS4.1						
GTA				LR	LR		
	comp=E,173nm,14.1s,MS4.1						
GTA				LR	LR		
	comp=Z,220nm,18.0s,MS4.0						
JOW	**Kunigami**	**39.28**	**47**	P	**P**	**06 44 16.9**	**+0.2**
	comp=Z,11nm,0.7s,mb4.7,baz=336,slow=28,SNR=3.4						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**06 44 38.3**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.0,baz=300,slow=9.2,SNR=13						
WRAB	**Tennant Creek**	**41.93**	**122**	*e*P	**P**	**06 44 38.3**	**-0.3**
WRAB				*e*	pP	06 44 45.6	-1.2
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**41.93**	**122**	*e*P	**P**	**06 44 38.3**	**-0.3**
	comp=Z,8.8nm,0.8s,mb4.4						
WRAB				*e*	pP	06 44 45.6	-1.1
WB2	**Warramunga Arr**	**41.94**	**122**	*e*P	**P**	**06 44 38.2**	**-0.5**
BJT	**Baijiatuau**	**42.41**	**22**	⇑*e*P	**P**	**06 44 43.3**	**+1.0**
BJT				pmax	pmax		
	comp=Z,31nm,0.8s						
BJT	**Baijiatuau**	**42.41**	**22**	⇑*e*P	**P**	**06 44 43.3**	**+1.1**
	comp=Z,31nm,0.8s,mb5.0						
BJI	**Beijing**	**42.43**	**22**	P	**P**	**06 44 43.4**	**+1.0**
BJI				AP	pP	06 44 49.8	-0.8
BJI				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.0						
BJI				LR	LR		
	comp=N,113nm,16.9s,MS4.0						
BJI				LR	LR		
	comp=E,152nm,16.9s,MS4.0						
FORT	**Forrest**	**43.15**	**140**	*e*P	**P**	**06 44 50.8**	**+2.3**
	comp=E,260nm,0.7s						
ASAR	**Alice Springs**	**43.28**	**127**	P	**P**	**06 44 49.5**	**0.0**
	comp=E,3.4nm,0.9s,mb4.1,baz=299,slow=7.2,SNR=22						
ASAR				LR	LR	07 02 54.2	
	comp=E,83nm,19.5s,MS3.6,baz=289,slow=36						
WMQ	**Urumqi**	**43.40**	**350**	⇓P	**P**	**06 44 50.2**	**-0.1**
WMQ				AP	pP	06 45 00.3	+1.8
WMQ				XP	sP	06 45 04.1	+2.3
WMQ				PP	PP	06 46 33.4	+0.2
WMQ				S	**S**	**06 51 15.7**	**-0.5**
WMQ				XS		06 51 32.0	
WMQ				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,60nm,3.9s						
WMQ				LR	LR		
	comp=N,49nm,22.2s,MS3.9						
WMQ				LR	LR		
	comp=E,151nm,22.1s,MS3.9						
WMQ				LR	LR		
	comp=Z,60nm,22.1s,MS3.5						
AAK	**Ala-Archa**	**46.13**	**337**	*e*P	**P**	**06 45 13.8**	**+1.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**46.13**	**337**	*e*P	**P**	**06 45 13.8**	**+1.6**
	comp=Z,7.0nm,1.3s,mb4.4						
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**06 45 21.3**	**+0.4**
	comp=Z,8.9nm,0.6s,mb4.9,baz=191,slow=9.1,SNR=43						
SONM				PcP	PcP	06 46 52.3	0.0
	comp=Z,3.2nm,0.7s,baz=187,slow=3.9,SNR=8.4						
ULN	**Ulaanbaatar**	**47.37**	**9**	⇑*e*P	**P**	**06 45 22.1**	**+0.2**
ULN	**Ulaanbaatar**	**47.37**	**9**	*e*P	**P**	**06 45 21.4**	**-0.5**
	comp=Z,6.5nm,0.6s,mb4.7						
MKAR	**Makanchi Array**	**47.37**	**346**	*i* P	**P**	**06 45 22.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MKAR	**Makanchi Array**	**47.37**	**346**	P	**P**	**06 45 22.1**	**+0.2**
	comp=Z,7.9nm,0.7s,mb4.8,baz=159,slow=8.1,SNR=67						
MKAR				LR	LR	07 08 52.2	
	comp=Z,49nm,19.0s,MS3.5,baz=6.3,slow=41						
CN2	**Changchun**	**49.38**	**27**	*e*P	**P**	**06 45 37.2**	**-0.4**
CN2				*e*AP	pP	06 45 47.1	+1.2
CN2				*e*S	**S**	**06 52 44.2**	**+2.7**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
ZAK	**Zakamensk**	**49.38**	**5**	*e*P	**P**	**06 45 37.3**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
TLY	**Talaya**	**50.70**	**5**	*e*P	**P**	**06 45 48.2**	**+0.6**
TLY				*e*		06 53 16.8	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
TLY				MLR	MLR		
	comp=Z,144nm,19.0s,MS4.0						
TLY	**Talaya**	**50.70**	**5**	*e*P	**P**	**06 45 46.5**	**-1.0**
	comp=Z,4.6nm,0.7s,mb4.5						
HIA	**Hailar**	**51.73**	**19**	P	**P**	**06 45 55.0**	**-0.4**
HIA				pmax	pmax		
	comp=Z,15nm,0.7s						
HIA	**Hailar**	**51.73**	**19**	P	**P**	**06 45 55.0**	**-0.4**
	comp=Z,15nm,0.7s,mb5.0						
KURK	**Kurchatov**	**51.92**	**345**	*e*P	**P**	**06 45 56.4**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.9						
KURK	**Kurchatov**	**51.92**	**345**	*e*P	**P**	**06 45 56.4**	**-0.4**
	comp=Z,4.7nm,0.3s,mb4.9						
MDJ	**Mudanjiang**	**51.94**	**29**	P	**P**	**06 45 56.1**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,113nm,4.6s						
MDJ				LR	LR		
	comp=N,49nm,22.3s						
MDJ				LR	LR		
	comp=E,38nm,17.2s						
MDJ				LR	LR		
	comp=Z,89nm,16.0s						
STKA	**Stephens Creek**	**53.23**	**132**	*e*P	**P**	**06 46 07.5**	**+0.6**
	comp=Z,4.9nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**06 46 07.5**	**+0.6**
	comp=Z,5.8nm,0.8s,mb4.6,baz=312,slow=7.9,SNR=14						
**ZAL

*IDC **05** 06:50:08.1±2.6,2.09N×96.38E,h26km±6km,mb3.7/5, mb1 3.9/6,mb1mx3.7/16,mbtmp3.9/6,ML3.6/1,Error ellipse: s-maj=106.7km s-min=17.9km az=60.0*
*NEIC **05** 06:50:08.7±0.8,2.10N×96.47E,mb4.3/5,Error ellipse: s-maj=17.8km s-min=10.2km az=50.0*
ISC 05 06:50:06.8±1.0,2.1N±0.1×96.5E±0.1,h26km, h26km±1.4km:pP-P,n15,σ0§67/13,mb4.1/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.23**	**53**	*eP*	**Pn**	**06 51 25.5**	**0.0**
CMAR	**Chiang Mai Arr**	**16.43**	**8**	Pn	**P**	**06 53 57.8**	**+0.4**
	0.1nm,0.3s,baz=197,slow=12,SNR=14						
JIRN	**Jiri**	**27.24**	**340**	*eP*	**P**	**06 55 51.6**	**+0.7**
	9.7nm,0.7s,mb4.4						
GUN	**Gumba**	**27.58**	**339**	*eP*	**P**	**06 55 54.0**	**0.0**
	13nm,0.7s,mb4.6						
KKN	**Kakani**	**27.69**	**338**	*eP*	**P**	**06 55 55.9**	**+0.9**
	8.7nm,0.6s,mb4.5						
KOLN	**Koldanda**	**28.33**	**335**	*eP*	**P**	**06 56 01.4**	**+0.6**
	7.3nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**43.13**	**122**	P	**P**	**06 58 06.9**	**-0.3**
	0.3nm,0.5s,mb3.3,baz=301,slow=9.3,SNR=4.8						
WRA				pP	pP	06 58 14.9	-0.1
	0.5nm,0.5s,baz=302,slow=9.0,SNR=3.6						
ASAR	**Alice Springs**	**44.52**	**127**	P	**P**	**06 58 19.0**	**+0.6**
	0.3nm,0.7s,mb3.2,baz=294,slow=8.1,SNR=4.1						
ASAR				pP	pP	06 58 26.1	-0.2
	0.4nm,0.7s,baz=303,slow=7.9,SNR=2.5						
MKAR	**Makanchi Array**	**46.19**	**347**	P	**P**	**06 58 30.8**	**-0.5**
	1.6nm,0.4s,mb4.3,baz=161,slow=8.8,SNR=38						
SONM	**Songino Array**	**46.35**	**9**	P	**P**	**06 58 32.4**	**-0.1**
	0.7nm,0.4s,mb3.9,baz=190,slow=9.7,SNR=12						
KURK	**Kurchatov**	**50.73**	**345**	*eP*	**P**	**06 59 05.4**	**-1.1**
	1.7nm,0.4s,mb4.3						
ZAL	**Zalesovo**	**52.54**	**351**	P	**P**	**06 59 18.8**	**-1.3**
	2.2nm,0.5s,mb4.3,baz=307,slow=6.0,SNR=9.6						
ZAL				pP	pP	06 59 27.5	-0.7
	1.7nm,0.5s,baz=14,slow=4.4,SNR=3.8						
ZAL	**Zalesovo**	**52.54**	**351**	P	**P**	**06 59 18.8**	**-1.4**
ZAL				pP	pP	06 59 27.5	-0.7
AKASG	**Malin Array Be**	**74.10**	**322**	pP	pP	07 01 49.6	-1.2
	0.6nm,0.4s,baz=104,slow=4.1,SNR=2.1						
FINES	**FINESS Array B**	**78.86**	**333**	pP	pP	07 02 16.9	-0.6
	0.9nm,0.6s,baz=108,slow=8.8,SNR=2.2						

*IDC **05** 07:00:55.5±0.8,14.87S×173.82W,mb4.0/9,mb1 4.3/9, mb1mx4.1/17,mbtmp4.0/9,MS3.7/5,Ms1 3.7/5, ms1mx3.3/23,Error ellipse: s-maj=46.2km s-min=17.4km az=138.0*
*NEIC **05** 07:00:56.4±0.5,14.96S×173.65W,h10km,mb4.4/3,Error ellipse: s-maj=27.6km s-min=11.4km az=143.0*
ISC 05 07:00:55.0±0.6,14.9S±0.2×173.8W±0.1,h10km,n19, σ1§01/16,mb4.0/12,MS3.6/5,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.15**	**63**	Pn	**Pn**	**07 01 29.2**	**-2.3**
	303nm,0.3s,baz=163,slow=1.2,SNR=192						
AFI				Sn	**Sn**	**07 01 49.3**	**-9.1**
	502nm,0.3s,baz=182,slow=22,SNR=10						
AFI	**Afiamalu**	**2.15**	**63**	Pn	**Pn**	**07 01 29.2**	**-2.3**
AFI				Sn	**Sn**	**07 01 49.3**	**-9.1**
DZM	**Mont Dzumac**	**20.08**	**246**	LR	LR	07 11 20.8	
	comp=Z,58nm,18.6s,MS3.0,baz=96,slow=31						
URZ	**Urewera**	**24.63**	**197**	P	**P**	**07 06 18.4**	**+1.5**
	5.8nm,0.8s,mb4.2,baz=37,slow=15,SNR=2.7						
URZ				LR	LR	07 14 32.9	
	comp=Z,179nm,18.4s,MS3.6,baz=191,slow=33						
STKA	**Stephens Creek**	**43.99**	**239**	P	**P**	**07 09 04.7**	**+0.3**
	0.8nm,0.7s,mb3.6,baz=342,slow=8.2,SNR=2.5						
WRAB	**Tennant Creek**	**49.62**	**256**	P	**P**	**07 09 47.9**	**-0.9**
	6.1nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**49.63**	**256**	P	**P**	**07 09 48.5**	**-0.5**
	0.7nm,0.5s,mb4.0,baz=92,slow=6.8,SNR=9.8						
ASAR	**Alice Springs**	**49.94**	**252**	P	**P**	**07 09 50.0**	**-1.3**
	4.1nm,0.6s,mb4.6,baz=86,slow=7.7,SNR=56						
YBH	**Yreka Blue Hor**	**73.41**	**37**	LR	LR	07 37 12.1	
	comp=Z,75nm,20.1s,MS4.0,baz=226,slow=30						
NVAR	**Mina Array Bea**	**74.19**	**42**	P	**P**	**07 12 34.9**	**+0.9**
	3.4nm,0.8s,mb4.3,baz=225,slow=9.4,SNR=24						
QSPA	**South Pole Qui**	**75.14**	**180**	P	**P**	**07 12 37.8**	**-0.9**
	3.4nm,0.8s,mb4.3						
HLID	**Hailey**	**79.46**	**39**	*eP*	**P**	**07 13 04.1**	**+0.8**
	2.2nm,0.8s,mb4.1						
TXAR	**Lajitas Array**	**80.62**	**56**	P	**P**	**07 13 09.7**	**-0.1**
	0.5nm,0.9s,mb3.4,baz=225,slow=7.1,SNR=3.8						
TXAR				LR	LR	07 40 32.2	
	comp=Z,52nm,20.2s,MS3.9,baz=155,slow=30						
ILAR	**Eielson Array**	**82.02**	**11**	P	**P**	**07 13 17.1**	**+0.7**
	0.8nm,0.7s,mb3.8,baz=235,slow=6.6,SNR=13						
PDAR	**Pinedale Array**	**82.12**	**42**	P	**P**	**07 13 18.0**	**+0.7**
	0.6nm,0.8s,mb3.6,baz=270,slow=1.5,SNR=5.0						
PDAR				LR	LR	07 44 00.1	
	comp=Z,44nm,19.0s,MS3.9,baz=100,slow=32						
YKA	**Yellowknife Ar**	**89.78**	**23**	P	**P**	**07 13 55.3**	**+0.7**
	0.6nm,0.8s,mb4.0,baz=241,slow=4.3,SNR=16						
KHC	**Kasperske Hory**	**145.34**	**352**	*eP*	PKPbc	07 20 35.0	+1.4
BRTR	**Keskin Array B**	**145.56**	**321**	PKPbc	PKPbc	07 20 36.7	+2.3
	1.9nm,0.8s,baz=93,slow=3.2,SNR=6.3						
GERES	**GERESS Array B**	**145.60**	**351**	PKPbc	PKPbc	07 20 36.4	+2.1
	0.5nm,0.5s,baz=45,slow=1.9,SNR=6.7						

*IDC **05** 07:11:10.7±1.2,1.44N×96.94E,h25km±5km,mb3.8/9, mb1 3.9/10,mb1mx3.8/19,mbtmp4.0/10,ML4.3/1,MS4.3/1, Ms1 4.3/1,ms1mx3.3/19,Error ellipse: s-maj=45.8km s-min=14.7km az=56.0*
*NEIC **05** 07:11:10.8±0.8,1.53N×97.06E,mb4.4/3,Error ellipse: s-maj=22.4km s-min=13.7km az=65.0*
ISC 05 07:11:08.8±0.8,1.6N±0.1×97.1E±0.1,h26km, h26km±.9km:pP-P,n17,σ1§09/16,mb4.1/12,MS4.4/1,1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.17**	**44**	↑*eP*	**Pn**	**07 12 27.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**16.91**	**6**	P	**P**	**07 15 08.1**	**+2.7**
	0.4nm,0.3s,baz=198,slow=11,SNR=6.0						
ENH	**Enshi**	**30.91**	**21**	*eP*	**P**	**07 17 24.4**	**-1.4**
	6.8nm,0.4s,mb4.8						
WRA	**Warramunga Arr**	**42.34**	**122**	P	**P**	**07 19 02.6**	**-0.2**
	0.6nm,0.8s,mb3.3,baz=302,slow=9.3,SNR=3.2						
WRA				pP	pP	07 19 10.9	+0.2
	0.5nm,0.4s,baz=303,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**43.72**	**127**	P	**P**	**07 19 14.3**	**+0.4**
	0.6nm,0.7s,mb3.5,baz=291,slow=6.8,SNR=6.2						
SONM	**Songino Array**	**46.81**	**9**	P	**P**	**07 19 39.1**	**+0.9**
	5.1nm,0.9s,mb4.5,baz=188,slow=8.7,SNR=35						
SONM				pP	pP	07 19 47.4	+1.2
	1.3nm,0.5s,baz=193,slow=8.4,SNR=7.1						
MKAR	**Makanchi Array**	**46.87**	**346**	P	**P**	**07 19 39.5**	**+0.8**
	4.5nm,0.7s,mb4.5,baz=158,slow=7.6,SNR=39						
MKAR				pP	pP	07 19 46.8	+0.1
	1.9nm,0.7s,baz=160,slow=7.4,SNR=7.0						
MKAR	**Makanchi Array**	**46.87**	**346**	P	**P**	**07 19 39.5**	**+0.7**
MKAR				pP	pP	07 19 46.8	+0.1
ULN	**Ulaanbaatar**	**46.94**	**9**	*eP*	**P**	**07 19 37.6**	**-1.7**
	3.2nm,0.8s,mb4.3						
HIA	**Hailar**	**51.36**	**19**	P	**P**	**07 20 11.0**	**-2.3**
	1.7nm,0.4s,mb4.3						
ZAL	**Zalesovo**	**53.19**	**351**	P	**P**	**07 20 27.1**	**+0.2**
	1.3nm,0.3s,mb4.3,baz=333,slow=7.0						
STKA	**Stephens Creek**	**53.70**	**132**	P	**P**	**07 20 31.3**	**+0.3**
	1.4nm,0.8s,mb3.9,baz=318,slow=14,SNR=2.5						
BVAR	**Borovoye Array**	**55.88**	**341**	P	**P**	**07 20 45.8**	**-0.8**
	0.9nm,0.6s,mb4.0,baz=141,slow=9.2,SNR=6.5						
BRTR	**Keskin Array B**	**68.77**	**312**	P	**P**	**07 22 13.1**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=135,slow=6.1,SNR=2.1						
RPZ	**Rata Peaks**	**79.55**	**135**	LR	LR	07 59 34.2	
	comp=Z,195nm,20.9s,MS4.4,baz=213,slow=36						
FINES	**FINESS Array B**	**79.62**	**332**	P	**P**	**07 23 15.8**	**+0.6**
	1.8nm,1.0s,mb4.0,baz=197,slow=32,SNR=3.4						
FINES				pP	pP	07 23 24.2	+0.5
	0.9nm,0.5s,baz=90,slow=5.7,SNR=2.5						
FINES	**FINESS Array B**	**79.62**	**332**	P	**P**	**07 23 15.8**	**+0.6**
FINES				pP	pP	07 23 24.2	+0.5

*BJI **05** 07:12:30.8,0.24S×97.28E,h36km,mB5.1,mb4.7,Ms4.7, Msz4.4*

*IDC **05** 07:12:34.6±0.4,0.18N×97.03E,h30km±2km,mb4.3/19, mb1 4.4/20,mb1mx4.4/23,mbtmp4.5/20,ML4.5/1,MS3.7/5, Ms1 3.7/5,ms1mx3.5/16,Error ellipse: s-maj=14.5km s-min=9.3km az=48.0*
*MOS **05** 07:12:34.1±2.4,0.37N×97.44E,h33km,mb5.2/26,Error ellipse: s-maj=12.7km s-min=6.3km az=112.3*
*NEIC **05** 07:12:34.8±0.3,0.14N×97.17E,mb5.0/23,Error ellipse: s-maj=9.7km s-min=6.3km az=54.0*
*HRVD **05** 07:12:34.8±1.1,0.19N×96.75E,h16km±3km,MW4.7/25, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s25,c40; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-1.33±.30; $M_{\theta\theta}$0.36±.15; $M_{\phi\phi}$0.96±.19; $M_{r\theta}$-0.51±.51; $M_{\theta\phi}$-0.68±.08; $M_{\phi r}$0.39±.41; Best double couple: $M_0$1.513×10¹⁶ NP1:ϕ_s336°,δ34°,λ-75°. NP2: ϕ_s138°,δ57°,λ-100°. Principal axes: T 1.537, Plg12°, Azm235°; N -.051, Plg8°, Azm144°; P -1.49, Plg75°, Azm20°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 07:12:33.0±0.3,0.14N±0.05×97.17E±0.05,h31km, h31km±.7km:pP-P,n171,σ1§19/123,mb4.8/58,MS4.2/14, 9C-20D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.18**	**34**	*eP*	**Pn**	**07 14 02.6**	**-2.0**
SNG	**Songkhla**	**7.79**	**26**	P	**Pn**	**07 14 39.0**	**+12**
	236nm,0.8s						
BDT	**Bhumibol Dam**	**17.09**	**6**	P	**P**	**07 16 32.0**	**+0.6**
	18nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.28**	**5**	P	**P**	**07 16 46.1**	**-0.3**
	0.6nm,0.3s,baz=196,slow=11,SNR=22						
CMAR				pP		07 16 55.2	
	1.3nm,0.3s,baz=197,slow=11,SNR=24						
CMAR				pPcP		07 21 27.9	
	0.2nm,0.3s,baz=212,slow=3.2,SNR=5.6						
CMAR				LR	LR	07 24 04.4	
	comp=Z,174nm,19.2s,baz=185,slow=38						
CHG	**Chiang Mai**	**18.64**	**5**	⇓P	**P**	**07 16 50.7**	**+0.1**
	28nm,0.8s						
NANT	**Nan**	**18.86**	**10**	⇑P	**P**	**07 16 51.0**	**-2.3**
	238nm,0.9s						
KKM	**Kota Kinabalu**	**19.89**	**73**	P	**P**	**07 17 03.2**	**-1.9**
TRD	**Trivandrum**	**21.78**	**293**	*eP*	**P**	**07 17 24.5**	**+0.1**
TRD				*e*		07 17 29.3	
	comp=Z,54nm,1.0s						
VIS	**Vishakhapatnam**	**22.15**	**323**	*i* P	**P**	**07 17 29.0**	**+1.0**
VIS				*e*		07 17 40.3	
	comp=Z,60nm,1.0s						
BWNR	**Bhubaneshwar**	**22.91**	**332**	*i* P	**P**	**07 17 39.3**	**+3.7**
BWNR				*e*		07 17 49.1	
	comp=Z,91nm,0.6s						
BWNR				*e*		07 19 15.3	
HYB	**Hyderabad**	**25.11**	**314**	*eP*	**P**	**07 18 06.5**	**+10**
HYB	**Hyderabad**	**25.11**	**314**	*i* P	**P**	**07 18 06.5**	**+10**
KMI	**Kunming**	**25.41**	**12**	P	**P**	**07 18 03.6**	**+3.9**
KMI				S	**S**	**07 22 25.3**	**+3.6**
KMI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.5						
KMI				LR	LR		
	comp=N,655nm,11.1s,MS4.5						
KMI				LR	LR		
	comp=E,518nm,11.9s,MS4.5						
KMI				LR	LR		
	comp=Z,812nm,11.9s,MS4.5						
KMI	**Kunming**	**25.41**	**12**	P	**P**	**07 18 03.6**	**+3.9**
	comp=Z,16nm,1.0s,mb4.5						
KMI				S	**S**	**07 22 25.3**	**+3.6**
SHL	**Shillong**	**25.79**	**349**	*eP*	**P**	**07 18 02.0**	**-1.2**
SHL				*e*		07 22 39.0	
BOK	**Bokaro**	**25.94**	**336**	*eP*	**P**	**07 18 06.6**	**+2.0**
BOK				*e*	pP	07 18 15.8	+2.1
	comp=Z,132nm,0.9s						
BOK				*eS*	**S**	**07 22 33.8**	**+3.3**
BLSP	**Bilaspur**	**26.31**	**327**	*i* P	**P**	**07 18 07.6**	**-0.5**
BLSP				*e*	pP	07 18 18.3	+1.2
	comp=Z,57nm,0.9s						
BLSP				*e*		07 20 03.5	
POO	**Poona**	**29.30**	**310**	*eP*	**P**	**07 18 34.4**	**-0.9**
JIRN	**Jiri**	**29.32**	**340**	*eP*	**P**	**07 18 37.9**	**+2.6**
	comp=Z,96nm,0.9s,mb5.5						
PKI	**Pulchoki**	**29.52**	**338**	*eP*	**P**	**07 18 39.4**	**+2.3**
	comp=Z,78nm,1.1s,mb5.3						
PKI	**Pulchoki**	**29.52**	**338**	*eP*	**P**	**07 18 39.4**	**+2.3**
PKI				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.0						
GUN	**Gumba**	**29.66**	**340**	*eP*	**P**	**07 18 39.1**	**+0.8**
	comp=Z,67nm,0.7s,mb5.5						
KKN	**Kakani**	**29.76**	**338**	*eP*	**P**	**07 18 41.1**	**+1.8**
	comp=Z,72nm,0.9s,mb5.4						
KKN	**Kakani**	**29.76**	**338**	*eP*	**P**	**07 18 41.1**	**+1.8**
KKN				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.1						
BHPL	**Bhopal**	**29.92**	**321**	*eP*	**P**	**07 18 40.0**	**-0.8**
LSA	**Lhasa**	**29.95**	**349**	P	**P**	**07 18 40.9**	**0.0**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
LSA	**Lhasa**	**29.95**	**349**	P	**P**	**07 18 40.9**	**0.0**
	comp=Z,12nm,0.6s,mb4.8						
GKN	**Gorkha**	**30.20**	**338**	*eP*	**P**	**07 18 43.3**	**+0.2**
	comp=Z,115nm,0.9s,mb5.6						
KOLN	**Koldanda**	**30.40**	**336**	*eP*	**P**	**07 18 45.2**	**+0.3**
	comp=Z,171nm,0.8s,mb5.8						
ENH	**Enshi**	**32.17**	**20**	*eP*	**P**	**07 18 58.6**	**-1.9**
	comp=Z,21nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**33.35**	**124**	P	**P**	**07 19 10.6**	**-0.1**
	comp=Z,38nm,0.8s,mb5.3,baz=325,slow=4.3,SNR=28						
FITZ				pP	pP	07 19 21.0	+1.0
	comp=Z,17nm,0.8s,baz=332,slow=5.6,SNR=5.2						
NDI	**New Delhi**	**34.20**	**328**	*e*	**P**	**07 19 17.0**	**-1.1**
WHN	**Wuhan**	**34.36**	**27**	*eP*	**P**	**07 19 19.5**	**+0.1**
XAN	**Xi'an**	**35.47**	**17**	P	**P**	**07 19 27.8**	**-1.1**
XAN				AP	pP	07 19 35.5	-2.7
XAN				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.7						
LZH	**Lanzhou**	**36.30**	**9**	*eP*	**P**	**07 19 36.2**	**+0.4**
LZH				AP	pP	07 19 45.4	+0.3
LZH				*e*PP	PP	07 21 00.5	+1.2
LZH				*e*S	**S**	**07 25 14.8**	**+1.0**
LZH				XS		07 25 30.5	
LZH				SS	SS	07 27 40.5	+1.5
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,79nm,5.3s						
LZH				LR	LR		
	comp=N,638nm,13.0s						
LZH				LR	LR		
	comp=Z,885nm,16.5s,MS4.6						
LZH	**Lanzhou**	**36.30**	**9**	*eP*	**P**	**07 19 36.2**	**+0.4**
	comp=Z,25nm,1.5s,mb4.9						
LZH				pP	pP	07 19 45.4	+0.3
LZH				*e*PP	PP	07 21 00.5	+1.2
LZH				*e*S	**S**	**07 25 14.8**	**+1.0**
LZH				sS		07 25 30.5	
LZH				SS	SS	07 27 40.5	+1.5
NJ2	**Nanjing**	**37.78**	**31**	*eP*	**P**	**07 19 49.8**	**+1.5**
NJ2				AP	pP	07 19 59.5	+1.9
NJ2				XP	sP	07 20 03.5	+2.0
NJ2				PP	PP	07 21 20.2	+2.4
NJ2				S	**S**	**07 25 39.0**	**+2.4**
NJ2				XS		07 25 54.0	
NJ2				AMB	AMB		
	comp=Z,620nm,5.6s						
NJ2				LR	LR		
	comp=N,8μm,22.6s,MS5.4						
NJ2				LR	LR		
	comp=E,1μm,25.0s,MS5.4						
NJ2				LR	LR		
	comp=Z,380nm,18.0s						
NWAO	**Narrogin (SRO)**	**37.94**	**152**	P	**P**	**07 19 48.9**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.0,baz=316,slow=10,SNR=3.5						
SSE	**Sheshan**	**38.29**	**34**	P	**P**	**07 19 46.3**	**-6.4**
	comp=Z,22nm,0.7s,mb5.0						
SSE				pP	pP	07 19 55.1	-6.9
SSE				S	**S**	**07 25 29.5**	**-15**
SSE				sS		07 25 44.3	
GTA	**Gaotai**	**39.15**	**3**	*eP*	**P**	**07 19 59.3**	**-0.5**
GTA				AP	pP	07 20 09.3	+0.2
GTA				XP	sP	07 20 12.3	-0.7
GTA				S	**S**	**07 25 50.2**	**-7.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.5s,mb4.0						
GTA				AMB	AMB		
	comp=Z,93nm,9.9s						
GTA				LR	LR		
	comp=N,155nm,20.9s,MS4.1						
GTA				LR	LR		
	comp=E,244nm,19.8s,MS4.1						
GTA				LR	LR		
	comp=Z,174nm,12.6s						
WRA	**Warramunga Arr**	**41.51**	**121**	P	**P**	**07 20 19.9**	**+0.4**
	comp=Z,40nm,0.9s,mb5.0,baz=300,slow=9.2,SNR=74						
WRA				pP	pP	07 20 30.2	+1.4
	comp=Z,18nm,0.7s,baz=301,slow=9.0,SNR=11						
WRAB	**Tennant Creek**	**41.52**	**121**	*eP*	**P**	**07 20 19.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,71nm,0.9s,mb5.3						
WRAB	**Tennant Creek**	**41.52**	**121**	*eP*	**P**	**07 20 19.6**	**+0.1**
	comp=Z,71nm,0.9s,mb5.3						
WB2	**Warramunga Arr**	**41.52**	**121**	⇓*i* P	**P**	**07 20 19.8**	**+0.3**
WB2				*e*pP	pP	07 20 30.2	+1.3
FORT	**Forrest**	**42.50**	**139**	*eP*	**P**	**07 20 29.5**	**+2.1**
	comp=Z,465nm,0.8s,mb6.2						
ASPA	**Alice Springs**	**42.79**	**126**	*eP*	**P**	**07 20 30.7**	**+0.8**
ASAR	**Alice Springs**	**42.79**	**126**	P	**P**	**07 20 30.8**	**+0.8**
	comp=Z,5.1nm,0.8s,mb4.3,baz=300,slow=7.5,SNR=31						
ASAR				LR	LR	07 38 10.4	
	comp=Z,95nm,19.1s,MS3.7,baz=324,slow=36						
BJI	**Beijing**	**43.33**	**21**	P	**P**	**07 20 33.3**	**-0.7**
BJI				AP	pP	07 20 42.2	-1.2
BJI				XP	sP	07 20 46.1	-1.1
BJI				S	**S**	**07 27 04.0**	**+4.9**
BJI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
BJI				AMB	AMB		
	comp=Z,130nm,7.5s						
BJI				LR	LR		
	comp=N,193nm,14.0s,MS4.3						
BJI				LR	LR		
	comp=E,212nm,14.0s,MS4.3						
BJI				LR	LR		
	comp=Z,159nm,16.9s,MS4.0						
BJI	**Beijing**	**43.33**	**21**	P	**P**	**07 20 33.3**	**-0.7**
	comp=Z,12nm,1.1s,mb4.5						
BJI				pP	pP	07 20 42.2	-1.2
BJI				sP	sP	07 20 46.1	-1.1
BJI				S	**S**	**07 27 04.0**	**+4.9**
WBK	**Wadi Bani Khal**	**43.35**	**304**	⇓P	pP	07 20 44.0	+0.2
	SNR=5.8						
JMDO	**Jabal Madar**	**43.98**	**303**	⇑P	pP	07 20 48.5	-0.4
WMQ	**Urumqi**	**44.30**	**350**	⇑P	**P**	**07 20 42.6**	**+0.7**
WMQ				AP	pP	07 20 52.4	+1.1
WMQ				XP	sP	07 20 56.3	+1.2
WMQ				PP	PP	07 22 27.3	+0.8
WMQ				S	**S**	**07 27 13.7**	**+0.5**
WMQ				XS		07 27 29.8	
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,168nm,4.3s						
WMQ				LR	LR		
	comp=N,37nm,20.0s,MS3.8						
WMQ				LR	LR		
	comp=E,110nm,20.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,61nm,20.0s,MS3.5						
SMDO	**Samad**	**44.31**	**304**	⇓P	pP	07 20 50.4	-1.2
	SNR=6.0						
BIDO	**Bidbid**	**44.45**	**304**	⇓P	pP	07 20 52.6	-0.1
SHAO	**Shalim**	**44.53**	**296**	⇑P	pP	07 20 52.2	-1.2
BSY	**Bisya**	**44.89**	**303**	⇑P	pP	07 20 55.4	-0.9
	SNR=6.4						
RBK	**Rabkut**	**45.65**	**295**	⇓P	pP	07 21 01.0	-1.4
WHFO	**Wadi Hawf**	**46.17**	**295**	⇓P	pP	07 21 04.1	-2.4
	SNR=7.4						
ABTO	**Aybut**	**46.43**	**294**	⇓P	pP	07 21 06.9	-1.7
UCH	**Uchtor**	**46.60**	**337**	P	pP	07 21 10.3	+0.7
	SNR=8.3						
TKM2	**Tokmak 2**	**46.78**	**338**	P	pP	07 21 11.3	+0.4
	SNR=7.2						
KBK	**Karagaybulak**	**46.80**	**337**	P	pP	07 21 12.4	+1.3
	SNR=6.5						
AML	**Almayashu**	**46.85**	**336**	P	pP	07 21 12.5	+1.0
	SNR=6.5						
AAK	**Ala-Archa**	**46.95**	**337**	*eP*	**P**	**07 21 03.6**	**+0.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**46.95**	**337**	*eP*	**P**	**07 21 03.6**	**+0.7**
	comp=Z,6.8nm,0.8s,mb4.6						
FRU	**Bishkek**	**47.08**	**337**	*eP*	**P**	**07 21 07.0**	**+3.1**
FRU				*e*		07 21 24.0	
CHMS	**Chumysh**	**47.16**	**338**	P	pP	07 21 13.8	-0.3
	SNR=6.0						
EKS2	**Erkin-Say**	**47.26**	**336**	P	pP	07 21 15.6	+0.8
	SNR=6.7						
USP	**Ospenovka**	**47.49**	**338**	P	**P**	**07 21 10.0**	**+2.8**
	SNR=6.6						
SONM	**Songino Array**	**48.17**	**8**	P	**P**	**07 21 12.5**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.3,baz=191,slow=8.5,SNR=9.9						
SONM				pP	pP	07 21 22.0	+0.1
	comp=Z,7.8nm,0.8s,baz=191,slow=8.5,SNR=14						
SONM				PcP	PcP	07 22 39.3	-0.5
	comp=Z,1.8nm,0.9s,baz=194,slow=5.9,SNR=3.6						
SONM				pPcP		07 22 48.5	
	comp=Z,3.4nm,0.8s,baz=177,slow=3.2,SNR=5.0						
SONM				LR	LR	07 42 50.2	
	comp=Z,168nm,21.7s,MS4.0,baz=175,slow=38						
MKAR	**Makanchi Array**	**48.25**	**346**	*i* P	**P**	**07 21 12.1**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,14nm,0.7s						
MKAR	**Makanchi Array**	**48.25**	**346**	P	**P**	**07 21 12.4**	**-0.7**
	comp=Z,6.0nm,0.7s,mb4.8,baz=158,slow=7.9,SNR=14						

STKA pP pP 07 21 57.8 +1.2
comp=Z,13nm,0.8s,baz=306,slow=7.4,SNR=10
KURK Kurchatov 52.80 345 *e*P **P** **07 21 45.4 -2.3**
KURK pmax pmax
comp=Z,28nm,1.1s,mb5.1
KURK Kurchatov 52.80 345 *e*P **P** **07 21 45.4 -2.2**
comp=Z,28nm,1.1s,mb5.1
MDJ Mudanjiang 52.80 29 P **P** **07 21 48.0 +0.3**
MDJ AMB AMB
comp=Z,7.0nm,1.6s,mb4.3
MDJ AMB AMB
comp=Z,49nm,5.9s
MDJ LR LR
comp=N,84nm,17.4s,MS4.1
MDJ LR LR
comp=E,135nm,19.8s,MS4.1
MDJ LR LR
comp=Z,159nm,19.2s,MS4.1
ZAL Zalesovo 54.58 351 P **P** **07 21 59.4 -1.3**
comp=Z,6.4nm,0.7s,mb4.8,baz=306,slow=6.3,SNR=10
ZAL pP pP 07 22 09.1 -1.1
comp=Z,19nm,0.8s,baz=309,slow=6.4,SNR=24
ZAL Zalesovo 54.58 351 P **P** **07 21 59.4 -1.3**
ZAL pP pP 07 22 09.1 -1.1
ATD Arta Tunnel 55.10 284 LR LR 07 43 31.1
comp=Z,41nm,18.2s,MS3.5,baz=313,slow=34
NVS Novosibirsk 55.70 350 *e*P **P** **07 22 03.6 -5.3**
NVS *e*S **S** **07 29 40.4 -11**
NVS pmax pmax
comp=Z,28nm,1.1s,mb5.2
NVS pmax pmax
comp=N,24nm,1.2s
NVS pmax pmax
comp=E,13nm,1.2s
NVS smax
comp=E,33nm,1.7s
KLR Kul'dur 57.21 26 *e*P **P** **07 22 16.2 -3.5**
KLR MLR MLR
comp=Z,600nm,14.0s,MS4.8
BVA0 Borovoye Array 57.23 341 *i*P **P** **07 22 20.2 +0.4**
BVA0 pmax pmax
comp=Z,4.0nm,1.5s,mb4.2
BVAR Borovoye Array 57.23 341 P **P** **07 22 17.8 -2.0**
comp=Z,1.6nm,0.7s,mb4.2,baz=158,slow=8.0,SNR=5.6
BVAR pP pP 07 22 26.8 -2.6
comp=Z,4.1nm,0.7s,baz=149,slow=8.6,SNR=12
BVAR pPcP 07 23 22.9
comp=Z,4.4nm,0.8s,baz=135,slow=6.3,SNR=4.3
CHKZ Chkalovo 57.71 342 P **P** **07 22 21.1 -2.1**
CHKZ pmax pmax
comp=Z,45nm,1.6s,mb5.2
BOD Bodaibo 59.05 10 *e*P **P** **07 22 25.9 -6.5**
BOD pmax pmax
comp=Z,11nm,1.1s,mb4.8
KMBO Kilima Mbogo 59.93 269 *e*P **P** **07 22 38.5 -0.6**
KMBO *e* pP 07 22 47.4 -1.4
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 59.93 269 P **P** **07 22 38.8 -0.3**
comp=Z,0.6nm,0.3s,mb4.1,baz=142,slow=8.6,SNR=5.0
KMBO pP pP 07 22 47.7 -1.1
comp=Z,4.5nm,0.8s,baz=67,slow=9.0,SNR=5.8
KMBO Kilima Mbogo 59.93 269 *e*P **P** **07 22 38.5 -0.6**
comp=Z,2.0nm,0.8s,mb4.2
KMBO *e* pP 07 22 47.4 -1.4
YSS Yuzh-Sakhalins 61.23 34 P sP 07 23 01.0 +0.3
GNI Garni 62.03 317⇓*e*P pP 07 23 01.6 -1.1
GNI pmax pmax
comp=Z,20nm,1.4s
TI2 Plekhanov 62.73 318 *e*P pP 07 23 06.6 -0.8
SVE Sverdlovsk 63.65 339⇓*i*P **P** **07 23 09.6 +6.1**
SVE pmax pmax
comp=Z,22nm,1.0s,mb5.1
GOF Gofitskoye 65.36 321 *e*P **P** **07 23 20.7 +6.0**
MALT Malatya 65.81 313 *e*P **P** **07 23 18.3 +0.5**
MALT *e* 07 23 25.9
MALT pmax pmax
comp=Z,21nm,1.0s,mb5.1
MALT Malatya 65.81 313 *e*P **P** **07 23 18.3 +0.5**
comp=Z,21nm,1.0s,mb5.1
MALT *e* 07 23 25.9
YAK Yakutsk 66.44 16 *i*P **P** **07 23 20.4 -0.9**
YAK pmax pmax
comp=Z,21nm,0.8s,mb5.2
SOC Sochi 66.88 318 *e*P **P** **07 23 31.1 +6.6**
SOC *e*PPP PPP 07 27 33.2 +2.9
SOC *e*S S 07 32 22.9 +9.3
SOC pmax pmax
comp=Z,31nm,1.1s,mb5.2
SOC pmax pmax
comp=N,7.0nm,0.6s
SOC pmax pmax
comp=E,8.0nm,0.7s
ANN Anapa 68.87 319 *e*P pP 07 23 48.0 +1.4
ANN pmax pmax
comp=Z,27nm,1.1s,mb5.1
BRTR Keskin Array B 69.80 313 P **P** **07 23 41.9 -0.8**
comp=Z,2.4nm,0.9s,mb4.1,baz=130,slow=7.6,SNR=7.8
BRTR pP pP 07 23 50.0 -2.5
comp=Z,6.8nm,0.8s,baz=127,slow=7.5,SNR=21
MATP Matopo 70.11 248 P **P** **07 23 44.2 -0.6**
comp=Z,3.2nm,0.9s,mb4.3,baz=82,slow=4.8,SNR=6.3
MATP pP pP 07 23 53.8 -0.8
comp=Z,8.3nm,0.8s,baz=77,slow=7.0,SNR=9.0
MATP Matopo 70.11 248 P **P** **07 23 44.2 -0.7**
MATP pP pP 07 23 53.8 -0.8
VRSR Storozhevoye 70.40 326 *e*P **P** **07 23 53.1 +6.9**
VRSR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
VRSR pmax pmax
comp=N,7.0nm,1.2s
VRSR pmax pmax
comp=E,9.0nm,0.9s
OBN Obninsk 73.50 329⇓*e*P pP 07 24 12.9 -1.4
OBN pmax pmax
comp=Z,37nm,1.3s,mb5.2
TIRR Tirgusor 74.86 316 ⇓P **P** **07 24 11.7 -0.9**
AKASG Malin Array Be 76.07 323 P **P** **07 24 18.1 -1.3**
comp=Z,0.7nm,0.3s,mb4.0,baz=90,slow=5.0,SNR=8.9
AKASG pP pP 07 24 26.9 -2.3
comp=Z,8.7nm,0.7s,baz=89,slow=5.0,SNR=7.7
VRI Vrincioaia 76.37 317 ⇓P **P** **07 24 22.2 +1.0**
MLR Muntele Rosu 76.81 317 ⇑P **P** **07 24 24.6 +1.0**
BURAR Bucovina Array 77.79 319 ⇓P **P** **07 24 29.1 +0.1**
BURAR Bucovina Array 77.79 319 ⇓P **P** **07 24 29.1 +0.1**
LVV L'vov 79.06 321 *e*P pP 07 24 45.2 -0.6
LVV *e* 07 24 54.4
KWP Kalwaria 79.86 320 *e*P pP 07 24 49.4 -0.8
KOLS Kolonicke sedl 80.00 320 *i*pP pP 07 24 50.8 -0.1
APA Apatity 80.10 340⇑*i*P pP 07 24 50.0 -1.1
APA *i* 07 24 56.5
APA pmax pmax
comp=Z,37nm,1.4s,mb5.1
SUW Suwalki 80.52 325 *e*P pP 07 24 52.6 -1.0
CRVS Cervenica-Dubn 80.52 320 *i*pP pP 07 24 53.2 -0.5
DIVS Divcibare 80.70 315 *e*P **P** **07 24 43.6 -1.2**
FINES FINESS Array B 80.92 333 P **P** **07 24 44.7 -0.9**
comp=Z,1.2nm,0.5s,mb4.0,baz=72,slow=6.0,SNR=5.9
FINES pP pP 07 24 54.6 -0.9
comp=Z,6.3nm,0.7s,baz=108,slow=6.0,SNR=11
PSZ Piszkesteto 81.37 318⇑*e*PcP PcP 07 24 57.5 +2.8
OJC Ojcow 81.82 321 *e*P pP 07 24 59.8 -0.6
VYHS Vyhne 82.16 319 *i*pP pP 07 25 01.9 -0.4
ZST Bratislava 83.27 318 *i*pP pP 07 25 07.7 -0.3
DPC Dobruska-Polom 84.04 321 *e*pP pP 07 25 12.2 +0.3
KSP Ksiaz 84.12 321 *e*P pP 07 25 12.2 -0.1
BOJS Bojanci 84.22 316 *e*P pP 07 25 12.5 -0.5
UPC Upice 84.26 321 *e*pP pP 07 25 13.1 +0.1
PERS Pernice 84.43 317 *e*P pP 07 25 13.3 -0.6
PRU Pruhonice 85.14 320 *e*pP pP 07 25 17.2 -0.3
PVCC Panska Ves 85.18 321 *e*pP pP 07 25 17.7 +0.1
ROBS Robic 85.50 316 *e*P pP 07 25 18.6 -0.8
GERES GERESS Array B 85.58 319 P **P** **07 25 10.1 +0.4**
comp=Z,1.5nm,0.7s,mb4.3,baz=117,slow=6.0,SNR=9.0
GERES pP pP 07 25 19.2 -0.6
comp=Z,4.6nm,0.8s,baz=108,slow=4.2,SNR=10
KHC Kasperske Hory 85.69 319 *e*P pP 07 25 19.6 -0.6
KHC Kasperske Hory 85.69 319 *e*pP pP 07 25 19.6 -0.6
CLL Collm 86.23 321⇓*i*P **P** **07 25 15.3 +2.4**
CLL *i* 07 25 22.6
CLL pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
CLL Collm 86.23 321⇓*i*P **P** **07 25 15.3 +2.4**
comp=Z,6.0nm,1.0s,mb4.8
CLL *i* 07 25 22.6
CLL *i* 07 26 44.0
CLL Collm 86.23 321⇓P **P** **07 25 15.3 +2.4**
comp=Z,logA/T=0.8,mb4.8
CLL *i* *PP pP 07 25 22.6 -0.3
CLL *i* 07 26 44.0
MOX Moxa 87.06 321 *e*P pP 07 25 26.0 -0.9
NB2 NORSAR Subarra 87.91 331 P pP 07 25 29.8 -0.9
comp=Z,4.1nm,0.8s,baz=95,slow=4.8
NOA NORSAR Array B 87.91 331 P **P** **07 25 21.0 +0.2**
comp=Z,0.7nm,0.6s,mb4.1,baz=85,slow=6.7,SNR=4.2
NOA pP pP 07 25 30.3 -0.5
comp=Z,8.2nm,0.9s,baz=95,slow=4.8,SNR=15
NOA NORSAR Array B 87.91 331 P **P** **07 25 21.0 +0.2**
NOA pP pP 07 25 30.3 -0.5
LPG La Plagne 90.19 315 *e*P pP 07 25 41.8 -0.1
comp=Z,24nm,0.9s
LPG La Plagne 90.19 315 *e*P pP 07 25 41.8 -0.1
LPG pmax pmax
comp=Z,12nm,0.9s,mb5.2
ULM Lac du Bonnet 128.57 11 PKP PKPdf 07 31 38.4 -4.2
comp=Z,0.8nm,0.4s,baz=3.3,slow=5.3,SNR=2.5
ULM pPKP 07 31 48.0
comp=Z,2.6nm,0.7s,baz=27,slow=2.0,SNR=3.6
NVAR Mina Array Bea 129.65 36 PKP PKPdf 07 31 42.2 -2.8
comp=Z,0.6nm,0.7s,baz=238,slow=1.9,SNR=5.4
NVAR pPKP 07 31 51.4
comp=Z,2.3nm,0.8s,baz=269,slow=1.4,SNR=12
NVAR Mina Array Bea 129.65 36 PKP PKPdf 07 31 42.2 -2.8
NVAR pPKP 07 31 51.4
PDAR Pinedale Array 131.00 26 PKP PKPdf 07 31 44.0 -3.4
comp=Z,0.2nm,0.5s,baz=191,slow=4.6,SNR=3.3
PDAR pPKP 07 31 53.4
comp=Z,0.5nm,0.7s,baz=90,slow=1.5,SNR=4.2
PV10 Paradox Valley 134.72 29 *e*PKP PKPdf 07 31 49.3 -5.2
ANMO Albuquerque 138.69 30 PKP PKPdf 07 31 58.0 -3.9
comp=Z,0.9nm,0.9s,baz=8.5,slow=3.0,SNR=3.8
ANMO pPKP 07 32 08.9
comp=Z,1.8nm,0.8s,baz=310,slow=1.5,SNR=5.5
BDFB Brasilia 142.34 244 PKP PKPdf 07 32 03.6 -5.2
comp=Z,3.3nm,1.0s,baz=118,slow=8.5,SNR=2.7
BDFB pPKP 07 32 14.4
comp=Z,4.4nm,1.0s,baz=135,slow=1.4,SNR=2.6
MIAR Mount Ida 144.06 15 *e*PKIKP PKPdf 07 32 05.0 -6.3
TXAR Lajitas Array 144.57 32 PKP PKPdf 07 32 08.0 -4.4
comp=Z,1.8nm,0.6s,baz=250,slow=0.9,SNR=22
TXAR pPKP 07 32 18.1
comp=Z,7.8nm,0.8s,baz=267,slow=1.3,SNR=20
PLAL Pickwick Lake 144.71 7 *e*PKP PKPdf 07 32 05.7 -6.8
PLAL *e* 07 32 16.2
OXF Oxford 144.98 9 PKP PKPdf 07 32 06.2 -6.7
JCT Junction City 145.53 26 *e*PKPdf PKPdf 07 32 10.0 -4.1
JSC Jenkinsville 145.72 358 *e*PKP PKPdf 07 32 09.3 -4.9
GOGA Godfrey 146.62 1 PKIKP PKPdf 07 32 11.2 -4.6
LRAL Lakeview Retre 146.77 6 *e*PKP PKPdf 07 32 11.4 -4.6
LPAZ La Paz 158.38 221 PKPbc PKPdf 07 32 40.9 +7.6
comp=Z,0.8nm,0.8s,baz=202,slow=5.5,SNR=4.4
LPAZ PKPab PKPab 07 32 59.1 -5.8
comp=Z,1.4nm,1.0s,baz=40,slow=5.7,SNR=3.9
SAML Samuel 158.57 245 *e*PKPab PKPab 07 33 05.6 -0.2

IDC 05 07:57:37.6±4.4, 13.05N×89.77W, h107km±102km, mb3.0/3, mb1 3.3/4, mb1mx3.1/19, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=164.4km s-min=33.2km az=24.0, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**5.46**	**120**	P	P	07 58 56.5	-1.3
	1.0nm,0.3s,baz=119,slow=9.2,SNR=16						
JTS				S	S	07 59 58.9	-1.0
	0.6nm,0.3s,baz=306,slow=19,SNR=2.4						
TXAR	**Lajitas Array**	**20.71**	**324**	P	P	08 02 09.6	-1.6
	0.3nm,0.5s,baz=140,slow=12,SNR=5.0						
SCHQ	**Schefferville**	**45.39**	**18**	P	P	08 05 45.3	-1.6
	1.7nm,0.8s,baz=243,slow=9.8,SNR=4.3						
YKA	**Yellowknife Ar**	**52.46**	**346**	P	P	08 06 38.6	-2.5
	0.2nm,0.5s,baz=142,slow=7.5,SNR=7.5						

GUC 05 08:05:37.6±1.0, 25.24S×70.58W, h46km±3km, ML3.9, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.63**	**15**	⇑*i*P	P	08 05 51.5	+1.1
CPN1				*i* S	S	08 06 01.3	+1.7
CPN1				AMP		08 06 02.3	
	comp=E,5μm,0.4s						
ANCH	**Antofagasta**	**1.56**	**6**	*e*P	P	08 06 03.6	+0.2
ANCH				*i* S	S	08 06 23.8	+1.2
ANCH				AMP		08 06 27.7	
	comp=E,908nm,0.7s						
CPCH	**Copiapo**	**2.12**	**175**	*e*P	P	08 06 11.3	0.0
CPCH				*i* S	S	08 06 37.9	+1.4
CPCH				AMP		08 06 42.9	
	comp=N,3μm,0.1s						
LVC	**Limon Verde**	**3.03**	**31**	*e*P	P	08 06 24.7	+0.4
LVC				*i* S	S	08 07 01.4	+1.7
LVC				AMP		08 07 18.0	
	comp=N,278nm,0.5s						
SPCH	**San Pedro de A**	**3.18**	**44**	*e*P	P	08 06 27.0	+0.6
SPCH				*i* S	S	08 07 10.4	+6.9
SPCH				AMP		08 07 37.0	
	comp=E,573nm,0.5s						

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*NEIC **05** 08:06:00.2±1.0, 0.04N×96.92E, h30km, mb4.6/2, Error ellipse: s-maj=29.1km s-min=11.5km az=72.0*
*IDC **05** 08:06:01.1±2.1, 0.11N×97.00E, h31km±6km, mb3.5/5, mb1 3.7/6, mb1mx3.5/16, mbtmp3.7/6, ML4.3/1, Error ellipse: s-maj=80.6km s-min=16.8km az=62.0*
ISC 05 08:05:59.1±1.4, 0.1N±0.1×97.0E±0.2, h33km, n12, σ0°56/10, mb4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.34**	**35**	*e*P	**P**	**08 07 33.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**18.36**	**6**	P	**P**	**08 10 12.8**	**-0.3**
	0.3nm,0.3s,baz=195,slow=10,SNR=3.0						
CMAR				pP		08 10 21.7	
	0.2nm,0.3s,baz=196,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**41.64**	**121**	P	**P**	**08 13 46.7**	**+0.4**
	3.1nm,0.5s,mb4.2,baz=301,slow=9.0,SNR=28						
WRA				pP	pP	08 13 56.2	0.0
	1.5nm,0.7s,baz=299,slow=9.4,SNR=5.8						
WRAB	**Tennant Creek**	**41.65**	**121**	*e*P	**P**	**08 13 45.1**	**-1.2**
	6.8nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**42.91**	**126**	P	**P**	**08 13 56.8**	**+0.1**
	0.5nm,0.5s,mb3.5,baz=298,slow=7.8,SNR=8.1						
SONM	**Songino Array**	**48.26**	**8**	P	**P**	**08 14 38.4**	**-0.5**
	0.2nm,0.3s,mb3.6,baz=180,slow=8.6,SNR=2.9						
MKAR	**Makanchi Array**	**48.27**	**346**	P	**P**	**08 14 39.4**	**+0.4**
	0.3nm,0.6s,mb3.5,baz=168,slow=10,SNR=3.7						
MKAR				pP	pP	08 14 48.5	-0.4
	1.0nm,0.5s,baz=157,slow=8.3,SNR=8.2						
MKAR	**Makanchi Array**	**48.27**	**346**	P	**P**	**08 14 39.4**	**+0.4**
MKAR				pP	pP	08 14 48.5	-0.4
CTAO	**Charters Tower**	**52.21**	**116**	P	**P**	**08 15 09.2**	**-0.2**
	7.8nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**52.78**	**131**	P	**P**	**08 15 14.2**	**+0.7**
	1.1nm,0.5s,mb4.0,baz=180,slow=12,SNR=4.9						
ZAL	**Zalesovo**	**54.61**	**351**	pP	pP	08 15 35.5	-1.3
	1.9nm,0.5s,baz=322,slow=2.1,SNR=3.7						
TXAR	**Lajitas Array**	**144.73**	**32**	PKP	PKPdf	08 25 34.2	+1.0
	0.2nm,0.5s,baz=300,slow=0.6,SNR=5.6						
TXAR				pPKP		08 25 44.9	
	0.4nm,0.6s,baz=298,slow=0.8,SNR=4.3						

IDC 05 08:11:18.6±4.8, 11.99S×169.93E, mb3.7/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=231.1km s-min=33.5km az=140.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.07**	**252**	P	P	08 18 13.8	-1.8
	0.6nm,0.3s,baz=84,slow=8.6,SNR=6.6						
ASAR	**Alice Springs**	**36.11**	**246**	P	P	08 18 22.4	-2.0
	0.7nm,0.5s,baz=74,slow=9.6,SNR=11						
ILAR	**Eielson Array**	**83.14**	**17**	P	P	08 23 46.1	-1.3
	0.3nm,0.7s,baz=237,slow=5.2,SNR=5.3						

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*CSEM **05** 08:12:37.9±0.1, 35.22N×27.27E, h30km, MD3.4, Error ellipse: s-maj=4.7km s-min=2.3km az=78.0*
*ISK **05** 08:12:39.4, 35.42N×26.99E, h48km, MD3.4*
*ATH **05** 08:12:40.0, 35.42N×27.02E, h29km±2km, MD3.4/8*
*HLW **05** 08:12:40.3, 35.21N×27.28E, h33km, Mb3.6*
*NEIC **05** 08:12:40.0, 35.42N×27.02E, h29km, MD3.4(ATH), After ATH.*
ISC 05 08:12:38.1±0.7, 35.23N±0.03×27.19E±0.05, h31km±7km, n27, σ1°47/34, 2C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.32**	**356**	⇓*i*PB	**Pb**	**08 12 45.3**	**-0.5**
KARP				*e*SB	**Sb**	**08 12 50.8**	**-0.2**
ARG	**Arkhangelos**	**1.24**	**38**	*e*PN	**Pn**	**08 13 02.4**	**+2.8**
ARG				*e*SN	**Sn**	**08 13 20.0**	**+4.5**
XRY	**Khrisi**	**1.27**	**254**	*e*PN	**Pn**	**08 13 02.5**	**+2.4**
NPS	**Neapolis**	**1.29**	**272**	*e*PN	**Pn**	**08 13 02.3**	**+2.0**
NPS				*e*SN	**Sn**	**08 13 17.8**	**+1.2**
NISR	**Nisiros**	**1.38**	**358**	*e*PN	**Pn**	**08 13 02.5**	**+1.0**
SANT	**Santorini**	**1.81**	**309**	*i* P	**Pn**	**08 13 06.8**	**-0.8**
SANT				*i* S	**Sn**	**08 13 26.9**	**-2.9**
BODT	**Bodrum**	**1.83**	**3**	PN	**Pn**	**08 13 07.1**	**-0.9**
BODT				SN	**Sn**	**08 13 27.1**	**-3.2**
BDRM	**Kayabasi**	**1.84**	**6**	*i* P	**Pn**	**08 13 08.0**	**-0.1**
DALT	**Dalyan (Mudla)**	**1.93**	**37**	*e*PN	**Pn**	**08 13 11.0**	**+1.5**
FETY	**Fethiye**	**2.08**	**47**	*e*PN	**Pn**	**08 13 12.4**	**+0.8**
AKAS	**Kas**	**2.21**	**62**	*i* P	**Pn**	**08 13 15.4**	**+2.0**
APE	**Apeiranthos**	**2.27**	**324**	*e*PN	**Pn**	**08 13 12.2**	**-2.1**
APE	**Apeiranthos**	**2.27**	**324**	*e*Pn	**Pn**	**08 13 13.9**	**-0.4**
VAM	**Vamos**	**2.45**	**275**	*e*PN	**Pn**	**08 13 18.1**	**+1.2**
AYDN	**Tasoluk**	**2.49**	**13**	*i* P	**Pn**	**08 13 13.2**	**-4.3**
SMG	**Samos**	**2.49**	**354**	*e*PN	**Pn**	**08 13 17.5**	**+0.1**
GOLH	**Golhisar**	**2.77**	**43**	*i* P	**Pn**	**08 13 24.1**	**+2.6**
DNZL	**Cakiroluk**	**2.87**	**31**	*i* P	**Pn**	**08 13 19.5**	**-3.4**
IZM	**Izmir**	**3.16**	**1**	*e*PN	**Pn**	**08 13 25.5**	**-1.5**
MANT	**Manisa**	**3.43**	**18**	*i* P	**Pn**	**08 13 27.6**	**-3.2**
SLUM		**4.08**	**204**	⇓P	**Pn**	**08 13 40.5**	**+0.4**
SLUM				S	**Sn**	**08 14 24.8**	**-2.6**
SWA1		**6.08**	**192**	⇑P	**Pn**	**08 14 08.3**	**0.0**
SWA1				S	**Sn**	**08 15 12.4**	**-5.2**
SWA2		**6.15**	**194**	P	**Pn**	**08 14 09.2**	**-0.1**
SWA2		**6.15**	**194**	P	**Pn**	**08 14 09.1**	**-0.2**
HSAF	**As Saff**	**6.70**	**145**	⇑P	**Pn**	**08 14 16.2**	**-0.9**
GLL	**Jalalah**	**6.81**	**145**	⇓P	**Pn**	**08 14 17.7**	**-0.9**
HFRF	**Wahat Farafira**	**8.12**	**173**	⇓P	**P**	**08 14 36.0**	**-0.8**

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*NEIC **05** 08:34:41.0, 37.47S×177.07E, h147km, MG4.0(WEL), After WEL.*
WEL 05 08:34:40.6±0.2, 37.50S×177.03E, h152km±1km, ML4.0/8, 2C, Error ellipse: s-maj=1.1km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.57**	**210**	P	P	08 35 02.8	-0.2
MARZ	**Manawahe**	**0.57**	**210**	PN	P	08 35 02.8	-0.2
EDRZ	**Edgecumbe**	**0.66**	**201**	SN	S	08 35 20.7	-0.3
TGRZ	**Tauranga**	**0.66**	**249**	P	P	08 35 03.1	-0.3
TGRZ	**Tauranga**	**0.66**	**249**	PN	P	08 35 03.1	-0.3
TGRZ				SN	S	08 35 20.5	-0.5
MYRZ	**Mayor Island**	**0.67**	**288**	PN	P	08 35 03.2	-0.3
URZ	**Urewera**	**0.77**	**175**	P	P	08 35 03.8	-0.3
URZ	**Urewera**	**0.77**	**175**	⇑PN	P	08 35 03.8	-0.3
URZ				SN	S	08 35 21.2	-1.0
TAZ	**Tarawera**	**0.85**	**209**	P	P	08 35 05.4	+0.8
TAZ	**Tarawera**	**0.85**	**209**	PN	P	08 35 04.9	+0.3
MWZ	**Matawai**	**0.93**	**155**	P	P	08 35 04.9	-0.3
MWZ				S	S	08 35 22.9	-1.2
MWZ	**Matawai**	**0.93**	**155**	PN	P	08 35 04.9	-0.2
MWZ				SN	S	08 35 23.3	-0.8
MXZ	**Matakaoa Point**	**1.02**	**94**	P	P	08 35 05.8	0.0
MXZ				S	S	08 35 23.7	-1.6
MXZ	**Matakaoa Point**	**1.02**	**94**	PN	P	08 35 05.8	0.0
MXZ				SN	S	08 35 24.5	-0.8
PATZ	**Paeroa**	**1.08**	**214**	P	P	08 35 07.5	+1.1
PATZ	**Paeroa**	**1.08**	**214**	PN	P	08 35 05.9	-0.5
PUZ	**Puketiti**	**1.13**	**121**	P	P	08 35 06.7	-0.2
PUZ	**Puketiti**	**1.13**	**121**	⇑PN	P	08 35 06.7	-0.3
PUZ				SN	S	08 35 26.5	-0.8
KUZ	**Kuaotunu**	**1.29**	**305**	PN	P	08 35 07.8	-0.7
KNZ	**Kokohu**	**1.61**	**162**	P	P	08 35 11.5	-0.3
KNZ	**Kokohu**	**1.61**	**162**	PN	P	08 35 11.4	-0.4
KNZ				SN	S	08 35 34.0	-1.8
BKZ	**Black Stump Fm**	**1.72**	**194**	P	P	08 35 12.7	-0.3
BKZ	**Black Stump Fm**	**1.72**	**194**	PN	P	08 35 12.7	-0.3
BKZ				SN	S	08 35 37.1	-0.9
RITZ	**Rihia Road**	**1.75**	**212**	P	P	08 35 12.8	-0.5
RITZ	**Rihia Road**	**1.75**	**212**	PN	P	08 35 12.8	-0.4
KATZ	**Kakaramea**	**1.82**	**215**	P	P	08 35 14.6	+0.6
KATZ	**Kakaramea**	**1.82**	**215**	PN	P	08 35 14.6	+0.5
MGZ	**Maungaku**	**1.91**	**218**	P	P	08 35 15.9	+0.8
MGZ	**Maungaku**	**1.91**	**218**	PN	P	08 35 14.9	-0.2
WTVZ	**West Tongariro**	**1.98**	**215**	P	P	08 35 16.3	+0.4
WTVZ	**West Tongariro**	**1.98**	**215**	PN	P	08 35 16.3	+0.5
OTVZ	**Oturere**	**1.98**	**212**	PN	P	08 35 16.6	+0.6
HIZ	**Hauiti**	**2.00**	**239**	P	P	08 35 17.1	+1.0
HIZ	**Hauiti**	**2.00**	**239**	PN	P	08 35 16.1	0.0
TWVZ	**Taurewa**	**2.01**	**218**	P	P	08 35 16.8	+0.5
TWVZ	**Taurewa**	**2.01**	**218**	PN	P	08 35 16.8	+0.5
NGZ	**Ngauruhoe**	**2.02**	**213**	P	P	08 35 17.0	+0.6
NGZ	**Ngauruhoe**	**2.02**	**213**	PN	P	08 35 16.7	+0.3
CNZ	**Chateau**	**2.06**	**214**	P	P	08 35 17.5	+0.6
CNZ	**Chateau**	**2.06**	**214**	PN	P	08 35 17.2	+0.3
WPVZ	**Whakapapa**	**2.07**	**214**	P	P	08 35 17.5	+0.5
WPVZ	**Whakapapa**	**2.07**	**214**	PN	P	08 35 17.5	+0.5
TUVZ	**Tukino**	**2.08**	**211**	P	P	08 35 17.3	+0.2
TUVZ	**Tukino**	**2.08**	**211**	PN	P	08 35 17.3	+0.3
TUVZ				SN	S	08 35 45.0	-0.2
FWVZ	**Far West T-bar**	**2.11**	**213**	P	P	08 35 17.6	+0.1
FWVZ	**Far West T-bar**	**2.11**	**213**	PN	P	08 35 17.3	-0.1
WNVZ	**Wahianoa**	**2.15**	**211**	P	P	08 35 18.0	0.0
WNVZ	**Wahianoa**	**2.15**	**211**	PN	P	08 35 18.0	0.0
MOVZ	**Moawhango**	**2.16**	**207**	P	P	08 35 17.5	-0.6
MOVZ	**Moawhango**	**2.16**	**207**	PN	P	08 35 17.5	-0.6
PWZ	**Pawanui**	**2.54**	**183**	P	P	08 35 21.8	-1.0
TSZ	**Takapari Road**	**2.69**	**198**	P	P	08 35 23.2	-1.6
WAZ	**Wanganui**	**2.77**	**215**	P	P	08 35 25.2	-0.6
BFZ	**Birch Farm**	**3.24**	**191**	*e*P	P	08 35 29.7	-2.1
MRZ	**Mangatainoka R**	**3.36**	**199**	P	P	08 35 30.9	-2.5
KIW	**Kapiti Island**	**3.75**	**205**	P	P	08 35 35.5	-2.9
MTW	**Mount Morrison**	**3.85**	**197**	P	P	08 35 36.4	-3.3
CAW	**Cannon Point**	**3.92**	**202**	P	P	08 35 37.3	-3.3
MRW	**Makara Radio**	**4.14**	**205**	P	P	08 35 40.3	-3.3
MSWZ	**Moikau Station**	**4.15**	**199**	P	P	08 35 40.0	-3.7
WEL	**Wellington**	**4.17**	**204**	P	P	08 35 40.7	-3.3
SNZO	**South Karori**	**4.21**	**205**	P	P	08 35 40.9	-3.6
BHW	**Baring Head**	**4.25**	**202**	P	P	08 35 41.2	-3.8
NNZ	**Nelson**	**4.67**	**216**	*e*P	P	08 35 46.8	-3.8
QRZ	**Quartz Range**	**4.83**	**225**	*e*P	P	08 35 48.9	-3.7
BSWZ	**Blackbirch Sta**	**4.87**	**209**	P	P	08 35 49.4	-3.7
THZ	**Tophouse**	**5.32**	**215**	*e*P	P	08 35 55.1	-4.0
KHZ	**Kahutara**	**5.60**	**208**	P	P	08 35 58.5	-4.3
DZ	**Dennistoun Nort**	**5.86**	**222**	*e*P	P	08 36 01.7	-4.5
LTZ	**Lake Taylor**	**6.42**	**213**	*e*P	P	08 36 08.3	-5.5
MQZ	**Mc

0.6nm,0.5s,mb3.9,baz=325,slow=6.8,SNR=13

*MOS **05** 08:35:53.2±0.9,34.78N×142.65E,h33km,mb4.3/4,Error ellipse: s-maj=20.0km s-min=12.0km az=125.9*
*JMA **05** 08:35:53.9±0.3,34.81N×142.51E,h72km,M3.4*
*IDC **05** 08:35:56.3±0.8,34.78N×142.50E,h37km±6km,mb3.5/10,mb1 3.7/13,mb1mx3.6/24,mbtmp3.7/13,ML3.5/3,MS2.9/1,Ms1 2.9/1,ms1mx2.2/25,Error ellipse: s-maj=19.7km s-min=18.0km az=115.0*
*NEIC **05** 08:35:56.6±1.6,34.76N×142.50E,h41km±13km,mb4.2/5,Error ellipse: s-maj=14.2km s-min=12.4km az=123.0*
ISC 05 08:35:53.7±1.2,34.75N±0.06×142.54E±0.08,h34km±10km,h38km±2.1km:pP-P,n37,σ0°95/43,mb3.8/15,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.29**	**266**	P	**P**	**08 36 15.8**	**+0.4**
BSO1				S	**S**	**08 36 33.1**	**+1.3**
BSO3	**Boso 3**	**1.67**	**272**	P	**P**	**08 36 21.6**	**+0.7**
CHOJ	**Chosi**	**1.67**	**305**	P	**P**	**08 36 21.5**	**+0.5**
CHOJ				S	**S**	**08 36 41.9**	**+0.5**
BSO4	**Boso 4**	**1.82**	**278**	P	**P**	**08 36 24.4**	**+1.3**
JHJ	**Hachijo jima 2**	**2.81**	**235**	Pn	**P**	**08 36 37.0**	**-0.3**
	20nm,0.3s,baz=73,slow=19,SNR=13						
JHJ				Sn	**S**	**08 37 08.3**	**-2.0**
	53nm,0.3s,baz=240,slow=23,SNR=9.7						
JOD2	**Odawara 2**	**2.88**	**281**	P	**P**	**08 36 37.6**	**-0.6**
JOD2				S	**S**	**08 37 11.2**	**-0.8**
JFK	**Kawauchi**	**2.94**	**333**	P	**P**	**08 36 37.4**	**-1.7**
JAG	**Ashikaga**	**3.02**	**305**	P	**P**	**08 36 40.0**	**-0.2**
MJAR	**Matsushiro Arr**	**3.95**	**298**	Pn	**P**	**08 36 54.0**	**+0.5**
	1.9nm,0.3s,baz=226,slow=4.9,SNR=13						
MJAR				Sn	**S**	**08 37 38.4**	**-0.9**
	1.8nm,0.3s,baz=278,slow=28,SNR=7.2						
MAJO	**Matsushiro**	**3.95**	**298**	P	**P**	**08 36 54.8**	**+1.3**
MAT	**Matsushiro**	**3.95**	**298**	*e*P	**P**	**08 36 54.0**	**+0.5**
MAT				*e*S	**S**	**08 37 39.0**	**-0.3**
MAT	**Matsushiro**	**3.95**	**298**	P	**P**	**08 36 54.2**	**+0.7**
MAT				S	**S**	**08 37 38.6**	**-0.7**
ASAJ	**Asahikawa**	**9.35**	**0**	P	**P**	**08 38 06.7**	**-2.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.35**	**0**	Pn	**P**	**08 38 06.7**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=267,slow=12,SNR=4.9						
JOW	**Kunigami**	**14.57**	**241**	LR	LR	08 44 21.9	
	comp=Z,46nm,20.5s,baz=125,slow=35						
ENH	**Enshi**	**28.15**	**270**	P	**P**	**08 41 44.3**	**-0.6**
	comp=Z,5.1nm,0.3s,mb4.6						
ULN	**Ulaanbaatar**	**29.43**	**307**	P	**P**	**08 41 57.0**	**+0.9**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
ULN	**Ulaanbaatar**	**29.43**	**307**	P	**P**	**08 41 57.0**	**+1.0**
	comp=Z,0.8nm,0.4s,mb3.8						
SONM	**Songino Array**	**29.85**	**307**	P	**P**	**08 42 00.6**	**+0.7**
	comp=Z,0.6nm,0.6s,mb3.5,baz=101,slow=9.6,SNR=4.0						
ZAL	**Zalesovo**	**44.15**	**314**	P	**P**	**08 44 00.3**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.7,baz=42,slow=7.0,SNR=3.6						
ZAL	**Zalesovo**	**44.15**	**314**	P	**P**	**08 44 00.3**	**-0.2**
MKAR	**Makanchi Array**	**46.13**	**304**	P	**P**	**08 44 16.8**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.7,baz=83,slow=9.9,SNR=5.7						
ILAR	**Eielson Array**	**50.95**	**31**	P	**P**	**08 44 53.2**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.6,baz=250,slow=5.5,SNR=5.5						
ILAR				pP	pP	08 45 04.5	+0.9
	comp=Z,0.9nm,0.8s,baz=258,slow=5.5,SNR=5.3						
AAK	**Ala-Archa**	**52.40**	**300**	*e*P	**P**	**08 45 03.8**	**-0.9**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**52.40**	**300**	*e*P	**P**	**08 45 03.8**	**-0.9**
	comp=Z,1.5nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**54.95**	**189**	P	**P**	**08 45 23.2**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.8,baz=8.8,slow=7.5,SNR=5.1						
INK	**Inuvik**	**56.01**	**26**	*e*P	**P**	**08 45 31.2**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**56.01**	**26**	*e*P	**P**	**08 45 31.2**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**58.67**	**189**	P	**P**	**08 45 50.4**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=22,slow=7.7,SNR=4.7						
RES	**Resolute Bay**	**64.58**	**14**	*e*P	**P**	**08 46 28.6**	**-0.5**
RES				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
RES	**Resolute Bay**	**64.58**	**14**	*e*P	**P**	**08 46 28.6**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.2						
YKA	**Yellowknife Ar**	**65.33**	**30**	P	**P**	**08 46 33.0**	**-1.1**
	comp=Z,0.2nm,0.8s,mb3.2,baz=299,slow=6.6,SNR=5.4						
YKA				pP	pP	08 46 45.0	+0.4
	comp=Z,0.5nm,0.8s,baz=296,slow=6.3,SNR=8.8						
YKA	**Yellowknife Ar**	**65.33**	**30**	P	**P**	**08 46 33.0**	**-1.1**
YKA				pP	pP	08 46 45.0	+0.4
NVAR	**Mina Array Bea**	**75.63**	**53**	P	**P**	**08 47 39.2**	**+2.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=276,slow=4.9,SNR=4.4						
NVAR				pP	pP	08 47 49.9	+2.5
	comp=Z,1.4nm,0.7s,baz=289,slow=5.2,SNR=10.0						
NVAR	**Mina Array Bea**	**75.63**	**53**	P	**P**	**08 47 39.2**	**+2.3**
NVAR				pP	pP	08 47 49.9	+2.5
NOA	**NORSAR Array B**	**76.64**	**338**	P	**P**	**08 47 43.0**	**+0.8**
	comp=Z,1.3nm,0.9s,mb3.9,baz=44,slow=5.5,SNR=2.7						
AKASG	**Malin Array Be**	**76.66**	**323**	P	**P**	**08 47 42.9**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=44,slow=6.3,SNR=8.3						

*IDC **05** 08:43:27.8±0.5,1.00S×120.60E,mb4.5/16,mb1 4.6/17,mb1mx4.5/22,mbtmp4.5/17,ML3.4/1,MS3.6/8,Ms1 3.6/8,ms1mx3.3/27,Error ellipse: s-maj=28.1km s-min=11.8km az=68.0*
*BJI **05** 08:43:30.5,1.10S×120.50E,h30km,mB5.1,mb4.8,Ms4.7,Msz4.1*
*DJA **05** 08:43:31.6±1.7,1.10S×120.66E,h100km,MD5.0/3,Error ellipse: s-maj=51.5km s-min=31.2km az=54.0*
*MOS **05** 08:43:31.1±0.9,1.00S×120.60E,h33km,mb5.0/21,Error ellipse: s-maj=17.0km s-min=7.9km az=105.5*
*HRVD **05** 08:43:32.6±0.8,1.04S×120.62E,h28km±1km,MW4.8/29,Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s29,c44; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-1.90±.31; $M_{\theta\theta}$1.54±.17; $M_{\phi\phi}$0.35±.17; $M_{r\theta}$0.07±.21; $M_{\theta\phi}$0.00±.09; $M_{\phi r}$-0.01±.38; Best double couple: Mo1.721×10^16 NP1:ϕ_s90°,δ44°,λ-91°. NP2: ϕ_s270°,δ46°,λ-90°. Principal axes: T 1.541, Plg1°, Azm360°; N .355, Plg0°, Azm90°; P -1.901, Plg89°, Azm198°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **05** 08:43:32.6±0.3,1.13S×120.50E,h30km,mb4.9/24 Error ellipse: s-maj=12.4km s-min=5.5km az=69.0*
ISC 05 08:43:32.3±1.1,1.14S±0.04×120.52E±0.08,h43km±10km,h32km±2.4km:pP-P,n101,σ1°22/99,mb4.7/48,MS3.8/11,16C-10D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUNI	**Buntu Taipa**	**2.51**	**184**	*e*Pn	**P**	**08 44 11.0**	**-0.7**
BUNI				*e*Sn	**S**	**08 44 41.0**	**-0.3**
TANI	**Tanete Lipujan**	**2.55**	**206**	*e*Pn	**P**	**08 44 13.0**	**+0.8**
NINI	**Niniconang**	**3.35**	**193**	*e*Pn	**P**	**08 44 25.0**	**+1.4**
KKM	**Kota Kinabalu**	**8.33**	**329**	P	**P**	**08 45 32.8**	**-0.5**
KEDI	**Kedomdong**	**8.52**	**211**	*e*Pn	**P**	**08 45 36.3**	**+0.4**
KSM	**Kuching**	**10.54**	**284**	P	**P**	**08 45 58.7**	**-5.1**
FITZ	**Fitzroy Crossi**	**17.59**	**164**	P	**P**	**08 47 34.0**	**-2.0**
	0.1nm,0.3s,baz=336,slow=19,SNR=2.8						
FITZ				LR	LR	08 55 13.9	
	comp=Z,99nm,20.1s,baz=347,slow=40						
MBWA	**Marble Bar**	**19.92**	**182**	*e*P	**P**	**08 48 01.7**	**-1.6**
	45nm,1.4s						
KULM	**Kulim**	**20.85**	**288**	*e*P	**P**	**08 48 09.0**	**-4.0**
WRAB	**Tennant Creek**	**23.07**	**145**	*e*P	**P**	**08 48 35.8**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,46nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**23.07**	**145**	*e*P	**P**	**08 48 35.8**	**+0.6**
	comp=Z,46nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**23.07**	**145**	P	**P**	**08 48 35.2**	**+0.1**
	comp=Z,9.9nm,0.8s,mb4.3,baz=319,slow=8.8,SNR=49						
WB2	**Warramunga Arr**	**23.08**	**145**	*e*P	**P**	**08 48 35.6**	**+0.4**
ASPA	**Alice Springs**	**25.88**	**151**	*e*P	**P**	**08 49 04.2**	**+2.1**
ASAR	**Alice Springs**	**25.89**	**151**	P	**P**	**08 49 02.5**	**+0.3**
	comp=Z,2.9nm,0.9s,mb3.8,baz=322,slow=7.0,SNR=22						
ASAR				PcP	PcP	08 52 30.6	-0.4
	comp=Z,1.6nm,0.7s,baz=332,slow=1.9,SNR=10						
ASAR				LR	LR	09 00 15.7	
	comp=Z,86nm,18.2s,MS3.3,baz=324,slow=39						
NANT	**Nan**	**27.78**	**316**	⇑P	**P**	**08 49 19.0**	**-0.6**
	comp=Z,228nm,0.7s						
JOW	**Kunigami**	**28.79**	**14**	LR	LR	09 00 30.1	
	comp=Z,160nm,19.0s,MS3.6,baz=90,slow=36						
CMAR	**Chiang Mai Arr**	**28.80**	**314**	P	**P**	**08 49 28.8**	**+0.1**
	comp=Z,4.3nm,0.6s,mb4.3,baz=139,slow=7.4,SNR=28						
CMAR				PcP	PcP	08 52 37.1	-0.9
	comp=Z,0.7nm,0.5s,baz=153,slow=2.0,SNR=5.0						
CHG	**Chiang Mai**	**29.03**	**314**	⇓P	**P**	**08 49 34.2**	**+3.5**
	comp=Z,10nm,0.9s,mb4.6						
KMI	**Kunming**	**31.27**	**328**	P	**P**	**08 49 50.8**	**+0.2**
KMI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.6						
KMI	**Kunming**	**31.27**	**328**	P	**P**	**08 49 50.8**	**+0.2**
	comp=Z,13nm,1.3s,mb4.6						
NWAO	**Narrogin (SRO)**	**31.77**	**185**	P	**P**	**08 49 54.6**	**-0.3**
	comp=Z,8.5nm,0.7s,mb4.7,baz=0.4,slow=6.4,SNR=10						
NWAO				LR	LR	09 02 42.2	
	comp=Z,121nm,19.0s,MS3.6,baz=341,slow=36						
WHN	**Wuhan**	**32.05**	**350**	⇑P	**P**	**08 49 59.0**	**+1.7**
ENH	**Enshi**	**32.96**	**342**	*e*P	**P**	**08 50 04.8**	**-0.4**
	comp=Z,8.8nm,0.6s,mb4.9						
NJ2	**Nanjing**	**33.04**	**357**	*e*P	**P**	**08 50 08.6**	**+2.6**
NJ2				AP	pP	08 50 18.3	+0.5
NJ2				XP	sP	08 50 22.3	-1.0
NJ2				PP	PP	08 51 20.9	+3.5
NJ2				S	**S**	**08 55 26.0**	**+5.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,6.2s						
NJ2				LR	LR		
	comp=N,210nm,12.6s,MS4.2						
NJ2				LR	LR		
	comp=E,260nm,14.3s,MS4.2						
NJ2				LR	LR		
	comp=Z,200nm,14.9s,MS4.0						
CBIJ	**Chichi jima**	**34.97**	**35**	LR	LR	09 04 09.6	
	comp=Z,44nm,20.5s,MS3.2,baz=69,slow=36						
STKA	**Stephens Creek**	**36.48**	**149**	*e*P	**P**	**08 50 35.8**	**+0.5**
	comp=Z,7.8nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**36.48**	**149**	P	**P**	**08 50 36.0**	**+0.6**
	comp=Z,8.8nm,0.6s,mb4.8,baz=320,slow=8.5,SNR=30						
STKA				LR	LR	09 08 18.1	
	comp=Z,137nm,19.9s,MS3.7,baz=208,slow=41						
SHL	**Shillong**	**38.36**	**316**	*e*P	**P**	**08 50 52.0**	**+0.9**
LZH	**Lanzhou**	**40.16**	**339**	*e*P	**P**	**08 51 08.5**	**+2.5**
LZH				AP	pP	08 51 18.1	+0.2
LZH				XP	sP	08 51 22.5	-0.8
LZH				PP	PP	08 52 45.6	+3.3
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,76nm,4.9s						
LZH				LR	LR		
	comp=N,427nm,14.0s						
LZH				LR	LR		
	comp=Z,541nm,17.3s,MS4.5						
LZH	**Lanzhou**	**40.16**	**339**	*e*P	**P**	**08 51 08.5**	**+2.5**
	comp=Z,25nm,1.5s,mb4.7						
LZH				pP	pP	08 51 18.1	+0.2
LZH				sP	sP	08 51 22.5	-0.8
LZH				PP	PP	08 52 45.6	+3.3
MJAR	**Matsushiro Arr**	**40.94**	**22**	LR	LR	09 06 13.3	
	comp=Z,82nm,19.5s,MS3.6,baz=15,slow=34						
BJT	**Baijiatuau**	**41.15**	**355**	*e*P	**P**	**08 51 14.8**	**+0.7**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuau**	**41.15**	**355**	*e*P	**P**	**08 51 14.8**	**+0.7**
	comp=Z,9.8nm,0.6s,mb4.6						
BJI	**Beijing**	**41.17**	**355**	P	**P**	**08 51 14.8**	**+0.5**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
BJI	**Beijing**	**41.17**	**355**	P	**P**	**08 51 14.8**	**+0.5**
	comp=Z,8.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**41.55**	**320**	*e*P	**P**	**08 51 20.0**	**+2.4**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
LSA	**Lhasa**	**41.55**	**320**	*e*P	**P**	**08 51 20.0**	**+2.4**
	comp=Z,20nm,0.8s,mb4.8						
HHC	**Hu-ho-hao-te**	**42.58**	**350**	*e*P	**P**	**08 51 27.2**	**+1.4**
HHC				AP	pP	08 51 37.1	-0.8
HHC				XP	sP	08 51 39.7	-3.4
HHC				PP	PP	08 53 08.3	+0.8
HHC				PCP	PcP	08 53 20.1	+1.9
HHC				SCP		08 57 04.2	
HHC				PCS		08 57 07.3	
HHC				S	**S**	**08 57 48.4**	**+3.3**
HHC				SS	SS	09 00 54.7	+4.9
HHC				SCS	ScS	09 01 24.5	+3.4
HHC				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,93nm,7.5s						
HHC				LR	LR		
	comp=N,124nm,16.1s,MS4.2						
HHC				LR	LR		
	comp=E,200nm,17.3s,MS4.2						
JIRN	**Jiri**	**43.68**	**314**	*e*P	**P**	**08 51 35.9**	**+0.9**
	comp=E,53nm,0.7s,mb5.4						
GUN	**Gumba**	**44.05**	**314**	*e*P	**P**	**08 51 38.4**	**+0.4**
	comp=E,87nm,0.7s,mb5.6						
PKI	**Pulchoki**	**44.19**	**313**	*e*P	**P**	**08 51 39.8**	**+0.6**
	comp=E,20nm,0.6s,mb5.0						
PKI	**Pulchoki**	**44.19**	**313**	*e*P	**P**	**08 51 39.8**	**+0.6**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
KKN	**Kakani**	**44.41**	**313**	*e*P	**P**	**08 51 41.3**	**+0.4**
	comp=Z,36nm,1.0s,mb5.1						
KKN	**Kakani**	**44.41**	**313**	*e*P	**P**	**08 51 41.3**	**+0.4**
KKN				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
DMN	**Daman**	**44.44**	**313**	*e*P	**P**	**08 51 41.8**	**+0.7**
	comp=Z,56nm,1.0s,mb5.3						
GTA	**Gaotai**	**44.59**	**337**	P	**P**	**08 51 43.4**	**+1.2**
GTA				AP	pP	08 51 50.3	-4.0
GTA				XP	sP	08 51 53.0	-6.5
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.6						
CN2	**Changchun**	**44.95**	**5**	*e*P	**P**	**08 51 47.0**	**+2.0**
CN2				*e*AP	pP	08 51 57.0	-0.1
CN2				*e*S	**S**	**08 58 22.7**	**+3.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
GKN	**Gorkha**	**45.00**	**313**	*e*P	**P**	**08 51 46.2**	**+0.6**
	comp=Z,43nm,0.6s,mb5.4						
KOLN	**Koldanda**	**45.64**	**312**	*e*P	**P**	**08 51 51.7**	**+1.0**
	comp=Z,40nm,0.7s,mb5.5						
MDJ	**Mudanjiang**	**46.26**	**9**	P	**P**	**08 51 53.8**	**-1.6**
MDJ				AP	pP	08 52 02.0	-5.5
MDJ				XP	sP	08 52 06.5	-6.2
MDJ				PCP	PcP	08 53 27.5	-3.3
MDJ				SCP		08 57 19.1	
MDJ				PCS		08 57 24.4	
MDJ				S	**S**	**08 58 48.0**	**+10**
MDJ				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,124nm,5.0s						
MDJ	**Mudanjiang**	**46.26**	**9**	*e*P	**P**	**08 51 54.0**	**-1.4**
	comp=Z,25nm,1.0s,mb5.1						
ASAJ	**Asahikawa**	**49.18**	**21**	P	**P**	**08 52 16.6**	**-1.6**
	comp=Z,12nm,0.7s,mb5.0,baz=246,slow=13,SNR=9.7						
ASAJ				LR	LR	09 11 03.0	
	comp=Z,100nm,20.6s,MS3.8,baz=177,slow=34						
ULN	**Ulaanbaatar**	**50.20**	**348**	*e*P	**P**	**08 52 25.5**	**-0.4**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**50.20**	**348**	*e*P	**P**	**08 52 25.5**	**-0.4**
	comp=Z,9.0nm,0.9s,mb4.8						
SONM	**Songino Array**	**50.30**	**348**	P	**P**	**08 52 26.2**	**-0.6**
	comp=Z,2.7nm,0.6s,mb4.4,baz=167,slow=8.2,SNR=16						
WMQ	**Urumqi**	**53.52**	**331**	⇑P	**P**	**08 52 53.0**	**+2.1**
WMQ				AP	pP	08 53 03.1	-0.1
WMQ				XP	sP	08 53 07.5	-0.8
WMQ				PCP	PcP	08 54 00.0	+2.7
WMQ				PP	PP	08 54 55.0	+1.8
WMQ				S	**S**	**09 00 21.8**	**+2.8**
WMQ				PS	PS	09 00 36.0	+0.4
WMQ				XS		09 00 38.0	
WMQ				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,102nm,4.5s						
WMQ				LR	LR		
	comp=N,69nm,24.0s,MS3.7						
WMQ				LR	LR		
	comp=E,53nm,24.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,78nm,26.6s,MS3.6						
TLY	**Talaya**	**54.53**	**347**	⇑*e*P	**P**	**08 52 58.3**	**+0.1**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**58.31**	**330**	*i* P	**P**	**08 53 24.9**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,14nm,0.8s						
MKAR	**Makanchi Array**	**58.31**	**330**	P	**P**	**08 53 25.1**	**-0.2**
	comp=Z,9.8nm,0.7s,mb4.9,baz=124,slow=8.3,SNR=59						
BOD	**Bodaibo**	**59.00**	**356**	⇑*i*P	**P**	**08 53 28.4**	**-1.5**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**60.06**	**322**	⇓*e*P	**P**	**08 53 36.9**	**-0.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
AAK	**Ala-Archa**	**60.06**	**322**	*e*P	**P**	**08 53 36.6**	**-0.9**
	comp=Z,4.4nm,0.5s,mb4.7						
ZAL	**Zalesovo**	**62.35**	**337**	P	**P**	**08 53 50.6**	**-2.1**
	comp=Z,2.4nm,0.9s,mb4.3,baz=318,slow=4.3,SNR=13						
KURK	**Kurchatov**	**62.75**	**331**	*e*P	**P**	**08 53 54.5**	**-0.9**
KURK				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.2						
KURK	**Kurchatov**	**62.75**	**331**	*e*P	**P**	**08 53 54.5**	**-0.9**
	comp=Z,17nm,0.8s,mb5.2						
YAK	**Yakutsk**	**63.38**	**5**	⇑*e*P	**P**	**08 53 57.8**	**-1.7**
YAK				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.3						
JMDO	**Jabal Madar**	**65.10**	**295**	⇑P	**P**	**08 54 09.8**	**-1.4**
JMDO				⇑P		08 54 09.8	
JMDO				⇑P		08 54 09.8	
JMDO				⇑P		08 54 09.8	
BSY	**Bisya**	**65.99**	**295**	⇓P	**P**	**08 54 15.1**	**-1.9**
BSY				⇓P		08 54 15.1	
BSY				⇓P		08 54 15.1	
BSY				⇓P		08 54 15.1	
SHAO	**Shalim**	**66.57**	**290**	⇓P	**P**	**08 54 19.5**	**-1.2**
SHAO				⇓P		08 54 19.5	
SHAO				⇓P		08 54 19.5	
SHAO				⇓P		08 54 19.5	
ARQ	**Araqi**	**66.73**	**296**	⇑P	**P**	**08 54 20.5**	**-1.1**
ARQ				⇑P		08 54 20.5	
ARQ				⇑P		08 54 20.5	
ARQ				⇑P		08 54 20.5	
RBK	**Rabkut**	**67.83**	**289**	P	**P**	**08 54 27.8**	**-0.8**
	SNR=10						
RBK				P		08 54 27.8	
	SNR=10						
RBK				P		08 54 27.8	
	SNR=10						
RBK				P		08 54 27.8	
	SNR=10						
BVA0	**Borovoye Array**	**68.19**	**330**	*i* P	**P**	**08 54 29.3**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.8						
BVAR	**Borovoye Array**	**68.19**	**330**	P	**P**	**08 54 29.3**	**-1.0**
	comp=Z,5.1nm,0.8s,mb4.6,baz=141,slow=9.5,SNR=22						
WHFO	**Wadi Hawf**	**68.30**	**290**	P	**P**	**08 54 29.9**	**-1.6**
	SNR=25						
WHFO				P		08 54 29.9	
	SNR=25						
WHFO				P		08 54 29.9	
	SNR=25						
WHFO				P		08 54 29.9	
	SNR=25						
CHKZ	**Chkalovo**	**68.45**	**331**	*i* P	**P**	**08 54 30.7**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
CHKZ	**Chkalovo**	**68.45**	**331**	*e*P	**P**	**08 54 30.8**	**-1.1**
	comp=Z,5.0nm,0.8s,mb4.6						
ABTO	**Aybut**	**68.67**	**289**	P	**P**	**08 54 32.4**	**-1.4**
	SNR=12						
ABTO				P		08 54 32.4	
	SNR=12						
ABTO				P		08 54 32.4	
	SNR=12						
ABTO				P		08 54 32.4	
	SNR=12						
TIXI	**Tiksi**	**72.86**	**3**	⇑*e*P	**P**	**08 54 56.3**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BILL	**Bilibino**	**75.87**	**16**	*e*P	**P**	**08 55 10.0**	**-5.6**
BILL				*e*	pP	08 55 22.4	-6.0
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
BILL				MLR	MLR		
	comp=Z,5μm,22.0s						
VNDA	**Vanda**	**79.48**	**172**	P	**P**	**08 55 36.7**	**+1.1**
	comp=Z,2.0nm,0.7s,mb4.2,baz=310,slow=6.5,SNR=13						
VNDA	**Vanda**	**79.48**	**172**	P	**P**	**08 55 36.7**	**+1.1**
SBA	**Scott Base**	**80.46**	**171**	*e*P	**P**	**08 55 42.2**	**+1.4**
SBA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SBA	**Scott Base**	**80.46**	**171**	*e*P	**P**	**08 55 42.2**	**+1.4**
	comp=Z,2.2nm,0.8s,mb4.1						
GOF	**Gofitskoye**	**81.97**	**216**	*e*P	**P**	**08 55 50.0**	**+0.7**
KMBO	**Kilima Mbogo**	**83.25**	**269**	*i* P	**P**	**08 55 56.9**	**+0.5**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO	**Kilima Mbogo**	**83.25**	**269**	P	**P**	**08 55 56.9**	**+0.5**
	comp=Z,1.9nm,0.6s,mb4.3,baz=51,slow=9.2,SNR=6.6						
KMBO	**Kilima Mbogo**	**83.25**	**269**	*e*P	**P**	**08 55 57.3**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.3						
ASF	**Jabal al Asfar**	**85.20**	**302**	P	**P**	**08 56 06.5**	**+0.6**
	comp=Z,7.5nm,0.9

GUC 05 08:47:32.6±0.7,31.07S×71.45W,h33km±3km,MD3.6, ML2.4,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.61**	**157**	*e*P	Pb	08 47 45.0	+0.1
ILCH				*i* S	Sb	08 47 53.7	+0.3
ILCH				AMP		08 47 55.2	
	comp=E,577nm,0.1s						
CHNG	**Los Chungos**	**0.81**	**183**	*e*P	Pn	08 47 47.5	-0.2
CHNG				*i* S	Sn	08 47 58.7	0.0
CHNG				AMP		08 48 01.3	
	comp=E,110nm,0.5s						
TLL	**Tololo Astrono**	**1.06**	**32**	*e*P	Pn	08 47 52.2	+0.8
TLL				*i* S	Sn	08 48 06.5	+1.4
TLL				AMP		08 48 13.7	
	comp=E,97nm,0.4s						
PACH	**Papudo**	**1.46**	**180**	*e*P	Pn	08 47 57.5	+0.5
PACH				*i* S	Sn	08 48 16.9	+1.7
CLCH	**Cerro Calan**	**2.44**	**162**	*e*P	Pn	08 48 12.2	+1.0
CLCH				*i* S	Sn	08 48 41.4	+1.2
CLCH				AMP		08 48 47.2	
	comp=E,49nm,0.5s						
FCH	**Farellones**	**2.45**	**157**	*e*P	Pn	08 48 12.3	+1.0
FCH				*i* S	Sn	08 48 42.8	+2.3
FCH				AMP		08 48 48.2	
	comp=E,38nm,0.2s						

IDC 05 08:50:01.6±2.4,2.03S×99.74E,mb3.7/6,mb1 3.9/6, mb1mx3.7/16,mbtmp3.7/6,Error ellipse: s-maj=110.7km s-min=21.4km az=54.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.21**	**120**	P	P	08 57 23.3	-1.8
	0.8nm,0.5s,baz=303,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**39.45**	**126**	P	P	08 57 33.9	-1.6
	0.3nm,0.5s,baz=300,slow=6.9,SNR=4.9						
SONM	**Songino Array**	**49.99**	**6**	P	P	08 58 57.9	-1.7
	0.4nm,0.6s,baz=190,slow=9.3,SNR=4.8						
MKAR	**Makanchi Array**	**50.98**	**345**	P	P	08 59 05.2	-1.9
	0.9nm,0.6s,baz=146,slow=8.1,SNR=9.2						
ZAL	**Zalesovo**	**57.14**	**350**	P	P	08 59 49.1	-3.3
	1.3nm,0.4s,baz=207,slow=3.1,SNR=4.1						
FINES	**FINESS Array B**	**84.01**	**332**	P	P	09 02 33.9	-1.1
	0.8nm,0.8s,baz=121,slow=8.1,SNR=3.8						
TXAR	**Lajitas Array**	**144.88**	**37**	PKP	PKPdf	09 09 41.0	-2.1
	0.8nm,0.5s,baz=222,slow=1.2,SNR=14						

*BJI **05** 08:54:45.1,0.43S×97.08E,h30km,mB5.1,mb4.7,Ms4.5, Msz4.0*
*IDC **05** 08:54:49.5±0.6,0.55N×97.10E,mb4.5/17,mb1 4.6/18, mb1mx4.5/22,mbtmp4.5/18,ML4.2/1,MS3.7/6,Ms1 3.7/6, ms1mx3.4/23,Error ellipse: s-maj=30.3km s-min=13.2km az=47.0*
*MOS **05** 08:54:52.7±1.1,0.49N×97.14E,h33km,mb4.9/21,Error ellipse: s-maj=17.0km s-min=7.7km az=105.7*
*NEIC **05** 08:54:54.1±0.3,0.47N×97.15E,h30km,mb4.7/22,Error ellipse: s-maj=9.6km s-min=6.2km az=46.0*
ISC 05 08:54:53.1±0.4,0.55N±0.06×97.19E±0.05,h34km, h34km±2.2km:pP-P,n96,σ1s02/98,mb4.7/48,MS3.9/9, 2C-5D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.54**	**44**	P	**P**	**08 56 16.2**	**+0.9**
KULM	**Kulim**	**5.84**	**36**	*e*P	**P**	**08 56 20.1**	**+0.5**
KULM				*e*S	**S**	**08 57 22.4**	**-3.8**
KGM	**Kluang**	**6.29**	**77**	P	**P**	**08 56 27.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**17.88**	**5**	P	**P**	**08 59 01.3**	**+0.3**
	0.3nm,0.3s,baz=194,slow=11,SNR=28						
CMAR				LR	LR	09 06 32.1	
	comp=Z,148nm,18.6s,baz=180,slow=39						
KKM	**Kota Kinabalu**	**19.75**	**74**	*e*P	**P**	**08 59 22.5**	**-0.7**
KKM	**Kota Kinabalu**	**19.75**	**74**	P	**P**	**08 59 24.0**	**+0.9**
VIS	**Vishakhapatnam**	**21.84**	**322**	*e*P	**P**	**08 59 46.1**	**+1.5**
VIS				*e*		08 59 48.7	
	comp=Z,74nm,0.8s						
VIS				*e*S	**S**	**09 03 44.4**	**+5.4**
HYB	**Hyderabad**	**24.84**	**313**	*e*P	**P**	**09 00 16.0**	**+1.9**
HYB	**Hyderabad**	**24.84**	**313**	*i* P	**P**	**09 00 16.0**	**+1.9**
SHL	**Shillong**	**25.39**	**349**	⇓*i*P	**P**	**09 00 19.0**	**-0.2**
SHL				*e*S	**S**	**09 04 50.0**	**+9.0**
BLSP	**Bilaspur**	**25.99**	**327**	*e*P	**P**	**09 00 25.4**	**+0.6**
BLSP				*e*		09 00 27.7	
	comp=Z,41nm,1.5s						
JIRN	**Jiri**	**28.95**	**340**	*e*P	**P**	**09 00 52.7**	**+1.1**
	comp=Z,41nm,0.8s,mb5.2						
PKI	**Pulchoki**	**29.15**	**338**	*e*P	**P**	**09 00 54.8**	**+1.4**
GUN	**Gumba**	**29.29**	**339**	*e*P	**P**	**09 00 55.3**	**+0.7**
	comp=Z,74nm,1.0s,mb5.3						
DMN	**Daman**	**29.30**	**338**	*e*P	**P**	**09 00 55.4**	**+0.7**
	comp=Z,21nm,0.8s,mb5.0						
KKN	**Kakani**	**29.39**	**338**	*e*P	**P**	**09 00 56.0**	**+0.4**
	comp=Z,21nm,0.8s,mb4.9						
KKN	**Kakani**	**29.39**	**338**	*e*P	**P**	**09 00 56.0**	**+0.4**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**29.55**	**349**	*e*P	**P**	**09 00 57.6**	**+0.6**
LSA				*e*	pP	09 01 07.7	+0.9
LSA				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8						
LSA	**Lhasa**	**29.55**	**349**	*e*P	**P**	**09 00 57.6**	**+0.6**
	comp=Z,15nm,0.8s,mb4.8						
LSA				*e*	pP	09 01 07.7	+0.9
GKN	**Gorkha**	**29.83**	**337**	*e*P	**P**	**09 01 00.0**	**+0.5**
	comp=Z,28nm,0.7s,mb5.1						
KOLN	**Koldanda**	**30.04**	**335**	*e*P	**P**	**09 01 02.3**	**+0.9**
ENH	**Enshi**	**31.79**	**20**	*e*P	**P**	**09 01 16.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**33.56**	**125**	*e*P	**P**	**09 01 31.5**	**-0.8**
	comp=Z,8.6nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.56**	**125**	P	**P**	**09 01 31.7**	**-0.6**
	comp=Z,12nm,0.8s,mb4.9,baz=288,slow=4.0,SNR=12						
FITZ				LR	LR	09 16 41.4	
	comp=Z,125nm,19.6s,MS3.6,baz=310,slow=39						
XAN	**Xi'an**	**35.08**	**17**	P	**P**	**09 01 44.9**	**-0.3**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
LZH	**Lanzhou**	**35.89**	**9**	*e*P	**P**	**09 01 55.0**	**+2.9**
LZH				AP	pP	09 02 04.5	+2.4
LZH				XP	sP	09 02 08.6	+2.1
LZH				PP	PP	09 03 17.8	+3.8
LZH				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,83nm,5.3s						
LZH				LR	LR		
	comp=N,415nm,13.5s						
LZH				LR	LR		
	comp=Z,565nm,17.4s,MS4.4						
LZH	**Lanzhou**	**35.89**	**9**	*e*P	**P**	**09 01 55.0**	**+2.9**
	comp=Z,24nm,1.4s,mb4.9						
LZH				pP	pP	09 02 04.5	+2.4
LZH				sP	sP	09 02 08.6	+2.1
LZH				PP	PP	09 03 17.8	+3.8
NJ2	**Nanjing**	**37.42**	**31**	*e*P	**P**	**09 02 07.3**	**+2.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				LR	LR		
	comp=N,280nm,18.4s,MS4.3						
NJ2				LR	LR		
	comp=E,430nm,20.8s,MS4.3						
NJ2				LR	LR		
	comp=Z,420nm,17.8s,MS4.3						
NWAO	**Narrogin (SRO)**	**38.29**	**152**	LR	LR	09 16 29.2	
	comp=Z,139nm,20.3s,MS3.8,baz=264,slow=34						
GTA	**Gaotai**	**38.75**	**3**	P	**P**	**09 02 16.8**	**+0.8**
GTA				AP	pP	09 02 29.1	+3.1
GTA				XP	sP	09 02 35.7	+5.3
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**41.70**	**121**	P	**P**	**09 02 41.0**	**+0.3**
	comp=Z,5.8nm,0.9s,mb4.2,baz=307,slow=8.9,SNR=27						
WRAB	**Tennant Creek**	**41.71**	**121**	*e*P	**P**	**09 02 40.5**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**41.71**	**121**	*e*P	**P**	**09 02 40.5**	**-0.2**
	comp=Z,8.0nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**41.71**	**121**	⇓*i*P	**P**	**09 02 40.9**	**+0.1**
HHC	**Hu-ho-hao-te**	**42.18**	**16**	*e*P	**P**	**09 02 42.3**	**-2.1**
HHC				AP	pP	09 02 51.6	-2.9
HHC				XP	sP	09 02 55.9	-2.9
HHC				PP	PP	09 04 22.6	-2.4
HHC				PCP	PcP	09 04 36.0	-2.9
HHC				SCP		09 08 24.8	
HHC				PCS		09 08 29.5	
HHC				S	**S**	**09 08 59.6**	**-2.2**
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,125nm,4.6s						
HHC				LR	LR		
	comp=N,187nm,14.2s,MS4.2						
HHC				LR	LR		
	comp=E,198nm,16.7s,MS4.2						
HHC				LR	LR		
	comp=Z,108nm,15.5s,MS3.8						
BJT	**Baijiatuau**	**42.92**	**22**	P	**P**	**09 02 50.8**	**+0.3**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	**Baijiatuau**	**42.92**	**22**	P	**P**	**09 02 50.8**	**+0.3**
	comp=Z,8.8nm,0.6s,mb4.7						
BJI	**Beijing**	**42.94**	**22**	P	**P**	**09 02 50.8**	**+0.2**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
BJI	**Beijing**	**42.94**	**22**	P	**P**	**09 02 50.8**	**+0.2**
	comp=Z,10.0nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**43.01**	**127**	P	**P**	**09 02 52.0**	**+0.5**
	comp=Z,3.1nm,0.7s,mb4.1,baz=298,slow=7.0,SNR=16						
ASAR				LR	LR	09 23 02.8	
	comp=Z,68nm,18.1s,MS3.6,baz=269,slow=39						
WMQ	**Urumqi**	**43.91**	**350**	P	**P**	**09 02 57.1**	**-1.3**
WMQ				AP	pP	09 03 07.1	-1.5
WMQ				XP	sP	09 03 11.0	-1.8
WMQ				PP	PP	09 04 41.2	-1.1
WMQ				S	**S**	**09 09 26.5**	**-0.5**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,39nm,3.2s						
WMQ				LR	LR		
	comp=N,73nm,25.0s,MS4.1						
WMQ				LR	LR		
	comp=E,256nm,24.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,51nm,24.8s,MS3.3						
AAK	**Ala-Archa**	**46.59**	**337**	*e*P	**P**	**09 03 17.9**	**-1.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**46.59**	**337**	*e*P	**P**	**09 03 17.9**	**-1.9**
	comp=Z,4.1nm,0.8s,mb4.4						
SONM	**Songino Array**	**47.77**	**8**	P	**P**	**09 03 28.3**	**-0.7**
	comp=Z,3.9nm,0.8s,mb4.5,baz=191,slow=8.2,SNR=29						
MKAR	**Makanchi Array**	**47.87**	**346**	*i* P	**P**	**09 03 29.9**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MKAR	**Makanchi Array**	**47.87**	**346**	P	**P**	**09 03 30.1**	**+0.3**
	comp=Z,14nm,0.6s,mb5.1,baz=156,slow=7.8,SNR=146						
ULN	**Ulaanbaatar**	**47.90**	**9**	*e*P	**P**	**09 03 29.6**	**-0.4**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**47.90**	**9**	*e*P	**P**	**09 03 29.6**	**-0.4**
	comp=Z,4.0nm,0.9s,mb4.5						
CN2	**Changchun**	**49.88**	**27**	*e*P	**P**	**09 03 48.6**	**+3.2**
CN2				*e*XP	sP	09 04 02.4	+2.6
CN2				*e*S	**S**	**09 10 57.0**	**+5.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
ZAK	**Zakamensk**	**49.92**	**5**	*e*P	**P**	**09 03 45.6**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
TLY	**Talaya**	**51.24**	**5**	*e*P	**P**	**09 03 55.3**	**-0.2**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
TLY	**Talaya**	**51.24**	**5**	*e*P	**P**	**09 03 55.3**	**-0.2**
	comp=Z,6.6nm,0.9s,mb4.6						
HIA	**Hailar**	**52.25**	**19**	P	**P**	**09 04 03.2**	**0.0**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HIA	**Hailar**	**52.25**	**19**	P	**P**	**09 04 03.2**	**0.0**
	comp=Z,3.3nm,0.4s,mb4.6						
KURK	**Kurchatov**	**52.41**	**345**	*e*P	**P**	**09 04 04.0**	**-0.4**
KURK				*e*		09 05 14.5	
KURK				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
KURK	**Kurchatov**	**52.41**	**345**	*e*P	**P**	**09 04 04.0**	**-0.4**
	comp=Z,23nm,1.0s,mb5.1						
KURK				*e*PcP	PcP	09 05 14.5	-0.5
MDJ	**Mudanjiang**	**52.43**	**29**	P	**P**	**09 04 03.2**	**-1.4**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,159nm,5.4s						
STKA	**Stephens Creek**	**52.93**	**132**	*e*P	**P**	**09 04 14.5**	**+6.0**
	comp=Z,2.1nm,0.6s,mb4.2						
STKA				*i*	pP	09 04 23.9	+5.1
STKA	**Stephens Creek**	**52.93**	**132**	P	**P**	**09 04 08.3**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=243,slow=6.8,SNR=2.8						
STKA				LR	LR	09 26 02.5	
	comp=Z,128nm,18.4s,MS4.0,baz=261,slow=35						
STKA	**Stephens Creek**	**52.93**	**132**	P	**P**	**09 04 08.3**	**-0.2**
STKA				*e*P		09 04 14.5	
STKA				*i*		09 04 23.9	
ZAL	**Zalesovo**	**54.19**	**351**	P	**P**	**09 04 16.9**	**-0.6**
	comp=Z,12nm,0.4s,mb5.2,baz=315,slow=5.8,SNR=47						
ZAL				LR	LR	09 32 21.3	
	comp=Z,41nm,20.8s,MS3.5,baz=147,slow=42						
NVS	**Novosibirsk**	**55.31**	**350**	*e*P	**P**	**09 04 24.1**	**-1.5**
NVS				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
NVS				pmax	pmax		
	comp=N,8.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.8s						
BVA0	**Borovoye Array**	**56.86**	**341**	P	**P**	**09 04 35.4**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**56.86**	**341**	P	**P**	**09 04 35.1**	**-1.7**
	comp=Z,6.6nm,0.8s,mb4.7,baz=143,slow=7.4,SNR=39						
BVAR				PcP	PcP	09 05 31.2	-0.7
	comp=Z,2.8nm,0.8s,baz=135,slow=4.2,SNR=6.1						
CHKZ	**Chkalovo**	**57.34**	**342**	*e*P	**P**	**09 04 38.9**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**57.34**	**342**	*e*P	**P**	**09 04 38.9**	**-1.3**
	comp=Z,16nm,0.8s,mb5.1						
BOD	**Bodaibo**	**58.65**	**10**	*e*P	**P**	**09 04 47.6**	**-1.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
KMBO	**Kilima Mbogo**	**59.96**	**268**	*e*P	**P**	**09 04 57.7**	**-1.3**
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMBO	**Kilima Mbogo**	**59.96**	**268**	P	**P**	**09 04 58.6**	**-0.4**
	comp=Z,0.6nm,0.4s,mb4.0,baz=59,slow=13,SNR=5.1						
KMBO	**Kilima Mbogo**	**59.96**	**268**	*e*P	**P**	**09 04 57.7**	**-1.3**
	comp=Z,3.9nm,1.0s,mb4.4						
SVE	**Sverdlovsk**	**63.28**	**338**	⇓*i*P	**P**	**09 05 20.4**	**-0.3**
SVE				pmax	pmax		
	comp=Z,32nm,0.5s,mb5.7						
ASF	**Jabal al Asfar**	**64.83**	**306**	P	**P**	**09 05 31.6**	**+0.4**
	comp=Z,1.1nm,0.3s,mb4.3,baz=337,slow=6.0,SNR=6.3						
MALT	**Malatya**	**65.56**	**312**	⇓P	**P**	**09 05 36.0**	**+0.2**
BRTR	**Keskin Array B**	**69.54**	**313**	P	**P**	**09 05 59.1**	**-1.6**
	comp=Z,2.6nm,0.8s,mb4.2,baz=130,slow=6.5,SNR=11						
AKASG	**Malin Array Be**	**75.77**	**323**	P	**P**	**09 06 35.6**	**-1.6**
	comp=Z,1.9nm,0.5s,mb4.3,baz=88,slow=4.9,SNR=7.2						
MLR	**Muntele Rosu**	**76.53**	**317**	P	**P**	**09 06 41.7**	**0.0**
	comp=Z,6.2nm,1.0s,mb4.5,baz=100,slow=2.0,SNR=6.6						
MLR	**Muntele Rosu**	**76.53**	**317**	⇑P	**P**	**09 06 41.7**	**0.0**
MLR	**Muntele Rosu**	**76.53**	**317**	⇑P	**P**	**09 06 41.7**	**0.0**
BURAR	**Bucovina Array**	**77.50**	**319**	⇓P	**P**	**09 06 37.8**	**-9.3**
FINES	**FINESS Array B**	**80.57**	**333**	P	**P**	**09 07 03.1**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=108,slow=6.0,SNR=6.7						
MORC	**Moravsky Berou**	**82.89**	**320**	*e*P	**P**	**09 07 16.4**	**+0.6**
MORC				pmax	pmax		
	comp=Z,24nm,1.8s,mb4.9						
MORC	**Moravsky Berou**	**82.89**	**320**	*e*P	**P**	**09 07 16.4**	**+0.6**
	comp=Z,24nm,1.8s,mb4.9						
GERES	**GERESS Array B**	**85.29**	**319**	P	**P**	**09 07 28.7**	**+0.9**
	comp=Z,3.7nm,0.9s,mb4.5,baz=104,slow=5.5,SNR=18						
HFS	**Hagfors**	**86.28**	**330**	P	**P**	**09 07 32.7**	**+0.3**
	comp=Z,8.0nm,0.9s,mb5.0,baz=135,slow=2.1,SNR=6.2						
MOX	**Moxa**	**86.76**	**321**	*e*P	**P**	**09 07 36.0**	**+1.0**
GRA1	**Grafenberg Arr**	**86.97**	**320**	*e*P	**P**	**09 07 37.0**	**+0.9**
	comp=Z,6.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**86.97**	**320**	*e*P	**P**	**09 07 37.0**	**+0.9**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**86.97**	**320**	*e*P	**P**	**09 07 37.0**	**+0.9**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.7						
GRF	**Grafenberg Arr**	**86.97**	**320**	*e*P	**P**	**09 07 37.0**	**+0.9**
	comp=Z,6.0nm,1.1s,mb4.7						
NB2	**NORSAR Subarra**	**87.57**	**331**	P	**P**	**09 07 38.7**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.4,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**87.57**	**331**	P	**P**	**09 07 38.9**	**+0.2**
	comp=Z,3.2nm,0.8s,mb4.6,baz=95,slow=4.9,SNR=6.4						
LPG	**La Plagne**	**89.92**	**315**	*e*P	**P**	**09 07 50.6**	**+0.3**
	comp=Z,14nm,0.8s,mb5.0						
LPG	**La Plagne**	**89.92**	**315**	*e*P	**P**	**09 07 50.6**	**+0.3**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.0						
NVAR	**Mina Array Bea**	**129.31**	**36**	PKP	PKPdf	09 14 01.3	+2.6
	comp=Z,0.7nm,0.8s,baz=218,slow=1.9,SNR=6.0						
TXAR	**Lajitas Array**	**144.22**	**32**	PKP	PKPdf	09 14 26.6	+0.4
	comp=Z,1.2nm,0.8s,baz=270,slow=2.5,SNR=10						
JCT	**Junction City**	**145.16**	**26**	*e*PKP	PKPdf	09 14 28.5	+0.7

IDC 05 09:17:53.8±10.0,3.85N×96.57E,mb4.0/3,mb1 4.2/4, mb1mx3.7/19,mbtmp3.9/4,ML4.2/1,Error ellipse: s-maj=296.9km s-min=46.5km az=77.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.70**	**9**	Pn	P	09 21 23.1	-2.1
	0.3nm,0.3s,baz=197,slow=12,SNR=4.3						
FITZ	**Fitzroy Crossi**	**36.01**	**128**	P	P	09 24 57.2	-1.6
	2.8nm,0.8s,baz=322,slow=18,SNR=2.9						
WRA	**Warramunga Arr**	**43.99**	**124**	P	P	09 26 03.3	-1.7
	1.9nm,0.5s,baz=302,slow=9.3,SNR=22						
ASAR	**Alice Springs**	**45.51**	**129**	P	P	09 26 14.9	-2.2
	0.4nm,0.4s,baz=302,slow=7.6,SNR=9.0						

*BJI **05** 09:37:20.8,1.85N×97.10E,h27km,mB5.4,mb5.2,Ms5.3, Msz5.1*
*IDC **05** 09:37:22.8±0.5,1.91N×97.17E,h27km±2km,mb4.7/26, mb1 4.7/27,mb1mx4.7/28,mbtmp4.8/27,ML4.1/1,MS4.8/15, Ms1 4.8/15,ms1mx4.6/22,Error ellipse: s-maj=14.3km s-min=8.4km az=51.0*
*MOS **05** 09:37:22.5±0.8,1.99N×97.10E,h33km,mb5.4/69, MS4.7/25,Error ellipse: s-maj=9.0km s-min=4.5km az=117.5*
*NEIC **05** 09:37:22.9±0.1,1.90N×97.01E,mb5.2/77,MS5.1/110, Error ellipse: s-maj=4.9km s-min=3.7km az=212.0*
*HRVD **05** 09:37:22.9±1.1,1.58N×97.00E,h43km±1km,MW5.1/37, Centroid moment Tensor Solution. LP body waves: s37,c61;Mantle waves: s35,c59; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}3.01±.37; $M_{\theta\theta}$-4.82±.25; $M_{\phi\phi}$1.80±.41; $M_{r\theta}$2.32±.23; $M_{\theta\phi}$5.04±.21; $M_{\phi r}$-1.25±.42; Best double couple: $M_0$6.341×10^16 NP1:φs344°,δ81°, λ-171°. NP2:φs253°,δ81°,λ-10°. Principal axes: T 4.52, Plg0°, Azm298°; N 3.632, Plg77°, Azm29°; P -8.161, Plg13°, Azm208°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 09:37:21.3±0.2,1.89N±0.03×97.06E±0.03,h26km, h26km±.6km:pP-P,n445,σ0s93/382,mb5.2/133,MS5.0/141, 50C-27D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.78**	**56**	P	**Pn**	**09 38 35.3**	**+1.8**
KULM	**Kulim**	**4.92**	**47**	*e*P	**Pn**	**09 38 37.0**	**+1.3**
KGM	**Kluang**	**6.26**	**89**	P	**Pn**	**09 38 56.5**	**+2.1**
NNT	**Nongplab**	**10.96**	**14**	P	**P**	**09 40 06.5**	**+6.8**
KSM	**Kuching**	**13.25**	**92**	*e*P	**P**	**09 40 32.1**	**+1.6**
BDT	**Bhumibol Dam**	**15.38**	**7**	P	**P**	**09 41 03.0**	**+4.5**
KKTK	**Khon Kaen**	**15.44**	**21**	P	**P**	**09 41 03.0**	**+3.7**
	1μm,0.7s						
CMAR	**Chiang Mai Arr**	**16.57**	**6**	Pn	**P**	**09 41 12.7**	**-1.0**
	0.3nm,0.3s,baz=194,slow=13,SNR=16						
CMAR				LR	LR	09 48 24.6	
	comp=Z,3μm,18.6s,baz=185,slow=40						
CHG	**Chiang Mai**	**16.92**	**6**	⇑P	**P**	**09 41 17.0**	**-1.2**
	33nm,1.1s						
PALK	**Pallekele**	**17.16**	**289**	*e*P	**P**	**09 41 19.6**	**-1.5**
	82nm,1.1s						
NANT	**Nan**	**17.18**	**12**	⇑P	**P**	**09 41 19.0**	**-2.4**
	312nm,1.0s						
KKM	**Kota Kinabalu**	**19.55**	**77**	*e*P	**P**	**09 41 50.3**	**+0.1**
KKM	**Kota Kinabalu**	**19.55**	**77**	P	**P**	**09 41 50.7**	**+0.5**
MDRS	**Chennai**	**20.01**	**305**	*e*	**P**	**09 42 01.0**	**+5.8**
MDRS				*e*		09 45 39.0	
MDRS				*e*		09 47 32.0	
VIS	**Vishakhapatnam**	**20.72**	**320**	*e*P	**P**	**09 42 01.6**	**-1.0**
VIS				*e*		09 42 13.4	
	comp=Z,153nm,0.9s						
VIS				*e*S	**S**	**09 45 49.6**	**+1.9**
VIS				*i*		09 48 11.9	
TSM	**Tawau**	**20.92**	**83**	P	**P**	**09 42 04.6**	**0.0**
TRD	**Trivandrum**	**21.06**	**289**	⇓*e*	**P**	**09 42 23.2**	**+17**
TRD				*e*		09 45 51.2	
QIZ	**Qiongzhong**	**21.14**	**35**	P	**P**	**09 42 06.6**	**-0.2**
QIZ				XP		09 42 18.6	
QIZ				S	**S**	**09 45 59.0**	**+3.3**
QIZ				XS		09 46 09.2	
QIZ				AMB	AMB		
	comp=Z,52nm,1.1s,mb4.8						
QIZ				LR	LR		
	comp=N,5μm,16.4s						
QIZ				LR	LR		
	comp=Z,5μm,13.5s,MS5.1						
QIZ	**Qiongzhong**	**21.14**	**35**	*e*P	**P**	**09 42

GYA XP sP 09 43 07.9 +1.5
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.7
GYA AMB AMB
comp=Z,360nm,7.8s
GYA LR LR
comp=N,4μm,13.5s,MS5.2
GYA LR LR
comp=E,3μm,13.8s,MS5.2
GYA LR LR
comp=Z,10μm,15.0s,MS5.5
DGAR Diego Garcia 26.23 249 PFAKE 09 43 10.0 +14
DGAR LR LR
comp=Z,970nm,20.0s,MS4.3
JIRN Jiri 27.66 339 *e*P **P** **09 43 09.7 +0.4**
comp=Z,200nm,0.9s,mb5.8
PKI Pulchoki 27.87 337 *e*P **P** **09 43 11.1 -0.1**
comp=Z,178nm,1.2s,mb5.6
PKI Pulchoki 27.87 337 *e*P **P** **09 43 11.1 -0.1**
PKI pmax pmax
comp=Z,89nm,1.2s,mb5.3
GUN Gumba 28.00 339 *e*P **P** **09 43 12.6 +0.2**
comp=Z,144nm,0.7s,mb5.7
DMN Daman 28.02 337 *e*P **P** **09 43 12.3 -0.2**
comp=Z,119nm,0.8s,mb5.6
KKN Kakani 28.11 337 *e*P **P** **09 43 13.3 -0.1**
comp=Z,218nm,1.1s,mb5.7
KKN Kakani 28.11 337 *e*P **P** **09 43 13.3 -0.1**
KKN pmax pmax
comp=Z,109nm,1.1s,mb5.4
POO Poona 28.13 308⇑*i* **P** **09 43 23.0 +9.4**
comp=Z,30nm,1.0s,mb4.9
LSA Lhasa 28.22 349 P **P** **09 43 10.4 -4.0**
LSA XP sP 09 43 23.2 -2.4
LSA S **S** **09 47 54.8 -2.2**
LSA XS 09 48 11.5
LSA SCS ScS 09 53 53.9 -3.1
LSA LR LR
comp=N,980nm,26.4s
LSA LR LR
comp=E,2μm,33.0s
LSA LR LR
comp=Z,1μm,25.6s,MS4.5
LSA Lhasa 28.22 349 *e*P **P** **09 43 14.4 0.0**
LSA pmax pmax
comp=Z,55nm,0.8s,mb5.2
LSA MLR MLR
comp=Z,2μm,19.0s,MS4.6
LSA Lhasa 28.22 349 *e*P **P** **09 43 14.3 0.0**
comp=Z,55nm,0.8s,mb5.2
LSA LR LR
comp=Z,2μm,19.0s,MS4.6
BHPL Bhopal 28.51 320 *e*P **P** **09 43 16.0 -1.0**
BHPL *e* pP 09 43 22.4 -2.4
comp=Z,33nm,1.1s
BHPL *e*S **S** **09 48 01.8 +0.1**
BHPL *i* 09 52 16.5
BHPL *i* 09 53 06.3
GKN Gorkha 28.56 337 *e*P **P** **09 43 17.4 0.0**
comp=Z,134nm,1.0s,mb5.6
KOLN Koldanda 28.78 335 *e*P **P** **09 43 19.6 +0.2**
comp=Z,87nm,0.7s,mb5.6
BOM Bombay 29.15 307 *e* **P** **09 43 30.6 +7.8**
BOM *e* 09 47 43.5
CD2 Chengdu 29.55 12 *e*P **P** **09 43 24.6 -1.7**
CD2 S **S** **09 48 16.1 -2.1**
CD2 XS 09 48 29.0
CD2 SS SS 09 49 48.7 -3.3
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
CD2 LR LR
comp=E,5μm,20.1s
CD2 LR LR
comp=Z,4μm,15.6s,MS5.2
ENH Enshi 30.59 21 *e*P **P** **09 43 33.5 -2.0**
comp=Z,35nm,0.6s,mb5.4
ENH *e* pP 09 43 42.0 -1.3
ENH LR LR
comp=Z,4μm,20.0s,MS5.1
QZH Quanzhou 30.94 40 P **P** **09 43 38.2 -0.4**
QZH LR LR
comp=N,8μm,14.9s,MS5.6
QZH LR LR
comp=E,6μm,14.4s,MS5.6
QZH LR LR
comp=Z,11μm,14.7s,MS5.7
LGTI Lohaghat 31.74 331 *e*P **P** **09 43 46.0 +0.4**
MBWA Marble Bar 31.89 137 *e*P **P** **09 43 47.0 0.0**
comp=Z,21nm,0.8s,mb5.0
MBWA *e* pP 09 43 54.8 0.0
MBWA LR LR
comp=Z,1μm,20.0s,MS4.6
NACB Ninganchiao 32.46 45 *e*P **P** **09 43 53.0 +1.0**
AJM Ajmer 32.58 321⇑*i*P **P** **09 43 53.0 0.0**
NDI New Delhi 32.68 326 *e*P **P** **09 43 51.0 -2.9**
NDI *e*S **S** **09 49 07.0 -0.4**
WHN Wuhan 32.87 28⇑P **P** **09 43 55.0 -0.5**
WHN AMB AMB
comp=Z,80nm,1.0s,mb5.6
WHN LR LR
comp=Z,8μm,15.4s,MS5.5
TATO Taipei 32.90 44 PFAKE 09 44 10.0 +14
TATO LR LR
comp=Z,1μm,20.0s,MS4.7
DDI Dehra Dun 33.53 329 *e*P **P** **09 44 01.7 +0.4**
XAN Xi'an 33.85 18 P **P** **09 44 02.4 -1.6**
XAN S **S** **09 49 24.0 -1.5**
XAN AMB AMB
comp=Z,113nm,0.8s,mb5.8
XAN LR LR
comp=N,3μm,15.1s,MS5.3
XAN LR LR
comp=E,2μm,13.5s,MS5.3
XAN LR LR
comp=Z,5μm,15.3s,MS5.4
FITZ Fitzroy Crossi 34.44 126⇓*i*P **P** **09 44 07.7 -1.5**
comp=Z,18nm,0.7s,mb5.1
FITZ Fitzroy Crossi 34.44 126 P **P** **09 44 07.8 -1.4**
comp=Z,11nm,0.8s,mb4.8,baz=272,slow=2.9,SNR=12
FITZ LR LR 09 57 59.7
comp=Z,1μm,21.3s,MS4.6,baz=289,slow=36
LZH Lanzhou 34.60 10⇑P **P** **09 44 09.5 -0.9**
LZH AP pP 09 44 16.9 -1.4
LZH XP sP 09 44 20.5 -1.1
LZH *e*PP PP 09 45 27.0 -0.2
LZH *e*S **S** **09 49 37.8 +0.7**
LZH XS 09 49 50.1
LZH SS SS 09 51 51.6 +2.0
LZH AMB AMB
comp=Z,67nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,168nm,5.3s
LZH LR LR
comp=N,2μm,13.2s
LZH LR LR
comp=Z,2μm,16.8s,MS5.0
LZH Lanzhou 34.60 10⇑P **P** **09 44 09.5 -0.9**
LZH *SP sP 09 44 20.5 -1.1
LZH *e* 09 45 27.0
LZH *e*S **S** **09 49 37.8 +0.7**
LZH *SS 09 49 50.1
LZH SS SS 09 51 51.6 +2.0
LZH pmax pmax
comp=Z,67nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,2μm,16.8s,MS5.0
LZH Lanzhou 34.60 10⇑P **P** **09 44 09.5 -0.9**
comp=Z,67nm,1.5s,mb5.3
LZH pP pP 09 44 16.9 -1.4
LZH sP sP 09 44 20.5 -1.1
LZH *e*PP PP 09 45 27.0 -0.2
LZH *e*S **S** **09 49 37.8 +0.7**
LZH sS 09 49 50.1
LZH SS SS 09 51 51.6 +2.0
LZH LR LR
comp=Z,2μm,16.8s,MS5.0
SMLA Simla 34.64 329⇑*i* **P** **09 44 00.8 -10**
comp=Z,39nm,0.3s,mb5.8
SMLA *i* 09 49 45.2
SDNR Sundarnagar 35.03 329 *e*P **P** **09 44 13.6 -0.6**
SDNR *e*S **S** **09 49 45.4 +1.6**
PONG Pong 35.92 329 *e*P **P** **09 44 22.0 +0.3**
NJ2 Nanjing 36.36 32 *e*P **P** **09 44 25.2 -0.1**
NJ2 AP pP 09 44 34.9 +1.7
NJ2 XP sP 09 44 38.9 +2.3

NJ2 PP PP 09 45 49.8 +0.8
NJ2 S **S** **09 50 05.0 +0.8**
NJ2 XS 09 50 21.0
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,1μm,3.5s
NJ2 LR LR
comp=N,2μm,14.8s,MS5.5
NJ2 LR LR
comp=E,5μm,16.3s,MS5.5
NJ2 LR LR
comp=Z,1μm,20.6s,MS4.6
THN Thein Dam 36.42 329 *e*P **P** **09 44 25.0 -0.9**
SSE Sheshan 36.94 36 P **P** **09 44 30.6 +0.4**
SSE S **S** **09 50 14.3 +1.2**
SSE XS 09 50 29.0
SSE AMB AMB
comp=Z,8.0nm,0.8s,mb4.6
SSE AMB AMB
comp=Z,132nm,5.4s
SSE LR LR
comp=N,2μm,17.1s,MS5.0
SSE LR LR
comp=E,504nm,17.1s,MS5.0
SSE LR LR
comp=Z,2μm,16.8s,MS5.0
SSE Sheshan 36.94 36 P **P** **09 44 30.6 +0.4**
comp=Z,8.0nm,0.8s,mb4.6
SSE S **S** **09 50 14.3 +1.2**
SSE sS 09 50 29.0
SSE LR LR
comp=Z,2μm,16.8s,MS5.0
GTA Gaotai 37.43 4 P **P** **09 44 34.1 -0.2**
GTA AP pP 09 44 42.3 +0.1
GTA XP sP 09 44 45.5 0.0
GTA PP PP 09 46 00.0 -2.5
GTA PCP PcP 09 46 53.5 +0.4
GTA S **S** **09 50 17.9 -2.7**
GTA XS 09 50 36.4
GTA SCP 09 50 39.2
GTA SS SS 09 52 48.7 -4.9
GTA SCS ScS 09 54 44.4 +0.4
GTA AMB AMB
comp=Z,54nm,1.0s,mb5.3
GTA AMB AMB
comp=Z,329nm,7.2s
GTA LR LR
comp=N,910nm,16.3s,MS4.9
GTA LR LR
comp=E,2μm,16.4s,MS4.9
GTA LR LR
comp=Z,1μm,20.9s,MS4.6
MUN Mundaring 38.27 153 *e*P **P** **09 44 49.5 +8.1**
comp=Z,60nm,0.9s,mb5.3
MUN Mundaring 38.27 153 *e*P **P** **09 44 49.5 +8.1**
MUN pmax pmax
comp=Z,60nm,0.9s,mb5.3
KLBR Kellerberrin 38.66 151 *e*P **P** **09 44 47.4 +2.7**
comp=Z,2μm,0.9s
TIA Tai'an 38.88 26⇑P **P** **09 44 46.0 -0.5**
TIA AMB AMB
comp=Z,57nm,0.8s,mb5.3
JOW Kunigami 38.88 48 P **P** **09 44 46.3 -0.3**
comp=Z,42nm,0.8s,mb5.2,baz=258,slow=8.5,SNR=12
JOW LR LR 10 00 24.0
comp=Z,1μm,21.7s,MS4.6,baz=267,slow=36
NWAO Narrogin (SRO) 39.53 153 LR LR 10 00 35.0
comp=Z,2μm,21.1s,MS4.9,baz=329,slow=35
NWAO Narrogin (SRO) 39.53 153 PFAKE 09 45 00.0 +8.1
NWAO LR LR
comp=Z,2μm,21.0s,MS4.8
BTO Baotou 40.29 15 *e*P **P** **09 44 58.3 +0.2**
BTO S **S** **09 51 06.4 +2.7**
BTO AMB AMB
comp=Z,23nm,1.0s,mb4.9
HHC Hu-ho-hao-te 40.94 17⇑P **P** **09 45 04.5 +1.1**
HHC AP pP 09 45 12.7 +1.3
HHC XP sP 09 45 15.5 +0.8
HHC PP PP 09 46 42.9 +2.0
HHC PCP PcP 09 47 04.3 +0.1
HHC SCP 09 50 50.9
HHC PCS 09 50 53.6
HHC S **S** **09 51 15.6 +2.2**
HHC XS 09 51 30.9
HHC SS SS 09 54 11.6 +0.5
HHC SCS ScS 09 55 02.2 -2.2
HHC AMB AMB
comp=Z,54nm,1.4s,mb5.0
HHC AMB AMB
comp=Z,369nm,6.9s
HHC LR LR
comp=N,3μm,15.7s,MS5.4
HHC LR LR
comp=E,2μm,15.9s,MS5.4
HHC LR LR
comp=Z,3μm,15.7s,MS5.3
BJT Baijiatuau 41.73 22⇑*i*P **P** **09 45 10.9 +0.9**
BJT *e*PP pP 09 45 18.0 +0.1
BJT pmax pmax
comp=Z,212nm,1.0s
BJT MLR MLR
comp=Z,1μm,20.0s
BJT Baijiatuau 41.73 22⇑*i*P **P** **09 45 10.9 +0.9**
comp=Z,212nm,1.0s,mb5.7
BJT *e*pP pP 09 45 18.0 +0.1
BJT LR LR
comp=Z,1μm,20.0s,MS4.7
BJI Beijing 41.76 22 P **P** **09 45 11.1 +0.9**
BJI AP pP 09 45 18.6 +0.5
BJI PP PP 09 46 48.7 -1.2
BJI S **S** **09 51 28.4 +2.9**
BJI XS 09 51 42.7
BJI AMB AMB
comp=Z,191nm,0.9s,mb5.7
BJI AMB AMB
comp=Z,490nm,6.8s
BJI LR LR
comp=N,2μm,16.4s,MS5.2
BJI LR LR
comp=E,2μm,15.6s,MS5.2
BJI LR LR
comp=Z,980nm,17.8s,MS4.7
BJI Beijing 41.76 22 P **P** **09 45 11.1 +0.9**
comp=Z,191nm,0.9s,mb5.7
BJI pP pP 09 45 18.6 +0.5
BJI PP PP 09 46 48.7 -1.2
BJI S **S** **09 51 28.4 +2.9**
BJI sS 09 51 42.7
BJI SS SS 09 54 42.2 +16
BJI LR LR
comp=Z,980nm,17.8s,MS4.7
KSH Kashi 42.09 335 *e*P **P** **09 45 18.3 +5.4**
KSH *e*AP pP 09 45 27.2 +6.3
KSH *e*PCP PcP 09 47 09.7 +1.7
KSH *e*PPP PPP 09 47 34.4 +8.9
KSH *e*SCP 09 50 56.3
KSH *e*PCS 09 51 00.2
KSH *e*S **S** **09 51 39.9 +9.4**
KSH AMB AMB
comp=Z,150nm,2.8s,mb5.1
KSH LR LR
comp=N,370nm,6.6s
KSH LR LR
comp=E,230nm,4.8s
WRA Warramunga Arr 42.52 123 P **P** **09 45 16.4 -0.3**
comp=E,6.7nm,0.5s,mb4.6,baz=301,slow=9.1,SNR=119
WRA pP pP 09 45 23.4 -1.2
comp=E,20nm,0.5s,baz=302,slow=9.2,SNR=33
WRA S **S** **09 51 32.8 -4.2**
comp=E,2.2nm,1.1s,baz=294,slow=16,SNR=6.0
WRAB Tennant Creek 42.52 123⇓*e*P **P** **09 45 16.5 -0.2**
WRAB Tennant Creek 42.52 123 *e*P **P** **09 45 15.9 -0.8**
comp=E,32nm,0.6s,mb5.2
WRAB *e* pP 09 45 23.6 -1.1
WRAB LR LR
comp=Z,480nm,22.0s,MS4.3
WB2 Warramunga Arr 42.53 123 *e*P **P** **09 45 16.2 -0.6**
WB2 *e* pP 09 45 23.6 -1.1
WMQ Urumqi 42.58 350⇑P **P** **09 45 16.9 0.0**
WMQ AP pP 09 45 26.7 +1.9
WMQ PP PP 09 46 58.6 +0.4
WMQ PCP PcP 09 47 10.3 +0.7
WMQ PPP PPP 09 47 31.6 -0.2
WMQ S **S** **09 51 36.4 -1.1**

WMQ XS 09 51 52.9
WMQ AMB AMB
comp=Z,17nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,333nm,4.3s
WMQ LR LR
comp=N,618nm,17.3s,MS4.8
WMQ LR LR
comp=E,1μm,20.6s,MS4.8
WMQ LR LR
comp=Z,550nm,20.0s,MS4.4
DL2 Dalian 43.14 28 P **P** **09 45 22.2 +0.7**
DL2 AP pP 09 45 29.5 +0.1
DL2 XP sP 09 45 33.9 +1.2
DL2 AMB AMB
comp=Z,130nm,0.9s,mb5.7
DL2 AMB AMB
comp=Z,480nm,7.0s
DL2 LR LR
comp=N,1μm,18.2s,MS4.8
DL2 LR LR
comp=E,650nm,20.5s,MS4.8
DL2 LR LR
comp=Z,1μm,20.2s,MS4.8
FORT Forrest 43.89 140 *e*P **P** **09 45 28.7 +1.0**
comp=Z,923nm,0.6s
ASPA Alice Springs 43.92 128⇓*i*P **P** **09 45 28.0 0.0**
ASPA *e*S **S** **09 51 55.8 -1.5**
ASAR Alice Springs 43.92 128 P **P** **09 45 27.4 -0.7**
comp=Z,6.4nm,0.7s,mb4.5,baz=298,slow=7.7,SNR=106
ASAR ScP 09 51 03.3
comp=Z,1.7nm,1.0s,baz=297,slow=3.5,SNR=4.8
ASAR S **S** **09 51 54.7 -2.7**
comp=Z,0.8nm,0.9s,baz=297,slow=14,SNR=4.3
ASAR LR LR 10 07 45.3
comp=Z,810nm,18.8s,MS4.7,baz=296,slow=42
ASAR Alice Springs 43.92 128 P **P** **09 45 27.4 -0.7**
ASAR ScP 09 51 03.3
ASAR S **S** **09 51 54.7 -2.7**
ASAR LR LR 10 07 45.3
ULHL Ulahol 44.31 338 P **P** **09 45 32.1 +1.1**
SNR=11
KZA Kyzart 44.55 337 P **P** **09 45 34.0 +1.0**
SNR=9.0
INCN Inchon 44.66 34 PFAKE 09 45 50.0 +16
INCN LR LR
comp=Z,3μm,20.0s,MS5.2
AAA Alma-Ata 44.94 339 P **P** **09 45 35.0 -1.0**
AAA pmax pmax
comp=Z,600nm,4.0s
UCH Uchtor 44.97 336 P **P** **09 45 37.3 +1.1**
SNR=40
TKM2 Tokmak 2 45.13 338 P **P** **09 45 38.2 +0.7**
SNR=28
KBK Karagaybulak 45.16 337 P **P** **09 45 39.1 +1.4**
SNR=18
AML Almayashu 45.22 335 P **P** **09 45 39.2 +0.9**
SNR=29
AAK Ala-Archa 45.31 337 P **P** **09 45 39.6 +0.6**
SNR=12
AAK Ala-Archa 45.31 337 P **P** **09 45 38.9 -0.1**
comp=Z,188nm,1.0s,mb5.9,SNR=20
AAK Ala-Archa 45.31 337⇑*e*P **P** **09 45 38.3 -0.7**
comp=Z,56nm,1.1s,mb5.3
AAK LR LR
comp=Z,221nm,21.0s,MS4.1
FRU Bishkek 45.44 337 *e*P **P** **09 45 40.0 0.0**
FRU *e* 09 45 58.0
FRU pmax pmax
comp=Z,40nm,2.0s,mb4.9
FRU MLR MLR
comp=Z,2μm,20.0s,MS4.9
CHMS Chumysh 45.52 337 P **P** **09 45 41.4 +0.8**
SNR=10
EKS2 Erkin-Say 45.63 336 P **P** **09 45 42.5 +1.1**
SNR=17
USP Ospenovka 45.85 337 P **P** **09 45 44.6 +1.4**
SNR=5.8
SONM Songino Array 46.48 9 P **P** **09 45 48.3 +0.2**
comp=Z,30nm,0.9s,mb5.2,baz=190,slow=8.0,SNR=190
SONM pP pP 09 45 55.1 -1.0
comp=Z,35nm,1.0s,baz=193,slow=8.7,SNR=18
SONM PcP PcP 09 47 22.2 -0.6
comp=Z,8.7nm,0.7s,baz=202,slow=3.8,SNR=6.8
SONM ScP 09 51 13.1
comp=Z,1.9nm,0.9s,baz=191,slow=2.6,SNR=6.0
MKAR Makanchi Array 46.54 346 *i* P **P** **09 45 48.4 -0.2**
MKAR pmax pmax
comp=Z,41nm,0.8s
MKAR Makanchi Array 46.54 346 P **P** **09 45 48.4 -0.2**
comp=Z,40nm,0.8s,mb5.4,baz=160,slow=7.4,SNR=158
MKAR pP pP 09 45 56.4 -0.3
comp=Z,36nm,0.9s,baz=158,slow=7.8,SNR=11
MKAR LR LR 10 09 13.9
comp=Z,1μm,20.6s,MS4.8,baz=145,slow=41
ULN Ulaanbaatar 46.61 9*c i*P **P** **09 45 49.3 +0.2**
ULN Ulaanbaatar 46.61 9⇑*e*P **P** **09 45 49.2 +0.1**
comp=Z,29nm,1.1s,mb5.1
ULN *e*pP pP 09 45 57.1 0.0
ULN LR LR
comp=Z,2μm,19.0s,MS5.2
ZAK Zakamensk 48.60 5⇓*i*P **P** **09 46 04.4 -0.3**
ZAK pmax pmax
comp=Z,13nm,1.6s,mb4.7
GUMO Guam 48.67 74 PFAKE 09 46 20.0 +14
GUMO LR LR
comp=Z,384nm,19.0s,MS4.4
CN2 Changchun 48.76 27⇑P **P** **09 46 05.3 -0.7**
CN2 *e*AP pP 09 46 12.8 -1.3
CN2 *e*XP sP 09 46 16.1 -1.1
CN2 *e*S **S** **09 53 14.0 +7.9**
CN2 AMB AMB
comp=Z,50nm,1.1s,mb5.5
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,2μm,17.0s,MS5.3
CN2 LR LR
comp=E,700nm,17.0s,MS5.3
CN2 LR LR
comp=Z,2μm,19.0s,MS5.2
MOY Mondy 49.71 3 *e*P **P** **09 46 13.6 +0.4**
MOY pmax pmax
comp=Z,49nm,3.0s
TLY Talaya 49.92 5 *e*P **P** **09 46 15.3 +0.4**
TLY *e* 09 48 05.2
TLY *e*S **S** **09 53 20.8 -1.4**
TLY pmax pmax
comp=Z,32nm,1.1s,mb5.3
TLY MLR MLR
comp=Z,2μm,17.0s,MS5.3
TLY Talaya 49.92 5⇓*e*P **P** **09 46 15.7 +0.8**
TLY LR LR
comp=Z,346nm,20.0s,MS4.4
IRK Irkutsk 50.54 6 *e*P **P** **09 46 18.8 -0.8**
IRK *e* 09 47 41.6
IRK pmax pmax
comp=Z,63nm,1.9s,mb5.2
HIA Hailar 51.04 19⇑*i*P **P** **09 46 22.9 -0.5**
HIA *e**PP pP 09 46 30.7 -0.8
HIA pmax pmax
comp=Z,43nm,1.1s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 51.04 19⇑*i*P **P** **09 46 22.9 -0.4**
comp=Z,43nm,1.1s,mb5.3
HIA *e*pP pP 09 46 30.7 -0.8
HIA LR LR
comp=Z,1μm,20.0s,MS4.9
PMG Port Moresby 51.15 104 PFAKE 09 46 40.0 +15
PMG LR LR
comp=Z,889nm,22.0s,MS4.7
MAJO Matsushiro 51.28 43 *e*P **P** **09 46 24.5 -0.9**
MAJO pmax pmax
comp=Z,26nm,0.8s,mb5.2
MAJO MLR MLR
comp=Z,1μm,20.0s,MS4.9
MAJO Matsushiro 51.28 43 *e*P **P** **09 46 24.5 -0.9**
comp=Z,26nm,0.8s,mb5.2
MAJO LR LR
comp=Z,1μm,20.0s,MS4.9
MAT Matsushiro 51.28 43 *e*P **P** **09 46 24.0 -1.4**
MAT *e*S **S** **09 53 53.0 +12**
MAT pmax pmax
comp=Z,32nm,1.0s,mb5.2
MAT MLR MLR

comp=Z,1µm,20.0s,MS4.9
MAT Matsushiro 51.28 43 *e*P **P 09 46 24.0 -1.4**
comp=Z,32nm,1.0s,mb5.2
MAT *e*S **S 09 53 53.0 +12**
MAT LR LR
comp=Z,1µm,20.0s,MS4.9
MAT Matsushiro 51.28 43 P **P 09 46 24.3 -1.1**
MAT S **S 09 53 52.0 +11**
MJAR Matsushiro Arr 51.28 43 P **P 09 46 24.6 -0.8**
comp=Z,25nm,0.8s,mb5.2,baz=220,slow=6.3,SNR=49
MJAR LR LR 10 09 48.5
comp=Z,1µm,19.1s,MS4.9,baz=245,slow=38
MDJ Mudanjiang 51.34 29 P **P 09 46 25.0 -0.7**
MDJ AP pP 09 46 31.6 -2.2
MDJ XP sP 09 46 33.9 -3.0
MDJ PCP PcP 09 47 38.5 -2.0
MDJ PP PP 09 48 21.4 -2.1
MDJ SCP 09 51 34.6
MDJ PCS 09 51 37.3
MDJ S **S 09 53 46.5 +4.7**
MDJ SCS ScS 09 56 13.1 +2.0
MDJ AMB AMB
comp=Z,28nm,1.2s,mb5.1
MDJ AMB AMB
comp=Z,316nm,5.6s
MDJ LR LR
comp=N,854nm,16.8s,MS5.1
MDJ LR LR
comp=E,1µm,17.5s,MS5.1
MDJ LR LR
comp=Z,2µm,13.3s,MS5.4
MDJ Mudanjiang 51.34 29 *e*P **P 09 46 25.7 0.0**
comp=Z,60nm,1.1s,mb5.4
MDJ *e* pP 09 46 34.4 +0.6
MDJ LR LR
comp=Z,2µm,19.0s,MS5.1
ZAL Zalesovo 52.85 351 *i* P **P 09 46 36.1 -0.9**
ZAL pmax pmax
comp=Z,78nm,0.7s
ZAL Zalesovo 52.85 351 P **P 09 46 36.1 -0.9**
comp=Z,78nm,0.7s,mb5.7,baz=301,slow=6.4,SNR=290
ZAL pP pP 09 46 44.0 -1.1
comp=Z,49nm,0.9s,baz=298,slow=7.7,SNR=11
ZAL S **S 09 54 02.6 +0.3**
comp=Z,1.3nm,0.5s,baz=182,slow=21,SNR=11
CTA Charters Tower 52.93 117 *e*P **P 09 46 37.6 -0.5**
comp=Z,13nm,0.7s,mb5.0
CTA Charters Tower 52.93 117 *e*P **P 09 46 37.6 -0.5**
CTA pmax pmax
comp=Z,13nm,0.7s
CTA Charters Tower 52.93 117 LR LR 10 13 27.6
comp=Z,1µm,18.5s,MS4.9,baz=21,slow=41
CTAO Charters Tower 52.93 117 *e*P **P 09 46 37.9 -0.2**
CTAO *e* pP 09 46 45.5 -0.7
CTAO pmax pmax
comp=Z,13nm,0.7s,mb5.0
CTAO MLR MLR
comp=Z,1µm,19.0s,MS5.0
CTAO Charters Tower 52.93 117 *e*P **P 09 46 37.9 -0.2**
comp=Z,13nm,0.7s,mb5.0
CTAO *e* pP 09 46 45.5 -0.7
CTAO LR LR
comp=Z,1µm,19.0s,MS5.0
OPO Ambohidratompo 53.08 245 P **P 09 46 38.1 -1.0**
comp=Z,0.9nm,0.3s,mb4.2,baz=275,slow=4.8,SNR=5.5
STKA Stephens Creek 53.92 132 *e*P **P 09 46 44.9 -0.2**
comp=Z,13nm,0.9s,mb4.8
STKA Stephens Creek 53.92 132 P **P 09 46 44.9 -0.2**
comp=Z,5.4nm,0.9s,mb4.5,baz=307,slow=7.8,SNR=23
STKA LR LR 10 12 51.3
comp=Z,1µm,20.2s,MS4.9,baz=122,slow=40
NVS Novosibirsk 53.98 350⇑ *i*P **P 09 46 43.7 -1.5**
NVS *e*S **S 09 54 11.3 -6.4**
NVS pmax pmax
comp=Z,82nm,1.0s,mb5.6
NVS pmax pmax
comp=N,51nm,0.9s
NVS pmax pmax
comp=E,29nm,0.8s
NVS smax
comp=E,44nm,1.5s
RAYN Ar Rayn 54.31 298 P **P 09 46 48.0 -0.1**
comp=E,153nm,0.9s,SNR=11
BVA0 Borovoye Array 55.56 341 *i* P **P 09 46 55.3 -1.5**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BVAR Borovoye Array 55.56 341 P **P 09 46 55.1 -1.7**
comp=Z,41nm,0.7s,mb5.5,baz=143,slow=7.4,SNR=182
BVAR pP pP 09 47 03.4 -1.5
comp=Z,28nm,0.9s,baz=172,slow=10,SNR=11
KLR Kul'dur 55.70 27k *i*P **P 09 46 54.7 -3.2**
KLR *e*S **S 09 54 42.0 +1.1**
KLR *e*SS SS 09 58 31.0 +4.7
KLR pmax pmax
comp=N,64nm,1.8s
KLR pmax pmax
comp=E,85nm,1.8s
KLR pmax pmax
comp=Z,130nm,1.8s,mb5.7
KLR MLR MLR
comp=E,1µm,13.5s
KLR MLR MLR
comp=Z,4µm,13.5s,MS5.7
CHKZ Chkalovo 56.03 341⇑ *i*P **P 09 46 58.9 -1.3**
CHKZ *e**PP pP 09 47 06.8 -1.5
BOD Bodaibo 57.36 11⇓ *i*P **P 09 47 08.6 -1.1**
BOD pmax pmax
comp=Z,36nm,1.0s,mb5.4
ASAJ Asahikawa 58.20 37 P **P 09 47 15.1 -0.6**
comp=Z,25nm,0.7s,mb5.3,baz=232,slow=8.9,SNR=15
CLNS Chul'man 59.13 17 *e*P **P 09 47 20.9 -1.1**
CLNS *e**PP pP 09 47 26.3 -3.9
CLNS *e* 09 48 09.1
CLNS *e*S **S 09 55 24.7 -1.1**
CLNS *e*PS PS 09 55 52.1 +8.4
CLNS *e*SS SS 09 59 13.9 -7.9
CLNS pmax pmax
comp=N,31nm,0.8s
CLNS pmax pmax
comp=E,26nm,0.8s
CLNS pmax pmax
comp=Z,69nm,0.8s,mb5.7
CLNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=N,196nm,12.3s
CLNS smax
comp=Z,88nm,11.6s
CLNS smax
comp=E,45nm,12.7s
CLNS MLR MLR
comp=Z,4µm,17.0s,MS5.5
CLNS MLR MLR
comp=N,2µm,14.0s,MS5.3
CLNS MLR MLR
comp=E,500nm,14.0s,MS5.3
YSS Yuzh-Sakhalins 59.86 35⇑ *e*P **P 09 47 27.0 -0.2**
YSS *e* 09 47 39.1
YSS *e*S **S 09 55 52.0 +17**
YSS pmax pmax
comp=N,40nm,1.0s
YSS pmax pmax
comp=Z,120nm,1.0s,mb5.9
YSS pmax pmax
comp=E,30nm,0.9s
YSS MLR MLR
comp=N,900nm,16.0s,MS5.2
YSS MLR MLR
comp=E,1µm,16.0s,MS5.2
YSS MLR MLR
comp=Z,1µm,16.0s,MS5.0
YSS Yuzh-Sakhalins 59.86 35⇑ *i*P **P 09 47 27.1 -0.1**
comp=Z,121nm,1.0s,mb5.9
YSS LR LR
comp=Z,713nm,21.0s,MS4.8
KMBO Kilima Mbogo 59.88 268 *i* P **P 09 47 27.8 +0.1**
KMBO pmax pmax
comp=Z,7.0nm,0.8s
KMBO Kilima Mbogo 59.88 268 P **P 09 47 28.1 +0.4**
comp=Z,6.5nm,0.8s,mb4.7,baz=60,slow=9.9,SNR=6.9
KMBO LR LR 10 09 37.3
comp=Z,759nm,20.2s,MS4.8,baz=277,slow=32
KMBO Kilima Mbogo 59.88 268 *e*P **P 09 47 27.8 +0.1**
comp=Z,9.2nm,0.8s,mb4.9
KMBO LR LR
comp=Z,799nm,21.0s,MS4.8
GNI Garni 60.70 316 *i* P **P 09 47 32.0 -1.0**
GNI pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 60.70 316 P **P 09 47 32.8 -0.2**
comp=Z,2.2nm,0.4s,mb4.7,baz=359,slow=18,SNR=4.2
GNI Garni 60.70 316 *e*P **P 09 47 32.0 -1.1**
comp=Z,26nm,0.9s,mb5.4
GNI LR LR
comp=Z,382nm,20.0s,MS4.5
TI2 Plekhanov 61.38 318 *e*P **P 09 47 38.2 +0.6**
SVE Sverdlovsk 62.00 338⇓ *i*P **P 09 47 40.6 -1.0**
SVE pmax pmax
comp=Z,58nm,1.0s,mb5.7
ZEI Tsey 62.39 318 *e*P **P 09 47 44.3 -0.1**
ZEI *i* *PP pP 09 47 55.3 +2.6
ZEI *i* 09 49 56.2
ZEI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ARU Arti 62.50 337⇑ *i*P **P 09 47 44.3 -0.6**
ARU *e* 09 48 20.3
ARU *e* 09 50 05.1
ARU *e*S **S 09 56 12.2 +3.4**
ARU *e*SS SS 10 00 17.1 +2.2
ARU pmax pmax
comp=Z,38nm,1.0s,mb5.5
ARU MLR MLR
comp=Z,600nm,22.0s,MS4.7
ARU MLR MLR
comp=N,400nm,20.0s,MS4.7
ARU MLR MLR
comp=E,400nm,21.0s,MS4.7
ARU Arti 62.50 337⇓ *e*P **P 09 47 44.1 -0.8**
ARU LR LR
comp=Z,158nm,21.0s,MS4.2
HNR Honiara 63.63 101 PFAKE 09 48 00.0 +6.9
HNR LR LR
comp=Z,355nm,20.0s,MS4.5
KIV Kislovodsk 63.70 319 *e*P **P 09 47 52.4 -0.6**
KIV *i* pP 09 47 59.1 -2.2
KIV *i* 09 48 29.3
KIV *e* 09 50 21.0
KIV *i* S **S 09 56 25.4 +1.3**
KIV *i* SS SS 10 00 36.0 +2.4
KIV pmax pmax
comp=Z,19nm,0.9s,mb5.1
KIV MLR MLR
comp=Z,100nm,7.0s
KIV Kislovodsk 63.70 319 *e*P **P 09 47 52.1 -0.9**
comp=Z,63nm,1.0s,mb5.6
KIV *e*pP pP 09 48 00.2 -1.0
KIV LR LR
comp=Z,82nm,22.0s
GOF Gofitskoye 63.95 320⇓ *i*P **P 09 48 00.0 +5.4**
GOF pmax pmax
comp=Z,700nm,2.2s
ASF Jabal al Asfar 63.96 305 P **P 09 47 54.9 0.0**
comp=Z,2.1nm,0.4s,mb4.5,baz=236,slow=1.1,SNR=4.8
ASF pP pP 09 48 03.1 -0.1
comp=Z,9.9nm,0.9s,baz=23,slow=5.7,SNR=4.2
YAK Yakutsk 64.80 16 *e*P **P 09 47 58.4 -1.5**
YAK *e* 09 48 28.8
YAK *e* 09 50 23.5
YAK *e*PPP PPP 09 52 02.9 +4.9
YAK *e*S **S 09 56 37.8 +0.4**
YAK *e* 09 57 45.3
YAK *e*SS SS 10 00 54.4 +3.8
YAK pmax pmax
comp=Z,240nm,1.0s,mb6.2
YAK pmax pmax
comp=N,68nm,1.1s
YAK pmax pmax
comp=E,61nm,1.2s
YAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK smax
comp=N,2.0nm,1.2s
YAK smax
comp=E,5.0nm,1.0s
YAK Yakutsk 64.80 16⇑ *i*P **P 09 47 58.5 -1.4**
comp=E,250nm,0.9s,mb6.2
YAK LR LR
comp=Z,2µm,19.0s,MS5.3
GZT Gaziantep 64.91 311 *i* P **P 09 48 01.0 0.0**
EIL Elat 64.97 302 *e*P **P 09 48 01.9 +0.3**
comp=Z,22nm,1.1s,mb5.1
EIL *e*pP pP 09 48 09.5 -0.4
SOC Sochi 65.52 318 *e*P **P 09 48 02.6 -2.2**
SOC *e* 09 48 33.0
SOC *e* 09 50 23.5
SOC *e*PPP PPP 09 52 00.8 -4.9
SOC *e*S S 09 56 43.0 -3.5
SOC *e* 09 57 58.2
SOC *e*SS SS 10 01 01.0 -0.9
SOC pmax pmax
comp=Z,25nm,1.1s,mb5.2
SOC pmax pmax
comp=N,31nm,1.2s
SOC pmax pmax
comp=E,7.0nm,0.8s
COBT Iskenderun 65.66 309 *i* P **P 09 48 05.7 -0.2**
MBAR Mbarara 66.36 269 *e*P **P 09 48 09.7 -1.0**
MBAR *e* pP 09 48 17.7 -1.3
MBAR pmax pmax
comp=Z,13nm,1.4s,mb4.8
MBAR MLR MLR
comp=Z,135nm,20.0s,MS4.2
MBAR Mbarara 66.36 269 *e*P **P 09 48 09.7 -1.0**
comp=Z,13nm,1.4s,mb4.8
MBAR *e* pP 09 48 17.7 -1.3
MBAR LR LR
comp=Z,135nm,20.0s,MS4.2
ANN Anapa 67.50 318 *e*P **P 09 48 09.7 -7.7**
ANN *i* *PP pP 09 48 20.3 -5.3
ANN *i* 09 48 39.3
ANN pmax pmax
comp=Z,21nm,1.0s,mb5.1
CSS Prodhromos 67.54 307 P **P 09 48 16.5 -1.4**
comp=Z,7.8nm,0.6s,mb4.9
BOYT Boyabat 68.12 314 *i* P **P 09 48 20.3 -1.0**
BRTR Keskin Array B 68.55 312 P **P 09 48 22.7 -1.4**
comp=Z,3.6nm,0.7s,mb4.4,baz=130,slow=7.1,SNR=18
CASY Casey 68.70 174 PFAKE 09 48 40.0 +15
CASY LR LR
comp=Z,1µm,19.0s,MS5.1
VRSR Storozhevoye 68.91 325 *e*P **P 09 48 24.5 -1.6**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,7.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,0.9s
ELDT Eldivan 68.92 313 *i* P **P 09 48 25.7 -0.6**
BALT Daday 69.24 314 *i* P **P 09 48 29.1 +0.8**
SIM Simferopol' 69.77 318 P **P 09 48 31.4 0.0**
SIM pmax pmax
comp=Z,12nm,0.7s,mb4.9
SIM MLR MLR
comp=Z,300nm,21.0s,MS4.5
SGKT Sivrigoynuk 69.95 313 *i* P **P 09 48 38.3 +5.7**
WAKE Wake Island 70.13 70 PFAKE 09 48 50.0 +16
WAKE LR LR
comp=Z,173µm,21.0s
LSZ Lusaka 70.18 253 PFAKE 09 48 50.0 +16
LSZ LR LR
comp=Z,1µm,20.0s,MS5.1
MA2 Magadan 70.78 26c *i*P **P 09 48 37.1 -0.2**
MA2 pmax pmax
comp=E,9.0nm,0.8s
MA2 pmax pmax
comp=Z,30nm,0.8s,mb5.3
MA2 Magadan 70.78 26⇑ *e*P **P 09 48 36.9 -0.4**
comp=Z,71nm,0.8s,mb5.7
MA2 LR LR
comp=Z,908nm,20.0s,MS5.0
MOS Moscow 71.67 329 *e*P **P 09 48 48.8 +6.0**
MOS *e* 09 49 05.2
MOS *e* 09 53 07.6
MOS pmax pmax
comp=Z,59nm,0.7s,mb5.6
MOS MLR MLR
comp=Z,1µm,23.2s,MS5.1
PET Petropavlovsk 71.74 34 *e*P **P 09 48 43.2 0.0**
PET *e* pP 09 48 51.4 -0.1
PET *e* 09 48 56.4
PET *e*PPP PPP 09 52 58.4 -7.6
PET *e* 09 58 39.0
PET pmax pmax
comp=Z,88nm,0.9s,mb5.7
PET MLR MLR
comp=Z,500nm,21.0s,MS4.8
PET MLR MLR
comp=E,300nm,18.0s,MS5.2
PET MLR MLR
comp=N,1µm,16.0s,MS5.2
PET Petropavlovsk 71.74 34 *e*P **P 09 48 42.4 -0.8**
comp=N,45nm,0.9s,mb5.4
OBN Obninsk 71.96 328⇓ *e*P **P 09 48 43.8 -0.7**
OBN *i* pP 09 48 50.8 -2.0
OBN *e* 09 51 23.4
OBN *e*S S 09 58 04.1 +1.4
OBN *e*SS SS 10 02 40.2 -1.2
OBN pmax pmax
comp=Z,19nm,0.9s,mb5.0
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.7
OBN Obninsk 71.96 328⇓ *e*P **P 09 48 43.8 -0.7**
OBN LR LR
comp=Z,300nm,15.0s,MS4.7
ULDT Uludag 72.00 312 *i* P **P 09 48 43.9 -1.1**
TIXI Tiksi 72.54 10⇑ *e*P **P 09 48 46.2 -1.4**
TIXI pmax pmax
comp=Z,36nm,0.9s,mb5.3
TIXI MLR MLR
comp=Z,1µm,17.0s,MS5.2
TIXI Tiksi 72.54 10⇑ *e*P **P 09 48 46.3 -1.3**
TIXI LR LR
comp=Z,889nm,20.0s,MS5.0
SEY Seymchan 73.19 23 *e*P **P 09 48 51.1 -0.5**
SEY *e* 09 49 14.3
SEY *e* 09 51 34.6
SEY *e*S S 09 58 15.4 -1.1
SEY *e*SS SS 10 02 51.5 -9.1
SEY pmax pmax
comp=N,30nm,0.9s
SEY pmax pmax
comp=Z,90nm,0.9s,mb5.7
SEY smax
comp=N,800nm,21.9s
SEY smax
comp=E,520nm,23.2s
SEY MLR MLR
comp=Z,5µm,20.0s,MS5.8
SEY MLR MLR
comp=E,2µm,19.0s
MAW Mawson 73.35 193 P **P 09 48 53.1 +0.7**
comp=E,5.6nm,0.7s,mb4.6,baz=63,slow=4.7,SNR=9.7
MAW LR LR 10 14 29.4
comp=E,701nm,19.9s,MS4.9,baz=65,slow=30
TIRR Tirgusor 73.53 316 ⇓P **P 09 48 53.3 -0.7**
TIRR Tirgusor 73.53 316 ⇓P **P 09 48 53.3 -0.7**
CFR Carcaliu 73.90 317 ⇓P **P 09 48 55.4 -0.7**
CFR Carcaliu 73.90 317 ⇓P **P 09 48 55.3 -0.8**
HARR Harsova 73.92 316 ⇓P **P 09 48 56.4 +0.2**
LBTB Lobatse 74.07 243 *e*P **P 09 48 56.4 -1.1**
LBTB pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
LBTB MLR MLR
comp=Z,1µm,20.0s,MS5.1
LBTB Lobatse 74.07 243 *e*P **P 09 48 56.4 -1.0**
comp=Z,9.3nm,1.0s,mb4.7
LBTB LR LR
comp=Z,1µm,20.0s,MS5.1
AKASG Malin Array Be 74.63 322 P **P 09 48 59.0 -1.2**
comp=Z,7.1nm,0.7s,mb4.7,baz=89,slow=5.1,SNR=22
DRV Dumont d'Urvil 74.85 164 S S 09 58 30.0 -5.0
DRV L 10 08 00.0
VRI Vrincioaia 75.02 317⇓ *i*P **P 09 49 02.9 +0.4**
MLR Muntele Rosu 75.47 317 P **P 09 49 04.9 -0.2**
comp=Z,12nm,0.9s,mb4.8,baz=242,slow=3.1,SNR=3.1
MLR pP pP 09 49 14.1 +0.6
comp=Z,26nm,1.1s,baz=82,slow=2.6,SNR=13
MLR Muntele Rosu 75.47 317⇑ *i*P **P 09 49 05.7 +0.5**
MLR Muntele Rosu 75.47 317⇑ *i*P **P 09 49 05.7 +0.6**
BURAR Bucovina Array 76.42 319 ⇑P **P 09 49 11.6 +1.2**
BURAR Bucovina Array 76.42 319 ⇑P **P 09 49 11.6 +1.2**
LVV L'vov 77.65 321 *e*P **P 09 49 17.4 +0.2**
LVV *e*S S 09 59 00.0 -5.9
APA Apatity 78.44 339⇓ *i*P **P 09 49 22.0 +0.8**
APA *i* 09 49 36.3
APA pmax pmax
comp=Z,31nm,1.0s,mb5.2
KWP Kalwaria 78.45 320 *e*P **P 09 49 22.1 +0.5**
BZS Buzias 78.48 316 ⇑P **P 09 49 22.3 +0.4**
KOLS Kolonicke sedl 78.61 320 *i* P **P 09 49 23.3 +0.8**
KOLS *i* pP pP 09 49 32.9 +2.0
SUW Suwalki 79.03 325 *e*P **P 09 49 23.3 -1.4**
CRVS Cervenica-Dubn 79.13 319 *i* P **P 09 49 26.4 +1.1**
CRVS *i* sP sP 09 49 37.2 +0.7
FINES FINESS Array B 79.33 332 *i* P **P 09 49 26.0 -0.1**
FINES pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 79.33 332 P **P 09 49 26.0 -0.1**
comp=Z,10nm,0.7s,mb4.9,baz=108,slow=6.0,SNR=36
FINES pP pP 09 49 35.0 +0.5
comp=Z,12nm,0.8s,baz=117,slow=8.5,SNR=10
FINES LR LR 10 28 04.9
comp=Z,347nm,21.9s,MS4.7,baz=146,slow=38
DIVS Divcibare 79.41 314⇑ *i*P **P 09 49 26.6 -0.4**
KAF Kangasniemi 79.41 333 *e*p **P 09 49 27.2 +0.6**
comp=Z,14nm,0.7s,mb5.0
KAF Kangasniemi 79.41 333 *e*P **P 09 49 27.2 +0.6**
KAF pmax pmax
comp=Z,14nm,0.7s,mb5.0
SUR Sutherland 79.42 237 PFAKE 09 49 40.0 +13
SUR LR LR
comp=Z,290nm,19.0s,MS4.6
NIE Niedzica 79.95 320 *e*P **P 09 49 29.2 -0.6**
PSZ Piszkesteto 80.00 318 *e*P **P 09 49 30.3 +0.2**
PSZ Piszkesteto 80.00 318 ⇓P **P 09 49 30.4 +0.3**
OJC Ojcow 80.41 321 *e*P **P 09 49 32.6 +0.4**
BILL Bilibino 80.57 21⇓ *e*P **P 09 49 32.5 -0.2**
BILL *e* 09 49 38.8
BILL *e* 09 52 36.3
BILL *e*S S 09 59 38.1 +1.6
BILL *e*SS SS 10 04 51.5 -0.8
BILL pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BILL MLR MLR
comp=Z,3µm,22.0s,MS5.6
BILL Bilibino 80.57 21 *e*P **P 09 49 32.1 -0.6**
comp=Z,6.0nm,0.7s,mb4.6
BILL LR LR
comp=Z,2µm,20.0s,MS5.5
SYO Syowa Base 80.61 198 ⇑P **P 09 49 33.0 +0.1**
SYO Syowa Base 80.61 198 ⇓PcP PcP 09 49 39.8 -0.3
PKSM Moragy 80.62 316 ⇑P **P 09 49 33.5 +0.1**
PKSM Moragy 80.62 316 ⇑P **P 09 49 33.5 +0.1**
VYHS Vyhne 80.79 319 *i* P **P 09 49 34.0 -0.2**
VYHS *e*pP pP 09 49 41.5 -1.1
OKC Ostrava-Krasne 81.41 320 *e*P **P 09 49 38.1 +0.7**
OKC MLR MLR
comp=N,900nm,25.2s
KEV Kevo 81.41 341 *e*p pP 09 49 48.1 +2.6
comp=N,29nm,1.6s
MORC Moravsky Berou 81.79 320 *e*P **P 09 49 39.5 +0.1**
MORC *e* pP 09 49 47.8 -0.1
MORC pmax pmax
comp=Z,17nm,1.2s,mb4.8
MORC Moravsky Berou 81.79 320 *e*P **P 09 49 39.5 +0.1**
comp=Z,17nm,1.2s,mb4.9
MORC *e* pP 09 49 47.8 -0.1
ZST Bratislava 81.90 318 *i* P **P 09 49 40.4 +0.4**
ZST *e*pP pP 09 49 49.7 +1.2
SNZO South Karori 81.98 132 PFAKE 09 49 50.0 +9.4
SNZO LR LR
comp=Z,826nm,21.0s,MS5.1
KOGS Kog 82.30 316 *e*P **P 09 49 42.8 +0.7**
FG4 Candela 82.39 311 *e*P **P 09 49 42.9 +0.2**
DPC Dobruska-Polom 82.64 320 *e*P **P 09 49 44.8 +1.0**
DPC *e*S S 10 00 00.6 +2.6
DPC AMS AMS 10 32 30.0

comp=Z,300nm,18.7s
KSP Ksiaz 82.70 321 *e*P **P 09 49 44.4 +0.3**
KSP *e*S S 09 59 59.0 +0.3
KSP Ksiaz 82.70 321 *e*P **P 09 49 45.1 +1.0**
UPC Upice 82.85 321 *e*P **P 09 49 45.8 +0.9**
ARSA Arzberg 82.87 317⇑ *i*P **P 09 49 45.5 +0.4**
comp=Z,14nm,1.0s,mb5.0
BOJS Bojanci 82.91 315 *e*P **P 09 49 45.5 +0.2**
PERS Pernice 83.09 317 *e*P **P 09 49 47.0 +0.8**
LJU Ljubljana 83.46 316 *i* P **P 09 49 48.5 +0.4**
OBKA Obir 83.47 316⇑ *i*P **P 09 49 48.6 +0.4**
comp=Z,8.8nm,0.9s,mb4.8
SDI San Donato 83.70 312 *e*P **P 09 49 49.5 0.0**
PRU Pruhonice 83.74 320 *e*P **P 09 49 49.9 +0.4**
PRU *e*S S 10 00 10.0 +0.8
PRU AMS AMS 10 34 00.0
comp=Z,300nm,14.0s
PVCC Panska Ves 83.77 320 *e*P **P 09 49 49.8 +0.2**
PVCC AMS AMS 10 34 20.0
comp=Z,300nm,18.8s
VOY Vojsko 83.90 316 *e*P **P 09 49 50.5 +0.1**
BRG Berggiesshubel 84.19 321 *i* P **P 09 49 52.3 +0.6**
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BRG Berggiesshubel 84.19 321 *i* P **P 09 49 52.3 +0.6**
comp=Z,8.6nm,0.9s,mb4.9
GEC2 GERESS Array S 84.21 319 *e*P **P 09 49 52.4 +0.5**
GEC2 pmax pmax
comp=Z,19nm,1.1s,mb5.1
GEC2 GERESS Array S 84.21 319 *e*P **P 09 49 52.4 +0.5**
comp=Z,19nm,1.1s,mb5.1
GERES GERESS Array B 84.21 319 P **P 09 49 52.1 +0.3**
comp=Z,12nm,0.9s,mb5.0,baz=104,slow=5.5,SNR=50
NRCA Norcia 84.28 313 *e*P **P 09 49 52.8 +0.4**
PTCC Patocco-Chiusa 84.29 316 *e*P **P 09 49 52.8 +0.4**
KHC Kasperske Hory 84.31 319 *e*P **P 09 49 52.9 +0.5**
KHC *e*S S 10 00 16.9 +2.1
KHC MLR MLR
comp=Z,200nm,18.0s,MS4.5
KHC Kasperske Hory 84.31 319 *e*P **P 09 49 52.9 +0.5**
KHC *e*x x 09 50 19.0
KHC *e*S S 10 00 16.9 +2.1
KHC AMS AMS 10 38 30.0
comp=Z,200nm,18.0s
KBA Koelnbreinsper 84.34 317⇓ *i*P **P 09 49 52.7 +0.1**
comp=Z,9.9nm,0.9s,mb4.9
KBA Koelnbreinsper 84.34 317⇓ *i*P **P 09 49 52.7 +0.1**
KBA pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
ARV Arcevia 84.44 313 *e*P **P 09 49 54.1 +0.9**
WET Wettzell 84.77 319 *e*P **P 09 49 55.1 +0.4**
WET pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
WET Wettzell 84.77 319 *e*P **P 09 49 55.1 +0.4**
comp=Z,10.0nm,0.8s,mb5.0
CLL Collm 84.81 321 *i* P **P 09 49 55.2 +0.4**
CLL *i* pP 09 50 03.9 +0.6
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
CLL MLR MLR
comp=Z,400nm,19.0s,MS4.8
CLL Collm 84.81 321 *i* P **P 09 49 55.2 +0.4**
comp=Z,10.0nm,1.0s,mb4.9
CLL *i* pP 09 50 03.9 +0.6
CLL LR LR
comp=Z,400nm,19.0s,MS4.8
CLL Collm 84.81 321 P **P 09 49 55.2 +0.4**
comp=Z,logA/T=1.0,mb4.9
CLL *i* *PP pP 09 50 03.9 +0.6
HFS Hagfors 85.06 330 P **P 09 49 56.2 +0.4**
comp=Z,3.6nm,0.8s,mb4.5,baz=72,slow=4.7,SNR=4.2
NKC Novy Kostel 85.10 320 *e*P **P 09 49 58.0 +1.7**
NKC *e*S S 10 00 26.8 +4.2
NKC MLR MLR
comp=N,400nm,22.4s
SFI Santa Sofia 85.24 314 *e*P **P 09 49 58.8 +1.6**
PGD Poggio Sodo 85.33 314 *e*P **P 09 49 59.6 +2.0**
VMG Vicchio 85.47 314 *e*P **P 09 49 59.9 +1.6**
WTTA Wattenberg 85.51 317⇑ *i*P **P 09 49 58.1 -0.3**
comp=N,12nm,0.8s,mb5.2
WTTA Wattenberg 85.51 317⇑ *i*P **P 09 49 58.1 -0.3**
WTTA pmax pmax
comp=Z,12nm,0.8s,mb5.2
MOX Moxa 85.65 320 *e*P **P 09 50 00.0 +1.0**
MOX pmax pmax
comp=Z,20nm,1.4s,mb5.2
MOX MLR MLR
comp=Z,200nm,22.0s,MS4.5
MOX Moxa 85.65 320 *e*P **P 09 50 00.0 +1.0**
comp=Z,20nm,1.4s,mb5.2
MOX LR LR
comp=Z,200nm,22.0s,MS4.5
MOX Moxa 85.65 320 *i* P **P 09 50 00.0 +1.0**
comp=Z,logA/T=1.1,mb5.1
MOX L 10 35 51.0
SQTA Sankt Quirin 85.80 317⇑ *i*P **P 09 50 00.3 +0.4**
comp=Z,3.8nm,0.7s,mb4.7
SQTA Sankt Quirin 85.80 317⇑ *i*P **P 09 50 00.3 +0.4**
SQTA pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
GRA1 Grafenberg Arr 85.87 320 *e*P **P 09 50 00.9 +0.7**
comp=Z,20nm,0.9s,mb5.3
GRA1 LR LR
comp=Z,400nm,20.2s,MS4.8
GRF Grafenberg Arr 85.87 320 *e*P **P 09 50 00.9 +0.7**
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.3
GRF MLR MLR
comp=Z,400nm,20.2s,MS4.8
GRF Grafenberg Arr 85.87 320 *e*P **P 09 50 00.9 +0.7**
comp=Z,20nm,0.9s,mb5.3
GRF LR LR
comp=Z,400nm,20.2s,MS4.8
MOTA Moosalm 85.88 317⇓ *i*P **P 09 50 00.1 -0.1**
NB2 NORSAR Subarra 86.34 331 P **P 09 50 02.1 -0.1**
comp=Z,10nm,0.9s,mb5.0,baz=93,slow=4.8
NOA NORSAR Array B 86.34 331 P **P 09 50 01.6 -0.6**
comp=Z,8.4nm,0.8s,mb5.0,baz=94,slow=5.0,SNR=16
NOA LR LR 10 36 25.5
comp=Z,210nm,19.1s,MS4.6,baz=195,slow=41
BRMO Bormio 86.36 316 *e*P **P 09 50 03.6 +1.0**
CLZ Clausthal 86.47 322 *e*P **P 09 50 03.6 +0.5**
comp=Z,14nm,1.1s,mb5.1
VNDA Vanda 86.52 169 P **P 09 50 04.2 +1.3**
comp=Z,0.9nm,0.6s,mb4.2,baz=277,slow=3.1,SNR=7.0
VNDA LR LR 10 26 34.5
comp=Z,485nm,18.2s,MS4.9,baz=311,slow=34
BSEG Bad Segeberg 86.56 324 *e*P **P 09 50 04.7 +1.2**
BSEG pmax pmax
comp=Z,25nm,1.2s,mb5.3
DAVOX Davos 86.70 317 P **P 09 50 05.3 +1.0**
comp=Z,17nm,0.7s,mb5.4,baz=108,slow=5.6,SNR=12
DAVA Damuels 86.71 317⇑ *i*P **P 09 50 04.8 +0.5**
comp=Z,20nm,1.1s,mb5.3
KONO Kongsberg 87.09 329 PFAKE 09 50 20.0 +14
KONO LR LR
comp=Z,410nm,19.0s,MS4.8
PGF Pioggiola 87.30 312 *e*P **P 09 50 06.7 -0.6**
SBA Scott Base 87.62 169 *e*P **P 09 50 11.0 +2.9**
SBA pmax pmax
comp=Z,13nm,1.1s,mb5.1
SBA Scott Base 87.62 169 *e*P **P 09 50 11.0 +2.8**
comp=Z,13nm,1.1s,mb5.1
TNS Taunus Mts 87.67 320 *e*P **P 09 50 09.0 +0.1**
BFO Black Forest 87.76 318 *e*P **P 09 50 09.9 +0.5**
BFO pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
BFO Black Forest 87.76 318 *e*P **P 09 50 09.9 +0.5**
comp=Z,10.0nm,0.9s,mb5.0
SCHQ Schefferville 121.93 349 PKP PKPdf 09 56 14.4 -3.8
comp=Z,1.5nm,0.6s,baz=79,slow=12,SNR=6.8
HUMO Hull Mountain 122.89 34 PFAKE 09 56 30.0 +10
HUMO LR LR
comp=Z,289nm,22.0s,MS4.9
YBH Yreka Blue Hor 123.59 35 PFAKE 09 56 30.0 +8.2
YBH LR LR
comp=Z,295nm,19.0s,MS5.0
BMO Blue Mountains 124.32 29 PFAKE 09 56 30.0 +6.9
BMO LR LR
comp=Z,367nm,19.0s,MS5.1
MSO Missoula 124.36 25 PFAKE 09 56 30.0 +6.9
MSO LR LR
comp=Z,448nm,19.0s,MS5.2
MOD Modoc 124.84 34 *e*PKP PKPdf 09 56 21.4 -2.8
RKT Rikitea 125.37 117 *e*LR LR 10 35 30.4
comp=Z,304nm,28.8s
WVOR Wild Horse Val 125.37 32 PFAKE 09 56 30.0 +4.8
FRF pmax pmax
comp=Z,17nm,1.1s,mb5.3
HAU Haudompre 89.09 318 *e*P **P 09 50 14.8 -0.9**
comp=Z,15nm,0.8s,mb5.0
HAU *e*R
comp=Z,253nm,23.0s
HAU Haudompre 89.09 318 *e*P **P 09 50 14.8 -0.9**
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,250nm,23.0s,MS4.6
CABF La Chapelle 89.31 316 *e*P **P 09 50 16.6 -0.2**
comp=Z,62nm,1.5s,mb5.4
CABF La Chapelle 89.31 316 *e*P **P 09 50 16.6 -0.2**
CABF pmax pmax
comp=Z,31nm,1.5s,mb5.4
GIVF Givet 90.00 320 *e*P **P 09 50 19.6 -0.4**
comp=Z,32nm,1.1s,mb5.3
GIVF Givet 90.00 320 *e*P **P 09 50 19.6 -0.4**
GIVF pmax pmax
comp=Z,16nm,1.1s,mb5.3
NVL N'lazarevskaya 90.19 199⇑ *i*P **P 09 50 28.4 +8.0**
NVL *i* pP 09 50 38.4 +10
TNA Tin City 90.38 24 *e*P **P 09 50 20.7 -0.7**
comp=Z,3.4nm,0.8s,mb4.7
TNA LR LR
comp=Z,525nm,20.0s,MS5.0
VIVF Saint-Julien-l 90.38 315 *e*P **P 09 50 21.4 -0.5**
BAIF Baives 90.40 320 *e*P **P 09 50 21.8 0.0**
comp=Z,54nm,1.0s,mb5.5
BAIF Baives 90.40 320 *e*P **P 09 50 21.8 0.0**
BAIF pmax pmax
comp=Z,27nm,1.0s,mb5.5
SMF Signal de Mont 90.86 317 *e*P **P 09 50 23.4 -0.6**
comp=Z,40nm,1.1s,mb5.4
SMF Signal de Mont 90.86 317 *e*P **P 09 50 23.4 -0.6**
SMF pmax pmax
comp=Z,20nm,1.1s,mb5.4
LASF Ste Croix 91.01 314 *e*P **P 09 50 24.6 -0.1**
comp=Z,26nm,1.1s,mb5.2
SSF Saint Saulge 91.06 317 *e*P **P 09 50 24.7 -0.2**
SSF pmax pmax
comp=Z,12nm,1.2s,mb5.1
SSF Saint Saulge 91.06 317 *e*P **P 09 50 24.7 -0.2**
comp=Z,12nm,1.2s,mb5.1
AVF Avril sur Loir 91.18 317 *e*P **P 09 50 25.0 -0.5**
comp=Z,26nm,1.1s,mb5.2
AVF Avril sur Loir 91.18 317 *e*P **P 09 50 25.0 -0.5**
AVF pmax pmax
comp=Z,13nm,1.1s,mb5.2
BGF Bois d'Agland 91.55 316 *e*P **P 09 50 27.1 -0.1**
comp=Z,50nm,1.0s,mb5.5
BGF Bois d'Agland 91.55 316 *e*P **P 09 50 27.1 -0.1**
BGF pmax pmax
comp=Z,25nm,1.0s,mb5.5
QSPA South Pole Qui 91.83 180 PFAKE 09 50 40.0 +12
QSPA LR LR
comp=Z,731nm,20.0s,MS5.1
TCF Toulx Ste Croi 92.01 316 *e*P **P 09 50 29.1 -0.2**
comp=Z,12nm,0.8s,mb4.9
TCF Toulx Ste Croi 92.01 316 *e*P **P 09 50 29.1 -0.2**
TCF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
CAF Calviac 92.22 315 *e*P **P 09 50 30.4 +0.1**
MTLF Montolieu 92.25 313 *e*P **P 09 50 30.4 -0.1**
comp=Z,44nm,1.4s,mb5.3
MTLF Montolieu 92.25 313 *e*P **P 09 50 30.4 -0.1**
MTLF pmax pmax
comp=Z,22nm,1.4s,mb5.3
RJF Les Rejaudoux 92.58 315 *e*P **P 09 50 32.1 +0.2**
RJF *e*R
comp=Z,190nm,21.8s
LDF La Druitiere 93.35 319 *e*P **P 09 50 36.0 +0.6**
comp=Z,27nm,1.1s,mb5.3
LDF La Druitiere 93.35 319 *e*P **P 09 50 36.0 +0.6**
LDF pmax pmax
comp=Z,14nm,1.1s,mb5.3
FLN La Foliniere 93.57 319 *e*P **P 09 50 35.9 -0.5**
FLN *e*R
comp=Z,293nm,22.0s
MFF Saint Martin d 93.60 317 *e*P **P 09 50 36.3 -0.3**
comp=Z,22nm,1.0s,mb5.2
MFF Saint Martin d 93.60 317 *e*P **P 09 50 36.3 -0.3**
MFF pmax pmax
comp=Z,11nm,1.0s,mb5.2
GRR Gorron 93.86 319 *e*P **P 09 50 37.6 -0.2**
DAG Danmarks Havn 93.90 348⇑ *i*P **P 09 50 37.2 -0.2**
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
DAG Danmarks Havn 93.90 348⇑ *i*P **P 09 50 37.2 -0.2**
comp=Z,2.7nm,0.6s,mb4.8
QUIF Quistinic 95.46 318 *e*P **P 09 50 45.1 0.0**
IMA Indian Mountai 96.00 23 *e*P **P 09 50 49.0 +1.8**
IMA pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
IMA Indian Mountai 96.00 23 *e*P **P 09 50 49.0 +1.8**
comp=Z,5.4nm,0.8s,mb5.0
COLA College 98.70 23 PFAKE 09 51 10.0 +11
COLA LR LR
comp=Z,645nm,19.0s,MS5.1
MCK McKinley 98.72 24 PFAKE 09 51 10.0 +11
MCK LR LR
comp=Z,267nm,19.0s,MS4.8
ILAR Eielson Array 99.12 23 P **P 09 51 00.4 -0.9**
comp=Z,0.3nm,0.8s,baz=309,slow=5.8,SNR=4.4
ILAR PP PP 09 55 01.0 -5.1
comp=Z,2.7nm,1.0s,baz=284,slow=7.6,SNR=7.3
ILAR PKKPbc 10 07 27.4
comp=Z,0.4nm,0.9s,baz=153,slow=4.0,SNR=3.3
ILAR LR LR 10 44 54.8
comp=Z,345nm,18.3s,MS4.9,baz=167,slow=41
FIB Fire Island 99.14 27 PFAKE 09 51 10.0 +8.6
FIB LR LR
comp=Z,2μm,19.0s,MS5.6
DIV Divide 101.12 26 PFAKE 09 51 20.0 +10
DIV LR LR
comp=Z,2μm,19.0s,MS5.7
DBIC Dimbokro 101.61 277 PFAKE 09 51 30.0 +16
DBIC LR LR
comp=Z,162nm,19.0s,MS4.6
INK Inuvik 101.86 17 P P 09 51 12.4 -1.2
comp=Z,1.4nm,0.9s,baz=279,slow=5.8,SNR=5.2
YKA Yellowknife Ar 111.47 15 Pdiff Pdif 09 51 56.5 +0.6
comp=Z,0.3nm,0.8s,baz=330,slow=4.3,SNR=3.8
YKA PKiKP 09 55 53.2
comp=Z,0.4nm,0.9s,baz=333,slow=2.4,SNR=6.1
YKA PP PP 09 56 33.4 -5.0
comp=Z,2.6nm,0.9s,baz=330,slow=7.3,SNR=9.7
YKA PKKPbc 10 06 49.8
comp=Z,0.5nm,0.9s,baz=142,slow=2.9,SNR=5.8
YKA Yellowknife Ar 111.47 15 Pdif Pdif 09 51 56.5 +0.6
YKA PKPdf PKPdf 09 55 53.2 -4.4
YKA PP PP 09 56 33.4 -5.0
YKA PKKPbc 10 06 49.8
TBI Tubuai 112.26 114 *e*PS PS 10 06 23.3 +10
TBI *e*LR LR 10 29 26.2
comp=Z,365nm,24.5s
PPT Papeete 112.83 108 *e*PS PS 10 06 17.3 -2.1
PPT *e*LR LR 10 29 42.1
comp=Z,325nm,23.2s
FFC Flin Flon 121.43 13 PFAKE 09 56 30.0 +13
FFC LR LR
comp=Z,86nm,20.0s,MS4.4
NEW Newport 121.88 26 PKP PKPdf 09 56 14.8 -3.5
comp=Z,2.8nm,0.8s,baz=11,slow=5.8,SNR=5.5
NEW Newport 121.88 26 PKP PKPdf 09 56 14.8 -3.5
NEW LR LR
comp=Z,722nm,19.0s,MS5.3
SCHQ Schefferville 121.93 349 PKP PKPdf 09 56 14.4 -3.8
comp=Z,1.5nm,0.6s,baz=79,slow=12,SNR=6.8
HUMO Hull Mountain 122.89 34 PFAKE 09 56 30.0 +10
HUMO LR LR
comp=Z,289nm,22.0s,MS4.9
YBH Yreka Blue Hor 123.59 35 PFAKE 09 56 30.0 +8.2
YBH LR LR
comp=Z,295nm,19.0s,MS5.0
BMO Blue Mountains 124.32 29 PFAKE 09 56 30.0 +6.9
BMO LR LR
comp=Z,367nm,19.0s,MS5.1
MSO Missoula 124.36 25 PFAKE 09 56 30.0 +6.9
MSO LR LR
comp=Z,448nm,19.0s,MS5.2
MOD Modoc 124.84 34 *e*PKP PKPdf 09 56 21.4 -2.8
RKT Rikitea 125.37 117 *e*LR LR 10 35 30.4
comp=Z,304nm,28.8s
WVOR Wild Horse Val 125.37 32 PFAKE 09 56 30.0 +4.8
WVOR LR LR
comp=Z,480nm,20.0s,MS5.2
BOZ Bozeman (W) 126.28 25 *e*PKP PKPdf 09 56 23.4 -3.5
BOZ LR LR
comp=Z,943nm,20.0s,MS5.5
HLID Hailey 126.67 28 PFAKE 09 56 40.0 +12
HLID LR LR
comp=Z,594nm,19.0s,MS5.3
ULM Lac du Bonnet 126.89 10 PKP PKPdf 09 56 23.5 -4.3
comp=Z,5.1nm,0.7s,baz=334,slow=1.6,SNR=12
ULM Lac du Bonnet 126.89 10 PKP PKPdf 09 56 23.5 -4.3
LAO LASA Array 127.46 20 *e*PKP PKPdf 09 56 26.5 -2.7
LAO LR LR
comp=Z,283nm,19.0s,MS5.0
BMN Battle Mountai 127.53 33 PFAKE 09 56 40.0 +11
BMN LR LR
comp=Z,427nm,22.0s,MS5.1
LKWY Lake 127.66 25 *e*PKP PKPdf 09 56 28.8 -0.8
LKWY LR LR
comp=Z,1μm,19.0s,MS5.7
RRI2 Red Ridge 128.25 26 *e*PKP PKPdf 09 56 28.3 -2.4
NVAR Mina Array Bea 128.31 35 PKP PKPdf 09 56 28.0 -3.0
comp=Z,2.1nm,0.8s,baz=255,slow=2.0,SNR=16
ELK Elko 128.36 31 PFAKE 09 56 40.0 +8.9
ELK LR LR
comp=Z,252nm,20.0s,MS4.9
MNV Mina 128.39 35 PFAKE 09 56 40.0 +8.8
MNV LR LR
comp=Z,329nm,20.0s,MS5.0
SNOW Snow King Moun 128.41 26 *e*PKP PKPdf 09 56 28.6 -2.5
AHID Auburn Hatcher 128.81 26 PFAKE 09 56 40.0 +8.2
AHID LR LR
comp=Z,805nm,19.0s,MS5.4
TPH Tonopah 129.17 35 PFAKE 09 56 40.0 +7.3
TPH LR LR
comp=Z,209nm,19.0s,MS4.8
BW06 Boulder Array 129.48 25 PFAKE 09 56 40.0 +6.9
BW06 LR LR
comp=Z,554nm,21.0s,MS5.2
PDAR Pinedale Array 129.48 25 PKP PKPdf 09 56 29.9 -3.2
comp=Z,1.4nm,0.6s,baz=252,slow=0.8,SNR=14
PDAR pPKP 09 56 38.4
comp=Z,1.7nm,0.8s,baz=180,slow=1.5,SNR=7.1
PDAR PP PP 09 58 36.9 -5.7
comp=Z,1.3nm,0.9s,baz=342,slow=4.7,SNR=4.1
HWUT Hardware Ranch 129.51 28 PFAKE 09 56 40.0 +6.8
HWUT LR LR
comp=Z,531nm,20.0s,MS5.2
EYMN Ely 129.81 7 PFAKE 09 56 40.0 +6.4
EYMN LR LR
comp=Z,588nm,19.0s,MS5.3
PQI Presque Isle 129.89 347 PFAKE 09 56 40.0 +6.2
PQI LR LR
comp=Z,3μm,21.0s,MS6.0
DUG Dugway 130.00 30 PFAKE 09 56 40.0 +5.8
DUG LR LR
comp=Z,309nm,20.0s,MS5.0
DAC Darwin (Calif) 130.17 37 PFAKE 09 56 40.0 +5.4
DAC LR LR
comp=Z,202nm,21.0s,MS4.8
MVU Marysvale 131.59 31 PFAKE 09 56 50.0 +13
MVU LR LR
comp=Z,494nm,19.0s,MS5.2
EMMW East Machias 131.59 345 PFAKE 09 56 50.0 +13
EMMW LR LR
comp=Z,3μm,20.0s,MS6.0
MSU Marysvale 131.60 31 *e*PKP PKPdf 09 56 35.6 -1.6
WVL Waterville 132.25 347 PFAKE 09 56 50.0 +12
WVL LR LR
comp=Z,7μm,22.0s
RCBR Riachuelo 132.92 264 PFAKE 09 56 50.0 +10
RCBR LR LR
comp=Z,290nm,20.0s,MS5.0
ISCO Idaho Springs 133.60 24 PFAKE 09 56 50.0 +9.1
ISCO LR LR
comp=Z,510nm,21.0s,MS5.2
NCB Newcomb 133.68 351 PFAKE 09 56 50.0 +9.0
NCB LR LR
comp=Z,253nm,20.0s,MS4.9
WUAZ Wupatki 134.27 33 PFAKE 09 56 50.0 +7.7
WUAZ LR LR
comp=Z,428nm,20.0s,MS5.2
WES Weston 134.69 348 PFAKE 09 56 50.0 +7.1
WES LR LR
comp=Z,1μm,21.0s,MS5.6
SDCO Great Sand Dun 135.37 26 PFAKE 09 56 50.0 +5.7
SDCO LR LR
comp=Z,526nm,21.0s,MS5.2
BINY Binghamton 135.67 353 PFAKE 09 56 50.0 +5.3
BINY LR LR
comp=Z,771nm,19.0s,MS5.5
AAM Ann Arbor 136.01 1 PFAKE 09 56 50.0 +4.7
AAM LR LR
comp=Z,842nm,19.0s,MS5.5
ERPA Erie 136.12 357 PFAKE 09 56 50.0 +4.5
ERPA LR LR
comp=Z,605nm,21.0s,MS5.3
CBKS Cedar Bluff 136.64 19 PFAKE 09 57 00.0 +13
CBKS LR LR
comp=Z,490nm,19.0s,MS5.3
TUC Tucson 136.96 35 PFAKE 09 57 00.0 +13
TUC LR LR
comp=Z,290nm,20.0s,MS5.0
ANMO Albuquerque 137.23 29 PFAKE 09 57 00.0 +12
ANMO LR LR
comp=Z,669nm,19.0s,MS5.4
ACSO Alum Creek Sta 138.08 0 PFAKE 09 57 00.0 +11
ACSO LR LR
comp=Z,565nm,20.0s,MS5.3
MCWV Mont Chateau 138.56 356 PFAKE 09 57 00.0 +10
MCWV LR LR
comp=Z,737nm,20.0s,MS5.4
AMTX Amarillo 139.42 24 PFAKE 09 57 00.0 +8.2
AMTX LR LR
comp=Z,523nm,20.0s,MS5.3
CCM Cathedral Cave 139.52 10 PFAKE 09 57 00.0 +8.1
CCM LR LR
comp=Z,358nm,19.0s,MS5.1
PLCA Paso Flores 139.74 195 PKP PKPdf 09 56 50.5 -1.7
comp=Z,1.6nm,0.9s,baz=201,slow=19,SNR=3.6
CBN Corbin 139.78 353 PFAKE 09 57 00.0 +7.7
CBN LR LR
comp=Z,630nm,19.0s,MS5.4
WCI Wyandotte Cave 139.96 4 PFAKE 09 57 00.0 +7.3
WCI LR LR
comp=Z,470nm,20.0s,MS5.2
MNTX Cornudas Mount 140.38 31 PFAKE 09 57 00.0 +6.4
MNTX LR LR
comp=Z,547nm,19.0s,MS5.3
WMOK Wichita Mounta 140.65 21 PFAKE 09 57 00.0 +5.9
WMOK LR LR
comp=Z,500nm,19.0s,MS5.3
BLA Blacksburg 141.03 357 PFAKE 09 57 00.0 +5.3
BLA LR LR
comp=Z,570nm,20.0s,MS5.3
WVT Waverly 141.90 6 *e*PKP PKPdf 09 56 47.7 -8.5
WVT LR LR
comp=Z,493nm,22.0s,MS5.2
MIAR Mount Ida 142.41 14 *e*PKP PKPdf 09 56 48.7 -8.4
MIAR LR LR
comp=Z,712nm,22.0s,MS5.4
CPCT Cooper Cave 142.83 2 *e*PKPpre 09 56 49.5
PLAL Pickwick Lake 143.01 7 PFAKE 09 57 10.0 +19
PLAL LR LR
comp=Z,460nm,20.0s,MS5.2
TXAR Lajitas Array 143.16 31 PKhKP 09 56 51.8
comp=Z,1.1nm,0.7s,baz=291,slow=1.2,SNR=11
OXF Oxford 143.28 9 PFAKE 09 57 10.0 +18
OXF LR LR
comp=Z,379nm,19.0s,MS5.2
JCT Junction City 144.02 25 *e*PKP PKPdf 09 56 54.4 -5.6
JCT LR LR
comp=Z,505nm,21.0s,MS5.3
NATX Nacogdoches 144.73 17 *e*PKPdf PKPdf 09 56 56.8 -4.4
NATX LR LR
comp=Z,640nm,20.0s,MS5.4
GOGA Godfrey 144.89 1 *e*PKPdf PKPdf 09 56 56.7 -4.7
GOGA LR LR
comp=Z,635nm,22.0s,MS5.3
LRAL Lakeview Retre 145.05 6 *e*PKPdf PKPdf 09 56 57.0 -4.8
LRAL LR LR
comp=Z,539nm,20.0s,MS5.3
NHSC New Hope 145.10 356 *e*PKPdf PKPdf 09 56 57.6 -4.2
NHSC LR LR
comp=Z,484nm,20.0s,MS5.3

DWPF	**Disney**	**150.14**	**357**	PFAKE			09 57 20.0	+10
DWPF				LR	LR			
	comp=Z,422nm,19.0s,MS5.3							
LVC	**Limon Verde**	**155.30**	**212**	PFAKE			09 57 30.0	+12
LVC				LR	LR			
	comp=Z,422nm,21.0s,MS5.2							
TEIG	**Tepich**	**157.41**	**13**	PFAKE			09 57 30.0	+9.5
TEIG				LR	LR			
	comp=Z,177nm,20.0s,MS4.9							
SAML	**Samuel**	**159.13**	**250**	PFAKE			09 57 30.0	+7.2
SAML				LR	LR			
	comp=Z,389nm,19.0s,MS5.3							
LPAZ	**La Paz**	**159.57**	**225**	PKP	PKPdf		09 57 21.2	-2.0
	comp=Z,1.0nm,0.8s,baz=266,slow=8.2,SNR=5.0							
LPAZ	**La Paz**	**159.57**	**225**	PKP	PKPdf		09 57 21.2	-2.0
LPAZ				LR	LR			
	comp=Z,291nm,22.0s,MS5.1							
SDV	**Santo Domingo**	**163.72**	**311**	PFAKE			09 57 40.0	+12
SDV				LR	LR			
	comp=Z,352nm,20.0s							
JTS	**JuntasAbangare**	**167.74**	**9**	PFAKE			09 57 40.0	+9.2
JTS				LR	LR			
	comp=Z,95nm,20.0s							
OTAV	**Otavalo**	**175.04**	**295**	*e*PKPdf	PKPdf		09 57 30.9	-3.6
OTAV				LR	LR			
	comp=Z,495nm,20.0s							

SKHL 05 09:39:54.0±0.1, 53.08N×128.95E, h5km±1km, mb3.5/5, 2C-1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YASR	**Yasnyy**	**0.62**	**290**	⇑*i*Pg	Pg	09 40 05.0	-1.4
YASR				AMB	AMB	09 40 05.3	
	8.0nm,0.4s						
YASR				AMB	AMB	09 40 05.3	
	16nm,0.4s						
YASR				*i* Sg	Sg	09 40 12.8	-1.9
YASR				A		09 40 13.2	
	440nm,0.2s						
YASR				A		09 40 13.2	
	160nm,0.2s						
ZEA	**Zeya**	**1.21**	**304**	*e*Pg	Pg	09 40 16.0	-2.2
ZEA				AMB	AMB	09 40 16.5	
	24nm,0.1s						
ZEA				sPg		09 40 18.5	
ZEA				*e*Sg	Sg	09 40 32.0	-2.4
ZEA				A		09 40 35.2	
	100nm,0.3s						
BMKR	**Bomnak**	**1.64**	**358**	*e*Pn	Pn	09 40 23.4	-0.2
BMKR				⇓*i*Pg	Pg	09 40 23.9	-2.8
BMKR				AMB	AMB	09 40 24.4	
	18nm,0.4s						
BMKR				pPg		09 40 25.3	
BMKR				sPg		09 40 25.9	
BMKR				*e*Sg	Sg	09 40 45.2	-3.3
BMKR				A		09 40 48.3	
	81nm,0.5s						
BMKR				A		09 40 48.3	
	62nm,0.5s						
KROS	**Kirovskiy**	**1.79**	**320**	*e*Pn	Pn	09 40 25.9	0.0
KROS				⇑*i*Pg	Pg	09 40 26.6	-3.2
KROS				AMB	AMB	09 40 27.4	
	12nm,0.5s						
KROS				AMB	AMB	09 40 27.4	
	9.0nm,0.5s						
KROS				AMB	AMB	09 40 27.4	
	15nm,0.5s						
KROS				*e*rx	rx	09 40 33.6	
KROS				*e*Sn	Sn	09 40 49.0	-0.3
KROS				*i* Sg	Sg	09 40 50.0	-3.7
KROS				A		09 40 52.0	
	33nm,0.5s						
KROS				A		09 40 52.0	
	49nm,0.5s						
EKMR	**Ekimchan**	**2.41**	**89**	*e*Pg	Pg	09 40 37.1	-5.1
EKMR				AMB	AMB	09 40 39.3	
	5.0nm,0.4s						
EKMR				*e*Sg	Sg	09 41 08.8	-5.6
EKMR				A		09 41 11.9	
	36nm,0.5s						
EKMR				A		09 41 11.9	
	23nm,0.5s						
NKL	**Nikolayevsk**	**7.06**	**85**	*e*Sg	Sg	09 43 34.0	-15
NKL				A		09 43 43.1	
	5.0nm,0.8s						

IGQ 05 10:02:39.1, 2.68S×79.76W, h12km±11km, mb4.4, 1C, Error ellipse: s-maj=11.7km s-min=5.5km az=50.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.63**	**44**	P	Pn	10 03 10.0	+2.1
IGUA				S	Sn	10 03 32.4	+3.5
ARRY	**Arrayan**	**1.75**	**48**	⇑P	Pn	10 03 11.2	+1.6
ULBA	**Ulba**	**1.83**	**48**	P	Pn	10 03 13.2	+2.5
PISA	**Pisayambo**	**2.12**	**41**	P	Pn	10 03 17.6	+2.7
NAS1	**Nasa**	**2.41**	**32**	P	Pn	10 03 22.0	+3.1
TAMB	**Tambo**	**2.42**	**35**	P	Pn	10 03 22.2	+3.1
VC1	**Cotopaxi 1**	**2.44**	**34**	P	Pn	10 03 22.4	+2.9
JUA2	**San Juan 2**	**2.71**	**25**	P	Pn	10 03 24.6	+1.3
PINO	**Pino**	**2.76**	**25**	P	Pn	10 03 27.0	+3.0
YANA	**Yana**	**2.81**	**25**	P	Pn	10 03 25.8	+1.0

CSEM ***05*** *10:02:51.0±0.1, 15.47N×43.77E, h15km, ML3.1, Error ellipse: s-maj=5.6km s-min=1.6km az=68.0*
SNSN ***05*** *10:02:52.6, 15.56N×43.65E, Ml3.1*
DHMR ***05*** *10:02:52.1±1.5, 15.37N×43.72E, h10km±13km, ML3.1*
ISC 05 10:02:51.8±0.5, 15.47N±0.03×43.69E±0.05, h10km, n11, σ1§04/21, 1C-6D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANA	**San'a**	**0.50**	**99**	⇑*i*P	**Pg**	**10 03 01.1**	**-0.9**
SANA				*i* S	**Sg**	**10 03 07.7**	**-1.0**
DHBB	**Dhamar BB**	**1.12**	**143**	⇓*i*P	**Pb**	**10 03 12.1**	**-0.8**
DHBB				*i* S	**Sb**	**10 03 26.6**	**-0.7**
UDYN	**Al 'Udayn**	**1.52**	**170**	⇓*i*P	**Pn**	**10 03 18.2**	**-1.0**
UDYN				*i* S	**Sb**	**10 03 38.1**	**-0.7**
UDYN				AML	AML	10 03 41.8	
	comp=Z,236nm,0.5s						
UDYN	**Al 'Udayn**	**1.52**	**170**	⇓*i*P	**Pn**	**10 03 18.2**	**-1.0**
UDYN				*i* S	**Sb**	**10 03 38.1**	**-0.7**
FRSS	**Farasan al Kab**	**1.98**	**310**	P	**Pn**	**10 03 26.3**	**+0.5**
FRSS				S	**Sn**	**10 03 51.0**	**+0.3**
LBOS		**2.19**	**136**	⇓*i*P	**Pn**	**10 03 30.0**	**+1.2**
LBOS				*i* S	**Sn**	**10 03 57.7**	**+1.5**
DJNS	**Zahran al Janu**	**2.23**	**356**	P	**Pn**	**10 03 29.1**	**-0.3**
DJNS				S	**Sn**	**10 03 59.4**	**+2.1**
TRBA	**At Turbah**	**2.26**	**170**	⇓*i*P	**Pn**	**10 03 29.1**	**-0.8**
TRBA				*i* S	**Sn**	**10 03 58.9**	**+0.9**
TRBA				AML	AML	10 04 03.5	
	comp=E,146nm,0.5s						
BDHA	**Al Bayda'**	**2.34**	**129**	⇓*i*P	**Pn**	**10 03 31.8**	**+0.8**
BDHA				*i* S	**Sn**	**10 04 02.7**	**+2.5**
BDHA				AML	AML	10 04 07.0	
	comp=N,198nm,0.5s						
NAMS	**An Nimas**	**3.95**	**339**	P	**Pn**	**10 03 53.2**	**-0.6**
NAMS				S	**Sn**	**10 04 40.3**	**-0.5**
TATS	**Tathlith**	**4.05**	**357**	P	**Pn**	**10 03 54.2**	**-1.2**

IDC ***05*** *10:10:39.3±3.1, 1.14N×97.18E, mb3.9/5, mb1 4.1/6, mb1mx3.9/18, mbtmp3.9/6, ML4.2/1, MS3.3/1, Ms1 3.5/1, ms1mx3.1/22, Error ellipse: s-maj=115.4km s-min=19.7km az=61.0*
NEIC ***05*** *10:10:43.4±0.7, 1.16N×97.16E, h30km, mb4.1/4, Error ellipse: s-maj=20.0km s-min=9.1km az=62.0*
ISC 05 10:10:41.4±1.0, 1.2N±0.1×97.1E±0.2, h30km, n11, σ0§55/11, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**40**	*e*P	**Pn**	**10 12 01.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.27**	**6**	P	**P**	**10 14 42.7**	**+0.4**
	0.3nm,0.3s,baz=197,slow=12,SNR=4.4						
CMAR				LR	LR	10 22 18.0	
	comp=Z,97nm,19.4s,baz=205,slow=40						
FITZ	**Fitzroy Crossi**	**33.96**	**126**	P	**P**	**10 17 24.3**	**-0.3**
	8.8nm,1.1s,mb4.6,baz=3.0,slow=5.1,SNR=3.4						

WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**		**10 18 31.9**	**-0.7**
	1.2nm,0.6s,mb3.7,baz=300,slow=9.1,SNR=18							
WRAB	**Tennant Creek**	**42.08**	**122**	*e*P	**P**		**10 18 32.9**	**+0.2**
	2.3nm,0.6s,mb4.0							
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**		**10 18 44.6**	**+1.0**
	0.5nm,0.4s,mb3.6,baz=299,slow=7.3,SNR=11							
AAK	**Ala-Archa**	**46.00**	**337**	P	**P**		**10 19 03.6**	**-0.5**
	2.0nm,0.9s,mb4.0							
SONM	**Songino Array**	**47.17**	**8**	P	**P**		**10 19 14.1**	**+0.9**
	0.6nm,0.5s,mb3.8,baz=202,slow=7.8							
MKAR	**Makanchi Array**	**47.26**	**346**	P	**P**		**10 19 14.2**	**+0.3**
	1.1nm,0.6s,mb4.0,baz=160,slow=8.2,SNR=11							
KURK	**Kurchatov**	**51.81**	**345**	*e*P	**P**		**10 19 48.3**	**-0.4**
	4.0nm,1.0s,mb4.3							
CHKZ	**Chkalovo**	**56.74**	**341**	*e*P	**P**		**10 20 24.5**	**-0.3**
	1.7nm,0.8s,mb4.1							

IDC ***05*** *10:21:42.4±1.9, 34.12N×73.53E, mb3.6/5, mb1 3.8/7, mb1mx3.6/20, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=57.4km s-min=24.6km az=73.0*
NEIC ***05*** *10:21:51.5±3.6, 34.52N×74.81E, h40km±21km, mb4.0/1, Error ellipse: s-maj=73.2km s-min=6.5km az=64.0*
ISC 05 10:21:47.4±1.4, 34.4N±0.1×73.9E±0.3, h33km, n25, σ1§03/29, mb3.4/5, 1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.49**	**141**	*e*P	**P**	**10 22 28.0**	**+1.6**
THN				*e*		10 23 00.0	
DLH	**Dalhousie**	**2.55**	**136**	*e*P	**P**	**10 22 29.0**	**+1.8**
DLH				*e*S	**S**	**10 23 04.0**	**+6.6**
PONG	**Pong**	**3.00**	**144**	*e*P	**P**	**10 22 37.0**	**+3.4**
PONG				*e*S	**S**	**10 23 17.0**	**+8.2**
BHK	**Bhakra**	**3.66**	**143**	*e*SB	**Sb**	**10 23 41.6**	**+6.0**
SDNR	**Sundarnagar**	**3.89**	**137**	*e*P	**P**	**10 22 45.2**	**-1.1**
SDNR				*e*SB	**Sb**	**10 23 42.0**	**-0.2**
SMLA	**Simla**	**4.28**	**139**	⇓*i*	**P**	**10 22 42.5**	**-9.4**
SMLA				*i* S	**S**	**10 23 40.9**	**-0.5**
DDI	**Dehra Dun**	**5.39**	**138**	*e*	**P**	**10 23 12.0**	**+4.5**
NDI	**New Delhi**	**6.37**	**152**	*e*	**Sn**	**10 24 27.0**	**-6.8**
AAK	**Ala-Archa**	**8.24**	**3**	P	**P**	**10 23 47.5**	**0.0**
KOLN	**Koldanda**	**10.64**	**126**	*e*P	**P**	**10 24 13.7**	**-6.9**
	7.2nm,0.3s						
GKN	**Gorkha**	**11.20**	**122**	*e*P	**P**	**10 24 21.7**	**-6.6**
	12nm,0.2s						
DMN	**Daman**	**11.77**	**122**	*e*P	**P**	**10 24 29.1**	**-6.8**
	22nm,0.5s						
KKN	**Kakani**	**11.79**	**121**	*e*P	**P**	**10 24 29.4**	**-6.7**
	22nm,0.6s						
PKI	**Pulchoki**	**12.01**	**121**	*e*P	**P**	**10 24 32.5**	**-6.6**
	14nm,0.2s						
GUN	**Gumba**	**12.15**	**119**	*e*P	**P**	**10 24 33.4**	**-7.6**
	21nm,0.6s						
JIRN	**Jiri**	**12.52**	**119**	*e*P	**P**	**10 24 38.8**	**-7.1**
	24nm,0.3s						
MKAR	**Makanchi Array**	**13.93**	**25**	Pn	**P**	**10 25 08.3**	**+3.8**
	0.2nm,0.3s,baz=203,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**13.93**	**25**	Pn	**P**	**10 25 08.3**	**+3.8**
KURK	**Kurchatov**	**16.68**	**11**	*e*P	**P**	**10 25 39.1**	**-0.8**
	10nm,0.8s						
BVAR	**Borovoye Array**	**18.79**	**353**	P	**P**	**10 26 06.7**	**+0.4**
	0.2nm,0.3s,baz=170,slow=8.8,SNR=3.8						
CMAR	**Chiang Mai Arr**	**27.39**	**119**	P	**P**	**10 27 30.9**	**-1.0**
	0.4nm,0.3s,mb3.4,baz=308,slow=10,SNR=5.6						
SONM	**Songino Array**	**27.72**	**51**	P	**P**	**10 27 35.3**	**+0.7**
	0.3nm,0.6s,mb3.1,baz=263,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**78.89**	**123**	P	**P**	**10 33 48.3**	**-0.9**
	0.5nm,0.6s,mb3.6,baz=324,slow=5.0,SNR=10						
ASAR	**Alice Springs**	**81.13**	**126**	P	**P**	**10 34 00.5**	**-0.7**
	0.3nm,0.6s,mb3.4,baz=308,slow=5.2,SNR=7.5						
YKA	**Yellowknife Ar**	**83.21**	**4**	P	**P**	**10 34 11.3**	**+0.2**
	0.2nm,0.4s,mb3.5,baz=345,slow=5.3,SNR=10						

IDC 05 10:25:38.1±3.0, 3.07N×93.77E, mb3.7/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=112.0km s-min=26.4km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.11**	**18**	Pn	P	10 29 26.2	-1.5
	0.2nm,0.3s,baz=214,slow=11,SNR=12						
MKAR	**Makanchi Array**	**44.68**	**349**	P	P	10 33 52.7	-1.8
	0.9nm,0.5s,baz=162,slow=8.7,SNR=8.3						
WRA	**Warramunga Arr**	**45.93**	**122**	P	P	10 34 03.5	-1.3
	0.6nm,0.5s,baz=300,slow=9.1,SNR=6.4						
ASAR	**Alice Springs**	**47.25**	**126**	P	P	10 34 12.8	-2.4
	0.6nm,0.7s,baz=296,slow=7.6,SNR=8.2						

IDC ***05*** *10:27:26.4±1.0, 3.57N×96.28E, mb4.1/9, mb1 4.2/10, mb1mx4.0/18, mbtmp4.0/10, ML4.0/1, MS3.5/2, Ms1 3.6/2, ms1mx3.2/23, Error ellipse: s-maj=47.9km s-min=16.5km az=52.0*
BJI ***05*** *10:27:30.6, 3.50N×96.20E, h30km, mB5.1, mb4.5, Ms4.0, Msz3.8*
MOS ***05*** *10:27:30.3±1.4, 3.71N×96.48E, h33km, mb4.6/10, Error ellipse: s-maj=26.5km s-min=10.9km az=116.1*
NEIC ***05*** *10:27:30.6±0.4, 3.51N×96.22E, h30km, mb4.5/13, Error ellipse: s-maj=13.8km s-min=6.6km az=46.0*
ISC 05 10:27:28.9±0.5, 3.47N±0.08×96.20E±0.08, h32km, h32km±2.7km: pP-P, n45, σ0§95/47, mb4.3/25, MS3.7/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.79**	**68**	*e*Pn	**Pn**	**10 28 41.5**	**+0.7**
SNG	**Songkhla**	**5.73**	**50**	P	**Pn**	**10 28 59.0**	**+4.9**
	436nm,1.0s						
CMAR	**Chiang Mai Arr**	**15.13**	**10**	Pn	**P**	**10 31 02.2**	**-0.1**
	0.2nm,0.3s,baz=198,slow=11,SNR=2.7						
CMAR				LR	LR	10 37 03.8	
	comp=Z,155nm,19.5s,baz=205,slow=38						
KKM	**Kota Kinabalu**	**20.11**	**82**	*e*P	**P**	**10 32 02.6**	**-0.4**
KMI	**Kunming**	**22.43**	**16**	P	**P**	**10 32 31.7**	**+5.2**
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.2						
KMI				LR	LR		
	comp=N,211nm,15.9s,MS3.8						
KMI				LR	LR		
	comp=E,226nm,20.6s,MS3.8						
KMI				LR	LR		
	comp=Z,255nm,14.3s						
KMI	**Kunming**	**22.43**	**16**	P	**P**	**10 32 31.7**	**+5.2**
	comp=Z,11nm,1.0s,mb4.2						
KMI				S	**S**	**10 36 28.5**	**+2.6**
JIRN	**Jiri**	**25.88**	**339**	*e*P	**P**	**10 32 59.2**	**-0.7**
	comp=Z,18nm,0.6s,mb4.8						
PKI	**Pulchoki**	**26.09**	**338**	*e*P	**P**	**10 33 02.2**	**+0.5**
	comp=Z,8.3nm,0.5s,mb4.5						
PKI	**Pulchoki**	**26.09**	**338**	*e*P	**P**	**10 33 02.2**	**+0.5**
PKI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.2						
GUN	**Gumba**	**26.22**	**339**	*e*P	**P**	**10 33 03.0**	**0.0**
	comp=Z,18nm,0.7s,mb4.7						
DMN	**Daman**	**26.24**	**337**	*e*P	**P**	**10 33 03.2**	**+0.1**
KKN	**Kakani**	**26.33**	**338**	*e*P	**P**	**10 33 03.4**	**-0.6**
KOLN	**Koldanda**	**26.99**	**335**	*e*P	**P**	**10 33 09.7**	**-0.3**
	comp=Z,20nm,0.7s,mb4.7						
GTA	**Gaotai**	**35.92**	**5**	P	**P**	**10 34 35.5**	**+7.1**
GTA				AP	pP	10 34 42.1	+4.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**36.07**	**127**	*e*P	**P**	**10 34 28.5**	**-1.4**
	comp=Z,4.6nm,0.8s,mb4.5						
HHC	**Hu-ho-hao-te**	**39.70**	**18**	*e*P	**P**	**10 35 05.6**	**+5.5**
HHC				AP	pP	10 35 16.1	+6.5
HHC				XP	sP	10 35 19.9	+6.4
HHC				PP	PP	10 36 39.6	+4.5
HHC				PCP	PcP	10 37 06.8	-0.1
HHC				PCS		10 40 58.4	
HHC				S	**S**	**10 41 12.2**	**+11**
HHC				SCS	ScS	10 45 08.2	+5.1
HHC				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,150nm,7.5s						
HHC				LR	LR		
	comp=N,161nm,15.7s,MS4.0						
HHC				LR	LR		
	comp=E,95nm,16.7s,MS4.0						
HHC				LR	LR		
	comp=Z,130nm,17.1s,MS3.8						
WMQ	**Urumqi**	**40.88**	**351**	*e*P	**P**	**10 35 09.8**	**+0.1**
WMQ				AP	pP	10 35 19.8	+0.6
WMQ				XP	sP	10 35 23.8	+0.6
AAK	**Ala-Archa**	**43.53**	**337**	P	**P**	**10 35 30.3**	**-1.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
AAK	**Ala-Archa**	**43.53**	**337**	P	**P**	**10 35 30.3**	**-1.1**
	comp=Z,1.5nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**44.09**	**123**	P	**P**	**10 35 36.4**	**+0.1**
	comp=Z,3.5nm,0.8s,mb4.2,baz=302,slow=9.1,SNR=19						
WRAB	**Tennant Creek**	**44.10**	**123**	*e*P	**P**	**10 35 36.7**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**44.10**	**123**	*e*P	**P**	**10 35 36.7**	**+0.3**
	comp=Z,14nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**44.10**	**123**	*e*P	**P**	**10 35 36.0**	**-0.4**
MKAR	**Makanchi Array**	**44.81**	**346**	*e*P	**P**	**10 35 41.2**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**44.81**	**346**	P	**P**	**10 35 41.4**	**-0.4**
	comp=Z,2.6nm,0.5s,mb4.3,baz=158,slow=8.5,SNR=14						
SONM	**Songino Array**	**45.06**	**10**	P	**P**	**10 35 42.9**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.5,baz=202,slow=7.8,SNR=2.5						
ASAR	**Alice Springs**	**45.56**	**128**	P	**P**	**10 35 48.1**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.0,baz=296,slow=7.7,SNR=13						
ASAR				LR	LR	10 57 10.0	
	comp=Z,59nm,21.0s,MS3.5,baz=145,slow=39						
KURK	**Kurchatov**	**49.35**	**345**	*e*P	**P**	**10 36 15.6**	**-1.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
KURK	**Kurchatov**	**49.35**	**345**	*e*P	**P**	**10 36 15.6**	**-1.7**
	comp=Z,2.4nm,0.5s,mb4.5						
MDJ	**Mudanjiang**	**50.41**	**31**	P	**P**	**10 36 26.4**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,74nm,4.5s						
BVA0	**Borovoye Array**	**53.79**	**341**	P	**P**	**10 36 49.8**	**-0.9**
BVAR	**Borovoye Array**	**53.79**	**341**	P	**P**	**10 36 49.8**	**-0.8**
	comp=Z,2.3nm,0.6s,mb4.3,baz=143,slow=7.4,SNR=7.2						
CHKZ	**Chkalovo**	**54.27**	**342**	*e*P	**P**	**10 36 53.6**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	**54.27**	**342**	*e*P	**P**	**10 36 53.6**	**-0.5**
	comp=Z,6.5nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**55.62**	**133**	P	**P**	**10 37 04.7**	**+0.3**
	comp=Z,3.1nm,1.0s,mb4.3,baz=294,slow=13,SNR=4.7						
KMBO	**Kilima Mbogo**	**59.10**	**267**	P	**P**	**10 37 33.9**	**+4.7**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	**Kilima Mbogo**	**59.10**	**267**	P	**P**	**10 37 33.9**	**+4.8**
	comp=Z,2.6nm,1.0s,mb4.2						
MALT	**Malatya**	**62.88**	**312**	P	**P**	**10 37 55.4**	**+1.0**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
MALT	**Malatya**	**62.88**	**312**	P	**P**	**10 37 55.4**	**+1.0**
	comp=Z,3.2nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**66.86**	**312**	P	**P**	**10 38 20.8**	**+0.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=117,slow=5.5,SNR=6.7						
AKASG	**Malin Array Be**	**72.86**	**322**	P	**P**	**10 38 56.6**	**-0.1**
	comp=Z,0.3nm,0.2s,mb3.8,baz=88,slow=5.8,SNR=4.7						
LVV	**L'vov**	**75.89**	**321**	*e*P	**P**	**10 39 17.0**	**+2.8**
LVV				*e*	pP	10 39 28.0	+3.8
GERES	**GERESS Array B**	**82.46**	**319**	P	**P**	**10 39 51.5**	**+1.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=104,slow=5.5,SNR=6.7						
LPG	**La Plagne**	**87.16**	**315**	*e*P	**P**	**10 40 16.3**	**+3.0**
	comp=Z,7.9nm,0.7s,mb4.8						
LPG	**La Plagne**	**87.16**	**315**	*e*P	**P**	**10 40 16.3**	**+3.0**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.8						

NIED ***05*** *11:02:00, 36.70N×138.80E, h8km, Mw3.7 Best double couple: M0 3.87×10^14 NP1:φs259°, δ83°, λ-167°. NP2: φs167°, δ77°, λ-8°.*
IDC ***05*** *11:02:43.2±1.0, 36.49N×138.75E, mb3.3/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.3/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/16, Error ellipse: s-maj=8.4km s-min=6.1km az=94.0*
JMA ***05*** *11:02:43.8, 36.75N×138.78E, h4km±2km, M3.3 Broadband fault plane solution: P waves. NP1:φs80°, δ74°, λ178°. NP2:φs170°, δ88°, λ16°. Principal axes: T Plg13°, Azm36°; N Plg74°, Azm177°; P Plg10°, Azm304°;*
JMA Felt I J1.
ISC 05 11:02:43.2±0.6, 36.72N±0.06×138.78E±0.06, h18km±6km, n12, σ0§57/13, mb3.4/4, MS3.2/2, 2C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGK	**Kuni**	**0.19**	**215**	⇑P	**Pb**	**11 02 48.3**	**+0.2**
JGK				S	**Sb**	**11 02 51.7**	**+0.4**
JKT	**Katashina**	**0.38**	**83**	⇓P	**Pb**	**11 02 51.2**	**+0.1**
JKT				S	**Sb**	**11 02 56.5**	**0.0**
MJAR	**Matsushiro Arr**	**0.49**	**249**	Pg	**Pb**	**11 02 52.1**	**-0.9**
	89nm,0.3s,baz=96,slow=14,SNR=330						
MJAR				Lg		11 02 55.1	
	88nm,0.3s,baz=95,slow=37,SNR=246						
MAT	**Matsushiro**	**0.49**	**249**	P	**Pb**	**11 02 53.3**	**+0.3**
MAT				S	**Sb**	**11 02 59.9**	**+0.2**
JHK	**Hiroka**	**0.56**	**20**	⇑P	**Pb**	**11 02 54.0**	**-0.2**
JHK				S	**Sb**	**11 03 01.3**	**-0.4**
JOW	**Kunigami**	**13.29**	**225**	LR	LR	11 10 52.1	
	comp=Z,57nm,19.5s,baz=292,slow=37						
FX1	**Attu Island--F**	**28.91**	**45**	LR	LR	11 19 51.9	
	comp=Z,11nm,19.8s,MS2.5,baz=169,slow=35						
ILAR	**Eielson Array**	**50.89**	**32**	P	**P**	**11 11 45.8**	**+1.0**
	0.3nm,0.7s,mb3.3,baz=270,slow=6.3,SNR=4.9						
FITZ	**Fitzroy Crossi**	**55.92**	**195**	LR	LR	11 37 31.8	
	comp=Z,85nm,18.4s,MS3.9,baz=280,slow=38						
WRA	**Warramunga Arr**	**56.51**	**185**	P	**P**	**11 12 26.2**	**-0.7**
	0.5nm,0.5s,mb3.8,baz=0.6,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**60.24**	**185**	P	**P**	**11 12 52.0**	**-0.8**
	0.2nm,0.6s,mb3.3,baz=17,slow=13,SNR=3.9						
YKA	**Yellowknife Ar**	**65.13**	**29**	P	**P**	**11 13 25.6**

5.9nm,0.5s,mb4.4
GKN Gorkha 27.75 337 *e*P **P 11 16 17.6 +0.6**
5.1nm,0.5s,mb4.4
KOLN Koldanda 27.96 335 *e*P **P 11 16 19.5 +0.6**
8.4nm,0.9s,mb4.4
FITZ Fitzroy Crossi 35.36 126 P **P 11 17 22.9 -0.9**
4.8nm,0.9s,mb4.5,baz=14,slow=6.4,SNR=6.1
WRA Warramunga Arr 43.44 123 P **P 11 18 31.0 +0.1**
1.0nm,0.7s,mb3.7,baz=300,slow=9.3,SNR=9.4
WRAB Tennant Creek 43.44 123 *e*P **P 11 18 31.3 +0.4**
2.4nm,0.6s,mb4.1
ASAR Alice Springs 44.84 128 P **P 11 18 41.9 -0.3**
0.6nm,0.6s,mb3.6,baz=300,slow=8.1,SNR=12
MKAR Makanchi Array 45.82 347 P **P 11 18 49.8 0.0**
3.6nm,0.7s,mb4.4,baz=162,slow=7.5,SNR=32
SONM Songino Array 46.03 9 P **P 11 18 51.8 +0.4**
1.4nm,0.6s,mb4.1,baz=194,slow=8.6,SNR=5.9
ZAL Zalesovo 52.18 351 P **P 11 19 37.7 -0.9**
4.1nm,0.5s,mb4.7,baz=306,slow=6.1,SNR=15
BVAR Borovoye Array 54.79 341 P **P 11 19 56.7 -1.2**
1.7nm,0.6s,mb4.3,baz=153,slow=9.1,SNR=7.8
STKA Stephens Creek 54.84 132 P **P 11 19 59.4 +0.8**
0.8nm,0.6s,mb3.9,baz=326,slow=7.3,SNR=4.1
CHKZ Chkalovo 55.27 342 *e*P **P 11 19 59.8 -1.6**
3.9nm,0.7s,mb4.5
FINES FINESS Array B 78.49 333 P **P 11 22 27.5 -0.8**
0.8nm,0.7s,mb3.8,baz=102,slow=13,SNR=3.2
GERES GERESS Array B 83.30 319 P **P 11 22 53.9 0.0**
0.4nm,0.2s,mb4.0,baz=112,slow=7.2,SNR=3.4
TXAR Lajitas Array 143.04 30 PKP PKPdf 11 30 00.1 -0.1
0.2nm,0.6s,baz=241,slow=1.0,SNR=3.8

*IDC **05** 11:12:10.5±0.9,22.36N×121.28E,mb3.9/8,mb1 4.1/8, mb1mx3.9/21,mbtmp3.9/8, Error ellipse: s-maj=37.0km s-min=17.4km az=67.0*
*TAP **05** 11:12:17.2,22.35N×120.97E,h39km,ML4.4*
TAP Felt I J at Tawa, II J at Taimali, I J at Fangliau, I J at Hengchun, I J, II J at Lanyu.
*JMA **05** 11:12:17.2±0.3,22.24N×121.03E,h92km,M4.1*
*NEIC **05** 11:12:18.1±1.2,22.28N×121.17E,h58km±13km,mb4.2/3, Error ellipse: s-maj=17.6km s-min=10.0km az=71.0*
ISC 05 11:12:17.4±0.3,22.31N±0.02×120.97E±0.02,h39km,n84, σ1♀07/123,mb4.0/10,6C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.08**	**303**	⇑*i*P	**P**	**11 12 23.8**	**+0.1**
TAW				S	**S**	**11 12 28.8**	**+0.6**
EAST	**Anshuo**	**0.13**	**302**	⇑*i*P	**P**	**11 12 24.3**	**+0.4**
EAST				S	**S**	**11 12 28.6**	**0.0**
ECL	**Taimali**	**0.28**	**357**	⇑*i*P	**P**	**11 12 25.2**	**-0.1**
ECL				S	**S**	**11 12 30.7**	**-0.2**
SCZT	**Fangliau**	**0.33**	**280**	⇓*i*P	**P**	**11 12 25.4**	**-0.5**
SCZT				S	**S**	**11 12 31.0**	**-0.8**
HEN	**Hengchun**	**0.37**	**215**	⇓*i*P	**P**	**11 12 26.8**	**+0.4**
HEN				S	**S**	**11 12 34.1**	**+1.4**
TWK1	**Hengchun**	**0.40**	**202**	⇓*i*P	**P**	**11 12 27.3**	**+0.6**
TWK1				S	**S**	**11 12 34.8**	**+1.5**
TSEB	**Hengchuen, Pin**	**0.42**	**189**	⇓*i*P	**P**	**11 12 27.9**	**+1.0**
TSEB				S	**S**	**11 12 36.0**	**+2.4**
TTN	**Taitung**	**0.47**	**21**	*e*P	**P**	**11 12 28.5**	**+0.9**
TTN				S	**S**	**11 12 37.7**	**+2.8**
TWG	**Pinlang**	**0.51**	**11**	*e*P	**P**	**11 12 27.9**	**-0.3**
TWG				S	**S**	**11 12 36.2**	**+0.3**
SSD	**Sandimen**	**0.53**	**324**	⇑*i*P	**P**	**11 12 28.2**	**-0.2**
SSD				S	**S**	**11 12 35.0**	**-1.4**
TWP	**Hsiaoliuchiu**	**0.56**	**273**	*i* P	**P**	**11 12 29.8**	**+1.0**
TWP				S	**S**	**11 12 39.7**	**+2.5**
SGLT	**Jiouru**	**0.60**	**313**	*e*P	**P**	**11 12 28.9**	**-0.5**
SGLT				S	**S**	**11 12 39.6**	**+1.4**
LAY	**Lan-yu**	**0.60**	**117**	*i* P	**P**	**11 12 29.6**	**+0.2**
LAY				S	**S**	**11 12 38.8**	**+0.5**
KAU	**Kaohsiung**	**0.66**	**293**	*e*P	**P**	**11 12 30.6**	**+0.3**
KAU				S	**S**	**11 12 41.0**	**+1.3**
TWM1	**Shoushan**	**0.72**	**315**	*e*P	**P**	**11 12 31.6**	**+0.5**
TWM1				S	**S**	**11 12 43.5**	**+2.5**
SGST	**Jiashian**	**0.84**	**335**	*e*P	**P**	**11 12 32.6**	**-0.2**
SGST				S	**S**	**11 12 45.2**	**+1.0**
CHKT	**Chengkung**	**0.86**	**25**	⇓*i*P	**P**	**11 12 33.3**	**+0.2**
CHKT				S	**S**	**11 12 45.6**	**+0.9**
STYT	**Tauyuan**	**0.87**	**347**	⇑*i*P	**P**	**11 12 33.4**	**+0.3**
STYT				S	**S**	**11 12 45.6**	**+0.9**
ELDTW	**Lidau**	**0.87**	**3**	*e*P	**P**	**11 12 33.7**	**+0.5**
ELDTW				S	**S**	**11 12 46.5**	**+1.6**
CHN3	**Shinhua**	**0.94**	**324**	*e*P	**P**	**11 12 34.3**	**+0.1**
CHN1	**Nanshi**	**0.96**	**335**	⇑P	**P**	**11 12 34.2**	**-0.2**
CHN1				S	**S**	**11 12 46.0**	**-1.1**
WTP	**Ta-pu**	**0.98**	**341**	*e*P	**P**	**11 12 34.6**	**-0.3**
WTP				S	**S**	**11 12 47.9**	**+0.2**
TWK	**Hsinying**	**1.05**	**335**	*e*P	**P**	**11 12 35.5**	**-0.2**
TWF1	**Yuli**	**1.08**	**16**	*e*P	**P**	**11 12 35.4**	**-0.7**
TWF1				S	**S**	**11 12 50.5**	**+0.4**
CHN4	**Tsaushan**	**1.09**	**342**	*e*P	**P**	**11 12 36.0**	**-0.3**
SCLT	**Jiali**	**1.12**	**320**	S	**S**	**11 12 50.5**	**-0.7**
YUS	**Yu-Shan**	**1.17**	**359**	*e*P	**P**	**11 12 38.4**	**+0.9**
YUS				S	**S**	**11 12 54.4**	**+1.9**
ALS	**Alishan**	**1.20**	**353**	*e*P	**P**	**11 12 38.4**	**+0.5**
ALS				S	**S**	**11 12 55.2**	**+2.0**
EHY	**Hungye**	**1.23**	**15**	*e*P	**P**	**11 12 38.5**	**+0.2**
EHY				S	**S**	**11 12 54.8**	**+0.7**
CHN8	**Yiju**	**1.24**	**326**	*e*P	**P**	**11 12 36.8**	**-1.7**
CHY	**Chiayi**	**1.28**	**337**	*e*P	**P**	**11 12 38.4**	**-0.7**
CHY				S	**S**	**11 12 54.6**	**-0.8**
CHN2	**Minshiung**	**1.29**	**340**	*e*P	**P**	**11 12 38.4**	**-0.9**
CHN5	**Tsauling**	**1.30**	**348**	*e*P	**P**	**11 12 39.3**	**-0.2**
CHN5				S	**S**	**11 12 57.5**	**+1.6**
WGK	**Gukeng**	**1.42**	**345**	*e*P	**P**	**11 12 40.2**	**-0.9**
WGK				S	**S**	**11 12 58.3**	**-0.4**
WSF	**Szhu**	**1.49**	**333**	*e*P	**P**	**11 12 40.6**	**-1.5**
WSF				S	**S**	**11 12 58.9**	**-1.6**
WDGT	**Dungji**	**1.53**	**308**	*e*P	**P**	**11 12 40.4**	**-2.3**
SMLT	**Sun Moon Lake**	**1.56**	**358**	*e*P	**P**	**11 12 43.4**	**+0.2**
WNT	**Mingjian**	**1.58**	**351**	*e*P	**P**	**11 12 43.0**	**-0.4**
TYC	**Yuchr**	**1.59**	**356**	*e*P	**P**	**11 12 43.5**	**0.0**
WTCT	**Ta-ch'eng**	**1.67**	**338**	*e*P	**P**	**11 12 43.2**	**-1.4**
WTCT				S	**S**	**11 12 58.3**	**-0.7**
HWA	**Hwalien**	**1.76**	**19**	*e*P	**P**	**11 12 46.4**	**+0.5**
PNG	**Penghu**	**1.80**	**314**	*e*P	**P**	**11 12 44.0**	**-2.6**
TCU	**Taichung**	**1.84**	**352**	*e*P	**P**	**11 12 46.1**	**-1.1**
TWD	**Chiawan**	**1.85**	**18**	*e*P	**P**	**11 12 47.3**	**+0.1**
NACB	**Ninganchiao**	**1.94**	**17**	*e*Pn	**P**	**11 12 47.3**	**-1.2**
TWT	**Tachien**	**1.94**	**6**	*e*P	**P**	**11 12 48.7**	**+0.2**
TWQ1	**Liyutan**	**2.03**	**355**	*e*P	**P**	**11 12 49.9**	**+0.1**
TWQ1				S	**S**	**11 13 14.5**	**+0.3**
NSY	**Sanyi**	**2.10**	**355**	*e*P	**P**	**11 12 50.1**	**-0.7**
NNS	**Nan Shan**	**2.15**	**10**	*e*P	**P**	**11 12 52.7**	**+1.2**
ENA	**Nanau**	**2.22**	**18**	*e*P	**P**	**11 12 52.6**	**+0.1**
NSTT	**Nanjuang**	**2.31**	**1**	*e*P	**P**	**11 12 53.0**	**-0.7**
YHNB	**Yeheng**	**2.38**	**9**	*e*Pn	**P**	**11 12 55.6**	**+0.9**
NSK	**Sanguang**	**2.38**	**9**	*e*P	**P**	**11 12 55.9**	**+1.1**
ENTT	**Nioudou**	**2.38**	**13**	*e*P	**P**	**11 12 55.6**	**+0.8**
TWC	**Suao**	**2.42**	**19**	*e*P	**P**	**11 12 56.7**	**+1.3**
TWE	**Neicheng**	**2.48**	**15**	*e*P	**P**	**11 12 57.1**	**+0.9**
EGS		**2.67**	**19**	*e*P	**P**	**11 13 01.6**	**+2.7**
TATO	**Taipei**	**2.69**	**10**	*e*Pn	**P**	**11 12 60.0**	**+0.7**
TWA	**Mucha**	**2.71**	**12**	*e*P	**P**	**11 12 59.6**	**0.0**
TWS1	**Kuangyinshan**	**2.81**	**8**	*e*P	**P**	**11 13 00.6**	**-0.3**
NWF	**Wu-fen Shan**	**2.84**	**15**	*e*P	**P**	**11 13 03.2**	**+1.8**
YOJ	**Yonaguni jima**	**2.84**	**41**	P	**P**	**11 13 01.7**	**+0.3**
YOJ				S	**S**	**11 13 35.6**	**+0.8**
KNM	**Kinmen**	**3.13**	**312**	*e*P	**P**	**11 13 04.0**	**-1.5**
HATJ	**Hateruma jima**	**3.13**	**56**	P	**P**	**11 13 05.3**	**-0.2**
HATJ				S	**S**	**11 13 41.4**	**-0.7**
IRIF	**Iriomote-Funau**	**3.24**	**51**	P	**P**	**11 13 06.9**	**-0.1**
IRIF				S	**S**	**11 13 45.8**	**+1.0**
JKRS	**Kuro-shima**	**3.39**	**55**	P	**P**	**11 13 09.1**	**0.0**
JKRS				S	**S**	**11 13 49.3**	**+0.7**
JIJ	**Ishigaki jima**	**3.56**	**54**	P	**P**	**11 13 10.9**	**-0.7**
JIJ				S	**S**	**11 13 51.3**	**-1.7**
JTJ	**Tarama**	**4.14**	**55**	P	**P**	**11 13 19.2**	**-0.6**
JTJ				S	**S**	**11 14 06.3**	**-1.3**
JMJ	**Miyako jima 2**	**4.68**	**57**	P	**P**	**11 13 26.7**	**-0.8**
JMJ				S	**S**	**11 14 20.2**	**-1.1**
JOGS	**Gusukube**	**4.75**	**58**	P	**P**	**11 13 27.5**	**-0.9**
JOGS				S	**S**	**11 14 23.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**21.00**	**263**	P	**P**	**11 16 59.2**	**-0.7**
1.7nm,0.8s,baz=62,slow=8.4,SNR=10							
SONM	**Songino Array**	**28.02**	**339**	P	**P**	**11 18 03.1**	**-3.8**
0.8nm,0.6s,mb3.5,baz=166,slow=10,SNR=4.0							
MKAR	**Makanchi Array**	**39.56**	**318**	P	**P**	**11 19 44.8**	**-1.5**
1.3nm,0.6s,mb3.9,baz=112,slow=9.6,SNR=8.0							
FITZ	**Fitzroy Crossi**	**40.42**	**173**	P	**P**	**11 19 49.9**	**-3.8**
1.8nm,0.5s,mb4.0,baz=359,slow=5.9,SNR=5.0							
KURK	**Kurchatov**	**43.41**	**321**	*e*P	**P**	**11 20 16.4**	**-1.5**
3.3nm,0.9s,mb4.1							
WRAB	**Tennant Creek**	**43.98**	**162**	*e*P	**P**	**11 20 17.9**	**-4.9**
2.7nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**43.98**	**162**	P	**P**	**11 20 18.9**	**-4.1**
1.5nm,0.6s,mb3.9,baz=344,slow=8.8,SNR=19							
ASAR	**Alice Springs**	**47.40**	**164**	P	**P**	**11 20 47.0**	**-3.1**
1.0nm,0.3s,mb4.2,baz=343,slow=7.4,SNR=20							
ASAR				PcP	PcP	11 22 16.4	-4.2
0.4nm,0.4s,baz=350,slow=3.5,SNR=4.6							
CHKZ	**Chkalovo**	**49.09**	**323**	*e*P	**P**	**11 21 00.4**	**-2.3**
2.1nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**57.39**	**159**	P	**P**	**11 22 00.8**	**-3.7**
1.7nm,0.6s,mb4.2,baz=280,slow=3.8,SNR=4.2							
STKA	**Stephens Creek**	**57.39**	**159**	P	**P**	**11 22 00.8**	**-3.7**
INK	**Inuvik**	**75.03**	**22**	P	**P**	**11 23 53.6**	**-2.6**
YKA	**Yellowknife Ar**	**84.76**	**23**	P	**P**	**11 24 46.0**	**-2.4**
0.4nm,0.7s,mb3.7,baz=315,slow=4.8,SNR=12							
YKA	**Yellowknife Ar**	**84.76**	**23**	P	**P**	**11 24 46.0**	**-2.4**

*IDC **05** 11:13:19.8±1.9,27.31N×127.36E,mb3.8/4,mb1 3.9/4, mb1mx3.5/22,mbtmp3.8/4, Error ellipse: s-maj=96.2km s-min=16.0km az=36.0*
*JMA **05** 11:13:20.3±0.2,26.14N×127.27E,h46km±2km,M3.0*
ISC 05 11:13:19.5±0.8,26.13N±0.08×127.26E±0.05,h54km±5km, n14,σ0♀71/24,mb3.7/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAH1	**Naha**	**0.39**	**79**	P	**P**	**11 13 29.7**	**-0.3**
NAH1				S	**S**	**11 13 36.6**	**-0.9**
JJT2	**Tamagusuku 2**	**0.44**	**89**	P	**P**	**11 13 30.6**	**+0.2**
JJT2				S	**S**	**11 13 38.4**	**+0.1**
JAGN	**Aguni-jima**	**0.46**	**358**	P	**P**	**11 13 30.8**	**+0.2**
JAGN				S	**S**	**11 13 38.4**	**-0.2**
JKE	**Kume jima 2**	**0.47**	**295**	P	**P**	**11 13 31.0**	**+0.3**
JKE				S	**S**	**11 13 38.8**	**-0.1**
JIH	**Iheya**	**1.10**	**35**	P	**P**	**11 13 39.4**	**+0.4**
JIH				S	**S**	**11 13 53.6**	**+0.2**
JOW	**Kunigami**	**1.15**	**52**	Pn	**P**	**11 13 40.5**	**+0.9**
61nm,0.3s,baz=211,slow=11,SNR=362							
JOW				Sn	**S**	**11 13 55.8**	**+1.3**
69nm,0.3s,baz=131,slow=19,SNR=19							
JOW	**Kunigami**	**1.15**	**52**	P	**P**	**11 13 40.5**	**+0.9**
JOW				S	**S**	**11 13 55.9**	**+1.4**
JTK	**Tokunoshima**	**2.23**	**42**	P	**P**	**11 13 55.1**	**+0.2**
JTK				S	**S**	**11 14 21.5**	**+0.1**
JAM	**Amami Oshima**	**3.08**	**42**	P	**P**	**11 14 07.1**	**+0.1**
JAM				S	**S**	**11 14 40.6**	**-2.3**
JMZ	**Minamidaito 2**	**3.58**	**94**	P	**P**	**11 14 10.0**	**-4.0**
JMZ				S	**S**	**11 14 47.0**	**-8.4**
MKAR	**Makanchi Array**	**40.95**	**312**	P	**P**	**11 20 58.4**	**0.0**
0.5nm,0.6s,mb3.3,baz=91,slow=11,SNR=4.2							
BVAR	**Borovoye Array**	**49.77**	**319**	P	**P**	**11 22 07.9**	**-0.7**
0.9nm,0.5s,mb4.0,baz=50,slow=5.9,SNR=4.2							
FINES	**FINESS Array B**	**72.52**	**330**	P	**P**	**11 24 41.8**	**-0.3**
5.6nm,1.2s,mb4.4,baz=72,slow=6.0,SNR=3.7							
YKA	**Yellowknife Ar**	**78.98**	**25**	P	**P**	**11 25 19.3**	**+0.5**
0.1nm,0.4s,mb3.1,baz=305,slow=5.1,SNR=3.7							

*NIED **05** 11:19:00,37.20N×138.80E,h8km,Mw3.7 Best double couple: M0=4.6×10^14 NP1:φ0=3°,δ59°,λ72°. NP2:φ0=216°, δ36°,λ118°.*
*IDC **05** 11:19:49.1±0.9,37.16N×138.94E,mb3.7/6,mb1 3.9/6, mb1mx3.7/22,mbtmp3.7/6,MS3.2/1,Ms1 3.2/1, ms1mx2.6/32,Error ellipse: s-maj=30.4km s-min=10.0km az=126.0*
*NEIC **05** 11:19:50.9±2.8,37.12N×138.88E,h11km±18km,mb4.0/4, Error ellipse: s-maj=24.2km s-min=19.2km az=76.0*
*JMA **05** 11:19:51.5,37.19N×138.83E,h9km±1km,M4.0*
Broadband fault plane solution: P waves. NP1:φ0=212°,δ6°, λ135°. NP2:φ0=347°,δ86°,λ86°. Principal axes: T Plg49°, Azm253°; N Plg4°, Azm348°; P Plg41°, Azm81°;
JMA Felt II J1.
ISC 05 11:19:51.0±0.4,37.20N±0.02×138.82E±0.04,h24km±4km, n25,σ0♀80/35,mb3.8/10,1C-5D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.17**	**72**	⇓P	**Pb**	**11 19 55.1**	**-1.1**
JHK				S	**Sb**	**11 19 57.7**	**-2.1**
JIZZ	**Izumozaki**	**0.34**	**346**	⇓P	**Pb**	**11 19 59.1**	**+0.4**
JIZZ				S	**Sb**	**11 20 05.3**	**+1.4**
JKT	**Katashina**	**0.55**	**141**	⇓P	**Pb**	**11 20 02.0**	**0.0**
JKT				S	**Sb**	**11 20 09.7**	**+0.2**
JGK	**Kuni**	**0.65**	**193**	⇑P	**Pb**	**11 20 03.9**	**+0.3**
JGK				S	**Sb**	**11 20 13.1**	**+0.9**
JNS	**Sasagawa**	**0.74**	**33**	P	**Pb**	**11 20 05.0**	**-0.1**
JNS				S	**Sb**	**11 20 15.1**	**+0.3**
JFY	**Yanaizu**	**0.74**	**73**	⇓P	**Pb**	**11 20 05.2**	**+0.1**
JFY				S	**Sb**	**11 20 15.6**	**+0.7**
MAJO	**Matsushiro**	**0.81**	**217**	*e*Pg	**Pb**	**11 20 06.3**	**-0.1**
MAJO				*e*S	**Sb**	**11 20 16.7**	**-0.3**
MAT	**Matsushiro**	**0.81**	**217**	*e*P	**Pb**	**11 20 06.0**	**-0.4**
MAT				*e*S	**Sb**	**11 20 17.0**	**0.0**
MAT	**Matsushiro**	**0.81**	**217**	P	**Pb**	**11 20 06.3**	**-0.1**
MAT				S	**Sb**	**11 20 16.9**	**-0.1**
MJAR	**Matsushiro Arr**	**0.81**	**217**	Pg	**Pb**	**11 20 06.3**	**-0.1**
91nm,0.3s,baz=20,slow=16,SNR=862							
MJAR				Lg		11 20 16.9	
360nm,0.3s,baz=31,slow=30,SNR=77							
JAG	**Ashikaga**	**0.93**	**146**	⇓P	**Pb**	**11 20 09.0**	**+0.7**
JAG				S	**Sb**	**11 20 20.9**	**+0.8**
JSD	**Sado**	**0.95**	**332**	P	**Pb**	**11 20 08.2**	**-0.4**
JSD				S	**Sb**	**11 20 20.6**	**-0.2**
JHJ	**Hachijo jima 2**	**4.14**	**169**	LR	LR	11 22 22.7	
comp=Z,324nm,20.9s,baz=98,slow=38							
ULN	**Ulaanbaatar**	**25.55**	**305**	*e*P	**P**	**11 25 19.7**	**+0.4**
5.7nm,1.2s,mb4.0							
SONM	**Songino Array**	**25.98**	**304**	P	**P**	**11 25 22.7**	**-0.7**
0.5nm,0.7s,mb3.1,baz=90,slow=7.4,SNR=3.8							
KURK	**Kurchatov**	**44.19**	**308**	*e*P	**P**	**11 28 03.3**	**+3.8**
1.4nm,0.8s,mb3.7							
CHKZ	**Chkalovo**	**48.68**	**313**	P	**P**	**11 28 34.5**	**-0.4**
1.4nm,0.8s,mb4.0							
ILAR	**Eielson Array**	**50.47**	**32**	P	**P**	**11 28 47.5**	**-0.9**
0.3nm,0.5s,mb3.6,baz=288,slow=5.7,SNR=6.6							
INK	**Inuvik**	**55.19**	**27**	*e*P	**P**	**11 29 24.1**	**+0.5**
1.5nm,0.9s,mb4.0							
WRA	**Warramunga Arr**	**56.99**	**185**	P	**P**	**11 29 35.1**	**-2.0**
1.8nm,0.8s,mb4.2,baz=0.8,slow=7.5,SNR=13							
ASAR	**Alice Springs**	**60.71**	**185**	P	**P**	**11 30 02.6**	**-0.3**
0.5nm,0.8s,mb3.7,slow=3.6,SNR=3.2							
YKA	**Yellowknife Ar**	**64.70**	**29**	P	**P**	**11 30 28.9**	**+0.2**
0.3nm,0.6s,mb3.5,baz=304,slow=6.6,SNR=5.8							
YKA	**Yellowknife Ar**	**64.70**	**29**	P	**P**	**11 30 28.9**	**+0.2**
FINES	**FINESS Array B**	**67.69**	**331**	P	**P**	**11 30 49.5**	**+1.6**
1.4nm,0.8s,mb4.0,baz=63,slow=6.2,SNR=3.5							
FINES	**FINESS Array B**	**67.69**	**331**	P	**P**	**11 30 49.5**	**+1.6**

*IDC **05** 11:42:55.0±1.1,16.38N×121.27E,mb3.8/7,mb1 4.0/7, mb1mx3.8/20,mbtmp3.9/7,Error ellipse: s-maj=52.8km s-min=17.3km az=64.0*
*NEIC **05** 11:42:56.8±0.7,16.35N×121.22E,h10km,mb4.4/4,Error ellipse: s-maj=31.1km s-min=10.4km az=65.0*
*MAN **05** 11:42:57.1,16.39N×121.05E,h1km,mb4.3,ML3.2,MS2.9*
ISC 05 11:42:55.5±2.4,16.48N±0.04×121.05E±0.06,h4km±16km, n21,σ1♀32/26,mb4.0/11,6C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.46**	**257**	⇑*i*P	**Pb**	**11 43 06.2**	**+0.3**
BCPH				*i* S	**Sb**	**11 43 13.7**	**+0.9**
PCPH	**Palayan**	**0.92**	**177**	⇑*e*P	**Pb**	**11 43 13.0**	**-0.6**
PCPH				*i* S	**Sb**	**11 43 24.6**	**-1.3**
BOLP	**Bolinao**	**1.10**	**265**	*e*P	**Pb**	**11 43 12.4**	**-4.3**
BOLP				*e*S	**Sb**	**11 43 24.8**	**-6.4**
SCZP	**Santa Cruz**	**1.30**	**237**	*e*P	**Pb**	**11 43 18.1**	**-2.2**
QVPH	**Quezon City--P**	**1.82**	**180**	⇑*i*P	**Pn**	**11 43 28.6**	**+0.7**
QVPH				*e*S	**Sn**	**11 43 52.2**	**+0.5**
NBP	**Mount Natib**	**1.84**	**200**	⇓*e*P	**Pn**	**11 43 27.6**	**-0.5**
ARP	**Angono**	**1.94**	**177**	⇑*e*P	**Pn**	**11 43 29.5**	**0.0**
LBPH	**Los Banos**	**2.32**	**177**	⇑*e*P	**Pn**	**11 43 36.4**	**+1.3**
TGY	**Tagaytay City**	**2.37**	**183**	⇑*e*P	**Pn**	**11 43 39.5**	**+3.7**
GQP	**Guinayangan**	**2.90**	**152**	⇓*e*P	**Pn**	**11 43 45.5**	**+2.2**
GQP				*e*S	**Sn**	**11 44 20.6**	**+1.6**
CMAR	**Chiang Mai Arr**	**21.18**	**279**	P	**P**	**11 47 45.4**	**+1.0**
1.8nm,0.8s,mb3.4,baz=89,slow=7.8,SNR=12							
LZH	**Lanzhou**	**24.81**	**325**	*e*P	**P**	**11 48 20.5**	**+0.5**
23nm,1.2s,mb4.6							
LZH				pP		11 48 29.7	
LZH				sP		11 48 33.9	
ULN	**Ulaanbaatar**	**33.35**	**343**	*e*P	**P**	**11 49 38.1**	**+1.4**
1.5nm,0.8s,mb4.0							
SONM	**Songino Array**	**33.51**	**342**	P	**P**	**11 49 38.2**	**0.0**
0.9nm,0.6s,mb3.9,baz=160,slow=12,SNR=6.5							
FITZ	**Fitzroy Crossi**	**34.66**	**172**	P	**P**	**11 49 43.6**	**-4.8**
4.1nm,0.8s,mb4.4,baz=357,slow=18,SNR=2.9							
WRAB	**Tennant Creek**	**38.48**	**160**	*e*P	**P**	**11 50 18.4**	**-2.2**
11nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	**38.48**	**160**	P	**P**	**11 50 17.7**	**-2.9**
1.2nm,0.5s,mb3.9,baz=340,slow=9.1,SNR=17							
ASAR	**Alice Springs**	**41.83**	**162**	P	**P**	**11 50 46.6**	**-1.8**
0.5nm,0.4s,mb3.5,baz=340,slow=6.9,SNR=7.5							
MKAR	**Makanchi Array**	**44.04**	**322**	P	**P**	**11 51 05.0**	**-1.0**
0.6nm,0.9s,mb3.3,baz=121,slow=7.1,SNR=4.9							
KURK	**Kurchatov**	**48.10**	**325**	*e*P	**P**	**11 51 37.8**	**-0.5**
1.5nm,0.6s,mb4.2							
FINES	**FINESS Array B**	**78.03**	**331**	P	**P**	**11 54 56.4**	**-0.2**
1.7nm,0.9s,mb4.0,baz=56,slow=6.9,SNR=5.2							

MAN 05 12:06:18.2,16.11N×120.92E,h32km,mb4.1,ML2.9, MS2.6,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.42**	**309**	⇑*i*P	Pb	12 06 28.9	+1.4
BCPH				*i* S	Sb	12 06 36.7	+2.8
ABRA	**Dolores**	**1.54**	**353**	*e*P	Pn	12 06 38.2	-5.7
APYP	**Conner**	**1.77**	**10**	*e*P	Pn	12 06 43.4	-3.8

*IDC **05** 12:23:17.3±1.5,16.41S×178.55W,mb4.1/7,mb1 4.5/7, mb1mx4.2/16,mbtmp4.1/7,Error ellipse: s-maj=101.8km s-min=19.6km az=148.0*
ISC 05 12:23:20.8±1.3,16.5S±0.5×178.6W±0.3,h33km,n11, σ0♀66/11,mb4.0/7,3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.18**	**240**	⇓*i*P	**P**	**12 30 47.8**	**+0.4**
3.7nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**39.18**	**240**	P	**P**	**12 30 47.8**	**+0.4**
3.5nm,0.3s,mb4.5,baz=93,slow=8.9,SNR=25							
WB2	**Warramunga Arr**	**44.72**	**258**	⇓*i*P	**P**	**12 31 33.0**	**0.0**
WRA	**Warramunga Arr**	**44.73**	**258**	P	**P**	**12 31 33.2**	**+0.1**
2.0nm,0.5s,mb4.2,baz=91,slow=7.0,SNR=101							
ASAR	**Alice Springs**	**45.02**	**253**	P	**P**	**12 31 35.4**	**0.0**
23nm,0.6s,mb5.2,baz=89,slow=7.8,SNR=591							
ASPA	**Alice Springs**	**45.03**	**253**	⇓*i*P	**P**	**12 31 35.2**	**-0.2**
FORT	**Forrest**	**50.47**	**244**	*e*P	**P**	**12 32 14.0**	**-3.7**
196nm,0.7s							
NVAR	**Mina Array Bea**	**78.53**	**44**	P	**P**	**12 35 22.0**	**+1.3**
0.4nm,0.8s,mb3.4,baz=219,slow=8.1,SNR=6.0							
ILAR	**Eielson Array**	**84.55**	**13**	P	**P**	**12 35 51.2**	**-0.3**
0.2nm,0.3s,mb3.7,baz=225,slow=5.1,SNR=11							
TXAR	**Lajitas Array**	**85.39**	**58**	P	**P**	**12 35 55.9**	**-0.6**
0.2nm,0.4s,mb3.6,baz=225,slow=5.3,SNR=3.8							
PDAR	**Pinedale Array**	**86.45**	**44**	P	**P**	**12 36 00.9**	**-0.5**
0.3nm,0.5s,mb3.8,baz=215,slow=2.6,SNR=3.9							

*IDC **05** 12:25:29.3±1.1,32.23N×141.97E,mb3.7/5,mb1 3.9/7, mb1mx3.6/22,mbtmp3.7/7,ML3.1/

comp=Z,6.6nm,0.9s,mb4.3
ASAR Alice Springs 43.78 127 P **P 12 49 01.4 +0.2**
comp=Z,0.8nm,0.9s,mb3.4,baz=296,slow=9.1,SNR=5.3
SONM Songino Array 46.80 9 P **P 12 49 25.2 +0.3**
comp=Z,2.0nm,0.5s,mb4.3,baz=184,slow=8.6,SNR=11
MKAR Makanchi Array 46.84 346 P **P 12 49 26.1 +0.9**
comp=Z,6.0nm,0.8s,mb4.6,baz=158,slow=7.7,SNR=37
ULN Ulaanbaatar 46.94 9 *eP* **P 12 49 25.9 0.0**
comp=Z,3.7nm,1.0s,mb4.3
KURK Kurchatov 51.39 345 *eP* **P 12 50 00.3 +0.1**
comp=Z,3.3nm,1.0s,mb4.2
ZAL Zalesovo 53.16 351 P **P 12 50 12.9 -0.4**
comp=Z,2.1nm,0.7s,mb4.2
BVAR Borovoye Array 55.84 341 P **P 12 50 32.0 -1.0**
comp=Z,0.9nm,0.6s,mb4.0,baz=149,slow=8.4,SNR=4.7
CHKZ Chkalovo 56.32 341 *eP* **P 12 50 36.0 -0.4**
comp=Z,2.4nm,0.7s,mb4.3

NIED ***05*** *12:49:00, 33.70N×130.20E, h23km, Mw3.3 Best double couple: M0 1.07×10^14 NP1:φs224°, δ83°, λ169°. NP2: φs315°, δ79°, λ7°.*

JMA 05 12:49:58.9, 33.74N×130.17E, h12km, M3.5, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.36**	**150**	⇑P	Pg	12 50 06.2	-0.2
JFI				S	Sg	12 50 11.1	-0.4
JII	**Iki**	**0.37**	**279**	⇓P	Pg	12 50 06.5	-0.1
JII				S	Sg	12 50 11.5	-0.2
JFA	**Akaike**	**0.52**	**93**	⇓P	Pb	12 50 08.9	-0.6
JFA				S	Sg	12 50 16.3	-0.3
JTA	**Tamana**	**0.83**	**158**	⇑P	Pb	12 50 14.6	-0.2
JTA				S	Sb	12 50 25.6	-0.1
JTU	**Tsushima**	**1.01**	**321**	⇑P	Pb	12 50 17.7	-0.2
JTU				S	Sb	12 50 31.1	+0.2

IDC ***05*** *12:52:44.9±0.7, 1.32N×97.07E, mb4.2/14, mb1 4.4/15, mb1mx4.3/21, mbtmp4.3/15, ML4.0/1, Error ellipse: s-maj=26.6km s-min=13.7km az=50.0*
BJI ***05*** *12:52:47.4, 1.12N×97.45E, h38km, mB5.0, mb4.8, Ms4.6, Msz4.4*
MOS ***05*** *12:52:47.8±1.0, 1.35N×97.16E, h33km, mb5.0/19, Error ellipse: s-maj=17.7km s-min=8.2km az=95.9*
NEIC ***05*** *12:52:49.7±0.4, 1.34N×97.18E, h30km, mb4.9/18, Error ellipse: s-maj=10.3km s-min=5.9km az=59.0*

ISC 05 12:52:46.9±2.4, 1.34N±0.06×97.16E±0.07, h24km±16km, h32km±1.3km: pP-P, n75, σ1§03/83, mb4.6/47, MS4.2/9, 3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.03**	**50**	P	**Pn**	**12 54 04.0**	**+1.2**
KULM	**Kulim**	**5.25**	**42**	*eP*	**Pn**	**12 54 06.5**	**+0.6**
KGM	**Kluang**	**6.20**	**84**	P	**Pn**	**12 54 21.0**	**+1.6**
SNG	**Songkhla**	**6.75**	**31**	P	**Pn**	**12 54 26.0**	**-1.0**
	340nm,0.9s						
CM31	**Chiang Mai Arr**	**17.10**	**6**	*eP*	**P**	**12 56 45.8**	**-0.4**
	3.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**17.10**	**6**	Pn	**P**	**12 56 45.5**	**-0.7**
	0.2nm,0.3s,baz=193,slow=12,SNR=22						
CHG	**Chiang Mai**	**17.45**	**6**	⇓P	**P**	**12 56 54.5**	**+4.0**
	11nm,1.1s						
NANT	**Nan**	**17.69**	**11**	⇑P	**P**	**12 56 52.0**	**-1.6**
	69nm,0.5s						
KMI	**Kunming**	**24.25**	**12**	P	**P**	**12 58 05.2**	**+1.9**
KMI				AP		12 58 12.1	
KMI				XP		12 58 14.8	
KMI				PPP	PPP	12 58 51.2	+2.5
KMI				S	**S**	**13 02 20.2**	**+2.7**
KMI				XS		13 02 31.8	
KMI				SS	SS	13 03 14.4	+3.5
KMI				SSS	SSS	13 03 30.5	+3.1
KMI				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,143nm,3.5s						
KMI				LR	LR		
	comp=N,896nm,16.4s,MS4.4						
KMI				LR	LR		
	comp=E,462nm,13.7s,MS4.4						
KMI				LR	LR		
	comp=Z,942nm,14.3s,MS4.4						
KMI	**Kunming**	**24.25**	**12**	P	**P**	**12 58 05.2**	**+1.9**
KMI				*SP		12 58 14.8	
KMI				PPP	PPP	12 58 51.2	+2.5
KMI				S	**S**	**13 02 20.2**	**+2.7**
KMI				*SS		13 02 31.8	
KMI				SS	SS	13 03 14.4	+3.5
KMI				SSS	SSS	13 03 30.5	+3.1
KMI				pmax	pmax		
	comp=Z,40nm,1.1s,mb4.8						
KMI	**Kunming**	**24.25**	**12**	P	**P**	**12 58 05.2**	**+1.9**
	comp=Z,40nm,1.1s,mb4.8						
KMI				pP		12 58 12.1	
KMI				sP		12 58 14.8	
KMI				PPP	PPP	12 58 51.2	+2.5
KMI				S	**S**	**13 02 20.2**	**+2.7**
KMI				sS		13 02 31.8	
KMI				SS	SS	13 03 14.4	+3.5
KMI				SSS	SSS	13 03 30.5	+3.1
SHL	**Shillong**	**24.61**	**349**	*eP*	**P**	**12 58 07.0**	**+0.1**
SHL				*eS*	**S**	**13 02 07.0**	**-17**
GYA	**Guiyang**	**26.59**	**19**	P	**P**	**12 58 24.1**	**-1.3**
GYA				AP	pP	12 58 34.0	+1.5
GYA				XP	sP	12 58 37.9	+2.1
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
GYA				AMB	AMB		
	comp=Z,110nm,4.0s						
GYA				LR	LR		
	comp=N,620nm,13.8s,MS4.4						
GYA				LR	LR		
	comp=E,230nm,11.6s,MS4.4						
GYA				LR	LR		
	comp=Z,950nm,14.6s,MS4.5						
JIRN	**Jiri**	**28.20**	**339**	*eP*	**P**	**12 58 41.1**	**+1.2**
	comp=Z,86nm,0.9s,mb5.4						
PKI	**Pulchoki**	**28.40**	**338**	*eP*	**P**	**12 58 42.8**	**+1.0**
GUN	**Gumba**	**28.54**	**339**	*eP*	**P**	**12 58 43.9**	**+0.9**
	comp=Z,70nm,1.0s,mb5.3						
DMN	**Daman**	**28.55**	**337**	*eP*	**P**	**12 58 43.9**	**+0.7**
	comp=Z,27nm,0.9s,mb5.0						
KKN	**Kakani**	**28.65**	**338**	*eP*	**P**	**12 58 44.3**	**+0.3**
	comp=Z,62nm,1.1s,mb5.3						
KKN	**Kakani**	**28.65**	**338**	*eP*	**P**	**12 58 44.3**	**+0.3**
KKN				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.0						
LSA	**Lhasa**	**28.77**	**349**	P	**P**	**12 58 47.0**	**+1.9**
LSA	**Lhasa**	**28.77**	**349**	*eP*	**P**	**12 58 46.2**	**+1.1**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
LSA	**Lhasa**	**28.77**	**349**	*eP*	**P**	**12 58 46.2**	**+1.1**
	comp=Z,11nm,0.7s,mb4.7						
GKN	**Gorkha**	**29.09**	**337**	*eP*	**P**	**12 58 48.9**	**+0.9**
	comp=Z,66nm,1.0s,mb5.3						
KOLN	**Koldanda**	**29.31**	**335**	*eP*	**P**	**12 58 50.9**	**+0.9**
	comp=Z,30nm,0.7s,mb5.1						
ENH	**Enshi**	**31.06**	**21**	*eP*	**P**	**12 59 03.9**	**-1.6**
	comp=Z,40nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**34.05**	**126**	P	**P**	**12 59 30.1**	**-1.5**
	comp=Z,4.5nm,0.8s,mb4.4,baz=340,slow=9.1,SNR=5.2						
XAN	**Xi'an**	**34.34**	**17**	P	**P**	**12 59 32.8**	**-1.2**
XAN				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.2						
LZH	**Lanzhou**	**35.12**	**9**	⇑P	**P**	**12 59 39.9**	**-0.8**
LZH				AP	pP	12 59 49.3	+1.4
LZH				XP	sP	12 59 53.4	+2.4
LZH				PP	PP	13 01 00.3	+0.7
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,78nm,6.0s						
LZH				LR	LR		
	comp=N,258nm,13.4s						
LZH				LR	LR		
	comp=Z,352nm,17.5s,MS4.2						
LZH	**Lanzhou**	**35.12**	**9**	⇑P	**P**	**12 59 39.9**	**-0.8**
	comp=Z,27nm,1.3s,mb5.0						
LZH				pP	pP	12 59 49.3	+1.4
LZH				sP	sP	12 59 53.4	+2.4
LZH				PP	PP	13 01 00.3	+0.7
NJ2	**Nanjing**	**36.77**	**32**	*eP*	**P**	**12 59 49.0**	**-5.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
GTA	**Gaotai**	**37.96**	**3**	P	**P**	**13 00 04.8**	**+0.2**
GTA				AP	pP	13 00 12.7	+0.8
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,87nm,9.5s						
GTA				LR	LR		
	comp=N,223nm,12.9s,MS4.2						
GTA				LR	LR		
	comp=E,161nm,14.4s,MS4.2						
GTA				LR	LR		
	comp=Z,259nm,13.7s,MS4.2						
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**13 00 39.3**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.0,baz=302,slow=9.2,SNR=22						
WRAB	**Tennant Creek**	**42.15**	**122**	*eP*	**P**	**13 00 39.5**	**0.0**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
WRAB	**Tennant Creek**	**42.15**	**122**	*eP*	**P**	**13 00 39.5**	**0.0**
	comp=Z,3.2nm,0.5s,mb4.2						
WB2	**Warramunga Arr**	**42.16**	**122**	*eP*	**P**	**13 00 39.8**	**+0.2**
BJT	**Baijiatuau**	**42.20**	**22**	*eP*	**P**	**13 00 40.3**	**+0.6**
BJT				pmax	pmax		
	comp=Z,16nm,0.6s						
BJT	**Baijiatuau**	**42.20**	**22**	*eP*	**P**	**13 00 40.3**	**+0.6**
	comp=Z,16nm,0.6s,mb4.8						
BJI	**Beijing**	**42.22**	**22**	P	**P**	**13 00 41.0**	**+1.2**
BJI				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.8						
BJI				LR	LR		
	comp=N,160nm,15.3s,MS4.3						
BJI				LR	LR		
	comp=E,233nm,14.5s,MS4.3						
BJI				LR	LR		
	comp=Z,134nm,26.1s						
BJI	**Beijing**	**42.22**	**22**	P	**P**	**13 00 41.0**	**+1.2**
	comp=Z,19nm,0.7s,mb4.8						
BJI				S	**S**	**13 07 18.9**	**+20**
WMQ	**Urumqi**	**43.12**	**350**	⇓P	**P**	**13 00 49.0**	**+1.9**
WMQ				AP	pP	13 00 59.0	+4.5
WMQ				XP	sP	13 01 03.0	+5.5
WMQ				PP	PP	13 02 31.6	+2.0
WMQ				PCP	PcP	13 02 39.7	+2.5
WMQ				S	**S**	**13 07 12.0**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,117nm,4.4s						
WMQ				LR	LR		
	comp=N,81nm,20.0s,MS3.9						
WMQ				LR	LR		
	comp=E,114nm,20.7s,MS3.9						
ASAR	**Alice Springs**	**43.52**	**127**	P	**P**	**13 00 51.2**	**+0.6**
	comp=E,1.3nm,0.7s,mb3.8,baz=298,slow=8.0,SNR=13						
AAK	**Ala-Archa**	**45.85**	**337**	P	**P**	**13 01 14.1**	**+5.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**45.85**	**337**	P	**P**	**13 01 14.1**	**+5.1**
	comp=Z,8.6nm,1.3s,mb4.5						
SONM	**Songino Array**	**47.00**	**9**	P	**P**	**13 01 18.7**	**+0.7**
	comp=Z,8.5nm,0.7s,mb4.8,baz=190,slow=9.6,SNR=34						
MKAR	**Makanchi Array**	**47.09**	**346**	*i* P	**P**	**13 01 19.0**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**47.09**	**346**	P	**P**	**13 01 19.5**	**+0.7**
	comp=Z,6.7nm,0.8s,mb4.6,baz=159,slow=7.8,SNR=46						
ULN	**Ulaanbaatar**	**47.13**	**9**	*eP*	**P**	**13 01 19.4**	**+0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ULN	**Ulaanbaatar**	**47.13**	**9**	*eP*	**P**	**13 01 19.4**	**+0.3**
	comp=Z,7.1nm,0.9s,mb4.6						
ZAK	**Zakamensk**	**49.13**	**5**	*eP*	**P**	**13 01 34.6**	**0.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
CN2	**Changchun**	**49.20**	**27**	*eP*	**P**	**13 01 34.7**	**-0.5**
CN2				*e*AP	pP	13 01 44.6	+1.9
CN2				*e*S	**S**	**13 08 42.0**	**+3.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,530nm,17.0s,MS4.7						
CN2				LR	LR		
	comp=E,330nm,17.0s,MS4.7						
CN2				LR	LR		
	comp=Z,300nm,19.0s,MS4.3						
TLY	**Talaya**	**50.45**	**5**	*eP*	**P**	**13 01 45.2**	**+0.5**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
TLY				MLR	MLR		
	comp=Z,166nm,16.0s,MS4.1						
HIA	**Hailar**	**51.52**	**19**	*eP*	**P**	**13 01 51.6**	**-1.2**
HIA				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	**Hailar**	**51.52**	**19**	*eP*	**P**	**13 01 51.6**	**-1.2**
	comp=Z,15nm,1.0s,mb4.9						
MJAR	**Matsushiro Arr**	**51.62**	**42**	P	**P**	**13 01 53.4**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=225,slow=8.5,SNR=4.1						
KURK	**Kurchatov**	**51.64**	**345**	*eP*	**P**	**13 01 53.5**	**-0.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KURK	**Kurchatov**	**51.64**	**345**	*eP*	**P**	**13 01 53.5**	**-0.3**
	comp=Z,4.7nm,0.7s,mb4.5						
MDJ	**Mudanjiang**	**51.76**	**29**	P	**P**	**13 01 54.8**	**0.0**
MDJ				PCP	PcP	13 03 05.8	-2.1
MDJ				SCP		13 06 57.8	
MDJ				PCS		13 07 02.6	
MDJ				S	**S**	**13 09 04.7**	**-9.0**
MDJ				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,36nm,3.0s						
MDJ				LR	LR		
	comp=N,89nm,21.3s,MS3.9						
MDJ				LR	LR		
	comp=E,75nm,19.8s,MS3.9						
MDJ				LR	LR		
	comp=Z,115nm,15.7s,MS4.0						
CTA	**Charters Tower**	**52.61**	**117**	P	**P**	**13 02 01.7**	**+0.3**
	comp=Z,2.1nm,0.3s,mb4.5,baz=319,slow=4.6,SNR=2.8						
ZAL	**Zalesovo**	**53.40**	**351**	P	**P**	**13 02 06.5**	**-0.4**
	comp=Z,6.0nm,0.4s,mb4.8,baz=296,slow=5.6,SNR=38						
STKA	**Stephens Creek**	**53.48**	**132**	P	**P**	**13 02 09.0**	**+1.2**
	comp=Z,2.4nm,0.6s,mb4.3,baz=299,slow=11,SNR=6.0						
NVS	**Novosibirsk**	**54.53**	**350**	*eP*	**P**	**13 02 13.6**	**-1.5**
NVS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,9.0nm,1.2s						
BVA0	**Borovoye Array**	**56.10**	**341**	*i* P	**P**	**13 02 25.8**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
KLR	**Kul'dur**	**56.15**	**27**	*eP*	**P**	**13 02 24.2**	**-2.7**
CHKZ	**Chkalovo**	**56.58**	**341**	*eP*	**P**	**13 02 29.0**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**56.58**	**341**	*eP*	**P**	**13 02 29.0**	**-0.9**
	comp=Z,12nm,0.7s,mb5.0						
BOD	**Bodaibo**	**57.88**	**11**	*eP*	**P**	**13 02 37.3**	**-1.8**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
YAK	**Yakutsk**	**65.30**	**16**	*eP*	**P**	**13 03 27.0**	**-1.9**
YAK				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
YAK				pmax	pmax		
	comp=N,6.0nm,1.0s						
BRTR	**Keskin Array B**	**68.98**	**312**	P	**P**	**13 03 51.3**	**-1.2**
	comp=N,0.3nm,0.3s,mb3.6,baz=88,slow=31,SNR=3.0						
MATP	**Matopo**	**70.54**	**248**	P	**P**	**13 04 02.5**	**+0.2**
	comp=N,2.6nm,0.9s,mb4.2,baz=68,slow=8.0,SNR=3.1						
OBN	**Obninsk**	**72.47**	**328**	*eP*	**P**	**13 04 13.7**	**+0.3**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**75.12**	**322**	P	**P**	**13 04 27.6**	**-1.2**
	comp=Z,0.3nm,0.3s,mb3.8,baz=90,slow=4.5,SNR=6.0						
FINES	**FINESS Array B**	**79.85**	**332**	P	**P**	**13 04 55.2**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=108,slow=6.0,SNR=5.1						
FINES	**FINESS Array B**	**79.85**	**332**	P	**P**	**13 04 55.2**	**+0.4**
BILL	**Bilibino**	**81.05**	**21**	*eP*	**P**	**13 04 56.1**	**-4.9**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
GERES	**GERESS Array B**	**84.68**	**319**	P	**P**	**13 05 20.5**	**+0.5**
	comp=Z,0.3nm,0.2s,mb4.0,baz=101,slow=14,SNR=3.0						

MAN 05 13:01:02.0, 13.52N×120.67E, h86km, mb4.0, ML2.7, MS2.4, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.46**	**298**	*eP*	P	13 01 18.1	+2.0
TGY	**Tagaytay City**	**0.64**	**24**	*eP*	P	13 01 19.8	+2.0
TGY				*i* S	S	13 01 32.6	+3.2
LBPH	**Los Banos**	**0.81**	**38**	*eP*	P	13 01 20.7	+1.2
ARP	**Angono**	**1.12**	**25**	*eP*	P	13 01 22.6	-0.6
NBP	**Mount Natib**	**1.24**	**349**	*eP*	P	13 01 24.2	-0.5

IDC ***05*** *13:01:50.2±0.5, 2.38N×96.23E, mb4.6/20, mb1 4.7/21, mb1mx4.6/24, mbtmp4.6/21, ML4.6/1, MS4.3/13, Ms1 4.3/13, ms1mx4.0/26, Error ellipse: s-maj=19.4km s-min=12.8km az=44.0*
BJI ***05*** *13:01:50.1, 2.00N×96.26E, h33km, mB5.1, mb5.0, Ms4.8, Msz4.6*
MOS ***05*** *13:01:53.9±0.9, 2.44N×96.31E, h33km, mb5.2/28, Error ellipse: s-maj=13.5km s-min=6.9km az=94.6*
HRVD ***05*** *13:01:55.3±1.0, 1.97N×96.20E, h42km±3km, MW4.8/33, Centroid moment Tensor Solution. LP body waves: s12,c18; Mantle waves: s33,c48; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.76±.28; Mθθ -1.27±.17; Mφφ 0.51±.22; Mrθ 1.22±.16; Mrφ 1.70±.12; Mθφ -0.39±.26; Best double couple: M0 2.222×10^16 NP1:φs348°, δ55°, λ174°. NP2:φs82°, δ85°, λ35°. Principal axes: T 1.698, Plg28°, Azm311°; N 1.046, Plg55°, Azm89°; P -2.745, Plg20°, Azm210°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50.*
NEIC ***05*** *13:01:55.3±0.2, 2.42N×96.30E, h30km, mb5.0/30 Error ellipse: s-maj=6.3km s-min=4.7km az=223.0*

ISC 05 13:01:54.7±0.8, 2.43N±0.04×96.34E±0.04, h38km±6km, h32km±2.1km: pP-P, n158, σ1§02/171, mb4.9/71, MS4.5/35, 4C-12D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.14**	**65**	P	**P**	**13 03 12.6**	**+1.4**
KULM	**Kulim**	**5.15**	**56**	*eP*	**P**	**13 03 11.4**	**0.0**
SNG	**Songkhla**	**6.35**	**42**	P	**P**	**13 03 27.0**	**-1.3**
	496nm,1.0s						
KGM	**Kluang**	**6.99**	**93**	P	**P**	**13 03 38.9**	**+1.7**
NNT	**Nongplab**	**10.64**	**18**	P	**P**	**13 04 35.0**	**+7.2**
KSM	**Kuching**	**13.99**	**94**	*eP*	**P**	**13 05 13.2**	**+0.5**
KKTK	**Khon Kaen**	**15.22**	**24**	P	**P**	**13 05 34.0**	**+5.3**
	617nm,0.7s						
CM31	**Chiang Mai Arr**	**16.13**	**9**	*eP*	**P**	**13 05 41.3**	**+0.9**
	18nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.13**	**9**	Pn	**P**	**13 05 40.2**	**-0.2**
	0.8nm,0.3s,baz=197,slow=11,SNR=87						
CMAR				Sn	**S**	**13 08 45.9**	**+8.2**
	0.1nm,0.3s,baz=40,slow=34,SNR=2.6						
CMAR				Lg		13 10 30.9	
	0.3nm,0.3s,baz=166,slow=30,SNR=4.7						
CMAR				LR	LR	13 12 39.5	
	comp=Z,1μm,18.8s,baz=190,slow=40						
PALK	**Pallekele**	**16.30**	**288**	*eP*	**P**	**13 05 44.3**	**+1.7**
	43nm,1.1s						
NANT	**Nan**	**16.82**	**14**	⇓P	**P**	**13 05 48.0**	**-1.0**
	144nm,0.6s						
VIS	**Vishakhapatnam**	**19.85**	**321**	*eP*	**P**	**13 06 25.9**	**+0.5**
VIS				AMb	AMB	13 06 30.7	
	comp=Z,38nm,0.9s						
VIS				*e*S	**S**	**13 10 08.7**	**+7.1**
KKM	**Kota Kinabalu**	**20.14**	**79**	P	**P**	**13 06 28.3**	**-0.2**
KKM	**Kota Kinabalu**	**20.14**	**79**	P	**P**	**13 06 29.4**	**+0.9**
TRD	**Trivandrum**	**20.21**	**288**	*e*	**P**	**13 06 18.4**	**-11**
TRD				*e*S	**S**	**13 10 12.4**	**+3.5**
TRD				*i*		13 12 42.4	
QIZ	**Qiongzhong**	**21.14**	**38**	P	**P**	**13 06 38.4**	**-0.4**
QIZ				AMB	AMB		
	comp=Z,37nm,1.2s,mb4.6						
QIZ				LR	LR		
	comp=N,2μm,14.0s						
QIZ				LR	LR		
	comp=Z,2μm,13.2s,MS4.7						
TSM	**Tawau**	**21.57**	**85**	P	**P**	**13 06 43.9**	**+0.7**
HYB	**Hyderabad**	**22.95**	**312**	*eP*	**P**	**13 07 02.0**	**+5.1**
HYB				*e*S	**S**	**13 11 13.0**	**+13**
HYB	**Hyderabad**	**22.95**	**312**	*i* P	**P**	**13 07 02.0**	**+5.1**
HYB				*e*S	**S**	**13 11 13.0**	**+13**
KMI	**Kunming**	**23.39**	**15**	P	**P**	**13 07 03.0**	**+1.9**
KMI				AP		13 07 10.2	
KMI				XP		13 07 13.0	
KMI				PP	PP	13 07 35.2	+2.0
KMI				PPP	PPP	13 07 45.5	+2.2
KMI				S	**S**	**13 11 11.9**	**+4.1**
KMI				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.6						
KMI				AMB	AMB		
	comp=Z,304nm,5.3s						
KMI				LR	LR		
	comp=N,1μm,12.8s,MS4.6						
KMI				LR	LR		
	comp=E,639nm,13.0s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,13.1s,MS4.5						
KMI	**Kunming**	**23.39**	**15**	P	**P**	**13 07 03.0**	**+1.9**
KMI				*SP		13 07 13.0	
KMI						13 07 35.2	
KMI				PPP	PPP	13 07 45.5	+2.2
KMI				S	**S**	**13 11 11.9**	**+4.1**
KMI				*SS		13 11 23.8	
KMI				SSS	SSS	13 12 15.8	+3.6
KMI				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.6						
KMI	**Kunming**	**23.39**	**15**	P	**P**	**13 07 03.0**	**+1.9**
	comp=Z,30nm,1.1s,mb4.6						
KMI				pP		13 07 10.2	
KMI				sP		13 07 13.0	
KMI				PP	PP	13 07 35.2	+2.0
KMI				PPP	PPP	13 07 45.5	+2.2
KMI				S	**S**	**13 11 11.9**	**+4.1**
KMI				sS		13 11 23.8	
KMI				SSS	SSS	13 12 15.8	+3.6
SHL	**Shillong**	**23.40**	**350**	*eP*	**P**	**13 07 00.0**	**-1.2**
SHL				*eS*	**S**	**13 11 11.0**	**+3.0**
GYA	**Guiyang**	**25.86**	**22**	⇓*i* P	**P**	**13 07 25.0**	**+0.2**
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,180nm,6.0s						
GYA				LR	LR		
	comp=N,600nm,14.7s,MS4.5						
GYA				LR	LR		
	comp=E,730nm,14.7s,MS4.5						
GYA				LR	LR		
	comp=Z,930nm,14.7s,MS4.5						
JIRN	**Jiri**	**26.90**	**340**	*eP*	**P**	**13 07 34.6**	**+0.2**
	comp=Z,164nm,0.8s,mb5.6						
PKI	**Pulchoki**	**27.10**	**338**	*eP*	**P**	**13 07 36.1**	**-0.1**
	comp=Z,96nm,0.9s,mb5.3						
PKI	**Pulchoki**	**27.10**	**338**	*eP*	**P**	**13 07 36.1**	**-0.1**
PKI				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.0						
GUN	**Gumba**	**27.24**	**339**	*eP*	**P**	**13 07 37.3**	**-0.2**
	comp=Z,143nm,0.7s,mb5.6						
DMN	**Daman**	**27.24**	**338**	*eP*	**P**	**13 07 37.3**	**-0.2**
	comp=Z,37nm,0.6s,mb5.1						
**KKN

CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
ENH Enshi 30.36 23 *e*P **P 13 08 03.6 -1.8**
comp=Z,11nm,0.8s,mb4.7
QZH Quanzhou 31.00 42 *e*P **P 13 08 11.3 +0.2**
QZH S **S 13 13 09.1 -3.0**
QZH LR LR
comp=N,3μm,15.6s,MS5.1
QZH LR LR
comp=E,1μm,11.9s,MS5.1
QZH LR LR
comp=Z,2μm,15.4s,MS5.0
NDI New Delhi 31.84 327 *e*P **P 13 08 17.0 -1.4**
DDI Dehra Dun 32.70 330 *e*P **P 13 08 26.7 +0.7**
WHN Wuhan 32.75 30 ⇑P **P 13 08 26.5 +0.1**
WHN LR LR
comp=Z,2μm,14.7s,MS4.9
MBWA Marble Bar 32.78 137 *e*P **P 13 08 26.4 -0.3**
XAN Xi'an 33.57 19 P **P 13 08 32.3 -1.1**
XAN AMB AMB
comp=Z,69nm,0.9s,mb5.6
LZH Lanzhou 34.20 11 ⇓P **P 13 08 38.0 -0.8**
LZH AP pP 13 08 47.5 -2.0
LZH XP sP 13 08 51.5 -2.9
LZH *e*PP PP 13 09 54.2 0.0
LZH *e*S **S 13 14 02.9 +1.1**
LZH XS 13 14 18.3
LZH SS SS 13 16 14.0 +2.0
LZH AMB AMB
comp=Z,33nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,135nm,5.6s
LZH LR LR
comp=N,638nm,12.7s
LZH LR LR
comp=Z,987nm,16.6s,MS4.6
LZH Lanzhou 34.20 11 ⇓P **P 13 08 38.0 -0.8**
comp=Z,33nm,1.3s,mb5.1
LZH pP pP 13 08 47.5 -2.0
LZH sP sP 13 08 51.5 -2.9
LZH *e*PP PP 13 09 54.2 0.0
LZH *e*S **S 13 14 02.9 +1.1**
LZH sS 13 14 18.3
LZH SS SS 13 16 14.0 +2.0
SDNR Sundarnagar 34.20 330 *e*P **P 13 08 39.2 +0.3**
FITZ Fitzroy Crossi 35.34 126 *e*P **P 13 08 48.0 -0.8**
comp=Z,16nm,1.0s,mb4.9
FITZ Fitzroy Crossi 35.34 126 P **P 13 08 48.1 -0.7**
comp=Z,19nm,0.6s,mb5.2,baz=318,slow=3.8,SNR=40
FITZ LR LR 13 24 23.0
comp=Z,526nm,18.1s,MS4.3,baz=288,slow=38
NJ2 Nanjing 36.29 33 *e*P **P 13 08 57.6 +0.9**
NJ2 AP pP 13 09 07.3 -0.1
NJ2 XP sP 13 09 11.2 -1.1
NJ2 PP PP 13 10 20.9 +0.5
NJ2 S **S 13 14 37.0 +2.9**
NJ2 XS 13 14 54.0
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,2μm,6.5s
NJ2 LR LR
comp=N,2μm,18.2s,MS5.2
NJ2 LR LR
comp=E,4μm,20.0s,MS5.2
NJ2 LR LR
comp=Z,1μm,13.8s
SSE Sheshan 36.93 37 P **P 13 08 57.0 -5.0**
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,84nm,4.1s
SSE LR LR
comp=N,226nm,19.7s,MS4.1
SSE LR LR
comp=E,167nm,19.7s,MS4.1
SSE LR LR
comp=Z,340nm,21.7s,MS4.1
SSE Sheshan 36.93 37 P **P 13 08 57.0 -5.0**
comp=Z,31nm,0.7s,mb5.2
SSE S **S 13 14 36.1 -7.8**
SSE sS 13 14 50.8
GTA Gaotai 36.94 4 P **P 13 09 01.7 -0.4**
GTA AP pP 13 09 10.9 -1.9
GTA XP sP 13 09 15.3 -2.3
GTA PP PP 13 10 25.4 -3.3
GTA PCP PcP 13 11 24.4 +1.1
GTA S **S 13 14 42.2 -1.8**
GTA SCS ScS 13 19 14.7 +3.0
GTA AMB AMB
comp=Z,54nm,0.8s,mb5.4
GTA AMB AMB
comp=Z,149nm,9.9s
GTA LR LR
comp=N,415nm,16.7s,MS4.4
GTA LR LR
comp=E,304nm,15.2s,MS4.4
GTA LR LR
comp=Z,519nm,16.7s,MS4.4
JOW Kunigami 39.05 49 P **P 13 09 19.2 -0.6**
comp=Z,14nm,0.7s,mb4.8,baz=223,slow=5.3,SNR=5.5
JOW LR LR 13 27 06.1
comp=Z,243nm,19.0s,MS4.0,baz=174,slow=39
BTO Baotou 39.96 16 *e*P **P 13 09 27.3 +0.1**
BTO AMB AMB
comp=Z,31nm,0.6s,mb5.2
NWAO Narrogin (SRO) 40.34 152 LR LR 13 26 47.9
comp=Z,518nm,19.1s,MS4.4,baz=158,slow=37
HHC Hu-ho-hao-te 40.64 18 ⇑P **P 13 09 33.8 +1.0**
HHC AP pP 13 09 44.1 +0.4
HHC XP sP 13 09 47.1 -1.3
HHC PP PP 13 11 13.4 +3.5
HHC PCP PcP 13 11 35.4 +0.5
HHC S **S 13 15 42.4 +2.5**
HHC XS 13 15 56.6
HHC SS SS 13 18 39.1 +3.1
HHC SCS ScS 13 19 32.5 -0.5
HHC AMB AMB
comp=Z,53nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,121nm,5.2s
HHC LR LR
comp=N,747nm,14.3s,MS4.8
HHC LR LR
comp=E,886nm,17.1s,MS4.8
HHC LR LR
comp=Z,554nm,15.3s,MS4.5
KSH Kashi 41.30 336 *e*P **P 13 09 36.3 -2.0**
KSH *e*AP pP 13 09 45.3 -3.8
KSH *e*XP sP 13 09 49.6 -4.2
KSH *e*PP PP 13 11 14.4 -2.4
KSH *e*PCP PcP 13 11 36.8 -0.2
KSH *e*PPP PPP 13 11 43.8 -3.7
KSH *e*SCP 13 15 22.1
KSH *e*PCS 13 15 26.7
KSH *e*S **S 13 15 44.5 -5.2**
KSH *e*SCS ScS 13 19 35.1 -1.9
KSH AMB AMB
comp=Z,240nm,3.3s
KSH LR LR
comp=N,170nm,5.6s
KSH LR LR
comp=E,190nm,4.2s
BJT Baijiatuau 41.51 23 *e*P **P 13 09 40.7 +0.6**
BJT pmax pmax
comp=Z,85nm,0.8s
BJT Baijiatuau 41.51 23 *e*P **P 13 09 40.7 +0.6**
comp=Z,85nm,0.8s,mb5.4
BJI Beijing 41.53 23 P **P 13 09 41.1 +0.8**
BJI AP pP 13 09 49.9 -1.2
BJI S **S 13 15 51.3 -1.9**
BJI XS 13 16 08.9
BJI SS SS 13 18 59.6 +5.9
BJI AMB AMB
comp=Z,114nm,0.7s,mb5.6
BJI AMB AMB
comp=Z,219nm,3.6s
BJI LR LR
comp=N,477nm,16.7s,MS4.5
BJI LR LR
comp=E,220nm,16.7s,MS4.5
BJI LR LR
comp=Z,231nm,17.3s,MS4.1
BJI Beijing 41.53 23 P **P 13 09 41.1 +0.8**
comp=Z,114nm,0.7s,mb5.6
BJI pP pP 13 09 49.9 -1.2
BJI S **S 13 15 51.3 -1.9**
BJI sS 13 16 08.9
BJI SS SS 13 18 59.6 +5.9
WMQ Urumqi 41.92 351 ⇓P **P 13 09 44.1 +0.7**
WMQ AP pP 13 09 54.0 -0.2
WMQ XP sP 13 09 57.9 -1.0
WMQ PP PP 13 11 24.8 +1.2
WMQ PCP PcP 13 11 39.4 +0.3
WMQ S **S 13 16 00.1 +1.2**
WMQ XS 13 16 16.6
WMQ AMB AMB
comp=Z,22nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,190nm,5.0s
WMQ LR LR
comp=N,339nm,20.8s,MS4.3
WMQ LR LR
comp=E,303nm,21.8s,MS4.3
WMQ LR LR
comp=Z,355nm,19.7s,MS4.2
WRA Warramunga Arr 43.41 123 P **P 13 09 55.9 0.0**
comp=Z,6.8nm,0.6s,mb4.5,baz=302,slow=9.1,SNR=57
WRAB Tennant Creek 43.42 123 *e*P **P 13 09 55.8 -0.2**
WRAB pmax pmax
comp=Z,12nm,0.6s,mb4.8
WRAB Tennant Creek 43.42 123 *e*P **P 13 09 55.8 -0.2**
comp=Z,12nm,0.6s,mb4.8
WB2 Warramunga Arr 43.42 123 ⇓*i*P **P 13 09 56.2 +0.2**
UCH Uchtor 44.18 337 P **P 13 10 03.4 +1.6**
SNR=13
TKM2 Tokmak 2 44.36 338 P **P 13 10 04.3 +1.0**
SNR=7.8
KBK Karagaybulak 44.38 337 P **P 13 10 05.2 +1.8**
SNR=11
AML Almayashu 44.43 336 P **P 13 10 05.2 +1.4**
SNR=12
AAK Ala-Archa 44.53 337 P **P 13 10 06.2 +1.6**
SNR=5.9
AAK Ala-Archa 44.53 337 ⇓*e*P **P 13 10 05.0 +0.4**
AAK pmax pmax
comp=Z,15nm,1.3s,mb4.7
AAK MLR MLR
comp=Z,400nm,21.0s,MS4.3
AAK Ala-Archa 44.53 337 *e*P **P 13 10 04.6 0.0**
comp=Z,11nm,1.0s,mb4.7
FORT Forrest 44.77 140 *e*P **P 13 10 07.8 +1.2**
comp=Z,377nm,0.8s
ASPA Alice Springs 44.82 128 ⇑*i*P **P 13 10 07.2 +0.1**
ASAR Alice Springs 44.82 128 P **P 13 10 06.8 -0.3**
comp=Z,3.7nm,0.6s,mb4.4,baz=297,slow=7.7,SNR=58
ASAR PcP PcP 13 11 48.4 -0.7
comp=Z,0.9nm,0.7s,baz=307,slow=4.5,SNR=2.6
ASAR LR LR 13 29 59.8
comp=Z,258nm,20.9s,MS4.1,baz=165,slow=38
EKS2 Erkin-Say 44.84 336 P **P 13 10 08.6 +1.5**
SNR=8.3
USP Ospenovka 45.07 337 P **P 13 10 09.8 +0.9**
SNR=15
MKAR Makanchi Array 45.85 347 P **P 13 10 14.8 -0.3**
comp=Z,31nm,0.7s,mb5.4,baz=163,slow=7.6,SNR=219
MKAR LR LR 13 32 32.0
comp=Z,183nm,21.9s,MS4.0,baz=138,slow=40
SONM Songino Array 46.05 9 P **P 13 10 16.9 +0.3**
comp=Z,17nm,0.6s,mb5.2,baz=190,slow=9.2,SNR=78
SONM PcP PcP 13 11 53.0 -0.1
comp=Z,3.6nm,0.7s,baz=192,slow=4.1,SNR=5.2
ULN Ulaanbaatar 46.20 10 *e*P **P 13 10 17.5 -0.3**
ULN pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
ULN Ulaanbaatar 46.20 10 *e*P **P 13 10 17.5 -0.3**
comp=Z,8.8nm,0.6s,mb4.9
ZAK Zakamensk 48.14 6 *e*P **P 13 10 32.6 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CN2 Changchun 48.61 28 *e*P **P 13 10 36.2 -0.5**
CN2 *e*AP pP 13 10 46.1 -1.6
CN2 *e*XP sP 13 10 50.0 -2.3
CN2 *e*S **S 13 17 35.2 +0.3**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,720nm,17.0s,MS4.8
CN2 LR LR
comp=E,580nm,17.0s,MS4.8
CN2 LR LR
comp=Z,300nm,19.0s,MS4.3
MOY Mondy 49.22 4 *e*P **P 13 10 41.5 +0.2**
TLY Talaya 49.46 6 *e*P **P 13 10 43.6 +0.5**
TLY pmax pmax
comp=Z,13nm,0.9s,mb5.0
TLY Talaya 49.46 6 *e*P **P 13 10 43.6 +0.4**
comp=Z,13nm,0.9s,mb5.0
IRK Irkutsk 50.08 6 *e*P **P 13 10 48.1 +0.2**
IRK pmax pmax
comp=Z,32nm,2.8s,mb4.9
KURK Kurchatov 50.39 345 *e*P **P 13 10 50.0 -0.3**
KURK pmax pmax
comp=Z,26nm,1.1s,mb5.2
KURK Kurchatov 50.39 345 *e*P **P 13 10 50.0 -0.2**
comp=Z,26nm,1.1s,mb5.2
HIA Hailar 50.77 20 *e*P **P 13 10 53.2 0.0**
HIA pmax pmax
comp=Z,20nm,1.0s
HIA Hailar 50.77 20 *e*P **P 13 10 53.2 +0.1**
comp=Z,20nm,1.0s,mb5.0
MDJ Mudanjiang 51.23 30 P **P 13 10 56.4 -0.3**
MDJ AP pP 13 11 05.7 -2.0
MDJ XP sP 13 11 10.2 -2.1
MDJ PCP PcP 13 12 11.7 -0.1
MDJ PP PP 13 12 48.4 -6.0
MDJ SCP 13 16 05.0
MDJ PCS 13 16 09.0
MDJ S **S 13 18 14.0 +2.9**
MDJ SCS ScS 13 20 43.3 +2.5
MDJ SS SS 13 21 52.4 +7.8
MDJ AMB AMB
comp=Z,12nm,1.4s,mb4.6
MDJ AMB AMB
comp=Z,93nm,6.3s
MDJ LR LR
comp=N,124nm,20.6s,MS4.1
MDJ LR LR
comp=E,156nm,19.7s,MS4.1
MDJ LR LR
comp=Z,191nm,16.1s,MS4.2
MDJ Mudanjiang 51.23 30 *e*P **P 13 10 56.3 -0.4**
comp=Z,10nm,0.9s,mb4.8
MJAR Matsushiro Arr 51.38 43 P **P 13 10 57.8 -0.2**
comp=Z,5.3nm,1.0s,mb4.4,baz=223,slow=6.4,SNR=7.7
MJAR PcP PcP 13 12 12.8 +0.4
comp=Z,1.8nm,0.8s,baz=6.0,slow=16,SNR=3.1
MJAR LR LR 13 33 51.1
comp=Z,195nm,18.2s,MS4.2,baz=250,slow=37
ZAL Zalesovo 52.21 351 P **P 13 11 03.2 -0.8**
comp=Z,21nm,0.5s,mb5.3,baz=307,slow=5.8,SNR=74
ZAL LR LR 13 38 16.3
comp=Z,332nm,19.7s,MS4.4,baz=296,slow=42
ZAL Zalesovo 52.21 351 P **P 13 11 03.2 -0.8**
NVS Novosibirsk 53.33 351 *e*P **P 13 11 10.7 -1.6**
NVS *e*S **S 13 18 38.9 -0.7**
NVS pmax pmax
comp=E,18nm,1.2s
NVS pmax pmax
comp=Z,31nm,1.2s,mb5.1
NVS smax
comp=N,19nm,2.1s
CTA Charters Tower 53.82 117 LR LR 13 39 55.7
comp=N,192nm,18.5s,MS4.2,baz=61,slow=42
BVAR Borovoye Array 54.81 341 P **P 13 11 22.2 -1.1**
comp=N,11nm,0.7s,mb5.0,baz=143,slow=8.6,SNR=58
STKA Stephens Creek 54.81 132 *e*P **P 13 11 23.6 +0.1**
comp=N,5.1nm,0.8s,mb4.6
STKA Stephens Creek 54.81 132 P **P 13 11 23.4 -0.2**
comp=N,2.4nm,0.5s,mb4.5,baz=317,slow=8.3,SNR=12
KLR Kul'dur 55.55 27 *e*P **P 13 11 25.7 -2.9**
KLR MLR MLR
comp=E,500nm,15.0s
KLR MLR MLR
comp=Z,1μm,15.0s,MS5.1
BOD Bodaibo 56.97 11 *e*P **P 13 11 37.0 -1.7**
BOD pmax pmax
comp=Z,13nm,1.0s,mb4.9
CLNS Chul'man 58.83 18 *e*P **P 13 11 50.1 -1.6**
CLNS *e**PP pP 13 11 56.5 -6.4
CLNS *e* 13 12 40.6
CLNS *e* 13 13 57.7
CLNS *e*S **S 13 19 53.3 +0.5**
CLNS *e* 13 21 36.4
CLNS pmax pmax
comp=Z,13nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,8.0nm,0.7s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS pmax pmax
comp=N,3.0nm,0.8s
CLNS pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CLNS pmax pmax
comp=E,4.0nm,0.7s
CLNS smax
comp=E,40nm,12.4s
CLNS smax
comp=Z,76nm,12.8s
CLNS smax
comp=N,48nm,13.4s
CLNS MLR MLR
comp=Z,500nm,12.0s,MS4.9
CLNS MLR MLR
comp=N,300nm,13.0s,MS4.7
CLNS MLR MLR
comp=E,200nm,13.0s,MS4.7
KMBO Kilima Mbogo 59.18 267 P **P 13 11 54.5 -0.2**
comp=E,2.8nm,0.7s,mb4.4,baz=57,slow=9.9,SNR=8.5
KMBO LR LR 13 35 24.2
comp=E,370nm,18.3s,MS4.5,baz=102,slow=34
KMBO Kilima Mbogo 59.18 267 *e*P **P 13 11 54.8 +0.1**
comp=E,3.7nm,0.8s,mb4.5
KMBO *e* 13 12 01.7
GNI Garni 59.81 316 ⇓*e*P **P 13 12 05.1 +6.3**
GNI pmax pmax
comp=Z,21nm,1.1s
GNI MLR MLR
comp=Z,100nm,19.0s
YSS Yuzh-Sakhalins 59.83 35 P **P 13 11 58.3 -0.5**
YSS MLR MLR
comp=E,400nm,17.0s
YSS MLR MLR
comp=Z,300nm,17.0s,MS4.5
SVE Sverdlovsk 61.23 339 *e*P **P 13 12 07.0 -1.2**
SVE *e* pP 13 12 16.6 -2.8
SVE pmax pmax
comp=Z,40nm,1.2s,mb5.4
SVE MLR MLR
comp=N,100nm,15.0s,MS4.2
SVE MLR MLR
comp=E,100nm,15.0s,MS4.2
SVE MLR MLR
comp=Z,400nm,15.0s,MS4.7
KIV Kislovodsk 62.82 319 *i* P **P 13 12 24.6 +5.6**
KIV *e* 13 13 01.9
KIV *i* S **S 13 20 48.3 +4.5**
KIV pmax pmax
comp=Z,13nm,0.8s,mb5.1
KIV MLR MLR
comp=Z,100nm,25.0s,MS3.9
KIV Kislovodsk 62.82 319 P **P 13 12 18.5 -0.4**
GOF Gofitskoye 63.07 320 ⇓*i*P **P 13 12 24.2 +3.5**
GOF pmax pmax
comp=Z,30nm,1.7s,mb5.2
MALT Malatya 63.67 312 *e*P **P 13 12 24.3 -0.4**
MALT pmax pmax
comp=Z,13nm,1.4s,mb4.8
MALT Malatya 63.67 312 *e*P **P 13 12 24.2 -0.5**
comp=Z,13nm,1.4s,mb4.8
EIL Elat 64.08 302 P **P 13 12 27.2 -0.3**
comp=Z,4.4nm,0.8s,mb4.6,baz=39,slow=21,SNR=3.7
YAK Yakutsk 64.49 17 *e*P **P 13 12 27.6 -2.0**
YAK *e*S **S 13 21 05.7 +1.4**
YAK pmax pmax
comp=N,13nm,0.9s
YAK pmax pmax
comp=Z,40nm,0.9s,mb5.5
YAK pmax pmax
comp=E,12nm,1.3s
YAK Yakutsk 64.49 17 *e*P **P 13 12 28.5 -1.1**
comp=E,79nm,0.8s,mb5.8
SOC Sochi 64.64 318 *e*P **P 13 12 33.8 +2.9**
SOC *e* 13 13 06.5
SOC *e* 13 14 54.6
SOC *e*PPP PPP 13 16 29.8 +1.4
SOC *e*S **S 13 21 14.5 +8.1**
SOC *e* 13 22 23.6
SOC pmax pmax
comp=N,16nm,0.9s
SOC pmax pmax
comp=Z,14nm,0.9s,mb5.0
SOC pmax pmax
comp=E,8.0nm,0.7s
MBAR Mbarara 65.65 268 *e*P **P 13 12 37.1 -0.8**
MBAR pmax pmax
comp=Z,15nm,1.4s,mb4.8
MBAR Mbarara 65.65 268 *e*P **P 13 12 37.1 -0.8**
comp=Z,15nm,1.4s,mb4.8
ANN Anapa 66.61 318 *e*P **P 13 12 44.3 +0.8**
ANN *e* 13 13 16.3
ANN pmax pmax
comp=Z,52nm,1.7s,mb5.3
BRTR Keskin Array B 67.65 312 P **P 13 12 48.6 -1.5**
comp=Z,0.5nm,0.5s,mb3.9,baz=124,slow=4.5,SNR=3.1
VRSR Storozhevoye 68.06 325 *e*P **P 13 12 50.8 -1.7**
VRSR pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
VRSR pmax pmax
comp=N,10.0nm,1.6s
VRSR pmax pmax
comp=E,6.0nm,0.7s
LSZ Lusaka 69.65 253 P **P 13 13 04.3 +1.5**
MATP Matopo 70.19 247 P **P 13 13 03.5 -2.6**
comp=E,0.8nm,0.3s,mb4.2,baz=222,slow=18,SNR=3.9
MATP Matopo 70.19 247 P **P 13 13 03.5 -2.6**
MA2 Magadan 70.60 26 *i* P **P 13 13 07.8 -0.1**
MA2 pmax pmax
comp=Z,17nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,400nm,18.0s,MS4.7
MOS Moscow 70.84 329 *e*P **P 13 13 14.6 +5.2**
MOS pmax pmax
comp=Z,52nm,0.7s,mb5.6
OBN Obninsk 71.12 328 ⇓*e*P **P 13 13 17.2 +6.0**
OBN *e* 13 15 50.3
OBN *i* S S 13 22 30.3 +6.6
OBN *e*SS SS 13 27 05.5 +5.8
OBN pmax pmax
comp=Z,16nm,1.0s,mb4.9
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.3
TIXI Tiksi 72.13 10 ⇑*e*P **P 13 13 16.1 -0.8**
TIXI pmax pmax
comp=Z,22nm,0.9s,mb5.1
TIXI MLR MLR
comp=Z,300nm,18.0s,MS4.6
AKASG Malin Array Be 73.76 322 P **P 13 13 25.6 -1.3**
comp=Z,1.6nm,0.6s,mb4.2,baz=87,slow=4.8,SNR=7.4
APA Apatity 77.68 340 ⇓*e*P **P 13 13 49.5 +0.7**
APA *i* pP 13 14 03.7 +3.4
FINES FINESS Array B 78.52 333 P **P 13 13 53.3 -0.2**
comp=Z,4.0nm,0.7s,mb4.5,baz=90,slow=5.7,SNR=15
FINES LR LR 13 53 20.1
comp=Z,237nm,20.4s,MS4.5,baz=161,slow=39
KAF Kangasniemi 78.60 333 *e*p **P 13 13 52.9 -1.1**
comp=Z,6.3nm,0.7s,mb4.7
KAF Kangasniemi 78.60 333 *e*P **P 13 13 52.9 -1.1**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
FX1 Attu Island--F 80.12 37 P **P 13 14 01.9 -0.5**
BILL Bilibino 80.33 21 *i* P **P 13 14 03.0 -0.2**
BILL *e* 13 14 10.2
BILL *e* 13 17 06.4
BILL *e*S S 13 24 03.4 -1.2
KEV Kevo 80.66 341 *e*p **P 13 13 56.9 -8.0**
MORC Moravsky Berou 80.91 320 P **P 13 14 07.1 +0.4**
GERES GERESS Array B 83.33 319 P **P 13 14 19.9 +0.8**
comp=Z,2.3nm,0.9s,mb4.2,baz=90,slow=5.3,SNR=8.2
GERES LR LR 13 55 01.1
comp=Z,98nm,21.8s,MS4.1,baz=102,slow=38
NOA NORSAR Array B 85.52 331 P **P 13 14 30.7 +0.9**
comp=Z,2.8nm,1.0s,mb4.4,baz=95,slow=4.9,SNR=3.1
NOA LR LR 13 57 08.9

comp=Z,129nm,20.4s,MS4.3,baz=80,slow=39
DAVOX **Davos** 85.81 317 P P 13 14 32.0 +0.4
comp=Z,1.3nm,0.5s,mb4.4,baz=343,slow=21,SNR=3.1
LPG **La Plagne** 87.99 315 eP pP 13 14 53.7 -0.3
comp=Z,11nm,0.9s
IMA **Indian Mountai** 95.78 23 eP P 13 15 19.4 +1.6
ILAR **Eielson Array** 98.91 23 P P 13 15 31.8 -0.2
comp=Z,1.3nm,1.1s,mb4.4,baz=301,slow=5.3,SNR=4.8
ILAR PP PP 13 19 30.5 -5.8
comp=Z,0.6nm,0.9s,baz=302,slow=7.2,SNR=3.7
INK **Inuvik** 101.56 17 P P 13 15 43.0 -0.9
comp=Z,1.3nm,1.0s,baz=273,slow=8.6,SNR=4.4
YKA **Yellowknife Ar** 111.13 15 PP PP 13 20 57.2 -11
comp=Z,0.5nm,0.9s,baz=320,slow=7.5,SNR=6.7
TBI **Tubuai** 113.14 114 eLR LR 13 54 25.3
comp=Z,128nm,24.8s
PPT **Papeete** 113.68 108 eLR LR 13 54 41.8
comp=Z,79nm,23.2s
RKT **Rikitea** 126.26 117 eLR LR 14 00 29.1
comp=Z,148nm,27.5s
ULM **Lac du Bonnet** 126.48 10 PKP PKPdf 13 20 55.1 +1.0
comp=Z,1.0nm,0.5s,baz=292,slow=0.6,SNR=4.5
NVAR **Mina Array Bea** 128.28 35 PKP PKPdf 13 21 01.3 +3.4
comp=Z,0.8nm,0.8s,baz=262,slow=3.5,SNR=5.3
PDAR **Pinedale Array** 129.30 25 PKP PKPdf 13 21 01.8 +2.1
comp=Z,0.4nm,0.6s,baz=90,slow=1.5,SNR=3.8
BDFB **Brasília** 142.52 247 PKP PKPdf 13 21 25.9 +1.2
comp=Z,1.1nm,0.5s,baz=118,slow=5.0,SNR=3.2
TXAR **Lajitas Array** 143.06 30 PKP PKPdf 13 21 25.3 0.0
comp=Z,0.5nm,0.3s,baz=243,slow=2.8,SNR=7.0
JCT **Junction City** 143.83 24 PKP PKPdf 13 21 26.7 +0.1

*IDC **05** 13:05:25.7±1.1, 12.38N×40.34E, mb3.9/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML4.1/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/24, Error ellipse: s-maj=25.5km s-min=20.8km az=58.0*
*DHMR **05** 13:05:27.4±0.3, 12.65N×40.50E, h8km±17km, ML3.8*
ISC 05 13:05:25.4±0.8, 12.50N±0.07×40.29E±0.05, h10km, n20, σ1°08/24, mb3.9/7, MS4.5/1, 4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**2.68**	**111**	Pn	**Pn**	**13 06 09.3**	**-0.1**
	40nm,0.3s,baz=291,slow=11,SNR=63						
ATD				LR	LR	13 06 33.5	
	comp=Z,288nm,21.5s,baz=14,slow=26						
ATD				Sn	**Sn**	**13 06 43.0**	**+0.7**
	11nm,0.3s,baz=252,slow=21,SNR=3.9						
TRBA	**At Turbah**	**3.80**	**79⇓**	*eP*	**Pn**	**13 06 25.9**	**+0.6**
TRBA				*i* S	**Sn**	**13 07 11.7**	**+1.1**
TRBA				AML	AML	13 07 31.8	
	comp=N,362nm,0.6s						
TRBA	**At Turbah**	**3.80**	**79⇓**	*iP*	**Pn**	**13 06 22.6**	**-2.7**
TRBA				*i* S	**Sn**	**13 07 10.9**	**+0.4**
UDYN	**Al 'Udayn**	**3.86**	**67**	*i* S	**Sn**	**13 07 13.2**	**+1.0**
UDYN				AML	AML	13 07 34.6	
	comp=E,443nm,0.7s						
DHBB	**Dhamar BB**	**4.48**	**62⇓**	*eP*	**Pn**	**13 06 35.1**	**0.0**
DHBB				*i* S	**Sn**	**13 07 27.7**	**-0.3**
LBOS		**5.01**	**74⇓**	*eP*	**Pn**	**13 06 40.0**	**-2.5**
LBOS				*i* S	**Sn**	**13 07 36.8**	**-4.5**
BDHA	**Al Bayda'**	**5.34**	**74**	*i* S	**Sn**	**13 07 44.9**	**-4.6**
BDHA	**Al Bayda'**	**5.34**	**74**	*i* S	**Sn**	**13 07 48.8**	**-0.7**
DJNS	**Zahran al Janu**	**6.05**	**31**	P	**Pn**	**13 06 58.5**	**+1.3**
NAMS	**An Nimas**	**6.88**	**15**	P	**Pn**	**13 07 07.2**	**-1.7**
BLJS	**Baljurashi**	**7.44**	**10**	P	**Pn**	**13 07 16.2**	**-0.5**
TATS	**Tathlith**	**7.64**	**23**	P	**Pn**	**13 07 18.5**	**-1.0**
BRTR	**Keskin Array B**	**27.74**	**349**	P	**P**	**13 11 18.8**	**+2.6**
	comp=E,2.0nm,1.0s,mb3.7,baz=162,slow=7.8,SNR=8.7						
AKASG	**Malin Array Be**	**39.15**	**349**	P	**P**	**13 12 55.9**	**+1.0**
	comp=E,0.4nm,0.3s,mb3.6,baz=174,slow=8.1,SNR=4.3						
LBTB	**Lobatse**	**39.95**	**201**	P	**P**	**13 13 01.2**	**-0.6**
	comp=E,5.6nm,0.5s,mb4.6,baz=3.6,slow=11,SNR=11						
GERES	**GERESS Array B**	**42.41**	**334**	P	**P**	**13 13 22.5**	**+0.8**
	comp=E,0.3nm,0.3s,mb3.5,baz=164,slow=7.1,SNR=4.1						
MKAR	**Makanchi Array**	**49.08**	**37**	P	**P**	**13 14 14.7**	**-0.2**
	comp=E,0.7nm,0.7s,mb3.8,baz=243,slow=6.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**56.64**	**76**	P	**P**	**13 15 11.2**	**-0.3**
	comp=E,1.1nm,1.0s,mb3.9,baz=283,slow=9.7,SNR=5.1						
SONM	**Songino Array**	**64.82**	**43**	P	**P**	**13 16 06.7**	**0.0**
	comp=E,2.0nm,1.0s,mb4.1,baz=259,slow=6.3,SNR=6.2						
INK	**Inuvik**	**99.28**	**358**	LR	LR	14 08 55.9	
	comp=E,164nm,19.2s,MS4.5,baz=51,slow=38						

IDC 05 13:10:11.1±2.0, 2.93N×94.64E, mb3.7/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=80.6km s-min=20.7km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.00**	**15**	Pn	P	13 13 57.7	-1.6
	0.2nm,0.3s,baz=206,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**44.99**	**348**	P	P	13 18 27.8	-2.3
	0.8nm,0.6s,baz=168,slow=7.7,SNR=6.4						
WRA	**Warramunga Arr**	**45.11**	**122**	P	P	13 18 29.3	-2.1
	1.0nm,0.6s,baz=299,slow=9.3,SNR=8.5						
SONM	**Songino Array**	**45.87**	**11**	P	P	13 18 35.6	-1.4
	0.4nm,0.4s,baz=193,slow=9.4,SNR=3.4						
ASAR	**Alice Springs**	**46.47**	**127**	P	P	13 18 40.1	-2.0
	0.6nm,0.6s,baz=298,slow=7.8,SNR=7.8						
ASAR				PcP	PcP	13 20 15.4	-1.8
	0.4nm,0.7s,baz=310,slow=3.8,SNR=4.0						
BVAR	**Borovoye Array**	**53.81**	**342**	P	P	13 19 35.3	-2.4
	0.7nm,0.6s,baz=162,slow=4.6,SNR=4.0						

HLW 05 13:27:14.5, 23.96N×36.47E, h21km, Mb3.5, 1C, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAGS	**Hagol**	**1.42**	**287**	P	Pn	13 27 37.9	-1.5
HAGS				S	Sn	13 27 55.0	-2.6
HAGS	**Hagol**	**1.42**	**287**	P	Pn	13 27 37.8	-1.6
HAGS				S	Sn	13 27 55.0	-2.5
EMRS	**Mersa Alam**	**1.82**	**306**	⇑P	Pn	13 27 43.5	-1.6
HADB		**2.18**	**310**	P	Pn	13 27 48.4	-1.9

IDC 05 13:34:30.5±3.5, 0.27S×96.93E, mb3.9/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=137.2km s-min=29.7km az=61.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.72**	**6**	P	P	13 38 50.3	-2.6
	0.0nm,0.3s,baz=198,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**42.74**	**126**	P	P	13 42 29.9	-1.7
	0.3nm,0.4s,baz=295,slow=8.0,SNR=5.0						
MKAR	**Makanchi Array**	**48.60**	**347**	P	P	13 43 15.9	-1.9
	2.6nm,0.6s,baz=157,slow=8.3,SNR=23						

*IDC **05** 13:48:28.4±3.1, 1.33N×97.57E, mb3.6/5, mb1 3.8/6, mb1mx3.7/18, mbtmp3.6/6, MS2.8/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=122.3km s-min=21.2km az=60.0*
*NEIC **05** 13:48:31.5±1.0, 1.14N×97.19E, h30km, mb4.4/2, Error ellipse: s-maj=25.7km s-min=11.9km az=66.0*
ISC 05 13:48:30.0±1.2, 1.2N±0.1×97.2E±0.2, h33km, n9, σ0°57/9, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.38**	**40**	*eP*	**P**	**13 49 50.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.29**	**6**	P	**P**	**13 52 30.0**	**-0.5**
	baz=194,slow=11,SNR=0.2						
CMAR				LR	LR	13 59 36.9	
	comp=Z,31nm,18.0s,baz=195,slow=39						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**13 56 20.2**	**-0.2**
	0.4nm,0.6s,mb3.2,baz=302,slow=9.1,SNR=6.4						
WRAB	**Tennant Creek**	**42.04**	**122**	P	**P**	**13 56 20.9**	**+0.4**
	9.9nm,1.1s,mb4.3						
ASAR	**Alice Springs**	**43.39**	**127**	P	**P**	**13 56 31.2**	**-0.3**
	0.5nm,0.8s,mb3.3,baz=310,slow=7.0,SNR=3.7						
SONM	**Songino Array**	**47.18**	**8**	P	**P**	**13 57 00.5**	**-0.9**
	0.7nm,0.7s,mb3.7,baz=180,slow=10,SNR=2.0						
MKAR	**Makanchi Array**	**47.28**	**346**	P	**P**	**13 57 03.3**	**+1.2**
	0.7nm,0.7s,mb3.7,baz=157,slow=9.5,SNR=7.8						
KURK	**Kurchatov**	**51.83**	**345**	*eP*	**P**	**13 57 36.8**	**-0.2**
	4.2nm,1.1s,mb4.3						
ZAL	**Zalesovo**	**53.59**	**351**	P	**P**	**13 57 50.1**	**0.0**
	0.8nm,0.4s,mb4.0,baz=321,slow=6.8,SNR=4.9						

*NEIC **05** 13:58:37.5±2.0, 23.95N×121.70E, h6km±13km, ML4.0(TAP), Error ellipse: s-maj=16.7km s-min=15.5km az=212.0*
NEIC Recorded [4 TAP] in Hua-lien and [2 TAP] in I-lan Counties.
*TAP **05** 13:58:38.9, 24.06N×121.65E, h8km, ML4.0*
TAP Felt IV J at Chiawan, III J at Hualien, II J at Nanau.
*IDC **05** 13:58:42.2±5.9, 23.99N×121.78E, h39km±54km, mb3.2/4, mb1 3.5/5, mb1mx3.3/21, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=46.4km s-min=23.6km az=73.0*
ISC 05 13:58:38.9±0.3, 24.02N±0.01×121.72E±0.02, h8km, n67, σ1°00/104, mb3.4/4, 8C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.12**	**246⇓**	*iP*	**Pg**	**13 58 41.5**	**-0.1**
HWA				S	**Sg**	**13 58 43.0**	**-0.3**
TWD	**Chiawan**	**0.13**	**296⇑**	*iP*	**Pg**	**13 58 41.3**	**-0.4**
TWD				S	**Sg**	**13 58 42.7**	**-1.0**
NACB	**Ninganchiao**	**0.19**	**323**	*ePg*	**Pg**	**13 58 42.0**	**-0.8**
ENA	**Nanau**	**0.40**	**3**	*iP*	**Pg**	**13 58 47.4**	**+0.4**
ENA				S	**Sg**	**13 58 52.7**	**+0.2**
NNS	**Nan Shan**	**0.52**	**323⇑**	*iP*	**Pg**	**13 58 48.8**	**-0.6**
NNS				S	**Sg**	**13 58 55.3**	**-1.1**
TWT	**Tachien**	**0.55**	**295**	P	**Pg**	**13 58 49.2**	**-0.7**
TWT				S	**Sg**	**13 58 55.9**	**-1.3**
TWC	**Suao**	**0.59**	**11⇑**	*iP*	**Pg**	**13 58 51.1**	**+0.3**
TWC				S	**Sg**	**13 58 59.5**	**+0.7**
ENTT	**Nioudou**	**0.63**	**347⇑**	*iP*	**Pg**	**13 58 51.5**	**0.0**
ENTT				S	**Sg**	**13 58 59.9**	**-0.1**
EHY	**Hungye**	**0.63**	**215**	*eP*	**Pg**	**13 58 50.4**	**-1.2**
TWE	**Neicheng**	**0.69**	**356⇑**	*iP*	**Pb**	**13 58 53.0**	**+0.2**
TWE				S	**Sg**	**13 59 01.4**	**-0.7**
YHNB	**Yeheng**	**0.71**	**334**	*ePg*	**Pg**	**13 58 52.5**	**-0.7**
YHNB				*eS*	**Sg**	**13 59 02.3**	**-0.5**
NSK	**Sanguang**	**0.73**	**333⇑**	*iP*	**Pb**	**13 58 53.1**	**-0.3**
NSK				S	**Sg**	**13 59 02.6**	**-0.7**
ILA	**Ilan**	**0.74**	**2**	*eP*	**Pb**	**13 58 53.8**	**+0.3**
SMLT	**Sun Moon Lake**	**0.76**	**260**	P	**Pb**	**13 58 52.8**	**-1.2**
SMLT				S	**Sb**	**13 59 02.0**	**-2.3**
TWF1	**Yuli**	**0.77**	**210**	*eP*	**Pb**	**13 58 52.6**	**-1.6**
TYC	**Yuchr**	**0.80**	**262**	P	**Pb**	**13 58 53.3**	**-1.3**
TYC				S	**Sb**	**13 59 02.9**	**-2.4**
EGS		**0.84**	**13**	*eP*	**Pb**	**13 58 55.8**	**+0.5**
YUS	**Yu-Shan**	**0.88**	**233**	*eP*	**Pb**	**13 58 55.4**	**-0.6**
YUS				S	**Sb**	**13 59 07.3**	**-0.4**
NSTT	**Nanjuang**	**0.89**	**313⇑**	*iP*	**Pb**	**13 58 56.1**	**-0.1**
NSTT				S	**Sb**	**13 59 06.4**	**-1.6**
TWQ1	**Liyutan**	**0.92**	**291**	*eP*	**Pb**	**13 58 57.4**	**+0.6**
TWQ1				S	**Sb**	**13 59 09.3**	**+0.4**
NSY	**Sanyi**	**0.96**	**294**	*eP*	**Pb**	**13 58 57.6**	**+0.3**
NSY				S	**Sb**	**13 59 09.8**	**-0.1**
WNT	**Mingjian**	**0.96**	**261**	*eP*	**Pb**	**13 58 57.5**	**+0.2**
WNT				S	**Sb**	**13 59 10.4**	**+0.4**
TWA	**Mucha**	**0.96**	**353⇑**	*iP*	**Pb**	**13 58 58.1**	**+0.8**
TWA				S	**Sb**	**13 59 10.0**	**0.0**
TCU	**Taichung**	**0.96**	**278**	*eP*	**Pb**	**13 58 58.2**	**+0.9**
TCU				S	**Sb**	**13 59 11.8**	**+1.8**
TATO	**Taipei**	**0.97**	**348**	*ePg*	**Pg**	**13 58 57.7**	**-0.6**
CHKT	**Chengkung**	**0.98**	**199**	*eP*	**Pb**	**13 58 56.8**	**-0.8**
CHKT				S	**Sb**	**13 59 11.8**	**+1.3**
ALS	**Alishan**	**0.98**	**239**	*eP*	**Pb**	**13 58 57.3**	**-0.4**
ALS				S	**Sb**	**13 59 10.9**	**+0.3**
TWB1	**Santiao Chiao**	**1.01**	**14**	*eP*	**Pb**	**13 58 58.8**	**+0.6**
TWB1				S	**Sb**	**13 59 12.3**	**+0.9**
TAP1	**Taipei**	**1.03**	**350**	*eP*	**Pb**	**13 58 58.8**	**+0.3**
TAP1				S	**Sb**	**13 59 12.2**	**+0.3**
TAP	**Taipei**	**1.03**	**349**	*eP*	**Pb**	**13 58 59.0**	**+0.4**
HSN	**Hsinchu**	**1.03**	**319**	*eP*	**Pb**	**13 58 59.8**	**+1.2**
HSN				S	**Sb**	**13 59 13.9**	**+1.7**
CHN5	**Tsauling**	**1.04**	**246**	*iP*	**Pb**	**13 58 59.2**	**+0.4**
CHN5				S	**Sb**	**13 59 13.6**	**+1.2**
NWF	**Wu-fen Shan**	**1.04**	**3**	*eP*	**Pb**	**13 58 59.6**	**+0.8**
NWF				S	**Sb**	**13 59 12.9**	**+0.4**
ELDTW	**Lidau**	**1.05**	**218**	*eP*	**Pb**	**13 58 58.4**	**-0.6**
NCU	**National Centr**	**1.06**	**333**	*eP*	**Pb**	**13 58 60.0**	**+0.9**
NCU				S	**Sb**	**13 59 16.3**	**+3.5**
TWS1	**Kuangyinshan**	**1.11**	**346**	*eP*	**Pb**	**13 59 01.0**	**+1.2**
WGK	**Gukeng**	**1.11**	**253**	*eP*	**Pb**	**13 58 59.9**	**-0.1**
CHN4	**Tsaushan**	**1.23**	**237**	*eP*	**Pb**	**13 59 02.2**	**+0.2**
CHN4				S	**Sb**	**13 59 19.5**	**+1.7**
STYT	**Tauyuan**	**1.23**	**226**	*eP*	**Pb**	**13 59 01.5**	**-0.5**
STYT				S	**Sb**	**13 59 18.1**	**+0.3**
CHN2	**Minshiung**	**1.24**	**247**	*eP*	**Pb**	**13 59 02.2**	**+0.1**
TWY	**Chenhua**	**1.25**	**355**	*eP*	**Pb**	**13 59 03.5**	**+1.1**
WTP	**Ta-pu**	**1.28**	**233**	*eP*	**Pb**	**13 59 02.4**	**-0.4**
WTP				S	**Sb**	**13 59 20.2**	**+1.1**
CHY	**Chiayi**	**1.30**	**246**	*eP*	**Pb**	**13 59 03.6**	**+0.5**
CHY				S	**Sb**	**13 59 19.5**	**-0.3**
WTCT	**Ta-ch'eng**	**1.33**	**263**	*eP*	**Pb**	**13 59 03.2**	**-0.4**
WTCT				S	**Sb**	**13 59 21.1**	**+0.5**
TWG	**Pinlang**	**1.34**	**207**	*eP*	**Pb**	**13 59 01.9**	**-2.0**
TWK	**Hsinying**	**1.36**	**237**	*eP*	**Pb**	**13 59 04.2**	**0.0**
TWK				S	**Sb**	**13 59 22.6**	**+1.1**
CHN1	**Nanshi**	**1.38**	**233**	*eP*	**Pb**	**13 59 04.4**	**-0.1**
SGST	**Jiashian**	**1.40**	**228**	*eP*	**Pn**	**13 59 04.7**	**-0.1**
SGST				S	**Sb**	**13 59 24.7**	**+1.8**
WSF	**Szhu**	**1.42**	**255**	*eP*	**Pn**	**13 59 04.9**	**-0.3**
WSF				S	**Sb**	**13 59 24.6**	**+1.1**
CHN8	**Yiju**	**1.54**	**244**	*eP*	**Pn**	**13 59 06.2**	**-0.6**
CHN8				S	**Sb**	**13 59 27.6**	**+0.8**
CHN3	**Shinhua**	**1.56**	**233**	*eP*	**Pn**	**13 59 08.3**	**+1.2**
ECL	**Taimali**	**1.58**	**206**	*eP*	**Pn**	**13 59 05.3**	**-2.1**
SSD	**Sandimen**	**1.62**	**218**	*eP*	**Pn**	**13 59 07.8**	**-0.1**
SSD				S	**Sb**	**13 59 29.4**	**+0.3**
PCYT	**Pengchaiyu**	**1.63**	**11**	*eP*	**Pn**	**13 59 08.8**	**+0.6**
TWM1	**Shoushan**	**1.69**	**225**	*eP*	**Pn**	**13 59 09.5**	**+0.6**
SGLT	**Jiouru**	**1.72**	**221**	*eP*	**Pn**	**13 59 10.6**	**+1.2**
EAST	**Anshuo**	**1.82**	**206**	*eP*	**Pn**	**13 59 12.6**	**+1.7**
TAW	**Tawu**	**1.82**	**205**	*eP*	**Pn**	**13 59 13.7**	**+2.8**
SCZT	**Fangliau**	**1.93**	**212**	*eP*	**Pn**	**13 59 12.2**	**-0.2**
PNG	**Penghu**	**2.03**	**258**	*eP*	**Pn**	**13 59 12.7**	**-1.2**
WDGT	**Dungji**	**2.04**	**248**	*eP*	**Pn**	**13 59 12.7**	**-1.2**
TWP	**Hsiaoliuchiu**	**2.08**	**217**	*eP*	**Pn**	**13 59 18.0**	**+3.4**
JOW	**Kunigami**	**6.55**	**63**	Pn	**Pn**	**14 00 15.2**	**-2.8**
	1.6nm,0.3s,baz=155,slow=13,SNR=8.5						
MKAR	**Makanchi Array**	**38.79**	**316**	P	**P**	**14 06 03.3**	**-2.4**
	0.4nm,0.6s,mb3.3,baz=105,slow=9.2,SNR=5.8						
WRA	**Warramunga Arr**	**45.40**	**163**	P	**P**	**14 06 56.1**	**-3.9**
	0.3nm,0.5s,mb3.4,baz=345,slow=8.7,SNR=7.5						
ASAR	**Alice Springs**	**48.86**	**165**	P	**P**	**14 07 24.1**	**-3.1**
	0.2nm,0.5s,mb3.5,baz=342,slow=6.6,SNR=6.1						
YKA	**Yellowknife Ar**	**82.93**	**23**	P	**P**	**14 11 02.8**	**-2.4**
	0.3nm,0.6s,mb3.5,baz=315,slow=5.0,SNR=8.2						

IDC 05 14:00:28.7±3.0, 2.18N×96.02E, mb3.6/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML3.8/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/19, Error ellipse: s-maj=113.4km s-min=21.2km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.43**	**10**	Pn	P	14 04 21.9	-0.4
	0.1nm,0.3s,baz=197,slow=11,SNR=7.5						
NWAO	**Narrogin (SRO)**	**40.27**	**152**	LR	LR	14 24 22.9	
	comp=Z,48nm,19.2s,baz=51,slow=36						
WRA	**Warramunga Arr**	**43.55**	**122**	P	P	14 08 34.8	-1.6
	0.2nm,0.5s,baz=300,slow=9.4,SNR=2.8						
ASAR	**Alice Springs**	**44.93**	**127**	P	P	14 08 45.6	-1.9
	0.3nm,0.9s,baz=297,slow=8.1,SNR=2.5						
MKAR	**Makanchi Array**	**46.02**	**347**	P	P	14 08 54.2	-1.5
	1.3nm,0.7s,baz=163,slow=8.2,SNR=13						
SONM	**Songino Array**	**46.35**	**10**	P	P	14 08 56.1	-2.3
	0.7nm,0.5s,baz=187,slow=11,SNR=3.2						
ZAL	**Zalesovo**	**52.41**	**352**	P	P	14 09 42.4	-2.6
	1.0nm,0.5s,baz=323,slow=11,SNR=4.5						
FINES	**FINESS Array B**	**78.59**	**333**	LR	LR	14 48 19.3	
	comp=Z,30nm,19.5s,baz=20,slow=36						

DJA 05 14:04:01.1±1.3, 7.38S×107.15E, h100km, ML4.9/2, 4C-3D, Error ellipse: s-maj=59.6km s-min=11.1km az=13.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SINI	**Singah**	**0.51**	**44⇓**	*ePg*	P	14 04 16.7	-0.4
SINI				⇓*eSg*	S	14 04 28.3	-0.8
PACI	**Pancar Gunung**	**0.82**	**343⇓**	*ePg*	P	14 04 13.9	-6.0
PACI				⇑*eSg*	S	14 04 22.8	-11
PULI	**Pulasari**	**1.55**	**312⇑**	*ePn*	P	14 04 27.9	-0.5
	2μm,0.2s						
PULI				⇑*eSn*	S	14 04 47.4	-1.3
PENI	**Pendagan**	**2.67**	**312⇑**	*ePn*	P	14 04 42.7	-0.6
	249nm,0.2s						

*ISK **05** 14:11:27.1, 39.95N×41.44E, h6km, MD3.5*
*CSEM **05** 14:11:27.1, 39.95N×41.44E, h6km, MD3.5, After ISK*
ISC 05 14:11:28.6±0.7, 40.07N±0.05×41.30E±0.08, h6km, n11, σ1°36/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**1.19**	**255**	PN	**Pn**	**14 11 56.6**	**+4.9**
BINT	**Bingol**	**1.34**	**208**	PN	**Pn**	**14 11 51.6**	**-2.4**
BINT				SN	**Sn**	**14 12 11.1**	**-1.2**
BCA	**Borcka**	**1.40**	**10**	*ePN*	**Pn**	**14 11 54.8**	**0.0**
GUMT	**Gumushane**	**1.45**	**286**	PN	**Pn**	**14 11 56.4**	**+0.9**
KARS	**Kars**	**1.47**	**68**	PN	**Pn**	**14 11 54.5**	**-1.3**
KELT	**Kelkit**	**1.57**	**274**	*i* P	**Pn**	**14 11 58.4**	**+1.1**
KELT				*i* S	**Sb**	**14 12 23.5**	**+5.7**
BTMT	**Batman**	**1.88**	**176**	PN	**Pn**	**14 11 59.4**	**-2.2**
PTK	**Pertek**	**1.89**	**232**	*ePN*	**Pn**	**14 12 01.5**	**-0.2**
BEST	**Besiri**	**2.17**	**181**	*i* P	**Pn**	**14 12 06.8**	**+0.9**
BEST				*i* S	**Sn**	**14 12 35.5**	**+2.2**
TVAN	**Van**	**2.24**	**133**	*i* P	**Pn**	**14 12 08.2**	**+1.4**
TVAN				*i* S	**Sn**	**14 12 38.6**	**+3.6**
MYA	**Malataya**	**2.83**	**233**	*ePN*	**Pn**	**14 12 15.1**	**-0.1**

*IDC **05** 14:13:28.3±3.0, 2.25N×95.91E, mb3.7/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=115.7km s-min=22.4km az=61.0*
*NEIC **05** 14:13:33.3±0.7, 2.30N×96.14E, h30km, mb4.2/6, Error ellipse: s-maj=17.9km s-min=10.0km az=48.0*
ISC 05 14:13:32.3±1.0, 2.4N±0.1×96.2E±0.1, h33km, n15, σ0°60/14, mb4.0/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.34**	**57**	*eP*	**P**	**14 14 51.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**16.23**	**9**	Pn	**P**	**14 17 20.8**	**+1.2**
	0.1nm,0.3s,baz=200,slow=11,SNR=6.8						
JIRN	**Jiri**	**26.91**	**340**	*eP*	**P**	**14 19 13.1**	**+0.5**
	10nm,0.8s,mb4.4						
PKI	**Pulchoki**	**27.11**	**339**	*eP*	**P**	**14 19 15.0**	**+0.6**
	4.5nm,0.4s,mb4.3						
GUN	**Gumba**	**27.25**	**340**	*eP*	**P**	**14 19 15.7**	**0.0**
	9.2nm,0.7s,mb4.4						
DMN	**Daman**	**27.25**	**338**	*eP*	**P**	**14 19 15.6**	**-0.1**
KKN	**Kakani**	**27.35**	**339**	*eP*	**P**	**14 19 16.1**	**-0.5**
	13nm,1.0s,mb4.4						
GKN	**Gorkha**	**27.78**	**338**	*eP*	**P**	**14 19 20.5**	**-0.1**
	6.3nm,0.6s,mb4.4						
KOLN	**Koldanda**	**27.98**	**336**	*eP*	**P**	**14 19 22.6**	**+0.2**
	8.1nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**43.52**	**122**	P	**P**	**14 21 34.8**	**-0.1**
	0.4nm,0.6s,mb3.3,baz=302,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**44.91**	**127**	P	**P**	**14 21 46.6**	**+0.6**
	0.2nm,0.6s,mb3.2,baz=302,slow=7.6,SNR=4.9						
MKAR	**Makanchi Array**	**45.88**	**347**	P	**P**	**14 21 53.2**	**-0.3**
	0.9nm,0.4s,mb4.0,baz=163,slow=8.2,SNR=16						
SONM	**Songino Array**	**46.16**	**10**	P	**P**	**14 21 55.5**	**-0.2**
	0.4nm,0.5s,mb3.6,baz=191,slow=7.3,SNR=4.0						
ZAL	**Zalesovo**	**52.26**	**352**	P	**P**	**14 22 41.0**	**-1.4**
	1.0nm,0.6s,mb4.0,baz=300,slow=6.6,SNR=4.8						
JCT	**Junction City**	**143.97**	**24**	PKP	PKPdf	14 33 05.0	-0.1

*IDC **05** 14:19:58.2±2.2, 2.55N×95.52E, mb4.0/7, mb1 4.2/8, mb1mx3.9/21, mbtmp4.0/8, ML3.9/1, MS3.0/1, Ms1 3.2/1, ms1mx2.8/18, Error ellipse: s-maj=92.0km s-min=16.9km az=58.0*
*NEIC **05** 14:20:03.1±0.5, 2.58N×95.64E, h30km, mb4.2/8, Error ellipse: s-maj=14.1km s-min=6.8km az=55.0*
ISC 05 14:20:01.1±0.8, 2.6N±0.1×95.6E±0.1, h30km, n19, σ0°68/19, mb4.2/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.68**	**

	comp=Z,5.0nm,0.2s						
MGB				Trac		14 33 38.2	
	comp=Z,5.0nm,0.2s						
BBB	**Bella Bella**	**2.92**	**10**	Pn	Pn	14 33 06.5	-2.2
BBB				Sn	Sn	14 33 38.9	-5.4
BBB				Trac		14 33 41.9	
	comp=Z,29nm,0.3s						
PFB	**Port Renfrew**	**3.06**	**102**	Pn	Pn	14 33 08.3	-2.4
PFB				Sn	Sn	14 33 43.1	-4.6
PFB				Trac		14 33 45.7	
	comp=Z,1.0nm,0.1s						
FSB	**Fort Saint Jam**	**5.90**	**27**	Pn	Pn	14 33 49.7	-1.3

*IDC **05** 14:48:33.3±0.9, 0.00N×96.61E, mb4.2/12, mb1 4.3/13, mb1mx4.2/18, mbtmp4.2/13, ML4.3/1, MS3.0/1, Ms1 3.2/1, ms1mx2.8/17, Error ellipse: s-maj=44.7km s-min=15.4km az=52.0*
*BJI **05** 14:48:37.4, 0.10N×96.90E, h30km, mB5.1, mb4.7, Ms4.3, Msz3.9*
*NEIC **05** 14:48:38.5±0.5, 0.12N×96.87E, h30km, mb4.4/10, Error ellipse: s-maj=15.7km s-min=8.1km az=56.0*

ISC 05 14:48:37.3±0.6, 0.19N±0.08×97.0E±0.1, h33km, n37, σ0§91/37, mb4.3/22, MS3.7/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.27**	**36**	*e*P	**P**	**14 50 09.5**	**-0.3**
CM31	**Chiang Mai Arr**	**18.26**	**6**	*e*P	**P**	**14 52 50.4**	**+0.4**
	7.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.26**	**6**	P	**P**	**14 52 50.7**	**+0.7**
	0.4nm,0.3s,baz=194,slow=10,SNR=30						
CMAR				LR	LR	15 01 34.6	
	comp=Z,46nm,19.0s,baz=170,slow=42						
KMI	**Kunming**	**25.41**	**12**	P	**P**	**14 54 07.3**	**+3.7**
KMI				AP	pP	14 54 17.1	+4.1
KMI				S	**S**	**14 58 33.4**	**+7.8**
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.5						
KMI				LR	LR		
	comp=N,193nm,15.3s,MS3.8						
KMI				LR	LR		
	comp=E,103nm,14.0s,MS3.8						
KMI				LR	LR		
	comp=Z,125nm,15.3s,MS3.5						
KMI	**Kunming**	**25.41**	**12**	P	**P**	**14 54 07.3**	**+3.7**
	comp=Z,13nm,0.9s,mb4.5						
KMI				pP	pP	14 54 17.1	+4.1
KMI				S	**S**	**14 58 33.4**	**+7.8**
SHL	**Shillong**	**25.70**	**349**	*e*P	**P**	**14 54 07.0**	**+0.7**
JIRN	**Jiri**	**29.20**	**340**	*e*P	**P**	**14 54 38.4**	**+0.3**
	comp=Z,9.6nm,0.7s,mb4.6						
PKI	**Pulchoki**	**29.39**	**339**	*e*P	**P**	**14 54 40.2**	**+0.4**
GUN	**Gumba**	**29.54**	**340**	*e*P	**P**	**14 54 41.8**	**+0.7**
	comp=Z,9.0nm,0.7s,mb4.6						
DMN	**Daman**	**29.54**	**338**	*e*P	**P**	**14 54 41.3**	**+0.2**
KKN	**Kakani**	**29.64**	**339**	*e*P	**P**	**14 54 42.1**	**+0.1**
GKN	**Gorkha**	**30.07**	**338**	*e*P	**P**	**14 54 45.9**	**+0.1**
	comp=Z,12nm,0.8s,mb4.6						
KOLN	**Koldanda**	**30.26**	**336**	*e*P	**P**	**14 54 48.3**	**+0.7**
	comp=Z,12nm,0.8s,mb4.7						
ENH	**Enshi**	**32.20**	**21**	*e*P	**P**	**14 55 02.1**	**-2.6**
	comp=Z,8.3nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**41.73**	**121**	P	**P**	**14 56 25.3**	**+0.1**
	comp=Z,2.8nm,0.8s,mb4.0,baz=301,slow=9.1,SNR=24						
WRA	**Warramunga Arr**	**41.73**	**121**	P	**P**	**14 56 25.3**	**+0.1**
WRAB	**Tennant Creek**	**41.73**	**121**	*e*P	**P**	**14 56 25.3**	**0.0**
	comp=Z,7.7nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**41.74**	**121**	*e*P	**P**	**14 56 25.4**	**+0.1**
ASAR	**Alice Springs**	**43.00**	**126**	P	**P**	**14 56 36.1**	**+0.6**
	comp=Z,2.5nm,0.7s,mb4.0,baz=302,slow=7.9,SNR=35						
WMQ	**Urumqi**	**44.22**	**350**	*e*P	**P**	**14 56 45.6**	**+0.4**
MKAR	**Makanchi Array**	**48.15**	**347**	P	**P**	**14 57 16.9**	**+0.6**
	comp=Z,3.5nm,0.6s,mb4.6,baz=161,slow=9.3,SNR=47						
SONM	**Songino Array**	**48.16**	**9**	P	**P**	**14 57 17.4**	**+1.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=189,slow=9.2,SNR=6.6						
ULN	**Ulaanbaatar**	**48.29**	**9**	P	**P**	**14 57 13.8**	**-3.5**
	comp=Z,2.1nm,0.7s,mb4.3						
KURK	**Kurchatov**	**52.70**	**345**	*e*P	**P**	**14 57 50.6**	**-0.2**
	comp=Z,5.7nm,0.9s,mb4.5						
MDJ	**Mudanjiang**	**52.86**	**29**	P	**P**	**14 57 49.9**	**-2.2**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,105nm,4.8s						
STKA	**Stephens Creek**	**52.88**	**131**	P	**P**	**14 57 52.9**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.3,baz=295,slow=7.5,SNR=7.6						
ZAL	**Zalesovo**	**54.50**	**351**	P	**P**	**14 58 03.7**	**-0.4**
	comp=Z,7.0nm,0.5s,mb4.9,baz=312,slow=4.7,SNR=26						
ZAL	**Zalesovo**	**54.50**	**351**	P	**P**	**14 58 03.7**	**-0.4**
BVAR	**Borovoye Array**	**57.12**	**341**	P	**P**	**14 58 21.2**	**-1.7**
	comp=Z,1.9nm,0.7s,mb4.2,baz=143,slow=7.4,SNR=10						
BRTR	**Keskin Array B**	**69.60**	**313**	P	**P**	**14 59 44.2**	**-1.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=140,slow=7.9,SNR=5.7						
AKASG	**Malin Array Be**	**75.90**	**323**	P	**P**	**15 00 20.7**	**-1.6**
	comp=Z,1.4nm,0.5s,mb4.2,baz=90,slow=4.2,SNR=6.9						
AKASG	**Malin Array Be**	**75.90**	**323**	P	**P**	**15 00 20.7**	**-1.6**
FINES	**FINESS Array B**	**80.77**	**333**	P	**P**	**15 00 48.5**	**-0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=124,slow=6.9,SNR=8.2						
GERES	**GERESS Array B**	**85.40**	**319**	P	**P**	**15 01 13.1**	**+0.4**
	comp=Z,0.2nm,0.3s,mb3.8,baz=104,slow=4.0,SNR=3.1						
NOA	**NORSAR Array B**	**87.76**	**331**	P	**P**	**15 01 24.4**	**+0.6**
	comp=Z,1.4nm,0.9s,mb4.2,baz=95,slow=13,SNR=2.8						
TXAR	**Lajitas Array**	**144.65**	**32**	PKP	PKPdf	15 08 13.0	+1.7
	comp=Z,0.8nm,0.5s,baz=270,slow=1.3,SNR=7.7						
JCT	**Junction City**	**145.59**	**26**	*e*PKP	PKPdf	15 08 15.1	+2.2

IDC 05 15:01:26.1±2.6, 1.61S×99.74E, mb3.8/4, mb1 3.9/5, mb1mx3.6/16, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=126.9km s-min=20.7km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	P	15 06 00.7	-2.2
	0.1nm,0.3s,baz=182,slow=9.9,SNR=5.1						
WRA	**Warramunga Arr**	**38.41**	**121**	P	P	15 08 49.3	-2.1
	1.3nm,1.1s,baz=301,slow=9.3,SNR=9.5						
ASAR	**Alice Springs**	**39.69**	**126**	P	P	15 09 00.7	-1.3
	0.5nm,0.6s,baz=301,slow=7.8,SNR=10						
ASAR				PcP	PcP	15 11 07.4	-2.0
	0.3nm,0.7s,baz=319,slow=3.2,SNR=3.9						
MKAR	**Makanchi Array**	**50.59**	**345**	P	P	15 10 27.0	-1.8
	0.7nm,0.6s,baz=149,slow=8.3,SNR=8.3						
ZAL	**Zalesovo**	**56.74**	**349**	P	P	15 11 10.8	-3.3
	1.3nm,0.4s,baz=357,slow=3.1,SNR=5.3						
TXAR	**Lajitas Array**	**144.55**	**37**	PKP	PKPdf	15 21 04.9	-2.3
	0.4nm,0.4s,baz=304,slow=4.5,SNR=4.4						

OTT 05 15:07:13.5±0.5, 49.87N×50.50W, h18km, ML3.3/4, 234km northeast from Bonavista, NI Eastern Background Seismic Zone., North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRLN	**Deer Lake**	**4.60**	**265**	PN	Pn	15 08 22.1	-1.8
DRLN				SN	Sn	15 09 12.2	-5.3
DRLN				Trac		15 09 40.1	
	comp=Z,2.2nm,0.2s						
LMN	**Caledonia Moun**	**10.41**	**253**	PN	P	15 09 39.8	-5.3
LMN				SN	S	15 11 29.8	-13
SMQ	**Clarke City**	**10.43**	**278**	PN	P	15 09 41.2	-4.0
SMQ				SN	S	15 11 30.2	-12
SMQ				Trac		15 11 35.6	
	comp=Z,1.6nm,0.3s						
GSQ	**Grosses Roches**	**10.87**	**271**	PN	P	15 09 46.5	-4.8
GSQ				SN	S	15 11 40.2	-13
GSQ				Trac		15 11 51.4	
	comp=Z,0.3nm,0.2s						
ICQ	**Pointe Anglais**	**10.87**	**275**	PN	P	15 09 46.0	-5.3
ICQ				SN	S	15 11 33.6	-20
SCHQ	**Schefferville**	**11.15**	**303**	PN	P	15 09 49.5	-5.5
SCHQ				SN	S	15 11 46.5	-14
SCHQ				SN	S	15 11 46.8	-13
SCHQ				Trac		15 12 44.6	
	comp=Z,0.7nm,0.5s						
GGN	**Saint George**	**12.02**	**253**	PN	P	15 10 01.9	-5.0
GGN				SN	S	15 12 05.1	-17
GGN				Trac		15 12 47.2	
	comp=Z,1.5nm,0.1s						
LG4Q	**La Grande 4**	**15.07**	**293**	PN	P	15 10 40.5	-6.5

*GUC **05** 15:23:23.8±0.6, 24.28S×69.04W, h115km±9km, ML4.2*
*IDC **05** 15:23:24.3±0.8, 24.37S×68.68W, h104km±5km, mb3.9/6, mb1 3.9/8, mb1mx3.8/16, mbtmp4.1/8, MS3.4/1, Ms1 3.3/1, ms1mx1.9/23, Error ellipse: s-maj=26.6km s-min=9.6km az=80.0*
*NEIC **05** 15:23:24.3, 24.37S×68.93W, h102km, mb4.1/3, After GUC.*

ISC 05 15:23:22.3±0.6, 24.48S±0.04×68.77W±0.08, h102km±6km, n30, σ1§09/37, mb4.1/8, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.49**	**264**	⇑*i*P	**P**	**15 23 49.7**	**+0.7**
CPN1				*i* S	**S**	**15 24 09.2**	**+0.2**
CPN1				AMP		15 24 10.3	
	comp=E,4μm,0.3s						
SPCH	**San Pedro de A**	**1.65**	**19**	⇑*i*P	**P**	**15 23 52.9**	**+1.9**
SPCH				*i* S	**S**	**15 24 15.1**	**+2.8**
SPCH	**San Pedro de A**	**1.65**	**19**	⇑*i*P	**P**	**15 23 52.9**	**+1.9**
SPCH				*i* S	**S**	**15 24 15.1**	**+2.8**
SPCH				AMP		15 24 16.3	
	comp=E,11μm,0.4s						
ANCH	**Antofagasta**	**1.69**	**298**	⇑*i*P	**P**	**15 23 51.6**	**+0.1**
ANCH				*i* S	**S**	**15 24 11.8**	**-1.5**
ANCH	**Antofagasta**	**1.69**	**298**	*e*P	**P**	**15 23 51.6**	**+0.1**
ANCH				*i* S	**S**	**15 24 11.8**	**-1.5**
ANCH				AMP		15 24 13.2	
	comp=E,4μm,0.3s						
LVC	**Limon Verde**	**1.86**	**356**	P	**P**	**15 23 54.3**	**+0.7**
	comp=E,126nm,0.3s,baz=158,slow=9.8,SNR=1768						
LVC				S	**S**	**15 24 17.2**	**+0.2**
	comp=E,397nm,0.3s,baz=52,slow=22,SNR=42						
LVC	**Limon Verde**	**1.86**	**356**	*e*Pn	**P**	**15 23 54.4**	**+0.7**
LVC				*e*Sn	**S**	**15 24 16.5**	**-0.4**
LVC	**Limon Verde**	**1.86**	**356**	*e*P	**P**	**15 23 54.0**	**+0.4**
LVC				*i* S	**S**	**15 24 16.9**	**-0.1**
LVC				AMP		15 24 18.6	
	comp=E,2μm,0.8s						
CPCH	**Copiapo**	**3.20**	**206**	*e*P	**P**	**15 24 10.8**	**-1.0**
CPCH				*i* S	**S**	**15 24 50.2**	**+1.0**
TLL	**Tololo Astrono**	**5.95**	**197**	*e*P	**P**	**15 24 47.7**	**-1.6**
CFAA	**Coronel Fontan**	**7.11**	**176**	P	**P**	**15 25 05.2**	**-0.2**
	comp=E,0.5nm,0.3s,baz=351,slow=12,SNR=37						
CFAA				S	**S**	**15 26 20.8**	**-4.5**
	comp=E,0.3nm,0.3s,baz=48,slow=23,SNR=2.9						
LPAZ	**La Paz**	**8.17**	**4**	P	**P**	**15 25 18.3**	**-1.4**
	comp=E,1.4nm,0.3s,baz=170,slow=4.9,SNR=17						
LPAZ	**La Paz**	**8.17**	**4**	*e*Pn	**P**	**15 25 18.0**	**-1.8**
SIV	**San Ignacio**	**11.11**	**42**	P	**P**	**15 25 55.0**	**-4.3**
	comp=E,4.2nm,0.3s,baz=261,slow=9.7,SNR=50						
SIV				S	**S**	**15 27 53.9**	**-8.1**
	comp=E,0.3nm,0.3s,baz=288,slow=15,SNR=2.8						
TRQA	**Tornquist**	**14.72**	**158**	P	**P**	**15 26 51.6**	**+5.1**
SAML	**Samuel**	**16.34**	**20**	*e*P	**P**	**15 27 01.9**	**-5.1**
	comp=E,2.0nm,0.7s						
BDFB	**Brasilia**	**21.37**	**70**	P	**P**	**15 28 01.5**	**-1.5**
	comp=E,7.7nm,0.7s,mb4.2,baz=243,slow=12,SNR=9.4						
BDFB				LR	LR	15 36 30.4	
	comp=E,87nm,18.8s,baz=79,slow=37						
QSPA	**South Pole Qui**	**65.72**	**180**	*e*P	**P**	**15 33 58.5**	**+0.7**
	comp=E,5.5nm,0.6s,mb4.6						
ANMO	**Albuquerque**	**69.06**	**327**	P	**P**	**15 34 19.5**	**+0.2**
	comp=E,1.0nm,0.4s,mb4.0,baz=119,slow=4.8,SNR=3.5						
DBIC	**Dimbokro**	**69.49**	**72**	P	**P**	**15 34 21.9**	**-0.3**
	comp=E,3.2nm,0.7s,mb4.3,baz=212,slow=8.5,SNR=4.4						
SYO	**Syowa Base**	**73.68**	**159**	⇑P	**P**	**15 34 47.5**	**+1.3**
MSU	**Marysvale**	**74.70**	**326**	P	**P**	**15 34 54.1**	**+1.4**
PDAR	**Pinedale Array**	**76.75**	**330**	P	**P**	**15 35 04.0**	**-0.2**
	comp=E,0.3nm,0.5s,mb3.3,baz=130,slow=6.4,SNR=4.4						
SCHQ	**Schefferville**	**79.00**	**1**	P	**P**	**15 35 14.7**	**-1.6**
	comp=E,3.0nm,1.0s,mb4.1,baz=309,slow=2.8,SNR=3.5						
HLID	**Hailey**	**79.62**	**328**	P	**P**	**15 35 20.7**	**+0.8**
	comp=E,3.5nm,1.0s,mb4.1						
YKA	**Yellowknife Ar**	**94.03**	**340**	P	**P**	**15 36 29.8**	**+0.3**
	comp=E,0.8nm,0.6s,mb4.2,baz=136,slow=4.7,SNR=23						
YKA				pP	pP	15 36 56.4	-0.4
	comp=E,0.1nm,0.5s,baz=254,slow=16,SNR=2.6						
YKA				sP	sP	15 37 07.9	+0.4
	comp=E,0.3nm,0.7s,baz=142,slow=4.5,SNR=3.0						
ASAR	**Alice Springs**	**127.33**	**206**	PKP	PKPdf	15 42 17.2	+1.5
	comp=E,1.1nm,0.7s,baz=139,slow=2.0,SNR=16						
ASAR				pPKP		15 42 46.0	
	comp=E,0.3nm,0.6s,baz=135,slow=1.8,SNR=2.2						
WRA	**Warramunga Arr**	**130.44**	**209**	pPKP		15 42 52.0	
	comp=E,0.2nm,0.4s,baz=157,slow=1.8,SNR=1.8						
ZAL	**Zalesovo**	**144.56**	**27**	PKP	PKPdf	15 42 47.0	+0.6
	comp=E,3.6nm,0.6s,baz=151,slow=3.6,SNR=21						
MKAR	**Makanchi Array**	**147.92**	**39**	PKP	PKPdf	15 42 53.4	+1.1
	comp=E,2.6nm,0.7s,slow=6.1,SNR=14						
MKAR				PKPbc	PKPdf	15 42 57.5	+5.2
	comp=E,2.8nm,0.7s,baz=309,slow=2.8,SNR=29						
MKAR				pPKPbc		15 43 25.5	
	comp=E,1.4nm,0.8s,baz=313,slow=2.8,SNR=4.8						

*NEIC **05** 15:23:55.8, 38.49S×175.87E, h165km, MG4.0(WEL), After WEL.*

WEL 05 15:23:56.3±0.2, 38.48S×175.88E, h159km±1km, ML4.0/6, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHTZ	**Whakaora**	**0.20**	**163**	P	P	15 24 18.1	+0.1
WHTZ	**Whakaora**	**0.20**	**163**	*e*PN	P	15 24 18.1	+0.1
WATZ	**Wairara**	**0.26**	**207**	P	P	15 24 18.1	-0.1
WATZ				S	S	15 24 35.2	+0.3
WATZ	**Wairara**	**0.26**	**207**	PN	P	15 24 18.1	-0.1
WATZ				SN	S	15 24 34.9	0.0
RATZ	**Rangitukua**	**0.40**	**193**	P	P	15 24 18.4	-0.3
RATZ	**Rangitukua**	**0.40**	**193**	PN	P	15 24 18.4	-0.2
HATZ	**Hinemaiaia**	**0.44**	**158**	P	P	15 24 18.5	-0.3
HATZ	**Hinemaiaia**	**0.44**	**158**	PN	P	15 24 18.5	-0.3
HATZ				SN	S	15 24 35.1	-1.0
RITZ	**Rihia Road**	**0.50**	**182**	P	P	15 24 18.0	-1.1
RITZ	**Rihia Road**	**0.50**	**182**	PN	P	15 24 19.0	0.0
KATZ	**Kakaramea**	**0.52**	**197**	P	P	15 24 18.9	-0.3
KATZ	**Kakaramea**	**0.52**	**197**	PN	P	15 24 18.9	-0.2
MGZ	**Maungaku**	**0.59**	**207**	P	P	15 24 19.5	0.0
MGZ	**Maungaku**	**0.59**	**207**	PN	P	15 24 19.5	0.0
WTVZ	**West Tongariro**	**0.68**	**200**	P	P	15 24 19.7	-0.3
WTVZ	**West Tongariro**	**0.68**	**200**	PN	P	15 24 19.7	-0.2
TWVZ	**Taurewa**	**0.69**	**210**	P	P	15 24 19.8	-0.2
TWVZ	**Taurewa**	**0.69**	**210**	PN	P	15 24 19.8	-0.2
OTVZ	**Oturere**	**0.70**	**194**	PN	P	15 24 19.9	-0.2
NGZ	**Ngauruhoe**	**0.73**	**198**	P	P	15 24 20.1	-0.2
NGZ	**Ngauruhoe**	**0.73**	**198**	PN	P	15 24 20.1	-0.1
CNZ	**Chateau**	**0.77**	**200**	P	P	15 24 20.2	-0.3
CNZ	**Chateau**	**0.77**	**200**	PN	P	15 24 20.2	-0.2
WPVZ	**Whakapapa**	**0.77**	**200**	P	P	15 24 20.2	-0.3
WPVZ	**Whakapapa**	**0.77**	**200**	PN	P	15 24 20.2	-0.3
TGRZ	**Tauranga**	**0.81**	**22**	P	P	15 24 20.6	-0.1
TGRZ	**Tauranga**	**0.81**	**22**	PN	P	15 24 20.6	-0.1
TGRZ				SN	S	15 24 39.3	-0.1
HIZ	**Hauiti**	**0.81**	**267**	P	P	15 24 20.3	-0.4
HIZ				S	S	15 24 39.5	0.0
HIZ	**Hauiti**	**0.81**	**267**	PN	P	15 24 20.3	-0.4
HIZ				SN	S	15 24 38.6	-0.9
TUVZ	**Tukino**	**0.81**	**193**	P	P	15 24 20.8	+0.1
TUVZ	**Tukino**	**0.81**	**193**	PN	P	15 24 20.8	+0.1
FWVZ	**Far West T-bar**	**0.82**	**198**	P	P	15 24 20.6	-0.2
FWVZ	**Far West T-bar**	**0.82**	**198**	PN	P	15 24 20.6	-0.2
DRZ	**Dome Shelter**	**0.83**	**197**	P	P	15 24 21.3	+0.4
DRZ	**Dome Shelter**	**0.83**	**197**	PN	P	15 24 21.1	+0.3
BKZ	**Black Stump Fm**	**0.83**	**146**	P	P	15 24 21.0	+0.1
BKZ				S	S	15 24 38.5	-1.3
BKZ	**Black Stump Fm**	**0.83**	**146**	PN	P	15 24 21.0	+0.1
BKZ				SN	S	15 24 38.6	-1.2
WNVZ	**Wahianoa**	**0.88**	**195**	P	P	15 24 21.2	0.0
WNVZ	**Wahianoa**	**0.88**	**195**	PN	P	15 24 21.2	0.0
MOVZ	**Moawhango**	**0.93**	**186**	P	P	15 24 21.3	-0.2
MOVZ	**Moawhango**	**0.93**	**186**	PN	P	15 24 21.3	-0.3
MOVZ				SN	S	15 24 39.1	-1.8
URZ	**Urewera**	**0.99**	**78**	P	P	15 24 21.7	-0.2
URZ	**Urewera**	**0.99**	**78**	PN	P	15 24 21.7	-0.2
URZ				SN	S	15 24 40.4	-1.3
VRZ	**Vera Road**	**1.09**	**233**	P	P	15 24 22.5	-0.4
VRZ	**Vera Road**	**1.09**	**233**	PN	P	15 24 22.5	-0.4
MWZ	**Matawai**	**1.30**	**84**	*e*P	P	15 24 24.9	0.0
MWZ	**Matawai**	**1.30**	**84**	PN	P	15 24 24.7	-0.2
MWZ				SN	S	15 24 45.2	-1.7
RAEZ	**Rainy Point**	**1.42**	**235**	P	P	15 24 25.4	-0.6
RAEZ	**Rainy Point**	**1.42**	**235**	PN	P	15 24 25.7	-0.3
WAZ	**Wanganui**	**1.45**	**208**	P	P	15 24 25.7	-0.7
WAZ	**Wanganui**	**1.45**	**208**	PN	P	15 24 25.7	-0.7
MKAZ	**Moumakai**	**1.48**	**337**	P	P	15 24 26.3	-0.4
MKAZ	**Moumakai**	**1.48**	**337**	PN	P	15 24 26.3	-0.3
KNZ	**Kokohu**	**1.50**	**112**	*e*P	P	15 24 27.1	+0.2
KNZ	**Kokohu**	**1.50**	**112**	PN	P	15 24 27.1	+0.2
KNZ				SN	S	15 24 49.3	-1.1
TSZ	**Takapari Road**	**1.58**	**178**	P	P	15 24 27.1	-0.6
TSZ	**Takapari Road**	**1.58**	**178**	PN	P	15 24 27.1	-0.6
NEZ	**North Egmont**	**1.60**	**240**	P	P	15 24 27.7	-0.2
NEZ	**North Egmont**	**1.60**	**240**	PN	P	15 24 27.7	-0.3
PKE	**Pukeiti**	**1.65**	**244**	P	P	15 24 27.8	-0.6
PKE	**Pukeiti**	**1.65**	**244**	PN	P	15 24 27.7	-0.6
OTAZ	**Otara**	**1.71**	**333**	P	P	15 24 28.6	-0.4
OTAZ	**Otara**	**1.71**	**333**	PN	P	15 24 28.6	-0.5
PWZ	**Pawanui**	**1.72**	**154**	P	P	15 24 28.9	-0.3
PWZ	**Pawanui**	**1.72**	**154**	PN	P	15 24 28.9	-0.3
PWZ				SN	S	15 24 53.0	-1.6
KUZ	**Kuaotunu**	**1.73**	**356**	P	P	15 24 28.8	-0.5
KUZ	**Kuaotunu**	**1.73**	**356**	PN	P	15 24 28.8	-0.6
NRZ	**Ngariki Road**	**1.75**	**240**	*e*PN	P	15 24 28.6	-0.8
NWEZ	**Newall Road**	**1.76**	**243**	P	P	15 24 28.9	-0.7
NWEZ	**Newall Road**	**1.76**	**243**	PN	P	15 24 29.3	-0.3
MTAZ	**Motutapu**	**1.86**	**335**	P	P	15 24 30.1	-0.6
MTAZ	**Motutapu**	**1.86**	**335**	PN	P	15 24 30.0	-0.7
WTAZ	**Waiatarua**	**1.86**	**326**	P	P	15 24 30.4	-0.3
WTAZ	**Waiatarua**	**1.86**	**326**	PN	P	15 24 30.4	-0.3
KAAZ	**Kauri Point**	**1.90**	**330**	PN	P	15 24 30.7	-0.5
PUZ	**Puketiti**	**1.91**	**78**	*e*P	P	15 24 31.0	-0.3
PUZ	**Puketiti**	**1.91**	**78**	PN	P	15 24 30.9	-0.3
PUZ				SN	S	15 24 56.4	-1.8
MXZ	**Matakaoa Point**	**2.12**	**65**	P	P	15 24 33.5	-0.2
MXZ	**Matakaoa Point**	**2.12**	**65**	PN	P	15 24 33.5	-0.3
MXZ				SN	S	15 25 01.6	-0.9
MRZ	**Mangatainoka R**	**2.19**	**186**	PN	P	15 24 32.8	-1.8
BFZ	**Birch Farm**	**2.22**	**173**	P	P	15 24 33.4	-1.5
BFZ	**Birch Farm**	**2.22**	**173**	PN	P	15 24 33.5	-1.4
KIW	**Kapiti Island**	**2.50**	**197**	P	P	15 24 35.8	-2.6
MTW	**Mount Morrison**	**2.69**	**186**	P	P	15 24 38.0	-2.8
CAW	**Cannon Point**	**2.70**	**193**	P	P	15 24 38.1	-2.8
MRW	**Makara Radio**	**2.89**	**198**	P	P	15 24 40.2	-3.1
WEL	**Wellington**	**2.93**	**197**	P	P	15 24 40.7	-3.1
SNZO	**South Karori**	**2.97**	**197**	P	P	15 24 40.9	-3.4
MSWZ	**Moikau Station**	**2.97**	**189**	P	P	15 24 41.1	-3.2
BHW	**Baring Head**	**3.03**	**195**	P	P	15 24 41.6	-3.4
NNZ	**Nelson**	**3.35**	**214**	*e*P	P	15 24 45.3	-3.8
QRZ	**Quartz Range**	**3.49**	**227**	*e*P	P	15 24 46.6	-4.4
BSWZ	**Blackbirch Sta**	**3.58**	**205**	P	P	15 24 48.3	-3.9
THZ	**Tophouse**	**4.00**	**214**	*e*P	P	15 24 53.2	-4.4
KHZ	**Kahutara**	**4.32**	**204**	*e*P	P	15 24 57.6	-4.2
LTZ	**Lake Taylor**	**5.10**	**211**	*e*P	P	15 25 06.3	-5.8
MQZ	**McQueen's Vall**	**5.76**	**204**	*e*P	P	15 25 14.6	-6.2
ODZ	**Otahua Downs**	**7.64**	**209**	*e*P	P	15 25 39.8	-6.0

IDC 05 15:25:10.8±6.7, 9.10S×130.49E, h78km±75km, mb3.9/1, mb1 3.8/4, mb1mx3.5/13, mbtmp3.9/4, ML3.6/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/22, Error ellipse: s-maj=48.8km s-min=40.7km az=21.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.11**	**207**	P	P	15 27 34.1	-1.2
	1.7nm,0.3s,baz=19,slow=10,SNR=24						
FITZ				S	S	15 29 23.7	-4.0
	0.9nm,0.3s,baz=25,slow=9.5,SNR=2.4						
WRA	**Warramunga Arr**	**11.40**	**161**	P	P	15 27 50.4	-2.2
	0.3nm,0.3s,baz=344,slow=14,SNR=23						
WRA				S	S	15 29 58.7	-0.2
	0.7nm,0.3s,baz=340,slow=25,SNR=8.5						
ASAR	**Alice Springs**	**14.85**

Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.05**	**7**	PN	Pn	15 58 25.3	-0.3
SCHQ				SG	Sg	15 58 53.2	-4.5
SCHQ				Trac		15 58 56.6	
	comp=Z,16nm,0.1s						
MNQ	**Manicouagan**	**2.46**	**203**	PN	Pn	15 58 30.6	-0.9
MNQ				SN	Sn	15 59 01.9	-0.8
MNQ				Trac		15 59 06.8	
	comp=Z,15nm,0.2s						
SMQ	**Clarke City**	**2.60**	**172**	PN	Pn	15 58 31.6	-2.0
SMQ				Trac		15 59 14.4	
	comp=Z,7.1nm,0.2s						
ICQ	**Pointe Anglais**	**3.28**	**180**	PN	Pn	15 58 42.6	-0.6
ICQ				Trac		15 59 29.8	
	comp=Z,8.0nm,0.2s						
CNQ	**Baie Comeau**	**3.54**	**189**	PN	Pn	15 58 45.7	-1.1
CNQ				Trac		15 59 42.5	
	comp=Z,5.8nm,0.2s						
GSQ	**Grosses Roches**	**3.90**	**179**	PN	Pn	15 58 50.3	-1.6
LG4Q	**La Grande 4**	**4.20**	**284**	PN	Pn	15 58 53.7	-2.5
LG4Q				PG	Pg	15 59 02.2	-11
LG4Q				SN	Sn	15 59 43.5	-3.2
LG4Q				SG	Sg	15 59 58.0	-11
LG4Q				Trac		16 00 03.0	
	comp=Z,7.9nm,0.2s						
LMQ	**La Malbaie**	**5.62**	**202**	PN	Pn	15 59 11.0	-5.2
DRLN	**Deer Lake**	**7.10**	**116**	PN	Pn	15 59 33.0	-4.2
LMN	**Caledonia Moun**	**7.14**	**166**	PN	Pn	15 59 34.4	-3.4
VIMO	**Victor Mine**	**9.99**	**277**	PN	P	16 00 10.4	-6.8
VIMO				SN	Sn	16 01 57.3	-14
SILO	**Sutton Inlier**	**10.62**	**286**	PN	P	16 00 19.3	-6.6
SILO				SN	S	16 02 13.2	-14
FRB	**Frobisher Bay**	**11.00**	**357**	PN	P	16 00 24.9	-6.1

*IDC **05** 15:58:33.5±1.0, 5.52S×122.44E, mb3.8/6, mb1 4.0/8, mb1mx3.8/18, mbtmp3.8/8, ML3.7/2, Error ellipse: s-maj=97.6km s-min=18.9km az=61.0*
*NEIC **05** 15:58:37.7±0.5, 5.67S×122.31E, h30km, mb4.2/3, Error ellipse: s-maj=47.2km s-min=8.9km az=62.0*
ISC 05 15:58:35.5±0.6, 5.7S±0.2×122.3E±0.3, h30km, n12, σ0§94/12, mb3.9/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.76**	**165**	Pn	**P**	**16 01 37.0**	**-0.7**
	0.3nm,0.3s,baz=355,slow=12,SNR=6.0						
WRA	**Warramunga Arr**	**18.40**	**141**	P	**P**	**16 02 49.3**	**-1.1**
	0.3nm,0.3s,baz=310,slow=13,SNR=15						
WRAB	**Tennant Creek**	**18.40**	**141**	*eP*	**P**	**16 02 50.5**	**+0.1**
	8.2nm,0.9s						
ASAR	**Alice Springs**	**21.09**	**149**	P	**P**	**16 03 21.7**	**+1.7**
	1.9nm,0.7s,mb3.5,baz=329,slow=12,SNR=22						
STKA	**Stephens Creek**	**31.71**	**148**	P	**P**	**16 05 02.7**	**+3.7**
CMAR	**Chiang Mai Arr**	**33.24**	**317**	P	**P**	**16 05 12.8**	**+0.4**
	0.8nm,0.8s,mb3.7,baz=139,slow=7.5,SNR=6.5						
ULN	**Ulaanbaatar**	**55.00**	**348**	*eP*	**P**	**16 08 06.8**	**+0.3**
	3.1nm,1.0s,mb4.3						
SONM	**Songino Array**	**55.11**	**347**	P	**P**	**16 08 07.5**	**+0.2**
	0.9nm,0.5s,mb4.1,baz=162,slow=7.8,SNR=4.8						
MKAR	**Makanchi Array**	**63.11**	**330**	P	**P**	**16 09 02.8**	**+0.2**
	1.0nm,0.5s,mb4.2,baz=139,slow=6.9,SNR=16						
ZAL	**Zalesovo**	**67.20**	**337**	P	**P**	**16 09 27.2**	**-1.8**
	1.2nm,0.9s,mb3.9,baz=342,slow=4.8,SNR=7.0						
KURK	**Kurchatov**	**67.56**	**332**	*eP*	**P**	**16 09 30.8**	**-0.5**
	2.6nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**72.99**	**330**	P	**P**	**16 10 04.9**	**+0.7**
	0.3nm,0.4s,mb3.6,baz=135,slow=6.1,SNR=4.1						

*IDC **05** 16:01:42.8±0.4, 10.52S×70.97W, h622km±4km, mb4.0/19, mb1 4.1/24, mb1mx4.0/27, mbtmp4.9/24, Error ellipse: s-maj=13.0km s-min=6.6km az=72.0*
*BJI **05** 16:01:42.1, 10.50S×70.90W, h612km, mB5.0*
*MOS **05** 16:01:42.4±0.8, 10.58S×71.14W, h634km, mb5.0/3, Error ellipse: s-maj=30.2km s-min=17.0km az=85.7*
*NEIC **05** 16:01:42.1±0.2, 10.47S×70.95W, mb4.7/110, Error ellipse: s-maj=6.0km s-min=4.0km az=54.0*
ISC 05 16:01:41.7±0.2, 10.37S±0.03×71.00W±0.04, h618km, h618km±1.8km; pP-P, n288, σ0§90/210, mb4.6/127, 21C-19D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**6.07**	**184**	⇓*iP*	**P**	**16 03 24.7**	**-0.1**
ARE				*eS*	**S**	**16 04 48.0**	**+1.3**
LPAZ	**La Paz**	**6.51**	**155**	P	**P**	**16 03 28.9**	**+0.4**
	16nm,0.3s,baz=332,slow=7.1,SNR=232						
LPAZ				S	**S**	**16 04 54.5**	**+1.0**
	2.3nm,0.3s,baz=26,slow=24,SNR=4.3						
LPAZ	**La Paz**	**6.51**	**155**	⇓*iP*	**P**	**16 03 28.9**	**+0.3**
SAML	**Samuel**	**7.84**	**80**	⇑*iP*	**P**	**16 03 41.8**	**+1.3**
SIV	**San Ignacio**	**11.16**	**121**	P	**P**	**16 04 12.6**	**+0.4**
	76nm,0.3s,baz=296,slow=10.0,SNR=1193						
SIV				S	**S**	**16 06 14.0**	**+0.9**
	0.9nm,0.3s,baz=291,slow=19,SNR=6.8						
LVC	**Limon Verde**	**12.33**	**171**	P	**P**	**16 04 24.2**	**+0.5**
	2.2nm,0.3s,baz=341,slow=8.6,SNR=29						
LVC				S	**S**	**16 06 34.9**	**+1.3**
	1.7nm,0.3s,baz=282,slow=21,SNR=6.0						
LVC	**Limon Verde**	**12.33**	**171**	*eP*	**P**	**16 04 24.0**	**+0.3**
OTAV	**Otavalo**	**12.88**	**324**	*eP*	**P**	**16 04 33.9**	**+4.8**
OTAV				*eS*	**S**	**16 06 52.4**	**+9.1**
ROSC	**El Rosal**	**15.49**	**347**	P	**P**	**16 04 56.5**	**+2.1**
	1.5nm,0.3s,baz=106,slow=20,SNR=2.0						
ROSC				S	**S**	**16 07 37.2**	**+8.3**
	2.5nm,0.3s,baz=254,slow=22,SNR=6.8						
SDV	**Santo Domingo**	**19.14**	**1**	P	**P**	**16 05 29.6**	**+1.2**
	2.2nm,0.3s,baz=180,slow=2.6,SNR=11						
SDV				S	**S**	**16 08 34.7**	**+4.5**
	0.8nm,0.3s,baz=261,slow=8.7,SNR=2.9						
SDV	**Santo Domingo**	**19.14**	**1**	*eP*	**P**	**16 05 28.7**	**+0.3**
	11nm,0.5s						
CFAA	**Coronel Fontan**	**21.28**	**173**	P	**P**	**16 05 45.8**	**-2.1**
	0.5nm,0.3s,mb3.7,baz=0.4,slow=7.2,SNR=22						
CFAA				ScP		16 12 02.5	
	0.1nm,0.3s,baz=274,slow=1.5,SNR=3.8						
BDFB	**Brasilia**	**22.99**	**106**	P	**P**	**16 06 02.6**	**-0.8**
	8.3nm,0.5s,mb4.7,baz=273,slow=8.7,SNR=13						
BAO	**Brasilia Array**	**23.01**	**106**	P	**P**	**16 06 02.0**	**-1.6**
SJG	**San Juan**	**28.71**	**10**	P	**P**	**16 06 53.0**	**-0.2**
	16nm,0.2s,mb5.2,baz=259,slow=5.2,SNR=5.8						
SJG	**San Juan**	**28.71**	**10**	*eP*	**P**	**16 06 51.1**	**-2.0**
	24nm,0.6s,mb5.0						
TRQA	**Tornquist**	**28.73**	**165**	*eP*	**P**	**16 06 50.2**	**-2.9**
	15nm,0.6s,mb4.8						
PLCA	**Paso Flores**	**30.24**	**179**	P	**P**	**16 07 04.2**	**-1.8**
	7.7nm,0.5s,mb4.6,baz=347,slow=8.8,SNR=30						
PLCA				PcP	PcP	16 09 45.6	-1.3
	7.2nm,0.6s,baz=357,slow=5.0,SNR=9.5						
PLCA				ScP		16 12 29.5	
	3.7nm,0.6s,baz=8.8,slow=5.3,SNR=8.1						
TWB	**Tillmans-White**	**44.11**	**349**	*eP*	**P**	**16 08 58.8**	**-0.1**
NHSC	**New Hope**	**44.11**	**349**	*eP*	**P**	**16 08 58.9**	**-0.1**
	190nm,1.0s,mb5.6						
USHA	**Ushuaia**	**44.39**	**178**	P	**P**	**16 08 58.7**	**-2.1**
	6.6nm,0.5s,mb4.5,baz=300,slow=7.6,SNR=6.0						
COW	**Cow Castle Cre**	**44.48**	**348**	*eP*	**P**	**16 09 02.3**	**+0.6**
JSC	**Jenkinsville**	**45.46**	**348**	*eP*	**P**	**16 09 08.9**	**-0.4**
LRAL	**Lakeview Retre**	**45.78**	**341**	*eP*	**P**	**16 09 11.0**	**-0.7**
	24nm,0.5s,mb5.0						
CPCT	**Cooper Cave**	**47.33**	**345**	*eP*	**P**	**16 09 22.5**	**-0.9**
CPCT				*e*PcP	PcP	16 10 40.6	-1.2
SWET	**Sewanee**	**47.49**	**343**	*eP*	**P**	**16 09 23.5**	**-1.0**
ELN	**Prospectdale**	**48.23**	**350**	*eP*	**P**	**16 09 30.3**	**+0.3**
FWV	**Forest Hill**	**48.58**	**350**	*eP*	**P**	**16 09 32.8**	**+0.1**
WVT	**Waverly**	**48.90**	**342**	*eP*	**P**	**16 09 33.2**	**-1.8**
	38nm,0.5s,mb5.1						
JCT	**Junction City**	**49.15**	**327**	⇓*eP*	**P**	**16 09 36.7**	**-0.3**
	27nm,0.8s,mb4.7						
MIAR	**Mount Ida**	**49.54**	**335**	*eP*	**P**	**16 09 38.4**	**-1.3**
	20nm,0.6s,mb4.7						
MIAR				*e*PcP	PcP	16 10 49.2	-0.7
MVL	**Millersville**	**50.36**	**355**	*eP*	**P**	**16 09 44.7**	**-1.0**
WCI	**Wyandotte Cave**	**50.42**	**344**	⇓*iP*	**P**	**16 09 44.6**	**-1.5**
	47nm,0.4s,mb5.3						
TXAR	**Lajitas Array**	**50.50**	**322**	P	**P**	**16 09 46.8**	**-0.1**
	2.8nm,0.4s,mb4.0,baz=141,slow=8.0,SNR=16						
TXAR				PcP	PcP	16 10 53.3	-0.3
	3.9nm,0.5s,baz=147,slow=4.8,SNR=10						
TXAR				pP	pP	16 11 40.5	+1.2
	1.1nm,0.4s,baz=151,slow=11,SNR=2.9						
BLO	**Bloomington**	**51.37**	**345**	*eP*	**P**	**16 09 50.9**	**-2.0**
	121nm,0.4s,mb5.7						
FVM	**French Village**	**51.42**	**340**	*eP*	**P**	**16 09 52.1**	**-1.3**
	286nm,0.5s						
CCM	**Cathedral Cave**	**51.76**	**340**	*eP*	**P**	**16 09 54.2**	**-1.6**
	32nm,0.6s,mb4.8						
CCM				*e*PcP	PcP	16 10 57.1	-1.1
WMOK	**Wichita Mounta**	**52.02**	**331**	*eP*	**P**	**16 09 56.7**	**-0.9**
	21nm,0.5s,mb4.7						
WMOK				*e*PcP	PcP	16 10 57.8	-1.4
WMOK				*e*ScP		16 13 55.4	
ALLY	**Alegheny Colle**	**52.44**	**351**	*eP*	**P**	**16 09 59.8**	**-0.8**
BINY	**Binghamton**	**52.51**	**355**	*eP*	**P**	**16 10 00.5**	**-0.6**
	24nm,0.5s,mb4.8						
ERPA	**Erie**	**52.88**	**352**	*eP*	**P**	**16 10 03.0**	**-0.7**
	80nm,0.6s,mb5.2						
GDL2	**Guadalupe Moun**	**53.00**	**324**	*eP*	**P**	**16 10 04.9**	**+0.2**
AAM	**Ann Arbor**	**53.69**	**348**	P	**P**	**16 10 08.2**	**-1.2**
	67nm,0.3s,mb5.5						
KSU1	**Kansas State U**	**54.69**	**336**	*eP*	**P**	**16 10 14.6**	**-1.8**
CBKS	**Cedar Bluff**	**55.78**	**333**	*eP*	**P**	**16 10 23.6**	**-0.3**
	41nm,0.5s,mb4.9						
LAZ	**Ladron**	**56.19**	**324**	*eP*	**P**	**16 10 27.6**	**+0.8**
ANMO	**Albuquerque**	**56.20**	**325**	⇑*eP*	**P**	**16 10 26.6**	**-0.2**
ANMO	**Albuquerque**	**56.20**	**325**	P	**P**	**16 10 27.1**	**+0.3**
	4.7nm,0.7s,mb3.8,baz=159,slow=6.5,SNR=9.7						
ANMO				PcP	PcP	16 11 14.6	-0.8
	3.1nm,0.5s,baz=134,slow=5.4,SNR=4.6						
ANMO	**Albuquerque**	**56.20**	**325**	*eP*	**P**	**16 10 27.3**	**+0.4**
	4.6nm,0.8s,mb3.8						
ANMO				*e*PcP	PcP	16 11 15.4	+0.1
SDCO	**Great Sand Dun**	**57.74**	**328**	⇓*iP*	**P**	**16 10 37.8**	**+0.5**
	40nm,0.6s,mb4.7						
RW3	**Ridgway**	**59.27**	**327**	*eP*	**P**	**16 10 48.4**	**+0.9**
ISCO	**Idaho Springs**	**59.35**	**329**	*eP*	**P**	**16 10 47.3**	**-0.7**
	9.9nm,0.7s,mb4.0						
ISCO				*e*PcP	PcP	16 11 27.5	-0.3
WUAZ	**Wupatki**	**59.47**	**322**	*eP*	**P**	**16 10 49.5**	**+0.6**
	28nm,0.9s,mb4.4						
WUAZ				*e*PcP	PcP	16 11 28.6	+0.3
PV01	**Paradox Valley**	**59.67**	**326**	*eP*	**P**	**16 10 50.4**	**+0.3**
EYMN	**Ely**	**60.84**	**344**	*eP*	**P**	**16 10 56.1**	**-1.5**
	52nm,0.3s,mb5.2						
MSU	**Marysvale**	**61.96**	**324**	⇓*iP*	**P**	**16 11 06.0**	**+0.9**
MSU				*e*PcP	PcP	16 11 38.3	-0.1
RSSD	**Black Hills**	**61.97**	**334**	*eP*	**P**	**16 11 05.5**	**+0.6**
	22nm,0.4s,mb4.8						
MVU	**Marysvale**	**61.98**	**324**	*eP*	**P**	**16 11 06.0**	**+0.9**
	18nm,0.8s,mb4.3						
MVU				*e*PcP	PcP	16 11 39.0	+0.5
DAU	**Daniels Canyon**	**62.75**	**326**	*eP*	**P**	**16 11 10.9**	**+0.9**
DUG	**Dugway**	**63.47**	**325**	*eP*	**P**	**16 11 15.1**	**+0.5**
	25nm,0.7s,mb4.7						
PDAR	**Pinedale Array**	**63.54**	**329**	P	**P**	**16 11 15.0**	**-0.1**
	8.4nm,0.4s,mb4.4,baz=122,slow=9.1,SNR=93						
PDAR				PcP	PcP	16 11 44.0	-1.0
	3.6nm,0.8s,baz=124,slow=5.3,SNR=6.5						
PDAR				pP	pP	16 13 15.7	-0.9
	1.6nm,0.8s,baz=117,slow=6.6,SNR=4.6						
HWUT	**Hardware Ranch**	**63.76**	**327**	*eP*	**P**	**16 11 16.4**	**0.0**
	23nm,0.6s,mb4.7						
HWUT				*e*PcP	PcP	16 11 45.1	-0.7
HWUT				*e*	pP	16 13 18.1	+0.1
ULM	**Lac du Bonnet**	**64.16**	**343**	P	**P**	**16 11 17.6**	**-1.2**
	42nm,0.3s,mb5.2,baz=152,slow=5.7,SNR=74						
ULM	**Lac du Bonnet**	**64.16**	**343**	⇓*iP*	**P**	**16 11 17.4**	**-1.4**
	60nm,0.5s,mb5.2						
REDW	**Red Top Meadow**	**64.63**	**329**	*eP*	**P**	**16 11 21.8**	**-0.1**
	12nm,0.5s,mb4.6						
REDW				*e*	pP	16 13 24.6	+0.6
LOHW	**Long Hollow**	**64.68**	**329**	*eP*	**P**	**16 11 22.4**	**+0.2**
	11nm,0.4s,mb4.6						
LOHW				*e*	pP	16 13 24.2	-0.2
TPH	**Tonopah**	**64.70**	**321**	*eP*	**P**	**16 11 21.7**	**-0.7**
	17nm,1.0s,mb4.4						
TPAW	**Teton Pass**	**64.77**	**329**	*eP*	**P**	**16 11 23.0**	**+0.3**
	6.0nm,0.6s,mb4.2						
MOOW	**Moose Ponds**	**64.85**	**329**	*eP*	**P**	**16 11 23.2**	**-0.1**
	5.1nm,0.6s,mb4.1						
MOOW				*e*PcP	PcP	16 11 49.1	-1.3
MOOW				*e*	pP	16 13 25.2	-0.4
RRI2	**Red Ridge**	**64.86**	**329**	*eP*	**P**	**16 11 23.9**	**+0.6**
	49nm,0.6s,mb5.1						
RRI2				*e*pP	pP	16 13 25.7	+0.1
SCHQ	**Schefferville**	**65.05**	**3**	P	**P**	**16 11 23.4**	**-0.9**
	9.7nm,0.8s,mb4.3,baz=183,slow=5.1,SNR=20						
SCHQ				PcP	PcP	16 11 49.9	-1.1
	5.8nm,0.4s,baz=171,slow=4.2,SNR=7.9						
SCHQ	**Schefferville**	**65.05**	**3**	*eP*	**P**	**16 11 23.1**	**-1.3**
	12nm,0.7s,mb4.4						
SCHQ				*e*PcP	PcP	16 11 49.5	-1.5
IMW	**Indian Meadow**	**65.06**	**329**	*eP*	**P**	**16 11 24.9**	**+0.4**
	20nm,0.5s,mb4.8						
IMW				*e*pP	pP	16 13 26.1	-0.8
LKWY	**Lake**	**65.27**	**330**	*eP*	**P**	**16 11 27.9**	**+2.1**
	7.8nm,0.4s,mb4.5						
OMM	**Old Mammoth Mi**	**65.53**	**320**	*eP*	**P**	**16 11 28.6**	**+1.0**
OMM				*e*	pP	16 13 29.7	-0.5
NVAR	**Mina Array Bea**	**65.59**	**321**	P	**P**	**16 11 29.0**	**+1.0**
	6.1nm,0.7s,mb4.2,baz=166,slow=6.0,SNR=49						
NVAR				PcP	PcP	16 11 53.1	-0.4
	6.8nm,0.6s,baz=130,slow=4.5,SNR=15						
NVAR				pP	pP	16 13 31.6	+1.0
	2.3nm,0.6s,baz=119,slow=7.4,SNR=8.0						
LRV	**Little Rabbit**	**66.16**	**317**	*eP*	**P**	**16 11 32.7**	**+1.2**
HLID	**Hailey**	**66.63**	**327**	*eP*	**P**	**16 11 35.1**	**+0.9**
	12nm,0.9s,mb4.3						
BOZ	**Bozeman (W)**	**66.65**	**330**	*eP*	**P**	**16 11 34.2**	**-0.1**
	26nm,1.1s,mb4.6						
BOZ				*e*pP	pP	16 13 37.4	-0.2
MCMT	**McKenzie Canyo**	**66.68**	**329**	*eP*	**P**	**16 11 35.9**	**+1.4**
MCMT				*e*pP	pP	16 13 38.3	+0.5
HRY	**Holter Researc**	**67.51**	**331**	*eP*	**P**	**16 11 40.4**	**+0.9**
DBIC	**Dimbokro**	**68.00**	**78**	P	**P**	**16 11 42.0**	**-1.0**
	25nm,0.5s,mb4.9,baz=237,slow=6.4,SNR=78						
DBIC	**Dimbokro**	**68.00**	**78**	⇓*iP*	**P**	**16 11 41.9**	**-1.1**
	29nm,0.5s,mb5.0						
WVOR	**Wild Horse Val**	**68.25**	**324**	*eP*	**P**	**16 11 44.4**	**+0.3**
	10nm,1.2s,mb4.1						
MOD	**Modoc**	**68.91**	**323**	⇓*iP*	**P**	**16 11 48.8**	**+0.8**
	39nm,0.6s,mb5.0						
LBCM	**Butte Creek Ri**	**68.91**	**321**	P	**P**	**16 11 48.6**	**+0.6**
BMO	**Blue Mountains**	**69.04**	**327**	⇓*iP*	**P**	**16 11 48.9**	**+0.2**
	17nm,0.6s,mb4.6						
WDC	**Whiskeytown Da**	**69.50**	**320**	*eP*	**P**	**16 11 50.2**	**-1.3**
	6.6nm,0.6s,mb4.4						
FFC	**Flin Flon**	**69.90**	**341**	P	**P**	**16 11 53.0**	**-0.6**
	169nm,0.6s,mb5.7,SNR=22						
FFC	**Flin Flon**	**69.90**	**341**	*eP*	**P**	**16 11 52.9**	**-0.7**
	16nm,0.6s,mb4.6						
LHEM	**Herd Peak**	**69.90**	**322**	P	**P**	**16 11 54.6**	**+0.8**
HOG	**Hogback Mounta**	**69.95**	**322**	P	**P**	**16 11 55.3**	**+1.2**
WALA	**Waterton Lakes**	**70.17**	**332**	⇓*eP*	**P**	**16 11 55.5**	**+0.2**
	22nm,0.6s,mb4.8						
WALA				*e*	pP	16 14 00.7	+0.4
YBH	**Yreka Blue Hor**	**70.26**	**321**	*eP*	**P**	**16 11 55.0**	**-1.0**
	9.1nm,0.5s,mb4.5						
BUOR	**Burton Butte**	**70.29**	**322**	P	**P**	**16 11 56.8**	**+0.7**
KHMM	**Horse Mountain**	**70.42**	**320**	*eP*	**P**	**16 11 57.2**	**+0.3**
VIPM	**Ingram Point**	**70.66**	**325**	P	**P**	**16 12 00.0**	**+1.8**
VNA3	**Neumayer Olymp**	**71.22**	**163**	⇑*i*	PcP	16 12 18.7	+1.8
VNA3	**Neumayer Olymp**	**71.22**	**163**	⇑*iP*	**P**	**16 12 01.9**	**+0.9**
VNA3				⇑*iP*		16 12 18.7	
FRIS	**Frissel Point**	**71.34**	**324**	P	**P**	**16 12 03.3**	**+1.2**
FCC	**Fort Churchill**	**71.40**	**348**	*eP*	**P**	**16 12 01.8**	**-0.4**
	36nm,0.7s,mb5.0						
VNA1	**Neumayer--Stat**	**71.41**	**162**	⇑*i*	PcP	16 12 22.1	+4.4
VNA1	**Neumayer--Stat**	**71.41**	**162**	⇑*iP*	**P**	**16 12 03.4**	**+1.3**
VNA1				⇑*iP*		16 12 22.1	
OD2	**Odessa Site #2**	**71.42**	**328**	P	**P**	**16 12 03.8**	**+1.2**
GL2	**New Goldendale**	**71.66**	**326**	P	**P**	**16 12 05.7**	**+1.7**
VNA2	**Neumayer--Watz**	**71.78**	**162**	⇑*iP*	**P**	**16 12 05.0**	**+0.8**
EDM	**Edmonton**	**72.89**	**335**	*eP*	**P**	**16 12 10.1**	**-0.7**
SNAA	**Sanae**	**73.41**	**162**	⇓*iP*	**P**	**16 12 12.0**	**-1.5**
SNAA	**Sanae**	**73.41**	**162**	*d iP*	**P**	**16 12 11.9**	**-1.6**
SNAA	**Sanae**	**73.41**	**162**	P	**P**	**16 12 12.1**	**-1.4**
	12nm,0.6s,mb4.6,baz=280,slow=6.6,SNR=99						
PTEO	**Sao Teotonio**	**75.21**	**47**	*eP*	**P**	**16 12 25.5**	**+1.3**
	32nm,0.6s,mb5.0						
MOE	**Montemor**	**75.90**	**46**	*eP*	**P**	**16 12 29.1**	**+1.1**
PBEJ	**Beja**	**76.03**	**47**	*eP*	**P**	**16 12 29.9**	**+1.2**
	13nm,0.5s,mb4.6						
EGRO	**El Granado**	**76.10**	**47**	P	**P**	**16 12 29.5**	**+0.4**
	35nm,0.8s,mb4.8						
PTOM	**Tomar**	**76.34**	**45**	*eP*	**P**	**16 12 31.0**	**+0.7**
	19nm,0.6s,mb4.7						
EMIN	**Mina Concepcio**	**76.78**	**47**	P	**P**	**16 12 32.9**	**+0.1**
	135nm,2.2s,mb5.0						
EBAD	**Badajoz**	**76.95**	**46**	P	**P**	**16 12 34.3**	**+0.8**
	44nm,2.1s,mb4.5						
MTE	**Manteigas**	**77.28**	**44**	*eP*	**P**	**16 12 35.9**	**+0.6**
MTE	**Manteigas**	**77.28**	**44**	*eP*	**P**	**16 12 35.5**	**+0.2**
	23nm,1.1s,mb4.5						
PVRL	**Vila Real**	**77.54**	**44**	*eP*	**P**	**16 12 37.5**	**+0.8**
ELOB	**Lobios**	**77.56**	**43**	P	**P**	**16 12 36.8**	**0.0**
	40nm,2.0s,mb4.5						
EMIJ	**Mijas**	**77.69**	**49**	P	**P**	**16 12 37.5**	**-0.1**
	17nm,0.6s,mb4.7						
NVL	**N'lazarevskaya**	**77.91**	**160**	⇑*iP*	**P**	**16 12 35.9**	**-2.2**
NVL				pmax	pmax		
	comp=Z,48nm,1.1s,mb4.8						
EINC	**Incio**	**78.39**	**42**	P	**P**	**16 12 41.4**	**+0.2**
	comp=Z,62nm,1.4s,mb4.8						
ERUA	**La Rua**	**78.41**	**43**	P	**P**	**16 12 42.2**	**+0.9**
	comp=Z,7.6nm,0.6s,mb4.3						
PBRG	**Braganca**	**78.43**	**43**	*eP*	**P**	**16 12 42.2**	**+0.8**
	comp=Z,14nm,0.6s,mb4.6						
EADA	**Adamuz**	**78.46**	**48**	P	**P**	**16 12 42.1**	**+0.4**
	comp=Z,8.5nm,0.7s,mb4.3						
ECAL	**Calabor**	**78.49**	**43**	P	**P**	**16 12 42.1**	**+0.4**
	comp=Z,8.6nm,0.5s,mb4.4						
ERON	**Agron**	**78.58**	**49**	P	**P**	**16 12 43.5**	**+1.2**
	comp=Z,12nm,0.5s,mb4.5						
EPON	**Pontenova**	**78.81**	**42**	P	**P**	**16 12 44.0**	**+0.7**
	comp=Z,101nm,1.3s,mb5.0						
EBER	**Berja**	**79.22**	**49**	P	**P**	**16 12 47.7**	**+2.1**
	comp=Z,18nm,0.6s,mb4.6						
ESDC	**Sonseca Array**	**79.49**	**46**	P	**P**	**16 12 47.9**	**+0.9**
	comp=Z,4.0nm,0.5s,mb4.0,baz=250,slow=5.1,SNR=23						
ESDC	**Sonseca Array**	**79.49**	**46**	P	**P**	**16 12 47.9**	**+0.9**
	comp=Z,3.5nm,0.4s,mb4.0						
QSPA	**South Pole Qui**	**79.75**	**180**	⇓*iP*	**P**	**16 12 46.8**	**-0.8**
	comp=Z,46nm,0.6s,mb5.0						
ENIJ	**Nijar**	**79.75**	**49**	P	**P**	**16 12 48.1**	**-0.4**
	comp=Z,15nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**80.08**	**341**	P	**P**	**16 12 49.6**	**+0.1**
	comp=Z,30nm,0.5s,mb4.9,baz=136,slow=5.4,SNR=112						
YKA				pP	pP	16 14 57.9	-1.3
	comp=Z,2.7nm,0.7s,baz=137,slow=6.3,SNR=8.3						
YKA	**Yellowknife Ar**	**80.08**	**341**	P	**P**	**16 12 49.6**	**+0.1**
YKA				pP	pP	16 14 57.9	-1.3
EARI	**Arriondas**	**80.08**	**43**	P	**P**	**16 12 51.0**	**+1.0**
	comp=Z,154nm,1.6s,mb5.1						
YKW3	**Yellowknife Ar**	**80.13**	**341**	*eP*	**P**	**16 12 49.4**	**-0.4**
YKW3				*e*pP	pP	16 14 57.5	-2.0
EVIA	**Vianos**	**80.15**	**48**	P	**P**	**16 12 51.6**	**+1.2**
	comp=Z,54nm,0.8s,mb4.9						
ETOB	**Tobarra**	**80.84**	**48**	P	**P**	**16 12 54.9**	**+0.9**
	comp=Z,46nm,0.8s,mb5.0						
ELAN	**Lanestosa**	**81.24**	**43**	P	**P**	**16 12 56.8**	**+0.9**
	comp=Z,85nm,1.1s,mb5.1						
ECHE	**Chera**	**81.60**	**47**	P	**P**	**16 12 59.2**	**+1.3**
	comp=Z,5.9nm,0.5s,mb4.4						
ECRI	**Cripan**	**81.63**	**44**	P	**P

BRG	**Berggiesshubel**	**94.79**	**39**	*e*P	**P**	**16 13 59.8 +0.2**
BRG				pmax	pmax	
comp=Z,8.0nm,1.1s,mb4.8						
BRG	**Berggiesshubel**	**94.79**	**39**	*e*P	**P**	**16 13 59.8 +0.2**
comp=Z,8.0nm,1.1s,mb4.8						
PRU	**Pruhonice**	**95.01**	**40**	*e*P	**P**	**16 14 01.0 +0.4**
PVCC	**Panska Ves**	**95.12**	**40**	*e*P	**P**	**16 14 01.5 +0.4**
MAW	**Mawson**	**95.51**	**164**	P	**P**	**16 14 01.9 -0.6**
comp=Z,5.1nm,0.6s,mb4.9,baz=252,slow=7.4,SNR=9.3						
UPC	**Upice**	**96.03**	**40**	*e*P	**P**	**16 14 05.9 +0.7**
DPC	**Dobruska-Polom**	**96.20**	**40**	*e*P	**P**	**16 14 06.3 +0.3**
BILL	**Bilibino**	**111.46**	**340**	*e*PKIKP	PKPdf	16 19 10.3 +4.0
BILL				pmax	pmax	
comp=Z,1.0nm,1.2s						
SOC	**Sochi**	**112.08**	**47**	*i*PKIKP	PKPdf	16 19 08.9 +0.8
SOC				*e*		16 20 10.4
SOC				*e*PPP	PPP	16 22 34.9 -0.7
SOC				*e*		16 24 50.2
SOC				*e*PS	PS	16 29 51.6 +2.1
SOC				*e*SSS	SSS	16 39 28.1 +6.0
SOC				pmax	pmax	
comp=N,6.0nm,0.6s						
SOC				pmax	pmax	
comp=E,6.0nm,0.6s						
SOC				pmax	pmax	
comp=Z,9.0nm,0.6s						
TIXI	**Tiksi**	**117.57**	**353**	⇑*i*PKIKP	PKPdf	16 19 17.7 -0.4
ARU	**Arti**	**119.80**	**30**	*i*PKIKP	PKPdf	16 19 23.5 +0.7
ARU				*e*		16 21 00.1
ABTO	**Aybut**	**125.63**	**76**	⇑P	PKPdf	16 19 35.9 +1.0
SNR=11						
WHFO	**Wadi Hawf**	**126.08**	**75**	⇑P	PKPdf	16 19 36.3 +0.4
SNR=10.0						
YAK	**Yakutsk**	**126.28**	**348**	⇑*i*PKIKP	PKPdf	16 19 35.6 +0.5
RBK	**Rabkut**	**126.50**	**76**	P	PKPdf	16 19 37.1 +0.4
SNR=10						
BVAR	**Borovoye Array**	**127.37**	**28**	PKP	PKPdf	16 19 38.8 +1.3
comp=Z,6.1nm,0.6s,baz=272,slow=2.1,SNR=41						
BVAR				pPKP		16 22 00.7
comp=Z,0.7nm,0.5s,baz=282,slow=2.8,SNR=4.8						
STKA	**Stephens Creek**	**127.67**	**215**	*e*PKP	PKPdf	16 19 38.9 +0.2
comp=Z,12nm,0.6s						
STKA				*e*SKP		16 22 01.5
STKA	**Stephens Creek**	**127.67**	**215**	PKP	PKPdf	16 19 38.9 +0.3
comp=Z,15nm,0.6s,baz=107,slow=2.7,SNR=74						
STKA				pPKP		16 22 01.1
comp=Z,3.3nm,0.6s,baz=148,slow=0.7,SNR=6.7						
BANOM	**Banah**	**127.93**	**65**	⇑P	PKPdf	16 19 40.0 +0.7
SNR=16						
BSY	**Bisya**	**129.09**	**69**	⇑P	PKPdf	16 19 41.8 +0.2
BIDO	**Bidbid**	**129.86**	**68**	⇓P	PKPdf	16 19 43.6 +0.6
WBK	**Wadi Bani Khal**	**130.73**	**69**	⇑P	PKPdf	16 19 46.3 +1.6
NVS	**Novosibirsk**	**131.19**	**20**	*e*PKIKP	PKPdf	16 19 44.7 0.0
NVS				*e*		16 22 07.9
NVS				*e*		16 23 11.7
NVS				pmax	pmax	
comp=Z,16nm,1.1s						
ZAL	**Zalesovo**	**132.45**	**19**	PKhKP		16 19 39.5
comp=Z,3.4nm,0.4s,baz=150,slow=1.3,SNR=15						
ZAL				PKP	PKPdf	16 19 47.5 +0.5
comp=Z,16nm,0.5s,baz=162,slow=1.7,SNR=60						
ZAL				pPKP		16 22 11.1
comp=Z,3.2nm,0.8s,baz=200,slow=3.3,SNR=8.2						
ZAL				SKPbc		16 22 17.5
comp=Z,2.8nm,0.4s,baz=154,slow=4.4,SNR=5.6						
ZAL	**Zalesovo**	**132.45**	**19**	PKP	PKPdf	16 19 39.5 -7.6
ZAL				PKP	PKPdf	16 19 47.5 +0.5
ZAL				pPKP		16 22 11.1
ZAL				SKPbc		16 22 17.5
CTA	**Charters Tower**	**132.45**	**230**	*e*PKP	PKPdf	16 19 48.5 +0.5
comp=Z,6.6nm,1.1s						
CTA	**Charters Tower**	**132.45**	**230**	PKP	PKPdf	16 19 48.4 +0.4
comp=Z,4.9nm,0.6s,baz=140,slow=2.0,SNR=8.0						
BOD	**Bodaibo**	**132.50**	**356**	*e*PKIKP	PKPdf	16 19 45.2 -1.9
KURK	**Kurchatov**	**132.66**	**26**	*e*PKIKP		16 19 48.5
EKS2	**Erkin-Say**	**135.54**	**37**	P	PKPdf	16 19 55.4 +2.3
SNR=7.7						
USP	**Ospenovka**	**135.60**	**36**	P	PKPdf	16 19 54.8 +1.7
SNR=6.0						
AML	**Almayashu**	**135.79**	**38**	P	PKPdf	16 19 56.4 +2.9
SNR=7.2						
AAK	**Ala-Archa**	**135.98**	**37**	P	PKPdf	16 19 56.4 +2.6
SNR=6.2						
AAK	**Ala-Archa**	**135.98**	**37**	⇓*i*PKIKP	PKPdf	16 19 54.9 +1.1
AAK	**Ala-Archa**	**135.98**	**37**	*e*PKP	PKPdf	16 19 53.7 -0.1
UCH	**Uchtor**	**136.23**	**37**	P	PKPdf	16 19 57.2 +2.9
SNR=10						
MKAR	**Makanchi Array**	**137.21**	**27**	*e*PKHKP		16 19 45.7
MKAR				pmax	pmax	
comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**137.21**	**27**	PKhKP		16 19 45.8
comp=Z,0.6nm,0.3s,baz=350,slow=3.6,SNR=18						
MKAR				PKP	PKPdf	16 19 56.8 +0.7
comp=Z,6.5nm,0.6s,baz=341,slow=1.9,SNR=34						
MKAR				pPKP		16 22 19.3
comp=Z,0.9nm,0.8s,slow=1.2,SNR=4.3						
MKAR				SKPbc		16 22 32.0
comp=Z,1.2nm,0.7s,baz=297,slow=2.7,SNR=4.1						
MUN	**Mundaring**	**137.33**	**189**	*e*PKP		16 19 45.7
comp=Z,57nm,1.4s						
MUN	**Mundaring**	**137.33**	**189**	⇑*i*PKP	PKPdf	16 19 58.4 +1.7
comp=Z,41nm,0.5s						
MUN	**Mundaring**	**137.33**	**189**	*e*PKP		16 19 45.7
MUN				⇑*i*PKP	PKPdf	16 19 58.4 +1.7
KLBR	**Kellerberrin**	**137.44**	**191**	*i*PKP	PKPdf	16 19 56.8 -0.1
KLBR	**Kellerberrin**	**137.44**	**191**	*e*PKP		16 19 45.8
KLBR				*i*PKP	PKPdf	16 19 56.8 -0.1
ASAR	**Alice Springs**	**138.31**	**215**	PKhKP		16 19 47.5
comp=Z,1.3nm,0.4s,baz=138,slow=3.7,SNR=23						
ASAR				PKP	PKPdf	16 19 58.9 +0.2
comp=Z,8.1nm,0.5s,baz=127,slow=2.0,SNR=25						
ASAR				pPKP		16 22 21.9
comp=Z,2.5nm,0.7s,baz=142,slow=1.8,SNR=7.9						
ASAR				SKP		16 22 34.3
comp=Z,6.4nm,0.8s,baz=132,slow=3.2,SNR=13						
ASPA	**Alice Springs**	**138.31**	**215**	*i*PKP	PKPdf	16 19 58.8 +0.2
ASPA				*i*pP		16 22 22.5
ASPA				*i*SKP		16 22 34.5
ASPA				*i*PKS	PKS	16 23 33.6 +1.2
ASPA	**Alice Springs**	**138.31**	**215**	*e*PKP		16 19 48.3
ASPA				*i*PKP	PKPdf	16 19 58.8 +0.2
ASPA				*i*pP		16 22 22.5
ASPA				*i*SKP		16 22 34.5
ASPA				*i*PKS	PKS	16 23 33.6 +1.2
ZAK	**Zakamensk**	**139.84**	**6**	*e*PKHKP		16 19 54.4
ZAK				pmax	pmax	
comp=Z,3.0nm,1.0s						
WB2	**Warramunga Arr**	**140.88**	**220**	*i*PKP	PKPdf	16 20 06.3 +2.9
WB2				*e*pP		16 22 26.3
WB2				*i*SKP		16 22 41.6
WB2	**Warramunga Arr**	**140.88**	**220**	*e*PKP	PKPdf	16 19 57.5 -5.9
WB2				*i*PKP	PKPdf	16 20 06.3 +2.9
WB2				*e*pP		16 22 26.3
WB2				*i*SKP		16 22 41.6
WRA	**Warramunga Arr**	**140.88**	**220**	PKhKP		16 19 57.6
comp=Z,4.9nm,0.4s,baz=140,slow=2.8,SNR=177						
WRA				PKP	PKPdf	16 20 03.8 +0.4
comp=Z,14nm,0.3s,baz=222,slow=1.3,SNR=53						
WRA				pPKP		16 22 25.9
comp=Z,3.4nm,0.8s,baz=150,slow=1.5,SNR=8.0						
WRA				SKPbc		16 22 41.7
comp=Z,6.4nm,0.6s,baz=137,slow=2.6,SNR=12						
WRAB	**Tennant Creek**	**140.88**	**220**	*i*PKIKP	PKPdf	16 20 03.7 +0.3
WRAB	**Tennant Creek**	**140.88**	**220**	*e*PKPpre		16 19 57.4
WRAB				*e*PKPdf	PKPdf	16 20 03.8 +0.4
MDJ	**Mudanjiang**	**141.53**	**336**	PKP	PKPdf	16 20 00.6 -3.1
WMQ	**Urumqi**	**141.90**	**25**	⇓PKP	PKPdf	16 20 02.5 -1.9
WMQ				PP	PP	16 23 19.2 -0.9
WMQ				XPKP		16 23 20.5
WMQ				PKS	PKS	16 23 36.9 -0.9
WMQ				SKKS		16 29 09.0
WMQ				PP	PP	
comp=Z,155nm,4.7s						
ULN	**Ulaanbaatar**	**142.60**	**2**	*d i*PKIKP	PKPdf	16 20 05.0 -0.5
ULN	**Ulaanbaatar**	**142.60**	**2**	*e*PKPdf	PKPdf	16 20 05.0 -0.5
SONM	**Songino Array**	**142.60**	**3**	PKP	PKPdf	16 20 04.9 -0.6
comp=Z,18nm,0.4s,baz=327,slow=2.6,SNR=89						
MJAR	**Matsushiro Arr**	**142.91**	**319**	PKP	PKPdf	16 20 05.5 -0.9
comp=Z,35nm,0.8s,baz=81,slow=2.6,SNR=78						
MAJO	**Matsushiro**	**142.91**	**319**	*e*PKPdf	PKPdf	16 20 05.3 -1.1
MAT	**Matsushiro**	**142.91**	**319**	*e*PKP	PKPdf	16 20 05.0 -1.4
MAT	**Matsushiro**	**142.91**	**319**	PKP2	PKPdf	16 20 05.0 -1.4
CN2	**Changchun**	**143.77**	**340**	*e*PKP	PKPdf	16 20 07.7 0.0
POO	**Poona**	**145.06**	**73**	*e*P	PKPdf	16 20 11.6 +1.0
POO				*e*		16 20 14.1
comp=Z,66nm,1.1s						
NDI	**New Delhi**	**145.11**	**54**	*e*P	PKPdf	16 20 11.0 +0.6
KAD	**Karad**	**145.54**	**75**	*e*P	PKPdf	16 20 12.1 +0.6
KAD				*e*		16 20 14.3
comp=Z,66nm,0.6s						
KAD				*e*S	SKS	16 26 24.7 +3.4
MBWA	**Marble Bar**	**146.94**	**199**	*e*PKPbc	PKPbc	16 20 16.7 +0.7
BHPL	**Bhopal**	**147.27**	**63**	*e*P	PKPdf	16 20 16.7 +2.5
BHPL				*e*		16 20 19.2
comp=Z,36nm,0.7s						
FITZ	**Fitzroy Crossi**	**147.28**	**210**	*e*PKP	PKPdf	16 20 14.9 +0.6
comp=Z,10nm,0.6s						
FITZ	**Fitzroy Crossi**	**147.28**	**210**	*i*PKP	PKPdf	16 20 18.1 +3.8
FITZ				*i*SKP		16 22 39.4
FITZ	**Fitzroy Crossi**	**147.28**	**210**	*e*PKP	PKPdf	16 20 14.9 +0.6
FITZ				*i*PKP	PKPdf	16 20 18.1 +3.8
FITZ				*i*SKP		16 22 39.4
HYB	**Hyderabad**	**149.66**	**73**	*e*P	PKPdf	16 20 19.0 +0.9
BJI	**Beijing**	**149.78**	**349**	PKP	PKPdf	16 20 24.1 +6.5
BJI				pPKP		16 22 44.8
BJI				PP	PP	16 24 16.4 +11
BJT	**Baijiatuau**	**149.80**	**349**	*e*PKPbc	PKPdf	16 20 24.1 +6.5
GTA	**Gaotai**	**149.95**	**14**	PKP	PKPdf	16 20 19.1 +1.2
KOLN	**Koldanda**	**150.51**	**51**	*e*P	PKPdf	16 20 19.9 +0.8
GKN	**Gorkha**	**151.17**	**49**	*e*P	PKPdf	16 20 21.0 +0.9
comp=Z,34nm,1.1s						
DMN	**Daman**	**151.73**	**49**	*e*P	PKPdf	16 20 21.8 +0.9
comp=Z,20nm,1.1s						
KKN	**Kakani**	**151.76**	**49**	*e*P	PKPdf	16 20 21.8 +0.9
comp=Z,16nm,0.7s						
PKI	**Pulchoki**	**151.98**	**49**	*e*P	PKPdf	16 20 21.6 +0.4
comp=Z,6.9nm,0.6s						
GUN	**Gumba**	**152.14**	**48**	*e*P	PKPdf	16 20 22.0 +0.6
comp=Z,21nm,1.0s						
JIRN	**Jiri**	**152.51**	**48**	*e*P	PKPdf	16 20 22.3 +0.3
comp=Z,7.3nm,0.7s						
LZH	**Lanzhou**	**153.98**	**10**	*e*PKP	PKPdf	16 20 24.5 +0.8
LZH				APKP		16 22 45.6
LZH				XPKP		16 23 41.7
LZH				*e*PP	PP	16 24 31.5 +1.9
LZH				PP	PP	
comp=Z,138nm,7.6s						
LZH	**Lanzhou**	**153.98**	**10**	*e*PKP	PKPdf	16 20 24.5 +0.8
LZH				PKP	PKPdf	16 20 52.0 +28
LZH				pPKP		16 22 45.6
LZH				sPKP		16 23 41.7
LZH				*e*PP	PP	16 24 31.5 +1.9
LSA	**Lhasa**	**154.56**	**38**	PKP	PKPdf	16 20 27.5 +2.8
LSA	**Lhasa**	**154.56**	**38**	*e*PKPdf	PKPdf	16 20 27.1 +2.4
LSA				*e*PKPdif		16 20 36.6
LSA				*e*PKPab	PKPab	16 20 54.5 +0.1
XAN	**Xi'an**	**156.45**	**0**	PKP	PKPdf	16 20 28.5 +1.5
ENH	**Enshi**	**160.20**	**359**	*e*PKPdf	PKPdf	16 20 32.8 +1.2
GYA	**Guiyang**	**163.85**	**8**	*i*PKP	PKPdf	16 20 36.8 +1.5
GYA				PKP2	PKPab	16 21 33.3 -1.2
GYA				APKP		16 22 59.4
GYA				XPKP		16 23 55.7
GYA				PP	PP	
comp=Z,110nm,7.2s						
CMAR	**Chiang Mai Arr**	**167.38**	**49**	PKP	PKPdf	16 20 39.4 +1.1
comp=Z,4.1nm,0.8s,baz=315,slow=1.0,SNR=14						
CMAR				PKPab	PKPab	16 21 49.5 -0.5
comp=Z,2.7nm,0.8s,baz=303,slow=5.2,SNR=13						

*IDC **05** 16:09:12.3±0.8, 48.26S×107.05E, mb4.2/9, mb1 4.3/9, mb1mx4.2/15, mbtmp4.2/9, MS4.2/12, Ms1 4.2/12, ms1mx4.0/20, Error ellipse: s-maj=35.7km s-min=16.9km az=119.0*

*NEIC **05** 16:09:13.0±0.5, 48.30S×106.95E, h10km, mb4.7/6, Error ellipse: s-maj=20.9km s-min=10.1km az=127.0*

ISC 05 16:09:11.3±0.6, 48.3S±0.1×107.0E±0.2, h10km, n36, σ0.58/19, mb4.3/12, MS4.2/11, 1C, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.20**	**30**	LR	LR	16 18 08.1	
comp=Z,708nm,20.3s,baz=203,slow=31							
MAW	**Mawson**	**29.39**	**213**	P	**P**	**16 15 16.0**	**-0.3**
1.9nm,0.7s,mb3.9,baz=160,slow=12,SNR=1.5							
MAW				LR	LR	16 24 41.1	
comp=Z,304nm,18.3s,MS4.0,baz=67,slow=32							
STKA	**Stephens Creek**	**30.81**	**71**	P	**P**	**16 15 29.0**	**-0.3**
1.8nm,0.8s,mb3.9,baz=210,slow=7.9,SNR=4.6							
STKA				PcP	PcP	16 18 26.4	-0.2
1.8nm,0.7s,baz=5.7,slow=10,SNR=3.5							
STKA				LR	LR	16 25 14.6	
comp=Z,440nm,21.3s,MS4.1,baz=25,slow=31							
STKA	**Stephens Creek**	**30.81**	**71**	*e*P	**P**	**16 15 28.5**	**-0.8**
ASPA	**Alice Springs**	**32.53**	**50**	*e*P	**P**	**16 15 44.5**	**0.0**
ASAR	**Alice Springs**	**32.54**	**50**	P	**P**	**16 15 44.1**	**-0.4**
2.3nm,1.0s,mb4.1,baz=207,slow=9.3,SNR=12							
ASAR				PcP	PcP	16 18 30.6	-0.7
0.4nm,0.7s,baz=203,slow=1.4,SNR=4.8							
ASAR				LR	LR	16 27 21.9	
comp=Z,105nm,19.7s,MS3.5,baz=207,slow=34							
FITZ	**Fitzroy Crossi**	**33.74**	**33**	*e*P	**P**	**16 15 58.5**	**+3.5**
13nm,1.1s,mb4.8							
FITZ	**Fitzroy Crossi**	**33.74**	**33**	P	**P**	**16 15 55.9**	**+0.8**
5.4nm,0.8s,mb4.5,baz=208,slow=8.5,SNR=4.2							
VNDA	**Vanda**	**35.86**	**162**	P	**P**	**16 16 13.2**	**+0.6**
2.6nm,0.8s,mb4.2,baz=290,slow=9.0,SNR=7.0							
VNDA				LR	LR	16 29 35.9	
comp=Z,982nm,20.0s,MS4.6,baz=296,slow=34							
VNDA	**Vanda**	**35.86**	**162**	*e*P	**P**	**16 16 12.6**	**0.0**
2.6nm,0.6s,mb4.3							
WRA	**Warramunga Arr**	**35.87**	**47**	P	**P**	**16 16 13.6**	**+0.3**
3.8nm,0.8s,mb4.4,baz=210,slow=8.4,SNR=22							
WRA				PcP	PcP	16 18 39.8	-1.0
0.4nm,0.7s,baz=221,slow=3.1,SNR=4.1							
WB2	**Warramunga Arr**	**35.88**	**47**	*e*P	**P**	**16 16 13.6**	**+0.3**
WRAB	**Tennant Creek**	**35.88**	**47**	*e*P	**P**	**16 16 13.7**	**+0.3**
23nm,1.0s,mb5.1							
QSPA	**South Pole Qui**	**41.81**	**180**	*e*P	**P**	**16 17 01.6**	**-0.3**
10nm,0.9s,mb4.5							
CTA	**Charters Tower**	**42.26**	**62**	P	**P**	**16 17 05.8**	**-0.5**
3.1nm,0.8s,mb4.0,baz=225,slow=5.7,SNR=2.2							
SNAA	**Sanae**	**50.60**	**203**	⇑*i*	**P**	**16 18 16.2**	**+4.5**
SNAA	**Sanae**	**50.60**	**203**	P	**P**	**16 18 13.7**	**+2.1**
3.5nm,1.0s,mb4.3,baz=136,slow=14,SNR=10							
SNAA	**Sanae**	**50.60**	**203**	*e*P	**P**	**16 18 12.2**	**+0.6**
19nm,1.0s,mb5.0							
CMAR	**Chiang Mai Arr**	**66.86**	**352**	P	**P**	**16 20 05.3**	**-0.3**
0.7nm,0.7s,mb3.8,baz=191,slow=4.9,SNR=6.6							
CMAR				LR	LR	16 49 41.9	
comp=Z,204nm,18.0s,MS4.4,baz=195,slow=36							
LSZ	**Lusaka**	**71.35**	**268**	P	**P**	**16 20 33.0**	**-0.3**
3.5nm,0.6s,mb4.5							
JOW	**Kunigami**	**77.20**	**19**	LR	LR	16 53 14.9	
comp=Z,84nm,18.6s,MS4.1,baz=114,slow=34							
TBI	**Tubuai**	**81.37**	**115**	*e*LR	LR	16 47 39.8	
230nm,25.8s							
PPT	**Papeete**	**85.65**	**111**	*e*LR	LR	16 49 38.4	
83nm,23.2s							
PPT	**Papeete**	**85.65**	**111**	LR	LR	16 53 22.5	
comp=Z,144nm,21.9s,MS4.3,baz=275,slow=31							
MJAR	**Matsushiro Arr**	**88.95**	**25**	LR	LR	16 56 44.3	
comp=Z,66nm,20.5s,MS4.0,baz=225,slow=32							
RKT	**Rikitea**	**89.88**	**126**	*e*LR	LR	16 51 37.3	
PLCA	**Paso Flores**	**91.30**	**182**	LR	LR	17 00 02.0	
comp=Z,337nm,18.9s,MS4.8,baz=178,slow=33							
SONM	**Songino Array**	**95.77**	**360**	LR	LR	17 10 05.0	
comp=Z,99nm,18.0s,MS4.3,baz=273,slow=38							
MKAR	**Makanchi Array**	**97.15**	**343**	LR	LR	17 04 58.2	
comp=Z,98nm,19.0s,MS4.3,baz=177,slow=34							
INK	**Inuvik**	**144.42**	**34**	PKP	PKPdf	16 28 48.2	-1.1
4.4nm,1.0s,baz=223,slow=7.4,SNR=4.9							
DAG	**Danmarks Havn**	**144.52**	**341**	*e*P	PKPbc	16 28 45.0	-1.0
DAG	**Danmarks Havn**	**144.52**	**341**	*i*P	PKPbc	16 28 45.0	-1.0
3.0nm,1.0s							
NVAR	**Mina Array Bea**	**146.05**	**90**	PKPbc	PKPbc	16 28 54.5	+3.4
4.4nm,0.9s,baz=222,slow=6.1,SNR=19							
TXAR	**Lajitas Array**	**149.78**	**118**	PKPbc	PKPdf	16 29 04.2	+4.8
2.0nm,0.9s,baz=198,slow=4.0,SNR=9.6							
TXAR	**Lajitas Array**	**149.78**	**118**	PKPbc	PKPdf	16 29 04.2	+4.8
YKA	**Yellowknife Ar**	**153.02**	**43**	PKPbc	PKPdf	16 29 09.5	+6.4
0.5nm,0.7s,baz=291,slow=2.0,SNR=7.4							
YKA				PKPab	PKPab	16 29 22.2	+1.0
0.5nm,0.7s,baz=292,slow=2.6,SNR=5.1							

*IDC **05** 16:47:02.6±0.9, 0.08S×98.31E, mb4.1/11, mb1 4.3/12, mb1mx4.2/18, mbtmp4.2/12, ML4.4/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/21, Error ellipse: s-maj=46.0km s-min=15.0km az=53.0*

*MOS **05** 16:47:06.6±1.5, 0.03N×98.62E, h33km, mb4.9/14, Error ellipse: s-maj=19.2km s-min=8.6km az=100.2*

*BJI **05** 16:47:07.2, 0.12N×98.74E, h29km, mB5.2, mb4.6, Ms4.8, Msz4.2*

*NEIC **05** 16:47:08.2±0.6, 0.06N×98.69E, h30km, mb4.6/17, Error ellipse: s-maj=17.6km s-min=8.5km az=58.0*

ISC 05 16:47:06.3±0.5, 0.03N±0.06×98.63E±0.07, h30km, h30km±2.0km: pP-P, n65, σ1.9±21/63, mb4.5/35, MS3.9/5, 3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.09**	**67**	P	**Pn**	**16 48 23.6**	**+0.9**
IPM	**Ipoh**	**5.12**	**28**	P	**Pn**	**16 48 23.9**	**+0.9**
KULM	**Kulim**	**5.61**	**21**	*e*P	**Pn**	**16 48 29.2**	**-0.7**
CM31	**Chiang Mai Arr**	**18.32**	**1**	*e*P	**P**	**16 51 18.6**	**-1.6**
15nm,0.7s							
CMAR	**Chiang Mai Arr**	**18.32**	**1**	P	**P**	**16 51 19.2**	**-1.0**
0.4nm,0.3s,baz=189,slow=10,SNR=40							
CMAR				LR	LR	16 58 07.4	
comp=Z,112nm,18.4s,baz=180,slow=36							
KMI	**Kunming**	**25.26**	**9**	P	**P**	**16 52 30.1**	**-1.7**
KMI				AMB	AMB		
comp=Z,13nm,1.0s,mb4.4							
KMI	**Kunming**	**25.26**	**9**	P	**P**	**16 52 30.1**	**-1.7**
comp=Z,13nm,1.0s,mb4.4							
SHL	**Shillong**	**26.21**	**346**	*e*P	**P**	**16 52 41.0**	**+0.4**
GYA	**Guiyang**	**27.40**	**16**	⇑*i*P	**P**	**16 52 52.1**	**+0.7**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
JIRN	**Jiri**	**29.96**	**338**	*e*P	**P**	**16 53 15.1**	**+0.6**
comp=Z,10nm,0.8s,mb4.6							
DMN	**Daman**	**30.34**	**336**	*e*P	**P**	**16 53 18.8**	**+0.9**
LSA	**Lhasa**	**30.36**	**347**	P	**P**	**16 53 18.0**	**0.0**
LSA	**Lhasa**	**30.36**	**347**	*e*P	**P**	**16 53 18.9**	**+0.9**
LSA				pmax	pmax		
comp=Z,6.0nm,0.5s,mb4.6							
LSA	**Lhasa**	**30.36**	**347**	*e*P	**P**	**16 53 18.9**	**+0.9**
comp=Z,6.2nm,0.5s,mb4.6							
KKN	**Kakani**	**30.43**	**336**	*e*P	**P**	**16 53 19.2**	**+0.6**
comp=Z,18nm,1.0s,mb4.8							
KKN	**Kakani**	**30.43**	**336**	*e*P	**P**	**16 53 19.2**	**+0.6**
KKN				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.5							
GKN	**Gorkha**	**30.88**	**335**	*e*P	**P**	**16 53 23.8**	**+1.2**
comp=Z,20nm,0.9s,mb4.9							
KOLN	**Koldanda**	**31.13**	**334**	*e*P	**P**	**16 53 25.9**	**+1.1**
comp=Z,12nm,0.9s,mb4.8							
ENH	**Enshi**	**31.80**	**18**	*e*P	**P**	**16 53 28.7**	**-2.0**
comp=Z,23nm,0.7s,mb5.1							
XAN	**Xi'an**	**35.19**	**15**	P	**P**	**16 53 57.7**	**-2.2**
XAN				AP	pP	16 54 04.1	-4.7
XAN				AMB	AMB		
comp=Z,32nm,0.8s,mb5.3							
LZH	**Lanzhou**	**36.20**	**7**	⇓P	**P**	**16 54 08.3**	**-0.2**
LZH				AP	pP	16 54 17.5	+0.1
LZH				XP	sP	16 54 21.8	+0.7
LZH				PP	PP	16 55 31.2	-0.3
LZH				AMB	AMB		
comp=Z,26nm,1.3s,mb5.0							
LZH				AMB	AMB		
comp=Z,91nm,5.6s							
LZH				LR	LR		
comp=E,319nm,13.6s							
LZH				LR	LR		
comp=Z,497nm,17.7s,MS4.3							
LZH	**Lanzhou**	**36.20**	**7**	⇓P	**P**	**16 54 08.3**	**-0.2**
comp=Z,26nm,1.3s,mb5.0							
LZH				pP	pP	16 54 17.5	+0.1
LZH				sP	sP	16 54 21.8	+0.7
LZH				PP	PP	16 55 31.2	-0.3
NJ2	**Nanjing**	**37.15**	**29**	*e*P	**P**	**16 54 18.2**	**+1.7**
NJ2				AP	pP	16 54 27.9	+2.5
NJ2				XP	sP	16 54 31.9	+2.8
NJ2				PP	PP	16 55 45.3	+1.6
NJ2				S	**S**	**17 00 02.0**	**+1.4**
NJ2				XS		17 00 18.0	
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.8							
NJ2				AMB	AMB		
comp=Z,1μm,6.3s							
NJ2				LR	LR		
comp=N,1μm,20.2s							
NJ2				LR	LR		
comp=E,2μm,15.0s							
NJ2				LR	LR		
comp=Z,470nm,13.8s							
GTA	**Gaotai**	**39.21**	**1**	P	**P**	**16 54 35.3**	**+1.6**
GT

ZAL	Zalesovo	54.94 350	P	P	16 56 34.8	-2.0
	comp=Z,3.3nm,0.7s,mb4.5,baz=295,slow=7.2,SNR=16					
NVS	Novosibirsk	56.08 349	*e*P	P	16 56 44.3	-0.7
BVAR	Borovoye Array	57.82 340	P	P	16 56 55.7	-1.7
	comp=Z,1.9nm,0.6s,mb4.3,baz=140,slow=8.9,SNR=15					
BOD	Bodaibo	58.91 10	*e*P	P	16 57 02.7	-2.2
BOD			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7					
ARU	Arti	64.81 337	*i*P	pP	16 57 57.8	+4.0
KIV	Kislovodsk	66.12 319	*i*P	P	16 57 55.5	+2.4
YAK	Yakutsk	66.15 15	*e*P	P	16 57 51.4	-1.6
YAK			pmax	pmax		
	comp=Z,27nm,1.1s,mb5.2					
YAK	Yakutsk	66.15 15	*e*P	P	16 57 51.4	-1.6
	comp=Z,27nm,1.1s,mb5.2					
MALT	Malatya	66.97 312	P	P	16 58 00.8	+2.1
MALT			pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6					
MALT	Malatya	66.97 312	P	P	16 58 00.8	+2.2
	comp=Z,6.8nm,1.2s,mb4.5					
DZM	Mont Dzumac	69.51 114	LR	LR	17 27 54.1	
	comp=Z,90nm,18.9s,MS4.0,baz=317,slow=35					
BRTR	Keskin Array B	70.95 312	P	P	16 58 20.7	-2.5
	comp=Z,0.9nm,0.7s,mb3.8,baz=121,slow=7.2,SNR=5.8					
TIXI	Tiksi	74.09 10	⇑*e*P	P	16 58 42.1	+1.0
OBN	Obninsk	74.36 328	*e*P	pP	16 58 57.3	+5.0
OBN			*e*		16 59 09.6	
OBN			*e*S	S	17 08 43.5	+30
OBN			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3					
AKASG	Malin Array Be	77.05 322	P	P	16 58 57.1	-1.3
	comp=Z,0.2nm,0.3s,mb3.5,baz=86,slow=5.1,SNR=3.5					
FINES	FINESS Array B	81.69 332	P	P	16 59 23.1	0.0
	comp=Z,1.6nm,0.9s,mb4.0,baz=153,slow=4.3,SNR=4.0					
GERES	GERESS Array B	86.63 319	P	P	16 59 47.0	-1.4
	comp=Z,0.2nm,0.3s,mb3.8,baz=344,slow=7.1,SNR=3.2					

*IDC **05** 17:10:53.2±3.0,2.41N×96.72E,mb3.8/5,mb1 3.9/6, mb1mx3.7/18,mbtmp3.8/6,ML3.5/1,Error ellipse: s-maj=136.5km s-min=20.9km az=60.0*
*NEIC **05** 17:10:57.8±0.8,2.45N×96.80E,h30km,mb4.1/2,Error ellipse: s-maj=21.5km s-min=10.6km az=66.0*
ISC 05 17:10:55.7±1.1,2.5N±0.1×96.8E±0.2,h30km,n9,σ0$64/10, mb3.9/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	4.79	54	*e*P	Pn	17 12 07.4	-0.4
KULM				*e*S	Sn	17 12 55.7	-7.3
CMAR	Chiang Mai Arr	16.05	7	Pn	P	17 14 42.1	+1.0
	0.1nm,0.3s,baz=196,slow=11,SNR=10						
WRA	Warramunga Arr	43.06	123	P	P	17 18 55.0	-0.1
	0.6nm,0.4s,mb3.6,baz=301,slow=9.2,SNR=6.5						
WRAB	Tennant Creek	43.07	123	*e*P	P	17 18 55.0	-0.1
	2.8nm,0.8s,mb4.0						
ASAR	Alice Springs	44.49	128	P	P	17 19 06.4	-0.2
	0.3nm,0.8s,mb3.1,baz=302,slow=8.0,SNR=5.5						
MKAR	Makanchi Array	45.93	346	P	P	17 19 18.3	+0.6
	1.0nm,0.6s,mb3.9,baz=165,slow=8.3,SNR=12						
KURK	Kurchatov	50.48	345	P	P	17 19 52.4	-0.6
	1.2nm,0.4s,mb4.3						
ZAL	Zalesovo	52.25	351	P	P	17 20 05.4	-1.0
	1.4nm,0.5s,mb4.2,baz=324,slow=4.8,SNR=4.9						
STKA	Stephens Creek	54.51	133	P	P	17 20 24.0	+0.7
	1.5nm,1.1s,mb3.9,baz=327,slow=11,SNR=2.9						

*IDC **05** 17:16:11.9±2.0,17.28S×178.89W,h525km±21km,mb3.6/8, mb1 3.8/9,mb1mx3.5/19,mbtmp4.5/9,Error ellipse: s-maj=40.8km s-min=15.5km az=150.0*
*NEIC **05** 17:16:11.6±0.9,17.38S×178.88W,h525km±11km,mb4.3/8, Error ellipse: s-maj=18.5km s-min=9.6km az=152.0*
ISC 05 17:16:10.6±1.4,17.3S±0.2×178.9W±0.1,h525km±21km, n61,σ0$74/21,mb4.1/14,2C-9D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.69	65	P	P	17 18 05.5	+0.1
	3.9nm,0.3s,baz=296,slow=18,SNR=6.7						
AFI	Afiamalu	7.69	65	P	P	17 18 05.5	+0.1
CTA	Charters Tower	33.05	260	P	P	17 22 03.7	-0.1
	4.7nm,0.8s,mb4.0,baz=81,slow=13,SNR=3.5						
CTA				PcP	PcP	17 24 31.1	-1.4
	4.5nm,1.1s,baz=156,slow=20,SNR=2.1						
STKA	Stephens Creek	38.47	240	⇓*i*P	P	17 22 49.8	+1.4
	4.6nm,0.6s,mb4.2						
STKA	Stephens Creek	38.47	240	P	P	17 22 49.9	+1.5
	4.9nm,0.4s,mb4.3,baz=90,slow=9.5,SNR=44						
STKA				PcP	PcP	17 24 48.7	-0.1
	1.0nm,0.4s,baz=14,slow=4.2,SNR=2.8						
WB2	Warramunga Arr	44.23	259	⇓*i*P	P	17 23 34.3	-0.3
WRAB	Tennant Creek	44.23	259	*e*P	P	17 23 33.8	-0.8
	5.9nm,0.7s,mb4.2						
WRA	Warramunga Arr	44.24	259	P	P	17 23 34.5	-0.2
	1.5nm,0.3s,mb4.0,baz=95,slow=7.7,SNR=100						
WRA				PcP	PcP	17 25 08.0	-0.3
	1.2nm,0.6s,baz=88,slow=3.6,SNR=8.2						
ASAR	Alice Springs	44.47	254	P	P	17 23 36.8	+0.4
	19nm,0.4s,mb5.0,baz=89,slow=7.8,SNR=947						
ASAR				PcP	PcP	17 25 08.5	-0.5
	2.0nm,0.6s,baz=105,slow=3.6,SNR=9.3						
ASPA	Alice Springs	44.47	254	⇓*i*P	P	17 23 36.7	+0.3
FORT	Forrest	49.80	244	*e*P	P	17 24 16.1	-0.7
	399nm,0.6s						
FITZ	Fitzroy Crossi	52.63	260	⇓*i*P	P	17 24 37.8	+0.2
	6.1nm,0.4s,mb4.3						
FITZ	Fitzroy Crossi	52.63	260	P	P	17 24 37.8	+0.3
	8.2nm,0.4s,mb4.4,baz=77,slow=3.0,SNR=52						
MBWA	Marble Bar	57.73	256	*e*P	P	17 25 12.3	-0.8
	5.4nm,0.3s,mb4.3						
NWAO	Narrogin (SRO)	59.03	242	P	P	17 25 20.8	-0.9
	6.8nm,0.8s,mb3.9						
QSPA	South Pole Qui	72.71	180	*e*P	P	17 26 45.9	+0.2
	4.7nm,0.5s,mb4.2						
ENH	Enshi	83.54	304	*e*P	P	17 27 44.5	0.0
	4.4nm,0.5s,mb4.2						
MAW	Mawson	84.22	200	P	P	17 27 47.6	+0.7
	2.6nm,0.6s,mb3.9,baz=136,slow=12,SNR=6.0						
ILAR	Eielson Array	85.45	13	P	P	17 27 52.3	-0.6
	0.7nm,0.9s,mb3.2,baz=210,slow=5.0,SNR=5.8						
CMAR	Chiang Mai Arr	88.22	290	P	P	17 28 09.0	+1.9
	1.3nm,0.9s,mb3.7,baz=97,slow=3.2,SNR=7.1						
SNAA	Sanae	91.17	179	*e*P	P	17 28 18.9	-0.6
	2.1nm,0.6s,mb4.2						
MKAR	Makanchi Array	108.39	314	PKiKP		17 33 39.1	
	0.3nm,0.5s,baz=95,slow=0.4,SNR=10						
BVAR	Borovoye Array	116.09	321	PKiKP		17 33 53.9	
	0.6nm,0.3s,baz=127,slow=2.9,SNR=9.6						
FINES	FINESS Array B	132.51	344	PKP	PKPdf	17 34 25.5	+0.8
	0.6nm,0.6s,slow=3.8,SNR=3.9						
FINES	FINESS Array B	132.51	344	PKP	PKPdf	17 34 25.5	+0.8
AKASG	Malin Array Be	139.83	332	PKhKP		17 34 33.0	
	0.3nm,0.2s,baz=45,slow=4.0,SNR=4.4						
AKASG				PKP	PKPdf	17 34 41.3	+2.9
	0.2nm,0.3s,baz=45,slow=3.7,SNR=4.6						
AKASG	Malin Array Be	139.83	332	PKP	PKPdf	17 34 41.3	+2.9
BRTR	Keskin Array B	144.03	315	PKP	PKPdf	17 34 47.2	+1.3
	1.2nm,0.4s,baz=71,slow=2.5,SNR=8.0						
ASF	Jabal al Asfar	144.46	301	PKP	PKPdf	17 34 49.5	+2.6
	1.5nm,0.3s,baz=328,slow=2.9,SNR=3.8						
CLL	Collm	144.81	347	⇓*i*PKP1	PKPbc	17 34 49.0	+1.4
UPC	Upice	144.81	343	*e*P	PKPdf	17 34 49.7	+2.7
DPC	Dobruska-Polom	144.87	343	*e*P	PKPdf	17 34 50.0	+2.9
PVCC	Panska Ves	145.17	345	*e*P	PKPdf	17 34 51.0	+3.4
PRU	Pruhonice	145.67	345	*e*P	PKPdf	17 34 51.8	+3.3
NKC	Novy Kostel	145.94	347	*e*P	PKPdf	17 34 52.7	+3.8
KHC	Kasperske Hory	146.71	345	*e*P	PKPdf	17 34 54.9	+4.7
GERES	GERESS Array B	146.94	345	PKPbc	PKPbc	17 34 55.3	+2.5
	2.4nm,0.6s,baz=24,slow=2.9,SNR=24						
GIVF	Givet	147.18	356	*e*PKP1	PKPdf	17 34 55.3	+4.4
BAIF	Baives	147.27	356	*e*PKP1	PKPdf	17 34 55.7	+4.6
CDF	Champ du Feu	148.60	352	*e*PKP1	PKPdf	17 34 59.1	+5.8
	14nm,0.9s						
FLN	La Foliniere	148.64	2	*e*PKP1	PKPdf	17 34 58.1	+4.8
	11nm,0.7s						
KBA	Koelnbreinsper	148.66	344	⇓*i*P	PKPdf	17 34 59.2	+5.8
LDF	La Druitiere	148.82	2	*e*PKP1	PKPdf	17 34 59.1	+5.5
	6.0nm,0.5s						
WATA	Walderalm	148.86	346	⇑*i*P	PKPdf	17 35 00.0	+6.3
WTTA	Wattenberg	148.92	346	⇓*i*P	PKPdf	17 35 00.5	+6.7
MOTA	Moosalm	148.96	347	⇓*i*P	PKPdf	17 35 00.8	+6.9
GRR	Gorron	149.00	2	*e*PKP1	PKPdf	17 34 59.8	+5.9
	8.2nm,0.7s						
SQTA	Sankt Quirin	149.05	347	⇓*i*P	PKPdf	17 35 00.7	+6.7
HAU	Haudompre	149.12	353	*e*PKP1	PKPdf	17 35 00.2	+6.1
	6.9nm,0.7s						
HINF	Hinterlafeld	149.24	352	*e*PKP1	PKPdf	17 34 59.6	+5.3
	3.7nm,0.6s						
DAVA	Damuels	149.27	348	⇑*i*P	PKPdf	17 35 01.9	+7.5
SSF	Saint Saulge	150.30	357	*e*PKP1	PKPdf	17 35 03.1	+7.1
	9.1nm,0.5s						
CABF	La Chapelle	150.52	353	*e*PKP1	PKPdf	17 35 04.2	+7.8
	21nm,1.1s						
AVF	Avril sur Loir	150.58	357	*e*PKP1	PKPdf	17 35 03.3	+6.9
	4.2nm,0.6s						
MFF	Saint Martin d	150.81	2	*e*PKP1	PKPdf	17 35 04.0	+7.2
	6.5nm,0.6s						
TCF	Toulx Ste Croi	151.12	358	*e*PKP1	PKPdf	17 35 04.7	+7.4
	4.7nm,0.8s						
LPL	La Plagne	151.51	352	*e*PKP1	PKPdf	17 35 07.3	+9.5
LPG	La Plagne	151.53	352	*e*PKP1	PKPdf	17 35 07.3	+9.4
RJF	Les Rejaudoux	152.12	359	*e*PKP1	PKPdf	17 35 07.6	+8.9
ORIF	Oris-en-Rattie	152.21	353	*e*PKP1	PKPdf	17 35 07.6	+8.8
	4.0nm,0.6s						
MBDF	Montbardon	152.28	351	*e*PKP1	PKPdf	17 35 08.4	+9.5
	5.0nm,0.6s						

*IDC **05** 17:25:38.9±2.0,4.31N×96.97E,mb4.1/8,mb1 4.2/9, mb1mx3.9/20,mbtmp4.1/9,ML3.3/1,MS3.6/3,Ms1 3.6/3, ms1mx3.2/26,Error ellipse: s-maj=90.3km s-min=15.4km az=60.0*
*NEIC **05** 17:25:44.6±0.7,4.58N×97.43E,h30km,mb4.4/7,Error ellipse: s-maj=19.8km s-min=7.6km az=62.0*
ISC 05 17:25:42.7±0.7,4.60N±0.08×97.44E±0.10,h30km,n25, σ0$84/24,mb4.2/14,MS3.6/2,2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	3.27	78	*e*Pn	Pn	17 26 33.3	0.0
KULM				*e*Sn	Sn	17 27 23.4	+12
IPM	Ipoh	3.58	90	P	Pn	17 26 37.6	0.0
SNG	Songkhla	4.07	51	P	Pn	17 26 44.0	-0.7
	620nm,1.0s						
KGM	Kluang	6.41	113	P	Pn	17 27 17.2	-0.5
CMAR	Chiang Mai Arr	13.86	6	Pn	P	17 28 59.2	-0.4
	0.0nm,0.3s,baz=192,slow=12,SNR=4.8						
CMAR				LR	LR	17 34 31.8	
	comp=Z,139nm,19.1s,baz=189,slow=38						
KMI	Kunming	21.04	13	P	P	17 30 26.8	+0.1
	12nm,1.1s,mb4.1						
SHL	Shillong	21.52	346	*e*P	P	17 30 31.0	-0.6
LSA	Lhasa	25.67	347	P	P	17 31 11.3	-0.6
	6.8nm,0.7s,mb4.3						
FITZ	Fitzroy Crossi	35.81	130	*e*P	P	17 32 41.1	-0.6
	7.0nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	35.81	130	P	P	17 32 41.0	-0.7
	6.6nm,0.6s,mb4.7,baz=301,slow=5.1,SNR=11						
NWAO	Narrogin (SRO)	41.78	155	LR	LR	17 48 35.3	
	comp=Z,118nm,20.3s,MS3.8,baz=143,slow=33						
WRA	Warramunga Arr	43.70	125	P	P	17 33 47.4	+0.2
	3.5nm,0.7s,mb4.2,baz=303,slow=9.1,SNR=22						
WRAB	Tennant Creek	43.71	125	*e*P	P	17 33 46.7	-0.5
	5.8nm,0.6s,mb4.5						
WB2	Warramunga Arr	43.71	125	⇓*i*P	P	17 33 47.4	+0.1
SONM	Songino Array	43.76	9	P	P	17 33 49.7	+2.4
	1.4nm,0.7s,mb3.8,baz=191,slow=8.0,SNR=7.2						
ULN	Ulaanbaatar	43.89	9	P	P	17 33 49.5	+1.1
	1.8nm,0.9s,mb3.8						
MKAR	Makanchi Array	44.03	345	P	P	17 33 49.9	+0.3
	0.7nm,0.4s,mb3.7,baz=156,slow=9.6,SNR=25						
ASPA	Alice Springs	45.31	130	⇓*i*P	P	17 34 00.8	+0.7
ASAR	Alice Springs	45.31	130	P	P	17 34 00.8	+0.7
	3.8nm,0.6s,mb4.4,baz=301,slow=7.6,SNR=65						
KURK	Kurchatov	48.60	344	*e*P	P	17 34 25.4	-0.2
	3.1nm,0.9s,mb4.3						
MJAR	Matsushiro Arr	49.07	44	LR	LR	17 55 33.7	
	comp=Z,51nm,18.3s,MS3.5,baz=355,slow=36						
ZAL	Zalesovo	50.26	350	P	P	17 34 38.4	+0.1
	1.6nm,0.5s,mb4.3,baz=282,slow=4.9,SNR=7.4						
BVAR	Borovoye Array	53.15	340	P	P	17 34 58.3	-1.8
	0.4nm,0.7s,mb3.5,baz=72,slow=4.6,SNR=2.7						
STKA	Stephens Creek	55.49	134	P	P	17 35 17.2	-0.3
	0.8nm,0.3s,mb4.2,baz=313,slow=3.7,SNR=7.0						
YAK	Yakutsk	62.12	17	P	P	17 36 06.5	+3.3
	6.4nm,0.7s,mb4.9						

*STR **05** 17:37:44.8±0.3,43.22N×1.63W,h5km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **05** 17:37:44.4±0.2,43.08N×1.63W,h2km,ML2.4/5,Error ellipse: s-maj=3.4km s-min=2.4km az=39.0*
LDG 05 17:37:44.1±0.4,43.07N×1.66W,h2km,Md2.5/2,Ml2.2/4, Error ellipse: s-maj=8.5km s-min=4.9km az=43.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.32	81	*e*Pg	Pg	17 37 50.2	-0.3
SJPF				*e*Sg	Sg	17 37 53.5	-1.3
	27nm,0.2s						
OSSF	Osses	0.35	57	Pg	Pg	17 37 50.4	-0.6
OSSF				Sg	Sg	17 37 54.4	-1.3
ORDF	Ordiarp	0.55	74	Pg	Pg	17 37 54.4	-0.7
ORDF				Sg	Sg	17 38 01.6	-0.8
ETSF	Etsaut	0.82	101	*e*Pg	Pg	17 37 59.6	-1.0
ETSF				*e*Sg	Sg	17 38 10.4	-1.2
	18nm,0.3s						
EPF	Esparros	1.47	91	*e*Pg	Pg	17 38 12.4	-1.0
EPF				*e*Sg	Sg	17 38 31.8	-1.1
	8.2nm,0.2s						
LFF	La Frestale	2.55	42	*e*Pn	Pn	17 38 24.6	-2.6
LFF				*e*Sn	Sn	17 38 54.1	-5.1
	2.2nm,0.3s						
MTLF	Montolieu	2.85	83	*e*Pn	Pn	17 38 28.8	-2.6
MTLF				*e*Pg	Pg	17 38 35.9	-5.1
RJF	Les Rejaudoux	3.20	45	*e*Pn	Pn	17 38 33.3	-3.1
RJF				*e*Sn	Sn	17 39 10.2	-5.4
	1.4nm,0.3s						
CAF	Calviac	3.27	54	*e*Pn	Pn	17 38 34.4	-3.0
CAF				*e*Sn	Sn	17 39 11.8	-5.6
	1.6nm,0.3s						

*IDC **05** 17:47:24.8±1.0,0.01N×97.58E,mb4.1/11,mb1 4.2/12, mb1mx4.1/19,mbtmp4.1/12,ML4.0/1,Error ellipse: s-maj=49.1km s-min=14.6km az=53.0*
*NEIC **05** 17:47:28.9±0.5,0.12N×97.74E,mb4.3/3,Error ellipse: s-maj=15.2km s-min=6.3km az=62.0*
ISC 05 17:47:28.3±0.7,0.15N±0.09×97.8E±0.1,h33km,n18, σ0$51/18,mb4.1/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.86	29	*e*P	P	17 48 54.8	-0.2
CM31	Chiang Mai Arr	18.23	4	P	P	17 51 40.6	0.0
	4.2nm,0.9s						
CMAR	Chiang Mai Arr	18.23	4	P	P	17 51 40.2	-0.4
	0.2nm,0.3s,baz=190,slow=11,SNR=15						
FITZ	Fitzroy Crossi	32.87	125	P	P	17 54 00.7	-0.9
	5.7nm,0.8s,mb4.6,baz=354,slow=7.2,SNR=5.4						
WRA	Warramunga Arr	41.01	121	P	P	17 55 10.1	-0.1
	2.3nm,0.6s,mb4.0,baz=302,slow=9.0,SNR=47						
WRAB	Tennant Creek	41.02	121	*e*P	P	17 55 10.1	-0.2
	5.0nm,0.7s,mb4.2						
WRAB				*e*pP	pP	17 55 17.4	-2.7
WB2	Warramunga Arr	41.02	121	*e*P	P	17 55 10.3	0.0
WB2				*i*		17 55 17.6	
ASPA	Alice Springs	42.32	127	*e*P	P	17 55 21.4	+0.3
ASAR	Alice Springs	42.32	127	P	P	17 55 21.3	+0.2
	3.2nm,0.7s,mb4.1,baz=298,slow=8.1,SNR=53						
SONM	Songino Array	48.08	8	P	P	17 56 07.7	+1.0
	1.0nm,0.5s,mb4.1,baz=181,slow=9.3,SNR=9.5						
MKAR	Makanchi Array	48.38	346	P	P	17 56 09.9	+0.9
	4.0nm,0.6s,mb4.6,baz=158,slow=9.0,SNR=27						
STKA	Stephens Creek	52.24	132	P	P	17 56 39.3	+0.6
	1.0nm,0.7s,mb3.9,baz=141,slow=20,SNR=5.3						
KURK	Kurchatov	52.94	345	*e*P	P	17 56 43.8	+0.2
	5.5nm,0.9s,mb4.5						
ZAL	Zalesovo	54.66	351	P	P	17 56 56.3	+0.1
	3.8nm,0.5s,mb4.7,baz=318,slow=5.5,SNR=14						
BVAR	Borovoye Array	57.41	341	P	P	17 57 15.2	-0.9
	0.3nm,0.4s,mb3.7,baz=180,slow=7.4,SNR=4.1						
BRTR	Keskin Array B	70.22	312	P	P	17 58 40.1	0.0
	0.4nm,0.4s,mb3.7,baz=159,slow=12,SNR=2.9						
AKASG	Malin Array Be	76.42	322	P	P	17 59 15.5	-0.8
	0.3nm,0.2s,mb3.8,baz=89,slow=5.1,SNR=4.1						
FINES	FINESS Array B	81.18	333	P	P	17 59 42.1	+0.2
	0.7nm,0.5s,mb3.9,baz=104,slow=7.9,SNR=5.5						

*IDC **05** 18:11:22.6±2.2,43.50N×105.36W,mb1 3.7/3, mb1mx3.3/22,mbtmp3.5/3,ML3.4/3,Error ellipse: s-maj=48.9km s-min=7.6km az=150.0*
*NEIC **05** 18:11:24.2±0.5,43.71N×105.24W,ML3.2,Error ellipse: s-maj=7.5km s-min=6.0km az=146.0,Suspected Mining explosion.*
NEIC 70 km [40 miles] SSE of Gillette.
ISC 05 18:11:21.6±0.6,43.81N±0.05×105.14W±0.07,n27, σ1$23/31,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.85	69	*e*Pg	Pg	18 11 43.3	+4.6
PHWY	Pilot Hill	2.52	185	*e*Pn	Pn	18 12 05.0	+0.5
RWWY	Rawlins	2.62	216	*e*Pn	Pn	18 12 06.9	+1.1
RWWY				*e*S	Sn	18 12 40.0	+1.2
LAO	LASA Array	2.98	345	Pn	Pn	18 12 18.2	+7.2
PDAR	Pinedale Array	3.39	254	Pn	Pn	18 12 17.4	+0.5
	2.3nm,0.3s,baz=70,slow=15,SNR=40						
PDAR				Pg	Pg	18 12 22.8	-6.6
	6.8nm,0.3s,baz=66,slow=20,SNR=48						
PDAR				Lg		18 13 00.7	
	8.1nm,0.3s,baz=81,slow=28,SNR=8.9						
LKWY	Lake	3.86	283	*e*Pn	Pn	18 12 25.4	+1.8
LOHW	Long Hollow	3.97	269	*e*Pn	Pn	18 12 25.4	+0.3
ISCO	Idaho Springs	4.03	185	*e*Pn	Pn	18 12 26.8	+0.8
MOOW	Moose Ponds	4.06	271	*e*Pn	Pn	18 12 27.6	+1.2
SNOW	Snow King Moun	4.09	267	*e*Pn	Pn	18 12 28.6	+1.7
YFT	Old Faithful	4.15	281	P	Pn	18 12 31.8	+4.1
YFT				*e*S	Sn	18 13 34.2	+17
REDW	Red Top Meadow	4.18	266	*e*Pn	Pn	18 12 27.3	-0.7
IMW	Indian Meadow	4.20	273	*e*Pn	Pn	18 12 28.7	+0.3
TPAW	Teton Pass	4.23	268	*e*Pn	Pn	18 12 28.7	-0.1
YMR	Madison River	4.27	284	Pn	Pn	18 12 26.4	-3.0
RRI2	Red Ridge	4.52	266	*e*Pn	Pn	18 12 32.9	+0.1
QLMT	Earthquake Lak	4.63	285	*e*Pn	Pn	18 12 35.5	+1.1
QLMT				*e*		18 12 46.5	
BOZ	Bozeman (W)	4.97	294	*e*Pn	Pn	18 12 38.0	-1.4
HWUT	Hardware Ranch	5.22	247	*e*Pn	Pn	18 12 40.9	-2.0
	7.7nm,0.5s						
TCUT	Toone Canyon	5.36	242	*e*Pn	Pn	18 12 43.7	-1.2
DAU	Daniels Canyon	5.68	235	Pn	Pn	18 12 49.3	-0.1
SRU	San Rafael	6.20	223	*e*Pn	Pn	18 12 54.0	-2.7
TMUT	Trail Mountain	6.41	227	P	Pn	18 12 56.7	-2.9
CHMT	Chamberlain Mo	6.50	301	P	Pn	18 13 01.0	+0.1
DUG	Dugway	6.76	240	P	Pn	18 13 02.8	-1.8
ULM	Lac du Bonnet	9.02	41	Pn	P	18 13 36.0	-0.1
	1.1nm,0.3s,baz=232,slow=13,SNR=8.4						
ULM				Sn	Sn	18 15 19.2	-0.5
	0.1nm,0.3s,baz=186,slow=14,SNR=3.0						
ULM				Lg		18 16 10.1	
	0.3nm,0.3s,baz=331,slow=13,SNR=2.7						
YKA	Yellowknife Ar	19.51	347	P	P	18 15 53.7	+0.8
	0.1nm,0.3s,baz=155,slow=11,SNR=4.8						

*IDC **05** 18:25:20.0±1.7,1.92N×96.50E,mb3.9/8,mb1 4.1/9, mb1mx3.9/20,mbtmp3.9/9,ML4.0/1,MS3.1/2,Ms1 3.2/2, ms1mx2.9/27,Error ellipse: s-maj=74.9km s-min=16.8km az=56.0*
*NEIC **05** 18:25:25.3±0.6,2.05N×96.70E,h30km,mb4.1/8,Error ellipse: s-maj=15.1km s-min=7.3km az=56.0*
ISC 05 18:25:23.5±0.8,2.05N±0.10×96.7E±0.1,h30km,n21, σ0$74/20,mb4.1/16,MS3.5/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.09	51	*e*P	Pn	18 26 40.4	+0.6
CM31	Chiang Mai Arr	16.46	8	P	P	18 29 12.6	-1.5
	5.5nm,0.8s						
CMAR	Chiang Mai Arr	16.46	8	Pn	P	18 29 14.2	+0.1
	0.2nm,0.3s,baz=196,slow=12,SNR=38						
CMAR				LR	LR	18 36 13.8	
	comp=Z,29nm,19.7s,baz=180,slow=39						
JIRN	Jiri	27.39	339	*e*P	P	18 31 09.3	+0.8
	12nm,0.7s,mb4.5						
PKI	Pulchoki	27.59	338	*e*P	P	18 31 10.6	+0.3
DMN	Daman	27.74	337	*e*P	P	18 31 11.8	+0.1
	11nm,1.2s,mb4.4						
KKN	Kakani	27.84	338	*e*P	P	18 31 12.5	0.0
	5.0nm,0.6s,mb4.3						
LSA	Lhasa	28.00	350	*e*P	P	18 31 14.0	0.0
	2.9nm,0.6s,mb4.1						
GKN	Gorkha	28.27	337	*

KMBO LR LR 18 42 42.8
comp=Z,82nm,19.0s,baz=283,slow=39
MALT Malatya 27.19 338 *e*P **P 18 35 45.0 +2.9**
MALT pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
MALT Malatya 27.19 338 *e*P **P 18 35 45.0 +2.9**
comp=Z,1.6nm,0.6s,mb3.7
GNI Garni 27.20 350 P **P 18 35 45.5 +3.3**
comp=Z,5.9nm,0.5s,mb4.3,baz=336,slow=7.1,SNR=6.0
GNI LR LR 18 48 32.9
comp=Z,80nm,21.9s,MS3.2,baz=339,slow=41
BRTR Keskin Array B 30.33 333 P **P 18 36 11.8 +1.5**
comp=Z,0.5nm,0.7s,mb3.4,baz=159,slow=11,SNR=4.0
KIV Kislovodsk 31.27 349 P **P 18 36 20.1 +1.5**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KIV Kislovodsk 31.27 349 P **P 18 36 20.1 +1.5**
comp=Z,4.8nm,0.7s,mb4.4
KIV Kislovodsk 31.27 349 P **P 18 36 20.1 +1.5**
comp=Z,4.8nm,0.7s,mb4.4
KOLN Koldanda 33.65 60 *e*P **P 18 36 40.3 +0.8**
comp=Z,9.3nm,0.8s,mb4.7
GKN Gorkha 34.60 60 *e*P **P 18 36 47.9 +0.2**
DMN Daman 34.88 61 *e*P **P 18 36 50.6 +0.5**
comp=Z,25nm,1.5s,mb4.9
KKN Kakani 35.08 60 *e*P **P 18 36 52.4 +0.6**
comp=Z,11nm,0.6s,mb5.0
KKN Kakani 35.08 60 *e*P **P 18 36 52.4 +0.6**
KKN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
PKI Pulchoki 35.12 61 *e*P **P 18 36 52.5 +0.3**
comp=Z,6.4nm,0.5s,mb4.8
PKI Pulchoki 35.12 61 *e*P **P 18 36 52.5 +0.3**
PKI pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
JIRN Jiri 35.81 61 *e*P **P 18 36 58.5 +0.4**
comp=Z,21nm,1.3s,mb4.9
LSZ Lusaka 36.29 219 *e*P **P 18 37 04.2 +2.1**
LSZ pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
LSZ Lusaka 36.29 219 *e*P **P 18 37 04.2 +2.0**
comp=Z,5.7nm,1.2s,mb4.4
MATP Matopo 40.19 214 P **P 18 37 33.9 -0.9**
comp=Z,1.6nm,0.7s,mb3.9,baz=54,slow=11,SNR=3.4
AKASG Malin Array Be 41.18 339 P **P 18 37 43.4 +0.8**
comp=Z,0.3nm,0.2s,mb3.5,baz=150,slow=7.3,SNR=7.9
MKAR Makanchi Array 42.44 32 P **P 18 37 54.1 +1.1**
comp=Z,1.3nm,0.5s,mb3.8,baz=221,slow=8.2,SNR=28
BVAR Borovoye Array 42.48 17 P **P 18 37 54.4 +1.2**
comp=Z,1.1nm,0.6s,mb3.7,baz=202,slow=7.6,SNR=9.0
LBTB Lobatse 45.46 213 *e*P **P 18 38 16.9 -0.8**
LBTB pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
LBTB Lobatse 45.46 213 P **P 18 38 16.6 -1.1**
comp=Z,2.5nm,0.8s,mb4.1,baz=16,slow=9.7,SNR=3.8
LBTB Lobatse 45.46 213 *e*P **P 18 38 16.9 -0.8**
comp=Z,5.8nm,1.0s,mb4.4
LBTB Lobatse 45.46 213 *e*P **P 18 38 16.9 -0.8**
comp=Z,5.8nm,1.0s,mb4.4
CMAR Chiang Mai Arr 46.36 77 P **P 18 38 24.9 +0.1**
comp=Z,1.0nm,0.8s,mb3.8,baz=275,slow=8.4,SNR=7.8
CMAR Chiang Mai Arr 46.36 77 P **P 18 38 24.9 +0.1**
CMAR Chiang Mai Arr 46.36 77 P **P 18 38 25.0 +0.1**
GERES GERESS Array B 46.78 327 P **P 18 38 27.7 -0.1**
comp=Z,0.1nm,0.3s,mb3.2,baz=153,slow=9.0,SNR=4.1
ZAL Zalesovo 48.45 26 P **P 18 38 40.4 -0.4**
comp=Z,0.9nm,0.5s,mb4.0,baz=214,slow=7.9,SNR=5.3
ZAL Zalesovo 48.45 26 P **P 18 38 40.4 -0.4**
FINES FINESS Array B 51.23 345 P **P 18 39 01.6 -0.4**
comp=Z,1.8nm,0.9s,mb4.0,baz=180,slow=5.6,SNR=5.5
NOA NORSAR Array B 55.57 338 LR LR 19 06 14.6
comp=Z,13nm,21.9s,MS3.0,baz=310,slow=39
SONM Songino Array 57.21 41 P **P 18 39 46.8 +0.7**
comp=Z,0.6nm,0.7s,mb3.8,baz=257,slow=7.3,SNR=4.3
WRA Warramunga Arr 88.47 111 P **P 18 42 50.5 -0.5**
comp=Z,0.7nm,0.7s,mb4.0,baz=297,slow=4.2,SNR=6.2
ASAR Alice Springs 89.02 114 P **P 18 42 53.7 +0.1**
comp=Z,1.0nm,0.9s,mb4.2,baz=297,slow=4.6,SNR=5.2

IDC 05 18:34:07.0±3.4, 0.45N×98.30E, mb3.4/4, mb1 3.6/5, mb1mx3.4/18, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=126.2km s-min=23.0km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.90**	**2**	P		P	18 38 19.6	+0.3
	0.0nm,0.3s,baz=196,slow=11,SNR=5.4							
WRA	**Warramunga Arr**	**40.71**	**122**	P		P	18 41 49.7	-1.5
	1.0nm,0.9s,baz=301,slow=8.9,SNR=5.4							
ASAR	**Alice Springs**	**42.07**	**127**	P		P	18 42 00.8	-1.6
	0.6nm,0.9s,baz=298,slow=7.2,SNR=5.3							
SONM	**Songino Array**	**47.71**	**7**	P		P	18 42 44.6	-2.8
	0.2nm,0.4s,baz=342,slow=16,SNR=2.2							
MKAR	**Makanchi Array**	**48.23**	**345**	P		P	18 42 49.7	-1.8
	0.5nm,0.5s,baz=164,slow=8.8,SNR=6.5							

*ATH **05** 18:39:56.1, 40.56N×23.81E, h24km±2km, MD3.3/5*
*NEIC **05** 18:39:56.1, 40.56N×23.81E, h24km, MD3.3(ATH), After ATH.*
*SOF **05** 18:39:57.1, 40.60N×23.78E, h12km, MD2.9*
*CSEM **05** 18:39:57.4±0.1, 40.58N×23.75E, h15km, ML3.0, Error ellipse: s-maj=1.4km s-min=1.1km az=97.0*
*THE **05** 18:39:57.6, 40.57N×23.72E, h7km, ML3.0*
ISC 05 18:39:56.7±0.5, 40.58N±0.02×23.75E±0.04, h10km±4km, n26, σ0§93/40, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.30**	**143**	*e*Pg		**Pg**	**18 40 03.7**	**+0.8**
PLG	**Polygyros**	**0.30**	**229**	⇑*i*PB		**Pb**	**18 40 03.9**	**+0.2**
PLG				*e*SB		**Sb**	**18 40 08.1**	**-0.3**
SOH	**Sokhos**	**0.39**	**310**	*e*Pg		**Pg**	**18 40 05.1**	**+0.5**
SOH				*e*Sg		**Sg**	**18 40 10.7**	**+0.8**
SRS	**Serrai**	**0.55**	**348**	*e*Pg		**Pg**	**18 40 07.9**	**0.0**
SRS				*e*Sg		**Sg**	**18 40 16.1**	**+0.7**
THE	**Thessaloniki**	**0.60**	**276**	*e*Pg		**Pg**	**18 40 08.6**	**-0.1**
THE				*e*Sg		**Sg**	**18 40 17.0**	**+0.3**
THE	**Thessaloniki**	**0.60**	**276**	*e*Pg		**Pg**	**18 40 08.7**	**0.0**
THE				*e*Sg		**Sg**	**18 40 16.7**	**0.0**
THE	**Thessaloniki**	**0.60**	**276**	*e*Pg		**Pg**	**18 40 08.7**	**0.0**
THE				*e*Sg		**Sg**	**18 40 16.7**	**-0.1**
PAIG	**Paliouri**	**0.65**	**184**	*e*Pg		**Pg**	**18 40 09.9**	**+0.1**
PAIG				*e*Sg		**Sg**	**18 40 18.7**	**+0.2**
NVR	**Nevrokopi**	**0.78**	**6**	*e*PN		**Pn**	**18 40 11.8**	**-1.7**
NVR				*e*SN		**Sn**	**18 40 22.2**	**-3.0**
KNT	**Kendrikon**	**0.87**	**313**	*e*Pg		**Pg**	**18 40 13.5**	**-0.6**
MMB	**Musomiste**	**1.01**	**359**	*i* P		**Pb**	**18 40 15.6**	**-0.3**
LIT	**Litokhoron**	**1.07**	**244**	*e*Pg		**Pg**	**18 40 17.6**	**-0.6**
LIT				*e*Sg		**Sg**	**18 40 32.2**	**-0.2**
LIT	**Litokhoron**	**1.07**	**244**	*e*Pg		**Pg**	**18 40 17.6**	**-0.5**
LIT				*e*Sg		**Sg**	**18 40 32.2**	**-0.2**
GRG	**Griva**	**1.09**	**291**	*e*Pg		**Pg**	**18 40 17.3**	**-1.2**
GRG				*e*Sg		**Sg**	**18 40 33.7**	**+0.7**
VAY	**Valandovo**	**1.16**	**310**	*i* Pg		**Pg**	**18 40 18.7**	**-1.2**
VAY				⇓*i* Sg		**Sg**	**18 40 34.6**	**-0.9**
LIA	**Limnos Island**	**1.29**	**121**	*e*PN		**Pn**	**18 40 20.1**	**-0.7**
NEO	**Neokhori**	**1.33**	**198**	*e*PN		**Pn**	**18 40 21.1**	**-0.2**
NEO				*e*SN		**Sn**	**18 40 39.1**	**0.0**
RZN	**Rozhen**	**1.33**	**33**	*i* P		**Pb**	**18 40 21.5**	**+0.2**
KKB	**Krupnik**	**1.38**	**339**	*i* P		**Pn**	**18 40 22.8**	**+0.7**
AOS	**Alonnisos**	**1.41**	**176**	*e*Pb		**Pb**	**18 40 22.2**	**-0.4**
RDO	**Rodhopi**	**1.48**	**67**	*e*PN		**Pn**	**18 40 22.6**	**-0.8**
KZN	**Kozani**	**1.53**	**261**	*e*PN		**Pn**	**18 40 25.8**	**+1.6**
KZN				*e*SN		**Sn**	**18 40 46.1**	**+1.8**
KDZ	**Kurdzhali**	**1.66**	**49**	*i* P		**Pn**	**18 40 27.2**	**+1.2**
ALN	**Alexandroupoli**	**1.78**	**79**	*e*Pb		**Pb**	**18 40 30.5**	**+1.6**
AGG	**Agios Georgios**	**1.90**	**216**	*e*Pb		**Pb**	**18 40 29.4**	**-1.6**
VTS	**Vitosha**	**2.06**	**349**	*i* P		**Pn**	**18 40 33.0**	**+1.3**

IDC 05 18:53:22.8±2.5, 2.03N×97.81E, mb3.8/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=98.8km s-min=25.3km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.37**	**4**	Pn		P	18 57 16.2	+0.5
	0.1nm,0.3s,baz=192,slow=11,SNR=5.2							
WRA	**Warramunga Arr**	**41.96**	**123**	P		P	19 01 15.8	-1.7
	0.4nm,0.5s,baz=306,slow=8.9,SNR=8.3							
SONM	**Songino Array**	**46.23**	**8**	P		P	19 01 49.9	-1.6
	0.5nm,0.4s,baz=186,slow=9.5,SNR=5.2							
MKAR	**Makanchi Array**	**46.60**	**345**	P		P	19 01 52.9	-1.5
	1.0nm,0.8s,baz=154,slow=8.9,SNR=13							
ZAL	**Zalesovo**	**52.84**	**350**	P		P	19 02 39.5	-2.8
	1.4nm,0.4s,baz=322,slow=5.0,SNR=7.3							
BVAR	**Borovoye Array**	**55.68**	**340**	P		P	19 03 00.3	-2.8
	1.0nm,0.6s,baz=149,slow=8.4,SNR=11							

*IDC **05** 18:54:48.8±1.0, 15.07S×173.43W, mb4.1/8, mb1 4.3/8, mb1mx4.1/19, mbtmp4.1/8, MS3.4/4, Ms1 3.4/4, ms1mx3.1/26, Error ellipse: s-maj=37.1km s-min=21.5km az=125.0*
*NEIC **05** 18:54:49.5±0.5, 15.07S×173.25W, h10km, mb4.6/2, Error ellipse: s-maj=23.1km s-min=11.1km az=134.0*
ISC 05 18:54:47.9±0.6, 15.0S±0.1×173.3W±0.1, h10km, n19, σ0§61/16, mb4.1/9, MS3.4/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.88**	**53**	Pn		**Pn**	**18 55 19.2**	**-1.3**
	280nm,0.3s,baz=165,slow=1.1,SNR=184							
AFI				Sn		**Sn**	**18 55 37.2**	**-7.2**
	515nm,0.3s,baz=57,slow=22,SNR=12							
AFI	**Afiamalu**	**1.88**	**53**	Pn		**Pn**	**18 55 19.2**	**-1.3**
AFI				Sn		**Sn**	**18 55 37.2**	**-7.2**
RAR	**Rarotonga**	**14.27**	**117**	LR		LR	19 02 55.2	
	comp=Z,176nm,18.2s,baz=27,slow=34							
DZM	**Mont Dzumac**	**20.40**	**247**	LR		LR	19 05 55.8	
	comp=Z,89nm,18.8s,MS3.1,baz=110,slow=33							
URZ	**Urewera**	**24.63**	**198**	P		**P**	**19 00 10.0**	**+0.1**
	7.5nm,0.4s,mb4.6,baz=34,slow=4.7,SNR=11							
CTA	**Charters Tower**	**38.79**	**257**	P		**P**	**19 02 14.4**	**-0.3**
	3.5nm,0.9s,mb4.1,baz=339,slow=17,SNR=2.2							
STKA	**Stephens Creek**	**44.28**	**240**	P		**P**	**19 02 59.4**	**-0.4**
	0.8nm,0.7s,mb3.6,baz=52,slow=12,SNR=3.9							
STKA	**Stephens Creek**	**44.28**	**240**	P		**P**	**19 02 59.1**	**-0.6**
WRA	**Warramunga Arr**	**49.99**	**256**	P		**P**	**19 03 44.3**	**-0.4**
	0.3nm,0.5s,mb3.5,baz=92,slow=6.8,SNR=7.7							
ASAR	**Alice Springs**	**50.29**	**252**	P		**P**	**19 03 46.6**	**-0.3**
	1.7nm,0.9s,mb4.1,baz=88,slow=8.3,SNR=22							
ASAR				LR		LR	19 24 49.5	
	comp=Z,42nm,19.5s,MS3.5,baz=295,slow=36							
VNDA	**Vanda**	**63.74**	**186**	P		**P**	**19 05 22.1**	**+0.4**
	0.9nm,0.7s,mb3.9,baz=11,slow=8.0,SNR=5.5							
VNDA	**Vanda**	**63.74**	**186**	*e*P		**P**	**19 05 21.5**	**-0.2**
	2.0nm,1.0s,mb4.1							
NVAR	**Mina Array Bea**	**74.02**	**42**	LR		LR	19 34 51.3	
	comp=Z,25nm,19.5s,MS3.5,baz=355,slow=32							
QSPA	**South Pole Qui**	**75.00**	**180**	*e*P		**P**	**19 06 31.2**	**+0.4**
	18nm,1.3s,mb4.8							
ILAR	**Eielson Array**	**82.08**	**11**	P		**P**	**19 07 10.2**	**+0.6**
	1.2nm,0.8s,mb3.9,baz=226,slow=6.6,SNR=5.7							
DAWY	**Dawson**	**83.06**	**14**	*e*P		**P**	**19 07 15.6**	**+0.9**
YKA	**Yellowknife Ar**	**89.74**	**23**	P		**P**	**19 07 48.1**	**+0.6**
	0.8nm,0.9s,mb4.1,baz=239,slow=4.7,SNR=12							
GERES	**GERESS Array B**	**145.80**	**352**	PKPbc		PKPbc	19 14 30.3	+2.6
	0.7nm,0.8s,baz=45,slow=2.8,SNR=6.5							
BRTR	**Keskin Array B**	**145.92**	**321**	PKPbc		PKPbc	19 14 31.4	+3.0
	2.0nm,1.0s,baz=63,slow=2.8,SNR=5.8							

*NEIC **05** 18:56:51.7±0.7, 51.50N×16.15E, h5km, ML2.8(VIE), ML2.5(SZGRF), Error ellipse: s-maj=7.4km s-min=5.2km az=45.0*
*PRU **05** 18:56:52.6, 51.46N×16.12E*
*WAR **05** 18:56:53.3, 51.45N×16.08E, h1km, ML2.6, Mining Induced*
*CSEM **05** 18:56:53.4±0.2, 51.42N×16.11E, h2km, ML3.1/3, Error ellipse: s-maj=3.6km s-min=2.0km az=13.0*
ISC 05 18:56:50.9±0.7, 51.43N±0.03×16.07E±0.04, n21, σ1§15/41, 2C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**167**	*e*PG		**Pg**	**18 57 05.0**	**+2.0**
KSP				*e*SG		**Sg**	**18 57 13.0**	**+1.9**
KSP	**Ksiaz**	**0.61**	**167**	⇓*i*Pg		**Pg**	**18 57 04.6**	**+1.6**
KSP				*e*Sg		**Sg**	**18 57 12.9**	**+1.8**
UPC	**Upice**	**0.93**	**182**	*e*PG		**Pg**	**18 57 10.4**	**+1.0**
DPC	**Dobruska-Polom**	**1.09**	**172**	*e*PG		**Pg**	**18 57 13.5**	**+0.8**
DPC				*e*SG		**Sg**	**18 57 27.9**	**+0.6**
	19nm,0.3s							
PVCC	**Panska Ves**	**1.31**	**227**	*e*PG		**Pg**	**18 57 17.7**	**+0.6**
BRG	**Berggiesshubel**	**1.45**	**248**	*i* Pg		**Pg**	**18 57 20.2**	**+0.3**
BRG				*i* Sg		**Sg**	**18 57 40.1**	**+0.8**
PRU	**Pruhonice**	**1.74**	**215**	*e*PN		**Pn**	**18 57 23.2**	**+0.6**
PRU				*e*PG		**Pg**	**18 57 25.3**	**-0.4**
PRU				*e*SG		**Sg**	**18 57 48.2**	**-0.7**
	6.8nm,0.2s							
MORC	**Moravsky Berou**	**1.90**	**150**	*e*Pn		**Pn**	**18 57 25.1**	**+0.2**
MORC	**Moravsky Berou**	**1.90**	**150**	*e*Pn		**Pn**	**18 57 25.1**	**+0.2**
CLL	**Collm**	**1.93**	**267**	*i* PN		**Pn**	**18 57 25.6**	**+0.3**
CLL				*i* PG		**Pg**	**18 57 28.6**	**-0.8**
CLL				*i* SG		**Sg**	**18 57 54.8**	**-0.3**
OKC	**Ostrava-Krasne**	**2.07**	**140**	*e*Pg		**Pg**	**18 57 31.1**	**-1.1**
OKC				*e*Sg		**Sg**	**18 57 57.8**	**-2.1**
OKC	**Ostrava-Krasne**	**2.07**	**140**	Pg		**Pg**	**18 57 31.1**	**-1.1**
OKC				Sg		**Sg**	**18 57 57.8**	**-2.1**
VRAC	**Vranov**	**2.15**	**171**	*e*Pn		**Pn**	**18 57 30.3**	**+1.8**
NKC	**Novy Kostel**	**2.59**	**244**	*e*PN		**Pn**	**18 57 35.7**	**+0.9**
NKC				*e*PG		**Pg**	**18 57 41.7**	**-1.0**
NKC				*e*SG		**Sg**	**18 58 17.6**	**+0.4**
	14nm,0.3s							
OJC	**Ojcow**	**2.66**	**116**	*e*PG		**Pg**	**18 57 43.0**	**-0.9**
OJC				*e*SG		**Sg**	**18 58 19.0**	**-0.3**
KHC	**Kasperske Hory**	**2.81**	**216**	*e*PN		**Pn**	**18 57 38.3**	**+0.5**
KHC				*e*PG		**Pg**	**18 57 44.0**	**-2.9**
KHC				*e*SN		**Sn**	**18 58 13.3**	**+0.5**
KHC				*e*SG		**Sg**	**18 58 22.1**	**-2.2**
GEC2	**GERESS Array S**	**3.01**	**211**	*e*Pn		**Pn**	**18 57 41.9**	**+1.2**
GEC2				*e*Sg		**Sg**	**18 58 28.3**	**-2.7**
WET	**Wettzell**	**3.07**	**223**	*e*Pn		**Pn**	**18 57 42.4**	**+0.8**
BSD	**Bornholm Skovb**	**3.75**	**350**	*i* P		**Pn**	**18 57 49.4**	**-1.9**
BSD				*i* S		**Sn**	**18 58 30.1**	**-6.7**
MOA	**Molln**	**3.77**	**199**	⇑*i*PN		**Pn**	**18 57 52.3**	**+0.7**
MOA				*i* SG		**Sg**	**18 58 55.7**	**-0.8**
	3.5nm,0.4s							
ARSA	**Arzberg**	**4.20**	**185**	⇑*i*PN		**Pn**	**18 57 57.9**	**+0.3**
ARSA				*i* SG		**Sg**	**18 59 07.7**	**-3.1**
	3.9nm,0.5s							

*IDC **05** 19:15:43.8±2.7, 1.17N×97.23E, mb3.9/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML3.9/1, MS2.9/1, Ms1 3.1/1, ms1mx2.6/33, Error ellipse: s-maj=110.5km s-min=18.6km az=61.0*
*NEIC **05** 19:15:48.3±0.6, 1.16N×97.26E, h30km, mb4.2/4, Error ellipse: s-maj=17.4km s-min=7.8km az=57.0*
ISC 05 19:15:47.0±0.8, 1.2N±0.1×97.3E±0.1, h33km, n16, σ0§52/15, mb4.1/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.30**	**39**	*e*P		**P**	**19 17 06.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**17.25**	**5**	P		**P**	**19 19 46.2**	**-0.9**
	0.2nm,0.3s,baz=193,slow=12,SNR=8.8							
CMAR				LR		LR	19 27 16.9	
	comp=Z,37nm,18.5s,baz=59,slow=40							
JIRN	**Jiri**	**28.39**	**339**	*e*P		**P**	**19 21 41.3**	**+0.6**
	12nm,1.0s,mb4.5							
PKI	**Pulchoki**	**28.60**	**338**	*e*P		**P**	**19 21 43.0**	**+0.4**
DMN	**Daman**	**28.75**	**337**	*e*P		**P**	**19 21 44.6**	**+0.7**
KKN	**Kakani**	**28.84**	**338**	*e*P		**P**	**19 21 45.1**	**+0.3**
GKN	**Gorkha**	**29.29**	**337**	*e*P		**P**	**19 21 47.9**	**-0.8**
	23nm,1.5s,mb4.7							
KOLN	**Koldanda**	**29.51**	**335**	*e*P		**P**	**19 21 50.7**	**+0.1**
	5.0nm,0.8s,mb4.3							
WRA	**Warramunga Arr**	**41.97**	**122**	P		**P**	**19 23 36.8**	**-0.2**
	1.0nm,0.6s,mb3.6,baz=301,slow=9.1,SNR=14							
WRAB	**Tennant Creek**	**41.97**	**122**	*e*P		**P**	**19 23 36.7**	**-0.2**
	2.4nm,0.5s,mb4.1							
ASAR	**Alice Springs**	**43.33**	**127**	P		**P**	**19 23 48.1**	**+0.1**
	0.4nm,0.4s,mb3.5,baz=300,slow=7.9,SNR=6.1							
SONM	**Songino Array**	**47.14**	**8**	P		**P**	**19 24 18.4**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=191,slow=9.4,SNR=7.8							
MKAR	**Makanchi Array**	**47.28**	**346**	P		**P**	**19 24 18.9**	**-0.3**
	1.1nm,0.6s,mb4.0,baz=158,slow=8.9,SNR=20							
STKA	**Stephens Creek**	**53.29**	**132**	P		**P**	**19 25 05.5**	**+0.2**
	0.9nm,0.5s,mb3.9,baz=301,slow=7.7,SNR=3.8							
ZAL	**Zalesovo**	**53.58**	**351**	P		**P**	**19 25 06.0**	**-1.0**
	1.6nm,0.4s,mb4.3,baz=297,slow=4.9,SNR=7.9							
JCT	**Junction City**	**144.56**	**26**	*e*PKP		PKPdf	19 35 21.4	+0.5

*IDC **05** 19:27:34.7±0.9, 2.15N×96.13E, mb4.3/12, mb1 4.5/13, mb1mx4.3/20, mbtmp4.3/13, ML4.3/1, MS3.9/7, Ms1 3.9/7, ms1mx3.4/38, Error ellipse: s-maj=31.7km s-min=16.6km az=50.0*
*BJI **05** 19:27:37.6, 2.06N×96.24E, h38km, mB5.1, mb4.7, Ms4.5, Msz4.4*
*MOS **05** 19:27:38.1±1.2, 2.23N×96.37E, h33km, mb4.8/17, Error ellipse: s-maj=19.6km s-min=8.1km az=90.5*
*NEIC **05** 19:27:39.7±0.5, 2.24N×96.25E, h30km, mb4.7/18, Error ellipse: s-maj=11.2km s-min=8.6km az=49.0*
ISC 05 19:27:38.1±0.6, 2.24N±0.07×96.28E±0.07, h32km, h32km±1.5km: pP-P, n80, σ1§13/90, mb4.6/49, MS4.2/24, 7C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.31**	**55**	*e*P		**Pn**	**19 28 57.8**	**+0.4**
CM31	**Chiang Mai Arr**	**16.32**	**9**	*e*P		**P**	**19 31 24.9**	**-1.9**
	8.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**16.32**	**9**	Pn		**P**	**19 31 25.8**	**-1.0**
	0.4nm,0.3s,baz=196,slow=11,SNR=42							
CMAR				LR		LR	19 38 38.1	
	comp=Z,685nm,18.2s,baz=190,slow=40							
QIZ	**Qiongzhong**	**21.32**	**38**	P		**P**	**19 32 25.3**	**+0.5**
QIZ				*e*S		**S**	**19 36 17.5**	**+2.6**
QIZ				LR		LR		
	comp=N,1μm,14.5s							
QIZ				LR		LR		
	comp=Z,1μm,13.6s,MS4.5							
SHL	**Shillong**	**23.57**	**350**	*e*P		**P**	**19 32 45.5**	**-1.5**
SHL				*e*S		**S**	**19 37 01.0**	**+5.5**
KMI	**Kunming**	**23.59**	**15**	P		**P**	**19 32 49.0**	**+1.9**
KMI				AP			19 32 56.6	
KMI				S		**S**	**19 36 59.3**	**+3.5**
KMI				AMB		AMB		
	comp=Z,14nm,1.2s,mb4.3							
KMI				LR		LR		
	comp=N,563nm,13.3s,MS4.3							
KMI				LR		LR		
	comp=E,236nm,10.5s,MS4.3							
KMI				LR		LR		
	comp=Z,569nm,13.3s,MS4.2							
KMI	**Kunming**	**23.59**	**15**	P		**P**	**19 32 49.0**	**+1.9**
	comp=Z,14nm,1.2s,mb4.3							
KMI				pP			19 32 56.6	
KMI				S		**S**	**19 36 59.3**	**+3.5**
GYA	**Guiyang**	**26.06**	**22**	⇑*i*P		**P**	**19 33 10.6**	**-0.1**
GYA				AP		pP	19 33 19.0	-0.9
GYA				XP		sP	19 33 23.6	-0.5
GYA				PP		PP	19 33 49.8	-2.6
GYA				S		**S**	**19 37 31.3**	**-6.2**
GYA				AMB		AMB		
	comp=Z,30nm,0.9s,mb4.8							
GYA				AMB		AMB		
	comp=Z,230nm,3.6s							
GYA				LR		LR		
	comp=N,460nm,12.6s,MS4.3							
GYA				LR		LR		
	comp=E,450nm,14.1s,MS4.3							
GYA				LR		LR		
	comp=Z,700nm,13.8s,MS4.4							
JIRN	**Jiri**	**27.05**	**340**	*e*P		**P**	**19 33 20.9**	**+1.1**
	comp=Z,72nm,0.8s,mb5.2							
PKI	**Pulchoki**	**27.25**	**339**	*e*P		**P**	**19 33 22.5**	**+0.9**
	comp=Z,20nm,0.7s,mb4.7							
PKI	**Pulchoki**	**27.25**	**339**	*e*P		**P**	**19 33 22.5**	**+0.9**
PKI				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb4.5							
DMN	**Daman**	**27.39**	**338**	*e*P		**P**	**19 33 23.6**	**+0.7**
	comp=Z,23nm,0.9s,mb4.7							
KKN	**Kakani**	**27.49**	**339**	*e*P		**P**	**19 33 24.2**	**+0.4**
	comp=Z,41nm,1.0s,mb4.9							
KKN	**Kakani**	**27.49**	**339**	*e*P		**P**	**19 33 24.2**	**+0.4**
KKN				pmax		pmax		
	comp=Z,21nm,1.0s,mb4.6							
LSA	**Lhasa**	**27.74**	**350**	P		**P**	**19 33 27.0**	**+1.0**
LSA	**Lhasa**	**27.74**	**350**	*e*P		**P**	**19 33 26.6**	**+0.6**
LSA				pmax		pmax		
	comp=Z,31nm,0.9s,mb4.9							
LSA	**Lhasa**	**27.74**	**350**	*e*P		**P**	**19 33 26.6**	**+0.5**
	comp=Z,32nm,0.9s,mb4.9							
GKN	**Gorkha**	**27.93**	**338**	*e*P		**P**	**19 33 27.8**	**0.0**
	comp=Z,48nm,1.0s,mb5.1							
KOLN	**Koldanda**	**28.13**	**336**	*e*P		**P**	**19 33 30.3**	**+0.7**
	comp=Z,26nm,0.8s,mb4.9							
CD2	**Chengdu**	**29.38**	**13**	*e*P		**P**	**19 33 40.1**	**-0.7**
CD2				AP		pP	19 33 50.7	+0.6
CD2				XP		sP	19 33 53.8	-0.4
CD2				S		**S**	**19 38 29.0**	**-2.0**
CD2				SS		SS	19 40 05.0	+1.4
CD2				AMB		AMB		
	comp=Z,20nm,0.4s,mb5.2							
CD2				AMB		AMB		
	comp=Z,120nm,3.5s							
CD2				LR		LR		
	comp=N,630nm,10.7s							
CD2				LR		LR		
	comp=Z,780nm,12.4s,MS4.5

HHC				PCP	PcP		19 37 21.8 +2.1
HHC				SCP			19 41 07.9
HHC				S	**S**		**19 41 29.4 +1.9**
HHC				XS			19 41 45.5
HHC				SS	SS		19 44 24.3 -0.3
HHC				SCS	ScS		19 45 20.1 +1.0
HHC				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
HHC				LR	LR		
	comp=N,292nm,16.6s,MS4.7						
HHC				LR	LR		
	comp=E,984nm,20.2s,MS4.7						
HHC				LR	LR		
	comp=Z,264nm,12.3s						
BJT	**Baijiatuau**	**41.71**	**23**	*e*P	**P**		**19 35 26.3 +0.5**
BJT				pmax	pmax		
	comp=Z,48nm,1.2s						
BJT	**Baijiatuau**	**41.71**	**23**	*e*P	**P**		**19 35 26.3 +0.5**
	comp=Z,48nm,1.2s,mb5.0						
BJI	**Beijing**	**41.73**	**23**	P	**P**		**19 35 26.5 +0.5**
BJI				AP	pP		19 35 33.6 -1.9
BJI				PP	PP		19 37 06.0 +0.4
BJI				AMB	AMB		
	comp=Z,28nm,0.9s,mb4.9						
BJI				LR	LR		
	comp=N,265nm,14.1s,MS4.3						
BJI				LR	LR		
	comp=E,96nm,14.1s,MS4.3						
BJI				LR	LR		
	comp=Z,143nm,17.7s,MS3.9						
BJI	**Beijing**	**41.73**	**23**	P	**P**		**19 35 26.5 +0.5**
	comp=Z,28nm,0.9s,mb4.9						
BJI				pP	pP		19 35 33.6 -1.9
BJI				PP	PP		19 37 06.0 +0.4
BJI				S	**S**		**19 41 52.6 +12**
WMQ	**Urumqi**	**42.10**	**351**	P	**P**		**19 35 30.0 +1.0**
WMQ				AP	pP		19 35 39.5 +1.1
WMQ				XP	sP		19 35 43.8 +1.5
WMQ				PP	PP		19 37 11.0 +1.6
WMQ				S	**S**		**19 41 46.5 +0.4**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,162nm,4.0s						
WMQ				LR	LR		
	comp=N,155nm,21.4s,MS4.0						
WMQ				LR	LR		
	comp=E,166nm,21.4s,MS4.0						
WMQ				LR	LR		
	comp=Z,122nm,22.3s,MS3.7						
WRA	**Warramunga Arr**	**43.37**	**122**	P	**P**		**19 35 39.4 -0.2**
	comp=Z,5.3nm,0.9s,mb4.3,baz=302,slow=9.4,SNR=8.5						
AAK	**Ala-Archa**	**44.68**	**337**	*i* P	**P**		**19 35 54.9 +4.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
AAK				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.1						
ASAR	**Alice Springs**	**44.76**	**127**	P	**P**		**19 35 51.1 +0.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=311,slow=7.9,SNR=6.4						
ASAR				LR	LR		19 57 14.7
	comp=Z,89nm,19.2s,MS3.7,baz=166,slow=40						
MKAR	**Makanchi Array**	**46.02**	**347**	P	**P**		**19 36 00.7 +0.2**
	comp=Z,12nm,0.8s,mb4.9,baz=161,slow=8.2,SNR=74						
SONM	**Songino Array**	**46.25**	**9**	P	**P**		**19 36 02.7 +0.4**
	comp=Z,3.8nm,0.6s,mb4.5,baz=189,slow=8.7,SNR=28						
ULN	**Ulaanbaatar**	**46.39**	**10**	*e*P	**P**		**19 36 03.3 -0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**46.39**	**10**	*e*P	**P**		**19 36 03.3 -0.1**
	comp=Z,2.9nm,0.8s,mb4.3						
ZAK	**Zakamensk**	**48.33**	**6**	*e*P	**P**		**19 36 17.3 -1.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.8s,mb4.0						
CN2	**Changchun**	**48.81**	**28**	*e*P	**P**		**19 36 25.4 +3.0**
CN2				*e*S	**S**		**19 43 26.4 +4.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
TLY	**Talaya**	**49.65**	**6**	*e*P	**P**		**19 36 29.1 +0.3**
TLY				*e*S	**S**		**19 43 32.2 -1.8**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
TLY				MLR	MLR		
	comp=Z,86nm,13.0s,MS3.9						
KURK	**Kurchatov**	**50.55**	**346**	*e*P	**P**		**19 36 35.4 -0.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**50.55**	**346**	*e*P	**P**		**19 36 35.4 -0.3**
	comp=Z,5.9nm,1.0s,mb4.5						
HIA	**Hailar**	**50.96**	**20**	*e*P	**P**		**19 36 38.5 -0.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HIA	**Hailar**	**50.96**	**20**	*e*P	**P**		**19 36 38.5 -0.3**
	comp=Z,5.9nm,1.0s,mb4.5						
MDJ	**Mudanjiang**	**51.42**	**30**	P	**P**		**19 36 43.9 +1.5**
MDJ				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,119nm,5.2s						
MDJ				LR	LR		
	comp=N,103nm,19.6s						
MDJ				LR	LR		
	comp=E,75nm,14.4s						
MDJ				LR	LR		
	comp=Z,64nm,19.2s,MS3.7						
MJAR	**Matsushiro Arr**	**51.56**	**43**	P	**P**		**19 36 43.2 -0.4**
	comp=Z,1.7nm,0.7s,mb4.1,baz=210,slow=6.3,SNR=4.7						
MJAR				LR	LR		20 00 18.9
	comp=Z,80nm,18.9s,MS3.8,baz=245,slow=38						
ZAL	**Zalesovo**	**52.38**	**351**	P	**P**		**19 36 49.0 -0.5**
	comp=Z,5.9nm,0.7s,mb4.7,baz=300,slow=6.9,SNR=38						
NVS	**Novosibirsk**	**53.50**	**351**	⇑*i*P	**P**		**19 36 56.5 -1.2**
NVS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
NVS				pmax	pmax		
	comp=N,10.0nm,1.0s						
ATD	**Arta Tunnel**	**53.76**	**283**	P	**P**		**19 36 57.2 -2.9**
	comp=N,7.9nm,1.0s,mb4.6,baz=265,slow=23,SNR=3.5						
ATD	**Arta Tunnel**	**53.76**	**283**	P	**P**		**19 36 57.2 -2.9**
STKA	**Stephens Creek**	**54.73**	**132**	P	**P**		**19 37 07.0 -0.2**
	comp=N,3.3nm,0.8s,mb4.4,baz=209,slow=13,SNR=4.8						
STKA	**Stephens Creek**	**54.73**	**132**	P	**P**		**19 37 07.3 +0.2**
BVAR	**Borovoye Array**	**54.97**	**341**	P	**P**		**19 37 07.9 -0.7**
	comp=N,4.9nm,0.8s,mb4.6,baz=149,slow=8.6,SNR=27						
KLR	**Kul'dur**	**55.75**	**27**	*e*P	**P**		**19 37 11.6 -2.6**
KLR				MLR	MLR		
	comp=E,500nm,15.0s						
KLR				MLR	MLR		
	comp=Z,800nm,15.0s,MS4.9						
BOD	**Bodaibo**	**57.16**	**11**	*e*P	**P**		**19 37 23.0 -1.3**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
GNI	**Garni**	**59.91**	**316**	⇑*e*P	**P**		**19 37 51.6 +8.0**
GNI				pmax	pmax		
	comp=Z,11nm,1.3s						
SVE	**Sverdlovsk**	**61.38**	**339**	⇓*i*P	**P**		**19 37 55.5 +2.1**
SVE				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
ARU	**Arti**	**61.87**	**337**	⇓*e*P	**P**		**19 37 51.3 -5.4**
ARU				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.9						
KIV	**Kislovodsk**	**62.92**	**319**	*e*P	**P**		**19 38 11.1 +7.3**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
GOF	**Gofitskoye**	**63.18**	**320**	*e*P	**P**		**19 38 04.5 -1.0**
YAK	**Yakutsk**	**64.69**	**17**	*e*P	**P**		**19 38 13.1 -2.0**
YAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK	**Yakutsk**	**64.69**	**17**	*e*P	**P**		**19 38 13.9 -1.2**
	comp=E,8.2nm,0.8s,mb4.8						
ANN	**Anapa**	**66.71**	**318**	*e*P	**P**		**19 38 30.5 +2.1**
ANN				*i* *PP	pP		19 38 41.2 +3.0
ANN				*i*			19 38 46.2
ANN				*i*			19 39 02.1
ANN				*e*S	S		19 47 26.1 +10
ANN				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.2						
BRTR	**Keskin Array B**	**67.73**	**312**	P	**P**		**19 38 33.9 -1.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=121,slow=8.4,SNR=3.2						
OBN	**Obninsk**	**71.25**	**328**	⇑*e*P	**P**		**19 39 03.7 +7.5**
OBN				*e*			19 39 19.4
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.0						
TIXI	**Tiksi**	**72.33**	**10**	⇑*e*P	**P**		**19 39 01.2 -1.2**
TIXI				pmax	pmax		
	comp=Z,14nm,1.8s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
MLR	**Muntele Rosu**	**74.68**	**317**	LR	LR		20 12 15.8
	comp=Z,52nm,21.9s,MS3.8,baz=310,slow=36						
FINES	**FINESS Array B**	**78.65**	**333**	P	**P**		**19 39 39.6 +1.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=108,slow=6.0,SNR=5.2						
FINES				LR	LR		20 19 08.9
	comp=Z,80nm,21.0s,MS4.0,baz=50,slow=39						
BILL	**Biiibino**	**80.53**	**21**	*e*P	**P**		**19 39 47.2 -1.2**
BILL				*e*S	S		19 49 55.3 +3.8
BILL				*e*SS	SS		19 55 06.9 -0.1
BILL				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.8						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.6						
GERES	**GERESS Array B**	**83.43**	**319**	P	**P**		**19 40 04.5 +0.6**
	comp=Z,1.2nm,1.1s,mb3.9,baz=104,slow=5.5,SNR=5.2						
CLL	**Collm**	**84.05**	**321**	*e*P	**P**		**19 40 11.0 +4.0**
CLL	**Collm**	**84.05**	**321**	P	**P**		**19 40 11.0 +4.0**
NOA	**NORSAR Array B**	**85.65**	**331**	LR	LR		20 22 24.0
	comp=Z,62nm,20.3s,MS4.0,baz=105,slow=38						
YKA	**Yellowknife Ar**	**111.33**	**15**	PP	PP		19 46 53.2 -0.2
	comp=Z,0.0nm,0.3s,baz=318,slow=7.2,SNR=3.8						

*IDC **05** 19:29:52.3±1.3, 10.68S×124.34E, mb3.6/3, mb1 4.0/6, mb1mx3.9/15, mbtmp3.8/6, ML3.8/3, Error ellipse: s-maj=82.2km s-min=22.8km az=62.0*
*NEIC **05** 19:29:53.7±0.5, 10.69S×124.35E, h10km, mb4.3/1, Error ellipse: s-maj=28.2km s-min=6.7km az=55.0*
*AUST **05** 19:29:56.2, 10.60S×124.11E, h30km, ML3.9*

ISC 05 19:29:54.7±0.7, 10.94S±0.07×124.3E±0.1, h33km, n13, σ1§41/22, mb3.8/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNA	**Kununurra**	**6.49**	**138**	*e*P	**P**	**19 31 32.3**	**+1.9**
KNA				*e*S	**S**	**19 32 43.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**7.24**	**169**	*e*P	**P**	**19 31 42.9**	**+2.0**
FITZ				*e*S	**S**	**19 33 00.9**	**-2.0**
	24nm,0.3s						
FITZ	**Fitzroy Crossi**	**7.24**	**169**	Pn	**Pn**	**19 31 43.0**	**+1.9**
	3.5nm,0.3s,baz=4.0,slow=10,SNR=87						
FITZ				Sn	**Sn**	**19 33 02.2**	**-0.9**
	9.4nm,0.3s,baz=211,slow=8.3,SNR=10						
FITZ	**Fitzroy Crossi**	**7.24**	**169**	*e*P	**P**	**19 31 42.9**	**+2.0**
	24nm,0.3s						
FITZ				*e*S	**S**	**19 33 00.9**	**-2.0**
WRA	**Warramunga Arr**	**13.21**	**134**	Pn	**P**	**19 33 03.0**	**+0.5**
	0.4nm,0.3s,baz=313,slow=13,SNR=29						
WRA				Sn	**S**	**19 35 25.2**	**-4.0**
	1.6nm,0.3s,baz=299,slow=24,SNR=15						
WRAB	**Tennant Creek**	**13.21**	**134**	*e*P	**P**	**19 33 01.7**	**-0.9**
WRAB				*e*S	**S**	**19 35 20.5**	**-8.8**
WB2	**Warramunga Arr**	**13.22**	**134**	*e*P	**P**	**19 33 03.3**	**+0.6**
WB2				*e*S	**S**	**19 35 22.8**	**-6.6**
ASPA	**Alice Springs**	**15.64**	**145**	*e*P	**P**	**19 33 36.4**	**+2.0**
ASPA				*e*S	**S**	**19 36 20.6**	**-6.2**
ASAR	**Alice Springs**	**15.64**	**145**	Pn	**P**	**19 33 36.0**	**+1.6**
	0.6nm,0.3s,baz=320,slow=12,SNR=98						
ASAR				Sn	**S**	**19 36 25.7**	**-1.1**
	0.4nm,0.3s,baz=313,slow=20,SNR=8.2						
CMAR	**Chiang Mai Arr**	**38.43**	**319**	P	**P**	**19 37 14.8**	**-0.4**
	0.9nm,0.8s,mb3.5,baz=141,slow=7.1,SNR=6.1						
LSA	**Lhasa**	**51.48**	**323**	*e*P	**P**	**19 38 58.7**	**-0.6**
	2.7nm,0.7s,mb4.3						
SONM	**Songino Array**	**60.63**	**346**	P	**P**	**19 40 03.8**	**-1.0**
	0.4nm,0.5s,mb3.8,baz=164,slow=8.3,SNR=3.1						
MKAR	**Makanchi Array**	**68.61**	**330**	P	**P**	**19 40 55.8**	**-0.8**
	0.6nm,0.7s,mb3.7,baz=132,slow=7.6,SNR=6.6						

*JMA **05** 19:51:07.3±0.1, 36.03N×140.09E, h64km±1km, M3.1*
*IDC **05** 19:51:08.5±2.2, 36.02N×140.06E, h83km±20km, mb3.3/5, mb1 3.5/6, mb1mx3.2/22, mbtmp3.6/6, Error ellipse: s-maj=32.0km s-min=8.5km az=62.0*
*NEIC **05** 19:51:09.0±2.0, 36.16N×139.97E, h80km±15km, mb4.2/1, Error ellipse: s-maj=29.0km s-min=17.7km az=75.0*

ISC 05 19:51:06.5±0.5, 36.02N±0.03×140.10E±0.06, h73km±4km, n23, σ0§85/33, mb3.6/6, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.22**	**19**	P	**P**	**19 51 17.4**	**-0.2**
JYT				S	**S**	**19 51 24.8**	**-1.1**
JAG	**Ashikaga**	**0.67**	**308**	P	**P**	**19 51 21.4**	**0.0**
JAG				S	**S**	**19 51 31.8**	**-0.7**
JRY	**Ryogami san**	**0.97**	**270**	P	**P**	**19 51 25.3**	**+0.2**
JRY				S	**S**	**19 51 38.3**	**-0.6**
JKT	**Katashina**	**1.02**	**318**	P	**P**	**19 51 25.7**	**+0.1**
JKT				S	**S**	**19 51 40.1**	**+0.2**
JOD2	**Odawara 2**	**1.12**	**228**	P	**P**	**19 51 26.8**	**-0.1**
JOD2				S	**S**	**19 51 40.8**	**-1.3**
BSO3	**Boso 3**	**1.26**	**165**	P	**P**	**19 51 29.6**	**+0.9**
JYN	**Shimob**	**1.37**	**248**	P	**P**	**19 51 30.7**	**+0.3**
JIM2	**Oshima 3**	**1.41**	**203**	S	**S**	**19 51 47.2**	**-1.7**
JFY	**Yanaizu**	**1.43**	**347**	P	**P**	**19 51 31.6**	**+0.5**
JFY				S	**S**	**19 51 49.8**	**+0.6**
JFK	**Kawauchi**	**1.48**	**24**	P	**P**	**19 51 31.9**	**+0.1**
JHK	**Hiroka**	**1.51**	**325**	P	**P**	**19 51 32.4**	**+0.2**
JFT	**Otama**	**1.51**	**7**	P	**P**	**19 51 32.5**	**+0.3**
MJAR	**Matsushiro Arr**	**1.62**	**289**	P	**P**	**19 51 33.8**	**+0.2**
	21nm,0.3s,baz=92,slow=10,SNR=228						
MJAR				S	**S**	**19 51 54.7**	**+1.0**
	7.9nm,0.3s,baz=126,slow=23,SNR=9.4						
MAJO	**Matsushiro**	**1.62**	**289**	⇓*e*Pn	**P**	**19 51 34.2**	**+0.5**
MAT	**Matsushiro**	**1.62**	**289**	*e*P	**P**	**19 51 34.0**	**+0.3**
MAT				*e*S	**S**	**19 51 55.0**	**+1.3**
MAT	**Matsushiro**	**1.62**	**289**	P	**P**	**19 51 34.3**	**+0.6**
MAT				S	**S**	**19 51 54.6**	**+0.9**
JHJ	**Hachijo jima 2**	**2.90**	**185**	P	**P**	**19 51 52.0**	**+0.5**
	7.7nm,0.3s,baz=72,slow=19,SNR=4.6						
JHJ				S	**S**	**19 52 26.9**	**+1.6**
	30nm,0.3s,baz=268,slow=24,SNR=7.7						
SONM	**Songino Array**	**27.50**	**306**	P	**P**	**19 56 46.2**	**-1.6**
	0.4nm,0.6s,mb3.1,baz=106,slow=9.3,SNR=4.3						
ZAL	**Zalesovo**	**41.84**	**313**	P	**P**	**19 58 48.8**	**-1.6**
	0.6nm,0.6s,mb3.5,baz=22,slow=6.4,SNR=5.3						
MKAR	**Makanchi Array**	**43.77**	**303**	P	**P**	**19 59 05.9**	**-0.3**
	1.1nm,0.7s,mb3.7,baz=91,slow=9.3,SNR=11						
ILAR	**Eielson Array**	**50.92**	**32**	P	**P**	**20 00 01.4**	**-0.5**
	0.5nm,0.7s,mb3.6,baz=273,slow=7.1,SNR=5.7						
WRAB	**Tennant Creek**	**55.91**	**187**	P	**P**	**20 00 40.9**	**+1.7**
	1.6nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**55.92**	**187**	P	**P**	**20 00 38.3**	**-1.0**
	0.3nm,0.4s,mb3.7,slow=7.5,SNR=3.5						

*IDC **05** 19:58:40.7±0.5, 54.18S×6.99E, mb4.6/13, mb1 4.7/14, mb1mx4.6/16, mbtmp4.6/14, ML4.4/1, MS4.3/11, Ms1 4.3/11, ms1mx4.0/20, Error ellipse: s-maj=20.0km s-min=16.7km az=64.0*
*HRVD **05** 19:58:41.9±0.4, 54.30S×7.62E, h12km, MW5.1/59, Centroid moment Tensor Solution. LP body waves: s17,c20;Mantle waves: s59,c85; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.61±.13; $M_{\theta\theta}$1.08±.13; $M_{\phi\phi}$1.53±.12; $M_{r\theta}$-4.34±.48; $M_{\theta\phi}$-1.08±.10; $M_{\phi r}$-1.08±.44; Best double couple: $M_0$4.89×10^{16} NP1:ϕ_s319°, δ18°, λ-40°. NP2:ϕ_s87°, δ78°, λ-104°. Principal axes: T 3.993, Plg32°, Azm189°; N 1.795, Plg14°, Azm90°; P -5.787, Plg54°, Azm340°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **05** 19:58:41.9, 54.10S×7.00E, h10km, mB5.1, Ms4.9, Msz5.0*
*NEIC **05** 19:58:41.9±0.2, 54.05S×7.02E, h10km, mb5.1/17, Error ellipse: s-maj=10.4km s-min=7.3km az=100.0*
*MOS **05** 19:58:42.4±2.1, 54.25S×7.72E, h10km, mb5.0/3, Error ellipse: s-maj=85.3km s-min=17.7km az=92.0*

ISC 05 19:58:40.6±0.3, 54.12S±0.05×6.9E±0.1, h10km, n106, σ1§07/58, mb4.9/25, MS4.4/12, 17C-6D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVL	**N'lazarevskaya**	**16.85**	**174**	⇓*i*P	**P**	**20 02 37.8**	**0.0**
NVL				pmax	pmax		
	comp=Z,98nm,1.2s						
MAIT	**Maitri**	**16.86**	**174**	*e*P	**P**	**20 02 35.5**	**-2.4**
VNA1	**Neumayer--Stat**	**17.91**	**196**	⇑*i*	**P**	**20 02 54.6**	**+3.5**
VNA1	**Neumayer--Stat**	**17.91**	**196**	⇑*i*P	**P**	**20 02 49.5**	**-1.6**
VNA1				⇑*i*P		20 02 54.6	
VNA2	**Neumayer--Watz**	**18.01**	**195**	⇑*i*	**P**	**20 02 57.4**	**+5.1**
VNA2	**Neumayer--Watz**	**18.01**	**195**	⇑*i*P	**P**	**20 02 54.6**	**+2.3**
VNA2				⇑*i*P		20 02 57.4	
SNAA	**Sanae**	**18.12**	**190**	⇑*i*	**P**	**20 02 54.3**	**+0.6**
SNAA	**Sanae**	**18.12**	**190**	P	**P**	**20 02 52.7**	**-1.0**
	comp=Z,1.2nm,0.3s,baz=18,slow=11,SNR=95						
SNAA				LR	LR	20 08 25.6	
	comp=Z,689nm,20.4s,baz=200,slow=32						
SNAA	**Sanae**	**18.12**	**190**	⇑*i*P	**P**	**20 02 54.3**	**+0.6**
SNAA				⇑*i*P		20 03 14.9	
VNA3	**Neumayer Olymp**	**18.66**	**197**	⇑*i*	**P**	**20 03 08.5**	**+8.2**
VNA3	**Neumayer Olymp**	**18.66**	**197**	⇑*i*P	**P**	**20 03 01.9**	**+1.6**
VNA3				⇑*i*P		20 03 08.5	
SYO	**Syowa Base**	**21.16**	**147**	⇓P	**P**	**20 03 26.5**	**-1.3**
SYO	**Syowa Base**	**21.16**	**147**	⇑P	**P**	**20 03 30.0**	**+2.2**
SYO	**Syowa Base**	**21.16**	**147**	⇓PnPn		20 03 43.2	
SUR	**Sutherland**	**23.89**	**30**	P	**P**	**20 03 56.3**	**+1.3**
	comp=Z,9.0nm,0.9s,mb4.2,baz=161,slow=7.1,SNR=5.4						
SUR				LR	LR	20 11 08.7	
	comp=Z,1μm,18.9s,MS4.3,baz=159,slow=31						
SUR	**Sutherland**	**23.89**	**30**	*e*P	**P**	**20 03 54.9**	**-0.1**
	comp=Z,129nm,1.6s,mb5.1						
MAW	**Mawson**	**29.20**	**139**	*e*P	**P**	**20 04 42.9**	**-1.0**
MAW				pmax	pmax		
	comp=Z,18nm,0.8s						
MAW	**Mawson**	**29.20**	**139**	P	**P**	**20 04 43.3**	**-0.7**
	comp=Z,8.5nm,0.9s,mb4.5,baz=279,slow=11,SNR=5.6						
MAW				LR	LR	20 13 25.0	
	comp=Z,254nm,20.4s,MS3.8,baz=120,slow=30						
MAW	**Mawson**	**29.20**	**139**	*e*P	**P**	**20 04 42.9**	**-1.0**
	comp=Z,18nm,0.8s,mb4.9						
LBTB	**Lobatse**	**32.24**	**33**	*e*P	**P**	**20 05 08.8**	**-2.4**
	comp=Z,4.3nm,0.7s,mb4.4						
TSUM	**Tsumeb**	**35.81**	**17**	*e*P	**P**	**20 05 40.5**	**-1.5**
	comp=Z,16nm,1.2s,mb4.8						
QSPA	**South Pole Qui**	**36.12**	**180**	⇑*i*P	**P**	**20 05 44.5**	**+0.5**
	comp=Z,76nm,0.8s,mb5.7						
LSZ	**Lusaka**	**42.18**	**31**	*e*P	**P**	**20 06 32.6**	**-2.4**
	comp=Z,28nm,1.6s,mb4.6						
VNDA	**Vanda**	**47.70**	**173**	P	**P**	**20 07 18.9**	**+0.4**
	comp=Z,28nm,0.8s,mb5.3,baz=216,slow=6.9,SNR=120						
VNDA				LR	LR	20 26 50.1	
	comp=Z,702nm,19.5s,MS4.6,baz=196,slow=36						
SBA	**Scott Base**	**47.71**	**174**	*e*P	**P**	**20 07 19.4**	**+0.9**
SBA				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
SBA	**Scott Base**	**47.71**	**174**	*e*P	**P**	**20 07 19.4**	**+0.9**
	comp=Z,28nm,0.9s,mb5.3						
TRQA	**Tornquist**	**48.42**	**260**	*e*P	**P**	**20 07 23.7**	**-0.8**
	comp=Z,31nm,1.1s,mb5.2						
TRQA				*e*		20 07 32.3	
PLCA	**Paso Flores**	**51.49**	**251**	P	**P**	**20 07 47.4**	**-0.6**
	comp=Z,5.2nm,0.9s,mb4.5,baz=152,slow=7.4,SNR=6.1						
PLCA				LR	LR	20 26 49.4	
	comp=Z,251nm,18.4s,MS4.3,baz=153,slow=33						
PLCA	**Paso Flores**	**51.49**	**251**	P	**P**	**20 07 47.0**	**-1.1**
	comp=Z,11nm,1.0s,mb4.7						
BAO	**Brasilia Array**	**57.13**	**290**	P	**P**	**20 08 28.0**	**-1.7**
BDFB	**Brasilia**	**57.14**	**290**	P	**P**	**20 08 29.9**	**+0.1**
	comp=Z,21nm,1.0s,mb5.1,baz=129,slow=5.8,SNR=15						
BDFB				LR	LR	20 28 37.1	
	comp=Z,304nm,18.3s,MS4.4,baz=142,slow=31						
KMBO	**Kilima Mbogo**	**58.42**	**36**	P	**P**	**20 08 39.1**	**+0.3**
	comp=Z,4.1nm,1.1s,mb4.4,baz=190,slow=10,SNR=5.7						
KMBO				LR	LR	20 32 19.1	
	comp=Z,724nm,18.4s,MS4.8,baz=183,slow=34						
KMBO	**Kilima Mbogo**	**58.42**	**36**	*e*P	**P**	**20 08 39.1**	**+0.3**
	comp=Z,15nm,1.5s,mb4.6						
DBIC	**Dimbokro**	**61.36**	**347**	P	**P**	**20 08 58.9**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.5,baz=118,slow=8.2,SNR=5.1						
DBIC				LR	LR	20 31 23.7	
	comp=Z,172nm,18.4s,MS4.2,baz=93,slow=32						
DBIC	**Dimbokro**	**61.36**	**347**	*e*P	**P**	**20 08 57.8**	**-1.2**
	comp=Z,15nm,1.1s,mb5.0						
LVC	**Limon Verde**	**63.74**	**267**	*e*P	**P**	**20 09 14.9**	**+0.2**
	comp=Z,22nm,1.0s,mb5.1						
LPAZ	**La Paz**	**68.20**	**272**	P	**P**	**20 09 44.1**	**+0.8**
	comp=Z,20nm,1.1s,mb5.1,baz=122,slow=4.9,SNR=26						
LPAZ				LR	LR	20 36 03.6	
	comp=Z,170nm,21.6s,MS4.2,baz=286,slow=33						
LPAZ	**La Paz**	**68.20**	**272**	⇑*e*P	**P**	**20 09 43.9**	**+0.6**
	comp=Z,30nm,1.4s,mb5.1						
SAML	**Samuel**	**71.15**	**281**	*e*P	**P**	**20 10 00.6**	**-0.8**
	comp=Z,25nm,1.1s,mb5.0						
MUN	**Mundaring**	**74.90**	**124**	*e*P	**P**	**20 10 22.3**	**-0.7**
	comp=Z,66nm,1.1s,mb5.5						
DJNS	**Zahran al Janu**	**78.12**	**36**	P	**P**	**20 10 42.6**	**+1.3**
BLJS	**Baljurashi**	**79.50**	**33**	P	**P**	**20 10 50.6**	**+1.7**
TATS	**Tathlith**	**79.80**	**35**	P	**P**	**20 10 51.5**	**+1.0**
FORT	**Forrest**	**81.41**	**132**	*e*P	**P**	**20 10 58.7**	**-0.1**
	comp=Z,282nm,0.8s,mb6.2						
ABTO	**Aybut**	**81.48**	**44**	⇓P	**P**	**20 10 59.8**	**+0.4**

comp=Z,0.8nm,0.3s,baz=298,slow=1.4,SNR=4.9
NJ2 Nanjing 127.87 86 *e*PKP PKPdf 20 17 44.9 -4.5
ANMO Albuquerque 130.75 275‖ *e*PKIKP PKPdf 20 17 56.5 +1.7
FRB Frobisher Bay 131.16 325 PKP PKPdf 20 17 53.0 -1.8
comp=Z,5.0nm,0.9s,baz=148,slow=1.8,SNR=4.6
SONM Songino Array 131.51 63 PKP PKPdf 20 17 54.9 -0.9
comp=Z,0.6nm,0.7s,baz=210,slow=2.5,SNR=6.9
ZAK Zakamensk 131.52 58 *e*PKIKP PKPdf 20 17 53.0 -2.8
ZAK pmax pmax
comp=Z,2.0nm,2.1s
PDAR Pinedale Array 137.73 281 PKP PKPdf 20 18 05.2 -2.3
comp=Z,2.9nm,1.0s,baz=135,slow=3.6,SNR=8.1
HWUT Hardware Ranch 138.17 279 PKP PKPdf 20 18 05.2 -3.3
SPUT South Promonto 138.50 278 *e*PKP PKPdf 20 18 07.3 -1.7
BGU Big Grassy Mou 138.59 277 *e*PKP PKPdf 20 18 09.6 +0.4
LOHW Long Hollow 138.85 282 *e*PKP PKPdf 20 18 07.4 -2.2
TPAW Teton Pass 138.98 281 *e*PKP PKPdf 20 18 07.5 -2.3
RRI2 Red Ridge 139.11 281 *e*PKP PKPdf 20 18 08.8 -1.2
IMW Indian Meadow 139.22 282 *e*PKP PKPdf 20 18 10.5 +0.3
ELK Elko 139.77 275 *e*PKP PKPdf 20 18 10.6 -0.7
NVAR Mina Array Bea 140.07 270 PKP PKPdf 20 18 10.4 -1.5
comp=Z,0.6nm,0.3s,baz=142,slow=3.5,SNR=8.4
MDJ Mudanjiang 142.46 81 PKP PKPdf 20 18 14.8 -1.0
RES Resolute Bay 144.22 334 *e*PKP PKPdf 20 18 14.4 -3.5
VIPM Ingram Point 145.21 276 P PKPbc 20 18 20.2 +2.3
NEW Newport 145.23 284 PKPbc PKPbc 20 18 18.2 +0.4
comp=Z,13nm,1.0s,baz=134,slow=3.2,SNR=7.8
NEW Newport 145.23 284 *e*PKP PKPdf 20 18 17.9 -2.6
EDM Edmonton 145.51 293 *e*PKP PKPdf 20 18 19.1 -1.7
CROR Criterion Ridg 145.69 276 P PKPbc 20 18 21.3 +2.2
CLNS Chul'man 145.81 60 *e*PKHKP 20 18 10.5
CLNS pmax pmax
comp=Z,29nm,1.0s
CLNS pmax pmax
comp=N,21nm,1.4s
CLNS pmax pmax
comp=E,13nm,0.8s
HBO Huckleberry Mo 145.82 274 P PKPbc 20 18 21.2 +1.7
KLR Kul'dur 146.20 75 *e*PKHKP 20 18 17.9
YKA Yellowknife Ar 149.18 309 PKP PKPdf 20 18 23.0 -3.5
comp=E,1.8nm,1.2s,baz=98,slow=2.1,SNR=6.4
YKA PKPbc PKPdf 20 18 29.2 +2.7
comp=E,14nm,0.8s,baz=99,slow=2.6,SNR=43
YKA PKPab PKPab 20 18 35.4 +1.1
comp=E,16nm,1.0s,baz=98,slow=2.7,SNR=12
YKA Yellowknife Ar 149.18 309 PKP PKPdf 20 18 23.1 -3.5
YKA PKPbc PKPdf 20 18 29.2 +2.7
YKA PKPab PKPab 20 18 35.4 +1.1
YKW3 Yellowknife Ar 149.20 310 *e*PKPbc PKPdf 20 18 28.8 +2.2
YAK Yakutsk 149.67 52 *e*PKIKP PKPdf 20 18 28.4 +1.1
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK Yakutsk 149.67 52 *e*PKPbc PKPdf 20 18 29.2 +1.9
TIXI Tiksi 149.94 32‖ *e*PKHKP 20 18 29.3
YSS Yuzh-Sakhalins 151.44 86 *e*PKIKP PKPdf 20 18 35.3 +4.8
YSS pmax pmax
comp=Z,50nm,1.2s
INK Inuvik 156.79 323 PKP PKPdf 20 18 35.7 -1.5
comp=Z,1.2nm,1.1s,baz=94,slow=14,SNR=2.8
INK PKPab PKPab 20 19 05.8 -0.5
comp=Z,2.2nm,0.8s,baz=59,slow=7.5,SNR=5.9
INK Inuvik 156.79 323 *e*PKPdf PKPdf 20 18 36.3 -0.9
BILL Bilibino 162.99 27 *e*PKIKP PKPdf 20 18 39.6 -4.5
BILL pmax pmax
comp=Z,3.0nm,1.3s
ILAR Eielson Array 163.08 319 PKPab PKPab 20 19 33.4 -0.1
comp=Z,2.9nm,0.9s,baz=48,slow=4.0,SNR=22

IDC 05 20:02:56.0±13.0,**19.31N**×**145.54E,h216**km±132km,
mb3.4/12,**mb1 3.7**/12,**mb1mx3.6**/21,**mbtmp3.9**/12,
MS2.6/1,**Ms1 2.6**/1,**ms1mx2.1**/25,**Error ellipse:**
s-maj=29.1km s-min=15.0km az=73.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**17.55**	**298**	LR	LR	20 12 32.0	
	comp=Z,19nm,19.5s,baz=116,slow=33						
WB2	**Warramunga Arr**	**40.52**	**196**	*e*P	P	20 10 13.0	-2.7
WRA	**Warramunga Arr**	**40.53**	**196**	P	P	20 10 13.3	-2.4
	1.6nm,0.5s,baz=1.1,slow=8.9,SNR=21						
FITZ	**Fitzroy Crossi**	**42.01**	**209**	*e*P	P	20 10 25.5	-2.3
	5.9nm,1.2s						
FITZ	**Fitzroy Crossi**	**42.01**	**209**	P	P	20 10 27.3	-0.6
	1.1nm,0.2s,baz=8.7,slow=21,SNR=18						
SONM	**Songino Array**	**42.57**	**321**	P	P	20 10 30.2	-1.8
	0.6nm,0.3s,baz=126,slow=7.1,SNR=15						
CMAR	**Chiang Mai Arr**	**43.99**	**277**	P	P	20 10 43.0	-0.8
	1.6nm,0.8s,baz=68,slow=6.8,SNR=9.7						
ASAR	**Alice Springs**	**44.20**	**195**	P	P	20 10 42.5	-2.9
	0.4nm,0.7s,baz=16,slow=6.8,SNR=4.1						
ZAL	**Zalesovo**	**57.45**	**322**	P	P	20 12 23.0	-1.2
	0.9nm,0.3s,baz=186,slow=3.0,SNR=3.7						
MKAR	**Makanchi Array**	**57.93**	**314**	P	P	20 12 25.3	-2.3
	0.3nm,0.5s,baz=89,slow=8.4,SNR=7.9						
ILAR	**Eielson Array**	**63.16**	**26**	P	P	20 13 00.0	-2.6
	0.5nm,0.5s,baz=257,slow=5.8,SNR=8.2						
YKA	**Yellowknife Ar**	**77.52**	**28**	P	P	20 14 27.9	-1.0
	0.4nm,0.5s,baz=291,slow=5.4,SNR=8.2						
NVAR	**Mina Array Bea**	**82.88**	**52**	P	P	20 14 58.2	+0.5
	1.0nm,0.6s,baz=269,slow=4.6,SNR=6.8						
FINES	**FINESS Array B**	**86.27**	**335**	P	P	20 15 11.2	-2.8
	0.6nm,0.4s,baz=72,slow=5.2,SNR=13						
TXAR	**Lajitas Array**	**97.61**	**55**	P	P	20 16 06.9	-0.4
	0.6nm,0.3s,baz=37,slow=6.3,SNR=4.0						

*IDC **05** 20:15:23.5±0.9, 0.93N×96.64E, mb4.0/9, mb1 4.2/10, mb1mx3.9/19, mbtmp4.0/10, ML3.8/1, MS3.5/2, Ms1 3.6/2, ms1mx3.1/21, Error ellipse: s-maj=34.9km s-min=15.9km az=55.0*
*BJI **05** 20:15:27.7, 1.20N×97.10E, h30km, mb4.3, Ms4.2, Msz3.9*
*NEIC **05** 20:15:29.7±0.6, 1.18N×97.12E, h30km, mb4.3/9, Error ellipse: s-maj=15.5km s-min=7.6km az=59.0*
ISC 05 20:15:28.4±4.1,**1.1N**±0.1×**97.1E**±0.2,**h37**km±34km,**n30,**
σ0=91/28,**mb4.2**/18,**MS4.0**/2,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.47**	**41**	*e*P	**P**	**20 16 47.4**	**-2.1**
CM31	**Chiang Mai Arr**	**17.31**	**6**	*e*P	**P**	**20 19 29.6**	**+0.6**
	6.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.31**	**6**	P	**P**	**20 19 30.1**	**+1.0**
	0.1nm,0.3s,baz=198,slow=11,SNR=19						
CMAR				LR	LR	20 26 04.4	
	comp=Z,71nm,19.4s,baz=191,slow=36						
KMI	**Kunming**	**24.47**	**13**	P	**P**	**20 20 46.8**	**+1.4**
KMI				AP		20 20 53.2	
KMI				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.2						
KMI				LR	LR		
	comp=N,238nm,14.9s,MS4.0						
KMI				LR	LR		
	comp=E,241nm,10.6s,MS4.0						
KMI				LR	LR		
	comp=Z,263nm,13.5s,MS3.9						
KMI	**Kunming**	**24.47**	**13**	P	**P**	**20 20 46.8**	**+1.4**
	comp=Z,12nm,1.3s,mb4.2						
KMI				pP		20 20 53.2	
SHL	**Shillong**	**24.80**	**349**	*e*P	**P**	**20 20 49.0**	**+0.5**
JIRN	**Jiri**	**28.36**	**339**	*e*P	**P**	**20 21 21.9**	**+0.6**
	comp=Z,9.0nm,0.8s,mb4.5						
PKI	**Pulchoki**	**28.56**	**338**	*e*P	**P**	**20 21 23.7**	**+0.5**
DMN	**Daman**	**28.71**	**338**	*e*P	**P**	**20 21 24.3**	**-0.2**
KKN	**Kakani**	**28.81**	**338**	*e*P	**P**	**20 21 25.3**	**0.0**
	comp=Z,9.8nm,1.0s,mb4.5						
LSA	**Lhasa**	**28.96**	**349**	*e*P	**P**	**20 21 27.0**	**+0.3**
	comp=Z,2.7nm,0.7s,mb4.1						
GKN	**Gorkha**	**29.24**	**337**	*e*P	**P**	**20 21 29.2**	**0.0**
KOLN	**Koldanda**	**29.46**	**335**	*e*P	**P**	**20 21 30.9**	**-0.2**
	comp=Z,8.4nm,0.7s,mb4.6						
ENH	**Enshi**	**31.29**	**21**	*e*P	**P**	**20 21 45.1**	**-2.3**
	comp=Z,10nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.01**	**126**	P	**P**	**20 22 09.9**	**-1.2**
	comp=Z,3.6nm,0.9s,mb4.3,baz=164,slow=11,SNR=2.7						
GTA	**Gaotai**	**38.18**	**3**	P	**P**	**20 22 46.3**	**+0.1**
GTA				AP	pP	20 22 52.9	-4.0
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**	**20 23 20.0**	**+0.9**
	comp=Z,1.2nm,0.8s,mb3.6,baz=298,slow=9.1,SNR=8.0						
BJT	**Baijiatuau**	**42.43**	**22**	P	**P**	**20 23 21.9**	**+0.6**
	comp=Z,5.6nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**43.47**	**127**	P	**P**	**20 23 31.0**	**+0.9**
	comp=Z,1.1nm,0.8s,mb3.6,baz=307,slow=7.5,SNR=7.2						
SONM	**Songino Array**	**47.22**	**9**	P	**P**	**20 23 59.5**	**-0.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=188,slow=8.6,SNR=18						
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**20 23 59.9**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=160,slow=9.2,SNR=15						
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**20 23 59.9**	**-0.1**
ULN	**Ulaanbaatar**	**47.35**	**9**	*e*P	**P**	**20 23 59.5**	**-1.1**
	comp=Z,2.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**53.42**	**132**	P	**P**	**20 24 47.4**	**+0.3**
	comp=Z,1.3nm,0.9s,mb3.9,baz=64,slow=6.9,SNR=3.1						
ZAL	**Zalesovo**	**53.59**	**351**	P	**P**	**20 24 47.2**	**-0.9**
	comp=Z,2.1nm,0.6s,mb4.3,baz=309,slow=8.2,SNR=13						
ZAL	**Zalesovo**	**53.59**	**351**	P	**P**	**20 24 47.2**	**-0.9**
BVAR	**Borovoye Array**	**56.26**	**341**	P	**P**	**20 25 06.3**	**-1.1**
	comp=Z,1.9nm,0.8s,mb4.2,baz=135,slow=8.4,SNR=13						
KMBO	**Kilima Mbogo**	**59.84**	**268**	P	**P**	**20 25 28.5**	**-4.6**
	comp=Z,1.7nm,0.3s,mb4.6,baz=81,slow=17,SNR=5.8						
FINES	**FINESS Array B**	**79.99**	**333**	LR	LR	21 08 22.8	
	comp=Z,64nm,18.2s,MS4.0,baz=167,slow=40						
LRAL	**Lakeview Retre**	**145.80**	**6**	PKP	PKPdf	20 34 59.6	-4.1

IDC 05 20:16:33.4±15.0,**24.68S**×**175.89E,h688**km±108km,
mb3.2/6,**mb1 3.2**/6,**mb1mx3.0**/17,**mbtmp4.4**/6,**Error**
ellipse: s-maj=214.3km s-min=44.1km az=102.0,South
of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**21.46**	**312**	P	P	20 20 37.4	-1.6
	16nm,0.4s,baz=155,slow=16,SNR=6.8						
CTA	**Charters Tower**	**27.75**	**274**	P	P	20 21 32.0	-1.6
	4.6nm,0.4s,baz=91,slow=13,SNR=16						
STKA	**Stephens Creek**	**30.95**	**249**	P	P	20 21 58.7	-1.8
	0.8nm,0.6s,baz=85,slow=9.1,SNR=5.4						
ASAR	**Alice Springs**	**38.21**	**263**	P	P	20 22 59.5	-0.7
	1.6nm,0.8s,baz=97,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**38.62**	**269**	P	P	20 23 02.1	-1.5
	3.5nm,0.6s,baz=104,slow=8.2,SNR=36						
FITZ	**Fitzroy Crossi**	**47.03**	**268**	*e*P	P	20 24 06.7	-2.1
	5.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**47.03**	**268**	P	P	20 24 06.6	-2.2
	6.9nm,0.7s,baz=136,slow=5.1,SNR=9.2						

*MOS **05** 20:28:10.6±1.0, 53.34N×153.48E, h501km, mb3.7/1, Error ellipse: s-maj=57.2km s-min=20.2km az=64.5*
*NEIC **05** 20:28:11.6±0.8, 53.24N×153.54E, h499km±10km, mb3.6/1, Error ellipse: s-maj=18.9km s-min=8.9km az=135.0*
*IDC **05** 20:28:12.4±3.8, 53.27N×153.54E, h508km±48km, mb2.8/9, mb1 3.1/10, mb1mx2.8/24, mbtmp3.7/10, Error ellipse: s-maj=20.5km s-min=11.0km az=141.0*
ISC 05 20:28:10.8±1.0,**53.3N**±0.1×**153.6E**±0.2,**h502**km±14km,
n18,σ0=70/19,**mb3.2**/9,**Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**3.09**	**93**	P	**P**	**20 29 22.6**	**-0.5**
MAJO	**Matsushiro**	**19.89**	**219**	*e*P	**P**	**20 32 09.1**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,11nm,0.7s						
MAJO	**Matsushiro**	**19.89**	**219**	*e*P	**P**	**20 32 09.1**	**+0.4**
	comp=Z,11nm,0.7s						
MAT	**Matsushiro**	**19.89**	**219**	*e*P	**P**	**20 32 09.0**	**+0.3**
MAT				pmax	pmax		
	comp=Z,12nm,0.7s						
MAT	**Matsushiro**	**19.89**	**219**	*e*P	**P**	**20 32 09.0**	**+0.3**
	comp=Z,12nm,0.7s						
MAT	**Matsushiro**	**19.89**	**219**	P	**P**	**20 32 09.1**	**+0.4**
MJAR	**Matsushiro Arr**	**19.89**	**219**	P	**P**	**20 32 09.8**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=15,slow=9.7,SNR=9.1						
MJAR				S	**S**	**20 35 25.0**	**+4.7**
	comp=Z,0.6nm,0.3s,baz=354,slow=11,SNR=5.5						
ILAR	**Eielson Array**	**31.47**	**45**	P	**P**	**20 33 51.6**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.1,baz=265,slow=5.4,SNR=7.7						
INK	**Inuvik**	**36.11**	**37**	*e*P	**P**	**20 34 30.3**	**+0.1**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**36.11**	**37**	P	**P**	**20 34 30.4**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.1,baz=293,slow=5.5,SNR=8.0						
INK	**Inuvik**	**36.11**	**37**	*e*P	**P**	**20 34 30.3**	**+0.1**
	comp=Z,0.9nm,0.5s,mb3.5						
MKAR	**Makanchi Array**	**44.47**	**292**	P	**P**	**20 35 37.4**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.4,baz=57,slow=6.8,SNR=30						
YKA	**Yellowknife Ar**	**45.63**	**40**	P	**P**	**20 35 46.1**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.1,baz=302,slow=7.3,SNR=8.8						
BVAR	**Borovoye Array**	**47.12**	**305**	P	**P**	**20 35 57.4**	**-0.4**
	comp=Z,1.2nm,0.5s,mb3.6,baz=50,slow=7.9,SNR=13						
NVAR	**Mina Array Bea**	**59.32**	**66**	P	**P**	**20 37 26.1**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.0,baz=306,slow=7.8,SNR=3.7						
PDAR	**Pinedale Array**	**60.79**	**57**	P	**P**	**20 37 34.9**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.1,slow=1.5,SNR=4.2						
WRA	**Warramunga Arr**	**74.80**	**199**	P	**P**	**20 38 58.5**	**-1.8**
	comp=Z,0.3nm,0.8s,mb2.9,baz=14,slow=6.4,SNR=4.0						
ASAR	**Alice Springs**	**78.51**	**198**	P	**P**	**20 39 19.8**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.0,baz=13,slow=5.7,SNR=6.3						

*IDC **05** 20:35:34.4±2.1, 2.70N×95.37E, h23km±4km, mb3.8/5, mb1 4.0/6, mb1mx3.6/19, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=85.0km s-min=15.9km az=60.0*
*NEIC **05** 20:35:34.5±0.7, 2.66N×95.42E, mb4.1/6, Error ellipse: s-maj=15.6km s-min=9.3km az=47.0*
ISC 05 20:35:32.8±1.0,**2.7N**±0.1×**95.4E**±0.1,**h24**km,
h24km±.5km:**pP-P,n18,σ0=73**/18,**mb4.1**/10,**1C,Off west**
coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.81**	**63**↑	*e*P	**Pn**	**20 36 59.0**	**-0.7**
CM31	**Chiang Mai Arr**	**16.07**	**12**	P	**P**	**20 39 19.9**	**+0.9**
	3.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.07**	**12**	Pn	**P**	**20 39 20.2**	**+1.2**
	0.3nm,0.3s,baz=201,slow=11,SNR=16						
JIRN	**Jiri**	**26.38**	**341**	*e*P	**P**	**20 41 09.7**	**+0.4**
	8.9nm,0.7s,mb4.4						
PKI	**Pulchoki**	**26.56**	**340**	*e*P	**P**	**20 41 12.2**	**+1.2**
DMN	**Daman**	**26.70**	**339**	*e*P	**P**	**20 41 12.6**	**+0.3**
KKN	**Kakani**	**26.81**	**340**	*e*P	**P**	**20 41 13.2**	**0.0**
	7.1nm,0.8s,mb4.3						
LSA	**Lhasa**	**27.19**	**352**	*e*P	**P**	**20 41 16.9**	**+0.1**
	3.8nm,0.6s,mb4.1						
GKN	**Gorkha**	**27.23**	**339**	*e*P	**P**	**20 41 16.6**	**-0.5**
KOLN	**Koldanda**	**27.41**	**337**	*e*P	**P**	**20 41 18.0**	**-0.7**
	4.8nm,0.7s,mb4.2						
BJT	**Baijiatuau**	**41.66**	**24**	P	**P**	**20 43 20.5**	**-0.7**
	6.3nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**44.30**	**122**	P	**P**	**20 43 43.5**	**+0.7**
	0.6nm,0.6s,mb3.5,baz=299,slow=9.1,SNR=4.7						
WRA				pP	pP	20 43 50.5	+0.4
	0.8nm,0.8s,baz=301,slow=9.0,SNR=5.0						
MKAR	**Makanchi Array**	**45.42**	**347**	P	**P**	**20 43 51.0**	**-0.5**
	3.0nm,0.6s,mb4.3,baz=164,slow=7.8,SNR=36						
MKAR				pP	pP	20 43 58.4	-0.4
	2.2nm,0.8s,baz=168,slow=8.0,SNR=7.6						
MKAR	**Makanchi Array**	**45.42**	**347**	P	**P**	**20 43 51.0**	**-0.5**
MKAR				pP	pP	20 43 58.4	-0.4
ASAR	**Alice Springs**	**45.67**	**127**	P	**P**	**20 43 54.1**	**+0.3**
	0.5nm,0.9s,mb3.5,baz=295,slow=7.8,SNR=4.8						
ASAR				pP	pP	20 44 01.2	+0.2
	0.6nm,0.9s,baz=294,slow=7.7,SNR=3.6						
SONM	**Songino Array**	**45.98**	**10**	P	**P**	**20 43 55.2**	**-0.7**
	1.6nm,0.8s,mb4.0,baz=188,slow=8.9,SNR=16						
SONM				pP	pP	20 44 02.9	-0.2
	0.8nm,0.8s,baz=191,slow=7.0,SNR=5.2						
SONM				PcP	PcP	20 45 32.9	0.0
	0.5nm,0.6s,baz=182,slow=2.4,SNR=4.0						
ZAL	**Zalesovo**	**51.85**	**352**	P	**P**	**20 44 40.0**	**-1.2**
	2.7nm,0.6s,mb4.4,baz=312,slow=6.5,SNR=18						
ZAL				pP	pP	20 44 47.1	-1.4
	1.7nm,0.6s,baz=336,slow=2.6,SNR=4.7						
ZAL	**Zalesovo**	**51.85**	**352**	P	**P**	**20 44 40.0**	**-1.2**
ZAL				pP	pP	20 44 47.1	-1.4

IDC 05 20:43:19.5±4.1,**29.86S**×**179.72W,mb4.0**/3,**mb1 4.2**/4,
mb1mx4.0/15,**mbtmp4.1**/4,**ML4.2**/1,**Error ellipse:**
s-maj=77.1km s-min=48.6km az=78.0,Kermadec
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.79**	**197**	Pn	P	20 45 28.8	-1.9
	2.6nm,0.3s,baz=314,slow=8.4,SNR=15						
URZ				Sn	Sn	20 46 51.0	-21
	1.6nm,0.3s,baz=92,slow=19,SNR=7.5						
STKA	**Stephens Creek**	**33.16**	**257**	P	P	20 49 56.4	-3.4
	5.2nm,1.3s,baz=98,slow=15,SNR=2.6						
ASAR	**Alice Springs**	**41.65**	**267**	P	P	20 51 09.7	-1.7
	0.4nm,0.3s,baz=108,slow=7.5,SNR=10						
WRA	**Warramunga Arr**	**42.59**	**272**	P	P	20 51 18.5	-0.6
	0.8nm,0.3s,baz=113,slow=7.9,SNR=27						
FINES	**FINESS Array B**	**144.12**	**339**	PKP	PKPdf	21 02 55.2	-3.1
	1.6nm,1.0s,baz=45,slow=5.4,SNR=4.8						

MDD 05 20:47:46.8±31.0,**36.17N**×**10.54W,h42**km±999km,
mb3.5/6,**Error ellipse: s-maj=102.0km s-min=32.2km**
az=59.0,PRXIMO,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**2.81**	**60**	P	P	20 48 28.8	-1.6
	0.2nm,0.1s,SNR=7.9						
EGRO				S	S	20 48 59.2	-4.1
	0.4nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.48**	**62**	P	P	20 48 37.3	-2.6
	0.1nm,0.1s,SNR=7.9						
EMIN				S	S	20 49 15.6	-4.9
	0.1nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.81**	**46**	P	P	20 48 42.9	-1.8
	0.4nm,0.1s,SNR=7.9						
EBAD				S	S	20 49 22.5	-6.3
	0.1nm,0.0s,SNR=7.9						
ESPR	**Espera**	**3.84**	**78**	P	P	20 48 43.0	-2.0
	2.2nm,0.3s,SNR=7.9						
ESPR				S	S	20 49 23.3	-6.1
	1.0nm,0.5s,SNR=7.9						
EJIF	**Jimena Fronter**	**4.11**	**85**	P	P	20 48 46.0	-2.8
	0.3nm,0.2s,SNR=7.9						
EJIF				S	S	20 49 30.6	-5.6
	4.4nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**4.67**	**83**	S	S	20 49 43.8	-6.6
	2.7nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**5.16**	**65**	P	P	20 49 01.2	-2.4
	0.5nm,0.2s,SNR=7.9						
EADA				S	S	20 49 55.0	-7.7
	2.3nm,0.6s,SNR=4.0						

*ATH **05** 20:49:34.3, 40.58N×23.80E, h24km±2km, MD3.4/6*
*NEIC **05** 20:49:34.3, 40.58N×23.80E, h24km, MD3.4(ATH), After ATH.*
*THE **05** 20:49:35.5, 40.58N×23.75E, h10km, ML3.6*
*CSEM **05** 20:49:35.5±0.1, 40.59N×23.78E, h12km, ML3.6, Error ellipse: s-maj=1.7km s-min=1.3km az=98.0*
*SOF **05** 20:49:36.0, 40.60N×23.86E, h26km, MD2.9*
ISC 05 20:49:34.6±0.5,**40.59N**±0.02×**23.77E**±0.03,**h10**km±4km,
n26,σ0=83/39,**1C-2D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.30**	**147**	*e*Pg	**Pg**	**20 49 42.0**	**+1.2**
PLG	**Polygyros**	**0.32**	**230**↑	*i*PB	**Pb**	**20 49 42.2**	**+0.2**
PLG				*e*SB	**Sb**	**20 49 46.5**	**-0.4**
SOH	**Sokhos**	**0.39**	**307**	*e*Pg	**Pg**	**20 49 43.4**	**+0.7**
SRS	**Serrai**	**0.55**	**346**	*e*Pg	**Pg**	**20 49 45.9**	**+0.2**
SRS				*e*Sg	**Sg**	**20 49 53.9**	**+0.7**
THE	**Thessaloniki**	**0.61**	**275**	*e*Pg	**Pg**	**20 49 46.6**	**-0.4**
THE				*e*Sg	**Sg**	**20 49 55.8**	**+0.6**
THE	**Thessaloniki**	**0.61**	**275**	*e*Pg	**Pg**	**20 49 46.6**	**-0.3**
THE				*e*Sg	**Sg**	**20 49 55.2**	**0.0**
THE	**Thessaloniki**	**0.61**	**275**	*e*Pg	**Pg**	**20 49 46.6**	**-0.4**
THE				*e*Sg	**Sg**	**20 49 55.2**	**0.0**
PAIG	**Paliouri**	**0.66**	**186**	*e*Pg	**Pg**	**20 49 48.2**	**+0.3**
PAIG				*e*Sg	**Sg**	**20 49 57.1**	**+0.3**
NVR	**Nevrokopi**	**0.77**	**5**	*e*PN	**Pn**	**20 49 49.9**	**-1.4**
NVR				*e*SN	**Sn**	**20 49 59.8**	**-3.1**
KNT	**Kendrikon**	**0.88**	**311**	*e*Pg	**Pg**	**20 49 51.7**	**-0.5**
MMB	**Musomiste**	**1.00**	**358**	*i* P	**Pb**	**20 49 54.0**	**+0.4**
LIT	**Litokhoron**	**1.09**	**244**	*e*Pg	**Pg**	**20 49 55.6**	**-0.8**
LIT				*e*Sg	**Sg**	**20 50 10.9**	**-0.1**
GRG	**Griva**	**1.10**	**290**	*e*Pg	**Pg**	**20 49 56.0**	**-0.7**
GRG				*e*Sg	**Sg**	**20 50 11.9**	**+0.4**
VAY	**Valandovo**	**1.17**	**309**	*i* Pg	**Pg**	**20 49 57.0**	**-1.0**
VAY				*i* Sg	**Sg**	**20 50 12.7**	**-0.9**
LOS	**Limnos**	**1.20**	**122**	*e*Pb	**Pb**	**20 49 56.9**	**0.0**
LIA	**Limnos Island**	**1.28**	**122**‖	*i*PN	**Pn**	**20 49 58.5**	**-0.1**
RZN	**Rozhen**	**1.31**	**33**	*i* P	**Pb**	**20 49 59.9**	**+1.0**
NEO	**Neokhori**	**1.34**	**198**	*e*PN	**Pn**	**20 49 59.4**	**-0.1**
NEO				*e*SN	**Sn**	**20 50 17.5**	**0.0**
KKB	**Krupnik**	**1.38**	**338**	*i* P	**Pn**	**20 50 01.0**	**+1.0**
AOS	**Alonnisos**	**1.42**	**176**	*e*Pb	**Pb**	**20 50 00.2**	**-0.4**
AOS	**Alonnisos**	**1.42**	**176**	*e*Pb	**Pb**	**20 50 00.2**	**-0.5**
RDO	**Rodhopi**	**1.46**	**67**‖	*i*PN	**Pn**

comp=Z,2.1nm,0.7s,mb4.2,baz=159,slow=8.0,SNR=23
HIA Hailar 51.65 19 *e*P **P 21 11 30.3 -0.5**
comp=Z,6.4nm,1.1s,mb4.5
STKA Stephens Creek 53.23 132 P **P 21 11 42.7 -0.1**
comp=Z,0.7nm,0.5s,mb3.8,baz=284,slow=8.3,SNR=3.9
ZAL Zalesovo 53.62 351 P **P 21 11 44.6 -0.8**
comp=Z,2.1nm,0.9s,mb4.1,baz=289,slow=6.3,SNR=14
BVAR Borovoye Array 56.34 341 P **P 21 12 03.8 -1.4**
comp=Z,1.2nm,0.8s,mb4.0,baz=135,slow=10,SNR=6.4

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*IDC **05** 21:03:06.8±1.3,2.17N×95.32E,mb4.1/8,mb1 4.3/8, mb1mx4.0/19,mbtmp4.1/8,MS3.6/1,Ms1 3.6/1, ms1mx3.0/20,Error ellipse: s-maj=77.4km s-min=17.1km az=48.0*
*NEIC **05** 21:03:12.3±0.8,4.24N×96.93E,h30km,mb4.4/4,Error ellipse: s-maj=27.7km s-min=14.8km az=224.0*
ISC 05 21:03:12.2±1.0,4.0N±0.1×97.0E±0.2,h33km,n17, σ0°72/17,mb4.2/11,MS3.6/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.87**	**70**	*e*P	**P**	**21 04 10.6**	**-0.3**
CM31	**Chiang Mai Arr** 4.8nm,0.5s	**14.51**	**7**	*e*P	**P**	**21 06 37.7**	**+0.4**
LSA	**Lhasa** 6.1nm,0.6s,mb4.3	**26.17**	**348**	*e*P	**P**	**21 08 40.4**	**-5.3**
FITZ	**Fitzroy Crossi** 3.8nm,0.6s,mb4.5	**35.77**	**129**	*e*P	**P**	**21 10 09.8**	**-0.6**
FITZ	**Fitzroy Crossi** 4.4nm,0.7s,mb4.5,baz=293,slow=4.1,SNR=8.4	**35.77**	**129**	P	**P**	**21 10 09.8**	**-0.6**
WRA	**Warramunga Arr** 7.6nm,0.5s,mb4.7,baz=302,slow=9.2,SNR=22	**43.72**	**124**	P	**P**	**21 11 16.5**	**+0.1**
WRAB	**Tennant Creek** 17nm,0.5s,mb5.0	**43.73**	**124**	*e*P	**P**	**21 11 16.2**	**-0.2**
WB2	**Warramunga Arr**	**43.73**	**124**	*e*P	**P**	**21 11 16.3**	**-0.2**
MKAR	**Makanchi Array** 1.1nm,0.6s,mb3.9,baz=162,slow=7.7,SNR=4.6	**44.51**	**346**	P	**P**	**21 11 31.2**	**+8.8**
ASPA	**Alice Springs**	**45.26**	**129**	*e*P	**P**	**21 11 28.5**	**-0.3**
ASAR	**Alice Springs** 3.2nm,0.6s,mb4.3,baz=308,slow=7.7,SNR=18	**45.27**	**129**	P	**P**	**21 11 29.0**	**+0.2**
ASAR				LR	LR	21 32 10.6	
ZAL	comp=Z,64nm,18.1s,MS3.6,baz=42,slow=38 **Zalesovo** 1.7nm,0.7s,mb4.1,baz=279,slow=8.8,SNR=4.4	**50.79**	**351**	P	**P**	**21 12 19.8**	**+8.5**
BVAR	**Borovoye Array** 0.6nm,0.5s,mb3.8,baz=149,slow=8.6,SNR=3.6	**53.57**	**340**	P	**P**	**21 12 37.9**	**+5.7**
STKA	**Stephens Creek** 1.7nm,0.7s,mb4.2	**55.39**	**133**	*e*P	**P**	**21 12 47.7**	**+2.0**
STKA	**Stephens Creek** 1.9nm,0.6s,mb4.3,baz=322,slow=8.7,SNR=6.3	**55.39**	**133**	P	**P**	**21 12 46.5**	**+0.8**
BRTR	**Keskin Array B** 0.9nm,0.6s,mb4.0,baz=129,slow=7.9,SNR=4.8	**67.11**	**312**	P	**P**	**21 14 02.1**	**-2.6**
GERES	**GERESS Array B** 0.4nm,0.6s,mb3.6,baz=90,slow=2.7,SNR=5.6	**82.60**	**319**	P	**P**	**21 15 33.5**	**0.0**

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*ATH **05** 21:09:00.6,38.96N×20.58E,h30km±2km,MD3.2/4*
*THE **05** 21:09:00.8,38.94N×20.56E,h10km*
*NEIC **05** 21:09:00.6,38.96N×20.58E,h30km,MD3.2(ATH),After ATH.*
*CSEM **05** 21:09:01.3±0.3,38.97N×20.54E,h2km,MD3.2,Error ellipse: s-maj=6.2km s-min=4.5km az=65.0*
ISC 05 21:08:59.6±1.1,38.93N±0.05×20.49E±0.07,h12km±7km, n12,σ1°05/21,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.62**	**349**	*e*Pg	**Pg**	**21 09 11.9**	**-0.1**
IGT				*e*Sg	**Sg**	**21 09 21.6**	**+1.1**
IGT	**Igoumenitsa**	**0.62**	**349**	*e*Pg	**Pg**	**21 09 11.9**	**-0.2**
IGT				*e*Sg	**Sg**	**21 09 21.5**	**+1.0**
VLS	**Valsamata**	**0.75**	**174**	*e*PN	**Pn**	**21 09 16.5**	**+0.7**
JAN	**Janina**	**0.78**	**21**	*e*PN	**Pn**	**21 09 14.5**	**-1.7**
JAN				*e*SN	**Sn**	**21 09 25.6**	**-2.2**
KEK	**Kerkira**	**0.95**	**326**	*e*PN	**Pn**	**21 09 19.4**	**+0.8**
SRN	**Sarande**	**1.03**	**338**	*i* Pg	**Pg**	**21 09 19.7**	**-0.5**
SRN				*i* Sg	**Sg**	**21 09 34.2**	**+0.3**
EVR	**Evrytania**	**1.03**	**90**	*e*PN	**Pn**	**21 09 18.8**	**-0.9**
EVR				*e*SN	**Sn**	**21 09 33.3**	**-0.8**
MEV	**Metsovon**	**1.03**	**33**	*e*Pg	**Pg**	**21 09 19.2**	**-1.1**
MEV				*e*Sg	**Sg**	**21 09 34.0**	**-0.1**
LSK	**Leskovik**	**1.23**	**4**	*i* Pg	**Pg**	**21 09 23.7**	**-0.4**
LSK				*i* Sg	**Sg**	**21 09 45.4**	**+4.9**
AGG	**Agios Georgios**	**1.44**	**86**	*e*Pb	**Pb**	**21 09 26.5**	**+0.6**
AGG				*e*Sb	**Sb**	**21 09 45.9**	**+2.0**
LIT	**Litokhoron**	**1.94**	**52**	*e*Pb	**Pb**	**21 09 34.5**	**0.0**
FNA	**Florina**	**1.98**	**20**	*e*Pb	**Pb**	**21 09 35.2**	**+0.1**
FNA				*e*Sb	**Sb**	**21 10 01.6**	**+2.0**

IDC 05 21:20:43.7±8.0,0.02N×96.54E,mb3.7/3,mb1 3.9/4, mb1mx3.5/17,mbtmp3.7/4,ML3.9/1,Error ellipse: s-maj=178.0km s-min=108.3km az=131.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=194,slow=12,SNR=13	**18.47**	**7**	P	P	21 25 01.9	-1.2
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=158,slow=8.4,SNR=6.5	**48.23**	**347**	P	P	21 29 26.5	-1.7
SONM	**Songino Array** 0.3nm,0.7s,baz=188,slow=7.9,SNR=2.9	**48.39**	**9**	P	P	21 29 27.5	-1.9
ZAL	**Zalesovo** 0.4nm,0.4s,baz=297,slow=7.7,SNR=4.1	**54.61**	**352**	P	P	21 30 13.1	-3.2

MAN 05 21:27:56.2,10.08N×126.08E,h8km,mb4.0,ML2.7,MS2.4, 1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.65**	**243**	⇓*e*P	Pg	21 28 09.0	-0.2
SCPH				*e*S	Sg	21 28 19.1	+1.1
PLP	**Palo**	**1.53**	**315**	*e*P	Pn	21 28 22.7	-1.3
PLP				*i* S	Sb	21 28 40.3	-3.5
BESP	**Borongan**	**1.64**	**338**	*e*P	Pn	21 28 17.9	-7.6
BESP				*e*S	Sn	21 28 36.2	-11
TBP	**Tagbilaran**	**2.22**	**260**	*e*P	Pn	21 28 35.3	+1.5
TBP				*i* S	Sn	21 29 02.2	+0.6
BUKP	**Musuan**	**2.40**	**205**	*e*P	Pn	21 28 25.5	-11
BUKP				*e*S	Sn	21 28 48.2	-18
GUIM	**Jordan**	**3.48**	**279**	*e*P	Pn	21 28 43.3	-8.4

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*CSEM **05** 21:35:39.8±0.1,24.97N×36.32E,h35km,ML2.5,Error ellipse: s-maj=4.4km s-min=2.2km az=166.0*
*SNSN **05** 21:35:41.1,25.04N×36.44E,h18km,Ml2.5*
*HLW **05** 21:35:42.1,24.97N×36.23E,h28km,Mb3.1*
ISC 05 21:35:37.9±0.6,24.96N±0.06×36.29E±0.04,h10km,n14, σ0°54/16,3C-2D,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJS	**Umm Lajj**	**0.97**	**73**	P	**Pb**	**21 35 56.7**	**+0.4**
UMJS				S	**Sb**	**21 36 08.0**	**-0.9**
EMRS	**Mersa Alam**	**1.32**	**273**	⇑P	**Pb**	**21 36 02.5**	**+0.2**
HAGS	**Hagol**	**1.32**	**244**	P	**Pb**	**21 36 02.8**	**+0.4**
HAGS				S	**Sb**	**21 36 18.0**	**-1.1**
HADB		**1.56**	**285**	⇓P	**Pn**	**21 36 05.9**	**0.0**
YNBS	**Yanbu' al Bahr**	**1.67**	**111**	P	**Pn**	**21 36 08.1**	**+0.6**
HQSR		**1.89**	**295**	⇑P	**Pn**	**21 36 10.5**	**-0.2**
HSHL	**Bi'r Shalatayn**	**2.02**	**204**	⇑P	**Pn**	**21 36 13.0**	**+0.5**
DBAS	**Duba**	**2.26**	**353**	P	**Pn**	**21 36 15.3**	**-0.6**
HSFG		**2.66**	**307**	⇓P	**Pn**	**21 36 21.5**	**-0.2**
KBRS	**Khaybar**	**2.81**	**72**	P	**Pn**	**21 36 23.3**	**-0.6**
HEDF	**Idfu**	**2.82**	**273**	P	**Pn**	**21 36 24.0**	**+0.1**
TBKS	**Tabuk**	**3.26**	**4**	P	**Pn**	**21 36 30.3**	**+0.1**
JMQS	**Jabal Moqyreh**	**3.93**	**355**	P	**Pn**	**21 36 40.4**	**+0.7**
JMOS	**Jabal al Moall**	**4.32**	**346**	P	**Pn**	**21 36 45.8**	**+0.5**

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*NNC **05** 21:39:04.9±38.0,43.15N×87.26E,mpv2.7,Error ellipse: s-maj=839.0km s-min=456.6km az=47.0*
BJI 05 21:39:09.5,43.26N×87.18E,h14km,ML2.9,1C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.67**	**34**	⇓*i*PG	Pg	21 39 22.5	-0.7
WMQ				SG	Sg	21 39 32.6	+0.3
WMQ				Smax			
	comp=N,90nm,0.4s						
WMQ				Smax			
	comp=E,287nm,0.4s						
MK31	**Makanchi Array** comp=E,0.5nm,0.4s,baz=137,slow=14,SNR=47	**4.95**	**317**	⇑Pn	Pn	21 40 24.9	-0.4
MK31				⇓Lg		21 41 43.9	
	comp=E,1.4nm,0.4s,baz=127,slow=29,SNR=6.6						

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*IDC **05** 22:02:03.0±0.9,6.07N×93.27E,mb4.0/11,mb1 4.1/12, mb1mx4.0/21,mbtmp3.9/12,ML3.5/1,MS2.8/1,Ms1 3.0/1, ms1mx2.6/25,Error ellipse: s-maj=44.7km s-min=14.6km az=55.0*
*NEIC **05** 22:02:07.1±0.5,6.00N×93.27E,h30km,mb4.3/4,Error ellipse: s-maj=16.0km s-min=6.3km az=53.0*
ISC 05 22:02:05.9±0.7,6.0N±0.1×93.3E±0.1,h33km,n26, σ0°90/25,mb4.1/15,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.31**	**95**	P	**P**	**22 03 54.1**	**+1.0**
CM31	**Chiang Mai Arr**	**13.55**	**23**	*e*P	**P**	**22 05 23.3**	**+4.9**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=221,slow=14,SNR=4.2	**13.55**	**23**	Pn	**P**	**22 05 17.4**	**-1.0**
CMAR				LR	LR	22 10 37.0	
JIRN	comp=Z,39nm,18.3s,baz=215,slow=38 **Jiri** 2.2nm,0.5s,mb3.9	**22.60**	**343**	*e*P	**P**	**22 07 05.2**	**+0.1**
PKI	**Pulchoki**	**22.75**	**342**	*e*P	**P**	**22 07 07.9**	**+1.3**
DMN	**Daman**	**22.88**	**341**	*e*P	**P**	**22 07 08.4**	**+0.5**
KKN	**Kakani**	**23.00**	**341**	*e*P	**P**	**22 07 08.7**	**-0.3**
GKN	**Gorkha** 11nm,0.9s,mb4.3	**23.40**	**340**	*e*P	**P**	**22 07 12.8**	**-0.1**
KOLN	**Koldanda**	**23.56**	**338**	*e*P	**P**	**22 07 15.4**	**+1.0**
LSA	**Lhasa** 8.3nm,0.6s,mb4.3	**23.68**	**355**	*e*P	**P**	**22 07 17.5**	**+1.9**
FITZ	**Fitzroy Crossi** 4.0nm,0.6s,mb4.3,baz=333,slow=3.0,SNR=5.4	**39.86**	**128**	P	**P**	**22 09 38.3**	**0.0**
MKAR	**Makanchi Array** 1.7nm,0.7s,mb3.8,baz=168,slow=8.5,SNR=24	**41.76**	**349**	P	**P**	**22 09 53.5**	**-0.2**
SONM	**Songino Array** 0.2nm,0.4s,mb3.2,baz=199,slow=7.8,SNR=3.7	**43.17**	**13**	P	**P**	**22 10 03.9**	**-1.4**
SONM				PcP	PcP	22 11 54.9	-0.1
WRA	0.3nm,0.6s,baz=194,slow=4.5,SNR=3.9 **Warramunga Arr**	**47.85**	**124**	P	**P**	**22 10 43.7**	**+0.8**
WRAB	3.0nm,0.8s,mb4.4,baz=303,slow=9.0,SNR=16 **Tennant Creek** 7.3nm,0.7s,mb4.8	**47.86**	**124**	*e*P	**P**	**22 10 41.7**	**-1.3**
WB2	**Warramunga Arr**	**47.87**	**124**	*e*P	**P**	**22 10 41.8**	**-1.2**
ZAL	**Zalesovo** 1.2nm,0.4s,mb4.3,baz=308,slow=9.7,SNR=5.8	**48.31**	**353**	P	**P**	**22 10 45.4**	**-0.7**
ASAR	**Alice Springs** 3.1nm,0.6s,mb4.5,baz=304,slow=7.4,SNR=28	**49.35**	**128**	P	**P**	**22 10 55.5**	**+1.0**
ASAR				PcP	PcP	22 12 18.5	+1.5
BVAR	0.9nm,0.6s,baz=294,slow=3.0,SNR=6.0 **Borovoye Array** 0.7nm,0.7s,mb3.7,baz=139,slow=14,SNR=4.9	**50.52**	**342**	P	**P**	**22 11 02.3**	**-0.7**
STKA	**Stephens Creek** 1.1nm,0.4s,mb4.3,baz=310,slow=6.4,SNR=5.7	**59.41**	**132**	P	**P**	**22 12 08.3**	**+0.4**
STKA	**Stephens Creek**	**59.41**	**132**	P	**P**	**22 12 08.3**	**+0.4**
BRTR	**Keskin Array B** 0.7nm,0.7s,mb3.9,baz=90,slow=6.2,SNR=3.9	**63.06**	**312**	P	**P**	**22 12 31.4**	**-1.1**
FINES	**FINESS Array B** 1.3nm,0.6s,mb4.0,baz=86,slow=5.5,SNR=9.5	**74.00**	**333**	P	**P**	**22 13 39.5**	**-0.3**
FINES	**FINESS Array B**	**74.00**	**333**	P	**P**	**22 13 39.5**	**-0.3**
GERES	**GERESS Array B** 0.3nm,0.6s,mb3.4,baz=100,slow=6.0,SNR=5.0	**78.70**	**318**	P	**P**	**22 14 07.0**	**+0.4**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=243,slow=3.3,SNR=3.6	**127.21**	**21**	PKP	PKPdf	22 21 10.2	+2.7

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*IDC **05** 22:20:04.6±0.7,1.04N×97.29E,mb4.6/15,mb1 4.7/16, mb1mx4.6/20,mbtmp4.6/16,ML5.1/1,MS3.9/6,Ms1 4.0/6, ms1mx3.5/26,Error ellipse: s-maj=25.7km s-min=14.4km az=55.0*
*BJI **05** 22:20:06.0,0.77N×97.49E,h38km,mB4.9,mb5.0,Ms4.4, Msz4.2*
*MOS **05** 22:20:07.9±0.9,1.07N×97.41E,h33km,mb5.0/19,Error ellipse: s-maj=13.7km s-min=7.0km az=103.1*
*NEIC **05** 22:20:09.4±0.3,1.04N×97.37E,h30km,mb4.7/26,Error ellipse: s-maj=7.3km s-min=5.2km az=45.0*
ISC 05 22:20:07.8±0.3,1.07N±0.05×97.42E±0.04,h32km, h32km±1.3km:pP-P,n129,σ0°99/135,mb4.8/57,MS4.0/16, 14C-8D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.01**	**46**	P	**Pn**	**22 21 24.1**	**+1.2**
KULM	**Kulim**	**5.29**	**37**	*e*P	**Pn**	**22 21 26.9**	**+0.1**
KGM	**Kluang**	**5.97**	**81**	P	**Pn**	**22 21 38.0**	**+1.6**
SNG	**Songkhla** 266nm,0.9s	**6.86**	**28**	P	**Pn**	**22 21 48.0**	**-0.9**
KSM	**Kuching**	**12.89**	**88**	P	**P**	**22 23 13.6**	**+1.9**
BDT	**Bhumibol Dam** 16nm,0.6s	**16.15**	**5**	P	**P**	**22 23 55.0**	**+0.6**
CM31	**Chiang Mai Arr** 39nm,0.6s	**17.35**	**5**	*e*P	**P**	**22 24 08.2**	**-1.2**
CMAR	**Chiang Mai Arr** 2.5nm,0.3s,baz=196,slow=11,SNR=53	**17.35**	**5**	Pn	**P**	**22 24 08.7**	**-0.8**
CMAR				LR	LR	22 31 37.8	
CHG	comp=Z,498nm,18.3s,baz=195,slow=40 **Chiang Mai** 16nm,0.8s	**17.70**	**5**	⇑P	**P**	**22 24 12.5**	**-1.3**
NANT	**Nan** 350nm,0.8s	**17.91**	**10**	⇑P	**P**	**22 24 15.0**	**-1.5**
KKM	**Kota Kinabalu**	**19.39**	**75**	*e*P	**P**	**22 24 34.5**	**+0.2**
KKM	**Kota Kinabalu**	**19.39**	**75**	P	**P**	**22 24 34.2**	**-0.1**
VIS	**Vishakhapatnam**	**21.58**	**321**	*e*P	**P**	**22 24 57.5**	**+0.4**
QIZ	**Qiongzhong**	**21.61**	**34**	P	**P**	**22 24 57.0**	**-0.4**
QIZ				*e*S	**S**	**22 28 42.0**	**-7.9**
QIZ				LR	LR		
	comp=N,419nm,14.7s						
QIZ				LR	LR		
	comp=Z,364nm,9.1s						
KMI	**Kunming**	**24.46**	**12**	P	**P**	**22 25 26.9**	**+1.5**
KMI				AP		22 25 33.4	
KMI				XP		22 25 35.7	
KMI				PP	PP	22 26 03.1	+1.8
KMI				S	**S**	**22 29 43.9**	**+3.4**
KMI				SS	SS	22 30 39.6	+3.7
KMI				LR	LR		
	comp=N,421nm,11.3s,MS4.3						
KMI				LR	LR		
	comp=E,447nm,13.4s,MS4.3						
KMI				LR	LR		
	comp=Z,689nm,13.9s,MS4.3						
KMI	**Kunming**	**24.46**	**12**	P	**P**	**22 25 26.9**	**+1.5**
KMI				*SP		22 25 35.7	
KMI						22 26 03.1	
KMI				S	**S**	**22 29 43.9**	**+3.4**
KMI				*SS		22 29 54.4	
KMI				SS	SS	22 30 39.6	+3.7
KMI				SSS	SSS	22 30 55.9	+3.4
KMI	**Kunming**	**24.46**	**12**	P	**P**	**22 25 26.9**	**+1.5**
KMI				pP		22 25 33.4	
KMI				sP		22 25 35.7	
KMI				PP	PP	22 26 03.1	+1.8
KMI				S	**S**	**22 29 43.9**	**+3.4**
KMI				sS		22 29 54.4	
KMI				SS	SS	22 30 39.6	+3.7
KMI				SSS	SSS	22 30 55.9	+3.4
HYB	**Hyderabad**	**24.67**	**312**	*e*P	**P**	**22 25 36.0**	**+8.6**
HYB	**Hyderabad**	**24.67**	**312**	*i* P	**P**	**22 25 36.0**	**+8.6**
SHL	**Shillong**	**24.94**	**348**	*e*P	**P**	**22 25 30.0**	**0.0**
SHL				*e*S	**S**	**22 29 57.0**	**+8.5**
GYA	**Guiyang**	**26.77**	**19**	⇓*i*P	**P**	**22 25 45.6**	**-1.4**
GYA				AP	pP	22 25 54.8	-1.4
GYA				XP	sP	22 25 58.9	-1.4
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,210nm,3.8s						
GYA				LR	LR		
	comp=N,310nm,12.0s,MS4.2						
GYA				LR	LR		
	comp=E,370nm,14.4s,MS4.2						
GYA				LR	LR		
	comp=Z,540nm,13.2s,MS4.3						
JIRN	**Jiri** comp=Z,46nm,0.8s,mb5.2	**28.55**	**339**	*e*P	**P**	**22 26 03.8**	**+0.7**
PKI	**Pulchoki** comp=Z,16nm,0.7s,mb4.9	**28.76**	**337**	*e*P	**P**	**22 26 05.8**	**+0.8**
PKI	**Pulchoki**	**28.76**	**337**	*e*P	**P**	**22 26 05.8**	**+0.8**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
DMN	**Daman** comp=Z,24nm,0.8s,mb5.0	**28.91**	**337**	*e*P	**P**	**22 26 07.2**	**+0.8**
KKN	**Kakani** comp=Z,40nm,0.9s,mb5.1	**29.01**	**337**	*e*P	**P**	**22 26 07.5**	**+0.3**
KKN	**Kakani**	**29.01**	**337**	*e*P	**P**	**22 26 07.5**	**+0.3**
KKN				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
LSA	**Lhasa**	**29.09**	**349**	P	**P**	**22 26 09.0**	**+1.0**
LSA	**Lhasa**	**29.09**	**349**	*e*P	**P**	**22 26 08.7**	**+0.7**
LSA				pmax	pmax		
	comp=Z,13nm,0.4s,mb5.0						
LSA	**Lhasa** comp=Z,13nm,0.4s,mb5.0	**29.09**	**349**	*e*P	**P**	**22 26 08.7**	**+0.7**
GKN	**Gorkha** comp=Z,28nm,0.9s,mb5.0	**29.45**	**337**	*e*P	**P**	**22 26 11.4**	**+0.2**
KOLN	**Koldanda** comp=Z,30nm,0.8s,mb5.1	**29.67**	**335**	*e*P	**P**	**22 26 13.7**	**+0.5**
ENH	**Enshi** comp=Z,38nm,0.7s,mb5.3	**31.23**	**20**	*e*P	**P**	**22 26 25.2**	**-1.7**
LGTI	**Lohaghat**	**32.63**	**331**	*e*P	**P**	**22 26 39.5**	**+0.3**
FITZ	**Fitzroy Crossi** comp=Z,4.4nm,0.6s,mb4.6	**33.67**	**126**	*e*P	**P**	**22 26 47.1**	**-1.2**
DDI	**Dehra Dun**	**34.42**	**330**	*e*P	**P**	**22 26 55.0**	**+0.3**
XAN	**Xi'an**	**34.52**	**17**	P	**P**	**22 26 54.3**	**-1.2**
XAN				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.2						
LZH	**Lanzhou**	**35.35**	**9**	*e*P	**P**	**22 27 02.0**	**-0.6**
LZH				AP	pP	22 27 11.4	-0.6
LZH				XP	sP	22 27 15.6	-0.4
LZH				PP	PP	22 28 22.3	-0.1
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,79nm,5.2s						
LZH				LR	LR		
	comp=N,324nm,13.0s						
LZH				LR	LR		
	comp=Z,395nm,17.4s,MS4.2						
LZH	**Lanzhou** comp=Z,19nm,1.4s,mb4.8	**35.35**	**9**	*e*P	**P**	**22 27 02.0**	**-0.6**
LZH				pP	pP	22 27 11.4	-0.6
LZH				sP	sP	22 27 15.6	-0.4
LZH				PP	PP	22 28 22.3	-0.1
SDNR	**Sundarnagar**	**35.92**	**329**	*e*P	**P**	**22 27 08.0**	**+0.5**
NJ2	**Nanjing**	**36.86**	**31**	*e*P	**P**	**22 27 17.1**	**+1.7**
NJ2				AP	pP	22 27 26.8	+2.0
NJ2				XP	sP	22 27 30.8	+2.1
NJ2				PP	PP	22 28 43.9	+2.5
NJ2				S	**S**	**22 33 00.0**	**+2.7**
NJ2				XS		22 33 18.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GTA	**Gaotai**	**38.23**	**3**	P	**P**	**22 27 26.9**	**+0.2**
GTA				AP	pP	22 27 36.2	0.0
GTA				XP	sP	22 27 38.9	-1.2
GTA				PCP	PcP	22 29 41.6	+0.4
GTA				S	**S**	**22 33 12.0**	**-6.0**
GTA				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,96nm,9.9s						
GTA				LR	LR		
	comp=N,174nm,15.2s,MS4.1						
GTA				LR	LR		
	comp=E,134nm,12.9s,MS4.1						
GTA				LR	LR		
	comp=Z,192nm,16.4s,MS4.0						
JOW	**Kunigami**	**39.17**	**47**	P	**P**	**22 27 35.5**	**+0.7**
	comp=Z,33nm,0.7s,mb5.2,baz=248,slow=8.0,SNR=13						
HHC	**Hu-ho-hao-te**	**41.62**	**16**	*e*P	**P**	**22 27 50.1**	**-4.8**
HHC				PCP	PcP	22 29 51.4	-0.7
HHC				SCP		22 33 37.5	
HHC				S	**S**	**22 33 59.9**	**-9.0**
HHC				SCS	ScS	22 37 49.1	-4.5
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,79nm,4.5s						
HHC				LR	LR		
	comp=N,424nm,15.1s,MS4.5						
HHC				LR	LR		
	comp=E,229nm,12.2s,MS4.5						
HHC				LR	LR		
	comp=Z,385nm,15.5s,MS4.4						
WRA	**Warramunga Arr** comp=Z,2.5nm,0.4s,mb4.2,baz=302,slow=9.0,SNR=26	**41.77**	**122**	P	**P**	**22 27 56.0**	**-0.4**
WRAB	**Tennant Creek**	**41.78**	**122**	*e*P	**P**	**22 27 56.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek** comp=Z,9.9nm,0.8s,mb4.5	**41.78**	**122**	*e*P	**P**	**22 27 56.0**	**-0.4**
WB2	**Warramunga Arr**	**41.78**	**122**	*e*P	**P**	**22 27 56.2**	**-0.2**
BJT	**Baijiatuau**	**42.36**	**21**	*e*P	**P**	**22 28 01.3**	**+0.4**
BJT				pmax	pmax		
	comp=Z,36nm,0.7s						
BJT	**Baijiatuau** comp=Z,36nm,0.7s,mb5.1	**42.36**	**21**	*e*P	**P**	**22 28 01.3**	**+0.4**
BJI	**Beijing**	**42.38**	**21**	P	**P**	**22 28 02.2**	**+1.1**
BJI				AP	pP	22 28 10.0	-0.6
BJI				XP	sP	22 28 14.7	+0.2
BJI				AMB	AMB		
	comp=Z,57nm,0.7s,mb5.3						
BJI				LR	LR		
	comp=Z,64nm,20.1s,MS3.5						
BJI	**Beijing** comp=Z,57nm,0.7s,mb5.3	**42.38**	**21**	P	**P**	**22 28 02.2**	**+1.1**
BJI				pP	pP	22 28 10.0	-0.6
BJI				sP	sP	22 28 14.7	+0.2
BJI				S	**S**	**22 34 34.2**	**+14**
ASPA	**Alice Springs**	**43.13**	**127**	*e*P	**P**	**22 28 07.4**	**0.0**
ASAR	**Alice Springs** comp=Z,6.4nm,1.1s,mb4.3,baz=300,slow=7.7,SNR=21	**43.14**	**127**	P	**P**	**22 28 07.5**	**0.0**
WMQ	**Urumqi**	**43.44**	**350**	⇑P	**P**	**22 28 10.5**	**+0.8**
WMQ				AP	pP	22 28 20.6	+1.5
WMQ				XP	sP	22 28 24.5	+1.4
WMQ				PP	PP	22 29 53.5	+0.9
WMQ				S	**S**	**22 34 37.1**	**+1.6**
WMQ				XS		22 34 52.1	
WMQ				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,37nm,3.1s						
WMQ				LR	LR		
	comp=N,22nm,22.8s,MS3.7						
WMQ				LR	LR		
	comp=E,111nm,23.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,80nm,21.8s,MS3.6						
UCH	**Uchtor** SNR=9.4	**45.86**	**336**	P	**P**	**22 28 30.3**	**+1.2**
KBK	**Karagaybulak** SNR=8.5	**46.05**	**337**	P	**P**	**22 28 32.5**	**+1.9**
AML	**Almayashu** SNR=5.3	**46

ZAK	**Zakamensk**	**49.39**	**5**	*e*P		**P**	**22 28 55.7**	**-0.8**
ZAK				*e*			22 30 17.0	
ZAK					pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3							
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.9							
MOY	**Mondy**	**50.51**	**3**	*e*P		**P**	**22 29 05.5**	**+0.4**
TLY	**Talaya**	**50.71**	**5⇑**	*e*P		**P**	**22 29 07.2**	**+0.6**
TLY					pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7							
TLY					MLR	MLR		
	comp=Z,300nm,22.0s,MS4.3							
MJAR	**Matsushiro Arr**	**51.64**	**42**	P		**P**	**22 29 13.8**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.3,baz=223,slow=6.1,SNR=8.1							
MJAR					LR	LR	22 54 52.4	
	comp=Z,70nm,18.5s,MS3.7,baz=270,slow=40							
HIA	**Hailar**	**51.70**	**18⇑**	*e*P		**P**	**22 29 14.0**	**-0.1**
HIA	**Hailar**	**51.70**	**18**	*e*P		**P**	**22 29 13.5**	**-0.6**
	comp=Z,19nm,0.7s,mb5.1							
MDJ	**Mudanjiang**	**51.88**	**29**	P		**P**	**22 29 15.5**	**-0.1**
MDJ				AP		pP	22 29 24.4	-0.8
MDJ				XP		sP	22 29 28.6	-0.3
MDJ				PCP		PcP	22 30 23.0	-5.1
MDJ				PP		PP	22 31 13.0	-1.1
MDJ				SCP			22 34 17.0	
MDJ				PCS			22 34 22.9	
MDJ				S		**S**	**22 36 32.0**	**-2.5**
MDJ				SCS		ScS	22 38 58.9	-1.0
MDJ				AMB		AMB		
	comp=Z,15nm,0.9s,mb4.9							
MDJ				AMB		AMB		
	comp=Z,65nm,4.6s							
MDJ				LR		LR		
	comp=N,141nm,20.6s,MS4.0							
MDJ				LR		LR		
	comp=E,44nm,23.0s,MS4.0							
MDJ				LR		LR		
	comp=Z,126nm,15.6s							
MDJ	**Mudanjiang**	**51.88**	**29**	P		**P**	**22 29 17.0**	**+1.5**
	comp=Z,7.2nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**53.10**	**132⇑**	*i*P		**P**	**22 29 25.3**	**+0.4**
	comp=Z,4.1nm,0.7s,mb4.5							
STKA	**Stephens Creek**	**53.10**	**132**	P		**P**	**22 29 25.4**	**+0.5**
	comp=Z,5.6nm,0.8s,mb4.5,baz=316,slow=7.9,SNR=13							
ZAL	**Zalesovo**	**53.72**	**351**	*i*P		**P**	**22 29 28.3**	**-0.8**
ZAL					pmax	pmax		
	comp=Z,24nm,0.5s							
ZAL	**Zalesovo**	**53.72**	**351**	P		**P**	**22 29 28.2**	**-0.8**
	comp=Z,24nm,0.5s,mb5.4,baz=310,slow=5.3,SNR=102							
NVS	**Novosibirsk**	**54.85**	**350⇑**	*i*P		**P**	**22 29 35.8**	**-1.6**
NVS					pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1							
NVS					pmax	pmax		
	comp=N,15nm,0.9s							
NVS					pmax	pmax		
	comp=E,6.0nm,0.5s							
KLR	**Kul'dur**	**56.27**	**26**	*e*P		**P**	**22 29 44.8**	**-3.0**
BVAR	**Borovoye Array**	**56.45**	**341**	P		**P**	**22 29 47.7**	**-1.3**
	comp=E,8.8nm,0.5s,mb5.0,baz=141,slow=9.2,SNR=62							
BOD	**Bodaibo**	**58.10**	**10⇓**	*i*P		**P**	**22 29 59.6**	**-0.9**
BOD					pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2							
KMBO	**Kilima Mbogo**	**60.21**	**268**	*e*P		**P**	**22 30 16.6**	**+0.9**
KMBO					pmax	pmax		
	comp=Z,4.0nm,1.1s							
KMBO	**Kilima Mbogo**	**60.21**	**268**	*e*P		**P**	**22 30 16.6**	**+0.8**
	comp=Z,3.5nm,1.1s,mb4.3							
YSS	**Yuzh-Sakhalins**	**60.33**	**34**	*i*P		**P**	**22 30 16.7**	**+0.6**
YSS					pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1							
GNI	**Garni**	**61.54**	**316**	*i*P		**P**	**22 30 21.6**	**-2.9**
SVE	**Sverdlovsk**	**62.89**	**338⇓**	*i*P		**P**	**22 30 32.4**	**-0.8**
SVE					pmax	pmax		
	comp=Z,13nm,0.7s,mb5.2							
ARU	**Arti**	**63.39**	**337⇑**	*i*P		**P**	**22 30 35.0**	**-1.5**
ARU				*e*S		**S**	**22 39 07.3**	**+2.0**
ARU				*e*SS		SS	22 43 16.0	+2.0
ARU					pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7							
ARU	**Arti**	**63.39**	**337**	*e*P		**P**	**22 30 34.9**	**-1.6**
	comp=Z,4.1nm,0.5s,mb4.8							
KIV	**Kislovodsk**	**64.55**	**319**	*e*P		**P**	**22 30 43.8**	**-0.5**
KIV				*e*		pP	22 30 55.2	+1.0
KIV					pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6							
KIV	**Kislovodsk**	**64.55**	**319**	*e*P		**P**	**22 30 43.2**	**-1.1**
	comp=Z,7.1nm,0.9s,mb4.7							
GOF	**Gofitskoye**	**64.81**	**320**	*e*P		**P**	**22 30 54.1**	**+8.2**
MALT	**Malatya**	**65.38**	**312**	*e*P		**P**	**22 30 49.5**	**-0.3**
MALT					pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2							
MALT	**Malatya**	**65.38**	**312**	*e*P		**P**	**22 30 49.5**	**-0.2**
	comp=Z,2.1nm,0.8s,mb4.2							
YAK	**Yakutsk**	**65.49**	**16**	*i*P		**P**	**22 30 49.2**	**-0.8**
YAK					pmax	pmax		
	comp=Z,20nm,0.5s,mb5.4							
YAK					MLR	MLR		
	comp=Z,200nm,22.0s,MS4.3							
ANN	**Anapa**	**68.35**	**318**	*e*P		**P**	**22 31 04.4**	**-4.0**
ANN				*i*			22 31 17.4	
ANN				*i*			22 31 34.9	
ANN				*e*S		S	22 40 03.6	-2.3
ANN					pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2							
BRTR	**Keskin Array B**	**69.37**	**312**	P		**P**	**22 31 13.5**	**-1.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=127,slow=6.2,SNR=6.4							
MATP	**Matopo**	**70.68**	**248**	LR		LR	23 00 30.9	
	comp=Z,61nm,18.1s,MS3.9,baz=230,slow=34							
MAW	**Mawson**	**72.63**	**193**	P		**P**	**22 31 33.9**	**-0.1**
	comp=Z,2.4nm,0.7s,mb4.2,baz=306,slow=2.7,SNR=3.6							
OBN	**Obninsk**	**72.85**	**328**	*i*P		**P**	**22 31 33.6**	**-1.9**
OBN				*e*SS		SS	22 45 47.6	+6.9
OBN					pmax	pmax		
	comp=Z,38nm,2.6s,mb4.9							
TIXI	**Tiksi**	**73.28**	**10⇑**	*e*P		**P**	**22 31 36.6**	**-1.1**
TIXI					pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8							
TIRR	**Tirgusor**	**74.37**	**316**	⇓P		**P**	**22 31 44.0**	**-0.5**
HARR	**Harsova**	**74.76**	**316**	⇓P		**P**	**22 31 55.7**	**+8.9**
AKASG	**Malin Array Be**	**75.50**	**322**	P		**P**	**22 31 49.5**	**-1.4**
	comp=Z,3.4nm,0.7s,mb4.4,baz=87,slow=5.0,SNR=10							
MLR	**Muntele Rosu**	**76.32**	**317**	⇓P		**P**	**22 31 55.9**	**+0.3**
BURAR	**Bucovina Array**	**77.27**	**319**	⇓P		**P**	**22 32 02.0**	**+1.1**
BURAR	**Bucovina Array**	**77.27**	**319**	⇓P		**P**	**22 32 02.0**	**+1.1**
FINES	**FINESS Array B**	**80.22**	**332**	P		**P**	**22 32 16.6**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.4,baz=98,slow=5.1,SNR=16							
BILL	**Bilibino**	**81.21**	**21⇑**	*e*P		**P**	**22 32 20.9**	**-0.8**
BILL				*e*			22 32 27.9	
BILL				*e*			22 35 27.1	
BILL				*e*S		S	22 42 34.0	+5.7
BILL				*e*SS		SS	22 47 53.6	+6.5
BILL					pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.4							
URZ	**Urewera**	**82.56**	**129**	LR		LR	23 09 31.7	
	comp=Z,127nm,21.9s,MS4.2,baz=217,slow=36							
MORC	**Moravsky Berou**	**82.65**	**320**	*e*P		**P**	**22 32 29.1**	**-0.5**
MORC					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5							
MORC	**Moravsky Berou**	**82.65**	**320**	*e*P		**P**	**22 32 29.1**	**-0.5**
	comp=Z,4.4nm,0.8s,mb4.5							
DPC	**Dobruska-Polom**	**83.50**	**320**	*e*P		**P**	**22 32 35.0**	**+1.1**
PRU	**Pruhonice**	**84.60**	**320**	*e*P		**P**	**22 32 40.3**	**+0.8**
GERES	**GERESS Array B**	**85.06**	**319**	P		**P**	**22 32 42.6**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=23							
KHC	**Kasperske Hory**	**85.16**	**319**	*e*P		**P**	**22 32 42.9**	**+0.6**
VNDA	**Vanda**	**85.65**	**169**	LR		LR	23 07 52.4	
	comp=Z,102nm,18.6s,MS4.2,baz=317,slow=34							
GRA1	**Grafenberg Arr**	**86.73**	**320**	*e*P		**P**	**22 32 51.0**	**+0.9**
	comp=Z,5.0nm,0.9s,mb4.7							
GRF	**Grafenberg Arr**	**86.73**	**320**	*e*P		**P**	**22 32 51.0**	**+0.9**
GRF					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7							
GRF	**Grafenberg Arr**	**86.73**	**320**	*e*P		**P**	**22 32 51.0**	**+0.9**
GRF					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7							
GRF	**Grafenberg Arr**	**86.73**	**320**	*e*P		**P**	**22 32 51.0**	**+0.9**
	comp=Z,5.0nm,0.9s,mb4.7							
NB2	**NORSAR Subarra**	**87.23**	**331**	P		**P**	**22 32 52.2**	**0.0**
	comp=Z,4.2nm,0.9s,mb4.7,baz=94,slow=4.6							
NOA	**NORSAR Array B**	**87.23**	**331**	P		**P**	**22 32 52.6**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.5,baz=94,slow=4.9,SNR=8.0							
NOA					LR	LR	23 19 02.5	
	comp=Z,42nm,18.6s,MS3.9,baz=75,slow=41							
LPG	**La Plagne**	**89.72**	**315**	*e*P		**P**	**22 33 04.4**	**-0.1**
	comp=Z,6.2nm,0.8s,mb4.7							
LPG	**La Plagne**	**89.72**	**315**	*e*P		**P**	**22 33 04.4**	**-0.1**
LPG					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7							
TXAR	**Lajitas Array**	**143.66**	**32**	PKP		PKPdf	22 39 42.9	-2.6
	comp=Z,0.5nm,0.6s,baz=225,slow=1.8,SNR=4.3							
GOGA	**Godfrey**	**145.70**	**1**	*e*PKP		PKPdf	22 39 45.2	-3.8
LRAL	**Lakeview Retre**	**145.83**	**7**	*e*PKP		PKPdf	22 39 45.3	-4.0

IDC 05 22:27:37.4±8.1, 1.04N×99.29E, mb3.4/3, mb1 3.5/4, mb1mx3.3/19, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=164.1km s-min=106.1km az=138.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.31**	**359**	P	P	22 31 41.0	-1.2
	0.0nm,0.3s,baz=194,slow=12,SNR=4.4						
SONM	**Songino Array**	**47.01**	**7**	P	P	22 36 10.3	-2.0
	0.3nm,0.7s,baz=202,slow=7.8,SNR=3.2						
MKAR	**Makanchi Array**	**47.93**	**344**	P	P	22 36 17.3	-2.2
	0.6nm,0.6s,baz=151,slow=7.4,SNR=6.6						
BVAR	**Borovoye Array**	**57.10**	**340**	P	P	22 37 25.7	-2.2
	0.2nm,0.3s,baz=141,slow=9.2,SNR=3.4						

*MDD **05** 22:38:54.2±2.4, 35.93N×17.74W, h26km±31km, mb4.2/19, Error ellipse: s-maj=33.1km s-min=8.8km az=110.0, PRXIMO*
*CSEM **05** 22:38:56.6±0.4, 36.17N×16.92W, h5km, ML2.8, Error ellipse: s-maj=8.6km s-min=5.4km az=19.0*
*INMG **05** 22:38:57.1±0.7, 35.87N×17.77W, h5km, ML2.8, Error ellipse: s-maj=10.8km s-min=3.5km az=115.0*
ISC 05 22:38:54.9±0.8, 35.73N±0.04×16.99W±0.07, h26km, n44, σ1§49/79, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**6.89**	**72**	*e*Pn	**Pn**	**22 40 39.4**	**+2.5**
PTEO				*e*Sn	**Sn**	**22 41 57.1**	**+1.8**
	5.0nm,0.5s						
PTEO	**Sao Teotonio**	**6.89**	**72**	*e*P	**Pn**	**22 40 39.4**	**+2.5**
PTEO				*e*S	**Sn**	**22 41 57.1**	**+1.8**
	5.0nm,0.5s						
CCAN	**Las Canadas**	**7.50**	**177**	P	**Pn**	**22 40 44.8**	**-0.6**
	8.7nm,0.8s,SNR=7.9						
CCAN				S	**Sn**	**22 42 05.1**	**-5.3**
	15nm,1.0s,SNR=7.9						
CFUE	**Fuerteventura**	**7.53**	**159**	P	**Pn**	**22 40 46.6**	**+0.8**
	2.8nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**22 42 09.4**	**-1.7**
	10nm,0.3s,SNR=7.9						
CFUE	**Fuerteventura**	**7.53**	**159**	P	**Pn**	**22 40 45.8**	**0.0**
	2.8nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**22 42 05.9**	**-5.3**
	10nm,0.3s,SNR=7.9						
EGOM	**La Gomera**	**7.55**	**181**	P	**Pn**	**22 40 44.8**	**-1.4**
	13nm,0.8s,SNR=7.9						
EGOM				S	**Sn**	**22 42 04.9**	**-7.0**
	1.9nm,0.1s,SNR=4.0						
EGOM	**La Gomera**	**7.55**	**181**	S	**Sn**	**22 42 03.0**	**-8.9**
	1.9nm,0.1s,SNR=4.0						
PBEJ	**Beja**	**7.67**	**70**	*e*Pn	**Pn**	**22 40 50.5**	**+2.7**
PBEJ				*e*Sn	**Sn**	**22 42 15.3**	**+0.7**
	1.8nm,0.3s						
PBEJ	**Beja**	**7.67**	**70**	*e*P	**Pn**	**22 40 50.5**	**+2.7**
PBEJ				*e*S	**Sn**	**22 42 15.3**	**+0.7**
	1.8nm,0.3s						
CFTV	**Fuerteventura**	**7.70**	**161**	P	**Pn**	**22 40 49.6**	**+1.2**
	3.7nm,0.6s,SNR=7.9						
CFTV				S	**Sn**	**22 42 14.2**	**-1.4**
	14nm,1.0s,SNR=7.9						
PTOM	**Tomar**	**7.83**	**58**	*e*Pn	**Pn**	**22 40 52.1**	**+2.0**
PTOM				*e*Sn	**Sn**	**22 42 17.1**	**-1.7**
	6.2nm,0.2s						
PTOM	**Tomar**	**7.83**	**58**	*e*P	**Pn**	**22 40 52.1**	**+2.0**
PTOM				*e*S	**Sn**	**22 42 17.1**	**-1.7**
	6.2nm,0.2s						
PALC	**Alcoutim**	**7.85**	**74**	*e*Pn	**Pn**	**22 40 53.0**	**+2.7**
PALC				*e*Sn	**Sn**	**22 42 19.8**	**+0.6**
	2.5nm,0.7s						
PALC	**Alcoutim**	**7.85**	**74**	*e*P	**Pn**	**22 40 53.0**	**+2.7**
PALC				*e*S	**Sn**	**22 42 19.8**	**+0.6**
	2.5nm,0.7s						
EGRO	**El Granado**	**7.86**	**74**	P	**Pn**	**22 40 52.6**	**+2.2**
	0.3nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**22 42 20.5**	**+1.1**
	0.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**7.86**	**74**	P	**Pn**	**22 40 52.0**	**+1.6**
	0.3nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**22 42 18.5**	**-0.9**
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**8.51**	**66**	P	**P**	**22 41 01.4**	**+1.9**
	0.2nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**22 42 35.2**	**-0.5**
	0.8nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**8.51**	**66**	P	**P**	**22 41 04.7**	**+5.2**
	0.2nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**22 42 33.0**	**-2.7**
	0.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**8.53**	**73**	P	**P**	**22 41 02.0**	**+2.2**
	0.4nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**22 42 36.4**	**+0.2**
	0.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**8.53**	**73**	P	**P**	**22 41 01.5**	**+1.7**
	0.4nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**22 42 33.7**	**-2.5**
	0.2nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**8.58**	**59**	*e*Pn	**P**	**22 41 01.9**	**+1.5**
PCBR				*e*Sn	**Sn**	**22 42 35.6**	**-1.7**
MTE	**Manteigas**	**8.79**	**55**	*e*Sn	**Sn**	**22 42 38.6**	**-4.0**
	3.2nm,0.5s						
MTE	**Manteigas**	**8.79**	**55**	S	**Sn**	**22 42 38.6**	**-4.0**
	1.6nm,0.5s						
ESPR	**Espera**	**9.06**	**80**	P	**P**	**22 41 10.2**	**+3.0**
	1.4nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**9.10**	**43**	P	**P**	**22 41 06.7**	**-0.9**
	9.0nm,0.6s,SNR=7.9						
EZAM				S	**Sn**	**22 42 44.3**	**-6.0**
	5.4nm,0.5s,SNR=4.0						
EZAM	**Zamans**	**9.10**	**43**	S	**Sn**	**22 42 41.9**	**-8.4**
	5.4nm,0.5s,SNR=4.0						
PVRL	**Vila Real**	**9.13**	**50**	*e*Sn	**Sn**	**22 42 45.8**	**-5.4**
	2.6nm,0.2s						
PVRL	**Vila Real**	**9.13**	**50**	S	**Sn**	**22 42 45.8**	**-5.4**
	1.3nm,0.2s						
ELOB	**Lobios**	**9.28**	**46**	P	**P**	**22 41 09.5**	**-0.6**
	5.6nm,0.2s,SNR=20						
ELOB				S	**Sn**	**22 42 49.5**	**-5.2**
	3.2nm,0.2s						
ELOB	**Lobios**	**9.28**	**46**	P	**P**	**22 41 09.5**	**-0.6**
	5.6nm,0.2s,SNR=20						
ELOB				S	**Sn**	**22 42 46.9**	**-7.8**
	3.2nm,0.2s						
EMAZ	**Mazaricos**	**9.51**	**38**	P	**P**	**22 41 12.0**	**-1.3**
	1.4nm,0.2s,SNR=10						
EMAZ				S	**Sn**	**22 42 53.1**	**-7.2**
	1.4nm,0.2s						
EMAZ	**Mazaricos**	**9.51**	**38**	P	**P**	**22 41 12.4**	**-0.9**
	6.3nm,0.3s,SNR=10						
EMAZ				S	**Sn**	**22 42 50.5**	**-10**
	1.4nm,0.2s						
STS	**Santiago**	**9.68**	**40**	P	**P**	**22 41 14.9**	**-0.8**
	0.3nm,0.4s,SNR=7.9						
STS				S	**Sn**	**22 42 57.2**	**-7.5**
	9.4nm,1.0s,SNR=7.9						
ECAL	**Calabor**	**10.12**	**49**	P	**P**	**22 41 21.2**	**-0.5**
	2.8nm,0.2s,SNR=11						
ECAL				S	**S**	**22 43 09.1**	**-6.2**
	6.9nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**10.12**	**49**	P	**P**	**22 41 21.2**	**-0.5**
	2.8nm,0.2s,SNR=11						
ECAL				S	**S**	**22 43 07.7**	**-7.6**
	6.9nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**10.14**	**46**	P	**P**	**22 41 21.4**	**-0.6**
	1.9nm,0.2s,SNR=6.7						
ERUA				S	**S**	**22 43 09.0**	**-6.8**
	1.5nm,0.2s						
ERUA	**La Rua**	**10.14**	**46**	P	**P**	**22 41 22.8**	**+0.8**
	2.0nm,0.2s,SNR=6.7						
ERUA				S	**S**	**22 43 08.7**	**-7.1**
	1.5nm,0.2s						
EINC	**Incio**	**10.19**	**44**	P	**P**	**22 41 22.0**	**-0.6**
	1.9nm,0.2s,SNR=21						
EINC				S	**S**	**22 43 10.0**	**-7.0**
	2.7nm,0.3s						
EINC	**Incio**	**10.19**	**44**	P	**P**	**22 41 22.0**	**-0.6**
	1.9nm,0.2s,SNR=21						
EINC				S	**S**	**22 43 08.0**	**-9.0**
	2.7nm,0.3s						
EADA	**Adamuz**	**10.23**	**73**	P	**P**	**22 41 25.0**	**+1.7**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**S**	**22 43 16.0**	**-2.1**
	0.7nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**10.23**	**73**	P	**P**	**22 41 24.8**	**+1.6**
	0.4nm,0.1s,SNR=7.9						
EADA				S	**S**	**22 43 16.0**	**-2.1**
	0.7nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**10.73**	**42**	P	**P**	**22 41 28.6**	**-1.4**
	1.5nm,0.2s,SNR=4.0						
EPON				S	**S**	**22 43 22.7**	**-7.7**
	2.9nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**11.05**	**65**	P	**P**	**22 41 35.8**	**+1.4**
	0.1nm,0.1s,baz=267,slow=13,SNR=4.5						
EARI	**Arriondas**	**11.82**	**47**	P	**P**	**22 41 44.5**	**-0.4**
	1.2nm,0.4s,SNR=8.4						

OTT 05 22:42:14.2±0.1, 64.66N×110.66W, h1km, MN3.1/16, 1C, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.05**	**28**	PG	Pg	22 42 15.0	-0.2
DVKN	**Diavik Mine**	**0.21**	**134**	⇑PG	Pg	22 42 18.3	-0.1
DVKN				SG	Sg	22 42 21.3	0.0
DVKN				Trac		22 42 22.6	
	comp=Z,96nm,0.1s						
ACKN	**Achilles Lake**	**0.35**	**345**	PG	Pg	22 42 20.6	-0.6
ACKN				SG	Sg	22 42 25.2	-0.6
ACKN				Trac		22 42 25.7	
	comp=Z,88nm,0.1s						
LGSN	**Lac de Gras So**	**0.40**	**144**	PG	Pg	22 42 21.6	-0.5
LGSN				SG	Sg	22 42 27.1	-0.4
LGSN				Trac		22 42 27.8	
	comp=Z,25nm,0.1s						
YMBN	**Yamba Lake**	**0.43**	**301**	PG	Pg	22 42 22.1	-0.8
YMBN				SG	Sg	22 42 28.0	-0.7
YMBN				Trac		22 42 29.1	
	comp=Z,83nm,0.1s						
YNEN	**Yamba Lake Nor**	**0.47**	**339**	PG	Pg	22 42 22.8	-0.7
YNEN				SG	Sg	22 42 28.9	-0.8
GLWN	**Glow Worm Lake**	**0.58**	**82**	PG	Pg	22 42 24.9	-0.8
GLWN				SG	Sg	22 42 32.7	-0.8
GLWN				Trac		22 42 33.4	
	comp=Z,105nm,0.1s						
COWN	**Contwyoto Lake**	**0.66**	**340**	PG	Pg	22 42 26.3	-1.0
COWN				SG	Sg	22 42 35.0	-1.1
COWN				Trac		22 42 36.5	
	comp=Z,55nm,0.1s						
NODN	**Nodinka Narrow**	**0.71**	**191**	PG	Pg	22 42 27.3	-1.0
NODN				SG	Sg	22 42 36.6	-1.2
MLON	**Marlo Lake**	**0.77**	**154**	PG	Pg	22 42 28.3	-1.2
MLON				SG	Sg	22 42 38.5	-1.2
MLON				Trac		22 42 39.4	
	comp=Z,30nm,0.1s						
BOXN	**Box Lake**	**0.91**	**152**	PG	Pg	22 42 30.9	-1.4
BOXN				SG	Sg	22 42 43.4	-1.0
BOXN				Trac		22 42 45.5	
	comp=Z,39nm,0.1s						
CAMN	**Camsell Lake**	**0.93**	**186**	PG	Pg	22 42 31.4	-1.4
CAMN				SG	Sg	22 42 43.5	-1.7
CAMN				Trac		22 42 44.5	
	comp=Z,35nm,0.1s						
MGTN	**Margaret Lake**	**1.08**	**154**	PG	Pg	22 42 34.3	-1.5
MGTN				SG	Sg	22 42 47.9	-2.3
MGTN				Trac		22 42 49.2	
	comp=Z,87nm,0.1s						
GBLN	**Grizzly Bear L**	**1.11**	**247**	PG	Pg	22 42 34.5	-1.9
GBLN				SG	Sg	22 42 48.9	-2.3
GBLN				Trac		22 42 50.1	
	comp=Z,104nm,0.1s						
LUPN	**Lupin Mine**	**1.12**	**347**	PG	Pg	22 42 34.5	-2.0
LUPN				SG	Sg	22 42 48.6	-2.8
LUPN				Trac		22 42 53.7	
	comp=Z,41nm,0.1s						
SNPN	**Snap Lake**	**1.15**	**185**	PG	Pg	22 42 35.4	-1.7
SNPN				SG	Sg	22 42 50.0	-2.3
SNPN				Trac		22 42 54.4	
	comp=Z,1μm,0.1s						
IHLN	**Indian Hill La**	**1.36**	**184**	PG	Pg	22 42 38.8	-2.6
IHLN				SG	Sg	22 42 56.3	-3.2
IHLN				Trac		22 42 57.8	
	comp=Z,49nm,0.1s						
KNDN	**Kennady Lake**	**1.40**	**152**	PG	Pg	22 42 39.6	-2.5
KNDN				SG	Sg	22 42 57.4	-3.4
KNDN				Trac		22 43 00.6	
	comp=Z,53nm,0.1s						
ILKN	**Indian Lake**	**1.98**	**259**	PN	Pn	22 42 48.4	-0.9
ILKN				SG	Sg	22 43 14.4	-5.9
ILKN				Trac		22 43 17.1	
	comp=Z,21nm,0.1s						
DSMN	**Discovery Mine**	**2.06**	**225**	PN	Pn	22 42 48.8	-1.6
DSMN				PG	Pg	22 42 50.8	-4.5
DSMN				SN	Sn	22 43 16.8	-0.2
DSMN				Trac		22 43 18.9	
	comp=Z,17nm,0.1s						
CTLN	**Castor Lake**	**2.33**	**267**	PN	Pn	22 42 53.0	-1.2
CTLN				SN	Sn	22 43 20.4	-3.3
CTLN				Trac		22 43 26.5	
	comp=Z,9.7nm,0.1s					

mb3.4/3, **Bay of Bengal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.07**	**359**	*e*P	**P**	**22 54 37.0**	**+0.1**
SHL				*e*S	**S**	**22 55 15.0**	**-9.0**
CMAR	**Chiang Mai Arr**	**7.22**	**113**	Pn	**Pn**	**22 55 21.5**	**-0.1**
	0.5nm,0.3s,baz=298,slow=15,SNR=5.2						
MKAR	**Makanchi Array**	**26.45**	**345**	P	**P**	**22 59 11.0**	**-0.2**
	0.5nm,0.8s,mb3.1,baz=154,slow=9.3,SNR=4.9						
SONM	**Songino Array**	**28.75**	**20**	P	**P**	**22 59 36.7**	**+4.7**
	0.6nm,0.9s,mb3.3,baz=208,slow=7.2,SNR=5.0						
ASAR	**Alice Springs**	**60.67**	**135**	P	**P**	**23 03 46.1**	**+0.1**
	0.5nm,0.6s,mb3.8,baz=316,slow=7.0,SNR=6.2						

NIED ***05*** *23:00:00,33.70N×130.30E,h8km,Mw3.7 Best double couple: M0 3.36×10¹⁴ NP1:φ=138°,δ70°,λ56°. NP2:φ=21°, δ39°,λ147°.*

JMA 05 22:59:54.2,33.71N×130.26E,h14km,M4.1,1C-2D Broadband fault plane solution: P waves. NP1:φ=298°, δ64°,λ23°. NP2:φ=198°,δ69°,λ152°. Principal axes: T Plg34°, Azm157°; N Plg56°, Azm343°; P Plg3°, Azm249°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.30**	**159**	⇑P	Pg	23 00 00.5	-0.2
JFI				S	Sg	23 00 04.9	-0.2
JFA	**Akaike**	**0.45**	**90**	⇓P	Pb	23 00 02.9	-0.4
JFA				S	Sb	23 00 09.5	0.0
JII	**Iki**	**0.45**	**281**	⇓P	Pb	23 00 03.1	-0.2
JII				S	Sb	23 00 09.3	-0.3
JTA	**Tamana**	**0.78**	**163**	P	Pb	23 00 08.8	-0.2
JTU	**Tsushima**	**1.08**	**319**	P	Pb	23 00 14.2	0.0
JTU				S	Sb	23 00 28.6	+0.6

IDC ***05*** *23:05:42.5±4.0,37.08N×96.61E,mb3.7/4,mb1 3.8/7, mb1mx3.6/22,mbtmp3.6/7,ML3.2/3,MS2.8/1,Ms1 2.8/1, ms1mx2.2/27 Error ellipse: s-maj=86.4km s-min=35.8km az=8.0*

BJI ***05*** *23:05:50.7,37.53N×96.42E,h17km,ML3.7,Ms3.6, Msz3.6*

ISC 05 23:05:43.6±1.1,37.2N±0.1×96.58E±0.07,h10km,n10, σ1°09/14,mb3.7/4,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.35**	**48**	P	**Pn**	**23 06 41.4**	**+4.3**
GTA				PG	**Pg**	**23 06 46.5**	**-4.0**
GTA				S	**Sn**	**23 07 17.9**	**+0.6**
GTA				SG	**Sg**	**23 07 23.7**	**-11**
GTA				Smax			
	comp=N,45nm,0.8s						
GTA				Smax			
	comp=E,50nm,0.4s						
LZH	**Lanzhou**	**5.95**	**99**	PG	**Pg**	**23 07 41.6**	**-0.8**
LZH				SG	**Sg**	**23 09 02.5**	**+0.9**
LZH				Smax			
	comp=N,72nm,1.2s						
LZH				Smax			
	comp=E,84nm,1.2s						
LZH				LR	LR		
	comp=N,315nm,5.9s						
LZH				LR	LR		
	comp=Z,374nm,7.5s						
WMQ	**Urumqi**	**9.44**	**317**	*e*P	**P**	**23 08 04.0**	**+1.3**
SONM	**Songino Array**	**12.82**	**31**	Pn	**P**	**23 08 48.6**	**0.0**
	comp=Z,0.7nm,0.3s,baz=216,slow=15,SNR=45						
SONM				LR	LR	23 13 13.5	
	comp=Z,40nm,18.8s,baz=71,slow=35						
MKAR	**Makanchi Array**	**14.27**	**317**	Pn	**P**	**23 09 02.8**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=132,slow=14,SNR=11						
ZAL	**Zalesovo**	**18.59**	**338**	P	**P**	**23 10 01.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=338,slow=11,SNR=3.0						
BVAR	**Borovoye Array**	**24.12**	**319**	P	**P**	**23 11 01.9**	**+1.7**
	comp=Z,0.8nm,0.7s,mb3.3,baz=108,slow=9.4,SNR=4.7						
FINES	**FINESS Array B**	**48.98**	**323**	P	**P**	**23 14 31.1**	**-0.8**
	comp=Z,1.9nm,0.9s,mb4.1,baz=80,slow=8.5,SNR=4.5						
ILAR	**Eielson Array**	**66.95**	**25**	P	**P**	**23 16 37.3**	**-0.7**
	comp=Z,1.2nm,0.8s,mb4.0,baz=297,slow=5.2,SNR=11						
YKA	**Yellowknife Ar**	**77.50**	**14**	P	**P**	**23 17 40.2**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.3,baz=328,slow=4.8,SNR=6.2						

IDC 05 23:10:10.1±2.4,0.84N×97.19E,mb3.9/5,mb1 4.0/6, mb1mx3.8/18,mbtmp3.9/6,ML4.1/1,Error ellipse: s-maj=96.1km s-min=25.9km az=60.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.60**	**6**	P	P	23 14 17.9	-0.6
	0.2nm,0.3s,baz=187,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**43.19**	**127**	P	P	23 18 13.2	-1.6
	0.7nm,0.6s,baz=299,slow=8.1,SNR=6.7						
SONM	**Songino Array**	**47.49**	**8**	P	P	23 18 46.8	-1.9
	0.5nm,0.4s,baz=192,slow=9.8,SNR=8.7						
MKAR	**Makanchi Array**	**47.59**	**346**	P	P	23 18 48.1	-1.5
	1.2nm,0.5s,baz=160,slow=8.5,SNR=16						
ZAL	**Zalesovo**	**53.91**	**351**	P	P	23 19 34.6	-2.8
	2.8nm,0.4s,baz=307,slow=5.1,SNR=13						
BVAR	**Borovoye Array**	**56.59**	**341**	P	P	23 19 54.0	-3.0
	0.5nm,0.5s,baz=162,slow=9.4,SNR=4.0						

IDC 05 23:19:33.8±75.0,22.81S×179.89W,h627km±408km, mb3.3/4,mb1 3.4/4,mb1mx3.1/16,mbtmp4.4/4,1C,Error ellipse: s-maj=914.1km s-min=96.4km az=78.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.59**	**268**	P	P	23 25 08.6	-0.6
	5.7nm,0.4s,baz=88,slow=9.6,SNR=7.7						
STKA	**Stephens Creek**	**35.24**	**247**	*e*P	P	23 25 37.0	-2.4
	1.7nm,0.4s						
STKA	**Stephens Creek**	**35.24**	**247**	P	P	23 25 37.0	-2.4
	2.1nm,0.4s,baz=76,slow=8.9,SNR=6.2						
ASAR	**Alice Springs**	**42.33**	**259**	P	P	23 26 35.2	-1.4
	2.9nm,0.7s,baz=96,slow=7.8,SNR=24						
ASPA	**Alice Springs**	**42.33**	**259**	*e*P	P	23 26 35.7	-0.9
WB2	**Warramunga Arr**	**42.58**	**265**	⇑*i*P	P	23 26 37.1	-1.6
WRA	**Warramunga Arr**	**42.59**	**265**	P	P	23 26 37.3	-1.4
	1.9nm,0.3s,baz=92,slow=8.5,SNR=21						
FORT	**Forrest**	**46.80**	**249**	*e*P	P	23 27 07.9	-3.0
	215nm,0.5s						

GUC 05 23:29:30.7±0.8,24.75S×69.48W,h116km±18km,ML3.5, 1C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.85**	**278**	⇑*i*P	P	23 29 52.2	+1.0
CPN1				*i*S	S	23 30 07.8	+1.3
CPN1				AMP		23 30 09.6	
	comp=N,1μm,0.6s						
ANCH	**Antofagasta**	**1.36**	**321**	⇓*i*P	P	23 29 59.7	+3.0
ANCH				*i*S	S	23 30 19.4	+3.0
ANCH				AMP		23 30 21.5	
	comp=N,588nm,0.1s						
SPCH	**San Pedro de A**	**2.18**	**33**	*e*P	P	23 30 06.8	-0.1
SPCH				*i*S	S	23 30 35.4	+1.4
SPCH				AMP		23 30 36.7	
	comp=E,590nm,0.7s						
LVC	**Limon Verde**	**2.19**	**14**	⇓*i*P	P	23 30 07.6	+0.6
LVC				*i*S	S	23 30 35.3	+0.9
LVC				AMP		23 30 37.0	
	comp=N,424nm,0.6s						

IDC ***05*** *23:31:19.3±0.7,48.38S×107.10E,mb4.3/7,mb1 4.6/7, mb1mx4.3/15,mbtmp4.3/7,MS4.3/19,Ms1 4.4/19, ms1mx4.3/20,Error ellipse: s-maj=31.7km s-min=19.4km az=118.0*

NEIC ***05*** *23:31:20.7±0.4,48.40S×107.07E,h10km,mb4.6/5,Error ellipse: s-maj=20.2km s-min=10.7km az=131.0*

ISC 05 23:31:18.5±0.6,48.4S±0.1×107.2E±0.2,h10km,n41, σ0°61/14,mb4.5/10,MS4.4/18,2D,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.23**	**30**	LR	LR	23 40 13.6	
	comp=Z,404nm,21.4s,baz=203,slow=31						
NWAO	**Narrogin (SRO)**	**17.23**	**30**	P	**P**	**23 35 24.1**	**+3.3**
	6.6nm,0.8s						
MAW	**Mawson**	**29.36**	**213**	LR	LR	23 46 02.2	
	comp=Z,445nm,18.1s,MS4.1,baz=242,slow=30						
STKA	**Stephens Creek**	**30.73**	**70**	LR	LR	23 47 43.2	
	comp=Z,1μm,20.9s,MS4.5,baz=207,slow=32						
ASPA	**Alice Springs**	**32.51**	**50**	*e*P	**P**	**23 37 51.3**	**-0.3**
ASAR	**Alice Springs**	**32.52**	**50**	P	**P**	**23 37 51.4**	**-0.2**
	12nm,1.2s,mb4.7,baz=210,slow=8.1,SNR=16						
ASAR				LR	LR	23 49 05.8	
	comp=Z,478nm,20.2s,MS4.2,baz=208,slow=33						
FITZ	**Fitzroy Crossi**	**33.77**	**33**	*e*P	**P**	**23 38 01.5**	**-1.0**
	5.4nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.77**	**33**	P	**P**	**23 38 02.8**	**+0.2**
	12nm,1.0s,mb4.8,baz=192,slow=9.0,SNR=5.9						
FITZ				LR	LR	23 51 12.3	
	comp=Z,672nm,20.6s,MS4.3,baz=240,slow=35						
VNDA	**Vanda**	**35.72**	**162**	P	**P**	**23 38 19.0**	**+0.3**
	2.4nm,0.8s,mb4.2,baz=285,slow=8.0,SNR=7.2						
VNDA				LR	LR	23 51 49.7	
	comp=Z,1μm,18.3s,MS4.8,baz=296,slow=34						
WRA	**Warramunga Arr**	**35.86**	**47**	P	**P**	**23 38 20.6**	**+0.2**
	11nm,1.1s,mb4.7,baz=209,slow=8.1,SNR=8.2						
WB2	**Warramunga Arr**	**35.86**	**47**	*e*P	**P**	**23 38 20.5**	**0.0**
WRAB	**Tennant Creek**	**35.87**	**47**	*e*P	**P**	**23 38 20.2**	**-0.4**
	7.1nm,1.1s,mb4.5						
RPZ	**Rata Peaks**	**43.41**	**109**	LR	LR	23 53 56.2	
	comp=Z,752nm,19.8s,MS4.6,baz=212,slow=31						
SNAA	**Sanae**	**50.55**	**203**	P	**P**	**23 40 18.5**	**0.0**
	1.1nm,0.6s,mb4.0,baz=107,slow=9.1,SNR=5.6						
SNAA				LR	LR	23 59 01.3	
	comp=Z,201nm,18.6s,MS4.2,baz=69,slow=33						
DZM	**Mont Dzumac**	**53.52**	**83**	LR	LR	00 01 20.4	
	comp=Z,166nm,20.8s,MS4.1,baz=308,slow=34						
CMAR	**Chiang Mai Arr**	**66.99**	**351**	P	**P**	**23 42 13.4**	**-0.3**
	1.2nm,0.4s,mb4.2,baz=190,slow=5.4,SNR=7.7						
CMAR				LR	LR	00 12 15.3	
	comp=Z,247nm,18.2s,MS4.5,baz=185,slow=37						
MATP	**Matopo**	**67.59**	**264**	P	**P**	**23 42 17.9**	**+0.5**
	4.0nm,1.0s,mb4.4,baz=167,slow=10,SNR=3.7						
LSZ	**Lusaka**	**71.46**	**268**	*e*P	**P**	**23 42 41.5**	**+0.2**
	9.4nm,1.2s,mb4.6						
AFI	**Afiamalu**	**73.80**	**93**	LR	LR	00 08 27.5	
	comp=Z,191nm,18.4s,MS4.4,baz=218,slow=30						
TSUM	**Tsumeb**	**75.63**	**257**	*e*P	**P**	**23 43 04.8**	**-0.7**
	6.6nm,1.1s,mb4.5						
KMBO	**Kilima Mbogo**	**75.94**	**284**	LR	LR	00 10 30.5	
	comp=Z,207nm,18.3s,MS4.5,baz=280,slow=31						
RAR	**Rarotonga**	**76.38**	**107**	LR	LR	00 11 21.8	
	comp=Z,222nm,19.9s,MS4.5,baz=66,slow=31						
JOW	**Kunigami**	**77.27**	**19**	LR	LR	00 16 23.7	
	comp=Z,118nm,19.4s,MS4.2,baz=132,slow=35						
TBI	**Tubuai**	**81.22**	**115**	*e*LR	LR	00 09 31.2	
	316nm,25.0s						
PPT	**Papeete**	**85.51**	**111**	*e*LR	LR	00 11 28.3	
	163nm,22.8s						
PPT	**Papeete**	**85.51**	**111**	LR	LR	00 13 34.0	
	comp=Z,208nm,21.2s,MS4.5,baz=217,slow=30						
MJAR	**Matsushiro Arr**	**89.00**	**25**	LR	LR	00 19 05.8	
	comp=Z,68nm,21.7s,MS4.0,baz=225,slow=32						
PLCA	**Paso Flores**	**91.20**	**182**	LR	LR	00 22 41.6	
	comp=Z,382nm,19.9s,MS4.8,baz=170,slow=34						
SONM	**Songino Array**	**95.88**	**359**	LR	LR	00 30 07.7	
	comp=Z,146nm,18.8s,MS4.5,baz=333,slow=37						
MKAR	**Makanchi Array**	**97.29**	**343**	LR	LR	00 27 05.2	
	comp=Z,139nm,18.6s,MS4.5,baz=161,slow=34						
GERES	**GERESS Array B**	**125.93**	**305**	PKP	PKPdf	23 50 21.5	-1.8
	0.1nm,0.3s,baz=284,slow=4.0,SNR=3.6						
DAG	**Danmarks Havn**	**144.66**	**341**	⇓*e*P	PKPbc	23 50 54.1	+0.4
DAG	**Danmarks Havn**	**144.66**	**341**	⇓*i*P	PKPbc	23 50 54.1	+0.4
	3.0nm,1.0s						
NVAR	**Mina Array Bea**	**145.93**	**90**	PKPbc	PKPbc	23 51 00.6	+2.6
	5.0nm,1.1s,baz=225,slow=6.4,SNR=16						
WVOR	**Wild Horse Val**	**147.67**	**83**	*e*PKPbc	PKPdf	23 51 05.2	+2.3
TXAR	**Lajitas Array**	**149.63**	**118**	PKPbc	PKPdf	23 51 11.4	+5.0
	3.7nm,1.1s,baz=214,slow=4.5,SNR=12						
MSU	**Marysvale**	**150.05**	**95**	*e*PKPbc	PKPdf	23 51 13.0	+6.2
MNTX	**Cornudas Mount**	**150.28**	**112**	*e*PKPdf	PKPdf	23 51 07.0	-0.4
NLU	**North Lily Min**	**150.87**	**92**	*e*PKPbc	PKPdf	23 51 14.2	+6.3
YKA	**Yellowknife Ar**	**153.02**	**43**	PKPbc	PKPdf	23 51 15.5	+5.2
	0.7nm,0.9s,baz=278,slow=2.1,SNR=7.4						
PDAR	**Pinedale Array**	**153.85**	**89**	PKPbc	PKPdf	23 51 21.9	+10
	0.3nm,0.7s,baz=225,slow=2.6,SNR=3.1						

IDC ***05*** *23:32:57.6±0.8,0.11S×97.00E,mb4.0/9,mb1 4.1/10, mb1mx4.0/19,mbtmp4.0/10,ML4.3/1,Error ellipse: s-maj=31.6km s-min=17.5km az=58.0*

NEIC ***05*** *23:33:02.1±0.5,0.00N×97.12E,h30km,mb4.0/2,Error ellipse: s-maj=12.8km s-min=9.5km az=64.0*

ISC 05 23:33:00.8±0.7,0.04N±0.09×97.2E±0.1,h33km,n17, σ0°66/16,mb4.0/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.27**	**34**	*e*P	**P**	**23 34 32.6**	**-0.7**
CM31	**Chiang Mai Arr**	**18.39**	**5**	*e*P	**P**	**23 37 15.2**	**+0.1**
	3.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**18.39**	**5**	P	**P**	**23 37 15.1**	**0.0**
	0.4nm,0.3s,baz=195,slow=11,SNR=20						
KKM	**Kota Kinabalu**	**19.93**	**72**	*e*P	**P**	**23 37 32.2**	**-0.6**
WRA	**Warramunga Arr**	**41.47**	**121**	P	**P**	**23 40 46.8**	**+0.3**
	1.1nm,0.5s,mb3.8,baz=304,slow=8.9,SNR=5.0						
ASAR	**Alice Springs**	**42.74**	**126**	P	**P**	**23 40 57.4**	**+0.3**
	0.6nm,0.6s,mb3.5,baz=302,slow=7.7,SNR=2.3						
AAK	**Ala-Archa**	**47.04**	**337**	P	**P**	**23 41 30.5**	**-0.6**
	1.5nm,0.7s,mb4.0						
SONM	**Songino Array**	**48.28**	**8**	P	**P**	**23 41 42.2**	**+1.5**
	0.8nm,0.5s,mb4.0,baz=190,slow=8.8,SNR=8.4						
MKAR	**Makanchi Array**	**48.35**	**346**	P	**P**	**23 41 42.5**	**+1.2**
	1.1nm,0.5s,mb4.1,baz=161,slow=8.5,SNR=17						
MKAR	**Makanchi Array**	**48.35**	**346**	P	**P**	**23 41 42.5**	**+1.2**
STKA	**Stephens Creek**	**52.62**	**131**	P	**P**	**23 42 14.0**	**+0.1**
	1.6nm,0.7s,mb4.1,baz=296,slow=6.5,SNR=4.4						
STKA	**Stephens Creek**	**52.62**	**131**	P	**P**	**23 42 14.0**	**+0.1**
ZAL	**Zalesovo**	**54.68**	**351**	P	**P**	**23 42 29.1**	**+0.3**
	2.1nm,0.4s,mb4.5,baz=343,slow=4.6,SNR=13						
BVAR	**Borovoye Array**	**57.32**	**341**	P	**P**	**23 42 47.3**	**-0.6**
	0.4nm,0.6s,mb3.6,baz=153,slow=6.6,SNR=3.8						
BRTR	**Keskin Array B**	**69.86**	**313**	P	**P**	**23 44 10.2**	**-0.2**
	0.9nm,0.8s,mb3.8,baz=121,slow=7.2,SNR=5.6						
MATP	**Matopo**	**70.06**	**248**	P	**P**	**23 44 11.2**	**-0.7**
	2.2nm,0.7s,mb4.2,baz=122,slow=10,SNR=6.1						
TXAR	**Lajitas Array**	**144.67**	**32**	PKP	PKPdf	23 52 36.5	+1.6
	0.4nm,0.5s,baz=224,slow=1.7,SNR=3.7						

KRSC 05 23:34:00.0±0.9,53.81N×161.41E,h17km±3km,ML3.8,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.77**	**14**	*e*P	Pb	23 34 14.4	-0.2
MKZ				*e*S	Sb	23 34 24.5	-0.1
SPN	**Mys Shipunski**	**1.09**	**230**	*e*P	Pb	23 34 19.4	-0.7
SPN				*e*S	Sb	23 34 34.2	+0.3
KII	**Karymskiy**	**1.18**	**282**	*e*P	Pb	23 34 21.5	-0.1
KII				*e*S	Sb	23 34 36.1	-0.3
NLC	**Nalytchevo**	**1.39**	**243**	*e*P	Pn	23 34 24.1	-0.7
NLC				*e*S	Sb	23 34 42.0	-0.5
TUMR	**Tumrok**	**1.65**	**334**	*e*P	Pn	23 34 29.4	+0.9
TUMR				*e*S	Sn	23 34 50.9	+1.5
SMAR	**Somma**	**1.65**	**252**	*i*P	Pn	23 34 28.5	0.0
SMAR				*e*S	Sn	23 34 49.4	-0.1
UGLR	**Uglovaya**	**1.66**	**250**	*e*P	Pn	23 34 28.6	0.0
UGLR				*e*S	Sn	23 34 49.8	+0.2
AVH	**Avacha**	**1.69**	**252**	*e*P	Pn	23 34 29.3	+0.3
AVH				*e*S	Sn	23 34 51.2	+0.8
KOK	**Koryaka**	**1.73**	**254**	*i*P	Pn	23 34 29.8	+0.1
KOK				*e*S	Sn	23 34 51.8	+0.2
PET	**Petropavlovsk**	**1.83**	**246**	*e*P	Pn	23 34 30.7	-0.4
PET				*e*S	Sn	23 34 53.4	-0.6
GNL	**Ganaly**	**2.06**	**268**	*e*P	Pn	23 34 35.4	+1.0
GNL				*e*S	Sn	23 35 01.2	+1.3
KMNR	**Kamenistaya**	**2.06**	**341**	*e*P	Pn	23 34 36.3	+1.8
KMNR				*e*S	Sn	23 35 01.9	+1.9
KRMR	**Karymshinskiy**	**2.20**	**245**	*e*P	Pn	23 34 38.2	+1.8
KRMR				*e*S	Sn	23 35 04.9	+1.5
RUS	**Russkaya**	**2.23**	**233**	*e*P	Pn	23 34 38.0	+1.2
RUS				*e*S	Sn	23 35 04.8	+0.7
GRL	**Gorelyy**	**2.37**	**239**	*e*P	Pn	23 34 39.5	+0.6
GRL				*e*S	Sn	23 35 09.5	+1.7
KOZ	**Kozyrevsk**	**2.42**	**339**	P	Pn	23 34 41.7	+2.1
KBTR	**Krutoberegovo**	**2.54**	**18**	*e*P	Pn	23 34 41.2	0.0
KBTR				*e*S	Sn	23 35 11.8	-0.2
KLY	**Klyuchi**	**2.55**	**350**	*e*P	Pn	23 34 43.5	+2.1
ESO	**Esso**	**2.63**	**325**	*e*P	Pn	23 34 42.9	+0.3
ESO				*e*S	Sn	23 35 14.5	0.0
SRDR	**Sredinnyy**	**2.69**	**340**	*e*P	Pn	23 34 45.3	+1.8
APC	**Apacha**	**2.70**	**253**	*e*P	Pn	23 34 44.5	+1.0
APC				*e*S	Sn	23 35 16.9	+0.8
APC				Smax			
	30nm,0.8s						
BKI	**Bering**	**3.00**	**60**	*e*S	Sn	23 35 19.8	-4.0

BJI ***05*** *23:34:10.0,0.36N×96.36E,h33km,mB4.9,mb4.8,Ms4.1, Msz3.7*

MOS ***05*** *23:34:10.3±0.8,0.41N×96.31E,h33km,mb4.7/14,Error ellipse: s-maj=15.1km s-min=8.2km az=97.9*

IDC ***05*** *23:34:11.8±0.7,0.48N×96.36E,h26km±4km,mb4.3/19, mb1 4.4/20,mb1mx4.4/23,mbtmp4.5/20,ML4.6/1,Error ellipse: s-maj=18.0km s-min=12.6km az=46.0*

NEIC ***05*** *23:34:11.6±0.3,0.46N×96.35E,mb4.7/23,Error ellipse: s-maj=7.6km s-min=5.7km az=51.0*

ISC 05 23:34:09.7±0.3,0.49N±0.05×96.40E±0.06,h25km, h25km±2.7km:pP-P,n92,σ0°99/87,mb4.6/46,MS4.5/1, 3C-1D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.39**	**42**	*e*P	**Pn**	**23 35 42.5**	**-2.3**
SNG	**Songkhla**	**7.87**	**32**	P	**Pn**	**23 36 04.0**	**-1.5**
	202nm,0.8s						
KSM	**Kuching**	**13.95**	**86**	P	**P**	**23 37 31.3**	**+3.1**
BDT	**Bhumibol Dam**	**16.85**	**9**	P	**P**	**23 38 09.0**	**+3.3**
CM31	**Chiang Mai Arr**	**18.03**	**8**	*e*P	**P**	**23 38 21.0**	**+0.5**
	20nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.03**	**8**	P	**P**	**23 38 21.8**	**+1.2**
	0.7nm,0.3s,baz=196,slow=11,SNR=26						
NANT	**Nan**	**18.68**	**13**	⇑P	**P**	**23 38 28.0**	**-0.5**
	131nm,0.7s						
KKM	**Kota Kinabalu**	**20.54**	**74**	*e*P	**P**	**23 38 48.9**	**-0.2**
QIZ	**Qiongzhong**	**22.66**	**35**	P	**P**	**23 39 10.8**	**+0.2**
KMI	**Kunming**	**25.25**	**14**	P	**P**	**23 39 37.4**	**+1.8**
KMI				AP	pP	23 39 49.2	+6.2
KMI				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.7						
KMI	**Kunming**	**25.25**	**14**	P	**P**	**23 39 37.4**	**+1.8**
	comp=Z,25nm,0.9s,mb4.7						
KMI				pP	pP	23 39 49.2	+6.2
SHL	**Shillong**	**25.31**	**350**	*e*P	**P**	**23 39 37.0**	**+0.8**
SHL				*e*S	**S**	**23 44 07.0**	**+9.0**
GYA	**Guiyang**	**27.65**	**20**	⇑*i*P	**P**	**23 40 01.2**	**+3.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
JIRN	**Jiri**	**28.74**	**341**	*e*P	**P**	**23 40 08.6**	**+1.1**
	comp=Z,27nm,0.7s,mb5.1						
PKI	**Pulchoki**	**28.92**	**340**	*e*P	**P**	**23 40 09.7**	**+0.6**
DMN	**Daman**	**29.06**	**339**	*e*P	**P**	**23 40 11.3**	**+0.9**
	comp=Z,27nm,0.9s,mb5.0						
KKN	**Kakani**	**29.16**	**339**	*e*P	**P**	**23 40 11.9**	**+0.5**
	comp=Z,21nm,0.8s,mb4.9						
KKN	**Kakani**	**29.16**	**339**	*e*P	**P**	**23 40 11.9**	**+0.5**
KKN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
LSA	**Lhasa**	**29.48**	**351**	P	**P**	**23 40 15.0**	**+0.8**
LSA	**Lhasa**	**29.48**	**351**	*e*P	**P**	**23 40 15.5**	**+1.3**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
LSA	**Lhasa**	**29.48**	**351**	*e*P	**P**	**23 40 15.4**	**+1.3**
	comp=Z,9.5nm,0.7s,mb4.6						
GKN	**Gorkha**	**29.59**	**339**	*e*P	**P**	**23 40 15.5**	**+0.3**
	comp=Z,21nm,0.8s,mb5.0						
KOLN	**Koldanda**	**29.77**	**337**	*e*P	**P**	**23 40 17.7**	**+0.9**
	comp=Z,39nm,0.7s,mb5.2						
ENH	**Enshi**	**32.13**	**22**	*e*P	**P**	**23 40 37.2**	**-0.3**
	comp=Z,6.5nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.18**	**124**	⇓*i*P	**P**	**23 40 55.0**	**-0.5**
	comp=Z,9.3nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**34.18**	**124**	P	**P**	**23 40 55.1**	**-0.4**
	comp=Z,13nm,0.6s,mb5.0,baz=318,slow=3.2,SNR=18						
XAN	**Xi'an**	**35.38**	**18**	P	**P**	**23 41 05.1**	**-0.5**
XAN				AP	pP	23 41 10.6	-2.5
XAN				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
LZH	**Lanzhou**	**36.09**	**10**	*e*P	**P**	**23 41 11.7**	**+0.1**
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,95nm,4.6s						
LZH				LR	LR		
	comp=E,226nm,8.3s						
LZH				LR	LR		
	comp=Z,427nm,11.2s,MS4.5						
LZH	**Lanzhou**	**36.09**	**10**	*e*P	**P**	**23 41 11.7**	**+0.1**
	comp=Z,20nm,1.0s,mb5.0						
LZH				pP	pP	23 41 16.5	-2.6
LZH				sP	sP	23 41 19.6	-2.7
GTA	**Gaotai**	**38.86**	**4**	P	**P**	**23 41 35.8**	**+1.0**
GTA	

STKA	Stephens Creek	53.48	131	P	P	23 43 30.5	0.0
	comp=Z,6.2nm,0.7s,mb4.7,baz=311,slow=6.7,SNR=13						
ZAL	Zalesovo	54.13	352	P	P	23 43 34.4	-0.5
	comp=Z,9.5nm,0.4s,mb5.0,baz=302,slow=5.2,SNR=21						
ZAL				pP	pP	23 43 42.9	+0.3
	comp=Z,11nm,0.4s,baz=306,slow=5.4,SNR=9.7						
NVS	Novosibirsk	55.24	351	*e*P	P	23 43 41.6	-1.4
NVS				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
NVS				pmax	pmax		
	comp=N,9.0nm,1.4s						
BVAR	Borovoye Array	56.66	342	P	P	23 43 51.9	-1.3
	comp=N,2.9nm,0.7s,mb4.4,baz=149,slow=8.6,SNR=14						
BVAR				pP	pP	23 44 00.4	-0.6
	comp=N,4.2nm,0.6s,baz=143,slow=9.9,SNR=11						
KLR	Kul'dur	57.25	27	*e*P	P	23 43 54.2	-3.3
BOD	Bodaibo	58.85	11	*e*P	P	23 44 07.5	-1.1
BOD				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KMBO	Kilima Mbogo	59.16	268	*e*P	P	23 44 10.7	-0.6
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	Kilima Mbogo	59.16	268	P	P	23 44 10.7	-0.6
	comp=Z,1.7nm,0.9s,mb4.1,baz=83,slow=6.9,SNR=4.7						
KMBO	Kilima Mbogo	59.16	268	*e*P	P	23 44 10.7	-0.6
	comp=Z,2.0nm,0.8s,mb4.2						
ZEI	Tsey	63.00	319	*e*P	P	23 44 35.9	-1.0
ZEI				*e*		23 44 46.6	
HNR	Honiara	64.02	101	P	P	23 44 43.2	-0.9
	comp=Z,16nm,0.3s,mb5.5,baz=198,slow=9.6,SNR=4.1						
KIV	Kislovodsk	64.32	320	*e*P	P	23 44 43.7	-1.9
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
KIV	Kislovodsk	64.32	320	*e*P	P	23 44 43.7	-1.9
	comp=Z,8.4nm,1.0s,mb4.7						
KIV				*e*		23 44 53.7	
MALT	Malatya	65.01	313	*e*P	P	23 44 49.8	-0.4
MALT				*e*	pP	23 44 59.0	+0.9
MALT				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
MALT	Malatya	65.01	313	*e*P	P	23 44 49.8	-0.4
	comp=Z,5.0nm,0.9s,mb4.5						
MALT				*e*	pP	23 44 59.0	+0.9
YAK	Yakutsk	66.33	16	*e*P	P	23 44 56.1	-2.1
YAK				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK	Yakutsk	66.33	16	P	P	23 44 56.9	-1.3
	comp=E,67nm,1.0s,mb5.6						
BRTR	Keskin Array B	69.00	313	P	P	23 45 14.3	-1.0
	comp=E,0.9nm,0.7s,mb3.8,baz=120,slow=10.0,SNR=4.7						
LSZ	Lusaka	69.14	254	*e*P	P	23 45 16.2	-0.4
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
LSZ	Lusaka	69.14	254	*e*P	P	23 45 16.2	-0.3
	comp=Z,2.0nm,0.6s,mb4.2						
MATP	Matopo	69.51	248	P	P	23 45 19.3	+0.5
	comp=Z,5.9nm,0.7s,mb4.6,baz=82,slow=6.2,SNR=12						
LBTB	Lobatse	72.85	244	P	P	23 45 40.3	+1.4
	comp=Z,1.4nm,0.4s,mb4.3,baz=79,slow=9.3,SNR=4.1						
AKASG	Malin Array Be	75.33	323	P	P	23 45 51.6	-1.1
	comp=Z,1.3nm,0.6s,mb4.1,baz=89,slow=5.1,SNR=5.0						
AKASG				pP	pP	23 46 00.1	-0.6
	comp=Z,1.3nm,0.5s,baz=90,slow=5.2,SNR=5.4						
FINES	FINESS Array B	80.26	333	P	P	23 46 19.1	-0.6
	comp=Z,1.6nm,0.8s,mb4.0,baz=90,slow=3.8,SNR=3.8						
GERES	GERESS Array B	84.82	319	P	P	23 46 44.2	+0.8
	comp=Z,1.5nm,0.9s,mb4.1,baz=90,slow=6.7,SNR=9.6						
CLL	Collm	85.48	321	P	P	23 46 47.0	+0.3
CLL				*e*PCP	PcP	23 46 52.0	+1.9
NB2	NORSAR Subarra	87.23	331	P	P	23 46 55.4	+0.3
	comp=Z,2.6nm,0.6s,mb4.6,baz=96,slow=4.8						
NOA	NORSAR Array B	87.23	331	P	P	23 46 55.4	+0.4
	comp=Z,2.5nm,0.8s,mb4.5,baz=96,slow=4.6,SNR=4.3						
NOA	NORSAR Array B	87.23	331	P	P	23 46 55.4	+0.4
LPG	La Plagne	89.41	315	*e*P	P	23 47 06.3	+0.5
	comp=Z,6.7nm,0.8s,mb4.7						
TXAR	Lajitas Array	144.69	31	PKP	PKPdf	23 53 46.2	-3.4
	comp=Z,2.0nm,0.6s,baz=315,slow=1.8,SNR=11						
JSC	Jenkinsville	145.34	357	*e*PKPdf	PKPdf	23 53 47.0	-3.7
JSC				*e*		23 53 56.3	
JCT	Junction City	145.56	25	*e*PKPdf	PKPdf	23 53 47.9	-3.2
NATX	Nacogdoches	146.26	17	*e*PKPbc	PKPbc	23 53 50.6	+1.8
GOGA	Godfrey	146.28	360	*e*PKPbc	PKPbc	23 53 50.5	+1.7
LRAL	Lakeview Retre	146.50	5	*e*PKPdf	PKPdf	23 53 50.4	-2.3

MOS 05 23:34:23.8±1.8, 42.82N×48.00E, h12km, mb3.7/1, Error ellipse: s-maj=34.2km s-min=23.8km az=154.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSR	Manas	0.24	241	*e*PG	Pg	23 34 27.5	-1.5
MNSR				pmax	pmax		
	comp=Z,214nm,0.3s						
BUJR	Buynaksk	0.66	271	*e*PG	Pg	23 34 39.5	+2.4
BUJR				*i* S	Sb	23 34 53.0	+7.5
DBC	Dubki	0.88	283	PG	Pg	23 34 41.5	0.0
DBC				*e*S	Sb	23 34 55.5	+3.4
XNZR	Khunzakh	0.99	254	PG	Pg	23 34 44.5	+0.7
XNZR				S	Sb	23 35 00.5	+5.2
AKT	Akhty	1.35	189	*e*PG	Pg	23 34 49.0	-1.9
AKT				*i* S	Sb	23 35 07.0	+1.3
AKT				pmax	pmax		
	comp=Z,32nm,0.2s						

NIED ***05*** *23:36:00, 37.40N×141.70E, h44km, Mw3.6 Best double couple: M0:2.48×10¹⁴ NP1:φs=84°, δ64°, λ.88°. NP2:φs=270°, δ26°, λ.95°.*
JMA ***05*** *23:36:15.1±0.2, 37.36N×141.72E, h44km±3km, M3.7*
JMA Felt I J1.

ISC 05 23:36:15.0±1.3, 37.34N±0.05×141.73E±0.10, h44km, n11, σ0=94/19, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	Kawauchi	0.68	272	⇑P	P	23 36 28.4	+0.1
JFK				S	S	23 36 37.3	-0.7
ONAJ	Iwakimizuishiy	0.78	253	⇑P	P	23 36 29.8	+0.2
ONAJ				S	S	23 36 39.8	-0.6
JMM	Marumori	0.91	305	⇓P	P	23 36 31.4	-0.1
JMM				*e*S	S	23 36 42.9	-0.7
JFT	Otama	1.12	280	⇓P	P	23 36 35.4	+1.0
JFT				S	S	23 36 49.5	+0.5
JIO	Ouri	1.15	345	⇓P	P	23 36 34.6	-0.2
JIO				S	S	23 36 47.9	-1.8
JHO	Hitachi	1.18	232	⇑P	P	23 36 35.0	-0.3
JHO				S	S	23 36 49.0	-1.4
JOU	Okura	1.33	321	P	P	23 36 37.8	+0.3
JOU				*e*S	S	23 36 54.1	-0.1
JYS	Shirataka	1.58	304	*e*S	S	23 37 02.3	+1.8
JMK	Ichinoseki	1.66	346	⇓P	P	23 36 42.2	+0.1
JYK	Kaneyama	1.91	326	P	P	23 36 46.1	+0.4
MAT	Matsushiro	2.93	255	P	P	23 37 03.1	+2.8
MAT				S	S	23 37 38.9	+4.3

IDC ***05*** *23:41:25.9±0.9, 22.31S×68.24W, h96km±14km, mb3.9/2, mb1 3.8/4, mb1mx3.5/15, mbtmp4.2/4, Error ellipse: s-maj=46.9km s-min=20.7km az=135.0*
NEIC ***05*** *23:41:26.5, 22.29S×68.78W, h117km, mb4.2/2, After GUC.*
GUC ***05*** *23:41:27.1±0.9, 22.30S×68.79W, h113km±7km, ML4.0*

ISC 05 23:41:23.6±1.0, 22.0S±0.1×68.8W±0.1, h125km±8km, n13, σ0=99/19, mb4.2/1, 1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	0.57	188	P	P	23 41 44.0	+1.3
	288nm,0.3s,baz=15,slow=5.4,SNR=3623						
LVC				S	S	23 41 57.2	+0.1
	581nm,0.3s,baz=287,slow=20,SNR=161						
LVC	Limon Verde	0.57	188	*e*P	P	23 41 44.0	+1.4
LVC				*i* S	S	23 41 57.1	0.0
LVC				AMP		23 41 58.2	
	comp=E,6μm,0.3s						
SPCH	San Pedro de A	1.04	146	⇓*i*P	P	23 41 47.6	+0.9
SPCH				*i* S	S	23 42 03.4	-0.7
SPCH				AMP		23 42 04.5	
	comp=N,5μm,0.5s						
ANCH	Antofagasta	2.19	221	*e*P	P	23 42 01.1	+0.9
ANCH				*i* S	S	23 42 27.8	-0.1
ANCH	Antofagasta	2.19	221	*e*P	P	23 42 01.1	+0.9
ANCH				*i* S	S	23 42 27.5	-0.4
ANCH				AMP		23 42 29.8	
	comp=N,1μm,0.1s						
CPN1	Cerro Paranal	2.95	209	*e*P	P	23 42 10.3	+0.1
CPN1				*i* S	S	23 42 43.4	-2.3
CPN1				AMP		23 42 44.8	
	comp=E,480nm,0.3s						
LPAZ	La Paz	5.76	7	P	P	23 42 54.0	+6.1
	comp=E,0.7nm,0.3s,baz=200,slow=5.8,SNR=19						
SIV	San Ignacio	9.49	52	P	P	23 43 36.6	-1.5
	comp=E,3.1nm,0.3s,baz=244,slow=11,SNR=53						
SIV				S	S	23 45 16.0	-7.3
	comp=E,0.3nm,0.3s,baz=298,slow=22,SNR=10						
TRQA	Tornquist	17.02	161	P	P	23 45 16.3	+1.0
	comp=E,8.0nm,0.9s						
BDFB	Brasilia	20.69	76	P	P	23 45 55.1	-0.4
	comp=E,4.4nm,0.5s,baz=246,slow=12,SNR=10						
DBIC	Dimbokro	68.82	73	P	P	23 52 17.0	+0.1
	comp=E,1.8nm,0.6s,mb4.0,baz=215,slow=8.2,SNR=3.7						
DBIC	Dimbokro	68.82	73	*e*P	P	23 52 17.3	+0.4
	comp=E,4.5nm,0.8s,mb4.3						
MKAR	Makanchi Array	146.02	36	PKPbc	PKPbc	00 00 53.1	+4.4
	comp=E,0.3nm,0.8s,baz=297,slow=2.7,SNR=4.4						

MDD ***05*** *23:44:03.1±0.5, 36.58N×6.78E, h2km±11km, mb3.9/5, Error ellipse: s-maj=6.9km s-min=4.0km az=128.0, PRXIMO*
CRAAG ***05*** *23:44:04.2, 36.45N×6.64E, Ml3.1*
CSEM ***05*** *23:44:04.2, 36.45N×6.64E, ML3.1, After ALG*

ISC 05 23:44:01.5±0.6, 36.64N±0.05×6.72E±0.05, h10km, n15, σ0=98/17, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAEH	'Ain El Ouahch	0.18	36	P	Pg	23 44 06.5	+1.0
CKFL	Kef-Lekhel	0.24	180	P	Pg	23 44 07.0	+0.4
CASM	Ain Smara	0.42	206	P	Pg	23 44 10.0	-0.1
CMAH	Djebel Manchou	0.56	91	P	Sg	23 44 20.0	-0.6
CMAH	Djebel Manchou	0.56	91	S	Sg	23 44 20.0	-0.6
CTEI	Djebel Teioual	0.62	204	P	Pb	23 44 13.0	-1.1
DFRA	Djebel Bou Aff	0.68	263	P	Pb	23 44 18.0	+2.9
SET	Setif	1.15	248	P	Pb	23 44 28.0	+5.0
CMER	Merouana	1.21	213	P	Pb	23 44 31.0	+6.9
ETOS	Mallorca	4.38	317	P	Pn	23 45 10.1	+0.3
	3.7nm,0.7s,SNR=7.9						
ETOS				S	Sn	23 46 00.4	-1.1
	8.0nm,0.9s,SNR=7.9						
EIBI	Ibiza	4.88	301	P	Pn	23 45 17.5	+0.8
	4.6nm,0.5s,SNR=7.9						
EBEN	Beniarda	5.88	293	P	Pn	23 45 30.9	-0.1
	0.7nm,0.4s,SNR=7.9						
EBEN				S	Sn	23 46 35.3	-3.9
	9.5nm,0.7s,SNR=7.9						
EMUR	La Murta	6.46	283	P	Pn	23 45 39.1	-0.1
	2.2nm,0.4s,SNR=7.9						
EJON	La Jonquera	6.51	334	S	Sn	23 46 50.8	-4.3
	1.9nm,0.4s,SNR=7.9						
EQES	Quesada	7.90	281	P	Pn	23 45 58.8	-0.5
	4.2nm,0.7s,SNR=7.9						

IDC 05 23:59:00.6±3.3, 1.58N×97.12E, mb3.8/5, mb1 4.0/5, mb1mx3.6/18, mbtmp3.8/5, Error ellipse: s-maj=136.6km s-min=26.5km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	42.31	122	P	P	00 06 56.4	-1.8
	0.3nm,0.5s,baz=304,slow=9.0,SNR=3.3						
SONM	Songino Array	46.77	9	P	P	00 07 32.1	-1.5
	1.1nm,1.1s,baz=192,slow=11,SNR=4.4						
MKAR	Makanchi Array	46.85	346	P	P	00 07 33.3	-1.0
	1.0nm,0.5s,baz=163,slow=8.4,SNR=13						
ZAL	Zalesovo	53.16	351	P	P	00 08 20.1	-2.5
	1.7nm,0.4s,baz=316,slow=8.4,SNR=6.3						
BVAR	Borovoye Array	55.86	341	P	P	00 08 38.5	-3.7
	0.7nm,0.5s,baz=135,slow=10,SNR=4.3						

IDC ***05*** *23:59:56.0±8.6, 34.89N×70.17E, mb3.9/3, mb1 3.9/5, mb1mx3.5/21, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=148.1km s-min=39.6km az=158.0*
NEIC ***06*** *00:00:07.5±0.9, 36.06N×69.64E, h10km, mb4.2/5, Error ellipse: s-maj=19.7km s-min=7.2km az=53.0*

ISC 06 00:00:18.6±0.8, 36.18N±0.04×70.1E±0.1, h148km±10km, n31, σ0=97/36, mb3.5/2, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.77	148	⇓P	P	00 01 04.0	+0.4
CEP				S	S	00 01 39.0	+1.0
CHCP	Chirah Chowk	3.60	134	⇓P	P	00 01 15.9	+1.5
THW	Thamme Wali	3.63	158	⇑P	P	00 01 14.2	-0.7
SBDP	Sheikh Budin	3.91	172	⇓P	P	00 01 18.1	-0.5
SARP	Sargodha	4.74	153	⇓P	P	00 01 28.2	-1.3
THN	Thein Dam	5.94	127	*e*P	P	00 01 46.1	+0.7
THN				*e*S	S	00 02 53.9	+1.1
DLH	Dalhousie	6.04	125	*e*S	S	00 02 55.0	-0.1
AML	Almayashu	6.55	24	P	P	00 01 53.1	-0.5
	SNR=45						
UCH	Uchtor	6.92	28	P	P	00 01 59.0	+0.3
	SNR=34						
EKS2	Erkin-Say	7.05	22	P	P	00 01 59.9	-0.5
	SNR=26						
KZA	Kyzart	7.10	32	P	P	00 02 02.7	+1.7
	SNR=11						
SDNR	Sundarnagar	7.36	127	*e*P	P	00 02 05.4	+1.0
SDNR				*e*S	S	00 03 23.2	-3.6
KBK	Karagaybulak	7.46	28	P	P	00 02 06.5	+0.7
	SNR=12						
CHMS	Chumysh	7.68	26	P	P	00 02 08.2	-0.6
	SNR=16						
SMLA	Simla	7.73	129	⇑*i*P	P	00 02 00.3	-9.1
SMLA				*i* S	S	00 03 24.2	-12
	345nm,0.4s						
USP	Ospenovka	7.83	24	P	P	00 02 09.5	-1.3
	SNR=20						
TKM2	Tokmak 2	7.94	30	P	P	00 02 12.2	0.0
	SNR=13						
NDI	New Delhi	9.57	139	*e*P	P	00 02 32.0	-1.9
NDI				*e*S	S	00 04 12.0	-7.7
MKAR	Makanchi Array	13.96	37	Pn	P	00 03 30.3	-0.4
	0.2nm,0.3s,baz=220,slow=9.5,SNR=9.2						
KOLN	Koldanda	14.16	123	*e*P	P	00 03 32.9	-0.6
	4.7nm,0.4s						
GKN	Gorkha	14.74	120	*e*P	P	00 03 39.6	-1.2
	10nm,0.3s						
DMN	Daman	15.31	120	*e*P	P	00 03 47.2	-0.7
	8.3nm,0.4s						
KKN	Kakani	15.32	119	*e*P	P	00 03 47.6	-0.5
	19nm,0.5s						
PKI	Pulchoki	15.54	119	*e*P	P	00 03 51.2	+0.3
	13nm,0.5s						
JIRN	Jiri	16.05	117	*e*P	P	00 03 58.3	+1.2
	14nm,0.3s						
BVAR	Borovoye Array	16.84	1	Pn	P	00 04 05.5	-1.2
	0.6nm,0.3s,baz=165,slow=13,SNR=19						
ZAL	Zalesovo	20.48	25	P	P	00 04 47.0	+0.8
	4.7nm,0.5s,baz=250,slow=7.7,SNR=22						
FINES	FINESS Array B	37.36	327	P	P	00 07 19.1	+1.0
	0.5nm,0.5s,mb3.4,baz=117,slow=8.5,SNR=5.0						
NB2	NORSAR Subarra	44.22	323	P	P	00 08 15.0	+0.9
	0.6nm,0.4s,mb3.6,baz=98,slow=7.9						
NOA	NORSAR Array B	44.22	323	P	P	00 08 15.3	+1.2
	0.7nm,0.4s,mb3.6,baz=100,slow=8.0,SNR=3.8						
NOA	NORSAR Array B	44.22	323	P	P	00 08 15.3	+1.2

IDC ***06*** *00:26:20.9±5.5, 24.23S×179.54E, h541km±58km, mb3.3/7, mb1 3.6/8, mb1mx3.4/16, mbtmp4.2/8, Error ellipse: s-maj=80.0km s-min=26.3km az=153.0*
NEIC ***06*** *00:26:21.2±3.7, 24.35S×179.57E, h550km±35km, mb4.3/3, Error ellipse: s-maj=68.0km s-min=19.2km az=150.0*

ISC 06 00:26:23.5±4.8, 24.1S±0.5×179.4E±0.4, h583km±51km, n15, σ0=71/14, mb4.0/9, 3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	12.07	277	P	P	00 29 02.7	-0.2
	0.6nm,0.3s,baz=77,slow=18,SNR=5.3						
CTA	Charters Tower	30.90	271	⇓*i*P	P	00 31 56.4	+1.2
	13nm,0.4s,mb4.9						
CTAO	Charters Tower	30.90	271	*e*P	P	00 31 56.4	+1.2
	17nm,0.6s,mb4.8						
STKA	Stephens Creek	34.10	248	⇓*i*P	P	00 32 20.7	-1.2
	1.3nm,0.4s,mb3.9						
STKA	Stephens Creek	34.10	248	P	P	00 32 20.8	-1.2
	1.2nm,0.3s,mb4.0,baz=93,slow=11,SNR=13						
ASAR	Alice Springs	41.42	261	P	P	00 33 21.8	+0.1
	2.2nm,0.4s,mb4.0,baz=87,slow=9.6,SNR=42						
ASPA	Alice Springs	41.43	261	*e*P	P	00 33 21.9	+0.2
WB2	Warramunga Arr	41.80	267	⇓*i*P	P	00 33 24.6	-0.1
WRAB	Tennant Creek	41.80	267	*e*P	P	00 33 24.8	0.0
	4.3nm,0.5s,mb4.2						
WRA	Warramunga Arr	41.81	267	P	P	00 33 24.7	-0.1
	2.1nm,0.3s,mb4.2,baz=99,slow=7.4,SNR=25						
FITZ	Fitzroy Crossi	50.23	266	P	P	00 34 29.4	+0.4
	6.8nm,0.7s,mb4.2,baz=130,slow=5.1						
NVAR	Mina Array Bea	85.32	44	P	P	00 38 01.3	+0.5
	0.2nm,0.4s,mb3.1,baz=239,slow=5.3,SNR=4.0						
TXAR	Lajitas Array	91.05	58	P	P	00 38 28.3	+0.6
	0.5nm,0.7s,mb3.5,baz=207,slow=8.4,SNR=5.6						
ILAR	Eielson Array	92.39	14	P	P	00 38 31.4	-1.5
	2.3nm,1.3s,mb4.1,baz=200,slow=12,SNR=4.3						
BVAR	Borovoye Array	120.23	319	PKP	PKPdf	00 44 10.6	+2.0
	0.3nm,0.4s,baz=116,slow=2.9,SNR=6.7						

IDC ***06*** *00:28:03.6±0.6, 56.08S×147.27E, mb4.8/10, mb1 4.9/11, mb1mx4.7/15, mbtmp4.8/11, ML3.8/1, MS4.8/15, Ms1 4.8/15, ms1mx4.7/18, Error ellipse: s-maj=21.6km s-min=18.5km az=78.0*
HRVD ***06*** *00:28:05.4±0.2, 56.19S×146.98E, h12km, MW5.4/74, Centroid moment Tensor Solution. LP body waves: s56,c87;Mantle waves: s74,c143; Half duration: 1s2 Moment tensor: Scale 10¹⁷Nm; Mrr-0.13±.03; Mθθ0.64±.03; Mφφ-0.50±.03; Mrθ0.05±.07; Mφφ-1.26±.02; Mφr0.03±.07; Best double couple: M0:1.386×10¹⁷ NP1: φs168°, δ88°, λ-1°. NP2:φs258°, δ89°, λ-178°. Principal axes: T 1.449, Plg1°, Azm33°; N -.128, Plg87°, Azm285°; P -1.322, Plg3°, Azm123°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***06*** *00:28:05.3, 56.10S×147.10E, h10km, mB5.6, mb5.6, Ms5.6, Msz5.3*
NEIC ***06*** *00:28:05.4±0.3, 56.09S×147.11E, h10km, mb4.9/8, MS5.0/7, Error ellipse: s-maj=13.4km s-min=8.8km az=78.0*
MOS ***06*** *00:28:12.2±2.0, 57.29S×144.68E, h10km, mb5.3/4, MS4.9/7, Error ellipse: s-maj=76.6km s-min=20.1km az=93.7*

ISC 06 00:28:03.0±0.4, 56.15S±0.06×147.2E±0.2, h10km, (h16km±3km:pP-P), n161, σ1=25/48, mb4.9/17, MS4.9/27, 17C-6D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOO	Toolangi	18.62	356	*e*P	P	00 32 23.0	+0.6
	24nm,1.0s						
RPZ	Rata Peaks	19.65	61	P	P	00 32 34.3	-0.1
	0.3nm,0.3s,baz=184,slow=14,SNR=4.7						
RPZ				LR	LR	00 38 29.5	
	comp=Z,8μm,19.7s,baz=218,slow=32						
CASY	Casey	20.02	225	*e*P	P	00 32 32.7	-5.7
CNB	Canberra Magne	20.89	5	*e*P	P	00 32 48.4	+0.8
VNDA	Vanda	22.08	172	P	P	00 32 58.5	-1.0
	8.6nm,0.8s,mb4.2,baz=340,slow=10,SNR=23						
VNDA				LR	LR	00 39 57.2	
	comp=Z,434nm,19.5s,MS3.9,baz=343,slow=32						
SBA	Scott Base	22.84	169	*e*P	P	00 33 08.1	+1.4
SBA				pmax	pmax		
	comp=Z,175nm,1.7s,mb5.2						
SBA	Scott Base	22.84	169	*e*P	P	00 33 08.1	+1.4
	comp=Z,175nm,1.7s,mb5.2						
STKA	Stephens Creek	24.58	349	*e*P	P	00 33 24.3	+0.3
	comp=Z,14nm,0.9s,mb4.5						
STKA	Stephens Creek	24.58	349	P	P	00 33 24.1	+0.1
	comp=Z,20nm,1.0s,mb4.6,baz=170,slow=10,SNR=23						
STKA				LR	LR	00 40 39.4	
	comp=Z,2μm,20.1s,MS4.5,baz=173,slow=31						
ARMA	Armidale	25.91	9	*e*P	P	00 33 37.8	+1.1
URZ	Urewera	26.77	61	P	P	00 33 42.9	-1.6
	comp=Z,18nm,1.0s,mb4.5,baz=254,slow=7.8,SNR=6.3						
URZ				LR	LR	00 43 19.1	
	comp=Z,3μm,21.1s,MS4.9,baz=210,slow=34						
FORT	Forrest	28.71	324	*e*P	P	00 33 52.6	-10
	comp=Z,689nm,0.7s						
NWAO	Narrogin (SRO)	31.11	306	LR	LR	00 43 59.6	
	comp=Z,6μm,21.1s,MS5.2,baz=131,slow=31						
KLBR	Kellerberrin	32.00	308	*e*P	P	00 34 29.9	-1.5
	comp=Z,10μm,1.4s						
ASAR	Alice Springs	33.88	338	P	P	00 34 46.8	-1.0
	comp=Z,4.0nm,0.6s,mb4.5,baz=162,slow=9.0,SNR=22						
ASAR				PcP	PcP	00 37 26.9	+0.3
	comp=Z,1.6nm,0.6s,baz=153,slow=3.2,SNR=6.6						
ASAR				LR	LR	00 47 45.1	
	comp=Z,653nm,19.5s,MS4.4,baz=165,slow=35						
ASPA	Alice Springs	33.88	338	*e*P	P	00 34 46.8	-1.0
CTA	Charters Tower	36.01	359	*e*P	P	00 35 05.3	-0.7
	comp=Z,7.7nm,1.0s,mb4.6						
DZM	Mont Dzumac	36.90	31	P	P	00 35 14.3	+0.8
	comp=Z,11nm,0.9s,mb4.7,baz=142,slow=16,SNR=4.0						
DZM				LR	LR	00 47 19.2	
	comp=Z,3μm,19.9s,MS5.0,baz=297,slow=31						
WB2	Warramunga Arr	37.41	340	*e*P	P	00 35 16.3	-1.5
WRA	Warramunga Arr	37.41	340	P	P	00 35 17.1	-0.7
	comp=Z,12nm,0.6s,mb4.9,baz=166,slow=7.6,SNR=36						
WRA				PcP	PcP	00 37 33.8	-3.2
	comp=Z,2.4nm,0.6s,baz=164,slow=2.8,SNR=12						
WRAB	Tennant Creek	37.41	340	*e*P	P	00 35 16.1	-1.8
	comp=Z,31nm,0.7s,mb5.2						
WRAB				LR	LR		
	comp=Z,518nm,22.0s,MS4.3						
MAW	Mawson	38.12	218	LR	LR	00 50 57.3	
	comp=

JOW Kunigami 84.20 343 LR LR 01 16 35.0
comp=Z,424nm,19.2s,MS4.8,baz=218,slow=35
NANT Nan 84.28 316 P **P** **00 40 37.0 +0.9**
CMAR Chiang Mai Arr 84.66 315 P **P** **00 40 40.0 +2.1**
comp=Z,1.1nm,0.3s,mb4.4,baz=174,slow=5.0,SNR=12
CMAR LR LR 01 17 01.3
comp=Z,565nm,18.9s,MS5.0,baz=180,slow=35
CMAR Chiang Mai Arr 84.66 315 P **P** **00 40 40.0 +2.1**
CMAR LR LR 01 17 01.3
CHG Chiang Mai 84.98 315 P **P** **00 40 47.5 +8.0**
JHJ Hachijo jima 2 89.13 354 LR LR 01 18 24.8
comp=Z,516nm,19.6s,MS5.0,baz=66,slow=34
GYA Guiyang 89.19 324 P **P** **00 41 04.2 +4.3**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
KMI Kunming 89.29 321 P **P** **00 41 03.7 +3.3**
KMI S S 00 51 50.1 +2.3
KMI LR LR
comp=Z,2μm,17.7s,MS5.5
NJ2 Nanjing 91.11 336 *e*P **P** **00 41 10.5 +1.8**
NJ2 AP pP 00 41 15.4 +3.5
NJ2 XP sP 00 41 17.4 +4.5
NJ2 S S 00 52 06.0 +2.0
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.7
NJ2 AMB AMB
comp=Z,200nm,5.4s
NJ2 LR LR
comp=Z,1μm,22.7s,MS5.3
MJAR Matsushiro Arr 92.64 353 P **P** **00 41 17.0 +1.4**
comp=Z,1.0nm,0.4s,mb4.6,baz=210,slow=28,SNR=3.2
MAT Matsushiro 92.64 353 S S 00 52 22.6 +5.2
LZH Lanzhou 98.99 326 *e*P **P** **00 41 47.0 +2.5**
LZH AP pP 00 41 52.1 +4.4
LZH XP sP 00 41 54.0 +5.2
LZH PP PP 00 45 52.1 +3.3
LZH AMB AMB
comp=Z,18nm,1.6s,mb5.3
LZH AMB AMB
comp=Z,42nm,4.0s
LZH LR LR
comp=E,756nm,17.8s
LZH LR LR
comp=Z,968nm,18.7s,MS5.3
LZH Lanzhou 98.99 326 *e*P **P** **00 41 47.0 +2.5**
comp=Z,18nm,1.6s,mb5.3
LZH pP pP 00 41 52.1 +4.4
LZH sP sP 00 41 54.0 +5.2
LZH PP PP 00 45 52.1 +3.3
LZH *e*S S 00 53 14.2 +2.8
LZH sS 00 53 22.0
LZH *e*SS SS 01 00 06.2 +3.4
LZH LR LR
comp=Z,970nm,18.7s,MS5.3
ASAJ Asahikawa 99.97 357 LR LR 01 26 22.0
comp=Z,378nm,18.5s,MS4.9,baz=190,slow=35
CN2 Changchun 101.25 344 *e*P P 00 41 58.3 +3.7
CN2 *e*XP 00 42 05.0
CN2 *e*S S 00 53 34.3 +4.1
CN2 LR LR
comp=N,900nm,15.0s,MS5.5
CN2 LR LR
comp=E,800nm,15.0s,MS5.5
CN2 LR LR
comp=Z,900nm,16.0s,MS5.4
MDJ Mudanjiang 101.48 347 P P 00 41 57.9 +2.3
MDJ S S 00 53 39.0 +6.9
MDJ LR LR
comp=N,441nm,18.7s,MS5.3
MDJ LR LR
comp=E,735nm,18.0s,MS5.3
MDJ LR LR
comp=Z,565nm,19.5s,MS5.1
WMQ Urumqi 111.47 318 PKP PKPdf 00 46 35.2 -4.4
WMQ XPKP 00 46 42.2
WMQ PPP PPP 00 49 40.7 -2.8
WMQ PKS PKS 00 50 10.7 -1.6
WMQ PP PP
comp=Z,71nm,5.3s
WMQ LR LR
comp=N,254nm,22.4s,MS4.8
WMQ LR LR
comp=E,135nm,22.5s,MS4.8
WMQ LR LR
comp=Z,239nm,22.4s,MS4.7
MKAR Makanchi Array 116.04 316 PKP PKPdf 00 46 46.5 -2.1
comp=Z,0.5nm,0.6s,baz=222,slow=3.7,SNR=9.0
NVAR Mina Array Bea 123.20 69 PKP PKPdf 00 47 03.1 +0.6
comp=Z,0.8nm,0.9s,baz=225,slow=5.1,SNR=4.4
TXAR Lajitas Array 124.35 88 PKP PKPdf 00 47 04.5 -0.5
comp=Z,1.0nm,1.0s,baz=166,slow=5.2,SNR=5.1
BILL Bilibino 124.68 9⇑*i*PKIKP PKPdf 00 47 03.7 -0.9
BILL pmax pmax
comp=Z,8.0nm,1.7s
BVAR Borovoye Array 125.67 314 PKP PKPdf 00 47 04.7 -2.2
comp=Z,0.7nm,0.6s,baz=154,slow=1.8,SNR=6.7
MSU Marysvale 126.51 74 *e*PKPdf PKPdf 00 47 10.2 +1.4
PV10 Paradox Valley 128.11 76 PKPdf PKPdf 00 47 09.5 -2.5
PV01 Paradox Valley 128.19 77 PKPdf PKPdf 00 47 14.4 +2.3
ILAR Eielson Array 130.61 31 PKP PKPdf 00 47 14.7 -1.4
comp=Z,0.7nm,0.8s,baz=268,slow=3.1,SNR=6.8
WMOK Wichita Mounta 131.14 87 *e*PKPdf PKPdf 00 47 19.3 +1.5
WMOK LR LR
comp=Z,304nm,20.0s,MS5.0
KIV Kislovodsk 132.40 289 *e*PKIKP PKPdf 00 47 23.0 +3.0
KIV pmax pmax
comp=Z,10.0nm,1.5s
BRTR Keskin Array B 134.42 278 PKP PKPdf 00 47 24.2 +0.4
comp=Z,0.5nm,0.7s,baz=117,slow=3.2,SNR=3.6
PLAL Pickwick Lake 137.30 96 *e*PKPdf PKPdf 00 47 29.2 0.0
PLAL LR LR
comp=Z,353nm,22.0s,MS5.0
YKA Yellowknife Ar 140.46 46 PKhKP 00 47 26.8
comp=Z,0.3nm,0.6s,baz=238,slow=3.2,SNR=9.3
YKA PKP PKPdf 00 47 31.7 -2.5
comp=Z,0.4nm,0.7s,baz=237,slow=3.2,SNR=9.1
YKA Yellowknife Ar 140.46 46 PKP 00 47 26.8
YKA PKP PKPdf 00 47 31.8 -2.5
OBN Obninsk 142.32 298⇑*i*PKHKP 00 47 37.0
OBN pmax pmax
comp=Z,22nm,1.5s
MLR Muntele Rosu 142.48 279 PKP PKPdf 00 47 37.2 -0.9
comp=Z,2.8nm,0.8s,baz=45,slow=2.6,SNR=4.0
MLR Muntele Rosu 142.48 279 ⇑P PKPdf 00 47 34.1 -4.0
MLR PKP PKPdf 00 47 37.2 -0.9
ULM Lac du Bonnet 142.96 72 PKP PKPdf 00 47 37.4 -1.3
comp=Z,1.2nm,0.4s,baz=224,slow=3.7,SNR=4.9
AKASG Malin Array Be 143.75 288 PKP PKPdf 00 47 36.8 -3.3
comp=Z,2.6nm,0.8s,baz=93,slow=2.9,SNR=9.9
BURAR Bucovina Array 144.16 281 ⇑P PKPbc 00 47 39.0 +1.7
GRUS Gruza 144.39 273⇑*i*P PKPbc 00 47 39.3 +1.4
AAM Ann Arbor 144.88 91 *e*PKPdf PKPdf 00 47 41.4 -0.9
DIVS Divcibare 144.92 273⇑*i*P PKPbc 00 47 40.8 +1.3
CBN Corbin 145.55 102 *e*PKPbc PKPbc 00 47 45.7 +4.4
FG5 Orsara di Pugl 145.73 265 *e*PKP PKPdf 00 47 47.1 +3.3
LVV L'vov 146.06 284 *i* PKHKP 00 47 43.8
LVV *e* 00 55 02.6
UZH Uzhgorod 146.35 281 *e*PKHKP 00 47 46.0
MNK Minsk 146.42 293 *e*PKHKP 00 47 43.0
KOLS Kolonicke sedl 146.53 281 *e*PKP PKPdf 00 47 45.6 +0.6
CII Carovilli 146.56 265 *e*PKP PKPdf 00 47 47.0 +1.8
KWP Kalwaria 146.68 283 *e*PKPbc PKPbc 00 47 45.1 +1.5
SDMD Soldier's Deli 146.70 101 *e*PKPdf PKPdf 00 47 45.5 -0.1
SDI San Donato 146.83 264 *e*PKP PKPdf 00 47 46.6 +0.9
CRVS Cervenica-Dubn 146.96 281 *e*PKP PKPdf 00 47 46.3 +0.6
PKSM Moragy 146.98 275 ⇑PKHKP 00 47 47.1
SSPA Standing Stone 146.98 99 *e*PKPdf PKPdf 00 47 46.8 +0.8
PSZ Piszkesteto 147.27 278 *e*PKPdf PKPdf 00 47 42.8 -3.4
AQU L'Aquila 147.49 265 ⇓P PKPdf 00 47 42.9 -3.9
AQU *e*PKPbc PKPdf 00 47 48.8 +2.1
MNS Montasola 147.91 264 *e*PKP PKPdf 00 47 49.3 +1.8
NRCA Norcia 147.96 265 *e*PKP PKPdf 00 47 50.1 +2.6
SRO Srobarova 148.09 277 *e*PKP PKPdf 00 47 53.6 +6.1
VYHS Vyhne 148.18 278 *e*PKP PKPdf 00 47 51.1 +3.4
SNTG Esanatoglia 148.33 266 *e*PKP PKPdf 00 47 51.3 +3.2
ARV Arcevia 148.49 266 *e*PKP PKPdf 00 47 52.0 +3.7
SUW Suwalki 148.61 290 *e*PKPbc PKPdf 00 47 51.1 +2.9
BINY Binghamton 149.09 98 *e*PKPdf PKPdf 00 47 50.7 +1.4
BINY *e*PKPbc PKPdf 00 47 52.9 +3.5
BINY LR LR
comp=Z,911nm,21.0s,MS5.5
OKC Ostrava-Krasne 149.29 280 *e*PKPbc PKPdf 00 47 53.8 +4.4
OKC *e*pPKP 00 47 57.7
OKC AMS AMS 01 47 40.0
comp=Z,200nm,17.0s
ARSA Arzberg 149.32 274⇑*i*P PKPdf 00 47 53.7 +4.2
OBKA Obir 149.44 272⇑*i*P PKPdf 00 47 54.1 +4.3
VOY Vojsko 149.52 271 *e*PKPbc PKPdf 00 47 53.8 +3.9
VOY *e* 00 48 25.7
VMG Vicchio 149.56 265 *e*PKP PKPdf 00 47 54.2 +4.1
MORC Moravsky Berou 149.59 279 ⇓PKIKP PKPdf 00 47 55.1 +5.2
MORC Moravsky Berou 149.59 279 *e*PKPbc PKPdf 00 47 53.9 +4.0
FINES FINESS Array B 149.96 305 PKPbc PKPdf 00 47 54.3 +4.2
comp=Z,6.4nm,0.8s,baz=63,slow=4.3,SNR=17
KAF Kangasniemi 150.04 306 *e*p PKPdf 00 48 00.4 +10
comp=Z,16nm,1.0s
KAF Kangasniemi 150.04 306 *e*PKP2 PKPab 00 48 00.4 +0.2
KAF pmax pmax
comp=Z,16nm,1.0s
PTCC Patocco-Chiusa 150.05 271 *e*PKP PKPdf 00 47 54.2 +3.5
PGF Pioggiola 150.06 261 *e*PKP1 PKPdf 00 47 53.9 +3.0
comp=Z,81nm,1.4s
RES Resolute Bay 150.29 28 *e*PKPdf PKPdf 00 47 52.0 +1.7
MOA Molln 150.37 274⇑*i*P PKPdf 00 47 55.8 +4.6
KBA Koelnbreinsper 150.44 272⇑*i*P PKPdf 00 47 54.9 +3.6
DPC Dobruska-Polom 150.56 280 *e*PKPbc PKPdf 00 47 56.8 +5.4
DPC *e*pPKP 00 48 00.4
DPC AMS AMS 01 46 10.0
comp=Z,200nm,24.2s
UPC Upice 150.81 280 *e*PKPbc PKPdf 00 47 57.9 +6.2
UPC *e*pPKP 00 48 01.5
KEV Kevo 151.02 322 *e*p PKPdf 00 47 56.8 +5.3
comp=Z,17nm,0.8s
KEV Kevo 151.02 322 *e*PKIKP PKPdf 00 47 56.8 +5.3
KEV pmax pmax
comp=Z,17nm,0.8s
NCB Newcomb 151.22 97 *e*PKPbc PKPdf 00 47 57.7 +5.2
GERES GERESS Array B 151.23 275 PKPbc PKPdf 00 47 57.1 +4.7
comp=Z,6.7nm,1.0s,baz=153,slow=3.0,SNR=32
PRU Pruhonice 151.36 278 *e*PKPbc PKPdf 00 47 58.9 +6.3
PRU *e*pPKP 00 48 03.1
PRU AMS AMS 01 59 20.0
comp=Z,200nm,13.9s
KHC Kasperske Hory 151.45 276 *e*PKPbc PKPdf 00 47 58.4 +5.7
KHC *e*pPKP 00 48 01.4
KHC AMS AMS 01 46 50.0
comp=Z,200nm,17.0s
WTTA Wattenberg 151.50 271⇑*i*P PKPdf 00 47 58.7 +5.8
WATA Walderalm 151.58 271 ⇓*i*P PKPdf 00 47 59.0 +6.0
PVCC Panska Ves 151.62 279 *e*PKPbc PKPdf 00 47 58.9 +6.0
PVCC AMS AMS 01 42 40.0
comp=Z,300nm,15.3s
SQTA Sankt Quirin 151.72 270⇑*i*P PKPdf 00 47 59.7 +6.5
SBF Sospel 151.78 261 *e*PKP1 PKPdf 00 47 57.9 +4.5
comp=Z,54nm,1.1s
MOTA Moosalm 151.85 271 ⇓*i*P PKPdf 00 47 59.7 +6.3
LMR La Mourre 151.95 260 *e*PKP1 PKPdf 00 47 58.5 +4.8
comp=Z,36nm,1.4s
FRF La Foret Royal 152.02 260 *e*PKP1 PKPdf 00 47 58.7 +4.9
comp=Z,24nm,1.1s
BRG Berggiesshubel 152.13 279 *e*PKIKP PKPdf 00 47 59.5 +5.8
BRG *e* 00 48 05.5
BRG pmax pmax
comp=Z,14nm,1.2s
DAVA Damuels 152.50 269⇑*i*P PKPdf 00 48 00.0 +5.7
NKC Novy Kostel 152.65 277 *e*PKPbc PKPdf 00 48 08.1 +14
NKC AMS AMS 02 03 20.0
comp=Z,200nm,20.5s
MBDF Montbardon 152.70 262 *e*PKP1 PKPdf 00 48 00.1 +5.4
comp=Z,10nm,0.8s
CLL Collm 152.86 279 *i* PKIKP PKPdf 00 48 01.2 +6.5
CLL pmax pmax
comp=Z,41nm,1.9s
CLL Collm 152.86 279 *i* PKP1 PKPdf 00 48 01.2 +6.5
CLL *e**PPKP2 00 48 18.0
GRF Grafenberg Arr 153.05 275 *e*PKIKP PKPdf 00 48 01.6 +6.6
LPG La Plagne 153.19 263 *e*PKP1 PKPdf 00 48 01.2 +5.9
LPL La Plagne 153.21 263 *e*PKP1 PKPdf 00 48 01.2 +5.8
MOX Moxa 153.31 277 *e*PKIKP PKPdf 00 48 02.2 +6.9
MOX pmax pmax
comp=Z,17nm,1.8s
MOX MLR MLR
comp=Z,300nm,23.0s,MS5.0
LASF Ste Croix 153.89 258 *e*PKP1 PKPdf 00 48 02.5 +6.2
VIVF Saint-Julien-l 153.94 260 *e*PKP1 PKPdf 00 48 02.7 +6.3
comp=Z,47nm,1.6s
CABF La Chapelle 154.23 265 *e*PKP1 PKPdf 00 48 03.2 +6.5
comp=Z,59nm,1.5s
MTLF Montolieu 154.30 255 *e*PKP1 PKPdf 00 48 03.1 +6.2
ESDC Sonseca Array 154.86 241 PKP PKPdf 00 47 59.0 +1.2
comp=Z,0.2nm,0.3s,baz=44,slow=24,SNR=4.5
ESDC PKPbc PKPdf 00 48 06.5 +8.7
comp=Z,2.5nm,1.1s,baz=167,slow=0.8,SNR=6.0
ESDC PKPab PKPab 00 48 23.1 +1.9
comp=Z,2.6nm,0.9s,baz=138,slow=4.1,SNR=6.8
HAU Haudompre 154.88 268 *e*PKP1 PKPdf 00 48 04.1 +6.6
HAU *e*R
comp=Z,123nm,18.0s
EPF Esparros 155.09 252 *e*PKP1 PKPdf 00 48 03.8 +5.8
NOA NORSAR Array B 156.89 300 PKP PKPdf 00 48 00.2 +0.4
comp=Z,3.0nm,1.1s,baz=337,slow=9.0,SNR=3.2
NOA NORSAR Array B 156.89 300 PKP PKPdf 00 48 00.2 +0.4
DAG Danmarks Havn 158.66 351 *e*PKP2 PKPab 00 48 36.0 -0.4
DAG Danmarks Havn 158.66 351 *i* P PKPab 00 48 36.0 -0.4

*IDC **06** 00:28:44.9±1.4, 61.24S×42.91W, mb4.2/2, mb1 4.2/2, mb1mx3.7/13, mbtmp4.2/2, Error ellipse: s-maj=79.3km s-min=37.5km az=21.0*
*NEIC **06** 00:28:46.6±0.7, 60.76S×43.34W, h10km, mb4.1/4, Error ellipse: s-maj=47.3km s-min=13.8km az=50.0*
ISC 06 00:28:48.3±0.9, 60.3S±0.2×42.9W±0.5, h10km, n24, σ1§43/17, mb4.0/4, 3C, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	17.17	143	*e*	P	00 32 48.1	-1.4
VNA3	Neumayer Olymp	17.17	143	*e*	P	00 32 51.2	+1.7
VNA3	Neumayer Olymp	17.17	143	*e*	P	00 33 03.4	+14
VNA3	Neumayer Olymp	17.17	143	⇑*i*P	P	00 32 45.9	-3.6
VNA3				*e*		00 32 48.1	
VNA3				*e*		00 32 51.2	
VNA3				*e*		00 33 03.4	
VNA1	Neumayer--Stat	17.39	141	*e*	P	00 32 53.3	+1.0
VNA1	Neumayer--Stat	17.39	141	⇑*i*P	P	00 32 51.4	-0.9
VNA1				*e*		00 32 53.3	
VNA2	Neumayer--Watz	17.75	141	*e*	P	00 32 56.0	-0.8
VNA2	Neumayer--Watz	17.75	141	*e*	P	00 32 59.4	+2.6
VNA2	Neumayer--Watz	17.75	141	*e*	P	00 33 11.7	+15
VNA2	Neumayer--Watz	17.75	141	⇑*i*P	P	00 32 53.8	-3.0
VNA2				*e*		00 32 56.0	
VNA2				*e*		00 32 59.4	
VNA2				*e*		00 33 11.7	
SNAA	Sanae	19.38	142	*e*	P	00 33 16.5	0.0
SNAA	Sanae	19.38	142	*e*P	P	00 33 08.7	-7.9
TRQA	Tornquist	25.35	323	P	P	00 34 17.2	+0.5
PLCA	Paso Flores	26.01	306	P	P	00 34 24.9	+2.2
PLCA	Paso Flores	26.01	306	P	P	00 34 20.7	-2.1
SAML	Samuel	53.47	335	*e*P	P	00 38 07.8	-3.0
DBIC	Dimbokro	73.19	40	P	P	00 40 21.4	+0.3
YKA	Yellowknife Ar	134.09	322	PKP	PKPdf	00 48 03.0	-4.7
BVAR	Borovoye Array	144.10	71	PKP	PKPdf	00 48 20.9	-4.9
MKAR	Makanchi Array	145.81	88	PKPbc	PKPbc	00 48 25.7	-1.2
ILAR	Eielson Array	146.64	311	PKPbc	PKPbc	00 48 27.1	-1.2
IMA	Indian Mountai	149.77	311	*e*PKPbc	PKPdf	00 48 35.5	+0.6
ZAL	Zalesovo	151.57	79	PKPbc	PKPdf	00 48 38.6	+0.7
SONM	Songino Array	158.31	111	PKP	PKPdf	00 48 41.8	-5.5

*NEIC **06** 00:41:37.2±1.9, 49.81N×18.56E, h5km, ML2.5(VIE), Error ellipse: s-maj=22.1km s-min=8.0km az=57.0*
*CSEM **06** 00:41:37.7±0.1, 49.84N×18.53E, h2km, ML2.7/4, Error ellipse: s-maj=3.0km s-min=2.0km az=171.0*
*IPEC **06** 00:41:37.8±0.1, 49.86N×18.54E, h9km±1km, ML1.7/4, Error ellipse: s-maj=1.2km s-min=0.7km az=171.0*
*PRU **06** 00:41:39.0, 49.83N×18.42E*
ISC 06 00:41:36.4±0.5, 49.86N±0.03×18.44E±0.03, n21, σ1§37/33, 1C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.19	265	*e*PG	Pg	00 41 42.6	+2.5
OKC				*e*SG	Sg	00 41 47.0	+4.4
78nm,0.7s							
OKC	Ostrava-Krasne	0.19	265	Pg	Pg	00 41 42.6	+2.5
OKC				*e*Sg	Sg	00 41 46.7	+4.1
MORC	Moravsky Berou	0.58	263	*e*P	Pg	00 41 50.3	+2.2
MORC	Moravsky Berou	0.58	263	*e*Pg	Pg	00 41 50.1	+2.1
MORC	Moravsky Berou	0.58	263	*e*P	Pg	00 41 50.3	+2.3
MORC				*e*Sg	Sg	00 41 58.5	+2.7
22nm,0.3s							
OJC	Ojcow	0.95	67	*e*Pg	Pg	00 41 55.0	-0.4
OJC				*e*Sg	Sg	00 42 06.0	-2.1
JAVC	Velka Javorina	1.11	207	*e*Pn	Pn	00 42 00.4	+1.3
VRAC	Vranov	1.32	246	*e*Pn	Pn	00 42 02.9	+0.9
VRAC				*e*Sg	Sg	00 42 20.6	+0.4
9.8nm,0.4s							
VYHS	Vyhne	1.39	169	*i* PG	Pg	00 42 03.0	-1.1
VYHS				*i* SG	Sg	00 42 21.5	-1.1
DPC	Dobruska-Polom	1.45	291	*e*PG	Pg	00 42 04.7	-0.6
DPC				*e*SG	Sg	00 42 25.1	+0.5
DPC	Dobruska-Polom	1.45	291	*e*Pn	Pn	00 42 04.9	+1.0
DPC				*e*Sg	Sg	00 42 25.0	+0.4
SMOL	Smolenice	1.50	207	*i* PG	Pg	00 42 05.4	-0.8
SMOL				*i* SG	Sg	00 42 26.1	-0.1
KRUC	Moravsky	1.55	240	*e*Pn	Pn	00 42 06.7	+1.4
KRUC				*e*Sg	Sg	00 42 27.9	-0.1
6.7nm,0.2s							
UPC	Upice	1.69	294	*e*PG	Pg	00 42 09.0	-1.1
ZST	Bratislava	1.88	208	*e*SG	Sg	00 42 33.2	-5.7
CRVS	Cervenica-Dubn	2.20	115	*e*SG	Sg	00 42 51.4	+1.9
PRU	Pruhonice	2.52	275	*e*SG	Sg	00 42 58.2	-2.1
KOLS	Kolonicke sedl	2.67	109	*e*SG	Sg	00 43 05.6	+0.3
KHC	Kasperske Hory	3.25	259	*e*PG	Pg	00 42 35.0	-6.2
KHC				*e*SG	Sg	00 43 22.7	-1.8
6.2nm,0.8s							
KHC				*ex*	x	00 43 24.5	
MOA	Molln	3.41	235	⇑*i*PN	Pn	00 42 31.6	-0.2
MOA				*i* SG	Sg	00 43 27.8	-2.0
1.8nm,0.3s							
CLL	Collm	3.75	295	*e*SG	Sg	00 43 38.0	-3.4

IDC 06 00:46:35.5±1.9, 14.75N×53.94E, mb3.5/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.9/18, Error ellipse: s-maj=76.1km s-min=27.7km az=131.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	22.84	228	P	P	00 51 40.8	-0.9
1.3nm,0.8s,baz=62,slow=14,SNR=5.1							
KMBO				LR	LR	01 00 20.8	
comp=Z,90nm,19.9s,baz=263,slow=36							
MKAR	Makanchi Array	39.75	31	P	P	00 54 09.7	-1.9
0.3nm,0.5s,baz=214,slow=8.8,SNR=6.7							
FINES	FINESS Array B	50.74	343	P	P	00 55 36.8	-2.3
0.8nm,0.7s,baz=135,slow=5.9,SNR=4.3							
SONM	Songino Array	54.26	41	P	P	00 56 03.8	-1.7
0.2nm,0.4s,baz=233,slow=7.2,SNR=3.5							

*IDC **06** 00:49:42.2±0.5, 3.67N×96.39E, mb4.5/20, mb1 4.6/20, mb1mx4.5/23, mbtmp4.5/20, MS4.5/12, Ms1 4.5/12, ms1mx4.2/32, Error ellipse: s-maj=21.3km s-min=11.6km az=45.0*
*BJI **06** 00:49:42.4, 3.14N×96.11E, h47km, mB5.0, mb4.9, Ms5.0, Msz4.6*
*MOS **06** 00:49:45.9±1.3, 3.69N×96.44E, h33km, mb5.0/31, MS4.5/10, Error ellipse: s-maj=11.3km s-min=5.8km az=117.5*
*NEIC **06** 00:49:49.2±1.4, 3.66N×96.40E, h48km±13km, mb4.8/42, Error ellipse: s-maj=9.5km s-min=6.1km az=221.0*
ISC 06 00:49:47.3±0.9, 3.62N±0.04×96.39E±0.04, h47km±7km, h51km±6.9km: pP-P, n206, σ1§32/210, mb4.7/76, MS4.6/33, 28C-13D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	4.56	68	*e*P	P	00 50 56.3	+0.7
IPM	Ipoh	4.72	78	P	P	00 50 59.0	+1.1
KGM	Kluang	7.10	103	P	P	00 51 33.0	+1.8
NNT	Nongplab	9.51	20	P	P	00 52 07.5	+2.9
BDT	Bhumibol Dam	13.78	11	P	P	00 53 03.0	+0.9
KSM	Kuching	14.06	98	*e*P	P	00 53 12.0	+6.2
CMAR	Chiang Mai Arr	14.96	9	Pn	P	00 53 17.6	+0.2
0.7nm,0.3s,baz=202,slow=13,SNR=4.8							
CMAR				LR	LR	00 59 15.3	
comp=Z,2μm,19.2s,baz=200,slow=38							
CHG	Chiang Mai	15.31	9	⇑P	P	00 53 22.6	+0.6
24nm,1.0s							
NANT	Nan	15.67	15	P	P	00 53 30.0	+3.4
138nm,1.0s							
PALK	Pallekele	16.03	284	*e*P	P	00 53 32.8	+1.5
35nm,0.9s							
VIS	Vishakhapatnam	18.98	319	*e*P	P	00 54 09.0	+1.2
VIS				*e*		00 57 26.0	
KKM	Kota Kinabalu	19.90	82	*e*P	P	00 54 18.5	+0.7
KKM	Kota Kinabalu	19.90	82	P	P	00 54 19.1	+1.2
QIZ	Qiongzhong	20.19	40	*e*P	P	00 54 22.2	+1.4
QIZ				S	S	00 58 02.8	+3.0
QIZ				LR	LR		
comp=N,3μm,14.6s,MS5.0							
QIZ				LR	LR		
comp=E,4μm,15.2s,MS5.0							
QIZ				LR	LR		
comp=Z,2μm,15.9s,MS4.5							
QIZ	Qiongzhong	20.19	40	*e*P	P	00 54 21.7	+0.9
comp=Z,31nm,0.9s							
TSM	Tawau	21.44	87	P	P	00 54 40.1	+6.4
HYB	Hyderabad	22.23	309	*e*P	P	00 54 41.0	-0.4
HYB				*e*S	S	00 58 45.0	+6.8
HYB	Hyderabad	22.23	309	*i* P	P	00 54 41.0	-0.4
HYB				*e*S	S	00 58 45.0	+6.8
KMI	Kunming	22.24	15	P	P	00 54 44.1	+2.6
KMI				AMB	AMB		
comp=Z,12nm,1.3s,mb4.2							
KMI	Kunming	22.24	15	P	P	00 54 44.1	+2.6
comp=Z,12nm,1.3s,mb4.2							
SHL	Shillong	22.25	349	*e*P	P	00 54 39.0	-2.6
SHL				*i* S	S	00 58 40.0	+1.5
NGP	Nagpur	24.25	317	*e*P	P	00 55 02.8	+1.5
NGP				*e*		00 55 09.1	
comp=Z,66nm,1.9s							
NGP				*e*		00 59 25.6	
GYA	Guiyang	24.75	22	⇑*i*P	P	00 55 06.5	+0.4
GYA				AMB	AMB		
comp=Z,30nm,0.8s,mb4.9							
GYA				AMB	AMB		
comp=Z,190nm,3.6s							
GYA				LR	LR		
comp=N,1μm,14.4s,MS4.8							
GYA				LR	LR		
comp=E,2μm,12.6s,MS4.8							
GYA				LR	LR		
comp=Z,2μm,16.8s,MS4.6							
JIRN	Jiri	25.81	339	*e*P	P	00 55 14.4	-1.7
comp=Z,46nm,0.6s,mb5.2							
PKI	Pulchoki	26.02	337	*e*P	P	00 55 15.5	-2.6
comp=Z,22nm,0.6s,mb4.9							
PKI	Pulchoki	26.02	337	*e*P	P	00 55 15.5	-2.6
PKI				pmax	pmax		
comp=Z,11nm,0.6s,mb4.6							
DMN	Daman	26.18	337	*e*P	P	00 55 16.8	-2.7
comp=Z,18nm,0.6s,mb4.8							
KKN	Kakani	26.27	337	*e*P	P	00 55 18.3	-2.0
comp=Z,40nm,0.8s,mb5.0							
KKN	Kakani	26.27	337	*e*P	P	00 55 18.3	-2.0
KKN				pmax	pmax		
comp=Z,20nm,0.8s,mb4.7							
LSA	Lhasa	26.41	350	P	P	00 55 21.4	-0.2
LSA				AMB	AMB		
comp=Z,20nm,1.0s,mb4.6							
LSA				AMB	AMB		
comp=Z,120nm,6.3s							
LSA				LR	LR		
comp=N,330nm,16.1s,MS4.2							
LSA				LR	LR		
comp=E,390nm,17.1s,MS4.2							

LSA LR LR
comp=Z,840nm,16.1s,MS4.4
LSA Lhasa 26.41 350 *eP* **P 00 55 20.7 -0.9**
LSA pmax pmax
comp=Z,21nm,0.7s,mb4.8
LSA Lhasa 26.41 350 *eP* **P 00 55 20.7 -0.9**
comp=Z,21nm,0.7s,mb4.8
POO Poona 26.57 306 *eP* **P 00 55 28.0 +4.8**
comp=Z,20nm,1.0s,mb4.6
POO *e* 01 00 20.0
GKN Gorkha 26.71 336 *eP* **P 00 55 22.5 -1.9**
comp=Z,26nm,0.4s,mb5.2
KOLN Koldanda 26.94 334 *eP* **P 00 55 24.4 -2.1**
comp=Z,159nm,1.4s,mb5.4
CD2 Chengdu 28.02 14 P **P 00 55 35.2 -1.1**
CD2 AMB AMB
comp=Z,30nm,0.7s,mb5.0
ENH Enshi 29.26 24 *eP* **P 00 55 45.4 -2.0**
comp=Z,12nm,0.7s,mb4.7
NDI New Delhi 30.89 326 *eP* **P 00 55 58.0 -3.8**
NDI *eS* **S 01 01 06.0 +4.8**
DDI Dehra Dun 31.72 329 *eP* **P 00 56 08.5 -0.6**
XAN Xi'an 32.44 20 P **P 00 56 13.2 -2.2**
XAN AMB AMB
comp=Z,18nm,0.9s,mb4.9
XAN LR LR
comp=N,1μm,14.1s,MS4.9
XAN LR LR
comp=E,1μm,11.5s,MS4.9
XAN LR LR
comp=Z,1μm,13.1s,MS4.8
LZH Lanzhou 33.03 11 ⇑P **P 00 56 19.0 -1.5**
LZH AMB AMB
comp=Z,30nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,92nm,4.5s
LZH LR LR
comp=N,980nm,12.0s
LZH LR LR
comp=Z,1μm,15.2s,MS4.8
LZH Lanzhou 33.03 11 ⇑P **P 00 56 19.0 -1.5**
comp=Z,30nm,1.5s,mb5.0
LZH pP pP 00 56 43.5 +10
LZH sP sP 00 56 51.0 +12
LZH LR LR
comp=Z,1μm,15.2s,MS4.8
SDNR Sundarnagar 33.22 329 *eP* **P 00 56 21.0 -1.1**
SDNR *e* 01 01 39.0
MBWA Marble Bar 33.61 138 *eP* **P 00 56 24.8 -0.8**
comp=Z,16nm,1.1s,mb4.9
DLH Dalhousie 34.56 329 *e* **P 00 56 39.0 +5.3**
NJ2 Nanjing 35.28 34 *eP* **P 00 56 38.0 -1.9**
NJ2 PP PP 00 57 57.1 -3.0
NJ2 S **S 01 02 11.0 +1.4**
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb5.5
NJ2 AMB AMB
comp=Z,110nm,5.3s
NJ2 LR LR
comp=N,3μm,16.6s,MS5.3
NJ2 LR LR
comp=E,4μm,17.6s,MS5.3
NJ2 LR LR
comp=Z,1μm,12.3s
GTA Gaotai 35.76 5 P **P 00 56 42.9 -0.9**
GTA AMB AMB
comp=Z,10.0nm,1.8s,mb4.4
GTA AMB AMB
comp=Z,105nm,4.6s
GTA LR LR
comp=N,610nm,16.4s,MS4.5
GTA LR LR
comp=E,545nm,19.4s,MS4.5
GTA LR LR
comp=Z,518nm,16.4s,MS4.4
SSE Sheshan 35.96 38 P **P 00 56 42.9 -2.7**
SSE S **S 01 02 21.0 +1.0**
SSE AMB AMB
comp=Z,19nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,80nm,3.8s
SSE LR LR
comp=N,558nm,16.8s,MS4.5
SSE LR LR
comp=E,537nm,16.8s,MS4.5
SSE LR LR
comp=Z,360nm,23.8s
SSE Sheshan 35.96 38 P **P 00 56 42.9 -2.7**
comp=Z,19nm,0.8s,mb5.1
SSE S **S 01 02 21.0 +1.0**
SSE sS 01 02 38.4
SSE LR LR
comp=Z,360nm,23.8s,MS4.1
FITZ Fitzroy Crossi 36.01 128⇓*iP* **P 00 56 44.5 -1.7**
comp=Z,13nm,0.8s,mb4.9
FITZ Fitzroy Crossi 36.01 128 P **P 00 56 44.8 -1.4**
comp=Z,17nm,0.9s,mb5.0,baz=319,slow=3.1,SNR=11
FITZ ScP 01 02 59.0
comp=Z,5.8nm,0.8s,baz=218,slow=1.2,SNR=3.8
FITZ LR LR 01 10 41.2
comp=Z,696nm,20.5s,MS4.4,baz=256,slow=35
JOW Kunigami 38.24 50 P **P 00 57 05.6 +0.8**
comp=Z,10nm,0.6s,mb4.8,baz=220,slow=3.1,SNR=8.1
HHC Hu-ho-hao-te 39.51 18 ⇑P **P 00 57 16.7 +1.6**
HHC AP pP 00 57 28.9 +1.1
HHC PCP PcP 00 59 18.3 -4.4
HHC PCS 01 03 13.3
HHC S **S 01 03 16.3 +2.5**
HHC SS SS 01 06 06.7 +3.8
HHC AMB AMB
comp=Z,16nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,59nm,5.4s
HHC LR LR
comp=N,1μm,17.7s,MS4.9
HHC LR LR
comp=E,675nm,15.2s,MS4.9
HHC LR LR
comp=Z,1μm,17.7s,MS4.8
BJT Baijiatuau 40.41 24 *eP* **P 00 57 24.3 +1.7**
BJT pmax pmax
comp=Z,18nm,0.6s
BJT Baijiatuau 40.41 24 *eP* **P 00 57 24.3 +1.7**
comp=Z,18nm,0.6s,mb5.0
BJI Beijing 40.43 24 P **P 00 57 24.3 +1.5**
BJI PP PP 00 59 04.6 +4.9
BJI AMB AMB
comp=Z,35nm,0.7s,mb5.2
BJI AMB AMB
comp=Z,250nm,5.4s
BJI LR LR
comp=N,833nm,16.4s,MS4.8
BJI LR LR
comp=E,887nm,17.1s,MS4.8
BJI LR LR
comp=Z,414nm,25.4s
BJI Beijing 40.43 24 P **P 00 57 24.3 +1.5**
comp=Z,35nm,0.7s,mb5.2
BJI PP PP 00 59 04.6 +4.9
BJI S **S 01 03 47.4 +20**
BJI SS SS 01 07 01.9 +39
BJI LR LR
comp=Z,410nm,25.4s,MS4.2
WMQ Urumqi 40.77 350 ⇑P **P 00 57 25.2 -0.3**
WMQ PP PP 00 59 03.1 +0.1
WMQ PCP PcP 00 59 26.8 0.0
WMQ PPP PPP 00 59 31.7 -0.6
WMQ S **S 01 03 31.9 -0.7**
WMQ XS 01 03 59.2
WMQ AMB AMB
comp=Z,12nm,0.7s,mb4.6
WMQ AMB AMB
comp=Z,34nm,3.6s
WMQ LR LR
comp=N,315nm,17.0s,MS4.5
WMQ LR LR
comp=E,464nm,20.8s,MS4.5
WMQ LR LR
comp=Z,402nm,23.2s,MS4.2
NWAO Narrogin (SRO) 41.36 153 P **P 00 57 29.5 -1.0**
comp=Z,9.1nm,0.8s,mb4.5,baz=307,slow=19,SNR=4.7
NWAO LR LR 01 12 24.6
comp=Z,713nm,19.8s,MS4.5,baz=336,slow=33
NWAO Narrogin (SRO) 41.36 153 P **P 00 57 29.5 -1.0**
NWAO LR LR 01 12 24.6
AAK Ala-Archa 43.47 336 *iP* **P 00 57 51.5 +3.7**
AAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
AAK MLR MLR
comp=Z,900nm,22.0s,MS4.6
AAK Ala-Archa 43.47 336 *eP* **P 00 57 46.9 -0.9**
comp=Z,4.0nm,0.7s,mb4.3
WRA Warramunga Arr 44.02 124 P **P 00 57 52.1 -0.3**
comp=Z,22nm,0.8s,mb5.0,baz=304,slow=9.0,SNR=52
WRA ScP 01 03 29.9
comp=Z,1.9nm,1.0s,baz=302,slow=3.8,SNR=5.0
WRAB Tennant Creek 44.02 124 *eP* **P 00 57 52.2 -0.3**
WRAB pmax pmax
comp=Z,33nm,0.8s,mb5.1
WRAB Tennant Creek 44.02 124 *eP* **P 00 57 52.2 -0.3**
comp=Z,33nm,0.8s,mb5.1
WB2 Warramunga Arr 44.03 124⇓*iP* **P 00 57 52.1 -0.4**
MKAR Makanchi Array 44.72 346 P **P 00 57 56.0 -1.7**
comp=Z,6.2nm,0.3s,mb4.9,baz=162,slow=8.1,SNR=137
MKAR Makanchi Array 44.72 346 P **P 00 57 56.0 -1.7**
SONM Songino Array 44.88 10 P **P 00 57 58.2 -0.8**
comp=Z,5.4nm,0.7s,mb4.5,baz=192,slow=9.3,SNR=41
SONM PcP PcP 00 59 40.1 -0.4
comp=Z,2.7nm,0.6s,baz=207,slow=2.8,SNR=5.2
SONM ScP 01 03 32.8
comp=Z,1.2nm,0.8s,baz=207,slow=2.8,SNR=5.6
SONM LR LR 01 17 48.7
comp=Z,659nm,20.2s,MS4.6,baz=189,slow=38
ULN Ulaanbaatar 45.03 10 *eP* **P 00 57 58.8 -1.4**
ULN pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ULN Ulaanbaatar 45.03 10 *eP* **P 00 57 58.8 -1.4**
comp=Z,3.0nm,0.6s,mb4.3
ASPA Alice Springs 45.50 128⇓*iP* **P 00 58 03.8 -0.5**
ASAR Alice Springs 45.51 128 P **P 00 58 03.9 -0.4**
comp=Z,6.6nm,0.8s,mb4.6,baz=305,slow=7.7,SNR=46
ASAR ScP 01 03 37.0
comp=Z,2.2nm,1.0s,baz=276,slow=2.5,SNR=6.7
FORT Forrest 45.64 141 *eP* **P 00 58 05.3 0.0**
comp=Z,418nm,0.7s
ZAK Zakamensk 46.96 6 *eP* **P 00 58 11.5 -3.9**
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
CN2 Changchun 47.55 28 *eP* **P 00 58 19.7 -0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,15.0s,MS5.1
CN2 LR LR
comp=E,800nm,15.0s,MS5.1
CN2 LR LR
comp=Z,900nm,15.0s,MS4.9
TLY Talaya 48.28 6 *eP* **P 00 58 22.6 -3.1**
TLY pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
TLY MLR MLR
comp=Z,351nm,15.0s,MS4.5
HIA Hailar 49.64 20 *eP* **P 00 58 35.8 -0.4**
HIA pmax pmax
comp=Z,6.0nm,0.9s
HIA Hailar 49.64 20 *eP* **P 00 58 35.8 -0.4**
comp=Z,6.1nm,0.9s,mb4.6
MJAR Matsushiro Arr 50.49 44 P **P 00 58 43.3 +0.4**
comp=Z,1.9nm,0.7s,mb4.2,baz=244,slow=9.1,SNR=5.2
MJAR ScP 01 03 58.1
comp=Z,0.8nm,0.3s,baz=250,slow=5.2,SNR=5.5
BVAR Borovoye Array 53.72 341 P **P 00 59 04.4 -2.5**
comp=Z,6.4nm,0.6s,mb4.7,baz=141,slow=8.5,SNR=46
KLR Kul'dur 54.48 28 *eP* **P 00 59 08.2 -4.3**
KLR MLR MLR
comp=E,600nm,16.0s
KLR MLR MLR
comp=Z,2μm,16.0s,MS5.2
STKA Stephens Creek 55.58 133⇑*iP* **P 00 59 20.3 -0.4**
comp=Z,7.3nm,0.8s,mb4.8
STKA Stephens Creek 55.58 133 P **P 00 59 20.4 -0.3**
comp=Z,6.4nm,0.7s,mb4.7,baz=310,slow=7.2,SNR=19
STKA LR LR 01 25 32.7
comp=Z,525nm,20.9s,MS4.6,baz=208,slow=39
BOD Bodaibo 55.80 11 *eP* **P 00 59 19.9 -2.1**
BOD pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
YSS Yuzh-Sakhalins 58.84 35 P **P 00 59 41.0 -2.5**
YSS MLR MLR
comp=E,400nm,16.0s
YSS MLR MLR
comp=Z,400nm,16.0s,MS4.6
GNI Garni 59.01 315 *iP* **P 00 59 47.6 +2.8**
GNI Garni 59.01 315 P **P 00 59 45.3 +0.5**
comp=Z,1.5nm,0.5s,mb4.3,baz=183,slow=20,SNR=2.6
GNI Garni 59.01 315 P **P 00 59 45.3 +0.5**
KMBO Kilima Mbogo 59.29 267 P **P 00 59 48.1 +0.9**
comp=Z,0.5nm,0.5s,mb3.8,baz=55,slow=18,SNR=3.2
TI2 Plekhanov 59.66 317 *eP* **P 00 59 48.0 -1.3**
SVE Sverdlovsk 60.16 338⇓*iP* **P 00 59 51.3 -1.2**
SVE *eS* **S 01 08 01.1 +0.4**
SVE pmax pmax
comp=Z,74nm,1.9s,mb5.4
SVE MLR MLR
comp=Z,609nm,22.0s,MS4.7
ARU Arti 60.66 337⇓*iP* **P 00 59 53.7 -2.2**
ARU *e* 01 00 38.2
ARU *eS* **S 01 08 09.6 +2.5**
ARU *eSS* SS 01 12 07.3 0.0
ARU pmax pmax
comp=Z,21nm,1.1s,mb5.2
ARU MLR MLR
comp=Z,500nm,19.0s,MS4.7
ARU MLR MLR
comp=N,300nm,20.0s,MS4.7
ARU MLR MLR
comp=E,400nm,19.0s,MS4.7
ARU Arti 60.66 337 *eP* **P 00 59 53.5 -2.4**
comp=E,22nm,1.2s,mb5.2
KIV Kislovodsk 61.96 319*cP* **P 01 00 05.1 +0.2**
KIV *e* 01 02 29.5
KIV *eS* **S 01 08 32.9 +9.0**
KIV pmax pmax
comp=Z,19nm,1.2s,mb5.1
KIV Kislovodsk 61.96 319 *eP* **P 01 00 04.0 -0.9**
comp=Z,15nm,1.0s,mb5.1
GOF Gofitskoye 62.20 320 *eP* **P 01 00 10.3 +3.9**
ASF Jabal al Asfar 62.43 304 P **P 01 00 08.4 +0.2**
comp=Z,0.7nm,0.4s,mb4.1,baz=89,slow=12,SNR=2.3
ASF LR LR 01 29 31.6
comp=Z,285nm,18.5s,MS4.5,baz=114,slow=38
MALT Malatya 62.92 312 *eP* **P 01 00 11.2 -0.2**
MALT pmax pmax
comp=Z,13nm,1.4s,mb4.9
MALT Malatya 62.92 312 *eP* **P 01 00 11.2 -0.2**
comp=Z,13nm,1.4s,mb4.9
YAK Yakutsk 63.35 17 *eP* **P 01 00 12.5 -1.3**
YAK *eS* **S 01 08 44.5 +3.5**
YAK pmax pmax
comp=Z,13nm,0.9s,mb5.1
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax
comp=N,8.0nm,1.0s
YAK smax
comp=E,4.0nm,1.0s
YAK Yakutsk 63.35 17 *eP* **P 01 00 13.1 -0.8**
comp=E,23nm,0.7s,mb5.4
EIL Elat 63.50 301 LR LR 01 28 12.5
comp=E,562nm,18.5s,MS4.8,baz=106,slow=36
SOC Sochi 63.80 317 *eP* **P 01 00 14.3 -2.8**
SOC *e* 01 00 46.8
SOC *e* 01 02 34.4
SOC *eS* **S 01 08 43.2 -3.7**
SOC *e* 01 10 03.7
SOC *eSS* SS 01 12 57.7 +0.6
SOC pmax pmax
comp=N,10.0nm,0.7s
SOC pmax pmax
comp=Z,13nm,0.7s,mb5.1
SOC pmax pmax
comp=E,4.0nm,0.5s
SOC MLR MLR
comp=Z,134nm,16.0s,MS4.2
SOC MLR MLR
comp=N,85nm,14.0s,MS4.3
SOC MLR MLR
comp=E,111nm,14.0s,MS4.3
BRTR Keskin Array B 66.90 312 P **P 01 00 35.9 -1.1**
comp=E,2.4nm,0.7s,mb4.3,baz=123,slow=7.4,SNR=18
VRSR Storozhevoye 67.12 325 *eP* **P 01 00 37.2 -1.0**
VRSR pmax pmax
comp=N,8.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.8s
VRSR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SIM Simferopol' 68.05 317 *eP* **P 01 00 43.6 -0.5**
SIM *eS* S 01 09 37.2 -1.4
SIM pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SIM MLR MLR
comp=Z,180nm,20.7s,MS4.3
MA2 Magadan 69.52 26 *eP* **P 01 00 52.8 -0.2**
MA2 *e* 01 01 19.3
MA2 pmax pmax
comp=Z,20nm,1.3s,mb4.9
OBN Obninsk 70.15 328*diP* **P 01 00 55.8 -1.1**
OBN *i* S S 01 10 09.6 +6.3
OBN pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.6
OBN Obninsk 70.15 328 *eP* **P 01 00 55.3 -1.6**
comp=Z,26nm,1.1s,mb5.1
TIRR Tirgusor 71.84 316⇓*P* **P 01 01 06.9 -0.3**
SEY Seymchan 71.87 24 *eP* **P 01 01 07.1 0.0**
SEY *e* pP 01 01 25.2 +4.5
SEY *e* 01 03 53.4
SEY *e* 01 11 15.4
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.2
CFR Carcaliu 72.19 316⇓*P* **P 01 01 07.9 -1.4**
HARR Harsova 72.22 316⇑*P* **P 01 01 11.0 +1.5**
IDI Anoyia 72.84 306 LR LR 01 39 20.6
comp=Z,115nm,19.8s,MS4.2,baz=123,slow=41
AKASG Malin Array Be 72.86 322 P **P 01 01 11.7 -1.5**
comp=Z,3.5nm,0.6s,mb4.5,baz=87,slow=5.4,SNR=30
VRI Vrincioaia 73.31 317⇑*iP* **P 01 01 16.2 +0.3**
MLR Muntele Rosu 73.77 316 P **P 01 01 18.4 -0.2**
comp=Z,6.5nm,0.9s,mb4.6
MLR LR LR 01 39 04.0
comp=Z,253nm,20.1s,MS4.5,baz=93,slow=40
MLR Muntele Rosu 73.77 316⇑*iP* **P 01 01 19.0 +0.4**
LBTB Lobatse 74.25 243 *eP* **P 01 01 22.6 +0.8**
LBTB pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
LBTB Lobatse 74.25 243 *eP* **P 01 01 22.6 +0.9**
comp=Z,6.7nm,1.1s,mb4.5
BURAR Bucovina Array 74.69 318⇓*P* **P 01 01 23.8 0.0**
BURAR Bucovina Array 74.69 318⇓*P* **P 01 01 23.8 -0.1**
VTS Vitosha 75.20 313⇓*P* **P 01 01 26.9 0.0**
KOLS Kolonicke sedl 76.87 319 *eP* **P 01 01 39.7 +3.5**
SUW Suwalki 77.25 325 *eP* **P 01 01 37.2 -1.1**
CRVS Cervenica-Dubn 77.39 319 *eP* **P 01 01 40.5 +1.3**
FINES FINESS Array B 77.50 332 P **P 01 01 38.4 -1.0**
comp=Z,3.0nm,0.6s,mb4.4,baz=101,slow=8.0,SNR=11
FINES LR LR 01 40 20.7
comp=Z,436nm,18.5s,MS4.8,baz=256,slow=39
FINES FINESS Array B 77.50 332 P **P 01 01 38.4 -1.1**
FINES LR LR 01 40 20.7
KAF Kangasniemi 77.57 333 *ep* **P 01 01 36.2 -3.7**
comp=Z,4.8nm,0.7s,mb4.5,baz=102,slow=5.4
KAF Kangasniemi 77.57 333 *eP* **P 01 01 36.2 -3.7**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
PSZ Piszkesteto 78.28 318⇑*eP* **P 01 01 44.4 +0.3**
PSZ Piszkesteto 78.28 318⇑*P* **P 01 01 44.2 +0.1**
OJC Ojcow 78.66 320 *eP* **P 01 01 46.9 +0.8**
PKSM Moragy 78.92 316⇑*P* **P 01 01 47.3 -0.3**
VYHS Vyhne 79.05 319 *eP* **P 01 01 50.9 +2.6**
BILL Biiibino 79.21 21⇑*eP* **P 01 01 48.2 -0.6**
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BILL MLR MLR
comp=Z,700nm,16.0s,MS5.1
BILL Biiibino 79.21 21 *eP* **P 01 01 48.3 -0.4**
comp=Z,13nm,1.1s,mb4.8
SRO2 Moca 79.26 318 *eP* **P 01 01 52.7 +3.2**
KEV Kevo 79.57 341 *ep* **P 01 01 49.8 -0.9**
comp=Z,8.3nm,0.8s,mb4.7
KEV Kevo 79.57 341 *eP* **P 01 01 49.8 -0.9**
KEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
OKC Ostrava-Krasne 79.66 320 *eP* **P 01 01 53.0 +1.4**
MORC Moravsky Berou 80.05 320⇓*P* **P 01 01 55.1 +1.5**
ZST Bratislava 80.17 318 *eP* **P 01 01 56.9 +2.6**
DPC Dobruska-Polom 80.89 320 *eP* **P 01 01 59.0 +0.9**
UPC Upice 81.10 320 *eP* **P 01 01 59.9 +0.7**
ARSA Arzberg 81.15 317⇑*iP* **P 01 02 00.3 +0.8**
comp=Z,12nm,1.6s,mb4.6
PRU Pruhonice 82.00 320 *eP* **P 01 02 04.2 +0.3**
PVCC Panska Ves 82.02 320 *eP* **P 01 02 03.2 -0.8**
AQU L'Aquila 82.39 312 *eP* **P 01 02 06.5 +0.4**
AQU pmax pmax
comp=Z,17nm,1.0s,mb4.9
AQU L'Aquila 82.39 312 *eP* **P 01 02 06.5 +0.4**
comp=Z,17nm,1.0s,mb4.9
BRG Berggiesshubel 82.44 321 *eP* **P 01 02 06.8 +0.7**
BRG *e* pP 01 02 23.3 +3.3
BRG pmax pmax
comp=Z,16nm,1.5s,mb4.7
BRG Berggiesshubel 82.44 321 *eP* **P 01 02 06.8 +0.7**
comp=Z,16nm,1.5s,mb4.7
BRG *e* pP 01 02 23.3 +3.3
GERES GERESS Array B 82.47 319 P **P 01 02 06.6 +0.2**
comp=Z,1.6nm,0.6s,mb4.2,baz=90,slow=6.7,SNR=17
KHC Kasperske Hory 82.57 319 *eP* **P 01 02 07.4 +0.6**
KHC Kasperske Hory 82.57 319 *eP* **P 01 02 07.4 +0.6**
KHC PCP PcP 01 02 12.0 -0.2
PTCC Patocco-Chiusa 82.59 316 *eP* **P 01 02 07.4 +0.4**
NRCA Norcia 82.62 313 *eP* **P 01 02 07.7 +0.5**
KBA Koelnbreinsper 82.63 317⇑*iP* **P 01 02 07.2 +0.1**
comp=Z,5.2nm,1.2s,mb4.4
KBA Koelnbreinsper 82.63 317⇑*iP* **P 01 02 07.2 +0.1**
KBA pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
ARV Arcevia 82.77 313 *eP* **P 01 02 10.2 +2.2**
FSSB Fossombrone 82.89 313 *eP* **P 01 02 09.8 +1.2**
CLL Collm 83.05 321 *eP* **P 01 02 05.0 -4.2**
CLL *e* pP 01 02 16.0 -7.1
CLL Collm 83.05 321 P **P 01 02 11.0 +1.8**
CLL *e* pP 01 02 25.0 +1.9
NKC Novy Kostel 83.36 320 *eP* **P 01 02 11.8 +1.0**
SFI Santa Sofia 83.57 314 *eP* **P 01 02 13.8 +1.7**
PGD Poggio Sodo 83.67 314 *eP* **P 01 02 14.8 +2.3**
CTI Castel Tesino 83.76 316 *eP* **P 01 02 14.0 +1.0**
WTTA Wattenberg 83.80 317⇑*iP* **P 01 02 13.3 +0.2**
comp=Z,6.3nm,0.9s,mb4.8
WTTA Wattenberg 83.80 317⇑*iP* **P 01 02 13.3 +0.2**
WTTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
WATA Walderalm 83.84 317⇑*iP* **P 01 02 13.2 -0.1**
comp=Z,3.7nm,1.1s,mb4.4
WATA Walderalm 83.84 317⇑*iP* **P 01 02 13.2 -0.1**
WATA pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
MOX Moxa 83.90 320 *eP* **P 01 02 16.0 +2.4**
SQTA Sankt Quirin 84.09 317⇑*iP* **P 01 02 14.8 +0.2**
comp=Z,8.4nm,1.3s,mb4.7
SQTA Sankt Quirin 84.09 317⇑*iP* **P 01 02 14.8 +0.2**
SQTA pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
GRA1 Grafenberg Arr 84.13 319 *eP* **P 01 02 15.6 +0.9**
comp=Z,7.0nm,1.1s,mb4.7
GRF Grafenberg Arr 84.13 319 *eP* **P 01 02 15.6 +0.9**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
GRF Grafenberg Arr 84.13 319 *eP* **P 01 02 15.6 +0.9**
GRF pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
GRF Grafenberg Arr 84.13 319 *eP* **P 01 02 15.6 +0.9**
comp=Z,7.0nm,1.1s,mb4.7
NB2 NORSAR Subarra 84.51 331 P **P 01 02 14.0 -2.4**
comp=Z,9.9nm,1.4s,mb4.8,baz=92,slow=5.3
NOA NORSAR Array B 84.51 331 P **P 01 02 16.3 -0.1**
comp=Z,0.9nm,0.6s,mb4.1,baz=95,slow=4.6,SNR=3.4
NOA LR LR 01 43 14.2
comp=Z,224nm,22.0s,MS4.5,baz=65,slow=38
NOA NORSAR Array B 84.51 331 P **P 01 02 16.3 -0.1**
NOA LR LR 01 43 14.2
DAVA Damuels 84.99 317⇓*iP* **P 01 02 19.2 +0.1**

comp=Z,8.2nm,1.1s,mb4.8
DAVOX **Davos** 84.99 316 LR LR 01 43 12.9
comp=Z,178nm,21.8s,MS4.4,baz=246,slow=38
FIN **Finale Ligure** 86.20 314 *e*P **P** **01 02 25.8 +0.7**
LPG **La Plagne** 87.19 315 *e*P **P** **01 02 30.4 +0.5**
comp=Z,14nm,0.8s,mb4.9
LPG **La Plagne** 87.19 315 *e*P **P** **01 02 30.4 +0.5**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
IMA **Indian Mountai** 94.68 23 *e*P **P** **01 03 06.7 +2.4**
IMA pmax pmax
comp=Z,39nm,1.4s,mb5.6
IMA **Indian Mountai** 94.68 23 *e*P **P** **01 03 06.7 +2.5**
comp=Z,39nm,1.4s,mb5.6
ESDC **Sonseca Array** 95.66 310 P **P** **01 03 10.3 +0.9**
comp=Z,0.7nm,0.6s,mb4.2,baz=298,slow=38,SNR=3.6
SNAA **Sanae** 96.32 198⇑/*P* **P** **01 03 08.7 -2.9**
SNAA *e* pP 01 03 19.1 -6.7
VNA2 **Neumayer--Watz** 97.90 199⇑/*P* **P** **01 03 14.1 -4.7**
VNA2 **Neumayer--Watz** 97.90 199 *e* **P** **01 03 25.6 +6.8**
VNA2 **Neumayer--Watz** 97.90 199 *e* pP 01 03 32.9 0.0
VNA1 **Neumayer--Stat** 98.24 199⇑/*P* **P** **01 03 14.7 -5.7**
VNA1 **Neumayer--Stat** 98.24 199 *e* **P** **01 03 27.2 +6.8**
VNA1 **Neumayer--Stat** 98.24 199 *e* pP 01 03 33.7 -0.8
VNA3 **Neumayer Olymp** 98.55 198⇑/*P* **P** **01 03 14.7 -7.1**
VNA3 **Neumayer Olymp** 98.55 198 *e* **P** **01 03 27.0 +5.2**
VNA3 **Neumayer Olymp** 98.55 198 *e* pP 01 03 33.1 -2.8
YKA **Yellowknife Ar** 109.98 15 PP PP 01 08 43.5 -7.9
comp=Z,0.5nm,0.8s,baz=332,slow=7.1,SNR=6.2
ULM **Lac du Bonnet** 125.31 10 PKP PKPdf 01 08 44.7 +1.5
comp=Z,1.6nm,0.6s,baz=23,slow=1.4,SNR=4.2
NVAR **Mina Array Bea** 127.28 34 PKP PKPdf 01 08 50.3 +2.9
comp=Z,0.7nm,0.7s,baz=337,slow=1.3,SNR=4.0
PDAR **Pinedale Array** 128.20 24 PKP PKPdf 01 08 50.9 +1.8
comp=Z,0.4nm,0.5s,baz=141,slow=2.3,SNR=4.9
TXAR **Lajitas Array** 142.00 29 PKhKP 01 09 12.0
TXAR PKP PKPdf 01 09 16.9 +1.9
comp=Z,0.7nm,0.5s,baz=164,slow=0.7,SNR=9.9
LPAZ **La Paz** 160.25 229 PKPab PKPab 01 10 26.3 +1.1
comp=Z,2.0nm,0.8s,baz=101,slow=5.9,SNR=6.7

*IDC **06** 01:03:02.1±0.9, 0.39S×96.66E, mb4.1/13, mb1 4.2/14, mb1mx4.1/20, mbtmp4.1/14, ML3.7/1, MS4.3/2, Ms1 4.3/2, ms1mx3.6/26, Error ellipse: s-maj=43.0km s-min=14.5km az=49.0*
*NEIC **06** 01:03:07.2±0.5, 0.22S×96.91E, h30km, mb4.4/6, Error ellipse: s-maj=15.6km s-min=8.4km az=53.0*
ISC 06 01:03:05.3±0.6, 0.20S±0.10×96.9E±0.1, h30km, n25, σ0s85/24, mb4.2/19, MS4.3/2, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	6.59	34	*e*P	**Pn**	01 04 41.4	**-1.4**
CMAR	**Chiang Mai Arr**	18.64	6	Pn	**P**	01 07 23.6	**+0.5**
	0.1nm,0.3s,baz=193,slow=12,SNR=7.5						
JIRN	**Jiri**	29.56	340	*e*P	**P**	01 09 11.2	**+1.3**
	8.9nm,0.6s,mb4.7						
PKI	**Pulchoki**	29.75	339	*e*P	**P**	01 09 11.0	**-0.6**
	7.2nm,0.6s,mb4.6						
DMN	**Daman**	29.89	339	*e*P	**P**	01 09 12.4	**-0.5**
	12nm,0.9s,mb4.6						
KKN	**Kakani**	29.99	339	*e*P	**P**	01 09 13.7	**-0.1**
GKN	**Gorkha**	30.42	338	*e*P	**P**	01 09 18.4	**+0.9**
	9.6nm,0.7s,mb4.7						
KOLN	**Koldanda**	30.61	336	*e*P	**P**	01 09 20.1	**+0.9**
	15nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	33.35	124	P	**P**	01 09 42.1	**-1.2**
	2.2nm,0.7s,mb4.2,baz=174,slow=9.6,SNR=4.2						
WRA	**Warramunga Arr**	41.54	120	P	**P**	01 10 53.3	**+1.2**
	1.6nm,0.8s,mb3.7,baz=302,slow=9.0,SNR=6.4						
WRA	**Warramunga Arr**	41.54	120	P	**P**	01 10 53.3	**+1.2**
ASAR	**Alice Springs**	42.78	126	P	**P**	01 11 02.4	**+0.1**
	1.5nm,0.6s,mb3.9,baz=295,slow=7.9,SNR=14						
MKAR	**Makanchi Array**	48.53	347	P	**P**	01 11 48.7	**+1.0**
	7.9nm,0.6s,mb4.9,baz=156,slow=8.2,SNR=88						
MKAR				LR	LR	01 33 58.7	
	comp=Z,252nm,21.5s,MS4.2,baz=179,slow=38						
SONM	**Songino Array**	48.54	8	P	**P**	01 11 49.3	**+1.5**
	0.5nm,0.6s,mb3.7,baz=187,slow=10.0,SNR=5.0						
STKA	**Stephens Creek**	52.63	131	P	**P**	01 12 19.6	**+0.5**
	1.4nm,0.7s,mb4.0,baz=292,slow=7.3,SNR=4.5						
STKA	**Stephens Creek**	52.63	131	P	**P**	01 12 19.6	**+0.5**
ZAL	**Zalesovo**	54.88	351	P	**P**	01 12 34.8	**-0.6**
	5.3nm,0.6s,mb4.8,baz=308,slow=5.6,SNR=20						
ZAL				LR	LR	01 37 42.3	
	comp=Z,332nm,21.7s,MS4.4,baz=319,slow=38						
BVAR	**Borovoye Array**	57.48	341	P	**P**	01 12 53.0	**-1.0**
	1.9nm,0.7s,mb4.3,baz=117,slow=6.6,SNR=10						
ASF	**Jabal al Asfar**	65.06	306	P	**P**	01 13 45.3	**-0.3**
	2.3nm,0.8s,mb4.3,baz=223,slow=3.5,SNR=3.9						
MALT	**Malatya**	65.87	313	*e*P	**P**	01 13 50.9	**+0.3**
	2.1nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	69.86	313	P	**P**	01 14 14.4	**-1.1**
	0.8nm,0.7s,mb3.7,baz=135,slow=7.0,SNR=6.7						
AKASG	**Malin Array Be**	76.20	323	P	**P**	01 14 51.5	**-1.1**
	0.2nm,0.3s,mb3.5,baz=86,slow=5.8,SNR=5.1						
FINES	**FINESS Array B**	81.11	333	P	**P**	01 15 19.1	**0.0**
	1.2nm,0.6s,mb4.0,baz=87,slow=5.5,SNR=9.7						
GERES	**GERESS Array B**	85.69	319	P	**P**	01 15 42.4	**-0.3**
	0.2nm,0.5s,mb3.6,baz=121,slow=7.8,SNR=4.9						
TXAR	**Lajitas Array**	144.98	32	PKPbc	PKPbc	01 22 42.6	+2.1
	1.5nm,0.8s,baz=293,slow=2.0,SNR=13						

IDC 06 01:07:11.5±10.0, 0.84S×96.29E, mb3.9/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=212.0km s-min=116.0km az=143.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	19.36	8	P	P	01 11 39.2	-2.2
	0.2nm,0.3s,baz=206,slow=12,SNR=5.8						
MKAR	**Makanchi Array**	49.01	347	P	P	01 15 59.6	-2.4
	0.9nm,0.3s,baz=162,slow=7.5,SNR=25						
SONM	**Songino Array**	49.27	9	P	P	01 16 01.2	-2.8
	0.7nm,0.5s,baz=188,slow=9.6,SNR=5.6						
ZAL	**Zalesovo**	55.42	352	P	P	01 16 48.6	-1.3
	1.0nm,0.5s,baz=318,slow=5.9,SNR=3.7						

*BJI **06** 01:09:31.7, 3.80S×141.13E, h30km, mb4.8*
*IDC **06** 01:09:32.8±0.7, 3.33S×140.75E, mb4.5/10, mb1 4.7/11, mb1mx4.6/16, mbtmp4.6/11, ML5.2/1, MS4.2/4, Ms1 4.2/4, ms1mx3.8/20, Error ellipse: s-maj=28.4km s-min=13.6km az=98.0*
*HRVD **06** 01:09:37.7±0.5, 3.37S×140.55E, h34km±2km, MW5.0/36, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s36,c56; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.89±.51; $M_{\theta\theta}$=1.22±.29; $M_{\phi\phi}$=2.11±.32; $M_{r\theta}$=0.81±.32; $M_{\theta\phi}$=2.78±.16; $M_{\phi r}$=1.19±.34; Best double couple: M_0=3.619×10^{16} NP1:ϕ_s=252°, δ65°, λ-14°. NP2: ϕ_s=348°, δ77°, λ-154°. Principal axes: T 3.777, Plg8°, Azm118°; N -.317, Plg61°, Azm13°; P -3.462, Plg27°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 01:09:37.7±3.3, 3.38S×140.64E, h31km±22km, mb4.9/12 Error ellipse: s-maj=10.9km s-min=6.9km az=60.0*
ISC 06 01:09:36.4±0.4, 3.43S±0.05×140.68E±0.09, h33km, n79, σ0s94/45, mb4.7/20, MS4.2/4, 1C-3D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	17.42	162	P	**P**	01 13 41.5	**+2.9**
	0.4nm,0.3s,baz=242,slow=22,SNR=2.9						
CTA				Lg		01 19 03.6	
	0.2nm,0.3s,baz=232,slow=23,SNR=2.3						
WRAB	**Tennant Creek**	17.53	200	*e*P	**P**	01 13 40.0	**+0.1**
	187nm,0.8s						
WB2	**Warramunga Arr**	17.54	200⇓/*P*	**P**		01 13 40.0	**0.0**
WRA	**Warramunga Arr**	17.54	200	P	**P**	01 13 40.3	**+0.2**
	8.9nm,0.3s,baz=22,slow=12,SNR=56						
WRA				S	**S**	01 16 59.8	**+7.6**
	0.2nm,0.3s,baz=24,slow=22,SNR=4.9						
WRA				Lg		01 18 58.9	
	baz=8.8,slow=29,SNR=3.5						
FITZ	**Fitzroy Crossi**	20.73	224	*e*P	**P**	01 14 14.8	**-2.0**
	72nm,0.9s						
FITZ	**Fitzroy Crossi**	20.73	224	P	**P**	01 14 15.0	**-1.8**
	96nm,0.8s,baz=34,slow=8.8,SNR=27						
FITZ				S	**S**	01 18 02.7	**+1.3**
	57nm,0.9s,baz=177,slow=13,SNR=5.6						
FITZ				Lg		01 20 52.7	
	16nm,0.9s,baz=123,slow=5.5,SNR=2.5						
FITZ				LR	LR	01 22 26.0	
	comp=Z,463nm,18.1s,MS3.9,baz=65,slow=37						
ASAR	**Alice Springs**	21.16	197	P	**P**	01 14 21.2	**+0.2**
	22nm,0.6s,mb4.7,baz=30,slow=9.9,SNR=255						
ASAR				S	**S**	01 18 16.0	**+6.4**
	2.7nm,0.9s,baz=22,slow=17,SNR=3.2						
ASAR				Lg		01 21 04.1	
	4.7nm,1.1s,baz=16,slow=30,SNR=2.7						
ASPA	**Alice Springs**	21.16	197⇓/*P*	**P**		01 14 21.2	**+0.1**
MBWA	**Marble Bar**	26.94	227	*e*P	**P**	01 15 17.4	**+0.5**
	26nm,1.0s,mb4.7						
STKA	**Stephens Creek**	28.31	178	*e*P	**P**	01 15 28.6	**-0.7**
	2.4nm,0.8s,mb3.9						
STKA	**Stephens Creek**	28.31	178	P	**P**	01 15 28.8	**-0.5**
	2.8nm,0.9s,mb3.9,baz=8.8,slow=12,SNR=4.5						
FORT	**Forrest**	29.70	202	*e*P	**P**	01 15 41.4	**-0.3**
	534nm,0.5s						
KLBR	**Kellerberrin**	35.36	215	*e*P	**P**	01 16 31.2	**+0.2**
	2μm,0.7s						
NWAO	**Narrogin (SRO)**	36.64	214	LR	LR	01 33 06.3	
	comp=Z,258nm,18.8s,MS4.0,baz=43,slow=38						
NWAO	**Narrogin (SRO)**	36.64	214	P	**P**	01 16 40.3	**-1.5**
ENH	**Enshi**	44.86	321	*e*P	**P**	01 17 49.2	**-0.4**
CMAR	**Chiang Mai Arr**	46.51	299	P	**P**	01 18 01.2	**-1.6**
	2.8nm,0.9s,mb4.2,baz=121,slow=6.2,SNR=11						
CMAR				PcP	PcP	01 19 37.8	+0.5
	2.2nm,0.9s,baz=127,slow=1.9,SNR=5.1						
XAN	**Xi'an**	47.80	324	P	**P**	01 18 12.0	**-0.9**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.6						
SNZO	**South Karori**	48.52	146	P	**P**	01 18 17.3	**-1.0**
GTA	**Gaotai**	56.82	323	*e*P	**P**	01 19 20.8	**+0.7**
GTA				AP	pP	01 19 32.8	+2.5
GTA				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.1						
JIRN	**Jiri**	60.87	304	*e*P	**P**	01 19 48.0	**-0.4**
	comp=Z,8.7nm,0.8s,mb5.0						
PKI	**Pulchoki**	61.48	304	*e*P	**P**	01 19 51.7	**-0.8**
	comp=Z,7.2nm,0.6s,mb5.0						
KKN	**Kakani**	61.67	304	*e*P	**P**	01 19 53.2	**-0.6**
	comp=Z,22nm,0.9s,mb5.3						
DMN	**Daman**	61.75	304	*e*P	**P**	01 19 53.7	**-0.6**
	comp=Z,21nm,1.0s,mb5.2						
GKN	**Gorkha**	62.28	304	*e*P	**P**	01 19 57.5	**-0.3**
	comp=Z,20nm,0.7s,mb5.4						
KOLN	**Koldanda**	63.06	303	*e*P	**P**	01 20 02.6	**-0.4**
	comp=Z,16nm,0.9s,mb5.1						
WMQ	**Urumqi**	66.80	321	P	**P**	01 20 27.5	**+0.6**
WMQ				AP	pP	01 20 41.4	+4.1
MKAR	**Makanchi Array**	71.56	322	P	**P**	01 20 56.5	**+0.3**
	comp=Z,11nm,0.9s,mb4.8,baz=112,slow=7.8,SNR=27						
KZA	**Kyzart**	74.38	315	P	**P**	01 21 14.8	**+2.0**
	SNR=9.8						
TKM2	**Tokmak 2**	74.42	316	P	**P**	01 21 14.2	**+1.1**
	SNR=7.8						
VNDA	**Vanda**	74.90	175	P	**P**	01 21 14.9	**-0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=329,slow=7.1,SNR=13						
VNDA				LR	LR	01 55 03.9	
	comp=Z,258nm,21.3s,MS4.5,baz=347,slow=36						
UCH	**Uchtor**	74.95	315	P	**P**	01 21 17.8	**+1.7**
	SNR=7.8						
CHMS	**Chumysh**	75.03	316	P	**P**	01 21 16.8	**+0.2**
	SNR=5.0						
USP	**Ospenovka**	75.30	316	P	**P**	01 21 19.1	**+0.9**
	SNR=11						
AML	**Almayashu**	75.49	315	P	**P**	01 21 20.7	**+1.4**
	SNR=13						
BVAR	**Borovoye Array**	81.03	325	P	**P**	01 21 49.9	**+0.4**
	comp=Z,15nm,0.9s,mb4.9,baz=117,slow=6.6,SNR=39						
MAW	**Mawson**	82.20	202	LR	LR	01 54 15.2	
	comp=Z,138nm,18.2s,MS4.4,baz=70,slow=33						
MCK	**McKinley**	84.50	25	*e*P	**P**	01 22 06.6	**-0.3**
	comp=Z,1.8nm,0.9s,mb4.2						
ILAR	**Eielson Array**	85.67	24	P	**P**	01 22 11.2	**-1.5**
	comp=Z,2.4nm,0.7s,mb4.5,baz=265,slow=4.3,SNR=14						
QSPA	**South Pole Qui**	86.52	180⇓/*P*	**P**		01 22 17.8	**+1.2**
	comp=Z,15nm,1.1s,mb5.1						
DAWY	**Dawson**	88.66	26	*e*P	**P**	01 22 28.3	**+1.1**
INK	**Inuvik**	91.60	22	P	**P**	01 22 40.7	**-0.2**
	comp=Z,0.6nm,0.6s,mb4.1,baz=237,slow=3.8,SNR=3.1						
INK	**Inuvik**	91.60	22	P	**P**	01 22 40.7	**-0.3**
YKA	**Yellowknife Ar**	99.81	27	P	**P**	01 23 17.2	**-1.2**
	comp=Z,0.3nm,0.8s,mb3.8,baz=281,slow=4.5,SNR=6.6						
BOLS	**Boljevac**	112.84	316⇑/*P*	PKPdf		01 28 12.5	+2.4
GERES	**GERESS Array B**	116.19	324	PKP	PKPdf	01 28 18.2	+1.7
	comp=Z,1.2nm,0.6s,baz=90,slow=1.1,SNR=16						
DAVOX	**Davos**	119.44	323	PKP	PKPdf	01 28 24.4	+1.6
	comp=Z,2.7nm,0.8s,baz=187,slow=4.5,SNR=7.4						
HINF	**Hinteralfeld**	120.65	326	*e*PKIKP	PKPdf	01 28 26.6	+1.4
	comp=Z,7.5nm,0.7s						
HAU	**Haudompre**	120.83	326	*e*PKIKP	PKPdf	01 28 27.1	+1.6
	comp=Z,6.4nm,0.6s						
CABF	**La Chapelle**	121.75	325	*e*PKIKP	PKPdf	01 28 28.9	+1.6
	comp=Z,12nm,0.9s						
LPG	**La Plagne**	121.96	323	*e*PKIKP	PKPdf	01 28 29.9	+2.2
	comp=Z,8.4nm,0.9s						
LPL	**La Plagne**	121.97	323	*e*PKIKP	PKPdf	01 28 29.2	+1.4
	comp=Z,3.1nm,0.6s						
PGF	**Pioggiola**	122.05	319	*e*PKIKP	PKPdf	01 28 29.0	+1.0
	comp=Z,10nm,0.8s						
MBDF	**Montbardon**	122.36	323	*e*PKIKP	PKPdf	01 28 30.1	+1.5
	comp=Z,3.9nm,0.7s						
SBF	**Sospel**	122.40	321	*e*PKIKP	PKPdf	01 28 29.5	+0.8
	comp=Z,11nm,0.8s						
ORIF	**Oris-en-Rattie**	122.79	323	*e*PKIKP	PKPdf	01 28 30.6	+1.2
	comp=Z,7.0nm,0.7s						
SSF	**Saint Saulge**	122.95	326	*e*PKIKP	PKPdf	01 28 31.6	+1.9
	comp=Z,10nm,0.9s						
SMF	**Signal de Mont**	123.01	326	*e*PKIKP	PKPdf	01 28 31.6	+1.8
FRF	**La Foret Royal**	123.04	321	*e*PKIKP	PKPdf	01 28 30.9	+0.9
	comp=Z,13nm,1.0s						
AVF	**Avril sur Loir**	123.20	326	*e*PKIKP	PKPdf	01 28 31.5	+1.3
	comp=Z,11nm,1.1s						
LMR	**La Mourre**	123.25	321	*e*PKIKP	PKPdf	01 28 31.9	+1.6
	comp=Z,13nm,1.2s						
HYF	**Humbligny**	123.31	327	*e*PKIKP	PKPdf	01 28 32.8	+2.4
VIVF	**Saint-Julien-l**	123.55	324	*e*PKIKP	PKPdf	01 28 31.9	+1.0
	comp=Z,3.6nm,0.5s						
BGF	**Bois d'Agland**	123.62	326	*e*PKIKP	PKPdf	01 28 32.3	+1.3
	comp=Z,11nm,0.7s						
SCHQ	**Schefferville**	124.11	19	PKP	PKPdf	01 28 33.1	+1.4
	comp=Z,1.4nm,0.7s,baz=344,slow=4.4,SNR=6.4						
TCF	**Toulx Ste Croi**	124.13	326	*e*PKIKP	PKPdf	01 28 33.3	+1.4
	comp=Z,8.1nm,0.6s						
GRR	**Gorron**	124.43	330	*e*PKIKP	PKPdf	01 28 34.4	+1.9
LASF	**Ste Croix**	124.47	323	*e*PKIKP	PKPdf	01 28 34.1	+1.5
	comp=Z,9.6nm,1.0s						
CAF	**Calviac**	125.03	325	*e*PKIKP	PKPdf	01 28 35.1	+1.4
	comp=Z,12nm,1.1s						
RJF	**Les Rejaudoux**	125.11	326	*e*PKIKP	PKPdf	01 28 35.4	+1.5
	comp=Z,7.9nm,0.8s						
MFF	**Saint Martin d**	125.22	328	*e*PKIKP	PKPdf	01 28 35.9	+1.9
	comp=Z,15nm,0.9s						
MTLF	**Montolieu**	125.86	323	*e*PKIKP	PKPdf	01 28 37.1	+1.8
EPF	**Esparros**	127.16	324	*e*PKIKP	PKPdf	01 28 39.8	+1.9
ETSF	**Etsaut**	127.76	324	*e*PKIKP	PKPdf	01 28 40.7	+1.6
LPAZ	**La Paz**	145.43	125	PKPbc	PKPbc	01 29 15.8	+3.2
	comp=Z,2.6nm,0.5s,baz=280,slow=1.6,SNR=11						
LPAZ	**La Paz**	145.43	125	*e*P	PKPdf	01 29 15.5	+3.5
DBIC	**Dimbokro**	145.53	277	PKPbc	PKPbc	01 29 14.1	+1.1
	comp=Z,6.5nm,0.7s,baz=107,slow=5.3,SNR=9.6						
SDV	**Santo Domingo**	148.41	79	*e*P	PKPdf	01 29 18.9	+1.8
SJG	**San Juan**	149.94	59	P	PKPdf	01 29 22.6	+3.2

*IDC **06** 01:10:31.9±0.9, 2.04N×96.40E, mb4.3/13, mb1 4.4/14, mb1mx4.2/22, mbtmp4.3/14, ML4.4/1, Error ellipse: s-maj=33.2km s-min=19.0km az=47.0*
*BJI **06** 01:10:34.5, 2.00N×96.50E, h30km, mB5.2, mb4.7*
*NEIC **06** 01:10:36.6±0.5, 2.05N×96.49E, h30km, mb4.4/8, Error ellipse: s-maj=12.4km s-min=9.1km az=48.0*
ISC 06 01:10:36.5±4.2, 2.1N±0.2×96.6E±0.2, h43km±35km, n28, σ0s77/24, mb4.4/21, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	5.14	52	*e*P	**P**	01 11 53.3	**+0.3**
CMAR	**Chiang Mai Arr**	16.40	8	Pn	**P**	01 14 24.6	**-0.7**
	0.5nm,0.3s,baz=195,slow=12,SNR=12						
JIRN	**Jiri**	27.27	340	*e*P	**P**	01 16 20.3	**+1.2**
	20nm,0.7s,mb4.7						
PKI	**Pulchoki**	27.47	338	*e*P	**P**	01 16 22.0	**+1.1**
	8.9nm,0.6s,mb4.5						
DMN	**Daman**	27.62	338	*e*P	**P**	01 16 22.7	**+0.4**
	7.9nm,0.6s,mb4.5						
KKN	**Kakani**	27.72	338	*e*P	**P**	01 16 23.0	**-0.2**
	7.9nm,0.5s,mb4.6						
LSA	**Lhasa**	27.91	350	P	**P**	01 16 24.0	**-0.9**
	3.6nm,0.4s,mb4.3						
GKN	**Gorkha**	28.15	337	*e*P	**P**	01 16 27.5	**+0.4**
	23nm,0.8s,mb4.9						
KOLN	**Koldanda**	28.36	335	*e*P	**P**	01 16 29.0	**0.0**
	9.0nm,0.6s,mb4.6						
XAN	**Xi'an**	33.78	19	P	**P**	01 17 15.4	**-1.2**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
JOW	**Kunigami**	39.08	48	P	**P**	01 18 02.2	**+0.9**
	comp=Z,5.8nm,0.4s,mb4.6,baz=193,slow=17,SNR=4.6						
WRA	**Warramunga Arr**	43.05	122	P	**P**	01 18 34.2	**0.0**
	comp=Z,1.7nm,0.5s,mb4.0,baz=287,slow=9.7,SNR=2.6						
MKAR	**Makanchi Array**	46.20	346	P	**P**	01 18 59.0	**-0.1**
	comp=Z,4.4nm,0.6s,mb4.6,baz=162,slow=7.8,SNR=34						
SONM	**Songino Array**	46.32	9	P	**P**	01 19 00.5	**+0.5**
	comp=Z,1.7nm,0.4s,mb4.3,baz=189,slow=9.8,SNR=14						
SONM				pP	pP	01 19 08.5	-3.5
	comp=Z,1.3nm,0.4s,baz=190,slow=9.2,SNR=9.0						
ZAL	**Zalesovo**	52.55	351	P	**P**	01 19 47.3	**-0.5**
	comp=Z,6.4nm,0.5s,mb4.8,baz=309,slow=5.5,SNR=24						
STKA	**Stephens Creek**	54.43	132	*e*P	**P**	01 20 01.7	**-0.3**
	comp=Z,2.9nm,0.7s,mb4.3						
STKA	**Stephens Creek**	54.43	132	P	**P**	01 20 01.7	**-0.4**
	comp=Z,3.7nm,0.7s,mb4.4,baz=305,slow=9.6,SNR=3.8						
BVAR	**Borovoye Array**	55.18	341	P	**P**	01 20 06.2	**-1.0**
	comp=Z,2.1nm,0.6s,mb4.4,baz=134,slow=9.0,SNR=11						
BRTR	**Keskin Array B**	68.03	312	P	**P**	01 21 32.0	**-1.8**
	comp=Z,0.7nm,0.5s,mb4.0,baz=129,slow=7.9,SNR=5.5						
AKASG	**Malin Array Be**	74.15	322	P	**P**	01 22 09.6	**-0.8**
	comp=Z,1.1nm,0.5s,mb4.0,baz=90,slow=5.3,SNR=6.3						
MLR	**Muntele Rosu**	74.97	317	P	**P**	01 22 15.8	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=14,slow=4.2,SNR=4.5						
FINES	**FINESS Array B**	78.90	333	P	**P**	01 22 37.0	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.0,baz=99,slow=5.2,SNR=10						
GERES	**GERESS Array B**	83.72	319	P	**P**	01 23 03.0	**+0.6**
	comp=Z,1.4nm,0.8s,mb4.1,baz=104,slow=5.5,SNR=11						
DAVOX	**Davos**	86.20	317	P	**P**	01 23 15.8	**+1.1**
	comp=Z,0.9nm,0.4s,mb4.3,baz=142,slow=3.3,SNR=5.4						
NVAR	**Mina Array Bea**	128.40	35	PKP	PKPdf	01 29 42.5	+3.2
	comp=Z,0.2nm,0.6s,baz=248,slow=4.9,SNR=3.7						
BDFB	**Brasilia**	142.62	247	PKP	PKPdf	01 30 06.3	+0.3
	comp=Z,5.8nm,1.2s,baz=338,slow=2.6,SNR=3.2						
TXAR	**Lajitas Array**	143.20	30	PKP	PKPdf	01 30 09.6	+2.9
	comp=Z,0.2nm,0.4s,baz=166,slow=0.7,SNR=4.1						
TXAR	**Lajitas Array**	143.20	30	PKP	PKPdf	01 30 09.6	+2.9

*CSEM **06** 01:14:29.5±0.1, 34.96N×2.91W, h5km, MD2.8, Error ellipse: s-maj=1.6km s-min=1.4km az=3.0*
*CNRM **06** 01:14:29.1, 35.06N×2.62W, h19km, MD2.8*
*MDD **06** 01:14:31.1±0.6, 34.91N×2.84W, h10km±3km, mbLg1.9/17, Error ellipse: s-maj=6.4km s-min=4.9km az=138.0, PRXIMO*
*NEIC **06** 01:14:32.7, 35.02N×3.11W, MG3.2(MDD), After MDD.*
ISC 06 01:14:30.5±0.4, 35.01N±0.03×2.87W±0.03, h10km, n45, σ1s29/77, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	0.11	109	P	**Pg**	01 14 33.0	**-0.3**
ZAI				S	**Sg**	01 14 36.0	**+0.8**
ZAI	**Zaio**	0.11	109	*i* P	**Pg**	01 14 33.0	**-0.3**
EMLI	**Melilla**	0.30	347	P	**Pg**	01 14 38.3	**+1.5**
	68nm,0.1s,SNR=8.7						
EMEL	**Melilla**	0.30	346	P	**Pg**	01 14 39.0	**+2.2**
	68nm,0.1s,SNR=8.7						
EMEL				S	**Sg**	01 14 44.1	**+3.0**
	201nm,0.1s						
TAF	**Taforalt**	0.42	117	P	**Pg**	01 14 39.0	**-0.1**
TAF			

EBEN	**Beniarda**	**4.26**	**29**	P	**Pn**	**01 15 35.7**	**-1.2**
	0.8nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**01 16 24.0**	**-3.3**
	3.0nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**4.50**	**305**	P	**Pn**	**01 15 38.8**	**-1.6**
	0.5nm,0.1s,SNR=9.6						
EGRO				S	**Sn**	**01 16 30.1**	**-3.3**
	5.2nm,1.1s,SNR=7.9						
EGRO	**El Granado**	**4.50**	**305**	P	**Pn**	**01 15 38.8**	**-1.6**
	0.5nm,0.1s,SNR=9.6						
ESDC	**Sonseca Array**	**4.74**	**350**	P	**Pn**	**01 15 44.4**	**+0.6**
ESDC	**Sonseca Array**	**4.74**	**350**	P	**Pn**	**01 15 43.1**	**-0.7**
	0.3nm,0.2s,baz=172,slow=12,SNR=5.5						
ESDC				S	**Sn**	**01 16 36.0**	**-3.5**
	2.2nm,2.7s,baz=143,slow=47,SNR=7.9						
ESDC	**Sonseca Array**	**4.74**	**350**	P	**Pn**	**01 15 44.4**	**+0.6**
	0.3nm,0.2s,SNR=5.5						
EBAD	**Badajoz**	**5.00**	**320**	P	**Pn**	**01 15 46.2**	**-1.3**
EBAD				S	**Sn**	**01 16 39.0**	**-7.2**
EBAD	**Badajoz**	**5.00**	**320**	P	**Pn**	**01 15 46.2**	**-1.3**
	1.0nm,0.3s,SNR=4.8						
EBAD				S	**Sn**	**01 16 41.7**	**-4.4**
	0.7nm,0.2s						
EBAD	**Badajoz**	**5.00**	**320**	P	**Pn**	**01 15 46.2**	**-1.3**
	1.0nm,0.3s,SNR=4.8						

*ATH **06** 01:17:16.6, 40.18N×20.69E, h14km, MD3.1/4*
*THE **06** 01:17:16.5, 40.24N×20.64E, h10km, ML2.7*
*CSEM **06** 01:17:16.9±0.1, 40.18N×20.68E, h5km, ML2.7, Error ellipse: s-maj=1.7km s-min=1.3km az=153.0*
ISC 06 01:17:16.4±0.6,**40.22N**±0.04×**20.66E**±0.04,**h6**km±8km, **n15**,σ1§**06**/23,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.50**	**278**	*i* Pg	**Pg**	**01 17 26.2**	**-0.3**
TPE				*i* Sg	**Sg**	**01 17 35.8**	**+2.6**
JAN	**Janina**	**0.58**	**165**	*e*PB	**Pb**	**01 17 27.0**	**-1.7**
SRN	**Sarande**	**0.61**	**236**	*i* Pg	**Pg**	**01 17 28.2**	**-0.5**
SRN				*i* Sg	**Sg**	**01 17 38.1**	**+1.2**
MEV	**Metsovon**	**0.62**	**135**	*e*Pg	**Pg**	**01 17 28.1**	**-0.8**
MEV				*e*Sg	**Sg**	**01 17 38.4**	**+1.3**
IGT	**Igoumenitsa**	**0.73**	**200**	*e*Pg	**Pg**	**01 17 30.6**	**-0.5**
FNA	**Florina**	**0.78**	**44**	*e*Pg	**Pg**	**01 17 31.5**	**-0.6**
FNA				*e*Sg	**Sg**	**01 17 42.7**	**+0.2**
KEK	**Kerkira**	**0.84**	**233**	*e*PB	**Pb**	**01 17 32.5**	**-0.4**
KZN	**Kozani**	**0.85**	**84**	*e*PB	**Pb**	**01 17 32.8**	**-0.5**
LIT	**Litokhoron**	**1.41**	**94**	*e*Pb	**Pb**	**01 17 42.1**	**-0.6**
LIT				*e*Sb	**Sb**	**01 18 03.3**	**+2.5**
GRG	**Griva**	**1.52**	**61**	*e*Pb	**Pb**	**01 17 44.3**	**-0.3**
GRG				*e*Sb	**Sb**	**01 18 05.4**	**+1.5**
EVR	**Evrytania**	**1.58**	**145**	*e*PB	**Pb**	**01 17 45.5**	**-0.2**
AGG	**Agios Georgios**	**1.76**	**132**	*e*Pb	**Pb**	**01 17 48.2**	**-0.5**
AGG				*e*Sb	**Sb**	**01 18 12.0**	**+0.9**
AGG	**Agios Georgios**	**1.76**	**132**	*e*Pb	**Pb**	**01 17 48.2**	**-0.6**
AGG				*e*Sb	**Sb**	**01 18 12.0**	**+0.9**
KNT	**Kendrikon**	**1.94**	**60**	*e*Pb	**Pb**	**01 17 50.2**	**-1.7**
SOH	**Sokhos**	**2.14**	**73**	*e*Pn	**Pn**	**01 17 53.2**	**0.0**

IDC 06 01:20:12.2±2.4,**1.01S**×**96.07E**,**mb3.9**/6,**mb1 4.1**/6, **mb1mx3.8**/16,**mbtmp3.9**/6,**Error ellipse: s-maj=102.5km s-min=21.7km az=55.0**,**Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.89**	**119**	P	P	01 28 03.3	-3.1
	0.4nm,0.7s,baz=303,slow=9.3,SNR=2.2						
ASAR	**Alice Springs**	**43.03**	**124**	P	P	01 28 15.1	-0.6
	0.5nm,0.5s,baz=296,slow=7.7,SNR=5.2						
MKAR	**Makanchi Array**	**49.12**	**347**	P	P	01 29 01.4	-2.2
	3.1nm,0.5s,baz=164,slow=8.8,SNR=34						
SONM	**Songino Array**	**49.47**	**9**	P	P	01 29 05.1	-1.2
	0.3nm,0.6s,baz=196,slow=10,SNR=2.8						
ZAL	**Zalesovo**	**55.55**	**352**	P	P	01 29 48.0	-3.7
	2.7nm,0.4s,baz=292,slow=4.3,SNR=6.9						
FINES	**FINESS Array B**	**81.42**	**333**	P	P	01 32 31.1	-1.2
	1.0nm,0.7s,baz=90,slow=3.8,SNR=4.5						
TXAR	**Lajitas Array**	**146.13**	**32**	PKPbc	PKPbc	01 39 55.5	+0.3
	0.2nm,0.5s,baz=272,slow=0.9,SNR=4.3						

KRSC 06 01:24:15.7±0.9,**55.70N**×**165.85E**,**h35**km±12km,**ML3.8**, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.50**	**172**	*i* P	P	01 24 25.4	-0.9
BKI				*i* S	S	01 24 32.4	-1.4
BKI				Smax			
	2μm,0.8s						
KBTR	**Krutoberegovo**	**1.78**	**288**	*e*P	P	01 24 43.2	-1.3
KBTR				*e*S	S	01 25 04.6	-1.6
KBG	**Krutoberegovo**	**1.85**	**289**	*e*S	S	01 25 07.7	-0.3
MKZ	**Mys Kozlova**	**2.63**	**246**	P	P	01 24 56.2	-0.5
MKZ				*e*S	S	01 25 26.0	-1.7
TUMR	**Tumrok**	**3.27**	**265**	*e*P	P	01 25 06.9	+1.0
TUMR				*e*S	S	01 25 43.5	-0.6
KII	**Karymskiy**	**4.06**	**248**	*e*S	S	01 26 03.9	-0.1
SPN	**Mys Shipunski**	**4.29**	**235**	*e*S	S	01 26 05.3	-4.5
NLC	**Nalytchevo**	**4.56**	**239**	*e*P	P	01 25 23.4	-0.8
NLC				*e*S	S	01 26 14.4	-2.4
SMAR	**Somma**	**4.78**	**242**	*i* P	P	01 25 27.6	+0.3
UGLR	**Uglovaya**	**4.80**	**242**	*e*P	P	01 25 27.6	+0.1
UGLR				*e*S	S	01 26 19.8	-2.9
AVH	**Avacha**	**4.81**	**242**	*e*P	P	01 25 27.6	-0.1
AVH				*e*S	S	01 26 20.2	-2.8
KOK	**Koryaka**	**4.85**	**243**	*e*P	P	01 25 28.3	+0.1
KOK				*e*S	S	01 26 21.6	-2.3
GNL	**Ganaly**	**5.01**	**250**	*e*P	P	01 25 30.6	+0.1
GRL	**Gorelyy**	**5.55**	**239**	*e*P	P	01 25 36.1	-2.0
APC	**Apacha**	**5.80**	**245**	*e*P	P	01 25 42.0	+0.5

*ATH **06** 01:26:21.7, 40.58N×23.73E, h22km±1km, MD3.4/5*
*SOF **06** 01:26:21.9, 40.60N×23.79E, h17km, MD2.9*
*NEIC **06** 01:26:21.8, 40.58N×23.73E, h21km, MD3.4(ATH), After ATH.*
*CSEM **06** 01:26:21.9±0.1, 40.58N×23.74E, h19km, ML3.4, Error ellipse: s-maj=4.0km s-min=2.4km az=54.0*
*THE **06** 01:26:22.4, 40.56N×23.70E, h10km, ML3.4*
ISC 06 01:26:21.3±0.5,**40.59N**±0.02×**23.72E**±0.03,**h7**km±4km, **n35**,σ0§**92**/51,**7C-1D**,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLG	**Polygyros**	**0.30**	**224**	*e*PB	**Pb**	**01 26 28.4**	**-0.2**
PLG				*e*SB	**Sb**	**01 26 32.6**	**-0.9**
OUR	**Ouranopolis**	**0.33**	**143**	*e*Pg	**Pg**	**01 26 28.2**	**+0.3**
OUR				*e*Sg	**Sg**	**01 26 32.9**	**+0.5**
OUR	**Ouranopolis**	**0.33**	**143**	*e*Pg	**Pg**	**01 26 28.2**	**+0.3**
OUR				*e*Sg	**Sg**	**01 26 32.8**	**+0.4**
SOH	**Sokhos**	**0.36**	**309**	*e*Pg	**Pg**	**01 26 29.4**	**+0.8**
SOH				*e*Sg	**Sg**	**01 26 34.9**	**+1.4**
THE	**Thessaloniki**	**0.58**	**274**	*e*Pg	**Pg**	**01 26 33.1**	**+0.2**
THE				*e*Sg	**Sg**	**01 26 41.1**	**+0.5**
THE	**Thessaloniki**	**0.58**	**274**	*e*Pg	**Pg**	**01 26 33.0**	**+0.1**
THE				*e*Sg	**Sg**	**01 26 41.2**	**+0.6**
THE	**Thessaloniki**	**0.58**	**274**	*e*Pg	**Pg**	**01 26 33.0**	**+0.1**
THE				*e*Sg	**Sg**	**01 26 41.2**	**+0.5**
PAIG	**Paliouri**	**0.67**	**183**	*e*Pg	**Pg**	**01 26 34.4**	**-0.3**
PAIG				*e*Sg	**Sg**	**01 26 43.4**	**-0.2**
NVR	**Nevrokopi**	**0.76**	**8**	*e*PN	**Pn**	**01 26 37.7**	**-0.5**
NVR				*e*SN	**Sn**	**01 26 47.2**	**-2.7**
MMB	**Musomiste**	**0.99**	**0**	*i* P	**Pb**	**01 26 40.5**	**+0.1**
LIT	**Litokhoron**	**1.06**	**243**	*e*Pg	**Pg**	**01 26 41.6**	**-1.0**
LIT				*e*Sg	**Sg**	**01 26 56.8**	**0.0**
GRG	**Griva**	**1.07**	**290**	*e*Pg	**Pg**	**01 26 42.1**	**-0.5**
GRG				*e*Sg	**Sg**	**01 26 58.1**	**+1.2**
VAY	**Valandovo**	**1.14**	**310**	*i* Pg	**Pg**	**01 26 43.1**	**-0.9**
VAY				*i* Sg	**Sg**	**01 26 57.7**	**-1.5**
LIA	**Limnos Island**	**1.32**	**121**	*e*PN	**Pn**	**01 26 46.2**	**+0.1**
RZN	**Rozhen**	**1.33**	**34**	*i* P	**Pb**	**01 26 46.0**	**-0.1**
NEO	**Neokhori**	**1.34**	**197**	*e*PN	**Pn**	**01 26 47.0**	**+0.5**
NEO				*e*SN	**Sn**	**01 27 05.3**	**+0.7**
KKB	**Krupnik**	**1.36**	**339**	*i* P	**Pb**	**01 26 47.0**	**+0.3**
RDO	**Rodhopi**	**1.48**	**68**	*e*PN	**Pn**	**01 26 49.5**	**+1.0**
RDO				*e*SN	**Sn**	**01 27 08.9**	**+0.7**
KZN	**Kozani**	**1.52**	**260**	*e*PN	**Pn**	**01 26 49.0**	**0.0**
KZN				*e*SN	**Sn**	**01 27 10.5**	**+1.4**
KDZ	**Kurdzhali**	**1.66**	**50**	*i* P	**Pn**	**01 26 51.0**	**0.0**
ALN	**Alexandroupoli**	**1.79**	**79**	*e*Pb	**Pb**	**01 26 55.0**	**+1.0**
FNA	**Florina**	**1.79**	**277**	*e*Pb	**Pb**	**01 26 53.5**	**-0.6**
FNA				*e*Sb	**Sb**	**01 27 17.6**	**+0.9**
AGG	**Agios Georgios**	**1.90**	**215**	*e*Pb	**Pb**	**01 26 54.5**	**-1.4**
VTS	**Vitosha**	**2.03**	**349**	⇑P	**Pn**	**01 26 57.1**	**+0.7**
VTS	**Vitosha**	**2.03**	**349**	*i* P	**Pn**	**01 26 57.0**	**+0.6**
EVR	**Evrytania**	**2.23**	**222**	*e*PB	**Pb**	**01 26 59.7**	**-1.9**
EVR	**Evrytania**	**2.23**	**222**	*e*Pb	**Pb**	**01 27 01.3**	**-0.3**
DIVS	**Divcibare**	**4.46**	**323**	*e*P	**Sg**	**01 28 45.6**	**-4.2**
MLR	**Muntele Rosu**	**5.16**	**18**	⇑P	**Pn**	**01 27 40.2**	**-0.6**
MLR	**Muntele Rosu**	**5.16**	**18**	⇑P	**Pn**	**01 27 40.2**	**-0.6**
TIRR	**Tirgusor**	**5.19**	**40**	⇑P	**Pn**	**01 27 38.7**	**-2.6**
TIRR	**Tirgusor**	**5.19**	**40**	⇑P	**Pn**	**01 27 38.7**	**-2.5**
CFR	**Carcaliu**	**5.61**	**34**	⇓P	**Pn**	**01 27 50.5**	**+3.3**
VRI	**Vrincioaia**	**5.71**	**22**	⇑P	**Pn**	**01 27 48.5**	**-0.1**
VRI	**Vrincioaia**	**5.71**	**22**	⇑P	**Pn**	**01 27 48.5**	**-0.1**

*IDC **06** 01:29:02.4±1.6, 2.73S×127.41E, mb3.7/3, mb1 4.3/5, mb1mx3.9/17, mbtmp4.1/5, ML4.3/2, Error ellipse: s-maj=101.2km s-min=22.8km az=67.0*
*NEIC **06** 01:29:06.9±1.0, 2.73S×127.59E, h30km, mb4.1/1, Error ellipse: s-maj=39.9km s-min=13.6km az=70.0*
ISC 06 01:29:04.9±1.4,**2.7S**±0.2×**127.6E**±0.4,**h33**km,**n8**,σ0§**35**/8, **mb3.8**/3,**1C**,**Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.45**	**187**	Pn	**P**	**01 32 42.2**	**0.0**
	0.7nm,0.3s,baz=12,slow=10,SNR=9.5						
WRAB	**Tennant Creek**	**18.37**	**160**	*e*P	**P**	**01 33 19.3**	**+0.3**
	11nm,0.7s						
WRA	**Warramunga Arr**	**18.37**	**160**	P	**P**	**01 33 19.5**	**+0.5**
	1.2nm,0.3s,baz=336,slow=11,SNR=21						
WB2	**Warramunga Arr**	**18.38**	**160**	⇑*i*P	**P**	**01 33 19.3**	**+0.2**
ASAR	**Alice Springs**	**21.73**	**164**	P	**P**	**01 33 55.0**	**-0.3**
	4.9nm,0.3s,mb4.4,baz=346,slow=11,SNR=42						
ASPA	**Alice Springs**	**21.73**	**164**	*e*P	**P**	**01 33 54.9**	**-0.4**
STKA	**Stephens Creek**	**31.89**	**157**	P	**P**	**01 35 28.9**	**-0.6**
	0.5nm,0.3s,mb3.8,baz=348,slow=8.8,SNR=2.8						
MKAR	**Makanchi Array**	**63.33**	**327**	P	**P**	**01 39 33.3**	**+0.2**
	0.1nm,0.5s,mb3.2,baz=141,slow=9.2,SNR=3.0						

IDC 06 01:40:35.4±9.7,**1.98N**×**96.01E**,**mb4.0**/3,**mb1 4.1**/4, **mb1mx3.6**/18,**mbtmp4.0**/4,**ML4.2**/1,**MS2.9**/1,**Ms1 3.1**/1, **ms1mx2.7**/25,**Error ellipse: s-maj=190.7km s-min=110.4km az=150.0**,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.63**	**10**	Pn	P	01 44 29.9	-1.7
	0.3nm,0.3s,baz=198,slow=11,SNR=8.2						
CMAR				LR	LR	01 50 05.1	
	comp=Z,47nm,20.5s,baz=119,slow=34						
MKAR	**Makanchi Array**	**46.21**	**347**	P	P	01 49 02.3	-1.7
	2.4nm,0.8s,baz=162,slow=7.7,SNR=18						
SONM	**Songino Array**	**46.55**	**10**	P	P	01 49 05.0	-1.7
	1.7nm,0.7s,baz=187,slow=8.7,SNR=13						
ZAL	**Zalesovo**	**52.60**	**352**	P	P	01 49 50.5	-2.7
	0.9nm,0.6s,baz=275,slow=6.4,SNR=5.1						

*ISK **06** 01:44:11.5, 37.81N×27.04E, h8km, MD3.2*
*CSEM **06** 01:44:11.9±0.1, 37.81N×27.16E, h5km, MD3.2, Error ellipse: s-maj=2.5km s-min=1.7km az=102.0*
*ATH **06** 01:44:13.5, 37.82N×27.06E, h3km, MD3.1/3*
ISC 06 01:44:12.1±0.6,**37.80N**±0.03×**27.14E**±0.04,**h2**km±7km, **n16**,σ0§**74**/23,**1C**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.26**	**250**	⇑*i*PG	**Pg**	**01 44 17.2**	**0.0**
SMG				*e*SG	**Sg**	**01 44 20.9**	**+0.3**
BLCB	**Balcova**	**0.59**	**353**	*i* PG	**Pg**	**01 44 23.4**	**-0.6**
BLCB				*i* SG	**Sg**	**01 44 31.1**	**-0.8**
AYDN	**Tasoluk**	**0.60**	**103**	*i* P	**Pg**	**01 44 24.4**	**+0.3**
AYDN				*i* S	**Sg**	**01 44 33.6**	**+1.5**
IZM	**Izmir**	**0.61**	**9**	*i* PG	**Pg**	**01 44 23.9**	**-0.4**
IZM				*i* SG	**Sg**	**01 44 32.8**	**+0.4**
BODT	**Bodrum**	**0.74**	**169**	PG	**Pg**	**01 44 26.7**	**-0.3**
BDRM	**Kayabasi**	**0.77**	**161**	*i* P	**Pg**	**01 44 27.1**	**-0.4**
BDRM				*i* S	**Sg**	**01 44 37.4**	**-0.3**
MANT	**Manisa**	**1.32**	**58**	*i* P	**Pb**	**01 44 38.0**	**+0.8**
MANT				*i* S	**Sb**	**01 44 53.0**	**-1.4**
APE	**Apeiranthos**	**1.47**	**241**	*e*PN	**Pn**	**01 44 38.0**	**-1.7**
APE	**Apeiranthos**	**1.47**	**241**	*e*PN	**Pn**	**01 44 41.0**	**+1.3**
DENT	**Denizli**	**1.50**	**91**	PN	**Pn**	**01 44 40.3**	**+0.2**
PRK	**Paraskevi**	**1.60**	**335**	*e*PB	**Pb**	**01 44 42.8**	**+0.7**
PRK				*e*SB	**Sb**	**01 45 04.1**	**+1.4**
BALB	**Balikesir**	**1.93**	**17**	*e*PN	**Pn**	**01 44 46.1**	**-0.2**
FETY	**Fethiye**	**1.94**	**126**	PN	**Pn**	**01 44 46.2**	**-0.2**
EZN	**Ezine**	**2.12**	**343**	*e*PN	**Pn**	**01 44 48.2**	**-0.9**
DST	**Dursunbey**	**2.15**	**32**	*e*PN	**Pn**	**01 44 49.2**	**-0.2**
KCT	**Karacabey**	**2.64**	**21**	*e*PN	**Pn**	**01 44 56.6**	**+0.1**

*IDC **06** 01:59:13.9±3.2, 23.56S×179.96W, h504km±32km, mb3.5/6, mb1 3.7/7, mb1mx3.4/17, mbtmp4.4/7, Error ellipse: s-maj=39.5km s-min=25.1km az=174.0*
*NEIC **06** 01:59:16.9±4.5, 23.87S×180.00E, h544km±53km, mb4.5/2, Error ellipse: s-maj=55.9km s-min=17.0km az=192.0*
ISC 06 01:59:11.0±5.3,**23.5S**±0.1×**180.0E**±0.2,**h475**km±63km, **n14**,σ0§**52**/13,**mb3.9**/7,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.94**	**189**	P	**P**	**02 02 21.3**	**-0.3**
	3.6nm,0.3s,baz=39,slow=2.1,SNR=16						
URZ				S	**S**	**02 04 55.7**	**+0.1**
	1.3nm,0.3s,baz=179,slow=22,SNR=8.0						
CTA	**Charters Tower**	**31.44**	**270**	P	**P**	**02 04 54.7**	**+1.0**
	9.5nm,0.3s,mb4.7,baz=90,slow=10,SNR=27						
CTA	**Charters Tower**	**31.44**	**270**	P	**P**	**02 04 54.7**	**+1.0**
CTAO	**Charters Tower**	**31.44**	**270**	*e*P	**P**	**02 04 54.5**	**+0.8**
	12nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**34.84**	**248**	P	**P**	**02 05 23.2**	**+0.9**
	0.9nm,0.4s,mb3.6,baz=102,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**42.06**	**260**	P	**P**	**02 06 21.6**	**+0.1**
	2.2nm,0.5s,mb3.9,baz=94,slow=7.9,SNR=24						
ASAR				ScP		02 11 06.8	
	0.4nm,0.8s,baz=103,slow=4.3,SNR=5.1						
WB2	**Warramunga Arr**	**42.38**	**266**	*e*P	**P**	**02 06 23.6**	**-0.5**
WRAB	**Tennant Creek**	**42.39**	**266**	*e*P	**P**	**02 06 23.4**	**-0.7**
	5.1nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**42.40**	**266**	P	**P**	**02 06 23.9**	**-0.2**
	1.8nm,0.3s,mb3.9,baz=91,slow=8.3,SNR=44						
FITZ	**Fitzroy Crossi**	**50.82**	**265**	P	**P**	**02 07 28.4**	**-0.4**
	2.2nm,0.5s,mb3.8,baz=169,slow=22,SNR=16						
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**02 11 21.5**	**+0.2**
	0.3nm,0.7s,mb3.2,baz=225,slow=7.1,SNR=4.7						
TXAR	**Lajitas Array**	**90.24**	**58**	P	**P**	**02 11 21.5**	**+0.2**
BVAR	**Borovoye Array**	**120.09**	**319**	PKP	PKPdf	02 17 05.5	-1.2
	0.5nm,0.4s,baz=114,slow=2.4,SNR=4.9						
AKASG	**Malin Array Be**	**144.59**	**328**	PKP	PKPdf	02 17 52.0	-0.1
	1.1nm,0.5s,baz=44,slow=4.0,SNR=6.2						

*IDC **06** 02:04:22.4±0.7, 1.28N×97.03E, mb4.3/12, mb1 4.5/13, mb1mx4.3/20, mbtmp4.4/13, ML4.2/1, MS4.2/11, Ms1 4.3/11, ms1mx4.0/30, Error ellipse: s-maj=27.1km s-min=14.6km az=50.0*
*BJI **06** 02:04:24.3, 1.14N×97.25E, h33km, mB5.2, mb4.9, Ms4.9, Msz4.7*
*MOS **06** 02:04:25.8±1.4, 1.32N×97.16E, h33km, mb4.9/17, MS4.8/9, Error ellipse: s-maj=14.7km s-min=7.5km az=98.6*
*NEIC **06** 02:04:26.7±0.3, 1.32N×97.15E, mb4.8/23, Error ellipse: s-maj=10.2km s-min=6.6km az=59.0*
ISC 06 02:04:24.7±0.4,**1.31N**±0.05×**97.12E**±0.05,**h25**km, **h25**km±1.2km:**pP-P**,**n109**,σ1§**06**/120,**mb4.7**/52,**MS4.5**/31, **9C-4D**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.08**	**50**	P	**Pn**	**02 05 41.9**	**+0.7**
KULM	**Kulim**	**5.30**	**42**	*e*P	**Pn**	**02 05 44.3**	**0.0**
KGM	**Kluang**	**6.24**	**83**	P	**Pn**	**02 05 58.7**	**+1.1**
SNG	**Songkhla**	**6.79**	**31**	P	**Pn**	**02 06 05.0**	**-0.5**
	290nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.14**	**6**	P	**P**	**02 08 22.7**	**-1.6**
	0.3nm,0.3s,baz=198,slow=11,SNR=13						
CMAR				LR	LR	02 15 31.1	
	comp=Z,740nm,18.9s,baz=190,slow=39						
CHG	**Chiang Mai**	**17.49**	**6**	⇓P	**P**	**02 08 29.6**	**+0.9**
	13nm,1.1s						
KKM	**Kota Kinabalu**	**19.63**	**76**	P	**P**	**02 08 55.2**	**+0.7**
TSM	**Tawau**	**20.94**	**81**	P	**P**	**02 09 08.5**	**+0.2**
VIS	**Vishakhapatnam**	**21.20**	**321**	*e*P	**P**	**02 09 11.5**	**+0.6**
QIZ	**Qiongzhong**	**21.58**	**35**	P	**P**	**02 09 13.3**	**-1.4**
QIZ				S	**S**	**02 13 07.7**	**+0.2**
QIZ				XS		02 13 16.2	
QIZ				LR	LR		
	comp=N,1μm,13.9s,MS4.5						
QIZ				LR	LR		
	comp=E,729nm,13.6s,MS4.5						
QIZ				LR	LR		
	comp=Z,743nm,15.0s,MS4.2						
HYB	**Hyderabad**	**24.28**	**312**	*e*P	**P**	**02 09 34.0**	**-7.4**
HYB	**Hyderabad**	**24.28**	**312**	*i* P	**P**	**02 09 34.0**	**-7.4**
KMI	**Kunming**	**24.29**	**12**	P	**P**	**02 09 43.8**	**+2.4**
KMI				AP		02 09 50.0	
KMI				XP		02 09 52.6	
KMI				S	**S**	**02 14 02.3**	**+6.5**
KMI				XS		02 14 12.6	
KMI				SSS	SSS	02 15 15.5	+9.4
KMI				AMB	AMB		
	comp=Z,70nm,1.4s,mb4.9						
KMI				AMB	AMB		
	comp=Z,425nm,4.9s						
KMI				LR	LR		
	comp=N,2μm,15.8s,MS4.9						
KMI				LR	LR		
	comp=E,1μm,13.4s,MS4.9						
KMI				LR	LR		
	comp=Z,3μm,15.3s,MS4.8						
KMI	**Kunming**	**24.29**	**12**	P	**P**	**02 09 43.8**	**+2.4**
KMI				*SP		02 09 52.6	
KMI				S	**S**	**02 14 02.3**	**+6.5**
KMI				*SS		02 14 12.6	
KMI				SS	SS	02 14 59.1	+9.5
KMI				pmax	pmax		
	comp=Z,70nm,1.4s,mb4.9						
KMI				MLR	MLR		
	comp=Z,3μm,15.3s,MS4.8						
KMI	**Kunming**	**24.29**	**12**	P	**P**	**02 09 43.8**	**+2.4**
	comp=Z,70nm,1.4s,mb4.9						
KMI				pP		02 09 50.0	
KMI				sP		02 09 52.6	
KMI				S	**S**	**02 14 02.3**	**+6.5**
KMI				sS		02 14 12.6	
KMI				SS	SS	02 14 59.1	+9.5
KMI				SSS	SSS	02 15 15.5	+9.4
KMI				LR	LR		
	comp=Z,3μm,15.3s,MS4.8						
SHL	**Shillong**	**24.64**	**349**	⇑*e*P	**P**	**02 09 44.0**	**-0.8**
SHL				*e*S	S	02 14 32.7	+31
GYA	**Guiyang**	**26.64**	**19**	⇑*i*P	**P**	**02 10 02.9**	**-0.6**
GYA				AP	pP	02 10 10.7	-0.2
GYA				XP	sP	02 10 12.9	-1.4
GYA				PP	PP	02 10 43.6	-4.2
GYA				S	**S**	**02 14 34.4**	**-0.6**
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,210nm,3.8s						
GYA				LR	LR		
	comp=N,2μm,13.8s,MS4.9						
GYA				LR	LR		
	comp=E,620nm,10.2s,MS4.9						
GYA				LR	LR		
	comp=Z,3μm,13.5s,MS5.0						
JIRN	**Jiri**	**28.21**	**339**	*e*P	**P**	**02 10 18.8**	**+1.0**
	comp=Z,114nm,1.1s,mb5.4						
PKI	**Pulchoki**	**28.42**	**338**	*e*P	**P**	**02 10 20.1**	**+0.4**
	comp=Z,148nm,1.6s,mb5.4						
PKI	**Pulchoki**	**28.42**	**338**	*e*P	**P**	**02 10 20.1**	**+0.4**
PKI				pmax	pmax		
	comp=Z,74nm,1.6s,mb5.1						
DMN	**Daman**	**28.57**	**337**	*e*P	**P**	**02 10 21.6**	**+0.6**
	comp=Z,55nm,1.2s,mb5.2						
KKN	**Kakani**	**28.67**	**338**	*e*P	**P**	**02 10 22.3**	**+0.4**
	comp=Z,123nm,1.3s,mb5.5						
KKN	**Kakani**	**28.67**	**338**	*e*P	**P**	**02 10 22.3**	**+0.4**
KKN				pmax	pmax		
	comp=Z,61nm,1.3s,mb5.2						
LSA	**Lhasa**	**28.80**	**349**	*e*P	**P**	**02 10 22.1**	**-0.9**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.7						
LSA	**Lhasa**	**28.80**	**349**	*e*P	**P**	**02 10 22.1**	**-1.0**
	comp=Z,5.7nm,0.4s,mb4.7						
GKN	**Gorkha**	**29.11**	**337**	*e*P	**P**	**02 10 26.6**	**+0.8**
	comp=Z,78nm,1.0s,mb5.4						
**KO

SSE				S	**S**	**02 17 23.9**	**+0.6**
SSE				XS		02 17 41.8	
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,101nm,5.6s						
SSE				LR	LR		
	comp=N,296nm,19.3s,MS4.2						
SSE				LR	LR		
	comp=E,186nm,19.4s,MS4.2						
SSE				LR	LR		
	comp=Z,345nm,16.6s,MS4.2						
SSE	**Sheshan**	**37.37**	**35**	P	**P**	**02 11 37.1**	**-0.3**
	comp=Z,29nm,0.8s,mb5.2						
SSE				S	**S**	**02 17 23.9**	**+0.6**
SSE				sS		02 17 41.8	
SSE				SS	SS	02 20 08.5	+13
SSE				LR	LR		
	comp=Z,350nm,16.6s,MS4.2						
GTA	**Gaotai**	**38.00**	**3**	*e*P	**P**	**02 11 43.1**	**+0.5**
GTA				AP	pP	02 11 49.6	-0.6
GTA				XP	sP	02 11 53.4	0.0
GTA				PP	PP	02 13 12.8	0.0
GTA				S	**S**	**02 17 33.1**	**+0.3**
GTA				XS		02 17 48.9	
GTA				SS	SS	02 20 11.1	+0.8
GTA				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.6						
GTA				AMB	AMB		
	comp=Z,115nm,5.3s						
GTA				LR	LR		
	comp=N,647nm,14.1s,MS4.7						
GTA				LR	LR		
	comp=E,471nm,13.7s,MS4.7						
GTA				LR	LR		
	comp=Z,705nm,15.6s,MS4.6						
JOW	**Kunigami**	**39.23**	**47**	P	**P**	**02 11 53.8**	**+0.8**
	comp=Z,22nm,0.5s,mb5.2,baz=203,slow=7.7,SNR=8.1						
BTO	**Baotou**	**40.83**	**15**	*e*P	**P**	**02 12 04.9**	**-1.1**
HHC	**Hu-ho-hao-te**	**41.48**	**17**	*e*P	**P**	**02 12 07.9**	**-3.4**
HHC				AP	pP	02 12 17.5	-1.5
HHC				XP	sP	02 12 21.5	-0.6
HHC				PP	PP	02 13 46.7	-3.6
HHC				PCP	PcP	02 14 09.3	-0.2
HHC				SCP		02 17 55.4	
HHC				PCS		02 17 58.8	
HHC				S	**S**	**02 18 16.9**	**-8.0**
HHC				SCS	ScS	02 22 07.3	-3.9
HHC				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.5						
HHC				AMB	AMB		
	comp=Z,132nm,3.6s						
HHC				LR	LR		
	comp=N,941nm,13.0s,MS4.9						
HHC				LR	LR		
	comp=E,871nm,15.2s,MS4.9						
HHC				LR	LR		
	comp=Z,840nm,18.0s,MS4.7						
WRA	**Warramunga Arr**	**42.16**	**122**	P	**P**	**02 12 16.8**	**-0.5**
	comp=Z,2.5nm,0.5s,mb4.1,baz=302,slow=9.0,SNR=18						
WRAB	**Tennant Creek**	**42.17**	**122**	*i* P	**P**	**02 12 17.5**	**+0.2**
WRAB	**Tennant Creek**	**42.17**	**122**	*e*P	**P**	**02 12 16.9**	**-0.4**
	comp=Z,5.5nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**42.17**	**122**	*e*P	**P**	**02 12 17.1**	**-0.3**
BJT	**Baijiatuau**	**42.25**	**22**	*e*P	**P**	**02 12 18.7**	**+1.0**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	**Baijiatuau**	**42.25**	**22**	*e*P	**P**	**02 12 18.7**	**+1.0**
	comp=Z,8.9nm,0.6s,mb4.6						
BJI	**Beijing**	**42.27**	**22**	P	**P**	**02 12 18.7**	**+0.8**
BJI				AP	pP	02 12 26.4	+0.9
BJI				XP	sP	02 12 30.6	+1.9
BJI				S	**S**	**02 18 26.2**	**-10**
BJI				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=N,469nm,15.7s,MS4.6						
BJI				LR	LR		
	comp=E,380nm,15.7s,MS4.6						
BJI				LR	LR		
	comp=Z,262nm,23.4s						
BJI	**Beijing**	**42.27**	**22**	P	**P**	**02 12 18.7**	**+0.8**
BJI				*SP	sP	02 12 30.6	+1.9
BJI				S	**S**	**02 18 26.2**	**-10**
BJI						02 22 20.9	
BJI				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.7						
BJI				MLR	MLR		
	comp=Z,260nm,23.4s,MS4.0						
BJI	**Beijing**	**42.27**	**22**	P	**P**	**02 12 18.7**	**+0.8**
	comp=Z,19nm,0.9s,mb4.7						
BJI				pP	pP	02 12 26.4	+0.9
BJI				sP	sP	02 12 30.6	+1.9
BJI				S	**S**	**02 18 26.2**	**-10**
BJI				SS	SS	02 21 30.8	-8.9
BJI				ScS	ScS	02 22 20.9	+4.8
BJI				LR	LR		
	comp=Z,260nm,23.4s,MS4.0						
WMQ	**Urumqi**	**43.15**	**350**	⇑P	**P**	**02 12 26.3**	**+1.3**
WMQ				AP	pP	02 12 33.8	+1.1
WMQ				XP	sP	02 12 37.3	+1.5
WMQ				PP	PP	02 14 09.1	+1.6
WMQ				PCP	PcP	02 14 16.3	+1.3
WMQ				S	**S**	**02 18 51.1**	**+1.6**
WMQ				XS		02 19 03.3	
WMQ				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,66nm,4.0s						
WMQ				LR	LR		
	comp=N,347nm,17.6s,MS4.5						
WMQ				LR	LR		
	comp=E,396nm,20.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,171nm,20.1s,MS3.9						
FORT	**Forrest**	**43.41**	**140**	*e*P	**P**	**02 12 29.3**	**+1.9**
	comp=Z,202nm,0.6s						
ASPA	**Alice Springs**	**43.52**	**127**	*e*P	**P**	**02 12 28.6**	**+0.3**
ASAR	**Alice Springs**	**43.53**	**127**	P	**P**	**02 12 28.5**	**+0.1**
	comp=Z,7.1nm,1.1s,mb4.3,baz=300,slow=7.4,SNR=26						
ASAR				PcP	PcP	02 14 16.9	+0.3
	comp=Z,1.5nm,0.9s,baz=273,slow=3.6,SNR=4.8						
ASAR				LR	LR	02 33 26.0	
	comp=Z,168nm,20.4s,MS3.9,baz=294,slow=40						
AAK	**Ala-Archa**	**45.87**	**337**	*i* P	**P**	**02 12 49.9**	**+3.0**
AAK				pmax	pmax		
	comp=Z,13nm,1.9s,mb4.5						
AAK				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.2						
SONM	**Songino Array**	**47.03**	**9**	P	**P**	**02 12 56.5**	**+0.5**
	comp=Z,11nm,1.0s,mb4.7,baz=193,slow=9.2,SNR=44						
SONM				LR	LR	02 35 18.9	
	comp=Z,1μm,18.1s,MS4.8,baz=25,slow=39						
MKAR	**Makanchi Array**	**47.12**	**346**	*i* P	**P**	**02 12 57.0**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**02 12 57.0**	**+0.3**
	comp=Z,2.7nm,0.4s,mb4.5,baz=161,slow=8.6,SNR=44						
MKAR				LR	LR	02 36 09.3	
	comp=Z,237nm,20.1s,MS4.2,baz=171,slow=40						
ULN	**Ulaanbaatar**	**47.17**	**9**	*e*P	**P**	**02 12 57.1**	**0.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**47.17**	**9**	*e*P	**P**	**02 12 57.1**	**+0.1**
	comp=Z,4.2nm,0.8s,mb4.4						
ZAK	**Zakamensk**	**49.17**	**5**	⇑*i*P	**P**	**02 13 12.8**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb4.2						
CN2	**Changchun**	**49.24**	**27**	*e*P	**P**	**02 13 12.5**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
TLY	**Talaya**	**50.49**	**5**	⇓*e*P	**P**	**02 13 23.8**	**+1.1**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
TLY				MLR	MLR		
	comp=Z,700nm,20.0s,MS4.7						
HIA	**Hailar**	**51.56**	**19**	*e*P	**P**	**02 13 30.5**	**-0.4**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HIA	**Hailar**	**51.56**	**19**	*e*P	**P**	**02 13 30.5**	**-0.4**
	comp=Z,6.2nm,0.7s,mb4.7						
MJAR	**Matsushiro Arr**	**51.67**	**42**	LR	LR	02 36 36.3	
	comp=Z,146nm,18.7s,MS4.0,baz=235,slow=37						
MDJ	**Mudanjiang**	**51.81**	**29**	P	**P**	**02 13 33.1**	**+0.3**
MDJ				AP	pP	02 13 39.4	-1.2
MDJ				XP	sP	02 13 42.1	-1.5
MDJ				PCP	PcP	02 14 45.4	-0.4
MDJ				PP	PP	02 15 31.7	+0.4
MDJ				PCS		02 18 43.6	
MDJ				S	**S**	**02 20 55.3**	**+3.3**
MDJ				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,169nm,4.6s						
MDJ				LR	LR		
	comp=N,349nm,15.9s,MS4.6						
MDJ				LR	LR		
	comp=E,317nm,16.6s,MS4.6						
MDJ				LR	LR		
	comp=Z,542nm,15.9s,MS4.7						
CTA	**Charters Tower**	**52.62**	**117**	LR	LR	02 40 17.3	
	comp=Z,303nm,20.0s,MS4.3,baz=133,slow=41						
STKA	**Stephens Creek**	**53.49**	**132**	*e*P	**P**	**02 13 45.9**	**+0.4**
	comp=Z,5.3nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**53.49**	**132**	P	**P**	**02 13 46.0**	**+0.5**
	comp=Z,6.2nm,0.8s,mb4.6,baz=312,slow=8.8,SNR=9.4						
ATD	**Arta Tunnel**	**54.78**	**283**	LR	LR	02 30 46.8	
	comp=Z,92nm,21.6s,MS3.8,baz=95,slow=29						
KLR	**Kul'dur**	**56.19**	**27**	*e*P	**P**	**02 14 02.3**	**-2.6**
KLR				MLR	MLR		
	comp=Z,1μm,13.0s,MS5.1						
BOD	**Bodaibo**	**57.92**	**11**	⇓*i*P	**P**	**02 14 19.0**	**+2.0**
BOD				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
CLNS	**Chul'man**	**59.66**	**17**	*e*P	**P**	**02 14 28.0**	**-1.2**
CLNS				*e**PP	pP	02 14 34.6	-2.5
CLNS				*e*S	**S**	**02 22 42.6**	**+6.3**
CLNS				*e*PS	PS	02 22 59.8	+5.2
CLNS				*e*		02 24 14.1	
CLNS				*e*SS	SS	02 26 38.1	+4.7
CLNS				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.7s						
CLNS				smax			
	comp=N,105nm,13.7s						
CLNS				smax			
	comp=E,21nm,12.4s						
CLNS				MLR	MLR		
	comp=Z,800nm,15.0s,MS5.0						
CLNS				MLR	MLR		
	comp=N,500nm,17.0s,MS4.8						
CLNS				MLR	MLR		
	comp=E,200nm,15.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**60.30**	**34**	*e*P	**P**	**02 14 31.2**	**-2.5**
YSS				*e*		02 14 45.8	
YSS				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.4						
GNI	**Garni**	**61.16**	**316**	*i* P	**P**	**02 14 42.6**	**+3.0**
GNI				MLR	MLR		
	comp=Z,100nm,19.0s						
GNI	**Garni**	**61.16**	**316**	P	**P**	**02 14 42.1**	**+2.5**
	comp=Z,22nm,1.1s,mb5.2						
TI2	**Plekhanov**	**61.84**	**318**	*e*P	**P**	**02 14 43.8**	**-0.4**
SVE	**Sverdlovsk**	**62.55**	**338**	⇑*e*P	**P**	**02 14 48.0**	**-0.8**
SVE				*e*		02 15 26.0	
SVE				MLR	MLR		
	comp=N,100nm,16.0s,MS4.2						
SVE				MLR	MLR		
	comp=E,100nm,16.0s,MS4.2						
SVE				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.4						
ARU	**Arti**	**63.05**	**337**	⇑*i*P	**P**	**02 14 51.0**	**-1.0**
ARU				*e*		02 15 23.6	
ARU				*e*		02 17 11.1	
ARU				*e*S	**S**	**02 23 20.7**	**+1.3**
ARU				*e*SS	SS	02 27 27.3	0.0
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.8						
ARU	**Arti**	**63.05**	**337**	*e*P	**P**	**02 14 50.9**	**-1.1**
	comp=Z,2.1nm,0.5s,mb4.5						
KIV	**Kislovodsk**	**64.17**	**319**	*i* P	**P**	**02 14 59.3**	**-0.3**
KIV				*i*	pP	02 15 07.9	+0.3
KIV				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
KIV	**Kislovodsk**	**64.17**	**319**	P	**P**	**02 14 59.3**	**-0.3**
	comp=Z,3.7nm,0.7s,mb4.5						
KIV				*e*	pP	02 15 08.0	+0.4
GOF	**Gofitskoye**	**64.42**	**320**	*e*P	**P**	**02 14 59.0**	**-2.3**
MALT	**Malatya**	**64.99**	**312**	P	**P**	**02 15 05.4**	**+0.3**
MALT				*e**PP	pP	02 15 13.9	+0.9
MALT				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
MALT	**Malatya**	**64.99**	**312**	P	**P**	**02 15 05.4**	**+0.4**
	comp=Z,5.5nm,1.1s,mb4.5						
MALT				*e*pP	pP	02 15 13.9	+0.9
YAK	**Yakutsk**	**65.34**	**16**	⇓*e*P	**P**	**02 15 06.3**	**-0.5**
YAK				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.5						
YAK				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.8						
SOC	**Sochi**	**65.98**	**318**	*e*P	**P**	**02 15 07.6**	**-3.7**
SOC				*e*PPP	PPP	02 19 09.2	-4.7
SOC				*e*S	S	02 23 54.0	-1.8
SOC				*e*		02 25 01.4	
SOC				*e*SS	SS	02 28 10.7	-1.8
SOC				pmax	pmax		
	comp=N,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
SOC				pmax	pmax		
	comp=E,3.0nm,0.6s						
BRTR	**Keskin Array B**	**68.98**	**312**	P	**P**	**02 15 29.2**	**-1.0**
	comp=E,0.7nm,0.6s,mb3.7,baz=120,slow=7.9,SNR=5.0						
MATP	**Matopo**	**70.49**	**248**	P	**P**	**02 15 39.9**	**+0.1**
	comp=E,2.9nm,0.9s,mb4.2,baz=102,slow=5.5,SNR=4.4						
OBN	**Obninsk**	**72.48**	**328**	⇓*e*P	**P**	**02 15 50.0**	**-1.1**
OBN				*e*		02 18 32.5	
OBN				*e*S	S	02 25 03.0	-9.3
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.1						
MAW	**Mawson**	**72.80**	**193**	LR	LR	02 41 50.5	
	comp=Z,184nm,18.5s,MS4.4,baz=250,slow=31						
TIXI	**Tiksi**	**73.09**	**10**	⇑*e*P	**P**	**02 15 53.1**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,24nm,2.1s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,600nm,19.0s,MS4.9						
LBTB	**Lobatse**	**73.86**	**244**	P	**P**	**02 16 00.4**	**+0.6**
LBTB				*e*	pP	02 16 07.4	-0.4
LBTB				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.8						
LBTB	**Lobatse**	**73.86**	**244**	P	**P**	**02 16 00.4**	**+0.6**
	comp=Z,17nm,1.4s,mb4.8						
LBTB				*e*	pP	02 16 07.4	-0.4
AKASG	**Malin Array Be**	**75.12**	**322**	*i* P	**P**	**02 16 05.6**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**75.12**	**322**	P	**P**	**02 16 04.9**	**-1.6**
	comp=Z,0.6nm,0.4s,mb3.8,baz=89,slow=5.0,SNR=7.0						
FINES	**FINESS Array B**	**79.86**	**333**	P	**P**	**02 16 32.4**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=108,slow=6.0,SNR=5.7						
FINES	**FINESS Array B**	**79.86**	**333**	P	**P**	**02 16 32.4**	**-0.1**
SYO	**Syowa Base**	**80.08**	**198**	⇑PcP	PcP	02 16 41.0	-0.3
BILL	**Bilibino**	**81.09**	**21**	*e*P	**P**	**02 16 38.8**	**-0.1**
BILL				*e*S	S	02 26 43.3	-2.2
BILL				pmax	pmax		
	comp=Z,7.0nm,2.1s,mb4.2						
BILL				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.7						
URZ	**Urewera**	**82.95**	**129**	LR	LR	02 55 22.0	
	comp=Z,207nm,19.8s,MS4.5,baz=248,slow=37						
GERES	**GERESS Array B**	**84.68**	**319**	P	**P**	**02 16 58.5**	**+0.8**
	comp=Z,1.6nm,1.0s,mb4.1,baz=90,slow=4.0,SNR=10						
VNDA	**Vanda**	**85.95**	**169**	LR	LR	02 52 53.5	
	comp=Z,203nm,19.4s,MS4.5,baz=309,slow=34						
NOA	**NORSAR Array B**	**86.87**	**331**	LR	LR	03 01 44.9	
	comp=Z,88nm,16.4s,MS4.2,baz=100,slow=40						
NVAR	**Mina Array Bea**	**128.74**	**36**	PKP	PKPdf	02 23 33.1	-2.2
	comp=Z,0.7nm,0.9s,baz=181,slow=3.3,SNR=4.1						
TXAR	**Lajitas Array**	**143.62**	**31**	PKP	PKPdf	02 23 58.3	-4.5
	comp=Z,0.3nm,0.4s,baz=331,slow=0.6,SNR=6.5						

*IDC **06** 02:11:48.8±2.0, 0.19S×97.04E, mb4.1/6, mb1 4.2/6, mb1mx3.8/17, mbtmp4.1/6, Error ellipse: s-maj=64.2km s-min=21.3km az=56.0*

ISC 06 02:11:51.5±1.8, 0.2S±0.2×97.0E±0.4, h33km, n8, σ1§10/8, mb4.1/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.61**	**6**	P	**P**	**02 16 04.4**	**-4.3**
	0.7nm,0.3s,baz=194,slow=11,SNR=8.7						
SHL	**Shillong**	**26.06**	**349**	*e*P	**P**	**02 17 24.0**	**0.0**
JOW	**Kunigami**	**40.34**	**46**	P	**P**	**02 19 29.4**	**+1.7**
	6.8nm,0.3s,mb4.8,baz=222,slow=25,SNR=6.4						
WRA	**Warramunga Arr**	**41.51**	**121**	P	**P**	**02 19 36.6**	**-1.1**
	1.1nm,0.5s,mb3.7,baz=302,slow=9.0,SNR=6.3						
ASAR	**Alice Springs**	**42.75**	**126**	P	**P**	**02 19 48.2**	**+0.4**
	1.2nm,0.7s,mb3.7,baz=303,slow=7.9,SNR=9.0						
SONM	**Songino Array**	**48.51**	**8**	P	**P**	**02 20 32.5**	**-0.8**
	1.4nm,0.5s,mb4.2,baz=190,slow=8.8,SNR=13						
MKAR	**Makanchi Array**	**48.52**	**347**	P	**P**	**02 20 34.2**	**+0.9**
	2.6nm,0.8s,mb4.3,baz=158,slow=7.7,SNR=16						
BVAR	**Borovoye Array**	**57.47**	**341**	P	**P**	**02 21 39.6**	**-0.1**
	1.2nm,0.7s,mb4.0,baz=143,slow=7.4,SNR=7.8						

IDC 06 02:15:54.4±1.7, 1.99N×96.65E, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.9/7, ML4.3/1, Error ellipse: s-maj=74.1km s-min=20.5km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.52**	**8**	Pn	P	02 19 48.9	-0.4
	0.4nm,0.3s,baz=198,slow=11,SNR=16						
WRA	**Warramunga Arr**	**42.92**	**122**	P	P	02 23 55.3	-1.7
	0.5nm,0.6s,baz=300,slow=9.0,SNR=2.4						
ASAR	**Alice Springs**	**44.31**	**127**	P	P	02 24 06.5	-1.7
	0.7nm,0.7s,baz=298,slow=8.2,SNR=5.7						
MKAR	**Makanchi Array**	**46.35**	**346**	P	P	02 24 21.8	-2.3
	2.4nm,0.7s,baz=162,slow=8.0,SNR=20						
SONM	**Songino Array**	**46.44**	**9**	P	P	02 24 22.5	-2.3
	1.0nm,0.5s,baz=187,slow=9.1,SNR=9.6						
BVAR	**Borovoye Array**	**55.33**	**341**	P	P	02 25 31.1	-1.2
	0.7nm,0.7s,baz=143,slow=7.4,SNR=4.6						
FINES	**FINESS Array B**	**79.05**	**333**	P	P	02 28 00.0	-1.9
	1.8nm,0.9s,baz=135,slow=3.9,SNR=4.5						

*IDC **06** 02:21:12.7±1.3, 1.24N×97.12E, h24km±5km, mb3.8/9, mb1 3.9/10, mb1mx3.7/19, mbtmp3.9/10, MS3.6/2, Ms1 3.6/2, ms1mx3.1/35, Error ellipse: s-maj=49.1km s-min=13.7km az=54.0*

*NEIC **06** 02:21:13.2±0.5, 1.31N×97.25E, mb4.4/6, Error ellipse: s-maj=19.4km s-min=6.1km az=55.0*

ISC 06 02:21:11.2±0.8, 1.3N±0.1×97.3E±0.2, h24km, h24km±.9km: pP-P, n21, σ0§56/20, mb4.1/15, MS4.1/1, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.12**	**5**	Pn	**P**	**02 25 10.4**	**-0.4**
	baz=174,slow=14,SNR=4.2						
CMAR				LR	LR	02 32 04.0	
	comp=Z,69nm,19.9s,baz=226,slow=38						
SHL	**Shillong**	**24.67**	**348**	⇑*i*P	**P**	**02 26 31.7**	**0.0**
SHL	**Shillong**	**24.67**	**348**	⇑*i*P	**P**	**02 26 31.7**	**0.0**
JIRN	**Jiri**	**28.27**	**339**	*e*P	**P**	**02 27 05.8**	**+0.9**
	12nm,0.7s,mb4.6						
PKI	**Pulchoki**	**28.47**	**338**	*e*P	**P**	**02 27 07.0**	**+0.3**
DMN	**Daman**	**28.62**	**337**	*e*P	**P**	**02 27 08.3**	**+0.2**
KKN	**Kakani**	**28.72**	**338**	*e*P	**P**	**02 27 09.6**	**+0.6**
	16nm,0.8s,mb4.8						
GKN	**Gorkha**	**29.16**	**337**	*e*P	**P**	**02 27 13.2**	**+0.3**
	7.4nm,0.5s,mb4.7						
KOLN	**Koldanda**	**29.38**	**335**	*e*P	**P**	**02 27 15.0**	**+0.1**
	10nm,0.8s,mb4.6						
ENH	**Enshi**	**31.06**	**21**	*e*P	**P**	**02 27 29.2**	**-0.5**
	5.5nm,0.5s,mb4.6						
ENH				*e*pP	pP	02 27 35.4	-1.6
FITZ	**Fitzroy Crossi**	**33.95**	**126**	P	**P**	**02 27 55.0**	**-0.1**
	1.9nm,0.7s,mb4.2,baz=330,slow=8.1,SNR=4.0						
WRA	**Warramunga Arr**	**42.05**	**122**	P	**P**	**02 29 03.4**	**+0.4**
	1.3nm,0.6s,mb3.7,baz=301,slow=9.2,SNR=11						
WRA				pP	pP	02 29 10.8	+0.5
	1.1nm,0.5s,baz=301,slow=9.1,SNR=6.3						
WRAB	**Tennant Creek**	**42.05**	**122**	*e*P	**P**	**02 29 03.7**	**+0.7**
	1.9nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**02 29 14.4**	**+0.3**
	0.7nm,0.7s,mb3.5,baz=304,slow=8.5,SNR=6.2						
ASAR				pP	pP	02 29 21.6	+0.1
	0.4nm,0.5s,baz=302,slow=8.4,SNR=3.8						
SONM	**Songino Array**	**47.02**	**8**	P	**P**	**02 29 43.0**	**+0.4**
	2.0nm,0.7s,mb4.2,baz=187,slow=9.8,SNR=16						
SONM				pP	pP	02 29 50.4	+0.5
	0.8nm,0.9s,baz=185,slow=7.9,SNR=6.6						
MKAR	**Makanchi Array**	**47.15**	**346**	P	**P**	**02 29 43.2**	**-0.3**
	1.5nm,0.6s,mb4.1,baz=157,slow=9.2,SNR=21						
STKA	**Stephens Creek**	**53.39**	**132**	P	**P**	**02 30 30.2**	**-1.1**
	0.9nm,0.6s,mb3.9,baz=328,slow=11,SNR=3.3						
STKA				pP	pP	02 30 38.8	-0.1
	0.5nm,0.3s,baz=318,slow=8.7,SNR=2.3						
BVAR	**Borovoye Array**	**56.17**	**341**	P	**P**	**02 30 50.1**	**-1.2**
	1.9nm,0.7s,mb4.3,baz=144,slow=8.5,SNR=16						
BVAR				pP	pP	02 30 57.7	-1.2
	0.9nm,0.6s,baz=141,slow=9.5,SNR=4.1						
BRTR	**Keskin Array B**	**69.08**	**312**	P	**P**	**02 32 16.9**	**-0.5**
	0.2nm,0.5s,mb3.4,baz=146,slow=10,SNR=2.6						
FINES	**FINESS Array B**	**79.93**	**332**	P	**P**	**02 33 19.4**	**-0.1**
	0.7nm,0.8s,mb3.7,baz=90,slow=6.9,SNR=3.3						
VAE	**Valguarnera**	**83.52**	**307**	LR	LR	03 09 36.3	
	comp=Z,94nm,21.8s,MS4.1,baz=258,slow=35						

IDC 06 02:41:56.0±9.2, 0.77S×97.53E, mb3.7/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, ML4.4/1, MS2.9/1, Ms1 3.1/1, ms1mx2.9/23, Error ellipse: s-maj=194.9km s-min=100.3km az=141.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.16**	**4**	P	P	02 46 21.1	-2.5
	0.5nm,0.3s,baz=199,slow=10,SNR=5.7						
CMAR				LR	LR	02 53 19.8	
	comp=Z,40nm,19.9s,baz=215,slow=36						
SONM	**Songino Array**	**49.02**	**8**	P	P	02 50 44.5	-2.0
	0.9nm,0.9s,baz=185,slow=6.7,SNR=6.0						
MKAR	**Makanchi Array**	**49.22**	**346**	P	P	02 50 45.7	-2.4
	1.0nm,0.9s,baz=158,slow=6.5,SNR=5.4			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.75**	**13**	*e*PG	Pg	02 48 59.8	-1.5
CRS				*e*		02 49 10.1	
CRS				pmax	pmax		
	comp=Z,189nm,0.7s						
CRS				smax			
	comp=E,561nm,1.1s						
CRS	**Chara**	**0.75**	**13**	⇑*i*Pg	Pg	02 48 59.7	-1.6
	comp=E,64nm,0.6s						
CRS				⇑*i*Pg	Pg	02 48 59.7	-1.6
	comp=E,11nm,0.6s						
CRS				⇑*i*Pg	Pg	02 48 59.7	-1.6
	comp=E,90nm,0.6s						
CRS				*i* Sg	Sg	02 49 10.0	-1.4
CRS				Pmax			
	comp=E,179nm,0.7s						
CRS				Smax			
	comp=E,625nm,0.8s						
NLYR	**Nelyaty**	**1.29**	**285**	⇑*i*PG	Pg	02 49 08.7	-3.3
NLYR				*e*		02 49 25.4	
NLYR				pmax	pmax		
	comp=Z,60nm,0.3s						
NLYR				smax			
	comp=E,1μm,0.7s						
NLYR	**Nelyaty**	**1.29**	**285**	⇓*i*Pg	Pg	02 49 08.8	-3.2
NLYR				*e*Pb	Pb	02 49 10.7	+0.4
NLYR				*e*Sg	Sg	02 49 25.7	-3.6
NLYR				*e*Sb	Sb	02 49 29.1	+2.2
NLYR				max			
	comp=E,269nm,0.4s						
NLYR				max			
	comp=E,1μm,0.7s						
TUP	**Tupik**	**2.09**	**146**	*e*PN	Pn	02 49 21.8	-0.2
TUP				*e*		02 49 24.0	
TUP				*e*S	Sn	02 49 48.6	+0.1
TUP				*e*		02 49 51.7	
TUP				pmax	pmax		
	comp=Z,321nm,0.2s						
TUP				smax			
	comp=N,139nm,0.4s						
TUP	**Tupik**	**2.09**	**146**	*e*Pn	Pn	02 49 22.0	0.0
TUP				⇓*i*Pg	Pg	02 49 24.0	-4.0
	comp=N,122nm,1.0s						
TUP				⇑*i*Pg	Pg	02 49 24.0	-4.0
	comp=N,94nm,1.0s						
TUP				⇑*i*Pg	Pg	02 49 24.0	-4.0
	comp=N,160nm,1.0s						
TUP				*e*Sg	Sg	02 49 51.9	-4.0
TUP				Pmax			
	comp=N,316nm,0.2s						
TUP				Smax			
	comp=N,158nm,0.4s						
SVKR	**Severomuysk**	**2.46**	**271**	*e*PN	Pn	02 49 26.9	-0.4
SVKR				*e*		02 49 30.1	
SVKR				*e*		02 50 01.8	
SVKR				pmax	pmax		
	comp=Z,192nm,0.6s						
SVKR				smax			
	comp=N,535nm,0.4s						
SVKR	**Severomuysk**	**2.46**	**271**	*e*Pn	Pn	02 49 27.2	-0.1
SVKR				*e*Pg	Pg	02 49 30.1	-5.2
SVKR				*e*Sg	Sg	02 50 02.8	-5.3
SVKR				Pmax			
	comp=N,192nm,0.4s						
SVKR				Smax			
	comp=N,550nm,0.5s						
UKT	**Uakit**	**2.53**	**256**	*e*PN	Pn	02 49 30.8	+2.5
UKT				*e*		02 50 05.5	
UKT				pmax	pmax		
	comp=Z,79nm,0.5s						
UKT				smax			
	comp=N,124nm,0.4s						
UKT	**Uakit**	**2.53**	**256**	*e*Pn	Pn	02 49 28.0	-0.3
UKT				⇓*i*Pg	Pg	02 49 31.1	-5.7
UKT				*e*Sg	Sg	02 50 04.9	-5.6
UKT				Pmax			
	comp=N,96nm,0.6s						
UKT				Smax			
	comp=N,177nm,0.8s						
BOD	**Bodaibo**	**2.72**	**309**	⇑*i*PN	Pn	02 49 33.9	+2.9
BOD				*e*S	Sn	02 50 02.4	-2.0
BOD				*e*		02 50 08.9	
BOD				pmax	pmax		
	comp=Z,37nm,0.6s						
BOD				smax			
	comp=N,414nm,0.7s						
BOD	**Bodaibo**	**2.72**	**309**	*e*Pg	Pg	02 49 34.0	-6.5
BOD				*e*Sg	Sg	02 50 09.3	-7.5
BOD				Pmax			
	comp=N,36nm,0.6s						
BOD				Smax			
	comp=N,414nm,0.7s						
KMO	**Kumora**	**3.80**	**269**	*e*PN	Pn	02 49 45.0	-1.3
KMO				*e*		02 49 54.3	
KMO				*e*		02 50 43.7	
KMO				pmax	pmax		
	comp=Z,27nm,0.6s						
KMO				smax			
	comp=E,122nm,0.8s						
KMO	**Kumora**	**3.80**	**269**	*e*Pn	Pn	02 49 45.8	-0.5
KMO				*e*Pg	Pg	02 49 53.0	-9.0
KMO				*e*Sg	Sg	02 50 43.9	-8.8
KMO				Pmax			
	comp=E,32nm,0.4s						
KMO				Smax			
	comp=E,118nm,0.8s						
TNDR	**Tynda**	**3.97**	**102**	*e*Sg	Sg	02 50 49.6	-8.8
YLYR	**Ulyunkhan**	**4.07**	**254**	*e*PN	Pn	02 49 58.3	+8.1
YLYR				*e*		02 50 51.9	
YLYR				pmax	pmax		
	comp=Z,22nm,0.5s						
YLYR				smax			
	comp=E,117nm,1.0s						
YLYR	**Ulyunkhan**	**4.07**	**254**	⇓*i*Pn	Pn	02 49 49.4	-0.8
YLYR				*e*Pg	Pg	02 49 58.9	-8.6
YLYR				*e*Sg	Sg	02 50 53.3	-8.4
YLYR				Pmax			
	comp=E,21nm,0.6s						
YLYR				Smax			
	comp=E,111nm,0.9s						
NIZ	**Nizh Angarsk**	**4.74**	**269**	*e*Pg	Pg	02 50 11.6	-9.3
NIZ				*e*Sg	Sg	02 51 14.4	-10
NIZ				Pmax			
	comp=E,9.0nm,0.6s						
NIZ				Smax			
	comp=E,31nm,0.7s						
CIT	**Chita**	**4.90**	**214**	*e*PN	Pn	02 50 11.5	+10
CIT				*e*		02 51 16.9	
CIT				pmax	pmax		
	comp=Z,12nm,0.4s						
CIT				smax			
	comp=N,193nm,1.1s						
CIT	**Chita**	**4.90**	**214**	*e*Pg	Pg	02 50 13.2	-11
CIT				*e*Sg	Sg	02 51 18.4	-11
CIT				Pmax			
	comp=N,6.0nm,0.3s						
CIT				Smax			
	comp=N,186nm,1.2s						
SYVR	**Suvo**	**5.23**	**245**	*e*PN	Pn	02 50 05.2	-1.4
SYVR				*e*		02 50 20.0	
SYVR	**Suvo**	**5.23**	**245**	*e*Pn	Pn	02 50 05.2	-1.4
SYVR				*e*Pg	Pg	02 50 19.7	-11
SYVR				*e*Sg	Sg	02 51 28.9	-11
SYVR				Pmax			
	comp=N,34nm,0.9s						
SYVR				Smax			
	comp=N,107nm,1.2s						
OGRR	**Ongureny**	**6.49**	**251**	*e*Pn	Pn	02 50 22.2	-2.1
OGRR				*e*Pg	Pg	02 50 43.1	-13
OGRR				*e*Sg	Sg	02 52 09.6	-13
OGRR				Pmax			
	comp=N,3.0nm,0.6s						
OGRR				Smax			
	comp=N,24nm,1.8s						
KPC	**Khapcheranga**	**7.30**	**210**	*e*Sg	Sg	02 52 29.5	-20
KPC				Smax			
	comp=N,48nm,1.0s						

*IDC **06** 02:50:05.1±5.7, 52.22N×179.56E, h164km±85km, mb3.0/6, mb1 3.5/7, mb1mx3.1/24, mbtmp3.6/7, Error ellipse: s-maj=69.2km s-min=40.3km az=113.0*
*NEIC **06** 02:50:07.1±1.2, 52.23N×179.39E, h196km±13km, mb3.2/2, Error ellipse: s-maj=27.9km s-min=14.7km az=176.0*

ISC 06 02:50:05.8±1.5, 52.2N±0.3×179.3E±0.2, h202km±17km, n13, σ0§61/14, mb3.1/8, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**3.81**	**283**	P	**P**	**02 51 06.7**	**+0.9**
	9.0nm,0.3s,baz=68,slow=3.5,SNR=70						
FX1				S	**S**	**02 51 51.6**	**-0.7**
	14nm,0.3s,baz=312,slow=14,SNR=19						
FX1	**Attu Island--F**	**3.81**	**283**	*e*P	**P**	**02 51 06.8**	**+1.0**
UNV	**Unalaska Valle**	**8.72**	**73**	P	**P**	**02 52 08.9**	**-0.3**
ILAR	**Eielson Array**	**21.37**	**41**	P	**P**	**02 54 37.0**	**-0.5**
	0.3nm,0.7s,mb3.0,baz=252,slow=10,SNR=7.6						
DAWY	**Dawson**	**24.34**	**45**	*e*P	**P**	**02 55 06.4**	**+0.6**
INK	**Inuvik**	**27.48**	**36**	P	**P**	**02 55 35.1**	**+0.4**
	0.4nm,0.5s,mb3.4,baz=258,slow=9.3,SNR=3.9						
YKA	**Yellowknife Ar**	**35.53**	**47**	P	**P**	**02 56 44.6**	**0.0**
	0.2nm,0.5s,mb2.9,baz=277,slow=7.9,SNR=8.2						
NVAR	**Mina Array Bea**	**44.62**	**82**	P	**P**	**02 58 00.6**	**+1.3**
	0.4nm,0.5s,mb3.0,baz=291,slow=7.7,SNR=4.3						
BW06	**Boulder Array**	**47.18**	**72**	P	**P**	**02 58 19.0**	**-0.3**
	0.6nm,0.6s,mb3.1						
PDAR	**Pinedale Array**	**47.18**	**72**	P	**P**	**02 58 19.4**	**0.0**
	0.7nm,0.8s,mb3.0,baz=306,slow=4.8,SNR=6.0						
SDCO	**Great Sand Dun**	**52.77**	**74**	P	**P**	**02 59 01.0**	**-0.6**
	0.3nm,0.5s,mb3.0						
MNTX	**Cornudas Mount**	**56.97**	**80**	P	**P**	**02 59 31.4**	**-0.6**
TXAR	**Lajitas Array**	**59.69**	**80**	P	**P**	**02 59 50.6**	**-0.3**
	0.4nm,0.6s,mb3.2,baz=307,slow=4.5,SNR=3.5						

IDC 06 03:14:25.9±3.6, 2.72N×97.15E, mb3.4/4, mb1 3.5/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=144.0km s-min=23.7km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.89**	**123**	P	P	03 22 25.9	-2.3
	0.5nm,0.4s,baz=299,slow=9.3,SNR=5.5						
ASAR	**Alice Springs**	**44.36**	**128**	P	P	03 22 38.7	-1.3
	0.2nm,0.6s,baz=300,slow=7.3,SNR=3.3						
SONM	**Songino Array**	**45.64**	**9**	P	P	03 22 48.2	-1.7
	0.3nm,0.4s,baz=189,slow=9.2,SNR=2.7						
MKAR	**Makanchi Array**	**45.76**	**346**	P	P	03 22 49.0	-1.9
	0.3nm,0.4s,baz=159,slow=8.6,SNR=10						

*SOF **06** 03:38:24.9, 41.25N×23.50E, h15km, MD2.6*
*CSEM **06** 03:38:26.2±0.1, 41.35N×23.49E, h15km, ML2.3, Error ellipse: s-maj=3.5km s-min=1.7km az=145.0*
*ATH **06** 03:38:27.8, 41.22N×23.69E, h21km±1km, MD3.2/3*
*THE **06** 03:38:27.2, 41.28N×23.45E, h13km, ML2.3*

ISC 06 03:38:25.7±0.6, 41.30N±0.04×23.52E±0.06, h7km±8km, n16, σ0§55/19, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.26**	**78**	*e*PB	**Pb**	**03 38 32.4**	**+0.2**
NVR				*e*SB	**Sb**	**03 38 36.7**	**+0.1**
MMB	**Musomiste**	**0.33**	**27**	*i* Pg	**Pg**	**03 38 32.7**	**+0.3**
KNT	**Kendrikon**	**0.49**	**254**	*e*Pg	**Pg**	**03 38 35.6**	**+0.1**
SOH	**Sokhos**	**0.49**	**195**	*e*Pg	**Pg**	**03 38 36.2**	**+0.7**
KKB	**Krupnik**	**0.66**	**330**	*i* Pg	**Pg**	**03 38 38.3**	**-0.6**
THE	**Thessaloniki**	**0.79**	**213**	*e*Pg	**Pg**	**03 38 41.6**	**+0.2**
THE				*e*Sg	**Sg**	**03 38 52.2**	**+0.3**
GRG	**Griva**	**0.91**	**249**	*e*Pg	**Pg**	**03 38 43.4**	**-0.6**
GRG	**Griva**	**0.91**	**249**	*e*Pg	**Pg**	**03 38 43.3**	**-0.6**
PLG	**Polygyros**	**0.92**	**184**	*e*PN	**Pn**	**03 38 44.1**	**-0.7**
RZN	**Rozhen**	**0.98**	**66**	*i* Pg	**Pg**	**03 38 46.0**	**+0.8**
OUR	**Ouranopolis**	**1.02**	**160**	*e*Pg	**Pg**	**03 38 46.0**	**0.0**
OUR	**Ouranopolis**	**1.02**	**160**	*e*Pg	**Pg**	**03 38 46.0**	**-0.1**
VTS	**Vitosha**	**1.32**	**350**	*i* P	**Pb**	**03 38 51.0**	**+0.7**
PAIG	**Paliouri**	**1.37**	**175**	*e*Pb	**Pb**	**03 38 51.2**	**0.0**
KDZ	**Kurdzhali**	**1.47**	**75**	Pg	**Pg**	**03 38 53.5**	**-1.5**
RDO	**Rodhopi**	**1.53**	**95**	*e*PN	**Pn**	**03 38 53.5**	**0.0**
RDO				*e*SN	**Sn**	**03 39 13.7**	**0.0**

IDC 06 04:03:34.2±4.3, 1.62N×97.14E, mb3.9/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=158.6km s-min=28.7km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.31**	**122**	P	P	04 11 29.9	-1.8
	0.4nm,0.9s,baz=301,slow=8.9,SNR=2.9						
SONM	**Songino Array**	**46.73**	**9**	P	P	04 12 05.2	-1.6
	2.2nm,0.9s,baz=188,slow=8.9,SNR=14						
MKAR	**Makanchi Array**	**46.82**	**346**	P	P	04 12 05.5	-2.1
	1.3nm,0.7s,baz=158,slow=7.8,SNR=11						

IDC 06 04:04:06.6±1.5, 27.72N×139.89E, h467km±21km, mb2.8/3, mb1 3.0/4, mb1mx2.7/20, mbtmp3.6/4, Error ellipse: s-maj=62.0km s-min=25.8km az=97.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.13**	**106**	P	P	04 05 10.6	+0.7
	23nm,0.3s,baz=292,slow=22,SNR=12						
CBIJ				S	S	04 06 00.3	+0.5
	20nm,0.3s,baz=285,slow=22,SNR=9.7						
WRA	**Warramunga Arr**	**47.68**	**187**	P	P	04 11 59.6	-1.8
	0.4nm,0.5s,baz=2.8,slow=7.7,SNR=4.5						
YKA	**Yellowknife Ar**	**72.56**	**28**	P	P	04 14 44.9	-1.2
	0.2nm,0.6s,baz=295,slow=6.0,SNR=4.7						
FINES	**FINESS Array B**	**76.48**	**333**	P	P	04 15 07.2	-0.9
	0.7nm,0.4s,baz=63,slow=4.3,SNR=9.2						

IDC 06 04:43:07.5±3.5, 0.51N×97.37E, mb3.6/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=124.5km s-min=23.3km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.90**	**5**	P	P	04 47 19.1	-0.6
	0.1nm,0.3s,baz=194,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**41.53**	**121**	P	P	04 50 57.3	-1.4
	0.7nm,0.7s,baz=300,slow=9.3,SNR=4.9						
ASAR	**Alice Springs**	**42.85**	**127**	P	P	04 51 07.4	-2.0
	0.4nm,0.6s,baz=315,slow=7.6,SNR=6.0						
SONM	**Songino Array**	**47.78**	**8**	P	P	04 51 46.7	-1.8
	0.3nm,0.6s,baz=180,slow=5.8,SNR=3.4						
MKAR	**Makanchi Array**	**47.94**	**346**	P	P	04 51 47.4	-2.4
	0.8nm,0.5s,baz=160,slow=7.4,SNR=5.6						

*IDC **06** 04:45:29.1±1.4, 1.33N×98.26E, mb4.1/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, ML3.9/1, Error ellipse: s-maj=63.8km s-min=17.3km az=56.0*
*NEIC **06** 04:45:30.1±1.0, 0.92N×97.45E, h30km, mb4.3/2, Error ellipse: s-maj=26.7km s-min=10.3km az=69.0*

ISC 06 04:45:28.1±1.1, 0.9N±0.1×97.4E±0.2, h30km, n13, σ0§63/13, mb4.1/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.40**	**36**	*e*P	**Pn**	**04 46 49.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**17.49**	**5**	Pn	**P**	**04 49 30.6**	**-1.1**
	0.2nm,0.3s,baz=194,slow=12,SNR=7.8						
SHL	**Shillong**	**25.08**	**348**	*e*	**P**	**04 50 52.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**33.58**	**126**	P	**P**	**04 52 07.3**	**-0.7**
	2.2nm,0.6s,mb4.3,baz=78,slow=22,SNR=7.9						
WRA	**Warramunga Arr**	**41.69**	**122**	P	**P**	**04 53 16.1**	**-0.1**
	2.2nm,0.7s,mb3.9,baz=300,slow=9.0,SNR=9.9						
WRAB	**Tennant Creek**	**41.70**	**122**	*e*P	**P**	**04 53 15.7**	**-0.5**
	5.6nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**43.04**	**127**	P	**P**	**04 53 27.6**	**+0.5**
	1.5nm,0.6s,mb3.9,baz=297,slow=7.6,SNR=12						
SONM	**Songino Array**	**47.38**	**8**	P	**P**	**04 54 01.4**	**-0.1**
	1.2nm,0.7s,mb4.0,baz=188,slow=9.4,SNR=6.1						
SONM	**Songino Array**	**47.38**	**8**	P	**P**	**04 54 01.4**	**-0.1**
MKAR	**Makanchi Array**	**47.57**	**346**	P	**P**	**04 54 03.8**	**+0.8**
	2.1nm,0.5s,mb4.4,baz=160,slow=9.1,SNR=25						
STKA	**Stephens Creek**	**53.00**	**132**	P	**P**	**04 54 45.3**	**+0.7**
	2.4nm,0.6s,mb4.3,baz=308,slow=6.1,SNR=6.9						
CHKZ	**Chkalovo**	**57.06**	**341**	P	**P**	**04 55 13.1**	**-0.7**
	2.3nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**69.47**	**312**	P	**P**	**04 56 42.7**	**+6.8**
	0.3nm,0.4s,mb3.5,baz=104,slow=5.1,SNR=3.6						

*CSEM **06** 04:53:49.3±0.2, 37.78N×48.84E, h20km, ML4.1/2, Error ellipse: s-maj=5.7km s-min=3.8km az=48.0*
*THR **06** 04:53:51.5±1.0, 37.73N×48.42E, h14km±15km, ML2.9*
*TEH **06** 04:54:01.3, 37.59N×49.82E, h10km, Mn3.2*

ISC 06 04:53:51.2±0.7, 37.95N±0.06×48.99E±0.08, h20km, n17, σ1§24/20, Northwestern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**1.21**	**315**	*e*PG	**Pn**	**04 54 12.5**	**-0.7**
GRMI				*e*SG	**Sb**	**04 54 29.2**	**+0.7**
GRMI				AML	AML	04 54 32.8	
	comp=E,342nm,0.1s						
GRMI	**Germi**	**1.21**	**315**	*e*Pg	**Pn**	**04 54 12.5**	**-0.7**
	SNR=90						
GRMI				*e*Sg	**Sb**	**04 54 29.2**	**+0.7**
	comp=E,342nm,0.1s,SNR=90						
IMHD	**Mahdasht**	**2.63**	**149**	Sn	**Sn**	**04 55 00.5**	**-4.8**
IMHD	**Mahdasht**	**2.63**	**149**	Pn	**Pn**	**04 54 35.3**	**+1.7**
IRAZ	**Razeghan**	**2.65**	**163**	Pn	**Pn**	**04 54 30.1**	**-3.8**
IPRN	**Paran-Amol**	**3.11**	**122**	Pn	**Pn**	**04 54 38.9**	**-1.5**
SNGE	**Sanandaj**	**3.15**	**205**	*e*PN	**Pn**	**04 54 37.4**	**-3.4**
SNGE				*e*SG	**Sn**	**04 55 18.2**	**0.0**
SNGE				AML	AML	04 55 21.5	
	comp=N,30nm,0.5s						
SNGE	**Sanandaj**	**3.15**	**205**	*e*Pn	**Pn**	**04 54 37.4**	**-3.4**
	SNR=52						
SNGE				*e*Sg	**Sn**	**04 55 18.2**	**0.0**
	comp=N,30nm,0.5s,SNR=90						
DAMV	**Damavand**	**3.33**	**133**	*e*PN	**Pn**	**04 54 48.4**	**+4.9**
DAMV				AML	AML	04 55 35.7	
	comp=N,33nm,0.3s						
IDMV	**Damavand**	**3.41**	**133**	Pn	**Pn**	**04 54 44.4**	**-0.2**
ASAO	**Ashtian**	**3.50**	**166**	*e*PN	**Pn**	**04 54 47.0**	**+1.1**
ASAO				AML	AML	04 55 38.4	
	comp=N,17nm,0.6s						
IQOM	**Qom**	**3.53**	**151**	Lg		04 55 32.4	
IQOM	**Qom**	**3.53**	**151**	Pn	**Pn**	**04 54 47.5**	**+1.2**
IVRN	**Varamin**	**3.69**	**142**	Pn	**Pn**	**04 54 48.8**	**+0.3**
IFIR	**Firoozkooh**	**3.80**	**126**	Pn	**Pn**	**04 54 49.4**	**-0.8**
IGLO	**Galoogah**	**3.96**	**113**	Pn	**Pn**	**04 54 53.8**	**+1.4**
ISHM	**Shahmirzad**	**4.06**	**121**	Pn	**Pn**	**04 54 52.8**	**-1.1**

*BJI **06** 04:56:45.9, 7.43N×93.46E, h30km, mb4.2*
*NEIC **06** 04:56:49.0±0.6, 7.54N×93.16E, h30km, mb4.5/9, Error ellipse: s-maj=21.4km s-min=7.0km az=60.0*
*IDC **06** 04:56:54.5±6.7, 7.79N×93.42E, h68km±55km, mb3.8/9, mb1 4.0/10, mb1mx3.8/20, mbtmp4.1/10, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/26, Error ellipse: s-maj=55.7km s-min=14.9km az=59.0*

ISC 06 04:56:49.6±4.1, 7.6N±0.1×93.3E±0.2, h50km±36km, n30, σ0§84/28, mb4.4/19, MS3.4/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.11**	**27**	P	**P**	**04 59 43.1**	**+1.1**
	0.6nm,0.3s,baz=213,slow=15,SNR=19						
SHL	**Shillong**	**17.89**	**356**	*e*P	**P**	**05 00 54.7**	**-2.0**
JIRN	**Jiri**	**21.02**	**342**	*e*P	**P**	**05 01 32.2**	**+0.7**
	29nm,0.4s,mb5.0						
PKI	**Pulchoki**	**21.19**	**340**	*e*P	**P**	**05 01 32.9**	**-0.2**
	19nm,0.6s,mb4.6						
DMN	**Daman**	**21.33**	**340**	*e*P	**P**	**05 01 33.7**	**-0.8**
GUN	**Gumba**	**21.35**	**342**	*e*P	**P**	**05 01 35.2**	**+0.4**
	35nm,0.6s,mb4.9						
KKN	**Kakani**	**21.43**	**340**	*e*P	**P**	**05 01 35.3**	**-0.3**
	19nm,0.6s,mb4.6						
GKN	**Gorkha**	**21.85**	**339**	*e*P	**P**	**05 01 39.8**	**+0.1**
	12nm,0.4s,mb4.7						
KOLN	**Koldanda**	**22.03**	**337**	*e*P	**P**	**05 01 43.0**	**+1.5**
	10nm,0.9s,mb4.3						
LSA	**Lhasa**	**22.05**	**355**	*e*P	**P**	**05 01 41.8**	**+0.1**
LSA	**Lhasa**	**22.05**	**355**	*e*P	**P**	**05 01 41.9**	**+0.2**
	10nm,0.9s,mb4.3						
GTA	**Gaotai**	**32.19**	**10**	*e*P	**P**	**05 03 15.8**	**+0.6**
GTA				AP	pP	05 03 24.1	-4.1
GTA				XP	sP	05 03 27.6	-6.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
MBWA	**Marble Bar**	**38.65**	**138**	*e*P	**P**	**05 04 07.7**	**-2.5**
MKAR	**Makanchi Array**	**40.15**	**348**	P	**P**	**05 04 22.1**	**-0.3**
	comp=Z,2.1nm,0.5s,mb4.1,baz=170,slow=8.0,SNR=26						
SONM	**Songino Array**	**41.60**	**13**	P	**P**	**05 04 32.7**	**-1.7**
	comp=Z,0.9nm,0.5s,mb3.6,baz=196,slow=9.4,SNR=6.6						
ZAL	**Zalesovo**	**46.69**	**353**	P	**P**	**05 05 15.8**	**+0.5**
	comp=Z,3.6nm,0.5s,mb4.6,baz=319,slow=3.2,SNR=13						
HIA	**Hailar**	**47.10**	**24**	*e*P	**P**	**05 05 18.4**	**-0.2**
	comp=Z,5.2nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**48.83**	**125**	P	**P**	**05 05 32.3**	**-0.1**
	comp=Z,2.6nm,0.4s,mb4.6,baz=304,slow=8.7,SNR=45						
WRAB	**Tennant Creek**	**48.83**	**125**	*e*P	**P**	**05 05 32.6**	**+0.2**
WB2	**Warramunga Arr**	**48.84**	**125**	*e*P	**P**	**05 05 32.7**	**+0.2**
BVAR	**Borovoye Array**	**48.95**	**342**	P	**P**	**05 05 32.5**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.7,baz=124,slow=5.2,SNR=3.5						
CHKZ	**Chkalovo**	**49.44**	**342**	*e*P	**P**	**05 05 36.1**	**-0.5**
	comp=Z,3.2nm,0.6s,mb4.5						
MJAR	**Matsushiro Arr**	**49.98**	**48**	P	**P**	**05 05 41.1**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.3,baz=238,slow=7.2,SNR=5.6						
MJAR				LR	LR	05 26 43.0	
	comp=Z,39nm,19.0s,MS3.4,slow=36						
ASPA	**Alice Springs**	**50.43**	**129**	*e*P	**P**	**05 05 44.9**	**+0.3**
ASAR	**Alice Springs**	**50.43**	**129**	P	**P**	**05 05 44.9**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.4,baz=302,slow=7.6,SNR=26						
ASAR				PcP	PcP	05 07 03.6	+1.0
	comp=Z,0.6nm,0.5s,baz=311,slow=3.3,SNR=4.8						
STKA	**Stephens Creek**	**60.57**	**133**	P	**P**	**05 06 58.8**	**+1.1**
	comp=Z,0.9nm,0.5s,mb4.2,baz=295,slow=8.3,SNR=7.3						
STKA	**Stephens Creek**	**60.57**	**133**	*e*P	**P**	**05 06 58.1**	**+0.4**
STKA				P		05 06 58.8	
FINES	**FINESS Array B**	**72.53**	**332**	P	**P**	**05 08 13.8**	**+0.9**
	comp=Z,0.5nm,0.4s,mb3.8,baz=108,slow=6.0,SNR=5.2						
NVAR	**Mina Array Bea**	**125.58**	**30**	PKP	PKPdf	05 15 49.0	+2.9
	comp=Z,0.3nm,0.5s,baz=289,slow=4.3,SNR=4.5						
PDAR	**Pinedale Array**	**125.71**	**21**	PKP	PKPdf	05 15 49.1	+3.0
	comp=Z,0.4nm,0.6s,baz=90,slow=1.5,SNR=3.9						

*NEIC **06** 05:10:15.0, 17.00N×95.87W, h50km, MD4.0(MEX), After MEX.*

MEX 06 05:10:15.3±0.5, 16.99N×95.87W, h41km±12km, MD3.9, 2D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.82**	**277**	*i* P	P	05 10 28.5	-2.0
OXX				*i* S	S	05 10 39.0

*MOS **06** 05:15:01.9±1.6, 1.06N×97.22E, h33km, mb4.9/11, Error ellipse: s-maj=22.9km s-min=9.7km az=95.2*
*NEIC **06** 05:15:02.3±0.5, 1.06N×97.18E, mb4.7/15, Error ellipse: s-maj=13.3km s-min=8.0km az=60.0*
ISC 06 05:15:01.2±2.8, 1.10N±0.07×97.19E±0.10, h28km±19km, h27km±3.0km: pP-P, n58, σ1°06/57, mb4.5/33, MS3.9/8, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.41**	**40**	*eP*	**Pn**	**05 16 22.2**	**-0.1**
SNG	**Songkhla**	**6.94**	**29**	P	**Pn**	**05 16 43.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**17.34**	**6**	Pn	**P**	**05 19 02.2**	**-0.9**
	0.3nm,0.3s,baz=191,slow=11,SNR=13						
CMAR				LR	LR	05 25 39.6	
	comp=Z,129nm,20.8s,baz=185,slow=37						
NANT	**Nan**	**17.93**	**11**	⇓P	**P**	**05 19 12.5**	**+2.0**
	188nm,1.0s						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**05 20 21.7**	**+2.2**
KMI				AP		05 20 27.7	
KMI				S	**S**	**05 24 44.4**	**+9.3**
KMI				AMB	AMB		
	comp=Z,32nm,1.0s,mb4.7						
KMI				LR	LR		
	comp=N,478nm,14.1s,MS4.2						
KMI				LR	LR		
	comp=E,253nm,11.0s,MS4.2						
KMI				LR	LR		
	comp=Z,417nm,12.9s,MS4.1						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**05 20 21.7**	**+2.2**
	comp=Z,32nm,1.0s,mb4.7						
KMI				pP		05 20 27.7	
KMI				S	**S**	**05 24 44.4**	**+9.3**
KMI				LR	LR		
	comp=Z,420nm,12.9s,MS4.1						
SHL	**Shillong**	**24.86**	**349**	⇑*iP*	**P**	**05 20 23.0**	**-0.2**
JIRN	**Jiri**	**28.44**	**339**	*eP*	**P**	**05 20 57.2**	**+1.1**
	comp=Z,37nm,1.1s,mb4.9						
PKI	**Pulchoki**	**28.65**	**338**	*eP*	**P**	**05 20 56.9**	**-1.0**
	comp=Z,21nm,1.0s,mb4.8						
PKI	**Pulchoki**	**28.65**	**338**	*eP*	**P**	**05 20 56.9**	**-1.0**
PKI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
DMN	**Daman**	**28.80**	**337**	*eP*	**P**	**05 20 58.4**	**-0.9**
	comp=Z,29nm,1.2s,mb4.9						
KKN	**Kakani**	**28.89**	**338**	*eP*	**P**	**05 20 59.7**	**-0.4**
	comp=Z,34nm,1.0s,mb5.0						
KKN	**Kakani**	**28.89**	**338**	*eP*	**P**	**05 20 59.7**	**-0.4**
KKN				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
LSA	**Lhasa**	**29.02**	**349**	*eP*	**P**	**05 21 03.1**	**+1.8**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**29.02**	**349**	*eP*	**P**	**05 21 03.1**	**+1.8**
	comp=Z,6.5nm,0.8s,mb4.4						
GKN	**Gorkha**	**29.33**	**337**	*eP*	**P**	**05 21 04.2**	**+0.1**
	comp=Z,32nm,1.0s,mb5.0						
KOLN	**Koldanda**	**29.55**	**335**	*eP*	**P**	**05 21 06.8**	**+0.7**
	comp=Z,15nm,0.7s,mb4.8						
ENH	**Enshi**	**31.28**	**21**	*eP*	**P**	**05 21 19.9**	**-1.4**
	comp=Z,8.7nm,0.6s,mb4.8						
ENH				epP	pP	05 21 26.8	-2.7
XAN	**Xi'an**	**34.56**	**17**	P	**P**	**05 21 48.3**	**-1.5**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
LZH	**Lanzhou**	**35.36**	**9**	*eP*	**P**	**05 21 56.0**	**-0.6**
LZH				AP	pP	05 22 08.0	+3.2
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.1						
LZH	**Lanzhou**	**35.36**	**9**	*eP*	**P**	**05 21 56.0**	**-0.6**
	comp=Z,26nm,1.0s,mb5.1						
LZH				pP	pP	05 22 03.5	-1.3
LZH				sP	sP	05 22 08.0	-0.3
GTA	**Gaotai**	**38.21**	**3**	P	**P**	**05 22 30.9**	**+0.3**
GTA				AP	pP	05 22 30.6	+1.8
GTA				PP	PP	05 23 50.3	-1.2
GTA				PPP	PPP	05 24 11.2	-2.6
GTA				S	**S**	**05 28 08.4**	**-3.6**
GTA				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,109nm,6.1s						
GTA				LR	LR		
	comp=N,175nm,14.1s,MS4.2						
GTA				LR	LR		
	comp=E,194nm,16.0s,MS4.2						
GTA				LR	LR		
	comp=Z,177nm,16.0s,MS4.0						
NWAO	**Narrogin (SRO)**	**38.77**	**153**	LR	LR	05 37 29.9	
	comp=Z,105nm,18.1s,MS3.7,baz=129,slow=35						
WRA	**Warramunga Arr**	**41.99**	**122**	P	**P**	**05 22 52.3**	**+0.3**
	comp=Z,3.1nm,0.7s,mb4.0,baz=300,slow=9.1,SNR=26						
WRAB	**Tennant Creek**	**41.99**	**122**	*eP*	**P**	**05 22 49.7**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
WRAB	**Tennant Creek**	**41.99**	**122**	*eP*	**P**	**05 22 49.7**	**-2.4**
	comp=Z,9.5nm,1.1s,mb4.3						
WB2	**Warramunga Arr**	**42.00**	**122**	*eP*	**P**	**05 22 52.7**	**+0.6**
BJT	**Baijiatuau**	**42.42**	**22**	*eP*	**P**	**05 22 56.7**	**+1.4**
BJT				pmax	pmax		
	comp=Z,12nm,0.8s						
BJT	**Baijiatuau**	**42.42**	**22**	*eP*	**P**	**05 22 56.7**	**+1.4**
	comp=Z,12nm,0.8s,mb4.6						
KSH	**Kashi**	**42.86**	**336**	*eP*	**P**	**05 22 58.1**	**-0.9**
KSH				*e*PCP	PcP	05 24 50.0	-0.3
KSH				*e*SCP		05 28 38.0	
KSH				*e*PCS		05 28 41.0	
KSH				*e*S	**S**	**05 29 19.0**	**-2.4**
KSH				*e*SCS	ScS	05 32 55.0	-0.6
KSH				AMB	AMB		
	comp=Z,120nm,1.7s,mb5.3						
KSH				LR	LR		
	comp=N,440nm,5.6s						
KSH				LR	LR		
	comp=E,570nm,4.4s						
ASAR	**Alice Springs**	**43.34**	**127**	P	**P**	**05 23 03.6**	**+0.5**
	comp=E,1.9nm,0.8s,mb3.9,baz=298,slow=7.6,SNR=14						
WMQ	**Urumqi**	**43.38**	**350**	⇓P	**P**	**05 23 04.8**	**+1.7**
WMQ				AP	pP	05 23 12.4	+1.1
WMQ				XP	sP	05 23 15.7	+0.9
WMQ				PP	PP	05 24 47.9	+1.9
WMQ				PCP	PcP	05 24 53.5	+1.6
WMQ				S	**S**	**05 29 30.6**	**+1.8**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,49nm,4.0s						
WMQ				LR	LR		
	comp=N,92nm,21.6s,MS3.9						
WMQ				LR	LR		
	comp=E,146nm,23.0s,MS3.9						
SONM	**Songino Array**	**47.23**	**8**	P	**P**	**05 23 34.5**	**+0.7**
	comp=E,3.5nm,0.9s,mb4.3,baz=190,slow=9.6,SNR=15						
SONM				PcP	PcP	05 25 05.4	+0.1
	comp=E,0.9nm,0.5s,baz=162,slow=3.3,SNR=4.6						
MKAR	**Makanchi Array**	**47.34**	**346**	P	**P**	**05 23 35.2**	**+0.6**
	comp=E,3.6nm,0.7s,mb4.4,baz=158,slow=7.8,SNR=27						
ULN	**Ulaanbaatar**	**47.37**	**9**	*eP*	**P**	**05 23 35.1**	**+0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**47.37**	**9**	*eP*	**P**	**05 23 35.1**	**+0.3**
	comp=Z,3.5nm,0.9s,mb4.3						
ZAK	**Zakamensk**	**49.38**	**5**	*eP*	**P**	**05 23 41.3**	**-9.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s,mb3.5						
CN2	**Changchun**	**49.40**	**27**	*eP*	**P**	**05 23 50.4**	**-0.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CBIJ	**Chichi jima**	**50.29**	**55**	LR	LR	05 43 57.2	
	comp=Z,39nm,18.9s,MS3.4,baz=138,slow=34						
HIA	**Hailar**	**51.74**	**19**	*eP*	**P**	**05 24 08.0**	**-0.4**
HIA				pmax	pmax		
	comp=Z,11nm,1.0s						
HIA	**Hailar**	**51.74**	**19**	*eP*	**P**	**05 24 08.0**	**-0.4**
	comp=Z,11nm,1.0s,mb4.7						
CTA	**Charters Tower**	**52.46**	**116**	LR	LR	05 48 52.4	
	comp=Z,125nm,19.3s,MS4.0,baz=47,slow=39						
STKA	**Stephens Creek**	**53.29**	**132**	P	**P**	**05 24 21.4**	**+1.1**
	comp=Z,2.4nm,0.7s,mb4.3,baz=296,slow=6.5,SNR=6.8						
STKA	**Stephens Creek**	**53.29**	**132**	*eP*	**P**	**05 24 20.7**	**+0.4**
STKA				epP	pP	05 24 27.4	-1.3
ZAL	**Zalesovo**	**53.65**	**351**	P	**P**	**05 24 23.1**	**+0.6**
	comp=Z,3.4nm,0.7s,mb4.4,baz=292,slow=6.5,SNR=22						
ATD	**Arta Tunnel**	**54.90**	**283**	LR	LR	05 42 38.2	
	comp=Z,47nm,18.2s,MS3.6,baz=107,slow=30						
BVAR	**Borovoye Array**	**56.35**	**341**	P	**P**	**05 24 40.9**	**-1.3**
	comp=Z,2.1nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=13						
KLR	**Kul'dur**	**56.35**	**27**	*eP*	**P**	**05 24 37.7**	**-4.6**
CHKZ	**Chkalovo**	**56.82**	**341**	*eP*	**P**	**05 24 44.6**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
CHKZ	**Chkalovo**	**56.82**	**341**	*eP*	**P**	**05 24 44.5**	**-1.1**
	comp=Z,7.2nm,1.0s,mb4.7						
BOD	**Bodaibo**	**58.11**	**11**	*eP*	**P**	**05 24 53.3**	**-1.3**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
BRTR	**Keskin Array B**	**69.18**	**312**	P	**P**	**05 26 07.0**	**-0.6**
	comp=Z,0.2nm,0.4s,mb3.4,baz=100,slow=8.8,SNR=2.3						
MATP	**Matopo**	**70.48**	**248**	P	**P**	**05 26 15.8**	**-0.1**
	comp=Z,3.8nm,1.0s,mb4.3,baz=135,slow=10,SNR=4.7						
MATP	**Matopo**	**70.48**	**248**	P	**P**	**05 26 15.8**	**-0.1**
RPZ	**Rata Peaks**	**79.14**	**135**	LR	LR	06 02 19.8	
	comp=Z,178nm,19.6s,MS4.4,baz=187,slow=36						
FINES	**FINESS Array B**	**80.09**	**333**	P	**P**	**05 27 09.9**	**0.0**
	comp=Z,5.2nm,1.2s,mb4.3,baz=72,slow=4.4,SNR=2.7						
GERES	**GERESS Array B**	**84.89**	**319**	P	**P**	**05 27 36.0**	**+1.0**
	comp=Z,0.4nm,0.2s,mb4.2,baz=121,slow=5.7,SNR=3.1						
TXAR	**Lajitas Array**	**143.76**	**32**	PKP	PKPdf	05 34 35.1	-4.3
	comp=Z,0.3nm,0.5s,baz=64,slow=2.3,SNR=3.8						

*IDC **06** 05:26:18.5±1.2, 1.88N×96.51E, mb4.1/9, mb1 4.2/10, mb1mx4.1/19, mbtmp4.1/10, ML4.2/1, Error ellipse: s-maj=50.1km s-min=19.7km az=54.0*
*NEIC **06** 05:26:23.1±0.5, 1.92N×96.65E, h30km, mb4.3/6, Error ellipse: s-maj=13.7km s-min=8.3km az=54.0*
ISC 06 05:26:22.0±0.7, 2.0N±0.1×96.7E±0.1, h33km, n21, σ0°62/20, mb4.2/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.18**	**50**	*eP*	**P**	**05 27 38.3**	**-1.0**
CM31	**Chiang Mai Arr**	**16.55**	**8**	*eP*	**P**	**05 30 14.0**	**+0.7**
	7.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.55**	**8**	Pn	**P**	**05 30 14.5**	**+1.2**
	0.3nm,0.3s,baz=197,slow=11,SNR=37						
JIRN	**Jiri**	**27.45**	**340**	*eP*	**P**	**05 32 07.4**	**+0.2**
	18nm,0.8s,mb4.6						
PKI	**Pulchoki**	**27.66**	**338**	*eP*	**P**	**05 32 09.0**	**-0.1**
DMN	**Daman**	**27.80**	**338**	*eP*	**P**	**05 32 10.6**	**+0.2**
	7.7nm,0.9s,mb4.3						
KKN	**Kakani**	**27.90**	**338**	*eP*	**P**	**05 32 11.2**	**-0.1**
	5.2nm,0.4s,mb4.5						
GKN	**Gorkha**	**28.34**	**337**	*eP*	**P**	**05 32 15.7**	**+0.5**
	7.5nm,0.5s,mb4.6						
KOLN	**Koldanda**	**28.55**	**335**	*eP*	**P**	**05 32 16.9**	**-0.2**
	10nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**42.90**	**122**	P	**P**	**05 34 19.7**	**+0.2**
	1.2nm,0.7s,mb3.8,baz=301,slow=9.1,SNR=7.6						
WRAB	**Tennant Creek**	**42.90**	**122**	P	**P**	**05 34 19.6**	**0.0**
ASAR	**Alice Springs**	**44.28**	**127**	P	**P**	**05 34 31.1**	**+0.4**
	0.4nm,0.5s,mb3.4,baz=307,slow=9.2,SNR=4.7						
MKAR	**Makanchi Array**	**46.38**	**346**	P	**P**	**05 34 46.9**	**-0.2**
	7.7nm,0.7s,mb4.7,baz=161,slow=7.7,SNR=52						
SONM	**Songino Array**	**46.47**	**9**	P	**P**	**05 34 47.8**	**+0.1**
	3.1nm,0.8s,mb4.3,baz=187,slow=8.9,SNR=27						
ZAL	**Zalesovo**	**52.73**	**351**	P	**P**	**05 35 35.6**	**0.0**
	4.0nm,0.5s,mb4.6,baz=302,slow=5.4,SNR=16						
BVAR	**Borovoye Array**	**55.36**	**341**	P	**P**	**05 35 53.7**	**-1.4**
	1.9nm,0.7s,mb4.2,baz=127,slow=7.4,SNR=12						
CHKZ	**Chkalovo**	**55.84**	**342**	*eP*	**P**	**05 35 57.4**	**-1.1**
	3.4nm,0.8s,mb4.4						
BRTR	**Keskin Array B**	**68.20**	**312**	P	**P**	**05 37 20.9**	**-0.5**
	0.7nm,0.7s,mb3.8,baz=127,slow=6.2,SNR=3.6						
FINES	**FINESS Array B**	**79.08**	**333**	P	**P**	**05 38 24.5**	**0.0**
	1.9nm,0.7s,mb4.1,baz=135,slow=2.7,SNR=6.6						
GERES	**GERESS Array B**	**83.89**	**319**	P	**P**	**05 38 50.9**	**+1.0**
	0.4nm,0.6s,mb3.7,baz=90,slow=6.7,SNR=3.9						
TXAR	**Lajitas Array**	**143.31**	**30**	PKP	PKPdf	05 45 53.3	-0.3
	0.1nm,0.5s,baz=346,slow=3.7,SNR=2.9						

ISC 06 05:59:20.2±0.9, 36.93N±0.09×35.26E±0.05, h10km, n6, σ1°12/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.40**	**78**	PG	**Pg**	**05 59 28.4**	**0.0**
CEYT				SG	**Sg**	**05 59 35.1**	**+1.4**
COBT	**Iskenderun**	**0.90**	**117**	*i* P	**Pb**	**05 59 37.3**	**-0.2**
COBT				*i* S	**Sb**	**05 59 50.2**	**+1.0**
MEST	**Erdemli**	**0.96**	**249**	*i* P	**Pb**	**05 59 38.0**	**-0.5**
MEST				*i* S	**Sb**	**05 59 52.4**	**+1.3**
HTY	**Hatay**	**1.07**	**139**	*e*PG	**Pg**	**05 59 40.4**	**-1.3**
KAHT	**Ahir Dag**	**1.46**	**61**	*i* P	**Pn**	**05 59 46.9**	**+0.1**
GAZ	**Gaziantep**	**1.58**	**81**	*e*PN	**Pn**	**05 59 46.0**	**-2.5**

IDC 06 06:09:11.1±4.9, 31.52S×138.47E, mb1 3.1/3, mb1mx3.1/12, mbtmp2.8/3, ML2.9/3, Error ellipse: s-maj=73.9km s-min=16.9km az=30.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.69**	**98**	Pn	Pn	06 09 55.3	-1.0
	2.0nm,0.3s,baz=258,slow=15,SNR=9.7						
STKA				Sn	Sn	06 10 28.4	-1.6
	2.3nm,0.3s,baz=279,slow=12,SNR=4.3						
STKA				Lg		06 10 37.0	
	4.2nm,0.3s,baz=185,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**8.81**	**332**	Pn	P	06 11 21.3	-1.4
	0.1nm,0.3s,baz=148,slow=14,SNR=6.2						
ASAR				Sn	Sn	06 12 58.6	-5.3
	0.2nm,0.3s,baz=159,slow=23,SNR=3.8						
WRA	**Warramunga Arr**	**12.12**	**341**	Pn	P	06 12 04.6	-3.4
	0.1nm,0.3s,baz=156,slow=13,SNR=3.8						
WRA				Sn	S	06 14 21.9	-3.2
	0.0nm,0.3s,baz=162,slow=24,SNR=2.5						

DJA 06 06:17:25.2±1.0, 8.32S×116.13E, h98km±8km, MD4.7/3, 5C-1D, Error ellipse: s-maj=54.0km s-min=18.1km az=171.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.17**	**184**	⇑*e*Pg	P	06 17 39.2	+0.1
	224nm,0.2s						
KEDI				⇑*e*Sg	S	06 17 47.9	-1.6
RATI	**Rata**	**0.71**	**235**	⇑*e*Pg	P	06 17 42.2	-0.5
	128nm,0.2s						
RATI				⇑*e*Sg	S	06 17 55.5	-0.3
SRDI	**Scrawed**	**1.97**	**265**	⇓*e*Pn	P	06 17 57.1	-0.6
SRDI				⇑*e*Sn	S	06 18 21.1	-0.7

*NEIC **06** 06:19:35.3±3.3, 36.12N×71.31E, h90km±31km, mb4.4/1, Error ellipse: s-maj=48.4km s-min=7.2km az=60.0*
*IDC **06** 06:19:56.4±19.0, 37.26N×71.13E, h222km±123km, mb3.2/3, mb1 3.1/5, mb1mx2.9/20, mbtmp3.6/5, Error ellipse: s-maj=191.8km s-min=44.0km az=3.0*
ISC 06 06:19:36.6±0.6, 36.17N±0.04×71.4E±0.1, h120km±11km, n30, σ0°91/31, mb3.6/3, 2C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.38**	**170**	⇓P	**P**	**06 20 16.4**	**+0.8**
CHCP	**Chirah Chowk**	**2.94**	**148**	⇑P	**P**	**06 20 25.6**	**+2.5**
THW	**Thamme Wali**	**3.38**	**175**	⇓P	**P**	**06 20 28.6**	**-0.4**
SBDP	**Sheikh Budin**	**3.89**	**187**	⇓P	**P**	**06 20 35.7**	**-0.1**
SARP	**Sargodha**	**4.37**	**166**	⇓P	**P**	**06 20 41.2**	**-1.1**
DRP	**Derazinda**	**4.53**	**193**	⇓P	**P**	**06 20 43.5**	**-0.9**
THN	**Thein Dam**	**5.17**	**135**	*e*	**P**	**06 20 54.1**	**+1.1**
THN				*e*		06 21 53.6	
PONG	**Pong**	**5.66**	**137**	*eP*	**P**	**06 21 02.0**	**+2.5**
PONG				*e*		06 22 05.0	
AML	**Almayashu**	**6.21**	**16**	P	**P**	**06 21 07.2**	**+0.1**
	SNR=40						
UCH	**Uchtor**	**6.51**	**21**	P	**P**	**06 21 11.7**	**+0.4**
	SNR=6.2						
SDNR	**Sundarnagar**	**6.57**	**134**	*e*	**P**	**06 21 11.0**	**-1.1**
SDNR				*e*		06 22 22.2	
EKS2	**Erkin-Say**	**6.74**	**15**	P	**P**	**06 21 14.4**	**+0.1**
	SNR=8.8						
AAK	**Ala-Archa**	**6.88**	**19**	*eP*	**P**	**06 21 15.4**	**-0.9**
	12nm,0.4s						
SMLA	**Simla**	**6.96**	**135**	⇑*i*	**P**	**06 21 09.5**	**-7.9**
SMLA				*i* S	**S**	**06 22 25.1**	**-10**
	375nm,0.3s						
CHMS	**Chumysh**	**7.29**	**20**	P	**P**	**06 21 22.1**	**+0.3**
	SNR=6.0						
USP	**Ospenovka**	**7.48**	**18**	P	**P**	**06 21 24.4**	**0.0**
	SNR=5.6						
KOLN	**Koldanda**	**13.31**	**126**	*eP*	**P**	**06 22 41.3**	**-0.5**
	5.9nm,0.3s						
MKAR	**Makanchi Array**	**13.38**	**34**	P	**P**	**06 22 49.1**	**+6.7**
	0.1nm,0.3s,baz=220,slow=11,SNR=4.3						
GKN	**Gorkha**	**13.86**	**122**	*eP*	**P**	**06 22 47.9**	**-0.9**
	16nm,0.3s						
DMN	**Daman**	**14.43**	**122**	*eP*	**P**	**06 22 56.3**	**+0.2**
	9.2nm,0.3s						
KKN	**Kakani**	**14.43**	**121**	*eP*	**P**	**06 22 55.6**	**-0.6**
	4.0nm,0.2s						
PKI	**Pulchoki**	**14.66**	**122**	*eP*	**P**	**06 22 58.9**	**-0.2**
	7.1nm,0.2s						
JIRN	**Jiri**	**15.15**	**120**	*eP*	**P**	**06 23 04.9**	**-0.4**
	18nm,0.3s						
BVAR	**Borovoye Array**	**16.86**	**358**	P	**P**	**06 23 25.2**	**-1.3**
	0.2nm,0.3s,baz=162,slow=12,SNR=3.8						
BVAR	**Borovoye Array**	**16.86**	**358**	P	**P**	**06 23 25.2**	**-1.3**
FINES	**FINESS Array B**	**37.93**	**326**	P	**P**	**06 26 43.8**	**+0.3**
	2.0nm,0.9s,mb4.0,baz=108,slow=8.8,SNR=4.8						
NB2	**NORSAR Subarra**	**44.83**	**323**	P	**P**	**06 27 40.0**	**+0.1**
	0.7nm,0.5s,mb3.6,baz=97,slow=7.4						
NOA	**NORSAR Array B**	**44.83**	**323**	P	**P**	**06 27 40.1**	**+0.3**
	1.3nm,0.9s,mb3.6,baz=108,slow=7.0,SNR=3.1						
YKA	**Yellowknife Ar**	**81.56**	**3**	P	**P**	**06 31 43.2**	**+1.6**
	0.2nm,0.5s,mb3.2,baz=350,slow=5.4,SNR=8.8						
YKA	**Yellowknife Ar**	**81.56**	**3**	P	**P**	**06 31 43.2**	**+1.6**

*IDC **06** 06:20:17.9±2.4, 1.05N×97.14E, mb4.0/6, mb1 4.2/7, mb1mx4.0/20, mbtmp4.0/7, ML4.7/1, MS3.1/1, Ms1 3.3/1, ms1mx2.9/18, Error ellipse: s-maj=109.4km s-min=17.5km az=56.0*
ISC 06 06:20:20.8±1.7, 1.1N±0.2×97.2E±0.4, h33km, n8, σ0°68/8, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.35**	**6**	P	**P**	**06 24 22.1**	**-0.1**
	0.9nm,0.3s,baz=196,slow=12,SNR=10						
CMAR				LR	LR	06 30 58.1	
	comp=Z,61nm,20.1s,baz=195,slow=37						
SHL	**Shillong**	**24.86**	**349**	*e*	**P**	**06 25 42.0**	**0.0**
FITZ	**Fitzroy Crossi**	**33.90**	**126**	P	**P**	**06 27 01.8**	**-1.2**
	2.8nm,0.8s,mb4.3,baz=353,slow=16,SNR=3.2						
WRA	**Warramunga Arr**	**42.02**	**122**	P	**P**	**06 28 11.3**	**+0.2**
	1.0nm,0.6s,mb3.6,baz=301,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**43.37**	**127**	P	**P**	**06 28 23.1**	**+1.0**
	0.8nm,0.6s,mb3.6,baz=296,slow=7.9,SNR=8.4						
MKAR	**Makanchi Array**	**47.34**	**346**	P	**P**	**06 28 53.8**	**+0.4**
	2.3nm,0.7s,mb4.2,baz=159,slow=9.0,SNR=16						
ZAL	**Zalesovo**	**53.66**	**351**	P	**P**	**06 29 42.0**	**+0.6**
	2.3nm,0.7s,mb4.2,baz=283,slow=6.7,SNR=12						
BVAR	**Borovoye Array**	**56.34**	**341**	P	**P**	**06 30 00.0**	**-0.9**
	1.6nm,0.7s,mb4.1,baz=135,slow=10,SNR=7.4						

IDC 06 06:22:19.0±51.0, 19.59S×177.20E, mb4.0/3, mb1 4.2/3, mb1mx3.7/15, mbtmp4.0/3, Error ellipse: s-maj=903.3km s-min=139.3km az=79.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.18**	**242**	P	P	06 29 06.2	-2.0
	1.0nm,0.4s,baz=63,slow=9.0,SNR=4.5						
WRA	**Warramunga Arr**	**40.26**	**262**	P	P	06 29 57.9	-1.7
	0.8nm,0.4s,baz=97,slow=7.9,SNR=28						
ASAR	**Alice Springs**	**40.34**	**256**	P	P	06 29 58.6	-1.6
	1.2nm,0.4s,baz=87,slow=8.7,SNR=27						

*IDC **06** 06:25:29.9±3.2, 63.19N×151.52W, mb3.1/1, mb1 3.4/3, mb1mx3.2/20, mbtmp2.9/3, ML2.9/2, Error ellipse: s-maj=43.8km s-min=25.1km az=111.0*
*NEIC **06** 06:25:29.5, 63.14N×151.50W, h9km, ML3.5(PMR), ML3.1(AEIC), After AEIC.*
ISC 06 06:25:29.9±0.7, 63.18N±0.03×151.50W±0.07, h20km±7km, n47, σ0°76/53, mb3.2/1, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	**0.46**	**34**	P	**Pb**	**06 25 39.1**	**0.0**
KTH				S	**Sb**	**06 25 45.9**	**+0.5**
TRF	**Thorofare Moun**	**0.61**	**63**	P	**Pb**	**06 25 41.5**	**-0.2**
TRF				S	**Sb**	**06 25 50.0**	**+0.2**
HUR	**Hurricane**	**0.87**	**103**	P	**Pb**	**06 25 45.5**	**-0.7**
CUT	**Chulitna**	**0.96**	**143**	P	**Pb**	**06 25 46.8**	**-0.9**
RND	**Reindeer**	**1.22**	**78**	P	**Pn**	**06 25 52.0**	**+0.1**
MCK	**McKinley**	**1.28**	**63**	P	**Pn**	**06 25 53.2**	**+0.4**
MCK				S	**Sb**	**06 26 10.5**	**+1.4**
BWN	**Browne**	**1.35**	**41**	P	**Pn**	**06 25 54.8**	**+1.0**
STLK	**Strandline Lak**	**1.69**	**185**	P	**Pn**	**06 25 58.6**	**-0.1**
PWA	**Palmer West**	**1.71**	**153**	P	**Pn**	**06 25 58.4**	**-0.6**
NEA	**Nenana**	**1.77**	**36**	P	**Pn**	**06 25 59.3**	**-0.5**
GHO	**Glory Hole Cre**	**1.85**	**139**	P	**Pn**	**06 26 00.9**	**-0.1**
MLY	**Manley**	**1.89**	**10**	P	**Pn**	**06 26 02.1**	**+0.6**
PMR	**Palmer**	**1.94**	**144**	P	**Pn**	**06 26 02.0**	**-0.2**
PMR			

CPCH	**Copiapo**	**1.87**	**176**	*e*P	**P**	**06 41 17.7 +0.2**
CPCH				*i* S	**S**	**06 41 40.6 +0.7**
CPCH				AMP		06 41 42.7
	comp=E,14μm,0.1s					
LVC	**Limon Verde**	**3.21**	**27**	P	**P**	**06 41 37.0 +0.5**
	comp=E,7.9nm,0.3s,baz=203,slow=8.4,SNR=92					
LVC				S	**S**	**06 42 13.1 -0.6**
	comp=E,47nm,0.3s,baz=193,slow=14,SNR=4.1					
LVC	**Limon Verde**	**3.21**	**27**	*e*P	**P**	**06 41 36.5 +0.1**
LVC	**Limon Verde**	**3.21**	**27⇑**	*i*P	**P**	**06 41 36.6 +0.2**
LVC				*i* S	**S**	**06 42 14.7 +1.0**
LVC				AMP		06 42 35.2
	comp=N,1μm,0.4s					
SPCH	**San Pedro de A**	**3.32**	**40**	*e*P	**P**	**06 41 39.0 +1.0**
LCO	**Las Campanas**	**3.51**	**183**	*e*P	**P**	**06 41 40.6 0.0**
LCO				*i* S	**S**	**06 42 20.6 -0.6**
LCO				AMP		06 43 00.6
	comp=E,408nm,0.5s					
TLL	**Tololo Astrono**	**4.67**	**183**	*e*P	**P**	**06 41 56.6 -0.1**
CFAA	**Coronel Fontan**	**6.41**	**162**	P	**P**	**06 42 20.6 -0.3**
	comp=E,0.8nm,0.3s,baz=336,slow=14,SNR=33					
CFAA				S	**S**	**06 43 34.1 +0.7**
	comp=E,0.5nm,0.3s,baz=246,slow=19,SNR=4.9					
ARE	**Arequipa**	**9.03**	**354**	P	**P**	**06 43 04.0 +7.1**
LPAZ	**La Paz**	**9.42**	**14**	*e*P	**P**	**06 43 01.6 -0.7**
	comp=E,0.3nm,0.3s,baz=194,slow=8.0,SNR=10					
LPAZ	**La Paz**	**9.42**	**14**	*e*P	**P**	**06 43 00.9 -1.3**
	comp=E,6.0nm,0.8s					
SIV	**San Ignacio**	**12.92**	**45**	P	**P**	**06 43 43.6 -5.9**
	comp=E,0.7nm,0.3s,baz=235,slow=12,SNR=41					
SIV				S	**S**	**06 45 57.1 -15**
	comp=E,0.1nm,0.3s,baz=135,slow=20,SNR=2.6					
TRQA	**Tornquist**	**14.47**	**152**	*e*P	**P**	**06 44 07.0 -2.5**
	comp=E,11nm,1.2s					
TRQA				*e*		06 44 15.1
SAML	**Samuel**	**17.86**	**24**	*e*P	**P**	**06 44 52.6 0.0**
	comp=E,4.5nm,1.3s					
BDFB	**Brasilia**	**23.19**	**69**	P	**P**	**06 45 47.8 -0.8**
	comp=E,1.6nm,0.4s,mb3.7,baz=256,slow=8.5,SNR=5.1					
BDFB				pP		06 46 04.0
	comp=E,1.9nm,0.5s,baz=214,slow=8.2,SNR=2.3					
OTAV	**Otavalo**	**26.70**	**342**	P	**P**	**06 46 21.4 -0.6**
	comp=E,4.4nm,1.3s,mb3.8					
MAW	**Mawson**	**80.94**	**164**	P	**P**	**06 52 56.3 +1.4**
	comp=E,1.7nm,0.8s,mb3.9,baz=239,slow=8.7,SNR=7.0					
YKA	**Yellowknife Ar**	**94.46**	**341**	P	**P**	**06 54 01.2 +1.1**
	comp=E,0.1nm,0.5s,mb3.4,baz=140,slow=4.7,SNR=5.9					
YKA				pP	pP	06 54 18.0 -1.7
WRA	**Warramunga Arr**	**128.79**	**210**	PKP	PKPdf	06 59 49.5 +2.1
	comp=E,0.2nm,0.3s,baz=151,slow=1.8,SNR=8.8					
MKAR	**Makanchi Array**	**149.68**	**38**	PKPbc	PKPdf	07 00 31.3 +7.4
	comp=E,1.5nm,0.6s,baz=346,slow=2.6,SNR=11					
MKAR				pPKPbc		07 00 48.8
	comp=E,0.8nm,0.5s,baz=297,slow=2.7,SNR=5.2					

*NEIC **06** 07:02:38.0,52.83N×163.56W,h43km,ML3.3(AEIC),After AEIC.*
*IDC **06** 07:02:45.7±13.0,53.07N×161.12W,mb3.3/3,mb1 3.7/4, mb1mx3.4/23,mbtmp3.3/4,ML3.0/1,Error ellipse: s-maj=236.1km s-min=40.4km az=80.0*
ISC 06 07:02:35.3±2.9,52.81N±0.10×163.58W±0.09, h24km±22km,n15,σ0°59/19,mb3.2/3,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESS	**West Dahl Sout**	**1.81**	**338**	P	**Pn**	**07 03 06.0**	**+0.6**
WESS				S	**Sn**	**07 03 28.9**	**+1.1**
WESN	**West Dahl Nort**	**1.86**	**342**	P	**Pn**	**07 03 06.7**	**+0.5**
AKUT	**Akutan**	**1.86**	**316**	P	**Pn**	**07 03 06.8**	**+0.5**
AKUT				S	**Sn**	**07 03 29.0**	**-0.3**
SSLW	**Shishaldin Wes**	**1.99**	**351**	P	**Pn**	**07 03 08.1**	**0.0**
UNV	**Unalaska Valle**	**2.04**	**302**	P	**Pn**	**07 03 08.7**	**-0.1**
UNV				S	**Sn**	**07 03 32.9**	**-0.8**
FALS	**False Pass**	**2.05**	**3**	P	**Pn**	**07 03 08.9**	**-0.1**
MSW	**Makushin Switc**	**2.22**	**301**	P	**Pn**	**07 03 11.9**	**+0.6**
MSW				S	**Sn**	**07 03 37.7**	**-0.6**
DT1	**Dutton Round H**	**2.42**	**18**	P	**Pn**	**07 03 13.5**	**-0.8**
DTNA	**Dutton South F**	**2.47**	**18**	P	**Pn**	**07 03 14.3**	**-0.6**
HAG	**Hague Volcano**	**2.70**	**21**	P	**Pn**	**07 03 18.3**	**+0.1**
SDPT	**Sand Point**	**3.13**	**34**	P	**Pn**	**07 03 23.8**	**-0.6**
ILAR	**Eielson Array**	**14.72**	**29**	Pn	**P**	**07 05 59.1**	**-4.4**
	0.0nm,0.3s,baz=215,slow=14,SNR=2.8						
YKA	**Yellowknife Ar**	**27.27**	**50**	P	**P**	**07 08 19.0**	**-0.3**
	0.2nm,0.7s,mb2.8,baz=266,slow=8.7,SNR=5.4						
PDAR	**Pinedale Array**	**36.84**	**84**	P	**P**	**07 09 44.1**	**+1.0**
	0.6nm,0.6s,mb3.6,baz=290,slow=5.1,SNR=6.5						
TXAR	**Lajitas Array**	**49.23**	**94**	P	**P**	**07 11 23.3**	**-0.3**
	0.1nm,0.5s,mb3.1,baz=304,slow=5.4,SNR=4.3						

*IDC **06** 07:08:08.0±11.0,7.91N×93.92E,mb3.6/3,mb1 3.7/4, mb1mx3.5/19,mbtmp3.6/4,ML4.1/1,Error ellipse: s-maj=220.2km s-min=82.6km az=158.0*
*NEIC **06** 07:08:16.8±1.4,8.39N×93.89E,h30km,mb4.0/5,Error ellipse: s-maj=30.0km s-min=11.7km az=220.0*
ISC 06 07:08:14.5±8.1,8.4N±0.2×94.0E±0.2,h27km±63km,n12, σ0°68/12,mb3.8/5,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.34**	**115**	P	**Pn**	**07 10 02.8**	**0.0**
CMAR	**Chiang Mai Arr**	**11.07**	**25**	Pn	**P**	**07 10 54.3**	**-0.1**
	0.4nm,0.3s,baz=210,slow=13,SNR=4.2						
JIRN	**Jiri**	**20.48**	**340**	*e*P	**P**	**07 12 52.9**	**-0.2**
	4.4nm,0.4s						
PKI	**Pulchoki**	**20.67**	**338**	*e*P	**P**	**07 12 55.8**	**+0.7**
	11nm,0.6s						
DMN	**Daman**	**20.82**	**337**	*e*P	**P**	**07 12 57.2**	**+0.6**
	9.8nm,0.8s						
KKN	**Kakani**	**20.92**	**338**	*e*P	**P**	**07 12 57.8**	**+0.1**
	12nm,0.8s						
GKN	**Gorkha**	**21.36**	**337**	*e*P	**P**	**07 13 00.6**	**-1.5**
	15nm,1.0s,mb4.3						
KOLN	**Koldanda**	**21.57**	**334**	*e*P	**P**	**07 13 04.9**	**+0.6**
	9.8nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**39.50**	**347**	P	**P**	**07 15 43.4**	**-1.2**
	0.6nm,0.7s,mb3.5,baz=160,slow=8.2,SNR=4.6						
MKAR	**Makanchi Array**	**39.50**	**347**	P	**P**	**07 15 43.4**	**-1.2**
SONM	**Songino Array**	**40.65**	**13**	P	**P**	**07 15 54.5**	**+0.4**
	0.2nm,0.5s,mb3.0,baz=207,slow=6.4,SNR=2.3						
ZAL	**Zalesovo**	**45.96**	**352**	P	**P**	**07 16 37.5**	**+0.5**
	1.2nm,0.8s,mb3.9,baz=278,slow=10,SNR=4.3						

*IDC **06** 07:17:39.5±3.3,17.39N×92.96E,mb4.0/4,mb1 4.1/5, mb1mx3.8/20,mbtmp3.9/5,ML3.9/1,Error ellipse: s-maj=77.2km s-min=37.7km az=13.0*
ISC 06 07:17:42.9±1.3,17.9N±0.2×93.1E±0.1,h33km,n13, σ1°32/13,mb3.9/4,1D,Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.61**	**83**	Pn	**Pn**	**07 19 06.9**	**+0.7**
	0.9nm,0.3s,baz=261,slow=14,SNR=22						
CHG	**Chiang Mai**	**5.65**	**80**	⇓P	**P**	**07 19 20.7**	**+14**
	24nm,0.7s						
BDT	**Bhumibol Dam**	**5.69**	**95**	P	**P**	**07 19 06.5**	**-0.7**
NNT	**Nongplab**	**8.30**	**128**	P	**P**	**07 19 42.5**	**-1.3**
JIRN	**Jiri**	**11.62**	**328**	*e*P	**P**	**07 20 29.1**	**-0.3**
	26nm,0.3s						
PKI	**Pulchoki**	**11.96**	**325**	*e*P	**P**	**07 20 33.1**	**-0.9**
	15nm,0.2s						
DMN	**Daman**	**12.15**	**324**	*e*P	**P**	**07 20 35.3**	**-1.3**
	30nm,0.6s						
KKN	**Kakani**	**12.20**	**325**	*e*P	**P**	**07 20 36.8**	**-0.5**
	6.9nm,0.2s						
GKN	**Gorkha**	**12.72**	**324**	*e*P	**P**	**07 20 42.9**	**-1.3**
MKAR	**Makanchi Array**	**30.18**	**345**	P	**P**	**07 23 56.0**	**+3.7**
	2.0nm,0.6s,mb4.0,baz=154,slow=9.9,SNR=15						
BVAR	**Borovoye Array**	**39.29**	**338**	P	**P**	**07 25 12.1**	**+1.9**
	0.4nm,0.5s,mb3.4,baz=141,slow=9.5,SNR=4.0						
FINES	**FINESS Array B**	**63.49**	**330**	P	**P**	**07 28 13.6**	**+1.8**
	2.0nm,0.9s,mb4.2,baz=79,slow=7.1,SNR=2.8						
GERES	**GERESS Array B**	**69.81**	**316**	P	**P**	**07 28 54.0**	**+2.0**
	0.4nm,0.3s,mb3.9,baz=76,slow=5.5,SNR=6.4						

*IDC **06** 07:17:47.6±1.4,10.22N×91.54E,mb4.2/9,mb1 4.3/9, mb1mx4.1/20,mbtmp4.2/9,MS3.8/10,Ms1 3.8/10, ms1mx3.4/39,Error ellipse: s-maj=68.7km s-min=15.3km az=60.0*
*BJI **06** 07:17:50.8,10.24N×91.63E,h29km,mB4.7,mb4.5,Ms4.2, Msz3.8*
*NEIC **06** 07:17:52.9±3.0,10.24N×91.58E,h35km±22km,mb4.8/8, Error ellipse: s-maj=11.6km s-min=7.1km az=59.0*
ISC 06 07:17:50.4±0.4,10.19N±0.05×91.50E±0.04,h33km,n56, σ1°12/57,mb4.5/20,MS3.9/12,1C-1D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.90**	**40**	*e*P	**P**	**07 18 21.9**	**+0.9**
PBA				*e*S	**S**	**07 18 44.6**	**+0.5**
KULM	**Kulim**	**10.29**	**118**	*e*P	**P**	**07 20 18.2**	**-0.8**
VIS	**Vishakhapatnam**	**10.90**	**314**	*e*P	**P**	**07 20 25.1**	**-2.2**
VIS				*e*S	**S**	**07 22 15.3**	**-14**
VIS				*e*		07 22 20.1
	comp=N,145nm,0.3s					
VIS				*e*		07 22 20.3
	comp=E,153nm,0.2s					
CMAR	**Chiang Mai Arr**	**10.93**	**40**	LR	LR	07 24 48.2
	comp=E,214nm,21.9s,baz=220,slow=39					
PALK	**Pallekele**	**11.06**	**256**	*e*P	**P**	**07 20 29.6**	**+0.2**
	comp=E,22nm,0.6s					
PALK				*e*S	**S**	**07 22 22.8**	**-10**
BWNR	**Bhubaneshwar**	**11.45**	**332**	*e*P	**P**	**07 20 32.0**	**-2.7**
BWNR				*e*S	**S**	**07 22 29.0**	**-13**
BWNR				*e*		07 22 32.6
	comp=E,561nm,0.5s					
BWNR				*e*		07 22 33.1
	comp=N,389nm,0.5s					
NANT	**Nan**	**12.35**	**45**	P	**P**	**07 20 48.0**	**+1.1**
	comp=N,62nm,0.9s					
HYB	**Hyderabad**	**14.47**	**301**	*e*P	**P**	**07 21 06.0**	**-9.0**
HYB				*e*S	**S**	**07 23 42.0**	**-13**
HYB	**Hyderabad**	**14.47**	**301**	*i*P	**P**	**07 21 06.0**	**-9.0**
HYB				*e*S	**S**	**07 23 54.0**	**-1.2**
BLSP	**Bilaspur**	**14.89**	**324**	*e*P	**P**	**07 21 20.1**	**-0.3**
BLSP				*i*		07 21 29.4
	comp=Z,21nm,0.7s					
BLSP				*e*		07 23 51.5
NGP	**Nagpur**	**16.19**	**314**	*e*P	**P**	**07 21 38.6**	**+1.5**
NGP				*e*		07 21 50.6
	comp=Z,25nm,1.1s					
NGP				*e*		07 24 25.0
JIRN	**Jiri**	**18.08**	**345**	*e*P	**P**	**07 22 00.3**	**-0.6**
	comp=Z,27nm,0.4s					
PKI	**Pulchoki**	**18.22**	**342**	*e*P	**P**	**07 22 02.2**	**-0.4**
	comp=Z,42nm,0.6s					
KAD	**Karad**	**18.24**	**295**	*e*P	**P**	**07 22 05.9**	**+3.0**
DMN	**Daman**	**18.34**	**342**	*e*P	**P**	**07 22 04.3**	**+0.1**
	comp=Z,61nm,0.5s						
KKN	**Kakani**	**18.46**	**342**	*e*P	**P**	**07 22 03.1**	**-2.5**
	comp=Z,37nm,0.6s						
BHPL	**Bhopal**	**18.69**	**316**	*e*P	**P**	**07 22 10.0**	**+1.5**
BHPL				*e*		07 22 12.5
	comp=Z,21nm,1.0s					
BHPL				*e*S	**S**	**07 25 35.9**	**+3.8**
GKN	**Gorkha**	**18.86**	**341**	*e*P	**P**	**07 22 08.8**	**-1.7**
	comp=Z,46nm,0.4s						
POO	**Poona**	**18.99**	**298**	*e*P	**P**	**07 22 13.0**	**+1.0**
	comp=Z,20nm,1.0s						
POO				*i*		07 25 27.0
LSA	**Lhasa**	**19.41**	**359**	P	**P**	**07 22 16.5**	**-0.2**
LSA				AP		07 22 25.3
LSA				S	**S**	**07 25 54.9**	**+6.3**
LSA				AMB	AMB	
	comp=Z,20nm,1.1s					
LSA				AMB	AMB	
	comp=Z,140nm,5.1s					
LSA				LR	LR	
	comp=N,100nm,11.8s					
LSA				LR	LR	
	comp=E,410nm,18.2s					
LSA				LR	LR	
	comp=Z,220nm,17.5s					
LSA	**Lhasa**	**19.41**	**359**	*e*P	**P**	**07 22 16.4**	**-0.3**
	comp=Z,52nm,0.7s						
GYA	**Guiyang**	**21.62**	**40⇑**	*i*P	**P**	**07 22 39.6**	**-0.1**
GYA				AP		07 22 46.6
GYA				XP		07 22 49.8
GYA				AMB	AMB	
	comp=Z,20nm,0.6s,mb4.7					
GYA				AMB	AMB	
	comp=Z,90nm,3.6s					
GYA				LR	LR	
	comp=N,640nm,13.2s,MS4.3					
GYA				LR	LR	
	comp=E,420nm,13.8s,MS4.3					
GYA				LR	LR	
	comp=Z,810nm,12.4s,MS4.3					
NDI	**New Delhi**	**22.76**	**326**	*e*P	**P**	**07 22 51.0**	**-0.1**
NDI				*e*S	**S**	**07 26 57.0**	**+3.8**
CD2	**Chengdu**	**23.56**	**27⇓**	*i*P	**P**	**07 22 59.4**	**+0.5**
CD2				AMB	AMB	
	comp=Z,20nm,0.6s,mb4.7					
DDI	**Dehra Dun**	**23.63**	**330**	*e*P	**P**	**07 23 02.0**	**+2.5**
DDI				*e*		07 27 18.0
SDNR	**Sundarnagar**	**25.12**	**330**	*e*P	**P**	**07 23 17.2**	**+3.2**
ENH	**Enshi**	**26.08**	**37**	*e*P	**P**	**07 23 20.9**	**-2.2**
	comp=Z,16nm,0.5s,mb4.8						
LZH	**Lanzhou**	**28.11**	**22**	*e*P	**P**	**07 23 42.5**	**+1.0**
LZH				AP	pP	07 23 47.5	-3.5
LZH				XP	sP	07 23 52.0	-3.3
LZH				AMB	AMB	
	comp=Z,20nm,1.5s,mb4.5					
LZH				AMB	AMB	
	comp=Z,69nm,4.5s					
LZH				LR	LR	
	comp=E,310nm,13.4s					
LZH				LR	LR	
	comp=Z,540nm,15.0s,MS4.3					
LZH	**Lanzhou**	**28.11**	**22**	*e*P	**P**	**07 23 42.5**	**+1.0**
	comp=Z,20nm,1.5s,mb4.5						
LZH				pP	pP	07 23 47.5	-3.5
LZH				sP	sP	07 23 52.0	-3.3
LZH				LR	LR	
	comp=Z,540nm,15.0s,MS4.3					
GTA	**Gaotai**	**30.03**	**13**	P	**P**	**07 23 58.7**	**+0.1**
GTA				AP	pP	07 24 08.1	-0.1
GTA				XP	sP	07 24 12.6	0.0
GTA				PPP	PPP	07 25 41.8	+31
GTA				AMB	AMB	
	comp=Z,8.0nm,1.1s,mb4.4					
GTA				AMB	AMB	
	comp=Z,85nm,5.7s					
GTA				LR	LR	
	comp=N,145nm,16.7s,MS4.0					
GTA				LR	LR	
	comp=E,241nm,16.0s,MS4.0					
GTA				LR	LR	
	comp=Z,140nm,17.1s,MS3.7					
HHC	**Hu-ho-hao-te**	**35.32**	**27**	*e*P	**P**	**07 24 48.2**	**+3.6**
HHC				AMB	AMB	
	comp=Z,15nm,0.4s,mb5.3					
HHC				AMB	AMB	
	comp=Z,150nm,5.4s					
AAK	**Ala-Archa**	**35.58**	**338**	*e*P	**P**	**07 24 47.5**	**+0.7**
	comp=Z,16nm,1.4s,mb4.8						
BJI	**Beijing**	**36.93**	**32**	P	**P**	**07 24 58.7**	**+0.5**
BJI				AMB	AMB	
	comp=Z,11nm,0.8s,mb4.7					
BJI	**Beijing**	**36.93**	**32**	P	**P**	**07 24 58.7**	**+0.5**
	comp=Z,11nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**37.31**	**350**	P	**P**	**07 25 01.4**	**+0.1**
	comp=Z,2.9nm,0.6s,mb4.3,baz=169,slow=8.4,SNR=17						
JOW	**Kunigami**	**38.42**	**59**	LR	LR	07 39 39.8	
	comp=Z,159nm,21.5s,MS3.8,baz=255,slow=34						
SONM	**Songino Array**	**39.57**	**16**	P	**P**	**07 25 20.2**	**+0.1**
	comp=Z,3.4nm,0.5s,mb4.3,baz=203,slow=8.6,SNR=34						
SONM				LR	LR	07 43 00.8	
	comp=Z,91nm,19.4s,MS3.6,baz=210,slow=38						
ULN	**Ulaanbaatar**	**39.78**	**16**	*e*P	**P**	**07 25 21.0**	**-0.9**
	comp=Z,4.9nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**43.89**	**130**	P	**P**	**07 25 55.1**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.2,baz=318,slow=3.3,SNR=4.3						
FITZ				LR	LR	07 46 27.9	
	comp=Z,151nm,19.2s,MS3.9,baz=303,slow=39						
ZAL	**Zalesovo**	**43.96**	**354**	P	**P**	**07 25 56.5**	**+0.5**
	comp=Z,2.0nm,0.6s,mb4.0,baz=317,slow=7.1,SNR=6.9						
ZAL				LR	LR	07 46 17.2	
	comp=Z,99nm,20.8s,MS3.7,baz=284,slow=39						
BVAR	**Borovoye Array**	**45.99**	**342**	P	**P**	**07 26 11.8**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=153,slow=6.6,SNR=6.5						
BVAR	**Borovoye Array**	**45.99**	**342**	P	**P**	**07 26 11.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**49.40**	**151**	P	**P**	**07 26 40.6**	**+1.3**
	comp=Z,24nm,1.3s,mb5.1						
MJAR	**Matsushiro Arr**	**49.62**	**50**	LR	LR	07 46 29.0	
	comp=Z,72nm,21.0s,MS3.6,baz=215,slow=35						
WRA	**Warramunga Arr**	**51.72**	**125**	P	**P**	**07 26 57.1**	**+0.1**
	comp=Z,5.2nm,0.7s,mb4.6,baz=305,slow=8.5,SNR=41						
WRAB	**Tennant Creek**	**51.73**	**125**	*e*P	**P**	**07 26 56.6**	**-0.5**
	comp=Z,8.8nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**51.73**	**125**	*e*P	**P**	**07 26 56.6**	**-0.5**
ASAR	**Alice Springs**	**53.39**	**130**	P	**P**	**07 27 09.3**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.1,baz=311,slow=7.4,SNR=12						
ASAR				LR	LR	07 52 27.0	
	comp=Z,80nm,20.0s,MS3.8,baz=304,slow=39						
KMBO	**Kilima Mbogo**	**55.13**	**261**	LR	LR	07 46 48.7	
	comp=Z,78nm,20.8s,MS3.8,baz=258,slow=32						
STKA	**Stephens Creek**	**63.58**	**133**	P	**P**	**07 28 20.9**	**+0.3**
	comp=Z,2.5nm,0.6s,mb4.4,baz=333,slow=6.1,SNR=5.6						
STKA	**Stephens Creek**	**63.58**	**133**	*e*P	**P**	**07 28 19.4**	**-1.1**
FINES	**FINESS Array B**	**69.46**	**332**	P	**P**	**07 28 57.4**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.6,baz=139,slow=15,SNR=3.1						
FINES				LR	LR	08 06 22.7	
	comp=Z,69nm,18.5s,MS3.9,baz=154,slow=42						
BORG	**Borgarnes**	**90.29**	**337**	LR	LR	08 14 21.8	
	comp=Z,165nm,21.0s,MS4.4,baz=81,slow=38						
PMSA	**Palmer Station**	**122.88**	**192**	*e*P	Pdif	07 33 09.6	-4.5
NVAR	**Mina Array Bea**	**124.20**	**28**	PKP	PKPdf	07 36 49.1	+2.9
	comp=Z,0.4nm,0.6s,baz=338,slow=1.5,SNR=4.9						
TXAR	**Lajitas Array**	**138.07**	**20**	PKP	PKPdf	07 37 15.7	+2.9
	comp=Z,0.1nm,0.4s,baz=63,slow=4.0,SNR=3.0						

IDC 06 07:19:18.0±3.5,11.32N×124.98E,mb3.7/3,mb1 3.9/3, mb1mx3.6/19,mbtmp3.7/3,MS3.4/1,Ms1 3.4/1, ms1mx2.6/34,1C,Error ellipse: s-maj=294.1km s-min=28.4km az=64.0,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.61**	**162⇑**	*e*P	Pn	07 19 54.2	+6.4
SCPH				*e*S	Sb	07 20 08.9	-0.2
JOW	**Kunigami**	**15.74**	**11**	LR	LR	07 27 37.4	
	comp=Z,147nm,21.7s,baz=56,slow=32						
WRA	**Warramunga Arr**	**32.40**	**163**	P	P	07 25 48.5	-3.4
	0.6nm,0.7s,baz=343,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**35.85**	**166**	P	P	07 26 20.6	-1.0
	0.5nm,0.5s,baz=349,slow=8.0,SNR=8.8						
MKAR	**Makanchi Array**	**50.43**	**323**	P	P	07 28 17.4	-2.0
	1.2nm,0.8s,baz=113,slow=9.2,SNR=4.0						

IDC 06 07:21:05.4±6.5,19.62S×178.27W,mb4.1/3,mb1 4.4/3, mb1mx3.8/15,mbtmp4.1/3,Error ellipse: s-maj=279.2km s-min=37.5km az=144.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.48**	**261**	P	P	07 29 18.9	-1.6
	0.8nm,0.3s,baz=97,slow=7.4,SNR=28						
ASAR	**Alice Springs**	**44.48**	**256**	P	P	07 29 18.4	-2.0
	1.4nm,0.4s,baz=92,slow=8.3,SNR=16						
ILAR	**Eielson Array**	**87.52**	**13**	P	P	07 33 54.6	-1.3
	0.5nm,0.8s,baz=222,slow=4.9,SNR=5.9						

*IDC **06** 07:41:00.1±2.5,2.23N×96.21E,mb4.0/6,mb1 4.2/7, mb1mx3.9/19,mbtmp4.0/7,ML4.2/1,Error ellipse: s-maj=103.0km s-min=18.4km az=60.0*
*BJI **06** 07:41:00.0,2.20N×96.30E,h30km,mB5.1,mb4.5*
*NEIC **06** 07:41:04.9±0.7,2.23N×96.29E,h30km,mb4.4/6,Error ellipse: s-maj=17.9km s-min=8.9km az=51.0*
ISC 06 07:41:03.1±0.9,2.3N±0.1×96.3E±0.1,h30km,n18, σ0°83/18,mb4.4/15,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.26**	**55**	*e*P	**Pn**	**07 42 22.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**16.30**	**9**	Pn	**P**	**07 44 52.4**	**+0.8**
	0.3nm,0.3s,baz=199,slow=10,SNR=14						
GYA	**Guiyang**	**26.02**	**22⇑**	*i*P	**P**	**07 46 35.1**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
JIRN	**Jiri**	**27.05**	**340**	*e*P	**P**	**07 46 45.0**	**0.0**
	comp=Z,23nm,0.8s,mb4.8						
PKI	**Pulchoki**	**27.25**	**338**	*e*P	**P**	**07 46 47.7**	**+0.9**
	comp=Z,11nm,0.6s,mb4.5						
DMN	**Daman**	**27.39**	**338**	*e*P	**P**	**07 46 50.0**	**+1.9**
	comp=Z,6.3nm,0.8s,mb4.2						
KKN	**Kakani**	**27.49**	**338**	*e*P	**P**	**07 46 48.9**	**-0.1**
	comp=Z,14nm,0.9s,mb4.5						
GKN	**Gorkha**	**27.93**	**338**	*e*P	**P**	**07 46 52.3**	**-0.7**
	comp=Z,16nm,0.8s,mb4.7						
KOLN	**Koldanda**	**28.13**	**336**	*e*P	**P**	**07 46 55.2**	**+0.4**
	comp=Z,20nm,0.9s,mb4.8						
XAN	**Xi'an**	**33.73**	**19**	P	**P**	**07 47 42.3**	**-1.9**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**35.26**	**126**	P	**P**	**07 47 56.6**	**-0.8**
	comp=Z,1.6nm,0.5s,mb4.2,baz=297,slow=2.3,SNR=3.4						
GTA	**Gaotai**	**37.11**	**4**	*e*P	**P**	**07 48 12.4**	**-0.4**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**43.34**	**122**	P	**P**	**07 49 04.9**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.6,baz=299,slow=9.3,SNR=7.8						
ASAR	**Alice Springs**	**44.73**	**127**	P	**P**	**07 49 16.7**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.4,baz=301,slow=7.8,SNR=5.0						
MKAR	**Makanchi Array**	**46.01**	**347**	P	**P**	**07 49 25.0**	**-0.6**
	comp=Z,3.8nm,0.7s,mb4.4,baz=162,slow=8.6,SNR=20						
SONM	**Songino Array**	**46.22**	**9**	P	**P**	**07 49 26.9**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.3,baz=190,slow=9.4,SNR=21						
SONM				PcP	PcP

PKI Pulchoki 28.37 338 *eP* **P 07 50 05.1 +0.1**
comp=Z,41nm,1.1s,mb5.0
PKI Pulchoki 28.37 338 *eP* **P 07 50 05.1 +0.1**
PKI pmax pmax
comp=Z,20nm,1.1s,mb4.7
DMN Daman 28.52 337 *eP* **P 07 50 06.6 +0.3**
comp=Z,32nm,1.0s,mb5.0
KKN Kakani 28.62 338 *eP* **P 07 50 07.4 +0.2**
comp=Z,52nm,1.2s,mb5.1
KKN Kakani 28.62 338 *eP* **P 07 50 07.4 +0.2**
KKN pmax pmax
comp=Z,26nm,1.2s,mb4.8
LSA Lhasa 28.74 349 *eP* **P 07 50 08.8 +0.5**
LSA pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
LSA Lhasa 28.74 349 *eP* **P 07 50 08.8 +0.5**
comp=Z,4.3nm,0.5s,mb4.4
GKN Gorkha 29.05 337 *eP* **P 07 50 11.3 +0.1**
comp=Z,45nm,0.9s,mb5.2
KOLN Koldanda 29.27 335 *eP* **P 07 50 13.5 +0.4**
comp=Z,38nm,0.8s,mb5.2
ENH Enshi 31.05 21 *eP* **P 07 50 27.1 -1.8**
comp=Z,12nm,0.7s,mb4.8
ENH *e*pP pP 07 50 33.9 -2.5
FITZ Fitzroy Crossi 34.09 126 *eP* **P 07 50 55.0 -0.5**
comp=Z,2.2nm,0.6s,mb4.3
FITZ Fitzroy Crossi 34.09 126 P **P 07 50 54.9 -0.6**
comp=Z,4.1nm,0.7s,mb4.5,baz=329,slow=5.9,SNR=3.3
XAN Xi'an 34.33 18 P **P 07 50 55.6 -1.8**
NJ2 Nanjing 36.76 32 *eP* **P 07 51 18.3 +0.3**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
GTA Gaotai 37.94 3 *eP* **P 07 51 28.1 +0.2**
GTA AP pP 07 51 35.7 +0.1
GTA PP PP 07 52 59.2 +1.3
GTA S **S 07 57 18.8 +1.1**
GTA SS SS 07 59 55.1 +0.4
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
GTA AMB AMB
comp=Z,153nm,7.2s
GTA LR LR
comp=N,207nm,14.1s,MS4.3
GTA LR LR
comp=E,264nm,16.0s,MS4.3
GTA LR LR
comp=Z,332nm,12.9s,MS4.3
HHC Hu-ho-hao-te 41.42 17 *eP* **P 07 51 52.6 -4.1**
HHC AP pP 07 52 06.3 +1.9
HHC PCP PcP 07 53 54.1 -0.9
HHC SCP 07 57 39.6
HHC S **S 07 58 01.8 -8.1**
HHC SCS ScS 08 01 52.8 -3.8
HHC AMB AMB
comp=Z,13nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,97nm,3.4s
HHC LR LR
comp=N,484nm,14.9s
HHC LR LR
comp=E,613nm,29.6s
HHC LR LR
comp=Z,444nm,15.7s,MS4.4
WRA Warramunga Arr 42.19 122 P **P 07 52 03.3 0.0**
comp=Z,1.4nm,0.7s,mb3.7,baz=302,slow=9.1,SNR=9.8
BJT Baijiatuau 42.19 22 *eP* **P 07 52 03.9 +0.8**
BJT *e**PP pP 07 52 12.6 +1.8
BJT pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuau 42.19 22 *eP* **P 07 52 03.9 +0.8**
comp=Z,11nm,0.6s,mb4.7
BJT *e*pP pP 07 52 12.6 +1.8
WRAB Tennant Creek 42.20 122 *eP* **P 07 52 03.8 +0.5**
WRAB pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
WRAB Tennant Creek 42.20 122 *eP* **P 07 52 03.8 +0.5**
comp=Z,5.0nm,0.7s,mb4.2
WB2 Warramunga Arr 42.20 122 *eP* **P 07 52 03.7 +0.3**
KSH Kashi 42.59 336 *eP* **P 07 52 09.0 +2.7**
KSH *e*AP pP 07 52 16.1 +2.1
KSH *e*XP sP 07 52 19.0 +1.8
KSH *e*PP PP 07 53 50.0 +2.3
KSH *e*PCP PcP 07 54 01.1 +2.1
KSH *e*PPP PPP 07 54 24.0 +2.7
KSH *e*PCS 07 57 52.1
KSH *e*S **S 07 58 30.0 +2.9**
KSH *e*SS SS 08 01 34.1 +2.7
KSH LR LR
comp=N,530nm,4.8s
KSH LR LR
comp=E,670nm,5.0s
WMQ Urumqi 43.09 350 ⇓P **P 07 52 11.6 +1.2**
WMQ AP pP 07 52 19.1 +1.0
WMQ XP sP 07 52 22.6 +1.3
WMQ PP PP 07 53 54.1 +1.4
WMQ PCP PcP 07 54 02.3 +1.7
WMQ S **S 07 58 35.3 +0.8**
WMQ AMB AMB
comp=Z,15nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,109nm,4.2s
WMQ LR LR
comp=N,704nm,20.7s,MS4.5
WMQ LR LR
comp=E,267nm,23.3s,MS4.5
WMQ LR LR
comp=Z,71nm,20.6s,MS3.5
ASAR Alice Springs 43.56 127 P **P 07 52 15.1 +0.7**
comp=Z,0.6nm,0.3s,mb3.7,baz=304,slow=7.6,SNR=7.7
SONM Songino Array 46.98 9 P **P 07 52 41.4 +0.1**
comp=Z,9.1nm,0.8s,mb4.8,baz=192,slow=8.8,SNR=46
SONM LR LR 08 15 01.9
comp=Z,340nm,18.3s,MS4.3,baz=204,slow=39
MK02 Makanchi Array 47.03 346 P **P 07 52 42.0 +0.2**
MK02 pmax pmax
comp=Z,25nm,1.2s,mb5.0
MKAR Makanchi Array 47.06 346 P **P 07 52 42.3 +0.2**
comp=Z,4.7nm,0.4s,mb4.7,baz=160,slow=9.0,SNR=54
ULN Ulaanbaatar 47.11 9 *eP* **P 07 52 42.3 -0.1**
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ULN Ulaanbaatar 47.11 9 *eP* **P 07 52 42.3 -0.1**
comp=Z,7.9nm,0.9s,mb4.6
ZAK Zakamensk 49.11 5 *eP* **P 07 52 57.3 -0.7**
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
CN2 Changchun 49.19 27 *eP* **P 07 53 01.9 +3.3**
HIA Hailar 51.51 19 P **P 07 53 15.3 -0.9**
HIA pmax pmax
comp=Z,3.0nm,0.6s
HIA Hailar 51.51 19 P **P 07 53 15.3 -1.0**
comp=Z,2.5nm,0.6s,mb4.3
ZAL Zalesovo 53.37 351 P **P 07 53 30.1 0.0**
comp=Z,5.6nm,0.5s,mb4.8,baz=302,slow=4.5,SNR=11
STKA Stephens Creek 53.53 132 P **P 07 53 32.4 +0.8**
comp=Z,0.8nm,0.4s,mb4.0,baz=330,slow=6.3,SNR=4.2
STKA Stephens Creek 53.53 132 P **P 07 53 32.6 +1.0**
BVA0 Borovoye Array 56.07 341 P **P 07 53 48.2 -1.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
KLR Kul'dur 56.14 27 *eP* **P 07 53 46.8 -3.5**
CHKZ Chkalovo 56.54 341 P **P 07 53 52.0 -1.2**
CHKZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BOD Bodaibo 57.86 11 *eP* **P 07 53 57.3 -5.1**
BOD pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
KMBO Kilima Mbogo 59.91 268 LR LR 08 14 17.2
comp=Z,72nm,20.1s,MS3.8,baz=255,slow=30
GNI Garni 61.12 316 LR LR 08 25 10.7
comp=Z,58nm,18.2s,MS3.8,baz=351,slow=40
YAK Yakutsk 65.28 16 *eP* **P 07 54 50.5 -1.8**
YAK pmax pmax
comp=Z,17nm,0.9s,mb5.1
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.0s
BRTR Keskin Array B 68.94 312 P **P 07 55 14.2 -1.5**
comp=E,0.9nm,0.6s,mb3.9,baz=112,slow=6.7,SNR=5.0
AKASG Malin Array Be 75.08 322 P **P 07 55 50.3 -1.7**
comp=E,0.4nm,0.3s,mb3.8,baz=84,slow=5.2,SNR=6.3
RPZ Rata Peaks 79.38 135 LR LR 08 30 55.5
comp=E,224nm,18.7s,MS4.5,baz=5.6,slow=35
FINES FINESS Array B 79.81 333 P **P 07 56 17.5 -0.6**
comp=E,1.8nm,0.8s,mb4.1,baz=104,slow=7.9,SNR=6.0
GERES GERESS Array B 84.64 319 P **P 07 56 43.8 +0.5**
comp=E,0.4nm,0.2s,mb4.2,baz=101,slow=6.8,SNR=5.2
NB2 NORSAR Subarra 86.82 331 P **P 07 56 54.4 +0.6**
comp=E,1.1nm,0.8s,mb4.1,baz=94,slow=4.6
NOA NORSAR Array B 86.82 331 P **P 07 56 53.2 -0.6**
comp=E,1.3nm,0.7s,mb4.2,baz=94,slow=4.8,SNR=4.5
YKA Yellowknife Ar 111.95 15 PP PP 08 03 27.7 -3.4
comp=E,0.4nm,1.1s,baz=324,slow=6.0,SNR=4.3
TXAR Lajitas Array 143.57 31 PKP PKPdf 08 03 43.6 -4.8
comp=E,0.2nm,0.5s,baz=90,slow=0.2,SNR=6.9

*IDC **06** 07:52:18.9±3.4, 17.59S×174.95W, h186km±27km, mb3.5/5, mb1 3.8/6, mb1mx3.5/17, mbtmp4.0/6, Error ellipse: s-maj=108.8km s-min=17.3km az=143.0*
*NEIC **06** 07:52:19.1±2.2, 17.48S×175.04W, h186km±16km, mb3.9/1, Error ellipse: s-maj=87.3km s-min=12.9km az=146.0*
ISC 06 07:52:18.1±3.0, 17.5S±0.7×175.1W±0.5, h189km±23km, n11, σ0°30/12, mb3.7/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.76**	**42**	P	P	P	**07 53 30.0**	**0.0**
	6.9nm,0.3s,baz=343,slow=3.7,SNR=5.5							
AFI				S	S	S	**07 54 17.4**	**-8.2**
	16nm,0.3s,baz=250,slow=23,SNR=7.7							
STKA	**Stephens Creek**	**41.62**	**241**	P	P	P	**07 59 49.5**	**+0.2**
	1.6nm,0.6s,mb3.9,baz=59,slow=7.8,SNR=7.1							
STKA	**Stephens Creek**	**41.62**	**241**	*eP*	P	P	**07 59 49.4**	**+0.1**
STKA				P			07 59 49.5	
WB2	**Warramunga Arr**	**47.81**	**259**	*eP*	P	P	**08 00 38.0**	**-0.6**
WRAB	**Tennant Creek**	**47.81**	**259**	*eP*	P	P	**08 00 39.1**	**+0.5**
	3.6nm,0.9s,mb4.0							
WRA	**Warramunga Arr**	**47.82**	**259**	P	P	P	**08 00 38.5**	**-0.2**
	0.6nm,0.3s,mb3.7,baz=98,slow=7.3,SNR=21							
ASAR	**Alice Springs**	**47.95**	**254**	P	P	P	**08 00 39.8**	**+0.1**
	7.8nm,0.7s,mb4.5,baz=90,slow=8.2,SNR=109							
ASPA	**Alice Springs**	**47.96**	**254**	*eP*	P	P	**08 00 39.8**	**+0.1**
NVAR	**Mina Array Bea**	**76.94**	**42**	P	P	P	**08 03 51.2**	**-0.2**
	0.3nm,0.7s,mb3.0,baz=202,slow=9.1,SNR=4.1							
NVAR	**Mina Array Bea**	**76.94**	**42**	P	P	P	**08 03 51.2**	**-0.2**
ILAR	**Eielson Array**	**84.78**	**12**	P	P	P	**08 04 32.1**	**+0.2**
	0.4nm,0.6s,mb3.4,baz=227,slow=6.1,SNR=11							

*IDC **06** 08:14:03.0±0.8, 18.24S×168.19E, mb4.2/12, mb1 4.4/13, mb1mx4.3/19, mbtmp4.2/13, ML3.5/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/30, Error ellipse: s-maj=22.2km s-min=18.6km az=117.0*
*NEIC **06** 08:14:04.6±0.4, 18.27S×168.15E, h10km, mb4.7/9, Error ellipse: s-maj=10.3km s-min=8.2km az=114.0*
ISC 06 08:14:03.1±0.5, 18.32S±0.06×168.09E±0.09, h10km, n37, σ1°00/34, mb4.3/18, MS3.9/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.04**	**202**	*eP*	**Pn**	**Pn**	**08 15 06.5**	**+0.1**
DZM				*eS*	**Sn**	**Sn**	**08 15 51.4**	**-3.0**
DZM	**Mont Dzumac**	**4.04**	**202**	Pn	**Pn**	**Pn**	**08 15 06.5**	**+0.1**
	2.6nm,0.3s,baz=187,slow=22,SNR=75							
DZM				Sn	**Sn**	**Sn**	**08 15 51.5**	**-2.8**
	12nm,0.3s,baz=330,slow=23,SNR=5.7							
DZM				LR	LR	LR	08 16 39.2	
	comp=Z,614nm,20.2s,baz=26,slow=38							
DZM	**Mont Dzumac**	**4.04**	**202**	*eP*	**Pn**	**Pn**	**08 15 06.5**	**+0.1**
DZM				*eS*	**Sn**	**Sn**	**08 15 51.4**	**-3.0**
NOUC	**Port Laguerre**	**4.12**	**204**	*eP*	**Pn**	**Pn**	**08 15 08.1**	**+0.6**
NOUC				*eS*	**Sn**	**Sn**	**08 15 51.8**	**-4.6**
NOUC	**Port Laguerre**	**4.12**	**204**	*eP*	**Pn**	**Pn**	**08 15 08.1**	**+0.6**
NOUC				*eS*	**Sn**	**Sn**	**08 15 51.8**	**-4.6**
HNR	**Honiara**	**11.85**	**317**	LR	LR	LR	08 20 41.7	
	comp=Z,182nm,20.0s,baz=305,slow=34							
AFI	**Afiamalu**	**19.83**	**80**	LR		LR	08 24 13.7	
	comp=Z,180nm,19.4s,baz=350,slow=31							
CTA	**Charters Tower**	**20.70**	**262**	P	P	P	**08 18 45.3**	**-0.8**
	9.7nm,0.9s,baz=97,slow=14,SNR=4.6							
CTA				LR	LR	LR	08 25 40.4	
	comp=Z,200nm,18.3s,MS3.5,baz=47,slow=34							
CTAO	**Charters Tower**	**20.70**	**262**	*eP*		P	**08 18 47.4**	**+1.3**
	9.2nm,0.8s							
URZ	**Urewera**	**21.37**	**160**	P	P	P	**08 18 53.0**	**+0.1**
	5.2nm,0.6s,mb4.0,baz=325,slow=7.9,SNR=5.4							
RPZ	**Rata Peaks**	**25.44**	**175**	P	P	P	**08 19 33.6**	**+0.9**
	5.4nm,0.7s,mb4.2,baz=27,slow=9.0,SNR=2.6							
STKA	**Stephens Creek**	**27.44**	**235**	P	P	P	**08 19 53.0**	**+1.8**
	2.9nm,0.7s,mb4.0,baz=39,slow=6.7,SNR=7.3							
STKA				LR	LR	LR	08 30 39.6	
	comp=Z,113nm,18.5s,MS3.5,baz=194,slow=36							
STKA	**Stephens Creek**	**27.44**	**235**	*eP*		P	**08 19 52.6**	**+1.4**
WB2	**Warramunga Arr**	**31.89**	**262**	*eP*		P	**08 20 29.8**	**-1.2**
WRA	**Warramunga Arr**	**31.90**	**262**	P		P	**08 20 29.9**	**-1.1**
	0.4nm,0.5s,mb3.5,baz=82,slow=6.0,SNR=18							
ASAR	**Alice Springs**	**32.31**	**255**	P		P	**08 20 34.2**	**-0.3**
	1.5nm,0.4s,mb4.2,baz=84,slow=8.4,SNR=51							
ASAR				LR	LR	LR	08 33 56.8	
	comp=Z,142nm,18.2s,MS3.7,baz=58,slow=37							
ASPA	**Alice Springs**	**32.31**	**255**	*eP*		P	**08 20 34.3**	**-0.3**
PPT	**Papeete**	**40.22**	**96**	LR	LR	LR	08 33 44.1	
	comp=Z,260nm,19.8s,MS4.1,baz=303,slow=29							
FITZ	**Fitzroy Crossi**	**40.26**	**263**	*eP*		P	**08 21 42.9**	**+0.8**
	14nm,0.7s,mb4.8							
FITZ	**Fitzroy Crossi**	**40.26**	**263**	P		P	**08 21 43.0**	**+0.9**
	16nm,0.7s,mb4.8,baz=148,slow=4.5,SNR=15							
FITZ				LR	LR	LR	08 37 47.4	
	comp=Z,164nm,21.0s,MS3.9,baz=177,slow=35							
MBWA	**Marble Bar**	**45.47**	**258**	*eP*		P	**08 22 25.3**	**+0.8**
	7.2nm,0.9s,mb4.5							
NWAO	**Narrogin (SRO)**	**47.67**	**242**	P		P	**08 22 41.4**	**-0.5**
	10nm,0.9s,mb4.8							
SBA	**Scott Base**	**59.57**	**180**	*eP*		P	**08 24 09.6**	**+0.7**
	2.1nm,0.9s,mb4.2							
MJAR	**Matsushiro Arr**	**61.44**	**333**	P		P	**08 24 21.5**	**-0.6**
	1.6nm,0.9s,mb4.2,baz=141,slow=8.6,SNR=5.4							
QSPA	**South Pole Qui**	**71.73**	**180**	*eP*		P	**08 25 27.1**	**+0.2**
	6.7nm,0.9s,mb4.6							
MDJ	**Mudanjiang**	**71.80**	**332**	*eP*		P	**08 25 27.9**	**0.0**
	4.3nm,0.4s,mb4.7							
CMAR	**Chiang Mai Arr**	**77.14**	**295**	P		P	**08 26 01.1**	**+1.9**
	1.0nm,0.4s,mb4.1,baz=135,slow=4.6,SNR=6.1							
SONM	**Songino Array**	**85.84**	**324**	P		P	**08 26 45.1**	**+0.9**
	1.9nm,0.9s,mb4.3,baz=149,slow=7.2,SNR=10							
BILL	**Bilibino**	**86.12**	**359**	*eP*		P	**08 26 44.7**	**-0.4**
	8.9nm,1.0s,mb5.0							
CMB	**Columbia Colle**	**87.36**	**49**	*eP*		P	**08 26 51.2**	**-0.7**
	2.5nm,0.9s,mb4.4							
YBH	**Yreka Blue Hor**	**87.40**	**44**	LR	LR	LR	08 58 41.8	
	comp=Z,76nm,20.2s,MS4.1,baz=330,slow=31							
NVAR	**Mina Array Bea**	**89.02**	**49**	P		P	**08 26 59.6**	**-0.2**
	0.7nm,0.8s,mb4.0,baz=240,slow=12,SNR=5.0							
ILAR	**Eielson Array**	**89.69**	**18**	P		P	**08 27 00.3**	**-2.0**
	0.7nm,0.7s,mb4.1,baz=240,slow=5.1,SNR=19							
NEW	**Newport**	**93.78**	**40**	LR	LR	LR	09 04 08.6	
	comp=Z,91nm,19.2s,MS4.2,baz=224,slow=32							
YKA	**Yellowknife Ar**	**100.36**	**27**	P		P	08 27 50.8	-0.3
	0.2nm,0.5s,baz=255,slow=4.8,SNR=10							
YKA	**Yellowknife Ar**	**100.36**	**27**	P		P	08 27 50.8	-0.3
CDF	**Champ du Feu**	**146.18**	**337**	*e*PKP1		PKPbc	08 33 44.6	+0.9
	9.7nm,0.7s							

IDC 06 08:18:06.5±1.6, 19.66S×177.33W, h578km±32km, mb2.7/4, mb1 3.0/6, mb1mx2.9/18, mbtmp3.9/6, Error ellipse: s-maj=38.7km s-min=20.1km az=123.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.80**	**44**	P	P	P	08 20 04.2	+0.4
	4.5nm,0.3s,baz=80,slow=8.1,SNR=9.2							
AFI				S	S	S	08 21 38.4	+1.1
	3.5nm,0.3s,baz=107,slow=22,SNR=4.8							
URZ	**Urewera**	**19.16**	**193**	P	P	P	08 21 53.0	-1.4
	0.8nm,0.3s,baz=330,slow=13,SNR=5.8							
STKA	**Stephens Creek**	**38.73**	**243**	P	P	P	08 24 42.5	-0.7
	0.6nm,0.4s,baz=133,slow=3.5,SNR=2.9							
ASAR	**Alice Springs**	**45.33**	**256**	P	P	P	08 25 34.5	-1.0
	0.7nm,0.7s,baz=85,slow=8.4,SNR=5.5							
WRA	**Warramunga Arr**	**45.35**	**261**	P	P	P	08 25 33.5	-2.2
	0.3nm,0.5s,baz=97,slow=7.7,SNR=9.8							
ILAR	**Eielson Array**	**87.36**	**13**	P	P	P	08 29 52.2	-1.0
	0.1nm,0.4s,baz=214,slow=4.8,SNR=5.5							

*IDC **06** 08:21:34.7±3.0, 10.77S×74.62W, h100km±28km, mb3.9/14, mb1 4.1/18, mb1mx3.9/25, mbtmp4.2/18, MS3.9/2, Ms1 3.9/2, ms1mx3.0/38, Error ellipse: s-maj=24.7km s-min=13.9km az=66.0*
*BJI **06** 08:21:35.8, 10.80S×74.50W, h110km, mB5.1*
*NEIC **06** 08:21:35.8±0.8, 10.79S×74.52W, h111km±8km, mb4.7/14, Error ellipse: s-maj=12.1km s-min=5.4km az=63.0*
ISC 06 08:21:36.0±1.3, 10.69S±0.07×74.28W±0.09, h133km±14km, n64, σ0°64/55, mb4.2/22, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**6.34**	**155**	*eP*	**P**	**P**	**08 23 08.0**	**-0.3**
LPAZ	**La Paz**	**8.16**	**134**	P	**P**	**P**	**08 23 33.5**	**+0.6**
	0.6nm,0.3s,baz=332,slow=14,SNR=32							
LPAZ	**La Paz**	**8.16**	**134**	*eP*		**P**	**08 23 32.8**	**0.0**
	20nm,1.0s							
SAML	**Samuel**	**11.07**	**82**	*eP*		**P**	**08 24 10.8**	**-0.7**
	1.4nm,0.9s							
OTAV	**Otavalo**	**11.62**	**339**	*eP*		**P**	**08 24 18.9**	**+0.1**
	8.3nm,0.8s							
LVC	**Limon Verde**	**12.92**	**157**	P		**P**	**08 24 35.3**	**-0.4**
	0.2nm,0.3s,baz=241,slow=18,SNR=2.5							
LVC				S		**S**	**08 26 49.3**	**-7.5**
	0.6nm,0.3s,baz=170,slow=15,SNR=4.8							
LVC				LR		LR	08 30 41.1	
	comp=Z,85nm,19.6s,baz=340,slow=42							
LVC	**Limon Verde**	**12.92**	**157**	P		**P**	**08 24 35.3**	**-0.4**
LVC				S		**S**	**08 26 49.3**	**-7.5**
LVC				LR		LR	08 30 41.1	
SIV	**San Ignacio**	**13.88**	**114**	P		**P**	**08 24 49.4**	**+1.2**
	2.7nm,0.3s,baz=308,slow=13,SNR=42							
SIV				S		**S**	**08 27 18.5**	**-0.8**
	1.4nm,0.3s,baz=215,slow=21,SNR=3.9							
ROSC	**El Rosal**	**15.44**	**360**	P		**P**	**08 25 14.8**	**+6.8**
	1.4nm,0.3s,baz=201,slow=4.1,SNR=8.4							
SDV	**Santo Domingo**	**19.78**	**11**	P		**P**	**08 25 59.1**	**+1.0**
	6.9nm,0.3s,baz=214,slow=9.9,SNR=53							
SDV	**Santo Domingo**	**19.78**	**11**	*eP*		**P**	**08 25 59.9**	**+1.7**
	50nm,0.7s							
CFAA	**Coronel Fontan**	**21.55**	**166**	P		**P**	**08 26 16.9**	**+1.1**
	0.2nm,0.8s,baz=310,slow=8.2,SNR=3.6							
BDFB	**Brasília**	**26.03**	**104**	P		**P**	**08 27 02.3**	**+3.5**
	1.5nm,0.5s,mb3.9,baz=258,slow=20,SNR=3.5							
PLCA	**Paso Flores**	**30.10**	**174**	P		**P**	**08 27 34.4**	**-0.9**
	1.5nm,0.8s,mb3.8,baz=354,slow=10,SNR=2.6							
PLCA	**Paso Flores**	**30.10**	**174**	P		**P**	**08 27 34.4**	**-0.9**
ELN	**Prospectdale**	**48.05**	**353**	P		**P**	**08 30 02.9**	**-1.0**
TXAR	**Lajitas Array**	**48.86**	**325**	P		**P**	**08 30 10.2**	**-0.1**
	3.7nm,0.5s,mb4.2,baz=151,slow=8.9,SNR=72							
TXAR				PcP		PcP	08 31 33.2	+0.2
	0.6nm,0.6s,baz=166,slow=6.6,SNR=6.5							
BLO	**Bloomington**	**50.90**	**348**	*eP*		**P**	**08 30 24.9**	**-0.8**
	7.9nm,0.7s,mb4.5							
GDL2	**Guadalupe Moun**	**51.45**	**327**	*eP*		**P**	**08 30 30.0**	**+0.1**
GDL2				*e*			08 31 41.9	
CPRX	**Cap Rock**	**51.83**	**328**	*eP*		**P**	**08 30 33.1**	**+0.3**
ANMO	**Albuquerque**	**54.67**	**328**	P		**P**	**08 30 53.4**	**-0.3**
	2.6nm,0.8s,mb4.0,baz=138,slow=6.6,SNR=12							
TUC	**Tucson**	**55.19**	**322**	*eP*		**P**	**08 30 57.2**	**-0.3**
	2.7nm,1.3s,mb3.8							
SDCO	**Great Sand Dun**	**56.36**	**330**	*eP*		**P**	**08 31 05.8**	**0.0**
	11nm,1.2s,mb4.5							
WUAZ	**Wupatki**	**57.80**	**324**	*eP*		**P**	**08 31 16.1**	**+0.3**
	11nm,0.9s,mb4.7							
PV01	**Paradox Valley**	**58.20**	**328**	*eP*		**P**	**08 31 18.7**	**+0.1**
SRU	**San Rafael**	**59.94**	**328**	*eP*		**P**	**08 31 30.6**	**0.0**
JLU	**Jordanelle**	**61.52**	**328**	*eP*		**P**	**08 31 41.6**	**+0.3**
TCUT	**Toone Canyon**	**61.88**	**329**	*eP*		**P**	**08 31 43.9**	**+0.2**
DUG	**Dugway**	**61.94**	**327**	*eP*		**P**	**08 31 44.5**	**+0.3**
	9.4nm,1.0s,mb4.6							
PDAR	**Pinedale Array**	**62.22**	**331**	P		**P**	**08 31 45.2**	**-0.7**
	1.1nm,0.7s,mb3.8,baz=121,slow=8.1,SNR=13							
PDAR				PcP		PcP	08 32 24.4	+0.1
	0.7nm,0.5s,baz=116,slow=6.2,SNR=5.6							
HWUT	**Hardware Ranch**	**62.32**	**329**	*eP*		**P**	**08 31 46.2**	**-0.5**
	8.1nm,0.9s,mb4.5							
TPAW	**Teton Pass**	**63.43**	**331**	*eP*		**P**	**08 31 53.9**	**-0.1**
RRI2	**Red Ridge**	**63.50**	**331**	*eP*		**P**	**08 31 54.2**	**-0.2**
ULM	**Lac du Bonnet**	**63.55**	**345**	P		**P**	**08 31 53.7**	**-1.0**
	7.1nm,0.7s,mb4.6,baz=155,slow=6.9,SNR=13							
ULM	**Lac du Bonnet**	**63.55**	**345**	*eP**		**P**	**08 31 53.2**	**-1.5**
	4.7nm,0.8s,mb4.4							
ULM				*e*			08 32 06.8	
ELK	**Elko**	**63.63**	**326**	*eP*		**P**	**08 31 55.3**	**0.0**
OMM	**Old Mammoth Mi**	**63.73**	**321**	*eP*		**P**	**08 31 56.4**	**+0.3**
MNV	**Mina**	**63.75**	**323**	*eP*		**P**	**08 31 56.5**	**+0.4**
	8.2nm,1.5s,mb4.3							
NVAR	**Mina Array Bea**	**63.84**	**323**	P		**P**	**08 31 57.1**	**+0.5**
	1.8nm,0.8s,mb4.0,baz=140,slow=7.9,SNR=15							
LRV	**Little Rabbit**	**64.26**	**319**	*eP*		**P**	**08 31 59.4**	**-0.1**
CMB	**Columbia Colle**	**64.85**	**321**	*eP*		**P**	**08 32 02.9**	**-0.4**
	24nm,2.0s,mb4.7							
MCMT	**McKenzie Canyo**	**65.33**	**331**	*eP*		**P**	**08 32 05.5**	**-0.8**
SCHQ	**Schefferville**	**65.57**	**5**	P		**P**	**08 32 07.3**	**-0.3**
	2.2nm,0.8s,mb4.0,baz=224,slow=3.6,SNR=4.2							
SCHQ	**Schefferville**	**65.57**	**5**	P		**P**	**08 32 07.3**	**-0.3**
MOD	**Modoc**	**67.24**	**324**	*eP*		**P**	**08 32 18.4**	**-0.1**
	6.0nm,0.6s,mb4.6							
DBIC	**Dimbokro**	**71.22**	**79**	P		**P**	**08 32 47.0**	**+3.9**
	1.4nm,0.5s,mb3.9,baz=218,slow=7.2,SNR=3.4							
EDM	**Edmonton**	**71.85**	**336**	*eP*		**P**	**08 32 46.0**	**-0.1**
PPT	**Papeete**	**72.95**	**255**	*e*LR		LR	08 33 10.2	
	136nm,22.5s							
FRB	**Frobisher Bay**	**74.34**	**3**	P		**P**	**08 33 01.0**	**+0.5**
	3.9nm,1.0s,mb4.1,baz=201,slow=6.7,SNR=7.6							
YKA	**Yellowknife Ar**	**79.36**	**342**	P		**P**	**08 33 28.5**	**+0.2**
	4.0nm,0.8s,mb4.1,baz=137,slow=6.0,SNR=96							
INK	**Inuvik**	**89.10**	**341**	P		**P**	**08 34 18.2**	**+1.2**
	6.6nm,1.0s,mb4.5,baz=116,slow=4.1,SNR=24							
INK	**Inuvik**	**89.10**	**341**	P		**P**	**08 34 18.2**	**+1.2**
ILAR	**Eielson Array**	**92.33**	**336**	P		**P**	**08 34 32.8**	**+0.6**
	0.8nm,0.8s,mb3.8,baz=146,slow=2.2,SNR=13							
RAO	**Raoul Island**	**96.49**	**239**	LR		LR	09 12 22.7	
	comp=Z,329nm,19.0s,baz=121,slow=32							
SMY	**Shemya**	**111.51**	**323**	P		PKPdf	08 39 56.1	+1.8
BVAR	**Borovoye Array**	**129.14**	**27**	PKP		PKPdf	08 40 31.7	+3.2
	1.3nm,0.8s,baz=225,slow=6.3,SNR=5.1							
ZAL	**Zalesovo**	**133.74**	**17**	PKP		PKPdf	08 40 40.5	+3.4
	1.8nm,0.6s,baz=101,slow=8.4,SNR=5.1							
ASAR	**Alice Spring

mb1mx4.0/19, mbtmp4.1/10, MS3.7/4, Ms1 3.7/4, ms1mx3.4/28, Error ellipse: s-maj=55.0km s-min=15.1km az=56.0

*BJI **06** 08:36:35.4, 0.30N×97.90E, h30km, mB5.2, mb4.5*

*NEIC **06** 08:36:37.5±0.7, 0.34N×97.91E, h30km, mb4.5/4, Error ellipse: s-maj=21.5km s-min=9.4km az=63.0*

ISC 06 08:36:35.5±0.8, 0.36N±0.10×97.9E±0.1, h30km, n23, σ0°82/19, mb4.2/14, MS3.8/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.62**	**29**	*eP*	**Pn**	**08 37 59.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**18.02**	**3**	P	**P**	**08 40 44.4**	**-1.3**
	baz=197, slow=12, SNR=6.0						
CMAR				LR	LR	08 47 47.0	
	comp=Z, 112nm, 20.6s, baz=195, slow=37						
SHL	**Shillong**	**25.72**	**347**	*eP*	**P**	**08 42 05.0**	**-0.3**
LSA	**Lhasa**	**29.88**	**348**	*eP*	**P**	**08 42 44.2**	**+1.3**
NWAO	**Narrogin (SRO)**	**37.80**	**153**	LR	LR	08 58 25.3	
	comp=Z, 114nm, 22.0s, MS3.6, baz=149, slow=35						
WRA	**Warramunga Arr**	**41.01**	**122**	P	**P**	**08 44 17.0**	**-0.9**
	1.1nm, 0.6s, mb3.7, baz=304, slow=8.8, SNR=11						
WRA				PcP	PcP	08 46 19.4	+1.2
	0.3nm, 0.6s, baz=312, slow=2.6, SNR=4.6						
WRAB	**Tennant Creek**	**41.01**	**122**	*eP*	**P**	**08 44 17.3**	**-0.6**
	2.2nm, 0.5s, mb4.0						
HHC	**Hu-ho-hao-te**	**42.17**	**15**	*eP*	**P**	**08 44 31.7**	**+4.4**
HHC				XP	sP	08 44 44.9	+4.9
HHC				AMB	AMB		
	comp=Z, 7.0nm, 1.1s, mb4.2						
ASAR	**Alice Springs**	**42.34**	**127**	P	**P**	**08 44 28.5**	**-0.4**
	comp=Z, 1.0nm, 0.8s, mb3.5, baz=303, slow=8.0, SNR=9.1						
ASAR				PcP	PcP	08 46 23.8	+1.1
	comp=Z, 0.3nm, 0.8s, baz=315, slow=5.1, SNR=2.5						
ASAR				LR	LR	09 02 09.0	
	comp=Z, 76nm, 19.1s, MS3.6, baz=258, slow=36						
BJT	**Baijiatuau**	**42.84**	**21**	*eP*	**P**	**08 44 32.6**	**-0.2**
	comp=Z, 8.7nm, 0.6s, mb4.7						
SONM	**Songino Array**	**47.86**	**8**	P	**P**	**08 45 13.5**	**+0.8**
	comp=Z, 2.8nm, 0.8s, mb4.3, baz=190, slow=9.0, SNR=20						
ULN	**Ulaanbaatar**	**47.98**	**8**	*eP*	**P**	**08 45 14.5**	**+0.8**
	comp=Z, 4.8nm, 1.2s, mb4.4						
MKAR	**Makanchi Array**	**48.22**	**346**	P	**P**	**08 45 16.1**	**+0.6**
	comp=Z, 3.1nm, 0.8s, mb4.4, baz=158, slow=8.0, SNR=18						
CTA	**Charters Tower**	**51.51**	**116**	P	**P**	**08 45 42.4**	**+1.3**
	comp=Z, 2.8nm, 0.7s, mb4.3, baz=74, slow=15, SNR=3.5						
STKA	**Stephens Creek**	**52.28**	**132**	P	**P**	**08 45 47.5**	**+0.8**
	comp=Z, 1.9nm, 0.5s, mb4.2, baz=282, slow=7.6, SNR=5.7						
STKA	**Stephens Creek**	**52.28**	**132**	*eP*	**P**	**08 45 47.0**	**+0.2**
ZAL	**Zalesovo**	**54.49**	**351**	P	**P**	**08 46 03.5**	**+0.9**
	comp=Z, 3.7nm, 0.5s, mb4.5, baz=305, slow=4.9, SNR=13						
BVAR	**Borovoye Array**	**57.27**	**341**	P	**P**	**08 46 22.1**	**-0.6**
	comp=Z, 3.8nm, 0.8s, mb4.5, baz=149, slow=8.6, SNR=18						
CHKZ	**Chkalovo**	**57.74**	**341**	*eP*	**P**	**08 46 25.1**	**-0.9**
	comp=Z, 7.9nm, 0.9s, mb4.7						
BRTR	**Keskin Array B**	**70.19**	**312**	P	**P**	**08 47 47.0**	**-0.8**
	comp=Z, 0.6nm, 0.6s, mb3.7, baz=127, slow=6.2, SNR=4.4						
TSUM	**Tsumeb**	**80.96**	**251**	LR	LR	09 19 11.7	
	comp=Z, 78nm, 19.4s, MS4.1, baz=324, slow=32						
TXAR	**Lajitas Array**	**144.00**	**33**	PKP	PKPdf	08 56 10.3	-3.6
	comp=Z, 0.3nm, 0.7s, baz=225, slow=1.8, SNR=5.3						
TXAR	**Lajitas Array**	**144.00**	**33**	PKP	PKPdf	08 56 10.3	-3.6

*IDC **06** 08:44:18.6±4.3, 1.26N×97.60E, mb4.0/4, mb1 4.3/5, mb1mx4.0/19, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=134.9km s-min=37.0km az=69.0*

*NEIC **06** 08:44:20.1±1.2, 1.09N×97.02E, h30km, mb4.3/1, MS4.5/1, Error ellipse: s-maj=28.9km s-min=10.7km az=82.0*

ISC 06 08:44:19.1±2.4, 1.1N±0.1×97.1E±0.4, h33km, n8, σ0°26/7, mb4.0/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.47**	**40**	*eP*	**P**	**08 45 40.3**	**0.0**
CMAR	**Chiang Mai Arr**	**17.34**	**6**	P	**P**	**08 48 20.4**	**0.0**
	0.2nm, 0.3s, baz=191, slow=11, SNR=12						
FITZ	**Fitzroy Crossi**	**33.96**	**126**	P	**P**	**08 51 01.4**	**-0.4**
	4.8nm, 1.0s, mb4.4, baz=288, slow=6.4, SNR=3.5						
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**08 52 09.9**	**0.0**
	1.6nm, 0.5s, mb3.9, baz=301, slow=9.1, SNR=20						
WRAB	**Tennant Creek**	**42.08**	**122**	*eP*	**P**	**08 52 10.3**	**+0.3**
	5.0nm, 0.8s, mb4.2						
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**08 52 21.2**	**+0.4**
	1.3nm, 0.8s, mb3.7, baz=301, slow=7.9, SNR=9.7						
STKA	**Stephens Creek**	**53.37**	**132**	P	**P**	**08 53 37.6**	**-0.3**
	1.5nm, 0.7s, mb4.1, baz=311, slow=12, SNR=4.4						
TXAR	**Lajitas Array**	**143.81**	**32**	PKP	PKPdf	09 03 53.3	+1.7
	0.6nm, 0.8s, baz=189, slow=2.5, SNR=4.1						

*BJI **06** 08:44:56.6, 41.54N×78.81E, h19km, mB5.1, mb4.9, ML5.7, Ms5.1, Msz4.9*

*HRVD **06** 08:44:57.3±0.2, 41.48N×78.70E, h30km, MW5.1/56, Centroid moment Tensor Solution. LP body waves: s49,c75; Mantle waves: s56,c99; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.56±.20; $M_{\theta\theta}$-6.17±.14; $M_{\phi\phi}$0.61±.14; $M_{r\theta}$1.15±.21; $M_{\theta\phi}$0.85±.12; $M_{\phi r}$0.90±.21; Best double couple: $M_0$6.11×10^{16} NP1:φs288°, δ41°, λ107°. NP2:φs86°, δ51°, λ76°. Principal axes: T5.855, Plg78°, Azm300°; N.511, Plg11°, Azm95°; P-6.365, Plg5°, Azm186°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **06** 08:44:57.3±1.0, 41.51N×78.72E, h29km, mb5.4/79, MS4.8/51 Error ellipse: s-maj=6.3km s-min=3.3km az=44.0*

MOS Felt (II-III) at Alma-Ata.

*NEIC **06** 08:44:57.3±0.1, 41.35N×78.73E, mb5.2/144, MS4.9/97, Error ellipse: s-maj=3.8km s-min=2.5km az=209.0*

NEIC Felt [III] at Almaty, Kazakhstan.

*NNC **06** 08:45:00.2±4.9, 41.84N×78.57E, mpv5.6, Error ellipse: s-maj=41.5km s-min=16.9km az=157.0*

*IDC **06** 08:45:00.8±2.2, 41.42N×78.73E, h48km±20km, mb4.6/36, mb1 4.7/39, mb1mx4.7/39, mbtmp4.8/39, ML4.4/3, MS4.6/25, Ms1 4.6/25, ms1mx4.5/36, Error ellipse: s-maj=12.4km s-min=9.7km az=8.0*

ISC 06 08:44:55.8±0.1, 41.38N±0.02×78.70E±0.02, h21km, h21km±.4km: pP-P, n681, σ1§05/623, mb5.1/190, MS4.9/153, 120C-20D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.03**	**296**	P	**Pn**	**08 45 32.6**	**+3.2**
	SNR=2435						
AAA	**Alma-Ata**	**2.29**	**326**	*i* PN	**Pn**	**08 45 36.0**	**+2.8**
AAA				*i* S	**Sn**	**08 46 06.0**	**+5.0**
AAA				pmax	pmax		
	comp=Z, 60μm, 0.4s						
AAA				MLR	MLR		
	comp=Z, 90μm, 8.0s						
KZA	**Kyzart**	**2.67**	**286**	P	**Pn**	**08 45 41.8**	**+3.2**
	SNR=702						
TKM2	**Tokmak 2**	**2.77**	**305**	P	**Pn**	**08 45 43.4**	**+3.4**
	SNR=380						
KSH	**Kashi**	**2.79**	**229**	⇑*i*P	**Pn**	**08 45 46.2**	**+5.9**
KSH				S	**Sn**	**08 46 26.9**	**+13**
KSH				Smax			
	comp=N, 25μm, 0.6s						
KSH				Smax			
	comp=E, 30μm, 0.5s						
KBK	**Karagaybulak**	**3.07**	**296**	P	**Pn**	**08 45 47.1**	**+2.8**
	SNR=177						
UCH	**Uchtor**	**3.24**	**286**	P	**Pn**	**08 45 49.5**	**+2.8**
	SNR=139						
CHMS	**Chumysh**	**3.35**	**300**	P	**Pn**	**08 45 50.9**	**+2.6**
	SNR=132						
FRU	**Bishkek**	**3.37**	**297**	α *i* PN	**Pn**	**08 45 51.5**	**+3.0**
FRU				*i*		08 45 59.0	
FRU				*i* S	**Sn**	**08 46 40.0**	**+12**
FRU				pmax	pmax		
	comp=Z, 9μm, 2.8s						
FRU				smax			
	comp=N, 60μm, 3.5s						
AAK	**Ala-Archa**	**3.37**	**293**	P	**Pn**	**08 45 51.9**	**+3.3**
	SNR=214						
AAK	**Ala-Archa**	**3.37**	**293**	⇑Pn	**Pn**	**08 45 51.8**	**+3.2**
	comp=N, 6μm, 1.1s						
AAK				⇑Lg		08 46 40.7	
	comp=N, 10μm, 0.7s						
AAK	**Ala-Archa**	**3.37**	**293**	*c* *i* PN	**Pn**	**08 45 50.9**	**+2.3**
AAK	**Ala-Archa**	**3.37**	**293**	*eP*	**Pn**	**08 45 50.7**	**+2.2**
USP	**Ospenovka**	**3.64**	**303**	P	**Pn**	**08 45 54.8**	**+2.4**
	SNR=49						
AML	**Almayashu**	**3.82**	**283**	P	**Pn**	**08 45 57.1**	**+2.2**
	SNR=47						
EKS2	**Erkin-Say**	**3.88**	**291**	P	**Pn**	**08 45 58.8**	**+3.0**
	SNR=34						
MK31	**Makanchi Array**	**6.00**	**24**	⇓Pn	**Pn**	**08 46 26.1**	**+0.5**
	comp=N, 176nm, 0.5s, baz=209, slow=14, SNR=2654						
MK31				⇓Sn	**Sn**	**08 47 36.1**	**+1.7**
	comp=N, 1μm, 0.9s, baz=185, slow=28						
MK31				⇑Lg		08 48 00.3	
	comp=N, 1μm, 0.6s, baz=202, slow=28						
MKAR	**Makanchi Array**	**6.00**	**24**	P	**Pn**	**08 46 26.1**	**+0.5**
	comp=N, 47nm, 0.3s, baz=208, slow=12, SNR=439						
MKAR				Lg		08 48 01.9	
	comp=N, 87nm, 0.3s, baz=204, slow=27, SNR=3.9						
WMQ	**Urumqi**	**7.07**	**67**	P	**Pn**	**08 46 42.0**	**+1.2**
WMQ				S	**Sn**	**08 48 02.1**	**+0.7**
WMQ				Smax			
	comp=N, 2μm, 1.1s						
WMQ				Smax			
	comp=E, 2μm, 0.9s						
WMQ				LR	LR		
	comp=N, 10μm, 11.4s						
WMQ				LR	LR		
	comp=E, 9μm, 10.6s						
WMQ				LR	LR		
	comp=Z, 4μm, 17.2s						
TAS	**Tashkent**	**7.08**	**273**	⇓*e*PN	**Pn**	**08 46 46.0**	**+5.1**
TAS				*e*S	**Sn**	**08 48 09.0**	**+7.4**
TAS				pmax	pmax		
	comp=Z, 150μm, 1.0s						
CHCP	**Chirah Chowk**	**8.84**	**211**	⇑P	**P**	**08 47 08.3**	**+2.9**
DLH	**Dalhousie**	**9.09**	**195**	*e*	**P**	**08 47 12.0**	**+3.1**
DLH				*e*		08 48 50.0	
JMU	**Jammu**	**9.17**	**201**	⇑*i*	**P**	**08 47 11.0**	**+1.0**
THN	**Thein Dam**	**9.24**	**196**	*e*	**P**	**08 47 11.9**	**+0.8**
THN				*e*		08 48 55.8	
CEP	**Cherat**	**9.27**	**218**	P	**P**	**08 47 12.3**	**+0.9**
PONG	**Pong**	**9.67**	**194**	*e*	**P**	**08 47 18.0**	**+1.1**
PONG				*e*		08 49 03.0	
SDNR	**Sundarnagar**	**9.96**	**189**	*eP*	**P**	**08 47 20.4**	**-0.5**
SDNR				*e*		08 49 08.0	
BHK	**Bhakra**	**10.11**	**191**	*e*	**P**	**08 47 26.4**	**+3.4**
BHK				*e*		08 49 15.7	
THW	**Thamme Wali**	**10.21**	**215**	P	**P**	**08 47 24.5**	**+0.2**
SMLA	**Simla**	**10.31**	**187**	⇓*i*	**P**	**08 47 15.0**	**-11**
SMLA				*i*		08 49 05.3	
SARP	**Sargodha**	**10.61**	**209**	P	**P**	**08 47 29.3**	**-0.5**
SARP				S	**S**	**08 49 28.0**	**-1.0**
SBDP	**Sheikh Budin**	**11.05**	**217**	⇑P	**P**	**08 47 35.3**	**-0.5**
DDI	**Dehra Dun**	**11.05**	**183**	*e*	**P**	**08 47 36.8**	**+1.0**
DDI				*e*		08 49 33.0	
DRP	**Derazinda**	**11.79**	**218**	P	**P**	**08 47 45.9**	**0.0**
PTH	**Pithoragarh**	**11.87**	**174**	*eP*	**P**	**08 47 45.2**	**-1.8**
PTH				*e*		08 49 52.1	
LGTI	**Lohaghat**	**11.97**	**173**	*eP*	**P**	**08 47 47.7**	**-0.6**
LGTI				*e*		08 49 57.3	
NDI	**New Delhi**	**12.73**	**186**	*eP*	**P**	**08 47 54.5**	**-4.0**
NDI				*e*S	**S**	**08 50 06.5**	**-14**
BVA0	**Borovoye Array**	**12.93**	**337**	⇑Pn	**P**	**08 47 58.7**	**-2.4**
	comp=Z, 58nm, 1.1s, baz=146, slow=14, SNR=464						
BVA0				⇓Lg		08 51 32.2	
	comp=Z, 114nm, 1.0s, baz=162, slow=23						
BVA0	**Borovoye Array**	**12.93**	**337**	*i* P	**P**	**08 47 59.2**	**-1.9**
BVA0				pmax	pmax		
	comp=Z, 67nm, 1.2s						
BVAR	**Borovoye Array**	**12.93**	**337**	P	**P**	**08 47 59.1**	**-2.0**
	comp=Z, 4.8nm, 0.3s, baz=149, slow=13, SNR=100						
BVAR				Lg		08 51 37.3	
	comp=Z, 6.1nm, 0.3s, baz=129, slow=19, SNR=4.2						
ZAL	**Zalesovo**	**13.21**	**16**	P	**P**	**08 48 03.5**	**-1.3**
	comp=Z, 1.7nm, 0.3s, baz=268, slow=12, SNR=16						
ZAL				S	**S**	**08 50 34.8**	**+2.8**
	comp=Z, 6.2nm, 0.3s, baz=327, slow=21, SNR=4.0						
ZAL				LR	LR	08 54 09.0	
	comp=Z, 4μm, 21.5s, baz=270, slow=42						
CHKZ	**Chkalovo**	**13.45**	**339**	⇑Pn	**P**	**08 48 05.2**	**-2.6**
	comp=Z, 137nm, 1.4s						
CHKZ				⇑Lg		08 51 50.1	
	comp=Z, 616nm, 1.1s						
CHKZ	**Chkalovo**	**13.45**	**339**	*eP*	**P**	**08 48 05.2**	**-2.6**
CHKZ				pmax	pmax		
	comp=Z, 72nm, 0.5s						
CHKZ	**Chkalovo**	**13.45**	**339**	*eP*	**P**	**08 48 05.2**	**-2.6**
	comp=Z, 72nm, 0.5s						
KOLN	**Koldanda**	**14.16**	**162**	*eP*	**P**	**08 48 13.8**	**-3.6**
	comp=Z, 113nm, 0.4s						
KOLN				*e*S	**S**	**08 50 49.8**	**-5.0**
GKN	**Gorkha**	**14.21**	**158**	*eP*	**P**	**08 48 15.8**	**-2.2**
	comp=Z, 239nm, 0.4s						
KKN	**Kakani**	**14.60**	**156**	*eP*	**P**	**08 48 21.5**	**-1.5**
	comp=Z, 188nm, 0.6s						
KKN	**Kakani**	**14.60**	**156**	*eP*	**P**	**08 48 21.5**	**-1.5**
KKN				pmax	pmax		
	comp=Z, 94nm, 0.6s						
DMN	**Daman**	**14.71**	**157**	*eP*	**P**	**08 48 22.4**	**-2.2**
	comp=Z, 270nm, 0.7s						
DMN				*e*S	**S**	**08 51 06.5**	**-1.3**
PKI	**Pulchoki**	**14.84**	**156**	*eP*	**P**	**08 48 24.3**	**-1.9**
	comp=Z, 179nm, 0.5s						
PKI	**Pulchoki**	**14.84**	**156**	*eP*	**P**	**08 48 24.3**	**-1.9**
PKI				pmax	pmax		
	comp=Z, 90nm, 0.5s						
JIRN	**Jiri**	**15.01**	**153**	*eP*	**P**	**08 48 27.4**	**-1.0**
	comp=Z, 424nm, 0.7s						
JIRN				*e*S	**S**	**08 51 15.3**	**+0.5**
AJM	**Ajmer**	**15.24**	**194**	⇑*i*	**P**	**08 48 27.0**	**-4.5**
AJM				*i*		08 51 09.0	
LSA	**Lhasa**	**15.43**	**135**	P	**P**	**08 48 37.6**	**+3.7**
LSA				S	**S**	**08 51 30.9**	**+6.3**
LSA				AMB	AMB		
	comp=Z, 10.0nm, 0.8s						
LSA				LR	LR		
	comp=N, 430nm, 11.0s						
LSA				LR	LR		
	comp=E, 740nm, 14.6s						
LSA				LR	LR		
	comp=Z, 870nm, 11.0s						
LSA	**Lhasa**	**15.43**	**135**	*eP*	**P**	**08 48 37.4**	**+3.5**
LSA				pmax	pmax		
	comp=Z, 62nm, 0.8s						
LSA	**Lhasa**	**15.43**	**135**	*eP*	**P**	**08 48 37.4**	**+3.5**
	comp=Z, 62nm, 0.8s						
JHNI	**Jhansi**	**15.88**	**181**	*eP*	**P**	**08 48 37.0**	**-2.7**
JHNI				*e*		08 51 28.0	
GTA	**Gaotai**	**16.20**	**90**	*eP*	**P**	**08 48 42.2**	**-1.6**
GTA				AP		08 48 47.7	
GTA				XP		08 48 51.2	
GTA				PP	PP	08 48 55.1	-1.9
GTA				S	**S**	**08 51 39.8**	**-2.9**
GTA				PCP	PcP	08 53 39.3	+0.3
GTA				AMB	AMB		
	comp=Z, 153nm, 7.2s						
GTA				LR	LR		
	comp=N, 2μm, 13.7s						
GTA				LR	LR		
	comp=E, 3μm, 15.2s						
GTA				LR	LR		
	comp=Z, 3μm, 17.1s						
ALBI	**Allahabad**	**16.24**	**170**	*e*	**P**	**08 48 39.0**	**-5.3**
BHPL	**Bhopal**	**18.12**	**184**	*eP*	**P**	**08 49 05.3**	**-2.7**
BHPL				*e*		08 49 20.7	
	comp=Z, 313nm, 1.9s						
BHPL				*e*		08 52 17.4	
MOY	**Mondy**	**18.40**	**48**	*eP*	**P**	**08 49 12.2**	**+1.0**
MOY				pmax	pmax		
	comp=Z, 99nm, 2.2s						
BOK	**Bokaro**	**18.54**	**159**	⇓*i*P	**P**	**08 49 10.2**	**-3.0**
BOK				*i*		08 52 32.2	
SHL	**Shillong**	**19.19**	**141**	*eP*	**P**	**08 49 19.5**	**-1.4**
SHL				*e*S	**S**	**08 52 53.8**	**+3.0**
ZAK	**Zakamensk**	**19.26**	**54**	*eP*	**P**	**08 49 21.8**	**+0.3**
ZAK				pmax	pmax		
	comp=Z, 36nm, 1.1s						
SVE	**Sverdlovsk**	**19.36**	**329**	*eP*	**P**	**08 49 21.6**	**-1.1**
SVE				*e*S	**S**	**08 52 51.4**	**-3.0**
SVE				pmax	pmax		
	comp=Z, 45nm, 0.9s						
SVE				MLR	MLR		
	comp=Z, 6μm, 23.0s						
BLSP	**Bilaspur**	**19.41**	**170**	*eP*	**P**	**08 49 20.1**	**-3.4**
BLSP				*e*		08 52 40.0	
BHJ	**Bhuj**	**19.60**	**206**	*i* P	**P**	**08 49 25.3**	**-0.4**
BHJ				*e*		08 49 35.5	
BHJ				*e*		08 52 44.6	
TLY	**Talaya**	**19.92**	**50**	*eP*	**P**	**08 49 28.9**	**0.0**
TLY				*e*S	**S**	**08 53 05.5**	**-1.0**
TLY				pmax	pmax		
	comp=Z, 13nm, 1.0s						
TLY				MLR	MLR		
	comp=Z, 2μm, 15.0s						
TLY	**Talaya**	**19.92**	**50**	*eP*	**P**	**08 49 28.7**	**-0.2**
	comp=Z, 25nm, 1.1s						
ARU	**Arti**	**19.93**	**326**	⇑*i*P	**P**	**08 49 27.9**	**-1.1**
ARU				*e*S	**S**	**08 53 10.7**	**+4.0**
ARU				pmax	pmax		
	comp=Z, 507nm, 1.5s						
ARU				MLR	MLR		
	comp=Z, 4μm, 17.0s						
ARU				MLR	MLR		
	comp=N, 2μm, 16.0s						
ARU				MLR	MLR		
	comp=E, 2μm, 16.0s						
ARU	**Arti**	**19.93**	**326**	*eP*	**P**	**08 49 27.8**	**-1.3**
	comp=E, 187nm, 0.8s						
NGP	**Nagpur**	**20.17**	**179**	*e*	**P**	**08 49 36.4**	**+4.6**
NGP				*e*		08 49 47.2	
NGP				*e*		08 53 05.4	
LZH	**Lanzhou**	**20.28**	**97**	⇑P	**P**	**08 49 33.1**	**+0.3**
LZH				AP		08 49 42.1	
LZH				XP		08 49 45.5	
LZH				PP	PP	08 49 57.0	+3.8
LZH				S	**S**	**08 53 22.1**	**+8.0**
LZH				AMB	AMB		
	comp=Z, 50nm, 1.0s						
LZH				AMB	AMB		
	comp=Z, 360nm, 4.1s						
LZH				LR	LR		
	comp=N, 5μm, 13.0s						
LZH				LR	LR		
	comp=Z, 6μm, 14.0s, MS5.1						
LZH	**Lanzhou**	**20.28**	**97**	⇑P	**P**	**08 49 33.1**	**+0.3**
LZH				*SP		08 49 45.5	
LZH						08 49 57.0	
LZH				S	**S**	**08 53 22.1**	**+8.0**
LZH				*SS		08 53 36.0	
LZH				SS	SS	08 53 56.0	+12
LZH				pmax	pmax		
	comp=Z, 50nm, 1.0s						
LZH				MLR	MLR		
	comp=Z, 6μm, 14.0s, MS5.1						
LZH	**Lanzhou**	**20.28**	**97**	⇑P	**P**	**08 49 33.1**	**+0.3**
	comp=Z, 50nm, 1.0s						
LZH				pP		08 49 42.1	
LZH				sP		08 49 45.5	
LZH				PP	PP	08 49 57.0	+3.8
LZH				S	**S**	**08 53 22.1**	**+8.0**
LZH				sS		08 53 36.0	
LZH				SS	SS	08 53 56.0	+12
LZH				LR	LR		
	comp=Z, 6μm, 14.0s, MS5.1						
BHV	**Bhavnagar**	**20.34**	**198**	*eP*	**P**	**08 49 33.5**	**0.0**
AGT	**Agartala**	**20.36**	**145**	⇑*i*P	**P**	**08 49 34.0**	**+0.3**
AGT				*i*		08 50 31.0	
CAL	**Calcutta**	**20.46**	**154**	*e*	**P**	**08 49 44.0**	**+9.2**
CAL				*e*		08 53 28.8	
IRK	**Irkutsk**	**20.49**	**49**	*eP*	**P**	**08 49 34.7**	**-0.1**
IRK				pmax	pmax		
	comp=Z, 807nm, 0.7s						
SONM	**Songino Array**	**20.68**	**62**	P	**P**	**08 49 37.5**	**+0.7**
	comp=Z, 29nm, 0.7s, baz=262, slow=11, SNR=238						
ULN	**Ulaanbaatar**	**21.12**	**63**	*c* *i* P	**P**	**08 49 41.7**	**+0.3**
BWNR	**Bhubaneshwar**	**21.87**	**162**	*eP*	**P**	**08 49 52.1**	**+3.0**
BWNR				*e*		08 50 01.4	
	comp=Z, 302nm, 0.9s						
BWNR				*e*S	**S**	**08 53 46.0**	**+1.4**
CD2	**Chengdu**	**22.70**	**109**	⇓*i*P	**P**	**08 49 59.8**	**+2.5**
CD2				AP		08 50 07.1	
CD2				XP		08 50 10.3	
CD2				S	**S**	**08 53 59.8**	**+0.1**
CD2				XS		08 54 13.7	
CD2				SS	SS	08 54 43.9	+1.2
CD2				AMB	AMB		
	comp=Z, 30nm, 0.5s, mb5.0						
CD2				AMB	AMB		
	comp=Z, 200nm, 3.9s						
CD2				LR	LR		
	comp=N, 2μm, 11.4s						
CD2				LR	LR		
	comp=Z, 2μm, 14.1s, MS4.7						
LATR	**Latur**	**22.96**	**185**	*eP*	**P**	**08 50 00.0**	**+0.1**
LATR				*e*S	**S**	**08 54 07.5**	**+2.9**
BOM	**Bombay**	**22.97**	**194**	*eP*	**P**	**08 50 01.5**	**+1.5**
BOM				*e*S	**S**	**08 54 07.6**	**+2.9**
MAK	**Makhachkala**	**23.11**	**284**	*eP*	**P**	**08 50 12.5**	**+11**
MAK				MLR	MLR		
	comp=N, 800nm, 13.0s, MS5.0						
MAK				MLR	MLR		
	comp=E, 4μm, 13.0s, MS5.0						
MAK				MLR	MLR		
	comp=Z, 4μm, 13.0s, MS5.1						
POO	**Poona**	**23.15**	**192**	*eP*	**P**	**08 49 59.0**	**-2.8**
POO				*e*		08 50 20.8	
	comp=Z, 165nm, 1.3s						
POO				*e*		08 57 07.7	
BTO	**Baotou**	**23.59**	**81**	*eP*	**P**	**08 50 06.6**	**+0.8**
BTO				LR	LR		
	comp=E, 2μm, 15.1s						
HYB	**Hyderabad**	**23.89**	**180**	⇑*e*P	**P**	**08 50 10.0**	**+1.1**
HYB				*e*S	**S**	**08 54 27.0**	**+6.4**
HYB				pmax	pmax		
	comp=Z, 120nm, 1.0s, mb5.3						
HYB	**Hyderabad**	**23.89**	**180**	⇑*e*P	**P**	**08 50 10.0**	**+1.1**
	comp=Z, 120nm, 1.0s, mb5.3						
HYB				*e*S	**S**	**08 54 27.0**	**+6.4**
HYB	**Hyderabad**	**23.89**	**180**	⇑*i*P	**P**	**08 50 10.0**	**+1.1**
	comp=Z, 120nm, 1.0s, mb5.3						
HYB				*e*S	**S**	**08 54 27.0**	**+6.4**
VIS	**Vishakhapatnam**	**23.91**	**169**	*eP*	**P**	**08 50 10.6**	**+1.5**
VIS				*e*		08 50 19.7	
	comp=Z, 122nm, 1.3s						
KAD	**Karad**	**24.31**	**191**	*i* P	**P**	**08 50 14.3**	**+1.3**
KAD				*e*		08 50 24.9	
	comp=Z, 94nm, 1.7s						
DGRG	**David-gareji**	**24.91**	**281**	P	**P**	**08 50 20.6**	**+2.0**
DGRG	**David-gareji**	**24.91**	**281**	P	**P**	**08 50 20.6**	**+2.0**
XAN	**Xi'an**	**24.92**	**97**	P	**P**	**08 50 19.6**	**+0.8**
XAN				AP		08 50 28.7	
XAN				S	**S

comp=Z,169nm,3.1s
KMI LR LR
comp=N,1μm,16.6s,MS4.7
KMI LR LR
comp=E,1μm,17.8s,MS4.7
KMI LR LR
comp=Z,2μm,18.7s,MS4.7
KMI Kunming 25.70 122 P **P** **08 50 27.5 +1.3**
KMI *SP sP 08 50 35.5 +0.2
KMI 08 51 08.7
KMI PPP PPP 08 51 20.2 +2.1
KMI S **S** **08 54 54.1 +2.8**
KMI *SS 08 55 03.8
KMI SS SS 08 55 59.2 +3.3
KMI SSS SSS 08 56 16.4 +3.5
KMI pmax pmax
comp=Z,119nm,0.9s,mb5.4
KMI MLR MLR
comp=Z,2μm,18.7s,MS4.7
KMI Kunming 25.70 122 P **P** **08 50 27.5 +1.3**
comp=Z,119nm,0.9s,mb5.4
KMI pP pP 08 50 33.3 +0.9
KMI sP sP 08 50 35.5 +0.2
KMI PP PP 08 51 08.7 +2.3
KMI PPP PPP 08 51 20.2 +2.1
KMI S **S** **08 54 54.1 +2.8**
KMI sS 08 55 03.8
KMI SS SS 08 55 59.2 +3.3
KMI SSS SSS 08 56 16.4 +3.5
KMI LR LR
comp=Z,2μm,18.7s,MS4.7
ZEI Tsey 25.76 285 *e*P **P** **08 50 27.9 +1.3**
ZEI *i* *PP pP 08 50 41.6 +8.8
ZEI pmax pmax
comp=Z,11nm,0.9s,mb4.4
ARQ Araqi 25.85 233 P **P** **08 50 29.6 +1.9**
SNR=52
BSY Bisya 25.91 231 P **P** **08 50 30.6 +2.5**
SNR=9.3
GOF Gofitskoye 26.12 290⇑ *i*P **P** **08 50 29.2 -0.7**
GOF pmax pmax
comp=Z,170nm,1.7s,mb5.3
GOA Goa 26.14 191⇓ *e*P **P** **08 50 27.4 -3.0**
GOA *e* 08 55 10.8
TIY Taiyuan 26.17 87 *e*P **P** **08 50 33.0 +2.5**
TIY LR LR
comp=N,2μm,7.0s
TIY LR LR
comp=Z,955nm,11.0s,MS4.6
KIV Kislovodsk 26.48 288 *i* P **P** **08 50 32.5 -0.7**
KIV pmax pmax
comp=Z,33nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,1μm,17.0s,MS4.5
KIV Kislovodsk 26.48 288 *e*P **P** **08 50 33.5 +0.3**
comp=Z,78nm,0.8s,mb5.3
KIV LR LR
comp=Z,336nm,19.0s,MS3.9
PECR Pechory 26.88 316 *e*P **P** **08 50 36.0 -0.8**
PECR MLR MLR
comp=Z,4μm,16.0s,MS5.0
ENH Enshi 27.18 104 *e*P **P** **08 50 37.3 -2.5**
comp=Z,44nm,0.7s,mb5.1
ENH LR LR
comp=Z,1μm,21.0s,MS4.5
GYA Guiyang 27.42 114⇑ *i*P **P** **08 50 42.8 +0.8**
GYA AP pP 08 50 49.3 +1.1
GYA XP sP 08 50 52.6 +1.6
GYA AMB AMB
comp=Z,30nm,0.6s,mb5.0
GYA AMB AMB
comp=Z,150nm,3.8s
GYA LR LR
comp=N,1μm,14.6s,MS4.7
GYA LR LR
comp=E,760nm,12.6s,MS4.7
GYA LR LR
comp=Z,1μm,15.8s,MS4.6
BOD Bodaibo 27.75 42 *e*P **P** **08 50 44.2 -0.5**
BOD pmax pmax
comp=Z,36nm,1.2s,mb4.9
MSL Mosul 28.07 271 *e*P **P** **08 50 48.5 +0.7**
BJI Beijing 28.30 80 P **P** **08 50 56.6 +6.8**
BJI pmax pmax
comp=Z,12nm,1.5s,mb4.3
BJI MLR MLR
comp=Z,2μm,19.4s,MS4.7
BJI Beijing 28.30 80 P **P** **08 50 56.6 +6.8**
comp=Z,12nm,1.5s,mb4.3
BJI S **S** **08 55 47.2 +14**
BJI LR LR
comp=Z,2μm,19.4s,MS4.7
BJT Baijiatuau 28.30 80 P **P** **08 50 50.8 +1.0**
BJT MLR MLR
comp=Z,3μm,19.0s
CHG Chiang Mai 28.37 136⇑ P **P** **08 50 50.5 -0.2**
comp=Z,30nm,0.6s,mb5.1
SOC Sochi 28.66 288 *i* P **P** **08 50 51.8 -1.2**
SOC *e* 08 51 43.8
SOC *e* 08 54 02.2
SOC *e*S **S** **08 55 39.1 -0.1**
SOC pmax pmax
comp=Z,33nm,1.3s,mb4.9
SOC pmax pmax
comp=N,14nm,1.0s
SOC MLR MLR
comp=N,1μm,20.0s,MS4.7
SOC MLR MLR
comp=E,1μm,20.0s,MS4.7
SOC MLR MLR
comp=Z,1μm,20.0s,MS4.5
CM31 Chiang Mai Arr 28.67 137 *e*P **P** **08 50 50.5 -2.9**
comp=Z,23nm,0.8s,mb5.0
CM31 LR LR
comp=Z,652nm,19.0s,MS4.2
CMAR Chiang Mai Arr 28.67 137 P **P** **08 50 53.5 +0.1**
comp=Z,5.5nm,0.9s,mb4.3,baz=321,slow=9.4,SNR=26
CMAR LR LR 09 04 13.2
comp=Z,540nm,19.8s,MS4.2,baz=335,slow=40
VRSR Storozhevoye 28.70 304 *c i*P **P** **08 50 52.5 -0.8**
VRSR *e* *PP pP 08 51 04.3 +4.8
VRSR *e* 08 51 41.1
VRSR pmax pmax
comp=Z,30nm,0.6s,mb5.2
VRSR pmax pmax
comp=N,4.0nm,0.5s
VRSR pmax pmax
comp=E,20nm,0.8s
VRSR MLR MLR
comp=Z,1μm,16.0s,MS4.6
VRSR MLR MLR
comp=N,880nm,43.0s
VRSR MLR MLR
comp=E,890nm,16.0s
VOR Voronezh 28.74 305 P **P** **08 50 53.0 -0.6**
VOR *e* *PP pP 08 51 01.5 +1.7
VOR *e* 08 51 40.0
VOR pmax pmax
comp=Z,100nm,1.9s,mb5.2
VOR pmax pmax
comp=Z,140nm,1.9s,mb5.4
NANT Nan 29.32 134⇑ P **P** **08 51 00.0 +0.8**
comp=Z,500nm,0.6s
HIA Hailar 29.61 61 *e*P **P** **08 51 01.9 +0.4**
HIA pmax pmax
comp=Z,7.0nm,0.4s
HIA MLR MLR
comp=Z,3μm,20.0s
HIA Hailar 29.61 61 *e*P **P** **08 51 01.9 +0.4**
comp=Z,7.0nm,0.4s,mb4.7
HIA LR LR
comp=Z,3μm,20.0s,MS4.9
BDT Bhumibol Dam 29.72 138 P **P** **08 51 09.0 +6.2**
ANN Anapa 30.10 291 *e*P **P** **08 51 04.3 -1.6**
ANN *e* pP 08 51 11.1 -1.0
ANN *e* *PP pP 08 51 18.5 +6.4
ANN *e* 08 52 04.5
ANN *e*PPP PPP 08 52 14.4 -4.0
ANN *e*S **S** **08 56 10.7 +8.6**
ANN pmax pmax
comp=Z,69nm,1.0s,mb5.3
ANN MLR MLR
comp=Z,3μm,23.0s,MS4.9
ANN MLR MLR
comp=N,3μm,19.0s,MS5.1
ANN MLR MLR
comp=E,4μm,23.0s,MS5.1
TIA Tai'an 30.21 87 *e*P **P** **08 51 07.0 0.0**
MOS Moscow 30.23 312 *e*P **P** **08 51 07.1 +0.1**
MOS *e* pP 08 51 11.6 -1.6
MOS *e* 08 52 04.2
MOS *e* 08 54 08.7
MOS pmax pmax
comp=Z,42nm,0.6s,mb5.3
MOS MLR MLR
comp=Z,4μm,16.4s,MS5.1
ELZG Elazig 30.41 278 *i* P **P** **08 51 10.1 +1.4**
WHN Wuhan 30.62 99 *e*P **P** **08 51 12.8 +2.2**
WHN LR LR
comp=Z,2μm,12.0s,MS5.1
OBN Obninsk 30.72 311⇑ *i*P **P** **08 51 10.5 -0.8**
OBN *i* *PP pP 08 51 24.2 +6.7
OBN *e* 08 52 08.5
OBN pmax pmax
comp=Z,63nm,1.7s,mb5.2
OBN MLR MLR
comp=Z,2μm,19.0s,MS4.8
OBN Obninsk 30.72 311 *e*P **P** **08 51 10.3 -1.0**
comp=Z,42nm,0.8s,mb5.3
OBN LR LR
comp=Z,459nm,19.0s,MS4.2
MALT Malatya 30.88 278 *e*P **P** **08 51 14.3 +1.5**
MALT pmax pmax
comp=Z,37nm,1.3s,mb5.0
MALT Malatya 30.88 278 *e*P **P** **08 51 14.3 +1.5**
comp=Z,37nm,1.3s,mb5.0
WHFO Wadi Hawf 31.67 230 P **P** **08 51 19.4 -0.6**
SNR=40
RBK Rabkut 31.75 229 P **P** **08 51 19.9 -0.8**
SNR=22
GZT Gaziantep 31.84 276 *i* P **P** **08 51 21.8 +0.4**
KAHT Ahir Dag 32.26 277 *i* P **P** **08 51 25.3 +0.3**
SIM Simferopol' 32.41 292 *e*P **P** **08 51 26.1 0.0**
SIM pmax pmax
comp=Z,40nm,1.2s,mb5.1
SIM MLR MLR
comp=Z,980nm,19.1s,MS4.5
KKTK Khon Kaen 32.49 133 P **P** **08 51 33.0 +5.9**
comp=Z,432nm,0.7s
BOYT Boyabat 32.59 285 *i* P **P** **08 51 28.2 +0.4**
CTKT Corum 32.88 284 *i* P **P** **08 51 31.1 +0.7**
RAYN Ar Rayn 32.93 248 P **P** **08 51 30.0 -0.9**
comp=Z,571nm,0.7s,SNR=56
COBT Iskenderun 33.12 276 *i* P **P** **08 51 32.7 +0.3**
CLNS Chul'man 33.23 46 *e*P **P** **08 51 32.9 -0.3**
CLNS *e* *PP pP 08 51 38.6 -0.9
CLNS *e*PPP PPP 08 52 55.5 -5.6
CLNS *e* 08 54 19.2
CLNS *e*S **S** **08 56 57.6 +6.7**
CLNS *e*SS SS 08 59 12.8 +20
CLNS *e* 09 02 01.3
CLNS pmax pmax
comp=Z,24nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,6.0nm,0.6s
CLNS pmax pmax
comp=E,13nm,0.8s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=Z,14nm,0.9s,mb4.9
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS smax
comp=E,162nm,3.6s
CLNS smax
comp=Z,117nm,2.8s
CLNS smax
comp=N,141nm,3.9s
CLNS MLR MLR
comp=Z,2μm,14.0s,MS4.9
CLNS MLR MLR
comp=E,300nm,13.0s
NJ2 Nanjing 33.26 93 *e*P **P** **08 51 34.5 +0.8**
NJ2 AP pP 08 51 40.5 +0.5
NJ2 XP sP 08 51 43.5 +0.8
NJ2 PP PP 08 52 46.1 +0.8
NJ2 S **S** **08 56 53.0 +1.4**
NJ2 XS 08 57 04.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,150nm,6.1s
NJ2 LR LR
comp=N,2μm,16.7s,MS5.2
NJ2 LR LR
comp=E,3μm,14.7s,MS5.2
NJ2 LR LR
comp=Z,2μm,15.6s,MS4.8
SNY Shenyang 33.27 74⇑ P **P** **08 51 32.9 -0.8**
SNY AP pP 08 51 43.3 +3.3
SNY XP sP 08 51 47.7 +5.0
SNY S **S** **08 56 52.2 +0.5**
SNY AMB AMB
comp=Z,20nm,2.0s,mb4.7
SNY LR LR
comp=E,3μm,15.1s
SNY LR LR
comp=Z,2μm,15.5s,MS5.0
BALT Daday 33.66 286 *i* P **P** **08 51 37.0 -0.1**
ELDT Eldivan 33.92 284 *i* P **P** **08 51 40.2 +0.9**
BR131 Keskin Array S 33.99 282 PFAKE 08 51 50.0 +10
BR131 LR LR
comp=Z,403nm,20.0s,MS4.2
BRTR Keskin Array B 33.99 282 P **P** **08 51 40.2 +0.3**
comp=Z,33nm,0.7s,mb5.4,baz=94,slow=8.6,SNR=154
PALK Pallekele 34.01 176 *e*P **P** **08 51 41.5 +1.1**
comp=Z,16nm,0.8s,mb5.0
PALK LR LR
comp=Z,365nm,20.0s,MS4.1
CN2 Changchun 34.15 70 *e*P **P** **08 51 42.4 +1.1**
CN2 *e*AP pP 08 51 48.3 +0.7
CN2 *e*S **S** **08 57 06.4 +1.1**
CN2 SS SS 08 59 13.2 -1.0
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,14.0s,MS5.1
CN2 LR LR
comp=E,2μm,14.0s,MS5.1
CN2 LR LR
comp=Z,3μm,16.0s,MS5.2
ASF Jabal al Asfar 34.44 268 P **P** **08 51 45.1 +1.1**
comp=Z,13nm,1.0s,mb4.8,baz=279,slow=1.0,SNR=13
ANTO Ankara 34.56 283⇑ P **P** **08 51 45.6 +0.7**
QIZ Qiongzhong 34.64 121 *e*P **P** **08 51 46.7 +0.9**
QIZ *e*S **S** **08 57 13.3 +0.2**
QIZ LR LR
comp=N,864nm,18.2s,MS4.7
QIZ LR LR
comp=E,856nm,16.6s,MS4.7
QIZ LR LR
comp=Z,2μm,18.5s,MS4.8
QIZ Qiongzhong 34.64 121 PFAKE 08 52 00.0 +14
QIZ LR LR
comp=Z,2μm,19.0s,MS4.8
MEST Erdemli 34.67 277 *i* P **P** **08 51 45.0 -0.9**
PUL Pulkovo 34.82 319 *e*P **P** **08 51 46.4 -0.5**
PUL pmax pmax
comp=N,167nm,0.6s
PUL pmax pmax
comp=Z,124nm,0.6s,mb6.0
PUL pmax pmax
comp=E,271nm,1.1s
PUL MLR MLR
comp=Z,2μm,10.0s,MS5.1
PUL MLR MLR
comp=N,171nm,5.0s
PUL MLR MLR
comp=E,504nm,6.0s
SGKT Sivrigoynuk 34.89 284 *i* P **P** **08 51 48.0 +0.3**
AKASG Malin Array Be 34.99 303 P **P** **08 51 47.6 -0.9**
comp=E,10.0nm,0.7s,mb4.9,baz=70,slow=9.0,SNR=33
AKASG PP PP 08 53 09.0 +2.0
comp=E,2.4nm,0.5s,baz=81,slow=12,SNR=4.2
SSE Sheshan 35.46 93 P **P** **08 51 49.9 -2.8**
SSE S **S** **08 57 21.3 -4.5**
SSE XS 08 57 43.7
SSE AMB AMB
comp=Z,43nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,87nm,4.1s
SSE LR LR
comp=N,647nm,15.6s,MS4.7
SSE LR LR
comp=E,887nm,15.4s,MS4.7
SSE LR LR
comp=Z,1μm,16.6s,MS4.7
SSE Sheshan 35.46 93 P **P** **08 51 48.9 -3.8**
comp=Z,43nm,0.7s,mb5.5
SSE S **S** **08 57 21.3 -4.5**
SSE sS 08 57 43.7
SSE LR LR
comp=Z,1μm,16.6s,MS4.7
LVZ Lovozero 35.48 333 *i* P **P** **08 51 51.7 -0.8**
LVZ pmax pmax
comp=Z,68nm,1.7s,mb5.3
HENT Hendek 35.66 285 *i* P **P** **08 51 54.6 +0.3**
KIS Kishinev 35.71 296 *e*P **P** **08 51 54.0 -0.6**
KIS *e* 08 52 06.0
KIS *e* 08 53 37.0
KIS *e*S **S** **08 57 30.0 +0.6**
KIS MLR MLR
comp=Z,1μm,15.0s,MS4.7
KIS MLR MLR
comp=Z,1μm,16.0s
MNK Minsk 35.71 309⇓ *e*P **P** **08 51 51.0 -3.6**
APA Apatity 35.78 332⇓ *e*P **P** **08 51 57.7 +2.7**
APA pmax pmax
comp=Z,70nm,1.4s,mb5.4
APA MLR MLR
comp=Z,4μm,18.0s,MS5.3
TLCR 36.05 293⇑ P **P** **08 51 58.0 +0.5**
ESKT Eskisehir 36.10 283 *i* P **P** **08 51 57.9 -0.1**
YAK Yakutsk 36.47 38 *e*P **P** **08 52 00.2 -0.7**
YAK *e* *PP pP 08 52 06.3 -0.9
YAK *e* 08 53 22.2
YAK *e* 08 54 22.7
YAK *e*S **S** **08 57 40.1 -0.9**
YAK *e*SS SS 09 00 07.1 +0.1
YAK *e* 09 02 12.2
YAK pmax pmax
comp=Z,35nm,0.9s,mb5.3
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,23nm,1.3s
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK smax
comp=N,6.0nm,1.2s
YAK smax
comp=E,2.0nm,0.9s
YAK MLR MLR
comp=N,331nm,11.0s,MS4.8
YAK MLR MLR
comp=E,794nm,11.0s,MS4.8
YAK MLR MLR
comp=Z,945nm,11.0s,MS4.8
YAK Yakutsk 36.47 38 *e*P **P** **08 52 00.4 -0.5**
comp=Z,64nm,0.7s,mb5.7
YAK LR LR
comp=Z,2μm,19.0s,MS4.8
TIRR Tirgusor 36.49 292 P **P** **08 52 02.1 +0.9**
TIRR Tirgusor 36.49 292⇓ P **P** **08 52 01.8 +0.6**
CFR Carcaliu 36.52 293⇓ P **P** **08 52 01.7 +0.2**
HARR Harsova 36.77 293 P **P** **08 52 04.5 +0.9**
HARR Harsova 36.77 293⇑ P **P** **08 52 04.3 +0.7**
INCN Inchon 36.86 80 PFAKE 08 52 20.0 +16
INCN LR LR
comp=Z,945nm,19.0s,MS4.6
MDJ Mudanjiang 36.87 67 P **P** **08 52 06.0 +1.6**
MDJ AP pP 08 52 12.1 +1.3
MDJ XP sP 08 52 14.8 +1.4
MDJ PP PP 08 53 31.9 +1.5
MDJ S **S** **08 57 53.0 +5.7**
MDJ AMB AMB
comp=Z,15nm,1.5s,mb4.6
MDJ AMB AMB
comp=Z,205nm,3.6s
MDJ LR LR
comp=N,904nm,14.6s,MS5.0
MDJ LR LR
comp=E,2μm,14.9s,MS5.0
MDJ LR LR
comp=Z,2μm,14.6s,MS5.1
MDJ Mudanjiang 36.87 67 *e*P **P** **08 52 07.0 +2.5**
comp=Z,18nm,0.9s,mb4.9
MDJ LR LR
comp=Z,1μm,19.0s,MS4.6
EIL Elat 37.11 266 P **P** **08 52 07.6 +1.0**
comp=Z,13nm,0.8s,mb4.8,baz=25,slow=13,SNR=8.2
EIL Elat 37.11 266 *e*P **P** **08 52 07.2 +0.6**
comp=Z,38nm,1.0s,mb5.2
KAF Kangasniemi 37.14 322 *e*p **P** **08 52 06.1 -0.4**
comp=Z,15nm,0.9s,mb4.8,baz=100,slow=8.7
KAF Kangasniemi 37.14 322 *e*P **P** **08 52 06.1 -0.4**
KAF pmax pmax
comp=Z,15nm,0.9s,mb4.8
FINES FINESS Array B 37.15 321 P **P** **08 52 06.5 0.0**
comp=Z,10nm,0.6s,mb4.8,baz=101,slow=9.7,SNR=26
FINES PP PP 08 53 38.9 +5.2
comp=Z,9.2nm,0.7s,baz=114,slow=14,SNR=3.9
FINES LR LR 09 07 52.7
comp=Z,2μm,18.4s,MS5.0,baz=103,slow=37
ULDT Uludag 37.15 285 *i* P **P** **08 52 06.8 0.0**
VRI Vrincioaia 37.34 295⇓ P **P** **08 52 09.7 +1.4**
KLR Kul'dur 37.45 59 *e*P **P** **08 52 07.0 -2.2**
KLR *e*S **S** **08 58 03.5 +7.4**
KLR *e*SS SS 09 00 31.0 +1.9
KLR MLR MLR
comp=E,600nm,14.0s
KLR MLR MLR
comp=Z,2μm,14.0s,MS4.9
ISR Istrita 37.63 294⇓ P **P** **08 52 13.2 +2.4**
MLR Muntele Rosu 37.96 294 P **P** **08 52 14.9 +1.3**
comp=Z,32nm,0.8s,mb5.1,baz=28,slow=3.2,SNR=36
MLR LR LR 09 10 02.2
comp=Z,2μm,19.1s,MS4.8,baz=70,slow=40
MLR Muntele Rosu 37.96 294⇑ P **P** **08 52 15.0 +1.5**
BURAR Bucovina Array 38.01 298⇑ P **P** **08 52 14.4 +0.5**
SNX Sinaia 38.28 294 P **P** **08 52 18.1 +1.8**
SNX Sinaia 38.28 294⇓ P **P** **08 52 18.8 +2.5**
LVV L'vov 38.41 302 *c i*P **P** **08 52 17.8 +0.5**
LVV MLR MLR
comp=E,1μm,16.0s,MS4.8
LVV MLR MLR
comp=N,200nm,15.0s,MS4.8
LVV MLR MLR
comp=Z,1μm,16.0s,MS4.7
SUW Suwalki 38.46 309 *e*P **P** **08 52 17.4 -0.3**
SUW MLR MLR 09 08 25.9
comp=Z,1μm,19.1s,MS4.8
SZH Strazhica 38.52 291 P **P** **08 52 17.8 -0.5**
MTUR Matau 38.62 294 P **P** **08 52 21.1 +2.0**
KEV Kevo 38.76 334 *e*p **P** **08 52 19.3 -0.7**
comp=Z,70nm,1.1s,mb5.3
KEV Kevo 38.76 334 *e*P **P** **08 52 19.3 -0.7**
KEV pmax pmax
comp=Z,70nm,1.1s,mb5.3
TATO Taipei 38.95 101 PFAKE 08 52 30.0 +8.0
TATO LR LR
comp=Z,401nm,19.0s,MS4.3
PVL Pavlikeni 38.96 291 *i* P **P** **08 52 17.0 -5.0**
TIXI Tiksi 38.98 23⇑ *i*P **P** **08 52 21.4 -0.5**
TIXI pmax pmax
comp=Z,14nm,1.0s,mb4.7
TIXI MLR MLR
comp=Z,3μm,20.0s,MS5.1
TIXI Tiksi 38.98 23 PFAKE 08 52 30.0 +8.1
TIXI LR LR
comp=Z,3μm,22.0s,MS5.1
KWP Kalwaria 39.28 302 *e*P **P** **08 52 25.2 +0.6**
KWP MLR MLR 09 11 06.8
comp=Z,2μm,19.4s,MS4.9
KOLS Kolonicke sedl 39.69 301 *e*P **P** **08 52 30.5 +2.5**
KOLS *e* 08 52 42.7
KOLS *e*PP PP 08 53 59.9 -3.2
UZH Uzhgorod 39.74 300 *e*P **P** **08 52 27.0 -1.4**
UZH *e* 08 54 06.0
KTK1 Kautokeino 39.82 332 *e*P **P** **08 52 28.8 -0.1**

comp=Z,149nm,1.7s,mb5.4
KTK1 Kautokeino 39.82 332 *e*P **P 08 52 28.8 -0.1**
KTK1 *e*pP pP 08 52 35.0 -0.2
KTK1 AMb AMB 08 52 39.1
comp=Z,149nm,1.7s,mb5.4
RZN Rozhen 39.85 289 P **P 08 52 27.5 -1.8**
PGB Panagyurishte 39.97 290 *i* P **P 08 52 32.0 +1.6**
CRVS Cervenica-Dubn 40.22 301 *e*P **P 08 52 34.0 +1.7**
CRVS *e*PP PP 08 54 10.1 +1.5
MMB Musomiste 40.58 289 P **P 08 52 35.5 +0.1**
VTS Vitosha 40.63 291 ⇓*i* P **P 08 52 37.2 +1.4**
VTS Vitosha 40.63 291 *i* P **P 08 52 37.0 +1.2**
NIE Niedzica 40.86 302 ⇑*i* P **P 08 52 36.9 -0.6**
APE Apeiranthos 40.88 282 *i* P **P 08 52 37.6 -0.3**
KECS Kecovo 40.94 300 *i* P **P 08 52 39.1 +0.8**
KECS *e*pP pP 08 52 45.2 +0.6
KKB Krupnik 40.95 290 *i* P **P 08 52 37.5 -0.9**
OJC Ojcow 41.03 303 *e*P **P 08 52 39.1 +0.2**
OJC *e* pP 08 52 45.2 -0.1
OJC *e*PP PP 08 54 16.4 -0.3
PLG Polygyros 41.18 288 *e*P **P 08 52 40.0 -0.3**
TRO Tromso 41.45 333 *e*P **P 08 52 41.7 -0.5**
TRO Tromso 41.45 333 *e*P **P 08 52 41.3 -0.9**
TRO *e*pP pP 08 52 47.8 -0.8
TRO AMS AMS 09 10 59.7
comp=Z,1μm,19.3s,MS4.8
PSZ Piszkesteto 41.45 300 P **P 08 52 44.1 +1.6**
PSZ Piszkesteto 41.45 300 *e*P **P 08 52 43.1 +0.6**
comp=Z,31nm,1.2s,mb4.8
PSZ Piszkesteto 41.45 300 *e*P **P 08 52 43.3 +0.8**
SVIS Svilajnac 41.51 294 *e*P **P 08 52 43.3 +0.4**
NPS Neapolis 41.55 279 *e*P **P 08 52 43.0 -0.4**
XRY Khrísi 41.66 279 *e*P **P 08 52 44.5 +0.3**
VYHS Vyhne 42.01 301 *i* P **P 08 52 47.7 +0.8**
VYHS *i* pP pP 08 52 53.7 +0.4
GKP Gorka Klasztor 42.06 308 *e*P **P 08 52 47.7 +0.4**
GKP MLR MLR
comp=Z,2μm,19.0s,MS4.9
GKP Gorka Klasztor 42.06 308 *e*P **P 08 52 47.8 +0.5**
GKP MLR MLR 09 10 52.9
comp=Z,2μm,19.0s,MS4.9
SKO Skopje 42.07 291 *e*P **P 08 52 48.0 +0.4**
IDI Anoyia 42.08 280 P **P 08 52 47.0 -0.7**
comp=Z,16nm,0.5s,mb4.9,baz=29,slow=8.8,SNR=22
OKC Ostrava-Krasne 42.15 303 *e*P **P 08 52 48.9 +0.8**
OKC *e*pP pP 08 52 55.1 +0.7
OKC *e*x x 08 54 41.9
OKC AMS AMS 09 11 00.0
comp=Z,1μm,15.5s
KOLL Kolacno 42.27 301 *i* P **P 08 52 50.0 +0.9**
KOLL *i* pP pP 08 52 56.3 +0.8
VAM Vamos 42.54 280 *e*P **P 08 52 50.5 -1.0**
MORC Moravsky Berou 42.54 303 ⇑P **P 08 52 51.9 +0.6**
MORC Moravsky Berou 42.54 303 *e*P **P 08 52 51.9 +0.6**
comp=Z,51nm,1.3s,mb5.1
PKSM Moragy 42.72 297 ⇑P **P 08 52 53.1 +0.3**
MOR8 Moi Rana 42.73 327 *e*P **P 08 52 52.0 -0.6**
MOR8 *e*pP pP 08 52 58.0 -1.0
GVD Gavdhos 42.86 280 *e*P **P 08 52 52.8 -1.4**
comp=Z,125nm,0.8s,mb5.7
EVR Evrytania 42.89 286 *e*P **P 08 52 54.5 +0.2**
SMOL Smolenice 42.91 301 *e*P **P 08 52 55.6 +1.3**
SMOL *i* pP pP 08 53 01.7 +1.0
MELSS Ber_school_2 43.05 328 *e*P **P 08 52 56.1 +0.9**
KSP Ksiaz 43.09 305⇑*e*P **P 08 52 56.2 +0.5**
KSP *e**PP pP 08 53 02.4 +0.3
KSP MLR MLR
comp=Z,3μm,17.6s,MS5.3
KSP Ksiaz 43.09 305 *e*P **P 08 52 56.2 +0.5**
KSP MLR MLR 09 11 40.2
comp=Z,3μm,17.6s,MS5.2
HFS Hagfors 43.17 318 P **P 08 52 56.3 0.0**
comp=Z,16nm,0.7s,mb4.8,baz=117,slow=9.9,SNR=21
HFS LR LR 09 11 31.0
comp=Z,2μm,21.3s,MS4.9,baz=266,slow=37
DPC Dobruska-Polom 43.18 304 *e*P **P 08 52 57.5 +1.0**
DPC *e*pP pP 08 53 03.6 +0.7
DPC *e*PP PP 08 54 41.9 +2.8
DPC AMS AMS 09 11 40.0
comp=Z,2μm,16.2s
LOF Lofoten 43.19 330 *e*P **P 08 52 58.3 +2.0**
comp=Z,284nm,1.6s,mb5.8
LOF Lofoten 43.19 330 *e*P **P 08 52 58.3 +2.0**
LOF AMb AMB 08 53 11.9
comp=Z,284nm,1.6s,mb5.8
ZST Bratislava 43.20 301 *e*P **P 08 52 57.3 +0.6**
ATD Arta Tunnel 43.23 237 P **P 08 52 58.1 +0.8**
comp=Z,13nm,0.8s,mb4.7,baz=244,slow=23,SNR=6.6
ATD LR LR 09 14 42.1
comp=Z,576nm,18.1s,MS4.5,baz=28,slow=41
VRAC Vranov 43.25 302 P **P 08 52 57.9 +0.8**
comp=Z,7.0nm,0.7s,mb4.5,baz=73,slow=12,SNR=8.3
VRAC Vranov 43.25 302 ⇑P **P 08 52 58.2 +1.1**
JAN Janina 43.30 288 *e*P **P 08 52 58.0 +0.4**
STOK Stokkvaagen 43.31 328 *e*P **P 08 52 57.6 +0.3**
UPC Upice 43.34 304 *e*P **P 08 52 58.5 +0.7**
UPC *e*pP pP 08 53 04.8 +0.7
NSS Namsos 43.75 325 *e*P **P 08 52 59.4 -1.6**
NSS AMS AMS 09 12 10.2
comp=Z,1μm,15.3s,MS5.0
PVCC Panska Ves 44.23 305 *e*P **P 08 53 05.9 +0.9**
PVCC *e**PP pP 08 53 12.3 +0.9
PVCC MLR MLR
comp=Z,1μm,17.5s,MS4.9
PVCC Panska Ves 44.23 305 *e*P **P 08 53 05.9 +0.9**
PVCC *e*pP pP 08 53 12.3 +0.9
PVCC *e*x x 08 55 11.9
PVCC AMS AMS 09 12 10.0
comp=Z,1μm,17.5s
NB2 NORSAR Subarra 44.31 320 P **P 08 53 04.7 -0.8**
comp=Z,50nm,0.9s,mb5.2,baz=86,slow=7.9
NB2 NORSAR Subarra 44.31 320 P **P 08 53 04.7 -0.8**
baz=86,slow=8.6
NOA NORSAR Array B 44.31 320 P **P 08 53 05.2 -0.3**
comp=Z,12nm,0.7s,mb4.7,baz=86,slow=7.9,SNR=30
NOA PP PP 08 54 55.8 +5.6
comp=Z,11nm,0.9s,baz=88,slow=9.5,SNR=3.5
NOA LR LR 09 12 04.0
comp=Z,2μm,18.3s,MS5.0,baz=70,slow=37
PRU Pruhonice 44.38 304 *e*P **P 08 53 06.7 +0.5**
PRU *e**PP pP 08 53 13.1 +0.5
PRU MLR MLR
comp=Z,2μm,15.9s,MS5.0
PRU Pruhonice 44.38 304 *e*P **P 08 53 06.7 +0.5**
PRU *e*pP pP 08 53 13.1 +0.5
PRU *e*x x 08 55 08.1
PRU AMS AMS 09 12 10.0
comp=Z,2μm,15.9s
ARSA Arzberg 44.48 300⇑*i*P **P 08 53 07.2 +0.1**
comp=Z,139nm,3.0s
NAO01 NORSAR Array S 44.49 320 *e*P **P 08 53 05.4 -1.6**
comp=Z,12nm,0.6s,mb4.8
BRG Berggiesshubel 44.53 305 *i* P **P 08 53 07.9 +0.4**
BRG pmax pmax
comp=Z,21nm,0.9s,mb5.0
BRG MLR MLR
comp=N,600nm,16.1s,MS4.9
BRG MLR MLR
comp=E,990nm,16.1s,MS4.9
BRG MLR MLR
comp=Z,2μm,16.1s,MS5.0
BRG Berggiesshubel 44.53 305 *i* P **P 08 53 07.9 +0.4**
comp=Z,21nm,0.9s,mb5.0
BRG *e*PP PP 08 55 08.0 +15
BRG LR LR
comp=Z,2μm,16.1s,MS5.0
CLL Collm 45.00 306⇑*i*P **P 08 53 11.1 -0.1**
CLL *i* pP 08 53 17.4 -0.2
CLL *i* 08 53 22.8
CLL pmax pmax
comp=Z,37nm,0.7s,mb5.3
CLL Collm 45.00 306⇑*i*P **P 08 53 11.1 -0.1**
comp=Z,37nm,0.7s,mb5.3
CLL *i* pP 08 53 17.4 -0.2
CLL *i* 08 53 22.8
CLL Collm 45.00 306 ⇑P **P 08 53 11.1 -0.1**
comp=Z,logA/T=1.7,mb5.3
CLL *i* *PP pP 08 53 17.4 -0.2
CLL *i* *SP sP 08 53 22.8 +2.6
CLL *e*PP PP 08 54 59.0 +1.7
CLL *e*PPP PPP 08 55 33.0 -5.0
MOA Molln 45.13 301⇑*i*P **P 08 53 12.5 +0.2**
comp=Z,136nm,3.1s
YSS Yuzh-Sakhalins 45.15 60 *i* P **P 08 53 12.9 +0.5**
YSS pmax pmax
comp=Z,23nm,1.7s,mb4.7
YSS MLR MLR
comp=Z,1μm,18.0s,MS4.9
YSS Yuzh-Sakhalins 45.15 60 PFAKE 08 53 20.0 +7.6
YSS LR LR
comp=Z,1μm,19.0s,MS4.8
BOJS Bojanci 45.19 298 *e*P **P 08 53 12.7 -0.1**
BOJS *e*pP pP 08 53 19.1 -0.1
KHC Kasperske Hory 45.21 303 *e*P **P 08 53 13.4 +0.5**
KHC *e*pP pP 08 53 19.9 +0.6
KHC *e*PP PP 08 55 06.9 +7.5
KHC AMS AMS 09 15 30.0
comp=Z,1μm,15.8s
GEC2 GERESS Array S 45.21 302 *e*P **P 08 53 13.6 +0.7**
GEC2 *e* 08 54 59.6
GEC2 pmax pmax
comp=Z,44nm,1.3s,mb5.1
GEC2 GERESS Array S 45.21 302 *e*P **P 08 53 13.6 +0.7**
comp=Z,44nm,1.3s,mb5.1
GEC2 *e*PP PP 08 54 59.6 +0.2
GERES GERESS Array B 45.21 302 P **P 08 53 13.6 +0.7**
comp=Z,6.4nm,0.5s,mb4.7,baz=68,slow=7.2,SNR=59
GERES LR LR 09 16 06.1
comp=Z,993nm,18.3s,MS4.8,baz=74,slow=41
GERES GERESS Array B 45.21 302 P **P 08 53 13.6 +0.7**
GERES LR LR 09 16 06.1
DOMB Dombas 45.23 322 *e*P **P 08 53 12.8 0.0**
DOMB *e*pP pP 08 53 19.1 -0.1
KONO Kongsberg 45.28 318 PFAKE 08 53 30.0 +17
KONO LR LR
comp=Z,2μm,20.0s,MS5.0
KONO Kongsberg 45.28 318 *e*P **P 08 53 13.2 -0.1**
OBKA Obir 45.34 299⇑*i*P **P 08 53 14.2 +0.2**
comp=Z,121nm,2.8s,mb5.2
LJU Ljubljana 45.50 298 *e*P **P 08 53 15.4 +0.2**
LJU *e*pP pP 08 53 21.8 +0.2
NKC Novy Kostel 45.62 305 *e*P **P 08 53 16.9 +0.8**
NKC *e**PP pP 08 53 23.0 +0.5
NKC MLR MLR
comp=Z,2μm,15.7s,MS5.1
NKC Novy Kostel 45.62 305 *e*P **P 08 53 16.9 +0.8**
NKC *e*pP pP 08 53 23.0 +0.5
NKC *e*x x 08 55 20.4
NKC AMS AMS 09 13 00.0
comp=Z,2μm,15.7s
WET Wettzell 45.65 303 *e*P **P 08 53 16.8 +0.5**
WET pmax pmax
comp=Z,23nm,1.0s,mb5.1
WET Wettzell 45.65 303 *e*P **P 08 53 16.8 +0.5**
comp=Z,23nm,1.0s,mb5.1
MAJO Matsushiro 45.74 76 PFAKE 08 53 30.0 +13
MAJO LR LR
comp=Z,823nm,20.0s,MS4.7
MAT Matsushiro 45.74 76 *e*P **P 08 53 15.0 -2.2**
MAT pmax pmax
comp=Z,13nm,1.0s,mb4.8
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.6
MAT Matsushiro 45.74 76 *e*P **P 08 53 15.0 -2.2**
comp=Z,13nm,1.0s,mb4.8
MAT LR LR
comp=Z,710nm,20.0s,MS4.6
MAT Matsushiro 45.74 76 P **P 08 53 15.4 -1.8**
MJAR Matsushiro Arr 45.74 76 P **P 08 53 17.5 +0.2**
comp=Z,10nm,1.1s,mb4.7,baz=288,slow=9.5,SNR=12
MJAR PP PP 08 54 59.4 -5.5
comp=Z,3.3nm,0.8s,baz=276,slow=4.4,SNR=4.6
MJAR LR LR 09 13 21.4
comp=Z,440nm,18.5s,MS4.4,baz=295,slow=37
LTRZ Laterza 45.81 291 *e*P **P 08 53 17.6 -0.2**
MOL Molde 45.87 322 *e*P **P 08 53 19.9 +2.0**
comp=Z,159nm,1.9s,mb5.6
MOL Molde 45.87 322 *e*P **P 08 53 19.9 +2.0**
MOL AMb AMB 08 53 29.7
comp=Z,159nm,1.9s,mb5.6
VOY Vojsko 45.92 299 *e*P **P 08 53 17.8 -0.8**
VOY *e* pP 08 53 24.7 -0.3
ASAJ Asahikawa 45.95 64 LR LR 09 14 29.1
comp=Z,2μm,18.2s,MS5.0,baz=153,slow=38
KBA Koelnbreinsper 45.96 300⇑*i*P **P 08 53 18.7 -0.1**
comp=Z,81nm,1.9s,mb5.3
KBA Koelnbreinsper 45.96 300⇑*i*P **P 08 53 18.7 -0.1**
KBA pmax pmax
comp=Z,81nm,1.9s,mb5.3
BSEG Bad Segeberg 45.97 310 *e*P **P 08 53 19.5 +0.7**
BSEG pmax pmax
comp=Z,41nm,1.1s,mb5.3
MOX Moxa 46.02 305 *e*P **P 08 53 18.9 -0.4**
MOX pmax pmax
comp=Z,51nm,1.4s,mb5.3
MOX MLR MLR
comp=Z,1μm,17.0s,MS4.8
MOX Moxa 46.02 305 *e*P **P 08 53 18.9 -0.4**
comp=Z,51nm,1.4s,mb5.3
MOX LR LR
comp=Z,1μm,17.0s,MS4.8
MOX Moxa 46.02 305 *i* P **P 08 53 18.9 -0.4**
comp=Z,logA/T=1.6,mb5.3
MOX L 09 15 53.0
MUD Monsted U'grnd 46.06 314 *e*P **P 08 53 25.9 +6.4**
MUD pmax pmax
comp=Z,46nm,1.2s,mb5.3
MUD MLR MLR
comp=Z,1μm,17.0s,MS4.8
MUD Monsted U'grnd 46.06 314 *i* P **P 08 53 25.9 +6.4**
comp=Z,46nm,1.2s,mb5.3
comp=Z,1μm,17.0s
ROBS Robic 46.11 299 *e*P **P 08 53 19.3 -0.8**
TIP Timpagrande 46.41 289 *e*P **P 08 53 22.2 -0.3**
CLZ Clausthal 46.46 307 *e*P **P 08 53 23.0 +0.3**
comp=Z,21nm,1.1s,mb5.0
FVI Forni Avoltri 46.48 300 *e*P **P 08 53 22.2 -0.7**
GRA1 Grafenberg Arr 46.53 304 *e*P **P 08 53 24.2 +0.9**
comp=Z,66nm,0.8s,mb5.6
GRA1 *e*pP pP 08 53 30.8 +1.1
GRA1 LR LR
comp=Z,1μm,18.2s,MS4.8
GRF Grafenberg Arr 46.53 304 *e*P **P 08 53 24.2 +0.9**
GRF *e**PP pP 08 53 30.8 +1.1
GRF pmax pmax
comp=Z,66nm,0.8s,mb5.6
GRF MLR MLR
comp=Z,1μm,18.2s,MS4.8
GRF Grafenberg Arr 46.53 304 *e*P **P 08 53 24.2 +0.9**
GRF *e**PP pP 08 53 30.8 +1.1
GRF pmax pmax
comp=Z,66nm,0.8s,mb5.6
GRF MLR MLR
comp=Z,1μm,18.2s,MS4.8
GRF Grafenberg Arr 46.53 304 *e*P **P 08 53 24.2 +0.9**
comp=Z,66nm,0.8s,mb5.6
GRF *e*pP pP 08 53 30.8 +1.1
GRF LR LR
comp=Z,1μm,18.2s,MS4.8
MRLC Muro Lucano 46.69 291 *e*P **P 08 53 25.0 +0.3**
MA2 Magadan 46.78 42*c i*P **P 08 53 25.5 +0.4**
MA2 *e* pP 08 53 31.3 -0.3
MA2 *e* 08 55 09.4
MA2 pmax pmax
comp=N,5.0nm,0.7s
MA2 pmax pmax
comp=E,9.0nm,0.7s
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
MA2 Magadan 46.78 42 *e*P **P 08 53 25.4 +0.3**
comp=Z,38nm,0.9s,mb5.3
MA2 LR LR
comp=Z,591nm,21.0s,MS4.5
SGO Sicignano 46.89 291 *e*P **P 08 53 26.8 +0.5**
FUR Furstenfeldbru 46.95 302 *e*P **P 08 53 27.7 +1.0**
FUR pmax pmax
comp=Z,75nm,1.1s,mb5.5
FUR Furstenfeldbru 46.95 302 *e*P **P 08 53 27.7 +1.0**
comp=Z,75nm,1.1s,mb5.5
SEY Seymchan 46.97 37 *e*P **P 08 53 28.5 +1.9**
SEY *PP pP 08 53 41.7 +8.7
SEY 08 55 01.0
SEY *e*S **S 09 00 14.2 -1.7**
SEY 09 03 21.1
SEY pmax pmax
comp=Z,30nm,0.8s,mb5.3
SEY pmax pmax
comp=N,10.0nm,0.7s
SEY pmax pmax
comp=E,20nm,0.7s
SEY MLR MLR
comp=Z,5μm,19.0s,MS5.5
SEY MLR MLR
comp=N,2μm,20.0s,MS5.3
SEY MLR MLR
comp=E,2μm,17.0s,MS5.3
WTTA Wattenberg 47.00 301⇑*i*P **P 08 53 26.8 -0.3**
comp=E,257nm,2.7s,mb5.7
WTTA Wattenberg 47.00 301⇑*i*P **P 08 53 26.8 -0.3**
WTTA pmax pmax
comp=Z,257nm,2.7s,mb5.7
WATA Walderalm 47.02 301⇑*i*P **P 08 53 27.4 +0.2**
comp=Z,36nm,1.1s,mb5.2
WATA Walderalm 47.02 301⇑*i*P **P 08 53 27.4 +0.2**
WATA pmax pmax
comp=Z,36nm,1.1s,mb5.2
BER Bergen 47.27 320 AMS AMS 09 14 22.2
comp=Z,1μm,19.6s,MS5.0
SQTA Sankt Quirin 47.29 301⇑*i*P **P 08 53 29.1 -0.3**
comp=Z,44nm,1.6s,mb5.1
SQTA Sankt Quirin 47.29 301⇑*i*P **P 08 53 29.1 -0.3**
SQTA pmax pmax
comp=Z,44nm,1.6s,mb5.1
MOTA Moosalm 47.32 301⇑*i*P **P 08 53 29.7 +0.1**
CTI Castel Tesino 47.40 299 *e*P **P 08 53 29.7 -0.5**
ARV Arcevia 47.43 296 *e*P **P 08 53 30.4 -0.1**
FSSB Fossombrone 47.47 296 *e*P **P 08 53 30.9 +0.1**
SDI San Donato 47.50 293 *e*P **P 08 53 31.2 +0.1**
SNTG Esanatoglia 47.52 295 *e*P **P 08 53 31.2 0.0**
AQU L'Aquila 47.53 294 ⇓P **P 08 53 32.2 +0.8**
AQU L'Aquila 47.53 294 *e*P **P 08 53 32.0 +0.6**
comp=Z,31nm,0.8s,mb5.4
PTQR Pietraquaria 47.66 294 *e*P **P 08 53 33.6 +1.2**
ASS Assisi 47.78 295 *e*P **P 08 53 34.2 +0.9**
MNS Montasola 48.02 294 *e*P **P 08 53 35.2 +0.1**
SFI Santa Sofia 48.02 297 *e*P **P 08 53 35.7 +0.6**
TOD Tromm 48.05 305 *e*P **P 08 53 35.1 -0.2**
TNS Taunus Mts 48.08 306 *e*P **P 08 53 35.6 +0.1**
TNS pmax pmax
comp=Z,15nm,0.8s,mb5.1
TNS Taunus Mts 48.08 306 *e*P **P 08 53 35.6 +0.1**
comp=Z,15nm,0.8s,mb5.1
PGD Poggio Sodo 48.11 297 *e*P **P 08 53 36.8 +0.9**
DAVA Damuels 48.13 302⇑*i*P **P 08 53 35.8 -0.1**
comp=Z,70nm,1.3s,mb5.5
VMG Vicchio 48.20 297 *e*P **P 08 53 37.9 +1.4**
DAVOX Davos 48.30 301 P **P 08 53 36.9 -0.3**
comp=Z,17nm,0.8s,mb5.1,baz=97,slow=7.2,SNR=13
DAVOX LR LR 09 16 45.1
comp=Z,1μm,20.1s,MS4.9,baz=65,slow=39
ZCCA Zocca 48.44 297 *e*P **P 08 53 39.6 +1.3**
SPAK Spaichingen 48.55 303 *e*P **P 08 53 39.1 -0.1**
GSCL Gusciola 48.70 298 *e*P **P 08 53 41.2 +0.9**
ABH Altenburg 48.74 305 *e*P **P 08 53 40.7 +0.1**
BFO Black Forest 48.76 303 P **P 08 53 40.3 -0.5**
comp=Z,148nm,1.0s,mb6.0,SNR=8.0
BFO Black Forest 48.76 303 *e*P **P 08 53 40.7 -0.1**
BFO pmax pmax
comp=Z,27nm,1.0s,mb5.2
BFO Black Forest 48.76 303 *e*P **P 08 53 40.7 -0.1**
comp=Z,27nm,1.0s,mb5.2
ERBM Eremo 48.79 298 *e*P **P 08 53 42.2 +1.2**
VAE Valguarnera 48.80 288 LR LR 09 16 25.5
comp=Z,263nm,20.2s,MS4.2,baz=341,slow=39
LANF Langenberg 48.88 304 *e*P **P 08 53 41.4 -0.2**
GRFL Gerfalco 48.89 296 *e*P **P 08 53 41.8 0.0**
PII Pisa 48.97 297 *e*P **P 08 53 41.8 -0.6**
RUP Ruppelstein 49.10 305 *e*P **P 08 53 43.5 +0.1**
FELD Feldberg 49.12 303 *e*P **P 08 53 43.1 -0.5**
BOB Bobbio (Coli) 49.30 299 *e*P **P 08 53 45.6 +0.6**
VAI Varese 49.34 300 *e*P **P 08 53 43.6 -1.7**
WLS Welschbruch 49.35 304 *e*P **P 08 53 43.8 -1.5**
CDF Champ du Feu 49.40 304⇑*i*P **P 08 53 45.3 -0.4**
comp=Z,52nm,1.1s,mb5.2
CDF Champ du Feu 49.40 304⇑*i*P **P 08 53 45.3 -0.4**
CDF pmax pmax
comp=Z,26nm,1.1s,mb5.2
ECH Echery 49.54 304 *e*P **P 08 53 46.6 -0.2**
WLF Walferdange 49.67 306 *e*P **P 08 53 48.2 +0.5**
WLF pmax pmax
comp=Z,36nm,1.0s,mb5.4
WLF Walferdange 49.67 306 *e*P **P 08 53 48.2 +0.5**
comp=Z,36nm,1.0s,mb5.3
MOF Molkenrain 49.68 303 *e*P **P 08 53 47.6 -0.3**
HINF Hinteralfeld 49.87 303⇑*i*P **P 08 53 49.0 -0.3**
comp=Z,64nm,0.7s,mb5.4
HINF Hinteralfeld 49.87 303⇑*i*P **P 08 53 49.0 -0.3**
HINF pmax pmax
comp=Z,32nm,0.7s,mb5.5
HAU Haudompre 50.12 303⇑*i*P **P 08 53 50.7 -0.5**
comp=Z,65nm,1.0s,mb5.3
HAU *e*R
comp=Z,1μm,18.0s
HAU Haudompre 50.12 303⇑*i*P **P 08 53 50.7 -0.5**
HAU pmax pmax
comp=Z,32nm,1.0s,mb5.3
HAU MLR MLR
comp=Z,1μm,18.0s,MS5.0
THEF They Montfort 50.27 304 *e*P **P 08 53 52.0 -0.4**
GIVF Givet 50.33 307⇑*i*P **P 08 53 52.7 -0.1**
PGF Pioggiola 50.46 296⇑*i*P **P 08 53 53.4 -0.5**
comp=Z,79nm,1.4s,mb5.3
PGF Pioggiola 50.46 296⇑*i*P **P 08 53 53.4 -0.5**
PGF pmax pmax
comp=Z,39nm,1.4s,mb5.2
IMI Imperia 50.66 298 *e*P **P 08 53 55.4 0.0**
BAIF Baives 50.71 307⇑*i*P **P 08 53 55.7 0.0**
comp=Z,40nm,0.8s,mb5.1
BAIF Baives 50.71 307⇑*i*P **P 08 53 55.7 0.0**
BAIF pmax pmax
comp=Z,20nm,0.8s,mb5.1
LPG La Plagne 50.79 300⇑*i*P **P 08 53 56.4 0.0**
comp=Z,76nm,1.2s,mb5.2
LPG La Plagne 50.79 300⇑*i*P **P 08 53 56.4 0.0**
LPG pmax pmax
comp=Z,38nm,1.2s,mb5.2
CABF La Chapelle 50.80 302⇑*i*P **P 08 53 55.7 -0.7**
comp=Z,69nm,1.2s,mb5.2
CABF La Chapelle 50.80 302⇑*i*P **P 08 53 55.7 -0.7**
CABF pmax pmax
comp=Z,35nm,1.2s,mb5.2
LPL La Plagne 50.80 300⇑*i*P **P 08 53 56.5 +0.1**
comp=Z,84nm,1.1s,mb5.3
LPL La Plagne 50.80 300⇑*i*P **P 08 53 56.5 +0.1**
LPL pmax pmax
comp=Z,42nm,1.1s,mb5.3
DOI San Damiano 50.85 299 *e*P **P 08 53 55.7 -1.1**
SAOF Saorge 50.85 298 *e*P **P 08 53 56.7 -0.2**
AUTN L'Aution 50.93 298 *e*P **P 08 53 57.4 -0.1**
SBF Sospel 50.98 298⇑*i*P **P 08 53 57.4 -0.4**
comp=Z,76nm,0.9s,mb5.3
SBF Sospel 50.98 298⇑*i*P **P 08 53 57.4 -0.4**
SBF pmax pmax
comp=Z,38nm,0.9s,mb5.3
BNI Bardonecchia 51.01 300 *e*P **P 08 53 57.5 -0.5**
BNI pmax pmax
comp=Z,43nm,1.0s,mb5.3
BNI Bardonecchia 51.01 300 *e*P **P 08 53 57.5 -0.5**
comp=Z,43nm,1.0s,mb5.3
TOUF Mont Tournerai 51.05 298 *e*P **P 08 53 57.9 -0.4**
MBDF Montbardon 51.08 299⇑*i*P **P 08 53 57.6 -0.9**
comp=Z,21nm,0.8s,mb4.8
MBDF Montbardon 51.08 299⇑*i*P **P 08 53 57.6 -0.9**
MBDF pmax pmax
comp=Z,11nm,0.8s,mb4.8
SURF Saint Ours 51.15 299 *e*P **P 08 53 58.8 -0.3**
MVIF Mont Vial 51.16 298 *e*P **P 08 53 58.8 -0.4**
GDM Grand'Maison 51.32 300 *e*P **P 08 54 00.1 -0.3**
CALN Calern 51.39 298 *e*P **P 08 54 00.5 -0.4**
BILL Bilibino 51.52 29*c i*P **P 08 54 02.0 +0.4**
BILL *e* 08 56 00.7
BILL *e*S **S 09 01 21.9 +2.6**
BILL *e*SS ScS 09 03 47.3 -0.3
BILL pmax pmax
comp=Z,46nm,1.7s,mb5.1
BILL MLR MLR
comp=Z,1μm,16.0s,MS4.9
BILL Bilibino 51.52 29 *e*P **P 08 54 01.8 +0.2**
comp=Z,26nm,1.0s,mb5.1
BILL LR LR
comp=Z,820nm,21.0s,MS4.7
GRN Grenoble 51.54 300 *e*P **P 08 54 00.1 -2.0**
ORIF Oris-en-Rattie 51.58 300⇑*i*P **P 08 54 01.5 -0.9**
comp=Z,51nm,0.9s,mb5.1

ORIF *e*R
comp=Z,2µm,22.5s
FRF La Foret Royal 51.63 298⇑*i*P P 08 54 01.8 -0.9
comp=Z,64nm,1.2s,mb5.1
FRF La Foret Royal 51.63 298⇑*i*P P 08 54 01.8 -0.9
FRF pmax pmax
comp=Z,32nm,1.2s,mb5.1
DAG Danmarks Havn 51.78 343⇓*i*P P 08 54 02.9 -0.6
DAG pmax pmax
comp=Z,16nm,0.7s,mb5.1
DAG Danmarks Havn 51.78 343⇓*i*P P 08 54 02.9 -0.6
comp=Z,16nm,0.7s,mb5.0
LMR La Mourre 51.81 298⇑*i*P P 08 54 03.2 -0.9
STOF St-Etienne Org 51.94 299 *e*P P 08 54 04.8 -0.3
VILF Villemus 52.12 299 *e*P P 08 54 05.7 -0.8
SMF Signal de Mont 52.21 303⇑*i*P P 08 54 06.1 -1.0
comp=Z,67nm,0.9s,mb5.3
SMF Signal de Mont 52.21 303⇑*i*P P 08 54 06.1 -1.0
SMF pmax pmax
comp=Z,33nm,0.9s,mb5.3
SSF Saint Saulge 52.26 303 *e*P P 08 54 06.4 -1.1
PUYF Puyloubier 52.27 298 *e*P P 08 54 06.9 -0.7
BERF Bertagne 52.36 298 *e*P P 08 54 08.1 -0.2
VIVF Saint-Julien-l 52.40 300⇑*i*P P 08 54 07.9 -0.6
comp=Z,50nm,0.9s,mb5.1
VIVF Saint-Julien-l 52.40 300⇑*i*P P 08 54 07.9 -0.6
VIVF pmax pmax
comp=Z,25nm,0.9s,mb5.1
TREF Trevaresse 52.44 299 *e*P P 08 54 08.8 -0.1
AVF Avril sur Loir 52.46 303⇑*i*P P 08 54 08.1 -0.9
comp=Z,88nm,0.8s,mb5.5
AVF Avril sur Loir 52.46 303⇑*i*P P 08 54 08.1 -0.9
AVF pmax pmax
comp=Z,44nm,0.8s,mb5.4
GELF Grande-Etoile 52.51 298 *e*P P 08 54 09.2 -0.2
PLDF La Plantade 52.62 302 *e*P P 08 54 09.9 -0.3
PET Petropavlovsk 52.83 48 *i*P P 08 54 11.4 -0.3
PET pmax pmax
comp=Z,43nm,1.3s,mb5.2
PET MLR MLR
comp=Z,600nm,19.0s,MS4.7
BGF Bois d'Agland 52.88 303⇑*i*P P 08 54 10.9 -1.2
comp=Z,54nm,1.1s,mb5.1
BGF Bois d'Agland 52.88 303⇑*i*P P 08 54 10.9 -1.2
BGF pmax pmax
comp=Z,27nm,1.1s,mb5.1
AGO Saint Agoulin 52.90 302 *e*P P 08 54 11.8 -0.5
EKA Eskdalemuir Ar 53.03 315 P P 08 54 12.2 -1.0
comp=Z,11nm,1.0s,mb4.8,baz=99,slow=9.8,SNR=12
LBL Lubilhac 53.16 301 *e*P P 08 54 14.6 +0.4
LASF Ste Croix 53.25 300⇑*i*P P 08 54 14.4 -0.5
comp=Z,68nm,1.2s,mb5.2
TCF Toulx Ste Croi 53.39 303⇑*i*P P 08 54 15.2 -0.7
comp=Z,50nm,0.9s,mb5.2
TCF Toulx Ste Croi 53.39 303⇑*i*P P 08 54 15.2 -0.7
TCF pmax pmax
comp=Z,25nm,0.9s,mb5.1
LDF La Druitiere 53.89 306⇑*i*P P 08 54 18.3 -1.2
comp=Z,36nm,0.6s,mb5.2
LDF La Druitiere 53.89 306⇑*i*P P 08 54 18.3 -1.2
LDF pmax pmax
comp=Z,18nm,0.6s,mb5.2
FLN La Foliniere 54.04 307⇑*i*P P 08 54 19.2 -1.4
comp=Z,36nm,0.8s,mb5.0
FLN *e*R
comp=Z,1µm,17.5s
FLN La Foliniere 54.04 307⇑*i*P P 08 54 19.2 -1.4
FLN pmax pmax
comp=Z,18nm,0.8s,mb5.0
FLN MLR MLR
comp=Z,1µm,17.5s,MS5.0
CAF Calviac 54.05 301⇑*i*P P 08 54 20.4 -0.3
comp=Z,39nm,1.0s,mb5.0
CAF Calviac 54.05 301⇑*i*P P 08 54 20.4 -0.3
CAF pmax pmax
comp=Z,20nm,1.0s,mb5.0
RJF Les Rejaudoux 54.24 302⇑*i*P P 08 54 21.8 -0.3
comp=Z,52nm,0.8s,mb5.2
RJF *e*R
comp=Z,729nm,21.8s
RJF Les Rejaudoux 54.24 302⇑*i*P P 08 54 21.8 -0.3
RJF pmax pmax
comp=Z,26nm,0.8s,mb5.2
RJF MLR MLR
comp=Z,730nm,21.8s,MS4.7
GRR Gorron 54.42 306 *e*P P 08 54 22.2 -1.2
comp=Z,22nm,0.5s,mb5.0
GRR Gorron 54.42 306 *e*P P 08 54 22.2 -1.2
GRR pmax pmax
comp=Z,11nm,0.5s,mb5.0
MTLF Montolieu 54.64 300⇑*i*P P 08 54 24.4 -0.7
comp=Z,50nm,1.1s,mb5.1
MTLF Montolieu 54.64 300⇑*i*P P 08 54 24.4 -0.7
MTLF pmax pmax
comp=Z,25nm,1.1s,mb5.2
MFF Saint Martin d 54.73 304⇑*i*P P 08 54 24.4 -1.3
comp=Z,33nm,0.8s,mb5.1
MFF Saint Martin d 54.73 304⇑*i*P P 08 54 24.4 -1.3
MFF pmax pmax
comp=Z,17nm,0.8s,mb5.1
LFF La Frestale 54.89 302⇑*i*P P 08 54 26.5 -0.5
comp=Z,76nm,0.9s,mb5.4
LFF La Frestale 54.89 302⇑*i*P P 08 54 26.5 -0.5
LFF pmax pmax
comp=Z,38nm,0.9s,mb5.4
SCO Scoresbysund 55.00 336 *i*P P 08 54 27.7 +0.3
SCO pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
SCO Scoresbysund 55.00 336 *i*P P 08 54 27.7 +0.3
comp=Z,8.3nm,0.8s,mb4.8
SGMF Saint Gilles 55.51 307⇑*i*P P 08 54 30.4 -0.9
comp=Z,60nm,0.8s,mb5.4
SGMF Saint Gilles 55.51 307⇑*i*P P 08 54 30.4 -0.9
SGMF pmax pmax
comp=Z,30nm,0.8s,mb5.4
DLF Lyons Farm 55.65 314 *e*P P 08 54 32.0 -0.3
EMIR Miracle 55.74 298 P P 08 54 33.0 -0.1
comp=Z,14nm,0.9s,mb5.0
ETOS Mallorca 55.87 295 P P 08 54 33.9 -0.2
comp=Z,18nm,0.8s,mb5.2
ROSF Rostrenen 55.90 307⇑*i*P P 08 54 33.1 -1.1
comp=Z,21nm,0.6s,mb5.0
EPF Esparros 56.01 300⇑*i*P P 08 54 33.3 -1.7
comp=Z,38nm,1.1s,mb5.0
QUIF Quistinic 56.02 307 *e*P P 08 54 33.8 -1.2
comp=Z,83nm,1.0s,mb5.4
DCN Croghan 56.03 314 *e*P P 08 54 33.0 -2.0
EBIE Bielsa 56.29 300 P P 08 54 36.6 -0.5
comp=Z,8.5nm,0.6s,mb5.0
EPOB Poblet 56.30 298 P P 08 54 35.0 -2.1
KMBO Kilima Mbogo 56.56 232 *i*P P 08 54 40.0 +0.6
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 56.56 232 P P 08 54 37.8 -1.6
comp=Z,1.9nm,0.6s,mb4.3,baz=37,slow=14,SNR=4.0
KMBO LR LR 09 21 40.4
comp=Z,452nm,18.4s,MS4.6,baz=97,slow=39
KMBO Kilima Mbogo 56.56 232 *e*P P 08 54 38.1 -1.2
comp=Z,17nm,1.5s,mb4.8
KMBO LR LR
comp=Z,479nm,22.0s,MS4.5
ETSF Etsaut 56.65 300⇑*i*P P 08 54 39.1 -0.6
comp=Z,82nm,1.2s,mb5.3
ERTA Horta de San J 56.98 298 P P 08 54 40.6 -1.4
SJPF Ste Jean 56.98 301 *e*P P 08 54 40.8 -1.2
ESAC San Caprasio 57.15 299 P P 08 54 42.4 -0.8
comp=Z,18nm,0.6s,mb5.3
EIBI Ibiza 57.23 295 P P 08 54 44.2 +0.3
comp=Z,12nm,0.6s,mb5.1
EMOS Mosqueruela 57.80 298 P P 08 54 47.3 -0.5
comp=Z,14nm,0.8s,mb5.0
ECRI Cripan 58.05 301 P P 08 54 49.4 -0.1
comp=Z,10nm,0.6s,mb5.0
ELAN Lanestosa 58.35 302 P P 08 54 51.2 -0.4
comp=Z,25nm,0.8s,mb5.3
SUMG Summit 58.37 342 *e*P P 08 54 51.2 -0.1
comp=Z,30nm,0.9s,mb5.3
EBEN Beniarda 58.45 296 P P 08 54 51.5 -0.9
ECHE Chera 58.51 297 P P 08 54 52.2 -0.6
ETOB Tobarra 59.38 296 P P 08 54 58.1 -0.7
comp=Z,9.8nm,0.8s,mb4.9
EARI Arriondas 59.45 303 P P 08 54 58.9 -0.3
comp=Z,11nm,0.8s,mb5.0
EMUR La Murta 59.58 295 P P 08 54 58.4 -1.8
EVIA Vianos 60.02 297 P P 08 55 03.2 -0.1
comp=Z,13nm,0.8s,mb5.0

MBAR Mbarara 60.20 239 *i*P P 08 55 03.0 -1.8
MBAR Mbarara 60.20 239 *e*P P 08 55 01.5 -3.3
comp=Z,17nm,0.9s,mb5.1
MBAR LR LR
comp=Z,128nm,19.0s,MS4.1
ESDC Sonseca Array 60.47 298 P P 08 55 05.3 -1.0
comp=Z,4.1nm,0.6s,mb4.7,baz=59,slow=6.9,SNR=17
ESDC Sonseca Array 60.47 298 P P 08 55 05.2 -1.0
comp=Z,3.0nm,0.5s,mb4.6
ESLA Sonseca Array 60.47 298 *e*P P 08 55 05.3 -0.9
comp=Z,2.9nm,0.9s,mb4.3
ESLA LR LR
comp=Z,3µm,21.0s,MS5.4
EHUE Huescar 60.51 296 P P 08 55 05.6 -0.9
comp=Z,2.0nm,0.5s,mb4.5
EPON Pontenova 60.66 303 P P 08 55 06.5 -1.0
comp=Z,17nm,0.7s,mb5.3
EQES Quesada 60.84 296 P P 08 55 07.6 -1.2
comp=Z,34nm,1.2s,mb5.4
ECAL Calabor 61.11 302 P P 08 55 07.7 -2.9
comp=Z,10nm,0.7s,mb5.1
EINC Incio 61.13 303 P P 08 55 10.0 -0.7
comp=Z,19nm,0.8s,mb5.3
ERUA La Rua 61.13 302 P P 08 55 09.7 -1.0
EADA Adamuz 61.66 297 P P 08 55 13.3 -1.1
ELOB Lobios 61.99 302 P P 08 55 16.3 -0.2
comp=Z,19nm,0.7s,mb5.3
ECAB El Cabril 62.27 298 P P 08 55 17.2 -1.3
comp=Z,7.0nm,0.7s,mb4.9
MTE Manteigas 62.43 301 *e*P P 08 55 16.2 -3.3
comp=Z,27nm,1.1s,mb5.3
EBAD Badajoz 62.96 299 P P 08 55 22.6 -0.5
comp=Z,6.4nm,0.5s,mb5.0
ESPR Espera 63.21 297 P P 08 55 23.6 -1.1
EMIN Mina Concepcio 63.27 298 P P 08 55 24.3 -0.7
comp=Z,14nm,0.7s,mb5.2
GUMO Guam 63.29 95 PFAKE 08 55 40.0 +14
GUMO LR LR
comp=Z,1µm,19.0s,MS5.2
RES Resolute Bay 64.14 358 *e*P P 08 55 29.4 -0.8
comp=Z,13nm,0.9s,mb5.0
IMA Indian Mountai 65.55 21 *e*P P 08 55 39.5 +0.1
comp=Z,14nm,0.8s,mb5.0
INK Inuvik 68.00 12 P P 08 55 54.5 -0.4
INK pmax pmax
comp=Z,14nm,0.8s
INK Inuvik 68.00 12 P P 08 55 54.5 -0.4
comp=Z,14nm,0.8s,mb5.0,baz=354,slow=7.5,SNR=118
INK Inuvik 68.00 12 *e*P P 08 55 54.4 -0.5
comp=Z,37nm,1.1s,mb5.3
COLA College 68.00 20 *i*P P 08 55 54.6 -0.4
COLA College 68.00 20 *e*P P 08 55 54.5 -0.5
comp=Z,47nm,1.4s,mb5.3
ILAR Eielson Array 68.33 19 P P 08 55 55.9 -1.1
ILAR pmax pmax
comp=Z,7.0nm,0.9s
ILAR MLR MLR
comp=Z,931nm,18.1s
ILAR Eielson Array 68.33 19 P P 08 55 55.9 -1.1
comp=Z,7.1nm,0.9s,mb4.7,baz=314,slow=5.1,SNR=50
ILAR LR LR 09 29 54.2
comp=Z,930nm,18.1s,MS5.1,baz=344,slow=39
SVW2 Sparrevohn 68.77 25 *e*P P 08 56 00.7 +0.9
PWA Palmer West 70.06 22 *e*P P 08 56 07.5 -0.1
comp=Z,50nm,1.1s,mb5.4
DAWY Dawson 70.67 17 *e*P P 08 56 10.9 -0.4
FRB Frobisher Bay 72.04 345 LR LR 09 31 13.2
comp=Z,437nm,20.9s,MS4.7,baz=336,slow=38
MBWA Marble Bar 72.93 140 *e*P P 08 56 25.3 -0.3
comp=Z,29nm,1.0s,mb5.2
LSZ Lusaka 73.18 231 *e*P P 08 56 26.1 -1.0
comp=Z,34nm,1.2s,mb5.2
LSZ LR LR
comp=Z,370nm,22.0s,MS4.6
FITZ Fitzroy Crossi 73.42 134 *e*P P 08 56 28.5 0.0
comp=Z,27nm,0.8s,mb5.2
EOSO Osorio 74.99 294 P P 08 56 37.0 -0.4
comp=Z,51nm,1.1s,mb5.4
YKW3 Yellowknife Ar 75.85 6 *e*P P 08 56 40.9 -0.7
YKA Yellowknife Ar 75.92 6 P P 08 56 41.5 -0.5
comp=Z,5.1nm,0.4s,mb4.8,baz=344,slow=5.8,SNR=218
YKA LR LR 09 32 06.8
comp=Z,352nm,19.7s,MS4.7,baz=90,slow=37
YKA Yellowknife Ar 75.92 6 P P 08 56 41.5 -0.5
YKA LR LR 09 32 06.8
MATP Matopo 77.10 228 P P 08 56 49.0 -0.4
comp=Z,16nm,0.6s,mb5.1,baz=31,slow=5.9,SNR=38
DLBC Dease Lake 77.70 15 P P 08 56 53.1 +1.2
comp=Z,9.7nm,0.9s,mb4.7,baz=357,slow=8.1,SNR=11
SCHQ Schefferville 79.73 341 P P 08 57 02.6 -0.5
comp=Z,9.5nm,0.8s,mb4.8,baz=32,slow=4.9,SNR=19
SCHQ LR LR 09 33 07.8
comp=Z,214nm,21.5s,MS4.5,baz=180,slow=36
SCHQ Schefferville 79.73 341 *e*P P 08 57 02.4 -0.7
comp=Z,13nm,0.8s,mb4.9
SCHQ LR LR
comp=Z,416nm,20.0s,MS4.8
WRAB Tennant Creek 79.85 128 *e*P P 08 57 04.7 +0.2
WRAB pmax pmax
comp=Z,52nm,0.9s,mb5.5
WRAB Tennant Creek 79.85 128 *e*P P 08 57 04.7 +0.2
comp=Z,52nm,0.9s,mb5.5
WRA Warramunga Arr 79.85 128 P P 08 57 04.7 +0.3
comp=Z,11nm,0.7s,mb4.9,baz=328,slow=5.4,SNR=121
WRA PKKPbc 09 15 50.2
comp=Z,0.8nm,0.6s,baz=143,slow=2.0,SNR=17
WB2 Warramunga Arr 79.85 128 *e*P P 08 57 04.7 +0.2
FCC Fort Churchill 80.04 356 *e*P P 08 57 04.5 -0.2
comp=Z,32nm,1.1s,mb5.2
MUN Mundaring 80.78 148 *e*P P 08 57 08.7 -0.5
comp=Z,100nm,0.6s,mb5.9
MUN Mundaring 80.78 148 *e*P P 08 57 08.7 -0.5
MUN pmax pmax
comp=Z,100nm,0.6s,mb5.9
DBIC Dimbokro 80.80 271 *e*P P 08 57 08.4 -1.3
DBIC pmax pmax
comp=Z,14nm,0.8s
DBIC MLR MLR
comp=Z,294nm,22.0s
DBIC Dimbokro 80.80 271 P P 08 57 08.6 -1.1
comp=Z,12nm,0.7s,mb4.9,baz=21,slow=7.9,SNR=18
DBIC Dimbokro 80.80 271 *e*P P 08 57 08.4 -1.2
comp=Z,14nm,0.8s,mb4.9
DBIC LR LR
comp=Z,294nm,22.0s,MS4.6
KLBR Kellerberrin 81.06 147 *e*P P 08 57 09.6 -1.1
comp=Z,µm,0.9s
NWAO Nogin (SRO) 82.02 148 P P 08 57 15.2 -0.4
comp=Z,14nm,0.8s,mb5.0,baz=343,slow=3.7,SNR=10
NWAO LR LR 09 34 34.6
comp=Z,159nm,21.0s,MS4.4,baz=158,slow=36
LBTB Lobatse 82.36 227 *e*P P 08 57 17.7 +0.2
comp=Z,21nm,1.1s,mb5.0
ASPA Alice Springs 82.48 131 *e*P P 08 57 18.3 +0.1
ASAR Alice Springs 82.48 131 P P 08 57 18.4 +0.1
comp=Z,8.6nm,0.7s,mb4.8,baz=321,slow=5.0,SNR=120
ASAR PKKPbc 09 15 43.0
comp=Z,0.4nm,0.7s,baz=136,slow=2.6,SNR=4.3
ASAR LR LR 09 35 34.3
comp=Z,97nm,19.2s,MS4.2,baz=314,slow=37
TSUM Tsumeb 82.63 237 *e*P P 08 57 19.4 +0.3
comp=Z,35nm,1.0s,mb5.3
TSUM LR LR
comp=Z,338nm,22.0s,MS4.7
FFC Flin Flon 84.26 0 P P 08 57 26.8 +0.2
comp=Z,230nm,1.0s,SNR=41
FORT Forrest 85.04 139 *e*P P 08 57 31.0 -0.1
comp=Z,1µm,0.7s
EDM Edmonton 85.20 7 *e*P P 08 57 31.0 -0.3
CTA Charters Tower 87.41 120 *e*P P 08 57 43.4 +0.5
comp=Z,12nm,0.9s,mb5.1
CTA Charters Tower 87.41 120 *e*P P 08 57 43.4 +0.5
CTA pmax pmax
comp=Z,12nm,0.9s
PQI Presque Isle 87.46 338 PFAKE 08 57 50.0 +7.4
PQI LR LR
comp=Z,3µm,22.0s,MS5.6
ULM Lac du Bonnet 88.62 357 P P 08 57 47.9 -0.2
comp=Z,7.3nm,0.7s,mb5.1,baz=342,slow=4.4,SNR=14
ULM LR LR 09 41 54.2
comp=Z,250nm,18.2s,MS4.7,baz=28,slow=38
ULM Lac du Bonnet 88.62 357 *e*P P 08 57 47.3 -0.7
comp=Z,18nm,0.9s,mb5.4
ULM *e*pP pP 08 57 54.2 -0.7
ULM LR LR
comp=Z,470nm,20.0s,MS4.9
EMMW East Machias 89.08 337 PFAKE 08 58 00.0 +10

EMMW LR LR
comp=Z,2µm,20.0s,MS5.6
NEW Newport 89.64 10 *e*P P 08 57 52.3 -0.6
NEW *e**PP pP 08 58 00.0 +0.2
NEW pmax pmax
comp=Z,17nm,1.1s
NEW Newport 89.64 10 *e*P P 08 57 52.2 -0.7
comp=Z,18nm,1.1s,mb5.3
NEW *e*pP pP 08 58 00.0 +0.2
WVL Waterville 89.85 338 PFAKE 08 58 10.0 +16
WVL LR LR
comp=Z,3µm,20.0s,MS5.7
EYMN Ely 90.63 353 PFAKE 08 58 10.0 +12
EYMN LR LR
comp=Z,590nm,19.0s,MS5.0
CHMT Chamberlain Mo 91.45 8 *e*P P 08 58 00.9 -0.3
MSO Missoula 91.45 9 *e*P P 08 57 59.7 -1.6
comp=Z,9.7nm,1.2s,mb5.0
MSO LR LR
comp=Z,217nm,19.0s,MS4.6
NCB Newcomb 91.61 341 PFAKE 08 58 10.0 +7.9
NCB LR LR
comp=Z,518nm,20.0s,MS5.0
HRY Holter Researc 91.79 7 *e*P P 08 58 03.3 +0.4
SADO Sadowa 91.96 344 P P 08 58 03.4 -0.3
comp=Z,1.6nm,0.6s,mb4.5,baz=322,slow=5.8,SNR=4.6
SADO LR LR 09 42 31.4
comp=Z,606nm,19.9s,MS5.0,baz=25,slow=38
ACCN Adirondack Com 92.02 340 *e*P P 08 58 03.6 -0.4
ACCN *e*pP pP 08 58 10.6 -0.2
LAO LASA Array 92.20 3 *e*P P 08 58 05.5 +0.8
comp=Z,63nm,1.6s,mb5.7
LAO *e*pP pP 08 58 11.8 +0.2
LAO LR LR
comp=Z,286nm,21.0s,MS4.7
WES Weston 92.33 338 PFAKE 08 58 20.0 +15
WES LR LR
comp=Z,841nm,22.0s,MS5.1
BOZ Bozeman (W) 92.86 7 *e*P P 08 58 08.0 +0.2
BOZ *e*pP pP 08 58 15.4 +0.7
BOZ LR LR
comp=Z,348nm,20.0s,MS4.8
STKA Stephens Creek 93.12 131 *e*P P 08 58 10.0 +0.6
comp=Z,2.8nm,0.9s,mb4.7
STKA Stephens Creek 93.12 131 P P 08 58 09.1 -0.3
comp=Z,1.8nm,0.7s,mb4.6,baz=306,slow=8.6,SNR=7.0
STKA LR LR 09 47 18.3
comp=Z,183nm,18.0s,MS4.6,baz=21,slow=40
MCMT McKenzie Canyo 93.55 8 *e*P P 08 58 11.5 +0.5
MCMT *e*pP pP 08 58 18.3 +0.5
QLMT Earthquake Lak 93.69 7 *e*P P 08 58 12.4 +0.7
BINY Binghamton 93.71 341 PFAKE 08 58 20.0 +8.2
BINY LR LR
comp=Z,698nm,19.0s,MS5.1
LKWY Lake 94.05 7 *e*P P 08 58 15.5 +2.2
comp=Z,14nm,0.9s,mb5.4
LKWY *e*pP pP 08 58 22.2 +2.0
LKWY LR LR
comp=Z,807nm,19.0s,MS5.2
HLID Hailey 94.62 10 PFAKE 08 58 30.0 +14
HLID LR LR
comp=Z,171nm,21.0s,MS4.5
IMW Indian Meadow 94.66 7 *e*P P 08 58 17.5 +1.3
comp=Z,18nm,1.1s,mb5.4
IMW *e*pP pP 08 58 24.4 +1.4
ERPA Erie 94.68 344 PFAKE 08 58 30.0 +14
ERPA LR LR
comp=Z,596nm,21.0s,MS5.0
MOOW Moose Ponds 94.83 7 *e*P P 08 58 18.0 +1.1
comp=Z,11nm,1.3s,mb5.1
RSSD Black Hills 94.85 2 *e*P P 08 58 17.5 +0.5
comp=Z,11nm,0.8s,mb5.3
RSSD LR LR
comp=Z,710nm,19.0s,MS5.2
LOHW Long Hollow 94.98 7 *e*P P 08 58 18.1 +0.4
comp=Z,12nm,1.3s,mb5.2
YBH Yreka Blue Hor 95.03 16 P P 08 58 18.3 +0.4
YBH pmax pmax
comp=Z,2.0nm,0.9s
YBH Yreka Blue Hor 95.03 16 P P 08 58 18.3 +0.4
comp=Z,2.2nm,0.9s,mb4.6,baz=58,slow=16,SNR=3.6
WVOR Wild Horse Val 95.11 13 *e*P P 08 58 18.8 +0.5
comp=Z,15nm,1.4s,mb5.2
SNOW Snow King Moun 95.11 7 *e*P P 08 58 19.2 +1.0
comp=Z,20nm,1.4s,mb5.4
AAM Ann Arbor 95.19 347 PFAKE 08 58 30.0 +11
AAM LR LR
comp=Z,497nm,20.0s,MS5.0
MOD Modoc 95.33 14 *e*P P 08 58 20.2 +0.9
comp=Z,27nm,1.7s,mb5.4
MOD *e*pP pP 08 58 26.9 +0.8
SSPA Standing Stone 95.64 342 *e*P P 08 58 20.5 -0.3
comp=Z,7.1nm,1.0s,mb5.0
SSPA LR LR
comp=Z,502nm,19.0s,MS5.0
AHID Auburn Hatcher 95.77 7 *e*P P 08 58 20.9 -0.3
comp=Z,2.6nm,0.4s,mb5.0
AHID LR LR
comp=Z,364nm,22.0s,MS4.8
BW06 Boulder Array 95.90 6 PFAKE 08 58 30.0 +8.1
BW06 LR LR
comp=Z,274nm,19.0s,MS4.8
PDAR Pinedale Array 95.90 6 P P 08 58 21.9 0.0
comp=Z,1.4nm,0.8s,mb4.4,baz=28,slow=3.3,SNR=11
PDAR LR LR 09 44 33.4
comp=Z,252nm,19.2s,MS4.7,slow=37
WDC Whiskeytown Da 96.17 16 PFAKE 08 58 30.0 +6.8
WDC LR LR
comp=Z,501nm,22.0s,MS5.0
HWUT Hardware Ranch 96.87 8 *e*P P 08 58 27.1 +0.8
comp=Z,21nm,1.1s,mb5.5
HWUT *e*pP pP 08 58 34.2 +1.0
HWUT LR LR
comp=Z,486nm,19.0s,MS5.0
MCWV Mont Chateau 97.01 343 *e*P P 08 58 27.0 +0.1
comp=Z,9.9nm,0.9s,mb5.2
MCWV LR LR
comp=Z,713nm,19.0s,MS5.2
ACSO Alum Creek Sta 97.08 346 PFAKE 08 58 40.0 +13
ACSO LR LR
comp=Z,684nm,20.0s,MS5.1
ELK Elko 97.28 11 PFAKE 08 58 40.0 +12
ELK LR LR
comp=Z,401nm,19.0s,MS4.9
BMN Battle Mountai 97.29 12 PFAKE 08 58 40.0 +12
BMN LR LR
comp=Z,303nm,21.0s,MS4.8
TCUT Toone Canyon 97.37 8 *e*P P 08 58 29.7 +1.2
CBN Corbin 97.83 341 PFAKE 08 58 40.0 +9.3
CBN LR LR
comp=Z,566nm,20.0s,MS5.1
DUG Dugway 98.13 9 PFAKE 08 58 40.0 +8.0
DUG LR LR
comp=Z,413nm,19.0s,MS4.9
NLU North Lily Min 98.45 8 P P 08 58 34.1 +0.7
NVAR Mina Array Bea 99.06 13 P P 08 58 37.2 +1.0
comp=Z,0.3nm,0.3s,mb4.3,baz=129,slow=33,SNR=6.2
NVAR LR LR 09 47 49.0
comp=Z,337nm,18.6s,MS4.9,slow=38
MNV Mina 99.09 13 PFAKE 08 58 50.0 +14
MNV LR LR
comp=Z,535nm,22.0s,MS5.0
ISCO Idaho Springs 99.10 3 PFAKE 08 58 50.0 +14
ISCO LR LR
comp=Z,550nm,20.0s,MS5.0
BLA Blacksburg 99.48 343 PFAKE 08 58 50.0 +12
BLA LR LR
comp=Z,769nm,20.0s,MS5.2
WCI Wyandotte Cave 99.59 348 PFAKE 08 58 50.0 +11
WCI LR LR
comp=Z,641nm,19.0s,MS5.2
TPH Tonopah 99.59 13 PFAKE 08 58 50.0 +11
TPH LR LR
comp=Z,373nm,22.0s,MS4.8
CBKS Cedar Bluff 100.17 359 PFAKE 08 58 50.0 +8.7
CBKS LR LR
comp=Z,402nm,19.0s,MS5.0
CCM Cathedral Cave 100.41 352 PFAKE 08 58 50.0 +7.6
CCM LR LR
comp=Z,374nm,20.0s,MS4.9
PV01 Paradox Valley 100.58 6 *e*Pdif P 08 58 44.8 +1.6
PV01 *e*pP 08 58 51.0
SDCO Great Sand Dun 101.16 3 PFAKE 08 59 00.0 +14
SDCO LR LR
comp=Z,432nm,21.0s,MS4.9
DAC Darwin (Calif) 101.28 13 PFAKE 08 59 00.0 +14

DAC LR LR
comp=Z,247nm,19.0s,MS4.7
WVT Waverly 101.88 349 PFAKE 08 59 00.0 +11
WVT LR LR
comp=Z,526nm,19.0s,MS5.1
WUAZ Wupatki 102.92 8 PFAKE 08 59 10.0 +16
WUAZ LR LR
comp=Z,299nm,20.0s,MS4.8
PLAL Pickwick Lake 103.04 349 PFAKE 08 59 10.0 +16
PLAL LR LR
comp=Z,466nm,19.0s,MS5.0
NHSC New Hope 103.37 342 PFAKE 08 59 10.0 +14
NHSC LR LR
comp=Z,700nm,20.0s,MS5.2
OXF Oxford 103.69 350 PFAKE 08 59 10.0 +13
OXF LR LR
comp=Z,355nm,21.0s,MS4.9
GOGA Godfrey 103.78 345 PFAKE 08 59 10.0 +12
GOGA LR LR
comp=Z,412nm,22.0s,MS4.9
ANMO Albuquerque 103.89 4 PFAKE 08 59 10.0 +12
ANMO LR LR
comp=Z,296nm,21.0s,MS4.8
AMTX Amarillo 104.11 0 PFAKE 08 59 10.0 +11
AMTX LR LR
comp=Z,441nm,20.0s,MS5.0
MIAR Mount Ida 104.11 353 PFAKE 08 59 10.0 +11
MIAR LR LR
comp=Z,735nm,19.0s,MS5.2
WMOK Wichita Mounta 104.22 358 PFAKE 08 59 10.0 +11
WMOK LR LR
comp=Z,308nm,19.0s,MS4.9
LRAL Lakeview Retre 104.79 348 PFAKE 08 59 10.0 +8.0
LRAL LR LR
comp=Z,764nm,20.0s,MS5.2
TUC Tucson 106.15 8 PFAKE 09 03 30.0
TUC LR LR
comp=Z,424nm,19.0s,MS5.0
NATX Nacogdoches 106.96 354 PFAKE 09 03 30.0
NATX LR LR
comp=Z,680nm,21.0s,MS5.2
MNTX Cornudas Mount 107.19 4 PFAKE 09 03 30.0
MNTX LR LR
comp=Z,272nm,20.0s,MS4.8
DWPF Disney 108.45 342 PFAKE 09 03 40.0
DWPF LR LR
comp=Z,653nm,21.0s,MS5.2
JCT Junction City 108.48 359 PFAKE 09 03 40.0
JCT LR LR
comp=Z,389nm,19.0s,MS5.0
LTX Lajitas 109.61 2 PFAKE 09 03 40.0
LTX LR LR
comp=Z,821nm,22.0s,MS5.3
TXAR Lajitas Array 109.61 2 Pdiff Pdif 08 59 33.2 +10
comp=Z,0.3nm,0.8s,baz=180,slow=1.8,SNR=2.9
CASY Casey 110.10 167 PFAKE 09 03 40.0 +11
CASY LR LR
comp=Z,1μm,19.0s,MS5.5
SJG San Juan 112.44 324 PFAKE 09 03 40.0 +5.3
SJG LR LR
comp=Z,149nm,20.0s,MS4.6
TEIG Tepich 117.53 346 PFAKE 09 03 50.0 +5.4
TEIG LR LR
comp=Z,194nm,19.0s,MS4.8
URZ Urewera 119.52 116 PKP PKPdf 09 03 42.3 -5.7
comp=Z,9.1nm,0.7s,baz=357,slow=2.2,SNR=6.4
SDV Santo Domingo 122.58 323 PKP PKPdf 09 03 50.4 -4.1
comp=Z,1.9nm,0.5s,baz=12,slow=6.9,SNR=4.2
SDV Santo Domingo 122.58 323 *e*PKPdf PKPdf 09 03 50.6 -3.9
SDV LR LR
comp=Z,227nm,20.0s,MS4.8
SNAA Sanae 126.14 203 ⇑*i*P PKPdf 09 04 03.1 +3.2
SNAA Sanae 126.14 203 *e* PKPdf 09 04 09.0 +9.1
SNAA Sanae 126.14 203 PKIKP PKPdf 09 03 57.6 -2.3
SNAA pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 126.14 203 PKP PKPdf 09 03 57.6 -2.3
comp=Z,1.8nm,0.9s,baz=76,slow=8.3,SNR=5.1
JTS JuntasAbangare 126.42 340 PFAKE 09 04 10.0 +8.1
JTS LR LR
comp=Z,73nm,21.0s,MS4.3
VNA2 Neumayer--Watz 127.24 204 *e* PKPdf 09 04 00.3 -1.7
VNA2 Neumayer--Watz 127.24 204 *e* PKPdf 09 04 06.0 +4.0
VNA2 Neumayer--Watz 127.24 204 *e* PKPdf 09 04 06.7 +4.7
VNA2 Neumayer--Watz 127.24 204 *e* PKPdf 09 04 09.1 +7.1
VNA2 Neumayer--Watz 127.24 204 *e* PKPdf 09 04 09.8 +7.8
VNA2 Neumayer--Watz 127.24 204 ⇑*i*PKPdf PKPdf 09 03 59.7 -2.3
VNA2 *e* 09 04 00.3
VNA2 *e* 09 04 06.0
VNA2 *e* 09 04 06.7
VNA2 *e* 09 04 09.1
VNA2 *e* 09 04 09.8
VNA1 Neumayer--Stat 127.42 205 *e* PKPdf 09 04 00.0 -2.4
VNA1 Neumayer--Stat 127.42 205 *e* PKPdf 09 04 04.5 +2.1
VNA1 Neumayer--Stat 127.42 205 *e* PKPdf 09 04 05.2 +2.8
VNA1 Neumayer--Stat 127.42 205 *e* PKPdf 09 04 07.2 +4.8
VNA1 Neumayer--Stat 127.42 205 *e* PKPdf 09 04 07.8 +5.4
VNA1 Neumayer--Stat 127.42 205 ⇑*i*PKPdf PKPdf 09 03 59.2 -3.2
VNA1 *e* 09 04 00.0
VNA1 *e* 09 04 04.5
VNA1 *e* 09 04 05.2
VNA1 *e* 09 04 07.2
VNA1 *e* 09 04 07.8
BDFB Brasilia 127.58 283 PKIKP PKPdf 09 04 00.7 -3.5
BDFB pmax pmax
comp=Z,1.0nm,0.4s
BDFB Brasilia 127.58 283 PKP PKPdf 09 04 00.7 -3.5
comp=Z,1.3nm,0.4s,baz=34,slow=7.3,SNR=3.3
ROSC El Rosal 127.80 325 PKP PKPdf 09 04 02.3 -2.4
comp=Z,8.2nm,0.8s,baz=237,slow=11,SNR=5.2
VNA3 Neumayer Olymp 128.04 204 *e* PKPdf 09 04 07.9 +4.2
VNA3 Neumayer Olymp 128.04 204 *e* PKPdf 09 04 08.6 +4.9
VNA3 Neumayer Olymp 128.04 204 ⇑*i*PKPdf PKPdf 09 04 00.9 -2.8
VNA3 *e* 09 04 07.9
VNA3 *e* 09 04 08.6
VNDA Vanda 128.56 164 PKIKP PKPdf 09 04 01.2 -3.3
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 128.56 164 PKP PKPdf 09 04 01.2 -3.4
comp=Z,3.1nm,1.0s,baz=274,slow=4.4,SNR=7.9
VNDA Vanda 128.56 164 PKP PKPdf 09 04 01.2 -3.4
PPT Papeete 132.48 75 *e*LR LR 09 46 17.2
comp=Z,153nm,21.5s
SAML Samuel 133.37 303 *e*PKPdf PKPdf 09 04 11.6 -3.7
SAML *e*pP 09 04 18.6
SAML LR LR
comp=Z,173nm,22.0s,MS4.7
OTAV Otavalo 133.69 328 PFAKE 09 04 30.0 +14
OTAV LR LR
comp=Z,187nm,20.0s,MS4.8
TBI Tubuai 136.13 81 *e*LR LR 09 47 54.5
comp=Z,137nm,23.2s
SIV San Ignacio 137.13 294 PKhKP 09 04 14.7
comp=Z,4.0nm,0.8s,baz=88,slow=3.3,SNR=14
SIV PKP PKPdf 09 04 18.9 -3.1
comp=Z,4.0nm,0.8s,baz=87,slow=5.5,SNR=14
LPAZ La Paz 142.04 301 PKIKP PKPdf 09 04 25.1 -5.8
LPAZ 09 04 29.5
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
LPAZ La Paz 142.04 301 PKhKP 09 04 25.1
comp=Z,1.1nm,0.6s,baz=36,slow=4.5,SNR=5.5
LPAZ PKP PKPdf 09 04 29.4 -1.4
comp=Z,2.7nm,0.8s,baz=320,slow=4.9,SNR=9.0
LPAZ La Paz 142.04 301 *e*PKPpre 09 04 25.2
LPAZ PKP PKPdf 09 04 29.4 -1.4
LPAZ LR LR
comp=Z,160nm,19.0s,MS4.8
ARE Arequipa 144.29 305 ⇓*i*P PKPbc 09 04 31.8 +1.8
ARE *i* 09 04 38.5
RKT Rikitea 146.48 68 *e*LR LR 09 52 45.2
comp=Z,156nm,33.5s
LVC Limon Verde 147.03 295 PKPbc PKPdf 09 04 37.9 -1.4
comp=Z,18nm,0.8s,baz=37,slow=2.5,SNR=35
LVC Limon Verde 147.03 295 *e*PKPdf PKPdf 09 04 37.2 -2.1
LVC *e*pP 09 04 46.3
TRQA Tornquist 149.75 263 *e*PKPbc PKPdf 09 04 44.9 +1.7
TRQA *e*pP 09 04 51.8
CFAA Coronel Fontan 151.83 280 PKPbc PKPdf 09 04 50.1 +3.5
comp=Z,1.7nm,0.9s,baz=33,slow=1.8,SNR=13
PLCA Paso Flores 156.86 261 PKIKP PKPdf 09 04 51.1 -2.0
PLCA pmax pmax
comp=Z,6.0nm,1.2s
PLCA pmax pmax
comp=Z,9.0nm,0.8s
PLCA Paso Flores 156.86 261 PKP PKPdf 09 04 51.1 -2.1
comp=Z,6.0nm,1.2s,baz=180,slow=7.1,SNR=2.5
PLCA PKPab PKPab 09 05 20.1 -1.1
comp=Z,9.4nm,0.8s,baz=104,slow=2.5,SNR=11

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*IDC **06** 08:57:08.4±2.1, 0.86N×97.53E, mb4.0/7, mb1 4.2/8, mb1mx4.0/19, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=93.2km s-min=17.3km az=60.0*
*NEIC **06** 08:57:13.3±1.2, 0.94N×97.69E, h30km, mb4.5/1, Error ellipse: s-maj=49.2km s-min=10.4km az=62.0*
ISC 06 08:57:10.8±1.6**, 0.9N**±0.2×**97.5E**±0.4**, h30km, n9,** σ**0.55**/9**,** **mb4.0**/8**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.52**	**4**	P	**P**	**09 01 14.4**	**-0.3**
	0.3nm,0.3s,baz=194,slow=12,SNR=13						
WRA	**Warramunga Arr**	**41.59**	**122**	P	**P**	**09 04 57.6**	**-0.4**
	1.4nm,0.8s,mb3.6,baz=303,slow=9.0,SNR=6.1						
WRAB	**Tennant Creek**	**41.59**	**122**	*e*P	**P**	**09 04 58.0**	**0.0**
	9.5nm,1.1s,mb4.3						
ASAR	**Alice Springs**	**42.94**	**127**	P	**P**	**09 05 09.0**	**0.0**
	1.0nm,0.8s,mb3.6,baz=298,slow=8.0,SNR=7.7						
SONM	**Songino Array**	**47.40**	**8**	P	**P**	**09 05 44.6**	**+0.3**
	1.5nm,0.8s,mb4.0,baz=188,slow=10,SNR=7.9						
MKAR	**Makanchi Array**	**47.63**	**346**	P	**P**	**09 05 46.8**	**+0.6**
	3.2nm,0.8s,mb4.4,baz=159,slow=8.9,SNR=18						
STKA	**Stephens Creek**	**52.90**	**132**	P	**P**	**09 06 26.9**	**+0.4**
	1.0nm,0.2s,mb4.3,baz=338,slow=19,SNR=9.6						
ZAL	**Zalesovo**	**53.91**	**351**	P	**P**	**09 06 34.3**	**+0.6**
	1.9nm,0.4s,mb4.4,baz=316,slow=5.5,SNR=5.7						
BVAR	**Borovoye Array**	**56.66**	**341**	P	**P**	**09 06 52.4**	**-1.2**
	0.6nm,0.6s,mb3.8,baz=135,slow=8.2,SNR=3.6						

IDC 06 09:40:43.0±4.3**, 1.59S**×**99.80E, mb3.4**/2**, mb1 3.8**/3**, mb1mx3.5**/16**, mbtmp3.5**/3**, ML4.5**/1**, Error ellipse: s-maj=165.9km s-min=30.0km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.94**	**358**	P	P	09 45 17.6	-2.0
	0.6nm,0.3s,baz=190,slow=9.9,SNR=6.0						
WRA	**Warramunga Arr**	**38.37**	**121**	P	P	09 48 06.2	-1.7
	0.1nm,0.5s,baz=300,slow=9.9,SNR=4.9						
MKAR	**Makanchi Array**	**50.59**	**344**	P	P	09 49 42.9	-2.7
	0.5nm,0.5s,baz=156,slow=8.8,SNR=4.8						

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*NEIC **06** 09:41:32.2, 36.43S×177.59E, h12km, ML4.1(WEL), After WEL.*
WEL 06 09:41:33.6±0.9**, 36.57S**×**177.53E, h12km, ML3.9**/15**, 1C, Error ellipse: s-maj=7.6km s-min=5.4km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.17**	**148**	P	Pb	09 41 52.8	-2.4
MXZ				S	Sb	09 42 06.4	-3.8
MXZ	**Matakaoa Point**	**1.17**	**148**	P*	Pb	09 41 52.8	-2.5
MXZ				S*	Sb	09 42 06.9	-3.3
MXZ				S*	Sb	09 42 07.0	-3.1
KUZ	**Kuaotunu**	**1.46**	**263**	*e*P	Pn	09 41 59.1	-0.8
KUZ				S	Sb	09 42 15.8	-2.9
KUZ	**Kuaotunu**	**1.46**	**263**	PN	Pn	09 41 59.0	-0.9
KUZ				SN	Sn	09 42 16.9	-2.3
KUZ				SN	Sn	09 42 17.5	-1.6
PUZ	**Puketiti**	**1.61**	**159**	P	Pn	09 42 02.0	0.0
PUZ				S	Sn	09 42 25.3	+2.5
PUZ	**Puketiti**	**1.61**	**159**	PN	Pn	09 42 01.8	-0.2
PUZ				SN	Sn	09 42 22.3	-0.5
PUZ				SN	Sn	09 42 23.4	+0.6
URZ	**Urewera**	**1.72**	**191**	P	Pn	09 42 02.8	-0.8
URZ	**Urewera**	**1.72**	**191**	P*	Pb	09 42 02.8	-1.8
URZ				S*	Sb	09 42 22.0	-4.1
MWZ	**Matawai**	**1.76**	**180**	P	Pn	09 42 03.0	-1.2
MWZ	**Matawai**	**1.76**	**180**	⇑P*	Pb	09 42 03.0	-2.4
MWZ				S*	Sb	09 42 23.5	-3.9
BKZ	**Black Stump Fm**	**2.72**	**197**	P	Pn	09 42 17.3	-0.6
BKZ	**Black Stump Fm**	**2.72**	**197**	P*	Pb	09 42 17.1	-4.6
BKZ				S*	Sb	09 42 51.7	-3.4
HIZ	**Hauiti**	**2.88**	**227**	*e*P	Pn	09 42 20.5	+0.4
HIZ	**Hauiti**	**2.88**	**227**	PN	Pn	09 42 20.1	-0.1
NGZ	**Ngauruhoe**	**3.02**	**210**	P	Pn	09 42 25.2	+3.1
NGZ	**Ngauruhoe**	**3.02**	**210**	P*	Pb	09 42 25.0	-1.8
CNZ	**Chateau**	**3.06**	**210**	P	Pn	09 42 25.8	+3.1
CNZ	**Chateau**	**3.06**	**210**	P*	Pb	09 42 26.2	-1.3
TUVZ	**Tukino**	**3.07**	**208**	P	Pn	09 42 26.3	+3.4
TUVZ	**Tukino**	**3.07**	**208**	P*	Pb	09 42 26.2	-1.7
WNVZ	**Wahianoa**	**3.15**	**208**	P	Pn	09 42 25.7	+1.7
WNVZ	**Wahianoa**	**3.15**	**208**	P*	Pb	09 42 25.7	-3.4
OUZ	**Omahuta**	**3.46**	**292**	*e*P	Pn	09 42 28.2	-0.3
OUZ	**Omahuta**	**3.46**	**292**	PN	Pn	09 42 28.2	-0.3
TSZ	**Takapari Road**	**3.69**	**199**	*e*P	Pn	09 42 31.6	-0.2
TSZ	**Takapari Road**	**3.69**	**199**	PN	Pn	09 42 31.4	-0.4
BFZ	**Birch Farm**	**4.22**	**193**	*e*P	Pn	09 42 36.6	-2.7
BFZ	**Birch Farm**	**4.22**	**193**	PN	Pn	09 42 36.6	-2.7
MRZ	**Mangatainoka R**	**4.36**	**200**	PN	Pn	09 42 39.5	-1.7

IDC 06 09:52:10.4±4.8**, 1.21N**×**98.27E, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.5**/17**, mbtmp3.6**/4**, Error ellipse: s-maj=262.0km s-min=28.1km az=56.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.13**	**123**	P	P	09 59 56.8	-1.3
	0.7nm,0.8s,baz=304,slow=8.8,SNR=5.0						
ASAR	**Alice Springs**	**42.55**	**128**	P	P	10 00 08.1	-1.7
	0.4nm,0.6s,baz=292,slow=7.7,SNR=5.4						
MKAR	**Makanchi Array**	**47.50**	**345**	P	P	10 00 47.2	-2.0
	0.8nm,0.9s,baz=164,slow=8.8,SNR=5.3						
STKA	**Stephens Creek**	**52.57**	**133**	P	P	10 01 25.6	-2.6
	1.3nm,0.9s,baz=270,slow=9.1,SNR=3.2						

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*IDC **06** 09:55:11.1±1.5, 0.60N×125.32E, mb4.0/4, mb1 4.2/5, mb1mx3.8/17, mbtmp4.0/5, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/29, Error ellipse: s-maj=114.8km s-min=21.4km az=65.0*
ISC 06 09:55:13.8±1.4**, 0.7N**±0.2×**125.5E**±0.5**, h33km, n8,** σ**0.74**/7**, mb4.1**/4**, MS3.1**/1**, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.70**	**180**	P	**P**	**09 59 31.8**	**-0.3**
	0.1nm,0.3s,baz=7.1,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**22.29**	**158**	P	**P**	**10 00 09.2**	**-0.6**
	1.4nm,0.5s,mb3.7,baz=333,slow=11,SNR=26						
WB2	**Warramunga Arr**	**22.29**	**158**	*e*P	**P**	**10 00 09.8**	**-0.1**
ASPA	**Alice Springs**	**25.58**	**162**	*e*P	**P**	**10 00 43.6**	**+1.8**
ASAR	**Alice Springs**	**25.58**	**162**	P	**P**	**10 00 41.8**	**0.0**
	3.8nm,0.3s,mb4.4,baz=347,slow=12,SNR=52						
JOW	**Kunigami**	**26.10**	**6**	LR	LR	10 09 58.9	
	comp=Z,54nm,20.0s,MS3.1,baz=144,slow=34						
STKA	**Stephens Creek**	**35.83**	**156**	P	**P**	**10 02 11.8**	**-0.6**
	1.2nm,0.3s,mb4.3,baz=342,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	**59.35**	**327**	P	**P**	**10 05 15.1**	**0.0**
	0.7nm,0.4s,mb4.1,baz=121,slow=7.2,SNR=11						

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*BJI **06** 10:11:29.2, 2.11N×96.31E, h30km, mB5.1, mb5.1, Ms4.7, Msz4.4*
*IDC **06** 10:11:30.8±0.6, 2.17N×96.21E, h24km±3km, mb4.4/17, mb1 4.5/18, mb1mx4.4/23, mbtmp4.6/18, ML4.8/1, MS4.2/10, Ms1 4.2/10, ms1mx3.9/28, Error ellipse: s-maj=21.1km s-min=10.9km az=51.0*
*MOS **06** 10:11:30.7±1.0, 2.18N×96.36E, h33km, mb5.1/27, Error ellipse: s-maj=13.0km s-min=6.7km az=103.3*
*HRVD **06** 10:11:31.6±1.4, 2.37N×96.15E, h28km±1km, MW4.9/20, Centroid moment Tensor Solution. LP body waves: s14,c17; Mantle waves: s20,c23; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.80±.27; $M_{\theta\theta}$-0.21±.17; $M_{\phi\phi}$-2.59±.31; $M_{r\theta}$0.14±.25; $M_{\theta\phi}$-0.17±.11; $M_{\phi r}$-0.68±.38; Best double couple: $M_0$2.789×10^{16} NP1:ϕ_s7°, δ38°, λ96°. NP2:ϕ_s180°, δ52°, λ86°. Principal axes: T 2.894, Plg82°, Azm67°; N -.207, Plg3°, Azm183°; P -2.684, Plg7°, Azm273°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 10:11:31.6±0.3, 2.19N×96.33E, mb4.9/32 Error ellipse: s-maj=7.8km s-min=5.1km az=49.0*
ISC 06 10:11:29.8±1.4**, 2.18N**±0.04×**96.36E**±0.04**, h26km**±9km**, h28km**±1.4km**:pP-P, n144,** σ**1.06**/146**, mb4.8**/66**, MS4.3**/26**, 6C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.28**	**54**	⇑*i*P	**Pn**	**10 12 49.5**	**+0.4**
SNG	**Songkhla**	**6.53**	**40**	P	**Pn**	**10 13 06.0**	**-0.8**
	320nm,1.0s						
KSM	**Kuching**	**13.96**	**93**	*e*P	**P**	**10 14 49.5**	**+1.0**
KKTK	**Khon Kaen**	**15.44**	**24**	P	**P**	**10 15 12.0**	**+4.2**
	556nm,0.7s						
CM31	**Chiang Mai Arr**	**16.38**	**9**	*e*P	**P**	**10 15 21.2**	**+1.5**
	39nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.38**	**9**	Pn	**P**	**10 15 18.9**	**-0.8**
	1.4nm,0.3s,baz=197,slow=12,SNR=86						
CMAR				LR	LR	10 22 21.8	
	comp=Z,909nm,19.8s,baz=195,slow=40						
CMAR				ScP		10 23 46.0	
	baz=221,slow=2.8,SNR=5.4						
PALK	**Pallekele**	**16.40**	**289**	*e*P	**P**	**10 15 20.9**	**+0.9**
CHG	**Chiang Mai**	**16.73**	**9**	⇓P	**P**	**10 15 23.3**	**-0.9**
	14nm,0.7s						
NANT	**Nan**	**17.06**	**14**	P	**P**	**10 15 29.0**	**+0.6**
	138nm,1.2s						
KKM	**Kota Kinabalu**	**20.17**	**78**	*e*P	**P**	**10 16 05.3**	**-0.1**
QIZ	**Qiongzhong**	**21.33**	**37**	P	**P**	**10 16 16.2**	**-1.0**
QIZ				*e*S	**S**	**10 20 07.8**	**+0.1**
QIZ				XS		10 20 18.3	
QIZ				LR	LR		
	comp=N,1μm,13.0s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,13.4s,MS4.6						
QIZ				LR	LR		
	comp=Z,2μm,12.9s,MS4.7						
QIZ	**Qiongzhong**	**21.33**	**37**	*e*P	**P**	**10 16 15.9**	**-1.3**
	comp=Z,72nm,1.6s,mb4.8						
HYB	**Hyderabad**	**23.13**	**312**	*e*P	**P**	**10 16 37.0**	**+1.8**
HYB	**Hyderabad**	**23.13**	**312**	*i* P	**P**	**10 16 37.0**	**+1.8**
KMI	**Kunming**	**23.63**	**15**	P	**P**	**10 16 41.7**	**+1.8**
KMI				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.6						
KMI	**Kunming**	**23.63**	**15**	P	**P**	**10 16 41.7**	**+1.8**
	comp=Z,28nm,1.2s,mb4.6						
SHL	**Shillong**	**23.65**	**350**	*e*P	**P**	**10 16 38.0**	**-2.1**
SHL				*e*		10 20 51.0	
GYA	**Guiyang**	**26.09**	**21**	⇑*i*P	**P**	**10 17 03.7**	**+0.3**
GYA				AP	pP	10 17 12.0	+0.9
GYA				XP	sP	10 17 15.4	+0.8
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,4.0s						
GYA				LR	LR		
	comp=N,470nm,14.4s,MS4.3						
GYA				LR	LR		
	comp=E,370nm,11.4s,MS4.3						
GYA				LR	LR		
	comp=Z,930nm,17.7s						
GZH	**Guangzhou**	**26.52**	**37**	P	**P**	**10 17 09.8**	**+2.4**
GZH				LR	LR		
	comp=N,731nm,12.9s,MS4.6						
GZH				LR	LR		
	comp=E,790nm,14.5s,MS4.6						
GZH				LR	LR		
	comp=Z,1μm,14.8s,MS4.6						
JIRN	**Jiri**	**27.14**	**340**	*e*P	**P**	**10 17 14.0**	**+0.9**
	comp=Z,113nm,0.9s,mb5.4						
PKI	**Pulchoki**	**27.34**	**338**	*e*P	**P**	**10 17 15.2**	**+0.4**
	comp=Z,52nm,0.8s,mb5.1						
PKI	**Pulchoki**	**27.34**	**338**	*e*P	**P**	**10 17 15.2**	**+0.4**
PKI				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.8						
DMN	**Daman**	**27.48**	**338**	*e*P	**P**	**10 17 16.8**	**+0.6**
	comp=Z,32nm,0.6s,mb5.0						
KKN	**Kakani**	**27.58**	**338**	*e*P	**P**	**10 17 17.4**	**+0.3**
	comp=Z,53nm,0.9s,mb5.2						
KKN	**Kakani**	**27.58**	**338**	*e*P	**P**	**10 17 17.4**	**+0.3**
KKN				pmax	pmax		
	comp=Z,27nm,0.9s,mb4.9						
LSA	**Lhasa**	**27.81**	**350**	P	**P**	**10 17 19.8**	**+0.7**
LSA				S	**S**	**10 22 02.9**	**+4.0**
LSA				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.2						
LSA				LR	LR		
	comp=N,130nm,22.9s,MS3.9						
LSA				LR	LR		
	comp=E,290nm,20.4s,MS3.9						
LSA				LR	LR		
	comp=Z,220nm,19.1s,MS3.8						
LSA	**Lhasa**	**27.81**	**350**	*e*P	**P**	**10 17 19.5**	**+0.4**
LSA				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.2						
LSA	**Lhasa**	**27.81**	**350**	*e*P	**P**	**10 17 19.5**	**+0.4**
	comp=Z,64nm,0.9s,mb5.2						
GKN	**Gorkha**	**28.02**	**338**	*e*P	**P**	**10 17 21.0**	**0.0**
	comp=Z,80nm,0.8s,mb5.4						
KOLN	**Koldanda**	**28.22**	**336**	*e*P	**P**	**10 17 23.4**	**+0.6**
	comp=Z,47nm,0.7s,mb5.2						
CD2	**Chengdu**	**29.42**	**13**	⇑*i*P	**P**	**10 17 31.9**	**-1.7**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
AGRA	**Agra**	**30.52**	**326**	*e*P	**P**	**10 17 43.6**	**+0.2**
ENH	**Enshi**	**30.59**	**23**	*e*P	**P**	**10 17 41.8**	**-2.2**
	comp=Z,9.8nm,0.5s,mb4.9						
LGTI	**Lohaghat**	**31.15**	**332**	*e*P	**P**	**10 17 50.0**	**+1.1**
SONA	**Sohna**	**31.79**	**326**	*e*P	**P**	**10 17 54.2**	**-0.4**
SONA				*e*		10 17 55.7	
	comp=Z,33nm,1.0s						
AYAN	**Aya Nagar**	**31.95**	**327**	*e*P	**P**	**10 17 55.3**	**-0.6**
AYAN				*e*		10 17 57.5	
	comp=Z,11nm,0.7s						
NDI	**New Delhi**	**32.06**	**327**	*e*P	**P**	**10 17 56.5**	**-0.4**
KHET	**Khetri**	**32.38**	**325**	*e*P	**P**	**10 17 59.0**	**-0.7**
KHET				*e*		10 18 02.1	
	comp=Z,26nm,0.7s						
MBWA	**Marble Bar**	**32.58**	**137**	*e*P	**P**	**10 18 01.9**	**+0.3**
	comp=Z,4.5nm,0.8s,mb4.5						
XAN	**Xi'an**	**33.80**	**19**	P	**P**	**10 18 10.2**	**-1.8**
XAN				AP	pP	10 18 17.7	-2.1
XAN				S	**S**	**10 23 38.9**	**+5.8**
XAN				AMB	AMB		
	comp=Z,49nm,1.0s,mb5.4						
XAN				LR	LR		
	comp=N,237nm,17.9s,MS4.1						
XAN				LR	LR		
	comp=E,220nm,14.0s,MS4.1						
XAN				LR	LR		
	comp=Z,419nm,12.3s,MS4.4						
KLP	**Kalpa**	**33.83**	**332**	*e*P	**P**	**10 18 12.6**	**+0.3**
KLP				*e*		10 18 13.9	
	comp=Z,18nm,0.5s						
LZH	**Lanzhou**	**34.44**	**11**	⇑P	**P**	**10 18 14.7**	**-2.8**
LZH				AP	pP	10 18 27.9	+2.6
LZH				XP	sP	10 18 31.6	+2.9
LZH				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,220nm,4.2s						
LZH				LR	LR		
	comp=E,1μm,15.0s						
LZH				LR	LR		
	comp=Z,2μm,16.6s,MS4.9						
LZH	**Lanzhou**	**34.44**	**11**	⇑P	**P**	**10 18 14.7**	**-2.8**
LZH				*PP	pP	10 18 27.9	+2.6
LZH				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5						
LZH				MLR	MLR		
	comp=Z,2μm,16.6s,MS4.9						
FITZ	**Fitzroy Crossi**	**35.18**	**126**	*e*P	**P**	**10 18 23.5**	**-0.5**
	comp=Z,17nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**35.18**	**126**	LR	LR	10 33 44.1	
	comp=Z,245nm,19.8s,MS4.0,baz=289,slow=38						
THN	**Thein Dam**	**35.81**	**329**	*e*P	**P**	**10 18 28.2**	**-1.0**
NJ2	**Nanjing**	**36.49**	**33**	*e*P	**P**	**10 18 35.5**	**+0.5**
NJ2				AP	pP	10 18 45.6	+2.8
NJ2				XP	sP	10 18 49.5	+3.4
NJ2				PP	PP	10 20 00.6	+1.3
NJ2				S	**S**	**10 24 17.0**	**+2.2**

NJ2				XS			10 24 35.0
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
NJ2				AMB	AMB		
comp=Z,130nm,4.1s							
NJ2				LR	LR		
comp=N,820nm,18.8s,MS5.0							
NJ2				LR	LR		
comp=E,2μm,15.3s,MS5.0							
NJ2				LR	LR		
comp=Z,560nm,12.4s,MS4.5							
SSE	**Sheshan**	**37.12**	**37**	P	**P**	**10 18 36.6**	**-3.6**
SSE				AP	pP	10 18 45.6	-2.5
SSE				XP	sP	10 18 49.3	-2.1
SSE				S	**S**	**10 24 23.2**	**-1.2**
SSE				XS		10 24 38.0	
SSE				AMB	AMB		
comp=Z,41nm,0.7s,mb5.4							
SSE				AMB	AMB		
comp=Z,118nm,4.4s							
SSE				LR	LR		
comp=N,182nm,16.4s,MS4.0							
SSE				LR	LR		
comp=E,132nm,16.3s,MS4.0							
SSE				LR	LR		
comp=Z,216nm,14.3s,MS4.1							
SSE	**Sheshan**	**37.12**	**37**	P	**P**	**10 18 36.6**	**-3.6**
comp=Z,41nm,0.7s,mb5.4							
SSE				pP	pP	10 18 45.6	-2.5
SSE				sP	sP	10 18 49.3	-2.1
SSE				S	**S**	**10 24 23.2**	**-1.2**
SSE				sS		10 24 38.0	
SSE				LR	LR		
comp=Z,220nm,14.3s,MS4.1							
GTA	**Gaotai**	**37.19**	**4**	*e*P	**P**	**10 18 40.4**	**-0.3**
GTA				AP	pP	10 18 47.9	-0.7
GTA				XP	sP	10 18 51.7	-0.2
GTA				PP	PP	10 20 09.5	+1.4
GTA				PPP	PPP	10 20 30.8	+2.3
GTA				S	**S**	**10 24 28.1**	**+2.7**
GTA				XS		10 24 43.3	
GTA				SS	SS	10 27 00.5	+3.9
GTA				AMB	AMB		
comp=Z,27nm,1.0s,mb5.0							
GTA				AMB	AMB		
comp=Z,89nm,6.1s							
GTA				LR	LR		
comp=N,352nm,16.0s,MS4.3							
GTA				LR	LR		
comp=E,210nm,16.0s,MS4.3							
GTA				LR	LR		
comp=Z,340nm,15.2s,MS4.3							
JOW	**Kunigami**	**39.21**	**48**	P	**P**	**10 18 57.9**	**+0.1**
comp=Z,10nm,0.8s,mb4.6,baz=203,slow=10,SNR=4.7							
BTO	**Baotou**	**40.20**	**16**	*e*P	**P**	**10 19 05.3**	**-0.6**
HHC	**Hu-ho-hao-te**	**40.88**	**18**	*e*P	**P**	**10 19 11.8**	**+0.4**
HHC				AP	pP	10 19 21.7	+2.4
HHC				XP	sP	10 19 25.8	+3.3
HHC				PP	PP	10 20 46.7	-2.0
HHC				PCP	PcP	10 21 13.6	+1.2
HHC				SCP		10 24 59.2	
HHC				PCS		10 25 02.5	
HHC				S	**S**	**10 25 21.2**	**+0.3**
HHC				XS		10 25 37.3	
HHC				SS	SS	10 28 16.6	-1.6
HHC				SCS	ScS	10 29 13.4	+0.9
HHC				AMB	AMB		
comp=Z,31nm,1.3s,mb4.8							
HHC				LR	LR		
comp=N,431nm,13.9s,MS4.7							
HHC				LR	LR		
comp=E,410nm,11.0s,MS4.7							
HHC				LR	LR		
comp=Z,399nm,15.1s,MS4.4							
KSH	**Kashi**	**41.54**	**336**	*e*P	**P**	**10 19 12.1**	**-4.8**
KSH				*e*PCP	PcP	10 21 13.0	-1.7
KSH				*e*PPP	PPP	10 21 18.1	-8.7
KSH				*e*SCP		10 25 00.0	
KSH				*e*PCS		10 25 03.0	
KSH				*e*SCS	ScS	10 29 13.1	-3.4
KSH				AMB	AMB		
comp=Z,520nm,4.2s							
KSH				LR	LR		
comp=N,540nm,6.0s							
KSH				LR	LR		
comp=E,550nm,5.1s							
BJT	**Baijiatuau**	**41.74**	**23**	*e*P	**P**	**10 19 19.0**	**+0.5**
BJT				pmax	pmax		
comp=Z,44nm,0.9s							
BJT	**Baijiatuau**	**41.74**	**23**	*e*P	**P**	**10 19 19.0**	**+0.5**
comp=Z,44nm,0.9s,mb5.1							
BJI	**Beijing**	**41.76**	**23**	P	**P**	**10 19 19.0**	**+0.3**
BJI				AMB	AMB		
comp=Z,47nm,0.8s,mb5.2							
BJI				AMB	AMB		
comp=Z,179nm,3.1s							
BJI				LR	LR		
comp=N,310nm,14.5s,MS4.5							
BJI				LR	LR		
comp=E,291nm,14.9s,MS4.5							
BJI				LR	LR		
comp=Z,188nm,16.8s,MS4.0							
WMQ	**Urumqi**	**42.17**	**351**	P	**P**	**10 19 22.4**	**+0.4**
WMQ				AP	pP	10 19 29.9	0.0
WMQ				XP	sP	10 19 33.4	+0.2
WMQ				PP	PP	10 21 03.5	+0.8
WMQ				PCP	PcP	10 21 16.8	+0.1
WMQ				SCP		10 25 04.4	
WMQ				S	**S**	**10 25 40.6**	**+0.5**
WMQ				XS		10 25 52.9	
WMQ				AMB	AMB		
comp=Z,13nm,0.9s,mb4.6							
WMQ				AMB	AMB		
comp=Z,169nm,5.5s							
WMQ				LR	LR		
comp=N,235nm,21.5s,MS4.2							
WMQ				LR	LR		
comp=E,314nm,22.4s,MS4.2							
WMQ				LR	LR		
comp=Z,232nm,20.6s,MS4.0							
WRA	**Warramunga Arr**	**43.27**	**122**	P	**P**	**10 19 31.1**	**-0.1**
comp=Z,3.7nm,0.5s,mb4.3,baz=301,slow=9.2,SNR=59							
WRA				pP	pP	10 19 39.3	+0.2
comp=Z,12nm,0.6s,baz=301,slow=9.2,SNR=23							
WRAB	**Tennant Creek**	**43.27**	**122**	*i* P	**P**	**10 19 31.5**	**+0.2**
WRAB	**Tennant Creek**	**43.27**	**122**	*e*P	**P**	**10 19 31.3**	**0.0**
comp=Z,21nm,0.6s,mb5.0							
WB2	**Warramunga Arr**	**43.28**	**122**	*e*P	**P**	**10 19 31.6**	**+0.3**
WB2				*i*	pP	10 19 40.4	+1.2
KZA	**Kyzart**	**44.01**	**337**	P	**P**	**10 19 38.4**	**+1.4**
SNR=5.5							
UCH	**Uchtor**	**44.42**	**337**	P	**P**	**10 19 41.9**	**+1.5**
SNR=28							
FORT	**Forrest**	**44.56**	**140**	*e*P	**P**	**10 19 43.5**	**+1.8**
comp=Z,440nm,0.6s							
TKM2	**Tokmak 2**	**44.60**	**338**	P	**P**	**10 19 42.8**	**+1.0**
SNR=7.9							
KBK	**Karagaybulak**	**44.62**	**337**	P	**P**	**10 19 43.6**	**+1.6**
SNR=7.3							
ASPA	**Alice Springs**	**44.65**	**127**	*e*P	**P**	**10 19 42.9**	**+0.4**
ASAR	**Alice Springs**	**44.65**	**127**	P	**P**	**10 19 42.7**	**+0.2**
comp=Z,3.5nm,0.7s,mb4.3,baz=300,slow=8.0,SNR=38							
ASAR				pP	pP	10 19 50.9	+0.6
comp=Z,7.1nm,0.8s,baz=301,slow=7.6,SNR=16							
ASAR				PcP	PcP	10 21 25.4	+0.1
comp=Z,1.4nm,0.9s,baz=315,slow=3.8,SNR=3.3							
ASAR				pPcP		10 21 32.2	
comp=Z,2.5nm,0.7s,baz=297,slow=3.4,SNR=7.7							
AML	**Almayashu**	**44.67**	**336**	P	**P**	**10 19 43.9**	**+1.5**
SNR=18							
AAK	**Ala-Archa**	**44.77**	**337**	P	**P**	**10 19 44.9**	**+1.7**
SNR=8.2							
AAK	**Ala-Archa**	**44.77**	**337**	*i* P	**P**	**10 19 44.1**	**+0.9**
AAK				pmax	pmax		
comp=Z,20nm,1.7s,mb4.7							
AAK	**Ala-Archa**	**44.77**	**337**	*e*P	**P**	**10 19 43.3**	**+0.1**
comp=Z,8.5nm,0.9s,mb4.6							
FRU	**Bishkek**	**44.90**	**337**	*e*P	**P**	**10 19 46.0**	**+1.8**
EKS2	**Erkin-Say**	**45.08**	**336**	P	**P**	**10 19 47.0**	**+1.4**
SNR=17							
USP	**Ospenovka**	**45.31**	**338**	P	**P**	**10 19 48.3**	**+0.9**
SNR=36							
MKAR	**Makanchi Array**	**46.10**	**347**	*i* P	**P**	**10 19 53.7**	**+0.1**
MKAR				pmax	pmax		
comp=Z,17nm,0.6s							
MKAR	**Makanchi Array**	**46.10**	**347**	P	**P**	**10 19 53.4**	**-0.2**
comp=Z,36nm,0.7s,mb5.4,baz=160,slow=7.3,SNR=159							
MKAR	**Makanchi Array**	**46.10**	**347**	P	**P**	**10 19 53.4**	**-0.2**
SONM	**Songino Array**	**46.30**	**9**	P	**P**	**10 19 54.8**	**-0.4**
comp=Z,5.3nm,0.5s,mb4.7,baz=190,slow=9.2,SNR=53							
SONM				pP	pP	10 20 02.9	-0.3
comp=Z,10nm,0.9s,baz=189,slow=9.4,SNR=15							
SONM				PcP	PcP	10 21 30.3	-0.5
comp=Z,2.6nm,0.7s,baz=185,slow=4.2,SNR=4.7							
SONM				pPcP		10 21 37.5	
comp=Z,2.2nm,0.6s,baz=193,slow=2.7,SNR=6.3							
SONM				LR	LR	10 41 44.1	
comp=Z,415nm,18.1s,MS4.4,baz=18,slow=39							
ULN	**Ulaanbaatar**	**46.44**	**10**	*e*P	**P**	**10 19 55.9**	**-0.4**
ULN				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7							
ULN	**Ulaanbaatar**	**46.44**	**10**	*e*P	**P**	**10 19 55.9**	**-0.4**
comp=Z,9.0nm,1.0s,mb4.7							
ZAK	**Zakamensk**	**48.39**	**6**	*e*P	**P**	**10 20 11.3**	**-0.2**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.4s,mb4.3							
CN2	**Changchun**	**48.83**	**28**	*e*P	**P**	**10 20 17.6**	**+2.6**
TLY	**Talaya**	**49.71**	**6**	*e*P	**P**	**10 20 20.4**	**-1.3**
TLY				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.6							
TLY				MLR	MLR		
comp=Z,272nm,18.0s,MS4.3							
HIA	**Hailar**	**51.00**	**20**	*e*P	**P**	**10 20 30.5**	**-1.0**
HIA				*e**PP	pP	10 20 38.4	-1.2
HIA				pmax	pmax		
comp=Z,6.0nm,0.7s							
HIA	**Hailar**	**51.00**	**20**	*e*P	**P**	**10 20 30.4**	**-1.1**
comp=Z,6.0nm,0.7s,mb4.6							
HIA				*e*pP	pP	10 20 38.4	-1.1
MDJ	**Mudanjiang**	**51.44**	**30**	P	**P**	**10 20 35.6**	**+0.7**
MDJ				AMB	AMB		
comp=Z,13nm,1.3s,mb4.7							
MDJ				AMB	AMB		
comp=Z,63nm,3.5s							
MJAR	**Matsushiro Arr**	**51.55**	**43**	P	**P**	**10 20 35.0**	**-0.9**
comp=Z,2.0nm,0.7s,mb4.1,baz=234,slow=6.6,SNR=6.6							
MJAR				LR	LR	10 44 00.6	
comp=Z,134nm,18.7s,MS4.0,baz=215,slow=38							
ZAL	**Zalesovo**	**52.46**	**351**	P	**P**	**10 20 42.0**	**-0.6**
comp=Z,20nm,0.6s,mb5.2							
ZAL				LR	LR	10 48 33.2	
comp=Z,149nm,19.9s,MS4.0,baz=288,slow=42							
ZAL	**Zalesovo**	**52.46**	**351**	P	**P**	**10 20 42.0**	**-0.6**
ZAL				LR	LR	10 48 33.2	
OPO	**Ambohidratompo**	**52.57**	**245**	P	**P**	**10 20 41.7**	**-2.1**
comp=Z,1.9nm,0.7s,mb4.1,baz=90,slow=20,SNR=3.3							
CTA	**Charters Tower**	**53.69**	**117**	P	**P**	**10 20 52.5**	**+0.4**
comp=Z,4.1nm,0.7s,mb4.4,baz=264,slow=10,SNR=3.7							
CTA				LR	LR	10 47 55.0	
comp=Z,145nm,18.0s,MS4.1,baz=273,slow=41							
CTAO	**Charters Tower**	**53.69**	**117**	P	**P**	**10 20 51.8**	**-0.3**
CTAO				*e**PP	pP	10 21 00.9	+0.8
CTAO				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7							
CTAO	**Charters Tower**	**53.69**	**117**	P	**P**	**10 20 51.8**	**-0.3**
comp=Z,9.1nm,1.0s,mb4.7							
CTAO				*e*pP	pP	10 21 00.9	+0.8
STKA	**Stephens Creek**	**54.63**	**132**	*e*P	**P**	**10 20 59.1**	**+0.2**
comp=Z,5.2nm,0.7s,mb4.7							
STKA	**Stephens Creek**	**54.63**	**132**	P	**P**	**10 20 58.8**	**-0.1**
comp=Z,4.0nm,0.6s,mb4.6,baz=308,slow=9.3,SNR=13							
BVA0	**Borovoye Array**	**55.06**	**341**	*i* P	**P**	**10 21 00.7**	**-1.0**
BVA0				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.3							
BVAR	**Borovoye Array**	**55.06**	**341**	P	**P**	**10 21 00.5**	**-1.1**
comp=Z,13nm,0.7s,mb5.1,baz=140,slow=8.8,SNR=75							
CHKZ	**Chkalovo**	**55.54**	**342**	*e*P	**P**	**10 21 04.3**	**-0.8**
CHKZ				pmax	pmax		
comp=Z,30nm,0.8s,mb5.4							
CHKZ	**Chkalovo**	**55.54**	**342**	*e*P	**P**	**10 21 04.3**	**-0.8**
comp=Z,30nm,0.8s,mb5.4							
KLR	**Kul'dur**	**55.77**	**27**	*e*P	**P**	**10 21 03.3**	**-3.6**
KLR				MLR	MLR		
comp=E,500nm,15.0s							
KLR				MLR	MLR		
comp=Z,1μm,15.0s,MS5.0							
BOD	**Bodaibo**	**57.21**	**11** ⇓	*i* P	**P**	**10 21 15.9**	**-1.2**
BOD				pmax	pmax		
comp=Z,14nm,1.0s,mb5.0							
GNI	**Garni**	**60.01**	**316**	*i* P	**P**	**10 21 36.7**	**-0.1**
GNI				pmax	pmax		
comp=Z,7.0nm,1.0s							
YSS	**Yuzh-Sakhalins**	**60.02**	**35**	*e*P	**P**	**10 21 37.0**	**+0.2**
YSS				pmax	pmax		
comp=Z,34nm,1.1s,mb5.3							
YSS	**Yuzh-Sakhalins**	**60.02**	**35**	*e*P	**P**	**10 21 37.0**	**+0.2**
comp=Z,34nm,1.1s,mb5.3							
SVE	**Sverdlovsk**	**61.47**	**339**	*e*P	**P**	**10 21 45.0**	**-1.5**
SVE				pmax	pmax		
comp=Z,40nm,1.0s,mb5.5							
ARU	**Arti**	**61.96**	**337**	*i* P	**P**	**10 21 48.5**	**-1.3**
ARU				*e*		10 22 27.2	
ARU				*e*		10 24 03.9	
ARU				*e*S	**S**	**10 30 10.1**	**-0.4**
ARU				*e*SS	SS	10 34 11.4	-3.4
ARU				pmax	pmax		
comp=Z,14nm,0.9s,mb5.1							
KIV	**Kislovodsk**	**63.02**	**319**	*i* P	**P**	**10 21 56.3**	**-0.7**
KIV				*e*S	**S**	**10 30 34.4**	**+10**
KIV				pmax	pmax		
comp=Z,15nm,1.0s,mb5.1							
MALT	**Malatya**	**63.85**	**312**	*e*P	**P**	**10 22 02.9**	**+0.3**
MALT				pmax	pmax		
comp=Z,1.0nm,0.7s,mb4.0							
MALT	**Malatya**	**63.85**	**312**	*e*P	**P**	**10 22 02.9**	**+0.3**
comp=Z,1.5nm,0.7s,mb4.1							
YAK	**Yakutsk**	**64.72**	**17**	*e*P	**P**	**10 22 06.3**	**-1.6**
YAK				pmax	pmax		
comp=Z,19nm,0.9s,mb5.1							
YAK				pmax	pmax		
comp=N,6.0nm,1.2s							
YAK				pmax	pmax		
comp=E,6.0nm,1.3s							
YAK				MLR	MLR		
comp=Z,182nm,16.0s,MS4.4							
YAK				MLR	MLR		
comp=N,157nm,17.0s							
BRTR	**Keskin Array B**	**67.83**	**312**	P	**P**	**10 22 26.7**	**-1.4**
comp=N,1.8nm,0.9s,mb4.1,baz=129,slow=7.9,SNR=9.3							
VRSR	**Storozhevoye**	**68.28**	**325**	*e*P	**P**	**10 22 29.3**	**-1.3**
VRSR				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.8							
VRSR				pmax	pmax		
comp=N,6.0nm,0.6s							
VRSR				pmax	pmax		
comp=E,10.0nm,1.0s							
MA2	**Magadan**	**70.82**	**26**	*i* P	**P**	**10 22 45.9**	**-0.2**
MA2				pmax	pmax		
comp=Z,13nm,1.3s,mb4.7							
OBN	**Obninsk**	**71.35**	**328** ⇑	*i* P	**P**	**10 22 49.6**	**+0.3**
OBN				*e*		10 25 27.0	
OBN				*e*S	S	10 32 33.7	+30
OBN				pmax	pmax		
comp=Z,16nm,0.6s,mb5.1							
OBN				MLR	MLR		
comp=Z,100nm,20.0s,MS4.1							
TIXI	**Tiksi**	**72.38**	**10**	*i* P	**P**	**10 22 54.0**	**-1.2**
TIXI				pmax	pmax		
comp=Z,9.0nm,1.3s,mb4.5							
MAW	**Mawson**	**73.47**	**193**	P	**P**	**10 23 00.9**	**-0.7**
MAW				pmax	pmax		
comp=Z,6.0nm,0.8s							
MAW	**Mawson**	**73.47**	**193**	P	**P**	**10 23 00.9**	**-0.8**
comp=Z,5.8nm,0.8s,mb4.6							
AKASG	**Malin Array Be**	**73.97**	**322**	P	**P**	**10 23 03.4**	**-1.5**
comp=Z,1.4nm,0.5s,mb4.1,baz=89,slow=4.8,SNR=8.2							
AKASG				pP	pP	10 23 10.3	-2.8
comp=Z,3.6nm,0.7s,baz=90,slow=4.8,SNR=4.4							
JOF	**Joensuu**	**76.91**	**335**	*ep*	**P**	**10 23 23.7**	**+2.4**
FINES	**FINESS Array B**	**78.75**	**333**	P	**P**	**10 23 31.7**	**+0.2**
comp=Z,5.6nm,0.8s,mb4.6,baz=108,slow=6.0,SNR=15							
FINES				pP	pP	10 23 37.9	-1.9
comp=Z,2.0nm,0.5s,baz=110,slow=6.3,SNR=4.2							
FINES				LR	LR	11 04 05.2	
comp=Z,98nm,18.0s,MS4.2,baz=134,slow=40							
KAF	**Kangasniemi**	**78.83**	**333**	*ep*	**P**	**10 23 31.2**	**-0.7**
comp=Z,5.5nm,0.7s,mb4.6,baz=104,slow=5.0							
KAF	**Kangasniemi**	**78.83**	**333**	*e*P	**P**	**10 23 31.2**	**-0.7**
KAF				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.6							
RPZ	**Rata Peaks**	**80.49**	**135**	P	**P**	**10 23 41.7**	**+0.5**
comp=Z,5.1nm,0.6s,mb4.6,baz=297,slow=5.2,SNR=6.1							
BILL	**Bilibino**	**80.56**	**21** ⇓	*e*P	**P**	**10 23 40.8**	**-0.3**
BILL				pmax	pmax		
comp=Z,3.0nm,1.7s,mb4.0							
BILL				MLR	MLR		
comp=Z,300nm,20.0s,MS4.6							
KEV	**Kevo**	**80.91**	**341**	*ep*	**P**	**10 23 43.2**	**+0.3**
comp=Z,23nm,1.2s,mb5.0							
KEV	**Kevo**	**80.91**	**341**	*e*P	**P**	**10 23 43.2**	**+0.3**
KEV				pmax	pmax		
comp=Z,23nm,1.2s,mb5.0							
GERES	**GERESS Array B**	**83.53**	**319**	P	**P**	**10 23 57.5**	**+0.6**
comp=Z,2.8nm,1.0s,mb4.3,baz=90,slow=5.3,SNR=13							
URZ	**Urewera**	**84.08**	**129**	LR	LR	11 02 07.9	
comp=Z,175nm,19.8s,MS4.4,baz=236,slow=36							
NB2	**NORSAR Subarra**	**85.75**	**331**	P	**P**	**10 24 15.8**	**+8.1**
comp=Z,1.0nm,0.6s,mb4.2,baz=92,slow=5.8							
NOA	**NORSAR Array B**	**85.75**	**331**	P	**P**	**10 24 07.6**	**-0.1**
comp=Z,0.8nm,0.8s,mb4.0,baz=107,slow=5.8,SNR=2.5							
NOA				LR	LR	11 06 30.0	
comp=Z,98nm,19.6s,MS4.2,baz=40,slow=38							
NOA	**NORSAR Array B**	**85.75**	**331**	P	**P**	**10 24 07.6**	**-0.1**
NOA				LR	LR	11 06 30.0	
VNDA	**Vanda**	**86.94**	**169**	LR	LR	11 00 17.5	
comp=Z,158nm,20.4s,MS4.4,baz=280,slow=34							
SBA	**Scott Base**	**88.05**	**168**	P	**P**	**10 24 24.1**	**+5.5**
SBA				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.7							
SBA	**Scott Base**	**88.05**	**168**	P	**P**	**10 24 24.1**	**+5.5**
comp=Z,4.6nm,1.1s,mb4.6							
IMA	**Indian Mountai**	**96.01**	**23**	*e*P	**P**	**10 24 57.1**	**+1.4**
IMA				pmax	pmax		
comp=Z,12nm,0.8s,mb5.4							
IMA	**Indian Mountai**	**96.01**	**23**	*e*P	**P**	**10 24 57.1**	**+1.4**
comp=Z,12nm,0.8s,mb5.4							
INK	**Inuvik**	**101.79**	**17**	*e*P	P	10 25 21.3	-0.5
INK				pmax	pmax		
comp=Z,1.0nm,0.9s							
INK	**Inuvik**	**101.79**	**17**	*e*P	P	10 25 21.3	-0.5
comp=Z,0.9nm,0.9s							
NVAR	**Mina Array Bea**	**128.48**	**35**	PKP	PKPdf	10 30 34.5	-5.4
comp=Z,1.0nm,0.9s,baz=243,slow=4.0,SNR=2.8							
PDAR	**Pinedale Array**	**129.52**	**25**	PKhKP		10 30 31.6	
comp=Z,0.1nm,0.4s,baz=288,slow=2.9,SNR=3.2							
PDAR				PKP	PKPdf	10 30 38.2	-3.5
comp=Z,0.4nm,0.6s,baz=342,slow=4.7,SNR=4.0							
TXAR	**Lajitas Array**	**143.26**	**30**	PKP	PKPdf	10 31 01.6	-5.6
comp=Z,0.6nm,0.7s,baz=225,slow=1.8,SNR=5.7							
LRAL	**Lakeview Retre**	**144.83**	**5**	*e*P	PKPbc	10 31 05.4	+0.3

*IDC **06** 10:32:14.6±5.3, 62.20N×151.13W, h79km±41km, mb3.5/3, mb1 3.6/6, mb1mx3.3/21, mbtmp3.6/6, ML3.4/3, Error ellipse: s-maj=46.5km s-min=32.9km az=87.0*
*NEIC **06** 10:32:14.9, 62.12N×151.33W, h78km, MG3.2(AEIC), After AEIC.*

ISC 06 10:32:13.0±0.3, 62.14N±0.02×151.26W±0.06, h94km±5km, n70, σ0°71/79, mb3.6/3, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.53**	**60**	P	**P**	**10 32 28.9**	**+0.3**
STLK	**Strandline Lak**	**0.70**	**203**	P	**P**	**10 32 29.6**	**-0.5**
PWA	**Palmer West**	**0.82**	**126**	P	**P**	**10 32 31.8**	**+0.6**
CRP	**Crater Peak**	**0.97**	**206**	P	**P**	**10 32 32.7**	**-0.2**
CRP				S	**S**	**10 32 47.0**	**-0.9**
CKN	**Chakachatna No**	**1.02**	**206**	P	**P**	**10 32 33.2**	**-0.2**
SPU	**Mount Spurr**	**1.03**	**202**	*e*P	**P**	**10 32 32.8**	**-0.8**
CKL	**Chakachamna La**	**1.08**	**209**	P	**P**	**10 32 33.7**	**-0.5**
FIB	**Fire Island**	**1.10**	**152**	P	**P**	**10 32 35.7**	**+1.3**
HUR	**Hurricane**	**1.13**	**41**	P	**P**	**10 32 35.4**	**+0.6**
PMR	**Palmer**	**1.15**	**118**	P	**P**	**10 32 34.9**	**-0.2**
PMR				S	**S**	**10 32 51.6**	**+0.2**
GHO	**Glory Hole Cre**	**1.16**	**107**	P	**P**	**10 32 35.8**	**+0.6**
VOGL	**Vogel Lake**	**1.21**	**161**	P	**P**	**10 32 37.7**	**+1.8**
RC01	**Rabbit Creek A**	**1.28**	**145**	P	**P**	**10 32 36.5**	**-0.1**
RC01				S	**S**	**10 32 54.2**	**-0.2**
TRF	**Thorofare Moun**	**1.39**	**18**	P	**P**	**10 32 38.6**	**+0.7**
TRF				S	**S**	**10 32 57.4**	**+0.9**
SML	**Sawmill**	**1.42**	**102**	P	**P**	**10 32 38.8**	**+0.4**
SML				S	**S**	**10 32 57.5**	**+0.3**
KTH	**Kantishna Hill**	**1.43**	**6**	P	**P**	**10 32 39.0**	**+0.6**
KTH				S	**S**	**10 32 57.4**	**+0.1**
RND	**Reindeer**	**1.68**	**40**	P	**P**	**10 32 42.5**	**+0.8**
DFR	**Drift River**	**1.70**	**205**	P	**P**	**10 32 41.7**	**-0.2**
SLKM	**Skilak Lake**	**1.71**	**163**	P	**P**	**10 32 42.2**	**+0.2**
NCT	**North Crescent**	**1.78**	**208**	P	**P**	**10 32 42.8**	**-0.1**
RDN	**Redoubt North**	**1.79**	**205**	P	**P**	**10 32 42.8**	**-0.2**
SCM	**Sheep Creek Mo**	**1.88**	**98**	P	**P**	**10 32 44.6**	**+0.4**
MCK	**McKinley**	**1.92**	**33**	P	**P**	**10 32 45.8**	**+1.1**
MCK				S	**S**	**10 33 07.3**	**-0.9**
ILIM	**Iliamna**	**2.23**	**203**	P	**P**	**10 32 48.8**	**-0.1**
INE	**Iliamna NE**	**2.26**	**204**	P	**P**	**10 32 49.3**	**-0.2**
ILW	**Iliamna West**	**2.28**	**204**	P	**P**	**10 32 49.8**	**+0.1**
SVW2	**Sparrevohn**	**2.31**	**245**	P	**P**	**10 32 49.2**	**-1.0**
TT01	**Tatalina**	**2.34**	**291**	P	**P**	**10 32 49.7**	**-0.8**
BRLK	**Bradley Lake**	**2.39**	**175**	P	**P**	**10 32 52.2**	**+1.0**
HOM	**Homer**	**2.50**	**185**	P	**P**	**10 32 54.3**	**+1.6**
VLZ	**Valdez**	**2.56**	**111**	P	**P**	**10 32 52.5**	**-1.1**
CNPM	**China Poot**	**2.62**	**180**	P	**P**	**10 32 54.8**	**+0.4**
OPT	**Oil Point**	**2.68**	**202**	P	**P**	**10 32 55.8**	**+0.7**
TZL	**Tazlina**	**2.75**	**89**	P	**P**	**10 32 56.5**	**+0.4**
PAX	**Paxson**	**2.81**	**70**	P	**P**	**10 32 57.6**	**+0.6**
DIV	**Divide**	**2.81**	**109**	P	**P**	**10 32 56.1**	**-0.9**
THY	**Trims Highway**	**2.84**	**61**	P	**P**	**10 32 58.4**	**+1.0**
HIN	**Hinchinbrook I**	**2.89**	**125**	P	**P**	**10 32 56.9**	**-1.2**
MLY	**Manley**	**2.91**	**4**	P	**P**	**10 32 58.4**	**0.0**
CCB	**Clear Creek Bu**	**2.96**	**30**	P	**P**	**10 32 58.8**	**-0.2**
HDA	**Harding Lake**	**2.99**	**39**	P	**P**	**10 32 59.6**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.10**	**119**	P	**P**	**10 32 59.4**	**-1.6**
MDM	**Murphy Dome**	**3.14**	**24**	P	**P**	**10 33 01

0.1nm,0.3s,mb3.0,baz=84,slow=6.8,SNR=20
ASAR Alice Springs 32.45 254 P **P 10 46 19.0 -0.5**
2.2nm,0.5s,mb4.1,baz=82,slow=8.7,SNR=65
FITZ Fitzroy Crossi 40.37 263 P **P 10 47 26.8 +0.9**
2.5nm,0.6s,mb4.0,baz=79,slow=5.2,SNR=4.7
SONM Songino Array 85.68 323 P **P 10 52 23.5 -0.2**
0.3nm,0.5s,mb3.3,baz=166,slow=5.9,SNR=6.0

IDC 06 10:52:03.6±3.3, 1.96N×96.46E, mb3.6/4, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, ML4.5/1, Error ellipse: s-maj=118.0km s-min=28.9km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.58**	**8**	Pn	P	10 55 58.7	-0.5
	0.6nm,0.3s,baz=196,slow=12,SNR=7.6						
WRA	**Warramunga Arr**	**43.06**	**122**	P	P	11 00 05.5	-1.7
	0.3nm,0.7s,baz=299,slow=9.2,SNR=5.2						
MKAR	**Makanchi Array**	**46.34**	**347**	P	P	11 00 30.9	-2.2
	1.2nm,0.7s,baz=166,slow=8.3,SNR=4.4						
SONM	**Songino Array**	**46.50**	**9**	P	P	11 00 32.3	-2.1
	0.2nm,0.3s,baz=188,slow=8.7,SNR=4.8						
ZAL	**Zalesovo**	**52.69**	**351**	P	P	11 01 20.0	-2.0
	0.8nm,0.4s,baz=283,slow=5.2,SNR=3.1						

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*IDC **06** 10:58:22.1±1.8, 12.72N×92.06E, mb3.6/5, mb1 3.7/6, mb1mx3.6/20, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=59.1km s-min=22.0km az=73.0*

ISC 06 10:58:24.9±1.4, 12.8N±0.1×92.1E±0.2, h33km, n6, σ0§10/7, mb3.6/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.67**	**48**	Pn	P	**11 00 30.9**	**0.0**
	0.1nm,0.3s,baz=237,slow=15,SNR=3.7						
CMAR				Sn	**Sn**	**11 01 53.0**	**-16**
	0.2nm,0.3s,baz=208,slow=25,SNR=3.4						
MKAR	**Makanchi Array**	**34.92**	**348**	P	P	**11 05 15.7**	**+0.1**
	0.6nm,0.9s,mb3.5,baz=170,slow=8.8,SNR=3.6						
SONM	**Songino Array**	**36.94**	**16**	P	P	**11 05 32.5**	**-0.1**
	0.5nm,0.7s,mb3.5,baz=207,slow=7.5,SNR=4.8						
FITZ	**Fitzroy Crossi**	**45.09**	**132**	P	P	**11 06 40.1**	**0.0**
	2.9nm,0.8s,mb4.2,baz=356,slow=10,SNR=7.2						
WRA	**Warramunga Arr**	**52.74**	**127**	P	P	**11 07 38.9**	**-0.1**
	0.2nm,0.4s,mb3.4,baz=300,slow=9.7,SNR=9.6						
WRA				PcP	PcP	11 08 49.5	+1.0
	0.3nm,0.5s,baz=319,slow=3.2,SNR=12						
ASAR	**Alice Springs**	**54.58**	**131**	P	P	**11 07 52.8**	**+0.1**
	0.3nm,0.4s,mb3.7,baz=312,slow=6.8,SNR=16						
ASAR				PcP	PcP	11 08 56.3	+0.9
	0.3nm,0.5s,baz=315,slow=4.1,SNR=4.4						

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*BJI **06** 11:20:01.9, 4.64S×102.21E, h67km, mB5.7, mb5.7, Ms5.4, Msz5.2*

*MOS **06** 11:20:05.5±1.0, 3.89S×102.43E, h47km, mb6.0/65, MS4.9/27, Error ellipse: s-maj=8.4km s-min=4.4km az=122.4*

*DJA **06** 11:20:08.5±0.4, 3.95S×102.56E, h33km, MD5.6/1, Error ellipse: s-maj=21.2km s-min=5.4km az=50.0*

*IDC **06** 11:20:10.0±1.1, 3.93S×102.50E, h77km±8km, mb5.1/30, mb1 5.2/30, mb1mx5.2/30, mbtmp5.4/30, MS4.8/17, Ms1 4.8/17, ms1mx4.8/18, Error ellipse: s-maj=12.0km s-min=6.3km az=51.0*

*HRVD **06** 11:20:09.0±0.2, 4.17S×102.13E, h50km, MW5.6/73, Centroid moment Tensor Solution. LP body waves: s73,c146; Mantle waves: s73,c180; Half duration: 1§6 Moment tensor: Scale 10^{17}Nm; M_{rr}2.30±.05; $M_{\theta\theta}$-1.16±.04; $M_{\phi\phi}$-1.14±.05; $M_{r\theta}$1.89±.03; $M_{\theta\phi}$1.66±.03; $M_{\phi r}$-0.52±.04; Best double couple: $M_0$3.245×10^{17} NP1: ϕ_s335°, δ31°, λ125°. NP2: ϕ_s116°, δ65°, λ71°. Principal axes: T 3.143, Plg65°, Azm353°; N .204, Plg17°, Azm125°; P -3.347, Plg17°, Azm220°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **06** 11:20:09.0±0.5, 3.98S×102.42E, h68km±4km, mb5.7/85, ME5.2, MW5.6 Error ellipse: s-maj=4.8km s-min=2.9km az=48.0 Broadband fault plane solution: P waves. NP1: ϕ_s130°, δ55°, λ90°. NP2: ϕ_s310°, δ35°, λ90°. Principal axes: T Plg80°, Azm40°; N Plg0°, Azm0°; P Plg10°, Azm220°; Moment Tensor Solution. s23 Moment tensor: Scale 10^{17} Nm; M_{rr}2.84; $M_{\theta\theta}$-0.38; $M_{\phi\phi}$-2.46; $M_{r\theta}$1.25; $M_{\theta\phi}$1.50; $M_{\phi r}$-0.19; Best double couple: $M_0$3.3×10^{17} NP1: ϕ_s351°, δ41°, λ120°. NP2: ϕ_s134°, δ55°, λ67°. Principal axes: T 3.29, Plg70°, Azm350°; N .05, Plg19°, Azm148°; P -3.34, Plg7°, Azm240°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Bengkulu, Curup and Kapahiang; [II] at Padangpanjang.

ISC 06 11:20:07.1±0.5, 4.01S±0.02×102.37E±0.02, h64km±3km, h67km±2.2km: pP-P, n720, σ0§99/583, mb5.7/144, 101C-30D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**0.42**	**32**	*e*Pg	P	**11 20 16.0**	**-2.7**
PENI	**Pendagan**	**3.19**	**119⇑**	*e*PnP	P	**11 20 55.5**	**-0.5**
PENI	**Pendagan**	**3.19**	**119⇑**	*e*PnP	P	**11 20 54.5**	**-1.5**
PPI	**Padang Panjang**	**4.04**	**331**	*e*Pn	P	**11 21 09.0**	**+1.0**
PASI	**Pasiripis**	**4.16**	**130⇑**	*e*PnP	P	**11 21 08.7**	**-1.0**
PULI	**Pulasari**	**4.27**	**123**	*e*PnP	P	**11 21 11.3**	**+0.1**
PULI	**Pulasari**	**4.27**	**123**	*e*PnP	P	**11 21 11.2**	**0.0**
KGM	**Kluang**	**6.06**	**9**	P	P	**11 21 39.0**	**+3.0**
IPM	**Ipoh**	**8.64**	**351**	P	P	**11 22 12.5**	**+0.8**
KULM	**Kulim**	**9.40**	**349**	*e*Pn	P	**11 22 21.9**	**-0.2**
KSM	**Kuching**	**9.62**	**56**	*e*Pn	P	**11 22 26.1**	**+0.8**
SNG	**Songkhla**	**11.25**	**351**	P	P	**11 22 46.0**	**-1.3**
	400nm,1.0s						
SRDI	**Scrawed**	**12.51**	**111**	*e*P	P	**11 23 02.8**	**-1.4**
SRDI	**Scrawed**	**12.51**	**111**	*e*P	P	**11 23 02.9**	**-1.3**
KELI	**Kelakatan**	**12.75**	**110**	*e*P	P	**11 23 07.8**	**+0.4**
KELI	**Kelakatan**	**12.75**	**110**	*e*P	P	**11 23 07.9**	**+0.5**
RATI	**Rata**	**13.89**	**110⇑**	*e*P	P	**11 23 19.2**	**-3.2**
	3μm,0.4s						
RATI	**Rata**	**13.89**	**110**	*e*Pn	P	**11 23 19.2**	**-3.2**
KEDI	**Kedomdong**	**14.36**	**109**	*e*P	P	**11 23 25.1**	**-3.5**
KEDI				pmax	pmax		
	comp=Z,282nm,0.3s						
KEDI	**Kedomdong**	**14.36**	**109**	*e*P	P	**11 23 25.1**	**-3.5**
	comp=Z,282nm,0.3s						
KEDI	**Kedomdong**	**14.36**	**109**	*e*P	P	**11 23 25.2**	**-3.4**
NNT	**Nongplab**	**16.70**	**351**	P	P	**11 23 58.0**	**-0.3**
KKM	**Kota Kinabalu**	**17.05**	**54⇑**	*e*P	P	**11 24 06.0**	**+3.2**
KKM	**Kota Kinabalu**	**17.05**	**54**	P	P	**11 24 08.3**	**+5.5**
NINI	**Niniconang**	**17.34**	**92**	*e*P	P	**11 24 10.5**	**+4.1**
TSM	**Tawau**	**17.54**	**62**	P	P	**11 24 13.0**	**+4.0**
BUNI	**Buntu Taipa**	**17.91**	**89**	*e*P	P	**11 24 15.7**	**+2.2**
UBT	**Ubonrachathani**	**19.31**	**8**	⇑P	P	**11 24 30.0**	**+0.3**
	comp=Z,597nm,1.0s						
BATP	**Bataraza**	**19.96**	**50**	*e*P	P	**11 24 38.3**	**+1.6**
KKTK	**Khon Kaen**	**20.22**	**1**	P	P	**11 24 39.0**	**-0.4**
BDT	**Bhumibol Dam**	**21.38**	**351**	P	P	**11 24 49.0**	**-2.2**
	comp=Z,78nm,0.9s,mb5.0						
CM31	**Chiang Mai Arr**	**22.58**	**351⇑**	*e*P	P	**11 25 01.8**	**-1.4**
	comp=Z,114nm,0.6s,mb5.5						
CMAR	**Chiang Mai Arr**	**22.58**	**351**	P	P	**11 25 01.9**	**-1.2**
	comp=Z,114nm,0.6s,mb5.5,baz=183,slow=8.3,SNR=328						
CMAR				PcP	PcP	11 28 56.0	-0.1
	comp=Z,16nm,0.6s,baz=210,slow=3.1,SNR=8.8						
CMAR				ScP		11 32 27.2	
	comp=Z,8.6nm,1.1s,baz=219,slow=2.7,SNR=6.5						
CMAR				LR	LR	11 34 18.7	
	comp=Z,3μm,19.6s,baz=175,slow=38						
ENPP	**El Nido**	**22.72**	**48**	*e*P	P	**11 25 07.6**	**+3.0**
NANT	**Nan**	**22.72**	**356**	⇑P	P	**11 25 05.0**	**+0.4**
	comp=Z,900nm,0.5s,mb6.5						
CHG	**Chiang Mai**	**22.93**	**352**	⇑P	P	**11 25 05.8**	**-0.8**
	comp=Z,150nm,1.2s,mb5.3						
IPIL	**Ipil**	**23.31**	**60**	*e*P	P	**11 25 14.0**	**+3.7**
CUYO	**Cuyo Island**	**23.71**	**51**	*e*P	P	**11 25 16.8**	**+2.6**
BUSP	**Coron**	**23.81**	**48**	*e*P	P	**11 25 17.3**	**+2.2**
MBWA	**Marble Bar**	**23.98**	**137**	P	P	**11 25 17.7**	**+1.0**
MBWA	**Marble Bar**	**23.98**	**137**	*e*P	P	**11 25 16.9**	**+0.2**
	comp=Z,250nm,1.3s,mb5.5						
PAGZ	**Pagadian**	**24.04**	**61**	*e*P	P	**11 25 21.5**	**+4.1**
QIZ	**Qiongzhong**	**24.04**	**18**	P	P	**11 25 19.2**	**+1.9**
QIZ				AP		11 25 36.9	
QIZ				PP	PP	11 25 56.9	+3.4
QIZ				S	**S**	**11 29 28.1**	**+1.0**
QIZ				SS	SS	11 30 27.6	+4.9
QIZ				AMB	AMB		
	comp=Z,268nm,1.3s,mb5.5						
QIZ				AMB	AMB		
	comp=Z,1μm,10.2s						
QIZ				LR	LR		
	comp=N,3μm,23.7s						
QIZ				LR	LR		
	comp=E,2μm,21.0s						
QIZ				LR	LR		
	comp=Z,4μm,34.5s						
QIZ	**Qiongzhong**	**24.04**	**18**	*e*P	**P**	**11 25 19.0**	**+1.7**
	comp=Z,145nm,0.8s,mb5.5						
QIZ				LR	LR		
	comp=Z,3μm,21.0s						
PALK	**Pallekele**	**24.36**	**297⇑**	*i*P	**P**	**11 25 22.9**	**+2.4**
	comp=Z,64nm,0.9s,mb5.0						
PALK				LR	LR		
	comp=Z,413nm,20.0s						
SNPH	**Sibulan**	**24.66**	**57**	*e*P	**P**	**11 25 27.0**	**+3.6**
SJMP	**San Jose**	**24.79**	**48**	*e*P	**P**	**11 25 26.3**	**+1.6**
GUIM	**Jordan**	**24.83**	**54**	*e*P	**P**	**11 25 27.8**	**+2.8**
LUBP	**Lubang**	**25.00**	**45**	*e*P	**P**	**11 25 27.8**	**+1.1**
OTRP	**Odiongan**	**25.41**	**50**	*e*P	**P**	**11 25 32.3**	**+1.8**
RCP	**Roxas**	**25.49**	**52⇑**	*e*P	**P**	**11 25 23.2**	**-8.1**
BUKP	**Musuan**	**25.53**	**62**	*e*P	**P**	**11 25 33.3**	**+1.6**
DAV	**Davao City (W)**	**25.64**	**65**	*e*P	**P**	**11 25 35.0**	**+2.3**
SCZP	**Santa Cruz**	**26.22**	**41**	*e*P	**P**	**11 25 38.9**	**+0.8**
BOLP	**Bolinao**	**26.67**	**40**	*e*P	**P**	**11 25 42.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**26.73**	**123⇑**	*i*P	**P**	**11 25 41.8**	**-0.9**
	comp=Z,462nm,0.8s,mb6.1						
FITZ	**Fitzroy Crossi**	**26.73**	**123**	P	**P**	**11 25 41.4**	**-1.3**
	comp=Z,88nm,0.7s,mb5.4,baz=319,slow=3.9,SNR=86						
FITZ				S	**S**	**11 30 12.1**	**+0.3**
	comp=Z,19nm,0.8s,baz=164,slow=9.7,SNR=3.9						
FITZ				LR	LR	11 38 03.8	
	comp=Z,2μm,18.1s,baz=278,slow=40						
BALP	**Baler**	**27.32**	**44**	*e*P	**P**	**11 25 48.6**	**+0.5**
MDRS	**Chennai**	**27.76**	**308⇑**	*e*P	**P**	**11 25 50.0**	**-2.2**
MDRS				*i*		11 26 49.0	
MDRS				*e*		11 29 32.0	
MDRS				*e*		11 33 11.0	
PVCP	**Virac**	**27.81**	**51**	*e*P	**P**	**11 25 53.6**	**+1.0**
ABRA	**Dolores**	**28.12**	**40**	*e*P	**P**	**11 25 55.7**	**+0.3**
TRD	**Trivandrum**	**28.23**	**296**	*e*P	**P**	**11 25 57.2**	**+0.8**
TRD				*e*		11 26 01.9	
	comp=Z,104nm,1.6s						
TRD				*e*S	**S**	**11 30 38.5**	**+2.5**
CAUP	**Cauayan**	**28.33**	**42**	*e*P	**P**	**11 25 58.0**	**+0.7**
APYP	**Conner**	**28.61**	**40**	*e*P	**P**	**11 26 01.7**	**+2.0**
VIS	**Vishakhapatnam**	**28.62**	**320**	*e*P	**P**	**11 26 00.0**	**+0.1**
VIS				*e*		11 26 03.0	
	comp=Z,183nm,1.6s						
KMI	**Kunming**	**28.96**	**1**	P	**P**	**11 26 03.7**	**+0.9**
KMI				PP	PP	11 26 58.5	+0.1
KMI				S	**S**	**11 30 48.5**	**+0.9**
KMI				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.7						
KMI				AMB	AMB		
	comp=Z,459nm,3.4s						
KMI				LR	LR		
	comp=N,2μm,27.3s						
KMI				LR	LR		
	comp=E,4μm,20.0s						
KMI				LR	LR		
	comp=Z,3μm,31.0s						
KMI	**Kunming**	**28.96**	**1**	P	**P**	**11 26 03.7**	**+0.9**
KMI				*PP	pP	11 26 18.0	-0.4
KMI				*SP	sP	11 26 24.4	-1.7
KMI						11 26 58.5	
KMI				PPP	PPP	11 27 12.2	+0.8
KMI				S	**S**	**11 30 48.5**	**+0.9**
KMI				*SS		11 31 13.1	
KMI				SS	SS	11 32 19.3	-0.8
KMI				SSS	SSS	11 32 40.0	-1.5
KMI						11 36 39.7	
KMI				pmax	pmax		
	comp=Z,120nm,0.8s,mb5.7						
KMI				MLR	MLR		
	comp=Z,3μm,31.0s						
KMI	**Kunming**	**28.96**	**1**	P	**P**	**11 26 03.7**	**+0.9**
	comp=Z,120nm,0.8s,mb5.7						
KMI				pP	pP	11 26 18.0	-0.4
KMI				sP	sP	11 26 24.4	-1.7
KMI				PP	PP	11 26 58.5	+0.1
KMI				PPP	PPP	11 27 12.2	+0.8
KMI				S	**S**	**11 30 48.5**	**+0.9**
KMI				sS		11 31 13.1	
KMI				SS	SS	11 32 19.3	-0.8
KMI				SSS	SSS	11 32 40.0	-1.5
KMI				ScS	ScS	11 36 39.7	+2.3
KMI				LR	LR		
	comp=Z,3μm,31.0s						
GZH	**Guangzhou**	**28.98**	**21**	P	**P**	**11 26 03.5**	**+0.5**
GZH				S	**S**	**11 30 55.3**	**+7.4**
GZH				LR	LR		
	comp=N,3μm,20.4s						
GZH				LR	LR		
	comp=E,3μm,18.5s						
GZH				LR	LR		
	comp=Z,6μm,20.0s						
BWNR	**Bhubaneshwar**	**29.12**	**327**	*e*P	**P**	**11 26 05.7**	**+1.4**
BWNR				*e*S	**S**	**11 30 50.7**	**+0.6**
BWNR				*e*		11 38 15.4	
AGT	**Agartala**	**29.77**	**339⇑**	*i*P	**P**	**11 26 09.0**	**-1.0**
AGT				*i*		11 26 39.0	
DGAR	**Diego Garcia**	**29.96**	**262**	PFAKE		11 26 20.0	+8.2
DGAR				LR	LR		
	comp=Z,1μm,20.0s						
GYA	**Guiyang**	**30.57**	**8⇑**	*i*P	**P**	**11 26 17.0**	**-0.1**
GYA				AP	pP	11 26 36.5	+3.7
GYA				PP	PP	11 27 20.4	+1.2
GYA				S	**S**	**11 31 13.0**	**0.0**
GYA				SS	SS	11 33 01.8	+3.9
GYA				AMB	AMB		
	comp=Z,160nm,0.9s,mb5.8						
GYA				AMB	AMB		
	comp=Z,380nm,5.4s						
GYA				LR	LR		
	comp=N,3μm,16.2s						
GYA				LR	LR		
	comp=E,1μm,12.5s						
GYA				LR	LR		
	comp=Z,3μm,14.0s						
MUN	**Mundaring**	**30.71**	**157**	*e*P	**P**	**11 26 18.5**	**+0.3**
	comp=Z,143nm,0.7s,mb5.9						
MUN	**Mundaring**	**30.71**	**157**	*e*P	**P**	**11 26 18.5**	**+0.3**
MUN				pmax	pmax		
	comp=Z,143nm,0.7s,mb5.9						
KLBR	**Kellerberrin**	**31.02**	**154**	*e*P	**P**	**11 26 25.2**	**+4.2**
	comp=Z,21μm,1.6s						
SHL	**Shillong**	**31.11**	**341**	*e*P	**P**	**11 26 20.5**	**-1.4**
SHL				*e*		11 31 14.5	
HYB	**Hyderabad**	**31.72**	**313**	*e*P	**P**	**11 26 26.0**	**-1.2**
HYB				*e*S	**S**	**11 31 28.0**	**-3.1**
HYB				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.5						
HYB	**Hyderabad**	**31.72**	**313**	*e*P	**P**	**11 26 26.0**	**-1.2**
	comp=Z,80nm,1.0s,mb5.5						
HYB				*e*S	**S**	**11 31 28.0**	**-3.1**
HYB	**Hyderabad**	**31.72**	**313**	*i* P	**P**	**11 26 26.0**	**-1.2**
	comp=Z,80nm,1.0s,mb5.5						
HYB				*e*S	**S**	**11 31 28.0**	**-3.1**
NWAO	**Narrogin (SRO)**	**31.95**	**156**	P	**P**	**11 26 28.6**	**-0.5**
	comp=Z,11nm,0.8s,mb4.7,baz=308,slow=6.1,SNR=6.1						
NWAO				LR	LR	11 37 54.9	
	comp=Z,5μm,21.9s,baz=326,slow=33						
NWAO	**Narrogin (SRO)**	**31.95**	**156**	*e*P	**P**	**11 26 28.8**	**-0.3**
	comp=Z,38nm,1.1s,mb5.1						
NWAO				*e*	pP	11 26 41.7	-3.3
NWAO				LR	LR		
	comp=Z,5μm,22.0s						
BOK	**Bokaro**	**31.97**	**331**	*e*P	**P**	**11 26 29.1**	**-0.3**
BOK				*e*S	**S**	**11 31 34.7**	**-0.2**
BOK				*i*		11 36 19.6	
BLSP	**Bilaspur**	**32.66**	**324**	*e*P	**P**	**11 26 35.7**	**+0.3**
BLSP				*e*		11 26 38.1	
	comp=Z,525nm,2.1s						
QZH	**Quanzhou**	**32.81**	**28⇑**	*i*P	**P**	**11 26 37.3**	**+0.6**
QZH				S	**S**	**11 31 47.0**	**-1.1**
QZH				AMB	AMB		
	comp=Z,260nm,1.6s,mb5.9						
QZH				AMB	AMB		
	comp=Z,700nm,6.5s						
QZH				LR	LR		
	comp=N,7μm,27.6s						
QZH				LR	LR		
	comp=E,3μm,14.2s						
QZH				LR	LR		
	comp=Z,6μm,27.4s						
NACB	**Ninganchiao**	**33.69**	**33⇑**	*e*P	**P**	**11 26 43.7**	**-0.6**
NGP	**Nagpur**	**33.88**	**318**	*e*P	**P**	**11 26 46.2**	**+0.3**
YHNB	**Yeheng**	**33.97**	**32**	*e*P	**P**	**11 26 46.6**	**-0.1**
CD2	**Chengdu**	**34.75**	**2⇑**	*i*P	**P**	**11 26 52.5**	**-0.8**
CD2				S	**S**	**11 32 15.4**	**-2.6**
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,660nm,3.4s						
CD2				LR	LR		
	comp=N,6μm,18.9s						
CD2				LR	LR		
	comp=Z,7μm,20.4s						
ENH	**Enshi**	**34.76**	**11**	*e*P	**P**	**11 26 52.3**	**-1.1**
	comp=Z,94nm,0.9s,mb5.7						
ENH				LR	LR		
	comp=Z,4μm,20.0s						
WRA	**Warramunga Arr**	**34.94**	**120**	P	**P**	**11 26 53.6**	**-1.4**
	comp=Z,24nm,0.4s,mb5.5,baz=297,slow=11,SNR=318						
WRA				PcP	PcP	11 29 26.1	-0.5
	comp=Z,9.6nm,0.4s,baz=306,slow=2.1,SNR=5.7						
WRA				S	**S**	**11 32 18.3**	**-2.8**
	comp=Z,22nm,1.2s,baz=294,slow=16,SNR=9.5						
WRAB	**Tennant Creek**	**34.95**	**120**	*e*P	**P**	**11 26 53.8**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,150nm,0.6s,mb6.1						
WRAB	**Tennant Creek**	**34.95**	**120**	*e*P	**P**	**11 26 53.8**	**-1.3**
	comp=Z,150nm,0.6s,mb6.1						
WB2	**Warramunga Arr**	**34.95**	**120⇑**	*i*P	**P**	**11 26 53.8**	**-1.3**
WB2				*e*S	**S**	**11 32 19.3**	**-1.9**
WB2				*e*SCS	ScS	11 37 08.1	+0.6
KAD	**Karad**	**34.98**	**308**	*e*P	**P**	**11 26 55.2**	**-0.1**
KAD				⇓*e*		11 26 56.8	
KAD				*e*S	**S**	**11 32 21.6**	**0.0**
KAD				*i*		11 34 51.2	
KAD				*i*		11 34 59.4	
JIRN	**Jiri**	**35.14**	**335**	*e*P	**P**	**11 26 57.1**	**+0.4**
	comp=Z,2μm,0.9s						
LSA	**Lhasa**	**35.20**	**343**	P	**P**	**11 26 57.4**	**+0.2**
LSA				PP	PP	11 28 15.2	-2.6
LSA				S	**S**	**11 32 19.7**	**-5.3**
LSA				SS	SS	11 34 54.1	+9.4
LSA				AMB	AMB		
	comp=Z,210nm,1.1s,mb6.0						
LSA				LR	LR		
	comp=N,1μm,21.6s						
LSA				LR	LR		
	comp=E,2μm,23.8s						
LSA				LR	LR		
	comp=Z,3μm,21.6s						
LSA	**Lhasa**	**35.20**	**343**	*e*P	**P**	**11 26 57.1**	**-0.1**
LSA				pmax	pmax		
	comp=Z,230nm,1.1s,mb6.0						
LSA				MLR	MLR		
	comp=Z,3μm,22.0s						
LSA	**Lhasa**	**35.20**	**343**	*e*P	**P**	**11 26 57.1**	**0.0**
	comp=Z,230nm,1.1s,mb6.0						
LSA				LR	LR		
	comp=Z,3μm,22.0s						
PKI	**Pulchoki**	**35.41**	**333**	*e*P	**P**	**11 26 58.8**	**-0.1**
	comp=Z,248nm,0.7s,mb6.3						
PKI	**Pulchoki**	**35.41**	**333**	*e*P	**P**	**11 26 58.8**	**-0.1**
PKI				pmax	pmax		
	comp=Z,124nm,0.7s,mb6.0						
DMN	**Daman**	**35.58**	**333**	*e*P	**P**	**11 27 00.3**	**-0.1**
	comp=Z,624nm,0.9s,mb6.5						
KKN	**Kakani**	**35.65**	**333**	*e*P	**P**	**11 27 01.0**	**0.0**
	comp=Z,916nm,0.8s,mb6.7						
GKN	**Gorkha**	**36.12**	**333**	*e*P	**P**	**11 27 05.0**	**0.0**
	comp=Z,522nm,0.5s,mb6.7						
ASPA	**Alice Springs**	**36.16**	**126⇑**	*i*P	**P**	**11 27 04.7**	**-0.7**
ASPA				*e*S	**S**	**11 32 39.2**	**-0.6**
ASPA				*e*SCS	ScS	11 37 15.9	+1.9
ASAR	**Alice Springs**	**36.16**	**126**	P	**P**	**11 27 04.9**	**-0.5**
	comp=Z,12nm,0.5s,mb5.1,baz=298,slow=7.7,SNR=200						
ASAR				PcP	PcP	11 29 30.1	0.0
	comp=Z,14nm,0.7s,baz=297,slow=2.9,SNR=5.3						
ASAR				S	**S**	**11 32 38.7**	**-1.1**
	comp=Z,14nm,1.0s,baz=298,slow=15,SNR=7.4						
ASAR				PKiKP		11 36 47.8	
	comp=Z,0.7nm,0.5s,baz=347,slow=1.0,SNR=5.7						
ASAR				LR	LR	11 43 37.4	
	comp=Z,796nm,19.5s,baz=298,slow=39						
WHN	**Wuhan**	**36.21**	**18⇑**	P	**P**	**11 27 06.0**	**+0.2**
WHN				PP	PP	11 28 34.4	+4.4
WHN				S	**S**	**11 32 41.0**	**+0.4**
WHN				AMB	AMB		
	comp=Z,96nm,1.0s,mb5.7						
WHN				LR	LR		
	comp=N,3μm,16.0s						
WHN				LR	LR		
	comp=E,1μm,20.0s						
WHN				LR	LR		
	comp=Z,8μm,18.9s						
KOLN	**Koldanda**	**36.41**	**331**	*e*P	**P**	**11 27 07.8**	**+0.3**
	comp=Z,1μm,0.9s						
BHPL	**Bhopal**	**36.42**	**319⇑**	*i*P	**P**	**11 27 07.2**	**-0.4**
BHPL				*e*		11 27 10.2	
	comp=Z,319nm,2.1s						
BHPL				*e*S	**S**	**11 32 42.6**	**-1.2**
BHPL				*i*		11 36 22.3	
BOM	**Bombay**	**36.95**	**309**	*e*P	**P**	**11 27 11.6**	**-0.4**
	comp=Z,672nm,2.8s,mb6.0						
BOM				*e*		11 31 15.9	
XAN	**Xi'an**	**38.34**	**9**	P	**P**	**11 27 23.1**	**-0.4**
XAN				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.6						
XAN				LR	LR		
	comp=N,2μm,16.8s						
XAN				LR	LR		
	comp=E,1μm,13.3s						
XAN				LR	LR		
	comp=Z,4μm,16.2s						
NJ2	**Nanjing**	**39.14**	**22**	*e*P	**P**	**11 27 31.1**	**+1.0**
NJ2				AP	pP	11 27 49.4	+3.1
NJ2				PP	PP	11 29 06.6	+2.0
NJ2				S	**S**	**11 33 26.0**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,510nm,11.1s						
NJ2				LR	LR		
	comp=N,7μm,28.6s						
NJ2				LR	LR		
	comp=E,3μm,28.4s						
NJ2				LR	LR		
	comp=Z,4μm,27.5s						

LZH				PP	PP	11 29 11.0	-1.8
LZH				PCP	PcP	11 29 41.8	+0.1
LZH				S	**S**	**11 33 34.0**	**-2.5**
LZH				AMB	AMB		
	comp=Z,400nm,1.0s,mb6.1						
LZH				AMB	AMB		
	comp=Z,2μm,4.0s						
LZH				LR	LR		
	comp=N,4μm,14.6s						
LZH				LR	LR		
	comp=Z,5μm,15.0s						
LZH	**Lanzhou**	**39.91**	**2**	⇑P	**P**	**11 27 37.3**	**+0.8**
	comp=Z,400nm,1.0s,mb6.1						
LZH				pP	pP	11 27 55.8	+3.1
LZH				sP	sP	11 28 01.8	+1.4
LZH				PP	PP	11 29 11.0	-1.8
LZH				PcP	PcP	11 29 41.8	+0.1
LZH				S	**S**	**11 33 34.0**	**-2.5**
LZH				sS		11 34 04.0	
LZH				ScP		11 34 13.7	
LZH				SS	SS	11 36 25.0	-4.3
LZH				LR	LR		
	comp=Z,5μm,15.0s						
SONA	**Sohna**	**40.27**	**324**	*e*P	**P**	**11 27 39.2**	**-0.3**
SONA				*e*		11 27 41.5	
	comp=Z,524nm,1.0s						
AJM	**Ajmer**	**40.48**	**320**	⇑*i*P	**P**	**11 27 41.0**	**-0.3**
NDI	**New Delhi**	**40.52**	**325**	*e*P	**P**	**11 27 40.5**	**-1.1**
NDI				*e*		11 33 42.5	
KHET	**Khetri**	**40.89**	**323**	*e*P	**P**	**11 27 45.4**	**+0.7**
KHET				*e*		11 27 47.8	
	comp=Z,353nm,1.8s						
DDI	**Dehra Dun**	**41.31**	**327**	*e*P	**P**	**11 27 49.0**	**+0.9**
DDI				*e*		11 33 51.9	
SMLA	**Simla**	**42.41**	**327**	⇓*i*P	**P**	**11 27 47.8**	**-9.5**
	comp=Z,127nm,0.4s,mb5.9						
SMLA				*i* S	**S**	**11 34 05.5**	**-8.2**
TIY	**Taiyuan**	**42.55**	**12**	⇓P	**P**	**11 28 00.0**	**+1.8**
TIY				S	**S**	**11 34 21.0**	**+5.4**
TIY				LR	LR		
	comp=N,3μm,16.0s						
SDNR	**Sundarnagar**	**42.81**	**327**	*e*P	**P**	**11 28 00.2**	**-0.2**
SDNR				*e*S	**S**	**11 34 18.6**	**-0.9**
BHK	**Bhakra**	**43.04**	**327**	*e*	**P**	**11 28 09.7**	**+7.3**
BHK				*e*		11 34 21.5	
GTA	**Gaotai**	**43.27**	**357**	⇑*i*P	**P**	**11 28 04.3**	**+0.2**
GTA				AP	pP	11 28 22.5	+2.1
GTA				PP	PP	11 29 46.8	-0.7
GTA				PCP	PcP	11 29 53.0	+0.3
GTA				PCS		11 33 43.4	
GTA				S	**S**	**11 34 24.7**	**-1.4**
GTA				SCS	ScS	11 37 54.4	-1.2
GTA				AMB	AMB		
	comp=Z,115nm,1.2s,mb5.5						
GTA				AMB	AMB		
	comp=Z,886nm,7.6s						
GTA				LR	LR		
	comp=N,3μm,20.9s						
GTA				LR	LR		
	comp=E,2μm,26.6s						
GTA				LR	LR		
	comp=Z,5μm,25.5s						
THN	**Thein Dam**	**44.20**	**327**	*e*P	**P**	**11 28 11.0**	**-0.7**
THN				*e*S	**S**	**11 34 42.2**	**+2.5**
BTO	**Baotou**	**44.95**	**8**	*e*P	**P**	**11 28 17.5**	**-0.1**
BTO				AMB	AMB		
	comp=Z,89nm,1.6s,mb5.3						
HHC	**Hu-ho-hao-te**	**45.43**	**10**	*e*P	**P**	**11 28 22.3**	**+0.9**
HHC				AP	pP	11 28 40.5	+2.7
HHC				PCP	PcP	11 29 57.5	-2.6
HHC				PP	PP	11 30 10.8	+1.8
HHC				PCS		11 33 54.2	
HHC				S	**S**	**11 34 58.6**	**+1.4**
HHC				SS	SS	11 38 15.0	+2.0
HHC				AMB	AMB		
	comp=Z,220nm,1.2s,mb5.9						
HHC				LR	LR		
	comp=N,2μm,16.7s						
HHC				LR	LR		
	comp=E,2μm,15.7s						
HHC				LR	LR		
	comp=Z,2μm,21.4s						
ADE	**Adelaide**	**45.60**	**137**	P	**P**	**11 28 23.6**	**+0.7**
BJT	**Baijiatuau**	**45.61**	**15**	*e*P	**P**	**11 28 23.3**	**+0.5**
BJT				pmax	pmax		
	comp=Z,109nm,0.5s						
BJT				MLR	MLR		
	comp=Z,5μm,19.0s						
BJT	**Baijiatuau**	**45.61**	**15**	*e*P	**P**	**11 28 23.3**	**+0.4**
	comp=Z,109nm,0.5s,mb6.0						
BJT				LR	LR		
	comp=Z,5μm,19.0s						
CTA	**Charters Tower**	**45.61**	**114**	⇑*i*P	**P**	**11 28 22.7**	**-0.4**
	comp=Z,76nm,1.0s,mb5.6						
CTA	**Charters Tower**	**45.61**	**114**	⇑*i*P	**P**	**11 28 22.7**	**-0.4**
CTA				pmax	pmax		
	comp=Z,76nm,1.0s						
CTA	**Charters Tower**	**45.61**	**114**	S	**S**	**11 34 58.5**	**-1.6**
	comp=Z,9.0nm,1.1s,baz=213,slow=23,SNR=6.3						
CTA				LR	LR	11 48 42.4	
	comp=Z,618nm,20.1s,baz=290,slow=38						
CTAO	**Charters Tower**	**45.61**	**114**	*e*P	**P**	**11 28 22.7**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,156nm,1.1s,mb5.8						
CTAO	**Charters Tower**	**45.61**	**114**	*e*P	**P**	**11 28 22.7**	**-0.4**
	comp=Z,156nm,1.1s,mb5.8						
BJI	**Beijing**	**45.63**	**15**	P	**P**	**11 28 23.5**	**+0.5**
BJI				PCP	PcP	11 29 59.9	-0.9
BJI				PP	PP	11 30 11.2	+0.1
BJI				S	**S**	**11 34 57.3**	**-2.9**
BJI				AMB	AMB		
	comp=Z,213nm,0.9s,mb6.1						
BJI				LR	LR		
	comp=N,3μm,19.9s						
BJI				LR	LR		
	comp=E,1μm,19.1s						
BJI				LR	LR		
	comp=Z,3μm,21.7s						
BJI	**Beijing**	**45.63**	**15**	P	**P**	**11 28 23.5**	**+0.5**
BJI				*PP	pP	11 28 40.8	+1.4
BJI						11 29 59.9	
BJI						11 30 11.2	
BJI				S	**S**	**11 34 57.3**	**-2.9**
BJI						11 38 10.9	
BJI				pmax	pmax		
	comp=Z,213nm,0.9s,mb6.1						
BJI				MLR	MLR		
	comp=Z,3μm,21.7s						
BJI	**Beijing**	**45.63**	**15**	P	**P**	**11 28 23.5**	**+0.5**
	comp=Z,213nm,0.9s,mb6.1						
BJI				pP	pP	11 28 40.8	+1.4
BJI				sP	sP	11 28 50.5	+3.6
BJI				PcP	PcP	11 29 59.9	-0.9
BJI				PP	PP	11 30 11.2	+0.1
BJI				ScP		11 33 45.8	
BJI				S	**S**	**11 34 57.3**	**-2.9**
BJI				ScS	ScS	11 38 10.9	+0.5
BJI				SS	SS	11 38 28.1	+11
BJI				LR	LR		
	comp=Z,3μm,21.7s						
STKA	**Stephens Creek**	**46.05**	**132**	⇑*i*P	**P**	**11 28 26.4**	**-0.1**
	comp=Z,67nm,0.8s,mb5.6						
STKA	**Stephens Creek**	**46.05**	**132**	P	**P**	**11 28 26.1**	**-0.3**
	comp=Z,42nm,0.5s,mb5.7,baz=306,slow=7.5,SNR=202						
STKA				S	**S**	**11 35 05.8**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=255,slow=24,SNR=2.3						
STKA				LR	LR	11 50 31.4	
	comp=Z,1μm,18.7s,baz=292,slow=40						
DL2	**Dalian**	**46.26**	**21**	⇑P	**P**	**11 28 28.2**	**+0.2**
DL2				PP	PP	11 30 19.9	+2.6
DL2				S	**S**	**11 35 12.7**	**+3.6**
DL2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
DL2				AMB	AMB		
	comp=Z,250nm,4.8s						
DL2				LR	LR		
	comp=N,640nm,23.4s						
DL2				LR	LR		
	comp=E,720nm,19.8s						
DL2				LR	LR		
	comp=Z,1μm,27.6s						
CBIJ	**Chichi jima**	**49.33**	**49**	P	**P**	**11 28 51.0**	**-1.1**
	comp=Z,146nm,0.8s,mb6.0,baz=283,slow=21,SNR=9.2						
WMQ	**Urumqi**	**49.41**	**346**	⇑*i*P	**P**	**11 28 52.5**	**0.0**
WMQ				PCP	PcP	11 30 15.0	+0.7
WMQ				PP	PP	11 30 47.3	-0.2
WMQ				PCS		11 34 10.5	
WMQ				S	**S**	**11 35 53.6**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,1μm,3.8s						
WMQ				LR	LR		
	comp=N,923nm,21.6s						
WMQ				LR	LR		
	comp=E,784nm,21.0s						
WMQ				LR	LR		
	comp=Z,1μm,21.6s						
SNY	**Shenyang**	**49.54**	**21**	⇑*i*P	**P**	**11 28 52.0**	**-1.5**
SNY				S	**S**	**11 35 56.4**	**+1.3**
SNY				AMB	AMB		
	comp=Z,80nm,1.1s,mb5.7						
SNY				AMB	AMB		
	comp=Z,660nm,8.6s						
SNY				LR	LR		
	comp=N,2μm,21.4s						
SNY				LR	LR		
	comp=Z,2μm,26.5s						
KSH	**Kashi**	**49.67**	**333**	⇑*i*P	**P**	**11 28 54.6**	**+0.1**
KSH				*e*AP	pP	11 29 12.5	+1.4
KSH				*e*PCP	PcP	11 30 15.8	+0.5
KSH				*e*PP	PP	11 30 49.1	-1.0
KSH				*e*PCS		11 34 10.6	
KSH				*e*S	**S**	**11 35 54.5**	**-2.5**
KSH				*e*SCS	ScS	11 38 35.5	-1.4
KSH				AMB	AMB		
	comp=Z,2μm,3.1s						
KSH				LR	LR		
	comp=N,550nm,4.9s						
KSH				LR	LR		
	comp=E,540nm,4.7s						
WBK	**Wadi Bani Khal**	**49.97**	**304**	P	**P**	**11 28 57.8**	**+0.8**
	SNR=18						
JMDO	**Jabal Madar**	**50.59**	**303**	P	**P**	**11 29 02.1**	**+0.3**
	SNR=14						
SHAO	**Shalim**	**51.02**	**297**	P	**P**	**11 29 05.8**	**+0.7**
	SNR=8.4						
BIDO	**Bidbid**	**51.07**	**305**	P	**P**	**11 29 06.8**	**+1.3**
	SNR=16						
JHJ	**Hachijo jima 2**	**51.15**	**41**	LR	LR	11 49 27.6	
	comp=E,715nm,21.0s,baz=347,slow=34						
BSY	**Bisya**	**51.50**	**303**	P	**P**	**11 29 09.4**	**+0.8**
	SNR=13						
TOO	**Toolangi**	**51.63**	**136**	*e*P	**P**	**11 29 10.7**	**+1.3**
	comp=E,11nm,0.6s,mb5.0						
TOO	**Toolangi**	**51.63**	**136**	*e*P	**P**	**11 29 10.7**	**+1.3**
TOO				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
SONM	**Songino Array**	**51.74**	**3**	P	**P**	**11 29 10.5**	**+0.4**
	comp=Z,152nm,0.5s,mb6.2,baz=185,slow=9.4,SNR=1180						
SONM				PcP	PcP	11 30 22.6	-0.2
	comp=Z,18nm,0.5s,baz=192,slow=4.5,SNR=5.1						
SONM				ScP		11 34 11.4	
	comp=Z,3.3nm,1.0s,baz=207,slow=3.2,SNR=5.9						
SONM				S	**S**	**11 36 24.6**	**-1.0**
	comp=Z,1.3nm,1.1s,baz=191,slow=22,SNR=2.0						
SONM				LR	LR	11 54 06.9	
	comp=Z,2μm,18.2s,baz=182,slow=39						
SONM				PKPPKP		11 59 44.3	
	comp=Z,0.8nm,1.1s,baz=225,slow=1.7,SNR=4.2						
ULHL	**Ulahol**	**51.79**	**335**	P	**P**	**11 29 10.7**	**+0.1**
	SNR=16						
ULN	**Ulaanbaatar**	**51.82**	**4**	P	**P**	**11 29 11.1**	**+0.4**
ULN				pmax	pmax		
	comp=Z,170nm,0.9s,mb6.0						
ULN	**Ulaanbaatar**	**51.82**	**4**	*e*P	**P**	**11 29 10.8**	**+0.1**
	comp=Z,165nm,0.9s,mb6.0						
CN2	**Changchun**	**51.93**	**21**	*e*P	**P**	**11 29 10.5**	**-1.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
CN2				AMB	AMB		
	comp=Z,400nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,17.0s						
CN2				LR	LR		
	comp=E,1μm,17.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
KZA	**Kyzart**	**52.07**	**335**	P	**P**	**11 29 13.0**	**+0.3**
	SNR=13						
RBK	**Rabkut**	**52.11**	**296**	P	**P**	**11 29 13.8**	**+0.5**
	SNR=27						
ARQ	**Araqi**	**52.32**	**304**	P	**P**	**11 29 15.1**	**+0.4**
	SNR=33						
MAJO	**Matsushiro**	**52.40**	**37**	⇑*i*P	**P**	**11 29 13.4**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,40nm,0.5s,mb5.6						
MAJO	**Matsushiro**	**52.40**	**37**	⇑*i*P	**P**	**11 29 13.4**	**-1.8**
	comp=Z,40nm,0.5s,mb5.6						
MAT	**Matsushiro**	**52.40**	**37**	*e*P	**P**	**11 29 14.0**	**-1.2**
MAT				*e*S	**S**	**11 36 33.0**	**-1.7**
MAT				pmax	pmax		
	comp=Z,131nm,1.2s,mb5.7						
MAT				MLR	MLR		
	comp=Z,740nm,22.0s						
MAT	**Matsushiro**	**52.40**	**37**	*e*P	**P**	**11 29 14.0**	**-1.2**
	comp=Z,131nm,1.2s,mb5.7						
MAT				*e*S	**S**	**11 36 33.0**	**-1.7**
MAT				LR	LR		
	comp=Z,740nm,22.0s						
MAT	**Matsushiro**	**52.40**	**37**	P	**P**	**11 29 13.5**	**-1.7**
MAT				S	**S**	**11 36 33.0**	**-1.7**
MJAR	**Matsushiro Arr**	**52.40**	**37**	P	**P**	**11 29 13.7**	**-1.5**
	comp=Z,24nm,0.5s,mb5.4,baz=218,slow=7.7,SNR=140						
MJAR				PcP	PcP	11 30 24.8	-0.6
	comp=Z,17nm,1.0s,baz=220,slow=4.8,SNR=4.2						
MJAR				ScP		11 34 14.7	
	comp=Z,5.0nm,0.9s,baz=210,slow=4.0,SNR=4.9						
MJAR				LR	LR	11 51 22.4	
	comp=Z,690nm,21.9s,baz=235,slow=36						
UCH	**Uchtor**	**52.52**	**334**	P	**P**	**11 29 15.8**	**-0.1**
	SNR=100						
TKM2	**Tokmak 2**	**52.62**	**335**	P	**P**	**11 29 16.2**	**-0.6**
	SNR=269						
WHFO	**Wadi Hawf**	**52.64**	**296**	P	**P**	**11 29 17.1**	**-0.1**
	SNR=42						
KBK	**Karagaybulak**	**52.68**	**335**	P	**P**	**11 29 16.9**	**-0.3**
	SNR=95						
AML	**Almayashu**	**52.80**	**333**	P	**P**	**11 29 18.1**	**-0.1**
	SNR=24						
AAK	**Ala-Archa**	**52.85**	**334**	P	**P**	**11 29 18.1**	**-0.5**
	SNR=96						
AAK	**Ala-Archa**	**52.85**	**334**	⇑*i*P	**P**	**11 29 16.7**	**-1.8**
AAK				pmax	pmax		
	comp=Z,69nm,0.8s,mb5.6						
AAK	**Ala-Archa**	**52.85**	**334**	⇑*i*P	**P**	**11 29 16.7**	**-1.8**
	comp=Z,68nm,0.8s,mb5.6						
ABTO	**Aybut**	**52.88**	**295**	P	**P**	**11 29 19.3**	**+0.3**
	SNR=28						
FRU	**Bishkek**	**52.96**	**335**	⇑*i*P	**P**	**11 29 18.8**	**-0.5**
FRU				*e*		11 36 44.0	
FRU				pmax	pmax		
	comp=Z,400nm,1.9s,mb6.0						
FRU				MLR	MLR		
	comp=Z,1μm,23.0s						
CHMS	**Chumysh**	**53.04**	**335**	P	**P**	**11 29 18.8**	**-1.1**
	SNR=65						
EKS2	**Erkin-Say**	**53.19**	**334**	P	**P**	**11 29 20.5**	**-0.6**
	SNR=335						
ASHO	**Ashiyiah**	**53.28**	**305**	P	**P**	**11 29 22.4**	**+0.5**
	SNR=19						
USP	**Ospenovka**	**53.36**	**335**	P	**P**	**11 29 21.1**	**-1.2**
	SNR=118						
CNB	**Canberra Magne**	**53.38**	**132**	*e*P	**P**	**11 29 26.8**	**+4.2**
	comp=Z,842nm,1.3s,mb6.5						
MKAR	**Makanchi Array**	**53.61**	**343**	*e*P	**P**	**11 29 22.8**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,61nm,0.5s						
MKAR	**Makanchi Array**	**53.61**	**343**	P	**P**	**11 29 22.8**	**-1.3**
	comp=Z,135nm,0.5s,mb6.1,baz=152,slow=8.2,SNR=801						
MKAR				S	**S**	**11 36 50.4**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=165,slow=16,SNR=2.6						
MKAR				LR	LR	11 58 23.3	
	comp=Z,258nm,18.4s,baz=158,slow=43						
ZAK	**Zakamensk**	**54.18**	**1**	⇓*i*P	**P**	**11 29 27.6**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.2						
MDJ	**Mudanjiang**	**54.20**	**24**	P	**P**	**11 29 28.0**	**-0.4**
MDJ				PCP	PcP	11 30 30.4	-1.6
MDJ				PP	PP	11 31 30.0	-2.0
MDJ				PCS		11 34 30.1	
MDJ				S	**S**	**11 37 00.5**	**+1.6**
MDJ				SS	SS	11 40 44.8	+3.8
MDJ				AMB	AMB		
	comp=Z,55nm,0.9s,mb5.5						
MDJ				AMB	AMB		
	comp=Z,417nm,6.4s						
MDJ				LR	LR		
	comp=N,1μm,22.6s						
MDJ				LR	LR		
	comp=E,1μm,25.6s						
MDJ				LR	LR		
	comp=Z,2μm,27.9s						
MDJ	**Mudanjiang**	**54.20**	**24**	*e*P	**P**	**11 29 27.9**	**-0.5**
	comp=Z,52nm,0.9s,mb5.5						
MDJ				LR	LR		
	comp=Z,2μm,22.0s						
HIA	**Hailar**	**55.16**	**14**	*e*P	**P**	**11 29 33.9**	**-1.5**
HIA				pmax	pmax		
	comp=Z,202nm,1.2s						
HIA				MLR	MLR		
	comp=Z,4μm,20.0s						
HIA	**Hailar**	**55.16**	**14**	*e*P	**P**	**11 29 33.9**	**-1.5**
	comp=Z,202nm,1.2s,mb6.0						
HIA				LR	LR		
	comp=Z,4μm,20.0s						
MOY	**Mondy**	**55.47**	**359**	*e*P	**P**	**11 29 37.6**	**0.0**
MOY				pmax	pmax		
	comp=Z,203nm,2.2s,mb5.8						
TLY	**Talaya**	**55.48**	**1**	*e*P	**P**	**11 29 37.5**	**-0.1**
TLY				*e*		11 32 55.6	
TLY				*e*S	**S**	**11 37 17.8**	**+1.8**
TLY				pmax	pmax		
	comp=Z,76nm,0.9s,mb5.7						
TLY				MLR	MLR		
	comp=Z,1μm,19.0s						
TLY	**Talaya**	**55.48**	**1**	*e*P	**P**	**11 29 37.5**	**-0.1**
	comp=Z,111nm,0.9s,mb5.9						
TAU	**Tasmania Unive**	**55.54**	**141**	PFAKE		11 29 50.0	+12
TAU				LR	LR		
	comp=Z,457nm,19.0s						
OPO	**Ambohidratompo**	**55.79**	**250**	P	**P**	**11 29 41.2**	**+0.9**
	comp=Z,6.0nm,0.9s,baz=332,slow=4.3,SNR=4.8						
IRK	**Irkutsk**	**56.06**	**1**	*e*P	**P**	**11 29 41.3**	**-0.5**
IRK				pmax	pmax		
	comp=Z,254nm,2.2s,mb5.9						
HNR	**Honiara**	**57.38**	**99**	*e*P	**P**	**11 29 49.5**	**-2.1**
	comp=Z,83nm,0.7s,mb5.9						
KLR	**Kul'dur**	**58.84**	**22**κ	*i*P	**P**	**11 29 56.9**	**-4.4**
KLR				*e*S	**S**	**11 38 00.0**	**-0.2**
KLR				pmax	pmax		
	comp=N,68nm,1.2s						
KLR				pmax	pmax		
	comp=E,110nm,1.2s						
KLR				pmax	pmax		
	comp=Z,150nm,1.2s,mb5.9						
KLR				MLR	MLR		
	comp=E,900nm,17.0s						
KLR				MLR	MLR		
	comp=Z,1μm,17.0s						
ZAL	**Zalesovo**	**59.58**	**348**	P	**P**	**11 30 05.3**	**-1.1**
	comp=Z,157nm,0.5s,mb6.3,baz=304,slow=4.8,SNR=458						
ZAL				S	**S**	**11 38 09.2**	**-0.5**
	comp=Z,3.4nm,0.6s,baz=186,slow=20,SNR=12						
ZAL				PKPPKP		11 59 35.4	
	comp=Z,0.5nm,0.3s,baz=166,slow=17,SNR=3.6						
ZAL				LR	LR	11 59 48.7	
	comp=Z,2μm,21.1s,baz=321,slow=40						
ASAJ	**Asahikawa**	**59.97**	**32**	P	**P**	**11 30 07.7**	**-1.5**
	comp=Z,60nm,0.5s,mb5.9,baz=252,slow=11,SNR=114						
ATD	**Arta Tunnel**	**61.18**	**285**	P	**P**	**11 30 18.4**	**+0.6**
	comp=Z,5.6nm,0.6s,mb4.9,baz=272,slow=19,SNR=3.8						
ATD				LR	LR	11 51 36.9	
	comp=Z,533nm,21.3s,baz=299,slow=31						
RAYN	**Ar Rayn**	**61.78**	**299**	P	**P**	**11 30 21.9**	**+0.1**
	comp=Z,460nm,0.9s,SNR=52						
YSS	**Yuzh-Sakhalins**	**61.97**	**30**α	*i*P	**P**	**11 30 21.5**	**-1.2**
YSS				*e*S	**S**	**11 38 38.0**	**-2.2**
YSS				*e*PPS	PPS	11 39 07.0	-9.4
YSS				pmax	pmax		
	comp=Z,420nm,1.1s,mb6.5						
YSS				MLR	MLR		
	comp=N,800nm,20.0s						
YSS				MLR	MLR		
	comp=Z,500nm,20.0s						
YSS	**Yuzh-Sakhalins**	**61.97**	**30**	*e*P	**P**	**11 30 22.0**	**-0.7**
	comp=Z,404nm,1.0s,mb6.5						
BOD	**Bodaibo**	**62.34**	**7**	⇓*i*P	**P**	**11 30 23.1**	**-1.9**
BOD				pmax	pmax		
	comp=Z,118nm,1.5s,mb5.8						
CASY	**Casey**	**62.42**	**176**	*e*P	**P**	**11 30 24.6**	**-0.9**
	comp=Z,39nm,1.1s,mb5.5						
BVA0	**Borovoye Array**	**62.88**	**339**	*i* P	**P**	**11 30 26.8**	**-2.0**
BVA0				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.2						
BVAR	**Borovoye Array**	**62.88**	**339**	P	**P**	**11 30 26.7**	**-2.0**
	comp=Z,109nm,0.6s,mb6.2,baz=144,slow=8.6,SNR=521						
BVAR				S	**S**	**11 38 50.3**	**-1.4**
	comp=Z,1.8nm,0.8s,baz=151,slow=15,SNR=3.2						
CHKZ	**Chkalovo**	**63.33**	**339**	P	**P**	**11 30 30.0**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,144nm,0.8s,mb6.2						
CLNS	**Chul'man**	**63.35**	**14***c*	*i*P	**P**	**11 30 31.3**	**-0.5**
CLNS				*e*		11 31 09.8	
CLNS				*e*		11 32 46.3	
CLNS				*e*S	**S**	**11 38 58.3**	**+0.8**
CLNS				*e*PS	PS	11 39 24.5	-1.0
CLNS				*e*SS	SS	11 43 11.5	+4.6
CLNS				pmax	pmax		
	comp=Z,181nm,1.5s,mb6.0						
CLNS				pmax	pmax		
	comp=N,106nm,1.4s						
CLNS				pmax	pmax		
	comp=E,63nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
CLNS				pmax	pmax		
	comp=N,14nm,1.2s						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
CLNS				smax			
	comp=N,11nm,1.1s						
CLNS				smax			
	comp=Z,2.0nm,0.6s						
CLNS				smax			
	comp=E,4.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,2μm,19.0s						
CLNS				MLR	MLR		
	comp=N,2μm,20.0s						
CLNS				MLR	MLR		
	comp=E,300nm,16.0s						
KMBO	**Kilima Mbogo**	**65.11**	**271**	P	**P**	**11 30 43.9**	**0.0**
	comp=E,25nm,0.2s,mb5.9,baz=219,slow=23,SNR=11						
KMBO				LR	LR	11 54 18.1	
	comp=E,574nm,21.8s,baz=94,slow=31						
BHD	**Baghdad**	**66.11**	**309**	*i* P	**P**	**11 30 43.0**	**-7.0**
BHD				*e*PcP	PcP	11 31 02.0	-18
BHD				*e*S	S	11 39 25.0	-6.7
BHD				*e*PS	PS	11 39 50.0	-13
MAK	**Makhachkala**	**68.02**	**320**	*e*P	**P**	**11 30 56.0**	**-5.8**
MAK				*e**PP	pP	11 31 14.0	-5.2
MAK				*e*		11 33 36.0	
MAK				*i*		11 40 24.0	
MAK				pmax	pmax		
	comp=E,600nm,7.0s						
MAK				pmax	pmax		
	comp=Z,2μm,7.0s						
MSL	**Mosul**	**68.24**	**312**	*e*P	**P**	**11 31 03.0**	**-0.3**
GNI	**Garni**	**68.61**	**316**	*e*P	**P**	**11 31 04.4**	**-1.0**
GNI	**Garni**	**68.61**	**316**	P	**P**	**11 31 05.2**	**-0.3**
GNI				pmax	pmax		
	comp=Z,75nm,0.9s						
GNI	**Garni**	**68.61**	**316**	P	**P**	**11 31 04.9**	**-0.6**
	comp=Z,5.3nm,0.4s,mb4.9,baz=348,slow=14,SNR=13						
GNI	**Garni**	**68.61**	**316**	*e*P	**P**	**11 31 05.0**	**-0.5**
	comp=Z,75nm,0.9s,mb5.6						
GNI				LR	LR		
	comp=Z,344nm,22.0s						
DGRG	**David-gareji**	**68.74**	**317**	P	**P**	**11 31 06.6**	**+0.3**
DGRG				S	S	11 39 59.8	-3.5
TVAN	**Van**	**68.88**	**314**	*i* P	**P**	**11 31 09.6**	**+2.4**
MAW	**Mawson**	**68.95**	**195**	P	**P**	**11 31 08.4**	**+1.2**
	comp=Z,11nm,0.7s,mb4.9,baz=347,slow=8.4,SNR=9.5						
MAW				LR	LR	11 55 27.6	
	comp=Z,3μm,20.3s,baz=30,slow=31						
MAW				PKPPKP		11 59 15.8	
	comp=Z,4.9nm,0

YAK e 11 31 31.8
YAK eS S 11 40 02.9 -4.3
YAK e 11 41 00.9
YAK pmax pmax
comp=Z,98nm,0.9s,mb5.7
YAK pmax pmax
comp=N,45nm,1.2s
YAK pmax pmax
comp=E,33nm,1.5s
YAK pmax pmax
comp=Z,8.0nm,1.1s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax
comp=N,19nm,1.2s
YAK smax
comp=E,9.0nm,1.0s
YAK smax
comp=Z,5.0nm,1.0s
YAK MLR MLR
comp=Z,827nm,20.0s
YAK MLR MLR
comp=N,721nm,19.0s
YAK MLR MLR
comp=E,278nm,18.0s
YAK Yakutsk 69.10 13 eP **P 11 31 06.2 -1.9**
comp=E,207nm,0.6s,mb6.2
MTA Mtatsminda 69.24 317 P **P 11 31 09.0 -0.4**
TI2 Plekhanov 69.28 317 i P **P 11 31 09.2 -0.4**
TI2 i S S 11 40 09.2 -0.5
TI2 pmax pmax
comp=Z,190nm,0.6s,mb6.2
TI2 pmax pmax
comp=Z,2μm,1.0s,mb7.0
SVE Sverdlovsk 69.44 337⇑ i P **P 11 31 10.0 -0.3**
SVE e 11 31 19.8
SVE e 11 33 44.0
SVE e 11 35 27.0
SVE pmax pmax
comp=Z,520nm,1.6s,mb6.2
SVE MLR MLR
comp=N,500nm,24.0s
SVE MLR MLR
comp=E,300nm,24.0s
SVE MLR MLR
comp=Z,500nm,24.0s
ARU Arti 69.99 336⇑ i P **P 11 31 12.5 -1.2**
ARU i 11 31 35.6
ARU e 11 33 45.8
ARU ePPP PPP 11 35 26.5 -4.5
ARU eS S 11 40 18.0 +0.3
ARU e 11 41 08.1
ARU eSS SS 11 44 48.2 -1.3
ARU pmax pmax
comp=Z,206nm,0.9s,mb6.1
ARU MLR MLR
comp=N,1μm,24.0s
ARU MLR MLR
comp=Z,1μm,24.0s
ARU MLR MLR
comp=E,600nm,23.0s
ARU Arti 69.99 336 eP **P 11 31 12.4 -1.3**
comp=E,224nm,1.0s,mb6.0
ARU LR LR
comp=Z,199nm,20.0s
BTMT Batman 70.14 313 eP **P 11 31 15.0 +0.1**
BEST Besiri 70.19 313 i P **P 11 31 14.5 -0.7**
ZEI Tsey 70.30 318 i P **P 11 31 15.9 +0.1**
ZEI eS S 11 40 22.8 +1.3
ZEI pmax pmax
comp=Z,44nm,0.8s,mb5.4
SKR Severo-Kuril's 71.23 33 eP **P 11 31 16.8 -4.4**
SKR pmax pmax
comp=N,110nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,310nm,1.0s,mb6.2
KIV Kislovodsk 71.60 319c i P **P 11 31 22.9 -0.7**
KIV i pP 11 31 42.8 +1.6
KIV e 11 34 06.3
KIV eS S 11 40 36.8 +0.3
KIV eSS SS 11 45 20.7 +5.9
KIV pmax pmax
comp=Z,205nm,1.6s,mb5.8
KIV MLR MLR
comp=Z,200nm,19.0s
KIV Kislovodsk 71.60 319 eP **P 11 31 22.7 -0.9**
comp=Z,108nm,1.0s,mb5.7
MBAR Mbarara 71.64 271 eP **P 11 31 23.6 -0.7**
MBAR e 11 31 35.5
MBAR pmax pmax
comp=Z,34nm,1.0s,mb5.2
MBAR Mbarara 71.64 271 eP **P 11 31 23.6 -0.7**
comp=Z,34nm,1.0s,mb5.2
MBAR e 11 31 35.5
ASF Jabal al Asfar 71.68 306 P **P 11 31 25.2 +0.9**
comp=Z,77nm,0.9s,mb5.6,baz=354,slow=2.7,SNR=51
URFA Urfa 71.84 311 eP **P 11 31 25.2 0.0**
GOF Gofitskoye 71.85 320⇑ i P **P 11 31 21.5 -3.5**
GOF i pP 11 31 37.3 -5.3
GOF e 11 34 03.9
GOF i S S 11 40 38.7 -0.6
GOF eSS SS 11 45 11.8 -6.6
GOF pmax pmax
comp=Z,440nm,2.0s,mb6.0
GOF smax
comp=E,600nm,2.5s
PTK Pertek 71.93 313 eP **P 11 31 25.2 -0.4**
ELZG Elazig 72.09 312 i P **P 11 31 26.6 +0.1**
GUMT Gumushane 72.43 315 eP **P 11 31 28.9 +0.4**
MALT Malatya 72.43 312 eP **P 11 31 27.1 -1.5**
MALT Malatya 72.43 312⇑ i P **P 11 31 28.6 0.0**
MALT Malatya 72.43 312⇑ i P **P 11 31 28.6 0.0**
KELT Kelkit 72.47 314 i P **P 11 31 28.0 -0.8**
EIL Elat 72.59 303⇑ i P **P 11 31 29.6 -0.2**
comp=E,150nm,1.0s,mb5.9
GZT Gaziantep 72.76 311 i P **P 11 31 30.8 +0.2**
THZ Tophouse 72.85 132 PN **P 11 31 30.4 -0.7**
GAZ Gaziantep 72.97 311 eP **P 11 31 31.6 -0.3**
KAHT Ahir Dag 73.37 311 i P **P 11 31 34.1 0.0**
SOC Sochi 73.42 318 i P **P 11 31 32.7 -1.7**
SOC e pP 11 31 50.3 -1.7
SOC e 11 34 13.5
SOC ePPP PPP 11 36 02.8 -1.8
SOC eS S 11 40 57.5 +0.2
SOC e 11 41 34.6
SOC eSS SS 11 45 40.7 -2.4
SOC eSSS SSS 11 48 59.2 +4.8
SOC pmax pmax
comp=Z,49nm,0.5s,mb5.7
SOC pmax pmax
comp=N,40nm,0.8s
SOC pmax pmax
comp=E,10.0nm,0.6s
SOC pmax pmax
comp=Z,60nm,0.4s,mb5.9
KHZ Kahutara 73.43 133 PN **P 11 31 34.0 -0.5**
HTY Hatay 73.46 309 eP **P 11 31 34.6 -0.1**
COBT Iskenderun 73.49 310 i P **P 11 31 33.6 -1.3**
LSZ Lusaka 73.71 255 PFAKE 11 31 50.0 +13
LSZ LR LR
comp=Z,2μm,22.0s
PET Petropavlovsk 73.79 32⇑ i P **P 11 31 35.4 -0.9**
PET e*PP pP 11 31 55.7 +1.7
PET e 11 34 26.9
PET ePPP PPP 11 36 11.7 +3.7
PET eS S 11 40 59.8 -1.3
PET e*SS 11 41 35.2
PET pmax pmax
comp=Z,234nm,0.5s,mb6.4
PET pmax pmax
comp=Z,200nm,9.9s
PET pmax pmax
comp=Z,100nm,14.5s
PET smax
comp=N,200nm,14.7s
PET MLR MLR
comp=Z,500nm,18.0s
PET Petropavlovsk 73.79 32 eP **P 11 31 35.4 -0.9**
comp=Z,139nm,0.5s,mb6.1
HIZ Hauiti 73.82 129 PN **P 11 31 37.8 +1.0**
MA2 Magadan 73.90 23⇑ eP **P 11 31 36.6 -0.2**
MA2 pmax pmax
comp=Z,227nm,1.1s,mb6.0
MA2 Magadan 73.90 23⇑ eP **P 11 31 36.5 -0.2**
comp=Z,227nm,1.1s,mb6.0
CEYT Ceyhan 74.03 310 eP **P 11 31 38.2 +0.2**
TOKT Tokat 74.48 314 eP **P 11 31 40.3 -0.3**
WNVZ Wahianoa 74.50 130 PN **P 11 31 41.1 +0.3**
BNN Bunyan 74.52 312 eP **P 11 31 40.5 -0.4**
MEST Erdemli 75.13 309 i P **P 11 31 43.0 -1.4**
BKZ Black Stump Fm 75.17 129 PN **P 11 31 44.3 -0.3**
BFZ Birch Farm 75.18 131 PN **P 11 31 44.5 -0.1**
AVNT Avonos 75.24 312 i P **P 11 31 43.9 -1.1**
CSS Prodhromos 75.32 308 eP **P 11 31 45.5 -0.1**
comp=Z,190nm,1.2s,mb5.9
ANN Anapa 75.40 318 eP **P 11 31 42.8 -3.0**
ANN e*PP pP 11 32 06.4 +2.9
ANN eS S 11 41 18.4 -0.8
ANN pmax pmax
comp=Z,30nm,1.3s,mb5.1
LEF Lefka 75.71 308 eP **P 11 31 47.3 -0.4**
CORM Corum 75.83 313 eP **P 11 31 47.8 -0.5**
CTKT Corum 75.85 313 i P **P 11 31 47.5 -0.9**
CDAG Cicekdag 75.85 312 i P **P 11 31 47.6 -0.8**
BOYT Boyabat 76.01 314 i P **P 11 31 48.8 -0.6**
KAMT Kaman 76.26 312 eP **P 11 31 49.1 -1.6**
LBTB Lobatse 76.34 245 P **P 11 31 52.0 +0.5**
LBTB pmax pmax
comp=Z,11nm,0.8s,mb4.8
LBTB Lobatse 76.34 245 eP **P 11 31 51.4 -0.1**
comp=Z,12nm,0.8s,mb4.9
MXZ Matakaoa Point 76.42 128 PN **P 11 31 51.4 -0.3**
BRTR Keskin Array B 76.42 312 P **P 11 31 50.4 -1.3**
comp=Z,30nm,0.8s,mb5.3,baz=130,slow=7.2,SNR=152
TOS Tosya 76.53 314 eP **P 11 31 51.9 -0.3**
SEY Seymchan 76.61 21 eP **P 11 31 54.2 +2.0**
SEY e 11 34 52.8
SEY ePPP PPP 11 36 37.9 +3.5
SEY eS S 11 41 37.2 +5.1
SEY *SS 11 42 05.5
SEY eSS SS 11 46 27.9 -3.4
SEY pmax pmax
comp=Z,50nm,0.6s,mb5.6
SEY smax
comp=N,500nm,15.8s
SEY smax
comp=E,600nm,18.8s
CANT Cankiri 76.69 313 eP **P 11 31 53.2 +0.1**
SYO Syowa Base 76.75 199⇑ P **P 11 31 53.1 +0.2**
SYO Syowa Base 76.75 199⇓ PcP PcP 11 32 02.3 -2.0
SYO Syowa Base 76.75 199⇓ pP pP 11 32 10.0 -0.7
VRSR Storozhevoye 76.76 325c i P **P 11 31 52.0 -1.3**
VRSR e 11 32 03.0
VRSR e*PP pP 11 32 08.3 -2.8
VRSR eS S 11 41 30.2 -3.7
VRSR e 11 41 59.5
VRSR pmax pmax
comp=Z,210nm,0.8s,mb6.1
VRSR pmax pmax
comp=N,60nm,1.0s
VRSR pmax pmax
comp=E,140nm,1.0s
VRSR smax
comp=N,240nm,1.3s
VRSR smax
comp=Z,8.0nm,0.9s
VRSR smax
comp=E,60nm,1.1s
VRSR MLR MLR
comp=Z,410nm,28.0s
VRSR MLR MLR
comp=N,290nm,23.0s
VRSR MLR MLR
comp=E,330nm,28.0s
ELDT Eldivan 76.80 313 i P **P 11 31 53.1 -0.7**
BZK Bozkurt 76.82 315 eP **P 11 31 53.4 -0.5**
KONT Konya--Tatoy 76.88 310 eP **P 11 31 54.2 -0.1**
VOR Voronezh 76.96 325 eP **P 11 31 53.5 -0.9**
VOR e*PP pP 11 32 09.0 -3.2
VOR 11 34 47.0
VOR eS S 11 41 34.0 -2.1
VOR pmax pmax
comp=N,130nm,1.5s
VOR pmax pmax
comp=Z,420nm,1.5s,mb6.2
VOR pmax pmax
comp=N,100nm,1.7s
VOR smax
comp=N,400nm,1.6s
ANTO Ankara 77.08 312 eP **P 11 31 53.2 -2.1**
ANTO Ankara 77.08 312⇑ P **P 11 31 54.5 -0.9**
ANTO Ankara 77.08 312⇑ P **P 11 31 54.5 -0.9**
TIXI Tiksi 77.47 8⇑ i P **P 11 31 55.0 -1.9**
KIZT Kizilcal 77.49 311 eP **P 11 31 56.2 -1.5**
SAFT Safranbolu 77.55 314 eP **P 11 31 57.7 -0.2**
SIM Simferopol' 77.67 318c i P **P 11 31 57.9 -0.6**
SIM e 11 34 50.0
SIM eS S 11 41 46.6 +2.7
SIM pmax pmax
comp=Z,90nm,0.8s,mb5.8
ISP Isparta 78.26 310 eP **P 11 31 59.9 -2.0**
ISP Isparta 78.26 310 P **P 11 32 02.0 +0.1**
ISP pmax pmax
comp=Z,17nm,0.7s,mb5.1
ISP Isparta 78.26 310 eP **P 11 32 00.2 -1.7**
comp=Z,17nm,0.6s,mb5.2
ESKT Eskisehir 78.43 312 eP **P 11 32 02.2 -0.7**
HENT Hendek 78.74 313 i P **P 11 32 03.4 -1.0**
GOLH Golhisar 78.85 309 i P **P 11 32 04.5 -0.7**
ALT Altintas 78.87 311 eP **P 11 32 05.2 0.0**
FETY Fethiye 79.08 308 eP **P 11 32 05.7 -0.7**
MOS Moscow 79.43 329α i P **P 11 32 07.8 -0.1**
MOS e 11 32 16.8
MOS e 11 35 03.9
MOS ePPP PPP 11 36 54.3 -6.7
MOS eS S 11 41 59.9 -2.5
MOS e 11 42 24.8
MOS pmax pmax
comp=Z,700nm,1.6s,mb6.3
MOS pmax pmax
comp=Z,399nm,1.0s,mb6.3
MOS MLR MLR
comp=Z,900nm,22.5s
MOS MLR MLR
comp=N,3μm,20.4s
MOS MLR MLR
comp=E,6μm,24.0s
DALT Dalyan (Mudla) 79.46 308 eP **P 11 32 07.7 -0.8**
HRT Hereke 79.64 313 eP **P 11 32 08.9 -0.5**
ARG Arkhangelos 79.74 308 eP **P 11 32 10.0 0.0**
OBN Obninsk 79.74 328c i P **P 11 32 08.9 -0.7**
OBN i S S 11 42 04.4 -1.3
OBN i SS SS 11 47 11.5 -6.8
OBN pmax pmax
comp=Z,494nm,1.6s,mb6.2
OBN Obninsk 79.74 328 eP **P 11 32 08.3 -1.3**
comp=Z,221nm,0.9s,mb6.1
VNDA Vanda 79.75 169 eP **P 11 32 09.0 -0.3**
VNDA pmax pmax
comp=Z,51nm,1.2s
VNDA MLR MLR
comp=Z,1μm,22.0s
VNDA Vanda 79.75 169 P **P 11 32 09.3 0.0**
comp=Z,5.3nm,0.9s,baz=316,slow=5.9,SNR=28
VNDA PKKPbc 11 50 55.0
comp=Z,1.2nm,0.9s,baz=61,slow=1.2,SNR=5.9
VNDA LR LR 12 02 46.7
comp=Z,734nm,20.3s,baz=312,slow=32
VNDA Vanda 79.75 169 eP **P 11 32 09.0 -0.3**
comp=Z,51nm,1.2s,mb5.3
VNDA LR LR
comp=Z,1μm,22.0s
YLV Yalova 79.79 312 eP **P 11 32 09.1 -1.1**
ULDT Uludag 79.87 312 i P **P 11 32 10.0 -0.6**
MANT Manisa 79.91 310 i P **P 11 32 10.1 -0.8**
ISK Istanbul-Kandi 80.15 313 eP **P 11 32 11.3 -0.8**
KARP Karpathos 80.36 307 eP **P 11 32 13.5 +0.1**
BODT Bodrum 80.56 308 eP **P 11 32 13.7 -0.7**
BTOK Tokmak 80.60 311 i P **P 11 32 13.9 -0.7**
BALB Balikesir 80.69 311 eP **P 11 32 14.3 -0.7**
SUR Sutherland 80.74 238 eP **P 11 32 16.3 +0.9**
comp=Z,23nm,0.8s,mb5.2
BNT Bandirma 80.82 312 eP **P 11 32 15.4 -0.2**
SBA Scott Base 80.84 169 eP **P 11 32 16.0 +0.9**
SBA pmax pmax
comp=Z,57nm,1.2s,mb5.4
SBA Scott Base 80.84 169 eP **P 11 32 16.0 +0.9**
comp=Z,57nm,1.2s,mb5.4
KDAG Bornova 80.88 310 i P **P 11 32 15.9 -0.1**
BLCB Balcova 81.05 310 eP **P 11 32 17.3 +0.4**
SMG Samos 81.06 309 eP **P 11 32 17.8 +0.8**
XRY Khrisi 81.41 306 eP **P 11 32 11.8 -7.1**
TIRR Tirgusor 81.44 316 P **P 11 32 18.7 -0.1**
TIRR Tirgusor 81.44 316⇓ P **P 11 32 18.2 -0.6**
TIRR Tirgusor 81.44 316⇓ P **P 11 32 18.2 -0.6**
NPS Neapolis 81.55 306 eP **P 11 32 20.0 +0.4**
FX1 Attu Island--F 81.74 35 eP **P 11 32 19.4 -0.8**
KIS Kishinev 81.80 318α i P **P 11 32 19.0 -1.6**
KIS e pP 11 32 39.0 +0.5
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.0
KIS pmax pmax
comp=Z,400nm,2.0s,mb6.0
CFR Carcaliu 81.80 317 P **P 11 32 20.9 +0.2**
CFR Carcaliu 81.80 317⇑ P **P 11 32 20.8 +0.1**
CFR Carcaliu 81.80 317⇑ P **P 11 32 20.8 +0.1**
PRK Paraskevi 81.82 310 eP **P 11 32 21.0 +0.1**
HARR Harsova 81.83 316 P **P 11 32 21.1 +0.3**
HARR Harsova 81.83 316⇓ P **P 11 32 20.7 -0.1**
HARR Harsova 81.83 316⇓ P **P 11 32 20.7 -0.1**
SANT Santorini 81.88 307 eP **P 11 32 20.0 -1.3**
comp=Z,257nm,1.3s,mb6.0
APE Apeiranthos 81.96 308 eP **P 11 32 21.0 -0.7**
EDRB Edirne 82.02 313 eP **P 11 32 21.3 -0.6**
IDI Anoyia 82.13 306 P **P 11 32 23.0 +0.4**
comp=Z,71nm,0.7s,mb5.7,baz=119,slow=7.5,SNR=42
AKASG Malin Array Be 82.51 322 P **P 11 32 23.3 -0.9**
comp=Z,9.8nm,0.4s,mb5.2,baz=88,slow=4.6,SNR=95
AKASG PP PP 11 35 31.5 -4.3
comp=Z,8.7nm,0.7s,baz=90,slow=6.3,SNR=8.0
IAS Iasi 82.68 318 P **P 11 32 25.8 +0.7**
VAM Vamos 82.71 306 eP **P 11 32 27.5 +2.0**
RDO Rodhopi 82.76 312 eP **P 11 32 25.5 -0.2**
VRI Vrincioaia 82.93 317⇑ P **P 11 32 27.0 +0.6**
MLR Muntele Rosu 83.38 316 P **P 11 32 28.8 0.0**
comp=Z,69nm,0.9s,mb5.7,baz=86,slow=1.5,SNR=87
MLR PP PP 11 35 41.7 -1.1
comp=Z,29nm,1.0s,baz=93,slow=5.3,SNR=6.4
MLR S S 11 42 44.5 +1.3
comp=Z,0.6nm,0.4s,baz=210,slow=18,SNR=2.3
MLR Muntele Rosu 83.38 316⇑ P **P 11 32 29.2 +0.5**
MLR Muntele Rosu 83.38 316⇑ P **P 11 32 29.2 +0.5**
MPAR Parnis Oros 83.56 309 eP **P 11 32 29.5 -0.3**
SNX Sinaia 83.65 316⇑ P **P 11 32 33.6 +3.5**
SNX Sinaia 83.65 316⇑ P **P 11 32 33.5 +3.4**
NAIG Nisos Aigina 83.68 309 eP **P 11 32 29.0 -1.5**
NSAL Nisos Salamina 83.73 309 eP **P 11 32 27.5 -3.2**
TSUM Tsumeb 83.78 251 eP **P 11 32 31.5 +0.1**
comp=Z,127nm,1.3s,mb5.9
TSUM LR LR
comp=Z,1μm,20.0s
MGER Gerania Oros 83.90 309 eP **P 11 32 30.5 -1.1**
MTUR Matau 83.93 316 P **P 11 32 31.8 +0.3**
VLI Veliai 83.94 307 eP **P 11 32 30.0 -1.8**
PLG Polygyros 84.17 311 eP **P 11 32 32.5 -0.4**
BILL Bilibino 84.22 20c i P **P 11 32 31.9 -0.5**
BILL pmax pmax
comp=Z,84nm,1.6s,mb5.6
BILL Bilibino 84.22 20 eP **P 11 32 31.9 -0.6**
comp=Z,106nm,1.4s,mb5.8
BURAR Bucovina Array 84.33 318⇑ P **P 11 32 34.5 +1.0**
BURAR Bucovina Array 84.33 318⇑ P **P 11 32 34.5 +1.0**
MNK Minsk 84.34 326⇑ i P **P 11 32 30.0 -3.3**
MNK pmax pmax
comp=Z,960nm,1.0s
PUL Pulkovo 84.51 331 i P **P 11 32 34.7 +0.6**
VTS Vitosha 84.74 313⇑ P **P 11 32 35.7 0.0**
ITM Ithomi 84.81 308 eP **P 11 32 36.5 +0.3**
VAY Valandovo 84.99 312⇑ P **P 11 32 36.3 -0.6**
EVR Evrytania 85.17 309 eP **P 11 32 38.5 +0.6**
LVV L'vov 85.55 320 eP **P 11 32 39.6 +0.1**
LVV eS S 11 43 05.2 +0.8
APA Apatity 85.80 339⇑ i P **P 11 32 40.0 -0.3**
APA i 11 32 51.7
APA i pP 11 32 59.8 +1.5
APA pmax pmax
comp=Z,108nm,1.2s,mb6.0
BOLS Boljevac 85.85 314⇑ i P **P 11 32 40.9 -0.3**
SKO Skopje 85.93 312 i P **P 11 32 40.0 -1.5**
QSPA South Pole Qui 85.97 180 eP **P 11 32 41.4 +0.5**
comp=Z,52nm,1.1s,mb5.7
VLS Valsamata 86.01 309 eP **P 11 32 42.0 0.0**
JAN Janina 86.02 310 eP **P 11 32 44.2 +2.2**
KWP Kalwaria 86.35 320 eP **P 11 32 44.1 +0.7**
KWP MLR MLR 12 12 31.9
comp=Z,400nm,27.9s
SVIS Svilajnac 86.45 315⇓ i P **P 11 32 43.4 -0.6**
MAIT Maitri 86.45 199 eP **P 11 32 45.7 +2.3**
KOLS Kolonicke sedl 86.51 319 i P **P 11 32 45.5 +1.3**
KOLS i 11 32 52.1
GRUS Gruza 86.75 314⇓ i P **P 11 32 45.8 +0.3**
KEK Kerkira 86.83 310 eP **P 11 32 46.5 +0.5**
SUW Suwalki 86.89 325 eP **P 11 32 46.0 +0.1**
SUW MLR MLR 12 11 05.5
comp=Z,800nm,33.2s
FINES FINESS Array B 86.98 332 P **P 11 32 46.1 -0.1**
comp=Z,37nm,0.5s,mb5.8,baz=106,slow=5.1,SNR=202
FINES PKiKP 11 37 52.2
comp=Z,2.5nm,0.7s,baz=102,slow=4.1,SNR=5.1
FINES LR LR 12 21 19.3
comp=Z,278nm,18.3s,baz=149,slow=42
CRVS Cervenica-Dubn 87.03 319 i P **P 11 32 47.9 +1.1**
CRVS i PP PP 11 36 11.7 -1.3
KAF Kangasniemi 87.04 333 ep **P 11 32 45.3 -1.2**
comp=Z,98nm,0.7s,mb6.2,baz=98,slow=4.4
KAF Kangasniemi 87.04 333 eP **P 11 32 45.3 -1.2**
KAF pmax pmax
comp=Z,98nm,0.7s,mb6.2
KIWB Kanaga Island 87.25 38 eP **P 11 32 46.3 -1.4**
KECS Kecovo 87.60 319 i P **P 11 32 50.7 +1.2**
KECS i 11 32 56.5
WAR Warsaw 87.85 323 eP **P 11 32 52.1 +1.5**
NIE Niedzica 87.86 320 eP **P 11 32 49.6 -1.1**
PSZ Piszkesteto 87.91 318 P **P 11 32 51.4 +0.4**
PSZ pmax pmax
comp=Z,23nm,0.9s,mb5.4
PSZ Piszkesteto 87.91 318 P **P 11 32 52.1 +1.1**
PSZ Piszkesteto 87.91 318⇑ P **P 11 32 51.4 +0.4**
PSZ Piszkesteto 87.91 318⇑ i **P 11 32 51.4 +0.4**
OJC Ojcow 88.31 320 eP **P 11 32 53.2 +0.4**
PKSM Moragy 88.53 316⇑ P **P 11 32 54.1 +0.1**
VYHS Vyhne 88.69 319 i P **P 11 32 55.1 +0.4**
VYHS ePP PP 11 36 26.3 0.0
KEV Kevo 88.70 340 ep **P 11 32 52.4 -1.9**
comp=Z,75nm,0.9s,mb6.0
KEV Kevo 88.70 340 eP **P 11 32 52.4 -1.9**
KEV pmax pmax
comp=Z,75nm,0.9s,mb6.0
STON Ston 88.80 313 i P **P 11 32 54.7 -0.6**
KOLL Kolacno 88.99 319 i P **P 11 32 56.6 +0.5**
TIP Timpagrande 89.11 309 eP **P 11 32 57.9 +1.0**
OKC Ostrava-Krasne 89.31 320⇓ i P **P 11 32 58.5 +0.9**
OKC e*PP pP 11 33 09.4 -6.4
OKC eS S 11 43 35.2 -4.7
OKC MLR MLR
comp=Z,500nm,19.7s
OKC Ostrava-Krasne 89.31 320⇓ i P **P 11 32 58.5 +0.9**
OKC epP pP 11 33 09.4 -6.4
OKC ePP PP 11 36 29.9 -1.3
OKC ex x 11 43 35.2
OKC AMS AMS 12 22 20.0
comp=Z,500nm,19.7s
GRI Girifalco 89.33 309 eP **P 11 33 00.0 +2.0**
ORI Oriolo Calabro 89.43 310 eP **P 11 33 00.1 +1.7**
SOI Samo 89.55 308 eP **P 11 33 00.7 +1.7**
MORC Moravsky Berou 89.69 320 P **P 11 33 00.4 +1.0**
MORC Moravsky Berou 89.69 320⇑ P **P 11 33 00.2 +0.9**
MORC Moravsky Berou 89.69 320⇑ P **P 11 33 00.2 +0.8**
MTTG Motta San Giov 89.83 308 eP **P 11 33 02.1 +1.8**
SCLL Scilla 89.83 308 eP **P 11 33 01.7 +1.3**
FGMS Monte Sant'Ang 89.97 312 eP **P 11 33 01.8 +1.0**
SISC Sisak 90.02 315 i P **P 11 33 03.4 +2.3**
MGR Morigerati 90.12 310 eP **P 11 33 01.9 +0.3**
KOGS Kog 90.20 316 eP **P 11 33 02.4 +0.6**
MRLC Muro Lucano 90.23 311 eP **P 11 33 02.6 +0.5**
VRAC Vranov 90.26 319 P **P 11 33 03.4 +1.4**
GKP Gorka Klasztor 90.27 323 eP **P 11 33 02.3 +0.3**

GKP MLR MLR 12 17 19.0
comp=Z,600nm,23.8s
SGO Sicignano 90.35 310 *e*P **P 11 33 03.7 +1.0**
DPC Dobruska-Polom 90.53 320 *e*P **P 11 33 04.5 +1.2**
DPC *e**PP pP 11 33 14.6 -7.0
DPC MLR MLR
comp=Z,500nm,22.7s
DPC Dobruska-Polom 90.53 320 *e*P **P 11 33 04.5 +1.2**
DPC *e*pP pP 11 33 14.6 -7.0
DPC *e*PP PP 11 36 38.0 -3.0
DPC AMS AMS 12 22 10.0
comp=Z,500nm,22.7s
CSSN Cassano Irpino 90.59 311 *e*P **P 11 33 04.7 +0.9**
KSP Ksiaz 90.60 321⇑ *e*P **P 11 33 04.1 +0.5**
KSP *e*pP pP 11 33 11.9 -10
KSP Ksiaz 90.60 321 *e*P **P 11 33 05.1 +1.5**
KSP MLR MLR 12 19 42.5
comp=Z,600nm,23.3s
UPC Upice 90.75 320⇓ *i*P **P 11 33 05.6 +1.3**
UPC *e*pP pP 11 33 15.5 -7.1
UPC *e*PP PP 11 36 41.0 -1.7
ARSA Arzberg 90.77 317⇑ *i*P **P 11 33 05.1 +0.6**
comp=Z,366nm,2.6s,mb6.2
VAE Valguarnera 90.79 307 P **P 11 33 05.3 +0.5**
comp=Z,68nm,1.2s,mb5.8,baz=95,slow=20,SNR=3.5
BOJS Bojanci 90.81 315 *e*P **P 11 33 05.1 +0.4**
SNAA Sanae 90.97 198⇑ *i*P **P 11 33 13.4 +8.5**
SNAA Sanae 90.97 198 *e* **P 11 33 20.7 +16**
SNAA Sanae 90.97 198 P **P 11 33 07.0 +2.1**
SNAA pmax pmax
comp=Z,17nm,1.0s
SNAA Sanae 90.97 198 *e*P **P 11 33 06.7 +1.8**
comp=Z,17nm,1.0s,mb5.3
LJU Ljubljana 91.36 316 *i* P **P 11 33 07.8 +0.6**
OBKA Obir 91.38 316⇑ *i*P **P 11 33 08.0 +0.6**
comp=Z,54nm,1.4s,mb5.7
PRU Pruhonice 91.64 320⇓ *i*P **P 11 33 09.3 +0.8**
PRU *e**PP pP 11 33 20.1 -6.7
PRU *e*S S 11 44 04.1 +3.3
PRU MLR MLR
comp=Z,600nm,23.9s
PRU Pruhonice 91.64 320⇓ *i*P **P 11 33 09.3 +0.8**
PRU *e*pP pP 11 33 20.1 -6.7
PRU *e*PP PP 11 36 47.7 -2.2
PRU *e*S S 11 44 04.1 +3.3
PRU AMS AMS 12 23 00.0
comp=Z,600nm,23.9s
PVCC Panska Ves 91.67 320⇓ *i*P **P 11 33 09.9 +1.3**
PVCC *e**PP pP 11 33 19.4 -7.5
PVCC MLR MLR
comp=Z,300nm,18.3s
PVCC Panska Ves 91.67 320⇓ *i*P **P 11 33 09.9 +1.3**
PVCC *ex* x 11 33 19.4
PVCC *e*PP PP 11 36 46.2 -3.8
PVCC AMS AMS 12 20 40.0
comp=Z,300nm,18.3s
MOA Molln 91.67 318⇑ *i*P **P 11 33 08.7 0.0**
comp=Z,85nm,2.0s,mb5.7
VOY Vojsko 91.80 316 *e*P **P 11 33 09.2 -0.1**
VOY *e* 11 33 13.7
BSD Bornholm Skovb 91.80 325 *i* P **P 11 33 09.3 +0.2**
BSD pmax pmax
comp=Z,40nm,1.0s,mb5.7
BSD Bornholm Skovb 91.80 325 *i* P **P 11 33 09.3 +0.2**
comp=Z,40nm,1.0s,mb5.7
TRI Trieste 91.87 316 *e*P **P 11 33 10.0 +0.4**
PTQR Pietraquaria 91.89 312 *e*P **P 11 33 10.6 +0.8**
AQU L'Aquila 91.91 312 P **P 11 33 11.0 +1.1**
ROBS Robic 92.08 316 *e*P **P 11 33 10.2 -0.4**
BRG Berggiesshubel 92.09 321 *i* P **P 11 33 11.4 +0.9**
BRG *i* 11 33 21.4
BRG *e* 11 36 51.0
BRG *e* 11 43 44.0
BRG *i* S S 11 44 09.0 +4.4
BRG pmax pmax
comp=Z,35nm,1.1s,mb5.6
BRG MLR MLR
comp=N,360nm,32.6s
BRG MLR MLR
comp=E,410nm,32.6s
BRG MLR MLR
comp=Z,500nm,32.6s
BRG Berggiesshubel 92.09 321 *i* P **P 11 33 11.4 +0.9**
comp=Z,35nm,1.1s,mb5.6
BRG *i* 11 33 21.4
BRG *e* 11 36 43.3
BRG *e*PP PP 11 36 51.0 -2.4
BRG *e*SKS SKS 11 43 44.0 +7.9
BRG *i* S S 11 44 09.0 +4.4
BRG LR LR
comp=Z,500nm,32.6s
GEC2 GERESS Array S 92.11 319 *e*P **P 11 33 11.0 +0.3**
GEC2 *e* 11 36 50.6
GEC2 pmax pmax
comp=Z,87nm,1.6s,mb5.8
GEC2 GERESS Array S 92.11 319 *e*P **P 11 33 11.0 +0.3**
comp=Z,87nm,1.6s,mb5.8
GEC2 *e*PP PP 11 36 50.6 -3.1
GERES GERESS Array B 92.11 319 P **P 11 33 10.8 +0.2**
comp=Z,13nm,1.0s,mb5.2,baz=108,slow=4.2,SNR=55
NRCA Norcia 92.15 313 *e*P **P 11 33 10.9 -0.1**
PTCC Patocco-Chiusa 92.20 316 *e*P **P 11 33 11.4 +0.3**
KHC Kasperske Hory 92.21 319⇓ *i*P **P 11 33 11.9 +0.8**
KHC *e**PP pP 11 33 23.4 -6.0
KHC MLR MLR
comp=Z,500nm,17.6s
KHC Kasperske Hory 92.21 319⇓ *i*P **P 11 33 11.9 +0.8**
KHC *e*pP pP 11 33 23.4 -6.0
KHC *e*S S 11 43 47.3 -18
KHC LR LR
comp=Z,500nm,17.6s
KHC Kasperske Hory 92.21 319⇓ *i*P **P 11 33 11.9 +0.8**
KHC *e*pP pP 11 33 23.4 -6.0
KHC *ex* x 11 43 47.3
KHC AMS AMS 12 23 30.0
comp=Z,500nm,17.6s
KBA Koelnbreinsper 92.24 317⇑ *i*P **P 11 33 11.3 0.0**
comp=Z,14nm,1.2s,mb5.2
KBA Koelnbreinsper 92.24 317⇑ *i*P **P 11 33 11.3 0.0**
KBA pmax pmax
comp=Z,14nm,1.2s,mb5.2
GMNA Gemona 92.27 316 *e*P **P 11 33 11.7 +0.3**
RUE Ruedersdorf 92.29 322 *e*P **P 11 33 11.8 +0.4**
SNTG Esanatoglia 92.31 313 *e*P **P 11 33 12.3 +0.7**
ARV Arcevia 92.32 313 *e*P **P 11 33 12.4 +0.6**
FSSB Fossombrone 92.45 313 *e*P **P 11 33 12.9 +0.6**
VNA2 Neumayer--Watz 92.60 198 *e* **P 11 33 22.2 +10**
VNA2 Neumayer--Watz 92.60 198 *e* pP 11 33 33.8 +3.1
VNA2 Neumayer--Watz 92.60 198 *e* sP 11 33 42.2 +4.9
VNA2 Neumayer--Watz 92.60 198⇑ *i*P **P 11 33 15.2 +2.8**
VNA2 *e* 11 33 22.2
VNA2 *e* pP 11 33 33.8 +3.1
VNA2 *e* 11 33 42.2
VNA2 *e* 11 38 00.4
VNA2 *e* 11 38 23.5
VNA2 *e* 11 38 31.6
FVI Forni Avoltri 92.60 316 *e*P **P 11 33 13.6 +0.6**
WET Wettzell 92.67 319 *e*P **P 11 33 13.8 +0.6**
WET pmax pmax
comp=Z,56nm,1.4s,mb5.8
WET Wettzell 92.67 319 *e*P **P 11 33 13.8 +0.6**
comp=Z,56nm,1.4s,mb5.8
CLL Collm 92.70 321⇑ *i*P **P 11 33 13.2 -0.1**
CLL *e* 11 33 23.0
CLL *e* pP 11 33 30.0 -1.6
CLL pmax pmax
comp=Z,31nm,1.4s,mb5.5
CLL Collm 92.70 321⇑ *i*P **P 11 33 13.2 -0.1**
comp=Z,31nm,1.4s,mb5.5
CLL *e* 11 33 23.0
CLL *e* pP 11 33 30.0 -1.6
CLL Collm 92.70 321 ⇑P **P 11 33 13.2 -0.1**
comp=Z,logA/T=1.3,mb5.5
CLL *e* 11 33 23.0
CLL *e**PP pP 11 33 30.0 -1.6
CLL *e* 11 34 24.0
CLL *e*PP PP 11 37 05.0 +6.7
VNA1 Neumayer--Stat 92.97 198 *e* **P 11 33 22.1 +8.0**
VNA1 Neumayer--Stat 92.97 198 *e* pP 11 33 34.5 +2.1
VNA1 Neumayer--Stat 92.97 198 *e* sP 11 33 42.0 +3.0
VNA1 Neumayer--Stat 92.97 198⇑ *i*P **P 11 33 14.8 +0.7**
VNA1 *e* 11 33 22.1
VNA1 *e* pP 11 33 34.5 +2.1
VNA1 *e* 11 33 42.0
VNA1 *e* 11 37 51.5
VNA1 *e* 11 38 18.1
NKC Novy Kostel 93.00 320⇓ *i*P **P 11 33 15.8 +1.1**
NKC *e**PP pP 11 33 25.8 -7.2
NKC MLR MLR
comp=Z,500nm,21.8s
NKC Novy Kostel 93.00 320⇓ *i*P **P 11 33 15.8 +1.1**
NKC *e*pP pP 11 33 25.8 -7.2
NKC *e*PP PP 11 36 57.5 -3.3
NKC AMS AMS 12 22 30.0
comp=Z,500nm,21.8s
SFI Santa Sofia 93.13 314 *e*P **P 11 33 16.6 +1.2**
WTTA Wattenberg 93.42 317⇑ *i*P **P 11 33 16.3 -0.4**
comp=Z,188nm,2.9s,mb6.0
WTTA Wattenberg 93.42 317⇑ *i*P **P 11 33 16.3 -0.4**
WTTA pmax pmax
comp=Z,188nm,2.9s,mb6.0
WATA Walderalm 93.46 317⇑ *i*P **P 11 33 16.5 -0.4**
comp=Z,28nm,1.5s,mb5.5
WATA Walderalm 93.46 317⇑ *i*P **P 11 33 16.5 -0.4**
WATA pmax pmax
comp=Z,28nm,1.5s,mb5.5
MOX Moxa 93.55 320 *e*P **P 11 33 17.8 +0.6**
MOX pmax pmax
comp=Z,34nm,1.5s,mb5.6
MOX Moxa 93.55 320 *e*P **P 11 33 17.8 +0.6**
comp=Z,34nm,1.5s,mb5.6
MOX Moxa 93.55 320 *i* P **P 11 33 17.8 +0.6**
comp=Z,logA/T=1.4,mb5.6
SQTA Sankt Quirin 93.71 317⇑ *i*P **P 11 33 17.8 -0.2**
comp=Z,63nm,1.9s,mb5.7
SQTA Sankt Quirin 93.71 317⇑ *i*P **P 11 33 17.8 -0.2**
SQTA pmax pmax
comp=Z,63nm,1.9s,mb5.7
GRA1 Grafenberg Arr 93.78 319 *e*P **P 11 33 19.1 +0.9**
comp=Z,20nm,0.8s,mb5.6
GRA1 *e*PP PP 11 37 03.4 -3.5
GRA1 LR LR
comp=Z,300nm,21.2s
GRF Grafenberg Arr 93.78 319 *e*P **P 11 33 19.1 +0.9**
GRF *e* 11 37 03.4
GRF pmax pmax
comp=Z,20nm,0.8s,mb5.6
GRF MLR MLR
comp=Z,300nm,21.2s
GRF Grafenberg Arr 93.78 319 *e*P **P 11 33 19.1 +0.9**
comp=Z,20nm,0.8s,mb5.6
GRF *e*PP PP 11 37 03.4 -3.5
GRF LR LR
comp=Z,300nm,21.2s
MOTA Moosalm 93.78 317⇑ *i*P **P 11 33 17.9 -0.4**
comp=Z,0.6nm,1.0s
MOTA Moosalm 93.78 317⇑ *i*P **P 11 33 17.9 -0.4**
MOTA pmax pmax
comp=Z,1.0nm,1.0s
NB2 NORSAR Subarra 94.04 331 P **P 11 33 18.4 -0.7**
comp=Z,26nm,0.9s,mb5.7,baz=94,slow=4.6
NB2 NORSAR Subarra 94.04 331 P **P 11 33 18.4 -0.7**
baz=94,slow=4.8
NOA NORSAR Array B 94.04 331 P **P 11 33 18.7 -0.5**
comp=Z,15nm,0.8s,mb5.5,baz=93,slow=4.6,SNR=32
NOA PP PP 11 37 05.4 -3.4
comp=Z,6.7nm,0.9s,baz=90,slow=7.6,SNR=5.9
NOA LR LR 12 22 14.6
comp=Z,386nm,21.6s,baz=45,slow=40
NOA NORSAR Array B 94.04 331 P **P 11 33 18.7 -0.5**
NOA PP PP 11 37 05.4 -3.4
NOA LR LR 12 22 14.6
GSCL Gusciola 94.05 314 *e*P **P 11 33 20.6 +1.0**
BRMO Bormio 94.26 316 *e*P **P 11 33 21.7 +1.2**
CLZ Clausthal 94.36 322 *e*P **P 11 33 21.7 +0.9**
comp=Z,16nm,1.0s,mb5.4
CLZ *e*PP PP 11 37 07.1 -4.1
BSEG Bad Segeberg 94.43 324 *e*P **P 11 33 21.7 +0.6**
BSEG pmax pmax
comp=Z,30nm,1.1s,mb5.6
BSEG Bad Segeberg 94.43 324 *e*P **P 11 33 21.7 +0.6**
BSEG *e*PP PP 11 37 07.0 -4.6
DAVOX Davos 94.61 316 P **P 11 33 22.2 +0.1**
comp=Z,8.1nm,0.6s,mb5.4,baz=160,slow=5.1,SNR=12
DAVA Damuels 94.61 317⇑ *i*P **P 11 33 22.3 +0.2**
comp=Z,96nm,1.9s,mb5.9
MUD Monsted U'grnd 95.09 326 *i* P **P 11 33 25.5 +1.5**
MUD pmax pmax
comp=Z,43nm,1.1s,mb5.8
MUD Monsted U'grnd 95.09 326 *i* P **P 11 33 25.5 +1.5**
comp=Z,43nm,1.1s,mb5.8
PGF Pioggiola 95.17 312 *e*P **P 11 33 25.1 +0.3**
TNS Taunus Mts 95.57 320 *e*P **P 11 33 27.3 +0.9**
TNS pmax pmax
comp=Z,24nm,1.0s,mb5.6
TNS Taunus Mts 95.57 320 *e*P **P 11 33 27.3 +0.9**
comp=Z,24nm,1.0s,mb5.6
BFO Black Forest 95.66 318 *e*P **P 11 33 27.1 +0.3**
BFO pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
BFO Black Forest 95.66 318 *e*P **P 11 33 27.1 +0.3**
comp=Z,10.0nm,1.2s,mb5.1
FIN Finale Ligure 95.76 314 *e*P **P 11 33 27.6 +0.2**
SBF Sospel 96.32 314 *e*P **P 11 33 30.1 +0.2**
CDF Champ du Feu 96.36 318 *e*P **P 11 33 30.1 +0.1**
comp=Z,7.6nm,0.7s,mb4.9
LPG La Plagne 96.78 315 *e*P **P 11 33 32.5 +0.5**
comp=Z,11nm,0.7s,mb5.1
LPL La Plagne 96.80 315 *e*P **P 11 33 32.4 +0.3**
comp=Z,13nm,0.6s,mb5.2
FRF La Foret Royal 96.89 313 *e*P **P 11 33 32.9 +0.3**
HAU Haudompre 97.00 318 *e*P **P 11 33 32.9 0.0**
HAU *e*R
comp=Z,286nm,22.2s
CABF La Chapelle 97.22 316 *e*P **P 11 33 34.2 +0.2**
BAIF Baives 98.30 320 *e*P **P 11 33 39.1 +0.3**
SMF Signal de Mont 98.76 316 *e*P **P 11 33 40.9 -0.1**
IMA Indian Mountai 99.29 24 P **P 11 33 43.0 +0.1**
IMA pmax pmax
comp=Z,85nm,1.0s,mb6.2
IMA Indian Mountai 99.29 24 *e*P **P 11 33 43.5 +0.5**
comp=Z,85nm,1.0s,mb6.2
IMA *e*pP PP 11 37 44.0 -4.7
DAG Danmarks Havn 100.72 348⇓ *e*P P 11 33 47.8 -1.4
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 100.72 348⇓ *e*P P 11 33 47.8 -1.4
comp=Z,4.5nm,0.8s
DAG Danmarks Havn 100.72 348⇓ *i*P P 11 33 47.8 -1.4
comp=Z,4.5nm,0.8s
ILAR Eielson Array 102.36 24 P Pdif 11 33 55.5 -1.3
comp=Z,0.5nm,0.6s,baz=304,slow=4.4,SNR=5.6
ILAR PP PP 11 37 53.5 -19
comp=Z,0.7nm,0.8s,baz=288,slow=7.0,SNR=4.2
ILAR PKKPbc 11 49 58.4
comp=Z,0.9nm,0.9s,baz=128,slow=2.2,SNR=8.2
TBI Tubuai 104.98 115 *e*PP PP 11 38 27.7 -5.5
TBI *e*SS SS 11 53 24.1 +4.5
TBI *e*LR LR 12 08 55.6
comp=Z,907nm,33.0s
ESDC Sonseca Array 105.11 310 PP PP 11 38 27.2 -6.6
comp=Z,1.3nm,0.6s,baz=70,slow=6.7,SNR=4.9
INK Inuvik 105.81 19 P Pdif 11 34 11.6 -0.2
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 105.81 19 Pdiff Pdif 11 34 10.9 -0.9
comp=Z,2.7nm,0.9s,baz=292,slow=4.3,SNR=12
INK PP PP 11 38 22.2 -16
comp=Z,2.3nm,0.6s,baz=315,slow=1.0,SNR=8.0
INK PKKPbc 11 49 47.1
comp=Z,1.3nm,0.7s,baz=60,slow=1.8,SNR=8.2
INK Inuvik 105.81 19 *e*Pdif Pdif 11 34 10.9 -1.0
comp=Z,3.9nm,1.0s
PPT Papeete 105.90 109 *e*PP PP 11 38 32.7 -7.1
PPT *e*LR LR 12 09 23.3
comp=Z,811nm,23.0s
YKW3 Yellowknife Ar 115.51 18 *e*PKPdf PKPdf 11 38 42.4 +0.8
YKA Yellowknife Ar 115.56 18 PKP PKPdf 11 38 41.5 -0.1
comp=Z,2.8nm,0.9s,baz=321,slow=2.1,SNR=3.8
YKA PP PP 11 39 33.5 -16
comp=Z,1.0nm,0.9s,baz=324,slow=6.0,SNR=5.1
YKA PKKPbc 11 49 15.4
comp=Z,0.2nm,0.6s,baz=126,slow=3.4,SNR=4.5
YKA Yellowknife Ar 115.56 18 PKP PKPdf 11 38 41.5 -0.1
YKA PP PP 11 39 33.5 -16
YKA PKKPbc 11 49 15.4
RKT Rikitea 117.93 119 *e*SS SS 11 56 20.1 +8.5
RKT *e*LR LR 12 14 56.8
comp=Z,451nm,32.5s
CMW Cultus Mountai 121.72 33 P PKPdf 11 38 55.7 +1.8
FMW Mount Fremont 122.82 35 P PKPdf 11 38 57.5 +1.4
EDM Edmonton 122.85 25 PKIKP PKPdf 11 38 56.9 +0.9
EDM Edmonton 122.85 25 *e*PKPdf PKPdf 11 38 56.7 +0.7
TBM Table Mountain 123.28 34 P PKPdf 11 38 58.6 +1.6
EBG Ellensburg 123.45 34 P PKPdf 11 38 59.1 +1.8
BROR Big Rock Looko 123.82 38 P PKPdf 11 39 00.4 +2.3
FCC Fort Churchill 123.91 10 *e*PKPpre 11 38 48.3
FCC *e*PKPdf PKPdf 11 38 57.7 -0.2
GBL Gable Mountain 124.25 34 P PKPdf 11 39 00.9 +2.0
HUMO Hull Mountain 124.38 40 *e*PKPdf PKPdf 11 39 00.7 +1.5
NEW Newport 124.47 31 PKIKP PKPdf 11 39 00.6 +1.3
NEW Newport 124.47 31 *e*PKPdf PKPdf 11 38 59.9 +0.6
WALA Waterton Lakes 125.54 29 *e*PKPdf PKPdf 11 39 02.6 +1.3
LTIM Timbered Crate 126.05 40 P PKPdf 11 39 04.5 +2.1
HOPS Hopland 126.08 43 *e*P PKPdf 11 39 05.4 +2.8
MOD Modoc 126.42 39 *e*PKPdf PKPdf 11 39 04.9 +1.7
BMO Blue Mountains 126.51 34 PKIKP PKPdf 11 39 04.2 +0.9
BMO Blue Mountains 126.51 34 *e*PKPdf PKPdf 11 39 03.7 +0.4
MSO Missoula 127.04 31 *e*PKPdf PKPdf 11 39 04.7 +0.4
WVOR Wild Horse Val 127.15 38 PKIKP PKPdf 11 39 07.0 +2.4
WVOR Wild Horse Val 127.15 38 *e*PKPdf PKPdf 11 39 06.3 +1.7
CHMT Chamberlain Mo 127.33 30 *e*PKPdf PKPdf 11 39 05.4 +0.6
WCN Washoe City 128.16 41 *e*PKPdf PKPdf 11 39 09.0 +2.3
HRY Holter Researc 128.18 29 *e*PKPdf PKPdf 11 39 07.3 +0.9
CMB Columbia Colle 128.39 43 PKIKP PKPdf 11 39 09.0 +1.9
CMB Columbia Colle 128.39 43 *e*PKPdf PKPdf 11 39 08.1 +1.0
SCHQ Schefferville 128.58 352 PKP PKPdf 11 39 07.7 +0.7
comp=Z,8.7nm,0.5s,baz=35,slow=2.9,SNR=34
SCHQ PP PP 11 41 11.4 -6.3
comp=Z,6.2nm,0.9s,baz=53,slow=2.6,SNR=3.8
SCHQ Schefferville 128.58 352 PKP PKPdf 11 39 07.7 +0.7
SCHQ PP PP 11 41 11.4 -6.3
LRV Little Rabbit 128.74 45 *e*PKPdf PKPdf 11 39 10.9 +3.0
HLID Hailey 128.94 34 *e*PKPdf PKPdf 11 39 09.7 +1.7
MCMT McKenzie Canyo 128.95 32 *e*PKPdf PKPdf 11 39 09.8 +1.8
BOZ Bozeman (W) 129.02 30 PKIKP PKPdf 11 39 09.6 +1.5
BOZ Bozeman (W) 129.02 30 *e*PKPdf PKPdf 11 39 09.4 +1.3
NVAR Mina Array Bea 129.58 42 PKP PKPdf 11 39 11.7 +2.3
comp=Z,6.1nm,0.5s,baz=251,slow=2.9,SNR=9.3
NVAR PP PP 11 41 19.0 -5.6
comp=Z,1.4nm,0.8s,baz=270,slow=3.6,SNR=3.3
NVAR SKPbc 11 42 26.9
comp=Z,2.6nm,0.9s,baz=283,slow=2.0,SNR=4.5
MNV Mina 129.68 42 PKIKP PKPdf 11 39 03.5 -6.1
MNV Mina 129.68 42 *e*PKPdf PKPdf 11 39 12.2 +2.7
QLMT Earthquake Lak 129.69 31 *e*PKPdf PKPdf 11 39 11.4 +2.0
MTUM Tungsten Hills 129.98 43 *e*PKPdf PKPdf 11 39 12.6 +2.5
YMR Madison River 130.04 31 *e*PKPdf PKPdf 11 39 12.5 +2.4
YNR Norris Junctio 130.15 31 *e*PKPdf PKPdf 11 39 11.2 +0.9
ELK Elko 130.21 37 PKIKP PKPdf 11 39 13.0 +2.5
ELK Elko 130.21 37 *e*PKPdf PKPdf 11 39 12.5 +2.0
YFT Old Faithful 130.26 31 *e*PKPdf PKPdf 11 39 13.1 +2.6
LKWY Lake 130.40 31 PKIKP PKPdf 11 39 14.6 +3.8
LKWY Lake 130.40 31 *e*PKPdf PKPdf 11 39 14.5 +3.7
LKWY *e*PP PP 11 41 27.6 -2.1
LKWY *e*SKP 11 42 30.8
TPH Tonopah 130.49 41 PKIKP PKPdf 11 39 14.3 +3.2
TPH Tonopah 130.49 41 *e*PKPdf PKPdf 11 39 12.3 +1.2
TPH *e*SKP 11 42 29.5
RRI2 Red Ridge 130.77 32 *e*PKPdf PKPdf 11 39 13.3 +1.8
RRI2 *e*PP PP 11 41 27.4 -4.9
RRI2 *e*SKP 11 42 31.0
LAO LASA Array 130.79 26 *e*PKPdf PKPdf 11 39 13.7 +2.3
MOOW Moose Ponds 130.79 32 *e*PKPdf PKPdf 11 39 13.2 +1.7
TPAW Teton Pass 130.87 32 *e*PKPdf PKPdf 11 39 13.4 +1.7
TPAW *e*PP PP 11 41 30.0 -3.0
TPAW *e*SKP 11 42 31.2
LOHW Long Hollow 130.96 32 *e*PKPdf PKPdf 11 39 13.6 +1.8
LOHW *e*PP PP 11 41 27.9 -5.8
LOHW *e*SKP 11 42 32.2
SNOW Snow King Moun 130.99 32 *e*PKPdf PKPdf 11 39 13.9 +2.0
SNOW *e*SKP 11 42 29.9
REDW Red Top Meadow 131.00 32 *e*PKPdf PKPdf 11 39 13.3 +1.3
HVU Hansel Valley 131.01 35 PKIKP PKPdf 11 39 14.1 +2.1
HVU Hansel Valley 131.01 35 *e*PKPdf PKPdf 11 39 13.8 +1.8
HVU *e*SKP 11 42 31.6
DAC Darwin (Calif) 131.20 44 *e*PKPdf PKPdf 11 39 15.3 +2.8
TRCR Troy Canyon 131.40 40 *e*PKPdf PKPdf 11 39 14.7 +1.8
BGU Big Grassy Mou 131.41 36 *e*PKPdf PKPdf 11 39 14.6 +1.8
ULM Lac du Bonnet 131.41 16 PKP PKPdf 11 39 12.8 +0.2
comp=Z,9.4nm,0.6s,baz=351,slow=2.9,SNR=20
ULM SKPbc 11 42 30.7
comp=Z,6.3nm,0.6s,baz=333,slow=4.9,SNR=6.9
SPUT South Promonto 131.50 35 *e*PKPdf PKPdf 11 39 14.8 +1.9
HWUT Hardware Ranch 131.81 34 *e*PKPdf PKPdf 11 39 14.4 +0.9
HWUT *e*PP PP 11 41 38.0 -0.7
MWC Mount Wilson 131.92 46 PKIKP PKPdf 11 39 15.8 +1.9
MWC Mount Wilson 131.92 46 *e*PKPdf PKPdf 11 39 15.7 +1.8
DUG Dugway 132.00 36 PKIKP PKPdf 11 39 15.9 +2.0
DUG Dugway 132.00 36 *e*PKPdf PKPdf 11 39 15.3 +1.4
DUG *e*SKP 11 42 35.9
PDAR Pinedale Array 132.10 32 PKhKP 11 39 05.8
comp=Z,0.4nm,0.5s,baz=73,slow=2.2,SNR=5.5
PDAR PKP PKPdf 11 39 15.4 +1.4
comp=Z,4.5nm,0.5s,baz=170,slow=1.0,SNR=29
PDAR PP PP 11 41 37.8 -2.7
comp=Z,3.6nm,1.0s,baz=315,slow=2.1,SNR=4.8
PDAR SKPbc 11 42 35.0
comp=Z,14nm,0.9s,baz=315,slow=2.1,SNR=16
PDAR Pinedale Array 132.10 32 PKP PKPdf 11 39 15.4 +1.4
PDAR PP PP 11 41 37.8 -2.7
PDAR SKPbc 11 42 35.0
NOQ North Oquirrh 132.12 36 *e*PKPdf PKPdf 11 39 14.5 +0.3
NOQ *e*SKP 11 42 36.0
TCUT Toone Canyon 132.22 35 *e*PKPdf PKPdf 11 39 15.8 +1.5
TCUT *e*SKP 11 42 37.1
JLU Jordanelle 132.53 35 *e*PKPdf PKPdf 11 39 17.0 +2.0
JLU *e*SKP 11 42 38.0
NLU North Lily Min 132.59 36 *e*PKPdf PKPdf 11 39 17.9 +2.9
NLU *e*SKP 11 42 38.4
DAU Daniels Canyon 132.77 35 PKIKP PKPdf 11 39 17.9 +2.5
DAU Daniels Canyon 132.77 35 *e*PKPdf PKPdf 11 39 17.6 +2.2
DAU *e*SKP 11 42 39.2
ARUT Antelope Range 133.10 39 PKIKP PKPdf 11 39 19.8 +3.7
ARUT Antelope Range 133.10 39 *e*PKPdf PKPdf 11 39 18.0 +1.9
PFO Pinyon Flat Ob 133.38 46 PKIKP PKPdf 11 39 19.3 +2.6
PFO Pinyon Flat Ob 133.38 46 *e*PKPdf PKPdf 11 39 18.2 +1.5
PFO *e*SKP 11 42 40.5
MVU Marysvale 133.43 38 *e*PKPdf PKPdf 11 39 18.9 +2.3
MVU *e*SKP 11 42 41.0
MSU Marysvale 133.44 38 PKIKP PKPdf 11 39 14.3 -2.4
MSU Marysvale 133.44 38 *e*PKPdf PKPdf 11 39 19.1 +2.4
MSU *e*SKP 11 42 41.7
TMUT Trail Mountain 133.53 36 *e*PKPdf PKPdf 11 39 18.9 +2.0
TMUT *e*SKP 11 42 40.4
RSSD Black Hills 133.76 26 PKIKP PKPdf 11 39 11.6 -5.5
RSSD Black Hills 133.76 26 *e*PKPpre 11 39 05.9
RSSD *e*PKPdf PKPdf 11 39 18.8 +1.7
SRU San Rafael 134.05 36 PKIKP PKPdf 11 39 19.8 +2.0
SRU San Rafael 134.05 36 *e*PKPdf PKPdf 11 39 19.6 +1.8
SRU *e*SKP 11 42 42.8
RWWY Rawlins 134.09 31 *e*PKPdf PKPdf 11 39 19.2 +1.4
RWWY *e*SKP 11 42 41.3
PLCA Paso Flores 135.01 188 PKP PKPdf 11 39 21.2 +1.7
comp=Z,4.0nm,0.9s,baz=161,slow=8.5,SNR=4.5
PHWY Pilot Hill 135.26 30 *e*PKPdf PKPdf 11 39 21.8 +1.8
PHWY *e*SKP 11 42 46.1
PV10 Paradox Valley 135.41 36 *e*PKPdf PKPdf 11 39 22.8 +2.5
TRQA Tornquist 135.70 198 PFAKE 11 39 30.0 +9.2
TRQA LR LR
comp=Z,907nm,19.0s
WUAZ Wupatki 135.79 41 *e*PKPpre 11 39 16.2
WUAZ *e*PKPdf PKPdf 11 39 24.1 +3.0
WUAZ *e*SKP 11 42 47.5
PV01 Paradox Valley 135.84 36 *e*PKPpre 11 39 12.2
PV01 *e*PKPdf PKPdf 11 39 23.1 +2.1
PV01 *e*SKP 11 42 49.4
ISCO Idaho Springs 136.30 32 PKIKP PKPdf 11 39 23.8 +1.9
ISCO Idaho Springs 136.30 32 *e*PKPdf PKPdf 11 39 23.1 +1.2
SDCO Great Sand Dun 137.85 34 *e*PKPdf PKPdf 11 39 23.8 -1.0
TUC Tucson 138.08 44 PKHKP 11 39 19.0
TUC Tucson 138.08 44 *e*PKPpre 11 39 18.9
TUC *e*SKP 11 42 55.5
MSNY Massena 139.10 357 *e*PKPdf PKPdf 11 39 23.1 -3.8
MSNY *e*PP PP 11 42 20.7 -3.3
ANMO Albuquerque 139.24 37 PKHKP 11 39 22.3
ANMO Albuquerque 139.24 37 *e*PKPdf PKPdf 11 39 21.9 -5.5
ANMO *e*SKP 11 42 59.2
LPM Los Pinos Moun 139.56 38 *e*PKPdf PKPdf 11 39 23.1 -4.9
LPM *e*SKP 11 42 59.1

BNM	**Barren Site**	**139.67**	**38**	*e*PKPpre		11 39 23.3	
BNM				*e*SKP		11 42 59.8	
NCB	**Newcomb**	**140.09**	**356**	*e*PKPdf	PKPdf	11 39 26.5	-2.2
NCB				*e*SKP		11 42 58.1	
KSU1	**Kansas State U**	**141.04**	**24**	*e*PKPpre		11 39 26.0	
KSU1				*e*SKP		11 43 02.7	
HRV	**Harvard--Oak R**	**141.29**	**353**	PKIKP	PKPdf	11 39 32.3	+1.4
HRV	**Harvard--Oak R**	**141.29**	**353**	*e*PKPdf	PKPdf	11 39 31.7	+0.8
QUA2	**Belchertown**	**141.60**	**354**	*e*PKPpre		11 39 26.6	
BINY	**Binghamton**	**141.95**	**358**	*e*PKPpre		11 39 27.2	
BINY				*e*PP	PP	11 42 37.2	-4.0
MNTX	**Cornudas Mount**	**142.07**	**40**	*e*PKPpre		11 39 29.5	
MNTX				*e*SKP		11 43 05.9	
CPRX	**Cap Rock**	**142.12**	**37**	*e*PKPpre		11 39 31.6	
GDL2	**Guadalupe Moun**	**142.39**	**39**	*e*PKPdf	PKPdf	11 39 31.3	-1.8
GDL2				*e*SKP		11 43 06.4	
CLNB	**Carlsbad**	**142.64**	**38**	*e*PKPdf	PKPdf	11 39 31.2	-2.3
CLNB				*e*SKP		11 43 08.0	
SSPA	**Standing Stone**	**143.54**	**0**	*e*PKPpre		11 39 31.8	
SSPA				*e*PP	PP	11 42 45.1	-5.7
ACSO	**Alum Creek Sta**	**143.62**	**7**	*e*PKPpre		11 39 32.8	
WMOK	**Wichita Mounta**	**143.67**	**30**	PKIKP	PKPdf	11 39 33.1	-2.1
WMOK	**Wichita Mounta**	**143.67**	**30**	*e*PKPdf	PKPdf	11 39 32.9	-2.2
WMOK				*e*PP	PP	11 42 47.6	-4.1
SLM	**Saint Louis**	**143.67**	**17**	*e*P	PKPbc	11 39 31.8	-2.1
CCM	**Cathedral Cave**	**143.90**	**18**	PKIKP	PKPdf	11 39 33.8	-1.7
CCM	**Cathedral Cave**	**143.90**	**18**	*e*PKPpre		11 39 33.6	
BLO	**Bloomington**	**144.08**	**12**	*e*PKIKP	PKPdf	11 39 34.8	-1.0
FVM	**French Village**	**144.22**	**17**	*e*PKIKP	PKPdf	11 39 34.6	-1.5
MCWV	**Mont Chateau**	**144.46**	**3**	*e*PKPdf	PKPdf	11 39 35.6	-0.9
LTX	**Lajitas**	**144.74**	**42**	PKIKP	PKPdf	11 39 38.4	+1.2
LTX	**Lajitas**	**144.74**	**42**	*e*PKPdf	PKPdf	11 39 38.3	+1.0
LTX				*e*SKP		11 43 13.1	
TXAR	**Lajitas Array**	**144.74**	**42**	PKP	PKPdf	11 39 38.2	+1.0
	comp=Z,98nm,0.5s,baz=261,slow=0.9,SNR=1345						
TXAR				SKPbc		11 43 12.7	
	comp=Z,4.5nm,0.8s,baz=225,slow=1.3,SNR=7.4						
TXAR	**Lajitas Array**	**144.74**	**42**	PKP	PKPdf	11 39 38.2	+1.0
TXAR				SKPbc		11 43 12.7	
SDMD	**Soldier's Deli**	**144.75**	**359**	*e*PKPdf	PKPdf	11 39 36.0	-0.9
BAO	**Brasilia Array**	**144.77**	**236**	PKPdf	PKPdf	11 39 37.0	-0.6
BDFB	**Brasilia**	**144.78**	**236**	PKP	PKPdf	11 39 38.8	+1.2
	comp=Z,34nm,0.8s,baz=124,slow=2.6,SNR=39						
WCI	**Wyandotte Cave**	**145.03**	**12**	PKIKP	PKPdf	11 39 37.9	+0.4
WCI	**Wyandotte Cave**	**145.03**	**12**	*e*PKPdf	PKPdf	11 39 37.7	+0.2
CBN	**Corbin**	**145.96**	**360**	*e*PKPdf	PKPdf	11 39 40.8	+1.7
MIAR	**Mount Ida**	**146.20**	**24**	PKIKP	PKPdf	11 39 39.1	-0.5
MIAR	**Mount Ida**	**146.20**	**24**	*e*PKPdf	PKPdf	11 39 41.3	+1.7
MIAR				*e*SKP		11 43 15.8	
UTMT	**University of**	**146.20**	**16**	*e*PKPdf	PKPdf	11 39 41.6	+2.0
GNAR	**Gosnell**	**146.21**	**18**	*e*PKPdf	PKPdf	11 39 41.9	+2.3
JCT	**Junction City**	**146.36**	**36**	PKP2	PKPab	11 39 41.7	-2.7
JCT	**Junction City**	**146.36**	**36**	*e*PKPdf	PKPdf	11 39 41.5	+1.5
JCT				*e*SKP		11 43 16.5	
FWV	**Forest Hill**	**146.46**	**5**	*e*PKPdf	PKPdf	11 39 40.1	+0.2
UALR	**University of**	**146.48**	**22**	*e*PKPdf	PKPdf	11 39 41.0	+0.9
WVT	**Waverly**	**146.68**	**15**	*e*PKPdf	PKPdf	11 39 41.2	+0.8
ELN	**Prospectdale**	**146.81**	**5**	*e*PKPdf	PKPdf	11 39 41.2	+0.7
BLA	**Blacksburg**	**146.86**	**4**	PKIKP	PKPdf	11 39 42.1	+1.4
BLA	**Blacksburg**	**146.86**	**4**	*e*PKPdf	PKPdf	11 39 41.6	+0.9
MET	**Memphis--Engin**	**147.01**	**19**	*e*PKPdf	PKPdf	11 39 43.5	+2.5
TZTN	**Tazewell**	**147.17**	**9**	*e*PKPdf	PKPdf	11 39 42.5	+1.3
PLAL	**Pickwick Lake**	**147.69**	**16**	*e*PKPdf	PKPdf	11 39 42.6	+0.5
SWET	**Sewanee**	**148.01**	**13**	*e*PKPdf	PKPdf	11 39 43.0	+0.5
CPCT	**Cooper Cave**	**148.07**	**11**	*e*PKPdf	PKPdf	11 39 43.9	+1.2
NATX	**Nacogdoches**	**148.09**	**28**	*e*PKPdf	PKPdf	11 39 44.6	+1.8
BBSR	**BB Station**	**149.29**	**338**	*e*PKPbc	PKPdf	11 39 50.4	+5.7
JSC	**Jenkinsville**	**149.69**	**6**	PKHKP		11 39 47.0	
JSC	**Jenkinsville**	**149.69**	**6**	*e*PKPdf	PKPdf	11 39 46.2	+0.9
JSC				*e*PKPbc	PKPdf	11 39 50.8	+5.5
LRAL	**Lakeview Retre**	**149.82**	**16**	*e*PKPdf	PKPdf	11 39 45.5	-0.1
GOGA	**Godfrey**	**150.24**	**10**	PKIKP	PKPdf	11 39 48.2	+2.0
GOGA	**Godfrey**	**150.24**	**10**	*e*PKPdf	PKPdf	11 39 48.0	+1.8
GOGA				*e*PKPbc	PKPdf	11 39 52.6	+6.4
COW	**Cow Castle Cre**	**150.64**	**5**	*e*PKPdf	PKPdf	11 39 48.4	+1.7
TWB	**Tillmans-White**	**150.95**	**4**	*e*PKPbc	PKPdf	11 39 54.2	+7.0
NHSC	**New Hope**	**150.95**	**4**	*e*PKPbc	PKPdf	11 39 54.5	+7.2
CSU	**Charleston Sou**	**151.08**	**4**	*e*PKPbc	PKPdf	11 39 55.4	+7.9
LVC	**Limon Verde**	**152.21**	**197**	*e*PKPdf	PKPdf	11 39 52.8	+3.3
LVC				*e*PKPbc	PKPdf	11 39 59.1	+10
LPAZ	**La Paz**	**157.75**	**205**	PKIKP	PKPdf	11 40 00.0	+3.1
LPAZ	**La Paz**	**157.75**	**205**	PKP	PKPdf	11 39 59.1	+2.1
	comp=Z,4.7nm,1.0s,baz=48,slow=4.4,SNR=11						
LPAZ	**La Paz**	**157.75**	**205**	*e*PKPdf	PKPdf	11 39 59.2	+2.3
SAML	**Samuel**	**160.69**	**228**	*e*PKPdf	PKPdf	11 40 01.6	+1.3
OTAV	**Otavalo**	**176.16**	**168**	*e*PKPdf	PKPdf	11 40 12.6	+1.8
ROSC	**El Rosal**	**176.61**	**284**	PKP	PKPdf	11 40 12.8	+2.0
	comp=Z,3.9nm,0.4s,baz=83,slow=20,SNR=7.0						
ROSC				PP	PP	11 45 50.2	+1.4
	comp=Z,3.5nm,0.3s,baz=288,slow=22,SNR=5.6						

*JMA **06** 11:28:36.9±0.3, 30.44N×139.12E, h435km±4km, M4.1*
*IDC **06** 11:28:37.0±0.6, 30.40N×138.99E, h414km±10km, mb3.5/9, mb1 3.6/13, mb1mx3.4/25, mbtmp4.3/13, Error ellipse: s-maj=25.5km s-min=9.4km az=73.0*
*NEIC **06** 11:28:37.8±0.8, 30.44N×138.97E, h423km±7km, mb4.1/2, Error ellipse: s-maj=17.3km s-min=9.3km az=96.0*

ISC 06 11:28:36.4±0.5, 30.41N±0.05×139.07E±0.09, h430km±5km, n28, σ0°86/40, mb3.8/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.77**	**13**	P	**P**	**11 29 41.6**	**+1.0**
JHJ2				S	**S**	**11 30 30.4**	**-0.9**
JHJ	**Hachijo jima 2**	**2.77**	**12**	P	**P**	**11 29 40.9**	**+0.3**
	87nm,0.3s,baz=191,slow=10,SNR=21						
JHJ				S	**S**	**11 30 30.7**	**-0.6**
	68nm,0.3s,baz=87,slow=22,SNR=6.7						
JWZ	**Kozaga**	**4.22**	**318**	P	**P**	**11 29 53.3**	**+0.3**
JWZ				S	**S**	**11 30 53.1**	**-0.1**
CBIJ	**Chichi jima**	**4.28**	**140**	P	**P**	**11 29 53.6**	**0.0**
	31nm,0.3s,baz=286,slow=23,SNR=23						
CBIJ				S	**S**	**11 30 53.3**	**-1.0**
	52nm,0.3s,baz=119,slow=22,SNR=7.1						
CBIJ	**Chichi jima**	**4.28**	**140**	P	**P**	**11 29 53.7**	**+0.1**
CBIJ				S	**S**	**11 30 53.7**	**-0.6**
JIE	**Ise**	**4.45**	**334**	P	**P**	**11 29 56.4**	**+1.3**
JIE				S	**S**	**11 30 58.2**	**+1.2**
BSO1	**Boso 1**	**4.53**	**20**	S	**S**	**11 30 59.2**	**+0.8**
JOD2	**Odawara 2**	**4.84**	**0**	P	**P**	**11 29 59.2**	**+0.2**
JOD2				S	**S**	**11 31 05.3**	**+1.4**
JRY	**Ryogami san**	**5.59**	**359**	P	**P**	**11 30 07.5**	**+0.9**
JRY				S	**S**	**11 31 15.4**	**-2.1**
MJAR	**Matsushiro Arr**	**6.16**	**353**	P	**P**	**11 30 12.4**	**-0.1**
	7.6nm,0.3s,baz=231,slow=14,SNR=16						
MAJO	**Matsushiro**	**6.16**	**353**	*e*P	**P**	**11 30 12.3**	**-0.2**
MAT	**Matsushiro**	**6.16**	**353**	*e*P	**P**	**11 30 12.0**	**-0.5**
	29nm,0.6s						
MAT				*e*S	**S**	**11 31 26.0**	**-2.3**
MAT	**Matsushiro**	**6.16**	**353**	P	**P**	**11 30 11.8**	**-0.7**
MAT				S	**S**	**11 31 25.9**	**-2.4**
MAT	**Matsushiro**	**6.16**	**353**	P	**P**	**11 30 12.4**	**-0.1**
MAT				S	**S**	**11 31 26.9**	**-1.4**
JHS	**Saijyo**	**6.79**	**314**	P	**P**	**11 30 19.8**	**+0.4**
JMK	**Ichinoseki**	**8.70**	**11**	P	**P**	**11 30 41.8**	**+1.1**
JMK				S	**S**	**11 32 18.0**	**-1.0**
JOW	**Kunigami**	**10.14**	**252**	P	**P**	**11 30 56.0**	**-0.9**
	1.8nm,0.3s,baz=110,slow=24,SNR=4.5						
MDJ	**Mudanjiang**	**16.04**	**335**	*e*P	**P**	**11 32 00.1**	**0.0**
CMAR	**Chiang Mai Arr**	**38.24**	**261**	P	**P**	**11 35 18.6**	**-0.4**
	3.3nm,0.6s,mb3.8,baz=60,slow=6.7,SNR=14						
ZAL	**Zalesovo**	**45.22**	**317**	P	**P**	**11 36 15.0**	**+0.4**
	1.3nm,0.3s,mb3.7,baz=94,slow=8.2,SNR=2.0						
MKAR	**Makanchi Array**	**46.28**	**307**	P	**P**	**11 36 22.0**	**-1.0**
	1.2nm,0.5s,mb3.5,baz=90,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**50.27**	**186**	P	**P**	**11 36 53.4**	**-0.1**
	1.7nm,0.4s,mb3.7,baz=1.3,slow=8.0,SNR=41						
CHKZ	**Chkalovo**	**53.59**	**317**	*e*P	**P**	**11 37 16.5**	**-0.9**
	1.9nm,0.4s,mb3.7						
BVAR	**Borovoye Array**	**53.77**	**316**	P	**P**	**11 37 17.7**	**-0.9**
	3.2nm,0.5s,mb3.8,baz=103,slow=7.5,SNR=11						
BVAR				PcP	PcP	11 38 18.2	+0.1
	1.7nm,0.5s,baz=100,slow=2.9,SNR=4.7						
ASAR	**Alice Springs**	**53.99**	**186**	P	**P**	**11 37 21.0**	**+0.3**
	1.4nm,0.4s,mb3.6,baz=354,slow=4.9,SNR=20						
FINES	**FINESS Array B**	**73.77**	**333**	P	**P**	**11 39 26.9**	**+0.6**
	2.0nm,0.5s,mb4.0,baz=66,slow=5.2,SNR=7.4						
AKASG	**Malin Array Be**	**78.34**	**322**	P	**P**	**11 39 52.1**	**+0.4**
	1.0nm,0.3s,mb3.9,baz=48,slow=5.5,SNR=6.3						
BRTR	**Keskin Array B**	**81.76**	**311**	P	**P**	**11 40 11.1**	**+1.2**
	2.6nm,0.8s,mb4.0,baz=75,slow=3.4,SNR=6.2						

IDC 06 11:38:48.3±2.3, 10.25N×91.60E, mb3.4/4, mb1 3.5/5, mb1mx3.4/19, mbtmp3.3/5, ML3.5/1, Error ellipse: s-maj=69.7km s-min=23.6km az=69.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.82**	**40**	Pn	P	11 41 23.8	-3.9
	0.1nm,0.3s,baz=222,slow=15,SNR=2.8						
MKAR	**Makanchi Array**	**37.27**	**349**	P	P	11 46 01.2	-2.4
	0.3nm,0.7s,baz=159,slow=9.6,SNR=2.7						
SONM	**Songino Array**	**39.48**	**16**	P	P	11 46 21.3	-0.9
	0.2nm,0.5s,baz=198,slow=9.1,SNR=2.8						
WRA	**Warramunga Arr**	**51.68**	**126**	P	P	11 47 57.1	-2.3
	0.5nm,0.6s,baz=305,slow=8.5,SNR=12						
ASAR	**Alice Springs**	**53.36**	**130**	P	P	11 48 10.1	-1.9
	0.2nm,0.7s,baz=302,slow=7.0,SNR=4.5						

*PRU **06** 11:56:50.5, 50.27N×18.84E*
WAR 06 11:56:49.6, 50.26N×18.90E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.58**	**94**	*e*PG	Pg	11 57 02.0	+0.8
OJC				*e*SG	Sg	11 57 10.0	+1.0
OKC	**Ostrava-Krasne**	**0.64**	**229**	*e*PG	Pg	11 57 02.9	+0.5
OKC				*e*SG	Sg	11 57 12.9	+2.0
NIE	**Niedzica**	**1.25**	**132**	*e*PG	Pg	11 57 12.0	-2.5
NIE				*e*SG	Sg	11 57 29.0	-2.1
DPC	**Dobruska-Polom**	**1.65**	**274**	*e*PG	Pg	11 57 18.9	-3.7
DPC				*e*SG	Sg	11 57 41.6	-3.0
KSP	**Ksiaz**	**1.76**	**290**	*e*PG	Pg	11 57 23.0	-1.7
KSP				*e*SG	Sg	11 57 46.0	-2.2
VYHS	**Vyhne**	**1.77**	**181**	*i* PG	Pg	11 57 21.8	-3.1
VYHS				*e*SG	Sg	11 57 45.1	-3.3
CRVS	**Cervenica-Dubn**	**2.15**	**128**	*e*PG	Pg	11 57 31.0	-1.6
CRVS				*e*SG	Sg	11 58 01.8	+0.5
PRU	**Pruhonice**	**2.81**	**266**	*e*SG	Sg	11 58 19.2	-4.1
KHC	**Kasperske Hory**	**3.63**	**254**	*e*SG	Sg	11 58 44.8	-5.7
KHC	**Kasperske Hory**	**3.63**	**254**	*e*Sg	Sg	11 58 44.8	-5.7

IDC 06 11:59:37.0±3.2, 0.26N×97.14E, mb3.5/5, mb1 3.7/6, mb1mx3.6/17, mbtmp3.5/6, Error ellipse: s-maj=122.0km s-min=22.0km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.17**	**5**	P	P	12 03 52.1	-0.4
	baz=197,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**41.60**	**121**	P	P	12 07 26.8	-1.8
	0.2nm,0.4s,baz=303,slow=9.0,SNR=6.3						
ASAR	**Alice Springs**	**42.89**	**126**	P	P	12 07 37.7	-1.4
	0.2nm,0.6s,baz=300,slow=7.5,SNR=4.7						
SONM	**Songino Array**	**48.06**	**8**	P	P	12 08 17.4	-2.7
	0.3nm,0.8s,baz=166,slow=5.9,SNR=3.1						
MKAR	**Makanchi Array**	**48.13**	**346**	P	P	12 08 18.5	-2.2
	0.8nm,0.6s,baz=165,slow=7.5,SNR=6.6						
ZAL	**Zalesovo**	**54.46**	**351**	P	P	12 09 06.5	-1.8
	0.8nm,0.5s,baz=144,slow=5.0,SNR=3.4						

*BJI **06** 12:02:19.8, 2.11N×96.28E, h27km, mB5.0, mb4.5, Ms4.5, Msz4.1*
*MOS **06** 12:02:26.0±1.1, 2.80N×96.24E, h33km, mb4.7/15, Error ellipse: s-maj=16.3km s-min=7.8km az=103.2*
*IDC **06** 12:02:27.7±0.6, 2.92N×96.35E, h26km±3km, mb4.1/13, mb1 4.2/13, mb1mx4.1/19, mbtmp4.3/13, MS3.6/2, Ms1 3.7/2, ms1mx3.1/21, Error ellipse: s-maj=22.6km s-min=11.5km az=48.0*
*NEIC **06** 12:02:27.7±0.3, 2.87N×96.29E, mb4.6/12, Error ellipse: s-maj=9.2km s-min=6.5km az=57.0*

ISC 06 12:02:25.8±0.4, 2.87N±0.05×96.31E±0.06, h28km, h28km±1.0km: pP-P, n88, σ0°98/94, mb4.5/43, MS4.0/8, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.96**	**61**	*e*P	**Pn**	**12 03 41.9**	**+1.5**
SNG	**Songkhla**	**6.06**	**45**	P	**Pn**	**12 04 02.0**	**+6.0**
	316nm,1.0s						
KKTK	**Khon Kaen**	**14.84**	**25**	P	**P**	**12 06 02.0**	**+6.2**
	432nm,0.8s						
CM31	**Chiang Mai Arr**	**15.71**	**9**	P	**P**	**12 06 06.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**15.71**	**9**	Pn	**P**	**12 06 10.1**	**+3.0**
	0.6nm,0.3s,baz=199,slow=11,SNR=16						
CMAR				LR	LR	12 12 09.2	
	comp=Z,208nm,18.3s,baz=205,slow=37						
HYB	**Hyderabad**	**22.65**	**311**	*e*P	**P**	**12 07 27.0**	**+0.8**
HYB	**Hyderabad**	**22.65**	**311**	*i* P	**P**	**12 07 27.0**	**+0.8**
SHL	**Shillong**	**22.97**	**350**	*e*P	**P**	**12 07 27.5**	**-1.8**
GYA	**Guiyang**	**25.48**	**22**	↑*i*P	**P**	**12 07 54.9**	**+1.4**
GYA				AP	pP	12 08 03.4	+1.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
GYA				LR	LR		
	comp=N,340nm,15.4s,MS4.2						
GYA				LR	LR		
	comp=E,490nm,14.8s,MS4.2						
GYA				LR	LR		
	comp=Z,370nm,13.7s,MS4.1						
JIRN	**Jiri**	**26.48**	**340**	*e*P	**P**	**12 08 03.1**	**+0.3**
	comp=Z,27nm,0.6s,mb5.0						
PKI	**Pulchoki**	**26.69**	**338**	*e*P	**P**	**12 08 04.9**	**+0.3**
	comp=Z,12nm,0.6s,mb4.6						
PKI	**Pulchoki**	**26.69**	**338**	*e*P	**P**	**12 08 04.9**	**+0.3**
PKI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.3						
DMN	**Daman**	**26.83**	**338**	*e*P	**P**	**12 08 06.5**	**+0.5**
KKN	**Kakani**	**26.93**	**338**	*e*P	**P**	**12 08 06.7**	**-0.2**
LSA	**Lhasa**	**27.13**	**350**	P	**P**	**12 08 08.6**	**-0.1**
LSA	**Lhasa**	**27.13**	**350**	*e*P	**P**	**12 08 08.3**	**-0.4**
GKN	**Gorkha**	**27.37**	**337**	*e*P	**P**	**12 08 10.7**	**-0.2**
	comp=Z,15nm,0.3s,mb5.0						
KOLN	**Koldanda**	**27.58**	**335**	*e*P	**P**	**12 08 13.2**	**+0.4**
	comp=Z,44nm,0.7s,mb5.2						
ENH	**Enshi**	**29.98**	**23**	*e*P	**P**	**12 08 32.4**	**-2.0**
MBWA	**Marble Bar**	**33.11**	**137**	P	**P**	**12 09 02.4**	**+0.6**
XAN	**Xi'an**	**33.17**	**19**	P	**P**	**12 09 01.1**	**-1.2**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
LZH	**Lanzhou**	**33.78**	**11**	*e*P	**P**	**12 09 09.1**	**+1.5**
LZH				AP	pP	12 09 18.6	+2.7
LZH				PP	PP	12 10 23.1	+2.1
LZH				*e*S	**S**	**12 14 30.1**	**+1.6**
LZH				AMB	AMB		
	comp=Z,27nm,1.6s,mb4.9						
LZH				AMB	AMB		
	comp=Z,86nm,4.5s						
LZH				LR	LR		
	comp=E,1μm,14.5s						
LZH				LR	LR		
	comp=Z,1μm,15.8s,MS4.8						
LZH	**Lanzhou**	**33.78**	**11**	*e*P	**P**	**12 09 09.1**	**+1.5**
LZH				*PP	pP	12 09 18.6	+2.7
LZH				*SP	sP	12 09 22.7	+3.2
LZH						12 10 23.1	
LZH				*e*S	**S**	**12 14 30.1**	**+1.6**
LZH				*SS		12 14 46.0	
LZH				*e*SS	SS	12 16 37.0	+2.1
LZH				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.9						
LZH				MLR	MLR		
	comp=Z,1μm,15.8s,MS4.8						
LZH	**Lanzhou**	**33.78**	**11**	*e*P	**P**	**12 09 09.1**	**+1.5**
	comp=Z,27nm,1.6s,mb4.9						
LZH				pP	pP	12 09 18.6	+2.7
LZH				sP	sP	12 09 22.7	+3.2
LZH				PP	PP	12 10 23.1	+2.1
LZH				*e*S	**S**	**12 14 30.1**	**+1.6**
LZH				sS		12 14 46.0	
LZH				*e*SS	SS	12 16 37.0	+2.1
LZH				LR	LR		
	comp=Z,1μm,15.8s,MS4.8						
SDNR	**Sundarnagar**	**33.81**	**329**	*e*P	**P**	**12 09 08.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**35.63**	**127**	P	**P**	**12 09 23.0**	**-0.6**
	comp=Z,4.7nm,0.8s,mb4.5,baz=329,slow=4.5,SNR=5.3						
GTA	**Gaotai**	**36.52**	**5**	P	**P**	**12 09 30.8**	**0.0**
GTA				AP	pP	12 09 38.8	-0.3
GTA				PP	PP	12 10 55.9	+0.7
GTA				S	**S**	**12 15 11.4**	**+0.8**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,126nm,5.7s						
GTA				LR	LR		
	comp=N,161nm,13.3s,MS4.0						
GTA				LR	LR		
	comp=E,83nm,13.7s,MS4.0						
GTA				LR	LR		
	comp=Z,123nm,18.3s,MS3.7						
SSE	**Sheshan**	**36.60**	**37**	*e*P	**P**	**12 09 30.9**	**-0.7**
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,94nm,6.2s						
SSE				LR	LR		
	comp=N,98nm,20.8s,MS3.7						
SSE				LR	LR		
	comp=E,91nm,20.9s,MS3.7						
SSE				LR	LR		
	comp=Z,52nm,17.2s,MS3.4						
SSE	**Sheshan**	**36.60**	**37**	*e*P	**P**	**12 09 30.9**	**-0.7**
	comp=Z,19nm,0.7s,mb5.0						
SSE				LR	LR		
	comp=Z,50nm,17.2s,MS3.4						
HHC	**Hu-ho-hao-te**	**40.24**	**18**	*e*P	**P**	**12 10 05.4**	**+3.5**
HHC				AP	pP	12 10 14.7	+4.4
HHC				XP	sP	12 10 18.5	+4.7
HHC				PP	PP	12 11 44.4	+6.3
HHC				PCP	PcP	12 12 06.0	-0.1
HHC				S	**S**	**12 16 13.6**	**+6.5**
HHC				XS		12 16 30.9	
HHC				SS	SS	12 19 09.7	+10
HHC				SCS	ScS	12 20 05.8	+1.6
HHC				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,91nm,4.9s						
HHC				LR	LR		
	comp=N,184nm,14.2s,MS4.3						
HHC				LR	LR		
	comp=E,297nm,14.8s,MS4.3						
HHC				LR	LR		
	comp=Z,158nm,15.9s,MS4.0						
KSH	**Kashi**	**40.90**	**336**	*e*P	**P**	**12 10 08.0**	**+0.7**
KSH				*e*PP	PP	12 11 45.0	+0.4
KSH				*e*PCP	PcP	12 12 09.0	+0.8
KSH				*e*PCS		12 15 59.0	
KSH				*e*S	**S**	**12 16 17.0**	**+0.2**
KSH				*e*SCS	ScS	12 20 09.0	+0.9
KSH				AMB	AMB		
	comp=Z,130nm,1.5s,mb5.3						
KSH				LR	LR		
	comp=N,590nm,5.6s						
KSH				LR	LR		
	comp=E,550nm,4.4s						
BJI	**Beijing**	**41.15**	**23**	P	**P**	**12 10 08.4**	**-1.0**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.2						
BJI	**Beijing**	**41.15**	**23**	P	**P**	**12 10 08.4**	**-1.0**
	comp=Z,4.0nm,0.7s,mb4.2						
WMQ	**Urumqi**	**41.49**	**351**	⇑P	**P**	**12 10 12.5**	**+0.4**
WMQ				AP	pP	12 10 22.5	+2.0
WMQ				PP	PP	12 11 52.4	+1.3
WMQ				S	**S**	**12 16 25.5**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,278nm,5.0s						
WMQ				LR	LR		
	comp=N,108nm,21.4s,MS3.9						
WMQ				LR	LR		
	comp=E,125nm,22.3s,MS3.9						
WMQ				LR	LR		
	comp=Z,104nm,21.4s,MS3.7						
WRA	**Warramunga Arr**	**43.67**	**123**	P	**P**	**12 10 30.6**	**+0.3**
	comp=Z,2.2nm,0.5s,mb4.1,baz=301,slow=9.2,SNR=41						
WRAB	**Tennant Creek**	**43.68**	**123**	*i* P	**P**	**12 10 30.4**	**+0.1**
WRAB	**Tennant Creek**	**43.68**	**123**	*e*P	**P**	**12 10 29.6**	**-0.7**
	comp=Z,12nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**43.69**	**123**	*e*P	**P**	**12 10 30.9**	**+0.5**
UCH	**Uchtor**	**43.78**	**337**	P	**P**	**12 10 32.2**	**+1.4**
	SNR=10						
TKM2	**Tokmak 2**	**43.95**	**338**	P	**P**	**12 10 33.3**	**+1.0**
	SNR=5.9						
KBK	**Karagaybulak**	**43.97**	**337**	P	**P**	**12 10 33.9**	**+1.5**
	SNR=11						
AML	**Almayashu**	**44.03**	**336**	P	**P**	**12 10 34.3**	**+1.4**

KIV	Kislovodsk	62.47	319	*i* P	P	12	12 47.2	-1.9
KIV				pmax	pmax			
comp=Z,4.0nm,0.4s,mb4.9								
MALT	Malatya	63.36	312	P	P	12	12 54.5	-0.5
comp=Z,2.3nm,0.8s,mb4.4								
YAK	Yakutsk	64.09	17	*i* P	P	12	12 59.4	0.0
YAK				pmax	pmax			
comp=Z,16nm,1.0s,mb5.0								
SOC	Sochi	64.30	318	*e*P	P	12	13 00.2	-0.9
SOC				*e*		12	15 23.2	
SOC				*e*PPP	PPP	12	16 53.3	-3.7
SOC				*e*S	S	12	21 34.8	-0.7
SOC				*e*		12	22 51.2	
SOC				*e*SS	SS	12	25 44.0	-2.9
SOC				pmax	pmax			
comp=N,7.0nm,0.5s								
SOC				pmax	pmax			
comp=E,5.0nm,0.5s								
SOC				pmax	pmax			
comp=Z,6.0nm,0.5s,mb4.9								
BRTR	Keskin Array B	67.34	312	P	P	12	13 19.6	-1.1
comp=Z,1.9nm,0.7s,mb4.2,baz=132,slow=6.1,SNR=9.7								
BRTR				pP	pP	12	13 27.9	-1.6
comp=Z,1.7nm,0.8s,baz=135,slow=8.7,SNR=6.1								
MA2	Magadan	70.23	26	*i* P	P	12	13 38.4	+0.2
MA2				pmax	pmax			
comp=Z,6.0nm,1.3s,mb4.4								
MATP	Matopo	70.33	247	P	P	12	13 39.9	+0.4
comp=Z,2.3nm,0.7s,mb4.2,baz=115,slow=6.0,SNR=4.2								
OBN	Obninsk	70.74	328	*e*P	P	12	13 40.3	-1.1
OBN				*e*S	S	12	22 55.5	+2.8
OBN				pmax	pmax			
comp=Z,13nm,1.2s,mb4.7								
OBN				MLR	MLR			
comp=Z,100nm,16.0s,MS4.2								
TIXI	Tiksi	71.72	10	*i* P	P	12	13 46.2	-0.8
TIXI				pmax	pmax			
comp=Z,2.0nm,1.7s,mb3.8								
AKASG	Malin Array Be	73.40	322	*i* P	P	12	13 56.3	-1.0
AKASG				pmax	pmax			
comp=Z,1.0nm,0.5s								
AKASG	Malin Array Be	73.40	322	P	P	12	13 56.8	-0.5
comp=Z,1.0nm,0.5s,mb4.0,baz=92,slow=4.6,SNR=4.5								
LBTB	Lobatse	73.83	243	P	P	12	14 00.8	+0.6
FINES	FINESS Array B	78.12	332	P	P	12	14 23.7	0.0
comp=Z,2.1nm,0.7s,mb4.2,baz=63,slow=4.3,SNR=6.8								
FINES	FINESS Array B	78.12	332	P	P	12	14 23.7	0.0
MORC	Moravsky Berou	80.56	320	P	P	12	14 37.7	+0.5
GERES	GERESS Array B	82.98	319	P	P	12	14 51.3	+1.5
comp=Z,1.2nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=7.2								
GERES				pP	pP	12	14 59.2	+0.4
comp=Z,1.3nm,0.8s,baz=112,slow=7.2,SNR=4.6								
ULM	Lac du Bonnet	126.06	10	PKP	PKPdf	12	21 27.2	-3.4
comp=Z,0.8nm,0.3s,baz=7.5,slow=0.9,SNR=2.8								
PDAR	Pinedale Array	128.92	24	PKP	PKPdf	12	21 33.8	-2.6
comp=Z,0.2nm,0.5s,slow=0.9,SNR=3.6								
TXAR	Lajitas Array	142.70	29	PKP	PKPdf	12	22 01.9	-0.2
comp=Z,0.4nm,0.6s,baz=329,slow=1.5,SNR=4.5								

*NEIC **06** 12:09:32.3, 17.07N×101.40W, h15km, mb4.5/1, MD4.0(MEX), After MEX.*

MEX 06 12:09:32.7±0.8, 17.08N×101.39W, h16km±12km, MD4.0, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.53	352	*i* P	Pb	12 09 41.4	-1.7
ZIIG				*i* S	Sb	12 09 48.2	-2.0
ZIIG	Zihuatanejo	0.53	352	⇓*i* P	Pb	12 09 41.4	-1.7
ZIIG				*i* S	Sb	12 09 48.2	-2.0
CAIG	El Cayaco	1.07	92	*i* P	Pb	12 09 48.9	-3.6
CAIG				*i* S	Sb	12 10 02.5	-3.6
ACX	Acapulco	1.43	98	*i* P	Pn	12 09 55.0	-3.1
ACX				*i* S	Sb	12 10 11.0	-5.3
PLIG	Platanillo	2.22	54	*e*P	Pn	12 10 06.4	-3.1
PLIG				*i* S	Sn	12 10 31.6	-5.2
MOIG	Morelia	2.59	4	*i* P	Pn	12 10 11.3	-3.5
MOIG				*i* S	Sn	12 10 42.1	-4.0
COLM	Colima	3.02	314	*e*P	Pn	12 10 17.0	-3.9
COLM				*i* S	Sn	12 10 53.3	-3.8
PPM	Popocatepetl	3.29	53	*e*P	Pn	12 10 20.1	-4.6
PPM				*i* S	Sn	12 10 58.8	-5.0
SFJM	Santa Fe	3.73	335	*e*P	Pn	12 10 30.0	-0.9
SFJM				*i* S	Sn	12 11 13.0	-2.0
OXX	Oaxaca	4.46	89	*e*P	Pn	12 10 40.0	-1.4
OXX				*i* S	Sn	12 11 30.0	-3.6
WVT	Waverly	22.47	30	*e*P	P	12 14 28.0	-4.7
12nm,0.6s							

IDC 06 12:26:47.6±4.2, 6.41S×147.78E, mb4.3/2, mb1 4.5/3, mb1mx3.8/14, mbtmp4.4/3, ML4.4/1, 1C, Error ellipse: s-maj=87.0km s-min=37.5km az=140.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	18.74	223	*e*P	P	12 31 07.2	-3.0
WRA	Warramunga Arr	18.75	223	P	P	12 31 07.6	-2.7
1.2nm,0.3s,baz=50,slow=11,SNR=81							
ASAR	Alice Springs	21.74	216	P	P	12 31 40.8	-1.9
7.1nm,0.5s,baz=52,slow=8.4,SNR=213							
ASAR				S	S	12 35 43.5	+4.3
1.2nm,0.9s,baz=30,slow=23,SNR=5.9							
ASPA	Alice Springs	21.74	216	⇑*i* P	P	12 31 40.7	-2.0
STKA	Stephens Creek	25.99	192	P	P	12 32 22.6	-1.4
2.5nm,0.3s,baz=350,slow=12,SNR=6.8							

IDC 06 12:47:02.5±2.5, 2.06N×96.89E, h24km±6km, mb3.7/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.9/6, ML3.6/1, MS3.5/2, Ms1 3.5/2, ms1mx3.1/21, Error ellipse: s-maj=94.3km s-min=17.2km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.42	7	Pn	P	12 50 53.5	+0.3
0.1nm,0.3s,baz=198,slow=11,SNR=14							
CMAR				LR	LR	12 57 02.8	
comp=Z,43nm,18.9s,baz=190,slow=37							
FITZ	Fitzroy Crossi	34.68	126	P	P	12 53 50.1	-2.6
1.6nm,0.8s,slow=3.0,SNR=3.1							
WRA	Warramunga Arr	42.75	123	P	P	12 54 58.4	-1.6
0.6nm,0.6s,baz=300,slow=9.3,SNR=8.9							
WRA				pP	pP	12 55 05.8	-1.6
0.6nm,0.6s,baz=301,slow=9.2,SNR=5.1							
SONM	Songino Array	46.33	9	P	P	12 55 26.6	-1.9
0.2nm,0.4s,baz=180,slow=8.6,SNR=5.7							
SONM				pP	pP	12 55 33.3	-2.5
0.3nm,0.8s,baz=225,slow=2.0,SNR=2.1							
MKAR	Makanchi Array	46.34	346	P	P	12 55 25.9	-2.5
1.6nm,0.8s,baz=162,slow=7.7,SNR=9.3							
MKAR				pP	pP	12 55 34.5	-1.3
0.7nm,0.7s,baz=155,slow=7.2,SNR=4.2							
ZAL	Zalesovo	52.66	351	P	P	12 56 14.6	-2.4
2.1nm,0.3s,baz=152,slow=3.4,SNR=4.7							
FINES	FINESS Array B	79.10	332	LR	LR	13 39 03.4	
comp=Z,78nm,18.9s,baz=350,slow=40							

*NIED **06** 13:09:00, 23.00N×121.50E, h50km, Mw3.7 Best double couple: M0:4.72×10^14 NP1:φs342°, δ80°, λ37°. NP2:φs245°, δ54°, λ168°.*
*TAP **06** 13:09:58.3, 23.00N×121.29E, h37km, ML4.1*
TAP Felt II J at Chenggung, I J at Pinlang, II J at Lidau, I J at Yuli, I J at Hungye, I J at Shilin.
*JMA **06** 13:09:58.5±0.2, 22.99N×121.46E, h82km, M3.5*

ISC 06 13:09:57.1±0.3, 22.97N±0.02×121.44E±0.02, h28km±2km, n70, σ1°00/115, 13C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	Chengkung	0.15	331	⇑*i* P	Pb	13 10 04.6	+2.1
CHKT				S	Sb	13 10 09.5	+3.3
TTN	Taitung	0.35	232	P	Pb	13 10 06.1	+1.1
TTN				S	Sb	13 10 12.8	+2.4
TWG	Pinlang	0.37	247	⇑*i* P	Pb	13 10 05.5	+0.1
TWG				S	Sb	13 10 10.8	-0.2
TWF1	Yuli	0.41	341	*i* P	Pb	13 10 06.2	+0.3
TWF1				S	Sb	13 10 11.7	-0.2
ELDTW	Lidau	0.45	299	⇑*i* P	Pb	13 10 06.5	-0.2
ELDTW				S	Sb	13 10 11.7	-1.4
EHY	Hungye	0.55	348	*i* P	Pb	13 10 08.1	-0.1
EHY				S	Sb	13 10 14.9	-0.9
ECL	Taimali	0.58	231	⇓*i* P	Pb	13 10 07.9	-0.8
ECL				S	Sb	13 10 15.0	-1.7
STYT	Tauyuan	0.66	287	⇑*i* P	Pb	13 10 09.7	-0.3
STYT				S	Sb	13 10 17.9	-1.0
YUS	Yu-Shan	0.69	319	⇑*i* P	Pb	13 10 10.8	+0.3
YUS				S	Sb	13 10 19.0	-0.7
SSD	Sandimen	0.78	254	*e*P	Pb	13 10 11.4	-0.6
SSD				S	Sb	13 10 20.2	-2.1
TAW	Tawu	0.79	220	*e*P	Pb	13 10 11.1	-1.1
TAW				S	Sb	13 10 20.7	-1.9
ALS	Alishan	0.80	313	⇑*i* P	Pb	13 10 12.7	+0.4
ALS				S	Sb	13 10 22.9	+0.1
EAST	Anshuo	0.80	224	⇓*i* P	Pb	13 10 11.4	-1.0
SGST	Jiashian	0.80	278	⇑*i* P	Pb	13 10 12.5	+0.1
SGST				S	Sb	13 10 22.7	-0.2
WTP	Ta-pu	0.81	290	⇑*i* P	Pb	13 10 12.6	0.0
WTP				S	Sb	13 10 23.2	0.0
ESL	Shilin	0.84	359	*e*P	Pb	13 10 11.9	-1.1
CHN1	Nanshi	0.87	285	⇑*i* P	Pb	13 10 13.7	+0.1
CHN1				S	Sb	13 10 24.9	+0.1
CHN4	Tsaushan	0.87	296	⇑*i* P	Pb	13 10 13.6	+0.1
CHN4				S	Sb	13 10 25.5	+0.6
SGLT	Jiouru	0.91	255	*e*P	Pn	13 10 16.0	+1.8
SGLT				S	Sb	13 10 28.4	+2.4
LAY	Lan-yu	0.93	174	*e*P	Pn	13 10 14.5	+0.1
TWK	Hsinying	0.93	289	⇑*i* P	Pn	13 10 14.4	-0.1
TWK				S	Sb	13 10 26.2	-0.4
CHN5	Tsauling	0.94	312	⇑*i* P	Pn	13 10 15.0	+0.3
CHN5				S	Sb	13 10 27.2	+0.4
TWM1	Shoushan	0.95	262	*e*P	Pn	13 10 16.3	+1.5
TWM1				S	Sb	13 10 29.6	+2.4
SCZT	Fangliau	0.96	232	*e*P	Pn	13 10 14.5	-0.5
CHN3	Shinhua	1.00	276	⇑P	Pn	13 10 16.6	+1.2
CHN3				S	Sb	13 10 30.3	+1.8
HWA	Hwalien	1.02	8	*e*P	Pn	13 10 15.2	-0.5
SMLT	Sun Moon Lake	1.04	331	⇓P	Pn	13 10 16.5	+0.5
SMLT				S	Sb	13 10 29.1	-0.6
CHN2	Minshiung	1.05	302	P	Pn	13 10 16.8	+0.5
CHN2				S	Sn	13 10 30.8	+0.7
CHY	Chiayi	1.08	300	*e*P	Pn	13 10 16.4	-0.2
CHY				S	Sn	13 10 30.4	-0.3
TYC	Yuchr	1.08	330	⇓*i* P	Pn	13 10 17.1	+0.5
TYC				S	Sn	13 10 30.6	-0.1
WGK	Gukeng	1.08	312	*e*P	Pn	13 10 17.2	+0.5
WGK				S	Sn	13 10 31.3	+0.5
TWD	Chiawan	1.12	7	*e*P	Pn	13 10 16.2	-0.9
TWD				S	Sn	13 10 28.6	-3.0
KAU	Kaohsiung	1.12	249	*e*P	Pn	13 10 19.3	+2.1
TAI1	Yung-k'ang	1.12	274	*e*P	Pn	13 10 18.1	+0.9
WNT	Mingjian	1.15	323	*e*P	Pn	13 10 18.2	+0.7
WNT				S	Sn	13 10 32.6	+0.2
HEN	Hengchun	1.16	214	*e*P	Pn	13 10 17.3	-0.4
SCLT	Jiali	1.17	280	*e*P	Pn	13 10 17.8	-0.1
SCLT				S	Sn	13 10 32.8	-0.3
TSEB	Hengchuen, Pin	1.18	205	*e*P	Pn	13 10 17.0	-1.0
TSEB				S	Sn	13 10 33.1	-0.1
TWP	Hsiaoliuchiu	1.18	238	*e*P	Pn	13 10 20.1	+2.1
TWK1	Hengchun	1.18	210	*e*P	Pn	13 10 16.8	-1.2
CHN8	Yiju	1.20	289	*e*P	Pn	13 10 16.7	-1.6
CHN8				S	Sn	13 10 33.0	-0.7
TWT	Tachien	1.30	349	*e*P	Pn	13 10 20.1	+0.3
TWT				S	Sn	13 10 35.0	-1.4
WSF	Szhu	1.31	301	*e*P	Pn	13 10 18.9	-0.9
TCU	Taichung	1.37	329	*e*P	Pn	13 10 21.7	+1.0
TCU				S	Sn	13 10 38.5	+0.4
NNS	Nan Shan	1.47	357	*e*P	Pn	13 10 21.8	-0.3
ENA	Nanau	1.48	11	*e*P	Pn	13 10 21.3	-1.0
TWQ1	Liyutan	1.51	336	*e*P	Pn	13 10 23.9	+1.2
TWQ1				S	Sn	13 10 42.4	+0.8
NSY	Sanyi	1.57	337	*e*P	Pn	13 10 24.8	+1.1
NSY				S	Sn	13 10 45.3	+2.0
WDGT	Dungji	1.67	280	*e*P	Pn	13 10 23.1	-2.0
WDGT				S	Sn	13 10 41.2	-4.5
ENTT	Nioudou	1.67	4	*e*P	Pn	13 10 24.4	-0.6
TWC	Suao	1.68	13	*e*P	Pn	13 10 24.6	-0.5
NSK	Sanguang	1.70	357	P	Pn	13 10 25.7	+0.2
NSK				S	Sn	13 10 45.0	-1.6
NSTT	Nanjuang	1.71	346	*e*P	Pn	13 10 26.0	+0.4
TWE	Neicheng	1.76	7	*e*P	Pn	13 10 25.9	-0.5
PNG	Penghu	1.84	289	*e*P	Pn	13 10 25.5	-1.9
PNG				S	Sn	13 10 45.7	-4.3
EGS		1.92	13	*e*P	Pn	13 10 29.5	+0.8
TWA	Mucha	2.01	4	*e*P	Pn	13 10 29.8	-0.1
YOJ	Yonaguni jima	2.07	44	P	Pn	13 10 31.6	+0.8
YOJ				S	Sn	13 10 56.8	+0.9
TWB1	Santiao Chiao	2.09	14	*e*P	Pn	13 10 31.0	-0.1
NWF	Wu-fen Shan	2.12	8	*e*P	Pn	13 10 28.5	-3.0
TWS1	Kuangyinshan	2.12	359	*e*P	Pn	13 10 31.4	-0.1
TWY	Chenhua	2.30	4	*e*P	Pn	13 10 31.3	-2.8
HATJ	Hateruma jima	2.42	63	P	Pn	13 10 36.5	+0.7
HATJ				S	Sn	13 11 05.0	+0.1
IRIF	Iriomote-Funau	2.50	57	P	Pn	13 10 37.7	+0.8
IRIF				S	Sn	13 11 07.7	+0.9
JKRS	Kuro-shima	2.67	61	P	Pn	13 10 40.3	+0.9
JKRS				S	Sn	13 11 11.6	+0.4
JIJ	Ishigaki jima	2.84	60	P	Pn	13 10 41.8	0.0
JIJ				S	Sn	13 11 14.6	-0.8
KNM	Kinmen	3.11	298	*e*P	Pn	13 10 45.1	-0.6
JTJ	Tarama	3.42	60	P	Pn	13 10 50.4	+0.4
JTJ				S	Sn	13 11 29.4	-0.7
JMJ	Miyako jima 2	3.97	62	*e*S	Sn	13 11 44.1	0.0
JOGS	Gusukube	4.04	63	P	Pn	13 10 59.1	+0.2
JOGS				*e*S	Sn	13 11 45.8	-0.1

IDC 06 13:15:15.9±1.7, 3.49S×142.17E, mb3.4/3, mb1 3.9/4, mb1mx3.6/15, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=117.8km s-min=26.7km az=119.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.05	204	P	P	13 19 27.1	-3.0
0.4nm,0.3s,baz=25,slow=13,SNR=20							
ASAR	Alice Springs	21.60	201	P	P	13 20 08.7	-0.9
0.6nm,0.7s,baz=40,slow=13,SNR=8.1							
FITZ	Fitzroy Crossi	21.75	227	P	P	13 20 09.1	-2.1
0.9nm,0.3s,baz=29,slow=13,SNR=3.5							
ILAR	Eielson Array	85.12	24	P	P	13 27 53.5	-1.2
0.6nm,0.7s,baz=264,slow=4.5,SNR=8.5							

IDC 06 13:27:15.5±3.0, 0.92N×97.43E, mb3.7/5, mb1 3.8/6, mb1mx3.7/18, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=119.5km s-min=21.4km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.49	5	P	P	13 31 20.8	-1.8
0.1nm,0.3s,baz=196,slow=11,SNR=5.4							
WRA	Warramunga Arr	41.70	122	P	P	13 35 06.0	-1.9
0.4nm,0.5s,baz=303,slow=9.2,SNR=7.3							
ASAR	Alice Springs	43.05	127	P	P	13 35 17.6	-1.4
0.3nm,0.5s,baz=298,slow=8.2,SNR=4.6							
SONM	Songino Array	47.37	8	P	P	13 35 51.8	-1.5
0.4nm,0.4s,baz=191,slow=9.5,SNR=6.5							
MKAR	Makanchi Array	47.56	346	P	P	13 35 53.3	-1.5
1.6nm,0.5s,baz=160,slow=8.8,SNR=36							
ZAL	Zalesovo	53.86	351	P	P	13 36 39.2	-3.3
1.3nm,0.3s,baz=312,slow=4.1,SNR=5.1							

IDC 06 13:36:36.3±3.6, 0.42N×98.94E, mb3.4/4, mb1 3.6/5, mb1mx3.5/18, mbtmp3.4/5, ML2.8/1, Error ellipse: s-maj=138.1km s-min=22.6km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.92	0	P	P	13 40 46.5	-2.2
0.0nm,0.3s,baz=186,slow=8.2,SNR=3.3							
WRA	Warramunga Arr	40.15	122	P	P	13 44 14.2	-1.8
1.0nm,1.2s,baz=300,slow=8.7,SNR=5.4							
ASAR	Alice Springs	41.55	128	P	P	13 44 25.8	-1.7
0.4nm,0.8s,baz=293,slow=6.9,SNR=3.6							
SONM	Songino Array	47.66	7	P	P	13 45 14.9	-1.4
0.6nm,0.7s,baz=184,slow=8.4,SNR=5.4							
MKAR	Makanchi Array	48.43	345	P	P	13 45 20.0	-2.3
0.5nm,0.8s,baz=172,slow=9.2,SNR=4.7							

*IDC **06** 13:45:39.8±1.6, 46.24N×137.16E, h396km±21km, mb3.1/7, mb1 3.2/9, mb1mx3.0/25, mbtmp3.8/9, Error ellipse: s-maj=38.4km s-min=12.8km az=57.0*
*NEIC **06** 13:45:39.8±0.8, 46.16N×137.02E, h393km±15km, mb3.4/1, Error ellipse: s-maj=24.1km s-min=12.1km az=68.0*
*SKHL **06** 13:45:39.0±1.4, 46.16N×136.81E, h381km±10km, mb3.8/4*

ISC 06 13:45:39.2±0.9, 46.2N±0.1×137.1E±0.3, h406km±20km, n11, σ0°60/11, mb3.4/7, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	3.96	77	*e*P	P	13 46 52.0	+0.2
ASAJ	Asahikawa	4.38	116	P	P	13 46 56.1	+0.3
1.7nm,0.3s,baz=247,slow=6.7,SNR=11							
MJAR	Matsushiro Arr	9.65	175	P	P	13 47 53.1	-1.0
0.3nm,0.3s,baz=348,slow=12,SNR=4.1							
SONM	Songino Array	20.96	286	P	P	13 49 53.3	+0.8
1.0nm,0.6s,baz=85,slow=9.0,SNR=9.7							
ZAL	Zalesovo	33.80	303	P	P	13 51 46.3	+0.1
1.3nm,0.3s,mb3.8,baz=14,slow=8.3,SNR=3.2							
MKAR	Makanchi Array	37.12	291	P	P	13 52 14.2	+0.2
0.6nm,0.7s,mb3.0,baz=81,slow=12,SNR=5.5							
CHKZ	Chkalovo	42.04	305	*e*P	P	13 52 53.5	-0.3
1.2nm,0.6s,mb3.4							
BVAR	Borovoye Array	42.37	305	P	P	13 52 56.5	0.0
0.9nm,0.3s,mb3.5,baz=81,slow=8.8,SNR=9.1							
FINES	FINESS Array B	59.30	329	P	P	13 55 00.2	-1.2
3.7nm,1.0s,mb3.7,baz=60,slow=11,SNR=6.5							
WRA	Warramunga Arr	65.84	183	P	P	13 55 44.4	0.0
0.2nm,0.6s,mb2.9,baz=0.7,slow=6.8,SNR=11							
ASAR	Alice Springs	69.56	183	P	P	13 56 08.1	+0.9
0.6nm,0.5s,mb3.4,baz=360,slow=6.2,SNR=18							

*FUNV **06** 13:46:53.8, 6.78N×73.17W, h168km, MW3.0*
*IDC **06** 13:46:55.6±7.1, 6.77N×75.86W, h119km±81km, mb2.9/1, mb1 3.2/2, mb1mx2.9/19, mbtmp3.4/2, ML2.3/1, Error ellipse: s-maj=165.3km s-min=42.0km az=77.0*

ISC 06 13:46:53.4±0.9, 6.78N±0.08×72.88W±0.08, h175km±8km, n9, σ1°09/14, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.22	27	*e*P	P	13 47 23.0	+0.3
CAPV				*e*S	S	13 47 44.5	-0.7
ROSC	El Rosal	2.39	217	P	P	13 47 34.8	-0.2
13nm,0.3s,baz=271,slow=23,SNR=42							
ROSC				S	S	13 48 06.1	-0.9
30nm,0.3s,baz=91,slow=23,SNR=13							
SOCV	Socops	2.51	53	*i* P	P	13 47 38.1	+1.7
SOCV				*e*S	S	13 48 10.1	+0.6
ELOV	Elorza	3.38	86	*e*P	P	13 47 49.1	+1.9
CURV	Curarigua	4.33	42	*e*P	P	13 47 60.0	+0.7
CURV				*e*S	S	13 48 48.6	-1.5
BAUV	El Baul	5.26	65	*e*P	P	13 48 12.0	+0.6
BAUV				*e*S	S	13 49 10.7	-1.1
CAOV	Caicara del Or	6.54	85	*e*P	P	13 48 29.1	+0.9
CAOV				*e*S	S	13 49 40.0	-1.9
YKA	Yellowknife Ar	63.39	340	P	P	13 57 05.6	-0.6
0.0nm,0.3s,baz=130,slow=7.9,SNR=5.7							
WRA	Warramunga Arr	150.52	241	PKPbc	PKPdf	14 06 27.0	+7.4
0.5nm,1.1s,baz=107,slow=2.5,SNR=5.3							

IDC 06 13:54:43.4±3.0, 0.91N×97.87E, mb3.8/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.9/1, Error ellipse: s-maj=120.4km s-min=18.2km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.47	3	P	P	13 58 48.2	-2.0
0.2nm,0.3s,baz=194,slow=11,SNR=7.7							
FITZ	Fitzroy Crossi	33.21	126	P	P	14 01 22.1	-2.3
3.1nm,0.9s,slow=7.1,SNR=4.0							
WRA	Warramunga Arr	41.31	122	P	P	14 02 31.0	-1.6
0.3nm,0.3s,baz=310,slow=9.1,SNR=17							
ASAR	Alice Springs	42.68	127	P	P	14 02 42.4	-1.5
0.4nm,0.6s,baz=298,slow=7.4,SNR=6.8							
SONM	Songino Array	47.33	8	P	P	14 03 19.2	-1.6
0.2nm,0.3s,baz=188,slow=10,SNR=2.6							
MKAR	Makanchi Array	47.69	346	P	P	14 03 21.5	-2.2
1.2nm,0.5s,baz=159,slow=9.0,SNR=28							
ZAL	Zalesovo	53.95	350	P	P	14 04 08.8	-2.2
1.3nm,0.4s,baz=272,slow=3.5,SNR=4.5							

*IDC **06** 14:04:40.3±2.0, 9.20S×113.10E, mb4.1/5, mb1 4.3/6, mb1mx4.0/16, mbtmp4.1/6, ML3.9/1, Error ellipse: s-maj=103.6km s-min=18.7km az=52.0*
*NEIC **06** 14:04:43.9±0.9, 9.35S×113.05E, h25km, mb4.4/1, Error ellipse: s-maj=14.8km s-min=10.3km az=78.0*
*DJA **06** 14:04:46.1±1.3, 9.37S×113.19E, h2km, ML5.4/2, Error ellipse: s-maj=35.5km s-min=20.4km az=100.0*

ISC 06 14:04:43.9±2.7, 9.31S±0.10×113.0E±0.2, h41km±22km, n15, σ0°85/18, mb4.1/6, 6C, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.39	54	⇑*e*Pn	P	14 05 07.8	+0.5
4μm,0.2s							
SRDI				⇑*e*Sn	S	14 05 23.2	-1.5
KELI	Kelakatan	1.82	53	⇑*e*Pn	P	14 05 14.8	+1.4
3μm,0.3s							
KELI				⇑*e*Sn	S	14 05 36.1	+0.7
RATI	Rata	2.56	77	⇑*e*Pn	P	14 05 24.0	+0.1
KEDI	Kedomdong	3.17	75	⇑*e*Pn	P	14 05 32.2	-0.4
MBWA	Marble Bar	13.44	152	*e*P	P	14 07 49.2	-5.1

1.9nm,0.3s,baz=101,slow=14,SNR=12
MJAR S **S** **14 20 53.7 +1.5**
1.0nm,0.3s,baz=117,slow=8.2,SNR=4.7
MAJO Matsushiro 3.91 297 *eP* **P** **14 20 08.7 +1.4**
MAT Matsushiro 3.91 297 *eP* **P** **14 20 08.0 +0.7**
MAT *eS* **S** **14 20 50.0 -2.3**
MAT Matsushiro 3.91 297 P **P** **14 20 07.8 +0.5**
MAT S **S** **14 20 50.1 -2.2**
MAT Matsushiro 3.91 297 P **P** **14 20 10.4 +3.1**
JMK Ichinoseki 4.26 346 P **P** **14 20 10.9 -1.2**
MKAR Makanchi Array 46.08 304 P **P** **14 27 29.8 +3.3**
0.3nm,0.6s,mb3.2,baz=59,slow=8.4,SNR=4.3
ILAR Eielson Array 50.90 31 P pP 14 28 19.1 -2.6
0.3nm,0.7s,baz=254,slow=6.5,SNR=4.7
WRA Warramunga Arr 55.01 189 P **P** **14 28 43.1 +8.5**
0.1nm,0.3s,mb3.3,baz=1.5,slow=7.6,SNR=9.6
YKA Yellowknife Ar 65.28 30 P pP 14 30 00.3 -2.8
0.1nm,0.3s,baz=301,slow=6.5,SNR=3.6
YKA Yellowknife Ar 65.28 30 P pP 14 30 00.2 -2.8
NVAR Mina Array Bea 75.60 53 P pP 14 31 04.8 -1.5
0.3nm,0.4s,baz=275,slow=7.3,SNR=4.4
AKASG Malin Array Be 76.61 323 P **P** **14 30 58.1 +5.9**
0.5nm,0.4s,mb3.6,baz=46,slow=5.4,SNR=4.5

IDC 06 14:20:28.8±4.3, 2.90N×96.57E, mb3.5/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=166.9km s-min=29.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.48**	**123**	P	P	14 28 34.0	-1.8
0.5nm,0.6s,baz=302,slow=9.1,SNR=7.8							
MKAR	**Makanchi Array**	**45.45**	**346**	P	P	14 28 49.2	-2.1
0.3nm,0.4s,baz=166,slow=8.8,SNR=11							
SONM	**Songino Array**	**45.56**	**9**	P	P	14 28 50.8	-1.4
0.2nm,0.3s,baz=180,slow=7.4,SNR=3.5							

*IDC **06** 14:32:27.0±0.8, 30.26N×138.82E, h423km±22km, mb3.0/8, mb1 3.1/11, mb1mx2.9/25, mbtmp3.8/11, Error ellipse: s-maj=59.2km s-min=9.5km az=71.0*
*NEIC **06** 14:32:27.6±1.1, 30.19N×138.69E, h430km±26km, mb4.2/3, Error ellipse: s-maj=63.1km s-min=13.3km az=71.0*
*JMA **06** 14:32:27.5±0.2, 30.27N×139.10E, h450km, M3.7*
ISC 06 14:32:26.8±0.5, 30.27N±0.06×139.0E±0.2, h444km±9km, n27, σ1§08/33, mb3.3/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.92**	**13**	P	**P**	**14 33 31.3**	**-2.0**
6.1nm,0.3s,baz=43,slow=19,SNR=2.2							
JHJ				S	**S**	**14 34 24.4**	**-1.4**
15nm,0.3s,baz=52,slow=19,SNR=3.5							
CBIJ	**Chichi jima**	**4.23**	**138**	P	**P**	**14 33 43.6**	**-0.7**
8.2nm,0.3s,baz=264,slow=19,SNR=8.2							
CBIJ				S	**S**	**14 34 45.8**	**+0.3**
17nm,0.3s,baz=275,slow=24,SNR=8.4							
CBIJ	**Chichi jima**	**4.23**	**138**	P	**P**	**14 33 44.7**	**+0.4**
JWZ	**Kozaga**	**4.28**	**320**	P	**P**	**14 33 45.6**	**+0.8**
JOD2	**Odawara 2**	**4.98**	**1**	P	**P**	**14 33 52.5**	**+1.1**
JNY	**Yasuok**	**5.16**	**350**	P	**P**	**14 33 55.2**	**+2.0**
JHU	**Hanno**	**5.57**	**2**	P	**P**	**14 33 57.8**	**+0.5**
JRY	**Ryogami san**	**5.73**	**359**	P	**P**	**14 34 00.0**	**+1.0**
JRY				*eS*	**S**	**14 35 12.4**	**+0.8**
JYT	**Yasato**	**6.02**	**9**	P	**P**	**14 34 02.1**	**+0.1**
JYT				*eS*	**S**	**14 35 14.3**	**-2.8**
JAG	**Ashikaga**	**6.15**	**3**	P	**P**	**14 34 03.1**	**-0.2**
JAG				*eS*	**S**	**14 35 17.2**	**-2.3**
MJAR	**Matsushiro Arr**	**6.29**	**354**	P	**P**	**14 34 04.9**	**+0.2**
2.4nm,0.3s,baz=171,slow=11,SNR=20							
MAJO	**Matsushiro**	**6.29**	**354**	*eP*	**P**	**14 34 04.3**	**-0.5**
16nm,0.6s							
MAT	**Matsushiro**	**6.29**	**354**	*eP*	**P**	**14 34 05.0**	**+0.2**
15nm,0.6s							
MAT	**Matsushiro**	**6.29**	**354**	P	**P**	**14 34 04.9**	**+0.1**
MAT	**Matsushiro**	**6.29**	**354**	P	**P**	**14 34 05.4**	**+0.6**
JHO	**Hitachi**	**6.46**	**11**	P	**P**	**14 34 06.9**	**+0.3**
JHO				*eS*	**S**	**14 35 25.2**	**-0.2**
JFK	**Kawauchi**	**7.25**	**12**	P	**P**	**14 34 16.3**	**+1.2**
JMK	**Ichinoseki**	**8.85**	**11**	P	**P**	**14 34 34.8**	**+2.0**
SONM	**Songino Array**	**30.49**	**314**	P	**P**	**14 38 02.6**	**-0.4**
0.1nm,0.3s,mb2.6,baz=104,slow=5.9,SNR=4.2							
MKAR	**Makanchi Array**	**46.31**	**307**	P	**P**	**14 40 11.3**	**-1.1**
0.5nm,0.7s,mb3.0,baz=98,slow=8.6,SNR=4.5							
FITZ	**Fitzroy Crossi**	**49.78**	**197**	P	**P**	**14 40 38.9**	**-0.2**
1.9nm,0.7s,mb3.6,baz=8.1,slow=14,SNR=3.6							
WRAB	**Tennant Creek**	**50.12**	**186**	*eP*	**P**	**14 40 38.6**	**-3.0**
2.1nm,0.8s,mb3.5							
WRA	**Warramunga Arr**	**50.12**	**186**	P	**P**	**14 40 41.4**	**-0.2**
0.7nm,0.6s,mb3.2,baz=1.6,slow=7.9,SNR=23							
BVAR	**Borovoye Array**	**53.81**	**316**	P	**P**	**14 41 07.4**	**-0.7**
1.1nm,0.5s,mb3.4,baz=100,slow=7.3,SNR=12							
ASAR	**Alice Springs**	**53.85**	**186**	P	**P**	**14 41 08.8**	**+0.1**
0.3nm,0.5s,mb2.8,baz=16,slow=11,SNR=6.0							
STKA	**Stephens Creek**	**61.86**	**177**	P	**P**	**14 42 03.6**	**+0.5**
1.1nm,0.6s,mb3.6,baz=315,slow=5.7,SNR=3.2							
FINES	**FINESS Array B**	**73.86**	**333**	P	**P**	**14 43 16.4**	**+0.6**
2.1nm,0.9s,mb3.7,baz=72,slow=6.0,SNR=7.5							

*NEIC **06** 14:35:39.5±0.3, 44.30N×115.14W, h5km, ML3.3, Error ellipse: s-maj=3.8km s-min=3.2km az=79.0*
*IDC **06** 14:35:40.1±0.9, 44.41N×115.07W, mb1 3.1/4, mb1mx3.1/23, mbtmp2.7/4, ML3.1/4, Error ellipse: s-maj=13.8km s-min=8.0km az=52.0*
ISC 06 14:35:38.8±0.4, 44.32N±0.03×115.12W±0.05, h5km, n40, σ0§83/44, 1D, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLID	**Hailey**	**0.92**	**146**	⇓*iP*	**Pb**	**14 35 56.8**	**0.0**
BMO	**Blue Mountains**	**1.65**	**290**	*eP*	**Pn**	**14 36 09.1**	**+0.5**
MCMT	**McKenzie Canyo**	**1.70**	**72**	*eP*	**Pn**	**14 36 10.7**	**+1.4**
MSO	**Missoula**	**2.64**	**18**	*ePn*	**Pn**	**14 36 23.3**	**+0.5**
QLMT	**Earthquake Lak**	**2.69**	**78**	*ePn*	**Pn**	**14 36 24.1**	**+0.6**
BOZ	**Bozeman (W)**	**2.81**	**61**	*ePn*	**Pn**	**14 36 25.4**	**+0.2**
CHMT	**Chamberlain Mo**	**2.91**	**26**	*ePn*	**Pn**	**14 36 26.9**	**+0.4**
RRI2	**Red Ridge**	**2.92**	**108**	*ePn*	**Pn**	**14 36 26.6**	**-0.1**
YMR	**Madison River**	**3.00**	**82**	*ePn*	**Pn**	**14 36 28.5**	**+0.7**
IMW	**Indian Meadow**	**3.04**	**97**	*ePn*	**Pn**	**14 36 28.8**	**+0.3**
HVU	**Hansel Valley**	**3.07**	**145**	*ePn*	**Pn**	**14 36 27.6**	**-1.2**
YFT	**Old Faithful**	**3.08**	**86**	Pn	**Pn**	**14 36 29.6**	**+0.6**
TPAW	**Teton Pass**	**3.13**	**104**	*ePn*	**Pn**	**14 36 29.8**	**+0.1**
WVOR	**Wild Horse Val**	**3.18**	**235**	*ePn*	**Pn**	**14 36 30.9**	**+0.5**
YNR	**Norris Junctio**	**3.20**	**81**	*ePn*	**Pn**	**14 36 30.8**	**0.0**
MOOW	**Moose Ponds**	**3.21**	**99**	*ePn*	**Pn**	**14 36 30.4**	**-0.5**
REDW	**Red Top Meadow**	**3.24**	**106**	*ePn*	**Pn**	**14 36 30.8**	**-0.4**
SNOW	**Snow King Moun**	**3.27**	**104**	*ePn*	**Pn**	**14 36 32.0**	**+0.2**
AHID	**Auburn Hatcher**	**3.31**	**117**	*ePn*	**Pn**	**14 36 32.8**	**+0.4**
HRY	**Holter Researc**	**3.33**	**43**	*ePn*	**Pn**	**14 36 32.4**	**-0.1**
LOHW	**Long Hollow**	**3.34**	**101**	*ePn*	**Pn**	**14 36 33.1**	**+0.4**
LKWY	**Lake**	**3.39**	**84**	Pn	**Pn**	**14 36 33.9**	**+0.4**
ELK	**Elko**	**3.58**	**181**	*ePn*	**Pn**	**14 36 35.8**	**-0.3**
SPUT	**South Promonto**	**3.60**	**146**	*ePn*	**Pn**	**14 36 35.5**	**-0.9**
BGU	**Big Grassy Mou**	**3.73**	**155**	*ePn*	**Pn**	**14 36 36.7**	**-1.5**
HWUT	**Hardware Ranch**	**3.77**	**135**	*ePn*	**Pn**	**14 36 37.3**	**-1.5**
NEW	**Newport**	**4.18**	**341**	Pn	**Pn**	**14 36 45.3**	**+0.6**
0.5nm,0.3s,baz=155,slow=17,SNR=5.0							
NEW				Sn	**Sn**	**14 37 32.9**	**-1.7**
1.9nm,0.3s,baz=72,slow=3.2,SNR=5.3							
NEW				Lg		14 37 50.0	
5.2nm,0.3s,baz=279,slow=17,SNR=3.8							
NEW	**Newport**	**4.18**	**341**	*ePn*	**Pn**	**14 36 43.6**	**-1.0**
BMN	**Battle Mountai**	**4.19**	**203**	*ePn*	**Pn**	**14 36 43.7**	**-1.1**
BW06	**Boulder Array**	**4.33**	**109**	Pn	**Pn**	**14 36 46.0**	**-0.9**
PDAR	**Pinedale Array**	**4.33**	**109**	Pn	**Pn**	**14 36 50.7**	**+3.9**
0.1nm,0.3s,baz=304,slow=12,SNR=8.2							
PDAR				Pg	**Pg**	**14 36 56.0**	**-9.3**
0.2nm,0.3s,baz=298,slow=13,SNR=8.2							
PDAR				Lg		14 37 56.7	
0.4nm,0.3s,baz=309,slow=19,SNR=4.8							
DUG	**Dugway**	**4.47**	**157**	*ePn*	**Pn**	**14 36 48.4**	**-0.3**
MOD	**Modoc**	**4.50**	**239**	Pn	**Pn**	**14 36 50.1**	**+1.0**
JLU	**Jordanelle**	**4.61**	**143**	*ePn*	**Pn**	**14 36 51.2**	**+0.5**
WALA	**Waterton Lakes**	**4.81**	**10**	*ePn*	**Pn**	**14 36 53.5**	**-0.1**
MNV	**Mina**	**6.31**	**202**	Pn	**Pn**	**14 37 15.6**	**+0.9**
NVAR	**Mina Array Bea**	**6.36**	**203**	Pn	**Pn**	**14 37 17.7**	**+2.3**
0.2nm,0.3s,baz=7.6,slow=10,SNR=5.1							
NVAR				Pg	**Pg**	**14 37 32.4**	**-13**
0.6nm,0.3s,baz=27,slow=18,SNR=7.2							
NVAR				Lg		14 38 56.2	
1.5nm,0.3s,baz=16,slow=30,SNR=8.2							
NVAR	**Mina Array Bea**	**6.36**	**203**	Pn	**Pn**	**14 37 17.7**	**+2.3**
NVAR				Pg	**Pg**	**14 37 32.4**	**-13**
NVAR				Lg		14 38 56.2	
YKA	**Yellowknife Ar**	**18.21**	**1**	P	**P**	**14 39 52.4**	**-1.2**
0.1nm,0.3s,baz=183,slow=12,SNR=4.5							
YKA	**Yellowknife Ar**	**18.21**	**1**	P	**P**	**14 39 52.4**	**-1.2**

*IDC **06** 14:52:22.6±0.7, 14.22S×71.24W, mb4.2/10, mb1 4.4/13, mb1mx4.3/20, mbtmp4.2/13, ML4.3/3, MS3.9/17, Ms1 3.9/17, ms1mx3.7/34, Error ellipse: s-maj=25.1km s-min=14.6km az=58.0*
*BJI **06** 14:52:27.4, 14.20S×71.20W, h35km, mB5.0, Ms4.6, Msz4.4*
*NEIC **06** 14:52:27.5±1.1, 14.20S×71.22W, h36km±11km, mb4.7/13, ML4.5(LIM), Error ellipse: s-maj=12.6km s-min=7.5km az=78.0*
NEIC Felt [III] at Sicuani and Yanaoca.
ISC 06 14:52:25.3±3.0, 14.16S±0.06×71.20W±0.09, h33km±22km, n70, σ1§12/52, mb4.5/21, MS4.1/16, 2C-1D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.31**	**187**	⇓*iP*	**Pn**	**14 53 02.0**	**+0.1**
ARE				*i*		14 53 04.7	
LPAZ	**La Paz**	**3.64**	**126**	Pn	**Pn**	**14 53 25.2**	**+4.4**
7.1nm,0.3s,baz=294,slow=10,SNR=45							
LPAZ				Lg		14 54 24.4	
4.0nm,0.3s,baz=122,slow=19,SNR=1.7							
LPAZ	**La Paz**	**3.64**	**126**	*eP*	**Pn**	**14 53 25.9**	**+5.0**
LVC	**Limon Verde**	**8.68**	**166**	Pn	**P**	**14 54 28.6**	**-3.2**
2.3nm,0.3s,baz=322,slow=7.7,SNR=37							
LVC				Lg		14 56 54.4	
0.1nm,0.3s,baz=222,slow=17,SNR=3.4							
LVC				LR	LR	14 58 13.2	
comp=Z,1μm,21.6s,baz=317,slow=41							
LVC	**Limon Verde**	**8.68**	**166**	*eP*	**P**	**14 54 29.1**	**-2.6**
14nm,0.6s							
SAML	**Samuel**	**9.40**	**57**	*eP*	**P**	**14 54 41.9**	**+0.1**
0.2nm,1.0s							
SIV	**San Ignacio**	**9.95**	**102**	Pn	**P**	**14 54 49.3**	**0.0**
2.8nm,0.3s,baz=285,slow=14,SNR=48							
SIV				Lg		14 57 37.5	
1.8nm,0.3s,baz=358,slow=16,SNR=3.5							
OTAV	**Otavalo**	**16.01**	**333**	*eP*	**P**	**14 56 11.7**	**+1.8**
14nm,1.2s							
CFAA	**Coronel Fontan**	**17.57**	**172**	P	**P**	**14 56 29.1**	**-0.4**
0.1nm,0.3s,baz=332,slow=12,SNR=11							
CFAA				LR	LR	15 02 55.7	
comp=Z,76nm,18.2s,baz=346,slow=36							
ROSC	**El Rosal**	**19.15**	**350**	P	**P**	**14 56 55.3**	**+6.5**
2.2nm,0.3s,baz=94,slow=24,SNR=6.6							
ROSC				Lg		15 02 35.1	
1.6nm,0.3s,baz=274,slow=21,SNR=4.8							
ROSC				LR	LR	15 04 55.6	
comp=Z,288nm,22.0s,baz=302,slow=39							
BDFB	**Brasilia**	**22.45**	**97**	P	**P**	**14 57 24.6**	**+1.5**
3.8nm,0.8s,mb3.9,baz=251,slow=15,SNR=3.5							
BDFB				LR	LR	15 06 51.3	
comp=Z,73nm,20.4s,MS3.1,baz=81,slow=39							
SDV	**Santo Domingo**	**22.90**	**1**	P	**P**	**14 57 29.2**	**+1.6**
6.8nm,0.7s,mb4.2,baz=72,slow=17,SNR=3.5							
SDV				LR	LR	15 05 49.0	
comp=Z,504nm,21.2s,MS3.9,baz=207,slow=35							
SDV	**Santo Domingo**	**22.90**	**1**	*eP*	**P**	**14 57 28.6**	**+1.0**
11nm,0.9s,mb4.3							
PCRV	**Puerto La Cruz**	**25.04**	**15**	LR	LR	15 08 27.5	
comp=Z,2μm,18.1s,MS4.5,baz=187,slow=38							
TRQA	**Tornquist**	**25.17**	**163**	*eP*	**P**	**14 57 50.2**	**+0.9**
PLCA	**Paso Flores**	**26.48**	**179**	P	**P**	**14 58 01.4**	**-0.1**
3.5nm,0.8s,mb3.9,baz=16,slow=11,SNR=5.9							
PLCA	**Paso Flores**	**26.48**	**179**	*eP*	**P**	**14 58 00.9**	**-0.6**
JTS	**JuntasAbangare**	**27.86**	**330**	LR	LR	15 10 03.0	
comp=Z,248nm,19.0s,MS3.8,baz=174,slow=38							
SJG	**San Juan**	**32.45**	**9**	LR	LR	15 13 31.9	
comp=Z,180nm,18.6s,MS3.8,baz=159,slow=39							
RPN	**Rapa Nui**	**37.80**	**244**	LR	LR	15 11 23.7	
comp=Z,325nm,21.4s,MS4.1,baz=229,slow=30							
GOGA	**Godfrey**	**48.73**	**346**	*eP*	**P**	**15 01 10.2**	**+1.2**
24nm,0.5s,mb5.5							
LRAL	**Lakeview Retre**	**49.30**	**342**	P	**P**	**15 01 12.5**	**-0.9**
8.7nm,0.4s,mb5.1							
CPCT	**Cooper Cave**	**50.93**	**346**	P	**P**	**15 01 24.5**	**-1.3**
PLAL	**Pickwick Lake**	**51.43**	**342**	*eP*	**P**	**15 01 28.6**	**-1.0**
16nm,0.3s,mb5.4							
BLA	**Blacksburg**	**51.83**	**351**	P	**P**	**15 01 31.3**	**-1.3**
ELN	**Prospectdale**	**51.90**	**350**	*eP*	**P**	**15 01 30.7**	**-2.4**
MIAR	**Mount Ida**	**52.90**	**337**	*eP*	**P**	**15 01 38.3**	**-2.4**
TXAR	**Lajitas Array**	**53.41**	**324**	P	**P**	**15 01 45.0**	**+0.6**
0.5nm,0.5s,mb3.7,baz=157,slow=9.5,SNR=4.8							
TXAR				PcP	PcP	15 02 52.9	+1.6
0.3nm,0.3s,baz=135,slow=2.6,SNR=5.0							
TXAR				LR	LR	15 23 20.6	
comp=Z,62nm,18.9s,MS3.7,baz=255,slow=35							
TXAR	**Lajitas Array**	**53.41**	**324**	P	**P**	**15 01 45.0**	**+0.6**
TXAR				PcP	PcP	15 02 52.9	+1.6
TXAR				LR	LR	15 23 20.6	
FVM	**French Village**	**54.92**	**341**	*eP*	**P**	**15 01 54.3**	**-1.1**
39nm,1.0s,mb5.4							
CCM	**Cathedral Cave**	**55.24**	**341**	*eP*	**P**	**15 01 55.2**	**-2.6**
11nm,1.0s,mb4.8							
MNTX	**Cornudas Mount**	**56.16**	**325**	*eP*	**P**	**15 02 03.5**	**-1.0**
6.0nm,1.4s,mb4.4							
ANMO	**Albuquerque**	**59.21**	**326**	P	**P**	**15 02 25.9**	**0.0**
SDCO	**Great Sand Dun**	**60.86**	**329**	*eP*	**P**	**15 02 36.6**	**-0.5**
3.2nm,0.8s,mb4.5							
WUAZ	**Wupatki**	**62.35**	**324**	*eP*	**P**	**15 02 47.6**	**+0.4**
6.5nm,0.9s,mb4.8							
PV01	**Paradox Valley**	**62.72**	**327**	*eP*	**P**	**15 02 50.3**	**+0.7**
MSU	**Marysvale**	**64.93**	**325**	*eP*	**P**	**15 03 05.2**	**+1.0**
DAU	**Daniels Canyon**	**65.80**	**327**	*eP*	**P**	**15 03 10.2**	**+0.5**
PDAR	**Pinedale Array**	**66.69**	**330**	P	**P**	**15 03 15.8**	**+0.5**
0.8nm,0.6s,mb3.9,baz=127,slow=8.5,SNR=8.6							
PDAR				LR	LR	15 33 10.1	
comp=Z,80nm,20.4s,MS3.9,baz=336,slow=37							
BW06	**Boulder Array**	**66.70**	**330**	*eP*	**P**	**15 03 15.7**	**+0.3**
4.6nm,1.3s,mb4.3							
ULM	**Lac du Bonnet**	**67.70**	**343**	P	**P**	**15 03 20.5**	**-1.0**
2.5nm,0.5s,mb4.5,baz=151,slow=6.2,SNR=7.3							
ULM				LR	LR	15 32 50.8	
comp=Z,94nm,18.1s,MS4.0,baz=164,slow=36							
ULM	**Lac du Bonnet**	**67.70**	**343**	P	**P**	**15 03 20.5**	**-1.0**
ULM				LR	LR	15 32 50.8	
RRI2	**Red Ridge**	**67.99**	**330**	*eP*	**P**	**15 03 24.3**	**+0.8**
12nm,0.8s,mb5.0							
VNA2	**Neumayer--Watz**	**68.26**	**161**	⇑*iP*	**P**	**15 03 26.4**	**+1.7**
NVAR	**Mina Array Bea**	**68.41**	**322**	P	**P**	**15 03 27.5**	**+1.3**
1.0nm,0.8s,mb3.9,baz=165,slow=6.4,SNR=6.0							
YMR	**Madison River**	**68.80**	**331**	*eP*	**P**	**15 03 29.8**	**+1.3**
SCHQ	**Schefferville**	**68.82**	**3**	LR	LR	15 31 28.0	
comp=Z,79nm,19.1s,MS4.0,baz=151,slow=34							
DBIC	**Dimbokro**	**68.98**	**77**	P	**P**	**15 03 30.1**	**0.0**
3.1nm,0.7s,mb4.3,baz=267,slow=11,SNR=4.3							
DBIC				LR	LR	15 32 27.8	
comp=Z,130nm,19.0s,MS4.2,baz=238,slow=35							
DBIC	**Dimbokro**	**68.98**	**77**	*eP*	**P**	**15 03 27.5**	**-2.6**
HLID	**Hailey**	**69.70**	**328**	*eP*	**P**	**15 03 35.0**	**+1.0**
2.6nm,1.0s,mb4.1							
SNAA	**Sanae**	**69.89**	**162**	P	**P**	**15 03 34.2**	**-0.5**
FCC	**Fort Churchill**	**75.03**	**348**	*eP*	**P**	**15 04 04.2**	**-1.1**
EDM	**Edmonton**	**76.22**	**335**	P	**P**	**15 04 11.4**	**-0.7**
YKA	**Yellowknife Ar**	**83.58**	**341**	P	**P**	**15 04 52.2**	**+0.9**
8.8nm,0.8s,mb5.0,baz=135,slow=5.3,SNR=58							
YKA	**Yellowknife Ar**	**83.58**	**341**	P	**P**	**15 04 52.2**	**+0.9**
YKW3	**Yellowknife Ar**	**83.63**	**341**	*eP*	**P**	**15 04 52.3**	**+0.8**
ILAR	**Eielson Array**	**96.71**	**335**	P	**P**	**15 05 53.6**	**+0.2**
0.4nm,0.8s,mb3.9,baz=180,slow=1.8,SNR=3.6							
ILAR				LR	LR	15 57 38.3	
comp=Z,83nm,18.6s,MS4.2,baz=358,slow=40							
GERES	**GERESS Array B**	**97.21**	**42**	LR	LR	15 43 27.3	
comp=Z,48nm,21.3s,MS4.0,baz=347,slow=32							
NOA	**NORSAR Array B**	**98.63**	**29**	LR	LR	15 47 23.1	
comp=Z,88nm,19.4s,MS4.3,baz=115,slow=33							
ASAR	**Alice Springs**	**135.10**	**213**	PKP	PKPdf	15 11 42.8	-4.9
0.5nm,0.8s,baz=121,slow=2.2,SNR=5.9							
ZAL	**Zalesovo**	**136.05**	**20**	PKP	PKPdf	15 11 47.2	-1.3
1.0nm,0.4s,baz=165,slow=4.8,SNR=4.2							
WMQ	**Urumqi**	**145.36**	**27**	⇑PKP	PKPdf	15 11 59.0	-6.4
WMQ				APKP		15 12 14.0	
WMQ				XPKP		15 12 18.5	
WMQ				PP	PP	15 15 23.0	-0.8
WMQ				PP	PP		
comp=Z,42nm,4.8s							
WMQ				LR	LR		
comp=N,50nm,21.0s,MS4.4							
WMQ				LR	LR		
comp=E,40nm,20.3s,MS4.4							
WMQ				LR	LR		
comp=Z,47nm,19.6s,MS4.3							
MJAR	**Matsushiro Arr**	**145.55**	**316**	PKPbc	PKPbc	15 12 02.7	+1.4
comp=Z,7.0nm,0.8s,baz=66,slow=2.2,SNR=16							
MAT	**Matsushiro**	**145.56**	**316**	PKP	PKPdf	15 12 00.1	-5.9
SONM	**Songino Array**	**146.37**	**3**	PKPbc	PKPbc	15 12 05.4	+2.6
comp=Z,1.5nm,0.9s,baz=337,slow=1.4,SNR=8.7							
CN2	**Changchun**	**147.20**	**337**	*e*PKP	PKPdf	15 12 06.2	-2.3
BJI	**Beijing**	**153.42**	**347**	PKP	PKPdf	15 12 16.0	-2.1
LZH	**Lanzhou**	**157.72**	**11**	*e*PKP	PKPdf	15 12 21.6	-2.4
LZH				APKP		15 12 32.4	
LZH				XPKP		15 12 36.2	
NJ2	**Nanjing**	**159.96**	**334**	*e*PKP	PKPdf	15 12 23.9	-2.8
NJ2				APKP		15 12 35.1	
NJ2				XPKP		15 12 38.9	
NJ2				PKP2	PKPab	15 13 05.9	+2.7
NJ2				PKS	PKS	15 15 57.0	+3.3
NJ2				PP	PP	15 16 49.0	+3.2
NJ2				SKS	SKS	15 19 24.0	-6.6
NJ2				PPP	PPP	15 20 24.0	-5.7
NJ2				PP	PP		
comp=Z,110nm,5.4s							
NJ2				LR	LR		
comp=N,780nm,30.0s							
NJ2				LR	LR		
comp=E,540nm,30.8s							
NJ2				LR	LR		
comp=Z,450nm,24.0s,MS5.2							
CMAR	**Chiang Mai Arr**	**169.62**	**64**	PKPab	PKPab	15 13 50.6	+5.0
comp=Z,0.5nm,0.7s,baz=301,slow=5.3,SNR=3.6							

*MOS **06** 14:58:50.0±2.6, 52.54N×107.14E, h13km, mb4.2/1, Error ellipse: s-maj=15.1km s-min=11.6km az=68.6*
BYKL 06 14:58:50.6±0.3, 52.57N×107.12E, h18km±20km, 9C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRTB	**Turuntaevo**	**0.46**	**137**	⇓*iPg*	Pb	14 58 59.0	-0.9
984nm,0.3s							
TRTB				⇑*iPg*	Pb	14 58 59.0	-0.9
607nm,0.3s							
TRTB				⇑*iPg*	Pb	14 58 59.0	-0.9
1μm,0.3s							
TRTB				*i* Sg	Sb	14 59 05.0	-1.3
TRTB				Pmax			
1μm,0.2s							
TRTB				Smax			
3μm,0.4s							
TRG	**Tyrgan**	**0.51**	**292**	*e*PG	Pb	14 59 00.2	-0.5
TRG				*e*		14 59 07.8	
TRG				pmax	pmax		
comp=Z,170nm,0.1s							
TRG				smax			
comp=N,2μm,0.2s							
TRG	**Tyrgan**	**0.51**	**292**	⇑*iPg*	Pb	14 59 00.2	-0.5
TRG				*i* Sg	Sb	14 59 07.8	+0.3
TRG				Pmax			
comp=N,150nm,0.1s							
TRG				Smax			
comp=N,2μm,0.2s							
KAB	**Kabansk**	**0.59**	**209**	*e*Pg	Pb	14 59 01.6	-0.6
KAB				*i* Sg	Sb	14 59 10.2	+0.1
KAB				Pmax			
comp=N,216nm,0.2s							
KAB				Smax			
comp=N,5μm,0.8s							
STDB	**Stepnoy Dvoret**	**0.61**	**229**	⇑*iPg*	Pb	14 59 03.2	+0.7
STDB				*e*Sg	Sb	14 59 12.2	+1.6
STDB				*e*		14 59 13.2	
STDB				Pmax			
comp=N,140nm,0.1s							
STDB				max			
comp=N,3μm,0.2s							
HRMR	**Khuramsha**	**0.95**	**186**	⇑*iPg*	Pb	14 59 07.6	-0.6
HRMR				*i* Sg	Sb	14 59 20.3	0.0
OGRR	**Ongureny**	**1.11**	**15**	*e*PG	Pb	14 59 10.4	-0.6
OGRR				*e*		14 59 25.1	
OGRR				pmax	pmax		
comp=Z,77nm,0.2s							

ZAK				*e*Pg	Pn	14 59 48.6	+6.7
ZAK				*e*Sg	Sn	15 00 32.0	+11
ZAK				Pmax			
	comp=E,7.0nm,0.2s						
ZAK				Smax			
	comp=E,45nm,0.5s						
YLYR	**Ulyunkhan**	**3.33**	**44**⇓	*i*Pn	Pn	14 59 41.9	-1.1
YLYR				*e*Pg	Pn	14 59 49.4	+6.4
YLYR				*e*Sg	Sn	15 00 32.1	+10
YLYR				Pmax			
	comp=E,7.0nm,0.4s						
YLYR				Smax			
	comp=E,81nm,1.2s						
NIZ	**Nizh Angarsk**	**3.51**	**23**	*e*PN	Pn	14 59 46.9	+1.3
NIZ				*e*		14 59 53.8	
NIZ				*e*S	Sn	15 00 26.7	-0.5
NIZ				*e*		15 00 37.8	
NIZ				pmax	pmax		
	comp=Z,17nm,0.5s						
NIZ				smax			
	comp=N,133nm,0.6s						
NIZ	**Nizh Angarsk**	**3.51**	**23**	*e*Pn	Pn	14 59 44.9	-0.7
NIZ				*e*Pg	Pn	14 59 53.3	+7.7
NIZ				*e*Sn	Sn	15 00 27.1	-0.1
NIZ				*e*Sg	Sn	15 00 38.5	+11
NIZ				Pmax			
	comp=N,20nm,0.5s						
NIZ				Smax			
	comp=N,138nm,0.6s						
MOY	**Mondy**	**3.88**	**259**	*e*Pn	Pn	14 59 52.4	+1.5
MOY				*e*Pg	Pn	14 59 58.5	+7.6
MOY				*e*		15 00 39.9	
MOY				*e*Sg	Sn	15 00 48.9	+12
MOY				Pmax			
	comp=N,14nm,0.5s						
MOY				Smax			
	comp=N,84nm,1.1s						
CIT	**Chita**	**3.99**	**95**	*e*PN	Pn	14 59 49.8	-2.5
CIT				*e*		14 59 59.5	
CIT				*e*S	Sn	15 00 36.2	-3.0
CIT				*e*		15 00 52.3	
CIT				pmax	pmax		
	comp=Z,29nm,0.9s						
CIT				smax			
	comp=N,124nm,0.8s						
CIT	**Chita**	**3.99**	**95**	*e*Pn	Pn	14 59 52.3	-0.1
CIT				*e*Pg	Pn	15 00 02.2	+10
CIT				*e*Sg	Sn	15 00 53.5	+14
CIT				Pmax			
	comp=N,12nm,0.5s						
CIT				Smax			
	comp=N,118nm,0.9s						
KMO	**Kumora**	**4.10**	**34**	*e*Pn	Pn	14 59 51.8	-2.1
KMO				*e*		14 59 58.9	
KMO				*e*Sg	Sn	15 00 55.3	+13
KMO				max			
	comp=N,10.0nm,0.4s						
KMO				Smax			
	comp=N,65nm,1.2s						
KPC	**Khapcheranga**	**4.38**	**129**	*e*PN	Pn	14 59 55.3	-2.7
KPC				*e*P		15 00 07.9	
KPC				*e*S	Sn	15 00 44.5	-4.7
KPC				*e*S	Sn	15 01 05.4	+16
KPC	**Khapcheranga**	**4.38**	**129**	*e*Pn	Pn	14 59 55.1	-2.9
KPC				*e*Pg	Pn	15 00 07.7	+10
KPC				*e*Sn	Sn	15 00 44.3	-4.9
KPC				*e*Sg	Sn	15 01 04.5	+15
KPC				Pmax			
	comp=N,24nm,0.8s						
KPC				Smax			
	comp=N,68nm,1.0s						
ORL	**Orlik**	**4.46**	**272**	*e*Pn	Pn	14 59 58.7	-0.4
ORL				*e*Sn	Sn	15 00 50.6	-0.6
ORL				*e*Sg	Sn	15 01 06.8	+16
ORL				Smax			
	comp=N,35nm,0.7s						
YOA	**Uoyan**	**4.47**	**35**	*e*PN	Pn	15 00 12.1	+13
YOA				*e*		15 01 10.8	
YOA				pmax	pmax		
	comp=Z,31nm,0.5s						
YOA				smax			
	comp=E,126nm,0.6s						
YOA	**Uoyan**	**4.47**	**35**	*e*Sg	Sn	15 01 11.2	+20
YOA				Smax			
	comp=E,165nm,1.0s						
UKT	**Uakit**	**4.82**	**50**	*e*Pn	Pn	15 00 02.4	-1.8
UKT				*e*Pg	Pn	15 00 17.1	+13
UKT				*e*Sg	Sn	15 01 19.3	+19
UKT				Pmax			
	comp=E,4.0nm,0.8s						
UKT				Smax			
	comp=E,29nm,1.6s						
NLYR	**Nelyaty**	**6.35**	**48**	*e*Sg	Sn	15 02 09.6	+31
NLYR				Smax			
	comp=E,29nm,1.9s						
CRS	**Chara**	**7.77**	**52**	*e*Sg	Sn	15 02 51.7	+38
CRS				Smax			
	comp=E,39nm,1.9s						
TUP	**Tupik**	**7.88**	**71**	*e*Sg	Sn	15 02 54.7	+38
TUP				Smax			
	comp=E,24nm,1.8s						

*IDC **06** 15:08:20.2±1.1, 6.85S×129.95E, mb3.9/6, mb1 4.1/8, mb1mx4.0/14, mbtmp3.9/8, ML4.0/2, Error ellipse: s-maj=65.8km s-min=20.7km az=65.0*
*NEIC **06** 15:08:22.3±0.7, 6.90S×129.65E, h10km, Error ellipse: s-maj=22.4km s-min=8.9km az=74.0*

ISC 06 15:08:39.3±2.3, 7.76S±0.09×129.4E±0.1, h207km±26km, n13, σ1§08/19, mb3.5/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.92**	**199**	*e*P	**P**	**15 11 11.1**	**-0.1**
	16nm,0.6s						
FITZ				*e*S	**S**	**15 13 08.8**	**-1.5**
WRAB	**Tennant Creek**	**13.02**	**159**	*e*P	**P**	**15 11 37.8**	**+0.1**
	7.9nm,0.4s						
WRAB				*e*S	**S**	**15 13 54.6**	**-3.8**
WRA	**Warramunga Arr**	**13.02**	**159**	Pn	**P**	**15 11 37.9**	**+0.1**
	1.4nm,0.3s,baz=335,slow=14,SNR=58						
WRA				Sn	**S**	**15 13 57.4**	**-1.1**
	4.6nm,0.3s,baz=332,slow=23,SNR=15						
WB2	**Warramunga Arr**	**13.02**	**159**	*e*P	**P**	**15 11 37.6**	**-0.2**
WB2				*e*S	**S**	**15 13 58.1**	**-0.5**
MBWA	**Marble Bar**	**16.28**	**214**	*e*P	**P**	**15 12 20.3**	**+2.2**
ASAR	**Alice Springs**	**16.39**	**165**	Pn	**P**	**15 12 23.1**	**+3.6**
	0.5nm,0.3s,baz=339,slow=9.7,SNR=38						
ASAR				Sn	**S**	**15 15 23.9**	**+10**
	1.0nm,0.3s,baz=342,slow=25,SNR=8.6						
ASPA	**Alice Springs**	**16.39**	**165**	*e*P	**P**	**15 12 22.9**	**+3.4**
ASPA				*e*S	**S**	**15 15 15.4**	**+1.1**
STKA	**Stephens Creek**	**26.55**	**156**	P	**P**	**15 14 04.4**	**+4.3**
	1.0nm,0.6s,mb3.6,baz=310,slow=16,SNR=3.8						
CMAR	**Chiang Mai Arr**	**39.78**	**311**	P	**P**	**15 15 53.4**	**-0.5**
	1.6nm,0.9s,mb3.5,baz=141,slow=7.6,SNR=12						
SONM	**Songino Array**	**58.97**	**342**	P	**P**	**15 18 18.4**	**-0.8**
	0.3nm,0.5s,mb3.2,baz=155,slow=5.8,SNR=3.5						
MKAR	**Makanchi Array**	**68.54**	**327**	P	**P**	**15 19 21.3**	**-0.1**
	0.7nm,0.4s,mb3.7,baz=119,slow=7.2,SNR=22						
ZAL	**Zalesovo**	**72.00**	**334**	P	**P**	**15 19 42.2**	**0.0**
	0.7nm,0.4s,mb3.7,baz=356,slow=5.6,SNR=4.5						
ILAR	**Eielson Array**	**94.28**	**25**	P	**P**	**15 21 35.9**	**+0.1**
	0.3nm,0.7s,mb3.4,baz=258,slow=3.8,SNR=5.5						

*CSEM **06** 15:16:40.9±0.1, 46.20N×8.98E, h2km, ML2.5/10, Error ellipse: s-maj=1.6km s-min=1.0km az=114.0, Suspected Mining explosion.*
*LDG **06** 15:16:41.3±0.1, 46.29N×9.10E, h4km, Ml2.5/10, Error ellipse: s-maj=1.7km s-min=1.2km az=119.0*
*NEIC **06** 15:16:41.0, 46.30N×9.10E, ML2.5(VIE), ML2.5(LDG), ML2.4(STR), ML2.0(CSEM), ML1.9(ZUR), After ZUR.*
*STR **06** 15:16:43.3±2.8, 46.32N×9.06E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ZUR 06 15:16:41.0, 46.30N×9.12E, ML1.9/9, 8C, Suspected Mining explosion., Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VDL	**Val di Lei**	**0.31**	**52**⇑	*i*Pg	Pg	15 16 49.0	+1.8
VDL				*e*Sg	Sg	15 16 52.8	+1.5
FUSIO	**Fusio**	**0.35**	**297**⇑	*i*Pg	Pg	15 16 49.9	+1.9
FUSIO				*i* Sg	Sg	15 16 54.5	+1.8
MUGIO	**Muggio**	**0.38**	**188**	*e*Pg	Pg	15 16 50.5	+1.9
MUGIO				*i* Sg	Sg	15 16 55.9	+2.3
VAI	**Varese**	**0.49**	**209**	*e*Pg	Pg	15 16 53.0	+2.2
VAI				*e*Sg	Sg	15 16 59.5	+2.0
VAI	**Varese**	**0.49**	**209**	*e*Pg	Pg	15 16 53.0	+2.1
VAI				*e*Sg	Sg	15 16 59.5	+2.1
LLS	**Linth-Limmern**	**0.56**	**352**⇑	*i*Pg	Pg	15 16 53.7	+1.6
LLS				*i* Sg	Sg	15 17 01.0	+1.5
DAVOX	**Davos**	**0.71**	**47**⇑	*i*P*P	Pg	15 16 56.7	+1.4
DAVOX				*i* S*S	Sg	15 17 05.8	+1.0
BNALP	**Bannalp**	**0.74**	**321**⇑	*i*P*P	Pg	15 16 57.3	+1.4
BNALP				*i* S*S	Sg	15 17 07.2	+1.4
MUO	**Muotathal**	**0.75**	**334**	*e*P*P	Pg	15 16 57.6	+1.7
PLONS	**Plons**	**0.77**	**14**	*e*P*P	Pg	15 16 57.9	+1.5
HASLI	**Hasliberg**	**0.81**	**305**	*e*P*P	Pg	15 16 58.4	+1.3
HASLI				*e*S*S	Sg	15 17 09.1	+1.2
MCGN	**Macugnaga**	**0.85**	**247**	*e*Pg	Pg	15 16 59.1	+1.1
MCGN				*e*Sg	Sg	15 17 10.6	+1.2
MCGN	**Macugnaga**	**0.85**	**247**	*e*Pg	Pg	15 16 59.2	+1.1
MCGN				*e*Sg	Sg	15 17 10.6	+1.1
ORO	**Oropa**	**1.04**	**230**	*e*Pg	Pg	15 17 02.5	+0.8
ORO				*e*Sg	Sg	15 17 15.8	+0.3
ORO	**Oropa**	**1.04**	**230**	*e*Pg	Pg	15 17 02.5	+0.8
ORO				*e*Sg	Sg	15 17 15.8	+0.3
DAVA	**Damuels**	**1.12**	**28**⇑	*i*PG	Pg	15 17 04.5	+1.1
DAVA				*i* SG	Sg	15 17 17.7	-0.6
	8.4nm,0.2s						
BBS	**Basel-Blauen**	**1.60**	**317**	Pg	Pg	15 17 13.5	+0.5
BBS				Sg	Sg	15 17 34.7	+0.3
SQTA	**Sankt Quirin**	**1.71**	**57**⇑	*i*PN	Pn	15 17 14.8	+2.5
SQTA				*i* PG	Pg	15 17 16.7	+1.6
SQTA				*i* SN	Sn	15 17 36.2	+1.1
SQTA				*i* SG	Sg	15 17 38.5	+0.6
	6.0nm,0.2s						
MOTA	**Moosalm**	**1.72**	**52**⇑	*i*PN	Pn	15 17 14.9	+2.5
MOTA				*i* SN	Sn	15 17 36.0	+0.6
FELD	**Feldberg**	**1.75**	**335**	Pg	Pg	15 17 16.6	+0.6
FELD				Sg	Sg	15 17 39.8	+0.5
LPG	**La Plagne**	**1.83**	**245**	*e*Pn	Pn	15 17 12.0	-2.0
LPG				*e*Pg	Pg	15 17 15.3	-2.3
LPG				*e*Sn	Sn	15 17 34.4	-3.9
LPG				*e*Sg	Sg	15 17 39.0	-3.1
	3.2nm,0.2s						
LPL	**La Plagne**	**1.84**	**246**	*e*Pn	Pn	15 17 12.0	-2.1
LPL				*e*Pg	Pg	15 17 15.2	-2.5
LPL				*e*Sg	Sg	15 17 39.3	-2.9
	3.1nm,0.3s						
MOF	**Molkenrain**	**2.06**	**320**	Pg	Pg	15 17 22.1	-0.1
CABF	**La Chapelle**	**2.12**	**280**	*e*Pn	Pn	15 17 15.8	-2.3
CABF				*e*Pg	Pg	15 17 20.4	-2.8
CABF				*e*Sn	Sn	15 17 40.6	-4.9
CABF				*e*Sg	Sg	15 17 47.6	-3.9
	4.5nm,0.3s						
HINF	**Hinteralfeld**	**2.17**	**315**	*e*Pn	Pn	15 17 16.2	-2.6
HINF				*e*Pg	Pg	15 17 21.0	-3.3
HINF				*e*Sg	Sg	15 17 48.8	-4.4
	6.3nm,0.3s						
MBDF	**Montbardon**	**2.28**	**227**	*e*Pn	Pn	15 17 17.8	-2.6
MBDF				*e*Pg	Pg	15 17 23.4	-3.1
MBDF				*e*Sg	Sg	15 17 53.0	-3.8
	1.6nm,0.2s						
ECH	**Echery**	**2.34**	**326**	Pg	Pg	15 17 22.9	-4.7
CDF	**Champ du Feu**	**2.46**	**330**	*e*Pn	Pn	15 17 20.6	-2.3
CDF				*e*Sn	Sn	15 17 49.4	-4.7
CDF				*e*Sg	Sg	15 17 59.9	-2.9
	5.9nm,0.4s						
HAU	**Haudompre**	**2.55**	**313**	*e*Pn	Pn	15 17 21.6	-2.6
HAU				*e*Pg	Pg	15 17 28.0	-3.8
HAU				*e*Sn	Sn	15 17 50.9	-5.5
HAU				*e*Sg	Sg	15 18 00.5	-5.3
	6.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**2.66**	**240**	*e*Pn	Pn	15 17 23.0	-2.8
ORIF				*e*Pg	Pg	15 17 30.7	-3.3
ORIF				*e*Sn	Sn	15 17 54.1	-5.1
ORIF				*e*Sg	Sg	15 18 03.7	-5.8
	2.3nm,0.3s						
SBF	**Sospel**	**2.71**	**207**	*e*Pn	Pn	15 17 23.5	-3.1
SBF				*e*Sn	Sn	15 17 54.9	-5.6
	8.3nm,0.2s						
FRF	**La Foret Royal**	**3.25**	**214**	*e*Pn	Pn	15 17 30.7	-3.6
SFTF	**Sexfontaines**	**3.37**	**306**	*e*Pn	Pn	15 17 32.8	-3.1
SFTF				*e*Pg	Pg	15 17 43.2	-5.1
RFYF	**Reffroy**	**3.40**	**315**	*e*Pn	Pn	15 17 33.1	-3.2
RFYF				*e*Sn	Sn	15 18 11.2	-6.7
RFYF				*e*Sg	Sg	15 18 28.2	-5.9
	8.4nm,0.4s						

JMA 06 15:16:58.6, 33.69N×130.26E, h4km, M0.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFA	**Akaike**	**0.45**	**87**	P	Pg	15 17 07.7	+0.2
JII	**Iki**	**0.45**	**284**	P	Pg	15 17 07.7	0.0
JII				S	Sg	15 17 13.8	+0.1
JUR	**Ureshino**	**0.65**	**204**	S	Sg	15 17 19.6	-0.7

*NIED **06** 15:17:00, 33.70N×130.20E, h5km, Mw3.8 Best double couple: M0:5.79×10^14 NP1:φs=297°, δ87°, λ15°. NP2:φs=206°, δ75°, λ177°.*
*IDC **06** 15:17:24.0±16.0, 33.31N×130.14E, mb3.2/2, mb1 3.5/3, mb1mx3.2/23, mbtmp3.3/3, ML3.1/1, MS2.9/3, Ms1 3.0/3, ms1mx2.7/9, Error ellipse: s-maj=345.2km s-min=37.7km az=5.0*
*JMA **06** 15:17:24.8, 33.71N×130.24E, h5km, M4.0*
JMA Felt IV J1.

ISC 06 15:17:24.8±0.7, 33.71N±0.04×130.25E±0.04, h7km±6km, n10, σ0§76/15, mb3.2/2, MS2.9/2, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.30**	**157**	⇑P	**Pg**	**15 17 31.0**	**0.0**
JFI				S	**Sg**	**15 17 35.6**	**+0.5**
JII	**Iki**	**0.44**	**282**	⇓P	**Pg**	**15 17 33.5**	**-0.2**
JII				S	**Sg**	**15 17 39.4**	**-0.2**
JFA	**Akaike**	**0.46**	**89**	⇓P	**Pg**	**15 17 33.7**	**-0.3**
JFA				S	**Sg**	**15 17 40.8**	**+0.6**
JTA	**Tamana**	**0.78**	**162**	⇑P	**Pb**	**15 17 39.7**	**-0.5**
JTA				S	**Sb**	**15 17 50.5**	**-0.2**
JTU	**Tsushima**	**1.08**	**319**	⇑P	**Pb**	**15 17 45.0**	**-0.4**
JTU				S	**Sb**	**15 17 59.5**	**+0.1**
MAT	**Matsushiro**	**7.11**	**64**	P	**Pn**	**15 19 09.0**	**-2.8**
MAT				*e*S	**Sn**	**15 20 33.3**	**-0.4**
MJAR	**Matsushiro Arr**	**7.11**	**64**	Pn	**Pn**	**15 19 12.2**	**+0.3**
	0.3nm,0.3s,baz=246,slow=13,SNR=5.7						
MJAR				LR	LR	15 22 14.8	
	comp=Z,64nm,21.6s,baz=70,slow=39						
SONM	**Songino Array**	**22.80**	**315**	P	**P**	**15 22 30.3**	**+1.2**
	0.6nm,0.9s,mb3.0,baz=129,slow=9.2,SNR=5.0						
SONM				LR	LR	15 31 00.2	
	comp=Z,45nm,19.0s,MS2.9,baz=74,slow=36						
CMAR	**Chiang Mai Arr**	**31.80**	**249**	LR	LR	15 35 51.6	
	comp=Z,23nm,20.3s,MS2.9,baz=261,slow=35						
ILAR	**Eielson Array**	**57.08**	**30**	P	**P**	**15 27 14.8**	**+1.1**
	0.2nm,0.6s,mb3.3,baz=286,slow=8.0,SNR=4.9						

JSN 06 15:22:20.1±0.7, 18.98N×81.30W, h15km, MD4.4, 3C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	**Malvern**	**3.58**	**106**⇑	*i*P	Pn	15 23 14.4	-2.0
MCJ				*e*S	Sn	15 23 54.6	-4.3
PCJ	**Portland Cotta**	**4.12**	**107**⇑	*i*P	Pn	15 23 21.2	-2.8
PCJ				*e*S	Sn	15 24 08.3	-4.1
STH	**Stony Hill**	**4.35**	**101**⇑	*e*P	Pn	15 23 24.9	-2.4
STH				*e*S	Sn	15 24 12.8	-5.5

IDC 06 15:24:14.9±3.1, 61.62S×154.98E, mb3.9/3, mb1 4.2/4, mb1mx4.0/12, mbtmp4.0/4, ML4.2/1, MS4.2/10, Ms1 4.2/10, ms1mx3.9/18, Error ellipse: s-maj=190.2km s-min=37.7km az=73.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**8.26**	**226**	L		15 28 00.0	
VNDA	**Vanda**	**16.13**	**175**	Pn	P	15 28 02.5	-1.7
	0.9nm,0.3s,baz=346,slow=12,SNR=34						
VNDA				Sn	S	15 30 59.9	-4.1
	0.2nm,0.3s,baz=225,slow=8.6,SNR=4.2						
VNDA				LR	LR	15 33 48.1	
	comp=Z,1μm,19.3s,baz=356,slow=36						
RPZ	**Rata Peaks**	**20.30**	**35**	LR	LR	15 35 08.7	
	comp=Z,1μm,18.7s,baz=347,slow=32						
STKA	**Stephens Creek**	**31.00**	**338**	LR	LR	15 42 21.9	
	comp=Z,296nm,18.0s,baz=13,slow=35						
NWAO	**Narrogin (SRO)**	**37.53**	**302**	LR	LR	15 42 57.5	
	comp=Z,436nm,20.0s,baz=323,slow=30						
DZM	**Mont Dzumac**	**40.31**	**17**	LR	LR	15 44 44.7	
	comp=Z,457nm,18.9s,baz=192,slow=30						
ASAR	**Alice Springs**	**40.58**	**330**	P	P	15 31 56.5	-1.2
	0.9nm,0.9s,baz=165,slow=8.7,SNR=9.3						
ASAR				LR	LR	15 46 16.3	
	comp=Z,142nm,19.4s,baz=164,slow=33						
WRA	**Warramunga Arr**	**44.07**	**332**	P	P	15 32 23.6	-2.5
	0.9nm,0.6s,baz=162,slow=7.3,SNR=14						
WRA				PcP	PcP	15 34 09.7	-2.4
	0.5nm,0.9s,baz=164,slow=3.0,SNR=4.6						
FITZ	**Fitzroy Crossi**	**48.13**	**321**	P	P	15 32 56.4	-1.9
	3.5nm,0.7s,baz=174,slow=10,SNR=5.4						
AFI	**Afiamalu**	**53.28**	**42**	LR	LR	15 51 26.9	
	comp=Z,196nm,19.2s,baz=155,slow=31						
TBI	**Tubuai**	**53.52**	**71**	*e*LQ		15 46 04.9	
TBI				*e*LR	LR	15 48 41.0	
	109nm,28.0s						
PPT	**Papeete**	**58.53**	**67**	*e*LQ		15 48 23.3	
PPT				*e*LR	LR	15 50 52.7	
	150nm,27.5s						
PPT	**Papeete**	**58.53**	**67**	LR	LR	15 52 50.9	
	comp=Z,189nm,19.5s,baz=259,slow=29						
RKT	**Rikitea**	**60.46**	**84**	*e*LR	LR	15 51 58.2	
	210nm,29.0s						
CMAR	**Chiang Mai Arr**	**91.32**	**308**	LR	LR	16 12 51.8	
	comp=Z,84nm,20.2s,baz=145,slow=32						
MJAR	**Matsushiro Arr**	**98.76**	**346**	LR	LR	16 23 43.6	
	comp=Z,48nm,18.4s,baz=320,slow=36						

*IDC **06** 15:28:42.9±0.8, 11.72N×143.03E, mb3.9/11, mb1 4.1/11, mb1mx4.0/22, mbtmp3.9/11, Error ellipse: s-maj=30.1km s-min=20.0km az=103.0*
*NEIC **06** 15:28:44.5±0.6, 11.71N×143.04E, h10km, mb4.2/1, Error ellipse: s-maj=19.7km s-min=12.5km az=122.0*

ISC 06 15:28:46.3±0.7, 11.7N±0.1×143.0E±0.1, h33km, n15, σ1§10/15, mb3.9/12, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.62**	**43**	*e*P	**P**	**15 29 26.0**	**-1.2**
WRA	**Warramunga Arr**	**32.56**	**195**	P	**P**	**15 35 15.8**	**-1.0**
	1.0nm,0.9s,mb3.7,baz=20,slow=9.4,SNR=8.5						
ASAR	**Alice Springs**	**36.24**	**194**	P	**P**	**15 35 48.5**	**+0.2**
	0.4nm,0.7s,mb3.5,baz=8.1,slow=13,SNR=4.1						
CMAR	**Chiang Mai Arr**	**43.02**	**285**	P	**P**	**15 36 45.1**	**+0.4**
	0.6nm,0.6s,mb3.5,baz=90,slow=5.5,SNR=4.7						
SONM	**Songino Array**	**47.30**	**327**	P	**P**	**15 37 19.1**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=135,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**61.64**	**317**	P	**P**	**15 39 02.0**	**-1.1**
	0.2nm,0.5s,mb3.5,baz=94,slow=8.5,SNR=8.5						
ILAR	**Eielson Array**	**71.06**	**25**	P	**P**	**15 40 01.1**	**-1.6**
	0.4nm,0.4s,mb3.7,baz=252,slow=6.0,SNR=11						
INK	**Inuvik**	**76.81**	**22**	P	**P**	**15 40 36.5**	**+0.4**
	1.1nm,0.3s,mb4.2,baz=180,slow=6.1,SNR=4.5						
INK	**Inuvik**	**76.81**	**22**	P	**P**	**15 40 36.5**	**+0.4**
YKA	**Yellowknife Ar**	**85.38**	**27**	P	**P**	**15 41 22.7**	**+1.5**
	0.4nm,0.4s,mb3.9,baz=287,slow=5.0,SNR=7.2						
YKA	**Yellowknife Ar**	**85.38**	**27**	P	**P**	**15 41 22.7**	**+1.5**
RES	**Resolute Bay**	**86.82**	**13**	P	**P**	**15 41 29.0**	**+1.0**
	1.3nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**88.34**	**342**	P	**P**	**15 41 35.6**	**+0.2**
	11nm,1.1s,mb5.0,baz=59,slow=7.1,SNR=4.5						
NVAR	**Mina Array Bea**	**89.52**	**51**	P	**P**	**15 41 43.9**	**+2.1**
	0.3nm,0.4s,mb4.0,baz=263,slow=7.3,SNR=2.6						
FINES	**FINESS Array B**	**92.12**	**335**	P	**P**	**15 41 52.0**	**-1.3**
	1.8nm,0.9s,mb4.4,baz=53,slow=3.9,SNR=5.6						

JMA 06 15:40:36.3±0.3, 31.86N×142.69E, M3.9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.73**	**298**	*e*S	Sn	15 41 57.2	+0.8
JOD2	**Odawara 2**	**4.53**	**319**	P	Pn	15 41 48.0	+0.2
JHU	**Hanno**	**4.89**	**325**	P	Pn	15 41 53.3	+0.5
JHU				*e*S	Sn	15 42 49.6	-1.4
JHO	**Hitachi**	**5.05**	**340**	P	Pn	15 41 55.2	0.0
JHO				*e*S	Sn	15 42 53.2	-2.0
JRY	**Ryogami san**	**5.21**	**324**	P	Pn	15 41 58.1	+0.8
JAG	**Ashikaga**	**5.29**	**330**	P	Pn	15 41 59.1	+0.7
JAG				*e*S	Sn	15 43 02.5	+1.5
JFK	**Kawauchi**	**5.69**	**345**	*e*S	Sn	15 43 07.6	-3.6

JMA 06 15:48:15.6±0.4, 33.14N×142.45E, h69km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.94**	**321**	P	P	15 48 46.9	-0.2
BSO1				*e*S	S	15 49 10.5	+0.2
JHJ2	**Mitsune**	**2.21**	**270**	P	P	15 48 50.8	0.0
BSO3	**Boso 3**	**2.31**	**316**	P	P	15 48 52.5	+0.2
BSO3				*e*S	S	15 49 20.1	+0.6
BSO4	**Boso 4**	**2.54**	**317**	P	P	15 48 56.4	+0.8
JIM2	**Oshima 3**	**2.96**	**303**	*e*S	S	15 49 36.5	+0.6
JOD2	**Odawara 2**	**3.50**	**308**	P	P	15 49 08.0	-0.9
JYN	**Shimob**	**4.00**	**307**	P	P	15 49 16.0	+0.1
JRY	**Ryogami san**	**4.10**	**315**	P	P	15 49 17.7	+0.4
JRY				*e*S	S	15 50 05.1	+0.7
JAG	**Ashikaga**	**4.10**	**324**	P	P	15 49 17.1	-0.2
MAT	**Matsushiro**	**4.87**	**315**	P	P	15 49 28.9	+0.9
MAT				S	S	15 50 22.2	-1.4
JMM	**Marumori**	**4.91**	**344**	P	P	15 49 26.4	-2.1
JMM				*e*S	S	15 50 19.3	-5.2
JMK	**Ichinoseki**	**5.88**	**351**	P	P	15 49 39.7	-2.3
JMK				*e*S	S	15 50 43.3	-5.6

*MOS **06** 16:04:07.8±1.6, 51.61N×16.25E, h10km, mb3.8/1, Error ellipse: s-maj=12.9km s-min=6.1km az=77.8*
*NEIC **06** 16:04:09.8±0.6, 51.55N×16.20E, h5km, ML3.2(VIE), ML2.9(SZGRF), Error ellipse: s-maj=7.3km s-min=5.2km az=191.0*
*CSEM **06** 16:04

PRU			smax			
	comp=N,15nm,0.2s					
PRU	**Pruhonice**	**1.78 216**	*e*PN	**Pn**	**16 04 42.0**	**+1.0**
PRU			*e*PG	**Pg**	**16 04 43.9**	**-0.3**
PRU			*e*SG	**Sg**	**16 05 08.6**	**+0.7**
	comp=N,15nm,0.2s					
PRU	**Pruhonice**	**1.78 216**	*e*Pn	**Pn**	**16 04 41.9**	**+0.9**
RUE	**Ruedersdorf**	**1.79 306**	*e*Pn	**Pn**	**16 04 40.9**	**-0.3**
RUE			*e*Sg	**Sg**	**16 05 06.8**	**-1.6**
MORC	**Moravsky Berou**	**1.89 151**	*e*P	**Pn**	**16 04 43.6**	**+1.0**
MORC	**Moravsky Berou**	**1.89 151**	*e*Pn	**Pn**	**16 04 44.0**	**+1.4**
MORC			*e*Sg	**Sg**	**16 05 11.2**	**-0.6**
	comp=N,17nm,0.3s					
CLL	**Collm**	**1.97 267**	*i* PG	**Pg**	**16 04 47.4**	**-0.7**
CLL			*i* SG	**Sg**	**16 05 13.2**	**-1.2**
CLL			*i*		16 05 51.2	
OKC	**Ostrava-Krasne**	**2.05 141**	*e*P	**Pg**	**16 04 49.6**	**-0.1**
OKC			*e*		16 05 16.3	
OKC			smax			
	comp=N,33nm,0.5s					
OKC	**Ostrava-Krasne**	**2.05 141**	*e*PG	**Pg**	**16 04 49.6**	**-0.1**
OKC			*e*SG	**Sg**	**16 05 16.3**	**-0.8**
	comp=N,33nm,0.5s					
OKC	**Ostrava-Krasne**	**2.05 141**	*e*Pg	**Pg**	**16 04 49.5**	**-0.2**
OKC			Sg	**Sg**	**16 05 16.3**	**-0.8**
	comp=N,33nm,0.5s					
VRAC	**Vranov**	**2.16 172**	Pn	**Pn**	**16 04 49.4**	**+3.0**
	comp=N,3.3nm,0.3s,baz=349,slow=14,SNR=6.7					
VRAC			Lg		16 05 19.9	
	comp=N,5.2nm,0.3s,baz=79,slow=17,SNR=6.9					
VRAC	**Vranov**	**2.16 172**	*e*Pn	**Pn**	**16 04 49.1**	**+2.7**
VRAC			*e*Sg	**Sg**	**16 05 19.3**	**-1.3**
	comp=N,14nm,0.3s					
KRUC	**Moravsky**	**2.39 176**	*e*Sg	**Sg**	**16 05 28.2**	**-0.1**
	comp=N,8.7nm,0.3s					
OJC	**Ojcow**	**2.62 116**	*e*Pg	**Pg**	**16 05 01.6**	**+0.5**
OJC			*e*Sg	**Sg**	**16 05 36.9**	**+0.8**
NKC	**Novy Kostel**	**2.64 244**	*e*P	**Pn**	**16 04 54.2**	**+0.9**
NKC			*e*		16 05 36.3	
NKC			smax			
	comp=N,29nm,0.3s					
NKC	**Novy Kostel**	**2.64 244**	*e*Pn	**Pn**	**16 04 54.2**	**+0.9**
NKC			*e*Pg	**Pg**	**16 04 59.9**	**-1.5**
NKC			*e*Sg	**Sg**	**16 05 36.3**	**-0.2**
NKC	**Novy Kostel**	**2.64 244**	*e*PN	**Pn**	**16 04 54.2**	**+0.9**
NKC			*e*PG	**Pg**	**16 04 59.9**	**-1.5**
NKC			x	x	16 05 03.0	
NKC			*e*SG	**Sg**	**16 05 36.3**	**-0.2**
	comp=N,29nm,0.3s					
KHC	**Kasperske Hory**	**2.84 216**	*e*P	**Pn**	**16 04 57.3**	**+1.1**
KHC			*e*		16 05 31.6	
KHC			smax			
	comp=N,14nm,0.3s					
KHC	**Kasperske Hory**	**2.84 216**	*e*PN	**Pn**	**16 04 57.3**	**+1.1**
KHC			*e*PG	**Pg**	**16 05 03.3**	**-2.1**
KHC			*e*SN	**Sn**	**16 05 31.6**	**0.0**
KHC			*e*SG	**Sg**	**16 05 42.9**	**-0.4**
	comp=N,14nm,0.3s					
MOX	**Moxa**	**2.97 256**	*e*P	**Pg**	**16 05 06.9**	**-1.1**
MOX	**Moxa**	**2.97 256**	*i* P	**Pn**	**16 04 58.5**	**+0.5**
MOX			Pg	**Pg**	**16 05 07.0**	**-1.0**
MOX			Sg	**Sg**	**16 05 47.0**	**-0.5**
MOX	**Moxa**	**2.97 256**	*e*Pg	**Pg**	**16 05 06.3**	**-1.7**
MOX			*e*Sg	**Sg**	**16 05 45.6**	**-1.9**
GEC2	**GERESS Array S**	**3.04 212**	*e*Pn	**Pn**	**16 05 01.0**	**+2.0**
GERES	**GERESS Array B**	**3.04 212**	Pn	**Pn**	**16 05 00.8**	**+1.8**
	comp=N,0.9nm,0.3s,baz=22,slow=13,SNR=21					
GERES			Pg	**Pg**	**16 05 07.0**	**-2.4**
	comp=N,4.0nm,0.3s,baz=28,slow=17,SNR=35					
GERES			Lg		16 05 46.2	
	comp=N,4.0nm,0.3s,baz=35,slow=28,SNR=9.9					
GERES	**GERESS Array B**	**3.04 212**	Pg	**Pg**	**16 05 07.0**	**-2.4**
SMOL	**Smolenice**	**3.05 164**	*e*PG	**Pg**	**16 05 10.0**	**+0.4**
WET	**Wettzell**	**3.11 224**	*e*Pn	**Pn**	**16 05 01.1**	**+1.1**
WET	**Wettzell**	**3.11 224**	*e*Pn	**Pn**	**16 05 00.8**	**+0.8**
ZST	**Bratislava**	**3.31 169**	*e*PN	**Pn**	**16 05 01.1**	**-1.8**
NIE	**Niedzica**	**3.35 126**	*e*P	**Pg**	**16 05 12.6**	**-3.0**
NIE			*e*S	**Sg**	**16 05 57.0**	**-3.3**
VYHS	**Vyhne**	**3.43 148**	*e*PN	**Pn**	**16 05 04.9**	**+0.4**
VYHS			*e*PG	**Pg**	**16 05 14.0**	**-3.2**
VYHS			*e*SG	**Sg**	**16 06 00.3**	**-2.5**
GRA1	**Grafenberg Arr**	**3.59 243**	*e*Pn	**Pn**	**16 05 07.9**	**+1.0**
GRA1			*e*Sg	**Sg**	**16 06 03.3**	**-5.1**
GRF	**Grafenberg Arr**	**3.59 243**	*e*Pn	**Pn**	**16 05 07.9**	**+1.0**
GRF			*e*Sg	**Sg**	**16 06 03.3**	**-5.1**
MOA	**Molln**	**3.80 199**	⇑*i*PN	**Pn**	**16 05 11.1**	**+1.3**
MOA			*i* SG	**Sg**	**16 06 13.1**	**-2.1**
	comp=N,7.6nm,0.3s					
ARSA	**Arzberg**	**4.22 186**	⇑*i*PN	**Pn**	**16 05 16.5**	**+0.8**
ARSA			*i* SG	**Sg**	**16 06 25.3**	**-3.8**
	comp=N,14nm,0.6s					
KBA	**Koelnbreinsper**	**4.74 204**	⇑*i*PN	**Pn**	**16 05 24.2**	**+1.1**
KBA			*i* SG	**Sg**	**16 06 43.9**	**-2.6**
	comp=N,6.8nm,0.5s					
AKASG	**Malin Array Be**	**8.28 90**	P	**P**	**16 06 09.1**	**-3.8**
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.3s					
AKASG	**Malin Array Be**	**8.28 90**	Pn	**P**	**16 06 09.1**	**-3.8**
	comp=Z,0.8nm,0.3s,baz=279,slow=12,SNR=4.7					
HFS	**Hagfors**	**8.82 352**	Pn	**P**	**16 06 16.3**	**-4.2**
	comp=Z,0.0nm,0.3s,baz=165,slow=16,SNR=3.5					
FINES	**FINESS Array B**	**11.42 25**	Pn	**P**	**16 06 51.6**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=207,slow=13,SNR=3.9					
ARCES	**ARCESS Array B**	**18.69 10**	Pn	**P**	**16 08 25.3**	**-4.9**
	comp=Z,0.2nm,0.3s,baz=197,slow=13,SNR=6.4					

JMA 06 16:09:35.0, 33.73N×130.20E, h9km, M1.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.34**	**152**	P	Pg	16 09 41.8	-0.2
JFI				S	Sg	16 09 46.5	-0.2
JII	**Iki**	**0.40**	**280**	P	Pg	16 09 43.0	-0.1
JII				S	Sg	16 09 48.3	-0.1
JFA	**Akaike**	**0.50**	**92**	P	Pg	16 09 44.6	-0.4
JFA				S	Sg	16 09 51.5	-0.2
JTA	**Tamana**	**0.81**	**160**	P	Pb	16 09 50.3	-0.6

NIED ***06*** *16:09:00, 33.70N×130.30E, h11km, Mw3.3 Best double couple: M0 1.13×10^14 NP1:φs 51°, δ89°, λ155°. NP2:φs 141°, δ65°, λ1°.*

JMA 06 16:09:48.7, 33.67N×130.32E, h12km, M3.5, 2C-2D Broadband fault plane solution: P waves. NP1:φs 48°, δ76°, λ167°. NP2:φs 142°, δ77°, λ14°. Principal axes: T Plg19°, Azm5°; N Plg71°, Azm182°; P Plg1°, Azm275°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.25**	**167**	⇑P	Pg	16 09 54.0	-0.1
JFI				S	Sg	16 09 57.7	0.0
JFA	**Akaike**	**0.40**	**84**	⇓P	Pg	16 09 56.5	-0.4
JFA				S	Sg	16 10 02.1	-0.3
JII	**Iki**	**0.51**	**284**	⇓P	Pb	16 09 58.7	-0.3
JII				S	Sg	16 10 05.9	0.0
JTA	**Tamana**	**0.73**	**166**	⇑P	Pb	16 10 02.5	-0.3
JTA				S	Sb	16 10 12.0	-0.4

IDC 06 16:20:22.3±2.2, 12.47N×91.57E, mb3.3/4, mb1 3.5/5, mb1mx3.3/20, mbtmp3.3/5, ML3.4/1 Error ellipse: s-maj=65.0km s-min=24.3km az=69.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.27**	**49**	Pn	P	16 22 39.3	-0.9
	0.1nm,0.3s,baz=237,slow=15,SNR=4.8						
MKAR	**Makanchi Array**	**35.09**	**349**	P	P	16 27 17.6	-1.6
	0.7nm,0.8s,baz=170,slow=8.8,SNR=5.0						
SONM	**Songino Array**	**37.37**	**17**	P	P	16 27 35.0	-3.4
	0.2nm,0.6s,baz=200,slow=7.5,SNR=2.2						
WRA	**Warramunga Arr**	**53.01**	**127**	P	P	16 29 41.1	-2.3
	0.3nm,0.8s,baz=305,slow=7.9,SNR=3.3						
ASAR	**Alice Springs**	**54.81**	**131**	P	P	16 29 54.8	-1.9
	0.2nm,0.5s,baz=305,slow=6.7,SNR=8.3						

CSEM ***06*** *16:20:47.0±1.0, 38.51N×28.61W, h17km±7km, ML2.0, Error ellipse: s-maj=9.9km s-min=3.8km az=32.0, After PDA*

PDA ***06*** *16:20:47.0±1.0, 38.51N×28.61W, h17km±7km, MD2.9, ML2.0, Error ellipse: s-maj=9.9km s-min=3.8km az=32.0*

SVSA 06 16:20:47.0±1.0, 38.51N×28.61W, h17km±7km, MD2.9, ML2.0, Error ellipse: s-maj=9.9km s-min=3.8km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.03**	**324**	*e*P	Pb	16 20 49.5	-0.5
HOR				*e*S	Sb	16 20 51.5	-0.5
CALA	**Caldeira**	**0.10**	**317**	*e*P	Pb	16 20 50.4	-0.2
CALA				*e*S	Sb	16 20 52.8	-0.2
PCED	**Cedros**	**0.14**	**330**	*e*P	Pb	16 20 50.2	-0.9
PCED				*e*S	Sb	16 20 52.8	-1.0
	95nm,0.1s						
PCED	**Cedros**	**0.14**	**330**	*e*P	Pb	16 20 50.2	-0.9
PCED				*e*S	Sb	16 20 52.8	-1.0
	95nm,0.1s						
PICO	**Pico**	**0.14**	**92**	*i* P	Pb	16 20 50.5	-0.6
PICO				*e*S	Sb	16 20 53.0	-0.8
PICO	**Pico**	**0.14**	**92**	*e*S	Sb	16 20 53.0	-0.8
PMAN	**Manadas**	**0.43**	**73**	*e*S	Sb	16 20 59.9	-1.7
	55nm,0.1s						

OTT 06 16:25:33.6±0.2, 52.91N×66.93W, MN2.9/8, Blast, Labrador City, NI Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**1.93**	**2**	PN	Pn	16 26 07.9	-0.1
SCHQ				SG	Sg	16 26 33.4	-4.3
SCHQ				Trac		16 26 36.1	
	comp=Z,67nm,0.5s						
MNQ	**Manicouagan**	**2.64**	**206**	PN	Pn	16 26 17.2	-1.0
MNQ				SN	Sn	16 26 51.2	-0.3
MNQ				Trac		16 26 58.9	
	comp=Z,12nm,0.1s						
SMQ	**Clarke City**	**2.70**	**177**	PN	Pn	16 26 17.5	-1.5
SMQ				SN	Sn	16 26 51.8	-1.0
SMQ				Trac		16 26 58.3	
	comp=Z,22nm,0.2s						
ICQ	**Pointe Anglais**	**3.40**	**184**	PN	Pn	16 26 26.8	-2.2
ICQ				SN	Sn	16 27 07.2	-3.5
ICQ				Trac		16 27 14.1	
	comp=Z,5.3nm,0.1s						
CNQ	**Baie Comeau**	**3.69**	**192**	PN	Pn	16 26 31.9	-1.1
CNQ				SN	Sn	16 27 15.7	-2.2
CNQ				Trac		16 27 35.5	
	comp=Z,6.6nm,0.1s						
GSQ	**Grosses Roches**	**4.01**	**182**	PN	Pn	16 26 35.6	-2.0
GSQ				SN	Sn	16 27 23.8	-2.2
GSQ				SG	Sg	16 27 39.2	-7.9
GSQ				Trac		16 27 42.1	
	comp=Z,5.4nm,0.2s						
LG4Q	**La Grande 4**	**4.36**	**282**	PN	Pn	16 26 40.0	-2.7
LG4Q				SG	Sg	16 27 47.8	-11
LG4Q				Trac		16 27 52.1	
	comp=Z,9.0nm,0.3s						
DAQ	**Lac Daran**	**5.67**	**211**	PN	Pn	16 26 58.9	-2.2
DAQ				SN	Sn	16 28 04.4	-3.5
DAQ				SG	Sg	16 28 33.0	-9.3
LMQ	**La Malbaie**	**5.79**	**203**	PN	Pn	16 27 00.4	-2.6
LMQ				SN	Sn	16 28 08.0	-3.1
DRLN	**Deer Lake**	**6.97**	**118**	PN	Pn	16 27 15.6	-4.0
DRLN				SN	Sn	16 28 24.0	-17
DRLN				Trac		16 28 36.7	
	comp=Z,4.3nm,0.3s						
LMN	**Caledonia Moun**	**7.20**	**168**	PN	Pn	16 27 18.3	-4.5
VLDQ	**Val d'Or**	**8.25**	**239**	PN	P	16 27 34.5	-2.9
MALO	**McAlpine Lake**	**8.52**	**255**	PN	P	16 27 35.6	-5.6
VIMO	**Victor Mine**	**10.17**	**276**	PN	P	16 27 55.8	-8.1
SILO	**Sutton Inlier**	**10.78**	**286**	PN	P	16 28 07.1	-5.1

IDC 06 16:26:05.5±2.3, 6.72N×124.73E, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=218.8km s-min=26.3km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.13**	**161**	P	P	16 31 59.6	-1.8
	0.3nm,0.3s,baz=341,slow=9.0,SNR=13						
ASAR	**Alice Springs**	**31.50**	**164**	P	P	16 32 29.0	-2.5
	0.2nm,0.3s,baz=338,slow=7.5,SNR=6.4						
MKAR	**Makanchi Array**	**53.98**	**325**	P	P	16 35 31.3	-2.1
	0.2nm,0.3s,baz=120,slow=7.3,SNR=6.0						

IDC ***06*** *16:41:49.1±1.0, 5.40N×93.21E, mb4.0/10, mb1 4.2/11, mb1mx4.0/21, mbtmp4.0/11, ML3.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/26, Error ellipse: s-maj=42.5km s-min=18.4km az=52.0*

BJI ***06*** *16:41:53.6, 5.40N×93.30E, h30km, mb4.5*

NEIC ***06*** *16:41:53.6±0.4, 5.43N×93.28E, h30km, mb4.3/8, Error ellipse: s-maj=11.0km s-min=5.9km az=50.0*

ISC 06 16:41:51.9±0.7, 5.39N±0.08×93.31E±0.09, h30km, n31, σ0 65/30, mb4.2/19, MS3.5/1, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.30**	**90**	*e*P	**Pn**	**16 43 38.9**	**-0.5**
CM31	**Chiang Mai Arr**	**14.11**	**22**	*e*P	**P**	**16 45 11.7**	**-0.4**
	9.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.11**	**22**	Pn	**P**	**16 45 11.7**	**-0.4**
	0.1nm,0.3s,baz=218,slow=14,SNR=26						
CMAR				LR	LR	16 51 22.0	
	comp=Z,62nm,19.9s,baz=210,slow=40						
NANT	**Nan**	**15.15**	**28**	P	**P**	**16 45 27.0**	**+1.2**
QIZ	**Qiongzhong**	**21.06**	**49**	P	**P**	**16 46 36.5**	**+0.4**
JIRN	**Jiri**	**23.16**	**344**	*e*P	**P**	**16 46 57.2**	**+0.2**
	7.0nm,0.6s,mb4.3						
PKI	**Pulchoki**	**23.31**	**342**	*e*P	**P**	**16 46 58.7**	**+0.3**
DMN	**Daman**	**23.44**	**341**	*e*P	**P**	**16 46 59.8**	**+0.1**
KKN	**Kakani**	**23.55**	**342**	*e*P	**P**	**16 47 01.0**	**+0.2**
	7.5nm,0.7s,mb4.2						
GKN	**Gorkha**	**23.96**	**341**	*e*P	**P**	**16 47 05.6**	**+0.9**
	11nm,0.6s,mb4.4						
KOLN	**Kolkanda**	**24.10**	**339**	*e*P	**P**	**16 47 07.1**	**+0.9**
	20nm,0.8s,mb4.6						
LSA	**Lhasa**	**24.27**	**355**	*e*P	**P**	**16 47 13.0**	**+5.2**
LSA	**Lhasa**	**24.27**	**355**	P	**P**	**16 47 07.3**	**-0.5**
	7.4nm,0.6s,mb4.3						
GYA	**Guiyang**	**24.53**	**30**	⇑*i*P	**P**	**16 47 10.9**	**+0.6**
GYA				AP		16 47 19.1	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
ENH	**Enshi**	**29.07**	**30**	P	**P**	**16 47 50.7**	**-1.3**
	comp=Z,3.2nm,0.5s,mb4.3						
MKAR	**Makanchi Array**	**42.34**	**349**	P	**P**	**16 49 44.7**	**-0.2**
	comp=Z,2.1nm,0.7s,mb3.9,baz=169,slow=8.6,SNR=24						
MKAR	**Makanchi Array**	**42.34**	**349**	P	**P**	**16 49 44.7**	**-0.2**
SONM	**Songino Array**	**43.75**	**13**	P	**P**	**16 49 55.8**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.5,baz=198,slow=7.4,SNR=8.3						
WRA	**Warramunga Arr**	**47.54**	**123**	P	**P**	**16 50 27.4**	**+0.5**
	comp=Z,2.5nm,0.7s,mb4.3,baz=302,slow=9.2,SNR=15						
WRAB	**Tennant Creek**	**47.55**	**123**	*e*P	**P**	**16 50 26.9**	**0.0**
	comp=Z,5.8nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**47.55**	**123**	*e*P	**P**	**16 50 27.1**	**+0.1**
ZAL	**Zalesovo**	**48.90**	**353**	P	**P**	**16 50 37.6**	**+0.7**
	comp=Z,1.4nm,0.5s,mb4.2,baz=315,slow=6.4,SNR=6.6						
ASAR	**Alice Springs**	**49.00**	**128**	P	**P**	**16 50 38.6**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.5,baz=302,slow=7.8,SNR=9.7						
BVAR	**Borovoye Array**	**51.08**	**342**	P	**P**	**16 50 52.6**	**-1.1**
	comp=Z,2.0nm,0.7s,mb4.2,baz=140,slow=8.9,SNR=14						
MJAR	**Matsushiro Arr**	**51.44**	**47**	LR	LR	17 12 19.2	
	comp=Z,53nm,21.5s,MS3.5,baz=210,slow=36						
CHKZ	**Chkalovo**	**51.58**	**343**	*e*P	**P**	**16 50 56.6**	**-0.8**
	comp=Z,2.9nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**63.45**	**312**	P	**P**	**16 52 20.5**	**-0.9**
	comp=Z,0.7nm,0.7s,mb3.9,baz=117,slow=8.3,SNR=5.2						
FINES	**FINESS Array B**	**74.52**	**333**	P	**P**	**16 53 28.6**	**-0.7**
	comp=Z,1.3nm,0.6s,mb4.0,baz=90,slow=1.9,SNR=7.6						
ARCES	**ARCESS Array B**	**77.32**	**340**	P	**P**	**16 53 44.9**	**-0.1**
	comp=Z,22nm,1.3s,mb5.0,baz=90,slow=5.0,SNR=8.4						
ARCES	**ARCESS Array B**	**77.32**	**340**	P	**P**	**16 53 44.9**	**-0.1**
GERES	**GERESS Array B**	**79.13**	**319**	P	**P**	**16 53 56.1**	**+0.8**
	comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=14						

OTT 06 16:45:39.5±0.5, 47.69N×91.83W, MN3.0/12, Blast, Minnesota, U.S. Mining explosion., Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.35**	**41**	PG	Pg	16 45 45.6	-0.8
EYMN				SG	Sg	16 45 51.0	0.0
ATKO	**Atikokan Iron**	**1.15**	**8**	PG	Pg	16 46 00.1	-2.3
ATKO				SG	Sg	16 46 16.7	-1.0
ATKO				Trac		16 46 18.1	
	comp=Z,7.6nm,0.0s						
TBO	**Thunder Bay**	**1.89**	**58**	PN	Pn	16 46 12.5	-0.8
TBO				SG	Sg	16 46 40.1	-2.2
TBO				Trac		16 46 43.0	
	comp=Z,42nm,0.1s						
LDIO	**Lac des Isle M**	**2.11**	**44**	PN	Pn	16 46 17.9	+1.5
LDIO				SN	Sn	16 46 42.6	-1.1
LDIO				SG	Sg	16 46 47.1	-2.5
LDIO				Trac		16 46 50.1	
	comp=Z,24nm,0.1s						
SOLO	**Sioux Lookout**	**2.34**	**356**	PN	Pn	16 46 18.8	-1.0
SOLO				SN	Sn	16 46 49.8	0.0
SOLO				Trac		16 46 57.6	
	comp=Z,9.6nm,0.1s						
EPLO	**Experimental L**	**2.35**	**328**	PN	Pn	16 46 19.0	-0.9
EPLO				SG	Sg	16 46 49.8	-8.0
EPLO				Trac		16 46 52.8	
	comp=Z,8.1nm,0.1s						
RLKO	**Red Lake**	**3.62**	**340**	PN	Pn	16 46 36.6	-1.2
RLKO				SN	Sn	16 47 20.6	-1.3
RLKO				SG	Sg	16 47 30.8	-9.0
RLKO				Trac		16 47 35.2	
	comp=Z,3.1nm,0.1s						
ULM	**Lac du Bonnet**	**3.70**	**315**	PN	Pn	16 46 36.2	-2.9
ULM				SN	Sn	16 47 17.9	-6.1
ULM				SG	Sg	16 47 33.1	-9.5
ULM				Trac		16 47 38.1	
	comp=Z,6.0nm,0.2s						
PNPO	**Pukaskwa Natio**	**3.83**	**74**	PN	Pn	16 46 39.3	-1.6
PNPO				SN	Sn	16 47 26.3	-0.9
PNPO				Trac		16 47 27.3	
	comp=Z,3.6nm,0.1s						
GTO	**Geraldton**	**3.83**	**56**	PN	Pn	16 46 39.5	-1.5
GTO				SG	Sg	16 47 38.0	-8.9
GTO				Trac		16 47 45.7	
	comp=Z,7.9nm,0.1s						
PKLO	**Pickle Lake**	**3.94**	**14**	PN	Pn	16 46 39.9	-2.6
PKLO				SN	Sn	16 47 26.6	-3.5
PKLO				Trac		16 47 47.3	
	comp=Z,4.1nm,0.1s						
KAPO	**Kapuskasing**	**6.44**	**71**	PN	Pn	16 47 14.5	-3.4
KAPO				SN	Sn	16 48 25.8	-7.2
VIMO	**Victor Mine**	**7.30**	**42**	PN	Pn	16 47 25.6	-4.3
VIMO				SN	Sn	16 48 46.8	-7.7
VIMO				SG	Sg	16 49 19.3	-23
VIMO				Trac		16 49 23.5	
	comp=Z,10nm,0.5s						
SILO	**Sutton Inlier**	**8.07**	**30**	PN	P	16 47 35.6	-5.2
SILO				SN	Sn	16 49 04.2	-10
SILO				SG	Sg	16 49 46.2	-22
SILO				Trac		16 49 51.7	
	comp=Z,3.9nm,0.3s						
FCC	**Fort Churchill**	**11.18**	**354**	PN	P	16 48 18.0	-5.5
FCC				SN	S	16 50 13.4	-17

IDC ***06*** *17:12:53.9±1.7, 6.11N×126.83E, mb3.6/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, Error ellipse: s-maj=77.6km s-min=21.1km az=62.0*

ISC 06 17:12:55.1±2.3, 6.40N±0.10×127.3E±0.1, h36km±22km, n10, σ0 92/15, mb3.5/5, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.15**	**298**	*e*P	**P**	**17 13 14.4**	**-0.4**
MATI				*e*S	**S**	**17 13 30.7**	**+1.1**
KCP	**Kidapawan**	**2.25**	**286**	⇑*e*P	**P**	**17 13 25.3**	**-5.4**
KCP				*i* S	**S**	**17 13 48.9**	**-8.7**
GSPH	**General Santos**	**2.33**	**262**	⇑*e*P	**P**	**17 13 33.5**	**+1.6**
GSPH				*i* S	**S**	**17 13 58.8**	**-0.8**
BUKP	**Musuan**	**2.64**	**304**	*e*P	**P**	**17 13 35.6**	**-0.7**
BUKP				*e*S	**S**	**17 14 06.2**	**-1.2**
BUTP	**Butuan**	**3.03**	**327**	*e*P	**P**	**17 13 48.5**	**+6.6**
BUTP				*e*S	**S**	**17 14 29.0**	**+12**
FITZ	**Fitzroy Crossi**	**24.40**	**184**	P	**P**	**17 18 11.8**	**+0.2**
	1.3nm,0.4s,mb3.7,baz=5.2,slow=11,SNR=8.1						
WRA	**Warramunga Arr**	**27.08**	**165**	P	**P**	**17 18 37.1**	**+0.4**
	0.9nm,0.7s,mb3.4,baz=342,slow=10,SNR=10.0						
CMAR	**Chiang Mai Arr**	**30.09**	**296**	P	**P**	**17 19 04.5**	**+0.9**
	0.4nm,0.6s,mb3.3,baz=91,slow=7.5,SNR=4.1						
ASAR	**Alice Springs**	**30.58**	**168**	P	**P**	**17 19 06.5**	**-1.4**
	0.5nm,0.6s,mb3.5,baz=342,slow=6.8,SNR=7.2						
ASAR				PcP	PcP	17 22 08.9	+2.8
	0.2nm,0.7s,baz=346,slow=1.8,SNR=3.4						
MKAR	**Makanchi Array**	**55.71**	**324**	P	**P**	**17 22 30.6**	**+0.3**
	0.2nm,0.4s,mb3.5,baz=113,slow=6.7,SNR=6.0						

JMA 06 17:15:03.1±0.2, 44.01N×148.07E, M4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.81**	**250**	P	Pn	17 15 35.8	+0.1
NEM2				*e*S	Sn	17 15 59.6	-0.1
JRA	**Rausu**	**2.13**	**269**	P	Pn	17 15 40.5	+0.1
JRA				*e*S	Sn	17 16 08.1	+0.2
JNK	**Nakash**	**2.46**	**261**	P	Pn	17 15 45.3	+0.2
JNK				*e*S	Sn	17 16 16.2	-0.2
JAK	**Akkeshi**	**2.66**	**249**	P	Pn	17 15 48.0	+0.1
JAK				*e*S	Sn	17 16 21.2	-0.1
JTKR	**Abashiri--Toko**	**3.00**	**271**	P	Pn	17 15 53.8	+0.9
JAR	**Ashorobuto**	**3.20**	**259**	P	Pn	17 15 56.3	+0.6
JAR				*e*S	Sn	17 16 36.0	+0.9
JCH	**Churui**	**3.71**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**276**	⇑*i*PG	Pg	17 45 49.7	+1.4
RAC				⇑*e*SG	Sg	17 45 53.7	+3.4
RAC	**Raciborz**	**0.15**	**276**	⇑*i*Pg	Pg	17 45 49.7	+1.4
RAC				*e*Sg	Sg	17 45 52.6	+2.3
OKC	**Ostrava-Krasne**	**0.29**	**218**	*e*P	Pg	17 45 51.9	+0.8
OKC				*e*		17 45 56.5	
OKC				smax			
	comp=N,514nm,0.3s						
OKC	**Ostrava-Krasne**	**0.29**	**218**	*e*PG	Pg	17 45 51.9	+0.8
OKC				*e*SG	Sg	17 45 56.5	+1.5
	comp=N,514nm,0.3s						
OKC	**Ostrava-Krasne**	**0.29**	**218**	*e*Pg	Pg	17 45 51.8	+0.7
OKC				*e*Sg	Sg	17 45 56.5	+1.5
	comp=N,514nm,0.3s						
MORC	**Moravsky Berou**	**0.64**	**243**	⇓P	Pg	17 45 58.3	+0.2
MORC	**Moravsky Berou**	**0.64**	**243**	*e*Pg	Pg	17 45 58.0	-0.1
MORC				*e*Sg	Sg	17 46 07.2	+0.6
	comp=N,369nm,0.4s						
OJC	**Ojcow**	**0.90**	**80**	*e*Pg	Pg	17 46 02.7	-0.5
OJC				*e*Sg	Sg	17 46 15.3	+0.2
OJC	**Ojcow**	**0.90**	**80**	*e*Pg	Pg	17 46 02.5	-0.7
OJC				*e*Sg	Sg	17 46 15.1	0.0
LIKS	**Likavka**	**1.11**	**156**	*e*SG	Sg	17 46 24.4	+2.1
JAVC	**Velka Javorina**	**1.31**	**202**	*e*Pn	Pn	17 46 11.3	+0.6
NIE	**Niedzica**	**1.39**	**117**	*e*PG	Pg	17 46 10.0	-3.0
NIE				*e*SG	Sg	17 46 30.0	-1.5
VRAC	**Vranov**	**1.41**	**238**	Pg	Pg	17 46 12.0	-1.4
	comp=N,18nm,0.3s,baz=58,slow=13,SNR=69						
VRAC				Lg		17 46 30.5	
	comp=N,81nm,0.3s,baz=146,slow=22,SNR=34						
VRAC	**Vranov**	**1.41**	**238**	⇓P	Pb	17 46 11.9	-0.3
VRAC	**Vranov**	**1.41**	**238**	⇓P	Pb	17 46 11.9	-0.3
VRAC	**Vranov**	**1.41**	**238**	*e*Pn	Pn	17 46 12.0	-0.2
VRAC				*e*Sg	Sg	17 46 30.2	-2.1
	comp=N,209nm,0.4s						
KOLL	**Kolacno**	**1.49**	**181**	*i*Pg	Pg	17 46 13.6	-1.5
KOLL				*i*SG	Sg	17 46 33.6	-1.3
KSP	**Ksiaz**	**1.57**	**300**	*e*P	Pn	17 46 13.8	-0.7
KSP				*e*		17 46 35.0	
KSP	**Ksiaz**	**1.57**	**300**	*e*Pn	Pn	17 46 13.8	-0.7
KSP				*e*Pg	Pg	17 46 15.3	-1.3
KSP				*e*Sg	Sg	17 46 35.0	-2.5
KSP	**Ksiaz**	**1.57**	**300**	*e*Pn	Pn	17 46 13.9	-0.6
KSP				*e*Pg	Pg	17 46 16.1	-0.5
KSP				*e*Sn	Sn	17 46 35.7	-0.1
KSP				*e*S*	Sb	17 46 36.5	+1.4
KSP				*e*Sg	Sg	17 46 38.3	+0.8
KSP	**Ksiaz**	**1.57**	**300**	*e*Pg	Pg	17 46 15.3	-1.3
KSP				*e*Sg	Sg	17 46 35.0	-2.5
VYHS	**Vyhne**	**1.60**	**170**	*i*PG	Pg	17 46 14.8	-2.4
VYHS				*i*SG	Sg	17 46 36.3	-2.2
VYHS	**Vyhne**	**1.60**	**170**	*e*Pn	Pn	17 46 14.9	0.0
VYHS				*e*Sg	Sg	17 46 35.7	-2.8
VYHS				*i*S	Sb	17 46 36.3	+0.3
UPC	**Upice**	**1.61**	**287**	*e*PG	Pg	17 46 15.9	-1.5
KRUC	**Moravsky**	**1.66**	**233**	*e*Pn	Pn	17 46 15.1	-0.7
KRUC				*e*Sg	Sg	17 46 37.6	-3.0
	comp=N,127nm,0.3s						
SMOL	**Smolenice**	**1.69**	**203**	*i*PG	Pg	17 46 16.4	-2.6
SMOL				*e*SG	Sg	17 46 36.5	-5.0
ZST	**Bratislava**	**2.06**	**205**	*i*Pg	Pg	17 46 21.7	-4.8
ZST				*i*S	Sn	17 46 47.1	-1.3
ZST				*i*Sg	Sg	17 46 47.1	-7.0
KECS	**Kecovo**	**2.08**	**139**	*i*PG	Pg	17 46 27.7	+0.8
CRVS	**Cervenica-Dubn**	**2.30**	**119**	*e*PN	Pn	17 46 27.9	+3.0
CRVS				*e*SN	Sn	17 46 58.5	+4.2
PSZ	**Piszkesteto**	**2.36**	**155**	⇑P	Pn	17 46 25.5	-0.3
PSZ	**Piszkesteto**	**2.36**	**155**	⇑*i*Sg	Pn	17 46 25.6	-0.2
PSZ				*e*	Sn	17 46 55.4	-0.4
PSZ	**Piszkesteto**	**2.36**	**155**	⇑P	Pn	17 46 25.5	-0.3
PSZ				*e*S	Sn	17 46 55.4	-0.4
PRU	**Pruhonice**	**2.51**	**270**	*e*P	Pn	17 46 27.0	-0.9
PRU				*e*		17 47 04.0	
PRU				smax			
	comp=N,188nm,0.9s						
PRU	**Pruhonice**	**2.51**	**270**	*e*PN	Pn	17 46 27.0	-0.9
PRU				*e*PG	Pg	17 46 31.4	-3.9
PRU				*e*SG	Sg	17 47 04.0	-4.7
	comp=N,188nm,0.9s						
PVCC	**Panska Ves**	**2.52**	**282**	*e*PG	Pg	17 46 32.2	-3.3
KOLS	**Kolonicke sedl**	**2.75**	**113**	*e*PN	Pn	17 46 35.0	+3.6
KOLS				*e*PG	Pg	17 46 39.4	-0.9
KOLS	**Kolonicke sedl**	**2.75**	**113**	*e*Pg	Pg	17 46 39.4	-0.9
KWP	**Kalwaria**	**2.81**	**97**	*e*Pn	Pn	17 46 38.1	+5.9
KWP				*e*Sg	Sg	17 47 19.5	+0.8
KWP	**Kalwaria**	**2.81**	**97**	*e*PG	Pg	17 46 38.0	-3.3
KWP				*e*SG	Sg	17 47 20.0	+1.3
UZH	**Uzhgorod**	**2.91**	**118**	*e*P	Pn	17 46 41.0	+7.3
UZH				*e*S	Sn	17 47 19.0	+9.2
BRG	**Berggiesshubel**	**2.98**	**287**	*e*Pn	Pn	17 46 35.4	+0.8
BRG				*e*Sg	Sg	17 47 19.4	-5.0
BRG	**Berggiesshubel**	**2.98**	**287**	*i*P	Pg	17 46 40.8	-3.9
KHC	**Kasperske Hory**	**3.29**	**255**	*e*Pn	Pn	17 46 38.3	-0.8
KHC				*e*Pg	Pg	17 46 46.3	-4.7
KHC				*e*Sg	Sg	17 47 29.4	-5.4
KHC	**Kasperske Hory**	**3.29**	**255**	*e*PN	Pn	17 46 38.3	-0.8
KHC				*e*PG	Pg	17 46 46.3	-4.7
KHC				*e*SN	Sn	17 47 17.5	-1.9
KHC				*e*SG	Sg	17 47 29.4	-5.4
	comp=N,84nm,0.5s						
GEC2	**GERESS Array S**	**3.32**	**250**	*e*Pn	Pn	17 46 38.2	-1.2
GEC2				*e*Sg	Sg	17 47 23.7	-12
GEC2	**GERESS Array S**	**3.32**	**250**	*e*Pn	Pn	17 46 38.2	-1.2
GEC2				*e*Sg	Sg	17 47 23.7	-12
GERES	**GERESS Array B**	**3.32**	**250**	Pn	Pn	17 46 38.3	-1.1
	comp=N,0.2nm,0.3s,baz=60,slow=14,SNR=5.4						
GERES				Pg	Pg	17 46 47.9	-3.6
	comp=N,2.5nm,0.3s,baz=66,slow=18,SNR=28						
GERES				Sn	Sn	17 47 17.5	-2.6
	comp=N,2.5nm,0.3s,baz=67,slow=17,SNR=7.7						
GERES				Lg		17 47 29.5	
	comp=N,5.6nm,0.3s,baz=67,slow=28,SNR=16						
GERES	**GERESS Array B**	**3.32**	**250**	Pg	Pg	17 46 47.9	-3.6
ARSA	**Arzberg**	**3.41**	**215**	⇑*i*PN	Pn	17 46 40.6	-0.2
ARSA				*i*SG	Sg	17 47 36.5	-2.4
	comp=N,17nm,0.5s						
MOA	**Molln**	**3.53**	**233**	⇑*i*PN	Pn	17 46 41.2	-1.2
MOA				*i*SG	Sg	17 47 37.4	-5.3
	comp=N,72nm,0.7s						
LVV	**L'vov**	**3.63**	**92**	*e*P	Pg	17 46 55.6	-2.2
CLL	**Collm**	**3.67**	**292**	*e*Sg	Sg	17 47 40.4	-6.9
CLL	**Collm**	**3.67**	**292**	*e*PG	Pg	17 46 56.0	-2.5
CLL				*i*SG	Sg	17 47 44.3	-3.0
WET	**Wettzell**	**3.72**	**258**	*e*Pn	Pn	17 46 43.8	-1.4
WET				*e*Sg	Sg	17 47 38.1	-11
TANN	**Tannenbergstha**	**3.84**	**277**	*e*Pn	Pn	17 46 45.5	-1.4
TANN				*e*Sg	Sg	17 47 44.7	-8.6
NKC	**Novy Kostel**	**3.85**	**275**	*e*SG	Sg	17 47 47.1	-6.3
	comp=N,129nm,1.0s						
PKSM	**Moragy**	**3.86**	**178**	⇑P	Pn	17 46 46.1	-1.1
GUNZ	**Gunzen**	**3.92**	**277**	*e*Pn	Pn	17 46 46.9	-1.2
GUNZ				*e*Sg	Sg	17 47 47.3	-8.6
WERD	**Werda**	**3.94**	**278**	*e*Sg	Sg	17 47 47.2	-9.4
NOTT	**Nottersdorf**	**4.08**	**269**	*e*Pn	Pn	17 46 49.3	-1.0
NOTT				*e*Sg	Sg	17 47 51.0	-10
MOX	**Moxa**	**4.40**	**280**	*e*Sg	Sg	17 48 02.0	-10
KBA	**Koelnbreinsper**	**4.51**	**230**	⇑*i*PN	Pn	17 46 55.0	-1.4
KBA				*i*SN	Sn	17 47 48.6	-1.7
KBA				*i*SG	Sg	17 48 09.8	-5.6
	comp=N,26nm,0.6s						
KBA	**Koelnbreinsper**	**4.51**	**230**	⇑*i*Pn	Pn	17 46 55.0	-1.4
KBA				*i*Sg	Sg	17 48 09.8	-5.6
	comp=N,26nm,0.6s						
GRF	**Grafenberg Arr**	**4.67**	**268**	*e*Sg	Sg	17 48 09.2	-12
BURAR	**Bucovina Array**	**5.11**	**116**	⇓P	Pn	17 47 03.2	-1.7
BURAR	**Bucovina Array**	**5.11**	**116**	⇓P	Pn	17 47 03.2	-1.7
WTTA	**Wattenberg**	**5.30**	**241**	⇑*i*Pn	Pn	17 47 06.4	-1.2
	comp=N,20nm,0.7s						
WTTA				*i*Sg	Sg	17 48 32.8	-9.0
	comp=N,20nm,0.7s						
BSD	**Bornholm Skovb**	**5.49**	**338**	*i*P	Pn	17 47 06.9	-3.3
BSD				*i*S	Sn	17 48 05.0	-10
BSD				*i*S	Sn	17 48 07.4	-7.6
DAVA	**Damuels**	**6.31**	**247**	⇑*i*PN	Pn	17 47 20.1	-1.7
DAVA				*i*SG	Sg	17 49 11.0	-4.2
	comp=N,23nm,0.6s						
DAVA	**Damuels**	**6.31**	**247**	⇑*i*Pn	Pn	17 47 20.1	-1.7
	comp=N,23nm,0.6s						
DAVA				*i*Sg	Sg	17 49 11.0	-4.2
DAVOX	**Davos**	**6.57**	**243**	Pn	Pn	17 47 25.0	-0.4
	comp=N,0.4nm,0.3s,baz=34,slow=18,SNR=3.9						
DAVOX				Sn	Sn	17 48 36.3	-5.7
	comp=N,0.4nm,0.3s,baz=343,slow=20,SNR=3.5						
DAVOX				Lg		17 49 13.1	
	comp=N,0.8nm,0.3s,baz=280,slow=16,SNR=5.9						
DAVOX	**Davos**	**6.57**	**243**	Pn	Pn	17 47 25.0	-0.5
DAVOX				Sn	Sn	17 48 36.3	-5.7
DAVOX				Lg		17 49 13.1	
AKASG	**Malin Array Be**	**6.94**	**81**	P	Pn	17 47 26.4	-4.2
AKASG						17 48 45.0	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				smax			
	comp=N,1.0nm,0.3s						
AKASG	**Malin Array Be**	**6.94**	**81**	Pn	Pn	17 47 26.4	-4.3
	comp=N,0.5nm,0.3s,baz=268,slow=12,SNR=3.3						
AKASG				Sn	Sn	17 48 45.0	-6.2
	comp=N,1.0nm,0.3s,baz=260,slow=23,SNR=3.5						
AKASG				Lg		17 49 19.6	
	comp=N,0.8nm,0.3s,baz=262,slow=29,SNR=4.2						
FINES	**FINESS Array B**	**12.18**	**18**	Pn	P	17 48 36.5	-6.3
	comp=N,0.2nm,0.3s,baz=193,slow=11,SNR=4.7						

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*IDC **06** 17:51:34.3±2.5,61.63N×146.65W,h12^{km}±14^{km},mb4.5/27, mb1 4.7/30,mb1mx4.7/33,mbtmp4.6/30,ML4.2/3,MS4.1/29, Ms1 4.1/29,ms1mx4.0/38,Error ellipse: s-maj=18.2km s-min=8.6km az=40.0*

*MOS **06** 17:51:35.6±0.9,61.57N×146.48W,h33^{km},mb5.1/49, Error ellipse: s-maj=11.8km s-min=4.3km az=91.0*

*HRVD **06** 17:51:37.9±0.4,61.57N×146.51W,h42^{km}±1^{km},MW4.8/34, Centroid moment Tensor Solution. LP body waves: s34,c52;Mantle waves: s33,c48; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.89±.16; $M_{\theta\theta}$0.22±.15; $M_{\phi\phi}$1.67±.11; $M_{r\theta}$0.47±.15; $M_{\theta\phi}$1.26±.08; $M_{r\phi}$0.63±.10; Best double couple: $M_0$2.284×10^{16} NP1:φ26°, δ35°, λ-96°. NP2:φ213°, δ55°, λ-86°. Principal axes: T 2.535, Plg10°, Azm300°; N -.503, Plg3°, Azm31°; P -2.032, Plg79°, Azm139°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 17:51:37.9,61.45N×146.52W,h17^{km},mb5.0/97,MS4.1/2, ML4.9(AEIC),ML4.9(PMR),After AEIC.*

NEIC Felt [IV] at Valdez; [III] at Anchorage, Copper Center, Elmendorf AFB and Palmer; [II] at Eagle River, Fort Richardson and Wasilla. Also felt at Cordova, Girdwood, Moose Pass and Seward.

*BJI **06** 17:51:39.8,61.50N×146.50W,h16^{km},mB5.5,mb5.0, Msz4.7*

*CSEM **06** 17:51:43.7,62.97N×146.83W,h33^{km},mb5.5*

ISC 06 17:51:36.3±0.1,61.54N±0.02×146.47W±0.03,h38^{km}, h38^{km}±1.3^{km}:pP-P,n401,σ1°02/403,mb4.8/138,MS4.2/32, 26C-25D,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLZ	**Valdez**	**0.41**	**171**	P	**P**	**17 51 45.0**	**-0.8**
SCM	**Sheep Creek Mo**	**0.51**	**306**	P	**P**	**17 51 48.2**	**+1.1**
DIV	**Divide**	**0.53**	**140**	P	**P**	**17 51 46.8**	**-0.6**
DIV				S	**S**	**17 51 54.1**	**-1.2**
TZL	**Tazlina**	**0.71**	**44**	P	**P**	**17 51 52.1**	**+2.2**
SML	**Sawmill**	**0.93**	**288**	P	**P**	**17 51 53.7**	**+0.7**
SML				S	**S**	**17 52 06.1**	**+0.7**
KNK	**Knik Glacier**	**0.96**	**263**	P	**P**	**17 51 54.1**	**+0.6**
EYAK	**Cordova Ski Ar**	**1.05**	**160**	P	**P**	**17 51 54.7**	**-0.1**
EYAK				S	**S**	**17 52 08.1**	**-0.3**
HIN	**Hinchinbrook I**	**1.15**	**181**	P	**P**	**17 51 56.3**	**+0.2**
GHO	**Glory Hole Cre**	**1.20**	**282**	P	**P**	**17 51 57.7**	**+0.9**
SGAM	**Sherman Glacie**	**1.21**	**149**	P	**P**	**17 51 57.3**	**+0.4**
WANC	**Wrangell North**	**1.23**	**67**	P	**P**	**17 51 59.6**	**+2.3**
PMR	**Palmer**	**1.28**	**274**	P	**P**	**17 51 59.0**	**+1.0**
PMR				S	**S**	**17 52 15.4**	**+1.2**
GLB	**Gilahina Butte**	**1.28**	**93**	P	**P**	**17 51 58.7**	**+0.7**
PAX	**Paxson**	**1.51**	**18**	P	**P**	**17 52 03.6**	**+2.2**
PAX				S	**S**	**17 52 23.8**	**+3.7**
PWA	**Palmer West**	**1.64**	**275**	P	**P**	**17 52 04.5**	**+1.4**
RC01	**Rabbit Creek A**	**1.64**	**256**	P	**P**	**17 52 04.3**	**+1.1**
RC01				S	**S**	**17 52 25.2**	**+1.9**
MPA	**Moose Pass**	**1.76**	**235**	P	**P**	**17 52 05.6**	**+0.7**
FIB	**Fire Island**	**1.83**	**260**	P	**P**	**17 52 07.9**	**+2.1**
MENT	**Mentasta**	**1.91**	**41**	P	**P**	**17 52 09.4**	**+2.5**
THY	**Trims Highway**	**1.92**	**10**	P	**P**	**17 52 10.1**	**+3.0**
THY				S	**S**	**17 52 35.7**	**+5.5**
VOGL	**Vogel Lake**	**1.99**	**256**	P	**P**	**17 52 10.3**	**+2.1**
CUT	**Chulitna**	**2.00**	**298**	P	**P**	**17 52 10.4**	**+2.2**
BALM	**Baldy**	**2.05**	**102**	P	**P**	**17 52 09.8**	**+0.8**
HUR	**Hurricane**	**2.07**	**316**	P	**P**	**17 52 11.7**	**+2.3**
SLKM	**Skilak Lake**	**2.10**	**242**	P	**P**	**17 52 10.4**	**+0.6**
MID	**Middleton Isla**	**2.12**	**178**	P	**P**	**17 52 10.3**	**+0.3**
RND	**Reindeer**	**2.18**	**330**	P	**P**	**17 52 13.4**	**+2.5**
DOT	**Dot Lake**	**2.39**	**27**	P	**P**	**17 52 16.5**	**+2.6**
NKA	**Nikishka**	**2.45**	**253**	P	**P**	**17 52 17.2**	**+2.5**
MCK	**McKinley**	**2.48**	**334**	P	**P**	**17 52 17.7**	**+2.5**
CTGM	**Chitina Glacie**	**2.55**	**101**	P	**P**	**17 52 16.9**	**+0.8**
STLK	**Strandline Lak**	**2.57**	**271**	P	**P**	**17 52 17.2**	**+0.7**
TRF	**Thorofare Moun**	**2.61**	**319**	P	**P**	**17 52 19.1**	**+2.0**
BCA3	**Beaver Creek A**	**2.67**	**53**	P	**P**	**17 52 20.2**	**+2.3**
SPU	**Mount Spurr**	**2.71**	**265**	*e*P	**P**	**17 52 18.6**	**+0.1**
CKN	**Chakachatna No**	**2.77**	**266**	P	**P**	**17 52 19.8**	**+0.5**
BRLK	**Bradley Lake**	**2.81**	**233**	P	**P**	**17 52 19.8**	**-0.2**
CKL	**Chakachamna La**	**2.85**	**266**	P	**P**	**17 52 20.6**	**+0.1**
HDA	**Harding Lake**	**2.89**	**356**	P	**P**	**17 52 22.7**	**+1.7**
KTH	**Kantishna Hill**	**2.89**	**316**	P	**P**	**17 52 23.0**	**+2.0**
CNPM	**China Poot**	**3.10**	**232**	P	**P**	**17 52 23.6**	**-0.5**
DFR	**Drift River**	**3.17**	**255**	P	**P**	**17 52 24.6**	**-0.4**
CCB	**Clear Creek Bu**	**3.18**	**350**	P	**P**	**17 52 26.6**	**+1.4**
RDN	**Redoubt North**	**3.23**	**254**	P	**P**	**17 52 25.7**	**-0.2**
IL1	**Eielson Array**	**3.25**	**357**	P	**P**	**17 52 27.2**	**+1.0**
ILAR	**Eielson Array**	**3.25**	**357**	P	**P**	**17 52 27.1**	**+0.9**
ILAR						17 53 07.1	
ILAR	**Eielson Array**	**3.25**	**357**	Pn	**P**	**17 52 27.1**	**+0.9**
	46nm,0.3s,baz=178,slow=13,SNR=218						
ILAR				Pg	**P**	**17 52 30.2**	**+4.1**
	73nm,0.3s,baz=185,slow=13,SNR=492						
ILAR				Lg		17 53 07.1	
	98nm,0.3s,baz=180,slow=20,SNR=11						
ILAR				LR	LR	17 53 53.2	
	comp=Z,3μm,19.9s,baz=315,slow=44						
ILAR	**Eielson Array**	**3.25**	**357**	Pn	**P**	**17 52 27.1**	**+0.9**
ILAR				Pg	**P**	**17 52 30.2**	**+4.1**
ILAR				Lg		17 53 07.1	
ILAR				LR	LR	17 53 53.2	
NEA	**Nenana**	**3.27**	**340**	P	**P**	**17 52 27.6**	**+1.1**
NCT	**North Crescent**	**3.29**	**256**	P	**P**	**17 52 26.6**	**-0.1**
XLV	**Seldovia**	**3.34**	**234**	P	**P**	**17 52 26.8**	**-0.6**
COLA	**College**	**3.41**	**350**	P	**P**	**17 52 29.8**	**+1.4**
ILIM	**Iliamna**	**3.50**	**248**	P	**P**	**17 52 29.1**	**-0.6**
MDM	**Murphy Dome**	**3.52**	**348**	P	**P**	**17 52 31.2**	**+1.1**
INE	**Iliamna NE**	**3.56**	**248**	P	**P**	**17 52 29.9**	**-0.6**
ILW	**Iliamna West**	**3.59**	**249**	P	**P**	**17 52 30.5**	**-0.4**
OPT	**Oil Point**	**3.83**	**243**	P	**P**	**17 52 33.9**	**-0.5**
PNL	**Peninsula**	**3.96**	**115**	P	**P**	**17 52 35.1**	**-1.1**
MLY	**Manley**	**4.00**	**333**	P	**P**	**17 52 37.7**	**+0.9**
AUW	**Augustine West**	**4.09**	**241**	P	**P**	**17 52 38.1**	**-0.1**
AUI	**Augustine Isla**	**4.10**	**240**	P	**P**	**17 52 38.0**	**-0.2**
DAWY	**Dawson**	**4.12**	**49**	P	**P**	**17 52 40.2**	**+1.8**
SYI	**Shuyak Island**	**4.17**	**228**	P	**P**	**17 52 39.0**	**-0.2**
SVW2	**Sparrevohn**	**4.42**	**268**	P	**P**	**17 52 41.2**	**-1.5**
MCNL	**McNeil River**	**4.56**	**242**	P	**P**	**17 52 42.9**	**-1.9**
TT01	**Tatalina**	**4.68**	**291**	P	**P**	**17 52 45.2**	**-1.1**
KAPH	**Katmai Pasha**	**4.93**	**237**	P	**P**	**17 52 48.9**	**-1.1**
IM3	**Indian Mountai**	**5.51**	**327**	P	**P**	**17 52 57.9**	**-0.1**
IMA	**Indian Mountai**	**5.55**	**328**	*e*P	**P**	**17 52 59.2**	**+0.5**
WHY	**Whitehorse**	**5.69**	**94**	P	**P**	**17 52 59.3**	**-1.2**
GCSA	**Galena City Sc**	**5.71**	**309**	P	**P**	**17 53 00.4**	**-0.5**
COLD	**Coldfoot**	**5.94**	**346**	P	**P**	**17 53 04.5**	**+0.5**
BM3	**Burnt Mountain**	**5.96**	**7**	P	**P**	**17 53 04.6**	**+0.2**
BESE	**Bessie Mountai**	**6.53**	**112**	P	**P**	**17 53 10.3**	**-2.1**
SIT	**Sitka**	**7.26**	**123**	P	**P**	**17 53 20.3**	**-2.3**
INK	**Inuvik**	**8.72**	**33**	*e*P	**P**	**17 53 41.3**	**-1.6**
INK	**Inuvik**	**8.72**	**33**	Pn	**P**	**17 53 42.2**	**-0.7**
	2.4nm,0.3s,baz=221,slow=18,SNR=80						
INK				Lg		17 55 58.5	
	1.6nm,0.3s,baz=187,slow=14,SNR=4.3						
INK				LR	LR	17 57 38.9	
	comp=Z,832nm,20.2s,baz=221,slow=42						
DLBC	**Dease Lake**	**8.80**	**103**	Pn	**P**	**17 53 42.6**	**-1.4**
	1.1nm,0.3s,baz=278,slow=12,SNR=16						
DLBC				Lg		17 56 04.5	
	2.0nm,0.3s,baz=217,slow=20,SNR=3.2						
DLBC				LR	LR	17 57 23.9	
	comp=Z,2μm,19.4s,baz=299,slow=39						
DLBC	**Dease Lake**	**8.80**	**103**	*e*P	**P**	**17 53 42.0**	**-2.0**
TNA	**Tin City**	**10.36**	**302**	P	**P**	**17 54 03.9**	**-1.3**
BBB	**Bella Bella**	**13.68**	**125**	LR	LR	17 59 50.0	
	comp=Z,928nm,19.0s,baz=299,slow=36						
YKW3	**Yellowknife Ar**	**14.89**	**72**	*e*P	**P**	**17 55 05.4**	**0.0**
YKA	**Yellowknife Ar**	**14.91**	**72**	*i*P	**P**	**17 55 06.1**	**+0.4**
YKA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YKA	**Yellowknife Ar**	**14.91**	**72**	Pn	**P**	**17 55 04.5**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=280,slow=11,SNR=26						
YKA				LR	LR	18 01 31.6	
	comp=Z,617nm,19.9s,baz=280,slow=40						
EDM	**Edmonton**	**19.50**	**100**	*e*P	**P**	**17 56 02.0**	**-0.7**
BILL	**Bilibino**	**20.67**	**309**	*c*P	**P**	**17 56 13.5**	**-1.5**
BILL				pmax	pmax		
	comp=Z,17nm,1.1s						
BILL				MLR	MLR		
	comp=Z,700nm,19.0s,MS4.0						
BILL	**Bilibino**	**20.67**	**309**	*e*P	**P**	**17 56 13.1**	**-2.0**
	comp=Z,52nm,1.1s						
NAC	**Naches**	**20.90**	**123**	P	**P**	**17 56 21.5**	**+4.0**
NEW	**Newport**	**21.24**	**115**	P	**P**	**17 56 22.2**	**+1.3**
	comp=Z,27nm,0.9s,mb4.6,baz=324,slow=7.3,SNR=17						
NEW				LR	LR	18 05 23.4	
	comp=Z,1μm,18.2s,MS4.2,baz=327,slow=39						
NEW	**Newport**	**21.24**	**115**	*e*P	**P**	**17 56 21.9**	**+1.0**
	comp=Z,48nm,1.1s,mb4.7						
GL2	**New Goldendale**	**21.53**	**125**	P	**P**	**17 56 27.6**	**+3.7**
VFP	**Flag Point**	**21.82**	**127**	P	**P**	**17 56 28.6**	**+1.9**
WALA	**Waterton Lakes**	**22.07**	**110**	*e*P	**P**	**17 56 29.9**	**+0.8**
	comp=Z,41nm,1.1s,mb4.8						
RES	**Resolute Bay**	**22.28**	**33**	*e*P	**P**	**17 56 30.1**	**-1.0**
CROR	**Criterion Ridg**	**22.28**	**126**	P	**P**	**17 56 33.2**	**+1.9**
IRO	**Indian Ridge**	**22.64**	**130**	P	**P**	**17 56 37.7**	**+3.0**
FX1	**Attu Island--F**	**23.16**	**266**	LR	LR	18 05 20.1	
	comp=Z,21nm,20.8s,baz=252,slow=36						
MSO	**Missoula**	**23.72**	**113**	*e*P	**P**	**17 56 45.6**	**+0.4**
	comp=Z,13nm,1.1s,mb4.3						
BMO	**Blue Mountains**	**23.86**	**121**	*e*P	**P**	**17 56 47.8**	**+1.2**
	comp=Z,22nm,1.1s,mb4.5						
CHMT	**Chamberlain Mo**	**23.96**	**112**	*e*P	**P**	**17 56 48.6**	**+1.0**
FFC	**Flin Flon**	**24.04**	**86**	P	**P**	**17 56 48.4**	**+0.1**
	comp=Z,71nm,1.2s,mb5.0,SNR=14						
YBH	**Yreka Blue Hor**	**24.45**	**133**	P	**P**	**17 56 54.6**	**+2.2**
	comp=Z,15nm,1.0s,mb4.4,baz=350,slow=3.1,SNR=12						
YBH				LR	LR	18 04 48.3	
	comp=Z,397nm,22.0s,MS3.9,baz=347,slow=32						
YBH	**Yreka Blue Hor**	**24.45**	**133**	*e*P	**P**	**17 56 53.6**	**+1.2**
	comp=Z,18nm,1.1s,mb4.4						
MOD	**Modoc**	**25.17**	**129**	*e*P	**P**	**17 57 00.7**	**+1.4**
	comp=Z,18nm,1.0s,mb4.5						
WVOR	**Wild Horse Val**	**25.35**	**126**	*e*P	**P**	**17 57 02.0**	**+1.0**
WVOR				pmax	pmax		
	comp=Z,21nm,1.1s,mb4.6						
WVOR	**Wild Horse Val**	**25.35**	**126**	*e*P	**P**	**17 57 02.0**	**+1.1**
	comp=Z,21nm,1.1s,mb4.6						
LTIM	**Timbered Crate**	**25.38**	**132**	P	**P**	**17 57 03.2**	**+2.0**
WDC	**Whiskeytown Da**	**25.54**	**134**	*e*P	**P**	**17 57 03.4**	**

YAK MLR MLR
comp=Z,400nm,18.0s,MS4.2
YAK Yakutsk 37.03 309 *eP* **P 17 58 42.9 -0.8**
comp=Z,30nm,0.9s,mb5.1
LPM Los Pinos Moun 37.15 119 P **P 17 58 44.7 -0.4**
TUC Tucson 37.21 125 *eP* **P 17 58 46.5 +0.9**
comp=Z,14nm,1.1s,mb4.7
BNM Barren Site 37.29 119 *eP* **P 17 58 46.9 +0.7**
SUMG Summit 37.59 28 *eP* **P 17 58 48.1 -0.2**
comp=Z,9.4nm,0.6s,mb4.7
DAG Danmarks Havn 38.14 17⇑ *eP* **P 17 58 52.2 -0.7**
DAG pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
DAG Danmarks Havn 38.14 17⇑ *eP* **P 17 58 52.2 -0.7**
comp=Z,8.0nm,1.0s,mb4.4
DAG Danmarks Havn 38.14 17⇑ *iP* **P 17 58 52.2 -0.7**
comp=Z,8.0nm,1.0s,mb4.4
MNTX Cornudas Mount 39.94 119 *eP* **P 17 59 08.8 +0.6**
comp=Z,6.7nm,1.2s,mb4.2
SCHQ Schefferville 40.02 62 P **P 17 59 08.3 -0.3**
comp=Z,15nm,0.8s,mb4.8,baz=315,slow=8.1,SNR=23
SCHQ LR LR 18 16 14.5
comp=Z,482nm,18.4s,MS4.4,baz=287,slow=37
SCHQ Schefferville 40.02 62 P **P 17 59 08.3 -0.4**
SCHQ LR LR 18 16 14.5
WMOK Wichita Mounta 40.23 109 *eP* **P 17 59 10.3 -0.3**
comp=Z,21nm,1.1s,mb4.8
SLM Saint Louis 41.03 97 *eP* **P 17 59 16.4 -0.8**
SADO Sadowa 41.62 82 P **P 17 59 21.1 -0.7**
comp=Z,2.4nm,0.4s,mb4.2,baz=324,slow=6.4,SNR=4.5
SADO PcP PcP 18 01 16.8 -2.3
comp=Z,2.4nm,0.5s,baz=325,slow=9.6,SNR=3.9
YSS Yuzh-Sakhalins 41.62 283 *iP* **P 17 59 19.3 -2.6**
YSS pmax pmax
comp=Z,16nm,1.3s,mb4.5
YSS MLR MLR
comp=Z,400nm,24.0s,MS4.2
CLNS Chul'man 42.31 305 *eP* **P 17 59 36.1 +8.8**
CLNS pmax pmax
comp=Z,23nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,11nm,0.7s
CLNS MLR MLR
comp=Z,500nm,18.0s,MS4.4
CLNS MLR MLR
comp=N,300nm,17.0s
CLNS MLR MLR
comp=E,100nm,26.0s
TXAR Lajitas Array 42.71 119 P **P 17 59 32.6 +1.5**
comp=E,3.5nm,0.6s,mb4.3,baz=334,slow=6.6,SNR=22
TXAR PcP PcP 18 01 21.6 -1.3
comp=E,1.7nm,0.6s,baz=315,slow=3.5,SNR=4.4
TXAR LR LR 18 19 06.7
comp=E,208nm,20.2s,MS4.0,baz=310,slow=39
MIAR Mount Ida 42.77 104 *eP* **P 17 59 30.7 -0.8**
JCT Junction City 43.38 114 *eP* **P 17 59 36.2 -0.3**
comp=E,22nm,0.8s,mb5.0
NCB Newcomb 44.54 79 *eP* **P 17 59 44.1 -1.5**
comp=E,6.3nm,1.1s,mb4.4
OXF Oxford 44.75 100 *eP* **P 17 59 46.4 -1.1**
comp=E,67nm,1.1s,mb5.4
KLR Kul'dur 44.95 293 *eP* **P 17 59 45.8 -3.0**
PLAL Pickwick Lake 45.00 98 *eP* **P 17 59 48.9 -0.5**
comp=E,8.2nm,0.8s,mb4.6
SSPA Standing Stone 45.37 85 *eP* **P 17 59 51.0 -1.3**
comp=E,26nm,1.3s,mb4.9
BOD Bodaibo 45.65 312 *eP* **P 17 59 52.6 -1.7**
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
FWV Forest Hill 46.37 90 *eP* **P 17 59 59.2 -1.1**
ELN Prospectdale 46.68 90 *eP* **P 18 00 01.4 -1.3**
BLA Blacksburg 46.85 90 *eP* **P 18 00 03.1 -1.0**
BLA pmax pmax
comp=Z,21nm,1.1s,mb5.0
BLA Blacksburg 46.85 90 *eP* **P 18 00 03.1 -0.9**
comp=Z,21nm,1.1s,mb5.0
LRAL Lakeview Retre 47.10 99 *eP* **P 18 00 02.6 -3.5**
ARCES ARCESS Array B 49.09 4 P **P 18 00 20.0 -1.1**
comp=Z,15nm,0.6s,mb5.2,baz=5.0,slow=8.0,SNR=51
LVZ Lovozero 50.86 359 *eP* **P 18 00 33.4 -1.2**
LVZ pmax pmax
comp=Z,105nm,1.5s,mb5.5
MAT Matsushiro 51.82 278 *eP* **P 18 00 41.0 -1.3**
MAT Matsushiro 51.82 278 P **P 18 00 40.5 -1.8**
MJAR Matsushiro Arr 51.82 278 P **P 18 00 41.1 -1.2**
comp=Z,3.1nm,0.8s,mb4.3,baz=2.2,slow=8.5,SNR=9.8
MJAR LR LR 18 21 58.7
comp=Z,105nm,20.9s,MS3.9,baz=25,slow=35
IRK Irkutsk 53.48 314 *eP* **P 18 00 59.6 +5.1**
IRK *e* 18 02 06.4
IRK pmax pmax
comp=Z,182nm,0.7s
TLY Talaya 54.17 314 *eP* **P 18 00 59.0 -0.5**
TLY *eS* **S 18 08 36.2 +4.1**
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
TLY MLR MLR
comp=Z,200nm,17.0s,MS4.2
MOY Mondy 55.08 315 *eP* **P 18 01 07.0 +0.8**
ZAK Zakamensk 55.38 313 *eP* **P 18 01 07.5 -0.8**
ZAK *e* pP 18 01 19.0 -0.5
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ULN Ulaanbaatar 56.12 309 *eP* **P 18 01 13.1 -0.6**
ULN *e*PP* pP 18 01 23.2 -1.7
ULN pmax pmax
comp=Z,11nm,0.8s,mb4.9
ULN Ulaanbaatar 56.12 309 *eP* **P 18 01 13.1 -0.6**
comp=Z,11nm,0.8s,mb4.9
ULN *ep*P pP 18 01 23.2 -1.7
SONM Songino Array 56.39 309 P **P 18 01 15.2 -0.4**
comp=Z,3.4nm,1.0s,mb4.3,baz=45,slow=7.6,SNR=14
SONM LR LR 18 27 11.2
comp=Z,308nm,18.1s,MS4.4,baz=22,slow=38
KAF Kangasniemi 56.55 4 *ep* **P 18 01 13.9 -2.7**
comp=Z,7.3nm,0.7s,mb4.8,baz=353,slow=7.0
KAF Kangasniemi 56.55 4 *eP* **P 18 01 13.9 -2.7**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
NB2 NORSAR Subarra 56.56 13 P **P 18 01 15.0 -1.6**
comp=Z,1.5nm,0.8s,mb4.1,baz=349,slow=7.0
NOA NORSAR Array B 56.56 13 P **P 18 01 14.9 -1.8**
comp=Z,5.3nm,1.1s,mb4.5,baz=351,slow=7.3,SNR=4.6
NOA LR LR 18 26 25.9
comp=Z,95nm,18.7s,MS3.9,baz=345,slow=37
FINES FINESS Array B 57.21 4 P **P 18 01 19.8 -1.5**
comp=Z,4.8nm,0.5s,mb4.8,baz=3.0,slow=7.8,SNR=42
FINES LR LR 18 25 33.1
comp=Z,88nm,19.7s,MS3.9,baz=154,slow=36
FINES FINESS Array B 57.21 4 P **P 18 01 19.8 -1.5**
FINES LR LR 18 25 33.1
CBIJ Chichi jima 57.71 268 LR LR 18 22 03.9
comp=Z,147nm,21.2s,MS4.1,baz=184,slow=32
ZAL Zalesovo 57.95 327 P **P 18 01 25.1 -1.5**
comp=Z,1.6nm,0.7s,mb4.1,baz=94,slow=6.4,SNR=9.7
ZAL LR LR 18 29 37.6
comp=Z,271nm,21.0s,MS4.3,baz=90,slow=40
BJI Beijing 58.98 297 P **P 18 01 44.1 +10**
BJI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
EKA Eskdalemuir Ar 59.94 23 P **P 18 01 39.5 -1.0**
comp=Z,11nm,0.9s,mb4.9,baz=332,slow=5.2,SNR=12
SVE Sverdlovsk 60.08 343⇓ *eP* **P 18 01 40.0 -1.3**
SVE *e* 18 02 24.0
SVE pmax pmax
comp=Z,44nm,1.3s,mb5.3
HHC Hu-ho-hao-te 60.23 301 *eP* **P 18 01 48.7 +6.1**
HHC AP pP 18 01 57.9 +4.1
HHC XP sP 18 02 02.3 +4.0
HHC PCP PcP 18 02 31.6 +4.1
HHC PP PP 18 04 07.4 +10
HHC PCS 18 06 31.4
HHC S **S 18 10 05.3 +13**
HHC XS 18 10 17.1
HHC SCS ScS 18 11 33.0 +6.7
HHC AMB AMB
comp=Z,21nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,130nm,4.9s
HHC LR LR
comp=Z,496nm,18.4s,MS4.7
ARU Arti 60.74 344⇑ *iP* **P 18 01 44.9 -1.0**

ARU *e* 18 02 25.8
ARU *e* 18 03 57.0
ARU *eS* **S 18 10 01.1 +2.7**
ARU *e*SS SS 18 14 01.5 +2.8
ARU pmax pmax
comp=Z,29nm,0.9s,mb5.4
ARU Arti 60.74 344 *eP* **P 18 01 43.9 -1.9**
comp=Z,12nm,0.8s,mb5.1
ARU *ep*P pP 18 01 54.9 -2.2
MOS Moscow 63.02 357 *eP* **P 18 02 00.9 -0.2**
MOS *e* pP 18 02 13.0 +0.5
MOS *e* 18 02 36.6
MOS pmax pmax
comp=Z,77nm,1.3s,mb5.7
BSEG Bad Segeberg 63.41 15 *eP* **P 18 02 03.4 -0.3**
OBN Obninsk 63.67 358 *dP* **P 18 02 04.3 -0.9**
OBN *eS* **S 18 10 32.0 -3.0**
OBN pmax pmax
comp=Z,85nm,1.2s,mb5.7
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
OBN Obninsk 63.67 358 *eP* **P 18 02 03.5 -1.7**
comp=Z,105nm,1.3s,mb5.7
SUW Suwalki 64.50 7 *eP* **P 18 02 09.3 -1.3**
MKAR Makanchi Array 65.12 325 P **P 18 02 12.7 -2.1**
comp=Z,1.1nm,0.7s,mb4.0,baz=46,slow=7.1,SNR=12
MKAR LR LR 18 32 22.7
comp=Z,268nm,22.0s,MS4.4,baz=90,slow=38
CLZ Clausthal 65.47 16 *eP* **P 18 02 17.0 +0.1**
comp=Z,16nm,1.1s,mb5.0
BAIF Baives 66.30 20 *eP* **P 18 02 21.2 -1.0**
CLL Collm 66.31 14⇓ *iP* **P 18 02 21.5 -0.8**
CLL pmax pmax
comp=Z,17nm,1.2s,mb5.0
CLL Collm 66.31 14⇓ *iP* **P 18 02 21.5 -0.8**
comp=Z,17nm,1.2s,mb5.0
CLL *e* 18 02 26.0
CLL *e* 18 02 42.0
CLL Collm 66.31 14 ⇓P **P 18 02 21.5 -0.8**
comp=Z,logA/T=1.2,mb5.0
CLL *e*PP* pP 18 02 26.0 -7.8
CLL *e* 18 02 42.0
TNS Taunus Mts 66.79 17 *eP* **P 18 02 25.2 -0.1**
TNS pmax pmax
comp=Z,21nm,1.3s,mb5.0
TNS Taunus Mts 66.79 17 *eP* **P 18 02 25.2 -0.1**
comp=Z,21nm,1.3s,mb5.0
MOX Moxa 66.80 15 *eP* **P 18 02 25.1 -0.3**
MOX pmax pmax
comp=Z,33nm,1.3s,mb5.2
MOX Moxa 66.80 15 *eP* **P 18 02 25.1 -0.3**
comp=Z,33nm,1.3s,mb5.2
MOX *e* 18 02 45.1
MOX Moxa 66.80 15 *iP* **P 18 02 25.1 -0.3**
comp=Z,logA/T=1.4,mb5.2
MOX pP pP 18 02 45.0 +8.2
BRG Berggiesshubel 66.85 13 *eP* **P 18 02 25.4 -0.3**
BRG pmax pmax
comp=Z,22nm,1.1s,mb5.1
BRG Berggiesshubel 66.85 13 *eP* **P 18 02 25.4 -0.3**
comp=Z,22nm,1.1s,mb5.1
KSP Ksiaz 67.12 12 *eP* **P 18 02 27.2 -0.2**
PVCC Panska Ves 67.26 13⇑ *iP* **P 18 02 28.5 +0.3**
NKC Novy Kostel 67.31 15⇑ *iP* **P 18 02 28.8 +0.2**
NKC *ex* x 18 02 48.1
LZH Lanzhou 67.42 304 *eP* **P 18 02 28.5 -1.0**
LZH *PP pP 18 02 40.0 -1.0
LZH *SP sP 18 02 45.0 -0.2
LZH 18 04 58.0
LZH *eS* S 18 11 18.5 -2.7
LZH *e*SS SS 18 15 39.5 -3.8
LZH pmax pmax
comp=Z,30nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,910nm,16.0s,MS5.1
LZH Lanzhou 67.42 304 *eP* **P 18 02 28.5 -1.0**
comp=Z,30nm,1.5s,mb5.1
LZH pP pP 18 02 40.0 -1.0
LZH sP sP 18 02 45.0 -0.2
LZH PP PP 18 04 58.0 -2.1
LZH *eS* S 18 11 18.5 -2.7
LZH sS 18 11 35.5
LZH *e*SS SS 18 15 39.5 -3.8
LZH LR LR
comp=Z,910nm,16.0s,MS5.1
UPC Upice 67.43 12⇑ *iP* **P 18 02 29.3 0.0**
VRSR Storozhevoye 67.51 356 *dP* **P 18 02 28.7 -1.1**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,5.0nm,1.2s
JTS JuntasAbangare 67.63 111 LR LR 18 34 59.6
comp=E,176nm,22.0s,MS4.2,baz=154,slow=38
GRA1 Grafenberg Arr 67.69 15 *eP* **P 18 02 30.7 -0.3**
GRF Grafenberg Arr 67.69 15 *eP* **P 18 02 30.7 -0.3**
PRU Pruhonice 67.79 13⇑ *iP* **P 18 02 31.6 0.0**
PRU *ex* x 18 02 51.2
OJC Ojcow 68.05 9 *eP* **P 18 02 33.0 -0.2**
AKASG Malin Array Be 68.06 3 P **P 18 02 32.2 -1.1**
comp=E,23nm,0.7s,mb5.3,baz=357,slow=6.1,SNR=64
OKC Ostrava-Krasne 68.29 11⇑ *iP* **P 18 02 34.7 -0.1**
MORC Moravsky Berou 68.30 11 *eP* **P 18 02 33.9 -0.9**
MORC pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MORC Moravsky Berou 68.30 11 *eP* **P 18 02 33.9 -0.9**
comp=Z,10nm,0.8s,mb4.9
MORC Moravsky Berou 68.30 11 ⇓P **P 18 02 34.4 -0.4**
THEF They Montfort 68.37 19 *eP* **P 18 02 35.1 -0.1**
CDF Champ du Feu 68.39 18 *eP* **P 18 02 35.0 -0.4**
comp=Z,48nm,1.4s,mb5.0
CDF Champ du Feu 68.39 18 *eP* **P 18 02 35.0 -0.4**
CDF pmax pmax
comp=Z,24nm,1.4s,mb5.0
WLS Welschbruch 68.40 18 *eP* **P 18 02 35.1 -0.3**
WET Wettzell 68.43 14 *eP* **P 18 02 35.8 +0.2**
WET pmax pmax
comp=Z,24nm,1.2s,mb5.1
WET Wettzell 68.43 14 *eP* **P 18 02 35.8 +0.2**
comp=Z,24nm,1.2s,mb5.1
KHC Kasperske Hory 68.53 14⇑ *iP* **P 18 02 36.6 +0.4**
KHC *ex* x 18 02 57.1
ECH Echery 68.56 19 *eP* **P 18 02 36.3 -0.1**
BFO Black Forest 68.62 18 *eP* **P 18 02 36.6 -0.2**
BFO pmax pmax
comp=Z,18nm,1.5s,mb4.8
BFO Black Forest 68.62 18 *eP* **P 18 02 36.6 -0.2**
comp=Z,18nm,1.5s,mb4.8
HAU Haudompre 68.64 19 *eP* **P 18 02 36.2 -0.7**
HAU *eR*
comp=Z,138nm,21.5s
VRAC Vranov 68.67 12 ⇑P **P 18 02 36.9 -0.2**
LVV L'vov 68.73 7 *eP* **P 18 02 36.4 -1.1**
GEC2 GERESS Array S 68.82 14 *eP* **P 18 02 37.9 -0.1**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GEC2 GERESS Array S 68.82 14 *eP* **P 18 02 37.9 -0.1**
comp=Z,10.0nm,0.9s,mb4.8
GERES GERESS Array B 68.82 14 P **P 18 02 37.9 -0.2**
comp=Z,4.6nm,0.7s,mb4.5,baz=345,slow=4.4,SNR=43
GERES LR LR 18 34 22.3
comp=Z,51nm,19.4s,MS3.8,baz=52,slow=37
KWP Kalwaria 68.84 8 *eP* **P 18 02 38.1 -0.1**
NIE Niedzica 68.89 9⇑ *eP* **P 18 02 36.8 -1.6**
HINF Hinteralfeld 68.90 19 *eP* **P 18 02 37.8 -0.8**
comp=Z,20nm,1.0s,mb4.7
HINF Hinteralfeld 68.90 19 *eP* **P 18 02 37.8 -0.8**
HINF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MOF Molkenrain 68.91 19 *eP* **P 18 02 36.7 -1.9**
SSF Saint Saulge 69.08 21 *eP* **P 18 02 38.6 -1.1**
SSF pmax pmax
comp=Z,23nm,1.2s,mb5.0
SSF Saint Saulge 69.08 21 *eP* **P 18 02 38.6 -1.1**
comp=Z,23nm,1.2s,mb5.0
FUR Furstenfeldbru 69.19 16 *eP* **P 18 02 40.4 +0.1**
FUR pmax pmax
comp=Z,38nm,0.9s,mb5.3
FUR Furstenfeldbru 69.19 16 *eP* **P 18 02 40.4 +0.1**
comp=Z,38nm,0.9s,mb5.3
AVF Avril sur Loir 69.32 22 *eP* **P 18 02 40.2 -0.9**
comp=Z,28nm,1.2s,mb4.8
AVF Avril sur Loir 69.32 22 *eP* **P 18 02 40.2 -0.9**

AVF pmax pmax
comp=Z,14nm,1.2s,mb4.8
CRVS Cervenica-Dubn 69.49 8 *iP* **P 18 02 42.0 -0.1**
CRVS *i* pP pP 18 02 54.2 +0.6
KOLS Kolonicke sedl 69.51 8 *iP* **P 18 02 42.6 +0.3**
SMOL Smolenice 69.54 11 *iP* **P 18 02 42.9 +0.4**
SMF Signal de Mont 69.54 21 *eP* **P 18 02 41.5 -1.0**
comp=Z,30nm,1.1s,mb4.8
SMF Signal de Mont 69.54 21 *eP* **P 18 02 41.5 -1.0**
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.8
TCF Toulx Ste Croi 69.60 23 *eP* **P 18 02 41.9 -0.9**
comp=Z,11nm,0.9s,mb4.5
TCF Toulx Ste Croi 69.60 23 *eP* **P 18 02 41.9 -0.9**
TCF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
VYHS Vyhne 69.69 10 *iP* **P 18 02 43.3 -0.1**
ZST Bratislava 69.82 12 *iP* **P 18 02 44.2 0.0**
KECS Kecovo 69.83 9 *iP* **P 18 02 44.3 +0.1**
DAVA Damuels 69.87 17⇑ *iP* **P 18 02 44.7 +0.2**
comp=Z,14nm,1.4s,mb4.7
MOA Molln 69.87 14⇓ *iP* **P 18 02 44.2 -0.3**
comp=Z,8.9nm,0.9s,mb4.7
CABF La Chapelle 69.95 20 *eP* **P 18 02 44.6 -0.4**
comp=Z,28nm,1.1s,mb4.8
CABF La Chapelle 69.95 20 *eP* **P 18 02 44.6 -0.4**
CABF pmax pmax
comp=Z,14nm,1.1s,mb4.8
AGO Saint Agoulin 69.99 22 *eP* **P 18 02 45.1 -0.1**
WATA Walderalm 70.05 16⇓ *iP* **P 18 02 45.5 -0.1**
comp=Z,26nm,1.1s,mb5.1
WATA Walderalm 70.05 16⇓ *iP* **P 18 02 45.5 -0.1**
WATA pmax pmax
comp=Z,26nm,1.1s,mb5.1
SQTA Sankt Quirin 70.11 16⇑ *iP* **P 18 02 46.4 +0.4**
comp=Z,27nm,1.1s,mb5.1
SQTA Sankt Quirin 70.11 16⇑ *iP* **P 18 02 46.4 +0.4**
SQTA pmax pmax
comp=Z,27nm,1.1s,mb5.1
PLDF La Plantade 70.16 22 *eP* **P 18 02 45.5 -0.8**
PSZ Piszkesteto 70.35 10 P **P 18 02 48.4 +1.0**
PSZ Piszkesteto 70.35 10 *eP* **P 18 02 47.2 -0.1**
comp=Z,29nm,1.0s,mb5.2
PSZ Piszkesteto 70.35 10 ⇓P **P 18 02 47.8 +0.4**
RJF Les Rejaudoux 70.41 23 *eP* **P 18 02 46.7 -1.1**
RJF *eR*
comp=Z,116nm,20.5s
KBA Koelnbreinsper 70.52 14⇑ *iP* **P 18 02 48.9 +0.5**
comp=Z,43nm,0.9s,mb5.4
KBA Koelnbreinsper 70.52 14⇑ *iP* **P 18 02 48.9 +0.5**
KBA pmax pmax
comp=Z,43nm,0.9s,mb5.4
ARSA Arzberg 70.60 13⇓ *iP* **P 18 02 49.2 +0.3**
comp=Z,9.4nm,0.9s,mb4.7
LFF La Frestale 70.61 24 *eP* **P 18 02 48.1 -1.0**
comp=Z,15nm,0.7s,mb4.8
LFF La Frestale 70.61 24 *eP* **P 18 02 48.1 -1.0**
LFF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CAF Calviac 70.88 23 *eP* **P 18 02 49.9 -0.8**
comp=Z,46nm,1.5s,mb4.9
CAF Calviac 70.88 23 *eP* **P 18 02 49.9 -0.8**
CAF pmax pmax
comp=Z,23nm,1.5s,mb4.9
BURAR Bucovina Array 71.00 6 ⇓P **P 18 02 51.0 -0.3**
BURAR Bucovina Array 71.00 6 ⇓P **P 18 02 51.0 -0.3**
AAK Ala-Archa 71.01 329 *iP* **P 18 02 50.1 -1.4**
AAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
AAK Ala-Archa 71.01 329 *eP* **P 18 02 49.6 -2.0**
comp=Z,14nm,1.0s,mb4.9
LPL La Plagne 71.12 20 *eP* **P 18 02 52.6 +0.5**
comp=Z,28nm,1.2s,mb4.8
LPL La Plagne 71.12 20 *eP* **P 18 02 52.6 +0.5**
LPL pmax pmax
comp=Z,14nm,1.2s,mb4.8
LPG La Plagne 71.14 20 *eP* **P 18 02 53.0 +0.7**
comp=Z,32nm,1.1s,mb4.8
LPG La Plagne 71.14 20 *eP* **P 18 02 53.0 +0.7**
LPG pmax pmax
comp=Z,16nm,1.1s,mb4.9
OBKA Obir 71.22 14⇑ *iP* **P 18 02 52.7 0.0**
comp=Z,43nm,0.8s,mb5.4
VIVF Saint-Julien-l 71.42 21 *eP* **P 18 02 53.4 -0.5**
comp=Z,12nm,0.9s,mb4.5
VIVF Saint-Julien-l 71.42 21 *eP* **P 18 02 53.4 -0.5**
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 71.57 20 *eP* **P 18 02 54.5 -0.3**
comp=Z,9.4nm,1.0s,mb4.4
ORIF *eR*
comp=Z,92nm,18.2s
OG22 Abries 71.83 20 *eP* **P 18 02 57.4 +1.0**
MBDF Montbardon 71.90 20 *eP* **P 18 02 57.2 +0.5**
comp=Z,17nm,0.8s,mb4.7
MBDF Montbardon 71.90 20 *eP* **P 18 02 57.2 +0.5**
MBDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PKSM Moragy 71.93 11 ⇓P **P 18 02 55.8 -1.1**
PKSM Moragy 71.93 11 ⇓P **P 18 02 55.8 -1.1**
CD2 Chengdu 71.98 302 P **P 18 03 08.3 +11**
CD2 AMB AMB
comp=Z,10.0nm,0.4s,mb5.1
ETSF Etsaut 72.31 26 *eP* **P 18 02 59.3 +0.1**
comp=Z,17nm,0.8s,mb4.7
ETSF Etsaut 72.31 26 *eP* **P 18 02 59.3 +0.1**
ETSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
EPF Esparros 72.37 25 *eP* **P 18 02 58.6 -1.0**
MTLF Montolieu 72.44 23 *eP* **P 18 02 59.6 -0.4**
comp=Z,23nm,0.9s,mb4.8
MTLF Montolieu 72.44 23 *eP* **P 18 02 59.6 -0.4**
MTLF pmax pmax
comp=Z,11nm,0.9s,mb4.8
TOUF Mont Tournerai 72.67 20 *eP* **P 18 03 01.4 +0.2**
AUTN L'Aution 72.72 19 *eP* **P 18 03 01.0 -0.5**
SAOF Saorge 72.75 19 *eP* **P 18 03 00.8 -0.9**
BZS Buzias 72.77 9 P **P 18 03 01.4 -0.4**
BZS Buzias 72.77 9 ⇑P **P 18 03 01.3 -0.5**
BZS Buzias 72.77 9 ⇑P **P 18 03 01.3 -0.5**
MVIF Mont Vial 72.77 20 *eP* **P 18 03 02.1 +0.3**
VRI Vrincioaia 72.81 5 ⇓P **P 18 03 01.1 -0.9**
SBF Sospel 72.85 19 *eP* **P 18 03 02.0 -0.3**
comp=Z,48nm,0.8s,mb5.2
FRF La Foret Royal 73.01 20 *eP* **P 18 03 02.9 -0.4**
comp=Z,34nm,0.9s,mb5.0
MLR Muntele Rosu 73.15 6 P **P 18 03 04.2 +0.2**
comp=Z,4.2nm,1.0s,mb4.3,baz=344,slow=7.2,SNR=6.2
MLR Muntele Rosu 73.15 6 P **P 18 03 04.2 +0.2**
MLR Muntele Rosu 73.15 6 ⇓P **P 18 03 05.1 +1.1**
LMR La Mourre 73.21 20 *eP* **P 18 03 04.2 -0.2**
comp=Z,82nm,1.3s,mb5.2
SNX Sinaia 73.26 6 P **P 18 03 05.8 +1.1**
SNX Sinaia 73.26 6 ⇑P **P 18 03 06.0 +1.3**
SNX Sinaia 73.26 6 ⇑P **P 18 03 06.0 +1.3**
SFI Santa Sofia 73.45 16 *eP* **P 18 03 06.9 +1.0**
PGD Poggio Sodo 73.47 16 *eP* **P 18 03 07.2 +1.3**
GOF Gofitskoye 73.48 353⇓ *iP* **P 18 03 04.3 -1.7**
GOF *i* pP 18 03 16.5 -1.0
GOF pmax pmax
comp=Z,100nm,1.7s,mb5.5
CFR Carcaliu 73.55 4 ⇑P **P 18 03 06.1 -0.3**
CFR Carcaliu 73.55 4 ⇑P **P 18 03 06.1 -0.3**
FSSB Fossombrone 73.78 16 *eP* **P 18 03 08.2 +0.4**
SIM Simferopol' 73.87 360 *eP* **P 18 03 08.7 +0.5**
SIM *eS* S 18 12 37.1 +1.3
SIM pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
ANN Anapa 73.97 357 *eP* **P 18 03 07.3 -1.5**
ANN *e* pP 18 03 19.4 -0.9
ANN pmax pmax
comp=Z,17nm,1.0s,mb4.9
HARR Harsova 74.03 4 P **P 18 03 09.2 0.0**
HARR Harsova 74.03 4 ⇓P **P 18 03 09.3 +0.2**
HARR Harsova 74.03 4 ⇓P **P 18 03 09.3 +0.1**
GRFL Gerfalco 74.08 17 *eP* **P 18 03 09.4 0.0**
DIVS Divcibare 74.15 10 *eP* **P 18 03 09.2 -0.7**
SNTG Esanatoglia 74.23 15 *eP* **P 18 03 10.8 +0.4**
TIRR Tirgusor 74.28 4 ⇓P **P 18 03 10.4 -0.2**
PGF Pioggiola 74.38 19 *eP* **P 18 03 10.9 -0.3**
comp=Z,40nm,0.9s,mb5.0
ASS Assisi 74.39 16 *eP* **P 18 03 11.5 +0.2**
KIV Kislovodsk 74.60 353 *dP* **P 18 03 12.3 -0.2**
KIV *i* pP 18 03 24.1 +0.1

KIV				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0						
KIV	**Kislovodsk**	**74.60**	**353**	*e*P	**P**	**18 03 11.6**	**-0.9**
	comp=Z,50nm,1.3s,mb5.3						
KIV				*e*pP	pP	18 03 22.8	-1.2
ESDC	**Sonseca Array**	**74.64**	**29**	P	**P**	**18 03 13.5**	**+0.7**
	comp=Z,7.2nm,0.8s,mb4.7,baz=342,slow=5.4,SNR=30						
ESLA	**Sonseca Array**	**74.64**	**29**	*e*P	**P**	**18 03 11.9**	**-1.0**
	comp=Z,16nm,1.5s,mb4.7						
NRCA	**Norcia**	**74.67**	**15**	*e*P	**P**	**18 03 13.4**	**+0.4**
SOC	**Sochi**	**75.11**	**355**	*e*P	**P**	**18 03 14.3**	**-1.2**
SOC				*e*		18 03 36.6	
SOC				*e*		18 06 02.7	
SOC				*e*PPP	PPP	18 07 52.2	+1.0
SOC				*e*S	S	18 12 49.2	-0.6
SOC				*e*		18 13 28.2	
SOC				*e*SS	SS	18 17 45.0	+3.5
SOC				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.0						
SOC				pmax	pmax		
	comp=N,14nm,1.0s						
SOC				pmax	pmax		
	comp=E,7.0nm,1.4s						
SDV	**Santo Domingo**	**75.49**	**98**	*e*P	**P**	**18 03 16.7**	**-1.5**
	comp=E,14nm,1.0s,mb4.8						
ROSC	**El Rosal**	**77.28**	**104**	LR	LR	18 41 02.8	
	comp=E,136nm,19.1s,MS4.3,baz=196,slow=38						
BALT	**Daday**	**77.28**	**0**	*i* P	**P**	**18 03 28.5**	**+0.7**
CTKT	**Corum**	**78.19**	**359**	*i* P	**P**	**18 03 33.8**	**+1.0**
GNI	**Garni**	**78.26**	**351**	*e*P	**P**	**18 03 33.3**	**+0.1**
GNI				pmax	pmax		
	comp=Z,82nm,1.6s						
GNI	**Garni**	**78.26**	**351**	P	**P**	**18 03 34.1**	**+1.0**
	comp=Z,5.4nm,0.8s,mb4.5,baz=350,slow=18,SNR=2.8						
GNI	**Garni**	**78.26**	**351**	*e*P	**P**	**18 03 33.3**	**+0.1**
	comp=Z,82nm,1.6s,mb5.4						
ELDT	**Eldivan**	**78.33**	**0**	*i* P	**P**	**18 03 34.5**	**+0.9**
ULDT	**Uludag**	**78.61**	**3**	*i* P	**P**	**18 03 33.9**	**-1.3**
PPT	**Papeete**	**78.87**	**183**	LR	LR	18 32 47.7	
	comp=Z,235nm,19.4s,MS4.5,baz=318,slow=31						
ANTO	**Ankara**	**78.94**	**1**	⇑P	**P**	**18 03 38.1**	**+1.1**
BRTR	**Keskin Array B**	**79.09**	**360**	P	**P**	**18 03 38.1**	**+0.3**
	comp=Z,8.1nm,0.9s,mb4.7,baz=27,slow=2.8,SNR=37						
ESKT	**Eskisehir**	**79.27**	**2**	*i* P	**P**	**18 03 38.8**	**+0.1**
AVNT	**Avonos**	**80.03**	**359**	*i* P	**P**	**18 03 43.0**	**+0.2**
MALT	**Malatya**	**80.42**	**356**	*e*P	**P**	**18 03 45.4**	**+0.5**
MALT				*e**PP	pP	18 03 57.1	+0.6
MALT				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
MALT	**Malatya**	**80.42**	**356**	*e*P	**P**	**18 03 45.4**	**+0.5**
	comp=Z,22nm,1.4s,mb4.9						
MALT				*e*pP	pP	18 03 57.0	+0.5
MALT	**Malatya**	**80.42**	**356**	⇓P	**P**	**18 03 46.1**	**+1.2**
KAHT	**Ahir Dag**	**81.14**	**357**	*i* P	**P**	**18 03 49.8**	**+1.0**
SHL	**Shillong**	**81.39**	**309**	⇓*i*P	**P**	**18 03 49.5**	**-0.8**
JIRN	**Jiri**	**81.51**	**315**	*e*P	**P**	**18 03 51.4**	**+0.5**
	comp=Z,103nm,0.9s,mb5.8						
KKN	**Kakani**	**81.70**	**315**	*e*P	**P**	**18 03 51.9**	**0.0**
	comp=Z,17nm,0.6s,mb5.2						
GKN	**Gorkha**	**81.72**	**316**	*e*P	**P**	**18 03 51.8**	**-0.2**
	comp=Z,54nm,0.9s,mb5.5						
PKI	**Pulchoki**	**81.86**	**315**	*e*P	**P**	**18 03 52.0**	**-0.7**
	comp=Z,24nm,0.9s,mb5.1						
DMN	**Daman**	**81.93**	**315**	*e*P	**P**	**18 03 53.2**	**+0.1**
	comp=Z,35nm,0.8s,mb5.3						
HNR	**Honiara**	**82.09**	**233**	LR	LR	18 33 15.8	
	comp=Z,79nm,21.2s,MS4.0,baz=119,slow=30						
COBT	**Iskenderun**	**82.26**	**358**	*i* P	**P**	**18 03 55.2**	**+0.6**
KOLN	**Koldanda**	**82.28**	**317**	*e*P	**P**	**18 03 54.4**	**-0.5**
	comp=Z,70nm,1.2s,mb5.5						
IDI	**Anoyia**	**83.26**	**7**	LR	LR	18 39 29.1	
	comp=Z,45nm,21.1s,MS3.8,baz=259,slow=35						
CM31	**Chiang Mai Arr**	**85.01**	**300**	*e*P	**P**	**18 04 08.0**	**-0.8**
	comp=Z,5.4nm,0.8s,mb4.7						
CMAR	**Chiang Mai Arr**	**85.01**	**300**	P	**P**	**18 04 08.2**	**-0.6**
	comp=Z,6.7nm,0.9s,mb4.8,baz=4.4,slow=6.1,SNR=41						
CMAR				LR	LR	18 46 46.9	
	comp=Z,81nm,18.4s,MS4.2,baz=20,slow=39						
ASF	**Jabal al Asfar**	**86.58**	**357**	P	**P**	**18 04 17.1**	**+0.9**
	comp=Z,1.6nm,0.5s,mb4.5,baz=185,slow=3.1,SNR=4.0						
EIL	**Elat**	**89.11**	**359**	P	**P**	**18 04 28.2**	**-0.3**
	comp=Z,7.0nm,0.8s,mb5.0,baz=28,slow=12,SNR=5.4						
EIL	**Elat**	**89.11**	**359**	P	**P**	**18 04 28.2**	**-0.3**
SAML	**Samuel**	**94.61**	**100**	*e*P	**P**	**18 04 52.1**	**-2.0**
	comp=Z,6.5nm,1.0s,mb5.0						
RAYN	**Ar Rayn**	**94.69**	**349**	P	**P**	**18 04 55.7**	**+1.4**
	comp=Z,47nm,1.0s,SNR=8.8						
LPAZ	**La Paz**	**98.72**	**108**	LR	LR	18 49 56.6	
	comp=Z,115nm,21.3s,MS4.3,baz=132,slow=35						
VNDA	**Vanda**	**142.39**	**196**	PKhKP		18 10 59.2	
	comp=Z,0.9nm,0.6s,baz=76,slow=2.6,SNR=3.0						
VNDA	**Vanda**	**142.39**	**196**	PKP	PKPdf	18 10 59.2	-3.7

TAP 06 17:56:07.3, 24.80N×122.00E, h9km, ML3.9, 9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.08**	**306**	⇓*i*P	Pg	17 56 09.6	+0.1
EGS				S	Sg	17 56 11.2	+0.2
TWB1	**Santiao Chiao**	**0.21**	**357**	⇓*i*P	Pg	17 56 11.8	+0.1
TWB1				S	Sg	17 56 14.5	-0.2
ILA	**Ilan**	**0.23**	**262**	*e*P	Pg	17 56 12.1	-0.1
ILA				S	Sg	17 56 16.5	+1.0
TWC	**Suao**	**0.23**	**216**	⇓*i*P	Pg	17 56 12.3	0.0
TWC				S	Sg	17 56 15.2	-0.4
TWE	**Neicheng**	**0.31**	**256**	⇓*i*P	Pg	17 56 13.7	0.0
TWE				S	Sg	17 56 17.8	-0.2
NWF	**Wu-fen Shan**	**0.34**	**324**	⇓*i*P	Pg	17 56 14.5	+0.3
NWF				S	Sg	17 56 19.3	+0.6
TWA	**Mucha**	**0.42**	**295**	⇓*i*P	Pg	17 56 16.0	+0.2
TWA				S	Sg	17 56 21.5	0.0
ENTT	**Nioudou**	**0.43**	**248**	*e*P	Pg	17 56 15.6	-0.4
ENA	**Nanau**	**0.44**	**213**	⇓P	Pg	17 56 15.8	-0.4
TAP1	**Taipei**	**0.49**	**299**	*i* P	Pg	17 56 17.9	+0.6
TAP1				S	Sg	17 56 24.2	+0.2
TAP	**Taipei**	**0.51**	**298**	*i* P	Pg	17 56 17.7	+0.2
TAP				S	Sg	17 56 24.6	+0.2
NSK	**Sanguang**	**0.60**	**258**	*e*P	Pg	17 56 18.6	-0.7
TWY	**Chenhua**	**0.60**	**323**	⇓*i*P	Pg	17 56 19.7	+0.4
TWS1	**Kuangyinshan**	**0.61**	**300**	⇓*i*P	Pg	17 56 20.2	+0.7
TWS1				S	Sg	17 56 30.2	+2.5
NNS	**Nan Shan**	**0.67**	**238**	*e*P	Pb	17 56 19.8	-1.0
NCU	**National Centr**	**0.76**	**283**	*e*P	Pb	17 56 23.4	+1.2
NCU				S	Sb	17 56 35.2	+2.8
TWD	**Chiawan**	**0.81**	**207**	*e*P	Pb	17 56 22.3	-0.7
TWD				S	Sb	17 56 32.7	-1.1
PCYT	**Pengchaiyu**	**0.83**	**4**	*e*P	Pb	17 56 23.7	+0.2
HWA	**Hwalien**	**0.90**	**204**	*e*P	Pb	17 56 24.9	+0.3
NSTT	**Nanjuang**	**0.92**	**260**	*e*P	Pb	17 56 25.9	+0.8
NSTT				S	Sb	17 56 39.5	+2.3
TWT	**Tachien**	**0.93**	**234**	*e*P	Pb	17 56 25.3	+0.2
HSN	**Hsinchu**	**0.94**	**270**	*e*P	Pb	17 56 26.2	+0.9
HSN				S	Sb	17 56 40.1	+2.5
ESL	**Shilin**	**1.11**	**208**	P	Pb	17 56 27.8	-0.5
NSY	**Sanyi**	**1.19**	**252**	*e*P	Pb	17 56 31.2	+1.6
NSY				S	Sb	17 56 49.1	+4.1
TWQ1	**Liyutan**	**1.20**	**248**	*e*P	Pb	17 56 31.2	+1.4
TWQ1				S	Sb	17 56 48.6	+3.3
SMLT	**Sun Moon Lake**	**1.36**	**228**	*e*P	Pb	17 56 32.2	-0.3
TCU	**Taichung**	**1.37**	**242**	*e*P	Pb	17 56 34.9	+2.2
TCU				S	Sb	17 56 53.5	+3.3
TYC	**Yuchr**	**1.37**	**230**	*e*P	Pn	17 56 32.9	+0.2
EHY	**Hungye**	**1.43**	**206**	*e*P	Pn	17 56 33.3	-0.3
WNT	**Mingjian**	**1.51**	**233**	*e*P	Pn	17 56 36.6	+1.9
TWF1	**Yuli**	**1.58**	**204**	*e*P	Pn	17 56 35.5	-0.2
YUS	**Yu-Shan**	**1.62**	**216**	*e*P	Pn	17 56 37.2	+1.0
YUS				S	Sb	17 57 01.1	+3.7
ALS	**Alishan**	**1.69**	**221**	*e*P	Pn	17 56 38.9	+1.7
ALS				S	Sn	17 57 03.6	+4.5
CHN5	**Tsauling**	**1.70**	**226**	P	Pn	17 56 39.6	+2.2
CHN5				S	Sn	17 57 03.5	+4.0
WGK	**Gukeng**	**1.72**	**230**	*e*P	Pn	17 56 40.4	+2.7
CHKT	**Chengkung**	**1.79**	**199**	*e*P	Pn	17 56 38.8	+0.1
ELDTW	**Lidau**	**1.84**	**209**	*e*P	Pn	17 56 40.8	+1.4
CHN4	**Tsaushan**	**1.93**	**222**	*e*P	Pn	17 56 43.6	+2.9
CHN4				S	Sn	17 57 09.8	+4.4
CHY	**Chiayi**	**1.94**	**228**	*e*P	Pn	17 56 43.4	+2.5
STYT	**Tauyuan**	**1.99**	**215**	*e*P	Pn	17 56 42.5	+1.0
STYT				S	Sn	17 57 10.3	+3.5
WSF	**Szhu**	**1.99**	**235**	*e*P	Pn	17 56 43.2	+1.6
WTP	**Ta-pu**	**2.00**	**220**	*e*P	Pn	17 56 44.3	+2.6
WTP				S	Sn	17 57 11.5	+4.4
TWK	**Hsinying**	**2.06**	**222**	*e*P	Pn	17 56 45.2	+2.7
TWK				S	Sn	17 57 13.1	+4.5
CHN1	**Nanshi**	**2.10**	**220**	*e*P	Pn	17 56 45.3	+2.2
CHN1				S	Sn	17 57 14.8	+5.2
SGST	**Jiashian**	**2.15**	**217**	*e*P	Pn	17 56 46.0	+2.2
SGST				S	Sn	17 57 14.6	+3.8
TWG	**Pinlang**	**2.15**	**204**	*e*P	Pn	17 56 43.3	-0.5
CHN8	**Yiju**	**2.18**	**229**	*e*P	Pn	17 56 45.5	+1.1
CHN3	**Shinhua**	**2.28**	**221**	*e*P	Pn	17 56 45.2	-0.5
CHN3				S	Sn	17 57 19.8	+5.6
ECL	**Taimali**	**2.39**	**204**	*e*P	Pn	17 56 49.2	+1.9
SSD	**Sandimen**	**2.40**	**212**	*e*P	Pn	17 56 48.8	+1.4
SSD				S	Sn	17 57 19.9	+2.7
TWM1	**Shoushan**	**2.44**	**217**	*e*P	Pn	17 56 50.8	+2.7
PNG	**Penghu**	**2.55**	**242**	*e*P	Pn	17 56 49.7	+0.2
EAST	**Anshuo**	**2.63**	**204**	*e*P	Pn	17 56 52.2	+1.5
SCZT	**Fangliau**	**2.73**	**208**	*e*P	Pn	17 56 55.6	+3.4
LAY	**Lan-yu**	**2.78**	**189**	*e*P	Pn	17 56 49.7	-3.1

*BYKL **06** 18:02:32.2±0.2, 55.91N×113.41E, h8km±6km*

MOS 06 18:02:32.3±2.6, 55.90N×113.42E, h9km, mb4.3/1, 12C-5D, Error ellipse: s-maj=16.6km s-min=11.0km az=61.8, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVKR	**Severomuysk**	**0.23**	**20**	⇑*i*Pg	Pg	18 02 37.0	-0.2
	332nm,0.5s						
SVKR				⇑*i*Pg	Pg	18 02 37.0	-0.2
	332nm,0.5s						
SVKR				⇑*i*Pg	Pg	18 02 37.0	-0.2
	1μm,0.5s						
SVKR				*e*Sg	Sg	18 02 41.4	+0.9
SVKR				Pmax			
	763nm,0.1s						
SVKR				Smax			
	4μm,0.2s						
UKT	**Uakit**	**0.43**	**164**	⇑*i*Pg	Pg	18 02 39.6	-1.4
UKT				*e*Sg	Sg	18 02 46.0	-0.8
UKT				Pmax			
	147nm,0.4s						
UKT				Smax			
	1μm,0.7s						
YOA	**Uoyan**	**0.98**	**284**	⇑*i*PG	Pg	18 02 50.1	-1.8
YOA				*e*		18 03 03.8	
YOA				pmax	pmax		
	comp=Z,124nm,0.4s						
YOA				smax			
	comp=N,1μm,0.6s						
YOA	**Uoyan**	**0.98**	**284**	⇑*i*Pg	Pg	18 02 50.2	-1.7
YOA				*e*Sg	Sg	18 03 02.6	-2.5
YOA				Pmax			
	comp=N,132nm,0.2s						
YOA				Smax			
	comp=N,1μm,0.5s						
KMO	**Kumora**	**1.25**	**270**	⇓*i*PG	Pg	18 02 54.7	-2.6
KMO				*e*		18 03 11.9	
KMO				pmax	pmax		
	comp=Z,61nm,0.3s						
KMO				smax			
	comp=N,327nm,0.8s						
KMO	**Kumora**	**1.25**	**270**	⇓*i*Pg	Pg	18 02 54.6	-2.7
KMO				*e*Sg	Sg	18 03 11.9	-2.1
KMO				Pmax			
	comp=N,81nm,0.5s						
KMO				Smax			
	comp=N,332nm,1.1s						
NLYR	**Nelyaty**	**1.41**	**64**	⇑*i*PG	Pg	18 02 57.4	-3.0
NLYR				*e*		18 03 15.6	
NLYR				pmax	pmax		
	comp=Z,102nm,0.6s						
NLYR				smax			
	comp=N,1μm,1.4s						
NLYR	**Nelyaty**	**1.41**	**64**	*e*Pg	Pg	18 02 57.3	-3.1
NLYR				*e*Sg	Sg	18 03 16.0	-3.2
NLYR				Pmax			
	comp=N,99nm,0.6s						
NLYR				Smax			
	comp=N,1μm,0.8s						
YLYR	**Ulyunkhan**	**1.65**	**232**	⇑*i*PN	Pn	18 03 01.4	-0.2
YLYR				*e*		18 03 23.9	
YLYR				pmax	pmax		
	comp=Z,83nm,0.3s						
YLYR				smax			
	comp=E,401nm,0.2s						
YLYR	**Ulyunkhan**	**1.65**	**232**	⇓*i*Pg	Pg	18 03 01.7	-3.5
	comp=E,41nm,0.7s						
YLYR				⇓*i*Pg	Pg	18 03 01.7	-3.5
	comp=E,69nm,0.7s						
YLYR				⇑*i*Pg	Pg	18 03 01.7	-3.5
	comp=E,31nm,0.7s						
YLYR				*e*Sg	Sg	18 03 24.1	-3.1
YLYR				*e*Sb	Sb	18 03 25.0	+1.8
YLYR				Pmax			
	comp=E,96nm,0.6s						
YLYR				max			
	comp=E,380nm,0.2s						
BOD	**Bodaibo**	**1.95**	**9**	*e*PN	Pn	18 03 05.9	-0.1
BOD	**Bodaibo**	**1.95**	**9**	⇑*i*Pg	Pg	18 03 06.6	-4.7
	comp=E,141nm,0.6s						
BOD				⇑*i*Pg	Pg	18 03 06.6	-4.7
	comp=E,30nm,0.6s						
BOD				⇑*i*Pg	Pg	18 03 06.6	-4.7
	comp=E,102nm,0.6s						
BOD				*e*Sg	Sg	18 03 31.4	-5.9
BOD				Pmax			
	comp=E,115nm,0.8s						
BOD				Smax			
	comp=E,238nm,0.6s						
NIZ	**Nizh Angarsk**	**2.19**	**268**	*e*PN	Pn	18 03 11.4	+2.0
NIZ				*e*		18 03 40.9	
NIZ				pmax	pmax		
	comp=Z,33nm,0.7s						
NIZ				smax			
	comp=E,176nm,0.8s						
NIZ	**Nizh Angarsk**	**2.19**	**268**	*e*Pn	Pn	18 03 09.7	+0.3
NIZ				*e*Pg	Pg	18 03 11.4	-4.7
NIZ				*e*Sg	Sg	18 03 40.5	-4.8
NIZ				Pmax			
	comp=E,48nm,1.1s						
NIZ				Smax			
	comp=E,209nm,0.6s						
CRS	**Chara**	**2.88**	**68**	*e*PN	Pn	18 03 24.8	+5.6
CRS				*e*		18 04 01.6	
CRS				pmax	pmax		
	comp=Z,72nm,0.8s						
CRS				smax			
	comp=N,311nm,1.2s						
CRS	**Chara**	**2.88**	**68**	*e*Pn	Pn	18 03 18.5	-0.7
CRS				*e*Pg	Pg	18 03 23.9	-5.8
CRS				*e*Sg	Sg	18 04 01.2	-6.9
CRS				Pmax			
	comp=N,66nm,1.0s						
CRS				Smax			
	comp=N,311nm,0.9s						
SYVR	**Suvo**	**3.00**	**223**	*e*Pn	Pn	18 03 20.4	-0.5
SYVR				*e*Pg	Pg	18 03 26.3	-5.8
SYVR				*e*Sn	Sn	18 03 56.9	-0.4
SYVR				*e*Sg	Sg	18 04 05.7	-6.4
SYVR				Pmax			
	comp=N,36nm,1.1s						
SYVR				Smax			
	comp=N,262nm,1.5s						
CIT	**Chita**	**3.89**	**179**	*e*PN	Pn	18 03 40.9	+7.3
CIT				*e*S	Sn	18 04 16.7	-3.2
CIT				*e*		18 04 31.9	
CIT				pmax	pmax		
	comp=Z,37nm,1.0s						
CIT				smax			
	comp=E,138nm,0.5s						
CIT	**Chita**	**3.89**	**179**	*e*Pg	Pg	18 03 41.6	-8.3
CIT				*e*Sn	Sn	18 04 17.9	-2.0
CIT				*e*Sg	Sg	18 04 32.8	-9.0
CIT				Pmax			
	comp=E,35nm,0.9s						
CIT				Smax			
	comp=E,135nm,0.7s						
TUP	**Tupik**	**4.03**	**109**	*e*PN	Pn	18 03 34.2	-1.4
TUP				*e*		18 03 44.7	
TUP				*e*		18 04 38.1	
TUP				pmax	pmax		
	comp=Z,30nm,0.5s						
TUP				smax			
	comp=N,97nm,0.6s						
TUP	**Tupik**	**4.03**	**109**	⇓*i*Pn	Pn	18 03 34.2	-1.4
TUP				*e*Pg	Pg	18 03 44.7	-8.0
TUP				*e*Sn	Sn	18 04 22.3	-1.2
TUP				*e*Sg	Sg	18 04 38.2	-8.2
TUP				Pmax			
	comp=N,28nm,0.7s						
TUP				Smax			
	comp=N,113nm,1.1s						
OGRR	**Ongureny**	**4.06**	**239**	*e*PN	Pn	18 03 35.6	-0.4
OGRR				*e*		18 03 45.4	
OGRR				*e*		18 04 36.9	
OGRR				pmax	pmax		
	comp=Z,26nm,1.5s						
OGRR				smax			
	comp=E,59nm,0.9s						
OGRR	**Ongureny**	**4.06**	**239**	*e*Pn	Pn	18 03 35.3	-0.7
OGRR				*e*Pg	Pg	18 03 45.0	-8.4
OGRR				*e*Sg	Sg	18 04 37.7	-10
OGRR				Pmax			
	comp=E,26nm,1.2s						
OGRR				Smax			
	comp=E,64nm,0.9s						
TRTB	**Turuntaevo**	**5.01**	**225**	*e*Pg	Pg	18 04 01.9	-11
TRTB				*e*Sg	Sg	18 05 07.5	-12
TRTB				Pmax			
	comp=E,13nm,1.3s						
TRTB				Smax			
	comp=E,43nm,1.7s						
TRG	**Tyrgan**	**5.20**	**236**	*e*Pg	Pg	18 04 03.9	-12
TRG				*e*Sg	Sg	18 05 11.6	-14
TRG				Pmax			
	comp=E,7.0nm,1.4s						
TRG				Smax			
	comp=E,47nm,1.1s						
HRMR	**Khuramsha**	**5.75**	**225**	*e*Pg	Pg	18 04 15.2	-12
HRMR				*e*Sg	Sg	18 05 32.0	-12
HRMR				Pmax			
	comp=E,27nm,0.9s						
HRMR				Smax			
	comp=E,142nm,0.9s						
KPC	**Khapcheranga**	**6.24**	**186**	*e*PG	Pg	18 04 25.7	-11
KPC				*e*		18 05 46.3	
KPC				pmax	pmax		
	comp=Z,5.0nm,1.5s						
KPC				smax			
	comp=E,49nm,1.0s						
KPC	**Khapcheranga**	**6.24**	**186**	*e*Sg	Sg	18 05 46.4	-14
KPC				Smax			
	comp=E,73nm,1.2s						
LSTR	**Listvyanka**	**6.49**	**235**	*e*Sg	Sg	18 05 51.4	-17
LSTR				Smax			
	comp=E,66nm,1.6s						
IRK	**Irkutsk**	**6.51**	**240**	*e*PG	Pg	18 04 30.4	-12
IRK				*e*		18 05 53.5	
IRK				pmax	pmax		
	comp=Z,23nm,0.2s						
IRK				smax			
	comp=N,87nm,1.7s						
IRK	**Irkutsk**	**6.51**	**240**	*e*Sg	Sg	18 05 53.8	-15
IRK				Smax			
	comp=N,82nm,0.8s						
TLY	**Talaya**	**7.17**	**238**	*e*PG	Pg	18 04 43.3	-12
TLY				*e*		18 06 12.2	
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s						
TLY				smax			
	comp=E,30nm,2.5s						
TLY	**Talaya**	**7.17**	**238**	*e*Sg	Sg	18 06 12.5	-18
TLY				Smax			
	comp=E,26nm,1.7s						
ARS	**Arshan**	**7.62**	**243**	*e*Sg	Sg	18 06 28.1	-18
ARS				Smax			
	comp=E,100nm,1.0s						
ZAK	**Zakamensk**	**8.22**	**232**	*e*Sg	Sg	18 06 48.5	-18
ZAK				Smax			
	comp=E,14nm,2.4s						
MOY	**Mondy**	**8.49**	**245**	*e*Sg	Sg	18 06 53.6	-21
MOY				Smax			
	comp=E,101nm,1.7s						
ORL	**Orlik**	**8.65**	**253**	*e*Sn	Sn	18 06 13.6	-5.8
ORL				*e*Sg	Sg	18 06 59.6	-21
ORL				Smax			
	comp=E,36nm,1.3s						

*IDC **06** 18:08:34.0±4.0, 12.04S×165.94E, h44km±31km, mb3.9/5, mb1 4.0/7, mb1mx3.8/18, mbtmp4.2/7, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/28, Error ellipse: s-maj=41.0km s-min=19.0km az=60.0*

ISC 06 18:08:32.7±3.3, 12.2S±0.1×165.8E±0.2, h43km±25km, n8, σ0°79/9, mb4.0/5, MS3.1/1, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.37**	**295**	P	**P**	**18 10 06.7**	**+0.3**
	7.0nm,0.3s,baz=353,slow=5.9,SNR=6.8						
HNR				S	**S**	**18 11 18.1**	**-0.7**
	6.5nm,0.3s,baz=184,slow=21,SNR=3.3						
DZM	**Mont Dzumac**	**9.87**	**177**	P	**P**	**18 10 55.8**	**+0.8**
	0.7nm,0.3s,baz=344,slow=20,SNR=10.0						
DZM				S	**S**	**18 12 44.5**	**-1.0**
	0.1nm,0.3s,baz=156,slow=20,SNR=2.0						
CTA	**Charters Tower**	**20.35**	**245**	LR	LR	18 20 00.2	
	comp=Z,91nm,19.2s,MS3.1,baz=232,slow=33						
WRA	**Warramunga Arr**	**31.17**	**252**	P	**P**	**18 14 50.8**	**+0.7**
	1.1nm,0.6s,mb3.9,baz=84,slow=9.2,SNR=20						
ASAR	**Alice Springs**	**32.36**	**245**	P	**P**	**18 15 01.1**	**+0.6**
	1.3nm,0.7s,mb3.9,baz=72,slow=9.6,SNR=23						
CMAR	**Chiang Mai Arr**	**72.62**	**294**	P	**P**	**18 19 59.1**	**+1.0**
	0.5nm,0.7s,mb3.6,baz=125,slow=5.4,SNR=4.3						
SONM	**Songino Array**	**79.60**	**324**	P	**P**	**18 20 35.9**	**-1.1**
	0.7nm,0.6s,mb3.8,baz=142,slow=5.0,SNR=8.2						
MKAR	**Makanchi Array**	**94.38**	**317**	P	**P**	**18 21 48.6**	**-0.6**
	2.4nm,0.6s,mb4.8,baz=93,slow=6.4,SNR=26						

*IDC **06** 18:09:11.9±1.2, 2.19N×96.62E, mb4.0/9, mb1 4.2/10, mb1mx4.0/21, mbtmp4.0/10, ML4.0/1, MS3.4/1, Ms1 3.6/1, ms1mx2.9/29, Error ellipse: s-maj=51.8km s-min=16.6km az=53.0*

*BJI **06** 18:09:14.0, 2.10N×96.50E, h30km, mB4.7, mb4.7, Ms4.4, Msz4.3*

*NEIC **06** 18:09:16.0±0.5, 2.08N×96.52E, h30km, mb4.2/6, Error ellipse: s-maj=14.7km s-min=7.1km az=54.0*

ISC 06 18:09:14.1±0.7, 2.10N±0.09×96.5E±0.1, h30km, n22, σ0°85/22, mb4.2/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.19**	**52**	*e*P	**Pn**	**18 10 32.6**	**+0.8**
CM31	**Chiang Mai Arr**	**16.42**	**8**	*e*P	**P**	**18 13 06.3**	**+2.0**

ZAL	**Zalesovo**	**52.56 351**	P	**P**	**18 18 26.9**	**-0.2**
	comp=Z,4.7nm,0.5s,mb4.7,baz=310,slow=6.4,SNR=25					
BVAR	**Borovoye Array**	**55.18 341**	P	**P**	**18 18 44.9**	**-1.5**
	comp=Z,2.3nm,0.7s,mb4.3,baz=117,slow=6.6,SNR=15					
BRTR	**Keskin Array B**	**68.01 312**	P	**P**	**18 20 14.3**	**+1.3**
	comp=Z,0.2nm,0.4s,mb3.5,baz=72,slow=9.1,SNR=2.1					
FINES	**FINESS Array B**	**78.89 333**	P	**P**	**18 21 16.2**	**+0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=90,slow=4.2,SNR=3.3					

*NEIC **06** 18:12:19.3±1.2, 12.89S×169.26E, h638km±15km, mb4.5/4, Error ellipse: s-maj=18.7km s-min=12.0km az=149.0*
*IDC **06** 18:12:21.6±1.9, 13.05S×169.22E, h674km±28km, mb3.4/12, mb1 3.5/13, mb1mx3.4/20, mbtmp4.4/13, Error ellipse: s-maj=32.5km s-min=13.1km az=141.0*

ISC 06 18:12:20.9±1.5, 13.0S±0.2×169.1E±0.2, h678km±28km, n36, σ0§81/25, mb4.0/13, 2D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.37**	**195**	P	**P**	**18 14 34.6**	**-0.7**
	0.5nm,0.3s,baz=248,slow=19,SNR=4.5						
CTA	**Charters Tower**	**22.98**	**249**	P	**P**	**18 16 39.8**	**-0.5**
	4.3nm,0.8s,mb4.0,baz=48,slow=16,SNR=3.9						
CTAO	**Charters Tower**	**22.98**	**249**	P	**P**	**18 16 40.2**	**-0.1**
	14nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**31.46**	**229**	⇓*i*P	**P**	**18 17 53.4**	**+0.6**
	6.7nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**31.46**	**229**	P	**P**	**18 17 53.4**	**+0.6**
	8.2nm,0.4s,mb4.6,baz=50,slow=7.2,SNR=49						
WB2	**Warramunga Arr**	**33.98**	**254**	*e*P	**P**	**18 18 13.9**	**+0.2**
WB2				*e*S	**S**	**18 22 53.9**	**-2.3**
WRAB	**Tennant Creek**	**33.98**	**254**	*e*P	**P**	**18 18 13.9**	**+0.2**
	9.0nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**33.99**	**254**	P	**P**	**18 18 14.1**	**+0.2**
	5.3nm,0.4s,mb4.4,baz=85,slow=8.6,SNR=59						
WRA				S	**S**	**18 22 55.3**	**-1.0**
	0.5nm,0.7s,baz=83,slow=14,SNR=6.2						
ASAR	**Alice Springs**	**34.96**	**247**	P	**P**	**18 18 22.1**	**+0.4**
	7.4nm,0.5s,mb4.5,baz=77,slow=9.7,SNR=169						
ASAR				S	**S**	**18 23 10.2**	**-0.5**
	1.4nm,0.7s,baz=74,slow=15,SNR=10						
ASPA	**Alice Springs**	**34.96**	**247**	*e*P	**P**	**18 18 22.1**	**+0.3**
ASPA				*e*S	**S**	**18 23 10.2**	**-0.6**
FORT	**Forrest**	**41.71**	**238**	⇓*i*P	**P**	**18 19 16.3**	**+0.3**
	371nm,0.5s						
FITZ	**Fitzroy Crossi**	**42.10**	**257**	*e*P	**P**	**18 19 20.0**	**+0.8**
	4.0nm,1.0s,mb3.8						
FITZ	**Fitzroy Crossi**	**42.10**	**257**	P	**P**	**18 19 20.0**	**+0.8**
	2.1nm,0.5s,mb3.8,baz=118,slow=4.9,SNR=11						
NWAO	**Narrogin (SRO)**	**51.16**	**238**	P	**P**	**18 20 26.7**	**-0.2**
	9.6nm,1.1s,mb4.0,baz=294,slow=3.7,SNR=8.1						
MJAR	**Matsushiro Arr**	**57.23**	**331**	P	**P**	**18 21 08.4**	**-0.5**
	2.7nm,0.6s,mb3.6,baz=164,slow=8.0,SNR=9.7						
MAJO	**Matsushiro**	**57.23**	**331**	P	**P**	**18 21 08.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**75.89**	**293**	P	**P**	**18 23 04.7**	**+2.1**
	3.0nm,0.8s,mb3.9,baz=120,slow=4.5,SNR=17						
SONM	**Songino Array**	**82.17**	**323**	P	**P**	**18 23 34.5**	**-0.3**
	0.8nm,0.7s,mb3.4,baz=136,slow=5.0,SNR=7.2						
ILAR	**Eielson Array**	**84.34**	**17**	P	**P**	**18 23 43.7**	**-1.4**
	1.8nm,0.8s,mb3.6,baz=237,slow=5.4,SNR=12						
YKA	**Yellowknife Ar**	**95.20**	**27**	P	**P**	**18 24 35.1**	**-0.2**
	0.2nm,0.5s,mb3.5,baz=252,slow=4.6,SNR=6.0						
MKAR	**Makanchi Array**	**97.18**	**316**	P	**P**	**18 24 46.0**	**+1.4**
	0.4nm,0.5s,mb3.9,baz=85,slow=7.1,SNR=11						
ARCES	**ARCESS Array B**	**119.02**	**346**	PKP	PKPdf	18 29 55.3	+0.8
	2.9nm,0.8s,baz=63,slow=2.7,SNR=6.3						
FLN	**La Foliniere**	**143.31**	**348**	*e*PKP1	PKPbc	18 30 40.3	+1.2
GRR	**Gorron**	**143.74**	**349**	*e*PKP1	PKPbc	18 30 42.0	+1.6
SSF	**Saint Saulge**	**143.95**	**343**	*e*PKP1	PKPbc	18 30 43.2	+2.1
	11nm,0.8s						
SMF	**Signal de Mont**	**144.23**	**343**	*e*PKP1	PKPbc	18 30 44.3	+2.4
	5.9nm,0.6s						
AVF	**Avril sur Loir**	**144.24**	**343**	*e*PKP1	PKPbc	18 30 44.2	+2.3
	10nm,0.8s						
LPL	**La Plagne**	**144.29**	**339**	*e*PKP1	PKPbc	18 30 45.1	+3.0
	6.6nm,0.7s						
LPG	**La Plagne**	**144.30**	**339**	*e*PKP1	PKPbc	18 30 45.3	+3.1
	6.6nm,0.6s						
ORIF	**Oris-en-Rattie**	**145.11**	**339**	*e*PKP1	PKPbc	18 30 46.7	+2.3
	8.9nm,0.7s						
MFF	**Saint Martin d**	**145.29**	**347**	*e*PKP1	PKPbc	18 30 46.9	+2.1
	21nm,1.0s						
PGF	**Pioggiola**	**145.87**	**333**	*e*PKP1	PKPbc	18 30 48.5	+2.1
FRF	**La Foret Royal**	**146.00**	**337**	*e*PKP1	PKPbc	18 30 48.6	+1.9
	11nm,0.9s						
RJF	**Les Rejaudoux**	**146.11**	**344**	*e*PKP1	PKPbc	18 30 49.8	+2.9
LMR	**La Mourre**	**146.24**	**337**	*e*PKP1	PKPbc	18 30 49.3	+2.0
LFF	**La Frestale**	**146.65**	**345**	*e*PKP1	PKPbc	18 30 50.8	+2.7
	12nm,0.7s						

IDC 06 18:17:18.6±1.9, 30.40S×176.77W, mb3.7/2, mb1 3.9/3, mb1mx3.8/16, mbtmp3.7/3, ML3.3/1, MS3.8/1, Ms1 3.8/1, ms1mx2.5/25, Error ellipse: s-maj=41.7km s-min=27.5km az=72.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.52**	**319**	Pn	Pn	18 17 47.4	+0.2
	312nm,0.3s,baz=89,slow=10.0,SNR=21						
RAO				Sn	Sn	18 18 06.7	-1.2
	4μm,0.3s,baz=274,slow=23,SNR=44						
URZ	**Urewera**	**9.33**	**211**	Pn	P	18 19 32.9	-4.4
	0.3nm,0.3s,baz=273,slow=5.4,SNR=4.1						
ASAR	**Alice Springs**	**44.17**	**266**	P	P	18 25 29.8	-1.2
	0.7nm,0.7s,baz=106,slow=7.9,SNR=7.1						
WRA	**Warramunga Arr**	**45.16**	**271**	P	P	18 25 37.4	-1.6
	0.6nm,0.5s,baz=111,slow=8.1,SNR=16						
FITZ	**Fitzroy Crossi**	**53.42**	**269**	LR	LR	18 48 40.4	
	comp=Z,85nm,19.1s,baz=85,slow=35						
FINES	**FINESS Array B**	**145.51**	**341**	PKPbc	PKPbc	18 36 57.1	-1.4
	1.4nm,0.6s,baz=45,slow=2.9,SNR=10.0						
AKASG	**Malin Array Be**	**151.94**	**324**	PKPbc	PKPdf	18 37 14.8	+4.4
	0.2nm,0.2s,baz=46,slow=3.0,SNR=4.4						

IDC 06 18:18:46.4±2.9, 0.19N×97.99E, h22km±6km, mb3.4/4, mb1 3.6/4, mb1mx3.4/16, mbtmp3.6/4, Error ellipse: s-maj=114.4km s-min=18.1km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.84**	**121**	P	P	18 26 26.6	-1.8
	0.7nm,0.6s,baz=302,slow=9.0,SNR=8.4						
WRA				pP	pP	18 26 33.4	-1.6
	1.3nm,0.6s,baz=300,slow=9.0,SNR=8.5						
ASAR	**Alice Springs**	**42.16**	**127**	P	P	18 26 37.5	-1.8
	0.7nm,0.5s,baz=298,slow=8.2,SNR=12						
SONM	**Songino Array**	**48.01**	**8**	P	P	18 27 24.6	-1.3
	0.1nm,0.5s,baz=191,slow=7.3,SNR=3.7						
SONM				pP	pP	18 27 31.0	-1.5
	0.3nm,0.5s,baz=192,slow=9.5,SNR=5.4						
MKAR	**Makanchi Array**	**48.41**	**346**	P	P	18 27 26.2	-2.6
	0.6nm,0.6s,baz=158,slow=7.9,SNR=9.2						
MKAR				pP	pP	18 27 33.4	-2.2
	1.3nm,0.6s,baz=153,slow=7.7,SNR=11						
ZAL	**Zalesovo**	**54.67**	**350**	pP	pP	18 28 19.9	-2.8
	1.1nm,0.5s,baz=322,slow=12,SNR=3.7						

*IDC **06** 18:21:25.8±2.8, 4.61S×153.79E, mb4.0/8, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, MS4.1/2, Ms1 4.1/2, ms1mx3.0/27, Error ellipse: s-maj=79.7km s-min=22.6km az=101.0*

ISC 06 18:21:29.0±2.1, 4.6S±0.1×153.8E±0.4, h33km, n14, σ0§81/11, mb3.9/8, MS4.1/2, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**24.31**	**230**	*e*P	**P**	**18 26 46.2**	**+1.4**
WRA	**Warramunga Arr**	**24.32**	**230**	P	**P**	**18 26 45.9**	**+1.0**
	4.9nm,0.4s,mb4.3,baz=54,slow=10,SNR=45						
ASAR	**Alice Springs**	**26.96**	**224**	P	**P**	**18 27 08.9**	**-0.8**
	0.7nm,0.4s,mb3.6,baz=55,slow=8.9,SNR=20						
ASPA	**Alice Springs**	**26.96**	**224**	*e*P	**P**	**18 27 09.2**	**-0.5**
STKA	**Stephens Creek**	**29.42**	**202**	P	**P**	**18 27 31.8**	**+0.1**
	1.3nm,0.5s,mb3.9,baz=46,slow=13,SNR=5.3						
FITZ	**Fitzroy Crossi**	**30.63**	**242**	*e*P	**P**	**18 27 41.2**	**-1.5**
	4.6nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.63**	**242**	P	**P**	**18 27 41.2**	**-1.4**
	6.4nm,0.5s,mb4.7,baz=75,slow=4.7,SNR=14						
JHJ	**Hachijo jima 2**	**39.84**	**341**	LR	LR	18 43 13.5	
	comp=Z,85nm,18.4s,MS3.6,baz=29,slow=33						
TBI	**Tubuai**	**57.69**	**115**	*e*LR	LR	18 30 29.7	
	190nm,27.2s						
CMAR	**Chiang Mai Arr**	**58.74**	**295**	P	**P**	**18 31 26.8**	**+0.3**
	0.7nm,0.8s,mb3.8,baz=115,slow=6.2,SNR=4.5						
SONM	**Songino Array**	**66.74**	**327**	P	**P**	**18 32 18.6**	**-0.5**
	0.2nm,0.6s,mb3.3,baz=143,slow=4.9,SNR=6.5						
MKAR	**Makanchi Array**	**80.88**	**319**	P	**P**	**18 33 41.1**	**-0.3**
	0.4nm,0.7s,mb3.5,baz=109,slow=6.1,SNR=3.9						
ZAL	**Zalesovo**	**81.60**	**326**	P	**P**	**18 33 45.7**	**+0.7**
	0.6nm,0.4s,mb3.8,baz=93,slow=4.0,SNR=3.0						
YKA	**Yellowknife Ar**	**94.81**	**28**	LR	LR	19 18 17.7	
	comp=Z,182nm,18.2s,MS4.6,baz=155,slow=36						

*IDC **06** 18:24:12.6±2.4, 15.46S×173.26W, mb3.9/6, mb1 4.2/7, mb1mx4.0/19, mbtmp3.9/7, ML2.3/1, Error ellipse: s-maj=140.6km s-min=19.4km az=143.0*

ISC 06 18:24:16.5±1.7, 15.2S±0.6×173.5W±0.4, h33km, n10, σ0§44/8, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.10**	**51**	Pn	**Pn**	**18 24 50.1**	**-0.1**
	52nm,0.3s,baz=41,slow=3.6,SNR=43						
AFI				Sn	**Sn**	**18 25 10.3**	**-5.1**
	301nm,0.3s,baz=47,slow=23,SNR=60						
STKA	**Stephens Creek**	**44.06**	**240**	P	**P**	**18 32 23.6**	**+0.4**
	1.6nm,0.8s,mb3.8,baz=110,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**49.82**	**257**	P	**P**	**18 33 08.8**	**+0.2**
	0.3nm,0.4s,mb3.6,baz=92,slow=7.0,SNR=4.8						
ASAR	**Alice Springs**	**50.10**	**252**	P	**P**	**18 33 10.0**	**-0.7**
	4.8nm,0.6s,mb4.7,baz=86,slow=8.2,SNR=47						
PDAR	**Pinedale Array**	**82.19**	**42**	P	**P**	**18 36 35.5**	**-0.3**
	0.8nm,0.8s,mb3.7,baz=225,slow=2.1,SNR=7.0						
ILAR	**Eielson Array**	**82.30**	**11**	P	**P**	**18 36 35.8**	**0.0**
	0.4nm,0.7s,mb3.5,baz=230,slow=6.9,SNR=4.8						
YKA	**Yellowknife Ar**	**89.97**	**23**	P	**P**	**18 37 14.0**	**+0.6**
	0.2nm,0.7s,mb3.5,baz=242,slow=4.5,SNR=5.6						
KHC	**Kasperske Hory**	**145.71**	**352**	*e*P	PKPdf	18 43 54.0	+2.4
GERES	**GERESS Array B**	**145.97**	**352**	PKPbc	PKPbc	18 43 55.0	+2.0
	1.1nm,0.8s,slow=1.3,SNR=7.3						
BRTR	**Keskin Array B**	**145.99**	**321**	PKPbc	PKPbc	18 43 56.0	+2.6
	1.1nm,0.8s,baz=117,slow=2.8,SNR=5.7						

*THR **06** 18:27:11.8±1.1, 35.04N×45.80E, h15km±16km, ML3.2*
*TEH **06** 18:27:12.2, 34.57N×45.60E, h10km, Mn3.4*
*CSEM **06** 18:27:12.2±0.3, 34.76N×45.91E, h1km±2km, ML3.4, Error ellipse: s-maj=3.4km s-min=2.6km az=178.0*

ISC 06 18:27:12.1±0.5, 34.80N±0.05×45.87E±0.04, h1km, n21, σ0§98/33, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.43**	**104**	Pg	**Pg**	**18 27 21.1**	**+0.3**
IGHG	**Ghaleghazi**	**0.74**	**129**	Pg	**Pg**	**18 27 27.2**	**+0.2**
IVIS	**Veys**	**0.85**	**109**	Pg	**Pg**	**18 27 28.3**	**-0.8**
SNGE	**Sanandaj**	**1.24**	**76**	*e*PG	**Pg**	**18 27 35.0**	**-1.9**
SNGE				*e*SG	**Sg**	**18 27 52.9**	**-0.6**
SNGE				AML	AML	18 27 58.3	
	comp=N,873nm,0.6s						
IKOM	**Komasi**	**1.49**	**114**	Pn	**Pn**	**18 27 40.8**	**+0.7**
BHD	**Baghdad**	**1.97**	**219**	*e*Pb	**Pb**	**18 27 54.0**	**+5.5**
BHD				*e*Sb	**Sn**	**18 28 12.0**	**-0.6**
BHD				*e*Sg	**Sg**	**18 28 13.0**	**-4.7**
BHD	**Baghdad**	**1.97**	**219**	*e*S	**Sn**	**18 28 12.0**	**-0.6**
BHD				*e*Sg	**Sg**	**18 28 13.0**	**-4.7**
MSL	**Mosul**	**2.71**	**304**	*e*Pn	**Pn**	**18 28 04.0**	**+6.4**
MSL				*e*Pb	**Pb**	**18 28 05.5**	**+4.3**
MSL				*e*Pg	**Pg**	**18 28 09.0**	**+2.8**
MSL				*i* Sn	**Sn**	**18 28 31.5**	**+0.1**
MSL				*e*Sb	**Sb**	**18 28 35.5**	**+0.5**
MSL				*i* Sg	**Sg**	**18 28 39.5**	**-2.9**
MSL	**Mosul**	**2.71**	**304**	*i* Sn	**Sn**	**18 28 31.5**	**+0.1**
MSL				*e*S	**Sb**	**18 28 35.5**	**+0.5**
MSL				*i* Sg	**Sg**	**18 28 39.5**	**-2.9**
IRAZ	**Razeghan**	**3.38**	**79**	Pn	**Pn**	**18 28 07.8**	**+0.8**
IRAZ				Sn	**Sn**	**18 28 49.9**	**+1.6**
ASAO	**Ashtian**	**3.43**	**93**	*e*PN	**Pn**	**18 28 08.7**	**+0.9**
ASAO				AML	AML	18 29 21.1	
	comp=N,37nm,0.7s						
IMRD	**Marand**	**3.90**	**358**	Pn	**Pn**	**18 28 13.9**	**-0.6**
IQOM	**Qom**	**4.28**	**88**	Pn	**Pn**	**18 28 19.9**	**+0.1**
IVRN	**Varamin**	**4.81**	**86**	Pn	**Pn**	**18 28 27.5**	**+0.1**
IKLH	**Kalahroud**	**4.96**	**106**	Pn	**Pn**	**18 28 36.6**	**+7.1**
DAMV	**Damavand**	**5.06**	**79**	*e*PN	**Pn**	**18 28 30.0**	**-0.9**
DAMV				AML	AML	18 29 21.1	
	comp=N,7.0nm,0.4s						
IDMV	**Damavand**	**5.10**	**80**	Pn	**Pn**	**18 28 31.4**	**-0.1**
IFIR	**Firoozkooh**	**5.69**	**80**	Pn	**Pn**	**18 28 39.7**	**-0.1**
IZEF	**Zefreh**	**5.70**	**108**	Pn	**Pn**	**18 28 34.5**	**-5.4**
IGAR	**Garneh**	**5.87**	**114**	Pn	**Pn**	**18 28 32.5**	**-10**
NASN	**Na'in**	**6.11**	**107**	*e*PN	**Pn**	**18 28 45.5**	**-0.2**

IDC 06 18:29:15.0±3.1, 0.03S×96.65E, mb3.9/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=116.8km s-min=19.0km az=60.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.50**	**7**	P	P	18 33 33.1	-1.6
	0.1nm,0.3s,baz=195,slow=10,SNR=7.5						
FITZ	**Fitzroy Crossi**	**33.68**	**124**	P	P	18 35 58.1	-2.0
	5.7nm,0.9s,baz=236,slow=3.6,SNR=4.5						
WRA	**Warramunga Arr**	**41.87**	**120**	P	P	18 37 07.0	-1.9
	0.8nm,0.7s,baz=303,slow=8.8,SNR=8.2						
ASAR	**Alice Springs**	**43.11**	**126**	P	P	18 37 17.5	-1.5
	0.8nm,0.8s,baz=299,slow=8.1,SNR=7.2						
MKAR	**Makanchi Array**	**48.30**	**347**	P	P	18 37 57.9	-2.1
	0.9nm,0.7s,baz=162,slow=7.7,SNR=8.2						
SONM	**Songino Array**	**48.42**	**9**	P	P	18 37 58.7	-2.2
	0.4nm,0.7s,baz=187,slow=10,SNR=5.5						
ZAL	**Zalesovo**	**54.67**	**351**	P	P	18 38 45.6	-2.3
	1.6nm,0.4s,baz=284,slow=4.4,SNR=6.7						

*JMA **06** 18:38:56.4±0.2, 22.90N×121.49E, h75km, M2.9*

TAP 06 18:38:55.0, 22.96N×121.40E, h26km±1km, ML3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.10**	**44**	P	Pn	18 39 29.9	+0.7
YOJ				*e*S	Sn	18 39 55.7	+1.0
HATJ	**Hateruma jima**	**2.46**	**63**	P	Pn	18 39 34.6	+0.2
HATJ				*e*S	Sn	18 40 02.8	-1.1
IRIF	**Iriomote-Funau**	**2.54**	**57**	P	Pn	18 39 35.8	+0.4
IRIF				S	Sn	18 40 05.6	-0.2
JKRS	**Kuro-shima**	**2.71**	**62**	P	Pn	18 39 38.2	+0.3
JKRS				*e*S	Sn	18 40 09.6	-0.6
JIJ	**Ishigaki jima**	**2.88**	**60**	P	Pn	18 39 40.3	0.0
JIJ				S	Sn	18 40 12.6	-1.8
JTJ	**Tarama**	**3.46**	**60**	P	Pn	18 39 48.5	0.0
JTJ				*e*S	Sn	18 40 27.4	-1.6

IDC 06 18:50:48.1±57.0, 16.80S×179.35W, mb4.2/3, mb1 4.3/3, mb1mx3.8/16, mbtmp4.2/3, Error ellipse: s-maj=1045.0km s-min=149.7km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.40**	**240**	P	P	18 58 11.9	-1.1
	2.8nm,1.0s,baz=94,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**43.97**	**259**	P	P	18 58 57.0	-2.0
	0.6nm,0.6s,baz=95,slow=7.7,SNR=22						
ASAR	**Alice Springs**	**44.24**	**253**	P	P	18 58 59.2	-2.0
	6.1nm,0.6s,baz=89,slow=7.9,SNR=175						

*IDC **06** 18:54:49.8±7.0, 52.05N×179.35E, h195km±114km, mb2.9/3, mb1 3.3/4, mb1mx2.9/25, mbtmp3.5/4, Error ellipse: s-maj=103.3km s-min=61.3km az=115.0*
*NEIC **06** 18:54:50.5, 52.09N×179.78E, h180km, MG3.6(AEIC), After AEIC.*

ISC 06 18:54:48.1±1.6, 52.1N±0.5×179.6E±0.1, h172km±16km, n8, σ0§55/11, mb3.2/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.98**	**100**	P	**P**	**18 55 25.2**	**+0.5**
KIMD				S	**S**	**18 55 52.6**	**-0.4**
KIWB	**Kanaga Island**	**2.02**	**97**	P	**P**	**18 55 25.7**	**+0.5**
KIWB				S	**S**	**18 55 53.3**	**-0.4**
GSMY	**Great Sitkin M**	**2.67**	**90**	P	**P**	**18 55 33.0**	**0.0**
ATKA	**Atka Island**	**3.81**	**86**	P	**P**	**18 55 47.3**	**0.0**
FX1	**Attu Island--F**	**4.01**	**283**	P	**P**	**18 55 50.8**	**+0.9**
	2.1nm,0.3s,baz=83,slow=23,SNR=15						
FX1				S	**S**	**18 56 36.7**	**-0.8**
	16nm,0.3s,baz=328,slow=20,SNR=38						
ILAR	**Eielson Array**	**21.29**	**41**	P	**P**	**18 59 22.2**	**+0.7**
	0.4nm,0.5s,mb3.0,baz=237,slow=8.1,SNR=9.0						
YKA	**Yellowknife Ar**	**35.43**	**47**	P	**P**	**19 01 28.4**	**-0.5**
	0.4nm,0.4s,mb3.4,baz=282,slow=8.3,SNR=6.3						
PDAR	**Pinedale Array**	**47.02**	**72**	P	**P**	**19 03 02.9**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=333,slow=3.2,SNR=6.4						

IDC 06 19:02:09.7±0.9, 6.72N×72.98W, h162km±16km, mb3.1/1, mb1 3.5/3, mb1mx3.0/22, mbtmp3.8/3, Error ellipse: s-maj=68.2km s-min=7.9km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.29**	**216**	P	P	19 02 51.1	+1.7
	17nm,0.3s,baz=86,slow=17,SNR=46						
ROSC				S	S	19 03 20.1	+0.2
	30nm,0.3s,baz=108,slow=16,SNR=10.0						
SDV	**Santo Domingo**	**3.17**	**47**	P	P	19 03 00.8	+0.5
	21nm,0.3s,baz=259,slow=2.3,SNR=52						
SDV				S	S	19 03 38.8	-0.4
	8.9nm,0.3s,baz=54,slow=20,SNR=12						
YKA	**Yellowknife Ar**	**63.41**	**340**	P	P	19 12 21.6	-2.4
	0.3nm,0.5s,baz=132,slow=6.7,SNR=9.7						
ASAR	**Alice Springs**	**149.17**	**234**	PKPbc	PKPdf	19 21 39.2	+4.0
	0.1nm,0.6s,baz=125,slow=3.3,SNR=4.0						

IGQ 06 19:10:52.0, 0.72S×78.63W, h23km±2km, mb4.1, 8C-4D, Error ellipse: s-maj=1.6km s-min=0.7km az=172.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAS1	**Nasa**	**0.17**	**61**	⇓P	Pb	19 10 57.3	+0.2
VC1	**Cotopaxi 1**	**0.23**	**72**	⇓P	Pb	19 10 58.8	+0.8
TAMB	**Tambo**	**0.26**	**85**	⇓P	Pb	19 10 59.0	+0.7
PISA	**Pisayambo**	**0.42**	**145**	⇑P	Pb	19 11 01.5	+0.7
JUA2	**San Juan 2**	**0.50**	**2**	⇑P	Pb	19 11 02.5	+0.5
JUA2				S	Sb	19 11 11.0	+2.1
ANTI	**Antisana**	**0.53**	**60**	⇑P	Pb	19 11 03.5	+0.9
TERV	**Terraza Guagua**	**0.54**	**2**	⇑P	Pb	19 11 03.2	+0.5
GGP	**Refugio Guagua**	**0.54**	**3**	⇑P	Pb	19 11 03.2	+0.5
PINO	**Pino**	**0.55**	**2**	⇑P	Pb	19 11 03.5	+0.5
YANA	**Yana**	**0.59**	**5**	⇑P	Pb	19 11 03.9	+0.2
YANA				S	Sb	19 11 12.9	+1.3
JOR1	**San Jorge 1**	**0.71**	**359**	⇑P	Pb	19 11 02.0	-3.6
JOR1				S	Sb	19 11 09.9	-5.0
ULBA	**Ulba**	**0.76**	**163**	P	Pb	19 11 07.5	+1.0
ULBA				S	Sb	19 11 17.8	+1.3
IGUA	**Igualata**	**0.77**	**181**	P	Pb	19 11 07.0	+0.4
ARRY	**Arrayan**	**0.80**	**168**	P	Pb	19 11 07.2	0.0
CAYR	**Refugio Cayamb**	**0.95**	**40**	⇓P	Pb	19 11 10.7	+0.9
CAYA	**Cayambe**	**1.01**	**39**	P	Pb	19 11 12.1	+1.5
COTA	**Cotacachi**	**1.08**	**15**	P	Pn	19 11 14.0	+2.1
MAGD	**Magdalena**	**1.32**	**299**	P	Pn	19 11 16.8	+1.5
ECEN	**Cerro Negro**	**1.66**	**23**	P	Pn	19 11 22.9	+2.7

*STR **06** 19:12:19.7±0.2, 42.24N×7.67E, h10km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **06** 19:12:23.0±0.2, 42.09N×7.66E, h10km, Md2.7/1, Ml2.5/14, Error ellipse: s-maj=3.8km s-min=2.8km az=15.0*
*NEIC **06** 19:12:23.0, 42.09N×7.66E, h10km, ML2.7(STR), ML2.5(LDG), After LDG.*
*MDD **06** 19:12:23.9±1.7, 42.11N×7.62E, h19km±16km, mb3.5/3, Error ellipse: s-maj=11.4km s-min=7.0km az=164.0, PRXIMO*
*CSEM **06** 19:12:24.2±0.2, 42.11N×7.72E, h40km, ML2.5/14, Error ellipse: s-maj=6.1km s-min=3.8km az=23.0*

ISC 06 19:12:20.5±0.6, 42.19N±0.03×7.48E±0.04, h10km, n38, σ1§60/67, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGF	**Pioggiola**	**1.18**	**72**	*e*Pn	**Pn**	**19 12 43.4**	**+0.4**
PGF				*e*Sn	**Sn**	**19 12 57.6**	**-1.6**
	26nm,0.2s						
LMR	**La Mourre**	**1.34**	**328**	*e*Pn	**Pn**	**19 12 48.6**	**+3.2**
LMR				*e*Sn	**Sn**	**19 13 06.1**	**+2.7**
	9.3nm,0.2s						
OSPF	**L'Ospedale**	**1.38**	**112**	Pg	**Pg**	**19 12 43.8**	**-4.3**
OSPF				Sg	**Sg**	**19 13 01.4**	**-5.2**
FRF	**La Foret Royal**	**1.50**	**336**	*e*Pn	**Pn**	**19 12 50.9**	**+3.4**
FRF				*e*Sn	**S

EPOB	**Poblet**	**4.86**	**262**	P	**Pn**	**19 13 36.1**	**+0.7**
	2.0nm,0.6s,SNR=7.9						
EPOB				S	**Sn**	**19 14 30.0**	**-2.5**
	1.1nm,1.7s,SNR=7.9						
RJF	**Les Rejaudoux**	**5.32**	**308**	*e*Pn	**Pn**	**19 13 43.2**	**+1.2**
RJF				*e*Sn	**Sn**	**19 14 43.1**	**-1.0**
	1.6nm,0.2s						
EPF	**Esparros**	**5.33**	**281**	*e*Pn	**Pn**	**19 13 42.5**	**+0.4**
EPF				*e*Sn	**Sn**	**19 14 43.1**	**-1.3**
	1.0nm,0.2s						
EBIE	**Bielsa**	**5.45**	**278**	S	**Sn**	**19 14 44.6**	**-2.8**
	3.6nm,1.5s,SNR=7.9						
LFF	**La Frestale**	**5.61**	**302**	*e*Pn	**Pn**	**19 13 46.9**	**+0.8**
SJPF	**Ste Jean**	**6.48**	**281**	*e*Pn	**Pn**	**19 13 58.6**	**+0.2**

*IDC **06** 19:22:34.1±1.0, 4.72N×95.05E, mb4.2/11, mb1 4.4/11, mb1mx4.2/20, mbtmp4.2/11, MS3.0/1, Ms1 3.2/1, ms1mx2.8/34, Error ellipse: s-maj=48.0km s-min=17.5km az=50.0*
*BJI **06** 19:22:36.1, 4.44N×95.26E, h37km, mb5.0*
*MOS **06** 19:22:37.3±1.5, 4.43N×94.68E, h33km, mb4.9/6, Error ellipse: s-maj=35.7km s-min=13.3km az=105.3*
*NEIC **06** 19:22:38.8±0.5, 4.62N×94.98E, h30km, mb4.6/8, Error ellipse: s-maj=16.4km s-min=7.0km az=223.0*

ISC 06 19:22:37.0±0.6, 4.6N±0.1×95.0E±0.1, h30km, n44, σ0§94/44, mb4.4/24, 3C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.66**	**83**	*e*P	**Pn**	**19 24 02.3**	**+1.0**
CM31	**Chiang Mai Arr**	**14.28**	**15**	*e*P	**P**	**19 26 04.5**	**+5.0**
	8.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.28**	**15**	Pn	**P**	**19 26 04.8**	**+5.3**
	0.8nm,0.3s,baz=207,slow=11,SNR=66						
CMAR				LR	LR	19 30 52.4	
	comp=Z,62nm,19.4s,baz=194,slow=35						
JIRN	**Jiri**	**24.41**	**341**	*e*P	**P**	**19 27 55.1**	**+0.8**
	4.9nm,0.3s,mb4.4						
PKI	**Pulchoki**	**24.59**	**339**	*e*P	**P**	**19 27 57.0**	**+1.0**
DMN	**Daman**	**24.74**	**339**	*e*P	**P**	**19 27 58.9**	**+1.5**
	6.6nm,0.7s,mb4.3						
KKN	**Kakani**	**24.84**	**339**	*e*P	**P**	**19 27 59.1**	**+0.7**
	3.7nm,0.4s,mb4.2						
LSA	**Lhasa**	**25.21**	**352**	*e*P	**P**	**19 28 03.4**	**+1.5**
LSA	**Lhasa**	**25.21**	**352**	*e*P	**P**	**19 28 02.3**	**+0.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.4						
LSA	**Lhasa**	**25.21**	**352**	*e*P	**P**	**19 28 02.3**	**+0.4**
	comp=Z,3.6nm,0.3s,mb4.4						
GKN	**Gorkha**	**25.27**	**338**	*e*P	**P**	**19 28 02.5**	**+0.1**
	comp=Z,8.7nm,0.3s,mb4.8						
KOLN	**Koldanda**	**25.46**	**336**	*e*P	**P**	**19 28 04.5**	**+0.2**
	comp=Z,20nm,0.5s,mb4.9						
XAN	**Xi'an**	**32.00**	**22**	P	**P**	**19 29 01.0**	**-2.1**
XAN				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.0						
BJT	**Baijiatuau**	**40.08**	**25**	*e*P	**P**	**19 30 12.3**	**+0.7**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	**Baijiatuau**	**40.08**	**25**	*e*P	**P**	**19 30 12.3**	**+0.8**
	comp=Z,7.0nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**42.02**	**337**	*e*P	**P**	**19 30 28.9**	**+1.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**42.02**	**337**	*e*P	**P**	**19 30 28.9**	**+1.4**
	comp=Z,4.9nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**43.43**	**347**	P	**P**	**19 30 38.2**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**43.43**	**347**	P	**P**	**19 30 38.2**	**-0.7**
	comp=Z,2.2nm,0.4s,mb4.3,baz=166,slow=8.3,SNR=81						
SONM	**Songino Array**	**44.15**	**11**	P	**P**	**19 30 43.1**	**-1.7**
	comp=Z,0.5nm,0.5s,mb3.5,baz=198,slow=7.8,SNR=6.9						
SONM				PcP	PcP	19 32 28.7	-1.2
	comp=Z,0.7nm,0.5s,baz=196,slow=4.1,SNR=8.5						
WRA	**Warramunga Arr**	**45.71**	**124**	P	**P**	**19 30 57.6**	**0.0**
	comp=Z,6.4nm,0.6s,mb4.7,baz=302,slow=9.2,SNR=73						
WRAB	**Tennant Creek**	**45.72**	**124**	*e*P	**P**	**19 30 57.7**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**45.72**	**124**	*e*P	**P**	**19 30 57.7**	**+0.1**
	comp=Z,13nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**45.72**	**124**	*e*P	**P**	**19 30 57.5**	**-0.2**
ASPA	**Alice Springs**	**47.20**	**128**	*e*P	**P**	**19 31 09.6**	**+0.3**
ASAR	**Alice Springs**	**47.20**	**128**	P	**P**	**19 31 09.3**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=298,slow=7.8,SNR=22						
ZAL	**Zalesovo**	**49.87**	**352**	P	**P**	**19 31 29.0**	**-0.6**
	comp=Z,2.1nm,0.5s,mb4.5,baz=312,slow=7.0,SNR=12						
BVA0	**Borovoye Array**	**52.33**	**341**	*i* P	**P**	**19 31 47.4**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
BVAR	**Borovoye Array**	**52.33**	**341**	P	**P**	**19 31 47.5**	**-0.8**
	comp=Z,5.6nm,0.6s,mb4.7,baz=142,slow=8.9,SNR=57						
CHKZ	**Chkalovo**	**52.82**	**342**	*e*P	**P**	**19 31 51.1**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**52.82**	**342**	*e*P	**P**	**19 31 51.1**	**-0.8**
	comp=Z,15nm,0.7s,mb5.0						
BRTR	**Keskin Array B**	**65.21**	**312**	P	**P**	**19 33 17.5**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=128,slow=7.2,SNR=8.1						
AKASG	**Malin Array Be**	**71.23**	**322**	P	**P**	**19 33 53.7**	**-1.7**
	comp=Z,0.8nm,0.4s,mb4.0,baz=86,slow=5.8,SNR=7.9						
AKASG	**Malin Array Be**	**71.23**	**322**	P	**P**	**19 33 53.7**	**-1.7**
VRI	**Vrincioaia**	**71.64**	**317**	⇑P	**P**	**19 33 58.5**	**+0.6**
MLR	**Muntele Rosu**	**72.10**	**316**	⇑P	**P**	**19 34 01.6**	**+1.0**
MLR	**Muntele Rosu**	**72.10**	**316**	⇑P	**P**	**19 34 01.5**	**+0.9**
BURAR	**Bucovina Array**	**73.03**	**318**	⇓P	**P**	**19 34 07.0**	**+0.9**
JOF	**Joensuu**	**74.14**	**335**	*e*p	**P**	**19 34 11.5**	**-0.7**
FINES	**FINESS Array B**	**75.98**	**332**	P	**P**	**19 34 22.2**	**-0.6**
	comp=Z,1.5nm,0.3s,mb4.4,baz=102,slow=4.8,SNR=25						
KAF	**Kangasniemi**	**76.07**	**333**	*e*p	**P**	**19 34 21.6**	**-1.7**
	comp=Z,7.2nm,1.1s,mb4.5,baz=115,slow=5.5						
KAF	**Kangasniemi**	**76.07**	**333**	*e*P	**P**	**19 34 21.6**	**-1.7**
KAF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
ARCES	**ARCESS Array B**	**78.60**	**340**	P	**P**	**19 34 37.1**	**-0.1**
	comp=Z,2.1nm,0.4s,mb4.4,baz=100,slow=6.9,SNR=18						
GERES	**GERESS Array B**	**80.82**	**319**	P	**P**	**19 34 50.9**	**+1.4**
	comp=Z,1.1nm,0.5s,mb4.0,baz=116,slow=5.0,SNR=10.0						

TRN 06 19:26:59.3, 14.95N×60.37W, h35km, MD3.7, M2.8(FDF), Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBL	**Barber's Block**	**1.21**	**298**	*e*P	P	19 27 22.5	+2.6
BBL				*e*S	S	19 27 39.1	+3.8
SLB	**Belfond**	**1.29**	**210**	*e*P	P	19 27 23.3	+2.2
SLB				*e*S	S	19 27 39.1	+1.6

*CSEM **06** 19:36:11.1±0.1, 34.71N×47.01E, h2km, ML3.3, Error ellipse: s-maj=2.4km s-min=1.2km az=148.0*
*THR **06** 19:36:12.9±1.0, 34.74N×47.08E, h14km, ML3.2*
*TEH **06** 19:36:14.1, 34.57N×46.97E, h10km, Mn3.3*

ISC 06 19:36:12.1±0.7, 34.71N±0.05×46.97E±0.06, h10km, n23, σ1§01/26, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVIS	**Veys**	**0.21**	**208**	Pg	**Pg**	**19 36 16.0**	**-0.7**
IDHR	**Dehrash**	**0.48**	**269**	Pg	**Pg**	**19 36 21.8**	**-0.1**
SNGE	**Sanandaj**	**0.49**	**39**	*i* PG	**Pg**	**19 36 21.1**	**-0.9**
SNGE				*e*SG	**Sg**	**19 36 28.0**	**-0.6**
SNGE				AML	AML	19 36 29.2	
	comp=N,9μm,0.2s						
SNGE	**Sanandaj**	**0.49**	**39**	*i* Pg	**Pg**	**19 36 21.1**	**-0.9**
	SNR=91						
SNGE				*e*Sg	**Sg**	**19 36 28.0**	**-0.6**
	comp=N,9μm,0.2s,SNR=91						
IGHG	**Ghaleghazi**	**0.51**	**221**	Pg	**Pg**	**19 36 22.0**	**-0.4**
IKOM	**Komasi**	**0.70**	**140**	Pg	**Pg**	**19 36 24.0**	**-2.2**
IRAZ	**Razeghan**	**2.52**	**73**	Pn	**Pn**	**19 36 55.7**	**+1.8**
ASAO	**Ashtian**	**2.52**	**93**	*e*PN	**Pn**	**19 36 55.1**	**+1.3**
ASAO				*e*SG	**Sg**	**19 37 29.2**	**-6.9**
ASAO				AML	AML	19 37 43.5	
	comp=N,70nm,0.5s						
ASAO	**Ashtian**	**2.52**	**93**	*e*Pn	**Pn**	**19 36 55.2**	**+1.3**
	SNR=52						
ASAO				*e*Sg	**Sg**	**19 37 29.2**	**-7.0**
	comp=N,70nm,0.5s,SNR=90						
BHD	**Baghdad**	**2.59**	**237**	*e*Pn	Px	19 37 01.0	
BHD				*e*Pg	Px	19 37 06.0	
BHD				*e*Sn	Sx	19 37 28.5	
BHD				*e*Sg	Sx	19 37 33.5	
SHGR	**Shooshtar-Gavs**	**3.01**	**149**	*e*PN	**Pn**	**19 37 01.6**	**+0.7**
IMHD	**Mahdasht**	**3.18**	**71**	Pn	**Pn**	**19 37 03.6**	**+0.4**
IQOM	**Qom**	**3.38**	**87**	Lg		19 37 59.6	
IQOM	**Qom**	**3.38**	**87**	Pn	**Pn**	**19 37 07.0**	**+1.0**
IQOM				Sn	**Sn**	**19 37 45.5**	**-1.1**
MSL	**Mosul**	**3.54**	**298**	*e*Pn	Px	19 37 19.5	
MSL				*e*Pb	Px	19 37 28.5	
MSL				*e*Sn	Sx	19 38 12.5	
IVRN	**Varamin**	**3.92**	**85**	Pn	**Pn**	**19 37 14.0**	**+0.2**
IKLH	**Kalahroud**	**4.07**	**109**	Pn	**Pn**	**19 37 17.6**	**+1.7**
IMRD	**Marand**	**4.12**	**346**	Pn	**Pg**	**19 37 28.6**	**-5.8**
DAMV	**Damavand**	**4.20**	**76**	*e*PN	**Pn**	**19 37 17.7**	**+0.1**
DAMV				AML	AML	19 38 39.8	
	comp=N,16nm,0.7s						
IDMV	**Damavand**	**4.24**	**77**	Pn	**Pn**	**19 37 18.5**	**+0.3**
IZEF	**Zefreh**	**4.81**	**111**	Pn	**Pn**	**19 37 25.9**	**-0.5**
IFIR	**Firoozkooh**	**4.83**	**77**	Pn	**Pn**	**19 37 27.1**	**+0.5**
IFIR				Sn	**Sn**	**19 38 21.7**	**-1.5**
IGAR	**Garneh**	**5.01**	**118**	Pn	**Pn**	**19 37 23.0**	**-6.2**

*IDC **06** 19:46:14.2±1.0, 0.64N×96.28E, mb4.0/9, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, ML4.2/1, MS2.9/1, Ms1 3.1/1, ms1mx2.8/24, Error ellipse: s-maj=34.3km s-min=20.3km az=56.0*
*NEIC **06** 19:46:18.8±0.6, 0.68N×96.41E, h30km, mb4.2/3, Error ellipse: s-maj=16.3km s-min=11.8km az=60.0*

ISC 06 19:46:16.0±9.1, 0.7N±0.2×96.4E±0.2, h24km±63km, n16, σ1§05/16, mb4.0/12, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.24**	**43**	*e*P	**Pn**	**19 47 47.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**17.85**	**8**	P	**P**	**19 50 26.1**	**+1.4**
	0.3nm,0.3s,baz=197,slow=12,SNR=21						
CMAR				LR	LR	19 57 54.1	
	comp=Z,32nm,18.1s,baz=195,slow=39						
SHL	**Shillong**	**25.13**	**350**	*e*P	**P**	**19 51 42.0**	**+0.9**
LSA	**Lhasa**	**29.30**	**351**	*e*P	**P**	**19 52 20.6**	**+1.5**
	4.1nm,0.8s,mb4.2						
JHNI	**Jhansi**	**30.09**	**326**	⇓*i* P	**P**	**19 52 27.0**	**+0.8**
WRA	**Warramunga Arr**	**42.43**	**121**	P	**P**	**19 54 11.9**	**+0.8**
	0.4nm,0.4s,mb3.4,baz=302,slow=9.0,SNR=5.2						
WRAB	**Tennant Creek**	**42.43**	**121**	P	**P**	**19 54 11.1**	**0.0**
	2.1nm,0.6s,mb3.9						
MKAR	**Makanchi Array**	**47.57**	**347**	P	**P**	**19 54 51.9**	**0.0**
	1.6nm,0.5s,mb4.3,baz=164,slow=9.0,SNR=28						
SONM	**Songino Array**	**47.77**	**9**	P	**P**	**19 54 53.5**	**+0.2**
	0.9nm,0.5s,mb4.0,baz=192,slow=9.3,SNR=14						
STKA	**Stephens Creek**	**53.59**	**131**	P	**P**	**19 55 38.0**	**+0.1**
	1.1nm,0.5s,mb4.1,baz=335,slow=23,SNR=5.4						
ZAL	**Zalesovo**	**53.95**	**352**	P	**P**	**19 55 40.2**	**+0.1**
	3.5nm,0.4s,mb4.7,baz=315,slow=5.8,SNR=14						
BVAR	**Borovoye Array**	**56.49**	**341**	P	**P**	**19 55 56.7**	**-1.9**
	0.9nm,0.5s,mb4.0,baz=140,slow=11,SNR=6.7						
CHKZ	**Chkalovo**	**56.98**	**342**	*e*P	**P**	**19 55 60.0**	**-2.1**
	1.7nm,0.7s,mb4.2						
KMBO	**Kilima Mbogo**	**59.19**	**268**	P	**P**	**19 56 17.9**	**-0.2**
	1.2nm,0.8s,mb4.0,baz=58,slow=17,SNR=3.7						
BRTR	**Keskin Array B**	**68.89**	**313**	P	**P**	**19 57 20.2**	**-1.0**
	0.2nm,0.4s,mb3.4,baz=117,slow=9.7,SNR=3.0						
ARCES	**ARCESS Array B**	**82.77**	**340**	P	**P**	**19 58 39.5**	**+0.4**
	3.4nm,0.9s,mb4.4,baz=72,slow=7.7,SNR=3.7						

IDC 06 19:50:23.2±12.0, 0.06N×97.12E, mb3.9/2, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, ML3.8/1, Error ellipse: s-maj=359.6km s-min=113.0km az=117.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.37**	**6**	P	P	19 54 39.8	-1.4
	0.1nm,0.3s,baz=193,slow=11,SNR=10						
MKAR	**Makanchi Array**	**48.32**	**346**	P	P	19 59 06.3	-2.1
	0.6nm,0.7s,baz=161,slow=8.8,SNR=7.1						
ZAL	**Zalesovo**	**54.65**	**351**	P	P	19 59 53.5	-2.5
	1.1nm,0.4s,baz=316,slow=7.4,SNR=4.2						

IDC 06 19:54:55.4±2.7, 0.23N×97.25E, mb3.9/4, mb1 4.1/5, mb1mx3.8/18, mbtmp3.9/5, ML4.0/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/20, Error ellipse: s-maj=93.6km s-min=26.0km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.19**	**5**	P	P	19 59 11.6	+0.3
	0.2nm,0.3s,baz=193,slow=13,SNR=21						
WRA	**Warramunga Arr**	**41.49**	**121**	P	P	20 02 44.5	-1.6
	0.8nm,0.6s,baz=300,slow=9.3,SNR=3.3						
SONM	**Songino Array**	**48.08**	**8**	P	P	20 03 37.4	-1.3
	0.7nm,0.5s,baz=189,slow=8.3,SNR=7.6						
MKAR	**Makanchi Array**	**48.19**	**346**	P	P	20 03 36.6	-3.0
	0.8nm,0.6s,baz=163,slow=8.6,SNR=13						
MKAR				LR	LR	20 26 14.4	
	comp=Z,28nm,19.6s,baz=201,slow=39						
ZAL	**Zalesovo**	**54.51**	**351**	P	P	20 04 24.8	-2.4
	2.5nm,0.5s,baz=291,slow=4.8,SNR=11						

*IDC **06** 19:55:58.2±1.3, 2.84S×128.50E, mb3.9/5, mb1 4.2/7, mb1mx4.0/19, mbtmp4.1/7, ML4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/23, Error ellipse: s-maj=72.1km s-min=19.7km az=67.0*
*NEIC **06** 19:56:02.6±0.6, 2.94S×128.45E, h30km, mb4.3/4, Error ellipse: s-maj=24.2km s-min=6.5km az=70.0*

ISC 06 19:56:01.2±0.8, 3.0S±0.1×128.4E±0.2, h33km, n16, σ0§69/16, mb4.1/7, 1D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.27**	**190**	*e*P	**P**	**19 59 41.0**	**+4.8**
	7.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.27**	**190**	Pn	**P**	**19 59 37.5**	**+1.3**
	0.3nm,0.3s,baz=7.3,slow=13,SNR=6.3						
FITZ				LR	LR	20 05 53.1	
	comp=Z,145nm,20.9s,baz=94,slow=39						
FITZ	**Fitzroy Crossi**	**15.27**	**190**	Pn	**P**	**19 59 37.5**	**+1.3**
FITZ				*e*P		19 59 41.0	
FITZ				LR	LR	20 05 53.1	
WRAB	**Tennant Creek**	**17.84**	**161**	*e*P	**P**	**20 00 08.9**	**+0.3**
	10.0nm,0.9s						
WRA	**Warramunga Arr**	**17.84**	**161**	P	**P**	**20 00 08.6**	**0.0**
	0.7nm,0.3s,baz=339,slow=12,SNR=39						
WB2	**Warramunga Arr**	**17.84**	**161**	⇓*i* P	**P**	**20 00 08.5**	**-0.2**
MBWA	**Marble Bar**	**19.94**	**204**	P	**P**	**20 00 31.8**	**-1.5**
	46nm,1.5s						
ASAR	**Alice Springs**	**21.25**	**166**	P	**P**	**20 00 47.0**	**+0.1**
	8.5nm,0.9s,mb4.1,baz=346,slow=12,SNR=35						
ASAR				PcP	PcP	20 04 51.2	-0.2
	0.8nm,0.5s,baz=352,slow=1.4,SNR=9.8						
ASPA	**Alice Springs**	**21.25**	**166**	*e*P	**P**	**20 00 47.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**35.97**	**307**	P	**P**	**20 03 02.0**	**+0.9**
	0.8nm,0.6s,mb3.8,baz=127,slow=7.1,SNR=7.8						
LSA	**Lhasa**	**48.21**	**315**	*e*P	**P**	**20 04 41.7**	**+0.8**
	6.7nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**64.00**	**327**	P	**P**	**20 06 33.2**	**-0.6**
	2.9nm,0.7s,mb4.4,baz=116,slow=8.8,SNR=20						
MKAR	**Makanchi Array**	**64.00**	**327**	P	**P**	**20 06 33.2**	**-0.6**
ZAL	**Zalesovo**	**67.28**	**334**	P	**P**	**20 06 54.7**	**+0.1**
	0.5nm,0.4s,mb3.9,baz=13,slow=4.7,SNR=3.2						
BVAR	**Borovoye Array**	**73.82**	**328**	P	**P**	**20 07 34.0**	**-0.2**
	0.6nm,0.5s,mb3.8,baz=141,slow=9.5,SNR=3.8						
CHKZ	**Chkalovo**	**74.01**	**328**	*e*P	**P**	**20 07 34.5**	**-0.8**
	1.4nm,0.8s,mb3.9						

*SOF **06** 20:02:24.7, 40.30N×25.64E, h2km, MD2.7*
*ATH **06** 20:02:26.8, 40.33N×25.66E, h26km±1km, MD3.4/3*
*THE **06** 20:02:26.1, 40.24N×25.83E, h12km, ML3.1*
*NEIC **06** 20:02:26.8, 40.33N×25.66E, h26km, MD3.4(ATH), After ATH.*
*CSEM **06** 20:02:27.3±0.1, 40.33N×25.69E, h15km, ML3.1, Error ellipse: s-maj=3.4km s-min=1.8km az=117.0*

ISC 06 20:02:26.5±0.7, 40.32N±0.03×25.60E±0.03, h9km±5km, n29, σ1§16/40, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.53**	**217**	*e*PN	**Pn**	**20 02 38.3**	**-1.6**
LIA				*e*SN	**Sn**	**20 02 47.0**	**-2.0**
LOS	**Limnos**	**0.56**	**226**	*e*Pg	**Pg**	**20 02 38.8**	**+1.1**
LOS				*e*Sg	**Sg**	**20 02 48.0**	**+2.8**
BOZC	**Bozcaada**	**0.59**	**144**	*e*P	**Pg**	**20 02 38.1**	**-0.3**
BOZC				*i* S	**Sg**	**20 02 46.0**	**-0.3**
ALN	**Alexandroupoli**	**0.67**	**30**	*e*Pg	**Pg**	**20 02 39.1**	**-0.8**
ALN				*e*Sg	**Sg**	**20 02 48.3**	**-0.5**
RDO	**Rodhopi**	**0.82**	**357**	*e*PN	**Pn**	**20 02 42.8**	**-1.3**
PRK	**Paraskevi**	**1.19**	**154**	*e*PN	**Pn**	**20 02 49.3**	**0.0**
OUR	**Ouranopolis**	**1.24**	**271**	*e*Pb	**Pb**	**20 02 50.2**	**+0.6**
SART	**Tekirdag**	**1.26**	**73**	*e*P	**Pb**	**20 02 51.8**	**+1.9**
SART				*i* S	**Sb**	**20 03 05.0**	**-1.1**
AYVA	**Ayvalik**	**1.31**	**140**	*i* P	**Pb**	**20 02 50.6**	**-0.4**
AYVA				*i* S	**Sb**	**20 03 08.6**	**+0.8**
KDZ	**Kurdzhali**	**1.33**	**354**	*i* P	**Pb**	**20 02 52.0**	**+0.7**
RZN	**Rozhen**	**1.52**	**334**	*i* P	**Pn**	**20 02 53.0**	**-1.1**
PAIG	**Paliouri**	**1.53**	**256**	*e*Pb	**Pb**	**20 02 53.8**	**-0.8**
PLG	**Polygyros**	**1.65**	**273**	*e*PN	**Pn**	**20 02 56.5**	**+0.6**
NVR	**Nevrokopi**	**1.67**	**308**	*e*PN	**Pn**	**20 02 56.7**	**+0.4**
SRS	**Serrai**	**1.72**	**298**	*e*Pb	**Pb**	**20 02 57.2**	**-0.7**
SRS				*e*Sb	**Sb**	**20 03 22.9**	**+3.2**
DIM	**Dimitrovgrad**	**1.73**	**358**	*i* P	**Pn**	**20 02 58.5**	**+1.5**
AOS	**Alonnisos**	**1.76**	**230**	*e*Pb	**Pb**	**20 02 57.0**	**-1.5**
SOH	**Sokhos**	**1.79**	**287**	*e*Pb	**Pb**	**20 02 58.1**	**-0.9**
MMB	**Musomiste**	**1.90**	**312**	*i* P	**Pn**	**20 03 00.0**	**+0.5**
PLD	**Plovdiv**	**1.91**	**339**	*i* P	**Pn**	**20 03 04.0**	**+4.4**
BTOK	**Tokmak**	**1.94**	**106**	*e*P	**Pn**	**20 03 05.0**	**+4.9**
BTOK				*e*S	**Sn**	**20 03 28.4**	**+3.5**
KNT	**Kendrikon**	**2.22**	**293**	*e*Pn	**Pn**	**20 03 04.8**	**+0.7**
JMB	**Yambol**	**2.27**	**19**	*i* P	**Pn**	**20 03 09.5**	**+4.8**
KDAG	**Bornova**	**2.31**	**146**	*i* P	**Pn**	**20 03 05.6**	**+0.3**
KDAG				*i* S	**Sn**	**20 03 35.8**	**+1.7**
PGB	**Panagyurishte**	**2.48**	**335**	P	**Pn**	**20 03 12.7**	**+5.0**
ULDT	**Uludag**	**2.71**	**93**	*i* P	**Pn**	**20 03 19.5**	**+8.4**
ULDT				*i* S	**Sn**	**20 03 50.4**	**+6.0**
AGG	**Agios Georgios**	**2.84**	**244**	*e*Pn	**Pn**	**20 03 12.8**	**-0.2**
VTS	**Vitosha**	**2.90**	**322**	P	**Pn**	**20 03 21.5**	**+7.8**
MANT	**Manisa**	**2.93**	**128**	*i* P	**Pn**	**20 03 13.7**	**-0.5**
MANT				*i* S	**Sn**	**20 03 49.0**	**-0.9**

IDC 06 20:27:36.7±5.1, 6.32N×91.68E, mb3.4/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=147.8km s-min=29.7km az=76.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.99**	**30**	Pn	P	20 30 57.2	-1.5
	0.1nm,0.3s,baz=229,slow=14,SNR=19						
SONM	**Songino Array**	**43.24**	**14**	P	P	20 35 39.6	-1.8
	0.4nm,0.8s,baz=188,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**49.41**	**123**	P	P	20 36 28.7	-1.9
	0.4nm,0.7s,baz=304,slow=8.8,SNR=6.5						
ASAR	**Alice Springs**	**50.86**	**127**	P	P	20 36 39.5	-2.1
	0.5nm,0.8s,baz=293,slow=7.4,SNR=5.6						

*JMA **06** 20:50:41.9±0.4, 33.83N×142.61E, h55km, M3.7*
*IDC **06** 20:50:42.2±1.8, 33.51N×142.40E, mb3.3/4, mb1 3.6/6, mb1mx3.4/23, mbtmp3.6/6, ML3.7/2, Error ellipse: s-maj=40.6km s-min=21.8km az=58.0*

ISC 06 20:50:40.3±2.5, 33.77N±0.07×142.5E±0.1, h16km±21km, n13, σ1§12/18, mb3.3/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.56**	**305**	P	**Pn**	**20 51 08.0**	**+0.3**
BSO1				*e*S	**Sn**	**20 51 27.6**	**-0.1**
BSO3	**Boso 3**	**1.97**	**302**	P	**Pn**	**20 51 14.3**	**+0.8**
BSO3				*e*S	**Sn**	**20 51 38.7**	**+0.7**
BSO4	**Boso 4**	**2.19**	**305**	P	**Pn**	**20 51 17.7**	**+1.1**
BSO4				*e*S	**Sn**	**20 51 43.4**	**-0.2**
JHJ2	**Mitsune**	**2.36**	**255**	P	**Pn**	**20 51 20.6**	**+1.5**
JHJ	**Hachijo jima 2**	**2.39**	**255**	Pn	**Pn**	**20 51 20.6**	**+1.2**
	54nm,0.3s,baz=201,slow=6.4,SNR=16						
JHJ				Sn	**Sn**	**20 51 47.9**	**-0.8**
	36nm,0.3s,baz=255,slow=23,SNR=7.3						
JOD2	**Odawara 2**	**3.21**	**299**	P	**Pn**	**

GTA XS 21 59 53.5
GTA SS SS 22 02 21.4 +6.2
GTA AMB AMB
comp=Z,7.0nm,0.9s,mb4.4
GTA AMB AMB
comp=Z,134nm,5.0s
GTA LR LR
comp=N,116nm,12.5s
GTA LR LR
comp=E,157nm,17.9s
GTA LR LR
comp=Z,110nm,13.7s,MS3.8
WRA Warramunga Arr 41.64 122 P **P 21 54 06.2 -1.0**
comp=Z,2.0nm,0.6s,mb3.9,baz=302,slow=8.9,SNR=27
WRAB Tennant Creek 41.65 122 *e*P **P 21 54 06.0 -1.2**
comp=Z,3.1nm,0.7s,mb4.0
BJT Baijiatuau 42.60 21 *e*P **P 21 54 15.4 +0.6**
comp=Z,12nm,0.8s,mb4.7
ASAR Alice Springs 42.98 127 P **P 21 54 18.4 +0.3**
comp=Z,1.7nm,0.6s,mb3.9,baz=299,slow=7.8,SNR=18
WMQ Urumqi 43.70 350 P **P 21 54 23.5 -0.2**
WMQ AP pP 21 54 33.5 +3.2
WMQ PP PP 21 56 07.3 +0.1
WMQ PCP PcP 21 56 10.3 -0.8
WMQ S **S 22 00 51.5 -0.4**
WMQ AMB AMB
comp=Z,2.0nm,0.6s,mb4.0
WMQ AMB AMB
comp=Z,20nm,5.6s
WMQ LR LR
comp=N,69nm,16.0s,MS3.6
WMQ LR LR
comp=E,15nm,20.0s,MS3.6
WMQ LR LR
comp=Z,28nm,15.5s,MS3.3
SONM Songino Array 47.48 8 P **P 21 54 53.4 -0.4**
comp=Z,1.7nm,0.5s,mb4.2,baz=191,slow=9.6,SNR=29
SONM PcP PcP 21 56 24.0 -0.2
comp=Z,0.7nm,0.8s,baz=216,slow=3.2,SNR=2.9
SONM LR LR 22 15 56.2
comp=Z,53nm,19.5s,MS3.5,baz=203,slow=38
MKAR Makanchi Array 47.67 346 P **P 21 54 55.3 0.0**
comp=Z,4.3nm,0.5s,mb4.8,baz=160,slow=8.8,SNR=122
CN2 Changchun 49.55 27 *e*P **P 21 55 04.4 -5.5**
MJAR Matsushiro Arr 51.83 42 LR LR 22 20 07.1
comp=Z,55nm,18.0s,MS3.6,baz=250,slow=39
HIA Hailar 51.94 18 *e*P **P 21 55 27.2 -0.7**
comp=Z,4.1nm,0.9s,mb4.4
STKA Stephens Creek 52.93 132 P **P 21 55 36.2 +0.6**
comp=Z,1.6nm,0.5s,mb4.2,baz=285,slow=10,SNR=5.8
ZAL Zalesovo 53.97 351 P **P 21 55 42.8 -0.1**
comp=Z,4.8nm,0.4s,mb4.7,baz=305,slow=5.1,SNR=21
CHKZ Chkalovo 57.16 341 *e*P **P 21 56 05.0 -1.0**
comp=Z,5.0nm,1.0s,mb4.5
BRTR Keskin Array B 69.54 312 P **P 21 57 27.6 -0.3**
comp=Z,0.5nm,0.5s,mb3.7,baz=135,slow=6.1,SNR=3.7
MATP Matopo 70.58 248 P **P 21 57 36.0 +1.4**
comp=Z,1.8nm,0.8s,mb4.0,baz=80,slow=6.1,SNR=3.0
AKASG Malin Array Be 75.70 322 P **P 21 58 03.0 -1.1**
comp=Z,0.3nm,0.3s,mb3.6,baz=91,slow=4.8,SNR=5.4
AKASG Malin Array Be 75.70 322 P **P 21 58 03.0 -1.1**
MLR Muntele Rosu 76.50 317 P **P 21 58 09.4 +0.7**
comp=Z,1.4nm,0.8s,mb4.0,baz=60,slow=23,SNR=4.1
FINES FINESS Array B 80.45 333 P **P 21 58 29.5 -0.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=106,slow=6.3,SNR=11
ARCES ARCESS Array B 82.98 340 P **P 21 58 42.6 -0.4**
comp=Z,3.6nm,0.9s,mb4.4,baz=90,slow=3.6,SNR=6.5
GERES GERESS Array B 85.25 319 P **P 21 58 53.9 -0.9**
comp=Z,1.0nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=7.1

*BUG **06** 21:48:53.5,51.54N×6.78E,h1km,ML1.8*
*BNS **06** 21:48:54.9,51.54N×6.77E,h1km,ML2.1,GESPUERT LOHBERG (III-IV)*
*BGR **06** 21:48:54.1±0.3,51.56N×6.75E,h1km,ML2.3/4,Error ellipse: s-maj=3.3km s-min=2.2km az=96.0*
*LDG **06** 21:48:54.9±0.1,51.54N×6.76E,h1km,Md3.1/2,Ml2.7/13, Error ellipse: s-maj=1.9km s-min=1.4km az=27.0, Suspected Mining induced.*
*NEIC **06** 21:48:54.3±1.1,51.51N×6.73E,h10km,ML2.7(LDG), Error ellipse: s-maj=14.4km s-min=5.5km az=179.0*
*CSEM **06** 21:48:54.9±0.1,51.54N×6.79E,h2km,ML2.8/12,Error ellipse: s-maj=2.1km s-min=1.4km az=151.0,Suspected Mining induced.*
ISC 06 21:48:51.9±0.3,51.52N±0.02×6.70E±0.03,n40,σ1°32/78, 1C-3D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUG	**Bochum--Univer**	**0.37**	**102**	⇓*e*Pg	**Pg**	**21 49 00.6**	**+1.4**
BUG				Sg	**Sg**	**21 49 05.7**	**+1.6**
BUG	**Bochum--Univer**	**0.37**	**102**	*e*Pg	**Pg**	**21 49 00.5**	**+1.3**
BUG				*e*Sg	**Sg**	**21 49 04.7**	**+0.6**
WTSB	**Winterswijk**	**0.45**	**8**	*e*Pg	**Pg**	**21 49 01.1**	**+0.2**
WTSB	SNR=12			*e*Sg	**Sg**	**21 49 06.9**	**0.0**
WTSB	**Winterswijk**	**0.45**	**8**	*i*Pg	**Pg**	**21 49 01.1**	**+0.3**
WTSB	SNR=3.6 32nm,0.3s,baz=180			*i* Sg	**Sg**	**21 49 06.5**	**-0.4**
BNS	**Bensberg**	**0.63**	**151**	⇑*e*Pg	**Pg**	**21 49 07.1**	**+2.5**
BNS				*e*Sg	**Sg**	**21 49 15.9**	**+2.9**
HGN	**Heimansgroeve**	**0.90**	**213**	*e*Pg	**Pg**	**21 49 12.1**	**+2.3**
HGN	122nm,0.7s SNR=14			*e*Sg	**Sg**	**21 49 24.8**	**+3.0**
HGN	**Heimansgroeve**	**0.90**	**213**	*i* Pg	**Pg**	**21 49 12.4**	**+2.6**
HGN	9.9nm,0.3s SNR=14			*i* Sg	**Sg**	**21 49 25.0**	**+3.2**
KLL	**Kalltalsperre**	**0.91**	**196**	*e*Pg	**Pg**	**21 49 12.6**	**+2.6**
KLL				*e*Sg	**Sg**	**21 49 26.0**	**+3.9**
STB	**Steinbach**	**0.93**	**174**	⇓*i*Pg	**Pg**	**21 49 13.0**	**+2.5**
STB	50nm,0.3s SNR=2.1			*i* Sg	**Sg**	**21 49 26.3**	**+3.3**
MEM	**Membach**	**1.01**	**206**	P	**Pb**	**21 49 13.7**	**+1.7**
MEM				S	**Sg**	**21 49 27.9**	**+2.3**
IBBN	**Ibbenburen**	**1.02**	**39**	*e*Pg	**Pg**	**21 49 12.4**	**0.0**
IBBN	48nm,0.3s SNR=3.3			*e*Sg	**Sg**	**21 49 25.9**	**-0.1**
WIT	**Witteveen**	**1.29**	**359**	*e*Sg	**Sg**	**21 49 34.1**	**-0.9**
BGG	**Burgeitz**	**1.38**	**163**	*e*Pg	**Pg**	**21 49 19.9**	**+0.5**
BGG	41nm,0.2s SNR=1.1			*e*Sg	**Sg**	**21 49 38.5**	**+0.7**
TNS	**Taunus Mts**	**1.71**	**139**	*e*Pn	**Pn**	**21 49 24.6**	**+1.5**
TNS				*e*Pg	**Pg**	**21 49 25.9**	**-0.1**
TNS	16nm,0.2s SNR=7.6			*e*Sn	**Sn**	**21 49 45.6**	**-0.4**
TNS	**Taunus Mts**	**1.71**	**139**	*e*Pn	**Pn**	**21 49 24.6**	**+1.5**
TNS				*e*Pg	**Pg**	**21 49 25.9**	**-0.1**
TNS				*e*Sn	**Sn**	**21 49 45.6**	**-0.4**
TNS				*e*Sg	**Sg**	**21 49 48.2**	**-0.6**
GIVF	**Givet**	**1.85**	**221**	*e*Pn	**Pn**	**21 49 26.8**	**+1.6**
GIVF	16nm,0.2s			*e*P		21 49 28.8	
GIVF				*e*Sg	**Sg**	**21 49 53.8**	**+0.3**
WLF	**Walferdange**	**1.89**	**191**	*e*Pg	**Pg**	**21 49 29.8**	**+0.2**
WLF	SNR=1.8			*e*Sg	**Sg**	**21 49 54.6**	**-0.2**
DOU	**Dourbes**	**1.95**	**224**	P	**Pn**	**21 49 27.7**	**+1.1**
DOU				S	**Sn**	**21 49 53.6**	**+1.4**
BAIF	**Baives**	**2.15**	**228**	*e*Pn	**Pn**	**21 49 31.1**	**+1.6**
BAIF				*e*Pg	**Pg**	**21 49 35.4**	**+0.5**
BAIF				*e*Sn	**Sn**	**21 49 57.1**	**-0.2**
BAIF	6.7nm,0.3s			*e*Sg	**Sg**	**21 50 04.2**	**+0.6**
RFYF	**Reffroy**	**3.00**	**196**	*e*Pg	**Pg**	**21 49 50.7**	**-1.1**
RFYF	8.7nm,0.3s			*e*Sg	**Sg**	**21 50 30.2**	**-1.6**
CDF	**Champ du Feu**	**3.13**	**173**	*e*Pn	**Pn**	**21 49 43.8**	**+0.3**
CDF	2.2nm,0.3s			*e*Sg	**Sg**	**21 50 33.7**	**-2.6**
MEZF	**Maizieres J'vi**	**3.20**	**200**	*e*Pn	**Pn**	**21 49 44.9**	**+0.4**
MEZF	4.6nm,0.3s			*e*Sg	**Sg**	**21 50 36.8**	**-1.7**
BFO	**Black Forest**	**3.37**	**161**	*e*Sn	**Sn**	**21 50 25.0**	**-3.0**
	SNR=1.9						
SFTF	**Sexfontaines**	**3.49**	**199**	*e*Sg	**Sg**	**21 50 46.0**	**-2.0**
	5.4nm,0.3s						
HAU	**Haudompre**	**3.53**	**184**	*e*Pn	**Pn**	**21 49 49.3**	**+0.2**
HAU				*e*Sg	**Sg**	**21 50 46.2**	**-3.1**
	2.8nm,0.3s						
WERD	**Werda**	**3.71**	**105**	*e*Pn	**Pn**	**21 49 51.1**	**-0.5**
	SNR=2.3						
HINF	**Hinteralfeld**	**3.71**	**178**	*e*Pn	**Pn**	**21 49 51.7**	**0.0**
GUNZ	**Gunzen**	**3.75**	**106**	*e*Pn	**Pn**	**21 49 51.8**	**-0.5**
	SNR=1.2						
CLL	**Collm**	**3.95**	**91**	*e*SG	**Sg**	**21 51 02.0**	**-1.5**
SSF	**Saint Saulge**	**4.93**	**206**	*e*Pn	**Pn**	**21 50 07.9**	**-1.1**
SSF				*e*Sn	**Sn**	**21 51 02.9**	**-4.7**
SSF				*e*Sg	**Sg**	**21 51 30.6**	**-5.3**
	1.8nm,0.5s						
CABF	**La Chapelle**	**4.93**	**185**	*e*Pn	**Pn**	**21 50 08.5**	**-0.5**
HYF	**Humbligny**	**5.01**	**213**	*e*Sn	**Sn**	**21 51 05.0**	**-4.7**
AVF	**Avril sur Loir**	**5.22**	**206**	*e*Pn	**Pn**	**21 50 11.9**	**-1.2**
AVF				*e*Sn	**Sn**	**21 51 09.9**	**-5.0**
AVF				*e*Sg	**Sg**	**21 51 39.0**	**-6.6**
	1.2nm,0.4s						
SMF	**Signal de Mont**	**5.23**	**202**	*e*Pn	**Pn**	**21 50 11.7**	**-1.5**
SMF				*e*Sn	**Sn**	**21 51 10.2**	**-4.9**
SMF				*e*Sg	**Sg**	**21 51 39.1**	**-6.8**
	1.5nm,0.3s						
LDF	**La Druitiere**	**5.28**	**239**	*e*Pn	**Pn**	**21 50 13.5**	**-0.4**
LDF				*e*Sn	**Sn**	**21 51 12.0**	**-4.4**
FLN	**La Foliniere**	**5.38**	**242**	*e*Pn	**Pn**	**21 50 14.8**	**-0.5**
BGF	**Bois d'Agland**	**5.58**	**208**	*e*Pn	**Pn**	**21 50 16.6**	**-1.5**
BGF				*e*Sn	**Sn**	**21 51 18.5**	**-5.3**
BGF				*e*Sg	**Sg**	**21 51 50.9**	**-6.6**
	8.0nm,0.4s						
GRR	**Gorron**	**5.80**	**240**	*e*Pn	**Pn**	**21 50 20.4**	**-0.8**
GRR				*e*Sn	**Sn**	**21 51 23.7**	**-5.7**
	3.0nm,0.2s						
TCF	**Toulx Ste Croi**	**6.01**	**211**	*e*Pn	**Pn**	**21 50 22.9**	**-1.4**
MFF	**Saint Martin d**	**6.67**	**225**	*e*Pn	**Pn**	**21 50 32.1**	**-1.4**

*DJA **06** 22:09:31.7±1.3,2.47S×99.94E,h244km±143km,MD4.6/2, ML5.8/1,Error ellipse: s-maj=252.8km s-min=52.5km az=49.0*
*BJI **06** 22:09:32.0,2.60S×99.80E,h31km,mb5.1,Ms4.5,Msz4.0*
*IDC **06** 22:09:34.7±0.5,2.70S×99.58E,h30km±3km,mb4.3/15, mb1 4.4/15,mb1mx4.2/20,mbtmp4.5/15,MS3.7/4, Ms1 3.8/4,ms1mx3.5/25,Error ellipse: s-maj=20.6km s-min=10.7km az=52.0*
*NEIC **06** 22:09:35.1±0.5,2.64S×99.75E,mb4.6/6,Error ellipse: s-maj=17.4km s-min=6.9km az=49.0*
NEIC Felt at Padang, Sumatra.
ISC 06 22:09:32.9±0.5,2.62S±0.09×99.86E±0.09,h30km, h30km±1.1km;pP-P,n45,σ1°01/43,mb4.5/20,MS3.8/5, 4C-2D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**6.05**	**119**	*e*Pn	**Pn**	**22 11 03.2**	**+0.4**
PENI				*e*Sn	**Sn**	**22 12 10.6**	**-1.2**
PENI	**Pendagan**	**6.05**	**119**	*e*Pn	**Pn**	**22 11 02.8**	**0.0**
PENI				*e*Sn	**Sn**	**22 12 09.9**	**-1.9**
PASI	**Pasiripis**	**7.00**	**126**	⇓*e*Pn	**Pn**	**22 11 15.6**	**-0.5**
PASI				*e*Sn	**Sn**	**22 12 31.2**	**-4.2**
PULI	**Pulasari**	**7.13**	**121**	*e*Pn	**Pn**	**22 11 17.6**	**-0.4**
PULI	**Pulasari**	**7.13**	**121**	*e*Pn	**Pn**	**22 11 17.4**	**-0.6**
	467nm,0.8s						
CM31	**Chiang Mai Arr**	**20.96**	**358**	*e*P	**P**	**22 14 15.0**	**-1.1**
	11nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.96**	**358**	P	**P**	**22 14 14.7**	**-1.4**
	7.0nm,0.7s,baz=186,slow=10,SNR=61						
CMAR				LR	LR	22 22 41.7	
	comp=Z,154nm,18.1s,MS3.4,baz=185,slow=37						
QIZ	**Qiongzhong**	**23.64**	**24**	P	**P**	**22 14 44.0**	**+1.3**
SHL	**Shillong**	**29.06**	**345**	*e*P	**P**	**22 15 39.0**	**+6.0**
FITZ	**Fitzroy Crossi**	**29.59**	**123**	P	**P**	**22 15 38.5**	**+0.7**
	7.1nm,0.8s,mb4.5,baz=286,slow=2.6,SNR=4.3						
FITZ				LR	LR	22 28 19.0	
	comp=Z,126nm,21.5s,MS3.5,baz=282,slow=38						
LSA	**Lhasa**	**33.20**	**346**	*e*P	**P**	**22 16 10.4**	**+1.0**
LSA	**Lhasa**	**33.20**	**346**	*e*P	**P**	**22 16 10.2**	**+0.9**
	2.9nm,0.6s,mb4.4						
ENH	**Enshi**	**33.97**	**15**	*e*P	**P**	**22 16 15.4**	**-0.7**
	8.1nm,0.7s,mb4.8						
NWAO	**Narrogin (SRO)**	**34.27**	**154**	LR	LR	22 29 18.7	
	comp=Z,187nm,19.1s,MS3.8,baz=70,slow=34						
XAN	**Xi'an**	**37.45**	**12**	P	**P**	**22 16 45.0**	**-0.5**
XAN				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.2						
XAN				LR	LR		
	comp=N,317nm,13.5s						
XAN				LR	LR		
	comp=E,132nm,9.2s						
XAN				LR	LR		
	comp=Z,483nm,13.2s,MS4.5						
WRA	**Warramunga Arr**	**37.81**	**120**	P	**P**	**22 16 49.8**	**+1.1**
	comp=Z,4.4nm,0.4s,mb4.5,baz=303,slow=9.2,SNR=72						
WRA				pP	pP	22 17 00.2	+2.4
	comp=Z,3.6nm,0.5s,baz=304,slow=9.3,SNR=10						
WRA				PcP	PcP	22 19 05.7	+0.3
	comp=Z,0.9nm,0.6s,baz=305,slow=2.5,SNR=5.3						
WRAB	**Tennant Creek**	**37.81**	**120**	*e*P	**P**	**22 16 49.9**	**+1.1**
	comp=Z,9.8nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**39.01**	**125**	P	**P**	**22 16 58.9**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.3,baz=56,slow=5.2,SNR=3.9						
ASAR				pP	pP	22 17 09.9	+2.1
	comp=Z,2.9nm,0.5s,baz=300,slow=7.8,SNR=7.6						
ASAR				PcP	PcP	22 19 10.1	+1.0
	comp=Z,1.1nm,0.8s,baz=288,slow=2.6,SNR=5.1						
ASAR				LR	LR	22 34 55.4	
	comp=Z,132nm,19.3s,MS3.8,baz=289,slow=39						
WMQ	**Urumqi**	**47.50**	**348**	P	**P**	**22 18 08.2**	**+0.9**
WMQ				AP	pP	22 18 18.2	+1.7
WMQ				XP	sP	22 18 22.2	+2.0
STKA	**Stephens Creek**	**48.85**	**131**	P	**P**	**22 18 19.1**	**+1.3**
	comp=Z,6.3nm,0.7s,mb4.8,baz=311,slow=8.5,SNR=11						
STKA				pP	pP	22 18 26.1	-1.1
	comp=Z,7.5nm,0.8s,baz=317,slow=9.0,SNR=6.4						
STKA	**Stephens Creek**	**48.85**	**131**	*e*P	**P**	**22 18 19.4**	**+1.5**
SONM	**Songino Array**	**50.57**	**6**	P	**P**	**22 18 31.8**	**+1.0**
	comp=Z,7.0nm,0.7s,mb4.7,baz=188,slow=9.1,SNR=75						
SONM				pP	pP	22 18 40.9	+0.8
	comp=Z,9.7nm,0.8s,baz=187,slow=8.2,SNR=23						
SONM				PcP	PcP	22 19 49.0	+0.5
	comp=Z,1.5nm,0.6s,baz=190,slow=4.0,SNR=4.9						
SONM				pPcP		22 19 58.8	
	comp=Z,1.4nm,0.7s,baz=183,slow=3.9,SNR=2.9						
ULN	**Ulaanbaatar**	**50.66**	**6**	*e*P	**P**	**22 18 32.3**	**+0.7**
	comp=Z,6.7nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**51.58**	**345**	P	**P**	**22 18 38.4**	**-0.2**
	comp=Z,7.5nm,0.6s,mb4.8,baz=156,slow=8.9,SNR=116						
MKAR				pP	pP	22 18 48.1	+0.3
	comp=Z,3.8nm,0.6s,baz=148,slow=8.2,SNR=11						
MJAR	**Matsushiro Arr**	**52.84**	**39**	P	**P**	**22 18 48.5**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=234,slow=6.9,SNR=2.7						
MJAR				pP	pP	22 18 57.2	-0.3
	comp=Z,1.9nm,0.8s,baz=222,slow=7.6,SNR=3.9						
MJAR	**Matsushiro Arr**	**52.84**	**39**	P	**P**	**22 18 48.5**	**+0.3**
MJAR				pP	pP	22 18 57.2	-0.3
ZAL	**Zalesovo**	**57.74**	**350**	P	**P**	**22 19 23.1**	**-0.3**
	comp=Z,9.4nm,0.6s,mb5.0,baz=315,slow=4.8,SNR=67						
ZAL				pP	pP	22 19 32.6	-0.2
	comp=Z,5.1nm,0.6s,baz=298,slow=4.1,SNR=7.7						
BVAR	**Borovoye Array**	**60.71**	**340**	P	**P**	**22 19 42.5**	**-1.4**
	comp=Z,3.2nm,0.6s,mb4.7,baz=144,slow=8.7,SNR=30						
CHKZ	**Chkalovo**	**61.17**	**341**	*e*P	**P**	**22 19 45.1**	**-1.9**
	comp=Z,5.4nm,0.8s,mb4.7						
CHKZ				*e*pP	pP	22 19 53.2	-3.3
MATP	**Matopo**	**71.63**	**249**	P	**P**	**22 20 51.9**	**-2.2**
	comp=Z,1.5nm,0.5s,mb4.2,baz=89,slow=7.9,SNR=5.2						
MATP				pP	pP	22 21 02.5	-1.1
	comp=Z,4.4nm,0.8s,baz=81,slow=5.6,SNR=3.3						
BRTR	**Keskin Array B**	**73.63**	**313**	P	**P**	**22 21 04.2**	**-1.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=129,slow=6.5,SNR=9.3						
BRTR				pP	pP	22 21 12.9	-2.3
	comp=Z,1.2nm,0.7s,baz=138,slow=6.4,SNR=6.0						
VRI	**Vrincioaia**	**80.21**	**317**	⇓P	**P**	**22 21 43.2**	**+1.0**
MLR	**Muntele Rosu**	**80.65**	**317**	⇑P	**P**	**22 21 45.1**	**+0.6**
MLR	**Muntele Rosu**	**80.65**	**317**	⇑P	**P**	**22 21 45.1**	**+0.6**
BURAR	**Bucovina Array**	**81.63**	**319**	⇑P	**P**	**22 21 50.7**	**+1.1**
BURAR	**Bucovina Array**	**81.63**	**319**	⇑P	**P**	**22 21 50.7**	**+1.1**
FINES	**FINESS Array B**	**84.59**	**332**	P	**P**	**22 22 04.0**	**-0.4**
	comp=Z,1.7nm,0.5s,mb4.4,baz=111,slow=4.9,SNR=18						
FINES				pP	pP	22 22 14.3	+0.1
	comp=Z,1.5nm,0.7s,baz=90,slow=3.8,SNR=2.5						
ARCES	**ARCESS Array B**	**87.00**	**340**	P	**P**	**22 22 16.4**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.8,baz=101,slow=5.6,SNR=10						
ARCES	**ARCESS Array B**	**87.00**	**340**	P	**P**	**22 22 16.4**	**+0.2**
GERES	**GERESS Array B**	**89.42**	**319**	P	**P**	**22 22 28.6**	**+0.4**
	comp=Z,0.6nm,0.7s,mb4.0,baz=90,slow=4.0,SNR=5.4						
GERES				pP	pP	22 22 37.9	-0.2
	comp=Z,0.4nm,0.6s,baz=104,slow=5.5,SNR=3.2						
MOX	**Moxa**	**90.89**	**320**	*e*P	**P**	**22 22 42.0**	**+7.0**
LTX	**Lajitas**	**145.27**	**38**	*e*P	PKPbc	22 29 11.7	+2.9
LTX				*e*pP		22 29 21.0	
TXAR	**Lajitas Array**	**145.27**	**38**	PKPbc	PKPbc	22 29 12.0	+3.2
	comp=Z,7.0nm,0.6s,baz=290,slow=1.0,SNR=74						
TXAR				pPKPbc		22 29 20.8	
	comp=Z,10nm,0.6s,baz=276,slow=1.2,SNR=27						
WVT	**Waverly**	**145.90**	**11**	*e*P	PKPbc	22 29 10.7	+0.5
JCT	**Junction City**	**146.62**	**32**	*e*P	PKPbc	22 29 15.0	+2.9
JCT				*e*pP		22 29 24.4	

*IDC **06** 22:13:58.5±0.7,44.62S×36.24E,mb4.1/9,mb1 4.3/9, mb1mx4.0/22,mbtmp4.1/9,MS4.3/5,Ms1 4.3/5, ms1mx3.8/25,Error ellipse: s-maj=31.5km s-min=17.7km az=59.0*
*NEIC **06** 22:13:59.6±0.5,44.71S×35.96E,h10km,mb4.7/3,Error ellipse: s-maj=22.0km s-min=10.6km az=62.0*
ISC 06 22:13:57.9±0.6,44.7S±0.1×35.9E±0.2,h10km,n25, σ0°72/14,mb4.2/10,MS4.3/4,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.03**	**311**	P	**P**	**22 17 56.7**	**-0.9**
	0.3nm,0.3s,baz=122,slow=9.5,SNR=3.0						
SUR				LR	LR	22 23 35.2	
	comp=Z,455nm,20.7s,baz=47,slow=34						
LBTB	**Lobatse**	**21.35**	**333**	P	**P**	**22 18 47.4**	**-0.1**
	10nm,0.9s,mb4.2,baz=191,slow=9.5,SNR=11						
LBTB				LR	LR	22 25 45.9	
	comp=Z,1μm,19.6s,MS4.3,baz=174,slow=33						
MATP	**Matopo**	**24.98**	**343**	P	**P**	**22 19 23.0**	**0.0**
	2.8nm,0.8s,mb3.9,baz=185,slow=12,SNR=4.3						
MATP				LR	LR	22 28 12.4	
	comp=Z,1μm,18.1s,MS4.4,baz=162,slow=34						
MATP	**Matopo**	**24.98**	**343**	P	**P**	**22 19 23.0**	**0.0**
MATP				LR	LR	22 28 12.4	
TSUM	**Tsumeb**	**29.66**	**323**	P	**P**	**22 20 06.8**	**+0.8**
	2.8nm,1.1s,mb3.9,baz=139,slow=11,SNR=3.1						
SNAA	**Sanae**	**32.77**	**201**	P	**P**	**22 20 34.3**	**+1.5**
	2.0nm,1.1s,mb4.0,baz=128,slow=16,SNR=2.9						
SNAA	**Sanae**	**32.77**	**201**	P	**P**	**22 20 32.9**	**+0.2**
	19nm,1.4s,mb4.8						
QSPA	**South Pole Qui**	**45.52**	**180**	*e*P	**P**	**22 22 18.6**	**-0.1**
	9.8nm,0.8s,mb4.8						
VNDA	**Vanda**	**53.62**	**167**	P	**P**	**22 23 20.4**	**-0.5**
	4.6nm,1.2s,mb4.3,baz=250,slow=7.9,SNR=3.6						
VNDA	**Vanda**	**53.62**	**167**	*e*P	**P**	**22 23 19.6**	**-1.3**
	5.7nm,1.1s,mb4.4						
ATD	**Arta Tunnel**	**56.31**	**8**	LR	LR	22 46 19.8	
	comp=Z,210nm,20.4s,MS4.2,baz=359,slow=34						
NWAO	**Narrogin (SRO)**	**61.97**	**110**	LR	LR	22 44 37.7	
	comp=Z,195nm,19.3s,MS4.3,baz=33,slow=30						
FITZ	**Fitzroy Crossi**	**77.30**	**103**	P	**P**	**22 25 53.3**	**-1.1**
	7.1nm,1.1s,mb4.5,baz=270,slow=3.0,SNR=2.4						
ASAR	**Alice Springs**	**79.10**	**112**	P	**P**	**22 26 04.8**	**+0.7**
	2.0nm,0.9s,mb4.0,baz=222,slow=5.3,SNR=8.6						
WRA	**Warramunga Arr**	**81.98**	**110**	P	**P**	**22 26 19.7**	**+0.3**
	1.8nm,0.9s,mb4.0,baz=221,slow=3.9,SNR=7.7						
BRTR	**Keskin Array B**	**84.06**	**358**	P	**P**	**22 26 30.3**	**+0.6**
	0.2nm,0.3s,mb3.7,baz=150,slow=4.9,SNR=2.3						
RKT	**Rikitea**	**112.01**	**189**	*e*LR	LR	23 07 07.0	
	231nm,23.2s						
TBI	**Tubuai**	**112.11**	**175**	*e*LR	LR	23 06 52.8	
	260nm,24.5s						
PPT	**Papeete**	**117.84**	**174**	*e*LR	LR	23 09 32.8	
	288nm,22.8s						
TXAR	**Lajitas Array**	**144.67**	**258**	PKP	PKPdf	22 33 35.0	-2.7
	0.7nm,0.8s,baz=135,slow=5.3,SNR=8.5						
ULM	**Lac du Bonnet**	**147.42**	**297**	PKPbc	PKPdf	22 33 43.1	+1.3
	0.8nm,0.4s,baz=117,slow=4.5,SNR=2.9						
ANMO	**Albuquerque**	**149.75**	**264**	PKPbc	PKPdf	22 33 50.0	+4.1
	1.8nm,0.7s,baz=152,slow=7.3,SNR=4.1						
PDAR	**Pinedale Array**	**155.09**	**278**	PKP	PKPdf	22 33 53.9	+0.6
	0.2nm,0.5s,baz=71,slow=31,SNR=3.9						
YKA	**Yellowknife Ar**	**155.38**	**327**	PKPab	PKPab	22 34 19.8	+1.8
	0.8nm,0.9s,baz=52,slow=4.5,SNR=10						
YKA	**Yellowknife Ar**	**155.38**	**327**	PKPab	PKPab	22 34 19.8	+1.8

*IDC **06** 22:17:51.7±0.7,8.61N×70.72W,mb3.9/10,mb1 4.2/12, mb1mx3.9/23,mbtmp4.0/12,ML5.4/2,MS3.2/3,Ms1 3.2/3, ms1mx2.9/26,Error ellipse: s-maj=21.9km s-min=6.3km az=109.0*
*NEIC **06** 22:17:53.8±0.4,8.71N×70.57W,h10km,mb4.2/5, MD4.4(CAR),Error ellipse: s-maj=9.8km s-min=7.3km az=87.0*
*FUNV **06** 22:17:53.9,8.56N×70.63W,h8km,MW3.7*
ISC 06 22:17:52.8±0.8,8.60N±0.03×70.63W±0.03,h12km±5km, n43,σ1°15/51,mb4.0/13,MS3.3/2,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.28**	**360**	Pg	**Pg**	**22 17 56.9**	**-1.9**
	9μm,0.3s,baz=358,slow=3.1						
SDV				Lg		22 18 01.3	
	10μm,0.3s,baz=34,slow=18,SNR=72						
SDV	**Santo Domingo**	**0.28**	**360**	*e*P	**Pg**	**22 17 56.5**	**-2.2**
SOCV	**Socops**	**0.39**	**215**	*e*P	**Pg**	**22 18 00.2**	**-0.6**
SOCV				*e*S	**Sg**	**22 18 06.5**	**+0.4**
**S

3.7nm,0.6s,mb4.3
SCHQ Schefferville 46.20 3 P **P 22 26 19.2 -0.2**
0.9nm,0.5s,mb4.0,baz=208,slow=11,SNR=6.1
SCHQ Schefferville 46.20 3 P **P 22 26 19.2 -0.2**
ULM Lac du Bonnet 46.51 338 P **P 22 26 21.0 -0.9**
3.0nm,0.6s,mb4.4,baz=142,slow=7.7,SNR=8.9
SRU San Rafael 46.87 317 *eP* **P 22 26 25.6 +0.8**
PDAR Pinedale Array 48.16 322 P **P 22 26 34.0 -0.9**
1.5nm,0.7s,mb4.1,baz=121,slow=8.4,SNR=16
REDW Red Top Meadow 49.28 322 *eP* **P 22 26 42.5 -1.0**
YKA Yellowknife Ar 62.48 339 P **P 22 28 15.5 -2.8**
0.7nm,0.7s,mb3.9,baz=121,slow=7.2,SNR=12
ILAR Eielson Array 76.41 335 P **P 22 29 43.4 -0.3**
0.3nm,0.6s,mb3.4,baz=105,slow=4.5,SNR=4.5
ARCES ARCESS Array B 84.15 21 P **P 22 30 24.6 -0.1**
2.8nm,0.9s,mb4.4,baz=254,slow=6.6,SNR=3.8
FINES FINESS Array B 85.71 29 P **P 22 30 31.8 -0.9**
1.3nm,0.7s,mb4.3,baz=326,slow=10.0,SNR=3.7
FINES FINESS Array B 85.71 29 P **P 22 30 31.8 -0.9**
CMAR Chiang Mai Arr 151.21 21 PKPbc PKPdf 22 37 48.5 +4.3
0.9nm,0.5s,baz=301,slow=5.3,SNR=5.3
ASAR Alice Springs 152.15 235 PKPbc PKPdf 22 37 48.6 +3.1
0.9nm,0.6s,baz=113,slow=2.9,SNR=8.9
WRA Warramunga Arr 153.35 242 PKPbc PKPdf 22 37 51.7 +4.4
0.5nm,0.4s,baz=106,slow=2.7,SNR=13

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*IDC **06** 22:24:20.2±0.6, 44.69S×35.90E, mb4.2/12, mb1 4.3/13, mb1mx4.1/24, mbtmp4.2/13, ML3.6/1, MS4.4/15, Ms1 4.4/15, ms1mx4.2/21, Error ellipse: s-maj=28.1km s-min=15.4km az=54.0*
*NEIC **06** 22:24:22.1±0.4, 44.58S×35.94E, h10km, mb4.4/1, Error ellipse: s-maj=16.6km s-min=9.6km az=68.0*
ISC 06 22:24:20.4±0.5, 44.56S±0.08×35.9E±0.2, h10km, n37, σ0§68/19, mb4.2/13, MS4.4/14, 4C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**16.91**	**311**	P	**P**	**22 28 18.0**	**-0.7**
	0.3nm,0.3s,baz=147,slow=17,SNR=3.6						
SUR				LR	LR	22 33 38.0	
	comp=Z,808nm,20.4s,baz=314,slow=33						
LBTB	**Lobatse**	**21.22**	**333**	P	**P**	**22 29 08.4**	**-0.2**
	12nm,0.8s,mb4.3,baz=168,slow=9.0,SNR=15						
LBTB				LR	LR	22 36 07.7	
	comp=Z,2μm,19.6s,MS4.5,baz=173,slow=33						
MATP	**Matopo**	**24.84**	**343**	P	**P**	**22 29 44.6**	**+0.4**
	7.7nm,0.9s,mb4.2,baz=177,slow=11,SNR=8.6						
MATP				LR	LR	22 38 34.2	
	comp=Z,2μm,18.0s,MS4.6,baz=166,slow=34						
MAW	**Mawson**	**27.13**	**158**	LR	LR	22 37 59.5	
	comp=Z,574nm,19.1s,MS4.2,baz=317,slow=30						
TSUM	**Tsumeb**	**29.54**	**323**	P	**P**	**22 30 27.5**	**+0.1**
	3.6nm,1.1s,mb4.0,baz=153,slow=6.8,SNR=3.6						
TSUM				LR	LR	22 41 09.9	
	comp=Z,977nm,19.0s,MS4.5,baz=139,slow=34						
LSZ	**Lusaka**	**29.91**	**345**	*eP*	**P**	**22 30 30.6**	**-0.1**
	4.4nm,0.7s,mb4.3						
SNAA	**Sanae**	**32.88**	**201**	⇑*i*	**P**	**22 30 55.2**	**-1.0**
SNAA	**Sanae**	**32.88**	**201**	P	**P**	**22 30 55.2**	**-1.0**
	2.1nm,0.9s,mb4.1,baz=30,slow=9.7,SNR=5.3						
SNAA				LR	LR	22 41 29.8	
	comp=Z,349nm,19.2s,MS4.1,baz=33,slow=31						
SNAA	**Sanae**	**32.88**	**201**	⇑*iP*	**P**	**22 30 55.2**	**-1.0**
VNA2	**Neumayer--Watz**	**33.74**	**204**	⇑*i*	**P**	**22 31 04.9**	**+1.2**
VNA3	**Neumayer Olymp**	**34.55**	**204**	⇑*i*	**P**	**22 31 11.4**	**+0.7**
KMBO	**Kilima Mbogo**	**43.27**	**2**	LR	LR	22 49 16.1	
	comp=Z,914nm,18.5s,MS4.7,baz=163,slow=34						
VNDA	**Vanda**	**53.76**	**167**	P	**P**	**22 33 41.0**	**-3.5**
	3.3nm,0.8s,mb4.3,baz=201,slow=3.7,SNR=7.2						
DBIC	**Dimbokro**	**62.79**	**313**	P	**P**	**22 34 49.1**	**+0.6**
	2.6nm,0.7s,mb4.5,baz=105,slow=4.5,SNR=3.7						
DBIC				LR	LR	22 55 54.8	
	comp=Z,151nm,21.6s,MS4.1,baz=106,slow=30						
PLCA	**Paso Flores**	**72.49**	**230**	LR	LR	23 00 58.7	
	comp=Z,273nm,19.9s,MS4.5,baz=160,slow=30						
BDFB	**Brasilia**	**74.90**	**263**	LR	LR	23 04 48.6	
	comp=Z,320nm,18.8s,MS4.6,baz=144,slow=32						
FITZ	**Fitzroy Crossi**	**77.36**	**103**	P	**P**	**22 36 16.7**	**-0.4**
	6.8nm,1.1s,mb4.5,baz=185,slow=4.1,SNR=2.1						
CFAA	**Coronel Fontan**	**77.53**	**238**	LR	LR	23 03 35.5	
	comp=Z,26nm,20.3s,MS3.5,baz=125,slow=30						
STKA	**Stephens Creek**	**78.30**	**123**	P	**P**	**22 36 22.2**	**+0.2**
	2.9nm,0.7s,mb4.3,baz=123,slow=0.1,SNR=4.7						
STKA				LR	LR	23 07 05.6	
	comp=Z,185nm,18.6s,MS4.4,baz=205,slow=33						
ASAR	**Alice Springs**	**79.18**	**112**	P	**P**	**22 36 27.1**	**-0.1**
	1.1nm,0.8s,mb3.9,baz=228,slow=5.9,SNR=10						
ASAR				LR	LR	23 05 32.7	
	comp=Z,156nm,18.2s,MS4.4,baz=215,slow=31						
ASAR	**Alice Springs**	**79.18**	**112**	P	**P**	**22 36 27.1**	**-0.1**
ASAR				LR	LR	23 05 32.7	
WRA	**Warramunga Arr**	**82.06**	**110**	P	**P**	**22 36 42.4**	**0.0**
	0.7nm,0.7s,mb3.7,baz=220,slow=3.9,SNR=7.6						
SIV	**San Ignacio**	**83.79**	**254**	P	**P**	**22 36 50.8**	**-0.6**
	2.3nm,0.9s,mb4.3,baz=129,slow=13,SNR=4.2						
BRTR	**Keskin Array B**	**83.93**	**358**	P	**P**	**22 36 52.0**	**+0.5**
	0.5nm,0.9s,mb3.7,baz=153,slow=6.4,SNR=3.8						
LVC	**Limon Verde**	**84.34**	**244**	LR	LR	23 07 30.7	
	comp=Z,320nm,19.3s,MS4.7,baz=166,slow=31						
LPAZ	**La Paz**	**88.36**	**249**	LR	LR	23 13 35.4	
	comp=Z,200nm,19.4s,MS4.5,baz=122,slow=34						
TXAR	**Lajitas Array**	**144.67**	**258**	PKP	PKPdf	22 43 59.2	-1.0
	2.9nm,0.9s,baz=124,slow=4.5,SNR=10						
BILL	**Bilibino**	**145.30**	**30**	*e*PKPdf	PKPdf	22 44 00.0	-0.1
MNTX	**Cornudas Mount**	**147.24**	**260**	*e*PKPbc	PKPdf	22 44 05.7	+1.2
ULM	**Lac du Bonnet**	**147.33**	**297**	PKPbc	PKPdf	22 44 05.7	+1.7
	2.7nm,0.6s,baz=43,slow=6.5,SNR=4.3						
ULM	**Lac du Bonnet**	**147.33**	**297**	PKPbc	PKPdf	22 44 05.7	+1.7
BNM	**Barren Site**	**149.44**	**263**	*e*PKPbc	PKPdf	22 44 15.3	+7.3
ANMO	**Albuquerque**	**149.73**	**265**	*e*PKPbc	PKPdf	22 44 15.2	+6.8
LAZ	**Ladron**	**149.94**	**263**	*e*PKPbc	PKPdf	22 44 16.6	+7.9
SDCO	**Great Sand Dun**	**150.35**	**270**	*e*PKPbc	PKPdf	22 44 14.3	+5.0
YKA	**Yellowknife Ar**	**155.25**	**327**	PKPbc	PKPdf	22 44 24.9	+10
	0.1nm,0.4s,baz=48,slow=1.4,SNR=3.4						
YKA				PKPab	PKPab	22 44 40.7	+0.8
	0.5nm,0.7s,baz=50,slow=4.3,SNR=9.9						
YKA	**Yellowknife Ar**	**155.25**	**327**	PKPbc	PKPdf	22 44 24.9	+10
YKA				PKPab	PKPab	22 44 40.7	+0.8

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*IDC **06** 22:24:36.6±0.9, 30.66N×86.72E, mb3.6/10, mb1 3.8/12, mb1mx3.7/23, mbtmp3.6/12, ML3.7/2, MS2.9/1, Ms1 3.1/1, ms1mx2.7/21, Error ellipse: s-maj=36.0km s-min=16.0km az=54.0*
*NDI **06** 22:24:38.3±5.4, 30.87N×86.55E, h33km, ML3.7, mb3.6(NEIC)*
*MOS **06** 22:24:39.5±1.9, 30.59N×86.22E, h33km, mb4.0/4, Error ellipse: s-maj=26.4km s-min=14.2km az=114.5*
*NEIC **06** 22:24:44.4±2.7, 30.44N×86.35E, h67km±27km, mb3.6/2, Error ellipse: s-maj=35.6km s-min=13.5km az=51.0*
ISC 06 22:24:40.1±1.0, 30.31N±0.08×86.10E±0.04, h43km±12km, n33, σ1§00/39, mb3.6/13, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.42**	**97**	*eP*	**P**	**22 25 47.9**	**+1.4**
KLP	**Kalpa**	**6.85**	**282**	*i P*	**P**	**22 26 19.7**	**-0.9**
KLP				*eP*		22 26 23.3	
KLP				*i* S	**S**	**22 27 36.9**	**-1.3**
KLP				*i* S	**S**	**22 27 38.9**	**+0.8**
DDI	**Dehra Dun**	**6.95**	**272**	*eP*	**P**	**22 26 22.8**	**+0.8**
DDI				*e*		22 27 45.2	
SHL	**Shillong**	**6.96**	**131**	*eP*	**P**	**22 26 21.5**	**-0.6**
SHL				*e*		22 27 41.0	
SMLA	**Simla**	**7.73**	**278**	⇑*i*	**P**	**22 26 21.7**	**-11**
	145nm,0.3s						
SMLA				*i*		22 27 47.6	
AGRA	**Agra**	**7.79**	**249**	*e*S	**S**	**22 28 02.7**	**+1.4**
AGRA				*e*		22 28 09.2	
	comp=E,74nm,0.3s						
AGRA				*e*		22 28 09.3	
	comp=N,118nm,0.6s						
NDI	**New Delhi**	**7.91**	**260**	*eP*	**P**	**22 26 34.5**	**-0.7**
NDI				*e*S	**S**	**22 28 04.0**	**-0.4**
SDNR	**Sundarnagar**	**7.93**	**281**	*eP*	**P**	**22 26 36.2**	**+0.6**
SDNR				*e*		22 28 07.0	
AYAN	**Aya Nagar**	**8.04**	**259**	*eP*	**P**	**22 26 37.1**	**+0.2**
AYAN				*e*		22 28 06.3	
AYAN				*i* S	**S**	**22 28 07.8**	**+0.3**
SONA	**Sohna**	**8.14**	**258**	*i* P	**P**	**22 26 38.8**	**+0.4**
SONA				*e*S	**S**	**22 28 08.6**	**-1.4**
SONA				*e*		22 28 13.8	
	comp=E,12nm,0.3s						
SONA				*e*		22 28 13.9	
	comp=N,22nm,0.7s						
THN	**Thein Dam**	**9.13**	**286**	*e*	**S**	**22 28 30.8**	**-3.8**
KHET	**Khetri**	**9.27**	**259**	*i* P	**P**	**22 26 54.0**	**0.0**
KHET				*i* S	**S**	**22 28 37.7**	**-0.3**
KHET				*e*		22 28 41.4	
	comp=N,10nm,0.2s						
KHET				*e*		22 28 41.6	
	comp=E,9.0nm,0.1s						
CMAR	**Chiang Mai Arr**	**16.60**	**132**	Pn	**P**	**22 28 30.1**	**-1.1**
	comp=E,0.1nm,0.3s,baz=321,slow=13,SNR=2.6						
CMAR				LR	LR	22 36 05.1	
	comp=E,40nm,18.6s,baz=200,slow=42						
MKAR	**Makanchi Array**	**16.73**	**351**	Pn	**P**	**22 28 27.6**	**-5.1**
	comp=E,0.2nm,0.3s,baz=169,slow=12,SNR=13						
SONM	**Songino Array**	**23.43**	**36**	P	**P**	**22 29 40.3**	**-5.7**
	comp=E,0.3nm,1.0s,mb2.7,baz=225,slow=3.5,SNR=2.9						
ZAL	**Zalesovo**	**23.63**	**358**	P	**P**	**22 29 47.4**	**-0.5**
	comp=E,0.4nm,0.4s,mb3.2,baz=305,slow=16,SNR=2.3						
ZAK	**Zakamensk**	**23.84**	**28**	*eP*	**P**	**22 29 46.3**	**-3.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.9s,mb2.9						
BVAR	**Borovoye Array**	**25.44**	**338**	P	**P**	**22 30 06.5**	**+1.2**
	comp=Z,0.3nm,0.4s,mb3.2,baz=160,slow=9.6,SNR=4.5						
CHKZ	**Chkalovo**	**25.92**	**339**	*eP*	**P**	**22 30 07.7**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
CHKZ	**Chkalovo**	**25.92**	**339**	*eP*	**P**	**22 30 07.7**	**-2.1**
	comp=Z,1.3nm,0.7s,mb3.6						
MALT	**Malatya**	**39.82**	**295**	P	**P**	**22 32 11.6**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.5						
AKASG	**Malin Array Be**	**46.53**	**313**	P	**P**	**22 33 06.3**	**+1.4**
	comp=Z,0.4nm,0.3s,mb3.8,baz=81,slow=6.5,SNR=5.7						
AKASG	**Malin Array Be**	**46.53**	**313**	P	**P**	**22 33 06.3**	**+1.4**
FINES	**FINESS Array B**	**49.61**	**327**	P	**P**	**22 33 29.3**	**+0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**49.61**	**327**	P	**P**	**22 33 29.3**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=117,slow=9.3,SNR=6.5						
GERES	**GERESS Array B**	**56.65**	**311**	P	**P**	**22 34 22.2**	**+1.1**
	comp=Z,0.3nm,0.4s,mb3.7,baz=90,slow=5.3,SNR=6.0						
NB2	**NORSAR Subarra**	**56.74**	**326**	P	**P**	**22 34 21.7**	**+0.1**
	comp=Z,3.9nm,0.6s,mb4.6,baz=103,slow=7.4						
NOA	**NORSAR Array B**	**56.74**	**326**	P	**P**	**22 34 21.9**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**56.74**	**326**	P	**P**	**22 34 21.9**	**+0.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=86,slow=7.3,SNR=4.0						
WRA	**Warramunga Arr**	**68.18**	**131**	P	**P**	**22 35 38.5**	**+0.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**68.18**	**131**	P	**P**	**22 35 38.5**	**+0.2**
	comp=Z,1.7nm,0.9s,mb4.1,baz=325,slow=6.5,SNR=30						
ASAR	**Alice Springs**	**70.60**	**134**	P	**P**	**22 35 52.9**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=317,slow=5.9,SNR=17						
YKA	**Yellowknife Ar**	**86.04**	**9**	P	**P**	**22 37 15.6**	**-1.1**
	comp=Z,0.2nm,0.5s,mb3.6,baz=331,slow=5.6,SNR=3.1						

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*IDC **06** 22:42:01.7±0.7, 61.50N×146.75W, mb4.0/18, mb1 4.2/20, mb1mx4.2/25, mbtmp4.0/20, ML3.9/2, MS3.8/7, Ms1 3.7/7, ms1mx3.3/38, Error ellipse: s-maj=16.7km s-min=9.6km az=43.0*
*BJI **06** 22:42:04.2, 61.40N×146.50W, h17km, mB5.5, mb4.6, Ms4.8, Msz4.6*
*NEIC **06** 22:42:08.3, 61.45N×146.53W, h17km, mb4.5/16, ML4.4(PMR), ML4.2(AEIC), After AEIC.*
NEIC Felt [III] at Valdez and [II] at Anchorage, Eagle River and Fort Richardson. Also felt at Copper Center, Cordova and Delta Junction.
ISC 06 22:42:06.6±0.2, 61.45N±0.02×146.42W±0.04, h33km, n132, σ1§35/138, mb4.3/40, MS3.8/5, 1C-1D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLZ	**Valdez**	**0.33**	**172**	P	**P**	**22 42 15.4**	**+0.8**
JPK	**Jack Peak**	**0.41**	**192**	P	**P**	**22 42 16.3**	**+0.5**
DIV	**Divide**	**0.45**	**136**	P	**P**	**22 42 16.8**	**+0.4**
DIV				S	**S**	**22 42 24.4**	**+1.0**
SCM	**Sheep Creek Mo**	**0.58**	**312**	P	**P**	**22 42 18.5**	**+0.4**
TZL	**Tazlina**	**0.76**	**38**	P	**P**	**22 42 22.6**	**+1.8**
EYAK	**Cordova Ski Ar**	**0.96**	**160**	P	**P**	**22 42 25.1**	**+1.3**
EYAK				S	**S**	**22 42 39.0**	**+2.5**
KNK	**Knik Glacier**	**0.98**	**268**	P	**P**	**22 42 24.5**	**+0.5**
SML	**Sawmill**	**0.98**	**292**	P	**P**	**22 42 23.9**	**0.0**
SML				S	**S**	**22 42 36.1**	**-0.7**
HIN	**Hinchinbrook I**	**1.06**	**182**	P	**P**	**22 42 26.6**	**+1.4**
SGAM	**Sherman Glacie**	**1.12**	**148**	P	**P**	**22 42 27.6**	**+1.6**
GHO	**Glory Hole Cre**	**1.24**	**286**	P	**P**	**22 42 28.0**	**+0.5**
WANC	**Wrangell North**	**1.25**	**63**	P	**P**	**22 42 30.0**	**+2.3**
GLB	**Gilahina Butte**	**1.25**	**89**	P	**P**	**22 42 29.1**	**+1.3**
PMR	**Palmer**	**1.31**	**277**	P	**P**	**22 42 29.3**	**+0.7**
PMR				S	**S**	**22 42 46.2**	**+1.1**
PAX	**Paxson**	**1.59**	**16**	P	**P**	**22 42 34.0**	**+1.4**
PAX				S	**S**	**22 42 54.1**	**+1.9**
RC01	**Rabbit Creek A**	**1.64**	**259**	P	**P**	**22 42 34.8**	**+1.3**
RC01				S	**S**	**22 42 55.1**	**+1.5**
PWA	**Palmer West**	**1.67**	**278**	P	**P**	**22 42 34.8**	**+1.0**
FIB	**Fire Island**	**1.83**	**263**	P	**P**	**22 42 38.3**	**+2.1**
MENT	**Mentasta**	**1.96**	**39**	P	**P**	**22 42 40.0**	**+2.0**
VOGL	**Vogel Lake**	**1.99**	**258**	P	**P**	**22 42 40.4**	**+1.9**
THY	**Trims Highway**	**2.00**	**9**	P	**P**	**22 42 40.4**	**+2.0**
BALM	**Baldy**	**2.02**	**100**	P	**P**	**22 42 40.2**	**+1.4**
MID	**Middleton Isla**	**2.03**	**179**	*eP*	**P**	**22 42 40.4**	**+1.4**
SLKM	**Skilak Lake**	**2.08**	**245**	P	**P**	**22 42 40.5**	**+0.8**
HUR	**Hurricane**	**2.15**	**317**	P	**P**	**22 42 42.0**	**+1.4**
RND	**Reindeer**	**2.26**	**331**	P	**P**	**22 42 43.9**	**+1.6**
NKA	**Nikishka**	**2.44**	**255**	P	**P**	**22 42 47.5**	**+2.6**
DOT	**Dot Lake**	**2.46**	**25**	P	**P**	**22 42 46.9**	**+1.8**
DOT				S	**S**	**22 43 17.0**	**+2.6**
CTGM	**Chitina Glacie**	**2.51**	**99**	P	**P**	**22 42 47.2**	**+1.4**
MCK	**McKinley**	**2.56**	**334**	P	**P**	**22 42 48.1**	**+1.4**
MCK				S	**S**	**22 43 19.6**	**+2.5**
STLK	**Strandline Lak**	**2.60**	**273**	P	**P**	**22 42 47.6**	**+0.5**
TRF	**Thorofare Moun**	**2.69**	**320**	P	**P**	**22 42 49.8**	**+1.4**
BCA3	**Beaver Creek A**	**2.71**	**51**	P	**P**	**22 42 50.6**	**+2.0**
SPU	**Mount Spurr**	**2.73**	**267**	*eP*	**P**	**22 42 48.9**	**-0.1**
BRLK	**Bradley Lake**	**2.78**	**234**	P	**P**	**22 42 49.9**	**+0.2**
CKN	**Chakachatna No**	**2.79**	**268**	P	**P**	**22 42 49.7**	**-0.1**
CKL	**Chakachamna La**	**2.86**	**267**	P	**P**	**22 42 51.2**	**+0.3**
KTH	**Kantishna Hill**	**2.97**	**317**	P	**P**	**22 42 53.4**	**+1.1**
HDA	**Harding Lake**	**2.97**	**356**	P	**P**	**22 42 53.1**	**+0.6**
CNPM	**China Poot**	**3.07**	**233**	P	**P**	**22 42 53.7**	**-0.1**
DFR	**Drift River**	**3.17**	**257**	P	**P**	**22 42 54.7**	**-0.6**
RDN	**Redoubt North**	**3.23**	**256**	P	**P**	**22 42 55.6**	**-0.6**
CCB	**Clear Creek Bu**	**3.27**	**349**	P	**P**	**22 42 56.7**	**+0.1**
NCT	**North Crescent**	**3.29**	**257**	P	**P**	**22 42 56.5**	**-0.5**
XLV	**Seldovia**	**3.30**	**235**	P	**P**	**22 42 56.8**	**-0.4**
PCA	**Pinnacle**	**3.32**	**112**	P	**P**	**22 42 57.6**	**+0.2**
IL1	**Eielson Array**	**3.34**	**357**	P	**P**	**22 42 57.5**	**-0.1**
ILAR	**Eielson Array**	**3.34**	**357**	Pn	**Pn**	**22 42 57.5**	**-0.3**
	15nm,0.3s,baz=179,slow=13,SNR=195						
ILAR				Pg	**P**	**22 43 00.3**	**+2.7**
	23nm,0.3s,baz=185,slow=13,SNR=143						
ILAR				Sn	**Sn**	**22 43 36.6**	**-0.1**
	33nm,0.3s,baz=185,slow=19,SNR=8.8						
ILAR				Lg		22 43 52.1	
	58nm,0.3s,baz=176,slow=27,SNR=9.8						
NEA	**Nenana**	**3.36**	**340**	P	**P**	**22 42 57.8**	**-0.2**
ILIM	**Iliamna**	**3.49**	**250**	P	**P**	**22 42 59.1**	**-0.7**
COLA	**College**	**3.49**	**350**	P	**P**	**22 43 00.0**	**+0.2**
INE	**Iliamna NE**	**3.55**	**250**	P	**P**	**22 42 60.0**	**-0.6**
ILW	**Iliamna West**	**3.58**	**250**	P	**P**	**22 43 00.4**	**-0.7**
MDM	**Murphy Dome**	**3.61**	**348**	P	**P**	**22 43 01.5**	**-0.1**
OPT	**Oil Point**	**3.82**	**245**	P	**P**	**22 43 04.1**	**-0.3**
PNL	**Peninsula**	**3.90**	**114**	P	**P**	**22 43 05.1**	**-0.5**
AUI	**Augustine Isla**	**4.07**	**242**	P	**P**	**22 43 08.4**	**+0.3**
MLY	**Manley**	**4.09**	**333**	P	**P**	**22 43 08.1**	**-0.2**
DAWY	**Dawson**	**4.16**	**48**	P	**P**	**22 43 10.7**	**+1.4**
SVW2	**Sparrevohn**	**4.44**	**269**	P	**P**	**22 43 11.9**	**-1.4**
MCNL	**McNeil River**	**4.55**	**243**	P	**P**	**22 43 13.3**	**-1.5**
TT01	**Tatalina**	**4.73**	**292**	P	**P**	**22 43 15.7**	**-1.8**
KAPH	**Katmai Pasha**	**4.90**	**238**	P	**P**	**22 43 19.0**	**-0.9**
KAHC	**Katmai Hardscr**	**5.14**	**241**	P	**P**	**22 43 22.8**	**-0.4**
IM3	**Indian Mountai**	**5.59**	**328**	P	**P**	**22 43 28.9**	**-0.6**
IMA	**Indian Mountai**	**5.64**	**328**	*eP*	**P**	**22 43 30.1**	**-0.1**
WHY	**Whitehorse**	**5.66**	**93**	P	**P**	**22 43 29.3**	**-1.2**
COLD	**Coldfoot**	**6.02**	**346**	P	**P**	**22 43 35.0**	**-0.6**
BM3	**Burnt Mountain**	**6.04**	**7**	P	**P**	**22 43 35.1**	**-0.7**
BESE	**Bessie Mountai**	**6.47**	**111**	P	**P**	**22 43 40.3**	**-1.6**
SIT	**Sitka**	**7.19**	**123**	P	**P**	**22 43 50.5**	**-1.6**
DLBC	**Dease Lake**	**8.76**	**103**	Pn	**P**	**22 44 12.5**	**-1.4**
	0.9nm,0.3s,baz=285,slow=10,SNR=17						
DLBC				LR	LR	22 47 40.9	
	comp=Z,345nm,21.2s,baz=63,slow=38						
DLBC	**Dease Lake**	**8.76**	**103**	*eP*	**P**	**22 44 10.8**	**-3.0**
INK	**Inuvik**	**8.78**	**33**	LR	LR	22 47 58.3	
	comp=Z,217nm,18.1s,baz=333,slow=40						
YKW3	**Yellowknife Ar**	**14.89**	**72**	*eP*	**P**	**22 45 33.3**	**-2.7**
YKA	**Yellowknife Ar**	**14.91**	**72**	Pn	**P**	**22 45 34.9**	**-1.3**
	0.2nm,0.3s,baz=276,slow=12,SNR=22						
YKA	**Yellowknife Ar**	**14.91**	**72**	Pn	**P**	**22 45 34.9**	**-1.3**
EDM	**Edmonton**	**19.47**	**100**	*eP*	**P**	**22 46 31.6**	**-1.3**
BILL	**Bilibino**	**20.74**	**309**	*eP*	**P**	**22 46 42.6**	**-3.8**
	13nm,1.0s						
NEW	**Newport**	**21.18**	**115**	P	**P**	**22 46 48.5**	**-2.5**
	3.3nm,0.7s,mb3.8,baz=294,slow=8.6,SNR=3.8						
NEW				LR	LR	22 55 43.8	
	comp=Z,142nm,18.4s,MS3.4,baz=309,slow=38						
NEW	**Newport**	**21.18**	**115**	*eP*	**P**	**22 46 48.3**	**-2.7**
WALA	**Waterton Lakes**	**22.02**	**109**	P	**P**	**22 47 00.4**	**+1.1**
	9.9nm,1.0s,mb4.2						
RES	**Resolute Bay**	**22.34**	**33**	*eP*	**P**	**22 46 59.7**	**-2.6**
	2.8nm,0.5s,mb4.0						
MSO	**Missoula**	**23.67**	**113**	P	**P**	**22 47 15.2**	**-0.3**
BMO	**Blue Mountains**	**23.80**	**121**	*eP*	**P**	**22 47 18.1**	**+1.4**
	1.9nm,0.8s,mb3.6						
YBH	**Yreka Blue Hor**	**24.38**	**133**	P	**P**	**22 47 24.2**	**+1.8**
	0.9nm,0.5s,mb3.5,baz=333,slow=2.3,SNR=2.7						
YBH				LR	LR	22 55 23.7	
	comp=Z,102nm,19.2s,MS3.3,baz=215,slow=33						
BOZ	**Bozeman (W)**	**25.60**	**112**	*eP*	**P**	**22 47 26.5**	**-7.5**
FCC	**Fort Churchill**	**25.64**	**72**	P	**P**	**22 47 31.5**	**-2.8**
HLID	**Hailey**	**26.05**	**119**	*eP*	**P**	**22 47 35.2**	**-3.1**
	0.9nm,0.7s,mb3.4						
ELK	**Elko**	**28.06**	**123**	*eP*	**P**	**22 47 57.1**	**+0.4**
	6.6nm,1.0s,mb4.2						
PDAR	**Pinedale Array**	**28.79**	**113**	P	**P**	**22 48 03.1**	**0.0**
	0.4nm,0.5s,mb3.4,baz=346,slow=6.1,SNR=3.7						
NVAR	**Mina Array Bea**	**28.88**	**130**	P	**P**	**22 48 03.5**	**-0.4**
	1.0nm,0.8s,mb3.6,baz=324,slow=5.8,SNR=4.6						
NVAR				PcP	PcP	22 51 10.3	-2.7
	0.8nm,0.6s,baz=333,slow=2.0,SNR=3.5						
ULM	**Lac du Bonnet**	**29.72**	**89**	LR	LR	23 00 38.0	
	comp=Z,107nm,20.0s,MS3.5,baz=95,slow=37						
SCHQ	**Schefferville**	**40.04**	**62**	P	**P**	**22 49 38.5**	**-1.0**
	1.0nm,0.6s,mb3.7,baz=327,slow=8.0,SNR=5.9						
WMOK	**Wichita Mounta**	**40.18**	**109**	*eP*	**P**	**22 49 40.4**	**-0.6**
	1.4nm,0.5s,mb4.0						
TXAR	**Lajitas Array**	**42.65**	**119**	P	**P**	**22 50 02.4**	**+1.0**
	0.6nm,0.5s,mb3.6,baz=326,slow=6.5,SNR=5.3						
KEV	**Kevo**	**49.00**	**3**	*ep*	**P**	**22 50 47.2**	**-3.9**
	29nm,1.2s,mb5.2						
ARCES	**ARCESS Array B**	**49.17**	**4**	P	**P**	**22 50 50.0**	**-2.4**
	7.4nm,0.7s,mb4.8,baz=5.3,slow=8.1,SNR=22						
MJAR	**Matsushiro Arr**	**51.85**	**278**	P	**P**	**22 51 10.5**	**-2.8**
	4.1nm,1.0s,mb4.3,baz=18,slow=7.9,SNR=6.3						
CN2	**Changchun**	**51.95**	**293**	*eP*	**P**	**22 51 16.7**	**+2.8**
JOF	**Joensuu**	**55.94**	**1**	*ep

CCB	Clear Creek Bu	1.01	351	P	Pb	22 49 12.8	+1.6
BWN	Browne	1.04	301	P	Pb	22 49 11.9	+0.3
PAX	Paxson	1.12	126	P	Pb	22 49 12.1	-1.0
PAX				S	Sb	22 49 27.3	-0.4
ILAR	Eielson Array	1.15	12	Pn	Pn	22 49 15.0	+0.7
	430nm,0.3s,baz=194,slow=16,SNR=986						
ILAR				Sn	Sn	22 49 30.4	-0.1
	1μm,0.3s,baz=189,slow=29,SNR=66						
IL1	Eielson Array	1.15	12	P	Pb	22 49 15.2	+1.6
IL1				S	Sb	22 49 30.7	+2.0
NEA	Nenana	1.18	323	P	Pb	22 49 15.3	+1.3
HUR	Hurricane	1.20	237	P	Pb	22 49 14.2	-0.1
COLA	College	1.24	352	P	Pb	22 49 16.6	+1.5
COLA				S	Sb	22 49 33.3	+2.1
TRF	Thorofare Moun	1.29	262	P	Pb	22 49 15.9	0.0
TRF				S	Sb	22 49 33.0	+0.4
GLM	Gilmore Dome	1.34	1	P	Pb	22 49 18.1	+1.2
MDM	Murphy Dome	1.36	346	P	Pb	22 49 18.3	+1.2
DOT	Dot Lake	1.51	88	P	Pn	22 49 20.0	+0.7
DOT				S	Sb	22 49 40.0	+1.0
KTH	Kantishna Hill	1.56	268	P	Pn	22 49 20.2	+0.2
KTH				S	Sb	22 49 41.1	+0.8
SCM	Sheep Creek Mo	1.82	178	P	Pn	22 49 23.8	0.0
MENT	Mentasta	1.83	111	P	Pn	22 49 24.9	+1.0
TZL	Tazlina	1.86	149	P	Pn	22 49 25.7	+1.4
SML	Sawmill	1.89	193	P	Pn	22 49 24.9	0.0
SML				S	Sn	22 49 47.8	-1.4
MLY	Manley	2.00	316	P	Pn	22 49 26.8	+0.4
GHO	Glory Hole Cre	2.00	201	P	Pn	22 49 25.9	-0.5
PMR	Palmer	2.21	201	P	Pn	22 49 28.9	-0.4
PWA	Palmer West	2.30	210	P	Pn	22 49 30.4	-0.3
VLZ	Valdez	2.58	168	P	Pn	22 49 34.1	-0.6
BCA3	Beaver Creek A	2.62	100	P	Pn	22 49 35.4	+0.2
DIV	Divide	2.65	162	P	Pn	22 49 36.8	+1.2
GLB	Gilahina Butte	2.78	141	P	Pn	22 49 39.0	+1.4
RC01	Rabbit Creek A	2.78	204	P	Pn	22 49 38.9	+1.3
STLK	Strandline Lak	2.96	225	P	Pn	22 49 40.0	-0.1
EYAK	Cordova Ski Ar	3.21	165	P	Pn	22 49 44.5	+0.9
SPU	Mount Spurr	3.28	223	eP	Pn	22 49 44.7	+0.2
CKN	Chakachatna No	3.28	224	P	Pn	22 49 45.4	+0.8
HIN	Hinchinbrook I	3.29	172	P	Pn	22 49 45.5	+0.6
CKL	Chakachamna La	3.35	225	P	Pn	22 49 46.9	+1.3
SLKM	Skilak Lake	3.41	204	P	Pn	22 49 47.7	+1.2
BALM	Baldy	3.54	136	P	Pn	22 49 50.6	+2.3
IM3	Indian Mountai	3.57	314	P	Pn	22 49 48.5	-0.2
DAWY	Dawson	3.59	80	P	Pn	22 49 48.6	-0.4
IMA	Indian Mountai	3.60	315	eP	Pn	22 49 49.4	+0.2
COLD	Coldfoot	3.77	343	P	Pn	22 49 52.4	+0.7
CTGM	Chitina Glacie	3.92	131	P	Pn	22 49 56.0	+2.3
TT01	Tatalina	3.95	263	P	Pn	22 49 54.0	0.0
BM3	Burnt Mountain	3.97	16	P	Pn	22 49 54.9	+0.5
RDN	Redoubt North	4.02	221	P	Pn	22 49 55.8	+0.7
NCT	North Crescent	4.03	222	P	Pn	22 49 56.7	+1.5
BRLK	Bradley Lake	4.23	204	P	Pn	22 49 59.0	+0.9
INE	Iliamna NE	4.48	219	P	Pn	22 50 02.5	+0.9
CNPM	China Poot	4.52	205	P	Pn	22 50 02.6	+0.4
SVW2	Sparrevohn	4.57	240	P	Pn	22 50 02.0	-1.0
PCA	Pinnacle	4.92	133	P	Pn	22 50 08.8	+0.8
PNL	Peninsula	5.53	133	P	Pn	22 50 16.6	+0.1
KAHC	Katmai Hardscr	6.21	220	P	Pn	22 50 25.9	-0.2
WHY	Whitehorse	6.60	111	P	Pn	22 50 30.8	-0.9
INK	Inuvik	7.35	44	Pn	Pn	22 50 40.3	-1.8
	6.2nm,0.3s,baz=233,slow=15,SNR=79						
INK				Sn	Sn	22 51 59.0	-7.8
	3.7nm,0.3s,baz=102,slow=21,SNR=3.0						
INK				Lg		22 52 46.8	
	2.0nm,0.3s,baz=161,slow=24,SNR=3.5						
TNA	Tin City	8.99	291	P	P	22 51 03.4	-1.7
DLBC	Dease Lake	9.91	114	Pn	P	22 51 19.2	+1.6
	0.4nm,0.3s,baz=305,slow=7.7,SNR=5.3						
DLBC				Sn	Sn	22 53 10.3	+0.1
	0.3nm,0.3s,baz=210,slow=24,SNR=2.2						
DLBC				Lg		22 53 59.4	
	0.4nm,0.3s,baz=207,slow=22,SNR=3.1						
DLBC	Dease Lake	9.91	114	Pn	P	22 51 19.2	+1.6
DLBC				Sn	Sn	22 53 10.3	+0.1
DLBC				Lg		22 53 59.4	
YKA	Yellowknife Ar	14.83	80	Pn	P	22 52 21.3	-1.9
	0.3nm,0.3s,baz=285,slow=13,SNR=20						
YKA				Sn	S	22 54 58.5	-10
	0.1nm,0.3s,baz=289,slow=23,SNR=4.0						
YKA				Lg		22 56 38.6	
	baz=296,slow=29,SNR=2.4						
YKA	Yellowknife Ar	14.83	80	Pn	P	22 52 21.3	-2.0
YKA				Sn	S	22 54 58.5	-10
YKA				Lg		22 56 38.6	
BILL	Bilibino	19.06	304	eP	P	22 53 16.3	-0.3
	6.4nm,0.8s						
EDM	Edmonton	20.40	105	eP	P	22 53 30.1	-1.6
RES	Resolute Bay	20.80	36	eP	P	22 53 34.1	-1.5
	4.6nm,0.8s						
NEW	Newport	22.60	119	eP	P	22 53 52.9	-0.9
CHMT	Chamberlain Mo	25.23	115	eP	P	22 54 18.7	-0.7
FCC	Fort Churchill	25.50	76	P	P	22 54 21.7	-0.1
HLID	Hailey	27.56	121	eP	P	22 54 40.7	-0.2
	0.9nm,0.6s,mb3.6						
IMW	Indian Meadow	28.64	116	P	P	22 54 49.5	-1.1
AHID	Auburn Hatcher	29.52	118	P	P	22 54 56.9	-1.7
ELK	Elko	29.69	125	P	P	22 54 59.3	-0.8
BW06	Boulder Array	30.14	116	eP	P	22 55 03.3	-0.7
	2.7nm,0.9s,mb4.0						
PDAR	Pinedale Array	30.14	116	P	P	22 55 04.6	+0.5
	1.6nm,0.8s,mb3.8,baz=322,slow=2.4,SNR=13						
PDAR				PcP	PcP	22 58 04.2	-1.4
	0.8nm,0.6s,baz=110,slow=0.8,SNR=6.4						
NVAR	Mina Array Bea	30.68	131	P	P	22 55 10.3	+1.5
	1.2nm,0.6s,mb3.9,baz=309,slow=8.8,SNR=5.1						
NVAR				PcP	PcP	22 58 05.8	-1.2
	1.1nm,0.6s,baz=281,slow=4.2,SNR=6.0						
NVAR	Mina Array Bea	30.68	131	P	P	22 55 10.3	+1.5
NVAR				PcP	PcP	22 58 05.8	-1.2
MNV	Mina	30.72	131	eP	P	22 55 10.0	+0.8
MSU	Marysvale	32.78	123	eP	P	22 55 27.2	0.0
WUAZ	Wupatki	35.72	125	eP	P	22 55 53.0	+0.3
	12nm,0.8s,mb4.9						
SDCO	Great Sand Dun	36.03	116	P	P	22 55 56.0	+0.7
ANMO	Albuquerque	38.09	119	eP	P	22 56 13.4	+0.8
	5.8nm,1.0s,mb4.3						
KSU1	Kansas State U	38.61	105	eP	P	22 56 16.3	-0.6
BNM	Barren Site	38.73	120	eP	P	22 56 18.9	+1.0
SCHQ	Schefferville	39.46	64	P	P	22 56 23.7	-0.2
	2.5nm,0.8s,mb4.0,baz=301,slow=5.5,SNR=4.3						
SCHQ	Schefferville	39.46	64	P	P	22 56 23.7	-0.2
WMOK	Wichita Mounta	41.38	111	eP	P	22 56 39.4	-0.4
	3.5nm,1.0s,mb3.9						
MNTX	Cornudas Mount	41.38	120	eP	P	22 56 39.4	-0.4
	1.6nm,0.8s,mb3.7						
CLNB	Carlsbad	41.46	118	eP	P	22 56 40.4	-0.1
LTX	Lajitas	44.15	120	eP	P	22 57 01.4	-1.0
	6.0nm,0.6s,mb4.5						
TXAR	Lajitas Array	44.15	120	P	P	22 57 03.7	+1.3
	4.8nm,0.6s,mb4.4,baz=331,slow=7.2,SNR=44						
TXAR				PcP	PcP	22 58 47.9	0.0
	0.2nm,0.4s,baz=342,slow=17,SNR=3.8						
TXAR	Lajitas Array	44.15	120	P	P	22 57 03.7	+1.3
TXAR				PcP	PcP	22 58 47.9	0.0
JCT	Junction City	44.66	115	eP	P	22 57 05.7	-0.9
	7.4nm,0.7s,mb4.6						
ARCES	ARCESS Array B	47.00	3	P	P	22 57 23.1	-1.5
	5.2nm,1.0s,mb4.4,baz=321,slow=7.8,SNR=4.3						
CN2	Changchun	50.69	291	eP	P	22 57 53.8	+0.4
ULN	Ulaanbaatar	54.46	307	eP	P	22 58 19.3	-2.2
NOA	NORSAR Array B	54.59	13	P	P	22 58 20.1	-2.1
	1.4nm,0.8s,mb4.0,baz=349,slow=7.3,SNR=3.0						
SONM	Songino Array	54.72	308	P	P	22 58 21.8	-1.6
	0.9nm,0.7s,mb3.9,baz=16,slow=5.3,SNR=10						
FINES	FINESS Array B	55.13	4	P	P	22 58 23.6	-2.6
	1.9nm,0.7s,mb4.2,baz=357,slow=6.9,SNR=8.3						
FINES				LR	LR	23 22 30.9	
	comp=Z,116nm,20.4s,MS3.9,baz=342,slow=37						
ZAL	Zalesovo	55.94	326	P	P	22 58 29.4	-2.7
	1.2nm,0.3s,mb4.3,baz=85,slow=5.6,SNR=6.0						
ZAL				LR	LR	23 23 11.4	
	comp=Z,205nm,19.5s,MS4.2,baz=232,slow=37						
CHKZ	Chkalovo	59.32	335	eP	P	22 58 52.8	-3.3
	28nm,0.6s,mb5.5						
BVAR	Borovoye Array	59.98	335	P	P	22 58 57.4	-3.2
	1.2nm,0.4s,mb4.3,baz=52,slow=7.9,SNR=17						
MKAR	Makanchi Array	63.13	324	P	P	22 59 18.6	-3.3
	0.9nm,0.5s,mb4.2,baz=55,slow=6.6,SNR=9.7						
SSE	Sheshan	63.21	286	P	P	22 59 19.8	-2.8
SSE				S	S	23 07 48.0	-4.9
SSE				XS		23 08 01.5	
SSE				AMB	AMB		
	comp=Z,48nm,3.8s						
SSE				LR	LR		
	comp=N,73nm,26.9s,MS3.8						
SSE				LR	LR		
	comp=E,56nm,27.0s,MS3.8						
SSE				LR	LR		
	comp=Z,121nm,20.0s						
WMQ	Urumqi	64.35	319	P	P	22 59 29.6	-0.2
WMQ				PCP	PcP	23 00 03.9	-0.4
WMQ				PP	PP	23 01 53.0	-0.3
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,145nm,5.0s						
WMQ				LR	LR		
	comp=N,144nm,19.0s,MS4.3						
WMQ				LR	LR		
	comp=E,133nm,22.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,115nm,19.1s,MS4.1						
LZH	Lanzhou	65.87	303	eP	P	22 59 40.0	+0.3
LZH				AP	pP	22 59 45.5	+3.9
LZH				XP	sP	22 59 47.0	+4.7
LZH				AMB	AMB		
	comp=Z,26nm,1.6s,mb5.0						
AKASG	Malin Array Be	65.96	2	P	P	22 59 38.4	-1.7
	comp=Z,0.9nm,0.3s,mb4.2,baz=356,slow=6.2,SNR=16						
KHC	Kasperske Hory	66.57	13	eP	P	22 59 43.0	-1.0
GERES	GERESS Array B	66.87	13	eP	P	22 59 44.8	-1.1
	comp=Z,0.7nm,0.8s,mb3.8,baz=333,slow=3.0,SNR=6.1						
KBA	Koelnbreinsper	68.58	14	⇑iP	P	22 59 56.5	-0.1
	comp=Z,4.4nm,0.7s,mb4.5						
BURAR	Bucovina Array	68.93	5	⇓iP	P	22 59 57.9	-0.9
AAK	Ala-Archa	68.97	328	P	P	22 59 57.1	-2.0
OBKA	Obir	69.27	13	⇑iP	P	23 00 00.1	-0.8
	comp=Z,6.4nm,0.8s,mb4.6						
VRI	Vrincioaia	70.73	4	⇓iP	P	23 00 13.2	+3.3
MLR	Muntele Rosu	71.08	5	⇑iP	P	23 00 12.6	+0.6
BRTR	Keskin Array B	76.97	359	P	P	23 00 45.0	-1.1
	comp=Z,0.7nm,0.7s,mb3.7,baz=18,slow=3.9,SNR=4.6						
CMAR	Chiang Mai Arr	83.57	299	P	P	23 01 20.1	-1.5
	comp=Z,0.8nm,0.4s,mb4.2,slow=6.3,SNR=3.4						
VNDA	Vanda	144.29	197	PKP	PKPdf	23 08 25.8	-3.2
	comp=Z,2.1nm,0.5s,baz=348,slow=4.8,SNR=12						
VNDA	Vanda	144.29	197	PKP	PKPdf	23 08 25.8	-3.2

*KRSC **06** 23:00:57.2±1.3, 55.08N×165.55E, h31km±5km, ML4.3*
*MOS **06** 23:00:57.5±2.5, 54.96N×165.33E, h31km, mb3.9/3, Error ellipse: s-maj=17.3km s-min=14.9km az=153.2*
*IDC **06** 23:00:59.7±1.4, 55.64N×166.60E, mb3.7/7, mb1 4.1/8, mb1mx3.7/25, mbtmp3.8/8, ML3.3/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/30, Error ellipse: s-maj=30.6km s-min=15.0km az=43.0*

ISC 06 23:00:56.1±0.6, **55.01N**±0.04×**165.56E**±0.05, **h30**km±6km, **n47**, σ1§**26**/74, **mb3.6**/7, **MS3.9**/1, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BKI	Bering	0.31	50	iP	Pb	Pb	23 01 02.7	-1.0
BKI				iS	Sb	Sb	23 01 07.2	-1.6
BKI				Smax				
	20μm,0.3s							
KBTR	Krutoberegovo	1.96	309	P	Pn	Pn	23 01 26.5	-1.6
KBTR				S	Sn	Sn	23 01 47.7	-4.2
KBTR	Krutoberegovo	1.96	309	eP	Pn	Pn	23 01 26.4	-1.7
KBTR				eS	Sn	Sn	23 01 49.2	-2.7
KBG	Krutoberegovo	2.04	309	eS	Sn	Sn	23 01 51.6	-2.4
KBG				Smax				
	320nm,0.9s							
MKZ	Mys Kozlova	2.26	260	P	Pn	Pn	23 01 32.4	0.0
MKZ				S	Sn	Sn	23 01 58.4	-1.2
MKZ	Mys Kozlova	2.26	260	iP	Pn	Pn	23 01 32.4	0.0
MKZ				iS	Sn	Sn	23 01 58.7	-0.9
KLY	Klyuchi	3.07	297	P	Pn	Pn	23 01 44.8	+0.9
KLY				S	Sn	Sn	23 02 18.5	-1.5
KLY	Klyuchi	3.07	297	eS	Sn	Sn	23 02 19.0	-1.0
TUMR	Tumrok	3.12	277	iP	Pn	Pn	23 01 45.6	+1.1
TUMR				eS	Sn	Sn	23 02 22.1	+0.9
KMNR	Kamenistaya	3.13	286	eP	Pn	Pn	23 01 45.9	+1.2
KMNR				eS	Sn	Sn	23 02 22.5	+1.1
KPT	Kopyto	3.18	290	eP	Pn	Pn	23 01 46.7	+1.2
KOZR	Kozyr	3.39	291	PN	Pn	Pn	23 01 50.6	+2.2
KOZR				S	Sn	Sn	23 02 29.5	+1.5
KOZ	Kozyrevsk	3.40	290	P	Pn	Pn	23 01 50.6	+2.1
KOZ				S	Sn	Sn	23 02 29.5	+1.2
KOZ	Kozyrevsk	3.40	290	eP	Pn	Pn	23 01 50.5	+2.0
KOZ				eS	Sn	Sn	23 02 29.6	+1.3
SRDR	Sredinnyy	3.56	294	eP	Pn	Pn	23 01 52.0	+1.2
SRDR				eS	Sn	Sn	23 02 31.8	-0.5
KII	Karymskiy	3.69	257	P	Pn	Pn	23 01 53.7	+1.0
KII				S	Sn	Sn	23 02 34.7	-1.0
KII	Karymskiy	3.69	257	eP	Pn	Pn	23 01 53.7	+1.0
KII				eS	Sn	Sn	23 02 35.2	-0.5
SPN	Mys Shipunski	3.78	242	eP	Pn	Pn	23 01 53.2	-0.8
ESO	Esso	4.01	286	eP	Pn	Pn	23 01 57.4	+0.2
ESO				Smax				
	20nm,1.3s							
NLC	Nalytchevo	4.10	246	P	Pn	Pn	23 01 58.3	-0.1
NLC				S	Sn	Sn	23 02 42.7	-3.3
NLC	Nalytchevo	4.10	246	eP	Pn	Pn	23 01 58.4	0.0
NLC				iS	Sn	Sn	23 02 43.0	-3.0
SMAR	Somma	4.34	249	eP	Pn	Pn	23 02 02.7	+0.8
SMAR				eS	Sn	Sn	23 02 50.4	-1.8
UGLR	Uglovaya	4.35	248	eP	Pn	Pn	23 02 03.3	+1.2
UGLR				eS	Sn	Sn	23 02 51.1	-1.4
AVH	Avacha	4.38	249	eP	Pn	Pn	23 02 03.0	+0.6
AVH				eS	Sn	Sn	23 02 51.1	-1.9
KOK	Koryaka	4.42	250	eP	Pn	Pn	23 02 03.7	+0.7
KOK				eS	Sn	Sn	23 02 52.9	-1.2
OSSR	Ossora	4.46	343	iS	Sn	Sn	23 02 51.2	-4.1
OSSR				Smax				
	120nm,0.4s							
PET	Petropavlovsk	4.53	247	P	Pn	Pn	23 02 05.5	+0.9
PET				S	Sn	Sn	23 02 54.1	-2.9
PET	Petropavlovsk	4.53	247	eP	Pn	Pn	23 02 06.0	+1.4
PET				eS	Sn	Sn	23 02 53.9	-3.1
GNL	Ganaly	4.65	257	eP	Pn	Pn	23 02 07.0	+0.8
KRMR	Karymshinskiy	4.90	247	P	Pn	Pn	23 02 11.0	+1.1
KRMR				eS	Sn	Sn	23 03 03.4	-2.9
RUS	Russkaya	4.92	241	P	Pn	Pn	23 02 09.9	-0.1
RUS				S	Sn	Sn	23 03 02.0	-4.6
RUS	Russkaya	4.92	241	eP	Pn	Pn	23 02 10.0	0.0
RUS				iS	Sn	Sn	23 03 02.5	-4.1
FX1	Attu Island--F	4.97	112	Pn	Pn	Pn	23 02 11.0	+0.2
	4.4nm,0.3s,baz=315,slow=2.9,SNR=4.9							
FX1				Sn	Sn	Sn	23 03 02.9	-5.1
	2.8nm,0.3s,baz=176,slow=21,SNR=2.9							
GRL	Gorelyy	5.08	244	eP	Pn	Pn	23 02 13.2	+0.9
GRL				eS	Sn	Sn	23 03 10.1	-0.5
APC	Apacha	5.38	251	eP	Pn	Pn	23 02 18.2	+1.6
APC				eS	Sn	Sn	23 03 18.1	-0.2
APC				Smax				
	30nm,1.3s							
KAMR	Kamenskoye	7.48	2	iP	Pn	Pn	23 02 45.6	-0.5
ILAR	Eielson Array	25.16	48	P	Pn	Pn	23 06 17.0	-2.7
ILAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ILAR	Eielson Array	25.16	48	P	P	23 06 16.9	-2.8	
	comp=Z,1.6nm,0.8s,mb3.6,baz=252,slow=8.2,SNR=13							
INK	Inuvik	30.36	40	P	P	23 07 06.3	-0.7	
INK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
INK	Inuvik	30.36	40	P	P	23 07 06.2	-0.7	
	comp=Z,0.5nm,0.4s,mb3.6,baz=276,slow=6.7,SNR=3.3							
SONM	Songino Array	36.58	284	P	P	23 08 10.6	+10	
	comp=Z,0.6nm,0.8s,mb3.5,baz=56,slow=8.9,SNR=4.3							
YKA	Yellowknife Ar	39.54	46	P	P	23 08 25.0	-0.6	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	Yellowknife Ar	39.54	46	P	P	23 08 25.0	-0.6	
	comp=Z,0.7nm,0.6s,mb3.6,baz=298,slow=8.1,SNR=13							
NVAR	Mina Array Bea	52.09	75	P	P	23 10 06.2	+0.9	
	comp=Z,0.8nm,0.6s,mb3.8,baz=296,slow=8.6,SNR=4.9							
PDAR	Pinedale Array	53.78	65	P	P	23 10 18.6	+0.8	
	comp=Z,1.0nm,0.8s,mb3.8,baz=342,slow=4.7,SNR=8.2							
FRB	Frobisher Bay	54.41	26	LR	LR	23 32 56.3		
	comp=Z,106nm,20.2s,MS3.9,baz=99,slow=36							
TXAR	Lajitas Array	66.95	72	P	P	23 11 47.5	-0.3	
	comp=Z,0.5nm,0.6s,mb3.8,baz=297,slow=2.8,SNR=4.1							

*IDC **06** 23:19:37.8±0.6, 2.06N×96.72E, mb4.6/18, mb1 4.7/19, mb1mx4.6/23, mbtmp4.6/19, ML4.8/1, MS4.2/16, Ms1 4.3/16, ms1mx4.1/28, Error ellipse: s-maj=22.6km s-min=12.8km az=45.0*
*BJI **06** 23:19:40.4, 2.05N×96.72E, h34km, mB5.3, mb4.9, Ms4.7, Msz4.5*
*MOS **06** 23:19:41.1±0.9, 2.07N×96.78E, h33km, mb5.1/19, MS4.7/5, Error ellipse: s-maj=14.0km s-min=7.3km az=103.9*
*HRVD **06** 23:19:42.7±0.6, 1.70N×96.58E, h40km±2km, MW4.9/36, Centroid moment Tensor Solution. LP body waves: s23,c33;Mantle waves: s36,c59; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.55±.22; Mθθ-1.55±.14; Mφφ0.00±.19; Mθφ1.38±.14; Mθφ1.79±.10; Mφr-0.76±.20; Best double couple: M0:2.661×10^16 NP1:φs314°, δ27°, λ105° NP2:φs117°, δ63°, λ82°. Principal axes: T 2.08, Plg71°, Azm11°; N 1.161, Plg7°, Azm121°; P -3.242, Plg18°, Azm213°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 23:19:42.7±0.3, 2.07N×96.77E, mb4.9/25 Error ellipse: s-maj=8.5km s-min=6.0km az=220.0*

ISC 06 23:19:40.8±0.4, **2.05N**±0.05×**96.79E**±0.05, **h32**km, **h32**km±1.8km:**pP-P**, **n121**, σ1§**03**/118, **mb4.8**/53, **MS4.4**/28, **8C-5D**, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KULM	Kulim	5.02	50	eP	Pn	Pn	23 20 56.4	+0.4
SNG	Songkhla	6.36	37	P	Pn	Pn	23 21 15.0	+0.1
	378nm,1.0s							
KSM	Kuching	13.53	92	P	P	P	23 22 50.9	-2.3
KKTK	Khon Kaen	15.39	22	P	P	P	23 23 22.0	+4.4
	309nm,0.6s							
CM31	Chiang Mai Arr	16.44	7	eP	P	P	23 23 32.3	+1.3
	74nm,0.9s							
CMAR	Chiang Mai Arr	16.44	7	Pn	P	P	23 23 30.1	-1.0
	1.3nm,0.3s,baz=196,slow=12,SNR=117							
CMAR				LR	LR	LR	23 30 01.9	
	comp=Z,999nm,20.2s,baz=190,slow=38							
CHG	Chiang Mai	16.79	7	⇑P	P	P	23 23 34.0	-1.4
	22nm,0.8s							
PALK	Pallekele	16.85	288	P	P	P	23 23 37.4	+1.3
	6.0nm,0.9s							
PALK				e			23 23 48.0	
NANT	Nan	17.08	13	⇓P	P	P	23 23 39.0	-0.1
	125nm,0.9s							
KKM	Kota Kinabalu	19.78	78	eP	P	P	23 24 11.9	+0.4
VIS	Vishakhapatnam	20.43	321	eP	P	P	23 24 15.5	-2.8
QIZ	Qiongzhong	21.17	36	P	P	P	23 24 26.5	+0.6
QIZ				S	S	S	23 28 16.8	+2.2
QIZ				SS	SS	SS	23 28 47.8	-0.7
QIZ				LR	LR			
	comp=N,1μm,17.7s,MS4.5							
QIZ				LR	LR			
	comp=E,1μm,16.0s,MS4.5							
QIZ				LR	LR			
	comp=Z,1μm,18.4s,MS4.3							
HYB	Hyderabad	23.54	312	eP	P	P	23 24 44.0	-5.4
HYB				eS	S	S	23 29 08.0	+10
HYB	Hyderabad	23.54	312	iP	P	P	23 24 44.0	-5.4
HYB				eS	S	S	23 29 08.0	+10
KMI	Kunming	23.65	14	P	P	P	23 24 51.2	+0.8
KMI				AP			23 25 01.0	
KMI				AMB	AMB			
	comp=Z,25nm,1.0s,mb4.6							
KMI	Kunming	23.65	14	P	P	P	23 24 51.2	+0.8
	comp=Z,25nm,1.0s,mb4.6							
KMI				pP			23 25 01.0	
SHL	Shillong	23.86	349	⇑iP	P	P	23 24 50.5	-1.9
SHL				eS	S	S	23 29 05.5	+2.5
GYA	Guiyang	26.06	20	⇑iP	P	P	23 25 12.4	-1.0
GYA				AP	pP		23 25 26.6	+3.9
GYA				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.7							
GYA				AMB	AMB			
	comp=Z,140nm,4.0s							
GYA				LR	LR			
	comp=N,1μm,14.5s,MS4.6							
GYA				LR	LR			
	comp=E,560nm,14.7s,MS4.6							
GYA				LR	LR			
	comp=Z,2μm,15.9s,MS4.7							
JIRN	Jiri	27.41	339	eP	P	P	23 25 26.3	+0.5
	comp=Z,104nm,0.9s,mb5.3							
PKI	Pulchoki	27.62	338	eP	P	P	23 25 27.7	+0.1
	comp=Z,17nm,0.7s,mb4.8							
PKI	Pulchoki	27.62	338	eP	P	P	23 25 27.7	+0.1
PKI				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.5							
DMN	Daman	27.77	337	eP	P	P	23 25 29.1	+0.1
	comp=Z,36nm,0.9s,mb5.0							
KKN	Kakani	27.86	338	eP	P	P	23 25 29.7	-0.1
	comp

FITZ	**Fitzroy Crossi**	**34.76**	**126**	P	**P**	**23 26 29.3**	**-1.3**
	comp=Z,3.9nm,0.5s,mb4.6,baz=328,slow=4.7,SNR=11						
FITZ				LR	LR	23 40 30.0	
	comp=Z,469nm,20.5s,MS4.2,baz=291,slow=36						
SDNR	**Sundarnagar**	**34.76**	**329**	*e*P	**P**	**23 26 31.0**	**+0.5**
THN	**Thein Dam**	**36.14**	**329**	*e*P	**P**	**23 26 42.7**	**+0.5**
GTA	**Gaotai**	**37.29**	**4**	*e*P	**P**	**23 26 51.1**	**-0.7**
GTA				AP	pP	23 27 01.7	+0.4
GTA				XP	sP	23 27 05.2	-0.2
GTA				PP	PP	23 28 18.5	-1.0
GTA				S	**S**	**23 32 32.8**	**-3.8**
GTA				AMB	AMB		
	comp=Z,48nm,0.8s,mb5.4						
GTA				AMB	AMB		
	comp=Z,177nm,6.1s						
GTA				LR	LR		
	comp=N,321nm,17.5s,MS4.3						
GTA				LR	LR		
	comp=E,309nm,20.5s,MS4.3						
GTA				LR	LR		
	comp=Z,176nm,17.5s,MS3.9						
JOW	**Kunigami**	**38.97**	**48**	P	**P**	**23 27 06.6**	**+0.6**
	comp=Z,7.2nm,0.4s,mb4.8,baz=255,slow=8.5,SNR=3.3						
HHC	**Hu-ho-hao-te**	**40.87**	**17**	⇑P	**P**	**23 27 22.5**	**+1.0**
HHC				AP	pP	23 27 32.6	+1.4
HHC				XP	sP	23 27 36.3	+1.2
HHC				PP	PP	23 28 58.8	0.0
HHC				SCP		23 33 07.8	
HHC				PCS		23 33 15.1	
HHC				S	**S**	**23 33 32.0**	**+1.5**
HHC				XS		23 33 49.1	
HHC				SS	SS	23 36 27.3	-0.6
HHC				SCS	ScS	23 37 24.6	+2.8
HHC				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.5						
HHC				AMB	AMB		
	comp=Z,202nm,7.3s						
HHC				LR	LR		
	comp=N,418nm,16.9s,MS4.6						
HHC				LR	LR		
	comp=E,515nm,16.7s,MS4.6						
HHC				LR	LR		
	comp=Z,481nm,15.3s,MS4.5						
BJT	**Baijiatuau**	**41.69**	**23**	*e*P	**P**	**23 27 29.4**	**+1.1**
BJT				pmax	pmax		
	comp=Z,30nm,1.1s						
BJT	**Baijiatuau**	**41.69**	**23**	*e*P	**P**	**23 27 29.4**	**+1.0**
	comp=Z,30nm,1.1s,mb4.8						
BJI	**Beijing**	**41.71**	**23**	P	**P**	**23 27 28.7**	**+0.2**
BJI				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.8						
BJI				LR	LR		
	comp=N,599nm,18.6s,MS4.6						
BJI				LR	LR		
	comp=E,508nm,18.6s,MS4.6						
BJI				LR	LR		
	comp=Z,375nm,17.8s,MS4.3						
BJI	**Beijing**	**41.71**	**23**	P	**P**	**23 27 28.7**	**+0.2**
	comp=Z,23nm,0.9s,mb4.8						
BJI				S	S	23 34 07.0	+24
BJI				LR	LR		
	comp=Z,380nm,17.8s,MS4.3						
WMQ	**Urumqi**	**42.37**	**350**	⇑P	**P**	**23 27 34.0**	**+0.1**
WMQ				AP	pP	23 27 44.0	+0.5
WMQ				XP	sP	23 27 47.9	+0.4
WMQ				PP	PP	23 29 15.5	+0.7
WMQ				PCP	PcP	23 29 27.4	0.0
WMQ				SCP		23 33 14.2	
WMQ				S	**S**	**23 33 53.0**	**+0.3**
WMQ				XS		23 34 08.5	
WMQ				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.3						
WMQ				LR	LR		
	comp=N,355nm,17.0s,MS4.3						
WMQ				LR	LR		
	comp=E,95nm,18.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,186nm,18.0s,MS4.0						
WRA	**Warramunga Arr**	**42.83**	**123**	P	**P**	**23 27 38.5**	**+0.5**
	comp=Z,8.0nm,0.9s,mb4.4,baz=300,slow=9.3,SNR=22						
WRAB	**Tennant Creek**	**42.84**	**122**	*e*P	**P**	**23 27 38.1**	**+0.1**
WRAB				*e*		23 27 53.2	
WRAB				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**42.84**	**122**	*e*P	**P**	**23 27 38.1**	**+0.1**
	comp=Z,12nm,0.8s,mb4.7						
WRAB				*e*		23 27 53.2	
ASAR	**Alice Springs**	**44.23**	**128**	P	**P**	**23 27 50.0**	**+0.7**
	comp=Z,4.3nm,0.5s,mb4.4,baz=298,slow=8.0,SNR=42						
ASAR				LR	LR	23 47 45.2	
	comp=Z,199nm,19.4s,MS4.0,baz=296,slow=38						
AAK	**Ala-Archa**	**45.06**	**337**	*e*P	**P**	**23 27 57.1**	**+1.4**
AAK				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.7						
AAK	**Ala-Archa**	**45.06**	**337**	*e*P	**P**	**23 27 57.0**	**+1.4**
	comp=Z,16nm,1.3s,mb4.7						
FRU	**Bishkek**	**45.18**	**337**	*e*P	**P**	**23 27 59.0**	**+2.4**
MKAR	**Makanchi Array**	**46.32**	**346**	P	**P**	**23 28 05.7**	**+0.1**
	comp=Z,26nm,0.7s,mb5.3,baz=162,slow=7.7,SNR=36						
MKAR				LR	LR	23 51 23.3	
	comp=Z,315nm,20.4s,MS4.2,baz=164,slow=41						
SONM	**Songino Array**	**46.36**	**9**	P	**P**	**23 28 05.9**	**0.0**
	comp=Z,14nm,0.8s,mb5.0,baz=192,slow=7.7						
SONM				PcP	PcP	23 29 41.1	+0.1
	comp=Z,1.5nm,0.4s,baz=199,slow=4.1,SNR=9.6						
ULN	**Ulaanbaatar**	**46.49**	**10**	*e*P	**P**	**23 28 07.1**	**+0.2**
ULN				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**46.49**	**10**	*e*P	**P**	**23 28 07.1**	**+0.2**
	comp=Z,12nm,0.9s,mb4.8						
ZAK	**Zakamensk**	**48.47**	**6**	⇑*i*P	**P**	**23 28 22.3**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CN2	**Changchun**	**48.74**	**28**	*e*P	**P**	**23 28 26.7**	**+2.1**
MOY	**Mondy**	**49.57**	**3**	*e*P	**P**	**23 28 31.2**	**+0.4**
TLY	**Talaya**	**49.79**	**6**	*e*P	**P**	**23 28 34.0**	**+1.5**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
TLY				MLR	MLR		
	comp=Z,529nm,18.0s,MS4.6						
CBIJ	**Chichi jima**	**50.08**	**56**	LR	LR	23 48 40.5	
	comp=Z,159nm,19.5s,MS4.0,baz=226,slow=35						
HIA	**Hailar**	**50.98**	**19**	*e*P	**P**	**23 28 41.3**	**-0.3**
HIA				pmax	pmax		
	comp=Z,26nm,1.0s						
HIA	**Hailar**	**50.98**	**19**	*e*P	**P**	**23 28 41.2**	**-0.3**
	comp=Z,26nm,1.0s,mb5.1						
MDJ	**Mudanjiang**	**51.33**	**30**	*e*P	**P**	**23 28 45.1**	**+0.8**
	comp=Z,11nm,0.9s,mb4.8						
MJAR	**Matsushiro Arr**	**51.35**	**43**	P	**P**	**23 28 43.6**	**-1.0**
	comp=Z,5.0nm,0.7s,mb4.5,baz=210,slow=6.8,SNR=9.6						
MJAR				PcP	PcP	23 30 00.4	+1.2
	comp=Z,1.0nm,0.4s,baz=232,slow=3.5,SNR=4.2						
MJAR				LR	LR	23 51 24.7	
	comp=Z,253nm,19.4s,MS4.2,baz=275,slow=37						
ZAL	**Zalesovo**	**52.65**	**351**	P	**P**	**23 28 54.2**	**+0.1**
	comp=Z,18nm,0.8s,mb5.1,baz=306,slow=5.3,SNR=86						
ZAL				LR	LR	23 57 36.0	
	comp=Z,265nm,18.1s,MS4.3,baz=294,slow=43						
ZAL	**Zalesovo**	**52.65**	**351**	P	**P**	**23 28 54.2**	**0.0**
ZAL				LR	LR	23 57 36.0	
CTA	**Charters Tower**	**53.25**	**117**	P	**P**	**23 28 59.9**	**+0.8**
	comp=Z,6.8nm,1.1s,mb4.5,baz=308,slow=9.0,SNR=5.3						
CTAO	**Charters Tower**	**53.25**	**117**	*e*P	**P**	**23 28 59.6**	**+0.6**
CTAO				*e*PP	pP	23 29 09.4	+0.6
CTAO				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**53.25**	**117**	*e*P	**P**	**23 28 59.6**	**+0.5**
	comp=Z,13nm,1.0s,mb4.8						
CTAO				*e*pP	pP	23 29 09.4	+0.5
STKA	**Stephens Creek**	**54.23**	**132**	P	**P**	**23 29 06.5**	**+0.4**
	comp=Z,4.3nm,0.8s,mb4.4,baz=299,slow=6.0,SNR=4.6						
STKA				LR	LR	23 54 15.6	
	comp=Z,360nm,20.2s,MS4.4,baz=250,slow=38						
STKA	**Stephens Creek**	**54.23**	**132**	*e*P	**P**	**23 29 07.2**	**+1.1**
STKA				*e*pP	pP	23 29 15.8	0.0
ATD	**Arta Tunnel**	**54.30**	**283**	LR	LR	23 49 07.3	
	comp=Z,96nm,19.0s,MS3.9,baz=104,slow=33						
BVAR	**Borovoye Array**	**55.32**	**341**	P	**P**	**23 29 13.0**	**-0.8**
	comp=Z,7.6nm,0.7s,mb4.8,baz=145,slow=8.2,SNR=19						
KLR	**Kul'dur**	**55.69**	**27**	*e*P	**P**	**23 29 12.8**	**-3.7**
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s,MS5.1						
CHKZ	**Chkalovo**	**55.80**	**342**	*e*P	**P**	**23 29 16.2**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**55.80**	**342**	*e*P	**P**	**23 29 16.2**	**-0.9**
	comp=Z,15nm,0.8s,mb5.1						
BOD	**Bodaibo**	**57.26**	**11**	*e*P	**P**	**23 29 23.9**	**-3.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
ASAJ	**Asahikawa**	**58.24**	**37**	P	**P**	**23 29 34.8**	**+0.2**
	comp=Z,3.2nm,0.4s,mb4.7,baz=160,slow=15,SNR=2.5						
ASAJ				LR	LR	23 57 08.0	
	comp=Z,219nm,18.7s,MS4.3,baz=237,slow=39						
KMBO	**Kilima Mbogo**	**59.61**	**268**	P	**P**	**23 29 45.0**	**+0.5**
	comp=Z,1.6nm,1.0s,mb4.0,baz=52,slow=18,SNR=3.1						
KMBO				LR	LR	23 51 04.4	
	comp=Z,333nm,20.8s,MS4.5,baz=94,slow=32						
GNI	**Garni**	**60.40**	**316**	LR	LR	00 01 05.7	
	comp=Z,120nm,18.8s,MS4.1,baz=111,slow=41						
TI2	**Plekhanov**	**61.08**	**318**	*e*P	**P**	**23 29 54.0**	**-0.2**
SVE	**Sverdlovsk**	**61.75**	**338**	*e*P	**P**	**23 29 58.0**	**-0.6**
SVE				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**63.40**	**319**	*e*P	**P**	**23 30 09.1**	**-0.5**
KIV				*e*	pP	23 30 17.4	-2.2
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**63.40**	**319**	*e*P	**P**	**23 30 09.5**	**-0.1**
	comp=Z,14nm,1.0s,mb5.0						
MALT	**Malatya**	**64.26**	**312**	*e*P	**P**	**23 30 15.3**	**-0.1**
MALT				*e*PP	pP	23 30 24.1	-1.3
MALT				pmax	pmax		
	comp=Z,15nm,1.9s,mb4.7						
MALT	**Malatya**	**64.26**	**312**	*e*P	**P**	**23 30 15.3**	**-0.1**
	comp=Z,15nm,1.9s,mb4.7						
MALT				*e*pP	pP	23 30 24.1	-1.3
YAK	**Yakutsk**	**64.73**	**16**	P	**P**	**23 30 17.0**	**-1.0**
YAK				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.5						
YAK	**Yakutsk**	**64.73**	**16**	P	**P**	**23 30 17.0**	**-1.0**
	comp=Z,31nm,0.6s,mb5.5						
BRTR	**Keskin Array B**	**68.24**	**312**	P	**P**	**23 30 39.7**	**-1.1**
	comp=Z,1.6nm,0.7s,mb4.1,baz=133,slow=7.5,SNR=9.4						
MA2	**Magadan**	**70.75**	**26**	*e*P	**P**	**23 30 55.9**	**+0.1**
MA2				*e*S	S	23 40 07.7	+0.9
MA2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
MA2				MLR	MLR		
	comp=Z,630nm,21.0s,MS4.8						
DZM	**Mont Dzumac**	**72.00**	**114**	LR	LR	00 04 43.9	
	comp=Z,238nm,21.1s,MS4.4,baz=201,slow=38						
MAW	**Mawson**	**73.44**	**193**	LR	LR	23 56 46.1	
	comp=Z,271nm,19.3s,MS4.5,baz=58,slow=30						
AKASG	**Malin Array Be**	**74.34**	**322**	P	**P**	**23 31 16.1**	**-1.0**
	comp=Z,2.1nm,0.5s,mb4.3,baz=89,slow=4.9,SNR=18						
VRI	**Vrincioaia**	**74.72**	**317**	⇓P	**P**	**23 31 20.5**	**+1.1**
MLR	**Muntele Rosu**	**75.17**	**317**	⇓P	**P**	**23 31 22.7**	**+0.7**
BURAR	**Bucovina Array**	**76.12**	**319**	⇓P	**P**	**23 31 28.8**	**+1.4**
BURAR	**Bucovina Array**	**76.12**	**319**	⇓P	**P**	**23 31 28.8**	**+1.4**
SUW	**Suwalki**	**78.75**	**325**	*e*P	**P**	**23 31 40.8**	**-1.0**
SUW				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
SUW	**Suwalki**	**78.75**	**325**	*e*P	**P**	**23 31 40.8**	**-1.0**
	comp=Z,18nm,0.7s,mb5.1						
FINES	**FINESS Array B**	**79.06**	**332**	P	**P**	**23 31 43.2**	**-0.1**
	comp=Z,3.3nm,0.6s,mb4.5,baz=93,slow=4.9,SNR=22						
KAF	**Kangasniemi**	**79.14**	**333**	*e*p	**P**	**23 31 43.2**	**-0.6**
	comp=Z,4.8nm,0.6s,mb4.6,baz=102,slow=5.1						
KAF	**Kangasniemi**	**79.14**	**333**	*e*P	**P**	**23 31 43.2**	**-0.6**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
KEV	**Kevo**	**81.17**	**341**	*e*p	**P**	**23 31 52.7**	**-1.7**
ARCES	**ARCESS Array B**	**81.60**	**340**	P	**P**	**23 31 56.7**	**0.0**
	comp=Z,6.5nm,0.9s,mb4.5,baz=92,slow=4.7,SNR=24						
ARCES	**ARCESS Array B**	**81.60**	**340**	P	**P**	**23 31 56.7**	**0.0**
GERES	**GERESS Array B**	**83.91**	**319**	P	**P**	**23 32 09.8**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=21						
KHC	**Kasperske Hory**	**84.01**	**319**	*e*P	**P**	**23 32 10.5**	**+1.0**
NOA	**NORSAR Array B**	**86.07**	**331**	P	**P**	**23 32 17.4**	**-2.0**
	comp=Z,1.5nm,0.8s,mb4.3,baz=94,slow=5.0,SNR=3.8						
NOA				LR	LR	00 15 35.8	
	comp=Z,130nm,19.0s,MS4.3,baz=265,slow=39						
NOA	**NORSAR Array B**	**86.07**	**331**	P	**P**	**23 32 17.4**	**-2.1**
NOA				LR	LR	00 15 35.8	
VNDA	**Vanda**	**86.73**	**169**	LR	LR	00 08 18.8	
	comp=Z,214nm,18.4s,MS4.6,baz=109,slow=34						
TBI	**Tubuai**	**112.58**	**114**	*e*LR	LR	00 11 45.9	
	comp=Z,147nm,25.5s						
PPT	**Papeete**	**113.13**	**108**	*e*LR	LR	00 12 01.3	
	comp=Z,115nm,23.5s						
ULM	**Lac du Bonnet**	**126.78**	**10**	PKP	PKPdf	23 38 42.1	-4.7
	comp=Z,0.7nm,0.3s,baz=66,slow=1.9,SNR=4.9						
PDAR	**Pinedale Array**	**129.46**	**25**	PKP	PKPdf	23 38 48.1	-4.0
	comp=Z,0.7nm,0.7s,baz=230,slow=1.6,SNR=6.7						
TXAR	**Lajitas Array**	**143.16**	**31**	PKhKP		23 39 11.1	
	comp=Z,0.3nm,0.4s,baz=215,slow=1.4,SNR=7.0						
TXAR	**Lajitas Array**	**143.16**	**31**	PKP	PKPdf	23 39 11.1	-6.6
JCT	**Junction City**	**143.99**	**25**	*e*PKPdf	PKPdf	23 39 14.2	-4.8

IDC 06 23:23:48.7±0.8, 6.76N×73.01W, h160km±12km, mb2.8/1, mb1 3.3/3, mb1mx2.9/22, mbtmp3.5/3, Error ellipse: s-maj=62.0km s-min=7.6km az=131.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.30**	**215**	P	P	23 24 30.4	+2.0
	29nm,0.3s,baz=335,slow=2.4,SNR=66						
ROSC				S	S	23 24 59.1	+0.2
	28nm,0.3s,baz=80,slow=23,SNR=12						
SDV	**Santo Domingo**	**3.16**	**48**	P	P	23 24 40.4	+1.1
	6.2nm,0.3s,baz=258,slow=3.4,SNR=21						
SDV				S	S	23 25 17.4	-0.6
	24nm,0.3s,baz=255,slow=24,SNR=42						
YKA	**Yellowknife Ar**	**63.36**	**340**	P	P	23 34 00.5	-2.4
	0.1nm,0.4s,baz=130,slow=6.2,SNR=4.9						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	PKPdf	23 43 18.6	+4.1
	0.7nm,0.7s,baz=118,slow=3.5,SNR=8.3						
WRA	**Warramunga Arr**	**150.40**	**241**	PKPbc	PKPdf	23 43 21.7	+5.2
	0.5nm,0.4s,baz=103,slow=2.4,SNR=5.2						

JMA 06 23:45:55.0±0.4, 43.58N×147.38E, h8km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.21**	**260**	P	Pb	23 46 17.8	0.0
NEM2				*e*S	Sb	23 46 34.3	+0.9
JRA	**Rausu**	**1.68**	**283**	P	Pn	23 46 24.6	-0.2
JRA				*e*S	Sn	23 46 46.5	-0.2
JNK	**Nakash**	**1.93**	**271**	P	Pn	23 46 28.1	-0.5
JAK	**Akkeshi**	**2.04**	**254**	P	Pn	23 46 30.1	0.0
JAK				*e*S	Sn	23 46 56.1	0.0
JTKR	**Abashiri--Toko**	**2.54**	**280**	P	Pn	23 46 37.7	+0.4
JAR	**Ashorobuto**	**2.65**	**265**	P	Pn	23 46 39.4	+0.7
JAR				*e*S	Sn	23 47 12.1	+0.8
JOB	**Onbets**	**2.68**	**257**	P	Pn	23 46 39.9	+0.7
JCH	**Churui**	**3.10**	**253**	P	Pn	23 46 46.0	+0.8
JNBK	**Urakawa-nobuka**	**3.64**	**251**	P	Pn	23 46 53.2	+0.4

IDC 06 23:53:47.5±5.9, 6.63S×154.22E, mb3.6/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, MS3.1/2, Ms1 3.1/2, ms1mx2.8/22, Error ellipse: s-maj=178.2km s-min=39.5km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.32**	**117**	LR	LR	23 57 00.0	
	comp=Z,97nm,20.3s,baz=28,slow=30						
WRA	**Warramunga Arr**	**23.40**	**234**	P	P	23 58 58.8	-0.3
	1.5nm,0.5s,baz=57,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**25.85**	**227**	P	P	23 59 20.2	-2.3
	1.1nm,0.8s,baz=61,slow=9.3,SNR=6.9						
FX1	**Attu Island--F**	**61.43**	**13**	LR	LR	00 30 45.4	
	comp=Z,24nm,19.1s,baz=190,slow=36						
MKAR	**Makanchi Array**	**82.62**	**319**	P	P	00 06 13.0	-1.1
	0.1nm,0.4s,baz=104,slow=5.0,SNR=4.9						

IDC 07 00:12:31.7±2.1, 5.62S×151.09E, mb3.9/4, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, Error ellipse: s-maj=124.4km s-min=28.2km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.64**	**227**	P	P	00 17 24.0	-1.8
	0.8nm,0.5s,baz=53,slow=9.8,SNR=5.7						
ASAR	**Alice Springs**	**24.41**	**221**	P	P	00 17 52.5	-0.7
	3.9nm,0.8s,baz=54,slow=9.3,SNR=29						
FITZ	**Fitzroy Crossi**	**27.77**	**241**	P	P	00 18 22.3	-2.2
	1.8nm,0.5s,baz=41,slow=6.3,SNR=7.4						
ILAR	**Eielson Array**	**83.55**	**22**	P	P	00 25 01.4	-1.4
	0.5nm,0.7s,baz=244,slow=5.0,SNR=5.7						

IDC 07 00:12:38.8±8.8, 1.05N×97.38E, mb3.6/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=184.1km s-min=119.0km az=134.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.37**	**5**	P	P	00 16 42.8	-1.6
	baz=196,slow=12,SNR=7.7						
SONM	**Songino Array**	**47.26**	**8**	P	P	00 21 13.5	-2.2
	0.2nm,0.4s,baz=190,slow=8.8,SNR=4.0						
MKAR	**Makanchi Array**	**47.43**	**346**	P	P	00 21 15.1	-2.0
	0.8nm,0.7s,baz=162,slow=7.6,SNR=8.5						
ZAL	**Zalesovo**	**53.73**	**351**	P	P	00 22 02.9	-2.0
	0.7nm,0.4s,baz=280,slow=8.2,SNR=3.1						

IDC 07 00:18:00.0±2.6, 3.33S×135.58E, mb3.8/2, mb1 4.2/4, mb1mx3.9/14, mbtmp4.0/4, ML3.7/2, Error ellipse: s-maj=83.4km s-min=29.7km az=84.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.56**	**184**	Pn	P	00 21 54.6	-0.8
	0.3nm,0.3s,baz=6.5,slow=12,SNR=10						
WRA				Sn	S	00 24 46.9	-13
	0.1nm,0.3s,baz=1.8,slow=23,SNR=2.6						
FITZ	**Fitzroy Crossi**	**17.62**	**213**	P	P	00 22 06.3	-2.5
	0.1nm,0.3s,baz=26,slow=10,SNR=2.6						
FITZ				S	S	00 25 12.5	-11
	0.1nm,0.3s,baz=177,slow=17,SNR=2.9						
ASAR	**Alice Springs**	**20.29**	**184**	P	P	00 22 37.6	-2.6
	5.1nm,0.6s,baz=7.3,slow=10,SNR=33						
MKAR	**Makanchi Array**	**68.40**	**324**	P	P	00 29 03.7	-2.0
	0.4nm,0.7s,baz=118,slow=6.7,SNR=3.9						

*IDC **07** 00:28:03.7±18.0, 52.35N×175.99W, mb3.5/5, mb1 3.9/5, mb1mx3.5/24, mbtmp3.5/5, Error ellipse: s-maj=343.3km s-min=56.3km az=71.0*
*NEIC **07** 00:28:32.8±0.8, 52.84N×175.31W, h238km±30km, mb3.2/2, Error ellipse: s-maj=68.4km s-min=30.3km az=80.0*

ISC 07 00:28:31.8±1.2, 52.9N±0.3×175.5W±1.0, h248km±36km, n11, σ0°58/11, mb3.2/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**0.85**	**206**	P	**P**	**00 29 06.3**	**+0.2**
ADK	**Adak**	**1.23**	**218**	*e*P	**P**	**00 29 08.0**	**-0.4**
KIWB	**Kanaga Island**	**1.44**	**227**	*e*P	**P**	**00 29 10.0**	**+0.1**
INK	**Inuvik**	**25.06**	**36**	P	**P**	**00 33 35.8**	**+1.2**
	0.4nm,0.5s,mb3.3,baz=261,slow=8.9,SNR=5.1						
YKA	**Yellowknife Ar**	**32.71**	**49**	P	**P**	**00 34 41.4**	**-1.1**
	0.3nm,0.6s,mb3.0,baz=284,slow=8.1,SNR=7.0						
NVAR	**Mina Array Bea**	**41.37**	**87**	P	**P**	**00 35 54.9**	**0.0**
	0.2nm,0.3s,mb3.0,baz=282,slow=8.6,SNR=3.6						
NVAR	**Mina Array Bea**	**41.37**	**87**	P	**P**	**00 35 54.9**	**0.0**
FCC	**Fort Churchill**	**43.44**	**49**	P	**P**	**00 36 10.6**	**-0.7**
	0.5nm,0.5s,mb3.2						
PDAR	**Pinedale Array**	**43.92**	**76**	P	**P**	**00 36 15.3**	**0.0**
	0.5nm,0.4s,mb3.2,baz=338,slow=2.0,SNR=7.2						
MNTX	**Cornudas Mount**	**53.71**	**84**	*e*P	**P**	**00 37 30.0**	**+0.2**
	0.6nm,0.6s,mb3.3						
TXAR	**Lajitas Array**	**56.43**	**85**	P	**P**	**00 37 49.6**	**+0.3**
	0.4nm,0.5s,mb3.2,baz=298,slow=4.3,SNR=4.9						

*IDC **07** 00:39:10.0±2.3, 3.30S×140.16E, mb3.5/3, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=55.7km s-min=19.9km az=112.0*
*NEIC **07** 00:39:14.1±0.7, 3.27S×140.32E, h35km, mb4.7/3, Error ellipse: s-maj=23.5km s-min=8.8km az=99.0*

ISC 07 00:39:12.9±3.0, 3.28S±0.09×140.4E±0.2, h43km±35km, n12, σ0°62/13, mb3.8/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.35**	**15**	P	**P**	**00 43 13.2**	**-0.3**
	222nm,1.0s						
WRAB	**Tennant Creek**	**17.56**	**199**	*e*P	**P**	**00 43 17.2**	**+1.0**
	5.4nm,0.6s						
WB2	**Warramunga Arr**	**17.57**	**199**	*e*P	**P**	**00 43 16.1**	**-0.2**
WRA	**Warramunga Arr**	**17.57**	**199**	P	**P**	**00 43 16.8**	**+0.4**
	0.8nm,0.3s,baz=19,slow=13,SNR=14						
FITZ	**Fitzroy Crossi**	**20.61**	**223**	*e*P	**P**	**00 43 51.3**	**+0.2**
	4.0nm,1.3s						
FITZ	**Fitzroy Crossi**	**20.61**	**223**	P	**P**	**00 43 49.6**	**-1.6**
	4.7nm,1.1s,baz=39,slow=5.3,SNR=3.5						
FITZ				S	**S**	**00 47 40.7**	**+6.5**
	1.8nm,0.7s,baz=189,slow=9.5,SNR=3.0						
ASAR	**Alice Springs**	**21.21**	**197**	P	**P**	**00 43 56.5**	**-0.6**
	1.3nm,0.6s,mb3.5,baz=30,slow=10.0,SNR=17						
ASPA	**Alice Springs**	**21.21**	**197**

132nm,0.1s
PBIS Biscoitos 1.09 107 *e*P Pb 00 56 44.0 -3.9
PBIS *i* S Sb 00 56 57.0 -5.0
292nm,0.1s
ADH Angra Heroismo 1.15 112 *e*P Pb 00 56 44.7 -4.0
ADH *e*S Sb 00 56 57.3 -6.2
PVNV Vila Nova 1.17 106 *e*P Pb 00 56 45.0 -4.1
PVNV *i* S Sb 00 56 58.4 -5.7
132nm,0.3s
RIB2 Ribeirinha 1.18 110 *e*P Pb 00 56 45.3 -4.1
RIB2 *i* S Sb 00 56 58.4 -6.2
88nm,0.2s
PFAV Pico das Favas 1.24 107 *e*P Pb 00 56 45.8 -4.5
PFAV *i* S Sb 00 57 00.1 -6.0
SET4 Mosteiros 2.50 118 *e*P Pn 00 57 04.6 -4.2
PFET Feteiras 2.54 119 *e*P Pn 00 57 04.9 -4.4
PSAN Santo Antonio 2.57 118 *e*P Pn 00 57 05.4 -4.3
FAC Faja de Cima 2.66 119 *e*P Pn 00 57 06.2 -4.8
CML Cha da Macela 2.73 118 *e*P Pn 00 57 07.6 -4.4
PVER Pico Vermelho 2.74 117 *e*P Pn 00 57 07.7 -4.5
PMAT Coroa da Mata 2.76 116 *e*P Pn 00 57 08.2 -4.3
LFA Lagoa do Fogo 2.77 117 *e*P Pn 00 57 08.5 -4.1
MESC Monte Escuro 2.79 117 *e*P Pn 00 57 08.6 -4.3
PRCH Ribeira Ch 2.80 118 *e*P Pn 00 57 08.9 -4.1
VIF Vila Franca 2.82 117 *e*P Pn 00 57 08.3 -5.0
PCNG Congro 2.84 117 *e*P Pn 00 57 09.3 -4.2
PFAD Fenais da Ajud 2.85 115 *e*P Pn 00 57 09.7 -4.1
FRA1 Furnas 2.88 117 *e*P Pn 00 57 10.3 -3.8
MIRA Miradouro 2.91 116 *e*P Pn 00 57 10.5 -4.1
PSMN Pico do Norte, 3.48 126 *e*P Pn 00 57 17.6 -5.0
PSMN *i* S Sn 00 57 54.8 -10

IDC 07 01:06:05.0±4.4, 22.29S×148.12E, mb1 3.6/4, mb1mx3.5/13, mbtmp3.4/4, ML3.4/4, Error ellipse: s-maj=43.4km s-min=22.3km az=77.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.80**	**321**	Pn	Pn	01 06 52.2	+0.5
	4.5nm,0.3s,baz=132,slow=17,SNR=26						
CTA				Sn	Sn	01 07 27.2	+0.5
	8.4nm,0.3s,baz=96,slow=17,SNR=5.6						
CTA				Lg		01 07 33.6	
	17nm,0.3s,baz=52,slow=18,SNR=13						
STKA	**Stephens Creek**	**11.17**	**210**	Pn	P	01 08 45.0	-4.1
	0.5nm,0.3s,baz=34,slow=12,SNR=7.6						
STKA				Lg		01 12 06.0	
	0.1nm,0.3s,baz=302,slow=19,SNR=1.9						
WRA	**Warramunga Arr**	**13.07**	**278**	Pn	P	01 09 10.8	-3.9
	0.2nm,0.3s,baz=97,slow=12,SNR=5.3						
WRA				Sn	S	01 11 40.7	-1.3
	0.1nm,0.3s,baz=104,slow=24,SNR=2.8						
WRA				Lg		01 13 01.1	
	0.3nm,0.3s,baz=103,slow=29,SNR=6.1						
ASAR	**Alice Springs**	**13.16**	**261**	Pn	P	01 09 13.6	-2.4
	0.1nm,0.3s,baz=83,slow=13,SNR=3.8						
ASAR				Sn	S	01 11 37.6	-6.7
	0.1nm,0.3s,baz=87,slow=20,SNR=3.6						
ASAR				Lg		01 13 02.4	
	0.1nm,0.3s,baz=84,slow=27,SNR=3.3						

*ISK **07** 01:06:27.5, 38.71N×34.32E, h5km, MD3.6*
*CSEM **07** 01:06:27.5, 38.71N×34.32E, h5km, MD3.6, After ISK*
ISC 07 01:06:29.3±0.3, 38.70N±0.03×34.30E±0.04, h5km, n33, σ0§95/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVNT	**Avonos**	**0.44**	**80**	*i* P	**Pg**	**01 06 37.5**	**-0.7**
AVNT				*i* S	**Sg**	**01 06 44.5**	**+0.3**
CDAG	**Cicekdag**	**0.92**	**4**	*i* P	**Pb**	**01 06 46.5**	**-0.9**
CDAG				*i* S	**Sb**	**01 07 04.8**	**+5.1**
BNN	**Bunyan**	**1.22**	**83**	PN	**Pn**	**01 06 51.2**	**-1.8**
BNN				SN	**Sn**	**01 07 08.9**	**-1.1**
YOZ	**Yozgat**	**1.23**	**40**	PN	**Pn**	**01 06 51.9**	**-1.2**
CORM	**Corum**	**1.50**	**10**	PN	**Pn**	**01 06 56.9**	**0.0**
CORM				SN	**Sn**	**01 07 17.9**	**+0.9**
ANTO	**Ankara**	**1.65**	**315**	PN	**Pn**	**01 06 58.6**	**-0.5**
LOD	**Lodumlu**	**1.68**	**315**	PN	**Pn**	**01 06 59.0**	**-0.5**
KONT	**Konya--Tatoy**	**1.70**	**244**	PN	**Pn**	**01 07 00.1**	**+0.2**
KIZT	**Kizilcal**	**1.90**	**276**	PN	**Pn**	**01 07 01.5**	**-1.2**
ELDT	**Eldivan**	**1.91**	**340**	*i* P	**Pn**	**01 07 03.7**	**+0.9**
ELDT				*i* S	**Sn**	**01 07 30.5**	**+3.0**
CTKT	**Corum**	**1.95**	**11**	*i* P	**Pn**	**01 07 04.5**	**+1.0**
CTKT				*i* S	**Sn**	**01 07 35.1**	**+6.5**
CANT	**Cankiri**	**1.97**	**345**	PN	**Pn**	**01 07 03.3**	**-0.4**
CEYT	**Ceyhan**	**2.04**	**145**	*e*PN	**Pn**	**01 07 05.2**	**+0.4**
MEST	**Erdemli**	**2.12**	**183**	*i* P	**Pn**	**01 07 05.8**	**0.0**
MEST				*i* S	**Sn**	**01 07 34.1**	**+1.3**
HDMB	**Hadim**	**2.25**	**220**	*e*PN	**Pn**	**01 07 08.2**	**+0.4**
KAHT	**Ahir Dag**	**2.30**	**117**	*i* P	**Pn**	**01 07 09.9**	**+1.5**
SVST	**Sivas**	**2.32**	**62**	*i* P	**Pn**	**01 07 10.4**	**+1.7**
SVST				*i* S	**Sn**	**01 07 46.2**	**+8.2**
TOS	**Tosya**	**2.34**	**355**	*e*PN	**Pn**	**01 07 08.2**	**-0.8**
TOKT	**Tokat**	**2.37**	**46**	*e*PN	**Pn**	**01 07 09.5**	**0.0**
SGKT	**Sivrigoynuk**	**2.54**	**318**	*e*P	**Pn**	**01 07 12.6**	**+0.7**
SGKT				*i* S	**Sn**	**01 07 54.9**	**+11**
COBT	**Iskenderun**	**2.68**	**144**	*i* P	**Pn**	**01 07 13.6**	**-0.2**
BOYT	**Boyabat**	**2.75**	**10**	*i* P	**Pn**	**01 07 16.3**	**+1.4**
BOYT				*i* S	**Sn**	**01 07 56.5**	**+7.6**
GAZ	**Gaziantep**	**2.77**	**123**	PN	**Pn**	**01 07 14.9**	**-0.2**
BYBT	**Boyabat**	**2.79**	**7**	*e*PN	**Pn**	**01 07 14.9**	**-0.5**
ESKT	**Eskisehir**	**2.80**	**288**	*e*PN	**Pn**	**01 07 15.9**	**+0.3**
ESKT	**Eskisehir**	**2.80**	**288**	*i* P	**Pn**	**01 07 19.4**	**+3.7**
ESKT				*i* S	**Sn**	**01 08 02.5**	**+12**
SAFT	**Safranbolu**	**2.82**	**334**	*e*PN	**Pn**	**01 07 15.4**	**-0.5**
GZT	**Gaziantep**	**2.91**	**117**	*i* P	**Pn**	**01 07 17.8**	**+0.6**
GZT				*i* S	**Sn**	**01 08 05.7**	**+13**
BALT	**Daday**	**2.91**	**346**	*i* P	**Pn**	**01 07 22.9**	**+5.8**
BALT				*i* S	**Sn**	**01 07 58.0**	**+5.0**
MDU	**Mudurnu**	**2.96**	**307**	*e*PN	**Pn**	**01 07 16.8**	**-1.1**
HTY	**Hatay**	**2.97**	**150**	*e*PN	**Pn**	**01 07 17.2**	**-0.7**
BCK	**Bucak**	**3.18**	**248**	*e*PN	**Pn**	**01 07 20.1**	**-0.9**
BZK	**Bozkurt**	**3.26**	**356**	*e*PN	**Pn**	**01 07 21.8**	**-0.3**

JMA 07 01:13:10.7±0.4, 43.61N×147.35E, h4km±4km, M2.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.20**	**259**	P	Pb	01 13 33.3	-0.2
NEM2				*e*S	Sb	01 13 49.6	+0.4
JRA	**Rausu**	**1.65**	**282**	P	Pn	01 13 40.7	+0.1
JAK	**Akkeshi**	**2.03**	**253**	P	Pn	01 13 46.4	+0.3
JCH	**Churui**	**3.08**	**253**	P	Pn	01 14 01.9	+0.8
JCH				*e*S	Sn	01 14 38.9	-0.1

*NIED **07** 01:13:00, 44.60N×148.80E, h20km, Mw3.6 Best double couple: M0 3.2×10^14 NP1:φ=27°, δ73°, λ92°. NP2:φ=199°, δ17°, λ82°.*
*IDC **07** 01:13:50.4±2.5, 44.42N×148.61E, mb3.7/7, mb1 4.0/8, mb1mx3.7/23, mbtmp3.7/8, ML3.0/1, MS2.7/1, Ms1 2.7/1, ms1mx2.0/29, Error ellipse: s-maj=71.7km s-min=22.7km az=175.0*
*MOS **07** 01:13:57.6±1.3, 45.18N×148.10E, h33km, mb4.0/4, Error ellipse: s-maj=33.9km s-min=22.4km az=51.1*
ISC 07 01:13:55.9±1.2, 44.8N±0.2×148.7E±0.2, h33km, n15, σ0§91/16, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**2.21**	**250**	*e*PN	**Pn**	**01 14 30.0**	**-1.0**
YUK				*i* S	**S**	**01 14 58.2**	**+1.0**
YUK				pmax	pmax		
	comp=Z,510nm,0.2s						
YUK				smax			
	comp=N,1μm,0.2s						
YUK				smax			
	comp=E,850nm,0.2s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,2μm,0.6s						
ASAJ	**Asahikawa**	**4.45**	**263**	PN	**Pn**	**01 14 57.2**	**-5.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,91nm,20.0s						
ASAJ	**Asahikawa**	**4.45**	**263**	Pn	**Pn**	**01 14 57.1**	**-5.8**
	comp=Z,0.6nm,0.3s,baz=135,slow=19,SNR=1.6						
ASAJ				LR	LR	01 16 46.9	
	comp=Z,91nm,20.0s,baz=236,slow=41						
ILAR	**Eielson Array**	**39.94**	**37**	P	**P**	**01 21 28.8**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.2,baz=271,slow=6.5,SNR=7.0						
MKAR	**Makanchi Array**	**45.09**	**297**	P	**P**	**01 22 10.0**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**45.09**	**297**	P	**P**	**01 22 10.0**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=83,slow=9.1,SNR=3.7						
YKA	**Yellowknife Ar**	**54.27**	**35**	P	**P**	**01 23 21.8**	**+1.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**54.27**	**35**	P	**P**	**01 23 21.8**	**+1.4**
	comp=Z,0.9nm,0.7s,mb3.8,baz=298,slow=6.7,SNR=16						
FINES	**FINESS Array B**	**64.42**	**333**	P	**P**	**01 24 28.9**	**-1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.42**	**333**	P	**P**	**01 24 28.9**	**-1.4**
	comp=Z,0.7nm,0.5s,mb4.0,baz=34,slow=5.0,SNR=6.9						
NVAR	**Mina Array Bea**	**66.04**	**59**	P	**P**	**01 24 40.3**	**-0.9**
	comp=Z,0.2nm,0.3s,mb3.6,baz=286,slow=8.2,SNR=4.4						
NOA	**NORSAR Array B**	**68.99**	**339**	P	**P**	**01 24 59.0**	**-0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**68.99**	**339**	P	**P**	**01 24 59.0**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=34,slow=3.9,SNR=2.9						
KHC	**Kasperske Hory**	**78.55**	**332**	*e*P	**P**	**01 25 56.0**	**+0.9**
TXAR	**Lajitas Array**	**81.11**	**57**	P	**P**	**01 26 09.3**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=303,slow=3.7,SNR=8.6						

*IDC **07** 01:21:51.4±2.0, 4.99N×94.90E, mb3.8/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.8/7, Error ellipse: s-maj=89.2km s-min=20.4km az=57.0*
*NEIC **07** 01:21:55.0±1.1, 4.88N×94.73E, h30km, mb4.5/4, Error ellipse: s-maj=31.0km s-min=12.9km az=45.0*
ISC 07 01:21:53.4±0.9, 4.9N±0.1×94.81E±0.08, h30km, n15, σ0§93/16, mb4.1/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.83**	**86**	*e*Pn	**Pn**	**01 23 21.7**	**+1.6**
KULM				*e*Sn	**Sn**	**01 24 26.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**14.04**	**16**	Pn	**P**	**01 25 16.9**	**+4.2**
	0.7nm,0.3s,baz=205,slow=13,SNR=3.2						
BJT	**Baijiatuau**	**39.89**	**26**	P	**P**	**01 29 25.4**	**-1.0**
	12nm,1.2s,mb4.5						
AAK	**Ala-Archa**	**41.66**	**337**	P	**P**	**01 29 39.5**	**-1.4**
	2.3nm,0.8s,mb3.9						
AAK				*e*		01 29 58.1	
MKAR	**Makanchi Array**	**43.09**	**347**	P	**P**	**01 29 53.4**	**+0.8**
	1.1nm,0.3s,mb4.0,baz=164,slow=8.2,SNR=35						
SONM	**Songino Array**	**43.89**	**11**	P	**P**	**01 29 58.3**	**-0.7**
	0.3nm,0.4s,mb3.4,baz=207,slow=9.7,SNR=2.8						
WRA	**Warramunga Arr**	**46.05**	**124**	P	**P**	**01 30 16.3**	**-0.3**
	0.9nm,0.7s,mb3.8,baz=303,slow=9.4,SNR=4.8						
WRAB	**Tennant Creek**	**46.06**	**124**	P	**P**	**01 30 15.6**	**-1.1**
	19nm,1.5s,mb4.8						
ASAR	**Alice Springs**	**47.55**	**128**	P	**P**	**01 30 29.4**	**+0.9**
	0.4nm,0.4s,mb3.8,baz=300,slow=7.7,SNR=6.0						
ZAL	**Zalesovo**	**49.53**	**352**	P	**P**	**01 30 44.2**	**+0.8**
	1.3nm,0.3s,mb4.4,baz=324,slow=6.6,SNR=4.3						
ZAL	**Zalesovo**	**49.53**	**352**	P	**P**	**01 30 44.2**	**+0.8**
BVAR	**Borovoye Array**	**51.97**	**342**	P	**P**	**01 31 02.5**	**+0.5**
	0.4nm,0.3s,mb3.8,baz=136,slow=11,SNR=6.0						
CHKZ	**Chkalovo**	**52.46**	**342**	*e*P	**P**	**01 31 06.3**	**+0.7**
	3.5nm,0.7s,mb4.4						
FINES	**FINESS Array B**	**75.61**	**332**	P	**P**	**01 33 36.7**	**-0.4**
	1.4nm,0.8s,mb3.9,baz=108,slow=6.0,SNR=4.4						
FINES	**FINESS Array B**	**75.61**	**332**	P	**P**	**01 33 36.7**	**-0.4**

*IDC **07** 01:40:42.1±1.4, 29.20N×81.50E, mb3.8/9, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, ML4.0/1, Error ellipse: s-maj=47.7km s-min=21.0km az=61.0*
*NEIC **07** 01:40:45.9±0.8, 29.30N×81.45E, mb4.1/3, Error ellipse: s-maj=25.5km s-min=11.0km az=61.0*
*NDI **07** 01:40:47.1±4.1, 29.24N×81.49E, h10km, ML3.9, mb4.1(NEIC)*
ISC 07 01:40:44.6±0.5, 29.30N±0.06×81.58E±0.05, h23km, h23km±1.0km: pP-P, n37, σ1§33/45, mb3.8/12, 2C, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**1.17**	**278**	*e*P	**Pn**	**01 41 10.3**	**+4.5**
LGTI				*e*S	**Sb**	**01 41 27.5**	**+6.8**
PTH	**Pithoragarh**	**1.21**	**282**	*e*P	**Pn**	**01 41 08.1**	**+1.7**
PTH				*e*S	**Sb**	**01 41 27.2**	**+5.2**
DDI	**Dehra Dun**	**3.23**	**289**	*e*PG	**Pn**	**01 41 46.2**	**+11**
DDI				*e*		01 42 27.0	
KLP	**Kalpa**	**3.64**	**309**	*e*P	**Pn**	**01 41 45.3**	**+4.3**
KLP				*e*		01 43 08.4	
	comp=E,1μm,0.8s						
KLP				*e*		01 43 08.6	
	comp=N,933nm,1.1s						
AGRA	**Agra**	**3.81**	**238**	*i*	**Pn**	**01 41 52.3**	**+8.9**
AGRA				*e*		01 42 43.5	
AGRA				*e*		01 42 47.2	
	comp=N,290nm,0.3s						
AGRA				*e*		01 42 47.2	
	comp=E,400nm,0.5s						
NDI	**New Delhi**	**3.87**	**262**	*e*PG	**Pn**	**01 41 57.0**	**+13**
NDI				*e*S	**Sn**	**01 42 28.5**	**-1.0**
NDI				*e*		01 42 46.5	
ALBI	**Allahabad**	**3.98**	**177**	*e*	**Pn**	**01 42 00.0**	**+14**
AYAN	**Aya Nagar**	**3.99**	**259**	*e*P	**Pn**	**01 41 48.5**	**+2.6**
AYAN				*i*		01 42 26.9	
SONA	**Sohna**	**4.08**	**256**	*e*P	**Pn**	**01 41 49.2**	**+2.0**
SONA				*e*S	**Sn**	**01 42 33.5**	**-1.4**
SONA				*e*		01 42 57.8	
	comp=N,278nm,0.5s						
SONA				*e*		01 42 58.0	
	comp=E,191nm,0.5s						
SMLA	**Simla**	**4.23**	**297**	⇑*i*	**Pn**	**01 41 42.7**	**-6.7**
SMLA				*i*		01 42 48.2	
SDNR	**Sundarnagar**	**4.55**	**300**	*e*P	**Pn**	**01 41 56.2**	**+2.3**
SDNR				*e*		01 43 09.6	
KHET	**Khetri**	**5.21**	**258**	*e*P	**Pn**	**01 42 04.8**	**+1.5**
KHET				*e*S	**Sn**	**01 43 00.4**	**-3.1**
PONG	**Pong**	**5.53**	**300**	*e*P	**Pn**	**01 42 08.0**	**+0.3**
PONG				*e*		01 43 12.0	
THN	**Thein Dam**	**5.93**	**303**	*e*	**Pn**	**01 42 19.7**	**+6.3**
THN				*e*		01 43 21.8	
AJM	**Ajmer**	**6.75**	**247**	*e*	**Sn**	**01 43 25.0**	**-17**
CHCP	**Chirah Chowk**	**8.32**	**304**	⇑P	**P**	**01 42 46.9**	**0.0**
NGP	**Nagpur**	**8.43**	**196**	*e*P	**P**	**01 42 48.4**	**0.0**
NGP				*e*S	**Sn**	**01 44 17.0**	**-6.8**
THW	**Thamme Wali**	**9.13**	**295**	P	**P**	**01 42 53.5**	**-4.6**
CEP	**Cherat**	**9.40**	**301**	P	**P**	**01 42 59.2**	**-2.6**
CEP				S	**Sn**	**01 44 39.0**	**-8.9**
SHL	**Shillong**	**9.88**	**110**	*e*	**P**	**01 43 14.0**	**+5.5**
SHL				*e*S	**Sn**	**01 44 52.0**	**-7.8**
POO	**Poona**	**12.83**	**215**	*e*	**S**	**01 46 00.0**	**-12**
AAK	**Ala-Archa**	**14.48**	**339**	P	**P**	**01 44 07.7**	**-2.5**
	comp=E,6.7nm,0.9s						
AAK				*e*		01 44 18.1	
MKAR	**Makanchi Array**	**17.48**	**2**	Pn	**P**	**01 44 46.2**	**-2.3**
	comp=E,0.5nm,0.3s,baz=184,slow=11,SNR=26						
MKAR	**Makanchi Array**	**17.48**	**2**	Pn	**P**	**01 44 46.2**	**-2.3**
ZAL	**Zalesovo**	**24.73**	**5**	P	**P**	**01 46 05.5**	**+0.1**
	comp=E,1.5nm,0.4s,mb3.9,baz=287,slow=9.7,SNR=5.8						
BVAR	**Borovoye Array**	**25.10**	**344**	P	**P**	**01 46 09.7**	**+0.7**
	comp=E,0.4nm,0.4s,mb3.3,baz=149,slow=12,SNR=6.4						
CHKZ	**Chkalovo**	**25.64**	**345**	*e*P	**P**	**01 46 13.8**	**-0.2**
	comp=E,2.5nm,0.6s,mb3.9						
SONM	**Songino Array**	**26.63**	**39**	P	**P**	**01 46 24.0**	**+0.8**
	comp=E,0.9nm,0.7s,mb3.4,baz=225,slow=9.0,SNR=9.3						
ULN	**Ulaanbaatar**	**27.01**	**40**	P	**P**	**01 46 27.8**	**+1.0**
	comp=E,3.7nm,1.2s,mb3.8						
FINES	**FINESS Array B**	**48.34**	**328**	P	**P**	**01 49 26.1**	**0.0**
	comp=E,1.6nm,0.9s,mb4.0,baz=108,slow=6.0,SNR=6.0						
ARCES	**ARCESS Array B**	**51.16**	**338**	P	**P**	**01 49 46.3**	**-1.2**
	comp=E,4.1nm,0.9s,mb4.4,baz=106,slow=6.6,SNR=4.4						
WRA	**Warramunga Arr**	**70.60**	**127**	P	**P**	**01 51 60.0**	**-0.4**
	comp=E,0.5nm,0.4s,mb3.8,baz=321,slow=6.1,SNR=5.6						
WRA				pP	pP	01 52 06.7	-0.8
	comp=E,1.2nm,0.6s,baz=322,slow=6.1,SNR=7.9						
WRAB	**Tennant Creek**	**70.60**	**127**	*e*P	**P**	**01 51 59.9**	**-0.5**
	comp=E,8.0nm,1.1s,mb4.6						
WRAB				*e*pP	pP	01 52 06.6	-0.9
ASAR	**Alice Springs**	**72.83**	**131**	P	**P**	**01 52 12.8**	**-1.0**
	comp=E,0.3nm,0.4s,mb3.5,baz=311,slow=5.9,SNR=4.5						
ASAR				pP	pP	01 52 20.6	-0.3
	comp=E,0.8nm,0.8s,baz=314,slow=6.2,SNR=5.2						
ILAR	**Eielson Array**	**78.95**	**19**	P	**P**	**01 52 47.5**	**0.0**
	comp=E,0.5nm,0.9s,mb3.5,baz=280,slow=4.6,SNR=5.7						
YKA	**Yellowknife Ar**	**87.61**	**7**	P	**P**	**01 53 31.7**	**-0.1**
	comp=E,0.1nm,0.5s,mb3.4,baz=338,slow=4.8,SNR=5.4						
YKA	**Yellowknife Ar**	**87.61**	**7**	P	**P**	**01 53 31.7**	**-0.1**

WEL 07 01:47:05.8±0.6, 35.63S×179.03E, h313km±5km, ML3.5/5, Error ellipse: s-maj=26.9km s-min=14.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.01**	**196**	*e*PN	P	01 47 53.0	-1.1
MXZ				SN	S	01 48 29.4	-2.5
MXZ				SN	S	01 48 29.4	-2.4
PUZ	**Puketiti**	**2.51**	**194**	PN	P	01 47 58.2	-0.2
PUZ				SN	S	01 48 38.3	-1.1
MWZ	**Matawai**	**2.95**	**204**	PN	P	01 48 02.6	+0.2
MWZ				SN	S	01 48 46.7	+0.1
URZ	**Urewera**	**3.04**	**210**	PN	P	01 48 02.3	-1.0
KIW	**Kapiti Island**	**6.14**	**211**	*e*PN	P	01 48 37.3	-0.5
KHZ	**Kahutara**	**8.01**	**211**	PN	P	01 49 00.1	-0.2

IDC 07 01:47:21.5±63.0, 1.34N×96.65E, mb3.9/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.9/3, Error ellipse: s-maj=1223.0km s-min=150.8km az=176.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.97**	**347**	P	P	01 55 54.2	-1.9
	1.8nm,0.8s,baz=154,slow=9.0,SNR=18						
SONM	**Songino Array**	**47.07**	**9**	P	P	01 55 55.1	-1.8
	0.5nm,0.4s,baz=191,slow=8.3,SNR=5.8						
ZAL	**Zalesovo**	**53.32**	**351**	P	P	01 56 42.0	-2.5
	1.0nm,0.5s,baz=235,slow=2.7,SNR=4.3						

IDC 07 01:58:26.6±1.8, 21.24N×147.84E, mb3.8/3, mb1 4.2/3, mb1mx3.6/22, mbtmp3.8/3, Error ellipse: s-maj=167.8km s-min=29.8km az=116.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.01**	**199**	P	P	02 06 27.8	-1.9
	1.5nm,0.6s,baz=25,slow=8.0,SNR=7.6						
YKA	**Yellowknife Ar**	**74.81**	**28**	P	P	02 10 08.4	-1.7
	0.4nm,0.5s,baz=291,slow=5.5,SNR=11						
NVAR	**Mina Array Bea**	**80.00**	**53**	P	P	02 10 38.6	-0.8
	0.5nm,0.6s,baz=263,slow=6.5,SNR=4.6						

*IDC **07** 02:07:10.7±0.8, 15.99N×92.92E, h26km±6km, mb3.8/13, mb1 3.9/14, mb1mx3.8/22, mbtmp3.9/14, ML4.0/1, Error ellipse: s-maj=28.2km s-min=14.8km az=48.0*
*NEIC **07** 02:07:11.4±0.5, 16.00N×92.82E, h30km, mb4.5/4, Error ellipse: s-maj=13.3km s-min=7.9km az=51.0*
ISC 07 02:07:09.0±0.6, 16.07N±0.08×92.98E±0.06, h26km, h26km±.2km: pP-P, n23, σ1§00/26, mb4.1/16, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**6.17**	**67**	Pn	**Pn**	**02 08 43.1**	**+2.1**
CM31				*e*Sn	**Sn**	**02 09 48.5**	**-3.0**
CMAR	**Chiang Mai Arr**	**6.17**	**67**	Pn	**Pn**	**02 08 40.2**	**-0.8**
	0.9nm,0.3s,baz=250,slow=15,SNR=15						
CMAR				Sn	**Sn**	**02 09 50.3**	**-1.2**
	1.1nm,0.3s,baz=250,slow=26,SNR=7.3						
VIS	**Vishakhapatnam**	**9.38**	**281**	*e*P	**P**	**02 09 20.0**	**-5.7**
VIS				*e*S	**Sn**	**02 10 57.0**	**-14**
LSA	**Lhasa**	**13.67**	**353**	*e*P	**P**	**02 10 22.5**	**-1.3**
PALK	**Pallekele**	**14.86**	**235**	P	**P**	**02 10 32.9**	**-6.6**
	82nm,1.8s						
ENH	**Enshi**	**20.70**	**44**	*e*P	**P**	**02 11 51.5**	**+1.5**
	33nm,2.0s						
AAK	**Ala-Archa**	**30.84**	**333**	*e*P	**P**	**02 13 26.1**	**+0.8**
	3.6nm,1.1s,mb4.1						
MKAR	**Makanchi Array**	**31.90**	**346**	P	**P**	**02 13 34.8**	**+0.3**
	1.5nm,0.8s,mb3.9,baz=173,slow=9.8,SNR=7.8						
SONM	**Songino Array**	**33.55**	**16**	P	**P**	**02 13 50.0**	**+1.0**
	0.7nm,0.8s,mb3.6,baz=214,slow=8.9,SNR=5.2						
SONM				PcP	PcP	02 16 29.4	+0.1
	0.4nm,0.7s,baz=225,slow=1.7,SNR=3.9						
ZAL	**Zalesovo**	**38.32**	**352**	P	**P**	**02 14 30.3**	**+1.0**
	0.5nm,0.3s,mb3.7,baz=292,slow=4.5,SNR=3.6						
FITZ	**Fitzroy Crossi**	**46.78**	**135**	P	**P**	**02 15 37.8**	**-0.7**
	4.8nm,1.0s,mb4.4,baz=325,slow=9.2,SNR=7.9						
FITZ				pP	pP	02 15 45.9	-0.6
	7.4nm,0.7s,baz=330,slow=4.9,SNR=5.8						
WRA	**Warramunga Arr**	**54.16**	**130**	P	**P**	**02 16 34.2**	**-0.5**
	1.8nm,1.1s,mb3.9,baz=316,slow=7.4,SNR=4.9						
WRA				pP	pP	02 16 42.1	-0.6
	3.0nm,0.8s,baz=316,slow=7.6,SNR=12						
WRAB	**Tennant Creek**	**54.16**	**130**	*e*P	**P**	**02 16 35.8**	**+1.1**
	7.8nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**56.21**	**134**	P

TXAR	**Lajitas Array**	**143.13**	**33**	PKP	PKPdf	02 33 41.7	-1.0
	0.5nm,0.7s,baz=117,slow=0.6,SNR=6.2						
TXAR	**Lajitas Array**	**143.13**	**33**	PKP	PKPdf	02 33 41.7	-1.0

*IDC **07** 02:17:57.4±2.3,0.17N×97.57E,mb4.2/7,mb1 4.3/8, mb1mx4.0/19,mbtmp4.2/8,ML4.6/1,Error ellipse: s-maj=94.6km s-min=16.9km az=58.0*

*NEIC **07** 02:18:02.4±0.8,0.29N×97.74E,h30km,mb4.3/4,Error ellipse: s-maj=19.1km s-min=7.9km az=64.0*

ISC 07 02:18:00.5±1.0,0.33N±0.10×97.8E±0.2,h30km,n16, σ0°68/16,mb4.3/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.71**	**30**	*e*Pn	**Pn**	**02 19 26.3**	**+0.7**
KULM				*e*		02 19 38.8	
CMAR	**Chiang Mai Arr**	**18.05**	**4**	P	**P**	**02 22 10.8**	**-0.4**
	0.8nm,0.3s,baz=191,slow=12,SNR=11						
KKM	**Kota Kinabalu**	**19.28**	**73**	*e*P	**P**	**02 22 25.1**	**-0.8**
ENH	**Enshi**	**31.80**	**20**	P	**P**	**02 24 23.8**	**-1.0**
	7.3nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**32.98**	**125**	*e*P	**P**	**02 24 35.0**	**-0.2**
	2.2nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**32.98**	**125**	P	**P**	**02 24 34.2**	**-1.0**
	3.6nm,0.8s,mb4.4,baz=162,slow=3.3,SNR=5.7						
WRA	**Warramunga Arr**	**41.11**	**121**	P	**P**	**02 25 43.7**	**0.0**
	0.9nm,0.5s,mb3.7,baz=311,slow=9.3,SNR=8.2						
WRAB	**Tennant Creek**	**41.12**	**121**	*e*P	**P**	**02 25 43.7**	**-0.1**
	2.6nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**41.12**	**121**	*e*P	**P**	**02 25 43.9**	**+0.1**
ASAR	**Alice Springs**	**42.43**	**127**	P	**P**	**02 25 55.0**	**+0.4**
	1.9nm,0.7s,mb3.9,baz=297,slow=8.1,SNR=16						
SONM	**Songino Array**	**47.91**	**8**	P	**P**	**02 26 39.2**	**+1.1**
	1.7nm,0.5s,mb4.3,baz=188,slow=9.9,SNR=18						
ULN	**Ulaanbaatar**	**48.03**	**8**	P	**P**	**02 26 39.3**	**+0.3**
	1.5nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**48.21**	**346**	P	**P**	**02 26 40.9**	**+0.5**
	1.7nm,0.7s,mb4.2,baz=158,slow=9.0,SNR=16						
PMG	**Port Moresby**	**50.12**	**102**	*e*P	**P**	**02 26 56.4**	**+0.9**
	19nm,0.9s,mb5.1						
ZAL	**Zalesovo**	**54.49**	**351**	P	**P**	**02 27 28.0**	**+0.3**
	3.9nm,0.4s,mb4.7,baz=310,slow=5.6,SNR=14						
BVAR	**Borovoye Array**	**57.25**	**341**	P	**P**	**02 27 46.3**	**-1.3**
	1.7nm,0.7s,mb4.2,baz=140,slow=12,SNR=8.4						

*IDC **07** 02:21:20.9±0.5,1.22N×97.25E,mb4.8/24,mb1 4.9/25, mb1mx4.8/28,mbtmp4.8/25,ML5.1/1,MS4.6/16,Ms1 4.6/16, ms1mx4.4/27,Error ellipse: s-maj=17.0km s-min=12.4km az=39.0*

*BJI **07** 02:21:23.1,1.11N×97.38E,h27km,mB5.6,mb5.4,Ms5.3, Msz5.1*

*MOS **07** 02:21:24.7±0.9,1.24N×97.28E,h33km,mb5.4/56, MS4.6/12,Error ellipse: s-maj=10.4km s-min=5.4km az=112.1*

*NEIC **07** 02:21:24.9±0.2,1.20N×97.24E,mb5.2/64,MS4.6/20, Error ellipse: s-maj=5.5km s-min=4.4km az=204.0*

*HRVD **07** 02:21:25.0±0.6,1.09N×96.98E,h23km,MW5.0/44, Centroid moment Tensor Solution. LP body waves: s29,c49;Mantle waves: s44,c69; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.78±.20; $M_{\theta\theta}$-0.90±.12; $M_{\phi\phi}$-1.88±.16; $M_{r\theta}$2.23±.22; $M_{\theta\phi}$1.95±.10; $M_{\phi r}$-1.53±.26; Best double couple: $M_0$4.123×10^{16} NP1:ϕ_s338°,δ27°, λ116°. NP2:ϕ_s129°,δ66°,λ78°. Principal axes: T 3.895, Plg67°, Azm17°; N .455, Plg11°, Azm134°; P -4.35, Plg20°, Azm229°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*CSEM **07** 02:21:25.6,1.42N×97.60E,h33km,mb5.5*

*DJA **07** 02:21:35.2±0.7,2.49N×100.54E,h80km,MD5.0/1, ML5.6/1,Error ellipse: s-maj=35.1km s-min=9.0km az=34.0*

ISC 07 02:21:23.4±0.2,1.19N±0.03×97.27E±0.03,h25km, h25km±.9km:pP-P,n281,σ0°98/282,mb5.1/110,MS4.8/55, 23C-6D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.23**	**48⇑**	*e*Pn	**Pn**	**02 22 02.1**	**+2.6**
PPI	**Padang Panjang**	**3.52**	**118**	*e*Pn	**Pn**	**02 22 20.0**	**+2.0**
IPM	**Ipoh**	**5.04**	**48**	P	**Pn**	**02 22 40.6**	**+1.1**
KULM	**Kulim**	**5.29**	**40**	*e*Pn	**Pn**	**02 22 43.4**	**+0.4**
KGM	**Kluang**	**6.10**	**82**	P	**Pn**	**02 22 56.1**	**+1.6**
SNG	**Songkhla**	**6.82**	**29**	P	**Pn**	**02 23 03.0**	**-1.6**
	414nm,1.0s						
PENI	**Pendagan**	**10.36**	**130**	*e*Pn	**P**	**02 23 49.2**	**-4.5**
	152nm,0.6s						
PASI	**Pasiripis**	**11.41**	**133**	*e*P	**P**	**02 24 02.3**	**-5.8**
PULI	**Pulasari**	**11.47**	**131**	*e*P	**P**	**02 24 03.6**	**-5.3**
NNT	**Nongplab**	**11.59**	**12**	P	**P**	**02 24 01.0**	**-10**
KSM	**Kuching**	**13.04**	**89**	*e*Pn	**P**	**02 24 31.2**	**+1.3**
KSM				*e*		02 24 42.3	
KSM				*e*S	**S**	**02 26 47.1**	**-8.1**
KKTK	**Khon Kaen**	**16.02**	**20**	P	**P**	**02 25 15.0**	**+6.0**
	1μm,1.0s						
BDT	**Bhumibol Dam**	**16.05**	**6**	P	**P**	**02 25 11.0**	**+1.7**
	22nm,0.9s						
CM31	**Chiang Mai Arr**	**17.24**	**5**	*e*P	**P**	**02 25 23.4**	**-1.0**
	29nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.24**	**5**	P	**P**	**02 25 22.9**	**-1.5**
	2.7nm,0.3s,baz=195,slow=13,SNR=48						
CMAR				PcP	PcP	02 30 08.3	+0.4
	0.1nm,0.3s,baz=227,slow=3.6,SNR=4.7						
CMAR				LR	LR	02 32 01.6	
	comp=Z,2μm,20.5s,baz=190,slow=37						
CMAR				ScP		02 33 41.7	
	0.2nm,0.3s,baz=227,slow=4.5,SNR=4.1						
PALK	**Pallekele**	**17.59**	**291**	*e*P	**P**	**02 25 26.1**	**-2.7**
	63nm,1.3s						
CHG	**Chiang Mai**	**17.59**	**5**	⇑P	**P**	**02 25 27.4**	**-1.4**
	36nm,0.7s						
NANT	**Nan**	**17.82**	**11**	⇑P	**P**	**02 25 32.0**	**+0.3**
	112nm,0.5s						
KKM	**Kota Kinabalu**	**19.50**	**75**	*e*P	**P**	**02 25 50.6**	**-1.4**
KKM	**Kota Kinabalu**	**19.50**	**75**	P	**P**	**02 25 52.4**	**+0.4**
TSM	**Tawau**	**20.80**	**81**	P	**P**	**02 26 05.6**	**-0.1**
VIS	**Vishakhapatnam**	**21.39**	**321**	*e*P	**P**	**02 26 12.9**	**+1.2**
VIS				*e*		02 26 22.7	
	comp=Z,193nm,1.3s						
VIS				*e*		02 29 55.7	
QIZ	**Qiongzhong**	**21.59**	**34⇑**	*i*P	**P**	**02 26 12.5**	**-1.1**
QIZ				XP		02 26 23.1	
QIZ				PP	PP	02 26 37.5	-0.8
QIZ				*e*S	**S**	**02 30 05.8**	**-0.8**
QIZ				XS		02 30 18.8	
QIZ				AMB	AMB		
	comp=Z,58nm,1.3s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,356nm,13.2s						
QIZ				LR	LR		
	comp=N,2μm,13.9s,MS4.9						
QIZ				LR	LR		
	comp=E,3μm,15.3s,MS4.9						
QIZ				LR	LR		
	comp=Z,3μm,13.1s,MS4.8						
QIZ	**Qiongzhong**	**21.59**	**34**	*e*P	**P**	**02 26 12.0**	**-1.7**
	comp=Z,86nm,1.1s,mb5.1						
BWNR	**Bhubaneshwar**	**22.05**	**330**	*e*P	**P**	**02 26 21.1**	**+2.9**
BWNR				*e*		02 26 28.9	
	comp=Z,136nm,1.2s						
AGT	**Agartala**	**23.30**	**346⇑**	*i*P	**P**	**02 26 31.0**	**+0.4**
AGT				*i*		02 27 07.0	
KMI	**Kunming**	**24.37**	**12**	P	**P**	**02 26 42.2**	**+1.2**
KMI				AP		02 26 49.5	
KMI				PP	PP	02 27 20.5	+3.9
KMI				S	**S**	**02 31 01.9**	**+5.8**
KMI				XS		02 31 14.3	
KMI				AMB	AMB		
	comp=Z,251nm,0.9s,mb5.7						
KMI				AMB	AMB		
	comp=Z,925nm,3.1s						
KMI				LR	LR		
	comp=N,5μm,13.3s,MS5.2						
KMI				LR	LR		
	comp=E,2μm,13.3s,MS5.2						
KMI				LR	LR		
	comp=Z,6μm,13.3s,MS5.2						
KMI	**Kunming**	**24.37**	**12**	P	**P**	**02 26 42.2**	**+1.2**
	comp=Z,251nm,0.9s,mb5.7						
KMI				pP		02 26 49.5	
KMI				PP	PP	02 27 20.5	+3.9
KMI				S	**S**	**02 31 01.9**	**+5.8**
KMI				sS		02 31 14.3	
KMI				SS	SS	02 32 05.4	+15
KMI				LR	LR		
	comp=Z,6μm,13.3s,MS5.2						
HYB	**Hyderabad**	**24.47**	**312**	*e*P	**P**	**02 26 43.0**	**+0.9**
HYB				*e*S	**S**	**02 31 12.0**	**+14**
HYB	**Hyderabad**	**24.47**	**312**	*i*P	**P**	**02 26 43.0**	**+0.9**
HYB				*e*S	**S**	**02 30 54.0**	**-3.8**
SHL	**Shillong**	**24.79**	**348**	*e*P	**P**	**02 26 45.0**	**0.0**
SHL				*e*S	**S**	**02 31 04.0**	**+0.9**
BLSP	**Bilaspur**	**25.50**	**326**	*e*P	**P**	**02 26 52.8**	**+1.0**
BLSP				*e*	pP	02 27 01.9	+2.8
	comp=Z,113nm,1.2s						
LKP	**Lekhapani**	**26.02**	**358**	*e*P	**P**	**02 26 57.0**	**+0.4**
LKP				*e*	pP	02 27 06.0	+2.2
GYA	**Guiyang**	**26.70**	**19⇑**	*i*P	**P**	**02 27 02.6**	**-0.2**
GYA				AP	pP	02 27 09.2	-0.9
GYA				XP	sP	02 27 12.8	-0.6
GYA				PP	PP	02 27 51.4	+3.9
GYA				S	**S**	**02 31 43.5**	**+8.6**
GYA				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.2						
GYA				AMB	AMB		
	comp=Z,360nm,5.1s						
GYA				LR	LR		
	comp=N,3μm,12.6s,MS5.1						
GYA				LR	LR		
	comp=E,2μm,13.5s,MS5.1						
GYA				LR	LR		
	comp=Z,4μm,13.5s,MS5.1						
KAD	**Karad**	**27.79**	**307**	*e*P	**P**	**02 27 14.9**	**+2.1**
KAD				*e*		02 27 26.1	
	comp=Z,14nm,1.1s						
ALBI	**Allahabad**	**28.25**	**329**	*e*P	**P**	**02 27 18.5**	**+1.6**
PKI	**Pulchoki**	**28.59**	**338**	*e*P	**P**	**02 27 20.3**	**+0.3**
	comp=Z,148nm,1.0s,mb5.7						
PKI	**Pulchoki**	**28.59**	**338**	*e*P	**P**	**02 27 20.3**	**+0.3**
PKI				pmax	pmax		
	comp=Z,74nm,1.0s,mb5.4						
GUN	**Gumba**	**28.72**	**339**	*e*P	**P**	**02 27 21.7**	**+0.5**
	comp=Z,241nm,0.8s,mb6.0						
DMN	**Daman**	**28.74**	**337**	*e*P	**P**	**02 27 21.5**	**+0.2**
	comp=Z,83nm,0.9s,mb5.5						
KKN	**Kakani**	**28.84**	**338**	*e*P	**P**	**02 27 22.5**	**+0.3**
	comp=Z,199nm,1.0s,mb5.8						
KKN	**Kakani**	**28.84**	**338**	*e*P	**P**	**02 27 22.5**	**+0.3**
KKN				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.5						
LSA	**Lhasa**	**28.95**	**349**	P	**P**	**02 27 24.7**	**+1.6**
LSA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
LSA	**Lhasa**	**28.95**	**349**	*e*P	**P**	**02 27 24.2**	**+1.1**
LSA				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.3						
LSA				MLR	MLR		
	comp=Z,861nm,20.0s,MS4.4						
LSA	**Lhasa**	**28.95**	**349**	*e*P	**P**	**02 27 24.2**	**+1.1**
	comp=Z,53nm,0.9s,mb5.3						
LSA				LR	LR		
	comp=Z,861nm,20.0s,MS4.4						
BHPL	**Bhopal**	**29.18**	**320**	*e*P	**P**	**02 27 27.4**	**+2.0**
BHPL				*e*	pP	02 27 33.8	+1.1
	comp=Z,22nm,0.9s						
GKN	**Gorkha**	**29.28**	**337**	*e*P	**P**	**02 27 26.5**	**+0.3**
	comp=Z,154nm,0.9s,mb5.7						
KOLN	**Koldanda**	**29.50**	**335**	*e*P	**P**	**02 27 28.2**	**0.0**
	comp=Z,136nm,0.9s,mb5.7						
CD2	**Chengdu**	**30.19**	**11**	P	**P**	**02 27 33.1**	**-1.2**
CD2				S	**S**	**02 32 28.6**	**-2.2**
CD2				XS		02 32 41.9	
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3						
CD2				LR	LR		
	comp=N,4μm,14.2s						
CD2				LR	LR		
	comp=Z,5μm,15.0s,MS5.2						
ENH	**Enshi**	**31.16**	**21**	*e*P	**P**	**02 27 41.0**	**-1.9**
	comp=Z,129nm,0.9s,mb5.8						
ENH				*e*pP	pP	02 27 48.3	-1.9
ENH				LR	LR		
	comp=Z,1μm,21.0s,MS4.5						
MBWA	**Marble Bar**	**31.24**	**137**	*e*P	**P**	**02 27 44.1**	**+0.5**
QZH	**Quanzhou**	**31.34**	**39⇑**	*i*P	**P**	**02 27 44.3**	**-0.1**
QZH				S	**S**	**02 32 53.0**	**+4.2**
QZH				AMB	AMB		
	comp=Z,140nm,1.2s,mb5.7						
QZH				AMB	AMB		
	comp=Z,430nm,5.1s						
QZH				LR	LR		
	comp=N,4μm,14.5s,MS5.2						
QZH				LR	LR		
	comp=E,2μm,17.6s,MS5.2						
QZH				LR	LR		
	comp=Z,5μm,14.6s,MS5.3						
LGTI	**Lohaghat**	**32.45**	**332**	*e*P	**P**	**02 27 54.5**	**+0.4**
LGTI				*e*		02 28 18.8	
YHNB	**Yeheng**	**32.98**	**43**	*e*P	**P**	**02 27 59.0**	**+0.2**
NDI	**New Delhi**	**33.38**	**327**	*e*P	**P**	**02 28 01.5**	**-0.7**
NDI				*e*S	**S**	**02 33 20.0**	**-0.7**
WHN	**Wuhan**	**33.39**	**27**	||P	**P**	**02 28 02.3**	**0.0**
WHN				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.5						
WHN				LR	LR		
	comp=Z,4μm,14.7s,MS5.2						
FITZ	**Fitzroy Crossi**	**33.86**	**126**	*e*P	**P**	**02 28 04.7**	**-1.8**
	comp=Z,10nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.86**	**126**	P	**P**	**02 28 04.6**	**-1.9**
	comp=Z,8.6nm,0.5s,mb4.9,baz=316,slow=3.8,SNR=32						
DDI	**Dehra Dun**	**34.24**	**330**	*e*P	**P**	**02 28 10.1**	**+0.4**
XAN	**Xi'an**	**34.45**	**17**	P	**P**	**02 28 10.0**	**-1.4**
XAN				AP	pP	02 28 16.6	-2.2
XAN				PP	PP	02 29 30.4	+2.9
XAN				S	**S**	**02 33 36.8**	**-0.4**
XAN				SS	SS	02 35 53.5	+5.0
XAN				AMB	AMB		
	comp=Z,96nm,0.9s,mb5.7						
XAN				LR	LR		
	comp=N,1μm,16.3s,MS4.9						
XAN				LR	LR		
	comp=E,1μm,15.9s,MS4.9						
XAN				LR	LR		
	comp=Z,3μm,16.8s,MS5.0						
LZH	**Lanzhou**	**35.26**	**9**	*e*P	**P**	**02 28 18.2**	**-0.1**
LZH				AP	pP	02 28 25.5	-0.2
LZH				XP	sP	02 28 27.5	-1.3
LZH				S	**S**	**02 33 50.7**	**+1.1**
LZH				XS		02 34 03.0	
LZH				SS	SS	02 36 10.0	+3.0
LZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.6						
LZH				AMB	AMB		
	comp=Z,550nm,4.0s						
LZH				LR	LR		
	comp=E,4μm,15.5s						
LZH				LR	LR		
	comp=Z,5μm,17.4s,MS5.3						
LZH	**Lanzhou**	**35.26**	**9**	*e*P	**P**	**02 28 18.2**	**-0.1**
LZH				*SP	sP	02 28 27.5	-1.3
LZH						02 29 44.3	
LZH				S	**S**	**02 33 50.7**	**+1.1**
LZH				*SS		02 34 03.0	
LZH				SS	SS	02 36 10.0	+3.0
LZH				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.6						
LZH				MLR	MLR		
	comp=Z,5μm,17.4s,MS5.3						
LZH	**Lanzhou**	**35.26**	**9**	*e*P	**P**	**02 28 18.2**	**-0.1**
	comp=Z,80nm,1.0s,mb5.6						
LZH				pP	pP	02 28 25.5	-0.2
LZH				sP	sP	02 28 27.5	-1.3
LZH				PP	PP	02 29 44.3	+6.6
LZH				S	**S**	**02 33 50.7**	**+1.1**
LZH				sS		02 34 03.0	
LZH				SS	SS	02 36 10.0	+3.0
LZH				LR	LR		
	comp=Z,5μm,17.4s,MS5.3						
SMLA	**Simla**	**35.34**	**329⇑**	*i*	**P**	**02 28 09.2**	**-10**
SDNR	**Sundarnagar**	**35.74**	**330**	*e*P	**P**	**02 28 23.0**	**+0.6**
NJ2	**Nanjing**	**36.84**	**31**	*e*P	**P**	**02 28 30.6**	**-1.1**
NJ2				AP	pP	02 28 40.6	+1.5
NJ2				XP	sP	02 28 44.6	+2.4
NJ2				PP	PP	02 29 55.1	-2.4
NJ2				S	**S**	**02 34 10.0**	**-4.0**
NJ2				XS		02 34 26.0	
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,420nm,4.2s						
NJ2				LR	LR		
	comp=N,3μm,15.1s,MS5.4						
NJ2				LR	LR		
	comp=E,3μm,13.0s,MS5.4						
NJ2				LR	LR		
	comp=Z,6μm,14.0s,MS5.6						
THN	**Thein Dam**	**37.12**	**329**	*e*P	**P**	**02 28 34.2**	**+0.1**
SSE	**Sheshan**	**37.38**	**35**	P	**P**	**02 28 36.6**	**+0.4**
SSE				XP	sP	02 28 49.2	+2.4
SSE				PP	PP	02 30 02.9	-1.3
SSE				PCP	PcP	02 30 53.8	-1.6
SSE				S	**S**	**02 34 24.6**	**+2.3**
SSE				XS		02 34 37.8	
SSE				AMB	AMB		
	comp=Z,51nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,167nm,4.1s						
SSE				LR	LR		
	comp=N,1μm,14.3s,MS4.9						
SSE				LR	LR		
	comp=E,906nm,14.3s,MS4.9						
SSE				LR	LR		
	comp=Z,2μm,14.7s,MS5.0						
SSE	**Sheshan**	**37.38**	**35**	P	**P**	**02 28 36.6**	**+0.4**
	comp=Z,51nm,0.8s,mb5.4						
SSE				sP	sP	02 28 49.2	+2.4
SSE				PP	PP	02 30 02.9	-1.3
SSE				PcP	PcP	02 30 53.8	-1.6
SSE				S	**S**	**02 34 24.6**	**+2.3**
SSE				sS		02 34 37.8	
SSE				SS	SS	02 37 07.6	+13
SSE				LR	LR		
	comp=Z,2μm,14.7s,MS5.0						
GTA	**Gaotai**	**38.11**	**3⇑**	P	**P**	**02 28 42.7**	**+0.4**
GTA				AP	pP	02 28 52.5	+2.8
GTA				XP	sP	02 28 56.0	+3.2
GTA				PP	PP	02 30 14.5	+1.6
GTA				PPP	PPP	02 30 36.2	+1.2
GTA				PCP	PcP	02 30 57.9	+0.4
GTA				S	**S**	**02 34 34.2**	**+0.8**
GTA				SCP		02 34 44.9	
GTA				PCS		02 34 49.4	
GTA				XS		02 34 50.6	
GTA				SS	SS	02 37 13.5	+2.0
GTA				SCS	ScS	02 38 50.6	+0.2
GTA				AMB	AMB		
	comp=Z,87nm,0.8s,mb5.5						
GTA				AMB	AMB		
	comp=Z,347nm,8.0s						
GTA				LR	LR		
	comp=N,1μm,15.2s,MS4.9						
GTA				LR	LR		
	comp=E,849nm,16.3s,MS4.9						
GTA				LR	LR		
	comp=Z,1μm,18.6s,MS4.8						
JOW	**Kunigami**	**39.20**	**47**	P	**P**	**02 28 50.8**	**-0.8**
	comp=Z,48nm,0.8s,mb5.3,baz=271,slow=11,SNR=9.7						
BTO	**Baotou**	**40.91**	**15**	*e*P	**P**	**02 29 04.7**	**-0.7**
BTO				S	**S**	**02 35 09.3**	**-6.0**
HHC	**Hu-ho-hao-te**	**41.55**	**16**	*e*P	**P**	**02 29 07.0**	**-3.8**
HHC				AP	pP	02 29 15.2	-3.0
HHC				PCP	PcP	02 31 04.1	-4.4
HHC				PCS		02 34 56.2	
HHC				S	**S**	**02 35 19.3**	**-5.6**
HHC				SCS	ScS	02 39 06.1	-4.5
HHC				AMB	AMB		
	comp=Z,289nm,6.7s						
HHC				LR	LR		
	comp=N,2μm,16.3s,MS5.1						
HHC				LR	LR		
	comp=E,1μm,15.7s,MS5.1						
HHC				LR	LR		
	comp=Z,2μm,17.1s,MS5.0						
WRA	**Warramunga Arr**	**41.97**	**122**	P	**P**	**02 29 14.0**	**-0.5**
	comp=Z,14nm,0.5s,mb4.8,baz=301,slow=9.1,SNR=68						
WRAB	**Tennant Creek**	**41.97**	**122**	*e*P	**P**	**02 29 14.0**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**41.97**	**122**	*e*P	**P**	**02 29 14.0**	**-0.5**
	comp=Z,23nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**41.98**	**122⇑**	*i*P	**P**	**02 29 14.0**	**-0.5**
BJT	**Baijiatuau**	**42.30**	**22**	*e*P	**P**	**02 29 17.5**	**+0.5**
BJT				pmax	pmax		
	comp=Z,65nm,0.8s						
BJT				MLR	MLR		
	comp=Z,768nm,21.0s						
BJT	**Baijiatuau**	**42.30**	**22**	*e*P	**P**	**02 29 17.5**	**+0.6**
	comp=Z,65nm,0.8s,mb5.3						
BJT				LR	LR		
	comp=Z,768nm,21.0s,MS4.6						
BJI	**Beijing**	**42.32**	**22**	P	**P**	**02 29 17.6**	**+0.5**
BJI				AP	pP	02 29 25.8	+1.2
BJI				XP	sP	02 29 30.5	+2.8
BJI				AMB	AMB		
	comp=Z,85nm,0.9s,mb5.4						
BJI				AMB	AMB		
	comp=Z,548nm,3.7s						
BJI				LR	LR		
	comp=N,763nm,13.7s,MS5.0						
BJI				LR	LR		
	comp=E,1μm,15.4s,MS5.0						
BJI				LR	LR		
	comp=Z,558nm,19.9s,MS4.5						
BJI	**Beijing**	**42.32**	**22**	P	**P**	**02 29 17.6**	**+0.5**
	comp=Z,85nm,0.9s,mb5.4						
BJI				pP	pP	02 29 25.8	+1.2
BJI				sP	sP	02 29 30.5	+2.8
BJI				S	**S**	**02 35 46.1**	**+10**
BJI				sS		02 36 04.4	
BJI				SS	SS	02 39 08.1	+29
BJI				LR	LR		
	comp=Z,560nm,19.9s,MS4.5						
KSH	**Kashi**	**42.81**	**336**	*e*P	**P**	**02 29 21.6**	**+0.5**
KSH				*e*AP	pP	02 29 29.1	+0.5
KSH				*e*XP	sP	02 29 32.1	+0.4
KSH				*e*PP	PP	02 31 03.5	+0.5
KSH				*e*PCP	PcP	02 31 13.1	+0.4
KSH				*e*PPP	PPP	02 31 37.1	-0.1
KSH				*e*SCP		02 35 01.1	
KSH				*e*PCS		02 35 04.0	
KSH				*e*S	**S**	**02 35 43.8**	**+0.3**
KSH				*e*XS		02 35 56.1	
KSH				*e*SS	SS	02 38 48.6	-0.1
KSH				*e*SCS	ScS	02 39 18.6	+0.4
KSH				AMB	AMB		
	comp=Z,710nm,4.3s						
KSH				LR	LR		
	comp=N,780nm,5.5s						
KSH				LR	LR		
	comp=E,980nm,5.7s						
FORT	**Forrest**	**43.22**	**140**	*e*P	**P**	**02 29 25.9**	**+1.3**
	comp=E,681nm,0.8s						
WMQ	**Urumqi**	**43.30**	**350**	⇑P	**P**	**02 29 25.0**	**0.0**
WMQ				AP	pP	02 29 32.5	0.0
WMQ				XP	sP	02 29 36.0	+0.5
WMQ				PP	PP	02 31 08.0	+0.2
WMQ				PCP	PcP	02 31 14.5	+0.2
WMQ				PPP	PPP	02 31 43.2	-0.2
WMQ				SCP		02 35 03.0	
WMQ				S	**S**	**02 35 50.0**	**-0.5**
WMQ				XS		02 36 02.0	
WMQ				AMB	AMB		
	comp=Z,78nm,1.1s,mb5.3						
WMQ				LR	LR		
	comp=N,593nm,15.5s,MS4.8						
WMQ				LR	LR		
	comp=E,688nm,16.4s,MS4.8						
WMQ				LR	LR		
	comp=Z,417nm,21.4s						
ASPA	**Alice Springs**	**43.33**	**127**	*e*P	**P**	**02 29 25.7**	**+0.2**
ASAR	**Alice Springs**	**43.33**	**127**	P	**P**	**02 29 25.1**	**-0.4**
	comp=Z,16nm,1.2

comp=N,520nm,16.9s,MS4.7
DL2 LR LR
comp=E,520nm,15.3s,MS4.7
DL2 LR LR
comp=Z,560nm,18.5s,MS4.5
KZA Kyzart 45.27 337 P **P** **02 29 41.9 +0.9**
SNR=11
UCH Uchtor 45.69 336 P **P** **02 29 45.3 +1.0**
SNR=42
TKM2 Tokmak 2 45.86 338 P **P** **02 29 46.5 +0.9**
SNR=22
KBK Karagaybulak 45.88 337 P **P** **02 29 47.1 +1.3**
SNR=18
AML Almayashu 45.94 336 P **P** **02 29 46.9 +0.7**
SNR=26
AAK Ala-Archa 46.04 337 P **P** **02 29 48.2 +1.2**
SNR=9.6
AAK Ala-Archa 46.04 337 *i* P **P** **02 29 47.2 +0.2**
AAK pmax pmax
comp=Z,23nm,1.5s,mb4.9
AAK Ala-Archa 46.04 337 *e*P **P** **02 29 46.3 -0.7**
comp=Z,44nm,1.3s,mb5.2
AAK LR LR
comp=Z,200nm,19.0s,MS4.1
FRU Bishkek 46.16 337 *e*P **P** **02 29 49.0 +1.0**
FRU *e* 02 30 02.5
CHMS Chumysh 46.25 337 P **P** **02 29 49.1 +0.5**
SNR=8.5
EKS2 Erkin-Say 46.35 336 P **P** **02 29 50.3 +0.9**
SNR=28
USP Ospenovka 46.57 337 P **P** **02 29 51.3 +0.1**
SNR=50
SNY Shenyang 46.88 27⇑ *i*P **P** **02 29 52.9 -0.8**
SNY AMB AMB
comp=Z,50nm,1.3s,mb5.3
SNY LR LR
comp=N,1µm,17.1s,MS5.2
SNY LR LR
comp=E,1µm,13.1s,MS5.2
SNY LR LR
comp=Z,2µm,16.3s,MS5.1
SONM Songino Array 47.13 8 P **P** **02 29 55.6 +0.1**
comp=Z,28nm,0.9s,mb5.2,baz=191,slow=7.5,SNR=141
SONM PcP PcP 02 31 27.2 -0.3
comp=Z,9.4nm,0.9s,baz=164,slow=4.4,SNR=5.2
SONM LR LR 02 52 29.9
comp=Z,3µm,18.4s,MS5.2,baz=85,slow=40
ULN Ulaanbaatar 47.26 9 *e*P **P** **02 29 56.7 +0.1**
ULN *e* 02 31 27.9
ULN pmax pmax
comp=Z,27nm,0.9s,mb5.2
ULN MLR MLR
comp=Z,2µm,22.0s,MS5.0
ULN Ulaanbaatar 47.26 9 *e*P **P** **02 29 56.7 +0.1**
comp=Z,27nm,0.9s,mb5.2
ULN *e*PcP PcP 02 31 27.9 -0.1
ULN LR LR
comp=Z,2µm,22.0s,MS5.0
MKAR Makanchi Array 47.27 346 *i* P **P** **02 29 56.1 -0.6**
MKAR pmax pmax
comp=Z,48nm,1.0s
MKAR Makanchi Array 47.27 346 P **P** **02 29 56.1 -0.6**
comp=Z,31nm,0.8s,mb5.3,baz=158,slow=7.7,SNR=148
MKAR LR LR 02 53 57.3
comp=Z,419nm,20.9s,MS4.4,baz=160,slow=41
ZAK Zakamensk 49.28 5 *e*P **P** **02 30 12.0 -0.2**
ZAK pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
CN2 Changchun 49.28 27 *e*P **P** **02 30 11.7 -0.6**
CN2 *e*XP sP 02 30 22.7 -0.2
CN2 PCP PcP 02 31 37.2 +1.9
CN2 *e*S **S** **02 37 18.5 +2.7**
CN2 AMB AMB
comp=Z,70nm,0.9s,mb5.7
CN2 AMB AMB
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,2µm,14.0s,MS5.3
CN2 LR LR
comp=E,1µm,14.0s,MS5.3
CN2 LR LR
comp=Z,2µm,14.0s,MS5.3
CBIJ Chichi jima 50.17 55 LR LR 02 50 17.9
comp=Z,121nm,21.6s,MS3.9,baz=113,slow=35
MOY Mondy 50.40 3 *e*P **P** **02 30 21.5 +0.7**
MOY pmax pmax
comp=Z,31nm,2.2s,mb5.0
TLY Talaya 50.60 5 *e*P **P** **02 30 22.4 +0.1**
TLY *e*S **S** **02 37 47.0 +13**
TLY pmax pmax
comp=Z,17nm,1.0s,mb4.9
TLY MLR MLR
comp=Z,1µm,18.0s,MS5.0
IRK Irkutsk 51.21 6 *e*P **P** **02 30 26.6 -0.4**
IRK *e* 02 32 16.7
IRK pmax pmax
comp=Z,50nm,1.5s,mb5.2
HIA Hailar 51.63 19 *e*P **P** **02 30 29.8 -0.3**
HIA pmax pmax
comp=Z,42nm,0.8s
HIA MLR MLR
comp=Z,974nm,20.0s
HIA Hailar 51.63 19 *e*P **P** **02 30 29.8 -0.3**
comp=Z,42nm,0.8s,mb5.4
HIA LR LR
comp=Z,974nm,20.0s,MS4.8
MAJO Matsushiro 51.65 42 PFAKE 02 30 40.0 +10
MAJO LR LR
comp=Z,488nm,20.0s,MS4.5
MAT Matsushiro 51.65 42 *e*P **P** **02 30 30.0 -0.5**
MAT pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MAT MLR MLR
comp=Z,350nm,20.0s,MS4.4
MAT Matsushiro 51.65 42 *e*P **P** **02 30 30.0 -0.5**
comp=Z,9.7nm,0.8s,mb4.8
MAT LR LR
comp=Z,350nm,20.0s,MS4.4
MAT Matsushiro 51.65 42 P **P** **02 30 29.8 -0.7**
MJAR Matsushiro Arr 51.65 42 P **P** **02 30 29.9 -0.6**
comp=Z,6.4nm,0.6s,mb4.7,baz=222,slow=5.7,SNR=14
MJAR PcP PcP 02 31 44.1 0.0
comp=Z,1.0nm,0.3s,baz=240,slow=2.7,SNR=4.5
MJAR LR LR 02 52 36.6
comp=Z,394nm,21.4s,MS4.4,baz=240,slow=36
MDJ Mudanjiang 51.84 29 P **P** **02 30 32.2 +0.4**
MDJ AP pP 02 30 38.0 -1.4
MDJ XP sP 02 30 40.4 -2.0
MDJ PP PP 02 32 29.7 -0.7
MDJ S **S** **02 37 54.2 +3.0**
MDJ AMB AMB
comp=Z,34nm,0.9s,mb5.3
MDJ AMB AMB
comp=Z,477nm,3.4s
MDJ LR LR
comp=N,473nm,19.3s,MS4.6
MDJ LR LR
comp=E,277nm,17.2s,MS4.6
MDJ LR LR
comp=Z,840nm,19.3s,MS4.8
MDJ Mudanjiang 51.84 29 *e*P **P** **02 30 32.2 +0.4**
comp=Z,28nm,0.8s,mb5.2
MDJ LR LR
comp=Z,865nm,20.0s,MS4.8
CTA Charters Tower 52.43 117 LR LR 02 57 11.3
comp=Z,735nm,19.1s,MS4.7,baz=265,slow=41
CTAO Charters Tower 52.43 117 PFAKE 02 30 50.0 +13
CTAO LR LR
comp=Z,830nm,19.0s,MS4.8
OPO Ambohidratompo 52.99 246 P **P** **02 30 40.8 +0.1**
comp=Z,14nm,1.1s,mb4.8,baz=74,slow=9.5,SNR=6.2
STKA Stephens Creek 53.29 132 *e*P **P** **02 30 43.0 +0.1**
comp=Z,8.9nm,0.7s,mb4.8
STKA Stephens Creek 53.29 132 P **P** **02 30 43.1 +0.3**
comp=Z,7.9nm,0.5s,mb4.9,baz=314,slow=7.3,SNR=27
STKA LR LR 02 55 47.3
comp=Z,1µm,21.8s,MS4.8,baz=277,slow=39
ZAL Zalesovo 53.57 351 P **P** **02 30 44.2 -0.3**
comp=Z,31nm,0.8s,mb5.3,baz=299,slow=6.1,SNR=138
ZAL LR LR 02 59 29.4
comp=Z,514nm,18.5s,MS4.6,baz=297,slow=43
ATD Arta Tunnel 54.96 283 P **P** **02 30 55.0 -0.3**
comp=Z,2.4nm,0.4s,mb4.6,baz=254,slow=22,SNR=4.0
ATD Arta Tunnel 54.96 283 P **P** **02 30 55.0 -0.4**
KLR Kul'dur 56.23 27 *e*P **P** **02 31 01.0 -3.0**
KLR *e*S **S** **02 38 56.5 +6.2**
KLR pmax pmax
comp=N,34nm,1.2s
KLR pmax pmax
comp=E,43nm,1.2s
KLR pmax pmax
comp=Z,66nm,1.2s,mb5.5
KLR MLR MLR
comp=E,1µm,12.5s
KLR MLR MLR
comp=Z,3µm,12.5s,MS5.5
BVA0 Borovoye Array 56.28 341 P **P** **02 31 02.3 -2.0**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BVAR Borovoye Array 56.28 341 P **P** **02 31 02.3 -2.0**
comp=Z,22nm,0.8s,mb5.2,baz=143,slow=7.4,SNR=83
CHKZ Chkalovo 56.76 341 *e*P **P** **02 31 05.9 -1.8**
CHKZ pmax pmax
comp=Z,62nm,1.0s,mb5.6
CHKZ Chkalovo 56.76 341 *e*P **P** **02 31 05.9 -1.8**
comp=Z,62nm,1.0s,mb5.6
BOD Bodaibo 58.01 10 *e*P **P** **02 31 15.5 -0.9**
BOD pmax pmax
comp=Z,46nm,1.0s,mb5.5
BHD Baghdad 58.90 309 *e*P **P** **02 31 17.0 -6.0**
CLNS Chul'man 59.73 17 *e*P **P** **02 31 28.0 -0.4**
CLNS *e**PP pP 02 31 34.5 -1.7
CLNS *e* 02 32 17.5
CLNS *e*S **S** **02 39 27.6 -8.5**
CLNS *e* 02 41 06.9
CLNS pmax pmax
comp=Z,38nm,0.7s,mb5.5
CLNS pmax pmax
comp=N,27nm,0.9s
CLNS pmax pmax
comp=E,20nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=N,126nm,12.3s
CLNS smax
comp=Z,74nm,11.5s
CLNS smax
comp=E,48nm,12.6s
CLNS MLR MLR
comp=Z,2µm,16.0s,MS5.2
CLNS MLR MLR
comp=N,1µm,19.0s,MS5.1
CLNS MLR MLR
comp=E,300nm,15.0s,MS5.1
KMBO Kilima Mbogo 60.06 268 *e*P **P** **02 31 32.0 +0.7**
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KMBO MLR MLR
comp=Z,437nm,20.0s
KMBO Kilima Mbogo 60.06 268 P **P** **02 31 31.5 +0.2**
comp=Z,1.1nm,0.8s,baz=48,slow=15,SNR=4.2
KMBO LR LR 02 56 07.4
comp=Z,383nm,18.5s,baz=101,slow=35
KMBO Kilima Mbogo 60.06 268 *e*P **P** **02 31 32.0 +0.7**
comp=Z,3.7nm,1.0s,mb4.4
KMBO LR LR
comp=Z,437nm,20.0s,MS4.6
YSS Yuzh-Sakhalins 60.32 34 *e*P **P** **02 31 31.5 -1.1**
comp=Z,64nm,1.1s,mb5.6
YSS *e*pP pP 02 31 39.6 -0.7
YSS LR LR
comp=Z,368nm,22.0s,MS4.5
GNI Garni 61.35 316 P **P** **02 31 39.4 -0.3**
comp=Z,14nm,1.0s,mb5.1,baz=164,slow=13,SNR=5.2
GNI Garni 61.35 316 *e*P **P** **02 31 39.4 -0.4**
comp=Z,28nm,1.1s,mb5.3
GNI LR LR
comp=Z,230nm,20.0s,MS4.3
MTA Mtatsminda 61.99 318 P **P** **02 31 42.8 -1.2**
TI2 Plekhanov 62.03 318 *i* P **P** **02 31 43.2 -1.1**
TI2 pmax pmax
comp=Z,20nm,0.8s,mb5.3
SVE Sverdlovsk 62.73 338⇓ *i*P **P** **02 31 47.9 -0.8**
SVE pmax pmax
comp=Z,53nm,1.3s,mb5.5
ARU Arti 63.22 337⇓ *i*P **P** **02 31 50.7 -1.2**
ARU *e* 02 32 22.2
ARU *e* 02 34 10.8
ARU *e*S **S** **02 40 21.5 +1.1**
ARU pmax pmax
comp=Z,26nm,1.0s,mb5.3
ARU Arti 63.22 337 PFAKE 02 32 00.0 +8.1
ARU LR LR
comp=Z,163nm,22.0s,MS4.2
KIV Kislovodsk 64.36 319 *i* P **P** **02 31 58.5 -1.2**
KIV *e* 02 32 32.6
KIV *e*S **S** **02 40 35.5 +0.7**
KIV pmax pmax
comp=Z,25nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.0
KIV Kislovodsk 64.36 319 *e*P **P** **02 31 57.8 -1.9**
comp=Z,26nm,0.9s,mb5.3
KIV *e*pP pP 02 32 05.8 -1.7
KIV LR LR
comp=Z,67nm,19.0s,MS3.9
ASF Jabal al Asfar 64.53 305 P **P** **02 32 00.7 -0.3**
comp=Z,6.2nm,0.9s,mb4.6,baz=5.0,slow=4.6,SNR=6.8
ASF LR LR 03 01 30.8
comp=Z,390nm,18.8s,MS4.6,baz=336,slow=37
GOF Gofitskoye 64.62 320⇑ *i*P **P** **02 31 58.8 -2.5**
GOF pmax pmax
comp=Z,40nm,1.7s,mb5.2
MALT Malatya 65.19 312 *e*P **P** **02 32 04.5 -0.6**
MALT *e**PP pP 02 32 11.5 -1.4
MALT pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MALT Malatya 65.19 312 *e*P **P** **02 32 04.5 -0.6**
comp=Z,10.0nm,1.0s,mb4.8
MALT *e*pP pP 02 32 11.5 -1.3
YAK Yakutsk 65.41 16 *e*P **P** **02 32 04.9 -1.2**
comp=Z,91nm,0.9s,mb5.8
YAK LR LR
comp=Z,966nm,22.0s,MS5.0
EIL Elat 65.52 302 LR LR 03 01 09.5
comp=Z,444nm,18.3s,MS4.7,baz=301,slow=36
SOC Sochi 66.18 318 *e*P **P** **02 32 08.9 -2.4**
SOC *e* 02 32 45.6
SOC *e* 02 34 33.3
SOC *e*S S 02 40 54.1 -2.9
SOC *e* 02 41 59.8
SOC *e*SS SS 02 45 12.9 -1.5
SOC pmax pmax
comp=N,8.0nm,0.8s
SOC pmax pmax
comp=Z,14nm,0.8s,mb5.0
MBAR Mbarara 66.56 269 *i* P **P** **02 32 14.5 +0.3**
BRTR Keskin Array B 69.17 312 P **P** **02 32 28.0 -2.2**
comp=Z,4.2nm,0.8s,mb4.4,baz=121,slow=7.2,SNR=25
VRSR Storozhevoye 69.61 325 *e*P **P** **02 32 30.6 -2.0**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,6.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,0.9s
SIM Simferopol' 70.42 318 *de*P **P** **02 32 37.1 -0.6**
SIM pmax pmax
comp=Z,20nm,0.8s,mb5.1
MATP Matopo 70.59 248 P **P** **02 32 38.0 -1.1**
comp=Z,12nm,1.0s,mb4.8,baz=73,slow=6.7,SNR=13
MA2 Magadan 71.31 26 *ce*P **P** **02 32 42.7 -0.1**
MA2 *e*PPP PPP 02 36 57.3 -7.1
MA2 *e*S S 02 41 57.2 -0.4
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,460nm,22.0s,MS4.7
MA2 Magadan 71.31 26 *e*P **P** **02 32 42.5 -0.3**
comp=Z,21nm,0.8s,mb5.1
MA2 *e*pP pP 02 32 49.0 -1.6
MA2 LR LR
comp=Z,405nm,20.0s,MS4.7
PET Petropavlovsk 72.20 34 *e*P **P** **02 32 48.5 +0.2**
PET pmax pmax
comp=Z,57nm,0.7s,mb5.6
PET pmax pmax
comp=Z,100nm,15.7s
PET MLR MLR
comp=Z,400nm,16.0s,MS4.8
MOS Moscow 72.38 329 *e*P **P** **02 32 56.7 +7.4**
OBN Obninsk 72.67 328⇓ *i*P **P** **02 32 50.2 -0.8**
OBN *i* pP 02 32 58.1 -0.7
OBN *i* 02 33 06.8
OBN pmax pmax
comp=Z,22nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.4
MAW Mawson 72.72 193 LR LR 03 01 05.1
comp=Z,451nm,18.4s,MS4.8,baz=173,slow=33
SEY Seymchan 73.74 23 *e*P **P** **02 32 57.2 +0.1**
SEY pmax pmax
comp=N,50nm,1.0s
SEY pmax pmax
comp=E,20nm,1.0s
SEY pmax pmax
comp=Z,50nm,1.0s,mb5.4
LBTB Lobatse 73.95 244 PFAKE 02 33 10.0 +11
LBTB LR LR
comp=Z,485nm,22.0s,MS4.8
AKASG Malin Array Be 75.31 322 P **P** **02 33 04.3 -2.1**
comp=Z,7.4nm,0.8s,mb4.7,baz=89,slow=4.9,SNR=25
AKASG Malin Array Be 75.31 322 P **P** **02 33 04.3 -2.1**
LVV L'vov 78.32 321 *e*P **P** **02 33 22.7 -0.5**
KWP Kalwaria 79.13 320 *e*P **P** **02 33 27.7 +0.1**
RPZ Rata Peaks 79.15 135 LR LR 03 08 36.5
comp=Z,788nm,19.0s,MS5.1,baz=259,slow=36
KOLS Kolonicke sedl 79.27 320 *i* P **P** **02 33 29.3 +0.9**
KOLS *e*pP pP 02 33 37.8 +1.5
SUW Suwalki 79.73 325 *e*P **P** **02 33 29.8 -0.9**
CRVS Cervenica-Dubn 79.80 319 *i* P **P** **02 33 32.9 +1.7**
FINES FINESS Array B 80.04 332 P **P** **02 33 31.4 -0.9**
comp=Z,4.9nm,0.8s,mb4.5,baz=117,slow=8.5,SNR=14
FINES LR LR 03 15 52.5
comp=Z,158nm,21.0s,MS4.3,baz=147,slow=41
KAF Kangasniemi 80.13 333 *e*p **P** **02 33 30.1 -2.6**
comp=Z,4.8nm,0.8s,mb4.5,baz=105,slow=5.1
KAF Kangasniemi 80.13 333 *e*P **P** **02 33 30.1 -2.6**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TSUM Tsumeb 80.66 250 *e*P **P** **02 33 37.8 +1.4**
comp=Z,12nm,1.1s,mb4.7
TSUM *e*pP pP 02 33 44.5 +0.2
BILL Bilibino 81.15 21⇑ *i*P **P** **02 33 37.2 -0.8**
BILL *e* pP 02 33 43.9 -2.0
BILL pmax pmax
comp=Z,13nm,1.6s,mb4.6
BILL MLR MLR
comp=Z,300nm,23.0s,MS4.6
BILL Bilibino 81.15 21 *e*P **P** **02 33 37.0 -1.0**
comp=Z,7.2nm,0.9s,mb4.6
BILL *e*pP pP 02 33 43.8 -2.2
BILL LR LR
comp=Z,663nm,21.0s,MS5.0
VYHS Vyhne 81.45 319 *e*P **P** **02 33 38.7 -1.3**
VYHS *i* 02 33 51.7
KEV Kevo 82.14 341 *e*p **P** **02 33 41.5 -1.6**
comp=Z,0.3nm,0.3s
ZST Bratislava 82.56 318 *i* P **P** **02 33 46.2 +0.5**
ARCES ARCESS Array B 82.57 340 P **P** **02 33 44.8 -0.6**
comp=Z,9.6nm,1.0s,mb4.8,baz=104,slow=6.4,SNR=10
KOGS Kog 82.95 317 *e*P **P** **02 33 47.9 +0.1**
ARSA Arzberg 83.52 317⇓ *i*P **P** **02 33 51.4 +0.6**
comp=Z,9.3nm,1.1s,mb4.8
BOJS Bojanci 83.56 316 *e*P **P** **02 33 50.8 -0.2**
LJU Ljubljana 84.11 316 *e*P **P** **02 33 53.9 +0.2**
AQU L'Aquila 84.67 312 *e*P **P** **02 33 56.7 0.0**
comp=Z,13nm,0.8s,mb5.1
ROBS Robic 84.83 316 *e*P **P** **02 33 57.3 -0.1**
BRG Berggiesshubel 84.86 321 *e*P **P** **02 33 58.4 +1.0**
BRG *e* 02 34 12.5
BRG pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
BRG Berggiesshubel 84.86 321 *e*P **P** **02 33 58.4 +1.0**
comp=Z,9.6nm,1.2s,mb4.8
BRG *e* 02 34 12.5
GERES GERESS Array B 84.87 319 P **P** **02 33 57.9 +0.5**
comp=Z,6.1nm,0.9s,mb4.7,baz=104,slow=5.5,SNR=38
PTCC Patocco-Chiusa 84.94 316 *e*P **P** **02 33 58.3 +0.4**
KBA Koelnbreinsper 84.99 317⇑ *i*P **P** **02 33 58.6 +0.5**
comp=Z,6.7nm,1.4s,mb4.6
KBA Koelnbreinsper 84.99 317⇑ *i*P **P** **02 33 58.6 +0.5**
KBA pmax pmax
comp=Z,7.0nm,1.4s,mb4.6
ARV Arcevia 85.07 313 *e*P **P** **02 33 59.6 +1.0**
CLL Collm 85.49 321 *i* P **P** **02 34 00.8 +0.3**
CLL *i* 02 34 15.1
CLL pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CLL Collm 85.49 321 *i* P **P** **02 34 00.8 +0.3**
comp=Z,8.0nm,0.9s,mb4.8
CLL *i* 02 34 15.1
CLL Collm 85.49 321 P **P** **02 34 00.8 +0.3**
comp=Z,logA/T=0.9,mb4.8
CLL *i* 02 34 15.1
SFI Santa Sofia 85.88 314 *e*P **P** **02 34 04.1 +1.4**
WTTA Wattenberg 86.17 317⇑ *i*P **P** **02 34 04.3 +0.3**
comp=Z,7.7nm,0.7s,mb5.0
WTTA Wattenberg 86.17 317⇑ *i*P **P** **02 34 04.3 +0.3**
WTTA pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
MOX Moxa 86.33 320 *e*P **P** **02 34 04.7 0.0**
MOX pmax pmax
comp=Z,22nm,1.6s,mb5.1
MOX Moxa 86.33 320 *e*P **P** **02 34 04.7 0.0**
comp=Z,22nm,1.6s,mb5.1
MOX Moxa 86.33 320 *i* P **P** **02 34 04.7 0.0**
comp=Z,logA/T=1.1,mb5.1
GRA1 Grafenberg Arr 86.54 320 *e*P **P** **02 34 06.3 +0.5**
comp=Z,13nm,1.1s,mb5.1
GRF Grafenberg Arr 86.54 320 *e*P **P** **02 34 06.3 +0.5**
GRF pmax pmax
comp=Z,13nm,1.1s,mb5.1
GRF Grafenberg Arr 86.54 320 *e*P **P** **02 34 06.3 +0.5**
GRF pmax pmax
comp=Z,13nm,1.1s,mb5.1
GRF Grafenberg Arr 86.54 320 *e*P **P** **02 34 06.3 +0.5**
comp=Z,13nm,1.1s,mb5.1
NB2 NORSAR Subarra 87.05 331 P **P** **02 34 07.4 -0.6**
comp=Z,3.2nm,0.8s,mb4.6,baz=95,slow=4.8
NOA NORSAR Array B 87.05 331 P **P** **02 34 08.1 +0.1**
comp=Z,5.9nm,0.9s,mb4.8,baz=94,slow=4.9,SNR=13
NOA LR LR 03 18 59.1
comp=Z,231nm,20.9s,MS4.6,baz=75,slow=40
DAVOX Davos 87.35 317 P **P** **02 34 09.9 +0.2**
comp=Z,7.7nm,0.8s,mb5.0,baz=54,slow=8.7
DAVA Damuels 87.36 317⇑ *i*P **P** **02 34 10.3 +0.5**
comp=Z,10nm,1.0s,mb5.0
PGF Pioggiola 87.93 312 *e*P **P** **02 34 11.8 -0.8**
comp=Z,14nm,0.8s,mb4.9
PGF Pioggiola 87.93 312 *e*P **P** **02 34 11.8 -0.8**
PGF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
SBF Sospel 89.07 314 *e*P **P** **02 34 18.2 +0.1**
comp=Z,20nm,0.8s,mb5.2
SBF Sospel 89.07 314 *e*P **P** **02 34 18.2 +0.1**
SBF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
CDF Champ du Feu 89.12 318 *e*P **P** **02 34 18.1 -0.1**
comp=Z,16nm,1.2s,mb4.9
CDF Champ du Feu 89.12 318 *e*P **P** **02 34 18.1 -0.1**
CDF pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
LPG La Plagne 89.53 315 *e*P **P** **02 34 20.7 +0.5**
comp=Z,13nm,0.9s,mb5.0
LPG La Plagne 89.53 315 *e*P **P** **02 34 20.7 +0.5**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
MBDF Montbardon 89.53 315 *e*P **P** **02 34 19.8 -0.4**
comp=Z,14nm,1.0s,mb4.9
MBDF Montbardon 89.53 315 *e*P **P** **02 34 19.8 -0.4**
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
LPL La Plagne 89.54 315 *e*P **P** **02 34 20.7 +0.4**
comp=Z,17nm,0.9s,mb5.1
LPL La Plagne 89.54 315 *e*P **P** **02 34 20.7 +0.4**
LPL pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
FRF La Foret Royal 89.64 313 *e*P **P** **02 34 20.1 -0.7**
comp=Z,20nm,1.0s,mb5.1
FRF La Foret Royal 89.64 313 *e*P **P** **02 34 20.1 -0.7**
FRF pmax pmax

comp=Z,10.0nm,1.0s,mb5.1
HAU Haudompre 89.75 318 *e*P **P 02 34 21.0 -0.1**
comp=Z,26nm,1.1s,mb5.2
HAU *e*R
comp=Z,254nm,17.5s
HAU Haudompre 89.75 318 *e*P **P 02 34 21.0 -0.1**
HAU pmax pmax
comp=Z,13nm,1.1s,mb5.2
HAU MLR MLR
comp=Z,250nm,17.5s,MS4.7
CABF La Chapelle 89.96 316 *e*P **P 02 34 22.8 +0.6**
comp=Z,28nm,1.1s,mb5.2
CABF La Chapelle 89.96 316 *e*P **P 02 34 22.8 +0.6**
CABF pmax pmax
comp=Z,14nm,1.1s,mb5.2
ORIF Oris-en-Rattie 90.16 315 *e*P **P 02 34 23.7 +0.6**
comp=Z,12nm,1.0s,mb4.9
ORIF *e*R
comp=Z,325nm,18.5s
MEZF Maizieres J'vi 90.60 318 *e*P **P 02 34 25.4 +0.3**
GIVF Givet 90.67 320 *e*P **P 02 34 25.8 +0.4**
VIVF Saint-Julien-l 91.02 315 *e*P **P 02 34 27.5 +0.4**
comp=Z,12nm,0.9s,mb4.9
VIVF Saint-Julien-l 91.02 315 *e*P **P 02 34 27.5 +0.4**
VIVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
BAIF Baives 91.07 320 *e*P **P 02 34 27.9 +0.7**
comp=Z,36nm,0.9s,mb5.4
BAIF Baives 91.07 320 *e*P **P 02 34 27.9 +0.7**
BAIF pmax pmax
comp=Z,18nm,0.9s,mb5.4
SMF Signal de Mont 91.51 317 *e*P **P 02 34 29.5 +0.2**
comp=Z,30nm,1.0s,mb5.3
SMF Signal de Mont 91.51 317 *e*P **P 02 34 29.5 +0.2**
SMF pmax pmax
comp=Z,15nm,1.0s,mb5.3
SSF Saint Saulge 91.71 317 *e*P **P 02 34 30.8 +0.6**
SSF pmax pmax
comp=Z,17nm,1.2s,mb5.2
SSF Saint Saulge 91.71 317 *e*P **P 02 34 30.8 +0.6**
comp=Z,17nm,1.2s,mb5.2
AVF Avril sur Loir 91.83 317 *e*P **P 02 34 31.1 +0.3**
comp=Z,27nm,1.0s,mb5.2
AVF Avril sur Loir 91.83 317 *e*P **P 02 34 31.1 +0.3**
AVF pmax pmax
comp=Z,13nm,1.0s,mb5.2
BGF Bois d'Agland 92.20 316 *e*P **P 02 34 33.3 +0.8**
comp=Z,29nm,1.0s,mb5.3
BGF Bois d'Agland 92.20 316 *e*P **P 02 34 33.3 +0.8**
BGF pmax pmax
comp=Z,15nm,1.0s,mb5.3
TCF Toulx Ste Croi 92.66 316 *e*P **P 02 34 35.2 +0.6**
MTLF Montolieu 92.88 313 *e*P **P 02 34 36.3 +0.6**
comp=Z,30nm,1.2s,mb5.3
MTLF Montolieu 92.88 313 *e*P **P 02 34 36.3 +0.6**
MTLF pmax pmax
comp=Z,15nm,1.2s,mb5.3
DAG Danmarks Havn 94.62 348⇑ *e*P **P 02 34 42.9 -0.1**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
DAG Danmarks Havn 94.62 348⇑ *e*P **P 02 34 42.9 -0.1**
comp=Z,2.7nm,0.7s,mb4.8
DAG Danmarks Havn 94.62 348⇑ *i*P **P 02 34 42.9 -0.1**
comp=Z,2.7nm,0.7s,mb4.8
IMA Indian Mountai 96.56 23 *e*P **P 02 34 53.2 +1.2**
IMA *e**PP pP 02 35 00.3 +0.3
IMA pmax pmax
comp=Z,77nm,1.4s,mb5.9
IMA Indian Mountai 96.56 23 *e*P **P 02 34 53.2 +1.1**
comp=Z,77nm,1.4s,mb5.9
IMA *e*pP pP 02 35 00.3 +0.3
ILAR Eielson Array 99.68 23 P **P 02 35 05.8 -0.4**
comp=Z,0.7nm,0.9s,mb4.1,baz=266,slow=5.2,SNR=6.3
ILAR PP PP 02 39 06.3 -6.5
comp=Z,1.1nm,0.9s,baz=288,slow=7.2,SNR=5.5
TBI Tubuai 111.78 115 *e*LR LR 03 13 19.4
comp=Z,276nm,24.2s
YKA Yellowknife Ar 112.08 15 PKiKP 02 39 58.0
comp=Z,0.5nm,1.0s,baz=338,slow=2.7,SNR=5.2
YKA PP PP 02 40 36.8 -8.3
comp=Z,1.0nm,0.8s,baz=331,slow=7.4,SNR=9.5
YKA Yellowknife Ar 112.08 15 PKPdf PKPdf 02 39 58.0 -3.0
YKA PP PP 02 40 36.8 -8.3
PPT Papeete 112.40 108 *e*LR LR 03 13 36.8
comp=Z,242nm,24.5s
RKT Rikitea 124.86 117 *e*LR LR 03 19 22.8
comp=Z,287nm,25.5s
ULM Lac du Bonnet 127.53 11 PKP PKPdf 02 40 26.8 -4.5
comp=Z,3.8nm,0.9s,baz=341,slow=4.6,SNR=6.6
ULM Lac du Bonnet 127.53 11 PKP PKPdf 02 40 26.8 -4.6
LAO LASA Array 128.04 20 *e*PKPdf PKPdf 02 40 30.2 -2.2
LAO *ep*PKPdf 02 40 37.6
NVAR Mina Array Bea 128.75 36 PKP PKPdf 02 40 31.6 -2.5
comp=Z,1.4nm,0.7s,baz=287,slow=6.8,SNR=9.9
PDAR Pinedale Array 130.02 26 PKhKP 02 40 30.4
comp=Z,1.0nm,0.8s,baz=45,slow=2.1,SNR=6.7
PDAR PP PP 02 42 44.9 -3.2
comp=Z,1.9nm,1.2s,baz=315,slow=2.1,SNR=4.8
MSU Marysvale 132.09 31 *e*PKPdf PKPdf 02 40 39.4 -0.9
MSU *ep*PKPdf 02 40 47.6
ANMO Albuquerque 137.74 29 *i*PKIKP PKPdf 02 40 49.8 -1.1
GDL2 Guadalupe Moun 140.99 30 *e*PKPpre 02 40 47.2
WVT Waverly 142.57 7 *e*PKPdf PKPdf 02 40 55.4 -4.1
MIAR Mount Ida 143.03 15 *e*PKPpre 02 40 53.3
LTX Lajitas 143.64 32 *e*PKPpre 02 40 56.0
TXAR Lajitas Array 143.64 32 PKP PKPdf 02 40 55.8 -5.7
comp=Z,6.8nm,1.2s,baz=270,slow=2.5,SNR=18
PLAL Pickwick Lake 143.67 7 *e*PKPdf PKPdf 02 40 55.2 -6.2
JCT Junction City 144.56 26 *e*PKPdf PKPdf 02 40 58.6 -4.5
NATX Nacogdoches 145.33 18 *e*PKPdf PKPdf 02 41 01.3 -3.2
NATX *ep*PKPdf 02 41 09.1
LRAL Lakeview Retre 145.72 6 *e*PKPdf PKPdf 02 41 01.5 -3.6
LRAL *ep*PKPdf 02 41 09.2
NHSC New Hope 145.81 356 *e*PKPdf PKPdf 02 41 02.1 -3.0
NHSC *ep*PKPdf 02 41 09.8

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*IDC **07** 02:47:48.5±2.5, 1.02S×146.08E, mb3.8/5, mb1 4.1/6, mb1mx3.9/15, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=78.2km s-min=23.2km az=91.0*
*NEIC **07** 02:47:51.9±1.2, 1.04S×145.61E, h10km, mb4.3/1, Error ellipse: s-maj=31.0km s-min=11.1km az=85.0*
ISC 07 02:47:49.5±1.7, 1.0S±0.1×145.7E±0.3, h10km, n12, σ0§50/10, mb3.8/6, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**18.96**	**178**	P	**P**	**02 52 13.2**	**-0.3**
	0.2nm,0.3s,baz=351,slow=12,SNR=3.1						
WRAB	**Tennant Creek**	**21.83**	**210**	*e*P	**P**	**02 52 43.2**	**-0.8**
	9.8nm,0.8s,mb4.3						
WB2	**Warramunga Arr**	**21.84**	**210**	*e*P	**P**	**02 52 43.9**	**-0.2**
WRA	**Warramunga Arr**	**21.84**	**210**	P	**P**	**02 52 44.1**	**0.0**
	4.4nm,0.9s,mb3.9,baz=34,slow=11,SNR=16						
ASAR	**Alice Springs**	**25.25**	**206**	P	**P**	**02 53 18.5**	**+1.0**
	2.5nm,0.8s,mb3.8,baz=41,slow=7.8,SNR=34						
FITZ	**Fitzroy Crossi**	**26.00**	**228**	P	**P**	**02 53 25.1**	**+0.5**
	2.6nm,0.7s,mb3.9,baz=74,slow=2.6,SNR=5.4						
KKM	**Kota Kinabalu**	**30.24**	**284**	*e*P	**P**	**02 54 02.6**	**-0.4**
SONM	**Songino Array**	**59.44**	**330**	P	**P**	**02 57 54.8**	**0.0**
	0.3nm,0.6s,mb3.5,baz=131,slow=7.2,SNR=4.0						
PPT	**Papeete**	**65.66**	**109**	*e*LR	LR	02 59 16.8	
	362nm,26.5s						
TBI	**Tubuai**	**66.59**	**115**	*e*LR	LR	02 59 21.4	
	323nm,30.5s						
MKAR	**Makanchi Array**	**72.85**	**320**	P	**P**	**02 59 20.7**	**+0.1**
	0.3nm,0.6s,mb3.4,baz=104,slow=5.0,SNR=3.6						
MKAR	**Makanchi Array**	**72.85**	**320**	P	**P**	**02 59 20.7**	**+0.1**

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*CRAAG **07** 02:48:43.2, 35.52N×0.10E, Ml2.6*
*MDD **07** 02:48:43.5±2.5, 35.35N×0.20E, h31km±19km, mb3.6/9, Error ellipse: s-maj=31.4km s-min=7.5km az=143.0, PRXIMO*
*CSEM **07** 02:48:44.2±0.2, 35.35N×0.01W, h30km, mb3.5/6, Error ellipse: s-maj=5.1km s-min=2.7km az=20.0*
*NEIC **07** 02:48:47.2, 35.58N×0.15W, h23km, MG3.5(MDD), After MDD.*
ISC 07 02:48:44.5±1.0, 35.6N±0.1×0.03W±0.08, h33km±14km, n25, σ1§25/42, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**0.26**	**203**	P	**Pb**	**02 48 51.0**	**-0.7**
OJBR	**Djebel Berber**	**0.30**	**87**	P	**Pb**	**02 48 50.0**	**-2.2**
USTO	**Oran**	**0.46**	**291**	P	**Pb**	**02 48 57.0**	**+2.6**
ENIJ	**Nijar**	**2.25**	**309**	Pn	**Pn**	**02 49 20.5**	**+0.2**
ENIJ				Sn	**Sn**	**02 49 45.5**	**-1.7**
ENIJ	**Nijar**	**2.25**	**309**	P	**Pn**	**02 49 21.2**	**+0.9**
	1.5nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.25**	**309**	Pn	**Pn**	**02 49 20.5**	**+0.2**
	1.5nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.47**	**337**	Pn	**Pn**	**02 49 24.4**	**+0.9**
EMUR				Sn	**Sn**	**02 49 50.5**	**-2.4**
EMUR	**La Murta**	**2.47**	**337**	P	**Pn**	**02 49 24.4**	**+0.9**
	0.9nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**02 49 55.2**	**+2.3**
	4.2nm,0.9s,SNR=7.9						
EMUR	**La Murta**	**2.47**	**337**	Pn	**Pn**	**02 49 24.4**	**+0.9**
	0.9nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**02 49 50.5**	**-2.3**
EBER	**Berja**	**2.67**	**301**	Pn	**Pn**	**02 49 26.1**	**-0.1**
EBER				Sn	**Sn**	**02 49 56.5**	**-1.3**
EBER	**Berja**	**2.67**	**301**	P	**Pn**	**02 49 26.7**	**+0.4**
	2.2nm,0.2s,SNR=7.0						
EBER				S	**Sn**	**02 50 00.0**	**+2.2**
	28nm,2.0s,SNR=7.9						
EBER	**Berja**	**2.67**	**301**	Pn	**Pn**	**02 49 26.1**	**-0.2**
	2.2nm,0.2s,SNR=7.0						
EBER				Sn	**Sn**	**02 49 56.5**	**-1.3**
	SNR=7.9						
EBEN	**Beniarda**	**3.14**	**357**	P	**Pn**	**02 49 33.9**	**+1.0**
	4.8nm,0.6s,SNR=7.9						
EBEN				S	**Sn**	**02 50 09.2**	**-0.4**
	11nm,1.0s,SNR=7.9						
ETOB	**Tobarra**	**3.30**	**339**	Pn	**Pn**	**02 49 36.3**	**+1.0**
ETOB				Sn	**Sn**	**02 50 12.9**	**-1.0**
ETOB	**Tobarra**	**3.30**	**339**	P	**Pn**	**02 49 36.3**	**+1.0**
	6.0nm,0.4s,SNR=11						
ETOB				S	**Sn**	**02 50 14.4**	**+0.5**
	45nm,2.0s,SNR=7.9						
ETOB	**Tobarra**	**3.30**	**339**	Pn	**Pn**	**02 49 36.3**	**+1.0**
	6.0nm,0.4s,SNR=11						
ETOB				Sn	**Sn**	**02 50 12.9**	**-1.0**
	SNR=7.9						
EQES	**Quesada**	**3.31**	**313**	P	**Pn**	**02 49 37.0**	**+1.6**
	1.4nm,0.1s,SNR=9.4						
EQES				S	**Sn**	**02 50 14.6**	**+0.5**
	34nm,1.1s,SNR=7.9						
EQES	**Quesada**	**3.31**	**313**	Pn	**Pn**	**02 49 37.0**	**+1.6**
	1.4nm,0.1s,SNR=9.4						
EQES				Sn	**Sn**	**02 50 14.6**	**+0.5**
	SNR=7.9						
ECOG	**Cogollos-Vega**	**3.33**	**302**	P	**Pn**	**02 49 36.0**	**+0.4**
	0.9nm,0.4s,SNR=7.9						
ECOG				S	**Sn**	**02 50 15.2**	**+0.8**
	21nm,1.9s,SNR=7.9						
ERON	**Agron**	**3.38**	**296**	P	**Pn**	**02 49 37.1**	**+0.7**
	5.7nm,0.8s,SNR=7.9						
EIBI	**Ibiza**	**3.62**	**17**	Pn	**Pn**	**02 49 40.5**	**+0.7**
EIBI				Sn	**Sn**	**02 50 22.3**	**+0.3**
EIBI	**Ibiza**	**3.62**	**17**	P	**Pn**	**02 49 39.5**	**-0.3**
	0.4nm,0.8s,SNR=7.9						
EIBI				S	**Sn**	**02 50 20.0**	**-1.9**
	8.3nm,0.6s,SNR=4.0						
EIBI	**Ibiza**	**3.62**	**17**	Pn	**Pn**	**02 49 40.5**	**+0.7**
	2.5nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**02 50 22.3**	**+0.4**
EMIJ	**Mijas**	**3.97**	**286**	S	**Sn**	**02 50 28.9**	**-1.9**
	7.8nm,1.0s,SNR=7.9						
EADA	**Adamuz**	**4.48**	**307**	S	**Sn**	**02 50 42.3**	**-1.3**
	3.4nm,1.2s,SNR=7.9						

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*BJI **07** 02:49:12.4, 17.98S×175.26W, h264km, mB5.4, mb4.7*
*IDC **07** 02:49:13.4±0.7, 18.06S×175.19W, h268km±5km, mb4.3/19, mb1 4.5/20, mb1mx4.5/23, mbtmp5.0/20, Error ellipse: s-maj=16.4km s-min=8.7km az=145.0*
*NEIC **07** 02:49:13.4±0.2, 18.06S×175.22W, mb4.9/27, Error ellipse: s-maj=9.8km s-min=5.8km az=146.0*
ISC 07 02:49:12.6±0.3, 18.10S±0.06×175.23W±0.06, h273km, h273km±2.7km:pP-P, n172, σ0§86/92, mb4.8/42, 17C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.33**	**39**	P	**P**	**02 50 27.7**	**-6.0**
	40nm,0.3s,baz=218,slow=3.9,SNR=31						
AFI				S	**S**	**02 51 23.9**	**-13**
	134nm,0.3s,baz=47,slow=23,SNR=15						
AFI	**Afiamalu**	**5.33**	**39**	*e*Pn	**P**	**02 50 27.4**	**-6.2**
	322nm,0.6s						
AFI				*e*S	**S**	**02 51 23.6**	**-13**
RAR	**Rarotonga**	**14.89**	**105**	P	**P**	**02 52 27.4**	**-4.7**
	1.7nm,0.3s,baz=256,slow=7.4,SNR=8.4						
DZM	**Mont Dzumac**	**17.66**	**254**	*e*P	**P**	**02 53 01.8**	**-0.5**
DZM	**Mont Dzumac**	**17.66**	**254**	P	**P**	**02 53 02.8**	**+0.4**
	2.1nm,0.3s,baz=77,slow=17,SNR=34						
DZM	**Mont Dzumac**	**17.66**	**254**	*e*P	**P**	**02 53 01.8**	**-0.5**
URZ	**Urewera**	**21.17**	**197**	P	**P**	**02 53 39.7**	**+2.4**
	20nm,0.5s,mb4.7,baz=14,slow=6.8,SNR=19						
URZ	**Urewera**	**21.17**	**197**	*e*PN	**P**	**02 53 38.9**	**+1.6**
URZ				SN	**S**	**02 57 16.0**	**+4.8**
QRZ	**Quartz Range**	**24.98**	**202**	*e*PN	**P**	**02 54 13.7**	**+0.5**
HNR	**Honiara**	**25.58**	**286**	P	**P**	**02 54 20.0**	**+1.2**
	123nm,0.7s,mb5.4,baz=190,slow=4.7,SNR=6.2						
HNR	**Honiara**	**25.58**	**286**	*e*P	**P**	**02 54 18.7**	**-0.2**
	130nm,0.9s,mb5.4						
THZ	**Tophouse**	**25.67**	**201**	*e*PN	**P**	**02 54 19.0**	**-0.5**
LTZ	**Lake Taylor**	**26.79**	**201**	*e*PN	**P**	**02 54 28.7**	**-1.0**
RPZ	**Rata Peaks**	**28.03**	**201**	P	**P**	**02 54 40.4**	**-0.5**
	6.6nm,0.4s,mb4.4,baz=4.0,slow=5.4,SNR=5.4						
CNB	**Canberra Magne**	**35.73**	**234**	*i*P	**P**	**02 55 47.4**	**+0.1**
	643nm,0.9s						
CTA	**Charters Tower**	**36.40**	**261**	*i*P	**P**	**02 55 52.8**	**-0.2**
	25nm,0.9s,mb4.7						
CTA				*ep*P	pP	02 56 48.4	+0.1
CTA	**Charters Tower**	**36.40**	**261**	P	**P**	**02 55 52.9**	**-0.2**
	14nm,0.4s,mb4.9,baz=90,slow=11,SNR=25						
CTA				pP	pP	02 56 47.9	-0.4
	13nm,0.9s,baz=87,slow=13,SNR=2.8						
CTAO	**Charters Tower**	**36.40**	**261**	*e*P	**P**	**02 55 52.6**	**-0.4**
	30nm,0.8s,mb4.9						
CTAO				*ep*P	pP	02 56 45.9	-2.4
PMG	**Port Moresby**	**37.48**	**278**	P	**P**	**02 56 02.6**	**+0.5**
	52nm,0.9s,mb5.0,baz=73,slow=5.5,SNR=15						
PMG	**Port Moresby**	**37.48**	**278**	*e*P	**P**	**02 56 02.2**	**+0.1**
	59nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**41.20**	**242**	*i*P	**P**	**02 56 33.0**	**+0.5**
	46nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**41.20**	**242**	P	**P**	**02 56 33.1**	**+0.6**
	58nm,0.9s,mb4.8,baz=89,slow=9.3,SNR=49						
WB2	**Warramunga Arr**	**47.56**	**259**	*i*P	**P**	**02 57 22.1**	**-0.9**
WRAB	**Tennant Creek**	**47.56**	**259**	*e*P	**P**	**02 57 22.0**	**-1.0**
	119nm,0.8s,mb5.3						
WRA	**Warramunga Arr**	**47.57**	**259**	P	**P**	**02 57 22.2**	**-0.9**
	65nm,0.7s,mb5.1,baz=94,slow=7.6,SNR=208						
WRA				pP	pP	02 58 19.9	-1.1
	6.4nm,1.1s,baz=95,slow=7.7,SNR=1.5						
ASAR	**Alice Springs**	**47.65**	**254**	P	**P**	**02 57 23.6**	**-0.1**
	251nm,0.8s,mb5.6,baz=89,slow=8.7,SNR=1919						
ASAR				pP	pP	02 58 20.6	-1.0
	5.4nm,0.9s,baz=83,slow=7.3,SNR=0.8						
ASAR				S	**S**	**03 03 56.8**	**-0.7**
	3.0nm,0.8s,baz=88,slow=16,SNR=8.0						
ASPA	**Alice Springs**	**47.65**	**254**	*i*P	**P**	**02 57 23.5**	**-0.2**
ASPA				*e*S	**S**	**03 03 57.0**	**-0.5**
GUMO	**Guam**	**50.40**	**306**	P	**P**	**02 57 44.1**	**-0.5**
	710nm,1.5s,mb5.8						
FORT	**Forrest**	**52.66**	**245**	*i*P	**P**	**02 57 59.8**	**-1.3**
	915nm,0.6s						
FITZ	**Fitzroy Crossi**	**55.98**	**260**	*i*P	**P**	**02 58 24.8**	**-0.2**
	16nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**55.98**	**260**	P	**P**	**02 58 25.0**	**-0.1**
	19nm,0.5s,mb4.8,baz=148,slow=2.5,SNR=104						
MBWA	**Marble Bar**	**60.95**	**255**	*e*P	**P**	**02 58 58.6**	**-0.7**
	78nm,1.4s,mb5.0						
KLBR	**Kellerberrin**	**61.45**	**243**	*i*P	**P**	**02 59 01.6**	**-0.9**
	6μm,0.7s						
NWAO	**Narrogin (SRO)**	**61.79**	**242**	P	**P**	**02 59 04.0**	**-0.7**
	7.1nm,0.5s,mb4.5,baz=64,slow=5.5,SNR=6.2						
NWAO	**Narrogin (SRO)**	**61.79**	**242**	*e*P	**P**	**02 59 04.3**	**-0.4**
	16nm,1.0s,mb4.6						
MUN	**Mundaring**	**62.73**	**243**	*i*P	**P**	**02 59 10.9**	**0.0**
	123nm,0.6s,mb5.7						
MJAR	**Matsushiro Arr**	**69.90**	**321**	P	**P**	**02 59 55.2**	**-0.8**
	21nm,0.8s,mb4.9,baz=159,slow=6.1,SNR=36						
MJAR	**Matsushiro Arr**	**69.90**	**321**	P	**P**	**02 59 55.2**	**-0.8**
MAJO	**Matsushiro**	**69.91**	**321**	*e*P	**P**	**02 59 55.5**	**-0.4**
	25nm,0.8s,mb5.0						
MAT	**Matsushiro**	**69.91**	**321**	*e*P	**P**	**02 59 56.0**	**0.0**
	22nm,0.8s,mb5.0						
MAT	**Matsushiro**	**69.91**	**321**	P	**P**	**02 59 55.9**	**-0.1**
KKM	**Kota Kinabalu**	**71.73**	**283**	*e*P	**P**	**03 00 07.3**	**0.0**
KSM	**Kuching**	**75.71**	**276**	*e*P	**P**	**03 00 31.3**	**+0.9**
CMB	**Columbia Colle**	**75.94**	**42**	*e*P	**P**	**03 00 30.0**	**-1.2**
	5.8nm,1.2s,mb4.1						
NVAR	**Mina Array Bea**	**77.50**	**42**	P	**P**	**03 00 39.2**	**-0.5**
	1.8nm,0.8s,mb3.9,baz=232,slow=11,SNR=11						
NVAR				pP	pP	03 01 42.1	-1.8
	1.1nm,0.8s,baz=236,slow=9.8,SNR=3.1						
SSE	**Sheshan**	**78.21**	**308**	P	**P**	**03 00 44.0**	**+0.1**
SSE				SP	sP	03 02 19.3	+2.9
SSE				S	S	03 10 18.1	+3.8
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,172nm,6.7s						
SSE				LR	LR		
	comp=N,98nm,16.3s						
SSE				LR	LR		
	comp=E,104nm,16.9s						
SSE				LR	LR		
	comp=Z,175nm,15.1s						
SSE	**Sheshan**	**78.21**	**308**	P	**P**	**03 00 44.0**	**+0.1**
	comp=Z,29nm,0.7s,mb5.1						
SSE				SP	sP	03 02 19.3	+2.9
SSE				S	S	03 10 18.1	+3.8
SSE				sS		03 12 15.9	
SSE				LR	LR		
	comp=Z,180nm,15.1s						
MDJ	**Mudanjiang**	**80.11**	**323**	P	**P**	**03 00 54.8**	**+1.2**
MDJ				AP	pP	03 01 58.3	0.0
MDJ				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,471nm,3.3s						
MDJ	**Mudanjiang**	**80.11**	**323**	P	**P**	**03 00 51.5**	**-2.1**
	comp=Z,60nm,1.3s,mb5.2						
NJ2	**Nanjing**	**80.42**	**308**	*e*P	**P**	**03 00 55.1**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
CN2	**Changchun**	**82.05**	**321**	*e*P	**P**	**03 01 05.2**	**+1.5**
CN2				*e*AP	pP	03 02 12.9	+4.3
CN2				*e*XP	sP	03 02 40.1	+3.5
CN2				*e*S	S	03 10 53.6	+0.1
CN2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
CN2				AMB	AMB		
	comp=Z,400nm,5.0s						
MA2	**Magadan**	**82.22**	**343**	*e*P	**P**	**03 01 03.0**	**-1.2**
	comp=Z,9.4nm,0.8s,mb4.6						
TMUT	**Trail Mountain**	**82.62**	**45**	*e*P	**P**	**03 01 07.5**	**+0.7**
SRU	**San Rafael**	**82.99**	**45**	*e*P	**P**	**03 01 09.2**	**+0.6**
BNM	**Barren Site**	**83.39**	**51**	*e*P	**P**	**03 01 11.5**	**+0.8**
TXAR	**Lajitas Array**	**83.56**	**56**	P	**P**	**03 01 12.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=216,slow=8.8,SNR=12						
HWUT	**Hardware Ranch**	**83.56**	**43**	*e*P	**P**	**03 01 10.5**	**-1.0**
	comp=Z,3.4nm,0.7s,mb4.3						
ANMO	**Albuquerque**	**83.87**	**50**	*e*P	**P**	**03 01 11.8**	**-1.3**
	comp=Z,4.2nm,1.3s,mb4.1						
ANMO				*ep*P	pP	03 02 18.0	-0.3
GDL2	**Guadalupe Moun**	**84.23**	**54**	*e*P	**P**	**03 01 15.9**	**+0.9**
GDL2				*ep*P	pP	03 02 18.1	-2.2
MAW	**Mawson**	**84.68**	**199**	P	**P**	**03 01 16.4**	**-0.1**
	comp=Z,2.7nm,0.5s,mb4.3,baz=145,slow=11,SNR=3.2						
COLA	**College**	**85.34**	**11**	*e*P	**P**	**03 01 18.5**	**-1.2**
	comp=Z,15nm,0.8s,mb4.9						
COLA				*ep*P	pP	03 02 24.0	-1.0
ILAR	**Eielson Array**	**85.43**	**12**	P	**P**	**03 01 19.3**	**-0.9**
	comp=Z,3.6nm,0.6s,mb4.4,baz=225,slow=5.6,SNR=76						
ILAR				pP	pP	03 02 22.9	-2.6
	comp=Z,3.1nm,1.0s,baz=217,slow=5.6,SNR=5.7						
PDAR	**Pinedale Array**	**85.44**	**42**	P	**P**	**03 01 20.4**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=200,slow=3.2,SNR=11						
PDAR				pP	pP	03 02 23.7	-2.4
	comp=Z,1.3nm,0.9s,baz=243,slow=3.3,SNR=5.9						
KULM	**Kulim**	**86.06**	**277**	*e*P	**P**	**03 01 25.5**	**+1.0**
WALA	**Waterton Lakes**	**86.12**	**35**	*e*P	**P**	**03 01 23.4**	**-0.6**
	comp=Z,3.7nm,1.1s,mb4.1						
GCMT	**Greycliff**	**86.87**	**40**	*e*P	**P**	**03 01 22.7**	**-4.9**
GCMT				pP	pP	03 02 30.6	-2.5
ENH	**Enshi**	**86.90**	**303**	*e*P	**P**	**03 01 29.5**	**+1.3**
	comp=Z,11nm,0.6s,mb4.9						
BILL	**Bilibino**	**86.95**	**353**	*e*P	**P**	**03 01 27.5**	**-0.1**
	comp=Z,24nm,1.5s,mb4.8						
HIA	**Hailar**	**88.30**	**324**	*e*P	**P**	**03 01 34.5**	**+0.2**
XAN	**Xi'an**	**88.80**	**306**	P	**P**	**03 01 38.5**	**+1.5**
XAN				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.7						
HHC	**Hu-ho-hao-te**	**89.58**	**313**	*e*P	**P**	**03 01 41.5**	**+1.0**
HHC				AP	pP	03 02 50.2	+3.8
HHC				PP	PP	03 05 17.8	0.0
HHC				AMB	AMB		
	comp=Z,28nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,191nm,5.4s						
HHC				LR	LR		
	comp=N,519nm,19.4s						
HHC				LR	LR		
	comp=E,724nm,17.1s						
HHC				LR	LR		
	comp=Z,319nm,19.2s						
RSSD	**Black Hills**	**89.62**	**43**	*e*P	**P**	**03 01 40.7**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.1						
VNA3	**Neumayer Olymp**	**90.33**	**175**	*e*	**P**	**03 01 44.0**	**+0.7**
VNA3	**Neumayer Olymp**	**90.33**	**175⇑**	*i*P	**P**	**03 01 43.0**	**-0.3**
VNA3				*e*		03 01 44.0	
NANT	**Nan**	**90.33**	**290**	⇓P	**P**	**03 01 46.5**	**+2.0**
	comp=Z,75nm,0.9s,mb5.5						
KMI	**Kunming**	**90.62**	**296**	P	**P**	**03 01 46.7**	**+1.0**
KMI				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.8						
KMI	**Kunming**	**90.62**	**296**	P	**P**	**03 01 46.7**	**+1.0**
	comp=Z,21nm,1.2s,mb4.8						
VNA2	**Neumayer--Watz**	**90.80**	**176**	*e*	**P**	**03 01 46.7**	**+1.2**
VNA2	**Neumayer--Watz**	**90.80**	**176⇑**	*i*P	**P**	**03 01 46.0**	**+0.5**

OJC	Ojcow	145.77	343	*e*PKP	PKPdf	03 08 21.1	+2.8
CTKT	Corum	145.81	317	*i* P	PKPdf	03 08 22.3	+3.6
KSP	Ksiaz	146.07	347	*e*PKP	PKPdf	03 08 22.0	+3.2
KOLS	Kolonicke sedl	146.13	339	*i* PKP	PKPdf	03 08 22.6	+3.6
KOLS				*i*		03 08 23.8	
CLL	Collm	146.23	351	*i* PKP	PKPdf	03 08 22.1	+2.9
CLL				*e*		03 08 52.0	
NIE	Niedzica	146.34	342	*e*PKP	PKPdf	03 08 21.4	+2.0
CRVS	Cervenica-Dubn	146.43	340	*i* PKP	PKPdf	03 08 22.9	+3.3
CRVS				*i*		03 08 26.7	
UPC	Upice	146.44	347	*e*PKP	PKPdf	03 08 23.1	+3.5
UPC				*e*pPKP		03 09 33.5	
BRG	Berggiesshubel	146.50	349	*i* P	PKPdf	03 08 22.9	+3.2
DPC	Dobruska-Polom	146.52	347	*e*PKP	PKPdf	03 08 23.5	+3.7
DPC				*e*pPKP		03 09 32.3	
OKC	Ostrava-Krasne	146.56	344	*e*PKP	PKPdf	03 08 23.6	+3.7
AVNT	Avonos	146.71	314	*i* P	PKPdf	03 08 23.9	+3.4
PVCC	Panska Ves	146.72	349	*e*PKP	PKPdf	03 08 23.9	+3.8
ELDT	Eldivan	146.75	318	*i* P	PKPdf	03 08 24.1	+3.6
COBT	Iskenderun	146.76	310	*i* P	PKPdf	03 08 24.7	+4.1
BRTR	Keskin Array B	147.03	317	PKP	PKPdf	03 08 21.7	+0.7
	comp=Z,8.3nm,0.7s,baz=106,slow=2.3,SNR=34						
BRTR				PKPbc	PKPdf	03 08 25.1	+4.0
	comp=Z,13nm,0.9s,baz=134,slow=3.8,SNR=47						
MOX	Moxa	147.08	352	*e*PKP	PKPdf	03 08 23.8	+3.1
MOX	Moxa	147.08	352	*i* P	PKPdf	03 08 23.8	+3.1
	comp=Z,logA/T=1.1						
KECS	Kecovo	147.11	341	*i* PKP	PKPdf	03 08 27.7	+6.9
PRU	Pruhonice	147.24	348	*e*PKP	PKPdf	03 08 24.9	+4.0
NKC	Novy Kostel	147.36	351	*e*PKP	PKPdf	03 08 25.5	+4.4
MLR	Muntele Rosu	147.50	332	PKPbc	PKPdf	03 08 25.8	+4.3
	comp=Z,12nm,1.0s,baz=32,slow=1.0,SNR=17						
MLR	Muntele Rosu	147.50	332	PKPbc	PKPdf	03 08 25.8	+4.3
SGKT	Sivrigoynuk	147.56	319	*i* P	PKPdf	03 08 26.5	+4.8
VYHS	Vyhne	147.60	342	*i* PKP	PKPdf	03 08 26.4	+4.9
VYHS				*i*		03 08 28.8	
ASF	Jabal al Asfar	147.86	302	PKPbc	PKPdf	03 08 28.3	+5.9
	comp=Z,8.4nm,0.8s,baz=245,slow=0.6,SNR=6.8						
GRA1	Grafenberg Arr	148.06	352	*e*PKPbc	PKPdf	03 08 27.6	+5.5
GRA1				*e*PKPab	PKPab	03 08 31.0	-0.5
GRF	Grafenberg Arr	148.06	352	*e*PKP	PKPdf	03 08 27.6	+5.5
GRF				*e*PKP	PKPdf	03 08 31.0	+8.9
GIVF	Givet	148.08	360	*e*PKP1	PKPdf	03 08 27.3	+5.1
BAIF	Baives	148.12	1	*e*PKP1	PKPdf	03 08 27.6	+5.4
KHC	Kasperske Hory	148.24	349	*e*PKP	PKPdf	03 08 28.0	+5.5
KHC				*e*		03 08 32.0	
KHC	Kasperske Hory	148.24	349	*e*PKP	PKPdf	03 08 28.0	+5.5
KHC				x	x	03 08 32.0	
MEST	Erdemli	148.25	311	*i* P	PKPdf	03 08 28.1	+5.2
ZST	Bratislava	148.34	344	*i* PKP	PKPdf	03 08 28.8	+6.1
GERES	GERESS Array B	148.49	349	PKPbc	PKPdf	03 08 28.6	+5.7
	comp=Z,6.7nm,0.8s,baz=23,slow=2.5,SNR=35						
FLN	La Foliniere	149.12	7	*e*PKP1	PKPdf	03 08 29.6	+5.7
LDF	La Druitiere	149.33	6	*e*PKP1	PKPdf	03 08 30.3	+6.1
MOA	Molln	149.33	347	*i* P	PKPdf	03 08 30.4	+6.2
GRR	Gorron	149.45	7	*e*PKP1	PKPdf	03 08 30.5	+6.1
FUR	Furstenfeldbru	149.55	351	*e*PKPbc	PKPdf	03 08 31.1	+6.6
FUR				*e*PKPab	PKPab	03 08 36.8	-0.9
CSS	Prodhromos	149.57	309	*e*PKPbc	PKPdf	03 08 30.7	+5.7
CSS				*e*pPKPbc		03 08 38.1	
ULDT	Uludag	149.60	321	*i* P	PKPdf	03 08 31.1	+6.2
MEZF	Maizieres J'vi	149.68	360	*e*PKP1	PKPdf	03 08 31.6	+6.9
	comp=Z,28nm,1.0s						
CDF	Champ du Feu	149.70	357	*e*PKP1	PKPdf	03 08 31.5	+6.8
	comp=Z,26nm,0.8s						
BFO	Black Forest	149.71	355	*e*PKPbc	PKPdf	03 08 31.5	+6.7
HAU	Haudompre	150.15	358	*e*PKP1	PKPdf	03 08 32.5	+7.1
	comp=Z,25nm,0.9s						
WATA	Walderalm	150.31	351	*i* P	PKPdf	03 08 32.8	+7.1
HINF	Hinteralfeld	150.32	357	*e*PKP1	PKPdf	03 08 32.6	+6.9
	comp=Z,13nm,0.7s						
WTTA	Wattenberg	150.38	351	*i* P	PKPdf	03 08 33.3	+7.5
MOTA	Moosalm	150.38	351	*i* P	PKPdf	03 08 32.9	+7.1
SQTA	Sankt Quirin	150.48	351	*i* P	PKPdf	03 08 33.4	+7.4
DAVA	Damuels	150.59	353	*i* P	PKPdf	03 08 34.5	+8.4
HYF	Humbligny	150.86	3	*e*PKP1	PKPdf	03 08 34.5	+8.0
DIVS	Divcibare	151.09	337	*i* P	PKPdf	03 08 34.7	+7.7
SSF	Saint Saulge	151.10	2	*e*PKP1	PKPdf	03 08 34.8	+7.9
	comp=Z,34nm,1.0s						
MFF	Saint Martin d	151.29	7	*e*PKP1	PKPdf	03 08 34.8	+7.6
	comp=Z,14nm,0.8s						
AVF	Avril sur Loir	151.37	2	*e*PKP1	PKPdf	03 08 34.9	+7.6
	comp=Z,6.2nm,0.6s						
SMF	Signal de Mont	151.53	1	*e*PKP1	PKPdf	03 08 35.4	+7.9
CABF	La Chapelle	151.55	358	*e*PKP1	PKPdf	03 08 36.4	+8.8
	comp=Z,31nm,0.8s						
BGF	Bois d'Agland	151.58	3	*e*PKP1	PKPdf	03 08 35.7	+8.1
	comp=Z,28nm,0.6s						
TCF	Toulx Ste Croi	151.81	4	*e*PKP1	PKPdf	03 08 36.1	+8.1
	comp=Z,17nm,0.7s						
LPL	La Plagne	152.62	357	*e*PKP1	PKPdf	03 08 39.0	+10
	comp=Z,12nm,0.8s						
LPG	La Plagne	152.63	357	*e*PKP1	PKPdf	03 08 39.1	+10
	comp=Z,5.9nm,0.7s						
RJF	Les Rejaudoux	152.74	5	*e*PKP1	PKPdf	03 08 38.9	+10
LFF	La Frestale	153.03	6	*e*PKP1	PKPdf	03 08 39.3	+10
	comp=Z,5.2nm,0.6s						
CAF	Calviac	153.16	4	*e*PKP1	PKPdf	03 08 39.2	+9.3
ORIF	Oris-en-Rattie	153.25	358	*e*PKP1	PKPdf	03 08 39.8	+10
	comp=Z,12nm,1.0s						
VIVF	Saint-Julien-l	153.33	0	*e*PKP1	PKPdf	03 08 39.9	+10
	comp=Z,5.6nm,0.6s						
MBDF	Montbardon	153.40	357	*e*PKP1	PKPdf	03 08 40.1	+10
	comp=Z,14nm,0.8s						
FRF	La Foret Royal	154.57	357	*e*PKP1	PKPdf	03 08 42.5	+11
ETSF	Etsaut	154.87	9	*e*PKP1	PKPdf	03 08 43.3	+11
ESDC	Sonseca Array	157.21	18	PKPab	PKPab	03 09 09.7	-0.6
	comp=Z,0.9nm,0.6s,baz=321,slow=3.0,SNR=7.0						

*IDC **07** 02:55:14.0±1.8, 0.76N×97.06E, h25km±6km, mb3.9/6, mb1 4.0/7, mb1mx3.8/16, mbtmp4.0/7, ML4.5/1, Error ellipse: s-maj=79.3km s-min=20.0km az=61.0*
*NEIC **07** 02:55:14.4±1.0, 0.78N×97.00E, h30km, mb4.7/1, Error ellipse: s-maj=22.7km s-min=14.5km az=65.0*
ISC 07 02:55:13.2±1.1, 0.8N±0.1×97.1E±0.2, h33km, n15, σ0°69/12, mb4.2/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.72	39	*e*P	P	02 56 37.5	-0.4
CMAR	Chiang Mai Arr	17.63	6	Pn	P	02 59 16.7	-1.3
	0.7nm,0.3s,baz=194,slow=11,SNR=10						
KKM	Kota Kinabalu	19.82	74	*e*P	P	02 59 44.7	+0.6
BJT	Baijiatuau	42.73	22	*e*P	P	03 03 10.1	+1.0
	8.6nm,0.5s,mb4.7						
ASAR	Alice Springs	43.29	127	P	P	03 03 13.6	-0.3
	0.8nm,0.6s,mb3.6,baz=306,slow=8.4,SNR=5.5						
SONM	Songino Array	47.53	9	P	P	03 03 47.9	+0.6
	0.9nm,0.6s,mb4.0,baz=193,slow=8.4,SNR=7.5						
SONM				pP	pP	03 03 55.8	-1.4
	1.0nm,0.7s,baz=191,slow=8.6,SNR=4.4						
MKAR	Makanchi Array	47.57	346	P	P	03 03 48.3	+0.6
	2.2nm,0.5s,mb4.4,baz=162,slow=8.7,SNR=24						
STKA	Stephens Creek	53.22	132	P	P	03 04 30.5	-0.4
	2.2nm,0.9s,mb4.1,baz=334,slow=23,SNR=3.9						
STKA	Stephens Creek	53.22	132	P	P	03 04 30.2	-0.6
ZAL	Zalesovo	53.90	351	P	P	03 04 35.9	+0.3
	2.5nm,0.4s,mb4.5,baz=323,slow=6.3,SNR=8.5						
ZAL	Zalesovo	53.90	351	P	P	03 04 35.9	+0.3
BVAR	Borovoye Array	56.56	341	P	P	03 04 54.2	-0.6
	0.5nm,0.5s,mb3.8,baz=141,slow=9.5,SNR=4.5						
BVAR				pP	pP	03 05 03.0	-2.0
	0.7nm,0.5s,baz=146,slow=11,SNR=4.7						
AKASG	Malin Array Be	75.47	323	pP	pP	03 07 03.0	-3.0
	0.2nm,0.3s,baz=87,slow=4.3,SNR=2.3						
GERES	GERESS Array B	85.00	319	pP	pP	03 07 55.8	-1.3
	0.7nm,0.9s,baz=117,slow=3.0,SNR=2.7						
TXAR	Lajitas Array	144.07	32	PKP	PKPdf	03 14 46.5	+0.3
	0.2nm,0.6s,baz=180,slow=1.8,SNR=2.9						
TXAR				pPKP		03 14 55.1	
	0.2nm,0.4s,baz=188,slow=1.4,SNR=4.0						

IGQ 07 02:58:11.4, 1.19S×80.77W, h44km±3km, mb4.0, Error ellipse: s-maj=5.5km s-min=2.2km az=20.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	0.26	59	P	P	02 58 19.5	-0.2
SALI	Salinas	1.02	192	P	P	02 58 29.9	+0.5
SALI				S	S	02 58 44.1	+1.3
JAMA	Jama	1.08	32	P	P	02 58 31.4	+1.2
JAMA				S	S	02 58 45.7	+1.4
MAGD	Magdalena	1.49	42	P	P	02 58 38.0	+1.7
ARRY	Arrayan	2.34	98	P	P	02 58 49.1	+0.9
NAS1	Nasa	2.36	77	P	P	02 58 49.9	+1.3
NAS1				S	S	02 59 22.3	+5.9
JUA2	San Juan 2	2.37	66	P	P	02 58 49.4	+0.6
JUA2				S	S	02 59 21.7	+4.9
PISA	Pisayambo	2.39	87	P	P	02 58 50.0	+1.1
TERV	Terraza Guagua	2.39	65	P	P	02 58 51.0	+2.0
PINO	Pino	2.39	65	P	P	02 58 49.1	+0.1
GGP	Refugio Guagua	2.40	65	P	P	02 58 49.4	+0.3
VC1	Cotopaxi 1	2.43	77	P	P	02 58 52.0	+2.5
JOR1	San Jorge 1	2.44	61	P	P	02 58 48.1	-1.5
JOR1				S	S	02 59 18.2	-0.3
YANA	Yana	2.44	64	P	P	02 58 50.1	+0.4
TAMB	Tambo	2.45	78	P	P	02 58 51.2	+1.3
ANTI	Antisana	2.71	74	P	P	02 58 56.0	+2.4
COTA	Cotacachi	2.87	58	P	P	02 58 58.2	+2.5
COTA				S	S	02 59 36.1	+6.8
CAYR	Refugio Cayamb	3.01	67	P	P	02 59 01.0	+3.1
CAYA	Cayambe	3.05	66	P	P	02 59 02.3	+3.9
ECEN	Cerro Negro	3.44	54	P	P	02 59 07.0	+3.1

*IDC **07** 02:59:45.8±1.3, 7.48S×130.27E, mb4.0/3, mb1 4.1/6, mb1mx3.9/15, mbtmp4.0/6, ML3.8/3, Error ellipse: s-maj=68.4km s-min=21.2km az=71.0*
*NEIC **07** 02:59:46.4±0.9, 7.44S×130.60E, h10km, mb4.1/1, Error ellipse: s-maj=25.2km s-min=11.0km az=75.0*
ISC 07 02:59:49.0±1.1, 7.85S±0.07×130.2E±0.1, h33km, n13, σ1°78/19, mb3.8/3, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.11	203	*e*P	P	03 02 31.3	+2.7
	15nm,1.5s						
FITZ				*e*S	S	03 04 31.6	-1.1
FITZ	Fitzroy Crossi	11.11	203	Pn	P	03 02 31.1	+2.4
	1.0nm,0.3s,baz=19,slow=14,SNR=17						
FITZ				Sn	S	03 04 31.5	-1.2
	1.3nm,0.3s,baz=158,slow=15,SNR=5.0						
WRAB	Tennant Creek	12.68	162	*e*P	P	03 02 50.1	+0.3
	10nm,0.9s						
WRAB				*e*S	S	03 05 07.9	-2.8
WRA	Warramunga Arr	12.68	162	Pn	P	03 02 50.3	+0.5
	0.6nm,0.3s,baz=347,slow=13,SNR=9.6						
WRA				Sn	S	03 05 08.5	-2.3
	1.3nm,0.3s,baz=343,slow=21,SNR=13						
WB2	Warramunga Arr	12.68	162	*e*P	P	03 02 50.3	+0.4
WB2				*e*S	S	03 05 05.0	-5.9
ASAR	Alice Springs	16.13	168	Pn	P	03 03 37.5	+2.6
	0.4nm,0.3s,baz=343,slow=8.1,SNR=11						
ASAR				Sn	S	03 06 34.1	+1.7
	0.4nm,0.3s,baz=355,slow=23,SNR=7.7						
MBWA	Marble Bar	16.64	216	P	P	03 03 48.8	+7.4
	22nm,1.4s						
STKA	Stephens Creek	26.17	158	P	P	03 05 25.6	+3.2
	2.8nm,0.9s,mb3.8,baz=336,slow=10.0,SNR=2.7						
STKA	Stephens Creek	26.17	158	*e*P	P	03 05 25.0	+2.6
ULN	Ulaanbaatar	59.12	342	P	P	03 09 44.5	-4.2
MKAR	Makanchi Array	69.03	327	P	P	03 10 51.7	-1.7
	2.0nm,0.6s,mb4.2,baz=123,slow=7.9,SNR=22						
MKAR	Makanchi Array	69.03	327	P	P	03 10 51.7	-1.7
BVAR	Borovoye Array	78.87	328	P	P	03 11 49.4	-1.1
	0.3nm,0.5s,mb3.5,baz=135,slow=6.3,SNR=3.6						

IDC 07 03:02:42.2±9.3, 1.54N×97.05E, mb4.0/3, mb1 4.2/4, mb1mx3.7/18, mbtmp4.0/4, ML4.3/1, Error ellipse: s-maj=188.9km s-min=120.5km az=141.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.91	6	Pn	P	03 06 40.5	-1.5
	0.4nm,0.3s,baz=197,slow=12,SNR=3.6						
SONM	Songino Array	46.82	9	P	P	03 11 13.6	-1.9
	0.9nm,0.5s,baz=192,slow=9.6,SNR=8.4						
MKAR	Makanchi Array	46.87	346	P	P	03 11 14.1	-1.9
	1.6nm,0.8s,baz=159,slow=7.7,SNR=6.0						
ZAL	Zalesovo	53.19	351	P	P	03 12 02.0	-2.3
	1.2nm,0.3s,baz=279,slow=5.7,SNR=4.8						

*BJI **07** 03:03:04.5, 0.78N×97.35E, h36km, mB5.1, mb4.9, Ms4.7, Msz4.5*
*IDC **07** 03:03:05.9±0.7, 0.95N×97.03E, h23km±4km, mb4.1/17, mb1 4.2/18, mb1mx4.1/23, mbtmp4.2/18, ML4.5/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/25, Error ellipse: s-maj=23.9km s-min=12.3km az=49.0*
*MOS **07** 03:03:06.3±0.8, 1.09N×97.04E, h33km, mb4.9/10, Error ellipse: s-maj=28.6km s-min=10.6km az=94.3*
*NEIC **07** 03:03:06.4±0.4, 0.98N×97.16E, mb4.7/14, Error ellipse: s-maj=10.9km s-min=7.0km az=56.0*
ISC 07 03:03:04.6±0.5, 1.02N±0.06×97.19E±0.07, h26km, h26km±1.4km:pP-P, n60, σ0°93/60, mb4.5/36, MS4.2/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.47	39	*e*Pn	Pn	03 04 26.7	+0.1
SNG	Songkhla	7.00	29	P	Pn	03 04 47.0	-1.3
CMAR	Chiang Mai Arr	17.41	6	P	P	03 07 06.9	-0.8
	0.6nm,0.3s,baz=193,slow=12,SNR=11						
KMI	Kunming	24.55	12	P	P	03 08 25.3	+1.4
KMI				AP		03 08 33.1	
KMI				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,167nm,4.1s						
KMI				LR	LR		
	comp=N,976nm,14.0s,MS4.5						
KMI				LR	LR		
	comp=E,475nm,15.4s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,15.4s,MS4.5						
KMI	Kunming	24.55	12	P	P	03 08 25.3	+1.4
	comp=Z,27nm,1.3s,mb4.6						
KMI				pP		03 08 33.1	
KMI				LR	LR		
	comp=Z,1μm,15.4s,MS4.5						
SHL	Shillong	24.93	349	*e*P	P	03 08 28.0	+0.5
PKI	Pulchoki	28.71	338	*e*P	P	03 09 04.4	+2.2
	comp=Z,14nm,0.7s,mb4.8						
PKI	Pulchoki	28.71	338	*e*P	P	03 09 04.4	+2.2
PKI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
GUN	Gumba	28.85	339	*e*P	P	03 09 04.1	+0.7
	comp=Z,37nm,0.8s,mb5.2						
DMN	Daman	28.86	337	*e*P	P	03 09 05.5	+2.0
	comp=Z,14nm,0.7s,mb4.8						
KKN	Kakani	28.96	338	*e*P	P	03 09 05.6	+1.2
	comp=Z,34nm,1.0s,mb5.0						
KKN	Kakani	28.96	338	*e*P	P	03 09 05.6	+1.2
KKN				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
GKN	Gorkha	29.40	337	*e*P	P	03 09 08.6	+0.2
	comp=Z,89nm,1.5s,mb5.3						
KOLN	Koldanda	29.61	335	*e*P	P	03 09 10.8	+0.5
	comp=Z,19nm,0.7s,mb5.0						
ENH	Enshi	31.35	21	*e*P	P	03 09 23.6	-2.0
	comp=Z,16nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	33.83	126	P	P	03 09 46.3	-1.0
	comp=Z,3.2nm,0.7s,mb4.4,baz=333,slow=8.8,SNR=3.8						
XAN	Xi'an	34.63	17	P	P	03 09 52.8	-1.3
XAN				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
GTA	Gaotai	38.28	3	P	P	03 10 25.2	+0.4
GTA				AP	pP	03 10 31.6	-0.9
GTA				XP	sP	03 10 35.2	-0.5
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
JOW	Kunigami	39.37	47	P	P	03 10 34.5	+0.4
	comp=Z,11nm,0.7s,mb4.7,baz=150,slow=20,SNR=2.9						
HHC	Hu-ho-hao-te	41.73	16	*e*P	P	03 10 52.3	-1.0
HHC				AP	pP	03 11 02.8	+1.7
HHC				XP	sP	03 11 06.5	+2.2
HHC				PP	PP	03 12 32.5	-0.5
HHC				PCP	PcP	03 12 47.6	-2.6
HHC				SCP		03 16 38.7	
HHC				PCS		03 16 43.8	
HHC				S	S	03 17 01.4	-7.2
HHC				SCS	ScS	03 20 48.3	-4.3
HHC				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.3						
HHC				AMB	AMB		
	comp=Z,151nm,7.7s						
HHC				LR	LR		
	comp=N,519nm,17.2s,MS4.6						
HHC				LR	LR		
	comp=E,537nm,16.7s,MS4.6						
HHC				LR	LR		
	comp=Z,319nm,15.9s,MS4.3						
WRA	Warramunga Arr	41.95	122	P	P	03 10 55.6	+0.2
	comp=Z,2.7nm,0.6s,mb4.0,baz=300,slow=9.1,SNR=13						
WRA				pP	pP	03 11 03.8	+0.7
	comp=Z,2.0nm,0.7s,baz=302,slow=9.1,SNR=5.0						
WRAB	Tennant Creek	41.95	122	*e*P	P	03 10 55.7	+0.3
WRAB				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.6						
WRAB	Tennant Creek	41.95	122	*e*P	P	03 10 55.7	+0.3
	comp=Z,16nm,1.1s,mb4.6						
WB2	Warramunga Arr	41.96	122	*e*P	P	03 10 56.2	+0.7
BJT	Baijiatuau	42.48	22	*e*P	P	03 11 00.5	+0.9
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	Baijiatuau	42.48	22	*e*P	P	03 11 00.5	+1.0
	comp=Z,10.0nm,0.6s,mb4.6						
BJI	Beijing	42.51	22	*e*P	P	03 11 00.7	+1.0
BJI				AMB	AMB		
	comp=Z,15nm,0.6s,mb4.9						
BJI				LR	LR		
	comp=Z,113nm,15.7s,MS3.9						
BJI	Beijing	42.51	22	*e*P	P	03 11 00.7	+1.0
	comp=Z,15nm,0.6s,mb4.9						
BJI				LR	LR		
	comp=Z,110nm,15.7s,MS3.9						
ASAR	Alice Springs	43.29	127	P	P	03 11 07.0	+0.6
	comp=Z,0.9nm,0.5s,mb3.8,baz=298,slow=8.0,SNR=7.9						
SONM	Songino Array	47.31	8	P	P	03 11 38.5	+0.5
	comp=Z,4.8nm,0.6s,mb4.6,baz=188,slow=9.0,SNR=20						
SONM				pP	pP	03 11 46.4	+0.5
	comp=Z,5.3nm,0.6s,baz=191,slow=9.0,SNR=12						
SONM				PcP	PcP	03 13 09.1	-0.1
	comp=Z,1.6nm,0.7s,baz=191,slow=3.4,SNR=5.3						
MKAR	Makanchi Array	47.41	346	*i* P	P	03 11 39.0	+0.1
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	47.41	346	P	P	03 11 39.0	+0.1
	comp=Z,4.4nm,0.6s,mb4.6,baz=157,slow=7.7,SNR=17						
MKAR				LR	LR	03 35 30.8	
	comp=Z,101nm,20.1s,MS3.8,baz=154,slow=41						
ULN	Ulaanbaatar	47.44	9	*e*P	P	03 11 39.1	0.0
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ULN	Ulaanbaatar	47.44	9	*e*P	P	03 11 39.1	0.0
	comp=Z,3.6nm,0.6s,mb4.5						
ZAK	Zakamensk	49.45	5	*e*P	P	03 11 54.3	-0.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.9s,mb3.8						
CN2	Changchun	49.47	27	*e*P	P	03 11 54.7	-0.2
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
HIA	Hailar	51.81	19	*e*P	P	03 12 12.4	-0.2
HIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HIA	Hailar	51.81	19	*e*P	P	03 12 12.4	-0.2
	comp=Z,6.9nm,0.6s,mb4.8						
OPO	Ambohidratompo	52.85	246	P	P	03 12 19.0	-1.8
	comp=Z,1.4nm,0.7s,mb4.0,baz=65,slow=17,SNR=3.3						
STKA	Stephens Creek	53.24	132	*e*P	P	03 12 24.3	+0.7
	comp=Z,2.1nm,0.6s,mb4.2						
STKA	Stephens Creek	53.24	132	P	P	03 12 24.3	+0.7
	comp=Z,3.2nm,0.7s,mb4.3,baz=293,slow=9.5,SNR=7.3						
STKA	Stephens Creek	53.24	132	*e*P	P	03 12 24.2	+0.6
ZAL	Zalesovo	53.72	351	P	P	03 12 26.9	+0.1
	comp=Z,2.8nm,0.6s,mb4.4,baz=307,slow=5.5,SNR=3.8						
ZAL	Zalesovo	53.72	351	P	P	03 12 26.9	+0.1
BVA0	Borovoye Array	56.41	341	*i* P	P	03 12 45.3	-1.1
BVAR	Borovoye Array	56.41	341	P	P	03 12 45.2	-1.2
	comp=Z,1.9nm,0.6s,mb4.3,baz=140,slow=9.2,SNR=10						
BVAR				pP	pP	03 12 53.0	-1.3
	comp=Z,3.0nm,0.6s,baz=145,slow=9.6,SNR=9.2						
CHKZ	Chkalovo	56.89	341	*e*P	P	03 12 48.7	-1.1
CHKZ				*e*PP	pP	03 12 56.4	-1.3
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
CHKZ	Chkalovo	56.89	341	*e*P	P	03 12 48.7	-1.1
	comp=Z,4.7nm,0.6s,mb4.7						
CHKZ				*e*pP	pP	03 12 56.4	-1.3
BOD	Bodaibo	58.19	10	*e*P	P	03 12 58.2	-0.6
BRTR	Keskin Array B	69.23	312	P	P	03 14 10.7	-0.9
	comp=Z,0.5nm,0.6s,mb3.6,baz=129,slow=7.9,SNR=3.8						
BRTR				pP	pP	03 14 17.8	-1.9
	comp=Z,0.6nm,0.6s,baz=129,slow=7.1,SNR=3.8						
AKASG	Malin Array Be	75.39	322	P	P	03 14 46.3	-1.7
	comp=Z,0.2nm

0.4nm,0.6s,mb3.5,baz=90,slow=4.0,SNR=3.8

*IDC **07** 03:21:23.2±0.7, 1.96N×96.72E, mb4.6/17, mb1 4.8/18, mb1mx4.6/24, mbtmp4.7/18, ML4.9/1, MS3.8/6, Ms1 3.8/6, ms1mx3.5/33, Error ellipse: s-maj=24.8km s-min=13.0km az=47.0*
*BJI **07** 03:21:26.1, 1.79N×96.72E, h42km, mB5.4, mb5.0, Ms4.5, Msz3.9*
*MOS **07** 03:21:26.4±0.8, 1.97N×96.71E, h33km, mb5.1/14, Error ellipse: s-maj=15.0km s-min=8.1km az=92.2*
*NEIC **07** 03:21:27.8±0.3, 1.96N×96.73E, mb4.8/20, Error ellipse: s-maj=9.5km s-min=5.4km az=53.0*

ISC 07 03:21:26.1±0.5, 1.96N±0.06×96.74E±0.07, h31km, h31km±3.8km: pP-P, n88, σ0°89/80, mb4.8/46, MS3.9/7, 5C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**10.97**	**16**	P	**P**	**03 24 04.0**	**-0.3**
CM31	**Chiang Mai Arr**	**16.54**	**7**	*e*P	**P**	**03 25 18.6**	**+1.0**
	12nm,0.4s						
CMAR	**Chiang Mai Arr**	**16.54**	**7**	Pn	**P**	**03 25 16.4**	**-1.2**
	1.7nm,0.3s,baz=198,slow=11,SNR=43						
CMAR				LR	LR	03 31 51.3	
	comp=Z,236nm,19.9s,baz=185,slow=38						
CHG	**Chiang Mai**	**16.89**	**7**	⇑P	**P**	**03 25 23.6**	**+1.6**
	17nm,0.6s						
NANT	**Nan**	**17.18**	**13**	P	**P**	**03 25 25.0**	**-0.7**
	112nm,0.6s						
KKM	**Kota Kinabalu**	**19.85**	**78**	*e*P	**P**	**03 25 57.9**	**+0.1**
QIZ	**Qiongzhong**	**21.27**	**36**	P	**P**	**03 26 12.3**	**-0.1**
KMI	**Kunming**	**23.75**	**14**	P	**P**	**03 26 38.4**	**+1.6**
KMI				AP		03 26 46.5	
KMI				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.5						
KMI	**Kunming**	**23.75**	**14**	P	**P**	**03 26 38.4**	**+1.6**
	comp=Z,21nm,1.0s,mb4.5						
KMI				pP		03 26 46.5	
SHL	**Shillong**	**23.93**	**349**	*e*	**P**	**03 26 37.0**	**-1.6**
SHL				*e*		03 30 53.0	
GYA	**Guiyang**	**26.16**	**21**	⇑*i*P	**P**	**03 27 00.6**	**+0.8**
GYA				AP	pP	03 27 09.1	+0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
GZH	**Guangzhou**	**26.47**	**36**	P	**P**	**03 27 04.4**	**+1.8**
PKI	**Pulchoki**	**27.68**	**338**	*e*P	**P**	**03 27 14.0**	**+0.4**
	comp=Z,18nm,0.6s,mb4.9						
PKI	**Pulchoki**	**27.68**	**338**	*e*P	**P**	**03 27 14.0**	**+0.4**
PKI				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.6						
GUN	**Gumba**	**27.81**	**339**	*e*P	**P**	**03 27 15.6**	**+0.7**
	comp=Z,90nm,0.6s,mb5.6						
DMN	**Daman**	**27.83**	**337**	*e*P	**P**	**03 27 15.3**	**+0.3**
	comp=Z,32nm,0.7s,mb5.1						
KKN	**Kakani**	**27.92**	**338**	*e*P	**P**	**03 27 15.9**	**0.0**
	comp=Z,27nm,0.6s,mb5.0						
KKN	**Kakani**	**27.92**	**338**	*e*P	**P**	**03 27 15.9**	**0.0**
KKN				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.8						
LSA	**Lhasa**	**28.09**	**350**	*e*P	**P**	**03 27 18.4**	**+1.0**
LSA	**Lhasa**	**28.09**	**350**	*e*P	**P**	**03 27 18.0**	**+0.6**
LSA				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.8						
LSA	**Lhasa**	**28.09**	**350**	*e*P	**P**	**03 27 17.9**	**+0.6**
	comp=Z,16nm,0.6s,mb4.8						
GKN	**Gorkha**	**28.36**	**337**	*e*P	**P**	**03 27 20.2**	**+0.4**
	comp=Z,38nm,0.7s,mb5.1						
KOLN	**Koldanda**	**28.58**	**335**	*e*P	**P**	**03 27 22.0**	**+0.3**
	comp=Z,49nm,0.6s,mb5.4						
ENH	**Enshi**	**30.64**	**22**	*e*P	**P**	**03 27 38.5**	**-1.7**
	comp=Z,13nm,0.8s,mb4.8						
XAN	**Xi'an**	**33.89**	**18**	P	**P**	**03 28 06.4**	**-2.0**
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
LZH	**Lanzhou**	**34.59**	**10**	⇑P	**P**	**03 28 13.5**	**-1.0**
LZH				AP	pP	03 28 27.5	+3.9
LZH				XP	sP	03 28 35.0	+7.5
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb5.2						
LZH	**Lanzhou**	**34.59**	**10**	⇑P	**P**	**03 28 13.5**	**-1.0**
LZH				*PP	pP	03 28 27.5	+3.9
LZH				pmax	pmax		
	comp=Z,42nm,1.2s,mb5.2						
LZH	**Lanzhou**	**34.59**	**10**	⇑P	**P**	**03 28 13.5**	**-1.0**
	comp=Z,42nm,1.2s,mb5.2						
LZH				pP	pP	03 28 27.5	+3.9
LZH				sP	sP	03 28 35.0	+7.5
FITZ	**Fitzroy Crossi**	**34.75**	**126**	P	**P**	**03 28 14.3**	**-1.7**
	comp=Z,9.0nm,0.9s,mb4.7,baz=327,slow=4.8,SNR=6.6						
FITZ				LR	LR	03 44 03.9	
	comp=Z,170nm,18.5s,MS3.8,baz=277,slow=39						
GTA	**Gaotai**	**37.38**	**4**	P	**P**	**03 28 38.0**	**0.0**
GTA				AP	pP	03 28 46.0	-1.2
GTA				XP	sP	03 28 49.8	-1.2
GTA				PP	PP	03 30 08.9	+2.8
GTA				PPP	PPP	03 30 30.5	+3.7
GTA				S	**S**	**03 34 28.6**	**+5.0**
GTA				XS		03 34 43.4	
GTA				AMB	AMB		
	comp=Z,39nm,1.7s,mb5.0						
GTA				AMB	AMB		
	comp=Z,398nm,4.6s						
GTA				LR	LR		
	comp=N,279nm,12.5s,MS4.3						
GTA				LR	LR		
	comp=E,254nm,17.1s,MS4.3						
GTA				LR	LR		
	comp=Z,113nm,12.9s,MS3.9						
JOW	**Kunigami**	**39.07**	**48**	LR	LR	03 45 02.1	
	comp=Z,98nm,18.6s,MS3.7,baz=294,slow=36						
HHC	**Hu-ho-hao-te**	**40.97**	**17**	*e*P	**P**	**03 29 09.2**	**+1.4**
HHC				AP	pP	03 29 19.2	+2.2
HHC				XP	sP	03 29 23.8	+3.0
HHC				PP	PP	03 30 44.5	-0.8
HHC				SCS	ScS	03 39 11.3	+3.2
HHC				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.2						
HHC				AMB	AMB		
	comp=Z,347nm,5.8s						
HHC				LR	LR		
	comp=N,283nm,15.1s,MS4.4						
HHC				LR	LR		
	comp=E,288nm,16.1s,MS4.4						
HHC				LR	LR		
	comp=Z,168nm,15.0s,MS4.0						
BJT	**Baijiatuau**	**41.79**	**23**	*e*P	**P**	**03 29 14.1**	**-0.6**
BJT				*e*PP	pP	03 29 23.6	-0.2
BJT				pmax	pmax		
	comp=Z,43nm,1.1s						
BJT	**Baijiatuau**	**41.79**	**23**	*e*P	**P**	**03 29 14.1**	**-0.5**
	comp=Z,43nm,1.1s,mb5.0						
BJT				*e*pP	pP	03 29 23.6	-0.2
BJI	**Beijing**	**41.81**	**23**	*e*P	**P**	**03 29 15.8**	**+1.0**
BJI				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.7						
BJI	**Beijing**	**41.81**	**23**	*e*P	**P**	**03 29 15.8**	**+1.0**
BJI				*SP	sP	03 29 23.6	-4.2
BJI				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.7						
BJI	**Beijing**	**41.81**	**23**	*e*P	**P**	**03 29 15.8**	**+1.0**
	comp=Z,21nm,1.0s,mb4.7						
BJI				sP	sP	03 29 23.6	-4.2
WRA	**Warramunga Arr**	**42.83**	**122**	P	**P**	**03 29 23.0**	**-0.4**
	comp=Z,9.8nm,0.6s,mb4.7,baz=301,slow=9.1,SNR=18						
WRAB	**Tennant Creek**	**42.84**	**122**	*i*P	**P**	**03 29 23.9**	**+0.4**
WRAB	**Tennant Creek**	**42.84**	**122**	*e*P	**P**	**03 29 24.3**	**+0.8**
	comp=Z,22nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**42.84**	**122**	*e*P	**P**	**03 29 24.2**	**+0.7**
DL2	**Dalian**	**43.23**	**29**	P	**P**	**03 29 27.1**	**+0.7**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
ASAR	**Alice Springs**	**44.22**	**127**	P	**P**	**03 29 34.6**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.2,baz=304,slow=7.5,SNR=7.7						
ASAR				PcP	PcP	03 31 19.4	0.0
	comp=Z,1.2nm,0.7s,baz=304,slow=3.6,SNR=4.0						
MKAR	**Makanchi Array**	**46.40**	**346**	*i*P	**P**	**03 29 51.7**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**46.40**	**346**	P	**P**	**03 29 52.0**	**+0.3**
	comp=Z,14nm,0.6s,mb5.1,baz=159,slow=9.4,SNR=41						
SONM	**Songino Array**	**46.45**	**9**	P	**P**	**03 29 52.4**	**+0.3**
	comp=Z,14nm,1.1s,mb4.8,baz=190,slow=8.5,SNR=30						
SONM				PcP	PcP	03 31 27.3	+0.4
	comp=Z,2.3nm,0.6s,baz=194,slow=3.6,SNR=6.4						
ULN	**Ulaanbaatar**	**46.59**	**10**	*e*P	**P**	**03 29 53.6**	**+0.4**
ULN				*e*PP	pP	03 30 01.5	-0.9
ULN				*e*		03 31 27.0	
ULN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
ULN	**Ulaanbaatar**	**46.59**	**10**	*e*P	**P**	**03 29 53.6**	**+0.4**
	comp=Z,9.8nm,1.1s,mb4.7						
ULN				*e*pP	pP	03 30 01.5	-0.9
ULN				*e*PcP	PcP	03 31 27.0	-0.3
ZAK	**Zakamensk**	**48.56**	**6**	*e*P	**P**	**03 30 08.6**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.2						
CN2	**Changchun**	**48.84**	**28**	*e*P	**P**	**03 30 10.6**	**-0.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
MOY	**Mondy**	**49.66**	**3**	*e*P	**P**	**03 30 18.6**	**+1.6**
CBIJ	**Chichi jima**	**50.17**	**56**	LR	LR	03 51 04.4	
	comp=Z,51nm,20.6s,MS3.5,baz=27,slow=36						
HIA	**Hailar**	**51.08**	**19**	*e*P	**P**	**03 30 27.9**	**+0.1**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HIA	**Hailar**	**51.08**	**19**	*e*P	**P**	**03 30 27.9**	**+0.1**
	comp=Z,7.6nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**51.45**	**43**	*e*P	**P**	**03 30 30.9**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
MAJO	**Matsushiro**	**51.45**	**43**	*e*P	**P**	**03 30 30.9**	**0.0**
	comp=Z,16nm,0.9s,mb5.0						
MAT	**Matsushiro**	**51.45**	**43**	P	**P**	**03 30 31.0**	**+0.2**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
MAT	**Matsushiro**	**51.45**	**43**	P	**P**	**03 30 31.0**	**+0.2**
	comp=Z,8.4nm,0.9s,mb4.7						
MAT	**Matsushiro**	**51.45**	**43**	P	**P**	**03 30 30.9**	**+0.1**
MJAR	**Matsushiro Arr**	**51.45**	**43**	P	**P**	**03 30 30.3**	**-0.6**
	comp=Z,5.3nm,0.9s,mb4.5,baz=209,slow=6.6,SNR=10						
MJAR	**Matsushiro Arr**	**51.45**	**43**	P	**P**	**03 30 30.3**	**-0.6**
PMG	**Port Moresby**	**51.48**	**104**	P	**P**	**03 30 31.5**	**+0.1**
	comp=Z,34nm,0.7s,mb5.4,baz=19,slow=1.0,SNR=11						
ZAL	**Zalesovo**	**52.73**	**351**	P	**P**	**03 30 40.6**	**+0.4**
	comp=Z,17nm,0.6s,mb5.2,baz=300,slow=3.9,SNR=34						
CTA	**Charters Tower**	**53.26**	**117**	P	**P**	**03 30 45.4**	**+0.8**
	comp=Z,8.6nm,0.8s,mb4.8,baz=292,slow=9.7,SNR=6.7						
BVA0	**Borovoye Array**	**55.38**	**341**	P	**P**	**03 30 58.7**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**55.38**	**341**	P	**P**	**03 30 58.3**	**-1.4**
	comp=Z,7.4nm,0.7s,mb4.8,baz=143,slow=7.4,SNR=14						
KLR	**Kul'dur**	**55.79**	**27**	*e*P	**P**	**03 31 02.2**	**-0.5**
CHKZ	**Chkalovo**	**55.86**	**342**	*e*P	**P**	**03 31 02.7**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
CHKZ	**Chkalovo**	**55.86**	**342**	*e*P	**P**	**03 31 02.7**	**-0.4**
	comp=Z,14nm,0.7s,mb5.1						
BOD	**Bodaibo**	**57.35**	**11**	*e*P	**P**	**03 31 13.2**	**-0.5**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
ASAJ	**Asahikawa**	**58.34**	**37**	P	**P**	**03 31 20.1**	**-0.7**
	comp=Z,3.9nm,0.4s,mb4.8,baz=225,slow=18,SNR=4.7						
KMBO	**Kilima Mbogo**	**59.55**	**268**	LR	LR	03 54 59.1	
	comp=Z,79nm,18.4s,MS3.9,baz=185,slow=34						
YAK	**Yakutsk**	**64.83**	**16**	*e*P	**P**	**03 32 02.4**	**-1.8**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
BRTR	**Keskin Array B**	**68.26**	**312**	P	**P**	**03 32 25.6**	**-0.8**
	comp=N,1.7nm,0.6s,mb4.2,baz=131,slow=7.4,SNR=8.8						
MATP	**Matopo**	**70.38**	**248**	P	**P**	**03 32 40.9**	**+1.2**
	comp=N,4.3nm,1.1s,mb4.3,baz=92,slow=8.0,SNR=3.9						
TIXI	**Tiksi**	**72.52**	**10**	*i*P	**P**	**03 32 51.1**	**-0.6**
AKASG	**Malin Array Be**	**74.38**	**322**	P	**P**	**03 33 01.9**	**-0.9**
	comp=N,2.3nm,0.6s,mb4.3,baz=87,slow=5.0,SNR=12						
FINES	**FINESS Array B**	**79.11**	**333**	P	**P**	**03 33 29.5**	**+0.4**
	comp=N,4.5nm,0.6s,mb4.6,baz=90,slow=5.7,SNR=13						
KAF	**Kangasniemi**	**79.20**	**333**	*e*p	**P**	**03 33 28.5**	**-1.1**
	comp=N,0.8nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**79.20**	**333**	*e*P	**P**	**03 33 28.5**	**-1.1**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
RPZ	**Rata Peaks**	**80.07**	**135**	LR	LR	04 05 24.3	
	comp=Z,178nm,20.6s,MS4.4,baz=355,slow=33						
ARCES	**ARCESS Array B**	**81.67**	**340**	P	**P**	**03 33 43.2**	**+0.7**
	comp=Z,4.1nm,0.6s,mb4.5,baz=94,slow=4.8,SNR=15						
GERES	**GERESS Array B**	**83.94**	**319**	P	**P**	**03 33 55.3**	**+0.7**
	comp=Z,1.6nm,0.8s,mb4.2,baz=104,slow=5.5,SNR=10						
YKA	**Yellowknife Ar**	**111.48**	**15**	Pdiff	Pdif	03 36 01.7	+1.6
	comp=Z,0.2nm,0.9s,baz=284,slow=4.8,SNR=3.5						
YKA				PP	PP	03 40 35.9	-6.7
	comp=Z,0.2nm,0.5s,baz=329,slow=7.2,SNR=3.6						
ULM	**Lac du Bonnet**	**126.88**	**10**	PKhKP		03 40 25.8	
	comp=Z,0.9nm,0.4s,baz=64,slow=2.2,SNR=3.3						
NVAR	**Mina Array Bea**	**128.44**	**35**	PKP	PKPdf	03 40 32.3	-3.4
	comp=Z,0.2nm,0.4s,baz=260,slow=0.4,SNR=3.9						
PDAR	**Pinedale Array**	**129.56**	**25**	PKP	PKPdf	03 40 34.0	-3.7
	comp=Z,0.3nm,0.6s,baz=315,slow=2.1,SNR=3.8						
TXAR	**Lajitas Array**	**143.26**	**31**	PKhKP		03 40 57.0	
	comp=Z,0.5nm,0.5s,baz=23,slow=3.9,SNR=7.2						

*MOS **07** 03:25:50.7±1.8, 36.38N×71.37E, h109km, mb3.8/3, Error ellipse: s-maj=24.4km s-min=13.6km az=81.4*
*IDC **07** 03:25:52.0±5.8, 36.42N×71.25E, h95km±51km, mb3.5/6, mb1 3.7/9, mb1mx3.4/24, mbtmp4.0/9, Error ellipse: s-maj=37.8km s-min=23.2km az=134.0*
*NEIC **07** 03:25:52.4±2.8, 36.52N×71.18E, h94km±23km, mb3.7/1, Error ellipse: s-maj=26.8km s-min=18.0km az=154.0*
*NNC **07** 03:25:57.1±8.3, 36.80N×70.88E, h90km±123km, mpv4.9, Error ellipse: s-maj=65.4km s-min=57.9km az=164.0*

ISC 07 03:25:50.0±1.1, 36.26N±0.04×71.4E±0.1, h104km±14km, n50, σ1°31/60, mb3.7/6, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.25**	**135**	*e*P	**P**	**03 27 10.9**	**+3.5**
THN				*e*S	**S**	**03 28 09.2**	**+2.0**
DLH	**Dalhousie**	**5.32**	**133**	*e*P	**P**	**03 27 12.0**	**+3.7**
DLH				*e*S	**S**	**03 28 11.0**	**+2.2**
PONG	**Pong**	**5.74**	**137**	*e*P	**P**	**03 27 18.0**	**+3.9**
PONG				*e*S	**S**	**03 28 21.0**	**+1.8**
AML	**Almayashu**	**6.13**	**16**	P	**P**	**03 27 19.5**	**0.0**
	SNR=249						
BHK	**Bhakra**	**6.41**	**138**	*e*S	**S**	**03 28 37.6**	**+2.1**
UCH	**Uchtor**	**6.44**	**21**	P	**P**	**03 27 24.4**	**+0.7**
	SNR=52						
KZA	**Kyzart**	**6.54**	**26**	P	**P**	**03 27 25.8**	**+0.6**
	SNR=19						
SDNR	**Sundarnagar**	**6.65**	**134**	*e*P	**P**	**03 27 27.0**	**+0.3**
SDNR				*e*S	**S**	**03 28 39.0**	**-2.6**
EKS2	**Erkin-Say**	**6.66**	**16**	P	**P**	**03 27 26.9**	**+0.1**
	SNR=65						
AAK	**Ala-Archa**	**6.81**	**20**	P	**P**	**03 27 29.1**	**+0.2**
	SNR=88						
AAK	**Ala-Archa**	**6.81**	**20**	⇑P	**P**	**03 27 29.0**	**+0.1**
	41nm,0.6s						
AAK				⇓S	**S**	**03 28 41.1**	**-4.3**
	24nm,0.8s						
AAK	**Ala-Archa**	**6.81**	**20**	*e*PN	**P**	**03 27 27.9**	**-1.0**
AAK				pmax	pmax		
	comp=Z,48nm,0.6s						
AAK	**Ala-Archa**	**6.81**	**20**	*e*Pn	**P**	**03 27 27.9**	**-1.0**
	comp=Z,48nm,0.6s						
AAK				*e*Sn	**S**	**03 28 36.8**	**-8.6**
KK31	**Karatay Array**	**6.87**	**355**	⇓P	**P**	**03 27 28.3**	**-1.3**
	comp=Z,60nm,0.4s,baz=180,slow=13						
KK31				⇑S	**S**	**03 28 39.4**	**-7.4**
	comp=Z,30nm,0.5s,baz=181,slow=22						
KBK	**Karagaybulak**	**6.96**	**22**	P	**P**	**03 27 31.5**	**+0.5**
	SNR=5.7						
SMLA	**Simla**	**7.04**	**135**	⇑*i*P	**P**	**03 27 24.4**	**-7.7**
SMLA				*i*S	**S**	**03 28 39.7**	**-11**
CHMS	**Chumysh**	**7.22**	**20**	P	**P**	**03 27 34.4**	**-0.1**
	SNR=12						
USP	**Ospenovka**	**7.40**	**18**	P	**P**	**03 27 36.9**	**-0.1**
	SNR=22						
TKM2	**Tokmak 2**	**7.41**	**25**	P	**P**	**03 27 37.6**	**+0.5**
	SNR=9.9						
KLP	**Kalpa**	**7.42**	**128**	*e*	**P**	**03 27 33.4**	**-3.7**
KLP				*i*P		03 27 39.3	
KLP				*e*		03 28 55.8	
KLP				*e*		03 29 04.3	
	comp=N,443nm,0.9s						
KLP				*e*		03 29 04.7	
	comp=E,320nm,1.1s						
JOSI	**Joshimath**	**8.90**	**127**	*i*	**P**	**03 27 46.9**	**-10**
JOSI				*e*		03 29 20.8	
KHET	**Khetri**	**8.99**	**154**	*i*	**P**	**03 27 58.3**	**0.0**
KHET				*e*		03 29 32.6	
KHET				*e*		03 29 34.6	
	comp=N,13nm,0.2s						
KHET				*e*		03 29 34.7	
	comp=E,16nm,0.1s						
NDI	**New Delhi**	**9.03**	**145**	*e*	**P**	**03 27 55.0**	**-3.9**
NDI				*e*		03 29 28.5	
AYAN	**Aya Nagar**	**9.16**	**146**	*e*	**P**	**03 27 54.3**	**-6.4**
AYAN				*i*S	**S**	**03 29 40.5**	**-2.1**
AYAN				*e*		03 29 41.0	
	comp=Z,5.3nm,0.9s						
SONA	**Sohna**	**9.34**	**147**	*i*	**P**	**03 27 56.6**	**-6.5**
SONA				*e*S	**S**	**03 29 45.0**	**-2.0**
SONA				*e*		03 29 46.2	
	comp=N,21nm,0.3s						
SONA				*e*		03 29 46.4	
	comp=E,34nm,0.3s						
AGRA	**Agra**	**10.60**	**146**	*e*	**S**	**03 30 11.3**	**-5.9**
	comp=N,38nm,0.2s						
AGRA				*e*		03 30 11.4	
	comp=E,43nm,0.3s						
AGRA				*e*		03 30 11.9	
MKAR	**Makanchi Array**	**13.32**	**34**	P	**P**	**03 28 55.8**	**0.0**
	comp=E,0.2nm,0.3s,baz=218,slow=12,SNR=4.4						
BVA0	**Borovoye Array**	**16.78**	**358**	⇑P	**P**	**03 29 39.3**	**-0.3**
	comp=E,0.3nm,0.5s						
BVAR	**Borovoye Array**	**16.78**	**358**	P	**P**	**03 29 38.1**	**-1.5**
	comp=E,0.7nm,0.3s,baz=174,slow=13,SNR=14						
CHKZ	**Chkalovo**	**17.42**	**359**	⇑P	**P**	**03 29 47.7**	**+0.1**
	comp=E,0.9nm,0.6s						
CHKZ	**Chkalovo**	**17.42**	**359**	*e*P	**P**	**03 29 43.9**	**-3.7**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CHKZ	**Chkalovo**	**17.42**	**359**	*e*P	**P**	**03 29 43.9**	**-3.7**
	comp=Z,3.4nm,0.7s						
ZAL	**Zalesovo**	**20.00**	**24**	P	**P**	**03 30 16.2**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	**Zalesovo**	**20.00**	**24**	P	**P**	**03 30 16.2**	**-0.1**
	comp=Z,2.2nm,0.3s,baz=269,slow=6.4,SNR=11						
ZAL	**Zalesovo**	**20.00**	**24**	P	**P**	**03 30 16.2**	**-0.1**
KIV	**Kislovodsk**	**23.16**	**298**	P	**P**	**03 30 49.1**	**+1.5**
KIV	**Kislovodsk**	**23.16**	**298**	P	**P**	**03 30 49.1**	**+1.5**
ULN	**Ulaanbaatar**	**28.67**	**55**	P	**P**	**03 31 35.2**	**-3.7**
BRTR	**Keskin Array B**	**29.79**	**288**	P	**P**	**03 31 48.0**	**-0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**29.79**	**288**	P	**P**	**03 31 48.0**	**-1.0**
	comp=Z,0.6nm,0.7s,mb3.4,baz=101,slow=6.3,SNR=3.8						
AKASG	**Malin Array Be**	**33.32**	**309**	P	**P**	**03 32 19.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**33.32**	**309**	P	**P**	**03 32 19.0**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.8,baz=79,slow=6.8,SNR=5.7						
AKASG	**Malin Array Be**	**33.32**	**309**	P	**P**	**03 32 19.0**	**-0.6**
NB2	**NORSAR Subarra**	**44.75**	**323**	P	**P**	**03 33 54.7**	**+0.5**
	comp=Z,1.0nm,0.5s,mb3.8,baz=99,slow=7.4						
NOA	**NORSAR Array B**	**44.75**	**323**	P	**P**	**03 33 55.0**	**+0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**44.75**	**323**	P	**P**	**03 33 55.0**	**+0.8**
	comp=Z,0.7nm,0.3s,mb3.8,baz=100,slow=7.7,SNR=4.1						
MATP	**Matopo**	**69.43**	**223**	P	**P**	**03 36 50.6**	**+1.6**
	comp=Z,1.7nm,0.4s,mb4.2,baz=31,slow=7.1,SNR=9.6						
INK	**Inuvik**	**74.09**	**9**	P	**P**	**03 37 16.5**	**+0.7**
	comp=Z,0.3nm,0.4s,mb3.4,baz=345,slow=6.5,SNR=7.7						
YKA	**Yellowknife Ar**	**81.47**	**3**	P	**P**	**03 37 57.0**	**+0.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=349,slow=5.4,SNR=13						
YKA	**Yellowknife Ar**	**81.47**	**3**	P	**P**	**03 37 57.0**	**+0.5**

*IDC **07** 03:35:01.1±0.8, 15.87N×92.80E, mb4.0/14, mb1 4.2/15, mb1mx4.1/23, mbtmp4.0/15, ML3.9/1, Error ellipse: s-maj=32.5km s-min=15.0km az=50.0*
*NEIC **07** 03:35:05.4±0.7, 16.00N×92.84E, h30km, mb4.5/4, Error ellipse: s-maj=18.9km s-min=8.7km az=40.0*

ISC 07 03:35:04.3±0.6, 16.13N±0.08×92.99E±0.04, h33km, n30, σ1°36/33, mb4.1/18, 1C, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDT	**Bhumibol Dam**	**5.87**	**78**	P	**P**	**03 36 32.0**	**+0.8**
	33nm,0.6s						
CM31	**Chiang Mai Arr**	**6.14**	**67**	*e*Pn	**Pn**	**03 36 37.0**	**+1.7**
CM31				*e*Sn	**Sn**	**03 37 43.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**6.14**	**67**	Pn	**Pn**	**03 36 35.5**	**+0.3**
	0.7nm,0.3s,baz=251,slow=15,SNR=16						
CMAR				Sn	**Sn**	**03 37 43.6**	**-1.5**
	4.7nm,0.3s,baz=252,slow=31,SNR=21						
CHG	**Chiang Mai**	**6.28**	**64**	⇑P	**S**	**03 37 48.9**	**+0.4**
	47nm,0.6s						
VIS	**Vishakhapatnam**	**9.38**	**281**	*e*P	**P**	**03 37 14.0**	**-6.2**
VIS				*e*S	**S**	**03 38 50.5**	**-15**
PKI

IGQ 07 03:48:29.3, 2.64S×80.97W, h12km±11km, mb4.3, 9C-6D, Error ellipse: s-maj=12.6km s-min=5.5km az=162.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	Salinas	0.45	357	⇑P	Pg	03 48 43.6	+5.0
HOJA	Cerro de Hojas	1.64	15	⇑P	Pn	03 48 59.1	+0.9
HOJA				S	Sn	03 49 19.3	+0.1
JAMA	Jama	2.48	18	P	Pn	03 49 11.4	+1.1
JAMA				S	Sn	03 49 41.0	+0.2
IGUA	Igualata	2.59	64	⇑P	Pn	03 49 12.4	+0.6
IGUA				S	Sn	03 49 41.8	-1.7
ARRY	Arrayan	2.75	66	⇑P	Pn	03 49 14.3	+0.2
ULBA	Ulba	2.82	65	P	Pn	03 49 15.9	+0.8
ULBA				S	Sn	03 49 49.2	0.0
MAGD	Magdalena	2.82	25	P	Pn	03 49 17.3	+2.2
PISA	Pisayambo	3.02	59	P	Pn	03 49 19.8	+1.9
NAS1	Nasa	3.19	51	⇑P	Pn	03 49 23.3	+3.0
NAS1				S	Sn	03 50 02.2	+3.6
TAMB	Tambo	3.24	53	⇑P	Pn	03 49 23.4	+2.4
TAMB				S	Sn	03 50 02.5	+2.7
VC1	Cotopaxi 1	3.24	52	⇑P	Pn	03 49 24.0	+2.9
VC1				S	Sn	03 50 03.0	+3.1
JUA2	San Juan 2	3.37	44	⇓P	Pn	03 49 24.3	+1.3
JUA2				S	Sn	03 50 04.7	+1.4
TERV	Terraza Guagua	3.40	44	P	Pn	03 49 24.7	+1.3
GGP	Refugio Guagua	3.41	44	⇓P	Pn	03 49 24.3	+0.8
PINO	Pino	3.41	44	⇓P	Pn	03 49 24.4	+0.9
PINO				S	Sn	03 50 04.1	-0.2
YANA	Yana	3.47	44	P	Pn	03 49 25.0	+0.8
JOR1	San Jorge 1	3.51	42	⇓P	Pn	03 49 23.2	-1.6
JOR1				S	Sn	03 50 02.3	-4.4
ANTI	Antisana	3.55	52	⇑P	Pn	03 49 28.7	+3.3
ANTI				S	Sn	03 50 11.8	+4.0
COTA	Cotacachi	3.96	42	⇑P	Pn	03 49 33.4	+2.2
CAYR	Refugio Cayamb	3.96	48	⇓P	Pn	03 49 34.3	+3.0
CAYR				S	Sn	03 50 23.0	+4.7
CAYA	Cayambe	4.01	48	P	Pn	03 49 34.9	+2.8
CAYA				S	Sn	03 50 24.5	+4.9
ECEN	Cerro Negro	4.56	41	⇓P	Pn	03 49 42.4	+2.6
ECEN				S	Sn	03 50 36.5	+3.1

*IDC **07** 04:00:22.7±6.8, 21.76S×179.88W, h606km±87km, mb3.3/7, mb1 3.6/7, mb1mx3.5/14, mbtmp4.2/7, Error ellipse: s-maj=97.6km s-min=31.8km az=161.0*

ISC 07 04:00:21.0±1.4, 21.8S±0.6×179.9W±0.3, h600km, n15, σ0§45/11, mb3.9/8, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.65	267	eP	P	04 05 59.0	+0.8
	3.4nm,0.3s,mb4.5						
STKA	Stephens Creek	35.67	245	⇓iP	P	04 06 31.6	0.0
	1.6nm,0.5s,mb3.8						
STKA	Stephens Creek	35.67	245	P	P	04 06 31.6	+0.1
	1.9nm,0.5s,mb3.9,baz=78,slow=7.1,SNR=4.4						
ASAR	Alice Springs	42.54	258	P	P	04 07 27.0	-0.1
	5.7nm,0.8s,mb4.2,baz=94,slow=8.1,SNR=43						
ASPA	Alice Springs	42.54	258	eP	P	04 07 27.2	+0.1
WB2	Warramunga Arr	42.70	264	⇓iP	P	04 07 27.9	-0.5
WRA	Warramunga Arr	42.71	264	P	P	04 07 28.1	-0.4
	2.5nm,0.3s,mb4.2,baz=95,slow=7.8,SNR=41						
NVAR	Mina Array Bea	83.15	44	P	P	04 11 46.9	+0.7
	0.6nm,0.3s,mb3.6,baz=231,slow=11,SNR=6.8						
TXAR	Lajitas Array	89.21	58	P	P	04 12 15.7	+0.2
	1.3nm,0.9s,mb3.8,baz=220,slow=5.1,SNR=11						
ILAR	Eielson Array	89.94	13	P	P	04 12 17.9	-0.1
	0.6nm,0.9s,mb3.4,baz=218,slow=4.1,SNR=4.2						
PDAR	Pinedale Array	91.08	44	P	P	04 12 22.9	-0.8
	0.4nm,0.7s,mb3.4,baz=252,slow=4.7,SNR=3.9						
BVAR	Borovoye Array	118.92	319	PKP	PKPdf	04 18 02.4	+0.5
	0.6nm,0.4s,baz=135,slow=2.1,SNR=3.7						
ARCES	ARCESS Array B	129.84	349	PKP	PKPdf	04 18 23.0	+0.4
	1.8nm,0.7s,baz=90,slow=3.6,SNR=5.1						
HFS	Hagfors	140.49	349	PKhKP		04 18 37.3	
	1.4nm,0.6s,baz=90,slow=2.9,SNR=7.3						
GERES	GERESS Array B	150.90	341	PKPbc	PKPdf	04 19 08.0	+8.2
	0.6nm,0.5s,slow=1.3,SNR=5.7						

*NEIC **07** 04:11:55.6±0.8, 3.61S×138.36E, h35km, mb4.5/2, Error ellipse: s-maj=19.4km s-min=14.1km az=81.0*
*IDC **07** 04:11:57.4±3.4, 3.52S×138.20E, h47km±33km, mb3.8/5, mb1 4.1/8, mb1mx4.0/15, mbtmp4.3/8, ML4.1/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/25, Error ellipse: s-maj=33.3km s-min=14.2km az=94.0*

ISC 07 04:11:54.3±0.8, 3.71S±0.09×137.9E±0.1, h33km, n18, σ1§34/20, mb3.8/4, 1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	10.77	122	P	P	04 14 29.1	-0.4
	1.1nm,0.3s,baz=283,slow=13,SNR=4.2						
PMG	Port Moresby	10.77	122	P	P	04 14 21.8	-7.6
	58nm,1.1s						
WRAB	Tennant Creek	16.50	192	eP	P	04 15 42.5	-2.5
	42nm,0.6s						
WRAB				e		04 15 48.6	
WB2	Warramunga Arr	16.51	192	eP	P	04 15 42.6	-2.5
WRA	Warramunga Arr	16.51	192	P	P	04 15 45.1	0.0
	0.7nm,0.3s,baz=13,slow=12,SNR=12						
WRA				S	S	04 18 55.8	+9.2
	0.6nm,0.3s,baz=6.2,slow=22,SNR=5.2						
CTA	Charters Tower	18.19	154	⇓iP	P	04 16 07.5	+1.3
	11nm,0.6s						
CTA	Charters Tower	18.19	154	P	P	04 16 07.7	+1.5
	0.7nm,0.3s,baz=336,slow=8.6,SNR=5.8						
CTA	Charters Tower	18.19	154	P	P	04 16 07.7	+1.5
CTAO	Charters Tower	18.19	154	eP	P	04 16 06.4	+0.2
	22nm,0.9s						
FITZ	Fitzroy Crossi	18.70	219	eP	P	04 16 11.9	-0.5
	7.3nm,0.4s						
FITZ	Fitzroy Crossi	18.70	219	P	P	04 16 13.9	+1.4
	1.6nm,0.3s,baz=34,slow=7.6,SNR=19						
FITZ				S	S	04 19 32.7	-3.5
	2.1nm,0.3s,baz=185,slow=9.5,SNR=5.1						
FITZ				LR	LR	04 25 08.3	
	comp=Z,125nm,18.3s,baz=56,slow=42						
ASAR	Alice Springs	20.22	191	P	P	04 16 30.4	+1.1
	16nm,0.6s,baz=19,slow=9.6,SNR=38						
ASAR				S	S	04 20 19.1	+10
	3.1nm,0.8s,baz=12,slow=27,SNR=5.2						
ASPA	Alice Springs	20.22	191	eP	P	04 16 30.2	+0.9
STKA	Stephens Creek	28.23	173	P	P	04 17 47.0	+0.5
	2.0nm,0.8s,mb3.8,baz=312,slow=15,SNR=1.8						
MKAR	Makanchi Array	70.10	323	P	P	04 23 05.5	+0.3
	0.4nm,0.5s,mb3.6,baz=108,slow=8.3,SNR=5.0						
BVAR	Borovoye Array	79.68	325	P	P	04 24 01.3	+1.1
	1.0nm,0.5s,mb4.0,baz=112,slow=8.0,SNR=4.8						
ILAR	Eielson Array	87.06	25	P	P	04 24 35.0	-2.4
	0.5nm,0.5s,mb4.0,baz=264,slow=4.3,SNR=13						
LPAZ	La Paz	147.47	128	PKPbc	PKPdf	04 31 36.9	+3.5
	0.4nm,0.5s,baz=264,slow=9.2,SNR=2.6						

*IDC **07** 04:12:03.3±5.3, 1.15N×97.12E, mb4.2/8, mb1 4.4/9, mb1mx4.1/20, mbtmp4.2/9, ML4.5/1, MS3.5/2, Ms1 3.6/2, ms1mx3.1/20, Error ellipse: s-maj=133.8km s-min=48.0km az=132.0*
*BJI **07** 04:12:07.0, 1.19N×97.37E, h36km, mB5.5, mb4.9*
*NEIC **07** 04:12:09.1±1.2, 1.34N×97.15E, h30km, mb4.6/14, Error ellipse: s-maj=22.7km s-min=10.7km az=159.0*

ISC 07 04:12:09.9±3.5, 1.5N±0.2×97.1E±0.1, h40km±27km, n31, σ0§80/31, mb4.5/23, MS3.4/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.13	43	eP	P	04 13 25.9	-0.3
KULM				epP		04 13 32.2	
CM31	Chiang Mai Arr	16.92	6	eP	P	04 16 05.4	0.0
	25nm,1.0s						
CMAR	Chiang Mai Arr	16.92	6	Pn	P	04 16 05.0	-0.4
	0.6nm,0.3s,baz=200,slow=11,SNR=16						
CMAR				LR	LR	04 23 48.4	
	comp=Z,170nm,18.1s,baz=185,slow=41						
QIZ	Qiongzhong	21.40	35	eP	P	04 16 56.0	-0.4
	15nm,1.1s,mb4.2						
KMI	Kunming	24.08	13	P	P	04 17 24.4	+1.6
KMI				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.5						
KMI	Kunming	24.08	13	P	P	04 17 24.4	+1.6
	comp=Z,22nm,1.0s,mb4.5						
SHL	Shillong	24.43	348	⇑iP	P	04 17 27.0	+0.7
PKI	Pulchoki	28.23	338	eP	P	04 18 02.5	+1.1
	comp=Z,11nm,0.7s,mb4.6						
GUN	Gumba	28.36	339	eP	P	04 18 02.9	+0.3
	comp=Z,24nm,0.8s,mb4.9						
DMN	Daman	28.38	337	eP	P	04 18 03.0	+0.2
	comp=Z,14nm,0.9s,mb4.6						
KKN	Kakani	28.48	338	eP	P	04 18 03.9	+0.3
	comp=Z,14nm,0.7s,mb4.7						
GKN	Gorkha	28.92	337	eP	P	04 18 07.7	+0.2
	comp=Z,16nm,0.6s,mb5.0						
KOLN	Koldanda	29.14	335	eP	P	04 18 09.9	+0.4
	comp=Z,20nm,0.8s,mb4.9						
ENH	Enshi	30.90	21	eP	P	04 18 23.8	-1.4
	comp=Z,18nm,0.8s,mb5.0						
ENH				epP	pP	04 18 30.8	-5.4
XAN	Xi'an	34.18	18	P	P	04 18 52.3	-1.3
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GTA	Gaotai	37.79	3	eP	P	04 19 24.7	+0.6
GTA				AP	pP	04 19 32.2	-3.2
GTA				XP	sP	04 19 35.8	-4.6
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
BJT	Baijiatuau	42.05	22	eP	P	04 19 59.4	0.0
	comp=Z,11nm,0.8s,mb4.5						
BJI	Beijing	42.07	22	eP	P	04 20 00.5	+0.9
BJI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.6						
BJI	Beijing	42.07	22	eP	P	04 20 00.5	+0.9
	comp=Z,12nm,0.7s,mb4.6						
WMQ	Urumqi	42.95	350	eP	P	04 20 08.0	+1.3
SONM	Songino Array	46.82	9	P	P	04 20 37.9	+0.3
	comp=Z,4.2nm,0.7s,mb4.5,baz=188,slow=9.2,SNR=32						
MKAR	Makanchi Array	46.91	346	P	P	04 20 38.6	+0.2
	comp=Z,2.1nm,0.4s,mb4.4,baz=160,slow=8.9,SNR=57						
MKAR				LR	LR	04 43 12.9	
	comp=Z,41nm,18.3s,MS3.4,baz=163,slow=40						
ULN	Ulaanbaatar	46.95	9	eP	P	04 20 38.7	+0.1
	comp=Z,4.1nm,0.9s,mb4.4						
ZAL	Zalesovo	53.22	351	P	P	04 21 26.6	+0.1
	comp=Z,4.6nm,0.5s,mb4.7,baz=300,slow=6.5,SNR=19						
STKA	Stephens Creek	53.62	132	P	P	04 21 30.7	+0.9
BVAR	Borovoye Array	55.93	341	P	P	04 21 44.9	-1.3
	comp=Z,2.8nm,0.8s,mb4.4,baz=149,slow=8.6,SNR=15						
CHKZ	Chkalovo	56.40	341	eP	P	04 21 47.7	-1.9
	comp=Z,7.3nm,0.8s,mb4.8						
BRTR	Keskin Array B	68.85	312	P	P	04 23 11.7	-0.8
	comp=Z,0.3nm,0.5s,mb3.5,baz=141,slow=9.2,SNR=2.4						
FINES	FINESS Array B	79.68	332	P	P	04 24 14.2	-0.6
	comp=Z,0.9nm,0.6s,mb3.9,baz=108,slow=6.0,SNR=5.9						
ARCES	ARCESS Array B	82.21	340	P	P	04 24 27.2	-0.8
	comp=Z,3.9nm,0.9s,mb4.3,baz=79,slow=6.2,SNR=6.5						
GERES	GERESS Array B	84.53	319	P	P	04 24 40.1	0.0
	comp=Z,0.1nm,0.3s,mb3.5,baz=63,slow=3.0,SNR=4.5						

*IDC **07** 04:21:00.3±5.9, 5.48S×151.89E, h62km±50km, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, mbtmp4.2/8, ML3.3/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/18, Error ellipse: s-maj=56.0km s-min=28.2km az=119.0*

ISC 07 04:20:56.9±1.4, 5.3S±0.2×151.7E±0.3, h33km, n12, σ1§02/12, mb4.1/7, MS3.5/1, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.07	227	P	P	04 22 29.9	+3.3
	4.9nm,0.3s,baz=44,slow=8.0,SNR=10						
PMG				S	S	04 23 35.0	-0.9
	7.0nm,0.3s,baz=302,slow=18,SNR=6.5						
WB2	Warramunga Arr	22.29	228	eP	P	04 25 52.7	-0.1
WRA	Warramunga Arr	22.29	228	P	P	04 25 53.1	+0.1
	7.2nm,0.8s,mb4.2,baz=53,slow=9.7,SNR=26						
ASAR	Alice Springs	25.05	221	P	P	04 26 19.5	-0.4
	10nm,0.8s,mb4.4,baz=55,slow=9.1,SNR=46						
ASPA	Alice Springs	25.05	221	eP	P	04 26 21.6	+1.7
FITZ	Fitzroy Crossi	28.45	241	⇓iP	P	04 26 50.3	-0.8
	10nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	28.45	241	P	P	04 26 50.2	-0.9
	6.2nm,0.3s,mb4.7,baz=47,slow=2.8,SNR=19						
MJAR	Matsushiro Arr	43.46	344	LR	LR	04 44 06.6	
	comp=Z,70nm,21.2s,MS3.5,baz=245,slow=32						
SONM	Songino Array	66.13	328	P	P	04 31 43.6	+0.5
	1.2nm,0.5s,mb4.2,baz=148,slow=4.6,SNR=7.4						
MKAR	Makanchi Array	79.94	319	P	P	04 33 04.1	-0.2
	0.5nm,0.9s,mb3.5,baz=105,slow=8.7,SNR=3.3						
ILAR	Eielson Array	83.02	22	P	P	04 33 18.4	-1.6
	0.6nm,0.7s,mb3.8,baz=245,slow=4.8,SNR=11						
BVAR	Borovoye Array	88.94	323	P	P	04 33 50.2	+0.9
	0.5nm,0.6s,mb4.0,baz=135,slow=6.1,SNR=3.4						

*IDC **07** 04:21:57.2±2.3, 2.21N×95.81E, mb3.9/6, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, ML4.2/1, Error ellipse: s-maj=94.2km s-min=20.5km az=59.0*
*NEIC **07** 04:22:03.1±1.1, 2.56N×96.32E, h30km, mb4.5/4, Error ellipse: s-maj=27.0km s-min=16.0km az=46.0*

ISC 07 04:22:01.5±1.0, 2.6N±0.1×96.2E±0.1, h30km, n14, σ1§37/14, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.18	59	ePn	Pn	04 23 16.9	-2.2
KULM				epP		04 23 23.9	
KSM	Kuching	14.14	94	eP	P	04 25 15.1	-7.1
KSM				epP		04 25 21.7	
CMAR	Chiang Mai Arr	15.99	9	Pn	P	04 25 49.4	+3.1
	0.3nm,0.3s,baz=196,slow=12,SNR=13						
KKM	Kota Kinabalu	20.24	80	eP	P	04 26 39.3	+1.9
BJT	Baijiatuau	41.42	23	P	P	04 29 46.7	-0.4
	7.5nm,0.7s,mb4.4						
WRA	Warramunga Arr	43.61	123	P	P	04 30 06.6	+1.3
	1.1nm,0.8s,mb3.6,baz=303,slow=8.9,SNR=4.7						
WRAB	Tennant Creek	43.62	123	P	P	04 30 06.0	+0.6
	5.7nm,0.8s,mb4.3						
AAK	Ala-Archa	44.33	337	P	P	04 30 09.8	-1.1
	2.2nm,1.1s,mb3.8						
ASAR	Alice Springs	45.02	128	P	P	04 30 14.1	-2.6
	0.3nm,0.7s,mb3.3,baz=297,slow=8.1,SNR=3.2						
MKAR	Makanchi Array	45.66	347	P	P	04 30 21.8	+0.5
	4.3nm,0.9s,mb4.4,baz=162,slow=6.5,SNR=32						
SONM	Songino Array	45.92	10	P	P	04 30 24.7	+1.3
	0.6nm,0.6s,mb3.7,baz=170,slow=14,SNR=6.3						
ZAL	Zalesovo	52.03	351	P	P	04 31 11.0	+0.5
	2.3nm,0.8s,mb4.2,baz=302,slow=3.4,SNR=12						
BVAR	Borovoye Array	54.62	341	P	P	04 31 29.1	-0.6
	1.5nm,0.8s,mb4.1,baz=149,slow=8.6,SNR=6.9						
CHKZ	Chkalovo	55.10	342	eP	P	04 31 32.5	-0.7
	4.6nm,0.8s,mb4.6						

*IDC **07** 05:00:05.6±0.8, 7.71S×119.05E, mb4.2/7, mb1 4.4/9, mb1mx4.2/20, mbtmp4.3/9, ML4.1/2, MS3.3/2, Ms1 3.4/2, ms1mx3.0/24, Error ellipse: s-maj=52.5km s-min=15.7km az=64.0*
*NEIC **07** 05:00:10.4±0.5, 7.76S×119.11E, h35km, mb4.5/7, Error ellipse: s-maj=19.0km s-min=8.2km az=60.0*
*DJA **07** 05:00:14.2±0.8, 7.46S×118.54E, h83km±16km, MD4.7/4, ML4.7/3, Error ellipse: s-maj=31.4km s-min=4.7km az=138.0*

ISC 07 05:00:09.3±0.8, 7.88S±0.05×118.96E±0.06, h46km±10km, n33, σ1§37/36, mb4.2/12, MS3.3/1, 4C-4D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	2.88	258	⇓ePn	P	05 00 53.8	-0.1
	285nm,0.2s						
RATI	Rata	3.50	256	⇓ePn	P	05 01 03.5	+0.9
	532nm,0.2s						
NINI	Niniconang	3.52	13	ePn	P	05 01 04.4	+1.5
BUNI	Buntu Taipa	4.40	18	ePn	P	05 01 17.0	+1.6
TANI	Tanete Lipujan	4.43	5	ePn	P	05 01 13.8	-2.0
KELI	Kelakatan	4.44	265	⇑ePn	P	05 01 16.3	+0.4
	86nm,0.3s						
KELI				⇑eSn	S	05 02 00.2	-6.8
SRDI	Scrawed	4.81	263	⇓eP	P	05 01 21.0	-0.1
	132nm,0.2s						
SRDI				⇓eS	S	05 02 12.5	-3.7
FITZ	Fitzroy Crossi	12.06	148	eP	P	05 02 58.5	-2.8
	4.7nm,0.6s						
FITZ				eS	S	05 05 10.3	-5.0
FITZ	Fitzroy Crossi	12.06	148	Pn	P	05 02 58.7	-2.6
	0.7nm,0.3s,baz=346,slow=6.5,SNR=9.7						
FITZ				Sn	S	05 05 09.1	-6.2
	0.9nm,0.3s,baz=180,slow=19,SNR=3.8						
FITZ				LR	LR	05 07 53.1	
	comp=Z,140nm,18.8s,baz=342,slow=38						
MBWA	Marble Bar	13.23	177	eP	P	05 03 16.5	-0.2
	9.1nm,1.0s						
MBWA				eS	S	05 05 31.1	-12
WRA	Warramunga Arr	19.13	130	P	P	05 04 30.9	-0.5
	0.8nm,0.3s,baz=304,slow=12,SNR=44						
WRAB	Tennant Creek	19.13	130	eP	P	05 04 30.3	-1.1
	14nm,0.8s						
WB2	Warramunga Arr	19.14	130	⇑iP	P	05 04 30.6	-0.9
ASPA	Alice Springs	21.25	139	eP	P	05 04 54.7	+1.0
ASAR	Alice Springs	21.25	139	P	P	05 04 54.5	+0.7
	12nm,0.8s,mb4.3,baz=326,slow=14,SNR=43						
KULM	Kulim	22.47	305	P	P	05 05 03.0	-2.9
KLBR	Kellerberrin	23.62	183	eP	P	05 05 19.7	+2.6
	3μm,0.9s						
NWAO	Narrogin (SRO)	24.98	183	P	P	05 05 32.6	+2.4
	16nm,0.9s,mb4.6,baz=358,slow=10.0,SNR=5.4						
NWAO	Narrogin (SRO)	24.98	183	eP	P	05 05 32.4	+2.1
	14nm,0.9s,mb4.5						
PMG	Port Moresby	27.92	95	P	P	05 05 52.5	-5.0
	18nm,1.0s,mb4.7						
CTAO	Charters Tower	29.08	118	P	P	05 06 06.2	-1.6
	10nm,1.0s,mb4.5						
STKA	Stephens Creek	31.84	142	⇑iP	P	05 06 33.2	+1.0
	4.1nm,0.4s,mb4.6						
STKA	Stephens Creek	31.84	142	P	P	05 06 33.5	+1.2
	4.2nm,0.4s,mb4.6,baz=308,slow=8.0,SNR=21						
STKA	Stephens Creek	31.84	142	eP	P	05 06 32.6	+0.4
CMAR	Chiang Mai Arr	32.78	323	LR	LR	05 21 38.8	
	comp=Z,59nm,21.2s,MS3.3,baz=155,slow=40						
SONM	Songino Array	56.57	350	P	P	05 09 49.6	-0.1
	0.3nm,0.5s,mb3.6,baz=124,slow=5.2,SNR=3.2						
MKAR	Makanchi Array	63.45	333	P	P	05 10 37.3	+0.6
	1.1nm,0.6s,mb4.2,baz=142,slow=7.9,SNR=16						
AAK	Ala-Archa	64.54	325	P	P	05 10 44.1	+0.2
	4.7nm,1.4s,mb4.3						
VNDA	Vanda	73.10	171	P	P	05 11 39.1	+3.0
	1.4nm,0.7s,mb4.0,baz=289,slow=4.3,SNR=10.0						
BVAR	Borovoye Array	73.29	332	P	P	05 11 36.5	-1.1
	0.6nm,0.6s,mb3.7,baz=124,slow=11,SNR=4.1						
CHKZ	Chkalovo	73.60	332	P	P	05 11 39.0	-0.5
	1.8nm,0.8s,mb4.0						
QSPA	South Pole Qui	82.11	180	eP	P	05 12 28.5	+2.6
	6.2nm,1.2s,mb4.4						
LVC	Limon Verde	148.73	166	PKPbc	PKPdf	05 19 54.3	+5.8
	1.5nm,0.6s,baz=288,slow=2.4,SNR=5.4						

*IDC **07** 05:33:54.4±0.5, 41.95S×83.86W, mb4.7/17, mb1 4.7/19, mb1mx4.6/22, mbtmp4.6/19, ML3.7/2, MS4.6/18, Ms1 4.6/18, ms1mx4.4/19, Error ellipse: s-maj=20.8km s-min=15.2km az=98.0*
*HRVD **07** 05:33:55.5±0.2, 41.89S×84.04W, h12km, MW5.3/72, Centroid moment Tensor Solution. LP body waves: s57,c90;Mantle waves: s72,c136; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.00±.02; $M_{\theta\theta}$-0.05±.02; $M_{\phi\phi}$ 1.05±.02; $M_{r\theta}$0.09±.06; $M_{\theta\phi}$-0.18±.02; $M_{\phi r}$0.05±.05; Best double couple: $M_0$1.046×10^{17} NP1: ϕ_s345°, δ44°, λ-99°. NP2:ϕ_s177°, δ46°, λ-81°. Principal axes: T 1.081, Plg1°, Azm261°; N -.067, Plg6°, Azm351°; P -1.012, Plg84°, Azm162°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **07** 05:33:55.5, 41.90S×83.30W, h10km, mB5.7, Ms5.1, Msz4.8*
*NEIC **07** 05:33:55.5±0.2, 41.93S×83.30W, h10km, mb5.4/68, MS4.7/78, Error ellipse: s-maj=11.9km s-min=6.9km az=72.0*

ISC 07 05:33:54.8±0.3, 41.85S±0.05×83.57W±0.09, h10km, (h14km±.8km:pP-P), n231, σ1§27/149, mb5.2/80, MS4.7/90, 9C, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COYC	Coyhaique	9.11	118	eP	P	05 36 12.6	+3.1
PLCA	Paso Flores	9.87	88	Pn	P	05 36 20.2	+0.5
	0.4nm,0.3s,baz=253,slow=12,SNR=12						
PLCA				LR	LR	05 39 35.2	
	comp=Z,10μm,18.9s,baz=210,slow=34						
PLCA	Paso Flores	9.87	88	ePn	P	05 36 16.1	-3.7
	80nm,1.5s						
PLCA				LR	LR	05 39 35.2	
CFAA	Coronel Fontan	15.97	55	Pn	P	05 37 41.8	+0.7
	0.0nm,0.3s,baz=218,slow=12,SNR=11						
CFAA				LR	LR	05 42 48.4	
	comp=Z,674nm,21.3s,baz=216,slow=33						
USHA	Ushuaia	16.38	148	LR	LR	05 43 20.2	
	comp=Z,3μm,18.8s,baz=290,slow=34						
TRQA	Tornquist	16.98	84	⇑eP	P	05 37 55.0	+1.1
	316nm,1.8s						
LPA	La Plata	21.22	79	ceP	P	05 38 38.0	-4.9
LPA				esP		05 38 51.0	
LPA				ePP	PP	05 38 59.0	-7.4
LPA				esS		05 42 44.0	
LPA				eSS	SS	05 42 54.0	-13
	comp=Z,4μm,18.0s						
LVC	Limon Verde	22.78	37	P	P	05 39 01.9	+3.3
	comp=Z,18nm,1.0s,mb4.5,baz=198,slow=9.4,SNR=9.9						
LVC				LR	LR	05 45 46.4	
	comp=Z,2μm,20.8s,MS4.6,baz=216,slow=31						
LVC	Limon Verde	22.78	37	⇑eP	P	05 39 02.0	+3.4
	comp=Z,418nm,2.0s,mb5.5						
LVC				LR	LR		
	comp=Z,3μm,21.0s,MS4.7						
RPN

SNAA Sanae 48.04 155 *e* **P 05 42 38.2 +2.6**
SNAA Sanae 48.04 155 P **P 05 42 35.6 +0.1**
comp=Z,3.7nm,0.9s,mb4.4,baz=279,slow=4.9,SNR=7.3
SNAA Sanae 48.04 155 ⇑/P **P 05 42 31.1 -4.5**
SNAA *e*P pP 05 42 34.6 -4.0
SNAA *e* pP 05 42 35.6 -3.0
SNAA *e* 05 42 38.2
QSPA South Pole Qui 48.39 180 ⇑/P **P 05 42 38.2 0.0**
comp=Z,14nm,1.1s,mb4.9
SDV Santo Domingo 51.87 16 *e*P **P 05 43 03.5 -2.1**
comp=Z,50nm,1.3s,mb5.3
JTS JuntasAbangare 51.90 358 *e*P **P 05 43 06.0 +0.2**
comp=Z,33nm,1.1s,mb5.2
JTS LR LR
comp=Z,141nm,20.0s,MS4.0
SBA Scott Base 53.39 194 *e*P **P 05 43 14.5 -1.7**
comp=Z,107nm,1.9s,mb5.5
SBA LR LR
comp=Z,812nm,20.0s,MS4.8
VNDA Vanda 54.46 194 P **P 05 43 23.5 -0.6**
comp=Z,4.3nm,1.0s,mb4.3,baz=116,slow=7.0,SNR=8.8
VNDA LR LR 06 06 09.9
comp=Z,405nm,18.4s,MS4.5,baz=102,slow=36
RCBR Riachuelo 55.42 63 PFAKE 05 43 40.0 +8.1
RCBR LR LR
comp=Z,2μm,20.0s,MS5.3
TBI Tubuai 57.15 267 *e*S **S 05 51 31.1 -6.4**
TBI *e*LR LR 06 00 04.7
comp=Z,1μm,34.0s,baz=124
PPT Papeete 60.71 272 *e*PP PP 05 45 47.1 -38
PPT *e*S **S 05 52 17.3 -6.5**
PPT *e*LR LR 06 01 42.1
comp=Z,2μm,29.0s,baz=140
SJG San Juan 61.80 19 P **P 05 44 11.5 -4.7**
comp=Z,43nm,1.2s,mb5.5
TEIG Tepich 61.92 355 *e*P **P 05 44 13.6 -3.4**
comp=Z,14nm,0.9s,mb5.1
TEIG LR LR
comp=Z,220nm,22.0s,MS4.3
MAW Mawson 67.95 167 P **P 05 44 54.3 -1.0**
comp=Z,8.5nm,0.9s,mb4.8,baz=207,slow=6.9,SNR=4.2
MAW LR LR 06 10 42.7
comp=Z,323nm,21.4s,MS4.5,baz=3.5,slow=32
MAW Mawson 67.95 167 *e*P **P 05 44 54.3 -1.0**
comp=Z,44nm,1.4s,mb5.3
DWPF Disney 69.64 2 PFAKE 05 45 20.0 +14
DWPF LR LR
comp=Z,190nm,20.0s,MS4.3
CASY Casey 71.65 186 *e*P **P 05 45 16.7 -1.2**
comp=Z,15nm,1.0s,mb4.9
RPZ Rata Peaks 71.69 227 LR LR 06 09 09.7
comp=Z,584nm,21.1s,MS4.8,baz=144,slow=30
LTX Lajitas 73.22 342 *e*P **P 05 45 27.4 -0.5**
comp=Z,22nm,1.1s,mb5.0
LTX LR LR
comp=Z,491nm,19.0s,MS4.8
TXAR Lajitas Array 73.22 342 P **P 05 45 27.6 -0.2**
comp=Z,8.0nm,0.9s,mb4.6,baz=162,slow=6.2,SNR=53
TXAR LR LR 06 11 43.6
comp=Z,298nm,21.1s,MS4.5,baz=175,slow=31
JCT Junction City 73.52 345 *e*P **P 05 45 29.0 -0.5**
comp=Z,64nm,1.4s,mb5.4
JCT LR LR
comp=Z,264nm,19.0s,MS4.5
NATX Nacogdoches 73.96 350 *e*P **P 05 45 31.1 -1.0**
comp=Z,117nm,1.3s,mb5.7
NATX *e* 05 45 38.6
NATX LR LR
comp=Z,254nm,19.0s,MS4.5
LRAL Lakeview Retre 74.59 357 *e*P **P 05 45 34.2 -1.5**
comp=Z,50nm,1.2s,mb5.3
LRAL *e* 05 45 41.3
LRAL LR LR
comp=Z,191nm,20.0s,MS4.4
GOGA Godfrey 74.90 0 PFAKE 05 45 50.0 +13
GOGA LR LR
comp=Z,341nm,19.0s,MS4.7
BBSR BB Station 75.88 16 PFAKE 05 45 50.0 +6.9
BBSR LR LR
comp=Z,199nm,19.0s,MS4.4
MNTX Cornudas Mount 75.90 341 *e*P **P 05 45 41.8 -1.4**
comp=Z,9.7nm,1.2s,mb4.6
MNTX LR LR
comp=Z,369nm,20.0s,MS4.7
CLNB Carlsbad 76.09 342 *e*P **P 05 45 43.6 -0.7**
CLNB *e* 05 45 51.3
GDL2 Guadalupe Moun 76.14 342 *e*P **P 05 45 44.0 -0.6**
GDL2 *e* 05 45 51.9
OXF Oxford 76.18 355 *e*P **P 05 45 43.0 -1.8**
comp=Z,82nm,1.1s,mb5.6
OXF *e* 05 45 50.0
OXF LR LR
comp=Z,167nm,22.0s,MS4.3
PLAL Pickwick Lake 76.57 356 *e*P **P 05 45 44.9 -2.1**
comp=Z,42nm,1.3s,mb5.2
PLAL *e* 05 45 51.5
PLAL LR LR
comp=Z,168nm,20.0s,MS4.3
MIAR Mount Ida 76.58 352 *e*P **P 05 45 45.6 -1.4**
comp=Z,37nm,1.5s,mb5.1
MIAR *e* 05 45 52.9
MIAR LR LR
comp=Z,197nm,19.0s,MS4.4
UALR University of 76.68 353 *e*P **P 05 45 46.0 -1.6**
comp=Z,17nm,0.9s,mb5.0
SWET Sewanee 76.73 358 *e*P **P 05 45 46.1 -1.7**
SWET *e* 05 45 52.2
CPRX Cap Rock 76.82 343 *e*P **P 05 45 49.0 +0.6**
CPCT Cooper Cave 76.93 359 *e*P **P 05 45 47.7 -1.3**
CPCT *e* 05 45 54.8
WMOK Wichita Mounta 77.49 347 *e*P **P 05 45 50.9 -1.1**
comp=Z,72nm,1.6s,mb5.3
WMOK *e* 05 45 58.0
GNAR Gosnell 77.67 355 *e*P **P 05 45 51.6 -1.4**
GNAR *e* 05 45 59.4
WVT Waverly 77.71 356 *e*P **P 05 45 51.3 -2.0**
comp=Z,25nm,1.1s,mb5.1
GLAT Glass 77.92 355 *e*P **P 05 45 53.5 -0.9**
GLAT *e* 05 45 59.6
TUC Tucson 77.94 337 *e*P **P 05 45 55.1 +0.6**
comp=Z,29nm,1.7s,mb4.9
TUC *e* 05 46 01.9
UTMT University of 77.97 356 *e*P **P 05 45 51.3 -3.4**
comp=Z,150nm,1.4s,mb5.7
TZTN Tazewell 78.02 0 *e*P **P 05 45 53.4 -1.6**
TZTN *e* 05 46 00.4
AMTX Amarillo 78.15 345 *e*P **P 05 45 55.6 -0.1**
comp=Z,31nm,1.0s,mb5.2
AMTX *e* 05 46 02.5
AMTX LR LR
comp=Z,394nm,19.0s,MS4.8
BNM Barren Site 78.54 341 *e*P **P 05 45 58.1 +0.2**
SUR Sutherland 78.62 123 P **P 05 45 59.0 +0.7**
comp=Z,7.5nm,0.9s,mb4.6,baz=196,slow=5.1,SNR=4.3
SUR Sutherland 78.62 123 *e*P **P 05 45 58.5 +0.2**
comp=Z,52nm,1.4s,mb5.3
LENM Lemitar 78.64 340 *e*P **P 05 46 00.1 +1.7**
LPM Los Pinos Moun 78.70 341 *e*P **P 05 45 57.4 -1.3**
LPM *e* 05 46 05.8
BLA Blacksburg 78.74 3 PFAKE 05 46 10.0 +11
BLA LR LR
comp=Z,195nm,19.0s,MS4.5
ELN Prospectdale 78.75 2 *e*P **P 05 45 57.4 -1.5**
FWV Forest Hill 79.10 2 *e*P **P 05 45 58.8 -2.0**
ANMO Albuquerque 79.26 341 *e*P **P 05 46 01.8 0.0**
comp=Z,69nm,1.4s,mb5.4
ANMO LR LR
comp=Z,315nm,19.0s,MS4.7
AFI Afiamalu 79.54 261 PFAKE 05 46 20.0 +16
AFI LR LR
comp=Z,3μm,21.0s,MS5.5
FVM French Village 79.70 355 *e*P **P 05 46 02.7 -1.4**
comp=Z,33nm,1.4s,mb5.1
FVM *e* 05 46 10.5
WCI Wyandotte Cave 79.74 358 *e*P **P 05 46 02.0 -2.3**
comp=Z,24nm,1.1s,mb5.0
CCM Cathedral Cave 79.84 354 *e*P **P 05 46 03.5 -1.3**
comp=Z,55nm,0.9s,mb5.5
CCM *e* 05 46 09.8
CCM LR LR
comp=Z,180nm,19.0s,MS4.4
CBN Corbin 79.88 5 PFAKE 05 46 20.0 +15
CBN LR LR
comp=Z,326nm,20.0s,MS4.7
BLO Bloomington 80.69 358 *e*P **P 05 46 07.5 -1.8**
comp=Z,52nm,0.9s,mb5.5
BLO *e* 05 46 14.6
PFO Pinyon Flat Ob 80.95 333 *e*P **P 05 46 12.8 +2.0**
comp=Z,117nm,2.2s,mb5.4
PFO LR LR
comp=Z,74nm,19.0s,MS4.1
WUAZ Wupatki 81.10 337 *e*P **P 05 46 12.3 +0.7**
comp=Z,44nm,1.6s,mb5.1
WUAZ *e* 05 46 20.3
MCWV Mont Chateau 81.20 3 PFAKE 05 46 20.0 +8.0
MCWV LR LR
comp=Z,318nm,20.0s,MS4.7
KSU1 Kansas State U 81.44 350 *e*P **P 05 46 11.8 -1.5**
KSU1 *e* 05 46 19.5
CBKS Cedar Bluff 81.63 347 *e*P **P 05 46 14.0 -0.2**
comp=Z,103nm,1.4s,mb5.6
CBKS *e* 05 46 21.2
CBKS LR LR
comp=Z,237nm,19.0s,MS4.6
ACSO Alum Creek Sta 81.70 0 *e*P **P 05 46 13.0 -1.6**
comp=Z,58nm,1.1s,mb5.4
ACSO *e* 05 46 20.0
ACSO LR LR
comp=Z,319nm,20.0s,MS4.7
SDCO Great Sand Dun 81.71 343 *e*P **P 05 46 14.0 -0.7**
comp=Z,22nm,1.6s,mb4.8
SDCO *e* 05 46 22.2
SDCO LR LR
comp=Z,203nm,19.0s,MS4.5
MVL Millersville 81.73 6 *e*P **P 05 46 14.0 -0.7**
MVL *e* 05 46 21.1
LDFC Landfair 81.84 334 *e*P **P 05 46 15.9 +0.5**
LDFC *e* 05 46 24.1
SSPA Standing Stone 82.27 4 *e*P **P 05 46 14.9 -2.7**
comp=Z,51nm,1.6s,mb5.2
SSPA *e* 05 46 23.4
ALLY Alegheny Colle 83.18 3 *e*P **P 05 46 20.7 -1.5**
ALLY *e* 05 46 28.0
ISA Isabella 83.50 332 PFAKE 05 46 40.0 +16
ISA LR LR
comp=Z,126nm,22.0s,MS4.2
ERPA Erie 83.65 3 PFAKE 05 46 40.0 +15
ERPA LR LR
comp=Z,193nm,20.0s,MS4.5
ISCO Idaho Springs 83.70 343 *e*P **P 05 46 26.4 +1.5**
comp=Z,83nm,2.2s,mb5.5
ISCO LR LR
comp=Z,157nm,19.0s,MS4.4
AAM Ann Arbor 83.77 360 PFAKE 05 46 40.0 +15
AAM LR LR
comp=Z,350nm,20.0s,MS4.7
ARUT Antelope Range 83.82 337 *e*P **P 05 46 27.3 +1.7**
ARUT *e* 05 46 34.1
BINY Binghamton 83.95 6 PFAKE 05 46 40.0 +14
BINY LR LR
comp=Z,987nm,19.0s,MS5.2
MSU Marysvale 84.12 338 *e*P **P 05 46 29.1 +2.0**
MSU *e* 05 46 36.0
MVU Marysvale 84.13 338 PFAKE 05 46 40.0 +13
MVU LR LR
comp=Z,192nm,20.0s,MS4.5
SRU San Rafael 84.23 339 *e*P **P 05 46 28.0 +0.4**
SRU *e* 05 46 35.4
QUA2 Belchertown 84.36 8 *e*P **P 05 46 28.0 -0.1**
comp=Z,48nm,1.2s,mb5.5
QUA2 *e* 05 46 34.3
GENY Geneseo 84.40 4 *e*P **P 05 46 27.4 -0.9**
GENY *e* 05 46 34.8
TMUT Trail Mountain 84.59 339 *e*P **P 05 46 30.8 +1.4**
HRV Harvard--Oak R 84.67 9 PFAKE 05 46 40.0 +10
HRV LR LR
comp=Z,239nm,21.0s,MS4.6
TRCR Troy Canyon 84.99 335 *e*P **P 05 46 32.2 +0.9**
PHWY Pilot Hill 85.11 344 *e*P **P 05 46 33.4 +1.5**
PHWY *e* 05 46 39.9
TPH Tonopah 85.26 334 *e*P **P 05 46 34.0 +1.3**
comp=Z,95nm,1.7s,mb5.7
TPH *e* 05 46 41.1
TPH LR LR
comp=Z,250nm,22.0s,MS4.6
ACCN Adirondack Com 85.32 7 *e*P **P 05 46 32.8 -0.1**
ACCN *e* 05 46 40.0
TSUM Tsumeb 85.37 112 *e*P **P 05 46 32.2 -1.5**
comp=Z,7.6nm,1.2s,mb4.7
TSUM LR LR
comp=Z,620nm,19.0s,MS5.0
MPU Maple Canyon 85.38 339 *e*P **P 05 46 33.8 +0.6**
NLU North Lily Min 85.44 338 *e*P **P 05 46 34.7 +1.1**
OMM Old Mammoth Mi 85.44 333 *e*P **P 05 46 35.1 +1.4**
FFD Franklin Falls 85.61 9 *e*P **P 05 46 29.0 -5.4**
FFD *e* 05 46 36.4
HNH Hanover 85.78 8 P **P 05 46 33.4 -1.8**
comp=Z,0.9nm,0.7s,mb4.1
NCB Newcomb 85.85 7 *e*P **P 05 46 34.2 -1.3**
comp=Z,8.6nm,0.9s,mb5.0
NCB LR LR
comp=Z,322nm,19.0s,MS4.7
RWWY Rawlins 85.86 342 *e*P **P 05 46 35.8 +0.1**
comp=Z,276nm,2.6s,mb6.0
DUG Dugway 85.87 338 *e*P **P 05 46 36.7 +0.9**
comp=Z,97nm,2.0s,mb5.7
MNV Mina 85.89 333 *e*P **P 05 46 37.1 +1.2**
comp=Z,108nm,2.2s,mb5.7
MNV LR LR
comp=Z,496nm,21.0s,MS4.9
NVAR Mina Array Bea 85.94 333 P **P 05 46 37.6 +1.5**
comp=Z,4.0nm,1.0s,mb4.6,baz=139,slow=7.4,SNR=16
NVAR LR LR 06 16 22.3
comp=Z,127nm,22.0s,MS4.3,baz=180,slow=30
MIV Mineville/With 86.02 7 P **P 05 46 34.9 -1.5**
DBIC Dimbokro 86.07 78 P **P 05 46 38.5 +1.2**
comp=Z,4.6nm,0.8s,mb4.8,baz=157,slow=5.4,SNR=4.6
DBIC Dimbokro 86.07 78 *e*P **P 05 46 37.8 +0.5**
DBIC *e* 05 46 45.0
DBIC LR LR
comp=Z,790nm,20.0s,MS5.1
CMB Columbia Colle 86.31 332 *e*P **P 05 46 39.1 +1.2**
comp=Z,81nm,2.5s,mb5.5
TCUT Toone Canyon 86.35 339 *e*P **P 05 46 40.4 +2.3**
BGU Big Grassy Mou 86.61 338 *e*P **P 05 46 39.7 +0.4**
LBTB Lobatse 86.73 121 P **P 05 46 41.5 +1.1**
comp=Z,7.2nm,0.9s,mb4.9,baz=226,slow=8.6,SNR=5.7
LBTB Lobatse 86.73 121 *e*P **P 05 46 40.0 -0.4**
LBTB LR LR
comp=Z,314nm,22.0s,MS4.7
SPUT South Promonto 86.81 339 *e*P **P 05 46 40.7 +0.4**
HWUT Hardware Ranch 86.85 339 *e*P **P 05 46 40.7 +0.2**
comp=Z,73nm,1.7s,mb5.6
HWUT LR LR
comp=Z,339nm,20.0s,MS4.8
WVL Waterville 86.93 10 PFAKE 05 46 50.0 +9.2
WVL LR LR
comp=Z,3μm,21.0s,MS5.7
ELK Elko 87.08 336 *e*P **P 05 46 42.7 +1.1**
comp=Z,146nm,2.3s,mb5.8
WCN Washoe City 87.22 333 *e*P **P 05 46 43.8 +1.5**
comp=Z,140nm,2.3s,mb5.8
HVU Hansel Valley 87.33 339 P **P 05 46 40.5 -2.4**
EMMW East Machias 87.38 11 PFAKE 05 46 50.0 +7.0
EMMW LR LR
comp=Z,2μm,20.0s,MS5.5
BMN Battle Mountai 87.40 335 PFAKE 05 46 50.0 +6.8
BMN LR LR
comp=Z,150nm,19.0s,MS4.4
BW06 Boulder Array 87.43 341 PFAKE 05 46 50.0 +6.7
BW06 LR LR
comp=Z,418nm,22.0s,MS4.8
PDAR Pinedale Array 87.43 341 P **P 05 46 43.2 -0.1**
comp=Z,3.7nm,0.9s,mb4.6,baz=136,slow=3.4,SNR=24
PDAR LR LR 06 20 18.4
comp=Z,166nm,21.2s,MS4.4,baz=155,slow=32
RSSD Black Hills 87.54 345 *e*P **P 05 46 43.3 -0.4**
comp=Z,17nm,0.9s,mb5.3
AHID Auburn Hatcher 87.81 340 *e*P **P 05 46 46.0 +0.9**
comp=Z,123nm,2.0s,mb5.8
AHID LR LR
comp=Z,263nm,22.0s,MS4.6
REDW Red Top Meadow 88.31 340 *e*P **P 05 46 48.5 +1.0**
comp=Z,79nm,1.8s,mb5.6
RRI2 Red Ridge 88.41 340 *e*P **P 05 46 49.7 +1.7**
comp=Z,33nm,1.4s,mb5.4
TPAW Teton Pass 88.45 340 *e*P **P 05 46 48.7 +0.6**
comp=Z,43nm,1.6s,mb5.4
LOHW Long Hollow 88.48 341 *e*P **P 05 46 49.2 +0.9**
comp=Z,57nm,1.9s,mb5.5
MOOW Moose Ponds 88.65 341 *e*P **P 05 46 49.1 0.0**
comp=Z,52nm,2.0s,mb5.5
IMW Indian Meadow 88.83 341 *e*P **P 05 46 50.5 +0.5**
comp=Z,58nm,1.6s,mb5.7
IMW *e* 05 46 58.1
PQI Presque Isle 89.22 11 PFAKE 05 47 00.0 +8.3
PQI LR LR
comp=Z,2μm,22.0s,MS5.4
YFT Old Faithful 89.33 341 *e*P **P 05 46 54.6 +2.2**
YFT *e* 05 47 01.9
LKWY Lake 89.33 341 PFAKE 05 47 00.0 +7.7
LKWY LR LR
comp=Z,340nm,19.0s,MS4.8
DZM Mont Dzumac 89.34 241 LR LR 06 18 47.5
comp=Z,565nm,18.7s,MS5.0,baz=202,slow=30
HLID Hailey 89.44 338 *e*P **P 05 46 53.6 +0.8**
comp=Z,59nm,1.7s,mb5.6
HLID *e* 05 47 01.5
HLID LR LR
comp=Z,178nm,19.0s,MS4.5
YMR Madison River 89.56 341 *e*P **P 05 46 54.5 +1.1**
WVOR Wild Horse Val 89.67 335 *e*P **P 05 46 54.9 +1.0**
comp=Z,30nm,1.6s,mb5.4
EYMN Ely 89.69 355 *e*P **P 05 46 52.6 -1.4**
comp=Z,24nm,1.5s,mb5.3
EYMN *e* 05 46 59.7
EYMN LR LR
comp=Z,233nm,20.0s,MS4.6
MOD Modoc 89.73 333 P **P 05 46 55.1 +0.8**
comp=Z,55nm,1.8s,mb5.6
QLMT Earthquake Lak 89.83 341 *e*P **P 05 46 56.2 +1.6**
MCMT McKenzie Canyo 90.19 340 *e*P **P 05 46 58.9 +2.5**
LAO LASA Array 90.43 345 PFAKE 05 47 10.0 +13
LAO LR LR
comp=Z,285nm,20.0s,MS4.7
BOZ Bozeman (W) 90.65 341 *e*P **P 05 46 58.7 +0.3**
comp=Z,39nm,2.0s,mb5.4
BOZ LR LR
comp=Z,247nm,20.0s,MS4.6
BMO Blue Mountains 91.45 337 PFAKE 05 47 10.0 +7.9
BMO LR LR
comp=Z,189nm,20.0s,MS4.5
MATP Matopo 91.87 120 P **P 05 47 05.2 +0.6**
comp=Z,14nm,0.9s,mb5.3,baz=230,slow=4.9,SNR=17
MATP Matopo 91.87 120 P **P 05 47 05.2 +0.6**
CHMT Chamberlain Mo 92.23 340 *e*P **P 05 47 07.6 +2.0**
CHMT *e* 05 47 14.4
ULM Lac du Bonnet 92.35 352 P **P 05 47 04.8 -1.4**
comp=Z,4.7nm,0.9s,mb4.8,baz=183,slow=3.2,SNR=8.5
ULM LR LR 06 25 46.6
comp=Z,179nm,18.7s,MS4.5,baz=194,slow=34
ULM Lac du Bonnet 92.35 352 *e*P **P 05 47 03.9 -2.2**
comp=Z,18nm,1.3s,mb5.2
ULM *e* 05 47 10.6
ULM LR LR
comp=Z,325nm,19.0s,MS4.8
WALA Waterton Lakes 94.39 341 *e*P **P 05 47 16.7 +1.2**
comp=Z,125nm,2.6s,mb5.9
NEW Newport 94.50 338 *e*P **P 05 47 17.1 +1.0**
comp=Z,4.2nm,1.1s,mb4.8
LSZ Lusaka 95.35 116 PFAKE 05 47 30.0 +9.3
LSZ LR LR
comp=Z,525nm,19.0s,MS5.0
STKA Stephens Creek 95.67 217 LR LR 06 20 26.5
comp=Z,614nm,21.6s,MS5.0,baz=305,slow=29
SCHQ Schefferville 97.37 10 P **P 05 47 28.2 -0.7**
comp=Z,3.0nm,0.8s,mb4.8,baz=167,slow=6.0,SNR=5.0
SCHQ LR LR 06 30 44.6
comp=Z,91nm,19.1s,MS4.3,baz=202,slow=35
SCHQ Schefferville 97.37 10 *e*P **P 05 47 27.4 -1.6**
SCHQ LR LR
comp=Z,359nm,21.0s,MS4.8
FCC Fort Churchill 100.63 354 *e*Pdif P 05 47 41.9 -1.7
FCC *e* 05 47 48.9
HNR Honiara 102.74 245 PFAKE 05 48 10.0 +16
HNR LR LR
comp=Z,500nm,19.0s,MS5.1
CTAO Charters Tower 103.06 227 PFAKE 05 48 10.0 +15
CTAO LR LR
comp=Z,487nm,21.0s,MS5.0
ASAR Alice Springs 106.16 216 PKKPab 06 03 58.2
comp=Z,0.7nm,0.8s,baz=338,slow=4.9,SNR=4.2
YKA Yellowknife Ar 106.95 346 Pdiff Pdif 05 48 12.7 +1.2
comp=Z,0.4nm,0.9s,baz=144,slow=4.3,SNR=9.9
YKA PKiKP 05 52 26.4
comp=Z,0.1nm,0.7s,baz=162,slow=2.2,SNR=4.1
YKA Yellowknife Ar 106.95 346 Pdif Pdif 05 48 12.7 +1.2
YKA PKPdf 05 52 26.4
MBAR Mbarara 107.49 107 PFAKE 05 52 30.0
MBAR LR LR
comp=Z,111nm,20.0s,MS4.4
ESLA Sonseca Array 108.58 53 PFAKE 05 52 40.0
ESLA LR LR
comp=Z,4μm,21.0s
WRA Warramunga Arr 109.22 218 PKiKP 05 52 25.3
comp=Z,0.4nm,0.7s,baz=150,slow=1.3,SNR=4.5
WRA PKKP PKKP 06 03 42.4 -1.3
comp=Z,0.8nm,0.9s,baz=335,slow=4.6,SNR=4.7
PMG Port Moresby 111.02 235 PFAKE 05 52 40.0 +8.3
PMG LR LR
comp=Z,463nm,20.0s,MS5.1
KMBO Kilima Mbogo 111.70 112 PFAKE 05 52 40.0 +7.1
KMBO LR LR
comp=Z,654nm,22.0s,MS5.2
MBWA Marble Bar 113.70 204 PFAKE 05 52 50.0 +13
MBWA LR LR
comp=Z,363nm,19.0s,MS5.0
DIV Divide 114.34 332 PFAKE 05 52 50.0 +13
DIV LR LR
comp=Z,939nm,21.0s,MS5.4
FIB Fire Island 115.95 330 PFAKE 05 52 50.0 +10
FIB LR LR
comp=Z,2μm,20.0s,MS5.6
GRA1 Grafenberg Arr 123.09 51 *e*PKP PKPdf 05 52 50.6 -3.6
GRF Grafenberg Arr 123.09 51 *e*PKP PKPdf 05 52 50.6 -3.6
GERES GERESS Array B 124.16 52 PKP PKPdf 05 52 53.6 -2.9
comp=Z,2.5nm,0.9s,baz=225,slow=1.9,SNR=11
CLL Collm 124.83 49 *e*PPKP 05 53 02.0
NB2 NORSAR Subarra127.66 38 PKPdf PKPdf 05 53 00.3 -2.4
comp=Z,21nm,1.4s,baz=270,slow=1.8
NB2 NORSAR Subarra127.66 38 PKPd 05 53 00.3
baz=270,slow=1.9
NOA NORSAR Array B127.66 38 PKP PKPdf 05 53 00.2 -2.5
comp=Z,2.2nm,0.9s,baz=256,slow=1.8,SNR=4.8
SMY Shemya 128.66 310 PFAKE 05 53 10.0 +5.1
SMY LR LR
comp=Z,10μm,22.0s
GUMO Guam 129.58 251 PFAKE 05 53 20.0 +12
GUMO LR LR
comp=Z,2μm,20.0s,MS5.7
BRTR Keskin Array B 133.36 71 PKP PKPdf 05 53 11.2 -2.9
comp=Z,1.5nm,0.8s,baz=198,slow=3.9,SNR=6.8
AKASG Malin Array Be 134.19 55 PKP PKPdf 05 53 11.3 -4.0
comp=Z,0.2nm,0.3s,baz=250,slow=2.0,SNR=4.5
AKASG Malin Array Be 134.19 55 PKP PKPdf 05 53 11.3 -4.0
FINES FINESS Array B 134.72 40 PKP PKPdf 05 53 11.8 -4.2
comp=Z,1.0nm,0.6s,slow=3.8,SNR=4.0
BILL Bilibino 135.46 330 PFAKE 05 53 30.0 +13
BILL LR LR
comp=Z,282nm,20.0s,MS5.0
OBN Obninsk 139.43 50 PFAKE 05 53 30.0 +5.2
OBN LR LR
comp=Z,520nm,21.0s,MS5.2
KIV Kislovodsk 141.16 68 PFAKE 05 53 40.0 +12
KIV LR LR
comp=Z,40nm,20.0s,MS4.2
GNI Garni 141.44 75 PFAKE 05 53 40.0 +11
GNI LR LR
comp=Z,305nm,21.0s,MS5.0
MA2 Magadan 142.55 317 PFAKE 05 53 40.0 +10
MA2 LR LR
comp=Z,187nm,19.0s,MS4.9
PALK Pallekele 142.84 154 PFAKE 05 53 40.0 +8.0
PALK LR LR
comp=Z,77nm,21.0s,MS4.4
ERM Erimo 145.57 286 PFAKE 05 53 50.0 +16
ERM LR LR
comp=Z,6.0nm,22.0s
MJAR Matsushiro Arr 147.43 275 PKPbc PKPdf 05 53 37.8 -1.4
comp=Z,1.3nm,0.3s,baz=168,slow=3.1,SNR=7.6
MAJO Matsushiro 147.43 275 PFAKE 05 53 50.0 +11
MAJO LR LR
comp=Z,204nm,21.0s,MS4.9
JOW Kunigami 149.94 250 PKPbc PKPdf 05 53 45.6 +2.2
comp=Z,31nm,1.0s,baz=144,slow=11,SNR=4.6
ARU Arti 151.69 46 PFAKE 05 53 50.0 +4.8
ARU LR LR

comp=Z,142nm,22.0s,MS4.7
QIZ Qiongzhong 154.54 211 PFAKE 05 54 00.0 +10
QIZ LR LR
comp=Z,311nm,20.0s,MS5.1
MDJ Mudanjiang 155.77 288 PKP PKPdf 05 53 49.5 -1.6
MDJ PP PP
comp=Z,416nm,3.5s
MDJ LR LR
comp=N,22nm,24.7s,MS4.7
MDJ LR LR
comp=E,131nm,24.7s,MS4.7
MDJ LR LR
comp=Z,150nm,24.7s,MS4.7
INCN Inchon 156.41 269 PFAKE 05 54 00.0 +7.8
INCN LR LR
comp=Z,284nm,20.0s,MS5.1
CN2 Changchun 158.67 285 *e*PKP PKPdf 05 53 54.7 -0.2
BVAR Borovoye Array 159.26 48 PKP PKPdf 05 53 54.1 -1.2
comp=Z,1.3nm,1.0s,baz=342,slow=4.7,SNR=6.7
BVAR PKPab PKPab 05 54 32.7 +0.8
comp=Z,2.0nm,0.9s,baz=315,slow=4.2,SNR=6.0
HIA Hailar 162.12 302 PFAKE 05 54 10.0 +12
HIA LR LR
comp=Z,310nm,19.0s
KMI Kunming 162.51 199 PKP PKPdf 05 53 52.0 -7.5
KMI LR LR
comp=Z,189nm,28.2s
KMI Kunming 162.51 199 PKP PKPdf 05 53 52.9 -6.6
KMI LR LR
comp=Z,190nm,28.2s
AAK Ala-Archa 163.74 80 *e*PKPdf PKPdf 05 53 56.9 -3.3
AAK *e*PKPab PKPab 05 54 51.8 +0.1
AAK LR LR
comp=Z,92nm,22.0s
ENH Enshi 164.37 227 PFAKE 05 54 10.0 +8.8
ENH LR LR
comp=Z,330nm,20.0s
BJT Baijiatuau 164.97 270 PFAKE 05 54 10.0 +8.5
BJT LR LR
comp=Z,334nm,22.0s
ZAL Zalesovo 165.64 29 PKP PKPdf 05 53 58.9 -2.8
comp=Z,0.8nm,0.4s,baz=96,slow=7.8,SNR=3.7
ZAL PKPab PKPab 05 55 00.3 +0.8
comp=Z,1.9nm,0.5s,baz=130,slow=6.0,SNR=6.3
HHC Hu-ho-hao-te 168.57 270 *e*PKP PKPdf 05 54 04.8 +0.7
HHC LR LR
comp=N,139nm,21.6s
HHC LR LR
comp=E,366nm,21.0s
HHC LR LR
comp=Z,299nm,24.7s
MKAR Makanchi Array 168.74 59 PKP PKPdf 05 54 01.5 -2.5
comp=Z,0.8nm,0.9s,baz=270,slow=1.2,SNR=5.2
WMQ Urumqi 173.29 70 PKP PKPdf 05 54 03.9 -2.7
WMQ XPKP 05 54 11.4
WMQ PP PP
comp=Z,117nm,6.2s
WMQ LR LR
comp=N,259nm,28.0s
WMQ LR LR
comp=E,166nm,26.4s
WMQ LR LR
comp=Z,252nm,31.0s

CASC 07 05:36:29.7±1.9, 13.95N×91.20W, h52km±54km, MD3.6, 3C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.56**	**311⇑**	*e*P	P	05 36 41.1	-0.7
JAT				*e*S	S	05 36 51.7	+1.1
IXG	**Ixpaco**	**0.76**	**73⇑**	*e*P	P	05 36 44.6	+0.2
IXG				*e*S	S	05 36 55.9	+0.7
RBDL	**Robledal**	**1.48**	**84⇑**	*e*P	P	05 36 54.4	-0.1
RBDL				*e*S	S	05 37 14.8	+1.9
RTR	**El Retiro**	**1.51**	**92**	*e*P	P	05 36 54.9	0.0
RTR				*e*S	S	05 37 15.2	+1.6
SBLS	**San Blas**	**1.54**	**94**	*e*P	P	05 36 55.2	-0.1
SBLS				*e*S	S	05 37 15.8	+1.5
SNJE	**San Jose**	**1.55**	**93**	*e*P	P	05 36 55.4	-0.1
SNJE				*e*S	S	05 37 15.9	+1.3
LFRS	**El Faro**	**2.10**	**99**	*e*P	P	05 37 03.2	-0.1
LFRS				*e*S	S	05 37 28.4	+0.2

BJI ***07*** *05:36:47.7, 8.72S×67.21E, h19km, mB5.1, mb4.9, Ms4.9, Msz4.7*
IDC ***07*** *05:36:48.8±0.8, 8.77S×67.59E, mb4.3/10, mb1 4.4/10, mb1mx4.2/19, mbtmp4.3/10, MS4.2/11, Ms1 4.2/11, ms1mx3.9/28, Error ellipse: s-maj=25.4km s-min=22.1km az=32.0*
MOS ***07*** *05:36:48.1±1.4, 8.69S×67.42E, h10km, mb4.9/13, Error ellipse: s-maj=18.9km s-min=11.0km az=66.6*
NEIC ***07*** *05:36:50.3±0.6, 8.73S×67.52E, h10km, mb4.8/21, Error ellipse: s-maj=14.8km s-min=10.4km az=174.0*
ISC 07 05:36:47.9±0.6, 8.77S±0.10×67.49E±0.07, h10km, (h16km±2.5km:pP-P), n80, σ1°15/71, mb4.7/39, MS4.4/19, 2C, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**5.09**	**75**	*e*P	**Pn**	**05 38 00.1**	**-6.0**
DGAR				pmax	pmax		
comp=Z,399nm,0.6s							
DGAR	**Diego Garcia**	**5.09**	**75**	*e*Pn	**Pn**	**05 38 00.1**	**-6.1**
DGAR				*e*Sn	**Sn**	**05 38 52.8**	**-13**
comp=Z,398nm,0.6s							
MSEY	**Mahe Island**	**12.60**	**288**	*e*P	**P**	**05 39 50.9**	**+0.6**
comp=Z,44nm,0.6s							
PALK	**Pallekele**	**20.67**	**40**	*e*P	**P**	**05 41 31.1**	**+0.3**
comp=Z,48nm,1.3s							
KMBO	**Kilima Mbogo**	**31.05**	**282**	LR	LR	05 53 14.4	
comp=Z,239nm,20.2s,MS3.9,baz=275,slow=32							
ATD	**Arta Tunnel**	**31.74**	**309**	LR	LR	05 53 26.7	
comp=Z,230nm,21.3s,MS3.8,baz=122,slow=31							
LSZ	**Lusaka**	**38.94**	**257**	*e*P	**P**	**05 44 16.9**	**+0.9**
LSZ				pmax	pmax		
comp=Z,19nm,1.3s,mb4.7							
LSZ	**Lusaka**	**38.94**	**257**	*e*P	**P**	**05 44 16.9**	**+0.9**
comp=Z,19nm,1.3s,mb4.7							
MATP	**Matopo**	**39.37**	**248**	LR	LR	05 59 04.4	
comp=Z,408nm,20.0s,MS4.3,baz=81,slow=34							
KOLN	**Koldanda**	**39.53**	**23**	*e*P	**P**	**05 44 21.5**	**+0.7**
comp=Z,43nm,0.9s,mb5.2							
DMN	**Daman**	**39.98**	**25**	*e*P	**P**	**05 44 25.7**	**+1.1**
comp=Z,57nm,0.9s,mb5.3							
PKI	**Pulchoki**	**40.07**	**25**	*e*P	**P**	**05 44 27.2**	**+1.9**
comp=Z,13nm,0.6s,mb4.8							
PKI	**Pulchoki**	**40.07**	**25**	*e*P	**P**	**05 44 27.2**	**+1.9**
PKI				pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.6							
GKN	**Gorkha**	**40.14**	**24**	*e*P	**P**	**05 44 26.7**	**+0.8**
comp=Z,50nm,0.9s,mb5.2							
KKN	**Kakani**	**40.21**	**25**	*e*P	**P**	**05 44 27.4**	**+0.9**
comp=Z,38nm,0.9s,mb5.1							
KKN	**Kakani**	**40.21**	**25**	*e*P	**P**	**05 44 27.4**	**+0.9**
KKN				pmax	pmax		
comp=Z,19nm,0.9s,mb4.8							
JIRN	**Jiri**	**40.48**	**26**	*e*P	**P**	**05 44 30.3**	**+1.6**
comp=Z,16nm,0.6s,mb4.9							
GUN	**Gumba**	**40.57**	**25**	*e*P	**P**	**05 44 30.7**	**+1.3**
comp=Z,54nm,0.9s,mb5.2							
CM31	**Chiang Mai Arr**	**41.17**	**49**	*e*P	**P**	**05 44 35.1**	**+0.7**
comp=Z,13nm,0.9s,mb4.6							
CMAR	**Chiang Mai Arr**	**41.17**	**49**	P	**P**	**05 44 36.0**	**+1.6**
comp=Z,7.6nm,0.8s,mb4.4,baz=243,slow=9.3,SNR=37							
SHL	**Shillong**	**41.57**	**34**	*e*P	**P**	**05 44 39.0**	**+1.3**
LBTB	**Lobatse**	**43.01**	**243**	*e*P	**P**	**05 44 47.9**	**-1.6**
LBTB				pmax	pmax		
comp=Z,11nm,1.1s,mb4.5							
LBTB	**Lobatse**	**43.01**	**243**	P	**P**	**05 44 50.6**	**+1.0**
comp=Z,7.7nm,1.0s,mb4.4,baz=90,slow=9.8,SNR=6.4							
LBTB				LR	LR	06 03 20.2	
comp=Z,187nm,18.6s,MS4.0,baz=251,slow=37							
LBTB	**Lobatse**	**43.01**	**243**	*e*P	**P**	**05 44 47.9**	**-1.7**
comp=Z,11nm,1.1s,mb4.5							
KMI	**Kunming**	**48.10**	**45**	P	**P**	**05 45 32.0**	**+1.9**
KMI				AMB	AMB		
comp=Z,14nm,1.5s,mb4.8							
KMI				LR	LR		
comp=N,916nm,14.7s,MS5.0							
KMI				LR	LR		
comp=E,522nm,14.2s,MS5.0							
KMI				LR	LR		
comp=Z,1μm,15.7s,MS4.9							
KMI Kunming 48.10 45 P **P** **05 45 32.0 +1.9**							
comp=Z,14nm,1.5s,mb4.8							
KMI				LR	LR		
comp=Z,1μm,15.7s,MS4.9							
AAK Ala-Archa 51.55 7 *e*P **P** **05 45 54.2 -2.1**							
AAK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
AAK Ala-Archa 51.55 7 *e*P **P** **05 45 54.1 -2.1**							
comp=Z,3.8nm,0.8s,mb4.4							
GYA Guiyang 51.69 46⇑ *i*P **P** **05 45 57.3 -0.3**							
GYA				AP	pP	05 46 01.2	+0.6
GYA				XP	sP	05 46 04.8	+3.0
GYA				PP	PP	05 47 55.4	-0.6
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
GYA				AMB	AMB		
comp=Z,90nm,3.8s							
GYA				LR	LR		
comp=N,480nm,15.8s,MS4.7							
GYA				LR	LR		
comp=E,370nm,17.2s,MS4.7							
GYA				LR	LR		
comp=Z,610nm,16.7s,MS4.7							
CD2 Chengdu 52.58 40 P **P** **05 46 03.8 -0.4**							
GNI Garni 53.02 338 P **P** **05 46 07.5 +0.1**							
GNI Garni 53.02 338 LR LR 06 07 59.6							
comp=Z,113nm,18.9s,MS3.9,baz=345,slow=35							
WMQ Urumqi 55.46 18⇑ P **P** **05 46 25.5 +0.3**							
WMQ				AP	pP	05 46 30.0	+1.7
WMQ				XP	sP	05 46 32.5	+3.1
WMQ				PCP	PcP	05 47 26.7	+1.5
WMQ				PPP	PP	05 48 30.2	-0.5
WMQ				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
WMQ				AMB	AMB		
comp=Z,213nm,5.4s							
WMQ				LR	LR		
comp=N,237nm,22.0s,MS4.3							
WMQ				LR	LR		
comp=E,125nm,18.7s,MS4.3							
WMQ				LR	LR		
comp=Z,232nm,20.0s,MS4.3							
ENH Enshi 55.97 44 *e*P **P** **05 46 27.5 -1.6**							
comp=Z,23nm,1.5s,mb5.0							
LZH Lanzhou 56.22 35 *e*P **P** **05 46 31.0 +0.3**							
LZH				AP	pP	05 46 35.6	+1.8
LZH				XP	sP	05 46 38.0	+3.0
LZH				PP	PP	05 48 37.0	-0.6
LZH				*e*S	**S**	**05 54 16.2**	**-2.3**
LZH				*e*SS	SS	05 58 01.2	-4.2
LZH				AMB	AMB		
comp=Z,24nm,1.6s,mb5.0							
LZH				AMB	AMB		
comp=Z,86nm,4.5s							
LZH				LR	LR		
comp=N,556nm,16.5s							
LZH				LR	LR		
comp=Z,898nm,17.8s,MS4.9							
LZH Lanzhou 56.22 35 *e*P **P** **05 46 31.0 +0.3**							
LZH				*PP	pP	05 46 35.6	+1.8
LZH				*SP	sP	05 46 38.0	+3.0
LZH						05 48 37.0	
LZH				*e*S	**S**	**05 54 16.2**	**-2.3**
LZH				*SS		05 54 24.0	
LZH				*e*SS	SS	05 58 01.2	-4.2
LZH				pmax	pmax		
comp=Z,24nm,1.6s,mb5.0							
LZH				MLR	MLR		
comp=Z,900nm,17.8s,MS4.9							
LZH Lanzhou 56.22 35 *e*P **P** **05 46 31.0 +0.3**							
comp=Z,24nm,1.6s,mb5.0							
LZH				pP	pP	05 46 35.6	+1.8
LZH				sP	sP	05 46 38.0	+3.0
LZH				PP	PP	05 48 37.0	-0.6
LZH				*e*S	**S**	**05 54 16.2**	**-2.3**
LZH				sS		05 54 24.0	
LZH				*e*SS	SS	05 58 01.2	-4.2
LZH				LR	LR		
comp=Z,900nm,17.8s,MS4.9							
GTA Gaotai 56.54 30 *e*P **P** **05 46 32.5 -0.5**							
GTA				AP	pP	05 46 41.4	+5.3
GTA				XP	sP	05 46 44.9	+7.7
GTA				PP	PP	05 48 40.4	0.0
GTA				PPP	PPP	05 49 56.8	-1.1
GTA				AMB	AMB		
comp=Z,13nm,0.9s,mb5.0							
GTA				AMB	AMB		
comp=Z,92nm,6.1s							
GTA				LR	LR		
comp=N,268nm,13.3s,MS4.7							
GTA				LR	LR		
comp=E,331nm,16.0s,MS4.7							
GTA				LR	LR		
comp=Z,251nm,12.9s,MS4.5							
MKAR Makanchi Array 56.87 12 *i*P **P** **05 46 33.0 -2.2**							
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
MKAR Makanchi Array 56.87 12 P **P** **05 46 33.3 -2.0**							
comp=Z,3.3nm,0.7s,mb4.5,baz=198,slow=7.8,SNR=42							
FITZ Fitzroy Crossi 57.12 106 LR LR 06 07 50.8							
comp=Z,185nm,18.2s,MS4.2,baz=285,slow=33							
BRTR Keskin Array B 57.54 329 P **P** **05 46 39.7 -0.4**							
comp=Z,0.7nm,0.4s,mb4.0,baz=135,slow=8.7,SNR=5.4							
XAN Xi'an 57.92 40 P **P** **05 46 41.4 -1.5**							
XAN				AP	pP	05 46 52.3	+6.3
XAN				AMB	AMB		
comp=Z,12nm,1.0s,mb4.9							
MAW Mawson 58.84 182 *e*P **P** **05 46 58.2 +9.4**							
MAW				pmax	pmax		
comp=Z,11nm,1.0s							
MAW Mawson 58.84 182 *e*P **P** **05 46 58.2 +9.4**							
comp=Z,11nm,1.0s,mb4.9							
BVA0 Borovoye Array 61.60 2 *i*P **P** **05 47 06.9 -1.0**							
BVA0				pmax	pmax		
comp=Z,2.0nm,1.4s,mb4.0							
CHKZ Chkalovo 62.26 2 *e*P **P** **05 47 10.8 -1.5**							
CHKZ				pmax	pmax		
comp=Z,38nm,0.6s,mb5.7							
CHKZ Chkalovo 62.26 2 *e*P **P** **05 47 10.8 -1.5**							
comp=Z,38nm,0.6s,mb5.7							
NJ2 Nanjing 63.63 48 *e*P **P** **05 47 22.4 +0.6**							
NJ2				AP	pP	05 47 27.0	+2.1
NJ2				XP	sP	05 47 29.4	+3.4
NJ2				PP	PP	05 49 43.5	0.0
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb5.0							
NJ2				AMB	AMB		
comp=Z,182nm,4.0s							
NJ2				LR	LR		
comp=N,1μm,18.2s,MS5.4							
NJ2				LR	LR		
comp=E,2μm,17.4s,MS5.4							
ZAL Zalesovo 64.16 11 P **P** **05 47 24.2 -0.6**							
comp=E,2.4nm,0.9s,mb4.2,baz=274,slow=7.1,SNR=7.4							
ZAL				LR	LR	06 15 06.9	
comp=E,135nm,19.7s,MS4.1,baz=42,slow=36							
SSE Sheshan 64.90 50 P **P** **05 47 28.7 -1.3**							
SSE				XP	sP	05 47 37.8	+3.5
SSE				PP	PP	05 49 51.1	-3.8
SSE				S	**S**	**05 56 09.9**	**+0.1**
SSE				XS		05 56 20.6	
SSE				SCS	ScS	05 57 21.8	+0.6
SSE				AMB	AMB		
comp=Z,28nm,0.6s,mb5.5							
SSE				AMB	AMB		
comp=Z,75nm,4.6s							
SSE				LR	LR		
comp=N,113nm,18.3s,MS4.2							
SSE				LR	LR		
comp=E,102nm,18.5s,MS4.2							
SSE				LR	LR		
comp=Z,146nm,15.5s,MS4.3							
SSE Sheshan 64.90 50 P **P** **05 47 28.7 -1.3**							
comp=Z,28nm,0.6s,mb5.5							
SSE				sP	sP	05 47 37.8	+3.5
SSE				PP	PP	05 49 51.1	-3.8
SSE				S	**S**	**05 56 09.9**	**+0.1**
SSE				sS		05 56 20.6	
SSE				ScS	ScS	05 57 21.8	+0.6
SSE				SS	SS	06 00 00.2	-23
SSE				LR	LR		
comp=Z,150nm,15.5s,MS4.3							
ASAR Alice Springs 64.97 112 P **P** **05 47 29.8 -0.9**							
comp=Z,0.6nm,0.6s,mb3.8,baz=288,slow=5.7,SNR=8.8							
WRA Warramunga Arr 65.36 108 P **P** **05 47 32.7 -0.5**							
comp=Z,0.9nm,0.7s,mb3.9,baz=279,slow=6.1,SNR=3.4							
WRAB Tennant Creek 65.37 108 *e*P **P** **05 47 34.9 +1.7**							
WRAB				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.8							
WRAB Tennant Creek 65.37 108 *e*P **P** **05 47 34.9 +1.7**							
comp=Z,7.7nm,0.8s,mb4.8							
SONM Songino Array 66.02 28 P **P** **05 47 37.5 +0.5**							
comp=Z,8.4nm,0.8s,mb4.8,baz=216,slow=6.9,SNR=36							
SONM				LR	LR	06 17 37.8	
comp=Z,454nm,18.8s,MS4.7,baz=40,slow=37							
BJT Baijiatuau 66.15 39 P **P** **05 47 37.0 -0.9**							
BJT				pmax	pmax		
comp=Z,14nm,1.1s							
BJT Baijiatuau 66.15 39 P **P** **05 47 37.0 -1.0**							
comp=Z,14nm,1.1s,mb4.9							
ULN Ulaanbaatar 66.35 28 *e*P **P** **05 47 37.2 -1.8**							
ULN				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.4							
ULN Ulaanbaatar 66.35 28 *e*P **P** **05 47 37.2 -1.8**							
comp=Z,2.6nm,0.8s,mb4.3							
ZAK Zakamensk 66.61 24 *e*P **P** **05 47 38.4 -2.2**							
ZAK				pmax	pmax		
comp=Z,2.0nm,1.8s,mb3.9							
TLY Talaya 67.76 23 *e*P **P** **05 47 48.4 +0.5**							
TLY				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
AKASG Malin Array Be 67.87 335 P **P** **05 47 49.9 +1.3**							
comp=Z,1.5nm,0.7s,mb4.2,baz=138,slow=5.4,SNR=7.6							
AKASG Malin Array Be 67.87 335 P **P** **05 47 49.9 +1.3**							
JOW Kunigami 68.70 57 LR LR 06 19 02.7							
comp=Z,150nm,20.6s,MS4.2,baz=300,slow=37							
STKA Stephens Creek 71.94 121 *e*P **P** **05 48 17.6 +3.7**							
HIA Hailar 73.62 33 P **P** **05 48 22.5 -0.9**							
CN2 Changchun 74.02 40 *e*P **P** **05 48 25.7 -0.1**							
CN2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.0							
CTA Charters Tower 76.54 109 LR LR 06 16 18.2							
comp=Z,148nm,20.8s,MS4.3,baz=227,slow=31							
MDJ Mudanjiang 77.03 40 P **P** **05 48 42.5 -0.5**							
MDJ				AP	pP	05 48 46.7	+0.6
MDJ				PP	PP	05 51 34.0	-3.9
MDJ				AMB	AMB		
comp=Z,8.0nm,0.8s,mb4.7							
MDJ				AMB	AMB		
comp=Z,418nm,3.0s							
MDJ				LR	LR		
comp=N,149nm,21.4s,MS4.3							
MDJ				LR	LR		
comp=E,71nm,18.6s,MS4.3							
MDJ				LR	LR		
comp=Z,141nm,16.4s,MS4.4							
ARCES ARCESS Array B 83.30 346 P **P** **05 49 16.4 +0.5**							
comp=Z,4.1nm,0.9s,mb4.4,baz=90,slow=2.4,SNR=3.9							
HNR Honiara 90.98 100 LR LR 06 27 33.2							
comp=Z,218nm,19.6s,MS4.6,baz=150,slow=34							
YKA Yellowknife Ar 126.35 1 PKP PKPdf 05 55 53.7 -0.1							
comp=Z,0.5nm,0.9s,baz=346,slow=2.0,SNR=8.0							
YKA				PP	PP	05 57 46.3	-3.9
comp=Z,0.4nm,0.9s,baz=352,slow=6.7,SNR=6.3							
YKA Yellowknife Ar 126.35 1 PKP PKPdf 05 55 53.7 -0.1							
YKA				PP	PP	05 57 46.4	-3.9
PDAR Pinedale Array 146.04 356 PKPbc PKPbc 05 56 31.4 +2.9							
comp=Z,0.6nm,0.6s,baz=42,slow=2.8,SNR=5.3							
MIAR Mount Ida 149.01 329 PKPdf PKPdf 05 56 42.0 +6.3							
NVAR Mina Array Bea 150.01 9 PKPbc PKPdf 05 56 43.1 +6.0							
comp=Z,3.1nm,0.9s,baz=273,slow=2.8,SNR=12							
MVU Marysvale 150.39 360 *e*PKPbc PKPdf 05 56 46.3 +8.6							
TXAR Lajitas Array 157.92 339 PKPab PKPab 05 57 22.6 +1.7							
comp=Z,0.6nm,0.7s,baz=43,slow=3.7,SNR=6.0							

IDC ***07*** *05:46:40.1±0.6, 1.23N×97.12E, mb4.4/16, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, ML4.6/1, MS3.9/1, Ms1 4.1/1, ms1mx3.4/20, Error ellipse: s-maj=26.6km s-min=13.7km az=51.0*
BJI ***07*** *05:46:41.5, 0.98N×97.34E, h35km, mB5.0, mb4.8, Ms4.5, Msz4.2*
MOS ***07*** *05:46:43.5±1.6, 1.28N×97.35E, h33km, mb4.9/12, Error ellipse: s-maj=20.1km s-min=9.4km az=102.6*
NEIC ***07*** *05:46:43.8±0.4, 1.24N×97.26E, mb4.8/19, Error ellipse: s-maj=12.2km s-min=7.4km az=55.0*
NEIC Felt [III] on Nias.
ISC 07 05:46:42.1±1.6, 1.24N±0.05×97.27E±0.07, h24km±11km, h24km±.6km:pP-P, n78, σ1°16/81, mb4.6/41, MS4.2/8, 4C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.25**	**40**	*e*Pn	**Pn**	**05 48 00.4**	**-0.8**
CM31	**Chiang Mai Arr**	**17.19**	**5**	*e*P	**P**	**05 50 39.1**	**-3.5**
16nm,1.1s							
CMAR	**Chiang Mai Arr**	**17.19**	**5**	Pn	**P**	**05 50 41.5**	**-1.0**
0.8nm,0.3s,baz=194,slow=12,SNR=13							
CMAR				LR	LR	05 58 18.1	
comp=Z,384nm,18.3s,baz=185,slow=40							
CHG	**Chiang Mai**	**17.54**	**5⇑**	P	**P**	**05 50 48.3**	**+1.3**
12nm,1.1s							
NANT	**Nan**	**17.77**	**11**	P	**P**	**05 50 51.0**	**+1.2**
188nm,0.6s							
QIZ	**Qiongzhong**	**21.55**	**34**	P	**P**	**05 51 33.0**	**+1.0**
QIZ				*e*S	**S**	**05 55 24.5**	**-0.2**
QIZ				LR	LR		
comp=N,365nm,14.3s,MS4.1							
QIZ				LR	LR		
comp=E,371nm,13.9s,MS4.1							
QIZ				LR	LR		
comp=Z,458nm,14.3s,MS4.0							
KMI Kunming		**24.32**	**12**	P	**P**	**05 52 00.8**	**+1.4**
KMI				AMB	AMB		
comp=Z,53nm,1.2s,mb4.8							
KMI				LR	LR		
comp=N,896nm,18.2s,MS4.4							
KMI				LR	LR		
comp=E,522nm,14.3s,MS4.4							
KMI				LR	LR		
comp=Z,1μm,15.6s,MS4.4							
KMI Kunming		**24.32**	**12**	P	**P**	**05 52 00.8**	**+1.4**
comp=Z,53nm,1.2s,mb4.8							
KMI				LR	LR		
comp=Z,1μm,15.6s,MS4.4							
HYB Hyderabad		**24.43**	**312**	*e*P	**P**	**05 52 04.0**	**+3.5**
HYB Hyderabad		**24.43**	**312**	*i*P	**P**	**05 52 04.0**	**+3.5**
SHL Shillong		**24.74**	**348⇑**	*i*P	**P**	**05 52 03.0**	**-0.3**
SHL				*e*S	**S**	**05 56 21.0**	**-0.1**
GYA Guiyang		**26.65**	**19⇑**	*i*P	**P**	**05 52 20.8**	**-0.4**
GYA				AP	pP	05 52 28.3	+0.2
GYA				XP	sP	05 52 30.5	-0.8
GYA				S	**S**	**05 56 50.4**	**-2.6**
GYA				AMB	AMB		
comp=Z,20nm,0.8s,mb4.7							
GYA				AMB	AMB		
comp=Z,90nm,3.8s							
GYA				LR	LR		
comp=N,860nm,15.3s,MS4.5							
GYA				LR	LR		
comp=E,660nm,15.9s,MS4.5							
GYA				LR	LR		
comp=Z,900nm,13.2s,MS4.5							
GZH Guangzhou		**26.74**	**35**	P	**P**	**05 52 23.6**	**+1.5**
GZH				LR	LR		
comp=N,372nm,12.7s,MS4.2							
GZH				LR	LR		
comp=E,221nm,14.9s,MS4.2							
GZH				LR	LR		
comp=Z,650nm,13.4s,MS4.3							
JIRN Jiri		**28.33**	**339**	*e*P	**P**	**05 52 37.1**	**+0.6**
comp=Z,72nm,1.0s,mb5.2							
PKI Pulchoki		**28.54**	**338**	*e*P	**P**	**05 52 40.6**	**+2.3**
comp=Z,17nm,0.7s,mb4.9							
PKI Pulchoki		**28.54**	**338**	*e*P	**P**	**05 52 40.6**	**+2.3**
PKI				pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.6							
GUN Gumba		**28.67**	**339**	*e*P	**P**	**05 52 39.8**	**+0.3**
comp=Z,42nm,0.7s,mb5.3							
DMN Daman		**28.69**	**337**	*e*P	**P**	**05 52 41.9**	**+2.2**
comp=Z,20nm,0.8s,mb4.9							
KKN Kakani		**28.79**	**338**	*e*P	**P**	**05 52 40.7**	**+0.1**
comp=Z,37nm,0.9s,mb5.1							
KKN Kakani		**28.79**	**338**	*e*P	**P**	**05 52 40.7**	**+0.1**
KKN				pmax	pmax		
comp=Z,18nm,0.9s,mb4.8							
LSA Lhasa		**28.89**	**349**	*e*P	**P**	**05 52 44.6**	**+3.1**
GKN Gorkha		**29.23**	**337**	*e*P	**P**	**05 52 44.5**	**0.0**
comp=Z,51nm,1.0s,mb5.2							

KOLN	**Koldanda**	**29.45**	**335**	*e*P	**P**	**05 52 46.7**	**+0.2**
	comp=Z,30nm,0.8s,mb5.1						
CD2	**Chengdu**	**30.14**	**11**	P	**P**	**05 52 51.8**	**-0.9**
ENH	**Enshi**	**31.12**	**21**	*e*P	**P**	**05 52 59.7**	**-1.5**
	comp=Z,42nm,0.8s,mb5.3						
ENH				*e*pP	pP	05 53 06.7	-1.6
NDI	**New Delhi**	**33.34**	**327**	*e*	**P**	**05 53 18.0**	**-2.7**
FITZ	**Fitzroy Crossi**	**33.90**	**126**	*e*P	**P**	**05 53 24.9**	**-0.7**
	comp=Z,4.7nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.90**	**126**	P	**P**	**05 53 25.0**	**-0.6**
	comp=Z,5.9nm,0.7s,mb4.6,baz=278,slow=7.8,SNR=8.6						
XAN	**Xi'an**	**34.40**	**17**	P	**P**	**05 53 28.4**	**-1.4**
XAN				AP	pP	05 53 35.6	-1.3
XAN				AMB	AMB		
	comp=Z,21nm,0.9s,mb5.1						
XAN				LR	LR		
	comp=N,324nm,14.7s,MS4.3						
XAN				LR	LR		
	comp=E,324nm,14.7s,MS4.3						
XAN				LR	LR		
	comp=Z,461nm,16.4s,MS4.3						
NJ2	**Nanjing**	**36.79**	**31**	*e*PKP	**P**	**05 53 50.2**	**+0.1**
GTA	**Gaotai**	**38.06**	**3**	*e*P	**P**	**05 54 00.9**	**+0.2**
GTA				AP	pP	05 54 07.9	+0.1
GTA				XP	sP	05 54 11.5	+0.8
GTA				S	**S**	**05 59 53.2**	**+1.7**
GTA				XS		06 00 06.4	
GTA				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,146nm,6.5s						
GTA				LR	LR		
	comp=N,268nm,12.9s,MS4.4						
GTA				LR	LR		
	comp=E,331nm,15.2s,MS4.4						
GTA				LR	LR		
	comp=Z,251nm,14.4s,MS4.2						
JOW	**Kunigami**	**39.16**	**47**	P	**P**	**05 54 10.6**	**+0.5**
	comp=Z,18nm,0.7s,mb4.9,baz=219,slow=9.8,SNR=7.0						
WRA	**Warramunga Arr**	**42.00**	**122**	P	**P**	**05 54 34.2**	**+0.6**
	comp=Z,3.8nm,0.7s,mb4.2,baz=301,slow=9.0,SNR=25						
WRAB	**Tennant Creek**	**42.00**	**122**	*e*P	**P**	**05 54 33.9**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**42.00**	**122**	*e*P	**P**	**05 54 33.9**	**+0.3**
	comp=Z,7.0nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**42.01**	**122**	*e*P	**P**	**05 54 34.1**	**+0.5**
BJT	**Baijiatuau**	**42.25**	**22**	*e*P	**P**	**05 54 36.5**	**+1.1**
BJT				*e**PP	pP	05 54 42.8	+0.3
BJT				pmax	pmax		
	comp=Z,11nm,0.8s						
BJT	**Baijiatuau**	**42.25**	**22**	*e*P	**P**	**05 54 36.5**	**+1.1**
	comp=Z,11nm,0.8s,mb4.5						
BJT				*e*pP	pP	05 54 42.8	+0.3
KSH	**Kashi**	**42.76**	**336**	*e*P	**P**	**05 54 41.2**	**+1.6**
KSH				*e*AP	pP	05 54 48.0	+1.3
KSH				*e*XP	sP	05 54 51.3	+1.7
KSH				*e*PP	PP	05 56 23.1	+1.8
KSH				*e*PCP	PcP	05 56 32.1	+0.7
KSH				*e*PPP	PPP	05 56 56.0	+0.7
KSH				*e*PCS		06 00 23.1	
KSH				*e*S	**S**	**06 01 03.5**	**+1.8**
KSH				*e*SS	SS	06 04 08.3	+1.6
KSH				*e*SCS	ScS	06 04 38.0	+1.1
KSH				AMB	AMB		
	comp=Z,540nm,5.3s						
KSH				LR	LR		
	comp=N,550nm,5.7s						
KSH				LR	LR		
	comp=E,1μm,5.6s						
WMQ	**Urumqi**	**43.25**	**350**	⇑P	**P**	**05 54 44.0**	**+0.6**
WMQ				AP	pP	05 54 51.5	+1.0
WMQ				XP	sP	05 54 54.9	+1.4
WMQ				PP	PP	05 56 26.6	+0.5
WMQ				PCP	PcP	05 56 34.7	+1.7
WMQ				S	**S**	**06 01 07.7**	**-1.0**
WMQ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,90nm,4.0s						
WMQ				LR	LR		
	comp=N,68nm,20.5s,MS3.8						
WMQ				LR	LR		
	comp=E,107nm,21.8s,MS3.8						
WMQ				LR	LR		
	comp=Z,88nm,21.1s,MS3.6						
ASAR	**Alice Springs**	**43.36**	**127**	P	**P**	**05 54 45.8**	**+1.1**
	comp=Z,2.7nm,0.8s,mb4.0,baz=304,slow=7.8,SNR=21						
ASAR				PcP	PcP	05 56 34.1	+0.5
	comp=Z,0.8nm,0.9s,baz=301,slow=3.6,SNR=4.3						
AAK	**Ala-Archa**	**45.99**	**337**	*e*P	**P**	**05 55 05.5**	**+0.1**
AAK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
AAK	**Ala-Archa**	**45.99**	**337**	*e*P	**P**	**05 55 05.5**	**+0.1**
	comp=Z,12nm,1.2s,mb4.7						
SONM	**Songino Array**	**47.08**	**8**	P	**P**	**05 55 14.6**	**+0.6**
	comp=Z,7.1nm,0.8s,mb4.7,baz=190,slow=8.6,SNR=61						
SONM				PcP	PcP	05 56 46.4	+0.2
	comp=Z,1.3nm,0.7s,baz=179,slow=3.9,SNR=4.1						
ULN	**Ulaanbaatar**	**47.21**	**9**	*e*P	**P**	**05 55 15.0**	**0.0**
ULN				*e**PP	pP	05 55 22.1	-0.1
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**47.21**	**9**	*e*P	**P**	**05 55 15.0**	**-0.1**
	comp=Z,6.9nm,1.0s,mb4.5						
ULN				*e*pP	pP	05 55 22.1	-0.1
MKAR	**Makanchi Array**	**47.22**	**346**	*i*P	**P**	**05 55 14.0**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**47.22**	**346**	P	**P**	**05 55 14.8**	**-0.4**
	comp=Z,4.3nm,0.6s,mb4.6,baz=161,slow=8.8,SNR=49						
CN2	**Changchun**	**49.24**	**27**	*e*P	**P**	**05 55 29.7**	**-1.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
HIA	**Hailar**	**51.58**	**19**	*e*P	**P**	**05 55 47.8**	**-0.8**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	**Hailar**	**51.58**	**19**	*e*P	**P**	**05 55 47.8**	**-0.8**
	comp=Z,6.9nm,0.8s,mb4.6						
MDJ	**Mudanjiang**	**51.80**	**29**	P	**P**	**05 55 50.0**	**-0.3**
MDJ				S	**S**	**06 03 10.9**	**+1.4**
MDJ				SS	SS	06 06 48.9	+4.6
MDJ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,375nm,3.3s						
MDJ				LR	LR		
	comp=N,66nm,20.3s,MS3.7						
MDJ				LR	LR		
	comp=E,33nm,19.6s,MS3.7						
MDJ				LR	LR		
	comp=Z,103nm,19.0s,MS3.9						
MDJ	**Mudanjiang**	**51.80**	**29**	P	**P**	**05 55 51.2**	**+0.8**
STKA	**Stephens Creek**	**53.33**	**132**	P	**P**	**05 56 02.5**	**+0.6**
	comp=Z,4.5nm,1.0s,mb4.4,baz=314,slow=6.0,SNR=4.5						
STKA	**Stephens Creek**	**53.33**	**132**	*e*P	**P**	**05 56 02.1**	**+0.1**
ZAL	**Zalesovo**	**53.52**	**351**	P	**P**	**05 56 03.1**	**+0.1**
	comp=Z,6.8nm,0.8s,mb4.6,baz=300,slow=6.7,SNR=16						
KLR	**Kul'dur**	**56.19**	**27**	*e*P	**P**	**05 56 19.6**	**-2.9**
BVA0	**Borovoye Array**	**56.23**	**341**	*i*P	**P**	**05 56 20.9**	**-1.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
BVAR	**Borovoye Array**	**56.23**	**341**	P	**P**	**05 56 21.5**	**-1.3**
	comp=Z,5.7nm,0.8s,mb4.7,baz=135,slow=8.4,SNR=24						
CHKZ	**Chkalovo**	**56.71**	**341**	*e*P	**P**	**05 56 24.5**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**56.71**	**341**	*e*P	**P**	**05 56 24.5**	**-1.7**
	comp=Z,11nm,0.8s,mb4.9						
BOD	**Bodaibo**	**57.96**	**10**	*e*P	**P**	**05 56 34.5**	**-0.4**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
KMBO	**Kilima Mbogo**	**60.06**	**268**	P	**P**	**05 56 53.5**	**+3.3**
	comp=Z,6.0nm,1.3s,mb4.5						
BRTR	**Keskin Array B**	**69.14**	**312**	P	**P**	**05 57 47.5**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=124,slow=10,SNR=2.4						
MATP	**Matopo**	**70.60**	**248**	P	**P**	**05 57 57.8**	**-0.3**
	comp=Z,3.6nm,0.9s,mb4.3,baz=48,slow=9.6,SNR=4.6						
MA2	**Magadan**	**71.27**	**26**	P	**P**	**05 57 58.5**	**-2.9**
MA2				pmax	pmax		
	comp=Z,21nm,1.5s,mb4.8						
MA2	**Magadan**	**71.27**	**26**	P	**P**	**05 57 58.5**	**-2.9**
	comp=Z,21nm,1.5s,mb4.8						
AKASG	**Malin Array Be**	**75.27**	**322**	P	**P**	**05 58 23.9**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.6,baz=93,slow=4.5,SNR=3.9						
FINES	**FINESS Array B**	**79.99**	**332**	P	**P**	**05 58 50.6**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.0,baz=180,slow=9.5,SNR=3.2						
SYO	**Syowa Base**	**80.06**	**198**	⇓X	**P**	**05 58 50.3**	**-0.8**
FX1	**Attu Island--F**	**80.52**	**37**	P	**P**	**05 58 58.2**	**+4.4**
ARCES	**ARCESS Array B**	**82.52**	**340**	P	**P**	**05 59 04.2**	**+0.2**
	comp=Z,4.3nm,0.9s,mb4.5,baz=90,slow=6.1,SNR=3.6						
GERES	**GERESS Array B**	**84.83**	**319**	P	**P**	**05 59 16.4**	**+0.3**
	comp=Z,1.0nm,0.9s,mb4.0,baz=63,slow=6.0,SNR=5.6						
NOA	**NORSAR Array B**	**87.00**	**331**	P	**P**	**05 59 27.1**	**+0.5**
	comp=Z,1.2nm,0.8s,mb4.2,baz=95,slow=5.0,SNR=3.3						
SML	**Sawmill**	**100.21**	**26**	P	P	06 00 21.4	-6.1
PDAR	**Pinedale Array**	**129.97**	**26**	PKP	PKPdf	06 05 52.2	-2.8
	comp=Z,0.4nm,0.8s,baz=297,slow=3.3,SNR=3.7						
TXAR	**Lajitas Array**	**143.60**	**32**	PKP	PKPdf	06 06 15.7	-4.5
	comp=Z,0.6nm,0.8s,baz=340,slow=1.2,SNR=6.7						
JCT	**Junction City**	**144.51**	**26**	*e*PKPdf	PKPdf	06 06 17.7	-4.0

*NEIC **07** 05:48:00.1, 44.08N×8.55E, h2km, ML2.6(GEN), After GEN.*
*CSEM **07** 05:48:00.1, 44.08N×8.55E, h2km, ML2.6, After GEN*
*GEN **07** 05:48:00.1, 44.08N×8.55E, h2km, ML2.6*

ISC 07 05:47:59.7±0.7, 44.08N±0.05×8.55E±0.04, h9km±5km, n26, σ0§20/44, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIN	**Finale Ligure**	**0.27**	**298**	P	**Pg**	**05 48 05.5**	**+0.2**
FIN				S	**Sg**	**05 48 09.5**	**+0.3**
FIN	**Finale Ligure**	**0.27**	**298**	P	**Pg**	**05 48 05.5**	**+0.1**
FIN				S	**Sg**	**05 48 09.5**	**+0.3**
GENL	**Genova Univers**	**0.45**	**43**	P	**Pg**	**05 48 08.8**	**+0.1**
PCP	**Pian Castagno**	**0.46**	**0**	P	**Pg**	**05 48 08.9**	**-0.1**
PCP				S	**Sg**	**05 48 15.2**	**0.0**
PCP	**Pian Castagno**	**0.46**	**0**	P	**Pg**	**05 48 08.9**	**-0.1**
PCP				S	**Sg**	**05 48 15.2**	**0.0**
IMI	**Imperia**	**0.50**	**250**	P	**Pg**	**05 48 09.9**	**+0.1**
IMI				S	**Sg**	**05 48 16.7**	**+0.1**
IMI	**Imperia**	**0.50**	**250**	P	**Pg**	**05 48 09.9**	**+0.1**
IMI				S	**Sg**	**05 48 16.7**	**+0.1**
ROB	**Roburent**	**0.53**	**294**	P	**Pg**	**05 48 10.0**	**-0.4**
ROB				S	**Sg**	**05 48 17.0**	**-0.5**
ROB	**Roburent**	**0.53**	**294**	P	**Pg**	**05 48 10.0**	**-0.4**
ROB				S	**Sg**	**05 48 17.0**	**-0.5**
MONE	**Monesi**	**0.57**	**270**	P	**Pg**	**05 48 11.4**	**+0.3**
MONE				S	**Sg**	**05 48 18.8**	**0.0**
MONE	**Monesi**	**0.57**	**270**	P	**Pg**	**05 48 11.4**	**+0.3**
MONE				S	**Sg**	**05 48 18.8**	**0.0**
NEGI	**Negi**	**0.65**	**249**	P	**Pb**	**05 48 12.6**	**-0.2**
NEGI				S	**Sg**	**05 48 21.3**	**-0.2**
NEGI	**Negi**	**0.65**	**249**	P	**Pb**	**05 48 12.6**	**-0.1**
NEGI				S	**Sg**	**05 48 21.3**	**-0.2**
ENR	**Entracque**	**0.82**	**280**	P	**Pb**	**05 48 15.8**	**+0.2**
ENR				S	**Sb**	**05 48 26.5**	**-0.1**
ENR	**Entracque**	**0.82**	**280**	P	**Pb**	**05 48 15.9**	**+0.2**
ENR				S	**Sb**	**05 48 26.5**	**-0.1**
STV2	**Anna di Valdie**	**0.89**	**281**	P	**Pb**	**05 48 17.1**	**+0.2**
STV2				S	**Sb**	**05 48 28.7**	**0.0**
STV2	**Anna di Valdie**	**0.89**	**281**	P	**Pb**	**05 48 17.1**	**+0.2**
STV2				S	**Sb**	**05 48 28.7**	**+0.1**
STV	**Sta Anna Valdi**	**0.89**	**281**	P	**Pb**	**05 48 17.1**	**+0.2**
STV				S	**Sb**	**05 48 28.5**	**-0.1**
STV	**Sta Anna Valdi**	**0.89**	**281**	P	**Pb**	**05 48 17.1**	**+0.2**
STV				S	**Sb**	**05 48 28.5**	**-0.1**
CODM		**0.99**	**71**	P	**Pb**	**05 48 18.4**	**-0.1**
CODM		**0.99**	**71**	P	**Pb**	**05 48 18.4**	**-0.1**
BACM		**1.12**	**79**	P	**Pb**	**05 48 20.5**	**-0.2**
BACM		**1.12**	**79**	P	**Pb**	**05 48 20.5**	**-0.2**
PZZ	**Prazzo**	**1.12**	**293**	P	**Pb**	**05 48 20.9**	**+0.2**
GRAM		**1.17**	**69**	P	**Pb**	**05 48 21.6**	**+0.1**
GRAM		**1.17**	**69**	P	**Pb**	**05 48 21.6**	**0.0**

IDC 07 05:59:59.5±3.6, 30.43S×138.31E, mb1 3.5/4, mb1mx3.4/12, mbtmp3.3/4, ML3.2/4, Error ellipse: s-maj=103.1km s-min=21.5km az=42.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.17**	**118**	Pn	Pn	06 00 51.2	-0.4
	0.9nm,0.3s,baz=300,slow=13,SNR=17						
STKA				Sn	Sn	06 01 28.4	-2.1
	4.6nm,0.3s,baz=335,slow=16,SNR=7.2						
ASAR	**Alice Springs**	**7.80**	**329**	Pn	Pn	06 01 55.0	-1.9
	0.3nm,0.3s,baz=174,slow=8.6,SNR=12						
ASAR				Sn	Sn	06 03 24.6	-2.5
	0.4nm,0.3s,baz=152,slow=22,SNR=7.3						
WRA	**Warramunga Arr**	**11.04**	**340**	Pn	P	06 02 37.7	-4.2
	0.2nm,0.3s,baz=153,slow=13,SNR=17						
WRA				Sn	S	06 04 39.8	-7.6
	0.1nm,0.3s,baz=163,slow=23,SNR=4.1						
FITZ	**Fitzroy Crossi**	**16.84**	**314**	Pn	P	06 03 56.9	-1.4
	0.4nm,0.3s,baz=153,slow=14,SNR=6.3						

*CSEM **07** 06:08:28.4±0.8, 39.09N×28.56W, ML2.6, Error ellipse: s-maj=15.7km s-min=4.2km az=145.0, After PDA*
*PDA **07** 06:08:28.4±0.8, 39.09N×28.56W, MD3.3, ML2.6, Error ellipse: s-maj=15.7km s-min=4.2km az=145.0*

SVSA 07 06:08:28.4±0.8, 39.09N×28.56W, MD3.3, ML2.6, Error ellipse: s-maj=15.7km s-min=4.2km az=145.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.44**	**92**	*i*S	Sg	06 08 42.7	-0.2
	84nm,0.1s						
STGR	**Santa Cruz**	**0.44**	**92**	*i*S	Sg	06 08 42.7	-0.2
	84nm,0.1s						
PCED	**Cedros**	**0.48**	**193**	*i*P	Pg	06 08 37.2	-0.7
PCED				*e*S	Sg	06 08 44.0	-0.3
	140nm,0.1s						
PCED	**Cedros**	**0.48**	**193**	*e*S	Sg	06 08 44.0	-0.3
	140nm,0.1s						
CALA	**Caldeira**	**0.52**	**192**	*e*P	Pg	06 08 38.0	-0.8
HOR	**Horta**	**0.57**	**185**	*e*P	Pg	06 08 38.4	-1.3
PMAN	**Manadas**	**0.59**	**141**	*e*P	Pg	06 08 38.6	-1.6
PMAN				*e*S	Sg	06 08 46.7	-1.3
	160nm,0.1s						
PICO	**Pico**	**0.60**	**170**	*e*P	Pg	06 08 39.3	-1.1
PSBA	**Serra de Santa**	**1.02**	**108**	*e*rx		06 08 55.7	

*IDC **07** 06:37:11.8±2.6, 10.06S×120.70E, mb3.5/2, mb1 3.6/4, mb1mx3.6/12, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=158.1km s-min=27.2km az=54.0*

ISC 07 06:37:12.8±1.5, 10.6S±0.3×120.2E±0.4, h33km, n5, σ1§05/8, mb3.6/2, 1D, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.18**	**145**	⇓*i*P	**P**	**06 39 26.2**	**+0.2**
	5.7nm,0.7s						
FITZ				*e*S	**S**	**06 41 08.0**	**-1.3**
WRA	**Warramunga Arr**	**16.55**	**126**	Pn	**P**	**06 41 03.8**	**-0.3**
	0.1nm,0.3s,baz=303,slow=14,SNR=4.3						
WRA				Sn	**S**	**06 43 58.4**	**-7.6**
	0.1nm,0.3s,baz=296,slow=24,SNR=3.0						
ASAR	**Alice Springs**	**18.48**	**137**	P	**P**	**06 41 30.6**	**+2.3**
	0.2nm,0.3s,baz=314,slow=12,SNR=17						
ASAR				S	**S**	**06 44 50.1**	**+0.2**
	0.1nm,0.3s,baz=315,slow=25,SNR=3.8						
SONM	**Songino Array**	**59.41**	**349**	P	**P**	**06 47 13.4**	**-1.2**
	0.6nm,0.9s,mb3.6,baz=165,slow=9.7,SNR=3.4						
MKAR	**Makanchi Array**	**66.36**	**333**	P	**P**	**06 48 00.9**	**+0.4**
	0.4nm,0.7s,mb3.6,baz=140,slow=8.4,SNR=4.6						

KRSC 07 06:39:12.0±0.5, 51.56N×158.52E, h40km±7km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.87**	**360**	*i*P	P	06 39 27.9	0.0
RUS				*i*S	S	06 39 39.2	-0.4
GRL	**Gorelyy**	**1.03**	**345**	*e*P	P	06 39 30.8	+0.6
GRL				*e*S	S	06 39 44.6	+1.0
PAU	**Pauzhetka**	**1.07**	**266**	*e*P	P	06 39 31.8	+1.1
PAU				*e*S	S	06 39 45.9	+1.2
KRMR	**Karymshinskiy**	**1.29**	**349**	*e*P	P	06 39 34.4	+0.5
KRMR				*i*S	S	06 39 51.2	+0.9
PET	**Petropavlovsk**	**1.47**	**3**	*e*P	P	06 39 36.4	-0.1
PET				*e*S	S	06 39 54.2	-0.5
APC	**Apacha**	**1.60**	**329**	*i*P	P	06 39 38.7	+0.3
APC				*e*S	S	06 39 58.8	+0.8
APC				Smax			
	70nm,0.6s						
UGLR	**Uglovaya**	**1.66**	**6**	*e*P	P	06 39 39.5	+0.3
UGLR				*e*S	S	06 39 58.8	-0.7
NLC	**Nalytchevo**	**1.69**	**17**	*e*P	P	06 39 38.2	-1.4
NLC				*e*S	S	06 39 57.4	-2.8
AVH	**Avacha**	**1.71**	**4**	*e*P	P	06 39 40.4	+0.5
AVH				*e*S	S	06 40 00.7	-0.1
SMAR	**Somma**	**1.71**	**6**	*e*P	P	06 39 40.1	+0.2
SMAR				*e*S	S	06 40 00.8	0.0
KOK	**Koryaka**	**1.74**	**2**	*i*P	P	06 39 41.1	+0.8
KOK				*e*S	S	06 40 02.4	+1.1
SKR	**Severo-Kuril's**	**1.75**	**241**	*e*P	P	06 39 37.7	-2.8
SKR				*i*S	S	06 39 58.5	-3.2
SPN	**Mys Shipunski**	**1.80**	**30**	*e*P	P	06 39 41.5	+0.4
SPN				*e*S	S	06 40 02.7	-0.1
ALID	**Alaid**	**1.99**	**251**	*e*P	P	06 39 44.1	+0.2
ALID				*e*S	S	06 40 07.5	-0.2
GNL	**Ganaly**	**2.17**	**351**	*e*P	P	06 39 46.5	+0.1
KII	**Karymskiy**	**2.54**	**12**	*e*P	P	06 39 52.4	+0.6
KII				*e*S	S	06 40 22.3	+0.5
MKZ	**Mys Kozlova**	**3.57**	**32**	*e*S	S	06 40 48.0	+0.1
TUMR	**Tumrok**	**3.85**	**14**	P	P	06 40 12.3	+1.9
ESO	**Esso**	**4.38**	**1**	*e*P	P	06 40 20.1	+2.3
KBTR	**Krutoberegovo**	**5.30**	**27**	*e*P	P	06 40 29.8	-1.0

IDC 07 06:43:44.2±2.6, 2.58N×95.50E, mb3.8/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=105.4km s-min=21.4km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.14**	**12**	Pn	P	06 47 34.3	+0.1
	0.3nm,0.3s,baz=202,slow=11,SNR=12						
WRA	**Warramunga Arr**	**44.20**	**122**	P	P	06 51 54.8	-2.3
	0.6nm,0.6s,baz=299,slow=9.3,SNR=5.9						
MKAR	**Makanchi Array**	**45.52**	**347**	P	P	06 52 05.3	-2.0
	2.0nm,0.5s,baz=163,slow=8.0,SNR=36						
ASAR	**Alice Springs**	**45.57**	**127**	P	P	06 52 06.8	-1.3
	0.4nm,0.6s,baz=302,slow=8.1,SNR=8.5						
SONM	**Songino Array**	**46.05**	**10**	P	P	06 52 09.1	-2.4
	0.4nm,0.4s,baz=192,slow=8.2,SNR=5.3						
SONM				PcP	PcP	06 53 46.6	-1.9
	0.2nm,0.4s,baz=187,slow=3.5,SNR=4.0						
ZAL	**Zalesovo**	**51.94**	**352**	P	P	06 52 54.9	-2.2
	1.7nm,0.6s,baz=294,slow=10,SNR=5.8						

*NEIC **07** 06:52:24.6, 18.26N×103.33W, h6km, MD3.9(MEX), After MEX.*

MEX 07 06:52:24.3±0.9, 18.25N×103.25W, h10km±14km, MD3.9, 1D, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLM	**Colima**	**1.01**	**336**	⇓*i*P	Pb	06 52 40.2	-3.2
COLM				*i*S	Sb	06 52 53.8	-2.8
ZIIG	**Zihuatanejo**	**1.82**	**110**	*i*P	Pn	06 52 54.8	-1.2
ZIIG				*i*S	Sn	06 53 16.3	-3.0
ZIIG	**Zihuatanejo**	**1.82**	**110**	*i*P	Pn	06 52 53.4	-2.6
ZIIG				*i*S	Sn	06 53 13.3	-6.0
CJM	**Chamela**	**2.10**	**306**	*e*P	Pn	06 52 57.1	-2.8
CJM				*i*S	Sn	06 53 21.0	-5.4
SFJM	**Santa Fe**	**2.23**	**5**	*e*P	Pn	06 52 58.2	-3.7
SFJM				*e*S	Sn	06 53 28.3	-1.4
SFJM	**Santa Fe**	**2.23**	**5**	*e*P	Pn	06 52 58.2	-3.7
SFJM				*e*S	Sn	06 53 25.0	-4.7
MOIG	**Morelia**	**2.41**	**54**	*i*P	Pn	06 53 02.7	-1.8
MOIG				*i*S	Sn	06 53 33.0	-1.3
MOIG	**Morelia**	**2.41**	**54**	*e*P	Pn	06 53 01.4	-3.1
MOIG				*i*S	Sn	06 53 31.1	-3.3
PPM	**Popocatepetl**	**4.46**	**79**	*i*S	Sn	06 54 22.5	-3.8

*IDC **07** 06:54:16.1±0.5, 0.47N×96.39E, mb4.6/16, mb1 4.7/17, mb1mx4.7/18, mbtmp4.6/17, ML4.6/1, MS3.9/5, Ms1 3.9/5, ms1mx3.6/17, Error ellipse: s-maj=20.1km s-min=13.9km az=54.0*
*BJI **07** 06:54:18.7, 0.15N×96.30E, h45km, mB5.2, mb4.8, Ms4.5, Msz4.2*
*MOS **07** 06:54:19.2±0.9, 0.45N×96.40E, h33km, mb5.1/17, Error ellipse: s-maj=13.1km s-min=7.6km az=101.1*
*HRVD **07** 06:54:21.0±0.8, 0.30N×96.33E, h21km±1km, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s14,c14;Mantle waves: s37,c48; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.97±.39; Mθθ0.41±.21; Mφφ2.56±.27; Mrθ-0.40±.42; Mθφ-1.23±.15; Mφr0.69±.43; Best double couple: M0=3.146×10^16 NP1:φ=337°, δ38°, λ-88°. NP2:φ=154°, δ52°, λ-92°. Principal axes: T 3.219, Plg7°, Azm245°; N -.151, Plg2°, Azm155°; P -3.073, Plg83°, Azm53°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 06:54:21.0±0.2, 0.45N×96.44E, mb4.9/28 Error ellipse: s-maj=6.7km s-min=4.5km az=53.0*

ISC 07 06:54:19.3±0.3, 0.45N±0.04×96.49E±0.05, h32km, h32km±.6km: pP-P, n124, σ1§01/116, mb4.8/53, MS4.1/13, 4C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**6.12**	**48**	P	**Pn**	**06 55 48.8**	**-1.1**
KULM	**Kulim**	**6.36**	**41**	*e*Pn	**Pn**	**06 55 51.1**	**-2.2**
KULM				*e*		06 56 00.2	
KGM	**Kluang**	**7.01**	**77**	P	**Pn**	**06 56 02.3**	**-0.2**

comp=Z,1μm,12.0s,MS4.6
GZH Guangzhou 27.84 35 P **P 07 00 13.4 +5.2**
JIRN Jiri 28.81 341 *e*P **P 07 00 17.3 +0.4**
comp=Z,24nm,0.6s,mb5.1
PKI Pulchoki 28.99 339 *e*P **P 07 00 19.5 +1.0**
DMN Daman 29.13 339 *e*P **P 07 00 19.8 0.0**
comp=Z,20nm,0.9s,mb4.9
GUN Gumba 29.14 340 *e*P **P 07 00 20.1 +0.2**
comp=Z,43nm,0.8s,mb5.2
KKN Kakani 29.24 339 *e*P **P 07 00 20.5 -0.2**
comp=Z,18nm,0.7s,mb4.9
KKN Kakani 29.24 339 *e*P **P 07 00 20.5 -0.2**
KKN pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
LSA Lhasa 29.53 351 *e*P **P 07 00 24.6 +1.2**
GKN Gorkha 29.66 338 *e*P **P 07 00 24.3 -0.3**
comp=Z,27nm,0.8s,mb5.0
KOLN Koldanda 29.85 337 *e*P **P 07 00 26.3 +0.1**
comp=Z,28nm,0.6s,mb5.1
ENH Enshi 32.14 21 *e*P **P 07 00 45.3 -1.0**
comp=Z,12nm,0.6s,mb4.9
FITZ Fitzroy Crossi 34.08 124 *e*P **P 07 01 02.8 -0.5**
comp=Z,20nm,0.6s,mb5.2
XAN Xi'an 35.39 18 P **P 07 01 13.4 -1.0**
XAN AP pP 07 01 23.0 -0.8
XAN AMB AMB
comp=Z,9.0nm,0.7s,mb4.8
XAN LR LR
comp=N,282nm,14.0s,MS4.3
XAN LR LR
comp=E,252nm,14.5s,MS4.3
XAN LR LR
comp=Z,407nm,13.2s,MS4.4
LZH Lanzhou 36.11 10 *e*P **P 07 01 20.5 0.0**
LZH AP pP 07 01 30.0 +0.1
LZH XP sP 07 01 34.0 +0.1
LZH AMB AMB
comp=Z,20nm,1.2s,mb4.9
LZH Lanzhou 36.11 10 *e*P **P 07 01 20.5 0.0**
comp=Z,20nm,1.2s,mb4.9
LZH pP pP 07 01 30.0 +0.1
LZH sP sP 07 01 34.0 +0.1
NJ2 Nanjing 37.88 32 *e*P **P 07 01 38.6 +3.3**
NJ2 S **S 07 07 28.0 +3.8**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
NJ2 LR LR
comp=N,490nm,10.0s,MS4.8
NJ2 LR LR
comp=E,690nm,11.9s,MS4.8
GTA Gaotai 38.90 4 *e*P **P 07 01 43.7 -0.1**
GTA AP pP 07 01 53.6 +0.3
GTA XP sP 07 01 57.9 +0.7
GTA PP PP 07 03 18.2 +1.3
GTA PPP PPP 07 03 39.1 -1.2
GTA PCP PcP 07 03 55.1 +0.4
GTA S **S 07 07 39.4 -0.2**
GTA SS SS 07 10 22.5 -0.9
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,281nm,6.8s
GTA LR LR
comp=N,310nm,15.2s,MS4.4
GTA LR LR
comp=E,272nm,14.5s,MS4.4
GTA LR LR
comp=Z,314nm,18.6s,MS4.2
WRA Warramunga Arr 42.25 121 P **P 07 02 12.0 +0.3**
comp=Z,6.4nm,0.6s,mb4.5,baz=300,slow=8.9,SNR=56
WRA PcP PcP 07 04 04.9 -1.0
comp=Z,2.6nm,0.7s,baz=306,slow=2.6,SNR=5.2
WRAB Tennant Creek 42.26 121 *e*P **P 07 02 12.1 +0.3**
WRAB pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
WRAB Tennant Creek 42.26 121 *e*P **P 07 02 12.1 +0.3**
comp=Z,9.5nm,0.8s,mb4.5
WB2 Warramunga Arr 42.26 121 *e*P **P 07 02 12.2 +0.4**
KSH Kashi 43.17 337 *e*P **P 07 02 20.1 +1.2**
KSH *e*AP pP 07 02 29.2 +0.8
KSH *e*XP sP 07 02 33.0 +0.7
KSH *e*PP PP 07 04 03.0 +1.6
KSH *e*PCP PcP 07 04 08.0 -0.7
KSH *e*PPP PPP 07 04 39.1 +2.3
KSH *e*SCP 07 07 56.4
KSH *e*PCS 07 08 00.0
KSH *e*S **S 07 08 45.3 +2.3**
KSH XS 07 09 01.1
KSH *e*SS SS 07 11 52.1 +2.6
KSH *e*SCS ScS 07 12 14.0 -0.4
KSH AMB AMB
comp=Z,400nm,6.3s
KSH LR LR
comp=N,640nm,5.6s
KSH LR LR
comp=E,740nm,4.6s
FORT Forrest 43.17 139⇑ *i*P **P 07 02 20.7 +1.6**
comp=E,679nm,0.7s
BJT Baijiatuau 43.28 22 *e*P **P 07 02 19.4 -0.4**
BJT *e**PP pP 07 02 30.1 +0.8
BJT pmax pmax
comp=Z,32nm,1.1s
BJT Baijiatuau 43.28 22 *e*P **P 07 02 19.4 -0.5**
comp=Z,32nm,1.1s,mb5.0
BJT *e*pP pP 07 02 30.1 +0.7
BJI Beijing 43.30 22 *e*P **P 07 02 21.4 +1.4**
BJI AP pP 07 02 30.4 +0.9
BJI AMB AMB
comp=Z,22nm,1.1s,mb4.8
BJI LR LR
comp=Z,125nm,18.3s,MS3.9
BJI Beijing 43.30 22 *e*P **P 07 02 21.4 +1.4**
comp=Z,22nm,1.1s,mb4.8
BJI pP pP 07 02 30.4 +0.9
ASPA Alice Springs 43.52 126 *e*P **P 07 02 22.2 +0.2**
ASAR Alice Springs 43.52 126 P **P 07 02 22.3 +0.3**
comp=Z,5.7nm,0.6s,mb4.5,baz=298,slow=7.8,SNR=66
ASAR PcP PcP 07 04 09.8 -0.3
comp=Z,2.2nm,0.7s,baz=297,slow=2.6,SNR=5.6
WMQ Urumqi 43.89 351 ⇑P **P 07 02 25.3 +0.5**
WMQ AP pP 07 02 35.3 +1.1
WMQ XP sP 07 02 39.3 +1.1
WMQ PP PP 07 04 09.3 +0.7
WMQ PCP PcP 07 04 12.1 +1.0
WMQ S **S 07 08 53.3 -0.1**
WMQ XS 07 09 09.8
WMQ AMB AMB
comp=Z,8.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,256nm,5.0s
WMQ LR LR
comp=N,54nm,18.6s,MS4.0
WMQ LR LR
comp=E,141nm,17.2s,MS4.0
WMQ LR LR
comp=Z,111nm,18.6s,MS3.8
UCH Uchtor 46.06 337 P **P 07 02 42.6 +0.6**
SNR=17
TKM2 Tokmak 2 46.25 339 P **P 07 02 44.1 +0.5**
SNR=10
AML Almayashu 46.30 337 P **P 07 02 44.7 +0.7**
SNR=13
AAK Ala-Archa 46.41 338 *e*P **P 07 02 43.8 -1.1**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 46.41 338 *e*P **P 07 02 43.8 -1.1**
comp=Z,3.4nm,0.8s,mb4.3
FRU Bishkek 46.54 338 *e*P pP 07 02 57.0 +1.6
EKS2 Erkin-Say 46.71 337 P **P 07 02 47.9 +0.6**
SNR=13
USP Ospenovka 46.95 338 P **P 07 02 49.3 +0.1**
SNR=27
MKAR Makanchi Array 47.80 347 *i*P **P 07 02 55.0 -0.8**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 47.80 347 P **P 07 02 55.5 -0.3**
comp=Z,8.0nm,0.6s,mb4.9,baz=159,slow=7.8,SNR=89
SONM Songino Array 47.98 9 P **P 07 02 57.3 +0.1**
comp=Z,6.4nm,0.9s,mb4.6,baz=192,slow=9.4,SNR=28
SONM PcP PcP 07 04 26.0 +0.7
comp=Z,3.7nm,1.0s,baz=187,slow=3.7,SNR=4.7
ULN Ulaanbaatar 48.12 10 *e*P **P 07 02 57.7 -0.5**
ULN *e**PP pP 07 03 07.5 -0.3
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
ULN Ulaanbaatar 48.12 10 *e*P **P 07 02 57.7 -0.5**
comp=Z,4.8nm,0.9s,mb4.5
ULN *e*pP pP 07 03 07.5 -0.3
ZAK Zakamensk 50.09 6 *e*P **P 07 03 13.3 0.0**
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
CN2 Changchun 50.30 27 *e*P **P 07 03 16.1 +1.1**
PMG Port Moresby 51.39 102 *e*P **P 07 03 24.1 +0.4**
PMG *e**PP pP 07 03 33.3 0.0
PMG pmax pmax
comp=Z,47nm,0.9s
PMG Port Moresby 51.39 102 *e*P **P 07 03 24.1 +0.5**
comp=Z,47nm,0.9s,mb5.4
PMG *e*pP pP 07 03 33.2 -0.1
TLY Talaya 51.41 6 *e*P **P 07 03 24.2 +0.9**
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,185nm,20.0s,MS4.1
OPO Ambohidratompo 51.97 246 P **P 07 03 27.5 -0.5**
comp=Z,7.9nm,0.8s,mb4.7,baz=85,slow=6.8,SNR=6.3
HIA Hailar 52.58 19 *e*P **P 07 03 32.1 -0.1**
HIA *e**PP pP 07 03 41.8 -0.1
HIA pmax pmax
comp=Z,12nm,1.0s
HIA Hailar 52.58 19 *e*P **P 07 03 32.1 -0.1**
comp=Z,12nm,1.0s,mb4.8
HIA *e*pP pP 07 03 41.8 -0.1
MJAR Matsushiro Arr 52.73 42 P **P 07 03 33.4 -0.1**
comp=Z,5.3nm,0.9s,mb4.5,baz=218,slow=6.3,SNR=7.5
MJAR LR LR 07 25 48.9
comp=Z,82nm,20.5s,MS3.8,baz=300,slow=36
CTA Charters Tower 52.81 116 *e*P **P 07 03 34.1 -0.3**
comp=Z,12nm,0.9s,mb4.8
CTA Charters Tower 52.81 116 *e*P **P 07 03 34.1 -0.3**
CTA pmax pmax
comp=Z,12nm,0.9s
CTAO Charters Tower 52.81 116 *e*P **P 07 03 34.1 -0.3**
CTAO pmax pmax
comp=Z,30nm,1.1s,mb5.1
CTAO Charters Tower 52.81 116 *e*P **P 07 03 34.0 -0.3**
comp=Z,30nm,1.1s,mb5.1
MDJ Mudanjiang 52.87 29 P **P 07 03 34.5 0.0**
MDJ S **S 07 11 07.5 +8.0**
MDJ AMB AMB
comp=Z,21nm,1.1s,mb5.0
MDJ LR LR
comp=N,147nm,28.2s
MDJ LR LR
comp=Z,121nm,22.9s
MDJ Mudanjiang 52.87 29 *e*P **P 07 03 35.0 +0.6**
comp=Z,15nm,1.0s,mb4.9
STKA Stephens Creek 53.39 131 *e*P **P 07 03 38.7 +0.2**
comp=Z,15nm,0.8s,mb5.0
STKA Stephens Creek 53.39 131 P **P 07 03 38.8 +0.3**
comp=Z,20nm,0.8s,mb5.1,baz=309,slow=6.4,SNR=29
STKA LR LR 07 27 07.3
comp=Z,100nm,18.3s,MS3.9,baz=205,slow=37
ZAL Zalesovo 54.18 352 P **P 07 03 43.8 -0.1**
comp=Z,13nm,0.5s,mb5.1,baz=309,slow=5.0,SNR=32
BVA0 Borovoye Array 56.73 341 *i*P **P 07 04 00.3 -2.1**
BVA0 pmax pmax
comp=Z,5.0nm,2.0s,mb4.2
CHKZ Chkalovo 57.21 342 P **P 07 04 03.6 -2.3**
CHKZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
KLR Kul'dur 57.24 27 *e*P **P 07 04 03.2 -2.9**
BOD Bodaibo 58.88 11 *e*P **P 07 04 16.5 -0.9**
BOD pmax pmax
comp=Z,18nm,0.9s,mb5.1
KMBO Kilima Mbogo 59.25 268 P **P 07 04 20.6 0.0**
comp=Z,3.5nm,0.8s,mb4.5,baz=66,slow=9.5,SNR=12
KMBO LR LR 07 24 22.9
comp=Z,174nm,18.2s,MS4.2,baz=110,slow=30
KMBO Kilima Mbogo 59.25 268 *e*P **P 07 04 20.0 -0.6**
MALT Malatya 65.11 313 *e*P **P 07 04 58.8 -0.6**
MALT pmax pmax
comp=Z,15nm,1.3s,mb4.9
MALT Malatya 65.11 313 *e*P **P 07 04 58.8 -0.6**
comp=Z,15nm,1.3s,mb4.9
YAK Yakutsk 66.34 16 *e*P **P 07 05 06.0 -0.9**
YAK *e**PP pP 07 05 15.2 -1.6
YAK pmax pmax
comp=Z,26nm,0.4s,mb5.6
YAK Yakutsk 66.34 16 *e*P **P 07 05 06.0 -0.9**
comp=Z,26nm,0.4s,mb5.6
YAK *e*pP pP 07 05 15.2 -1.6
BRTR Keskin Array B 69.09 313 P **P 07 05 22.9 -1.7**
comp=Z,2.3nm,0.7s,mb4.2,baz=126,slow=6.8,SNR=10
MAW Mawson 71.82 193 P **P 07 05 40.7 0.0**
comp=Z,5.4nm,0.6s,mb4.6,baz=43,slow=10,SNR=4.6
MA2 Magadan 72.32 26 *e*P **P 07 05 43.5 -0.2**
MA2 *e* pP 07 05 53.1 -0.5
MA2 *e* 07 22 49.5
MA2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MA2 Magadan 72.32 26 *e*P **P 07 05 42.5 -1.2**
comp=Z,4.1nm,0.8s,mb4.4
MA2 *e*pP pP 07 05 52.4 -1.2
IDI Anoyia 74.77 306 LR LR 07 39 31.2
comp=Z,71nm,21.1s,MS3.9,baz=214,slow=36
AKASG Malin Array Be 75.42 323 P **P 07 06 00.1 -1.7**
comp=Z,2.1nm,0.5s,mb4.4,baz=85,slow=4.8,SNR=12
SYO Syowa Base 79.07 198 ⇓P **P 07 06 22.2 +0.4**
FINES FINESS Array B 80.33 333 P **P 07 06 27.9 -0.8**
comp=Z,1.7nm,0.6s,mb4.1,baz=90,slow=5.7,SNR=7.4
KAF Kangasniemi 80.43 333 *e*p **P 07 06 28.0 -1.2**
comp=Z,0.7nm,0.4s,mb3.9
KAF Kangasniemi 80.43 333 *e*P **P 07 06 28.0 -1.2**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KEV Kevo 82.57 341 *e*p **P 07 06 39.5 -0.7**
comp=Z,0.3nm,0.4s,mb3.7
ARCES ARCESS Array B 83.00 340 P **P 07 06 42.3 -0.1**
comp=Z,3.1nm,0.5s,mb4.6,baz=92,slow=5.0,SNR=42
GERES GERESS Array B 84.91 319 P **P 07 06 53.4 +0.9**
comp=Z,3.0nm,0.9s,mb4.4,baz=108,slow=4.2,SNR=18
BRG Berggiesshubel 84.94 321 *e*P **P 07 06 53.2 +0.6**
BRG pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
BRG Berggiesshubel 84.94 321 *e*P **P 07 06 53.2 +0.6**
comp=Z,6.9nm,0.7s,mb4.9
NB2 NORSAR Subarra 87.31 331 P **P 07 07 03.3 -0.8**
comp=Z,9.8nm,0.9s,mb5.0,baz=96,slow=4.6
NOA NORSAR Array B 87.31 331 P **P 07 07 03.6 -0.5**
comp=Z,3.7nm,0.7s,mb4.7,baz=95,slow=4.9,SNR=11
NVL N'lazarevskaya 88.65 199 ⇓*i*P **P 07 07 10.8 +0.5**
NVL *i* pP 07 07 20.6 +0.2
NVL pmax pmax
comp=Z,28nm,1.3s,mb5.4
LPG La Plagne 89.50 315 *e*P **P 07 07 15.2 +0.3**
comp=Z,9.3nm,0.7s,mb4.9
LPG La Plagne 89.50 315 *e*P **P 07 07 15.2 +0.3**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
YKA Yellowknife Ar 113.00 15 PP PP 07 13 36.6 -11
comp=Z,0.2nm,0.7s,baz=333,slow=8.0,SNR=4.2
SCHQ Schefferville 123.22 349 PKP PKPdf 07 13 14.5 -3.8
comp=Z,1.7nm,0.7s,baz=0.1,slow=4.9,SNR=3.9
SCHQ Schefferville 123.22 349 PKP PKPdf 07 13 14.5 -3.8
ULM Lac du Bonnet 128.40 10 PKP PKPdf 07 13 24.7 -3.7
comp=Z,1.2nm,0.6s,baz=333,slow=6.5,SNR=4.1
NVAR Mina Array Bea 129.81 36 PKP PKPdf 07 13 28.6 -2.9
comp=Z,0.5nm,0.4s,baz=299,slow=6.9,SNR=5.4
PDAR Pinedale Array 131.03 25 PKP PKPdf 07 13 30.6 -3.1
comp=Z,0.9nm,1.0s,baz=90,slow=1.5,SNR=4.8
ANMO Albuquerque 138.77 29 PKPdf PKPdf 07 13 45.5 -2.7
BDFB Brasilia 141.85 245 PKP PKPdf 07 13 50.6 -3.7
comp=Z,1.5nm,0.8s,baz=119,slow=8.5,SNR=3.5
MIAR Mount Ida 143.94 14 *e*PKPdf PKPdf 07 13 50.8 -6.5
MIAR *e*pPKPdf 07 14 00.1
LTX Lajitas 144.68 31 *e*PKPdf PKPdf 07 13 54.2 -4.6
TXAR Lajitas Array 144.68 31 PKP PKPdf 07 13 54.5 -4.3
comp=Z,2.5nm,0.6s,baz=292,slow=1.1,SNR=44
JCT Junction City 145.56 25 *e*PKPdf PKPdf 07 13 56.0 -4.3
JCT *e*pPKPdf 07 14 05.9
GOGA Godfrey 146.32 360 *e*PKPdf PKPdf 07 13 54.9 -6.6
LPAZ La Paz 158.14 223 PKP PKPdf 07 14 16.2 -3.0
comp=Z,1.2nm,0.7s,baz=42,slow=2.2,SNR=5.9

MAN 07 07:03:32.7,12.99N×123.56E,h100km,mb4.3,ML3.1, MS2.9,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.63**	**174**	*i* P		P	07 03 51.0	+1.3
PVCP	**Virac**	**0.84**	**44**	*e*P		P	07 03 52.5	+0.8
PVCP				*e*S		S	07 04 07.5	+1.6
AUQP	**San Andres**	**0.92**	**291**	*e*P		P	07 03 52.3	-0.2
AUQP				*e*S		S	07 04 10.9	+3.5
CNP	**Catarman**	**1.18**	**114**	*e*P		P	07 03 55.9	+0.3
CNP				*e*S		S	07 04 12.4	-0.2
OTRP	**Odiongan**	**1.62**	**248**	*e*P		P	07 04 04.7	+3.7
RCP	**Roxas**	**1.62**	**209**⇑	*e*P		P	07 04 01.4	+0.5
BOAC	**Boac**	**1.73**	**286**	*e*P		P	07 04 29.1	+27

IDC 07 07:04:25.9±3.9,1.62N×97.89E,mb3.6/2,mb1 4.0/3, mb1mx3.6/19,mbtmp3.7/3,ML4.5/1,Error ellipse: s-maj=149.4km s-min=29.6km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.76**	**3**	Pn		P	07 08 22.6	-1.2
	0.7nm,0.3s,baz=198,slow=11,SNR=11							
WRA	**Warramunga Arr**	**41.68**	**123**	P		P	07 12 16.6	-1.7
	0.9nm,0.5s,baz=302,slow=9.1,SNR=18							
MKAR	**Makanchi Array**	**47.00**	**345**	P		P	07 12 58.8	-2.0
	0.2nm,0.3s,baz=164,slow=8.8,SNR=3.8							

MAN 07 07:11:52.2,12.92N×123.67E,h78km,mb3.7,ML2.5, MS2.0,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.56**	**185**	*i* P		P	07 12 08.0	+1.5
PVCP	**Virac**	**0.82**	**35**	*e*P		P	07 12 09.8	+0.5
PVCP				*e*S		S	07 12 24.3	+2.3
AUQP	**San Andres**	**1.05**	**293**	*e*P		P	07 12 11.9	-0.1
AUQP				*e*S		S	07 12 27.9	+1.1
CNP	**Catarman**	**1.05**	**113**	*e*P		P	07 12 12.9	+0.9
CNP				*e*S		S	07 12 30.6	+3.7
RCP	**Roxas**	**1.63**	**214**⇑	*e*P		P	07 12 19.5	-0.2
BOAC	**Boac**	**1.86**	**287**	*e*P		P	07 12 23.6	+0.8
BOAC				*e*S		S	07 12 46.5	+1.3

*WAR **07** 07:19:06.3,51.52N×16.11E,h1km,ML2.8,Mining Induced*
*PRU **07** 07:19:06.5,51.46N×16.16E*
*CSEM **07** 07:19:06.6±0.3,51.48N×16.16E,h2km,ML3.0/4*
*NEIC **07** 07:19:14.1±1.7,51.00N×15.92E,h5km,ML2.8(VIE),Error ellipse: s-maj=20.7km s-min=9.1km az=188.0*

ISC 07 07:19:04.2±0.8,51.45N±0.04×16.12E±0.04,n17,σ1§37/34, 1C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**170**	*e*Pg		**Pg**	**07 19 18.8**	**+2.2**
KSP				*e*Sg		**Sg**	**07 19 28.1**	**+3.3**
UPC	**Upice**	**0.95**	**184**	*e*PG		**Pg**	**07 19 25.0**	**+1.8**
DPC	**Dobruska-Polom**	**1.11**	**173**	*e*PG		**Pg**	**07 19 27.7**	**+1.3**
DPC				*e*SG		**Sg**	**07 19 43.1**	**+1.9**
	12nm,0.2s							
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG		**Pg**	**07 19 32.1**	**+0.9**
BRG	**Berggiesshubel**	**1.49**	**248**	*i* Pg		**Pg**	**07 19 33.9**	**-0.1**
BRG				*i* Sg		**Sg**	**07 19 54.8**	**+1.0**
PRU	**Pruhonice**	**1.78**	**215**	*e*PG		**Pg**	**07 19 40.3**	**+0.6**
PRU				*ex*		x	07 19 43.7	
PRU				*ex*		x	07 19 56.4	
PRU				*e*SG		**Sg**	**07 20 03.7**	**+0.3**
	9.8nm,0.2s							
PRU	**Pruhonice**	**1.78**	**215**	*e*Pg		**Pg**	**07 19 40.3**	**+0.6**
PRU				Sg		**Sg**	**07 20 03.7**	**+0.3**
	9.8nm,0.2s							
MORC	**Moravsky Berou**	**1.91**	**151**	*e*Pn		**Pn**	**07 19 39.4**	**+1.1**
MORC				*e*Sg		**Sg**	**07 20 05.0**	**-2.7**
CLL	**Collm**	**1.96**	**267**	*e*PN		**Pn**	**07 19 39.0**	**-0.1**
CLL				*e*PG		**Pg**	**07 19 42.0**	**-1.4**
CLL				*i*			07 19 46.0	
CLL				*e*SG		**Sg**	**07 20 08.0**	**-1.5**
OKC	**Ostrava-Krasne**	**2.07**	**141**	*e*SG		**Sg**	**07 20 11.6**	**-1.5**
VRAC	**Vranov**	**2.17**	**172**	*e*Pn		**Pn**	**07 19 44.1**	**+2.1**
VRAC				*e*Sg		**Sg**	**07 20 14.6**	**-1.8**
NKC	**Novy Kostel**	**2.63**	**244**	*e*PG		**Pg**	**07 19 56.8**	**+0.1**
NKC				*e*SG		**Sg**	**07 20 32.8**	**+1.0**
	18nm,0.3s							
OJC	**Ojcow**	**2.64**	**116**	*e*PG		**Pg**	**07 19 56.0**	**-0.9**
OJC				*e*SG		**Sg**	**07 20 31.0**	**-1.0**
OJC	**Ojcow**	**2.64**	**116**	*e*Pg		**Pg**	**07 19 56.3**	**-0.6**
OJC				*e*Sg		**Sg**	**07 20 30.7**	**-1.3**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN		**Pn**	**07 19 53.1**	**+1.5**
KHC				*e*PG		**Pg**	**07 19 58.7**	**-2.2**
KHC				*e*SN		**Sn**	**07 20 25.9**	**-1.1**
KHC				*e*SG		**Sg**	**07 20 37.4**	**-1.3**
MOX	**Moxa**	**2.96**	**256**	*e*Pg		**Pg**	**07 20 01.9**	**-1.4**
MOX				*e*Sg		**Sg**	**07 20 42.3**	**-0.4**
MOA	**Molln**	**3.80**	**199**⇑	*i*PN		**Pn**	**07 20 06.3**	**+1.0**
MOA				*i* SG		**Sg**	**07 21 09.5**	**-1.3**
	3.1nm,0.4s							

IDC 07 07:27:58.9±3.2,1.08N×97.88E,mb3.6/4,mb1 3.8/5, mb1mx3.7/18,mbtmp3.7/5,ML4.5/1,Error ellipse: s-maj=122.2km s-min=22.5km az=61.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.30**	**3**	P		P	07 32 02.4	-1.2
	0.6nm,0.3s,baz=190,slow=11,SNR=4.5							
WRA	**Warramunga Arr**	**41.39**	**122**	P		P	07 35 46.9	-1.8
	0.4nm,0.5s,baz=304,slow=9.1,SNR=3.9							
ASAR	**Alice Springs**	**42.78**	**127**	P		P	07 35 58.7	-1.5
	0.4nm,0.6s,baz=300,slow=8.0,SNR=5.5							
SONM	**Songino Array**	**47.15**	**8**	P		P	07 36 34.0	-0.9
	0.2nm,0.3s,baz=193,slow=8.1,SNR=4.8							
MKAR	**Makanchi Array**	**47.52**	**346**	P		P	07 36 35.2	-2.6
	1.1nm,0.5s,baz=159,slow=9.1,SNR=19							

*IDC **07** 07:36:22.1±7.2,23.65N×122.74E,mb3.3/3,mb1 3.5/3, mb1mx3.2/6/11,Error ellipse: s-maj=186.5km s-min=56.9km az=17.0*
*TAP **07** 07:37:03.2,25.54N×122.32E,h288km±1km,ML4.2*
*JMA **07** 07:37:06.1±0.3,25.58N×122.33E,h246km,M4.0*

ISC 07 07:37:03.2±0.8,25.5N±0.2×122.3E±0.1,h273km±19km, n13,σ1§08/19,mb2.9/3,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.22**	**150**	P		**P**	**07 37 42.6**	**+0.4**
YOJ				*e*S		**S**	**07 38 11.5**	**-1.1**
IRIF	**Iriomote-Funau**	**1.73**	**133**	P		**P**	**07 37 46.1**	**+0.4**
IRIF				S		**S**	**07 38 17.8**	**-1.0**
HATJ	**Hateruma jima**	**1.98**	**137**	P		**P**	**07 37 48.9**	**+1.3**
HATJ				S		**S**	**07 38 21.6**	**-0.6**
JKRS	**Kuro-shima**	**1.98**	**130**	P		**P**	**07 37 48.9**	**+1.2**
JKRS				S		**S**	**07 38 21.6**	**-0.8**
JIJ	**Ishigaki jima**	**2.00**	**125**	P		**P**	**07 37 48.5**	**+0.6**
JIJ				S		**S**	**07 38 20.9**	**-1.8**
JTJ	**Tarama**	**2.32**	**112**	P		**P**	**07 37 52.0**	**+1.2**
JTJ				S		**S**	**07 38 27.9**	**+0.1**
JMJ	**Miyako jima 2**	**2.77**	**104**	P		**P**	**07 37 56.5**	**+1.3**
JOGS	**Gusukube**	**2.88**	**105**	P		**P**	**07 37 58.0**	**+1.7**
JKE	**Kume jima 2**	**4.08**	**78**	P		**P**	**07 38 09.6**	**+0.1**
JKE				S		**S**	**07 39 00.4**	**-0.8**
JOW	**Kunigami**	**5.49**	**75**	LR		LR	07 40 17.6	
	comp=Z,110nm,19.3s,baz=317,slow=40							
SONM	**Songino Array**	**25.58**	**335**	P		**P**	**07 42 09.8**	**+0.7**
	0.2nm,0.5s,mb2.8,baz=153,slow=6.4,SNR=3.0							
MKAR	**Makanchi Array**	**38.13**	**314**	P		**P**	**07 43 56.0**	**-1.7**
	0.3nm,0.3s,mb3.1,baz=102,slow=9.8,SNR=4.1							
YKA	**Yellowknife Ar**	**81.33**	**23**	P		**P**	**07 48 48.5**	**-1.6**
	0.1nm,0.5s,mb2.8,baz=310,slow=5.3,SNR=7.3							

DJA 07 07:40:45.0±0.9,9.33S×114.32E,h33km,ML3.7/3,3C-5D, Error ellipse: s-maj=24.1km s-min=9.3km az=28.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**0.86**	**348**	⇓*i*Pn		Pn	07 40 59.7	-1.2
	133nm,0.2s							

SRDI				⇑iSn	Sn	07 41 08.8	-3.5
KELI	**Kelakatan**	**1.11**	**9**	⇓iPn	Pn	07 41 03.5	-1.0
197nm,0.2s							
KELI	**Kelakatan**	**1.11**	**9**	⇑iP	P	07 41 04.1	-0.2
KELI				⇓iSn	Sn	07 41 16.6	-2.2
RATI	**Rata**	**1.34**	**63**	⇓iPn	Pn	07 41 06.7	-1.0
49nm,0.3s							
RATI	**Rata**	**1.34**	**63**	⇑iP	P	07 41 07.1	-0.4
RATI				⇓iSn	Sn	07 41 21.7	-2.7

*GUC **07** 07:54:19.6±0.9, 28.84S×72.17W, h151km±42km, ML3.9*
*NEIC **07** 07:54:21.9±2.8, 28.70S×72.51W, h35km, Error ellipse: s-maj=40.0km s-min=11.4km az=77.0*
*IDC **07** 07:54:25.1±5.5, 28.66S×72.24W, h68km±54km, mb2.8/1, mb1 3.5/4, mb1mx3.3/15, mbtmp3.4/4, ML3.8/3, MS3.7/1, Ms1 3.7/1, ms1mx2.1/5, Error ellipse: s-maj=65.3km s-min=14.8km az=75.0*

ISC 07 07:54:19.5±1.1, 28.70S±0.05×72.63W±0.08, h33km, n11, σ1§02/14, mb3.1/1, MS3.5/1, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.65**	**86**	⇑iP	**P**	**07 54 47.1**	**+0.7**
VACH				iS	**S**	**07 55 08.1**	**+1.4**
VACH				AMP		07 55 10.4	
comp=N,2μm,0.1s							
LSCH	**La Serena**	**1.71**	**135**	AMP		07 55 11.5	
comp=N,671nm,0.5s							
LCO	**Las Campanas**	**1.72**	**101**	⇑iP	**P**	**07 54 48.5**	**+1.0**
LCO				iS	**S**	**07 55 09.5**	**+1.0**
LCO				AMP		07 55 10.8	
comp=N,2μm,0.4s							
TLL	**Tololo Astrono**	**2.16**	**133**	iP	**P**	**07 54 53.4**	**-0.4**
TLL				iS	**S**	**07 55 18.8**	**-0.8**
TLL				AMP		07 55 21.1	
comp=E,713nm,0.9s							
CPCH	**Copiapo**	**2.42**	**57**	iP	**P**	**07 54 56.8**	**-0.6**
CPCH				iS	**S**	**07 55 26.2**	**+0.1**
CPCH				AMP		07 55 28.4	
comp=E,2μm,0.1s							
CFAA	**Coronel Fontan**	**4.78**	**128**	P	**P**	**07 55 31.5**	**+0.5**
comp=E,0.5nm,0.3s,baz=309,slow=13,SNR=22							
CFAA				S	**S**	**07 56 23.9**	**-2.1**
comp=E,0.9nm,0.3s,baz=204,slow=19,SNR=9.6							
LVC	**Limon Verde**	**6.93**	**30**	P	**P**	**07 56 01.1**	**-0.8**
comp=E,1.8nm,0.3s,baz=213,slow=8.1,SNR=28							
LVC				S	**S**	**07 57 17.9**	**-1.8**
comp=E,1.2nm,0.3s,baz=61,slow=24,SNR=3.2							
LPAZ	**La Paz**	**13.03**	**20**	P	**P**	**07 57 24.6**	**-0.3**
comp=E,0.2nm,0.3s,baz=198,slow=5.7,SNR=7.5							
USHA	**Ushuaia**	**26.29**	**175**	LR	LR	08 10 18.1	
comp=E,161nm,20.4s,MS3.5,baz=69,slow=36							
TXAR	**Lajitas Array**	**64.89**	**330**	P	**P**	**08 04 59.1**	**+1.2**
comp=E,0.1nm,0.5s,mb3.1,baz=153,slow=8.1,SNR=3.3							
WRA	**Warramunga Arr**	**125.07**	**211**	PKP	PKPdf	08 13 17.7	+0.5
comp=E,0.3nm,0.4s,baz=155,slow=1.7,SNR=11							

*ATH **07** 08:12:42.5, 35.76N×22.09E, h7km±3km, MD3.8/10*
*NEIC **07** 08:12:42.1, 35.74N×22.04E, h7km, MD3.9(ATH), After ATH.*
*IDC **07** 08:12:44.3±1.7, 36.23N×22.44E, mb3.8/7, mb1 3.9/11, mb1mx3.8/28, mbtmp3.8/11, ML3.8/4, Error ellipse: s-maj=34.7km s-min=18.3km az=31.0*
*CSEM **07** 08:12:46.1±0.1, 35.80N×22.03E, h30km, MD3.9, Error ellipse: s-maj=3.9km s-min=2.1km az=33.0*
*THE **07** 08:12:47.0, 35.82N×22.15E, h20km*

ISC 07 08:12:43.4±0.7, 35.86N±0.06×22.11E±0.04, h10km, n47, σ1§45/54, mb3.7/7, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.86**	**60**	ePB	**Pb**	**08 13 00.2**	**+0.2**
KYTH				eSB	**Sb**	**08 13 12.5**	**+1.1**
VLI	**Veliai**	**1.09**	**38**	ePN	**Pn**	**08 13 04.3**	**-0.3**
VLI				eSB	**Sb**	**08 13 22.2**	**+4.3**
ITM	**Ithomi**	**1.33**	**354**	ePG	**Pg**	**08 13 08.6**	**-1.3**
ITM				eSB	**Sb**	**08 13 29.2**	**+4.4**
VAM	**Vamos**	**1.76**	**104**	ePN	**Pn**	**08 13 15.8**	**+1.5**
NAIG	**Nisos Aigina**	**2.20**	**30**	ePG	**Pg**	**08 13 24.5**	**-2.8**
RLS	**Riolos of Patr**	**2.25**	**347**	ePN	**Pn**	**08 13 23.6**	**+2.3**
IDI	**Anoyia**	**2.34**	**103**	Pn	**Pn**	**08 13 23.6**	**+1.1**
4.3nm,0.3s,baz=300,slow=13,SNR=20							
IDI				Sn	**Sn**	**08 13 51.4**	**-0.1**
12nm,0.3s,baz=134,slow=22,SNR=6.1							
IDI				Lg		08 14 01.3	
17nm,0.3s,baz=28,slow=14,SNR=8.2							
PTL	**Penteli**	**2.60**	**32**	ePB	**Pb**	**08 13 28.0**	**-1.7**
VLS	**Valsamata**	**2.61**	**333**	ePN	**Pn**	**08 13 28.5**	**+2.0**
MPAR	**Parnis Oros**	**2.63**	**29**	ePN	**Pn**	**08 13 29.5**	**+2.8**
THR5	**Thira Island,**	**2.68**	**77**	ePn	**Pn**	**08 13 27.4**	**0.0**
LKR	**Lokris**	**2.88**	**14**	ePB	**Pb**	**08 13 31.6**	**-2.9**
EVR	**Evrytania**	**3.06**	**356**	ePN	**Pn**	**08 13 32.5**	**-0.3**
LKD	**Levkas**	**3.07**	**338**	ePn	**Pn**	**08 13 34.8**	**+1.8**
NEO	**Neokhori**	**3.55**	**14**	ePN	**Pn**	**08 13 42.7**	**+2.9**
AOS	**Alonnisos**	**3.59**	**23**	ePn	**Pn**	**08 13 41.9**	**+1.5**
IGT	**Igoumenitsa**	**3.93**	**340**	ePn	**Pn**	**08 13 45.5**	**+0.4**
PAIG	**Paliouri**	**4.25**	**17**	ePn	**Pn**	**08 13 50.0**	**+0.3**
PAIG				eSn	**Sn**	**08 14 39.5**	**-0.5**
KEK	**Kerkira**	**4.26**	**335**	ePN	**Pn**	**08 13 51.3**	**+1.4**
OUR	**Ouranopolis**	**4.71**	**18**	ePn	**Pn**	**08 13 56.3**	**+0.1**
FNA	**Florina**	**4.95**	**354**	ePn	**Pn**	**08 13 59.8**	**+0.2**
GRG	**Griva**	**5.09**	**3**	ePn	**Pn**	**08 14 01.8**	**+0.1**
KNT	**Kendrikon**	**5.33**	**6**	ePn	**Pn**	**08 14 05.6**	**+0.6**
TIP	**Timpagrande**	**5.39**	**310**	ePn	**Pn**	**08 14 04.1**	**-1.8**
TIP				eSn	**Sn**	**08 14 56.3**	**-12**
TIP	**Timpagrande**	**5.39**	**310**	ePn	**Pn**	**08 14 04.1**	**-1.8**
TIP				eSn	**Sn**	**08 14 56.3**	**-12**
MMB	**Musomiste**	**5.86**	**12**	eP	**Pn**	**08 14 13.0**	**+0.5**
KKB	**Krupnik**	**6.05**	**7**	eP	**Pn**	**08 14 17.0**	**+1.9**
RZN	**Rozhen**	**6.17**	**18**	iP	**Pn**	**08 14 12.3**	**-4.5**
VAE	**Valguarnera**	**6.39**	**287**	Pn	**Pn**	**08 14 22.7**	**+2.7**
2.0nm,0.3s,baz=75,slow=12,SNR=2.4							
VTS	**Vitosha**	**6.78**	**1**	iP	**Pn**	**08 14 17.5**	**-7.9**
SLCN	**Sala Consilina**	**6.82**	**313**	eP	**Pn**	**08 14 26.4**	**+0.4**
SLCN	**Sala Consilina**	**6.82**	**313**	eP	**Pn**	**08 14 26.5**	**+0.5**
SGO	**Sicignano**	**7.12**	**313**	eP	**Pn**	**08 14 30.3**	**+0.1**
SGO	**Sicignano**	**7.12**	**313**	eP	**Pn**	**08 14 30.3**	**+0.1**
MRLC	**Muro Lucano**	**7.14**	**315**	eP	**Pn**	**08 14 29.5**	**-1.0**
MRLC	**Muro Lucano**	**7.14**	**315**	eP	**Pn**	**08 14 29.5**	**-1.0**
FG5	**Orsara di Pugl**	**7.62**	**317**	eP	**Pn**	**08 14 37.2**	**0.0**
BRTR	**Keskin Array B**	**9.91**	**64**	Pn	**P**	**08 15 06.7**	**-2.3**
0.1nm,0.3s,baz=236,slow=13,SNR=6.0							
MLR	**Muntele Rosu**	**10.05**	**16**	Pn	**P**	**08 15 05.7**	**-5.2**
0.2nm,0.3s,baz=192,slow=19,SNR=3.8							
AKASG	**Malin Array Be**	**15.70**	**17**	Pn	**P**	**08 16 21.2**	**-5.0**
1.2nm,0.3s,baz=206,slow=12,SNR=5.1							
HFS	**Hagfors**	**24.89**	**350**	P	**P**	**08 18 05.1**	**-2.3**
1.3nm,0.4s,mb3.8,baz=157,slow=11,SNR=8.0							
EKA	**Eskdalemuir Ar**	**26.06**	**326**	P	**P**	**08 18 17.9**	**-0.5**
1.7nm,0.8s,mb3.6,baz=124,slow=8.8,SNR=3.6							
NOA	**NORSAR Array B**	**26.14**	**348**	P	**P**	**08 18 17.2**	**-1.9**
0.8nm,0.6s,mb3.4,baz=153,slow=9.9,SNR=2.8							
ARCES	**ARCESS Array B**	**33.78**	**2**	P	**P**	**08 19 24.0**	**-3.1**
1.6nm,0.7s,mb4.1,baz=180,slow=8.5,SNR=7.3							
MKAR	**Makanchi Array**	**45.47**	**57**	P	**P**	**08 21 00.8**	**-3.5**
5.3nm,0.5s,mb4.7,baz=268,slow=7.8,SNR=95							
SONM	**Songino Array**	**60.96**	**50**	P	**P**	**08 22 55.7**	**-3.2**
0.3nm,0.5s,mb3.6,baz=284,slow=5.9,SNR=3.1							
YKA	**Yellowknife Ar**	**76.00**	**341**	P	**P**	**08 24 31.7**	**-0.1**
0.1nm,0.8s,mb2.8,baz=38,slow=5.6,SNR=4.6							

*IDC **07** 08:27:42.6±3.8, 52.70N×157.98E, h47km±37km, mb3.4/10, mb1 3.8/11, mb1mx3.6/25, mbtmp3.8/11, ML4.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/20, Error ellipse: s-maj=26.1km s-min=16.7km az=138.0*
*MOS **07** 08:27:44.5±0.9, 52.30N×158.60E, h87km, mb3.7/4, Error ellipse: s-maj=30.4km s-min=8.8km az=71.3*
*KRSC **07** 08:27:45.7±1.5, 52.32N×158.83E, h74km±4km, ML4.5*

ISC 07 08:27:45.8±0.4, 52.32N±0.04×158.84E±0.07, h80km±4km, n57, σ1§06/89, mb3.5/10, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.23**	**299**	iP	**P**	**08 27 57.6**	**-0.1**
RUS				eS	**S**	**08 28 05.9**	**-0.8**
GRL	**Gorelyy**	**0.52**	**296**	eP	**P**	**08 28 00.4**	**+0.6**
GRL				eS	**S**	**08 28 11.4**	**+1.1**
KRMR	**Karymshinskiy**	**0.67**	**320**	iP	**P**	**08 28 01.1**	**-0.2**
KRMR				eS	**S**	**08 28 11.9**	**-0.9**
PET	**Petropavlovsk**	**0.71**	**351**	P	**P**	**08 28 01.5**	**-0.3**
PET				S	**S**	**08 28 12.4**	**-1.2**
PET	**Petropavlovsk**	**0.71**	**351**	⇓iPN	**P**	**08 28 01.4**	**-0.4**
PET				eS	**S**	**08 28 12.0**	**-1.6**
PET				pmax	pmax		
comp=Z,738nm,0.4s							
PET				pmax	pmax		
comp=E,162nm,0.6s							
PET				smax			
comp=E,5μm,0.7s							
PET				smax			
comp=N,5μm,0.4s							
PET	**Petropavlovsk**	**0.71**	**351**	iP	**P**	**08 28 01.5**	**-0.3**
PET				eS	**S**	**08 28 12.3**	**-1.3**
UGLR	**Uglovaya**	**0.89**	**359**	iP	**P**	**08 28 04.1**	**+0.4**
UGLR				iS	**S**	**08 28 17.1**	**-0.1**
NLC	**Nalytchevo**	**0.90**	**20**	P	**P**	**08 28 03.2**	**-0.7**
NLC				S	**S**	**08 28 15.7**	**-1.8**
NLC	**Nalytchevo**	**0.90**	**20**	iP	**P**	**08 28 03.2**	**-0.7**
NLC				eS	**S**	**08 28 15.5**	**-2.0**
SMAR	**Somma**	**0.94**	**359**	iP	**P**	**08 28 04.6**	**+0.3**
SMAR				eS	**S**	**08 28 18.3**	**0.0**
AVH	**Avacha**	**0.95**	**356**	iP	**P**	**08 28 04.9**	**+0.5**
AVH				eS	**S**	**08 28 18.4**	**0.0**
KOK	**Koryaka**	**0.98**	**353**	iP	**P**	**08 28 05.4**	**+0.6**
KOK				iS	**S**	**08 28 19.3**	**+0.2**
SPN	**Mys Shipunski**	**1.06**	**42**	P	**P**	**08 28 06.6**	**+0.8**
SPN				S	**S**	**08 28 21.4**	**+0.6**
SPN	**Mys Shipunski**	**1.06**	**42**	iP	**P**	**08 28 06.5**	**+0.7**
SPN				iS	**S**	**08 28 21.1**	**+0.3**
APC	**Apacha**	**1.19**	**301**	iP	**P**	**08 28 07.7**	**+0.3**
APC				iS	**S**	**08 28 23.5**	**-0.2**
APC				Smax			
comp=N,720nm,0.8s							
GNL	**Ganaly**	**1.48**	**339**	iP	**P**	**08 28 11.2**	**-0.1**
GNL				eS	**S**	**08 28 29.6**	**-0.6**
PAU	**Pauzhetka**	**1.52**	**237**	iP	**P**	**08 28 12.5**	**+0.6**
KII	**Karymskiy**	**1.75**	**12**	P	**P**	**08 28 16.2**	**+1.2**
KII				S	**S**	**08 28 38.7**	**+2.2**
KII	**Karymskiy**	**1.75**	**12**	eP	**P**	**08 28 16.2**	**+1.2**
KII				eS	**S**	**08 28 39.2**	**+2.8**
SKR	**Severo-Kuril's**	**2.37**	**227**	iPN	**P**	**08 28 21.1**	**-2.3**
SKR				iS	**S**	**08 28 49.2**	**-2.1**
SKR				pmax	pmax		
comp=Z,170nm,0.5s							
SKR				pmax	pmax		
comp=N,200nm,0.3s							
SKR				pmax	pmax		
comp=E,180nm,0.3s							
SKR				smax			
comp=E,1μm,0.5s							
SKR				smax			
comp=E,2μm,0.3s							
ALID	**Alaid**	**2.52**	**236**	iP	**P**	**08 28 26.0**	**+0.5**
ALID				eS	**S**	**08 28 57.6**	**+2.5**
MKZ	**Mys Kozlova**	**2.83**	**37**	P	**P**	**08 28 29.3**	**-0.5**
MKZ				S	**S**	**08 29 01.7**	**-1.2**
MKZ	**Mys Kozlova**	**2.83**	**37**	eP	**P**	**08 28 29.2**	**-0.6**
MKZ				eS	**S**	**08 29 01.7**	**-1.2**
TUMR	**Tumrok**	**3.06**	**14**	iP	**P**	**08 28 34.4**	**+1.2**
TUMR				eS	**S**	**08 29 09.5**	**+0.7**
KMNR	**Kamenistaya**	**3.54**	**13**	eP	**P**	**08 28 41.2**	**+1.5**
KMNR				eS	**S**	**08 29 20.0**	**-0.6**
ESO	**Esso**	**3.61**	**359**	iP	**P**	**08 28 40.9**	**+0.2**
ESO				eS	**S**	**08 29 21.0**	**-1.4**
ESO				Smax			
comp=E,80nm,0.7s							
KPT	**Kopyto**	**3.74**	**12**	iP	**P**	**08 28 43.6**	**+1.1**
KOZ	**Kozyrevsk**	**3.79**	**9**	P	**P**	**08 28 43.7**	**+0.5**
KOZ				S	**S**	**08 29 25.9**	**-1.0**
KOZ	**Kozyrevsk**	**3.79**	**9**	eP	**P**	**08 28 43.7**	**+0.5**
KOZ				eS	**S**	**08 29 25.7**	**-1.2**
KOZR	**Kozyr**	**3.80**	**9**	PN	**P**	**08 28 43.7**	**+0.3**
KOZR				S	**S**	**08 29 25.9**	**-1.2**
ZLN	**Zelenaya**	**3.88**	**17**	eP	**P**	**08 28 45.3**	**+0.9**
KRSR	**Krestovskiy**	**4.03**	**14**	P	**P**	**08 28 47.5**	**+0.9**
SRDR	**Sredinnyy**	**4.04**	**7**	eP	**P**	**08 28 46.8**	**+0.2**
KLY	**Klyuchi**	**4.14**	**14**	P	**P**	**08 28 50.0**	**+2.0**
KLY				S	**S**	**08 29 36.5**	**+1.0**
KLY	**Klyuchi**	**4.14**	**14**	eP	**P**	**08 28 50.7**	**+2.7**
KBTR	**Krutoberegovo**	**4.54**	**29**	P	**P**	**08 28 53.5**	**-0.1**
KBTR				S	**S**	**08 29 44.0**	**-1.5**
KBTR	**Krutoberegovo**	**4.54**	**29**	eP	**P**	**08 28 53.0**	**-0.6**
KBTR				eS	**S**	**08 29 44.8**	**-0.7**
KBG	**Krutoberegovo**	**4.54**	**28**	eP	**P**	**08 28 54.3**	**+0.6**
KBG				Smax			
comp=E,960nm,1.0s							
BKI	**Bering**	**5.12**	**53**	eP	**P**	**08 28 59.4**	**-2.2**
BKI				eS	**S**	**08 29 52.2**	**-7.8**
BKI				Smax			
comp=E,90nm,0.5s							
FX1	**Attu Island--F**	**8.74**	**81**	P	**P**	**08 29 52.1**	**+0.7**
comp=E,6.6nm,0.3s,baz=5.1,slow=7.7,SNR=16							
FX1				S	**S**	**08 31 21.4**	**-7.8**
comp=E,23nm,0.3s,baz=84,slow=22,SNR=11							
ASAJ	**Asahikawa**	**13.57**	**239**	PN	**P**	**08 30 57.7**	**+1.9**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**13.57**	**239**	P	**P**	**08 30 57.6**	**+1.9**
comp=Z,0.8nm,0.3s,baz=66,slow=14,SNR=4.7							
MJAR	**Matsushiro Arr**	**21.47**	**231**	P	**P**	**08 32 26.2**	**-2.9**
MJAR				pmax	pmax		
comp=Z,1.0nm,0.4s							
MJAR				MLR	MLR		
comp=Z,29nm,21.7s							
MJAR	**Matsushiro Arr**	**21.47**	**231**	P	**P**	**08 32 26.2**	**-2.9**
comp=Z,1.4nm,0.4s,mb3.7,baz=20,slow=10.0,SNR=7.0							
MJAR				LR	LR	08 41 15.6	
comp=Z,29nm,21.7s,baz=175,slow=38							
ILAR	**Eielson Array**	**29.90**	**44**	P	**P**	**08 33 46.0**	**-1.6**
ILAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**29.90**	**44**	P	**P**	**08 33 46.0**	**-1.6**
comp=Z,0.7nm,0.8s,mb3.4,baz=266,slow=6.5,SNR=11							
YKA	**Yellowknife Ar**	**44.25**	**42**	P	**P**	**08 35 47.5**	**-0.7**
comp=Z,0.2nm,0.5s,mb3.1,baz=298,slow=7.4,SNR=6.2							
MKAR	**Makanchi Array**	**47.80**	**296**	P	**P**	**08 36 09.1**	**-7.5**
comp=Z,0.2nm,0.4s,mb3.3,baz=57,slow=4.9,SNR=5.7							
BVAR	**Borovoye Array**	**50.27**	**308**	PcP	PcP	08 37 50.7	-2.8
comp=Z,0.6nm,0.3s,baz=90,slow=3.4,SNR=4.7							
PDAR	**Pinedale Array**	**58.57**	**60**	P	**P**	**08 37 36.6**	**+0.5**
comp=Z,0.8nm,0.6s,mb3.9,baz=326,slow=2.4,SNR=8.3							
NOA	**NORSAR Array B**	**64.06**	**343**	P	**P**	**08 38 07.5**	**-5.1**
comp=Z,0.4nm,0.6s,mb3.5,baz=355,slow=5.6,SNR=2.3							
HFS	**Hagfors**	**64.45**	**342**	P	**P**	**08 38 10.8**	**-4.3**
HFS				pmax	pmax		
comp=Z,1.0nm,0.5s							
HFS	**Hagfors**	**64.45**	**342**	P	**P**	**08 38 10.8**	**-4.4**
comp=Z,1.0nm,0.5s,mb3.9,baz=27,slow=9.7,SNR=5.0							
TXAR	**Lajitas Array**	**71.65**	**66**	P	**P**	**08 39 01.0**	**+0.6**
comp=Z,0.3nm,0.4s,mb3.4,baz=300,slow=5.3,SNR=6.8							
WRA	**Warramunga Arr**	**75.06**	**204**	P	**P**	**08 39 19.3**	**-1.1**
WRA				pmax	pmax		
comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**75.06**	**204**	P	**P**	**08 39 19.3**	**-1.1**
comp=Z,0.8nm,0.7s,mb3.5,baz=16,slow=6.0,SNR=6.1							
ASAR	**Alice Springs**	**78.74**	**203**	P	**P**	**08 39 41.0**	**0.0**
comp=Z,0.6nm,0.7s,mb3.5,baz=12,slow=5.4,SNR=5.6							

IDC 07 08:34:39.6±3.4, 2.61N×95.86E, mb3.5/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, ML4.1/1, Error ellipse: s-maj=115.9km s-min=30.1km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.04**	**11**	Pn	**P**	08 38 28.6	+0.3
0.3nm,0.3s,baz=196,slow=9.1,SNR=5.0							
WRA	**Warramunga Arr**	**43.91**	**122**	P	**P**	08 42 48.5	-1.7
0.1nm,0.4s,baz=301,slow=9.2,SNR=4.5							
MKAR	**Makanchi Array**	**45.57**	**347**	P	**P**	08 43 01.2	-1.9
0.5nm,0.3s,baz=159,slow=9.0,SNR=23							
SONM	**Songino Array**	**45.96**	**10**	P	**P**	08 43 04.0	-2.3
0.5nm,0.5s,baz=198,slow=7.3,SNR=4.7							

MEX 07 08:39:54.0±0.7, 14.05N×93.42W, h18km±47km, MD4.2, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.54**	**29**	⇑eP	Pn	08 40 32.0	-3.2
CCIG				iS	Sn	08 41 00.8	-5.2
SCX	**San Cristobal**	**2.78**	**16**	iP	Pn	08 40 35.3	-3.3
SCX				iS	Sn	08 41 08.7	-3.2
CMIG	**Matias Romero**	**3.34**	**335**	eP	Pn	08 40 42.6	-3.9
CMIG				iS	Sn	08 41 20.2	-5.9

DJA 07 08:48:16.1±0.4, 8.39S×115.98E, h80km, MD5.0/4, ML3.8/2, 8C, Error ellipse: s-maj=26.2km s-min=9.5km az=8.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.16**	**128**	⇑iPn	P	08 48 28.0	+0.3
112nm,0.2s							
KEDI				⇑iSn	S	08 48 35.5	-0.9
RATI	**Rata**	**0.56**	**233**	⇑iPn	P	08 48 29.7	-0.8
293nm,0.2s							
RATI				⇑iSn	S	08 48 42.0	+0.8
KELI	**Kelakatan**	**1.49**	**276**	⇑iPn	P	08 48 41.0	-0.8
57nm,0.2s							
KELI				⇑iSn	S	08 49 01.2	+0.5
SRDI	**Scrawed**	**1.82**	**267**	⇑iPn	P	08 48 44.4	-1.8
87nm,0.3s							
SRDI				⇑iSn	S	08 49 07.5	-0.9

*NEIC **07** 08:51:35.2±3.2, 8.59S×125.12E, h58km±36km, mb4.3/2, Error ellipse: s-maj=33.8km s-min=14.7km az=211.0*
*IDC **07** 08:51:36.6±5.9, 8.60S×125.22E, h74km±62km, mb3.6/6, mb1 4.0/9, mb1mx3.9/16, mbtmp4.1/9, ML4.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=66.8km s-min=22.1km az=52.0*

ISC 07 08:51:34.0±2.5, 8.61S±0.09×125.2E±0.1, h67km±25km, n17, σ1§17/24, mb3.9/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.45**	**177**	eP	**P**	**08 53 50.8**	**+1.1**
10nm,0.3s							
FITZ				eS	**S**	**08 55 34.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**9.45**	**177**	P	**P**	**08 53 50.6**	**+0.9**
5.5nm,0.3s,baz=13,slow=11,SNR=50							
FITZ				S	**S**	**08 55 35.8**	**+0.5**
7.8nm,0.3s,baz=268,slow=19,SNR=5.4							
FITZ				LR	LR	08 58 20.9	
comp=Z,147nm,18.3s,baz=166,slow=43							
MBWA	**Marble Bar**	**13.54**	**202**	eP	**P**	**08 54 43.1**	**-1.6**
5.4nm,0.9s							
WRA	**Warramunga Arr**	**14.34**	**143**	P	**P**	**08 54 55.1**	**0.0**
1.2nm,0.3s,baz=314,slow=14,SNR=47							
WRA				S	**S**	**08 57 30.9**	**-1.9**
1.0nm,0.3s,baz=317,slow=25,SNR=8.3							
WRAB	**Tennant Creek**	**14.34**	**143**	eP	**P**	**08 54 54.9**	**-0.1**
13nm,0.8s							
WRAB				eS	**S**	**08 57 28.6**	**-4.2**
WB2	**Warramunga Arr**	**14.34**	**143**	eP	**P**	**08 54 55.5**	**+0.4**
WB2				eS	**S**	**08 57 31.3**	**-1.7**
ASAR	**Alice Springs**	**17.15**	**152**	P	**P**	**08 55 33.0**	**+2.3**
0.8nm,0.3s,baz=321,slow=11,SNR=45							
ASAR				S	**S**	**08 58 40.9**	**+3.3**
0.3nm,0.3s,baz=310,slow=19,SNR=9.2							
ASPA	**Alice Springs**	**17.15**	**152**	eP	**P**	**08 55 35.3**	**+4.6**
ASPA				eS	**S**	**08 58 39.9**	**+2.4**
STKA	**Stephens Creek**	**27.73**	**149**	P	**P**	**08 57 18.1**	**-0.3**
2.2nm,1.0s,mb3.6,baz=172,slow=8.8,SNR=1.9							
CMAR	**Chiang Mai Arr**	**37.33**	**316**	P	**P**	**08 58 41.3**	**-0.5**
1.0nm,0.4s,mb4.1,baz=138,slow=7.0,SNR=5.9							
SHL	**Shillong**	**46.94**	**317**	eP	**P**	**09 00 10.0**	**+10**
SONM	**Songino Array**	**58.60**	**345**	P	**P**	**09 01 26.5**	**+0.2**
0.4nm,0.6s,mb3.6,baz=162,slow=4.6,SNR=3.0							
MKAR	**Makanchi Array**	**67.06**	**329**	P	**P**	**09 02 22.2**	**-0.1**
2.0nm,0.6s,mb4.1,baz=133,slow=7.4,SNR=26							
ZAL	**Zalesovo**	**71.00**	**336**	P	**P**	**09 02 46.2**	**-0.2**
1.1nm,0.3s,mb4.1,baz=332,slow=5.3,SNR=6.3							
BVAR	**Borovoye Array**	**76.94**	**330**	P	**P**	**09 03 21.4**	**+0.5**
0.5nm,0.6s,mb3.4,baz=108,slow=4.6,SNR=3.2							
CHKZ	**Chkalovo**	**77.19**	**330**	eP	**P**	**09 03 22.2**	**-0.1**
1.7nm,0.8s,mb3.8							
QSPA	**South Pole Qui**	**81.38**	**180**	eP	**P**	**09 03 50.3**	**+5.8**
3.1nm,0.6s,mb4.3							

*IDC **07** 08:53:37.7±0.7, 44.51S×36.07E, mb4.1/8, mb1 4.1/9, mb1mx3.9/22, mbtmp4.1/9, ML3.6/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/27, Error ellipse: s-maj=37.1km s-min=19.7km az=45.0*
*NEIC **07** 08:53:39.0±0.4, 44.66S×35.88E, h10km, mb4.4/6, Error ellipse: s-maj=18.4km s-min=10.6km az=50.0*

ISC 07 08:53:37.6±0.6, 44.6S±0.1×35.9E±0.2, h10km, n23, σ0§76/18, mb4.0/12, MS3.6/4, Prince Edward Islands region

| Code | Station Name | Δ° | AZ° | Phase ID Op |

STKA	Stephens Creek	38.27	241	*e*P		P	09 08 15.4	-0.4
	2.3nm,0.5s,mb3.9							
STKA	Stephens Creek	38.27	241	P		P	09 08 16.1	+0.3
	3.0nm,0.5s,mb4.0,baz=86,slow=9.4,SNR=12							
WB2	Warramunga Arr	44.14	259	⇓*i*P		P	09 09 01.8	-0.3
WRA	Warramunga Arr	44.15	259	P		P	09 09 02.0	-0.2
	1.7nm,0.3s,mb3.9,baz=89,slow=7.8,SNR=134							
ASAR	Alice Springs	44.34	254	P		P	09 09 03.8	+0.2
	18nm,0.6s,mb4.6,baz=88,slow=8.5,SNR=242							
ASAR				PcP		PcP	09 10 33.2	+1.0
	0.6nm,0.5s,baz=100,slow=3.8,SNR=4.0							
ASPA	Alice Springs	44.34	254	⇓*i*P		P	09 09 03.7	+0.1
ILAR	Eielson Array	85.81	13	P		P	09 13 19.1	0.0
	0.2nm,0.5s,mb3.0,baz=226,slow=5.5,SNR=5.1							

BJI ***07*** *09:04:32.7, 0.46S×99.11E, h30km, mB5.2, mb4.7, Ms4.4, Msz4.2*

IDC ***07*** *09:04:34.3±0.7, 0.22N×98.79E, mb4.3/10, mb1 4.4/11, mb1mx4.3/19, mbtmp4.3/11, ML4.2/1, MS3.5/3, Ms1 3.6/3, ms1mx3.3/26, Error ellipse: s-maj=33.6km s-min=15.2km az=53.0*

NEIC ***07*** *09:04:38.4±0.5, 0.21N×98.83E, h30km, mb4.5/9, Error ellipse: s-maj=17.5km s-min=9.2km az=66.0*

ISC 07 09:04:37.6±0.6, 0.25N±0.07×98.9E±0.1, h33km, n34, σ1°19/33, mb4.5/20, MS3.8/5, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.32	20	*e*Pn	Pn	09 05 57.5	+0.5
KULM				*e*Sn	Sn	09 07 19.6	+22
CM31	Chiang Mai Arr	18.10	0	*e*P	P	09 08 45.9	-2.4
	10nm,0.7s						
CMAR	Chiang Mai Arr	18.10	0	Pn	P	09 08 48.3	0.0
	0.3nm,0.3s,baz=190,slow=11,SNR=21						
CMAR				LR	LR	09 15 36.6	
	comp=Z,36nm,19.9s,baz=190,slow=36						
KMI	Kunming	25.01	8	P	P	09 10 04.4	+4.1
KMI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.5						
KMI	Kunming	25.01	8	P	P	09 10 04.4	+4.1
	comp=Z,12nm,0.7s,mb4.5						
ENH	Enshi	31.53	18	*e*P	P	09 10 56.5	-2.6
	comp=Z,22nm,0.8s,mb5.0						
XAN	Xi'an	34.92	15	P	P	09 11 27.5	-0.9
XAN				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.1						
GTA	Gaotai	38.99	1	*e*P	P	09 12 05.2	+2.6
GTA				AP	pP	09 12 14.7	+2.3
GTA				PP	PP	09 13 40.3	+4.2
GTA				S	S	09 18 04.2	+5.2
GTA				SS	SS	09 20 55.7	+12
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.2						
GTA				AMB	AMB		
	comp=Z,72nm,8.0s						
GTA				LR	LR		
	comp=N,138nm,12.9s,MS4.1						
GTA				LR	LR		
	comp=E,106nm,12.9s,MS4.1						
GTA				LR	LR		
	comp=Z,139nm,12.2s,MS4.0						
WRA	Warramunga Arr	40.13	122	P	P	09 12 11.7	-0.6
	comp=Z,2.6nm,0.4s,mb4.3,baz=303,slow=9.0,SNR=30						
WRA				PcP	PcP	09 14 17.3	+0.3
	comp=Z,1.0nm,0.8s,baz=312,slow=2.5,SNR=5.5						
WRAB	Tennant Creek	40.14	122	*e*P	P	09 12 11.6	-0.7
	comp=Z,12nm,1.0s,mb4.6						
WB2	Warramunga Arr	40.14	122	⇑*i*P	P	09 12 11.5	-0.9
FORT	Forrest	41.49	141	*e*P	P	09 12 25.6	+2.2
	comp=Z,332nm,0.8s,mb6.0						
ASPA	Alice Springs	41.50	127	*e*P	P	09 12 23.6	-0.1
ASAR	Alice Springs	41.51	127	P	P	09 12 23.3	-0.4
	comp=Z,1.5nm,0.4s,mb3.9,baz=302,slow=7.7,SNR=26						
ASAR				PcP	PcP	09 14 22.2	+0.7
	comp=Z,1.5nm,0.8s,baz=312,slow=2.9,SNR=10						
BJI	Beijing	42.64	20	*e*P	P	09 12 33.9	+1.1
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=Z,29nm,14.4s,MS3.3						
BJI	Beijing	42.64	20	*e*P	P	09 12 33.9	+1.1
	comp=Z,9.0nm,0.8s,mb4.5						
WMQ	Urumqi	44.51	348	*e*P	P	09 12 48.7	+0.8
WMQ				AP	pP	09 13 02.7	+4.9
WMQ				PP	PP	09 14 33.7	+0.8
WMQ				*e*S	S	09 19 20.7	+0.2
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,89nm,4.4s						
WMQ				LR	LR		
	comp=N,90nm,15.4s,MS3.8						
WMQ				LR	LR		
	comp=E,36nm,17.0s,MS3.8						
AAK	Ala-Archa	47.53	336	*e*P	P	09 13 11.9	0.0
	comp=E,1.8nm,0.7s,mb4.2						
SONM	Songino Array	47.85	7	P	P	09 13 15.3	+1.0
	comp=E,5.9nm,0.7s,mb4.7,baz=186,slow=8.9,SNR=48						
SONM				PcP	PcP	09 14 43.0	0.0
	comp=E,1.9nm,0.7s,baz=184,slow=4.4,SNR=4.9						
ULN	Ulaanbaatar	47.96	7	*e*P	P	09 13 15.5	+0.3
	comp=E,5.2nm,0.8s,mb4.6						
MKAR	Makanchi Array	48.57	345	P	P	09 13 19.4	-0.5
	comp=E,2.5nm,0.5s,mb4.5,baz=155,slow=8.8,SNR=22						
CN2	Changchun	49.43	25	*e*P	P	09 13 27.2	+0.7
CTA	Charters Tower	50.60	116	LR	LR	09 35 28.6	
	comp=E,76nm,19.4s,MS3.7,baz=226,slow=37						
STKA	Stephens Creek	51.50	132	*e*P	P	09 13 42.7	+0.3
	comp=E,3.0nm,0.8s,mb4.3						
STKA	Stephens Creek	51.50	132	P	P	09 13 42.8	+0.4
	comp=E,3.8nm,0.7s,mb4.4,baz=359,slow=10,SNR=7.3						
STKA				LR	LR	09 38 48.0	
	comp=E,162nm,18.6s,MS4.1,baz=9.9,slow=40						
ZAL	Zalesovo	54.76	350	P	P	09 14 05.5	-0.8
	comp=E,3.4nm,0.4s,mb4.7,baz=299,slow=3.4,SNR=6.3						
BVAR	Borovoye Array	57.69	340	P	P	09 14 25.6	-1.7
	comp=E,1.7nm,0.5s,mb4.3,baz=143,slow=9.5,SNR=10						
KMBO	Kilima Mbogo	61.61	269	P	P	09 14 55.2	+0.4
	comp=E,1.0nm,0.7s,mb4.0,baz=60,slow=15,SNR=5.2						
KMBO	Kilima Mbogo	61.61	269	*e*P	P	09 14 55.1	+0.2
	comp=E,2.7nm,1.0s,mb4.3						
BRTR	Keskin Array B	70.97	312	P	P	09 15 52.1	-1.9
	comp=E,0.6nm,0.4s,mb3.8,baz=124,slow=7.8,SNR=5.1						
GERES	GERESS Array B	86.61	319	P	P	09 17 20.9	+1.9
	comp=E,0.2nm,0.2s,mb3.9,baz=76,slow=5.5,SNR=4.2						
ULM	Lac du Bonnet	128.14	12	PKP	PKPdf	09 23 42.2	+1.4
	comp=E,0.7nm,0.3s,baz=343,slow=5.9,SNR=3.8						
TXAR	Lajitas Array	143.56	34	PKP	PKPdf	09 24 09.8	0.0
	comp=E,0.2nm,0.5s,baz=45,slow=1.3,SNR=2.9						
BDFB	Brasilia	143.89	243	PKP	PKPdf	09 24 10.6	0.0
	comp=E,1.9nm,0.4s,baz=135,slow=12,SNR=3.8						

LDG ***07*** *09:16:40.6±0.1, 46.81N×2.34W, h6km, Md2.4/1, Ml2.5/7, Error ellipse: s-maj=1.7km s-min=0.9km az=53.0*

NEIC ***07*** *09:16:40.6, 46.81N×2.34W, h6km, ML2.5(LDG), After LDG.*

CSEM ***07*** *09:16:40.9±0.1, 46.83N×2.34W, h10km, ML2.5/7, Error ellipse: s-maj=2.5km s-min=1.3km az=55.0*

STR ***07*** *09:16:41.2±0.6, 46.84N×2.35W, h2km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 07 09:16:39.9±0.8, 46.90N±0.03×2.27W±0.05, h14km±5km, n12, σ0°94/25, Bay of Biscay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRYF	La Roche-sur-Y	0.59	122	Pg	Pg	09 16 52.5	+0.5
LRYF				Sg	Sg	09 17 01.4	+1.3
LCHF	La Chataignera	1.08	102	Pn	Pn	09 17 02.8	+2.4
LCHF				Sg	Sg	09 17 17.6	+1.6
QUIF	Quistinic	1.19	330	*e*Pg	Pg	09 17 03.7	0.0
QUIF				*e*Sg	Sg	09 17 20.0	+0.4
	8.7nm,0.2s						
SGMF	Saint Gilles	1.37	352	*e*Pg	Pg	09 17 07.7	+0.3
SGMF				*e*Sg	Sg	09 17 26.6	+0.9
	13nm,0.3s						
MFF	Saint Martin d	1.49	101	*e*Pn	Pn	09 17 06.7	+0.3
MFF				*e*Pg	Pg	09 17 08.9	-0.9
MFF				*e*Sg	Sg	09 17 28.6	-1.1
	7.5nm,0.2s						
ROSF	Rostrenen	1.59	335	*e*Pn	Pn	09 17 08.5	+0.7
ROSF				*e*Pg	Pg	09 17 11.2	-0.5
ROSF				*e*Sg	Sg	09 17 32.3	-0.7
	3.9nm,0.2s						
GRR	Gorron	1.77	32	*e*Pn	Pn	09 17 11.0	+0.6
GRR				*e*Pg	Pg	09 17 15.3	-0.1
GRR				*e*Sg	Sg	09 17 38.7	-0.3
	8.5nm,0.3s						
FLN	La Foliniere	2.22	32	*e*Pn	Pn	09 17 17.6	+0.8
FLN				*e*Sg	Sg	09 17 53.6	-0.4
	3.0nm,0.2s						
LDF	La Druitiere	2.23	40	*e*Pg	Pg	09 17 23.9	-0.6
LDF				*e*Sn	Sn	09 17 45.0	+0.5
LDF				*e*Sg	Sg	09 17 53.6	-0.8
	4.1nm,0.3s						
LFF	La Frestale	2.87	132	*e*Pn	Pn	09 17 24.6	-1.5
RJF	Les Rejaudoux	3.08	120	*e*Pn	Pn	09 17 28.0	-1.1
CAF	Calviac	3.61	121	*e*Pn	Pn	09 17 34.9	-1.7

NEIC ***07*** *09:16:40.5±1.1, 20.62S×178.86W, h579km±12km, mb4.1/7, Error ellipse: s-maj=26.0km s-min=9.0km az=149.0*

IDC ***07*** *09:16:45.2±2.2, 21.05S×178.83W, h644km±30km, mb3.1/8, mb1 3.5/10, mb1mx3.4/16, mbtmp4.2/10, Error ellipse: s-maj=35.4km s-min=11.9km az=160.0*

ISC 07 09:16:43.0±1.5, 20.8S±0.1×178.94W±0.09, h627km±20km, n34, σ0°94/35, mb3.8/15, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.70	46	P	P	09 18 54.0	-5.6
	10nm,0.3s,baz=330,slow=16,SNR=16						
AFI				S	S	09 20 41.6	-7.3
	3.1nm,0.3s,baz=17,slow=19,SNR=4.5						
AFI	Afiamalu	9.70	46	*e*Pn	P	09 18 53.6	-6.0
AFI				*e*S	S	09 20 40.2	-8.8
DZM	Mont Dzumac	13.67	262	P	P	09 19 39.1	+1.1
	0.8nm,0.3s,baz=37,slow=22,SNR=9.1						
URZ	Urewera	17.70	190	P	P	09 20 13.4	-2.6
	3.1nm,0.3s,baz=289,slow=3.3,SNR=25						
URZ				S	S	09 23 00.1	-6.9
	0.6nm,0.3s,baz=237,slow=22,SNR=7.5						
CTA	Charters Tower	32.59	265	P	P	09 22 27.6	+0.8
	baz=98,slow=10						
CTAO	Charters Tower	32.59	265	*e*P	P	09 22 27.3	+0.6
	4.8nm,0.8s,mb4.2						
STKA	Stephens Creek	36.85	244	*e*P	P	09 23 02.9	+1.0
	2.2nm,0.6s,mb3.9						
STKA	Stephens Creek	36.85	244	P	P	09 23 02.9	+1.0
	2.6nm,0.5s,mb4.0,baz=85,slow=11,SNR=12						
ASAR	Alice Springs	43.59	257	P	P	09 23 56.0	+0.2
	2.6nm,0.6s,mb4.0,baz=96,slow=7.6,SNR=46						
ASAR				S	S	09 29 41.6	-0.3
	1.1nm,0.8s,baz=96,slow=15,SNR=12						
ASPA	Alice Springs	43.59	257	*e*P	P	09 23 56.1	+0.4
ASPA				*e*S	S	09 29 41.7	-0.2
WB2	Warramunga Arr	43.68	263	*e*P	P	09 23 56.1	-0.3
WB2				*e*S	S	09 29 42.6	-0.5
WRAB	Tennant Creek	43.68	263	*e*P	P	09 23 55.5	-0.9
	3.0nm,0.8s,mb3.9						
WRA	Warramunga Arr	43.69	263	P	P	09 23 56.3	-0.2
	0.9nm,0.3s,mb3.8,baz=97,slow=7.2,SNR=93						
WRA				S	S	09 29 42.4	-0.8
	0.2nm,0.6s,baz=96,slow=14,SNR=3.3						
FITZ	Fitzroy Crossi	52.12	263	*e*P	P	09 24 59.5	+0.3
	5.0nm,1.5s,mb3.6						
MBWA	Marble Bar	56.93	258	*e*P	P	09 25 32.2	-0.4
QSPA	South Pole Qui	69.23	180	*e*P	P	09 26 50.6	+0.8
	2.5nm,0.5s,mb3.9						
MDJ	Mudanjiang	80.29	325	P	P	09 27 55.5	+4.0
CMB	Columbia Colle	80.30	43	P	P	09 27 51.2	-0.5
	13nm,1.4s,mb4.1						
NVAR	Mina Array Bea	81.87	44	P	P	09 28 00.3	+0.7
	0.7nm,0.5s,mb3.4,baz=230,slow=7.0,SNR=3.9						
NVAR	Mina Array Bea	81.87	44	P	P	09 28 00.3	+0.7
SYO	Syowa Base	86.20	193	⇓P	P	09 28 21.3	+1.2
SYO	Syowa Base	86.20	193	⇓PcP	PcP	09 28 24.0	+2.0
MCK	McKinley	87.49	13	*e*P	P	09 28 25.7	-0.6
	3.8nm,1.1s,mb4.0						
TXAR	Lajitas Array	87.97	58	P	P	09 28 30.8	+1.5
	0.5nm,0.9s,mb3.2,baz=225,slow=5.3,SNR=4.0						
COLA	College	88.72	13	*e*P	P	09 28 30.9	-1.0
	5.8nm,0.9s,mb4.4						
ILAR	Eielson Array	88.84	13	P	P	09 28 31.8	-0.7
	0.9nm,0.5s,mb3.9,baz=216,slow=5.1,SNR=23						
PDAR	Pinedale Array	89.81	44	P	P	09 28 37.5	0.0
	0.5nm,0.6s,mb3.5,baz=230,slow=4.2,SNR=5.8						
YKA	Yellowknife Ar	97.18	25	P	P	09 29 10.5	0.0
	0.3nm,1.1s,mb3.5,baz=251,slow=4.7,SNR=4.8						
YKA	Yellowknife Ar	97.18	25	P	P	09 29 10.5	-0.1
ARCES	ARCESS Array B	129.09	349	PKP	PKPdf	09 34 41.0	+0.4
	1.9nm,0.8s,baz=56,slow=3.3,SNR=3.9						
AKASG	Malin Array Be	142.88	330	PKP	PKPdf	09 35 05.0	-1.1
	2.1nm,0.4s,baz=42,slow=4.1,SNR=24						
BRTR	Keskin Array B	146.41	311	PKPbc	PKPbc	09 35 17.3	+2.8
	0.5nm,0.4s,baz=225,slow=1.7,SNR=3.5						
CLL	Collm	148.18	346	*e*PKP1	PKPdf	09 35 22.0	+7.0
GERES	GERESS Array B	150.28	343	PKPbc	PKPdf	09 35 26.1	+7.7
	0.4nm,0.4s,slow=1.3,SNR=4.6						

MAN 07 09:16:51.2, 11.12N×126.20E, h25km, mb4.0, ML2.8, MS2.4, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.89	303	*e*P	Pb	09 17 07.6	-0.3
BESP				*e*S	Sb	09 17 22.2	+2.9
PLP	Palo	1.20	272	*e*P	Pn	09 17 11.9	-0.7
PLP				*e*S	Sn	09 17 26.2	-2.0
SCPH	Surigao	1.50	208	⇑*e*P	Pn	09 17 16.2	-0.7
MSLP	Maasin	1.64	234	*e*P	Pn	09 17 19.1	+0.2
MSLP				*e*S	Sn	09 17 39.4	0.0
CNP	Catarman	2.05	313	*e*P	Pn	09 17 24.5	-0.3
CNP				*e*S	Sn	09 17 49.2	-0.5

IDC 07 09:53:45.6±1.6, 15.96S×178.31W, mb3.9/5, mb1 4.2/5, mb1mx3.9/16, mbtmp3.9/5, Error ellipse: s-maj=126.5km s-min=25.2km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.67	239	P	P	10 01 19.1	-2.0
	1.9nm,0.9s,baz=94,slow=11,SNR=4.4						
WRA	Warramunga Arr	45.10	258	P	P	10 02 04.2	-1.5
	0.6nm,0.5s,baz=91,slow=7.3,SNR=32						
ASAR	Alice Springs	45.44	252	P	P	10 02 06.4	-1.9
	5.3nm,0.6s,baz=88,slow=8.3,SNR=90						
TXAR	Lajitas Array	84.88	58	P	P	10 06 22.9	-1.1
	0.5nm,0.7s,baz=224,slow=5.8,SNR=7.7						
YKA	Yellowknife Ar	92.53	25	P	P	10 06 58.2	-1.4
	0.2nm,0.7s,baz=254,slow=4.1,SNR=4.5						

WEL 07 10:07:26.9±0.1, 37.88S×176.72E, h5km, ML3.7/9, 5C-1D, Error ellipse: s-maj=0.7km s-min=0.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	Manawahe	0.11	198	⇑PG	Pg	10 07 29.6	+0.3
EDRZ	Edgecumbe	0.23	176	PG	Pg	10 07 31.7	+0.1
LIRZ	Lichensteins R	0.29	244	PG	Pg	10 07 33.1	+0.3
MKRZ	Makatiti	0.33	217	PG	Pg	10 07 34.0	+0.5
MKRZ				SG	Sg	10 07 40.0	+2.1
TAZ	Tarawera	0.39	205	⇓PG	Pg	10 07 35.2	+0.4
TGRZ	Tauranga	0.39	292	⇑PG	Pg	10 07 34.8	0.0
TGRZ				SG	Sg	10 07 40.4	+0.4
URZ	Urewera	0.49	141	⇑PG	Pg	10 07 36.5	-0.3
URZ				SG	Sg	10 07 43.2	-0.1
WIZ	White Island	0.51	47	PG	Pg	10 07 37.4	+0.2
UTU	Utuhina	0.51	234	PG	Pg	10 07 37.4	+0.3
PATZ	Paeroa	0.62	216	P*	Pb	10 07 39.7	-0.1
MYRZ	Mayor Island	0.71	327	P*	Pb	10 07 40.9	-0.4
MWZ	Matawai	0.79	126	⇑P*	Pb	10 07 41.9	-0.8
MWZ				S*	Sb	10 07 52.4	-0.9
TOZ	Tahuroa Road	0.97	278	⇑P*	Pb	10 07 44.2	-1.6
TOZ				S*	Sb	10 07 58.2	-0.7
PUZ	Puketiti	1.23	100	P*	Pb	10 07 49.9	-0.4
MXZ	Matakaoa Point	1.30	76	*e*P*	Pb	10 07 51.0	-0.4
BKZ	Black Stump Fm	1.30	188	*e*P*	Pb	10 07 48.7	-2.8
KUZ	Kuaotunu	1.38	325	*e*PN	Pn	10 07 51.7	-1.2
MGZ	Maungaku	1.46	219	P*	Pb	10 07 52.1	-2.0
NGZ	Ngauruhoe	1.56	214	*e*P*	Pb	10 07 55.1	-0.9
HIZ	Hauiti	1.60	246	PN	Pn	10 07 53.6	-2.5
CNZ	Chateau	1.61	214	*e*P*	Pb	10 07 56.5	-0.2
TUVZ	Tukino	1.62	211	*e*P*	Pb	10 07 56.3	-0.7
WNVZ	Wahianoa	1.69	211	*e*P*	Pb	10 07 57.4	-0.8
OTAZ	Otara	1.70	302	*e*PN	Pn	10 07 57.4	0.0
MTAZ	Motutapu	1.81	307	*e*PN	Pn	10 08 00.0	+1.1
WCZ	Waipu Caves	2.71	315	*e*PN	Pn	10 08 09.0	-3.0
BFZ	Birch Farm	2.82	187	*e*PN	Pn	10 08 11.4	-2.1

CASC 07 10:37:01.3±1.4, 13.71N×91.17W, h17km±8km, MD3.5, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.76	323	⇓*e*P	Pb	10 37 14.6	-1.0
JAT				*e*S	Sb	10 37 26.0	+0.5
IXG	Ixpaco	0.83	56	⇓*e*P	Pb	10 37 16.8	-0.1
IXG				*e*S	Sb	10 37 29.4	+1.8
RTR	El Retiro	1.49	83	*e*P	Pn	10 37 28.1	+0.5
RTR				*e*S	Sb	10 37 47.4	+0.7
RBDL	Robledal	1.49	74	*e*P	Pn	10 37 27.8	+0.2
RBDL				*e*S	Sb	10 37 48.4	+1.7
SBLS	San Blas	1.50	85	*e*P	Pn	10 37 27.8	0.0
SBLS				*e*S	Sn	10 37 48.2	+1.1
SNJE	San Jose	1.52	84	*e*P	Pn	10 37 28.5	+0.4
SNJE				*e*S	Sn	10 37 48.2	+0.6
LFRS	El Faro	2.05	92	*e*P	Pn	10 37 35.5	0.0
LFRS				*e*S	Sn	10 38 00.2	-0.7

NEIC ***07*** *10:49:20.6, 16.20N×93.83W, h101km, MD4.0(MEX), After MEX.*

MEX 07 10:49:20.6±0.6, 16.21N×93.83W, h102km±19km, MD4.0, 1C-1D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	San Cristobal	1.26	65	*i* P	P	10 49 42.7	-1.8
SCX				*i* S	S	10 50 00.7	-1.7
CMIG	Matias Romero	1.34	311	*i* P	P	10 49 43.7	-1.8
CMIG				*i* S	S	10 50 02.1	-1.9
CMIG	Matias Romero	1.34	311	⇑*i*P	P	10 49 43.7	-1.7
CMIG				*i* S	S	10 50 02.1	-1.9
CCIG	Comitan	1.62	87	⇓*i*P	P	10 49 48.1	-0.9
CCIG				*i* S	S	10 50 08.2	-1.7
HUIG	Huatulco	2.24	259	*i* P	P	10 49 54.3	-2.6
HUIG				*i* S	S	10 50 23.1	-1.0
OXX	Oaxaca	2.91	288	*i* P	P	10 50 05.2	-1.0
OXX				*i* S	S	10 50 38.5	-1.9
OXX	Oaxaca	2.91	288	*i* P	P	10 50 05.0	-1.2
OXX				*i* S	S	10 50 38.5	-1.9
VHO	Vista Hermosa	2.92	288	*e*P	P	10 50 05.0	-1.3
VHO				*i* S	S	10 50 38.0	-2.6

TRN ***07*** *10:50:31.8, 19.73N×62.50W, h67km, MD3.8*

NEIC ***07*** *10:50:32.6, 19.49N×62.55W, h10km, MD3.8(TRN), After TRN.*

IDC ***07*** *10:50:36.1±1.1, 19.73N×62.71W, h38km±6km, mb3.7/11, mb1 4.0/12, mb1mx3.8/23, mbtmp3.9/12, ML3.4/1, MS3.1/2, Ms1 3.2/2, ms1mx2.6/25, Error ellipse: s-maj=25.3km s-min=22.0km az=85.0*

ISC 07 10:50:32.2±2.4, 19.68N±0.04×62.71W±0.09, h25km±18km, h38km±1.1km: pP-P, n30, σ0°90/37, mb4.0/13, MS3.0/2, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	Codrington	2.19	157	⇑*e*P	Pn	10 51 07.6	-0.3
CPB				*e*S	Sn	10 51 33.4	-1.2
SKDB	Saint Kitts 2	2.27	182	*e*P	Pn	10 51 09.3	+0.3
SKDB				*e*S	Sn	10 51 36.8	+0.3
BSK	Brimstone Hill	2.32	183	*e*P	Pn	10 51 11.3	+1.6
BSK				*e*S	Sn	10 51 39.5	+1.8
SKI	Saint Kitts	2.33	181	*e*P	Pn	10 51 10.1	+0.2
SKI				*e*S	Sn	10 51 37.7	-0.3
SKTB	Turtle Beach	2.46	178	*e*P	Pn	10 51 12.0	+0.4
SKTB				*e*S	Sn	10 51 40.2	-1.0
BPA	Boggy Peak	2.74	163	*e*P	Pn	10 51 15.2	-0.5
BPA				*e*S	Sn	10 51 47.9	-0.5
SJG	San Juan	3.61	245	Pn	Pn	10 51 26.8	-1.2
	7.8nm,0.3s,baz=49,slow=12,SNR=5.0						
SJG				Sn	Sn	10 52 05.0	-5.3
	9.4nm,0.3s,baz=230,slow=23,SNR=10						
SJG	San Juan	3.61	245	*e*Pn	Pn	10 51 25.9	-2.1
SJG				*e*Sn	Sn	10 52 03.6	-6.7
BBL	Barber's Block	4.29	164	*e*P	Pn	10 51 38.4	+0.6
BBL				*e*S	Sn	10 52 27.5	-0.2
SDV	Santo Domingo	13.18	217	Pn	P	10 53 41.2	+0.5
	0.2nm,0.3s,baz=59,slow=11,SNR=7.6						
SDV	Santo Domingo	13.18	217	*e*P	P	10 53 38.8	-1.9
	10.0nm,0.9s						
OTAV	Otavalo	24.72	220	*e*P	P	10 55 53.9	+0.7
	10nm,1.3s,mb4.2						
SWET	Sewanee	25.68	312	*e*P	P	10 55 58.3	-3.8
OXF	Oxford	27.87	307	P	P	10 56 18.2	-4.0
	38nm,1.3s,mb4.9						
SADO	Sadowa	28.51	335	LR	LR	11 06 01.8	
	comp=Z,37nm,19.2s,MS3.0,baz=140,slow=32						
SCHQ	Schefferville	35.23	356	P	P	10 57 26.9	+0.3
	3.8nm,0.8s,mb4.3,baz=180,slow=5.2,SNR=6.7						
SCHQ	Schefferville	35.23	356	P	P	10 57 26.9	+0.3
SIV	San Ignacio	35.48	177	P	P	10 57 29.4	+0.3
	0.8nm,0.5s,mb3.9,baz=342,slow=5.9,SNR=4.2						
LPAZ	La Paz	36.13	189	LR	LR	11 14 12.3	
	comp=Z,27nm,19.9s,MS3.0,baz=116,slow=39						
TXAR

0.5nm,0.7s,mb3.3,baz=225,slow=2.1,SNR=5.1

*BJI **07** 10:59:56.4,21.20S×179.40W,h600km,mB5.1,mb4.5*
*NEIC **07** 10:59:56.5±0.4,21.23S×179.37W,h600km,mb4.3/11,*
Error ellipse: s-maj=21.5km s-min=8.1km az=153.0
*IDC **07** 10:59:58.0±1.9,20.67S×179.72W,h601km±20km,mb3.4/9,*
mb1 3.7/10,mb1mx3.5/18,mbtmp4.4/10,Error ellipse:
s-maj=64.5km s-min=10.6km az=157.0
ISC 07 10:59:59.1±1.9,21.3S±0.2×179.5W±0.1,h647km±25km,
n32,σ0°65/29,mb4.0/18,**1C-4D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.06**	**264**	P	**P**	**11 02 48.0**	**0.0**
0.9nm,0.3s,baz=114,slow=12,SNR=9.1							
CNB	**Canberra Magne**	**30.59**	**236**	*eP*	**P**	**11 05 25.7**	**+0.7**
2μm,1.7s							
CTA	**Charters Tower**	**32.00**	**266**	⇓*iP*	**P**	**11 05 37.5**	**+0.5**
8.3nm,0.4s,mb4.6							
CTAO	**Charters Tower**	**32.00**	**266**	*eP*	**P**	**11 05 37.3**	**+0.4**
13nm,0.5s,mb4.7							
PMG	**Port Moresby**	**34.15**	**285**	*eP*	**P**	**11 05 55.1**	**+0.1**
26nm,1.0s,mb4.7							
STKA	**Stephens Creek**	**36.15**	**245**	*eP*	**P**	**11 06 12.0**	**+0.8**
4.1nm,1.0s,mb3.9							
STKA	**Stephens Creek**	**36.15**	**245**	P	**P**	**11 06 11.8**	**+0.6**
3.1nm,0.5s,mb4.1,baz=77,slow=9.5,SNR=5.7							
ASAR	**Alice Springs**	**42.95**	**258**	P	**P**	**11 07 05.8**	**+0.2**
9.3nm,0.6s,mb4.4,baz=96,slow=7.9,SNR=137							
ASAR				ScP		11 11 38.5	
1.2nm,0.7s,baz=104,slow=4.5,SNR=10							
ASAR				S	**S**	**11 12 48.0**	**+1.1**
0.5nm,0.7s,baz=93,slow=17,SNR=6.0							
ASPA	**Alice Springs**	**42.95**	**258**	⇓*iP*	**P**	**11 07 05.7**	**+0.1**
WB2	**Warramunga Arr**	**43.07**	**263**	⇓*iP*	**P**	**11 07 06.2**	**-0.4**
WRAB	**Tennant Creek**	**43.07**	**263**	*eP*	**P**	**11 07 05.9**	**-0.7**
12nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**43.08**	**263**	P	**P**	**11 07 06.3**	**-0.4**
3.7nm,0.3s,mb4.3,baz=96,slow=7.4,SNR=236							
WRA				ScP		11 11 38.3	
0.7nm,0.7s,baz=98,slow=3.7,SNR=5.5							
WRA				S	**S**	**11 12 48.8**	**0.0**
0.4nm,0.8s,baz=101,slow=14,SNR=3.0							
FORT	**Forrest**	**47.66**	**247**	*eP*	**P**	**11 07 40.9**	**-0.5**
215nm,0.6s							
FITZ	**Fitzroy Crossi**	**51.51**	**263**	⇓*iP*	**P**	**11 08 09.7**	**0.0**
2.9nm,0.3s,mb4.0							
MBWA	**Marble Bar**	**56.28**	**258**	*eP*	**P**	**11 08 42.2**	**-0.8**
5.0nm,0.4s,mb4.0							
KLBR	**Kellerberrin**	**56.42**	**246**	*eP*	**P**	**11 08 43.2**	**-0.5**
4μm,1.2s							
QSPA	**South Pole Qui**	**68.76**	**180**	*eP*	**P**	**11 10 01.4**	**-0.2**
2.5nm,0.6s,mb3.7							
MAW	**Mawson**	**80.32**	**200**	P	**P**	**11 11 13.4**	**+7.7**
8.3nm,1.0s,mb4.1							
YBH	**Yreka Blue Hor**	**81.81**	**39**	P	**P**	**11 11 14.4**	**+0.6**
2.5nm,0.6s,mb3.9,baz=174,slow=4.7,SNR=7.4							
CN2	**Changchun**	**82.08**	**323**	*eP*	**P**	**11 11 18.0**	**+2.9**
NVAR	**Mina Array Bea**	**82.59**	**44**	P	**P**	**11 11 17.9**	**+0.1**
1.3nm,0.5s,mb3.7,baz=228,slow=9.6,SNR=7.0							
MCK	**McKinley**	**88.07**	**13**	P	**P**	**11 11 43.2**	**-0.2**
2.2nm,0.8s,mb3.8							
TXAR	**Lajitas Array**	**88.69**	**58**	P	**P**	**11 11 48.0**	**+0.8**
1.6nm,0.8s,mb3.8,baz=223,slow=6.1,SNR=20							
ANMO	**Albuquerque**	**89.03**	**52**	P	**P**	**11 11 48.6**	**+0.1**
0.7nm,0.6s,mb3.5,baz=232,slow=5.8,SNR=5.0							
COLA	**College**	**89.31**	**13**	*eP*	**P**	**11 11 48.0**	**-1.0**
5.8nm,1.1s,mb4.2							
ILAR	**Eielson Array**	**89.42**	**13**	P	**P**	**11 11 49.0**	**-0.7**
0.5nm,0.4s,mb3.6,baz=215,slow=5.0,SNR=23							
PDAR	**Pinedale Array**	**90.53**	**44**	P	**P**	**11 11 55.0**	**-0.2**
0.8nm,0.7s,mb3.7,baz=196,slow=3.4,SNR=6.2							
WMQ	**Urumqi**	**106.38**	**311**	⇑PDIF	Pdif	11 13 07.3	+1.1
WMQ				*e*PP	PP	11 17 44.8	+2.6
WMQ				PP	PP		
comp=Z,110nm,5.8s							
AKASG	**Malin Array Be**	**143.00**	**329**	PKP	PKPdf	11 18 20.1	-0.5
comp=Z,1.4nm,0.4s,baz=42,slow=4.4,SNR=13							
BRTR	**Keskin Array B**	**146.30**	**310**	PKPbc	PKPbc	11 18 31.1	+2.5
comp=Z,0.7nm,0.5s,baz=153,slow=5.5,SNR=3.6							
KHC	**Kasperske Hory**	**150.34**	**342**	*e*PKPbc	PKPdf	11 18 40.5	+7.9
GERES	**GERESS Array B**	**150.56**	**342**	PKPbc	PKPdf	11 18 40.6	+7.6
comp=Z,0.7nm,0.4s,baz=63,slow=3.0,SNR=6.4							

IDC 07 11:14:51.1±4.2,2.55N×97.65E,mb3.6/3,**mb1 3.7**/3,
mb1mx3.4/18,**mbtmp3.6**/3,**Error ellipse:**
s-maj=164.7km s-min=30.1km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.39**	**124**	P	P	11 22 47.6	-1.7
0.4nm,0.7s,baz=302,slow=9.1,SNR=5.3							
SONM	**Songino Array**	**45.74**	**8**	P	P	11 23 14.3	-1.6
0.4nm,0.5s,baz=190,slow=9.5,SNR=4.0							
MKAR	**Makanchi Array**	**46.05**	**345**	P	P	11 23 16.5	-2.0
1.0nm,0.5s,baz=160,slow=8.9,SNR=22							

*CSEM **07** 11:18:25.1±0.1,38.60N×23.70E,h10km,ML2.9,Error*
ellipse: s-maj=5.9km s-min=2.6km az=97.0
*ATH **07** 11:18:26.3,38.57N×23.53E,h4km,MD2.7/7,ML2.9*
*NEIC **07** 11:18:26.0,38.57N×23.53E,h18km,ML2.9(ATH),After*
ATH.
*THE **07** 11:18:27.5,38.79N×23.59E,h6km*
ISC 07 11:18:24.3±0.6,38.63N±0.04×23.7E±0.1,h13km±10km,
n13,σ0°65/14,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.48**	**173**	*e*PG	**Pg**	**11 18 34.2**	**0.0**
MPAR				*e*SG	**Sg**	**11 18 41.0**	**+0.2**
MPAR	**Parnis Oros**	**0.48**	**173**	*e*Pb	**Pb**	**11 18 34.0**	**0.0**
AOS	**Alonnisos**	**0.57**	**18**	*e*Pg	**Pg**	**11 18 36.0**	**+0.2**
PTL	**Penteli**	**0.60**	**164**	*e*PG	**Pg**	**11 18 37.0**	**+0.5**
ATH	**Athens Observa**	**0.66**	**176**	*e*PG	**Pg**	**11 18 38.0**	**+0.4**
MGER	**Gerania Oros**	**0.71**	**206**	*e*PG	**Pg**	**11 18 38.0**	**-0.7**
NSAL	**Nisos Salamina**	**0.74**	**192**	*e*PG	**Pg**	**11 18 39.0**	**-0.2**
NEO	**Neokhori**	**0.76**	**334**	*e*PG	**Pg**	**11 18 41.0**	**+1.4**
NAIG	**Nisos Aigina**	**0.88**	**189**	*e*PG	**Pg**	**11 18 41.5**	**-0.5**
AGG	**Agios Georgios**	**1.11**	**291**	*e*Pg	**Pg**	**11 18 46.5**	**-0.1**
PAIG	**Paliouri**	**1.30**	**1**	*e*Pg	**Pg**	**11 18 48.8**	**-1.5**
OUR	**Ouranopolis**	**1.72**	**8**	*e*Pb	**Pb**	**11 18 54.9**	**-0.3**
KNT	**Kendrikon**	**2.60**	**347**	*e*Pn	**Pn**	**11 19 07.3**	**+0.6**

DJA 07 11:45:53.8±0.2,8.42S×115.15E,h240km,MD4.6/4,
ML4.0/2,**7C,Error ellipse: s-maj=32.2km s-min=9.7km**
az=20.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.49**	**128**	⇑*i*Pn	P	11 46 25.8	0.0
1μm,0.2s							
RATI	**Rata**	**0.49**	**128**	*e*P	P	11 46 26.0	+0.2
RATI				⇑*i*Sn	S	11 46 49.1	-1.5
KELI	**Kelakatan**	**0.68**	**287**	*e*Pn	P	11 46 26.5	+0.1
27nm,0.2s							
KELI				⇑*i*Sn	S	11 46 49.8	-2.0
KEDI	**Kedomdong**	**0.96**	**94**	⇑*i*Pn	P	11 46 27.2	-0.5
207nm,0.2s							
KEDI				⇑*i*Sn	S	11 46 52.5	-1.6
SRDI	**Scrawed**	**0.99**	**266**	⇑*i*Pn	P	11 46 27.9	0.0
265nm,0.2s							
SRDI				⇑*i*Sn	S	11 46 52.2	-2.2

*DJA **07** 11:45:53.1±1.8,0.04N×96.56E,h22km±12km,mb5.7/4,*
Error ellipse: s-maj=38.9km s-min=8.0km az=52.0
*PDG **07** 11:46:01.2,0.60N×97.50E,h10km*
*CRAAG **07** 11:46:01.2,0.57N×97.48E,Mb6.0*
*BJI **07** 11:46:03.1,0.40N×97.45E,h36km,mB6.1,mb5.4,Ms6.2,*
Msz6.0
*MOS **07** 11:46:04.7±1.4,0.63N×97.48E,h33km,mb6.0/67,*
MS5.6/30,Error ellipse: s-maj=8.0km s-min=4.2km
az=120.2
*NEIC **07** 11:46:05.0±0.1,0.61N×97.42E,mb5.9/120,MS5.7/135,*
MW5.6,Error ellipse: s-maj=4.4km s-min=3.1km az=34.0,
Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}
Nm; M_{rr}2.41; $M_{\theta\theta}$-2.81; $M_{\phi\phi}$0.40; $M_{r\theta}$-0.18; $M_{\theta\phi}$-0.37;
$M_{\phi r}$-0.95; Best double couple: $M_0$2.8×10^{17} NP1:ϕ_s104°,
δ46°,λ121°. NP2:ϕ_s243°,δ52°,λ62°. Principal axes: T
2.79,Plg68°, Azm91°; N.08, Plg21°, Azm261°; P-2.87,
Plg3°, Azm353°;
NEIC Felt [IV] at Gunungsitoli.
*HRVD **07** 11:46:05.0±0.2,0.52N×97.31E,h12km,MW5.6/76,*
Centroid moment Tensor Solution. LP body waves:
s59,c106;Mantle waves: s76,c220; Half duration: 1s5
Moment tensor: Scale 10^{17}Nm; M_{rr}1.47±.04;
$M_{\theta\theta}$-3.12±.03; $M_{\phi\phi}$1.65±.05; $M_{r\theta}$-0.12±.10; $M_{\theta\phi}$0.56±.04;
$M_{\phi r}$-0.80±.12; Best double couple: $M_0$2.796×10^{17} NP1:
ϕ_s134°,δ62°,λ149°. NP2:ϕ_s239°,δ63°,λ31°. Principal
axes: T2.406, Plg41°, Azm97°; N.779, Plg49°, Azm276°;
P-3.185, Plg0°, Azm7°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface/mantle waves,
cutoff=50s.
*IDC **07** 11:46:07.0±3.7,0.65N×97.47E,h44km±34km,mb5.0/31,*
mb1 5.1/32,mb1mx5.0/33,mbtmp5.3/32,ML4.9/1,MS5.4/29,
Ms1 5.4/29,ms1mx5.3/36 Error ellipse: s-maj=12.7km
s-min=9.0km az=48.0
ISC 07 11:46:03.2±0.8,0.59N±0.03×97.47E±0.02,h25km±5km,
h25km±1.2km:pP-P,n771,σ1s04/601,**mb5.7**/176,**MS5.7**/194,
60C-46D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**3.10**	**110**	*e*P	**Pn**	**11 46 53.0**	**+1.2**
IPM	**Ipoh**	**5.32**	**42**	P	**Pn**	**11 47 24.2**	**+0.9**
BSI	**Banda Aceh**	**5.34**	**336**	*e*P	**Pn**	**11 47 17.0**	**-6.5**
KULM	**Kulim**	**5.65**	**34**	⇑*e*P	**Pn**	**11 47 27.3**	**-0.5**
KGM	**Kluang**	**6.01**	**76**	P	**Pn**	**11 47 34.8**	**+1.8**
PENI	**Pendagan**	**9.82**	**129**	⇓*i*P	**P**	**11 48 22.2**	**-4.0**
PENI				pmax	pmax		
comp=Z,1μm,0.6s							
PENI	**Pendagan**	**9.82**	**129**	⇓*i*P	**P**	**11 48 22.2**	**-4.0**
comp=Z,2μm,0.6s							
PULI	**Pulasari**	**10.93**	**129**	⇓*i*P	**P**	**11 48 36.6**	**-4.8**
PULI	**Pulasari**	**10.93**	**129**	⇓*i*P	**P**	**11 48 36.7**	**-4.7**
PBA	**Port Blair**	**11.96**	**337**	*e*	**P**	**11 49 05.6**	**+10**
PBA				*e*		11 52 27.3	
NNT	**Nongplab**	**12.13**	**11**	P	**P**	**11 48 57.5**	**-0.2**
KSM	**Kuching**	**12.86**	**86**	*e*P	**P**	**11 49 08.6**	**+1.1**
UBT	**Ubonrachathani**	**16.36**	**27**	P	**P**	**11 49 56.5**	**+3.4**
KKTK	**Khon Kaen**	**16.52**	**18**	P	**P**	**11 49 57.0**	**+1.9**
comp=Z,741nm,0.6s							
BDT	**Bhumibol Dam**	**16.62**	**5**	P	**P**	**11 49 55.0**	**-1.4**
comp=Z,4.4nm,1.1s							
CM31	**Chiang Mai Arr**	**17.82**	**5**	*e*P	**P**	**11 50 10.1**	**-1.3**
comp=Z,138nm,0.9s							
CMAR	**Chiang Mai Arr**	**17.82**	**5**	P	**P**	**11 50 10.3**	**-1.0**
comp=Z,1.7nm,0.3s,baz=194,slow=12,SNR=52							
CMAR				LR	LR	11 57 45.0	
comp=Z,28μm,18.2s,baz=190,slow=39							
PALK	**Pallekele**	**17.99**	**292**	⇑*e*P	**P**	**11 50 13.5**	**-0.1**
comp=Z,217nm,1.1s							
CHG	**Chiang Mai**	**18.17**	**4**	⇓P	**P**	**11 50 14.2**	**-1.6**
comp=Z,142nm,1.1s							
NANT	**Nan**	**18.37**	**10**	P	**P**	**11 50 20.0**	**+1.7**
comp=Z,850nm,0.6s							
KKM	**Kota Kinabalu**	**19.47**	**73**	⇑*i*P	**P**	**11 50 30.9**	**-0.5**
KKM	**Kota Kinabalu**	**19.47**	**73**	P	**P**	**11 50 31.4**	**0.0**
RATI	**Rata**	**20.23**	**118**	⇓*i*P	**P**	**11 50 35.9**	**-3.7**
comp=Z,203nm,0.8s							
KEDI	**Kedomdong**	**20.65**	**116**	⇓*i*P	**P**	**11 50 40.0**	**-3.9**
KEDI				pmax	pmax		
comp=Z,89nm,0.8s							
KEDI	**Kedomdong**	**20.65**	**116**	⇓*i*P	**P**	**11 50 40.0**	**-3.9**
comp=Z,178nm,0.8s							
TSM	**Tawau**	**20.71**	**79**	P	**P**	**11 50 44.0**	**-0.5**
MDRS	**Chennai**	**21.10**	**307**	*e*P	**P**	**11 50 50.0**	**+1.5**
MDRS				*e*		11 50 56.8	
comp=Z,396nm,1.5s							
MDRS				*e*		11 54 48.4	
BATP	**Bataraza**	**21.82**	**67**	*e*P	**P**	**11 50 55.7**	**-0.1**
TRD	**Trivandrum**	**21.89**	**292**	⇓*e*P	**P**	**11 50 58.2**	**+1.7**
TRD				*e*		11 55 04.2	
QIZ	**Qiongzhong**	**21.98**	**33**	P	**P**	**11 50 56.8**	**-0.5**
QIZ				AP		11 51 06.2	
QIZ				XP		11 51 10.4	
QIZ				PP	PP	11 51 22.4	-0.8
QIZ				*e*S	**S**	**11 54 52.5**	**-1.1**
QIZ				XS		11 55 07.9	
QIZ				LR	LR		
comp=E,41μm,15.9s							
QIZ				LR	LR		
comp=Z,25μm,15.9s,MS5.7							
QIZ	**Qiongzhong**	**21.98**	**33**	*e*P	**P**	**11 50 56.4**	**-0.9**
comp=Z,846nm,1.9s,mb5.8							
VIS	**Vishakhapatnam**	**21.98**	**322**	*e*P	**P**	**11 50 58.4**	**+1.0**
VIS				*e*		11 51 06.8	
comp=Z,890nm,1.6s							
VIS				*e*S	**S**	**11 55 01.2**	**+7.5**
BWNR	**Bhubaneshwar**	**22.67**	**330**	*e*P	**P**	**11 51 06.8**	**+2.5**
BWNR				*e*		11 51 14.6	
comp=Z,634nm,1.5s							
BWNR				*e*S	**S**	**11 55 12.5**	**+6.3**
PPR	**Puerto Princes**	**23.03**	**66**	⇑*e*P	**P**	**11 51 08.4**	**+0.6**
CAL	**Calcutta**	**23.56**	**338**	*e*P	**P**	**11 51 14.7**	**+1.7**
CAL				*e*S	**S**	**11 55 28.2**	**+6.3**
AGT	**Agartala**	**23.93**	**346**	⇑*i*P	**P**	**11 51 19.0**	**+2.5**
AGT				*i*		11 53 12.0	
ENPP	**El Nido**	**24.22**	**63**	*e*P	**P**	**11 51 19.1**	**-0.3**
KMI	**Kunming**	**24.92**	**11**	P	**P**	**11 51 27.4**	**+1.3**
KMI				AP		11 51 36.9	
KMI				XP		11 51 41.9	
KMI				PP	PP	11 52 04.7	+1.3
KMI				S	**S**	**11 55 49.9**	**+4.8**
KMI				AMB	AMB		
comp=Z,104nm,2.0s,mb5.0							
KMI				AMB	AMB		
comp=Z,2μm,4.2s							
KMI				LR	LR		
comp=N,28μm,14.3s,MS6.2							
KMI				LR	LR		
comp=E,37μm,13.1s,MS6.2							
KMI				LR	LR		
comp=Z,37μm,13.1s,MS6.1							
KMI	**Kunming**	**24.92**	**11**	P	**P**	**11 51 27.4**	**+1.3**
comp=Z,104nm,2.0s,mb5.0							
KMI				pP		11 51 36.9	
KMI				sP		11 51 41.9	
KMI				PP	PP	11 52 04.7	+1.3
KMI				S	**S**	**11 55 49.9**	**+4.8**
KMI				sS		11 56 06.0	
KMI				SS	SS	11 56 55.8	+12
KMI				LR	LR		
comp=Z,37μm,13.1s,MS6.1							
HYB	**Hyderabad**	**25.02**	**313**	⇑*e*P	**P**	**11 51 27.5**	**+0.4**
HYB				*e*S	**S**	**11 55 42.0**	**-4.9**
HYB				pmax	pmax		
comp=Z,571nm,1.5s,mb5.9							
HYB	**Hyderabad**	**25.02**	**313**	⇑*e*P	**P**	**11 51 27.5**	**+0.4**
comp=Z,571nm,1.5s,mb5.9							
HYB				*e*S	**S**	**11 55 42.0**	**-4.9**
HYB	**Hyderabad**	**25.02**	**313**	⇑*i*P	**P**	**11 51 27.5**	**+0.4**
comp=Z,571nm,1.5s,mb5.9							
HYB				*e*S	**S**	**11 55 42.0**	**-4.9**
HYB				LR	LR		
comp=Z,15nm,18.0s							
BUSP	**Coron**	**25.24**	**62**	*e*P	**P**	**11 51 30.0**	**+0.8**
SHL	**Shillong**	**25.41**	**348**	⇓*i*P	**P**	**11 51 32.0**	**+1.3**
SHL				*e*S	**S**	**11 55 58.0**	**+4.7**
CUYO	**Cuyo Island**	**25.52**	**66**	*e*P	**P**	**11 51 32.0**	**+0.2**
BOK	**Bokaro**	**25.66**	**335**	*e*P	**P**	**11 51 33.5**	**+0.4**
BOK				*e*		11 51 44.9	
comp=Z,1μm,1.8s							
BOK				*e*S	**S**	**11 55 58.8**	**+1.3**
LUBP	**Lubang**	**26.05**	**59**	*e*P	**P**	**11 51 37.4**	**+0.6**
BLSP	**Bilaspur**	**26.11**	**326**	*e*P	**P**	**11 51 36.9**	**-0.3**
BLSP				*e*	pP	11 51 45.1	+0.6
comp=Z,346nm,1.4s							
BLSP				*e*S	**S**	**11 56 07.0**	**+2.0**
SJMP	**San Jose**	**26.25**	**62**	*e*P	**P**	**11 51 38.8**	**+0.2**
LKP	**Lekhapani**	**26.63**	**357**	*e*P	**P**	**11 51 42.0**	**+0.1**
LKP				*e*		11 51 58.0	
PAGZ	**Pagadian**	**26.81**	**74**	*e*P	**P**	**11 51 44.2**	**+0.4**
HKC	**Hong Kong**	**27.02**	**36**	*e*P	**P**	**11 51 46.0**	**+0.4**
HKC				*e*S	**S**	**11 56 22.0**	**+2.0**
LATR	**Latur**	**27.12**	**312**	*e*	**P**	**11 51 52.5**	**+5.9**
GZH	**Guangzhou**	**27.17**	**33**	P	**P**	**11 51 50.5**	**+3.6**
GZH				LR	LR		
comp=N,28μm,16.0s,MS6.1							
GZH				LR	LR		
comp=E,34μm,16.0s,MS6.1							
GZH				LR	LR		
comp=Z,19μm,17.0s,MS5.7							
GYA	**Guiyang**	**27.20**	**18**	⇑*i*P	**P**	**11 51 45.9**	**-1.3**
GYA				AP	pP	11 51 55.0	+0.6
GYA				XP	sP	11 51 59.1	+1.4
GYA				PP	PP	11 52 33.2	-0.9
GYA				S	**S**	**11 56 21.9**	**-0.9**
GYA				AMB	AMB		
comp=Z,60nm,0.9s,mb5.1							
GYA				AMB	AMB		
comp=Z,570nm,5.4s							
GYA				LR	LR		
comp=N,15μm,15.5s,MS6.0							
GYA				LR	LR		
comp=E,27μm,14.1s,MS6.0							
GYA				LR	LR		
comp=Z,48μm,15.5s,MS6.2							
LLP	**Lapu-Lapu**	**28.06**	**69**	⇓*e*P	**P**	**11 51 55.7**	**+0.6**
BALP	**Baler**	**28.15**	**56**	*e*P	**P**	**11 51 56.3**	**+0.4**
KAD	**Karad**	**28.31**	**307**	*e*P	**P**	**11 51 58.4**	**+1.1**
KAD				*e*	pP	11 52 06.0	+1.4
comp=Z,168nm,1.7s							
BUKP	**Musuan**	**28.43**	**75**	*e*P	**P**	**11 51 58.6**	**+0.1**
DAV	**Davao City (W)**	**28.76**	**76**	*e*P	**P**	**11 52 02.0**	**+0.6**
ALBI	**Allahabad**	**28.86**	**330**	*e*P	**P**	**11 52 01.0**	**-1.2**
APYP	**Conner**	**29.00**	**52**	*e*P	**P**	**11 52 02.2**	**-1.3**
JIRN	**Jiri**	**29.01**	**339**	*e*P	**P**	**11 52 03.9**	**+0.3**
comp=Z,649nm,1.1s,mb6.3							
PKI	**Pulchoki**	**29.22**	**338**	*e*P	**P**	**11 52 06.2**	**+0.8**
comp=Z,603nm,1.2s,mb6.2							
PKI	**Pulchoki**	**29.22**	**338**	*e*P	**P**	**11 52 06.2**	**+0.8**
PKI				pmax	pmax		
comp=Z,302nm,1.2s,mb5.9							
POO	**Poona**	**29.25**	**309**	⇑*i*P	**P**	**11 52 05.0**	**-0.8**
comp=Z,386nm,1.2s,mb6.0							
POO				*i*S	**S**	**11 56 58.0**	**+2.2**
GUN	**Gumba**	**29.35**	**339**	*e*P	**P**	**11 52 07.3**	**+0.7**
comp=Z,1μm,1.2s,mb6.5							
DMN	**Daman**	**29.37**	**337**	*e*P	**P**	**11 52 07.3**	**+0.5**
comp=Z,794nm,1.3s,mb6.3							
KKN	**Kakani**	**29.47**	**338**	*e*P	**P**	**11 52 07.7**	**0.0**
comp=Z,916nm,1.4s,mb6.3							
KKN	**Kakani**	**29.47**	**338**	*e*P	**P**	**11 52 07.7**	**0.0**
KKN				pmax	pmax		
comp=Z,458nm,1.4s,mb6.0							
LSA	**Lhasa**	**29.57**	**349**	P	**P**	**11 52 09.9**	**+1.3**
LSA				XP	sP	11 52 21.7	+2.6
LSA				S	**S**	**11 57 04.1**	**+3.3**
LSA				XS		11 57 23.3	
LSA				AMB	AMB		
comp=Z,40nm,0.9s,mb5.2							
LSA				LR	LR		
comp=N,4μm,21.3s,MS5.4							
LSA				LR	LR		
comp=E,8μm,19.6s,MS5.4							
LSA				LR	LR		
comp=Z,12μm,21.3s,MS5.5							
BHPL	**Bhopal**	**29.77**	**321**	⇓*i*P	**P**	**11 52 10.5**	**+0.1**
GKN	**Gorkha**	**29.91**	**337**	*e*P	**P**	**11 52 11.5**	**-0.1**
comp=Z,1μm,1.3s,mb6.4							
KOLN	**Koldanda**	**30.12**	**335**	*e*P	**P**	**11 52 13.5**	**0.0**
comp=Z,2μm,1.8s,mb6.5							
BOM	**Bombay**	**30.27**	**308**	*e*P	**P**	**11 52 16.1**	**+1.2**
BOM				*e*	pP	11 52 21.4	-0.8
BOM				*e*		11 57 17.9	
MBWA	**Marble Bar**	**30.67**	**136**	⇑*e*P	**P**	**11 52 17.9**	**-0.4**
comp=Z,144nm,1.5s,mb5.6							
MBWA				LR	LR		
comp=Z,12μm,21.0s,MS5.5							
CD2	**Chengdu**	**30.74**	**11**	P	**P**	**11 52 17.9**	**-1.0**
CD2				AP	pP	11 52 24.7	-1.5
CD2				PPP	PPP	11 53 34.5	-0.3
CD2				S	**S**	**11 57 19.7**	**+0.4**
CD2				SS	SS	11 59 05.5	+3.5
CD2				AMB	AMB		
comp=Z,730nm,4.8s							
CD2				LR	LR		
comp=N,37μm,16.8s							
CD2				LR	LR		
comp=Z,23μm,18.0s,MS5.9							
ENH	**Enshi**	**31.65**	**20**	*e*P	**P**	**11 52 25.2**	**-1.7**
comp=Z,205nm,1.2s,mb5.8							
QZH	**Quanzhou**	**31.67**	**39**	⇑*i*P	**P**	**11 52 26.8**	**-0.4**
QZH				S	**S**	**11 57 38.5**	**+4.6**
QZH				AMB	AMB		
comp=Z,210nm,0.8s,mb6.0							
QZH				AMB	AMB		
comp=Z,1μm,4.0s							
QZH				LR	LR		
comp=N,44μm,16.0s,MS6.6							
QZH				LR	LR		
comp=E,94μm,16.4s,MS6.6							
QZH				LR	LR		
comp=Z,34μm,12.4s,MS6.2							
LGTI	**Lohaghat**	**33.07**	**332**	*e*P	**P**	**11 52 39.3**	**0.0**
LGTI				*e*		11 53 03.9	
NACB	**Ninganchiao**	**33.10**	**43**	⇑*e*P	**P**	**11 52 39.8**	**+0.2**
PTH	**Pithoragarh**	**33.17**	**332**	*e*	**P**	**11 52 47.1**	**+7.0**
YHNB	**Yeheng**	**33.29**	**42**	⇑*e*P	**P**	**11 52 40.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**33.35**	**125**	⇑*i*P	**P**	**11 52 40.5**	**-1.4**
comp=Z,114nm,0.8s,mb5.8							
FITZ	**Fitzroy Crossi**	**33.35**	**125**	P	**P**	**11 52 40.7**	**-1.2**
comp=Z,134nm,0.8s,mb6.0,baz=199,slow=3.4,SNR=103							
FITZ				LR	LR	12 07 35.0	
comp=Z,8μm,19.9s,MS5.5,baz=282,slow=39							
TATO	**Taipei**	**33.57**	**42**	*e*P	**P**	**11 52 43.8**	**+0.1**
comp=Z,124nm,0.8s,mb

BHK e 11 59 23.1
MUN Mundaring 36.93 153 eP **P 11 53 13.6 +1.4**
comp=Z,408nm,1.3s,mb6.1
MUN Mundaring 36.93 153 eP **P 11 53 13.6 +1.4**
MUN pmax pmax
comp=Z,408nm,1.3s,mb6.1
PONG Pong 37.24 329 e **P 11 53 18.0 +3.2**
NJ2 Nanjing 37.24 31 eP **P 11 53 14.6 -0.3**
NJ2 AP pP 11 53 24.6 +2.3
NJ2 XP sP 11 53 28.3 +2.9
NJ2 PP PP 11 54 41.7 -0.7
NJ2 S **S 11 59 00.0 0.0**
NJ2 XS 11 59 16.0
NJ2 AMB AMB
comp=Z,60nm,1.1s,mb5.3
NJ2 AMB AMB
comp=Z,1μm,3.6s
NJ2 LR LR
comp=N,46μm,13.1s,MS6.5
NJ2 LR LR
comp=E,29μm,14.2s,MS6.5
NJ2 LR LR
comp=Z,139μm,13.8s
KLBR Kellerberrin 37.33 151⇑iP **P 11 53 16.5 +0.9**
comp=Z,36μm,1.8s
THN Thein Dam 37.74 329 eP **P 11 53 18.1 -0.9**
SSE Sheshan 37.76 34 P **P 11 53 19.9 +0.7**
SSE AP pP 11 53 28.9 +2.3
SSE PP PP 11 54 54.1 +5.5
SSE S **S 11 59 09.9 +2.0**
SSE XS 11 59 26.2
SSE SCS ScS 12 03 29.3 +1.0
SSE AMB AMB
comp=Z,83nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,499nm,3.9s
SSE LR LR
comp=N,7μm,16.8s,MS6.0
SSE LR LR
comp=E,18μm,16.5s,MS6.0
SSE LR LR
comp=Z,11μm,14.2s,MS5.8
SSE Sheshan 37.76 34 P **P 11 53 19.9 +0.7**
comp=Z,83nm,0.8s,mb5.5
SSE pP pP 11 53 28.9 +2.3
SSE PP PP 11 54 54.1 +5.5
SSE S **S 11 59 09.9 +2.0**
SSE sS 11 59 26.2
SSE SS SS 12 01 58.1 +15
SSE ScS ScS 12 03 29.3 +1.0
SSE LR LR
comp=Z,11μm,14.2s,MS5.8
NWAO Narrogin (SRO) 38.19 153 P **P 11 53 23.0 +0.2**
comp=Z,41nm,0.8s,mb5.2,baz=330,slow=10,SNR=23
NWAO LR LR 12 10 23.4
comp=Z,10μm,18.2s,MS5.7,baz=337,slow=38
NWAO Narrogin (SRO) 38.19 153 eP **P 11 53 23.7 +0.9**
comp=Z,267nm,1.6s,mb5.7
NWAO LR LR
comp=Z,9μm,19.0s,MS5.6
GTA Gaotai 38.70 3⇓P **P 11 53 27.2 +0.2**
GTA AP pP 11 53 36.1 +1.7
GTA XP sP 11 53 39.9 +2.4
GTA PP PP 11 55 00.3 +0.8
GTA PPP PPP 11 55 23.9 +1.5
GTA PCP PcP 11 55 39.2 0.0
GTA AMB AMB
comp=Z,24nm,0.8s,mb5.0
GTA AMB AMB
comp=Z,807nm,6.1s
GTA LR LR
comp=N,9μm,12.2s,MS6.0
GTA LR LR
comp=E,12μm,14.5s,MS6.0
GTA LR LR
comp=Z,11μm,11.4s,MS5.9
TIY Taiyuan 39.44 19 PR 11 53 36.5
TIY S **S 11 59 32.0 -1.2**
TIY LR LR
comp=N,23μm,12.0s
JOW Kunigami 39.46 46 P **P 11 53 33.4 -0.1**
comp=N,45nm,0.7s,mb5.3,baz=240,slow=7.0,SNR=32
JOW LR LR 12 10 33.0
comp=N,5μm,19.6s,MS5.3,baz=225,slow=37
TIA Tai'an 39.86 25 P **P 11 53 35.1 -1.6**
TIA S **S 11 59 40.1 +0.5**
TIA AMB AMB
comp=Z,261nm,1.0s,mb5.9
TIA LR LR
comp=N,7μm,15.3s,MS5.8
TIA LR LR
comp=E,9μm,17.9s,MS5.8
BTO Baotou 41.43 14 eP **P 11 53 49.1 -0.5**
BTO S **S 11 59 59.2 -3.7**
WRA Warramunga Arr 41.48 122 P **P 11 53 49.5 -0.7**
comp=E,66nm,0.8s,mb5.3,baz=300,slow=9.2,SNR=177
WRA PcP PcP 11 55 47.3 -1.0
comp=E,8.9nm,0.7s,baz=315,slow=2.1,SNR=6.0
WRAB Tennant Creek 41.49 122 eP **P 11 53 49.8 -0.5**
comp=E,543nm,1.5s,mb6.0
WRAB LR LR
comp=Z,2μm,19.0s,MS5.0
WB2 Warramunga Arr 41.49 122⇑iP **P 11 53 49.6 -0.7**
HHC Hu-ho-hao-te 42.07 16⇑⇑P **P 11 53 56.0 +1.2**
HHC AP pP 11 54 06.1 +3.9
HHC XP sP 11 54 09.8 +4.5
HHC PP PP 11 55 39.5 +4.2
HHC PCP PcP 11 55 49.3 -0.7
HHC SCP 11 59 36.8
HHC PCS 11 59 39.0
HHC XS 12 00 32.0
HHC SCS ScS 12 03 54.6 +1.1
HHC AMB AMB
comp=Z,48nm,1.7s,mb4.8
HHC LR LR
comp=N,16μm,16.7s,MS6.0
HHC LR LR
comp=E,9μm,16.7s,MS6.0
HHC LR LR
comp=Z,12μm,17.2s,MS5.8
MSEY Mahe Island 42.27 262 PFAKE 11 54 10.0 +13
MSEY LR LR
comp=Z,1μm,21.0s,MS4.7
FORT Forrest 42.63 140 eP **P 11 54 01.0 +1.4**
comp=Z,3μm,0.7s
BJT Baijiatuau 42.78 21 eP **P 11 54 01.2 +0.5**
BJT pmax pmax
comp=Z,118nm,0.8s
BJT Baijiatuau 42.78 21 eP **P 11 54 01.2 +0.5**
comp=Z,118nm,0.8s,mb5.7
BJI Beijing 42.80 21 P **P 11 54 02.0 +1.1**
BJI AP pP 11 54 10.7 +2.4
BJI XP sP 11 54 14.8 +3.4
BJI PP PP 11 55 42.4 -0.3
BJI AMB AMB
comp=Z,88nm,1.1s,mb5.4
BJI AMB AMB
comp=Z,2μm,3.8s
BJI LR LR
comp=N,8μm,14.0s,MS6.1
BJI LR LR
comp=E,19μm,16.5s,MS6.1
BJI LR LR
comp=Z,12μm,17.0s,MS5.9
BJI Beijing 42.80 21 P **P 11 54 02.0 +1.1**
comp=Z,88nm,1.1s,mb5.4
BJI pP pP 11 54 10.7 +2.4
BJI sP sP 11 54 14.8 +3.4
BJI PP PP 11 55 42.4 -0.3
BJI S **S 12 00 29.5 +6.3**
BJI sS 12 00 47.9
BJI SS SS 12 03 51.7 +23
BJI LR LR
comp=Z,12μm,17.0s,MS5.9
ASPA Alice Springs 42.81 127⇑iP **P 11 54 01.0 -0.1**
ASAR Alice Springs 42.81 127 P **P 11 54 01.2 0.0**
comp=Z,32nm,0.7s,mb5.2,baz=298,slow=7.6,SNR=332
ASAR PcP PcP 11 55 52.5 -0.2
comp=Z,11nm,0.7s,baz=308,slow=3.7,SNR=6.4
ASAR LR LR 12 14 18.8
comp=Z,5μm,20.0s,MS5.5,baz=298,slow=40
YOMI Yo Moklole 43.20 94⇑iP **P 11 54 00.8 -3.6**
comp=Z,207nm,1.6s,mb5.3
KSH Kashi 43.44 336 eP **P 11 54 07.7 +1.7**
KSH eAP pP 11 54 16.0 +2.6
KSH eXP sP 11 54 20.0 +3.5
KSH ePP PP 11 55 50.0 +1.0
KSH ePCP PcP 11 55 54.1 -0.5
KSH ePPP PPP 11 56 26.9 +1.8
KSH LR LR
comp=N,6μm,16.2s,MS5.7
KSH LR LR
comp=E,5μm,13.2s,MS5.7
WMQ Urumqi 43.92 350⇑P **P 11 54 09.9 0.0**
WMQ AP pP 11 54 19.9 +2.6
WMQ XP sP 11 54 23.9 +3.6
WMQ PP PP 11 55 53.9 +0.1
WMQ PCP PcP 11 55 56.8 +0.6
WMQ AMB AMB
comp=Z,30nm,0.9s,mb5.0
WMQ AMB AMB
comp=Z,1μm,4.8s
WMQ LR LR
comp=N,4μm,15.8s,MS5.6
WMQ LR LR
comp=E,4μm,15.8s,MS5.6
WMQ LR LR
comp=Z,3μm,17.9s,MS5.2
DL2 Dalian 44.09 27⇑iP **P 11 54 12.3 +1.0**
DL2 AP pP 11 54 20.8 +2.1
DL2 S **S 12 00 47.8 +5.9**
DL2 AMB AMB
comp=Z,60nm,1.0s,mb5.3
DL2 AMB AMB
comp=Z,590nm,3.7s
DL2 LR LR
comp=N,4μm,16.9s,MS5.8
DL2 LR LR
comp=E,9μm,16.3s,MS5.8
DL2 LR LR
comp=Z,6μm,14.9s,MS5.7
INCN Inchon 45.51 33 eP **P 11 54 21.8 -0.9**
comp=Z,111nm,1.4s,mb5.6
INCN LR LR
comp=Z,8μm,19.0s,MS5.7
ULHL Ulahol 45.66 338 P **P 11 54 24.6 +0.8**
SNR=9.5
KZA Kyzart 45.90 337 P **P 11 54 26.4 +0.7**
SNR=14
AAA Alma-Ata 46.29 339 eP **P 11 54 30.0 +1.2**
AAA eS **S 12 01 17.0 +3.5**
AAA pmax pmax
comp=Z,1μm,4.0s
AAA smax
comp=N,2μm,8.0s
UCH Uchtor 46.32 336 P **P 11 54 29.0 0.0**
SNR=38
TKM2 Tokmak 2 46.48 338 P **P 11 54 31.1 +0.8**
SNR=25
KBK Karagaybulak 46.51 337 P **P 11 54 31.6 +1.1**
SNR=25
AML Almayashu 46.57 336 P **P 11 54 31.3 +0.3**
SNR=37
AAK Ala-Archa 46.66 337 P **P 11 54 32.8 +1.0**
SNR=18
AAK Ala-Archa 46.66 337⇓iP **P 11 54 31.9 +0.1**
AAK pmax pmax
comp=Z,197nm,1.7s,mb5.8
AAK Ala-Archa 46.66 337 eP **P 11 54 31.0 -0.7**
comp=Z,222nm,1.5s,mb5.9
AAK LR LR
comp=Z,2μm,20.0s,MS5.0
FRU Bishkek 46.79 337 iP **P 11 54 35.0 +2.3**
FRU iS **S 12 01 26.0 +5.5**
FRU pmax pmax
comp=Z,1μm,3.6s
FRU pmax pmax
comp=Z,570nm,2.0s,mb6.2
FRU smax
comp=N,3μm,8.0s
FRU MLR MLR
comp=N,6μm,21.0s,MS5.7
FRU MLR MLR
comp=E,7μm,21.0s,MS5.7
FRU MLR MLR
comp=Z,7μm,21.0s,MS5.6
CHMS Chumysh 46.87 337 P **P 11 54 33.2 -0.2**
SNR=11
EKS2 Erkin-Say 46.98 336 P **P 11 54 34.4 +0.1**
SNR=32
USP Ospenovka 47.20 337 P **P 11 54 35.8 -0.1**
SNR=39
SNY Shenyang 47.32 27⇑P **P 11 54 36.7 -0.3**
SNY S **S 12 01 31.1 +3.0**
SNY SS SS 12 04 54.1 +4.9
SNY AMB AMB
comp=Z,50nm,1.5s,mb5.2
SNY AMB AMB
comp=Z,1μm,3.0s
SNY LR LR
comp=N,12μm,14.9s
SNY LR LR
comp=Z,13μm,14.7s,MS6.0
SONM Songino Array 47.69 8 P **P 11 54 39.5 -0.4**
comp=Z,20nm,0.8s,mb5.2,baz=190,slow=8.0,SNR=108
SONM LR LR 12 17 04.5
comp=Z,6μm,18.1s,MS5.6,baz=188,slow=39
ULN Ulaanbaatar 47.82 9 eP **P 11 54 40.4 -0.4**
ULN pmax pmax
comp=Z,69nm,1.3s,mb5.5
ULN MLR MLR
comp=Z,8μm,19.0s,MS5.7
ULN Ulaanbaatar 47.82 9 eP **P 11 54 40.4 -0.4**
comp=Z,69nm,1.3s,mb5.5
ULN LR LR
comp=Z,8μm,19.0s,MS5.7
MKAR Makanchi Array 47.90 346 iP **P 11 54 40.6 -0.8**
MKAR pmax pmax
comp=Z,275nm,1.2s
MKAR Makanchi Array 47.90 346 P **P 11 54 40.6 -0.9**
comp=Z,36nm,0.6s,mb5.6,baz=158,slow=7.9,SNR=241
MKAR LR LR 12 18 40.7
comp=Z,3μm,18.4s,MS5.2,baz=163,slow=41
GUMO Guam 48.66 72 PFAKE 11 55 00.0 +12
GUMO LR LR
comp=Z,2μm,20.0s,MS5.0
CN2 Changchun 49.73 26 eP **P 11 54 55.2 -0.4**
CN2 eAP pP 11 55 05.7 +2.6
CN2 PCP PcP 11 56 15.7 -1.0
CN2 PP PP 11 56 54.5 +3.6
CN2 AMB AMB
comp=Z,60nm,0.8s,mb5.7
CN2 AMB AMB
comp=Z,1μm,4.0s
CN2 LR LR
comp=N,8μm,17.0s,MS6.0
CN2 LR LR
comp=E,12μm,17.0s,MS6.0
CN2 LR LR
comp=Z,14μm,19.0s,MS6.0
ZAK Zakamensk 49.85 5⇑iP **P 11 54 56.3 -0.2**
ZAK pmax pmax
comp=Z,23nm,1.8s,mb4.9
ZAK pmax pmax
comp=Z,8.0nm,1.9s
CBIJ Chichi jima 50.35 55 P **P 11 54 56.9 -3.7**
comp=Z,59nm,0.7s,mb5.7,baz=182,slow=10,SNR=4.4
CBIJ LR LR 12 13 27.8
comp=Z,1μm,20.9s,MS4.9,baz=248,slow=33
PMG Port Moresby 50.45 103 P **P 11 55 00.9 -0.6**
comp=Z,181nm,0.7s,mb6.2,baz=308,slow=3.0,SNR=85
PMG Port Moresby 50.45 103 eP **P 11 55 01.4 -0.1**
comp=Z,180nm,0.7s,mb6.2
PMG LR LR
comp=Z,4μm,19.0s,MS5.5
MOY Mondy 50.98 3 eP **P 11 55 05.6 +0.6**
MOY pmax pmax
comp=Z,154nm,3.8s
TLY Talaya 51.17 5 eP **P 11 55 06.3 -0.2**
TLY eS **S 12 02 23.2 +1.5**
TLY ePS PS 12 02 32.5 -1.1
TLY pmax pmax
comp=Z,35nm,1.0s,mb5.2
TLY MLR MLR
comp=Z,12μm,17.0s,MS6.0
IRK Irkutsk 51.79 5 eP **P 11 55 12.0 +0.9**
IRK e 11 57 16.4
IRK eS **S 12 02 24.9 -5.3**
IRK pmax pmax
comp=Z,145nm,1.9s,mb5.6
MAJO Matsushiro 51.96 42 eP **P 11 55 11.9 -0.7**
MAJO e 11 56 24.8
MAJO pmax pmax
comp=Z,46nm,1.2s,mb5.3
MAJO Matsushiro 51.96 42 eP **P 11 55 11.9 -0.8**
comp=Z,46nm,1.2s,mb5.3
MAJO ePcP PcP 11 56 24.8 -0.3
MAT Matsushiro 51.96 42 eP **P 11 55 11.0 -1.6**
MAT eS **S 12 02 33.0 +0.2**
MAT pmax pmax
comp=Z,58nm,1.4s,mb5.3
MAT MLR MLR
comp=Z,3μm,22.0s,MS5.3
MAT Matsushiro 51.96 42 eP **P 11 55 11.0 -1.6**
comp=Z,58nm,1.4s,mb5.3
MAT eS **S 12 02 33.0 +0.2**
MAT LR LR
comp=Z,3μm,22.0s,MS5.3
MAT Matsushiro 51.96 42 P **P 11 55 11.2 -1.4**
MAT S **S 12 02 33.0 +0.2**
MJAR Matsushiro Arr 51.96 42 P **P 11 55 11.3 -1.4**
comp=Z,21nm,0.9s,mb5.1,baz=226,slow=5.7,SNR=32
MJAR LR LR 12 17 56.6
comp=Z,4μm,19.0s,MS5.5,baz=240,slow=37
CTA Charters Tower 51.99 116⇑iP **P 11 55 12.9 -0.2**
comp=Z,24nm,0.9s,mb5.1
CTA Charters Tower 51.99 116⇑iP **P 11 55 12.9 -0.2**
CTA pmax pmax
comp=Z,24nm,0.9s
CTA Charters Tower 51.99 116 P **P 11 55 12.1 -1.0**
comp=Z,13nm,0.7s,mb5.0,baz=289,slow=8.5,SNR=11
CTA LR LR 12 20 39.6
comp=Z,7μm,19.9s,MS5.7,baz=282,slow=40
CTAO Charters Tower 51.99 116 eP **P 11 55 12.0 -1.1**
CTAO e 11 55 24.7
CTAO pmax pmax
comp=Z,87nm,1.4s,mb5.5
CTAO MLR MLR
comp=Z,7μm,20.0s,MS5.7
CTAO Charters Tower 51.99 116 eP **P 11 55 12.0 -1.0**
comp=Z,87nm,1.4s,mb5.5
CTAO e 11 55 24.7
CTAO LR LR
comp=Z,7μm,20.0s,MS5.7
HIA Hailar 52.13 18 eP **P 11 55 13.1 -0.7**
HIA pmax pmax
comp=Z,52nm,0.9s
HIA Hailar 52.13 18 eP **P 11 55 13.1 -0.7**
comp=Z,52nm,0.9s,mb5.5
MDJ Mudanjiang 52.27 29 P **P 11 55 14.4 -0.5**
MDJ AP pP 11 55 24.3 +1.9
MDJ XP sP 11 55 28.2 +2.9
MDJ PP PP 11 57 13.4 -0.9
MDJ AMB AMB
comp=Z,38nm,0.9s,mb5.3
MDJ AMB AMB
comp=Z,948nm,3.6s
MDJ LR LR
comp=N,8μm,18.0s,MS6.1
MDJ LR LR
comp=E,13μm,16.7s,MS6.1
MDJ LR LR
comp=Z,7μm,18.0s,MS5.7
MDJ Mudanjiang 52.27 29 eP **P 11 55 15.1 +0.2**
comp=Z,33nm,0.9s,mb5.3
ADE Adelaide 52.28 137⇑iP **P 11 55 16.5 +1.4**
STKA Stephens Creek 52.75 132⇑iP **P 11 55 18.6 0.0**
comp=Z,59nm,0.8s,mb5.6
STKA Stephens Creek 52.75 132 P **P 11 55 18.7 +0.1**
comp=Z,58nm,0.7s,mb5.6,baz=305,slow=7.1,SNR=138
STKA LR LR 12 19 29.1
comp=Z,9μm,21.1s,MS5.8,baz=293,slow=38
OPO Ambohidratompo 52.92 246 P **P 11 55 19.3 -0.8**
comp=Z,24nm,1.1s,mb5.0,baz=92,slow=11,SNR=6.1
ZAL Zalesovo 54.19 351 P **P 11 55 28.2 -0.7**
comp=Z,24nm,0.5s,mb5.4,baz=301,slow=5.8,SNR=81
ZAL LR LR 12 22 22.6
comp=Z,4μm,19.7s,MS5.5,baz=302,slow=40
ATD Arta Tunnel 55.29 284 P **P 11 55 36.9 -0.6**
comp=Z,120nm,1.3s,mb5.8,baz=54,slow=2.8,SNR=12
ATD LR LR 12 15 57.4
comp=Z,1μm,19.4s,MS4.9,baz=67,slow=32
KLR Kul'dur 56.68 26 eP **P 11 55 43.0 -4.0**
KLR iS **S 12 03 40.5 +4.5**
KLR MLR MLR
comp=Z,16μm,14.0s,MS6.3
BVA0 Borovoye Array 56.91 341 iP **P 11 55 46.1 -2.6**
BVA0 pmax pmax
comp=Z,44nm,1.7s,mb5.2
BVAR Borovoye Array 56.91 341 P **P 11 55 46.5 -2.1**
comp=Z,29nm,0.7s,mb5.4,baz=143,slow=7.4,SNR=114
CHKZ Chkalovo 57.39 341 P **P 11 55 49.9 -2.1**
CHKZ pmax pmax
comp=Z,425nm,1.6s,mb6.2
ERM Erimo 58.17 39 PFAKE 11 56 10.0 +12
ERM LR LR
comp=Z,4.0nm,19.0s
TOO Toolangi 58.31 136 eP **P 11 56 00.3 +1.6**
comp=Z,25nm,1.5s,mb5.0
TOO Toolangi 58.31 136 eP **P 11 56 00.3 +1.6**
TOO pmax pmax
comp=Z,25nm,1.5s,mb5.0
BOD Bodaibo 58.56 10 eP **P 11 55 59.6 -0.5**
BOD pmax pmax
comp=Z,79nm,1.6s,mb5.5
ASAJ Asahikawa 58.99 37 P **P 11 56 03.0 -0.3**
comp=Z,15nm,0.7s,mb5.1,baz=313,slow=3.8,SNR=8.4
ASAJ LR LR 12 20 06.6
comp=Z,3μm,21.1s,MS5.4,baz=82,slow=35
BHD Baghdad 59.43 309 iP **P 11 56 00.0 -6.5**
BHD iPcP PcP 11 56 41.0 -13
BHD eS **S 12 04 08.0 -4.3**
BHD ePS PS 12 04 26.0 -4.2
CNB Canberra Magne 60.08 132⇓iP **P 11 56 10.7 -0.2**
KMBO Kilima Mbogo 60.24 268 P **P 11 56 12.4 +0.1**
comp=Z,16nm,1.1s,mb5.0,baz=57,slow=6.3,SNR=21
KMBO LR LR 12 20 01.0
comp=Z,3μm,18.4s,MS5.4,baz=94,slow=34
KMBO Kilima Mbogo 60.24 268 eP **P 11 56 10.9 -1.4**
comp=Z,107nm,1.5s,mb5.7
KMBO LR LR
comp=Z,3μm,19.0s,MS5.4
CLNS Chul'man 60.24 17 eP **P 11 56 10.9 -0.8**
CLNS e*PP pP 11 56 18.2 -1.3
CLNS e 11 56 56.3
CLNS eS **S 12 04 21.9 -0.5**
CLNS ePS PS 12 04 55.5 +14
CLNS e 12 05 51.7
CLNS eSSS SSS 12 10 53.3 -0.9
CLNS pmax pmax
comp=N,21nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.8s
CLNS pmax pmax
comp=Z,30nm,0.8s,mb5.4
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax
comp=Z,11nm,0.9s,mb4.9
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=N,809nm,13.8s
CLNS smax
comp=Z,257nm,11.7s
CLNS smax
comp=E,402nm,11.3s
CLNS MLR MLR
comp=Z,13μm,14.0s,MS6.2
CLNS MLR MLR
comp=N,8μm,13.0s,MS6.1
CLNS MLR MLR
comp=E,2μm,13.0s,MS6.1
YSS Yuzh-Sakhalins 60.70 34⇓iP **P 11 56 15.0 0.0**
YSS e 11 56 25.5
YSS e 11 58 30.0
YSS eS **S 12 04 28.0 -0.4**
YSS ePS PS 12 04 38.0 -9.1
YSS ePPS PPS 12 04 58.0 +2.2
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.8
YSS MLR MLR
comp=Z,4μm,18.0s,MS5.6
YSS MLR MLR
comp=N,3μm,16.0s,MS5.8
YSS MLR MLR
comp=E,4μm,17.0s,MS5.8

YSS	**Yuzh-Sakhalins**	**60.70**	**34**	*e*P	**P**	**11 56 14.7 -0.3**
	comp=E,89nm,1.0s,mb5.8					
YSS				LR	LR	
	comp=Z,5μm,19.0s,MS5.6					
YUK	**Yuzh-Kuril'sk**	**60.92**	**38**	*e*P	**P**	**11 56 22.0 +5.5**
YUK				*e*		11 58 38.0
YUK				*e*S	**S**	**12 04 41.0 +10**
YUK				*e*PS	PS	12 04 57.5 +7.5
YUK				*e*SS	SS	12 08 32.0 -0.1
YUK				pmax	pmax	
	comp=Z,2μm,2.2s					
YUK				smax		
	comp=E,3μm,8.0s					
YUK				MLR	MLR	
	comp=N,4μm,17.0s,MS5.7					
YUK				MLR	MLR	
	comp=Z,5μm,17.0s,MS5.8					
YUK				MLR	MLR	
	comp=E,2μm,16.0s,MS5.7					
MAK	**Makhachkala**	**61.37**	**320**	*e*P	**P**	**11 56 26.0 +6.4**
MAK				*e*		11 58 40.0
MAK				*e*S	**S**	**12 04 57.0 +20**
MAK				*e*		12 06 10.0
MAK				pmax	pmax	
	comp=Z,2μm,5.0s					
MSL	**Mosul**	**61.54**	**312**	*e*P	**P**	**11 56 23.5 +2.6**
MSL				*e*pP	pP	11 56 37.5 +8.9
MSL				*e*PcP	PcP	11 57 06.5 +4.2
MSL				*e*S	**S**	**12 04 34.0 -5.3**
MSL				*e*ScS	ScS	12 06 17.0 +10
GNI	**Garni**	**61.92**	**316**	P	**P**	**11 56 23.3 -0.1**
	comp=Z,10nm,0.6s,mb5.2,baz=170,slow=13,SNR=9.3					
GNI	**Garni**	**61.92**	**316**	*e*P	**P**	**11 56 21.8 -1.6**
	comp=Z,245nm,1.5s,mb6.1					
GNI				*e*PP	PP	11 58 41.6 -0.3
GNI				LR	LR	
	comp=Z,2μm,20.0s,MS5.2					
DGRG	**David-gareji**	**62.06**	**318**	P	**P**	**11 56 23.9 -0.4**
TAU	**Tasmania Unive**	**62.17**	**141**	PFAKE		11 56 40.0 +15
TAU				LR	LR	
	comp=Z,786nm,20.0s,MS4.9					
MTA	**Mtatsminda**	**62.56**	**318**	P	**P**	**11 56 26.6 -1.0**
TI2	**Plekhanov**	**62.61**	**318⇓**	*i*P	**P**	**11 56 27.4 -0.5**
TI2				*i*		11 56 32.8
TI2				*i*		11 58 53.6
TI2				*e*S	**S**	**12 04 50.6 -2.1**
TI2				*e*S	**S**	**12 04 51.2 -1.5**
TI2				pmax	pmax	
	comp=Z,40nm,0.8s,mb5.6					
TI2				pmax	pmax	
	comp=Z,1μm,1.0s					
HNR	**Honiara**	**62.98**	**101**	P	**P**	**11 56 29.3 -1.4**
	comp=Z,176nm,0.8s,mb6.2,baz=215,slow=4.1,SNR=21					
HNR	**Honiara**	**62.98**	**101**	*e*P	**P**	**11 56 29.8 -0.9**
	comp=Z,292nm,1.0s,mb6.4					
HNR				LR	LR	
	comp=Z,2μm,19.0s,MS5.2					
SVE	**Sverdlovsk**	**63.35**	**338**	*e*P	**P**	**11 56 31.5 -1.1**
SVE				*e*		11 56 45.5
SVE				*e*		11 57 11.2
SVE				*e*		12 05 03.0
SVE				*e*S	S	12 05 28.0 +26
SVE				pmax	pmax	
	comp=Z,300nm,2.7s,mb6.0					
SVE				MLR	MLR	
	comp=N,2μm,18.0s,MS5.5					
SVE				MLR	MLR	
	comp=E,2μm,18.0s,MS5.5					
SVE				MLR	MLR	
	comp=Z,5μm,18.0s,MS5.7					
BEST	**Besiri**	**63.49**	**313**	*i* P	**P**	**11 56 34.6 +0.8**
ZEI	**Tsey**	**63.63**	**319**	*e*P	**P**	**11 56 33.1 -1.6**
ZEI				*i* *PP	pP	11 56 41.6 -0.8
ZEI				*i*		11 58 52.0
ZEI				pmax	pmax	
	comp=Z,15nm,0.8s,mb5.1					
ARU	**Arti**	**63.85**	**337⇑**	*i*P	**P**	**11 56 37.4 +1.5**
ARU				*e*		11 57 09.5
ARU				*e*		11 58 54.8
ARU				*e*PPP	PPP	12 00 26.7 -3.2
ARU				*e*S	**S**	**12 05 10.1 +2.1**
ARU				*e*		12 06 30.2
ARU				*e*SS	SS	12 09 14.8 -3.1
ARU				pmax	pmax	
	comp=Z,110nm,1.4s,mb5.7					
ARU				MLR	MLR	
	comp=N,3μm,18.0s,MS5.6					
ARU				MLR	MLR	
	comp=Z,5μm,18.0s,MS5.7					
ARU				MLR	MLR	
	comp=E,2μm,19.0s,MS5.6					
ARU	**Arti**	**63.85**	**337**	*i* Pu		11 56 37.3
ARU				LR	LR	
	comp=Z,1μm,19.0s,MS5.2					
KIV	**Kislovodsk**	**64.95**	**319⇓**	*i*P	**P**	**11 56 42.6 -0.6**
KIV				*e*SS	SS	12 09 41.5 +6.0
KIV				pmax	pmax	
	comp=Z,122nm,1.2s,mb5.8					
KIV	**Kislovodsk**	**64.95**	**319**	*e*P	**P**	**11 56 41.3 -1.9**
	comp=Z,228nm,1.6s,mb6.0					
KIV				LR	LR	
	comp=Z,293nm,20.0s					
ASF	**Jabal al Asfar**	**65.04**	**305**	P	**P**	**11 56 43.0 -1.0**
	comp=Z,28nm,1.1s,mb5.2,baz=349,slow=2.6,SNR=11					
ASF				LR	LR	12 25 26.8
	comp=Z,1μm,18.3s,MS5.2,baz=120,slow=36					
GOF	**Gofitskoye**	**65.20**	**321⇓**	*i*P	**P**	**11 56 42.2 -2.7**
GOF				*i*		11 59 09.9
GOF				*i* S	S	12 05 31.6 +6.7
GOF				pmax	pmax	
	comp=Z,460nm,2.2s,mb6.1					
GOF				pmax	pmax	
	comp=Z,2μm,3.0s					
GOF				pmax	pmax	
	comp=Z,80nm,2.2s,mb5.4					
GOF				smax		
	comp=E,1μm,4.2s					
ELZG	**Elazig**	**65.39**	**313**	*i* P	**P**	**11 56 45.3 -0.9**
MALT	**Malatya**	**65.74**	**312**	*i*P	**P**	**11 56 48.1 -0.3**
YAK	**Yakutsk**	**65.93**	**16***c*	*i*P	**P**	**11 56 48.1 -1.1**
YAK				*i* S	S	12 05 35.6 +2.1
YAK				pmax	pmax	
	comp=N,9.0nm,0.9s					
YAK				pmax	pmax	
	comp=Z,65nm,0.9s,mb5.7					
YAK				pmax	pmax	
	comp=E,16nm,1.0s					
YAK				smax		
	comp=E,361nm,15.9s					
YAK				smax		
	comp=Z,175nm,20.3s					
YAK				smax		
	comp=N,374nm,17.7s					
YAK				MLR	MLR	
	comp=Z,4μm,16.0s,MS5.7					
YAK				MLR	MLR	
	comp=N,3μm,17.0s,MS5.9					
YAK				MLR	MLR	
	comp=E,6μm,17.0s,MS5.9					
YAK	**Yakutsk**	**65.93**	**16**	*e*P	**P**	**11 56 47.9 -1.3**
	comp=E,154nm,0.8s,mb6.1					
YAK				LR	LR	
	comp=Z,7μm,19.0s,MS5.9					
EIL	**Elat**	**66.01**	**302**	*e*P	**P**	**11 56 48.6 -1.7**
	comp=Z,293nm,1.6s,mb6.1					
GZT	**Gaziantep**	**66.07**	**311**	*i* P	**P**	**11 56 50.2 -0.4**
BHL	**Bhannes**	**66.52**	**307**	*e*P	**P**	**11 56 54.4 +0.9**
KAHT	**Ahir Dag**	**66.67**	**311**	*i* P	**P**	**11 56 53.0 -1.4**
MBAR	**Mbarara**	**66.74**	**269**	*e*P	**P**	**11 56 53.2 -2.1**
	comp=Z,252nm,1.8s,mb6.0					
MBAR				LR	LR	
	comp=Z,528nm,19.0s,MS4.8					
SOC	**Sochi**	**66.75**	**318⇑**	*i*P	**P**	**11 56 52.5 -2.3**
SOC				*e*		11 57 18.7
SOC				*e*		11 59 21.8
SOC				*e*PPP	PPP	12 00 53.5 -6.7
SOC				*e*S	S	12 05 40.0 -3.8
SOC				*e*		12 06 46.5
SOC				*e*SS	SS	12 09 59.8 -3.7
SOC				pmax	pmax	
	comp=Z,145nm,1.6s,mb5.8					
SOC				pmax	pmax	
	comp=N,39nm,1.4s					
SOC				pmax	pmax	
	comp=E,21nm,1.1s					
SOC				MLR	MLR	
	comp=Z,1μm,20.0s,MS5.1					
SOC				MLR	MLR	
	comp=N,663nm,17.0s,MS5.1					
SOC				MLR	MLR	
	comp=E,934nm,20.0s,MS5.1					
COBT	**Iskenderun**	**66.80**	**310**	*i* P	**P**	**11 56 54.3 -0.9**
MIR	**Mirnyy**	**67.07**	**182**	*e*P	**P**	**11 56 59.0 +2.6**
MIR				pmax	pmax	
	comp=Z,100nm,1.8s,mb5.5					
CASY	**Casey**	**67.37**	**174⇑**	*i*P	**P**	**11 56 57.8 -0.5**
CASY				LR	LR	
	comp=Z,5μm,19.0s,MS5.8					
MEST	**Erdemli**	**68.45**	**309**	*i* P	**P**	**11 57 04.8 -0.8**
AVNT	**Avonos**	**68.54**	**312**	*i* P	**P**	**11 57 05.5 -0.7**
CSS	**Prodhromos**	**68.65**	**307**	*e*P	**P**	**11 57 06.6 -0.3**
	comp=Z,242nm,1.6s,mb5.9					
ANN	**Anapa**	**68.73**	**319**	*e*P	**P**	**11 57 06.5 -0.7**
ANN				*e*		11 57 30.4
ANN				*e*S	S	12 06 10.9 +3.4
ANN				pmax	pmax	
	comp=Z,36nm,1.5s,mb5.1					
CTKT	**Corum**	**69.15**	**314**	*i* P	**P**	**11 57 09.6 -0.3**
CDAG	**Cicekdag**	**69.15**	**313**	*i* P	**P**	**11 57 08.3 -1.6**
BOYT	**Boyabat**	**69.32**	**314**	*i* P	**P**	**11 57 09.3 -1.5**
BR131	**Keskin Array S**	**69.72**	**312**	PFAKE		11 57 20.0 +6.7
BR131				LR	LR	
	comp=Z,944nm,19.0s,MS5.1					
BRTR	**Keskin Array B**	**69.72**	**312**	P	**P**	**11 57 11.4 -1.9**
	comp=Z,19nm,1.1s,mb4.9,baz=134,slow=6.8,SNR=25					
PECR	**Pechory**	**70.08**	**332**	*e*P	**P**	**11 57 17.0 +1.8**
PECR				*e*		11 57 35.0
PECR				*e*S	S	12 06 24.0 +0.9
PECR				smax		
	comp=N,1μm,7.2s					
PECR				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.5					
PECR				MLR	MLR	
	comp=N,1μm,17.0s					
ELDT	**Eldivan**	**70.10**	**313**	*i* P	**P**	**11 57 15.2 -0.4**
WAKE	**Wake Island**	**70.18**	**70**	PFAKE		11 57 30.0 +14
WAKE				LR	LR	
	comp=Z,134μm,21.0s					
SKR	**Severo-Kuril's**	**70.19**	**35**	P	**P**	**11 57 10.0 -6.0**
SKR				*e*		11 57 20.2
SKR				*e*		11 57 23.0
SKR				*e*S	S	12 06 23.0 -1.6
SKR				*e*PS	PS	12 06 50.0 -4.8
SKR				*e*SSS	SSS	12 14 05.0 +3.5
SKR				pmax	pmax	
	comp=N,70nm,0.7s					
SKR				pmax	pmax	
	comp=N,2μm,6.0s					
SKR				smax		
	comp=N,3μm,10.0s					
SKR				smax		
	comp=E,3μm,10.0s					
SKR				MLR	MLR	
	comp=N,3μm,18.0s,MS5.8					
SKR				MLR	MLR	
	comp=E,4μm,18.0s,MS5.8					
SKR				MLR	MLR	
	comp=Z,6μm,18.0s,MS5.9					
LSZ	**Lusaka**	**70.20**	**254**	*e*P	**P**	**11 57 14.8 -1.8**
LSZ				*e*		11 57 20.4
LSZ				pmax	pmax	
	comp=Z,135nm,1.8s,mb5.6					
LSZ				MLR	MLR	
	comp=Z,3μm,20.0s,MS5.5					
LSZ	**Lusaka**	**70.20**	**254**	*e*P	**P**	**11 57 14.8 -1.8**
	comp=Z,135nm,1.8s,mb5.6					
LSZ				*e*		11 57 20.4
LSZ				LR	LR	
	comp=Z,3μm,20.0s,MS5.5					
KWAJ	**Kwajalein Atol**	**70.29**	**81**	PFAKE		11 57 30.0 +13
KWAJ				LR	LR	
	comp=Z,234nm,19.0s					
ANTO	**Ankara**	**70.39**	**312**	*i*P	**P**	**11 57 17.0 -0.4**
VOR	**Voronezh**	**70.43**	**326**	*e*P	**P**	**11 57 18.5 +1.1**
VOR				pmax	pmax	
	comp=Z,280nm,1.8s,mb5.9					
VOR				pmax	pmax	
	comp=N,170nm,1.5s					
MATP	**Matopo**	**70.55**	**248**	P	**P**	**11 57 18.0 -0.7**
	comp=N,30nm,0.8s,mb5.3,baz=83,slow=5.9,SNR=50					
MATP				LR	LR	12 27 51.9
	comp=N,2μm,18.7s,MS5.3,baz=76,slow=36					
DZM	**Mont Dzumac**	**70.79**	**114**	*e*P	**P**	**11 57 20.3 +0.2**
DZM	**Mont Dzumac**	**70.79**	**114**	LR	LR	12 32 19.5
	comp=N,4μm,18.8s,MS5.6,baz=125,slow=39					
DZM	**Mont Dzumac**	**70.79**	**114**	*e*P	**P**	**11 57 20.3 +0.2**
SIM	**Simferopol'**	**71.00**	**318***c*	*i*P	**P**	**11 57 22.7 +1.7**
SIM				*e*S	S	12 06 36.4 +2.3
SIM				pmax	pmax	
	comp=Z,55nm,1.1s,mb5.4					
SGKT	**Sivrigoynuk**	**71.13**	**313**	*i* P	**P**	**11 57 22.0 +0.1**
ISP	**Isparta**	**71.58**	**310**	*e*P	**P**	**11 57 25.8 +1.2**
ESKT	**Eskisehir**	**71.74**	**312**	*i* P	**P**	**11 57 25.2 -0.4**
MA2	**Magadan**	**71.76**	**25***c*	*e*P	**P**	**11 57 25.0 -0.4**
MA2				*e*		11 57 51.0
MA2				*e*S	S	12 06 42.2 -0.4
MA2				*e*SS	SS	12 11 24.6 +4.0
MA2				pmax	pmax	
	comp=Z,30nm,1.3s,mb5.1					
MA2				MLR	MLR	
	comp=Z,14μm,22.0s,MS6.2					
MA2	**Magadan**	**71.76**	**25**	*e*P	**P**	**11 57 24.5 -0.8**
	comp=Z,137nm,1.5s,mb5.7					
MA2				LR	LR	
	comp=Z,4μm,19.0s,MS5.7					
AKAS	**Kas**	**71.91**	**308**	*i* P	**P**	**11 57 24.1 -2.6**
HENT	**Hendek**	**72.04**	**313**	*i* P	**P**	**11 57 26.3 -1.0**
MAW	**Mawson**	**72.18**	**193**	*e*P	**P**	**11 57 28.0 +0.3**
	comp=Z,13nm,0.8s,mb4.9					
MAW	**Mawson**	**72.18**	**193**	*e*P	**P**	**11 57 28.0 +0.3**
MAW				pmax	pmax	
	comp=Z,13nm,0.8s					
MAW	**Mawson**	**72.18**	**193**	P	**P**	**11 57 27.5 -0.3**
	comp=Z,15nm,0.7s,mb5.0,baz=23,slow=11,SNR=12					
MAW				LR	LR	12 26 21.9
	comp=Z,3μm,18.3s,MS5.6,baz=46,slow=33					
PET	**Petropavlovsk**	**72.58**	**34**	*e*P	**P**	**11 57 30.5 +0.2**
PET				*e*S	S	12 06 56.3 +4.2
PET				*e*SP	SP	12 07 24.3 +0.5
PET				pmax	pmax	
	comp=Z,500nm,9.4s					
PET				pmax	pmax	
	comp=Z,63nm,1.2s,mb5.4					
PET				smax		
	comp=E,1μm,4.9s					
PET				smax		
	comp=N,1μm,8.8s					
PET				smax		
	comp=N,2μm,7.5s					
PET				MLR	MLR	
	comp=Z,4μm,17.0s,MS5.8					
PET	**Petropavlovsk**	**72.58**	**34**	*e*P	**P**	**11 57 28.9 -1.4**
	comp=Z,95nm,1.2s,mb5.6					
PET				LR	LR	
	comp=Z,3μm,20.0s,MS5.6					
DNZL	**Cakiroluk**	**72.67**	**309**	*i* P	**P**	**11 57 32.5 +1.3**
MOS	**Moscow**	**72.99**	**329**	*e*P	**P**	**11 57 33.5 +0.8**
MOS				*e*PPP	PPP	12 02 04.3 +3.9
MOS				*e*S	S	12 06 56.8 +0.1
MOS				pmax	pmax	
	comp=Z,343nm,1.4s,mb6.1					
MOS				MLR	MLR	
	comp=Z,3μm,20.4s,MS5.6					
MOS				MLR	MLR	
	comp=N,5μm,24.0s,MS5.9					
MOS				MLR	MLR	
	comp=E,6μm,22.5s,MS5.9					
ULDT	**Uludag**	**73.17**	**312**	*i* P	**P**	**11 57 33.4 -0.7**
MANT	**Manisa**	**73.22**	**310**	*i* P	**P**	**11 57 36.1 +1.7**
OBN	**Obninsk**	**73.28**	**328⇓**	*i*P	**P**	**11 57 32.1 -2.3**
OBN				*i*	pP	11 57 38.9 -3.2
OBN				*i*		11 57 45.6
OBN				*i*		11 57 53.1
OBN				*e*		12 00 22.7
OBN				*i* S	S	12 07 01.3 +1.4
OBN				pmax	pmax	
	comp=Z,79nm,1.2s,mb5.5					
OBN	**Obninsk**	**73.28**	**328**	*e*P	**P**	**11 57 32.6 -1.8**
	comp=Z,213nm,1.3s,mb5.9					
OBN				LR	LR	
	comp=Z,700nm,21.0s,MS4.9					
DRV	**Dumont d'Urvil**	**73.49**	**164**	P	**P**	**11 57 48.0 +13**
DRV				SP	SP	12 07 35.0 -0.3
DRV				L		12 17 00.0
TIXI	**Tiksi**	**73.74**	**10⇑**	*i*P	**P**	**11 57 35.9 -0.8**
TIXI				LR	LR	
	comp=Z,5μm,21.0s,MS5.8					
LBTB	**Lobatse**	**73.86**	**244**	LR	LR	12 27 10.3
	comp=Z,2μm,18.5s,MS5.5,baz=94,slow=33					
LBTB	**Lobatse**	**73.86**	**244**	*e*P	**P**	**11 57 37.9 -0.5**
	comp=Z,104nm,1.4s,mb5.6					
LBTB				LR	LR	
	comp=Z,2μm,19.0s,MS5.5					
BTOK	**Tokmak**	**73.91**	**311**	*i* P	**P**	**11 57 36.9 -1.5**
KDAG	**Bornova**	**74.19**	**310**	*i* P	**P**	**11 57 39.3 -0.7**
SEY	**Seymchan**	**74.22**	**23**	*e*P	**P**	**11 57 41.5 +1.9**
SEY						11 58 02.3
SEY						12 00 27.8
SEY				*e*PPP	PPP	12 02 06.3 -5.9
SEY				*e*S	S	12 07 11.9 +1.6
SEY				*e*		12 08 00.6
SEY				*e*SS	SS	12 11 56.1 -2.2
SEY				*e*SSS	SSS	12 15 10.7 0.0
SEY				pmax	pmax	
	comp=Z,120nm,1.1s,mb5.7					
SEY				pmax	pmax	
	comp=N,40nm,1.0s					
SEY				smax		
	comp=N,3μm,18.3s					
SEY				smax		
	comp=E,1μm,23.4s					
SEY				MLR	MLR	
	comp=Z,22μm,20.0s,MS6.5					
SEY				MLR	MLR	
	comp=N,19μm,17.0s					
SEY				MLR	MLR	
	comp=E,8μm,23.0s					
PSN	**Preselentsi**	**74.72**	**315**	*e*P	**P**	**11 57 48.0 +5.1**
TIRR	**Tirgusor**	**74.75**	**316**	⇑P	**P**	**11 57 41.7 -1.4**
CFR	**Carcaliu**	**75.12**	**317**	⇓P	**P**	**11 57 43.6 -1.6**
KIS	**Kishinev**	**75.13**	**319**	*e*P	**P**	**11 57 45.0 -0.3**
KIS				*e*		11 57 57.0
KIS				*e*		12 02 25.0
KIS				*e*S	S	12 07 20.0 -0.8
KIS				*e*PS	PS	12 07 48.0 -12
KIS				*e*SS	SS	12 12 08.0 -4.5
KIS				pmax	pmax	
	comp=Z,200nm,1.0s,mb6.0					
HARR	**Harsova**	**75.14**	**316**	⇑P	**P**	**11 57 43.9 -1.5**
PRD	**Provadia**	**75.16**	**315**	*e*P	**P**	**11 57 48.5 +3.0**
APE	**Apeiranthos**	**75.28**	**308***d*	*i*P	**P**	**11 57 49.1 +2.8**
JMB	**Yambol**	**75.58**	**314**	*e*P	**P**	**11 57 52.0 +4.1**
AKASG	**Malin Array Be**	**75.91**	**322**	P	**P**	**11 57 47.8 -1.8**
	comp=Z,12nm,0.7s,mb5.0,baz=90,slow=4.5,SNR=34					
AKASG				PP	PP	12 00 41.1 -0.6
	comp=Z,0.5nm,0.4s,baz=98,slow=6.3,SNR=5.4					
SZH	**Strazhica**	**76.22**	**314**	*e*P	**P**	**11 57 55.0 +3.5**
VRI	**Vrincioaia**	**76.25**	**317**	⇑P	**P**	**11 57 51.3 -0.3**
KDZ	**Kurdzhali**	**76.25**	**313**	*e*P	**P**	**11 57 57.0 +5.3**
PVL	**Pavlikeni**	**76.63**	**314**	*e*P	**P**	**11 57 57.0 +3.2**
MLR	**Muntele Rosu**	**76.70**	**317**	P	**P**	**11 57 53.2 -0.9**
	comp=Z,55nm,1.1s,mb5.4,baz=121,slow=3.4,SNR=16					
MLR				PP	PP	12 00 51.4 +3.1
	comp=Z,29nm,1.2s,baz=49,slow=4.7,SNR=3.0					
MLR	**Muntele Rosu**	**76.70**	**317**	⇓P	**P**	**11 57 54.0 -0.1**
MLR	**Muntele Rosu**	**76.70**	**317**	⇓P	**P**	**11 57 54.0 -0.1**
RZN	**Rozhen**	**76.78**	**313**	*e*P	**P**	**11 57 57.0 +2.3**
PLD	**Plovdiv**	**76.87**	**313**	*e*P	**P**	**11 57 57.0 +1.8**
VLI	**Veliai**	**77.27**	**307**	*e*P	**P**	**11 57 48.5 -9.0**
PGB	**Panagyurishte**	**77.34**	**313**	*e*P	**P**	**11 58 00.5 +2.7**
MMB	**Musomiste**	**77.48**	**312**	*e*P	**P**	**11 58 00.0 +1.4**
BURAR	**Bucovina Array**	**77.66**	**319**	⇑P	**P**	**11 57 59.2 -0.2**
BURAR	**Bucovina Array**	**77.66**	**319**	⇑P	**P**	**11 57 59.2 -0.2**
MNK	**Minsk**	**77.81**	**326**	*e*P	**P**	**11 57 58.0 -2.1**
KKB	**Krupnik**	**78.01**	**313**	*e*P	**P**	**11 58 02.0 +0.6**
VTS	**Vitosha**	**78.05**	**313**	*e*P	**P**	**11 58 01.0 -0.6**
ITM	**Ithomi**	**78.14**	**308**	*e*P	**P**	**11 58 04.0 +1.7**
PUL	**Pulkovo**	**78.16**	**332**	*e*P	**P**	**11 58 01.8 -0.1**
PUL				*e*S	S	12 07 52.6 -0.8
PUL				pmax	pmax	
	comp=N,51nm,0.5s					
PUL				pmax	pmax	
	comp=Z,58nm,0.5s,mb5.8					
PUL				pmax	pmax	
	comp=E,122nm,0.7s					
PUL				smax		
	comp=N,363nm,9.5s					
PUL				smax		
	comp=Z,172nm,7.5s					
PUL				smax		
	comp=E,650nm,13.6s					
PUL				MLR	MLR	
	comp=Z,2μm,18.0s,MS5.5					
PUL				MLR	MLR	
	comp=N,1μm,16.0s,MS5.7					
PUL				MLR	MLR	
	comp=E,3μm,20.0s,MS5.7					
PUL	**Pulkovo**	**78.16**	**332**	*i* Pr		11 58 02.0
VAY	**Valandovo**	**78.29**	**312**	*i* P	**P**	**11 58 02.3 -0.7**
EVR	**Evrytania**	**78.49**	**310**	*e*P	**P**	**11 58 04.5 +0.3**
RPZ	**Rata Peaks**	**78.58**	**135**	LR	LR	12 33 25.6
	comp=E,6μm,20.7s,MS5.9,baz=273,slow=36					
LVV	**L'vov**	**78.91**	**321**	*e*P	**P**	**11 58 09.1 +2.9**
LVV				*e*		12 01 07.7
LVV				*e*PPP	PPP	12 02 51.3 -5.4
LVV				*e*S	S	12 08 03.3 +1.6
LVV				*e*		12 08 23.5
LVV				*e*SS	SS	12 13 04.5 -5.5
SUR	**Sutherland**	**79.06**	**237**	LR	LR	12 26 23.0
	comp=E,2μm,18.9s,MS5.4,baz=247,slow=30					
SUR	**Sutherland**	**79.06**	**237**	*e*P	**P**	**11 58 07.6 +0.2**
	comp=E,327nm,1.6s,mb6.0					
SUR				*e*	pP	11 58 14.1 -1.1
SUR				LR	LR	
	comp=Z,482nm,21.0s,MS4.8					
BOLS	**Boljevac**	**79.16**	**314⇓**	*i*P	**P**	**11 58 07.1 -0.6**
SKO	**Skopje**	**79.24**	**313**	*i* P	**P**	**11 58 08.5 +0.3**
LTZ	**Lake Taylor**	**79.27**	**134**	PN	**P**	**11 58 08.5 +0.1**
JAN	**Janina**	**79.33**	**310**	*e*P	**P**	**11 58 10.5 +1.7**
LVZ	**Lovozero**	**79.50**	**340**	*e*P	**P**	**11 58 05.3 -3.8**
LVZ				*e*S	S	12 08 05.2 -2.3
LVZ				pmax	pmax	
	comp=Z,59nm,1.1s,mb5.4					
LVZ				pmax	pmax	
	comp=N,15nm,1.3s					
LVZ				pmax	pmax	
	comp=E,22nm,1.8s					
LVZ				pmax	pmax	
	comp=Z,2μm,4.0s					
LVZ				pmax	pmax	
	comp=N,395nm,3.3s					
LVZ				pmax	pmax	
	comp=E,850nm,4.6s					
LVZ				smax		
	comp=N,528nm,9.5s					
LVZ				smax		
	comp=N,2μm,8.5s					
LVZ				smax		
	comp=Z,1μm,4.3s					
LVZ				smax		
	comp=E,626nm,4.0s					
LVZ				MLR	MLR	
	comp=Z,3μm,20.0s,MS5.7					
LVZ				MLR	MLR	
	comp=N,2μm,16.0s,MS5.6					
LVZ				MLR	MLR	
	comp=E,2μm,20.0s,MS5.6					
SYO	**Syowa Base**	**79.51**	**198**	⇓P	**P**	**11 58 09.0 -0.1**
SYO	**Syowa Base**	**79.51**	**198**	⇓PcP	PcP	11 58 15.0 -2.4
THZ	**Tophouse**	**79.55**	**133**	PN	**P**	**11 58 10.4 +0.6**
BZS	**Buzias**	**79.70**	**316**	⇑P	**P**	**11 58 10.1 -0.5**
KWP	**Kalwaria**	**79.71**	**320**	*e*P	**P**	**11 58 10.7 +0.1**
KWP				*e*		11 58 13.8
KWP	**Kalwaria**	**79.71**	**320**	*e*P	**P**	**11 58 10.7 +0.1**
KWP				*e*		11 58 13.8
KWP				MLR	MLR	12 42 15.1
	comp=E,2μm,22.4s,MS5.3					
SVIS	**Svilajnac**	**79.76**	**315**	*e*P	**P**	**11 58 07.7 -3.3**
UZH	**Uzhgorod**	**79.79**	**319***c*	*i*P	**P**	**11 58 12.0 +1.0**
UZH				*e*S	S	12 08 08.0 -3.0
APA	**Apatity**	**79.79**	**339⇑**	*i*P	**P**	**11 58 11.4 +0.8**
APA				*i* S	S	12 08 13.0 +2.4
APA				*e*		12 08 35.0
APA				*e*SS	SS	12 13 21.0 -1.8

APA pmax pmax
comp=Z,130nm,1.3s,mb5.7
KOLS Kolonicke sedl 79.86 320 *i* P **P 11 58 12.1 +0.7**
GRUS Gruza 80.06 314⇑*i*P **P 11 58 11.4 -1.2**
KEK Kerkira 80.14 310 *e*P **P 11 58 11.9 -1.2**
SUW Suwalki 80.33 325 *e*P **P 11 58 12.8 -1.0**
SUW *e* 11 58 16.3
SUW MLR MLR 12 41 28.7
comp=Z,2µm,19.9s,MS5.4
CRVS Cervenica-Dubn 80.38 320 *e*P **P 11 58 18.7 +4.6**
CRVS *e* 11 58 24.4
CRVS Cervenica-Dubn 80.38 320 *e* P **P 11 58 18.7 +4.6**
CRVS *es*P sP 11 58 24.4 -0.2
PVY Plav 80.40 313⇓*i*P **P 11 58 16.0 +1.6**
IVA Berane 80.50 313⇓*i*P **P 11 58 16.8 +1.8**
HIZ Hauiti 80.50 129 PN **P 11 58 15.8 +0.8**
DIVS Divcibare 80.61 315⇓*i*P **P 11 58 14.6 -0.8**
TSUM Tsumeb 80.64 251 LR LR 12 32 18.3
comp=Z,1µm,18.5s,MS5.2,baz=319,slow=34
TSUM Tsumeb 80.64 251 *e*P **P 11 58 16.3 +0.1**
comp=Z,73nm,1.3s,mb5.5
TSUM *e*pP pP 11 58 22.1 -1.9
TSUM LR LR
comp=Z,2µm,19.0s,MS5.4
FINES FINESS Array B 80.66 333 P **P 11 58 13.8 -1.6**
comp=Z,8.2nm,0.7s,mb4.8,baz=104,slow=7.9,SNR=15
FINES LR LR 12 39 32.6
comp=Z,2µm,21.2s,MS5.5,baz=128,slow=40
KAF Kangasniemi 80.75 333 *e*p **P 11 58 15.0 -0.8**
comp=Z,10nm,0.7s,mb4.9,baz=103,slow=4.9
KAF Kangasniemi 80.75 333 *e*P **P 11 58 15.0 -0.8**
KAF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SNZO South Karori 80.81 132 PFAKE 11 58 30.0 +13
SNZO LR LR
comp=Z,8µm,21.0s,MS6.1
ULC Ulcinj 80.85 312⇓*i*P **P 11 58 15.7 -1.1**
TTG Podgorica 80.90 313⇓*i*P **P 11 58 16.0 -1.0**
PLE Pljevlja 80.93 314⇓*i*P **P 11 58 18.4 +1.3**
KECS Kecovo 80.94 319 *e*P **P 11 58 20.2 +3.1**
BBLS Bajina Basta - 80.99 314⇓*i*P **P 11 58 17.1 -0.4**
NKY Niksic 81.15 313⇓*i*P **P 11 58 16.6 -1.7**
NIE Niedzica 81.21 320 *e*P **P 11 58 17.2 -1.3**
PSZ Piszkesteto 81.24 318 P **P 11 58 18.8 +0.1**
PSZ pmax pmax
comp=Z,230nm,1.5s,mb5.9
PSZ Piszkesteto 81.24 318 *e*P **P 11 58 18.3 -0.4**
comp=Z,232nm,1.5s,mb5.9
PSZ Piszkesteto 81.24 318 *e*P **P 11 58 21.9 +3.2**
UPM Unac-Piva 81.26 314⇓*i*P **P 11 58 17.7 -1.2**
HCY Herceg Novi 81.47 313⇓*i*P **P 11 58 21.3 +1.3**
BILL Bilibino 81.64 21⇑*e*P **P 11 58 21.4 +1.0**
BILL *i* 11 58 35.4
BILL *e* 12 01 31.8
BILL *i* S S 12 08 34.0 +4.3
BILL *i* PPS PPS 12 09 41.8 -0.4
BILL *i* SS SS 12 13 53.1 +2.6
BILL pmax pmax
comp=Z,26nm,1.5s,mb4.9
BILL Bilibino 81.64 21 *e*P **P 11 58 19.9 -0.5**
comp=Z,16nm,1.1s,mb4.8
BILL LR LR
comp=Z,5µm,20.0s,MS5.8
OJC Ojcow 81.67 321 *e*P **P 11 58 20.6 -0.3**
OJC *i* PcP PcP 11 58 26.6 -0.6
BUD Budapest 81.76 318 *e*P **P 11 58 23.4 +2.0**
PKSM Moragy 81.85 317⇑P **P 11 58 21.3 -0.6**
VYHS Vyhne 82.03 319 *e*P **P 11 58 24.1 +1.3**
VYHS *es* S 12 08 41.1 +6.9
URZ Urewera 82.22 129 LR LR 12 37 01.5
comp=Z,4µm,19.2s,MS5.8,baz=100,slow=37
SRO Srobarova 82.28 318 *e*P **P 11 58 26.2 +2.1**
TIP Timpagrande 82.42 309 *e*P **P 11 58 25.0 0.0**
GRI Girifalco 82.66 309 *e*P **P 11 58 27.8 +1.6**
OKC Ostrava-Krasne 82.66 320 *e*P **P 11 58 26.5 +0.5**
OKC *e* 11 58 32.0
OKC *es* S 12 08 43.1 +2.5
OKC Ostrava-Krasne 82.66 320 *e*P **P 11 58 26.5 +0.5**
OKC *e*pP pP 11 58 32.0 -2.0
OKC *es* S 12 08 43.1 +2.5
OKC AMS AMS 12 44 40.0
comp=Z,1µm,21.9s
ORI Oriolo Calabro 82.75 310 *e*P **P 11 58 31.3 +4.6**
KEV Kevo 82.77 341 *e*p **P 11 58 24.6 -1.6**
SOI Samo 82.88 308 *e*P **P 11 58 31.4 +4.0**
MORC Moravsky Berou 83.04 320 P **P 11 58 28.4 +0.4**
MORC pmax pmax
comp=Z,200nm,1.6s,mb5.9
MORC Moravsky Berou 83.04 320 *e*P **P 11 58 27.5 -0.5**
comp=Z,199nm,1.6s,mb5.9
ZST Bratislava 83.14 318 *e*P **P 11 58 28.8 +0.3**
ZST *e* 11 58 34.3
ZST *es* S 12 08 53.1 +7.7
ZST Bratislava 83.14 318 *es* S 12 08 53.1 +7.7
ZST *eL* 12 43 39.1
ARCES ARCESS Array B 83.20 340 P **P 11 58 28.5 +0.1**
comp=Z,18nm,0.8s,mb5.2,baz=90,slow=4.9,SNR=23
FGMS Monte Sant'Ang 83.27 312 *e*P **P 11 58 28.5 -0.8**
SISC Sisak 83.33 316 *i* P **P 11 58 30.2 +0.6**
SLCN Sala Consilina 83.40 310 *e*P **P 11 58 30.9 +0.8**
MGR Morigerati 83.44 310 *e*P **P 11 58 29.6 -0.7**
SOP Sopron 83.44 318 *e*P **P 11 58 21.5 -8.6**
KOGS Kog 83.52 317 *e*P **P 11 58 30.8 +0.2**
MRLC Muro Lucano 83.54 311 *e*P **P 11 58 31.5 +0.7**
FG4 Candela 83.55 311 *e*P **P 11 58 31.8 +1.0**
SGO Sicignano 83.66 311 *e*P **P 11 58 32.8 +1.4**
DPC Dobruska-Polom 83.89 320 *e*P **P 11 58 32.9 +0.5**
DPC *e*pP pP 11 58 38.7 -1.6
DPC *es* S 12 08 53.2 +0.2
DPC AMS AMS 12 42 50.0
comp=Z,2µm,18.3s
CSSN Cassano Irpino 83.90 311 *e*P **P 11 58 32.7 +0.1**
MNO Monte Soro 83.94 308 *e*P **P 11 58 34.6 +1.7**
KSP Ksiaz 83.97 321 *e*P **P 11 58 32.6 -0.1**
KSP *e*PcP PcP 11 58 36.4 -0.7
KSP LR LR
comp=Z,5µm,17.4s,MS6.0
KSP Ksiaz 83.97 321 *e*P **P 11 58 33.8 +1.0**
KSP *e* 11 58 36.7
KSP MLR MLR 12 44 06.8
comp=Z,4µm,17.4s,MS5.9
ARSA Arzberg 84.10 317⇑*i*P **P 11 58 33.7 +0.2**
comp=Z,114nm,1.4s,mb5.8
UPC Upice 84.11 321 *e*P **P 11 58 33.9 +0.5**
UPC *e*pP pP 11 58 40.2 -1.2
BOJS Bojanci 84.12 316 *e*P **P 11 58 33.3 -0.3**
LJU Ljubljana 84.67 316 *e*P **P 11 58 36.5 +0.1**
OBKA Obir 84.69 316⇑*i*P **P 11 58 36.6 +0.1**
comp=Z,84nm,1.4s,mb5.7
SDI San Donato 84.87 312 *e*P **P 11 58 37.4 -0.1**
PRU Pruhonice 85.00 320 *e*P **P 11 58 38.0 +0.1**
PRU *e*pP pP 11 58 43.7 -2.1
PRU *es* S 12 09 03.8 -0.1
PRU AMS AMS 12 43 40.0
comp=Z,2µm,18.4s
MOA Molln 85.00 318⇓*i*P **P 11 58 37.9 0.0**
comp=Z,67nm,1.7s,mb5.5
PVCC Panska Ves 85.03 321 *e*P **P 11 58 38.6 +0.6**
PVCC *e*pP pP 11 58 44.9 -1.1
PVCC AMS AMS 12 44 40.0
comp=Z,2µm,17.6s
VOY Vojsko 85.11 316 *e*P **P 11 58 38.0 -0.6**
VOY *e* 11 58 43.4
USI Ustica 85.17 309 *e*P **P 11 58 38.6 -0.5**
VNDA Vanda 85.17 169 LR LR 12 34 56.6
comp=Z,3µm,18.4s,MS5.7,baz=303,slow=34
TRI Trieste 85.18 316 *e*P **P 11 58 38.1 -0.8**
PTQR Pietraquaria 85.20 312 *e*P **P 11 58 42.9 +3.8**
AQU L'Aquila 85.22 312⇓P **P 11 58 40.2 +1.0**
BSD Bornholm Skovb 85.25 325 *e*P **P 11 58 43.9 +4.9**
BSD pmax pmax
comp=Z,84nm,1.3s,mb5.7
BSD MLR MLR
comp=Z,1µm,17.0s,MS5.3
BSD Bornholm Skovb 85.25 325 *i* P **P 11 58 43.9 +4.9**
comp=Z,84nm,1.3s,mb5.7
ROBS Robic 85.39 316 *e*P **P 11 58 39.2 -0.7**
GEC2 GERESS Array S 85.45 319 *e*P **P 11 58 40.4 +0.2**
GEC2 pmax pmax
comp=Z,240nm,1.5s,mb6.1
GEC2 GERESS Array S 85.45 319 *e*P **P 11 58 40.4 +0.2**
comp=Z,240nm,1.5s,mb6.1
GERES GERESS Array B 85.45 319 P **P 11 58 39.9 -0.3**
comp=Z,20nm,1.0s,mb5.2,baz=90,slow=4.0,SNR=45
BRG Berggiesshubel 85.45 321 *e*P **P 11 58 40.3 +0.2**
BRG *i* 12 09 03.0
BRG pmax pmax
comp=Z,152nm,1.6s,mb5.9
BRG MLR MLR
comp=N,1µm,16.2s,MS5.7
BRG MLR MLR
comp=E,2µm,16.2s,MS5.7
BRG MLR MLR
comp=Z,3µm,16.2s,MS5.7
BRG Berggiesshubel 85.45 321 *e*P **P 11 58 40.3 +0.2**
comp=Z,152nm,1.6s,mb5.9
BRG *i* 11 58 43.8
BRG *e* 12 01 36.9
BRG *i* 12 09 03.0
BRG LR LR
comp=Z,3µm,16.2s,MS5.7
NRCA Norcia 85.46 313 *e*P **P 11 58 40.5 +0.1**
TRO Tromso 85.47 340 *e*P **P 11 58 38.9 -0.9**
TRO *es* S 12 09 07.0 -0.9
TRO AMS AMS 12 40 08.2
comp=Z,2µm,26.3s,MS5.3
PTCC Patocco-Chiusa 85.51 316 *e*P **P 11 58 40.4 -0.2**
KHC Kasperske Hory 85.55 319 *e*P **P 11 58 40.7 0.0**
KHC *e*pP pP 11 58 46.2 -2.4
KHC *es* S 12 09 09.5 +0.2
KHC AMS AMS 12 44 50.0
comp=Z,1µm,18.4s
KBA Koelnbreinsper 85.56 317⇑*i*P **P 11 58 40.2 -0.6**
comp=Z,44nm,1.4s,mb5.5
KBA Koelnbreinsper 85.56 317⇑*i*P **P 11 58 40.2 -0.6**
KBA pmax pmax
comp=Z,45nm,1.4s,mb5.5
RAO Raoul Island 85.58 119 LR LR 12 42 19.9
comp=Z,2µm,18.2s,MS5.6,baz=312,slow=39
RAO Raoul Island 85.58 119 PFAKE 11 58 50.0 +8.7
RAO LR LR
comp=Z,3µm,20.0s,MS5.7
GMNA Gemona 85.58 316 *e*P **P 11 58 40.8 -0.1**
SNTG Esanatoglia 85.61 313 *e*P **P 11 58 41.5 +0.4**
ARV Arcevia 85.62 313 *e*P **P 11 58 41.5 +0.4**
RUE Ruedersdorf 85.68 322 *e*P **P 11 58 40.1 -1.1**
comp=Z,327nm,1.5s,mb6.3
MNS Montasola 85.75 312 *e*P **P 11 58 42.2 +0.3**
FSSB Fossombrone 85.75 314 *e*P **P 11 58 42.5 +0.7**
ASS Assisi 85.81 313 *e*P **P 11 58 43.2 +1.1**
RSM Repubblica di 86.00 314 *e*P **P 11 58 44.2 +1.1**
WET Wettzell 86.01 319 *e*P **P 11 58 42.9 -0.1**
WET pmax pmax
comp=Z,164nm,1.6s,mb6.0
WET Wettzell 86.01 319 *e*P **P 11 58 42.9 -0.1**
comp=Z,164nm,1.6s,mb6.0
CLL Collm 86.08 321 *i* P **P 11 58 43.1 -0.1**
CLL *i* 11 58 48.6
CLL *es* S 12 09 18.0 +3.7
CLL pmax pmax
comp=Z,90nm,1.5s,mb5.8
CLL MLR MLR
comp=Z,3µm,19.3s,MS5.7
CLL Collm 86.08 321 *i* P **P 11 58 43.1 -0.1**
comp=Z,90nm,1.5s,mb5.8
CLL *i* 11 58 48.6
CLL *es* S 12 09 18.0 +3.7
CLL LR LR
comp=Z,3µm,19.3s,MS5.7
CLL Collm 86.08 321 P **P 11 58 43.1 -0.1**
CLL *i* 11 58 48.6
CLL *e* 12 01 32.0
CLL *es* S 12 09 18.0 +3.7
SBA Scott Base 86.28 169 *e*P **P 11 58 44.2 +0.5**
comp=Z,231nm,1.9s,mb6.1
SBA LR LR
comp=Z,3µm,19.0s,MS5.7
NKC Novy Kostel 86.36 320 *e*P **P 11 58 42.9 -1.8**
NKC *e*pP pP 11 58 48.9 -3.7
NKC AMS AMS 12 44 30.0
comp=Z,2µm,17.8s
HFS Hagfors 86.38 330 P **P 11 58 43.5 -1.0**
comp=Z,26nm,1.1s,mb5.4,baz=108,slow=4.7,SNR=12
SFI Santa Sofia 86.44 314 *e*P **P 11 58 46.4 +1.2**
PGD Poggio Sodo 86.53 314 *e*P **P 11 58 47.5 +1.9**
VMG Vicchio 86.66 314 *e*P **P 11 58 47.5 +1.2**
CTI Castel Tesino 86.67 316 *e*P **P 11 58 46.6 +0.3**
COP Copenhagen 86.71 326 *e*P **P 11 58 55.7 +9.5**
COP Copenhagen 86.71 326 *i* P **P 11 58 55.7 +9.5**
WTTA Wattenberg 86.74 317⇑*i*P **P 11 58 46.0 -0.6**
comp=Z,79nm,1.4s,mb5.8
WTTA Wattenberg 86.74 317⇑*i*P **P 11 58 46.0 -0.6**
WTTA pmax pmax
comp=Z,79nm,1.4s,mb5.8
WATA Walderalm 86.78 317⇑*i*P **P 11 58 45.8 -1.0**
comp=Z,96nm,1.5s,mb5.8
WATA Walderalm 86.78 317⇑*i*P **P 11 58 45.8 -1.0**
WATA pmax pmax
comp=Z,96nm,1.5s,mb5.8
MOX Moxa 86.91 321 *e*P **P 11 58 46.5 -0.9**
MOX pmax pmax
comp=Z,183nm,2.0s,mb6.0
MOX MLR MLR
comp=Z,2µm,19.0s,MS5.6
MOX Moxa 86.91 321 *e*P **P 11 58 46.5 -0.9**
comp=Z,183nm,2.0s,mb6.0
MOX LR LR
comp=Z,2µm,19.0s,MS5.6
MOX Moxa 86.91 321 *i* P **P 11 58 46.5 -0.9**
comp=Z,logA/T=2.0,mb6.0
MOX L 12 46 25.0
SQTA Sankt Quirin 87.03 317⇑*i*P **P 11 58 47.7 -0.3**
comp=Z,154nm,1.9s,mb5.9
SQTA Sankt Quirin 87.03 317⇑*i*P **P 11 58 47.7 -0.3**
SQTA pmax pmax
comp=Z,154nm,1.9s,mb5.9
GRFL Gerfalco 87.04 313 *e*P **P 11 58 47.9 -0.3**
ZCCA Zocca 87.08 314 *e*P **P 11 58 46.9 -1.4**
MOTA Moosalm 87.10 317⇑*i*P **P 11 58 47.1 -1.3**
GRA1 Grafenberg Arr 87.12 320 *e*P **P 11 58 48.8 +0.4**
comp=Z,268nm,1.7s,mb6.2
GRA1 LR LR
comp=Z,2µm,18.6s,MS5.6
GRF Grafenberg Arr 87.12 320 *e*P **P 11 58 48.8 +0.4**
GRF pmax pmax
comp=Z,268nm,1.7s,mb6.2
GRF MLR MLR
comp=Z,2µm,18.6s,MS5.6
GRF Grafenberg Arr 87.12 320 *e*P **P 11 58 48.8 +0.4**
comp=Z,268nm,1.7s,mb6.2
GRF LR LR
comp=Z,2µm,18.6s,MS5.6
GSCL Gusciola 87.36 314 *e*P **P 11 58 50.5 +0.8**
SAL Salo 87.44 315 *e*P **P 11 58 51.8 +1.7**
SARO Sassorosso 87.49 314 P **P 11 58 51.2 +0.9**
NSS Namsos 87.53 334 *e*P **P 11 58 49.0 -1.0**
NSS AMS AMS 12 45 09.0
comp=Z,3µm,16.3s,MS5.8
BRMO Bormio 87.57 316 *e*P **P 11 58 51.2 +0.6**
NB2 NORSAR Subarra 87.67 331 P **P 11 58 50.3 -0.4**
comp=Z,199nm,1.7s,mb6.1,baz=95,slow=4.8
NB2 NORSAR Subarra 87.67 331 P **P 11 58 50.3 -0.4**
baz=95,slow=4.8
NOA NORSAR Array B 87.67 331 P **P 11 58 49.9 -0.8**
comp=Z,8.7nm,0.8s,mb5.1,baz=95,slow=4.8,SNR=27
NOA LR LR 12 42 24.4
comp=Z,3µm,20.3s,MS5.6,baz=95,slow=38
NOA NORSAR Array B 87.67 331 P **P 11 58 49.9 -0.8**
NOA LR LR 12 42 24.4
BACM 87.73 314 P **P 11 58 52.6 +1.2**
CLZ Clausthal 87.74 322 *e*P **P 11 58 51.6 +0.3**
comp=Z,216nm,1.6s,mb6.1
NAO01 NORSAR Array S 87.82 331 P **P 11 58 50.6 -0.9**
comp=Z,78nm,1.4s,mb5.8
NAO01 *e*pP pP 11 58 57.0 -2.4
BSEG Bad Segeberg 87.85 324 *e*P **P 11 58 52.4 +0.6**
BSEG pmax pmax
comp=Z,243nm,1.4s,mb6.2
DAVA Damuels 87.93 317⇑*i*P **P 11 58 52.4 +0.1**
comp=Z,87nm,1.4s,mb5.8
VSL Villasalto 88.16 309 *e*P **P 11 58 49.6 -4.0**
comp=Z,111nm,1.7s,mb5.8
KONO Kongsberg 88.42 329 *e*P **P 11 58 56.7 +2.3**
KONO Kongsberg 88.42 329 *e*P **P 11 58 53.1 -1.2**
comp=Z,202nm,1.6s,mb6.1
KONO LR LR
comp=Z,4µm,19.0s,MS5.8
PGF Pioggiola 88.48 312 *e*P **P 11 58 54.4 -0.7**
comp=Z,233nm,1.7s,mb5.8
MUD Monsted U'grnd 88.57 326 *i* P **P 11 59 00.1 +4.9**
MUD pmax pmax
comp=Z,79nm,1.2s,mb5.9
MUD MLR MLR
comp=Z,1µm,17.0s,MS5.4
MUD Monsted U'grnd 88.57 326 *i* P **P 11 59 00.1 +4.9**
comp=Z,79nm,1.2s,mb5.9
comp=Z,1µm,17.0s
VAI Varese 88.68 316 *e*P **P 11 58 58.4 +2.5**
PCP Pian Castagno 88.83 314 P **P 11 58 56.4 -0.2**
TNS Taunus Mts 88.93 320 *e*P **P 11 58 57.8 +0.8**
TNS pmax pmax
comp=Z,170nm,1.6s,mb6.1
TNS Taunus Mts 88.93 320 *e*P **P 11 58 57.8 +0.8**
comp=Z,170nm,1.6s,mb6.1
FIN Finale Ligure 89.06 314 *e*P **P 11 58 57.8 0.0**
NVL N'lazarevskaya 89.11 199 *e*P **P 11 58 55.6 -1.8**
NVL *e* 12 09 27.4
NVL MLR MLR
comp=Z,5µm,23.1s,MS5.8
MAIT Maitri 89.14 199 *e*P **P 11 58 59.8 +2.2**
MCGN Macugnaga 89.22 316 *e*P **P 11 58 59.3 +0.8**
IMI Imperia 89.30 314 *e*P **P 11 58 59.1 +0.1**
ROB Roburent 89.31 314 P **P 11 58 58.4 -0.5**
LANF Langenberg 89.34 319 *e*P **P 11 58 59.1 +0.1**
MONE Monesi 89.39 314 P **P 11 59 00.0 +0.6**
TRAV 89.39 315 P **P 11 58 59.3 -0.1**
NEGI Negi 89.43 314 P **P 11 58 59.4 -0.1**
LIBD Limburg 89.48 318 *e*P **P 11 59 00.3 +0.6**
ABH Alteburg 89.51 320 *e*P **P 11 59 00.8 +1.0**
SAOF Saorge 89.54 314 *e*P **P 11 59 00.7 +0.6**
SBF Sospel 89.62 314 *e*P **P 11 58 59.7 -0.8**
comp=Z,333nm,1.5s,mb6.2
AUTN L'Aution 89.63 314 *e*P **P 11 59 01.2 +0.7**
WLS Welschbruch 89.64 318 *e*P **P 11 59 01.2 +0.7**
CDF Champ du Feu 89.69 318 *e*P **P 11 58 59.9 -0.8**
comp=Z,216nm,1.8s,mb5.9
CMAH Djebel Manchou 89.69 306 P **P 11 59 08.0 +7.0**
STV2 Anna di Valdie 89.70 314 P **P 11 59 00.9 0.0**
RSP Reno Superiore 89.74 315 P **P 11 59 00.6 -0.4**
TOUF Mont Tournerai 89.76 314 *e*P **P 11 59 01.7 +0.6**
ECH Echery 89.78 318 *e*P **P 11 59 01.4 +0.3**
LSD Ceresole Reale 89.81 315 P **P 11 59 01.2 -0.1**
RUP Ruppelstein 89.82 320 *e*P **P 11 59 02.0 +0.7**
PZZ Prazzo 89.86 314 P **P 11 59 01.6 +0.1**
FENE Fenestrelle 89.88 315 P **P 11 59 01.3 -0.4**
WTSB Winterswijk 89.96 322⇑*e*P **P 11 59 05.6 +3.8**
comp=Z,138nm,1.7s,mb6.0
HINF Hinteralfeld 89.99 318 *e*P **P 11 59 01.0 -1.1**
comp=Z,262nm,1.9s,mb5.9
LOMF Lomont 90.01 317 *e*P **P 11 59 01.4 -0.8**
CALN Calern 90.02 314 *e*P **P 11 59 03.3 +1.0**
RRL Cesana Torines 90.08 315 P **P 11 59 02.4 -0.2**
MBDF Montbardon 90.09 315 *e*P **P 11 59 01.4 -1.2**
comp=Z,61nm,1.3s,mb5.5
LPG La Plagne 90.09 315 *e*P **P 11 59 02.3 -0.3**
comp=Z,88nm,1.0s,mb5.7
LPL La Plagne 90.11 315 *e*P **P 11 59 02.3 -0.4**
comp=Z,238nm,1.5s,mb6.0
BNI Bardonecchia 90.15 315 P **P 11 59 02.5 -0.4**
BNI pmax pmax
comp=Z,73nm,1.4s,mb5.8
BNI Bardonecchia 90.15 315 *e*P **P 11 59 01.8 -1.1**
comp=Z,73nm,1.4s,mb5.8
FRF La Foret Royal 90.20 313 *e*P **P 11 59 02.6 -0.6**
comp=Z,463nm,1.6s,mb6.3
CKFL Kef-Lekhel 90.26 306 P **P 11 59 10.5 +6.9**
CKFL P 11 59 14.0
LMR La Mourre 90.30 313 *e*P **P 11 59 03.0 -0.7**
comp=Z,221nm,1.6s,mb6.0
HAU Haudompre 90.32 318 *e*P **P 11 59 02.7 -0.9**
comp=Z,312nm,1.5s,mb6.1
HAU *e*R
comp=Z,1µm,17.2s
WLF Walferdange 90.41 319 P **P 11 59 08.2 +4.2**
WLF pmax pmax
comp=Z,200nm,1.5s,mb6.2
WLF Walferdange 90.41 319 *e*P **P 11 59 03.2 -0.7**
comp=Z,197nm,1.5s,mb6.2
CASM Ain Smara 90.45 306 P **P 11 59 11.5 +7.0**
CTEI Djebel Teioual 90.52 306 P **P 11 59 12.0 +7.2**
HGN Heimansgroeve 90.53 321⇑*e*P **P 11 59 08.1 +3.6**
comp=Z,5.5nm,0.1s,mb5.7
CABF La Chapelle 90.53 316 *e*P **P 11 59 04.3 -0.3**
comp=Z,402nm,1.6s,mb6.2
QSPA South Pole Qui 90.53 180 *e*P **P 11 59 04.2 +0.3**
comp=Z,2.2nm,2.5s
QSPA *e*pP pP 11 59 10.7 -1.1
QSPA LR LR
comp=Z,4µm,20.0s
GDM Grand'Maison 90.55 315 *e*P **P 11 59 05.9 +1.2**
BER Bergen 90.56 330 AMS AMS 12 49 30.8
comp=Z,2µm,18.4s,MS5.7
THEF They Montfort 90.56 318 *e*P **P 11 59 04.0 -0.7**
TAVF Tavernes 90.63 313 *e*P **P 11 59 05.7 +0.6**
ORIF Oris-en-Rattie 90.72 315 *e*P **P 11 59 05.2 -0.3**
comp=Z,286nm,1.5s,mb6.1
ORIF *e*R
comp=Z,2µm,21.5s
STOF St-Etienne Org 90.72 314 *e*P **P 11 59 06.9 +1.3**
VILF Villemus 90.87 314 *e*P **P 11 59 07.1 +0.9**
AFI Afiamalu 90.87 104 PFAKE 11 59 20.0 +13
AFI LR LR
comp=Z,1µm,21.0s,MS5.4
SMRF Simiane la Rot 90.97 314 *e*P **P 11 59 06.8 +0.1**
comp=Z,251nm,1.6s,mb6.0
GELF Grande-Etoile 91.09 313 *e*P **P 11 59 09.0 +1.7**
TREF Trevaresse 91.11 313 *e*P **P 11 59 08.6 +1.2**
MEZF Maizieres J'vi 91.17 318 *e*P **P 11 59 07.1 -0.4**
comp=Z,368nm,1.5s,mb6.2
GIVF Givet 91.26 320 *e*P **P 11 59 07.5 -0.4**
comp=Z,266nm,1.7s,mb6.0
PRAF Pradon 91.26 314 *e*P **P 11 59 08.5 +0.4**
SET Setif 91.33 306 P **P 11 59 15.0 +6.4**
TNA Tin City 91.38 25 *e*P **P 11 59 08.2 +0.1**
comp=Z,1.5nm,0.8s
TNA *e*pP pP 11 59 16.7 +0.6
TNA LR LR
comp=Z,2µm,19.0s
VIVF Saint-Julien-l 91.58 315 *e*P **P 11 59 09.0 -0.5**
comp=Z,216nm,1.5s,mb6.0
BAIF Baives 91.66 320 *e*P **P 11 59 09.6 -0.1**
comp=Z,328nm,1.4s,mb6.2
SMF Signal de Mont 92.08 317 *e*P **P 11 59 11.1 -0.6**
comp=Z,298nm,1.5s,mb6.1
LASF Ste Croix 92.20 314 *e*P **P 11 59 12.2 -0.1**
comp=Z,322nm,1.6s,mb6.1
PLDF La Plantade 92.27 316 *e*P **P 11 59 12.6 0.0**
SSF Saint Saulge 92.28 317 *e*P **P 11 59 12.3 -0.4**
comp=Z,361nm,1.7s,mb6.1
AVF Avril sur Loir 92.41 317 *e*P **P 11 59 12.6 -0.6**
comp=Z,281nm,1.5s,mb6.1
LBL Lubilhac 92.57 315 *e*P **P 11 59 14.0 0.0**
AGO Saint Agoulin 92.60 316 *e*P **P 11 59 14.2 +0.1**
BGF Bois d'Agland 92.77 316 *e*P **P 11 59 14.7 -0.2**
comp=Z,420nm,1.5s,mb6.3
HYF Humbligny 92.86 317 *e*P **P 11 59 15.3 0.0**
VERF Verneugheol 93.07 316 *e*P **P 11 59 17.2 +0.9**
UNV Unalaska Valle 93.10 36 PFAKE 11 59 30.0 +14
UNV LR LR
comp=Z,6µm,22.0s,MS6.0
TCF Toulx Ste Croi 93.22 316 *e*P **P 11 59 16.7 -0.3**
comp=Z,216nm,1.7s,mb6.0
CAF Calviac 93.43 315 *e*P **P 11 59 18.0 0.0**
comp=Z,164nm,1.5s,mb5.9
MTLF Montolieu 93.43 313 *e*P **P 11 59 17.8 -0.2**
comp=Z,293nm,1.8s,mb6.1
RJF Les Rejaudoux 93.78 315 *e*P **P 11 59 19.7 +0.1**
comp=Z,286nm,1.8s,mb6.1
RJF *e*R
comp=Z,1µm,19.0s
SNAA Sanae 93.80 198 LR LR 12 33 02.9
comp=Z,642nm,21.8s,MS5.0,baz=68,slow=30
LFF La Frestale 94.36 315 *e*P **P 11 59 22.3 0.0**
comp=Z,239nm,1.7s,mb6.0
LDF La Druitiere 94.59 319 *e*P **P 11 59 22.9 -0.3**
JMIC Jan Mayen 94.63 342 AMS AMS 12 49 26.7
comp=Z,1µm,12.8s,MS5.6
FLN La Foliniere 94.81 319 *e*P **P 11 59 23.6 -0.7**
comp=Z,134nm,1.4s,mb5.9
FLN *e*R
comp=Z,2µm,21.0s
MFF Saint Martin d 94.82 317 *e*P **P 11 59 23.8 -0.5**
comp=Z,147nm,1.5s,mb5.9

EPF	**Esparros**	**94.83**	**313**	*e*P	**P**	**11 59 23.6**	**-0.9**
GRR	**Gorron**	**95.11**	**319**	*e*P	**P**	**11 59 24.9**	**-0.7**
	comp=Z,172nm,1.6s,mb5.9						
DAG	**Danmarks Havn**	**95.25**	**348**	*e*P	**P**	**11 59 25.2**	**-0.5**
DAG				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.6						
DAG				MLR	MLR		
	comp=N,2μm,20.0s,MS5.6						
DAG				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.7						
DAG				MLR	MLR		
	comp=E,1μm,18.0s,MS5.6						
DAG	**Danmarks Havn**	**95.25**	**348**	*e*P	**P**	**11 59 25.2**	**-0.5**
	comp=E,31nm,1.3s,mb5.6						
DAG				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
DAG	**Danmarks Havn**	**95.25**	**348**	*i*P	**P**	**11 59 25.2**	**-0.5**
	comp=Z,31nm,1.3s,mb5.6						
	comp=Z,3μm,20.0s						
ETSF	**Etsaut**	**95.50**	**313**	*e*P	**P**	**11 59 27.4**	**-0.1**
	comp=Z,40nm,1.3s,mb5.4						
ESK	**Eskdalemuir**	**95.60**	**326**	PFAKE		11 59 40.0	+12
ESK				LR	LR		
	comp=Z,740nm,19.0s,MS5.2						
SJPF	**Ste Jean**	**95.96**	**313**	*e*P	**P**	**11 59 29.4**	**-0.3**
QUIF	**Quistinic**	**96.70**	**318**	*e*P	**P**	**11 59 32.0**	**-0.9**
	comp=Z,111nm,1.5s,mb5.8						
IMA	**Indian Mountai**	**97.04**	**23**	P	**P**	**11 59 35.0**	**+1.0**
IMA				pmax	pmax		
	comp=Z,140nm,1.3s,mb6.2						
IMA	**Indian Mountai**	**97.04**	**23**	*e*P	**P**	**11 59 35.8**	**+1.8**
	comp=Z,5.5nm,0.9s,mb5.0						
ESDC	**Sonseca Array**	**98.43**	**310**	P	**P**	**11 59 39.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=65,slow=4.8,SNR=3.6						
ESDC				PP	PP	12 03 42.4	-1.5
	comp=Z,0.3nm,0.3s,baz=124,slow=9.3,SNR=2.9						
ESLA	**Sonseca Array**	**98.43**	**310**	PFAKE		11 59 50.0	+9.1
ESLA				LR	LR		
	comp=Z,5μm,21.0s,MS6.0						
MCK	**McKinley**	**99.73**	**24**	*e*P	**P**	**11 59 52.8**	**+6.6**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb5.0						
MCK	**McKinley**	**99.73**	**24**	P	**P**	**11 59 43.5**	**-2.7**
	comp=Z,13nm,1.3s,mb5.2						
MCK				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
COLA	**College**	**99.73**	**23**	*i*P	**P**	**11 59 44.7**	**-1.5**
COLA	**College**	**99.73**	**23**	PFAKE		12 00 00.0	+14
COLA				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
FIB	**Fire Island**	**100.11**	**27**	PFAKE		12 00 00.0	+12
FIB				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
ILAR	**Eielson Array**	**100.15**	**23**	P	P	11 59 47.1	-1.0
	comp=Z,0.3nm,0.9s,baz=309,slow=5.8,SNR=3.4						
ILAR				PP	PP	12 03 48.6	-7.8
	comp=Z,0.9nm,0.8s,baz=293,slow=6.7,SNR=4.5						
ILAR				PKKPbc		12 16 05.5	
	comp=Z,1.1nm,0.8s,baz=156,slow=2.5,SNR=13						
BORG	**Borgarnes**	**101.39**	**337**	PFAKE		12 00 00.0	+6.3
BORG				LR	LR		
	comp=Z,577nm,19.0s,MS5.1						
DIV	**Divide**	**102.10**	**26**	PFAKE		12 00 10.0	+13
DIV				LR	LR		
	comp=Z,7μm,22.0s,MS6.1						
DBIC	**Dimbokro**	**102.17**	**277**	PFAKE		12 00 10.0	+12
DBIC				LR	LR		
	comp=Z,1μm,19.0s,MS5.5						
INK	**Inuvik**	**102.98**	**17**	P	Pdif	12 00 00.5	-0.2
	comp=Z,1.0nm,0.9s,baz=2.9,slow=5.4,SNR=3.8						
INK				PKiKP		12 04 20.7	
	comp=Z,2.3nm,0.8s,baz=319,slow=5.4,SNR=6.4						
INK				PKKPbc		12 15 56.4	
	comp=Z,0.8nm,0.7s,baz=98,slow=5.4,SNR=6.1						
SIT	**Sitka**	**108.77**	**27**	PFAKE		12 04 40.0	
SIT				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
DLBC	**Dease Lake**	**110.28**	**24**	Pdiff	Pdif	12 00 31.4	-1.6
	comp=Z,1.1nm,0.8s,baz=320,slow=21,SNR=3.3						
DLBC				PKiKP		12 04 34.7	
	comp=Z,1.4nm,0.9s,baz=151,slow=9.5,SNR=4.1						
DLBC	**Dease Lake**	**110.28**	**24**	Pdif	Pdif	12 00 31.4	-1.6
DLBC				PKPdf	PKPdf	12 04 34.7	-2.7
TBI	**Tubuai**	**111.35**	**115**	*e*PP	PP	12 05 23.2	+2.5
TBI				*e*SS	SS	12 21 07.0	+17
TBI				*e*LR	LR	12 37 42.8	
	comp=Z,3μm,23.5s						
PPT	**Papeete**	**112.03**	**109**	*e*PP	PP	12 05 25.0	-0.5
PPT				*e*LR	LR	12 38 01.7	
	comp=Z,3μm,24.2s						
YKA	**Yellowknife Ar**	**112.61**	**15**	Pdiff	Pdif	12 00 48.3	+5.2
	comp=Z,0.2nm,0.9s,baz=307,slow=3.1,SNR=3.9						
YKA				PKiKP		12 04 38.9	
	comp=Z,0.8nm,0.7s,baz=326,slow=2.1,SNR=14						
YKA				PP	PP	12 05 23.0	-6.1
	comp=Z,0.9nm,0.8s,baz=334,slow=7.4,SNR=3.7						
YKA				PKKPbc		12 15 26.8	
	comp=Z,0.7nm,0.7s,baz=145,slow=3.3,SNR=21						
YKA	**Yellowknife Ar**	**112.61**	**15**	Pdif	Pdif	12 00 48.3	+5.2
YKA				PKPdf	PKPdf	12 04 38.9	-2.9
YKA				PP	PP	12 05 23.0	-6.1
YKA				PKKPbc		12 15 26.8	
PMSA	**Palmer Station**	**114.56**	**189**	PFAKE		12 04 50.0	+4.4
PMSA				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
FCC	**Fort Churchill**	**120.12**	**7**	PKIKP	PKPdf	12 04 52.5	-4.0
FCC	**Fort Churchill**	**120.12**	**7**	*e*PKPdf	PKPdf	12 04 51.4	-5.2
FCC				*e*PP	PP	12 06 07.7	-14
EDM	**Edmonton**	**120.55**	**21**	PKIKP	PKPdf	12 04 54.2	-3.3
EDM	**Edmonton**	**120.55**	**21**	*e*PKPdf	PKPdf	12 04 53.4	-4.1
TAOE	**Nuku Hiva Isla**	**122.06**	**100**	*e*LR	LR	12 42 41.3	
COR	**Corvallis**	**122.27**	**34**	PFAKE		12 05 10.0	+8.9
COR				LR	LR		
	comp=Z,445nm,20.0s,MS5.1						
FFC	**Flin Flon**	**122.59**	**13**	PKIKP	PKPdf	12 04 57.7	-3.7
FFC	**Flin Flon**	**122.59**	**13**	*e*PKPdf	PKPdf	12 04 57.0	-4.4
FFC				*e*PP	PP	12 06 30.2	-8.4
FFC				LR	LR		
	comp=Z,525nm,20.0s,MS5.2						
NEW	**Newport**	**122.85**	**27**	PFAKE		12 05 10.0	+7.9
NEW				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
HAWA	**Hanford**	**123.05**	**30**	*e*PKPdf	PKPdf	12 04 59.0	-3.5
HAWA				LR	LR		
	comp=Z,118nm,20.0s						
SCHQ	**Schefferville**	**123.28**	**349**	PKP	PKPdf	12 04 57.9	-4.9
	comp=Z,2.7nm,0.7s,baz=327,slow=1.3,SNR=8.6						
SCHQ				PP	PP	12 06 38.6	-4.7
	comp=Z,12nm,1.2s,baz=353,slow=6.3,SNR=3.7						
SCHQ	**Schefferville**	**123.28**	**349**	PKP	PKPdf	12 04 57.9	-4.9
SCHQ				PP	PP	12 06 38.6	-4.7
SCHQ				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
WALA	**Waterton Lakes**	**123.63**	**24**	*e*PKPdf	PKPdf	12 05 00.4	-3.2
HUMO	**Hull Mountain**	**123.72**	**35**	*e*PKPdf	PKPdf	12 05 01.4	-2.6
HUMO				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
YBH	**Yreka Blue Hor**	**124.41**	**36**	PFAKE		12 05 10.0	+4.7
YBH				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
RKT	**Rikitea**	**124.41**	**118**	*e*PP	PP	12 06 41.0	-11
RKT				*e*SP	SP	12 16 35.6	-7.3
RKT				*e*SS	SS	12 23 47.5	+8.2
RKT				*e*LR	LR	12 43 45.1	
	comp=Z,2μm,26.5s						
WDC	**Whiskeytown Da**	**125.22**	**37**	PFAKE		12 05 20.0	+13
WDC				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
BMO	**Blue Mountains**	**125.24**	**30**	PFAKE		12 05 20.0	+13
BMO				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
MSO	**Missoula**	**125.35**	**26**	*e*PKPdf	PKPdf	12 05 02.9	-4.1
MSO				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
CHMT	**Chamberlain Mo**	**125.58**	**26**	*e*PKPdf	PKPdf	12 05 02.6	-4.8
MOD	**Modoc**	**125.68**	**34**	*e*PKPdf	PKPdf	12 05 04.2	-3.6
MOD				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
HOPS	**Hopland**	**125.86**	**39**	PFAKE		12 05 20.0	+12
HOPS				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
WVOR	**Wild Horse Val**	**126.24**	**33**	PKIKP	PKPdf	12 05 06.2	-2.6
WVOR	**Wild Horse Val**	**126.24**	**33**	*e*PKPdf	PKPdf	12 05 06.1	-2.7
WVOR				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
HRY	**Holter Researc**	**126.35**	**25**	*e*PKPdf	PKPdf	12 05 06.2	-2.7
BOZ	**Bozeman (W)**	**127.28**	**25**	PKIKP	PKPdf	12 05 08.0	-2.7
BOZ	**Bozeman (W)**	**127.28**	**25**	*e*PKPdf	PKPdf	12 05 07.7	-3.0
BOZ				*e*PP	PP	12 07 13.8	+4.2
BOZ				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
MCMT	**McKenzie Canyo**	**127.38**	**27**	*e*PKPpre		12 05 00.3	
MCMT				*e*PKPdf	PKPdf	12 05 07.4	-3.6
HLID	**Hailey**	**127.61**	**29**	*e*PKPdf	PKPdf	12 05 09.0	-2.5
HLID				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
GCMT	**Greycliff**	**127.98**	**24**	*e*PKPdf	PKPdf	12 05 08.9	-3.3
QLMT	**Earthquake Lak**	**128.01**	**26**	*e*PKPdf	PKPdf	12 05 10.6	-1.6
QLMT				*e*PP	PP	12 07 13.1	-1.7
PTCN	**Pitcairn Islan**	**128.03**	**122**	PFAKE		12 05 20.0	+7.2
PTCN				LR	LR		
	comp=Z,5μm,20.0s,MS6.2						
ULM	**Lac du Bonnet**	**128.08**	**11**	PKP	PKPdf	12 05 07.5	-4.7
	comp=Z,6.8nm,0.8s,baz=352,slow=3.3,SNR=14						
ULM	**Lac du Bonnet**	**128.08**	**11**	*e*PKPdf	PKPdf	12 05 06.2	-6.0
ULM				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
CMB	**Columbia Colle**	**128.11**	**38**	PFAKE		12 05 20.0	+7.4
CMB				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
SAO	**San Andreas Ge**	**128.22**	**40**	PFAKE		12 05 20.0	+7.1
SAO				LR	LR		
	comp=Z,989nm,20.0s,MS5.5						
YMR	**Madison River**	**128.34**	**26**	*e*PKPdf	PKPdf	12 05 11.4	-1.5
BMN	**Battle Mountai**	**128.39**	**34**	PKIKP	PKPdf	12 05 12.7	-0.4
BMN	**Battle Mountai**	**128.39**	**34**	*e*PKPdf	PKPdf	12 05 10.2	-2.9
BMN				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
YNR	**Norris Junctio**	**128.42**	**25**	P	PKPdf	12 05 10.6	-2.4
YNR				epP		12 07 17.0	
LAO	**LASA Array**	**128.53**	**21**	*e*PKPdf	PKPdf	12 05 09.5	-3.6
LAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
YFT	**Old Faithful**	**128.57**	**26**	*e*PKPdf	PKPdf	12 05 11.9	-1.4
YFT				*ep*PKPdf		12 05 18.6	
LKWY	**Lake**	**128.66**	**25**	PKIKP	PKPdf	12 05 13.2	-0.3
LKWY	**Lake**	**128.66**	**25**	*e*PKPdf	PKPdf	12 05 11.1	-2.4
LKWY				*ep*PKPdf		12 05 18.4	
LKWY				*e*PP	PP	12 07 22.3	+2.9
LKWY				LR	LR		
	comp=Z,5μm,20.0s,MS6.2						
LRV	**Little Rabbit**	**128.70**	**40**	*e*PKP	PKPdf	12 05 13.5	-0.3
NVAR	**Mina Array Bea**	**129.12**	**36**	PKP	PKPdf	12 05 11.3	-3.2
	comp=Z,9.5nm,0.7s,baz=276,slow=1.3,SNR=42						
MNV	**Mina**	**129.20**	**36**	PKIKP	PKPdf	12 05 12.7	-2.0
MNV	**Mina**	**129.20**	**36**	*e*PKPdf	PKPdf	12 05 12.9	-1.8
MNV				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
RRI2	**Red Ridge**	**129.22**	**27**	*e*PKPdf	PKPdf	12 05 12.5	-2.1
RRI2				*e*PP	PP	12 07 25.8	+2.6
OMM	**Old Mammoth Mi**	**129.23**	**38**	*e*PKPdf	PKPdf	12 05 13.2	-1.6
OMM				*ep*PKPdf		12 05 18.2	
ELK	**Elko**	**129.25**	**32**	PKIKP	PKPdf	12 05 12.4	-2.3
ELK	**Elko**	**129.25**	**32**	*e*PKPdf	PKPdf	12 05 12.1	-2.6
ELK				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
TPAW	**Teton Pass**	**129.28**	**27**	*e*PKPdf	PKPdf	12 05 11.7	-2.9
LOHW	**Long Hollow**	**129.33**	**26**	*e*PKPdf	PKPdf	12 05 11.6	-3.2
SNOW	**Snow King Moun**	**129.39**	**26**	*e*PKPdf	PKPdf	12 05 12.8	-2.0
REDW	**Red Top Meadow**	**129.42**	**27**	*e*PKPdf	PKPdf	12 05 12.3	-2.7
MTUM	**Tungsten Hills**	**129.66**	**38**	*e*PKPdf	PKPdf	12 05 12.9	-2.7
MTUM				*ep*PKPdf		12 05 20.0	
HVU	**Hansel Valley**	**129.74**	**29**	PKIKP	PKPdf	12 05 13.8	-1.8
HVU	**Hansel Valley**	**129.74**	**29**	*e*PKPdf	PKPdf	12 05 10.9	-4.7
HVU				*ep*PKPdf		12 05 19.3	
AHID	**Auburn Hatcher**	**129.78**	**27**	PFAKE		12 05 20.0	+4.4
AHID				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
TPH	**Tonopah**	**129.99**	**36**	PKIKP	PKPdf	12 05 14.1	-2.1
TPH	**Tonopah**	**129.99**	**36**	*e*PKPdf	PKPdf	12 05 13.3	-2.9
TPH				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
BGU	**Big Grassy Mou**	**130.26**	**30**	*e*PKPdf	PKPdf	12 05 14.0	-2.6
BGU				*ep*PKPdf		12 05 20.6	
BGU				*e*SKP		12 08 37.5	
HWUT	**Hardware Ranch**	**130.46**	**29**	*e*PKPdf	PKPdf	12 05 14.1	-2.9
HWUT				*ep*PKPdf		12 05 20.3	
HWUT				*e*PP	PP	12 07 24.8	-6.2
HWUT				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
BW06	**Boulder Array**	**130.47**	**26**	PFAKE		12 05 30.0	+13
BW06				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
PDAR	**Pinedale Array**	**130.47**	**26**	PKP	PKPdf	12 05 12.1	-4.9
	comp=Z,2.7nm,0.6s,baz=135,slow=2.1,SNR=21						
TRCR	**Troy Canyon**	**130.74**	**34**	*e*PKPdf	PKPdf	12 05 14.9	-2.7
TRCR				*ep*PKPdf		12 05 22.1	
TRCR				*e*SKP		12 08 46.6	
DUG	**Dugway**	**130.91**	**31**	PKIKP	PKPdf	12 05 15.8	-2.1
DUG	**Dugway**	**130.91**	**31**	*e*PKPdf	PKPdf	12 05 15.3	-2.6
DUG				*ep*PKP		12 05 22.3	
DUG				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
TCUT	**Toone Canyon**	**130.91**	**29**	*e*PKPdf	PKPdf	12 05 15.6	-2.2
TCUT				*ep*PKPdf		12 05 22.0	
TCUT				*e*SKP		12 08 40.7	
NOQ	**North Oquirrh**	**130.92**	**30**	*e*PKPdf	PKPdf	12 05 15.1	-2.7
NOQ				*e*SKP		12 08 38.7	
DAC	**Darwin (Calif)**	**130.95**	**38**	PFAKE		12 05 30.0	+12
DAC				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
EYMN	**Ely**	**131.04**	**8**	*e*PKPdf	PKPdf	12 05 13.9	-4.0
EYMN				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
PQI	**Presque Isle**	**131.24**	**347**	PFAKE		12 05 30.0	+12
PQI				LR	LR		
	comp=Z,7μm,21.0s,MS6.3						
JLU	**Jordanelle**	**131.29**	**29**	*e*PKPdf	PKPdf	12 05 15.5	-3.0
JLU				*ep*PKPdf		12 05 22.6	
NLU	**North Lily Min**	**131.47**	**30**	*e*PKPdf	PKPdf	12 05 16.7	-2.2
NLU				*ep*PKPdf		12 05 23.5	
NLU				*e*SKP		12 08 41.1	
RSSD	**Black Hills**	**131.53**	**21**	PKIKP	PKPdf	12 05 15.3	-3.6
RSSD	**Black Hills**	**131.53**	**21**	*e*PKPpre		12 05 11.3	
RSSD				*e*PKPdf	PKPdf	12 05 14.9	-4.0
RSSD				*e*PP	PP	12 07 38.3	+0.4
RSSD				*e*SKP		12 08 41.9	
RSSD				LR	LR		
	comp=Z,499nm,20.0s,MS5.2						
MPU	**Maple Canyon**	**131.64**	**30**	*e*PKPdf	PKPdf	12 05 14.5	-4.7
MWC	**Mount Wilson**	**131.96**	**40**	PKIKP	PKPdf	12 05 18.8	-1.2
MWC				*e*		12 05 24.4	
MWC	**Mount Wilson**	**131.96**	**40**	*e*PKPdf	PKPdf	12 05 18.5	-1.5
MWC				*ep*PKPdf		12 05 24.3	
RWWY	**Rawlins**	**132.36**	**25**	*e*PKPdf	PKPdf	12 05 16.8	-3.8
TMUT	**Trail Mountain**	**132.40**	**30**	*e*PKPdf	PKPdf	12 05 18.3	-2.5
MVU	**Marysvale**	**132.48**	**32**	*e*PKPdf	PKPdf	12 05 18.6	-2.3
MVU				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
MSU	**Marysvale**	**132.49**	**32**	PKIKP	PKPdf	12 05 19.5	-1.4
MSU	**Marysvale**	**132.49**	**32**	*e*PKPdf	PKPdf	12 05 19.0	-2.0
MSU				*ep*PKPdf		12 05 25.0	
EMMW	**East Machias**	**132.95**	**345**	PFAKE		12 05 30.0	+8.4
EMMW				LR	LR		
	comp=Z,8μm,21.0s,MS6.4						
RCBR	**Riachuelo**	**133.18**	**263**	PFAKE		12 05 30.0	+7.2
RCBR				LR	LR		
	comp=Z,933nm,19.0s,MS5.5						
LDFC	**Landfair**	**133.25**	**37**	*e*PKPdf	PKPdf	12 05 20.0	-2.4
LDFC				*ep*PKPdf		12 05 27.5	
LDFC				*e*PP	PP	12 07 49.2	+0.4
LDFC				*e*SKP		12 08 49.2	
PFO	**Pinyon Flat Ob**	**133.38**	**40**	PKIKP	PKPdf	12 05 22.3	-0.4
PFO	**Pinyon Flat Ob**	**133.38**	**40**	*e*PKPdf	PKPdf	12 05 21.4	-1.3
PFO				LR	LR		
	comp=Z,303nm,20.0s,MS5.0						
PHWY	**Pilot Hill**	**133.41**	**24**	*e*PKPdf	PKPdf	12 05 19.8	-2.7
PHWY				*e*PP	PP	12 07 51.0	+1.3
PHWY				*e*SKP		12 09 03.2	
WVL	**Waterville**	**133.61**	**347**	PFAKE		12 05 30.0	+7.2
WVL				LR	LR		
	comp=Z,6μm,21.0s,MS6.3						
BAR	**Barrett**	**133.83**	**41**	*e*PKPdf	PKPdf	12 05 20.3	-3.2
ISCO	**Idaho Springs**	**134.60**	**25**	PKIKP	PKPdf	12 05 24.4	-0.4
ISCO	**Idaho Springs**	**134.60**	**25**	*e*PKPpre		12 05 17.0	
ISCO				LR	LR		
	comp=Z,2μm,22.0s,MS5.8						
NCB	**Newcomb**	**135.02**	**352**	PFAKE		12 05 30.0	+4.5
NCB				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
WUAZ	**Wupatki**	**135.12**	**34**	*e*PKPdf	PKPdf	12 05 22.9	-3.0
WUAZ				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
HRV	**Harvard--Oak R**	**135.98**	**348**	PFAKE		12 05 40.0	+13
HRV				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
WES	**Weston**	**136.05**	**348**	PFAKE		12 05 40.0	+13
WES				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
SDCO	**Great Sand Dun**	**136.35**	**27**	PFAKE		12 05 40.0	+12
SDCO				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
BINY	**Binghamton**	**137.00**	**353**	PFAKE		12 05 40.0	+11
BINY				LR	LR		
	comp=Z,46μm,20.0s						
LSCT	**Lakeside**	**137.09**	**350**	PFAKE		12 05 40.0	+11
LSCT				LR	LR		
	comp=Z,6.0nm,22.0s						
AAM	**Ann Arbor**	**137.30**	**1**	PFAKE		12 05 40.0	+10
AAM				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
ERPA	**Erie**	**137.43**	**357**	PFAKE		12 05 40.0	+10
ERPA				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
CBKS	**Cedar Bluff**	**137.72**	**20**	PFAKE		12 05 40.0	+9.4
CBKS				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
TUC	**Tucson**	**137.77**	**37**	PKIKP	PKPdf	12 05 23.6	-7.2
TUC	**Tucson**	**137.77**	**37**	*e*PKPpre		12 05 18.8	
TUC				*e*PKPdf	PKPdf	12 05 28.1	-2.7
TUC				LR	LR		
	comp=Z,918nm,20.0s,MS5.5						
ANMO	**Albuquerque**	**138.16**	**30**	PKHKP		12 05 20.5	
ANMO	**Albuquerque**	**138.16**	**30**	*e*PKPpre		12 05 19.9	
ANMO				*e*PKPdf	PKPdf	12 05 28.3	-3.2
ANMO				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
TRQA	**Tornquist**	**138.19**	**205**	PFAKE		12 05 40.0	+8.5
TRQA				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
KSU1	**Kansas State U**	**138.44**	**17**	*e*PKPdf	PKPdf	12 05 28.1	-3.8
LENM	**Lemitar**	**138.51**	**31**	*e*PKPdf	PKPdf	12 05 31.1	-1.1
LPM	**Los Pinos Moun**	**138.57**	**31**	*e*PKPdf	PKPdf	12 05 30.4	-1.8
PLCA	**Paso Flores**	**138.59**	**194**	PKP	PKPdf	12 05 26.7	-5.4
	comp=Z,2.0nm,0.7s,baz=208,slow=9.9,SNR=5.1						
PLCA	**Paso Flores**	**138.59**	**194**	PKP	PKPdf	12 05 26.7	-5.4
PLCA				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
BNM	**Barren Site**	**138.70**	**31**	*e*PKPpre		12 05 19.9	
BNM				*e*PKPdf	PKPdf	12 05 30.5	-2.0
SSPA	**Standing Stone**	**138.75**	**355**	PFAKE		12 05 40.0	+7.6
SSPA				LR	LR		
	comp=Z,513nm,22.0s,MS5.2						
ACSO	**Alum Creek Sta**	**139.37**	**1**	*e*PKPdf	PKPdf	12 05 29.6	-3.9
ACSO				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
MCWV	**Mont Chateau**	**139.87**	**357**	PFAKE		12 05 40.0	+5.6
MCWV				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
AMTX	**Amarillo**	**140.42**	**25**	*e*PKPdf	PKPdf	12 05 34.6	-0.9
AMTX				*e*PP	PP	12 08 32.8	-0.8
AMTX				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
CCM	**Cathedral Cave**	**140.72**	**11**	PFAKE		12 05 40.0	+3.9
CCM				LR	LR		
	comp=Z,513nm,20.0s,MS5.3						
CPRX	**Cap Rock**	**140.98**	**29**	*e*PKPpre		12 05 25.9	
CPRX				*e*PKPdf	PKPdf	12 05 35.2	-1.5
CBN	**Corbin**	**141.11**	**354**	PFAKE		12 05 50.0	+13
CBN				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
WCI	**Wyandotte Cave**	**141.22**	**5**	PFAKE		12 05 50.0	+13
WCI				LR	LR		
	comp=Z,417nm,20.0s,MS5.2						
MNTX	**Cornudas Mount**	**141.27**	**32**	*e*PKPpre		12 05 28.0	
MNTX				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
GDL2	**Guadalupe Moun**	**141.40**	**30**	*e*PKPpre		12 05 28.2	
CLNB	**Carlsbad**	**141.59**	**30**	*e*PKPpre		12 05 30.8	
WMOK	**Wichita Mounta**	**141.71**	**22**	PKHKP		12 05 28.8	
WMOK	**Wichita Mounta**	**141.71**	**22**	*e*PKPpre		12 05 28.2	
WMOK				*e*PKPdf	PKPdf	12 05 35.1	-2.8
WMOK				*e*PP	PP	12 08 42.1	+0.8
WMOK				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
BLA	**Blacksburg**	**142.34**	**357**	PFAKE		12 05 50.0	+11
BLA				LR	LR		
	comp=Z,2μm

comp=Z,14nm,0.7s,baz=150,slow=1.6,SNR=9.7
LVC Limon Verde 154.41 210 *e*PKPdf PKPdf 12 05 57.0 -1.4
LVC *ep*PKPdf 12 06 02.8
LVC *e*PKPbc PKPdf 12 06 05.5 +7.1
LVC LR LR
comp=Z,1μm,20.0s,MS5.7
SJG San Juan 155.41 320 PFAKE 12 06 10.0 +10
SJG LR LR
comp=Z,1μm,22.0s,MS5.7
TEIG Tepich 158.56 15 PFAKE 12 06 10.0 +6.1
TEIG LR LR
comp=Z,737nm,20.0s,MS5.5
LPAZ La Paz 158.91 222 PKIKP PKPdf 12 06 02.7 -1.7
LPAZ La Paz 158.91 222 PKP PKPdf 12 06 01.8 -2.6
comp=Z,5.8nm,0.9s,baz=203,slow=0.7,SNR=19
LPAZ PKPab PKPab 12 06 38.7 +0.3
comp=Z,4.0nm,1.0s,baz=152,slow=3.4,SNR=4.0
LPAZ La Paz 158.91 222 *e*PKPdf PKPdf 12 06 02.0 -2.5
LPAZ *ep*PKPdf 12 06 08.1
LPAZ *e*PP PP 12 10 20.8 +0.6
SAML Samuel 159.02 246 *e*PKPdf PKPdf 12 06 01.0 -3.6
SAML *ep*PKPdf 12 06 07.1
SAML *e*PKPab PKPab 12 06 37.6 -1.4
SAML *ep*PKPab 12 06 43.8
SAML *e*PP PP 12 10 22.4 +1.5
SAML LR LR
comp=Z,1μm,20.0s,MS5.8
SDV Santo Domingo 164.87 309 *e*PKPdf PKPdf 12 06 07.9 -2.7
SDV *ep*PKPdf 12 06 12.8
SDV *e*PKPab PKPab 12 07 03.2 -1.0
SDV *e*PP PP 12 10 54.3 +2.2
SDV LR LR
comp=Z,1μm,20.0s
JTS JuntasAbangare 168.93 13 PFAKE 12 06 20.0 +6.5
JTS LR LR
comp=Z,277nm,19.0s
ROSC El Rosal 170.19 304 PKP PKPdf 12 06 11.9 -2.4
comp=Z,6.0nm,0.4s,baz=88,slow=20,SNR=5.9
PAYG Puerto Ayora 172.24 91 PFAKE 12 06 20.0 +4.5
PAYG LR LR
comp=Z,841nm,22.0s
OTAV Otavalo 175.84 281 *e*PKPdf PKPdf 12 06 13.9 -2.8
OTAV *ep*PKPdf 12 06 19.8
OTAV *e*PKPab PKPab 12 07 52.1 -0.6
OTAV *e*PP PP 12 11 52.9 +6.0
OTAV LR LR
comp=Z,1μm,20.0s

BJI ***07*** *11:50:20.4, 0.22S×97.41E, h30km, mB6.0, mb4.8, Ms6.0, Msz5.6*
IDC ***07*** *11:50:22.6±0.6, 0.60N×97.42E, mb4.7/16, mb1 4.8/17, mb1mx4.6/23, mbtmp4.7/17, ML4.6/1, Error ellipse: s-maj=24.6km s-min=13.7km az=50.0*
MOS ***07*** *11:50:25.8±0.9, 0.59N×97.46E, h33km, mb5.2/10, Error ellipse: s-maj=20.0km s-min=10.6km az=106.1*
HRVD ***07*** *11:50:27.4±1.2, 0.88N×97.40E, h35km±2km, MW5.2/34, Centroid moment Tensor Solution. LP body waves: s9,c9; Mantle waves: s34,c47; Half duration: 1±0 Moment tensor: Scale 1017Nm; Mrr0.70±.13; Mθθ-0.73±.07; Mφφ0.03±.10; Mrθ-0.39±.05; Mrφ0.16±.06; Mθφ-0.10±.10; Best double couple: M0.837×1017 NP1:φs114°, δ33°, λ111°. NP2:φs269°, δ59°, λ77°. Principal axes: T.823, Plg72°, Azm146°; N.027, Plg12°, Azm276°; P-.85, Plg13°, Azm9°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***07*** *11:50:27.4±0.4, 0.56N×97.44E, h30km, mb5.1/17 Error ellipse: s-maj=10.6km s-min=6.6km az=49.0*
ISC 07 11:50:24.8±2.1, 0.57N±0.06×97.47E±0.07, h23km±15km, n71, σ1§13/69, mb4.9/37, MS5.6/5, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**17.84**	**5**	*e*P	**P**	**11 54 31.4**	**-2.0**
	43nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.84**	**5**	P	**P**	**11 54 33.6**	**+0.2**
	0.8nm,0.3s,baz=192,slow=11,SNR=10						
PALK	**Pallekele**	**18.00**	**292**	*e*P	**P**	**11 54 37.0**	**+1.5**
	141nm,1.4s						
KKM	**Kota Kinabalu**	**19.48**	**73**	*e*P	**P**	**11 54 53.7**	**+0.5**
QIZ	**Qiongzhong**	**22.00**	**33**	*e*P	**P**	**11 55 21.4**	**+2.0**
	120nm,1.6s,mb5.1						
PPR	**Puerto Princes**	**23.04**	**66⇑**	*e*P	**P**	**11 55 36.7**	**+6.9**
KMI	**Kunming**	**24.94**	**11**	P	**P**	**11 55 52.8**	**+4.7**
KMI				AMB	AMB		
	comp=Z,31nm,1.8s,mb4.5						
KMI	**Kunming**	**24.94**	**11**	P	**P**	**11 55 52.8**	**+4.7**
KMI				*SP		11 56 03.3	
KMI				pmax	pmax		
	comp=Z,31nm,1.8s,mb4.5						
KMI	**Kunming**	**24.94**	**11**	P	**P**	**11 55 52.8**	**+4.7**
	comp=Z,31nm,1.8s,mb4.5						
KMI				sP		11 56 03.3	
JIRN	**Jiri**	**29.03**	**339**	*e*P	**P**	**11 56 30.6**	**+5.0**
PKI	**Pulchoki**	**29.24**	**338**	*e*P	**P**	**11 56 32.7**	**+5.2**
GUN	**Gumba**	**29.37**	**339**	*e*P	**P**	**11 56 29.7**	**+1.0**
	comp=Z,344nm,1.4s,mb5.9						
DMN	**Daman**	**29.39**	**337**	*e*P	**P**	**11 56 33.6**	**+4.8**
	comp=Z,363nm,1.8s,mb5.8						
KKN	**Kakani**	**29.49**	**338**	*e*P	**P**	**11 56 32.5**	**+2.8**
	comp=Z,232nm,1.4s,mb5.7						
KKN	**Kakani**	**29.49**	**338**	*e*P	**P**	**11 56 32.5**	**+2.8**
KKN				pmax	pmax		
	comp=Z,116nm,1.4s,mb5.4						
GKN	**Gorkha**	**29.93**	**337**	*e*P	**P**	**11 56 33.2**	**-0.4**
	comp=Z,346nm,1.6s,mb5.8						
KOLN	**Koldanda**	**30.14**	**335**	*e*P	**P**	**11 56 35.9**	**+0.4**
	comp=Z,707nm,2.1s,mb6.0						
ENH	**Enshi**	**31.68**	**20**	*e*P	**P**	**11 56 47.9**	**-1.1**
	comp=Z,26nm,0.9s,mb5.1						
YHNB	**Yeheng**	**33.30**	**42**	*e*P	**P**	**11 57 04.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**33.34**	**125**	*e*P	**P**	**11 57 04.2**	**+0.6**
	comp=Z,16nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**33.34**	**125**	P	**P**	**11 57 02.7**	**-0.9**
	comp=Z,15nm,0.8s,mb5.0,baz=231,slow=1.5,SNR=4.7						
GTA	**Gaotai**	**38.72**	**3**	*e*P	**P**	**11 57 52.0**	**+3.0**
GTA				AP	pP	11 58 04.9	+8.9
GTA				PP	PP	11 59 27.0	+5.4
GTA				S	**S**	**12 03 50.1**	**+5.8**
GTA				SS	SS	12 06 35.1	+8.5
GTA				AMB	AMB		
	comp=Z,15nm,2.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,642nm,8.8s						
GTA				LR	LR		
	comp=N,4μm,12.9s,MS5.7						
GTA				LR	LR		
	comp=E,6μm,14.4s,MS5.7						
GTA				LR	LR		
	comp=Z,5μm,17.1s,MS5.4						
JOW	**Kunigami**	**39.48**	**46**	P	**P**	**11 57 54.5**	**-1.0**
	comp=Z,5.8nm,0.6s,mb4.5,baz=218,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**41.47**	**122**	P	**P**	**11 58 12.0**	**+0.1**
	comp=Z,5.8nm,0.4s,mb4.6,baz=304,slow=9.2,SNR=21						
WRAB	**Tennant Creek**	**41.48**	**122**	*e*P	**P**	**11 58 11.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.1						
WRAB	**Tennant Creek**	**41.48**	**122**	*e*P	**P**	**11 58 11.4**	**-0.5**
	comp=Z,57nm,1.2s,mb5.1						
WB2	**Warramunga Arr**	**41.48**	**122**	*e*P	**P**	**11 58 12.4**	**+0.4**
ASPA	**Alice Springs**	**42.80**	**127**	*e*P	**P**	**11 58 23.5**	**+0.6**
ASAR	**Alice Springs**	**42.80**	**127**	P	**P**	**11 58 22.9**	**0.0**
	comp=Z,7.2nm,1.0s,mb4.3,baz=298,slow=7.3,SNR=8.0						
BJI	**Beijing**	**42.83**	**21**	*e*P	**P**	**11 58 23.8**	**+0.9**
BJI				AMB	AMB		
	comp=Z,24nm,1.8s,mb4.6						
BJI				LR	LR		
	comp=Z,7μm,18.8s,MS5.6						
BJI	**Beijing**	**42.83**	**21**	*e*P	**P**	**11 58 23.8**	**+0.9**
	comp=Z,24nm,1.8s,mb4.6						
KSH	**Kashi**	**43.46**	**336**	*e*P	**P**	**11 58 29.0**	**+1.0**
KSH				*e*PP	PP	12 00 12.0	+0.9
KSH				*e*PCP	PcP	12 00 16.1	-0.5
KSH				*e*SCP		12 04 04.0	
KSH				*e*PCS		12 04 08.0	
KSH				*e*S	**S**	**12 04 54.8**	**+0.1**
KSH				*e*SS	SS	12 08 05.0	+2.9
KSH				*e*SCS	ScS	12 08 23.0	-1.1
KSH				AMB	AMB		
	comp=Z,880nm,3.9s						
KSH				LR	LR		
	comp=N,9μm,12.7s,MS6.1						
KSH				LR	LR		
	comp=E,14μm,15.2s,MS6.1						
WMQ	**Urumqi**	**43.94**	**350**	⇑P	**P**	**11 58 33.2**	**+1.3**
WMQ				AP	pP	11 58 46.9	+8.1
WMQ				PP	PP	12 00 17.5	+1.6
WMQ				PCP	PcP	12 00 19.8	+1.6
WMQ				S	**S**	**12 05 01.7**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,717nm,5.4s						
WMQ				LR	LR		
	comp=N,3μm,13.8s,MS5.4						
WMQ				LR	LR		
	comp=E,2μm,13.8s,MS5.4						
WMQ				LR	LR		
	comp=Z,3μm,18.0s,MS5.2						
AAK	**Ala-Archa**	**46.69**	**337**	*e*P	**P**	**11 58 54.7**	**+0.9**
AAK				pmax	pmax		
	comp=Z,90nm,1.8s,mb5.4						
AAK	**Ala-Archa**	**46.69**	**337**	*e*P	**P**	**11 58 54.7**	**+0.9**
	comp=Z,90nm,1.8s,mb5.4						
SONM	**Songino Array**	**47.72**	**8**	P	**P**	**11 59 01.0**	**-0.9**
	comp=Z,3.4nm,0.7s,mb4.5,baz=190,slow=9.5,SNR=4.9						
ULN	**Ulaanbaatar**	**47.84**	**9**	*e*P	**P**	**11 59 02.8**	**0.0**
ULN				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
ULN	**Ulaanbaatar**	**47.84**	**9**	*e*P	**P**	**11 59 02.8**	**0.0**
	comp=Z,22nm,1.3s,mb5.0						
MKAR	**Makanchi Array**	**47.92**	**346**	P	**P**	**11 59 03.0**	**-0.5**
	comp=Z,9.4nm,0.5s,mb5.1,baz=160,slow=8.7,SNR=30						
MKAR	**Makanchi Array**	**47.92**	**346**	P	**P**	**11 59 03.0**	**-0.5**
CN2	**Changchun**	**49.75**	**26**	*e*P	**P**	**11 59 19.3**	**+1.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
ZAK	**Zakamensk**	**49.88**	**5**	*e*P	**P**	**11 59 18.1**	**-0.4**
PMG	**Port Moresby**	**50.45**	**103**	*e*P	**P**	**11 59 23.0**	**-0.3**
PMG				pmax	pmax		
	comp=Z,23nm,0.8s						
PMG	**Port Moresby**	**50.45**	**103**	P	**P**	**11 59 23.4**	**+0.1**
	comp=Z,12nm,0.7s,mb5.0,baz=335,slow=2.7,SNR=5.3						
PMG	**Port Moresby**	**50.45**	**103**	*e*P	**P**	**11 59 23.0**	**-0.3**
	comp=Z,23nm,0.8s,mb5.3						
MDJ	**Mudanjiang**	**52.29**	**29**	P	**P**	**11 59 36.5**	**-0.3**
MDJ				S	**S**	**12 07 01.0**	**+1.9**
MDJ				SS	SS	12 10 39.5	+4.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,91nm,3.2s						
MDJ				LR	LR		
	comp=N,4μm,16.1s,MS5.7						
MDJ				LR	LR		
	comp=E,5μm,17.9s,MS5.7						
MDJ				LR	LR		
	comp=Z,4μm,17.9s,MS5.5						
STKA	**Stephens Creek**	**52.73**	**132**	P	**P**	**11 59 40.7**	**+0.3**
	comp=Z,7.9nm,0.7s,mb4.8,baz=295,slow=6.6,SNR=7.2						
STKA	**Stephens Creek**	**52.73**	**132**	*e*P	**P**	**11 59 40.6**	**+0.2**
ZAL	**Zalesovo**	**54.22**	**351**	P	**P**	**11 59 50.5**	**-0.4**
	comp=Z,8.3nm,0.4s,mb5.0,baz=330,slow=4.0,SNR=7.0						
KLR	**Kul'dur**	**56.70**	**26**	*e*P	**P**	**12 00 07.3**	**-1.7**
BVA0	**Borovoye Array**	**56.94**	**341**	P	**P**	**12 00 09.1**	**-1.6**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
BVAR	**Borovoye Array**	**56.94**	**341**	P	**P**	**12 00 08.3**	**-2.4**
	comp=Z,5.8nm,0.6s,mb4.8,baz=148,slow=9.5,SNR=11						
CHKZ	**Chkalovo**	**57.41**	**341**	*e*P	**P**	**12 00 12.5**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**57.41**	**341**	*e*P	**P**	**12 00 12.5**	**-1.5**
	comp=Z,14nm,0.8s,mb5.1						
BOD	**Bodaibo**	**58.58**	**10**	*e*P	**P**	**12 00 20.8**	**-1.3**
BOD				pmax	pmax		
	comp=Z,20nm,2.4s,mb4.7						
SVE	**Sverdlovsk**	**63.37**	**338**	*e*P	**P**	**12 00 54.0**	**-0.6**
SVE				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.1						
BRTR	**Keskin Array B**	**69.74**	**312**	P	**P**	**12 01 34.2**	**-1.0**
	comp=Z,1.6nm,0.6s,mb4.1,baz=146,slow=4.5,SNR=3.9						
MATP	**Matopo**	**70.54**	**248**	P	**P**	**12 01 40.1**	**-0.4**
	comp=Z,2.3nm,0.6s,mb4.3,baz=100,slow=5.1,SNR=3.9						
MA2	**Magadan**	**71.78**	**25**	*e*P	**P**	**12 01 46.5**	**-0.8**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
MA2	**Magadan**	**71.78**	**25**	*e*P	**P**	**12 01 46.5**	**-0.9**
	comp=Z,9.4nm,1.0s,mb4.7						
AKASG	**Malin Array Be**	**75.92**	**322**	P	**P**	**12 02 10.2**	**-1.4**
	comp=Z,0.6nm,0.3s,mb4.0,baz=90,slow=4.7,SNR=5.2						
FINES	**FINESS Array B**	**80.68**	**333**	P	**P**	**12 02 36.6**	**-0.8**
	comp=Z,4.4nm,1.0s,mb4.4,baz=45,slow=2.7,SNR=3.5						
ARCES	**ARCESS Array B**	**83.22**	**340**	P	**P**	**12 02 50.3**	**-0.1**
	comp=Z,9.0nm,1.1s,mb4.7,baz=90,slow=3.6,SNR=4.4						
GERES	**GERESS Array B**	**85.47**	**319**	P	**P**	**12 03 03.3**	**+1.2**
	comp=Z,2.3nm,0.8s,mb4.3,baz=90,slow=4.0,SNR=4.1						
CLL	**Collm**	**86.09**	**321**	P	**P**	**12 03 08.0**	**+2.8**
CLL				*e*SP	sP	12 03 17.0	+2.0
YKA	**Yellowknife Ar**	**112.63**	**15**	PP	PP	12 09 53.3	+2.1
	comp=Z,0.3nm,0.8s,baz=334,slow=7.6,SNR=3.6						
YKA				PKKPbc		12 19 50.0	
	comp=Z,0.1nm,0.6s,baz=147,slow=4.0,SNR=4.3						
TXAR	**Lajitas Array**	**144.06**	**32**	PKP	PKPdf	12 10 00.2	-3.6
	comp=Z,0.8nm,0.5s,baz=66,slow=0.6,SNR=7.4						
TXAR	**Lajitas Array**	**144.06**	**32**	PKP	PKPdf	12 10 00.2	-3.6
JCT	**Junction City**	**145.02**	**27**	*e*PKPdf	PKPdf	12 10 02.2	-3.3
CFAA	**Coronel Fontan**	**146.30**	**202**	PKPbc	PKPbc	12 10 06.1	+1.8
	comp=Z,0.4nm,0.7s,baz=268,slow=2.4,SNR=3.8						
LPAZ	**La Paz**	**158.89**	**222**	PKP	PKPdf	12 10 22.7	-3.4
	comp=Z,2.0nm,0.9s,baz=97,slow=5.2,SNR=7.4						

IDC ***07*** *11:55:39.5±0.8, 0.54N×97.47E, mb4.4/11, mb1 4.6/12, mb1mx4.3/22, mbtmp4.4/12, ML4.4/1, Error ellipse: s-maj=32.3km s-min=14.4km az=52.0*
NEIC ***07*** *11:55:44.0±0.4, 0.54N×97.53E, h30km, mb4.7/13, Error ellipse: s-maj=10.5km s-min=6.6km az=65.0*
ISC 07 11:55:42.8±0.5, 0.58N±0.06×97.54E±0.08, h33km, n38, σ0§95/37, mb4.6/21, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.62**	**34**	*e*Pn	**Pn**	**11 57 05.2**	**-1.0**
CM31	**Chiang Mai Arr**	**17.82**	**4**	*e*P	**P**	**11 59 49.9**	**-0.1**
	35nm,1.3s						
CMAR	**Chiang Mai Arr**	**17.82**	**4**	P	**P**	**11 59 50.1**	**+0.1**
	0.5nm,0.3s,baz=196,slow=12,SNR=11						
PALK	**Pallekele**	**18.06**	**292**	P	**P**	**11 59 49.0**	**-4.0**
KKM	**Kota Kinabalu**	**19.41**	**73**	*e*P	**P**	**12 00 09.6**	**+0.5**
PKI	**Pulchoki**	**29.25**	**338**	*e*P	**P**	**12 01 48.1**	**+4.0**
	60nm,1.3s,mb5.2						
GUN	**Gumba**	**29.38**	**339**	*e*P	**P**	**12 01 49.1**	**+3.8**
DMN	**Daman**	**29.40**	**337**	*e*P	**P**	**12 01 49.7**	**+4.2**
	23nm,0.9s,mb4.9						
KKN	**Kakani**	**29.50**	**338**	*e*P	**P**	**12 01 50.4**	**+4.1**
	37nm,1.1s,mb5.0						
GKN	**Gorkha**	**29.94**	**337**	*e*P	**P**	**12 01 52.2**	**+2.0**
KOLN	**Koldanda**	**30.16**	**335**	*e*P	**P**	**12 01 52.1**	**-0.1**
	23nm,1.0s,mb4.9						
ENH	**Enshi**	**31.64**	**20**	*e*P	**P**	**12 02 04.5**	**-0.8**
	11nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.29**	**125⇑**	*i*P	**P**	**12 02 18.5**	**-1.3**
	14nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.29**	**125**	P	**P**	**12 02 19.6**	**-0.1**
	17nm,0.8s,mb5.0,baz=323,slow=2.0,SNR=8.9						
NWAO	**Narrogin (SRO)**	**38.15**	**153**	P	**P**	**12 03 00.4**	**-0.5**
	7.5nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**41.42**	**122**	P	**P**	**12 03 27.1**	**-1.0**
	9.8nm,0.9s,mb4.4,baz=303,slow=8.9,SNR=27						
WRAB	**Tennant Creek**	**41.43**	**122**	*e*P	**P**	**12 03 28.2**	**0.0**
	18nm,1.1s,mb4.6						
WB2	**Warramunga Arr**	**41.43**	**122**	*e*P	**P**	**12 03 28.5**	**+0.3**
FORT	**Forrest**	**42.59**	**140**	*e*P	**P**	**12 03 39.7**	**+2.0**
	404nm,0.7s						
ASPA	**Alice Springs**	**42.75**	**127**	*e*P	**P**	**12 03 39.5**	**+0.4**
ASAR	**Alice Springs**	**42.75**	**127**	P	**P**	**12 03 39.3**	**+0.2**
	4.2nm,0.7s,mb4.3,baz=301,slow=8.0,SNR=22						
BJT	**Baijiatuau**	**42.77**	**21**	*e*P	**P**	**12 03 39.5**	**+0.6**
	8.1nm,0.8s,mb4.5						
SONM	**Songino Array**	**47.69**	**8**	P	**P**	**12 04 18.5**	**+0.3**
	1.1nm,0.8s,mb3.9,baz=192,slow=8.4,SNR=6.2						
MKAR	**Makanchi Array**	**47.92**	**346**	P	**P**	**12 04 19.4**	**-0.6**
	2.9nm,0.5s,mb4.6,baz=158,slow=7.7,SNR=24						
MKAR	**Makanchi Array**	**47.92**	**346**	P	**P**	**12 04 19.4**	**-0.6**
PMG	**Port Moresby**	**50.39**	**103**	P	**P**	**12 04 39.8**	**+0.4**
	20nm,0.8s,mb5.2,baz=305,slow=4.7,SNR=7.8						
PMG	**Port Moresby**	**50.39**	**103**	*e*P	**P**	**12 04 39.3**	**-0.1**
	21nm,0.7s,mb5.3						
STKA	**Stephens Creek**	**52.69**	**132⇑**	*i*P	**P**	**12 04 56.8**	**+0.3**
	4.9nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**52.69**	**132**	P	**P**	**12 04 57.0**	**+0.5**
	8.5nm,0.9s,mb4.7,baz=311,slow=6.2,SNR=9.9						
STKA	**Stephens Creek**	**52.69**	**132**	*e*P	**P**	**12 04 56.5**	**0.0**
ZAL	**Zalesovo**	**54.21**	**351**	P	**P**	**12 05 07.3**	**-0.1**
	2.9nm,0.4s,mb4.5,baz=307,slow=4.4,SNR=8.1						
ZAL	**Zalesovo**	**54.21**	**351**	P	**P**	**12 05 07.3**	**-0.1**
BVAR	**Borovoye Array**	**56.94**	**341**	P	**P**	**12 05 25.0**	**-2.2**
	1.4nm,0.6s,mb4.2,baz=141,slow=9.5,SNR=4.9						
KMBO	**Kilima Mbogo**	**60.31**	**268**	P	**P**	**12 05 51.1**	**0.0**
	4.1nm,1.1s,mb4.4						
BRTR	**Keskin Array B**	**69.78**	**312**	P	**P**	**12 06 53.4**	**+1.5**
	0.5nm,0.4s,mb3.8,baz=141,slow=9.2,SNR=3.1						
MATP	**Matopo**	**70.61**	**248**	P	**P**	**12 06 56.4**	**-0.9**
	0.8nm,0.4s,mb4.0,baz=97,slow=3.9,SNR=3.8						
MAW	**Mawson**	**72.19**	**193**	P	**P**	**12 07 05.1**	**-0.8**
	33nm,1.4s,mb5.1						
TXAR	**Lajitas Array**	**144.01**	**33**	PKP	PKPdf	12 15 16.1	+0.5
	1.1nm,0.9s,baz=91,slow=0.5,SNR=4.7						

IDC ***07*** *11:56:20.8±0.7, 0.47N×97.17E, mb4.4/14, mb1 4.5/15, mb1mx4.4/22, mbtmp4.4/15, ML4.4/1, Error ellipse: s-maj=33.5km s-min=15.2km az=52.0*
NEIC ***07*** *11:56:25.2±0.5, 0.51N×97.32E, h30km, Error ellipse: s-maj=22.7km s-min=10.4km az=55.0*
ISC 07 11:56:24.1±0.6, 0.5N±0.1×97.3E±0.1, h33km, n18, σ0§87/17, mb4.4/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.88**	**5**	P	**P**	**12 00 31.1**	**-0.9**
	0.5nm,0.3s,baz=192,slow=10,SNR=5.5						
FITZ	**Fitzroy Crossi**	**33.45**	**125**	P	**P**	**12 03 02.2**	**-0.1**
	5.9nm,0.7s,mb4.6,baz=333,slow=7.9,SNR=2.7						
WRA	**Warramunga Arr**	**41.58**	**121**	P	**P**	**12 04 11.5**	**+0.7**
	1.7nm,0.4s,mb4.0,baz=304,slow=9.2,SNR=7.6						
WRAB	**Tennant Creek**	**41.59**	**121**	P	**P**	**12 04 08.0**	**-2.9**
ASAR	**Alice Springs**	**42.90**	**127**	P	**P**	**12 04 21.8**	**+0.2**
	3.8nm,0.6s,mb4.3,baz=302,slow=8.1,SNR=5.7						
SONM	**Songino Array**	**47.76**	**8**	P	**P**	**12 05 00.7**	**+0.7**
	2.9nm,0.9s,mb4.3,baz=188,slow=8.7,SNR=4.6						
MKAR	**Makanchi Array**	**47.92**	**346**	P	**P**	**12 05 01.6**	**+0.5**
	6.9nm,0.5s,mb5.0,baz=163,slow=9.1,SNR=13						
STKA	**Stephens Creek**	**52.82**	**132**	P	**P**	**12 05 39.2**	**+0.4**
	3.9nm,0.6s,mb4.5,baz=317,slow=8.3,SNR=3.5						
ZAL	**Zalesovo**	**54.22**	**351**	P	**P**	**12 05 49.0**	**+0.2**
	5.9nm,0.5s,mb4.8,baz=317,slow=4.5,SNR=5.2						
BVAR	**Borovoye Array**	**56.91**	**341**	P	**P**	**12 06 07.2**	**-1.0**
	4.4nm,0.6s,mb4.7,baz=140,slow=9.1,SNR=6.9						
MATP	**Matopo**	**70.40**	**248**	P	**P**	**12 07 36.5**	**-0.8**
	1.8nm,0.8s,mb4.1,baz=342,slow=3.2,SNR=4.1						
AKASG	**Malin Array Be**	**75.85**	**323**	P	**P**	**12 08 07.8**	**-1.1**
	1.3nm,0.5s,mb4.1,baz=96,slow=4.0,SNR=4.4						
MLR	**Muntele Rosu**	**76.63**	**317**	P	**P**	**12 08 13.8**	**+0.4**
	7.3nm,1.2s,mb4.5,baz=339,slow=7.9,SNR=3.4						
MLR	**Muntele Rosu**	**76.63**	**317**	P	**P**	**12 08 13.8**	**+0.4**
FINES	**FINESS Array B**	**80.64**	**333**	P	**P**	**12 08 34.9**	**0.0**
	1.5nm,0.7s,mb4.0,baz=104,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**83.19**	**340**	P	**P**	**12 08 48.8**	**+0.8**
	5.8nm,1.1s,mb4.5,baz=101,slow=4.6,SNR=4.0						
GERES	**GERESS Array B**	**85.39**	**319**	P	**P**	**12 09 00.9**	**+1.5**
	0.8nm,0.6s,mb4.0,baz=104,slow=5.5,SNR=5.5						
TXAR	**Lajitas Array**	**144.16**	**32**	PKP	PKPdf	12 15 58.2	+1.1
	0.5nm,0.5s,baz=323,slow=0.6,SNR=3.5						

ATH ***07*** *11:59:32.3, 38.64N×23.04E, h57km±14km, MD2.9/6, ML3.1*
NEIC ***07*** *11:59:32.3, 38.64N×23.04E, h57km, MD2.9(ATH), After ATH.*
CSEM ***07*** *11:59:32.3±0.1, 38.55N×22.95E, h20km, ML2.6, Error ellipse: s-maj=2.5km s-min=1.7km az=48.0*
THE ***07*** *11:59:35.2, 38.88N×22.97E, h10km, ML2.6*
ISC 07 11:59:32.8±0.6, 38.66N±0.05×23.01E±0.07, h20km, n13, σ0§85/14, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.64**	**304**	*e*Pg	**Pb**	**11 59 45.0**	**-0.2**
NEO	**Neokhori**	**0.67**	**15**	*e*P	**Pb**	**11 59 47.0**	**+1.4**
MPAR	**Parnis Oros**	**0.77**	**132**	*e*P	**Pb**	**11 59 47.5**	**+0.2**
MPAR				*e*S	**Sb**	**11 59 58.0**	**+0.7**
AOS	**Alonnisos**	**0.85**	**53**	*e*Pg	**Pb**	**11 59 49.8**	**+1.1**
ATH	**Athens Observa**	**0.89**	**141**	*e*P	**Pb**	**11 59 49.4**	**0.0**
PTL	**Penteli**	**0.91**	**132**	*e*P	**Pb**	**11 59 49.6**	**-0.2**
EVR	**Evrytania**	**0.97**	**286**	*e*P	**Pb**	**11 59 51.0**	**+0.2**
NAIG	**Nisos Aigina**	**0.98**	**157**	*e*P	**Pb**	**11 59 49.5**	**-1.5**
PAIG	**Paliouri**	**1.37**	**22**	*e*Pb	**Pb**	**11 59 57.0**	**-0.6**
LIT	**Litokhoron**	**1.49**	**345**	*e*Pb	**Pb**	**11 59 59.4**	**-0.3**
LIT	**Litokhoron**	**1.49**	**345**	*e

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.79**	**52**	⇓*e*P	**P**	**12 22 51.0**	**0.0**
JAT				*e*S	**S**	12 23 02.0	0.0
IXG	**Ixpaco**	**1.80**	**79**	*e*P	**P**	12 23 04.3	-1.1
IXG				*e*S	**S**	12 23 27.4	+0.3
CCIG	**Comitan**	**2.45**	**3**	⇑*i*P	**P**	12 23 16.0	+1.4
CCIG				*i* S	**S**	12 23 43.9	+0.5
RBDL	**Robledal**	**2.53**	**83**	⇑*e*P	**P**	12 23 15.6	-0.2
RBDL				*e*S	**S**	12 23 46.0	+0.4
RTR	**El Retiro**	**2.55**	**88**	⇑*e*P	**P**	12 23 16.2	+0.1
SNJE	**San Jose**	**2.59**	**89**	*e*P	**P**	12 23 18.3	+1.6
SNJE				*e*S	**S**	12 23 47.0	-0.2
SCX	**San Cristobal**	**2.92**	**353**	*e*P	**P**	12 23 20.0	-1.3
SCX				*i* S	**S**	12 23 55.0	-0.4
LFRS	**El Faro**	**3.13**	**93**	⇑*e*P	**P**	12 23 25.0	+0.7
LFRS				*e*S	**S**	12 23 59.8	-1.0
LCBS	**La Ceiba**	**3.21**	**93**	*e*P	**P**	12 23 26.0	+0.6
LCBS				*e*S	**S**	12 24 02.1	-0.7
CMIG	**Matias Romero**	**4.11**	**323**	*i* P	**P**	12 23 36.7	-1.4
CMIG				*i* S	**S**	12 24 21.2	-4.3
OXX	**Oaxaca**	**5.38**	**308**	*e*P	**P**	12 24 00.0	+4.1
TXAR	**Lajitas Array**	**18.70**	**327**	P	**P**	12 26 55.5	+2.2
	0.0nm,0.3s,baz=152,slow=12,SNR=5.9						
YKA	**Yellowknife Ar**	**51.13**	**347**	P	**P**	12 31 35.4	-1.0
	0.5nm,0.6s,mb3.6,baz=151,slow=7.5,SNR=16						
CMAR	**Chiang Mai Arr**	**146.07**	**341**	PKPbc	PKPbc	12 42 15.3	+3.0
	0.9nm,0.8s,baz=344,slow=4.4,SNR=6.4						

*JMA **07** 12:23:09.6, 33.61N×139.24E, h24km±2km, M4.2*
*IDC **07** 12:23:12.8±0.9, 33.38N×139.41E, h42km±10km, mb3.2/6, mb1 3.6/7, mb1mx3.4/23, mbtmp3.5/7, ML3.6/1, Error ellipse: s-maj=26.4km s-min=8.9km az=66.0*
*NEIC **07** 12:23:12.0±0.6, 33.50N×139.32E, h35km, mb4.3/8, Error ellipse: s-maj=15.4km s-min=9.9km az=82.0*
ISC 07 12:23:10.2±0.4, 33.60N±0.03×139.30E±0.04, h33km±5km, n34, σ0§94/51, mb3.9/13, 4C-4D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMY	**Miyakejima3**	**0.50**	**21**	⇓P	**P**	**12 23 19.7**	**-1.1**
JMY				S	**S**	12 23 27.0	-1.3
JKO	**Kozu shima**	**0.60**	**347**	⇓P	**P**	12 23 20.9	-1.2
JKO				S	**S**	12 23 29.2	-1.6
JHJ	**Hachijo jima 2**	**0.63**	**140**	P	**P**	**12 23 22.6**	**+0.1**
	488nm,0.3s,baz=319,slow=4.0,SNR=123						
JHJ				S	**S**	12 23 32.5	+1.0
	1um,0.3s,baz=71,slow=22,SNR=23						
JHJ2	**Mitsune**	**0.65**	**138**	⇑P	**P**	**12 23 22.7**	**-0.2**
JHJ2				*e*S	**S**	12 23 32.8	+0.7
NJJJ	**Nii jima 2**	**0.80**	**359**	P	**P**	12 23 24.6	-0.4
NJJJ				*e*S	**S**	12 23 35.5	-0.4
JIM2	**Oshima 3**	**1.12**	**6**	P	**P**	12 23 29.8	+0.2
JIZS	**Izushimoda**	**1.17**	**343**	⇓P	**P**	12 23 30.0	-0.3
JIZS				S	**S**	12 23 45.6	+0.3
TK03	**Tokai 3**	**1.24**	**297**	⇑P	**P**	12 23 31.3	0.0
TK03				S	**S**	12 23 46.9	-0.3
TK02	**Tokai 2**	**1.33**	**285**	⇑P	**P**	12 23 32.0	-0.6
TK02				S	**S**	12 23 50.2	+0.9
KTJJ	**Kamata 2**	**1.33**	**352**	⇓P	**P**	12 23 32.5	-0.2
KTJJ				*e*S	**S**	12 23 49.7	+0.2
OMA	**Omae zaki**	**1.34**	**318**	P	**P**	12 23 33.1	+0.3
OMA				*e*S	**S**	12 23 50.7	+1.0
JSG	**Sagara**	**1.41**	**320**	P	**P**	12 23 34.2	+0.4
JSG				S	**S**	12 23 51.6	+0.1
TK04	**Tokai 4**	**1.42**	**304**	⇑P	**P**	12 23 33.7	-0.2
TK04				*e*S	**S**	12 23 52.2	+0.6
TK01	**Tokai 1**	**1.43**	**277**	P	**P**	12 23 32.8	-1.3
TK01				*e*S	**S**	12 23 50.9	-1.1
MJAR	**Matsushiro Arr**	**3.07**	**343**	P	**P**	**12 23 59.7**	**+2.3**
	6.7nm,0.3s,baz=150,slow=14,SNR=42						
MJAR				S	**S**	12 24 41.0	+7.6
	6.1nm,0.3s,baz=284,slow=30,SNR=8.3						
MJAR	**Matsushiro Arr**	**3.07**	**343**	P	**P**	12 23 59.7	+2.3
MJAR				S	**S**	12 24 41.0	+7.6
MAJO	**Matsushiro**	**3.07**	**343**	*e*Pn	**P**	12 23 59.2	+1.7
MAT	**Matsushiro**	**3.07**	**343**	*e*P	**P**	12 23 59.0	+1.5
MAT				*e*S	**S**	12 24 42.0	+8.5
MAT	**Matsushiro**	**3.07**	**343**	P	**P**	12 23 59.3	+1.8
MAT				S	**S**	12 24 40.8	+7.3
ENH	**Enshi**	**25.47**	**271**	*e*P	**P**	12 28 42.8	+5.8
	16nm,1.0s,mb4.5						
MA2	**Magadan**	**27.07**	**13**	*e*P	**P**	12 28 51.0	-0.4
	7.0nm,0.7s,mb4.3						
SONM	**Songino Array**	**28.46**	**310**	P	**P**	12 29 06.1	+2.0
	0.4nm,0.6s,mb3.2,baz=122,slow=9.1,SNR=3.1						
BILL	**Bilibino**	**37.80**	**16**	P	**P**	12 30 25.2	+0.4
	5.6nm,1.3s,mb4.1						
MKAR	**Makanchi Array**	**44.56**	**305**	P	**P**	12 31 20.9	+0.4
	0.2nm,0.4s,mb3.3,baz=90,slow=9.7,SNR=4.4						
CHKZ	**Chkalovo**	**51.45**	**315**	P	**P**	12 32 12.5	-1.5
	4.0nm,1.3s,mb4.2						
COLA	**College**	**52.90**	**31**	P	**P**	12 32 26.1	+1.3
	3.4nm,1.1s,mb4.2						
ILAR	**Eielson Array**	**53.32**	**31**	P	**P**	12 32 27.9	0.0
	0.7nm,0.8s,mb3.7,baz=276,slow=6.2,SNR=7.5						
WRA	**Warramunga Arr**	**53.45**	**186**	P	**P**	12 32 27.4	-2.1
	0.2nm,0.4s,mb3.4,baz=1.4,slow=7.8,SNR=13						
ASAR	**Alice Springs**	**57.18**	**186**	P	**P**	12 32 55.2	-1.2
	0.2nm,0.5s,mb3.4,baz=7.3,slow=7.1,SNR=5.3						
INK	**Inuvik**	**58.23**	**26**	*e*P	**P**	12 33 02.6	-0.5
	1.8nm,0.8s,mb4.2						
RES	**Resolute Bay**	**66.34**	**14**	*e*P	**P**	12 33 57.2	+0.2
	3.7nm,0.9s,mb4.4						
YKA	**Yellowknife Ar**	**67.64**	**29**	P	**P**	12 34 05.8	+0.5
	0.0nm,0.4s,baz=172,slow=4.9,SNR=10						
YKA	**Yellowknife Ar**	**67.64**	**29**	P	**P**	12 34 05.8	+0.5
FCC	**Fort Churchill**	**77.84**	**25**	*e*P	**P**	12 35 05.5	0.0
	3.8nm,1.4s,mb4.1						

*CSEM **07** 12:28:02.6±0.1, 76.57N×18.44E, h2km, ML2.8, Error ellipse: s-maj=11.4km s-min=1.3km az=71.0*
*NAO **07** 12:28:04.5±1.6, 76.88N×19.91E, h12km±21km, ML2.4*
*HEL **07** 12:28:05.5±0.3, 76.84N×19.56E, h10km, ML2.8, MD2.2(BER), ML2.4(NAO)*
*BER **07** 12:28:05.5±1.9, 76.83N×19.61E, h3km±18km, MD2.2, ML2.9, ML2.4(NAO)*
ISC 07 12:28:01.8±1.4, 76.71N±0.05×19.2E±0.3, h1km±12km, n16, σ1§12/26, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.89**	**292**	*e*Pg	**Pg**	**12 28 23.3**	**+3.9**
HSP				*e*Sg	**Sg**	12 28 35.8	+4.6
HOPEN	**Hopen**	**1.37**	**95**	*e*P	**Pn**	12 28 28.8	+0.8
HOPEN				*e*S	**Sb**	12 28 45.8	0.0
HOPEN				AML	AML	12 28 48.9	
	comp=Z,273nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.60**	**339**	*e*P	**Pn**	12 28 31.2	-0.2
SPA0				*e*PG	**Pg**	12 28 33.1	-0.7
SPA0				*e*SN	**Sn**	12 28 52.5	-0.4
SPA0	**Spitsbergen Ar**	**1.60**	**339**	Pn	**Pn**	12 28 31.2	-0.2
	baz=149,slow=18						
SPA0				Pg	**Pg**	12 28 33.1	-0.7
	baz=146,slow=22						
SPA0				Lg		12 28 52.5	
	baz=148,slow=37						
SPA0	**Spitsbergen Ar**	**1.60**	**339**	Pg	**Pg**	12 28 33.1	-0.7
SPA0				Sn	**Sn**	12 28 52.5	-0.4
KBS	**Kingsbay**	**2.71**	**329**	*e*P	**Pn**	12 28 48.4	+1.2
KBS				*e*PG	**Pg**	12 28 53.5	-2.4
KBS				*e*SG	**Sg**	12 29 26.2	-5.8
KBS	**Kingsbay**	**2.71**	**329**	Pg	**Pg**	12 28 53.4	-2.4
KBS				Sg	**Sg**	12 29 26.1	-5.8
KEV	**Kevo**	**7.33**	**158**	*e*P	**Pn**	12 29 53.3	+0.7
KEV				MPN		12 29 56.5	
	comp=Z,0.5nm,0.2s						
KEV	**Kevo**	**7.33**	**158**	P	**Pn**	12 29 53.3	+0.7
	comp=Z,0.5nm,0.2s						
ARA0	**ARCESS Array S**	**7.43**	**163**	Pn	**Pn**	12 29 53.3	-0.7
	baz=351,slow=11						
ARA0	**ARCESS Array S**	**7.43**	**163**	*e*P	**Pn**	12 29 53.3	-0.7
KIF	**Kilpisjarvi**	**7.76**	**176**	*e*P	**Pn**	12 29 57.8	-0.7
SGF	**Sodankyl**	**9.57**	**163**	*e*P	**P**	12 30 23.5	+0.1
SGF				MPN		12 30 25.3	
	comp=Z,0.3nm,0.2s						
SGF				*e*S	**Sn**	12 32 07.4	-5.5
SGF	**Sodankyl**	**9.57**	**163**	P	**P**	12 30 23.5	+0.1
	comp=Z,0.3nm,0.2s						
KU4	**Liikasenvaara**	**10.87**	**157**	*e*S	**S**	12 32 35.5	-9.3
MSF	**Maaselka**	**11.27**	**159**	*e*S	**S**	**12 32 42.6**	**-12**

IDC 07 12:28:55.0±51.0, 18.20S×179.11W, mb4.0/3, mb1 4.2/3, mb1mx3.9/15, mbtmp4.0/3, Error ellipse: s-maj=923.5km s-min=153.0km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.91**	**241**	P	P	12 36 14.8	-1.1
	1.3nm,0.6s,baz=77,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**43.93**	**260**	P	P	12 37 03.8	-1.9
	0.8nm,0.4s,baz=97,slow=7.7,SNR=28						
ASAR	**Alice Springs**	**44.08**	**255**	P	P	12 37 04.8	-2.0
	2.0nm,0.7s,baz=88,slow=8.4,SNR=26						

MOS 07 12:36:44.9±2.6, 51.77N×98.22E, h21km, mb4.4/1, 1C, Error ellipse: s-maj=24.6km s-min=15.2km az=171.3, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.25**	**51**	*e*PG	Pn	12 37 06.8	-0.5
ORL				*e*		12 37 23.1	
ORL				pmax	pmax		
	comp=Z,55nm,0.2s						
ORL				smax			
	comp=N,300nm,0.8s						
MOY	**Mondy**	**1.73**	**92**	*e*PN	Pn	12 37 15.9	+1.7
MOY				*e*		12 37 39.4	
MOY				pmax	pmax		
	comp=Z,48nm,0.4s						
MOY				smax			
	comp=E,545nm,1.3s						
ARS	**Arshan**	**2.61**	**85**	*e*PN	Pn	12 37 32.3	+5.4
ARS				*e*		12 38 07.5	
ARS				pmax	pmax		
	comp=Z,26nm,0.3s						
ARS				smax			
	comp=E,700nm,0.6s						
TLY	**Talaya**	**3.37**	**89**	⇑*i*PN	Pn	12 37 44.5	+6.8
TLY				*e*		12 38 29.3	
TLY				pmax	pmax		
	comp=Z,26nm,0.5s						
TLY				smax			
	comp=N,185nm,1.5s						
IRK	**Irkutsk**	**3.77**	**80**	*e*PN	Pn	12 37 52.3	+9.0
IRK				*e*		12 38 40.7	
IRK				pmax	pmax		
	comp=Z,135nm,0.1s						
IRK				smax			
	comp=N,332nm,0.7s						
LSTR	**Listvyanka**	**4.10**	**86**	*e*PN	Pn	12 37 58.0	+10
LSTR				*e*		12 38 50.8	
LSTR				pmax	pmax		
	comp=Z,19nm,0.4s						
LSTR				smax			
	comp=N,154nm,1.8s						
TRG	**Tyrgan**	**5.09**	**76**	*e*PN	Pn	12 38 16.3	+14
TRG				*e*		12 39 23.0	
TRG				pmax	pmax		
	comp=Z,3.0nm,0.4s						
TRG				smax			
	comp=N,168nm,1.4s						
KAB	**Kabansk**	**5.23**	**84**	*e*PN	Pn	12 38 20.3	+16
KAB				pmax	pmax		
	comp=Z,53nm,0.3s						
SHRR	**Shira**	**5.56**	**303**	*e*PN	Pn	12 38 05.2	-3.5
SHRR				*i*		12 38 26.6	
SHRR				*i*		12 39 30.2	
OGRR	**Ongureny**	**6.00**	**68**	*e*PN	Pn	12 38 13.4	-1.5
OGRR				*e*		12 38 31.9	
OGRR				*e*		12 39 48.5	
OGRR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
OGRR				smax			
	comp=E,53nm,0.6s						

IDC 07 12:41:54.9±11.0, 3.91N×95.26E, mb3.6/2, mb1 3.8/3, mb1mx3.4/19, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=300.7km s-min=49.1km az=80.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.90**	**14**	Pn	P	12 45 26.7	-2.1
	0.1nm,0.3s,baz=205,slow=13,SNR=4.1						
WRA	**Warramunga Arr**	**45.12**	**123**	P	P	12 50 12.6	-2.6
	0.6nm,0.7s,baz=301,slow=9.3,SNR=8.4						
ASAR	**Alice Springs**	**46.58**	**128**	P	P	12 50 25.6	-1.0
	0.7nm,0.7s,baz=298,slow=8.1,SNR=8.2						

IDC 07 12:47:04.6±6.7, 29.16S×74.51E, mb3.4/2, mb1 3.7/2, mb1mx3.4/16, mbtmp3.4/2, Error ellipse: s-maj=319.0km s-min=53.9km az=30.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**53.01**	**99**	P	P	12 56 21.8	-3.8
	0.3nm,0.6s,baz=250,slow=6.4,SNR=4.6						
WRA	**Warramunga Arr**	**54.70**	**95**	P	P	12 56 37.1	-0.9
	0.5nm,0.7s,baz=252,slow=7.1,SNR=2.7						
YKA	**Yellowknife Ar**	**146.13**	**8**	PKPbc	PKPbc	13 06 45.1	-0.9
	0.4nm,0.8s,baz=332,slow=3.3,SNR=7.7						

*NEIC **07** 12:55:08.8, 59.32N×136.41W, h1km, ML2.9(AEIC), After AEIC.*
PGC 07 12:55:09.2, 59.34N×136.43W, h10km, ML3.0/4, Southeastern Alaska., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESE	**Bessie Mountai**	**1.12**	**133**	P	Pb	12 55 29.0	-1.2
BESE				S	Sb	12 55 44.7	+0.1
WHY	**Whitehorse**	**1.53**	**30**	P	Pn	12 55 36.3	-0.5
WHY				S	Sb	12 55 57.0	+0.3
WHY	**Whitehorse**	**1.53**	**30**	Pn	Pn	12 55 36.3	-0.5
WHY				Pg	Pg	12 55 37.2	-2.7
WHY				Sg	Sg	12 55 56.5	-3.8
WHY				Trac		12 55 59.3	
	comp=Z,338nm,0.2s						
PNL	**Peninsula**	**1.55**	**283**	P	Pn	12 55 35.4	-1.7
PNL				S	Sb	12 55 55.6	-1.6
HYT	**Haines Junctio**	**1.58**	**340**	Pn	Pn	12 55 35.5	-2.0
HYT				Pg	Pg	12 55 37.1	-3.7
HYT				Sg	Sg	12 55 59.3	-2.7
HYT				Trac		12 56 02.3	
	comp=Z,39nm,0.2s						
PCA	**Pinnacle**	**2.08**	**293**	P	Pn	12 55 44.1	-0.6
SIT	**Sitka**	**2.37**	**165**	P	Pn	12 55 47.4	-1.3
SIT				S	Sn	12 56 17.9	-0.2
CTGM	**Chitina Glacie**	**2.94**	**306**	P	Pn	12 55 56.9	-0.1
DLBC	**Dease Lake**	**3.44**	**103**	P	Pn	12 56 02.4	-1.7
DLBC	**Dease Lake**	**3.44**	**103**	Pn	Pn	12 56 02.7	-1.4
DLBC				Pg	Pg	12 56 11.0	-7.0
DLBC				Sg	Sg	12 56 56.5	-7.4
DLBC				Trac		12 57 05.3	
	comp=Z,21nm,0.6s						
BCA3	**Beaver Creek A**	**4.54**	**328**	P	Pn	12 56 16.3	-3.4
DAWY	**Dawson**	**4.94**	**345**	P	Pn	12 56 23.9	-1.5
DAWY	**Dawson**	**4.94**	**345**	Pn	Pn	12 56 23.6	-1.8
DAWY				Pg	Pg	12 56 38.0	-10
DAWY				Sn	Sn	12 57 17.0	-6.4
DAWY				Sg	Sg	12 57 43.2	-11
DAWY				Trac		12 57 49.2	
	comp=Z,15nm,0.7s						
FNBB	**Fort Nelson**	**6.92**	**88**	Pn	Pn	12 56 51.2	-2.1
FNBB				Trac		12 58 53.2	
	comp=Z,2.0nm,0.7s						
YKW3	**Yellowknife Ar**	**11.06**	**64**	Trac		13 01 06.6	
YKW3	**Yellowknife Ar**	**11.06**	**64**	Sg	S	13 00 52.7	+57

IDC 07 12:56:01.7±10.0, 12.13N×93.55E, mb3.3/2, mb1 3.5/3, mb1mx3.3/19, mbtmp3.2/3, Error ellipse: s-maj=239.9km s-min=43.9km az=100.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.17**	**39**	Pn	P	12 58 01.6	-2.7
	baz=225,slow=17,SNR=3.0						
WRA	**Warramunga Arr**	**51.26**	**128**	P	P	13 05 07.9	-1.8
	0.2nm,0.4s,baz=312,slow=8.1,SNR=14						
ASAR	**Alice Springs**	**53.13**	**132**	P	P	13 05 21.2	-2.5
	0.2nm,0.4s,baz=309,slow=6.8,SNR=11						

IDC 07 13:23:12.8±20.0, 27.19N×44.29W, mb3.5/3, mb1 3.9/3, mb1mx3.4/23, mbtmp3.5/3, Error ellipse: s-maj=452.2km s-min=129.4km az=152.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**54.41**	**305**	P	P	13 32 41.8	-2.0
	0.6nm,0.8s,baz=90,slow=11,SNR=4.6						
YKA	**Yellowknife Ar**	**57.19**	**329**	P	P	13 33 01.3	-2.4
	0.2nm,0.7s,baz=90,slow=7.4,SNR=3.8						
ILAR	**Eielson Array**	**70.89**	**334**	P	P	13 34 31.4	-1.8
	0.9nm,1.1s,baz=59,slow=5.3,SNR=4.2						

KRSC 07 13:26:56.7±0.8, 49.02N×155.74E, h20km±8km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.68**	**8**	*e*P	Pn	13 27 22.1	-3.3
ALID	**Alaid**	**1.85**	**356**	*e*P	Pn	13 27 27.8	-0.1
ALID				*e*S	Sn	13 27 50.0	-1.0
PAU	**Pauzhetka**	**2.54**	**15**	*e*P	Pn	13 27 37.8	0.0
PAU				*i* S	Sn	13 28 07.2	-1.3
GRL	**Gorelyy**	**3.83**	**22**	*e*P	Pn	13 27 56.6	+0.5
GRL				*e*S	Sn	13 28 40.3	-0.8
RUS	**Russkaya**	**3.84**	**26**	*e*P	Pn	13 27 55.7	-0.6
RUS				*e*S	Sn	13 28 38.9	-2.5
APC	**Apacha**	**4.01**	**12**	*e*P	Pn	13 28 00.8	+2.2
APC				*e*S	Sn	13 28 47.7	+2.1
PET	**Petropavlovsk**	**4.41**	**24**	*e*P	Pn	13 28 05.3	+1.0
PET				*e*S	Sn	13 28 55.3	-0.4
UGLR	**Uglovaya**	**4.62**	**24**	*e*P	Pn	13 28 08.1	+0.8
UGLR				*e*S	Sn	13 29 01.8	+0.7
KOK	**Koryaka**	**4.65**	**22**	*e*P	Pn	13 28 09.5	+1.8
AVH	**Avacha**	**4.65**	**23**	*e*P	Pn	13 28 08.8	+1.1
SMAR	**Somma**	**4.67**	**23**	*e*P	Pn	13 28 09.9	+2.0
NLC	**Nalytchevo**	**4.74**	**27**	*e*P	Pn	13 28 07.6	-1.3
NLC				*e*S	Sn	13 29 00.3	-3.7
GNL	**Ganaly**	**4.88**	**16**	*e*P	Pn	13 28 12.3	+1.3
SPN	**Mys Shipunski**	**4.89**	**32**	*e*P	Pn	13 28 10.6	-0.6
SPN				*e*S	Sn	13 29 05.4	-2.6

IDC 07 13:30:09.4±1.6, 5.19S×122.82E, mb3.5/2, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=223.0km s-min=26.4km az=59.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.45**	**144**	P	P	13 34 27.1	-1.4
	0.0nm,0.3s,baz=317,slow=12,SNR=9.8						
ASAR	**Alice Springs**	**21.25**	**151**	P	P	13 34 57.0	-2.4
	1.0nm,0.9s,baz=331,slow=13,SNR=12						
MKAR	**Makanchi Array**	**62.95**	**330**	P	P	13 40 37.8	-2.3
	0.4nm,0.6s,baz=134,slow=7.4,SNR=6.2						

*IDC **07** 13:59:22.6±1.7, 1.28N×97.09E, mb4.2/8, mb1 4.3/9, mb1mx4.0/22, mbtmp4.2/9, ML4.1/1, MS3.4/1, Ms1 3.6/1, ms1mx3.0/32, Error ellipse: s-maj=57.1km s-min=16.6km az=58.0*
*BJI **07** 13:59:24.1, 1.21N×97.50E, h25km, mb4.6, Ms4.1, Msz3.8*
*NEIC **07** 13:59:25.7±0.6, 1.19N×97.01E, h30km, mb4.5/10, Error ellipse: s-maj=13.5km s-min=9.8km az=45.0*
ISC 07 13:59:23.9±0.6, 1.19N±0.08×97.07E±0.07, h30km, n33, σ1§17/32, mb4.5/22, MS3.8/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.42**	**41**	*e*Pn	**Pn**	**14 00 44.1**	**-0.7**
KSM	**Kuching**	**13.24**	**89**	P	**P**	**14 02 30.2**	**-2.5**
CM31	**Chiang Mai Arr**	**17.25**	**6**	P	**P**	**14 03 23.5**	**-1.0**
	11nm,1.1s						
CMAR	**Chiang Mai Arr**	**17.25**	**6**	P	**P**	**14 03 23.4**	**-1.1**
	0.3nm,0.3s,baz=199,slow=12,SNR=15						
CMAR				LR	LR	14 10 19.7	
	comp=Z,106nm,18.1s,baz=183,slow=38						
PALK	**Pallekele**	**17.39**	**291**	P	**P**	**14 03 25.1**	**-1.2**
	31nm,1.5s						
KKM	**Kota Kinabalu**	**19.70**	**75**	*e*P	**P**	**14 03 53.9**	**-0.2**
KMI	**Kunming**	**24.41**	**13**	P	**P**	**14 04 42.9**	**+1.7**
KMI				AP		14 04 51.5	
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.2						
KMI				LR	LR		
	comp=N,254nm,11.7s,MS4.0						
KMI				LR	LR		
	comp=E,173nm,13.1s,MS4.0						
KMI				LR	LR		
	comp=Z,249nm,13.1s,MS3.9						
KMI	**Kunming**	**24.41**	**13**	P	**P**	**14 04 42.9**	**+1.7**
	comp=Z,11nm,1.0s,mb4.2						
KMI				pP		14 04 51.5	
KMI				LR	LR		
	comp=Z,250nm,13.1s,MS3.9						
SHL	**Shillong**	**24.74**	**349**	*e*P	**P**	**14 04 45.0**	**+0.6**
GYA	**Guiyang**	**26.76**	**19**	P	**P**	**14 05 02.3**	**-0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**28.30**	**339**	*e*P	**P**	**14 05 18.5**	**+1.3**
	comp=Z,22nm,0.9s,mb4.8						
DMN	**Daman**	**28.66**	**337**	*e*P	**P**	**14 05 19.5**	**-0.9**
	comp=Z,26nm,1.5s,mb4.8						
KKN	**Kakani**	**28.75**	**338**	*e*P	**P**	**14 05 21.7**	**+0.5**
	comp=Z,13nm,0.9s,mb4.7						
GKN	**Gorkha**	**29.19**	**337**	*e*P	**P**	**14 05 25.8**	**+0.6**
	comp=Z,8.4nm,0.6s,mb4.7						
KOLN	**Koldanda**	**29.41**	**335**	*e*P	**P**	**14 05 28.1**	**+1.0**
	comp=Z,12nm,0.7s,mb4.7						
ENH	**Enshi**	**31.23**	**21**	P	**P**	**14 05 37.4**	**-5.9**
	comp=Z,12nm,0.8s,mb4.8						
MBWA	**Marble Bar**	**31.39**	**136**	*e*P	**P**	**14 05 43.2**	**-1.5**
	comp=Z,16nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.03**	**126**	P	**P**	**14 06 08.2**	**+0.4**
	comp=Z,3.7nm,0.9s,mb4.3,baz=344,slow=6.5,SNR=4.8						
XAN	**Xi'an**	**34.51**	**18**	P	**P**	**14 06 10.0**	**-1.7**
XAN				AP	pP	14 06 16.7	-3.9
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
JOW	**Kunigami**	**39.34**	**47**	P	**P**	**14 06 53.1**	**+0.6**
	comp=Z,7.9nm,0

*IDC **07** 14:00:52.6±2.6, 23.31S×175.52W, mb4.2/5, mb1 4.4/6, mb1mx4.1/18, mbtmp4.2/6, ML4.1/1, MS4.0/9, Ms1 4.0/9, ms1mx3.7/28, Error ellipse: s-maj=66.8km s-min=27.5km az=144.0*

*NEIC **07** 14:01:28.6±2.6, 24.44S×176.52W, h279km±27km, mb4.5/8, Error ellipse: s-maj=32.2km s-min=22.1km az=165.0*

ISC 07 14:01:03.6±0.9, 23.6S±0.1×175.5W±0.2, h100km, n33, σ1§16/16, mb4.3/8, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.04**	**200**	Pn	**P**	**14 02 46.1**	**+14**
	193nm,0.3s,baz=74,slow=23,SNR=6.3						
RAO	**Raoul Island**	**6.04**	**200**	*e*Pn	**P**	**14 02 45.1**	**+13**
RAO				*e*		14 02 59.4	
AFI	**Afiamalu**	**10.26**	**21**	Pn	**P**	**14 03 11.3**	**-18**
	7.0nm,0.3s,baz=308,slow=15,SNR=14						
AFI				Sn	S	14 04 55.8	-27
	1.8nm,0.3s,baz=11,slow=19,SNR=3.4						
RAR	**Rarotonga**	**14.74**	**84**	Pn	**P**	**14 04 09.7**	**-18**
	4.0nm,0.3s,baz=254,slow=10,SNR=9.6						
URZ	**Urewera**	**15.92**	**202**	Pn	**P**	**14 04 43.5**	**+0.5**
	0.7nm,0.3s,baz=5.0,slow=10,SNR=5.2						
TBI	**Tubuai**	**23.88**	**95**	*e*LQ		14 10 18.5	
TBI				*e*LR	LR	14 11 20.5	
	555nm,22.5s						
PPT	**Papeete**	**24.98**	**81**	*e*LQ		14 10 45.1	
PPT				*e*LR	LR	14 11 44.9	
	504nm,21.5s						
HNR	**Honiara**	**27.36**	**297**	LR	LR	14 15 41.2	
	comp=Z,149nm,18.6s,baz=333,slow=33						
CTA	**Charters Tower**	**35.60**	**268**	*e*P	**P**	**14 07 52.8**	**-0.7**
	3.8nm,0.4s,mb4.7						
CTA	**Charters Tower**	**35.60**	**268**	P	**P**	**14 07 52.5**	**-1.0**
	4.7nm,0.3s,mb4.8,baz=94,slow=10,SNR=10						
CTA				LR	LR	14 20 08.8	
	comp=Z,132nm,19.5s,baz=105,slow=32						
CTAO	**Charters Tower**	**35.60**	**268**	*e*P	**P**	**14 07 52.0**	**-1.5**
	59nm,1.5s,mb5.3						
STKA	**Stephens Creek**	**38.66**	**248**	P	**P**	**14 08 17.1**	**-1.8**
	1.9nm,0.8s,mb4.0,baz=104,slow=14,SNR=4.9						
STKA				LR	LR	14 22 35.9	
	comp=Z,350nm,18.2s,baz=289,slow=34						
STKA	**Stephens Creek**	**38.66**	**248**	P	**P**	**14 08 18.1**	**-0.9**
ASAR	**Alice Springs**	**46.14**	**259**	LR	LR	14 29 04.4	
	comp=Z,165nm,18.2s,baz=109,slow=37						
FITZ	**Fitzroy Crossi**	**54.96**	**264**	LR	LR	14 33 01.8	
	comp=Z,171nm,18.2s,baz=110,slow=35						
QSPA	**South Pole Qui**	**66.49**	**180**	*e*P	**P**	**14 11 43.9**	**-0.2**
	8.7nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	**81.72**	**42**	P	**P**	**14 13 12.1**	**-0.5**
	0.7nm,0.6s,mb3.6,baz=233,slow=9.0,SNR=3.1						
PLCA	**Paso Flores**	**85.48**	**133**	LR	LR	14 47 08.4	
	comp=Z,178nm,19.0s,baz=181,slow=32						
TXAR	**Lajitas Array**	**86.81**	**56**	LR	LR	14 44 13.7	
	comp=Z,124nm,18.6s,baz=170,slow=30						
ANMO	**Albuquerque**	**87.56**	**50**	P	Px	14 13 52.5	
PDAR	**Pinedale Array**	**89.65**	**42**	LR	LR	14 46 15.3	
	comp=Z,85nm,20.5s,baz=128,slow=30						
SDCO	**Great Sand Dun**	**89.65**	**48**	P	Px	14 14 02.2	
	4.4nm,1.4s						
ENH	**Enshi**	**89.67**	**303**	*e*P	**P**	**14 13 53.2**	**+1.4**
	10nm,1.0s,mb4.9						
ENH				*e*		14 14 05.9	
WALA	**Waterton Lakes**	**90.73**	**35**	P	Px	14 14 07.3	
	10nm,1.4s						
ILAR	**Eielson Array**	**90.83**	**12**	P	**P**	**14 13 55.5**	**-0.8**
	0.3nm,0.8s,mb3.5,baz=225,slow=3.8,SNR=2.9						
BILL	**Bilibino**	**92.35**	**353**	P	**P**	**14 14 07.7**	**+4.4**
	8.4nm,1.6s,mb4.7						
CMAR	**Chiang Mai Arr**	**93.31**	**289**	P	**P**	**14 14 11.1**	**+2.2**
	2.7nm,0.8s,mb4.6,baz=127,slow=3.3,SNR=17						
RSSD	**Black Hills**	**93.79**	**43**	*e*P	Px	14 14 19.1	
	3.6nm,1.0s						
LPAZ	**La Paz**	**98.75**	**112**	LR	LR	14 49 44.7	
	comp=Z,13nm,19.1s,baz=21,slow=30						
MBAR	**Mbarara**	**144.95**	**230**	*e*PKPdf	PKPdf	14 20 30.7	+0.9
MBAR				*e*		14 20 43.6	
AKASG	**Malin Array Be**	**146.83**	**331**	PKPbc	PKPbc	14 20 34.7	+1.2
	0.9nm,0.4s,baz=37,slow=4.0,SNR=10						
AKASG	**Malin Array Be**	**146.83**	**331**	PKPbc	PKPbc	14 20 34.7	+1.2
BRTR	**Keskin Array B**	**150.61**	**310**	PKPbc	PKPdf	14 20 46.0	+7.8
	1.7nm,0.9s,baz=120,slow=2.1,SNR=8.0						

*IDC **07** 14:03:59.8±3.0, 6.02S×151.27E, h32km±20km, mb4.0/12, mb1 4.2/13, mb1mx4.1/18, mbtmp4.2/13, ML3.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/26, Error ellipse: s-maj=24.0km s-min=16.2km az=120.0*

*NEIC **07** 14:04:00.9±1.4, 5.99S×151.24E, h48km±13km, mb4.6/5, Error ellipse: s-maj=13.0km s-min=8.3km az=153.0*

ISC 07 14:04:00.2±2.2, 6.02S±0.10×151.16E±0.08, h52km±20km, n30, σ1§04/29, mb4.2/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.20**	**229**	Pn	**P**	**14 05 18.5**	**+1.2**
	6.3nm,0.3s,baz=64,slow=12,SNR=20						
PMG				Sn	**S**	**14 06 16.0**	**-0.7**
	11nm,0.3s,baz=57,slow=22,SNR=13						
PMG				LR	LR	14 07 25.0	
	comp=Z,224nm,21.5s,baz=12,slow=39						
PMG	**Port Moresby**	**5.20**	**229**	Pn	**P**	**14 05 18.5**	**+1.2**
PMG				Sn	**S**	**14 06 16.0**	**-0.7**
PMG				LR	LR	14 07 25.0	
HNR	**Honiara**	**9.35**	**112**	Pn	**P**	**14 06 15.0**	**+0.1**
	4.7nm,0.3s,baz=224,slow=5.8,SNR=3.8						
HNR	**Honiara**	**9.35**	**112**	*e*Pn	**P**	**14 06 11.2**	**-3.7**
CTA	**Charters Tower**	**14.77**	**198**	LR	LR	14 11 24.1	
	comp=Z,148nm,18.9s,baz=244,slow=30						
WRAB	**Tennant Creek**	**21.40**	**228**	*e*P	**P**	**14 08 45.1**	**-0.5**
	19nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**21.41**	**228**	*e*P	**P**	**14 08 45.5**	**-0.2**
WRA	**Warramunga Arr**	**21.41**	**228**	P	**P**	**14 08 45.5**	**-0.2**
	5.7nm,0.4s,mb4.2,baz=54,slow=10,SNR=59						
WRA				PcP	PcP	14 12 47.9	-0.4
	1.5nm,0.7s,baz=36,slow=2.0,SNR=5.0						
WRA				ScP		14 16 23.0	
	0.8nm,0.8s,baz=54,slow=3.0,SNR=6.0						
DZM	**Mont Dzumac**	**21.75**	**139**	P	**P**	**14 08 49.4**	**+0.3**
	6.3nm,0.6s,mb4.2,baz=63,slow=22,SNR=7.2						
ASAR	**Alice Springs**	**24.15**	**222**	P	**P**	**14 09 14.2**	**+1.5**
	16nm,0.7s,mb4.5,baz=57,slow=9.4,SNR=137						
ASAR				PcP	PcP	14 12 54.5	+0.6
	0.4nm,0.8s,baz=18,slow=2.9,SNR=3.1						
ASAR				ScP		14 16 30.5	
	0.7nm,0.8s,baz=46,slow=3.0,SNR=5.6						
ASPA	**Alice Springs**	**24.16**	**222**	*e*P	**P**	**14 09 13.8**	**+1.1**
STKA	**Stephens Creek**	**27.23**	**198**	P	**P**	**14 09 40.2**	**-1.3**
	3.5nm,0.8s,mb3.9,baz=29,slow=8.0,SNR=3.4						
STKA	**Stephens Creek**	**27.23**	**198**	P	**P**	**14 09 39.7**	**-1.9**
FITZ	**Fitzroy Crossi**	**27.64**	**242**	P	**P**	**14 09 44.6**	**-0.8**
	11nm,0.6s,mb4.7,baz=79,slow=4.3,SNR=24						
MBWA	**Marble Bar**	**33.95**	**241**	*e*P	**P**	**14 10 39.6**	**-1.2**
	26nm,1.4s,mb5.0						
YHNB	**Yeheng**	**42.09**	**318**	*e*P	**P**	**14 11 48.9**	**-0.1**
SONM	**Songino Array**	**66.50**	**329**	P	**P**	**14 14 48.6**	**+2.0**
	0.4nm,0.6s,mb3.6,baz=135,slow=4.1,SNR=2.7						
VNDA	**Vanda**	**71.68**	**178**	P	**P**	**14 15 18.5**	**+0.4**
	1.2nm,0.7s,mb3.9,baz=343,slow=5.7,SNR=4.4						
MKAR	**Makanchi Array**	**80.17**	**319**	P	**P**	**14 16 07.3**	**+0.7**
	0.8nm,1.0s,mb3.6,baz=114,slow=4.0,SNR=4.1						
MKAR	**Makanchi Array**	**80.17**	**319**	P	**P**	**14 16 07.3**	**+0.7**
MCK	**McKinley**	**82.61**	**23**	P	**P**	**14 16 18.3**	**-0.7**
	3.2nm,1.0s,mb4.3						
COLA	**College**	**83.59**	**22**	*e*P	**P**	**14 16 22.1**	**-1.8**
	3.1nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**83.90**	**22**	P	**P**	**14 16 24.4**	**-1.1**
	1.0nm,0.6s,mb4.1,baz=245,slow=5.3,SNR=16						
QSPA	**South Pole Qui**	**83.95**	**180**	*e*P	**P**	**14 16 26.5**	**+1.1**
	8.1nm,0.8s,mb4.9						
INK	**Inuvik**	**90.17**	**21**	P	**P**	**14 16 55.8**	**0.0**
	0.5nm,0.6s,mb4.0,baz=277,slow=6.6,SNR=4.8						
NVAR	**Mina Array Bea**	**94.12**	**52**	P	**P**	**14 17 16.2**	**+1.6**
	1.1nm,0.7s,mb4.4,baz=252,slow=5.7,SNR=5.2						
YKA	**Yellowknife Ar**	**97.26**	**28**	P	**P**	**14 17 28.1**	**-0.3**
	0.2nm,0.8s,mb3.6,baz=271,slow=4.9,SNR=4.9						
YKA	**Yellowknife Ar**	**97.26**	**28**	P	**P**	**14 17 28.1**	**-0.3**
GERES	**GERESS Array B**	**124.21**	**327**	PKP	PKPdf	14 22 54.7	+1.3
	0.7nm,0.5s,baz=90,slow=1.0,SNR=5.5						
BDFB	**Brasilia**	**151.30**	**139**	PKPbc	PKPdf	14 23 49.5	+6.6
	1.6nm,0.5s,baz=208,slow=3.4,SNR=4.3						

IDC 07 14:13:33.1±8.3, 21.45S×177.89W, mb4.0/4, mb1 4.2/4, mb1mx3.9/16, mbtmp4.0/4, Error ellipse: s-maj=265.7km s-min=88.8km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.51**	**266**	P	P	14 20 16.0	-0.6
	2.3nm,0.4s,baz=97,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**44.41**	**258**	P	P	14 21 44.6	-2.9
	0.5nm,0.7s,baz=94,slow=6.1,SNR=6.0						
WB2	**Warramunga Arr**	**44.57**	**263**	*e*P	P	14 21 46.0	-2.9
WRA	**Warramunga Arr**	**44.58**	**263**	P	P	14 21 46.8	-2.2
	0.5nm,0.3s,baz=96,slow=8.4,SNR=54						
CMAR	**Chiang Mai Arr**	**90.53**	**290**	P	P	14 26 37.9	-1.1
	0.8nm,0.6s,baz=149,slow=4.3,SNR=4.9						

IDC 07 14:16:01.3±8.8, 1.04N×97.49E, mb3.9/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, ML3.6/1, MS4.0/1, Ms1 4.0/1, ms1mx3.1/34, Error ellipse: s-maj=183.2km s-min=118.6km az=134.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.36**	**5**	P	P	14 20 05.3	-1.6
	0.1nm,0.3s,baz=194,slow=12,SNR=5.5						
SONM	**Songino Array**	**47.24**	**8**	P	P	14 24 36.3	-1.8
	0.4nm,0.5s,baz=187,slow=9.3,SNR=4.4						
MKAR	**Makanchi Array**	**47.46**	**346**	P	P	14 24 37.9	-1.9
	1.0nm,0.5s,baz=158,slow=9.2,SNR=27						
JHJ	**Hachijo jima 2**	**50.91**	**47**	LR	LR	14 45 42.3	
	comp=Z,170nm,21.6s,baz=79,slow=35						
ZAL	**Zalesovo**	**53.75**	**351**	P	P	14 25 25.0	-2.5
	0.8nm,0.4s,baz=300,slow=11,SNR=4.2						

*HLW **07** 14:26:49.2, 34.89N×33.74E, h33km, Mb3.7*

*ISK **07** 14:26:50.0, 34.38N×33.27E, h32km, MD3.7*

*GRAL **07** 14:26:51.9±3.2, 34.45N×33.29E, h18km±45km, MD3.7*

*CSEM **07** 14:26:51.1±0.1, 34.70N×33.38E, h60km, Mw3.1, Error ellipse: s-maj=2.9km s-min=1.3km az=47.0*

*NIC **07** 14:26:54.5±0.2, 34.77N×33.24E, h10km, ML3.7, MW3.2*

NIC Felt earthquake; Maximum Intensity 3; Felt I=III at Limassol.

*NEIC **07** 14:26:54.5, 34.77N×33.24E, h10km, ML3.7(NIC), After NIC.*

NEIC Felt [III] at Limassol. Felt in other parts of central Cyprus.

*GII **07** 14:26:55.9±0.4, 34.49N×33.37E, h25km±30km, ML3.1/6, Mw3.1/5*

*SNSN **07** 14:27:00.6, 33.63N×32.18E, h168km, Ml3.2*

ISC 07 14:26:50.5±0.2, 34.53N±0.02×33.37E±0.03, h10km, n82, σ1§04/119, 14C-12D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSS	**Prodhromos**	**0.43**	**356**	⇓P	**Pg**	**14 26 59.2**	**0.0**
	41nm,0.2s						
CSS				S	**Sg**	**14 27 03.2**	**-1.9**
CSS	**Prodhromos**	**0.43**	**356**	*e*P	**Pg**	**14 26 59.2**	**0.0**
CSS	**Prodhromos**	**0.43**	**356**	⇓*i*P	**Pg**	**14 26 59.2**	**0.0**
CSS				S	**Sg**	**14 27 03.2**	**-1.9**
CSS	**Prodhromos**	**0.43**	**356**	*i*P	**Pg**	**14 26 58.8**	**-0.4**
CSS				*i*S	**Sg**	**14 27 04.0**	**-1.0**
SZAC	**Souni-Zanaja**	**0.46**	**299**	⇓P	**Pg**	**14 27 00.4**	**+0.6**
SZAC				S	**Sg**	**14 27 05.0**	**-1.0**
SZAC	**Souni-Zanaja**	**0.46**	**299**	*e*P	**Pg**	**14 27 00.4**	**+0.6**
SZAC	**Souni-Zanaja**	**0.46**	**299**	⇓*i*P	**Pg**	**14 27 00.4**	**+0.6**
SZAC				S	**Sg**	**14 27 05.0**	**-1.0**
MAMC	**Mammari**	**0.65**	**349**	*e*P	**Pb**	**14 27 02.5**	**-0.9**
LEF	**Lefka**	**0.70**	**326**	*i*PG	**Pg**	**14 27 04.9**	**+0.3**
LEF				*i*SG	**Sg**	**14 27 16.4**	**+2.3**
PHNC	**Paralimni**	**0.72**	**49**	⇓P	**Pb**	**14 27 07.8**	**+3.1**
PHNC				S	**Sb**	**14 27 17.8**	**+3.4**
PHNC	**Paralimni**	**0.72**	**49**	⇓*i*P	**Pb**	**14 27 07.8**	**+3.1**
PHNC				S	**Sb**	**14 27 17.8**	**+3.4**
PHNC	**Paralimni**	**0.72**	**49**	*e*P	**Pb**	**14 27 07.8**	**+3.1**
PHNC				*e*S	**Sb**	**14 27 17.8**	**+3.4**
ALFC	**Alevga**	**0.89**	**315**	P	**Pb**	**14 27 07.5**	**0.0**
	54nm,0.2s						
ALFC				S	**Sb**	**14 27 16.5**	**-2.6**
ALFC	**Alevga**	**0.89**	**315**	*e*P	**Pb**	**14 27 07.5**	**0.0**
ALFC				S	**Sb**	**14 27 16.5**	**-2.6**
PPCY	**Paphos**	**0.91**	**293**	⇑P	**Pb**	**14 27 08.7**	**+0.8**
PPCY				S	**Sb**	**14 27 19.3**	**-0.6**
PPCY	**Paphos**	**0.91**	**293**	⇑*i*P	**Pb**	**14 27 08.7**	**+0.8**
PPCY				S	**Sb**	**14 27 19.3**	**-0.6**
PPCY	**Paphos**	**0.91**	**293**	*e*P	**Pb**	**14 27 08.7**	**+0.8**
PPCY				*e*S	**Sb**	**14 27 19.3**	**-0.6**
AKMC	**Akamas**	**0.98**	**300**	*e*P	**Pb**	**14 27 09.6**	**+0.4**
MATL	**Matirih**	**1.94**	**122**	*e*PN	**Pn**	**14 27 22.2**	**-1.7**
BHL	**Bhannes**	**2.00**	**108**	*e*PN	**Pn**	**14 27 22.7**	**-2.1**
BHL				SN	**Sn**	**14 27 47.9**	**-2.1**
HNTI	**Hanita**	**2.09**	**133**	Pn	**Pn**	**14 27 26.8**	**+0.8**
HNTI				Sn	**Sn**	**14 27 52.2**	**-0.1**
MEST	**Erdemli**	**2.15**	**17**	*i*P	**Pn**	**14 27 27.9**	**+1.0**
MEST				*i*S	**Sn**	**14 27 54.5**	**+0.8**
HWQ	**Hawqa**	**2.15**	**96**	*e*PN	**Pn**	**14 27 28.0**	**+1.1**
HWQ				SN	**Sn**	**14 27 53.5**	**-0.3**
KSDI	**Kefar Szold**	**2.33**	**124**	Pn	**Pn**	**14 27 30.5**	**+1.0**
KSDI				Sn	**Sn**	**14 27 57.9**	**-0.6**
OFRI	**'Ofer**	**2.34**	**144**	Pn	**Pn**	**14 27 30.5**	**+0.9**
HDMB	**Hadim**	**2.53**	**344**	PN	**Pn**	**14 27 32.3**	**0.0**
KSHT	**Keshet**	**2.56**	**127**	Pn	**Pn**	**14 27 34.8**	**+2.0**
SLTI	**Sal'it**	**2.68**	**148**	Sn	**Sn**	**14 28 07.3**	**-0.1**
MMLI	**Mount Malkishu**	**2.71**	**140**	Pn	**Pn**	**14 27 36.4**	**+1.5**
HTY	**Hatay**	**2.77**	**54**	PN	**Pn**	**14 27 35.4**	**-0.3**
QRNJ	**Al-Qirein**	**2.87**	**139**	*e*P	**Pn**	**14 27 36.7**	**-0.5**
	SNR=33						
QRNJ				*e*S	**Sn**	**14 28 11.4**	**-0.7**
	SNR=33						
COBT	**Iskenderun**	**3.08**	**49**	*i*P	**Pn**	**14 27 40.3**	**+0.2**
COBT				*i*S	**Sn**	**14 28 16.5**	**-1.0**
DRGI	**Dragot**	**3.39**	**149**	Pn	**Pn**	**14 27 45.8**	**+1.2**
MASJ	**El Maslubiya**	**3.42**	**144**	*e*P	**Pn**	**14 27 44.8**	**-0.3**
	SNR=33						
MASJ				*e*S	**Sn**	**14 28 26.0**	**-0.2**
	SNR=33						
MKRJ	**Makawir**	**3.53**	**147**	Pn	**Pn**	**14 27 48.0**	**+1.3**
MZDA	**Masada**	**3.63**	**152**	Pn	**Pn**	**14 27 48.8**	**+0.9**
MZDA				Sn	**Sn**	**14 28 30.4**	**-0.9**
RTMM	**Retamin**	**3.65**	**162**	Pn	**Pn**	**14 27 49.6**	**+1.4**
KZIT	**Kziot**	**3.72**	**166**	Pn	**Pn**	**14 27 49.9**	**+0.6**
KZIT				Sn	**Sn**	**14 28 32.2**	**-1.5**
MASH	**Mash'abbe Sade**	**3.73**	**161**	Pn	**Pn**	**14 27 50.1**	**+0.8**
LISJ	**El Lisan**	**3.74**	**151**	*e*P	**Pn**	**14 27 49.6**	**+0.1**
	SNR=33						
LISJ				*e*S	**Sn**	**14 28 35.2**	**+1.1**
	SNR=33						
AMAG	**Maghara**	**3.88**	**182**	⇓P	**Pn**	**14 27 52.1**	**+0.5**
AMAG	**Maghara**	**3.88**	**182**	⇓P	**Pn**	**14 27 52.1**	**+0.5**
FETY	**Fethiye**	**4.07**	**302**	*e*PN	**Pn**	**14 27 53.0**	**-1.3**
GOLH	**Golhisar**	**4.10**	**312**	*i*P	**Pn**	**14 27 56.1**	**+1.4**
GOLH				*i*S	**Sn**	**14 28 48.6**	**+5.2**
PRNI	**Paran**	**4.39**	**161**	Pn	**Pn**	**14 27 59.4**	**+0.6**
PRNI				Sn	**Sn**	**14 28 49.3**	**-1.5**
AVNT	**Avonos**	**4.40**	**15**	*i*P	**Pn**	**14 27 59.1**	**+0.1**
AVNT				*i*S	**Sn**	**14 28 50.4**	**-0.6**
DALT	**Dalyan (Mudla)**	**4.45**	**301**	*e*PN	**Pn**	**14 27 57.8**	**-1.9**
KMTI	**Karmit**	**4.56**	**165**	Pn	**Pn**	**14 28 01.8**	**+0.5**
HNKL	**Nakhl**	**4.62**	**173**	P	**Pn**	**14 28 02.2**	**+0.1**
HNKL				S	**Sn**	**14 28 54.4**	**-2.1**
HHAG	**Hagoal**	**4.69**	**194**	⇑P	**Pn**	**14 28 03.8**	**+0.7**
HHAG	**Hagoal**	**4.69**	**194**	⇑P	**Pn**	**14 28 03.8**	**+0.7**
SUZ		**4.70**	**186**	P	**Pn**	**14 28 03.6**	**+0.3**
KOT	**Kottamia**	**4.77**	**196**	⇑P	**Pn**	**14 28 05.0**	**+0.7**
KOT				S	**Sn**	**14 29 00.6**	**+0.2**
KOT	**Kottamia**	**4.77**	**196**	⇑P	**Pn**	**14 28 05.0**	**+0.7**
KOT				S	**Sn**	**14 29 00.6**	**+0.2**
MBH	**Mount Berech**	**4.91**	**164**	Pn	**Pn**	**14 28 06.8**	**+0.7**
SQR		**4.99**	**202**	⇓P	**Pn**	**14 28 08.2**	**+0.9**
SQR		**4.99**	**202**	⇓P	**Pn**	**14 28 08.2**	**+0.9**
EIL	**Elat**	**5.03**	**164**	Pn	**Pn**	**14 28 08.7**	**+0.8**
EIL				Sn	**Sn**	**14 29 05.4**	**-1.4**
HSAF	**As Saff**	**5.14**	**198**	⇑P	**Pn**	**14 28 10.1**	**+0.7**
HSAF	**As Saff**	**5.14**	**198**	⇑P	**Pn**	**14 28 10.1**	**+0.7**
GLL	**Jalalah**	**5.14**	**196**	⇑P	**Pn**	**14 28 10.1**	**+0.7**
GLL				S	**Sn**	**14 29 09.2**	**-0.3**
GLL	**Jalalah**	**5.14**	**196**	⇑P	**Pn**	**14 28 10.1**	**+0.7**
GLL				S	**Sn**	**14 29 09.2**	**-0.3**
GLL	**Jalalah**	**5.14**	**196**	P	**Pn**	**14 28 10.1**	**+0.7**
GLL				S	**Sn**	**14 29 09.2**	**-0.3**
ZNM		**5.16**	**185**	P	**Pn**	**14 28 09.8**	**+0.1**
ZAF		**5.28**	**188**	P	**Pn**	**14 28 11.7**	**+0.2**
ZAF		**5.28**	**188**	P	**Pn**	**14 28 11.7**	**+0.2**
ZAF		**5.28**	**188**	P	**Pn**	**14 28 11.6**	**+0.2**
ALWS	**Ilw as Safayha**	**5.41**	**164**	P	**Pn**	**14 28 14.0**	**+0.9**
ALWS				S	**Sn**	**14 29 11.6**	**-4.6**
HNAT	**Natroun**	**5.42**	**206**	P	**Pn**	**14 28 14.2**	**+0.9**
BODT	**Bodrum**	**5.53**	**299**	*e*PN	**Pn**	**14 28 12.2**	**-2.7**
JMOS	**Jabal al Moall**	**5.55**	**164**	P	**Pn**	**14 28 15.5**	**+0.2**
JMOS				S	**Sn**	**14 29 16.6**	**-3.3**
HAQS	**Haql**	**5.62**	**166**	P	**Pn**	**14 28 16.3**	**+0.1**
HDHB	**Dhahab**	**5.89**	**169**	⇑P	**Pn**	**14 28 19.1**	**-0.9**
HDHB	**Dhahab**	**5.89**	**169**	⇑P	**Pn**	**14 28 19.1**	**-0.9**
HKAT	**Jabal Katrina**	**6.02**	**175**	⇑P	**Pn**	**14 28 21.1**	**-0.7**
HKAT	**Jabal Katrina**	**6.02**	**175**	⇑P	**Pn**	**14 28 21.1**	**-0.7**
BDAS	**Al Bad'**	**6.26**	**166**	P	**Pn**	**14 28 24.1**	**-1.1**
GRB	**Gharib**	**6.26**	**185**	⇓P	**Pn**	**14 28 25.4**	**+0.1**
GRB	**Gharib**	**6.26**	**185**	⇓P	**Pn**	**14 28 25.4**	**+0.1**
TR1		**6.53**	**175**	P	**Pn**	**14 28 28.3**	**-0.7**
AYUS	**'Aynunah**	**6.53**	**165**	P	**Pn**	**14 28 28.2**	**-0.9**
HHRG	**Al Ghardaqah**	**7.29**	**179**	P	**Pn**	**14 28 38.8**	**-1.0**

IDC 07 14:34:41.9±3.4, 17.06S×66.79E, mb3.8/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.8/7, MS3.7/3, Ms1 3.8/3, ms1mx3.2/29, Error ellipse: s-maj=101.7km s-min=26.0km az=57.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**33.09**	**295**	LR	LR	14 52 41.1	
	comp=Z,75nm,18.8s,baz=95,slow=33						
CMAR	**Chiang Mai Arr**	**47.40**	**43**	P	P	14 43 19.1	-1.0
	0.3nm,0.4s,baz=240,slow=7.3,SNR=3.3						
CMAR				LR	LR	15 02 34.5	
	comp=Z,61nm,18.4s,baz=220,slow=35						
ASAR	**Alice Springs**	**62.78**	**108**	P	P	14 45 09.6	-2.2
	1.6nm,0.8s,baz=274,slow=5.6,SNR=22						
ASAR				LR	LR	15 08 50.4	
	comp=Z,133nm,19.4s,baz=212,slow=33						
WRA	**Warramunga Arr**	**63.74**	**104**	P	P	14 45 16.2	-2.0
	2.5nm,0.9s,baz=267,slow=5.7,SNR=18						
MKAR	**Makanchi Array**	**65.07**	**12**	P	P	14 45 23.2	-3.2
	0.7nm,0.9s,baz=207,slow=6.4,SNR=5.5						
BVAR	**Borovoye Array**	**69.86**	**2**	P	P	14 45 55.9	-0.5
	0.3nm,0.6s,baz=169,slow=7.3,SNR=2.3						
ZAL	**Zalesovo**	**72.38**	**11**	P	P	14 46 09.3	-2.3
	0.7nm,0.3s,baz=218,slow=21,SNR=2.0						
SONM	**Songino Array**	**73.67**	**27**	P	P	14 46 15.7	-3.6
	0.6nm,0.7s,baz=225,slow=1.7,SNR=4.3						

IDC 07 14:40:01.8±11.0, 20.22S×168.18E, mb3.8/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.8/3, Error ellipse: s-maj=283.0km s-min=77.4km az=131.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.76**	**265**	P	P	14 46 27.9	-2.1
	0.3nm,0.6s,baz=94,slow=7.8,SNR=15						
ASAR	**Alice Springs**	**31.94**	**257**	P	P	14 46 29.4	-2.2
	2.5nm,0.6s,baz=89,slow=7.9,SNR=72						
CMAR	**Chiang Mai Arr**	**78.00**	**295**	P	P	14 52 02.9	-1.4
	0.7nm,0.7s,baz=143,slow=2.8,SNR=4.3						

IDC 07 14:56:16.2±2.2, 7.44S×127.77E, mb4.1/1, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=280.7km s-min=30.4km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.97**	**154**	Pn	P	14 59 33.7	-4.3
	0.6nm,0.3s,baz=329,slow=14,SNR=52						
WRA				Sn	S	15 01 58.4	-17
	2.3nm,0.3s,baz=332,slow=25,SNR=13						
ASAR	**Alice Springs**	**17.18**	**161**	P	P	15 00 19.5	+0.1
	0.4nm,0.3s,baz=340,slow=9.6,SNR=32						
ASAR				S	S	15 03 17.6	-12
	0.4nm,0.3s,baz=202,slow=14,SNR=7.0						
MKAR	**Makanchi Array**	**67.40**	**328**	P	P	15 07 13.6	-2.1

comp=Z,46nm,1.0s
PALK Pallekele 17.46 290 *e*P **P 15 27 58.5 -2.6**
comp=Z,71nm,1.3s
NANT Nan 17.69 11 P **P 15 28 04.0 0.0**
comp=Z,600nm,0.9s
KKM Kota Kinabalu 19.55 76 *e*P **P 15 28 25.7 -0.8**
KKM Kota Kinabalu 19.55 76 P **P 15 28 26.6 +0.2**
MDRS Chennai 20.43 306 *e* **P 15 28 42.0 +6.2**
MDRS *e* 15 32 42.0
MDRS *e* 15 33 45.0
MDRS *e* 15 39 04.0
TSM Tawau 20.86 81 P **P 15 28 40.0 -0.3**
VIS Vishakhapatnam 21.23 321 *e*P **P 15 28 42.9 -1.1**
VIS *i* pP 15 28 45.6
VIS *e* 15 28 55.5
comp=Z,212nm,2.1s
VIS *e*S **S 15 32 33.6 -0.2**
KEDI Kedomdong 21.24 118⇑*i*P **P 15 28 37.3 -6.8**
KEDI pmax pmax
comp=Z,35nm,0.9s,mb4.7
KEDI Kedomdong 21.24 118⇑*i*P **P 15 28 37.3 -6.8**
comp=Z,35nm,0.9s,mb4.7
TRD Trivandrum 21.37 290⇓*e* **P 15 29 01.2 +16**
TRD *e* 15 32 49.2
QIZ Qiongzhong 21.52 34 P **P 15 28 46.3 -0.6**
QIZ AP 15 28 52.7
QIZ PP PP 15 29 10.5 -0.8
QIZ PPP PPP 15 29 20.0 -0.8
QIZ *e*S **S 15 32 38.7 -0.5**
QIZ AMB AMB
comp=Z,64nm,1.6s,mb4.8
QIZ AMB AMB
comp=Z,383nm,13.4s
QIZ LR LR
comp=N,1μm,16.2s,MS4.7
QIZ LR LR
comp=E,2μm,15.3s,MS4.7
QIZ LR LR
comp=Z,2μm,15.1s,MS4.6
QIZ Qiongzhong 21.52 34 *e*P **P 15 28 45.4 -1.5**
comp=Z,34nm,0.8s,mb4.8
BWNR Bhubaneshwar 21.88 330 *e*P **P 15 28 49.0 -1.5**
BWNR *e* 15 28 54.1
comp=Z,98nm,1.8s
BWNR ⇓*e* 15 32 45.3
NINI Niniconang 23.26 104 *e*P **P 15 29 04.9 +0.6**
BUNI Buntu Taipa 23.65 102 *e*P **P 15 29 09.3 +1.3**
KMI Kunming 24.25 12 P **P 15 29 15.4 +1.6**
KMI AP 15 29 23.0
KMI XP 15 29 26.0
KMI PP PP 15 29 53.6 +4.7
KMI S **S 15 33 34.0 +6.1**
KMI XS 15 33 44.3
KMI AMB AMB
comp=Z,224nm,1.4s,mb5.4
KMI AMB AMB
comp=Z,882nm,3.6s
KMI LR LR
comp=N,6μm,14.5s,MS5.3
KMI LR LR
comp=E,3μm,12.2s,MS5.3
KMI LR LR
comp=Z,7μm,13.4s,MS5.3
KMI Kunming 24.25 12 P **P 15 29 15.4 +1.6**
comp=Z,224nm,1.4s,mb5.4
KMI pP 15 29 23.0
KMI sP 15 29 26.0
KMI PP PP 15 29 53.6 +4.7
KMI S **S 15 33 34.0 +6.1**
KMI sS 15 33 44.3
KMI SS SS 15 34 31.0 +10
KMI LR LR
comp=Z,7μm,13.4s,MS5.3
HYB Hyderabad 24.31 312 *e*P **P 15 29 15.0 +0.5**
HYB *e*S **S 15 33 12.0 -17**
HYB Hyderabad 24.31 312 *i* P **P 15 29 15.0 +0.5**
SHL Shillong 24.63 348 *e*P **P 15 29 18.0 +0.6**
SHL *e*S **S 15 33 36.0 +1.6**
BLSP Bilaspur 25.34 326 *e*P **P 15 29 24.2 0.0**
BLSP *e* 15 29 28.0
comp=Z,91nm,1.4s
BLSP *e*S **S 15 33 42.1 -4.2**
LKP Lekhapani 25.87 358 *e*P **P 15 29 31.0 +1.8**
GYA Guiyang 26.59 19⇑*i*P **P 15 29 35.8 0.0**
GYA AP pP 15 29 42.6 -0.3
GYA XP sP 15 29 45.7 -0.4
GYA AMB AMB
comp=Z,70nm,1.3s,mb5.0
GYA AMB AMB
comp=Z,310nm,5.7s
GYA LR LR
comp=N,5μm,14.3s,MS5.3
GYA LR LR
comp=E,2μm,13.7s,MS5.3
GYA LR LR
comp=Z,6μm,15.2s,MS5.3
GZH Guangzhou 26.71 35 P **P 15 29 39.9 +3.0**
GZH S **S 15 34 04.9 -4.2**
GZH LR LR
comp=N,1μm,14.2s,MS4.9
GZH LR LR
comp=E,2μm,14.1s,MS4.9
GZH LR LR
comp=Z,4μm,15.1s,MS5.1
JIRN Jiri 28.22 339 *e*P **P 15 29 51.8 +1.2**
comp=Z,360nm,1.1s,mb5.9
PKI Pulchoki 28.42 338 *e*P **P 15 29 53.0 +0.6**
comp=Z,185nm,1.2s,mb5.6
PKI Pulchoki 28.42 338 *e*P **P 15 29 53.0 +0.6**
PKI pmax pmax
comp=Z,93nm,1.2s,mb5.3
DMN Daman 28.57 337 *e*P **P 15 29 54.6 +0.8**
comp=Z,165nm,1.0s,mb5.7
KKN Kakani 28.67 338 *e*P **P 15 29 55.1 +0.4**
comp=Z,226nm,1.1s,mb5.8
KKN Kakani 28.67 338 *e*P **P 15 29 55.1 +0.4**
KKN pmax pmax
comp=Z,113nm,1.1s,mb5.5
BHPL Bhopal 29.02 320 *e*P **P 15 29 58.2 +0.4**
BHPL *e* 15 30 23.5
comp=Z,32nm,1.8s
GKN Gorkha 29.11 337 *e*P **P 15 29 59.3 +0.7**
comp=Z,244nm,1.0s,mb5.9
KOLN Koldanda 29.33 335 *e*P **P 15 30 01.4 +0.8**
comp=Z,122nm,0.9s,mb5.6
CD2 Chengdu 30.06 11 P **P 15 30 06.3 -0.8**
CD2 AP pP 15 30 12.7 -1.6
CD2 S **S 15 35 03.1 +0.3**
CD2 AMB AMB
comp=Z,70nm,1.0s,mb5.3
CD2 LR LR
comp=N,5μm,15.6s
CD2 LR LR
comp=Z,5μm,14.4s,MS5.3
ENH Enshi 31.06 21 *e*P **P 15 30 14.3 -1.6**
comp=Z,128nm,0.9s,mb5.8
QZH Quanzhou 31.27 40⇑*i*P **P 15 30 17.1 -0.7**
QZH S **S 15 35 20.8 -1.1**
QZH XS 15 35 38.0
QZH AMB AMB
comp=Z,70nm,1.0s,mb5.5
QZH LR LR
comp=N,4μm,12.9s,MS5.3
QZH LR LR
comp=E,4μm,15.4s,MS5.3
QZH LR LR
comp=Z,6μm,14.2s,MS5.4
LGTI Lohaghat 32.28 332 *e*P **P 15 30 27.7 +1.1**
YHNB Yeheng 32.93 43 *e*P **P 15 30 32.0 -0.3**
NDI New Delhi 33.21 327 *e*P **P 15 30 34.0 -0.7**
NDI *e*S **S 15 35 51.0 -1.1**
WHN Wuhan 33.30 28⇑P **P 15 30 35.3 -0.2**
WHN AMB AMB
comp=Z,80nm,1.0s,mb5.6
WHN LR LR
comp=Z,5μm,14.8s,MS5.4
FITZ Fitzroy Crossi 34.02 126⇑*i*P **P 15 30 40.3 -1.5**
comp=Z,17nm,0.6s,mb5.2
FITZ *e*pP pP 15 30 53.7 +4.7
FITZ *e*PCP PcP 15 33 26.5 +7.0
FITZ Fitzroy Crossi 34.02 126 P **P 15 30 40.8 -1.0**
comp=Z,30nm,0.8s,mb5.3,baz=324,slow=4.0,SNR=31
FITZ pP pP 15 30 48.4 -0.6
comp=Z,14nm,0.7s,baz=318,slow=2.6,SNR=4.9
DDI Dehra Dun 34.07 330 *e* **P 15 30 42.0 -0.2**

XAN Xi'an 34.34 17 P **P 15 30 42.3 -2.1**
XAN AP pP 15 30 50.4 -1.2
XAN AMB AMB
comp=Z,104nm,1.2s,mb5.6
XAN LR LR
comp=N,2μm,14.9s,MS5.2
XAN LR LR
comp=E,2μm,16.0s,MS5.2
XAN LR LR
comp=Z,4μm,16.0s,MS5.2
LZH Lanzhou 35.12 9 *e*P **P 15 30 51.0 -0.1**
LZH AP pP 15 30 58.1 -0.3
LZH XP sP 15 31 04.0 +2.5
LZH PP PP 15 32 14.0 +4.0
LZH *e*S **S 15 36 18.3 -3.3**
LZH AMB AMB
comp=Z,170nm,1.3s,mb5.8
LZH AMB AMB
comp=Z,640nm,4.0s
LZH LR LR
comp=E,4μm,15.6s
LZH LR LR
comp=Z,6μm,17.0s,MS5.4
LZH Lanzhou 35.12 9 *e*P **P 15 30 51.0 -0.1**
comp=Z,170nm,1.3s,mb5.8
LZH pP pP 15 30 58.1 -0.3
LZH sP sP 15 31 04.0 +2.5
LZH PP PP 15 32 14.0 +4.0
LZH *e*S **S 15 36 18.3 -3.3**
LZH sS 15 36 30.0
LZH SS SS 15 38 30.0 -7.9
LZH LR LR
comp=Z,6μm,17.0s,MS5.4
SDNR Sundarnagar 35.57 330 *e*P **P 15 30 55.6 +0.6**
NJ2 Nanjing 36.75 32 *e*P **P 15 31 05.1 +0.2**
NJ2 AP pP 15 31 15.3 +3.1
NJ2 XP sP 15 31 19.5 +4.2
NJ2 S **S 15 36 46.0 -0.7**
NJ2 XS 15 37 02.0
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,4μm,13.7s,MS5.4
NJ2 LR LR
comp=E,2μm,13.6s,MS5.4
NJ2 LR LR
comp=Z,18μm,12.0s,MS6.1
THN Thein Dam 36.96 329 *e*P **P 15 31 06.6 0.0**
SSE Sheshan 37.31 35 P **P 15 31 09.3 -0.3**
SSE XP sP 15 31 22.1 +2.2
SSE PP PP 15 32 35.8 -1.5
SSE PCP PcP 15 33 25.6 -3.5
SSE S **S 15 36 58.8 +3.6**
SSE XS 15 37 13.5
SSE AMB AMB
comp=Z,41nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,130nm,6.9s
SSE LR LR
comp=N,2μm,14.1s,MS5.0
SSE LR LR
comp=E,870nm,14.6s,MS5.0
SSE LR LR
comp=Z,2μm,15.4s,MS5.0
SSE Sheshan 37.31 35 P **P 15 31 09.3 -0.3**
comp=Z,41nm,0.7s,mb5.4
SSE sP sP 15 31 22.1 +2.2
SSE PP PP 15 32 35.8 -1.5
SSE PcP PcP 15 33 25.6 -3.5
SSE S **S 15 36 58.8 +3.6**
SSE sS 15 37 13.5
SSE SS SS 15 39 44.4 +17
SSE LR LR
comp=Z,2μm,15.4s,MS5.0
MUN Mundaring 37.72 153 *e*P **P 15 31 21.5 +8.5**
comp=Z,76nm,1.1s,mb5.3
GTA Gaotai 37.97 3⇑P **P 15 31 15.3 +0.2**
GTA AP pP 15 31 21.2 -1.1
GTA PP PP 15 32 44.6 -0.6
GTA PPP PPP 15 33 11.6 +4.5
GTA PCP PcP 15 33 31.4 +0.3
GTA S **S 15 37 06.2 +1.0**
GTA SCP 15 37 18.2
GTA SS SS 15 39 41.0 -1.4
GTA SCS ScS 15 41 23.2 -0.4
GTA AMB AMB
comp=Z,47nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,375nm,6.8s
GTA LR LR
comp=N,1μm,14.8s,MS5.0
GTA LR LR
comp=E,1μm,14.1s,MS5.0
GTA LR LR
comp=Z,2μm,14.4s,MS5.0
NWAO Narrogin (SRO) 38.98 153 P **P 15 31 24.3 +0.6**
comp=Z,20nm,1.1s,mb4.8,baz=328,slow=13,SNR=3.5
NWAO pP pP 15 31 31.9 +1.0
comp=Z,16nm,0.7s,baz=346,slow=9.0,SNR=5.1
NWAO Narrogin (SRO) 38.98 153 P **P 15 31 24.3 +0.6**
NWAO pP pP 15 31 31.9 +1.0
JOW Kunigami 39.15 47 P **P 15 31 26.0 +0.9**
comp=Z,95nm,0.8s,mb5.5,baz=242,slow=7.8,SNR=30
JOW pP pP 15 31 33.4 +1.0
comp=Z,32nm,0.6s,baz=244,slow=12,SNR=5.4
JOW LR LR 15 47 25.5
comp=Z,411nm,19.4s,MS4.3,baz=268,slow=36
JOW Kunigami 39.15 47 P **P 15 31 26.0 +0.9**
JOW pP pP 15 31 33.4 +1.0
JOW LR LR 15 47 25.5
BTO Baotou 40.78 15 *e*P **P 15 31 38.4 0.0**
BTO S **S 15 37 38.7 -8.8**
HHC Hu-ho-hao-te 41.43 17 *e*P **P 15 31 44.8 +1.1**
HHC AP pP 15 31 52.3 +1.3
HHC XP sP 15 31 54.8 +0.8
HHC PP PP 15 33 23.4 +0.9
HHC PCP PcP 15 33 41.0 -1.1
HHC SCP 15 37 27.2
HHC PCS 15 37 32.3
HHC S **S 15 37 59.6 +2.5**
HHC XS 15 38 12.3
HHC SS SS 15 40 57.8 +1.0
HHC SCS ScS 15 41 43.9 +0.1
HHC AMB AMB
comp=Z,38nm,1.6s,mb4.8
HHC AMB AMB
comp=Z,372nm,5.1s
HHC LR LR
comp=N,2μm,16.7s,MS5.2
HHC LR LR
comp=E,1μm,16.9s,MS5.2
HHC LR LR
comp=Z,3μm,15.7s,MS5.2
WRA Warramunga Arr 42.12 122 P **P 15 31 49.3 -0.4**
WRA *PP pP 15 31 56.6 -0.4
WRA 15 33 44.9
WRA S **S 15 38 04.7 -2.8**
WRA Warramunga Arr 42.12 122 P **P 15 31 49.3 -0.4**
comp=Z,14nm,0.6s,mb4.8,baz=301,slow=9.1,SNR=200
WRA pP pP 15 31 56.6 -0.3
comp=Z,9.7nm,0.5s,baz=302,slow=9.1,SNR=18
WRA PcP PcP 15 33 44.9 +0.2
comp=Z,3.3nm,0.9s,baz=312,slow=2.8,SNR=4.3
WRA pPcP 15 33 51.8
comp=Z,2.7nm,0.6s,baz=310,slow=2.6,SNR=8.3
WRA ScP 15 37 35.2
comp=Z,2.8nm,1.2s,baz=313,slow=3.1,SNR=4.5
WRA S **S 15 38 04.7 -2.9**
comp=Z,3.3nm,1.1s,baz=296,slow=16,SNR=6.4
WRAB Tennant Creek 42.12 122 *e*P **P 15 31 48.8 -0.9**
WRAB pmax pmax
comp=Z,42nm,0.9s,mb5.1
WRAB Tennant Creek 42.12 122 *e*P **P 15 31 48.8 -0.9**
comp=Z,42nm,0.9s,mb5.1
WB2 Warramunga Arr 42.12 122⇑*i*P **P 15 31 49.2 -0.5**
WB2 *i* pP pP 15 31 56.0 -1.0
WB2 *e*S **S 15 38 01.5 -6.2**
BJT Baijiatuau 42.19 22 *e*P **P 15 31 50.7 +0.6**
BJT pmax pmax
comp=Z,35nm,0.6s
BJT Baijiatuau 42.19 22 *e*P **P 15 31 50.7 +0.7**
comp=Z,35nm,0.6s,mb5.2

BJI Beijing 42.22 22 P **P 15 31 51.3 +1.1**
BJI AP pP 15 32 00.2 +2.7
BJI XP sP 15 32 04.1 +3.5
BJI AMB AMB
comp=Z,70nm,0.9s,mb5.3
BJI AMB AMB
comp=Z,671nm,4.1s
BJI LR LR
comp=N,1μm,14.4s,MS5.0
BJI LR LR
comp=E,647nm,14.0s,MS5.0
BJI LR LR
comp=Z,691nm,22.1s
BJI Beijing 42.22 22 P **P 15 31 51.3 +1.1**
comp=Z,70nm,0.9s,mb5.3
BJI pP pP 15 32 00.2 +2.7
BJI sP sP 15 32 04.1 +3.5
BJI PP PP 15 33 37.4 +6.4
BJI S **S 15 38 27.1 +18**
BJI SS ScS 15 41 54.1 +5.5
BJI LR LR
comp=Z,690nm,22.1s,MS4.5
KSH Kashi 42.64 336 *e*P **P 15 31 54.6 +0.9**
KSH *e*AP pP 15 32 01.9 +0.9
KSH *e*XP sP 15 32 04.3 +0.2
KSH *e*PP PP 15 33 35.1 -0.2
KSH *e*PCP PcP 15 33 46.1 -0.1
KSH *e*PPP PPP 15 34 09.3 +0.4
KSH *e*SCP 15 37 34.3
KSH *e*PCS 15 37 37.3
KSH *e*S **S 15 38 14.4 -0.7**
KSH *e*SS SS 15 41 18.5 -1.0
KSH *e*SCS ScS 15 41 51.4 +0.1
KSH AMB AMB
comp=Z,240nm,2.9s,mb5.4
KSH LR LR
comp=N,320nm,4.6s
KSH LR LR
comp=E,290nm,5.2s
WMQ Urumqi 43.14 350⇑P **P 15 31 58.6 +0.9**
WMQ AP pP 15 32 06.1 +1.1
WMQ XP sP 15 32 09.6 +1.6
WMQ PP PP 15 33 41.1 +0.9
WMQ PCP PcP 15 33 49.1 +1.4
WMQ S **S 15 38 22.6 +0.4**
WMQ AMB AMB
comp=Z,68nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,372nm,3.8s
WMQ LR LR
comp=N,995nm,18.4s,MS4.9
WMQ LR LR
comp=E,764nm,17.6s,MS4.9
WMQ LR LR
comp=Z,381nm,19.2s,MS4.3
MENI Mendum Tagoi 43.38 95⇑*i*P **P 15 31 57.2 -2.9**
MENI pmax pmax
comp=Z,21nm,1.0s,mb4.8
MENI Mendum Tagoi 43.38 95⇑*i*P **P 15 31 57.2 -2.9**
comp=Z,21nm,1.0s,mb4.8
FORT Forrest 43.39 140 *e*P **P 15 32 02.0 +2.1**
comp=Z,351nm,0.6s,mb6.3
FORT *e*pP pP 15 32 08.6 +1.4
ASPA Alice Springs 43.48 127⇑*i*P **P 15 32 00.8 0.0**
ASPA *e*S **S 15 38 23.0 -4.5**
ASAR Alice Springs 43.48 127 P **P 15 32 00.8 +0.1**
comp=Z,11nm,0.9s,mb4.6,baz=298,slow=7.9,SNR=101
ASAR pP pP 15 32 08.3 +0.3
comp=Z,7.9nm,0.8s,baz=300,slow=7.6,SNR=14
ASAR PcP PcP 15 33 49.5 +0.4
comp=Z,3.9nm,0.8s,baz=305,slow=3.2,SNR=6.7
ASAR pPcP 15 33 56.0
comp=Z,3.5nm,0.6s,baz=303,slow=2.6,SNR=8.2
ASAR ScP 15 37 40.9
comp=Z,2.2nm,0.9s,baz=299,slow=4.0,SNR=6.3
ASAR S **S 15 38 26.5 -1.0**
comp=Z,3.4nm,1.1s,baz=299,slow=13,SNR=7.0
ASAR LR LR 15 53 29.6
comp=Z,423nm,19.2s,MS4.4,baz=292,slow=41
YOMI Yo Moklole 43.54 95⇑*i*P **P 15 31 57.9 -3.5**
comp=Z,36nm,1.1s,mb5.0
DL2 Dalian 43.56 28 P **P 15 32 02.1 +0.9**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.1
DL2 LR LR
comp=N,440nm,17.3s,MS4.5
DL2 LR LR
comp=E,390nm,17.3s,MS4.5
DL2 LR LR
comp=Z,570nm,17.5s,MS4.5
ULHL Ulahol 44.87 338 P **P 15 32 13.2 +1.5**
SNR=8.7
KZA Kyzart 45.10 337 P **P 15 32 14.8 +1.2**
SNR=10
UCH Uchtor 45.52 336 P **P 15 32 18.4 +1.5**
SNR=29
TKM2 Tokmak 2 45.69 338 P **P 15 32 19.3 +1.1**
SNR=14
KBK Karagaybulak 45.71 337 P **P 15 32 20.2 +1.8**
SNR=24
AML Almayashu 45.77 336 P **P 15 32 20.1 +1.2**
SNR=24
AAK Ala-Archa 45.87 337 P **P 15 32 20.9 +1.2**
SNR=7.5
AAK Ala-Archa 45.87 337⇑*i*P **P 15 32 19.7 0.0**
AAK pmax pmax
comp=Z,14nm,0.8s,mb4.9
AAK Ala-Archa 45.87 337 *e*P **P 15 32 19.4 -0.2**
comp=Z,19nm,1.0s,mb5.0
FRU Bishkek 45.99 337 *e*P **P 15 32 22.0 +1.4**
FRU *i* 15 32 33.5
FRU *e* 15 39 17.0
FRU pmax pmax
comp=Z,160nm,2.6s,mb5.5
CHMS Chumysh 46.08 337 P **P 15 32 22.1 +0.8**
SNR=7.9
EKS2 Erkin-Say 46.18 336 P **P 15 32 23.3 +1.2**
SNR=21
USP Ospenovka 46.40 337 P **P 15 32 24.8 +0.9**
SNR=29
SONM Songino Array 47.00 8 P **P 15 32 29.1 +0.6**
comp=Z,37nm,0.9s,mb5.3,baz=191,slow=8.5,SNR=172
SONM pP pP 15 32 36.3 +0.5
comp=Z,24nm,0.8s,baz=192,slow=8.8,SNR=19
SONM PcP PcP 15 34 01.3 +0.3
comp=Z,3.6nm,0.7s,baz=192,slow=2.5,SNR=3.3
SONM pPcP 15 34 09.0
comp=Z,3.9nm,0.6s,baz=188,slow=3.7,SNR=4.8
MKAR Makanchi Array 47.11 346 *i* P **P 15 32 29.6 +0.2**
MKAR pmax pmax
comp=Z,41nm,0.9s
MKAR Makanchi Array 47.11 346 P **P 15 32 29.6 +0.2**
comp=Z,22nm,0.8s,mb5.1,baz=158,slow=7.7,SNR=194
MKAR pP pP 15 32 37.5 +0.8
comp=Z,20nm,0.7s,baz=159,slow=8.8,SNR=17
MKAR LR LR 15 56 05.0
comp=Z,511nm,21.1s,MS4.5,baz=162,slow=41
MKAR Makanchi Array 47.11 346 P **P 15 32 29.6 +0.2**
MKAR pP pP 15 32 37.5 +0.8
MKAR LR LR 15 56 05.0
ULN Ulaanbaatar 47.13 9 *e*P **P 15 32 29.7 +0.2**
ULN pmax pmax
comp=Z,29nm,0.9s,mb5.2
ULN Ulaanbaatar 47.13 9 *e*P **P 15 32 29.7 +0.2**
comp=Z,29nm,0.9s,mb5.2
ZAK Zakamensk 49.14 5⇓*i*P **P 15 32 44.9 -0.2**
ZAK pmax pmax
comp=Z,14nm,1.7s,mb4.7
CN2 Changchun 49.19 27⇑P **P 15 32 45.1 -0.5**
CN2 *e*AP pP 15 32 51.3 -1.7
CN2 *e*S **S 15 39 50.4 +1.9**
CN2 AMB AMB
comp=Z,70nm,1.0s,mb5.7
CN2 AMB AMB
comp=Z,400nm,3.0s
CN2 LR LR
comp=N,2μm,16.0s,MS5.3
CN2 LR LR
comp=E,2μm,16.0s,MS5.3
CN2 LR LR
comp=Z,2μm,17.0s,MS5.1
MOY Mondy 50.25 3 *e*P **P 15 32 54.0 +0.3**
MOY pmax pmax
comp=Z,40nm,2.6s,mb5.0
TLY Talaya 50.46 5 *e*P **P 15 32 55.5 +0.3**
TLY *e*S **S 15 40 07.5 +1.4**

TLY pmax pmax
comp=Z,21nm,0.9s,mb5.2
TLY MLR MLR
comp=Z,1µm,16.0s,MS5.0
PMG Port Moresby 50.90 103 P P 15 32 59.0 -0.1
comp=Z,17nm,0.8s,mb5.0,baz=218,slow=13,SNR=4.5
PMG pP pP 15 33 06.8 +0.3
comp=Z,16nm,0.7s,baz=293,slow=4.3,SNR=4.4
IRK Irkutsk 51.07 6 *eP* **P 15 32 58.9 -1.0**
IRK *e* 15 34 59.2
IRK pmax pmax
comp=Z,50nm,1.6s,mb5.2
HIA Hailar 51.51 19 *eP* **P 15 33 02.6 -0.7**
HIA pmax pmax
comp=Z,43nm,1.0s
HIA Hailar 51.51 19 *eP* **P 15 33 02.6 -0.6**
comp=Z,43nm,1.0s,mb5.3
MAJO Matsushiro 51.59 42 *eP* **P 15 33 03.3 -0.8**
MAJO pmax pmax
comp=Z,17nm,1.0s,mb4.9
MAJO Matsushiro 51.59 42 *eP* **P 15 33 03.3 -0.7**
comp=Z,17nm,1.0s,mb4.9
MAT Matsushiro 51.59 42 P **P 15 33 04.0 -0.1**
MAT *eS* **S 15 40 33.0 +11**
MAT pmax pmax
comp=Z,15nm,1.0s,mb4.9
MAT Matsushiro 51.59 42 P **P 15 33 04.0 -0.1**
comp=Z,15nm,1.0s,mb4.9
MAT *eS* **S 15 40 33.0 +11**
MAT Matsushiro 51.59 42 P **P 15 33 02.5 -1.6**
MAT S **S 15 40 24.8 +2.8**
MJAR Matsushiro Arr 51.60 42 P **P 15 33 03.7 -0.3**
comp=Z,9.5nm,0.9s,mb4.7,baz=222,slow=6.4,SNR=16
MJAR pP pP 15 33 12.2 +0.7
comp=Z,4.4nm,0.8s,baz=227,slow=6.1,SNR=4.4
MJAR LR LR 15 55 09.1
comp=Z,501nm,21.6s,MS4.5,baz=245,slow=36
MJAR Matsushiro Arr 51.60 42 P **P 15 33 03.7 -0.3**
MJAR pP pP 15 33 12.2 +0.7
MJAR LR LR 15 55 09.1
KURK Kurchatov 51.66 345 P **P 15 33 04.1 -0.2**
KURK pmax pmax
comp=Z,18nm,1.0s,mb5.0
MDJ Mudanjiang 51.75 29 P **P 15 33 05.0 -0.1**
MDJ AP pP 15 33 12.3 -0.3
MDJ XP sP 15 33 17.7 +2.2
MDJ PP PP 15 35 02.8 -0.8
MDJ AMB AMB
comp=Z,35nm,0.9s,mb5.3
MDJ AMB AMB
comp=Z,254nm,3.8s
MDJ LR LR
comp=N,605nm,17.1s,MS4.7
MDJ LR LR
comp=E,151nm,17.1s,MS4.7
MDJ LR LR
comp=Z,893nm,14.4s,MS4.9
MDJ Mudanjiang 51.75 29 *eP* **P 15 33 05.2 0.0**
comp=Z,34nm,0.9s,mb5.3
CTA Charters Tower 52.57 117 *eP* **P 15 33 11.6 0.0**
comp=Z,10.0nm,0.9s,mb4.8
CTA Charters Tower 52.57 117 *eP* **P 15 33 11.6 0.0**
CTA pmax pmax
comp=Z,10.0nm,0.9s
CTA Charters Tower 52.57 117 P **P 15 33 11.7 +0.1**
comp=Z,11nm,0.9s,mb4.8,baz=302,slow=9.6,SNR=6.3
CTA pP pP 15 33 19.3 +0.2
comp=Z,8.9nm,0.7s,baz=293,slow=11,SNR=4.3
CTA LR LR 15 59 58.1
comp=Z,876nm,18.4s,MS4.8,baz=283,slow=41
OPO Ambohidratompo 52.97 246 P **P 15 33 15.5 +0.8**
comp=Z,9.7nm,1.0s,mb4.7,baz=67,slow=8.1,SNR=6.1
OPO pP pP 15 33 24.1 +2.0
comp=Z,4.1nm,0.9s,baz=96,slow=14,SNR=2.3
ZAL Zalesovo 53.41 351 P **P 15 33 17.5 +0.1**
comp=Z,23nm,0.7s,mb5.2,baz=300,slow=6.5,SNR=107
ZAL LR LR 16 01 29.2
comp=Z,486nm,20.3s,MS4.5,baz=298,slow=42
ZAL Zalesovo 53.41 351 P **P 15 33 17.5 +0.1**
ZAL LR LR 16 01 29.2
STKA Stephens Creek 53.45 132⇑ *iP* **P 15 33 18.4 +0.4**
comp=Z,12nm,0.8s,mb4.9
STKA *ep*P pP 15 33 25.7 +0.2
STKA Stephens Creek 53.45 132 P **P 15 33 18.6 +0.6**
comp=Z,14nm,0.8s,mb5.0,baz=310,slow=7.2,SNR=30
STKA pP pP 15 33 25.9 +0.5
comp=Z,16nm,0.6s,baz=324,slow=6.9,SNR=12
STKA LR LR 15 58 15.0
comp=Z,1µm,21.8s,MS4.9,baz=287,slow=38
BVA0 Borovoye Array 56.12 341 *iP* **P 15 33 36.0 -1.1**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BVAR Borovoye Array 56.12 341 P **P 15 33 36.0 -1.1**
comp=Z,18nm,0.7s,mb5.2,baz=135,slow=8.4,SNR=141
KLR Kul'dur 56.14 27⇓ *iP* **P 15 33 34.0 -3.3**
KLR *eS* **S 15 41 27.5 +4.4**
KLR pmax pmax
comp=N,32nm,1.0s
KLR pmax pmax
comp=E,48nm,1.0s
KLR pmax pmax
comp=Z,60nm,1.0s,mb5.6
KLR MLR MLR
comp=E,600nm,14.0s
KLR MLR MLR
comp=Z,2µm,14.0s,MS5.3
CHKZ Chkalovo 56.59 341 P **P 15 33 39.8 -0.7**
CHKZ pmax pmax
comp=Z,32nm,0.9s,mb5.3
BOD Bodaibo 57.88 11 *eP* **P 15 33 49.0 -0.5**
BOD pmax pmax
comp=Z,39nm,1.0s,mb5.4
CLNS Chul'man 59.61 17⇑ *iP* **P 15 34 01.5 -0.1**
CLNS *e**PP pP 15 34 08.5 -0.7
CLNS *eS* **S 15 42 10.6 +2.0**
CLNS *eSS* SS 15 46 07.9 +2.3
CLNS pmax pmax
comp=Z,47nm,0.8s,mb5.6
CLNS pmax pmax
comp=N,25nm,0.9s
CLNS pmax pmax
comp=E,21nm,0.8s
CLNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.7s
CLNS smax
comp=N,5.0nm,0.8s
CLNS smax
comp=Z,3.0nm,1.0s
CLNS smax
comp=E,4.0nm,0.9s
CLNS MLR MLR
comp=Z,2µm,16.0s,MS5.4
CLNS MLR MLR
comp=N,1µm,15.0s,MS5.2
CLNS MLR MLR
comp=E,400nm,15.0s,MS5.2
KMBO Kilima Mbogo 59.98 268 *eP* **P 15 34 03.9 -0.9**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 59.98 268 P **P 15 34 05.5 +0.7**
comp=Z,0.7nm,0.3s,mb4.1,baz=20,slow=23,SNR=3.9
KMBO LR LR 15 58 57.5
comp=Z,471nm,18.1s,MS4.7,baz=94,slow=35
KMBO Kilima Mbogo 59.98 268 *eP* **P 15 34 03.9 -0.9**
comp=Z,3.4nm,0.8s,mb4.4
YSS Yuzh-Sakhalins 60.24 34⇓ *iP* **P 15 34 06.0 -0.1**
YSS *e* 15 34 22.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS MLR MLR
comp=Z,1µm,15.0s,MS5.1
YSS Yuzh-Sakhalins 60.24 34⇓ *iP* **P 15 34 06.4 +0.3**
GNI Garni 61.19 316 *eP* **P 15 34 12.3 -0.3**
GNI pmax pmax
comp=Z,21nm,1.7s
GNI Garni 61.19 316 P **P 15 34 13.9 +1.3**
comp=Z,3.2nm,0.3s,mb4.9,baz=40,slow=0.5,SNR=5.8
GNI LR LR 16 05 46.1
comp=Z,226nm,19.4s,MS4.3,baz=327,slow=41
GNI Garni 61.19 316 *eP* **P 15 34 10.8 -1.7**
comp=Z,16nm,0.8s,mb5.2
GNI LR LR 16 05 46.1

TI2 Plekhanov 61.87 318 *iP* **P 15 34 07.6 -10**
SVE Sverdlovsk 62.56 338⇑ *iP* **P 15 34 20.5 -1.1**
SVE *e* 15 35 04.0
SVE pmax pmax
comp=Z,120nm,1.7s,mb5.8
SVE MLR MLR
comp=N,300nm,19.0s,MS4.5
SVE MLR MLR
comp=E,100nm,19.0s,MS4.5
SVE MLR MLR
comp=Z,600nm,19.0s,MS4.8
ZEI Tsey 62.89 318 *eP* **P 15 34 23.3 -0.6**
ZEI *i* *PP pP 15 34 31.1 -0.4
ZEI *i* 15 36 37.7
ZEI *eS* **S 15 42 47.7 -2.7**
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
ARU Arti 63.05 337 *eP* **P 15 34 24.0 -0.8**
ARU *e* 15 36 43.2
ARU *eS* **S 15 42 54.8 +2.5**
ARU *eSS* SS 15 46 56.6 -3.6
ARU Arti 63.05 337 *eP* **P 15 34 24.3 -0.5**
HNR Honiara 63.40 101 P **P 15 34 26.5 -1.2**
comp=Z,103nm,0.9s,mb6.0,baz=186,slow=1.5,SNR=7.2
HNR Honiara 63.40 101 *eP* **P 15 34 26.8 -0.9**
comp=Z,42nm,0.8s,mb5.6
KIV Kislovodsk 64.20 319c *iP* **P 15 34 31.9 -0.7**
KIV *i* pP 15 34 38.1 -2.1
KIV *i* S **S 15 43 07.1 +0.3**
KIV pmax pmax
comp=Z,15nm,1.0s,mb5.0
KIV Kislovodsk 64.20 319 *eP* **P 15 34 31.5 -1.1**
comp=Z,28nm,1.0s,mb5.2
ASF Jabal al Asfar 64.38 305 P **P 15 34 34.2 +0.2**
comp=Z,2.3nm,0.5s,mb4.5,baz=251,slow=3.9,SNR=3.9
ASF pP pP 15 34 42.0 +0.4
comp=Z,4.7nm,0.6s,baz=299,slow=1.3,SNR=3.9
ASF LR LR 16 03 54.2
comp=Z,323nm,18.8s,MS4.5,baz=165,slow=37
GOF Gofitskoye 64.45 320⇑ *iP* **P 15 34 32.4 -1.8**
GOF pmax pmax
comp=Z,30nm,1.7s,mb5.0
MALT Malatya 65.03 312 *eP* **P 15 34 37.0 -1.1**
MALT *e**PP pP 15 34 44.9 -0.8
MALT pmax pmax
comp=Z,12nm,0.9s,mb4.9
MALT Malatya 65.03 312 *eP* **P 15 34 37.0 -1.1**
comp=Z,12nm,0.9s,mb4.9
MALT *ep*P pP 15 34 44.9 -0.8
YAK Yakutsk 65.29 16 *eP* **P 15 34 38.0 -1.3**
YAK *e**PP pP 15 34 45.2 -1.7
YAK pmax pmax
comp=Z,110nm,0.8s,mb5.9
YAK Yakutsk 65.29 16 *eP* **P 15 34 38.0 -1.3**
comp=Z,110nm,0.8s,mb5.9
YAK *ep*P pP 15 34 45.2 -1.7
EIL Elat 65.38 302 pP pP 15 34 47.8 -0.2
comp=Z,15nm,1.0s,baz=60,slow=9.9,SNR=9.4
EIL Elat 65.38 302 *eP* **P 15 34 39.3 -1.1**
comp=Z,23nm,1.0s,mb5.2
EIL *ep*P pP 15 34 46.6 -1.5
SOC Sochi 66.01 318 *eP* **P 15 34 40.9 -3.3**
SOC *e* 15 35 13.9
SOC *e* 15 37 08.3
SOC *e*PPP PPP 15 38 40.2 -6.8
SOC *eS* S 15 43 26.6 -2.5
SOC *e* 15 44 33.2
SOC *e* 15 47 44.4
SOC pmax pmax
comp=Z,26nm,1.1s,mb5.2
SOC pmax pmax
comp=N,6.0nm,0.9s
SOC pmax pmax
comp=E,14nm,1.1s
MBAR Mbarara 66.48 269 *eP* **P 15 34 47.2 -0.5**
MBAR *e**PP pP 15 34 53.8 -1.5
MBAR pmax pmax
comp=Z,13nm,1.6s,mb4.7
MBAR Mbarara 66.48 269 *eP* **P 15 34 47.2 -0.5**
comp=Z,12nm,1.6s,mb4.7
MBAR *ep*P pP 15 34 53.8 -1.5
ANN Anapa 67.99 318 *eP* **P 15 35 05.4 +8.6**
ANN *eS* S 15 44 14.2 +21
ANN pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
BRTR Keskin Array B 69.01 312 P **P 15 35 02.4 -0.8**
comp=Z,1.7nm,0.7s,mb4.1,baz=132,slow=7.7,SNR=4.2
BRTR pP pP 15 35 09.2 -1.6
comp=Z,5.5nm,0.9s,baz=135,slow=7.0,SNR=11
BRTR sP sP 15 35 14.9 +1.4
comp=Z,6.3nm,0.8s,baz=126,slow=8.0,SNR=9.9
VRSR Storozhevoye 69.44 325 *eP* **P 15 35 03.8 -1.8**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,1.0s
LSZ Lusaka 70.14 253 *eP* **P 15 35 10.4 -0.1**
LSZ pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
LSZ Lusaka 70.14 253 *eP* **P 15 35 10.4 -0.1**
comp=Z,10nm,1.3s,mb4.6
SIM Simferopol' 70.26 318 *eP* **P 15 35 10.7 0.0**
SIM pmax pmax
comp=Z,13nm,0.6s,mb5.0
MA2 Magadan 71.21 26 *eP* **P 15 35 16.0 -0.2**
MA2 *e* 15 37 56.7
MA2 *eS* S 15 44 32.2 +1.7
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
MA2 MLR MLR
comp=Z,500nm,22.0s,MS4.7
MA2 Magadan 71.21 26 *eP* **P 15 35 15.9 -0.3**
comp=Z,15nm,0.7s,mb5.0
PET Petropavlovsk 72.12 34 *eP* **P 15 35 21.5 -0.3**
PET *eS* S 15 44 44.9 +3.8
PET pmax pmax
comp=Z,59nm,1.0s,mb5.5
PET pmax pmax
comp=Z,100nm,14.4s
PET pmax pmax
comp=Z,100nm,16.6s
PET MLR MLR
comp=Z,400nm,17.0s,MS4.8
PET Petropavlovsk 72.12 34 *iP* **P 15 35 21.2 -0.6**
MOS Moscow 72.21 329 *eP* **P 15 35 20.9 -1.4**
MOS *i* 15 35 45.0
OBN Obninsk 72.50 328⇓ *iP* **P 15 35 23.6 -0.4**
OBN *i* pP 15 35 33.1 +1.5
OBN *i* 15 35 46.4
OBN *eS* S 15 44 49.2 +3.9
OBN pmax pmax
comp=Z,28nm,1.4s,mb5.0
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.5
MAW Mawson 72.84 193 P **P 15 35 27.2 +1.4**
comp=Z,4.5nm,0.7s,mb4.5,baz=345,slow=10,SNR=4.6
MAW pP pP 15 35 34.3 +0.9
comp=Z,9.7nm,1.0s,baz=352,slow=6.7,SNR=3.4
MAW LR LR 16 01 16.3
comp=Z,436nm,19.1s,MS4.8,baz=173,slow=31
TIXI Tiksi 73.05 10⇑ *iP* **P 15 35 25.7 -1.2**
SEY Seymchan 73.64 23 *eP* **P 15 35 32.5 +2.0**
SEY 15 35 51.9
SEY 15 38 22.4
SEY *e*PPP PPP 15 40 04.3 +3.4
SEY *eS* S 15 45 00.3 +2.3
SEY *e*SSS SSS 15 52 53.9 -1.2
SEY pmax pmax
comp=E,30nm,1.1s
SEY pmax pmax
comp=Z,50nm,1.1s,mb5.4
SEY pmax pmax
comp=N,30nm,0.9s
SEY smax
comp=N,700nm,21.7s
SEY smax
comp=E,400nm,20.6s
LBTB Lobatse 73.94 244 *eP* **P 15 35 32.6 -0.4**
LBTB *e**PP pP 15 35 39.8 -0.8
LBTB pmax pmax
comp=Z,20nm,1.4s,mb4.8
LBTB Lobatse 73.94 244 *eP* **P 15 35 32.6 -0.4**
comp=Z,20nm,1.4s,mb4.9

LBTB *ep*P pP 15 35 39.8 -0.8
AKASG Malin Array Be 75.14 322 P **P 15 35 38.4 -1.0**
comp=Z,5.2nm,0.8s,mb4.5,baz=90,slow=4.6,SNR=19
AKASG pP pP 15 35 46.9 -0.3
comp=Z,3.1nm,0.5s,baz=82,slow=4.8,SNR=8.5
AKASG Malin Array Be 75.14 322 P **P 15 35 38.4 -1.0**
AKASG pP pP 15 35 46.9 -0.3
MLR Muntele Rosu 75.96 317 P **P 15 35 44.6 +0.4**
comp=Z,3.4nm,0.8s,mb4.3,baz=69,slow=3.5,SNR=6.5
MLR pP pP 15 35 51.9 0.0
comp=Z,12nm,0.9s,baz=94,slow=3.8,SNR=13
MLR LR LR 16 16 07.5
comp=Z,253nm,19.9s,MS4.5,baz=342,slow=41
LVV L'vov 78.16 321 *eP* **P 15 35 52.7 -3.6**
APA Apatity 79.00 339⇑ *eP* **P 15 36 08.8 +8.3**
APA *i* 15 36 20.0
APA pmax pmax
comp=Z,54nm,1.4s,mb5.3
KOLS Kolonicke sedl 79.11 320 *eP* **P 15 36 02.9 +1.4**
KOLS *ep*P pP 15 36 09.4 +0.2
RPZ Rata Peaks 79.31 135 LR LR 16 11 26.8
comp=Z,781nm,20.3s,MS5.0,baz=238,slow=36
FINES FINESS Array B 79.87 332 P **P 15 36 05.5 +0.1**
comp=Z,3.7nm,0.8s,mb4.4,baz=104,slow=7.9,SNR=10
FINES pP pP 15 36 13.1 0.0
comp=Z,2.2nm,0.6s,baz=124,slow=4.9,SNR=3.8
FINES LR LR 16 14 33.1
comp=Z,186nm,19.4s,MS4.4,baz=155,slow=38
FINES FINESS Array B 79.87 332 P **P 15 36 05.5 +0.1**
FINES pP pP 15 36 13.1 0.0
FINES LR LR 16 14 33.0
DIVS Divcibare 79.88 314 *eP* **P 15 36 03.8 -2.0**
KAF Kangasniemi 79.96 333 *ep* **P 15 36 05.7 -0.1**
comp=Z,1.2nm,0.4s,mb4.2
KAF Kangasniemi 79.96 333 *eP* **P 15 36 05.7 -0.1**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
PSZ Piszkesteto 80.50 318 *eP* **P 15 36 08.3 -0.7**
PSZ *e**PP pP 15 36 16.1 -0.7
PSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
PSZ Piszkesteto 80.50 318 *eP* **P 15 36 08.3 -0.7**
comp=Z,3.2nm,0.8s,mb4.3
PSZ *ep*P pP 15 36 16.1 -0.7
TSUM Tsumeb 80.63 250 *eP* **P 15 36 11.3 +1.1**
comp=Z,3.2nm,0.8s,mb4.3
TSUM *ep*P pP 15 36 18.4 +0.4
BILL Bilibino 81.04 21⇓ *eP* **P 15 36 10.3 -1.1**
BILL *eS* S 15 46 22.1 +4.3
BILL pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
BILL MLR MLR
comp=Z,900nm,18.0s,MS5.2
BILL Bilibino 81.04 21 *eP* **P 15 36 10.4 -1.1**
comp=Z,4.9nm,0.8s,mb4.5
VYHS Vyhne 81.28 319 *eP* **P 15 36 13.1 0.0**
VYHS *e* pP 15 36 20.1 -0.8
OKC Ostrava-Krasne 81.91 320 *eP* pP 15 36 23.9 -0.2
OKC Ostrava-Krasne 81.91 320 *ep*P pP 15 36 23.9 -0.2
KEV Kevo 81.97 341 *ep* **P 15 36 15.6 -0.6**
MORC Moravsky Berou 82.29 320 *eP* **P 15 36 18.9 +0.6**
MORC pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
MORC Moravsky Berou 82.29 320 *eP* **P 15 36 18.9 +0.6**
comp=Z,8.8nm,1.1s,mb4.6
ARCES ARCESS Array B 82.40 340 P **P 15 36 19.8 +1.3**
comp=Z,6.8nm,0.9s,mb4.6,baz=135,slow=5.1,SNR=8.0
ARCES pP pP 15 36 27.4 +1.1
comp=Z,3.8nm,0.6s,baz=101,slow=6.2,SNR=3.8
ARCES LR LR 16 19 10.0
comp=Z,385nm,18.5s,MS4.8,baz=206,slow=40
ARCES ARCESS Array B 82.40 340 P **P 15 36 19.8 +1.3**
ARCES pP pP 15 36 27.4 +1.1
ARCES LR LR 16 19 10.0
MGR Morigerati 82.74 310 *eP* **P 15 36 27.7 +6.9**
URZ Urewera 82.91 129 LR LR 16 14 20.9
comp=Z,566nm,21.1s,MS4.9,baz=281,slow=36
DPC Dobruska-Polom 83.14 320 *eP* **P 15 36 22.7 0.0**
BOJS Bojanci 83.39 315 *eP* pP 15 36 32.1 +0.2
VISS Visnje 83.70 316 *eP* pP 15 36 33.7 +0.2
PRU Pruhonice 84.25 320 *eP* **P 15 36 29.5 +1.2**
PVCC Panska Ves 84.27 320 *eP* pP 15 36 35.8 -0.5
PVCC Panska Ves 84.27 320 *ep*P pP 15 36 35.8 -0.5
VOY Vojsko 84.38 316 *eP* pP 15 36 36.1 -0.8
VOY *e* 15 36 47.7
AQU L'Aquila 84.51 312 *eP* **P 15 36 30.4 +0.6**
comp=Z,16nm,0.8s,mb5.2
BRG Berggiesshubel 84.70 321 *eP* pP 15 36 42.9 +4.5
BRG *e* 15 36 52.2
BRG pmax pmax
comp=Z,11nm,1.1s,mb4.9
GERES GERESS Array B 84.70 319 P **P 15 36 31.6 +1.0**
comp=Z,2.6nm,0.8s,mb4.4,baz=104,slow=5.5,SNR=20
GERES pP pP 15 36 39.0 +0.6
comp=Z,5.2nm,0.9s,baz=104,slow=5.5,SNR=13
PTCC Patocco-Chiusa 84.78 316 *eP* **P 15 36 31.2 +0.1**
KHC Kasperske Hory 84.81 319 *eP* **P 15 36 31.4 +0.3**
KHC *e* 15 36 43.5
KHC Kasperske Hory 84.81 319 *eP* **P 15 36 31.4 +0.3**
KHC pP pP 15 36 43.5 +4.5
CLL Collm 85.32 321 *eP* pP 15 36 40.0 -1.5
CLL Collm 85.32 321 *e**PP pP 15 36 40.0 -1.5
NKC Novy Kostel 85.61 320 *eP* pP 15 36 43.2 +0.3
NKC Novy Kostel 85.61 320 *ep*P pP 15 36 43.2 +0.3
VNDA Vanda 85.96 169 P **P 15 36 37.8 +1.5**
comp=Z,2.1nm,1.1s,mb4.3,baz=302,slow=4.6,SNR=4.9
VNDA pP pP 15 36 44.8 +0.6
comp=Z,6.2nm,1.0s,baz=290,slow=6.1,SNR=9.6
VNDA LR LR 16 07 45.1
comp=Z,515nm,20.8s,MS4.9,baz=121,slow=30
VNDA Vanda 85.96 169 P **P 15 36 37.8 +1.5**
VNDA pP pP 15 36 44.8 +0.6
VNDA LR LR 16 07 45.1
MOX Moxa 86.16 320 *eP* **P 15 36 42.0 +4.1**
RAO Raoul Island 86.19 119 LR LR 16 18 39.1
comp=Z,310nm,20.2s,MS4.7,baz=228,slow=38
GRA1 Grafenberg Arr 86.37 320 *eP* **P 15 36 39.6 +0.7**
comp=Z,13nm,1.1s,mb5.1
GRF Grafenberg Arr 86.37 320 *eP* **P 15 36 39.6 +0.7**
GRF pmax pmax
comp=Z,13nm,1.1s,mb5.1
GRF Grafenberg Arr 86.37 320 *eP* **P 15 36 39.6 +0.7**
GRF pmax pmax
comp=Z,13nm,1.1s,mb5.1
GRF Grafenberg Arr 86.37 320 *eP* **P 15 36 39.6 +0.7**
comp=Z,13nm,1.1s,mb5.1
NB2 NORSAR Subarra 86.88 331 P **P 15 36 40.4 -0.7**
comp=Z,22nm,1.4s,mb5.2,baz=95,slow=4.8
NB2 NORSAR Subarra 86.88 331 P **P 15 36 40.4 -0.7**
baz=95,slow=4.8
NOA NORSAR Array B 86.88 331 P **P 15 36 41.1 0.0**
comp=Z,4.4nm,1.0s,mb4.7,baz=94,slow=4.9,SNR=7.2
NOA pP pP 15 36 49.0 0.0
comp=Z,2.7nm,0.8s,baz=94,slow=4.9,SNR=6.3
NOA LR LR 16 21 07.1
comp=Z,214nm,18.9s,MS4.6,baz=90,slow=40
NOA NORSAR Array B 86.88 331 P **P 15 36 41.1 0.0**
NOA pP pP 15 36 49.0 0.0
NOA LR LR 16 21 07.1
LPG La Plagne 89.36 315 *eP* **P 15 36 52.6 -0.8**
comp=Z,31nm,1.3s,mb5.2
LPG La Plagne 89.36 315 *eP* **P 15 36 52.6 -0.8**
LPG pmax pmax
comp=Z,16nm,1.3s,mb5.2
NVL N'lazarevskaya 89.72 199⇑ *iP* **P 15 37 01.4 +6.9**
NVL pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
IMA Indian Mountai 96.46 23 *eP* **P 15 37 26.6 +1.0**
IMA pmax pmax
comp=Z,58nm,1.4s,mb5.8
IMA Indian Mountai 96.46 23 *eP* **P 15 37 26.6 +1.0**
comp=Z,58nm,1.4s,mb5.8
ILAR Eielson Array 99.58 23 PP PP 15 41 44.4 -1.7
comp=Z,1.6nm,1.0s,baz=276,slow=5.8,SNR=5.3
BORG Borgarnes 100.59 337 PP PP 15 41 54.4 +0.3
comp=Z,6.1nm,0.7s,baz=224,slow=8.1,SNR=3.1
INK Inuvik 102.35 17 P Pdif 15 37 52.9 +0.8
comp=Z,1.5nm,1.1s,baz=251,slow=8.8,SNR=3.4
INK PP PP 15 42 08.1 +0.9
comp=Z,4.7nm,1.2s,baz=311,slow=3.7,SNR=5.1
INK Inuvik 102.35 17 P Pdif 15 37 52.9 +0.8
INK PP PP 15 42 08.1 +0.9
TBI Tubuai 111.92 115 *e*LR LR 16 15 56.3
comp=Z,368nm,24.5s
YKA Yellowknife Ar 111.96 15 PKiKP 15 42 31.8

comp=Z,0.2nm,0.3s,baz=310,slow=3.2,SNR=4.1
YKA PP PP 15 43 07.4 -11
YKA PP PP 15 43 07.4 -11
comp=Z,0.2nm,0.4s,baz=326,slow=7.8,SNR=4.8
YKA PKKPbc 15 53 29.7
YKA PKKPab 15 53 39.6
comp=Z,0.4nm,0.8s,baz=147,slow=3.3,SNR=6.3
comp=Z,0.8nm,0.9s,baz=141,slow=4.4,SNR=8.7
YKA Yellowknife Ar 111.96 15 PKPdf PKPdf 15 42 31.8 -2.9
YKA PP PP 15 43 07.4 -11
YKA PKKPbc 15 53 29.8
YKA PKKPab 15 53 39.6
PPT Papeete 112.53 108 *e*LR LR 16 16 13.3
comp=Z,205nm,22.8s
NEW Newport 122.31 26 PKP PKPdf 15 42 52.8 -2.4
comp=Z,2.4nm,0.8s,baz=308,slow=12,SNR=3.6
SCHQ Schefferville 122.49 349 PKP PKPdf 15 42 52.6 -2.8
comp=Z,1.4nm,0.9s,baz=239,slow=18,SNR=3.5
SCHQ pPKP 15 43 00.7
comp=Z,0.8nm,0.6s,baz=338,slow=5.7,SNR=2.0
RKT Rikitea 125.00 117 *e*LR LR 16 21 59.9
comp=Z,288nm,25.5s
ULM Lac du Bonnet 127.41 11 PKP PKPdf 15 43 02.2 -2.8
comp=Z,1.3nm,0.4s,baz=353,slow=4.7,SNR=4.5
ULM Lac du Bonnet 127.41 11 PKP PKPdf 15 43 02.2 -2.8
NVAR Mina Array Bea 128.68 36 PKP PKPdf 15 43 06.2 -1.6
comp=Z,2.5nm,0.8s,baz=286,slow=1.6,SNR=8.4
NVAR pPKP 15 43 14.7
comp=Z,1.0nm,0.8s,baz=208,slow=0.8,SNR=3.0
NVAR Mina Array Bea 128.68 36 PKP PKPdf 15 43 06.2 -1.6
NVAR pPKP 15 43 14.7
PDAR Pinedale Array 129.92 26 PKP PKPdf 15 43 07.7 -2.4
comp=Z,1.2nm,0.9s,baz=270,slow=1.5,SNR=8.1
PDAR pPKP 15 43 15.8
comp=Z,0.4nm,0.6s,baz=180,slow=4.4,SNR=3.4
PDAR PP PP 15 45 19.6 -1.9
comp=Z,1.5nm,1.1s,baz=304,slow=5.3,SNR=5.9
ANMO Albuquerque 137.65 29 PKP PKPdf 15 43 22.4 -2.3
comp=Z,1.3nm,0.7s,baz=283,slow=11,SNR=2.5
TXAR Lajitas Array 143.56 32 PKHKP 15 43 30.5
comp=Z,2.4nm,0.8s,baz=270,slow=2.5,SNR=8.2
TXAR PKP PKPdf 15 43 34.3 -1.0
comp=Z,2.8nm,0.8s,baz=90,slow=0.9,SNR=9.4
JCT Junction City 144.46 26 *e*PKIKP PKPdf 15 43 32.2 -4.7
GOGA Godfrey 145.43 1 *e*PKIKP PKPdf 15 43 35.4 -3.1
GOGA *e* 15 43 41.9
LRAL Lakeview Retre 145.59 6 *e*PKP PKPdf 15 43 35.2 -3.6
CFAA Coronel Fontan 146.90 203 PKPbc PKPbc 15 43 40.9 +2.9
comp=Z,0.7nm,0.6s,baz=180,slow=1.8,SNR=12
CFAA pPKPbc 15 43 48.4
comp=Z,3.7nm,0.9s,baz=171,slow=2.9,SNR=12
SIV San Ignacio 154.09 235 PKPbc PKPdf 15 43 57.4 +5.0
comp=Z,0.8nm,0.8s,baz=119,slow=5.7,SNR=5.4
SIV PKPab PKPab 15 44 16.0 +4.1
comp=Z,2.3nm,1.0s,baz=71,slow=2.1,SNR=3.1
SAML Samuel 159.05 248 *e*PKPab PKPab 15 44 32.9 -0.4
LPAZ La Paz 159.27 223 PKP PKPdf 15 44 01.3 +2.3
comp=Z,1.6nm,0.9s,baz=105,slow=2.7,SNR=6.9
LPAZ PP PP 15 48 21.1 +5.0
comp=Z,0.6nm,0.2s,baz=39,slow=4.5,SNR=3.6
LPAZ La Paz 159.27 223 PKP PKPdf 15 44 01.3 +2.3
LPAZ PP PP 15 48 21.1 +5.0

IDC 07 15:38:00.9±2.4, 9.92S×160.75E, h50km±21km, mb3.0/3, mb1 3.5/4, mb1mx3.3/17, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=31.0km s-min=25.1km az=54.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.93**	**301**	P	P	15 38 17.7	-0.2
	74nm,0.3s,baz=178,slow=5.4,SNR=96						
HNR				S	S	15 38 30.8	+0.3
	461nm,0.3s,baz=175,slow=11,SNR=44						
DZM	**Mont Dzumac**	**13.26**	**156**	P	P	15 41 06.6	-2.0
	0.2nm,0.3s,baz=11,slow=19,SNR=14						
WRA	**Warramunga Arr**	**27.36**	**246**	P	P	15 43 40.3	-3.4
	0.3nm,0.6s,baz=76,slow=9.5,SNR=7.8						
ASAR	**Alice Springs**	**29.04**	**239**	P	P	15 43 58.0	-0.8
	0.2nm,0.9s,baz=60,slow=10,SNR=3.5						
ILAR	**Eielson Array**	**84.07**	**20**	P	P	15 50 26.1	-1.3
	0.3nm,0.6s,baz=245,slow=5.1,SNR=4.9						

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*BJI **07** 15:43:20.4, 23.41S×179.37W, h552km, mB5.5, mb4.8*
*MOS **07** 15:43:21.5±1.1, 23.41S×179.84W, h543km, mb4.8/14, Error ellipse: s-maj=11.9km s-min=10.5km az=57.3*
*NEIC **07** 15:43:21.8±0.1, 23.50S×179.81W, mb4.7/41, Error ellipse: s-maj=5.6km s-min=3.1km az=108.0*
*IDC **07** 15:43:22.0±0.9, 23.41S×179.79W, h537km±9km, mb4.3/32, mb1 4.4/35, mb1mx4.3/36, mbtmp5.1/35, Error ellipse: s-maj=9.4km s-min=8.9km az=178.0*

ISC 07 15:43:21.0±0.1, 23.47S±0.02×179.85W±0.04, h538km, h538km±2.8km: pP-P, n400, σ1509/280, mb4.7/79, 32C-13D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.02**	**164**	*e*P	P	15 45 01.5	+1.5
RAO				pmax	pmax		
	comp=Z,1μm,0.3s						
RAO	**Raoul Island**	**6.02**	**164**	P	P	15 45 01.2	+1.3
	comp=Z,423nm,0.3s,baz=261,slow=19,SNR=12						
RAO				S	S	15 46 20.5	+2.0
	comp=Z,135nm,0.3s,baz=100,slow=22,SNR=3.8						
RAO	**Raoul Island**	**6.02**	**164**	*e*P	P	15 45 01.5	+1.5
	comp=Z,1μm,0.3s						
AFI	**Afiamalu**	**12.19**	**40**	*e*P	P	15 45 58.6	-3.4
AFI				*e*S	S	15 48 04.7	-6.8
AFI				pmax	pmax		
	comp=Z,241nm,1.0s						
AFI	**Afiamalu**	**12.19**	**40**	P	P	15 45 59.1	-2.9
	comp=Z,11nm,0.3s,baz=58,slow=6.1,SNR=15						
AFI				S	S	15 48 10.4	-1.1
	comp=Z,9.6nm,0.3s,baz=197,slow=23,SNR=9.0						
AFI	**Afiamalu**	**12.19**	**40**	*e*P	P	15 45 58.6	-3.4
	comp=Z,241nm,1.0s						
AFI				*e*S	S	15 48 04.7	-6.8
DZM	**Mont Dzumac**	**12.72**	**274**	*e*P	P	15 46 09.8	+2.4
DZM				*e*S	S	15 48 35.8	+15
DZM	**Mont Dzumac**	**12.72**	**274**	P	P	15 46 09.3	+1.9
	comp=Z,3.7nm,0.3s,baz=92,slow=19,SNR=35						
DZM	**Mont Dzumac**	**12.72**	**274**	*e*P	P	15 46 09.8	+2.4
DZM				*e*S	S	15 48 35.8	+15
NOUC	**Port Laguerre**	**12.85**	**273**	*e*P	P	15 46 10.9	+2.2
NOUC	**Port Laguerre**	**12.85**	**273**	*e*P	P	15 46 10.9	+2.2
WCZ	**Waipu Caves**	**13.41**	**201**	*e*P	P	15 46 15.8	+1.5
WCZ	**Waipu Caves**	**13.41**	**201**	PN	P	15 46 17.6	+3.2
KUZ	**Kuaotunu**	**13.78**	**195**	*e*P	P	15 46 20.3	+2.2
KUZ	**Kuaotunu**	**13.78**	**195**	PN	P	15 46 20.3	+2.2
MTAZ	**Motutapu**	**14.03**	**198**	P	P	15 46 23.6	+3.0
MTAZ	**Motutapu**	**14.03**	**198**	PN	P	15 46 23.6	+3.0
KAAZ	**Kauri Point**	**14.12**	**198**	*e*PN	P	15 46 24.2	+2.7
MXZ	**Matakaoa Point**	**14.14**	**186**	P	P	15 46 22.0	+0.3
MXZ	**Matakaoa Point**	**14.14**	**186**	PN	P	15 46 20.9	-0.8
OTAZ	**Otara**	**14.18**	**197**	P	P	15 46 25.2	+3.1
OTAZ	**Otara**	**14.18**	**197**	PN	P	15 46 25.1	+3.0
TGRZ	**Tauranga**	**14.61**	**192**	P	P	15 46 28.8	+2.4
TGRZ	**Tauranga**	**14.61**	**192**	PN	P	15 46 28.0	+1.6
PUZ	**Puketiti**	**14.65**	**186**	*e*P	P	15 46 27.8	+1.0
PUZ	**Puketiti**	**14.65**	**186**	PN	P	15 46 27.2	+0.3
PUZ				SN	S	15 48 56.5	-0.2
LIRZ	**Lichensteins R**	**14.85**	**192**	P	P	15 46 31.6	+2.8
LIRZ	**Lichensteins R**	**14.85**	**192**	PN	P	15 46 31.2	+2.5
EDRZ	**Edgecumbe**	**14.88**	**191**	P	P	15 46 30.7	+1.5
EDRZ	**Edgecumbe**	**14.88**	**191**	PN	P	15 46 30.9	+1.7
URZ	**Urewera**	**14.98**	**189**	P	P	15 46 28.7	-1.3
	comp=Z,23nm,0.3s,baz=354,slow=2.6,SNR=61						
URZ				S	S	15 49 05.0	+2.4
	comp=Z,5.4nm,0.3s,baz=84,slow=21,SNR=12						
URZ	**Urewera**	**14.98**	**189**	P	P	15 46 28.9	-1.2
URZ	**Urewera**	**14.98**	**189**	PN	P	15 46 28.7	-1.4
URZ				SN	S	15 49 00.3	-2.3
MWZ	**Matawai**	**14.99**	**188**	P	P	15 46 30.5	+0.3
MWZ	**Matawai**	**14.99**	**188**	*e*PN	P	15 46 29.6	-0.6
TAZ	**Tarawera**	**15.05**	**191**	P	P	15 46 32.7	+1.9
TAZ	**Tarawera**	**15.05**	**191**	PN	P	15 46 33.3	+2.5
UTU	**Utuhina**	**15.05**	**192**	P	P	15 46 33.2	+2.4
PATZ	**Paeroa**	**15.24**	**192**	P	P	15 46 34.0	+1.4
PATZ	**Paeroa**	**15.24**	**192**	PN	P	15 46 33.8	+1.2
KNZ	**Kokohu**	**15.65**	**187**	*e*P	P	15 46 36.8	+0.1
HIZ	**Hauiti**	**15.67**	**196**	*e*P	P	15 46 39.1	+2.2
HIZ	**Hauiti**	**15.67**	**196**	PN	P	15 46 39.1	+2.2
BKZ	**Black Stump Fm**	**15.96**	**190**	*e*P	P	15 46 38.6	-1.1
BKZ	**Black Stump Fm**	**15.96**	**190**	PN	P	15 46 38.0	-1.7
MGZ	**Maungaku**	**15.98**	**193**	P	P	15 46 39.1	-0.8
MGZ	**Maungaku**	**15.98**	**193**	PN	P	15 46 40.1	+0.2
OTVZ	**Oturere**	**16.11**	**193**	*e*PN	P	15 46 40.0	-1.2
NGZ	**Ngauruhoe**	**16.13**	**193**	P	P	15 46 42.3	+0.9
CNZ	**Chateau**	**16.17**	**193**	P	P	15 46 41.9	+0.2
TUVZ	**Tukino**	**16.21**	**193**	P	P	15 46 41.6	-0.6
TUVZ	**Tukino**	**16.21**	**193**	*e*PN	P	15 46 41.5	-0.6
FWVZ	**Far West T-bar**	**16.22**	**193**	*e*P	P	15 46 41.7	-0.5
FWVZ	**Far West T-bar**	**16.22**	**193**	*e*PN	P	15 46 41.6	-0.6
WNVZ	**Wahianoa**	**16.28**	**193**	P	P	15 46 42.7	-0.1
WNVZ	**Wahianoa**	**16.28**	**193**	*e*PN	P	15 46 42.4	-0.4
PWZ	**Pawanui**	**16.75**	**189**	*e*P	P	15 46 46.6	-0.7
PWZ	**Pawanui**	**16.75**	**189**	PN	P	15 46 46.1	-1.3
PWZ				SN	S	15 49 31.5	-2.7
WAZ	**Wanganui**	**16.82**	**194**	P	P	15 46 49.0	+0.9
WAZ	**Wanganui**	**16.82**	**194**	*e*PN	P	15 46 48.8	+0.7
TSZ	**Takapari Road**	**16.92**	**191**	*e*P	P	15 46 48.0	-1.0
TSZ	**Takapari Road**	**16.92**	**191**	*e*PN	P	15 46 47.1	-1.9
BFZ	**Birch Farm**	**17.48**	**190**	*e*P	P	15 46 53.4	-1.1
BFZ	**Birch Farm**	**17.48**	**190**	*e*PN	P	15 46 53.2	-1.3
MRZ	**Mangatainoka R**	**17.57**	**192**	*e*P	P	15 46 54.0	-1.4
MRZ	**Mangatainoka R**	**17.57**	**192**	*e*PN	P	15 46 53.6	-1.8
MRZ				*e*SN	S	15 49 43.4	-5.0
KIW	**Kapiti Island**	**17.90**	**193**	P	P	15 46 57.9	-0.6
KIW	**Kapiti Island**	**17.90**	**193**	*e*PN	P	15 46 57.6	-0.9
MTW	**Mount Morrison**	**18.07**	**191**	P	P	15 46 59.0	-1.2
MTW	**Mount Morrison**	**18.07**	**191**	*e*PN	P	15 46 58.9	-1.2
CAW	**Cannon Point**	**18.10**	**192**	P	P	15 47 00.4	-0.1
CAW	**Cannon Point**	**18.10**	**192**	PN	P	15 47 00.1	-0.4
MRW	**Makara Radio**	**18.30**	**193**	P	P	15 47 01.7	-0.6
MRW	**Makara Radio**	**18.30**	**193**	PN	P	15 47 01.3	-1.0
SNZO	**South Karori**	**18.37**	**193**	*e*P	P	15 47 02.6	-0.4
SNZO	**South Karori**	**18.37**	**193**	PN	P	15 47 01.9	-1.1
QRZ	**Quartz Range**	**18.46**	**199**	*e*P	P	15 47 05.2	+1.3
QRZ	**Quartz Range**	**18.46**	**199**	PN	P	15 47 05.1	+1.2
NNZ	**Nelson**	**18.59**	**196**	*e*P	P	15 47 05.6	+0.5
NNZ	**Nelson**	**18.59**	**196**	PN	P	15 47 05.7	+0.6
TUWZ	**Tuamarina**	**18.66**	**195**	PN	P	15 47 05.9	+0.2
RAR	**Rarotonga**	**18.71**	**87**	P	P	15 47 06.2	-0.2
	comp=Z,0.8nm,0.3s,baz=323,slow=0.7,SNR=4.9						
THZ	**Tophouse**	**19.23**	**197**	*e*P	P	15 47 11.4	+0.3
DSZ	**Denniston Nort**	**19.52**	**199**	*e*P	P	15 47 14.6	+0.7
DSZ	**Denniston Nort**	**19.52**	**199**	PN	P	15 47 14.0	+0.1
KHZ	**Kahutara**	**19.69**	**195**	*e*P	P	15 47 14.8	-0.7
KHZ	**Kahutara**	**19.69**	**195**	PN	P	15 47 14.5	-1.0
KHZ				SN	S	15 50 21.0	-3.1
LTZ	**Lake Taylor**	**20.35**	**197**	*e*P	P	15 47 20.5	-1.1
LTZ	**Lake Taylor**	**20.35**	**197**	PN	P	15 47 20.0	-1.5
WVZ	**Waitaha Valley**	**21.06**	**199**	*e*P	P	15 47 27.4	-0.7
MQZ	**McQueen's Vall**	**21.12**	**195**	*e*P	P	15 47 28.1	-0.6
MQZ	**McQueen's Vall**	**21.12**	**195**	PN	P	15 47 27.7	-0.9
RPZ	**Rata Peaks**	**21.55**	**198**	P	P	15 47 32.6	0.0
	comp=Z,160nm,0.6s,mb5.8,baz=19,slow=3.1,SNR=51						
RPZ	**Rata Peaks**	**21.55**	**198**	*e*P	P	15 47 32.4	-0.2
RPZ	**Rata Peaks**	**21.55**	**198**	*e*PN	P	15 47 31.7	-0.9
FOZ	**Fox Glacier**	**21.83**	**201**	*e*P	P	15 47 33.8	-1.4
FOZ	**Fox Glacier**	**21.83**	**201**	*e*PN	P	15 47 33.3	-2.0
LBZ	**Lake Benmore**	**22.41**	**199**	*e*P	P	15 47 38.4	-2.1
LBZ	**Lake Benmore**	**22.41**	**199**	PN	P	15 47 38.1	-2.4
JCZ	**Jackson Bay**	**22.59**	**202**	P	P	15 47 41.6	-0.5
JCZ	**Jackson Bay**	**22.59**	**202**	PN	P	15 47 41.3	-0.8
ODZ	**Otahua Downs**	**22.88**	**198**	*e*P	P	15 47 43.3	-1.4
ODZ	**Otahua Downs**	**22.88**	**198**	*e*PN	P	15 47 43.0	-1.7
WKZ	**Wanaka**	**23.17**	**200**	*e*P	P	15 47 45.6	-1.8
WKZ	**Wanaka**	**23.17**	**200**	PN	P	15 47 45.7	-1.7
MSZ	**Milford Sound**	**23.40**	**202**	*e*PN	P	15 47 49.3	-0.1
EAZ	**Earnscleugh**	**23.44**	**200**	*e*P	P	15 47 48.9	-0.9
EAZ	**Earnscleugh**	**23.44**	**200**	PN	P	15 47 48.2	-1.6
HNR	**Honiara**	**23.83**	**303**	P	P	15 47 52.6	-1.0
	comp=Z,34nm,0.8s,mb5.1,baz=333,slow=16,SNR=4.1						
HNR	**Honiara**	**23.83**	**303**	*e*P	P	15 47 51.8	-1.8
	comp=Z,149nm,1.3s,mb5.5						
PAE	**Paea**	**28.89**	**84**	*e*P	P	15 48 37.0	-1.0
	comp=Z,141nm,1.0s,mb5.5						
PPT	**Papeete**	**28.92**	**84**	*e*P	P	15 48 37.4	-0.9
	comp=Z,61nm,1.1s,mb5.1						
TIAR	**Tiarei**	**29.13**	**84**	*e*P	P	15 48 39.3	-0.8
	comp=Z,172nm,1.0s,mb5.6						
TIAR				*e*pP		15 50 10.3	
	comp=Z,164nm,1.0s						
TVO	**Taravao**	**29.15**	**85**	*e*P	P	15 48 39.4	-0.9
	comp=Z,76nm,0.8s,mb5.4						
CNB	**Canberra Magne**	**29.19**	**239**	⇓*i*P	P	15 48 42.2	+1.7
	comp=Z,2μm,1.0s						
MEH	**Mehetia**	**30.21**	**85**	*e*P	P	15 48 48.0	-1.4
	comp=Z,63nm,1.1s,mb5.1						
VAH	**Vaihoa**	**31.43**	**81**	*e*P	P	15 48 58.8	-0.9
	comp=Z,167nm,1.4s,mb5.4						
CTA	**Charters Tower**	**31.62**	**269**	⇑*i*P	P	15 49 02.1	+0.8
	comp=Z,133nm,0.8s,mb5.5						
CTA	**Charters Tower**	**31.62**	**269**	⇑*i*P	P	15 49 02.1	+0.8
CTA				pmax	pmax		
	comp=Z,133nm,0.8s						
CTA	**Charters Tower**	**31.62**	**269**	P	P	15 49 02.2	+0.9
	comp=Z,102nm,0.4s,mb5.7,baz=98,slow=11,SNR=183						
TOO	**Toolangi**	**32.80**	**237**	⇑*i*P	P	15 49 12.4	+1.3
	comp=Z,30nm,0.8s,mb4.9						
TOO	**Toolangi**	**32.80**	**237**	⇑*i*P	P	15 49 12.4	+1.3
TOO				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.9						
TAU	**Tasmania Unive**	**33.33**	**226**	*e*P	P	15 49 15.3	-0.2
PMG	**Port Moresby**	**34.49**	**288**	*e*P	P	15 49 25.6	+0.1
PMG				pmax	pmax		
	comp=Z,138nm,0.9s						
PMG	**Port Moresby**	**34.49**	**288**	P	P	15 49 25.9	+0.4
	comp=Z,118nm,0.8s,mb5.5,baz=104,slow=4.9,SNR=35						
PMG	**Port Moresby**	**34.49**	**288**	*e*P	P	15 49 25.6	+0.1
	comp=Z,138nm,0.9s,mb5.5						
STKA	**Stephens Creek**	**35.02**	**248**	⇑*i*P	P	15 49 30.7	+1.0
	comp=Z,44nm,0.9s,mb5.0						
STKA				*e*S	S	15 54 21.8	-3.3
STKA	**Stephens Creek**	**35.02**	**248**	P	P	15 49 30.8	+1.1
	comp=Z,44nm,0.7s,mb5.1,baz=92,slow=9.1,SNR=73						
ASAR	**Alice Springs**	**42.24**	**260**	P	P	15 50 28.6	+0.1
	comp=Z,83nm,0.9s,mb5.3,baz=92,slow=8.3,SNR=483						
ASAR				ScP		15 55 10.6	
	comp=Z,7.2nm,0.9s,baz=107,slow=4.3,SNR=9.9						
ASAR				S	S	15 56 07.3	-3.5
	comp=Z,4.0nm,0.6s,baz=96,slow=15,SNR=19						
ASAR				ScS	ScS	15 59 29.9	+1.4
	comp=Z,0.4nm,1.0s,baz=114,slow=6.9,SNR=4.0						
ASPA	**Alice Springs**	**42.25**	**260**	⇑*i*P	P	15 50 28.5	0.0
ASPA				*e*SCP		15 55 10.3	
ASPA				*e*S	S	15 56 07.5	-3.3
ASPA				*e*SCS	ScS	15 59 29.2	+0.7
ASPA	**Alice Springs**	**42.25**	**260**	⇑*i*P	P	15 50 28.5	0.0
ASPA				*e*S	S	15 56 07.5	-3.3
ASPA				*e*		15 59 29.2	
WB2	**Warramunga Arr**	**42.57**	**266**	⇑*i*P	P	15 50 30.4	-0.6
WB2				*e*SCP		15 55 12.3	
WB2				*e*S	S	15 56 11.2	-4.2
WB2				*e*SCS	ScS	15 59 32.8	+2.2
WRAB	**Tennant Creek**	**42.57**	**266**	⇑*i*P	P	15 50 30.6	-0.5
WRA	**Warramunga Arr**	**42.58**	**266**	P	P	15 50 30.9	-0.2
WRA				S	S	15 56 11.8	-3.8
WRA	**Warramunga Arr**	**42.58**	**266**	P	P	15 50 30.9	-0.2
	comp=Z,50nm,0.7s,mb5.2,baz=96,slow=8.4,SNR=501						
WRA				ScP		15 55 11.1	
	comp=Z,8.4nm,0.9s,baz=96,slow=4.0,SNR=10						
WRA				S	S	15 56 11.8	-3.8
	comp=Z,10nm,0.9s,baz=98,slow=14,SNR=17						
FORT	**Forrest**	**46.59**	**249**	⇑*i*P	P	15 51 01.3	-0.8
	comp=Z,3μm,0.7s						
FITZ	**Fitzroy Crossi**	**51.00**	**265**	⇑*i*P	P	15 51 34.6	-0.6
	comp=Z,65nm,0.9s,mb5.0						
FITZ				*e*S	S	15 58 09.3	-2.6
FITZ	**Fitzroy Crossi**	**51.00**	**265**	P	P	15 51 34.8	-0.4
	comp=Z,88nm,0.9s,mb5.1,baz=99,slow=3.5,SNR=63						
FITZ				S	S	15 58 09.4	-2.5
	comp=Z,8.7nm,1.0s,baz=278,slow=16,SNR=6.4						
SBA	**Scott Base**	**54.82**	**183**	*e*P	P	15 52 02.6	+0.9
SBA				pmax	pmax		
	comp=Z,55nm,0.9s,mb4.8						
SBA	**Scott Base**	**54.82**	**183**	*e*P	P	15 52 02.6	+0.9
	comp=Z,55nm,0.9s,mb4.8						
VNDA	**Vanda**	**54.82**	**185**	P	P	15 52 02.6	+0.9
	comp=Z,21nm,0.7s,mb4.5,baz=354,slow=7.9,SNR=102						
VNDA				PcP	PcP	15 52 55.2	-0.5
	comp=Z,7.0nm,0.8s,baz=6.8,slow=4.5,SNR=3.6						
VNDA	**Vanda**	**54.82**	**185**	P	P	15 52 02.6	+0.9
VNDA				PcP	PcP	15 52 55.2	-0.5
KLBR	**Kellerberrin**	**55.29**	**247**	⇑*i*P	P	15 52 04.7	-0.8
	comp=Z,12μm,0.9s						
NWAO	**Narrogin (SRO)**	**55.54**	**245**	P	P	15 52 06.2	-1.1
	comp=Z,7.7nm,0.5s,mb4.2,baz=93,slow=7.0,SNR=13						
NWAO	**Narrogin (SRO)**	**55.54**	**245**	P	P	15 52 06.2	-1.1
MBWA	**Marble Bar**	**55.59**	**260**	*e*P	P	15 52 06.3	-1.4
	comp=Z,48nm,0.9s,mb4.7						
MUN	**Mundaring**	**56.53**	**246**	⇑*i*P	P	15 52 13.8	-0.3
	comp=Z,183nm,0.8s,mb5.4						
MUN	**Mundaring**	**56.53**	**246**	⇑*i*P	P	15 52 13.8	-0.3
MUN				pmax	pmax		
	comp=Z,183nm,0.8s,mb5.4						
CASY	**Casey**	**60.56**	**206**	⇓*i*P	P	15 52 39.9	-0.8
QSPA	**South Pole Qui**	**66.62**	**180**	⇓*i*P	P	15 53 20.0	+1.1
	comp=Z,76nm,0.6s,mb5.4						
JOW	**Kunigami**	**70.81**	**312**	P	P	15 53 45.3	+0.4
	comp=Z,21nm,0.7s,mb4.8,baz=174,slow=4.8,SNR=14						
MJAR	**Matsushiro Arr**	**71.62**	**325**	P	P	15 53 48.8	-0.7
	comp=Z,8.1nm,0.8s,mb4.2,baz=161,slow=5.6,SNR=14						
MAT	**Matsushiro**	**71.62**	**325**	*e*P	P	15 53 49.0	-0.5
MAT				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
MAT	**Matsushiro**	**71.62**	**325**	*e*P	P	15 53 49.0	-0.5
	comp=Z,11nm,0.9s,mb4.3						
MAT	**Matsushiro**	**71.62**	**325**	P	P	15 53 48.9	-0.6
ASAJ	**Asahikawa**	**75.54**	**333**	P	P	15 54 13.1	+1.6
	comp=Z,20nm,0.8s,mb4.6,baz=207,slow=7.7,SNR=11						
FX1	**Attu Island--F**	**76.26**	**356**	P	P	15 54 14.9	-0.3
	comp=Z,47nm,0.8s,mb5.0,baz=132,slow=2.9,SNR=5.6						
YSS	**Yuzh-Sakhalins**	**77.80**	**335**	⇑*i*P	P	15 54 24.4	+0.8
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.7						
UNV	**Unalaska Valle**	**77.85**	**8**	*e*P	P	15 54 22.3	-1.4
MAW	**Mawson**	**78.20**	**200**	P	P	15 54 26.2	+0.8
	comp=Z,15nm,0.6s,mb4.5,baz=128,slow=6.3,SNR=18						
SSE	**Sheshan**	**78.31**	**311**	P	P	15 54 25.1	-1.6
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
SSE				AMB	AMB		
	comp=Z,175nm,8.1s						
SSE	**Sheshan**	**78.31**	**311**	P	P	15 54 25.1	-1.6
	comp=Z,20nm,0.7s,mb4.6						
PET	**Petropavlovsk**	**78.43**	**347**	*e*P	P	15 54 26.3	-0.6
PET				pmax	pmax		
	comp=Z,30nm,0.7s,mb4.7						
NJ2	**Nanjing**	**80.48**	**311**	*e*P	P	15 54 37.4	-0.6
NJ2				S	S	16 04 02.0	+2.0
NJ2				SKS	SKS	16 04 03.0	+1.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb3.9						
NJ2				AMB	AMB		
	comp=Z,846nm,4.8s						
MDJ	**Mudanjiang**	**81.98**	**326**	P	P	15 54 46.3	+0.9
MDJ				AP	pP	15 56 41.5	-0.9
MDJ				AMB	AMB		
	comp=Z,23nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,255nm,3.2s						
USHA	**Ushuaia**	**82.59**	**147**	P	P	15 54 49.7	+1.4
	comp=Z,15nm,1.0s,mb4.5,baz=258,slow=2.8,SNR=3.1						
CMB	**Columbia Colle**	**82.79**	**43**	*e*P	P	15 54 49.9	+0.3
CMB				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.6						
CMB	**Columbia Colle**	**82.79**	**43**	*e*P	P	15 54 49.9	+0.3
	comp=Z,16nm,0.8s,mb4.6						
WHN	**Wuhan**	**82.85**	**308**	⇑P	P	15 54 51.0	+0.9
SYO	**Syowa Base**	**83.47**	**193**	⇑P	P	15 54 51.5	-0.9
SYO	**Syowa Base**	**83.47**	**193**	⇑PcP	PcP	15 54 55.2	-0.6
CN2	**Changchun**	**83.62**	**324**	⇑P	P	15 54 54.3	+0.6
CN2				*e*AP	pP	15 56 50.0	-1.2
CN2				*e*XP	sP	15 57 46.3	+1.4
CN2				*e*S	S	16 04 32.7	+1.9
CN2			

MNTX *e*pP pP 15 57 24.1 +1.2
BNM Barren Site 90.08 53 *e*P **P 15 55 25.2 +0.7**
LTX Lajitas 90.08 58 *e*P **P 15 55 25.3 +0.6**
comp=Z,7.1nm,0.8s,mb4.5
TXAR Lajitas Array 90.08 58 P **P 15 55 25.6 +1.0**
comp=Z,8.0nm,0.7s,mb4.6,baz=214,slow=6.3,SNR=55
LPM Los Pinos Moun 90.15 52 *e*P **P 15 55 24.8 0.0**
HHC Hu-ho-hao-te 90.21 315 *e*P **P 15 55 21.4 -3.5**
HHC AP pP 15 57 22.1 -2.2
HHC AMB AMB
comp=Z,15nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,324nm,9.8s
MCK McKinley 90.23 13 *e*P **P 15 55 23.1 -1.4**
MCK pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
MCK McKinley 90.23 13 *e*P **P 15 55 23.1 -1.4**
comp=Z,3.6nm,0.7s,mb4.3
HWUT Hardware Ranch 90.41 44 *e*P **P 15 55 25.8 -0.1**
comp=Z,6.5nm,0.6s,mb4.6
ANMO Albuquerque 90.58 52 *e*P **P 15 55 26.8 0.0**
ANMO pmax pmax
comp=Z,10.0nm,1.2s
ANMO Albuquerque 90.58 52 P **P 15 55 27.2 +0.4**
comp=Z,6.3nm,0.9s,mb4.6,baz=204,slow=5.9,SNR=11
ANMO Albuquerque 90.58 52 *e*P **P 15 55 26.8 0.0**
comp=Z,10nm,1.2s,mb4.6
NEW Newport 90.77 36 P **P 15 55 26.9 -0.4**
comp=Z,2.4nm,0.7s,mb4.2,baz=287,slow=11,SNR=3.1
DLBC Dease Lake 91.44 24 P **P 15 55 30.1 -0.1**
comp=Z,3.3nm,0.8s,mb4.3,baz=62,slow=0.7,SNR=10
IMA Indian Mountai 91.45 10 *e*P **P 15 55 29.6 -0.4**
COLA College 91.46 13 *e*P **P 15 55 28.5 -1.6**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
COLA College 91.46 13 *e*P **P 15 55 28.5 -1.7**
comp=Z,6.2nm,0.8s,mb4.6
ILAR Eielson Array 91.58 13 P **P 15 55 29.1 -1.6**
comp=Z,2.2nm,0.6s,mb4.4,baz=218,slow=6.2,SNR=24
CPRX Cap Rock 91.60 55 *e*P **P 15 55 31.7 +0.1**
BILL Bilibino 91.81 355 *e*P **P 15 55 30.9 -0.7**
BILL *e*PP pP 15 57 31.0 -0.3
BILL pmax pmax
comp=Z,16nm,0.9s,mb5.0
BILL Bilibino 91.81 355 *e*P **P 15 55 30.9 -0.8**
comp=Z,16nm,0.9s,mb5.0
BILL *e*pP pP 15 57 31.0 -0.3
MOOW Moose Ponds 92.03 43 *e*P **P 15 55 33.2 0.0**
comp=Z,2.0nm,0.8s,mb4.2
QLMT Earthquake Lak 92.17 41 *e*P **P 15 55 34.1 +0.3**
BW06 Boulder Array 92.28 44 *e*P **P 15 55 33.9 -0.6**
comp=Z,5.9nm,0.8s,mb4.7
PDAR Pinedale Array 92.28 44 P **P 15 55 34.5 +0.1**
comp=Z,5.1nm,0.8s,mb4.6,baz=223,slow=3.2,SNR=27
BOZ Bozeman (W) 92.47 41 *e*P **P 15 55 34.9 -0.4**
comp=Z,2.8nm,0.8s,mb4.3
SDCO Great Sand Dun 92.58 50 *e*P **P 15 55 35.8 -0.2**
comp=Z,5.7nm,0.9s,mb4.6
LZH Lanzhou 93.22 308 *e*P **P 15 55 39.0 +0.1**
LZH AP pP 15 57 39.2 +0.6
LZH XP sP 15 58 32.0 +0.5
LZH PP PP 15 59 35.2 +1.7
LZH AMB AMB
comp=Z,30nm,1.6s,mb5.1
LZH Lanzhou 93.22 308 *e*P **P 15 55 39.0 +0.1**
comp=Z,30nm,1.6s,mb5.1
LZH pP pP 15 57 39.2 +0.6
LZH sP sP 15 58 32.0 +0.5
LZH PP PP 15 59 35.2 +1.7
YAK Yakutsk 94.22 339⇓ *i*P **P 15 55 42.2 -0.7**
YAK pmax pmax
comp=Z,13nm,0.7s,mb5.2
YAK Yakutsk 94.22 339 *e*P **P 15 55 42.0 -0.9**
comp=Z,13nm,0.7s,mb5.2
CFAA Coronel Fontan 94.71 127 P **P 15 55 45.5 -0.4**
comp=Z,0.3nm,0.6s,baz=283,slow=4.4,SNR=5.5
WMOK Wichita Mounta 96.15 55 *e*P **P 15 55 51.9 -0.3**
ULN Ulaanbaatar 96.49 320 *e*P **P 15 55 53.5 +0.1**
ULN Ulaanbaatar 96.49 320 *e*P **P 15 55 53.1 -0.3**
comp=Z,1.5nm,0.8s,mb4.3
SONM Songino Array 96.86 319 P **P 15 55 54.7 -0.5**
comp=Z,0.3nm,0.5s,mb3.8,baz=117,slow=3.2,SNR=2.9
SONM PKKPbc 16 12 34.2
comp=Z,0.6nm,0.6s,baz=250,slow=3.5,SNR=5.3
INK Inuvik 97.57 16 P **P 15 55 57.1 -0.9**
comp=Z,2.6nm,0.7s,mb4.7,baz=223,slow=4.0,SNR=11
LVC Limon Verde 98.73 119 P **P 15 56 04.3 +0.1**
YKA Yellowknife Ar 99.91 25 P **P 15 56 07.8 -0.7**
comp=Z,0.4nm,0.5s,mb4.1,baz=240,slow=4.5,SNR=6.7
YKA PKKPbc 16 12 24.5
comp=Z,0.2nm,0.5s,baz=38,slow=2.2,SNR=5.4
YKA Yellowknife Ar 99.91 25 P **P 15 56 07.8 -0.7**
YKA PKKPbc 16 12 24.6
WMQ Urumqi 107.56 311 PDIF Pdif 15 56 41.5 -1.2
WMQ PP PP
comp=Z,167nm,5.8s
ZAL Zalesovo 111.71 321 PKiKP 16 00 54.5
comp=Z,1.1nm,0.4s,baz=116,slow=1.6,SNR=4.3
MKAR Makanchi Array 111.96 313 PKiKP 16 00 54.4
comp=Z,1.5nm,0.6s,baz=76,slow=1.4,SNR=16
MKAR PKKPbc 16 11 49.7
comp=Z,1.5nm,1.0s,baz=297,slow=2.7,SNR=5.2
MKAR PKKPab 16 11 58.8
comp=Z,0.5nm,0.6s,baz=284,slow=5.0,SNR=4.4
AAK Ala-Archa 116.75 307⇑ *i*PKIKP PKPdf 16 01 03.2 -0.8
BDFB Brasília 118.95 125 PKP PKPdf 16 01 08.6 -0.2
comp=Z,1.2nm,0.3s,baz=170,slow=6.4,SNR=3.6
CHKZ Chkalovo 120.06 320 *e*PKIKP PKPdf 16 01 08.9 -1.2
FRB Frobisher Bay 120.20 29 PKP PKPdf 16 01 09.9 -0.2
comp=Z,7.5nm,0.7s,baz=316,slow=1.1,SNR=17
BVAR Borovoye Array 120.20 319 PKP PKPdf 16 01 10.3 -0.1
comp=Z,3.8nm,0.5s,baz=132,slow=1.4,SNR=34
SCHQ Schefferville 122.05 39 PKP PKPdf 16 01 13.0 -1.0
comp=Z,4.3nm,0.9s,baz=140,slow=0.5,SNR=4.9
SUMG Summit 126.42 14 *e*PKP PKPdf 16 01 22.6 +0.7
KEV Kevo 131.02 348 *e*pkp PKPdf 16 01 28.2 -2.6
ARCES ARCESS Array B 131.49 348 PKP PKPdf 16 01 31.8 +0.2
comp=Z,7.4nm,0.6s,baz=13,slow=1.4,SNR=30
ARCES SKPbc 16 04 07.5
comp=Z,2.4nm,0.6s,baz=27,slow=2.7,SNR=5.6
BORG Borgarnes 136.40 13 PKP PKPdf 16 01 40.8 +0.1
comp=Z,24nm,1.1s,baz=64,slow=11,SNR=3.5
KMBO Kilima Mbogo 136.43 241 PKP PKPdf 16 01 43.5 +1.2
comp=Z,3.4nm,0.9s,baz=9.7,slow=2.5,SNR=7.1
KMBO SKPbc 16 04 27.1
comp=Z,6.1nm,0.9s,baz=116,slow=1.0,SNR=14
KAF Kangasniemi 137.48 342 *e*pkp PKPdf 16 01 34.9 -7.9
FINES FINESS Array B 138.08 342 PKhKP 16 01 34.4
comp=Z,1.3nm,0.5s,baz=57,slow=3.9,SNR=8.5
FINES PKP PKPdf 16 01 45.4 +1.4
comp=Z,2.4nm,0.5s,baz=63,slow=4.3,SNR=9.9
FINES SKPbc 16 04 26.9
comp=Z,1.9nm,0.5s,baz=56,slow=4.0,SNR=9.8
FINES FINESS Array B 138.08 342 PKP 16 01 34.4
FINES PKP PKPdf 16 01 45.4 +1.4
FINES SKPbc 16 04 26.9
OBN Obninsk 138.47 329 *i* PKIKP PKPdf 16 01 47.4 +2.5
OBN pmax pmax
comp=Z,16nm,1.0s
GNI Garni 139.07 305⇓ *i*PKIKP PKPdf 16 01 48.0 +1.6
GNI Garni 139.07 305 PKP PKPdf 16 01 48.6 +2.2
comp=Z,1.7nm,0.4s,baz=347,slow=17,SNR=4.1
NB2 NORSAR Subarra 141.68 351 PKPabc PKPdf 16 01 46.0 -4.2
comp=Z,9.0nm,0.6s,baz=15,slow=3.1
NOA NORSAR Array B 141.68 351 PKhKP 16 01 46.4
comp=Z,11nm,0.8s,baz=16,slow=4.6,SNR=32
NOA SKPbc 16 04 36.9
comp=Z,1.2nm,0.7s,baz=62,slow=2.0,SNR=3.5
NOA NORSAR Array B 141.68 351 PKP PKPdf 16 01 46.4 -3.8
NOA SKPbc 16 04 36.9
SOC Sochi 141.85 311 *i* PKIKP PKPdf 16 01 54.0 +2.9
SOC *e* 16 05 04.0
SOC *e*PPP 16 08 07.9
SOC *e* 16 08 16.9
SOC *e*SS SS 16 22 58.4 +3.2
SOC pmax pmax
comp=N,5.0nm,0.7s
SOC pmax pmax
comp=Z,6.0nm,0.7s
SOC pmax pmax
comp=E,3.0nm,0.5s
ANN Anapa 142.96 314⇑ *i*PKHKP 16 01 50.5
ANN pmax pmax
comp=Z,69nm,0.8s
KONO Kongsberg 143.23 352 *d* *i*PKIKP PKPdf 16 01 51.8 -1.1
KONO Kongsberg 143.23 352 *e*PKP PKPdf 16 01 51.2 -1.7

ELZG Elazig 143.78 304 *i* P PKPbc 16 01 56.2 +2.1
MALT Malatya 144.25 303 *e*PKP PKPdf 16 01 56.7 +1.3
AKASG Malin Array Be 144.68 328 PKP PKPdf 16 01 56.0 +0.3
comp=Z,19nm,0.5s,baz=42,slow=4.0,SNR=120
AKASG SKPbc 16 04 43.6
comp=Z,2.0nm,0.6s,baz=36,slow=2.4,SNR=6.3
SUW Suwalki 144.93 336 *e*PKP PKPdf 16 01 57.5 +1.4
SIM Simferopol' 145.04 316 *d* *i*PKP2 PKPab 16 01 58.5 -2.5
SIM pmax pmax
comp=Z,42nm,0.7s
GZT Gaziantep 145.13 302 *i* P PKPdf 16 01 58.4 +1.4
KAHT Ahir Dag 145.60 303 *i* P PKPdf 16 02 00.6 +2.8
BOYT Boyabat 145.93 310 *i* P PKPdf 16 02 01.1 +2.9
CTKT Corum 146.29 309 *i* P PKPdf 16 02 02.2 +3.4
COBT Iskenderun 146.33 301 *i* P PKPdf 16 02 02.3 +3.3
ASF Jabal al Asfar 146.49 293 PKPbc PKPbc 16 02 03.1 +1.8
comp=Z,17nm,0.8s,baz=321,slow=1.4,SNR=24
AVNT Avonos 146.83 306 *i* P PKPdf 16 02 03.0 +3.3
KIS Kishinev 147.16 323 *e*PKIKP PKPdf 16 02 03.0 +3.0
ELDT Eldivan 147.31 309 *i* P PKPdf 16 02 04.8 +4.4
BRTR Keskin Array B 147.43 308 PKIKP PKPdf 16 02 01.2 +0.5
BRTR *e* 16 02 09.1
BRTR Keskin Array B 147.43 308 PKP PKPdf 16 02 01.2 +0.6
comp=Z,6.3nm,0.8s,baz=90,slow=1.4,SNR=10
BRTR PKPbc PKPdf 16 02 04.8 +4.1
comp=Z,6.6nm,0.8s,baz=132,slow=3.6,SNR=23
BRTR PKPab PKPab 16 02 09.1 -1.2
comp=Z,10nm,0.7s,baz=93,slow=3.9,SNR=20
GKP Gorka Klasztor 147.54 341 *e*PKP PKPdf 16 02 05.2 +4.8
LVV L'vov 147.73 331 *i* PKP2 PKPab 16 02 05.7 -5.5
LVV *e*PPP SKS 16 08 21.5 +4.9
SGKT Sivrigoynuk 148.25 310 *i* P PKPdf 16 02 06.7 +4.7
EIL Elat 148.35 289 *e*PKPdf PKPdf 16 02 04.2 +1.7
EIL *e*PKPbc PKPdf 16 02 08.3 +5.8
KWP Kalwaria 148.46 332 *e*PKP PKPdf 16 02 07.5 +5.5
CFR Carcaliu 148.59 320 PKP2 PKPab 16 02 08.2 -6.6
BSEG Bad Segeberg 148.62 348 *e*PKPbc PKPdf 16 02 07.3 +5.2
BSEG *e*PKPab PKPab 16 02 5 -1.1
BSEG *e*PKPbc 16 04 20.3
TIRR Tirgusor 148.82 319 PKHKP 16 02 08.6
HENT Hendek 148.96 311 *i* P PKPdf 16 02 08.3 +5.2
HARR Harsova 148.98 320 PKHKP 16 02 09.0
VRI Vrincioaia 148.99 323 PKHKP 16 02 08.8
CSS Prodhromos 148.99 299 *e*PKPbc PKPdf 16 02 08.9 +5.5
KOLS Kolonicke sedl 149.16 331 *e*PKP PKPdf 16 02 10.0 +6.9
KOLS *e* 16 02 17.2
KOLS Kolonicke sedl 149.16 331 *e*P 16 04 17.3
KOLS *e* 16 04 22.3
OJC Ojcow 149.20 335 *e*PKP PKPdf 16 02 09.0 +5.8
ESKT Eskisehir 149.51 309 *i* P PKPdf 16 02 08.7 +4.7
CRVS Cervenica-Dubn 149.54 332 *e*PKP PKPdf 16 02 10.5 +6.7
NIE Niedzica 149.63 334 *e*PKP PKPdf 16 02 08.9 +5.0
DCN Croghan 149.64 9 *e*P PKPdf 16 02 08.0 +4.2
MLR Muntele Rosu 149.66 323 PKP PKPdf 16 02 04.8 +0.8
comp=Z,17nm,1.0s,baz=291,slow=2.4,SNR=4.0
MLR PKPbc PKPdf 16 02 10.3 +6.3
comp=Z,17nm,1.0s,baz=346,slow=2.2,SNR=14
MLR Muntele Rosu 149.66 323 PKP PKPdf 16 02 04.8 +0.8
MLR PKPbc PKPdf 16 02 10.3 +6.3
DLF Lyons Farm 149.78 8 *e*P PKPdf 16 02 08.0 +4.0
KSP Ksiaz 149.93 339 *i* PKHKP 16 02 11.1
KSP *e* 16 02 19.7
KSP Ksiaz 149.93 339 *e*PKPdf PKPdf 16 02 11.1 +6.8
KSP *e* 16 02 19.7
KSP *e*pPKP 16 04 20.7
KSP Ksiaz 149.93 339 *e*PKP PKPdf 16 02 11.3 +7.0
OKC Ostrava-Krasne 150.14 336 *e*PKIKP PKPdf 16 02 05.6 +0.9
OKC *e* 16 02 20.1
OKC Ostrava-Krasne 150.14 336 *e*PKPDF PKPdf 16 02 05.6 +0.9
OKC ⇑*e*PKPB PKPdf 16 02 11.1 +6.4
OKC *e*PKPAB PKPab 16 02 20.1 -0.9
OKC *e*pPKP 16 04 25.0
KECS Kecovo 150.28 332 *e*PKP PKPdf 16 02 12.6 +7.7
KECS *e* 16 02 20.9
UPC Upice 150.31 339 *e*PKP PKPdf 16 02 12.0 +7.1
UPC *e* 16 02 22.2
UPC *e* 16 04 25.3
UPC Upice 150.31 339⇑ *e*PKPB PKPdf 16 02 12.0 +7.1
UPC *e*PKPAB PKPab 16 02 22.2 +0.5
UPC *e*pPKP 16 04 25.3
DPC Dobruska-Polom 150.35 339 *e*PKP PKPdf 16 02 12.2 +7.2
DPC *e* 16 02 22.0
DPC *e* 16 04 24.9
DPC Dobruska-Polom 150.35 339⇑ *e*PKPB PKPdf 16 02 12.2 +7.2
DPC *e*PKPAB PKPab 16 02 22.0 +0.1
DPC *e*pPKP 16 04 24.9
MORC Moravsky Berou 150.41 337 *e*PKPbc PKPdf 16 02 11.7 +6.7
ULDT Uludag 150.46 311 *i* P PKPdf 16 02 11.1 +5.6
CLL Collm 150.48 344 *i* PKIKP PKPdf 16 02 12.0 +6.9
CLL *i* 16 02 21.0
CLL pmax pmax
comp=Z,68nm,0.8s
CLL Collm 150.48 344 *i* PKP PKPdf 16 02 12.0 +6.9
CLL *i* PKP PKPdf 16 02 21.0 +16
CLL *i* pPKP 16 04 25.4
CLL Collm 150.48 344⇓ *i*PKP1 PKPdf 16 02 12.0 +6.9
CLL *e* 16 02 16.0
CLL *i* PKP2 PKPab 16 02 21.0 -1.4
CLL *i* *PPKP2 16 04 25.4
BRG Berggiesshubel 150.62 342 *e*PKIKP PKPdf 16 02 06.7 +1.4
BRG *i* 16 02 21.9
BRG pmax pmax
comp=Z,44nm,0.7s
BRG Berggiesshubel 150.62 342 *e*PKP PKPdf 16 02 06.7 +1.4
BRG *i* 16 02 12.5
BRG *i* 16 02 21.9
BRG *i* 16 03 48.9
BRG *i* 16 04 25.9
PVCC Panska Ves 150.74 341 *e*PKPDF PKPdf 16 02 07.2 +1.7
PVCC ⇑*e*PKPB PKPdf 16 02 12.9 +7.4
PVCC *e*pPKP 16 04 25.9
VYHS Vyhne 150.96 334 *e*PKP PKPdf 16 02 13.1 +7.2
VYHS *e* 16 02 23.8
VYHS Vyhne 150.96 334 *e*P 16 04 25.7
PRU Pruhonice 151.23 341 *e*PKP PKPdf 16 02 13.4 +7.1
PRU *e* 16 02 25.0
PRU *e* 16 04 26.8
PRU Pruhonice 151.23 341⇑ *e*PKPB PKPdf 16 02 13.4 +7.1
PRU *e*PKPAB PKPab 16 02 25.0 -0.6
PRU *e*pPKP 16 04 26.8
MOX Moxa 151.44 345 *e*PKIKP PKPdf 16 02 14.2 +7.7
MOX *e* 16 02 25.1
MOX pmax pmax
comp=Z,20nm,1.3s
NKC Novy Kostel 151.61 343 *e*PKP PKPdf 16 02 15.0 +8.2
NKC *e* 16 02 26.3
NKC *e* 16 04 28.0
NKC Novy Kostel 151.61 343⇑ *e*PKPB PKPdf 16 02 15.0 +8.2
NKC *e*PKPAB PKPab 16 02 26.3 -0.9
NKC *e*pPKP 16 04 28.0
BZS Buzias 151.86 327 PKIKP PKPdf 16 02 14.5 +7.2
ZST Bratislava 151.88 336 *e*PKP PKPdf 16 02 14.6 +7.4
ZST *e* 16 02 28.2
KHC Kasperske Hory 152.28 341 *e*PKIKP PKPdf 16 02 09.4 +1.6
KHC *e* 16 02 29.6
KHC Kasperske Hory 152.28 341 *e*PKP PKPdf 16 02 09.4 +1.6
KHC *e* 16 02 16.0
KHC *e* 16 02 29.6
KHC *e* 16 04 25.5
KHC Kasperske Hory 152.28 341 *e*PKPDF PKPdf 16 02 09.4 +1.6
KHC ⇑*e*PKPB PKPdf 16 02 16.0 +8.2
KHC *e*PKPAB PKPab 16 02 29.6 -0.4
KHC *e*pPKP 16 04 25.5
GRA1 Grafenberg Arr 152.42 344 *e*PKPbc PKPdf 16 02 16.2 +8.3
GRA1 *e*PKPab PKPab 16 02 30.0 -0.6
GRA1 *e*PKPbc 16 04 29.3
GRA1 *e*PKPab 16 04 37.8
GRF Grafenberg Arr 152.42 344 *e*PKP PKPdf 16 02 16.2 +8.3
GRF *e*PKP PKPdf 16 02 30.0 +22
GRFO Grafenberg 152.42 344 *e*PKPab PKPab 16 02 30.0 -0.6
WET Wettzell 152.47 342 *e*PKP2 PKPab 16 02 30.5 -0.3
GEC2 GERESS Array S 152.50 340 *e*PKPbc PKPdf 16 02 16.5 +8.4
GEC2 *e*PKPbc 16 04 29.6
GERES GERESS Array B 152.50 340 PKIKP PKPdf 16 02 08.4 +0.3
GERES 16 02 30.3
GERES GERESS Array B 152.50 340 PKP PKPdf 16 02 08.4 +0.3
comp=Z,0.4nm,0.5s,baz=90,slow=1.3,SNR=6.7
GERES PKPbc PKPdf 16 02 16.6 +8.5
comp=Z,5.2nm,0.8s,baz=45,slow=1.9,SNR=28
GERES PKPab PKPab 16 02 30.3 -0.7
comp=Z,1.8nm,0.6s,baz=34,slow=4.6,SNR=6.3

KDAG Bornova 152.51 309 *i* P PKPdf 16 02 16.3 +7.8
TNS Taunus Mts 152.52 348 *e*PKP2 PKPab 16 02 29.8 -1.2
GIVF Givet 153.16 353 *e*PKP2 PKPab 16 02 31.9 -1.8
comp=Z,8.1nm,0.6s
BAIF Baives 153.27 354 *e*PKP2 PKPab 16 02 32.6 -1.5
comp=Z,24nm,1.0s
CDF Champ du Feu 154.47 349 *e*PKP2 PKPab 16 02 37.9 -1.3
comp=Z,14nm,0.7s
WTTA Wattenberg 154.53 342⇑ *i*P PKPdf 16 02 10.4 -0.5
WTTA *i* 16 02 20.7
WTTA *i* 16 02 39.3
MEZF Maizieres J'vi 154.71 352 *e*PKP2 PKPab 16 02 39.0 -1.3
comp=Z,26nm,0.7s
FLN La Foliniere 154.75 1 *e*PKP2 PKPab 16 02 38.3 -2.1
comp=Z,22nm,0.9s
BOJS Bojanci 154.82 334 *e*PKPbc PKPab 16 02 40.0 -0.8
BOJS *e* 16 04 36.7
LDF La Druitiere 154.92 0 *e*PKP2 PKPab 16 02 38.8 -2.3
comp=Z,36nm,1.0s
JAVS Javornik 154.94 337 *i* PKPbc PKPab 16 02 39.6 -1.8
JAVS *e* 16 04 33.6
HAU Haudompre 155.02 350 *e*PKP2 PKPab 16 02 40.1 -1.5
comp=Z,23nm,0.7s
GRR Gorron 155.12 2 *e*PKP2 PKPab 16 02 40.0 -2.0
comp=Z,9.5nm,0.5s
HINF Hinteralfeld 155.12 349 *e*PKP2 PKPab 16 02 40.3 -1.7
comp=Z,8.4nm,0.7s
SGMF Saint Gilles 155.17 4 *e*PKP2 PKPab 16 02 40.5 -1.7
SSF Saint Saulge 156.30 354 *e*PKP2 PKPab 16 02 45.8 -1.3
comp=Z,33nm,0.7s
CABF La Chapelle 156.41 350 *e*PKP2 PKPab 16 02 46.7 -0.9
comp=Z,72nm,1.3s
AVF Avril sur Loir 156.58 354 *e*PKP2 PKPab 16 02 46.7 -1.6
comp=Z,16nm,0.8s
SMF Signal de Mont 156.68 354 *e*PKP2 PKPab 16 02 47.3 -1.5
comp=Z,24nm,0.7s
BGF Bois d'Agland 156.86 355 *e*PKP2 PKPab 16 02 47.3 -2.2
comp=Z,8.3nm,0.5s
MFF Saint Martin d 156.91 1 *e*PKP2 PKPab 16 02 48.0 -1.8
comp=Z,24nm,0.9s
TCF Toulx Ste Croi 157.17 356 *e*PKP2 PKPab 16 02 48.6 -2.3
comp=Z,14nm,0.8s
LPL La Plagne 157.36 348 *e*PKP2 PKPab 16 02 51.3 -0.4
comp=Z,11nm,0.7s
LPG La Plagne 157.37 348 *e*PKP2 PKPab 16 02 51.6 -0.2
comp=Z,27nm,1.0s
ORIF Oris-en-Rattie 158.09 349 *e*PKP2 PKPab 16 02 54.3 -0.6
comp=Z,24nm,0.8s
RJF Les Rejaudoux 158.19 357 *e*PKP2 PKPab 16 02 53.6 -1.7
comp=Z,24nm,0.9s
VIVF Saint-Julien-l 158.34 351 *e*PKP2 PKPab 16 02 55.0 -1.0
comp=Z,60nm,1.3s
CAF Calviac 158.53 356 *e*PKP2 PKPab 16 02 55.6 -1.2
comp=Z,11nm,0.8s
LFF La Frestale 158.57 359 *e*PKP2 PKPab 16 02 55.5 -1.5
comp=Z,28nm,0.8s
SBF Sospel 158.79 345 *e*PKP2 PKPab 16 02 56.6 -1.3
comp=Z,86nm,1.1s
SMRF Simiane la Rot 159.06 349 *e*PKP2 PKPab 16 02 58.6 -0.5
comp=Z,18nm,0.9s
LASF Ste Croix 159.22 352 *e*PKP2 PKPab 16 02 58.6 -1.2
FRF La Foret Royal 159.25 347 *e*PKP2 PKPab 16 02 58.7 -1.2
comp=Z,22nm,0.9s
LMR La Mourre 159.50 347 *e*PKP2 PKPab 16 02 59.8 -1.2
PGF Pioggiola 159.60 341 *e*PKP2 PKPab 16 03 00.3 -1.1
comp=Z,15nm,0.9s
SJPF Ste Jean 160.37 3 *e*PKP2 PKPab 16 03 03.8 -0.9
comp=Z,9.8nm,0.8s
DBIC Dimbokro 162.62 163 PKP PKPdf 16 02 21.3 +0.1
comp=Z,2.8nm,0.7s,baz=279,slow=15,SNR=3.7
DBIC PKPab PKPab 16 03 15.0 -0.4
comp=Z,12nm,1.1s,baz=266,slow=3.2,SNR=5.7
ESDC Sonseca Array 163.47 11 PKPab PKPab 16 03 17.8 -0.5
comp=Z,4.2nm,0.9s,baz=345,slow=4.1,SNR=12

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*NEIC **07** 15:47:07.9, 32.68S×71.78W, h30km, ML3.3(GUC), After GUC.*

GUC 07 15:47:07.9±1.0, 32.68S×71.78W, h30km±4km, MD4.1, ML3.3, 6C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.32**	**65**	⇓ *i*P	Pb	15 47 15.6	0.0
PACH				*i* S	Sb	15 47 20.8	0.0
ROCH	**El Roble**	**0.71**	**115**	⇑ *i*P	Pb	15 47 21.3	-0.4
ROCH				*i* S	Sb	15 47 31.2	0.0
LCCH	**Las Cruces**	**0.82**	**168**	⇓ *i*P	Pn	15 47 22.5	-0.9
LCCH				*i* S	Sb	15 47 34.3	+0.2
CHNG	**Los Chungos**	**0.82**	**17**	⇓ *i*P	Pn	15 47 23.0	-0.5
CHNG				*i* S	Sb	15 47 34.3	-0.1
CHNG				AMP		15 47 35.6	
	comp=E,687nm,0.2s						
JACH	**Jahuel**	**1.00**	**91**	⇑ *i*P	Pn	15 47 25.6	-0.4
JACH				*i* S	Sn	15 47 39.3	+0.1
PEL	**Peldehue**	**1.03**	**117**	⇓ *i*P	Pn	15 47 27.1	+0.6
PEL				*i* S	Sn	15 47 40.6	+0.6
RCDM	**Rinconada Maip**	**1.15**	**135**	*e*P	Pn	15 47 27.9	-0.3
RCDM				*i* S	Sn	15 47 44.6	+1.5
RCDM				AMP		15 47 45.0	
	comp=E,967nm,0.1s						
TACH	**Talagante**	**1.20**	**144**	⇑ *i*P	Pn	15 47 28.8	-0.1
TACH				*i* S	Sn	15 47 43.9	-0.5
STL	**Santa Lucia**	**1.22**	**129**	⇓ *i*P	Pn	15 47 30.0	+0.8
STL				*i* S	Sn	15 47 45.8	+1.0
STL				AMP		15 47 49.5	
	comp=N,431nm,0.3s						
DSCH	**Colegio Aleman**	**1.25**	**126**	⇓ *i*P	Pn	15 47 29.8	+0.3
DSCH				*i* S	Sn	15 47 46.2	+0.8
CLCH	**Cerro Calan**	**1.27**	**125**	⇓ *i*P	Pn	15 47 30.0	+0.1
CLCH				*i* S	Sn	15 47 46.8	+0.8
CLCH				AMP		15 47 53.0	
	comp=E,1μm,0.6s						
CLCH				AMP		15 47 53.6	
	comp=E,1μm,0.6s						
ANTU	**Antumapu**	**1.31**	**133**	*e*P	Pn	15 47 31.0	+0.5
ANTU				AMP		15 47 55.1	
	comp=E,825nm,0.3s						
FCH	**Farellones**	**1.41**	**118**	⇓ *i*P	Pn	15 47 32.4	+0.5
FCH				*i* S	Sn	15 47 50.9	+1.3
FCH				AMP		15 47 51.3	
	comp=N,2μm,0.2s						
CHCH	**Chadas Angostu**	**1.57**	**143**	⇓ *i*P	Pn	15 47 35.0	+0.8
CACH	**El Canelo**	**1.74**	**146**	⇓ *i*P	Pn	15 47 38.1	+1.4
CACH				*i* S	Sn	15 48 01.9	+3.7
LMEL	**Las Melosas**	**1.76**	**132**	⇑ *i*P	Pn	15 47 38.2	+1.2
LMEL				*i* S	Sn	15 48 01.3	+2.7
LMEL				AMP		15 48 04.7	
	comp=N,859nm,0.1s						
CICH	**Cipreses**	**1.99**	**146**	⇑ *i*P	Pn	15 47 41.1	+0.9
CICH				*i* S	Sn	15 48 06.8	+2.3
SFDO	**San Fernando**	**2.04**	**162**	⇑ *i*P	Pn	15 47 40.9	0.0
SFDO				*e*S	Sn	15 48 06.9	+1.3

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*NEIC **07** 15:49:24.8, 46.38N×27.90E, ML3.7(BUC), After BUC.*

BUC 07 15:49:25.5±1.8, 46.29N×27.83E, h4km±10km, MD2.9/2, 16C-7D, Error ellipse: s-maj=11.3km s-min=5.6km az=42.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.88**	**242**	⇑ P	Pb	15 49 43.2	+0.3
VRI				S	Sb	15 49 56.3	+1.7
VRI	**Vrincioaia**	**0.88**	**242**	⇑ *i*P	Pb	15 49 43.1	+0.2
VRI				*i* S	Sb	15 49 56.9	+2.2
VRI	**Vrincioaia**	**0.88**	**242**	⇑ P	Pb	15 49 43.2	+0.3
VRI				S	Sb	15 49 56.3	+1.6
IAS	**Iasi**	**0.93**	**349**	⇑ P	Pb	15 49 40.2	-3.5
IAS				S	Sb	15 49 51.5	-4.7
IAS	**Iasi**	**0.93**	**349**	⇑ P	Pb	15 49 40.2	-3.5
IAS				S	Sb	15 49 51.5	-4.6
CFR	**Carcaliu**	**1.13**	**169**	⇑ P	Pb	15 49 47.7	+0.6
CFR				S	Sb	15 50 05.1	+3.1
CFR	**Carcaliu**	**1.13**	**169**	⇓ *i*P	Pb	15 49 47.8	+0.6
CFR				*i* S	Sb	15 50 04.0	+2.0
CFR	**Carcaliu**	**1.13**	**169**	⇑ P	Pb	15 49 47.7	+0.5
CFR				S	Sb	15 50 05.1	+3.1
TLCR		**1.30**	**148**	⇑ P	Pb	15 49 51.6	+1.5
TLCR				S	Sb	15 50 09.3	+2.4
TLCR		**1.30**	**148**	⇑ *i*P	Pb	15 49 51.6	+1.5
TLCR				*i* S	Sb	15 50 09.5	+2.6
TLCR		**1.30**	**148**	⇑ P	Pb	15 49 51.6	+1.5
TLCR				S	Sb	15 50 09.3	+2.4

MLR	**Muntele Rosu**	**1.54 240**	⇓P	Pn	15 49 55.1	+1.3
MLR			S	Sb	15 50 16.6	+2.7
MLR	**Muntele Rosu**	**1.54 240**	⇑*i*P	Pn	15 49 55.1	+1.3
MLR			*i*S	Sb	15 50 16.7	+2.8
MLR	**Muntele Rosu**	**1.54 240**	⇓P	Pn	15 49 55.1	+1.3
MLR			S	Sb	15 50 16.6	+2.7
HARR	**Harsova**	**1.60 177**	⇓P	Pn	15 49 56.5	+1.9
HARR			S	Sb	15 50 19.2	+3.5
HARR	**Harsova**	**1.60 177**	⇓*i*P	Pn	15 49 56.5	+1.8
HARR	**Harsova**	**1.60 177**	⇓P	Pn	15 49 56.5	+1.8
HARR			S	Sb	15 50 19.2	+3.6
TIRR	**Tirgusor**	**1.87 167**	⇑P	Pn	15 49 59.3	+0.7
TIRR			S	Sn	15 50 24.9	+2.0
TIRR	**Tirgusor**	**1.87 167**	⇓*i*P	Pn	15 49 59.2	+0.6
TIRR			S	Sn	15 50 26.1	+3.2
TIRR	**Tirgusor**	**1.87 167**	⇑P	Pn	15 49 59.3	+0.7
TIRR			S	Sn	15 50 24.9	+2.0
BURAR	**Bucovina Array**	**2.23 308**	⇑P	Pn	15 50 04.6	+0.9
BURAR			S	Sn	15 50 33.7	+1.7
BURAR	**Bucovina Array**	**2.23 308**	⇑*i*P	Pn	15 50 04.7	+1.0
BURAR			*i*S	Sn	15 50 33.6	+1.6
BURAR	**Bucovina Array**	**2.23 308**	⇑P	Pn	15 50 04.6	+0.9
BURAR			S	Sn	15 50 33.7	+1.7

*NEIC **07** 15:58:04.8±2.0, 6.63S×153.35E, h64km±23km, mb4.3/7, Error ellipse: s-maj=30.8km s-min=12.6km az=161.0*
*IDC **07** 15:58:07.1±3.4, 6.58S×153.39E, h70km±35km, mb3.5/6, mb1 3.8/9, mb1mx3.7/19, mbtmp4.0/9, ML4.0/1, Error ellipse: s-maj=31.0km s-min=17.1km az=173.0*

ISC 07 15:58:06.1±2.4, 6.6S±0.1×153.43E±0.07, h88km±23km, n21, σ1339/25, mb4.0/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.79**	**246**	P	**P**	**15 59 46.2**	**+1.3**
PMG				S	**S**	**16 01 05.8**	**+4.6**
	baz=36,slow=8.3,SNR=1.4						
PMG	**Port Moresby**	**6.79**	**246**	*e*Pn	**P**	**15 59 41.0**	**-3.9**
PMG				S	**S**	**16 01 05.8**	**+4.6**
HNR	**Honiara**	**7.03**	**114**	P	**P**	**15 59 46.9**	**-1.4**
HNR				S	**S**	**16 01 08.0**	**+0.7**
	3.1nm,0.3s,baz=239,slow=8.4,SNR=1.4						
HNR	**Honiara**	**7.03**	**114**	*e*Pn	**P**	**15 59 45.8**	**-2.5**
	68nm,1.0s						
HNR				*e*Sn	**S**	**16 01 07.5**	**+0.3**
DZM	**Mont Dzumac**	**19.83**	**142**	P	**P**	**16 02 33.9**	**+1.5**
	0.4nm,0.3s,baz=311,slow=9.3,SNR=5.1						
WRAB	**Tennant Creek**	**22.75**	**233**	*e*P	**P**	**16 03 00.8**	**-0.9**
	8.0nm,0.9s,mb4.0						
WB2	**Warramunga Arr**	**22.75**	**233**	*e*P	**P**	**16 03 01.9**	**+0.1**
WRA	**Warramunga Arr**	**22.76**	**233**	P	**P**	**16 03 02.2**	**+0.3**
	1.7nm,0.7s,mb3.5,baz=54,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**25.27**	**226**	P	**P**	**16 03 27.1**	**+1.1**
	0.3nm,0.5s,mb3.0,baz=56,slow=9.1,SNR=8.8						
FITZ	**Fitzroy Crossi**	**29.38**	**245**	*e*P	**P**	**16 03 58.2**	**-5.2**
	4.1nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	**29.38**	**245**	P	**P**	**16 03 58.7**	**-4.7**
	4.0nm,0.6s,mb4.2,baz=43,slow=4.0,SNR=5.0						
KSM	**Kuching**	**43.78**	**279**	P	**P**	**16 06 01.0**	**-4.3**
CMAR	**Chiang Mai Arr**	**59.23**	**296**	P	**P**	**16 08 02.0**	**+1.1**
	0.4nm,0.4s,mb3.8,baz=124,slow=6.5,SNR=4.2						
ULN	**Ulaanbaatar**	**67.88**	**328**	P	**P**	**16 08 57.2**	**-0.1**
	1.6nm,0.9s,mb3.9						
PALK	**Pallekele**	**73.84**	**280**	P	**P**	**16 09 31.7**	**-2.1**
	24nm,1.5s,mb4.7						
MKAR	**Makanchi Array**	**82.11**	**319**	P	**P**	**16 10 18.4**	**-0.2**
	1.4nm,1.0s,mb3.7,baz=124,slow=4.4,SNR=4.8						
MCK	**McKinley**	**82.31**	**22**	P	**P**	**16 10 19.2**	**0.0**
	2.7nm,0.9s,mb4.1						
QSPA	**South Pole Qui**	**83.33**	**180**	*e*P	**P**	**16 10 22.0**	**-2.2**
	5.1nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**83.62**	**22**	P	**P**	**16 10 27.7**	**+1.9**
	1.2nm,1.0s,mb3.7,baz=244,slow=6.2,SNR=5.6						
CHKZ	**Chkalovo**	**91.05**	**324**	P	**P**	**16 10 59.9**	**-2.0**
	4.5nm,1.6s,mb4.3						
BVAR	**Borovoye Array**	**91.08**	**323**	P	**P**	**16 11 04.7**	**+2.7**
	1.8nm,0.7s,mb4.3,baz=108,slow=4.7,SNR=9.0						

*IDC **07** 16:04:46.1±9.9, 35.58N×70.79E, mb3.9/4, mb1 3.9/6, mb1mx3.6/23, mbtmp3.9/6, ML3.7/2, Error ellipse: s-maj=174.5km s-min=37.4km az=157.0*
*BJI **07** 16:05:02.0, 36.30N×70.90E, h100km*
*NEIC **07** 16:05:02.0±4.0, 36.28N×70.85E, h100km±46km, mb4.2/6, Error ellipse: s-maj=34.2km s-min=8.7km az=71.0*
*NNC **07** 16:05:06.6±29.0, 36.95N×70.30E, mpv4.0, Error ellipse: s-maj=233.5km s-min=195.1km az=178.0*
*MOS **07** 16:05:07.6±1.1, 36.26N×71.12E, h189km, mb3.8/4, Error ellipse: s-maj=31.7km s-min=20.7km az=114.8*

ISC 07 16:05:06.1±1.3, 36.45N±0.05×71.2E±0.2, h161km±15km, n34, σ0996/37, mb3.5/3, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.88**	**50**	P	**P**	**16 06 21.8**	**+2.8**
KSH				Smax			
	comp=N,170nm,0.4s						
KSH				Smax			
	comp=E,140nm,0.4s						
THN	**Thein Dam**	**5.50**	**135**	*e*P	**P**	**16 06 27.3**	**+0.2**
THN				*e*		16 07 28.4	
DLH	**Dalhousie**	**5.56**	**133**	*e*P	**P**	**16 06 30.0**	**+2.0**
DLH				*e*S	**S**	**16 07 32.0**	**+0.5**
AML	**Almayashu**	**6.00**	**18**	P	**P**	**16 06 33.3**	**-0.4**
	SNR=155						
UCH	**Uchtor**	**6.33**	**23**	P	**P**	**16 06 37.7**	**-0.4**
	SNR=30						
KZA	**Kyzart**	**6.45**	**28**	P	**P**	**16 06 39.8**	**0.0**
	SNR=14						
EKS2	**Erkin-Say**	**6.52**	**17**	P	**P**	**16 06 40.4**	**-0.3**
	SNR=36						
KK31	**Karatay Array**	**6.66**	**356**	⇓P	**P**	**16 06 41.3**	**-1.3**
	comp=E,5.6nm,0.4s,baz=178,slow=13						
KK31				⇑S	**S**	**16 07 53.1**	**-4.6**
	comp=E,6.8nm,0.3s,baz=190,slow=26						
AAK	**Ala-Archa**	**6.69**	**22**	P	**P**	**16 06 42.7**	**-0.3**
	SNR=22						
AAK	**Ala-Archa**	**6.69**	**22**	⇑P	**P**	**16 06 42.4**	**-0.5**
	comp=E,5.0nm,0.3s						
AAK				⇑S	**S**	**16 07 57.0**	**-1.3**
	comp=E,39nm,1.0s						
KBK	**Karagaybulak**	**6.85**	**24**	P	**P**	**16 06 47.7**	**+2.5**
	SNR=9.6						
SDNR	**Sundarnagar**	**6.91**	**134**	*e*P	**P**	**16 06 45.0**	**-0.8**
SDNR				*e*		16 08 00.4	
ULHL	**Ulahol**	**7.00**	**33**	P	**P**	**16 06 48.2**	**+1.1**
	SNR=13						
CHMS	**Chumysh**	**7.10**	**22**	P	**P**	**16 06 48.5**	**0.0**
	SNR=7.8						
USP	**Ospenovka**	**7.28**	**20**	P	**P**	**16 06 50.6**	**-0.2**
	SNR=8.7						
TKM2	**Tokmak 2**	**7.31**	**27**	P	**P**	**16 06 50.9**	**-0.3**
	SNR=14						
MKAR	**Makanchi Array**	**13.26**	**35**	Pn	**P**	**16 08 09.9**	**+1.0**
	comp=E,0.2nm,0.3s,baz=214,slow=16,SNR=3.6						
KOLN	**Koldanda**	**13.63**	**126**	*e*P	**P**	**16 08 12.8**	**-1.0**
	comp=E,10.0nm,0.5s						
GKN	**Gorkha**	**14.17**	**123**	*e*P	**P**	**16 08 19.6**	**-1.0**
	comp=E,12nm,0.3s						
DMN	**Daman**	**14.74**	**123**	*e*P	**P**	**16 08 27.1**	**-0.7**
	comp=E,13nm,0.4s						
KKN	**Kakani**	**14.74**	**122**	*e*P	**P**	**16 08 26.7**	**-1.1**
	comp=E,11nm,0.5s						
KKN	**Kakani**	**14.74**	**122**	*e*P	**P**	**16 08 26.7**	**-1.1**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
PKI	**Pulchoki**	**14.97**	**122**	*e*P	**P**	**16 08 30.5**	**-0.2**
	comp=Z,8.4nm,0.3s						
PKI	**Pulchoki**	**14.97**	**122**	*e*P	**P**	**16 08 30.5**	**-0.2**
PKI				pmax	pmax		
	comp=Z,4.0nm,0.3s						
JIRN	**Jiri**	**15.45**	**120**	*e*P	**P**	**16 08 36.9**	**+0.2**
	comp=Z,37nm,0.3s						
BVAR	**Borovoye Array**	**16.58**	**358**	P	**P**	**16 08 49.9**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=168,slow=9.8,SNR=17						
ZAL	**Zalesovo**	**19.89**	**24**	P	**P**	**16 09 27.8**	**+1.1**
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ZAL	**Zalesovo**	**19.89**	**24**	P	**P**	**16 09 27.8**	**+1.1**
	comp=Z,4.7nm,0.4s,baz=253,slow=8.1,SNR=20						
FINES	**FINESS Array B**	**37.59**	**326**	P	**P**	**16 12 07.3**	**+0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.1s						
FINES	**FINESS Array B**	**37.59**	**326**	P	**P**	**16 12 07.3**	**+1.0**
	comp=Z,1.7nm,1.1s,mb3.6,baz=192,slow=35,SNR=4.0						
HFS	**Hagfors**	**43.18**	**322**	P	**P**	**16 12 52.7**	**+0.6**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**43.18**	**322**	P	**P**	**16 12 52.7**	**+0.6**
	comp=Z,1.2nm,0.6s,mb3.7,baz=97,slow=12,SNR=3.3						
NOA	**NORSAR Array B**	**44.50**	**323**	P	**P**	**16 13 02.0**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**44.50**	**323**	P	**P**	**16 13 02.0**	**-0.6**
	comp=Z,0.5nm,0.7s,mb3.3,baz=104,slow=7.0,SNR=3.0						

IDC 07 16:17:08.1±2.8, 2.45N×99.33E, h24km±6km, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.9/5, Error ellipse: s-maj=166.5km s-min=17.0km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.93**	**125**	P	P	16 24 50.0	-0.7
	1.2nm,0.8s,baz=306,slow=8.9,SNR=11						
WRA				pP	pP	16 24 55.1	-2.6
	0.7nm,0.9s,baz=307,slow=9.0,SNR=3.0						
WRA				PcP	PcP	16 26 48.2	-3.3
	0.1nm,0.7s,baz=313,slow=2.7,SNR=4.9						
ASAR	**Alice Springs**	**42.49**	**130**	P	P	16 25 01.8	-1.7
	0.6nm,0.8s,baz=297,slow=7.5,SNR=7.1						
MKAR	**Makanchi Array**	**46.60**	**344**	P	P	16 25 35.5	-0.6
	1.1nm,0.7s,baz=155,slow=8.5,SNR=10						
MKAR				pP	pP	16 25 42.5	-0.9
	1.3nm,0.5s,baz=158,slow=8.6,SNR=11						
BVAR	**Borovoye Array**	**55.81**	**339**	P	P	16 26 42.4	-3.4
	0.5nm,0.5s,baz=147,slow=8.8,SNR=5.8						
BVAR				pP	pP	16 26 50.2	-2.8
	0.4nm,0.6s,baz=149,slow=8.4,SNR=3.0						
ARCES	**ARCESS Array B**	**82.09**	**340**	P	P	16 29 24.9	-2.9
	3.8nm,1.0s,baz=76,slow=5.0,SNR=3.9						

IDC 07 16:26:01.4±1.4, 10.92N×91.52E, mb3.6/4, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=49.5km s-min=23.2km az=53.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.38**	**43**	Pn	P	16 28 32.4	-2.3
	baz=228,slow=15,SNR=1.0						
MKAR	**Makanchi Array**	**36.60**	**349**	P	P	16 33 08.6	-2.6
	0.4nm,0.8s,baz=159,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**52.12**	**126**	P	P	16 35 13.4	-2.6
	0.5nm,0.3s,baz=300,slow=10,SNR=27						
ASAR	**Alice Springs**	**53.84**	**130**	P	P	16 35 26.9	-1.8
	0.4nm,0.5s,baz=308,slow=6.9,SNR=22						
BRTR	**Keskin Array B**	**58.50**	**310**	P	P	16 36 00.3	-1.6
	0.4nm,0.5s,baz=113,slow=9.4,SNR=3.6						

*BJI **07** 16:29:42.9, 2.62N×96.51E, h52km, mB5.1, mb4.6, Ms4.5, Msz4.0*
*MOS **07** 16:29:42.8±0.9, 3.01N×96.66E, h33km, mb4.8/15, Error ellipse: s-maj=15.0km s-min=7.4km az=108.1*
*NEIC **07** 16:29:44.3±0.3, 2.95N×96.67E, h30km, mb4.8/21, Error ellipse: s-maj=7.8km s-min=5.3km az=57.0*
*IDC **07** 16:29:45.9±0.6, 3.01N×96.70E, h42km±4km, mb4.3/19, mb1 4.4/20, mb1mx4.3/24, mbtmp4.6/20, MS3.6/1, Ms1 3.8/1, ms1mx3.0/30, Error ellipse: s-maj=15.1km s-min=11.2km az=73.0*

ISC 07 16:29:43.5±0.3, 2.91N±0.04×96.61E±0.04, h39km, h39km±2.3km: pP-P, n115, σ1917/119, mb4.6/59, MS3.9/9, 3C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.67**	**60**	*e*P	**P**	**16 30 55.1**	**+1.6**
IPM	**Ipoh**	**4.71**	**69**	P	**P**	**16 30 56.0**	**+2.0**
KGM	**Kluang**	**6.76**	**97**	P	**P**	**16 31 24.0**	**+1.2**
NNT	**Nongplab**	**10.10**	**18**	P	**P**	**16 32 16.5**	**+7.4**
KSM	**Kuching**	**13.77**	**96**	P	**P**	**16 32 56.9**	**-1.6**
KKTK	**Khon Kaen**	**14.67**	**24**	⇑P	**P**	**16 33 16.8**	**+6.4**
	494nm,0.6s						
CM31	**Chiang Mai Arr**	**15.62**	**8**	*e*P	**P**	**16 33 23.7**	**+1.1**
	9.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**15.62**	**8**	P	**P**	**16 33 22.9**	**+0.3**
	baz=198,slow=12,SNR=4.5						
CMAR				LR	LR	16 39 46.1	
	comp=Z,227nm,18.6s,baz=190,slow=39						
NANT	**Nan**	**16.29**	**14**	P	**P**	**16 33 35.0**	**+3.9**
KKM	**Kota Kinabalu**	**19.79**	**80**	*e*P	**P**	**16 34 12.3**	**-1.2**
KKM	**Kota Kinabalu**	**19.79**	**80**	P	**P**	**16 34 14.0**	**+0.5**
QIZ	**Qiongzhong**	**20.60**	**38**	P	**P**	**16 34 22.1**	**+0.1**
QIZ				*e*S	**S**	**16 38 08.6**	**+3.5**
QIZ				LR	LR		
	comp=N,261nm,19.4s,MS3.8						
QIZ				LR	LR		
	comp=E,243nm,17.2s,MS3.8						
QIZ				LR	LR		
	comp=Z,334nm,23.1s						
HYB	**Hyderabad**	**22.84**	**310**	*e*P	**P**	**16 34 47.0**	**+2.5**
HYB	**Hyderabad**	**22.84**	**310**	*i*P	**P**	**16 34 47.0**	**+2.5**
KMI	**Kunming**	**22.86**	**14**	P	**P**	**16 34 46.8**	**+2.2**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.0						
KMI				LR	LR		
	comp=Z,76nm,23.0s,MS3.1						
KMI	**Kunming**	**22.86**	**14**	P	**P**	**16 34 46.8**	**+2.2**
	comp=Z,7.0nm,1.2s,mb4.0						
KMI				LR	LR		
	comp=Z,80nm,23.0s,MS3.1						
GYA	**Guiyang**	**25.32**	**21**	P	**P**	**16 35 08.5**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**26.55**	**339**	*e*P	**P**	**16 35 20.2**	**+0.4**
	comp=Z,31nm,0.6s,mb5.0						
PKI	**Pulchoki**	**26.75**	**337**	*e*P	**P**	**16 35 21.3**	**-0.5**
	comp=Z,9.4nm,0.5s,mb4.5						
PKI	**Pulchoki**	**26.75**	**337**	*e*P	**P**	**16 35 21.3**	**-0.5**
PKI				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
DMN	**Daman**	**26.91**	**337**	*e*P	**P**	**16 35 23.3**	**+0.2**
	comp=Z,13nm,0.7s,mb4.6						
KKN	**Kakani**	**27.00**	**337**	*e*P	**P**	**16 35 23.8**	**-0.2**
	comp=Z,10nm,0.6s,mb4.5						
KKN	**Kakani**	**27.00**	**337**	*e*P	**P**	**16 35 23.8**	**-0.2**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
GKN	**Gorkha**	**27.44**	**337**	*e*P	**P**	**16 35 28.0**	**-0.1**
	comp=Z,11nm,0.4s,mb4.7						
KOLN	**Koldanda**	**27.66**	**335**	*e*P	**P**	**16 35 30.0**	**-0.1**
	comp=Z,12nm,0.6s,mb4.7						
ENH	**Enshi**	**29.82**	**23**	*e*P	**P**	**16 35 46.9**	**-2.4**
	comp=Z,9.3nm,0.5s,mb4.8						
MBWA	**Marble Bar**	**32.95**	**138**	*e*P	**P**	**16 36 11.1**	**-5.8**
XAN	**Xi'an**	**33.03**	**19**	P	**P**	**16 36 15.1**	**-2.4**
XAN				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
LZH	**Lanzhou**	**33.68**	**11**	*e*P	**P**	**16 36 26.4**	**+3.3**
LZH				AP	pP	16 36 35.5	+1.6
LZH				XP	sP	16 36 40.0	+1.1
LZH				AMB	AMB		
	comp=Z,38nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,122nm,4.6s						
LZH				LR	LR		
	comp=E,736nm,14.6s						
LZH				LR	LR		
	comp=Z,1μm,15.8s,MS4.8						
LZH	**Lanzhou**	**33.68**	**11**	*e*P	**P**	**16 36 26.4**	**+3.3**
LZH				*PP	pP	16 36 35.5	+1.6
LZH				*SP	sP	16 36 40.0	+1.1
LZH						16 37 41.6	
LZH				*e*S	**S**	**16 41 49.8**	**+7.4**
LZH				*SS		16 42 05.8	
LZH				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.1						
LZH				MLR	MLR		
	comp=Z,1μm,15.8s,MS4.8						
LZH	**Lanzhou**	**33.68**	**11**	*e*P	**P**	**16 36 26.4**	**+3.3**
	comp=Z,38nm,1.6s,mb5.1						
LZH				pP	pP	16 36 35.5	+1.6
LZH				sP	sP	16 36 40.0	+1.1
LZH				PP	PP	16 37 41.6	+5.1
LZH				*e*S	**S**	**16 41 49.8**	**+7.4**
LZH				sS		16 42 05.8	
LZH				*e*SS	SS	16 43 59.6	+11
LZH				LR	LR		
	comp=Z,1μm,15.8s,MS4.8						
FITZ	**Fitzroy Crossi**	**35.42**	**127**	⇓*i*P	**P**	**16 36 36.4**	**-1.7**
	comp=Z,15nm,0.6s,mb5.1						
NJ2	**Nanjing**	**35.74**	**33**	*e*P	**P**	**16 36 40.3**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
SSE	**Sheshan**	**36.38**	**37**	P	**P**	**16 36 46.8**	**+0.6**
SSE				AMB	AMB		
	comp=Z,21nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,60nm,3.7s						
SSE	**Sheshan**	**36.38**	**37**	P	**P**	**16 36 46.8**	**+0.6**
	comp=Z,21nm,0.6s,mb5.2						
GTA	**Gaotai**	**36.44**	**4**	*e*P	**P**	**16 36 46.4**	**-0.2**
GTA				PP	PP	16 38 11.9	+0.9
GTA				S	**S**	**16 42 26.7**	**+1.6**
GTA				SS	SS	16 44 54.2	+2.4
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,90nm,6.1s						
GTA				LR	LR		
	comp=N,153nm,14.1s,MS4.0						
GTA				LR	LR		
	comp=E,112nm,15.6s,MS4.0						
GTA				LR	LR		
	comp=Z,126nm,14.5s,MS3.8						
JOW	**Kunigami**	**38.54**	**49**	P	**P**	**16 37 03.9**	**-0.3**
	comp=Z,4.7nm,0.5s,mb4.4,baz=236,slow=7.3,SNR=5.2						
MUN	**Mundaring**	**39.38**	**153**	*e*P	**P**	**16 37 12.7**	**+1.5**
	comp=Z,53nm,1.1s,mb5.2						
MUN	**Mundaring**	**39.38**	**153**	*e*P	**P**	**16 37 12.7**	**+1.5**
MUN				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.2						
HHC	**Hu-ho-hao-te**	**40.10**	**18**	*e*P	**P**	**16 37 17.0**	**-0.1**
HHC				AP	pP	16 37 27.2	-0.9
HHC				PP	PP	16 38 56.5	+3.3
HHC				PCP	PcP	16 39 23.6	+1.7
HHC				PCS		16 43 10.7	
HHC				S	**S**	**16 43 22.0**	**+1.5**
HHC				SS	SS	16 46 16.4	+3.2
HHC				SCS	ScS	16 47 18.1	-0.4
HHC				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.3						
HHC				AMB	AMB		
	comp=Z,199nm,5.0s						
HHC				LR	LR		
	comp=N,221nm,14.4s,MS4.4						
HHC				LR	LR		
	comp=E,336nm,14.0s,MS4.4						
HHC				LR	LR		
	comp=Z,169nm,17.3s,MS4.0						
NWAO	**Narrogin (SRO)**	**40.64**	**153**	P	**P**	**16 37 23.1**	**+1.4**
	comp=Z,16nm,0.9s,mb4.7,baz=343,slow=13,SNR=5.7						
BJT	**Baijiatuau**	**40.97**	**23**	*e*P	**P**	**16 37 23.0**	**-1.3**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	**Baijiatuau**	**40.97**	**23**	*e*P	**P**	**16 37 23.0**	**-1.3**
	comp=Z,7.0nm,0.6s,mb4.5						
KSH	**Kashi**	**40.98**	**335**	*e*P	**P**	**16 37 22.6**	**-1.7**
KSH				*e*PP	PP	16 39 01.0	-0.9
KSH				*e*PCP	PcP	16 39 23.0	-1.7
KSH				*e*PPP	PPP	16 39 30.3	-1.6
KSH				*e*SCP		16 43 09.0	
KSH				*e*PCS		16 43 13.0	
KSH				*e*S	**S**	**16 43 32.3**	**-1.2**
KSH				*e*SS	SS	16 46 31.2	-0.7
KSH				*e*SCS	ScS	16 47 22.1	-1.6
KSH				AMB	AMB		
	comp=Z,670nm,6.1s						
KSH				LR	LR		
	comp=N,550nm,5.8s						
KSH				LR	LR		
	comp=E,850nm,5.6s						
BJI	**Beijing**	**40.99**	**23**	*e*P	**P**	**16 37 24.5**	**0.0**
BJI				AP	pP	16 37 33.7	-1.7
BJI				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.7						
BJI				LR	LR		
	comp=N,153nm,9.8s						
BJI				LR	LR		
	comp=E,280nm,9.4s						
BJI				LR	LR		
	comp=Z,130nm,23.3s,MS3.7						
BJI	**Beijing**	**40.99**	**23**	*e*P	**P**	**16 37 24.5**	**0.0**
	comp=Z,13nm,0.6s,mb4.7						
BJI				pP	pP	16 37 33.7	-1.7
BJI				sP	sP	16 37 37.5	-2.7
BJI				S	tx	16 44 28.7	
BJI				sS		16 44 48.2	
BJI				LR	LR		
	comp=Z,130nm,23.3s,MS3.7						
WMQ	**Urumqi**	**41.49**	**350**	P	**P**	**16 37 29.0**	**+0.5**
WMQ				AP	pP	16 37 38.9	-0.6
WMQ				XP	sP	16 37 42.7	-1.6
WMQ				PP	PP	16 39 09.5	+1.9
WMQ				PCP	PcP	16 39 25.6	-0.7
WMQ				S	**S**	**16 43 44.2**	**+3.0**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,234nm,4.5s						
WMQ				LR	LR		
	comp=N,88nm,21.8s,MS3.7						
WMQ				LR	LR		
	comp=E,64nm,18.4s,MS3.7						
WMQ				LR	LR		
	comp=Z,50nm,15.2s,MS3.5						
WRA	**Warramunga Arr**	**43.45**	**123**	P	**P**	**16 37 44.2**	**-0.8**
	comp=Z,14nm,0.4s,mb5.1,baz=301,slow=9.2,SNR=162						
WRAB	**Tennant Creek**	**43.45**	**123**	*e*P	**P**	**16 37 44.0**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**43.45**	**123**	*e*P	**P**	**16 37 44.0**	**-1.0**
	comp=Z,43nm,0.9s,mb5.2						
WB2	**Warramunga Arr**	**43.46**	**123**	⇓*i*P	**P**	**16 37 44.2**	**-0.8**
UCH	**Uchtor**	**43.85**	**336**	P	**P**	**16 37 48.7**	**+0.8**
	SNR=12						
TKM2	**Tokmak 2**	**44.02**	**338**	P	**P**	**16 37 48.5**	**-0.7**
	SNR=5.4						
KBK	**Karagaybulak**	**44.04**	**337**	P	**P**	**16 37 50.6**	**+1.2**
	SNR=8.9						
AML	**Almayashu**	**44.11**	**335**	P	**P**	**16 37 51.0**	**+1.0**
	SNR=12						
AAK	**Ala-Archa**	**44.20**	**337**	⇓*i*P	**P**

TLY pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
TLY MLR MLR
comp=Z,147nm,22.0s,MS3.9
KURK Kurchatov 49.99 345 P **P 16 38 35.2 -0.8**
KURK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MDJ Mudanjiang 50.68 30 P **P 16 38 43.0 +1.7**
MDJ AP pP 16 38 50.2 -2.2
MDJ S **S 16 46 00.0 +7.8**
MDJ AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,88nm,3.1s
MDJ LR LR
comp=N,72nm,22.8s,MS3.9
MDJ LR LR
comp=E,113nm,20.0s,MS3.9
MDJ LR LR
comp=Z,56nm,20.0s,MS3.6
ZAL Zalesovo 51.78 351 P **P 16 38 49.4 0.0**
comp=Z,12nm,0.5s,mb5.1,baz=311,slow=5.1,SNR=42
ZAL Zalesovo 51.78 351 P **P 16 38 49.4 0.0**
BVA0 Borovoye Array 54.45 341 P **P 16 39 07.6 -1.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BVAR Borovoye Array 54.45 341 P **P 16 39 07.8 -1.4**
comp=Z,5.6nm,0.6s,mb4.7,baz=140,slow=9.1,SNR=56
BVAR pP pP 16 39 20.0 -0.6
baz=148,slow=9.3
CHKZ Chkalovo 54.92 341 *e*P **P 16 39 11.4 -1.3**
CHKZ pmax pmax
comp=Z,37nm,0.6s,mb5.6
CHKZ Chkalovo 54.92 341 *e*P **P 16 39 11.4 -1.3**
comp=Z,37nm,0.6s,mb5.6
STKA Stephens Creek 54.94 133 *e*P **P 16 39 12.3 -0.9**
comp=Z,2.3nm,0.4s,mb4.6
STKA Stephens Creek 54.94 133 P **P 16 39 12.6 -0.6**
comp=Z,4.0nm,0.6s,mb4.6,baz=301,slow=9.1,SNR=15
BOD Bodaibo 56.45 11 ⇓*i*P **P 16 39 22.7 -0.9**
BOD pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
YSS Yuzh-Sakhalins 59.28 35 *e*P **P 16 39 43.0 -0.7**
YSS pmax pmax
comp=Z,64nm,1.7s,mb5.4
KMBO Kilima Mbogo 59.47 267 P **P 16 39 47.3 +1.8**
comp=Z,2.3nm,0.9s,mb4.2,baz=51,slow=23,SNR=7.7
KMBO pP pP 16 39 58.3 +1.5
comp=Z,1.6nm,0.8s,baz=60,slow=14,SNR=3.7
GNI Garni 59.66 316 *e*P **P 16 39 46.9 +0.5**
GNI pmax pmax
comp=Z,13nm,1.7s
KIV Kislovodsk 62.63 319 *e*P **P 16 40 05.6 -0.8**
KIV pmax pmax
comp=Z,18nm,1.1s,mb5.1
KIV Kislovodsk 62.63 319 *e*P **P 16 40 05.6 -0.8**
comp=Z,4.9nm,0.4s,mb5.0
MALT Malatya 63.55 312 *e*P **P 16 40 12.0 -0.7**
YAK Yakutsk 63.95 17 *e*P **P 16 40 12.7 -2.1**
YAK pmax pmax
comp=Z,31nm,0.9s,mb5.3
YAK Yakutsk 63.95 17 *e*P **P 16 40 12.7 -2.1**
comp=Z,31nm,0.9s,mb5.3
SOC Sochi 64.46 318 *e*P **P 16 40 16.2 -2.2**
SOC *e* 16 40 48.4
SOC *e* 16 42 36.8
SOC *e*PPP PPP 16 44 10.5 -4.8
SOC *e*S **S 16 48 48.1 -4.8**
SOC *e* 16 50 11.1
SOC *e*SS SS 16 53 04.8 -0.3
SOC pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
SOC pmax pmax
comp=N,3.0nm,0.9s
BRTR Keskin Array B 67.53 312 P **P 16 40 36.9 -1.2**
comp=N,1.6nm,0.6s,mb4.2,baz=135,slow=7.3,SNR=8.7
BRTR pP pP 16 40 48.7 -1.0
comp=N,1.1nm,0.5s,baz=132,slow=6.0,SNR=3.9
MATP Matopo 70.63 247 P **P 16 40 58.5 +1.1**
comp=N,2.5nm,0.7s,mb4.3,baz=73,slow=5.3,SNR=4.8
MATP pP pP 16 41 11.7 +2.7
comp=N,6.7nm,1.1s,baz=119,slow=5.3,SNR=5.0
OBN Obninsk 70.86 328⇑*e*P **P 16 40 57.5 -0.8**
OBN pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
TIXI Tiksi 71.61 10⇑*i*P **P 16 41 00.8 -1.7**
TIXI pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
AKASG Malin Array Be 73.55 322 P **P 16 41 13.3 -1.0**
comp=Z,3.3nm,0.4s,mb4.6,baz=88,slow=4.8,SNR=29
LBTB Lobatse 74.12 243 P **P 16 41 19.8 +1.6**
comp=Z,5.1nm,0.8s,mb4.5,baz=86,slow=6.1,SNR=6.9
LBTB pP pP 16 41 31.6 +1.8
comp=Z,7.1nm,0.9s,baz=97,slow=12,SNR=5.3
LBTB Lobatse 74.12 243 P **P 16 41 19.8 +1.6**
LBTB pP pP 16 41 31.6 +1.8
MAW Mawson 74.24 193 P **P 16 41 18.8 +0.9**
comp=Z,4.7nm,0.9s,mb4.4,baz=320,slow=7.9,SNR=2.9
APA Apatity 77.32 339 *e*P **P 16 41 42.0 +6.4**
APA *i* pP 16 41 53.8 +6.6
FINES FINESS Array B 78.22 332 P **P 16 41 40.3 -0.2**
comp=Z,3.9nm,0.7s,mb4.4,baz=104,slow=5.4,SNR=17
KAF Kangasniemi 78.30 333 *e*p **P 16 41 40.2 -0.8**
comp=Z,0.7nm,0.4s,mb3.9
KAF Kangasniemi 78.30 333 *e*P **P 16 41 40.2 -0.8**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
SUR Sutherland 79.60 237 P **P 16 41 50.7 +1.9**
comp=Z,4.0nm,0.8s,mb4.4,baz=76,slow=8.3,SNR=2.9
KEV Kevo 80.30 341 *e*p **P 16 41 54.6 +2.9**
comp=Z,0.3nm,0.3s,mb3.7
ARCES ARCESS Array B 80.73 340 P **P 16 41 54.3 +0.3**
comp=Z,2.8nm,0.5s,mb4.4,baz=99,slow=4.6,SNR=23
GERES GERESS Array B 83.14 319 P **P 16 42 07.6 +0.8**
comp=Z,1.4nm,0.6s,mb4.2,baz=104,slow=5.5,SNR=16
KHC Kasperske Hory 83.24 319 *e*P **P 16 42 06.5 -0.9**
KHC *e* pP 16 42 20.5 +1.3
KHC Kasperske Hory 83.24 319 *e*P **P 16 42 06.5 -0.9**
KHC pP pP 16 42 20.5 +1.3
NB2 NORSAR Subarra 85.23 331 P **P 16 42 17.0 -0.1**
comp=Z,1.7nm,0.7s,mb4.3,baz=93,slow=5.0
NOA NORSAR Array B 85.23 331 P **P 16 42 17.4 +0.3**
comp=Z,1.0nm,0.6s,mb4.1,baz=95,slow=4.9,SNR=3.9
LPG La Plagne 87.84 315 *e*P **P 16 42 30.7 +0.5**
comp=Z,9.6nm,0.8s,mb4.8
SCHQ Schefferville 120.84 349 PKP PKPdf 16 48 32.9 +1.2
comp=Z,0.8nm,0.4s,baz=326,slow=7.3,SNR=4.8
SCHQ Schefferville 120.84 349 PKP PKPdf 16 48 32.9 +1.2
ULM Lac du Bonnet 125.97 10 PKP PKPdf 16 48 42.9 +1.2
comp=Z,0.9nm,0.5s,baz=13,slow=2.5,SNR=4.7
WVT Waverly 140.94 6 *e*PKPpre 16 49 07.4
WVT *e*PKPdf PKPdf 16 49 12.2 +2.1
TXAR Lajitas Array 142.51 30 PKP PKPdf 16 49 15.4 +2.4
comp=Z,0.5nm,0.4s,baz=300,slow=4.1,SNR=5.1

*IDC **07** 16:34:51.2±2.5, 1.12N×97.10E, mb3.8/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=119.2km s-min=18.2km az=58.0*
*NEIC **07** 16:34:55.8±0.6, 1.18N×97.19E, h30km, mb4.1/4, Error ellipse: s-maj=13.7km s-min=9.7km az=48.0*
ISC 07 16:34:53.9±5.6, 1.2N±0.1×97.2E±0.1, h30km±41km, n12, σ0°59/12, mb3.9/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.35**	**40**	*e*P	**Pn**	**16 36 13.6**	**-0.3**
KULM				*e*pP		16 36 19.4	
PALK	**Pallekele**	**17.51**	**291**	P	**P**	**16 38 57.8**	**+0.1**
9.1nm,1.0s							
QIZ	**Qiongzhong**	**21.65**	**34**	P	**P**	**16 39 48.0**	**+3.9**
75nm,1.7s,mb4.8							
KMI	**Kunming**	**24.40**	**12**	P	**P**	**16 40 11.9**	**+0.8**
7.0nm,1.2s,mb4.0							
KMI				pP		16 40 19.4	
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**16 42 44.5**	**-0.4**
0.6nm,0.8s,mb3.3,baz=301,slow=9.1,SNR=4.9							
ASAR	**Alice Springs**	**43.40**	**127**	P	**P**	**16 42 56.4**	**+0.5**
0.3nm,0.5s,mb3.2,baz=292,slow=7.7,SNR=4.7							
SONM	**Songino Array**	**47.15**	**8**	P	**P**	**16 43 25.9**	**+0.3**
0.6nm,0.5s,mb3.8,baz=188,slow=9.0,SNR=7.2							
MKAR	**Makanchi Array**	**47.26**	**346**	P	**P**	**16 43 26.6**	**+0.3**
0.9nm,0.5s,mb4.0,baz=161,slow=8.7,SNR=14							
ULN	**Ulaanbaatar**	**47.28**	**9**	P	**P**	**16 43 25.9**	**-0.6**
2.2nm,1.0s,mb4.0							
STKA	**Stephens Creek**	**53.36**	**132**	P	**P**	**16 44 13.0**	**-0.1**
2.3nm,0.9s,mb4.1,slow=8.1,SNR=2.6							
ZAL	**Zalesovo**	**53.57**	**351**	P	**P**	**16 44 14.5**	**+0.2**
1.1nm,0.5s,mb4.0,baz=316,slow=11,SNR=4.7							
BVAR	**Borovoye Array**	**56.26**	**341**	P	**P**	**16 44 32.8**	**-1.1**
0.9nm,0.7s,mb3.9,baz=143,slow=7.4,SNR=6.7							

*IDC **07** 16:40:24.6±2.0, 21.53N×143.04E, h311km±20km, mb3.0/5, mb1 3.2/6, mb1mx3.0/24, mbtmp3.7/6, Error ellipse: s-maj=48.2km s-min=14.6km az=94.0*
ISC 07 16:40:23.9±2.1, 21.5N±0.1×143.1E±0.5, h319km±20km, n6, σ0°55/7, mb3.2/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.64**	**352**	P	**P**	**16 41 49.4**	**-0.7**
3.6nm,0.3s,baz=282,slow=20,SNR=6.0							
CBIJ				S	**S**	**16 42 58.2**	**+0.6**
2.0nm,0.3s,baz=287,slow=19,SNR=2.7							
WRA	**Warramunga Arr**	**42.05**	**192**	P	**P**	**16 47 46.6**	**-0.1**
0.3nm,0.3s,mb3.0,baz=12,slow=9.2,SNR=18							
ASAR	**Alice Springs**	**45.76**	**192**	P	**P**	**16 48 16.5**	**+0.4**
0.3nm,0.7s,mb2.5,baz=23,slow=9.3,SNR=3.6							
BVAR	**Borovoye Array**	**62.75**	**320**	P	**P**	**16 50 17.1**	**-0.3**
0.3nm,0.3s,mb3.2,baz=93,slow=7.4,SNR=4.6							
YKA	**Yellowknife Ar**	**76.70**	**28**	P	**P**	**16 51 41.4**	**0.0**
0.2nm,0.5s,mb3.1,baz=293,slow=6.0,SNR=4.8							
ARCES	**ARCESS Array B**	**79.08**	**341**	P	**P**	**16 51 54.2**	**+0.1**
3.7nm,0.9s,mb4.1,baz=45,slow=7.7,SNR=3.9							

*BJI **07** 16:40:51.4, 1.26N×97.35E, h24km, mB5.3, mb5.0, Ms5.1, Msz5.0*
*MOS **07** 16:40:52.9±1.2, 1.33N×97.15E, h33km, mb5.3/24, MS4.9/6, Error ellipse: s-maj=12.3km s-min=6.6km az=102.5*
*IDC **07** 16:40:53.7±0.4, 1.38N×97.22E, h22km±2km, mb4.4/22, mb1 4.4/23, mb1mx4.4/26, mbtmp4.5/23, ML4.6/1, MS4.5/10, Ms1 4.5/10, ms1mx4.1/27, Error ellipse: s-maj=14.0km s-min=9.7km az=43.0*
*NEIC **07** 16:40:53.6±0.3, 1.31N×97.20E, mb5.2/25, Error ellipse: s-maj=7.8km s-min=6.3km az=50.0*
*HRVD **07** 16:40:53.6±0.7, 1.15N×96.83E, h36km±1km, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s23,c32;Mantle waves: s37,c47; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.40±.23; Mθθ-1.13±.14; Mφφ-1.27±.19; Mrθ1.19±.18; Mθφ1.63±.11; Mφr-1.18±.21; Best double couple: M0=3.107×10^16 NP1:φs=317°, δ29°, λ92°. NP2:φs=135°, δ61°, λ89°. Principal axes: T 2.891, Plg74°, Azm43°; N .431, Plg1°, Azm136°; P -3.322, Plg16°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 07 16:40:51.9±1.2, 1.30N±0.04×97.17E±0.04, h25km±8km, h24km±.6km: pP-P, n161, σ1°11/173, mb4.9/70, MS4.8/32, 12C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.04**	**50**	P	**Pn**	**16 42 08.7**	**+0.7**
KULM	**Kulim**	**5.27**	**41**⇑	*e*P	**Pn**	**16 42 11.6**	**+0.4**
KGM	**Kluang**	**6.19**	**83**	P	**Pn**	**16 42 25.7**	**+1.6**
NNT	**Nongplab**	**11.50**	**13**	P	**P**	**16 43 37.0**	**-0.9**
BDT	**Bhumibol Dam**	**15.95**	**6**	P	**P**	**16 44 38.0**	**+1.4**
KKTK	**Khon Kaen**	**15.95**	**20**	P	**P**	**16 44 40.0**	**+3.4**
CM31	**Chiang Mai Arr**	**17.14**	**6**	*e*P	**P**	**16 44 50.5**	**-1.2**
18nm,0.8s							
CMAR	**Chiang Mai Arr**	**17.14**	**6**	Pn	**P**	**16 44 49.5**	**-2.2**
0.8nm,0.3s,baz=195,slow=13,SNR=44							
CMAR				LR	LR	16 52 25.8	
comp=Z,2μm,18.6s,baz=190,slow=41							
CHG	**Chiang Mai**	**17.49**	**6**	⇑P	**P**	**16 44 54.5**	**-1.6**
21nm,1.1s							
NANT	**Nan**	**17.73**	**11**	P	**P**	**16 45 00.0**	**+0.9**
KKM	**Kota Kinabalu**	**19.57**	**76**	*e*P	**P**	**16 45 20.2**	**-1.1**
KKM	**Kota Kinabalu**	**19.57**	**76**	P	**P**	**16 45 21.0**	**-0.2**
VIS	**Vishakhapatnam**	**21.25**	**321**	*e*P	**P**	**16 45 33.0**	**-5.7**
VIS				*e*S	**S**	**16 49 21.3**	**-7.3**
QIZ	**Qiongzhong**	**21.56**	**34**	P	**P**	**16 45 42.1**	**+0.3**
QIZ				XP		16 45 52.7	
QIZ				PP	PP	16 46 07.0	+0.6
QIZ				PPP	PPP	16 46 14.5	-1.5
QIZ				*e*S	**S**	**16 49 35.5**	**+1.1**
QIZ				XS		16 49 46.3	
QIZ				LR	LR		
comp=N,1μm,14.7s,MS4.6							
QIZ				LR	LR		
comp=E,1μm,15.8s,MS4.6							
QIZ				LR	LR		
comp=Z,1μm,15.0s,MS4.4							
BATP	**Bataraza**	**21.84**	**69**	*e*P	**P**	**16 45 44.4**	**-0.3**
ENPP	**El Nido**	**24.19**	**65**	*e*P	**P**	**16 46 09.1**	**+1.3**
KMI	**Kunming**	**24.29**	**12**	P	**P**	**16 46 10.4**	**+1.7**
KMI				AP		16 46 17.4	
KMI				XP		16 46 20.0	
KMI				PP	PP	16 46 43.8	-0.2
KMI				S	**S**	**16 50 28.6**	**+5.5**
KMI				XS		16 50 40.0	
KMI				AMB	AMB		
comp=Z,121nm,1.1s,mb5.2							
KMI				AMB	AMB		
comp=Z,539nm,4.0s							
KMI				LR	LR		
comp=N,4μm,14.8s,MS5.1							
KMI				LR	LR		
comp=E,2μm,13.5s,MS5.1							
KMI				LR	LR		
comp=Z,4μm,14.8s,MS5.0							
KMI	**Kunming**	**24.29**	**12**	P	**P**	**16 46 10.4**	**+1.7**
KMI				*SP		16 46 20.0	
KMI				P		16 46 43.8	
KMI				S	**S**	**16 50 28.6**	**+5.5**
KMI				*SS		16 50 40.0	
KMI				SS	SS	16 51 30.3	+13
KMI				pmax	pmax		
comp=Z,121nm,1.1s,mb5.2							
KMI				MLR	MLR		
comp=Z,4μm,14.8s,MS5.0							
KMI	**Kunming**	**24.29**	**12**	P	**P**	**16 46 10.4**	**+1.7**
comp=Z,121nm,1.1s,mb5.2							
KMI				pP		16 46 17.4	
KMI				sP		16 46 20.0	
KMI				PP	PP	16 46 43.8	-0.2
KMI				S	**S**	**16 50 28.6**	**+5.5**
KMI				sS		16 50 40.0	
KMI				SS	SS	16 51 30.3	+13
KMI				LR	LR		
comp=Z,4μm,14.8s,MS5.0							
SHL	**Shillong**	**24.66**	**348**	*e*P	**P**	**16 46 13.0**	**+0.7**
SHL				*e*		16 50 35.0	
LKP	**Lekhapani**	**25.91**	**358**	*e*P	**P**	**16 46 26.0**	**+2.0**
GYA	**Guiyang**	**26.63**	**19**⇑	*i*P	**P**	**16 46 30.2**	**-0.5**
GYA				AP	pP	16 46 37.0	-0.9
GYA				XP	sP	16 46 40.1	-1.1
GYA				AMB	AMB		
comp=Z,40nm,1.3s,mb4.8							
GYA				AMB	AMB		
comp=Z,290nm,5.4s							
GYA				LR	LR		
comp=N,4μm,15.2s,MS5.2							
GYA				LR	LR		
comp=E,1μm,13.5s,MS5.2							
GYA				LR	LR		
comp=Z,4μm,14.3s,MS5.1							
GZH	**Guangzhou**	**26.75**	**35**	P	**P**	**16 46 27.1**	**-4.7**
GZH				LR	LR		
comp=N,706nm,16.0s,MS4.7							
GZH				LR	LR		
comp=E,1μm,13.9s,MS4.7							
GZH				LR	LR		
comp=Z,2μm,14.8s,MS4.9							
JIRN	**Jiri**	**28.25**	**339**	*e*P	**P**	**16 46 46.6**	**+1.2**
comp=Z,263nm,1.1s,mb5.8							
PKI	**Pulchoki**	**28.45**	**338**	*e*P	**P**	**16 46 48.0**	**+0.8**
comp=Z,235nm,1.6s,mb5.6							
PKI	**Pulchoki**	**28.45**	**338**	*e*P	**P**	**16 46 48.0**	**+0.8**
PKI				pmax	pmax		
comp=Z,117nm,1.6s,mb5.3							
BUKP	**Musuan**	**28.54**	**76**	*e*P	**P**	**16 46 48.5**	**+0.4**
DMN	**Daman**	**28.60**	**337**	*e*P	**P**	**16 46 49.0**	**+0.4**
comp=Z,120nm,1.2s,mb5.5							
KKN	**Kakani**	**28.70**	**338**	*e*P	**P**	**16 46 50.0**	**+0.6**
comp=Z,178nm,1.2s,mb5.7							
KKN	**Kakani**	**28.70**	**338**	*e*P	**P**	**16 46 50.0**	**+0.6**
KKN				pmax	pmax		
comp=Z,89nm,1.2s,mb5.4							
APYP	**Conner**	**28.81**	**54**	*e*P	**P**	**16 46 49.5**	**-1.0**
GKN	**Gorkha**	**29.14**	**337**	*e*P	**P**	**16 46 54.1**	**+0.7**
comp=Z,207nm,1.1s,mb5.8							
KOLN	**Koldanda**	**29.36**	**335**	*e*P	**P**	**16 46 56.4**	**+1.0**
comp=Z,87nm,0.9s,mb5.5							
CD2	**Chengdu**	**30.10**	**11**⇑	*i*P	**P**	**16 47 01.0**	**-1.0**
CD2				PP	PP	16 47 55.0	-5.5
CD2				S	**S**	**16 51 51.5**	**-6.4**
CD2				AMB	AMB		
comp=Z,60nm,1.1s,mb5.2							
CD2				AMB	AMB		
comp=Z,250nm,14.4s							
CD2				LR	LR		
comp=E,3μm,15.6s							
CD2				LR	LR		
comp=Z,3μm,16.8s,MS5.0							
QZH	**Quanzhou**	**31.31**	**40**	*e*P	**P**	**16 47 12.0**	**-0.7**
QZH				S	**S**	**16 52 16.0**	**-1.0**
QZH				LR	LR		
comp=N,2μm,13.0s,MS5.1							
QZH				LR	LR		
comp=E,2μm,14.3s,MS5.1							
QZH				LR	LR		
comp=Z,3μm,14.1s,MS5.2							
LGTI	**Lohaghat**	**32.30**	**332**	*e*P	**P**	**16 47 22.5**	**+1.2**
NDI	**New Delhi**	**33.23**	**327**	*e*P	**P**	**16 47 27.0**	**-2.5**
WHN	**Wuhan**	**33.34**	**28**	P	**P**	**16 47 30.0**	**-0.4**
WHN				S	**S**	**16 52 55.0**	**+6.5**
WHN				LR	LR		
comp=Z,3μm,14.7s,MS5.2							
FITZ	**Fitzroy Crossi**	**34.01**	**126**	*e*P	**P**	**16 47 35.4**	**-0.9**
comp=Z,4.4nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**34.01**	**126**	P	**P**	**16 47 35.5**	**-0.7**
comp=Z,6.0nm,0.6s,mb4.7,baz=286,slow=3.1,SNR=15							
FITZ				LR	LR	17 03 46.9	
comp=Z,453nm,20.1s,MS4.2,baz=288,slow=40							
XAN	**Xi'an**	**34.38**	**17**	P	**P**	**16 47 37.9**	**-1.4**
XAN				AP	pP	16 47 43.7	-3.0
XAN				S	**S**	**16 52 59.3**	**-5.2**
XAN				AMB	AMB		
comp=Z,70nm,1.1s,mb5.5							
XAN				LR	LR		
comp=N,1μm,14.9s,MS4.9							
XAN				LR	LR		
comp=E,1μm,16.6s,MS4.9							
XAN				LR	LR		
comp=Z,2μm,15.7s,MS5.0							
LZH	**Lanzhou**	**35.16**	**9**	P	**P**	**16 47 45.6**	**-0.4**
LZH				AP	pP	16 47 52.6	-0.8
LZH				XP	sP	16 47 56.9	+0.4
LZH				PP	PP	16 49 08.0	+2.9
LZH				S	**S**	**16 53 09.3**	**-7.4**
LZH				AMB	AMB		
comp=Z,140nm,1.4s,mb5.7							
LZH				AMB	AMB		
comp=Z,360nm,4.2s							
LZH				LR	LR		
comp=E,2μm,14.0s							
LZH				LR	LR		
comp=Z,4μm,17.0s,MS5.2							
LZH	**Lanzhou**	**35.16**	**9**	P	**P**	**16 47 45.6**	**-0.4**
LZH				*SP	sP	16 47 56.9	+0.4
LZH						16 49 08.0	
LZH				S	**S**	**16 53 09.3**	**-7.4**
LZH				*SS		16 53 21.4	
LZH				pmax	pmax		
comp=Z,140nm,1.4s,mb5.7							
LZH				MLR	MLR		
comp=Z,4μm,17.0s,MS5.2							
LZH	**Lanzhou**	**35.16**	**9**	P	**P**	**16 47 45.6**	**-0.4**
comp=Z,140nm,1.4s,mb5.7							
LZH				pP	pP	16 47 52.6	-0.8
LZH				sP	sP	16 47 56.9	+0.4
LZH				PP	PP	16 49 08.0	+2.9
LZH				S	**S**	**16 53 09.3**	**-7.4**
LZH				sS		16 53 21.4	
LZH				SS	SS	16 55 21.5	-12
LZH				LR	LR		
comp=Z,4μm,17.0s,MS5.2							
NJ2	**Nanjing**	**36.80**	**32**	*e*P	**P**	**16 47 58.8**	**-1.0**
NJ2				PP	PP	16 49 24.8	-0.7
NJ2				S	**S**	**16 53 40.0**	**-1.8**
NJ2				XS		16 53 56.0	
NJ2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.6							
NJ2				AMB	AMB		
comp=Z,282nm,5.2s							
NJ2				LR	LR		
comp=N,1μm,18.2s,MS5.0							
NJ2				LR	LR		
comp=E,2μm,14.8s,MS5.0							
NJ2				LR	LR		
comp=Z,4μm,19.4s,MS5.2							
THN	**Thein Dam**	**36.98**	**329**	*e*P	**P**	**16 48 01.1**	**-0.2**
SSE	**Sheshan**	**37.35**	**35**	P	**P**	**16 48 04.6**	**+0.1**
SSE				XP	sP	16 48 16.6	+1.6
SSE				PP	PP	16 49 30.4	-1.9
SSE				PCP	PcP	16 50 20.8	-3.0
SSE				S	**S**	**16 53 53.1**	**+2.8**
SSE				XS		16 54 08.3	
SSE				AMB	AMB		
comp=Z,35nm,0.7s,mb5.3							
SSE				AMB	AMB		
comp=Z,99nm,5.1s							
SSE				LR	LR		
comp=N,805nm,14.0s,MS4.8							
SSE				LR	LR		
comp=E,548nm,13.8s,MS4.8							
SSE				LR	LR		
comp=Z,1μm,15.4s,MS4.8							
SSE	**Sheshan**	**37.35**	**35**	P	**P**	**16 48 04.6**	**+0.1**
comp=Z,35nm,0.7s,mb5.3							
SSE				sP	sP	16 48 16.6	+1.6
SSE				PP	PP	16 49 30.4	-1.9
SSE				PcP	PcP	16 50 20.8	-3.0
SSE				S	**S**	**16 53 53.1**	**+2.8**
SSE				sS		16 54 08.3	
SSE				SS	SS	16 56 36.8	+14
SSE				LR	LR		
comp=Z,1μm,15.4s,MS4.8							
GTA	**Gaotai**	**38.01**	**3**	⇑P	**P**	**16 48 10.1**	**+0.2**
GTA				AP	pP	16 48 17.3	-0.1
GTA				XP	sP	16 48 21.0	+0.5
GTA				PP	PP	16 49 41.4	+1.2
GTA				PCP	PcP	16 50 23.9	-1.8
GTA				S	**S**	**16 54 01.9**	**+1.6**
GTA				XS		16 54 17.5	
GTA				SS	SS	16 56 41.6	+3.9
GTA				AMB	AMB		
comp=Z,25nm,0.9s,mb4.9							
GTA				AMB	AMB		
comp=Z,243nm,6.8s							
GTA				LR	LR		
comp=N,1μm,13.3s,MS4.9							
GTA				LR	LR		
comp=E,679nm,12.9s,MS4.9							
GTA				LR	LR		
comp=Z,859nm,14.4s,MS4.7							
JOW	**Kunigami**	**39.19**	**47**	P	**P**	**16 48 20.6**	**+0.6**
comp=Z,40nm,0.6s,mb5.4,baz=240,slow=7.8,SNR=44							
JOW				LR	LR	17 04 29.8	
comp=Z,283nm,20.4s,MS4.1,baz=259,slow=36							
BTO	**Baotou**	**40.83**	**15**	*e*P	**P**	**16 48 32.6**	**-0.7**
HHC	**Hu-ho-hao-te**	**41.47**	**17**	⇓P	**P**	**16 48 39.6**	**+1.0**
HHC				AP	pP	16 48 46.7	+0.7
HHC				XP	sP	16 48 50.4	+1.3
HHC				PP	PP	16 50 20.6	+3.1
HHC				PCP	PcP	16 50 36.3	-0.4
HHC				SCP		16 54 23.9	
HHC				PCS		16 54 25.1	
HHC				S	**S**	**16 54 55.1**	**+2.9**
HHC				XS		16 55 09.9	
HHC				SS	SS	16 57 55.9	+3.8
HHC				SCS	ScS	16 58 39.5	+1.0
HHC				AMB	AMB		
comp=Z,18nm,1.4s,mb4.5							
HHC				AMB	AMB		
comp=Z,166nm,7.0s							
HHC				LR	LR		
comp=N,2μm,16.4s,MS5.0							
HHC				LR	LR		
comp=E,745nm,15.2s,MS5.0							

HHC LR LR
comp=Z,2μm,16.7s,MS5.0
WRA Warramunga Arr 42.11 122 P **P** **16 48 43.9 -0.2**
comp=Z,4.4nm,0.6s,mb4.3,baz=302,slow=9.1,SNR=60
WRA sP sP 16 48 53.2 -1.5
comp=Z,2.1nm,0.3s,baz=302,slow=8.9,SNR=8.9
WRAB Tennant Creek 42.12 122 *e*P **P** **16 48 44.3 +0.1**
WRAB Tennant Creek 42.12 122 *e*P **P** **16 48 42.9 -1.3**
comp=Z,14nm,0.8s,mb4.7
WB2 Warramunga Arr 42.12 122 ⇓*i*P **P** **16 48 44.6 +0.4**
BJI Beijing 42.26 22 P **P** **16 48 46.0 +0.9**
BJI AP pP 16 48 53.0 +0.4
BJI XP sP 16 48 57.0 +1.3
BJI S **S** **16 55 07.9 +4.0**
BJI AMB AMB
comp=Z,46nm,0.7s,mb5.2
BJI AMB AMB
comp=Z,413nm,3.5s
BJI LR LR
comp=N,746nm,14.7s,MS4.8
BJI LR LR
comp=E,440nm,13.1s,MS4.8
BJI LR LR
comp=Z,404nm,22.3s
BJI Beijing 42.26 22 P **P** **16 48 46.0 +0.9**
BJI *SP sP 16 48 57.0 +1.3
BJI 16 50 19.4
BJI S **S** **16 55 07.9 +4.0**
BJI *SS 16 55 25.4
BJI pmax pmax
comp=Z,46nm,0.7s,mb5.2
BJI MLR MLR
comp=Z,400nm,22.3s,MS4.2
BJI Beijing 42.26 22 P **P** **16 48 46.0 +0.9**
comp=Z,46nm,0.7s,mb5.2
BJI pP pP 16 48 53.0 +0.4
BJI sP sP 16 48 57.0 +1.3
BJI PP PP 16 50 19.4 -6.5
BJI S **S** **16 55 07.9 +4.0**
BJI sS 16 55 25.4
BJI SS SS 16 58 28.2 +21
BJI LR LR
comp=Z,400nm,22.3s,MS4.2
KSH Kashi 42.67 336 P **P** **16 48 49.0 +0.5**
KSH *e*AP pP 16 48 56.3 +0.4
KSH *e*XP sP 16 48 59.4 +0.4
KSH *e*PP PP 16 50 31.3 +1.2
KSH *e*PCP PcP 16 50 40.7 -0.1
KSH *e*PPP PPP 16 51 04.0 +0.2
KSH *e*SCP 16 54 29.2
KSH *e*PCS 16 54 32.5
KSH S **S** **16 55 11.0 +1.1**
KSH *e*XS 16 55 22.0
KSH *e*SS SS 16 58 16.3 +1.8
KSH *e*SCS ScS 16 58 46.0 +0.1
KSH AMB AMB
comp=Z,90nm,2.4s,mb5.1
KSH LR LR
comp=N,390nm,5.2s
KSH LR LR
comp=E,860nm,5.9s
WMQ Urumqi 43.17 350 ⇑P **P** **16 48 53.4 +0.9**
WMQ AP pP 16 49 03.0 +3.0
WMQ XP sP 16 49 06.9 +3.8
WMQ PP PP 16 50 36.2 +1.2
WMQ PCP PcP 16 50 43.4 +1.0
WMQ S **S** **16 55 17.6 +0.4**
WMQ XS 16 55 33.9
WMQ AMB AMB
comp=Z,43nm,1.3s,mb5.0
WMQ AMB AMB
comp=Z,378nm,4.8s
WMQ LR LR
comp=N,361nm,18.2s,MS4.6
WMQ LR LR
comp=E,637nm,20.6s,MS4.6
WMQ LR LR
comp=Z,299nm,20.7s,MS4.2
FORT Forrest 43.37 140 *e*P **P** **16 48 56.9 +2.6**
comp=Z,532nm,0.6s
ASPA Alice Springs 43.47 127 *e*P **P** **16 48 55.9 +0.7**
ASAR Alice Springs 43.48 127 P **P** **16 48 55.8 +0.6**
comp=Z,2.0nm,0.5s,mb4.1,baz=300,slow=8.0,SNR=28
ASAR pP pP 16 49 02.5 -0.3
comp=Z,1.4nm,0.4s,baz=300,slow=8.5,SNR=9.8
ASAR PcP PcP 16 50 44.2 +0.5
comp=Z,1.0nm,0.9s,baz=292,slow=4.9,SNR=2.6
ASAR pPcP 16 50 51.6
comp=Z,1.7nm,1.0s,baz=300,slow=3.1,SNR=4.1
ASAR ScP 16 54 35.6
comp=Z,0.8nm,0.9s,baz=292,slow=4.9,SNR=4.1
DL2 Dalian 43.60 28 P **P** **16 48 56.6 +0.5**
DL2 *e*S **S** **16 55 31.7 +8.2**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
DL2 LR LR
comp=N,300nm,16.9s,MS4.5
DL2 LR LR
comp=E,320nm,16.1s,MS4.5
DL2 LR LR
comp=Z,470nm,15.9s,MS4.5
KZA Kyzart 45.13 337 P **P** **16 49 09.5 +1.2**
SNR=6.6
UCH Uchtor 45.55 336 P **P** **16 49 13.2 +1.5**
SNR=19
TKM2 Tokmak 2 45.72 338 P **P** **16 49 14.2 +1.2**
SNR=12
KBK Karagaybulak 45.74 337 P **P** **16 49 14.9 +1.8**
SNR=15
AML Almayashu 45.80 336 P **P** **16 49 14.9 +1.3**
SNR=13
AAK Ala-Archa 45.90 337 ⇑*i*P **P** **16 49 15.2 +0.8**
AAK pmax pmax
comp=Z,13nm,1.2s,mb4.7
AAK Ala-Archa 45.90 337 *e*P **P** **16 49 13.2 -1.2**
comp=Z,15nm,1.1s,mb4.8
FRU Bishkek 46.02 337 *e*P **P** **16 49 17.0 +1.7**
FRU *e* 16 49 28.0
FRU *e* 16 56 04.0
FRU pmax pmax
comp=Z,90nm,2.5s,mb5.3
EKS2 Erkin-Say 46.21 336 P **P** **16 49 18.3 +1.5**
SNR=9.1
USP Ospenovka 46.43 337 P **P** **16 49 19.3 +0.7**
SNR=16
SNY Shenyang 46.83 27 ⇑P **P** **16 49 21.4 -0.4**
SNY AP pP 16 49 31.2 +1.9
SNY XP sP 16 49 37.7 +5.4
SNY AMB AMB
comp=Z,20nm,1.5s,mb4.8
SNY LR LR
comp=N,3μm,16.2s,MS5.5
SNY LR LR
comp=E,3μm,13.7s,MS5.5
SNY LR LR
comp=Z,1μm,13.7s,MS5.0
SONM Songino Array 47.04 8 P **P** **16 49 23.8 +0.4**
comp=Z,16nm,0.8s,mb5.0,baz=191,slow=9.5,SNR=106
SONM pP pP 16 49 30.6 -0.3
comp=Z,5.3nm,0.5s,baz=189,slow=8.7,SNR=11
SONM PcP PcP 16 50 55.2 -0.5
comp=Z,1.8nm,0.6s,baz=199,slow=3.6,SNR=4.1
MKAR Makanchi Array 47.14 346 *i*P **P** **16 49 24.2 0.0**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 47.14 346 P **P** **16 49 24.4 +0.2**
comp=Z,14nm,0.9s,mb4.9,baz=160,slow=7.8,SNR=88
MKAR pP pP 16 49 31.9 +0.3
comp=Z,6.6nm,0.5s,baz=160,slow=8.5,SNR=14
MKAR LR LR 17 12 59.6
comp=Z,339nm,21.2s,MS4.3,baz=162,slow=41
ULN Ulaanbaatar 47.17 9 *e*P **P** **16 49 24.4 0.0**
ULN pmax pmax
comp=Z,23nm,1.1s,mb5.0
ULN Ulaanbaatar 47.17 9 *e*P **P** **16 49 24.4 +0.1**
comp=Z,23nm,1.1s,mb5.0
ZAK Zakamensk 49.18 5 *e*P **P** **16 49 39.5 -0.4**
ZAK *e* 16 51 36.5
ZAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.3
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
CN2 Changchun 49.23 27 *e*P **P** **16 49 39.5 -0.9**
CN2 *e*XP sP 16 49 51.1 +0.1
CN2 *e*S **S** **16 56 44.2 +0.6**

CN2 AMB AMB
comp=Z,20nm,1.3s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,14.0s,MS5.2
CN2 LR LR
comp=E,1μm,14.0s,MS5.2
CN2 LR LR
comp=Z,1μm,19.0s,MS4.9
CBIJ Chichi jima 50.19 55 P **P** **16 49 45.9 -2.1**
comp=Z,24nm,0.5s,mb5.5,baz=266,slow=13,SNR=3.5
MOY Mondy 50.29 3 *e*P **P** **16 49 49.1 +0.6**
TLY Talaya 50.50 5 *e*P **P** **16 49 50.7 +0.7**
TLY *e*S **S** **16 57 13.8 +13**
TLY pmax pmax
comp=Z,11nm,0.8s,mb4.9
TLY MLR MLR
comp=Z,851nm,16.0s,MS4.8
IRK Irkutsk 51.11 6 *e*P **P** **16 49 54.8 +0.1**
IRK pmax pmax
comp=Z,41nm,1.8s,mb5.1
MJAR Matsushiro Arr 51.64 42 P **P** **16 49 57.8 -1.1**
comp=Z,3.8nm,0.9s,mb4.3,baz=211,slow=6.2,SNR=6.0
KURK Kurchatov 51.69 345 *c i*P **P** **16 49 58.9 -0.2**
MDJ Mudanjiang 51.80 29 P **P** **16 49 59.5 -0.5**
MDJ AP pP 16 50 07.1 -0.5
MDJ XP sP 16 50 11.6 +1.1
MDJ PP PP 16 51 59.1 +0.6
MDJ AMB AMB
comp=Z,24nm,1.2s,mb5.0
MDJ AMB AMB
comp=Z,341nm,4.0s
MDJ LR LR
comp=N,357nm,16.8s,MS4.5
MDJ LR LR
comp=E,93nm,15.6s,MS4.5
MDJ LR LR
comp=Z,535nm,16.2s,MS4.7
CTA Charters Tower 52.57 117 LR LR 17 15 23.3
comp=Z,337nm,19.6s,MS4.4,baz=27,slow=39
STKA Stephens Creek 53.44 132 *e*P **P** **16 50 13.3 +0.8**
comp=Z,5.1nm,0.6s,mb4.6
STKA Stephens Creek 53.44 132 P **P** **16 50 13.4 +0.9**
comp=Z,3.5nm,0.7s,mb4.4,baz=311,slow=9.3,SNR=15
STKA pP pP 16 50 20.3 +0.3
comp=Z,5.9nm,0.6s,baz=296,slow=7.2,SNR=7.4
STKA LR LR 17 15 20.7
comp=Z,616nm,21.3s,MS4.6,baz=122,slow=39
ZAL Zalesovo 53.45 351 P **P** **16 50 12.4 +0.2**
comp=Z,14nm,0.6s,mb5.0,baz=310,slow=5.2,SNR=46
ZAL LR LR 17 19 12.9
comp=Z,419nm,18.6s,MS4.5,baz=297,slow=43
ATD Arta Tunnel 54.84 283 pP pP 16 50 31.7 +1.2
comp=Z,6.5nm,0.9s,baz=258,slow=22,SNR=2.9
BVA0 Borovoye Array 56.15 341 P **P** **16 50 30.5 -1.3**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BVAR Borovoye Array 56.15 341 P **P** **16 50 30.8 -1.0**
comp=Z,9.7nm,0.8s,mb4.9,baz=135,slow=8.4,SNR=67
KLR Kul'dur 56.18 27 *e*P **P** **16 50 29.0 -3.1**
KLR pmax pmax
comp=E,23nm,1.2s
KLR pmax pmax
comp=Z,38nm,1.2s,mb5.3
CHKZ Chkalovo 56.62 341 *e*P **P** **16 50 34.3 -1.0**
CHKZ pmax pmax
comp=Z,63nm,0.9s,mb5.7
CHKZ Chkalovo 56.62 341 *e*P **P** **16 50 34.3 -0.9**
comp=Z,63nm,0.9s,mb5.7
BOD Bodaibo 57.92 11 *e*P **P** **16 50 43.6 -0.7**
BOD pmax pmax
comp=Z,22nm,1.1s,mb5.1
CLNS Chul'man 59.66 17 *e*P **P** **16 50 55.1 -1.3**
CLNS pmax pmax
comp=Z,25nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,0.6s
CLNS MLR MLR
comp=Z,2μm,17.0s,MS5.2
CLNS MLR MLR
comp=N,900nm,16.0s,MS5.0
CLNS MLR MLR
comp=E,300nm,16.0s,MS5.0
KMBO Kilima Mbogo 59.96 268 P **P** **16 51 00.2 +1.1**
comp=E,0.6nm,0.6s,baz=54,slow=8.7,SNR=2.9
KMBO pP pP 16 51 07.5 +0.6
comp=E,1.2nm,0.8s,baz=120,slow=8.1,SNR=2.7
KMBO Kilima Mbogo 59.96 268 P **P** **16 51 00.2 +1.1**
KMBO pP pP 16 51 07.5 +0.6
YSS Yuzh-Sakhalins 60.28 34 *e*P **P** **16 50 59.8 -1.1**
YSS *e* 16 51 14.2
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS Yuzh-Sakhalins 60.28 34 *e*P **P** **16 51 00.5 -0.4**
comp=Z,42nm,1.3s,mb5.3
GNI Garni 61.20 316 ⇑*i*P **P** **16 51 07.4 +0.2**
GNI pmax pmax
comp=Z,20nm,1.7s
GNI Garni 61.20 316 P **P** **16 51 06.4 -0.8**
comp=Z,2.0nm,0.4s,mb4.6,baz=256,slow=4.2,SNR=4.9
GNI Garni 61.20 316 *e*P **P** **16 51 06.7 -0.5**
comp=Z,19nm,1.1s,mb5.1
SVE Sverdlovsk 62.59 338 *e*P **P** **16 51 15.8 -0.5**
SVE pmax pmax
comp=Z,31nm,1.3s,mb5.3
KIV Kislovodsk 64.21 319 *e*P **P** **16 51 25.7 -1.5**
KIV *e*S **S** **16 59 58.0 -3.4**
KIV pmax pmax
comp=Z,19nm,1.3s,mb5.0
KIV Kislovodsk 64.21 319 *e*P **P** **16 51 26.2 -1.0**
comp=Z,13nm,0.9s,mb5.0
ASF Jabal al Asfar 64.38 305 P **P** **16 51 28.2 -0.3**
comp=Z,0.9nm,0.3s,mb4.2,baz=312,slow=11,SNR=3.3
ASF pP pP 16 51 35.7 -0.6
comp=Z,2.9nm,0.6s,baz=117,slow=2.5,SNR=2.7
GOF Gofitskoye 64.47 320 ⇑*i*P **P** **16 51 27.1 -1.7**
GOF pmax pmax
comp=Z,20nm,1.7s,mb4.9
MALT Malatya 65.04 312 *e*P **P** **16 51 32.8 +0.1**
MALT *e**PP pP 16 51 39.1 -1.3
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
MALT Malatya 65.04 312 *e*P **P** **16 51 32.8 +0.1**
comp=Z,1.6nm,0.8s,mb4.1
MALT *e*pP pP 16 51 39.1 -1.3
YAK Yakutsk 65.33 16 *e*P **P** **16 51 32.8 -1.3**
YAK pmax pmax
comp=Z,104nm,1.1s,mb5.8
YAK Yakutsk 65.33 16 *e*P **P** **16 51 32.8 -1.3**
comp=Z,104nm,1.1s,mb5.8
EIL Elat 65.38 302 pP pP 16 51 42.2 -0.6
comp=Z,7.3nm,0.9s,baz=95,slow=10,SNR=5.8
SOC Sochi 66.03 318 *e*P **P** **16 51 36.2 -2.7**
SOC *e* 16 52 04.2
SOC *e* 16 53 59.5
SOC *e*S S 17 00 20.8 -2.9
SOC *e* 17 01 29.3
SOC *e*SS SS 17 04 38.4 -2.1
SOC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOC pmax pmax
comp=N,3.0nm,0.7s
SOC pmax pmax
comp=E,5.0nm,0.9s
MBAR Mbarara 66.46 269 *e*P **P** **16 51 41.1 -1.0**
MBAR *e**PP pP 16 51 49.1 -0.8
ANN Anapa 68.01 318 *e*P **P** **16 51 48.7 -2.7**
BRTR Keskin Array B 69.02 312 P **P** **16 51 57.0 -0.7**
comp=E,0.6nm,0.4s,mb3.9,baz=135,slow=10,SNR=5.3
BRTR pP pP 16 52 04.5 -1.0
comp=E,2.1nm,0.8s,baz=137,slow=6.1,SNR=7.6
VRSR Storozhevoye 69.46 325 *e*P **P** **16 51 58.6 -1.6**
VRSR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
VRSR pmax pmax
comp=N,6.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,0.8s
MATP Matopo 70.54 248 P **P** **16 52 08.7 +1.3**
comp=E,8.0nm,1.1s,mb4.5,baz=155,slow=6.2,SNR=5.5
MATP pP pP 16 52 15.3 +0.3
comp=E,6.7nm,1.0s,baz=75,slow=7.1,SNR=5.8
MA2 Magadan 71.26 26 *e*P **P** **16 52 10.8 -0.2**

MA2 *e*S S 17 01 14.7 -11
MA2 pmax pmax
comp=Z,20nm,1.3s,mb4.9
MA2 MLR MLR
comp=E,1μm,25.0s
MA2 Magadan 71.26 26 *e*P **P** **16 52 10.6 -0.4**
comp=E,40nm,1.3s,mb5.2
PET Petropavlovsk 72.17 34 *e*P **P** **16 52 16.1 -0.5**
PET *e*S S 17 01 36.8 +0.8
PET pmax pmax
comp=Z,14nm,0.7s,mb5.0
PET smax
comp=E,100nm,10.6s
PET MLR MLR
comp=Z,300nm,17.0s,MS4.6
MOS Moscow 72.23 329 *e*P **P** **16 52 13.2 -3.7**
MOS *e* 16 52 29.9
OBN Obninsk 72.52 328 ⇓*i*P **P** **16 52 17.8 -0.8**
OBN *i* pP 16 52 24.9 -1.5
OBN *i* 16 52 32.9
OBN pmax pmax
comp=Z,45nm,2.5s,mb5.0
MAW Mawson 72.80 193 LR LR 17 18 20.5
comp=Z,354nm,19.1s,MS4.7,baz=168,slow=31
TIXI Tiksi 73.09 10 ⇑*i*P **P** **16 52 20.4 -1.3**
TIXI pmax pmax
comp=Z,28nm,1.7s,mb4.9
SEY Seymchan 73.68 23 *e*P **P** **16 52 27.3 +2.1**
SEY 16 52 43.6
SEY 16 55 09.7
SEY *e*PPP PPP 16 56 51.3 -4.5
SEY *e*S S 17 01 49.1 -3.9
SEY 17 02 48.4
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.0
SEY smax
comp=N,400nm,23.9s
SEY smax
comp=E,200nm,20.5s
LBTB Lobatse 73.91 244 P **P** **16 52 28.3 +1.0**
comp=E,2.4nm,0.8s,mb4.2,baz=132,slow=12,SNR=3.0
LBTB pP pP 16 52 35.6 +0.5
comp=E,7.9nm,1.1s,baz=134,slow=3.3,SNR=6.0
LBTB Lobatse 73.91 244 P **P** **16 52 28.3 +1.0**
LBTB pP pP 16 52 35.6 +0.5
AKASG Malin Array Be 75.16 322 P **P** **16 52 33.0 -1.0**
comp=E,1.5nm,0.6s,mb4.1,baz=92,slow=4.4,SNR=16
AKASG pP pP 16 52 40.5 -1.3
comp=E,1.1nm,0.5s,baz=82,slow=4.8,SNR=4.3
KOLS Kolonicke sedl 79.12 320 *e* **P** **16 52 56.5 +0.4**
KOLS Kolonicke sedl 79.12 320 *e*P **P** **16 52 56.5 +0.4**
FINES FINESS Array B 79.90 332 P **P** **16 52 59.8 -0.2**
comp=E,3.0nm,0.8s,mb4.2,baz=90,slow=5.7,SNR=11
FINES pP pP 16 53 07.2 -0.8
comp=E,0.9nm,0.5s,baz=102,slow=4.4,SNR=2.4
KAF Kangasniemi 79.98 333 *e*p **P** **16 52 59.9 -0.6**
comp=E,0.4nm,0.4s
SYO Syowa Base 80.09 198 ⇓pP pP 16 53 09.4 +0.6
BILL Bilibino 81.08 21 ⇓*e*P **P** **16 53 05.7 -0.5**
BILL pmax pmax
comp=Z,8.0nm,1.6s,mb4.4
BILL MLR MLR
comp=Z,600nm,18.0s,MS5.0
BILL Bilibino 81.08 21 *e*P **P** **16 53 05.2 -1.0**
comp=Z,2.0nm,0.5s,mb4.3
VYHS Vyhne 81.30 319 *e*P **P** **16 53 04.8 -2.9**
VYHS Vyhne 81.30 319 *e* **P** **16 53 04.8 -2.9**
KEV Kevo 82.00 341 *e*p **P** **16 53 09.6 -1.3**
comp=Z,0.4nm,0.4s
ARCES ARCESS Array B 82.43 340 P **P** **16 53 13.7 +0.5**
comp=Z,6.7nm,0.9s,mb4.6,baz=90,slow=4.9,SNR=7.9
ARCES pP pP 16 53 20.9 -0.2
comp=Z,5.2nm,0.9s,baz=105,slow=4.5,SNR=2.4
ARCES LR LR 17 36 46.2
comp=Z,234nm,19.5s,MS4.6,baz=231,slow=41
BRG Berggiesshubel 84.72 321 *e*P **P** **16 53 26.6 +1.4**
BRG pmax pmax
comp=Z,26nm,2.0s,mb5.0
BRG Berggiesshubel 84.72 321 *e*P **P** **16 53 26.6 +1.4**
comp=Z,26nm,2.0s,mb5.0
GERES GERESS Array B 84.72 319 P **P** **16 53 25.8 +0.6**
comp=Z,2.8nm,1.0s,mb4.3,baz=104,slow=5.5,SNR=15
GERES pP pP 16 53 33.2 -0.1
comp=Z,1.7nm,0.9s,baz=90,slow=6.7,SNR=5.2
VNDA Vanda 85.93 169 pP pP 16 53 38.5 -0.2
comp=Z,3.5nm,1.2s,baz=273,slow=4.4,SNR=4.2
VNDA LR LR 17 24 45.1
comp=Z,414nm,19.3s,MS4.8,baz=358,slow=31
NB2 NORSAR Subarra 86.91 331 P **P** **16 53 36.0 +0.2**
comp=Z,19nm,1.7s,mb5.0,baz=94,slow=5.0
NOA NORSAR Array B 86.91 331 P **P** **16 53 36.1 +0.4**
comp=Z,2.0nm,0.9s,mb4.3,baz=95,slow=5.1,SNR=3.1
TBI Tubual 111.92 115 *e*LR LR 17 32 48.3
comp=Z,215nm,25.0s
YKA Yellowknife Ar 112.00 15 PP PP 17 00 06.4 -6.6
comp=Z,0.4nm,0.8s,baz=332,slow=7.3,SNR=6.1
PPT Papeete 112.54 108 *e*LR LR 17 33 05.6
comp=Z,142nm,23.5s
RKT Rikitea 125.00 117 *e*LR LR 17 38 51.7
comp=Z,201nm,28.0s
NVAR Mina Array Bea 128.72 36 PKP PKPdf 17 00 00.1 -2.4
comp=Z,0.3nm,0.4s,baz=301,slow=8.6,SNR=3.6
TXAR Lajitas Array 143.60 32 PKP PKPdf 17 00 25.0 -5.0
comp=Z,0.6nm,0.6s,baz=199,slow=0.6,SNR=7.3
JCT Junction City 144.50 26 *e*PKP PKPdf 17 00 26.7 -4.8
SAML Samuel 159.02 248 *e*PKPab PKPab 17 01 27.4 -0.3

IDC 07 16:50:26.4±2.1, 13.08N×93.25E, mb3.1/3, mb1 3.3/4, mb1mx3.2/20, mbtmp3.0/4, ML2.9/1, Error ellipse: s-maj=65.7km s-min=26.6km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.66**	**45**	Pn	Pn	16 52 18.6	-3.3
	0.1nm,0.3s,baz=234,slow=16,SNR=4.3						
MKAR	**Makanchi Array**	**34.85**	**347**	P	P	16 57 19.1	-2.2
	0.1nm,0.4s,baz=141,slow=9.2,SNR=3.4						
WRA	**Warramunga Arr**	**52.07**	**128**	P	P	16 59 38.5	-2.1
	0.1nm,0.3s,baz=295,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**53.98**	**132**	P	P	16 59 52.8	-2.0
	0.1nm,0.5s,baz=311,slow=7.0,SNR=4.9						

*IDC **07** 16:58:09.6±0.6, 6.36S×146.22E, h125km±5km, mb4.0/12, mb1 4.2/15, mb1mx4.2/18, mbtmp4.5/15, MS3.5/1, Ms1 3.5/1, ms1mx2.8/29, Error ellipse: s-maj=14.2km s-min=9.7km az=90.0*

*NEIC **07** 16:58:09.7±0.3, 6.32S×146.34E, mb4.8/12, Error ellipse: s-maj=9.4km s-min=6.9km az=82.0*

ISC 07 16:58:07.9±0.4, 6.30S±0.04×146.26E±0.06, h124km, h124km±3.8km: pP-P, n48, σ0982/47, mb4.6/16, 1C-4D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.21**	**164**	P	P	**16 58 56.2**	**-1.8**
	baz=27,slow=6.8						
PMG				S	**S**	**16 59 31.7**	**-4.4**
	206nm,0.3s,baz=171,slow=19,SNR=12						
PMG				LR	LR	17 00 11.4	
	comp=Z,790nm,19.1s,baz=199,slow=38						
PMG	**Port Moresby**	**3.21**	**164**	P	P	**16 58 56.2**	**-1.8**
PMG				S	**S**	**16 59 31.7**	**-4.4**
CTA	**Charters Tower**	**13.71**	**180**	⇓*i*P	P	**17 01 22.3**	**+4.2**
	90nm,0.5s						
CTA	**Charters Tower**	**13.71**	**180**	P	P	**17 01 22.2**	**+4.2**
	17nm,0.3s,baz=358,slow=14,SNR=263						
CTAO	**Charters Tower**	**13.71**	**180**	*e*P	P	**17 01 20.0**	**+1.9**
	130nm,0.6s						
CTAO				*e*S	**S**	**17 03 47.7**	**+0.2**
HNR	**Honiara**	**13.91**	**104**	P	P	**17 01 22.3**	**+1.5**
	13nm,0.3s,baz=339,slow=5.6,SNR=11						
HNR	**Honiara**	**13.91**	**104**	*e*Pn	P	**17 01 21.4**	**+0.6**
	141nm,0.9s						
WRAB	**Tennant Creek**	**17.82**	**219**	*e*P	P	**17 02 08.5**	**-1.0**
	21nm,0.6s						
WRAB				*e*S	**S**	**17 05 21.0**	**0.0**
WB2	**Warramunga Arr**	**17.82**	**219**	⇓*i*P	P	**17 02 08.7**	**-0.8**
WRA	**Warramunga Arr**	**17.83**	**219**	P	P	**17 02 08.7**	**-0.9**
	1.8nm,0.3s,baz=39,slow=11,SNR=35						
WRA				S	**S**	**17 05 26.0**	**+4.7**
	0.8nm,0.3s,baz=42,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**20.96**	**213**	P	P	**17 02 42.6**	**+0.1**

13nm,0.6s,baz=51,slow=8.4,SNR=328
ASAR S **S** **17 06 27.9 +4.2**
1.8nm,0.7s,baz=31,slow=25,SNR=3.4
ASPA Alice Springs 20.96 213 ⇑i/P **P** **17 02 43.4 +0.8**
ASPA eS **S** **17 06 28.3 +4.5**
FITZ Fitzroy Crossi 23.28 238 ⇓i/P **P** **17 03 06.0 +0.6**
22nm,0.8s,mb4.5
FITZ Fitzroy Crossi 23.28 238 P **P** **17 03 05.8 +0.4**
24nm,0.6s,mb4.7,baz=58,slow=4.5,SNR=50
DZM Mont Dzumac 25.02 131 P **P** **17 03 22.4 +0.4**
3.0nm,0.6s,mb3.9,baz=259,slow=16,SNR=5.5
STKA Stephens Creek 25.82 189 ⇓i/P **P** **17 03 28.9 -0.4**
14nm,0.4s,mb4.8
STKA Stephens Creek 25.82 189 P **P** **17 03 28.9 -0.4**
15nm,0.5s,mb4.7,baz=359,slow=9.5,SNR=69
FORT Forrest 29.74 213 eP **P** **17 04 04.5 -0.3**
197nm,0.6s
KLBR Kellerberrin 36.65 223 eP **P** **17 05 04.2 0.0**
21um,2.0s
JOW Kunigami 37.26 333 P **P** **17 05 08.6 -0.8**
3.6nm,0.5s,mb4.5,baz=132,slow=14,SNR=4.3
URZ Urewera 42.35 143 P **P** **17 05 50.5 -0.8**
4.1nm,0.5s,mb4.4,baz=244,slow=1.7,SNR=4.6
TSZ Takapari Road 42.90 146 PN **P** **17 05 56.6 +0.8**
MRZ Mangatainoka R 43.11 147 PN **P** **17 05 57.8 +0.3**
CAW Cannon Point 43.15 148 ePN **P** **17 05 58.1 +0.4**
MJAR Matsushiro Arr 43.28 351 P **P** **17 05 57.1 -1.7**
1.9nm,0.6s,mb4.0,baz=182,slow=9.5,SNR=4.2
BFZ Birch Farm 43.48 146 PN **P** **17 06 00.7 +0.3**
CM31 Chiang Mai Arr 52.74 299 eP **P** **17 07 13.1 +0.7**
5.2nm,0.4s,mb4.9
CM31 epP pP 17 07 40.0 -1.7
CMAR Chiang Mai Arr 52.74 299 P **P** **17 07 13.7 +1.2**
9.6nm,0.7s,mb5.0,baz=121,slow=5.9,SNR=57
CMAR pP pP 17 07 40.0 -1.8
3.2nm,0.9s,baz=121,slow=7.4,SNR=3.6
SONM Songino Array 64.31 331 P **P** **17 08 31.4 -1.0**
0.6nm,1.0s,baz=135,slow=5.2,SNR=4.5
SONM pP pP 17 09 02.0 -0.7
1.8nm,0.7s,baz=135,slow=5.2,SNR=9.3
PKI Pulchoki 67.69 303 eP **P** **17 08 54.6 +0.4**
13nm,0.8s,mb4.8
KKN Kakani 67.87 303 eP **P** **17 08 55.8 +0.5**
23nm,0.9s,mb5.0
DMN Daman 67.95 303 eP **P** **17 08 56.7 +0.9**
40nm,0.9s,mb5.2
GKN Gorkha 68.48 303 eP **P** **17 08 59.5 +0.5**
23nm,0.8s,mb5.1
KOLN Koldanda 69.26 303 eP **P** **17 09 04.6 +0.7**
25nm,0.8s,mb5.1
VNDA Vanda 71.66 176 P **P** **17 09 17.6 +0.2**
4.5nm,0.7s,mb4.4,baz=326,slow=5.5,SNR=26
MKAR Makanchi Array 77.26 321 P **P** **17 09 50.4 +0.4**
0.3nm,0.3s,baz=100,slow=8.2,SNR=11
MKAR pP pP 17 10 22.5 +0.9
2.7nm,0.8s,baz=101,slow=6.2,SNR=7.6
MKAR Makanchi Array 77.26 321 P **P** **17 09 50.4 +0.4**
MKAR pP pP 17 10 22.5 +0.9
ZAL Zalesovo 78.88 328 pP pP 17 10 31.1 +0.8
2.3nm,0.7s,baz=6.1,slow=7.0,SNR=6.2
ILAR Eielson Array 86.05 23 P **P** **17 10 33.5 -1.9**
2.1nm,0.8s,mb4.1,baz=254,slow=5.2,SNR=15
ILAR pP pP 17 11 07.7 +0.2
1.3nm,0.7s,baz=265,slow=4.8,SNR=3.2
BVAR Borovoye Array 86.58 324 P **P** **17 10 38.2 +0.1**
0.4nm,0.4s,mb3.7,baz=110,slow=7.3,SNR=6.7
BVAR pP pP 17 11 12.0 +1.7
2.2nm,0.6s,baz=90,slow=5.9,SNR=8.6
DAWY Dawson 88.86 25 eP **P** **17 10 48.6 -0.2**
YKA Yellowknife Ar 99.78 28 pP pP 17 12 11.3 -0.1
0.2nm,0.6s,baz=267,slow=4.2,SNR=2.0
SWET Sewanee 124.17 51 ePKPdf PKPdf 17 16 54.4 +2.0
CPCT Cooper Cave 125.18 51 ePKPpre 17 16 51.0
SDV Santo Domingo 143.35 84 PKhKP 17 17 26.6
3.7nm,0.7s,baz=290,slow=12,SNR=4.0
SIV San Ignacio 145.03 130 PKP PKPdf 17 17 31.2 -0.2
0.6nm,0.4s,baz=191,slow=4.7,SNR=5.7
DBIC Dimbokro 151.30 272 PKP PKPdf 17 17 44.7 +3.1
3.6nm,0.9s,baz=256,slow=4.2,SNR=2.4
DBIC PKPbc PKPdf 17 17 49.9 +8.4
1.4nm,0.5s,baz=27,slow=2.3,SNR=4.1
DBIC Dimbokro 151.30 272 PKP PKPdf 17 17 44.7 +3.1
DBIC PKPbc PKPdf 17 17 49.9 +8.4

*IDC **07** 17:18:41.5±3.5, 12.34N×87.19W, mb3.8/7, mb1 4.1/7, mb1mx3.8/20, mbtmp3.8/7, Error ellipse: s-maj=71.0km s-min=44.2km az=0.0*
*NEIC **07** 17:18:49.8±0.9, 12.71N×87.56W, h35km, mb4.0/2, Error ellipse: s-maj=37.9km s-min=15.1km az=54.0*
*CASC **07** 17:18:53.6±1.8, 12.54N×87.47W, h64km±15km, MD4.1, ML4.3, mb4.1(NEIC)*
ISC 07 17:18:52.7±0.4,**12.60N**±0.08×**87.40W**±0.05,**h88**km±4km,
n39,σ0**65**/55,**mb3.8**/9,**7C-9D**,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.35**	**74**	⇓eP	**P**	**17 19 06.6**	**+0.4**
LEON	**Leon**	**0.53**	**111**	⇓iP	**P**	**17 19 06.5**	**-1.1**
TEL3	**Telica 3**	**0.54**	**93**	⇓iP	**P**	**17 19 07.6**	**-0.1**
TELN	**Telica**	**0.55**	**90**	⇓eP	**P**	**17 19 07.7**	**-0.1**
CNGN	**Cerro Negro**	**0.69**	**98**	⇓eP	**P**	**17 19 09.0**	**-0.2**
CNGN				eS	**S**	**17 19 21.0**	**-0.4**
CNCH	**Conchagua**	**0.79**	**327**	⇓eP	**P**	**17 19 10.6**	**+0.3**
CNCH				eS	**S**	**17 19 22.0**	**-1.2**
MOMJ	**Momotombo**	**0.86**	**103**	⇓eP	**P**	**17 19 11.0**	**+0.1**
MOMJ				eS	**S**	**17 19 24.4**	**0.0**
COPN	**Copaltepe**	**0.89**	**118**	⇑eP	**P**	**17 19 10.7**	**-0.5**
COPN				eS	**S**	**17 19 25.6**	**+0.5**
APYN	**Apoyeque**	**1.08**	**110**	⇑eP	**P**	**17 19 13.8**	**+0.2**
XAVN	**Gruta Xavier**	**1.14**	**113**	⇓eP	**P**	**17 19 14.3**	**+0.1**
XAVN				eS	**S**	**17 19 30.5**	**+0.2**
VSM	**San Miguel**	**1.19**	**314**	eP	**P**	**17 19 15.5**	**+0.6**
VSM				eS	**S**	**17 19 31.1**	**-0.3**
MGAN	**Managua**	**1.21**	**112**	⇑iP	**P**	**17 19 15.2**	**+0.1**
WILN	**Americas 2**	**1.26**	**110**	eP	**P**	**17 19 15.6**	**-0.1**
WILN				eS	**S**	**17 19 32.7**	**-0.3**
TICN	**Ticuantepe**	**1.27**	**116**	⇓eP	**P**	**17 19 16.1**	**+0.1**
TICN				eS	**S**	**17 19 33.5**	**+0.3**
PYTN	**Playitas**	**1.31**	**93**	⇓iP	**P**	**17 19 17.0**	**+0.6**
PYTN				eS	**S**	**17 19 35.1**	**+1.1**
MASN	**Masaya**	**1.36**	**117**	⇑eP	**P**	**17 19 17.0**	**-0.1**
MASN				eS	**S**	**17 19 34.9**	**-0.2**
CAHU	**Cacacuatique**	**1.41**	**326**	eP	**P**	**17 19 18.8**	**+1.1**
APON	**Apoyo**	**1.47**	**118**	⇑eP	**P**	**17 19 18.2**	**-0.3**
SNVI	**San Vicente**	**1.73**	**306**	eP	**P**	**17 19 22.1**	**+0.3**
SNVI				eS	**S**	**17 19 42.9**	**-0.3**
LCBS	**La Ceiba**	**1.86**	**304**	eP	**P**	**17 19 23.7**	**+0.2**
LCBS				eS	**S**	**17 19 45.6**	**-0.7**
LFRS	**El Faro**	**1.92**	**302**	eP	**P**	**17 19 24.4**	**+0.1**
LFRS				eS	**S**	**17 19 47.2**	**-0.3**
CONN	**Concepcion**	**2.02**	**121**	⇑eP	**P**	**17 19 25.2**	**-0.3**
BOQS	**Boqueron**	**2.15**	**302**	eP	**P**	**17 19 28.0**	**+0.4**
BOQS				eS	**S**	**17 19 52.9**	**-0.4**
SNJE	**San Jose**	**2.49**	**301**	eP	**P**	**17 19 33.1**	**+0.8**
SNJE				eS	**S**	**17 20 01.5**	**-0.2**
SBLS	**San Blas**	**2.49**	**300**	eP	**P**	**17 19 32.7**	**+0.5**
SBLS				eS	**S**	**17 20 00.9**	**-0.8**
RTR	**El Retiro**	**2.54**	**301**	eP	**P**	**17 19 33.5**	**+0.6**
RBDL	**Robledal**	**2.69**	**304**	eP	**P**	**17 19 36.0**	**+1.1**
JTS	**JuntasAbangare**	**3.32**	**134**	ePn	**P**	**17 19 43.2**	**-0.5**
JTS				ePg	**P**	**17 19 48.7**	**+5.0**
JTS				eSn	**S**	**17 20 21.8**	**-0.4**
TXAR	**Lajitas Array**	**22.49**	**320**	P	**P**	**17 23 47.5**	**+1.8**
2.0nm,0.6s,mb3.6,baz=139,slow=9.0,SNR=14							
WMOK	**Wichita Mounta**	**24.34**	**337**	eP	**P**	**17 24 03.8**	**+0.3**
1.3nm,0.4s,mb3.6							
PDAR	**Pinedale Array**	**35.66**	**332**	P	**P**	**17 25 45.6**	**+1.3**
0.4nm,0.3s,mb3.8,baz=117,slow=10,SNR=2.4							
HWUT	**Hardware Ranch**	**35.77**	**328**	eP	**P**	**17 25 45.8**	**+0.6**
2.6nm,0.7s,mb4.3							
NVAR	**Mina Array Bea**	**37.62**	**319**	P	**P**	**17 25 59.8**	**-0.9**
0.5nm,0.5s,mb3.6,baz=112,slow=4.9,SNR=2.3							
SCHQ	**Schefferville**	**45.12**	**17**	P	**P**	**17 27 01.4**	**-0.5**
1.6nm,0.5s,mb4.0,baz=209,slow=5.8,SNR=7.8							
FRB	**Frobisher Bay**	**52.77**	**10**	P	**P**	**17 27 59.2**	**-1.5**
1.0nm,0.3s,mb4.3,baz=201,slow=8.6,SNR=3.0							
YKA	**Yellowknife Ar**	**53.48**	**345**	P	**P**	**17 28 05.0**	**-1.0**
0.3nm,0.5s,mb3.6,baz=138,slow=7.7,SNR=10							
ILAR	**Eielson Array**	**65.90**	**336**	P	**P**	**17 29 30.1**	**-1.0**
0.3nm,0.7s,mb3.2,baz=162,slow=4.8,SNR=4.6							
WRA	**Warramunga Arr**	**139.36**	**254**	PKP	PKPdf	17 38 12.9	+2.2
0.2nm,0.4s,baz=90,slow=2.5,SNR=14							
ASAR	**Alice Springs**	**139.38**	**248**	PKP	PKPdf	17 38 12.7	+2.1
0.4nm,0.8s,baz=89,slow=2.0,SNR=7.0							

*INMG **07** 17:26:31.0±1.4, 43.13N×8.37W, h20km±5km, ML2.6, Error ellipse: s-maj=4.2km s-min=3.3km az=145.0*
*NEIC **07** 17:26:31.5, 43.07N×8.40W, h21km, MN2.8(MDD), After MDD.*
NEIC Felt [II] at Ordes. Also felt at Santiago de Compostela.
*CSEM **07** 17:26:31.6±0.2, 43.10N×8.41W, h20km, ML3.3/6, Error ellipse: s-maj=3.1km s-min=2.5km az=171.0*
MDD 07 17:26:31.5±0.4,**43.07N**×**8.41W**,**h21**km±1km,**mbLg2.7**/20,
1C,**Error ellipse: s-maj=4.4km s-min=2.7km az=176.0,**
PRXIMO,**Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STS	**Santiago**	**0.21**	**209**	Pg	Pb	17 26 36.7	-0.3
27nm,0.2s,SNR=56							
STS				Lg		17 26 40.3	
324nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**0.43**	**254**	⇑Pg	Pb	17 26 40.1	-0.4
126nm,0.2s,SNR=18							
EMAZ				Lg		17 26 46.0	
690nm,0.1s,SNR=7.9							
EMAZ	**Mazaricos**	**0.43**	**254**	Pg	Pb	17 26 40.1	-0.4
126nm,0.2s,SNR=18							
EINC	**Incio**	**0.88**	**118**	Pg	Pb	17 26 46.8	-1.2
EINC				Lg		17 26 58.5	
EINC	**Incio**	**0.88**	**118**	Pg	Pb	17 26 46.8	-1.2
7.5nm,0.0s,SNR=7.9							
EINC				Lg		17 26 59.0	
200nm,0.1s,SNR=35							
EINC	**Incio**	**0.88**	**118**	Pg	Pb	17 26 46.8	-1.2
7.5nm,0.0s,SNR=7.9							
EZAM	**Zamans**	**0.95**	**193**	Pg	Pb	17 26 47.7	-1.4
7.9nm,0.1s,SNR=7.9							
EZAM				Lg		17 27 01.2	
75nm,0.1s,SNR=38							
EPON	**Pontenova**	**0.95**	**74**	Pg	Pb	17 26 47.6	-1.6
EPON				Lg		17 27 01.0	
EPON	**Pontenova**	**0.95**	**74**	Pg	Pb	17 26 48.8	-0.5
11nm,0.1s,SNR=7.9							
EPON				Lg		17 27 01.3	
134nm,0.2s,SNR=49							
EPON	**Pontenova**	**0.95**	**74**	Pg	Pb	17 26 47.7	-1.6
11nm,0.1s,SNR=7.9							
ERUA	**La Rua**	**1.16**	**126**	Pg	Pn	17 26 52.2	-0.4
ERUA				Lg		17 27 06.9	
ERUA	**La Rua**	**1.16**	**126**	Pg	Pn	17 26 52.2	-0.4
3.2nm,0.1s,SNR=15							
ERUA				Lg		17 27 07.9	
45nm,0.3s,SNR=14							
ELOB	**Lobios**	**1.23**	**168**	Pn	Pn	17 26 51.7	-2.1
7.0nm,0.5s,SNR=33							
ELOB				Pg	Pn	17 26 54.1	+0.4
4.6nm,0.1s,SNR=7.9							
ELOB				Lg		17 27 10.3	
18nm,0.1s,SNR=21							
ELOB	**Lobios**	**1.23**	**168**	Pn	Pn	17 26 51.7	-2.0
7.0nm,0.5s,SNR=33							
ELOB	**Lobios**	**1.23**	**168**	Pg	Pn	17 26 54.1	+0.4
4.6nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**1.68**	**132**	Pn	Pn	17 26 59.1	-1.0
ECAL				Pg	Pn	17 27 02.7	+2.6
ECAL				Lg		17 27 23.3	
ECAL	**Calabor**	**1.68**	**132**	Pn	Pn	17 26 59.1	-1.0
1.6nm,0.2s,SNR=7.9							
ECAL				Pg	Pn	17 27 01.4	+1.3
0.1nm,0.1s,SNR=11							
ECAL				Lg		17 27 23.3	
40nm,0.2s,SNR=11							
ECAL	**Calabor**	**1.68**	**132**	Pn	Pn	17 26 59.1	-1.0
SNR=7.9							
ECAL	**Calabor**	**1.68**	**132**	Pg	Pn	17 27 02.7	+2.6
0.1nm,0.1s,SNR=11							
PBRG	**Braganca**	**1.77**	**135**	ePn	Pn	17 27 00.2	-1.2
PBRG				eSg	Sn	17 27 26.7	+3.2
29nm,0.1s							
PBRG	**Braganca**	**1.77**	**135**	ePn	Pn	17 27 00.2	-1.2
PBRG				eSg	Sn	17 27 26.7	+3.2
29nm,0.1s							
PVRL	**Vila Real**	**1.87**	**164**	ePn	Pn	17 27 01.9	-0.9
PVRL				eSn	Sn	17 27 24.2	-1.8
PVRL				eSg	Sn	17 27 29.3	+3.3
59nm,0.1s							
PVRL	**Vila Real**	**1.87**	**164**	ePn	Pn	17 27 01.9	-0.9
PVRL				eSn	Sn	17 27 24.2	-1.8
PVRL				eSg	Sn	17 27 29.3	+3.3
59nm,0.1s							
EARI	**Arriondas**	**2.35**	**83**	Pn	Pn	17 27 07.9	-1.9
EARI				Pg	Pn	17 27 15.3	+5.5
EARI				Sn	Sn	17 27 36.8	-1.5
EARI				Lg		17 27 44.5	
EARI	**Arriondas**	**2.35**	**83**	Pn	Pn	17 27 07.9	-1.9
0.5nm,0.1s,SNR=7.3							
EARI				Pg	Pn	17 27 13.2	+3.4
2.4nm,0.1s,SNR=19							
EARI				Sn	Sn	17 27 34.8	-3.5
0.6nm,0.1s,SNR=4.6							
EARI				Lg		17 27 44.5	
1.5nm,0.1s,SNR=6.2							
EARI	**Arriondas**	**2.35**	**83**	Pn	Pn	17 27 07.9	-1.9
0.5nm,0.1s,SNR=7.3							
EARI				Sn	Sn	17 27 36.8	-1.5
0.6nm,0.1s,SNR=4.6							
MTE	**Manteigas**	**2.75**	**166**	ePn	Pn	17 27 13.6	-1.8
MTE				eSn	Sn	17 27 44.8	-3.6
MTE				eSg	Sn	17 27 56.7	+8.3
22nm,0.3s							
MTE	**Manteigas**	**2.75**	**166**	ePn	Pn	17 27 13.6	-1.8
MTE				eSn	Sn	17 27 44.8	-3.6
MTE				eSg	Sn	17 27 56.7	+8.3
22nm,0.3s							
PCBR	**Castelo Branco**	**3.31**	**167**	ePn	Pn	17 27 21.1	-2.2
PCBR				eSg	Sn	17 28 13.8	+11
10.0nm,0.4s							
PCBR	**Castelo Branco**	**3.31**	**167**	ePn	Pn	17 27 21.1	-2.2
PCBR				eSg	Sn	17 28 13.8	+11
10.0nm,0.4s							
PTOM	**Tomar**	**3.45**	**180**	ePn	Pn	17 27 23.1	-2.3
PTOM				eSn	Sn	17 28 01.7	-4.5
PTOM				eSg	Sn	17 28 19.6	+13
ELAN	**Lanestosa**	**3.64**	**86**	Pn	Pn	17 27 26.7	-1.4
ELAN				Sn	Sn	17 28 07.0	-4.0
ELAN				Lg		17 28 24.4	
ELAN	**Lanestosa**	**3.64**	**86**	Pn	Pn	17 27 26.6	-1.6
0.5nm,0.1s,SNR=7.9							
ELAN				Pg	Pn	17 27 34.2	+6.0
4.8nm,1.0s,SNR=7.9							
ELAN				Sn	Sn	17 28 06.3	-4.7
0.7nm,0.1s,SNR=7.9							
ELAN				Lg		17 28 23.3	
6.4nm,0.2s,SNR=4.0							
ELAN	**Lanestosa**	**3.64**	**86**	Pn	Pn	17 27 26.7	-1.4
0.5nm,0.1s,SNR=7.9							
ELAN				Sn	Sn	17 28 07.0	-4.0
0.7nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**4.00**	**126**	Pn	Pn	17 27 31.5	-1.7
GUD				Sn	Sn	17 28 17.5	-2.5
GUD				Lg		17 28 36.8	
GUD	**Guadarrama**	**4.00**	**126**	Pn	Pn	17 27 31.3	-1.9
0.7nm,0.2s,SNR=7.9							
GUD				Sn	Sn	17 28 14.5	-5.5
1.5nm,0.4s,SNR=4.0							
GUD				Lg		17 28 33.2	
5.2nm,0.4s,SNR=4.0							
GUD	**Guadarrama**	**4.00**	**126**	Pn	Pn	17 27 31.5	-1.7
0.7nm,0.2s,SNR=7.9							
GUD				Sn	Sn	17 28 17.5	-2.5
SNR=4.0							
EBAD	**Badajoz**	**4.44**	**166**	Pn	Pn	17 27 36.1	-3.3
EBAD				Sn	Sn	17 28 23.6	-7.6
EBAD				Lg		17 28 50.1	
EBAD	**Badajoz**	**4.44**	**166**	Pn	Pn	17 27 36.1	-3.3
0.5nm,0.1s,SNR=7.9							
EBAD				Pg	Pn	17 27 49.4	+10
1.8nm,1.5s,SNR=7.9							
EBAD				Sn	Sn	17 28 24.6	-6.6
2.0nm,0.3s,SNR=7.9							
EBAD				Lg		17 28 46.1	
7.2nm,0.2s,SNR=5.2							
EBAD	**Badajoz**	**4.44**	**166**	Pn	Pn	17 27 36.1	-3.4
0.5nm,0.1s,SNR=7.9							
ESDC	**Sonseca Array**	**4.77**	**134**	Lg		17 28 56.5	
1.8nm,0.5s,baz=318,slow=29,SNR=4.9							
EALK	**Alkurruntz**	**5.05**	**86**	Pn	Pn	17 27 44.6	-3.5
EALK				Sn	Sn	17 28 38.4	-8.2
EALK	**Alkurruntz**	**5.05**	**86**	Pn	Pn	17 27 44.6	-3.5
0.2nm,0.2s,SNR=4.0							
EALK				Sn	Sn	17 28 39.1	-7.5
0.6nm,0.2s,SNR=4.0							
EALK				Lg		17 29 05.4	
1.5nm,1.6s,SNR=7.9							
EMIN	**Mina Concepcio**	**5.46**	**165**	Pn	Pn	17 27 50.1	-3.8
EMIN				Lg		17 29 22.7	
EMIN	**Mina Concepcio**	**5.46**	**165**	Pn	Pn	17 27 50.1	-3.8
0.7nm,0.2s,SNR=7.9							
EMIN				Sn	Sn	17 28 48.6	-8.3
2.6nm,3.0s,SNR=7.9							
EMIN				Lg		17 29 17.2	
4.1nm,0.5s,SNR=4.0							
EMIN	**Mina Concepcio**	**5.46**	**165**	Pn	Pn	17 27 50.1	-3.8
EGRO	**El Granado**	**5.58**	**172**	Pn	Pn	17 27 51.9	-3.6
EGRO				Lg		17 29 26.0	
EGRO	**El Granado**	**5.58**	**172**	Pn	Pn	17 27 51.9	-3.6
0.4nm,0.1s,SNR=7.9							
EGRO				Sn	Sn	17 28 51.9	-7.9
1.5nm,1.6s,SNR=7.9							
EGRO				Lg		17 29 20.6	
1.4nm,0.2s,SNR=4.0							
EGRO	**El Granado**	**5.58**	**172**	Pn	Pn	17 27 51.9	-3.6
EADA	**Adamuz**	**5.70**	**148**	Pn	Pn	17 27 57.8	+0.5
EADA				Lg		17 29 30.7	
EADA	**Adamuz**	**5.70**	**148**	Pn	Pn	17 27 54.6	-2.6
0.2nm,0.3s,SNR=4.0							
EADA				Sn	Sn	17 28 55.1	-7.8
3.4nm,1.6s,SNR=7.9							
EADA				Lg		17 29 24.2	
SNR=4.0							
ESAC	**San Caprasio**	**6.03**	**100**	Sn	Sn	17 29 02.0	-9.2
3.0nm,1.4s,SNR=7.9							
EBIE	**Bielsa**	**6.29**	**91**	Pn	Pn	17 28 01.6	-4.0
EBIE				Sn	Sn	17 29 10.8	-6.9
EBIE	**Bielsa**	**6.29**	**91**	Pn	Pn	17 28 01.6	-4.0
0.1nm,0.1s,SNR=7.9							
EBIE				Sn	Sn	17 29 09.7	-8.0
0.3nm,0.1s,SNR=4.0							

*IDC **07** 17:36:33.0±0.8, 0.84N×97.39E, h23km±4km, mb4.1/17, mb1 4.2/18, mb1mx4.1/23, mbtmp4.2/18, ML4.4/1, MS3.6/1, Ms1 3.8/1, ms1mx3.0/25, Error ellipse: s-maj=28.2km s-min=12.4km az=48.0*
*BJI **07** 17:36:32.3, 0.96N×97.40E, h27km, mB4.8, mb4.5, Ms4.1, Msz4.0*
*NEIC **07** 17:36:34.1±0.5, 0.91N×97.47E, h30km, mb4.4/15, Error ellipse: s-maj=12.1km s-min=6.9km az=53.0*
ISC 07 17:36:30.8±1.9,**0.86N**±0.06×**97.42E**±0.07,**h20**km±13km,
h27km±1.4km:**pP-P**,**n50**,σ0**90**/53,**mb4.3**/34,**MS3.8**/5,
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.16**	**44**	P	**Pn**	**17 37 49.7**	**+0.6**
KULM	**Kulim**	**5.46**	**36**	ePn	**Pn**	**17 37 53.1**	**-0.2**
KGM	**Kluang**	**6.01**	**79**	P	**Pn**	**17 38 02.2**	**+1.2**
CM31	**Chiang Mai Arr**	**17.55**	**5**	eP	**P**	**17 40 33.8**	**-2.5**
3.8nm,0.6s							
CMAR	**Chiang Mai Arr**	**17.55**	**5**	P	**P**	**17 40 34.7**	**-1.6**
0.5nm,0.3s,baz=193,slow=12,SNR=20							
CMAR				LR	LR	17 48 15.5	
comp=Z,171nm,18.8s,baz=205,slow=40							
PALK	**Pallekele**	**17.84**	**291**	P	**P**	**17 40 39.6**	**-0.3**
14nm,1.1s							
KMI	**Kunming**	**24.66**	**12**	P	**P**	**17 41 52.7**	**+0.8**
KMI				AP		17 42 01.7	
KMI				AMB	AMB		
comp=Z,14nm,0.8s,mb4.5							
KMI				LR	LR		
comp=N,172nm,12.7s,MS3.9							
KMI				LR	LR		
comp=E,207nm,14.3s,MS3.9							
KMI				LR	LR		
comp=Z,210nm,11.4s,MS3.9							
KMI	**Kunming**	**24.66**	**12**	P	**P**	**17 41 52.7**	**+0.8**
comp=Z,14nm,0.8s,mb4.5							
KMI				pP		17 42 01.7	
SHL	**Shillong**	**25.14**	**348**	eP	**P**	**17 41 58.0**	**+1.6**
PKI	**Pulchoki**	**28.95**	**338**	eP	**P**	**17 42 32.5**	**+1.2**
DMN	**Daman**	**29.10**	**337**	eP	**P**	**17 42 33.8**	**+1.1**
comp=Z,9.7nm,0.7s,mb4.6							
KKN	**Kakani**	**29.20**	**338**	eP	**P**	**17 42 33.7**	**+0.2**
comp=Z,16nm,0.9s,mb4.8							
GKN	**Gorkha**	**29.64**	**337**	eP	**P**	**17 42 37.5**	**0.0**
comp=Z,7.3nm,0.6s,mb4.6							
KOLN	**Koldanda**	**29.86**	**335**	eP	**P**	**17 42 39.9**	**+0.5**
comp=Z,8.7nm,0.7s,mb4.6							
ENH	**Enshi**	**31.42**	**20**	eP	**P**	**17 42 50.2**	**-3.0**
comp=Z,3.3nm,0.4s,mb4.5							
FITZ	**Fitzroy Crossi**	**33.55**	**126**	eP	**P**	**17 43 10.8**	**-1.1**
comp=Z,4.3nm,0.8s,mb4.4							
FITZ	**Fitzroy Crossi**	**33.55**	**126**	P	**P**	**17 43 10.8**	**-1.1**
comp=Z,3.2nm,0.7s,mb4.4,baz=275,slow=5.4,SNR=6.2							
FITZ				pP	pP	17 43 17.7	0.0
comp=Z,6.7nm,0.9s,baz=324,slow=12,SNR=4.0							
XAN	**Xi'an**	**34.72**	**17**	P	**P**	**17 43 19.8**	**-2.1**
XAN				AMB	AMB		
comp=Z,13nm,0.7s,mb5.0							
GTA	**Gaotai**	**38.43**	**3**	eP	**P**	**17 43 52.9**	**-0.2**
GTA				AP	pP	17 44 01.7	+2.7
GTA				XP	sP	17 44 05.6	+4.1
GTA				PP	PP	17 45 25.3	+0.7
GTA				PPP	PPP	17 45 47.3	+0.1
GTA				S	**S**	**17 49 46.1**	**-0.6**
GTA				XS		17 50 01.3	
GTA				SS	SS	17 52 28.9	+2.0
GTA				AMB	AMB		
comp=Z,7.0nm,0.9s,mb4.4							
GTA				AMB	AMB		
comp=Z,86nm,6.8s							
GTA				LR	LR		
comp=N,122nm,16.7s,MS4.0							
GTA				LR	LR		
comp=E,147nm,16.4s,MS4.0							
GTA				LR	LR		
comp=Z,157nm,12.6s,MS4.0							

WMQ				S	S	17 51 03.2	-0.9
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.8s,mb3.9						
WMQ				AMB	AMB		
	comp=Z,83nm,4.0s						
WMQ				LR	LR		
	comp=N,119nm,17.9s,MS3.9						
WMQ				LR	LR		
	comp=E,44nm,20.0s,MS3.9						
WMQ				LR	LR		
	comp=Z,54nm,19.0s,MS3.5						
AAK	**Ala-Archa**	**46.40**	**337**	*e*P	**P**	**17 44 58.4**	**+0.5**
	comp=Z,1.4nm,0.7s,mb4.0						
SONM	**Songino Array**	**47.44**	**8**	P	**P**	**17 45 06.1**	**0.0**
	comp=Z,1.5nm,0.4s,mb4.2,baz=188,slow=9.5,SNR=20						
ULN	**Ulaanbaatar**	**47.56**	**9**	*e*P	**P**	**17 45 06.5**	**-0.6**
	comp=Z,3.1nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**17 45 07.5**	**-0.1**
	comp=Z,4.6nm,0.5s,mb4.8,baz=161,slow=8.7,SNR=121						
MKAR				pP	pP	17 45 14.9	+1.4
	comp=Z,2.8nm,0.5s,baz=157,slow=7.8,SNR=10						
CN2	**Changchun**	**49.51**	**27**	*e*P	**P**	**17 45 23.0**	**+0.8**
MJAR	**Matsushiro Arr**	**51.80**	**42**	P	**P**	**17 45 39.4**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=218,slow=5.6,SNR=5.2						
MDJ	**Mudanjiang**	**52.06**	**29**	P	**P**	**17 45 41.2**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,453nm,3.2s						
STKA	**Stephens Creek**	**52.97**	**132**	P	**P**	**17 45 49.4**	**+0.9**
	comp=Z,3.6nm,1.0s,mb4.3,baz=279,slow=9.1,SNR=5.3						
STKA	**Stephens Creek**	**52.97**	**132**	P	**P**	**17 45 49.4**	**+0.8**
ZAL	**Zalesovo**	**53.92**	**351**	P	**P**	**17 45 55.1**	**-0.1**
	comp=Z,5.9nm,0.5s,mb4.8,baz=312,slow=5.5,SNR=21						
CHKZ	**Chkalovo**	**57.12**	**341**	*e*P	**P**	**17 46 16.9**	**-1.6**
	comp=Z,4.1nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**69.50**	**312**	P	**P**	**17 47 40.0**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=135,slow=7.0,SNR=4.0						
MA2	**Magadan**	**71.54**	**25**	*e*P	**P**	**17 47 51.7**	**-0.7**
	comp=Z,5.0nm,0.8s,mb4.5						
AKASG	**Malin Array Be**	**75.66**	**322**	P	**P**	**17 48 15.2**	**-1.3**
	comp=Z,0.3nm,0.3s,mb3.8,baz=87,slow=5.0,SNR=7.3						
AKASG				pP	pP	17 48 22.0	-0.8
	comp=Z,0.4nm,0.3s,baz=81,slow=4.5,SNR=2.4						
MLR	**Muntele Rosu**	**76.47**	**317**	P	**P**	**17 48 21.8**	**+0.6**
	comp=Z,1.4nm,0.7s,mb4.0,baz=124,slow=7.3,SNR=4.2						
MLR	**Muntele Rosu**	**76.47**	**317**	P	**P**	**17 48 21.8**	**+0.6**
FINES	**FINESS Array B**	**80.40**	**333**	P	**P**	**17 48 42.2**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=104,slow=7.9,SNR=7.5						
ARCES	**ARCESS Array B**	**82.93**	**340**	P	**P**	**17 48 55.9**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.3,baz=63,slow=5.4,SNR=6.3						
ARCES				pP	pP	17 49 03.7	+2.0
	comp=Z,3.0nm,0.9s,baz=113,slow=6.9,SNR=1.7						
GERES	**GERESS Array B**	**85.21**	**319**	P	**P**	**17 49 08.3**	**+1.0**
	comp=Z,0.3nm,0.3s,mb3.9,baz=90,slow=4.0,SNR=5.9						
GERES				pP	pP	17 49 16.9	+3.2
	comp=Z,0.2nm,0.3s,baz=135,slow=7.5,SNR=3.4						
HFS	**Hagfors**	**86.12**	**330**	P	**P**	**17 49 11.9**	**+0.2**
	comp=Z,5.9nm,1.1s,mb4.8,baz=90,slow=10,SNR=4.4						
NOA	**NORSAR Array B**	**87.41**	**331**	P	**P**	**17 49 18.0**	**+0.1**
	comp=Z,0.6nm,0.8s,mb3.9,baz=98,slow=5.1,SNR=3.2						

*NEIC **07** 17:38:57.1, 47.06N×2.50W, MG3.8(MDD), After MDD.*
CSEM 07 17:38:57.8±0.5, 46.85N×2.53W, h15km, mb3.8/11, Error ellipse: s-maj=14.5km s-min=3.8km az=173.0, Bay of Biscay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRYF	**La Roche-sur-Y**	**0.73**	**112**	Pn	Pn	17 39 11.7	-1.7
LCHF	**La Chataignera**	**1.24**	**98**	Pn	Pn	17 39 20.4	-0.3
CHIF	**Chize**	**1.63**	**115**	Pg	Pg	17 39 28.7	-1.8
ELAN	**Lanestosa**	**3.68**	**190**	P	Pn	17 39 56.6	+1.2
ELAN	**Lanestosa**	**3.68**	**190**	P	Pn	17 39 56.6	+1.2
	0.2nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**3.71**	**168**	P	Pn	17 39 57.2	+1.4
EALK	**Alkurruntz**	**3.71**	**168**	P	Pn	17 39 57.2	+1.4
	0.5nm,0.1s,SNR=9.0						
EARI	**Arriondas**	**4.03**	**209**	P	Pn	17 40 01.8	+1.4
	0.6nm,0.2s,SNR=7.1						
EBIE	**Bielsa**	**4.58**	**154**	P	Pn	17 40 08.8	+0.6
EBIE	**Bielsa**	**4.58**	**154**	P	Pn	17 40 08.8	+0.5
	0.3nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**4.81**	**224**	P	Pn	17 40 12.2	+0.7
EPON	**Pontenova**	**4.81**	**224**	P	Pn	17 40 12.2	+0.7
	0.9nm,0.2s,SNR=7.9						
EINC	**Incio**	**5.42**	**221**	P	Pn	17 40 20.0	-0.1
EINC	**Incio**	**5.42**	**221**	P	Pn	17 40 20.0	-0.1
	1.0nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.76**	**213**	P	Pn	17 40 25.2	+0.3
ECAL	**Calabor**	**5.76**	**213**	P	Pn	17 40 25.2	+0.3
	0.8nm,0.1s,SNR=5.9						
EPOB	**Poblet**	**6.08**	**153**	P	Pn	17 40 29.5	+0.1
EPOB	**Poblet**	**6.08**	**153**	P	Pn	17 40 29.5	+0.1
	0.8nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**6.25**	**160**	P	Pn	17 40 32.0	+0.2
ERTA	**Horta de San J**	**6.25**	**160**	P	Pn	17 40 32.0	+0.2
	1.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.37**	**220**	P	Pn	17 40 32.7	-0.8
ELOB	**Lobios**	**6.37**	**220**	P	Pn	17 40 32.7	-0.8
	0.8nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**6.66**	**166**	P	Pn	17 40 37.9	+0.3
EMOS	**Mosqueruela**	**6.66**	**166**	P	Pn	17 40 37.9	+0.3
	0.3nm,0.1s,SNR=7.9						

*THE **07** 17:40:12.2, 38.49N×23.76E, h10km, ML3.2*
*ATH **07** 17:40:13.5, 38.60N×23.67E, h26km±1km, MD3.4/13, ML3.5*
*NEIC **07** 17:40:13.5, 38.60N×23.67E, h26km, ML3.5(ATH), After ATH.*
*CSEM **07** 17:40:14.3±0.1, 38.59N×23.69E, h12km, ML3.5, Error ellipse: s-maj=2.7km s-min=1.4km az=91.0*
ISC 07 17:40:13.5±0.7, 38.57N±0.03×23.67E±0.07, h19km±8km, n28, σ0§91/31, 3C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.42**	**173**	*e*PB	**Pb**	**17 40 23.0**	**+0.9**
LKR	**Lokris**	**0.54**	**279**	↑*i*PN	**Pn**	**17 40 23.8**	**-2.2**
PTL	**Penteli**	**0.54**	**164**	*e*PN	**Pn**	**17 40 25.0**	**-1.0**
ATH	**Athens Observa**	**0.59**	**177**	↑*i*PN	**Pn**	**17 40 26.2**	**-0.6**
ATH				*e*SN	**Sn**	17 40 35.5	-0.4
AOS	**Alonnisos**	**0.62**	**15**	*e*Pg	**Pb**	**17 40 25.4**	**-0.2**
MGER	**Gerania Oros**	**0.66**	**209**	*e*PN	**Pn**	**17 40 27.0**	**-0.8**
NSAL	**Nisos Salamina**	**0.68**	**194**	↓*i*PN	**Pn**	**17 40 27.5**	**-0.5**
NAIG	**Nisos Aigina**	**0.82**	**190**	*e*PN	**Pn**	**17 40 30.1**	**+0.1**
NEO	**Neokhori**	**0.82**	**335**	↑*i*PN	**Pn**	**17 40 29.0**	**-1.0**
NEO				*e*SN	**Sn**	17 40 40.4	-1.3
AGG	**Agios Georgios**	**1.14**	**294**	*e*Pb	**Pb**	**17 40 35.3**	**+0.8**
PAIG	**Paliouri**	**1.36**	**0**	*e*Pb	**Pb**	**17 40 38.3**	**+0.1**
EVR	**Evrytania**	**1.50**	**284**	*e*PN	**Pn**	**17 40 41.4**	**+1.6**
LIA	**Limnos Island**	**1.77**	**41**	*e*PN	**Pn**	**17 40 44.1**	**+0.4**
OUR	**Ouranopolis**	**1.78**	**8**	*e*Pb	**Pb**	**17 40 44.4**	**-0.9**
LIT	**Litokhoron**	**1.79**	**329**	*e*Pb	**Pb**	**17 40 44.6**	**-0.8**
PLG	**Polygyros**	**1.81**	**354**	*e*PN	**Pn**	**17 40 44.6**	**+0.3**
PLG				*e*SN	**Sn**	17 41 06.2	-0.7
VLI	**Veliai**	**1.94**	**198**	*e*PN	**Pn**	**17 40 47.6**	**+1.6**
APE	**Apeiranthos**	**2.10**	**135**	*e*PN	**Pn**	**17 40 49.6**	**+1.3**
THE	**Thessaloniki**	**2.13**	**345**	*e*Pn	**Pn**	**17 40 49.2**	**+0.3**
SOH	**Sokhos**	**2.27**	**354**	*e*Pn	**Pn**	**17 40 51.5**	**+0.8**
KYTH	**Kithira**	**2.34**	**193**	*e*PB	**Pb**	**17 40 53.5**	**-1.3**
VLS	**Valsamata**	**2.46**	**262**	*e*PN	**Pn**	**17 40 54.2**	**+0.8**
SRS	**Serrai**	**2.55**	**359**	*e*Pn	**Pn**	**17 40 55.2**	**+0.4**
GRG	**Griva**	**2.58**	**338**	*e*Pn	**Pn**	**17 40 55.7**	**+0.5**
KNT	**Kendrikon**	**2.66**	**347**	*e*Pn	**Pn**	**17 40 57.2**	**+0.8**
NVR	**Nevrokopi**	**2.78**	**3**	*e*PN	**Pn**	**17 40 58.3**	**+0.2**
FNA	**Florina**	**2.84**	**322**	*e*Pn	**Pn**	**17 41 00.2**	**+1.3**
ALN	**Alexandroupoli**	**2.96**	**37**	*e*Pn	**Pn**	**17 41 00.1**	**-0.6**

*IDC **07** 17:50:16.4±0.9, 31.42N×139.99E, mb3.6/6, mb1 3.9/6, mb1mx3.7/21, mbtmp3.6/6, Error ellipse: s-maj=29.4km s-min=20.3km az=100.0*
*NEIC **07** 17:50:25.0±2.0, 31.47N×140.18E, h78km±19km, mb4.3/6, Error ellipse: s-maj=19.2km s-min=16.5km az=74.0*
ISC 07 17:50:18.3±0.8, 31.44N±0.09×140.3E±0.2, h33km, n16, σ1§28/15, mb4.0/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.73**	**344**	Pn	**Pn**	**17 50 46.2**	**-0.5**
	18nm,0.3s,baz=236,slow=20,SNR=5.3						
MJAR	**Matsushiro Arr**	**5.38**	**341**	Pn	**Pn**	**17 51 41.8**	**+3.3**
	1.4nm,0.3s,baz=161,slow=12,SNR=12						
MAJO	**Matsushiro**	**5.38**	**341**	*e*Pn	**Pn**	**17 51 32.7**	**-5.8**
	35nm,0.9s						
BJT	**Baijiatuan**	**21.36**	**300**	*e*P	**P**	**17 55 03.7**	**-1.1**
	8.5nm,0.7s,mb4.2						
BJI	**Beijing**	**21.36**	**300**	*e*P	**P**	**17 55 05.5**	**+0.7**
	11nm,1.5s,mb4.0						
ENH	**Enshi**	**26.47**	**276**	*e*P	**P**	**17 55 54.2**	**-0.1**
	5.2nm,0.8s,mb4.1						
CMAR	**Chiang Mai Arr**	**39.47**	**261**	P	**P**	**17 57 48.0**	**+0.8**
	1.3nm,0.7s,mb3.8,baz=54,slow=7.5,SNR=11						
MKAR	**Makanchi Array**	**46.53**	**307**	P	**P**	**17 58 42.3**	**-2.0**
	0.4nm,0.8s,mb3.4,baz=90,slow=8.6,SNR=3.0						
WRA	**Warramunga Arr**	**51.41**	**187**	P	**P**	**17 59 21.3**	**-1.1**
	0.7nm,0.7s,mb3.7,baz=4.0,slow=7.6,SNR=8.4						
CTAO	**Charters Tower**	**51.55**	**173**	P	**P**	**17 59 23.8**	**+0.4**
	15nm,1.3s,mb4.8						
ASAR	**Alice Springs**	**55.14**	**187**	P	**P**	**17 59 49.6**	**-0.3**
	0.3nm,0.8s,mb3.4,slow=11,SNR=3.6						
PALK	**Pallekele**	**60.40**	**260**	P	**P**	**18 00 29.3**	**+2.2**
	13nm,1.1s,mb4.9						
RES	**Resolute Bay**	**68.23**	**14**	P	**P**	**18 01 15.7**	**-1.4**
	2.4nm,1.1s,mb4.1						
YKA	**Yellowknife Ar**	**69.11**	**29**	P	**P**	**18 01 24.5**	**+1.9**
	0.4nm,0.8s,mb3.4,baz=294,slow=6.4,SNR=6.7						
TXAR	**Lajitas Array**	**94.25**	**52**	P	**P**	**18 03 39.8**	**+4.3**
	0.3nm,0.4s,mb4.1,baz=288,slow=2.9,SNR=3.3						
LPAZ	**La Paz**	**150.03**	**66**	PKPbc	PKPdf	18 10 12.4	+11
	0.6nm,0.3s,baz=252,slow=3.2,SNR=3.3						

*ATH **07** 18:09:19.3, 39.53N×20.90E, h28km±6km, MD3.2/4*
*NEIC **07** 18:09:19.3, 39.53N×20.90E, h28km, MD3.2(ATH), After ATH.*
*THE **07** 18:09:20.9, 39.44N×20.84E, h10km, ML2.7*
*CSEM **07** 18:09:20.9±0.1, 39.44N×20.84E, h2km, MD3.2, Error ellipse: s-maj=3.2km s-min=3.2km az=121.0*
ISC 07 18:09:20.1±0.7, 39.46N±0.03×20.76E±0.05, h10km±6km, n10, σ0§96/17, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.21**	**19**	*e*PB	**Pb**	**18 09 24.3**	**-1.4**
JAN				*e*SB	**Sb**	18 09 28.1	-1.2
IGT	**Igoumenitsa**	**0.34**	**283**	*e*Pg	**Pg**	**18 09 28.3**	**+1.2**
MEV	**Metsovon**	**0.49**	**48**	*e*Pg	**Pg**	**18 09 29.1**	**-0.9**
MEV				*e*Sg	**Sg**	18 09 36.7	0.0
LKD	**Levkas**	**0.75**	**187**	*e*Pg	**Pg**	**18 09 34.9**	**-0.3**
LKD				*e*Sg	**Sg**	18 09 45.9	+0.5
KEK	**Kerkira**	**0.79**	**289**	*e*PN	**Pn**	**18 09 36.8**	**-0.3**
KEK				*e*SN	**Sn**	18 09 48.7	-0.2
EVR	**Evrytania**	**0.98**	**123**	*e*PN	**Pn**	**18 09 37.8**	**-2.0**
VLS	**Valsamata**	**1.28**	**186**	*e*PN	**Pn**	**18 09 44.6**	**+0.4**
AGG	**Agios Georgios**	**1.29**	**109**	*e*Pb	**Pb**	**18 09 43.6**	**-0.5**
AGG				*e*Sb	**Sb**	18 10 01.4	+0.8
FNA	**Florina**	**1.41**	**19**	*e*Pb	**Pb**	**18 09 46.8**	**+0.7**
FNA				*e*Sb	**Sb**	18 10 05.9	+1.9
LIT	**Litokhoron**	**1.48**	**64**	*e*Pb	**Pb**	**18 09 47.5**	**+0.2**
LIT				*e*Sb	**Sb**	18 10 07.2	+1.1

IDC 07 18:09:56.6±3.5, 0.09N×96.87E, mb3.5/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.6/1, MS2.8/1, Ms1 3.0/1, ms1mx2.6/17, Error ellipse: s-maj=130.6km s-min=25.8km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.37**	**6**	P	P	18 14 13.5	-1.2
	0.1nm,0.3s,baz=194,slow=10,SNR=6.1						
CMAR				LR	LR	18 21 01.0	
	comp=Z,32nm,19.3s,baz=177,slow=36						
WRA	**Warramunga Arr**	**41.74**	**121**	P	P	18 17 47.9	-1.6
	0.3nm,1.0s,baz=302,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**43.01**	**126**	P	P	18 17 58.0	-1.8
	0.2nm,0.7s,baz=301,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**48.24**	**347**	P	P	18 18 38.9	-2.3
	0.6nm,0.7s,baz=154,slow=8.8,SNR=6.0						

ISC 07 18:12:08.0±0.7, 40.68N±0.04×34.09E±0.05, h8km±9km, n6, σ0§50/10, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.36**	**352**	PG	**Pg**	**18 12 14.6**	**-0.7**
TOS				SG	**Sg**	18 12 20.2	0.0
CTKT	**Corum**	**0.54**	**96**	*i* P	**Pg**	**18 12 18.7**	**-0.1**
CTKT				*i* S	**Sg**	18 12 26.3	+0.3
ELDT	**Eldivan**	**0.54**	**250**	*i* P	**Pg**	**18 12 18.9**	**0.0**
ELDT				*i* S	**Sg**	18 12 26.9	+0.7
CORM	**Corum**	**0.65**	**140**	*e*PG	**Pg**	**18 12 21.0**	**-0.1**
BOYT	**Boyabat**	**0.96**	**40**	*i* P	**Pb**	**18 12 25.9**	**-0.6**
BOYT				*i* S	**Sb**	18 12 40.0	+0.9
KAMT	**Kaman**	**1.34**	**193**	*e*PN	**Pn**	**18 12 32.5**	**-0.6**

IDC 07 18:13:21.2±2.8, 0.99N×96.93E, mb3.4/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.7/1, Error ellipse: s-maj=114.8km s-min=28.7km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.47**	**6**	P	P	18 17 26.7	-1.4
	0.1nm,0.3s,baz=195,slow=10,SNR=4.2						
WRA	**Warramunga Arr**	**42.16**	**122**	P	P	18 21 15.9	-1.7
	0.2nm,0.7s,baz=301,slow=9.0,SNR=5.0						
MKAR	**Makanchi Array**	**47.38**	**346**	P	P	18 21 57.5	-1.6
	0.4nm,0.6s,baz=162,slow=8.3,SNR=6.7						
MKAR				pP	pP	18 22 04.0	+4.9
	0.5nm,0.6s,baz=156,slow=7.2,SNR=4.7						
BVAR	**Borovoye Array**	**56.36**	**341**	P	P	18 23 03.6	-2.8
	0.2nm,0.5s,baz=135,slow=4.1,SNR=2.5						
BVAR				pP	pP	18 23 10.5	+4.1
	0.3nm,0.7s,baz=127,slow=7.4,SNR=3.5						

IDC 07 18:26:45.6±1.2, 15.99N×92.90E, mb3.5/5, mb1 3.7/6, mb1mx3.5/20, mbtmp3.4/6, ML3.3/1, Error ellipse: s-maj=38.7km s-min=22.1km az=47.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.27**	**66**	Pn	Pn	18 28 20.0	-1.6
	0.2nm,0.3s,baz=252,slow=15,SNR=7.0						
CMAR				Sn	Sn	18 29 30.6	-4.4
	0.7nm,0.3s,baz=250,slow=33,SNR=18						
MKAR	**Makanchi Array**	**31.96**	**346**	P	P	18 33 14.1	-1.3
	0.3nm,0.7s,baz=157,slow=9.2,SNR=5.1						
WRA	**Warramunga Arr**	**54.16**	**130**	P	P	18 36 13.3	-1.8
	0.1nm,0.5s,baz=311,slow=7.7,SNR=5.0						
ASAR	**Alice Springs**	**56.20**	**134**	P	P	18 36 27.5	-2.5
	0.2nm,0.8s,baz=310,slow=6.7,SNR=3.9						
ARCES	**ARCESS Array B**	**67.28**	**339**	P	P	18 37 41.5	-2.4
	2.8nm,0.9s,baz=90,slow=7.2,SNR=4.6						
GERES	**GERESS Array B**	**71.06**	**317**	P	P	18 38 05.3	-2.2
	0.3nm,0.5s,baz=79,slow=6.8,SNR=3.7						

*ATH **07** 18:46:45.2, 38.74N×21.23E, h17km±3km, MD3.4/6*
*THE **07** 18:46:45.5, 38.73N×21.28E, h10km, ML3.2*
*NEIC **07** 18:46:45.2, 38.74N×21.23E, h17km, MD3.4(ATH), After ATH.*
*CSEM **07** 18:46:45.6±0.1, 38.75N×21.23E, h2km, MD3.4, Error ellipse: s-maj=2.9km s-min=1.9km az=161.0*
ISC 07 18:46:44.9±0.6, 38.67N±0.04×21.26E±0.03, h10km, n21, σ1§13/31, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.48**	**275**	*e*Pg	**Pg**	**18 46 54.5**	**0.0**
LKD				*e*Sg	**Sg**	18 47 02.7	+1.7
EVR	**Evrytania**	**0.50**	**60**	↓*i*PB	**Pb**	**18 46 54.9**	**-0.3**
EVR				*e*SB	**Sb**	18 47 01.1	-1.1
RLS	**Riolos of Patr**	**0.63**	**165**	*e*PN	**Pn**	**18 46 59.9**	**+0.3**
VLS	**Valsamata**	**0.72**	**227**	*e*PN	**Pn**	**18 46 59.7**	**-1.1**
AGG	**Agios Georgios**	**0.91**	**67**	*e*Pg	**Pg**	**18 47 02.5**	**-0.6**
JAN	**Janina**	**1.04**	**342**	*e*PN	**Pn**	**18 47 03.6**	**-1.7**
JAN				*e*SN	**Sn**	18 47 17.2	-2.7
IGT	**Igoumenitsa**	**1.12**	**320**	*e*Pg	**Pg**	**18 47 05.0**	**-2.3**
IGT				*e*Sg	**Sg**	18 47 22.1	-0.2
IGT	**Igoumenitsa**	**1.12**	**320**	*e*Pg	**Pg**	**18 47 05.0**	**-2.4**
IGT				*e*Sg	**Sg**	18 47 22.1	-0.3
LKR	**Lokris**	**1.36**	**90**	*e*PN	**Pn**	**18 47 11.4**	**+1.4**
KEK	**Kerkira**	**1.54**	**313**	*e*PB	**Pb**	**18 47 11.9**	**-1.2**
KEK				*e*SN	**Sn**	18 47 33.9	+1.2
LSK	**Leskovik**	**1.56**	**341**	*e*Pn	**Pn**	**18 47 14.3**	**+1.4**
LSK				*i* Sn	**Sn**	18 47 35.5	+2.1
NEO	**Neokhori**	**1.66**	**67**	*e*PN	**Pn**	**18 47 15.0**	**+0.7**
NEO				*e*SN	**Sn**	18 47 37.8	+2.0
KZN	**Kozani**	**1.68**	**13**	*e*PN	**Pn**	**18 47 14.6**	**0.0**
KZN				*e*SN	**Sn**	18 47 37.8	+1.4
LIT	**Litokhoron**	**1.72**	**33**	*e*Pb	**Pb**	**18 47 15.1**	**-1.1**
LIT				*e*Sb	**Sb**	18 47 38.2	+0.5
FNA	**Florina**	**2.11**	**2**	*e*Pn	**Pn**	**18 47 21.1**	**+0.3**
PAIG	**Paliouri**	**2.26**	**55**	*e*Pn	**Pn**	**18 47 22.7**	**-0.2**
GRG	**Griva**	**2.45**	**21**	*e*Pn	**Pn**	**18 47 24.9**	**-0.6**
OUR	**Ouranopolis**	**2.69**	**51**	*e*Pn	**Pn**	**18 47 28.9**	**0.0**
SOH	**Sokhos**	**2.69**	**36**	*e*Pn	**Pn**	**18 47 29.2**	**+0.2**
KNT	**Kendrikon**	**2.79**	**26**	*e*Pn	**Pn**	**18 47 30.4**	**-0.1**
SRS	**Serrai**	**3.03**	**36**	*e*Pn	**Pn**	**18 47 33.1**	**-0.8**

IDC 07 18:47:56.1±8.8, 6.53S×154.00E, h138km±41km, mb3.4/3, mb1 3.7/5, mb1mx3.4/17, mbtmp4.1/5, 1C, Error ellipse: s-maj=142.3km s-min=31.6km az=14.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.35**	**247**	P	P	18 49 40.9	-1.0
	2.6nm,0.3s,baz=39,slow=9.6,SNR=11						
DZM	**Mont Dzumac**	**19.58**	**143**	P	P	18 52 13.3	-2.3
	0.3nm,0.3s,baz=338,slow=19,SNR=3.1						
WB2	**Warramunga Arr**	**23.27**	**233**	↑*i*P	P	18 52 51.9	-0.4
WRA	**Warramunga Arr**	**23.28**	**233**	P	P	18 52 52.3	-0.1
	2.6nm,0.5s,baz=57,slow=10,SNR=59						
ASAR	**Alice Springs**	**25.75**	**226**	P	P	18 53 14.6	-1.2
	0.4nm,0.6s,baz=58,slow=9.2,SNR=12						
STKA	**Stephens Creek**	**27.75**	**203**	P	P	18 53 30.9	-3.1
	1.4nm,0.7s,baz=58,slow=15,SNR=2.8						
FITZ	**Fitzroy Crossi**	**29.94**	**245**	*e*P	P	18 53 49.2	-4.5
	2.7nm,0.6s						

IDC 07 19:01:19.8±1.3, 9.52N×93.33E, mb3.4/4, mb1 3.6/5, mb1mx3.4/21, mbtmp3.4/5, ML3.2/1, MS3.0/1, Ms1 3.2/1, ms1mx3.0/12, Error ellipse: s-maj=51.4km s-min=23.0km az=50.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.42**	**31**	Pn	P	19 03 51.5	-2.3
	0.1nm,0.3s,baz=220,slow=14,SNR=8.3						
CMAR				LR	LR	19 08 53.8	
	comp=Z,77nm,18.1s,baz=215,slow=44						
BVAR	**Borovoye Array**	**47.18**	**341**	P	P	19 09 53.5	-2.4
	0.2nm,0.4s,baz=136,slow=5.9,SNR=3.0						
WRA	**Warramunga Arr**	**49.87**	**126**	P	P	19 10 14.7	-2.6
	0.5nm,0.7s,baz=306,slow=8.4,SNR=5.5						
ASAR	**Alice Springs**	**51.59**	**130**	P	P	19 10 28.6	-1.7
	0.2nm,0.6s,baz=311,slow=7.2,SNR=5.9						
BRTR	**Keskin Array B**	**60.75**	**310**	P	P	19 11 34.1	-1.8
	0.6nm,0.8s,baz=129,slow=9.2,SNR=3.4						

*BJI **07** 19:02:32.0, 12.15N×46.24E, h7km, mB5.2, mb4.8, Ms4.5, Msz4.1*
*IDC **07** 19:02:33.9±0.6, 12.08N×46.34E, mb4.4/23, mb1 4.5/24, mb1mx4.5/29, mbtmp4.4/24, ML3.9/1, MS4.1/12, Ms1 4.1/12, ms1mx3.9/28, Error ellipse: s-maj=18.3km s-min=14.0km az=55.0*
*MOS **07** 19:02:33.1±0.9, 12.03N×46.24E, h10km, mb4.9/34, MS4.3/10, Error ellipse: s-maj=9.7km s-min=5.0km az=103.7*
*CSEM **07** 19:02:33.7±0.1, 12.03N×46.23E, h16km, mb4.9/28, Error ellipse: s-maj=3.1km s-min=2.5km az=115.0*
*NEIC **07** 19:02:34.7±0.3, 11.98N×46.25E, h10km, mb4.8/32, Error ellipse: s-maj=6.4km s-min=6.0km az=66.0*
*DHMR **07** 19:02:39.1±0.8, 12.54N×45.90E, h14km±6km, ML4.7*
ISC 07 19:02:34.6±0.3, 12.05N±0.04×46.16E±0.03, h19km, h19km±1.0km: pP-P, n200, σ1§11/208, mb4.7/66, MS4.1/21, 12C-9D, Western Gulf of Aden

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

GNI pmax pmax
comp=Z,12nm,0.9s
GNI Garni 28.01 358 P **P 19 08 28.1 +1.5**
comp=Z,3.4nm,0.6s,mb4.2,baz=58,slow=1.4,SNR=8.3
GNI LR LR 19 20 53.6
comp=Z,718nm,19.2s,MS4.3,baz=326,slow=39
GNI Garni 28.01 358 *e*P **P 19 08 28.2 +1.5**
comp=Z,12nm,0.9s,mb4.5
BRTR Keskin Array B 29.71 340 P **P 19 08 43.0 +1.1**
comp=Z,2.1nm,0.7s,mb4.0,baz=159,slow=11,SNR=12
ELDT Eldivan 30.47 341 *i* P **P 19 08 48.5 -0.2**
ESKT Eskisehir 30.54 336 *i* P **P 19 08 50.2 +1.0**
SANT Santorini 30.56 326 P **P 19 08 50.6 +1.1**
ZEI Tsey 30.67 357 *e*P **P 19 08 45.5 -4.9**
ZEI *i* *PP pP 19 08 51.4 -4.4
ZEI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BOYT Boyabat 30.87 343 *i* P **P 19 08 51.2 -0.9**
SGKT Sivrigoynuk 31.01 339 *i* P **P 19 08 54.1 +0.7**
SOC Sochi 31.91 351 *e*P **P 19 08 57.5 -3.8**
SOC *e* 19 10 03.3
SOC *e* 19 11 47.8
SOC *e*S **S 19 14 04.7 -5.4**
SOC *e*SS SS 19 15 56.9 -5.2
SOC pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
SOC pmax pmax
comp=N,4.0nm,0.8s
SOC pmax pmax
comp=E,2.0nm,0.6s
SOC MLR MLR
comp=Z,407nm,15.0s,MS4.2
SOC MLR MLR
comp=N,371nm,14.0s,MS4.3
SOC MLR MLR
comp=E,350nm,15.0s,MS4.3
SOC Sochi 31.91 351 *e*PcP PcP 19 11 47.8 -3.9
KIV Kislovodsk 31.93 355*c i*P **P 19 09 01.3 -0.2**
KIV *e*S **S 19 14 17.7 +7.2**
KIV pmax pmax
comp=Z,38nm,1.2s,mb5.1
KIV MLR MLR
comp=Z,300nm,19.0s,MS4.0
KIV Kislovodsk 31.93 355 *e*P **P 19 09 02.0 +0.5**
comp=Z,38nm,1.3s,mb5.1
KIV Kislovodsk 31.93 355 *i* P **P 19 09 01.3 -0.2**
comp=Z,300nm,19.0s
LSZ Lusaka 32.46 214 *e*P **P 19 09 05.6 -0.7**
LSZ pmax pmax
comp=Z,35nm,1.6s,mb4.9
LSZ Lusaka 32.46 214 *e*P **P 19 09 05.6 -0.7**
comp=Z,35nm,1.6s,mb4.9
LSZ Lusaka 32.46 214 *e*P **P 19 09 05.6 -0.7**
comp=Z,35nm,1.6s,mb4.9
GOF Gofitskoye 33.00 356⇑ *i*P **P 19 09 09.9 -0.9**
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.1
GOF Gofitskoye 33.00 356 *i* P **P 19 09 09.9 -0.9**
comp=Z,30nm,1.3s,mb5.1
ANN Anapa 33.48 349 *e*P **P 19 09 14.7 -0.2**
ANN *e*S **S 19 14 38.6 +4.0**
ANN pmax pmax
comp=Z,14nm,1.5s,mb4.7
ANN MLR MLR
comp=N,777nm,14.0s,MS4.6
ANN MLR MLR
comp=E,177nm,14.0s,MS4.6
ANN MLR MLR
comp=Z,635nm,14.0s,MS4.5
ANN Anapa 33.48 349 *e*P **P 19 09 14.7 -0.2**
comp=Z,14nm,1.5s,mb4.7
SIM Simferopol' 34.37 345 *e*P **P 19 09 23.7 +1.1**
SIM pmax pmax
comp=Z,12nm,0.9s,mb4.8
SIM MLR MLR
comp=Z,150nm,16.0s,MS3.8
SIM Simferopol' 34.37 345 *e*P **P 19 09 23.7 +1.1**
comp=Z,150nm,16.0s
TIRR Tirgusor 35.71 338⇑P **P 19 09 34.6 +0.5**
CFR Carcaliu 36.43 338⇓P **P 19 09 41.4 +1.3**
MLR Muntele Rosu 37.52 336 P **P 19 09 51.5 +2.2**
comp=Z,5.7nm,0.8s,mb4.3,baz=354,slow=19
MLR PcP PcP 19 12 10.2 +2.4
baz=143,slow=11
MLR LR LR 19 25 27.6
comp=Z,396nm,18.4s,MS4.2,baz=156,slow=37
MLR Muntele Rosu 37.52 336⇓P **P 19 09 51.6 +2.4**
MLR Muntele Rosu 37.52 336⇓P **P 19 09 51.7 +2.5**
VRI Vrincioaia 37.53 338⇑P **P 19 09 51.0 +1.6**
AML Almayashu 38.38 34 P **P 19 09 58.4 +1.8**
SNR=17
EKS2 Erkin-Say 38.79 33 P **P 19 10 01.1 +1.1**
SNR=10
UCH Uchtor 38.90 34 P **P 19 10 02.6 +1.7**
SNR=11
DIVS Divcibare 39.06 330⇓ *i*P **P 19 10 02.2 0.0**
DIVS Divcibare 39.06 330 P **P 19 10 02.2 -0.1**
AAK Ala-Archa 39.16 34 P **P 19 10 04.2 +1.1**
SNR=7.1
AAK Ala-Archa 39.16 34 *e*P **P 19 10 02.6 -0.5**
AAK pmax pmax
comp=Z,41nm,1.8s,mb4.9
AAK Ala-Archa 39.16 34 *e*P **P 19 10 02.6 -0.4**
comp=Z,41nm,1.8s,mb4.9
AAK Ala-Archa 39.16 34 *e*P **P 19 10 02.6 -0.5**
comp=Z,41nm,1.8s,mb4.9
KZA Kyzart 39.20 35 P **P 19 10 04.6 +1.1**
SNR=6.4
KBK Karagaybulak 39.42 34 P **P 19 10 07.5 +2.3**
SNR=9.6
VRSR Storozhevoye 39.47 353 *e*P **P 19 10 05.1 -0.4**
BURAR Bucovina Array 39.56 338⇑P **P 19 10 08.1 +1.7**
BURAR Bucovina Array 39.56 338⇑P **P 19 10 08.1 +1.7**
USP Ospenovka 39.59 33 P **P 19 10 07.2 +0.5**
SNR=5.0
VOR Voronezh 39.97 353 *e*P **P 19 10 09.7 0.0**
VOR pmax pmax
comp=Z,80nm,1.5s,mb5.2
VOR Voronezh 39.97 353 *e*P **P 19 10 09.7 0.0**
comp=Z,80nm,1.5s,mb5.2
AKASG Malin Array Be 40.96 344 P **P 19 10 17.8 0.0**
comp=Z,0.6nm,0.3s,mb3.7,baz=160,slow=7.2,SNR=19
AKASG PP PP 19 11 53.8 -1.6
comp=Z,2.2nm,0.8s,baz=156,slow=9.9,SNR=8.8
KOLS Kolonicke sedl 41.77 336 *e*P **P 19 10 26.2 +1.7**
LVV L'vov 41.84 339 *e*P **P 19 10 32.1 +7.1**
LVV *e* 19 20 23.7
LVV MLR MLR
comp=Z,200nm,16.0s,MS4.1
LVV MLR MLR
comp=N,100nm,15.0s,MS4.0
LVV MLR MLR
comp=E,100nm,15.0s,MS4.0
LVV L'vov 41.84 339 *e*ScS ScS 19 20 23.7 -1.4
comp=E,200nm,16.0s
TSUM Tsumeb 41.92 223 *e*P **P 19 10 25.9 -0.2**
TSUM Tsumeb 41.92 223 *e*P **P 19 10 25.9 -0.2**
LBTB Lobatse 41.95 208 P **P 19 10 27.2 +0.9**
comp=E,3.0nm,0.8s,mb4.0,baz=40,slow=12,SNR=3.7
LBTB Lobatse 41.95 208 P **P 19 10 25.5 -0.8**
PSZ Piszkesteto 41.96 334 *e*P **P 19 10 26.4 +0.3**
PSZ pmax pmax
comp=Z,13nm,0.9s,mb4.6
PSZ Piszkesteto 41.96 334 *e*P **P 19 10 26.4 +0.3**
comp=Z,13nm,0.9s,mb4.6
PSZ Piszkesteto 41.96 334⇓ *e*P **P 19 10 27.2 +1.1**
PSZ Piszkesteto 41.96 334 *e*P **P 19 10 26.4 +0.3**
comp=Z,13nm,0.9s,mb4.6
CRVS Cervenica-Dubn 42.07 336 *e*P **P 19 10 33.9 +7.0**
CRVS Cervenica-Dubn 42.07 336 *e*sP sP 19 10 33.9 -0.9
KECS Kecovo 42.14 335 *e*P **P 19 10 35.0 +7.5**
KECS Kecovo 42.14 335 *e* **P 19 10 35.0 +7.5**
KWP Kalwaria 42.17 337 *e*P **P 19 10 28.8 +1.0**
VYHS Vyhne 42.86 333 *i* P **P 19 10 33.9 +0.5**
VYHS *e*sP sP 19 10 38.5 -2.8
OBN Obninsk 43.62 352⇓ *i*P **P 19 10 39.7 +0.2**
OBN pmax pmax
comp=Z,31nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.0
OBN Obninsk 43.62 352 *i* P **P 19 10 39.7 +0.2**
comp=Z,200nm,19.0s
OJC Ojcow 43.77 336 *e*P **P 19 10 42.6 +1.8**
MOS Moscow 44.09 353 *e*P **P 19 10 42.9 -0.4**
MOS pmax pmax
comp=Z,71nm,1.5s,mb5.2
MOS Moscow 44.09 353 *e*P **P 19 10 42.9 -0.4**
comp=Z,71nm,1.5s,mb5.2
OKC Ostrava-Krasne 44.17 334 *e*P **P 19 10 50.2 +6.2**
OKC MLR MLR
comp=Z,900nm,6.0s
MORC Moravsky Berou 44.38 334 *e*P **P 19 10 45.9 +0.1**
MORC pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
MORC Moravsky Berou 44.38 334 *e*P **P 19 10 45.9 +0.2**
comp=Z,8.7nm,0.8s,mb4.5
MORC Moravsky Berou 44.38 334 *e*P **P 19 10 45.9 +0.1**
comp=Z,8.7nm,0.8s,mb4.5
VRAC Vranov 44.46 333 P **P 19 10 46.8 +0.4**
comp=Z,5.5nm,0.7s,mb4.4,baz=94,slow=8.2,SNR=5.4
BVAR Borovoye Array 45.24 20 P **P 19 10 52.0 -0.5**
comp=Z,3.2nm,0.6s,mb4.3,baz=214,slow=7.0,SNR=25
BVAR PcP PcP 19 12 32.1 -0.9
comp=Z,1.2nm,0.7s,baz=225,slow=4.1,SNR=2.8
BVAR Borovoye Array 45.24 20 PcP PcP 19 12 32.1 -0.9
DPC Dobruska-Polom 45.34 333 *e*P **P 19 10 53.6 +0.2**
DPC *e*pP pP 19 10 59.3 +0.3
DPC AMS AMS 19 32 10.0
comp=Z,300nm,17.5s
GERES GERESS Array B 45.49 330 P **P 19 10 54.9 +0.3**
comp=Z,5.9nm,0.8s,mb4.5,baz=135,slow=7.5,SNR=48
GERES LR LR 19 30 05.9
comp=Z,208nm,18.2s,MS4.1,baz=308,slow=36
UPC Upice 45.59 333 *e*P **P 19 10 55.8 +0.4**
UPC *e*pP pP 19 11 01.3 +0.3
SUW Suwalki 45.65 341 *e*P **P 19 10 56.2 +0.4**
KSP Ksiaz 45.71 334 *e*P **P 19 10 50.2 -6.1**
KSP Ksiaz 45.71 334 *e*P **P 19 10 55.5 -0.8**
KHC Kasperske Hory 45.74 330 *e*P **P 19 10 56.3 -0.3**
KHC *e*pP pP 19 11 02.8 +0.6
KHC AMS AMS 19 28 30.0
comp=Z,300nm,18.3s
PRU Pruhonice 45.88 332 *e*P **P 19 10 57.6 -0.1**
PRU *e*pP pP 19 11 03.6 +0.3
PRU AMS AMS 19 29 20.0
comp=Z,300nm,12.0s
SBF Sospel 45.95 321 *e*P **P 19 10 57.9 -0.4**
comp=Z,22nm,0.8s,mb4.8
SBF Sospel 45.95 321 *e*P **P 19 10 57.9 -0.4**
SBF pmax pmax
comp=Z,11nm,0.8s,mb4.8
SVE Sverdlovsk 46.05 11 *e*P **P 19 10 58.8 -0.2**
SVE pmax pmax
comp=Z,20nm,1.3s,mb4.9
SVE Sverdlovsk 46.05 11 *e*P **P 19 10 58.8 -0.2**
comp=Z,20nm,1.3s,mb4.9
MKAR Makanchi Array 46.09 34 P **P 19 10 58.2 -1.1**
comp=Z,3.9nm,0.9s,mb4.3,baz=219,slow=7.8,SNR=14
MKAR LR LR 19 34 26.2
comp=Z,192nm,18.4s,MS4.1,baz=233,slow=42
PVCC Panska Ves 46.25 332 *e*P **P 19 11 00.7 +0.1**
PVCC *e*pP pP 19 11 06.3 +0.1
PVCC AMS AMS 19 30 40.0
comp=Z,500nm,9.6s
BRG Berggiesshubel 46.77 332 *e*P **P 19 11 04.3 -0.4**
BRG pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BRG Berggiesshubel 46.77 332 *e*P **P 19 11 04.3 -0.4**
comp=Z,5.8nm,0.8s,mb4.6
KURK Kurchatov 46.78 28⇑ *i*P **P 19 11 03.8 -1.0**
KURK Kurchatov 46.78 28 *i* P **P 19 11 03.8 -1.0**
MBDF Montbardon 46.81 322 *e*P **P 19 11 05.6 +0.5**
comp=Z,10.0nm,0.7s,mb4.5
MBDF Montbardon 46.81 322 *e*P **P 19 11 05.6 +0.5**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
NKC Novy Kostel 47.03 331 *e*P **P 19 11 06.7 -0.1**
NKC *e* pP 19 11 12.9 +0.5
NKC MLR MLR
comp=Z,600nm,7.2s
NKC Novy Kostel 47.03 331 P **P 19 11 06.7 -0.1**
LPG La Plagne 47.23 323 *e*P **P 19 11 08.6 +0.2**
comp=Z,31nm,1.3s,mb4.8
LPG La Plagne 47.23 323 *e*P **P 19 11 08.6 +0.2**
LPG pmax pmax
comp=Z,15nm,1.3s,mb4.8
LPL La Plagne 47.25 323 *e*P **P 19 11 08.9 +0.3**
comp=Z,9.7nm,0.9s,mb4.4
LPL La Plagne 47.25 323 *e*P **P 19 11 08.9 +0.3**
LPL pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GRA1 Grafenberg Arr 47.27 330 *e*P **P 19 11 06.8 -1.9**
comp=Z,10.0nm,1.4s,mb4.5
GRF Grafenberg Arr 47.27 330 *e*P **P 19 11 06.8 -1.9**
GRF pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
GRF Grafenberg Arr 47.27 330 *e*P **P 19 11 06.8 -1.9**
GRF pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
GRF Grafenberg Arr 47.27 330 *e*P **P 19 11 06.8 -1.9**
comp=Z,10.0nm,1.4s,mb4.5
CLL Collm 47.50 332 *i* P **P 19 11 10.1 -0.4**
CLL *i* pP 19 11 15.3 -0.8
CLL pmax pmax
comp=Z,34nm,1.9s,mb5.0
CLL Collm 47.50 332 *i* P **P 19 11 10.1 -0.4**
comp=Z,34nm,1.9s,mb5.0
CLL *i* pP 19 11 15.3 -0.8
CLL Collm 47.50 332 P **P 19 11 10.1 -0.4**
comp=Z,logA/T=1.3,mb5.1
CLL *i* *PP pP 19 11 15.3 -0.8
WMQ Urumqi 47.69 40 P **P 19 11 11.7 -0.4**
WMQ AP pP 19 11 16.2 -1.5
WMQ XP sP 19 11 18.7 -1.3
WMQ PCP PcP 19 12 41.2 -0.6
WMQ PP PP 19 13 02.7 -0.4
WMQ SCP 19 16 33.7
WMQ S **S 19 18 06.2 +0.1**
WMQ XS 19 18 13.7
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,143nm,3.5s
WMQ LR LR
comp=N,228nm,23.5s,MS4.1
WMQ LR LR
comp=E,185nm,28.0s,MS4.1
WMQ LR LR
comp=Z,167nm,27.2s,MS3.9
MOX Moxa 47.70 331 *e*P **P 19 11 11.4 -0.7**
MOX pmax pmax
comp=Z,18nm,1.6s,mb4.8
MOX Moxa 47.70 331 *i* P **P 19 11 11.4 -0.7**
comp=Z,logA/T=1.1,mb4.9
MOX Moxa 47.70 331 *e*P **P 19 11 11.4 -0.7**
comp=Z,18nm,1.6s,mb4.8
CABF La Chapelle 48.21 323 *e*P **P 19 11 17.1 +1.0**
HAU Haudompre 48.83 325 *e*P **P 19 11 22.0 +1.2**
MEZF Maizieres J'vi 49.82 325 *e*P **P 19 11 28.8 +0.3**
comp=Z,68nm,1.2s,mb5.2
SSF Saint Saulge 49.96 323 *e*P **P 19 11 30.2 +0.6**
SSF pmax pmax
comp=Z,33nm,1.7s,mb5.1
SSF Saint Saulge 49.96 323 *e*P **P 19 11 30.2 +0.6**
comp=Z,32nm,1.7s,mb5.1
DBIC Dimbokro 50.56 269 *e*P **P 19 11 35.4 +0.8**
DBIC pmax pmax
comp=Z,28nm,1.4s
DBIC Dimbokro 50.56 269 P **P 19 11 36.1 +1.6**
comp=Z,7.8nm,1.1s,mb4.5,baz=90,slow=20,SNR=3.4
DBIC LR LR 19 32 37.4
comp=Z,206nm,18.2s,MS4.2,baz=62,slow=36
DBIC Dimbokro 50.56 269 *e*P **P 19 11 35.4 +0.8**
comp=Z,28nm,1.4s,mb5.0
DBIC Dimbokro 50.56 269 *e*P **P 19 11 35.4 +0.8**
comp=Z,28nm,1.4s,mb5.0
CM31 Chiang Mai Arr 51.18 76 *e*P **P 19 11 38.3 -0.9**
comp=Z,11nm,1.0s,mb4.7
CM31 Chiang Mai Arr 51.18 76 *e*P **P 19 11 38.3 -0.9**
comp=Z,11nm,1.0s,mb4.7
CMAR Chiang Mai Arr 51.18 76 P **P 19 11 38.2 -1.0**
comp=Z,1.1nm,0.6s,mb4.0,baz=271,slow=8.1,SNR=10
FINES FINESS Array B 51.43 348 P **P 19 11 40.0 -0.6**
comp=Z,4.5nm,0.9s,mb4.4,baz=149,slow=11,SNR=9.6
FINES LR LR 19 33 52.1
comp=Z,127nm,18.6s,MS4.0,baz=170,slow=36
ZAL Zalesovo 51.75 28 P **P 19 11 41.4 -1.7**
comp=Z,2.7nm,0.6s,mb4.3,baz=239,slow=8.9,SNR=11
ZAL LR LR 19 35 34.3
comp=Z,144nm,20.2s,MS4.0,baz=98,slow=38
HFS Hagfors 53.65 341 P **P 19 11 55.7 -1.4**
baz=141,slow=9.2
GTA Gaotai 54.53 50 *e*P **P 19 12 02.5 -1.4**
GTA AP pP 19 12 07.1 -2.5
GTA XP sP 19 12 09.4 -2.3
GTA PP PP 19 14 06.3 -1.5
GTA PPP PPP 19 15 17.8 -1.1
GTA S **S 19 19 40.5 +0.1**
GTA XS 19 19 49.3
GTA SS SS 19 23 21.8 -1.0
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,84nm,6.9s
GTA LR LR
comp=N,124nm,15.6s,MS4.3
GTA LR LR
comp=E,183nm,17.1s,MS4.3
GTA LR LR
comp=Z,115nm,14.5s,MS4.1
ROSF Rostrenen 54.62 322 *e*P **P 19 12 06.0 +1.6**
comp=Z,252nm,1.7s,mb5.7
ROSF Rostrenen 54.62 322 *e*P **P 19 12 06.0 +1.6**
ROSF pmax pmax
comp=Z,126nm,1.7s,mb5.7
KMI Kunming 54.83 68 P **P 19 12 04.5 -1.8**
KMI AP pP 19 12 08.8 -3.2
KMI AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
KMI LR LR
comp=Z,34nm,21.2s,MS3.4
KMI Kunming 54.83 68 P **P 19 12 04.5 -1.8**
comp=Z,7.0nm,1.0s,mb4.7
KMI pP pP 19 12 08.8 -3.2
NB2 NORSAR Subarra 55.15 340 P **P 19 12 04.3 -3.8**
comp=Z,13nm,1.4s,mb4.8,baz=133,slow=7.4
NOA NORSAR Array B 55.15 340 P **P 19 12 06.4 -1.7**
comp=Z,0.5nm,0.7s,mb3.6,baz=117,slow=8.0,SNR=4.0
NOA LR LR 19 36 40.0
comp=Z,134nm,19.8s,MS4.0,baz=145,slow=37
LZH Lanzhou 56.96 55 *e*P **P 19 12 21.0 -0.5**
LZH AP pP 19 12 26.2 -1.0
LZH XP sP 19 12 28.0 -1.4
LZH PP PP 19 14 29.2 -0.5
LZH *e*S **S 19 20 12.0 -0.8**
LZH XS 19 20 20.2
LZH *e*SS SS 19 24 01.0 -1.7
LZH AMB AMB
comp=Z,26nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,82nm,4.5s
LZH LR LR
comp=E,645nm,16.5s
LZH LR LR
comp=Z,956nm,17.8s,MS4.9
LZH Lanzhou 56.96 55 *e*P **P 19 12 21.0 -0.5**
comp=Z,26nm,1.5s,mb5.0
LZH pP pP 19 12 26.2 -1.0
LZH sP sP 19 12 28.0 -1.4
LZH PP PP 19 14 29.2 -0.5
LZH *e*S **S 19 20 12.0 -0.8**
LZH sS 19 20 20.2
LZH *e*SS SS 19 24 01.0 -1.7
LZH Lanzhou 56.96 55 *e*P **P 19 12 21.0 -0.5**
comp=Z,26nm,1.5s,mb5.0
LZH pP pP 19 12 26.2 -1.0
LZH *e*S **S 19 20 12.0 -0.8**
EKA Eskdalemuir Ar 57.68 329 P **P 19 12 27.9 +1.6**
comp=Z,3.2nm,0.8s,mb4.4,baz=131,slow=6.5,SNR=4.7
GYA Guiyang 58.42 66 P **P 19 12 29.9 -2.0**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
XAN Xi'an 60.83 58 P **P 19 12 45.4 -3.0**
XAN AP pP 19 12 51.8 -2.4
XAN AMB AMB
comp=Z,5.0nm,1.2s,mb4.5
SONM Songino Array 61.28 42 P **P 19 12 50.4 -0.8**
comp=Z,2.7nm,0.9s,mb4.4,baz=248,slow=6.7,SNR=11
ULN Ulaanbaatar 61.72 42 *e*P **P 19 12 52.8 -1.4**
ULN pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ULN Ulaanbaatar 61.72 42 *e*P **P 19 12 52.8 -1.4**
comp=Z,3.8nm,0.9s,mb4.5
ULN Ulaanbaatar 61.72 42 *e*P **P 19 12 52.8 -1.4**
comp=Z,3.8nm,0.9s,mb4.5
BJI Beijing 67.07 52 *e*P **P 19 13 28.8 -0.4**
BJI S S 19 22 20.5 -0.1
BJI AMB AMB
comp=Z,7.0nm,1.1s,mb4.6
BJI LR LR
comp=Z,93nm,30.0s,MS3.8
BJI Beijing 67.07 52 *e*P **P 19 13 28.8 -0.4**
comp=Z,7.0nm,1.1s,mb4.6
BJI S S 19 22 20.5 -0.1
BJI SS SS 19 26 57.6 +16
BOD Bodaibo 68.12 32 *e*P **P 19 13 32.1 -3.3**
NJ2 Nanjing 69.11 60 *e*P **P 19 13 39.8 -2.2**
NJ2 AMB AMB
comp=Z,20nm,1.2s,mb4.9
SSE Sheshan 71.13 61 P **P 19 13 51.5 -2.9**
SSE AMB AMB
comp=Z,41nm,0.6s,mb5.5
SSE AMB AMB
comp=Z,101nm,3.8s
SSE Sheshan 71.13 61 P **P 19 13 51.5 -2.9**
comp=Z,41nm,0.6s,mb5.5
CN2 Changchun 74.06 48 *e*P **P 19 14 11.1 -0.3**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
TIXI Tiksi 76.34 19⇓ *i*P **P 19 14 23.0 -0.9**
TIXI pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
YAK Yakutsk 76.41 29 *e*P **P 19 14 22.8 -1.7**
YAK *e* pP 19 14 30.3 0.0
YAK pmax pmax
comp=Z,21nm,1.0s,mb5.0
YAK Yakutsk 76.41 29 *e*P **P 19 14 22.8 -1.6**
comp=Z,21nm,1.0s,mb5.0
YAK *e* pP 19 14 30.3 0.0
SUMG Summit 76.97 342 *e*P **P 19 14 28.3 +0.9**
comp=Z,8.9nm,0.9s,mb4.7
KLR Kul'dur 78.12 42 *e*P **P 19 14 36.2 +2.0**
NWAO Narrogin (SRO) 81.11 126 P **P 19 14 51.0 +0.4**
comp=Z,13nm,1.0s,mb4.8,baz=314,slow=9.5,SNR=3.6
NWAO Narrogin (SRO) 81.11 126 P **P 19 14 51.0 +0.3**
FITZ Fitzroy Crossi 83.93 110 P **P 19 15 05.8 +0.3**
comp=Z,7.7nm,0.9s,mb4.8,baz=273,slow=3.2,SNR=5.4
MJAR Matsushiro Ar 84.56 54 P **P 19 15 08.2 -0.2**
comp=Z,1.7nm,0.7s,mb4.3,baz=288,slow=4.1,SNR=4.7
MA2 Magadan 86.96 30 *e*P **P 19 15 19.8 +0.1**
MA2 pmax pmax
comp=Z,5.0nm,1.6s,mb4.5
BILL Bilibino 89.56 19⇑ *e*P **P 19 15 32.0 +0.1**
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.7
WRA Warramunga Arr 92.36 110 P **P 19 15 46.8 +0.8**
comp=Z,3.3nm,0.9s,mb4.7,baz=297,slow=3.6,SNR=12
WRAB Tennant Creek 92.37 110 *e*P **P 19 15 46.0 0.0**
WRAB pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
WRAB Tennant Creek 92.37 110 *e*P **P 19 15 46.0 0.0**
comp=Z,5.1nm,0.7s,mb5.0
ASAR Alice Springs 92.72 113 P **P 19 15 48.5 +0.9**
comp=Z,2.0nm,0.9s,mb4.5,baz=290,slow=4.4,SNR=11
YKA Yellowknife Ar 104.19 351 PP PP 19 20 55.3 -3.7
comp=Z,0.7nm,0.9s,baz=16,slow=6.8,SNR=6.4
PDAR Pinedale Array 121.08 339 PKP PKPdf 19 21 28.2 -2.4
comp=Z,0.2nm,0.4s,baz=41,slow=9.6,SNR=2.7
NVAR Mina Array Bea 127.72 345 PKP PKPdf 19 21 42.0 -1.6
comp=Z,0.9nm,0.4s,baz=112,slow=4.9,SNR=3.3
NVAR Mina Array Bea 127.72 345 PKP PKPdf 19 21 42.0 -1.6

NEIC ***07*** *19:05:18.8±2.8, 18.22S×174.57W,h161km±15km,mb4.3/1, Error ellipse: s-maj=77.5km s-min=10.1km az=145.0*
IDC ***07*** *19:05:21.0±3.8, 17.58S×174.94W,h162km±22km,mb3.9/6, mb1 4.1/7,mb1mx3.8/19,mbtmp4.4/7,Error ellipse: s-maj=112.1km s-min=14.8km az=143.0*
ISC 07 19:05:20.5±3.2,17.5S±0.7×175.1W±0.6,h171km±30km, n18,σ0=92/15,mb4.1/7,1C-1D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.75**	**42**	P	**P**	**19 06 33.3**	**+1.4**
	23nm,0.3s,baz=176,slow=1.6,SNR=30						
AFI				S	**S**	**19 07 26.0**	**-1.1**
	47nm,0.3s,baz=36,slow=20,SNR=18						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	4.75	42	P	P	19 06 33.3	+1.4
AFI				*e*Pn	P	19 06 33.5	+1.6
AFI				*e*Sn	S	19 07 23.7	-3.4
CTA	**Charters Tower**	36.66	260	P	P	19 12 13.4	+0.9
	2.1nm,0.4s,mb4.1,baz=76,slow=11,SNR=4.6						
STKA	**Stephens Creek**	41.63	242	P	P	19 12 53.2	-0.4
	0.5nm,0.3s,mb3.5,baz=32,slow=17,SNR=3.5						
STKA	**Stephens Creek**	41.63	242	P	P	19 12 51.2	-2.4
WB2	**Warramunga Arr**	47.84	259	⇑*i*P	P	19 13 42.6	-0.4
WRAB	**Tennant Creek**	47.84	259	*e*P	P	19 13 42.5	-0.5
	4.8nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	47.85	259	P	P	19 13 43.0	0.0
	2.2nm,0.4s,mb4.1,baz=95,slow=6.9,SNR=118						
ASAR	**Alice Springs**	47.98	254	P	P	19 13 44.5	+0.4
	19nm,0.6s,mb4.9,baz=89,slow=8.7,SNR=428						
ASPA	**Alice Springs**	47.98	254	⇓*i*P	P	19 13 44.0	0.0
FITZ	**Fitzroy Crossi**	56.25	260	P	P	19 14 45.3	-0.2
	1.9nm,0.3s,mb4.4,baz=169,slow=5.7,SNR=16						
ILAR	**Eielson Array**	84.79	12	P	P	19 17 37.0	+0.7
	0.5nm,0.5s,mb3.5,baz=230,slow=5.8,SNR=11						
BVAR	**Borovoye Array**	118.52	321	PKP	PKPdf	19 23 48.5	+0.9
	0.6nm,0.6s,baz=45,slow=2.1,SNR=4.9						
ARCES	**ARCESS Array B**	126.42	351	PKP	PKPdf	19 24 03.6	+1.2
	4.6nm,0.9s,baz=14,slow=3.7,SNR=4.4						
FINES	**FINESS Array B**	133.60	346	PKP	PKPdf	19 24 17.7	+1.3
	1.7nm,1.0s,baz=333,slow=8.5,SNR=3.8						
FINES	**FINESS Array B**	133.60	346	PKP	PKPdf	19 24 17.7	+1.3
BRTR	**Keskin Array B**	146.69	318	PKPbc	PKPbc	19 24 44.6	+2.7
	0.9nm,0.6s,baz=117,slow=2.8,SNR=4.2						
GERES	**GERESS Array B**	147.92	349	PKPbc	PKPdf	19 24 47.4	+5.5
	0.4nm,0.5s,baz=45,slow=1.9,SNR=5.6						

*IDC **07** 19:11:36.0±2.4, 1.55N×97.10E, mb3.7/5, mb1 3.8/6, mb1mx3.7/20, mbtmp3.7/6, ML3.5/1, Error ellipse: s-maj=96.7km s-min=21.4km az=58.0*
*NEIC **07** 19:11:39.5±0.7, 1.48N×96.95E, h30km, mb4.2/3, Error ellipse: s-maj=14.6km s-min=12.1km az=58.0*

ISC 07 19:11:37.6±0.9, 1.5N±0.1×97.0E±0.1, h30km, n12, σ0§84/12, mb3.9/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	5.28	44	*e*Pn	Pn	19 12 55.8	-0.8
KSM	**Kuching**	13.34	90	*e*P	P	19 14 38.5	-9.1
CMAR	**Chiang Mai Arr**	16.99	6	Pn	P	19 15 34.0	-0.8
	0.1nm,0.3s,baz=197,slow=11,SNR=4.2						
KKM	**Kota Kinabalu**	19.73	76	*e*P	P	19 16 07.4	-0.7
KMI	**Kunming**	24.17	13	P	P	19 16 54.2	+1.7
	9.0nm,1.2s,mb4.1						
WRA	**Warramunga Arr**	42.38	122	P	P	19 19 31.7	+0.4
	0.2nm,0.3s,mb3.2,baz=304,slow=9.0,SNR=4.8						
ASAR	**Alice Springs**	43.75	127	P	P	19 19 42.7	+0.3
	0.4nm,0.7s,mb3.2,baz=298,slow=8.2,SNR=4.2						
SONM	**Songino Array**	46.90	9	P	P	19 20 07.8	+0.7
	2.0nm,0.7s,mb4.2,baz=188,slow=7.2,SNR=7.6						
MKAR	**Makanchi Array**	46.92	346	P	P	19 20 08.3	+0.9
	2.2nm,0.7s,mb4.2,baz=164,slow=7.5,SNR=20						
ULN	**Ulaanbaatar**	47.03	9	*e*P	P	19 20 08.2	0.0
	2.2nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	55.92	341	P	P	19 21 14.6	-0.5
	0.6nm,0.7s,mb3.8,baz=149,slow=8.6,SNR=4.9						
KMBO	**Kilima Mbogo**	59.76	268	P	P	19 21 41.5	-1.1
	3.8nm,1.2s,mb4.3						

*TEH **07** 19:13:18.4, 32.49N×45.73E, h10km, Mn3.5*
*IDC **07** 19:13:25.3±2.7, 32.94N×46.37E, mb3.6/8, mb1 3.8/8, mb1mx3.6/20, mbtmp3.6/8, MS3.8/1, Ms1 3.9/1, ms1mx3.1/23, Error ellipse: s-maj=64.2km s-min=24.2km az=26.0*
*CSEM **07** 19:13:27.1±0.2, 33.11N×46.36E, h20km, mb3.6/1, ML4.0/1, Error ellipse: s-maj=6.4km s-min=2.9km az=17.0*
*THR **07** 19:13:28.3±0.6, 33.11N×46.62E, h37km±6km, ML3.1*
*NEIC **07** 19:13:30.4±3.5, 33.06N×46.43E, h31km±24km, mb3.5/1, ML3.1(THR), MN3.5(TEH), Error ellipse: s-maj=18.1km s-min=8.4km az=216.0*

ISC 07 19:13:30.0±1.0, 33.02N±0.08×46.48E±0.06, h48km±8km, n31, σ1§07/36, mb3.6/8, MS3.8/1, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	1.31	3	Pn	P	19 13 51.5	-0.9
IKOM	**Komasi**	1.44	36	Pn	P	19 13 54.1	-0.1
IVIS	**Veys**	1.53	11	Pn	P	19 13 55.4	-0.1
IDHR	**Dehrash**	1.68	357	Pn	P	19 13 58.2	+0.7
BHD	**Baghdad**	1.78	279	*i* Pb	Px	19 14 03.5	
BHD				*i* Sb	Sx	19 14 21.0	
BHD				*i* Sn	Sx	19 14 23.0	
BHD	**Baghdad**	1.78	279	*i* S	S	19 14 21.0	+0.5
SHGR	**Shooshtar-Gavs**	2.16	114	*e*Pg	P	19 14 05.0	+0.7
SHGR	**Shooshtar-Gavs**	2.16	114	*e*PG	P	19 14 05.8	+1.4
SHGR				AML	AML	19 15 06.9	
	comp=N,103nm,0.7s						
SNGE	**Sanandaj**	2.19	19	*e*Pg	P	19 14 05.0	+0.3
SNGE				*e*Sg	S	19 14 32.0	+1.3
SNGE	**Sanandaj**	2.19	19	*e*PG	P	19 14 05.1	+0.4
SNGE				*e*SG	S	19 14 32.6	+1.9
SNGE				AML	AML	19 14 38.3	
	comp=N,183nm,0.6s						
SNGE	**Sanandaj**	2.19	19	*e*Pg	P	19 14 05.1	+0.4
	SNR=96						
SNGE				*e*Sg	S	19 14 32.6	+1.9
	comp=N,183nm,0.6s,SNR=96						
ASAO	**Ashtian**	3.32	62	*e*Pn	P	19 14 17.0	-3.8
ASAO				*e*Sg	S	19 15 05.0	+5.6
ASAO	**Ashtian**	3.32	62	*e*PN	P	19 14 18.0	-2.8
ASAO				*e*SG	S	19 15 05.1	+5.7
ASAO				AML	AML	19 15 22.8	
	comp=N,40nm,0.8s						
ASAO	**Ashtian**	3.32	62	*e*Pn	P	19 14 18.0	-2.8
	SNR=54						
ASAO				*e*Sg	S	19 15 05.1	+5.7
	comp=N,40nm,0.8s,SNR=94						
IRAZ	**Razeghan**	3.72	49	Pn	P	19 14 26.7	+0.3
IRAZ				Sn	S	19 15 17.3	+7.9
IQOM	**Qom**	4.22	63	Pn	P	19 14 33.2	-0.4
MSL	**Mosul**	4.30	320	*e*Pn	Px	19 14 41.0	
MSL				*e*Pg	Px	19 14 54.0	
MSL				*e*Sn	Sx	19 15 23.5	
MSL				*e*Sg	Sx	19 15 39.5	
IVRN	**Varamin**	4.78	64	Pn	P	19 14 40.7	-0.7
IDMV	**Damavand**	5.25	59	Pn	P	19 14 47.4	-0.6
MALT	**Malatya**	8.42	311	Pn	P	19 15 22.8	-9.2
MLR	**Muntele Rosu**	20.13	314	P	P	19 18 01.5	-1.1
	comp=N,0.7nm,0.6s,baz=105,slow=18,SNR=2.8						
AKASG	**Malin Array Be**	21.76	329	P	P	19 18 17.4	-1.7
	comp=N,0.5nm,0.5s,mb3.2,baz=142,slow=11,SNR=5.6						
BVAR	**Borovoye Array**	26.34	33	P	P	19 19 02.7	-0.4
	comp=N,1.0nm,0.8s,mb3.4,baz=225,slow=10,SNR=4.9						
BVAR				ScP		19 26 07.7	
	comp=N,0.6nm,0.8s,baz=225,slow=2.0,SNR=4.5						
CHKZ	**Chkalovo**	26.86	33	P	P	19 19 06.1	-1.9
	comp=N,1.2nm,0.9s,mb3.4						
CHKZ	**Chkalovo**	26.86	33	P	P	19 19 06.1	-1.9
	comp=N,1.1nm,0.9s,mb3.4						
MKAR	**Makanchi Array**	30.43	53	P	P	19 19 41.0	+1.0
	comp=N,0.8nm,0.6s,mb3.6,baz=243,slow=9.7,SNR=12						
FINES	**FINESS Array B**	31.35	341	P	P	19 19 47.3	-0.7
	comp=N,4.0nm,1.1s,mb4.1,baz=208,slow=37,SNR=3.1						
FINES	**FINESS Array B**	31.35	341	P	P	19 19 47.2	-0.8
ARCES	**ARCESS Array B**	38.41	348	P	P	19 20 49.8	+1.7
	comp=N,2.0nm,0.9s,mb3.9,baz=297,slow=5.4,SNR=3.0						
ARCES				LR	LR	19 39 23.6	
	comp=N,156nm,21.4s,MS3.8,baz=301,slow=40						
CMAR	**Chiang Mai Arr**	48.96	94	P	P	19 22 14.6	+0.8
	comp=N,0.6nm,0.7s,mb3.8,baz=292,slow=9.1,SNR=5.1						
YKA	**Yellowknife Ar**	83.61	351	P	P	19 25 55.6	+1.6
	comp=N,0.1nm,0.5s,mb3.2,baz=7.2,slow=5.5,SNR=4.7						

*NEIC **07** 19:20:24.7, 71.34N×7.19W, h14km, ML3.0(BER), After BER.*

BER 07 19:20:24.7±1.9, 71.34N×7.19W, h14km±8km, MD3.8, ML3.3, 4C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	0.51	226	⇑*i*P	Pb	19 20 33.4	-1.4
JNE				*e*S	Sb	19 20 40.4	-1.3
JNE				AML	AML	19 20 42.8	
	comp=Z,3μm,0.2s						
JNE	**Jan Mayen East**	0.51	226	⇑*i*P	Pb	19 20 33.4	-1.4
	SNR=104						
JNE				*e*S	Sb	19 20 40.4	-1.3
	comp=Z,3μm,0.2s,SNR=104						
JNW	**Jan Mayen West**	0.51	233	⇑*i*P	Pb	19 20 34.0	-1.0
JNW				*e*S	Sb	19 20 41.1	-0.8
JNW				AML	AML	19 20 42.1	
	comp=Z,3μm,0.2s						
JNW	**Jan Mayen West**	0.51	233	⇑*i*P	Pb	19 20 34.0	-0.9
	SNR=104						
JNW				*e*S	Sb	19 20 41.1	-0.8
	comp=Z,3μm,0.2s,SNR=104						
JMI	**Jan Mayen**	0.65	231	*e*P	Pb	19 20 35.6	-1.7
JMI				*e*S	Sb	19 20 44.3	-1.7
LOF	**Lofoten**	7.86	104	*e*P	Pn	19 22 15.6	-5.8
LOF				*e*S	Sn	19 23 36.4	-15
STOK	**Stokkvaagen**	8.83	115	*e*P	P	19 22 25.0	-10
STOK				*e*S	Sn	19 23 54.2	-21
STOK				AML	AML	19 23 58.5	
	comp=Z,6.4nm,0.5s						
STOK	**Stokkvaagen**	8.83	115	*e*P	P	19 22 25.0	-10
	SNR=48						
STOK				*e*S	Sn	19 23 54.2	-21
	comp=Z,6.4nm,0.5s,SNR=48						
MOR8	**Moi Rana**	9.36	113	*e*P	P	19 22 33.5	-8.7
MOR8				*e*S	Sn	19 24 09.2	-19
MOR8				AML	AML	19 24 15.6	
	comp=Z,5.0nm,0.6s						
MOR8	**Moi Rana**	9.36	113	*e*P	P	19 22 33.5	-8.8
	SNR=48						
MOR8				*e*S	Sn	19 24 09.2	-19
	comp=Z,5.0nm,0.6s,SNR=48						
NSS	**Namsos**	9.88	124	*e*P	P	19 22 38.2	-11
NSS				*e*S	Sn	19 24 19.6	-21
NSS				AML	AML	19 24 25.4	
	comp=Z,6.3nm,0.5s						
NSS	**Namsos**	9.88	124	*e*P	P	19 22 38.2	-11
	SNR=48						
NSS				*e*S	Sn	19 24 19.6	-21
	comp=Z,6.3nm,0.5s,SNR=48						

*BJI **07** 19:29:05.4, 0.37N×97.05E, h30km, mb4.6, Ms3.9, Msz3.8*
*IDC **07** 19:29:09.4±2.2, 1.20N×97.29E, mb3.9/7, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, ML3.9/1, MS3.1/1, Ms1 3.3/1, ms1mx3.2/34, Error ellipse: s-maj=96.6km s-min=17.8km az=59.0*
*NEIC **07** 19:29:13.8±0.8, 1.17N×97.27E, h30km, mb4.1/5, Error ellipse: s-maj=22.3km s-min=9.9km az=66.0*

ISC 07 19:29:11.8±0.9, 1.17N±0.10×97.2E±0.2, h30km, n17, σ0§93/17, mb4.0/12, MS3.8/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	5.33	40	*e*P	Pn	19 30 31.8	+0.3
KULM				*e*pP		19 30 38.1	
CM31	**Chiang Mai Arr**	17.26	5	P	P	19 33 11.9	-0.6
	4.8nm,0.9s						
CMAR	**Chiang Mai Arr**	17.26	5	P	P	19 33 10.8	-1.6
	0.2nm,0.3s,baz=195,slow=12,SNR=6.2						
CMAR				LR	LR	19 40 01.5	
	comp=Z,67nm,20.2s,baz=217,slow=38						
KMI	**Kunming**	24.40	12	P	P	19 34 31.4	+2.4
KMI				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.1						
KMI				LR	LR		
	comp=N,183nm,17.3s,MS3.8						
KMI				LR	LR		
	comp=E,180nm,16.3s,MS3.8						
KMI				LR	LR		
	comp=Z,214nm,14.4s,MS3.8						
KMI	**Kunming**	24.40	12	P	P	19 34 31.4	+2.4
	comp=Z,11nm,1.3s,mb4.1						
KMI				LR	LR		
	comp=Z,210nm,14.4s,MS3.8						
GTA	**Gaotai**	38.13	3	*e*P	P	19 36 30.2	+0.1
GTA				AP	pP	19 36 41.8	+2.7
GTA				XP	sP	19 36 46.1	+3.2
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	41.99	122	P	P	19 37 01.9	-0.4
	comp=Z,0.7nm,0.5s,mb3.5,baz=300,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	42.00	122	*e*P	P	19 37 02.5	+0.1
	comp=Z,4.9nm,1.0s,mb4.1						
ASAR	**Alice Springs**	43.35	127	P	P	19 37 13.6	+0.2
	comp=Z,0.8nm,0.9s,mb3.5,baz=299,slow=7.6,SNR=6.4						
AAK	**Ala-Archa**	46.04	337	P	P	19 37 36.3	+1.6
	comp=Z,1.5nm,0.9s,mb3.9						
SONM	**Songino Array**	47.16	8	P	P	19 37 43.7	+0.2
	comp=Z,0.8nm,0.7s,mb3.8,baz=190,slow=7.5,SNR=3.8						
MKAR	**Makanchi Array**	47.28	346	P	P	19 37 44.5	+0.2
	comp=Z,1.1nm,0.6s,mb4.0,baz=163,slow=8.5,SNR=20						
KURK	**Kurchatov**	51.83	345	*e*P	P	19 38 18.4	-0.8
	comp=Z,2.2nm,0.9s,mb4.1						
STKA	**Stephens Creek**	53.31	132	P	P	19 38 30.8	+0.2
	comp=Z,1.1nm,0.7s,mb3.9,baz=336,slow=12,SNR=3.3						
STKA	**Stephens Creek**	53.31	132	P	P	19 38 29.8	-0.8
ZAL	**Zalesovo**	53.58	351	P	P	19 38 32.8	+0.5
	comp=Z,1.6nm,0.4s,mb4.3,baz=329,slow=5.1,SNR=6.6						
BVAR	**Borovoye Array**	56.29	341	P	P	19 38 50.8	-1.2
	comp=Z,1.1nm,0.7s,mb4.0,baz=149,slow=8.6,SNR=9.5						

*NEIC **07** 19:39:07.3, 16.83N×99.84W, h37km, MD3.6(MEX), After MEX.*

MEX 07 19:39:06.9±0.5, 16.82N×99.83W, h39km±4km, MD3.6, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	0.10	297	*i* P	P	19 39 11.9	-1.3
ACX				*i* S	S	19 39 16.3	-1.5
CAIG	**El Cayaco**	0.48	298	⇓*i*P	P	19 39 15.7	-1.6
CAIG				*i* S	S	19 39 22.3	-2.3
PLIG	**Platanillo**	1.59	11	*i* P	P	19 39 31.8	-1.2
PLIG				*i* S	S	19 39 49.7	-2.9
PLIG	**Platanillo**	1.59	11	*e*P	P	19 39 31.2	-1.9
PLIG				*i* S	S	19 39 49.8	-2.9
ZIIG	**Zihuatanejo**	1.75	297	*e*P	P	19 39 34.1	-1.2
ZIIG				*i* S	S	19 39 54.4	-2.1
ZIIG	**Zihuatanejo**	1.75	297	*e*P	P	19 39 34.1	-1.2
ZIIG				*i* S	S	19 39 54.1	-2.4
PPM	**Popocatepetl**	2.51	27	*e*P	P	19 39 41.7	-4.5
PPM	**Popocatepetl**	2.51	27	*e*P	P	19 39 44.0	-2.2
PPM				*i* S	S	19 40 15.5	-0.3

*DJA **07** 19:43:03.7±0.5, 3.73N×126.53E, h2km, mb5.6/8, Error ellipse: s-maj=21.1km s-min=5.6km az=170.0*
*IDC **07** 19:43:06.8±0.3, 2.96N×126.55E, mb5.4/31, mb1 5.4/31, mb1mx5.4/32, mbtmp5.4/31, MS5.2/5, Ms1 5.2/5, ms1mx4.9/23, Error ellipse: s-maj=17.4km s-min=10.1km az=68.0*
*BJI **07** 19:43:12.9, 3.10N×126.31E, h47km, mB5.9, mb5.5, Ms5.3, Msz5.2*
*HRVD **07** 19:43:14.9±0.1, 3.04N×126.73E, h51km, MW5.9/74, Centroid moment Tensor Solution. LP body waves: s74,c170;Mantle waves: s65,c160; Half duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.68±.01; $M_{\theta\theta}$0.10±.01; $M_{\phi\phi}$-0.77±.01; $M_{r\theta}$0.00±.01; $M_{\theta\phi}$-0.18±.01; $M_{\phi r}$0.48±.01; Best double couple: M_0.892×10^{18} NP1:ϕ_s200°, δ29°, λ103°. NP2:ϕ_s4°, δ62°, λ83°. Principal axes: T.83, Plg72°, Azm257°; N.123, Plg6°, Azm8°; P-.953, Plg16°, Azm100°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **07** 19:43:14.9±0.9, 2.97N×126.48E, h60km±8km, mb5.6/67, MW5.9 Error ellipse: s-maj=6.0km s-min=4.3km az=68.0, Moment Tensor Solution. s24 Moment tensor: Scale 10^{17} Nm; M_{rr}6.25; $M_{\theta\theta}$-2.28; $M_{\phi\phi}$-3.98; $M_{r\theta}$1.89; $M_{\theta\phi}$-3.03; $M_{\phi r}$4.39; Best double couple: $M_0$7.9×10^{17} NP1:ϕ_s225°, δ27°, λ105°. NP2:ϕ_s29°, δ64°, λ83°. Principal axes: T.93, Plg70°, Azm283°; N-.11, Plg7°, Azm32°; P-7.82, Plg18°, Azm124°;*
NEIC Felt [III] at Bitung, Indonesia.
*MOS **07** 19:43:16.4±1.3, 2.97N×126.54E, h85km, mb5.6/40, MS5.3/5 Error ellipse: s-maj=7.0km s-min=4.5km az=115.3*

ISC 07 19:43:13.5±0.1, 2.91N±0.02×126.51E±0.03, h63km, h63km±3.2km: pP-P, n503, σ1§18/485, mb5.5/117, 59C-37D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	4.01	356	*e*P	P	19 44 11.5	-2.4
MATI				*e*S	S	19 45 09.3	+9.2
DAV	**Davao City (W)**	4.23	347	*e*P	P	19 44 18.0	+1.0
KCP	**Kidapawan**	4.31	341	⇓*e*P	P	19 44 20.8	+2.7
KCP				*e*S	S	19 45 11.7	+4.1
BUKP	**Musuan**	5.14	344	*e*P	P	19 44 30.4	+0.7
BUKP				*e*S	S	19 45 30.3	+2.0
BIPH	**Bislig**	5.24	358	⇓*e*P	P	19 44 32.6	+1.5
BIPH				*e*S	S	19 45 33.4	+2.6
CGP	**Cagayan de Oro**	5.79	342	⇓*e*P	P	19 44 40.7	+2.0
PAGZ	**Pagadian**	5.81	328	*e*P	P	19 44 38.0	-0.9
PAGZ				*e*S	S	19 45 45.0	+0.1
ZMPH	**Zamboanga City**	5.98	312	⇓*i*P	P	19 44 39.7	-1.5
ZMPH				*i* S	S	19 45 38.2	-11
BUTP	**Butuan**	6.08	352	*e*P	P	19 44 42.9	+0.2
BUTP				*e*S	S	19 45 55.0	+3.2
IPIL	**Ipil**	6.23	321	*e*P	P	19 44 44.2	-0.7
SCPH	**Surigao**	6.90	352	⇑*e*P	P	19 44 59.4	+5.2
MSLP	**Maasin**	7.36	347	*e*P	P	19 45 02.6	+2.0
PCI	**Palu**	7.68	240	*e*P	P	19 45 19.0	+14
LLP	**Lapu-Lapu**	7.78	341	⇓*e*P	P	19 45 06.7	+0.3
PLP	**Palo**	8.34	350	*e*P	P	19 45 14.7	+0.6
GUIM	**Jordan**	8.59	333	*e*P	P	19 45 17.9	+0.4
TSM	**Tawau**	8.73	279	P	P	19 45 20.0	+0.6
BUNI	**Buntu Taipa**	8.99	223	*e*P	P	19 45 22.6	-0.4
RCP	**Roxas**	9.37	337	⇓*e*P	P	19 45 31.4	+3.3
TANI	**Tanete Lipujan**	9.52	229	*e*P	P	19 45 33.7	+3.4
TANI	**Tanete Lipujan**	9.52	229	*e*P	P	19 45 33.3	+3.0
CUYO	**Cuyo Island**	9.59	326	*e*P	P	19 45 30.4	-0.9
CNP	**Catarman**	9.71	349	*e*P	P	19 45 27.9	-5.0
NINI	**Niniconang**	9.93	223	*e*P	P	19 45 39.2	+3.2
NINI	**Niniconang**	9.93	223	*e*P	P	19 45 41.0	+5.0
PPR	**Puerto Princes**	10.31	312	⇑*i*P	P	19 45 44.5	+3.5
OTRP	**Odiongan**	10.39	335	*e*P	P	19 45 44.7	+2.6
BATP	**Bataraza**	10.45	304	*e*P	P	19 45 42.2	-0.8
MKS	**Makassar**	10.71	221	*e*P	P	19 45 47.4	+0.8
KKM	**Kota Kinabalu**	10.72	287	⇓*e*P	P	19 45 48.3	+1.6
KKM	**Kota Kinabalu**	10.72	287	P	P	19 45 49.8	+3.1
PVCP	**Virac**	10.87	348	*e*P	P	19 45 43.8	-4.8
SJMP	**San Jose**	10.88	331	*e*P	P	19 45 50.2	+1.3
BUSP	**Coron**	10.98	326	*e*P	P	19 45 51.1	+0.8
BOAC	**Boac**	11.45	336	*e*P	P	19 45 57.3	+0.9
LUBP	**Lubang**	12.41	330	*e*P	P	19 46 06.0	-3.3
POLP	**Polilio Island**	12.57	339	*e*P	P	19 46 12.3	+0.7
BALP	**Baler**	13.64	339	*e*P	P	19 46 23.8	-1.8
SCZP	**Santa Cruz**	14.34	333	*e*P	P	19 46 34.1	-0.6
PALP	**Palanan**	14.62	344	*e*P	P	19 46 38.0	-0.4
CAUP	**Cauayan**	14.68	342	*e*P	P	19 46 36.7	-2.5
BOLP	**Bolinao**	14.87	335	*e*P	P	19 46 45.9	+4.2
MENI	**Mendum Tagoi**	14.91	111	⇑*i*P	P	19 46 45.1	+2.9
MENI				pmax	pmax		
	comp=Z,64nm,1.0s						
MENI	**Mendum Tagoi**	14.91	111	⇑*i*P	P	19 46 45.1	+2.9
	comp=Z,64nm,1.0s						
MENI	**Mendum Tagoi**	14.91	111	⇑*i*P	P	19 46 42.9	+0.7
	comp=Z,128nm,1.0s						
YOMI	**Yo Moklole**	15.09	111	⇓*i*P	P	19 46 42.3	-2.2
	comp=Z,221nm,1.8s						
YOMI	**Yo Moklole**	15.09	111	⇑*i*P	P	19 46 42.0	-2.5
	comp=Z,442nm,1.8s						
KEDI	**Kedomdong**	15.36	222	⇑*i*P	P	19 46 51.7	+3.8
KEDI				pmax	pmax		
	comp=Z,646nm,0.9s						
KEDI	**Kedomdong**	15.36	222	⇑*i*P	P	19 46 51.7	+3.8
	comp=Z,646nm,0.9s						
KEDI	**Kedomdong**	15.36	222	⇑*e*P	P	19 46 50.0	+2.1
	comp=Z,1μm,0.9s						
ABRA	**Dolores**	15.71	339	*e*P	P	19 46 53.2	+0.8
APYP	**Conner**	15.73	341	*e*P	P	19 46 51.4	-1.2
RATI	**Rata**	15.92	223	⇓*i*P	P	19 46 57.7	+2.6
	comp=Z,725nm,0.7s						
RATI	**Rata**	15.92	223	⇓*i*P	P	19 46 58.1	+3.0
	comp=Z,725nm,0.7s						
KSM	**Kuching**	16.25	265	⇑*e*P	P	19 47 00.5	+1.2
KELI	**Kelakatan**	16.31	227	⇓*i*P	P	19 47 09.1	+9.1
	comp=Z,334nm,0.8s						
KELI	**Kelakatan**	16.31	227	*e*P	P	19 47 03.2	+3.2
	comp=Z,333nm,1.4s						
SRDI	**Scrawed**	16.74	227	⇑*i*P	P	19 47 10.0	+4.6
SRDI				pmax	pmax		
	comp=Z,268nm,1.0s						
SRDI	**Scrawed**	16.74	227	⇑*i*P	P	19 47 10.0	+4.6
	comp=Z,268nm,1.0s						
SRDI	**Scrawed**	16.74	227	*e*P	P	19 47 10.0	+4.6
BBP	**Basco**	17.98	346	*e*P	P	19 47 17.7	-3.0
FITZ	**Fitzroy Crossi**	20.90	182	P	P	19 47 51.7	-1.2
	comp=Z,48nm,0.4s,baz=7.3,slow=9.8,SNR=140						
FITZ				S	S	19 51 37.6	+0.2
	comp=Z,230nm,1.1s,baz=183,slow=22,SNR=8.1						
GUMO	**Guam**	21.01	59	*e*P	P	19 47 55.2	+1.1
GUMO				pmax	pmax		
	comp=Z,270nm,1.0s,mb5.5						
GUMO	**Guam**	21.01	59	*e*P	P	19 47 55.2	+1.1
	comp=Z,268nm,1.1s,mb5.5			

WRA	**Warramunga Arr**	**23.98 162**	P	**P**	**19 48 22.6**	**-0.7**
	comp=Z,58nm,0.4s,mb5.4,baz=342,slow=10.0,SNR=331					
WRA			S	**S**	**19 52 32.5**	**-0.1**
	comp=Z,15nm,0.9s,baz=344,slow=16,SNR=5.4					
WB2	**Warramunga Arr**	**23.98 162**	⇑*i*P	**P**	**19 48 22.2**	**-1.1**
WB2			*e*S	**S**	**19 52 32.1**	**-0.6**
MBWA	**Marble Bar**	**24.83 195**	⇑*e*P	**P**	**19 48 31.8**	**+0.3**
	comp=Z,182nm,0.9s,mb5.6					
IPM	**Ipoh**	**25.48 275**	P	**P**	**19 48 38.5**	**+0.7**
KULM	**Kulim**	**25.90 276**	*e*P	**P**	**19 48 41.3**	**-0.4**
KKTK	**Khon Kaen**	**26.84 301**	P	**P**	**19 48 50.0**	**-0.3**
	comp=Z,1μm,0.8s,mb6.4					
ASAR	**Alice Springs**	**27.38 165**	P	**P**	**19 48 53.6**	**-1.6**
	comp=Z,11nm,0.4s,mb4.7,baz=350,slow=7.1,SNR=235					
ASAR			S	**S**	**19 53 26.9**	**-2.1**
	comp=Z,7.2nm,0.9s,baz=238,slow=26,SNR=3.5					
ASAR			ScP		19 55 50.2	
	comp=Z,10.0nm,0.9s,baz=20,slow=1.6,SNR=4.8					
ASPA	**Alice Springs**	**27.38 165**	⇑*i*P	**P**	**19 48 53.8**	**-1.4**
ASPA			*e*S	**S**	**19 53 28.1**	**-0.9**
NNT	**Nongplab**	**28.19 291**	P	**P**	**19 49 02.5**	**-0.1**
CBIJ	**Chichi jima**	**28.34 30**	P	**P**	**19 49 01.6**	**-2.2**
	comp=Z,126nm,0.9s,mb5.6,baz=210,slow=9.8,SNR=6.0					
CBIJ			LR	LR	19 58 03.1	
	comp=Z,4μm,21.4s,baz=205,slow=32					
SSE	**Sheshan**	**28.48 350**	P	**P**	**19 49 04.8**	**-0.2**
SSE			S	**S**	**19 53 42.6**	**-3.9**
SSE			AMB	AMB		
	comp=Z,37nm,0.7s,mb5.1					
SSE			AMB	AMB		
	comp=Z,973nm,7.2s					
SSE			LR	LR		
	comp=N,3μm,23.8s					
SSE			LR	LR		
	comp=E,3μm,23.8s					
SSE			LR	LR		
	comp=Z,4μm,27.6s					
SSE	**Sheshan**	**28.48 350**	P	**P**	**19 49 04.8**	**-0.2**
	comp=Z,37nm,0.7s,mb5.1					
SSE			sP	sP	19 49 09.2	-19
SSE			PcP	PcP	19 52 26.5	+11
SSE			S	**S**	**19 53 42.6**	**-3.9**
SSE			sS		19 53 47.8	
SSE			PcS		19 56 07.4	
SSE			LR	LR		
	comp=Z,4μm,27.6s					
NANT	**Nan**	**29.79 304**	⇑P	**P**	**19 49 16.0**	**-0.7**
	comp=Z,725nm,0.6s,mb6.6					
NJ2	**Nanjing**	**29.87 347**	*e*P	**P**	**19 49 17.4**	**+0.1**
NJ2			AP	pP	19 49 27.4	-5.3
NJ2			XP	sP	19 49 30.9	-9.4
NJ2			PP	PP	19 50 15.6	-1.0
NJ2			S	**S**	**19 54 11.0**	**+2.5**
NJ2			XS		19 54 27.0	
NJ2			AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1					
NJ2			AMB	AMB		
	comp=Z,266nm,4.4s					
NJ2			LR	LR		
	comp=N,10μm,28.0s					
NJ2			LR	LR		
	comp=E,6μm,22.0s					
NJ2			LR	LR		
	comp=Z,13μm,22.0s					
CTA	**Charters Tower**	**29.97 141**	*e*P	**P**	**19 49 17.9**	**-0.5**
	comp=Z,19nm,1.1s,mb4.7					
CTA			*i* S	**S**	**19 54 09.6**	**-0.7**
CTA	**Charters Tower**	**29.97 141**	*e*P	**P**	**19 49 17.9**	**-0.5**
CTA			*i* S	**S**	**19 54 09.6**	**-0.7**
CTA			pmax	pmax		
	comp=Z,19nm,1.1s					
CTA	**Charters Tower**	**29.97 141**	P	**P**	**19 49 17.9**	**-0.5**
	comp=Z,14nm,0.9s,mb4.7,baz=315,slow=11,SNR=8.0					
CTAO	**Charters Tower**	**29.97 141**	*e*P	**P**	**19 49 17.8**	**-0.6**
CTAO			pmax	pmax		
	comp=Z,70nm,1.3s,mb5.2					
CTAO	**Charters Tower**	**29.97 141**	*e*P	**P**	**19 49 17.8**	**-0.5**
	comp=Z,70nm,1.4s,mb5.2					
GYA	**Guiyang**	**30.17 323**	⇑*i*P	**P**	**19 49 19.4**	**-0.7**
GYA			S	**S**	**19 54 06.0**	**-7.4**
GYA			AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1					
GYA			AMB	AMB		
	comp=Z,960nm,11.7s					
GYA			LR	LR		
	comp=N,3μm,20.4s					
GYA			LR	LR		
	comp=E,3μm,19.2s					
GYA			LR	LR		
	comp=Z,5μm,21.3s					
BDT	**Bhumibol Dam**	**30.53 300**	P	**P**	**19 49 22.0**	**-1.3**
	comp=Z,16nm,1.0s,mb4.8					
CM31	**Chiang Mai Arr**	**31.10 302**	*e*P	**P**	**19 49 27.1**	**-1.2**
	comp=Z,29nm,0.8s,mb5.2					
CMAR	**Chiang Mai Arr**	**31.10 302**	P	**P**	**19 49 28.3**	**-0.1**
	comp=Z,39nm,1.0s,mb5.2,baz=121,slow=7.5,SNR=105					
CMAR			PcP	PcP	19 52 24.4	+1.9
	comp=Z,7.4nm,1.0s,baz=184,slow=1.5,SNR=6.0					
CMAR			ScP		19 56 02.6	
	comp=Z,2.9nm,0.7s,baz=141,slow=2.1,SNR=8.7					
CMAR			LR	LR	20 02 24.4	
	comp=Z,3μm,19.2s,baz=120,slow=37					
CHG	**Chiang Mai**	**31.26 302**	⇑P	**P**	**19 49 28.9**	**-0.9**
	comp=Z,77nm,1.0s,mb5.5					
KMI	**Kunming**	**31.80 316**	P	**P**	**19 49 34.2**	**-0.3**
KMI			AP	pP	19 49 42.7	-7.3
KMI			PP	PP	19 50 39.1	-2.3
KMI			AMB	AMB		
	comp=Z,36nm,1.4s,mb5.0					
KMI			AMB	AMB		
	comp=Z,651nm,6.6s					
KMI			LR	LR		
	comp=N,4μm,17.3s					
KMI			LR	LR		
	comp=E,4μm,26.6s					
KMI			LR	LR		
	comp=Z,8μm,29.0s					
KMI	**Kunming**	**31.80 316**	P	**P**	**19 49 34.2**	**-0.3**
KMI					19 50 39.1	
KMI			S	**S**	**19 54 48.1**	**+9.0**
KMI			SS	SS	19 56 39.0	+5.7
KMI			pmax	pmax		
	comp=Z,36nm,1.4s,mb5.0					
KMI			MLR	MLR		
	comp=Z,8μm,29.0s					
KMI	**Kunming**	**31.80 316**	P	**P**	**19 49 34.2**	**-0.3**
	comp=Z,36nm,1.4s,mb5.0					
KMI			pP	pP	19 49 42.7	-7.3
KMI			sP	sP	19 49 46.0	-12
KMI			PP	PP	19 50 39.1	-2.3
KMI			S	**S**	**19 54 48.1**	**+9.0**
KMI			sS		19 55 04.7	
KMI			SS	SS	19 56 39.0	+5.7
KMI			LR	LR		
	comp=Z,8μm,29.0s					
FORT	**Forrest**	**33.54 178**	*e*P	**P**	**19 49 48.5**	**-1.0**
	comp=Z,6μm,0.6s					
TIA	**Tai'an**	**34.25 346**	P	**P**	**19 49 53.4**	**-2.1**
TIA			S	**S**	**19 55 12.0**	**-4.9**
TIA			LR	LR		
	comp=N,2μm,24.0s					
XAN	**Xi'an**	**35.05 334**	P	**P**	**19 50 00.0**	**-2.3**
XAN			AP	pP	19 50 08.8	-9.3
XAN			PP	PP	19 51 16.3	-6.1
XAN			S	**S**	**19 55 18.3**	**-11**
XAN			AMB	AMB		
	comp=Z,47nm,1.1s,mb5.3					
XAN			LR	LR		
	comp=N,5μm,24.8s					
XAN			LR	LR		
	comp=E,3μm,24.3s					
XAN			LR	LR		
	comp=Z,6μm,28.8s					
MAJO	**Matsushiro**	**35.16 16**	*e*P	**P**	**19 50 01.3**	**-2.0**
MAJO			pmax	pmax		
	comp=Z,71nm,1.2s,mb5.5					
MAJO	**Matsushiro**	**35.16 16**	*e*P	**P**	**19 50 01.2**	**-2.0**
	comp=Z,71nm,1.2s,mb5.5					
MAT	**Matsushiro**	**35.16 16**	*e*P	**P**	**19 50 01.0**	**-2.3**
MAT			*e*S	**S**	**19 55 24.0**	**-7.0**
MAT			pmax	pmax		
	comp=Z,63nm,1.2s,mb5.4					
MAT	**Matsushiro**	**35.16 16**	*e*P	**P**	**19 50 01.0**	**-2.3**
	comp=Z,62nm,1.2s,mb5.4					
MAT			*e*S	**S**	**19 55 24.0**	**-7.0**
MAT	**Matsushiro**	**35.16 16**	P	**P**	**19 50 01.4**	**-1.9**
MAT			S	**S**	**19 55 23.0**	**-8.0**
MJAR	**Matsushiro Arr**	**35.16 16**	P	**P**	**19 50 01.6**	**-1.7**
	comp=Z,22nm,0.9s,mb5.1,baz=197,slow=8.3,SNR=27					
MJAR			PcP	PcP	19 52 34.5	+0.8
	comp=Z,5.9nm,0.6s,baz=188,slow=3.2,SNR=4.4					
MJAR			S	**S**	**19 55 31.4**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=120,slow=14,SNR=1.7					
MJAR			ScP		19 56 16.0	
	comp=Z,8.6nm,1.0s,baz=206,slow=3.2,SNR=9.9					
MJAR			LR	LR	20 05 05.6	
	comp=Z,2μm,18.6s,baz=200,slow=38					
CD2	**Chengdu**	**35.17 325**	P	**P**	**19 50 02.3**	**-1.2**
CD2			AP	pP	19 50 10.3	-8.9
CD2			S	**S**	**19 55 29.8**	**-1.4**
CD2			AMB	AMB		
	comp=Z,120nm,0.9s,mb5.8					
CD2			LR	LR		
	comp=N,5μm,19.2s					
CD2			LR	LR		
	comp=Z,5μm,29.4s					
KLBR	**Kellerberrin**	**35.31 193**	*e*P	**P**	**19 50 04.3**	**-0.3**
	comp=Z,19μm,1.2s					
MUN	**Mundaring**	**36.05 195**	⇑*i*P	**P**	**19 50 11.0**	**+0.1**
	comp=Z,157nm,0.6s,mb6.1					
MUN			*e*S	**S**	**19 55 44.2**	**-0.6**
MUN	**Mundaring**	**36.05 195**	⇑*i*P	**P**	**19 50 11.0**	**+0.1**
MUN			*e*S	**S**	**19 55 44.2**	**-0.6**
MUN			pmax	pmax		
	comp=Z,157nm,0.6s,mb6.1					
DL2	**Dalian**	**36.10 354**	⇑P	**P**	**19 50 11.5**	**+0.3**
DL2			S	**S**	**19 55 50.5**	**+5.1**
DL2			AMB	AMB		
	comp=Z,130nm,1.0s,mb5.8					
DL2			AMB	AMB		
	comp=Z,680nm,7.0s					
DL2			LR	LR		
	comp=N,600nm,24.1s					
DL2			LR	LR		
	comp=E,2μm,22.5s					
DL2			LR	LR		
	comp=Z,2μm,20.2s					
NWAO	**Narrogin (SRO)**	**36.71 193**	*e*P	**P**	**19 50 16.6**	**+0.1**
NWAO			*e*	pP	19 50 34.7	+2.4
NWAO			pmax	pmax		
	comp=Z,64nm,1.0s					
NWAO	**Narrogin (SRO)**	**36.71 193**	*e*P	**P**	**19 50 16.6**	**+0.1**
	comp=Z,64nm,1.0s,mb5.4					
NWAO			*e*	pP	19 50 34.7	+2.4
TIY	**Taiyuan**	**36.96 341**	PR		19 50 19.0	
TIY			S	**S**	**19 55 58.0**	**-0.6**
TIY			LR	LR		
	comp=N,9μm,25.0s					
STKA	**Stephens Creek**	**37.45 159**	*e*P	**P**	**19 50 21.6**	**-1.0**
	comp=N,57nm,0.8s,mb5.5					
STKA			*e*S	**S**	**19 56 03.5**	**-2.6**
STKA	**Stephens Creek**	**37.45 159**	P	**P**	**19 50 21.9**	**-0.7**
	comp=N,25nm,0.4s,mb5.4,baz=337,slow=8.4,SNR=69					
STKA			S	**S**	**19 56 04.0**	**-2.1**
	comp=N,15nm,0.9s,baz=73,slow=24,SNR=5.3					
BJI	**Beijing**	**38.13 347**	P	**P**	**19 50 28.2**	**0.0**
BJI			S	**S**	**19 56 13.3**	**-3.0**
BJI			SS	SS	19 58 47.6	-9.5
BJI			SCS	ScS	20 00 37.1	+5.4
BJI			AMB	AMB		
	comp=Z,91nm,0.9s,mb5.5					
BJI			AMB	AMB		
	comp=Z,1μm,3.9s					
BJI			LR	LR		
	comp=N,3μm,19.6s					
BJI			LR	LR		
	comp=E,2μm,19.6s					
BJI			LR	LR		
	comp=Z,6μm,26.3s					
BJI	**Beijing**	**38.13 347**	P	**P**	**19 50 28.2**	**0.0**
BJI					19 52 49.3	
BJI			S	**S**	**19 56 13.3**	**-3.0**
BJI			pmax	pmax		
	comp=Z,91nm,0.9s,mb5.5					
BJI			MLR	MLR		
	comp=Z,6μm,26.3s					
BJI	**Beijing**	**38.13 347**	P	**P**	**19 50 28.2**	**0.0**
	comp=Z,91nm,0.9s,mb5.5					
BJI			pP	pP	19 50 31.3	-13
BJI			sP	sP	19 50 32.6	-19
BJI			PcP	PcP	19 52 49.3	+6.7
BJI			S	**S**	**19 56 13.3**	**-3.0**
BJI			SS	SS	19 58 47.6	-9.5
BJI			ScS	ScS	20 00 37.1	+5.4
BJI			LR	LR		
	comp=Z,6μm,26.3s					
SNY	**Shenyang**	**38.83 357**	⇑*i*P	**P**	**19 50 34.2**	**+0.2**
SNY			AP	pP	19 50 42.8	-7.1
SNY			XP	sP	19 50 46.8	-11
SNY			PP	PP	19 52 05.9	-1.6
SNY			S	**S**	**19 56 21.8**	**-5.1**
SNY			AMB	AMB		
	comp=Z,140nm,2.0s,mb5.3					
SNY			LR	LR		
	comp=N,2μm,24.5s					
SNY			LR	LR		
	comp=E,3μm,24.5s					
SNY			LR	LR		
	comp=Z,4μm,25.5s					
LZH	**Lanzhou**	**39.09 330**	⇑P	**P**	**19 50 36.3**	**0.0**
LZH			AP	pP	19 50 45.5	-6.7
LZH			XP	sP	19 50 51.5	-8.2
LZH			PP	PP	19 52 07.0	-3.6
LZH			S	**S**	**19 56 27.4**	**-3.6**
LZH			AMB	AMB		
	comp=Z,900nm,1.6s,mb6.2					
LZH			AMB	AMB		
	comp=Z,2μm,4.0s					
LZH			LR	LR		
	comp=E,16μm,14.6s					
LZH			LR	LR		
	comp=Z,23μm,15.0s					
LZH	**Lanzhou**	**39.09 330**	⇑P	**P**	**19 50 36.3**	**0.0**
LZH					19 52 07.0	
LZH			S	**S**	**19 56 27.4**	**-3.6**
LZH			pmax	pmax		
	comp=Z,900nm,1.6s,mb6.2					
LZH			MLR	MLR		
	comp=Z,23μm,15.0s					
LZH	**Lanzhou**	**39.09 330**	⇑P	**P**	**19 50 36.3**	**0.0**
	comp=Z,900nm,1.6s,mb6.2					
LZH			pP	pP	19 50 45.5	-6.7
LZH			sP	sP	19 50 51.5	-8.2
LZH			PP	PP	19 52 07.0	-3.6
LZH			S	**S**	**19 56 27.4**	**-3.6**
LZH			sS		19 56 43.0	
LZH			SS	SS	19 59 06.0	-12
LZH			LR	LR		
	comp=Z,23μm,15.0s					
HHC	**Hu-ho-hao-te**	**40.10 342**	⇑P	**P**	**19 50 44.0**	**-0.6**
HHC			AP	pP	19 50 59.6	-0.9
HHC			XP	sP	19 51 04.6	-3.4
HHC			SCP		19 56 29.6	
HHC			PCS		19 56 37.9	
HHC			S	**S**	**19 56 44.8**	**-1.2**
HHC			SCS	ScS	20 00 44.5	+1.4
HHC			AMB	AMB		
	comp=Z,70nm,1.1s,mb5.3					
HHC			AMB	AMB		
	comp=Z,1μm,5.0s					
HHC			LR	LR		
	comp=N,3μm,25.0s					
HHC			LR	LR		
	comp=E,3μm,22.6s					
HHC			LR	LR		
	comp=Z,6μm,25.0s					
SHL	**Shillong**	**40.19 307**	*e*P	**P**	**19 50 46.0**	**+0.6**
SHL			*e*		19 56 40.0	
CN2	**Changchun**	**40.73 359**	*e*P	**P**	**19 50 49.9**	**+0.2**
CN2			*e*AP	pP	19 50 58.8	-6.8
CN2			*e*S	**S**	**19 57 01.9**	**+6.7**
CN2			AMB	AMB		
	comp=Z,30nm,1.3s,mb4.8					
CN2			AMB	AMB		
	comp=Z,300nm,6.0s					
CN2			LR	LR		
	comp=N,2μm,19.0s					
CN2			LR	LR		
	comp=E,2μm,19.0s					
CN2			LR	LR		
	comp=Z,2μm,21.0s					
ARMA	**Armidale**	**40.91 146**	*e*P	**P**	**19 50 52.6**	**+1.2**
ARMA			*e*S	**S**	**19 56 58.9**	**+0.7**
MDJ	**Mudanjiang**	**41.62 3**	P	**P**	**19 50 58.2**	**+1.2**
MDJ			AP	pP	19 51 12.3	-0.7
MDJ			XP	sP	19 51 19.3	-1.1
MDJ			PP	PP	19 52 35.1	-2.0
MDJ			S	**S**	**19 57 11.4**	**+2.9**
MDJ			AMB	AMB		
	comp=Z,121nm,0.8s,mb5.6					
MDJ			AMB	AMB		
	comp=Z,846nm,3.9s					
MDJ			LR	LR		
	comp=N,3μm,25.8s					
MDJ			LR	LR		
	comp=E,2μm,25.0s					
MDJ			LR	LR		
	comp=Z,4μm,25.8s					
BWNR	**Bhubaneshwar**	**43.27 297**	⇑*i*P	**P**	**19 51 12.2**	**+1.3**
CNB	**Canberra Magne**	**43.65 153**	*e*P	**P**	**19 51 14.6**	**+0.8**
	comp=Z,4μm,1.9s					
GTA	**Gaotai**	**43.68 330**	*e*P	**P**	**19 51 13.4**	**-0.6**
GTA			PP	PP	19 52 55.4	-2.8
GTA			PCP	PcP	19 53 06.1	+5.4
GTA			SCP		19 56 49.1	
GTA			PCS		19 56 56.6	
GTA			S	**S**	**19 57 34.8**	**-4.0**
GTA			SCS	ScS	20 01 08.1	+3.2
GTA			AMB	AMB		
	comp=Z,53nm,1.6s,mb5.0					
GTA			AMB	AMB		
	comp=Z,974nm,8.7s					
GTA			LR	LR		
	comp=N,6μm,19.0s					
GTA			LR	LR		
	comp=E,5μm,13.7s					
GTA			LR	LR		
	comp=Z,8μm,19.8s					
TOO	**Toolangi**	**43.97 158**	*e*P	**P**	**19 51 17.7**	**+1.4**
	comp=Z,27nm,1.3s,mb4.8					
TOO			*i* S	**S**	**19 57 46.8**	**+3.9**
TOO	**Toolangi**	**43.97 158**	*e*P	**P**	**19 51 17.7**	**+1.4**
TOO			*i* S	**S**	**19 57 46.8**	**+3.9**
TOO			pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8					
VIS	**Vishakhapatnam**	**44.81 292**	*e*P	**P**	**19 51 21.5**	**-1.8**
VIS			*e*S	**S**	**19 57 53.5**	**-1.9**
PALK	**Pallekele**	**45.81 277**	*e*P	**P**	**19 51 30.7**	**-0.7**
	comp=Z,67nm,1.1s,mb5.5					
YSS	**Yuzh-Sakhalins**	**46.08 15**	*e*P	**P**	**19 51 33.0**	**0.0**
YSS			*e*	pP	19 51 48.8	-0.3
YSS			*e*S	**S**	**19 58 14.0**	**+0.9**
YSS			pmax	pmax		
	comp=Z,560nm,2.0s,mb6.2					
YSS			MLR	MLR		
	comp=N,2μm,20.0s					
YSS			MLR	MLR		
	comp=Z,2μm,20.0s					
YSS	**Yuzh-Sakhalins**	**46.08 15**	*e*P	**P**	**19 51 32.7**	**-0.4**
	comp=Z,33nm,0.6s,mb5.4					
PKI	**Pulchoki**	**46.27 306**	*e*P	**P**	**19 51 33.7**	**-1.1**
	comp=Z,104nm,0.9s,mb5.8					
PKI	**Pulchoki**	**46.27 306**	*e*P	**P**	**19 51 33.7**	**-1.1**
PKI			pmax	pmax		
	comp=Z,52nm,0.9s,mb5.5					
KLR	**Kul'dur**	**46.36 5**	*e*P	**P**	**19 51 31.7**	**-3.5**
KLR			*e*S	**S**	**19 58 18.0**	**+0.9**
KLR			*e*SS	SS	20 01 35.0	-0.9
KLR			pmax	pmax		
	comp=N,20nm,1.2s					
KLR			pmax	pmax		
	comp=E,47nm,1.2s					
KLR			pmax	pmax		
	comp=Z,70nm,1.2s,mb5.5					
KLR			pmax	pmax		
	comp=N,1μm,9.5s					
KLR			pmax	pmax		
	comp=Z,2μm,9.5s					
KKN	**Kakani**	**46.46 306**	*e*P	**P**	**19 51 35.3**	**-1.0**
	comp=Z,187nm,0.8s,mb6.1					
KKN	**Kakani**	**46.46 306**	*e*P	**P**	**19 51 35.3**	**-1.0**
KKN			pmax	pmax		
	comp=Z,94nm,0.8s,mb5.8					
DMN	**Daman**	**46.53 306**	*e*P	**P**	**19 51 35.9**	**-0.9**
	comp=Z,374nm,1.1s,mb6.2					
MDRS	**Chennai**	**46.83 285**	*e*	**P**	**19 51 41.5**	**+2.2**
	comp=Z,232nm,0.8s,mb6.2					
MDRS			*e*		19 58 21.5	
GKN	**Gorkha**	**47.07 306**	*e*P	**P**	**19 51 39.9**	**-1.2**
	comp=Z,199nm,0.7s,mb6.1					
BLSP	**Bilaspur**	**47.10 298**	*e*P	**P**	**19 51 39.8**	**-1.5**
BLSP			*e*		19 51 43.5	
	comp=Z,230nm,1.1s					
BLSP			*e*		19 58 23.9	
KOLN	**Koldanda**	**47.81 305**	*e*P	**P**	**19 51 46.2**	**-0.7**
	comp=Z,521nm,0.9s,mb6.6					
ULN	**Ulaanbaatar**	**47.82 342**	⇑*i*P	**P**	**19 51 46.9**	**+0.2**
ULN	**Ulaanbaatar**	**47.82 342**	*e*P	**P**	**19 51 46.1**	**-0.6**
	comp=Z,63nm,1.0s,mb5.6					
SONM	**Songino Array**	**48.00 342**	P	**P**	**19 51 47.4**	**-0.7**
	comp=Z,36nm,0.9s,mb5.4,baz=158,slow=7.6,SNR=104					
SONM			PcP	PcP	19 53 15.9	+0.2
	comp=Z,17nm,1.0s,baz=154,slow=5.4,SNR=3.9					
HYB	**Hyderabad**	**49.19 290**	*e*P	**P**	**19 51 56.0**	**-1.7**
HYB			*e*S	**S**	**19 58 57.0**	**-0.3**
HYB			pmax	pmax		
	comp=Z,380nm,1.0s,mb6.4					
HYB	**Hyderabad**	**49.19 290**	*e*P	**P**	**19 51 56.0**	**-1.7**
	comp=Z,380nm,1.0s,mb6.4					
HYB			*e*S	**S**	**19 58 57.0**	**-0.3**
HYB	**Hyderabad**	**49.19 290**	*i* P	**P**	**19 51 56.0**	**-1.7**
	comp=Z,380nm,1.0s,mb6.4					
HYB			*e*S	**S**	**19 58 57.0**	**-0.3**
TRD	**Trivandrum**	**49.59 279**	⇑*e*	**P**	**19 52 03.2**	**+2.4**
LGTI	**Lohaghat**	**51.18 306**	*e*P	**P**	**19 52 12.5**	**-0.2**
ZAK	**Zakamensk**	**51.22 341**	*e*P	**P**	**19 52 12.2**	**-0.5**
ZAK			*e*		19 53 24.9	
ZAK			pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7					
ZAK			pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8					
LATR	**Latur**	**51.25 291**	*e*P	**P**	**19 52 13.5**	**+0.1**
AKL	**Akola**	**51.31 294**	⇓*i*P	**P**	**19 52 12.0**	**-1.8**
BHPL	**Bhopal**	**51.58 297**	*e*P	**P**	**19 52 12.5**	**-3.3**
BHPL			*e*		19 52 16.8	
	comp=Z,234nm,1.2s					
TLY	**Talaya**	**52.23 342**	*e*P	**P**	**19 52 19.9**	**-0.4**
TLY			*e*S	**S**	**19 59 35.7**	**-3.1**
TLY			pmax	pmax		
	comp=Z,45nm,0.9s,mb5.4					
TLY			MLR	MLR		
	comp=Z,23μm,22.0s					
IRK	**Irkutsk**	**52.54 343**	*e*P	**P**	**19 52 22.3**	**-0.3**
IRK			*e*		19 54 17.3	
IRK			pmax	pmax		
	comp=Z,232nm,3.0s					
MOY	**Mondy**	**53.07 340**	*e*P	**P**	**19 52 26.4**	**-0.2**
MOY			pmax	pmax		
	comp=Z,229nm,2.9s,mb5.6					
WMQ	**Urumqi**	**53.27 326**	⇓P	**P**	**19 52 28.0**	**-0.1**
WMQ			AP	pP	19 52 45.0	+0.4
WMQ			PCP	PcP	19 53 35.2	+0.1
WMQ			PP	PP	19 54 30.2	0.0
WMQ			SCP		19 57 25.5	
WMQ			PCS		19 57 32.5	
WMQ			S	**S**	**19 59 52.0**	**-1.0**
WMQ			SCS	ScS	20 02 07.0	-1.3
WMQ			SS	SS	20 03 31.8	-0.9
WMQ			AMB	AMB		
	comp=Z,98nm,1.0s,mb5.7					
WMQ			AMB	AMB		
	comp=Z,717nm,3.5s					
WMQ			LR	LR		
	comp=Z,12μm,16.8s					
DDI	**Dehra Dun**	**53.27 306**	*e*	**P**	**19 52 28.0**	**-0.4**
KAD	**Karad**	**53.27 289**	⇓*e*P	**P**	**19 52 27.0**	**-1.5**
NDI	**New Delhi**	**53.39 304**	*e*P	**P**	**19 52 26.0**	**-3.3**
NDI			*e*		19 59 49.0	
SKR	**Severo-Kuril's**	**53.74 23**	*e*P	**P**	**19 52 28.0**	**-3.6**
CLNS	**Chul'man**	**53.78 359**	*e*P	**P**	**19 52 31.5**	**-0.2**
CLNS			*e*		19 59 52.1	
CLNS			pmax	pmax		
	comp=Z,46nm,1.0s,mb5.4					
CLNS			pmax	pmax		
	comp=N,27nm,0.9s					
CLNS			pmax	pmax		

comp=E,11nm,0.9s
CLNS pmax pmax
comp=N,1µm,13.2s
CLNS pmax pmax
comp=Z,438nm,10.5s
CLNS pmax pmax
comp=E,257nm,18.5s
POO Poona 53.80 291⇓ *i*P P 19 52 29.0 -3.4
comp=E,310nm,1.0s,mb6.2
SDNR Sundarnagar 54.56 307 *e*P P 19 52 37.6 -0.2
BHK Bhakra 54.97 307 *e* P 19 52 41.4 +0.6
PONG Pong 55.53 307⇑ *e*P P 19 52 43.0 -1.8
BOD Bodaibo 55.63 352 *e*P P 19 52 44.5 -0.7
BOD pmax pmax
comp=Z,61nm,1.4s,mb5.4
DLH Dalhousie 55.73 308 ⇓*e*P P 19 52 46.0 -0.2
THN Thein Dam 55.89 308 *e*P P 19 52 45.9 -1.5
PET Petropavlovsk 56.56 23 *e*P P 19 52 50.9 -1.0
PET *e*S S 20 00 40.1 +3.2
PET *e*SP SP 20 00 51.7 +3.0
PET *e*SS SS 20 04 28.4 +2.6
PET *e*SSS SSS 20 06 45.5 +6.5
PET pmax pmax
comp=Z,800nm,8.2s
PET pmax pmax
comp=Z,45nm,1.2s,mb5.4
PET pmax pmax
comp=Z,400nm,14.1s
PET smax
comp=E,1µm,9.5s
PET smax
comp=E,1µm,9.3s
PET MLR MLR
comp=Z,2µm,18.0s
PET Petropavlovsk 56.56 23 *e*P P 19 52 52.5 +0.6
comp=Z,36nm,1.0s,mb5.4
MKAR Makanchi Array 58.10 326 P P 19 53 01.9 -1.0
comp=Z,42nm,0.5s,mb5.7,baz=121,slow=6.4,SNR=331
MKAR PcP PcP 19 53 53.9 +0.2
comp=Z,27nm,0.8s,baz=122,slow=5.5,SNR=6.4
MKAR S S 20 00 58.7 +1.5
comp=Z,0.2nm,0.4s,baz=278,slow=8.6,SNR=1.6
MKAR Makanchi Array 58.10 326 P P 19 53 01.9 -1.0
MKAR PcP PcP 19 53 53.9 +0.2
MKAR S S 20 00 58.7 +1.5
KSH Kashi 58.47 316⇑ *i*P P 19 53 05.0 -0.5
KSH *e*AP pP 19 53 21.4 -0.8
KSH *e*XP sP 19 53 27.6 -1.8
KSH *e*PCP PcP 19 53 53.1 -2.1
KSH *e*PP PP 19 55 16.6 -0.5
KSH *e*PPP PPP 19 56 42.3 +1.4
KSH *e*SCP 19 57 47.1
KSH *e*PCS 19 57 53.4
KSH S S 20 01 00.0 -2.1
KSH *e*SCS ScS 20 02 45.4 -0.3
KSH *e*SS SS 20 05 00.0 +3.0
KSH AMB AMB
comp=Z,1µm,3.5s
YAK Yakutsk 59.02 2*c i*P P 19 53 08.4 -0.6
YAK *i* 19 53 54.1
YAK *i* S S 20 01 09.3 +0.2
YAK *i* 20 02 49.9
YAK pmax pmax
comp=Z,60nm,0.7s,mb5.7
YAK pmax pmax
comp=N,33nm,1.0s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK smax
comp=N,8.0nm,1.3s
YAK smax
comp=E,4.0nm,1.1s
YAK Yakutsk 59.02 2 *e*P P 19 53 06.5 -2.5
comp=E,205nm,1.0s,mb6.1
ULHL Ulahol 59.48 318 P P 19 53 12.6 +0.1
SNR=17
MA2 Magadan 59.54 14*c*eP P 19 53 13.2 +0.6
MA2 *e*S S 20 01 19.3 +3.5
MA2 *e*SS SS 20 05 11.5 -1.9
MA2 *e*SSS SSS 20 07 39.3 -4.6
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
MA2 pmax pmax
comp=N,10.0nm,1.2s
MA2 Magadan 59.54 14 *e*P P 19 53 12.5 -0.1
comp=N,59nm,1.0s,mb5.6
MSZ Milford Sound 60.07 147 PN P 19 53 17.5 +1.0
KZA Kyzart 60.07 318 P P 19 53 17.0 +0.5
SNR=176
TKM2 Tokmak 2 60.21 319 P P 19 53 17.5 0.0
SNR=70
QRZ Quartz Range 60.43 141 PN P 19 53 19.8 +0.8
KBK Karagaybulak 60.52 318 P P 19 53 19.9 +0.3
SNR=66
UCH Uchtor 60.62 318 P P 19 53 21.0 +0.7
SNR=243
CHMS Chumysh 60.80 319 P P 19 53 21.0 -0.5
SNR=33
AAK Ala-Archa 60.81 318 P P 19 53 21.7 +0.1
SNR=45
AAK Ala-Archa 60.81 318 P P 19 53 21.0 -0.6
AAK pmax pmax
comp=Z,96nm,1.4s,mb5.7
AAK Ala-Archa 60.81 318 *e*P P 19 53 19.4 -2.1
comp=Z,67nm,1.1s,mb5.7
FRU Bishkek 60.82 318 *e*P P 19 53 21.0 -0.6
FRU *e* 19 53 44.0
USP Ospenovka 61.09 319 P P 19 53 23.2 -0.2
SNR=91
AML Almayashu 61.14 317 P P 19 53 24.2 +0.4
SNR=214
ZAL Zalesovo 61.21 333 P P 19 53 22.7 -1.4
comp=Z,36nm,1.0s,mb5.5,baz=352,slow=8.2,SNR=74
ZAL S S 20 01 36.9 -0.4
comp=Z,0.6nm,0.4s,baz=352,slow=24,SNR=1.3
ZAL LR LR 20 21 29.1
comp=Z,11µm,20.7s,baz=161,slow=38
ZAL Zalesovo 61.21 333 P P 19 53 22.7 -1.4
ZAL S S 20 01 36.9 -0.4
ZAL LR LR 20 21 29.1
EKS2 Erkin-Say 61.30 318 P P 19 53 24.9 +0.1
SNR=172
KURK Kurchatov 62.31 328 P P 19 53 29.7 -1.8
KURK pmax pmax
comp=Z,54nm,0.8s,mb5.7
KURK Kurchatov 62.31 328 *e*P P 19 53 29.4 -2.1
comp=Z,154nm,0.8s,mb6.2
SEY Seymchan 62.87 13 *i*P P 19 53 37.8 +2.7
SEY *e* 19 54 11.9
SEY 19 56 01.0
SEY *e*S S 20 02 05.8 +7.7
SEY *e*SS SS 20 06 00.6 -5.5
SEY pmax pmax
comp=Z,140nm,1.2s,mb6.0
SEY pmax pmax
comp=N,40nm,0.9s
SEY smax
comp=N,9µm,23.1s
SEY smax
comp=E,5µm,21.6s
SEY MLR MLR
comp=Z,10µm,13.0s
SEY MLR MLR
comp=N,2µm,8.0s
BVA0 Borovoye Array 67.88 327 P P 19 54 05.8 -1.5
BVA0 pmax pmax
comp=Z,17nm,1.1s,mb5.0
BVAR Borovoye Array 67.88 327 P P 19 54 06.9 -0.4
comp=Z,114nm,1.1s,mb5.8,baz=127,slow=7.2,SNR=8.9
BVAR S S 20 02 57.5 -2.0
comp=Z,0.3nm,0.4s,baz=111,slow=14,SNR=2.3
CHKZ Chkalovo 68.05 328 *e*P P 19 54 06.4 -2.0
CHKZ pmax pmax
comp=Z,41nm,0.9s,mb5.5
CHKZ Chkalovo 68.05 328 *e*P P 19 54 06.4 -1.9
comp=Z,41nm,0.9s,mb5.5
TIXI Tiksi 68.66 1⇑ *i*P P 19 54 11.1 -0.7
CASY Casey 69.99 187 *e*P P 19 54 20.6 +0.6
DRV Dumont d'Urvil 70.09 174 S S 20 03 30.0 +4.6
BILL Bilibino 70.39 15⇓ *i*P P 19 54 23.1 +0.6
BILL *i* 19 54 49.6
BILL *i* S S 20 03 30.4 +1.5
BILL *i* SS SS 20 08 06.3 +4.0
BILL pmax pmax
comp=Z,36nm,1.7s,mb5.0
BILL Bilibino 70.39 15 *e*P P 19 54 22.6 +0.1
comp=Z,24nm,1.0s,mb5.1
MIR Mirnyy 73.32 193*d i*P P 19 54 41.0 +1.1
MIR pmax pmax
comp=Z,130nm,1.6s,mb5.6
MIR MLR MLR
comp=N,2µm,20.0s
MIR MLR MLR
comp=Z,5µm,20.0s
SVE Sverdlovsk 74.54 329⇑ *i*P P 19 54 48.0 +0.9
SVE *e* 20 04 16.0
SVE pmax pmax
comp=Z,300nm,2.4s,mb5.8
ARU Arti 75.50 328⇑ *i*P P 19 54 52.1 -0.6
ARU *e* pP 19 55 06.8 -3.2
ARU *e* 19 57 40.7
ARU *e*S S 20 04 31.4 +4.6
ARU *e*SS SS 20 09 23.1 +2.0
ARU pmax pmax
comp=Z,98nm,1.0s,mb5.7
ARU Arti 75.50 328 *e*P P 19 54 50.7 -2.0
comp=Z,122nm,0.9s,mb5.8
RAR Rarotonga 75.93 113 LR LR 20 25 15.4
comp=Z,1µm,21.1s,baz=111,slow=33
TNA Tin City 77.42 23 *e*P P 19 54 59.5 -3.8
comp=Z,17nm,1.4s,mb4.8
MAK Makhachkala 79.97 313*d i*P P 19 55 18.0 +0.3
MAK *i* pP 19 55 39.0 +3.8
MAK *e* 19 58 20.0
MAK *e*PPP PPP 20 00 20.0 +7.3
MAK *e*S S 20 05 16.0 +0.9
MAK *e*PS PS 20 06 11.0 +2.5
MAK pmax pmax
comp=Z,2µm,7.8s
MAK smax
comp=E,2µm,8.0s
DGRG David-gareji 81.43 311 P P 19 55 25.5 +0.1
BHD Baghdad 81.83 303 *i* P P 19 55 21.5 -6.2
GNI Garni 81.83 310 *e*P P 19 55 27.1 -0.4
GNI Garni 81.83 310 *e*P P 19 55 28.1 +0.6
GNI pmax pmax
comp=Z,44nm,1.0s
GNI Garni 81.83 310 P P 19 55 28.8 +1.2
comp=Z,7.0nm,0.9s,mb4.6,baz=353,slow=9.1,SNR=14
GNI S S 20 05 39.1 +4.8
comp=Z,0.4nm,0.3s,baz=185,slow=18,SNR=1.1
GNI Garni 81.83 310 *e*P P 19 55 28.1 +0.5
comp=Z,44nm,1.0s,mb5.3
GNI *e* 19 55 38.6
MTA Mtatsminda 81.88 312 P P 19 55 27.9 +0.1
TBLG Delisi 81.93 312 P P 19 55 29.2 +1.2
ZEI Tsey 82.61 313 *e*P P 19 55 25.2 -6.2
ZEI *i* 19 58 40.1
ZEI *e*S S 20 05 42.3 +0.2
ZEI pmax pmax
comp=Z,26nm,0.8s,mb5.3
VNDA Vanda 82.65 173 P P 19 55 31.9 +0.9
comp=Z,12nm,0.9s,mb5.0,baz=321,slow=6.1,SNR=32
VNDA S S 20 05 45.2 +3.2
comp=Z,0.3nm,0.7s,baz=86,slow=19,SNR=0.9
VNDA Vanda 82.65 173 P P 19 55 31.9 +0.9
VNDA S S 20 05 45.2 +3.2
VANB Van 82.81 308 *e*P P 19 55 33.1 +0.5
MAW Mawson 82.92 200 *e*P P 19 55 33.3 +0.8
MAW pmax pmax
comp=Z,98nm,1.4s
MAW Mawson 82.92 200 P P 19 55 32.7 +0.2
comp=Z,15nm,0.9s,mb5.0,baz=74,slow=8.7,SNR=7.5
MAW Mawson 82.92 200 *e*P P 19 55 33.3 +0.8
comp=Z,98nm,1.5s,mb5.6
MSL Mosul 82.98 306 *e*P P 19 55 35.5 +2.0
IMA Indian Mountai 83.21 24 *e*P P 19 55 36.0 +2.0
IMA pmax pmax
comp=Z,200nm,1.0s,mb6.1
IMA Indian Mountai 83.21 24 *e*P P 19 55 36.0 +2.0
comp=Z,197nm,1.0s,mb6.1
ATD Arta Tunnel 83.22 281 P P 19 55 36.8 +1.6
comp=Z,78nm,0.9s,mb5.7,baz=331,slow=2.8,SNR=28
SPU Mount Spurr 83.32 29 *e*P P 19 55 35.9 +1.2
SPU *e* 19 55 44.5
GOF Gofitskoye 83.34 315⇑ *i*P P 19 55 32.0 -3.1
GOF *i* 19 55 56.6
GOF pmax pmax
comp=Z,70nm,1.3s,mb5.5
GOF pmax pmax
comp=Z,2µm,4.0s
KIV Kislovodsk 83.54 314⇓ *i*P P 19 55 37.2 +1.0
KIV *i* S S 20 05 55.9 +4.4
KIV pmax pmax
comp=Z,81nm,2.5s,mb5.4
KIV Kislovodsk 83.54 314 *e*P P 19 55 35.9 -0.2
comp=Z,27nm,0.9s,mb5.4
SBA Scott Base 83.56 172 *e*P P 19 55 38.0 +2.4
SBA pmax pmax
comp=Z,30nm,1.0s,mb5.4
SBA Scott Base 83.56 172 *e*P P 19 55 38.0 +2.4
comp=Z,30nm,1.0s,mb5.4
SBA *e* pP 19 55 54.1 +0.9
SLKM Skilak Lake 84.16 30 *e*P P 19 55 39.6 +0.7
BCA Borcka 84.25 311 *e*P P 19 55 40.5 +0.7
BTMT Batman 84.30 308 *e*P P 19 55 41.3 +1.2
BEST Besiri 84.47 308 *i* P P 19 55 42.9 +1.9
MCK McKinley 84.98 26 *e*P P 19 55 43.4 +0.5
MCK pmax pmax
comp=Z,53nm,1.6s,mb5.4
MCK McKinley 84.98 26 *e*P P 19 55 43.4 +0.4
comp=Z,53nm,1.6s,mb5.4
PPT Papeete 85.07 108 *e*SS SS 20 11 59.7 +15
PPT *e*LR LR 20 22 52.8
comp=Z,7µm,31.8s
SML Sawmill 85.15 28 *e*P P 19 55 44.9 +1.1
COLA College 85.52 25⇓ *i*P P 19 55 46.5 +1.0
COLA College 85.52 25 *e*P P 19 55 44.9 -0.7
EZC Erzincan 85.61 309 *e*P P 19 55 50.1 +3.5
TBI Tubuai 85.66 114 *e*SS SS 20 11 55.9 +2.4
TBI *e*LQ 20 19 48.8
TBI *e*LR LR 20 23 27.0
comp=Z,5µm,36.0s
SOC Sochi 85.68 313 *i* P P 19 55 46.5 -0.4
SOC *e* 19 59 03.3
SOC *e*PPP PPP 20 01 00.5 -4.6
SOC *e*S S 20 06 08.7 -3.9
SOC pmax pmax
comp=Z,98nm,0.7s,mb6.2
SOC pmax pmax
comp=N,5.0nm,0.5s
SOC pmax pmax
comp=E,12nm,0.7s
ILAR Eielson Array 85.93 25 P P 19 55 46.9 -0.7
comp=E,1.4nm,0.5s,baz=245,slow=5.3,SNR=27
ILAR Eielson Array 85.93 25 P P 19 55 46.9 -0.7
PTK Pertek 85.94 309 *e*P P 19 55 49.7 +1.4
KELT Kelkit 86.04 310 *i* P P 19 55 51.6 +3.0
VOR Voronezh 86.06 321 *e*P P 19 55 48.7 +0.2
VOR pmax pmax
comp=Z,610nm,1.2s,mb6.7
VOR pmax pmax
comp=N,30nm,1.0s
VRSR Storozhevoye 86.07 321*c i*P P 19 55 48.5 0.0
VRSR *e* 19 59 05.8
VRSR *e*S S 20 06 17.8 +1.7
VRSR pmax pmax
comp=Z,270nm,0.9s,mb6.5
VRSR pmax pmax
comp=N,40nm,0.7s
VRSR pmax pmax
comp=E,210nm,0.8s
VRSR smax
comp=N,10.0nm,1.0s
VRSR smax
comp=Z,2.0nm,1.4s
VRSR smax
comp=E,9.0nm,1.0s
ELZG Elazig 86.27 308 *i* P P 19 55 51.4 +1.5
DIV Divide 86.36 29 *e*P P 19 55 48.9 -0.8
comp=E,95nm,0.9s,mb6.0
URFA Urfa 86.41 307 *e*P P 19 55 51.2 +0.7
MALT Malatya 86.71 308 *e*P P 19 55 52.3 +0.3
MALT Malatya 86.71 308 ⇑P P 19 55 54.2 +2.2
MALT Malatya 86.71 308 ⇑P P 19 55 54.3 +2.3
MYA Malataya 86.71 308 *e*P P 19 55 53.2 +1.2
MOS Moscow 86.98 326*c i*P P 19 55 53.0 +0.1
MOS *e* pP 19 56 12.3 +1.6
MOS *e*S S 20 06 19.2 -5.5
MOS pmax pmax
comp=Z,2µm,3.2s
MOS pmax pmax
comp=Z,312nm,1.2s,mb6.4
ANN Anapa 87.31 315*c i*P P 19 55 54.5 -0.3
ANN *e*S S 20 06 17.9 -10
ANN pmax pmax
comp=Z,265nm,1.0s,mb6.4
GZT Gaziantep 87.41 307 *i* P P 19 55 57.0 +1.5
OBN Obninsk 87.60 325*c i*P P 19 55 56.1 +0.2
OBN *i* 19 59 25.8
OBN *i* 20 06 17.7
OBN *i* S S 20 06 32.3 +1.7
OBN *i* PS PS 20 07 44.9 +2.4
OBN pmax pmax
comp=Z,231nm,1.0s,mb6.4
OBN Obninsk 87.60 325 *e*P P 19 55 55.6 -0.3
comp=Z,397nm,1.2s,mb6.5
GAZ Gaziantep 87.70 307 *e*P P 19 55 57.9 +1.1
SVST Sivas 87.82 310 *i* P P 19 55 59.5 +2.1
KAHT Ahir Dag 87.95 307 *i* P P 19 56 00.2 +2.1
TOKT Tokat 88.11 310 *e*P P 19 55 59.0 +0.3
ASF Jabal al Asfar 88.14 302 P P 19 56 00.8 +1.7
comp=Z,95nm,1.0s,mb6.0,baz=326,slow=1.0,SNR=69
APA Apatity 88.52 337⇓ *e*P P 19 56 05.0 +5.0
APA pmax pmax
comp=Z,18nm,1.0s,mb5.4
APA MLR MLR
comp=Z,18µm,18.0s
HTY Hatay 88.60 306 *e*P P 19 56 02.0 +0.8
CEYT Ceyhan 88.88 307 *e*P P 19 56 03.3 +0.8
BHL Bhannes 89.11 304 *e*P P 19 56 03.7 +0.1
DAWY Dawson 89.20 26 *e*P P 19 56 04.0 +0.7
BOYT Boyabat 89.30 311 *i* P P 19 56 04.6 +0.3
KMBO Kilima Mbogo 89.32 269 *i* P P 19 56 07.0 +1.9
KMBO pmax pmax
comp=Z,58nm,1.0s
KMBO Kilima Mbogo 89.32 269 P P 19 56 07.0 +1.9
comp=Z,58nm,1.0s,mb5.9,baz=58,slow=6.1,SNR=98
KMBO Kilima Mbogo 89.32 269 *e*P P 19 56 06.7 +1.6
comp=Z,92nm,1.1s,mb6.0
BYBT Boyabat 89.40 311 *e*P P 19 56 05.0 +0.2
CTKT Corum 89.43 310 *i* P P 19 56 05.0 +0.1
AVNT Avonos 89.49 309 *i* P P 19 56 05.7 +0.4
CORM Corum 89.58 310 *e*P P 19 56 04.9 -0.7
SIM Simferopol' 89.66 315 *e*P P 19 56 05.7 -0.2
SIM *e*S S 20 06 50.2 +0.2
SIM pmax pmax
comp=Z,67nm,0.9s,mb6.0
CDAG Cicekdag 89.81 309 *i* P P 19 56 05.7 -1.1
EIL Elat 89.93 300 P P 19 56 08.6 +1.0
comp=Z,54nm,1.1s,mb5.8,baz=34,slow=3.6,SNR=29
EIL Elat 89.93 300 *e*P P 19 56 08.3 +0.7
comp=Z,70nm,1.1s,mb5.9
TOS Tosya 89.99 311 *e*P P 19 56 07.2 -0.4
MEST Erdemli 90.19 306 *i* P P 19 56 00.3 -8.3
KAMT Kaman 90.34 309 *e*P P 19 56 08.5 -0.8
BRTR Keskin Array B 90.37 310 P P 19 56 09.2 -0.2
comp=Z,32nm,1.0s,mb5.6,baz=119,slow=4.6,SNR=79
BRTR PP PP 19 59 44.5 -2.1
comp=Z,1.8nm,0.8s,baz=112,slow=6.7,SNR=3.6
KEV Kevo 90.58 340 *e*p P 19 56 07.4 -2.3
comp=Z,1.3nm,0.4s,mb4.6
KEV Kevo 90.58 340 *e*P P 19 56 07.4 -2.3
KEV pmax pmax
comp=Z,1.0nm,0.4s
CSS Prodhromos 90.96 305 *e*P P 19 56 12.3 +0.1
comp=Z,62nm,1.0s,mb5.9
SAFT Safranbolu 90.98 311 *e*P P 19 56 12.1 -0.1
INK Inuvik 91.00 21 *e*P P 19 56 11.6 -0.1
INK pmax pmax
comp=Z,29nm,1.4s
INK Inuvik 91.00 21 P P 19 56 11.9 +0.2
comp=Z,3.9nm,0.7s,mb4.9,baz=269,slow=5.5,SNR=16
INK Inuvik 91.00 21 *e*P P 19 56 11.6 -0.1
comp=Z,29nm,1.4s,mb5.4
ANTO Ankara 91.01 310 *e*P P 19 56 10.7 -1.7
ANTO Ankara 91.01 310 P P 19 56 13.5 +1.1
ANTO Ankara 91.01 310 ⇑P P 19 56 12.8 +0.4
ANTO Ankara 91.01 310 ⇑P P 19 56 12.8 +0.4
LOD Lodumlu 91.03 310 *e*P P 19 56 12.0 -0.5
ARCES ARCESS Array B 91.13 340 P P 19 56 11.6 -0.7
comp=Z,14nm,0.7s,mb5.4,baz=79,slow=5.1,SNR=41
ARCES PKiKP 20 01 06.2
comp=Z,1.8nm,0.7s,baz=63,slow=2.7,SNR=5.7
SGKT Sivrigoynuk 91.51 311 *i* P P 19 56 14.5 -0.2
KIZT Kizilcal 91.80 309 *e*P P 19 56 15.7 -0.3
KAF Kangasniemi 92.21 332 *e*p P 19 56 15.5 -1.9
comp=Z,7.7nm,0.5s,mb5.3
KAF Kangasniemi 92.21 332 *e*P P 19 56 15.5 -1.9
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb5.3
HENT Hendek 92.36 311 *i* P P 19 56 16.3 -2.3
AKASG Malin Array Be 92.38 321 P P 19 56 17.3 -1.1
comp=Z,13nm,0.6s,mb5.5,baz=71,slow=4.0,SNR=74
FINES FINESS Array B 92.44 332 P P 19 56 17.9 -0.6
comp=Z,6.3nm,0.6s,mb5.1,baz=57,slow=4.7,SNR=47
FINES PKiKP 20 01 08.6
comp=Z,2.4nm,0.8s,baz=90,slow=7.6,SNR=3.7
ESKT Eskisehir 92.53 310 *i* P P 19 56 19.2 -0.2
QSPA South Pole Qui 92.83 180⇓ *i*P P 19 56 22.5 +2.6
comp=Z,75nm,1.6s,mb5.9
ISP Isparta 92.97 308 *i* P P 19 56 21.5 0.0
ISP Isparta 92.97 308 *i* P P 19 56 21.6 +0.1
KIS Kishinev 93.14 317 *e*P P 19 56 21.0 -1.0
HRT Hereke 93.29 311 *e*P P 19 56 21.3 -1.5
TLCR 93.38 315 ⇑P P 19 56 23.4 +0.3
ELL Elmali 93.56 307 *e*P P 19 56 24.5 +0.3
ISK Istanbul-Kandi 93.72 311 *e*P P 19 56 23.3 -1.5
TIRR Tirgusor 93.76 315 P P 19 56 25.8 +1.0
TIRR Tirgusor 93.76 315 ⇓P P 19 56 25.4 +0.6
TIRR Tirgusor 93.76 315 ⇓P P 19 56 25.5 +0.7
ULDT Uludag 93.78 310 *i* P P 19 56 24.8 -0.3
CFR Carcaliu 93.85 315 ⇓P P 19 56 25.4 +0.1
IAS Iasi 93.96 318 P P 19 56 26.8 +1.1
PSN Preselentsi 94.03 314 *i* P P 19 56 27.0 +0.9
HARR Harsova 94.06 315 P P 19 56 27.0 +0.8
HARR Harsova 94.06 315 ⇑P P 19 56 26.6 +0.4
HARR Harsova 94.06 315 ⇑P P 19 56 26.6 +0.4
MANT Manisa 94.42 309 *i* P P 19 56 28.7 +0.6
DLBC Dease Lake 94.55 31 P P 19 56 30.2 +2.1
comp=Z,4.6nm,0.7s,mb5.0,baz=296,slow=4.5,SNR=15
DLBC Dease Lake 94.55 31 P P 19 56 30.2 +2.1
PRD Provadia 94.66 314 *i* P P 19 56 30.5 +1.5
BTOK Tokmak 94.67 310 *i* P P 19 56 29.1 0.0
BNT Bandirma 94.67 311 *e*P P 19 56 29.1 0.0
VRI Vrincioaia 94.73 316 ⇓P P 19 56 30.4 +1.2
ISR Istrita 94.98 316 P P 19 56 32.4 +2.0
ISR Istrita 94.98 316 ⇓P P 19 56 31.5 +1.1
ISR Istrita 94.98 316 ⇓P P 19 56 31.5 +1.1
MLR Muntele Rosu 95.33 316 P P 19 56 33.2 +1.2
MLR Muntele Rosu 95.33 316 P P 19 56 32.8 +0.8
comp=Z,42nm,0.8s,mb5.9,baz=300,slow=1.9,SNR=87
MLR Muntele Rosu 95.33 316 ⇑P P 19 56 32.4 +0.4
MLR Muntele Rosu 95.33 316 ⇑P P 19 56 32.4 +0.4
JMB Yambol 95.36 313 *i* P P 19 56 33.5 +1.3
KDAG Bornova 95.44 309 *i* P P 19 56 30.3 -2.4
SUW Suwalki 95.46 325 *e*P P 19 56 33.1 +0.7
BURAR Bucovina Array 95.46 318 ⇓P P 19 56 33.1 +0.6
BLCB Balcova 95.62 309 *e*P P 19 56 32.9 -0.6
SNX Sinaia 95.65 316 P P 19 56 34.2 +0.7
SZH Strazhica 95.71 314 *e*P P 19 56 34.5 +0.7
AYVA Ayvalik 95.76 310 *i* P P 19 56 34.3 +0.2
MBAR Mbarara 95.80 270 *e*P P 19 56 34.4 -0.5
MBAR pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
MBAR Mbarara 95.80 270 *e*P P 19 56 34.4 -0.4
comp=Z,8.6nm,0.8s,mb5.2
ALN Alexandroupoli 96.00 311 *e*P P 19 56 35.0 -0.1
KWP Kalwaria 96.69 321 *e*P P 19 56 39.3 +1.2
KWP Kalwaria 96.69 321 *e*P P 19 56 39.4 +1.3
RZN Rozhen 96.86 312 *i* P P 19 56 39.5 +0.4
PGB Panagyurishte 97.11 313 *e*P P 19 56 40.5 +0.3
KOLS Kolonicke sedl 97.12 320 *e*P P 19 56 40.5 +0.4
KOLS *e* pP 19 57 00.2 +2.2
MMB Musomiste 97.61 312 *i* P P 19 56 42.5 0.0
CRVS Cervenica-Dubn 97.65 320 *e*P P 19 56 41.9 -0.6
CRVS *e* 19 56 44.1
IDI Anoyia 97.79 306 P P 19 56 44.5 +1.1
comp=Z,17nm,0.8s,mb5.6,baz=85,slow=9.2,SNR=7.2
SRS Serrai 97.80 312 *e*P P 19 56 42.0 -1.3
VTS Vitosha 97.80 314 P P 19 56 44.5 +1.2
VTS Vitosha 97.80 314 ⇑P P 19 56 43.3 0.0

VTS	Vitosha	97.80	314	*i* P		P	19 56 43.5 +0.2
VTS	Vitosha	97.80	314	⇑P		P	19 56 43.3 0.0
AOS	Alonnisos	97.93	310	*e*P		P	19 56 44.0 0.0
PAIG	Paliouri	97.95	311	*e*P		P	19 56 42.9 -1.1
DAG	Danmarks Havn	98.03	352	⇓*i*P		P	19 56 43.7 +0.1
DAG				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb5.4						
DAG	Danmarks Havn	98.03	352	⇓*i*P		P	19 56 43.7 +0.1
	comp=Z,5.1nm,0.4s,mb5.4						
KKB	Krupnik	98.03	313	*e*P		P	19 56 45.0 +0.7
BZS	Buzias	98.29	317	⇑P		P	19 56 45.0 -0.4
KNT	Kendrikon	98.30	312	*e*P		P	19 56 44.6 -1.0
KECS	Kecovo	98.38	320	*e*P		P	19 56 44.1 -1.7
OJC	Ojcow	98.38	322	*e*P		P	19 56 46.0 +0.3
RES	Resolute Bay	98.65	10	P		P	19 56 47.4 +1.0
RES				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.2						
RES	Resolute Bay	98.65	10	*e*P		P	19 56 46.8 +0.4
	comp=Z,9.0nm,1.0s,mb5.2						
GRG	Griva	98.71	312	*e*P		P	19 56 46.4 -1.0
LSZ	Lusaka	98.79	255	P		P	19 56 48.5 +0.2
LSZ				pmax	pmax		
	comp=Z,61nm,1.8s,mb5.8						
LSZ	Lusaka	98.79	255	*e*P		P	19 56 48.2 -0.1
	comp=Z,61nm,1.8s,mb5.8						
LIT	Litokhoron	98.81	311	*e*P		P	19 56 47.2 -0.7
PSZ	Piszkesteto	98.90	319	P		P	19 56 49.7 +1.5
PSZ	Piszkesteto	98.90	319	*e*P		P	19 56 49.0 +0.8
	comp=Z,7.7nm,0.9s,mb5.2						
PSZ	Piszkesteto	98.90	319	⇓*e*P		P	19 56 49.4 +1.2
RKT	Rikitea	98.97	113	*e*SKSac			20 07 28.9
RKT				*e*PS	PS		20 09 36.9 -13
RKT				*e*SS	SS		20 15 12.3 +9.2
RKT				*e*LR	LR		20 29 41.7
	comp=Z,3μm,36.2s						
GKP	Gorka Klasztor	99.07	325	*e*P		P	19 56 50.7 +1.9
AGG	Agios Georgios	99.14	310	*e*P		P	19 56 47.5 -2.0
SKO	Skopje	99.21	313	*i* P		P	19 56 49.5 -0.2
NB2	NORSAR Subarra	99.42	334	P		P	19 56 49.0 -1.2
	comp=Z,2.9nm,0.6s,mb5.0,baz=66,slow=4.6						
NOA	NORSAR Array B	99.42	334	P		P	19 56 49.3 -0.8
	comp=Z,8.7nm,0.9s,mb5.3,baz=67,slow=4.5,SNR=14						
VYHS	Vyhne	99.44	320	*e*P		P	19 56 50.7 +0.1
VYHS				*e*PP	PP		20 00 53.0 -3.9
OKC	Ostrava-Krasne	99.51	321	*e*PDIF		P	19 56 51.3 +0.4
OKC				*es*P	sP		19 57 13.6 -1.6
DIVS	Divcibare	99.76	316	⇑*i*P		P	19 56 52.9 +0.7
MORC	Moravsky Berou	99.91	322	P		P	19 56 54.2 +1.5
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
MORC	Moravsky Berou	99.91	322	⇓P		P	19 56 54.1 +1.4
MORC	Moravsky Berou	99.91	322	⇓P		P	19 56 54.1 +1.4
PKSM	Moragy	100.17	318	⇑P		P	19 56 54.3 +0.4
YKA	Yellowknife Ar	100.33	24	P		P	19 56 54.9 +0.6
	comp=Z,0.9nm,0.6s,baz=298,slow=4.3,SNR=16						
YKA				PP	PP		20 01 02.5 -1.1
	comp=Z,1.0nm,1.0s,baz=292,slow=7.0,SNR=3.8						
YKA				PKKPbc			20 13 11.3
	comp=Z,1.0nm,0.9s,baz=119,slow=2.8,SNR=4.5						
KSP	Ksiaz	100.36	323	*e*P		P	19 56 55.0 +0.3
KSP	Ksiaz	100.36	323	*e*P		P	19 56 55.6 +0.9
DPC	Dobruska-Polom	100.49	322	*e*PDIF		P	19 56 55.6 +0.3
DPC				*es*P			19 57 19.2
DPC				*ex*	x		20 01 14.4
DPC				*ex*	x		20 10 27.5
IGT	Igoumenitsa	100.56	311	*e*P		P	19 56 54.8 -1.1
UPC	Upice	100.63	323	*e*PDIF		P	19 56 56.7 +0.8
LBTB	Lobatse	101.12	245	*e*P		P	19 57 00.0 +1.3
PVCC	Panska Ves	101.50	323	*e*PDIF		P	19 57 01.4 +1.6
PVCC				*es*P			19 57 23.5
PRU	Pruhonice	101.69	322	*e*PDIF		P	19 57 01.5 +0.8
PRU				*es*P			19 57 23.3
PRU				*ex*	x		20 10 46.4
BRG	Berggiesshubel	101.76	323	*e*P		P	19 57 01.8 +0.9
BRG				pmax	pmax		
	comp=Z,21nm,1.4s						
BRG	Berggiesshubel	101.76	323	*e*P		P	19 57 01.8 +0.9
	comp=Z,21nm,1.4s						
BRG				*e*			19 57 25.4
CLL	Collm	102.17	324	*e*P		Pdif	19 57 04.0 +1.2
CLL				*e*			20 01 18.0
CLL	Collm	102.17	324	*e*P		Pdif	19 57 04.0 +1.2
CLL				*e*			19 57 13.0
CLL				*e*PP	PP		20 01 18.0 +0.4
CLL	Collm	102.17	324	*e*PDIF		Pdif	19 57 04.0 +1.2
CLL				*e*			19 57 13.0
CLL				*e*			19 57 25.0
CLL				*e*PP	PP		20 01 18.0 +0.4
CLL				*e**PPP			20 01 34.0
PERS	Pernice	102.38	319	*e*P		Pdif	19 57 05.3 +1.4
KHC	Kasperske Hory	102.56	322	*e*PDIF		Pdif	19 57 05.8 +1.2
KHC				*es*P			19 57 28.2
KHC				*e*PKP			20 01 29.8
KHC				*ex*	x		20 10 57.9
GERES	GERESS Array B	102.58	321	P		Pdif	19 57 04.8 +0.1
	comp=Z,4.2nm,1.0s,baz=72,slow=4.2,SNR=19						
GERES				PP	PP		20 01 20.7 -0.3
	comp=Z,3.9nm,1.0s,baz=68,slow=7.2,SNR=7.2						
BOJS	Bojanci	102.64	318	*e*P		Pdif	19 57 05.0 +0.1
NKC	Novy Kostel	102.88	323	*e*P		Pdif	19 57 07.4 +1.5
NKC				*e*			20 11 12.4
NKC	Novy Kostel	102.88	323	*e*PDIF		Pdif	19 57 07.4 +1.5
NKC				*es*P			19 57 29.6
NKC				*ex*	x		20 01 31.1
NKC				*ex*	x		20 11 12.4
MOX	Moxa	103.22	324	*e*P		Pdif	19 57 08.7 +1.3
MOX				pmax	pmax		
	comp=Z,31nm,1.8s						
MOX	Moxa	103.22	324	P		Pdif	19 57 08.7 +1.3
	comp=Z,31nm,1.8s						
MOX	Moxa	103.22	324	*i* P		Pdif	19 57 08.7 +1.3
	comp=Z,logA/T=1.2						
MOX				PP	PP		20 01 25.0 -0.8
ROBS	Robic	103.56	319	*e*P		Pdif	19 57 09.7 +0.7
GRA1	Grafenberg Arr	103.81	323	*e*Pdif		Pdif	19 57 11.5 +1.5
GRA1				*e*PP	PP		20 01 31.9 +1.9
GRF	Grafenberg Arr	103.81	323	*e*P		Pdif	19 57 11.5 +1.5
GRF				*e*			20 01 31.9
DAVOX	Davos	105.72	320	Pdiff		Pdif	19 57 18.9 +0.4
	comp=Z,4.2nm,0.8s,baz=146,slow=11,SNR=2.9						
NVAR	Mina Array Bea	107.61	48	PKKPbc			20 12 51.9
	comp=Z,0.9nm,0.5s,baz=132,slow=5.7,SNR=4.7						
LPG	La Plagne	108.23	320	*e*P		Pdif	19 57 30.0 +0.4
	comp=Z,21nm,1.3s						
LPG	La Plagne	108.23	320	*e*P		Pdif	19 57 30.0 +0.4
LPG				pmax	pmax		
	comp=Z,11nm,1.3s						
LPL	La Plagne	108.23	320	*e*P		Pdif	19 57 31.0 +1.4
	comp=Z,22nm,1.3s						
LPL	La Plagne	108.23	320	*e*P		Pdif	19 57 31.0 +1.4
LPL				pmax	pmax		
	comp=Z,11nm,1.3s						
SSF	Saint Saulge	109.58	323	*e*P		Pdif	19 57 35.2 -0.3
	comp=Z,48nm,1.6s						
TCF	Toulx Ste Croi	110.73	322	*e*P		Pdif	19 57 41.2 +0.6
	comp=Z,43nm,1.5s						
REDW	Red Top Meadow	111.00	41	*e*PKPdf		PKPdf	20 01 43.8 +4.0
PDAR	Pinedale Array	112.11	41	PKiKP			20 01 45.4
	comp=Z,0.6nm,0.4s,SNR=12						
PDAR				PKKPbc			20 12 35.8
	comp=Z,2.0nm,0.9s,baz=135,slow=2.1,SNR=6.7						
PDAR				PKKPab			20 12 45.6
	comp=Z,5.0nm,0.9s,baz=108,slow=4.7,SNR=13						
SRU	San Rafael	113.02	45	*e*PKIKP		PKPdf	20 01 46.8 +3.0
RSSD	Black Hills	114.96	38	PKIKP		PKPdf	20 01 49.9 +2.3
RSSD	Black Hills	114.96	38	*e*PKPdf		PKPdf	20 01 49.2 +1.6
ULM	Lac du Bonnet	115.78	29	PKP		PKPdf	20 01 50.5 +1.5
	comp=Z,1.6nm,0.5s,baz=300,slow=3.7,SNR=3.3						
ULM				PKKPbc			20 12 29.2
	comp=Z,1.6nm,0.4s,baz=34,slow=1.9,SNR=5.0						
ULM	Lac du Bonnet	115.78	29	PKP		PKPdf	20 01 50.5 +1.5
ULM				PKKPbc			20 12 29.2
ANMO	Albuquerque	117.73	48	PKIKP		PKPdf	20 01 57.3 +4.2
ANMO	Albuquerque	117.73	48	PKP		PKPdf	20 01 56.7 +3.7
	comp=Z,2.0nm,0.6s,baz=102,slow=3.4,SNR=6.3						
ANMO	Albuquerque	117.73	48	*e*PKPdf		PKPdf	20 01 56.7 +3.7
ESDC	Sonseca Array	117.92	318	PP		PP	20 03 12.0 -1.0
	comp=Z,3.9nm,1.0s,baz=63,slow=7.4,SNR=5.9						
BNM	Barren Site	117.94	49	*e*P		PKPdf	20 01 57.1 +3.6
MNTX	Cornudas Mount	119.93	51	*e*PKPdf		PKPdf	20 02 00.0 +2.6
SCHQ	Schefferville	121.40	9	PKP		PKPdf	20 02 02.0 +2.3
SCHQ	Schefferville	121.40	9	*e*PKPdf		PKPdf	20 02 01.9 +2.1
TXAR	Lajitas Array	122.27	52	PKP		PKPdf	20 02 04.8 +2.8
	comp=Z,1.8nm,0.5s,baz=294,slow=1.2,SNR=13						
TXAR				PKKPbc			20 12 02.0
	comp=Z,0.3nm,0.3s,baz=129,slow=8.0,SNR=7.0						
WMOK	Wichita Mounta	123.36	44	*e*PKIKP		PKPdf	20 02 06.1 +2.0
JCT	Junction City	124.75	49	PKIKP		PKPdf	20 02 09.9 +3.0
JCT	Junction City	124.75	49	*e*PKPdf		PKPdf	20 02 09.2 +2.3
CCM	Cathedral Cave	126.32	37	PKIKP		PKPdf	20 02 12.0 +2.3
CCM	Cathedral Cave	126.32	37	*e*PKPdf		PKPdf	20 02 11.2 +1.5
MIAR	Mount Ida	127.03	42	PKIKP		PKPdf	20 02 14.9 +3.7
MIAR	Mount Ida	127.03	42	*e*PKPdf		PKPdf	20 02 14.1 +2.9
SADO	Sadowa	127.29	23	PKP		PKPdf	20 02 13.5 +2.1
	comp=Z,1.5nm,0.3s,baz=291,slow=6.4,SNR=3.3						
OXF	Oxford	129.75	39	PKIKP		PKPdf	20 02 24.5 +8.1
OXF	Oxford	129.75	39	*e*PKPdf		PKPdf	20 02 18.3 +1.9
DBIC	Dimbokro	130.53	281	PKP		PKPdf	20 02 20.5 +2.1
	comp=Z,6.6nm,0.6s,baz=67,slow=3.8,SNR=10						
DBIC	Dimbokro	130.53	281	*e*PKPdf		PKPdf	20 02 20.2 +1.8
SWET	Sewanee	131.39	36	*e*PKPdf		PKPdf	20 02 21.5 +2.0
LRAL	Lakeview Retre	132.23	39	*e*PKPdf		PKPdf	20 02 23.2 +2.1
PLCA	Paso Flores	139.32	160	PKP		PKPdf	20 02 37.3 +3.3
	comp=Z,5.5nm,0.9s,baz=323,slow=1.6,SNR=4.3						
TRQA	Tornquist	144.17	169	*e*PKPdf		PKPdf	20 02 43.1 +0.5
JTS	JuntasAbangare	146.04	67	*e*PKP2		PKPab	20 02 47.3 -2.9
JTS	JuntasAbangare	146.04	67	PKPbc		PKPbc	20 02 50.2 +2.6
	comp=Z,9.3nm,0.6s,baz=325,slow=4.4,SNR=7.3						
MDZ	Mendoza	146.89	156	*e*P		PKPdf	20 02 55.3 +7.9
CFAA	Coronel Fontan	148.26	156	PKPbc		PKPdf	20 02 53.3 +3.6
	comp=Z,2.4nm,0.8s,baz=226,slow=2.6,SNR=20						
OTAV	Otavalo	154.85	83	*e*PKPdf		PKPdf	20 03 04.1 +4.2
OTAV				*e*			20 03 13.9
ROSC	El Rosal	157.79	70	PKP		PKPdf	20 03 07.6 +3.9
	comp=Z,4.9nm,0.4s,baz=91,slow=23,SNR=4.1						
CAM4	Nova Friburgo	157.96	208	*e*P		PKPab	20 03 42.3 +2.8
CAM4				*i*			20 03 44.9
SDV	Santo Domingo	159.28	55	PKP		PKPdf	20 03 08.3 +2.8
	comp=Z,2.0nm,0.3s,baz=276,slow=2.9,SNR=9.1						
SDV				PKPab		PKPab	20 03 46.5 +1.1
	comp=Z,11nm,0.7s,baz=352,slow=0.6,SNR=7.1						
SDV	Santo Domingo	159.28	55	*e*PKPdf		PKPdf	20 03 08.0 +2.5
LPAZ	La Paz	160.40	134	PKP		PKPdf	20 03 11.7 +5.1
	comp=Z,4.3nm,1.0s,baz=34,slow=1.3,SNR=14						
LPAZ	La Paz	160.40	134	*e*PKPdf		PKPdf	20 03 11.5 +4.9
SIV	San Ignacio	165.01	151	PKP		PKPdf	20 03 15.3 +4.1
	comp=Z,2.7nm,1.0s,baz=186,slow=3.7,SNR=8.1						
SIV				PKPab		PKPab	20 04 11.5 +1.3
	comp=Z,6.5nm,0.9s,baz=227,slow=4.4,SNR=7.7						
BAO	Brasilia Array	166.25	203	PKPdf		PKPdf	20 03 11.0 -1.3
BDFB	Brasilia	166.25	203	PKPab		PKPab	20 04 16.9 +1.3
	comp=Z,5.3nm,0.9s,baz=265,slow=5.8,SNR=4.1						
SAML	Samuel	168.65	122	*e*PKPdf		PKPdf	20 03 16.3 +2.4
SAML				*e*PKPdif			20 03 38.4

DMN ***07*** *20:04:29.4±0.8,31.01N×83.32E,h10km,Ml6.8/5,Error ellipse: s-maj=21.8km s-min=15.0km az=72.0*

IDC ***07*** *20:04:39.4±0.3,30.45N×83.80E,mb5.5/35,mb1 5.6/37, mb1mx5.6/37,mbtmp5.4/37,ML4.4/2,MS6.0/27,Ms1 6.0/27, ms1mx5.9/31,Error ellipse: s-maj=8.7km s-min=7.2km az=36.0*

LDG ***07*** *20:04:39.4±0.2,30.53N×83.38E,h10km,Mb5.9/41, Ms6.0/7,Error ellipse: s-maj=10.5km s-min=5.7km az=145.0*

BJI ***07*** *20:04:40.4,30.62N×83.73E,h16km,mB6.6,mb5.5,Ms6.6, Msz6.4*

BGS ***07*** *20:04:41.2,30.49N×83.66E,h11km,mb6.0*

NEIC ***07*** *20:04:41.1±0.1,30.49N×83.66E,h11km,mb6.0/177, ME6.0,MS6.1/142,MW6.2,Error ellipse: s-maj=3.8km s-min=2.2km az=216.0 Broadband fault plane solution: P waves. NP1:*ϕ_s*350°,*δ*45°,*λ*-90°. NP2:*ϕ_s*170°,*δ*45°,*λ*-90°. Principal axes: T Plg0°, Azm80°; N Plg0°, Azm0°; P Plg90°, Azm0°; Moment Tensor Solution. s35 Moment tensor: Scale* 10^{18} *Nm;* M_{rr}*-2.38;* $M_{\theta\theta}$*-0.03;* $M_{\phi\phi}$*2.41;* $M_{r\theta}$*0.16;* $M_{\theta\phi}$*-0.39;* $M_{\phi r}$*0.08; Best double couple:* M_0*2.4×*10^{18} *NP1:* ϕ_s*347°,*δ*44°,*λ*-96°. NP2:*ϕ_s*175°,*δ*46°,*λ*-84°. Principal axes: T 2.47, Plg1°, Azm261°; N -.08, Plg4°, Azm351°; P -2.4, Plg86°, Azm162°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Minor damage at Paryang.

HRVD ***07*** *20:04:41.1±0.1,30.24N×83.77E,h12km,MW6.3/77, Centroid moment Tensor Solution. LP body waves: s73,c172;Mantle waves: s77,c343; Half duration: 3s4 Moment tensor: Scale* 10^{18}*Nm;* M_{rr}*-2.96±.02;* $M_{\theta\theta}$*-0.64±.02;* $M_{\phi\phi}$*3.59±.02;* $M_{r\theta}$*0.03±.07;* $M_{\theta\phi}$*-0.76±.02;* $M_{\phi r}$*-0.25±.06; Best double couple:* M_0*3.35×*10^{18} *NP1:* ϕ_s*170°,*δ*43°,*λ*-91°. NP2:*ϕ_s*351°,*δ*47°,*λ*-89°. Principal axes: T 3.73, Plg2°, Azm80°; N -.768, Plg0°, Azm170°; P -2.969, Plg88°, Azm271°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=125s.*

CRAAG ***07*** *20:04:42.6,30.59N×83.61E,Mb6.0*

MOS ***07*** *20:04:43.0±1.1,30.53N×83.70E,h33km,mb6.0/75, MS6.2/66,Error ellipse: s-maj=6.3km s-min=3.3km az=127.4*

NDI ***07*** *20:04:44.8±6.4,30.27N×83.66E,h15km±36km,ML5.8, MS6.0,mb6.0(NEIC)*

ISC 07 20:04:40.2±0.1,30.52N±0.02×83.66E±0.01,h15km, h15km±1.3km:pP-P,n1127,σ1¹14/1101,mb5.8/244, MS6.1/211,81C-152D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	Gorkha	2.65	161	*e*Pn	Pn	20 05 24.1	+0.9
GKN				*e*Sn	Sn	20 06 04.8	+10
	159μm,1.1s						
KOLN	Koldanda	2.74	181	*e*Pn	Pn	20 05 24.8	+0.3
KOLN				*e*Sn	Sn	20 06 06.4	+8.8
	580μm,1.7s						
KKN	Kakani	3.07	152	*e*Pn	Pn	20 05 30.4	+1.3
KKN				*e*Sn	Sn	20 06 15.6	+10
	152μm,1.4s						
PTH	Pithoragarh	3.13	253	*e*P	Pn	20 05 34.6	+4.5
PTH				*e*		20 06 20.6	
LGTI	Lohaghat	3.14	251	*e*P	Pn	20 05 36.5	+6.3
LGTI				*e*		20 06 56.0	
DMN	Daman	3.16	156	*e*Pn	Pn	20 05 31.2	+0.7
DMN				*e*Sn	Sn	20 06 17.4	+9.1
	357μm,1.4s						
VLK	Valmikinagar	3.19	177	*i* P	Pn	20 05 32.0	+1.0
VLK				*e*		20 05 54.0	
PKI	Pulchoki	3.31	152	*e*Pn	Pn	20 05 33.3	+0.7
PKI				*e*Sn	Sn	20 06 21.8	+10
	125μm,1.2s						
JOSI	Joshimath	3.54	272	*e*	Pn	20 05 27.0	-8.8
JOSI				*e*		20 05 44.8	
JIRN	Jiri	3.61	141	*e*Pn	Pn	20 05 38.1	+1.2
KLP	Kalpa	4.75	284	*e*P	Pn	20 05 57.3	+4.3
KLP				*e*		20 06 23.4	
DDI	Dehra Dun	4.84	269	*e*P	Pn	20 05 59.0	+4.7
DDI				*e*		20 07 37.0	
ALBI	Allahabad	5.44	198	*e*P	Pn	20 06 01.5	-1.3
SMLA	Simla	5.61	278	⇑*i*	Pn	20 05 59.3	-5.9
SMLA				*i* S	Sn	20 07 09.1	-1.1
SLGI	Shiliguri	5.66	131	*e*P	Pn	20 06 07.7	+1.9
SLGI				*e*		20 06 30.1	
SDNR	Sundarnagar	5.82	281	*e*P	Pn	20 06 11.0	+2.8
SDNR				*e*		20 07 54.0	
NDI	New Delhi	5.90	254	⇑*i*P	Pn	20 06 11.0	+1.8
NDI				*e*S	Sn	20 07 11.0	-6.3
AGRA	Agra	5.98	238	*e*P	Pn	20 06 13.2	+2.7
AGRA				*e*		20 07 19.1	
AGRA				*e*		20 08 02.5	
	comp=E,42μm,1.4s						
AGRA				*e*		20 08 03.0	
	comp=Z,14μm,1.1s						
AYAN	Aya Nagar	6.04	252	*e*P	Pn	20 06 13.6	+2.4
AYAN				*e*		20 08 03.1	
SONA	Sohna	6.16	250	*e*P	Pn	20 06 15.4	+2.4
SONA				*e*		20 07 44.2	
SONA				*e*		20 08 13.6	
	comp=N,7μm,1.4s						
BHK	Bhakra	6.28	280	*e*	Pn	20 06 19.6	+4.9
BHK				*e*		20 08 00.0	
PONG	Pong	6.75	284	*e*P	Pn	20 06 24.0	+2.7
PONG				*e*		20 08 28.0	
JHNI	Jhansi	6.76	223	*e*P	Pn	20 06 20.0	-1.5
JHNI				*e*		20 08 09.0	
DLH	Dalhousie	6.87	289	*e*P	Pn	20 06 26.0	+3.1
DLH				*e*		20 08 30.0	
THN	Thein Dam	7.04	288	*e*P	Pn	20 06 28.1	+2.7
THN				*e*		20 11 59.4	
KHET	Khetri	7.27	252	*e*P	Pn	20 06 29.6	+1.0
KHET				*e*		20 07 54.6	
JMU	Jammu	7.78	289	*e*	Pn	20 06 48.0	+12
BLSP	Bilaspur	8.46	190	⇓*i*P	P	20 06 43.3	-1.9
BLSP				*e*		20 08 16.9	
BLSP				*e*		20 09 08.4	
BLSP				*e*		20 10 33.7	
	comp=Z,150μm,13.8s						
SHL	Shillong	8.78	122	*e*P	P	20 06 48.0	-1.6
SHL				*e*		20 08 24.0	
	comp=Z,7μm,1.0s						
AJM	Ajmer	8.89	245	⇑*i*P	P	20 06 51.0	-0.1
CAL	Calcutta	8.98	151	*e*P	P	20 06 51.9	-0.5
CAL				*e*		20 08 35.6	
BHPL	Bhopal	9.13	219	*e*P	P	20 06 52.0	-2.5
BHPL				*e*		20 09 20.0	
BHPL				*e*		20 10 54.7	
	comp=Z,168μm,17.6s						
SARP	Sargodha	9.51	281	P	P	20 06 59.0	-0.7
THW	Thamme Wali	10.40	286	P	P	20 07 11.0	-1.0
CEP	Cherat	10.49	291	P	P	20 07 12.6	-0.5
KSH	Kashi	10.96	327	*e*P	P	20 07 18.8	-0.8
KSH				*e*AP		20 07 21.0	
KSH				*e*XP		20 07 24.6	
KSH				*e*PP	PP	20 07 27.2	-0.7
KSH				*e*PPP	PPP	20 07 34.4	-1.4
KSH				*e*S	S	20 09 20.6	-2.3
KSH				*e*SS	SS	20 09 33.5	-3.4
KSH				LR	LR		
	comp=N,143μm,9.1s						
KSH				LR	LR		
	comp=E,561μm,14.5s						
SBDP	Sheikh Budin	11.12	282	P	P	20 07 21.2	-0.6
LKP	Lekhapani	11.33	103	*e*P	P	20 07 21.5	-3.1
LKP				*e*		20 07 38.0	
AKL	Akola	11.46	213	⇓*i*P	P	20 07 23.0	-3.4
DRP	Derazinda	11.59	279	P	P	20 07 27.2	-1.0
JASL	Jaisalmer	11.75	255	*e*P	P	20 07 28.8	-1.6
JASL				*e*		20 09 53.5	
VIS	Vishakhapatnam	12.74	181	*e*P	P	20 07 39.5	-4.2
VIS				*i*		20 08 00.7	
	comp=Z,1μm,1.1s						
VIS				*e*		20 09 55.2	
VIS				*e*		20 11 25.9	
	comp=E,3μm,1.1s						
VIS				*e*		20 11 27.4	
	comp=N,2μm,1.1s						
VIS				*e*		20 12 55.6	
	comp=Z,83μm,13.0s						
ULHL	Ulahol	13.13	335	P	P	20 07 51.8	+2.9
	SNR=9.9						
KZA	Kyzart	13.37	332	P	P	20 07 50.5	-1.5
	SNR=48						
BHV	Bhavnagar	13.52	233	*e*P	P	20 07 51.0	-3.1
WMQ	Urumqi	13.66	12	P	P	20 07 57.3	+1.5
WMQ				AP		20 08 00.8	
WMQ				XP		20 08 04.3	
WMQ				PP	PP	20 08 08.3	+1.7
WMQ				PPP	PPP	20 08 15.3	+1.7
WMQ				S	S	20 10 31.1	+2.9
WMQ				XS		20 10 36.1	
WMQ				SS	SS	20 10 46.1	+1.8
WMQ				SCP		20 16 53.5	
WMQ				PCS		20 16 55.6	
WMQ				SCS	ScS	20 20 29.3	+1.0
WMQ				AMB	AMB		
	comp=Z,112nm,1.5s						
WMQ				AMB	AMB		
	comp=Z,11μm,7.9s						
WMQ				LR	LR		
	comp=N,177μm,22.0s						
WMQ				LR	LR		
	comp=E,57μm,17.0s						
WMQ				LR	LR		
	comp=Z,60μm,17.0s						
LATR	Latur	13.66	210	*e*P	P	20 07 52.5	-3.5
UCH	Uchtor	13.80	330	P	P	20 07 55.7	-2.0
	SNR=94						
AAA	Alma-Ata	13.81	339	*i* P	P	20 07 56.6	-1.1
AAA				*i* S	S	20 10 30.0	-1.7
AAA				pmax	pmax		
	comp=Z,4μm,8.0s						
AAA				smax			
	comp=N,3μm,7.0s						
AAA				MLR	MLR		
	comp=Z,140μm,11.0s						
HYB	Hyderabad	13.85	201	*e*P	P	20 07 52.0	-6.4
HYB				pmax	pmax		
	comp=Z,933nm,0.6s						
HYB	Hyderabad	13.85	201	*e*P	P	20 07 52.0	-6.4
	comp=Z,933nm,0.6s						
HYB				*e*S	S	20 10 20.0	-13
HYB	Hyderabad	13.85	201	*i* P	P	20 07 52.0	-6.4
	comp=Z,933nm,0.6s						
HYB				*e*S	S	20 10 20.0	-13
HYB				LR	LR		
	comp=Z,92nm,16.0s						
TKM2	Tokmak 2	13.95	335	P	P	20 08 00.1	+0.4
	SNR=104						
KBK	Karagaybulak	13.98	332	P	P	20 07 59.5	-0.4
	SNR=24						
AML	Almayashu	14.09	328	P	P	20 07 59.6	-1.8
	SNR=55						
AAK

MKAR				LR	LR	20 15 28.6	
	comp=Z,15μm,21.4s,baz=313,slow=40						
MKAR				P3KPbc		20 43 48.0	
	comp=Z,0.1nm,0.3s,baz=3.7,slow=3.1,SNR=12						
CD2	**Chengdu**	**17.29**	**84**	P	**P**	**20 08 41.6**	**-1.1**
CD2				S	**S**	**20 11 49.6**	**-3.7**
CD2				SS	SS	20 12 12.3	-2.7
CD2				AMB	AMB		
	comp=Z,160nm,1.0s						
CD2				LR	LR		
	comp=Z,140μm,10.2s						
GOA	**Goa**	**17.46**	**213⇑**	*e*	**P**	**20 08 40.6**	**-4.4**
GOA				*e*		20 11 40.1	
MDRS	**Chennai**	**17.65**	**191**	*e*	**P**	**20 08 43.0**	**-4.3**
MDRS				*e*		20 11 49.0	
MDRS				*e*		20 13 31.0	
MDRS				*e*		20 14 06.0	
MDRS				*e*		20 15 30.0	
KMI	**Kunming**	**17.71**	**103**	P	**P**	**20 08 46.6**	**-1.4**
KMI				AP		20 08 49.7	
KMI				XP		20 08 51.5	
KMI				PP	PP	20 09 00.3	-2.4
KMI				S	**S**	**20 12 05.7**	**+2.9**
KMI				XS		20 12 11.3	
KMI				SS	SS	20 12 27.0	+1.5
KMI				AMB	AMB		
	comp=Z,51nm,1.0s						
KMI				AMB	AMB		
	comp=Z,14μm,8.1s						
KMI				LR	LR		
	comp=N,282μm,19.2s						
KMI				LR	LR		
	comp=E,113μm,17.8s						
KMI				LR	LR		
	comp=Z,248μm,21.2s						
KMI	**Kunming**	**17.71**	**103**	P	**P**	**20 08 46.6**	**-1.4**
KMI				S	**S**	**20 12 05.7**	**+2.9**
KMI				pmax	pmax		
	comp=Z,51nm,1.0s						
KMI	**Kunming**	**17.71**	**103**	P	**P**	**20 08 46.6**	**-1.4**
	comp=Z,51nm,1.0s						
KMI				pP		20 08 49.7	
KMI				sP		20 08 51.5	
KMI				PP	PP	20 09 00.3	-2.4
KMI				S	**S**	**20 12 05.7**	**+2.9**
KMI				sS		20 12 11.3	
KMI				SS	SS	20 12 27.0	+1.5
LZH	**Lanzhou**	**17.76**	**66**	⇓P	**P**	**20 08 49.5**	**+1.0**
LZH				AP		20 08 57.0	
LZH				XP		20 09 00.9	
LZH				PP	PP	20 09 05.0	+1.7
LZH				S	**S**	**20 12 06.0**	**+2.2**
LZH				AMB	AMB		
	comp=Z,990nm,1.2s						
LZH				AMB	AMB		
	comp=Z,10μm,6.3s						
LZH				LR	LR		
	comp=N,200μm,12.7s						
LZH				LR	LR		
	comp=Z,222μm,13.0s						
LZH	**Lanzhou**	**17.76**	**66**	⇓P	**P**	**20 08 49.5**	**+1.0**
LZH				S	**S**	**20 12 06.0**	**+2.2**
LZH				pmax	pmax		
	comp=Z,990nm,1.2s						
LZH	**Lanzhou**	**17.76**	**66**	⇓P	**P**	**20 08 49.5**	**+1.0**
	comp=Z,990nm,1.2s						
LZH				pP		20 08 57.0	
LZH				sP		20 09 00.9	
LZH				PP	PP	20 09 05.0	+1.7
LZH				S	**S**	**20 12 06.0**	**+2.2**
LZH				sS		20 12 20.0	
LZH				SS	SS	20 12 30.0	+3.4
CHG	**Chiang Mai**	**18.11**	**127**	⇑P	**P**	**20 08 51.4**	**-1.6**
	comp=Z,150nm,1.2s						
CM31	**Chiang Mai Arr**	**18.35**	**127**	⇓*e*P	**P**	**20 08 53.5**	**-2.5**
	comp=Z,781nm,1.3s						
CMAR	**Chiang Mai Arr**	**18.35**	**127**	P	**P**	**20 08 54.2**	**-1.9**
	comp=Z,1.1nm,0.3s,baz=320,slow=9.9,SNR=56						
CMAR				S	**S**	**20 12 18.3**	**+0.9**
	baz=293,slow=10,SNR=2.0						
CMAR				PcP	PcP	20 13 28.8	+0.8
	comp=Z,0.5nm,0.3s,baz=297,slow=1.7,SNR=7.8						
CMAR				LR	LR	20 15 47.8	
	comp=Z,73μm,21.4s,baz=305,slow=37						
CMAR				ScP		20 17 01.4	
	comp=Z,0.1nm,0.3s,baz=315,slow=3.8,SNR=4.9						
CMAR				PKiKP		20 21 17.3	
	comp=Z,0.1nm,0.3s,baz=261,slow=1.3,SNR=5.8						
CMAR				P3KPbc		20 43 41.1	
	comp=Z,0.1nm,0.3s,baz=164,slow=3.3,SNR=11						
BDT	**Bhumibol Dam**	**19.25**	**130**	P	**P**	**20 09 05.0**	**-1.8**
	comp=Z,93nm,1.2s						
NANT	**Nan**	**19.36**	**123**	⇓P	**P**	**20 09 07.0**	**-1.1**
	comp=Z,1μm,0.5s						
KURK	**Kurchatov**	**20.53**	**351**	P	**P**	**20 09 19.8**	**-0.7**
KURK				pmax	pmax		
	comp=Z,866nm,1.2s						
KURK	**Kurchatov**	**20.53**	**351**	⇓*e*P	**P**	**20 09 19.4**	**-1.1**
	comp=Z,902nm,0.9s						
KURK				LR	LR		
	comp=Z,12μm,20.0s,MS5.2						
GYA	**Guiyang**	**20.61**	**96⇑**	*i*P	**P**	**20 09 20.5**	**-1.1**
GYA				AP		20 09 28.1	
GYA				XP		20 09 32.3	
GYA				S	**S**	**20 13 10.3**	**+3.8**
GYA				AMB	AMB		
	comp=Z,200nm,1.1s						
GYA				AMB	AMB		
	comp=Z,24μm,8.0s						
GYA				LR	LR		
	comp=N,163μm,14.6s,MS6.6						
GYA				LR	LR		
	comp=E,70μm,12.3s,MS6.6						
GYA				LR	LR		
	comp=Z,65μm,11.1s,MS6.2						
XAN	**Xi'an**	**21.63**	**74**	P	**P**	**20 09 30.4**	**-1.5**
XAN				AP		20 09 36.6	
XAN				S	**S**	**20 13 22.2**	**-3.7**
XAN				AMB	AMB		
	comp=Z,198nm,1.2s,mb5.4						
XAN				LR	LR		
	comp=N,26μm,11.9s,MS6.2						
XAN				LR	LR		
	comp=E,57μm,14.5s,MS6.2						
XAN				LR	LR		
	comp=Z,73μm,14.7s,MS6.2						
ASH	**Ashkhabad**	**22.15**	**296⇑**	*i*P	**P**	**20 09 39.0**	**+1.9**
KKTK	**Khon Kaen**	**22.50**	**125**	P	**P**	**20 09 41.0**	**+0.3**
	comp=Z,7μm,0.6s						
TRD	**Trivandrum**	**22.77**	**197**	⇓*e*P	**P**	**20 09 46.2**	**+2.7**
TRD				*e*S	**S**	**20 13 54.2**	**+7.1**
NNT	**Nongplab**	**23.23**	**137**	P	**P**	**20 09 49.5**	**+1.7**
PALK	**Pallekele**	**23.29**	**187**	⇓*e*P	**P**	**20 09 50.4**	**+1.9**
	comp=Z,529nm,1.1s,mb5.9						
PALK				LR	LR		
	comp=Z,12μm,21.0s,MS5.3						
ZAL	**Zalesovo**	**23.42**	**2**	P	**P**	**20 09 50.5**	**+1.1**
	comp=Z,85nm,0.9s,mb5.2,baz=288,slow=11,SNR=109						
ZAL				PcP	PcP	20 13 37.0	-0.3
	comp=Z,12nm,0.9s,baz=177,slow=4.2,SNR=2.5						
ZAL				S	**S**	**20 14 10.6**	**+13**
	comp=Z,6.8nm,0.8s,baz=87,slow=16,SNR=1.6						
ZAL				ScP		20 17 13.1	
	comp=Z,8.3nm,1.0s,baz=80,slow=24,SNR=8.5						
BTO	**Baotou**	**23.61**	**58**	*e*P	**P**	**20 09 51.8**	**+0.4**
BTO				LR	LR		
	comp=N,27μm,9.5s						
BTO				LR	LR		
	comp=E,38μm,10.2s						
BVA0	**Borovoye Array**	**24.49**	**340**	P	**P**	**20 10 00.6**	**+0.8**
BVA0				pmax	pmax		
	comp=Z,132nm,2.0s,mb5.0						
BVAR	**Borovoye Array**	**24.49**	**340**	P	**P**	**20 10 00.7**	**+0.9**
	comp=Z,33nm,0.6s,mb5.0,baz=141,slow=8.4,SNR=132						
BVAR				PcP	PcP	20 13 40.1	+0.5
	comp=Z,12nm,0.7s,baz=162,slow=4.6,SNR=5.5						
BVAR				S	**S**	**20 14 23.4**	**+6.8**
	comp=Z,3.4nm,0.8s,baz=258,slow=36,SNR=1.6						
BVAR				P3KPbc		20 43 07.7	
	comp=Z,2.0nm,0.9s,baz=270,slow=2.9,SNR=11						
SONM	**Songino Array**	**24.55**	**39**	P	**P**	**20 10 02.4**	**+2.0**
	comp=Z,55nm,0.8s,mb5.2,baz=230,slow=9.6,SNR=144						
SONM				PcP	PcP	20 13 39.3	-0.4
	comp=Z,23nm,0.8s,baz=222,slow=3.2,SNR=12						
SONM				S	**S**	**20 14 26.7**	**+9.1**
	comp=Z,9.7nm,1.1s,baz=239,slow=39,SNR=2.0						
SONM				LR	LR	20 20 36.4	
	comp=Z,55μm,19.1s,MS6.1,baz=234,slow=39						
SONM				P3KPbc		20 43 09.5	
	comp=Z,1.7nm,1.1s,baz=27,slow=2.8,SNR=5.1						
MOY	**Mondy**	**24.72**	**26**	*e*P	**P**	**20 10 03.7**	**+1.7**
MOY				pmax	pmax		
	comp=Z,361nm,1.7s,mb5.6						
UBT	**Ubonrachathani**	**24.80**	**123**	P	**P**	**20 10 04.8**	**+1.7**
	comp=Z,590nm,1.0s,mb6.1						
HHC	**Hu-ho-hao-te**	**24.81**	**58**	*e*P	**P**	**20 10 04.0**	**+1.0**
HHC				XP		20 10 10.3	
HHC				PP	PP	20 10 39.8	-0.1
HHC				PCP	PcP	20 13 38.7	-1.7
HHC				S	**S**	**20 14 24.6**	**+2.6**
HHC				XS		20 14 33.0	
HHC				SCP		20 17 18.1	
HHC				PCS		20 17 21.4	
HHC				AMB	AMB		
	comp=Z,336nm,1.6s,mb5.6						
HHC				AMB	AMB		
	comp=Z,18μm,7.8s						
HHC				LR	LR		
	comp=N,36μm,13.7s,MS6.3						
HHC				LR	LR		
	comp=E,55μm,12.3s,MS6.3						
HHC				LR	LR		
	comp=Z,67μm,14.7s,MS6.3						
TIY	**Taiyuan**	**24.82**	**65**	PR		20 10 05.0	
TIY				LR	LR		
	comp=N,118μm,14.0s						
ULN	**Ulaanbaatar**	**24.93**	**39⇑**	*i*P	**P**	**20 10 05.3**	**+1.3**
ULN	**Ulaanbaatar**	**24.93**	**39**	*e*P	**P**	**20 10 05.2**	**+1.2**
	comp=N,467nm,1.4s,mb5.8						
ULN				LR	LR		
	comp=Z,60μm,20.0s,MS6.1						
CHKZ	**Chkalovo**	**25.00**	**341**	P	**P**	**20 10 05.7**	**+1.0**
CHKZ				S	**S**	**20 14 28.8**	**+3.6**
CHKZ				pmax	pmax		
	comp=Z,807nm,2.0s,mb5.9						
CHKZ	**Chkalovo**	**25.00**	**341**	⇓*e*P	**P**	**20 10 05.2**	**+0.5**
CHKZ				*e*		20 10 19.3	
TLY	**Talaya**	**25.80**	**29**	*e*P	**P**	**20 10 12.1**	**-0.1**
TLY				*e*S	**S**	**20 14 32.8**	**-5.7**
TLY				pmax	pmax		
	comp=Z,345nm,1.5s,mb5.7						
TLY				MLR	MLR		
	comp=Z,25μm,14.0s,MS5.9						
QIZ	**Qiongzhong**	**26.32**	**110**	⇓*i*P	**P**	**20 10 16.7**	**-0.6**
QIZ				S	**S**	**20 14 46.3**	**-1.1**
QIZ				AMB	AMB		
	comp=Z,9μm,13.1s						
QIZ				LR	LR		
	comp=N,56μm,20.6s,MS6.2						
QIZ				LR	LR		
	comp=E,36μm,19.4s,MS6.2						
QIZ				LR	LR		
	comp=Z,52μm,14.4s						
WHN	**Wuhan**	**26.40**	**82**	*e*P	**P**	**20 10 18.5**	**+0.5**
WHN				S	**S**	**20 14 46.3**	**-2.4**
WHN				AMB	AMB		
	comp=Z,18μm,9.4s						
WHN				LR	LR		
	comp=Z,145μm,30.4s,MS6.3						
IRK	**Irkutsk**	**26.48**	**29⇑**	*i*P	**P**	**20 10 20.0**	**+1.6**
IRK				pmax	pmax		
	comp=Z,521nm,2.1s,mb5.7						
GZH	**Guangzhou**	**27.46**	**98**	P	**P**	**20 10 26.8**	**-0.9**
GZH				LR	LR		
	comp=N,109μm,19.7s,MS6.5						
GZH				LR	LR		
	comp=E,46μm,17.3s,MS6.5						
GZH				LR	LR		
	comp=Z,88μm,23.4s						
BJI	**Beijing**	**28.07**	**61**	P	**P**	**20 10 33.5**	**+0.4**
BJI				PCP	PcP	20 13 46.9	-1.0
BJI				S	**S**	**20 15 18.3**	**+2.7**
BJI				AMB	AMB		
	comp=Z,227nm,1.7s,mb5.5						
BJI				AMB	AMB		
	comp=Z,7μm,12.1s						
BJI				LR	LR		
	comp=N,58μm,11.4s,MS6.6						
BJI				LR	LR		
	comp=E,62μm,12.4s,MS6.6						
BJI				LR	LR		
	comp=Z,70μm,24.6s						
BJI	**Beijing**	**28.07**	**61**	P	**P**	**20 10 33.5**	**+0.4**
	comp=Z,227nm,1.7s,mb5.5						
BJI				PcP	PcP	20 13 46.9	-1.0
BJI				S	**S**	**20 15 18.3**	**+2.7**
BJI				LR	LR		
	comp=Z,70μm,24.6s,MS6.2						
SNG	**Songkhla**	**28.14**	**142**	P	**P**	**20 10 31.0**	**-3.0**
	comp=Z,326nm,0.8s,mb6.0						
TIA	**Tai'an**	**28.43**	**70**	P	**P**	**20 10 35.7**	**-0.7**
TIA				AMB	AMB		
	comp=Z,398nm,1.7s,mb5.8						
TIA				AMB	AMB		
	comp=Z,4μm,11.0s						
TIA				LR	LR		
	comp=N,14μm,9.6s						
TIA				LR	LR		
	comp=E,37μm,18.6s						
HKC	**Hong Kong**	**28.46**	**99**	*i* P	**P**	**20 10 38.0**	**+1.2**
HKC				*i* S	**S**	**20 15 26.0**	**+3.8**
KULM	**Kulim**	**29.76**	**144**	⇓*e*P	**P**	**20 10 48.2**	**-0.4**
NJ2	**Nanjing**	**30.04**	**78**	*e*P	**P**	**20 10 53.1**	**+2.2**
NJ2				S	**S**	**20 15 49.0**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,280nm,1.0s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,2μm,4.6s						
NJ2				LR	LR		
	comp=N,90μm,16.0s						
NJ2				LR	LR		
	comp=E,52μm,10.0s						
NJ2				LR	LR		
	comp=Z,19μm,12.0s,MS6.0						
IPM	**Ipoh**	**30.56**	**144**	P	**P**	**20 10 55.7**	**0.0**
SVE	**Sverdlovsk**	**30.83**	**335**	⇓*i*P	**P**	**20 10 59.0**	**+1.4**
SVE				*e*S	PcP	20 13 54.0	-0.7
SVE				pmax	pmax		
	comp=N,2μm,7.0s						
SVE				pmax	pmax		
	comp=E,2μm,7.0s						
SVE				pmax	pmax		
	comp=Z,3μm,7.0s						
SVE				MLR	MLR		
	comp=N,22μm,14.0s,MS6.1						
SVE				MLR	MLR		
	comp=E,18μm,14.0s,MS6.1						
SVE				MLR	MLR		
	comp=Z,41μm,14.0s,MS6.2						
MAK	**Makhachkala**	**31.28**	**303***c*	*i*P	**P**	**20 11 03.0**	**+1.3**
MAK				*i*		20 12 04.0	
MAK				*i* PPP	PPP	20 12 22.0	+2.0
MAK				*i*		20 14 03.0	
MAK				*i* S	**S**	**20 16 04.0**	**-2.6**
MAK				*e*		20 21 28.0	
MAK				pmax	pmax		
	comp=E,780nm,2.0s						
MAK				pmax	pmax		
	comp=Z,780nm,2.0s,mb6.2						
MAK				pmax	pmax		
	comp=N,2μm,8.0s						
MAK				pmax	pmax		
	comp=E,5μm,8.0s						
MAK				pmax	pmax		
	comp=Z,9μm,8.0s						
MAK				pmax	pmax		
	comp=Z,4μm,8.0s						
MAK				smax			
	comp=E,11μm,14.0s						
MAK				smax			
	comp=N,8μm,11.0s						
MAK				MLR	MLR		
	comp=N,22μm,14.0s,MS6.3						
MAK				MLR	MLR		
	comp=E,44μm,14.0s,MS6.3						
MAK				MLR	MLR		
	comp=Z,70μm,14.0s,MS6.5						
ARU	**Arti**	**31.32**	**333**	⇓*i*P	**P**	**20 11 02.3**	**+0.4**
ARU				*i*		20 12 03.2	
ARU				*i*		20 13 54.8	
ARU				*e*S	**S**	**20 16 10.0**	**+2.9**
ARU				*e*SS	SS	20 17 52.6	-1.4
ARU				*i*		20 21 36.7	
ARU				pmax	pmax		
	comp=Z,216nm,1.2s,mb5.9						
ARU				MLR	MLR		
	comp=Z,28μm,23.0s,MS5.9						
ARU				MLR	MLR		
	comp=N,18μm,21.0s,MS5.9						
ARU				MLR	MLR		
	comp=E,18μm,20.0s,MS5.9						
ARU	**Arti**	**31.32**	**333**	⇓*e*P	**P**	**20 11 02.0**	**+0.2**
	comp=E,386nm,1.4s,mb6.0						
ARU				LR	LR		
	comp=Z,10μm,21.0s,MS5.5						
QZH	**Quanzhou**	**31.34**	**92**	*i* PR		20 11 01.4	
QZH				S	**S**	**20 16 01.2**	**-6.5**
QZH				AMB	AMB		
	comp=Z,340nm,1.6s,mb5.9						
QZH				AMB	AMB		
	comp=Z,9μm,6.8s						
QZH				LR	LR		
	comp=N,119μm,15.4s,MS6.7						
QZH				LR	LR		
	comp=E,56μm,17.8s,MS6.7						
QZH				LR	LR		
	comp=Z,188μm,22.0s,MS6.7						
DL2	**Dalian**	**32.13**	**64⇑**	*i*P	**P**	**20 11 11.2**	**+2.0**
DL2				S	**S**	**20 16 21.5**	**+1.5**
DL2				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.6						
DL2				AMB	AMB		
	comp=Z,2μm,7.3s						
DL2				LR	LR		
	comp=N,31μm,22.2s						
DL2				LR	LR		
	comp=Z,34μm,20.0s,MS6.0						
SSE	**Sheshan**	**32.14**	**79**	P	**P**	**20 11 09.4**	**0.0**
SSE				XP	sP	20 11 18.2	+2.6
SSE				PCP	PcP	20 13 58.8	+0.3
SSE				S	**S**	**20 16 20.0**	**-0.2**
SSE				XS		20 16 30.8	
SSE				SCP		20 17 42.1	
SSE				LR	LR		
	comp=N,92μm,16.1s,MS6.6						
SSE				LR	LR		
	comp=E,16μm,16.3s,MS6.6						
SSE				LR	LR		
	comp=Z,34μm,9.7s						
SSE	**Sheshan**	**32.14**	**79**	P	**P**	**20 11 09.4**	**0.0**
SSE				sP	sP	20 11 18.2	+2.6
SSE				PP	PP	20 12 21.6	+5.3
SSE				PcP	PcP	20 13 58.8	+0.3
SSE				S	**S**	**20 16 20.0**	**-0.2**
SSE				sS		20 16 30.8	
SSE				ScP		20 17 42.1	
SSE				SS	SS	20 18 38.3	+24
DGRG	**David-gareji**	**32.60**	**300**	P	**P**	**20 11 16.1**	**+2.8**
DGRG				S	**S**	**20 16 33.0**	**+5.8**
GNI	**Garni**	**32.95**	**298**	P	**P**	**20 11 18.2**	**+1.9**
GNI	**Garni**	**32.95**	**298**	⇓*e*P	**P**	**20 11 18.8**	**+2.5**
	comp=Z,476nm,1.4s,mb6.2						
GNI				LR	LR		
	comp=Z,26μm,20.0s,MS5.9						
MTA	**Mtatsminda**	**33.06**	**301**	P	**P**	**20 11 18.9**	**+1.6**
TBLG	**Delisi**	**33.11**	**301**	P	**P**	**20 11 19.3**	**+1.6**
BHD	**Baghdad**	**33.33**	**285**	*i* P	**P**	**20 11 14.0**	**-5.7**
BHD				*i* S	**S**	**20 16 38.0**	**-0.6**
YHNB	**Yeheng**	**33.82**	**91**	⇓*e*P	**P**	**20 11 24.5**	**+0.4**
TATO	**Taipei**	**33.83**	**90**	P	**P**	**20 11 24.4**	**+0.3**
	comp=Z,344nm,1.6s,mb6.0						
TATO				LR	LR		
	comp=Z,30μm,20.0s,MS6.0						
ZEI	**Tsey**	**33.86**	**302**	*e*P	**P**	**20 11 24.8**	**+0.6**
ZEI				*i* *PP	pP	20 11 32.7	+4.1
ZEI				*i*		20 12 41.2	
ZEI				*e*S	**S**	**20 16 42.3**	**-4.5**
ZEI				pmax	pmax		
	comp=Z,127nm,1.1s,mb5.8						
SNY	**Shenyang**	**33.87**	**59**	⇑P	**P**	**20 11 23.7**	**-0.6**
SNY				AP	pP	20 11 29.3	+0.7
SNY				XP	sP	20 11 33.0	+2.5
SNY				PP	PP	20 12 40.9	+3.1
SNY				PCP	PcP	20 14 03.1	0.0
SNY				S	**S**	**20 16 39.3**	**-7.6**
SNY				XS		20 16 53.8	
SNY				SS	SS	20 18 51.2	-2.2
SNY				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
SNY				AMB	AMB		
	comp=Z,6μm,6.9s						
SNY				LR	LR		
	comp=N,32μm,18.1s						
SNY				LR	LR		
	comp=Z,47μm,31.4s						
VANB	**Van**	**33.91**	**295**	P	**P**	**20 11 26.0**	**+1.3**
KGM	**Kluang**	**33.92**	**143**	P	**P**	**20 11 25.5**	**+0.5**
MSL	**Mosul**	**34.17**	**291**	*e*P	**P**	**20 11 28.5**	**+1.6**
MSL				*e*pP	pP	20 11 35.5	+4.2
MSL				*e*PP	PP	20 12 38.5	-3.1
MSL				*e*PPP	PPP	20 12 54.0	-5.6
MSL				*e*S	**S**	**20 16 57.0**	**+5.4**
MSL				*e*sS		20 17 13.0	
MSL				*e*SS	SS	20 19 08.0	+7.6
MSL				*e*LQ		20 25 08.0	
NACB	**Ninganchiao**	**34.17**	**91**	⇓*e*P	**P**	**20 11 27.8**	**+0.7**
KARS	**Kars**	**34.24**	**298**	P	**P**	**20 11 30.2**	**+2.8**
BOD	**Bodaibo**	**34.38**	**29**	*e*P	**P**	**20 11 28.8**	**+0.3**
BOD				*e*		20 14 04.0	
BOD				pmax	pmax		
	comp=Z,123nm,1.8s,mb5.5						
GOF	**Gofitskoye**	**34.85**	**306**	⇓*i*P	**P**	**20 11 31.4**	**-1.3**
GOF				*i* S	**S**	**20 17 02.3**	**+0.3**
GOF				*e*SS	SS	20 19 10.7	-5.2
GOF				pmax	pmax		
	comp=Z,510nm,1.6s,mb6.2						
GOF				pmax	pmax		
	comp=Z,4μm,6.0s						
GOF				smax			
	comp=E,730nm,2.5s						
GOF				smax			
	comp=N,16μm,10.0s						
GOF				MLR	MLR		
	comp=Z,44μm,14.0s,MS6.4						
KIV	**Kislovodsk**	**34.91**	**304***d*	*i*P	**P**	**20 11 34.1**	**+0.9**
KIV				*i* S	**S**	**20 17 08.9**	**+5.9**
KIV				pmax	pmax		
	comp=Z,444nm,1.6s,mb6.1						
KIV				MLR	MLR		
	comp=Z,21μm,17.0s,MS6.0						
KIV	**Kislovodsk**	**34.91**	**304**	⇓*i*P	**P**	**20 11 34.1**	**+0.9**
	comp=Z,197nm,0.8s,mb6.1						
KIV				LR	LR		
	comp=Z,7μm,20.0s,MS5.4						
BTMT	**Batman**	**35.40**	**294**	P	**P**	**20 11 39.2**	**+1.7**
CN2	**Changchun**	**35.48**	**56**	*e*P	**P**	**20 11 37.6**	**-0.4**
CN2				*e*AP	pP	20 11 47.3	+4.9
CN2				PP	PP	20 12 58.1	0.0
CN2				*e*S	**S**	**20 17 08.6**	**-3.2**
CN2				AMB	AMB		
	comp=Z,60nm,1.2s,mb5.4						
CN2				AMB	AMB		
	comp=Z,5μm,7.0s						
CN2				LR	LR		
	comp=N,97μm,16.0s,MS6.7						
CN2				LR	LR		
	comp=E,20μm,16.0s,MS6.7						
CN2				LR	LR		
	comp=Z,59μm,21.0s,MS6.3						
MUKL	**Al Mukalla**	**35.57**	**251**	⇓*e*P	**P**	**20 11 40.4**	**+1.3**
BEST	**Besiri**	**35.58**	**294**	*i* P	**P**	**20 11 41.1**	**+2.1**
BBP	**Basco**	**35.86**	**97**	*e*P	**P**	**20 11 42.2**	**+0.7**
BOLP	**Bolinao**	**35.94**	**105**	*e*P	**P**	**20 11 44.5**	**+2.2**
ABRA	**Dolores**	**36.01**	**102**	*e*P	**P**	**20 11 43.9**	**+1.1**
INCN	**Inchon**	**36.06**	**67**	*e*P	**P**	**20 11 42.5**	**-0.5**
	comp=Z,310nm,1.1s,mb6.2						
INCN				LR	LR		
	comp=Z,52μm,20.0s,MS6.3						
BINT	**Bingol**	**36.18**	**295**	P	**P**	**20 11 46.7**	**+2.6**
SCZP	**Santa Cruz**	**36.24**	**106**	*e*P	**P**	**20 11 45.3**	**+0.5**
APYP	**Conner**	**36.36**	**102**	*e*P	**P**	**20 11 47.9**	**+2.2**
EZC	**Erzincan**	**36.71**	**297**	P	**P**	**20 11 54.5**	**+6.0**
CVP	**Callao Caves**	**36.92**	**101**	⇓*e*P	**P**	**20 11 53.0**	**+2.5**
GUMT	**Gumushane**	**36.98**	**298**	P	**P**	**20 11 53.7**	**+3.0**
SOC	**Sochi**	**37.00**	**303**	*i* P	**P**	**20 11 51.4**	**+0.5**

SOC			*e*			20 13 15.3
SOC			*e*PPP	PPP		20 13 31.3 -6.0
SOC			*e*			20 14 12.3
SOC			*i* S	S		**20 17 39.3 +4.1**
SOC			*e*SSS	SSS		20 20 31.8 -3.6
SOC			pmax	pmax		
comp=N,57nm,1.4s						
SOC			pmax	pmax		
comp=E,249nm,1.4s						
SOC			pmax	pmax		
comp=Z,164nm,1.4s,mb5.7						
SOC			MLR	MLR		
comp=Z,22μm,15.0s,MS6.1						
SOC			MLR	MLR		
comp=N,22μm,17.0s,MS6.1						
SOC			MLR	MLR		
comp=E,21μm,19.0s,MS6.1						
PTK	**Pertek**	**37.04 295**	P	**P**		**20 11 53.3 +2.1**
KELT	**Kelkit**	**37.15 297**	*i* P	**P**		**20 11 51.8 -0.3**
CAUP	**Cauayan**	**37.27 102**	*e*P	**P**		**20 11 55.6 +2.1**
ELZG	**Elazig**	**37.37 295**	*i* P	**P**		**20 11 56.6 +2.6**
URFA	**Urfa**	**37.54 293**	P	**P**		**20 11 57.7 +2.2**
LUBP	**Lubang**	**37.58 108**	*e*P	**P**		**20 11 52.8 -3.2**
BALP	**Baler**	**37.65 104**	*e*P	**P**		**20 11 57.9 +1.3**
PALP	**Palanan**	**37.73 102**	*e*P	**P**		**20 11 58.9 +1.6**
PECR	**Pechory**	**37.80 325**	*e*P	**P**		**20 12 02.5 +5.1**
PECR			*e*			20 13 29.0
PECR			*e*			20 14 14.0
PECR			*e*S	**S**		**20 17 40.0 -7.3**
PECR			*e*			20 20 23.0
PECR			pmax	pmax		
comp=Z,1μm,9.0s						
PECR			pmax	pmax		
comp=N,1μm,6.0s						
PECR			smax			
comp=N,7μm,14.0s						
PECR			MLR	MLR		
comp=N,8μm,10.0s						
PECR			MLR	MLR		
comp=Z,36μm,10.0s,MS6.5						
MALT	**Malatya**	**37.81 294**	P	**P**		**20 11 59.6 +1.8**
MALT	**Malatya**	**37.81 294**⇓	*e*P	**P**		**20 11 59.7 +2.0**
MALT			pmax	pmax		
comp=Z,240nm,1.5s,mb5.7						
MALT	**Malatya**	**37.81 294** ⇑	P	**P**		**20 12 00.5 +2.8**
MALT	**Malatya**	**37.81 294** ⇑	P	**P**		**20 12 00.5 +2.8**
MYA	**Malataya**	**37.81 294**	P	**P**		**20 11 59.7 +1.9**
ENPP	**El Nido**	**38.32 112**	*e*P	**P**		**20 12 02.1 -0.1**
KSM	**Kuching**	**38.38 134**⇓	*e*P	**P**		**20 12 03.1 +0.3**
KSM			*e*PP	PP		20 13 29.2 -5.0
POLP	**Polilio Island**	**38.46 105**	*e*P	**P**		**20 12 05.3 +1.9**
BUSP	**Coron**	**38.49 111**	*e*P	**P**		**20 12 03.9 +0.2**
BATP	**Bataraza**	**38.49 117**	*e*P	**P**		**20 12 03.0 -0.7**
MDJ	**Mudanjiang**	**38.53 55**	P	**P**		**20 12 04.3 +0.6**
MDJ			XP	sP		20 12 09.4 -0.6
MDJ			PP	PP		20 13 29.4 -6.2
MDJ			S	**S**		**20 17 57.7 -0.8**
MDJ			PCS			20 18 06.2
MDJ			SS	SS		20 20 39.3 +0.2
MDJ			AMB	AMB		
comp=Z,68nm,1.0s,mb5.3						
MDJ			AMB	AMB		
comp=Z,5μm,6.1s						
MDJ			LR	LR		
comp=N,51μm,18.6s						
MDJ			LR	LR		
comp=Z,32μm,16.5s,MS6.2						
GZT	**Gaziantep**	**38.54 293**	*i* P	**P**		**20 12 06.2 +2.3**
VRSR	**Storozhevoye**	**38.72 315**	*e*P	**P**		**20 12 05.5 +0.2**
VRSR			*e*S	**S**		**20 18 01.2 -0.1**
VRSR			*e*SS	SS		20 20 42.6 -0.7
VRSR			pmax	pmax		
comp=Z,870nm,3.1s						
VRSR			pmax	pmax		
comp=N,240nm,2.9s						
VRSR			pmax	pmax		
comp=E,450nm,2.8s						
VRSR			smax			
comp=N,1μm,4.1s						
VRSR			smax			
comp=Z,960nm,6.8s						
VRSR			smax			
comp=E,400nm,4.0s						
VRSR			MLR	MLR		
comp=Z,26μm,21.0s,MS6.0						
VRSR			MLR	MLR		
comp=N,73μm,18.0s,MS6.6						
VRSR			MLR	MLR		
comp=E,17μm,18.0s,MS6.6						
ANN	**Anapa**	**38.75 305**	*de*P	**P**		**20 12 05.8 +0.2**
ANN			*e*			20 14 17.6
ANN			*e*S	**S**		**20 18 03.0 +1.2**
ANN			pmax	pmax		
comp=Z,119nm,0.7s,mb5.7						
ANN			MLR	MLR		
comp=N,67μm,27.0s,MS6.5						
ANN			MLR	MLR		
comp=E,58μm,27.0s,MS6.5						
ANN			MLR	MLR		
comp=Z,25μm,27.0s,MS5.9						
GAZ	**Gaziantep**	**38.83 293**	P	**P**		**20 12 08.5 +2.2**
CLNS	**Chul'man**	**38.85 35**	*e*P	**P**		**20 12 07.6 +1.3**
CLNS			*e*			20 13 32.4
CLNS			*e*			20 14 16.7
CLNS			*e*S	**S**		**20 17 58.6 -4.6**
CLNS			pmax	pmax		
comp=N,50nm,1.4s						
CLNS			pmax	pmax		
comp=E,94nm,1.4s						
CLNS			pmax	pmax		
comp=Z,138nm,1.4s,mb5.5						
CLNS			pmax	pmax		
comp=Z,51nm,1.3s,mb5.1						
CLNS			pmax	pmax		
comp=N,31nm,1.2s						
CLNS			pmax	pmax		
comp=E,32nm,1.1s						
CLNS			smax			
comp=E,25nm,1.2s						
CLNS			smax			
comp=Z,5.0nm,0.9s						
CLNS			smax			
comp=N,18nm,1.2s						
CLNS			MLR	MLR		
comp=Z,26μm,11.0s,MS6.3						
CLNS			MLR	MLR		
comp=N,13μm,12.0s,MS6.2						
CLNS			MLR	MLR		
comp=E,20μm,12.0s,MS6.2						
VOR	**Voronezh**	**38.85 316**	*e*P	**P**		**20 12 06.8 +0.4**
VOR			*e*			20 13 40.5
VOR			S	**S**		**20 18 05.5 +2.2**
VOR			pmax	pmax		
comp=Z,400nm,1.3s,mb6.0						
VOR			pmax	pmax		
comp=N,100nm,1.4s						
VOR			smax			
comp=N,260nm,1.4s						
SVST	**Sivas**	**38.92 297**	*i* P	**P**		**20 12 10.0 +3.0**
SJMP	**San Jose**	**38.98 109**	*e*P	**P**		**20 12 06.8 -0.9**
LBOS		**39.00 253**⇓	*e*P	**P**		**20 12 09.9 +1.9**
BOAC	**Boac**	**39.04 107**	*e*P	**P**		**20 12 09.2 +0.9**
KAHT	**Ahir Dag**	**39.07 293**	*i* P	**P**		**20 12 10.4 +2.1**
KKM	**Kota Kinabalu**	**39.09 122**⇓	*e*P	**P**		**20 12 09.5 +0.8**
KKM	**Kota Kinabalu**	**39.09 122**	P	**P**		**20 12 09.8 +1.2**
JOW	**Kunigami**	**39.13 84**	LR	LR		20 31 00.3
comp=N,27μm,18.4s,MS6.1,baz=86,slow=40						
DGAR	**Diego Garcia**	**39.21 198**	*e*P	**P**		**20 12 09.9 +0.2**
DGAR			pmax	pmax		
comp=Z,2μm,1.9s,mb6.5						
DGAR	**Diego Garcia**	**39.21 198**	*e*P	**P**		**20 12 09.9 +0.1**
comp=Z,2μm,1.9s,mb6.5						
TOKT	**Tokat**	**39.22 298**	P	**P**		**20 12 10.8 +1.2**
DHBB	**Dhamar BB**	**39.35 255**	*e*P	**P**		**20 12 12.8 +1.9**
DHBB			AMb	AMB		20 12 14.6
comp=Z,394nm,1.1s,mb6.0						
COBT	**Iskenderun**	**39.65 292**	*i* P	**P**		**20 12 15.2 +2.1**
ASF	**Jabal al Asfar**	**39.73 285**	P	**P**		**20 12 16.4 +2.5**
comp=Z,17nm,0.8s,mb4.8,baz=318,slow=4.6,SNR=35						
ASF			S	**S**		**20 18 18.7 +2.0**
comp=Z,0.6nm,0.3s,baz=316,slow=23,SNR=1.2						
ASF			LR	LR		20 31 05.2
comp=Z,35μm,20.5s,MS6.2,baz=302,slow=40						
HTY	**Hatay**	**39.79 291**	P	**P**		**20 12 15.4 +1.1**
CUYO	**Cuyo Island**	**39.80 111**	*e*P	**P**		**20 12 14.6 0.0**
BNN	**Bunyan**	**39.81 295**	P	**P**		**20 12 17.3 +2.9**
CEYT	**Ceyhan**	**40.01 293**	P	**P**		**20 12 18.3 +2.2**
BOYT	**Boyabat**	**40.45 299**	*i* P	**P**		**20 12 21.1 +1.4**
BHL	**Bhannes**	**40.47 288**	*e*P	**P**		**20 12 22.3 +2.4**
CTKT	**Corum**	**40.55 298**	*i* P	**P**		**20 12 22.6 +2.0**
BYBT	**Boyabat**	**40.56 299**	P	**P**		**20 12 22.5 +1.9**
AVNT	**Avonos**	**40.58 295**	*i* P	**P**		**20 12 22.9 +2.0**
KLR	**Kul'dur**	**40.59 49**	*e*P	**P**		**20 12 18.0 -2.7**
KLR			*e*			20 13 55.5
KLR			*e*S	**S**		**20 18 24.5 -4.9**
KLR			pmax	pmax		
comp=N,140nm,1.6s						
KLR			pmax	pmax		
comp=E,220nm,1.6s						
KLR			pmax	pmax		
comp=Z,220nm,1.6s,mb5.5						
KLR			pmax	pmax		
comp=E,3μm,8.0s						
KLR			pmax	pmax		
comp=Z,5μm,8.0s						
KLR			MLR	MLR		
comp=Z,4μm,13.0s,MS5.5						
CORM	**Corum**	**40.69 297**	P	**P**		**20 12 23.7 +2.0**
PVCP	**Virac**	**40.88 105**	*e*P	**P**		**20 12 22.5 -0.9**
CDAG	**Cicekdag**	**40.91 297**	*i* P	**P**		**20 12 24.9 +1.4**
MOS	**Moscow**	**40.93 322**κ	*i*P	**P**		**20 12 24.4 +1.0**
MOS			*e*			20 14 01.6
MOS			*e*			20 14 23.0
MOS			*e*S	**S**		**20 18 36.2 +1.8**
MOS			*e*			20 22 24.5
MOS			pmax	pmax		
comp=Z,527nm,1.6s,mb5.9						
MOS			smax			
comp=N,7μm,9.5s						
MOS			MLR	MLR		
comp=Z,76μm,16.6s,MS6.6						
MOS			MLR	MLR		
comp=N,32μm,18.4s,MS6.6						
MOS			MLR	MLR		
comp=E,65μm,18.4s,MS6.6						
SIM	**Simferopol'**	**41.11 305**	*d* iP	**P**		**20 12 26.2 +1.1**
SIM			*e*			20 14 11.0
SIM			*i* S	**S**		**20 18 38.7 +1.4**
SIM			pmax	pmax		
comp=Z,206nm,1.2s,mb5.6						
SIM			MLR	MLR		
comp=Z,44μm,22.3s,MS6.3						
BZK	**Bozkurt**	**41.12 300**	P	**P**		**20 12 26.9 +1.7**
TOS	**Tosya**	**41.13 299**	P	**P**		**20 12 26.5 +1.2**
GUIM	**Jordan**	**41.19 110**	*e*P	**P**		**20 12 23.3 -2.8**
OBN	**Obninsk**	**41.31 320**	*d* iP	**P**		**20 12 26.8 +0.2**
OBN			*i* SS	SS		20 21 40.0 +1.0
OBN			pmax	pmax		
comp=Z,268nm,1.7s,mb5.6						
OBN			MLR	MLR		
comp=Z,46μm,20.0s,MS6.3						
OBN	**Obninsk**	**41.31 320**⇓	*i*P	**P**		**20 12 26.8 +0.2**
comp=Z,566nm,1.4s,mb6.0						
OBN			LR	LR		
comp=Z,15μm,22.0s,MS5.8						
MEST	**Erdemli**	**41.34 292**	*i* P	**P**		**20 12 25.5 -1.5**
PENI	**Pendagan**	**41.37 146** ⇑	*i*P	**P**		**20 12 22.3 -5.2**
KAMT	**Kaman**	**41.44 296**	P	**P**		**20 12 29.3 +1.6**
CANT	**Cankiri**	**41.45 298**	P	**P**		**20 12 30.1 +2.3**
BR131	**Keskin Array S**	**41.47 297**	PFAKE			20 12 40.0 +12
BR131			LR	LR		
comp=Z,6μm,19.0s,MS5.5						
BRTR	**Keskin Array B**	**41.47 297**	P	**P**		**20 12 29.6 +1.5**
BRTR						20 14 26.9
BRTR			S	**S**		**20 18 43.6 +1.0**
BRTR			pmax	pmax		
comp=Z,105nm,1.2s						
BRTR	**Keskin Array B**	**41.47 297**	P	**P**		**20 12 29.6 +1.5**
comp=Z,105nm,1.2s,mb5.3,baz=112,slow=6.7,SNR=113						
BRTR			PcP	PcP		20 14 26.9 +0.5
comp=Z,14nm,0.9s,baz=127,slow=7.2,SNR=2.8						
BRTR			S	**S**		**20 18 43.6 +1.0**
comp=Z,1.1nm,0.9s,baz=128,slow=15,SNR=1.1						
TSM	**Tawau**	**41.48 122**	P	**P**		**20 12 29.0 +0.6**
ELDT	**Eldivan**	**41.60 298**	*i* P	**P**		**20 12 31.0 +1.9**
PHNC	**Paralimni**	**41.63 290** ⇑	*i*P	**P**		**20 12 28.5 -0.9**
PHNC	**Paralimni**	**41.63 290** ⇑	*i*P	**P**		**20 12 28.5 -0.9**
EIL	**Elat**	**41.88 282**	P	**P**		**20 12 33.6 +2.0**
comp=Z,23nm,0.8s,mb4.9,baz=39,slow=7.1,SNR=32						
EIL	**Elat**	**41.88 282**⇓	*e*P	**P**		**20 12 33.6 +2.0**
comp=Z,131nm,1.3s,mb5.4						
EIL			*e*PP	PP		20 14 15.1 +3.2
ANTO	**Ankara**	**42.11 297**	P	**P**		**20 12 34.5 +1.2**
ANTO	**Ankara**	**42.11 297** ⇑	P	**P**		**20 12 34.8 +1.5**
ANTO	**Ankara**	**42.11 297** ⇑	P	**P**		**20 12 34.8 +1.5**
SAFT	**Safranbolu**	**42.13 299**	P	**P**		**20 12 35.6 +2.1**
LOD	**Lodumlu**	**42.13 297**	P	**P**		**20 12 35.3 +1.8**
CSS	**Prodhromos**	**42.21 290** ⇓	P	**P**		**20 12 34.4 +0.2**
comp=Z,2.4nm,1.1s						
CSS	**Prodhromos**	**42.21 290**⇓	*e*P	**P**		**20 12 34.4 +0.2**
ATD	**Arta Tunnel**	**42.23 252**	P	**P**		**20 12 36.7 +2.1**
comp=Z,88nm,1.1s,mb5.3,baz=38,slow=3.8,SNR=27						
ATD	**Arta Tunnel**	**42.23 252**	P	**P**		**20 12 36.7 +2.1**
MAMC	**Mammari**	**42.27 290**	P	**P**		**20 12 34.6 -0.1**
LEF	**Lefka**	**42.54 290**	P	**P**		**20 12 39.0 +2.1**
SZAC	**Souni-Zanaja**	**42.60 290**	P	**P**		**20 12 37.3 -0.1**
KONT	**Konya--Tatoy**	**42.61 294**	P	**P**		**20 12 39.2 +1.8**
HDMB	**Hadim**	**42.62 293**	P	**P**		**20 12 39.0 +1.4**
SGKT	**Sivrigoynuk**	**42.64 298**	*i* P	**P**		**20 12 39.1 +1.4**
ALFC	**Alevga**	**42.77 290** ⇓	P	**P**		**20 12 39.1 +0.3**
comp=Z,8.0nm,0.9s						
ALFC	**Alevga**	**42.77 290**⇓	*e*P	**P**		**20 12 39.1 +0.3**
PLP	**Palo**	**42.85 108**	*e*P	**P**		**20 12 40.6 +1.0**
KIZT	**Kizilcal**	**42.89 296**	P	**P**		**20 12 41.1 +1.3**
PPCY	**Paphos**	**43.02 290**	P	**P**		**20 12 40.6 -0.2**
YAK	**Yakutsk**	**43.27 30**	*d* iP	**P**		**20 12 42.3 -0.2**
YAK			*i* *PP	pP		20 12 58.3 +11
YAK			*i* S	**S**		**20 19 09.2 +0.4**
YAK			pmax	pmax		
comp=Z,118nm,0.9s,mb5.6						
YAK			pmax	pmax		
comp=N,14nm,1.0s						
YAK			pmax	pmax		
comp=E,65nm,1.4s						
YAK			smax			
comp=N,4μm,17.3s						
YAK			smax			
comp=Z,2μm,16.1s						
YAK			smax			
comp=E,6μm,16.3s						
YAK			MLR	MLR		
comp=N,61μm,19.0s,MS6.6						
YAK			MLR	MLR		
comp=E,30μm,18.0s,MS6.6						
YAK			MLR	MLR		
comp=Z,14μm,18.0s,MS5.9						
YAK	**Yakutsk**	**43.27 30**⇓	*e*P	**P**		**20 12 42.4 -0.2**
comp=Z,186nm,0.9s,mb5.8						
YAK			LR	LR		
comp=Z,16μm,20.0s,MS5.9						
MDU	**Mudurnu**	**43.28 298**	P	**P**		**20 12 44.6 +1.8**
MSLP	**Maasin**	**43.31 109**	*e*P	**P**		**20 12 42.1 -1.4**
PAGZ	**Pagadian**	**43.44 113**	*e*P	**P**		**20 12 45.2 +0.7**
HENT	**Hendek**	**43.50 299**	*i* P	**P**		**20 12 46.1 +1.5**
ESKT	**Eskisehir**	**43.63 297**	P	**P**		**20 12 46.5 +0.7**
ESKT	**Eskisehir**	**43.63 297**	*i* P	**P**		**20 12 46.4 +0.7**
SCPH	**Surigao**	**44.02 109** ⇑	*e*P	**P**		**20 12 49.9 +0.6**
BCK	**Bucak**	**44.06 294**	P	**P**		**20 12 48.0 -1.2**
ISP	**Isparta**	**44.07 294**	P	**P**		**20 12 49.4 +0.1**
ISP	**Isparta**	**44.07 294**	P	**P**		**20 12 50.4 +1.1**
ISP	**Isparta**	**44.07 294**⇓	*i*P	**P**		**20 12 49.8 +0.5**
comp=Z,294nm,1.1s,mb5.9						
ISP			*e*PP	PP		20 14 35.8 +2.1
ANTB	**Antalya**	**44.08 293**	P	**P**		**20 12 48.9 -0.5**
MSEY	**Mahe Island**	**44.17 222**	PFAKE			20 13 00.0 +10
MSEY			LR	LR		
comp=Z,10μm,19.0s,MS5.8						
ALT	**Altintas**	**44.25 296**	P	**P**		**20 12 51.8 +1.1**
HRT	**Hereke**	**44.43 299**	P	**P**		**20 12 52.8 +0.6**
BUTP	**Butuan**	**44.59 110**	*e*P	**P**		**20 12 56.8 +3.0**
IZI	**Iznik**	**44.62 298**	P	**P**		**20 12 55.4 +1.6**
YLV	**Yalova**	**44.68 298**	P	**P**		**20 12 54.2 0.0**
ELL	**Elmali**	**44.69 293**	P	**P**		**20 12 55.7 +1.3**
BUKP	**Musuan**	**44.76 111**	*e*P	**P**		**20 12 55.7 +0.5**
KHL	**Karahalli**	**44.79 295**	P	**P**		**20 12 56.3 +1.1**
AKASG	**Malin Array Be**	**44.83 313**	P	**P**		**20 12 54.6 -0.7**
AKASG						20 14 37.2
AKASG			pmax	pmax		
comp=Z,28nm,0.7s						
AKASG	**Malin Array Be**	**44.83 313**	P	**P**		**20 12 54.6 -0.7**
comp=Z,28nm,0.7s,mb5.2,baz=76,slow=7.7,SNR=89						
AKASG			PcP	PcP		20 14 37.2 -0.4
comp=Z,22nm,0.9s,baz=65,slow=3.5,SNR=4.0						
AKASG	**Malin Array Be**	**44.83 313**	P	**P**		**20 12 54.6 -0.7**
AKASG			PcP	PcP		20 14 37.2 -0.4
ISK	**Istanbul-Kandi**	**44.87 299**	P	**P**		**20 12 56.4 +0.6**
TLCR		**44.87 305** ⇑	P	**P**		**20 12 56.3 +0.6**
KIS	**Kishinev**	**44.88 308**c	*i*P	**P**		**20 12 54.0 -1.8**
KIS			*i* S	**S**		**20 19 39.0 +6.7**
KIS			pmax	pmax		
comp=Z,4μm,7.0s						
KIS			MLR	MLR		
comp=Z,27μm,20.0s,MS6.2						
ULDT	**Uludag**	**44.89 298**	*i* P	**P**		**20 12 57.2 +1.3**
GOLH	**Golhisar**	**44.90 294**	*i* P	**P**		**20 12 56.0 0.0**
AKAS	**Kas**	**45.01 292**	*i* P	**P**		**20 12 56.1 -0.9**
ORLT	**Orhaneli**	**45.09 298**	P	**P**		**20 12 58.7 +1.3**
TIRR	**Tirgusor**	**45.17 304**	P	**P**		**20 12 59.2 +1.1**
TIRR	**Tirgusor**	**45.17 304** ⇑	P	**P**		**20 12 59.0 +0.9**
TIRR	**Tirgusor**	**45.17 304** ⇑	P	**P**		**20 12 59.0 +0.9**
DNZL	**Cakiroluk**	**45.24 294**	*i* P	**P**		**20 12 59.1 +0.3**
DENT	**Denizli**	**45.24 294**	P	**P**		**20 12 59.2 +0.5**
CTT	**Catalca**	**45.34 299**	P	**P**		**20 13 00.1 +0.7**
CFR	**Carcaliu**	**45.35 305** ⇑	P	**P**		**20 13 00.3 +0.8**
PSN	**Preselentsi**	**45.36 303**	*i* P	**P**		**20 13 01.0 +1.4**
MAJO	**Matsushiro**	**45.37 67**	*e*P	**P**		**20 12 59.5 -0.2**
MAJO			pmax	pmax		
comp=Z,169nm,1.6s,mb5.6						
MAJO			MLR	MLR		
comp=Z,26μm,20.0s,MS6.2						
MAJO	**Matsushiro**	**45.37 67**	*e*P	**P**		**20 12 59.5 -0.2**
comp=Z,169nm,1.6s,mb5.6						
MAJO			LR	LR		
comp=Z,26μm,20.0s,MS6.2						
MAT	**Matsushiro**	**45.37 67**	*e*P	**P**		**20 12 58.0 -1.7**
MAT			*e*S	**S**		**20 19 35.0 -4.4**
MAT			pmax	pmax		
comp=Z,192nm,1.7s,mb5.7						
MAT			MLR	MLR		
comp=Z,26μm,20.0s,MS6.2						
MAT	**Matsushiro**	**45.37 67**	*e*P	**P**		**20 12 58.0 -1.7**
comp=Z,192nm,1.7s,mb5.7						
MAT			*e*S	**S**		**20 19 35.0 -4.4**
MAT			LR	LR		
comp=Z,26μm,20.0s,MS6.2						
MAT	**Matsushiro**	**45.37 67**	P	**P**		**20 12 58.4 -1.3**
MAT			S	**S**		**20 19 35.0 -4.4**
FETY	**Fethiye**	**45.37 293**	P	**P**		**20 12 59.6 -0.1**
MJAR	**Matsushiro Arr**	**45.37 67**	P	**P**		**20 12 59.1 -0.6**
MJAR						20 14 39.8
MJAR			S	**S**		**20 19 39.0 -0.4**
MJAR			pmax	pmax		
comp=Z,52nm,1.2s						
MJAR			MLR	MLR		
comp=Z,24μm,21.0s						
MJAR	**Matsushiro Arr**	**45.37 67**	P	**P**		**20 12 59.1 -0.6**
comp=Z,52nm,1.2s,mb5.2,baz=293,slow=9.2,SNR=26						
MJAR			PcP	PcP		20 14 39.8 +0.1
comp=Z,16nm,0.8s,baz=261,slow=3.5,SNR=9.1						
MJAR			S	**S**		**20 19 39.0 -0.4**
comp=Z,0.5nm,0.4s,baz=267,slow=16,SNR=1.3						
MJAR			LR	LR		20 33 30.0
comp=Z,24μm,21.0s,MS6.1,baz=285,slow=38						
HARR	**Harsova**	**45.51 304**	P	**P**		**20 13 01.9 +1.2**
HARR	**Harsova**	**45.51 304** ⇑	P	**P**		**20 13 01.7 +0.9**
HARR	**Harsova**	**45.51 304** ⇑	P	**P**		**20 13 01.7 +1.0**
MANT	**Manisa**	**45.52 296**	*i* P	**P**		**20 13 01.6 +0.7**
DAV	**Davao City (W)**	**45.65 112**	*e*P	**P**		**20 13 04.0 +1.7**
DALT	**Dalyan (Mudla)**	**45.70 293**	P	**P**		**20 13 02.5 +0.2**
IAS	**Iasi**	**45.75 308**	P	**P**		**20 13 02.6 0.0**
BTOK	**Tokmak**	**45.78 297**	*i* P	**P**		**20 13 03.6 +0.7**
BNT	**Bandirma**	**45.80 298**	P	**P**		**20 13 04.2 +1.1**
PUL	**Pulkovo**	**45.85 326**	*de*P	**P**		**20 13 04.9 +1.7**
PUL			*i*			20 14 44.5
PUL			*i*			20 14 55.3
PUL			*e*S	**S**		**20 19 46.6 +0.6**
PUL			*e*SSS	SSS		20 24 07.5 +1.7
PUL			pmax	pmax		
comp=E,491nm,1.2s						
PUL			pmax	pmax		
comp=Z,202nm,1.2s,mb5.9						
PUL			pmax	pmax		
comp=N,141nm,1.4s						
PUL			pmax	pmax		
comp=Z,4μm,4.6s						
PUL			pmax	pmax		
comp=N,299nm,1.2s						
PUL			pmax	pmax		
comp=E,2μm,1.7s						
PUL			smax			
comp=N,4μm,7.2s						
PUL			smax			
comp=Z,3μm,6.5s						
PUL			smax			
comp=E,2μm,4.7s						
PUL			smax			
comp=N,6μm,13.1s						
PUL			smax			
comp=Z,877nm,8.6s						
PUL			smax			
comp=E,4μm,17.7s						
PUL			MLR	MLR		
comp=N,6μm,10.0s,MS6.2						
PUL			MLR	MLR		
comp=E,17μm,13.0s,MS6.2						
PUL			MLR	MLR		
comp=Z,18μm,13.0s,MS6.2						
PUL	**Pulkovo**	**45.85 326** ⇑	*i*P	**P**		**20 13 04.2 +1.0**
BALB	**Balikesir**	**45.91 297**	P	**P**		**20 13 05.0 +1.0**
PRD	**Provadia**	**45.96 302**	*i* P	**P**		**20 13 05.5 +1.2**
MRMT	**Marmara Adasi**	**46.02 299**	P	**P**		**20 13 05.4 +0.6**
MNK	**Minsk**	**46.12 318** ⇑	*e*P	**P**		**20 13 03.0 -2.4**
BRD	**Bordesti**	**46.13 306** ⇑	P	**P**		**20 13 08.8 +3.2**
AYDN	**Tasoluk**	**46.16 295**	*i* P	**P**		**20 13 06.6 +0.6**
ARG	**Arkhangelos**	**46.20 293**	*e*P	**P**		**20 13 07.0 +0.7**
MFT	**Murefte**	**46.24 299**	P	**P**		**20 13 05.8 -0.8**
MATI	**Mati**	**46.27 112**	*e*P	**P**		**20 13 08.3 +1.2**
MLSB	**Milas**	**46.30 294**	P	**P**		**20 13 07.9 +0.8**
SART	**Tekirdag**	**46.33 299**	*i* P	**P**		**20 13 08.4 +1.2**
VRI	**Vrincioaia**	**46.33 306** ⇑	P	**P**		**20 13 09.1 +1.9**
ISR	**Istrita**	**46.48 305**	P	**P**		**20 13 11.0 +2.6**
ISR	**Istrita**	**46.48 305** ⇑	P	**P**		**20 13 10.4 +1.9**
ISR	**Istrita**	**46.48 305** ⇑	P	**P**		**20 13 10.4 +2.0**
CANB	**Canakkale**	**46.49 298**	P	**P**		**20 13 09.4 +0.9**
KDAG	**Bornova**	**46.54 296**	*i* P	**P**		**20 13 09.4 +0.4**
IZM	**Izmir**	**46.54 296**	P	**P**		**20 13 09.6 +0.6**
EDRB	**Edirne**	**46.54 300**	P	**P**		**20 13 09.5 +0.5**
BDRM	**Kayabasi**	**46.60 294**	*i* P	**P**		**20 13 09.6 +0.2**
JMB	**Yambol**	**46.6 301**	*i* P	**P**		**20 13 11.0 +1.5**
BODT	**Bodrum**	**46.70 294**	P	**P**		**20 13 10.6 +0.3**
AYVA	**Ayvalik**	**46.86 297**	*i* P	**P**		**20 13 11.9 +0.4**
BUC1	**Bucharest**	**46.88 304**	P	**P**		**20 13 13.5 +1.9**
MLR	**Muntele Rosu**	**46.89 305**	P	**P**		**20 13 13.4 +1.8**
MLR			S	**S**		**20 20 08.9 +7.9**
MLR			pmax	pmax		
comp=Z,176nm,0.9s						
MLR	**Muntele Rosu**	**46.89 305**	P	**P**		**20 13 13.4 +1.8**
comp=Z,176nm,0.9s,mb6.0,baz=70,slow=2.0,SNR=

comp=Z,960nm,3.7s
LVZ smax
comp=E,2μm,6.8s
LVZ smax
comp=N,4μm,14.0s
LVZ smax
comp=E,3μm,12.5s
LVZ smax
comp=Z,1μm,12.5s
LVZ MLR MLR
comp=Z,39μm,12.0s,MS6.6
LVZ MLR MLR
comp=N,12μm,11.0s,MS6.4
LVZ MLR MLR
comp=E,22μm,14.0s,MS6.4
SZH Strazhica 47.02 302 *i* P **P 20 13 14.0 +1.3**
EZN Ezine 47.07 298 *e*P **P 20 13 11.7 -1.5**
KARP Karpathos 47.09 292 *e*P **P 20 13 14.5 +1.2**
ALN Alexandroupoli 47.16 299 *e*P **P 20 13 14.7 +0.9**
PRK Paraskevi 47.19 297 *e*P **P 20 13 14.6 +0.5**
SNX Sinaia 47.20 305 ⇑P **P 20 13 16.6 +2.5**
JHJ Hachijo jima 2 47.28 72 LR LR 20 35 05.9
comp=E,7μm,19.6s,MS5.6,baz=86,slow=39
APA Apatity 47.29 336 ⇓*i*P **P 20 13 15.2 +0.7**
APA *i* 20 15 06.0
APA *i* S **S 20 20 06.0 -0.3**
APA pmax pmax
comp=Z,220nm,1.5s,mb5.9
APA pmax pmax
comp=Z,6μm,8.0s
APA MLR MLR
comp=Z,39μm,14.0s,MS6.5
BURAR Bucovina Array 47.34 308 ⇑P **P 20 13 15.9 +0.7**
BURAR Bucovina Array 47.34 308 ⇑P **P 20 13 15.9 +0.9**
DIM Dimitrovgrad 47.42 301 *e*P **P 20 13 17.0 +1.1**
PVL Pavlikeni 47.47 302 *e*P **P 20 13 18.0 +1.8**
RDO Rodhopi 47.51 300 *e*P **P 20 13 17.5 +0.8**
MTUR Matau 47.52 305 ⇓P **P 20 13 18.2 +1.5**
KDZ Kurdzhali 47.55 300 *e*P **P 20 13 19.0 +2.1**
TIXI Tiksi 47.79 18 *i* P **P 20 13 18.2 -0.2**
TIXI Tiksi 47.79 18 *i* Pr **P 20 13 18.2 -0.2**
TIXI LR LR
comp=Z,17μm,21.0s,MS6.0
YSS Yuzh-Sakhalins 47.80 53⇑*e*P **P 20 13 19.0 +0.2**
YSS *e* 20 14 48.0
YSS *e* 20 15 17.0
YSS *e*PPP PPP 20 15 53.0 -6.7
YSS *e*S **S 20 20 16.0 +2.1**
YSS *e*SS ScS 20 23 06.0 -3.2
YSS pmax pmax
comp=Z,330nm,1.3s,mb6.2
YSS pmax pmax
comp=E,2μm,8.0s
YSS pmax pmax
comp=Z,4μm,8.0s
YSS pmax pmax
comp=Z,3μm,9.0s
YSS pmax pmax
comp=E,2μm,10.0s
YSS smax
comp=N,4μm,16.0s
YSS smax
comp=E,8μm,16.0s
YSS MLR MLR
comp=N,28μm,16.0s,MS6.5
YSS MLR MLR
comp=E,27μm,16.0s,MS6.5
YSS MLR MLR
comp=Z,23μm,16.0s,MS6.2
YSS Yuzh-Sakhalins 47.80 53 *e*P **P 20 13 17.8 -1.0**
comp=Z,518nm,1.6s,mb6.3
YSS LR LR
comp=Z,23μm,21.0s,MS6.1
ASAJ Asahikawa 47.84 56 LR LR 20 34 39.3
comp=Z,45μm,19.4s,MS6.5,baz=282,slow=38
TANI Tanete Lipujan 47.99 128 *e*P **P 20 13 19.8 -1.0**
PLD Plovdiv 48.03 301 *e*P **P 20 13 23.0 +2.3**
RZN Rozhen 48.07 300 *i* P **P 20 13 22.0 +1.0**
APE Apeiranthos 48.11 294 P **P 20 13 19.4 -1.9**
APE Apeiranthos 48.11 294 P **P 20 13 22.6 +1.3**
APE Apeiranthos 48.11 294 *e*P **P 20 13 21.5 +0.2**
LVV L'vov 48.12 311 *e*P **P 20 13 21.5 +0.3**
LVV *i* 20 15 17.7
LVV *e*PPP PPP 20 16 09.3 +5.5
LVV *e*S **S 20 20 17.1 -1.2**
LVV *e*SS SS 20 23 36.7 -5.8
LVV *e*SSS SSS 20 24 54.3 -4.8
LVV MLR MLR
comp=E,11μm,15.0s,MS6.1
LVV MLR MLR
comp=Z,13μm,15.0s,MS6.0
LVV MLR MLR
comp=N,8μm,13.0s,MS6.1
FINES FINESS Array B 48.28 327 P **P 20 13 22.1 -0.3**
FINES pmax pmax
comp=Z,27nm,0.6s
FINES MLR MLR
comp=Z,32μm,18.7s
FINES FINESS Array B 48.28 327 P **P 20 13 22.1 -0.3**
comp=Z,26nm,0.6s,mb5.5,baz=107,slow=7.3,SNR=146
FINES LR LR 20 35 44.3
comp=Z,32μm,18.7s,MS6.3,baz=102,slow=38
SANT Santorini 48.29 293 ⇓*i*P **P 20 13 22.2 -0.5**
comp=Z,528nm,1.1s,mb6.5
THR1 Thera Island 48.29 293 *e*P **P 20 13 22.8 +0.1**
THR3 Thira Island, 48.33 293 *e*P **P 20 13 23.2 +0.2**
KAF Kangasniemi 48.33 328 *e*p **P 20 13 22.1 -0.6**
comp=Z,13nm,0.8s,mb5.0,baz=103,slow=7.7
KAF Kangasniemi 48.33 328 *e*P **P 20 13 22.1 -0.6**
KAF pmax pmax
comp=Z,13nm,0.8s,mb5.0
THR5 Thira Island, 48.37 293 *e*P **P 20 13 24.1 +0.7**
PGB Panagyurishte 48.38 302 *i* P **P 20 13 25.0 +1.6**
NPS Neapolis 48.38 292 *e*P **P 20 13 24.0 +0.5**
MNI Manado 48.55 119 *e*P **P 20 13 18.0 -7.1**
SRDI Scrawed 48.58 138⇑*i*P **P 20 13 26.3 +1.1**
SRDI pmax pmax
comp=Z,80nm,0.9s,mb5.8
SRDI Scrawed 48.58 138⇑*i*P **P 20 13 26.3 +1.1**
comp=Z,80nm,0.9s,mb5.8
SUW Suwalki 48.79 317 *e*P **P 20 13 25.2 -1.1**
SUW *e* 20 15 21.9
SUW *e*S **S 20 20 28.0 +0.3**
SUW *e**SS 20 20 34.0
SUW MLR MLR
comp=Z,66μm,29.1s,MS6.5
SUW Suwalki 48.79 317 *e*P **P 20 13 25.2 -1.1**
SUW *e*pP pP 20 13 27.7 -3.1
SUW *e*PP PP 20 15 21.9 +2.3
SUW *e*S **S 20 20 28.0 +0.3**
SUW *e*SS 20 20 34.0
SUW Suwalki 48.79 317 *e*P **P 20 13 25.2 -1.1**
SUW *e*pP pP 20 13 27.7 -3.1
SUW *e*PP PP 20 15 21.9 +2.3
SUW *e*S **S 20 20 28.0 +0.3**
SUW *e*sS 20 20 34.0
SUW MLR MLR 20 33 33.6
comp=Z,66μm,29.1s,MS6.5
OUR Ouranopolis 48.79 299 *e*P **P 20 13 27.2 +0.7**
BUNI Buntu Taipa 48.79 128 *e*P **P 20 13 27.3 +0.4**
MMB Musomiste 48.81 300 *i* P **P 20 13 27.5 +0.8**
IDI Anoyia 48.95 292 P **P 20 13 28.1 +0.2**
comp=Z,46nm,0.6s,mb5.7,baz=42,slow=11,SNR=41
IDI S **S 20 20 31.1 +0.8**
comp=Z,6.1nm,0.8s,baz=68,slow=23,SNR=1.3
NINI Niniconang 48.97 129 *e*P **P 20 13 28.4 +0.1**
SRS Serrai 48.98 300 *e*P **P 20 13 28.1 +0.2**
KWP Kalwaria 48.98 311 *e*P **P 20 13 27.9 0.0**
KWP *e*PP PP 20 15 23.1 +1.5
KWP *e*S **S 20 20 31.7 +1.3**
KWP MLR MLR 20 33 30.4
comp=Z,42μm,30.3s,MS6.2
AOS Alonnisos 49.04 297 *e*P **P 20 13 28.7 +0.2**
PAIG Paliouri 49.08 298 *e*P **P 20 13 29.5 +0.7**
VTS Vitosha 49.08 302 *i* P **P 20 13 30.5 +1.7**
PLG Polygyros 49.19 299 *e*P **P 20 13 30.5 +0.9**
SOH Sokhos 49.20 299 *e*P **P 20 13 29.9 +0.2**
KKB Krupnik 49.26 301 *e*P **P 20 13 31.0 +0.9**
UZH Uzhgorod 49.27 310*c i*P **P 20 13 28.4 -1.8**
UZH *e*S **S 20 20 31.2 -3.4**
KOLS Kolonicke sedl 49.28 310 *e*P **P 20 13 30.8 +0.6**
KOLS *e* 20 14 54.2
MPAR Parnis Oros 49.32 296 *e*P **P 20 13 31.0 +0.3**
VAM Vamos 49.48 292 *e*P **P 20 13 32.1 +0.1**
KNT Kendrikon 49.49 300 *e*P **P 20 13 32.1 +0.2**
THE Thessaloniki 49.51 299 *e*P **P 20 13 32.0 -0.1**
THE Thessaloniki 49.51 299 *e*P **P 20 13 32.5 +0.4**
NEO Neokhori 49.52 297 *e*P **P 20 13 32.5 +0.3**
NSAL Nisos Salamina 49.58 296 *e*P **P 20 13 32.0 -0.7**
NAIG Nisos Aigina 49.58 295 *e*P **P 20 13 32.0 -0.7**
RATI Rata 49.58 137⇑*i*P **P 20 13 30.1 -2.9**
comp=Z,4.1nm,0.7s
GVD Gavdhos 49.69 292 *e*P **P 20 13 32.3 -1.3**
comp=Z,104nm,0.8s,mb5.9
GVD Gavdhos 49.69 292 *e*P **P 20 13 33.5 -0.1**
VAY Valandovo 49.71 300 ⇓*i*P **P 20 13 33.6 -0.1**
VAY *i* PP PP 20 15 28.5 -0.6
VAY ⇑*i*S **S 20 20 44.0 +3.2**
VAY *i* SS SS 20 24 41.3 +32
MGER Gerania Oros 49.72 296 *e*P **P 20 13 33.0 -0.8**
KEDI Kedomdong 49.74 136⇑*i*P **P 20 13 32.6 -1.6**
KEDI pmax pmax
comp=Z,49nm,0.7s,mb5.7
KEDI Kedomdong 49.74 136⇑*i*P **P 20 13 32.6 -1.6**
comp=Z,49nm,0.7s,mb5.7
CRVS Cervenica-Dubn 49.81 310 *e* **P 20 13 43.6 +9.3**
CRVS *e*PP PP 20 15 32.2 +2.2
CRVS *e*S **S 20 20 39.7 -2.3**
CRVS *e* 20 24 01.2
BOLS Boljevac 49.85 304 ⇓*i*P **P 20 13 34.9 +0.2**
GRG Griva 49.89 300 *e*P **P 20 13 35.1 +0.1**
BZS Buzias 49.92 306 ⇑P **P 20 13 35.9 +0.7**
LIT Litokhoron 49.95 299 *e*P **P 20 13 35.2 -0.3**
WAR Warsaw 50.03 315 *e*P **P 20 13 33.3 -2.6**
WAR *e* 20 15 36.6
WAR *e*S **S 20 20 47.3 +2.3**
WAR *e**SS 20 20 53.7
WAR MLR MLR
comp=Z,57μm,27.5s,MS6.4
WAR Warsaw 50.03 315 *e*P **P 20 13 33.3 -2.6**
WAR *e*pP pP 20 13 37.5 -2.9
WAR *e*PP PP 20 15 36.6 +4.6
WAR *e*S **S 20 20 47.3 +2.3**
WAR *e*SS 20 20 53.7
WAR LR LR
comp=Z,57μm,27.5s,MS6.4
WAR Warsaw 50.03 315 *e*P **P 20 13 33.3 -2.6**
WAR *e*pP pP 20 13 37.5 -2.9
WAR *e*PP PP 20 15 36.6 +4.6
WAR *e*S **S 20 20 47.3 +2.3**
WAR *e*sS 20 20 53.7
WAR MLR MLR 20 34 40.2
comp=Z,57μm,27.5s,MS6.4
YUK Yuzh-Kuril'sk 50.19 56⇑*i*P **P 20 13 39.0 +1.7**
YUK *e* 20 15 40.0
YUK *e*PPP PPP 20 16 25.0 -4.8
YUK *e*S **S 20 20 52.0 +4.6**
YUK *e*SS SS 20 24 22.0 +4.2
YUK *e*SSS SSS 20 25 50.0 +2.1
YUK pmax pmax
comp=E,3μm,7.0s
YUK pmax pmax
comp=Z,5μm,7.0s
YUK pmax pmax
comp=N,2μm,10.0s
YUK smax
comp=E,8μm,7.0s
YUK smax
comp=N,5μm,4.0s
YUK MLR MLR
comp=Z,36μm,18.0s,MS6.4
YUK MLR MLR
comp=E,30μm,15.0s
VLI Veliai 50.21 294 *e*P **P 20 13 35.8 -1.8**
KYTH Kithira 50.23 294 *e*P **P 20 13 35.5 -2.1**
AGG Agios Georgios 50.25 297 *e*P **P 20 13 37.2 -0.7**
KEV Kevo 50.30 338 *e*p **P 20 13 38.4 +0.7**
comp=E,2.8nm,0.5s
SVIS Svilajnac 50.33 304⇑*i*P **P 20 13 38.2 -0.1**
SKO Skopje 50.46 301 ⇓*i*P **P 20 13 39.3 -0.1**
comp=Z,0.2nm,1.3s
KZN Kozani 50.47 299 *e*P **P 20 13 39.5 +0.1**
KECS Kecovo 50.48 310 *e*P **P 20 13 37.4 -2.0**
KECS *e* 20 15 42.5
NIE Niedzica 50.54 311 *e*P **P 20 13 39.3 -0.6**
EVR Evrytania 50.67 297⇑*i*P **P 20 13 40.5 -0.5**
FNA Florina 50.69 300 *e*P **P 20 13 40.7 -0.4**
ARCES ARCESS Array B 50.72 337 P **P 20 13 41.1 +0.2**
ARCES pmax pmax
comp=Z,132nm,1.0s
ARCES MLR MLR
comp=Z,36μm,18.9s
ARCES ARCESS Array B 50.72 337 P **P 20 13 41.1 +0.1**
comp=Z,132nm,1.0s,mb5.8,baz=98,slow=3.4,SNR=98
ARCES LR LR 20 35 58.4
comp=Z,36μm,18.9s,MS6.4,baz=113,slow=37
ARE0 ARCESS Array S 50.72 337 *e*P **P 20 13 40.8 -0.1**
GRUS Gruza 50.74 304⇑*i*P **P 20 13 41.5 +0.1**
OJC Ojcow 50.84 312 *e*P **P 20 13 41.6 -0.5**
OJC *e*PcP PcP 20 14 59.9 +0.8
OJC *e*PP PP 20 15 39.5 +0.1
OJC *e*S **S 20 20 56.3 +0.1**
OJC *e*SS SS 20 24 28.4 -0.4
OJC MLR MLR 20 37 28.7
comp=Z,28μm,19.5s,MS6.3
PSZ Piszkesteto 50.91 309 P **P 20 13 43.4 +0.7**
PSZ Piszkesteto 50.91 309 ⇑P **P 20 13 42.9 +0.2**
PSZ Piszkesteto 50.91 309⇓*e* **P 20 13 42.8 +0.1**
PSZ Piszkesteto 50.91 309 ⇑P **P 20 13 42.9 +0.2**
ITM Ithomi 50.91 295 *e*P **P 20 13 41.7 -1.2**
MEV Metsovon 50.96 298 *e*P **P 20 13 43.2 +0.1**
OHR Ohrid 51.06 300 ⇓*i*P **P 20 13 42.8 -1.1**
OHR *i* 20 14 20.5
DIVS Divcibare 51.23 304⇑*i*P **P 20 13 44.8 -0.3**
JAN Janina 51.27 298 *e*P **P 20 13 45.5 0.0**
KTK1 Kautokeino 51.33 336 *e*P **P 20 13 45.5 -0.1**
comp=Z,410nm,1.6s,mb6.1
KTK1 Kautokeino 51.33 336 ⇓*i*P **P 20 13 45.6 0.0**
KTK1 AMb AMB 20 13 52.0
comp=Z,410nm,1.6s,mb6.1
LIKS Likavka 51.35 310 *e*P **P 20 13 36.6 -9.4**
LIKS Likavka 51.35 310 *e* **P 20 13 36.6 -9.4**
PVY Plav 51.45 302⇑*i*P **P 20 13 46.3 -0.5**
IVA Berane 51.46 303⇑*i*P **P 20 13 46.7 -0.3**
NVSS Nova Varos 2 51.52 303 ⇓*i*P **P 20 13 47.8 +0.5**
BUD Budapest 51.53 308 *e* **P 20 13 48.1 +0.7**
VYHS Vyhne 51.57 310 *e*P **P 20 13 47.1 -0.6**
VYHS *e*PP PP 20 15 46.7 +0.7
VYHS *e*S **S 20 21 04.0 -2.4**
VYHS *e* 20 24 51.1
LKD Levkas 51.60 297 *e*P **P 20 13 46.4 -1.7**
QSH Qafa e Shtames 51.66 301 *i* p **P 20 13 47.7 -0.8**
IGT Igoumenitsa 51.69 298 *e*P **P 20 13 47.1 -1.6**
TIR Tirane 51.72 301 *e*p **P 20 13 48.0 -0.9**
VLS Valsamata 51.75 297 *e*P **P 20 13 48.0 -1.2**
PLE Pijevlja 51.76 303⇑*i*P **P 20 13 49.9 +0.7**
RAC Raciborz 51.88 312 *e*P **P 20 13 49.9 -0.1**
RAC *e*S **S 20 21 10.3 -0.2**
RAC MLR MLR
comp=N,130μm,22.6s,MS6.9
RAC MLR MLR
comp=E,33μm,27.0s,MS6.9
RAC MLR MLR
comp=Z,27μm,18.2s
PKSM Moragy 51.92 307 ⇑P **P 20 13 50.4 0.0**
OKC Ostrava-Krasne 51.93 312 *i* P **P 20 13 50.2 -0.2**
OKC *e* 20 15 51.5
OKC *e*S **S 20 21 13.6 +2.4**
OKC MLR MLR
comp=Z,19μm,16.4s,MS6.2
OKC Ostrava-Krasne 51.93 312 *i* P **P 20 13 50.2 -0.2**
OKC *e*pP pP 20 13 54.2 -0.7
OKC *e*x x 20 14 26.4
OKC *e*PP PP 20 15 51.5 +2.4
OKC *e*S **S 20 21 13.6 +2.4**
OKC *e*SS SS 20 25 09.6 +23
OKC AMS AMS 20 38 30.0
comp=Z,19μm,16.4s
SRO Srobarova 51.98 309 *e*P **P 20 13 51.8 +1.0**
TTG Podgorica 51.99 302⇑*i*P **P 20 13 50.2 -0.8**
SRO1 Iza 52.04 309 *e*P **P 20 13 51.8 +0.5**
KEK Kerkira 52.06 299 *e*P **P 20 13 49.8 -1.7**
ULC Ulcinj 52.08 301⇑*i*P **P 20 13 50.7 -0.9**
NKY Niksic 52.12 303⇑*i*P **P 20 13 50.4 -1.5**
UPM Unac-Piva 52.13 303⇑*i*P **P 20 13 51.6 -0.3**
BUM Brajici-Budva 52.28 302⇑*i*P **P 20 13 52.5 -0.6**
GKP Gorka Klasztor 52.31 316 *e*P **P 20 13 52.3 -0.9**
GKP *e*S **S 20 21 16.0 -0.5**
GKP *e*S **S 20 21 21.9 +5.4**
GKP MLR MLR
comp=Z,45μm,26.9s,MS6.4
GKP Gorka Klasztor 52.31 316 *e*P **P 20 13 52.3 -0.9**
GKP *e*pP pP 20 13 56.9 -0.8
GKP *e*S **S 20 21 16.0 -0.5**
GKP *e*SS 20 21 21.9
GKP LR LR
comp=Z,45μm,26.9s,MS6.4
GKP Gorka Klasztor 52.31 316 *e*P **P 20 13 52.3 -0.9**
GKP *e*pP pP 20 13 56.9 -0.8
GKP *e*S **S 20 21 16.0 -0.5**
GKP *e*sS 20 21 21.9
GKP MLR MLR 20 36 00.1
comp=Z,45μm,26.9s,MS6.4
MORC Moravsky Berou 52.32 311 P **P 20 13 53.7 +0.4**
MORC Moravsky Berou 52.32 311 ⇓P **P 20 13 53.3 0.0**
MORC Moravsky Berou 52.32 311 ⇓P **P 20 13 53.3 0.0**
BRY Bratogost 52.44 303 *e*P **P 20 13 53.2 -1.1**
SMOL Smolenice 52.51 310 *e*P **P 20 13 54.7 0.0**
SMOL *e* 20 15 06.3
HCY Herceg Novi 52.55 302⇑*i*P **P 20 13 54.2 -0.9**
MA2 Magadan 52.72 36 *e*P **P 20 13 56.6 +0.4**
MA2 *e*S **S 20 21 22.3 +0.5**
MA2 pmax pmax
comp=Z,100nm,1.9s,mb5.4
MA2 pmax pmax
comp=E,100nm,1.7s
MA2 MLR MLR
comp=Z,62μm,26.0s,MS6.5
MA2 Magadan 52.72 36 *e*P **P 20 13 56.2 0.0**
comp=Z,325nm,1.4s,mb6.1
MA2 LR LR
comp=Z,18μm,21.0s,MS6.1
ZST Bratislava 52.75 310 *e*P **P 20 13 56.5 -0.1**
ZST *e* 20 15 08.9
ZST *e*PP PP 20 15 51.5 -5.9
ZST *e*S **S 20 21 21.7 -0.8**
ZST *e* 20 25 13.7
ZST *e*L 20 39 41.5
TRO Tromso 52.97 337 *e*P **P 20 13 56.4 -1.5**
TRO LR LR
comp=Z,10798μm,16.5s
TRO Tromso 52.97 337 *e*P **P 20 13 56.4 -1.5**
TRO *e*PP PP 20 15 56.9 -2.4
TRO *e*S **S 20 21 27.6 +2.4**
TRO AMS AMS 20 37 59.2
comp=Z,11μm,16.5s,MS6.0
VRAC Vranov 52.98 311 ⇓P **P 20 13 58.6 +0.3**
KSP Ksiaz 53.04 313 *e*P **P 20 13 57.9 -0.8**
KSP *e* pP 20 14 03.2 0.0
KSP *e* 20 15 55.0
KSP *e*S **S 20 21 24.0 -2.3**
KSP *e*SS SS 20 25 07.0 +2.0
KSP MLR MLR
comp=Z,93μm,31.6s,MS6.6
KSP Ksiaz 53.04 313 *e*P **P 20 13 57.9 -0.8**
KSP *e*pP pP 20 14 00.3 -2.9
KSP *e* pP 20 14 03.2 0.0
KSP *e*PP PP 20 15 55.0 -5.1
KSP *e*S **S 20 21 24.0 -2.3**
KSP *e*SS SS 20 25 07.0 +2.0
KSP LR LR
comp=Z,93μm,31.6s,MS6.6
KSP Ksiaz 53.04 313 *e*P **P 20 13 58.1 -0.6**
KSP *e*pP pP 20 14 02.3 -0.8
KSP *e*PP PP 20 16 01.0 +0.9
KSP *e*S **S 20 21 29.2 +2.9**
KSP *e*sS 20 21 35.9
KSP MLR MLR 20 34 49.0
comp=Z,80μm,31.6s,MS6.6
DPC Dobruska-Polom 53.06 312 *i* P **P 20 13 58.9 +0.1**
DPC *e* 20 16 01.4
DPC *e*S **S 20 21 31.5 +4.9**
DPC MLR MLR
comp=Z,29μm,14.4s,MS6.5
DPC Dobruska-Polom 53.06 312 *i* P **P 20 13 58.9 +0.1**
DPC *e*pP pP 20 14 02.8 -0.5
DPC *e*PP PP 20 16 01.4 +1.1
DPC *e*S **S 20 21 31.5 +4.9**
DPC *e*SS SS 20 25 16.8 +11
DPC AMS AMS 20 39 30.0
comp=Z,29μm,14.4s
STON Ston 53.06 303 *i* P **P 20 13 53.3 -5.6**
SOP Sopron 53.17 309⇑*e*P **P 20 13 59.9 +0.2**
UPC Upice 53.24 313 *i* P **P 20 14 00.2 0.0**
UPC *e*pP pP 20 14 06.0 +1.3
UPC *e*x x 20 14 36.9
KOGS Kog 53.54 307 *e*P **P 20 14 02.1 -0.3**
SISC Sisak 53.59 306 *i* P **P 20 14 02.5 -0.3**
BSD Bornholm Skovb 53.61 316 ⇓*i*P **P 20 14 02.0 -0.8**
BSD *i* 20 15 59.4
BSD *i*S **S 20 21 33.3 -0.7**
BSD *i* 20 25 11.3
BSD pmax pmax
comp=Z,75nm,1.1s,mb5.5
BSD MLR MLR
comp=Z,32μm,19.0s,MS6.4
BSD Bornholm Skovb 53.61 318 ⇓*i*P **P 20 14 02.0 -0.8**
comp=Z,75nm,1.1s,mb5.5
BSD *i* 20 15 59.4
BSD *i*S **S 20 21 33.3 -0.7**
BSD *i* 20 25 11.3
comp=Z,32μm,19.0s
SEY Seymchan 53.66 32 *e*P **P 20 14 05.2 +2.1**
SEY 20 15 05.3
SEY 20 16 07.0
SEY *e*PPP PPP 20 17 19.9 +6.2
SEY *e*S **S 20 21 40.4 +5.7**
SEY pmax pmax
comp=E,230nm,1.1s
SEY pmax pmax
comp=Z,400nm,1.1s,mb6.3
SEY pmax pmax
comp=N,60nm,0.7s
SEY smax
comp=N,14μm,18.2s
SEY smax
comp=E,5μm,17.4s
SEY MLR MLR
comp=Z,44μm,12.0s,MS6.7
SEY MLR MLR
comp=N,53μm,15.0s
SEY MLR MLR
comp=E,14μm,9.0s
ARSA Arzberg 53.92 309⇑*i*P **P 20 14 04.9 -0.3**
comp=E,758nm,2.8s,mb6.1
MOR8 Moi Rana 54.12 332 *e*P **P 20 14 05.2 -1.2**
comp=E,387nm,1.5s,mb6.1
MOR8 Moi Rana 54.12 332 ⇓*i*P **P 20 14 05.3 -1.1**
MOR8 *e*pP pP 20 14 08.9 -1.9
MOR8 AMb AMB 20 14 11.8
comp=Z,387nm,1.5s,mb6.1
LTRZ Laterza 54.12 300 *e*P **P 20 14 06.4 -0.4**
PVCC Panska Ves 54.16 313 *i* P **P 20 14 06.8 -0.1**
PVCC *e*S **S 20 21 49.5 +8.0**
PVCC MLR MLR
comp=Z,30μm,15.2s,MS6.5
PVCC Panska Ves 54.16 313 *i* P **P 20 14 06.8 -0.1**
PVCC *e*pP pP 20 14 10.6 -0.8
PVCC *e*S **S 20 21 49.5 +8.0**
PVCC *e*x x 20 25 47.1
PVCC AMS AMS 20 40 10.0
comp=Z,30μm,15.2s
HFS Hagfors 54.17 325 LR LR 20 39 53.7
comp=Z,28μm,21.4s,MS6.3,baz=107,slow=39
KMBO Kilima Mbogo 54.19 243 P **P 20 14 07.5 -0.1**
KMBO S **S 20 21 45.8 +3.4**
KMBO pmax pmax
comp=Z,51nm,1.0s
KMBO MLR MLR
comp=Z,18μm,20.3s
KMBO Kilima Mbogo 54.19 243 P **P 20 14 07.5 -0.1**
comp=Z,51nm,1.0s,mb5.4,baz=40,slow=9.6,SNR=48
KMBO S **S 20 21 45.8 +3.3**
comp=Z,1.3nm,1.0s,baz=241,slow=19,SNR=2.0
KMBO LR LR 20 36 37.3
comp=Z,18μm,20.3s,MS6.1,baz=45,slow=35
KMBO Kilima Mbogo 54.19 243⇓*e*P **P 20 14 07.9 +0.3**
comp=Z,96nm,1.1s,mb5.6
KMBO LR LR
comp=Z,17μm,20.0s,MS6.1

PRU	**Pruhonice**	**54.23 312**	*i* P	**P**	**20 14 07.2**	**-0.2**
PRU			*e*		20 16 09.9	
PRU			*e*S	**S**	**20 21 41.1**	**-1.4**
PRU			MLR	MLR		
	comp=Z,29µm,14.6s,MS6.5					
PRU	**Pruhonice**	**54.23 312**	*i* P	**P**	**20 14 07.2**	**-0.2**
PRU			*e*pP	pP	20 14 11.4	-0.5
PRU			*e*x	x	20 14 48.6	
PRU			*e*PP	PP	20 16 09.9	-1.0
PRU			*e*S	**S**	**20 21 41.1**	**-1.4**
PRU			*e*x	x	20 25 43.4	
PRU			AMS	AMS	20 40 10.0	
	comp=Z,29µm,14.6s					
PERS	**Pernice**	**54.29 308**	*e*P	**P**	**20 14 07.7**	**-0.1**
PRA	**Prague**	**54.29 312**	P	**P**	**20 14 09.0**	**+1.1**
PRA			AMS	AMS	20 40 30.0	
BOJS	**Bojanci**	**54.37 306**	*e*P	**P**	**20 14 08.3**	**-0.2**
RUE	**Ruedersdorf**	**54.46 315**	*e*P	**P**	**20 14 08.3**	**-0.8**
	comp=Z,202nm,1.4s,mb5.9					
MELSS	**Ber_school_2**	**54.47 333**	*e*P	**P**	**20 14 08.5**	**-0.4**
TIP	**Timpagrande**	**54.47 299**	⇓*i*P	**P**	**20 14 08.8**	**-0.6**
ORI	**Oriolo Calabro**	**54.51 300**	*e*P	**P**	**20 14 10.3**	**+0.7**
BRG	**Berggiesshubel**	**54.52 313**	*i* P	**P**	**20 14 09.5**	**0.0**
BRG			*i*		20 15 11.3	
BRG			*e*		20 16 15.0	
BRG			*i* S	**S**	**20 21 46.0**	**-0.3**
BRG			*i* SS	SS	20 25 28.0	-0.7
BRG			pmax	pmax		
	comp=Z,118nm,1.3s,mb5.8					
BRG			MLR	MLR		
	comp=N,131µm,30.1s,MS6.8					
BRG			MLR	MLR		
	comp=E,49µm,30.1s,MS6.8					
BRG			MLR	MLR		
	comp=Z,49µm,30.1s,MS6.4					
BRG	**Berggiesshubel**	**54.52 313**	*i* P	**P**	**20 14 09.5**	**0.0**
	comp=Z,118nm,1.3s,mb5.8					
BRG			*i*	pP	20 14 14.0	0.0
BRG			*i* PcP	PcP	20 15 11.3	-1.5
BRG			*e*PP	PP	20 16 15.0	+1.6
BRG			*i* S	**S**	**20 21 46.0**	**-0.3**
BRG			*i* SS	SS	20 25 28.0	-0.7
BRG			LR	LR		
	comp=Z,49µm,30.1s,MS6.4					
FGMS	**Monte Sant'Ang**	**54.55 302**	*e*P	**P**	**20 14 09.4**	**-0.4**
RGN	**Rugen**	**54.56 318**	*e*P	**P**	**20 14 10.6**	**+0.8**
	comp=Z,142nm,1.0s,mb6.0					
LOF	**Lofoten**	**54.66 334**	*e*P	**P**	**20 14 11.9**	**+1.6**
	comp=Z,532nm,1.5s,mb6.3					
LOF	**Lofoten**	**54.66 334**	⇑*i*P	**P**	**20 14 11.9**	**+1.6**
LOF			AMb	AMB	20 14 18.0	
	comp=Z,532nm,1.5s,mb6.3					
MOA	**Molln**	**54.69 309**	⇑*i*P	**P**	**20 14 10.2**	**-0.6**
	comp=Z,571nm,2.5s,mb6.2					
OBKA	**Obir**	**54.69 308**	⇑*i*P	**P**	**20 14 10.8**	**-0.1**
	comp=Z,2µm,4.7s					
LJU	**Ljubljana**	**54.78 307**	*i* P	**P**	**20 14 11.5**	**0.0**
NVLJ	**Novalja**	**54.79 305**	*i* P	**P**	**20 14 10.1**	**-1.6**
GRI	**Girifalco**	**54.81 298**	*e*P	**P**	**20 14 11.8**	**0.0**
RGNG	**Rignano Grg**	**54.82 302**	*e*P	**P**	**20 14 10.8**	**-1.1**
GEC2	**GERESS Array S**	**54.92 311**	*e*P	**P**	**20 14 11.9**	**-0.6**
GEC2			pmax	pmax		
	comp=Z,108nm,1.4s,mb5.7					
GEC2	**GERESS Array S**	**54.92 311**	*e*P	**P**	**20 14 11.9**	**-0.6**
	comp=Z,108nm,1.4s,mb5.7					
GEC2			*e*S	**S**	**20 21 56.2**	**+4.5**
GERES	**GERESS Array B**	**54.92 311**	P	**P**	**20 14 12.0**	**-0.5**
GERES			pmax	pmax		
	comp=Z,10.0nm,0.9s					
GERES			MLR	MLR		
	comp=Z,25µm,20.5s					
GERES	**GERESS Array B**	**54.92 311**	P	**P**	**20 14 12.0**	**-0.5**
	comp=Z,9.5nm,0.9s,mb4.8,baz=79,slow=6.8,SNR=44					
GERES			LR	LR	20 40 19.0	
	comp=Z,25µm,20.5s,MS6.3,baz=89,slow=39					
KHC	**Kasperske Hory**	**54.96 311**	*i* P	**P**	**20 14 12.3**	**-0.5**
KHC			*e*		20 16 17.0	
KHC			*e*S	**S**	**20 21 53.8**	**+1.5**
KHC			MLR	MLR		
	comp=Z,27µm,16.5s,MS6.4					
KHC	**Kasperske Hory**	**54.96 311**	*i* P	**P**	**20 14 12.3**	**-0.5**
KHC			*e*pP	pP	20 14 16.2	-1.1
KHC			*e*x	x	20 14 52.9	
KHC			*e*PP	PP	20 16 17.0	-0.5
KHC			*e*S	**S**	**20 21 53.8**	**+1.5**
KHC			*e*x	x	20 25 57.2	
KHC			AMS	AMS	20 40 10.0	
	comp=Z,27µm,16.5s					
COP	**Copenhagen**	**54.99 319**	*e*P	**P**	**20 14 13.9**	**+1.0**
COP			*i* S	**S**	**20 21 58.5**	**+5.9**
COP			pmax	pmax		
	comp=Z,64nm,0.8s,mb5.7					
COP			MLR	MLR		
	comp=Z,17µm,19.0s,MS6.1					
COP	**Copenhagen**	**54.99 319**	*e*P	**P**	**20 14 13.9**	**+1.0**
	comp=Z,64nm,0.8s,mb5.7					
COP			*i* S	**S**	**20 21 58.5**	**+5.9**
COP			LR	LR		
	comp=Z,17µm,19.0s,MS6.1					
COP	**Copenhagen**	**54.99 319**	*i* P	**P**	**20 14 13.9**	**+1.0**
	comp=Z,64nm,0.8s,mb5.7					
COP			*i* S	**S**	**20 21 58.5**	**+5.9**
	comp=Z,17µm,19.0s					
NSS	**Namsos**	**55.05 330**	*e*P	**P**	**20 14 11.3**	**-1.9**
NSS			*e*S	**S**	**20 21 54.6**	**+1.3**
NSS			AMS	AMS	20 38 55.4	
	comp=Z,16µm,17.1s,MS6.2					
SLCN	**Sala Consilina**	**55.05 300**	*e*P	**P**	**20 14 13.9**	**+0.2**
CLL	**Collm**	**55.06 314**	⇓*i*P	**P**	**20 14 12.5**	**-1.0**
CLL			*i*		20 15 14.1	
CLL			*e*S	**S**	**20 21 54.0**	**+0.5**
CLL			pmax	pmax		
	comp=Z,70nm,1.3s,mb5.5					
CLL			MLR	MLR		
	comp=Z,34µm,23.1s,MS6.4					
CLL	**Collm**	**55.06 314**	⇓*i*P	**P**	**20 14 12.5**	**-1.0**
	comp=Z,70nm,1.3s,mb5.5					
CLL			*i* PcP	PcP	20 15 14.1	-0.8
CLL			*e*S	**S**	**20 21 54.0**	**+0.5**
CLL			LR	LR		
	comp=Z,34µm,23.1s,MS6.4					
CLL	**Collm**	**55.06 314**	⇓P	**P**	**20 14 12.5**	**-1.0**
	comp=Z,logA/T=1.8,mb5.6					
CLL			*i* *PP	pP	20 14 16.6	-1.4
CLL			*i* PCP	PcP	20 15 14.1	-0.8
CLL			*i*		20 15 17.6	
CLL			*i* PP	PP	20 16 22.7	+4.4
CLL			*e*PPP	PPP	20 17 21.0	-10
CLL			*e*S	**S**	**20 21 54.0**	**+0.5**
CLL			*e*		20 22 51.0	
CLL			*e*SS	SS	20 25 34.0	-3.3
MRLC	**Muro Lucano**	**55.08 301**	*e*P	**P**	**20 14 14.5**	**+0.6**
FG5	**Orsara di Pugl**	**55.13 301**	*e*P	**P**	**20 14 14.4**	**+0.2**
MGR	**Morigerati**	**55.17 300**	*e*P	**P**	**20 14 13.5**	**-1.0**
VOY	**Vojsko**	**55.22 307**	*e*P	**P**	**20 14 13.9**	**-0.9**
VOY			*e*		20 14 26.1	
VOY			*e*		20 15 14.7	
SGO	**Sicignano**	**55.26 300**	*e*P	**P**	**20 14 14.7**	**-0.4**
SOI	**Samo**	**55.26 297**	*e*P	**P**	**20 14 15.1**	**-0.1**
TRI	**Trieste**	**55.36 307**	*e*P	**P**	**20 14 14.9**	**-0.9**
NB2	**NORSAR Subarra**	**55.38 326**	P	**P**	**20 14 14.7**	**-1.0**
	comp=Z,320nm,1.7s,mb6.1,baz=87,slow=7.0					
NB2	**NORSAR Subarra**	**55.38 326**	P	**P**	**20 14 14.7**	**-1.0**
	baz=87,slow=7.4					
NOA	**NORSAR Array B**	**55.38 326**	P	**P**	**20 14 14.7**	**-1.0**
NOA			pmax	pmax		
	comp=Z,46nm,0.9s					
NOA			MLR	MLR		
	comp=Z,20µm,20.1s					
NOA	**NORSAR Array B**	**55.38 326**	P	**P**	**20 14 14.7**	**-1.1**
	comp=Z,46nm,0.8s,mb5.5,baz=88,slow=7.1,SNR=93					
NOA			LR	LR	20 40 01.1	
	comp=Z,20µm,20.1s,MS6.2,baz=105,slow=38					
CSSN	**Cassano Irpino**	**55.41 301**	*e*P	**P**	**20 14 15.6**	**-0.6**
WET	**Wettzell**	**55.41 311**	*e*P	**P**	**20 14 15.5**	**-0.6**
WET			pmax	pmax		
	comp=Z,141nm,1.6s,mb5.8					
WET	**Wettzell**	**55.41 311**	*e*P	**P**	**20 14 15.5**	**-0.6**
	comp=Z,141nm,1.6s,mb5.8					
KBA	**Koelnbreinsper**	**55.42 309**	⇑*i*P	**P**	**20 14 15.5**	**-0.7**
	comp=Z,2µm,5.8s					
ROBS	**Robic**	**55.45 308**	*e*P	**P**	**20 14 15.3**	**-1.1**
SCLL	**Scilla**	**55.48 298**	*e*P	**P**	**20 14 17.2**	**+0.5**
NKC	**Novy Kostel**	**55.54 312**	*i* P	**P**	**20 14 16.7**	**-0.3**
NKC			*e*		20 16 22.0	
NKC			*e*S	**S**	**20 22 03.6**	**+3.6**
NKC			MLR	MLR		
	comp=Z,31µm,17.9s,MS6.4					
NKC	**Novy Kostel**	**55.54 312**	*i* P	**P**	**20 14 16.7**	**-0.3**
NKC			*e*pP	pP	20 14 20.6	-0.9
NKC			*e*x	x	20 14 58.6	
NKC			*e*PP	PP	20 16 22.0	-0.7
NKC			*e*S	**S**	**20 22 03.6**	**+3.6**
NKC			*e*x	x	20 26 04.6	
NKC			AMS	AMS	20 41 00.0	
	comp=Z,31µm,17.9s					
NAO01	**NORSAR Array S**	**55.55 325**	*e*P	**P**	**20 14 15.0**	**-1.9**
	comp=Z,62nm,1.0s,mb5.6					
NAO01			LR	LR		
	comp=Z,13µm,19.0s,MS6.0					
MTTG	**Motta San Giov**	**55.56 297**	*e*P	**P**	**20 14 17.4**	**+0.1**
HSP	**Hornsund**	**55.60 345**	*e*P	**P**	**20 14 16.3**	**-0.9**
MSI	**Messina ING**	**55.62 298**	*e*P	**P**	**20 14 19.8**	**+2.1**
GMNA	**Gemona**	**55.63 308**	*e*P	**P**	**20 14 16.9**	**-0.8**
CII	**Carovilli**	**55.75 302**	*e*P	**P**	**20 14 18.5**	**-0.2**
MOX	**Moxa**	**56.01 313**	*e*P	**P**	**20 14 19.1**	**-1.3**
MOX			*e*		20 16 26.0	
MOX			pmax	pmax		
	comp=Z,133nm,1.6s,mb5.7					
MOX			MLR	MLR		
	comp=Z,22µm,17.0s,MS6.3					
MOX	**Moxa**	**56.01 313**	*e*P	**P**	**20 14 19.1**	**-1.3**
	comp=Z,133nm,1.6s,mb5.7					
MOX			*e*		20 16 26.0	
MOX			LR	LR		
	comp=Z,22µm,17.0s,MS6.3					
MOX	**Moxa**	**56.01 313**	*i* P	**P**	**20 14 19.1**	**-1.3**
	comp=Z,logA/T=1.9,mb5.7					
MOX			PP	PP	20 16 26.0	-0.9
MOX			S	**S**	**20 22 09.0**	**+2.7**
MOX			SS	SS	20 26 06.0	+13
MOX			L		20 41 22.0	
SLNA	**Salina**	**56.08 298**	*e*P	**P**	**20 14 20.2**	**-0.9**
AGST	**Augusta-Monte**	**56.10 297**	*e*P	**P**	**20 14 21.0**	**-0.3**
SDI	**San Donato**	**56.11 302**	*e*P	**P**	**20 14 20.2**	**-1.1**
KONO	**Kongsberg**	**56.25 324**	*e*P	**P**	**20 14 22.5**	**+0.6**
KONO			*e*S	**S**	**20 22 01.2**	**-8.1**
AQU	**L'Aquila**	**56.27 303**	P	**P**	**20 14 22.5**	**+0.1**
AQU	**L'Aquila**	**56.27 303**	*e*P	**P**	**20 14 22.7**	**+0.4**
SKR	**Severo-Kuril's**	**56.27 47**	*e*P	**P**	**20 14 20.0**	**-2.2**
SKR			*e*		20 16 33.0	
SKR			*e*S	**S**	**20 22 06.0**	**-3.8**
SKR			*e*PS	PS	20 22 21.0	-2.5
SKR			*e*SSS	SSS	20 28 07.0	+1.4
SKR			pmax	pmax		
	comp=N,3µm,8.0s					
SKR			pmax	pmax		
	comp=E,3µm,8.0s					
SKR			pmax	pmax		
	comp=Z,3µm,8.0s					
SKR			smax			
	comp=N,3µm,10.0s					
SKR			smax			
	comp=E,5µm,10.0s					
SKR			MLR	MLR		
	comp=N,30µm,14.0s,MS6.6					
SKR			MLR	MLR		
	comp=E,28µm,16.0s,MS6.6					
SKR			MLR	MLR		
	comp=Z,51µm,16.0s,MS6.7					
MNO	**Monte Soro**	**56.34 298**	*e*P	**P**	**20 14 23.2**	**+0.3**
PTQR	**Pietraquaria**	**56.34 303**	*e*P	**P**	**20 14 22.8**	**-0.1**
BSEG	**Bad Segeberg**	**56.37 317**	*e*P	**P**	**20 14 22.4**	**-0.5**
BSEG			pmax	pmax		
	comp=Z,194nm,1.3s,mb6.0					
BSEG	**Bad Segeberg**	**56.37 317**	*e*P	**P**	**20 14 22.4**	**-0.5**
BSEG			*e*PP	PP	20 16 29.7	-0.4
BSEG			*e*S	**S**	**20 22 17.1**	**+6.0**
NRCA	**Norcia**	**56.38 304**	*e*P	**P**	**20 14 22.9**	**-0.3**
DOMB	**Dombas**	**56.38 327**	*e*P	**P**	**20 14 22.9**	**+0.1**
	comp=Z,240nm,1.6s,mb6.0					
DOMB	**Dombas**	**56.38 327**	*e*P	**P**	**20 14 22.9**	**+0.1**
DOMB			AMb	AMB	20 14 28.7	
	comp=Z,240nm,1.6s,mb6.0					
GRA1	**Grafenberg Arr**	**56.40 312**	*e*P	**P**	**20 14 23.1**	**-0.1**
	comp=Z,311nm,1.5s,mb6.1					
GRA1			*e*PP	PP	20 16 31.4	+1.0
GRA1			*e*S	**S**	**20 22 19.0**	**+7.5**
GRA1			LR	LR		
	comp=Z,21µm,21.3s,MS6.2					
GRF	**Grafenberg Arr**	**56.40 312**	*e*P	**P**	**20 14 23.1**	**-0.1**
GRF			*e*		20 16 31.4	
GRF			*e*S	**S**	**20 22 19.0**	**+7.5**
GRF			pmax	pmax		
	comp=Z,311nm,1.5s,mb6.1					
GRF			MLR	MLR		
	comp=Z,21µm,21.3s,MS6.2					
GRF	**Grafenberg Arr**	**56.40 312**	*e*P	**P**	**20 14 23.1**	**-0.1**
GRF			*e*		20 16 31.4	
GRF			*e*S	**S**	**20 22 19.0**	**+7.5**
GRF			pmax	pmax		
	comp=Z,311nm,1.5s,mb6.1					
GRF			MLR	MLR		
	comp=Z,21µm,21.3s,MS6.2					
GRF	**Grafenberg Arr**	**56.40 312**	*e*P	**P**	**20 14 23.1**	**-0.1**
	comp=Z,311nm,1.5s,mb6.1					
GRF			*e*PP	PP	20 16 31.4	+1.0
GRF			*e*S	**S**	**20 22 19.0**	**+7.5**
GRF			LR	LR		
	comp=Z,21µm,21.3s,MS6.2					
GRFO	**Grafenberg**	**56.40 312**	*e*P	**P**	**20 14 23.1**	**-0.1**
	comp=Z,6µm,1.5s					
SNTG	**Esanatoglia**	**56.41 304**	*e*P	**P**	**20 14 23.2**	**-0.2**
FSSB	**Fossombrone**	**56.44 305**	*e*P	**P**	**20 14 23.2**	**-0.3**
WTTA	**Wattenberg**	**56.54 309**	⇓*i*P	**P**	**20 14 23.0**	**-1.2**
	comp=Z,651nm,2.9s,mb6.2					
WTTA	**Wattenberg**	**56.54 309**	⇓*i*P	**P**	**20 14 23.0**	**-1.2**
WTTA			pmax	pmax		
	comp=Z,651nm,2.9s,mb6.2					
WATA	**Walderalm**	**56.56 309**	⇑*i*P	**P**	**20 14 23.0**	**-1.4**
	comp=Z,119nm,1.6s,mb5.7					
WATA	**Walderalm**	**56.56 309**	⇑*i*P	**P**	**20 14 23.0**	**-1.4**
WATA			pmax	pmax		
	comp=Z,119nm,1.6s,mb5.7					
CLZ	**Clausthal**	**56.62 315**	*e*P	**P**	**20 14 23.9**	**-0.8**
	comp=Z,305nm,1.4s,mb6.1					
FUR	**Furstenfeldbru**	**56.62 310**	*e*P	**P**	**20 14 24.1**	**-0.7**
FUR			pmax	pmax		
	comp=Z,365nm,1.5s,mb6.2					
FUR	**Furstenfeldbru**	**56.62 310**	*e*P	**P**	**20 14 24.1**	**-0.7**
	comp=Z,365nm,1.5s,mb6.2					
RSM	**Repubblica di**	**56.62 305**	*e*P	**P**	**20 14 24.6**	**-0.3**
ASS	**Assisi**	**56.66 304**	*e*P	**P**	**20 14 24.5**	**-0.6**
MUD	**Monsted U'grnd**	**56.74 320**	⇓*i*P	**P**	**20 14 26.4**	**+0.9**
MUD			*i* S	**S**	**20 22 18.3**	**+2.4**
MUD			pmax	pmax		
	comp=Z,120nm,1.3s,mb5.8					
MUD			MLR	MLR		
	comp=Z,25µm,21.0s,MS6.3					
MUD	**Monsted U'grnd**	**56.74 320**	⇓*i*P	**P**	**20 14 26.4**	**+0.9**
	comp=Z,121nm,1.3s,mb5.8					
MUD			*i* S	**S**	**20 22 18.3**	**+2.4**
	comp=Z,25µm,21.0s					
CTI	**Castel Tesino**	**56.75 308**	*e*P	**P**	**20 14 24.8**	**-1.0**
MNS	**Montasola**	**56.79 303**	*e*P	**P**	**20 14 24.8**	**-1.3**
SQTA	**Sankt Quirin**	**56.83 309**	⇓*i*P	**P**	**20 14 24.8**	**-1.5**
	comp=Z,104nm,1.4s,mb5.7					
GIB	**Gibilmanna**	**56.84 298**	*e*P	**P**	**20 14 26.1**	**-0.4**
MOTA	**Moosalm**	**56.88 309**	⇓*i*P	**P**	**20 14 25.2**	**-1.5**
SFI	**Santa Sofia**	**57.05 305**	*e*P	**P**	**20 14 28.2**	**+0.3**
MOL	**Molde**	**57.06 328**	*e*P	**P**	**20 14 27.9**	**+0.2**
	comp=Z,565nm,1.7s,mb6.3					
MOL	**Molde**	**57.06 328**	⇓*i*P	**P**	**20 14 27.3**	**-0.5**
MOL			AMb	AMB	20 14 33.8	
	comp=Z,565nm,1.7s,mb6.3					
PGD	**Poggio Sodo**	**57.15 305**	*e*P	**P**	**20 14 29.4**	**+0.7**
HDH	**Heidenheim**	**57.25 311**	*e*P	**P**	**20 14 28.6**	**-0.7**
VMG	**Vicchio**	**57.25 305**	*e*P	**P**	**20 14 30.0**	**+0.6**
USI	**Ustica**	**57.30 299**	*e*P	**P**	**20 14 29.3**	**-0.4**
FAVR	**Favara**	**57.30 297**	*e*P	**P**	**20 14 33.1**	**+3.3**
SEI	**Scarperia**	**57.37 305**	*e*P	**P**	**20 14 31.1**	**+1.0**
UBR	**Uberruh**	**57.48 310**	*e*P	**P**	**20 14 29.7**	**-1.2**
PET	**Petropavlovsk**	**57.48 44**	*e*P	**P**	**20 14 29.3**	**-1.5**
PET			*e*S	**S**	**20 22 22.2**	**-3.5**
PET			*e*SS	SS	20 26 21.7	+4.6
PET			pmax	pmax		
	comp=Z,2µm,5.9s					
PET			pmax	pmax		
	comp=Z,86nm,1.4s,mb5.6					
PET			pmax	pmax		
	comp=Z,2µm,9.9s					
PET			smax			
	comp=N,1µm,11.4s					
PET			smax			
	comp=E,2µm,12.6s					
PET			smax			
	comp=E,2µm,7.4s					
PET			smax			
	comp=N,1µm,9.4s					
PET			MLR	MLR		
	comp=Z,24µm,16.0s,MS6.4					
PET	**Petropavlovsk**	**57.48 44**	*e*P	**P**	**20 14 29.2**	**-1.7**
	comp=Z,147nm,1.4s,mb5.8					
PET			LR	LR		
	comp=Z,21µm,22.0s,MS6.2					
SIND	**Sindeldorf**	**57.50 312**	*e*P	**P**	**20 14 30.3**	**-0.7**
BRMO	**Bormio**	**57.54 308**	*e*P	**P**	**20 14 29.9**	**-1.4**
CLTB	**Caltabellotta**	**57.56 297**	*e*P	**P**	**20 14 31.0**	**-0.6**
ZCCA	**Zocca**	**57.57 306**	*e*P	**P**	**20 14 32.5**	**+0.9**
SAL	**Salo**	**57.61 307**	*e*P	**P**	**20 14 31.9**	**0.0**
DAVA	**Damuels**	**57.71 309**	⇓*i*P	**P**	**20 14 31.5**	**-1.0**
	comp=Z,573nm,2.0s,mb6.3					
BUCH	**Bad Urach**	**57.83 311**	*e*P	**P**	**20 14 32.6**	**-0.7**
GRFL	**Gerfalco**	**57.84 304**	*e*P	**P**	**20 14 32.5**	**-0.9**
GSCL	**Gusciola**	**57.84 306**	*e*P	**P**	**20 14 33.8**	**+0.4**
BLS5	**Blasjo**	**57.86 324**	*e*P	**P**	**20 14 34.3**	**+0.9**
	comp=Z,70nm,1.7s,mb5.4					
BLS5	**Blasjo**	**57.86 324**	*e*P	**P**	**20 14 34.3**	**+0.9**
BLS5			AMb	AMB	20 14 40.3	
	comp=Z,70nm,1.7s,mb5.4					
STU	**Stuttgart**	**57.87 311**	P	**P**	**20 14 33.6**	**0.0**
STU			pmax	pmax		
	comp=Z,130nm,1.3s,mb5.8					
STU	**Stuttgart**	**57.87 311**	*e*P	**P**	**20 14 32.9**	**-0.7**
	comp=Z,126nm,1.3s,mb5.8					
SARN	**Sarigan**	**57.92 89**	⇓*e*P	**P**	**20 14 37.1**	**+2.7**
ERBM	**Eremo**	**57.95 306**	*e*P	**P**	**20 14 34.9**	**+0.7**
TOD	**Tromm**	**57.97 312**	*e*P	**P**	**20 14 35.3**	**+1.0**
TOD	**Tromm**	**57.97 312**	*e*P	**P**	**20 14 33.4**	**-0.9**
VLC	**Villacollemand**	**58.02 306**	*e*P	**P**	**20 14 34.0**	**-0.8**
	comp=Z,360nm,1.6s,mb6.2					
PII	**Pisa**	**58.02 305**	*e*P	**P**	**20 14 33.1**	**-1.7**
SWS	**Schriesheim**	**58.05 312**	*e*P	**P**	**20 14 34.1**	**-0.8**
GUT	**Gutenstein**	**58.06 310**	*e*P	**P**	**20 14 33.8**	**-1.1**
TNS	**Taunus Mts**	**58.08 313**	*e*P	**P**	**20 14 34.0**	**-1.0**
TNS			pmax	pmax		
	comp=Z,126nm,1.5s,mb5.7					
TNS	**Taunus Mts**	**58.08 313**	*e*P	**P**	**20 14 34.0**	**-1.0**
	comp=Z,126nm,1.5s,mb5.7					
LBG	**Lerchenberg**	**58.15 311**	⇓*e*P	**P**	**20 14 34.9**	**-0.7**
GRAM		**58.17 306**	P	**P**	**20 14 35.4**	**-0.4**
BACM		**58.22 306**	P	**P**	**20 14 35.5**	**-0.6**
SPAK	**Spaichingen**	**58.27 310**	*e*P	**P**	**20 14 35.4**	**-1.0**
RUND	**Rundenannen**	**58.29 325**	*e*P	**P**	**20 14 36.5**	**+0.1**
RUND	**Rundenannen**	**58.29 325**	⇑*i*P	**P**	**20 14 36.5**	**+0.1**
RUND			AMb	AMB	20 14 42.6	
	comp=Z,226nm,1.5s,mb6.0					
BER	**Bergen**	**58.31 325**	*e*P	**P**	**20 14 36.8**	**+0.3**
BER			*e*P	pP	20 14 39.4	-1.7
BER			AMb	AMB	20 14 42.4	
	comp=Z,337nm,1.4s,mb6.2					
BER			*e*S	**S**	**20 22 34.6**	**-2.0**
BER			AMS	AMS	20 40 52.6	
	comp=Z,11µm,18.1s,MS6.0					
CODM		**58.35 306**	P	**P**	**20 14 37.0**	**0.0**
ASK	**Askoy**	**58.37 325**	*e*P	**P**	**20 14 37.0**	**+0.1**
	comp=Z,522nm,2.1s,mb6.2					
ASK	**Askoy**	**58.37 325**	*e*P	**P**	**20 14 37.0**	**+0.1**
ASK			AMb	AMB	20 14 41.5	
	comp=Z,522nm,2.1s,mb6.2					
BFO	**Black Forest**	**58.52 311**	*e*P	**P**	**20 14 36.6**	**-1.6**
BFO			pmax	pmax		
	comp=Z,65nm,1.8s,mb5.4					
BFO	**Black Forest**	**58.52 311**	*e*P	**P**	**20 14 36.6**	**-1.6**
	comp=Z,65nm,1.8s,mb5.4					
GUMO	**Guam**	**58.53 92**	P	**P**	**20 14 37.0**	**-1.6**
	comp=Z,819nm,1.7s,mb6.5					
GUMO			LR	LR		
	comp=Z,13µm,22.0s,MS6.0					
BOB	**Bobbio (Coli)**	**58.54 307**	*e*P	**P**	**20 14 38.6**	**+0.2**
ABH	**Alteburg**	**58.71 313**	*e*P	**P**	**20 14 38.6**	**-0.9**
ABH	**Alteburg**	**58.71 313**	*e*P	**P**	**20 14 38.7**	**-0.8**
LANF	**Langenberg**	**58.73 312**	*e*P	**P**	**20 14 38.1**	**-1.5**
WTSB	**Winterswijk**	**58.78 315**	*e*P	**P**	**20 14 40.3**	**+0.4**
	comp=Z,134nm,1.8s,mb5.7					
FELD	**Feldberg**	**58.83 310**	*e*P	**P**	**20 14 39.2**	**-1.1**
STR	**Strasbourg**	**58.84 311**	*e*P	**P**	**20 14 41.4**	**+1.0**
KIZ	**Kirchzarten**	**58.87 310**	*e*P	**P**	**20 14 39.5**	**-1.1**
MBAR	**Mbarara**	**59.00 249**	P	**P**	**20 14 41.2**	**-0.8**
MBAR			pmax	pmax		
	comp=Z,170nm,1.4s,mb5.9					
MBAR	**Mbarara**	**59.00 249**	*e*P	**P**	**20 14 40.5**	**-1.5**
	comp=Z,167nm,1.4s,mb5.9					
MBAR			LR	LR		
	comp=Z,4µm,19.0s,MS5.6					
LIBD	**Limburg**	**59.03 311**	*e*P	**P**	**20 14 40.9**	**-0.9**
RUP	**Ruppelstein**	**59.06 313**	*e*P	**P**	**20 14 41.6**	**-0.3**
RUP	**Ruppelstein**	**59.06 313**	*e*P	**P**	**20 14 41.3**	**-0.6**
WLS	**Welschbruch**	**59.14 311**	*e*P	**P**	**20 14 41.7**	**-0.8**
CDF	**Champ du Feu**	**59.19 311**	⇓*i*P	**P**	**20 14 41.6**	**-1.2**
	comp=Z,332nm,1.5s,mb5.8					
BBS	**Basel-Blauen**	**59.25 310**	*e*P	**P**	**20 14 41.7**	**-1.5**
MCGN	**Macugnaga**	**59.27 308**	*e*P	**P**	**20 14 42.3**	**-1.1**
ECH	**Echery**	**59.31 311**	*e*P	**P**	**20 14 42.6**	**-1.1**
BILL	**Bilibino**	**59.34 26**	*d*/*i*P	**P**	**20 14 44.0**	**+0.4**
BILL			*i* S	**S**	**20 22 53.6**	**+3.7**
BILL			pmax	pmax		
	comp=Z,361nm,1.6s,mb6.2					
BILL			MLR	MLR		
	comp=Z,9µm,18.0s,MS6.0					
BILL	**Bilibino**	**59.34 26**	*e*P	**P**	**20 14 43.6**	**0.0**
	comp=Z

comp=Z,353nm,1.2s,mb6.0
PZZ Prazzo 60.23 307 P **P** **20 14 47.5 -2.5**
TOUF Mont Tournerai 60.25 306 *e*P **P** **20 14 49.6 -0.6**
OG22 Abries 60.26 307 *e*P **P** **20 14 49.1 -1.1**
RSL Roselend 60.26 308 *e*P **P** **20 14 49.4 -0.8**
RRL Cesana Torines 60.34 307 P **P** **20 14 49.8 -1.0**
MVIF Mont Vial 60.35 306 *e*P **P** **20 14 50.8 -0.1**
BNI Bardonecchia 60.38 307 P **P** **20 14 50.4 -0.7**
BNI pmax pmax
comp=Z,190nm,1.4s,mb5.9
BNI Bardonecchia 60.38 307⇓*e*P **P** **20 14 49.8 -1.3**
comp=Z,188nm,1.4s,mb5.9
GIVF Givet 60.38 313 *e*P **P** **20 14 50.2 -0.8**
comp=Z,244nm,1.4s,mb5.7
CABF La Chapelle 60.39 309⇓*i*P **P** **20 14 50.1 -1.0**
comp=Z,307nm,1.6s,mb5.8
MBDF Montbardon 60.40 307⇓*i*P **P** **20 14 49.6 -1.6**
comp=Z,239nm,1.5s,mb5.7
SURF Saint Ours 60.44 307 *e*P **P** **20 14 51.3 -0.1**
MEZF Maizieres J'vi 60.61 312⇓*i*P **P** **20 14 51.7 -0.9**
comp=Z,362nm,1.4s,mb6.0
GDM Grand'Maison 60.73 308 *e*P **P** **20 14 52.6 -0.8**
BAIF Baives 60.78 313⇓*i*P **P** **20 14 52.9 -0.8**
comp=Z,256nm,1.6s,mb5.8
FRF La Foret Royal 60.79 306⇓*i*P **P** **20 14 52.7 -1.2**
comp=Z,252nm,1.5s,mb5.8
LMR La Mourre 60.95 306⇓*i*P **P** **20 14 53.8 -1.1**
comp=Z,247nm,1.6s,mb5.8
ORIF Oris-en-Rattie 60.96 307⇓*i*P **P** **20 14 53.4 -1.6**
comp=Z,224nm,1.6s,mb5.7
ORIF *e*R
comp=Z,29µm,23.0s
GRN Grenoble 60.97 308 *e*P **P** **20 14 53.9 -1.1**
STOF St-Etienne Org 61.19 306 *e*P **P** **20 14 57.0 +0.5**
TAVF Tavernes 61.19 306 *e*P **P** **20 14 56.8 +0.2**
VILF Villemus 61.36 306 *e*P **P** **20 14 57.9 +0.2**
SMRF Simiane la Rot 61.43 306⇓*i*P **P** **20 14 57.6 -0.6**
comp=Z,204nm,1.4s,mb5.8
PUYF Puyloubier 61.46 306 *e*P **P** **20 14 57.7 -0.7**
BERF Bertagne 61.53 306 *e*P **P** **20 14 58.9 0.0**
TREF Trevaresse 61.66 306 *e*P **P** **20 15 00.1 +0.4**
GELF Grande-Etoile 61.69 306 *e*P **P** **20 14 58.4 -1.6**
PRAF Pradon 61.76 306 *e*P **P** **20 14 59.3 -1.1**
VIVF Saint-Julien-l 61.81 306⇓*i*P **P** **20 14 59.6 -1.1**
comp=Z,149nm,1.3s,mb5.7
SMF Signal de Mont 61.88 310⇓*i*P **P** **20 14 59.7 -1.5**
comp=Z,334nm,1.4s,mb6.0
MBWA Marble Bar 61.98 141⇓*e*P **P** **20 14 59.9 -2.3**
comp=Z,221nm,1.6s,mb6.0
MBWA LR LR
comp=Z,9µm,19.0s,MS6.0
SSF Saint Saulge 61.99 310⇓*i*P **P** **20 15 00.5 -1.4**
comp=Z,320nm,1.3s,mb6.0
AVF Avril sur Loir 62.16 310⇓*i*P **P** **20 15 01.6 -1.5**
comp=Z,228nm,1.3s,mb5.8
JMIC Jan Mayen 62.18 338 *e*P **P** **20 15 04.8 +1.8**
JMIC LR LR
comp=Z,4975µm,16.3s
JMIC Jan Mayen 62.18 338 *e*P **P** **20 15 04.8 +1.8**
JMIC *e*S **S** **20 23 27.0 +0.9**
JMIC AMS AMS 20 43 03.6
comp=Z,5µm,16.3s,MS5.8
CMAH Djebel Manchou 62.27 298 P **P** **20 15 07.0 +3.0**
HYF Humbligny 62.50 311 *e*P **P** **20 15 04.4 -0.9**
BGF Bois d'Agland 62.56 310 *e*P **P** **20 15 04.3 -1.4**
comp=Z,254nm,1.5s,mb5.8
LASF Ste Croix 62.59 307⇓*i*P **P** **20 15 05.2 -0.8**
comp=Z,227nm,1.4s,mb5.8
CKFL Kef-Lekhel 62.88 298 P **P** **20 15 09.0 +1.0**
FITZ Fitzroy Crossi 62.99 134⇓*i*P **P** **20 15 07.2 -1.7**
comp=Z,45nm,0.9s,mb5.6
FITZ *i* 20 17 28.1
FITZ *e*S **S** **20 23 22.9 -14**
FITZ *e*PKPPKP 20 44 09.5
FITZ Fitzroy Crossi 62.99 134 P **P** **20 15 07.5 -1.4**
comp=Z,100nm,1.1s,mb5.9,baz=347,slow=5.0,SNR=23
VERF Verneugheol 63.03 309 *e*P **P** **20 15 08.9 0.0**
TCF Toulx Ste Croi 63.06 310⇓*i*P **P** **20 15 08.2 -0.8**
comp=Z,451nm,1.4s,mb6.1
CASM Ain Smara 63.10 298 P **P** **20 15 09.0 -0.4**
CTEI Djebel Teioual 63.23 298 P **P** **20 15 11.0 +0.7**
LRN Richmond 63.25 319 *e*P **P** **20 15 10.1 -0.1**
HPK Haverah Park 63.28 319 *e*P **P** **20 15 10.6 +0.2**
HPK AMb AMB 20 15 15.3
comp=Z,478nm,1.9s,mb6.3
DAG Danmarks Havn 63.30 345⇑*i*P **P** **20 15 10.0 -0.2**
DAG pmax pmax
comp=Z,540nm,1.5s,mb6.5
DAG MLR MLR
comp=Z,8µm,17.0s,MS6.0
DAG MLR MLR
comp=N,7µm,15.0s
DAG Danmarks Havn 63.30 345⇑*i*P **P** **20 15 10.0 -0.2**
comp=N,541nm,1.5s,mb6.5
comp=Z,8µm,17.0s
DFRA Djebel Bou Aff 63.47 298 P **P** **20 15 12.0 +0.1**
LHO Holmfirth 63.53 318 *e*P **P** **20 15 11.9 0.0**
CAF Calviac 63.56 308⇓*i*P **P** **20 15 11.6 -0.7**
comp=Z,207nm,1.4s,mb5.7
EDI Edinburgh 63.62 321 *e*P **P** **20 15 12.2 -0.3**
KWE Weaver Farm 63.67 318 *e*P **P** **20 15 12.4 -0.5**
KWE AMb AMB 20 15 19.3
comp=Z,336nm,1.8s,mb6.1
EJON La Jonquera 63.75 305 P **P** **20 15 10.8 -2.8**
comp=Z,584nm,2.9s,mb6.1
EAU Auchinoon 63.78 321 *e*P **P** **20 15 13.3 -0.2**
EAU AMb AMB 20 15 19.4
comp=Z,328nm,1.5s,mb6.2
ESK Eskdalemuir 63.80 320 P **P** **20 15 13.8 +0.1**
ESK pmax pmax
comp=Z,170nm,1.3s,mb5.9
ESK Eskdalemuir 63.80 320 *e*P **P** **20 15 13.4 -0.3**
comp=Z,168nm,1.4s,mb5.9
ESK LR LR
comp=Z,8µm,20.0s,MS5.9
ESK Eskdalemuir 63.80 320 *e*P **P** **20 15 12.6 -1.1**
ESK AMb AMB 20 15 19.4
comp=Z,212nm,1.5s,mb6.0
RJF Les Rejaudoux 63.82 309⇓*i*P **P** **20 15 13.5 -0.5**
comp=Z,567nm,1.7s,mb6.0
RJF *e*R
comp=Z,15µm,20.8s
LDF La Druitiere 63.90 313⇓*i*P **P** **20 15 13.2 -1.3**
comp=Z,287nm,1.3s,mb5.8
CKHR Kef el Ahmar 63.92 298 P **P** **20 15 16.0 +1.1**
MTLF Montolieu 63.94 307⇓*i*P **P** **20 15 14.0 -0.9**
comp=Z,207nm,1.4s,mb5.7
SET Setif 63.95 298 P **P** **20 15 15.0 0.0**
FLN La Foliniere 64.08 313 *e*P **P** **20 15 14.2 -1.5**
comp=Z,259nm,1.4s,mb5.8
FLN *e*R
comp=Z,19µm,19.2s
EAB Aberfoyle 64.16 322 *e*P **P** **20 15 15.6 -0.5**
EAB AMb AMB 20 15 21.7
comp=Z,240nm,1.6s,mb6.0
LPEF Le Peyrat 64.28 306 *e*P **P** **20 15 16.4 -0.7**
HAE Alders End 64.36 317 *e*P **P** **20 15 16.9 -0.6**
HAE AMb AMB 20 15 22.2
comp=Z,519nm,1.7s,mb6.3
VALF Valcebollere 64.38 306 *e*P **P** **20 15 17.4 -0.3**
HLM1 Long Mynd 64.42 317 *e*P **P** **20 15 17.6 -0.2**
HLM1 AMb AMB 20 15 22.8
comp=Z,263nm,1.7s,mb6.0
GRR Gorron 64.43 313⇓*i*P **P** **20 15 16.6 -1.4**
comp=Z,239nm,1.4s,mb5.7
LFF La Frestale 64.45 309⇓*i*P **P** **20 15 17.5 -0.7**
comp=Z,469nm,1.6s,mb6.0
MFF Saint Martin d 64.52 311 *e*P **P** **20 15 17.2 -1.4**
comp=Z,257nm,1.5s,mb5.7
SBD1 Bryn Du 64.52 318 *e*P **P** **20 15 18.4 -0.1**
SBD1 AMb AMB 20 15 23.6
comp=Z,382nm,1.9s,mb6.1
HGH Gray Hill 64.64 316 *e*P **P** **20 15 18.7 -0.6**
HGH AMb AMB 20 15 24.4
comp=Z,346nm,1.8s,mb6.1
MCH1 Michaelchurch 64.64 317 *e*P **P** **20 15 18.7 -0.6**
MCH1 AMb AMB 20 15 24.6
comp=Z,204nm,1.7s,mb5.9
ETOS Mallorca 64.67 303 P **P** **20 15 19.9 +0.2**
comp=Z,1µm,2.8s,mb6.5
HTR Trewern Hill 64.78 317 *e*P **P** **20 15 19.6 -0.6**
HTR AMb AMB 20 15 24.9
comp=Z,240nm,1.7s,mb6.0
MLS Moulis 64.84 306 *e*P **P** **20 15 19.3 -1.4**
EMIR Miracle 64.88 305 P **P** **20 15 20.9 -0.2**
comp=Z,1µm,2.7s,mb6.5

LCHF La Chataignera 64.89 311 *e*P **P** **20 15 20.6 -0.4**
ATAF Djebel Tarf 64.92 298 P **P** **20 15 22.0 +0.7**
EPF Esparros 65.34 307⇓*i*P **P** **20 15 22.9 -1.1**
EPOB Poblet 65.39 305 P **P** **20 15 23.6 -0.7**
comp=Z,873nm,2.9s,mb6.3
RESF Ens 65.42 307 *e*P **P** **20 15 24.5 +0.1**
ABA Alger-Bouzarea 65.53 300 P **P** **20 15 25.5 +0.2**
SGMF Saint Gilles 65.55 313⇓*i*P **P** **20 15 24.3 -0.9**
comp=Z,369nm,1.3s,mb6.0
EBIE Bielsa 65.59 306 P **P** **20 15 24.6 -1.0**
comp=Z,813nm,3.6s
VIEF Viey 65.61 307 *e*P **P** **20 15 25.3 -0.4**
EMHD Djebel Mahouad 65.80 299 P **P** **20 15 27.0 0.0**
ROSF Rostrenen 65.97 313⇓*i*P **P** **20 15 26.8 -1.1**
comp=Z,149nm,1.0s,mb5.7
EBR Ebro Roquetas 65.98 304 *e*P **P** **20 15 27.5 -0.6**
EIBI Ibiza 66.00 302 P **P** **20 15 28.1 -0.1**
comp=Z,931nm,3.4s
ETSF Etsaut 66.01 307⇓*i*P **P** **20 15 27.7 -0.5**
comp=Z,168nm,1.2s,mb5.7
FX1 Attu Island--F 66.02 42 LR LR 20 43 19.3
comp=Z,450nm,21.3s,baz=302,slow=35
FX1 Attu Island--F 66.02 42 P **P** **20 15 27.2 -0.9**
QUIF Quistinic 66.04 313⇓*i*P **P** **20 15 27.0 -1.3**
comp=Z,383nm,1.7s,mb5.8
ERTA Horta de San J 66.05 305 P **P** **20 15 28.0 -0.5**
comp=Z,868nm,2.8s,mb6.3
LARF Larrau 66.26 307 *e*P **P** **20 15 29.4 -0.4**
ESAC San Caprasio 66.35 306 P **P** **20 15 29.3 -1.1**
comp=Z,1µm,2.7s,mb6.5
SJPF Ste Jean 66.39 307 *e*P **P** **20 15 30.1 -0.6**
comp=Z,73nm,1.2s,mb5.3
EALK Alkurruntz 66.55 307 P **P** **20 15 30.0 -1.6**
comp=Z,838nm,3.4s
SCO Scoresbysund 66.56 339 *i*P **P** **20 15 32.4 +1.1**
comp=Z,21nm,1.1s,mb5.1
SMY Shemya 66.61 41 PFAKE 20 15 40.0 +8.1
SMY LR LR
comp=Z,18µm,20.0s,MS6.3
EMOS Mosqueruela 66.83 304 P **P** **20 15 33.9 +0.3**
comp=Z,1µm,3.5s
EBNR Beni Rached 66.84 299 P **P** **20 15 34.5 +0.8**
ECHA Ech Chlef 67.02 299 P **P** **20 15 35.0 +0.2**
EBEN Beniarda 67.26 302 P **P** **20 15 35.9 -0.3**
comp=Z,1µm,3.5s
EANR 'Ain N'Sour 67.29 299 P **P** **20 15 37.0 +0.5**
ETRT Tiaret 67.35 299 P **P** **20 15 39.0 +2.1**
ECHE Chera 67.47 304 P **P** **20 15 38.2 +0.6**
comp=Z,100nm,1.5s,mb5.6
ELAN Lanestosa 67.86 308 P **P** **20 15 39.2 -0.8**
comp=Z,738nm,2.8s,mb6.2
ETOB Tobarra 68.24 303 P **P** **20 15 42.5 +0.1**
comp=Z,1µm,4.9s
CART Cartagena 68.24 302 *e*P **P** **20 15 41.1 -1.4**
comp=Z,66nm,0.9s,mb5.7
EMUR La Murta 68.32 302 P **P** **20 15 42.5 -0.5**
comp=Z,982nm,3.0s
BORG Borgarnes 68.86 334 LR LR 20 47 07.2
comp=Z,12µm,20.3s,MS6.1,baz=134,slow=37
BORG Borgarnes 68.86 334 *e*P **P** **20 15 45.5 -0.3**
comp=Z,257nm,1.5s,mb5.9
BORG LR LR
comp=Z,3µm,20.0s,MS5.6
EVIA Vianos 68.93 303 P **P** **20 15 47.1 +0.4**
comp=Z,48nm,0.8s,mb5.5
EARI Arriondas 69.04 309 P **P** **20 15 47.4 +0.1**
comp=Z,228nm,1.4s,mb5.9
GUD Guadarrama 69.33 306 P **P** **20 15 48.2 -0.9**
comp=Z,41nm,0.8s,mb5.4
ENIJ Nijar 69.36 301 P **P** **20 15 49.5 +0.1**
comp=Z,47nm,0.9s,mb5.4
MUN Mundaring 69.40 151⇑*i*P **P** **20 15 47.6 -2.1**
comp=Z,452nm,0.9s,mb6.4
ESDC Sonseca Array 69.58 305 P **P** **20 15 50.2 -0.4**
comp=Z,20nm,0.8s,mb5.1,baz=58,slow=6.5,SNR=42
ESDC S S 20 24 54.5 -2.1
comp=Z,0.1nm,0.4s,baz=49,slow=15,SNR=1.3
ESDC PKP2bc 20 43 58.7
comp=Z,1.7nm,0.9s,baz=225,slow=2.1,SNR=4.2
ESLA Sonseca Array 69.58 305⇓*e*P **P** **20 15 50.0 -0.7**
comp=Z,57nm,1.6s,mb5.2
ESLA LR LR
comp=Z,43µm,20.0s,MS6.7
EQES Quesada 69.67 303 P **P** **20 15 51.0 -0.2**
comp=Z,2µm,3.6s
KLBR Kellerberrin 69.73 149⇑*i*P **P** **20 15 49.3 -2.4**
comp=Z,12µm,1.0s
TNA Tin City 69.76 25⇓*e*P **P** **20 15 51.3 +0.1**
comp=Z,259nm,1.6s,mb5.9
TNA LR LR
comp=Z,6µm,21.0s,MS5.8
EBER Berja 69.90 302 P **P** **20 15 52.6 0.0**
comp=Z,1µm,2.7s,mb6.3
PAB San Pablo 69.90 305 P **P** **20 15 52.1 -0.5**
PAB S S 20 25 01.6 +1.1
SUMG Summit 69.91 344⇓*e*P **P** **20 15 53.1 +1.1**
comp=Z,2µm,1.8s,mb6.7
WRA Warramunga Arr 69.94 129 P **P** **20 15 51.1 -2.0**
comp=Z,88nm,0.8s,mb5.7,baz=324,slow=6.0,SNR=250
WRA S S 20 24 56.3 -4.9
comp=Z,0.8nm,0.9s,baz=191,slow=4.9,SNR=2.5
WRA PKP2bc 20 43 55.4
comp=Z,8.1nm,0.9s,baz=136,slow=2.8,SNR=31
WRA Warramunga Arr 69.94 129 P **P** **20 15 51.1 -2.0**
WRA S S 20 24 56.3 -4.9
WRA ⇑*e* 20 43 55.4
WRAB Tennant Creek 69.94 129*i*P **P** **20 15 52.0 -1.1**
WRAB Tennant Creek 69.94 129⇓*e*P **P** **20 15 51.7 -1.5**
comp=Z,329nm,1.1s,mb6.2
WRAB LR LR
comp=Z,2µm,22.0s,MS5.3
WB2 Warramunga Arr 69.94 129⇓*i*P **P** **20 15 51.9 -1.3**
WB2 *e*PKPPKP 20 43 56.0
LSZ Lusaka 70.13 238 P **P** **20 15 54.3 -0.1**
LSZ pmax pmax
comp=Z,70nm,1.0s,mb5.5
LSZ Lusaka 70.13 238⇓*e*P **P** **20 15 54.1 -0.2**
comp=Z,70nm,1.0s,mb5.5
LSZ LR LR
comp=Z,16µm,20.0s,MS6.2
ECOG Cogollos-Vega 70.24 302 P **P** **20 15 53.9 -0.8**
comp=Z,4.4nm,0.7s
EPON Pontenova 70.33 309 P **P** **20 15 56.6 +1.4**
comp=Z,3µm,5.1s
EALB Alboran 70.39 301 P **P** **20 15 55.8 +0.2**
comp=Z,464nm,1.9s,mb6.1
ERON Agron 70.52 302 P **P** **20 15 55.2 -1.2**
comp=Z,16nm,0.9s,mb5.0
ECAL Calabor 70.61 308 P **P** **20 15 56.0 -0.9**
comp=Z,607nm,2.9s,mb6.0
EADA Adamuz 70.61 303 P **P** **20 15 57.0 0.0**
comp=Z,997nm,3.0s
ELUQ Luque 70.64 303 P **P** **20 15 56.6 -0.5**
comp=Z,77nm,1.2s,mb5.5
NWAO Narrogin (SRO) 70.65 150⇓*e*P **P** **20 15 54.5 -2.8**
NWAO pmax pmax
comp=Z,125nm,1.0s
NWAO MLR MLR
comp=Z,4µm,20.0s
NWAO Narrogin (SRO) 70.65 150 LR LR 20 49 49.8
comp=Z,5µm,19.1s,MS5.8,baz=334,slow=38
NWAO Narrogin (SRO) 70.65 150⇓*e*P **P** **20 15 54.5 -2.8**
comp=Z,125nm,1.0s,mb5.8
NWAO LR LR
comp=Z,4µm,20.0s,MS5.6
PBRG Braganca 70.67 308 *e*P **P** **20 15 56.6 -0.6**
comp=Z,18nm,0.9s,mb5.0
ERUA La Rua 70.70 308 P **P** **20 15 56.5 -0.9**
comp=Z,51nm,1.3s,mb5.3
ELOJ Sierra Loja 70.72 302 P **P** **20 15 56.4 -1.2**
comp=Z,34nm,1.6s,mb5.0
EINC Incio 70.73 309 P **P** **20 15 57.7 +0.1**
comp=Z,710nm,2.4s,mb6.2
EMIJ Mijas 71.41 302 P **P** **20 16 00.2 -1.6**
comp=Z,884nm,4.2s
STS Santiago 71.45 309 P **P** **20 16 00.7 -1.2**
comp=Z,66nm,1.5s,mb5.3
ELOB Lobios 71.54 308 P **P** **20 16 01.5 -1.0**
comp=Z,776nm,2.6s,mb6.2
PVRL Vila Real 71.55 307 *e*P **P** **20 16 03.0 +0.4**
comp=Z,36nm,1.4s,mb5.1
EMAZ Mazaricos 71.70 309 P **P** **20 16 02.5 -1.0**
comp=Z,680nm,2.3s,mb6.2
MTE Manteigas 71.80 307 *e*P **P** **20 16 04.0 -0.1**
comp=Z,64nm,0.9s,mb5.5
MTE *e*S S 20 25 24.9 +2.4
MTE *e*LQ 20 33 43.3

MTE *e*LR LR 20 41 02.8
comp=Z,10µm,20.2s
MTE Manteigas 71.80 307⇓*e*P **P** **20 16 03.9 -0.1**
comp=Z,171nm,1.3s,mb5.8
EZAM Zamans 71.85 309 P **P** **20 16 03.5 -0.9**
comp=Z,45nm,1.3s,mb5.2
EJIF Jimena Fronter 71.97 302 P **P** **20 16 04.0 -1.1**
comp=Z,131nm,1.3s,mb5.7
PCBR Castelo Branco 71.98 306 *e*P **P** **20 16 04.8 -0.4**
comp=Z,32nm,1.0s,mb5.2
ESPR Espera 72.08 303 P **P** **20 16 04.7 -1.1**
comp=Z,874nm,2.6s,mb6.2
EBAD Badajoz 72.11 305 P **P** **20 16 04.9 -1.1**
comp=Z,903nm,2.8s,mb6.2
ADK Adak 72.14 40 PFAKE 20 16 20.0 +14
ADK LR LR
comp=Z,2µm,22.0s,MS5.3
ASPA Alice Springs 72.28 132⇓*i*P **P** **20 16 06.0 -1.2**
ASAR Alice Springs 72.28 132 P **P** **20 16 06.0 -1.2**
comp=Z,31nm,0.8s,mb5.3,baz=317,slow=6.0,SNR=142
ASAR S S 20 25 31.1 +2.8
comp=Z,0.4nm,0.9s,baz=194,slow=18,SNR=2.5
ASAR PKPPKP 20 43 50.5
comp=Z,2.3nm,1.0s,baz=130,slow=3.3,SNR=4.5
EMIN Mina Concepcio 72.29 304 P **P** **20 16 05.9 -1.2**
comp=Z,804nm,2.7s,mb6.2
PMG Port Moresby 72.67 112 P **P** **20 16 09.8 +0.1**
PMG pmax pmax
comp=Z,89nm,1.0s
PMG Port Moresby 72.67 112⇓*e*P **P** **20 16 08.4 -1.3**
comp=Z,88nm,0.9s,mb5.7
PMG LR LR
comp=Z,2µm,19.0s,MS5.5
PTOM Tomar 72.73 306 *e*P **P** **20 16 09.5 -0.1**
comp=Z,79nm,1.1s,mb5.6
EGRO El Granado 72.97 304 P **P** **20 16 10.4 -0.6**
comp=Z,979nm,2.7s,mb6.3
PALC Alcoutim 72.99 304 *e*P **P** **20 16 11.1 -0.1**
comp=Z,52nm,1.3s,mb5.3
PBEJ Beja 73.03 304 *e*P **P** **20 16 11.4 0.0**
comp=Z,37nm,1.3s,mb5.2
MATP Matopo 73.31 233 P **P** **20 16 13.1 -0.3**
comp=Z,84nm,1.0s,mb5.6,baz=44,slow=6.5,SNR=46
MATP Matopo 73.31 233 P **P** **20 16 13.1 -0.3**
LIS Lisbon 73.64 305 *e*P **P** **20 16 13.6 -1.3**
LIS *e*S S 20 25 43.8 +0.4
LIS *e*S S 20 25 46.0 +2.6
LIS AMS AMS 20 52 24.7
comp=E,10µm,22.3s
LIS Lisbon 73.64 305 *e*P **P** **20 16 13.6 -1.3**
LIS *e*S S 20 25 46.0 +2.6
PTEO Sao Teotonio 73.85 304 *e*P **P** **20 16 16.4 +0.2**
comp=E,54nm,1.4s,mb5.3
FORT Forrest 74.14 141⇑*i*P **P** **20 16 17.2 -0.8**
comp=E,2µm,0.8s
IMA Indian Mountai 74.26 21 P **P** **20 16 18.8 +0.9**
IMA Indian Mountai 74.26 21 *e*P **P** **20 16 19.2 +1.3**
comp=E,346nm,1.3s,mb6.1
WAKE Wake Island 74.62 76 PFAKE 20 16 30.0 +9.0
WAKE LR LR
comp=Z,154µm,20.0s
RES Resolute Bay 75.06 360 P **P** **20 16 22.6 +0.2**
RES pmax pmax
comp=Z,210nm,1.5s,mb5.8
RES Resolute Bay 75.06 360⇓*e*P **P** **20 16 22.7 +0.2**
comp=Z,212nm,1.5s,mb5.8
UNV Unalaska Valle 76.50 35 PFAKE 20 16 40.0 +9.0
UNV LR LR
comp=Z,22µm,21.0s,MS6.4
COLA College 76.85 20 P **P** **20 16 33.9 +1.2**
COLA pmax pmax
comp=Z,600nm,1.5s,mb6.3
COLA College 76.85 20 *e*P **P** **20 16 33.3 +0.6**
comp=Z,747nm,1.6s,mb6.4
SVW2 Sparrevohn 76.87 25 *e*P **P** **20 16 34.4 +1.5**
ILAR Eielson Array 77.21 20 P **P** **20 16 34.9 +0.2**
comp=Z,51nm,1.0s,mb5.4,baz=307,slow=4.4,SNR=106
ILAR PP PP 20 19 30.9 +0.7
comp=Z,11nm,0.9s,baz=314,slow=7.3,SNR=4.8
ILAR S S 20 26 24.6 +2.3
comp=Z,0.2nm,0.5s,baz=293,slow=6.9,SNR=2.0
ILAR PKKPbc 20 35 40.6
comp=Z,1.9nm,0.8s,baz=176,slow=2.4,SNR=8.5
ILAR PKPPKP 20 43 39.5
comp=Z,1.8nm,0.9s,baz=151,slow=1.4,SNR=5.8
ILAR LR LR 20 52 48.9
comp=Z,7µm,19.7s,MS6.0,baz=154,slow=37
MCK McKinley 77.34 21 P **P** **20 16 36.6 +1.2**
MCK pmax pmax
comp=Z,120nm,1.3s,mb5.7
MCK McKinley 77.34 21⇓*e*P **P** **20 16 35.2 -0.2**
comp=Z,123nm,1.4s,mb5.6
MCK LR LR
comp=Z,5µm,21.0s,MS5.8
INK Inuvik 77.68 13 P **P** **20 16 37.6 +0.4**
comp=Z,218nm,1.2s,mb6.0,baz=336,slow=6.9,SNR=72
INK S S 20 26 26.0 -1.3
comp=Z,1.8nm,0.9s,baz=321,slow=20,SNR=2.7
INK PKKPbc 20 35 38.2
comp=Z,2.1nm,1.1s,baz=181,slow=3.5,SNR=3.0
INK Inuvik 77.68 13⇓*e*P **P** **20 16 37.5 +0.2**
comp=Z,578nm,1.4s,mb6.3
SPU Mount Spurr 78.09 24 *e*P **P** **20 16 39.6 0.0**
LBTB Lobatse 78.36 232 P **P** **20 16 42.1 +0.2**
LBTB S S 20 26 36.5 +1.0
LBTB Lobatse 78.36 232 P **P** **20 16 41.8 0.0**
comp=Z,66nm,0.9s,mb5.6,baz=66,slow=5.0,SNR=42
LBTB Lobatse 78.36 232⇓*e*P **P** **20 16 41.8 -0.1**
comp=Z,384nm,1.6s,mb6.1
LBTB LR LR
comp=Z,11µm,20.0s,MS6.2
CTA Charters Tower 78.42 122 *e*P **P** **20 16 41.9 -0.3**
comp=Z,103nm,1.2s,mb5.6
CTA *e*S S 20 26 35.5 -0.7
CTA Charters Tower 78.42 122 *e*P **P** **20 16 41.9 -0.3**
CTA *e*S S 20 26 35.5 -0.7
CTA pmax pmax
comp=Z,103nm,1.2s
CTAO Charters Tower 78.42 122 P **P** **20 16 42.1 -0.1**
CTAO Charters Tower 78.42 122 P **P** **20 16 42.2 0.0**
CTAO pmax pmax
comp=Z,240nm,1.2s,mb6.0
CTAO Charters Tower 78.42 122⇓*e*P **P** **20 16 41.9 -0.3**
comp=Z,244nm,1.3s,mb6.0
CTAO LR LR
comp=Z,4µm,20.0s,MS5.7
PWA Palmer West 78.51 23 *e*P **P** **20 16 43.1 +1.2**
comp=Z,670nm,1.3s,mb6.4
THY Trims Highway 78.55 20⇓*e*P **P** **20 16 42.3 +0.2**
FIB Fire Island 78.75 24 PFAKE 20 16 50.0 +6.7
FIB LR LR
comp=Z,4µm,21.0s,MS5.8
PMR Palmer 78.81 23 *e*P **P** **20 16 44.6 +1.1**
comp=Z,425nm,1.6s,mb6.1
SML Sawmill 78.92 22⇓*e*P **P** **20 16 45.1 +1.0**
SLKM Skilak Lake 79.20 24 P **P** **20 16 46.3 +0.6**
SLKM Skilak Lake 79.20 24⇓*e*P **P** **20 16 43.9 -1.9**
MENT Mentasta 79.51 20 *e*P **P** **20 16 49.0 +1.6**
DAWY Dawson 79.84 18⇓*e*P **P** **20 16 49.5 +0.5**
DAWY *e*PP PP 20 19 49.5 -2.6
DIV Divide 80.25 22⇓*e*P **P** **20 16 52.2 +0.9**
comp=Z,677nm,1.5s,mb6.3
DIV LR LR
comp=Z,35µm,20.0s,MS6.7
KWAJ Kwajalein Atol 80.41 85 PFAKE 20 17 00.0 +6.9
KWAJ LR LR
comp=Z,1µm,21.0s,MS5.2
TSUM Tsumeb 80.47 241 P **P** **20 16 54.3 +0.9**
comp=Z,18nm,0.8s,mb5.0,baz=33,slow=5.7,SNR=21
TSUM Tsumeb 80.47 241⇓*e*P **P** **20 16 54.0 +0.6**
comp=Z,222nm,1.8s,mb5.8
TSUM LR LR
comp=Z,18µm,20.0s,MS6.4
EYAK Cordova Ski Ar 80.69 22⇓*e*P **P** **20 16 54.8 +1.1**
EFAM Famara 81.36 299 P **P** **20 16 57.6 -0.3**
comp=Z,2µm,2.9s,mb6.4
CFTV Fuerteventura 82.14 298 P **P** **20 17 01.8 -0.1**
comp=Z,194nm,1.8s,mb5.7
STKA Stephens Creek 82.87 133 *i*S S 20 27 18.1 -4.1
STKA Stephens Creek 82.87 133 P **P** **20 17 05.1 -0.5**
comp=Z,30nm,1.0s,mb5.3,baz=327,slow=5.7,SNR=33
STKA LR LR 20 59 05.7
comp=Z,5µm,21.6s,MS5.9,baz=81,slow=40
STKA Stephens Creek 82.87 133⇓*i*P **P** **20 17 04.7 -0.9**
comp=Z,16nm,0.8s,mb5.1
STKA *i*S S 20 27 18.1 -4.1

HNR Honiara 83.14 105 LR LR 20 52 13.1
comp=Z,4µm,21.1s,MS5.8,baz=299,slow=34
HNR Honiara 83.14 105 PFAKE 20 17 20.0 +13
HNR LR LR
comp=Z,4µm,22.0s,MS5.8
MIDW Midway 83.18 61 PFAKE 20 17 20.0 +13
MIDW LR LR
comp=Z,3µm,19.0s,MS5.7
EOSO Osorio 83.43 299 P **P** **20 17 08.6 0.0**
comp=Z,2µm,2.5s,mb6.6
FRB Frobisher Bay 83.51 348 P **P** **20 17 08.6 +0.4**
baz=28,slow=7.4
FRB LR LR 20 57 47.5
comp=Z,6µm,21.8s,MS6.0,baz=276,slow=38
EBAJ Bajamar 83.78 299 P **P** **20 17 10.8 +0.4**
comp=Z,2µm,3.2s
CCAN Las Canadas 84.14 299 P **P** **20 17 13.8 +1.5**
comp=Z,65nm,1.0s,mb5.7
EGOM La Gomera 84.63 299 P **P** **20 17 15.8 +1.1**
comp=Z,624nm,2.0s,mb6.4
PDA Ponta Delgada 85.31 311 *e*rx 20 18 30.8
DBIC Dimbokro 85.38 275 P **P** **20 17 19.5 +0.8**
DBIC S S 20 27 47.7 +0.1
DBIC pmax pmax
comp=Z,87nm,0.8s
DBIC LR LR
comp=Z,15µm,18.1s
DBIC Dimbokro 85.38 275 P **P** **20 17 19.4 +0.7**
comp=Z,86nm,0.8s,mb5.9,baz=46,slow=5.9,SNR=69
DBIC S S 20 27 47.7 +0.1
comp=Z,2.9nm,0.9s,baz=322,slow=16,SNR=1.4
DBIC LR LR 21 00 12.2
comp=Z,15µm,18.1s,MS6.4,baz=46,slow=39
DBIC Dimbokro 85.38 275⇓ *e*P **P** **20 17 19.4 +0.6**
comp=Z,106nm,0.9s,mb6.0
DBIC LR LR
comp=Z,16µm,20.0s,MS6.4
CHIE El Hierro 85.42 299 P **P** **20 17 20.1 +1.4**
comp=Z,232nm,1.6s,mb6.1
ADH Angra Heroismo 85.79 313 *e*SS SS 20 33 05.0 -27
ADH Angra Heroismo 85.79 313 *i* LR LR 20 44 22.5
YKW3 Yellowknife Ar 86.09 8⇓ *i*P **P** **20 17 21.2 0.0**
YKA Yellowknife Ar 86.16 8 P **P** **20 17 21.6 +0.2**
comp=Z,23nm,0.6s,mb5.6,baz=338,slow=5.0,SNR=261
YKA PKKPbc 20 35 20.0
comp=Z,3.1nm,0.6s,baz=158,slow=2.2,SNR=40
YKA PKPPKP 20 43 26.6
comp=Z,1.6nm,1.0s,baz=136,slow=3.2,SNR=7.6
YKA LR LR 20 59 04.9
comp=Z,6µm,18.5s,MS6.0,baz=300,slow=38
YKA Yellowknife Ar 86.16 8 P **P** **20 17 21.6 +0.2**
YKA PKKPbc 20 35 20.0
YKA P'P' 20 43 26.6
YKA LR LR 20 59 04.9
SUR Sutherland 86.33 229 P **P** **20 17 23.8 +0.7**
comp=Z,54nm,1.2s,mb5.7,baz=44,slow=3.4,SNR=14
SUR Sutherland 86.33 229⇓ *e*P **P** **20 17 23.6 +0.5**
comp=Z,358nm,1.7s,mb6.3
SUR LR LR
comp=Z,4µm,19.0s,MS5.9
SIT Sitka 86.75 20 P **P** **20 17 26.7 +2.2**
SIT pmax pmax
comp=Z,240nm,1.4s,mb6.2
SIT Sitka 86.75 20⇓ *e*P **P** **20 17 26.2 +1.7**
comp=Z,236nm,1.4s,mb6.2
SIT LR LR
comp=Z,15µm,22.0s,MS6.4
DLBC Dease Lake 87.02 17 P **P** **20 17 27.4 +1.7**
comp=Z,51nm,0.9s,mb5.7,baz=326,slow=5.5,SNR=79
DLBC PKKPbc 20 35 18.5
comp=Z,4.6nm,1.0s,baz=164,slow=1.5,SNR=7.3
DLBC Dease Lake 87.02 17⇓ *e*P **P** **20 17 27.0 +1.2**
ARMA Armidale 88.56 127 *e*P **P** **20 17 34.9 +1.0**
TOO Toolangi 89.03 136⇑ *i*P **P** **20 17 36.9 +0.9**
comp=Z,49nm,1.0s,mb5.8
CNB Canberra Magne 90.02 132⇑ *i*P **P** **20 17 40.9 +0.2**
comp=Z,2µm,1.1s
FCC Fort Churchill 91.04 359 P **P** **20 17 45.3 +0.6**
FCC pmax pmax
comp=Z,200nm,1.6s,mb6.2
FCC Fort Churchill 91.04 359⇓ *e*P **P** **20 17 45.0 +0.2**
comp=Z,201nm,1.6s,mb6.2
FCC *e*PP PP 20 21 21.9 -1.9
SCHQ Schefferville 91.28 343 P **P** **20 17 45.7 -0.3**
comp=Z,29nm,1.1s,mb5.5,baz=40,slow=4.8,SNR=30
SCHQ PKKPbc 20 35 07.1
comp=Z,2.2nm,0.7s,baz=96,slow=2.1,SNR=7.9
SCHQ LR LR 21 07 11.1
comp=Z,4µm,18.6s,MS5.9,baz=32,slow=41
SCHQ Schefferville 91.28 343⇓ *e*P **P** **20 17 46.1 +0.1**
comp=Z,144nm,1.5s,mb6.1
SCHQ *e*PP PP 20 21 23.1 -2.7
SCHQ LR LR
comp=Z,7µm,20.0s,MS6.1
BBB Bella Bella 93.07 19 LR LR 21 05 37.7
comp=Z,6µm,20.2s,MS6.0,baz=336,slow=39
TAU Tasmania Unive 93.53 139 *e*P **P** **20 17 54.5 -2.1**
TAU LR LR
comp=Z,866nm,20.0s,MS5.2
FFC Flin Flon 94.97 3⇓ *e*P **P** **20 18 02.7 -0.2**
comp=Z,123nm,1.4s,mb6.1
DZM Mont Dzumac 95.06 113 LR LR 20 59 09.7
comp=Z,3µm,20.6s,MS5.8,baz=306,slow=34
EDM Edmonton 95.31 10 P **P** **20 18 05.5 +1.0**
EDM Edmonton 95.31 10⇓ *e*P **P** **20 18 04.8 +0.3**
EDM *e*PP PP 20 22 01.3 +4.2
PQI Presque Isle 99.02 341 PFAKE 20 18 30.0 +8.6
PQI LR LR
comp=Z,31µm,22.0s,MS6.8
MAW Mawson 99.06 188 P **P** **20 18 21.8 +0.6**
MAW pmax pmax
comp=Z,11nm,0.9s
MAW MLR MLR
comp=Z,7µm,19.8s
MAW Mawson 99.06 188 P **P** **20 18 21.8 +0.6**
comp=Z,11nm,0.9s,mb5.4,baz=38,slow=7.2,SNR=5.0
MAW LR LR 20 57 00.9
comp=Z,7µm,19.8s,MS6.1,baz=16,slow=32
NEW Newport 99.39 14 P **P** **20 18 23.2 +0.1**
comp=Z,1.7nm,0.4s,mb4.9,baz=318,slow=14,SNR=3.1
NEW PKKPbc 20 34 46.5
comp=Z,6.3nm,0.8s,baz=166,slow=3.2,SNR=7.9
NEW PKPPKP 20 42 59.9
comp=Z,1.2nm,0.4s,baz=116,slow=3.1,SNR=3.3
NEW Newport 99.39 14 P **P** **20 18 23.2 +0.1**
NEW PKKPbc 20 34 46.5
NEW P'P' 20 42 59.9
NEW LR LR
comp=Z,11µm,22.0s,MS6.3
ULM Lac du Bonnet 99.59 360 P **P** **20 18 23.5 -0.5**
comp=Z,5.8nm,0.7s,mb5.1,baz=0.9,slow=4.1,SNR=9.4
ULM PP PP 20 22 29.5 -0.9
comp=Z,4.9nm,0.9s,baz=4.4,slow=7.8,SNR=5.7
ULM PKKPbc 20 34 44.5
comp=Z,5.3nm,1.1s,baz=182,slow=1.2,SNR=4.0
ULM LR LR 21 07 45.1
comp=Z,5µm,20.2s,MS6.0,baz=351,slow=38
ULM Lac du Bonnet 99.59 360⇓ *e*P **P** **20 18 23.5 -0.4**
comp=Z,8.3nm,0.8s,mb5.2
ULM LR LR
comp=Z,7µm,20.0s,MS6.2
HAWA Hanford 100.62 16 PFAKE 20 18 40.0 +11
HAWA LR LR
comp=Z,387nm,19.0s
EMMW East Machias 100.63 339 PFAKE 20 18 40.0 +11
EMMW LR LR
comp=Z,25µm,20.0s,MS6.7
COR Corvallis 101.31 19 PFAKE 20 18 40.0 +8.1
COR LR LR
comp=Z,1µm,22.0s,MS5.4
MSO Missoula 101.39 12 PFAKE 20 18 40.0 +7.8
MSO LR LR
comp=Z,5µm,19.0s,MS6.0
WVL Waterville 101.41 341 PFAKE 20 18 40.0 +7.6
WVL LR LR
comp=Z,23µm,20.0s,MS6.7
CHMT Chamberlain Mo 101.43 12 *e*Pdif P 20 18 32.4 0.0
EYMN Ely 101.78 357 *e*P P 20 18 34.0 +0.1
comp=Z,26nm,1.4s
EYMN *e*PP PP 20 22 43.3 -3.9
EYMN LR LR
comp=Z,8µm,19.0s,MS6.2
BMO Blue Mountains 102.60 15 PFAKE 20 18 50.0 +12
BMO LR LR
comp=Z,6µm,21.0s,MS6.1
LAO LASA Array 102.64 7 PFAKE 20 18 50.0 +12
LAO LR LR
comp=Z,8µm,19.0s,MS6.2
BOZ Bozeman (W) 102.94 11 PFAKE 20 18 50.0 +11
BOZ LR LR
comp=Z,6µm,21.0s,MS6.1
NCB Newcomb 103.16 344 PFAKE 20 18 50.0 +10
NCB LR LR
comp=Z,6µm,21.0s,MS6.1
HUMO Hull Mountain 103.23 20 PFAKE 20 18 50.0 +9.4
HUMO LR LR
comp=Z,4µm,21.0s,MS6.0
HRV Harvard--Oak R 103.84 341 PFAKE 20 18 50.0 +6.8
HRV LR LR
comp=Z,6µm,20.0s,MS6.1
WES Weston 103.89 341 PFAKE 20 18 50.0 +6.5
WES LR LR
comp=Z,8µm,19.0s,MS6.3
YBH Yreka Blue Hor 104.10 20 PFAKE 20 19 00.0 +16
YBH LR LR
comp=Z,5µm,22.0s,MS6.0
LKWY Lake 104.19 10 PFAKE 20 19 00.0 +15
LKWY LR LR
comp=Z,10µm,20.0s,MS6.4
POHA Pohakuloa 104.27 57 PFAKE 20 19 00.0 +14
POHA LR LR
comp=Z,47µm,21.0s,MS7.0
HLID Hailey 104.44 13 *e*Pdif Pdif 20 18 42.3 -3.6
comp=Z,2.9nm,1.0s
HLID LR LR
comp=Z,8µm,20.0s,MS6.2
WVOR Wild Horse Val 104.56 17 PFAKE 20 19 00.0 +14
WVOR LR LR
comp=Z,7µm,22.0s,MS6.2
MOD Modoc 104.63 18 PFAKE 20 19 00.0 +13
MOD LR LR
comp=Z,4µm,21.0s,MS6.0
LOHW Long Hollow 105.08 11 *e*PKP 20 23 02.6
TPAW Teton Pass 105.15 11 *e*PKP 20 22 59.5
WDC Whiskeytown Da 105.21 20 PFAKE 20 23 20.0
WDC LR LR
comp=Z,5µm,22.0s,MS6.0
RRI2 Red Ridge 105.22 11 *e*PKP 20 23 00.2
BINY Binghamton 105.25 344 PFAKE 20 23 20.0
BINY LR LR
comp=Z,10µm,21.0s,MS6.3
REDW Red Top Meadow 105.29 11 *e*PKP 20 22 52.5
RSSD Black Hills 105.39 6 P Pdif 20 18 54.6 +4.6
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 105.39 6 *e*Pdif Pdif 20 18 51.1 +1.1
comp=Z,5.8nm,0.8s
RSSD LR LR
comp=Z,2µm,19.0s,MS5.6
AHID Auburn Hatcher 105.83 11 PFAKE 20 23 20.0
AHID LR LR
comp=Z,6µm,22.0s,MS6.1
BW06 Boulder Array 106.07 10 PFAKE 20 23 20.0
BW06 LR LR
comp=Z,8µm,20.0s,MS6.2
PDAR Pinedale Array 106.07 10 Pdiff Pdif 20 18 54.6 +1.5
comp=Z,0.3nm,0.6s,baz=90,slow=1.8,SNR=3.8
PDAR PKIKP 20 23 05.7
comp=Z,3.1nm,0.9s,baz=45,slow=2.6,SNR=12
PDAR PKKPbc 20 34 26.8
comp=Z,1.4nm,0.5s,baz=125,slow=4.8,SNR=13
ERPA Erie 106.17 347 PFAKE 20 23 20.0
ERPA LR LR
comp=Z,5µm,21.0s,MS6.1
HVU Hansel Valley 106.48 13 *e*PKPdf 20 23 23.0
HOPS Hopland 106.50 21 PFAKE 20 23 20.0
HOPS LR LR
comp=Z,6µm,22.0s,MS6.1
AAM Ann Arbor 106.61 350 PFAKE 20 23 20.0
AAM LR LR
comp=Z,9µm,19.0s,MS6.3
BMN Battle Mountai 106.80 17 PFAKE 20 23 20.0
BMN LR LR
comp=Z,4µm,21.0s,MS6.0
HWUT Hardware Ranch 106.87 12 *e*Pdif Pdif 20 18 59.4 +2.8
comp=Z,16nm,1.4s
HWUT *e*PKPdf 20 23 06.7
HWUT LR LR
comp=Z,5µm,19.0s,MS6.1
ELK Elko 106.97 15 *e*PKPdf 20 23 06.7
ELK LR LR
comp=Z,6µm,19.0s,MS6.2
SSPA Standing Stone 107.17 345 PFAKE 20 23 20.0
SSPA LR LR
comp=Z,2µm,22.0s,MS5.6
DUG Dugway 108.01 13 *e*PKPdf 20 23 08.6
DUG LR LR
comp=Z,5µm,19.0s,MS6.1
CMB Columbia Colle 108.20 20 *e*PKPdf 20 23 09.2
CMB LR LR
comp=Z,7µm,22.0s,MS6.2
NVAR Mina Array Bea 108.41 18 PKiKP 20 23 11.9
comp=Z,4.9nm,0.7s,baz=315,slow=1.3,SNR=8.5
NVAR PP PP 20 23 32.5 -4.7
comp=Z,5.3nm,1.0s,baz=329,slow=5.3,SNR=5.7
NVAR PKKPbc 20 34 20.2
comp=Z,0.9nm,0.5s,baz=142,slow=4.7,SNR=4.0
NVAR PKPPKP 20 42 48.2
comp=Z,1.4nm,0.9s,baz=152,slow=5.7,SNR=3.7
NVAR Mina Array Bea 108.41 18 PKPdf 20 23 11.9
NVAR PP PP 20 23 32.5 -4.7
NVAR PKKPbc 20 34 20.2
NVAR P'P' 20 42 48.2
MNV Mina 108.45 18 *e*PKPdf 20 23 10.8
MNV LR LR
comp=Z,5µm,22.0s,MS6.0
MCWV Mont Chateau 108.52 347 PFAKE 20 23 20.0
MCWV LR LR
comp=Z,10µm,21.0s,MS6.3
ACSO Alum Creek Sta 108.53 349 PFAKE 20 23 20.0
ACSO LR LR
comp=Z,7µm,21.0s,MS6.2
OMM Old Mammoth Mi 108.98 19 *e*PKP 20 23 13.8
SAO San Andreas Ge 109.05 21 PFAKE 20 23 20.0
SAO LR LR
comp=Z,4µm,20.0s,MS6.0
TRCR Troy Canyon 109.17 16 *e*PKPdf 20 23 12.8
AFI Afiamalu 109.36 95 PFAKE 20 23 20.0
AFI LR LR
comp=Z,6µm,22.0s,MS6.1
CBN Corbin 109.38 344 PFAKE 20 23 20.0
CBN LR LR
comp=Z,10µm,22.0s,MS6.3
SRU San Rafael 109.48 12 *e*PKP 20 23 14.4
ISCO Idaho Springs 109.51 8 PFAKE 20 23 20.0
ISCO LR LR
comp=Z,5µm,21.0s,MS6.1
MVU Marysvale 109.76 13 PFAKE 20 23 20.0
MVU LR LR
comp=Z,6µm,20.0s,MS6.2
SNZO South Karori 110.13 127 PFAKE 20 23 20.0 +5.3
SNZO LR LR
comp=Z,5µm,22.0s,MS6.0
DAC Darwin (Calif) 110.63 18 PFAKE 20 23 30.0 +14
DAC LR LR
comp=Z,4µm,20.0s,MS6.0
BBSR BB Station 110.64 332 PFAKE 20 23 30.0 +14
BBSR LR LR
comp=Z,5µm,22.0s,MS6.0
RAO Raoul Island 110.86 112 PFAKE 20 23 30.0 +14
RAO LR LR
comp=Z,3µm,20.0s,MS5.8
CBKS Cedar Bluff 110.95 3 PKIKP PKPdf 20 23 12.0 -4.4
CBKS Cedar Bluff 110.95 3 PFAKE 20 23 30.0 +14
CBKS LR LR
comp=Z,7µm,20.0s,MS6.2
ISA Isabella 110.96 19 PFAKE 20 23 30.0 +14
ISA LR LR
comp=Z,126nm,22.0s
WCI Wyandotte Cave 110.97 352 PFAKE 20 23 30.0 +14
WCI LR LR
comp=Z,2µm,21.0s,MS5.7
BLA Blacksburg 111.00 346 PFAKE 20 23 30.0 +13
BLA LR LR
comp=Z,10µm,22.0s,MS6.3
SDCO Great Sand Dun 111.56 8 PFAKE 20 23 30.0 +13
SDCO LR LR
comp=Z,10µm,21.0s,MS6.4
CCM Cathedral Cave 111.62 356 PFAKE 20 23 30.0 +12
CCM LR LR
comp=Z,2µm,20.0s,MS5.8
TRIS Tristan da Cun 112.03 239 PFAKE 20 23 30.0 +12
TRIS LR LR
comp=Z,7µm,21.0s,MS6.2
NVL N'lazarevskaya 112.80 200 *i* PKIKP PKPdf 20 23 15.6 -3.6
NVL *e* 20 23 20.6
NVL *e*S SP 20 33 35.8 -0.6
NVL pmax pmax
comp=Z,22nm,1.0s
WVT Waverly 113.22 353 *e*PKPdf PKPdf 20 23 17.1 -3.8
WVT LR LR
comp=Z,7µm,22.0s,MS6.2
PFO Pinyon Flat Ob 113.45 18 PFAKE 20 23 30.0 +8.6
PFO LR LR
comp=Z,1µm,19.0s,MS5.5
ANMO Albuquerque 114.19 9 PKKPbc 20 34 00.7
comp=Z,0.5nm,0.3s,baz=158,slow=4.4,SNR=4.0
ANMO Albuquerque 114.19 9 PFAKE 20 23 30.0 +7.2
ANMO LR LR
comp=Z,6µm,20.0s,MS6.2
PLAL Pickwick Lake 114.39 353 PFAKE 20 23 30.0 +6.8
PLAL LR LR
comp=Z,6µm,19.0s,MS6.2
LAZ Ladron 114.63 10 *e*PKPdf PKPdf 20 23 22.8 -0.8
AMTX Amarillo 114.75 5 PFAKE 20 23 30.0 +6.1
AMTX LR LR
comp=Z,8µm,21.0s,MS6.3
LPM Los Pinos Moun 114.79 9 *e*PKPdf PKPdf 20 23 21.8 -2.2
LENM Lemitar 114.89 10 *e*PKPdf PKPdf 20 23 23.4 -0.7
NHSC New Hope 114.90 345 PFAKE 20 23 30.0 +5.8
NHSC LR LR
comp=Z,9µm,21.0s,MS6.3
UALR University of 114.95 356 *e*PKP PKPdf 20 23 19.8 -4.4
BNM Barren Site 114.95 9 *e*PKPdf PKPdf 20 23 22.9 -1.4
OXF Oxford 114.99 354 *e*PKPdf PKPdf 20 23 22.5 -1.8
OXF LR LR
comp=Z,7µm,22.0s,MS6.2
WMOK Wichita Mounta 115.05 2 *e*PKPdf PKPdf 20 23 20.2 -4.2
WMOK LR LR
comp=Z,7µm,19.0s,MS6.3
MIAR Mount Ida 115.23 357 PKIKP PKPdf 20 23 23.1 -1.7
MIAR Mount Ida 115.23 357 *e*PKPdf PKPdf 20 23 22.7 -2.1
MIAR LR LR
comp=Z,8µm,20.0s,MS6.3
GOGA Godfrey 115.26 348 PFAKE 20 23 30.0 +5.1
GOGA LR LR
comp=Z,5µm,20.0s,MS6.2
TUC Tucson 116.03 14 PKIKP PKPdf 20 23 25.4 -1.1
TUC Tucson 116.03 14 *e*PKPdf PKPdf 20 23 25.3 -1.2
TUC LR LR
comp=Z,4µm,20.0s,MS6.1
LRAL Lakeview Retre 116.18 351 PFAKE 20 23 40.0 +13
LRAL LR LR
comp=Z,9µm,19.0s,MS6.4
CPRX Cap Rock 116.40 7 *e*PKPdf PKPdf 20 23 24.8 -2.4
VNDA Vanda 117.05 166 PKIKP PKPdf 20 23 24.4 -3.0
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 117.05 166 PKP PKPdf 20 23 24.4 -3.0
comp=Z,5.5nm,0.9s,baz=284,slow=5.5,SNR=12
VNDA Vanda 117.05 166 PKP PKPdf 20 23 24.4 -3.0
GDL2 Guadalupe Moun 117.16 8 *e*PKPdf PKPdf 20 23 26.6 -2.1
MNTX Cornudas Mount 117.53 9 *e*PKPdf PKPdf 20 23 27.6 -1.7
MNTX LR LR
comp=Z,8µm,21.0s,MS6.3
SNAA Sanae 117.56 201 P PKPdf 20 23 25.9 -2.6
SNAA Sanae 117.56 201 PKIKP PKPdf 20 23 25.5 -3.0
SNAA pmax pmax
comp=Z,9.0nm,0.8s
SNAA Sanae 117.56 201 PKP PKPdf 20 23 25.5 -3.0
comp=Z,9.2nm,0.8s,baz=111,slow=2.7,SNR=16
NATX Nacogdoches 118.04 358 PFAKE 20 23 40.0 +10
NATX LR LR
comp=Z,6µm,19.0s,MS6.3
SBA Scott Base 118.15 166 PFAKE 20 23 40.0 +10
SBA LR LR
comp=Z,5µm,20.0s,MS6.1
RCBR Riachuelo 118.33 281 PFAKE 20 23 40.0 +8.7
RCBR LR LR
comp=Z,6µm,20.0s,MS6.2
VNA2 Neumayer--Watz 118.84 202⇑ *i*P PKPdf 20 23 30.8 -0.2
VNA1 Neumayer--Stat 119.08 202⇑ *i*P PKPdf 20 23 31.2 -0.3
JCT Junction City 119.25 3 PKIKP PKPdf 20 23 30.8 -1.9
JCT Junction City 119.25 3 *e*PKPdf PKPdf 20 23 30.3 -2.4
JCT LR LR
comp=Z,6µm,20.0s,MS6.2
VNA3 Neumayer Olymp 119.62 202⇑ *i*P PKPdf 20 23 31.9 -0.5
DWPF Disney 119.99 345 PFAKE 20 23 40.0 +5.8
DWPF LR LR
comp=Z,1µm,21.0s,MS5.5
LTX Lajitas 120.08 7 PKIKP PKPdf 20 23 32.9 -1.4
LTX Lajitas 120.08 7 *e*PKPdf PKPdf 20 23 32.5 -1.8
LTX LR LR
comp=Z,8µm,20.0s,MS6.3
TXAR Lajitas Array 120.08 7 PKP PKPdf 20 23 32.7 -1.6
comp=Z,7.5nm,0.7s,SNR=40
TXAR PP PP 20 24 58.5 -1.2
comp=Z,18nm,1.2s,baz=14,slow=3.7,SNR=6.5
TXAR PKKPbc 20 33 39.6
comp=Z,5.3nm,0.9s,baz=180,slow=6.3,SNR=16
QSPA South Pole Qui 120.31 180 *e*P PKPdf 20 23 31.0 -2.7
RAR Rarotonga 122.81 97 PFAKE 20 23 50.0 +10
RAR LR LR
comp=Z,4µm,22.0s,MS6.0
SJG San Juan 123.59 325 PFAKE 20 23 50.0 +8.6
SJG LR LR
comp=Z,4µm,21.0s,MS6.0
ZAIG Zacatecas 126.68 7 *e*P PKPdf 20 23 46.0 -1.2
TEIG Tepich 128.96 350 *e*PKPdf PKPdf 20 23 50.0 -1.8
TEIG *e*PP PP 20 25 58.0 -2.1
TEIG LR LR
comp=Z,3µm,22.0s,MS5.9
PPT Papeete 130.12 88 *e*SS SS 20 43 27.3 -2.3
PPT *e*LR LR 21 04 57.9
comp=Z,26µm,35.0s
PPM Popocatepetl 130.66 3 *e*P PKPdf 20 23 52.8 -2.3
VAH Vaihoa 130.77 84 *e*PKIKP PKPdf 20 23 52.6 -2.7
comp=Z,910nm,2.1s
CAM4 Nova Friburgo 131.54 266 (P) PKPdf 20 23 55.7 -0.9
CAM4 *i* 20 24 31.2
TBI Tubuai 132.47 95 *e*SS SS 20 44 13.4 +15
TBI *e*LR LR 21 06 03.4
comp=Z,10µm,33.2s
BAO Brasilia Array 133.46 277 PKPdf PKPdf 20 23 59.0 -1.3
BAO PKPdf PKPdf 20 24 00.0 -0.3
SDV Santo Domingo 133.69 324 PKP PKPdf 20 23 58.8 -2.0
comp=Z,7.9nm,0.6s,baz=61,slow=2.3,SNR=7.6
SDV Santo Domingo 133.69 324 *e*PKPpre 20 23 46.1
SDV PKP PKPdf 20 23 58.8 -2.0
SDV LR LR
comp=Z,3µm,22.0s,MS6.0
JTS JuntasAbangare 137.98 343 PFAKE 20 24 20.0 +11
JTS LR LR
comp=Z,558nm,20.0s,MS5.3
ROSC El Rosal 139.00 325 PKhKP 20 24 00.9
comp=Z,5.8nm,0.4s,baz=270,slow=20,SNR=3.0
ROSC PKP PKPdf 20 24 09.1 -1.6
comp=Z,8.4nm,0.4s,baz=290,slow=17,SNR=7.0
PMSA Palmer Station 140.28 201 PFAKE 20 24 20.0 +8.4
PMSA LR LR
comp=Z,6µm,20.0s,MS6.4
SAML Samuel 142.36 298 *e*PKPdf PKPdf 20 24 09.9 -6.7
SAML LR LR
comp=Z,4µm,20.0s,MS6.2
SIV San Ignacio 144.68 286 PKP PKPdf 20 24 17.5 -3.0
comp=Z,70nm,0.9s,baz=93,slow=6.4,SNR=7.6
RKT Rikitea 144.88 87 *e*PKIKP PKPdf 20 24 18.2 -2.5
comp=Z,318nm,1.1s
RKT Rikitea 144.88 87 *e*SS SS 20 46 46.8 +22
RKT *e*LR LR 21 11 48.1
comp=Z,7µm,27.5s
OTAV Otavalo 145.00 328 PKPbc PKPbc 20 24 19.3 +1.4
OTAV Otavalo 145.00 328 *e*PKPdf PKPdf 20 24 19.2 -2.0
OTAV LR LR
comp=Z,3µm,22.0s,MS6.0
CPUP Villa Florida 145.55 267 PKPbc PKPbc 20 24 19.6 +0.7
USHA Ushuaia 148.57 211 PKPbc PKPdf 20 24 29.0 +3.2
comp=Z,148nm,0.9s,baz=60,slow=1.9,SNR=5.0
PTCN Pitcairn Islan 149.73 88 PFAKE 20 24 40.0 +11
PTCN LR LR
comp=Z,4µm,22.0s,MS6.2
PAYG Puerto Ayora 149.77 348 *e*PKPdf PKPdf 20 24 27.6 -1.4
PAYG *e*PKPbc PKPdf 20 24 32.2 +3.1
PAYG LR LR
comp=Z,3µm,22.0s,MS6.0
LPAZ La Paz 150.59 292 PKIKP PKPdf 20 24 29.4 -0.8

LPAZ						20 24 34.8	
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LPAZ	**La Paz**	**150.59 292**		PKP	PKPdf	20 24 29.4	-0.8
	comp=Z,5.3nm,0.8s,baz=20,slow=5.4,SNR=20						
LPAZ				PKPbc	PKPdf	20 24 34.8	+4.6
	comp=Z,51nm,1.0s,baz=44,slow=4.2,SNR=51						
LPAZ	**La Paz**	**150.59 292**		*e*PKPdf	PKPdf	20 24 28.9	-1.3
LPAZ				*e*PKPbc	PKPdf	20 24 34.7	+4.5
LPAZ				LR	LR		
	comp=Z,8μm,21.0s,MS6.5						
TRQA	**Tornquist**	**150.75 246**		*e*PKPdf	PKPdf	20 24 28.5	-1.3
TRQA				*e*PKPbc	PKPdf	20 24 34.0	+4.2
TRQA				*e*PKPab	PKPab	20 24 39.6	-1.6
TRQA				LR	LR		
	comp=Z,8μm,21.0s,MS6.5						
ARE	**Arequipa**	**153.34 296**		*e*P	PKPdf	20 24 35.0	+0.8
ARE				*e*		20 24 42.0	
LVC	**Limon Verde**	**154.28 281**		PKP	PKPdf	20 24 34.5	-0.8
	comp=Z,7.6nm,0.9s,baz=276,slow=3.1,SNR=1.5						
LVC				PKPbc	PKPdf	20 24 43.9	+8.5
	comp=Z,48nm,1.1s,baz=354,slow=1.0,SNR=3.8						
LVC	**Limon Verde**	**154.28 281**		*e*PKPdf	PKPdf	20 24 34.6	-0.7
LVC				*e*PP	PP	20 28 31.0	-1.8
LVC				LR	LR		
	comp=Z,4μm,20.0s,MS6.2						
MDZ	**Mendoza**	**156.51 257**		*e*P	PKPdf	20 24 38.6	+0.6
PLCA	**Paso Flores**	**156.76 237**		PKP	PKPdf	20 24 37.0	-1.0
	comp=Z,24nm,1.0s,baz=107,slow=2.5,SNR=16						
PLCA				PKPab	PKPab	20 25 07.7	+1.2
	comp=Z,28nm,1.2s,baz=85,slow=4.0,SNR=4.9						
PLCA	**Paso Flores**	**156.76 237**		*e*PKPdf	PKPdf	20 24 37.7	-0.4
PLCA				LR	LR		
	comp=Z,5μm,21.0s,MS6.4						
RPN	**Rapa Nui**	**168.12 77**		PFAKE		20 25 00.0	+10
RPN				LR	LR		
	comp=Z,1μm,21.0s						

CASC 07 20:17:13.0±1.6, 12.63N×86.83W, h196km±8km, MD3.8, 10C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TELN	**Telica**	**0.03**	**179**	*e*P	P	20 17 39.2	+0.3
TEL3	**Telica 3**	**0.06**	**192⇑**	*e*P	P	20 17 39.0	+0.1
TEL3				*e*S	S	20 18 00.8	+2.0
CNGN	**Cerro Negro**	**0.18**	**135⇓**	*e*P	P	20 17 39.2	+0.1
LEON	**Leon**	**0.22**	**196⇑**	*e*P	P	20 17 38.7	-0.5
CRIN	**San Cristobal**	**0.22**	**288⇑**	*e*P	P	20 17 39.4	+0.2
MOMJ	**Momotombo**	**0.36**	**128⇑**	*e*P	P	20 17 39.5	0.0
COPN	**Copaltepe**	**0.51**	**152⇓**	*e*P	P	20 17 39.6	-0.4
COPN				*e*S	S	20 17 59.7	-1.2
APYN	**Apoyeque**	**0.61**	**130**	*e*P	P	20 17 40.4	0.0
XAVN	**Gruta Xavier**	**0.69**	**134⇑**	*e*P	P	20 17 40.8	+0.1
XAVN				*e*S	S	20 18 02.5	+0.2
MGAN	**Managua**	**0.75**	**130⇑**	*e*P	P	20 17 41.2	+0.1
MGAN				*e*S	S	20 18 01.9	-0.8
WILN	**Americas 2**	**0.78**	**126⇑**	*i*P	P	20 17 41.5	+0.3
TICN	**Ticuantepe**	**0.83**	**135⇑**	*e*P	P	20 17 41.8	+0.3
APON	**Apoyo**	**1.03**	**133**	*e*P	P	20 17 42.6	-0.2
APON				*e*S	S	20 18 07.5	+1.7
CNCH	**Conchagua**	**1.17**	**303⇑**	*e*P	P	20 17 44.4	+0.5
CNCH				*e*S	S	20 18 09.2	+1.4
SNVI	**San Vicente**	**2.19**	**297**	*e*P	P	20 17 54.3	+0.7
SNVI				*e*S	S	20 18 25.6	+0.7
LCBS	**La Ceiba**	**2.33**	**296⇑**	*e*P	P	20 17 55.5	+0.3
LCBS				*e*S	S	20 18 27.9	+0.3
LFRS	**El Faro**	**2.39**	**295**	*e*P	P	20 17 56.2	+0.3
LFRS				*e*S	S	20 18 30.5	+1.6

IDC 07 20:18:51.5±2.0, 10.38S×130.15E, mb3.8/1, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, ML2.9/3, Error ellipse: s-maj=59.5km s-min=28.8km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.83**	**209**	Pn	P	20 21 00.8	-2.6
	0.3nm,0.3s,baz=12,slow=11,SNR=12						
WRA	**Warramunga Arr**	**10.33**	**157**	Pn	P	20 21 21.0	-3.2
	0.1nm,0.3s,baz=336,slow=13,SNR=6.8						
WRA				Sn	S	20 23 24.8	+2.8
	0.0nm,0.3s,baz=338,slow=20,SNR=2.5						
ASAR	**Alice Springs**	**13.69**	**165**	Pn	P	20 22 07.0	-2.5
	0.1nm,0.3s,baz=342,slow=14,SNR=4.0						
MKAR	**Makanchi Array**	**71.12**	**327**	P	P	20 30 12.0	-1.9
	0.7nm,0.7s,baz=117,slow=6.4,SNR=4.9						

IDC 07 20:22:42.6±2.0, 30.02N×83.12E, mb3.7/3, mb1 3.8/5, mb1mx3.5/22, mbtmp3.7/5, ML4.0/2, Error ellipse: s-maj=111.9km s-min=22.5km az=54.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.76**	**358**	Pn	P	20 26 37.7	-2.5
	0.1nm,0.3s,baz=175,slow=11,SNR=5.4						
CMAR	**Chiang Mai Arr**	**18.43**	**125**	P	P	20 27 00.8	-0.6
	0.6nm,0.3s,baz=297,slow=10,SNR=5.5						
BVAR	**Borovoye Array**	**24.81**	**341**	P	P	20 28 05.5	-1.9
	0.7nm,0.6s,baz=157,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**48.45**	**327**	P	P	20 31 26.9	-1.4
	1.3nm,0.8s,baz=101,slow=8.0,SNR=5.1						
WRA	**Warramunga Arr**	**69.98**	**129**	P	P	20 33 55.8	-2.4
	0.4nm,0.5s,baz=323,slow=6.4,SNR=11						

*ATH **07** 20:27:12.6, 37.47N×28.27E, h10km, MD3.1/3*
*CSEM **07** 20:27:13.8±0.1, 37.35N×28.06E, h8km, MD3.3, Error ellipse: s-maj=2.7km s-min=1.8km az=175.0*
*ISK **07** 20:27:14.0, 37.35N×28.06E, h11km, MD3.3*
ISC 07 20:27:14.4±0.6, 37.33N±0.03×28.09E±0.03, h5km±6km, n18, σ0°55/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.25**	**262**	*i*PG	**Pg**	**20 27 19.5**	**0.0**
MLSB				*i*SG	**Sg**	**20 27 23.2**	**+0.3**
AYDN	**Tasoluk**	**0.37**	**333**	*i*P	**Pg**	**20 27 22.2**	**+0.4**
AYDN				*i*S	**Sg**	**20 27 27.2**	**+0.4**
BDRM	**Kayabasi**	**0.58**	**243**	*i*P	**Pg**	**20 27 25.4**	**-0.6**
BDRM				*i*S	**Sg**	**20 27 33.9**	**+0.1**
BODT	**Bodrum**	**0.68**	**247**	PG	**Pg**	**20 27 27.0**	**-1.0**
BODT				SG	**Sg**	**20 27 37.4**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.71**	**142**	PG	**Pg**	**20 27 28.4**	**-0.3**
DNZL	**Cakiroluk**	**0.84**	**65**	*i*P	**Pb**	**20 27 31.0**	**-0.2**
DNZL				*i*S	**Sg**	**20 27 42.8**	**+0.3**
DENT	**Denizli**	**0.86**	**60**	PG	**Pg**	**20 27 31.3**	**-0.3**
NISR	**Nisiros**	**1.05**	**227**	*e*PB	**Pb**	**20 27 36.1**	**+1.3**
FETY	**Fethiye**	**1.06**	**131**	PN	**Pn**	**20 27 35.2**	**-0.6**
SMG	**Samos**	**1.06**	**291**	*e*PB	**Pb**	**20 27 34.5**	**-0.5**
ARG	**Arkhangelos**	**1.11**	**178**	*e*PB	**Pb**	**20 27 36.5**	**+0.7**
MANT	**Manisa**	**1.22**	**18**	*i*P	**Pb**	**20 27 37.6**	**+0.1**
MANT				*i*S	**Sb**	**20 27 53.9**	**+0.5**
IZM	**Izmir**	**1.25**	**329**	PN	**Pn**	**20 27 37.7**	**-0.9**
KDAG	**Bornova**	**1.25**	**329**	*i*P	**Pb**	**20 27 38.1**	**-0.1**
KDAG				*i*S	**Sb**	**20 27 54.8**	**+0.3**
BLCB	**Balcova**	**1.34**	**322**	PN	**Pn**	**20 27 38.8**	**-1.1**
ELL	**Elmali**	**1.57**	**111**	*e*PN	**Pn**	**20 27 43.3**	**+0.2**
BCK	**Bucak**	**2.00**	**86**	*e*PN	**Pn**	**20 27 49.8**	**+0.6**
ULDT	**Uludag**	**2.92**	**16**	*i*P	**Pn**	**20 28 09.0**	**+6.5**
ULDT				*i*S	**Sn**	**20 28 49.8**	**+11**

*NEIC **07** 20:49:06.1±1.0, 16.37S×178.84W, h459km±13km, mb4.2/6, Error ellipse: s-maj=18.6km s-min=10.9km az=163.0*
*IDC **07** 20:49:11.8±3.5, 16.54S×179.02W, h508km±38km, mb3.3/6, mb1 3.4/6, mb1mx3.2/18, mbtmp4.2/6, Error ellipse: s-maj=40.7km s-min=26.5km az=173.0*
ISC 07 20:49:05.1±1.6, 16.4S±0.2×178.9W±0.1, h461km±25km, n18, σ0°51/17, mb4.0/10, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.27**	**71**	*e*Pn	**P**	**20 50 53.8**	**-0.3**
PMG	**Port Moresby**	**33.80**	**278**	*e*P	**P**	**20 55 08.9**	**+0.1**
	43nm,1.3s,mb4.7						
STKA	**Stephens Creek**	**39.00**	**239**	P	**P**	**20 55 52.2**	**+0.4**
	0.6nm,0.4s,mb3.4,baz=97,slow=11,SNR=7.5						
STKA	**Stephens Creek**	**39.00**	**239**	*e*P	**P**	**20 55 50.9**	**-0.9**
WB2	**Warramunga Arr**	**44.49**	**258**	*e*P	**P**	**20 56 35.8**	**0.0**
WRA	**Warramunga Arr**	**44.50**	**258**	P	**P**	**20 56 35.8**	**-0.1**
	0.7nm,0.2s,mb3.6,baz=96,slow=8.1,SNR=37						
ASAR	**Alice Springs**	**44.80**	**253**	P	**P**	**20 56 38.4**	**+0.1**
	3.6nm,0.5s,mb4.0,baz=86,slow=8.1,SNR=77						
ASAR				S	**S**	**21 02 38.0**	**-3.1**
	0.3nm,0.8s,baz=85,slow=14,SNR=4.1						
ASPA	**Alice Springs**	**44.81**	**253**	*i*P	**P**	**20 56 38.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.86**	**259**	*e*P	**P**	**20 57 39.7**	**+0.9**
	4.2nm,1.5s,mb3.5						
FITZ	**Fitzroy Crossi**	**52.86**	**259**	P	**P**	**20 57 39.7**	**+0.8**
	3.4nm,0.6s,mb3.9,baz=104,slow=4.2,SNR=10						
NWAO	**Narrogin (SRO)**	**59.55**	**241**	P	**P**	**20 58 24.8**	**-0.1**
	10nm,1.2s,mb4.2,baz=106,slow=6.7,SNR=6.5						
VNDA	**Vanda**	**61.92**	**185**	P	**P**	**20 58 40.2**	**+0.2**
	0.9nm,0.8s,mb3.3,baz=13,slow=8.4,SNR=3.6						
VNDA	**Vanda**	**61.92**	**185**	*e*P	**P**	**20 58 39.8**	**-0.2**
	2.5nm,1.1s,mb3.6						
CASY	**Casey**	**67.33**	**204**	*e*P	**P**	**20 59 13.9**	**-0.4**
	8.1nm,1.0s,mb4.3						
QSPA	**South Pole Qui**	**73.66**	**180**	*e*P	**P**	**20 59 51.9**	**+0.5**
	10nm,1.0s,mb4.3						
TPH	**Tonopah**	**79.18**	**45**	P	**P**	**21 00 22.4**	**-0.1**
	9.8nm,1.4s,mb4.2						
BVAR	**Borovoye Array**	**115.39**	**321**	PKP	PKPdf	21 06 54.9	+1.6
	0.3nm,0.4s,baz=159,slow=3.2,SNR=4.7						
BRTR	**Keskin Array B**	**143.40**	**316**	PKP	PKPdf	21 07 47.6	+1.5
	1.3nm,0.9s,baz=72,slow=3.9,SNR=6.3						

*BJI **07** 20:50:25.8, 29.78N×83.17E, h31km, mb3.8*
*NDI **07** 20:50:27.1±2.5, 30.41N×83.71E, h20km±29km, MD3.6, mb3.9(NEIC)*
*IDC **07** 20:50:28.1±1.4, 30.09N×83.26E, mb3.8/9, mb1 4.0/11, mb1mx3.8/22, mbtmp3.8/11, ML3.6/2, Error ellipse: s-maj=45.7km s-min=20.2km az=53.0*
*NEIC **07** 20:50:30.4±0.5, 30.21N×83.46E, h10km, mb3.9/4, Error ellipse: s-maj=14.1km s-min=7.6km az=66.0*
ISC 07 20:50:29.0±0.4, 30.21N±0.05×83.60E±0.05, h10km, n26, σ1°26/31, mb3.8/12, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLK	**Valmikinagar**	**2.89**	**175**	*i*PG	**Pg**	**20 51 26.0**	**-0.7**
VLK				*i*SG	**Sg**	**20 52 10.0**	**+4.7**
LGTI	**Lohaghat**	**3.01**	**256**	*e*PG	**Pg**	**20 51 31.5**	**+2.4**
LGTI				*e*SG	**Sg**	**20 52 17.6**	**+8.4**
PTH	**Pithoragarh**	**3.01**	**258**	*e*PG	**Pg**	**20 51 28.2**	**-0.9**
PTH				*e*SG	**Sg**	**20 52 10.1**	**+0.9**
SMLA	**Simla**	**5.62**	**281**	*i*P	**Pn**	**20 51 50.0**	**-4.7**
SMLA				*i*		20 52 58.0	
HYB	**Hyderabad**	**13.54**	**201**	*e*P	**P**	**20 53 43.0**	**-0.7**
HYB				*e*S	**S**	**20 56 09.0**	**-6.3**
HYB	**Hyderabad**	**13.54**	**201**	*i*P	**S**	**20 53 43.0**	**-0.7**
HYB				*e*S	**S**	**20 56 09.0**	**-6.3**
AAK	**Ala-Archa**	**14.39**	**332**	P	**P**	**20 53 53.6**	**-1.1**
	4.6nm,1.2s						
GTA	**Gaotai**	**16.15**	**51**	*e*P	**P**	**20 54 20.5**	**+2.8**
GTA				AP		20 54 29.0	
GTA				XP		20 54 32.2	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**16.59**	**357**	Pn	**P**	**20 54 21.6**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=187,slow=12,SNR=2.9						
CM31	**Chiang Mai Arr**	**18.21**	**126**	P	**P**	**20 54 43.7**	**0.0**
	comp=Z,4.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.21**	**126**	P	**P**	**20 54 44.6**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=309,slow=10,SNR=15						
GYA	**Guiyang**	**20.64**	**95**	P	**P**	**20 55 10.6**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
KURK	**Kurchatov**	**20.82**	**351**	*e*P	**P**	**20 55 12.0**	**-1.0**
	comp=Z,10nm,0.9s						
XAN	**Xi'an**	**21.77**	**73**	P	**P**	**20 55 21.0**	**-1.7**
XAN				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb3.9						
ZAL	**Zalesovo**	**23.73**	**2**	P	**P**	**20 55 43.0**	**+1.3**
	comp=Z,0.9nm,0.4s,mb3.6,baz=273,slow=8.2,SNR=4.9						
BVAR	**Borovoye Array**	**24.76**	**341**	P	**P**	**20 55 53.2**	**+1.4**
	comp=Z,0.5nm,0.5s,mb3.3,baz=148,slow=11,SNR=5.5						
SONM	**Songino Array**	**24.82**	**38**	P	**P**	**20 55 54.3**	**+1.9**
	comp=Z,1.0nm,0.8s,mb3.4,baz=225,slow=10,SNR=5.2						
ULN	**Ulaanbaatar**	**25.20**	**39**	*e*P	**P**	**20 55 57.6**	**+1.5**
	comp=Z,2.8nm,1.0s,mb3.8						
CHKZ	**Chkalovo**	**25.28**	**342**	*e*P	**P**	**20 55 57.2**	**+0.4**
	comp=Z,2.2nm,1.0s,mb3.6						
FINES	**FINESS Array B**	**48.52**	**327**	P	**P**	**20 59 12.2**	**-1.5**
	comp=Z,2.1nm,1.1s,mb4.1,baz=262,slow=14,SNR=2.2						
FINES	**FINESS Array B**	**48.52**	**327**	P	**P**	**20 59 12.2**	**-1.5**
ARCES	**ARCESS Array B**	**50.98**	**337**	P	**P**	**20 59 31.1**	**-1.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=97,slow=7.3,SNR=3.5						
NOA	**NORSAR Array B**	**55.61**	**326**	P	**P**	**21 00 03.5**	**-3.4**
	comp=Z,1.0nm,0.8s,mb3.9,baz=90,slow=7.5,SNR=3.3						
WRA	**Warramunga Arr**	**69.78**	**129**	P	**P**	**21 01 41.8**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=323,slow=6.4,SNR=8.4						
ILAR	**Eielson Array**	**77.51**	**20**	P	**P**	**21 02 26.1**	**+0.1**
	comp=Z,0.9nm,1.0s,mb3.7,baz=304,slow=4.1,SNR=7.4						
YKA	**Yellowknife Ar**	**86.47**	**8**	P	**P**	**21 03 12.8**	**+0.3**
	comp=Z,1.0nm,0.9s,mb4.0,baz=340,slow=4.9,SNR=14						

IDC 07 20:53:30.5±4.5, 0.81N×98.20E, mb3.4/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=169.1km s-min=30.8km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.98**	**122**	P	P	21 01 15.4	-1.6
	0.3nm,0.6s,baz=301,slow=9.1,SNR=5.1						
SONM	**Songino Array**	**47.38**	**8**	P	P	21 02 06.7	-1.7
	0.3nm,0.4s,baz=202,slow=7.8,SNR=2.9						
MKAR	**Makanchi Array**	**47.86**	**345**	P	P	21 02 10.0	-2.2
	0.4nm,0.6s,baz=159,slow=8.0,SNR=6.4						
DRV	**Dumont d'Urvil**	**73.50**	**164**	L		21 05 00.0	

*IDC **07** 20:54:10.8±2.0, 13.84N×87.79W, mb3.6/3, mb1 4.0/4, mb1mx3.6/20, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=142.7km s-min=18.8km az=54.0*
*GCG **07** 20:54:11.0, 12.62N×89.12W, h18km, MD4.4*
*SSS **07** 20:54:12.1, 12.76N×88.95W, h33km, MD3.8, ML3.8*
*CASC **07** 20:54:13.1±2.0, 12.78N×88.94W, h36km±5km, MD4.2, ML4.0*
*INET **07** 20:54:14.0, 12.74N×88.87W, h15km, MD3.9, ML4.2*
ISC 07 20:54:12.3±0.6, 12.72N±0.05×88.96W±0.04, h52km±11km, n35, σ0°78/59, mb3.6/3, 9C-14D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.89**	**8**	*e*S	**S**	**20 54 40.3**	**-0.7**
LFRS	**El Faro**	**0.90**	**354**	*i*P	**P**	**20 54 28.1**	**-0.8**
LCBS	**La Ceiba**	**0.93**	**359**	*i*P	**P**	**20 54 28.4**	**-0.8**
VSM	**San Miguel**	**0.97**	**44**	*e*P	**P**	**20 54 29.2**	**-0.6**
VSM				*e*S	**S**	**20 54 43.6**	**+0.8**
SNET	**Serv Nac Est T**	**0.99**	**345⇑**	*e*P	**P**	**20 54 29.5**	**-0.7**
SNET				*e*S	**S**	**20 54 42.6**	**-0.9**
SNET				*i*		20 54 48.3	
	comp=Z,3μm,0.3s						
LBRS	**Las Brisas**	**1.01**	**355⇓**	*e*P	**P**	**20 54 29.9**	**-0.5**
LFU	**La Fuente**	**1.03**	**352⇓**	*e*P	**P**	**20 54 30.4**	**-0.3**
BOQS	**Boqueron**	**1.05**	**343⇓**	*e*P	**P**	**20 54 30.7**	**-0.3**
BOQS				*e*S	**S**	**20 54 45.3**	**+0.4**
CNCH	**Conchagua**	**1.23**	**63**	*e*P	**P**	**20 54 32.9**	**-0.5**
CNCH				*e*S	**S**	**20 54 49.2**	**0.0**
CAHU	**Cacacuatique**	**1.27**	**35⇑**	*e*P	**P**	**20 54 34.4**	**+0.3**
CAHU				*e*S	**S**	**20 54 51.2**	**+0.9**
SBLS	**San Blas**	**1.28**	**330⇓**	*e*P	**P**	**20 54 34.1**	**-0.1**
SBLS				*e*S	**S**	**20 54 51.2**	**+0.6**
SNJE	**San Jose**	**1.30**	**331**	*i*P	**P**	**20 54 34.3**	**-0.2**
SNJE				*e*S	**S**	**20 54 51.3**	**+0.3**
RTR	**El Retiro**	**1.34**	**330⇓**	*e*P	**P**	**20 54 35.2**	**0.0**
RTR				*e*S	**S**	**20 54 52.6**	**+0.4**
RBDL	**Robledal**	**1.55**	**333⇑**	*e*P	**P**	**20 54 38.3**	**+0.2**
MTO2	**Montecristo 2**	**1.71**	**347⇓**	*e*P	**P**	**20 54 40.2**	**-0.1**
CRIN	**San Cristobal**	**1.86**	**91⇑**	*e*P	**P**	**20 54 43.3**	**+0.9**
CRIN				*e*S	**S**	**20 55 06.3**	**+1.5**
LEON	**Leon**	**2.04**	**98⇑**	*e*P	**P**	**20 54 45.4**	**+0.4**
LEON				*e*S	**S**	**20 55 07.6**	**-1.6**
IXG	**Ixpaco**	**2.05**	**315⇑**	*e*P	**P**	**20 54 44.4**	**-0.6**
IXG				*e*S	**S**	**20 55 08.5**	**-0.8**
TEL3	**Telica 3**	**2.07**	**94⇑**	*e*P	**P**	**20 54 45.4**	**+0.1**
TEL3				*e*S	**S**	**20 55 10.7**	**+0.7**
TEL3				*i*		20 55 14.7	
	comp=Z,2μm,0.7s						
TELN	**Telica**	**2.08**	**93⇓**	*e*P	**P**	**20 54 45.5**	**0.0**
TELN				*e*S	**S**	**20 55 10.2**	**0.0**
CNGN	**Cerro Negro**	**2.22**	**96**	*e*P	**P**	**20 54 47.7**	**+0.2**
CNGN				*e*S	**S**	**20 55 13.8**	**0.0**
COPN	**Copaltepe**	**2.38**	**103⇑**	*e*P	**P**	**20 54 49.5**	**-0.2**
COPN				*e*S	**S**	**20 55 17.8**	**+0.1**
MOMJ	**Momotombo**	**2.38**	**97⇑**	*e*P	**P**	**20 54 49.8**	**-0.1**
MOMJ				*e*S	**S**	**20 55 20.0**	**+2.1**
APYN	**Apoyeque**	**2.60**	**101⇓**	*e*P	**P**	**20 54 53.2**	**+0.3**
APYN				*e*S	**S**	**20 55 23.3**	**0.0**
XAVN	**Gruta Xavier**	**2.64**	**102**	*e*P	**P**	**20 54 54.6**	**+1.2**
XAVN				*e*S	**S**	**20 55 23.6**	**-0.7**
MGAN	**Managua**	**2.71**	**102**	*e*P	**P**	**20 54 54.8**	**+0.3**
MGAN				*e*S	**S**	**20 55 26.1**	**-0.1**
TICN	**Ticuantepe**	**2.75**	**104⇓**	*e*P	**P**	**20 54 55.4**	**+0.3**
WILN	**Americas 2**	**2.77**	**101**	*e*P	**P**	**20 54 54.3**	**-1.0**
WILN				*e*S	**S**	**20 55 26.7**	**-0.9**
PYTN	**Playitas**	**2.84**	**93**	*e*P	**P**	**20 54 56.0**	**-0.3**
PYTN				*e*S	**S**	**20 55 28.7**	**-0.7**
TP2	**Tecpan 2**	**2.86**	**316⇓**	*e*P	**P**	**20 54 57.9**	**+1.3**
TP2				*e*S	**S**	**20 55 32.4**	**+2.4**
APON	**Apoyo**	**2.94**	**106**	*e*P	**P**	**20 54 58.7**	**+0.9**
APON				*e*S	**S**	**20 55 30.7**	**-1.3**
JTS	**JuntasAbangare**	**4.61**	**121**	Pn	**P**	**20 55 21.4**	**+0.1**
	comp=Z,3.7nm,0.3s,baz=309,slow=22,SNR=12						
JTS				Sn	**S**	**20 56 09.3**	**-4.9**
	comp=Z,11nm,0.3s,baz=285,slow=22,SNR=7.2						
JTS				Lg		20 56 32.0	
	baz=124,slow=14,SNR=11						
TXAR	**Lajitas Array**	**21.44**	**323**	P	**P**	**20 58 58.5**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.5,baz=151,slow=11,SNR=7.7						
PDAR	**Pinedale Array**	**34.85**	**333**	P	**P**	**21 01 00.8**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=127,slow=7.4,SNR=4.6						
YKA	**Yellowknife Ar**	**52.97**	**345**	P	**P**	**21 03 22.7**	**-2.8**
	comp=Z,0.6nm,0.4s,mb3.9,baz=142,slow=7.6,SNR=21						

IDC 07 20:55:21.1±1.9, 1.21N×98.23E, mb3.9/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, ML3.7/1, Error ellipse: s-maj=87.1km s-min=18.1km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.16**	**2**	P	P	20 59 23.8	-0.2
	0.1nm,0.3s,baz=190,slow=11,SNR=5.4						
FITZ	**Fitzroy Crossi**	**33.10**	**127**	P	P	21 01 58.6	-2.6
	3.7nm,0.8s,baz=9.1,slow=6.1,SNR=3.7						
WRA	**Warramunga Arr**	**41.17**	**123**	P	P	21 03 07.1	-2.1
	0.6nm,0.7s,baz=305,slow=8.8,SNR=4.6						
WRA				PcP	PcP	21 05 07.1	-2.1
	0.2nm,0.6s,baz=314,slow=2.6,SNR=5.6						
SONM	**Songino Array**	**46.98**	**8**	P	P	21 03 55.0	-0.8
	0.4nm,0.4s,baz=193,slow=8.9,SNR=4.0						
MKAR	**Makanchi Array**	**47.49**	**345**	P	P	21 03 57.9	-1.9
	1.5nm,0.5s,baz=162,slow=8.5,SNR=22						
STKA	**Stephens Creek**	**52.60**	**133**	P	P	21 04 37.7	-1.5
	1.4nm,1.1s,baz=307,slow=5.1,SNR=2.7						
BVAR	**Borovoye Array**	**56.58**	**340**	P	P	21 05 04.2	-3.7
	0.7nm,0.6s,baz=145,slow=8.2,SNR=6.7						

IDC 07 21:02:09.1±2.2, 25.21N×140.95E, h164km±22km, mb3.4/3, mb1 3.5/4, mb1mx3.1/22, mbtmp3.8/4, MS3.5/1, Ms1 3.5/1, ms1mx3.4/24, Error ellipse: s-maj=70.1km s-min=20.6km az=100.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.18**	**30**	P	P	21 02 48.8	+1.2
	11nm,0.3s,baz=98,slow=18,SNR=18						
CBIJ				S	S	21 03 16.7	-0.4
	26nm,0.3s,baz=273,slow=23,SNR=18						
CBIJ				LR	LR	21 03 17.6	
	comp=Z,903nm,18.4s,baz=291,slow=31						
WRA	**Warramunga Arr**	**45.34**	**189**	P	P	21 10 10.6	-2.0
	0.7nm,0.3s,baz=10,slow=8.7,SNR=45						
YKA	**Yellowknife Ar**	**74.32**	**28**	P	P	21 13 28.5	-1.2
	0.3nm,0.5s,baz=293,slow=5.7,SNR=6.2						
FINES	**FINESS Array B**	**79.14**	**334**	P	P	21 13 54.9	-1.6
	1.5nm,1.1s,baz=72,slow=6.0,SNR=5.3						

*IDC **07** 21:02:40.4±0

comp=E,576nm,23.2s,MS4.4
WMQ LR LR
comp=Z,712nm,19.9s,MS4.5
WRA Warramunga Arr 43.35 122 P **P** **21 10 45.2 +0.7**
comp=Z,2.5nm,0.7s,mb4.1,baz=302,slow=9.1,SNR=28
WRAB Tennant Creek 43.36 122 *eP* **P** **21 10 41.9 -2.7**
comp=Z,3.9nm,0.6s,mb4.3
WB2 Warramunga Arr 43.36 122 *eP* **P** **21 10 45.6 +1.0**
AAK Ala-Archa 44.64 337 *eP* **P** **21 10 54.6 -0.1**
comp=Z,4.1nm,1.1s,mb4.2
ASAR Alice Springs 44.75 127 P **P** **21 10 56.6 +0.9**
comp=Z,1.7nm,0.6s,mb4.0,baz=300,slow=7.9,SNR=24
ASAR PcP PcP 21 12 38.0 0.0
comp=Z,0.2nm,0.6s,baz=322,slow=3.8,SNR=4.4
MKAR Makanchi Array 45.96 347 P **P** **21 11 04.5 -0.6**
comp=Z,7.7nm,0.7s,mb4.8,baz=160,slow=7.9,SNR=80
SONM Songino Array 46.17 9 P **P** **21 11 06.7 0.0**
comp=Z,5.9nm,0.5s,mb4.8,baz=191,slow=9.4,SNR=42
SONM PcP PcP 21 12 42.9 +0.3
comp=Z,1.4nm,0.6s,baz=186,slow=3.1,SNR=4.8
ULN Ulaanbaatar 46.31 10 *eP* **P** **21 11 07.3 -0.5**
comp=Z,3.3nm,0.6s,mb4.4
KURK Kurchatov 50.50 345 *eP* **P** **21 11 39.5 -0.9**
comp=Z,8.1nm,1.1s,mb4.6
MDJ Mudanjiang 51.33 30 P **P** **21 11 46.9 +0.2**
MDJ AMB AMB
comp=Z,13nm,1.3s,mb4.7
MDJ AMB AMB
comp=Z,312nm,3.0s
PMG Port Moresby 51.95 104 P **P** **21 11 49.8 -1.9**
comp=Z,18nm,1.0s,mb5.0
ZAL Zalesovo 52.32 351 P **P** **21 11 53.7 -0.3**
comp=Z,6.3nm,0.5s,mb4.8,baz=317,slow=5.3,SNR=19
ZAL Zalesovo 52.32 351 P **P** **21 11 53.7 -0.3**
STKA Stephens Creek 54.74 132 P **P** **21 12 12.9 +0.8**
comp=Z,1.9nm,0.7s,mb4.2,baz=315,slow=13,SNR=4.7
STKA Stephens Creek 54.74 132 P **P** **21 12 12.2 +0.1**
BVAR Borovoye Array 54.92 341 P **P** **21 12 11.6 -1.5**
comp=Z,2.8nm,0.6s,mb4.4,baz=140,slow=9.0,SNR=23
KMBO Kilima Mbogo 59.17 267 P **P** **21 12 44.3 +0.5**
comp=Z,0.6nm,0.6s,mb3.8,baz=51,slow=13,SNR=4.2
KMBO Kilima Mbogo 59.17 267 *eP* **P** **21 12 43.1 -0.7**
comp=Z,0.9nm,0.7s,mb3.9
FINES FINESS Array B 78.62 333 P **P** **21 14 43.0 -0.2**
comp=Z,1.3nm,0.7s,mb4.0,baz=90,slow=5.7,SNR=5.8
SYO Syowa Base 80.79 198 ⇑sP sP 21 15 09.8 -1.3
ARCES ARCESS Array B 81.20 340 P **P** **21 14 57.2 +0.3**
comp=Z,3.7nm,0.8s,mb4.4,baz=93,slow=5.7,SNR=9.2
GERES GERESS Array B 83.41 319 P **P** **21 15 09.8 +1.1**
comp=Z,0.3nm,0.6s,mb3.5,baz=90,slow=4.0,SNR=3.8

*IDC **07** 21:03:25.2±2.0, 30.37N×83.53E, mb3.5/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, Error ellipse: s-maj=67.2km s-min=27.3km az=67.0*
*NDI **07** 21:03:36.7±5.2, 30.08N×83.62E, h10km, MD3.0, ML3.2*
ISC 07 21:03:26.7±0.9,**30.4N**±0.1×**84.00E**±0.06,**h10**km,**n13,** σ1§**16**/16,**mb3.4/5,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.38**	**257**	*eP*	**Pn**	**21 04 24.7**	**+4.0**
PTH				*eSB*	**Sb**	**21 05 08.0**	**+0.1**
LGTI	**Lohaghat**	**3.39**	**255**	*eP*	**Pn**	**21 04 28.0**	**+7.3**
LGTI				*eSB*	**Sb**	**21 05 14.3**	**+6.4**
JOSI	**Joshimath**	**3.84**	**274**	*eP*	**Pn**	**21 04 21.7**	**-5.6**
JOSI				*eSG*	**Sg**	**21 05 35.0**	**+0.3**
JOSI				AML	AML	21 05 36.9	
	comp=E,116nm,1.4s						
JOSI				AML	AML	21 05 37.9	
	comp=N,143nm,1.1s						
KALG	**Kalgarh**	**4.64**	**261**	*i* S	**Sn**	**21 05 26.9**	**-6.1**
DDI	**Dehra Dun**	**5.14**	**271**	*e*	**Pn**	**21 04 46.0**	**+0.4**
AYAN	**Aya Nagar**	**6.28**	**254**	*eP*	**Pn**	**21 05 05.6**	**+3.8**
SONA	**Sohna**	**6.40**	**253**	*eP*	**Pn**	**21 05 02.5**	**-0.9**
SONA				*e*		21 05 04.1	
SONA				*e*		21 05 30.2	
	comp=E,30nm,1.1s						
SONA				*e*		21 05 30.6	
	comp=N,18nm,0.8s						
MKAR	**Makanchi Array**	**16.46**	**356**	Pn	**P**	**21 07 19.9**	**+0.6**
	comp=N,0.3nm,0.3s,baz=168,slow=8.4,SNR=13						
ZAL	**Zalesovo**	**23.57**	**1**	P	**P**	**21 08 38.3**	**+0.3**
	comp=N,0.7nm,0.4s,mb3.4,baz=276,slow=8.2,SNR=3.0						
SONM	**Songino Array**	**24.48**	**38**	P	**P**	**21 08 48.6**	**+1.7**
	comp=N,0.5nm,0.8s,mb3.0,baz=231,slow=9.2,SNR=2.8						
BVAR	**Borovoye Array**	**24.74**	**340**	P	**P**	**21 08 47.2**	**-2.2**
	comp=N,0.3nm,0.4s,mb3.2,baz=152,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**69.60**	**129**	P	**P**	**21 14 38.7**	**+0.3**
	comp=N,0.5nm,0.5s,mb3.7,baz=324,slow=6.4,SNR=10						
YKA	**Yellowknife Ar**	**86.27**	**9**	P	**P**	**21 16 07.6**	**-1.7**
	comp=N,0.3nm,0.6s,mb3.7,baz=340,slow=5.0,SNR=7.3						

*IDC **07** 21:08:34.8±1.5, 30.21N×83.41E, mb3.8/8, mb1 4.0/9, mb1mx3.7/22, mbtmp3.8/9, Error ellipse: s-maj=51.2km s-min=21.5km az=54.0*
*BJI **07** 21:08:34.5, 29.95N×83.72E, h5km, mb3.9*
*NEIC **07** 21:08:36.2±0.4, 30.20N×83.40E, h10km, mb4.2/7, Error ellipse: s-maj=12.5km s-min=7.5km az=66.0*
*MOS **07** 21:08:37.8±1.4, 30.12N×83.25E, h33km, mb4.1/8, Error ellipse: s-maj=25.3km s-min=10.2km az=99.3*
*NDI **07** 21:08:43.5±3.8, 31.07N×82.90E, h10km, ML4.0, mb4.2(NEIC)*
ISC 07 21:08:35.3±0.4,**30.24N**±0.05×**83.53E**±0.04,**h10**km,**n53,** σ1§**39**/61,**mb4.0**/14,**1C,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**2.96**	**257**	*e*PG	**Pg**	**21 09 35.1**	**+0.6**
PTH				*e*SG	**Sg**	**21 10 14.8**	**+0.8**
LGTI	**Lohaghat**	**2.96**	**255**	*e*	**Pg**	**21 09 34.8**	**+0.3**
LGTI				*e*SG	**Sg**	**21 10 20.5**	**+6.5**
JOSI	**Joshimath**	**3.45**	**276**	*e*	**Pn**	**21 09 32.2**	**+2.0**
JOSI				*e*SG	**Sg**	**21 10 21.1**	**-9.1**
KALG	**Kalgarh**	**4.22**	**261**	*i* P	**Pn**	**21 09 43.9**	**+2.8**
KALG				*i* S	**Sn**	**21 10 29.0**	**-2.0**
KALG				*i*		21 10 52.5	
DDI	**Dehra Dun**	**4.74**	**272**	*e*	**Pn**	**21 09 55.0**	**+6.4**
SMLA	**Simla**	**5.55**	**281**	⇑*i* P	**Pn**	**21 09 55.4**	**-4.7**
SMLA				*i*		21 11 05.6	
NDI	**New Delhi**	**5.72**	**256**	*e*PN	**Pn**	**21 10 07.0**	**+4.5**
NDI				*e*SN	**Sn**	**21 11 07.0**	**-2.0**
AGRA	**Agra**	**5.75**	**240**	*e*	**Pn**	**21 10 03.8**	**+0.9**
AGRA				*e*S	**Sn**	**21 11 11.1**	**+1.3**
AGRA				*e*		21 11 53.1	
	comp=E,242nm,0.7s						
AGRA				*e*		21 11 54.2	
	comp=N,276nm,1.1s						
SDNR	**Sundarnagar**	**5.78**	**284**	*e*PB	**Pb**	**21 10 12.0**	**-4.1**
AYAN	**Aya Nagar**	**5.86**	**254**	*e*	**Pn**	**21 10 10.8**	**+6.3**
AYAN				*e*		21 10 10.9	
AYAN				*i* S	**Sn**	**21 11 07.3**	**-5.2**
AYAN				*e*SG	**Sg**	**21 11 50.5**	**0.0**
SONA	**Sohna**	**5.98**	**252**	*eP*	**Pn**	**21 10 10.1**	**+4.1**
SONA				*e*		21 11 49.6	
KHET	**Khetri**	**7.09**	**254**	*eP*	**Pn**	**21 10 24.3**	**+2.5**
KHET				*e*		21 11 48.7	
JASL	**Jaisalmer**	**11.58**	**257**	*eP*	**P**	**21 11 21.9**	**-2.0**
HYB	**Hyderabad**	**13.55**	**201**	*eP*	**P**	**21 11 49.0**	**-1.3**
HYB	**Hyderabad**	**13.55**	**201**	*i* P	**P**	**21 11 49.0**	**-1.3**
AAK	**Ala-Archa**	**14.33**	**332**	P	**P**	**21 11 59.9**	**-0.5**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AAK	**Ala-Archa**	**14.33**	**332**	P	**P**	**21 11 59.9**	**-0.5**
	comp=Z,3.9nm,1.0s						
GTA	**Gaotai**	**16.18**	**51**	*eP*	**P**	**21 12 26.3**	**+2.0**
GTA				XP		21 12 35.4	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s						
MKAR	**Makanchi Array**	**16.55**	**357**	Pn	**P**	**21 12 31.4**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**16.55**	**357**	Pn	**P**	**21 12 31.4**	**+2.4**
CM31	**Chiang Mai Arr**	**18.27**	**126**	*eP*	**P**	**21 12 51.3**	**+0.5**
	comp=Z,10nm,1.1s						
CMAR	**Chiang Mai Arr**	**18.27**	**126**	P	**P**	**21 12 51.6**	**+0.8**
	baz=309,slow=11,SNR=11						
KURK	**Kurchatov**	**20.78**	**351**	*eP*	**P**	**21 13 16.5**	**-2.5**
KURK				pmax	pmax		
	comp=Z,14nm,0.9s						
KURK	**Kurchatov**	**20.78**	**351**	*eP*	**P**	**21 13 16.5**	**-2.4**
	comp=Z,14nm,0.9s						
XAN	**Xi'an**	**21.81**	**73**	P	**P**	**21 13 26.4**	**-3.1**
XAN				AP		21 13 34.4	
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.0						
ZAL	**Zalesovo**	**23.70**	**2**	P	**P**	**21 13 48.8**	**+0.9**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**23.70**	**2**	P	**P**	**21 13 48.8**	**+0.9**
	comp=Z,1.3nm,0.5s,mb3.6,baz=318,slow=4.6,SNR=4.2						
BVAR	**Borovoye Array**	**24.71**	**341**	P	**P**	**21 13 57.6**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.3,baz=151,slow=9.9,SNR=4.3						
SONM	**Songino Array**	**24.83**	**39**	P	**P**	**21 14 00.0**	**+1.1**
	comp=Z,1.2nm,0.7s,mb3.5,baz=225,slow=8.9,SNR=5.1						
ULN	**Ulaanbaatar**	**25.20**	**39**	*eP*	**P**	**21 14 03.5**	**+1.0**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
ULN	**Ulaanbaatar**	**25.20**	**39**	*eP*	**P**	**21 14 03.5**	**+1.0**
	comp=Z,1.7nm,0.9s,mb3.6						
CHKZ	**Chkalovo**	**25.23**	**342**	*eP*	**P**	**21 14 02.4**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
CHKZ	**Chkalovo**	**25.23**	**342**	*eP*	**P**	**21 14 02.4**	**-0.2**
	comp=Z,1.6nm,0.7s,mb3.7						
ARU	**Arti**	**31.52**	**333**	P	**P**	**21 15 01.3**	**+1.8**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
ARU	**Arti**	**31.52**	**333**	P	**P**	**21 15 01.3**	**+1.9**
	comp=Z,6.1nm,0.8s,mb4.5						
YHNB	**Yeheng**	**33.93**	**90**	P	**P**	**21 15 19.4**	**-1.4**
DGAR	**Diego Garcia**	**38.92**	**198**	P	**P**	**21 15 59.2**	**-4.0**
DGAR				pmax	pmax		
	comp=Z,120nm,0.9s						
DGAR	**Diego Garcia**	**38.92**	**198**	P	**P**	**21 15 59.2**	**-4.0**
	comp=Z,120nm,0.9s						
FINES	**FINESS Array B**	**48.46**	**327**	P	**P**	**21 17 19.1**	**-0.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FINES	**FINESS Array B**	**48.46**	**327**	P	**P**	**21 17 19.1**	**-0.5**
	comp=Z,3.2nm,1.1s,mb4.3,baz=90,slow=4.2,SNR=5.1						
SUW	**Suwalki**	**48.91**	**317**	P	**P**	**21 17 21.0**	**-2.2**
SUW				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
SUW	**Suwalki**	**48.91**	**317**	P	**P**	**21 17 21.0**	**-2.2**
	comp=Z,9.9nm,0.7s,mb5.0						
ARCES	**ARCESS Array B**	**50.93**	**337**	P	**P**	**21 17 37.1**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**50.93**	**337**	P	**P**	**21 17 37.1**	**-1.4**
	comp=Z,3.5nm,0.9s,mb4.3,baz=107,slow=9.4,SNR=3.6						
ARE0	**ARCESS Array S**	**50.93**	**337**	P	**P**	**21 17 38.4**	**-0.1**
WRA	**Warramunga Arr**	**69.84**	**129**	P	**P**	**21 19 47.8**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**69.84**	**129**	P	**P**	**21 19 47.8**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.7,baz=323,slow=6.2,SNR=6.9						
SUMG	**Summit**	**70.14**	**344**	P	**P**	**21 19 48.0**	**-1.4**
	comp=Z,3.5nm,0.9s,mb4.3						
ILAR	**Eielson Array**	**77.50**	**20**	P	**P**	**21 20 32.0**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**77.50**	**20**	P	**P**	**21 20 32.0**	**-0.2**
	comp=Z,0.7nm,0.9s,mb3.6,baz=309,slow=4.1,SNR=5.6						
YKA	**Yellowknife Ar**	**86.44**	**8**	P	**P**	**21 21 18.4**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**86.44**	**8**	P	**P**	**21 21 18.4**	**-0.4**
	comp=Z,0.7nm,0.7s,mb4.0,baz=337,slow=4.9,SNR=14						
YKA	**Yellowknife Ar**	**86.44**	**8**	P	**P**	**21 21 18.4**	**-0.4**

IDC 07 21:11:49.0±3.2,**2.30N×98.79E,mb3.5**/4,**mb1 3.8**/5, **mb1mx3.5**/19,**mbtmp3.6**/5,**Error ellipse: s-maj=122.0km s-min=26.6km az=59.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.06**	**1**	Pn	P	21 15 37.5	-0.5
	baz=191,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**41.29**	**124**	P	P	21 19 36.5	-1.5
	0.4nm,0.5s,baz=301,slow=9.2,SNR=9.0						
SONM	**Songino Array**	**45.84**	**7**	P	P	21 20 11.8	-2.7
	0.2nm,0.6s,baz=190,slow=8.8,SNR=3.6						
MKAR	**Makanchi Array**	**46.59**	**344**	P	P	21 20 17.9	-2.6
	0.7nm,0.9s,baz=135,slow=6.1,SNR=3.6						
ZAL	**Zalesovo**	**52.74**	**350**	P	P	21 21 06.7	-1.0
	0.7nm,0.5s,baz=300,slow=3.3,SNR=3.2						

*IDC **07** 21:21:43.5±2.5, 30.22N×83.29E, mb3.6/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=82.0km s-min=26.6km az=70.0*
*NDI **07** 21:21:44.6±1.2, 30.99N×83.35E, h10km, MD3.1*
ISC 07 21:21:44.7±0.7,**30.17N**±0.09×**83.59E**±0.06,**h10**km,**n10,** σ1§**15**/12,**mb3.6**/4,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**2.99**	**257**	*e*PG	**Pg**	**21 22 46.3**	**+1.8**
LGTI				*e*SG	**Sg**	**21 23 32.5**	**+8.1**
PTH	**Pithoragarh**	**3.00**	**259**	*e*PG	**Pg**	**21 22 43.1**	**-1.4**
PTH				*e*SG	**Sg**	**21 23 25.4**	**+1.0**
NDI	**New Delhi**	**5.75**	**257**	*e*PG	**Pg**	**21 23 36.6**	**-3.0**
NDI				*e*		21 24 36.0	
HYB	**Hyderabad**	**13.50**	**201**	*eP*	**P**	**21 24 58.0**	**-1.0**
MKAR	**Makanchi Array**	**16.63**	**357**	Pn	**P**	**21 25 40.0**	**+0.6**
	0.1nm,0.3s,baz=180,slow=12,SNR=8.4						
CMAR	**Chiang Mai Arr**	**18.19**	**126**	P	**P**	**21 26 00.5**	**+1.3**
	0.1nm,0.3s,baz=302,slow=10,SNR=4.9						
ZAL	**Zalesovo**	**23.77**	**2**	P	**P**	**21 26 57.3**	**-0.6**
	1.3nm,0.5s,mb3.6,baz=298,slow=12,SNR=5.0						
SONM	**Songino Array**	**24.86**	**38**	P	**P**	**21 27 09.0**	**+0.5**
	0.5nm,0.7s,mb3.2,baz=220,slow=9.6,SNR=4.0						
WRA	**Warramunga Arr**	**69.76**	**129**	P	**P**	**21 32 57.2**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=323,slow=6.4,SNR=12						
YKA	**Yellowknife Ar**	**86.51**	**8**	P	**P**	**21 34 27.6**	**-0.9**
	0.5nm,0.6s,mb3.9,baz=340,slow=5.0,SNR=10						

IDC 07 21:28:07.9±1.7,**2.83N×126.49E,mb3.8**/5,**mb1 4.0**/5, **mb1mx3.7**/19,**mbtmp3.8**/5,**MS4.3**/1,**Ms1 4.2**/1, **ms1mx3.5**/34,**Error ellipse: s-maj=104.6km s-min=23.9km az=68.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.82**	**182**	P	P	21 32 52.3	-1.4
	2.9nm,0.5s,baz=24,slow=7.8,SNR=7.0						
WRA	**Warramunga Arr**	**23.91**	**162**	P	P	21 33 22.9	-1.6
	1.4nm,0.6s,baz=338,slow=11,SNR=18						
ASAR	**Alice Springs**	**27.31**	**165**	P	P	21 33 55.1	-1.4
	0.2nm,0.3s,baz=350,slow=7.2,SNR=6.9						
STKA	**Stephens Creek**	**37.38**	**159**	P	P	21 35 22.4	-2.0
	1.5nm,0.7s,baz=336,slow=12,SNR=4.8						
STKA				LR	LR	21 51 45.4	
	comp=Z,394nm,18.6s,baz=130,slow=38						
MKAR	**Makanchi Array**	**58.15**	**326**	P	P	21 38 03.3	-2.6
	0.5nm,0.6s,baz=129,slow=7.8,SNR=5.0						

IDC 07 21:31:50.3±14.0,**6.01S×128.58E,h334**km±180km, **mb3.1**/1,**mb1 3.2**/4,**mb1mx3.0**/15,**mbtmp3.9**/4,**Error ellipse: s-maj=73.0km s-min=70.4km az=107.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.36**	**193**	P	P	21 34 36.2	-1.6
	0.7nm,0.3s,baz=20,slow=10.0,SNR=11						
FITZ				S	S	21 36 53.4	+3.1
	0.3nm,0.3s,baz=191,slow=19,SNR=3.4						
WRA	**Warramunga Arr**	**14.94**	**159**	P	P	21 35 04.6	-3.0
	0.3nm,0.3s,baz=333,slow=12,SNR=7.4						
WRA				S	S	21 37 34.3	-11
	baz=312,slow=19,SNR=2.8						
ASAR	**Alice Springs**	**18.29**	**164**	P	P	21 35 41.4	-1.2
	0.5nm,0.3s,baz=345,slow=11,SNR=13						
MKAR	**Makanchi Array**	**66.63**	**327**	P	P	21 42 05.7	-1.5
	0.4nm,0.3s,baz=117,slow=8.6,SNR=10						

*CSEM **07** 21:36:24.1, 12.42N×45.92E, h9km, ML2.8, After DHMR*
DHMR 07 21:36:24.1±0.6,**12.42N×45.92E,h9**km±12km,**mb5.0, ML2.8,1D,Western Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.98**	**291**	⇓*i* P	Pb	21 36 42.1	-0.7
BDHA	**Al Bayda'**	**1.58**	**348**	*i* P	Pn	21 36 52.7	+0.2
BDHA				*i* S	Sb	21 37 15.2	+2.1
BDHA				AMP		21 37 15.9	
	comp=E,130nm,0.3s						
BDHA	**Al Bayda'**	**1.58**	**348**	*i* P	Pn	21 36 52.7	+0.2
BDHA				*i* S	Sb	21 37 15.2	+2.1
	comp=E,65nm,0.3s						
LBOS		**1.58**	**336**	*i* P	Pn	21 36 53.2	+0.7
LBOS				*i* S	Sb	21 37 15.7	+2.6
TRBA	**At Turbah**	**1.94**	**295**	*i* P	Pn	21 36 58.6	+1.1
TRBA				*i* S	Sn	21 37 25.1	+3.0

IDC 07 21:39:41.8±3.8,**30.34N×83.46E,mb3.5**/3,**mb1 3.7**/4, **mb1mx3.4**/21,**mbtmp3.4**/4,**ML3.4**/1,**Error ellipse: s-maj=93.0km s-min=38.6km az=61.0,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.46**	**357**	Pn	P	21 43 37.5	+1.8
	0.1nm,0.3s,baz=174,slow=12,SNR=4.9						
CMAR	**Chiang Mai Arr**	**18.38**	**127**	P	P	21 43 58.6	-1.3
	0.1nm,0.3s,baz=309,slow=11,SNR=4.0						
ZAL	**Zalesovo**	**23.61**	**2**	P	P	21 44 55.1	+0.1
	1.1nm,0.5s,baz=288,slow=5.6,SNR=4.0						
SONM	**Songino Array**	**24.80**	**39**	P	P	21 45 05.3	-1.3
	0.3nm,0.7s,baz=225,slow=10,SNR=2.5						
YKA	**Yellowknife Ar**	**86.36**	**8**	P	P	21 52 25.1	-1.5
	0.1nm,0.3s,baz=344,slow=5.1,SNR=5.0						

*IDC **07** 21:41:34.9±0.4, 30.49N×83.80E, mb4.7/30, mb1 4.8/32, mb1mx4.8/34, mbtmp4.7/32, ML4.2/2, MS4.7/1, Ms1 4.7/1, ms1mx4.0/24, Error ellipse: s-maj=14.3km s-min=9.9km az=36.0*
*BJI **07** 21:41:34.7, 30.34N×83.55E, h23km, mB5.3, mb4.9, Ms5.3, Msz5.0*
*LDG **07** 21:41:34.5±0.1, 30.47N×83.36E, h10km, Mb4.9/24, Ms4.4/5, Error ellipse: s-maj=7.3km s-min=5.6km az=43.0*
*HRVD **07** 21:41:36.6±0.5, 30.54N×83.72E, h19km±1km, MW5.4/57, Centroid moment Tensor Solution. LP body waves: s11,c13;Mantle waves: s57,c97; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.49±.17; $M_{\theta\theta}$0.17±.09; $M_{\phi\phi}$1.31±.10; $M_{r\theta}$0.96±.23; $M_{\phi\phi}$-0.11±.05; $M_{\theta r}$-0.56±.15; Best double couple: $M_0$1.748×10^{17} NP1: ϕ_s189°, δ34°, λ-54°. NP2:ϕ_s328°, δ63°, λ-112°. Principal axes: T 1.499, Plg15°, Azm74°; N .492, Plg19°, Azm338°; P -1.996, Plg65°, Azm199°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 21:41:36.6±0.1, 30.59N×83.68E, h10km, mb5.0/70, MS4.8/2 Error ellipse: s-maj=5.4km s-min=3.3km az=47.0*
*NDI **07** 21:41:37.9±6.5, 30.50N×83.80E, h10km, ML4.7, mb5.0(NEIC)*
*MOS **07** 21:41:38.2±1.3, 30.54N×83.64E, h33km, mb5.0/66, MS4.7/18, Error ellipse: s-maj=7.4km s-min=4.0km az=124.5*
*DMN **07** 21:41:39.7±0.8, 30.22N×83.79E, h10km, Ml5.1/5, Error ellipse: s-maj=20.5km s-min=15.6km az=50.0*
ISC 07 21:41:34.6±0.1,**30.51N**±0.02×**83.72E**±0.02,**h10**km, (**h28**km±3.4**km:pP-P**),**n375,** σ1§**20**/380,**mb4.8**/106, **MS4.8**/28,**23C-17D,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**2.62**	**162**	*e*Pn	**Pb**	**21 42 22.8**	**+1.5**
GKN	**Gorkha**	**2.62**	**162**	*e*Sn	**Sb**	**21 42 55.0**	**+1.4**
	6μm,0.7s						
KOLN	**Koldanda**	**2.73**	**182**	*e*Pn	**Pb**	**21 42 24.0**	**+0.9**
KOLN	**Koldanda**	**2.73**	**182**	*e*Sn	**Sb**	**21 42 57.5**	**+0.7**
	11μm,1.0s						
KKN	**Kakani**	**3.03**	**153**	*e*Pn	**Pb**	**21 42 28.1**	**-0.2**
KKN	**Kakani**	**3.03**	**153**	*e*Sn	**Sb**	**21 43 04.6**	**-1.0**
	4μm,1.0s						
DMN	**Daman**	**3.13**	**157**	*e*Pn	**Pb**	**21 42 29.8**	**-0.3**
DMN	**Daman**	**3.13**	**157**	*e*Sn	**Sb**	**21 43 06.7**	**-1.8**
	3μm,0.7s						
PTH	**Pithoragarh**	**3.18**	**253**	*e*P	**Pb**	**21 42 31.6**	**+0.7**
PTH				*e*SB	**Sb**	**21 43 16.5**	**+6.6**
VLK	**Valmikinagar**	**3.18**	**178**	*i* P	**Pn**	**21 42 29.0**	**+3.2**
VLK				*i*		21 42 49.0	
LGTI	**Lohaghat**	**3.19**	**252**	*e*P	**Pb**	**21 42 33.0**	**+2.0**
LGTI				*e*SB	**Sg**	**21 43 21.5**	**+0.6**
PKI	**Pulchoki**	**3.28**	**153**	*e*Pn	**Pn**	**21 42 31.4**	**+4.3**
PKI	**Pulchoki**	**3.28**	**153**	*e*Sn	**Sn**	**21 43 10.1**	**+3.5**
	5μm,1.1s						
JOSI	**Joshimath**	**3.59**	**272**	*e*	**Pn**	**21 42 31.9**	**+0.3**
DDI	**Dehra Dun**	**4.89**	**269**	*e*P	**Pn**	**21 42 53.6**	**+3.5**
DDI				*e*		21 44 44.0	
ALBI	**Allahabad**	**5.45**	**199**	*e*P	**Pn**	**21 42 57.0**	**-0.9**
SMLA	**Simla**	**5.67**	**278**	⇑*i*	**Pn**	**21 42 54.2**	**-6.8**
SMLA				*i*		21 43 59.1	
SDNR	**Sundarnagar**	**5.88**	**281**	*e*P	**Pn**	**21 43 05.0**	**+1.1**
SDNR				*e*SG	**Sg**	**21 44 54.0**	**+3.7**
NDI	**New Delhi**	**5.94**	**254**	*e*P	**Pn**	**21 43 06.0**	**+1.1**
NDI				*e*		21 43 25.0	
NDI				*e*		21 43 56.0	
NDI				*e*SG	**Sg**	**21 44 53.0**	**+0.5**
AGRA	**Agra**	**6.02**	**239**	*e*P	**Pn**	**21 43 06.0**	**0.0**
AGRA				*i* P		21 43 07.5	
AGRA				*i*		21 44 14.7	
AGRA				*e*		21 44 59.6	
	comp=N,3μm,1.2s						
AGRA				*e*		21 45 02.6	
	comp=E,7μm,1.0s						
AYAN	**Aya Nagar**	**6.09**	**252**	*i* P	**Pn**

comp=Z,569nm,5.4s
WMQ LR LR
comp=N,1μm,24.0s
WMQ LR LR
comp=E,5μm,23.1s
WMQ LR LR
comp=Z,1μm,16.0s
LATR Latur 13.68 210 *e*P **P 21 44 49.2 -2.0**
UCH Uchtor 13.84 330 P **P 21 44 53.0 -0.1**
SNR=30
HYB Hyderabad 13.86 201⇓*e*P **P 21 44 49.0 -4.5**
HYB pmax pmax
comp=Z,254nm,0.8s
HYB Hyderabad 13.86 201⇓*i*P **P 21 44 49.0 -4.5**
comp=Z,254nm,0.8s
HYB *e* 21 47 08.0
HYB *e*S **S 21 47 30.0 +1.6**
HYB LR LR
comp=Z,9.1nm,12.0s
TKM2 Tokmak 2 13.99 335 P **P 21 44 56.8 +1.7**
SNR=16
KBK Karagaybulak 14.01 332 P **P 21 44 55.0 -0.5**
SNR=8.6
AML Almayashu 14.12 328 P **P 21 44 55.9 -1.0**
SNR=18
AAK Ala-Archa 14.18 331 *e*P **P 21 44 56.2 -1.4**
AAK pmax pmax
comp=Z,94nm,1.3s
AAK Ala-Archa 14.18 331 *e*P **P 21 44 56.2 -1.4**
comp=Z,94nm,1.3s
FRU Bishkek 14.29 332 *e*P **P 21 45 02.0 +2.9**
CHMS Chumysh 14.38 333 P **P 21 45 00.7 +0.5**
SNR=6.9
EKS2 Erkin-Say 14.51 329 P **P 21 45 03.9 +1.9**
SNR=37
USP Ospenovka 14.70 333 P **P 21 45 11.6 +7.1**
SNR=6.9
POO Poona 14.91 219⇓*i* **P 21 45 03.0 -4.4**
POO *i* 21 47 37.0
BOM Bombay 15.21 223 *e* **P 21 45 07.9 -3.4**
BOM *e* 21 47 44.4
KAD Karad 15.76 216 *e* **P 21 45 15.6 -2.7**
KAD *e* 21 48 02.7
GTA Gaotai 15.89 52⇑*i*P **P 21 45 25.0 +5.0**
GTA PP PP 21 45 38.2 +5.3
GTA AMB AMB
comp=Z,34nm,0.9s
GTA AMB AMB
comp=Z,505nm,4.6s
GTA LR LR
comp=N,8μm,14.1s
GTA LR LR
comp=E,5μm,9.9s
GTA LR LR
comp=Z,4μm,11.0s
MKAR Makanchi Array 16.30 357 Pn **P 21 45 23.7 -1.4**
comp=Z,1.5nm,0.3s,baz=174,slow=12,SNR=40
MKAR PcP PcP 21 50 18.9 -0.9
comp=Z,0.1nm,0.3s,baz=56,slow=4.4,SNR=4.1
CD2 Chengdu 17.24 84 P **P 21 45 37.4 +0.2**
CD2 S **S 21 48 51.4 +3.8**
CD2 AMB AMB
comp=Z,80nm,1.4s
CD2 AMB AMB
comp=Z,900nm,9.3s
CD2 LR LR
comp=N,5μm,11.8s
CD2 LR LR
comp=Z,4μm,6.3s
KMI Kunming 17.66 103 P **P 21 45 42.2 -0.1**
KMI AP 21 45 45.1
KMI PP PP 21 45 58.1 +1.1
KMI AMB AMB
comp=Z,15nm,0.9s
KMI AMB AMB
comp=Z,267nm,3.1s
KMI LR LR
comp=N,6μm,18.1s
KMI LR LR
comp=E,4μm,9.6s
KMI LR LR
comp=Z,4μm,21.3s
KMI Kunming 17.66 103 P **P 21 45 42.2 -0.1**
KMI S **S 21 49 02.0 +5.0**
KMI pmax pmax
comp=Z,15nm,0.9s
KMI Kunming 17.66 103 P **P 21 45 42.2 -0.1**
comp=Z,15nm,0.9s
KMI pP 21 45 45.1
KMI sP 21 45 47.2
KMI PP PP 21 45 58.1 +1.1
KMI S **S 21 49 02.0 +5.0**
KMI sS 21 49 07.0
KMI SS SS 21 49 23.7 +4.3
LZH Lanzhou 17.71 66⇑P **P 21 45 45.4 +2.4**
LZH AP 21 45 55.8
LZH XP 21 45 58.0
LZH PP PP 21 46 03.1 +5.4
LZH S **S 21 49 03.0 +4.8**
LZH XS 21 49 15.0
LZH SS SS 21 49 26.0 +5.3
LZH AMB AMB
comp=Z,90nm,1.0s
LZH AMB AMB
comp=Z,790nm,4.5s
LZH LR LR
comp=N,6μm,7.3s
LZH LR LR
comp=Z,9μm,10.4s
LZH Lanzhou 17.71 66⇑P **P 21 45 45.4 +2.4**
LZH S **S 21 49 03.0 +4.8**
LZH pmax pmax
comp=Z,90nm,1.0s
LZH Lanzhou 17.71 66⇑P **P 21 45 45.4 +2.4**
comp=Z,90nm,1.0s
LZH pP 21 45 55.8
LZH sP 21 45 58.0
LZH PP PP 21 46 03.1 +5.4
LZH S **S 21 49 03.0 +4.8**
LZH sS 21 49 15.0
LZH SS SS 21 49 26.0 +5.3
CHG Chiang Mai 18.06 127⇑P **P 21 45 46.7 -0.7**
comp=Z,48nm,1.1s
CM31 Chiang Mai Arr 18.30 127 *e*P **P 21 45 49.5 -1.0**
comp=Z,53nm,0.9s
CMAR Chiang Mai Arr 18.30 127 P **P 21 45 49.8 -0.7**
comp=Z,0.2nm,0.3s,baz=318,slow=12,SNR=46
CMAR PcP PcP 21 50 22.8 -0.4
comp=Z,0.1nm,0.3s,baz=300,slow=3.4,SNR=7.8
CMAR ScP 21 53 58.5
comp=Z,0.1nm,0.3s,baz=295,slow=2.5,SNR=4.2
BDT Bhumibol Dam 19.20 130 P **P 21 46 00.0 -1.3**
NANT Nan 19.31 123 P **P 21 46 02.0 -0.6**
comp=Z,162nm,0.9s
KURK Kurchatov 20.55 351 *e*P **P 21 46 13.7 -2.1**
KURK pmax pmax
comp=Z,147nm,0.9s
KURK Kurchatov 20.55 351 *e*P **P 21 46 13.7 -2.2**
comp=Z,147nm,0.9s
GYA Guiyang 20.56 96⇑*i*P **P 21 46 16.1 -0.1**
GYA AP 21 46 25.8
GYA XP 21 46 29.0
GYA S **S 21 50 03.3 +2.3**
GYA AMB AMB
comp=Z,40nm,1.0s
GYA AMB AMB
comp=Z,540nm,6.0s
GYA LR LR
comp=N,6μm,13.5s,MS5.2
GYA LR LR
comp=E,2μm,10.2s,MS5.2
GYA LR LR
comp=Z,3μm,9.9s
XAN Xi'an 21.58 74 P **P 21 46 25.9 -0.6**
XAN AP 21 46 36.1
XAN S **S 21 50 16.5 -4.1**
XAN AMB AMB
comp=Z,85nm,1.1s,mb5.1
XAN LR LR
comp=N,2μm,9.0s
XAN LR LR
comp=E,2μm,9.0s
XAN LR LR
comp=Z,3μm,11.5s,MS4.9
KKTK Khon Kaen 22.45 125 P **P 21 46 36.5 +1.2**
comp=Z,1μm,0.5s
NNT Nongplab 23.18 137 P **P 21 46 45.8 +3.3**
PALK Pallekele 23.29 188 *e*P **P 21 46 45.6 +2.1**
comp=Z,67nm,1.0s,mb5.0
ZAL Zalesovo 23.43 2 P **P 21 46 45.8 +1.3**
ZAL pmax pmax
comp=Z,17nm,0.7s
ZAL Zalesovo 23.43 2 P **P 21 46 45.8 +1.2**
comp=Z,17nm,0.7s,mb4.6,baz=282,slow=12,SNR=55
BTO Baotou 23.58 58 *e*P **P 21 46 47.1 +1.0**
BTO LR LR
comp=N,1μm,8.5s
BTO LR LR
comp=E,2μm,7.9s
BVA0 Borovoye Array 24.52 340 P **P 21 46 55.9 +0.7**
BVA0 pmax pmax
comp=Z,6.0nm,1.4s,mb3.9
BVAR Borovoye Array 24.52 340 P **P 21 46 56.0 +0.8**
comp=Z,9.5nm,0.7s,mb4.4,baz=142,slow=9.4,SNR=54
BVAR PcP PcP 21 50 34.2 -0.6
comp=Z,3.1nm,0.7s,baz=166,slow=6.1,SNR=4.8
SONM Songino Array 24.52 39 P **P 21 46 57.2 +1.9**
comp=Z,16nm,0.7s,mb4.7,baz=227,slow=10,SNR=115
SONM PcP PcP 21 50 34.8 -0.1
comp=Z,3.2nm,0.8s,baz=213,slow=3.1,SNR=5.6
SONM ScP 21 54 12.2
comp=Z,1.2nm,0.9s,baz=270,slow=1.2,SNR=4.4
ZAK Zakamensk 24.68 31⇓*i*P **P 21 46 58.7 +1.9**
ZAK *e* 21 50 34.6
ZAK pmax pmax
comp=Z,13nm,1.0s,mb4.4
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.0
MOY Mondy 24.71 26 *e*P **P 21 46 52.9 -4.1**
MOY pmax pmax
comp=Z,57nm,4.8s
HHC Hu-ho-hao-te 24.77 58 *e*P **P 21 46 59.0 +1.3**
HHC AP 21 47 03.9
HHC XP 21 47 06.8
HHC AMB AMB
comp=Z,31nm,1.4s,mb4.7
HHC LR LR
comp=N,2μm,12.7s,MS5.1
HHC LR LR
comp=E,3μm,10.8s,MS5.1
HHC LR LR
comp=Z,3μm,11.4s,MS5.0
ULN Ulaanbaatar 24.90 39 *e*P **P 21 47 00.0 +1.1**
ULN pmax pmax
comp=Z,60nm,1.0s,mb5.1
ULN Ulaanbaatar 24.90 39 *e*P **P 21 46 60.0 +1.1**
comp=Z,60nm,1.0s,mb5.1
CHKZ Chkalovo 25.03 341 P **P 21 47 00.3 +0.2**
CHKZ pmax pmax
comp=Z,33nm,1.1s,mb4.8
CHKZ Chkalovo 25.03 341 *e*P **P 21 47 00.3 +0.2**
comp=Z,36nm,1.0s,mb4.9
TLY Talaya 25.79 29 *e*P **P 21 47 09.7 +2.5**
TLY *e* 21 47 43.1
TLY pmax pmax
comp=Z,12nm,1.2s,mb4.3
TLY MLR MLR
comp=Z,1μm,20.0s,MS4.4
QIZ Qiongzhong 26.27 110 *e*P **P 21 47 12.9 +0.9**
QIZ S **S 21 51 45.4 +3.2**
QIZ XS 21 51 53.7
QIZ AMB AMB
comp=Z,539nm,11.9s
QIZ LR LR
comp=N,2μm,21.9s,MS4.6
QIZ LR LR
comp=E,1μm,21.9s,MS4.6
QIZ LR LR
comp=Z,2μm,13.5s
IRK Irkutsk 26.46 29 *e*P **P 21 47 13.7 +0.2**
IRK pmax pmax
comp=Z,45nm,2.0s,mb4.7
GZH Guangzhou 27.40 98 P **P 21 47 19.0 -3.4**
GZH LR LR
comp=N,2μm,9.2s
GZH LR LR
comp=E,1μm,13.1s
GZH LR LR
comp=Z,3μm,11.7s,MS5.1
BJI Beijing 28.02 61 *e*P **P 21 47 29.3 +1.5**
BJI XP sP 21 47 38.0 +5.9
BJI PCP PcP 21 50 42.9 -0.1
BJI S **S 21 52 18.3 +7.7**
BJI AMB AMB
comp=Z,21nm,1.0s,mb4.7
BJI LR LR
comp=N,2μm,8.6s
BJI LR LR
comp=E,2μm,8.6s
BJI LR LR
comp=Z,2μm,17.9s,MS4.6
BJI Beijing 28.02 61 *e*P **P 21 47 29.3 +1.5**
comp=Z,21nm,1.0s,mb4.7
BJI sP sP 21 47 38.0 +5.9
BJI PcP PcP 21 50 42.9 -0.1
BJI S **S 21 52 18.3 +7.7**
BJI LR LR
comp=Z,2μm,17.9s,MS4.6
TIA Tai'an 28.39 69 P **P 21 47 34.7 +3.6**
TIA LR LR
comp=E,1μm,8.0s
TIA LR LR
comp=E,1μm,8.8s
KULM Kulim 29.72 144 *e*P **P 21 47 43.9 +0.5**
NJ2 Nanjing 29.99 78 *e*P **P 21 47 44.4 -1.2**
NJ2 AP pP 21 47 53.4 +4.8
NJ2 XP sP 21 47 57.1 +7.2
NJ2 PP PP 21 48 42.6 -0.8
NJ2 S **S 21 52 38.0 -4.2**
NJ2 XS 21 52 54.0
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.1
NJ2 AMB AMB
comp=Z,264nm,4.3s
NJ2 LR LR
comp=N,4μm,13.2s,MS5.2
NJ2 LR LR
comp=E,870nm,17.1s,MS5.2
NJ2 LR LR
comp=Z,7μm,16.6s,MS5.3
SVE Sverdlovsk 30.86 335 *e*P **P 21 47 54.0 +1.0**
SVE MLR MLR
comp=N,1μm,14.0s,MS4.7
SVE MLR MLR
comp=E,400nm,14.0s,MS4.7
SVE MLR MLR
comp=Z,2μm,14.0s,MS4.9
QZH Quanzhou 31.28 92 *e*P **P 21 47 53.7 -3.4**
QZH LR LR
comp=N,1μm,8.1s
QZH LR LR
comp=E,3μm,9.0s
QZH LR LR
comp=Z,4μm,22.2s,MS5.0
ARU Arti 31.35 333⇓*i*P **P 21 47 56.6 -0.7**
ARU *e* 21 48 56.4
ARU *e* 21 50 49.3
ARU *e*S **S 21 53 02.5 -0.8**
ARU *e*SS SS 21 54 48.4 -1.7
ARU *i* 21 58 32.2
ARU pmax pmax
comp=Z,18nm,0.8s,mb5.0
ARU Arti 31.35 333 P **P 21 47 55.3 -2.0**
DL2 Dalian 32.09 64 P **P 21 48 04.9 +0.9**
DL2 *e*S **S 21 53 15.5 +0.5**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
DL2 LR LR
comp=N,810nm,11.8s,MS4.9
DL2 LR LR
comp=E,1μm,12.2s,MS4.9
DL2 LR LR
comp=Z,1μm,12.0s,MS4.9
SSE Sheshan 32.09 79 P **P 21 48 01.0 -3.1**
SSE PP PP 21 49 12.4 +1.7
SSE PCP PcP 21 50 51.6 -2.0
SSE S **S 21 53 11.2 -3.9**
SSE AMB AMB
comp=Z,24nm,0.6s,mb5.2
SSE AMB AMB
comp=Z,60nm,4.8s
SSE LR LR
comp=N,1μm,19.0s,MS4.7
SSE LR LR
comp=E,425nm,19.3s,MS4.7
SSE LR LR
comp=Z,695nm,16.1s,MS4.4
SSE Sheshan 32.09 79 P **P 21 48 01.0 -3.1**
comp=Z,24nm,0.6s,mb5.2
SSE sP sP 21 48 09.6 +1.3
SSE PP PP 21 49 12.4 +1.7
SSE PcP PcP 21 50 51.6 -2.0
SSE S **S 21 53 11.2 -3.9**
SSE sS 21 53 21.4
SSE LR LR
comp=Z,700nm,16.1s,MS4.4
GNI Garni 33.00 298 *e*P **P 21 48 10.9 -1.0**
GNI pmax pmax
comp=Z,27nm,1.3s
GNI Garni 33.00 298 P **P 21 48 13.7 +1.8**
comp=Z,5.7nm,0.8s,mb4.6,baz=5.7,slow=9.2,SNR=3.5
GNI Garni 33.00 298 *e*P **P 21 48 10.9 -1.0**
comp=Z,27nm,1.3s,mb5.0
SNY Shenyang 33.83 59⇓P **P 21 48 19.4 +0.3**
SNY AP pP 21 48 25.3 +3.2
SNY XP sP 21 48 28.1 +4.8
SNY AMB AMB
comp=Z,20nm,0.8s,mb5.1
SNY AMB AMB
comp=Z,320nm,12.3s
SNY LR LR
comp=N,1μm,9.4s
SNY LR LR
comp=Z,2μm,10.3s,MS5.1
BOD Bodaibo 34.36 29 *e*P **P 21 48 23.7 +0.2**
BOD pmax pmax
comp=Z,7.0nm,2.0s,mb4.2
GOF Gofitskoye 34.90 306⇓*i*P **P 21 48 29.7 +1.5**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.2
GOF MLR MLR
comp=Z,2μm,18.0s,MS4.9
KIV Kislovodsk 34.96 304 *e*P **P 21 48 29.2 +0.4**
KIV pmax pmax
comp=Z,23nm,0.8s,mb5.2
KIV Kislovodsk 34.96 304 *e*P **P 21 48 29.2 +0.4**
comp=Z,24nm,0.8s,mb5.2
INCN Inchon 36.01 67 *e*P **P 21 48 37.4 -0.4**
comp=Z,33nm,0.8s,mb5.3
SOC Sochi 37.05 303 *e*P **P 21 48 45.7 -0.7**
SOC *e*PPP PPP 21 50 25.4 -7.6
SOC *e* 21 51 06.2
SOC *e*S **S 21 54 26.6 -5.1**
SOC *e*SS SS 21 57 03.5 +2.6
SOC *e* 21 58 51.3
SOC pmax pmax
comp=N,7.0nm,0.8s
SOC pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
SOC pmax pmax
comp=E,4.0nm,0.6s
SOC MLR MLR
comp=Z,749nm,16.0s,MS4.6
SOC MLR MLR
comp=N,662nm,17.0s,MS4.6
SOC MLR MLR
comp=E,553nm,16.0s,MS4.6
MALT Malatya 37.86 294 *e*P **P 21 48 54.7 +1.4**
MALT pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
MALT Malatya 37.86 294 *e*P **P 21 48 54.7 +1.4**
comp=Z,7.6nm,0.8s,mb4.5
MALT Malatya 37.86 294⇓P **P 21 48 55.8 +2.5**
KSM Kuching 38.33 134 *e*P **P 21 48 58.9 +1.3**
MDJ Mudanjiang 38.49 55 P **P 21 48 58.0 -0.6**
MDJ AMB AMB
comp=Z,15nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,468nm,4.1s
MDJ LR LR
comp=N,1μm,22.6s
MDJ LR LR
comp=Z,966nm,17.2s
GZT Gaziantep 38.59 293 *i* P **P 21 49 01.5 +2.0**
VRSR Storozhevoye 38.77 315 *e*P **P 21 49 00.3 -0.5**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,10.0nm,1.6s
VRSR pmax pmax
comp=E,20nm,0.8s
ANN Anapa 38.80 305 *e*P **P 21 49 00.4 -0.8**
ANN *e**PP pP 21 49 10.1 +5.9
ANN *e*S **S 21 54 59.4 +1.1**
ANN pmax pmax
comp=Z,25nm,0.7s,mb5.0
ANN MLR MLR
comp=E,785nm,17.0s
ANN MLR MLR
comp=Z,826nm,17.0s,MS4.6
KKM Kota Kinabalu 39.04 122 *e*P **P 21 49 04.9 +1.5**
ASF Jabal al Asfar 39.78 285 P **P 21 49 09.9 +0.5**
comp=Z,1.3nm,0.6s,mb3.8,baz=5.2,slow=11,SNR=2.5
ASF PcP PcP 21 51 17.0 +0.7
comp=Z,2.2nm,0.5s,baz=291,slow=1.9,SNR=4.0
BOYT Boyabat 40.51 299 *i* P **P 21 49 17.0 +1.7**
KLR Kul'dur 40.56 49 *e*P **P 21 49 13.7 -1.9**
KLR MLR MLR
comp=E,2μm,12.0s
KLR MLR MLR
comp=Z,3μm,12.0s,MS5.4
AVNT Avonos 40.64 295 *i* P **P 21 49 18.0 +1.6**
MOS Moscow 40.97 322 *e*P **P 21 49 17.8 -1.1**
MOS *e* 21 51 27.0
MOS MLR MLR
comp=E,2μm,15.0s
MOS MLR MLR
comp=Z,2μm,15.0s,MS5.1
SIM Simferopol' 41.16 305 *e*P **P 21 49 21.6 +0.9**
SIM *e*S **S 21 55 32.0 -1.7**
SIM pmax pmax
comp=Z,27nm,0.8s,mb4.9
SIM MLR MLR
comp=Z,890nm,18.9s,MS4.7
OBN Obninsk 41.35 320⇑*i*P **P 21 49 22.4 +0.3**
OBN *i* 21 51 36.6
OBN pmax pmax
comp=Z,30nm,1.6s,mb4.7
OBN MLR MLR
comp=Z,1μm,18.0s,MS4.8
OBN Obninsk 41.35 320 *e*P **P 21 49 21.9 -0.2**
comp=Z,14nm,0.8s,mb4.6
MEST Erdemli 41.39 292 *i* P **P 21 49 23.7 +1.1**
BRTR Keskin Array B 41.52 297 P **P 21 49 25.1 +1.4**
BRTR pmax pmax
comp=Z,7.0nm,1.0s
BRTR Keskin Array B 41.52 297 P **P 21 49 25.1 +1.4**
comp=Z,6.8nm,1.0s,mb4.2,baz=117,slow=5.5,SNR=22
ELDT Eldivan 41.65 298 *i* P **P 21 49 26.2 +1.5**
EIL Elat 41.94 282 P **P 21 49 29.0 +1.8**
comp=Z,4.7nm,0.7s,mb4.2,baz=54,slow=5.8,SNR=6.9
EIL Elat 41.94 282 *e*P **P 21 49 28.9 +1.6**
comp=Z,6.0nm,0.8s,mb4.3
ANTO Ankara 42.17 297⇓P **P 21 49 31.0 +2.1**
CSS Prodhromos 42.26 290 *e*P **P 21 49 29.8 0.0**
ATD Arta Tunnel 42.27 252 P **P 21 49 32.5 +2.4**
comp=Z,18nm,0.9s,mb4.7,baz=61,slow=5.0,SNR=8.2
ATD LR LR 22 04 53.6
comp=Z,1μm,21.2s,MS4.7,baz=157,slow=33
SGKT Sivrigoynuk 42.69 298 *i* P **P 21 49 35.1 +1.9**
YAK Yakutsk 43.26 30 *e*P **P 21 49 37.0 -0.5**
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK MLR MLR
comp=Z,207nm,11.0s,MS4.3
YAK MLR MLR
comp=N,167nm,12.0s,MS4.4
YAK MLR MLR
comp=E,240nm,10.0s,MS4.4
YAK Yakutsk 43.26 30 P **P 21 49 38.0 +0.5**
HENT Hendek 43.55 299 *i* P **P 21 49 40.9 +0.6**
ESKT Eskisehir 43.69 297 *i* P **P 21 49 41.8 +0.5**
ISP Isparta 44.13 294⇑*i*P **P 21 49 45.5 +0.6**
AKASG Malin Array Be 44.88 313 P **P 21 49 50.1 -0.8**
AKASG 21 51 32.2
AKASG pmax pmax

comp=Z,7.0nm,0.7s
AKASG pmax pmax
AKASG Malin Array Be 44.88 313 P P 21 49 50.1 -0.7
comp=Z,6.7nm,0.7s,mb4.6,baz=76,slow=7.7,SNR=41
AKASG PcP PcP 21 51 32.2 -0.8
comp=Z,5.2nm,0.8s,baz=70,slow=3.8,SNR=6.5
AKASG Malin Array Be 44.88 313 P P 21 49 50.1 -0.7
AKASG PcP PcP 21 51 32.2 -0.8
MAJO Matsushiro 45.32 67 *eP* **P 21 49 56.1 +1.6**
MJAR Matsushiro Arr 45.32 67 P **P 21 49 54.0 -0.6**
MJAR 21 51 34.5
MJAR pmax pmax
comp=Z,7.0nm,1.1s
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MJAR Matsushiro Arr 45.32 67 P **P 21 49 54.0 -0.5**
comp=Z,6.9nm,1.1s,mb4.4,baz=298,slow=10,SNR=8.4
MJAR PcP PcP 21 51 34.5 -0.2
comp=Z,2.9nm,0.7s,baz=272,slow=2.6,SNR=5.2
CFR Carcaliu 45.40 305 ⇓*P* **P 21 49 55.3 +0.2**
BTOK Tokmak 45.83 297 *i P* **P 21 49 59.0 +0.4**
VRI Vrincioaia 46.38 306 ⇑*P* **P 21 50 04.1 +1.3**
KDAG Bornova 46.59 296 *i P* **P 21 50 04.9 +0.4**
AYVA Ayvalik 46.91 297 *i P* **P 21 50 07.3 +0.2**
MLR Muntele Rosu 46.94 305 P **P 21 50 08.8 +1.6**
MLR pmax pmax
comp=Z,29nm,0.9s
MLR Muntele Rosu 46.94 305 P **P 21 50 08.8 +1.6**
comp=Z,29nm,0.8s,mb5.2,baz=108,slow=3.7
MLR Muntele Rosu 46.94 305 ⇑*P* **P 21 50 08.9 +1.7**
MLR Muntele Rosu 46.94 305 ⇑*P* **P 21 50 08.9 +1.7**
ALN Alexandroupoli 47.21 299 *eP* **P 21 50 10.3 +0.9**
BURAR Bucovina Array 47.39 308 ⇓*P* **P 21 50 11.0 +0.2**
BURAR Bucovina Array 47.39 308 ⇓*P* **P 21 50 11.0 +0.3**
YSS Yuzh-Sakhalins 47.77 53 *eP* **P 21 50 13.9 +0.2**
YSS pmax pmax
comp=Z,75nm,1.8s,mb5.4
TIXI Tiksi 47.79 18⇑*i P* **P 21 50 13.8 +0.2**
TIXI pmax pmax
comp=Z,21nm,0.9s,mb5.2
TIXI MLR MLR
comp=Z,300nm,14.0s,MS4.4
ASAJ Asahikawa 47.80 56 P **P 21 50 14.2 +0.1**
ASAJ pmax pmax
comp=Z,11nm,0.9s
ASAJ Asahikawa 47.80 56 P **P 21 50 14.2 +0.1**
comp=Z,11nm,0.9s,mb4.9,baz=315,slow=4.3,SNR=3.7
RZN Rozhen 48.12 300 *i P* **P 21 50 17.0 +0.5**
LVV L'vov 48.16 311 *eP* **P 21 50 17.7 +0.9**
LVV *e* 21 51 42.3
LVV *e*S **S 21 57 08.7 -6.0**
LVV MLR MLR
comp=Z,500nm,14.0s,MS4.7
LVV MLR MLR
comp=N,300nm,15.0s,MS4.6
LVV MLR MLR
comp=E,400nm,14.0s,MS4.6
FINES FINESS Array B 48.32 327 P **P 21 50 17.7 -0.1**
FINES pmax pmax
comp=Z,10.0nm,0.6s
FINES FINESS Array B 48.32 327 P **P 21 50 17.7 -0.1**
comp=Z,9.9nm,0.6s,mb5.0,baz=104,slow=8.5,SNR=54
KAF Kangasniemi 48.37 328 *ep* **P 21 50 15.2 -3.0**
comp=Z,1.6nm,0.5s,mb4.3,baz=104,slow=7.6
KAF Kangasniemi 48.37 328 *eP* **P 21 50 15.2 -3.0**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
SUW Suwalki 48.83 317 *eP* **P 21 50 20.3 -1.5**
OUR Ouranopolis 48.84 299 *eP* **P 21 50 22.3 +0.2**
MMB Musomiste 48.87 300 *i P* **P 21 50 24.0 +1.7**
KWP Kalwaria 49.02 311 *eP* **P 21 50 24.3 +0.9**
SRS Serrai 49.03 300 *eP* **P 21 50 23.9 +0.3**
PAIG Paliouri 49.13 298 *eP* **P 21 50 25.1 +0.7**
VTS Vitosha 49.13 302 *i P* **P 21 50 26.0 +1.7**
LIT Litokhoron 50.01 299 *eP* **P 21 50 30.9 -0.2**
AGG Agios Georgios 50.31 297 *eP* **P 21 50 32.8 -0.6**
KEV Kevo 50.33 338 *ep* **P 21 50 31.6 -1.6**
comp=Z,0.6nm,0.4s,mb4.0
KEV Kevo 50.33 338 *eP* **P 21 50 31.6 -1.6**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
SKO Skopje 50.51 301 *i P* **P 21 50 34.3 -0.6**
ARCES ARCESS Array B 50.75 337 P **P 21 50 36.9 +0.6**
ARCES pmax pmax
comp=Z,18nm,0.8s
ARCES ARCESS Array B 50.75 337 P **P 21 50 36.9 +0.6**
comp=Z,18nm,0.8s,mb4.1,baz=100,slow=6.5,SNR=27
ARE0 ARCESS Array S 50.75 337 *eP* **P 21 50 36.1 -0.2**
OJC Ojcow 50.89 312 *eP* **P 21 50 37.4 -0.2**
OKC Ostrava-Krasne 51.97 312 *eP* **P 21 50 46.1 +0.2**
OKC MLR MLR
comp=Z,800nm,15.1s,MS4.9
OKC Ostrava-Krasne 51.97 312 *eP* **P 21 50 46.1 +0.2**
OKC *ex* x 21 51 19.9
OKC AMS AMS 22 12 00.0
comp=Z,800nm,15.1s
MORC Moravsky Berou 52.37 312 *eP* **P 21 50 48.1 -0.8**
MA2 Magadan 52.70 36*ceP* **P 21 50 51.8 +0.6**
MA2 pmax pmax
comp=Z,20nm,1.2s,mb4.9
MA2 pmax pmax
comp=E,8.0nm,0.8s
MA2 Magadan 52.70 36 *eP* **P 21 50 51.8 +0.6**
comp=E,22nm,0.8s,mb5.1
DPC Dobruska-Polom 53.10 312 *eP* **P 21 50 54.3 -0.1**
DPC AMS AMS 22 12 30.0
comp=E,1μm,21.4s
UPC Upice 53.29 313 *eP* **P 21 50 55.9 +0.2**
UPC *ex* x 21 51 30.8
SEY Seymchan 53.65 32 *eP* **P 21 50 00.3 +2.2**
SEY pmax pmax
comp=N,10.0nm,0.8s
SEY pmax pmax
comp=E,10.0nm,0.8s
SEY pmax pmax
comp=Z,30nm,0.8s,mb5.3
PVCC Panska Ves 54.20 313 AMS AMS 22 17 00.0
comp=Z,1μm,11.4s
KMBO Kilima Mbogo 54.23 243 *i P* **P 21 51 04.0 +0.9**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 54.23 243 P **P 21 51 03.3 +0.2**
comp=Z,8.7nm,1.0s,mb4.7,baz=41,slow=10,SNR=23
KMBO Kilima Mbogo 54.23 243 *eP* **P 21 51 03.0 -0.1**
comp=Z,9.3nm,1.0s,mb4.7
PRU Pruhonice 54.28 312 *eP* **P 21 51 02.8 -0.2**
PRU MLR MLR
comp=Z,1μm,14.5s,MS5.1
PRU Pruhonice 54.28 312 *eP* **P 21 51 02.8 -0.2**
PRU *e* 21 51 37.2
PRU LR LR
comp=Z,1μm,14.5s,MS5.1
PRU Pruhonice 54.28 312 *eP* **P 21 51 02.8 -0.2**
PRU *ex* x 21 51 37.2
PRU AMS AMS 22 17 10.0
comp=Z,1μm,14.5s
PERS Pernice 54.34 308 *eP* **P 21 51 03.1 -0.3**
RUE Ruedersdorf 54.50 315 P **P 21 51 03.6 -0.9**
TIP Timpagrande 54.52 299 *eP* **P 21 51 04.2 -0.7**
BRG Berggiesshubel 54.56 313 *eP* **P 21 51 04.7 -0.3**
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BRG Berggiesshubel 54.56 313 *eP* **P 21 51 04.7 -0.3**
comp=Z,5.0nm,0.8s,mb4.6
MOA Molln 54.73 309⇑*i P* **P 21 51 05.6 -0.7**
comp=Z,5.3nm,0.9s,mb4.6
CEY Cerknica 54.95 307 *eP* **P 21 51 07.8 -0.2**
GERES GERESS Array B 54.97 311 P **P 21 51 07.1 -1.0**
GERES 21 52 09.8
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 54.97 311 P **P 21 51 07.1 -1.0**
comp=Z,1.0nm,0.8s,mb3.9,baz=104,slow=5.5,SNR=8.3
GERES PcP PcP 21 52 09.8 0.0
comp=Z,1.8nm,0.7s,baz=108,slow=4.2,SNR=4.7
KHC Kasperske Hory 55.01 311 *eP* **P 21 51 07.7 -0.7**
KHC MLR MLR
comp=Z,800nm,22.3s,MS4.7
KHC Kasperske Hory 55.01 311 *eP* **P 21 51 07.7 -0.7**
KHC *ex* x 21 51 42.2
KHC AMS AMS 22 13 40.0
comp=Z,800nm,22.3s

CLL Collm 55.10 314 *eP* **P 21 51 12.0 +3.0**
CLL Collm 55.10 314 P **P 21 51 12.0 +3.0**
NB2 NORSAR Subarra 55.42 326 P **P 21 51 09.5 -1.7**
comp=Z,6.2nm,0.7s,mb4.8,baz=88,slow=7.0
NOA NORSAR Array B 55.42 326 P **P 21 51 10.2 -1.0**
NOA pmax pmax
comp=Z,7.0nm,0.7s
NOA NORSAR Array B 55.42 326 P **P 21 51 10.2 -1.0**
comp=Z,7.2nm,0.7s,mb4.8,baz=88,slow=7.1,SNR=26
ROBS Robic 55.49 308 *eP* **P 21 51 10.4 -1.6**
NAO01 NORSAR Array S 55.59 325 *eP* **P 21 51 10.9 -1.5**
MOX Moxa 56.06 313 *eP* **P 21 51 17.3 +1.4**
MOX Moxa 56.06 313 *i P* **P 21 51 17.3 +1.4**
MOX L 22 18 14.0
KONO Kongsberg 56.29 324 *eP* **P 21 51 16.3 -1.1**
KONO pmax pmax
comp=Z,42nm,1.3s,mb5.3
KONO Kongsberg 56.29 324 *eP* **P 21 51 16.2 -1.2**
comp=Z,42nm,1.3s,mb5.3
AQU L'Aquila 56.32 303 *eP* **P 21 51 17.6 -0.3**
comp=Z,27nm,1.2s,mb5.2
GRA1 Grafenberg Arr 56.45 312 *eP* **P 21 51 18.5 -0.2**
comp=Z,2.0nm,0.8s,mb4.2
GRF Grafenberg Arr 56.45 312 *eP* **P 21 51 18.5 -0.2**
GRF pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
GRF Grafenberg Arr 56.45 312 *eP* **P 21 51 18.5 -0.2**
GRF pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
GRF Grafenberg Arr 56.45 312 *eP* **P 21 51 18.5 -0.2**
comp=Z,2.0nm,0.8s,mb4.2
SQTA Sankt Quirin 56.88 309⇓*i P* **P 21 51 20.1 -1.8**
comp=Z,2.5nm,0.9s,mb4.2
SQTA Sankt Quirin 56.88 309⇓*i P* **P 21 51 20.1 -1.8**
SQTA pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
MBAR Mbarara 59.05 249 *eP* **P 21 51 36.4 -1.1**
MBAR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MBAR Mbarara 59.05 249 *eP* **P 21 51 36.4 -1.1**
comp=Z,9.0nm,1.0s,mb4.8
CDF Champ du Feu 59.24 311 *eP* **P 21 51 36.9 -1.5**
BILL Bilibino 59.33 26⇓*i P* **P 21 51 39.3 +0.6**
BILL pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BILL Bilibino 59.33 26 *eP* **P 21 51 38.7 0.0**
comp=Z,8.5nm,0.7s,mb4.9
PGF Pioggiola 59.44 304 *eP* **P 21 51 38.6 -1.3**
HINF Hinteralfeld 59.65 310 *eP* **P 21 51 39.6 -1.6**
comp=Z,10nm,0.8s,mb4.6
HINF Hinteralfeld 59.65 310 *eP* **P 21 51 39.6 -1.6**
HINF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
HAU Haudompre 59.93 311 *eP* **P 21 51 41.4 -1.8**
HAU *eR*
comp=Z,563nm,23.0s
SBF Sospel 60.21 306 *eP* **P 21 51 44.0 -1.1**
comp=Z,45nm,0.9s,mb5.2
SBF Sospel 60.21 306 *eP* **P 21 51 44.0 -1.1**
SBF pmax pmax
comp=Z,22nm,0.9s,mb5.2
LPG La Plagne 60.27 308 *eP* **P 21 51 44.8 -0.7**
comp=Z,18nm,0.8s,mb4.9
LPG La Plagne 60.27 308 *eP* **P 21 51 44.8 -0.7**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPL La Plagne 60.27 308 *eP* **P 21 51 44.7 -0.8**
comp=Z,18nm,0.8s,mb4.9
LPL La Plagne 60.27 308 *eP* **P 21 51 44.7 -0.8**
LPL pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CABF La Chapelle 60.44 309 *eP* **P 21 51 45.3 -1.3**
MBDF Montbardon 60.45 307 *eP* **P 21 51 44.9 -1.8**
comp=Z,11nm,1.0s,mb4.5
MBDF Montbardon 60.45 307 *eP* **P 21 51 44.9 -1.8**
MBDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
MEZF Maizieres J'vi 60.66 312 *eP* **P 21 51 46.9 -1.2**
comp=Z,31nm,1.0s,mb5.1
FRF La Foret Royal 60.84 306 *eP* **P 21 51 47.9 -1.5**
comp=Z,60nm,1.4s,mb5.2
FRF La Foret Royal 60.84 306 *eP* **P 21 51 47.9 -1.5**
FRF pmax pmax
comp=Z,30nm,1.4s,mb5.2
VIVF Saint-Julien-l 61.85 308 *eP* **P 21 51 55.1 -1.2**
SMF Signal de Mont 61.93 310 *eP* **P 21 51 55.0 -1.7**
comp=Z,33nm,1.2s,mb5.0
SMF Signal de Mont 61.93 310 *eP* **P 21 51 55.0 -1.7**
SMF pmax pmax
comp=Z,16nm,1.2s,mb5.0
MBWA Marble Bar 61.94 142 *eP* **P 21 51 54.7 -2.5**
SSF Saint Saulge 62.03 310 *eP* **P 21 51 55.6 -1.8**
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
SSF Saint Saulge 62.03 310 *eP* **P 21 51 55.6 -1.8**
comp=Z,5.9nm,0.8s,mb4.8
AVF Avril sur Loir 62.21 310 *eP* **P 21 51 56.9 -1.7**
comp=Z,12nm,0.9s,mb4.7
AVF Avril sur Loir 62.21 310 *eP* **P 21 51 56.9 -1.7**
AVF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
HYF Humbligny 62.55 311 *eP* **P 21 51 59.7 -1.1**
BGF Bois d'Agland 62.61 310 *eP* **P 21 51 59.6 -1.7**
comp=Z,11nm,0.9s,mb4.7
BGF Bois d'Agland 62.61 310 *eP* **P 21 51 59.6 -1.7**
BGF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
LASF Ste Croix 62.64 307 *eP* **P 21 52 00.4 -1.1**
FITZ Fitzroy Crossi 62.95 134 *eP* **P 21 52 03.2 -0.7**
comp=Z,9.2nm,1.1s,mb4.8
FITZ Fitzroy Crossi 62.95 134 P **P 21 52 02.7 -1.2**
comp=Z,16nm,1.1s,mb5.1,baz=343,slow=7.6,SNR=5.3
TCF Toulx Ste Croi 63.11 310 *eP* **P 21 52 03.5 -1.0**
comp=Z,23nm,1.0s,mb5.0
TCF Toulx Ste Croi 63.11 310 *eP* **P 21 52 03.5 -1.0**
TCF pmax pmax
comp=Z,11nm,1.0s,mb4.9
DAG Danmarks Havn 63.33 345⇑*eP* **P 21 52 05.0 -0.6**
DAG pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
DAG Danmarks Havn 63.33 345⇑*eP* **P 21 52 05.0 -0.6**
comp=Z,4.7nm,0.6s,mb4.8
DAG Danmarks Havn 63.33 345⇑*i P* **P 21 52 05.0 -0.6**
comp=Z,4.7nm,0.6s,mb4.8
CAF Calviac 63.61 308 *eP* **P 21 52 06.7 -1.1**
comp=Z,15nm,0.9s,mb4.7
CAF Calviac 63.61 308 *eP* **P 21 52 06.7 -1.1**
CAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ESK Eskdalemuir 63.84 321 *eP* **P 21 52 08.5 -0.7**
RJF Les Rejaudoux 63.86 309 *eP* **P 21 52 08.8 -0.7**
comp=Z,24nm,1.1s,mb4.8
RJF *eR*
comp=Z,626nm,21.0s
RJF Les Rejaudoux 63.86 309 *eP* **P 21 52 08.8 -0.7**
RJF pmax pmax
comp=Z,12nm,1.1s,mb4.8
RJF MLR MLR
comp=Z,630nm,21.0s,MS4.8
LDF La Druitiere 63.95 313 *eP* **P 21 52 08.3 -1.7**
comp=Z,53nm,1.2s,mb5.1
LDF La Druitiere 63.95 313 *eP* **P 21 52 08.3 -1.7**
LDF pmax pmax
comp=Z,27nm,1.2s,mb5.2
GRR Gorron 64.47 313 *eP* **P 21 52 11.8 -1.7**
comp=Z,13nm,0.7s,mb4.8
GRR Gorron 64.47 313 *eP* **P 21 52 11.8 -1.7**
GRR pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LFF La Frestale 64.50 309 *eP* **P 21 52 12.7 -1.0**
comp=Z,22nm,1.0s,mb4.8
LFF La Frestale 64.50 309 *eP* **P 21 52 12.7 -1.0**
LFF pmax pmax
comp=Z,11nm,1.0s,mb4.8
MFF Saint Martin d 64.57 311 *eP* **P 21 52 12.3 -1.8**
SGMF Saint Gilles 65.59 313 *eP* **P 21 52 19.5 -1.2**
ROSF Rostrenen 66.02 313 *eP* **P 21 52 22.0 -1.4**
comp=Z,108nm,1.5s,mb5.4
ROSF Rostrenen 66.02 313 *eP* **P 21 52 22.0 -1.4**
ROSF pmax pmax
comp=Z,54nm,1.5s,mb5.4
ETSF Etsaut 66.06 307 *eP* **P 21 52 23.0 -0.7**
comp=Z,6.1nm,0.7s,mb4.4
ETSF Etsaut 66.06 307 *eP* **P 21 52 23.0 -0.7**
ETSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4

QUIF Quistinic 66.09 313 *eP* **P 21 52 22.2 -1.6**
SJPF Ste Jean 66.44 307 *eP* **P 21 52 25.5 -0.7**
comp=Z,5.0nm,0.7s,mb4.3
SJPF Ste Jean 66.44 307 *eP* **P 21 52 25.5 -0.7**
SJPF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
SCO Scoresbysund 66.58 339 *i P* **P 21 52 27.7 +1.1**
SCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
SCO Scoresbysund 66.58 339 *i P* **P 21 52 27.7 +1.1**
comp=Z,3.8nm,0.8s,mb4.5
CART Cartagena 68.29 302 *eP* **P 21 52 37.5 -0.5**
comp=Z,21nm,0.9s,mb5.2
MUN Mundaring 69.36 151 *eP* **P 21 52 42.8 -1.9**
comp=Z,98nm,1.0s,mb5.7
MUN Mundaring 69.36 151 *eP* **P 21 52 42.8 -1.9**
MUN pmax pmax
comp=Z,99nm,1.0s,mb5.7
ESDC Sonseca Array 69.63 305 P **P 21 52 45.7 -0.5**
comp=Z,4.7nm,0.8s,mb4.5,baz=58,slow=6.5,SNR=12
ESLA Sonseca Array 69.63 305 *eP* **P 21 52 45.1 -1.0**
comp=Z,1.7nm,0.9s,mb4.0
KLBR Kellerberrin 69.69 149 *eP* **P 21 52 41.8 -4.9**
comp=Z,5μm,1.2s
WRA Warramunga Arr 69.89 129 P **P 21 52 47.6 -0.4**
comp=Z,27nm,0.9s,mb5.2,baz=324,slow=6.3,SNR=108
WRA PKPPKP 22 20 51.2
comp=Z,1.1nm,0.8s,baz=133,slow=3.4,SNR=8.9
WRAB Tennant Creek 69.89 129 *eP* **P 21 52 47.7 -0.3**
WRAB pmax pmax
comp=Z,50nm,0.9s,mb5.4
WRAB Tennant Creek 69.89 129 *eP* **P 21 52 47.7 -0.3**
comp=Z,50nm,0.9s,mb5.4
WB2 Warramunga Arr 69.89 129⇓*i P* **P 21 52 47.7 -0.4**
SUMG Summit 69.93 344 *eP* **P 21 52 48.7 +1.3**
comp=Z,29nm,0.8s,mb5.3
LSZ Lusaka 70.17 238 *eP* **P 21 52 49.6 -0.2**
comp=Z,7.6nm,0.8s,mb4.7
NWAO Narrogin (SRO) 70.61 151 P **P 21 52 50.5 -1.8**
NWAO pmax pmax
comp=Z,28nm,0.9s
NWAO Narrogin (SRO) 70.61 151 P **P 21 52 50.5 -1.8**
comp=Z,28nm,0.9s,mb5.2,baz=326,slow=6.0,SNR=12
NWAO Narrogin (SRO) 70.61 151 *eP* **P 21 52 49.7 -2.6**
comp=Z,27nm,1.0s,mb5.1
ASPA Alice Springs 72.24 132 *eP* **P 21 53 01.8 -0.4**
ASAR Alice Springs 72.24 132 P **P 21 53 01.6 -0.5**
comp=Z,7.3nm,0.8s,mb4.6,baz=318,slow=6.2,SNR=49
PMG Port Moresby 72.62 112 *eP* **P 21 53 04.8 +0.2**
PMG pmax pmax
comp=Z,38nm,1.1s
PMG Port Moresby 72.62 112 P **P 21 53 05.6 +1.0**
comp=Z,26nm,1.0s,mb5.1,baz=45,slow=1.5,SNR=3.9
PMG Port Moresby 72.62 112 *eP* **P 21 53 04.8 +0.1**
comp=Z,38nm,1.1s,mb5.2
IMA Indian Mountai 74.25 21 *eP* **P 21 53 14.3 +1.2**
IMA pmax pmax
comp=Z,43nm,0.9s,mb5.4
IMA Indian Mountai 74.25 21 *eP* **P 21 53 14.3 +1.2**
comp=Z,43nm,0.9s,mb5.4
RES Resolute Bay 75.07 360 *eP* **P 21 53 17.9 +0.2**
RES pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
RES Resolute Bay 75.07 360 *eP* **P 21 53 17.9 +0.2**
comp=Z,5.9nm,0.8s,mb4.6
COLA College 76.84 20 *eP* **P 21 53 28.7 +0.8**
COLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
COLA College 76.84 20 *eP* **P 21 53 28.7 +0.8**
comp=Z,7.9nm,0.8s,mb4.7
ILAR Eielson Array 77.20 20 P **P 21 53 30.1 +0.2**
ILAR pmax pmax
comp=Z,5.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 77.20 20 P **P 21 53 30.1 +0.2**
comp=Z,4.7nm,0.8s,mb4.5,baz=296,slow=4.5,SNR=45
ILAR PKKPbc 22 12 36.2
comp=Z,0.6nm,0.8s,baz=169,slow=2.2,SNR=5.7
MCK McKinley 77.33 21 P **P 21 53 31.2 +0.6**
INK Inuvik 77.68 13 *eP* **P 21 53 33.0 +0.6**
comp=Z,17nm,1.1s,mb4.9
CTA Charters Tower 78.37 122 *eP* **P 21 53 37.9 +0.7**
comp=Z,19nm,1.0s,mb5.0
CTA Charters Tower 78.37 122 *eP* **P 21 53 37.9 +0.7**
CTA pmax pmax
comp=Z,19nm,1.0s
CTA Charters Tower 78.37 122 P **P 21 53 37.0 -0.2**
comp=Z,28nm,1.1s,mb5.1,baz=311,slow=4.9,SNR=9.3
CTAO Charters Tower 78.37 122 *eP* **P 21 53 37.6 +0.4**
CTAO pmax pmax
comp=Z,33nm,1.1s,mb5.2
CTAO Charters Tower 78.37 122 *eP* **P 21 53 37.6 +0.4**
comp=Z,33nm,1.1s,mb5.2
LBTB Lobatse 78.39 232 *eP* **P 21 53 37.4 +0.1**
comp=Z,20nm,0.9s,mb5.0
THY Trims Highway 78.54 20 *eP* **P 21 53 37.6 +0.4**
SML Sawmill 78.91 22 *eP* **P 21 53 39.8 +0.5**
DAWY Dawson 79.83 18 *eP* **P 21 53 45.0 +0.7**
TSUM Tsumeb 80.51 241 *eP* **P 21 53 49.7 +0.9**
comp=Z,15nm,1.5s,mb4.7
STKA Stephens Creek 82.82 133 *eP* **P 21 54 00.4 -0.2**
comp=Z,5.9nm,0.9s,mb4.6
STKA Stephens Creek 82.82 133 P **P 21 54 00.2 -0.4**
comp=Z,5.7nm,0.9s,mb4.6,baz=321,slow=7.4,SNR=9.8
DBIC Dimbokro 85.43 275 P **P 21 54 15.1 +0.9**
DBIC pmax pmax
comp=Z,23nm,0.9s
DBIC Dimbokro 85.43 275 P **P 21 54 15.1 +0.8**
comp=Z,23nm,0.8s,mb5.3,baz=41,slow=5.7,SNR=24
DBIC Dimbokro 85.43 275 *eP* **P 21 54 14.6 +0.3**
comp=Z,27nm,0.9s,mb5.4
YKW3 Yellowknife Ar 86.09 8 *eP* **P 21 54 16.2 -0.2**
YKA Yellowknife Ar 86.16 8 P **P 21 54 17.0 +0.3**
YKA pmax pmax
comp=Z,6.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 86.16 8 P **P 21 54 17.0 +0.3**
comp=Z,6.2nm,0.7s,mb4.9,baz=338,slow=5.1,SNR=119
YKA PKKPbc 22 12 14.8
comp=Z,1.1nm,0.8s,baz=159,slow=2.3,SNR=17
SUR Sutherland 86.36 229 *eP* **P 21 54 20.0 +1.6**
DLBC Dease Lake 87.01 17 P **P 21 54 23.0 +2.1**
comp=Z,7.0nm,0.8s,mb4.9,baz=310,slow=6.6,SNR=20
DLBC Dease Lake 87.01 17 *eP* **P 21 54 22.2 +1.3**
FCC Fort Churchill 91.05 359 *eP* **P 21 54 39.2 -0.8**
comp=Z,12nm,1.5s,mb5.0
SCHQ Schefferville 91.31 343 P **P 21 54 41.9 +0.6**
comp=Z,3.7nm,0.8s,mb4.7,baz=26,slow=2.1,SNR=7.4
SCHQ Schefferville 91.31 343 *eP* **P 21 54 41.3 0.0**
comp=Z,5.6nm,1.0s,mb4.8
EDM Edmonton 95.31 10 *eP* **P 21 55 00.2 +0.5**
PDAR Pinedale Array 106.07 10 PKiKP 22 00 00.7
comp=Z,0.6nm,0.7s,baz=31,slow=2.8,SNR=6.6
PDAR PKKPbc 22 11 21.9
comp=Z,0.4nm,0.4s,baz=146,slow=5.3,SNR=5.2
VNDA Vanda 117.03 166 PKIKP PKPdf 22 00 20.2 -1.9
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 117.03 166 PKP PKPdf 22 00 20.1 -1.9
comp=Z,1.4nm,0.9s,baz=260,slow=7.4,SNR=4.9
GDL2 Guadalupe Moun 117.17 8 *e*PKPdf PKPdf 22 00 21.7 -1.6
MNTX Cornudas Mount 117.54 9 *e*PKPdf PKPdf 22 00 22.3 -1.7
SNAA Sanae 117.56 201⇑*i P* PKPdf 22 00 20.9 -2.3
VNA2 Neumayer--Watz 118.85 202⇑*i P* PKPdf 22 00 25.9 +0.2
VNA3 Neumayer Olymp 119.63 202⇑*i P* PKPdf 22 00 27.1 0.0
TXAR Lajitas Array 120.08 7 PKP PKPdf 22 00 27.9 -1.0
comp=Z,1.9nm,0.8s,baz=315,slow=1.8,SNR=13
QSPA South Pole Qui 120.30 180⇑*i P* PKPdf 22 00 26.7 -1.6
BDFB Brasilia 133.54 277 PKIKP PKPdf 22 00 55.4 +0.3
BDFB pmax pmax
comp=Z,2.0nm,0.7s
BDFB Brasilia 133.54 277 PKP PKPdf 22 00 55.4 +0.3
comp=Z,2.3nm,0.7s,baz=232,slow=2.1,SNR=4.4
SDV Santo Domingo 133.73 324 *e*PKPdf PKPdf 22 00 53.8 -1.8
ROSC El Rosal 139.04 325 PKP PKPdf 22 01 05.5 +0.1
comp=Z,9.0nm,0.6s,baz=85,slow=18,SNR=4.7
OTAV Otavalo 145.04 328 *e*PKPdf PKPdf 22 01 14.9 -1.1
LPAZ La Paz 150.64 292 PKIKP PKPdf 22 01 25.0 0.0
LPAZ 22 01 29.6
LPAZ pmax pmax
comp=Z,3.0nm,1.0s
LPAZ pmax pmax
comp=Z,8.0nm,1.0s
LPAZ La Paz 150.64 292 PKP PKPdf 22 01 24.9 0.0

comp=Z,2.6nm,1.0s,baz=27,slow=2.3,SNR=7.0
LPAZ PKPbc PKPdf 22 01 29.6 +4.6
comp=Z,7.9nm,1.0s,baz=56,slow=6.0,SNR=14
LPAZ La Paz 150.64 292 *e*PKPdf PKPdf 22 01 24.9 -0.1
LPAZ *e*PKPbc PKPdf 22 01 29.7 +4.8
TRQA Tornquist 150.79 246 *e*PKPbc PKPdf 22 01 29.4 +4.8
PLCA Paso Flores 156.80 237 PKIKP PKPdf 22 01 32.1 -0.7
PLCA pmax pmax
comp=Z,3.0nm,0.5s
PLCA pmax pmax
comp=Z,3.0nm,0.8s
PLCA Paso Flores 156.80 237 PKP PKPdf 22 01 32.1 -0.7
comp=Z,2.5nm,0.5s,baz=41,slow=1.3,SNR=4.2
PLCA PKPab PKPab 22 02 01.4 -0.5
comp=Z,3.3nm,0.8s,baz=84,slow=5.1,SNR=3.6
PLCA Paso Flores 156.80 237 PKP PKPdf 22 01 32.1 -0.7
PLCA PKPab PKPab 22 02 01.4 -0.5

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*IDC **07** 21:42:07.2±1.0, 30.31N×83.86E, mb4.5/14, mb1 4.7/14, mb1mx4.6/22, mbtmp4.5/14, MS4.7/1, Ms1 4.7/1, ms1mx3.7/26, Error ellipse: s-maj=26.2km s-min=22.7km az=47.0*
*BJI **07** 21:42:09.4, 30.66N×83.92E, h19km, mB5.4, mb4.7, Ms5.2, Msz5.0*
*NEIC **07** 21:42:09.0±0.3, 30.32N×83.76E, h10km, mb5.1/34, Error ellipse: s-maj=10.2km s-min=8.4km az=52.0*
*MOS **07** 21:42:10.1±1.3, 30.14N×83.69E, h33km, mb5.1/28, Error ellipse: s-maj=12.6km s-min=8.5km az=108.8*
ISC 07 21:42:07.5±0.3, 30.35N±0.05×83.79E±0.06, h10km, n112, σ1§29/109, mb4.8/47, MS4.9/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**13.80**	**12**	*e*P	**P**	**21 45 24.7**	**-0.8**
WMQ				AP		21 45 28.2	
WMQ				XP		21 45 31.7	
WMQ				PP	PP	21 45 35.8	-0.7
WMQ				PPP	PPP	21 45 42.8	-0.7
WMQ				S	**S**	**21 47 58.9**	**-1.0**
WMQ				XS		21 48 04.2	
WMQ				PCP	PcP	21 50 48.0	-1.1
WMQ				AMB	AMB		
	comp=Z,57nm,1.2s						
WMQ				AMB	AMB		
	comp=Z,436nm,6.6s						
WMQ				LR	LR		
	comp=N,2μm,20.0s						
WMQ				LR	LR		
	comp=E,888nm,15.2s						
AAK	**Ala-Archa**	**14.35**	**331**	*e*P	**P**	**21 45 40.5**	**+7.8**
AAK				pmax	pmax		
	comp=Z,144nm,1.4s						
AAK	**Ala-Archa**	**14.35**	**331**	*e*P	**P**	**21 45 40.5**	**+7.8**
	comp=Z,144nm,1.4s						
GTA	**Gaotai**	**15.94**	**51**	*e*P	**P**	**21 45 48.6**	**-4.9**
GTA				AP		21 45 57.3	
GTA				XP		21 46 02.0	
GTA				S	**S**	**21 48 45.5**	**-4.8**
GTA				SS	SS	21 49 04.6	-4.7
GTA				AMB	AMB		
	comp=Z,27nm,1.1s						
GTA				AMB	AMB		
	comp=Z,336nm,4.9s						
GTA				LR	LR		
	comp=N,4μm,10.3s						
GTA				LR	LR		
	comp=E,5μm,9.9s						
GTA				LR	LR		
	comp=Z,4μm,12.2s						
MKAR	**Makanchi Array**	**16.46**	**356**	P	**P**	**21 46 03.3**	**+3.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**16.46**	**356**	Pn	**P**	**21 46 03.3**	**+3.2**
	comp=Z,1.5nm,0.3s,baz=174,slow=11,SNR=10						
KMI	**Kunming**	**17.56**	**103**	P	**P**	**21 46 15.1**	**+1.1**
KMI				AMB	AMB		
	comp=Z,16nm,0.8s						
KMI	**Kunming**	**17.56**	**103**	P	**P**	**21 46 15.1**	**+1.1**
	comp=Z,16nm,0.8s						
CM31	**Chiang Mai Arr**	**18.16**	**127**	*e*P	**P**	**21 46 23.0**	**+1.5**
	comp=Z,19nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.16**	**127**	PcP	PcP	21 50 55.2	-0.5
	comp=Z,0.1nm,0.3s,baz=298,slow=1.8,SNR=4.6						
KURK	**Kurchatov**	**20.71**	**351**	*e*P	**P**	**21 46 48.2**	**-2.2**
KURK				pmax	pmax		
	comp=Z,207nm,1.1s						
KURK	**Kurchatov**	**20.71**	**351**	*e*P	**P**	**21 46 48.2**	**-2.2**
	comp=Z,207nm,1.1s						
PALK	**Pallekele**	**23.14**	**188**	*e*P	**P**	**21 47 17.1**	**+2.1**
	comp=Z,76nm,1.3s,mb5.0						
ZAL	**Zalesovo**	**23.59**	**1**	P	**P**	**21 47 21.3**	**+2.4**
ZAL				pmax	pmax		
	comp=Z,20nm,0.9s						
ZAL	**Zalesovo**	**23.59**	**1**	P	**P**	**21 47 21.2**	**+2.3**
	comp=Z,20nm,0.9s,mb4.5,baz=277,slow=12,SNR=9.2						
SONM	**Songino Array**	**24.61**	**38**	PcP	PcP	21 51 06.6	-1.3
	comp=Z,1.8nm,0.7s,baz=232,slow=2.6,SNR=3.9						
BVAR	**Borovoye Array**	**24.69**	**340**	P	**P**	**21 47 31.7**	**+2.0**
	comp=Z,6.4nm,0.8s,mb4.2,baz=121,slow=8.6,SNR=5.8						
HHC	**Hu-ho-hao-te**	**24.80**	**57**	*e*P	**P**	**21 47 30.4**	**-0.5**
HHC				AP		21 47 35.2	
HHC				XP		21 47 37.9	
HHC				PP	PP	21 48 07.3	-0.4
HHC				PCP	PcP	21 51 05.4	-3.0
HHC				S	**S**	**21 51 53.0**	**+2.6**
HHC				XS		21 52 01.5	
HHC				PCS		21 54 44.9	
HHC				SCS	ScS	21 58 28.4	-4.4
HHC				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,386nm,4.5s						
HHC				LR	LR		
	comp=N,2μm,10.6s,MS5.0						
HHC				LR	LR		
	comp=E,2μm,10.2s,MS5.0						
HHC				LR	LR		
	comp=Z,1μm,11.2s,MS4.7						
ULN	**Ulaanbaatar**	**24.98**	**39**	*e*P	**P**	**21 47 31.3**	**-1.3**
	comp=Z,27nm,1.2s,mb4.7						
CHKZ	**Chkalovo**	**25.20**	**341**	P	**P**	**21 47 35.6**	**+1.0**
CHKZ				pmax	pmax		
	comp=Z,69nm,1.3s,mb5.0						
CHKZ	**Chkalovo**	**25.20**	**341**	P	**P**	**21 47 35.6**	**+1.0**
	comp=Z,69nm,1.3s,mb5.0						
ARU	**Arti**	**31.52**	**333**	*e*P	**P**	**21 48 32.1**	**+0.4**
ARU				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
ARU	**Arti**	**31.52**	**333**	*e*P	**P**	**21 48 32.1**	**+0.4**
	comp=Z,28nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**35.10**	**304**	*e*P	**P**	**21 49 01.8**	**-1.1**
KIV				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
KIV	**Kislovodsk**	**35.10**	**304**	*e*P	**P**	**21 49 01.8**	**-1.1**
	comp=Z,25nm,0.9s,mb5.1						
CN2	**Changchun**	**35.48**	**56**	*e*P	**P**	**21 49 05.3**	**-0.8**
CN2				*e*XP	sP	21 49 11.8	+1.5
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CN2				AMB	AMB		
	comp=Z,700nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,11.0s,MS5.3						
CN2				LR	LR		
	comp=E,2μm,11.0s,MS5.3						
CN2				LR	LR		
	comp=Z,3μm,12.0s,MS5.2						
MALT	**Malatya**	**37.99**	**295**	P	**P**	**21 49 29.2**	**+2.0**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
MALT	**Malatya**	**37.99**	**295**	P	**P**	**21 49 29.2**	**+1.9**
	comp=Z,5.6nm,1.0s,mb4.2						
MDJ	**Mudanjiang**	**38.53**	**55**	P	**P**	**21 49 31.0**	**-0.8**
MDJ				XP	sP	21 49 37.0	+1.0
MDJ				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,404nm,3.6s						
ANN	**Anapa**	**38.94**	**305**	*e*P	**P**	**21 49 39.8**	**+4.6**
ANN				*e*S	**S**	**21 55 37.5**	**+4.2**
OBN	**Obninsk**	**41.52**	**320**	*e*P	**P**	**21 49 54.0**	**-2.2**
	comp=Z,19nm,0.9s,mb4.7						
BRTR	**Keskin Array B**	**41.65**	**297**	P	**P**	**21 49 57.4**	**-0.2**
BRTR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRTR	**Keskin Array B**	**41.65**	**297**	P	**P**	**21 49 57.4**	**-0.2**
	comp=Z,6.2nm,1.0s,mb4.2,baz=112,slow=6.7,SNR=6.1						
YAK	**Yakutsk**	**43.37**	**30**	*e*P	**P**	**21 50 12.0**	**+0.7**
YAK				pmax	pmax		
	comp=Z,44nm,1.4s,mb5.0						
YAK	**Yakutsk**	**43.37**	**30**	*e*P	**P**	**21 50 12.0**	**+0.7**
	comp=Z,44nm,1.4s,mb5.0						
AKASG	**Malin Array Be**	**45.04**	**313**	P	**P**	**21 50 25.1**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**45.04**	**313**	P	**P**	**21 50 25.1**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.2,baz=76,slow=7.5,SNR=6.4						
MLR	**Muntele Rosu**	**47.08**	**306**	P	**P**	**21 50 41.8**	**+0.6**
MLR				pmax	pmax		
	comp=Z,11nm,0.8s						
MLR	**Muntele Rosu**	**47.08**	**306**	P	**P**	**21 50 41.8**	**+0.6**
	comp=Z,11nm,0.8s,mb4.8,baz=66,slow=4.0,SNR=4.6						
FINES	**FINESS Array B**	**48.49**	**327**	P	**P**	**21 50 52.3**	**+0.3**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FINES	**FINESS Array B**	**48.49**	**327**	P	**P**	**21 50 52.2**	**+0.3**
	comp=Z,5.5nm,0.8s,mb4.6,baz=101,slow=9.7,SNR=4.1						
KWP	**Kalwaria**	**49.18**	**311**	*e*P	**P**	**21 50 58.6**	**+1.2**
KWP				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.2						
KWP	**Kalwaria**	**49.18**	**311**	*e*P	**P**	**21 50 58.6**	**+1.2**
	comp=Z,26nm,1.0s,mb5.2						
GVD	**Gavdhos**	**49.87**	**292**	*e*P	**P**	**21 51 04.9**	**+1.9**
	comp=Z,49nm,0.9s,mb5.5						
SKO	**Skopje**	**50.65**	**301**	*i* P	**P**	**21 51 09.0**	**+0.2**
ARCES	**ARCESS Array B**	**50.92**	**337**	P	**P**	**21 51 09.3**	**-1.2**
ARCES				pmax	pmax		
	comp=Z,16nm,0.8s						
ARCES	**ARCESS Array B**	**50.92**	**337**	P	**P**	**21 51 09.3**	**-1.2**
	comp=Z,16nm,0.8s,mb5.0,baz=100,slow=7.4,SNR=27						
ARE0	**ARCESS Array S**	**50.92**	**337**	*e*P	**P**	**21 51 11.7**	**+1.2**
MORC	**Moravsky Berou**	**52.52**	**312**	P	**P**	**21 51 23.7**	**+0.8**
MORC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
MORC	**Moravsky Berou**	**52.52**	**312**	P	**P**	**21 51 23.7**	**+0.9**
	comp=Z,4.5nm,1.0s,mb4.3						
MA2	**Magadan**	**52.79**	**36**	*e*P	**P**	**21 51 24.8**	**+0.1**
MA2				pmax	pmax		
	comp=Z,44nm,1.7s,mb5.1						
MA2	**Magadan**	**52.79**	**36**	*e*P	**P**	**21 51 24.8**	**+0.1**
	comp=Z,44nm,1.7s,mb5.1						
SEY	**Seymchan**	**53.75**	**32**	*e*P	**P**	**21 51 34.8**	**+3.1**
SEY				*e*S	**S**	**21 58 59.1**	**-5.3**
KMBO	**Kilima Mbogo**	**54.22**	**243**	*e*P	**P**	**21 51 34.7**	**-1.2**
KMBO				pmax	pmax		
	comp=Z,13nm,1.0s						
KMBO	**Kilima Mbogo**	**54.22**	**243**	P	**P**	**21 51 35.5**	**-0.4**
	comp=Z,8.8nm,1.0s,mb4.7,baz=35,slow=9.9,SNR=8.2						
KMBO	**Kilima Mbogo**	**54.22**	**243**	*e*P	**P**	**21 51 34.7**	**-1.1**
	comp=Z,13nm,1.0s,mb4.8						
HFS	**Hagfors**	**54.37**	**325**	LR	LR	22 16 47.3	
	comp=Z,709nm,20.5s,MS4.7,baz=71,slow=38						
TIP	**Timpagrande**	**54.66**	**299**	*e*P	**P**	**21 51 40.0**	**+1.2**
GERES	**GERESS Array B**	**55.12**	**311**	P	**P**	**21 51 42.2**	**+0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**55.12**	**311**	P	**P**	**21 51 42.2**	**+0.2**
	comp=Z,1.1nm,0.8s,mb4.0,baz=79,slow=6.8,SNR=4.7						
NOA	**NORSAR Array B**	**55.59**	**326**	P	**P**	**21 51 43.9**	**-1.4**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NOA	**NORSAR Array B**	**55.59**	**326**	P	**P**	**21 51 43.9**	**-1.3**
	comp=Z,5.7nm,0.9s,mb4.6,baz=88,slow=7.1,SNR=4.0						
NOA	**NORSAR Array B**	**55.59**	**326**	P	**P**	**21 51 43.9**	**-1.3**
NKC	**Novy Kostel**	**55.74**	**313**	*e*P	**P**	**21 51 48.5**	**+2.0**
NAO01	**NORSAR Array S**	**55.76**	**326**	*e*P	**P**	**21 51 40.7**	**-5.8**
	comp=Z,18nm,1.0s,mb5.0						
STU	**Stuttgart**	**58.07**	**311**	P	**P**	**21 52 02.0**	**-1.1**
STU				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.0						
STU	**Stuttgart**	**58.07**	**311**	P	**P**	**21 52 02.0**	**-1.1**
	comp=Z,22nm,1.4s,mb5.0						
MBAR	**Mbarara**	**59.05**	**249**	*e*P	**P**	**21 52 06.3**	**-4.1**
MBAR				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.0						
MBAR	**Mbarara**	**59.05**	**249**	*e*P	**P**	**21 52 06.3**	**-4.0**
	comp=Z,24nm,1.4s,mb5.0						
BILL	**Bilibino**	**59.45**	**26**	*i* P	**P**	**21 52 14.5**	**+2.1**
BILL				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
BILL	**Bilibino**	**59.45**	**26**	*e*P	**P**	**21 52 14.4**	**+2.0**
	comp=Z,38nm,1.4s,mb5.2						
MBWA	**Marble Bar**	**61.78**	**142**	P	**P**	**21 52 28.4**	**-0.5**
	comp=Z,20nm,1.2s,mb5.1						
FITZ	**Fitzroy Crossi**	**62.79**	**134**	*e*P	**P**	**21 52 41.7**	**+6.0**
	comp=Z,11nm,0.9s,mb5.0						
ESK	**Eskdalemuir**	**64.00**	**321**	*e*P	**P**	**21 52 35.5**	**-7.6**
ESK				pmax	pmax		
	comp=Z,68nm,1.3s,mb5.5						
ESK	**Eskdalemuir**	**64.00**	**321**	*e*P	**P**	**21 52 35.5**	**-7.6**
	comp=Z,68nm,1.3s,mb5.5						
WRA	**Warramunga Arr**	**69.74**	**129**	P	**P**	**21 53 19.5**	**-0.5**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA	**Warramunga Arr**	**69.74**	**129**	P	**P**	**21 53 19.5**	**-0.5**
	comp=Z,4.2nm,0.7s,mb4.5,baz=324,slow=6.3,SNR=5.1						
SUMG	**Summit**	**70.10**	**344**	*e*P	**P**	**21 53 21.6**	**+0.2**
	comp=Z,35nm,1.0s,mb5.2						
LSZ	**Lusaka**	**70.14**	**238**	*e*P	**P**	**21 53 21.1**	**-1.4**
LSZ				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
LSZ	**Lusaka**	**70.14**	**238**	*e*P	**P**	**21 53 21.1**	**-1.4**
	comp=Z,9.9nm,0.9s,mb4.7						
IMA	**Indian Mountai**	**74.38**	**21**	*e*P	**P**	**21 53 47.2**	**+0.5**
IMA				pmax	pmax		
	comp=Z,195nm,1.6s,mb5.8						
IMA	**Indian Mountai**	**74.38**	**21**	*e*P	**P**	**21 53 47.2**	**+0.5**
	comp=Z,195nm,1.6s,mb5.8						
COLA	**College**	**76.97**	**20**	*e*P	**P**	**21 54 01.1**	**-0.3**
COLA				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
COLA	**College**	**76.97**	**20**	*e*P	**P**	**21 54 01.1**	**-0.4**
	comp=Z,20nm,1.2s,mb4.9						
ILAR	**Eielson Array**	**77.33**	**20**	P	**P**	**21 54 03.0**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ILAR	**Eielson Array**	**77.33**	**20**	P	**P**	**21 54 03.0**	**-0.4**
	comp=Z,3.0nm,0.9s,mb4.2,baz=303,slow=4.9,SNR=5.3						
MCK	**McKinley**	**77.45**	**21**	P	**P**	**21 54 06.1**	**+1.9**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
MCK	**McKinley**	**77.45**	**21**	P	**P**	**21 54 06.0**	**+1.9**
	comp=Z,8.1nm,1.3s,mb4.5						
INK	**Inuvik**	**77.82**	**13**	*e*P	**P**	**21 54 05.3**	**-0.8**
INK				pmax	pmax		
	comp=Z,40nm,1.5s						
INK	**Inuvik**	**77.82**	**13**	*e*P	**P**	**21 54 05.3**	**-0.8**
	comp=Z,40nm,1.5s,mb5.1						
LBTB	**Lobatse**	**78.35**	**232**	*e*P	**P**	**21 54 07.8**	**-2.0**
LBTB				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
LBTB	**Lobatse**	**78.35**	**232**	*e*P	**P**	**21 54 07.8**	**-2.1**
	comp=Z,20nm,1.2s,mb4.9						
SML	**Sawmill**	**79.03**	**22**	*e*P	**P**	**21 54 11.7**	**-1.1**
DAWY	**Dawson**	**79.96**	**18**	*e*P	**P**	**21 54 18.0**	**+0.1**
TSUM	**Tsumeb**	**80.49**	**241**	*e*P	**P**	**21 54 21.0**	**-0.5**
	comp=Z,14nm,1.3s,mb4.7						
DBIC	**Dimbokro**	**85.51**	**275**	*e*P	**P**	**21 54 45.1**	**-2.4**
DBIC				pmax	pmax		
	comp=Z,19nm,1.1s						
DBIC	**Dimbokro**	**85.51**	**275**	*e*P	**P**	**21 54 45.0**	**-2.4**
	comp=Z,19nm,1.1s,mb5.2						
YKW3	**Yellowknife Ar**	**86.24**	**8**	*e*P	**P**	**21 54 47.5**	**-2.5**
SUR	**Sutherland**	**86.31**	**229**	*e*P	**P**	**21 54 50.2**	**-0.8**
	comp=Z,52nm,1.6s,mb5.5						
YKA	**Yellowknife Ar**	**86.31**	**8**	P	**P**	**21 54 49.5**	**-0.8**
YKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
YKA	**Yellowknife Ar**	**86.31**	**8**	P	**P**	**21 54 49.5**	**-0.8**
	comp=Z,3.4nm,0.8s,mb4.7,baz=341,slow=4.9,SNR=9.7						
YKA	**Yellowknife Ar**	**86.31**	**8**	P	**P**	**21 54 49.5**	**-0.8**
DLBC	**Dease Lake**	**87.15**	**17**	P	**P**	**21 54 54.7**	**+0.2**
	comp=Z,4.9nm,0.9s,mb4.7,baz=331,slow=4.9,SNR=4.9						
DLBC	**Dease Lake**	**87.15**	**17**	*e*P	**P**	**21 54 55.1**	**+0.6**
FCC	**Fort Churchill**	**91.21**	**359**	*e*P	**P**	**21 55 11.4**	**-2.2**
FCC				pmax	pmax		
	comp=Z,21nm,1.6s,mb5.2						
FCC	**Fort Churchill**	**91.21**	**359**	*e*P	**P**	**21 55 11.4**	**-2.2**
	comp=Z,21nm,1.6s,mb5.2						
EDM	**Edmonton**	**95.45**	**10**	*e*P	**P**	**21 55 33.5**	**+0.2**
MNTX	**Cornudas Mount**	**117.69**	**9**	*e*PKPdf	PKPdf	22 00 55.5	-1.7
TXAR	**Lajitas Array**	**120.23**	**8**	PKP	PKPdf	22 01 01.3	-0.9
	comp=Z,1.0nm,0.8s,SNR=4.2						
TXAR	**Lajitas Array**	**120.23**	**8**	PKP	PKPdf	22 01 01.3	-0.9
OTAV	**Otavalo**	**145.21**	**328**	*e*PKPdf	PKPdf	22 01 47.3	-1.8
TRQA	**Tornquist**	**150.78**	**245**	*e*PKPdf	PKPdf	22 01 56.5	-1.0

IDC 07 21:55:25.2±2.7, 5.46N×95.03E, mb3.6/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=116.7km s-min=21.3km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.62**	**347**	P	P	22 03 22.6	-2.2
	0.6nm,0.6s,baz=163,slow=7.5,SNR=6.9						
SONM	**Songino Array**	**43.33**	**11**	P	P	22 03 29.1	-1.5
	0.1nm,0.3s,baz=194,slow=6.0,SNR=4.7						
WRA	**Warramunga Arr**	**46.16**	**124**	P	P	22 03 51.8	-1.9
	1.3nm,0.7s,baz=303,slow=9.2,SNR=15						
ASAR	**Alice Springs**	**47.71**	**129**	P	P	22 04 04.1	-1.8
	0.4nm,0.6s,baz=303,slow=8.0,SNR=6.9						
BVAR	**Borovoye Array**	**51.54**	**341**	P	P	22 04 33.0	-1.9
	0.1nm,0.3s,baz=168,slow=13,SNR=2.5						

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*IDC **07** 22:03:14.3±2.1, 29.98N×83.06E, mb3.3/4, mb1 3.6/5, mb1mx3.4/21, mbtmp3.3/5, ML3.5/1, Error ellipse: s-maj=65.1km s-min=26.9km az=60.0*
ISC 07 22:03:18.4±0.9, 30.7N±0.1×84.35E±0.09, h10km, n8, σ1§48/9, mb3.1/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.77**	**252**	*e*PN	**Pn**	**22 04 18.7**	**+0.8**
LGTI				*e*SN	**Sn**	**22 05 02.5**	**-0.4**
DDI	**Dehra Dun**	**5.44**	**268**	*e*	**Pn**	**22 04 38.0**	**-3.6**
MKAR	**Makanchi Array**	**16.14**	**355**	Pn	**P**	**22 07 13.3**	**+6.5**
	0.1nm,0.3s,baz=187,slow=9.8,SNR=4.7						
CMAR	**Chiang Mai Arr**	**18.00**	**129**	P	**P**	**22 07 31.6**	**+1.0**
	0.1nm,0.3s,baz=310,slow=11,SNR=6.2						
SONM	**Songino Array**	**24.03**	**38**	P	**P**	**22 08 42.9**	**+8.7**
	0.2nm,0.3s,mb3.0,baz=248,slow=7.8,SNR=3.8						
BVAR	**Borovoye Array**	**24.51**	**339**	P	**P**	**22 08 38.7**	**-0.2**
	0.2nm,0.4s,mb3.0,baz=149,slow=8.4,SNR=2.9						
WRA	**Warramunga Arr**	**69.60**	**130**	P	**P**	**22 14 28.1**	**-2.0**
	0.2nm,0.5s,mb3.3,baz=324,slow=6.5,SNR=4.5						
YKA	**Yellowknife Ar**	**85.88**	**9**	P	**P**	**22 15 59.2**	**+0.1**
	0.1nm,0.5s,mb3.4,baz=339,slow=4.9,SNR=5.7						

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*NEIC **07** 22:03:41.9, 34.67S×71.97W, h32km, ML3.4(GUC), After GUC.*
GUC 07 22:03:41.9±0.9, 34.67S×71.97W, h32km±3km, MD3.6, ML3.4, 6C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.69**	**119**	⇓*i*P	Pb	22 03 55.2	-0.3
NICH				*i* S	Sb	22 04 04.8	0.0
TALC	**Talca**	**0.77**	**159**	⇓*i*P	Pn	22 03 56.4	-0.3
TALC				*i* S	Sb	22 04 06.7	-0.4
TALC				AMP		22 04 07.3	
	comp=E,9μm,0.2s						
SFDO	**San Fernando**	**0.79**	**86**	⇑*i*P	Pn	22 03 56.5	-0.3
SFDO				*i* S	Sb	22 04 07.7	+0.2
LNV	**Longovilo**	**0.85**	**33**	⇑*i*P	Pn	22 03 57.2	-0.5
LNV				*i* S	Sn	22 04 08.9	-0.3
LCCH	**Las Cruces**	**1.24**	**16**	⇓*i*P	Pn	22 04 02.5	-0.9
LCCH				*i* S	Sn	22 04 18.5	-0.5
CACH	**El Canelo**	**1.26**	**64**	⇑*i*P	Pn	22 04 04.7	+1.1
CACH				*i* S	Sn	22 04 21.7	+2.1
CHCH	**Chadas Angostu**	**1.31**	**56**	⇓*i*P	Pn	22 04 05.2	+0.8
CHCH				*i* S	Sn	22 04 22.6	+1.6
CICH	**Cipreses**	**1.33**	**75**	*e*P	Pn	22 04 05.3	+0.7
CICH				*i* S	Sn	22 04 23.0	+1.7
TACH	**Talagante**	**1.33**	**40**	⇓*i*P	Pn	22 04 04.9	+0.3
TACH				*i* S	Sn	22 04 21.9	+0.6
RCDM	**Rinconada Maip**	**1.52**	**40**	⇑*i*P	Pn	22 04 08.1	+0.7
RCDM				*i* S	Sn	22 04 27.2	+0.9
RCDM				AMP		22 04 31.3	
	comp=E,680nm,0.1s						
ANTU	**Antumapu**	**1.56**	**46**	*i* S	Sn	22 04 29.0	+1.8
ANTU				AMP		22 04 34.1	
	comp=N,614nm,0.9s						
PCH	**Pirque**	**1.60**	**49**	⇑*i*P	Pn	22 04 10.0	+1.6
LMEL	**Las Melosas**	**1.68**	**61**	⇓*i*P	Pn	22 04 11.0	+1.4
LMEL				*i* S	Sn	22 04 32.7	+2.5
LMEL				AMP		22 04 35.9	
	comp=N,893nm,0.1s						
SJCH	**San Jose de Ma**	**1.69**	**53**	*e*P	Pn	22 04 11.1	+1.4
SJCH				*i* S	Sn	22 04 33.0	+2.6
SJCH				AMP		22 04 35.5	
	comp=N,352nm,0.4s						
CLCH	**Cerro Calan**	**1.74**	**43**	⇑*i*P	Pn	22 04 12.0	+1.5
CLCH				*i* S	Sn	22 04 34.2	+2.4
CLCH				AMP		22 04 42.1	
	comp=E,451nm,0.6s						
CLCH				AMP		22 04 48.4	
	comp=E,908nm,0.5s						
PEL	**Peldehue**	**1.86**	**35**	*e*S	Sn	22 04 38.1	+3.3
ROCH	**El Roble**	**1.87**	**25**	⇓*i*P	Pn	22 04 13.3	+0.9
FCH	**Farellones**	**1.93**	**47**	*e*P	Pn	22 04 14.7	+1.5
FCH				*i* S	Sn	22 04 39.1	+2.4
FCH				AMP		22 04 44.2	
	comp=N,335nm,0.2s						
JACH	**Jahuel**	**2.29**	**30**	*e*P	Pn	22 04 19.0	+0.6

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*IDC **07** 22:18:15.5±4.4,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.98**	**213**	Pn	Pn	22 33 27.0	-5.0
	0.5nm,0.3s,baz=282,slow=9.3,SNR=3.0						
URZ				Sn	Sn	22 34 56.7	-7.4
	2.5nm,0.3s,baz=179,slow=21,SNR=12						
HNR	**Honiara**	**30.55**	**312**	LR	LR	22 46 39.8	
	comp=Z,253nm,18.9s,baz=228,slow=30						
STKA	**Stephens Creek**	**34.75**	**259**	P	P	22 38 25.2	-0.8
	2.5nm,0.9s,baz=109,slow=12,SNR=7.6						
ASAR	**Alice Springs**	**43.60**	**268**	P	P	22 39 38.0	-1.7
	1.7nm,0.7s,baz=105,slow=7.4,SNR=20						
WRA	**Warramunga Arr**	**44.71**	**273**	P	P	22 39 46.5	-2.2
	2.4nm,0.4s,baz=112,slow=7.9,SNR=51						
KAF	**Kangasniemi**	**145.93**	**340**	*e*p	PKPbc	22 51 11.5	-1.4
	0.3nm,0.4s						
FINES	**FINESS Array B**	**146.53**	**340**	PKPbc	PKPbc	22 51 14.0	-0.2
	1.7nm,0.5s,baz=47,slow=3.1,SNR=9.8						
AKASG	**Malin Array De**	**152.64**	**322**	PKPab	PKPab	22 51 39.8	-3.1
	0.2nm,0.3s,baz=41,slow=4.3,SNR=5.6						

IDC 07 22:35:30.7±2.6,0.41N×97.16E,mb3.6/4,mb1 3.7/5, mb1mx3.5/19,mbtmp3.6/5,ML4.1/1,Error ellipse: s-maj=110.5km s-min=22.0km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.02**	**5**	P	P	22 39 44.5	+0.1
	0.2nm,0.3s,baz=197,slow=12,SNR=5.7						
WRA	**Warramunga Arr**	**41.66**	**121**	P	P	22 43 20.9	-2.0
	0.2nm,0.4s,baz=305,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**42.96**	**126**	P	P	22 43 32.0	-1.5
	0.4nm,0.7s,baz=297,slow=7.7,SNR=3.9						
MKAR	**Makanchi Array**	**47.99**	**346**	P	P	22 44 11.4	-1.9
	1.2nm,0.5s,baz=161,slow=8.2,SNR=9.4						
BVAR	**Borovoye Array**	**56.98**	**341**	P	P	22 45 17.3	-3.1
	0.4nm,0.5s,baz=108,slow=9.1,SNR=3.7						

*IDC **07** 22:35:29.6±0.8,7.42N×94.31E,mb3.9/10,mb1 4.1/10, mb1mx3.9/20,mbtmp3.9/10,Error ellipse: s-maj=33.7km s-min=18.6km az=56.0*
*NEIC **07** 22:35:33.7±0.5,7.23N×93.98E,h30km,mb4.3/5,Error ellipse: s-maj=13.1km s-min=9.0km az=55.0*
ISC 07 22:35:32.3±7.7,7.3N±0.1×94.1E±0.2,h32km±53km,n22, σ0=80/22,mb4.0/13,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.83**	**107**	*e*P	Pn	22 37 11.8	-1.1
CM31	**Chiang Mai Arr**	**12.07**	**23**	P	P	22 38 27.1	+1.8
	5.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**12.07**	**23**	Pn	P	22 38 25.1	-0.1
	0.2nm,0.3s,baz=214,slow=14,SNR=5.3						
KMI	**Kunming**	**19.58**	**24**	P	P	22 40 00.5	-0.2
	10.0nm,1.0s						
KMI				pP		22 40 08.2	
AAK	**Ala-Archa**	**39.22**	**337**	P	P	22 42 58.1	-1.3
	1.4nm,0.8s,mb3.7						
MKAR	**Makanchi Array**	**40.65**	**348**	P	P	22 43 11.2	+0.1
	2.5nm,0.7s,mb4.0,baz=168,slow=7.8,SNR=22						
SONM	**Songino Array**	**41.75**	**12**	P	P	22 43 19.7	-0.5
	1.0nm,0.8s,mb3.5,baz=195,slow=7.0,SNR=8.6						
SONM				PcP	PcP	22 45 15.2	-1.5
	0.7nm,0.8s,baz=198,slow=3.9,SNR=4.0						
KURK	**Kurchatov**	**45.16**	**346**	*e*P	P	22 43 47.5	-0.3
	10nm,1.3s,mb4.5						
ZAL	**Zalesovo**	**47.12**	**353**	P	P	22 44 03.5	+0.2
	1.3nm,0.3s,mb4.3,baz=299,slow=7.7,SNR=5.4						
ZAL	**Zalesovo**	**47.12**	**353**	P	P	22 44 03.5	+0.2
WRA	**Warramunga Arr**	**47.97**	**125**	P	P	22 44 11.0	+0.5
	0.5nm,0.5s,mb3.8,baz=305,slow=8.3,SNR=6.2						
WRAB	**Tennant Creek**	**47.98**	**125**	P	P	22 44 11.8	+1.3
	7.3nm,1.1s,mb4.6						
BVAR	**Borovoye Array**	**49.52**	**341**	P	P	22 44 21.7	-0.2
	1.1nm,0.5s,mb4.2,baz=141,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**49.59**	**130**	P	P	22 44 22.2	-0.6
	0.4nm,0.5s,mb3.7,baz=300,slow=7.7,SNR=7.6						
ASAR				PcP	PcP	22 45 41.7	-2.7
	0.4nm,0.8s,baz=308,slow=3.3,SNR=3.9						
CHKZ	**Chkalovo**	**50.01**	**342**	*e*P	P	22 44 25.5	-0.1
	85nm,1.0s						
KMBO	**Kilima Mbogo**	**57.30**	**264**	P	P	22 45 23.0	+3.1
	1.3nm,0.8s,mb4.0,baz=40,slow=13,SNR=6.2						
KMBO	**Kilima Mbogo**	**57.30**	**264**	*e*P	P	22 45 19.8	-0.2
	1.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**59.75**	**133**	*e*P	P	22 45 32.2	-4.6
FINES	**FINESS Array B**	**73.20**	**332**	P	P	22 47 01.3	-0.5
	0.9nm,0.5s,mb4.0,baz=90,slow=7.6,SNR=12						
FINES	**FINESS Array B**	**73.20**	**332**	P	P	22 47 01.3	-0.5
ARCES	**ARCESS Array B**	**75.80**	**340**	P	P	22 47 16.5	-0.1
	2.0nm,0.8s,mb4.1,baz=90,slow=7.3,SNR=3.7						
GERES	**GERESS Array B**	**78.22**	**318**	P	P	22 47 31.2	+0.8
	0.4nm,0.5s,mb3.6,baz=106,slow=7.1,SNR=4.6						

*JMA **07** 22:45:47.1±0.2,29.86N×139.73E,h429km,M4.0*
*IDC **07** 22:45:48.2±0.6,29.86N×139.42E,h394km±9km,mb3.3/11, mb1 3.3/15,mb1mx3.2/27,mbtmp4.1/15,Error ellipse: s-maj=25.4km s-min=8.1km az=73.0*
*NEIC **07** 22:45:49.1±0.7,29.90N×139.40E,h409km±7km,mb3.8/9, Error ellipse: s-maj=14.7km s-min=7.2km az=81.0*
ISC 07 22:45:47.3±0.4,29.81N±0.05×139.4E±0.1,h408km±6km, n33,σ0=73/39,mb3.5/18,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.31**	**5**	P	P	22 46 55.2	+1.1
JHJ	**Hachijo jima 2**	**3.31**	**5**	P	P	22 46 54.5	+0.4
	27nm,0.3s,baz=81,slow=11,SNR=15						
JHJ				S	S	22 47 46.3	-0.5
	27nm,0.3s,baz=89,slow=22,SNR=3.4						
CBIJ	**Chichi jima**	**3.63**	**138**	P	P	22 46 57.1	+0.2
	16nm,0.3s,baz=277,slow=6.3,SNR=38						
CBIJ				S	S	22 47 51.4	-0.3
	71nm,0.3s,baz=284,slow=23,SNR=27						
CBIJ	**Chichi jima**	**3.63**	**138**	P	P	22 46 57.1	+0.1
CBIJ				*e*S	S	22 47 51.6	-0.1
JHHJ	**Haha-jima-NKT**	**3.98**	**142**	P	P	22 47 00.2	-0.1
JHHJ				*e*S	S	22 47 56.0	-1.6
BSO1	**Boso 1**	**5.00**	**15**	P	P	22 47 10.6	+0.2
BSO1				*e*S	S	22 48 16.2	+0.7
JIE	**Ise**	**5.12**	**334**	P	P	22 47 13.3	+1.7
JOD2	**Odawara 2**	**5.44**	**357**	P	P	22 47 14.9	-0.1
JRY	**Ryogami san**	**6.20**	**356**	P	P	22 47 23.0	-0.1
JRY				*e*S	S	22 48 38.3	-0.2
MJAR	**Matsushiro Arr**	**6.79**	**352**	P	P	22 47 29.3	-0.4
	2.3nm,0.3s,baz=166,slow=11,SNR=10						
MAJO	**Matsushiro**	**6.79**	**352**	*e*Pn	P	22 47 29.4	-0.3
	12nm,0.5s						
MAT	**Matsushiro**	**6.79**	**352**	*e*P	P	22 47 30.0	+0.3
	9.1nm,0.5s						
MAT	**Matsushiro**	**6.79**	**352**	P	P	22 47 29.5	-0.2
JOW	**Kunigami**	**10.28**	**256**	P	P	22 48 09.9	+0.3
	1.4nm,0.3s,baz=61,slow=11,SNR=10						
ULN	**Ulaanbaatar**	**30.70**	**315**	*e*P	P	22 51 27.4	-0.5
	1.5nm,0.7s,mb3.4						
SONM	**Songino Array**	**31.09**	**315**	P	P	22 51 30.4	-0.8
	0.4nm,0.4s,mb3.1,baz=133,slow=8.5,SNR=6.2						
CMAR	**Chiang Mai Arr**	**38.47**	**262**	P	P	22 52 33.6	+0.1
	0.4nm,0.6s,mb3.0,baz=91,slow=6.4,SNR=4.1						
MKAR	**Makanchi Array**	**46.90**	**308**	P	P	22 53 39.9	-0.5
	0.4nm,0.3s,mb3.2,baz=87,slow=9.8,SNR=12						
KURK	**Kurchatov**	**49.37**	**313**	*e*P	P	22 53 57.7	-1.4
	3.4nm,1.0s,mb3.6						
FITZ	**Fitzroy Crossi**	**49.46**	**197**	P	P	22 54 01.1	+0.9
	1.9nm,0.5s,mb3.6,baz=90,slow=3.0,SNR=5.2						
WRAB	**Tennant Creek**	**49.70**	**186**	*e*P	P	22 54 02.7	+0.7
	6.1nm,1.0s,mb3.9						
WRA	**Warramunga Arr**	**49.71**	**186**	P	P	22 54 02.4	+0.3
	0.8nm,0.3s,mb3.5,baz=13,slow=7.8,SNR=56						
AAK	**Ala-Archa**	**52.74**	**303**	P	P	22 54 23.6	-0.5
	3.6nm,1.3s,mb3.4						
ASAR	**Alice Springs**	**53.44**	**186**	P	P	22 54 29.8	+0.4
	1.0nm,0.5s,mb3.3,baz=5.1,slow=8.0,SNR=18						
MBWA	**Marble Bar**	**54.11**	**203**	*e*P	P	22 54 27.7	-6.7
	18nm,1.1s,mb4.2						
CHKZ	**Chkalovo**	**54.24**	**317**	*e*P	P	22 54 33.5	-1.3
	1.3nm,0.5s,mb3.6						
BVAR	**Borovoye Array**	**54.42**	**316**	P	P	22 54 35.5	-0.5
	2.3nm,0.4s,mb3.7,baz=102,slow=7.4,SNR=32						
STKA	**Stephens Creek**	**61.38**	**178**	P	P	22 55 24.9	+1.2
	1.3nm,0.5s,mb3.6,baz=336,slow=9.6,SNR=7.6						
STKA	**Stephens Creek**	**61.38**	**178**	P	P	22 55 23.6	-0.1
ARCES	**ARCESS Array B**	**70.18**	**340**	P	P	22 56 19.1	+0.8
	1.2nm,0.5s,mb3.7,baz=74,slow=8.0,SNR=11						
KAF	**Kangasniemi**	**73.98**	**333**	*e*p	P	22 56 39.6	-0.9
	0.3nm,0.3s,mb3.4						
FINES	**FINESS Array B**	**74.45**	**333**	P	P	22 56 43.6	+0.5
	0.9nm,0.8s,mb3.4,baz=63,slow=6.2,SNR=12						
BRTR	**Keskin Array B**	**82.40**	**312**	P	P	22 57 27.2	+1.2
	0.6nm,0.6s,mb3.5,baz=63,slow=2.8,SNR=4.9						

*DJA **07** 22:48:35.1±0.4,1.76S×98.95E,h33km,mb5.1/5,Error ellipse: s-maj=17.6km s-min=5.2km az=54.0*
*BJI **07** 22:48:37.4,1.83S×99.61E,h28km,mB5.4,mb4.7,Ms5.4, Msz5.2*
*HRVD **07** 22:48:39.7±0.5,1.58S×99.30E,h18km±1km,MW5.3/65, Centroid moment Tensor Solution. LP body waves: s29,c37;Mantle waves: s65,c110; Half duration: 1ŝ1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.96±.07; $M_{\theta\theta}$-0.54±.04; $M_{\phi\phi}$-0.42±.05; $M_{r\theta}$-0.56±.11; $M_{\theta\phi}$0.43±.03; $M_{\phi r}$-0.17±.11; Best double couple: $M_0$1.089×10^{17} NP1: ϕ_s149°,δ39°,λ123°. NP2:ϕ_s288°,δ59°,λ66°. Principal axes: T 1.206, Plg67°, Azm151°; N -.234, Plg20°, Azm301°; P -.972, Plg11°, Azm35°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **07** 22:48:39.7±0.2,1.57S×99.42E,mb5.1/41,MS4.8/29 Error ellipse: s-maj=6.0km s-min=3.6km az=222.0*
NEIC Felt [III] at Padangpanjang, Sumatra.
*MOS **07** 22:48:40.2±1.1,1.54S×99.50E,h33km,mb5.2/38, MS4.9/17,Error ellipse: s-maj=10.7km s-min=5.5km az=121.1*
*IDC **07** 22:48:44.8±2.6,1.50S×99.52E,h57km±23km,mb4.4/23, mb1 4.6/24,mb1mx4.5/25,mbtmp4.7/24,ML4.9/1,MS4.7/6, Ms1 4.7/6,ms1mx4.4/18,Error ellipse: s-maj=16.7km s-min=8.8km az=46.0*
*CSEM **07** 22:48:49.2,0.47S×98.61E,h33km,mb5.5*
ISC 07 22:48:38.4±1.1,1.56S±0.03×99.47E±0.03,h20km±7km, h18km±1.7km:pP-P,n276,σ1ŝ09/251,mb4.9/84,MS4.8/46, 22C-15D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.44**	**40**	*e*P	Pn	22 49 05.0	+1.3
PSI	**Prapat**	**4.26**	**353**	*e*P	Pn	22 49 43.0	-0.9
KGM	**Kluang**	**5.24**	**47**	P	Pn	22 50 01.3	+3.5
IPM	**Ipoh**	**6.30**	**14**	P	Pn	22 50 13.9	+1.3
KULM	**Kulim**	**6.91**	**10**	*e*Pn	Pn	22 50 21.0	-0.3
PENI	**Pendagan**	**6.94**	**125**	⇑*i*P	Pn	22 50 20.9	-0.9
PENI				pmax	pmax		
	comp=Z,538nm,0.4s						
PENI	**Pendagan**	**6.94**	**125**	⇓*i*pP		22 50 21.3	
PENI	**Pendagan**	**6.94**	**125**	⇑*i*P	Pn	22 50 20.9	-0.9
	comp=Z,1μm,0.4s						
PULI	**Pulasari**	**8.04**	**126**	⇑*i*P	P	22 50 36.0	-1.1
	comp=Z,242nm,0.3s						
PULI	**Pulasari**	**8.04**	**126**	⇓*i*P	P	22 50 36.1	-1.1
	comp=Z,242nm,0.3s						
BSI	**Banda Aceh**	**8.16**	**329**	*e*P	P	22 50 32.0	-6.7
KSM	**Kuching**	**11.25**	**75**	*e*P	P	22 51 22.0	+0.6
SRDI	**Scrawed**	**16.14**	**116**	⇑*i*P	P	22 52 25.5	-0.6
	comp=Z,80nm,0.2s						
KELI	**Kelakatan**	**16.36**	**114**	⇑*i*P	P	22 52 30.5	+1.7
KELI	**Kelakatan**	**16.36**	**114**	⇓*i*P	P	22 52 29.4	+0.6
RATI	**Rata**	**17.50**	**115**	⇓*i*P	P	22 52 42.8	-0.4
KEDI	**Kedomdong**	**17.94**	**113**	⇑*i*P	P	22 52 49.1	+0.4
	comp=Z,35nm,0.2s						
KKM	**Kota Kinabalu**	**18.35**	**66**	P	P	22 52 56.3	+2.5
BDT	**Bhumibol Dam**	**18.69**	**359**	P	P	22 53 03.0	+5.0
CM31	**Chiang Mai Arr**	**19.90**	**359**	*e*P	P	22 53 10.7	-1.2
	comp=Z,17nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.90**	**359**	P	P	22 53 11.1	-0.8
	comp=Z,1.4nm,0.3s,baz=185,slow=10,SNR=49						
CMAR				LR	LR	23 01 12.9	
	comp=Z,2μm,18.3s,baz=180,slow=38						
CHG	**Chiang Mai**	**20.25**	**359**	⇑P	P	22 53 16.2	+0.6
	comp=Z,23nm,1.0s						
NINI	**Niniconang**	**20.46**	**98**	*e*P	P	22 53 17.5	-0.2
PALK	**Pallekele**	**20.68**	**295**	*e*P	P	22 53 17.6	-2.4
	comp=Z,42nm,0.9s						
PALK				LR	LR		
	comp=Z,544nm,19.0s,MS3.9						
BUNI	**Buntu Taipa**	**20.94**	**96**	*e*P	P	22 53 23.9	+1.2
QIZ	**Qiongzhong**	**22.86**	**26**	P	P	22 53 44.1	+2.1
QIZ				S	S	22 57 47.6	+1.7
QIZ				LR	LR		
	comp=N,3μm,13.6s,MS5.0						
QIZ				LR	LR		
	comp=E,2μm,11.9s,MS5.0						
QIZ				LR	LR		
	comp=Z,4μm,13.2s,MS5.0						
MDRS	**Chennai**	**23.98**	**308**	*e*P	P	22 53 53.9	+1.0
MDRS				*e*		22 54 01.0	
	comp=Z,59nm,1.6s						
MDRS				*e*S	S	22 58 10.3	+4.8
MDRS				*i*		23 00 44.2	
MDRS				*i*		23 01 40.6	
VIS	**Vishakhapatnam**	**24.90**	**321**	*e*P	P	22 54 03.9	+2.1
VIS				*e*		22 54 09.9	
	comp=Z,61nm,1.6s						
VIS				*e*S	S	22 58 22.3	+1.3
VIS				*i*		23 03 24.1	
CAL	**Calcutta**	**26.30**	**336**	*e*	P	22 54 28.4	+14
CAL				*e*		22 58 27.8	
KMI	**Kunming**	**26.72**	**7**	P	P	22 54 20.1	+1.5
KMI				AP	pP	22 54 25.4	+0.9
KMI				XP	sP	22 54 27.2	+0.1
KMI				PP	PP	22 55 09.8	+6.5
KMI				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.6						
KMI				AMB	AMB		
	comp=Z,282nm,7.3s						
KMI				LR	LR		
	comp=N,3μm,10.9s,MS5.2						
KMI				LR	LR		
	comp=E,3μm,11.5s,MS5.2						
KMI				LR	LR		
	comp=Z,2μm,12.3s,MS5.0						
KMI	**Kunming**	**26.72**	**7**	P	P	22 54 20.1	+1.5
KMI				*SP	sP	22 54 27.2	+0.1
KMI						22 55 09.8	
KMI				SS	SS	23 00 24.7	+21
KMI				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.6						
KMI				MLR	MLR		
	comp=Z,2μm,12.3s,MS5.0						
KMI	**Kunming**	**26.72**	**7**	P	P	22 54 20.1	+1.5
	comp=Z,12nm,0.6s,mb4.6						
KMI				pP	pP	22 54 25.4	+0.9
KMI				sP	sP	22 54 27.2	+0.1
KMI				PP	PP	22 55 09.8	+6.5
KMI				S	S	22 59 01.3	+10
KMI				sS		22 59 12.1	
KMI				SS	SS	23 00 24.7	+21
KMI				LR	LR		
	comp=Z,2μm,12.3s,MS5.0						
DGAR	**Diego Garcia**	**27.54**	**257**	PFAKE		22 54 40.0	+14
DGAR				LR	LR		
	comp=Z,526nm,21.0s,MS4.1						
MBWA	**Marble Bar**	**27.75**	**136**	PFAKE		22 54 40.0	+12
MBWA				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
HYB	**Hyderabad**	**27.94**	**313**	*e*P	P	22 54 28.0	-1.8
HYB	**Hyderabad**	**27.94**	**313**	*i*P	P	22 54 28.0	-1.8
SHL	**Shillong**	**27.95**	**345**	*e*P	P	22 54 30.0	+0.1
SHL				*e*		22 59 21.0	
GZH	**Guangzhou**	**27.98**	**28**	P	P	22 54 29.8	-0.4
GZH				LR	LR		
	comp=N,5μm,16.5s,MS5.2						
GZH				LR	LR		
	comp=E,2μm,15.2s,MS5.2						
GZH				LR	LR		
	comp=Z,7μm,16.2s,MS5.3						
GYA	**Guiyang**	**28.71**	**14**	P	P	22 54 35.5	-1.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
BLSP	**Bilaspur**	**29.00**	**325**	*e*	P	22 54 49.8	+10
	comp=Z,32nm,1.2s,mb4.9						
BLSP				*e*S	S	22 59 29.0	+1.0
BLSP				*i*		23 03 42.4	
FITZ	**Fitzroy Crossi**	**30.50**	**124**	*e*P	P	22 54 51.8	-0.9
	comp=Z,29nm,0.9s,mb5.0						
FITZ				*e*		22 56 11.7	
FITZ	**Fitzroy Crossi**	**30.50**	**124**	P	P	22 54 52.1	-0.7
	comp=Z,42nm,0.9s,mb5.2,baz=333,slow=4.9,SNR=26						
KAD	**Karad**	**31.19**	**308**	*e*P	P	22 54 56.2	-2.7
KAD				*e*		22 55 05.9	
	comp=Z,30nm,2.0s						
KAD				*i*		23 04 20.4	
PKI	**Pulchoki**	**31.97**	**336**	*e*P	P	22 55 06.3	+0.7
	comp=Z,48nm,1.2s,mb5.2						
PKI	**Pulchoki**	**31.97**	**336**	*e*P	P	22 55 06.3	+0.7
PKI				pmax	pmax		
	comp=Z,24nm,1.2s,mb4.9						
DMN	**Daman**	**32.13**	**336**	*e*P	P	22 55 06.8	-0.2
	comp=Z,45nm,0.9s,mb5.3						
POO	**Poona**	**32.15**	**310**	*e*P	P	22 55 07.0	-0.3
KKN	**Kakani**	**32.22**	**336**	*e*P	P	22 55 07.5	-0.2
	comp=Z,47nm,0.9s,mb5.3						
KKN	**Kakani**	**32.22**	**336**	*e*P	P	22 55 07.5	-0.2
KKN				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.0						
CD2	**Chengdu**	**32.55**	**7**	*e*P	P	22 55 08.8	-1.8
GKN	**Gorkha**	**32.67**	**335**	*e*P	P	22 55 11.3	-0.4
	comp=Z,94nm,1.1s,mb5.6						
BHPL	**Bhopal**	**32.69**	**320**	*e*	S	23 00 24.0	-2.0
KOLN	**Koldanda**	**32.91**	**334**	*e*P	P	22 55 14.0	+0.2
	comp=Z,86nm,1.0s,mb5.6						
NWAO	**Narrogin (SRO)**	**35.38**	**154**	P	P	22 55 35.7	+0.6
	comp=Z,10.0nm,0.6s,mb4.9,baz=322,slow=9.6,SNR=12						
NWAO				LR	LR	23 09 52.9	
	comp=Z,1μm,19.6s,MS4.7,baz=329,slow=36						
NWAO	**Narrogin (SRO)**	**35.38**	**154**	*e*P	P	22 55 35.8	+0.7
NWAO				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
LGTI	**Lohaghat**	**35.90**	**331**	*e*P	P	22 55 40.0	+0.5
XAN	**Xi'an**	**36.51**	**13**	P	P	22 55 42.7	-1.9
XAN				AP	pP	22 55 50.6	0.0
XAN				S	S	23 01 25.8	+0.7
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.7						
XAN				LR	LR		
	comp=N,2μm,13.8s,MS5.2						
XAN				LR	LR		
	comp=E,3μm,18.7s,MS5.2						
XAN				LR	LR		
	comp=Z,3μm,13.1s						
NDI	**New Delhi**	**36.87**	**326**	*e*P	P	22 55 49.0	+1.3
NDI				*e*		23 00 22.0	
LZH	**Lanzhou**	**37.68**	**6**	*e*P	P	22 55 54.0	-0.3
LZH				AP	pP	22 55 58.5	-1.8
LZH				XP	sP	22 56 03.0	+0.2
LZH				PP	PP	22 57 24.0	+0.7
LZH				S	S	23 01 43.0	+0.1
LZH				SS	SS	23 04 16.0	-1.6
LZH				AMB	AMB		
	comp=Z,110nm,1.6s,mb5.3						
LZH				AMB	AMB		
	comp=Z,260nm,4.0s						
LZH				LR	LR		
	comp=E,4μm,14.0s						
LZH				LR	LR		
	comp=Z,4μm,14.2s,MS5.4						
LZH	**Lanzhou**	**37.68**	**6**	*e*P	P	22 55 54.0	-0.3
LZH				*SP	sP	22 56 03.0	+0.2
LZH						22 57 24.0	
LZH				S	S	23 01 43.0	+0.1
LZH				SS	SS	23 04 16.0	-1.6
LZH				pmax	pmax		
	comp=Z,110nm,1.6s,mb5.3						
LZH				MLR	MLR		
	comp=Z,4μm,14.2s,MS5.4						
LZH	**Lanzhou**	**37.68**	**6**	*e*P	P	22 55 54.0	-0.3
	comp=Z,110nm,1.6s,mb5.3						
LZH				pP	pP	22 55 58.5	-1.8
LZH				sP	sP	22 56 03.0	+0.2
LZH				PP	PP	22 57 24.0	+0.7
LZH				S	S	23 01 43.0	+0.1
LZH				sS		23 01 50.0	
LZH				SS	SS	23 04 16.0	-1.6
LZH				LR	LR		
	comp=Z,4μm,14.2s,MS5.4						
DDI	**Dehra Dun**	**37.71**	**329**	*e*P	P	22 55 55.8	+1.1
NJ2	**Nanjing**	**38.15**	**27**	*e*P	P	22 55 59.0	+0.7
NJ2				AP	pP	22 56 09.0	+4.7
NJ2				XP	sP	22 56 13.0	+6.2
NJ2				S	S	23 01 46.0	-4.1
NJ2				AMB	AMB		
	comp=Z,344nm,4.7s						
NJ2				LR	LR		
	comp=N,3μm,11.8s						
NJ2				LR	LR		
	comp=E,2μm,18.7s						
SSE	**Sheshan**	**38.49**	**31**	P	P	22 56 00.0	-1.2
SSE				AP	pP	22 56 08.8	+1.6
SSE				XP	sP	22 56 12.8	+3.1
SSE				S	S	23 01 54.5	-0.7
SSE				XS		23 02 10.7	
SSE				AMB	AMB		
	comp=Z,33nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,42nm,3.8s						
SSE				LR	LR		
	comp=N,2μm,19.9s,MS5.0						
SSE				LR	LR		
	comp=E,1μm,19.8s,MS5.0						
SSE				LR	LR		
	comp=Z,3μm,20.3s,MS5.0						
SSE	**Sheshan**	**38.49**	**31**	P	P	22 56 00.0	-1.2
	comp=Z,33nm,0.7s,mb5.2						
SSE				pP	pP	22 56 08.8	+1.6
SSE				sP	sP	22 56 12.8	+3.1
SSE				PP	PP	22 57 26.7	-6.3
SSE				S	S	23 01 54.5	-0.7
SSE				sS		23 02 10.7	
SSE				SS	SS	23 04 45.2	+9.4
SSE				LR	LR		
	comp=Z,3μm,20.3s,MS5.0						
WRA	**Warramunga Arr**	**38.67**	**121**	P	P	22 56 01.8	-1.0
	comp=Z,28nm,0.9s,mb5.0,baz=298,slow=9.3,SNR=95						
WRA				S	S	23 01 55.5	-2.6
	comp=Z,0.6nm,0.9s,baz=292,slow=17,SNR=3.1						
WRAB	**Tennant Creek**	**38.68**	**121**	⇑*i*P	P	22 56 02.0	-0.9

KSH eAP pP 22 57 12.0 +1.8
KSH eXP sP 22 57 15.0 +2.4
KSH LR LR
comp=N,290nm,9.6s
KSH LR LR
comp=E,930nm,13.0s
WMQ Urumqi 46.40 348⇑ *i*P **P 22 57 06.5 +1.0**
WMQ AP pP 22 57 11.0 -0.6
WMQ XP sP 22 57 13.5 -0.5
WMQ AMB AMB
comp=Z,13nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,299nm,4.5s
WMQ LR LR
comp=N,1μm,18.5s,MS4.9
WMQ LR LR
comp=E,893nm,23.0s,MS4.9
WMQ LR LR
comp=Z,690nm,22.3s,MS4.6
KZA Kyzart 48.65 336 P **P 22 57 28.7 +5.5**
SNR=7.2
UCH Uchtor 49.08 335 P **P 22 57 27.0 +0.5**
SNR=9.4
TKM2 Tokmak 2 49.22 337 P **P 22 57 28.0 +0.4**
SNR=11
KBK Karagaybulak 49.26 336 P **P 22 57 28.6 +0.7**
SNR=8.5
CTA Charters Tower 49.26 115 *e*P **P 22 57 26.9 -1.3**
comp=Z,9.8nm,0.9s,mb4.8
CTA Charters Tower 49.26 115 *e*P **P 22 57 26.9 -1.3**
CTA pmax pmax
comp=Z,10.0nm,0.9s
CTA Charters Tower 49.26 115 P **P 22 57 28.1 -0.1**
comp=Z,13nm,0.9s,mb5.0,baz=275,slow=8.1,SNR=8.1
CTAO Charters Tower 49.26 115 *e*P **P 22 57 27.5 -0.7**
CTAO pmax pmax
comp=Z,14nm,0.8s,mb5.0
CTAO MLR MLR
comp=Z,2μm,22.0s,MS5.0
CTAO Charters Tower 49.26 115 *e*P **P 22 57 27.5 -0.7**
comp=Z,14nm,0.8s,mb5.0
CTAO LR LR
comp=Z,2μm,22.0s,MS5.0
AML Almayashu 49.34 335 P **P 22 57 29.1 +0.5**
SNR=16
AAK Ala-Archa 49.42 336 P **P 22 57 34.6 +5.4**
SNR=7.0
AAK Ala-Archa 49.42 336 *e*P **P 22 57 28.2 -0.9**
AAK pmax pmax
comp=Z,17nm,1.1s,mb5.0
AAK MLR MLR
comp=Z,303nm,21.0s,MS4.3
AAK Ala-Archa 49.42 336 *e*P **P 22 57 28.2 -1.0**
comp=Z,17nm,1.1s,mb5.0
AAK LR LR
comp=Z,303nm,21.0s,MS4.3
FRU Bishkek 49.54 336 *e*P **P 22 57 34.5 +4.5**
FRU pmax pmax
comp=Z,210nm,2.5s,mb5.7
SONM Songino Array 49.56 6 P **P 22 57 30.3 +0.1**
comp=Z,2.9nm,0.6s,mb4.5,baz=190,slow=9.5,SNR=24
ULN Ulaanbaatar 49.67 7 *e*P **P 22 57 30.6 -0.4**
ULN pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
ULN MLR MLR
comp=Z,684nm,19.0s,MS4.7
ULN Ulaanbaatar 49.67 7 *e*P **P 22 57 30.6 -0.4**
comp=Z,9.4nm,0.9s,mb4.8
ULN LR LR
comp=Z,684nm,19.0s,MS4.7
EKS2 Erkin-Say 49.74 335 P **P 22 57 32.2 +0.6**
SNR=15
STKA Stephens Creek 49.84 132 *e*P **P 22 57 32.8 +0.3**
comp=Z,18nm,0.9s,mb5.1
STKA *e* 22 58 56.2
STKA Stephens Creek 49.84 132 P **P 22 57 33.1 +0.7**
comp=Z,24nm,0.9s,mb5.2,baz=307,slow=7.6,SNR=33
USP Ospenovka 49.95 336 P **P 22 57 33.6 +0.4**
SNR=13
MKAR Makanchi Array 50.47 345 *i*P **P 22 57 36.0 -1.1**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 50.47 345 P **P 22 57 36.7 -0.4**
comp=Z,6.3nm,0.5s,mb4.9,baz=156,slow=8.6,SNR=47
MKAR Makanchi Array 50.47 345 P **P 22 57 36.7 -0.4**
CN2 Changchun 50.80 24 *e*P **P 22 57 37.7 -2.0**
CN2 *e*S **S 23 04 52.3 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,400nm,4.0s
CN2 LR LR
comp=N,3μm,17.0s,MS5.4
CN2 LR LR
comp=E,900nm,17.0s,MS5.4
CN2 LR LR
comp=Z,3μm,17.0s,MS5.3
JHJ Hachijo jima 2 51.32 44 LR LR 23 17 49.1
comp=Z,491nm,20.6s,MS4.5,baz=335,slow=34
KKAR Karatay Array 51.52 333 P **P 22 57 44.0 -1.1**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ZAK Zakamensk 51.85 3 *e*P **P 22 57 46.3 -1.2**
ZAK pmax pmax
comp=Z,4.0nm,2.3s,mb3.9
MAJO Matsushiro 52.27 40 PFAKE 22 58 00.0 +9.1
MAJO LR LR
comp=Z,916nm,20.0s,MS4.8
MJAR Matsushiro Arr 52.28 40 P **P 22 57 49.0 -1.9**
comp=Z,4.7nm,1.0s,mb4.4,baz=220,slow=7.1,SNR=8.1
MOY Mondy 53.05 1 *e*P **P 22 58 00.4 +3.9**
MOY pmax pmax
comp=Z,36nm,2.6s,mb4.8
TLY Talaya 53.16 3⇑ *i*P **P 22 57 57.4 +0.1**
TLY *e* 23 00 01.9
TLY pmax pmax
comp=Z,20nm,2.3s,mb4.6
TLY MLR MLR
comp=Z,1μm,16.0s,MS5.0
MDJ Mudanjiang 53.23 27 P **P 22 57 59.4 +1.5**
MDJ AMB AMB
comp=Z,6.0nm,0.8s,mb4.6
MDJ LR LR
comp=E,664nm,31.6s
MDJ LR LR
comp=Z,820nm,21.7s
KURK Kurchatov 55.04 344⇑ *i*P **P 22 58 10.1 -1.0**
KURK Kurchatov 55.04 344 *e*P **P 22 58 09.9 -1.2**
comp=Z,26nm,0.9s,mb5.2
KURK LR LR
comp=Z,221nm,20.0s,MS4.2
ZAL Zalesovo 56.64 350 P **P 22 58 22.5 0.0**
comp=Z,11nm,0.4s,mb5.2,baz=308,slow=4.6,SNR=26
ZAL Zalesovo 56.64 350 P **P 22 58 22.5 0.0**
ATD Arta Tunnel 57.75 285 LR LR 23 18 22.0
comp=Z,384nm,19.4s,MS4.5,baz=95,slow=31
KLR Kul'dur 57.75 24 *e*P **P 22 58 26.1 -4.4**
KLR MLR MLR
comp=E,2μm,15.0s
KLR MLR MLR
comp=Z,2μm,15.0s,MS5.4
TAU Tasmania Unive 59.26 141 PFAKE 22 58 50.0 +8.9
TAU LR LR
comp=Z,314nm,19.0s,MS4.5
BVA0 Borovoye Array 59.59 340 P **P 22 58 41.1 -2.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
BVAR Borovoye Array 59.59 340 P **P 22 58 41.5 -1.8**
comp=Z,2.6nm,0.6s,mb4.4,baz=142,slow=7.9,SNR=23
CHKZ Chkalovo 60.06 341 *e*P **P 22 58 43.6 -2.8**
CHKZ pmax pmax
comp=Z,14nm,0.8s,mb5.0
CHKZ Chkalovo 60.06 341 *e*P **P 22 58 43.6 -2.8**
comp=Z,14nm,0.8s,mb5.1
BOD Bodaibo 60.33 9 *e*P **P 22 58 46.8 -1.5**
BOD pmax pmax
comp=Z,12nm,1.1s,mb4.8
YSS Yuzh-Sakhalins 61.40 32⇓ *i*P **P 22 58 54.4 -1.2**
YSS pmax pmax
comp=Z,24nm,1.0s,mb5.3
KMBO Kilima Mbogo 62.20 270 *e*P **P 22 59 01.0 -0.5**
KMBO *e**PP pP 22 59 06.4 -1.4
KMBO pmax pmax
comp=Z,13nm,0.9s
KMBO MLR MLR
comp=Z,632nm,20.0s
KMBO Kilima Mbogo 62.20 270 P **P 22 59 02.0 +0.5**
comp=Z,7.9nm,0.8s,mb4.9,baz=58,slow=9.5,SNR=29
KMBO LR LR 23 20 21.2
comp=Z,503nm,20.3s,MS4.7,baz=99,slow=30
KMBO Kilima Mbogo 62.20 270 *e*P **P 22 59 01.0 -0.5**
comp=Z,13nm,0.9s,mb5.1
KMBO *e*pP pP 22 59 06.4 -1.4
KMBO LR LR
comp=Z,632nm,20.0s,MS4.8
GNI Garni 64.84 316 *e*P **P 22 59 17.0 -1.6**
comp=Z,14nm,0.9s,mb5.0
GNI LR LR
comp=Z,398nm,21.0s,MS4.6
TBLG Delisi 65.54 318 P **P 22 59 26.9 +3.9**
SVE Sverdlovsk 66.08 338⇓ *e*P **P 22 59 26.0 -0.2**
SVE *e* 23 08 36.0
SVE *e* 23 09 20.0
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.2
SVE MLR MLR
comp=N,200nm,18.0s,MS4.5
SVE MLR MLR
comp=E,200nm,18.0s,MS4.5
SVE MLR MLR
comp=Z,400nm,18.0s,MS4.7
ARU Arti 66.60 337⇓ *i*P **P 22 59 28.2 -1.3**
ARU *e* 23 00 03.0
ARU *e*S S 23 08 19.2 +1.1
ARU *e*SS SS 23 12 38.0 +0.9
ARU pmax pmax
comp=Z,14nm,0.9s,mb5.0
ARU Arti 66.60 337 PFAKE 22 59 40.0 +11
ARU LR LR
comp=Z,156nm,20.0s,MS4.2
YAK Yakutsk 67.46 15 *e*P **P 22 59 33.3 -1.6**
YAK *e* 22 59 42.8
YAK *e*S S 23 08 20.0 -8.3
YAK *e* 23 09 23.4
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK smax
comp=N,90nm,13.0s
YAK smax
comp=Z,97nm,20.3s
YAK smax
comp=E,242nm,20.5s
YAK MLR MLR
comp=N,565nm,14.0s,MS5.1
YAK MLR MLR
comp=E,654nm,14.0s,MS5.1
YAK MLR MLR
comp=Z,793nm,14.0s,MS5.1
YAK Yakutsk 67.46 15 PFAKE 22 59 50.0 +15
YAK LR LR
comp=Z,1μm,20.0s,MS5.1
KIV Kislovodsk 67.87 319⇑ *i*P **P 22 59 36.3 -1.4**
KIV *e* 23 00 05.5
KIV pmax pmax
comp=Z,22nm,1.2s,mb5.1
KIV Kislovodsk 67.87 319 *e*P **P 22 59 36.1 -1.6**
comp=Z,27nm,0.9s,mb5.3
KIV LR LR
comp=Z,102nm,19.0s,MS4.1
ASF Jabal al Asfar 67.90 306 P **P 22 59 38.7 +0.5**
comp=Z,9.0nm,0.9s,mb4.8,baz=345,slow=8.5,SNR=6.2
DZM Mont Dzumac 68.11 113 P **P 22 59 40.4 +0.7**
comp=Z,3.8nm,0.3s,mb4.9,baz=254,slow=13,SNR=13
GOF Gofitskoye 68.12 320⇑ *i*P **P 22 59 37.6 -1.7**
GOF *i* 22 59 54.4
GOF pmax pmax
comp=Z,60nm,2.1s,mb5.3
MALT Malatya 68.65 312 ⇑P **P 22 59 42.5 -0.2**
MBAR Mbarara 68.72 270 *e*P **P 22 59 42.4 -1.2**
MBAR pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MBAR Mbarara 68.72 270 *e*P **P 22 59 42.4 -1.2**
comp=Z,7.6nm,0.9s,mb4.6
EIL Elat 68.84 303 *e*P **P 22 59 43.3 -0.8**
comp=Z,27nm,0.8s,mb5.2
SOC Sochi 69.68 318 *i*P **P 22 59 46.3 -2.6**
SOC *e* 23 00 05.5
SOC *e* 23 02 18.3
SOC *e*PPP PPP 23 04 03.0 -1.4
SOC *e*S S 23 08 50.0 -5.0
SOC *e* 23 09 44.3
SOC *e*SS SS 23 13 19.0 -5.9
SOC pmax pmax
comp=Z,32nm,1.4s,mb5.1
SOC pmax pmax
comp=N,6.0nm,1.1s
SOC pmax pmax
comp=E,18nm,1.4s
MAW Mawson 70.58 194 P **P 22 59 54.5 +0.5**
comp=E,9.4nm,1.0s,mb4.7,baz=59,slow=11,SNR=3.6
LSZ Lusaka 71.53 255 *e*P **P 22 59 59.5 -1.1**
LSZ *e**PP pP 23 00 05.9 -1.0
LSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
LSZ MLR MLR
comp=Z,930nm,20.0s,MS5.0
LSZ Lusaka 71.53 255 *e*P **P 22 59 59.5 -1.2**
comp=Z,8.1nm,1.0s,mb4.6
LSZ *e*pP pP 23 00 05.9 -1.0
LSZ LR LR
comp=Z,930nm,20.0s,MS5.0
MATP Matopo 71.63 249 P **P 23 00 00.8 -0.4**
comp=Z,15nm,0.9s,mb4.9,baz=93,slow=5.3,SNR=21
ANN Anapa 71.66 319 *e*P **P 23 00 04.3 +3.4**
ANN pmax pmax
comp=Z,11nm,1.5s,mb4.6
BRTR Keskin Array B 72.64 313 P **P 23 00 05.2 -1.7**
comp=Z,2.5nm,0.7s,mb4.2,baz=134,slow=7.0,SNR=13
MA2 Magadan 72.86 25 *e*P **P 23 00 07.7 0.0**
MA2 *e*S S 23 09 31.4 0.0
MA2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MA2 MLR MLR
comp=Z,3μm,22.0s,MS5.5
MA2 Magadan 72.86 25 *e*P **P 23 00 07.4 -0.3**
comp=Z,9.4nm,0.8s,mb4.8
MA2 LR LR
comp=Z,873nm,21.0s,MS5.0
VRSR Storozhevoye 73.10 325 *e*P **P 23 00 08.4 -0.9**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VRSR pmax pmax
comp=N,3.0nm,0.6s
VRSR pmax pmax
comp=E,7.0nm,0.6s
VRSR MLR MLR
comp=N,860nm,19.0s,MS5.0
VRSR MLR MLR
comp=Z,310nm,19.0s,MS4.6
VRSR MLR MLR
comp=E,220nm,23.0s,MS5.0
PET Petropavlovsk 73.28 33 *e*P **P 23 00 11.7 +1.4**
PET *e*S S 23 09 40.6 +4.3
PET pmax pmax
comp=Z,29nm,0.9s,mb5.2
PET MLR MLR
comp=Z,700nm,20.0s,MS4.9
SIM Simferopol' 73.92 318 *e*P **P 23 00 13.7 -0.5**
SIM pmax pmax
comp=Z,12nm,0.8s,mb4.9
LBTB Lobatse 74.73 245 PFAKE 23 00 30.0 +11
LBTB LR LR
comp=Z,1μm,21.0s,MS5.2
SEY Seymchan 75.42 22 *e*P **P 23 00 24.3 +1.8**
SEY 23 00 42.9
SEY *e*S S 23 10 01.4 +1.3
SEY 23 10 22.9
SEY *e*SS SS 23 14 47.3 -5.9
SEY pmax pmax
comp=Z,40nm,0.9s,mb5.3
MOS Moscow 75.85 329 *e*P **P 23 00 23.7 -1.4**
MOS *i* pP 23 00 29.3 -2.1
MOS *e* 23 00 38.4
MOS pmax pmax
comp=Z,43nm,1.0s,mb5.3
OBN Obninsk 76.14 328⇓ *i*P **P 23 00 26.3 -0.5**
OBN pmax pmax
comp=Z,34nm,1.6s,mb5.0
OBN Obninsk 76.14 328 *e*P **P 23 00 25.6 -1.2**
comp=Z,11nm,0.8s,mb4.8
OBN LR LR
comp=Z,133nm,20.0s,MS4.2
CFR Carcaliu 78.04 317 ⇓P **P 23 00 36.6 -0.9**
PRD Provadia 78.08 315 *e*P **P 23 00 38.0 +0.3**
JMB Yambol 78.50 314 *e*P **P 23 00 44.5 +4.5**
AKASG Malin Array Be 78.81 322 P **P 23 00 40.1 -1.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=88,slow=4.4,SNR=10
KDZ Kurdzhali 79.17 313 *e*P **P 23 00 47.5 +3.8**
VRI Vrincioaia 79.17 317 P **P 23 00 44.0 +0.3**
VRI Vrincioaia 79.17 317 ⇑P **P 23 00 43.8 +0.2**
VRI Vrincioaia 79.17 317 ⇑P **P 23 00 43.8 +0.1**
URZ Urewera 79.33 129 P **P 23 00 45.0 +0.3**
comp=Z,4.6nm,0.5s,mb4.7,baz=315,slow=1.4,SNR=3.4
URZ LR LR 23 39 17.3
comp=Z,864nm,18.9s,MS5.1,baz=259,slow=38
SUR Sutherland 79.58 238 PFAKE 23 01 00.0 +14
SUR LR LR
comp=Z,487nm,22.0s,MS4.8
MLR Muntele Rosu 79.62 317 P **P 23 00 46.5 +0.4**
MLR Muntele Rosu 79.62 317 ⇓P **P 23 00 46.1 0.0**
MLR Muntele Rosu 79.62 317 ⇓P **P 23 00 46.1 0.0**
RZN Rozhen 79.69 313 *i*P **P 23 00 46.0 -0.6**
PGB Panagyurishte 80.26 314 *e*P **P 23 00 50.0 +0.4**
MMB Musomiste 80.40 312 *e*P **P 23 00 53.0 +2.7**
BURAR Bucovina Array 80.58 319 ⇓P **P 23 00 52.1 +1.0**
BURAR Bucovina Array 80.58 319 ⇓P **P 23 00 52.2 +1.0**
KKB Krupnik 80.92 313 *e*P **P 23 00 53.0 -0.1**
VTS Vitosha 80.96 313 ⇑P **P 23 00 53.1 -0.2**
VTS Vitosha 80.96 313 *i*P **P 23 00 53.5 +0.2**
VTS Vitosha 80.96 313 ⇑P **P 23 00 53.1 -0.2**
TSUM Tsumeb 81.82 251 PFAKE 23 01 10.0 +12
TSUM LR LR
comp=Z,1μm,21.0s,MS5.2
KWP Kalwaria 82.63 320 *e*P **P 23 01 02.5 +0.7**
VNDA Vanda 82.69 169 *e*P **P 23 01 02.0 +0.4**
VNDA pmax pmax
comp=Z,11nm,1.4s
VNDA Vanda 82.69 169 P **P 23 01 02.1 +0.4**
comp=Z,3.8nm,1.0s,mb4.4,baz=305,slow=5.3,SNR=13
VNDA Vanda 82.69 169 *e*P **P 23 01 02.0 +0.4**
comp=Z,11nm,1.4s,mb4.7
KOLS Kolonicke sedl 82.78 320 *e*P **P 23 01 03.4 +0.8**
KOLS *e* pP 23 01 07.9 -1.1
BILL Bilibino 82.93 20⇓ *i*P **P 23 01 03.9 +0.9**
BILL pmax pmax
comp=Z,14nm,2.1s,mb4.6
BILL Bilibino 82.93 20 PFAKE 23 01 10.0 +7.0
BILL LR LR
comp=Z,774nm,22.0s,MS5.0
SUW Suwalki 83.22 325 *e*P **P 23 01 04.2 -0.6**
FINES FINESS Array B 83.48 332 P **P 23 01 05.3 -0.6**
comp=Z,3.3nm,0.5s,mb4.6,baz=104,slow=5.4,SNR=26
DIVS Divcibare 83.53 315⇑ *i*P **P 23 01 06.6 0.0**
KAF Kangasniemi 83.56 333 *e*p **P 23 01 07.1 +0.8**
comp=Z,9.2nm,0.7s,mb5.0
KAF Kangasniemi 83.56 333 *e*P **P 23 01 07.1 +0.8**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
NIE Niedzica 84.13 320 *e*P **P 23 01 09.9 +0.4**
PSZ Piszkesteto 84.17 318 *e*P **P 23 01 10.3 +0.6**
PSZ pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
PSZ Piszkesteto 84.17 318 *e*P **P 23 01 10.3 +0.6**
comp=Z,7.7nm,0.8s,mb4.9
PSZ Piszkesteto 84.17 318 *e*PcP PcP 23 01 14.4 +0.4
OJC Ojcow 84.58 321 *e*P **P 23 01 15.9 +4.1**
PKSM Moragy 84.77 316 ⇑P **P 23 01 13.1 +0.3**
VYHS Vyhne 84.95 319 *e*P pP 23 01 18.4 -1.7
VYHS *e* 23 02 40.9
VYHS Vyhne 84.95 319 *e*pP pP 23 01 18.4 -1.7
VYHS *e* 23 02 40.9
OKC Ostrava-Krasne 85.58 320 *e*P **P 23 01 17.4 +0.7**
ARCES ARCESS Array B 85.88 340 P **P 23 01 18.6 +0.8**
comp=Z,6.1nm,0.8s,mb4.9,baz=84,slow=3.6,SNR=7.5
MORC Moravsky Berou 85.96 320 *e*P **P 23 01 18.6 -0.1**
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
MORC Moravsky Berou 85.96 320 *e*P **P 23 01 18.6 0.0**
comp=Z,6.1nm,0.9s,mb4.8
ZST Bratislava 86.06 318 *e*P pP 23 01 24.4 -1.2
ZST Bratislava 86.06 318 *e*pP pP 23 01 24.4 -1.2
SGO Sicignano 86.56 311 *e*P **P 23 01 22.4 +0.6**
GKP Gorka Klasztor 86.59 323 *e*P **P 23 01 27.3 +5.6**
CSSN Cassano Irpino 86.80 311 *e*P **P 23 01 23.5 +0.5**
DPC Dobruska-Polom 86.81 320 *e*P **P 23 01 23.7 +0.9**
DPC MLR MLR
comp=Z,500nm,20.9s,MS4.9
DPC Dobruska-Polom 86.81 320 *e*P **P 23 01 23.7 +0.9**
DPC *e*x x 23 02 48.4
DPC AMS AMS 23 48 00.0
comp=Z,500nm,20.9s
UPC Upice 87.03 321 *e*P **P 23 01 25.3 +1.5**
UPC *e*x x 23 02 51.7
BOJS Bojanci 87.04 316 *e*P **P 23 01 23.9 -0.2**
BOJS *e* 23 01 28.2
LJU Ljubljana 87.59 316 *e*P **P 23 01 27.5 +0.8**
PRU Pruhonice 87.92 320 *e*P **P 23 01 29.0 +0.9**
PRU MLR MLR
comp=Z,400nm,18.6s,MS4.9
PRU Pruhonice 87.92 320 *e*P **P 23 01 29.0 +0.9**
PRU *e*x x 23 02 50.4
PRU AMS AMS 23 46 30.0
comp=Z,400nm,18.6s
PVCC Panska Ves 87.94 320 *e*P **P 23 01 28.0 -0.2**
PVCC MLR MLR
comp=Z,300nm,20.5s,MS4.7
PVCC Panska Ves 87.94 320 *e*P **P 23 01 28.0 -0.2**
PVCC *e*x x 23 02 51.9
PVCC AMS AMS 23 45 30.0
comp=Z,300nm,20.5s
PTQR Pietraquaria 88.11 312 *e*P **P 23 01 30.0 +0.7**
AQU L'Aquila 88.13 312 *e*P **P 23 01 29.4 +0.1**
comp=Z,18nm,0.9s,mb5.3
ROBS Robic 88.31 316 *e*P **P 23 01 34.8 +4.6**
BRG Berggiesshubel 88.37 321 *e*P **P 23 01 30.7 +0.4**
BRG *e* pP 23 01 35.7 -1.0
BRG pmax pmax
comp=Z,19nm,1.7s,mb5.0
BRG MLR MLR
comp=N,370nm,17.8s,MS4.9
BRG MLR MLR
comp=E,250nm,17.8s,MS4.9
BRG MLR MLR
comp=Z,700nm,17.8s,MS5.1
BRG Berggiesshubel 88.37 321 *e*P **P 23 01 30.7 +0.4**
comp=Z,19nm,1.7s,mb5.0
BRG *e* pP 23 01 35.7 -1.0
BRG *e* 23 02 58.3
BRG LR LR
comp=Z,700nm,17.8s,MS5.1
GERES GERESS Array B 88.37 319 P **P 23 01 31.1 +0.8**
comp=Z,2.1nm,0.8s,mb4.4,baz=90,slow=4.0,SNR=12
QSPA South Pole Qui 88.40 180⇓ *i*P **P 23 01 31.4 +1.6**
comp=Z,15nm,1.0s,mb5.2
PTCC Patocco-Chiusa 88.43 316 *e*P **P 23 01 31.3 +0.6**
KHC Kasperske Hory 88.47 319 *e*P **P 23 01 34.7 +3.9**
KHC *e* 23 01 44.5
KHC MLR MLR
comp=Z,500nm,18.3s,MS5.0
KHC Kasperske Hory 88.47 319 *e*P **P 23 01 34.7 +3.9**
KHC *x* *x* 23 01 44.5
KHC AMS AMS 23 48 10.0
comp=Z,500nm,18.3s
ARV Arcevia 88.54 313 *e*P **P 23 01 32.3 +1.0**
RUE Ruedersdorf 88.59 322 *e*P **P 23 01 32.1 +0.8**
comp=Z,58nm,1.1s,mb5.8
RUE *e*pP pP 23 01 36.7 -1.1
FSSB Fossombrone 88.67 314 *e*P **P 23 01 33.0 +1.1**
CLL Collm 88.99 321 *e*P **P 23 01 34.0 +0.8**
CLL *i* 23 01 37.8
CLL Collm 88.99 321 P **P 23 01 34.0 +0.8**
CLL *i* *PP pP 23 01 37.8 -1.9
CLL *e**SP sP 23 01 46.0 +4.2
NKC Novy Kostel 89.28 320 *e*P **P 23 01 35.6 +1.0**
NKC AMS AMS 23 49 20.0
comp=Z,500nm,20.5s
SFI Santa Sofia 89.35 314 *e*P **P 23 01 36.8 +1.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CTI	Castel Tesino	89.59	316	eP	P	23 01 37.4	+1.2
MOX	Moxa	89.83	320	eP	P	23 01 38.4	+1.2
MOX				pmax	pmax		
	comp=Z,20nm,1.8s,mb5.2						
MOX	Moxa	89.83	320	eP	P	23 01 38.4	+1.2
	comp=Z,20nm,1.8s,mb5.2						
MOX	Moxa	89.83	320	i P	P	23 01 38.4	+1.2
	comp=Z,logA/T=1.1,mb5.2						
GRA1	Grafenberg Arr	90.04	320	eP	P	23 01 38.5	+0.3
	comp=Z,11nm,1.5s,mb5.0						
GRF	Grafenberg Arr	90.04	320	eP	P	23 01 38.5	+0.3
GRF				pmax	pmax		
	comp=Z,11nm,1.5s,mb5.0						
GRF	Grafenberg Arr	90.04	320	eP	P	23 01 38.5	+0.3
GRF				pmax	pmax		
	comp=Z,11nm,1.5s,mb5.0						
GRF	Grafenberg Arr	90.04	320	eP	P	23 01 38.5	+0.3
	comp=Z,11nm,1.5s,mb5.0						
BRMO	Bormio	90.50	316	eP	P	23 01 41.1	+0.7
LPG	La Plagne	93.01	315	eP	P	23 01 52.8	+0.8
	comp=Z,25nm,1.3s,mb5.2						
LPG	La Plagne	93.01	315	eP	P	23 01 52.8	+0.8
LPG				pmax	pmax		
	comp=Z,13nm,1.3s,mb5.2						
IMA	Indian Mountai	98.22	23	eP	P	23 02 18.0	+2.8
IMA				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.4						
IMA	Indian Mountai	98.22	23	eP	P	23 02 18.0	+2.8
	comp=Z,11nm,0.9s,mb5.4						
COLA	College	100.90	24	i P	P	23 02 28.1	+0.7
YKA	Yellowknife Ar	114.11	17	PKP	PKPdf	23 07 16.3	-4.0
	comp=Z,0.4nm,0.9s,baz=321,slow=2.4,SNR=4.1						
YKA				PP	PP	23 08 04.2	-12
	comp=Z,0.3nm,0.9s,baz=332,slow=7.5,SNR=4.6						
YKA				PKKPbc		23 18 04.1	
	comp=Z,0.1nm,0.4s,baz=141,slow=3.8,SNR=5.5						
YKA	Yellowknife Ar	114.11	17	PKP	PKPdf	23 07 16.3	-4.0
YKA				PP	PP	23 08 04.2	-12
YKA				PKKPbc		23 18 04.1	
SCHQ	Schefferville	125.73	350	PKP	PKPdf	23 07 40.7	-2.3
	comp=Z,1.3nm,0.8s,baz=289,slow=5.2,SNR=3.8						
SCHQ	Schefferville	125.73	350	PKP	PKPdf	23 07 40.7	-2.3
NVAR	Mina Array Bea	129.60	39	PKP	PKPdf	23 07 49.5	-1.5
	comp=Z,0.3nm,0.3s,baz=196,slow=1.6,SNR=3.6						
ULM	Lac du Bonnet	129.77	13	PKP	PKPdf	23 07 50.6	-0.3
	comp=Z,1.3nm,0.6s,baz=7.9,slow=4.4,SNR=3.8						
PDAR	Pinedale Array	131.45	28	PKP	PKPdf	23 07 52.7	-1.6
	comp=Z,0.5nm,0.8s,baz=315,slow=2.1,SNR=3.7						
BDFB	Brasilia	143.59	241	PKP	PKPdf	23 08 16.1	-1.0
	comp=Z,1.3nm,0.4s,baz=135,slow=4.3,SNR=3.4						
LTX	Lajitas	144.67	36	ePKPdf	PKPdf	23 08 15.9	-2.8
TXAR	Lajitas Array	144.67	36	PKP	PKPdf	23 08 15.4	-3.2
	comp=Z,10nm,0.8s,baz=279,slow=1.9,SNR=59						
WVT	Waverly	144.95	10	ePKPdf	PKPdf	23 08 14.6	-4.4
MIAR	Mount Ida	145.00	19	ePKPdf	PKPdf	23 08 16.3	-2.8
TZTN	Tazewell	145.08	4	ePKPdf	PKPdf	23 08 15.7	-3.5
TZTN				epPKPdf		23 08 20.9	
UALR	University of	145.17	17	ePKPdf	PKPdf	23 08 16.5	-2.9
JCT	Junction City	145.93	31	ePKPdf	PKPdf	23 08 19.2	-1.6
PLAL	Pickwick Lake	146.02	11	ePKPdf	PKPdf	23 08 16.8	-4.0
CPCT	Cooper Cave	146.08	6	ePKPdf	PKPdf	23 08 18.7	-2.2
SWET	Sewanee	146.14	8	ePKPdf	PKPdf	23 08 18.3	-2.7
SWET				epPKPdf		23 08 23.4	
OXF	Oxford	146.19	13	ePKPdf	PKPdf	23 08 18.2	-2.9
JSC	Jenkinsville	147.44	1	ePKPdf	PKPdf	23 08 22.3	-0.9
GOGA	Godfrey	148.20	5	ePKPbc	PKPdf	23 08 27.9	+3.5
LVC	Limon Verde	153.43	205	ePKPbc	PKPdf	23 08 39.5	+6.9
LPAZ	La Paz	158.45	214	PKP	PKPdf	23 08 38.5	-0.8
	comp=Z,1.6nm,1.0s,baz=199,slow=3.4,SNR=2.8						

*IDC **07** 22:50:00.0±0.7, 1.70S×99.38E, mb4.5/16, mb1 4.7/16, mb1mx4.6/20, mbtmp4.6/16, MS4.7/4, Ms1 4.7/4, ms1mx4.3/18, Error ellipse: s-maj=32.6km s-min=13.5km az=46.0*

*BJI **07** 22:50:00.1, 1.97S×99.98E, h31km, mB5.4, mb4.6, Ms5.5, Msz5.1*

*MOS **07** 22:50:02.9±0.8, 1.66S×99.50E, h33km, mb5.2/18, Error ellipse: s-maj=19.2km s-min=9.8km az=117.6*

*NEIC **07** 22:50:02.8±0.3, 1.65S×99.45E, mb5.0/25, Error ellipse: s-maj=13.8km s-min=7.4km az=223.0*

ISC 07 22:50:01.1±0.4, 1.64S±0.07×99.45E±0.08, h20km, h20km±1.2km:pP-P, n88, σ1s06/83, mb4.8/40, MS4.9/9, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	19.98	359	eP	P	22 54 34.4	-1.1
	56nm,1.3s						
CMAR	Chiang Mai Arr	19.98	359	P	P	22 54 35.0	-0.5
	10nm,0.7s,baz=187,slow=10.0,SNR=2.9						
PALK	Pallekele	20.70	296	eP	P	22 54 43.3	+0.3
	37nm,1.0s						
KMI	Kunming	26.80	7	P	P	22 55 43.0	+0.9
KMI				AP	pP	22 55 49.4	+1.6
KMI				XP	sP	22 55 52.8	+2.4
KMI				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.1						
KMI	Kunming	26.80	7	P	P	22 55 43.0	+0.9
KMI				*SP	sP	22 55 52.8	+2.4
KMI				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.1						
KMI	Kunming	26.80	7	P	P	22 55 43.0	+0.9
	comp=Z,11nm,1.6s,mb4.1						
KMI				pP	pP	22 55 49.4	+1.6
KMI				sP	sP	22 55 52.8	+2.4
FITZ	Fitzroy Crossi	30.46	124	P	P	22 56 15.5	+0.3
	comp=Z,13nm,0.9s,mb4.7,baz=191,slow=5.9,SNR=2.4						
QZH	Quanzhou	32.29	34	P	P	22 56 25.0	-6.2
QZH				LR	LR		
	comp=N,3μm,14.7s,MS5.4						
QZH				LR	LR		
	comp=E,5μm,11.4s,MS5.4						
QZH				LR	LR		
	comp=Z,7μm,16.4s,MS5.5						
WRA	Warramunga Arr	38.64	120	P	P	22 57 25.0	-0.4
	comp=Z,11nm,0.9s,mb4.6,baz=304,slow=9.1,SNR=6.4						
WRAB	Tennant Creek	38.65	120	eP	P	22 57 24.5	-0.9
WRAB				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.0						
WRAB	Tennant Creek	38.65	120	eP	P	22 57 24.5	-1.0
	comp=Z,35nm,1.2s,mb5.0						
ASAR	Alice Springs	39.90	126	P	P	22 57 36.2	+0.4
	comp=Z,3.6nm,0.7s,mb4.2,baz=299,slow=8.0,SNR=2.2						
ASAR				PcP	PcP	22 59 43.1	+1.2
	comp=Z,1.8nm,0.8s,baz=328,slow=3.2,SNR=2.9						
GTA	Gaotai	40.85	0	P	P	22 57 48.1	+4.6
GTA				AP	pP	22 57 55.0	+5.7
GTA				XP	sP	22 57 58.3	+6.6
GTA				PCP	PcP	22 59 43.5	-1.3
GTA				S	S	23 04 03.5	+10
GTA				AMB	AMB		
	comp=Z,13nm,1.7s,mb4.3						
GTA				AMB	AMB		
	comp=Z,442nm,8.4s						
GTA				LR	LR		
	comp=N,2μm,14.1s						
GTA				LR	LR		
	comp=E,1μm,19.8s						
GTA				LR	LR		
	comp=Z,1μm,12.2s,MS5.0						
BJI	Beijing	44.22	18	eP	P	22 58 10.7	-0.3
BJI				AP	pP	22 58 16.8	0.0
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
BJI				LR	LR		
	comp=N,2μm,11.7s,MS5.3						
BJI				LR	LR		
	comp=E,2μm,15.0s,MS5.3						
BJI				LR	LR		
	comp=Z,1μm,16.8s,MS4.9						
BJI	Beijing	44.22	18	eP	P	22 58 10.7	-0.3
	comp=Z,9.0nm,0.9s,mb4.5						
BJI				pP	pP	22 58 16.8	0.0
BJI				S	S	23 04 52.0	+9.2
BJI				LR	LR		
	comp=Z,1μm,16.8s,MS4.9						
WMQ	Urumqi	46.47	348	⇑P	P	22 58 28.6	-0.2
WMQ				AP	pP	22 58 34.6	-0.1
WMQ				PCP	PcP	23 00 03.8	0.0
WMQ				PP	PP	23 00 17.6	-0.4
WMQ				PPP	PPP	23 01 03.4	+0.4
WMQ				SCP		23 03 54.7	
WMQ				PCS		23 03 57.1	
WMQ				S	S	23 05 14.6	-0.5
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,491nm,5.4s						
WMQ				LR	LR		
	comp=N,1μm,14.7s,MS5.0						
WMQ				LR	LR		
	comp=E,830nm,16.5s,MS5.0						
WMQ				LR	LR		
	comp=Z,609nm,26.3s						
CTA	Charters Tower	49.24	115	P	P	22 58 50.3	-0.5
	comp=Z,4.1nm,0.6s,mb4.6,baz=332,slow=3.7,SNR=3.7						
CTA				LR	LR	23 22 39.8	
	comp=Z,1μm,19.2s,MS4.8,baz=54,slow=40						
CTAO	Charters Tower	49.24	115	eP	P	22 58 49.8	-1.0
CTAO				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.2						
CTAO	Charters Tower	49.24	115	eP	P	22 58 49.8	-1.0
	comp=Z,32nm,1.3s,mb5.2						
AAK	Ala-Archa	49.49	336	eP	P	22 58 52.8	+0.4
AAK				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
AAK	Ala-Archa	49.49	336	eP	P	22 58 52.8	+0.4
	comp=Z,18nm,1.2s,mb5.0						
SONM	Songino Array	49.65	6	P	P	22 58 54.1	+0.5
	comp=Z,3.9nm,0.7s,mb4.5,baz=186,slow=6.3,SNR=4.0						
ULN	Ulaanbaatar	49.75	7	eP	P	22 58 51.0	-3.3
ULN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
ULN	Ulaanbaatar	49.75	7	eP	P	22 58 51.0	-3.4
	comp=Z,13nm,1.0s,mb4.9						
STKA	Stephens Creek	49.79	132	P	P	22 58 55.3	+0.4
	comp=Z,5.7nm,0.7s,mb4.7,baz=299,slow=8.1,SNR=2.7						
STKA	Stephens Creek	49.79	132	eP	P	22 58 55.5	+0.7
MKAR	Makanchi Array	50.54	345	P	P	22 59 02.4	+2.1
	comp=Z,11nm,0.8s,mb4.8,baz=153,slow=7.4,SNR=4.2						
MKAR				LR	LR	23 23 48.8	
	comp=Z,544nm,19.9s,MS4.6,baz=166,slow=40						
MKAR	Makanchi Array	50.54	345	P	P	22 59 02.4	+2.0
MKAR				LR	LR	23 23 48.8	
MDJ	Mudanjiang	53.31	27	P	P	22 59 21.1	-0.2
MDJ				S	S	23 06 52.9	+2.8
MDJ				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,189nm,3.4s						
MDJ				LR	LR		
	comp=N,1μm,16.7s,MS5.1						
MDJ				LR	LR		
	comp=E,717nm,21.6s,MS5.1						
MDJ				LR	LR		
	comp=Z,2μm,17.8s,MS5.2						
KURK	Kurchatov	55.11	344	eP	P	22 59 31.0	-3.4
KURK				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
KURK	Kurchatov	55.11	344	eP	P	22 59 31.0	-3.4
	comp=Z,16nm,1.0s,mb5.0						
ZAL	Zalesovo	56.71	350	P	P	22 59 46.0	+0.2
	comp=Z,4.6nm,0.3s,mb4.9,baz=295,slow=4.2,SNR=2.9						
ZAL				LR	LR	23 29 10.4	
	comp=Z,947nm,18.9s,MS4.9,baz=299,slow=41						
CHKZ	Chkalovo	60.13	341	eP	P	23 00 07.7	-2.0
CHKZ				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
CHKZ	Chkalovo	60.13	341	eP	P	23 00 07.7	-2.0
	comp=Z,18nm,1.1s,mb5.0						
HNR	Honiara	60.63	100	LR	LR	23 28 08.5	
	comp=Z,384nm,19.9s,MS4.5,baz=268,slow=38						
KMBO	Kilima Mbogo	62.18	270	P	P	23 00 24.9	+0.8
	comp=Z,6.2nm,1.0s,mb4.7,baz=40,slow=7.0,SNR=4.8						
KMBO	Kilima Mbogo	62.18	270	eP	P	23 00 24.4	+0.3
	comp=Z,10nm,1.0s,mb4.9						
GNI	Garni	64.89	316	eP	P	23 00 38.7	-2.9
GNI				pmax	pmax		
	comp=Z,12nm,0.9s						
GNI	Garni	64.89	316	eP	P	23 00 38.7	-2.9
	comp=Z,12nm,0.9s,mb4.9						
SVE	Sverdlovsk	66.15	338	eP	P	23 00 53.1	+3.7
SVE				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
ARU	Arti	66.66	337	P	P	23 00 57.2	+4.5
ARU				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
ARU	Arti	66.66	337	P	P	23 00 57.2	+4.6
	comp=Z,14nm,0.6s,mb5.2						
KIV	Kislovodsk	67.92	319	eP	P	23 01 01.1	+0.3
KIV				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.4						
KIV	Kislovodsk	67.92	319	eP	P	23 01 01.1	+0.3
	comp=Z,36nm,1.0s,mb5.3						
ASF	Jabal al Asfar	67.94	306	P	P	23 01 01.2	+0.1
	comp=Z,4.9nm,0.8s,mb4.6,slow=6.1,SNR=3.3						
MALT	Malatya	68.69	312	eP	P	23 01 05.7	-0.1
MALT				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
MALT	Malatya	68.69	312	eP	P	23 01 05.7	-0.1
	comp=Z,8.5nm,1.0s,mb4.6						
MBAR	Mbarara	68.71	270	eP	P	23 01 05.7	-0.5
MBAR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
MBAR	Mbarara	68.71	270	eP	P	23 01 05.7	-0.6
	comp=Z,9.3nm,1.0s,mb4.7						
BRTR	Keskin Array B	72.68	313	P	P	23 01 28.2	-1.6
	comp=Z,2.7nm,0.9s,mb4.2,baz=126,slow=7.8,SNR=3.7						
MA2	Magadan	72.93	25	P	P	23 01 30.9	0.0
MA2				e*PP	pP	23 01 36.4	-0.7
MA2				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
MA2	Magadan	72.93	25	P	P	23 01 30.9	0.0
	comp=Z,25nm,1.2s,mb5.0						
MA2				epP	pP	23 01 36.4	-0.7
SEY	Seymchan	75.50	22	eP	P	23 01 48.9	+3.2
OBN	Obninsk	76.20	328	i P	P	23 01 49.0	-0.8
OBN	Obninsk	76.20	328	eP	P	23 01 47.8	-2.1
	comp=Z,77nm,1.5s,mb5.4						
OBN				epP	pP	23 01 53.9	-2.1
SANT	Santorini	78.13	308	eP	P	23 02 01.1	+0.2
	comp=Z,111nm,1.2s,mb5.7						
AKASG	Malin Array Be	78.87	322	P	P	23 02 03.6	-1.1
	comp=Z,1.1nm,0.6s,mb4.0,baz=90,slow=4.5,SNR=3.2						
KWP	Kalwaria	82.68	320	eP	P	23 02 24.9	+0.1
KWP				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.1						
KWP	Kalwaria	82.68	320	eP	P	23 02 24.9	+0.1
	comp=Z,25nm,1.2s,mb5.1						
KOLS	Kolonicke sedl	82.83	320	eP	P	23 02 26.3	+0.7
SUW	Suwalki	83.28	325	eP	P	23 02 27.4	-0.4
SUW				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.5						
SUW	Suwalki	83.28	325	eP	P	23 02 27.4	-0.4
	comp=Z,47nm,0.9s,mb5.5						
CRVS	Cervenica-Dubn	83.35	319	epP	pP	23 02 34.5	0.0
FINES	FINESS Array B	83.54	332	P	P	23 02 29.4	+0.4
	comp=Z,2.6nm,0.7s,mb4.5,baz=102,slow=4.3,SNR=4.6						
FINES	FINESS Array B	83.54	332	P	P	23 02 29.4	+0.4
KAF	Kangasniemi	83.62	333	ep	P	23 02 29.5	+0.1
	comp=Z,0.4nm,0.4s,mb3.9						
KECS	Kecovo	83.91	319	eP	P	23 02 27.1	-4.1
KECS	Kecovo	83.91	319	e	P	23 02 27.1	-4.1
TIP	Timpagrande	85.36	309	eP	P	23 02 40.9	+2.2
ARCES	ARCESS Array B	85.95	340	P	P	23 02 41.6	+0.7
	comp=Z,5.8nm,0.9s,mb4.8,baz=117,slow=4.0,SNR=2.4						
AQU	L'Aquila	88.17	312	eP	P	23 02 52.1	-0.2
	comp=Z,37nm,1.1s,mb5.5						
GERES	GERESS Array B	88.42	319	P	P	23 02 54.3	+1.0
	comp=Z,3.2nm,1.0s,mb4.5,baz=108,slow=3.1,SNR=2.8						
CLL	Collm	89.04	321	eP	P	23 02 57.0	+0.7
CLL				e	pP	23 03 02.0	-0.5
CLL	Collm	89.04	321	P	P	23 02 57.0	+0.7
CLL				e*PP	pP	23 03 02.0	-0.5
MOX	Moxa	89.88	320	eP	P	23 03 08.0	+7.8
GRA1	Grafenberg Arr	90.09	320	eP	P	23 03 02.2	+1.0
	comp=Z,8.0nm,1.3s,mb4.9						
GRF	Grafenberg Arr	90.09	320	eP	P	23 03 02.2	+1.0
GRF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.9						
GRF	Grafenberg Arr	90.09	320	eP	P	23 03 02.2	+1.0
GRF				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.9						
GRF	Grafenberg Arr	90.09	320	eP	P	23 03 02.2	+1.0
	comp=Z,8.0nm,1.3s,mb4.9						
LPG	La Plagne	93.06	315	eP	P	23 03 11.6	-3.4
	comp=Z,24nm,1.3s,mb5.2						
LPG	La Plagne	93.06	315	eP	P	23 03 11.6	-3.4
LPG				pmax	pmax		
	comp=Z,12nm,1.3s,mb5.2						
TXAR	Lajitas Array	144.75	36	PKP	PKPdf	23 09 38.8	-2.7
	comp=Z,10nm,0.8s,baz=268,slow=0.2,SNR=7.8						
WVT	Waverly	145.03	10	ePKIKP	PKPdf	23 09 37.3	-4.5
MIAR	Mount Ida	145.08	19	ePKIKP	PKPdf	23 09 38.8	-3.1
MIAR				e		23 09 45.4	
TZTN	Tazewell	145.16	4	ePKPdf	PKPdf	23 09 38.1	-3.9
JCT	Junction City	146.00	31	ePKPdf	PKPdf	23 09 41.8	-1.9
JCT				epPKPdf		23 09 49.0	
CPCT	Cooper Cave	146.16	6	ePKPdf	PKPdf	23 09 41.2	-2.5
OXF	Oxford	146.27	13	ePKPdf	PKPdf	23 09 42.2	-1.8

*CSEM **07** 22:50:59.2, 12.36N×45.97E, h18km, ML4.0, After DHMR*

DHMR 07 22:50:59.1±0.6, 12.38N×45.96E, h13km±5km, ML4.0, 4C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ADEN	Aden	1.03	293	i S	Sb	22 51 32.6	+1.2
ADEN				AML	AML	22 51 37.1	
	comp=N,5μm,0.5s						
ADEN	Aden	1.03	293	i S	Sb	22 51 33.8	+2.3
	comp=N,2μm,0.5s						
BDHA	Al Bayda'	1.63	347⇑	eP	Pn	22 51 28.3	+0.6
BDHA				i S	Sn	22 51 50.9	+2.2
BDHA				AML	AML	22 51 51.6	
	comp=E,5μm,0.2s						
BDHA	Al Bayda'	1.63	347⇑	eP	Pn	22 51 28.3	+0.5
BDHA				i S	Sn	22 51 50.9	+2.2
	comp=E,3μm,0.2s						
LBOS		1.63	335⇑	eP	Pn	22 51 28.8	+0.9
LBOS				i S	Sn	22 51 51.6	+2.8
TRBA	At Turbah	1.98	295⇓	eP	Pn	22 51 34.2	+1.4
TRBA				i S	Sn	22 52 01.0	+3.3
UDYN	Al 'Udayn	2.50	309⇑	i P	Pn	22 51 41.5	+1.3
UDYN				i S	Sn	22 52 15.0	+4.2
UDYN				AML	AML	22 52 24.8	
	comp=E,464nm,0.4s						
DHBB	Dhamar BB	2.66	325	i P	Pn	22 51 44.7	+2.2
DHBB				i S	Sn	22 52 20.7	+5.9

IDC 07 22:57:06.3±3.3, 1.49S×99.76E, mb3.6/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=143.5km s-min=27.2km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.84	358	P	P	23 01 39.5	-2.2
	0.1nm,0.3s,baz=194,slow=12,SNR=4.4						
WRA	Warramunga Arr	38.46	121	P	P	23 04 30.1	-1.7
	0.7nm,0.8s,baz=308,slow=8.8,SNR=6.3						
MKAR	Makanchi Array	50.48	344	P	P	23 06 04.8	-3.2
	0.6nm,0.5s,baz=157,slow=8.0,SNR=10						
BVAR	Borovoye Array	59.63	340	P	P	23 07 13.0	-1.4
	0.3nm,0.4s,baz=140,slow=12,SNR=4.9						

*IDC **07** 22:58:12.6±0.7, 1.66S×99.44E, mb4.0/12, mb1 4.2/12, mb1mx4.0/20, mbtmp4.0/12, Error ellipse: s-maj=27.1km s-min=15.2km az=50.0*

*BJI **07** 22:58:17.3, 1.60S×99.60E, h30km, mB4.9, mb4.7, Ms4.9, Msz4.4*

*NEIC **07** 22:58:17.3±0.6, 1.57S×99.57E, h30km, mb4.3/5, Error ellipse: s-maj=18.9km s-min=9.4km az=62.0*

ISC 07 22:58:15.2±0.6, 1.54S±0.09×99.6E±0.1, h30km, n25, σ0s94/24, mb4.2/15, MS4.5/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	6.87	9	ePn	Pn	22 59 54.3	-2.4
CM31	Chiang Mai Arr	19.88	358	P	P	23 02 46.4	-0.9
	10nm,1.0s						
CMAR	Chiang Mai Arr	19.88	358	P	P	23 02 47.0	-0.3
	2.2nm,0.6s,baz=188,slow=10.0,SNR=9.4						
KMI	Kunming	26.69	6	P	P	23 03 59.4	+5.5
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.2						
KMI	Kunming	26.69	6	P	P	23 03 59.4	+5.5
	comp=Z,9.0nm,1.0s,mb4.2						
FITZ	Fitzroy Crossi	30.44	124	P	P	23 04 26.5	-1.2
	comp=Z,2.0nm,0.7s,mb4.0,baz=225,slow=4.3,SNR=2.3						
WRA	Warramunga Arr	38.61	121	P	P	23 05 37.9	+0.1
	comp=Z,2.3nm,0.5s,mb4.2,baz=301,slow=9.5,SNR=16						
WRAB	Tennant Creek	38.62	121	eP	P	23 05 37.5	-0.3
	comp=Z,8.2nm,0.8s,mb4.5						
WRAB				epP	pP	23 05 42.5	-4.3
WB2	Warramunga Arr	38.62	121	eP	P	23 05 37.4	-0.5
ASAR	Alice Springs	39.88	126	P	P	23 05 48.6	+0.3
	comp=Z,1.4nm,0.6s,mb3.8,baz=301,slow=7.7,SNR=8.2						
WMQ	Urumqi	46.39	348	eP	P	23 06 40.8	-0.1
WMQ				AP	pP	23 06 50.8	+0.8
WMQ				XP	sP	23 06 54.8	+1.2
WMQ				PP	PP	23 08 29.4	-0.4
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
WMQ				LR	LR		
	comp=N,277nm,18.2s,MS4.5						
WMQ				LR	LR		
	comp=E,375nm,15.5s,MS4.5						
WMQ				LR	LR		
	comp=Z,254nm,21.2s						
SONM	Songino Array	49.54	6	P	P	23 07 07.0	+1.6
	comp=Z,1.0nm,0.6s,mb4.0,baz=189,slow=9.2,SNR=5.2						
STKA	Stephens Creek	49.79	132	P	P	23 07 08.3	+0.8
	comp=Z,1.5nm,0.5s,mb4.2,baz=176,slow=2.8,SNR=6.8						
STKA	Stephens Creek	49.79	132	P	P	23 07 08.4	+0.9
MKAR	Makanchi Array	50.47	345	P	P	23 07 12.7	+0.2
	comp=Z,1.7nm,0.6s,mb4.2,baz=156,slow=8.3,SNR=8.0						
CN2	Changchun	50.75	24	eP	P	23 07 16.2	+1.5
KURK	Kurchatov	55.05	344	eP	P	23 07 47.6	+1.1
	comp=Z,2.3nm,0.8s,mb4.3						
ZAL	Zalesovo	56.63	350	P	P	23 07 58.1	+0.2
	comp=Z,1.8nm,0.4s,mb4.4,baz=200,slow=3.4,SNR=4.2						
BVAR	Borovoye Array	59.60	340	P	P	23 08 17.9	-0.8
	comp=Z,0.5nm,0.5s,mb3.8,baz=135,slow=6.1,SNR=2.3						
KMBO	Kilima Mbogo	62.28	270	P	P	23 08 37.1	-0.3
	comp=Z,0.8nm,0.6s,mb4.0,baz=65,slow=11,SNR=5.9						
KMBO	Kilima Mbogo	62.28	270	eP	P	23 08 37.0	-0.5
	comp=Z,1.4nm,0.8s,mb4.1						
MATP	Matopo	71.72	249	P	P	23 09 36.2	-0.8
	comp=Z,1.9nm,0.8s,mb4.1,baz=119,slow=11,SNR=3.6						
MATP	Matopo	71.72	249	P	P	23 09 36.2	-0.8
FINES	FINESS Array B	83.50	332	P	P	23 10 42.6	+1.3
	comp=Z,0.7nm,0.6s,mb4.0,baz=117,slow=4.3,SNR=4.8						
JCT	Junction City	145.86	31	ePKPdf	PKPdf	23 17 56.2	-0.7

IDC 07 23:04:50.5±2.7, 2.09N×96.58E, mb3.7/4, mb1 3.8/5, mb1mx3.5/20, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=96.4km s-min=26.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.43	8	Pn	P	23 08 44.8	+0.6
	0.2nm,0.3s,baz=202,slow=15,SNR=4.1						
LGTI	Lohaghat	31.33	332	eP	P	23 11 31.5	+16
WRA	Warramunga Arr	43.03	122	P	P	23 12 52.3	-1.6
	0.4nm,0.7s,baz=303,slow=9.5,SNR=4.1						
MKAR	Makanchi Array	46.23	346	P	P	23 13 18.1	-1.2
	1.9nm,0.9s,baz=161,slow=8.4,SNR=13						
SONM	Songino Array	46.35	9	P	P	23 13 17.8	-2.4
	2.4nm,0.9s,baz=194,slow=6.8,SNR=14						
BVAR	Borovoye Array	55.21	341	P	P	23 14 24.3	-3.1
	0.4nm,0.6s,baz=140,slow=12,SNR=4.6						

IDC 07 23:14:05.9±6.4, 14.97S×172.33W, mb3.7/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.7/3, Error ellipse: s-maj=331.9km s-min=36.6km az=140.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	1.19	27	Pn	Pn	23 14 24.1	-5.5
	200nm,0.3s,baz=24,slow=2.9,SNR=105						
AFI				Sn	Sn	23 14 36.4	-10
	191nm,0.3s,baz=216,slow=23,SNR=11						
ASAR	Alice Springs	51.22	252	P	P	23 23 11.6	-2.0
	0.9nm,0.7s,baz=86,slow=8.1,SNR=8.1						
ILAR	Eielson Array	81.83	11	P	P	23 26 26.4	-1.5
	0.4nm,0.6s,baz=223,slow=6.7,SNR=4.8						
YKA	Yellowknife Ar	89.30	23	P	P	23 27 03.7	-1.3

0.5nm,0.8s,baz=237,slow=4.3,SNR=7.7

*IDC **07** 23:34:15.9±1.2,30.47N×83.67E,mb3.7/6,mb1 3.9/7, mb1mx3.7/21,mbtmp3.7/7,ML4.4/1,Error ellipse: s-maj=40.9km s-min=22.0km az=44.0*
*NEIC **07** 23:34:16.2±0.7,30.28N×83.63E,h10km,mb4.2/6,Error ellipse: s-maj=19.5km s-min=11.2km az=95.0*
*NDI **07** 23:34:17.6±0.4,30.76N×83.39E,h10km,MD3.9, mb4.2(NEIC)*
*BJI **07** 23:34:18.4,30.42N×83.84E,h10km,mb3.8*
*MOS **07** 23:34:18.8±1.3,30.27N×83.53E,h33km,mb4.2/7,Error ellipse: s-maj=22.9km s-min=12.1km az=101.2*
ISC 07 23:34:15.4±0.5,30.36N±0.05×83.59E±0.05,h10km,n36, σ1§38/39,mb3.9/13,1C,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.04**	**255**	*e*PG	**Pg**	**23 35 14.9**	**-1.1**
PTH				*e*SG	**Sg**	**23 35 57.1**	**+0.6**
LGTI	**Lohaghat**	**3.04**	**254**	*e*PG	**Pg**	**23 35 18.4**	**+2.3**
LGTI				*e*SG	**Sg**	**23 36 02.4**	**+5.7**
SMLA	**Simla**	**5.58**	**280**	⇑*i*P	**Pn**	**23 35 37.6**	**-3.0**
SMLA				*i*		23 36 50.7	
HYB	**Hyderabad**	**13.68**	**201**	*e*P	**P**	**23 37 30.5**	**-1.5**
HYB	**Hyderabad**	**13.68**	**201**	*i* P	**P**	**23 37 30.5**	**-1.5**
HYB				*e*S	**S**	**23 40 06.0**	**+1.0**
AAK	**Ala-Archa**	**14.26**	**332**	P	**P**	**23 37 43.3**	**+3.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**14.26**	**332**	P	**P**	**23 37 43.3**	**+3.8**
	comp=Z,4.2nm,0.9s						
POO	**Poona**	**14.73**	**219**	*e*	**P**	**23 37 50.0**	**+4.2**
GTA	**Gaotai**	**16.07**	**51**	*e*P	**P**	**23 38 05.8**	**+2.7**
GTA				AP		23 38 12.5	
GTA				XP		23 38 16.4	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s						
MKAR	**Makanchi Array**	**16.44**	**357**	Pn	**P**	**23 38 09.5**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=16						
MKAR	**Makanchi Array**	**16.44**	**357**	Pn	**P**	**23 38 09.5**	**+1.8**
CMAR	**Chiang Mai Arr**	**18.30**	**127**	P	**P**	**23 38 33.3**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=309,slow=10,SNR=18						
KURK	**Kurchatov**	**20.68**	**351**	*e*P	**P**	**23 38 54.9**	**-3.1**
KURK				pmax	pmax		
	comp=Z,17nm,0.9s						
KURK	**Kurchatov**	**20.68**	**351**	*e*P	**P**	**23 38 54.9**	**-3.1**
	comp=Z,17nm,0.9s						
XAN	**Xi'an**	**21.73**	**74**	P	**P**	**23 39 07.8**	**-1.0**
XAN				AP		23 39 14.4	
XAN				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.8						
PALK	**Pallekele**	**23.12**	**187**	P	**P**	**23 39 19.9**	**-2.9**
	comp=Z,7.4nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**24.62**	**341**	P	**P**	**23 39 36.8**	**-0.2**
	comp=Z,1.2nm,0.9s,mb3.4,baz=153,slow=13,SNR=5.7						
SONM	**Songino Array**	**24.71**	**39**	P	**P**	**23 39 38.6**	**+0.7**
	comp=Z,1.7nm,0.8s,mb3.6,baz=231,slow=8.8,SNR=12						
ZAK	**Zakamensk**	**24.86**	**31**	*e*P	**P**	**23 39 39.6**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.2						
ULN	**Ulaanbaatar**	**25.09**	**39**	*e*P	**P**	**23 39 41.4**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**25.09**	**39**	*e*P	**P**	**23 39 41.4**	**-0.1**
	comp=Z,3.7nm,0.9s,mb3.9						
CHKZ	**Chkalovo**	**25.14**	**342**	*e*P	**P**	**23 39 41.5**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
CHKZ	**Chkalovo**	**25.14**	**342**	*e*P	**P**	**23 39 41.5**	**-0.4**
	comp=Z,4.6nm,1.1s,mb3.9						
BRTR	**Keskin Array B**	**41.49**	**297**	P	**P**	**23 42 06.1**	**+1.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**41.49**	**297**	P	**P**	**23 42 06.1**	**+1.9**
	comp=Z,0.5nm,0.9s,mb3.1,baz=117,slow=2.8,SNR=4.5						
FINES	**FINESS Array B**	**48.39**	**327**	P	**P**	**23 42 58.6**	**-0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**48.39**	**327**	P	**P**	**23 42 58.5**	**-0.6**
	comp=Z,1.5nm,0.8s,mb4.1,baz=124,slow=6.9,SNR=5.7						
SUW	**Suwalki**	**48.86**	**317**	P	**P**	**23 43 02.7**	**-0.2**
SUW				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
SUW	**Suwalki**	**48.86**	**317**	P	**P**	**23 43 02.7**	**-0.2**
	comp=Z,20nm,1.0s,mb5.1						
GVD	**Gavdhos**	**49.70**	**292**	P	**P**	**23 43 08.8**	**-0.8**
	comp=Z,132nm,1.4s						
KMBO	**Kilima Mbogo**	**54.07**	**243**	P	**P**	**23 43 35.5**	**-7.2**
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
KMBO	**Kilima Mbogo**	**54.07**	**243**	P	**P**	**23 43 35.5**	**-7.2**
	comp=Z,3.5nm,1.2s,mb4.2						
WRA	**Warramunga Arr**	**69.88**	**129**	P	**P**	**23 45 28.2**	**-0.6**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**69.88**	**129**	P	**P**	**23 45 28.2**	**-0.6**
	comp=Z,1.7nm,1.0s,mb3.9,baz=326,slow=6.1,SNR=7.4						
YKA	**Yellowknife Ar**	**86.33**	**8**	P	**P**	**23 46 57.6**	**-0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**86.33**	**8**	P	**P**	**23 46 57.6**	**-0.7**
	comp=Z,0.5nm,0.9s,mb3.8,baz=338,slow=4.8,SNR=7.7						

*IDC **07** 23:43:14.2±0.5,34.05N×142.51E,mb3.9/18,mb1 4.2/20, mb1mx4.1/26,mbtmp3.9/20,ML3.7/2,MS3.0/2,Ms1 3.0/2, ms1mx2.5/36,Error ellipse: s-maj=17.7km s-min=14.5km az=123.0*
*JMA **07** 23:43:16.2±0.3,34.03N×142.47E,h56km,M3.8*
*MOS **07** 23:43:17.5±0.9,34.09N×142.40E,h33km,mb4.5/16,Error ellipse: s-maj=15.5km s-min=9.9km az=117.6*
*BJI **07** 23:43:19.8,34.10N×142.40E,h35km,mB5.0,mb4.5, Ms3.8,Msz3.7*
*NEIC **07** 23:43:19.8±0.4,34.15N×142.45E,h35km,mb4.6/14,Error ellipse: s-maj=8.8km s-min=8.3km az=195.0*
ISC 07 23:43:14.9±1.3,34.02N±0.04×142.42E±0.04,h16km±9km, h32km±1.6km:pP-P,n86,σ1§04/98,mb4.2/34,MS3.7/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.35**	**298**	P	**Pn**	**23 43 39.6**	**+0.2**
BSO1				*e*S	**Sb**	**23 43 56.5**	**+0.1**
BSO2	**Boso 2**	**1.56**	**298**	*e*S	**Sn**	**23 44 03.5**	**+1.2**
BSO3	**Boso 3**	**1.77**	**297**	P	**Pn**	**23 43 46.1**	**+0.9**
BSO3				S	**Sn**	**23 44 08.6**	**+1.1**
BSO4	**Boso 4**	**1.98**	**300**	P	**Pn**	**23 43 49.4**	**+1.1**
BSO4				S	**Sn**	**23 44 14.9**	**+2.0**
CHOJ	**Chosi**	**2.12**	**323**	P	**Pn**	**23 43 50.5**	**+0.2**
CHOJ				*e*S	**Sn**	**23 44 15.7**	**-0.7**
JHJ2	**Mitsune**	**2.36**	**248**	P	**Pn**	**23 43 54.6**	**+0.9**
JHJ2				S	**Sn**	**23 44 22.2**	**-0.3**
JHJ	**Hachijo jima 2**	**2.38**	**249**	Pn	**Pn**	**23 43 54.7**	**+0.7**
	78nm,0.3s,baz=159,slow=8.3,SNR=20						
JHJ				Sn	**Sn**	**23 44 21.6**	**-1.6**
	86nm,0.3s,baz=32,slow=21,SNR=9.2						
JIM2	**Oshima 3**	**2.57**	**287**	P	**Pn**	**23 43 56.2**	**-0.6**
JOD2	**Odawara 2**	**3.02**	**295**	P	**Pn**	**23 44 02.4**	**-0.7**
JAG	**Ashikaga**	**3.42**	**315**	P	**Pn**	**23 44 08.3**	**-0.5**
JAG				*e*S	**Sn**	**23 44 46.1**	**-3.3**
JRY	**Ryogami san**	**3.51**	**306**	P	**Pn**	**23 44 10.0**	**-0.1**
JRY				*e*S	**Sn**	**23 44 51.6**	**-0.2**
JYN	**Shimob**	**3.52**	**296**	P	**Pn**	**23 44 10.1**	**-0.1**
JYN				S	**Sn**	**23 44 51.8**	**-0.1**
JMM	**Marumori**	**4.06**	**341**	*e*S	**Sn**	**23 45 00.6**	**-5.1**
MJAR	**Matsushiro Arr**	**4.27**	**307**	P	**Pn**	**23 44 19.9**	**-1.0**
MJAR						23 45 08.3	
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				smax			
	comp=N,3.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,206nm,21.7s						
MJAR	**Matsushiro Arr**	**4.27**	**307**	Pn	**Pn**	**23 44 19.9**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=162,slow=14,SNR=9.8						
MJAR				Sn	**Sn**	**23 45 08.3**	**-2.7**
	comp=Z,3.0nm,0.3s,baz=151,slow=20,SNR=7.4						
MJAR				LR	LR	23 45 20.2	
	comp=Z,206nm,21.7s,baz=185,slow=30						
MJAR	**Matsushiro Arr**	**4.27**	**307**	Pn	**Pn**	**23 44 19.9**	**-1.0**
MJAR				Sn	**Sn**	**23 45 08.3**	**-2.7**
MJAR				LR	LR	23 45 20.2	
MAJO	**Matsushiro**	**4.27**	**307**	*e*P	**Pn**	**23 44 21.2**	**+0.3**
MAT	**Matsushiro**	**4.27**	**307**	P	**Pn**	**23 44 21.0**	**+0.1**
MAT				*e*S	**Sn**	**23 45 10.0**	**-1.0**
MAT	**Matsushiro**	**4.27**	**307**	P	**Pn**	**23 44 21.0**	**+0.1**
MAT				S	**Sn**	**23 45 09.9**	**-1.1**
CBIJ	**Chichi jima**	**6.90**	**182**	Pn	**Pn**	**23 44 54.6**	**-3.4**
	comp=Z,9.8nm,0.3s,baz=287,slow=20,SNR=9.6						
CBIJ				Sn	**Sn**	**23 46 09.0**	**-8.1**
	comp=Z,19nm,0.3s,baz=284,slow=21,SNR=7.2						
CBIJ				LR	LR	23 47 19.9	
	comp=Z,98nm,20.4s,baz=324,slow=36						
YSS	**Yuzh-Sakhalins**	**12.92**	**1**	*e*P	**P**	**23 46 16.8**	**-3.9**
YSS				pmax	pmax		
	comp=Z,45nm,0.9s						
YSS	**Yuzh-Sakhalins**	**12.92**	**1**	*e*P	**P**	**23 46 16.8**	**-3.9**
	comp=Z,45nm,0.9s						
HHC	**Hu-ho-hao-te**	**25.35**	**295**	*e*P	**P**	**23 48 43.4**	**+0.7**
HHC				AP	pP	23 48 52.8	+5.5
HHC				PP	PP	23 49 23.8	+2.3
HHC				S	**S**	**23 53 07.2**	**+1.6**
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.3						
HHC				AMB	AMB		
	comp=Z,209nm,6.3s						
HHC				LR	LR		
	comp=N,116nm,12.7s,MS3.7						
HHC				LR	LR		
	comp=E,90nm,13.1s,MS3.7						
HHC				LR	LR		
	comp=Z,145nm,13.5s,MS3.7						
XAN	**Xi'an**	**27.70**	**280**	P	**P**	**23 49 03.2**	**-1.2**
XAN				AP	pP	23 49 13.2	+4.2
XAN				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.4						
ULN	**Ulaanbaatar**	**29.80**	**308**	*e*P	**P**	**23 49 23.1**	**-0.1**
ULN				pmax	pmax		
	comp=Z,25nm,2.3s,mb4.5						
ULN	**Ulaanbaatar**	**29.80**	**308**	*e*P	**P**	**23 49 23.1**	**-0.1**
	comp=Z,24nm,2.3s,mb4.5						
SONM	**Songino Array**	**30.22**	**308**	P	**P**	**23 49 28.6**	**+1.7**
	comp=Z,0.7nm,0.6s,mb3.6,baz=98,slow=7.6,SNR=7.5						
KMI	**Kunming**	**35.46**	**266**	P	**P**	**23 50 16.8**	**+4.1**
KMI				XP	sP	23 50 24.7	+5.4
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
KMI	**Kunming**	**35.46**	**266**	P	**P**	**23 50 16.8**	**+4.1**
	comp=Z,11nm,0.9s,mb4.8						
KMI				pP	pP	23 50 24.7	+7.4
BILL	**Bilibino**	**36.70**	**15**	*e*P	**P**	**23 50 21.4**	**-1.3**
BILL	**Bilibino**	**36.70**	**15**	*e*P	**P**	**23 50 21.4**	**-1.4**
CM31	**Chiang Mai Arr**	**41.64**	**259**	P	**P**	**23 51 07.4**	**+3.1**
	comp=Z,8.2nm,0.4s,mb4.7						
CMAR	**Chiang Mai Arr**	**41.64**	**259**	P	**P**	**23 51 05.1**	**+0.8**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**41.64**	**259**	P	**P**	**23 51 05.1**	**+0.8**
	comp=Z,1.0nm,0.4s,mb3.8,baz=45,slow=7.4,SNR=5.2						
WMQ	**Urumqi**	**43.00**	**300**	P	**P**	**23 51 16.1**	**+1.0**
WMQ				AP	pP	23 51 26.1	+6.3
WMQ				XP	sP	23 51 29.9	+8.1
WMQ				PP	PP	23 52 58.4	+1.0
WMQ				PCP	PcP	23 53 07.7	+1.7
WMQ				S	**S**	**23 57 37.8**	**-1.7**
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,134nm,5.4s						
WMQ				LR	LR		
	comp=N,34nm,22.5s,MS3.6						
WMQ				LR	LR		
	comp=E,77nm,20.3s,MS3.6						
WMQ				LR	LR		
	comp=Z,79nm,16.5s,MS3.7						
MKAR	**Makanchi Array**	**46.47**	**305**	P	**P**	**23 51 43.7**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.47**	**305**	P	**P**	**23 51 43.7**	**+0.9**
	comp=Z,0.7nm,0.6s,mb3.8,baz=85,slow=9.5,SNR=9.4						
KURK	**Kurchatov**	**48.48**	**310**	*e*P	**P**	**23 51 58.5**	**0.0**
KURK				*e*		23 52 08.7	
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**48.48**	**310**	*e*P	**P**	**23 51 58.5**	**-0.1**
	comp=Z,6.4nm,0.8s,mb4.7						
KURK				*e*		23 52 08.7	
ILAR	**Eielson Array**	**51.62**	**31**	P	**P**	**23 52 21.2**	**-1.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**51.62**	**31**	P	**P**	**23 52 21.1**	**-1.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=271,slow=5.1,SNR=8.3						
CHKZ	**Chkalovo**	**53.00**	**315**	*e*P	**P**	**23 52 33.1**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
CHKZ	**Chkalovo**	**53.00**	**315**	*e*P	**P**	**23 52 33.1**	**+0.2**
	comp=Z,1.7nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**53.23**	**314**	P	**P**	**23 52 34.2**	**-0.5**
	comp=Z,0.5nm,0.7s,mb3.6,baz=79,slow=7.6,SNR=5.0						
WRAB	**Tennant Creek**	**54.20**	**189**	*e*P	**P**	**23 52 42.4**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,32nm,1.4s,mb5.1						
WRAB	**Tennant Creek**	**54.20**	**189**	*e*P	**P**	**23 52 42.4**	**+0.2**
	comp=Z,32nm,1.4s,mb5.1						
WRA	**Warramunga Arr**	**54.21**	**189**	P	**P**	**23 52 41.4**	**-0.8**
WRA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRA	**Warramunga Arr**	**54.21**	**189**	P	**P**	**23 52 41.4**	**-0.8**
	comp=Z,4.8nm,1.0s,mb4.4,baz=6.0,slow=7.5,SNR=31						
FITZ	**Fitzroy Crossi**	**54.24**	**200**	P	**P**	**23 52 42.3**	**-0.2**
	comp=Z,4.4nm,0.9s,mb4.4,baz=9.5,slow=6.1,SNR=3.2						
INK	**Inuvik**	**56.71**	**26**	*e*P	**P**	**23 52 57.9**	**-1.8**
INK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
INK	**Inuvik**	**56.71**	**26**	P	**P**	**23 52 58.3**	**-1.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=4.5,slow=5.8,SNR=6.5						
INK	**Inuvik**	**56.71**	**26**	*e*P	**P**	**23 52 57.9**	**-1.8**
	comp=Z,2.8nm,1.2s,mb4.2						
ASAR	**Alice Springs**	**57.93**	**189**	P	**P**	**23 53 08.3**	**-0.6**
	comp=Z,1.9nm,0.9s,mb4.1,baz=5.2,slow=5.6,SNR=14						
MBWA	**Marble Bar**	**58.97**	**205**	P	**P**	**23 53 13.6**	**-2.7**
	comp=Z,15nm,1.2s,mb4.9						
ARU	**Arti**	**59.18**	**320**	*e*P	**P**	**23 53 16.1**	**-1.1**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
ARU	**Arti**	**59.18**	**320**	*e*P	**P**	**23 53 16.1**	**-1.1**
	comp=Z,3.8nm,0.6s,mb4.6						
RES	**Resolute Bay**	**65.31**	**14**	*e*P	**P**	**23 53 57.1**	**-0.7**
RES				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
RES	**Resolute Bay**	**65.31**	**14**	*e*P	**P**	**23 53 57.1**	**-0.8**
	comp=Z,3.2nm,0.8s,mb4.4						
YKA	**Yellowknife Ar**	**66.01**	**30**	P	**P**	**23 54 01.6**	**-0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**66.01**	**30**	P	**P**	**23 54 01.6**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.7,baz=298,slow=6.4,SNR=9.5						
NEW	**Newport**	**71.72**	**44**	*e*P	**P**	**23 54 38.3**	**+0.3**
NEW				pmax	pmax		
	comp=Z,7.0nm,1.3s						
NEW	**Newport**	**71.72**	**44**	*e*P	**P**	**23 54 38.3**	**+0.3**
	comp=Z,7.0nm,1.3s,mb4.4						
FINES	**FINESS Array B**	**71.87**	**333**	P	**P**	**23 54 38.4**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**71.87**	**333**	P	**P**	**23 54 38.4**	**-0.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=34,slow=6.9,SNR=7.9						
SUMG	**Summit**	**73.69**	**0**	P	**P**	**23 54 49.4**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**76.14**	**53**	P	**P**	**23 55 04.7**	**+0.8**
	comp=Z,0.4nm,0.2s,mb3.9,baz=303,slow=2.8,SNR=4.7						
FCC	**Fort Churchill**	**76.33**	**27**	P	**P**	**23 55 03.7**	**-0.7**
NOA	**NORSAR Array B**	**77.28**	**338**	P	**P**	**23 55 10.3**	**+0.6**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**77.28**	**338**	P	**P**	**23 55 10.3**	**+0.5**
	comp=Z,1.5nm,0.9s,mb3.9,baz=38,slow=5.0,SNR=3.3						
NOA	**NORSAR Array B**	**77.28**	**338**	P	**P**	**23 55 10.3**	**+0.5**
DUG	**Dugway**	**78.70**	**49**	P	**P**	**23 55 19.1**	**+1.1**
PDAR	**Pinedale Array**	**79.19**	**45**	P	**P**	**23 55 21.3**	**+0.7**
	comp=Z,0.4nm,0.5s,mb3.6,baz=268,slow=2.5,SNR=4.9						
FRB	**Frobisher Bay**	**79.51**	**13**	P	**P**	**23 55 21.3**	**-0.6**
FRB				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FRB	**Frobisher Bay**	**79.51**	**13**	P	**P**	**23 55 21.3**	**-0.6**
	comp=Z,2.1nm,0.5s,mb4.3,baz=167,slow=16,SNR=11						
BRTR	**Keskin Array B**	**81.48**	**312**	P	**P**	**23 55 34.3**	**+1.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**81.48**	**312**	P	**P**	**23 55 34.3**	**+1.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=108,slow=3.9,SNR=5.7						
RSSD	**Black Hills**	**81.52**	**42**	*e*P	**P**	**23 55 34.6**	**+1.7**
RSSD				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
RSSD	**Black Hills**	**81.52**	**42**	*e*P	**P**	**23 55 34.5**	**+1.6**
	comp=Z,1.8nm,0.7s,mb4.1						
GERES	**GERESS Array B**	**85.71**	**329**	P	**P**	**23 55 53.8**	**-0.3**
	comp=Z,0.1nm,0.3s,mb3.5,baz=90,slow=8.0,SNR=3.9						
ANMO	**Albuquerque**	**85.89**	**50**	*e*P	**P**	**23 55 56.7**	**+1.4**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ANMO	**Albuquerque**	**85.89**	**50**	*e*P	**P**	**23 55 56.7**	**+1.4**
	comp=Z,1.8nm,0.9s,mb4.3						
TXAR	**Lajitas Array**	**91.29**	**53**	P	**P**	**23 56 22.2**	**+1.0**
	comp=Z,0.9nm,0.5s,mb4.3,baz=307,slow=3.2,SNR=16						
LPAZ	**La Paz**	**147.37**	**65**	PKPbc	PKPdf	00 03 01.3	+1.6
	comp=Z,2.0nm,0.6s,baz=325,slow=1.6,SNR=8.3						
LPAZ	**La Paz**	**147.37**	**65**	*e*PKPbc	PKPdf	00 03 01.3	+1.6
LVC	**Limon Verde**	**150.28**	**76**	PKPbc	PKPdf	00 03 08.6	+4.4
	comp=Z,1.5nm,0.6s,baz=249,slow=10,SNR=3.6						
SIV	**San Ignacio**	**152.26**	**55**	PKPbc	PKPdf	00 03 12.2	+4.9
	comp=Z,1.5nm,0.6s,baz=254,slow=5.5,SNR=9.3						

IDC 07 23:48:59.0±4.4,2.12S×98.26E,mb3.4/3,mb1 3.4/3, mb1mx3.3/17,mbtmp3.4/3,Error ellipse: s-maj=181.3km s-min=31.3km az=59.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**40.60**	**125**	P	P	23 56 41.0	-1.3
	0.2nm,0.4s,baz=298,slow=7.7,SNR=4.2						
SONM	**Songino Array**	**50.25**	**7**	P	P	23 57 57.1	-1.8
	0.3nm,0.4s,baz=190,slow=8.8,SNR=2.5						
MKAR	**Makanchi Array**	**50.70**	**346**	P	P	23 58 00.4	-1.9
	0.8nm,0.7s,baz=155,slow=9.3,SNR=6.4						
TXAR	**Lajitas Array**	**145.83**	**35**	PKPbc	PKPbc	00 08 39.5	-1.6
	0.3nm,0.5s,baz=248,slow=1.0,SNR=5.1						

*IDC **07** 23:51:30.8±1.8,0.58N×125.37E,mb3.8/3,mb1 4.0/3, mb1mx3.7/17,mbtmp3.8/3,Error ellipse: s-maj=187.7km s-min=23.2km az=64.0*
ISC 07 23:51:51.5±1.3,0.2N±0.2×124.5E±0.7,h200km,n6, σ1§69/6,mb3.7/3,1D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**10.54**	**350**	*e*P	**P**	**23 54 17.9**	**-0.8**
CUYO	**Cuyo Island**	**11.14**	**342**	*e*P	**P**	**23 54 24.7**	**-1.6**
RCP	**Roxas**	**11.44**	**352**	‖*e*P	**P**	**23 54 31.9**	**+1.7**
WRA	**Warramunga Arr**	**22.22**	**155**	P	**P**	**23 56 27.2**	**-5.0**
	1.5nm,0.5s,mb3.8,baz=335,slow=11,SNR=16						
ASAR	**Alice Springs**	**25.42**	**159**	P	**P**	**23 57 02.3**	**-0.3**
	1.1nm,0.5s,mb3.7,baz=339,slow=8.2,SNR=11						
MKAR	**Makanchi Array**	**59.23**	**328**	P	**P**	**00 01 35.0**	**+1.0**
	0.7nm,0.4s,mb3.7,baz=123,slow=8.0,SNR=18						

*NEIC **07** 23:56:36.2±2.5,58.63S×25.97W,h108km±23km,mb4.3/11, Error ellipse: s-maj=11.9km s-min=9.2km az=58.0*
*IDC **07** 23:56:37.5±3.2,58.66S×25.78W,h113km±25km,mb4.0/6, mb1 4.1/7,mb1mx3.7/17,mbtmp4.4/7,Error ellipse: s-maj=29.3km s-min=21.3km az=100.0*
ISC 07 23:56:35.8±3.9,58.59S±0.09×26.0W±0.2,h121km±37km, n32,σ1§02/26,mb4.3/15,3C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.15**	**153**	⇑*i*	**P**	**00 00 16.6**	**+0.1**
SNAA	**Sanae**	**16.15**	**153**	*e*	**P**	**00 00 18.3**	**+1.8**
SNAA	**Sanae**	**16.15**	**153**	*e*	**S**	**00 03 01.5**	**-10**
SNAA	**Sanae**	**16.15**	**153**	P	**P**	**00 00 16.6**	**+0.2**
	2.3nm,0.3s,baz=322,slow=13,SNR=121						
SNAA				S	**S**	**00 02 59.8**	**-11**
	0.2nm,0.3s,baz=319,slow=5.8,SNR=3.5						
SNAA	**Sanae**	**16.15**	**153**	⇑*i*P	**P**	**00 00 16.6**	**+0.1**
SNAA				*e*		00 00 18.3	
SNAA				*e*		00 03 01.5	
TRQA	**Tornquist**	**30.99**	**296**	P	**P**	**00 02 42.2**	**-1.2**
	40nm,1.6s,mb4.9						
QSPA	**South Pole Qui**	**31.65**	**180**	⇑*i*P	**P**	**00 02 49.0**	**+0.1**
	3.6nm,0.5s,mb4.4						
SBA	**Scott Base**	**43.58**	**184**	*e*P	**P**	**00 04 26.8**	**-1.7**
	6.1nm,1.1s,mb4.2						
VNDA	**Vanda**	**44.06**	**182**	P	**P**	**00 04 32.8**	**+0.6**
	1.1nm,0.6s,mb3.8,baz=190,slow=5.6,SNR=13						
VNDA	**Vanda**	**44.06**	**182**	*e*P	**P**	**00 04 33.2**	**+1.0**
	1.3nm,0.6s,mb3.8						
BDFB	**Brasilia**	**45.91**	**330

LBOS			*i* S	Sn	00 04 23.1	+2.4
TRBA	**At Turbah**	**1.93 295**	⇓*i*P	Pn	00 04 06.5	+1.1
TRBA			*i* S	Sn	00 04 32.7	+3.1
TRBA			AML	AML	00 04 34.6	
	comp=N,453nm,0.5s					
UDYN	**Al 'Udayn**	**2.44 309**	⇑*i*P	Pn	00 04 14.2	+1.5
UDYN			*i* S	Sn	00 04 46.6	+4.1
DHBB	**Dhamar BB**	**2.60 325**	⇑*i*P	Pn	00 04 17.4	+2.4
DHBB			*i* S	Sn	00 04 52.2	+5.7

IDC 08 00:06:18.5±1.9, 2.84N×126.24E, mb3.4/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=119.4km s-min=24.1km az=69.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.81**	**182**	P	P	00 11 01.7	-2.5
	2.2nm,0.7s,baz=23,slow=6.5,SNR=3.9						
WRA	**Warramunga Arr**	**23.99**	**161**	P	P	00 11 33.3	-2.6
	0.5nm,0.5s,baz=339,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**27.38**	**165**	P	P	00 12 07.6	-0.1
	0.3nm,0.3s,baz=348,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**58.01**	**326**	P	P	00 16 12.9	-2.6
	0.2nm,0.4s,baz=116,slow=8.0,SNR=5.9						

*NIED **08** 00:16:00, 33.80N×130.10E, h8km, Mw3.4 Best double couple: M0 1.52×10^14 NP1:φs230°, δ81°, λ169°. NP2: φs322°, δ79°, λ9°.*

JMA 08 00:16:19.6, 33.76N×130.13E, h13km, M3.7, 2C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.33**	**276**	⇓P	Pg	00 16 26.5	-0.2
JII				S	Sg	00 16 31.0	-0.4
JFI	**Itaya**	**0.40**	**147**	⇑P	Pg	00 16 27.4	-0.4
JFI				S	Sg	00 16 32.9	-0.4
JFA	**Akaike**	**0.56**	**95**	⇓P	Pb	00 16 30.1	-0.6
JFA				*e*S	Sb	00 16 37.8	-0.4
JTA	**Tamana**	**0.86**	**157**	⇑P	Pb	00 16 35.7	-0.2
JTU	**Tsushima**	**0.97**	**322**	⇓P	Pb	00 16 37.7	-0.1
JTU				S	Sb	00 16 50.7	+0.3

*NEIC **08** 00:20:19.5±0.5, 6.36S×129.74E, h75km, mb4.3/7, Error ellipse: s-maj=15.1km s-min=7.5km az=74.0*
*IDC **08** 00:20:26.1±4.7, 6.55S×129.70E, h146km±48km, mb3.7/7, mb1 4.1/10, mb1mx3.9/17, mbtmp4.5/10, MS2.6/2, Ms1 2.6/2, ms1mx2.5/26, Error ellipse: s-maj=27.4km s-min=15.0km az=68.0*

ISC 08 00:20:23.9±2.2, 6.58S±0.07×129.8E±0.1, h145km±24km, n25, σ1§41/30, mb4.0/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.15**	**199**	*e*P	**P**	**00 23 13.0**	**-0.1**
	25nm,0.3s						
FITZ				*e*S	**S**	**00 25 19.1**	**-6.8**
FITZ	**Fitzroy Crossi**	**12.15**	**199**	P	**P**	**00 23 13.3**	**+0.2**
	9.2nm,0.3s,baz=19,slow=10.0,SNR=145						
FITZ				S	**S**	**00 25 21.1**	**-4.8**
	20nm,0.3s,baz=102,slow=5.7,SNR=8.6						
WRAB	**Tennant Creek**	**13.99**	**162**	*e*Pn	**P**	**00 23 36.2**	**-0.7**
	44nm,0.4s						
WRAB				*e*Sn	**S**	**00 26 00.3**	**-8.5**
WRA	**Warramunga Arr**	**13.99**	**162**	P	**P**	**00 23 35.5**	**-1.5**
	2.2nm,0.3s,baz=337,slow=13,SNR=28						
WRA				S	**S**	**00 26 05.7**	**-3.3**
	7.6nm,0.3s,baz=342,slow=22,SNR=13						
WB2	**Warramunga Arr**	**14.00**	**162**	*e*P	**P**	**00 23 35.7**	**-1.3**
WB2				*e*S	**S**	**00 26 00.9**	**-8.2**
PMG	**Port Moresby**	**17.42**	**100**	P	**P**	**00 24 21.5**	**+2.0**
	0.9nm,0.3s,baz=289,slow=5.6,SNR=14						
PMG	**Port Moresby**	**17.42**	**100**	*e*P	**P**	**00 24 21.1**	**+1.5**
	139nm,1.2s						
ASAR	**Alice Springs**	**17.44**	**167**	P	**P**	**00 24 21.9**	**+2.1**
	2.1nm,0.3s,baz=350,slow=9.8,SNR=86						
ASAR				S	**S**	**00 27 32.0**	**+5.0**
	2.2nm,0.3s,baz=356,slow=27,SNR=5.2						
ASAR				LR	LR	00 30 41.2	
	comp=Z,22nm,20.9s,baz=1.8,slow=35						
ASPA	**Alice Springs**	**17.44**	**167**	*e*P	**P**	**00 24 21.4**	**+1.6**
ASPA				*e*S	**S**	**00 27 25.5**	**-1.5**
MBWA	**Marble Bar**	**17.46**	**213**	*e*P	**P**	**00 24 21.7**	**+1.6**
	5.2nm,0.6s						
CTA	**Charters Tower**	**20.86**	**132**	P	**P**	**00 24 58.2**	**+2.3**
	8.8nm,1.1s,baz=342,slow=9.6,SNR=2.5						
FORT	**Forrest**	**24.13**	**184**	*e*P	**P**	**00 25 30.2**	**+2.5**
	390nm,0.6s						
STKA	**Stephens Creek**	**27.47**	**158**	*e*P	**P**	**00 25 59.6**	**+0.9**
	2.6nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**27.47**	**158**	P	**P**	**00 25 59.8**	**+1.1**
	3.1nm,0.6s,mb4.1,baz=326,slow=8.2,SNR=7.3						
CMAR	**Chiang Mai Arr**	**39.31**	**310**	P	**P**	**00 27 39.5**	**-1.1**
	0.9nm,0.4s,mb3.8,baz=147,slow=7.9,SNR=4.3						
JNU	**Nakatsue**	**39.50**	**1**	LR	LR	00 44 21.1	
	comp=Z,6.4nm,18.8s,baz=76,slow=36						
MAJO	**Matsushiro**	**43.61**	**10**	*e*P	**P**	**00 28 13.4**	**-2.2**
	12nm,0.8s,mb4.6						
MJAR	**Matsushiro Arr**	**43.61**	**10**	P	**P**	**00 28 14.1**	**-1.5**
	11nm,0.9s,mb4.5,baz=187,slow=8.8,SNR=14						
ULN	**Ulaanbaatar**	**57.81**	**342**	*e*P	**P**	**00 30 02.2**	**-0.1**
	3.7nm,0.7s,mb4.3						
SONM	**Songino Array**	**57.98**	**342**	P	**P**	**00 30 03.8**	**+0.2**
	0.7nm,0.6s,mb3.6,baz=153,slow=5.7,SNR=7.4						
MKAR	**Makanchi Array**	**67.77**	**327**	P	**P**	**00 31 08.3**	**+0.2**
	3.5nm,0.6s,mb4.3,baz=126,slow=7.8,SNR=44						
AAK	**Ala-Archa**	**70.09**	**320**	*e*P	**P**	**00 31 22.6**	**+0.2**
	1.6nm,0.7s,mb3.9						
ZAL	**Zalesovo**	**71.12**	**334**	LR	LR	01 05 18.6	
	comp=Z,156nm,18.8s,baz=118,slow=38						
KURK	**Kurchatov**	**72.06**	**329**	*e*P	**P**	**00 31 33.9**	**-0.1**
	1.5nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**77.60**	**328**	P	**P**	**00 32 05.8**	**+0.3**
	0.4nm,0.4s,mb3.4,baz=121,slow=8.6,SNR=6.6						

*NEIC **08** 00:25:02.9, 19.17N×69.14W, h40km, MD3.9(RSPR), After RSPR.*

RSPR 08 00:25:02.9, 19.17N×69.14W, h40km±56km, MD3.9/14, MD3.9/14, 10C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.04**	**110**	⇑*e*P	P	00 25 33.8	-1.8
AGPR				*e*S	S	00 25 57.0	-3.0
LSP	**Las Mesas**	**2.18**	**117**	⇓*e*P	P	00 25 34.9	-2.7
LSP				*e*S	S	00 25 58.1	-5.5
CRPR	**Cabo Rojo, PR**	**2.25**	**121**	⇑*e*P	P	00 25 35.7	-2.7
CRPR				*e*S	S	00 26 03.2	-1.9
MGP	**Maguayo**	**2.26**	**120**	⇓*e*P	P	00 25 35.9	-2.8
MGP				*e*S	S	00 26 04.2	-1.3
LRS	**Lares**	**2.34**	**111**	⇑*e*P	P	00 25 37.7	-2.1
LRS				*e*S	S	00 26 05.9	-1.7
AOPR	**Arecibo Observ**	**2.41**	**110**	⇑*e*P	P	00 25 39.1	-1.7
AOPR				*e*S	S	00 26 07.4	-1.9
PORP	**Portuguez**	**2.62**	**115**	⇑*e*P	P	00 25 42.5	-1.3
PORP				*e*S	S	00 26 12.5	-2.1
CELP	**Cerrillos**	**2.66**	**114**	⇓*e*P	P	00 25 43.2	-1.1
CELP				*e*S	S	00 26 13.1	-2.6
ICM	**Isla Caja Muer**	**2.79**	**117**	⇑*e*P	P	00 25 47.7	+1.4
ICM				*e*S	S	00 26 18.5	-0.5
SJG	**San Juan**	**3.02**	**110**	⇓*e*P	P	00 25 49.0	-0.6
SJG				*e*S	S	00 26 21.2	-3.7
SJG	**San Juan**	**3.02**	**110**	⇑*e*P	P	00 25 47.8	-1.7
SJG				*e*S	S	00 26 21.1	-3.8
CBYP	**Canovanas**	**3.24**	**106**	⇑*e*P	P	00 25 50.6	-2.0
CBYP				*e*S	S	00 26 29.9	-0.5
CPD	**Cerro la Pandu**	**3.26**	**110**	⇑*e*P	P	00 25 52.3	-0.6
CPD				*e*S	S	00 26 28.0	-2.9
MTP	**Monte Pirata**	**3.56**	**107**	⇑*e*P	P	00 25 54.8	-2.4
MTP				*e*S	S	00 26 35.9	-2.7

*BJI **08** 00:26:09.9, 0.11S×96.94E, h30km, mB5.1, mb4.8, Ms4.6, Msz4.4*
*IDC **08** 00:26:13.6±0.7, 0.77N×97.21E, mb4.3/16, mb1 4.4/17, mb1mx4.3/21, mbtmp4.3/17, ML4.6/1, MS4.0/5, Ms1 4.1/5, ms1mx3.8/25, Error ellipse: s-maj=25.0km s-min=15.3km az=49.0*

*MOS **08** 00:26:16.4±1.4, 0.68N×97.19E, h33km, mb4.6/10, Error ellipse: s-maj=19.0km s-min=9.3km az=102.8*
*NEIC **08** 00:26:18.2±0.4, 0.78N×97.29E, h30km, mb4.6/8, Error ellipse: s-maj=11.5km s-min=8.9km az=40.0*

ISC 08 00:26:16.9±0.5, 0.74N±0.07×97.35E±0.07, h33km, (h21km±5.3km:pP-P), n62, σ1§33/64, mb4.4/33, MS4.2/10, 9C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.59**	**36**	*e*Pn	**Pn**	**00 27 39.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**17.67**	**5**	P	**P**	**00 30 22.4**	**+0.1**
	0.8nm,0.3s,baz=195,slow=12,SNR=12						
CMAR				LR	LR	00 38 11.3	
	comp=Z,535nm,19.8s,baz=195,slow=41						
CHG	**Chiang Mai**	**18.03**	**5**	⇑P	**P**	**00 30 29.8**	**+3.1**
	12nm,0.9s						
NANT	**Nan**	**18.24**	**10**	⇑P	**P**	**00 30 29.0**	**-0.5**
	112nm,0.6s						
KKM	**Kota Kinabalu**	**19.55**	**74**	P	**P**	**00 30 44.1**	**-0.7**
KMI	**Kunming**	**24.79**	**12**	P	**P**	**00 31 42.8**	**+5.3**
KMI				AP		00 31 48.7	
KMI				XP		00 31 51.6	
KMI				PP	PP	00 32 22.4	+7.9
KMI				S	**S**	**00 36 05.5**	**+10**
KMI				XS		00 36 15.2	
KMI				SS	SS	00 37 08.7	+16
KMI				AMB	AMB		
	comp=Z,18nm,1.6s,mb4.3						
KMI				AMB	AMB		
	comp=Z,81nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,12.4s,MS4.7						
KMI				LR	LR		
	comp=E,719nm,14.2s,MS4.7						
KMI				LR	LR		
	comp=Z,1μm,13.5s,MS4.6						
KMI	**Kunming**	**24.79**	**12**	P	**P**	**00 31 42.8**	**+5.3**
KMI				*SP		00 31 51.6	
KMI						00 32 22.4	
KMI				S	**S**	**00 36 05.5**	**+10**
KMI				SS	SS	00 37 08.7	+16
KMI				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.3						
KMI				MLR	MLR		
	comp=Z,1μm,13.5s,MS4.6						
KMI	**Kunming**	**24.79**	**12**	P	**P**	**00 31 42.8**	**+5.3**
	comp=Z,18nm,1.6s,mb4.3						
KMI				pP		00 31 48.7	
KMI				sP		00 31 51.6	
KMI				PP	PP	00 32 22.4	+7.9
KMI				S	**S**	**00 36 05.5**	**+10**
KMI				sS		00 36 15.2	
KMI				SS	SS	00 37 08.7	+16
KMI				LR	LR		
	comp=Z,1μm,13.5s,MS4.6						
SHL	**Shillong**	**25.24**	**348**	*e*P	**P**	**00 31 44.0**	**+2.3**
ENH	**Enshi**	**31.55**	**20**	*e*P	**P**	**00 32 38.0**	**-0.6**
	comp=Z,6.8nm,0.5s,mb4.7						
XAN	**Xi'an**	**34.85**	**17**	P	**P**	**00 33 06.1**	**-1.1**
XAN				AP	pP	00 33 12.9	-4.0
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
XAN				LR	LR		
	comp=N,377nm,14.9s,MS4.5						
XAN				LR	LR		
	comp=E,472nm,14.0s,MS4.5						
XAN				LR	LR		
	comp=Z,545nm,13.5s,MS4.5						
GTA	**Gaotai**	**38.55**	**3**	*e*P	**P**	**00 33 40.1**	**+1.8**
GTA				AP	pP	00 33 46.0	-2.0
GTA				XP	sP	00 33 49.6	-2.7
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**41.67**	**122**	P	**P**	**00 34 04.2**	**-0.2**
	comp=Z,1.8nm,0.8s,mb3.8,baz=303,slow=9.0,SNR=4.0						
HHC	**Hu-ho-hao-te**	**41.95**	**16**	*e*P	**P**	**00 34 04.7**	**-1.8**
HHC				AP	pP	00 34 14.1	-2.2
HHC				XP	sP	00 34 19.0	-1.5
HHC				PP	PP	00 35 50.3	+3.7
HHC				SCP		00 39 49.2	
HHC				PCS		00 39 52.6	
HHC				SCS	ScS	00 44 06.4	+2.1
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,148nm,5.3s						
HHC				LR	LR		
	comp=N,373nm,15.3s,MS4.5						
HHC				LR	LR		
	comp=E,319nm,15.9s,MS4.5						
HHC				LR	LR		
	comp=Z,362nm,15.9s,MS4.3						
BJT	**Baijiatuau**	**42.69**	**21**	P	**P**	**00 34 11.0**	**-1.5**
BJT				pmax	pmax		
	comp=Z,12nm,0.6s						
BJT	**Baijiatuau**	**42.69**	**21**	P	**P**	**00 34 11.0**	**-1.4**
	comp=Z,12nm,0.6s,mb4.8						
BJI	**Beijing**	**42.71**	**21**	*e*P	**P**	**00 34 16.1**	**+3.4**
BJI				S	**S**	**00 40 41.8**	**+8.2**
BJI				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.9						
BJI				LR	LR		
	comp=N,230nm,13.1s,MS4.3						
BJI				LR	LR		
	comp=E,219nm,15.7s,MS4.3						
BJI				LR	LR		
	comp=Z,149nm,16.3s,MS4.0						
BJI	**Beijing**	**42.71**	**21**	*e*P	**P**	**00 34 16.1**	**+3.4**
	comp=Z,19nm,0.7s,mb4.9						
BJI				S	**S**	**00 40 41.8**	**+8.2**
BJI				LR	LR		
	comp=Z,150nm,16.3s,MS4.0						
ASAR	**Alice Springs**	**43.00**	**127**	P	**P**	**00 34 15.6**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.0,baz=299,slow=7.7,SNR=5.6						
WMQ	**Urumqi**	**43.75**	**350**	*e*P	**P**	**00 34 23.2**	**+2.1**
AAK	**Ala-Archa**	**46.47**	**337**	*e*P	**P**	**00 34 43.1**	**+0.3**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**46.47**	**337**	*e*P	**P**	**00 34 44.6**	**+1.8**
	comp=Z,7.0nm,1.3s,mb4.4						
FRU	**Bishkek**	**46.59**	**337**	*e*P	**P**	**00 34 45.0**	**+1.2**
FRU				*e*		00 35 03.0	
SONM	**Songino Array**	**47.56**	**8**	P	**P**	**00 34 51.2**	**-0.1**
	comp=Z,2.7nm,0.7s,mb4.4,baz=188,slow=9.7,SNR=22						
ULN	**Ulaanbaatar**	**47.69**	**9**	*e*P	**P**	**00 34 55.0**	**+2.7**
MKAR	**Makanchi Array**	**47.72**	**346**	P	**P**	**00 34 52.2**	**-0.3**
	comp=Z,9.1nm,0.7s,mb4.9,baz=160,slow=8.5,SNR=30						
MKAR				LR	LR	00 58 56.7	
	comp=Z,99nm,20.3s,MS3.8,baz=279,slow=41						
CN2	**Changchun**	**49.64**	**27**	*e*P	**P**	**00 35 09.5**	**+2.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
ZAK	**Zakamensk**	**49.71**	**5**	*e*P	**P**	**00 35 09.5**	**+1.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.9						
PMG	**Port Moresby**	**50.61**	**103**	P	**P**	**00 35 17.0**	**+1.8**
	comp=Z,8.5nm,0.7s,mb4.8,baz=254,slow=7.4,SNR=3.0						
TLY	**Talaya**	**51.03**	**5**	*e*P	**P**	**00 35 20.2**	**+2.3**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TLY				MLR	MLR		
	comp=Z,176nm,15.0s,MS4.2						
KURK	**Kurchatov**	**52.27**	**345**	⇑*i*P	**P**	**00 35 26.1**	**-1.1**
KURK	**Kurchatov**	**52.27**	**345**	*e*P	**P**	**00 35 26.4**	**-0.8**
	comp=Z,6.6nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**52.94**	**132**	P	**P**	**00 35 32.9**	**+0.4**
	comp=Z,5.8nm,0.9s,mb4.5,baz=302,slow=9.9,SNR=5.5						
STKA				LR	LR	01 00 49.0	
	comp=Z,216nm,19.6s,MS4.2,baz=115,slow=39						
ZAL	**Zalesovo**	**54.02**	**351**	P	**P**	**00 35 40.3**	**+0.1**
	comp=Z,6.2nm,0.7s,mb4.7,baz=299,slow=7.0,SNR=19						
KLR	**Kul'dur**	**56.59**	**26**	*e*P	**P**	**00 35 57.7**	**-1.2**
BVAR	**Borovoye Array**	**56.73**	**341**	P	**P**	**00 35 57.9**	**-1.9**
	comp=Z,2.6nm,0.7s,mb4.4,baz=143,slow=7.4,SNR=18						
BOD	**Bodaibo**	**58.43**	**10**	*e*P	**P**	**00 36 10.6**	**-1.1**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
ASAJ	**Asahikawa**	**58.94**	**37**	LR	LR	01 01 14.0	
	comp=Z,90nm,21.4s,MS3.9,baz=67,slow=36						
KMBO	**Kilima Mbogo**	**60.12**	**268**	P	**P**	**00 36 27.6**	**+3.6**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KMBO	**Kilima Mbogo**	**60.12**	**268**	P	**P**	**00 36 23.2**	**-0.9**
	comp=Z,0.7nm,0.8s,mb3.8,baz=233,slow=20,SNR=1.6						
KMBO	**Kilima Mbogo**	**60.12**	**268**	P	**P**	**00 36 27.6**	**+3.6**
	comp=Z,2.5nm,1.1s,mb4.2						
GNI	**Garni**	**61.72**	**316**	*e*P	**P**	**00 36 32.6**	**-1.9**
GNI				pmax	pmax		
	comp=Z,13nm,2.5s						
GNI	**Garni**	**61.72**	**316**	P	**P**	**00 36 33.4**	**-1.1**
	comp=Z,5.1nm,1.1s,mb4.6						
ARU	**Arti**	**63.66**	**337**	⇑*i*P	**P**	**00 36 43.6**	**-3.5**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.5						
KIV	**Kislovodsk**	**64.75**	**319**	⇓*i*P	**P**	**00 36 54.8**	**+0.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
YAK	**Yakutsk**	**65.81**	**16**	*e*P	**P**	**00 36 58.9**	**-2.0**
BRTR	**Keskin Array B**	**69.53**	**312**	P	**P**	**00 37 22.7**	**-1.8**
	comp=Z,0.4nm,0.4s,mb3.7,baz=108,slow=7.8,SNR=5.3						
MATP	**Matopo**	**70.49**	**248**	P	**P**	**00 37 31.7**	**+0.9**
	comp=Z,2.9nm,0.9s,mb4.2,baz=116,slow=8.2,SNR=5.0						
MATP	**Matopo**	**70.49**	**248**	P	**P**	**00 37 31.7**	**+0.9**
TIXI	**Tiksi**	**73.61**	**10**	*i*P	**P**	**00 37 47.7**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
AKASG	**Malin Array Be**	**75.71**	**322**	P	**P**	**00 37 58.8**	**-2.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=96,slow=4.2,SNR=6.2						
VRI	**Vrincioaia**	**76.05**	**317**	⇑P	**P**	**00 38 01.7**	**-1.2**
MLR	**Muntele Rosu**	**76.50**	**317**	⇑P	**P**	**00 38 05.4**	**-0.1**
BURAR	**Bucovina Array**	**77.46**	**319**	⇑P	**P**	**00 38 11.4**	**+0.6**
BURAR	**Bucovina Array**	**77.46**	**319**	⇑P	**P**	**00 38 11.4**	**+0.5**
FINES	**FINESS Array B**	**80.47**	**333**	P	**P**	**00 38 26.1**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.1,baz=124,slow=6.9,SNR=8.0						
URZ	**Urewera**	**82.42**	**129**	LR	LR	01 16 21.1	
	comp=Z,183nm,18.9s,MS4.5,baz=171,slow=36						
MORC	**Moravsky Berou**	**82.85**	**320**	⇑P	**P**	**00 38 39.6**	**+0.1**
ARCES	**ARCESS Array B**	**83.01**	**340**	P	**P**	**00 38 40.3**	**+0.4**
	comp=Z,7.5nm,1.0s,mb4.7,baz=90,slow=4.9,SNR=6.7						
GERES	**GERESS Array B**	**85.25**	**319**	P	**P**	**00 38 52.1**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.9,baz=90,slow=5.3,SNR=6.4						
NOA	**NORSAR Array B**	**87.47**	**331**	P	**P**	**00 39 01.9**	**-0.2**
	comp=Z,2.0nm,1.0s,mb4.3,baz=94,slow=5.3,SNR=3.3						
TXAR	**Lajitas Array**	**143.98**	**32**	PKP	PKPdf	00 45 51.5	+1.7
	comp=Z,0.3nm,0.6s,baz=29,slow=1.5,SNR=3.7						

MAN 08 00:32:43.6, 8.10N×123.23E, h1km, mb3.9, ML2.7, MS2.3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.49**	**15**	⇑*i*P	Pg	00 32 53.5	0.0
DCPH				*i* S	Sg	00 33 02.0	+1.9
SNPH	**Sibulan**	**1.23**	**1**	⇓*i*P	Pb	00 33 06.5	-0.9
SNPH				*e*S	Sb	00 33 26.0	+2.3
ZMPH	**Zamboanga City**	**1.62**	**225**	⇑*i*P	Pn	00 33 13.6	+0.1
ZMPH				*i* S	Sb	00 33 35.2	+0.2

*NEIC **08** 00:46:35.5, 32.45S×71.89W, h25km, ML3.0(GUC), After GUC.*

GUC 08 00:46:35.5±0.8, 32.45S×71.89W, h25km±5km, MD3.7, ML3.0, 3C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.39**	**102**	⇓*i*P	Pb	00 46 43.8	-0.1
PACH				*i* S	Sb	00 46 50.3	+0.7
IHA	**Instituto Hidr**	**0.61**	**160**	*e*P	Pb	00 46 47.0	-0.5
IHA				*i* S	Sb	00 46 55.7	+0.1
CHNG	**Los Chungos**	**0.66**	**30**	*e*P	Pb	00 46 47.8	-0.5
CHNG				*e*S	Sb	00 46 57.0	0.0
CHNG				AMP		00 46 59.5	
	comp=N,314nm,0.4s						
PTCH	**Petorca**	**0.83**	**77**	⇓*i*P	Pb	00 46 51.1	-0.1
PTCH				*i* S	Sb	00 47 01.9	-0.1
PTCH				AMP		00 47 08.0	
	comp=E,3μm,0.6s						
ROCH	**El Roble**	**0.90**	**125**	⇑*i*P	Pb	00 46 52.0	-0.4
ROCH				*i* S	Sb	00 47 04.7	+0.7
LCCH	**Las Cruces**	**1.05**	**165**	*e*P	Pn	00 46 54.2	-0.6
LCCH				*i* S	Sb	00 47 08.2	-0.2
JACH	**Jahuel**	**1.12**	**102**	⇑*i*P	Pn	00 46 55.3	-0.5
JACH				*i* S	Sb	00 47 10.9	+0.7
RCDM	**Rinconada Maip**	**1.38**	**139**	*e*P	Pn	00 46 59.8	+0.3
RCDM				*i* S	Sn	00 47 18.0	+1.0
RCDM				AMP		00 47 19.6	
	comp=E,411nm,0.1s						
TACH	**Talagante**	**1.44**	**147**	*e*P	Pn	00 47 00.1	-0.3
TACH				*i* S	Sn	00 47 18.4	-0.2
CLCH	**Cerro Calan**	**1.48**	**130**	⇓*i*P	Pn	00 47 01.0	+0.1
CLCH				*i* S	Sn	00 47 20.5	+1.0
CLCH				AMP		00 47 27.4	
	comp=E,367nm,0.2s						
CLCH				AMP		00 47 28.1	
	comp=E,429nm,0.6s						
ANTU	**Antumapu**	**1.53**	**137**	*i* S	Sn	00 47 22.4	+1.4
ANTU				AMP		00 47 27.5	
	comp=E,350nm,0.5s						
LNV	**Longovilo**	**1.55**	**165**	*e*P	Pn	00 47 02.0	0.0
FCH	**Farellones**	**1.60**	**123**	⇓*i*P	Pn	00 47 03.0	+0.2
FCH				*i* S	Sn	00 47 24.6	+1.8
FCH				AMP		00 47 28.0	
	comp=E,271nm,0.2s						
PCH	**Pirque**	**1.64**	**136**	*e*P	Pn	00 47 03.3	0.0
PCH				*e*S	Sn	00 47 24.8	+1.1
CHCH	**Chadas Angostu**	**1.80**	**145**	*e*P	Pn	00 47 06.3	+0.7
CHCH				*i* S	Sn	00 47 29.0	+1.1
LMEL	**Las Melosas**	**1.98**	**135**	⇑*i*P	Pn	00 47 09.1	+0.9
LMEL				*i* S	Sn	00 47 34.7	+2.2
LMEL				AMP		00 47 39.6	
	comp=N,324nm,0.1s						

*RSPR **08** 00:49:51.2, 19.08N×69.08W, h14km±77km, MD4.0/15, MD4.0/15*
*NEIC **08** 00:49:51.2, 19.08N×69.08W

*NEIC **08** 00:53:24.6±0.4, 1.67S×99.42E, h30km, mb4.5/6, Error ellipse: s-maj=15.6km s-min=8.7km az=60.0*

ISC 08 00:53:23.4±0.4, 1.60S±0.07×99.47E±0.10, h33km, n45, σ1°12/41, mb4.3/20, MS3.8/5, 7C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.94**	**10**	*e*Pn	**Pn**	**00 55 03.6**	**-1.9**
CMAR	**Chiang Mai Arr**	**19.93**	**359**	P	**P**	**00 57 54.8**	**-0.6**
	31nm,0.5s,baz=187,slow=8.7,SNR=152						
CMAR				LR	LR	01 05 48.2	
	comp=Z,179nm,18.6s,baz=185,slow=37						
SHL	**Shillong**	**27.98**	**345**	*e*P	**P**	**00 59 14.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**30.48**	**124**	*e*P	**P**	**00 59 35.7**	**0.0**
	6.1nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**30.48**	**124**	LR	LR	01 10 32.5	
	comp=Z,178nm,20.0s,MS3.7,baz=282,slow=34						
ENH	**Enshi**	**33.10**	**16**	*e*P	**P**	**00 59 56.6**	**-2.0**
	4.7nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**38.66**	**121**	P	**P**	**01 00 46.2**	**+0.4**
	3.5nm,0.5s,mb4.3,baz=301,slow=9.2,SNR=38						
WRAB	**Tennant Creek**	**38.66**	**121**	*e*P	**P**	**01 00 45.9**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**38.66**	**121**	*e*P	**P**	**01 00 45.9**	**0.0**
	comp=Z,9.6nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**38.67**	**121**	*e*P	**P**	**01 00 45.2**	**-0.7**
JOW	**Kunigami**	**39.62**	**42**	LR	LR	01 15 49.8	
	comp=Z,61nm,21.5s,MS3.4,baz=321,slow=34						
ASPA	**Alice Springs**	**39.92**	**126**	*e*P	**P**	**01 00 57.3**	**+1.1**
ASAR	**Alice Springs**	**39.92**	**126**	P	**P**	**01 00 57.1**	**+0.8**
	comp=Z,2.2nm,0.5s,mb4.1,baz=302,slow=7.9,SNR=33						
GTA	**Gaotai**	**40.81**	**0**	*e*P	**P**	**01 01 08.9**	**+5.4**
GTA				AP	pP	01 01 16.5	+3.2
GTA				XP	sP	01 01 20.1	+2.6
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb3.9						
BJI	**Beijing**	**44.17**	**18**	*e*P	**P**	**01 01 44.7**	**+14**
BJI				S	**S**	**01 07 54.8**	**-6.5**
BJI				MLR	MLR		
	comp=Z,120nm,20.6s,MS3.8						
WMQ	**Urumqi**	**46.43**	**348**	*e*P	**P**	**01 01 49.6**	**+0.7**
SONM	**Songino Array**	**49.60**	**6**	P	**P**	**01 02 13.8**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.2,baz=187,slow=10,SNR=13						
STKA	**Stephens Creek**	**49.81**	**132**	P	**P**	**01 02 15.5**	**+0.1**
	comp=Z,2.5nm,0.5s,mb4.5,baz=264,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**50.50**	**345**	P	**P**	**01 02 20.8**	**+0.3**
	comp=Z,2.9nm,0.6s,mb4.5,baz=149,slow=8.1,SNR=18						
MKAR				LR	LR	01 27 50.7	
	comp=Z,56nm,20.1s,MS3.6,baz=170,slow=41						
KURK	**Kurchatov**	**55.07**	**344**	P	**P**	**01 02 54.9**	**+0.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**55.07**	**344**	P	**P**	**01 02 54.9**	**+0.5**
	comp=Z,4.8nm,0.8s,mb4.6						
ZAL	**Zalesovo**	**56.67**	**350**	P	**P**	**01 03 05.8**	**-0.1**
	comp=Z,3.1nm,0.4s,mb4.7,baz=319,slow=5.7,SNR=7.0						
BVAR	**Borovoye Array**	**59.62**	**340**	P	**P**	**01 03 25.5**	**-1.0**
	comp=Z,1.0nm,0.6s,mb4.0,baz=142,slow=8.7,SNR=8.1						
CHKZ	**Chkalovo**	**60.09**	**341**	*e*P	**P**	**01 03 30.9**	**+1.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
CHKZ	**Chkalovo**	**60.09**	**341**	*e*P	**P**	**01 03 30.9**	**+1.2**
	comp=Z,1.7nm,0.5s,mb4.3						
BOD	**Bodaibo**	**60.36**	**9**	*e*P	**P**	**01 03 30.6**	**-0.9**
BOD				*e*		01 03 45.4	
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
KMBO	**Kilima Mbogo**	**62.20**	**270**	*e*P	**P**	**01 03 44.4**	**-0.1**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	**Kilima Mbogo**	**62.20**	**270**	P	**P**	**01 03 42.9**	**-1.6**
	comp=Z,1.7nm,0.7s,mb4.3,baz=64,slow=8.6,SNR=6.8						
KMBO	**Kilima Mbogo**	**62.20**	**270**	*e*P	**P**	**01 03 44.4**	**-0.1**
	comp=Z,1.9nm,0.8s,mb4.3						
MAW	**Mawson**	**70.55**	**194**	LR	LR	01 28 55.5	
	comp=Z,358nm,18.2s,MS4.7,baz=73,slow=30						
MATP	**Matopo**	**71.62**	**249**	P	**P**	**01 04 42.8**	**-1.2**
	comp=Z,2.8nm,0.9s,mb4.2,baz=57,slow=5.3,SNR=4.6						
BRTR	**Keskin Array B**	**72.66**	**313**	P	**P**	**01 04 49.3**	**-0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=100,slow=8.8,SNR=2.9						
VRI	**Vrincioaia**	**79.19**	**317**	⇑P	**P**	**01 05 32.1**	**+5.2**
VRI	**Vrincioaia**	**79.19**	**317**	⇑P	**P**	**01 05 32.0**	**+5.1**
MLR	**Muntele Rosu**	**79.64**	**317**	⇓P	**P**	**01 05 33.8**	**+4.5**
BURAR	**Bucovina Array**	**80.61**	**319**	⇑P	**P**	**01 05 35.8**	**+1.4**
BURAR	**Bucovina Array**	**80.61**	**319**	⇑P	**P**	**01 05 35.8**	**+1.4**
FINES	**FINESS Array B**	**83.51**	**332**	P	**P**	**01 05 50.5**	**+1.5**
	comp=Z,0.9nm,0.5s,mb4.2,baz=90,slow=7.6,SNR=6.2						
ARCES	**ARCESS Array B**	**85.91**	**340**	P	**P**	**01 06 03.3**	**+2.4**
	comp=Z,6.4nm,1.0s,mb4.8,baz=90,slow=6.3,SNR=3.9						
GERES	**GERESS Array B**	**88.39**	**319**	P	**P**	**01 06 14.9**	**+1.6**
	comp=Z,0.3nm,0.6s,mb3.7,baz=129,slow=6.3,SNR=3.3						
VNA2	**Neumayer--Watz**	**93.97**	**198**	⇑*i*	**P**	**01 06 37.4**	**-1.3**
VNA1	**Neumayer--Stat**	**94.33**	**199**	⇑*i*	**P**	**01 06 37.9**	**-2.4**
VNA3	**Neumayer Olymp**	**94.58**	**198**	⇑*i*	**P**	**01 06 36.6**	**-4.9**
TXAR	**Lajitas Array**	**144.70**	**36**	PKP	PKPdf	01 12 59.7	+2.2
	comp=Z,1.2nm,0.5s,baz=194,slow=1.0,SNR=36						
TXAR	**Lajitas Array**	**144.70**	**36**	PKP	PKPdf	01 12 59.7	+2.2

IDC 08 00:56:07.1±4.9, 22.86S×179.70E, h504km±38km, mb3.4/5, mb1 3.6/5, mb1mx3.3/17, mbtmp4.3/5, Error ellipse: s-maj=193.8km s-min=27.8km az=164.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.21**	**269**	P	P	01 01 46.2	+0.2
	5.5nm,0.4s,baz=88,slow=12,SNR=13						
ASAR	**Alice Springs**	**41.94**	**260**	P	P	01 03 12.4	-2.1
	1.6nm,0.7s,baz=100,slow=7.9,SNR=8.5						
ASAR				ScP		01 07 59.4	
	0.3nm,0.8s,baz=106,slow=4.9,SNR=5.4						
WB2	**Warramunga Arr**	**42.20**	**265**	*e*P	P	01 03 14.6	-1.9
WRA	**Warramunga Arr**	**42.21**	**265**	P	P	01 03 14.8	-1.9
	1.6nm,0.3s,baz=96,slow=8.4,SNR=17						
FITZ	**Fitzroy Crossi**	**50.64**	**265**	*e*P	P	01 04 19.7	-1.5
	2.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.64**	**265**	P	P	01 04 19.7	-1.5
	3.2nm,0.8s,baz=207,slow=8.1,SNR=5.3						
TXAR	**Lajitas Array**	**90.12**	**58**	P	P	01 08 13.4	-0.7
	0.4nm,0.7s,baz=217,slow=6.3,SNR=5.9						

*IDC **08** 00:59:19.3±1.6, 10.60N×91.38E, mb4.0/7, mb1 4.1/8, mb1mx3.8/22, mbtmp4.0/8, Error ellipse: s-maj=58.7km s-min=17.5km az=64.0*

*BJI **08** 00:59:22.1, 10.71N×91.64E, h27km, mb4.1, Ms3.6*

*NEIC **08** 00:59:24.1±0.6, 10.69N×91.50E, h30km, mb4.2/6, Error ellipse: s-maj=18.1km s-min=8.3km az=62.0*

ISC 08 00:59:21.9±0.7, 10.70N±0.09×91.5E±0.1, h30km, n19, σ0°72/20, mb4.1/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.55**	**312**	*e*P	**P**	**01 01 52.6**	**-1.8**
VIS				*e*S	**S**	**01 03 40.1**	**-12**
CMAR	**Chiang Mai Arr**	**10.56**	**42**	Pn	**P**	**01 01 54.1**	**-0.3**
	baz=235,slow=14,SNR=6.4						
GYA	**Guiyang**	**21.24**	**40**	P	**P**	**01 04 07.2**	**-0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.1						
CD2	**Chengdu**	**23.11**	**28**	*e*P	**P**	**01 04 26.4**	**0.0**
ENH	**Enshi**	**25.68**	**38**	*e*P	**P**	**01 04 50.0**	**-1.1**
	comp=Z,12nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**35.10**	**338**	*e*P	**P**	**01 06 14.8**	**+0.2**
	comp=Z,4.2nm,1.2s,mb4.2						
MKAR	**Makanchi Array**	**36.81**	**349**	P	**P**	**01 06 29.4**	**+0.4**
	comp=Z,1.3nm,0.7s,mb3.9,baz=170,slow=8.6,SNR=9.0						
SONM	**Songino Array**	**39.08**	**16**	P	**P**	**01 06 49.1**	**+1.0**
	comp=Z,1.7nm,0.4s,mb4.2,baz=203,slow=8.6,SNR=18						
KURK	**Kurchatov**	**41.28**	**348**	*e*P	**P**	**01 07 06.5**	**+0.4**
	comp=Z,3.1nm,1.2s,mb3.8						
ZAL	**Zalesovo**	**43.45**	**354**	P	**P**	**01 07 25.2**	**+1.3**
	comp=Z,1.2nm,0.4s,mb4.0,baz=292,slow=8.6,SNR=3.2						
ZAL	**Zalesovo**	**43.45**	**354**	P	**P**	**01 07 25.2**	**+1.3**
FITZ	**Fitzroy Crossi**	**44.22**	**130**	*e*P	**P**	**01 07 30.7**	**+0.1**
	comp=Z,3.8nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**44.22**	**130**	P	**P**	**01 07 29.7**	**-0.9**
	comp=Z,7.7nm,1.1s,mb4.3,baz=344,slow=5.5,SNR=6.8						
BVAR	**Borovoye Array**	**45.50**	**342**	P	**P**	**01 07 40.6**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=146,slow=10,SNR=3.6						
CHKZ	**Chkalovo**	**46.00**	**343**	*e*P	**P**	**01 07 44.5**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.2						
CHKZ				*e*pP	pP	01 07 51.4	-1.9
WRA	**Warramunga Arr**	**52.02**	**126**	P	**P**	**01 08 31.5**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.9,baz=306,slow=8.3,SNR=9.5						
WRAB	**Tennant Creek**	**52.03**	**126**	*e*P	**P**	**01 08 30.6**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**52.03**	**126**	*e*P	**P**	**01 08 31.6**	**+0.3**
ASAR	**Alice Springs**	**53.72**	**130**	P	**P**	**01 08 44.1**	**+0.4**
	comp=Z,3.4nm,1.1s,mb4.2,baz=307,slow=6.8,SNR=13						

*IDC **08** 01:11:37.5±3.0, 0.95N×97.25E, mb3.9/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, ML4.6/1, MS2.9/1, Ms1 3.1/1, ms1mx2.7/36, Error ellipse: s-maj=116.0km s-min=21.2km az=60.0*

*NEIC **08** 01:11:42.0±0.8, 0.99N×97.28E, h30km, mb4.0/2, Error ellipse: s-maj=21.6km s-min=10.0km az=66.0*

ISC 08 01:11:39.9±1.2, 1.0N±0.1×97.2E±0.2, h30km, n10, σ0°45/10, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.46**	**39**	*e*Pn	**Pn**	**01 13 01.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.43**	**5**	P	**P**	**01 15 43.1**	**+0.3**
	0.7nm,0.3s,baz=198,slow=10,SNR=5.5						
CMAR				LR	LR	01 23 20.8	
	comp=Z,43nm,21.3s,baz=76,slow=40						
WRA	**Warramunga Arr**	**41.90**	**122**	P	**P**	**01 19 29.7**	**0.0**
	0.3nm,0.5s,mb3.2,baz=304,slow=8.9,SNR=4.6						
WRAB	**Tennant Creek**	**41.91**	**122**	P	**P**	**01 19 30.1**	**+0.3**
	0.8nm,0.4s,mb3.7						
ASAR	**Alice Springs**	**43.25**	**127**	P	**P**	**01 19 40.6**	**-0.1**
	0.5nm,0.7s,mb3.4,baz=300,slow=7.3,SNR=5.0						
SONM	**Songino Array**	**47.32**	**8**	P	**P**	**01 20 13.3**	**+0.4**
	1.4nm,0.6s,mb4.1,baz=190,slow=8.8,SNR=12						
MKAR	**Makanchi Array**	**47.44**	**346**	P	**P**	**01 20 14.3**	**+0.5**
	1.6nm,0.8s,mb4.0,baz=163,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**47.44**	**346**	P	**P**	**01 20 14.3**	**+0.5**
ZAL	**Zalesovo**	**53.75**	**351**	P	**P**	**01 21 01.7**	**+0.1**
	2.3nm,0.5s,mb4.4,baz=296,slow=5.1,SNR=6.6						
CHKZ	**Chkalovo**	**56.92**	**341**	*e*P	**P**	**01 21 23.7**	**-1.1**
	1.1nm,0.3s,mb4.4						

*CSEM **08** 01:16:38.7±0.6, 38.70N×29.00W, ML2.0, Error ellipse: s-maj=29.2km s-min=5.4km az=60.0, After PDA*

*PDA **08** 01:16:38.7±0.6, 38.70N×29.00W, MD3.2, ML2.0, Error ellipse: s-maj=29.2km s-min=5.4km az=60.0*

SVSA 08 01:16:38.7±0.6, 38.70N×29.00W, MD3.2, ML2.0, Error ellipse: s-maj=29.2km s-min=5.4km az=60.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.27**	**117**	*e*P	Pg	01 16 43.9	-0.1
CALA				*i* S	Sg	01 16 47.8	+0.3
HOR	**Horta**	**0.34**	**121**	*e*P	Pg	01 16 45.0	-0.5
HOR				*e*S	Sg	01 16 49.5	-0.6
PICO	**Pico**	**0.49**	**114**	*i* P	Pg	01 16 47.8	-0.8
PICO				*e*S	Sg	01 16 54.8	-0.4
PICO	**Pico**	**0.49**	**114**	*e*S	Sg	01 16 54.8	-0.4
PMAN	**Manadas**	**0.72**	**95**	*e*S	Sg	01 17 00.3	-2.3
	24nm,0.1s						
PMAN	**Manadas**	**0.72**	**95**	*e*S	Sg	01 17 00.3	-2.3
	24nm,0.1s						

*IDC **08** 01:20:25.8±0.7, 24.80S×63.48W, h560km±7km, mb4.0/15, mb1 4.2/21, mb1mx4.1/23, mbtmp5.0/21, Error ellipse: s-maj=13.4km s-min=8.1km az=82.0*

*BJI **08** 01:20:25.7, 24.80S×63.40W, h561km, mB4.6*

*NEIC **08** 01:20:25.7±0.3, 24.80S×63.43W, h561km±3km, mb4.6/58, Error ellipse: s-maj=5.2km s-min=3.5km az=76.0*

*LDG **08** 01:20:27.5±0.8, 24.57S×63.66W, h587km±5km, Mb4.7/9, Error ellipse: s-maj=33.1km s-min=17.4km az=175.0*

ISC 08 01:20:25.6±0.3, 24.84S±0.03×63.47W±0.05, h573km±4km, h569km±5.1km; pP-P, n174, σ0°87/160, mb4.5/65, 34C-20D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**5.46**	**293**	P	**P**	**01 22 00.9**	**-0.3**
	183nm,0.3s,baz=104,slow=5.4,SNR=1291						
LVC				S	**S**	**01 23 16.3**	**-0.9**
	138nm,0.3s,baz=216,slow=22,SNR=25						
LVC	**Limon Verde**	**5.46**	**293**	⇓*i*Pn	**P**	**01 22 00.9**	**-0.4**
	615nm,0.4s						
LVC				*e*Sn	**S**	**01 23 11.3**	**-5.9**
LVC	**Limon Verde**	**5.46**	**293**	⇓*i*P	**P**	**01 22 00.9**	**-0.3**
LVC				*i* S	**S**	**01 23 16.1**	**-1.1**
CPN1	**Cerro Paranal**	**6.31**	**271**	⇓*i*P	**P**	**01 22 08.8**	**+0.1**
CPN1				*i* S	**S**	**01 23 31.1**	**+0.3**
ANCH	**Antofagasta**	**6.44**	**279**	⇓*i*P	**P**	**01 22 09.4**	**-0.5**
ANCH				*i* S	**S**	**01 23 33.0**	**+0.1**
LCO	**Las Campanas**	**7.68**	**236**	⇓*i*P	**P**	**01 22 21.6**	**+0.1**
LCO				*i* S	**S**	**01 23 55.4**	**+1.3**
CFAA	**Coronel Fontan**	**7.94**	**211**	P	**P**	**01 22 24.0**	**-0.1**
	18nm,0.3s,baz=31,slow=10,SNR=1636						
CFAA				S	**S**	**01 23 58.4**	**-0.3**
	6.5nm,0.3s,baz=309,slow=23,SNR=34						
ZON	**Zonda**	**8.11**	**213**	⇓*i*P	**P**	**01 22 35.4**	**+10**
ZON				*e*S	**S**	**01 24 19.4**	**+18**
SIV	**San Ignacio**	**9.09**	**15**	P	**P**	**01 22 35.5**	**+0.3**
	8.0nm,0.3s,baz=204,slow=9.5,SNR=191						
SIV				S	**S**	**01 24 20.2**	**+1.2**
	0.9nm,0.3s,baz=226,slow=17,SNR=7.0						
MDZ	**Mendoza**	**9.30**	**209**	*e*P	**P**	**01 22 38.2**	**+0.9**
LPAZ	**La Paz**	**9.56**	**332**	P	**P**	**01 22 40.5**	**+0.5**
	15nm,0.3s,baz=136,slow=7.5,SNR=357						
LPAZ				S	**S**	**01 24 27.7**	**0.0**
	6.3nm,0.3s,baz=60,slow=23,SNR=15						
LPAZ	**La Paz**	**9.56**	**332**	⇑*i*Pn	**P**	**01 22 40.5**	**+0.5**
	47nm,0.4s						
LPAZ				*e*Sn	**S**	**01 24 23.7**	**-4.0**
JACH	**Jahuel**	**10.00**	**217**	P	**P**	**01 22 44.7**	**+0.3**
JACH	**Jahuel**	**10.00**	**217**	*e*P	**P**	**01 22 44.6**	**+0.3**
FCH	**Farellones**	**10.35**	**214**	⇓*i*P	**P**	**01 22 48.6**	**+0.8**
PACH	**Papudo**	**10.38**	**221**	P	**P**	**01 22 47.6**	**-0.5**
PACH	**Papudo**	**10.38**	**221**	⇓*i*P	**P**	**01 22 47.5**	**-0.6**
TACH	**Talagante**	**10.94**	**215**	P	**P**	**01 22 52.9**	**-0.8**
TACH	**Talagante**	**10.94**	**215**	*i* P	**P**	**01 22 52.9**	**-0.8**
CHCH	**Chadas Angostu**	**11.01**	**213**	⇓*i*P	**P**	**01 22 54.4**	**-0.1**
CACH	**El Canelo**	**11.13**	**212**	P	**P**	**01 22 56.0**	**+0.3**
CACH	**El Canelo**	**11.13**	**212**	⇓*i*P	**P**	**01 22 56.0**	**+0.3**
LCCH	**Las Cruces**	**11.14**	**218**	P	**P**	**01 22 55.1**	**-0.6**
CICH	**Cipreses**	**11.21**	**211**	*e*P	**P**	**01 22 56.8**	**+0.3**
ARE	**Arequipa**	**11.22**	**316**	*e*P	**P**	**01 22 58.0**	**+1.4**
ARE				*e*S	**S**	**01 24 59.0**	**+1.2**
LNV	**Longovilo**	**11.42**	**215**	P	**P**	**01 22 57.6**	**-0.9**
LNV	**Longovilo**	**11.42**	**215**	*e*P	**P**	**01 22 57.6**	**-0.9**
SFDO	**San Fernando**	**11.74**	**212**	⇑*i*P	**P**	**01 23 01.4**	**-0.3**
TRQA	**Tornquist**	**13.23**	**175**	*e*Pn	**P**	**01 23 14.0**	**-2.8**
SAML	**Samuel**	**15.81**	**1**	*e*P	**P**	**01 23 41.7**	**-0.5**
	46nm,1.1s						
SAML				*e*S	**S**	**01 26 22.2**	**+1.8**
PLCA	**Paso Flores**	**16.92**	**199**	P	**P**	**01 23 52.3**	**-0.3**
	1.6nm,0.3s,baz=15,slow=11,SNR=24						
PLCA				ScP		01 30 46.5	
	0.1nm,0.3s,baz=24,slow=4.7,SNR=6.5						
PLCA	**Paso Flores**	**16.92**	**199**	*e*P	**P**	**01 23 52.1**	**-0.5**
	7.0nm,0.7s						
BDFB	**Brasilia**	**17.13**	**61**	P	**P**	**01 23 55.5**	**+0.8**
	13nm,0.3s,baz=242,slow=9.5,SNR=158						
BAO	**Brasilia Array**	**17.15**	**61**	P	**P**	**01 23 54.0**	**-1.0**
CAM4	**Nova Friburgo**	**19.31**	**87**	⇓*i*P	**P**	**01 24 15.9**	**+0.5**
CAM4				*i*		01 24 17.3	
CAM3	**Guarapari**	**21.54**	**84**	⇓*i*P	**P**	**01 24 35.8**	**0.0**
CAM3				*i*		01 24 39.2	
OTAV	**Otavalo**	**28.85**	**328**	*e*P	**P**	**01 25 41.0**	**+0.5**
	12nm,0.7s,mb4.6						
USHA	**Ushuaia**	**30.18**	**186**	P	**P**	**01 25 51.0**	**-0.4**
	21nm,0.5s,mb5.0,baz=352,slow=7.2,SNR=21						
ROSC	**El Rosal**	**31.35**	**339**	P	**P**	**01 26 01.6**	**-0.2**
	23nm,0.4s,mb5.1,baz=115,slow=22,SNR=17						
RCBR	**Riachuelo**	**32.49**	**59**	*e*P	**P**	**01 26 09.5**	**-1.9**
	28nm,0.9s,mb4.9						
SDV	**Santo Domingo**	**34.24**	**347**	P	**P**	**01 26 24.0**	**-2.0**
	21nm,0.4s,mb5.2,baz=167,slow=4.2,SNR=45						
SDV	**Santo Domingo**	**34.24**	**347**	⇑*i*P	**P**	**01 26 23.7**	**-2.3**
	16nm,0.5s,mb4.9						
JTS	**JuntasAbangare**	**40.73**	**326**	P	**P**	**01 27 19.9**	**+1.0**
	30nm,0.7s,mb4.9,baz=238,slow=3.1,SNR=17						
JTS	**JuntasAbangare**	**40.73**	**326**	⇑*i*P	**P**	**01 27 19.7**	**+0.8**
	27nm,0.9s,mb4.8						
TEIG	**Tepich**	**50.89**	**329**	⇑*i*P	**P**	**01 28 34.4**	**-2.2**
	25nm,0.7s,mb4.8						
VNA3	**Neumayer Olymp**	**55.33**	**161**	*e*	pP	01 30 55.5	-1.8
VNA3	**Neumayer Olymp**	**55.33**	**161**	*e*	sP	01 31 50.9	-6.7
VNA3	**Neumayer Olymp**	**55.33**	**161**	⇓*i*P	**P**	**01 29 07.2**	**-0.1**
VNA3				*e*		01 29 58.9	
VNA3				*e*	pP	01 30 55.5	-1.8
VNA3				*e*		01 31 50.9	
VNA3				*e*		01 33 59.4	
VNA3				*e*		01 36 42.1	
VNA3				*e*		01 39 12.4	
VNA1	**Neumayer--Stat**	**55.48**	**161**	*e*	pP	01 30 59.4	+1.0
VNA1	**Neumayer--Stat**	**55.48**	**161**	*e*	sP	01 31 57.2	-1.5
VNA1	**Neumayer--Stat**	**55.48**	**161**	⇓*i*P	**P**	**01 29 08.6**	**+0.2**
VNA1				*e*		01 30 00.0	
VNA1				*e*	pP	01 30 59.4	+1.0
VNA1				*e*		01 31 57.2	
VNA1				*e*		01 33 59.4	
VNA1				*e*		01 36 44.0	
VNA1				*e*		01 39 14.9	
VNA2	**Neumayer--Watz**	**55.85**	**161**	*e*	pP	01 31 01.7	+0.4
VNA2	**Neumayer--Watz**	**55.85**	**161**	⇓*i*P	**P**	**01 29 11.0**	**0.0**
VNA2				*e*		01 30 01.0	
VNA2				*e*	pP	01 31 01.7	+0.4
VNA2				*e*		01 32 02.8	
VNA2				*e*		01 34 00.8	
VNA2				*e*		01 36 49.4	
VNA2				*e*		01 39 19.5	
SNAA	**Sanae**	**57.50**	**161**	*e*	pP	01 31 12.3	-1.2
SNAA	**Sanae**	**57.50**	**161**	P	**P**	**01 29 21.7**	**-0.5**
	7.0nm,0.8s,mb4.0,baz=290,slow=7.6,SNR=37						
SNAA	**Sanae**	**57.50**	**161**	⇓*i*P	**P**	**01 29 21.7**	**-0.5**
SNAA				*e*		01 30 07.3	
SNAA				*e*	pP	01 31 12.3	-1.2
SNAA				*e*		01 34 00.9	
LRAL	**Lakeview Retre**	**61.77**	**338**	*e*P	**P**	**01 29 49.1**	**-1.9**
	11nm,0.6s,mb4.3						
MAIT	**Maitri**	**61.90**	**159**	⇓*i*P	**P**	**01 29 51.6**	**+0.3**
SWET	**Sewanee**	**63.41**	**340**	⇑*i*P	**P**	**01 29 59.6**	**-1.8**
NATX	**Nacogdoches**	**63.69**	**331**	⇑*i*P	**P**	**01 30 02.9**	**-0.5**
	49nm,0.6s,mb5.0						
BLA	**Blacksburg**	**63.75**	**345**	⇑*e*P	**P**	**01 30 02.9**	**-0.7**
TZTN	**Tazewell**	**63.93**	**342**	*e*P	**P**	**01 30 02.9**	**-1.9**
WVT	**Waverly**	**64.86**	**338**	⇑*i*P	**P**	**01 30 08.4**	**-2.3**
	27nm,0.8s,mb4.7						
DBIC	**Dimbokro**	**65.05**	**69**	P	**P**	**01 30 11.4**	**-0.7**
	48nm,0.6s,mb5.1,baz=216,slow=6.9,SNR=102						
DBIC	**Dimbokro**	**65.05**	**69**	⇓*i*P	**P**	**01 30 11.2**	**-0.9**
	54nm,0.7s,mb5.1						
JCT	**Junction City**	**65.10**	**326**	⇑*i*P	**P**	**01 30 11.2**	**-1.0**
	28nm,0.7s,mb4.8						
MIAR	**Mount Ida**	**65.61**	**333**	⇑*i*P	**P**	**01 30 14.0**	**-1.3**
	18nm,1.0s,mb4.5						
LTX	**Lajitas**	**66.28**	**322**	⇑*e*P	**P**	**01 30 18.8**	**-0.8**
	5.4nm,0.7s,mb4.1						
TXAR	**Lajitas Array**	**66.28**	**322**	P	**P**	**01 30 18.9**	**-0.7**
	5.4nm,0.6s,mb4.2,baz=150,slow=7.5,SNR=70						
WCI	**Wyandotte Cave**	**66.29**	**341**	⇑*i*P	**P**	**01 30 17.4**	**-2.1**
	41nm,0.8s,mb4.9						
BLO	**Bloomington**	**67.23**	**341**	⇑*i*P	**P**	**01 30 23.4**	**-1.8**
	37nm,0.9s,mb4.8						
ACSO	**Alum Creek Sta**	**67.24**	**344**	*e*P	**P**	**01 30 24.1**	**-1.2**
	16nm,0.9s,mb4.5						
CCM	**Cathedral Cave**	**67.78**	**337**	⇑*i*P	**P**	**01 30 26.9**	**-1.6**
	30nm,0.7s,mb4.8			

EPF	Esparros	89.42	41	eP		P	01 32 23.2	+0.3
MTLF	Montolieu	90.73	42	eP		P	01 32 28.6	-0.3
LFF	La Frestale	90.76	40	eP		P	01 32 29.0	0.0
	23nm,0.7s,mb4.9							
MFF	Saint Martin d	91.22	38	eP		P	01 32 31.0	-0.1
RJF	Les Rejaudoux	91.42	40	eP		P	01 32 31.0	-1.0
CAF	Calviac	91.53	40	eP		P	01 32 32.5	0.0
LASF	Ste Croix	92.13	42	eP		P	01 32 35.9	+0.7
VIVF	Saint-Julien-I	93.04	41	eP		P	01 32 39.7	+0.3
SMF	Signal de Mont	93.52	40	eP		P	01 32 41.5	0.0
	11nm,0.9s,mb4.7							
SSF	Saint Saulge	93.55	39	eP		P	01 32 41.0	-0.7
FRF	La Foret Royal	93.57	43	eP		P	01 32 42.1	+0.3
ORIF	Oris-en-Rattie	93.80	42	eP		P	01 32 43.7	+0.8
	7.1nm,0.7s,mb4.6							
MBDF	Montbardon	94.24	42	eP		P	01 32 45.6	+0.7
	13nm,1.0s,mb4.7							
LPL	La Plagne	94.63	42	eP		P	01 32 47.6	+1.0
	9.0nm,0.7s,mb4.7							
LPG	La Plagne	94.63	42	⇓iP		P	01 32 47.8	+1.2
	12nm,0.8s,mb4.8							
CABF	La Chapelle	94.81	40	eP		P	01 32 48.6	+1.2
MEZF	Maizieres J'vi	95.20	38	eP		P	01 32 48.8	-0.3
YKA	Yellowknife Ar	96.05	339	P		P	01 32 52.1	-0.5
	0.9nm,0.6s,mb4.2,baz=127,slow=4.5,SNR=32							
YKA				pP		pP	01 34 59.1	+0.7
	1.2nm,0.9s,baz=125,slow=4.3,SNR=12							
YKA				PKKPbc			01 49 37.3	
	0.1nm,0.5s,baz=315,slow=4.3,SNR=4.2							
YKA	Yellowknife Ar	96.05	339	P		P	01 32 52.1	-0.4
YKA				pP		pP	01 34 59.1	+0.7
YKA				PKKPbc			01 49 37.3	
MALT	Malatya	113.90	57	ePKP		PKPdf	01 38 01.3	+1.5
KIV	Kislovodsk	118.13	52	ePKPdf		PKPdf	01 38 09.2	+1.4
ASAR	Alice Springs	128.93	201	PKP		PKPdf	01 38 30.1	+0.8
	3.0nm,0.7s,baz=149,slow=2.3,SNR=30							
WRA	Warramunga Arr	132.23	203	PKP		PKPdf	01 38 36.6	+1.1
	2.0nm,0.6s,baz=169,slow=1.6,SNR=45							
WRA				SKPbc			01 41 10.1	
	11nm,0.8s,baz=160,slow=3.3,SNR=13							
WRAB	Tennant Creek	132.24	203	ePKPdf		PKPdf	01 38 36.6	+1.1
MBWA	Marble Bar	134.17	184	ePKPdf		PKPdf	01 38 41.2	+2.1
CHKZ	Chkalovo	135.38	37	ePKPdf		PKPdf	01 38 41.6	+1.2
CHKZ				eSKPbc			01 41 20.7	
BVAR	Borovoye Array	135.49	38	PKP		PKPdf	01 38 43.0	+2.4
	2.2nm,0.5s,baz=328,slow=3.4,SNR=8.4							
BVAR				SKPbc			01 41 20.8	
	0.5nm,0.6s,baz=27,slow=3.3,SNR=5.0							
FITZ	Fitzroy Crossi	136.41	193	PKP		PKPdf	01 38 45.2	+2.0
	3.6nm,0.7s,baz=193,slow=8.1,SNR=6.8							
FITZ				SKPbc			01 41 24.2	
	20nm,0.8s,baz=190,slow=4.0,SNR=6.9							
KURK	Kurchatov	141.09	38	ePKPdf		PKPdf	01 38 51.6	+0.8
ZAL	Zalesovo	142.54	31	PKP		PKPdf	01 38 52.9	-0.3
	4.7nm,0.9s,baz=193,slow=3.3,SNR=13							
ZAL				SKPbc			01 41 37.7	
	2.2nm,0.3s,baz=194,slow=8.8,SNR=3.5							
ZAL	Zalesovo	142.54	31	PKP		PKPdf	01 38 52.9	-0.3
ZAL				SKPbc			01 41 37.7	
HYB	Hyderabad	143.90	94	eP		PKPbc	01 38 57.0	+0.8
HYB	Hyderabad	143.90	94	i PKP		PKPdf	01 38 57.0	+0.5
	77nm,0.8s							
MKAR	Makanchi Array	145.04	42	PKPbc		PKPbc	01 38 59.9	+1.2
	15nm,0.6s,baz=308,slow=2.9,SNR=130							
MKAR				SKPbc			01 41 45.8	
	7.9nm,0.7s,baz=297,slow=2.7,SNR=19							
WMQ	Urumqi	149.81	44	ePKP		PKPdf	01 39 12.5	+7.0
KULM	Kulim	155.29	139	ePKPab		PKPab	01 39 43.6	-1.7
SONM	Songino Array	155.69	17	PKP		PKPdf	01 39 16.0	+2.4
	0.4nm,0.7s,baz=252,slow=3.9,SNR=3.6							
SONM				PKPab		PKPab	01 39 46.4	+0.4
	0.7nm,0.6s,baz=307,slow=3.9,SNR=5.0							
CN2	Changchun	159.73	341	ePKP		PKPdf	01 39 21.2	+2.6
CMAR	Chiang Mai Arr	162.46	108	PKP		PKPdf	01 39 24.6	+2.5
	1.5nm,0.6s,baz=268,slow=2.7,SNR=6.7							
CMAR				PKPab		PKPab	01 40 15.4	-0.7
	3.8nm,0.6s,baz=255,slow=5.4,SNR=11							
LZH	Lanzhou	164.35	41	ePKP		PKPdf	01 39 24.7	+1.2
LZH				APKP			01 41 33.6	
LZH				XPKP			01 42 25.0	

*IDC **08** 01:34:20.1±4.1,0.68N×97.20E,mb3.9/4,mb1 4.1/5, mb1mx3.7/19,mbtmp3.9/5,ML4.5/1,Error ellipse: s-maj=108.4km s-min=77.2km az=98.0*
*NEIC **08** 01:34:25.1±1.8,0.79N×97.34E,h30km,mb4.3/2,Error ellipse: s-maj=37.8km s-min=23.8km az=139.0*
ISC 08 01:34:24.8±4.3,1.0N±0.5×97.3E±0.3,h33km,n10,σ0§95/8, mb4.1/6,MS3.8/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.48	38	ePn	Pn	01 35 45.6	-0.8
CMAR	Chiang Mai Arr	17.47	5	P	P	01 38 27.3	-0.4
	0.6nm,0.3s,baz=193,slow=11,SNR=11						
KMI	Kunming	24.61	12	P	P	01 39 45.7	+2.2
	13nm,1.3s,mb4.3						
KMI				LR	LR		
	comp=Z,190nm,13.4s,MS3.8						
SONM	Songino Array	47.37	8	P	P	01 42 58.5	+0.9
	comp=Z,1.7nm,0.8s,mb4.0,baz=187,slow=8.1,SNR=11						
MKAR	Makanchi Array	47.49	346	P	P	01 42 59.1	+0.5
	comp=Z,1.7nm,0.8s,mb4.0,baz=153,slow=8.1,SNR=5.6						
ZAL	Zalesovo	53.80	351	P	P	01 43 46.2	-0.2
	comp=Z,1.3nm,0.4s,mb4.3,baz=287,slow=3.6,SNR=4.0						
BVAR	Borovoye Array	56.50	341	P	P	01 44 05.1	-0.9
	comp=Z,0.7nm,0.6s,mb3.9,baz=127,slow=7.4,SNR=6.0						
CHKZ	Chkalovo	56.97	341	eP	P	01 44 08.7	-0.7
	comp=Z,2.2nm,0.8s,mb4.2						
TXAR	Lajitas Array	143.85	32	PKP	PKPdf	01 53 57.8	+0.4
	comp=Z,0.1nm,0.5s,baz=45,slow=1.3,SNR=3.8						
TXAR	Lajitas Array	143.85	32	PKP	PKPdf	01 53 57.8	+0.4

*IDC **08** 01:35:06.3±3.9,3.03N×126.75E,h17km±22km,mb4.2/15, mb1 4.4/15,mb1mx4.2/22,mbtmp4.3/15,MS4.7/1, Ms1 4.7/1,ms1mx3.1/36,Error ellipse: s-maj=46.9km s-min=12.3km az=68.0*
*NEIC **08** 01:35:14.3±3.1,2.95N×126.80E,h89km±28km,mb4.5/4, Error ellipse: s-maj=22.4km s-min=6.9km az=57.0*
ISC 08 01:35:10.9±1.7,3.02N±0.07×126.8E±0.1,h70km±15km, n25,σ0§83/29,mb4.2/17,2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	4.32	337	⇓eP	P	01 36 15.9	+0.1
KCP				i S	S	01 37 10.5	+5.2
KSM	Kuching	16.56	265	eP	P	01 39 01.1	+0.9
FITZ	Fitzroy Crossi	21.02	183	eP	P	01 39 49.6	-1.3
	9.7nm,0.7s,mb4.2						
FITZ				eS	S	01 43 35.1	-0.8
FITZ	Fitzroy Crossi	21.02	183	P	P	01 39 49.7	-1.3
	12nm,0.6s,mb4.4,baz=17,slow=9.8,SNR=17						
WRAB	Tennant Creek	23.98	162	eP	P	01 40 19.9	-0.1
	16nm,0.6s,mb4.5						
WRA	Warramunga Arr	23.98	162	P	P	01 40 20.0	-0.1
	4.0nm,0.4s,mb4.1,baz=340,slow=10,SNR=42						
WRA				S	S	01 44 35.3	+6.4
	1.9nm,0.7s,baz=346,slow=17,SNR=5.2						
WB2	Warramunga Arr	23.99	162	⇓iP	P	01 40 20.0	-0.1
WB2				eS	S	01 44 31.7	+2.7
ASAR	Alice Springs	27.41	166	P	P	01 40 51.4	-0.8
	1.7nm,0.4s,mb4.0,baz=342,slow=8.6,SNR=15						
ASAR				S	S	01 45 36.0	+10
	1.7nm,0.8s,baz=348,slow=18,SNR=3.9						
ASPA	Alice Springs	27.41	166	eP	P	01 40 54.6	+2.4
CMAR	Chiang Mai Arr	31.31	301	P	P	01 41 26.4	-0.5
	1.5nm,0.3s,mb4.1,baz=113,slow=6.9,SNR=3.6						
JHJ	Hachijo jima 2	32.32	21	LR	LR	01 51 44.1	
	comp=Z,1μm,21.9s,baz=357,slow=31						
FORT	Forrest	33.63	178	eP	P	01 41 46.6	-0.4
	496nm,0.9s						
STKA	Stephens Creek	37.44	159	eP	P	01 42 19.3	0.0
	2.4nm,0.4s,mb4.5						
STKA	Stephens Creek	37.44	159	P	P	01 42 19.7	+0.4
	2.5nm,0.4s,mb4.5,baz=340,slow=8.0,SNR=15						
SONM	Songino Array	48.00	342	P	P	01 43 45.7	+0.9
	1.7nm,0.8s,mb3.9,baz=163,slow=9.4,SNR=8.1						
MKAR	Makanchi Array	58.19	325	P	P	01 44 59.9	-0.2
	2.8nm,0.6s,mb4.5,baz=123,slow=8.6,SNR=17						
KURK	Kurchatov	62.38	328	eP	P	01 45 27.9	-0.8
	6.6nm,0.8s,mb4.7						
BVAR	Borovoye Array	67.96	327	P	P	01 46 03.6	-0.9
	1.5nm,0.7s,mb3.9,baz=143,slow=7.4,SNR=8.6						
OPO	Ambohidratompo	81.14	251	P	P	01 47 20.7	-0.3
	5.1nm,1.1s,mb4.3,baz=289,slow=5.4,SNR=6.2						
KMBO	Kilima Mbogo	89.62	269	P	P	01 48 04.4	+1.3
	1.2nm,0.7s,mb4.1,baz=62,slow=10,SNR=4.5						
BRTR	Keskin Array B	90.54	310	P	P	01 48 06.5	-0.3
	0.3nm,0.5s,mb3.7,baz=98,slow=8.7,SNR=4.1						
ARCES	ARCESS Array B	91.14	340	P	P	01 48 09.5	+0.5
	2.1nm,0.7s,mb4.4,baz=53,slow=6.1,SNR=3.9						
AKASG	Malin Array Be	92.50	321	P	P	01 48 14.8	-0.7
	1.4nm,0.6s,mb4.3,baz=63,slow=4.5,SNR=7.9						
FINES	FINESS Array B	92.50	332	P	P	01 48 15.9	+0.6
	1.9nm,0.9s,mb4.3,baz=342,slow=6.0,SNR=5.4						
MLR	Muntele Rosu	95.47	316	P	P	01 48 29.1	-0.1
	1.6nm,0.7s,mb4.6,baz=249,slow=7.6,SNR=5.7						

GUC 08 01:43:16.5±0.5,28.93S×69.51W,h120km,ML3.6,4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	1.04	265	⇑iP	P	01 43 39.7	+0.4
LCO				i S	S	01 43 57.4	+1.1
LCO				AMP		01 43 59.9	
	comp=E,1μm,0.4s						
VACH	Vallenar	1.15	288	⇑iP	P	01 43 40.5	+0.1
VACH				i S	S	01 43 58.6	+0.3
VACH				AMP		01 44 01.1	
	comp=N,2μm,0.2s						
CPCH	Copiapo	1.73	335	⇑iP	P	01 43 46.9	-0.2
CPCH				i S	S	01 44 10.1	-0.2
LSCH	La Serena	1.80	237	⇑iP	P	01 44 05.6	+18
LSCH				i S	S	01 44 29.1	+17
LSCH				AMP		01 44 31.6	
	comp=N,546nm,0.3s						

*IDC **08** 01:44:14.7±0.7,0.38N×96.50E,mb4.2/17,mb1 4.3/18, mb1mx4.2/23,mbtmp4.1/18,ML4.3/1,Error ellipse: s-maj=28.5km s-min=14.8km az=49.0*
*NEIC **08** 01:44:19.4±0.3,0.45N×96.63E,h30km,mb4.1/4,Error ellipse: s-maj=11.2km s-min=7.2km az=52.0*
ISC 08 01:44:18.2±0.5,0.47N±0.09×96.7E±0.1,h33km,n26, σ0§78/25,mb4.1/21,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.22	40	ePn	Pn	01 45 48.5	-1.7
CMAR	Chiang Mai Arr	18.01	7	P	P	01 48 28.8	+1.0
	0.4nm,0.3s,baz=201,slow=10,SNR=5.3						
SHL	Shillong	25.37	350	eP	P	01 49 46.0	+1.8
WRA	Warramunga Arr	42.11	121	P	P	01 52 09.4	+0.2
	0.8nm,0.6s,mb3.5,baz=300,slow=9.0,SNR=12						
WRAB	Tennant Creek	42.12	121	eP	P	01 52 09.2	-0.2
	1.3nm,0.6s,mb3.7						
ASAR	Alice Springs	43.39	126	P	P	01 52 19.6	0.0
	0.6nm,0.7s,mb3.4,baz=297,slow=7.9,SNR=6.5						
AAK	Ala-Archa	46.46	337	eP	P	01 52 44.0	0.0
	2.3nm,1.0s,mb4.1						
MKAR	Makanchi Array	47.82	347	P	P	01 52 55.0	+0.4
	2.9nm,0.5s,mb4.5,baz=164,slow=9.2,SNR=36						
SONM	Songino Array	47.93	9	P	P	01 52 56.1	+0.7
	0.8nm,0.7s,mb3.9,baz=189,slow=8.1,SNR=7.5						
PMG	Port Moresby	51.21	102	P	P	01 53 21.5	+0.5
	8.1nm,0.7s,mb4.8,baz=359,slow=2.3,SNR=3.6						
KURK	Kurchatov	52.36	346	eP	P	01 53 28.6	-0.6
	1.7nm,0.8s,mb4.0						
STKA	Stephens Creek	53.27	131	P	P	01 53 36.5	+0.2
	1.4nm,0.6s,mb4.1,baz=148,slow=22,SNR=5.6						
ZAL	Zalesovo	54.18	351	P	P	01 53 43.0	+0.4
	4.3nm,0.6s,mb4.6,baz=307,slow=4.5,SNR=14						
BVAR	Borovoye Array	56.76	341	P	P	01 54 00.1	-1.2
	2.0nm,0.6s,mb4.3,baz=141,slow=9.0,SNR=18						
CHKZ	Chkalovo	57.25	342	eP	P	01 54 03.7	-1.1
	2.9nm,0.7s,mb4.4						
BRTR	Keskin Array B	69.21	313	P	P	01 55 22.8	-1.1
	1.0nm,0.6s,mb3.9,baz=118,slow=5.9,SNR=9.6						
MATP	Matopo	69.76	248	P	P	01 55 27.4	-0.1
	5.2nm,0.9s,mb4.5,baz=136,slow=8.0,SNR=6.8						
AKASG	Malin Array Be	75.51	323	P	P	01 55 60.0	-1.0
	2.2nm,0.6s,mb4.3,baz=90,slow=4.7,SNR=9.6						
MLR	Muntele Rosu	76.23	317	P	P	01 56 05.4	+0.2
	1.8nm,0.8s,mb4.1,baz=164,slow=4.7,SNR=5.2						
FINES	FINESS Array B	80.40	333	P	P	01 56 27.2	-0.5
	0.9nm,0.7s,mb3.8,SNR=5.3						
ARCES	ARCESS Array B	83.04	340	P	P	01 56 42.1	+0.8
	1.1nm,0.6s,mb4.1,baz=90,slow=3.6,SNR=9.6						
GERES	GERESS Array B	85.01	319	P	P	01 56 52.1	+0.4
	0.4nm,0.5s,mb3.8,baz=108,slow=4.2,SNR=6.0						
HFS	Hagfors	86.08	330	P	P	01 56 57.4	+0.7
	1.4nm,0.5s,mb4.5,baz=153,slow=6.6,SNR=9.2						
NB2	NORSAR Subarra	87.38	331	P	P	01 57 03.3	+0.3
	1.0nm,0.7s,mb4.2,baz=97,slow=4.8						
NOA	NORSAR Array B	87.38	331	P	P	01 57 03.0	+0.1
	1.7nm,0.8s,mb4.3,baz=95,slow=5.0,SNR=4.1						
TXAR	Lajitas Array	144.56	32	PKP	PKPdf	02 03 53.1	+1.1
	0.4nm,0.5s,baz=223,slow=1.5,SNR=9.9						

*IDC **08** 01:49:13.1±1.9,1.51S×99.67E,mb3.9/7,mb1 4.1/8, mb1mx3.9/17,mbtmp3.9/8,ML4.3/1,Error ellipse: s-maj=87.2km s-min=17.7km az=57.0*
*NEIC **08** 01:49:17.7±0.8,1.50S×99.75E,h30km,mb4.1/4,Error ellipse: s-maj=29.3km s-min=9.1km az=63.0*
ISC 08 01:49:15.9±1.1,1.4S±0.1×99.8E±0.2,h30km,n14, σ0§70/13,mb4.1/11,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.73	7	Pn	Pn	01 50 56.3	+0.9
CMAR	Chiang Mai Arr	19.78	358	P	P	01 53 46.2	-0.6
	0.4nm,0.3s,baz=185,slow=9.9,SNR=9.0						
WRA	Warramunga Arr	38.48	121	P	P	01 56 37.1	-0.3
	1.5nm,0.5s,mb3.9,baz=302,slow=9.1,SNR=11						
WRAB	Tennant Creek	38.48	121	eP	P	01 56 37.1	-0.3
	1.8nm,0.5s,mb4.1						
ASAR	Alice Springs	39.77	126	P	P	01 56 48.5	+0.3
	0.8nm,0.5s,mb3.7,baz=302,slow=7.8,SNR=11						
BJT	Baijiatuau	43.89	18	eP	P	01 57 20.8	-0.9
	7.2nm,0.5s,mb4.7						
SONM	Songino Array	49.40	6	P	P	01 58 05.6	+0.6
	0.7nm,0.7s,mb3.8,baz=186,slow=9.6,SNR=6.2						
STKA	Stephens Creek	49.70	132	P	P	01 58 07.9	+0.4
	1.9nm,0.6s,mb4.3,baz=212,slow=9.1,SNR=4.1						
MKAR	Makanchi Array	50.42	344	P	P	01 58 12.0	-0.8
	1.1nm,0.7s,mb4.0,baz=156,slow=8.0,SNR=9.0						
KURK	Kurchatov	55.00	344	P	P	01 58 47.7	+0.8
	1.8nm,0.8s,mb4.2						
ZAL	Zalesovo	56.56	349	P	P	01 58 57.9	-0.2
	1.4nm,0.4s,mb4.3,baz=342,slow=1.9,SNR=4.8						
CHKZ	Chkalovo	60.03	340	eP	P	01 59 21.3	-1.0
	0.8nm,0.6s,mb3.9						
FINES	FINESS Array B	83.50	332	P	P	02 01 43.2	+1.1
	0.6nm,0.6s,mb3.9,baz=135,slow=8.1,SNR=5.1						
TXAR	Lajitas Array	144.38	37	PKP	PKPdf	02 08 50.9	-4.2
	0.7nm,0.5s,baz=200,slow=1.0,SNR=20						

*IDC **08** 01:51:37.3±3.7,0.59N×97.26E,h22km±23km,mb4.7/31, mb1 4.7/32,mb1mx4.7/34,mbtmp4.8/32,ML4.8/1,MS5.6/20, Ms1 5.6/20,ms1mx5.4/32,Error ellipse: s-maj=16.4km s-min=8.8km az=40.0*
*BJI **08** 01:51:37.4,0.42N×97.41E,h45km,mB5.6,mb5.0,Ms6.3, Msz6.1*
*MOS **08** 01:51:37.7±0.9,0.70N×97.37E,h33km,mb5.5/68, MS5.8/26,Error ellipse: s-maj=8.6km s-min=4.5km az=122.3*
*HRVD **08** 01:51:38.7±0.2,0.50N×97.34E,h12km,MW5.7/76, Centroid moment Tensor Solution. LP body waves: s60,c118;Mantle waves: s76,c198; Half duration: 1§7 Moment tensor: Scale 10^{17}Nm; M_{rr}1.14±.05; $M_{\theta\theta}$-4.03±.05; $M_{\phi\phi}$2.89±.05; $M_{r\theta}$0.65±.14; $M_{\theta\phi}$1.41±.05; $M_{\phi r}$0.06±.15; Best double couple: $M_0$3.781×10^{17} NP1: ϕ_s326°,δ82°,λ-179°. NP2:ϕ_s236°,δ89°,λ-8°. Principal axes: T 3.184, Plg5°, Azm282°; N 1.194, Plg82°, Azm51°; P -4.377, Plg6°, Azm191°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **08** 01:51:38.7±0.1,0.68N×97.38E,h30km,mb5.4/88, MS5.8/136,MW5.7 Error ellipse: s-maj=4.9km s-min=3.2km az=214.0,Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.11; $M_{\theta\theta}$-4.51; $M_{\phi\phi}$4.62; $M_{r\theta}$-0.44; $M_{\theta\phi}$1.68; $M_{\phi r}$1.78; Best double couple: $M_0$5.2×10^{17} NP1:ϕ_s56°,δ71°,λ6°. NP2:ϕ_s324°,δ85°, λ161°. Principal axes: T 5.43, Plg17°; Azm279°; N -.5, Plg70°, Azm129°; P -4.93, Plg9°, Azm12°;*
NEIC Felt [III] at Padang and Pariaman, Sumatra.
*DJA **08** 01:52:04.4±0.4,0.61S×99.34E,h80km,mb5.3/5 Error ellipse: s-maj=25.8km s-min=6.8km az=47.0*
ISC 08 01:51:37.1±0.2,0.65N±0.03×97.40E±0.03,h31km, h31km±1.0km:pP-P,n572,σ1§04/446,mb5.2/136,MS5.8/187, 33C-27D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.33	43	P	Pn	01 52 56.8	+0.1
KGM	Kluang	6.07	77	P	Pn	01 53 08.0	+0.7
SNG	Songkhla	7.24	26	P	Pn	01 53 23.0	-0.6
	836nm,1.0s						
PENI	Pendagan	9.92	129	⇑eP	P	01 53 55.0	-5.9
PENI				pmax	pmax		
	comp=Z,761nm,0.6s						
PENI	Pendagan	9.92	129	⇑eP	P	01 53 55.0	-5.9
	comp=Z,2μm,0.7s						
PASI	Pasiripis	10.95	132	eP	P	01 54 07.8	-7.3
PULI	Pulasari	11.03	129	⇓eP	P	01 54 12.3	-3.8
	comp=Z,190nm,0.2s						
PULI	Pulasari	11.03	129	⇑iP	P	01 54 10.5	-5.6
	comp=Z,190nm,0.2s						
NNT	Nongplab	12.09	11	P	P	01 54 30.0	-0.4
KSM	Kuching	12.94	86	eP	P	01 54 39.8	-1.9
NST	Nakhon Sawan	15.17	10	P	P	01 55 12.2	+1.1
	comp=Z,50nm,1.1s						
UBT	Ubonrachathani	16.34	27	P	P	01 55 29.8	+3.6
KKTK	Khon Kaen	16.48	19	P	P	01 55 24.0	-3.9
BDT	Bhumibol Dam	16.57	5	P	P	01 55 30.0	+1.0
	comp=Z,49nm,0.9s						
CM31	Chiang Mai Arr	17.76	5	eP	P	01 55 43.1	-0.8
	comp=Z,73nm,0.8s						
CMAR	Chiang Mai Arr	17.76	5	i P	P	01 55 45.1	+1.1
CMAR				pmax	pmax		
	comp=Z,31nm,0.9s						
CMAR	Chiang Mai Arr	17.76	5	P	P	01 55 42.9	-1.1
	comp=Z,1.3nm,0.3s,baz=194,slow=10,SNR=31						
CMAR				LR	LR	02 03 29.8	
	comp=Z,38μm,18.2s,baz=185,slow=40						
PALK	Pallekele	17.90	292	eP	P	01 55 46.5	+0.8
	comp=Z,371nm,1.6s						
CHG	Chiang Mai	18.11	5	P	P	01 55 47.1	-1.3
	comp=Z,37nm,0.9s						
KKM	Kota Kinabalu	19.53	74	eP	P	01 56 04.9	-0.4
KKM	Kota Kinabalu	19.53	74	P	P	01 56 06.0	+0.7
RATI	Rata	20.33	118	⇑iP	P	01 56 13.0	-0.8
	comp=Z,154nm,0.5s						
RATI	Rata	20.33	118	⇑iP	P	01 56 12.3	-1.5
	comp=Z,154nm,0.5s						
KEDI	Kedomdong	20.74	116	⇑iP	P	01 56 16.2	-1.9
KEDI				pmax	pmax		
	comp=Z,46nm,1.0s						
KEDI	Kedomdong	20.74	116	⇑iP	P	01 56 16.2	-1.9
	comp=Z,93nm,1.0s						
TSM	Tawau	20.77	80	P	P	01 56 19.5	+1.2
MDRS	Chennai	21.00	307	⇑eP	P	01 56 21.0	+0.3
MDRS				e		01 56 29.0	
MDRS				e		02 00 23.0	
MDRS				e		02 01 57.0	
TRD	Trivandrum	21.80	292	⇓e	P	01 56 35.2	+6.4
TRD				e		02 00 23.2	
VIS	Vishakhapatnam	21.89	322	eP	P	01 56 30.7	+1.1
VIS				e		01 56 48.4	
	comp=Z,438nm,1.7s						
VIS				eS	S	02 00 31.1	+6.5
VIS				i		02 06 26.2	
QIZ	Qiongzhong	21.97	33	P	P	01 56 30.9	+0.5
QIZ				S	S	02 00 26.0	-0.1
QIZ				XS		02 00 44.8	
QIZ				LR	LR		
	comp=N,23μm,15.6s,MS6.1						
QIZ				LR	LR		
	comp=E,50μm,15.9s,MS6.1						
QIZ				LR	LR		
	comp=Z,38μm,16.2s,MS5.9						
QIZ	Qiongzhong	21.97	33	eP	P	01 56 30.3	-0.1
	comp=Z,30nm,0.8s,mb4.8						
TANI	Tanete Lipujan	22.35	101	eP	P	01 56 34.5	+0.3
BWNR	Bhubaneshwar	22.58	331	eP	P	01 56 40.1	+3.6
BWNR				e		01 56 54.9	
	comp=Z,592nm,1.7s						
BWNR				e		02 00 50.6	
NINI	Niniconang	22.90	103	eP	P	01 56 41.2	+1.4
CAL	Calcutta	23.48	339	e	P	01 56 51.0	+5.7
CAL				e		02 01 10.1	
	comp=Z,875nm,0.3s						
AGT	Agartala	23.85	346	⇑iP	P	01 56 50.0	+1.1
AGT				i		01 58 25.0	
KMI	Kunming	24.87	12	P	P	01 57 03.0	+4.2
KMI				AP		01 57 09.2	
KMI				PP	PP	01 57 42.3	+6.3
KMI				S	S	02 01 22.1	+5.2
KMI				SS	SS	02 02 22.1	+6.5
KMI				AMB	AMB		
	comp=Z,53nm,1.9s,mb4.8						
KMI				AMB

PKI	**Pulchoki**	**29.13**	**338**	*e*P	**P**	**01 57 33.3**	**-4.5**
PKI				pmax	pmax		
comp=Z,108nm,1.1s,mb5.5							
POO	**Poona**	**29.16**	**309**	*e*	**P**	**01 57 30.6**	**-7.5**
POO				*e*	pP	01 57 41.0	-6.0
comp=Z,32nm,1.0s							
DMN	**Daman**	**29.28**	**337**	*e*P	**P**	**01 57 35.1**	**-4.0**
comp=Z,160nm,0.8s,mb5.8							
KKN	**Kakani**	**29.38**	**338**	*e*P	**P**	**01 57 36.0**	**-4.0**
comp=Z,187nm,0.9s,mb5.8							
KKN	**Kakani**	**29.38**	**338**	*e*P	**P**	**01 57 36.0**	**-4.0**
KKN				pmax	pmax		
comp=Z,93nm,0.9s,mb5.5							
BHPL	**Bhopal**	**29.67**	**321**	*e*P	**P**	**01 57 42.7**	**0.0**
BHPL				*e*		01 58 00.1	
comp=Z,50nm,1.1s							
GKN	**Gorkha**	**29.82**	**337**	*e*P	**P**	**01 57 40.0**	**-3.9**
KOLN	**Koldanda**	**30.04**	**335**	*e*P	**P**	**01 57 45.3**	**-0.5**
comp=Z,119nm,0.8s,mb5.7							
BOM	**Bombay**	**30.17**	**308**	*e*P	**P**	**01 57 49.3**	**+2.1**
BOM				*e*		01 58 16.9	
comp=Z,165nm,7.7s							
BOM				*e*		02 02 58.8	
CD2	**Chengdu**	**30.69**	**11**	P	**P**	**01 57 50.5**	**-1.1**
CD2				AP	pP	01 58 03.7	+3.1
CD2				S	**S**	**02 02 49.7**	**-1.4**
CD2				SS	SS	02 04 40.5	+6.8
CD2				AMB	AMB		
comp=Z,40nm,0.7s,mb5.4							
CD2				LR	LR		
comp=N,29μm,19.2s							
CD2				LR	LR		
comp=Z,34μm,14.4s,MS6.1							
MBWA	**Marble Bar**	**30.76**	**136**	P	**P**	**01 57 54.5**	**+2.2**
comp=Z,35nm,1.2s,mb5.1							
MBWA				LR	LR		
comp=Z,17μm,21.0s,MS5.7							
ENH	**Enshi**	**31.62**	**20**	*e*P	**P**	**01 57 58.2**	**-1.6**
comp=Z,59nm,0.8s,mb5.5							
QZH	**Quanzhou**	**31.67**	**39⇓**	*i*P	**P**	**01 58 00.0**	**-0.3**
QZH				S	**S**	**02 03 13.0**	**+6.5**
QZH				AMB	AMB		
comp=Z,100nm,0.8s,mb5.7							
QZH				LR	LR		
comp=N,65μm,16.7s,MS6.7							
QZH				LR	LR		
comp=E,132μm,16.7s,MS6.7							
QZH				LR	LR		
comp=Z,40μm,13.0s,MS6.3							
AGRA	**Agra**	**32.36**	**326**	*e*P	**P**	**01 58 04.7**	**-1.6**
LGTI	**Lohaghat**	**32.98**	**332**	*e*P	**P**	**01 58 12.0**	**+0.4**
NACB	**Ninganchiao**	**33.11**	**43**	P	**P**	**01 58 11.1**	**-1.7**
YHNB	**Yeheng**	**33.29**	**42**	*e*P	**P**	**01 58 13.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**33.45**	**125**	*e*P	**P**	**01 58 13.9**	**-1.9**
comp=Z,30nm,0.6s,mb5.4							
FITZ	**Fitzroy Crossi**	**33.45**	**125**	P	**P**	**01 58 14.5**	**-1.3**
comp=Z,43nm,0.8s,mb5.4,baz=283,slow=1.7,SNR=23							
TATO	**Taipei**	**33.57**	**42**	PFAKE		01 58 30.0	+13
TATO				LR	LR		
comp=Z,15μm,20.0s,MS5.7							
SONA	**Sohna**	**33.63**	**326**	*e*P	**P**	**01 58 17.0**	**-0.3**
AJM	**Ajmer**	**33.75**	**321**	*e*P	**P**	**01 58 16.8**	**-1.5**
AJM				*e*		01 58 34.9	
comp=Z,100nm,2.3s							
AJM				*e*		02 04 06.4	
KALG	**Kalgarh**	**33.75**	**330**	*e*	**P**	**01 58 24.4**	**+6.0**
comp=Z,110nm,0.9s,mb5.8							
WHN	**Wuhan**	**33.81**	**27**	P	**P**	**01 58 19.0**	**+0.2**
NDI	**New Delhi**	**33.90**	**327**	*e*P	**P**	**01 58 18.0**	**-1.6**
NDI				*e*		02 03 36.0	
KHET	**Khetri**	**34.22**	**325**	*e*	**P**	**01 58 30.9**	**+8.4**
comp=Z,71nm,1.7s,mb5.3							
XAN	**Xi'an**	**34.93**	**17**	P	**P**	**01 58 26.9**	**-1.5**
XAN				AP	pP	01 58 37.2	-0.3
XAN				S	**S**	**02 03 50.7**	**-6.2**
XAN				AMB	AMB		
comp=Z,20nm,0.8s,mb5.1							
XAN				LR	LR		
comp=N,20μm,15.9s,MS6.3							
XAN				LR	LR		
comp=E,38μm,15.3s,MS6.3							
XAN				LR	LR		
comp=Z,28μm,17.3s,MS6.1							
LZH	**Lanzhou**	**35.76**	**9⇑**	P	**P**	**01 58 35.4**	**-0.1**
LZH				AP	pP	01 58 45.7	+1.1
LZH				XP	sP	01 58 49.5	+1.1
LZH				PP	PP	01 59 57.2	+0.5
LZH				S	**S**	**02 04 11.0**	**+1.1**
LZH				XS		02 04 32.3	
LZH				SS	SS	02 06 38.0	+6.7
LZH				AMB	AMB		
comp=Z,170nm,1.5s,mb5.8							
LZH				AMB	AMB		
comp=Z,680nm,6.0s							
LZH				LR	LR		
comp=N,23μm,15.1s							
LZH				LR	LR		
comp=Z,29μm,16.8s,MS6.1							
LZH	**Lanzhou**	**35.76**	**9⇑**	P	**P**	**01 58 35.4**	**-0.1**
LZH				*PP	pP	01 58 45.7	+1.1
LZH				*SP	sP	01 58 49.5	+1.1
LZH						01 59 57.2	
LZH				S	**S**	**02 04 11.0**	**+1.1**
LZH				pmax	pmax		
comp=Z,170nm,1.5s,mb5.8							
LZH				MLR	MLR		
comp=Z,29μm,16.8s,MS6.1							
LZH	**Lanzhou**	**35.76**	**9⇑**	P	**P**	**01 58 35.4**	**-0.1**
comp=Z,170nm,1.5s,mb5.8							
LZH				pP	pP	01 58 45.7	+1.1
LZH				sP	sP	01 58 49.5	+1.1
LZH				PP	PP	01 59 57.2	+0.5
LZH				S	**S**	**02 04 11.0**	**+1.1**
LZH				sS		02 04 32.3	
LZH				SS	SS	02 06 38.0	+6.7
LZH				LR	LR		
comp=Z,29μm,16.8s,MS6.1							
SDNR	**Sundarnagar**	**36.26**	**330**	*e*P	**P**	**01 58 40.4**	**+0.6**
BHK	**Bhakra**	**36.48**	**329**	*e*	**P**	**01 58 49.4**	**+7.8**
NJ2	**Nanjing**	**37.23**	**31**	*e*P	**P**	**01 58 49.1**	**+1.2**
NJ2				AP	pP	01 58 59.4	+2.4
NJ2				XP	sP	01 59 03.1	+2.3
NJ2				PP	PP	02 00 17.1	+1.7
NJ2				S	**S**	**02 04 34.0**	**+1.6**
NJ2				XS		02 04 50.0	
NJ2				AMB	AMB		
comp=Z,410nm,5.5s							
NJ2				LR	LR		
comp=Z,9μm,16.0s,MS5.6							
KLBR	**Kellerberrin**	**37.42**	**151**	*e*P	**P**	**01 58 50.3**	**+0.8**
THN	**Thein Dam**	**37.65**	**329**	*e*P	**P**	**01 58 50.1**	**-1.3**
SSE	**Sheshan**	**37.75**	**34**	P	**P**	**01 58 52.6**	**+0.4**
SSE				XP	sP	01 59 05.4	+0.2
SSE				PP	PP	02 00 21.8	+0.2
SSE				S	**S**	**02 04 40.3**	**-0.1**
SSE				AMB	AMB		
comp=Z,48nm,0.9s,mb5.2							
SSE				AMB	AMB		
comp=Z,142nm,7.0s							
SSE				LR	LR		
comp=N,16μm,14.9s,MS6.2							
SSE				LR	LR		
comp=E,20μm,14.9s,MS6.2							
SSE				LR	LR		
comp=Z,16μm,19.8s,MS5.8							
SSE	**Sheshan**	**37.75**	**34**	P	**P**	**01 58 52.6**	**+0.4**
comp=Z,48nm,0.9s,mb5.2							
SSE				sP	sP	01 59 05.4	+0.2
SSE				PP	PP	02 00 21.8	+0.2
SSE				S	**S**	**02 04 40.3**	**-0.1**
SSE				sS		02 04 56.0	
SSE				SS	SS	02 07 27.0	+11
SSE				LR	LR		
comp=Z,16μm,19.8s,MS5.8							
NWAO	**Narrogin (SRO)**	**38.28**	**153**	P	**P**	**01 58 56.8**	**0.0**
comp=Z,10nm,0.8s,mb4.6,baz=314,slow=11,SNR=6.0							
NWAO	**Narrogin (SRO)**	**38.28**	**153**	P	**P**	**01 58 56.8**	**0.0**
NWAO				LR	LR		
comp=Z,12μm,19.0s,MS5.7							
GTA	**Gaotai**	**38.64**	**3**	*e*P	**P**	**01 58 59.3**	**-0.3**
GTA				AP	pP	01 59 08.1	-0.7
GTA				PCP	PcP	02 01 13.3	+1.4
GTA				S	**S**	**02 04 52.5**	**-1.2**
GTA				SCS	ScS	02 09 03.7	-1.8
GTA				AMB	AMB		
comp=Z,19nm,1.4s,mb4.6							
GTA				AMB	AMB		
comp=Z,248nm,8.7s							
GTA				LR	LR		
comp=N,9μm,11.8s							
GTA				LR	LR		
comp=E,14μm,17.5s							
GTA				LR	LR		
comp=Z,12μm,22.1s							
JOW	**Kunigami**	**39.47**	**46**	P	**P**	**01 59 07.0**	**+0.3**
comp=Z,21nm,0.6s,mb5.0,baz=260,slow=8.0,SNR=11							
JOW				LR	LR	02 16 09.1	
comp=Z,7μm,19.9s,MS5.5,baz=233,slow=37							
TIA	**Tai'an**	**39.84**	**25**	*e*P	**P**	**01 59 10.0**	**+0.4**
TIA				S	**S**	**02 05 14.0**	**+2.1**
TIA				LR	LR		
comp=N,8μm,17.2s,MS5.9							
TIA				LR	LR		
comp=E,11μm,16.7s,MS5.9							
BTO	**Baotou**	**41.39**	**15**	*e*P	**P**	**01 59 23.8**	**+1.5**
BTO				LR	LR		
comp=N,11μm,10.1s,MS6.4							
BTO				LR	LR		
comp=E,31μm,14.5s,MS6.4							
WRA	**Warramunga Arr**	**41.58**	**122**	P	**P**	**01 59 23.7**	**-0.5**
comp=E,12nm,0.8s,mb4.6,baz=299,slow=9.2,SNR=47							
WRAB	**Tennant Creek**	**41.59**	**122**	*e*P	**P**	**01 59 23.6**	**-0.6**
WRAB	**Tennant Creek**	**41.59**	**122**	*e*P	**P**	**01 59 23.5**	**-0.7**
comp=E,290nm,1.5s,mb5.7							
WRAB				LR	LR		
comp=Z,2μm,20.0s,MS5.1							
WB2	**Warramunga Arr**	**41.59**	**122**	*e*P	**P**	**01 59 23.5**	**-0.8**
WB2				*e*S	**S**	**02 05 36.3**	**-1.9**
HHC	**Hu-ho-hao-te**	**42.03**	**16⇑**	P	**P**	**01 59 29.9**	**+2.3**
HHC				AP	pP	01 59 40.6	+3.9
HHC				XP	sP	01 59 43.9	+3.4
HHC				PP	PP	02 01 14.6	+6.7
HHC				PCP	PcP	02 01 24.5	+1.6
HHC				PCS		02 05 16.5	
HHC				S	**S**	**02 05 48.8**	**+4.5**
HHC				XS		02 06 02.7	
HHC				SS	SS	02 08 52.9	+6.4
HHC				SCS	ScS	02 09 26.2	+0.7
HHC				AMB	AMB		
comp=Z,23nm,1.2s,mb4.7							
HHC				AMB	AMB		
comp=Z,851nm,5.6s							
HHC				LR	LR		
comp=N,16μm,16.7s,MS6.1							
HHC				LR	LR		
comp=E,15μm,17.4s,MS6.1							
HHC				LR	LR		
comp=Z,14μm,16.7s,MS5.9							
MSEY	**Mahe Island**	**42.21**	**262**	PFAKE		01 59 40.0	+11
MSEY				LR	LR		
comp=Z,2μm,20.0s,MS5.0							
BJT	**Baijiatuau**	**42.75**	**21**	*e*P	**P**	**01 59 33.9**	**+0.3**
BJT				pmax	pmax		
comp=Z,70nm,0.8s							
BJT	**Baijiatuau**	**42.75**	**21**	*e*P	**P**	**01 59 33.9**	**+0.3**
comp=Z,70nm,0.8s,mb5.4							
BJI	**Beijing**	**42.77**	**21**	P	**P**	**01 59 34.6**	**+0.9**
BJI				AP	pP	01 59 43.5	+0.6
BJI				XP	sP	01 59 47.3	+0.6
BJI				PP	PP	02 01 15.6	+0.2
BJI				AMB	AMB		
comp=Z,62nm,1.0s,mb5.3							
BJI				AMB	AMB		
comp=Z,1μm,3.5s							
BJI				LR	LR		
comp=N,10μm,16.2s,MS6.2							
BJI				LR	LR		
comp=E,25μm,15.3s,MS6.2							
BJI				LR	LR		
comp=Z,19μm,16.5s,MS6.1							
ASPA	**Alice Springs**	**42.91**	**127**	*e*P	**P**	**01 59 34.6**	**-0.4**
ASPA				*e*S	**S**	**02 05 45.0**	**-12**
ASAR	**Alice Springs**	**42.91**	**127**	P	**P**	**01 59 34.6**	**-0.4**
comp=Z,4.9nm,0.4s,mb4.5,baz=305,slow=7.8,SNR=42							
ASAR				S	**S**	**02 05 59.8**	**+2.3**
comp=Z,4.1nm,1.2s,baz=295,slow=15,SNR=4.4							
ASAR				LR	LR	02 19 53.1	
comp=Z,8μm,20.6s,MS5.6,baz=298,slow=39							
YOMI	**Yo Moklole**	**43.27**	**95⇓**	*i*P	**P**	**01 59 42.0**	**+3.9**
comp=Z,42nm,1.6s,mb4.9							
YOMI	**Yo Moklole**	**43.27**	**95⇓**	*i*P	**P**	**01 59 41.9**	**+3.8**
comp=Z,84nm,1.6s,mb4.9							
KSH	**Kashi**	**43.35**	**336**	*e*P	**P**	**01 59 40.4**	**+2.0**
KSH				*e*AP	pP	01 59 49.0	+1.5
KSH				*e*XP	sP	01 59 53.0	+1.7
KSH				*e*PP	PP	02 01 23.3	+2.1
KSH				*e*PCP	PcP	02 01 27.3	0.0
KSH				*e*PPP	PPP	02 02 00.1	+3.0
KSH				*e*SCP		02 05 14.7	
KSH				*e*PCS		02 05 19.1	
KSH				*e*S	**S**	**02 06 06.1**	**+2.4**
KSH				*e*XS		02 06 23.0	
KSH				*e*SS	SS	02 09 16.2	+5.4
KSH				*e*SCS	ScS	02 09 34.0	+0.3
KSH				LR	LR		
comp=N,5μm,15.8s,MS5.9							
KSH				LR	LR		
comp=E,12μm,18.7s,MS5.9							
WMQ	**Urumqi**	**43.84**	**350**	P	**P**	**01 59 43.2**	**+0.8**
WMQ				AP	pP	01 59 53.2	+1.7
WMQ				XP	sP	01 59 57.2	+1.9
WMQ				PP	PP	02 01 26.9	+0.8
WMQ				PCP	PcP	02 01 30.3	+1.4
WMQ				SCP		02 05 17.8	
WMQ				PCS		02 05 22.0	
WMQ				S	**S**	**02 06 11.0**	**+0.2**
WMQ				SS	SS	02 09 19.4	-0.1
WMQ				SCS	ScS	02 09 37.1	+0.4
WMQ				AMB	AMB		
comp=Z,27nm,1.2s,mb4.8							
WMQ				AMB	AMB		
comp=Z,368nm,4.0s							
WMQ				LR	LR		
comp=N,5μm,19.8s,MS5.6							
WMQ				LR	LR		
comp=E,6μm,18.0s,MS5.6							
WMQ				LR	LR		
comp=Z,4μm,23.0s,MS5.3							
DL2	**Dalian**	**44.07**	**27**	P	**P**	**01 59 45.1**	**+0.8**
DL2				S	**S**	**02 06 22.0**	**+7.8**
DL2				AMB	AMB		
comp=Z,90nm,0.9s,mb5.5							
DL2				AMB	AMB		
comp=Z,400nm,4.7s							
DL2				LR	LR		
comp=E,10μm,16.3s							
DL2				LR	LR		
comp=Z,7μm,16.3s,MS5.7							
INCN	**Inchon**	**45.50**	**33**	PFAKE		02 00 10.0	+14
INCN				LR	LR		
comp=Z,15μm,20.0s,MS5.9							
ULHL	**Ulahol**	**45.57**	**338**	P	**P**	**01 59 57.0**	**+0.8**
SNR=8.4							
KZA	**Kyzart**	**45.81**	**337**	P	**P**	**01 59 59.4**	**+1.3**
SNR=7.4							
AAA	**Alma-Ata**	**46.21**	**339**	*e*P	**P**	**02 00 07.0**	**+5.8**
AAA				*e*S	**S**	**02 07 01.0**	**+16**
AAA				pmax	pmax		
comp=Z,500nm,6.0s							
AAA				smax			
comp=N,2μm,10.0s							
UCH	**Uchtor**	**46.23**	**336**	P	**P**	**02 00 02.5**	**+1.1**
SNR=24							
TKM2	**Tokmak 2**	**46.40**	**338**	P	**P**	**02 00 03.6**	**+0.9**
SNR=18							
KBK	**Karagaybulak**	**46.42**	**337**	P	**P**	**02 00 04.5**	**+1.6**
SNR=25							
AML	**Almayashu**	**46.48**	**336**	P	**P**	**02 00 04.2**	**+0.8**
SNR=24							
AAK	**Ala-Archa**	**46.58**	**337**	P	**P**	**02 00 05.3**	**+1.2**
SNR=8.1							
AAK	**Ala-Archa**	**46.58**	**337**	*e*P	**P**	**02 00 03.7**	**-0.4**
comp=N,28nm,1.0s,mb5.2							
AAK				LR	LR		
comp=Z,2μm,22.0s,MS4.9							
FRU	**Bishkek**	**46.70**	**337**	*e*P	**P**	**02 00 07.0**	**+1.9**
FRU				*e*S	**S**	**02 07 05.0**	**+13**
FRU				pmax	pmax		
comp=Z,280nm,2.2s,mb5.8							
FRU				MLR	MLR		
comp=Z,6μm,18.0s,MS5.6							
CHMS	**Chumysh**	**46.79**	**337**	P	**P**	**02 00 06.3**	**+0.5**
SNR=9.8							
EKS2	**Erkin-Say**	**46.89**	**336**	P	**P**	**02 00 07.5**	**+0.8**
SNR=24							
USP	**Ospenovka**	**47.11**	**337**	P	**P**	**02 00 08.6**	**+0.2**
SNR=31							
SNY	**Shenyang**	**47.30**	**27⇑**	P	**P**	**02 00 09.0**	**-0.9**
SNY				S	**S**	**02 07 07.7**	**+7.3**
SNY				LR	LR		
comp=N,15μm,15.0s,MS6.2							
SNY				LR	LR		
comp=E,12μm,14.0s,MS6.2							
SNY				LR	LR		
comp=Z,18μm,14.0s,MS6.2							
SONM	**Songino Array**	**47.64**	**8**	P	**P**	**02 00 12.9**	**+0.4**
comp=Z,25nm,1.2s,mb5.1,baz=190,slow=8.8,SNR=39							
SONM				LR	LR	02 23 09.8	
comp=Z,12μm,18.2s,MS5.9,baz=189,slow=40							
ULN	**Ulaanbaatar**	**47.77**	**9**	*e*P	**P**	**02 00 13.4**	**-0.1**
ULN	**Ulaanbaatar**	**47.77**	**9**	*e*P	**P**	**02 00 13.1**	**-0.4**
comp=Z,30nm,1.1s,mb5.2							
ULN				LR	LR		
comp=Z,11μm,19.0s,MS5.8							
MKAR	**Makanchi Array**	**47.82**	**346**	*i* P	**P**	**02 00 12.2**	**-1.7**
MKAR				pmax	pmax		
comp=Z,13nm,0.5s							
MKAR	**Makanchi Array**	**47.82**	**346**	P	**P**	**02 00 14.0**	**+0.1**
comp=Z,18nm,0.7s,mb5.2,baz=158,slow=7.6,SNR=88							
MKAR				LR	LR	02 25 45.4	
comp=Z,4μm,19.7s,MS5.4,baz=162,slow=43							
MKAR	**Makanchi Array**	**47.82**	**346**	P	**P**	**02 00 14.0**	**+0.1**
MKAR				LR	LR	02 25 45.4	
KKAR	**Karatay Array**	**48.63**	**334**	P	**P**	**02 00 19.6**	**-0.6**
KKAR				pmax	pmax		
comp=Z,33nm,1.1s,mb5.3							
GUMO	**Guam**	**48.71**	**72**	PFAKE		02 00 30.0	+8.8
GUMO				LR	LR		
comp=Z,3μm,20.0s,MS5.2							
CN2	**Changchun**	**49.70**	**27**	*e*P	**P**	**02 00 28.0**	**-0.5**
CN2				PCP	PcP	02 01 49.3	-0.3
CN2				PP	PP	02 02 28.9	+5.2
CN2				*e*S	**S**	**02 07 42.0**	**+7.9**
CN2				SS	SS	02 11 07.8	+5.0
CN2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
CN2				AMB	AMB		
comp=Z,400nm,5.0s							
CN2				LR	LR		
comp=N,10μm,18.0s,MS6.2							
CN2				LR	LR		
comp=E,17μm,18.0s,MS6.2							
CN2				LR	LR		
comp=Z,15μm,19.0s,MS6.0							
ZAK	**Zakamensk**	**49.80**	**5**	*e*P	**P**	**02 00 28.9**	**-0.2**
ZAK				pmax	pmax		
comp=Z,13nm,1.8s,mb4.7							
CBIJ	**Chichi jima**	**50.37**	**55**	LR	LR	02 19 03.8	
comp=Z,2μm,20.8s,MS5.0,baz=247,slow=33							
PMG	**Port Moresby**	**50.54**	**103**	P	**P**	**02 00 35.0**	**-0.3**
PMG				pmax	pmax		
comp=Z,88nm,0.8s							
PMG	**Port Moresby**	**50.54**	**103**	P	**P**	**02 00 35.0**	**-0.2**
comp=Z,35nm,0.8s,mb5.3,baz=296,slow=4.0,SNR=16							
PMG	**Port Moresby**	**50.54**	**103**	*e*P	**P**	**02 00 34.8**	**-0.5**
comp=Z,88nm,0.8s,mb5.7							
PMG				LR	LR		
comp=Z,6μm,20.0s,MS5.6							
MOY	**Mondy**	**50.92**	**3**	*e*P	**P**	**02 00 38.6**	**+1.0**
TLY	**Talaya**	**51.12**	**5**	*e*P	**P**	**02 00 38.5**	**-0.6**
TLY				*e*S	**S**	**02 08 00.7**	**+7.2**
TLY				*e*PS	PS	02 08 18.9	+13
TLY				*e*		02 10 16.3	
TLY				*e*SS	SS	02 11 30.8	+4.2
TLY				pmax	pmax		
comp=Z,17nm,0.8s,mb5.0							
TLY				MLR	MLR		
comp=Z,16μm,17.0s,MS6.1							
IRK	**Irkutsk**	**51.73**	**5**	*e*P	**P**	**02 00 45.3**	**+1.5**
IRK				pmax	pmax		
comp=Z,104nm,2.3s,mb5.4							
MAJO	**Matsushiro**	**51.96**	**42**	*e*P	**P**	**02 00 44.9**	**-0.9**
MAJO				*e*PP	pP	02 00 55.2	+0.1
MAJO				pmax	pmax		
comp=Z,47nm,1.4s,mb5.2							
MAJO				MLR	MLR		
comp=Z,6μm,19.0s,MS5.6							
MAJO	**Matsushiro**	**51.96**	**42**	*e*P	**P**	**02 00 44.9**	**-0.9**
comp=Z,47nm,1.4s,mb5.2							
MAJO				*e*pP	pP	02 00 55.2	+0.1
MAJO				LR	LR		
comp=Z,6μm,19.0s,MS5.6							
MAT	**Matsushiro**	**51.96**	**42**	*e*P	**P**	**02 00 42.0**	**-3.8**
MAT				*e*S	**S**	**02 08 10.0**	**+4.7**
MAT				pmax	pmax		
comp=Z,42nm,1.3s,mb5.2							
MAT				MLR	MLR		
comp=Z,5μm,20.0s,MS5.6							
MAT	**Matsushiro**	**51.96**	**42**	*e*P	**P**	**02 00 42.0**	**-3.8**
comp=Z,42nm,1.3s,mb5.2							
MAT				*e*S	**S**	**02 08 10.0**	**+4.7**
MAT				LR	LR		
comp=Z,5μm,20.0s,MS5.6							
MAT	**Matsushiro**	**51.96**	**42**	P	**P**	**02 00 45.3**	**-0.5**
MAT				S	**S**	**02 08 09.0**	**+3.7**
MJAR	**Matsushiro Arr**	**51.96**	**42**	P	**P**	**02 00 44.4**	**-1.3**
comp=Z,5.7nm,0.8s,mb4.6,baz=226,slow=7.5,SNR=8.9							
MJAR				LR	LR	02 23 41.2	
comp=Z,5μm,19.0s,MS5.5,baz=245,slow=37							
MJAR	**Matsushiro Arr**	**51.96**	**42**	P	**P**	**02 00 44.4**	**-1.3**
MJAR				LR	LR	02 23 41.1	
CTA	**Charters Tower**	**52.08**	**116**	*e*P	**P**	**02 00 48.2**	**+1.3**
comp=Z,9.9nm,0.6s,mb4.9							
CTA	**Charters Tower**	**52.08**	**116**	*e*P	**P**	**02 00 48.2**	**+1.3**
CTA				pmax	pmax		
comp=Z,10.0nm,0.6s							
CTA	**Charters Tower**	**52.08**	**116**	P	**P**	**02 00 47.7**	**+0.8**
comp=Z,12nm,0.8s,mb4.9,baz=285,slow=5.9,SNR=7.3							
CTA				LR	LR	02 26 12.4	
comp=Z,12μm,19.6s,MS5.9,baz=282,slow=40							
CTAO	**Charters Tower**	**52.08**	**116**	*e*P	**P**	**02 00 48.3**	**+1.4**
CTAO				pmax	pmax		
comp=Z,25nm,0.9s,mb5.1							
CTAO				MLR	MLR		
comp=Z,11μm,20.0s,MS5.9							
CTAO	**Charters Tower**	**52.08**	**116**	*e*P	**P**	**02 00 48.3**	**+1.4**
comp=Z,25nm,0.9s,mb5.1							
CTAO				LR	LR		
comp=Z,11μm,20.0s,MS5.9							
HIA	**Hailar**	**52.09**	**18**	*e*P	**P**	**02 00 45.6**	**-1.0**
HIA				pmax	pmax		
comp=Z,37nm,0.9s							
HIA	**Hailar**	**52.09**	**18**	*e*P	**P**	**02 00 45.6**	**-1.0**
comp=Z,37nm,0.9s,mb5.3							
MDJ	**Mudanjiang**	**52.25**	**29**	P	**P**	**02 00 46.8**	**-1.0**
MDJ				AP	pP	02 00 59.3	+2.2
MDJ				PCP	PcP	02 01 56.9	-2.1
MDJ				PP	PP	02 02 45.8	-1.3
MDJ				SCP		02 05 53.0	
MDJ				PCS		02 05 56.7	
MDJ				XS		02 08 28.4	
MDJ				AMB	AMB		
comp=Z,31nm,2.0s,mb4.9							
MDJ				AMB	AMB		
comp=Z,449nm,5.3s							
MDJ				LR	LR		
comp=N,16μm,19.5s,MS6.3							
MDJ				LR	LR		
comp=E,24μm,19.0s,MS6.3							
MDJ				LR	LR		
comp=Z,13μm,20.0s,MS6.0							
MDJ	**Mudanjiang**	**52.25**	**29**	*e*P	**P**	**02 00 46.2**	**-1.6**
comp=Z,32nm,1.0s,mb5.2							
KURK	**Kurchatov**	**52.37**	**345**	*e*P	**P**	**02 00 47.7**	**-0.9**
comp=Z,263nm,1.6s,mb5.9							
KURK				LR	LR		
comp=Z,1μm,19.0s,MS5.0							
STKA	**Stephens Creek**	**52.

ZAL LR LR 02 27 48.6
comp=Z,7µm,19.9s,MS5.7,baz=296,slow=40
ZAL Zalesovo 54.12 351 P **P** **02 01 01.5 +0.1**
ZAL LR LR 02 27 48.6
ATD Arta Tunnel 55.20 284 P **P** **02 01 08.1 -1.9**
comp=Z,14nm,1.0s,mb5.0,baz=107,slow=20,SNR=11
ATD LR LR 02 18 59.0
comp=Z,3µm,20.9s,MS5.3,baz=253,slow=30
KLR Kul'dur 56.66 26 *e*P **P** **02 01 16.1 -3.8**
KLR *e*S **S** **02 09 22.0 +14**
KLR *e* 02 11 09.5
KLR *e*SS SS 02 13 02.5 +5.6
KLR MLR MLR
comp=Z,21µm,14.0s,MS6.4
BVA0 Borovoye Array 56.83 341 P **P** **02 01 19.4 -1.7**
BVA0 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BVAR Borovoye Array 56.83 341 P **P** **02 01 19.4 -1.7**
comp=Z,11nm,0.7s,mb5.0,baz=135,slow=8.4,SNR=63
CHKZ Chkalovo 57.31 341 *e*P **P** **02 01 23.0 -1.5**
CHKZ pmax pmax
comp=Z,35nm,0.6s,mb5.6
CHKZ Chkalovo 57.31 341 *e*P **P** **02 01 22.9 -1.5**
comp=Z,35nm,0.6s,mb5.6
BOD Bodaibo 58.51 10⇑*i*P **P** **02 01 32.3 -0.5**
BOD pmax pmax
comp=Z,41nm,1.5s,mb5.2
BHD Baghdad 59.33 309 *e*P **P** **02 01 33.0 -5.9**
BHD *e*S **S** **02 09 43.0 -0.6**
BHD *e*ScS ScS 02 11 26.0 +3.1
KMBO Kilima Mbogo 60.17 268 *e*P **P** **02 01 44.1 -0.8**
KMBO pmax pmax
comp=Z,30nm,1.4s
KMBO MLR MLR
comp=Z,5µm,19.0s
KMBO Kilima Mbogo 60.17 268 P **P** **02 01 43.3 -1.6**
comp=Z,5.8nm,1.1s,mb4.5,baz=57,slow=9.1,SNR=9.4
KMBO LR LR 02 25 45.0
comp=Z,5µm,18.7s,MS5.7,baz=89,slow=34
KMBO Kilima Mbogo 60.17 268 *e*P **P** **02 01 44.1 -0.8**
comp=Z,30nm,1.4s,mb5.1
KMBO LR LR
comp=Z,5µm,19.0s,MS5.7
CLNS Chul'man 60.20 17 *e*P **P** **02 01 49.6 +5.0**
CLNS *e* 02 02 33.9
CLNS *e*PPP PPP 02 05 26.0 +0.3
CLNS *e*S **S** **02 10 05.1 +11**
CLNS pmax pmax
comp=Z,16nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=E,11nm,1.1s
CLNS smax
comp=N,7.0nm,0.8s
CLNS smax
comp=Z,3.0nm,0.6s
CLNS smax
comp=E,5.0nm,0.7s
CLNS MLR MLR
comp=N,12µm,14.0s,MS6.2
CLNS MLR MLR
comp=Z,12µm,14.0s,MS6.2
CLNS MLR MLR
comp=E,2µm,12.0s,MS6.2
YSS Yuzh-Sakhalins 60.69 34⇑*i*P **P** **02 01 47.8 -0.2**
YSS pmax pmax
comp=Z,45nm,1.3s,mb5.4
YSS Yuzh-Sakhalins 60.69 34 *e*P **P** **02 01 47.1 -0.9**
comp=Z,94nm,1.1s,mb5.8
YSS LR LR
comp=Z,5µm,20.0s,MS5.6
GNI Garni 61.82 316 P **P** **02 01 55.2 -0.6**
GNI pmax pmax
comp=Z,59nm,1.2s
GNI Garni 61.82 316 *e*P **P** **02 01 54.7 -1.1**
comp=Z,59nm,1.2s,mb5.6
GNI LR LR
comp=Z,2µm,19.0s,MS5.3
DGRG David-gareji 61.97 318 P **P** **02 01 56.0 -0.7**
TAU Tasmania Unive 62.27 141 PFAKE 02 02 10.0 +11
TAU LR LR
comp=Z,1µm,19.0s,MS5.1
MTA Mtatsminda 62.47 318 P **P** **02 01 59.1 -0.9**
TI2 Plekhanov 62.51 318 *i*P **P** **02 01 53.8 -6.6**
TBLG Delisi 62.52 318 P **P** **02 01 59.0 -1.4**
HNR Honiara 63.07 101 P **P** **02 02 05.1 +0.7**
comp=Z,80nm,0.7s,mb6.0,baz=222,slow=12,SNR=3.9
HNR Honiara 63.07 101 *e*P **P** **02 02 04.7 +0.4**
comp=Z,191nm,0.9s,mb6.2
HNR LR LR
comp=Z,2µm,20.0s,MS5.2
SVE Sverdlovsk 63.27 338 *e*P **P** **02 02 04.5 -0.6**
SVE *e* 02 02 22.7
SVE pmax pmax
comp=Z,80nm,1.5s,mb5.6
SVE MLR MLR
comp=N,4µm,17.0s,MS5.7
SVE MLR MLR
comp=E,2µm,17.0s,MS5.7
SVE MLR MLR
comp=Z,6µm,17.0s,MS5.8
ZEI Tsey 63.54 319 *e*P **P** **02 02 02.3 -4.8**
ZEI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ARU Arti 63.76 337⇑*i*P **P** **02 02 06.3 -2.1**
ARU *e* 02 02 36.8
ARU *e* 02 04 23.9
ARU *e*S **S** **02 10 40.5 +1.1**
ARU *e*SS SS 02 14 42.7 -6.4
ARU pmax pmax
comp=Z,32nm,1.1s,mb5.3
ARU MLR MLR
comp=N,3µm,17.0s,MS5.6
ARU MLR MLR
comp=E,2µm,17.0s,MS5.6
ARU MLR MLR
comp=Z,6µm,17.0s,MS5.9
ARU Arti 63.76 337 *e*P **P** **02 02 05.9 -2.5**
comp=Z,29nm,1.0s,mb5.3
ARU LR LR
comp=Z,2µm,20.0s,MS5.2
KIV Kislovodsk 64.85 319κ *i*P **P** **02 02 14.7 -1.0**
KIV *e* pP 02 02 23.4 -1.8
KIV *e* 02 02 33.0
KIV *e* 02 02 48.9
KIV pmax pmax
comp=Z,31nm,1.2s,mb5.2
KIV Kislovodsk 64.85 319 *e*P **P** **02 02 14.4 -1.3**
comp=Z,58nm,1.0s,mb5.6
KIV LR LR
comp=Z,563nm,21.0s,MS4.7
ASF Jabal al Asfar 64.94 305 P **P** **02 02 14.8 -1.7**
comp=Z,8.9nm,0.9s,mb4.8,baz=336,slow=1.8,SNR=7.0
ASF LR LR 02 30 27.0
comp=Z,4µm,18.6s,MS5.6,baz=212,slow=36
GOF Gofitskoye 65.11 321⇑*i*P **P** **02 02 15.7 -1.6**
GOF pmax pmax
comp=Z,40nm,1.7s,mb5.2
MALT Malatya 65.64 312 P **P** **02 02 20.7 -0.2**
MALT pmax pmax
comp=Z,19nm,1.0s,mb5.1
MALT Malatya 65.64 312 *e*P **P** **02 02 20.4 -0.5**
comp=Z,19nm,1.0s,mb5.1
YAK Yakutsk 65.89 16*d i*P **P** **02 02 20.9 -1.1**
YAK *e**PP pP 02 02 27.7 -3.8
YAK *e* 02 02 37.7
YAK *e*S S 02 11 20.3 +15
YAK pmax pmax
comp=Z,31nm,1.1s,mb5.2
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.0s

YAK smax
comp=E,475nm,11.8s
YAK smax
comp=Z,381nm,17.6s
YAK smax
comp=N,456nm,13.8s
YAK MLR MLR
comp=Z,8µm,15.0s,MS6.0
YAK MLR MLR
comp=N,5µm,14.0s,MS6.0
YAK MLR MLR
comp=E,5µm,16.0s,MS6.0
YAK Yakutsk 65.89 16 *e*P **P** **02 02 20.9 -1.1**
comp=E,96nm,0.8s,mb5.9
YAK LR LR
comp=Z,10µm,19.0s,MS6.0
EIL Elat 65.91 302 *e*P **P** **02 02 21.0 -1.7**
comp=Z,25nm,0.9s,mb5.2
GZT Gaziantep 65.97 311 *i*P **P** **02 02 22.2 -0.8**
KAHT Ahir Dag 66.58 311 *i*P **P** **02 02 26.6 -0.2**
SOC Sochi 66.66 318 *e*P **P** **02 02 24.2 -3.0**
SOC *e* 02 02 54.9
SOC *e* 02 04 50.3
SOC *e*PPP PPP 02 06 27.2 -5.0
SOC *e*S S 02 11 16.4 +1.2
SOC *e* 02 12 17.4
SOC *e*SS SS 02 15 36.7 +2.3
SOC pmax pmax
comp=Z,20nm,0.9s,mb5.2
SOC pmax pmax
comp=N,4.0nm,0.6s
SOC pmax pmax
comp=E,8.0nm,0.7s
SOC MLR MLR
comp=N,825nm,19.0s,MS5.2
SOC MLR MLR
comp=E,1µm,19.0s,MS5.2
SOC MLR MLR
comp=Z,1µm,19.0s,MS5.2
MBAR Mbarara 66.67 269 *e*P **P** **02 02 26.4 -1.4**
MBAR pmax pmax
comp=Z,53nm,1.6s,mb5.3
MBAR MLR MLR
comp=Z,907nm,19.0s,MS5.0
MBAR Mbarara 66.67 269 *e*P **P** **02 02 26.4 -1.4**
comp=Z,52nm,1.6s,mb5.3
MBAR LR LR
comp=Z,907nm,19.0s,MS5.0
CASY Casey 67.44 174 P **P** **02 02 31.4 -0.4**
comp=Z,61nm,1.6s,mb5.4
CASY *e*pP pP 02 02 40.9 -0.5
CASY LR LR
comp=Z,7µm,21.0s,MS5.8
MEST Erdemli 68.35 309 *i*P **P** **02 02 37.4 -0.7**
AVNT Avonos 68.44 312 *i*P **P** **02 02 37.1 -1.4**
CSS Prodhromos 68.56 307 *e*P **P** **02 02 38.7 -0.6**
comp=Z,31nm,1.1s,mb5.2
ANN Anapa 68.64 319 *e*P **P** **02 02 30.6 -9.1**
ANN pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
CDAG Cicekdag 69.06 313 *i*P **P** **02 02 47.8 +5.4**
BOYT Boyabat 69.22 314 *i*P **P** **02 02 41.4 -1.9**
BR131 Keskin Array S 69.62 312 PFAKE 02 03 00.0 +14
BR131 LR LR
comp=Z,1µm,20.0s,MS5.2
BRTR Keskin Array B 69.62 312 P **P** **02 02 44.2 -1.6**
comp=Z,5.6nm,0.9s,mb4.5,baz=130,slow=6.2,SNR=24
ELDT Eldivan 70.00 313 *i*P **P** **02 02 54.6 +6.5**
VRSR Storozhevoye 70.12 325 *e*P **P** **02 02 46.7 -1.9**
VRSR *e* 02 03 09.0
VRSR *e* 02 05 19.2
VRSR *e*PPP PPP 02 06 58.2 -7.5
VRSR *e*S S 02 11 59.2 +3.0
VRSR *e* 02 12 41.9
VRSR *e*SS SS 02 16 32.0 +4.4
VRSR *e*SSS SSS 02 19 32.4 -0.3
VRSR pmax pmax
comp=Z,20nm,1.2s,mb4.9
VRSR pmax pmax
comp=N,10.0nm,1.4s
VRSR pmax pmax
comp=E,20nm,1.1s
VRSR smax
comp=N,260nm,4.1s
VRSR smax
comp=Z,190nm,7.3s
VRSR smax
comp=E,310nm,7.1s
LSZ Lusaka 70.15 254 *e*P **P** **02 02 49.7 +0.4**
comp=E,33nm,1.7s,mb5.0
LSZ LR LR
comp=Z,4µm,21.0s,MS5.7
VOR Voronezh 70.33 326 *e*P **P** **02 02 49.0 -0.9**
VOR *e* 02 03 11.0
VOR pmax pmax
comp=Z,90nm,1.6s,mb5.5
MATP Matopo 70.50 248 P **P** **02 02 50.0 -1.5**
comp=Z,5.3nm,0.7s,mb4.6,baz=90,slow=7.7,SNR=11
MATP LR LR 02 29 41.0
comp=Z,3µm,18.1s,MS5.6,baz=82,slow=32
DZM Mont Dzumac 70.88 114 P **P** **02 02 55.3 +1.5**
comp=Z,6.2nm,0.8s,mb4.6,baz=207,slow=14,SNR=2.4
SIM Simferopol' 70.90 318*d i*P **P** **02 02 53.7 +0.2**
SIM *e*S S 02 12 06.8 +1.3
SIM pmax pmax
comp=Z,20nm,0.9s,mb5.0
SGKT Sivrigoynuk 71.03 313 *i*P **P** **02 02 54.6 +0.2**
ISP Isparta 71.48 310 *e*P **P** **02 02 55.8 -1.3**
ESKT Eskisehir 71.64 312 *i*P **P** **02 02 57.7 -0.3**
MA2 Magadan 71.74 25 *e*P **P** **02 02 58.9 +0.6**
MA2 *e*S S 02 12 16.7 +1.8
MA2 *e*SS SS 02 16 57.3 +4.6
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MA2 Magadan 71.74 25 *e*P **P** **02 02 58.1 -0.2**
comp=Z,25nm,0.8s,mb5.2
MA2 LR LR
comp=Z,7µm,19.0s,MS5.9
HENT Hendek 71.94 313 *i*P **P** **02 02 58.0 -1.8**
MAW Mawson 72.22 193 LR LR 02 32 05.2
comp=Z,6µm,18.8s,MS5.9,baz=40,slow=34
PET Petropavlovsk 72.58 34 *e*P **P** **02 03 04.4 +1.1**
PET pmax pmax
comp=Z,43nm,1.6s,mb5.1
PET Petropavlovsk 72.58 34 *e*P **P** **02 03 01.9 -1.5**
comp=Z,28nm,0.8s,mb5.2
PET LR LR
comp=Z,5µm,19.0s,MS5.8
MOS Moscow 72.90 329 *e*P **P** **02 03 04.5 -0.7**
MOS *e* 02 03 19.0
MOS *e*S S 02 12 33.8 +5.6
MOS pmax pmax
comp=Z,95nm,1.5s,mb5.5
MOS MLR MLR
comp=Z,5µm,22.5s,MS5.7
OBN Obninsk 73.19 328⇓*i*P **P** **02 03 05.8 -1.1**
OBN 02 03 25.0
OBN *e*S S 02 12 28.5 -2.9
OBN *e* 02 13 21.0
OBN SS SS 02 17 21.0 +5.5
OBN pmax pmax
comp=Z,49nm,1.2s,mb5.3
OBN Obninsk 73.19 328 *e*P **P** **02 03 05.2 -1.6**
comp=Z,87nm,1.4s,mb5.5
OBN LR LR
comp=Z,912nm,19.0s,MS5.1
DRV Dumont d'Urvil 73.57 164 P **P** **02 03 01.0 -7.9**
TIXI Tiksi 73.69 10⇑*i*P **P** **02 03 08.0 -1.5**
TIXI LR LR
comp=Z,8µm,19.0s,MS6.0
LBTB Lobatse 73.82 244 *e*P **P** **02 03 10.1 -1.1**
LBTB pmax pmax
comp=Z,32nm,1.4s,mb5.1
LBTB MLR MLR
comp=Z,3µm,19.0s,MS5.6
LBTB Lobatse 73.82 244 *e*P **P** **02 03 10.1 -1.1**
comp=Z,32nm,1.4s,mb5.1
LBTB LR LR
comp=Z,3µm,19.0s,MS5.6
SEY Seymchan 74.19 23 *e*P **P** **02 03 14.8 +2.3**
SEY *e* 02 06 00.6
SEY *e*PPP PPP 02 07 51.2 +6.2
SEY 02 13 28.5
SEY pmax pmax
comp=Z,40nm,0.9s,mb5.3

SEY MLR MLR
comp=Z,46µm,19.0s,MS6.8
SEY MLR MLR
comp=N,50µm,15.0s
SEY MLR MLR
comp=E,12µm,14.0s
PSN Preselentsi 74.62 315 *e*P **P** **02 03 24.0 +8.6**
TIRR Tirgusor 74.65 316⇓P **P** **02 03 13.7 -1.9**
CFR Carcaliu 75.02 317⇓P **P** **02 03 16.6 -1.1**
KIS Kishinev 75.04 319 *e*P **P** **02 03 12.0 -5.8**
KIS *e*S S 02 12 43.0 -9.3
KIS *e* 02 13 22.0
HARR Harsova 75.04 316⇓P **P** **02 03 20.1 +2.2**
PRD Provadia 75.06 315 *e*P **P** **02 03 18.0 0.0**
IDI Anoyia 75.38 306 P **P** **02 03 18.6 -1.4**
comp=E,15nm,0.9s,mb4.9,baz=67,slow=11,SNR=4.5
JMB Yambol 75.48 314 *e*P **P** **02 03 22.5 +2.1**
AKASG Malin Array Be 75.81 322 P **P** **02 03 20.4 -1.6**
comp=E,11nm,0.9s,mb4.8,baz=87,slow=4.6,SNR=37
VRI Vrincioaia 76.15 317⇓P **P** **02 03 23.8 -0.3**
MLR Muntele Rosu 76.60 317 P **P** **02 03 25.6 -1.1**
comp=E,24nm,1.1s,mb5.0,baz=41,slow=3.0,SNR=23
MLR Muntele Rosu 76.60 317⇓P **P** **02 03 26.6 0.0**
RZN Rozhen 76.68 313 *i*P **P** **02 03 28.0 +0.8**
SNX Sinaia 76.86 317⇑P **P** **02 03 29.6 +1.5**
PGB Panagyurishte 77.25 313 *e*P **P** **02 03 31.0 +0.7**
MMB Musomiste 77.39 312 *e*P **P** **02 03 32.0 +0.9**
BURAR Bucovina Array 77.56 319⇓P **P** **02 03 32.4 +0.5**
MNK Minsk 77.71 326 *e*P **P** **02 03 29.0 -3.6**
KKB Krupnik 77.91 313 *e*P **P** **02 03 34.0 +0.1**
VTS Vitosha 77.95 313⇑P **P** **02 03 33.2 -1.0**
VTS Vitosha 77.95 313 *e*P **P** **02 03 35.0 +0.9**
RPZ Rata Peaks 78.68 135 P **P** **02 03 37.7 -0.5**
comp=E,13nm,0.6s,mb5.0,baz=289,slow=5.3,SNR=8.2
LVV L'vov 78.81 321 *e*P **P** **02 03 39.3 +0.6**
LVV *e* 02 13 35.7
SUR Sutherland 79.03 237 *e*P **P** **02 03 40.4 +0.1**
comp=E,167nm,1.8s,mb5.7
SUR *e*pP pP 02 03 50.2 +0.2
SUR LR LR
comp=Z,994nm,19.0s,MS5.2
BOLS Boljevac 79.06 314⇓*i*P **P** **02 03 40.3 +0.1**
SKO Skopje 79.14 313 *e*P **P** **02 03 40.0 -0.7**
SKO *i* pP 02 03 49.0 -1.4
BZS Buzias 79.61 316 P **P** **02 03 43.4 +0.3**
BZS Buzias 79.61 316⇓P **P** **02 03 42.9 -0.2**
KWP Kalwaria 79.62 320 *e*P **P** **02 03 42.9 -0.2**
APA Apatity 79.71 339⇑*i*P **P** **02 03 42.6 -0.6**
APA *i* pP 02 03 51.5 -1.4
APA *e*S S 02 13 52.0 +10
APA *i* PS PS 02 14 29.0 -1.6
APA pmax pmax
comp=Z,32nm,1.2s,mb5.1
KOLS Kolonicke sedl 79.76 320 *e*P **P** **02 03 44.2 +0.3**
KOLS *e*pP pP 02 03 53.8 +0.2
SUW Suwalki 80.23 325 *e*P **P** **02 03 45.6 -0.7**
CRVS Cervenica-Dubn 80.28 320 *e*P **P** **02 03 50.8 +4.1**
CRVS *e* 02 04 12.3
CRVS Cervenica-Dubn 80.28 320 *e* **P** **02 03 50.8 +4.1**
CRVS *e* 02 04 12.3
DIVS Divcibare 80.51 315⇓*i*P **P** **02 03 47.3 -0.7**
FINES FINESS Array B 80.57 333 P **P** **02 03 47.4 -0.6**
comp=Z,4.6nm,0.7s,mb4.5,baz=102,slow=4.6,SNR=12
FINES LR LR 02 43 50.2
comp=Z,3µm,21.0s,MS5.6,baz=293,slow=39
TSUM Tsumeb 80.59 251 *e*P **P** **02 03 49.8 +0.9**
comp=Z,20nm,1.1s,mb5.0
TSUM LR LR
comp=Z,3µm,19.0s,MS5.7
KAF Kangasniemi 80.66 333 *e*p **P** **02 03 48.2 -0.2**
comp=Z,21nm,1.0s,mb5.0,baz=102,slow=5.0
KAF Kangasniemi 80.66 333 *e*P **P** **02 03 48.2 -0.2**
KAF pmax pmax
comp=Z,21nm,1.0s,mb5.0
KECS Kecovo 80.85 319 *e*P sP 02 04 07.0 +4.4
KECS Kecovo 80.85 319 *e* sP 02 04 07.0 +4.4
SNZO South Karori 80.90 132 PFAKE 02 04 00.0 +10
SNZO LR LR
comp=Z,12µm,22.0s,MS6.2
FX1 Attu Island--F 80.91 37 LR LR 02 41 16.0
comp=Z,73nm,19.6s,baz=277,slow=37
NIE Niedzica 81.11 320 *e*P **P** **02 03 49.2 -1.8**
PSZ Piszkesteto 81.15 318 P **P** **02 03 52.0 +0.7**
PSZ Piszkesteto 81.15 318 *e*P **P** **02 03 51.3 0.0**
comp=Z,141nm,1.8s,mb5.6
PSZ Piszkesteto 81.15 318 *e*P **P** **02 03 51.5 +0.2**
OJC Ojcow 81.57 321 *e*P **P** **02 03 53.5 +0.1**
OJC *e*S S 02 14 13.1 +11
OJC MLR MLR 02 46 20.8
comp=Z,2µm,21.6s,MS5.5
BILL Bilibino 81.60 21⇓*i*P **P** **02 03 53.6 +0.4**
BILL *e* pP 02 04 03.7 +0.7
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BILL Bilibino 81.60 21 *e*P **P** **02 03 53.2 0.0**
comp=Z,48nm,1.8s,mb5.1
BILL LR LR
comp=Z,10µm,19.0s,MS6.2
PKSM Moragy 81.75 317⇑P **P** **02 03 53.9 -0.5**
VYHS Vyhne 81.93 319 *e*P **P** **02 03 55.1 -0.2**
VYHS *e* 02 04 18.1
SRO Srobarova 82.19 318 *e*P **P** **02 03 57.5 +0.9**
SRO *e* 02 04 15.0
TIP Timpagrande 82.33 309 *e*P **P** **02 03 58.4 +0.8**
GRI Girifalco 82.56 309 *e*P **P** **02 03 59.7 +0.9**
OKC Ostrava-Krasne 82.57 320 *e*P **P** **02 03 58.5 -0.1**
OKC AMS AMS 02 47 10.0
comp=Z,1µm,19.2s
ORI Oriolo Calabro 82.65 310 *e*P **P** **02 04 01.4 +2.2**
MORC Moravsky Berou 82.95 320 P **P** **02 04 01.8 +1.2**
MORC Moravsky Berou 82.95 320 *e*P **P** **02 04 00.7 +0.1**
comp=Z,12nm,0.9s,mb4.9
ZST Bratislava 83.04 318 *e*P **P** **02 04 01.3 +0.2**
ZST *e*pP pP 02 04 10.1 -0.7
SCLL Scilla 83.06 308 *e*P **P** **02 04 04.2 +2.9**
ARCES ARCESS Array B 83.12 340 P **P** **02 04 01.9 +0.9**
comp=Z,4.7nm,0.8s,mb4.6,baz=104,slow=5.8,SNR=16
ARCES LR LR 02 45 57.9
comp=Z,4µm,19.1s,MS5.8,baz=108,slow=39
SISC Sisak 83.24 316 *i*P **P** **02 04 04.0 +1.9**
MGR Morigerati 83.34 310 *e*P **P** **02 04 02.2 -0.5**
KOGS Kog 83.42 317 *e*P **P** **02 04 03.4 +0.4**
KOGS *e*PcP PcP 02 04 09.3 +1.5
VRAC Vranov 83.50 319 P **P** **02 04 03.8 +0.3**
comp=Z,0.8nm,0.3s,mb4.3,baz=160,slow=4.0,SNR=3.0
SGO Sicignano 83.56 311 *e*P **P** **02 04 04.4 +0.5**
FG5 Orsara di Pugl 83.65 311 *e*P **P** **02 04 06.5 +2.2**
DPC Dobruska-Polom 83.80 320 *e*P **P** **02 04 05.3 +0.4**
DPC MLR MLR
comp=Z,2µm,17.0s,MS5.6
DPC Dobruska-Polom 83.80 320 *e*P **P** **02 04 05.3 +0.4**
DPC *e*x x 02 14 36.5
DPC AMS AMS 02 49 30.0
comp=Z,2µm,17.0s
CSSN Cassano Irpino 83.80 311 *e*P **P** **02 04 05.2 0.0**
KSP Ksiaz 83.87 321 *e*P **P** **02 04 05.4 +0.1**
KSP *e*S S 02 14 29.0 +3.8
KSP *e*PPS PPS 02 16 00.0 +14
KSP LR LR
comp=Z,6µm,17.5s,MS6.0
KSP Ksiaz 83.87 321 *e*P **P** **02 04 06.3 +1.1**
DOBS Dobrina 83.93 316 *e*P **P** **02 04 06.8 +1.1**
ARSA Arzberg 84.00 317⇑*i*P **P** **02 04 06.0 0.0**
comp=Z,28nm,1.5s,mb5.2
UPC Upice 84.01 321 *e*P **P** **02 04 06.5 +0.5**
BOJS Bojanci 84.02 316 *e*P **P** **02 04 06.3 +0.1**
BOJS *e*PcP PcP 02 04 12.3 +1.9
CII Carovilli 84.41 312 *e*P **P** **02 04 10.0 +1.8**
comp=Z,30nm,1.3s,mb5.3
LJU Ljubljana 84.58 316 *e*P **P** **02 04 09.6 +0.7**
LJU *i* PcP PcP 02 04 15.5 +2.6
OBKA Obir 84.60 316⇑*i*P **P** **02 04 10.4 +1.4**
comp=Z,16nm,1.5s,mb4.9
SDI San Donato 84.77 312 *e*P **P** **02 04 09.9 -0.2**
MOA Molln 84.90 318⇓*i*P **P** **02 04 10.0 -0.5**
comp=Z,16nm,1.6s,mb4.9
PRU Pruhonice 84.90 320 *e*P **P** **02 04 10.6 +0.2**
PRU AMS AMS 02 49 40.0
comp=Z,2µm,17.4s
PVCC Panska Ves 84.93 321 *e*P **P** **02 04 10.9 +0.3**
PVCC AMS AMS 02 50 10.0
comp=Z,3µm,17.0s
VOY Vojsko 85.01 316 *e*P **P** **02 04 11.3 +0.2**

VOY e 02 04 46.1
PTQR Pietraquaria 85.10 312 eP **P 02 04 12.2 +0.6**
AQU L'Aquila 85.12 312 ⇓P **P 02 04 14.5 +2.8**
AQU L'Aquila 85.12 312 eP **P 02 04 10.7 -1.0**
comp=Z,64nm,1.0s,mb5.7
VNDA Vanda 85.25 169 eP **P 02 04 13.3 +1.7**
VNDA pmax pmax
comp=Z,24nm,1.6s
VNDA Vanda 85.25 169 P **P 02 04 11.9 +0.2**
comp=Z,1.2nm,0.7s,baz=297,slow=4.5,SNR=6.9
VNDA LR LR 02 41 50.2
comp=Z,3μm,18.1s,baz=304,slow=35
VNDA Vanda 85.25 169 eP **P 02 04 13.3 +1.6**
comp=Z,24nm,1.6s,mb5.1
ROBS Robic 85.30 316 eP **P 02 04 12.6 +0.1**
GEC2 GERESS Array S 85.35 319 eP **P 02 04 13.0 +0.3**
GEC2 pmax pmax
comp=Z,33nm,1.4s,mb5.3
GEC2 GERESS Array S 85.35 319 eP **P 02 04 13.0 +0.3**
comp=Z,33nm,1.4s,mb5.3
GERES GERESS Array B 85.35 319 P **P 02 04 13.1 +0.4**
comp=Z,8.3nm,1.0s,mb4.8,baz=108,slow=4.2,SNR=34
BRG Berggiesshubel 85.36 321 eP **P 02 04 13.1 +0.4**
BRG eS S 02 14 45.0 +5.2
BRG pmax pmax
comp=Z,18nm,1.2s,mb5.1
BRG MLR MLR
comp=N,640nm,17.1s,MS5.8
BRG MLR MLR
comp=E,3μm,17.1s,MS5.8
BRG MLR MLR
comp=Z,4μm,17.1s,MS5.9
BRG Berggiesshubel 85.36 321 eP **P 02 04 13.1 +0.4**
comp=Z,18nm,1.2s,mb5.1
BRG eS S 02 14 45.0 +5.2
BRG LR LR
comp=Z,4μm,17.1s,MS5.9
NRCA Norcia 85.36 313 eP **P 02 04 12.5 -0.4**
TRO Tromso 85.38 340 eP **P 02 04 18.0 +5.6**
TRO eSKSa 02 14 33.9
TRO AMS AMS 02 45 18.1
comp=Z,3μm,23.2s,MS5.5
KHC Kasperske Hory 85.46 319 eP **P 02 04 13.3 +0.1**
KHC e 02 04 28.0
KHC e 02 14 44.4
KHC MLR MLR
comp=Z,2μm,15.8s,MS5.6
KHC Kasperske Hory 85.46 319 eP **P 02 04 13.3 +0.1**
KHC x x 02 04 28.0
KHC eS S 02 14 44.4 +3.6
KHC AMS AMS 02 55 50.0
comp=Z,2μm,15.8s
MIDW Midway 85.49 62 PFAKE 02 04 30.0 +16
MIDW LR LR
comp=Z,1μm,19.0s,MS5.4
ARV Arcevia 85.53 313 eP **P 02 04 14.0 +0.3**
MNS Montasola 85.65 312 eP **P 02 04 13.2 -1.2**
FSSB Fossombrone 85.65 314 eP **P 02 04 14.7 +0.4**
RAO Raoul Island 85.67 119 PFAKE 02 04 30.0 +15
RAO LR LR
comp=Z,5μm,19.0s,MS5.9
WET Wettzell 85.92 319 eP **P 02 04 16.3 +0.8**
WET pmax pmax
comp=Z,26nm,1.5s,mb5.2
WET Wettzell 85.92 319 eP **P 02 04 16.3 +0.8**
comp=Z,26nm,1.5s,mb5.2
CLL Collm 85.98 321 i P **P 02 04 16.4 +0.6**
CLL i pP 02 04 25.0 -0.6
CLL eS S 02 14 48.0 +2.2
CLL pmax pmax
comp=Z,19nm,1.4s,mb5.1
CLL MLR MLR
comp=Z,4μm,18.1s,MS5.9
CLL Collm 85.98 321 i P **P 02 04 16.4 +0.6**
comp=Z,19nm,1.4s,mb5.1
CLL i pP 02 04 25.0 -0.6
CLL eS S 02 14 48.0 +2.2
CLL LR LR
comp=Z,4μm,18.1s,MS5.9
CLL Collm 85.98 321 P **P 02 04 16.4 +0.6**
comp=Z,logA/T=1.1,mb5.1
CLL i *PP pP 02 04 25.0 -0.6
CLL i 02 04 39.6
CLL ePP PP 02 07 49.0 +12
CLL eS S 02 14 48.0 +2.2
CLL ePPS PPS 02 16 16.0 +2.8
NKC Novy Kostel 86.26 320 eP **P 02 04 17.6 +0.4**
NKC AMS AMS 02 51 10.0
comp=Z,3μm,17.0s
SBA Scott Base 86.35 169 P **P 02 04 17.1 +0.1**
comp=Z,94nm,2.0s,mb5.7
SBA LR LR
comp=Z,3μm,20.0s,MS5.8
VMG Vicchio 86.56 314 eP **P 02 04 22.3 +3.5**
CTI Castel Tesino 86.58 316 eP **P 02 04 19.1 +0.2**
WTTA Wattenberg 86.64 317 ⇑iP **P 02 04 18.7 -0.4**
comp=Z,21nm,1.4s,mb5.2
WTTA Wattenberg 86.64 317 iP **P 02 04 18.7 -0.4**
WTTA pmax pmax
comp=Z,21nm,1.4s,mb5.2
MOX Moxa 86.82 321 eP **P 02 04 14.1 -5.8**
MOX MLR MLR
comp=Z,4μm,19.0s,MS5.8
MOX Moxa 86.82 321 i P **P 02 04 14.1 -5.8**
MOX L 02 52 09.0
FUR Furstenfeldbru 86.92 318 eP **P 02 04 20.7 +0.2**
SQTA Sankt Quirin 86.93 317 ⇓iP **P 02 04 20.1 -0.5**
comp=Z,31nm,1.7s,mb5.3
SQTA Sankt Quirin 86.93 317 iP **P 02 04 20.1 -0.5**
SQTA pmax pmax
comp=Z,31nm,1.7s,mb5.3
ADK Adak 86.96 38 PFAKE 02 04 30.0 +9.4
ADK LR LR
comp=Z,548nm,21.0s,MS4.9
ZCCA Zocca 86.98 314 eP **P 02 04 24.1 +3.3**
GRA1 Grafenberg Arr 87.03 320 eP **P 02 04 21.6 +0.6**
comp=Z,49nm,1.6s,mb5.5
GRA1 eS S 02 15 06.4 +11
GRA1 LR LR
comp=Z,3μm,19.2s,MS5.7
GRF Grafenberg Arr 87.03 320 eP **P 02 04 21.6 +0.6**
GRF pmax pmax
comp=Z,49nm,1.6s,mb5.5
GRF Grafenberg Arr 87.03 320 eP **P 02 04 21.6 +0.6**
GRF pmax pmax
comp=Z,49nm,1.6s,mb5.5
GRF MLR MLR
comp=Z,3μm,19.2s,MS5.7
GRF Grafenberg Arr 87.03 320 eP **P 02 04 21.6 +0.6**
comp=Z,49nm,1.6s,mb5.5
GRF eS S 02 15 06.4 +11
GRF LR LR
comp=Z,3μm,19.2s,MS5.7
GRFO Grafenberg 87.03 320 eP **P 02 04 22.0 +1.0**
NSS Namsos 87.44 334 AMS AMS 02 50 43.7
comp=Z,3μm,14.1s,MS5.9
BRMO Bormio 87.48 316 eP **P 02 04 23.7 +0.5**
NB2 NORSAR Subarra 87.58 331 P **P 02 04 22.7 -0.6**
comp=Z,11nm,1.1s,mb5.0,baz=94,slow=5.0
NB2 NORSAR Subarra 87.58 331 P **P 02 04 22.7 -0.6**
baz=94,slow=5.1
NOA NORSAR Array B 87.58 331 P **P 02 04 23.6 +0.3**
comp=Z,2.2nm,0.6s,mb4.6,baz=95,slow=4.8,SNR=7.7
NOA LR LR 02 47 59.8
comp=Z,3μm,21.8s,MS5.7,baz=60,slow=39
CLZ Clausthal 87.65 322 eP **P 02 04 24.9 +1.0**
comp=Z,30nm,1.3s,mb5.4
BSEG Bad Segeberg 87.75 324 eP **P 02 04 25.5 +1.2**
DAVOX Davos 87.83 317 P **P 02 04 25.4 +0.6**
comp=Z,9.6nm,0.8s,mb5.1,baz=91,slow=5.5,SNR=13
DAVA Damuels 87.84 317 ⇓iP **P 02 04 25.2 +0.3**
comp=Z,20nm,1.1s,mb5.2
KONO Kongsberg 88.33 329 PFAKE 02 04 40.0 +13
KONO LR LR
comp=Z,3μm,20.0s,MS5.7
KONO Kongsberg 88.33 329 e S 02 15 20.9 +13
PGF Pioggiola 88.38 312 eP **P 02 04 27.7 +0.1**
comp=Z,142nm,1.8s,mb5.6
PGF Pioggiola 88.38 312 eP **P 02 04 27.7 +0.1**
PGF pmax pmax
comp=Z,71nm,1.8s,mb5.6
TNS Taunus Mts 88.83 320 eP **P 02 04 30.7 +1.1**
NVL N'Iazarevskaya 89.14 199 ⇓iP **P 02 04 31.8 +1.2**
NVL 02 16 44.7
NVL MLR MLR
comp=Z,3μm,12.7s,MS5.8
MAIT Maitri 89.17 199 eP **P 02 04 33.0 +2.2**
SBF Sospel 89.53 314 eP **P 02 04 33.0 -0.1**
comp=Z,42nm,0.9s,mb5.5
SBF Sospel 89.53 314 eP **P 02 04 33.0 -0.1**
SBF pmax pmax
comp=Z,21nm,0.9s,mb5.5
CDF Champ du Feu 89.60 318 eP **P 02 04 33.4 +0.1**
MBDF Montbardon 89.99 315 eP **P 02 04 34.6 -0.6**
comp=Z,30nm,1.0s,mb5.3
MBDF Montbardon 89.99 315 eP **P 02 04 34.6 -0.6**
MBDF pmax pmax
comp=Z,15nm,1.0s,mb5.3
LPG La Plagne 90.00 315 eP **P 02 04 35.5 +0.3**
comp=Z,51nm,1.0s,mb5.5
LPG La Plagne 90.00 315 eP **P 02 04 35.5 +0.3**
LPG pmax pmax
comp=Z,26nm,1.0s,mb5.5
LPL La Plagne 90.01 315 eP **P 02 04 35.5 +0.2**
comp=Z,89nm,1.2s,mb5.7
LPL La Plagne 90.01 315 eP **P 02 04 35.5 +0.2**
LPL pmax pmax
comp=Z,44nm,1.2s,mb5.7
FRF La Foret Royal 90.10 313 eP **P 02 04 35.8 +0.1**
LMR La Mourre 90.21 313 eP **P 02 04 36.4 +0.2**
comp=Z,63nm,1.4s,mb5.5
LMR La Mourre 90.21 313 eP **P 02 04 36.4 +0.2**
LMR pmax pmax
comp=Z,32nm,1.4s,mb5.5
HAU Haudompre 90.23 318 eP **P 02 04 36.1 -0.1**
comp=Z,57nm,1.2s,mb5.5
HAU eR
comp=Z,2μm,20.0s
HAU Haudompre 90.23 318 eP **P 02 04 36.1 -0.1**
HAU pmax pmax
comp=Z,28nm,1.2s,mb5.5
HAU MLR MLR
comp=Z,2μm,20.0s,MS5.5
HGN Heimansgroeve 90.43 321 ex x 02 04 49.8
comp=Z,44nm,2.3s
CABF La Chapelle 90.44 316 eP **P 02 04 37.6 +0.4**
comp=Z,68nm,1.2s,mb5.6
CABF La Chapelle 90.44 316 eP **P 02 04 37.6 +0.4**
CABF pmax pmax
comp=Z,34nm,1.2s,mb5.5
BER Bergen 90.46 330 e S 02 15 34.5 +7.1
BER AMS AMS 02 55 05.1
comp=Z,3μm,16.8s,MS5.8
ORIF Oris-en-Rattie 90.62 315 eP **P 02 04 37.9 -0.2**
comp=Z,26nm,0.9s,mb5.3
ORIF eR
comp=Z,3μm,21.5s
SMRF Simiane la Rot 90.87 314 eP **P 02 04 39.0 -0.3**
comp=Z,37nm,1.0s,mb5.4
AFI Afiamalu 90.96 104 PFAKE 02 04 50.0 +10
AFI LR LR
comp=Z,2μm,22.0s,MS5.5
MEZF Maizieres J'vi 91.08 318 eP **P 02 04 40.3 +0.2**
GIVF Givet 91.16 320 eP **P 02 04 40.6 +0.2**
TNA Tin City 91.36 25 PFAKE 02 04 50.0 +9.0
TNA LR LR
comp=Z,2μm,19.0s,MS5.6
VIVF Saint-Julien-l 91.48 315 eP **P 02 04 42.3 +0.2**
comp=Z,51nm,1.4s,mb5.3
VIVF Saint-Julien-l 91.48 315 eP **P 02 04 42.3 +0.2**
VIVF pmax pmax
comp=Z,25nm,1.4s,mb5.3
BAIF Baives 91.56 320 eP **P 02 04 42.9 +0.6**
comp=Z,42nm,0.9s,mb5.5
BAIF Baives 91.56 320 eP **P 02 04 42.9 +0.6**
BAIF pmax pmax
comp=Z,21nm,0.9s,mb5.5
SMF Signal de Mont 91.98 317 eP **P 02 04 44.3 0.0**
comp=Z,47nm,1.0s,mb5.5
SMF Signal de Mont 91.98 317 eP **P 02 04 44.3 0.0**
SMF pmax pmax
comp=Z,23nm,1.0s,mb5.5
SSF Saint Saulge 92.19 317 eP **P 02 04 45.5 +0.3**
SSF pmax pmax
comp=Z,34nm,1.6s,mb5.4
SSF Saint Saulge 92.19 317 eP **P 02 04 45.5 +0.3**
AVF Avril sur Loir 92.31 317 eP **P 02 04 45.9 +0.1**
comp=Z,73nm,1.5s,mb5.5
AVF Avril sur Loir 92.31 317 eP **P 02 04 45.9 +0.1**
AVF pmax pmax
comp=Z,37nm,1.5s,mb5.5
BGF Bois d'Agland 92.67 316 eP **P 02 04 47.9 +0.4**
comp=Z,60nm,1.1s,mb5.6
BGF Bois d'Agland 92.67 316 eP **P 02 04 47.9 +0.4**
BGF pmax pmax
comp=Z,30nm,1.1s,mb5.6
HYF Humbligny 92.76 317 eP **P 02 04 47.8 -0.1**
UNV Unalaska Valle 93.09 36 PFAKE 02 05 00.0 +11
UNV LR LR
comp=Z,8μm,20.0s,MS6.2
MTLF Montolieu 93.33 313 eP **P 02 04 50.9 +0.3**
SNAA Sanae 93.84 198 e sP 02 05 12.3 +7.1
SNAA Sanae 93.84 198 ⇑iP **P 02 05 04.0 +12**
SNAA e pP 02 05 12.3 +10
JMIC Jan Mayen 94.54 342 LR LR 02 56 59.6
comp=Z,1μm,18.6s,MS5.4,baz=68,slow=42
JMIC Jan Mayen 94.54 342 AMS AMS 02 54 58.5
comp=Z,2μm,22.4s,MS5.5
DAG Danmarks Havn 95.17 348 eP **P 02 04 57.0 -1.4**
DAG Danmarks Havn 95.17 348 i P **P 02 04 57.0 -1.4**
VNA2 Neumayer--Watz 95.43 199 e **P 02 05 09.7 +10**
VNA2 Neumayer--Watz 95.43 199 ⇑iP **P 02 05 01.8 +2.2**
VNA2 e pP 02 05 09.7 +0.3
ESK Eskdalemuir 95.50 326 PFAKE 02 05 10.0 +10
ESK LR LR
comp=Z,821nm,19.0s,MS5.2
VNA1 Neumayer--Stat 95.77 199 e **P 02 05 11.2 +10**
VNA1 Neumayer--Stat 95.77 199 ⇑iP **P 02 05 03.1 +1.9**
VNA1 e pP 02 05 11.2 +0.2
VNA3 Neumayer Olymp 96.06 198 e **P 02 05 10.3 +7.8**
VNA3 Neumayer Olymp 96.06 198 ⇑iP **P 02 05 01.6 -0.9**
VNA3 e pP 02 05 10.3 -2.0
IMA Indian Mountai 97.01 23 eP **P 02 05 09.5 +2.6**
IMA Indian Mountai 97.01 23 eP **P 02 05 08.9 +2.0**
comp=Z,5.8nm,1.3s,mb4.8
ESLA Sonseca Array 98.33 310 PFAKE 02 05 30.0 +17
ESLA LR LR
comp=Z,9μm,19.0s,MS6.3
MCK McKinley 99.70 24 PFAKE 02 05 30.0 +11
MCK LR LR
comp=Z,3μm,19.0s,MS5.8
COLA College 99.70 23 PFAKE 02 05 30.0 +11
COLA LR LR
comp=Z,3μm,19.0s,MS5.9
FIB Fire Island 100.08 27 PFAKE 02 05 30.0 +9.1
FIB LR LR
comp=Z,2μm,22.0s,MS5.5
ILAR Eielson Array 100.12 23 PP PP 02 09 21.2 -8.0
comp=Z,0.5nm,0.8s,baz=289,slow=7.6,SNR=3.7
BORG Borgarnes 101.30 337 PFAKE 02 05 40.0 +14
BORG LR LR
comp=Z,762nm,20.0s,MS5.2
DIV Divide 102.08 26 PFAKE 02 05 40.0 +10
DIV LR LR
comp=Z,9μm,22.0s,MS6.2
DBIC Dimbokro 102.09 277 PFAKE 02 05 40.0 +9.0
DBIC LR LR
comp=Z,1μm,19.0s,MS5.5
INK Inuvik 102.94 17 PP PP 02 09 50.0 -0.7
comp=Z,3.0nm,1.1s,baz=282,slow=2.6,SNR=3.3
SIT Sitka 108.75 27 PFAKE 02 10 20.0
SIT LR LR
comp=Z,3μm,20.0s,MS5.9
TBI Tubuai 111.45 115 eSS SS 02 26 30.9 +7.6
TBI eLR LR 02 43 26.6
comp=Z,3μm,28.2s
PPT Papeete 112.12 109 ePS PS 02 20 22.7 -4.8
PPT eSS SS 02 26 41.8 +10
PPT eLR LR 02 43 47.4
comp=Z,4μm,25.2s
YKA Yellowknife Ar 112.56 15 PKiKP 02 10 12.0
comp=Z,0.5nm,1.0s,baz=324,slow=5.3,SNR=4.8
YKA PP PP 02 10 54.6 -7.2
comp=Z,1.1nm,1.0s,baz=340,slow=7.4,SNR=5.4
YKA Yellowknife Ar 112.56 15 PKPdf PKPdf 02 10 12.0 -3.3
YKA PP PP 02 10 54.6 -7.2
PMSA Palmer Station 114.61 189 PFAKE 02 10 30.0 +11
PMSA LR LR
comp=Z,7μm,21.0s,MS6.2
EDM Edmonton 120.51 21 PKIKP PKPdf 02 10 32.8 +1.8
EDM Edmonton 120.51 21 ePKPdf PKPdf 02 10 26.6 -4.4
COR Corvallis 122.26 33 PFAKE 02 10 40.0 +5.4
COR LR LR
comp=Z,426nm,20.0s,MS5.1
NEW Newport 122.83 27 PKIKP PKPdf 02 10 38.0 +2.4
NEW Newport 122.83 27 PKP PKPdf 02 10 33.5 -2.0
comp=Z,2.2nm,0.6s,baz=64,slow=14,SNR=2.4
NEW Newport 122.83 27 ePKPdf PKPdf 02 10 32.0 -3.6
NEW LR LR
comp=Z,3μm,20.0s,MS5.9
HAWA Hanford 123.03 30 ePKPdf PKPdf 02 10 32.5 -3.5
HAWA LR LR
comp=Z,180nm,21.0s,MS4.7
SCHQ Schefferville 123.20 349 PKP PKPdf 02 10 32.7 -3.5
comp=Z,1.1nm,0.5s,baz=238,slow=13,SNR=2.5
SCHQ Schefferville 123.20 349 PKPdf PKPdf 02 10 32.0 -4.2
SCHQ LR LR
comp=Z,3μm,20.0s,MS5.9
HUMO Hull Mountain 123.71 35 PFAKE 02 10 50.0 +13
HUMO LR LR
comp=Z,2μm,19.0s,MS5.8
YBH Yreka Blue Hor 124.40 36 PFAKE 02 10 50.0 +11
YBH LR LR
comp=Z,2μm,21.0s,MS5.8
RKT Rikitea 124.50 118 ePS PS 02 22 08.7 -11
RKT eSS SS 02 29 19.7 +6.6
RKT eLR LR 02 49 29.1
comp=Z,3μm,26.5s
WDC Whiskeytown Da 125.22 37 PFAKE 02 10 50.0 +10
WDC LR LR
comp=Z,2μm,20.0s,MS5.7
BMO Blue Mountains 125.23 30 ePKPdf PKPdf 02 10 40.1 -0.2
BMO LR LR
comp=Z,2μm,19.0s,MS5.8
MSO Missoula 125.33 26 ePKPdf PKPdf 02 10 36.2 -4.2
MSO LR LR
comp=Z,2μm,19.0s,MS5.8
CHMT Chamberlain Mo 125.56 25 ePKPdf PKPdf 02 10 37.7 -3.2
MOD Modoc 125.67 34 ePKPdf PKPdf 02 10 38.2 -3.1
MOD LR LR
comp=Z,2μm,21.0s,MS5.8
HOPS Hopland 125.86 39 PFAKE 02 10 50.0 +8.3
HOPS LR LR
comp=Z,2μm,19.0s,MS5.8
WVOR Wild Horse Val 126.23 33 PKIKP PKPdf 02 10 40.7 -1.6
WVOR Wild Horse Val 126.23 33 ePKPdf PKPdf 02 10 39.0 -3.3
WVOR LR LR
comp=Z,2μm,19.0s,MS5.8
BOZ Bozeman (W) 127.25 25 PKIKP PKPdf 02 10 41.5 -2.7
BOZ Bozeman (W) 127.25 25 ePKPdf PKPdf 02 10 39.9 -4.3
BOZ LR LR
comp=Z,5μm,19.0s,MS6.2
HLID Hailey 127.59 29 ePKPdf PKPdf 02 10 42.1 -2.9
HLID LR LR
comp=Z,3μm,19.0s,MS6.0
QLMT Earthquake Lak 127.98 26 PKPdf PKPdf 02 10 42.0 -3.7
ULM Lac du Bonnet 128.04 11 PKP PKPdf 02 10 41.5 -4.1
comp=Z,3.6nm,0.6s,baz=346,slow=1.9,SNR=5.8
ULM Lac du Bonnet 128.04 11 ePKPdf PKPdf 02 10 40.7 -5.0
ULM LR LR
comp=Z,6μm,21.0s,MS6.3
CMB Columbia Colle 128.11 38 ePKPdf PKPdf 02 10 42.3 -3.8
CMB LR LR
comp=Z,2μm,20.0s,MS5.8
PTCN Pitcairn Islan 128.13 122 PFAKE 02 10 50.0 +3.5
PTCN LR LR
comp=Z,6μm,19.0s,MS6.3
SAO San Andreas Ge 128.22 40 PFAKE 02 10 50.0 +3.6
SAO LR LR
comp=Z,2μm,19.0s,MS5.7
YMR Madison River 128.31 26 ePKPdf PKPdf 02 10 43.0 -3.3
BMN Battle Mountai 128.38 34 PFAKE 02 10 50.0 +3.4
BMN LR LR
comp=Z,1μm,20.0s,MS5.6
YNR Norris Junctio 128.40 25 ePKPdf PKPdf 02 10 43.6 -2.9
LAO LASA Array 128.50 21 ePKPdf PKPdf 02 10 43.6 -3.0
LAO LR LR
comp=Z,3μm,20.0s,MS6.0
YFT Old Faithful 128.54 26 ePKPdf PKPdf 02 10 43.9 -2.8
LKWY Lake 128.64 25 PFAKE 02 11 00.0 +13
LKWY LR LR
comp=Z,6μm,20.0s,MS6.3
IMW Indian Meadow 128.94 26 ePKPdf PKPdf 02 10 43.9 -3.6
NVAR Mina Array Bea 129.11 36 PKP PKPdf 02 10 45.0 -3.1
comp=Z,1.7nm,0.7s,baz=334,slow=1.2,SNR=7.0
MOOW Moose Ponds 129.14 26 ePKPdf PKPdf 02 10 45.5 -2.5
MNV Mina 129.19 36 ePKPdf PKPdf 02 10 46.2 -2.0
MNV LR LR
comp=Z,2μm,19.0s,MS5.8
RRI2 Red Ridge 129.20 27 ePKPdf PKPdf 02 10 45.2 -2.9
ELK Elko 129.23 32 ePKPdf PKPdf 02 10 46.0 -2.2
ELK LR LR
comp=Z,2μm,20.0s,MS5.8
TPAW Teton Pass 129.25 27 ePKPdf PKPdf 02 10 45.3 -2.8
LOHW Long Hollow 129.31 26 ePKPdf PKPdf 02 10 44.0 -4.3
SNOW Snow King Moun 129.36 26 ePKPdf PKPdf 02 10 45.0 -3.3
REDW Red Top Meadow 129.40 27 ePKPdf PKPdf 02 10 45.2 -3.2
AHID Auburn Hatcher 129.76 27 PFAKE 02 11 00.0 +11
AHID LR LR
comp=Z,2μm,21.0s,MS5.8
TPH Tonopah 129.98 36 PFAKE 02 11 00.0 +10
TPH LR LR
comp=Z,2μm,21.0s,MS5.7
HWUT Hardware Ranch 130.44 28 PFAKE 02 11 00.0 +10
HWUT LR LR
comp=Z,3μm,20.0s,MS6.0
BW06 Boulder Array 130.45 26 PFAKE 02 11 00.0 +10
BW06 LR LR
comp=Z,2μm,19.0s,MS5.9
PDAR Pinedale Array 130.45 26 PKP PKPdf 02 10 46.8 -3.7
comp=Z,0.7nm,0.8s,baz=270,slow=1.5,SNR=7.0
TRCR Troy Canyon 130.73 34 ePKPdf PKPdf 02 10 47.4 -3.8
DUG Dugway 130.90 31 PKIKP PKPdf 02 10 49.4 -2.0
DUG Dugway 130.90 31 ePKPdf PKPdf 02 10 48.2 -3.2
DUG LR LR
comp=Z,3μm,20.0s,MS6.0
DAC Darwin (Calif) 130.94 38 PFAKE 02 11 00.0 +8.4
DAC LR LR
comp=Z,2μm,20.0s,MS5.7
EYMN Ely 130.98 8 ePKPdf PKPdf 02 10 48.4 -2.9
EYMN LR LR
comp=Z,5μm,21.0s,MS6.2
PQI Presque Isle 131.16 347 PFAKE 02 11 00.0 +8.3
PQI LR LR
comp=Z,9μm,21.0s,MS6.4
NLU North Lily Min 131.45 30 ePKPdf PKPdf 02 10 49.8 -2.6
RSSD Black Hills 131.50 21 PKIKP PKPdf 02 10 53.9 +1.5
RSSD Black Hills 131.50 21 ePKPdf PKPdf 02 10 49.0 -3.4
RSSD LR LR
comp=Z,617nm,20.0s,MS5.3
MVU Marysvale 132.46 32 PFAKE 02 11 00.0 +5.6
MVU LR LR
comp=Z,2μm,21.0s,MS5.9
SRU San Rafael 132.87 30 PKIKP PKPdf 02 10 53.5 -1.7
SRU San Rafael 132.87 30 ePKPdf PKPdf 02 10 51.5 -3.7
EMMW East Machias 132.87 345 PFAKE 02 11 00.0 +5.0
EMMW LR LR
comp=Z,11μm,19.0s,MS6.6
RCBR Riachuelo 133.11 263 PFAKE 02 11 00.0 +3.7
RCBR LR LR
comp=Z,1μm,19.0s,MS5.6
PFO Pinyon Flat Ob 133.38 40 ePKPdf PKPdf 02 10 53.3 -2.9
PFO LR LR
comp=Z,471nm,20.0s,MS5.2
WVL Waterville 133.53 347 PFAKE 02 11 00.0 +3.8
WVL LR LR
comp=Z,8μm,21.0s,MS6.4
PV10 Paradox Valley 134.17 29 ePKPdf PKPdf 02 10 55.5 -2.0
ISCO Idaho Springs 134.58 25 ePKPdf PKPdf 02 10 55.7 -2.6
ISCO LR LR
comp=Z,3μm,22.0s,MS5.9
PV01 Paradox Valley 134.59 29 ePKPdf PKPdf 02 10 56.1 -2.2
NCB Newcomb 134.95 351 PFAKE 02 11 10.0 +11
NCB LR LR
comp=Z,2μm,19.0s,MS5.8
WUAZ Wupatki 135.11 34 ePKPdf PKPdf 02 10 56.1 -3.3
WUAZ LR LR
comp=Z,2μm,19.0s,MS5.9
HRV Harvard--Oak R 135.90 348 PFAKE 02 11 10.0 +9.4
HRV LR LR
comp=Z,2μm,20.0s,MS5.9
WES Weston 135.97 348 PFAKE 02 11 10.0 +9.2
WES LR LR

comp=Z,4μm,21.0s,MS6.1
SDCO Great Sand Dun 136.33 27 *e*PKPdf PKPdf 02 10 58.7 -2.8
SDCO LR LR
comp=Z,3μm,20.0s,MS6.0
BINY Binghamton 136.93 353 PFAKE 02 11 10.0 +7.5
BINY LR LR
comp=Z,5μm,21.0s,MS6.3
AAM Ann Arbor 137.24 1 PFAKE 02 11 10.0 +6.9
AAM LR LR
comp=Z,3μm,19.0s,MS6.1
ERPA Erie 137.36 357 PFAKE 02 11 10.0 +6.7
ERPA LR LR
comp=Z,3μm,20.0s,MS6.0
CBKS Cedar Bluff 137.69 20 PFAKE 02 11 10.0 +6.0
CBKS LR LR
comp=Z,3μm,19.0s,MS6.0
TUC Tucson 137.76 37 *e*PKPdf PKPdf 02 11 01.8 -2.6
TUC LR LR
comp=Z,963nm,19.0s,MS5.6
ANMO Albuquerque 138.14 30 *e*PKPdf PKPdf 02 11 02.6 -2.4
ANMO LR LR
comp=Z,2μm,20.0s,MS5.9
TRQA Tornquist 138.22 205 PFAKE 02 11 10.0 +5.0
TRQA LR LR
comp=Z,2μm,20.0s,MS5.9
PLCA Paso Flores 138.63 194 PFAKE 02 11 10.0 +4.3
PLCA LR LR
comp=Z,977nm,19.0s,MS5.6
SSPA Standing Stone 138.69 355 PFAKE 02 11 10.0 +4.2
SSPA LR LR
comp=Z,524nm,20.0s,MS5.3
BNM Barren Site 138.69 31 PKPdf PKPdf 02 11 02.8 -3.2
ACSO Alum Creek Sta 139.31 0 PFAKE 02 11 20.0 +13
ACSO LR LR
comp=Z,3μm,19.0s,MS6.0
MCWV Mont Chateau 139.81 357 PFAKE 02 11 20.0 +12
MCWV LR LR
comp=Z,3μm,19.0s,MS6.0
AMTX Amarillo 140.40 25 PFAKE 02 11 20.0 +11
AMTX LR LR
comp=Z,2μm,20.0s,MS5.8
CCM Cathedral Cave 140.67 11 PFAKE 02 11 20.0 +10
CCM LR LR
comp=Z,808nm,20.0s,MS5.5
CBN Corbin 141.04 353 PFAKE 02 11 20.0 +10
CBN LR LR
comp=Z,3μm,21.0s,MS6.1
WCI Wyandotte Cave 141.16 5 PFAKE 02 11 20.0 +10
WCI LR LR
comp=Z,530nm,20.0s,MS5.3
MNTX Cornudas Mount 141.26 32 *e*PKPdf PKPdf 02 11 05.8 -4.9
MNTX LR LR
comp=Z,2μm,20.0s,MS6.0
GDL2 Guadalupe Moun 141.38 30 *e*PKPdf PKPdf 02 11 07.1 -3.8
WMOK Wichita Mounta 141.68 22 PKIKP PKPdf 02 11 05.4 -6.0
WMOK Wichita Mounta 141.68 22 *e*PKPpre 02 11 03.7
WMOK *e*PKPdf PKPdf 02 11 07.5 -3.9
WMOK LR LR
comp=Z,2μm,20.0s,MS5.9
BLA Blacksburg 142.28 357 PFAKE 02 11 20.0 +7.7
BLA LR LR
comp=Z,3μm,19.0s,MS6.1
BAO Brasilia Array 142.74 245 PKPdf PKPdf 02 11 07.0 -6.7
BAO PKPdf PKPdf 02 11 11.0 -2.7
BDFB Brasilia 142.76 245 PKP PKPdf 02 11 09.8 -3.9
comp=Z,4.1nm,0.8s,baz=210,slow=4.5,SNR=3.3
BBSR BB Station 143.05 334 PFAKE 02 11 20.0 +13
BBSR LR LR
comp=Z,2μm,22.0s,MS5.8
WVT Waverly 143.09 7 *e*PKPpre 02 11 07.7
WVT LR LR
comp=Z,3μm,19.0s,MS6.0
MIAR Mount Ida 143.51 15 *e*PKPpre 02 11 06.8
MIAR LR LR
comp=Z,4μm,22.0s,MS6.1
UALR University of 143.60 14 *e*PKPpre 02 11 07.8
UALR *e*PKPdf PKPdf 02 11 12.3 -2.3
LTX Lajitas 144.03 32 *e*PKPdf PKPdf 02 11 10.7 -4.8
LTX LR LR
comp=Z,2μm,20.0s,MS5.9
TXAR Lajitas Array 144.03 32 PKP PKPdf 02 11 10.4 -5.1
comp=Z,3.0nm,0.7s,baz=285,slow=1.2,SNR=25
CPCT Cooper Cave 144.04 3 *e*PKPdf PKPdf 02 11 12.5 -2.8
PLAL Pickwick Lake 144.19 8 *e*PKPdf PKPdf 02 11 12.9 -2.8
PLAL LR LR
comp=Z,2μm,19.0s,MS6.0
OXF Oxford 144.44 10 PFAKE 02 11 20.0 +9.4
OXF LR LR
comp=Z,3μm,20.0s,MS6.1
JCT Junction City 144.98 26 *e*PKPdf PKPdf 02 11 12.2 -5.0
JCT LR LR
comp=Z,2μm,19.0s,MS5.9
NATX Nacogdoches 145.80 18 *e*PKPbc PKPbc 02 11 16.8 +2.5
NATX LR LR
comp=Z,3μm,21.0s,MS6.0
GOGA Godfrey 146.11 1 PKP2 PKPab 02 11 18.1 +0.6
GOGA Godfrey 146.11 1 *e*PKPdf PKPdf 02 11 15.7 -3.3
GOGA LR LR
comp=Z,3μm,21.0s,MS6.1
LRAL Lakeview Retre 146.24 7 *e*PKPdf PKPdf 02 11 16.1 -3.2
LRAL LR LR
comp=Z,3μm,19.0s,MS6.1
NHSC New Hope 146.35 356 PFAKE 02 11 30.0 +15
NHSC LR LR
comp=Z,2μm,22.0s,MS5.9
DWPF Disney 151.38 358 PFAKE 02 11 40.0 +12
DWPF LR LR
comp=Z,610nm,20.0s,MS5.4
LVC Limon Verde 154.43 210 PFAKE 02 11 40.0 +8.0
LVC LR LR
comp=Z,2μm,21.0s,MS5.9
SJG San Juan 155.31 320 PFAKE 02 11 40.0 +6.7
SJG LR LR
comp=Z,1μm,20.0s,MS5.8
TEIG Tepich 158.52 15 PFAKE 02 11 50.0 +13
TEIG LR LR
comp=Z,816nm,20.0s,MS5.6
LPAZ La Paz 158.90 222 PKP PKPdf 02 11 34.8 -3.2
comp=Z,1.4nm,0.8s,baz=68,slow=3.2,SNR=5.2
LPAZ La Paz 158.90 222 PKP PKPdf 02 11 34.8 -3.2
LPAZ LR LR
comp=Z,2μm,22.0s,MS5.9
SAML Samuel 158.98 246 PFAKE 02 11 50.0 +12
SAML LR LR
comp=Z,2μm,19.0s,MS6.0
SDV Santo Domingo 164.77 309 PFAKE 02 11 50.0 +5.9
SDV LR LR
comp=Z,2μm,22.0s
JTS JuntasAbangare 168.88 12 PFAKE 02 11 50.0 +3.0
JTS LR LR
comp=Z,345nm,19.0s
PAYG Puerto Ayora 172.32 90 PFAKE 02 12 00.0 +11
PAYG LR LR
comp=Z,2μm,21.0s
OTAV Otavalo 175.76 282 *e*PKPdf PKPdf 02 11 48.0 -2.3
OTAV LR LR
comp=Z,2μm,20.0s

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*NEIC **08** 01:59:15.6, 63.09N×149.81W, h87km, MG3.3(AEIC), After AEIC.*
*IDC **08** 01:59:16.6±4.5, 63.28N×149.78W, h100km±43km, mb3.3/1, mb1 3.4/3, mb1mx3.1/21, mbtmp3.6/3, Error ellipse: s-maj=45.5km s-min=17.3km az=36.0*
ISC 08 01:59:14.1±0.3, 63.10N±0.02×149.78W±0.06, h102km±4km, n74, σ0 972/88, mb3.7/1, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.14**	**153**	P	**P**	**01 59 27.9**	**-0.6**
HUR				S	**S**	**01 59 37.3**	**-1.9**
TRF	**Thorofare Moun**	**0.42**	**327**	P	**P**	**01 59 30.1**	**+0.3**
TRF				S	**S**	**01 59 41.2**	**-0.3**
RND	**Reindeer**	**0.52**	**53**	P	**P**	**01 59 30.5**	**+0.1**
KTH	**Kantishna Hill**	**0.69**	**312**	P	**P**	**01 59 32.0**	**+0.2**
KTH				S	**S**	**01 59 43.9**	**-1.1**
CUT	**Chulitna**	**0.73**	**198**	P	**P**	**01 59 31.7**	**-0.6**
MCK	**McKinley**	**0.74**	**30**	P	**P**	**01 59 32.5**	**+0.3**
MCK				S	**S**	**01 59 45.5**	**-0.3**
BWN	**Browne**	**1.08**	**7**	P	**P**	**01 59 36.5**	**+0.5**
GHO	**Glory Hole Cre**	**1.39**	**163**	P	**P**	**01 59 39.7**	**+0.1**
GHO				S	**S**	**01 59 59.0**	**+0.4**
PWA	**Palmer West**	**1.46**	**182**	*e*P	**P**	**01 59 40.3**	**-0.1**
SML	**Sawmill**	**1.46**	**152**	P	**P**	**01 59 40.4**	**0.0**
SML				S	**S**	**01 59 59.4**	**-0.6**
NEA	**Nenana**	**1.51**	**11**	P	**P**	**01 59 41.2**	**+0.1**
PMR	**Palmer**	**1.54**	**168**	*e*P	**P**	**01 59 41.9**	**+0.4**
SCM	**Sheep Creek Mo**	**1.71**	**137**	P	**P**	**01 59 43.9**	**+0.4**
CCB	**Clear Creek Bu**	**1.78**	**28**	P	**P**	**01 59 44.6**	**+0.2**
KNK	**Knik Glacier**	**1.80**	**159**	P	**P**	**01 59 45.3**	**+0.6**
HDA	**Harding Lake**	**1.81**	**43**	P	**P**	**01 59 45.2**	**+0.3**
THY	**Trims Highway**	**1.85**	**78**	P	**P**	**01 59 46.6**	**+1.3**
THY				S	**S**	**02 00 09.2**	**+0.7**
STLK	**Strandline Lak**	**1.87**	**212**	P	**P**	**01 59 45.5**	**-0.1**
STLK				S	**S**	**02 00 09.6**	**+0.6**
DDM	**Donnelly Dome**	**1.89**	**67**	P	**P**	**01 59 46.8**	**+1.0**
FIB	**Fire Island**	**1.95**	**186**	P	**P**	**01 59 47.2**	**+0.6**
FIB				S	**S**	**02 00 11.6**	**+0.9**
PAX	**Paxson**	**1.97**	**92**	P	**P**	**01 59 48.0**	**+1.2**
PAX				S	**S**	**02 00 13.4**	**+2.3**
COLA	**College**	**1.97**	**25**	*e*P	**P**	**01 59 47.4**	**+0.5**
MLY	**Manley**	**1.98**	**348**	P	**P**	**01 59 47.6**	**+0.5**
MDM	**Murphy Dome**	**1.99**	**19**	P	**P**	**01 59 47.5**	**+0.4**
RC01	**Rabbit Creek A**	**2.02**	**179**	P	**P**	**01 59 47.8**	**+0.3**
RC01				S	**S**	**02 00 10.9**	**-1.4**
CGLM	**Capps Glacier**	**2.08**	**211**	P	**P**	**01 59 48.3**	**0.0**
IL1	**Eielson Array**	**2.11**	**36**	P	**P**	**01 59 49.0**	**+0.3**
ILAR	**Eielson Array**	**2.11**	**36**	P	**P**	**01 59 49.0**	**+0.3**
	33nm,0.3s,baz=222,slow=14,SNR=1145						
ILAR				S	**S**	**02 00 13.4**	**-1.1**
	25nm,0.3s,baz=218,slow=22,SNR=21						
VOGL	**Vogel Lake**	**2.13**	**189**	P	**P**	**01 59 49.7**	**+0.6**
CRP	**Crater Peak**	**2.15**	**212**	P	**P**	**01 59 49.5**	**+0.1**
CKN	**Chakachatna No**	**2.20**	**212**	P	**P**	**01 59 50.5**	**+0.6**
BGL	**Barrier Glacie**	**2.21**	**215**	P	**P**	**01 59 50.2**	**0.0**
CKL	**Chakachamna La**	**2.26**	**213**	P	**P**	**01 59 50.4**	**-0.3**
TZL	**Tazlina**	**2.28**	**116**	P	**P**	**01 59 52.0**	**+1.0**
PWL	**Port Wells**	**2.35**	**163**	P	**P**	**01 59 52.0**	**0.0**
NKA	**Nikishka**	**2.46**	**197**	P	**P**	**01 59 55.9**	**+2.2**
VLZ	**Valdez**	**2.56**	**139**	P	**P**	**01 59 54.1**	**-0.7**
SLKM	**Skilak Lake**	**2.61**	**185**	P	**P**	**01 59 56.3**	**+0.7**
DOT	**Dot Lake**	**2.63**	**75**	P	**P**	**01 59 55.9**	**0.0**
DIV	**Divide**	**2.73**	**135**	P	**P**	**01 59 56.6**	**-0.6**
MENT	**Mentasta**	**2.77**	**91**	*e*P	**P**	**01 59 58.2**	**+0.5**
TT01	**Tatalina**	**2.85**	**269**	P	**P**	**01 59 58.5**	**-0.4**
DFR	**Drift River**	**2.87**	**210**	P	**P**	**01 59 59.3**	**+0.2**
NCT	**North Crescent**	**2.96**	**212**	P	**P**	**02 00 00.4**	**+0.1**
RDN	**Redoubt North**	**2.96**	**210**	P	**P**	**02 00 00.8**	**+0.5**
HIN	**Hinchinbrook I**	**3.13**	**149**	P	**P**	**02 00 01.8**	**-0.9**
EYAK	**Cordova Ski Ar**	**3.19**	**141**	P	**P**	**02 00 02.6**	**-0.9**
CVA	**Cordova**	**3.20**	**142**	P	**P**	**02 00 02.9**	**-0.7**
GLB	**Gilahina Butte**	**3.25**	**118**	P	**P**	**02 00 04.3**	**0.0**
IM3	**Indian Mountai**	**3.36**	**331**	P	**P**	**02 00 05.7**	**-0.2**
SVW2	**Sparrevohn**	**3.39**	**236**	*e*P	**P**	**02 00 05.3**	**-0.9**
BRLK	**Bradley Lake**	**3.39**	**190**	P	**P**	**02 00 05.9**	**-0.4**
ILIM	**Iliamna**	**3.39**	**208**	P	**P**	**02 00 05.7**	**-0.6**
IMA	**Indian Mountai**	**3.42**	**332**	*e*P	**P**	**02 00 07.3**	**+0.6**
ILW	**Iliamna West**	**3.45**	**209**	P	**P**	**02 00 07.5**	**+0.5**
BCA3	**Beaver Creek A**	**3.63**	**87**	P	**P**	**02 00 09.2**	**-0.4**
CNPM	**China Poot**	**3.66**	**192**	P	**P**	**02 00 09.5**	**-0.4**
OPT	**Oil Point**	**3.84**	**207**	P	**P**	**02 00 12.2**	**-0.2**
BALM	**Baldy**	**4.06**	**117**	P	**P**	**02 00 14.8**	**-0.7**
AUL	**Augustine Lava**	**4.13**	**207**	P	**P**	**02 00 16.0**	**-0.3**
AUW	**Augustine West**	**4.15**	**207**	P	**P**	**02 00 16.8**	**+0.2**
COLD	**Coldfoot**	**4.15**	**358**	P	**P**	**02 00 16.9**	**+0.3**
MCNL	**McNeil River**	**4.51**	**211**	P	**P**	**02 00 21.8**	**+0.3**
CTGM	**Chitina Glacie**	**4.52**	**115**	P	**P**	**02 00 21.3**	**-0.3**
SYI	**Shuyak Island**	**4.68**	**197**	P	**P**	**02 00 23.9**	**0.0**
DAWY	**Dawson**	**4.74**	**74**	P	**P**	**02 00 24.5**	**-0.2**
BM3	**Burnt Mountain**	**4.85**	**24**	P	**P**	**02 00 26.1**	**0.0**
ANCK	**Angle Creek**	**5.66**	**212**	P	**P**	**02 00 36.8**	**-0.4**
PNL	**Peninsula**	**6.06**	**120**	P	**P**	**02 00 41.7**	**-0.9**
WHY	**Whitehorse**	**7.45**	**102**	P	**P**	**02 00 59.9**	**-1.8**
INK	**Inuvik**	**8.48**	**45**	P	**P**	**02 01 14.7**	**-1.0**
	1.0nm,0.3s,baz=230,slow=16,SNR=48						
INK				S	**S**	**02 02 47.9**	**-2.4**
	0.4nm,0.3s,baz=302,slow=17,SNR=3.0						
INK	**Inuvik**	**8.48**	**45**	P	**P**	**02 01 14.7**	**-1.0**
INK				S	**S**	**02 02 47.9**	**-2.4**
YKA	**Yellowknife Ar**	**15.97**	**76**	P	**P**	**02 02 54.1**	**+0.5**
	0.1nm,0.3s,baz=288,slow=10,SNR=9.8						
SONM	**Songino Array**	**54.21**	**306**	P	**P**	**02 08 30.6**	**-0.2**
	0.7nm,0.8s,mb3.7,baz=23,slow=9.4,SNR=4.1						

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*IDC **08** 02:01:40.2±1.9, 5.92S×154.60E, h116km±17km, mb4.2/15, mb1 4.3/18, mb1mx4.3/21, mbtmp4.5/18, MS4.3/1, Ms1 4.3/1, ms1mx3.2/28, Error ellipse: s-maj=14.4km s-min=12.4km az=175.0*
*NEIC **08** 02:01:40.2±1.1, 5.94S×154.65E, h119km±10km, mb4.4/7, Error ellipse: s-maj=10.0km s-min=7.6km az=154.0*
ISC 08 02:01:40.0±1.6, 5.97S±0.09×154.61E±0.05, h130km±14km, n34, σ0 88/35, mb4.2/19, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.31**	**123**	P	**P**	**02 03 09.8**	**-1.9**
	21nm,0.3s,baz=265,slow=3.2,SNR=5.0						
HNR				S	**S**	**02 04 23.8**	**+0.8**
	11nm,0.3s,baz=41,slow=9.3,SNR=5.4						
HNR	**Honiara**	**6.31**	**123**	*e*Pn	**P**	**02 03 09.4**	**-2.3**
	128nm,0.8s						
PMG	**Port Moresby**	**8.13**	**245**	P	**P**	**02 03 37.5**	**+1.1**
	12nm,0.3s,baz=44,slow=9.0,SNR=18						
PMG				S	**S**	**02 05 07.3**	**+0.2**
	15nm,0.3s,baz=65,slow=17,SNR=13						
PMG	**Port Moresby**	**8.13**	**245**	*e*Pn	**P**	**02 03 37.4**	**+1.0**
DZM	**Mont Dzumac**	**19.68**	**146**	*e*P	**P**	**02 06 00.4**	**-0.8**
DZM	**Mont Dzumac**	**19.68**	**146**	P	**P**	**02 06 00.8**	**-0.4**
	2.8nm,0.3s,baz=85,slow=20,SNR=21						
DZM	**Mont Dzumac**	**19.68**	**146**	*e*P	**P**	**02 06 00.4**	**-0.8**
WRAB	**Tennant Creek**	**24.09**	**233**	*e*P	**P**	**02 06 45.4**	**+0.7**
	6.4nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**24.09**	**233**	*e*P	**P**	**02 06 45.6**	**+0.8**
WRA	**Warramunga Arr**	**24.10**	**233**	P	**P**	**02 06 45.8**	**+1.0**
	4.6nm,0.7s,mb4.1,baz=59,slow=10.0,SNR=44						
ASAR	**Alice Springs**	**26.58**	**226**	P	**P**	**02 07 07.7**	**-0.3**
	5.8nm,0.4s,mb4.5,baz=56,slow=9.2,SNR=47						
ASAR				PcP	PcP	02 10 28.9	-0.5
	1.4nm,0.6s,baz=64,slow=2.3,SNR=7.0						
ASAR				ScP		02 13 59.2	
	0.7nm,0.8s,baz=62,slow=3.5,SNR=5.1						
ASPA	**Alice Springs**	**26.58**	**226**	*e*P	**P**	**02 07 07.4**	**-0.6**
STKA	**Stephens Creek**	**28.50**	**204**	*e*P	**P**	**02 07 24.5**	**-0.8**
	3.7nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**28.50**	**204**	P	**P**	**02 07 24.4**	**-0.9**
	2.0nm,0.4s,mb4.2,baz=12,slow=7.6,SNR=6.1						
FITZ	**Fitzroy Crossi**	**30.73**	**244**	*e*P	**P**	**02 07 44.9**	**-0.3**
	5.5nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**30.73**	**244**	P	**P**	**02 07 44.0**	**-1.3**
	5.3nm,0.7s,mb4.4,baz=104,slow=2.8,SNR=4.9						
FORT	**Forrest**	**35.08**	**222**	*e*P	**P**	**02 08 21.9**	**-0.6**
	435nm,1.2s						
URZ	**Urewera**	**38.08**	**151**	P	**P**	**02 08 48.0**	**+0.3**
	7.3nm,0.3s,mb4.7,baz=284,slow=4.6,SNR=6.2						
URZ				LR	LR	02 21 20.4	
	comp=Z,413nm,19.1s,baz=43,slow=31						
RPZ	**Rata Peaks**	**40.28**	**161**	P	**P**	**02 09 06.2**	**+0.4**
	13nm,0.7s,mb4.7,baz=346,slow=6.9,SNR=8.5						
KLBR	**Kellerberrin**	**42.86**	**229**	*e*P	**P**	**02 09 25.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**60.00**	**295**	pP	pP	02 11 57.5	-9.3
	2.8nm,0.9s,baz=109,slow=5.2,SNR=8.9						
SONM	**Songino Array**	**68.27**	**327**	P	**P**	**02 12 28.5**	**-0.5**
	0.8nm,0.5s,mb3.7,baz=137,slow=6.0,SNR=7.5						
VNDA	**Vanda**	**71.61**	**178**	P	**P**	**02 12 49.0**	**+0.4**
	3.3nm,0.8s,mb4.1,baz=324,slow=7.3,SNR=15						
VNDA	**Vanda**	**71.61**	**178**	*e*P	**P**	**02 12 48.6**	**-0.1**
	4.1nm,1.0s,mb4.1						
BILL	**Bilibino**	**74.30**	**5**	*e*P	**P**	**02 13 03.8**	**-0.6**
	4.4nm,0.8s,mb4.2						
MCK	**McKinley**	**81.26**	**22**	*e*P	**P**	**02 13 42.7**	**0.0**
	6.3nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**82.39**	**319**	P	**P**	**02 13 48.8**	**-0.1**
	1.2nm,0.6s,mb3.7,baz=86,slow=8.9,SNR=11						
ILAR	**Eielson Array**	**82.57**	**22**	P	**P**	**02 13 49.4**	**-0.1**
	3.0nm,0.7s,mb4.2,baz=246,slow=5.7,SNR=28						
MAW	**Mawson**	**85.19**	**203**	P	**P**	**02 14 03.5**	**+1.0**
	4.5nm,0.5s,mb4.5,baz=114,slow=6.6,SNR=8.8						
INK	**Inuvik**	**88.90**	**21**	P	**P**	**02 14 21.4**	**+1.0**
	1.3nm,0.7s,mb4.0,baz=240,slow=5.0,SNR=9.0						
BVAR	**Borovoye Array**	**91.25**	**323**	P	**P**	**02 14 29.6**	**-2.1**
	0.6nm,0.5s,mb3.9,baz=126,slow=6.4,SNR=4.2						
NVAR	**Mina Array Bea**	**91.39**	**52**	P	**P**	**02 14 33.4**	**+0.6**
	1.6nm,0.4s,mb4.4,baz=257,slow=8.6,SNR=7.0						
YKA	**Yellowknife Ar**	**95.62**	**28**	P	**P**	**02 14 52.4**	**+1.0**
	0.4nm,0.6s,mb3.9,baz=265,slow=4.4,SNR=9.3						
PDAR	**Pinedale Array**	**98.30**	**48**	P	**P**	**02 15 05.0**	**+0.9**
	0.8nm,0.7s,mb4.3,baz=274,slow=2.9,SNR=3.9						

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*ROM **08** 02:05:51.9±0.3, 44.38N×7.31E, h19km±2km, MD2.7/4, ML2.0/3, Error ellipse: s-maj=2.5km s-min=2.4km az=90.0*
*CSEM **08** 02:05:51.6±0.1, 44.43N×7.38E, h8km, ML2.9/12, Error ellipse: s-maj=1.6km s-min=1.3km az=62.0*
*STR **08** 02:05:52.9±0.2, 44.38N×7.31E, h5km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **08** 02:05:52.6, 44.39N×7.28E, h15km, ML3.0*
*LDG **08** 02:05:52.6±0.1, 44.39N×7.32E, h4km, Md2.9/2, Ml2.8/17, Error ellipse: s-maj=2.2km s-min=1.3km az=73.0*
*NEIC **08** 02:05:52.6, 44.39N×7.28E, h15km, MD2.7(ROM), ML3.0(GEN), ML2.9(STR), ML2.8(LDG), After GEN.*
ISC 08 02:05:52.1±0.2, 44.41N±0.01×7.32E±0.03, h22km±2km, n83, σ0 91/148, 2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	**San Damiano**	**0.11**	**330**	⇓*i*PG	**Pb**	**02 05 56.6**	**+0.3**
DOI				SG	**Sb**	**02 05 59.1**	**-0.1**
DOI	**San Damiano**	**0.11**	**330**	⇓*i*Pg	**Pb**	**02 05 56.6**	**+0.3**
DOI				*e*Sg	**Sb**	**02 05 59.1**	**-0.1**
STV2	**Anna di Valdie**	**0.17**	**179**	P	**Pb**	**02 05 56.4**	**-0.5**
STV2				S	**Sb**	**02 05 58.9**	**-1.3**
STV2	**Anna di Valdie**	**0.17**	**179**	P	**Pb**	**02 05 56.4**	**-0.5**
STV	**Sta Anna Valdi**	**0.17**	**179**	P	**Pb**	**02 05 56.5**	**-0.5**
STV				S	**Sb**	**02 05 58.9**	**-1.4**
STV	**Sta Anna Valdi**	**0.17**	**179**	P	**Pb**	**02 05 56.5**	**-0.4**
PZZ	**Prazzo**	**0.18**	**301**	P	**Pb**	**02 05 57.2**	**0.0**
PZZ				S	**Sb**	**02 05 59.9**	**-0.7**
PZZ	**Prazzo**	**0.18**	**301**	P	**Pb**	**02 05 57.2**	**0.0**
ENR	**Entracque**	**0.20**	**159**	P	**Pb**	**02 05 57.2**	**-0.2**
ENR				S	**Sb**	**02 05 59.9**	**-1.0**
ENR	**Entracque**	**0.20**	**159**	P	**Pb**	**02 05 57.2**	**-0.2**
SURF	**Saint Ours**	**0.37**	**281**	Pg	**Pb**	**02 05 59.9**	**-0.1**
SURF				Sg	**Sb**	**02 06 05.3**	**-0.1**
TOUF	**Mont Tournerai**	**0.40**	**188**	Pg	**Pb**	**02 06 00.2**	**-0.2**
ROB	**Roburent**	**0.41**	**106**	P	**Pb**	**02 06 01.4**	**+0.8**
ROB				S	**Sb**	**02 06 07.2**	**+0.8**
ROB	**Roburent**	**0.41**	**106**	P	**Pb**	**02 06 01.4**	**+0.8**
ROB				S	**Sb**	**02 06 07.2**	**+0.8**
AUTN	**L'Aution**	**0.42**	**170**	Pg	**Pb**	**02 06 00.9**	**+0.1**
AUTN				Sg	**Sb**	**02 06 05.9**	**-0.9**
BHB	**Bricherasio**	**0.43**	**354**	P	**Pb**	**02 06 00.9**	**0.0**
BHB				S	**Sb**	**02 06 06.9**	**-0.2**
BHB	**Bricherasio**	**0.43**	**354**	P	**Pb**	**02 06 00.9**	**-0.1**
BHB				S	**Sb**	**02 06 06.9**	**-0.2**
MONE	**Monesi**	**0.45**	**137**	P	**Pb**	**02 06 01.7**	**+0.3**
MONE				S	**Sb**	**02 06 07.7**	**+0.1**
MONE	**Monesi**	**0.45**	**137**	P	**Pb**	**02 06 01.7**	**+0.4**
MONE				S	**Sb**	**02 06 07.7**	**+0.1**
SAOF	**Saorge**	**0.46**	**158**	Pg	**Pb**	**02 06 01.4**	**0.0**
SAOF				Sg	**Sb**	**02 06 07.4**	**-0.3**
MBDF	**Montbardon**	**0.51**	**309**	*e*Pg	**Pb**	**02 06 02.4**	**+0.2**
MBDF				*e*Sg	**Sb**	**02 06 09.2**	**+0.1**
	99nm,0.3s						
MVIF	**Mont Vial**	**0.53**	**193**	Pg	**Pb**	**02 06 02.4**	**-0.2**
MVIF				Sg	**Sb**	**02 06 09.3**	**-0.5**
SBF	**Sospel**	**0.55**	**172**	*e*Pg	**Pb**	**02 06 03.0**	**0.0**
SBF				*e*Sg	**Sb**	**02 06 09.6**	**-0.9**
	366nm,0.4s						
NEGI	**Negi**	**0.63**	**154**	P	**Pb**	**02 06 04.5**	**+0.3**
NEGI				S	**Sb**	**02 06 12.3**	**-0.2**
NEGI	**Negi**	**0.63**	**154**	P	**Pb**	**02 06 04.5**	**+0.3**
NEGI				S	**Sb**	**02 06 12.3**	**-0.2**
RRL	**Cesana Torines**	**0.64**	**323**	P	**Pb**	**02 06 05.0**	**+0.6**
RRL				S	**Sb**	**02 06 13.2**	**+0.3**
RRL	**Cesana Torines**	**0.64**	**323**	P	**Pb**	**02 06 05.0**	**+0.6**
RRL				S	**Sb**	**02 06 13.2**	**+0.3**
FENE	**Fenestrelle**	**0.65**	**343**	P	**Pb**	**02 06 04.8**	**+0.3**
FENE				S	**Sb**	**02 06 13.1**	**0.0**
FENE	**Fenestrelle**	**0.65**	**343**	P	**Pb**	**02 06 04.8**	**+0.3**
FENE				S	**Sb**	**02 06 13.1**	**0.0**
IMI	**Imperia**	**0.65**	**141**	*e*PG	**Pb**	**02 06 04.9**	**+0.4**
IMI				SG	**Sb**	**02 06 13.4**	**+0.3**
	74nm,0.1s						
IMI	**Imperia**	**0.65**	**141**	*e*Pg	**Pb**	**02 06 04.9**	**+0.4**
IMI				*e*Sg	**Sb**	**02 06 13.4**	**+0.3**
IMI	**Imperia**	**0.65**	**141**	P	**Pb**	**02 06 04.8**	**+0.3**
IMI	**Imperia**	**0.65**	**141**	*e*Pg	**Pb**	**02 06 04.9**	**+0.4**
	74nm,0.1s						
IMI				S	**Sb**	**02 06 13.0**	**-0.1**
IMI				Sg	**Sb**	**02 06 13.4**	**+0.3**
FIN	**Finale Ligure**	**0.67**	**107**	*e*PG	**Pb**	**02 06 05.7**	**+0.8**
FIN				SG	**Sb**	**02 06 15.4**	**+1.7**
	83nm,0.2s						
FIN	**Finale Ligure**	**0.67**	**107**	*e*Pg	**Pb**	**02 06 05.7**	**+0.8**
FIN				*e*Sg	**Sb**	**02 06 15.4**	**+1.7**
FIN	**Finale Ligure**	**0.67**	**107**	P	**Pb**	**02 06 05.7**	**+0.8**
FIN				S	**Sb**	**02 06 14.6**	**+0.9**
REVF	**Revere**	**0.67**	**177**	Pg	**Pb**	**02 06 05.2**	**+0.2**
REVF				Sg	**Sb**	**02 06 14.3**	**+0.5**
RSP	**Reno Superiore**	**0.74**	**356**	P	**Pb**	**02 06 05.7**	**-0.4**
RSP	**Reno Superiore**	**0.74**	**356**	P	**Pb**	**02 06 05.7**	**-0.5**
BNI	**Bardonecchia**	**0.79**	**325**	*e*Pg	**Pb**	**02 06 07.4**	**+0.4**
BNI				*e*Sg	**Sb**	**02 06 17.7**	**+0.6**
BNI	**Bardonecchia**	**0.79**	**325**	*e*Pg	**Pb**	**02 06 07.4**	**+0.4**
BNI				*e*Sg	**Sb**	**02 06 17.7**	**+0.5**
PCP	**Pian Castagno**	**0.89**	**81**	P	**Pb**	**02 06 09.6**	**+1.0**
PCP	**Pian Castagno**	**0.89**	**81**	P	**Pb**	**02 06 09.6**	**+1.0**
FRF	**La Foret Royal**	**0.98**	**210**	*e*Pg	**Pb**	**02 06 10.2**	**0.0**
FRF				*e*Pn	**Pn**	**02 06 10.8**	**+0.2**
FRF				*e*Sg	**Sb**	**02 06 22.4**	**-0.3**
	155nm,0.2s						
FRF	**La Foret Royal**	**0.

PGF *eSn* **Sn** **02 06 53.1 -2.4**
5.0nm,0.2s
CABF La Chapelle 2.37 339 *ePn* **Pn** **02 06 30.6 +0.2**
CABF *ePg* **Pn** **02 06 36.9 +6.5**
CABF *eSg* **Sn** **02 07 06.9 +7.8**
14nm,0.7s
LASF Ste Croix 2.51 264 *ePn* **Pn** **02 06 32.1 -0.4**
LASF *eSn* **Sn** **02 07 01.7 -1.1**
LASF *eSg* **Sn** **02 07 11.1 +8.3**
6.5nm,0.4s
SMF Signal de Mont 3.31 314 *ePn* **Pn** **02 06 44.1 +0.2**
SMF *eSn* **Sn** **02 07 21.5 -1.6**
3.2nm,0.3s
HAU Haudompre 3.66 350 *ePn* **Pn** **02 06 49.1 +0.3**
HAU *ePg* **Pn** **02 07 01.7 +13**
HAU *eSn* **Sn** **02 07 30.8 -1.0**
3.3nm,0.4s
AVF Avril sur Loir 3.66 312 *ePn* **Pn** **02 06 48.6 -0.3**
SSF Saint Saulge 3.76 316 *ePn* **Pn** **02 06 49.7 -0.6**
SSF *eSn* **Sn** **02 07 32.2 -2.3**
1.1nm,0.3s
CAF Calviac 3.79 280 *ePn* **Pn** **02 06 50.1 -0.5**
CAF *eSn* **Sn** **02 07 32.5 -2.5**
5.7nm,0.7s
BGF Bois d'Agland 3.81 306 *ePn* **Pn** **02 06 51.6 +0.6**
MTLF Montolieu 3.84 256 *ePn* **Pn** **02 06 51.2 -0.2**
MTLF *eSn* **Sn** **02 07 33.7 -2.8**
MTLF *eSg* **Sn** **02 07 52.5 +16**
3.9nm,0.5s
CDF Champ du Feu 4.00 360 *ePn* **Pn** **02 06 53.1 -0.6**
CDF *eSn* **Sn** **02 07 38.3 -2.2**
1.9nm,0.4s
MEZF Maizieres J'vi 4.38 340 *eSn* **Sn** **02 07 46.8 -3.3**
5.1nm,0.4s

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*NAO **08** 02:08:57.7±9.3, 79.87N×6.27E, h7km±46km, ML2.1*
*BER **08** 02:08:57.1±4.2, 79.75N×5.15E, MD2.9, ML2.1(NAO)*
ISC 08 02:08:57.7±2.5, 79.1N±0.2×4.8E±0.8, h7km, n5, σ0§96/8, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.39**	**95**	Pn	**Pn**	**02 09 23.4**	**-0.1**
KBS				Lg		02 09 42.9	
SPA0	**Spitsbergen Ar**	**2.49**	**107**	Pn	**Pn**	**02 09 39.8**	**+0.6**
	baz=309,slow=14						
SPA0				Sn	**Sn**	**02 10 11.1**	**+1.0**
	baz=329,slow=37						
HSP	**Hornsund**	**3.09**	**128**	*eP*	**Pn**	**02 09 48.7**	**+0.8**
HSP				*eS*	**Sn**	**02 10 26.1**	**+0.6**
HOPEN	**Hopen**	**5.01**	**111**	*eP*	**Pn**	**02 10 14.7**	**-0.3**
HOPEN				*eS*	**Sn**	**02 11 11.6**	**-2.3**
ARA0	**ARCESS Array S**	**11.04**	**139**	Pn	**P**	**02 11 37.9**	**-0.9**
	baz=329,slow=12						

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*IDC **08** 02:14:42.5±0.9, 0.30N×96.42E, mb3.8/9, mb1 4.0/10, mb1mx3.8/20, mbtmp3.8/10, Error ellipse: s-maj=35.5km s-min=19.5km az=52.0*
*NEIC **08** 02:14:47.2±0.7, 0.39N×96.62E, h30km, mb4.3/1, Error ellipse: s-maj=19.2km s-min=15.9km az=71.0*
ISC 08 02:14:45.9±0.8, 0.4N±0.1×96.5E±0.2, h33km, n14, σ0§93/13, mb3.8/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.40**	**40**	*ePn*	**Pn**	**02 16 16.3**	**-4.2**
CMAR	**Chiang Mai Arr**	**18.14**	**7**	P	**P**	**02 18 58.5**	**+1.5**
	baz=194,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**42.19**	**121**	P	**P**	**02 22 37.8**	**+0.2**
	0.9nm,0.8s,mb3.5,baz=302,slow=8.9,SNR=6.2						
WRA	**Warramunga Arr**	**42.19**	**121**	P	**P**	**02 22 37.8**	**+0.2**
ASAR	**Alice Springs**	**43.45**	**126**	P	**P**	**02 22 47.8**	**-0.1**
	0.4nm,0.5s,mb3.4,baz=300,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**47.89**	**347**	P	**P**	**02 23 23.3**	**+0.5**
	0.7nm,0.5s,mb4.0,baz=164,slow=8.8,SNR=12						
ZAL	**Zalesovo**	**54.27**	**351**	P	**P**	**02 24 11.3**	**+0.4**
	1.3nm,0.7s,mb4.0,baz=312,slow=7.1,SNR=4.5						
BVAR	**Borovoye Array**	**56.81**	**341**	P	**P**	**02 24 28.4**	**-1.0**
	0.5nm,0.6s,mb3.8,baz=164,slow=10,SNR=4.5						
CHKZ	**Chkalovo**	**57.30**	**342**	*eP*	**P**	**02 24 31.9**	**-0.9**
	2.3nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**69.17**	**313**	P	**P**	**02 25 50.6**	**-0.6**
	0.5nm,0.8s,mb3.5,baz=127,slow=7.2,SNR=3.1						
MATP	**Matopo**	**69.58**	**248**	P	**P**	**02 25 55.1**	**+1.0**
	2.0nm,0.8s,mb4.1,baz=77,slow=12,SNR=3.9						
ARCES	**ARCESS Array B**	**83.09**	**340**	P	**P**	**02 27 10.0**	**+0.7**
	3.3nm,1.0s,mb4.3,baz=90,slow=4.9,SNR=6.5						
GERES	**GERESS Array B**	**84.99**	**319**	P	**P**	**02 27 18.2**	**-1.0**
	0.2nm,0.5s,mb3.5,baz=94,slow=13,SNR=3.3						
TXAR	**Lajitas Array**	**144.73**	**31**	PKP	PKPdf	02 34 21.4	+1.4
	0.3nm,0.7s,baz=221,slow=1.8,SNR=5.0						

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*IDC **08** 02:21:33.5±2.2, 10.65N×91.39E, mb3.8/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=68.4km s-min=22.7km az=69.0*
ISC 08 02:21:35.7±1.2, 10.7N±0.1×91.3E±0.2, h33km, n6, σ1§09/7, mb3.8/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.40**	**313**	*eP*	**P**	**02 24 04.5**	**-1.2**
VIS				*eS*	**S**	**02 25 51.2**	**-11**
CMAR	**Chiang Mai Arr**	**10.67**	**43**	Pn	**P**	**02 24 08.2**	**-1.2**
	0.2nm,0.3s,baz=235,slow=13,SNR=6.2						
MKAR	**Makanchi Array**	**36.76**	**350**	P	**P**	**02 28 43.6**	**+1.7**
	1.2nm,0.8s,mb3.8,baz=172,slow=8.6,SNR=8.4						
SONM	**Songino Array**	**39.12**	**16**	P	**P**	**02 29 02.8**	**+1.2**
	0.8nm,0.5s,mb3.7,baz=205,slow=8.1,SNR=11						
WRA	**Warramunga Arr**	**52.18**	**126**	P	**P**	**02 30 45.5**	**-0.2**
	1.0nm,0.7s,mb3.8,baz=305,slow=8.5,SNR=8.1						
ASAR	**Alice Springs**	**53.87**	**130**	P	**P**	**02 30 58.1**	**-0.1**
	1.4nm,0.8s,mb3.9,baz=312,slow=7.5,SNR=14						

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*IDC **08** 02:38:07.1±3.4, 0.05N×98.64E, mb3.7/5, mb1 3.9/6, mb1mx3.7/16, mbtmp3.7/6, Error ellipse: s-maj=133.8km s-min=20.8km az=62.0*
*NEIC **08** 02:38:11.2±1.3, 0.01N×98.58E, h30km, mb4.2/1, Error ellipse: s-maj=37.4km s-min=10.6km az=71.0*
ISC 08 02:38:09.2±1.6, 0.0N±0.1×98.6E±0.3, h30km, n11, σ0§40/10, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.64**	**22**	*ePn*	**Pn**	**02 39 33.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**18.32**	**1**	P	**P**	**02 42 22.7**	**-0.5**
	baz=190,slow=8.7,SNR=4.6						
WRA	**Warramunga Arr**	**40.27**	**122**	P	**P**	**02 45 45.1**	**-0.4**
	0.5nm,0.4s,mb3.6,baz=304,slow=9.1,SNR=9.6						
WRAB	**Tennant Creek**	**40.28**	**122**	*eP*	**P**	**02 45 45.0**	**-0.6**
	1.3nm,0.3s,mb4.1						
ASAR	**Alice Springs**	**41.61**	**127**	P	**P**	**02 45 57.0**	**+0.4**
	0.3nm,0.3s,mb3.4,baz=298,slow=8.0,SNR=6.9						
SONM	**Songino Array**	**48.11**	**7**	P	**P**	**02 46 48.6**	**+0.3**
	1.1nm,0.8s,mb4.0,baz=186,slow=9.3,SNR=5.7						
MKAR	**Makanchi Array**	**48.71**	**345**	P	**P**	**02 46 52.9**	**0.0**
	0.4nm,0.5s,mb3.7,baz=162,slow=7.7,SNR=6.7						
MKAR	**Makanchi Array**	**48.71**	**345**	P	**P**	**02 46 52.9**	**0.0**
STKA	**Stephens Creek**	**51.57**	**132**	P	**P**	**02 47 15.5**	**+0.5**
	1.5nm,0.8s,mb4.0,baz=340,slow=12,SNR=2.9						
STKA	**Stephens Creek**	**51.57**	**132**	P	**P**	**02 47 15.5**	**+0.5**
ZST	**Bratislava**	**84.27**	**318**	*eL*		02 49 46.7	

IDC 08 03:04:42.5±7.8, 22.16N×143.31E, h159km±84km, mb3.0/3, mb1 3.3/4, mb1mx3.0/22, mbtmp3.6/4, Error ellipse: s-maj=162.0km s-min=20.2km az=105.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.02**	**348**	P	P	03 05 58.2	+1.1
	3.6nm,0.3s,baz=281,slow=22,SNR=7.4						
CBIJ				S	S	03 06 53.3	-1.5
	7.4nm,0.3s,baz=309,slow=23,SNR=6.4						
WRA	**Warramunga Arr**	**42.76**	**192**	P	P	03 12 24.0	-2.0
	0.2nm,0.3s,baz=16,slow=9.2,SNR=11						
ILAR	**Eielson Array**	**61.57**	**27**	P	P	03 14 42.2	-2.6
	0.7nm,1.0s,baz=252,slow=5.9,SNR=4.1						
YKA	**Yellowknife Ar**	**75.99**	**28**	P	P	03 16 12.2	-1.0
	0.2nm,0.5s,baz=290,slow=5.8,SNR=4.8						

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*IDC **08** 03:07:07.5±1.5, 1.18N×97.18E, mb4.2/9, mb1 4.3/10, mb1mx4.0/22, mbtmp4.2/10, ML4.5/1, MS3.5/1, Ms1 3.7/1, ms1mx3.0/29, Error ellipse: s-maj=54.6km s-min=15.8km az=60.0*
*NEIC **08** 03:07:12.4±0.5, 1.23N×97.30E, h30km, mb4.5/11, Error ellipse: s-maj=14.3km s-min=6.7km az=56.0*
ISC 08 03:07:10.4±0.7, 1.23N±0.09×97.3E±0.1, h30km, n24, σ0§75/23, mb4.4/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.26**	**40**	*ePn*	**Pn**	**03 08 29.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**17.20**	**5**	P	**P**	**03 11 09.6**	**-0.8**
	0.6nm,0.3s,baz=196,slow=11,SNR=13						
CMAR				LR	LR	03 18 44.6	
	comp=Z,143nm,18.5s,baz=290,slow=40						
SHL	**Shillong**	**24.75**	**348**	*eP*	**P**	**03 12 31.0**	**0.0**
JIRN	**Jiri**	**28.35**	**339**	*eP*	**P**	**03 13 04.8**	**+0.7**
	12nm,0.7s,mb4.7						
GUN	**Gumba**	**28.69**	**339**	*eP*	**P**	**03 13 07.8**	**+0.7**
	18nm,0.7s,mb4.9						
DMN	**Daman**	**28.71**	**337**	*eP*	**P**	**03 13 07.7**	**+0.4**
	16nm,1.0s,mb4.7						
KKN	**Kakani**	**28.80**	**338**	*eP*	**P**	**03 13 08.7**	**+0.5**
	16nm,0.9s,mb4.7						
GKN	**Gorkha**	**29.25**	**337**	*eP*	**P**	**03 13 13.2**	**+1.1**
	15nm,0.8s,mb4.8						
KOLN	**Koldanda**	**29.47**	**335**	*eP*	**P**	**03 13 14.6**	**+0.5**
	10nm,0.7s,mb4.6						
ENH	**Enshi**	**31.13**	**21**	P	**P**	**03 13 26.9**	**-1.9**
	7.1nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.88**	**126**	P	**P**	**03 13 52.2**	**-0.7**
	2.9nm,0.8s,mb4.2,baz=114,slow=2.9,SNR=3.4						
JOW	**Kunigami**	**39.17**	**47**	P	**P**	**03 14 38.2**	**+0.7**
	5.7nm,0.5s,mb4.6,baz=125,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**41.98**	**122**	P	**P**	**03 15 01.1**	**+0.2**
	1.4nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=24						
WRAB	**Tennant Creek**	**41.99**	**122**	*eP*	**P**	**03 15 01.1**	**+0.2**
	1.7nm,0.5s,mb3.9						
BJT	**Baijiatuau**	**42.27**	**22**	*eP*	**P**	**03 15 03.6**	**+0.6**
	5.8nm,0.4s,mb4.6						
ASAR	**Alice Springs**	**43.35**	**127**	P	**P**	**03 15 12.2**	**+0.2**
	0.6nm,0.4s,mb3.7,baz=293,slow=8.1,SNR=7.8						
SONM	**Songino Array**	**47.10**	**8**	P	**P**	**03 15 41.9**	**+0.3**
	2.0nm,0.8s,mb4.1,baz=190,slow=9.2,SNR=19						
SONM				PcP	PcP	03 17 13.4	0.0
	0.6nm,0.5s,baz=191,slow=4.2,SNR=5.1						
MKAR	**Makanchi Array**	**47.23**	**346**	P	**P**	**03 15 42.7**	**0.0**
	2.0nm,0.5s,mb4.3,baz=161,slow=9.0,SNR=40						
KURK	**Kurchatov**	**51.79**	**345**	*eP*	**P**	**03 16 16.5**	**-1.0**
	1.1nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**53.32**	**132**	P	**P**	**03 16 29.4**	**+0.1**
	1.3nm,0.7s,mb4.0,baz=184,slow=12,SNR=4.3						
ZAL	**Zalesovo**	**53.54**	**351**	P	**P**	**03 16 30.2**	**-0.3**
	2.6nm,0.3s,mb4.6,baz=294,slow=4.8,SNR=8.1						
BVAR	**Borovoye Array**	**56.25**	**341**	P	**P**	**03 16 49.0**	**-1.3**
	1.4nm,0.6s,mb4.2,baz=141,slow=9.5,SNR=7.4						
CHKZ	**Chkalovo**	**56.73**	**341**	*eP*	**P**	**03 16 52.5**	**-1.2**
	3.7nm,0.8s,mb4.5						
CHKZ				*ep*P	pP	03 16 58.4	-4.5
TXAR	**Lajitas Array**	**143.61**	**32**	PKhKP		03 26 40.4	
	0.3nm,0.8s,baz=40,slow=1.0,SNR=3.7						

IDC 08 03:16:00.3±7.0, 17.60S×177.34W, mb3.9/3, mb1 4.2/3, mb1mx3.8/15, mbtmp3.9/3, Error ellipse: s-maj=306.9km s-min=37.7km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.69**	**259**	P	P	03 24 23.2	-1.8
	1.4nm,0.6s,baz=96,slow=8.0,SNR=14						
ASAR	**Alice Springs**	**45.85**	**254**	P	P	03 24 24.6	-1.7
	2.5nm,0.7s,baz=87,slow=8.7,SNR=34						
ILAR	**Eielson Array**	**85.36**	**13**	P	P	03 28 38.9	-1.3
	0.3nm,0.7s,baz=221,slow=5.4,SNR=4.7						

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*BJI **08** 03:16:16.7, 0.24N×96.81E, h30km, mB5.2, mb4.9*
*IDC **08** 03:16:22.2±0.9, 1.17N×97.01E, mb4.3/13, mb1 4.4/14, mb1mx4.2/22, mbtmp4.3/14, ML4.2/1, Error ellipse: s-maj=37.2km s-min=14.3km az=52.0*
*NEIC **08** 03:16:26.7±0.5, 1.20N×97.09E, h30km, mb4.4/9, Error ellipse: s-maj=13.5km s-min=7.7km az=58.0*
ISC 08 03:16:25.1±0.6, 1.26N±0.07×97.14E±0.10, h30km, n36, σ0§71/35, mb4.3/23, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**41**	*ePn*	**Pn**	**03 17 45.5**	**+0.7**
SNG	**Songkhla**	**6.83**	**30**	P	**Pn**	**03 18 05.0**	**-0.9**
	126nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.18**	**6**	P	**P**	**03 20 23.8**	**-1.1**
	0.3nm,0.3s,baz=194,slow=13,SNR=7.1						
NANT	**Nan**	**17.78**	**11**	⇑P	**P**	**03 20 32.0**	**-0.3**
	75nm,0.8s						
SHL	**Shillong**	**24.69**	**349**	*eP*	**P**	**03 21 46.0**	**+0.9**
GYA	**Guiyang**	**26.68**	**19**	P	**P**	**03 22 04.2**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
ENH	**Enshi**	**31.15**	**21**	*eP*	**P**	**03 22 43.1**	**-0.6**
	comp=Z,4.4nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**34.01**	**126**	*eP*	**P**	**03 23 07.7**	**-1.1**
	comp=Z,4.1nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**34.01**	**126**	P	**P**	**03 23 07.7**	**-1.1**
	comp=Z,4.2nm,0.7s,mb4.5,baz=162,slow=2.3,SNR=6.7						
XAN	**Xi'an**	**34.43**	**17**	P	**P**	**03 23 11.3**	**-0.9**
XAN				AP	pP	03 23 20.4	-0.7
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GTA	**Gaotai**	**38.05**	**3**	*eP*	**P**	**03 23 43.7**	**+0.9**
GTA				AP	pP	03 23 51.5	-0.3
GTA				XP	sP	03 23 55.1	-0.4
GTA				PPP	PPP	03 25 37.9	+2.6
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
JOW	**Kunigami**	**39.25**	**47**	P	**P**	**03 23 53.7**	**+0.8**
	comp=Z,14nm,0.7s,mb4.8,baz=169,slow=1.0,SNR=5.7						
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**	**03 24 16.7**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.1,baz=301,slow=9.1,SNR=31						
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**	**03 24 16.7**	**0.0**
WRAB	**Tennant Creek**	**42.12**	**122**	*eP*	**P**	**03 24 16.6**	**-0.2**
	comp=Z,3.7nm,0.5s,mb4.3						
WB2	**Warramunga Arr**	**42.13**	**122**	*eP*	**P**	**03 24 16.7**	**-0.1**
BJI	**Beijing**	**42.31**	**22**	*eP*	**P**	**03 24 19.0**	**+1.0**
BJI				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.7						
BJI	**Beijing**	**42.31**	**22**	*eP*	**P**	**03 24 19.0**	**+1.0**
	comp=Z,13nm,0.6s,mb4.7						
WMQ	**Urumqi**	**43.20**	**350**	*eP*	**P**	**03 24 23.5**	**-1.8**
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**03 24 28.1**	**+0.3**
	comp=Z,2.4nm,0.8s,mb4.0,baz=297,slow=7.4,SNR=18						
AAK	**Ala-Archa**	**45.92**	**337**	*eP*	**P**	**03 24 47.8**	**+0.7**
	comp=Z,2.0nm,0.9s,mb4.0						
SONM	**Songino Array**	**47.08**	**9**	P	**P**	**03 24 57.0**	**+0.8**
	comp=Z,3.2nm,0.7s,mb4.4,baz=189,slow=8.3,SNR=26						
SONM				PcP	PcP	03 26 28.5	+0.3
	comp=Z,1.0nm,0.6s,baz=191,slow=4.1,SNR=5.3						
MKAR	**Makanchi Array**	**47.17**	**346**	P	**P**	**03 24 57.6**	**+0.7**
	comp=Z,3.6nm,0.5s,mb4.5,baz=159,slow=8.5,SNR=34						
ULN	**Ulaanbaatar**	**47.21**	**9**	*eP*	**P**	**03 24 57.6**	**+0.4**
	comp=Z,3.2nm,0.9s,mb4.2						
KURK	**Kurchatov**	**51.72**	**345**	*eP*	**P**	**03 25 31.5**	**-0.3**
	comp=Z,3.0nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**53.44**	**132**	*eP*	**P**	**03 25 45.3**	**+0.4**
	comp=Z,2.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**53.44**	**132**	P	**P**	**03 25 45.5**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.2,baz=309,slow=8.2,SNR=8.0						
ZAL	**Zasovo**	**53.48**	**351**	P	**P**	**03 25 45.2**	**+0.3**
	comp=Z,5.2nm,0.4s,mb4.8,baz=326,slow=5.4,SNR=10						
ZAL	**Zalesovo**	**53.48**	**351**	P	**P**	**03 25 45.2**	**+0.3**
BVAR	**Borovoye Array**	**56.17**	**341**	P	**P**	**03 26 03.9**	**-0.6**
	comp=Z,4.5nm,0.7s,mb4.6,baz=149,slow=8.6,SNR=22						
CHKZ	**Chkalovo**	**56.65**	**341**	*eP*	**P**	**03 26 07.3**	**-0.6**
	comp=Z,7.1nm,0.7s,mb4.8						
BRTR	**Keskin Array B**	**69.03**	**312**	P	**P**	**03 27 29.9**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=135,slow=6.1,SNR=3.3						
FINES	**FINESS Array B**	**79.92**	**333**	P	**P**	**03 28 32.1**	**-0.5**
	comp=Z,1.2nm,0.9s,mb3.8,baz=153,slow=4.3,SNR=5.4						
ARCES	**ARCESS Array B**	**82.46**	**340**	P	**P**	**03 28 46.2**	**+0.4**
	comp=Z,3.6nm,1.0s,mb4.3,baz=90,slow=4.9,SNR=6.8						
GERES	**GERESS Array B**	**84.73**	**319**	P	**P**	**03 28 58.2**	**+0.4**
	comp=Z,0.1nm,0.3s,mb3.4,baz=121,slow=7.8,SNR=4.2						
TXAR	**Lajitas Array**	**143.65**	**32**	PKP	PKPdf	03 35 57.8	-5.2
	comp=Z,0.2nm,0.5s,baz=317,slow=0.2,SNR=6.8						

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*IDC **08** 03:16:48.0±1.8, 1.21N×97.12E, mb4.3/7, mb1 4.4/8, mb1mx4.1/21, mbtmp4.3/8, ML4.0/1, Error ellipse: s-maj=58.7km s-min=18.8km az=62.0*
*NEIC **08** 03:16:52.6±0.7, 1.20N×97.17E, h30km, mb4.6/4, Error ellipse: s-maj=18.6km s-min=8.7km az=68.0*
ISC 08 03:16:50.5±1.0, 1.2N±0.1×97.1E±0.2, h30km, n13, σ0§75/13, mb4.4/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**41**	*ePn*	**Pn**	**03 18 09.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**17.25**	**6**	P	**P**	**03 20 51.4**	**+0.3**
	0.2nm,0.3s,baz=196,slow=11,SNR=7.8						
KMI	**Kunming**	**24.41**	**12**	P	**P**	**03 22 09.7**	**+2.0**
	26nm,1.2s,mb4.5						
JOW	**Kunigami**	**39.31**	**47**	P	**P**	**03 24 18.6**	**-0.2**
	9.0nm,0.6s,mb4.7,baz=209,slow=9.2,SNR=7.0						
WRA	**Warramunga Arr**	**42.10**	**122**	P	**P**	**03 24 41.7**	**-0.2**
	2.9nm,0.6s,mb4.1,baz=301,slow=9.0,SNR=8.6						
WRAB	**Tennant Creek**	**42.11**	**122**	*eP*	**P**	**03 24 41.7**	**-0.2**
	4.5nm,0.7s,mb4.2						
BJI	**Beijing**	**42.38**	**22**	*eP*	**P**	**03 24 44.5**	**+0.6**
	11nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**43.46**	**127**	P	**P**	**03 24 53.3**	**+0.4**
	1.7nm,0.7s,mb3.9,baz=308,slow=7.9,SNR=6.8						
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**03 25 22.3**	**+0.2**
	4.1nm,0.8s,mb4.4,baz=189,slow=9.2,SNR=9.6						
MKAR	**Makanchi Array**	**47.23**	**346**	P	**P**	**03 25 22.9**	**+0.2**
	3.5nm,0.6s,mb4.5,baz=155,slow=7.1,SNR=6.9						
STKA	**Stephens Creek**	**53.41**	**132**	P	**P**	**03 26 10.3**	**+0.3**
	3.6nm,0.8s,mb4.4,baz=298,slow=4.8,SNR=5.7						
BVAR	**Borovoye Array**	**56.23**	**341**	P	**P**	**03 26 29.1**	**-1.2**
	2.1nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=5.2						
CHKZ	**Chkalovo**	**56.71**	**341**	*eP*	**P**	**03 26 32.9**	**-0.8**
	2.9nm,0.6s,mb4.5						

IDC 08 03:17:23.3±3.5, 48.66S×124.33E, mb3.6/3, mb1 3.9/3, mb1mx3.7/10, mbtmp3.7/3, Error ellipse: s-maj=113.9km s-min=64.1km az=110.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.24**	**44**	P	P	03 22 10.6	-2.4
	2.2nm,0.8s,baz=216,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**26.07**	**20**	P	P	03 22 58.8	-1.3
	1.3nm,0.8s,baz=192,slow=9.6,SNR=9.8						
WRA	**Warramunga Arr**	**29.76**	**19**	P	P	03 23 31.3	-2.4
	0.6nm,0.9s,baz=197,slow=9.0,SNR=6.2						
YKA	**Yellowknife Ar**	**145.27**	**44**	PKPbc	PKPbc	03 37 00.5	-1.5
	0.5nm,0.6s,baz=268,slow=3.5,SNR=15						

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*IDC **08** 03:17:53.3±0.6, 1.56S×99.47E, mb4.4/16, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, ML4.4/1, Error ellipse: s-maj=26.2km s-min=13.3km az=45.0*
*BJI **08** 03:17:56.6, 1.99S×99.51E, h58km, mb4.5*
*MOS **08** 03:17:56.9±0.6, 1.39S×99.69E, h33km, mb4.7/3, Error ellipse: s-maj=32.5km s-min=13.9km az=116.6*
*NEIC **08** 03:17:59.8±1.6, 1.57S×99.54E, h47km±14km, mb4.6/4, Error ellipse: s-maj=14.6km s-min=5.7km az=50.0*
ISC 08 03:17:56.1±6.7, 1.6S±0.1×99.5E±0.1, h30km±47km, n40, σ0§91/37, mb4.4/20, 1C-6D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.91**	**9**	Pn	**Pn**	**03 19 38.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.91**	**358**	P	**P**	**03 22 27.2**	**-1.2**
	0.4nm,0.3s,baz=188,slow=10,SNR=9.3						
FITZ	**Fitzroy Crossi**	**30.45**	**124**	*eP*	**P**	**03 24 07.6**	**-1.0**
	12nm,1.0s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.45**	**124**	P	**P**	**03 24 07.9**	**-0.7**
	17nm,1.0s,mb4.7,baz=301,slow=3.7,SNR=7.4						
WRA	**Warramunga Arr**	**38.62**	**121**	P	**P**	**03 25 18.7**	**0.0**
	8.2nm,0.9s,mb4.5,baz=297,slow=9.4,SNR=11						
WRAB	**Tennant Creek**	**38.63**	**121**	*eP*	**P**	**03 25 18.7**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.3s,mb4.7						
WRAB	**Tennant Creek**	**38.63**	**121**	*eP*	**P**	**03 25 18.7**	**-0.1**
	comp=Z,4.9nm,0.3s,mb4.7						
WB2	**Warramunga Arr**	**38.63**	**121**	⇑*i*P	**P**	**03 25 18.8**	**0.0**
ASAR	**Alice Springs**	**39.89**	**126**	P	**P**	**03 25 29.7**	**+0.5**
	comp=Z,2.1nm,0.5s,mb4.1,baz=301,slow=8.1,SNR=8.3						
ASAR				PcP	PcP	03 27 35.7	+0.6
	comp=Z,1.5nm,0.9s,baz=306,slow=2.7,SNR=4.4						
GTA	**Gaotai**	**40.78**	**0**	*eP*	**P**	**03 25 38.

PMG	**Port Moresby**	**34.88 280**	P	**P**	**03 28 54.6**	**+1.5**
	6.2nm,0.5s,mb4.5,baz=16,slow=4.3,SNR=3.7					
STKA	**Stephens Creek**	**38.88 241**	⇓*i*P	**P**	**03 29 26.7**	**+1.0**
	2.5nm,0.6s,mb3.9					
STKA	**Stephens Creek**	**38.88 241**	P	**P**	**03 29 26.7**	**+1.0**
	1.8nm,0.3s,mb4.0,baz=93,slow=9.3,SNR=6.7					
WB2	**Warrumunga Arr**	**44.97 260**	⇓*i*P	**P**	**03 30 13.1**	**-0.7**
WRAB	**Tennant Creek**	**44.98 260**	*e*P	**P**	**03 30 13.2**	**-0.6**
	6.0nm,0.4s,mb4.5					
WRA	**Warrumunga Arr**	**44.98 260**	P	**P**	**03 30 13.3**	**-0.6**
	4.0nm,0.3s,mb4.4,baz=96,slow=7.5,SNR=179					
WRA			PcP	PcP	03 31 40.6	-1.4
	0.5nm,0.3s,baz=90,slow=3.9,SNR=4.7					
ASAR	**Alice Springs**	**45.12 254**	P	**P**	**03 30 14.8**	**-0.1**
	9.5nm,0.5s,mb4.6,baz=92,slow=7.7,SNR=110					
ASAR			PcP	PcP	03 31 41.4	-1.1
	1.3nm,0.5s,baz=104,slow=3.7,SNR=7.4					
ASPA	**Alice Springs**	**45.12 254**	⇓*i*P	**P**	**03 30 14.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.38 261**	*e*P	**P**	**03 31 15.5**	**-0.3**
	2.5nm,0.3s,mb4.0					
FITZ	**Fitzroy Crossi**	**53.38 261**	P	**P**	**03 31 15.1**	**-0.6**
	2.8nm,0.3s,mb4.1,baz=131,slow=1.2,SNR=18					
MBWA	**Marble Bar**	**58.41 256**	*e*P	**P**	**03 31 49.1**	**-1.2**
	3.3nm,0.3s,mb3.9					
TXAR	**Lajitas Array**	**85.77 57**	P	**P**	**03 34 28.3**	**+1.3**
	1.0nm,0.7s,mb3.6,baz=218,slow=6.6,SNR=16					
ILAR	**Eielson Array**	**85.98 13**	P	**P**	**03 34 26.2**	**-1.0**
	0.6nm,0.4s,mb3.6,baz=220,slow=4.9,SNR=24					
PDAR	**Pinedale Array**	**87.22 43**	P	**P**	**03 34 33.9**	**+0.3**
	0.6nm,0.6s,mb3.5,baz=225,slow=2.1,SNR=4.4					
CMAR	**Chiang Mai Arr**	**89.32 290**	P	**P**	**03 34 45.1**	**+1.2**
	0.5nm,0.3s,mb3.8,baz=109,slow=1.6,SNR=4.3					
YKA	**Yellowknife Ar**	**94.34 25**	P	**P**	**03 35 04.8**	**-1.0**
	0.3nm,0.7s,mb3.5,baz=233,slow=3.5,SNR=4.7					
BVAR	**Borovoye Array**	**117.24 321**	PKP	PKPdf	03 40 25.5	-1.0
	0.4nm,0.3s,baz=115,slow=3.3,SNR=4.4					
ARCES	**ARCESS Array B**	**126.57 350**	PKP	PKPdf	03 40 43.5	-0.5
	4.2nm,0.9s,baz=18,slow=1.2,SNR=12					
FINES	**FINESS Array B**	**133.48 344**	PKP	PKPdf	03 40 58.3	+1.0
	0.6nm,0.5s,baz=156,slow=33,SNR=3.7					
AKASG	**Malin Array Be**	**140.91 333**	PKhKP		03 41 05.5	
	0.4nm,0.3s,baz=38,slow=4.5,SNR=5.3					
EKA	**Eskdalemuir Ar**	**142.63 5**	PKhKP		03 41 11.3	
	2.3nm,0.9s,baz=315,slow=3.0,SNR=3.8					
BRTR	**Keskin Array B**	**145.20 315**	PKPbc	PKPbc	03 41 21.1	+1.3
	1.4nm,0.6s,baz=132,slow=3.6,SNR=8.8					
GERES	**GERESS Array B**	**147.90 345**	PKPbc	PKPdf	03 41 28.1	+5.1
	1.0nm,0.5s,baz=21,slow=3.1,SNR=13					

IDC 08 03:28:05.4±4.2, 1.84N×98.26E, mb3.7/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.7/3, 1D, Error ellipse: s-maj=162.5km s-min=29.8km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrumunga Arr**	**41.49 123**		P	P	03 35 54.4	-1.6
	0.5nm,0.6s,baz=303,slow=9.2,SNR=5.9						
SONM	**Songino Array**	**46.35 8**		P	P	03 36 33.6	-1.4
	0.4nm,0.4s,baz=188,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**46.89 345**		P	P	03 36 37.1	-2.2
	1.0nm,0.4s,baz=158,slow=8.1,SNR=11						
CLL	**Collm**	**85.60 321**	⇓*i*PKP1		P	03 41 22.0	+35

MAN 08 03:33:57.8, 7.30N×127.26E, h1km, mb4.7, ML3.6, MS3.5, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.25 315**	⇑*e*P		Pb	03 34 10.4	-12
BIPH				*e*S	Sb	03 34 18.3	-20
CGP	**Cagayan de Oro**	**2.79 295**	⇑*e*P		Pn	03 34 44.1	-0.4
CGP				*i* S	Sn	03 35 19.4	+0.1

DJA 08 03:59:37.2±0.9, 9.07S×117.20E, h104km±10km, MD4.8/3, ML4.3/4, 6C-2D, Error ellipse: s-maj=51.4km s-min=18.7km az=7.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.22 298**		⇓*i*Pn	P	04 00 00.8	+0.1
	1μm,0.2s						
KEDI				⇑*i*Sn	S	04 00 16.9	-1.4
RATI	**Rata**	**1.68 282**		⇓*i*Pn	P	04 00 06.0	-0.3
	219nm,0.2s						
RATI	**Rata**	**1.68 282**		*e*P	P	04 00 06.4	+0.1
RATI				⇑*i*Sn	S	04 00 27.3	-0.7
KELI	**Kelakatan**	**2.80 287**		⇑*i*Pn	P	04 00 20.9	-0.5
	78nm,1.0s						
KELI				⇑*i*Sn	S	04 00 52.9	-1.7
SRDI	**Scrawed**	**3.07 281**		⇑*e*Pn	P	04 00 24.2	-0.8
	70nm,0.2s						
SRDI				⇑*i*Sn	S	04 00 59.2	-1.9

NIED ***08*** *04:03:00, 33.80N×130.10E, h5km, Mw3.7 Best double couple: M0:3.86×10¹⁴ NP1:φ=274°, δ=69°, λ=-63°. NP2:φ=39°, δ=34°, λ=-140°.*

JMA 08 04:03:14.1, 33.76N×130.12E, h13km, M3.9, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.33 276**		⇓P	Pg	04 03 20.9	-0.1
JII				S	Sg	04 03 25.4	-0.2
JFI	**Itaya**	**0.40 146**		⇑P	Pg	04 03 22.2	-0.2
JFI				*e*S	Sg	04 03 28.0	0.0
JFA	**Akaike**	**0.56 95**		⇓P	Pb	04 03 24.9	-0.4
JFA				S	Sb	04 03 32.6	-0.4
JTA	**Tamana**	**0.87 156**		⇑P	Pb	04 03 30.4	-0.1
JTA				S	Sb	04 03 41.7	0.0
JTU	**Tsushima**	**0.97 322**		⇑P	Pb	04 03 32.0	-0.3
JTU				S	Sb	04 03 45.1	+0.4

BJI ***08*** *04:16:35.0, 30.03N×83.44E, h25km, mB4.6, mb4.2, Ms4.3, Msz4.0*

NEIC ***08*** *04:16:37.3±0.5, 30.23N×83.60E, h10km, mb4.3/4, Error ellipse: s-maj=12.1km s-min=9.2km az=65.0*

MOS ***08*** *04:16:38.7±1.4, 30.18N×83.56E, h33km, mb4.2/14, Error ellipse: s-maj=18.2km s-min=10.2km az=98.4*

IDC ***08*** *04:16:43.1±4.6, 30.43N×83.73E, h45km±43km, mb3.7/13, mb1 3.8/15, mb1mx3.7/25, mbtmp3.9/15, ML4.0/2, MS3.2/1, Ms1 3.4/1, ms1mx2.9/23, Error ellipse: s-maj=29.7km s-min=17.6km az=40.0*

NDI ***08*** *04:16:43.2±5.3, 30.08N×83.38E, h10km, ML3.9, mb4.3(NEIC)*

ISC 08 04:16:36.1±0.3, 30.24N±0.03×83.59E±0.03, h10km, n72, σ1§34/80, mb4.0/19, MS3.8/1, 3C-2D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.01 258**		*e*PG	**Pg**	**04 17 34.8**	**-1.4**
PTH				*e*SG	**Sg**	**04 18 15.0**	**-1.3**
LGTI	**Lohaghat**	**3.01 256**		*e*	**Pg**	**04 17 35.0**	**-1.2**
LGTI				*e*SG	**Sg**	**04 18 21.2**	**+4.9**
JOSI	**Joshimath**	**3.50 276**		*e*	**Pn**	**04 17 24.3**	**-7.5**
KALG	**Kalgarh**	**4.26 261**		*e*P	**Pn**	**04 17 43.9**	**+1.3**
KALG				*e*		04 18 42.0	
SMLA	**Simla**	**5.61 281**		⇓*i*P	**Pn**	**04 18 02.5**	**+0.9**
SMLA				*i*		04 19 22.1	
NDI	**New Delhi**	**5.77 256**		*e*P	**Pn**	**04 18 06.8**	**+2.9**
NDI				*e*		04 18 40.0	
NDI				*e*		04 19 10.0	
NDI				*e*		04 19 39.0	
AGRA	**Agra**	**5.79 240**		*i* P	**Pn**	**04 18 03.8**	**-0.4**
AGRA				*e*SG	**Sg**	**04 19 47.8**	**-1.2**
AGRA				*e*		04 20 01.7	
	comp=E,552nm,0.8s						
AGRA				*e*		04 20 01.8	
	comp=N,578nm,1.0s						
SDNR	**Sundarnagar**	**5.83 284**		*e*P	**Pn**	**04 18 09.0**	**+4.2**
SDNR				*e*		04 20 05.4	
AYAN	**Aya Nagar**	**5.91 254**		*e*P	**Pn**	**04 18 09.2**	**+3.4**
SONA	**Sohna**	**6.02 252**		*e*P	**Pn**	**04 18 10.9**	**+3.4**
SONA				*e*SG	**Sg**	**04 19 58.5**	**+2.0**
SONA				*e*		04 20 03.9	
	comp=N,176nm,0.7s						
SONA				*e*		04 20 04.0	
	comp=E,124nm,0.5s						
BOK	**Bokaro**	**6.73 162**		*i* P	**Pn**	**04 18 19.6**	**+2.1**
BOK				*i* S	**Sn**	**04 19 30.1**	**-4.9**
BOK				*e*		04 20 18.6	
	comp=E,42nm,0.8s						
BOK				*e*		04 20 19.0	
	comp=N,33nm,0.8s						
KHET	**Khetri**	**7.14 254**		*e*P	**Pn**	**04 18 26.2**	**+3.0**
KHET				*i*		04 19 48.1	
KHET				*e*		04 20 22.2	
KHET				*e*		04 20 39.3	
	comp=N,129nm,1.0s						
KHET				*e*		04 20 40.2	
	comp=E,71nm,1.0s						
BLSP	**Bilaspur**	**8.18 190**		*i* P	**P**	**04 18 39.2**	**+1.5**
BLSP				*e*		04 20 09.4	
BLSP				*e*		04 21 13.5	
	comp=E,93nm,0.7s						
BLSP				*e*		04 21 13.7	
	comp=N,46nm,0.5s						
SHL	**Shillong**	**8.68 120**		*e*S	**Sn**	**04 20 22.0**	**-1.7**
AJM	**Ajmer**	**8.73 247**		*e*	**P**	**04 18 39.0**	**-6.3**
BHPL	**Bhopal**	**8.88 220**		*i* P	**P**	**04 18 47.6**	**+0.2**
BHPL				*i* S	**Sn**	**04 20 20.9**	**-7.7**
BHPL				*e*		04 21 25.6	
	comp=N,133nm,0.9s						
BHPL				*e*		04 21 25.6	
	comp=E,155nm,0.9s						
NGP	**Nagpur**	**9.93 205**		*e*P	**P**	**04 19 03.8**	**+1.8**
NGP				*e*		04 20 48.3	
AKL	**Akola**	**11.19 214**		⇓*i*	**S**	**04 21 25.0**	**-0.6**
JASL	**Jaisalmer**	**11.63 257**		*e*P	**P**	**04 19 24.3**	**-0.9**
VIS	**Vishakhapatnam**	**12.46 181**		*i* P	**P**	**04 19 37.7**	**+1.3**
VIS				*e*		04 21 49.2	
VIS				*e*		04 23 19.2	
	comp=N,15nm,1.3s						
VIS				*e*		04 23 19.3	
	comp=E,24nm,0.9s						
HYB	**Hyderabad**	**13.56 201**		*e*P	**P**	**04 19 48.5**	**-2.7**
HYB				*e*S	**S**	**04 22 15.0**	**-7.9**
HYB				pmax	pmax		
	comp=Z,35nm,1.0s						
HYB	**Hyderabad**	**13.56 201**		*e*P	**P**	**04 19 48.5**	**-2.7**
	comp=Z,35nm,1.0s						
HYB				*e*S	**S**	**04 22 15.0**	**-7.9**
HYB	**Hyderabad**	**13.56 201**		*i* P	**P**	**04 19 48.5**	**-2.7**
	comp=Z,35nm,1.0s						
AAK	**Ala-Archa**	**14.36 332**		*e*P	**P**	**04 20 02.8**	**+1.3**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.1s						
AAK	**Ala-Archa**	**14.36 332**		*e*Pn	**P**	**04 20 02.8**	**+1.3**
	comp=Z,8.1nm,1.1s						
POO	**Poona**	**14.64 219**		*e*	**S**	**04 22 37.9**	**-11**
KAD	**Karad**	**15.47 216**		*e*P	**P**	**04 20 18.7**	**+2.5**
KAD				*i* S	**S**	**04 23 06.7**	**-1.4**
GTA	**Gaotai**	**16.14 51**		*e*P	**P**	**04 20 27.4**	**+2.7**
GTA				AP		04 20 33.8	
GTA				XP		04 20 36.6	
GTA				S	**S**	**04 23 23.7**	**0.0**
GTA				XS		04 23 35.1	
GTA				SS	SS	04 23 46.5	+3.5
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,123nm,4.2s						
GTA				LR	LR		
	comp=N,301nm,11.8s						
GTA				LR	LR		
	comp=E,380nm,12.2s						
GTA				LR	LR		
	comp=Z,463nm,12.5s						
MKAR	**Makanchi Array**	**16.56 357**		P	**P**	**04 20 29.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=181,slow=12,SNR=18						
LZH	**Lanzhou**	**17.92 66**		⇑P	**P**	**04 20 47.0**	**0.0**
LZH				AP		04 20 52.0	
LZH				XP		04 20 56.5	
LZH				AMB	AMB		
	comp=Z,30nm,1.5s						
LZH	**Lanzhou**	**17.92 66**		⇑P	**P**	**04 20 47.0**	**0.0**
LZH				pmax	pmax		
	comp=Z,30nm,1.5s						
LZH	**Lanzhou**	**17.92 66**		⇑P	**P**	**04 20 47.0**	**0.0**
	comp=Z,30nm,1.5s						
LZH				pP		04 20 52.0	
LZH				sP		04 20 56.5	
CMAR	**Chiang Mai Arr**	**18.23 127**		P	**P**	**04 20 51.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=308,slow=13,SNR=15						
CMAR				LR	LR	04 28 51.0	
	comp=Z,76nm,18.2s,baz=60,slow=40						
GYA	**Guiyang**	**20.64 95**		P	**P**	**04 21 17.8**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
KURK	**Kurchatov**	**20.80 351**		*e*P	**P**	**04 21 17.7**	**-2.2**
KURK				pmax	pmax		
	comp=Z,18nm,1.1s						
KURK	**Kurchatov**	**20.80 351**		*e*P	**P**	**04 21 17.7**	**-2.2**
	comp=Z,18nm,1.1s						
XAN	**Xi'an**	**21.76 73**		P	**P**	**04 21 27.8**	**-2.0**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.0						
ZAL	**Zalesovo**	**23.70 2**		P	**P**	**04 21 47.1**	**-1.6**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	**Zalesovo**	**23.70 2**		P	**P**	**04 21 47.0**	**-1.6**
	comp=Z,1.7nm,0.5s,mb3.8,baz=295,slow=5.6,SNR=6.6						
BVAR	**Borovoye Array**	**24.74 341**		P	**P**	**04 21 58.9**	**+0.2**
	comp=Z,1.0nm,0.4s,mb3.7,baz=143,slow=9.5,SNR=7.8						
SONM	**Songino Array**	**24.80 38**		P	**P**	**04 22 00.3**	**+0.8**
	comp=Z,2.0nm,0.7s,mb3.8,baz=225,slow=8.2,SNR=8.8						
ZAK	**Zakamensk**	**24.97 31**		*e*P	**P**	**04 22 02.0**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6						
HHC	**Hu-ho-hao-te**	**25.01 57**		*e*P	**P**	**04 22 03.1**	**+1.6**
HHC				AP	pP	04 22 13.2	+8.8
HHC				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.1						
HHC				AMB	AMB		
	comp=Z,102nm,4.3s						
HHC				LR	LR		
	comp=N,187nm,15.1s,MS3.8						
HHC				LR	LR		
	comp=E,137nm,15.9s,MS3.8						
HHC				LR	LR		
	comp=Z,212nm,14.1s,MS3.8						
ULN	**Ulaanbaatar**	**25.18 39**		*e*P	**P**	**04 22 02.9**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**25.18 39**		*e*P	**P**	**04 22 02.9**	**-0.1**
	comp=Z,3.7nm,0.9s,mb3.9						
CHKZ	**Chkalovo**	**25.25 342**		*e*P	**P**	**04 22 03.5**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.2						
CHKZ	**Chkalovo**	**25.25 342**		*e*P	**P**	**04 22 03.5**	**-0.2**
	comp=Z,7.6nm,1.1s,mb4.1						
CN2	**Changchun**	**35.68 56**		*e*P	**P**	**04 23 35.9**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**41.55 297**		P	**P**	**04 24 27.1**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**41.55 297**		P	**P**	**04 24 27.1**	**+1.7**
	comp=Z,1.2nm,0.9s,mb3.5,baz=127,slow=6.2,SNR=5.9						
AKASG	**Malin Array Be**	**44.98 313**		P	**P**	**04 24 54.2**	**+1.0**
	comp=Z,0.2nm,0.2s,mb3.5,baz=76,slow=7.7,SNR=3.8						
FINES	**FINESS Array B**	**48.49 327**		P	**P**	**04 25 19.9**	**-0.7**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**48.49 327**		P	**P**	**04 25 19.9**	**-0.7**
	comp=Z,1.9nm,0.8s,mb4.2,baz=143,slow=9.5,SNR=7.1						
FINES	**FINESS Array B**	**48.49 327**		P	**P**	**04 25 19.9**	**-0.7**
ARCES	**ARCESS Array B**	**50.96 337**		P	**P**	**04 25 38.9**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**50.96 337**		P	**P**	**04 25 38.9**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.2,baz=90,slow=7.3,SNR=10						
HFS	**Hagfors**	**54.36 325**		P	**P**	**04 26 04.0**	**-0.9**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	**Hagfors**	**54.36 325**		P	**P**	**04 26 04.0**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.1,baz=97,slow=12,SNR=5.7						
NOA	**NORSAR Array B**	**55.58 326**		P	**P**	**04 26 12.4**	**-1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**55.58 326**		P	**P**	**04 26 12.4**	**-1.4**
	comp=Z,1.2nm,0.8s,mb4.0,baz=131,slow=21,SNR=3.0						
WRA	**Warramunga Arr**	**69.80 129**		P	**P**	**04 27 49.9**	**+0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**69.80 129**		P	**P**	**04 27 49.9**	**+0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=324,slow=6.4,SNR=7.2						
ILAR	**Eielson Array**	**77.49 20**		P	**P**	**04 28 32.4**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**77.49 20**		P	**P**	**04 28 32.4**	**-0.6**
	comp=Z,1.2nm,0.9s,mb3.8,baz=299,slow=5.9,SNR=8.9						
INK	**Inuvik**	**77.97 13**		P	**P**	**04 28 34.9**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**77.97 13**		P	**P**	**04 28 34.9**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=353,slow=4.7,SNR=7.5						
INK	**Inuvik**	**77.97 13**		P	**P**	**04 28 34.9**	**-0.6**
YKA	**Yellowknife Ar**	**86.44 8**		P	**P**	**04 29 19.2**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**86.44 8**		P	**P**	**04 29 19.2**	**-0.4**
	comp=Z,1.2nm,0.7s,mb4.2,baz=338,slow=5.0,SNR=27						
YKA	**Yellowknife Ar**	**86.44 8**		P	**P**	**04 29 19.2**	**-0.4**
TXAR	**Lajitas Array**	**120.36 7**		PKP	PKPdf	04 35 28.3	-2.8
	comp=Z,0.2nm,0.6s,baz=297,slow=2.0,SNR=2.7						
SIV	**San Ignacio**	**144.71 286**		PKP	PKPdf	04 36 14.1	-2.6
	comp=Z,1.1nm,0.8s,baz=6.2,slow=2.3,SNR=4.9						

IDC 08 04:28:15.1±2.2, 33.55N×92.62E, mb3.6/2, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=84.0km s-min=32.9km az=72.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.39 332**		Pn	P	04 31 50.2	-4.9
	0.1nm,0.3s,baz=181,slow=11,SNR=8.0						
SONM	**Songino Array**	**17.64 32**		P	P	04 32 21.1	-2.7
	0.1nm,0.3s,baz=210,slow=17,SNR=3.8						
WRA	**Warramunga Arr**	**66.42 137**		P	P	04 39 06.1	-2.4
	1.5nm,1.3s,baz=325,slow=6.4,SNR=4.9						
YKA	**Yellowknife Ar**	**81.82 12**		P	P	04 40 36.1	-0.6
	0.2nm,0.6s,baz=337,slow=5.3,SNR=9.3						

NEIC ***08*** *04:32:38.0, 46.26N×73.45W, h18km, MN3.4(OTT), After OTT.*

NEIC Felt at Saint-Felix-de-Valois and Saint-Gabriel.

OTT 08 04:32:38.6±0.1, 46.27N×73.46W, h18km, MN3.3/31, 4D, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DPQ	**Saint Jean**	**0.62 49**		⇓PG	Pb	04 32 50.1	-0.6
DPQ				SG	Sb	04 32 58.4	-0.6
DPQ				Trac		04 32 59.1	
	comp=Z,262nm,0.0s						
MRHQ	**Morin Heights**	**0.65 234**		⇓PG	Pb	04 32 51.0	-0.1
MRHQ				SG	Sb	04 33 00.1	+0.5
MRHQ				Trac		04 33 01.4	
	comp=Z,40nm,0.0s						
TRQ	**Mont Tremblant**	**0.76 267**		PG	Pb	04 32 53.0	-0.1
TRQ				SG	Sb	04 33 03.2	+0.2
TRQ				Trac		04 33 06.0	
	comp=Z,199nm,0.1s						
MNT	**Montreal**	**0.78 189**		⇓PG	Pb	04 32 53.0	-0.3
MNT				SG	Sb	04 33 03.5	+0.2
MNT				Trac		04 33 04.0	
	comp=Z,109nm,0.1s						
ALFO	**Alfred**	**1.18 238**		PG	Pb	04 32 59.9	-0.4
ALFO				SG	Sb	04 33 15.9	+0.8
ALFO				Trac		04 33 17.6	
	comp=Z,86nm,0.1s						
MOQ	**Mont Orford**	**1.27 138**		PG	Pn	04 33 01.5	-0.2
MOQ				SG	Sb	04 33 17.8	0.0
MOQ				Trac		04 33 19.7	
	comp=Z,77nm,0.1s						
GAC	**Glen Almond**	**1.52 249**		⇓PG	Pn	04 33 05.5	+0.3
GAC				PG	Pn	04 33 05.5	+0.3
GAC				SG	Sn	04 33 25.5	+0.9
GAC				SG	Sn	04 33 25.6	+1.0
GAC				Trac		04 33 27.2	
	comp=Z,158nm,0.2s						
GAC				Trac		04 33 27.3	
	comp=Z,184nm,0.2s						
QCQ	**Quebec**	**1.59 71**		PG	Pn	04 33 06.6	+0.3
QCQ				SG	Sn	04 33 27.1	+0.7
QCQ				Trac		04 33 29.5	
	comp=Z,66nm,0.1s						
MSNY	**Massena**	**1.61 218**		*e*P	Pn	04 33 06.1	-0.4
GRQ	**Grand Remous**	**1.69 282**		PG	Pn	04 33 08.3	+0.5
GRQ				SG	Sn	04 33 31.5	+2.4
GRQ				Trac		04 33 33.4	
	comp=Z,85nm,0.1s						
WBO	**Williamsburg**	**1.80 226**		PG	Pn	04 33 09.8	+0.5
OTT	**Ottawa**	**1.81 242**		PG	Pn	04 33 10.2	+0.9
OTT				PG	Pn	04 33 10.3	+0.9
OTT				SG	Sn	04 33 33.0	+1.1
OTT				SG	Sn	04 33 33.4	+1.5
OTT				Trac		04 33 37.5	
	comp=Z,39nm,0.1s						
OTT				Trac		04 33 37.6	
	comp=Z,82nm,0.1s						
DAQ	**Lac Daran**	**2.27 41**		PN	Pn	04 33 15.5	-0.5
DAQ				SN	Sn	04 33 43.9	+0.1
DAQ				SG	Sn	04 33 47.0	+3.2
DAQ				Trac		04 33 52.0	
	comp=Z,72nm,0.1s						
CBRQ	**Cabonga Reserv**	**2.32 298**		PN	Pn	04 33 16.2	-0.4
CBRQ				SN	Sn	04 33 48.2	+3.3
CBRQ				Trac		04 33 52.5	
	comp=Z,25nm,0.1s						
NCB	**Newcomb**	**2.36 194**		*e*P	Pn	04 33 16.5	-0.8
A54	**Misere**	**2.40 59**		PN	Pn	04 33 17.4	-0.4
A54				SN	Sn	04 33 46.9	-0.3
A54				SG	Sn	04 33 51.2	+4.1
A54				Trac		04 33 56.5	
	comp=Z,25nm,0.1s						
A11	**Saint Roch-des**	**2.44 65**		PN	Pn	04 33 18.6	+0.2
A11				SN	Sn	04 33 51.8	+3.7
A11				Trac		04 33 55.3	
	comp=Z,32nm,0.2s						
MPPO	**Murphy's Point**	**2.48 234**		PN	Pn	04 33 19.1	+0.1
MPPO				SN	Sn	04 33 48.0	-1.0
MPPO				SG	Sn	04 33 53.5	+4.5
MPPO				Trac		04 33 57.2	
	comp=Z,22nm,0.1s						
LMQ	**La Malbaie**	**2.50 58**		PN	Pn	04 33 18.5	-0.7
LMQ				SN	Sn	04 33 49.0	-0

A21			SG	Sn	04 34 08.1	+7.1
A21			Trac		04 34 10.7	
	comp=Z,57nm,0.2s					
KGNO	**Kingston**	**2.96 227**	PN	Pn	04 33 25.4	-0.4
KGNO			SN	Sn	04 34 00.3	-0.9
KGNO			SG	Sn	04 34 09.6	+8.3
KGNO			Trac		04 34 13.5	
	comp=Z,13nm,0.1s					
FFD	**Franklin Falls**	**3.08 155**	*e*P	Pn	04 33 26.6	-0.9
ALGO	**Algonquin Park**	**3.21 266**	PN	Pn	04 33 28.2	-1.2
ALGO			SN	Sn	04 34 06.4	-1.2
ALGO			SG	Sn	04 34 15.5	+8.0
ALGO			Trac		04 34 18.8	
	comp=Z,117nm,0.2s					
VLDQ	**Val d'Or**	**3.29 306**	PN	Pn	04 33 32.7	+2.2
VLDQ			PG	Pn	04 33 40.5	+10
VLDQ			SN	Sn	04 34 12.8	+3.2
VLDQ			SG	Sn	04 34 26.1	+17
VLDQ			Trac		04 34 30.1	
	comp=Z,15nm,0.2s					
BANO	**Bancroft**	**3.38 250**	PN	Pn	04 33 31.8	0.0
BANO			SN	Sn	04 34 09.6	-2.1
BANO			SG	Sn	04 34 19.1	+7.3
DELO	**Deloro Mine**	**3.42 241**	PN	Pn	04 33 36.2	+4.0
DELO			SN	Sn	04 34 21.9	+9.1
PECO	**Prince Edward**	**3.42 228**	PN	Pn	04 33 32.3	-0.1
PECO			SN	Sn	04 34 11.2	-1.8
PECO			SG	Sn	04 34 24.1	+11
PECO			Trac		04 34 27.4	
	comp=Z,19nm,0.1s					
EEO	**Eldee**	**3.90 277**	PN	Pn	04 33 37.9	-1.3
EEO			SN	Sn	04 34 23.6	-1.3
EEO			SG	Sn	04 34 39.8	+15
EEO			Trac		04 34 41.8	
	comp=Z,21nm,0.2s					
HRV	**Harvard--Oak R**	**4.00 159**	P	Pn	04 33 36.4	-4.2
QUA2	**Belchertown**	**4.07 168**	P	Pn	04 33 39.8	-1.7
WES	**Weston**	**4.17 158**	P	Pn	04 33 42.1	-1.0
WLVO	**Wesleyville**	**4.21 238**	PN	Pn	04 33 46.7	+3.2
WLVO			SN	Sn	04 34 30.1	-2.8
LINO	**Lindsay**	**4.21 245**	PN	Pn	04 33 41.7	-1.9
LINO			PG	Pn	04 33 50.0	+6.4
BUKO	**Buck Lake**	**4.23 261**	PN	Pn	04 33 41.8	-2.1
SADO	**Sadowa**	**4.27 251**	PN	Pn	04 33 42.9	-1.5
SADO			SN	Sn	04 34 29.7	-4.6
SADO			SG	Sn	04 34 46.6	+12
SADO			Trac		04 34 53.5	
	comp=Z,20nm,0.2s					
RSPO	**Restoule Provi**	**4.38 270**	PN	Pn	04 33 43.5	-2.5
RSPO			SN	Sn	04 34 34.5	-2.8
RSPO			SG	Sn	04 34 52.4	+15
RSPO			Trac		04 34 58.2	
	comp=Z,21nm,0.2s					
BRYW	**Bryant College**	**4.56 162**	P	Pn	04 33 46.9	-1.7
PKRO	**Pickering**	**4.59 242**	PN	Pn	04 33 56.0	+7.0
PKRO			SG	Sn	04 34 59.6	+17
PKRO			Trac		04 35 14.5	
	comp=Z,90nm,0.3s					
GENY	**Geneseo**	**4.69 223**	P	Pn	04 33 48.1	-2.2
MEDO	**Medina**	**4.72 231**	PN	Pn	04 33 50.5	-0.3
MEDO			SG	Sn	04 35 02.4	+17
MEDO			Trac		04 35 08.4	
	comp=Z,9.2nm,0.1s					
CNQ	**Baie Comeau**	**4.73 48**	PN	Pn	04 33 48.1	-2.8
CNQ			SN	Sn	04 34 39.8	-6.3
CNQ			SG	Sn	04 35 01.4	+15
CNQ			Trac		04 35 06.8	
	comp=Z,13nm,0.2s					
GGN	**Saint George**	**4.78 102**	PN	Pn	04 33 50.4	-1.2
GGN			SN	Sn	04 34 42.5	-4.7
GGN			SG	Sn	04 35 02.2	+15
GGN			Trac		04 35 11.1	
	comp=Z,12nm,0.3s					
KILO	**Kirkland Lake**	**4.80 300**	PN	Pn	04 33 48.8	-3.2
KILO			SN	Sn	04 34 46.1	-1.7
KILO			SG	Sn	04 35 05.1	+17
KILO			Trac		04 35 07.6	
	comp=Z,23nm,0.2s					
KLBO	**Killbear Provi**	**4.81 261**	PN	Pn	04 33 50.9	-1.2
KLBO			SN	Sn	04 34 45.2	-2.8
KLBO			SG	Sn	04 35 05.4	+17
KLBO			Trac		04 35 05.6	
	comp=Z,31nm,0.3s					
GSQ	**Grosses Roches**	**5.04 56**	PN	Pn	04 33 54.0	-1.4
GSQ			Trac		04 35 17.8	
	comp=Z,16nm,0.4s					
STCO	**Saint Catharin**	**5.09 235**	SG	Sn	04 35 13.1	+18
STCO			Trac		04 35 20.9	
	comp=Z,31nm,0.2s					
CLWO	**Collingwood**	**5.16 252**	PN	Pn	04 33 55.4	-1.6
CLWO			SN	Sn	04 34 51.4	-5.3
CLWO			SG	Sn	04 35 15.4	+19
CLWO			Trac		04 35 20.1	
	comp=Z,29nm,0.2s					
EFO	**Effingham**	**5.25 235**	PG	Pn	04 34 07.8	+10
EFO			SG	Sn	04 35 18.2	+19
EFO			Trac		04 35 26.0	
	comp=Z,10nm,0.2s					
PAL	**Palisades**	**5.27 184**	*e*Lg		04 35 15.8	
ICQ	**Pointe Anglais**	**5.28 50**	PN	Pn	04 33 55.2	-3.5
ICQ			SN	Sn	04 34 51.8	-8.1
ICQ			SG	Sn	04 35 16.9	+17
MNQ	**Manicouagan**	**5.28 34**	PN	Pn	04 33 57.3	-1.5
MNQ			SN	Sn	04 34 54.9	-5.0
MNQ			SG	Sn	04 35 18.2	+18
MNQ			Trac		04 35 31.1	
	comp=Z,22nm,0.3s					
ACTO	**Acton**	**5.39 243**	PN	Pn	04 34 03.0	+2.7
ACTO			SN	Sn	04 34 57.0	-5.6
ACTO			SG	Sn	04 35 21.4	+19
ACTO			Trac		04 35 33.5	
	comp=Z,20nm,0.2s					
SUNO	**Sudbury Onapin**	**5.46 277**	SN	Sn	04 35 00.0	-4.4
SUNO			SG	Sn	04 35 22.0	+18
SUNO			Trac		04 35 31.6	
	comp=Z,6.6nm,0.1s					
TYNO	**Tyneside**	**5.56 238**	SN	Sn	04 35 02.9	-4.1
TYNO			SG	Sn	04 35 27.6	+21
TYNO			Trac		04 35 38.3	
	comp=Z,12nm,0.1s					
ELGO	**Elora Gorge**	**5.59 245**	SN	Sn	04 35 02.2	-5.4
ELGO			SG	Sn	04 35 30.1	+23
ELGO			Trac		04 35 35.1	
	comp=Z,6.5nm,0.1s					
MALO	**McAlpine Lake**	**5.65 314**	PN	Pn	04 34 00.7	-3.2
MALO			SN	Sn	04 35 00.8	-8.3
MALO			SG	Sn	04 35 32.2	+23
MALO			Trac		04 35 36.3	
	comp=Z,13nm,0.2s					
TOBO	**Tobermory, Bru**	**5.74 262**	PN	Pn	04 34 04.0	-1.2
TOBO			SN	Sn	04 35 05.2	-6.2
TOBO			SG	Sn	04 35 33.1	+22
TOBO			Trac		04 35 37.7	
	comp=Z,14nm,0.3s					
BRCO	**Bruce Peninsul**	**5.99 253**	SN	Sn	04 35 12.9	-4.7
BRCO			LG		04 35 43.0	
BRCO			Trac		04 35 52.0	
	comp=Z,28nm,0.2s					
SMQ	**Clarke City**	**6.00 46**	PN	Pn	04 34 05.7	-3.1
SMQ			SN	Sn	04 35 11.0	-6.8
SMQ			LG		04 35 45.5	
SMQ			Trac		04 35 47.0	
	comp=Z,6.7nm,0.2s					
LMN	**Caledonia Moun**	**6.04 91**	PN	Pn	04 34 06.6	-2.8
LMN			SN	Sn	04 35 13.8	-4.9
LMN			LG		04 35 45.7	
LMN			Trac		04 36 04.2	
	comp=Z,2.5nm,0.3s					
SSPA	**Standing Stone**	**6.49 211**	P	Pn	04 34 12.2	-3.5
OTRO	**Otter Rapids**	**6.71 309**	PN	Pn	04 34 15.3	-3.7
OTRO			SN	Sn	04 35 31.4	-4.4
OTRO			SG	Sn	04 35 50.4	+15
OTRO			Trac		04 36 00.8	
	comp=Z,19nm,0.1s					
KAPO	**Kapuskasing**	**6.87 301**	PN	Pn	04 34 17.1	-4.0
KAPO			SN	Sn	04 35 32.5	-7.1
KAPO			Trac		04 36 17.6	
	comp=Z,8.2nm,0.3s					
HAL	**Halifax**	**7.13 100**	SN	Sn	04 35 32.9	-13
LG4Q	**La Grande 4**	**7.38 357**	PN	Pn	04 34 23.7	-4.5
LG4Q			SN	Sn	04 35 40.0	-12
LG4Q			LG		04 36 23.0	
LG4Q			Trac		04 36 30.8	
	comp=Z,18nm,0.4s					
PLIO	**Pelee Island,**	**8.00 239**	PN	P	04 34 19.7	-17
PLIO			SN	Sn	04 35 59.2	-8.8
PLIO			LG		04 36 39.2	
PLIO			Trac		04 36 44.6	
	comp=Z,4.7nm,0.2s					
PNPO	**Pukaskwa Natio**	**9.00 290**	PN	P	04 34 46.3	-4.6
PNPO			SN	Sn	04 36 27.8	-5.0
PNPO			LG		04 37 12.9	
VIMO	**Victor Mine**	**9.36 318**	PN	P	04 34 49.8	-5.9
VIMO			SN	Sn	04 36 28.8	-13
VIMO			LG		04 37 23.7	
VIMO			Trac		04 37 37.5	
	comp=Z,4.9nm,0.3s					
SCHQ	**Schefferville**	**9.55 24**	P	P	04 34 51.5	-6.8
SCHQ	**Schefferville**	**9.55 24**	PN	P	04 34 54.2	-4.0
SCHQ			SN	Sn	04 36 32.7	-13
SCHQ			SG	Sn	04 37 28.8	+43
SCHQ			Trac		04 37 30.9	
	comp=Z,11nm,0.8s					
GTO	**Geraldton**	**9.70 296**	PN	P	04 34 55.5	-4.8
GTO			SN	Sn	04 36 38.6	-11
GTO			LG		04 37 34.8	
GTO			Trac		04 37 43.5	
	comp=Z,3.6nm,0.3s					
SILO	**Sutton Inlier**	**10.99 323**	PN	P	04 35 10.5	-7.5
SILO			SN	S	04 37 06.9	-15
SILO			LG		04 38 13.1	
SILO			Trac		04 38 17.7	
	comp=Z,4.2nm,0.4s					
DRLN	**Deer Lake**	**11.15 69**	PN	P	04 35 14.7	-5.5
DRLN			SN	S	04 37 13.8	-12
KUQ	**Kuujjuuaa**	**12.25 13**	PN	P	04 35 23.6	-12
KUQ			SN	S	04 37 42.2	-10
KUQ			LG		04 38 52.6	
KUQ			Trac		04 39 08.9	
	comp=Z,1.9nm,0.4s					
PKLO	**Pickle Lake**	**12.28 301**	SN	S	04 37 40.0	-13
PKLO			LG		04 38 56.0	
PKLO			Trac		04 39 08.8	
	comp=Z,2.6nm,0.4s					

IDC 08 04:52:54.2±11.0, 16.48S×165.14E, mb4.0/3, mb1 4.2/4, mb1mx3.9/15, mbtmp4.1/4, ML4.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/25, Error ellipse: s-maj=205.6km s-min=33.1km az=50.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.70**	**168**	*e*P	Pn	04 54 20.0	-2.2
DZM				*e*S	Sn	04 55 29.3	0.0
DZM	**Mont Dzumac**	**5.70**	**168**	Pn	Pn	04 54 20.6	-1.6
	13nm,0.3s,baz=52,slow=16,SNR=95						
DZM				Sn	Sn	04 55 27.4	-2.0
	baz=323,slow=24,SNR=2.2						
DZM				LR	LR	04 56 09.8	
	comp=Z,127nm,19.4s,baz=188,slow=34						
NOUC	**Port Laguerre**	**5.70**	**169**	*e*P	Pn	04 54 22.0	-0.3
STKA	**Stephens Creek**	**26.30**	**230**	P	P	04 58 31.4	-2.0
	1.3nm,0.5s,baz=69,slow=8.6,SNR=5.4						
WRA	**Warramunga Arr**	**29.44**	**259**	P	P	04 58 59.6	-2.4
	0.4nm,0.3s,baz=78,slow=5.9,SNR=17						
ASAR	**Alice Springs**	**30.15**	**251**	P	P	04 59 06.7	-1.6
	1.0nm,0.3s,baz=83,slow=8.6,SNR=13						

*NEIC **08** 05:01:56.5±0.7, 50.10N×18.47E, h5km, ML2.8(VIE), Error ellipse: s-maj=10.2km s-min=5.6km az=192.0*
*IPEC **08** 05:01:56.8±0.2, 50.09N×18.49E, ML2.0/3, Error ellipse: s-maj=1.9km s-min=1.1km az=163.0*
*WAR **08** 05:01:57.0, 50.07N×18.47E, h0km, ML2.6, Mining Induced*
*CSEM **08** 05:01:57.6±0.2, 50.14N×18.43E, h2km, ML3.1/3, Error ellipse: s-maj=4.3km s-min=2.6km az=8.0*
*PRU **08** 05:01:57.5, 50.11N×18.42E*

ISC 08 05:01:55.4±0.5, 50.12N±0.03×18.41E±0.03, n26, σ1§40/50, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.14**	**257**	⇓*i*PG	**Pg**	**05 02 01.5**	**+3.2**
RAC				⇓*e*SG	**Sg**	**05 02 05.5**	**+5.3**
RAC	**Raciborz**	**0.14**	**257**	⇓*i*Pg	**Pg**	**05 02 01.5**	**+3.2**
RAC				*e*Sg	**Sg**	**05 02 04.6**	**+4.4**
OKC	**Ostrava-Krasne**	**0.33**	**212**	*e*PG	**Pg**	**05 02 03.5**	**+1.6**
OKC				*e*SG	**Sg**	**05 02 08.3**	**+2.0**
	149nm,0.6s						
MORC	**Moravsky Berou**	**0.66**	**239**	*e*Pg	**Pg**	**05 02 09.2**	**+0.7**
MORC	**Moravsky Berou**	**0.66**	**239**	*e*Pg	**Pg**	**05 02 09.7**	**+1.2**
MORC				*e*Sg	**Sg**	**05 02 19.0**	**+1.7**
	42nm,0.2s						
OJC	**Ojcow**	**0.90**	**83**	*e*Pg	**Pg**	**05 02 13.7**	**+0.4**
OJC				*e*Sg	**Sg**	**05 02 26.6**	**+1.4**
LIKS	**Likavka**	**1.16**	**157**	*e*PN	**Pn**	**05 02 18.0**	**-0.8**
LIKS				*e*SN	**Sn**	**05 02 36.3**	**+0.8**
JAVC	**Velka Javorina**	**1.35**	**201**	*e*Pn	**Pn**	**05 02 22.8**	**+1.3**
DPC	**Dobruska-Polom**	**1.36**	**281**	*e*PG	**Pg**	**05 02 23.3**	**+0.7**
DPC				*e*SG	**Sg**	**05 02 41.8**	**+1.0**
	61nm,0.3s						
DPC	**Dobruska-Polom**	**1.36**	**281**	*e*Pg	**Pg**	**05 02 23.3**	**+0.7**
DPC				*e*Sg	**Sg**	**05 02 41.7**	**+0.9**
NIE	**Niedzica**	**1.42**	**119**	*e*PG	**Pg**	**05 02 21.0**	**-2.7**
NIE				*e*SG	**Sg**	**05 02 42.0**	**-0.5**
VRAC	**Vranov**	**1.43**	**236**	*e*Pn	**Pn**	**05 02 23.7**	**+1.0**
VRAC				*e*Sg	**Sg**	**05 02 42.5**	**-0.6**
	13nm,0.2s						
KOLL	**Kolacno**	**1.54**	**180**	*e*SN	**Sn**	**05 02 46.0**	**+0.8**
KSP	**Ksiaz**	**1.54**	**299**	*e*Pn	**Pn**	**05 02 25.5**	**+1.3**
KSP				*e*Pg	**Pg**	**05 02 28.2**	**+2.1**
KSP				*e*Sg	**Sg**	**05 02 47.5**	**+0.9**
KSP	**Ksiaz**	**1.54**	**299**	*e*PN	**Pn**	**05 02 25.0**	**+0.8**
KSP				*e*PG	**Pg**	**05 02 26.0**	**-0.1**
KSP				*e*SG	**Sg**	**05 02 48.0**	**+1.4**
KSP	**Ksiaz**	**1.54**	**299**	*e*Pg	**Pg**	**05 02 28.2**	**+2.1**
KSP				*e*Sg	**Sg**	**05 02 47.5**	**+0.9**
UPC	**Upice**	**1.59**	**285**	*e*PG	**Pg**	**05 02 27.2**	**+0.1**
UPC				*e*SG	**Sg**	**05 02 48.1**	**-0.2**
VYHS	**Vyhne**	**1.65**	**170**	*e*PN	**Pn**	**05 02 26.1**	**+0.4**
VYHS				*e*SN	**Sn**	**05 02 48.2**	**+0.3**
KRUC	**Moravsky**	**1.69**	**232**	*e*Pn	**Pn**	**05 02 27.5**	**+1.2**
KRUC				*e*Sg	**Sg**	**05 02 50.3**	**-1.2**
	11nm,0.2s						
CRVS	**Cervenica-Dubn**	**2.33**	**120**	*e*PG	**Pg**	**05 02 39.9**	**-2.0**
CRVS				*e*SG	**Sg**	**05 03 11.4**	**-1.5**
PRU	**Pruhonice**	**2.50**	**269**	*e*SG	**Sg**	**05 03 14.7**	**-3.9**
BRG	**Berggiesshubel**	**2.95**	**287**	*e*Pg	**Pg**	**05 02 52.5**	**-1.9**
BRG				*e*Sg	**Sg**	**05 03 31.1**	**-2.6**
KHC	**Kasperske Hory**	**3.29**	**254**	*e*PN	**Pn**	**05 02 47.0**	**-2.3**
KHC				*e*PG	**Pg**	**05 02 59.0**	**-2.2**
KHC				*e*x	x	05 03 19.0	
KHC				*e*SG	**Sg**	**05 03 41.4**	**-3.7**
ARSA	**Arzberg**	**3.45**	**215**	⇑*i*PN	**Pn**	**05 02 51.9**	**+0.4**
ARSA				*i* SG	**Sg**	**05 03 48.6**	**-1.6**
	1.7nm,0.3s						
MOA	**Molln**	**3.55**	**232**	⇑*i*PN	**Pn**	**05 02 53.2**	**+0.3**
MOA				*i* SG	**Sg**	**05 03 51.6**	**-2.0**
	5.4nm,0.4s						
CLL	**Collm**	**3.64**	**291**	*e*SG	**Sg**	**05 03 54.0**	**-2.6**

KRSC 08 05:13:11.6±1.0, 52.54N×160.54E, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.64**	**331**	*e*P	Pg	05 13 26.5	+2.1
SPN				*e*S	Sg	05 13 36.1	+3.2
NLC	**Nalytchevo**	**0.96**	**312**	P	Pg	05 13 31.6	+0.8
NLC				*e*S	Sg	05 13 46.2	+2.6
UGLR	**Uglovaya**	**1.24**	**303**	*e*P	Pb	05 13 37.4	+1.9
PET	**Petropavlovsk**	**1.24**	**294**	*e*P	Pb	05 13 36.4	+0.7
PET				*e*S	Sb	05 13 54.2	+2.1
RUS	**Russkaya**	**1.24**	**266**	*e*P	Pb	05 13 37.1	+1.4
RUS				*e*S	Sb	05 13 55.3	+3.2
AVH	**Avacha**	**1.31**	**304**	*e*P	Pb	05 13 38.5	+1.7
KOK	**Koryaka**	**1.38**	**304**	*e*P	Pb	05 13 40.3	+2.4
KRMR	**Karymshinskiy**	**1.50**	**282**	*e*P	Pn	05 13 41.0	+1.2
KRMR				*i* S	Sb	05 14 03.5	+4.1
GRL	**Gorelyy**	**1.51**	**271**	*e*P	Pn	05 13 41.9	+2.0
KII	**Karymskiy**	**1.64**	**337**	*i* P	Pn	05 13 43.0	+1.2
KII				*e*S	Sb	05 14 05.4	+1.9
GNL	**Ganaly**	**1.95**	**307**	*e*P	Pn	05 13 48.3	+2.1
GNL				*e*S	Sn	05 14 14.7	+2.9
APC	**Apacha**	**2.09**	**282**	*e*P	Pn	05 13 50.9	+2.6
APC				*e*S	Sn	05 14 19.7	+4.3
APC				Smax			
	60nm,1.1s						
MKZ	**Mys Kozlova**	**2.14**	**19**	*e*P	Pn	05 13 50.5	+1.5
PAU	**Pauzhetka**	**2.54**	**246**	P	Pn	05 13 54.8	0.0
TUMR	**Tumrok**	**2.76**	**355**	*i* P	Pn	05 13 59.3	+1.4
TUMR				*e*S	Sn	05 14 34.3	+1.9
KMNR	**Kamenistaya**	**3.23**	**357**	*e*P	Pn	05 14 07.5	+3.0
SKR	**Severo-Kuril's**	**3.33**	**238**	*e*P	Pn	05 14 03.9	-2.0
ESO	**Esso**	**3.56**	**343**	P	Pn	05 14 10.4	+1.2
SRDR	**Sredinnyy**	**3.82**	**353**	*e*P	Pn	05 14 14.7	+1.8
KBG	**Krutoberegovo**	**3.93**	**18**	*e*S	Sn	05 15 00.5	-1.6
KBG				Smax			
	100nm,0.8s						

*BJI **08** 05:35:57.5, 4.58N×94.51E, h52km, mB4.9, mb5.0, Msz4.9*
*MOS **08** 05:36:00.0±0.8, 5.29N×94.50E, h33km, mb4.8/9, Error ellipse: s-maj=32.5km s-min=9.6km az=109.8*
*NEIC **08** 05:36:00.9±0.4, 5.10N×94.17E, h30km, mb4.8/14, Error ellipse: s-maj=13.5km s-min=7.3km az=49.0*
*IDC **08** 05:36:03.3±0.7, 5.30N×94.36E, h46km±5km, mb4.3/16, mb1 4.4/16, mb1mx4.3/21, mbtmp4.5/16, MS3.2/1, Ms1 3.4/1, ms1mx2.9/36, Error ellipse: s-maj=25.8km s-min=12.4km az=51.0*

ISC 08 05:36:00.5±0.5, 5.28N±0.07×94.42E±0.08, h33km, (h45km±1.5km:pP-P), n74, σ0§92/65, mb4.7/37, MS4.9/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.20**	**90**	*e*Pn	**Pn**	**05 37 34.1**	**+1.9**
CM31	**Chiang Mai Arr**	**13.83**	**18**	Pn	**P**	**05 39 20.5**	**+4.0**
	19nm,0.4s						
CMAR	**Chiang Mai Arr**	**13.83**	**18**	P	**P**	**05 39 19.8**	**+3.3**
	2.8nm,0.3s,baz=207,slow=14,SNR=44						
CMAR				LR	LR	05 44 33.2	
	comp=Z,104nm,19.2s,baz=204,slow=37						
JIRN	**Jiri**	**23.60**	**342**	*e*P	**P**	**05 41 09.0**	**-0.4**
	47nm,0.7s,mb5.0						
PKI	**Pulchoki**	**23.78**	**340**	*e*P	**P**	**05 41 10.9**	**-0.2**
	21nm,0.5s,mb4.8						
PKI	**Pulchoki**	**23.78**	**340**	*e*P	**P**	**05 41 10.9**	**-0.2**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.5						
DMN	**Daman**	**23.92**	**339**	*e*P	**P**	**05 41 12.2**	**-0.2**
	comp=Z,13nm,0.5s,mb4.6						
GUN	**Gumba**	**23.93**	**341**	*e*P	**P**	**05 41 12.2**	**-0.4**
	comp=Z,45nm,0.6s,mb5.1						
KKN	**Kakani**	**24.02**	**340**	*e*P	**P**	**05 41 13.4**	**-0.1**
	comp=Z,26nm,0.7s,mb4.8						
KKN	**Kakani**	**24.02**	**340**	*e*P	**P**	**05 41 13.4**	**-0.1**
KKN				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5						
GYA	**Guiyang**	**24.09**	**28**	P	**P**	**05 41 16.1**	**+1.9**
GYA				AMB	AMB		
	comp=Z,30nm,0.6s,mb4.9						
GKN	**Gorkha**	**24.44**	**339**	*e*P	**P**	**05 41 18.4**	**+0.8**
	comp=Z,32nm,0.5s,mb5.0						
KOLN	**Koldanda**	**24.63**	**336**	*e*P	**P**	**05 41 20.7**	**+1.3**
	comp=Z,45nm,0.7s,mb5.1						
XAN	**Xi'an**	**31.63**	**23**	P	**P**	**05 42 21.4**	**-1.4**
XAN				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.1						
GTA	**Gaotai**	**34.33**	**7**	*e*P	**P**	**05 42 45.9**	**-0.3**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.8						
NJ2	**Nanjing**	**35.10**	**38**	*e*P	**P**	**05 42 52.8**	**-0.1**
NJ2				AP	pP	05 43 02.6	0.0
NJ2				S	**S**	**05 48 20.0**	**-2.5**
NJ2				AMB	AMB		
	comp=Z,120nm,0.6s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,410nm,5.0s						
NJ2				LR	LR		
	comp=Z,2μm,16.6s,MS4.9						
SSE	**Sheshan**	**35.94**	**41**	P	**P**	**05 42 57.0**	**-3.0**
SSE				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,22nm,3.5s						
SSE	**Sheshan**	**35.94**	**41**	P	**P**	**05 42 57.0**	**-3.0**
	comp=Z,31nm,0.8s,mb5.3						
FITZ	**Fitzroy Crossi**	**38.57**	**128**	P	**P**	**05 43 21.6**	**-0.6**
	comp=Z,5.3nm,0.5s,mb4.5,baz=307,slow=5.4,SNR=2.8						
JOW	**Kunigami**	**38.74**	**53**	P	**P**	**05 43 23.8**	**+0.2**
	comp=Z,33nm,0.2s,mb5.7,baz=120,slow=23,SNR=5.5						
UCH	**Uchtor**	**40.84**	**337**	P	**P**	**05 43 41.9**	**+1.1**
	SNR=7.8						
TKM2	**Tokmak 2**	**41.03**	**339**	P	**P**	**05 43 43.4**	**+1.1**
	SNR=7.0						
AML	**Almayashu**	**41.08**	**336**	P	**P**	**05 43 44.0**	**+1.3**
	SNR=20						
AAK	**Ala-Archa**	**41.19**	**338**	*i* P	**P**	**05 43 43.7**	**0.0**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
AAK	**Ala-Archa**	**41.19**	**338**	*e*P	**P**	**05 43 44.2**	**+0.6**
	comp=Z,4.5nm,0.8s,mb4.2						
EKS2	**Erkin-Say**	**41.49**	**337**	P	**P**	**05 43 47.5**	**+1.4**
	SNR=7.1						
USP	**Ospenovka**	**41.73**	**338**	P	**P**	**05 43 48.9**	**+0.8**
	SNR=7.5						
MKAR	**Makanchi Array**	**42.67**	**348**	P	**P**	**05 43 55.9**	**+0.2**
	comp=Z,20nm,0.6s,mb5.1,baz=168,slow=7.7,SNR=225						
MKAR				pP	pP	05 44 08.2	+2.5
	comp=Z,6.2nm,0.8s,baz=170,slow=7.4,SNR=4.7						
SONM	**Songino Array**	**43.63**	**12**	P	**P**	**05 44 03.3**	**-0.3**
	comp=Z,3.5nm,0.7s,mb4.2,baz=197,slow=8.5,SNR=15						
SONM				pP	pP	05 44 15.4	+1.9
	comp=Z,5.2nm,0.9s,baz=190,slow=7.5,SNR=8.6						
SONM				PcP	PcP	05 45 49.5	-1.6
	comp=Z,2.0nm,0.5s,baz=192,slow=3.9,SNR=7.0						
ULN	**Ulaanbaatar**	**43.79**	**12**	*i* P	**P**	**05 44 04.2**	**-0.7**
ZAK	**Zakamensk**	**45.57**	**8**	*e*P	**P**	**05 44 18.6**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
WRA	**Warramunga Arr**	**46.56**	**124**	P	**P**	**05 44 27.6**	**+0.3**
	comp=Z,8.2nm,0.7s,mb4.8,baz=302,slow=9.0,SNR=26						
WRAB	**Tennant Creek**	**46.57**	**124**	*e*P	**P**	**05 44 27.4**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
WRAB

comp=Z,2.3nm,0.7s,mb4.3,baz=125,slow=7.1,SNR=12
TIXI Tiksi 69.71 11 *i* P **P 05 47 07.4 -1.3**
TIXI pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
AKASG Malin Array Be 70.36 322 P **P 05 47 10.5 -2.4**
comp=Z,2.7nm,0.5s,mb4.4,baz=89,slow=5.2,SNR=12
AKASG pP pP 05 47 24.6 +1.4
comp=Z,0.7nm,0.4s,baz=80,slow=5.8,SNR=1.3
FINES FINESS Array B 75.13 332 P **P 05 47 39.8 -1.1**
comp=Z,0.8nm,0.4s,mb4.0,baz=98,slow=5.4,SNR=9.7
FINES pP pP 05 47 52.9 +1.7
comp=Z,2.3nm,0.7s,baz=105,slow=5.5,SNR=3.6
OJC Ojcow 76.14 320 *e*P **P 05 47 46.8 0.0**
ARCES ARCESS Array B 77.79 340 P **P 05 47 55.4 -0.3**
comp=Z,1.0nm,0.3s,mb4.2,baz=93,slow=5.6,SNR=13
ARCES pP pP 05 48 08.7 +2.6
comp=Z,1.5nm,0.5s,baz=92,slow=5.2,SNR=1.7
DPC Dobruska-Polom 78.36 320 *e*P **P 05 48 00.4 +1.1**
PRU Pruhonice 79.47 320 *e*P **P 05 48 06.1 +0.8**
GERES GERESS Array B 79.94 319 P **P 05 48 08.1 +0.3**
comp=Z,4.2nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=31
GERES pP pP 05 48 22.2 +3.9
comp=Z,2.4nm,0.7s,baz=90,slow=4.0,SNR=5.6
KHC Kasperske Hory 80.04 319 *e*P **P 05 48 08.5 +0.1**
CLL Collm 80.54 321 *e*P **P 05 48 11.0 0.0**
CLL Collm 80.54 321 P **P 05 48 11.0 0.0**
NOA NORSAR Array B 82.12 331 P **P 05 48 18.3 -0.8**
comp=Z,1.4nm,0.9s,mb3.9,baz=129,slow=3.8,SNR=2.6
LPG La Plagne 84.64 315 *e*P **P 05 48 33.1 +0.9**
comp=Z,9.4nm,0.8s,mb4.7
LPG La Plagne 84.64 315 *e*P **P 05 48 33.1 +0.9**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
ILAR Eielson Array 97.03 22 P **P 05 49 29.7 -0.2**
comp=Z,0.3nm,0.5s,mb4.0,baz=294,slow=4.4,SNR=5.5
YKA Yellowknife Ar 108.87 14 Pdiff Pdif 05 50 23.4 +0.8
comp=Z,0.1nm,0.7s,baz=311,slow=3.3,SNR=3.8
YKA PP PP 05 54 50.3 -7.9
comp=Z,0.2nm,0.6s,baz=337,slow=7.5,SNR=5.7
YKA Yellowknife Ar 108.87 14 Pdif Pdif 05 50 23.4 +0.8
YKA PP PP 05 54 50.4 -7.9
SCHQ Schefferville 118.11 348 PKP PKPdf 05 54 44.3 +0.2
comp=Z,0.4nm,0.4s,baz=264,slow=9.2,SNR=4.4
NVAR Mina Array Bea 126.97 32 PKP PKPdf 05 55 01.5 -0.3
comp=Z,0.4nm,0.4s,baz=297,slow=10,SNR=3.5
NVAR Mina Array Bea 126.97 32 PKP PKPdf 05 55 01.5 -0.3
PDAR Pinedale Array 127.46 22 PKP PKPdf 05 55 03.3 +0.7
comp=Z,0.5nm,0.6s,baz=45,slow=2.1,SNR=3.7
ANMO Albuquerque 135.42 25 PKP PKPdf 05 55 18.1 +0.4
comp=Z,1.0nm,0.9s,baz=315,slow=1.4,SNR=1.6
TXAR Lajitas Array 141.45 26 PKhKP 05 55 24.1
comp=Z,0.4nm,0.4s,baz=247,slow=0.6,SNR=13
CFAA Coronel Fontan 149.17 210 PKPbc PKPdf 05 55 48.3 +6.4
comp=Z,0.4nm,0.5s,baz=145,slow=2.5,SNR=15

*IDC **08** 05:36:10.8±1.8, 6.77S×130.25E, mb4.0/2, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, ML4.0/3, Error ellipse: s-maj=72.7km s-min=25.7km az=71.0*
*NEIC **08** 05:36:17.2±3.0, 6.89S×130.14E, h44km±28km, Error ellipse: s-maj=29.1km s-min=19.3km az=204.0*

ISC 08 05:36:21.9±2.9, 7.2S±0.1×130.1E±0.2, h109km±30km, n9, σ1$04/12, mb3.8/2, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.68**	**201**	*e*P	**P**	**05 39 05.0**	**-1.2**
	4.2nm,0.4s						
FITZ				*e*S	Sx	05 41 04.2	
FITZ	**Fitzroy Crossi**	**11.68**	**201**	Pn	**P**	**05 39 04.7**	**-1.5**
	3.8nm,0.3s,baz=37,slow=9.5,SNR=35						
FITZ				Sn	Sx	05 41 05.5	
	2.9nm,0.3s,baz=70,slow=21,SNR=7.0						
WRAB	**Tennant Creek**	**13.34**	**162**	Pn	**P**	**05 39 27.4**	**-0.6**
WRA	**Warramunga Arr**	**13.35**	**162**	Pn	**P**	**05 39 27.5**	**-0.5**
	0.5nm,0.3s,baz=346,slow=12,SNR=28						
WRA				Sn	**S**	**05 41 47.2**	**-6.9**
	1.1nm,0.3s,baz=324,slow=24,SNR=12						
WB2	**Warramunga Arr**	**13.35**	**162**	*e*P	**P**	**05 39 28.1**	**0.0**
WB2				*e*S	**S**	**05 41 48.5**	**-5.7**
ASAR	**Alice Springs**	**16.80**	**168**	P	**P**	**05 40 13.8**	**+2.0**
	0.3nm,0.3s,baz=346,slow=10,SNR=16						
ASAR				S	**S**	**05 43 13.0**	**-0.8**
	0.3nm,0.3s,baz=349,slow=26,SNR=6.3						
MBWA	**Marble Bar**	**17.12**	**215**	*e*Pn	**P**	**05 40 17.1**	**+1.3**
STKA	**Stephens Creek**	**26.82**	**158**	P	**P**	**05 41 55.0**	**+1.0**
	1.1nm,0.5s,mb3.7,baz=315,slow=8.7,SNR=5.8						
MKAR	**Makanchi Array**	**68.41**	**327**	P	**P**	**05 47 13.2**	**-0.8**
	0.8nm,0.5s,mb3.9,baz=117,slow=6.4,SNR=5.0						

CASC 08 05:37:19.7±2.6, 13.98N×89.78W, h8km, MD4.1, 6C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.15**	**121**	*e*P	Pg	05 37 24.3	+1.2
SNJE	**San Jose**	**0.20**	**123**	*e*P	Pg	05 37 23.4	-0.5
SBLS	**San Blas**	**0.20**	**132**	⇓*e*P	Pg	05 37 24.6	+0.6
BOQS	**Boqueron**	**0.54**	**116**	⇑*e*P	Pg	05 37 30.1	-0.5
BOQS				*e*S	Sg	05 37 37.1	-0.7
MTO2	**Montecristo 2**	**0.58**	**44**	⇑*e*P	Pg	05 37 30.2	-1.2
SNET	**Serv Nac Est T**	**0.60**	**118**	*e*P	Pg	05 37 29.9	-1.9
IXG	**Ixpaco**	**0.69**	**287**	⇑*e*P	Pb	05 37 32.2	-1.2
IXG				*e*S	Sg	05 37 42.1	-0.6
LBRS	**Las Brisas**	**0.75**	**108**	⇓*e*P	Pb	05 37 33.6	-0.9
LBRS				*e*S	Sb	05 37 45.6	+0.9
LFRS	**El Faro**	**0.78**	**117**	⇑*e*P	Pb	05 37 34.2	-0.9
LFRS				*e*S	Sb	05 37 46.2	+0.7
LCBS	**La Ceiba**	**0.84**	**112**	*e*P	Pb	05 37 35.1	-0.9
SNVI	**San Vicente**	**0.98**	**111**	*e*P	Pb	05 37 38.5	+0.1
TP2	**Tecpan 2**	**1.45**	**304**	⇑*e*P	Pn	05 37 46.8	+0.6
CAHU	**Cacacuatique**	**1.54**	**97**	*e*P	Pn	05 37 46.7	-0.8
CAHU				*e*S	Sb	05 38 08.5	+1.1
VSM	**San Miguel**	**1.56**	**110**	⇑*e*P	Pn	05 37 48.4	+0.5
BLLM	**Bellamira**	**1.59**	**109**	⇓*e*P	Pn	05 37 48.4	+0.1
BLLM				*e*S	Sb	05 38 11.9	+3.0
JAT	**Jato**	**1.83**	**281**	*e*P	Pn	05 37 53.0	+1.3
JAT				*e*S	Sn	05 38 19.6	+4.3
CNCH	**Conchagua**	**2.01**	**110**	*e*P	Pn	05 37 55.0	+0.6

*BJI **08** 05:48:35.7, 0.42S×97.57E, h32km, mB5.9, mb5.3, Ms6.8, Msz6.7*
*HRVD **08** 05:48:37.9±0.1, 0.46S×97.71E, h12km, MW6.1/79, Centroid moment Tensor Solution. LP body waves: s74,c164;Mantle waves: s79,c293; Half duration: 2s8 Moment tensor: Scale 10^{18}Nm; M_{rr}0.58±.01; $M_{\theta\theta}$-1.29±.01; $M_{\phi\phi}$0.70±.01; $M_{r\theta}$0.80±.03; $M_{\theta\phi}$1.12±.01; $M_{\phi r}$0.30±.03; Best double couple: $M_0$1.773×10^{18} NP1: ϕ_s336°,δ56°,λ165°. NP2:ϕ_s75°,δ78°,λ35°. Principal axes: T 1.605, Plg33°, Azm301°; N .336, Plg53°, Azm92°; P -1.942, Plg14°, Azm201°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **08** 05:48:37.9±0.1, 0.22S×97.73E, mb5.7/106, ME5.6, MS6.3/142, MW6.1 Error ellipse: s-maj=4.8km s-min=3.5km az=219.0 Broadband fault plane solution: P waves. NP1:ϕ_s335°,δ60°,λ90°. NP2:ϕ_s155°,δ30°,λ90°. Principal axes: T Plg75°, Azm245°; N Plg0°, Azm0°; P Plg15°, Azm65°; Moment Tensor Solution. s39 Moment tensor: Scale 10^{18} Nm; M_{rr}0.20; $M_{\theta\theta}$-1.23; $M_{\phi\phi}$ 1.03; $M_{r\theta}$0.63; $M_{\theta\phi}$1.06; $M_{\phi r}$0.44; Best double couple: $M_0$1.7×10^{18} NP1:ϕ_s335°,δ64°,λ172°. NP2:ϕ_s68°,δ83°, λ26°. Principal axes: T 1.73, Plg24°, Azm295°; N .02, Plg63°, Azm82°; P -1.75, Plg13°, Azm199°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Gunungsitoli, Nias. Also felt at Sibolga, Sumatra.
*MOS **08** 05:48:38.4±1.3, 0.14S×97.81E, h33km, mb5.9/63, MS6.1/30 Error ellipse: s-maj=8.1km s-min=4.3km az=122.6*
*IDC **08** 05:48:39.7±3.7, 0.12S×97.81E, h33km±26km, mb4.7/27, mb1 4.8/28, mb1mx4.8/29, mbtmp4.9/28, ML4.7/1, Error ellipse: s-maj=12.7km s-min=10.0km az=48.0*
*DJA **08** 05:48:40.7±0.9, 0.93S×97.93E, h15km, mb5.8/4, Error ellipse: s-maj=30.9km s-min=8.4km az=72.0*
*CRAAG **08** 05:48:44.1, 1.11N×97.73E, Mb5.8*

ISC 08 05:48:36.5±0.1, 0.21S±0.02×97.78E±0.02, h23km, h23km±1.2km: pP-P, n770, σ1$23/612, mb5.6/155, MS6.3/182, 54C-21D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**2.63**	**95**	*e*Pn	**Pn**	**05 49 19.0**	**+0.4**
PSI	**Prapat**	**3.10**	**22**	*e*P	**Pn**	**05 49 39.4**	**+14**
IPM	**Ipoh**	**5.75**	**34**	P	**Pn**	**05 50 02.7**	**-0.2**
KGM	**Kluang**	**5.96**	**68**	P	**Pn**	**05 50 05.7**	**-0.1**
KULM	**Kulim**	**6.17**	**28**	*e*Pn	**Pn**	**05 50 07.3**	**-1.4**
SNG	**Songkhla**	**7.86**	**21**	P	**Pn**	**05 50 31.5**	**-0.9**
	690nm,1.0s						
PENI	**Pendagan**	**9.10**	**126**	⇑*i*P	**P**	**05 50 47.5**	**-2.2**
PENI				pmax	pmax		
	comp=Z,1μm,0.5s						
PENI	**Pendagan**	**9.10**	**126**	⇑*i*P	**P**	**05 50 47.5**	**-2.2**
	comp=Z,2μm,0.5s						
PULI	**Pulasari**	**10.20**	**127**	⇑*i*P	**P**	**05 51 01.3**	**-3.7**
	comp=Z,624nm,0.2s						
DJA	**Jakarta**	**10.82**	**123**	*e*P	**P**	**05 51 12.9**	**-0.4**
KSM	**Kuching**	**12.64**	**82**	*e*P	**P**	**05 51 39.0**	**+1.0**
PBA	**Port Blair**	**12.80**	**337**	*e*	**P**	**05 51 46.0**	**+5.9**
PBA				*e*		05 55 49.4	
NNT	**Nongplab**	**12.86**	**9**	P	**P**	**05 51 41.5**	**+0.6**
NST	**Nakhon Sawan**	**15.95**	**8**	P	**P**	**05 52 17.6**	**-3.8**
	comp=Z,194nm,1.0s						
KKTK	**Khon Kaen**	**17.17**	**17**	PG	**P**	**05 52 37.0**	**+0.1**
BDT	**Bhumibol Dam**	**17.38**	**4**	P	**P**	**05 52 38.0**	**-1.5**
	comp=Z,44nm,0.9s						
CM31	**Chiang Mai Arr**	**18.58**	**3**	*e*P	**P**	**05 52 54.0**	**-0.4**
	comp=Z,190nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.58**	**3**	P	**P**	**05 52 52.3**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=221,slow=32,SNR=8.4						
CMAR				PcP	PcP	05 57 25.2	+1.7
	comp=Z,0.5nm,0.3s,baz=210,slow=4.8,SNR=4.1						
PALK	**Pallekele**	**18.58**	**294**	*e*P	**P**	**05 52 54.6**	**+0.2**
	comp=Z,287nm,1.2s						
CHG	**Chiang Mai**	**18.93**	**3**	⇑P	**P**	**05 52 57.4**	**-1.2**
	comp=Z,26nm,0.8s						
KKM	**Kota Kinabalu**	**19.42**	**71**	*e*P	**P**	**05 53 02.7**	**-1.7**
KKM	**Kota Kinabalu**	**19.42**	**71**	P	**P**	**05 53 05.5**	**+1.1**
RATI	**Rata**	**19.60**	**116**	⇑*i*P	**P**	**05 53 06.4**	**0.0**
	comp=Z,184nm,0.5s						
KEDI	**Kedomdong**	**20.03**	**115**	⇑*i*P	**P**	**05 53 09.9**	**-1.2**
KEDI				pmax	pmax		
	comp=Z,71nm,1.1s						
KEDI	**Kedomdong**	**20.03**	**115**	⇑*i*P	**P**	**05 53 09.9**	**-1.2**
	comp=Z,142nm,1.1s						
TSM	**Tawau**	**20.57**	**77**	P	**P**	**05 53 19.7**	**+3.0**
MDRS	**Chennai**	**21.82**	**308**	*e*P	**P**	**05 53 30.0**	**+0.7**
MDRS				*e*		05 57 42.0	
MDRS				*e*		05 59 22.0	
MDRS				*e*		06 03 30.0	
NINI	**Niniconang**	**22.35**	**101**	*e*P	**P**	**05 53 37.2**	**+2.6**
TRD	**Trivandrum**	**22.48**	**293**	⇓*e*	**P**	**05 53 42.2**	**+6.3**
TRD				*e*		05 57 46.2	
QIZ	**Qiongzhong**	**22.49**	**31**	⇑P	**P**	**05 53 37.6**	**+1.7**
QIZ				S	**S**	**05 57 39.2**	**+2.6**
QIZ				LR	LR		
	comp=N,50μm,16.1s,MS6.5						
QIZ				LR	LR		
	comp=E,122μm,13.8s,MS6.5						
QIZ				LR	LR		
	comp=Z,83μm,16.3s,MS6.2						
QIZ	**Qiongzhong**	**22.49**	**31**	*e*P	**P**	**05 53 37.5**	**+1.6**
	comp=Z,592nm,1.7s,mb5.7						
BUNI	**Buntu Taipa**	**22.79**	**99**	*e*P	**P**	**05 53 45.0**	**+5.9**
VIS	**Vishakhapatnam**	**22.79**	**322**	*e*P	**P**	**05 53 40.6**	**+1.5**
VIS				*e*		05 53 49.7	
	comp=Z,307nm,1.3s						
PPR	**Puerto Princes**	**23.09**	**64**	*e*P	**P**	**05 53 44.4**	**+2.4**
AGT	**Agartala**	**24.77**	**346**	⇑*i*P	**P**	**05 54 00.0**	**+1.8**
AGT				*i*		05 55 20.0	
KMI	**Kunming**	**25.63**	**10**	P	**P**	**05 54 07.3**	**+0.9**
KMI				AP	pP	05 54 13.1	+0.2
KMI				XP	sP	05 54 16.1	+0.2
KMI				PP	PP	05 54 49.7	+3.4
KMI				S	**S**	**05 58 29.2**	**-1.6**
KMI				AMB	AMB		
	comp=Z,30nm,1.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,1μm,4.1s						
KMI				LR	LR		
	comp=N,151μm,14.6s,MS6.8						
KMI				LR	LR		
	comp=E,128μm,14.6s,MS6.8						
KMI				LR	LR		
	comp=Z,165μm,15.7s,MS6.7						
KMI	**Kunming**	**25.63**	**10**	P	**P**	**05 54 07.3**	**+0.9**
KMI				*SP	sP	05 54 16.1	+0.2
KMI						05 54 49.7	
KMI				S	**S**	**05 58 29.2**	**-1.6**
KMI				pmax	pmax		
	comp=Z,30nm,1.9s,mb4.5						
KMI				MLR	MLR		
	comp=Z,165μm,15.7s,MS6.7						
KMI	**Kunming**	**25.63**	**10**	P	**P**	**05 54 07.3**	**+0.9**
	comp=Z,30nm,1.9s,mb4.5						
KMI				pP	pP	05 54 13.1	+0.2
KMI				sP	sP	05 54 16.1	+0.2
KMI				PP	PP	05 54 49.7	+3.4
KMI				S	**S**	**05 58 29.2**	**-1.6**
KMI				sS		05 58 39.0	
KMI				LR	LR		
	comp=Z,165μm,15.7s,MS6.7						
HYB	**Hyderabad**	**25.79**	**314**	*e*P	**P**	**05 54 08.0**	**+0.1**
HYB				*e*S	**S**	**05 58 32.0**	**-1.4**
HYB				pmax	pmax		
	comp=Z,114nm,1.2s,mb5.3						
HYB	**Hyderabad**	**25.79**	**314**	*e*P	**P**	**05 54 08.0**	**+0.1**
	comp=Z,114nm,1.2s,mb5.3						
HYB				*e*S	**S**	**05 58 32.0**	**-1.4**
HYB	**Hyderabad**	**25.79**	**314**	*i* P	**P**	**05 54 08.0**	**+0.1**
	comp=Z,114nm,1.2s,mb5.3						
HYB				*e*S	**S**	**05 58 32.0**	**-1.4**
HYB				LR	LR		
	comp=Z,66nm,18.0s						
SHL	**Shillong**	**26.25**	**348**	⇑*i*P	**P**	**05 54 12.0**	**-0.1**
SHL				*e*		05 58 52.0	
BOK	**Bokaro**	**26.50**	**335**	*e*P	**P**	**05 54 14.9**	**+0.5**
BOK				*e*	pP	05 54 23.0	+1.9
	comp=Z,415nm,0.9s						
BOK				*e*		05 58 56.4	
BLSP	**Bilaspur**	**26.93**	**326**	*e*P	**P**	**05 54 19.2**	**+0.8**
BLSP				*e*	pP	05 54 26.2	+1.2
	comp=Z,417nm,1.3s						
BLSP				⇑*e*		05 59 03.6	
HKC	**Hong Kong**	**27.49**	**34**	P	**P**	**05 54 26.0**	**+2.5**
GZH	**Guangzhou**	**27.66**	**32**	P	**P**	**05 54 30.2**	**+5.2**
GZH				S	**S**	**05 59 09.2**	**+5.2**
GZH				LR	LR		
	comp=N,117μm,13.3s,MS6.7						
GZH				LR	LR		
	comp=E,58μm,15.7s,MS6.7						
GZH				LR	LR		
	comp=Z,182μm,13.9s,MS6.8						
GYA	**Guiyang**	**27.86**	**17**	⇑*i*P	**P**	**05 54 25.6**	**-1.2**
GYA				AP	pP	05 54 31.6	-1.8
GYA				S	**S**	**05 59 11.7**	**+4.6**
GYA				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.6						
GYA				AMB	AMB		
	comp=Z,1μm,7.5s						
GYA				LR	LR		
	comp=N,95μm,20.1s,MS6.5						
GYA				LR	LR		
	comp=E,83μm,16.5s,MS6.5						
GYA				LR	LR		
	comp=Z,134μm,17.7s,MS6.6						
GOA	**Goa**	**28.34**	**304**	⇓*i*P	**P**	**05 54 31.9**	**+0.7**
GOA				*i*		05 59 25.7	
DAV	**Davao City (W)**	**28.66**	**75**	*e*P	**P**	**05 54 38.0**	**+3.9**
KAD	**Karad**	**29.03**	**308**	*e*P	**P**	**05 54 37.0**	**-0.4**
KAD				*e*	pP	05 54 44.7	+0.7
	comp=Z,131nm,1.3s						
KAD				*e*		05 59 36.8	
AKL	**Akola**	**29.05**	**317**	*e*P	**P**	**05 54 38.0**	**+0.4**
CVP	**Callao Caves**	**29.61**	**52**	*e*P	**P**	**05 54 47.0**	**+4.4**
ALBI	**Allahabad**	**29.70**	**330**	*e*P	**P**	**05 54 42.5**	**-0.8**
JIRN	**Jiri**	**29.86**	**339**	*e*P	**P**	**05 54 45.0**	**+0.3**
	comp=Z,502nm,1.0s,mb6.2						
MBWA	**Marble Bar**	**29.89**	**136**	*e*P	**P**	**05 54 44.3**	**-0.8**
	comp=Z,108nm,1.3s,mb5.4						
MBWA				LR	LR		
	comp=Z,62μm,20.0s,MS6.2						
POO	**Poona**	**29.99**	**310**	*e*P	**P**	**05 54 44.8**	**-1.2**
POO				*e*		05 54 53.7	
	comp=Z,184nm,1.5s						
POO				*e*		05 59 51.5	
PKI	**Pulchoki**	**30.06**	**338**	*e*P	**P**	**05 54 47.3**	**+0.7**
	comp=Z,301nm,1.3s,mb5.9						
PKI	**Pulchoki**	**30.06**	**338**	*e*P	**P**	**05 54 47.3**	**+0.7**
PKI				pmax	pmax		
	comp=Z,151nm,1.3s,mb5.6						
GUN	**Gumba**	**30.20**	**339**	*e*P	**P**	**05 54 47.6**	**-0.1**
	comp=Z,275nm,0.7s,mb6.1						
DMN	**Daman**	**30.21**	**337**	*e*P	**P**	**05 54 47.8**	**-0.1**
	comp=Z,286nm,1.1s,mb5.9						
KKN	**Kakani**	**30.31**	**338**	*e*P	**P**	**05 54 48.1**	**-0.6**
	comp=Z,312nm,1.1s,mb6.0						
KKN	**Kakani**	**30.31**	**338**	*e*P	**P**	**05 54 48.1**	**-0.6**
KKN				pmax	pmax		
	comp=Z,156nm,1.1s,mb5.7						
BHPL	**Bhopal**	**30.57**	**321**	*e*P	**P**	**05 54 51.0**	**-0.1**
BHPL				*e*	pP	05 54 57.7	0.0
	comp=Z,92nm,0.9s						
BHPL				*e*		06 00 00.8	
GKN	**Gorkha**	**30.75**	**337**	*e*P	**P**	**05 54 52.2**	**-0.4**
	comp=Z,248nm,0.9s,mb6.0						
KOLN	**Koldanda**	**30.97**	**335**	*e*P	**P**	**05 54 54.4**	**-0.1**
	comp=Z,365nm,0.9s,mb6.2						
BOM	**Bombay**	**31.00**	**309**	*e*	**P**	**05 54 49.7**	**-5.2**
BOM				*e*		05 56 09.6	
BOM				*e*		06 00 15.1	
CD2	**Chengdu**	**31.46**	**10**	P	**P**	**05 54 55.5**	**-3.4**
CD2				PPP	PPP	05 56 15.5	-2.5
CD2				S	**S**	**05 59 59.6**	**-4.7**
CD2				SS	SS	06 01 55.9	+3.2
CD2				AMB	AMB		
	comp=Z,130nm,1.0s,mb5.7						
CD2				AMB	AMB		
	comp=Z,2μm,10.8s						
CD2				LR	LR		
	comp=N,157μm,15.6s						
CD2				LR	LR		
	comp=Z,181μm,14.4s,MS6.9						
QZH	**Quanzhou**	**32.11**	**37**	*i* PR	**P**	**05 55 05.5**	**+1.0**
QZH				S	**S**	**06 00 14.9**	**+0.5**
QZH				XS		06 00 27.5	
QZH				AMB	AMB		
	comp=Z,120nm,1.2s,mb5.6						
QZH				AMB	AMB		
	comp=Z,2μm,10.8s						
QZH				LR	LR		
	comp=N,209μm,13.2s,MS7.1						
QZH				LR	LR		
	comp=E,81μm,11.1s,MS7.1						
QZH				LR	LR		
	comp=Z,167μm,15.9s,MS6.8						
ENH	**Enshi**	**32.29**	**19**	*e*P	**P**	**05 55 04.9**	**-1.2**
	comp=Z,155nm,0.8s,mb5.9						
FITZ	**Fitzroy Crossi**	**32.65**	**125**	*e*P	**P**	**05 55 06.3**	**-3.0**
	comp=Z,165nm,0.8s,mb6.0						
FITZ				*e*S	**S**	**06 00 19.9**	**-3.1**
AGRA	**Agra**	**33.28**	**327**	*e*P	**P**	**05 55 14.1**	**-0.6**
NACB	**Ninganchiao**	**33.48**	**42**	*e*P	**P**	**05 55 17.1**	**+0.6**
YHNB	**Yeheng**	**33.67**	**41**	*e*P	**P**	**05 55 17.6**	**-0.6**
LGTI	**Lohaghat**	**33.91**	**332**	*e*P	**P**	**05 55 20.0**	**-0.2**
TATO	**Taipei**	**33.96**	**41**	*e*P	**P**	**05 55 21.4**	**+0.8**
	comp=Z,49nm,0.6s,mb5.6						
TATO				LR	LR		
	comp=Z,30μm,20.0s,MS6.0						
WHN	**Wuhan**	**34.40**	**26**	P	**P**	**05 55 24.0**	**-0.4**
WHN				S	**S**	**06 00 51.0**	**+1.0**
WHN				LR	LR		
	comp=Z,140μm,20.0s,MS6.7						
SONA	**Sohna**	**34.55**	**327**	*e*P	**P**	**05 55 24.4**	**-1.4**
AYAN	**Aya Nagar**	**34.71**	**327**	*e*P	**P**	**05 55 25.8**	**-1.3**
NDI	**New Delhi**	**34.82**	**327**	*e*P	**P**	**05 55 25.0**	**-3.0**
NDI				*e*		06 00 48.0	
KHET	**Khetri**	**35.13**	**325**	*e*P	**P**	**05 55 29.7**	**-1.0**
XAN	**Xi'an**	**35.63**	**16**	P	**P**	**05 55 33.6**	**-1.3**
XAN				AP	pP	05 55 43.4	+1.8
XAN				S	**S**	**06 01 03.6**	**-5.5**
XAN				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
XAN				LR	LR		
	comp=N,74μm,16.5s,MS6.7						
XAN				LR	LR		
	comp=E,84μm,18.9s,MS6.7						
XAN				LR	LR		
	comp=Z,136μm,17.0s,MS6.8						
DDI	**Dehra Dun**	**35.69**	**330**	*e*P	**P**	**05 55 35.0**	**-0.4**
DDI				*e*		06 01 14.5	
BHJ	**Bhuj**	**35.93**	**312**	⇓*e*	**P**	**05 55 45.2**	**+7.6**
BHJ				*e*		06 01 27.9	
MUN	**Mundaring**	**36.09**	**153**	*e*P	**P**	**05 55 38.1**	**-0.7**
	comp=Z,541nm,1.6s,mb6.2						
KLBR	**Kellerberrin**	**36.50**	**151**	*e*P	**P**	**05 55 42.6**	**+0.4**
	comp=Z,4μm,1.7s						
LZH	**Lanzhou**	**36.55**	**8**	⇑P	**P**	**05 55 42.4**	**-0.2**
LZH				AP	pP	05 55 50.1	+0.8
LZH				XP	sP	05 55 53.0	+0.9
LZH				PP	PP	05 57 10.0	+2.9
LZH				S	**S**	**06 01 25.0**	**+1.9**
LZH				XS		06 01 38.0	
LZH				SS	SS	06 03 55.0	+5.4
LZH				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,1μm,6.1s						
LZH				LR	LR		
	comp=N,98μm,13.6s						
LZH				LR	LR		
	comp=Z,133μm,14.6s,MS6.8						
LZH	**Lanzhou**	**36.55**	**8**	⇑P	**P**	**05 55 42.4**	**-0.2**
LZH				*SP	sP	05 55 53.0	+0.9
LZH						05 57 10.0	
LZH				S	**S**	**06 01 25.0**	**+1.9**
LZH				*SS		06 01 38.0	
LZH				SS	SS	06 03 55.0	+5.4
LZH				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.5						
LZH				MLR	MLR		
	comp=Z,133μm,14.6s,MS6.8						
LZH	**Lanzhou**	**36.55**	**8**	⇑P	**P**	**05 55 42.4**	**-0.2**
	comp=Z,90nm,1.0s,mb5.5						
LZH				pP	pP	05 55 50.1	+0.8
LZH				sP	sP	05 55 53.0	+0.9
LZH				PP	PP	05 57 10.0	+2.9
LZH				S	**S**	**06 01 25.0**	**+1.9**
LZH				sS		06 01 38.0	
LZH				SS	SS	06 03 55.0	+5.4
LZH				LR	LR		
	comp=Z,133μm,14.6s,MS6.8						
SMLA	**Simla**	**36.79**	**330**	⇑*

SSE				S	S	06 01 51.4	+2.4
SSE				XS		06 02 07.3	
SSE				AMB	AMB		
	comp=Z,56nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,478nm,8.4s						
SSE				LR	LR		
	comp=N,62μm,18.5s,MS6.5						
SSE				LR	LR		
	comp=E,34μm,18.5s,MS6.5						
SSE				LR	LR		
	comp=Z,55μm,19.2s,MS6.4						
SSE	**Sheshan**	**38.24**	**33**	P	**P**	**05 55 58.1**	**+1.2**
	comp=Z,56nm,0.7s,mb5.4						
SSE				pP	pP	05 56 06.8	+3.2
SSE				PP	PP	05 57 26.7	-1.1
SSE				S	S	06 01 51.4	+2.4
SSE				sS		06 02 07.3	
SSE				SS	SS	06 04 41.3	+13
SSE				LR	LR		
	comp=Z,55μm,19.2s,MS6.4						
DLH	**Dalhousie**	**38.53**	**330**	*e*P	**P**	**05 56 00.0**	**+0.7**
THN	**Thein Dam**	**38.57**	**329**	*e*P	**P**	**05 55 58.2**	**-1.4**
GTA	**Gaotai**	**39.47**	**2**	P	**P**	**05 56 06.8**	**-0.2**
GTA				AP	pP	05 56 14.3	+0.5
GTA				XP	sP	05 56 18.2	+1.6
GTA				PP	PP	05 57 43.3	+1.7
GTA				PPP	PPP	05 58 09.2	+3.2
GTA				PCP	PcP	05 58 13.4	-1.8
GTA				S	S	06 02 06.0	-1.5
GTA				XS		06 02 21.2	
GTA				SS	SS	06 05 01.3	+6.4
GTA				SCS	ScS	06 06 11.7	-0.3
GTA				AMB	AMB		
	comp=Z,574nm,7.6s						
GTA				LR	LR		
	comp=N,28μm,14.4s,MS6.3						
GTA				LR	LR		
	comp=E,28μm,17.5s,MS6.3						
GTA				LR	LR		
	comp=Z,32μm,13.3s,MS6.3						
JOW	**Kunigami**	**39.80**	**45**	P	**P**	**05 56 08.8**	**-1.0**
	comp=Z,15nm,0.6s,mb4.9,baz=141,slow=28,SNR=4.9						
TIY	**Taiyuan**	**40.08**	**18**	PR	**P**	**05 56 15.0**	**+2.9**
TIY				S	S	06 02 25.0	+8.3
TIY				LR	LR		
	comp=E,34μm,12.0s						
TIA	**Tai'an**	**40.45**	**24**	P	**P**	**05 56 15.4**	**+0.2**
TIA				S	S	06 02 22.8	+0.6
TIA				LR	LR		
	comp=E,76μm,15.0s,MS6.7						
TIA				LR	LR		
	comp=N,23μm,17.1s,MS6.7						
TIA				LR	LR		
	comp=E,29μm,15.9s						
WRA	**Warramunga Arr**	**40.81**	**121**	P	**P**	**05 56 17.7**	**-0.6**
	comp=E,36nm,0.8s,mb5.0,baz=299,slow=9.0,SNR=45						
WRA				S	S	06 02 26.7	-1.1
	comp=E,7.7nm,1.2s,baz=293,slow=16,SNR=4.8						
WRAB	**Tennant Creek**	**40.82**	**121**	*i* P	**P**	**05 56 18.0**	**-0.3**
WRAB	**Tennant Creek**	**40.82**	**121**	*e*P	**P**	**05 56 16.1**	**-2.2**
	comp=E,188nm,0.8s,mb5.8						
WRAB				LR	LR		
	comp=Z,13μm,19.0s,MS5.8						
WB2	**Warramunga Arr**	**40.82**	**121**	*e*P	**P**	**05 56 16.1**	**-2.3**
WB2				*e*S	S	06 02 14.1	-14
FORT	**Forrest**	**41.84**	**139**	*e*P	**P**	**05 56 26.1**	**-0.6**
	comp=Z,2μm,0.7s						
ASPA	**Alice Springs**	**42.09**	**126**	*e*P	**P**	**05 56 26.7**	**-2.2**
ASAR	**Alice Springs**	**42.10**	**126**	P	**P**	**05 56 27.6**	**-1.3**
	comp=Z,23nm,0.8s,mb4.8,baz=301,slow=7.5,SNR=96						
BTO	**Baotou**	**42.12**	**14**	*e*P	**P**	**05 56 30.0**	**+1.1**
BTO				S	S	06 02 55.7	+8.8
BTO				AMB	AMB		
	comp=Z,26nm,2.1s,mb4.5						
MSEY	**Mahe Island**	**42.48**	**263**	*e*P	**P**	**05 56 29.2**	**-3.0**
	comp=Z,83nm,1.2s,mb5.2						
MSEY				LR	LR		
	comp=Z,4μm,22.0s,MS5.3						
MENI	**Mendum Tagoi**	**42.69**	**93**	⇓*i*P	**P**	**05 56 31.9**	**-2.0**
HHC	**Hu-ho-hao-te**	**42.74**	**15**	*e*P	**P**	**05 56 34.9**	**+1.0**
HHC				AP	pP	05 56 41.0	+0.3
HHC				XP	sP	05 56 44.1	+0.6
HHC				PCP	PcP	05 58 24.3	-1.6
HHC				S	S	06 02 57.9	+1.8
HHC				SS	SS	06 06 03.2	+2.3
HHC				SCS	ScS	06 06 32.4	+0.9
HHC				AMB	AMB		
	comp=Z,970nm,7.3s						
HHC				LR	LR		
	comp=N,136μm,17.3s,MS6.9						
HHC				LR	LR		
	comp=E,38μm,16.1s,MS6.9						
HHC				LR	LR		
	comp=Z,115μm,17.3s,MS6.8						
YOMI	**Yo Moklole**	**42.83**	**94**	⇑*i*P	**P**	**05 56 37.7**	**+2.6**
	comp=Z,105nm,1.1s,mb5.5						
BJT	**Baijiatuau**	**43.41**	**21**	*e*P	**P**	**05 56 39.2**	**-0.2**
BJT				pmax	pmax		
	comp=Z,166nm,0.9s						
BJT	**Baijiatuau**	**43.41**	**21**	*e*P	**P**	**05 56 39.2**	**-0.1**
	comp=Z,166nm,0.9s,mb5.8						
BJI	**Beijing**	**43.43**	**21**	*e*P	**P**	**05 56 39.9**	**+0.3**
BJI				AP	pP	05 56 48.8	+2.5
BJI				XP	sP	05 56 52.8	+3.7
BJI				S	S	06 03 06.8	+0.7
BJI				AMB	AMB		
	comp=Z,110nm,1.0s,mb5.5						
BJI				AMB	AMB		
	comp=Z,4μm,8.7s						
BJI				LR	LR		
	comp=N,47μm,16.1s,MS6.7						
BJI				LR	LR		
	comp=E,69μm,17.8s,MS6.7						
BJI				LR	LR		
	comp=Z,42μm,14.9s,MS6.5						
BJI	**Beijing**	**43.43**	**21**	*e*P	**P**	**05 56 39.9**	**+0.3**
	comp=Z,110nm,1.0s,mb5.5						
BJI				pP	pP	05 56 48.8	+2.5
BJI				sP	sP	05 56 52.8	+3.7
BJI				S	S	06 03 06.8	+0.7
BJI				SS	SS	06 06 28.1	+15
BJI				LR	LR		
	comp=Z,42μm,14.9s,MS6.5						
KSH	**Kashi**	**44.28**	**336**	*e*P	**P**	**05 56 45.0**	**-1.5**
KSH				*e*AP	pP	05 56 51.0	-2.2
KSH				*e*PP	PP	05 58 28.7	-2.4
KSH				*e*PCP	PcP	05 58 31.0	-0.2
KSH				*e*PPP	PPP	05 59 06.1	-3.5
KSH				*e*SCP		06 02 20.0	
KSH				*e*PCS		06 02 22.0	
KSH				*e*S	S	06 03 15.1	-3.3
KSH				*e*SS	SS	06 06 24.2	-4.6
KSH				*e*SCS	ScS	06 06 40.5	-0.6
KSH				LR	LR		
	comp=N,15μm,15.3s,MS6.3						
KSH				LR	LR		
	comp=E,21μm,13.2s,MS6.3						
DL2	**Dalian**	**44.65**	**27**	P	**P**	**05 56 49.3**	**-0.2**
DL2				PP	PP	05 58 40.7	+5.9
DL2				S	S	06 03 30.9	+7.1
DL2				AMB	AMB		
	comp=Z,100nm,1.1s,mb5.6						
DL2				AMB	AMB		
	comp=Z,1μm,8.7s						
DL2				LR	LR		
	comp=E,32μm,15.8s						
DL2				LR	LR		
	comp=Z,38μm,17.8s,MS6.4						
WMQ	**Urumqi**	**44.75**	**350**	⇑P	**P**	**05 56 50.6**	**+0.4**
WMQ				AP	pP	05 57 00.6	+3.6
WMQ				XP	sP	05 57 04.4	+4.6
WMQ				PCP	PcP	05 58 32.7	0.0
WMQ				PP	PP	05 58 36.3	+0.6
WMQ				PPP	PPP	05 59 16.6	+0.9
WMQ				SCP		06 02 21.1	
WMQ				S	S	06 03 25.1	-0.1
WMQ				XS		06 03 41.3	
WMQ				SS	SS	06 06 37.6	+0.1
WMQ				SCS	ScS	06 06 43.0	-1.0
WMQ				AMB	AMB		
	comp=Z,229nm,1.2s,mb5.9						
WMQ				AMB	AMB		
	comp=Z,726nm,3.0s						
WMQ				LR	LR		
	comp=N,17μm,17.2s,MS6.2						
WMQ				LR	LR		
	comp=E,17μm,15.3s,MS6.2						
WMQ				LR	LR		
	comp=Z,11μm,19.6s,MS5.8						
INCN	**Inchon**	**46.01**	**32**	PFAKE		05 57 10.0	+10
INCN				LR	LR		
	comp=Z,58μm,20.0s,MS6.5						
ULHL	**Ulahol**	**46.51**	**338**	P	**P**	**05 57 04.1**	**0.0**
	SNR=11						
KZA	**Kyzart**	**46.74**	**337**	P	**P**	**05 57 06.4**	**+0.4**
	SNR=20						
AAA	**Alma-Ata**	**47.14**	**339**	*i* P	**P**	**05 57 10.0**	**+0.9**
AAA				*e*S	S	06 04 05.0	+5.7
AAA				pmax	pmax		
	comp=Z,1μm,6.0s						
AAA				smax			
	comp=N,6μm,14.0s						
UCH	**Uchtor**	**47.16**	**336**	P	**P**	**05 57 09.5**	**+0.2**
	SNR=16						
TKM2	**Tokmak 2**	**47.33**	**338**	P	**P**	**05 57 10.8**	**+0.2**
	SNR=17						
KBK	**Karagaybulak**	**47.35**	**337**	P	**P**	**05 57 18.0**	**+7.2**
	SNR=5.5						
AML	**Almayashu**	**47.41**	**336**	P	**P**	**05 57 11.7**	**+0.4**
	SNR=30						
AAK	**Ala-Archa**	**47.51**	**337**	P	**P**	**05 57 13.8**	**+1.7**
	SNR=21						
AAK	**Ala-Archa**	**47.51**	**337**	*i* P	**P**	**05 57 11.3**	**-0.8**
AAK				pmax	pmax		
	comp=Z,118nm,2.3s,mb5.5						
AAK	**Ala-Archa**	**47.51**	**337**	*e*P	**P**	**05 57 10.1**	**-1.9**
	comp=Z,204nm,1.7s,mb5.9						
FRU	**Bishkek**	**47.63**	**337**	*e*P	**P**	**05 57 13.4**	**+0.4**
FRU				*e*		05 57 25.8	
FRU				*e*		05 59 11.0	
FRU				*i* S	S	06 04 11.0	+4.7
FRU				pmax	pmax		
	comp=Z,220nm,2.0s,mb5.8						
FRU				smax			
	comp=N,7μm,6.0s						
FRU				MLR	MLR		
	comp=Z,35μm,19.0s,MS6.3						
CHMS	**Chumysh**	**47.72**	**337**	P	**P**	**05 57 19.8**	**+6.1**
	SNR=7.5						
EKS2	**Erkin-Say**	**47.82**	**336**	P	**P**	**05 57 14.8**	**+0.3**
	SNR=15						
SNY	**Shenyang**	**47.89**	**26**	⇑P	**P**	**05 57 13.5**	**-1.6**
SNY				S	S	06 04 13.7	+3.7
SNY				LR	LR		
	comp=N,79μm,16.2s,MS6.8						
SNY				LR	LR		
	comp=E,39μm,15.6s,MS6.8						
SNY				LR	LR		
	comp=Z,64μm,17.2s,MS6.7						
USP	**Ospenovka**	**48.04**	**337**	P	**P**	**05 57 15.9**	**-0.3**
	SNR=25						
SONM	**Songino Array**	**48.43**	**8**	P	**P**	**05 57 19.1**	**-0.1**
	comp=Z,11nm,0.6s,mb5.0,baz=193,slow=9.0,SNR=39						
ULN	**Ulaanbaatar**	**48.55**	**8**	⇑*i*P	**P**	**05 57 19.7**	**-0.4**
ULN	**Ulaanbaatar**	**48.55**	**8**	*e*P	**P**	**05 57 19.2**	**-0.8**
	comp=Z,53nm,0.8s,mb5.6						
ULN				LR	LR		
	comp=Z,73μm,19.0s,MS6.7						
GUMO	**Guam**	**48.61**	**72**	PFAKE		05 57 30.0	+9.1
GUMO				LR	LR		
	comp=Z,11μm,21.0s,MS5.8						
MKAR	**Makanchi Array**	**48.73**	**346**	*e*P	**P**	**05 57 20.4**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,18nm,0.5s						
MKAR	**Makanchi Array**	**48.73**	**346**	P	**P**	**05 57 20.9**	**-0.5**
	comp=Z,38nm,0.5s,mb5.7,baz=156,slow=7.5,SNR=264						
MKAR				PKPPKP		06 28 21.7	
	comp=Z,0.7nm,0.9s,baz=252,slow=3.8,SNR=3.7						
PMG	**Port Moresby**	**49.99**	**102**	*e*P	**P**	**05 57 29.8**	**-1.7**
	comp=Z,31nm,0.8s,mb5.4						
PMG				LR	LR		
	comp=Z,28μm,20.0s,MS6.3						
CN2	**Changchun**	**50.30**	**26**	*e*P	**P**	**05 57 32.5**	**-1.0**
CN2				*e*AP	pP	05 57 43.1	+2.7
CN2				SS	SS	06 08 19.1	+4.8
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
CN2				LR	LR		
	comp=N,57μm,16.0s,MS6.9						
CN2				LR	LR		
	comp=E,72μm,16.0s,MS6.9						
CN2				LR	LR		
	comp=Z,50μm,17.0s,MS6.6						
ZAK	**Zakamensk**	**50.62**	**5**	*e*P	**P**	**05 57 35.3**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.1s						
CTA	**Charters Tower**	**51.37**	**116**	*e*P	**P**	**05 57 42.7**	**+0.7**
	comp=Z,48nm,1.0s						
CTA				*e*S	S	06 05 04.4	+5.8
CTA	**Charters Tower**	**51.37**	**116**	*e*P	**P**	**05 57 42.7**	**+0.7**
CTA				*e*S	S	06 05 04.4	+5.8
CTA				pmax	pmax		
	comp=Z,48nm,1.0s						
CTA	**Charters Tower**	**51.37**	**116**	P	**P**	**05 57 42.7**	**+0.7**
	comp=Z,36nm,1.1s,mb5.2,baz=291,slow=8.6,SNR=14						
CTAO	**Charters Tower**	**51.37**	**116**	*e*P	**P**	**05 57 42.4**	**+0.4**
	comp=Z,111nm,1.2s,mb5.7						
CTAO				LR	LR		
	comp=Z,27μm,19.0s,MS6.3						
MOY	**Mondy**	**51.75**	**3**	*e*P	**P**	**05 57 45.8**	**+1.3**
MOY				pmax	pmax		
	comp=Z,95nm,2.6s,mb5.3						
TLY	**Talaya**	**51.93**	**5**	*e*P	**P**	**05 57 46.0**	**+0.2**
TLY				*e*		05 59 38.9	
TLY				*e*S	S	06 05 10.2	+4.2
TLY				*e*PS	PS	06 05 20.9	+2.4
TLY				*e*SSS	SSS	06 10 18.8	-3.2
TLY				pmax	pmax		
	comp=Z,112nm,2.4s,mb5.4						
TLY				MLR	MLR		
	comp=Z,69μm,17.0s,MS6.8						
STKA	**Stephens Creek**	**51.99**	**132**	⇓*i*P	**P**	**05 57 44.9**	**-1.7**
	comp=Z,66nm,0.7s,mb5.7						
STKA				*i* S	S	06 05 10.4	+3.3
STKA	**Stephens Creek**	**51.99**	**132**	P	**P**	**05 57 45.9**	**-0.7**
	comp=Z,99nm,1.1s,mb5.7,baz=307,slow=7.4,SNR=31						
MAJO	**Matsushiro**	**52.34**	**41**	*e*P	**P**	**05 57 49.1**	**-0.1**
MAJO				MLR	MLR		
	comp=Z,23μm,21.0s,MS6.2						
MAT	**Matsushiro**	**52.34**	**41**	P	**P**	**05 57 48.0**	**-1.2**
MAT				*e*S	S	06 05 12.0	+0.2
MAT				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
MAT				MLR	MLR		
	comp=Z,23μm,20.0s,MS6.2						
MAT	**Matsushiro**	**52.34**	**41**	P	**P**	**05 57 48.0**	**-1.2**
	comp=Z,19nm,0.8s,mb5.1						
MAT				*e*S	S	06 05 12.0	+0.2
MAT				LR	LR		
	comp=Z,23μm,20.0s,MS6.2						
MAT	**Matsushiro**	**52.34**	**41**	P	**P**	**05 57 48.8**	**-0.4**
MAT				S	S	06 05 12.0	+0.2
MJAR	**Matsushiro Arr**	**52.35**	**41**	P	**P**	**05 57 47.4**	**-1.7**
	comp=Z,6.9nm,0.7s,mb4.7,baz=218,slow=6.9,SNR=9.7						
MJAR				PcP	PcP	05 59 04.8	+4.7
	comp=Z,12nm,0.9s,baz=249,slow=4.3,SNR=4.8						
MJAR	**Matsushiro Arr**	**52.35**	**41**	P	**P**	**05 57 47.4**	**-1.7**
MJAR				PcP	PcP	05 59 04.8	+4.7
IRK	**Irkutsk**	**52.55**	**5**	*e*P	**P**	**05 57 42.7**	**-7.7**
HIA	**Hailar**	**52.78**	**18**	*e*P	**P**	**05 57 51.2**	**-1.1**
HIA				pmax	pmax		
	comp=Z,60nm,0.9s						
HIA	**Hailar**	**52.78**	**18**	*e*P	**P**	**05 57 51.2**	**-1.1**
	comp=Z,60nm,0.9s,mb5.5						
MDJ	**Mudanjiang**	**52.81**	**28**	P	**P**	**05 57 53.0**	**+0.4**
MDJ				AP	pP	05 57 57.4	-2.1
MDJ				PCP	PcP	05 59 00.8	-0.9
MDJ				PP	PP	05 59 51.2	-2.2
MDJ				PCS		06 03 00.6	
MDJ				S	S	06 05 23.5	+5.4
MDJ				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,675nm,5.8s						
MDJ				LR	LR		
	comp=N,57μm,17.4s,MS6.8						
MDJ				LR	LR		
	comp=E,67μm,21.5s,MS6.8						
MDJ				LR	LR		
	comp=Z,72μm,15.4s						
MDJ	**Mudanjiang**	**52.81**	**28**	*e*P	**P**	**05 57 52.3**	**-0.2**
	comp=Z,55nm,1.1s,mb5.4						
OPO	**Ambohidratompo**	**52.89**	**247**	P	**P**	**05 57 53.9**	**+0.4**
	comp=Z,14nm,0.8s,mb4.9,baz=57,slow=6.6,SNR=8.9						
KURK	**Kurchatov**	**53.29**	**345**	*e*P	**P**	**05 57 54.4**	**-1.5**
	comp=Z,100nm,1.1s,mb5.7						
KURK				LR	LR		
	comp=Z,5μm,19.0s,MS5.6						
LBOS		**53.84**	**287**	⇑*e*P	**P**	**05 58 00.2**	**-0.2**
DHBB	**Dhamar BB**	**54.79**	**288**	⇑*e*P	**P**	**05 58 07.5**	**0.0**
ZAL	**Zalesovo**	**55.02**	**351**	P	**P**	**05 58 08.0**	**-0.7**
	comp=Z,24nm,0.5s,mb5.5,baz=316,slow=5.1,SNR=70						
KLR	**Kul'dur**	**57.25**	**26**	*e*P	**P**	**05 58 21.2**	**-3.5**
KLR				*e*		05 59 13.5	
KLR				*e*S	S	06 06 18.0	+0.6
KLR				pmax	pmax		
	comp=Z,170nm,1.8s,mb5.8						
KLR				MLR	MLR		
	comp=Z,49μm,16.0s,MS6.7						
TOO	**Toolangi**	**57.53**	**136**	*e*P	**P**	**05 58 28.1**	**+1.2**
	comp=Z,22nm,1.0s,mb5.1						
TOO	**Toolangi**	**57.53**	**136**	*e*P	**P**	**05 58 28.1**	**+1.2**
TOO				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
BVA0	**Borovoye Array**	**57.76**	**341**	P	**P**	**05 58 25.9**	**-2.3**
BVA0				pmax	pmax		
	comp=Z,12nm,1.9s,mb4.6						
BVAR	**Borovoye Array**	**57.76**	**341**	P	**P**	**05 58 25.9**	**-2.3**
	comp=Z,6.5nm,0.6s,mb4.9,baz=147,slow=9.5,SNR=32						
CHKZ	**Chkalovo**	**58.23**	**341**	*e*P	**P**	**05 58 29.5**	**-2.0**
CHKZ				*e**PP	pP	05 58 35.8	-2.7
CHKZ				pmax	pmax		
	comp=Z,140nm,1.3s,mb5.8						
CHKZ	**Chkalovo**	**58.23**	**341**	*e*P	**P**	**05 58 29.5**	**-2.0**
	comp=Z,140nm,1.3s,mb5.8						
CHKZ				*e*pP	pP	05 58 35.8	-2.6
ARMA	**Armidale**	**59.25**	**126**	*e*P	**P**	**05 58 41.8**	**+2.9**
ARMA				*i* S	S	06 06 48.3	+4.5
BOD	**Bodaibo**	**59.28**	**10**	*e*P	**P**	**05 58 37.4**	**-1.3**
BOD				pmax	pmax		
	comp=Z,103nm,1.4s,mb5.7						
CNB	**Canberra Magne**	**59.32**	**132**	*e*P	**P**	**05 58 40.5**	**+1.1**
	comp=Z,6μm,2.0s						
ASAJ	**Asahikawa**	**59.44**	**36**	P	**P**	**05 58 40.4**	**+0.3**
	comp=Z,6.2nm,0.6s,mb4.8,baz=264,slow=18,SNR=3.3						
BHD	**Baghdad**	**60.16**	**309**	*e*P	**P**	**05 58 39.0**	**-6.1**
BHD				*e*pP	pP	05 58 52.0	-0.2
BHD				*i* PcP	PcP	05 59 11.5	-19
BHD				*i* S	S	06 06 56.0	+0.5
BHD				*e*ScS	ScS	06 08 05.0	-26
KMBO	**Kilima Mbogo**	**60.53**	**269**	*i* P	**P**	**05 58 48.8**	**+0.9**
KMBO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMBO	**Kilima Mbogo**	**60.53**	**269**	P	**P**	**05 58 48.2**	**+0.3**
	comp=Z,5.7nm,1.0s,mb4.7,baz=68,slow=7.6,SNR=19						
KMBO	**Kilima Mbogo**	**60.53**	**269**	*e*P	**P**	**05 58 46.2**	**-1.7**
	comp=Z,38nm,1.1s,mb5.4						
KMBO				LR	LR		
	comp=Z,13μm,20.0s,MS6.1						
CLNS	**Chul'man**	**60.91**	**17**	*e*P	**P**	**05 58 45.6**	**-4.3**
CLNS				*e*PPP	PPP	06 02 39.8	+5.8
CLNS				*e*S	S	06 07 11.2	+6.5
CLNS				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.6						
CLNS				pmax	pmax		
	comp=N,32nm,0.9s						
CLNS				pmax	pmax		
	comp=E,34nm,1.3s						
CLNS				pmax	pmax		
	comp=N,26nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.1						
CLNS				pmax	pmax		
	comp=E,29nm,1.3s						
CLNS				smax			
	comp=N,11nm,1.1s						
CLNS				smax			
	comp=Z,5.0nm,0.7s						
CLNS				smax			
	comp=E,9.0nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,40μm,16.0s,MS6.7						
CLNS				MLR	MLR		
	comp=N,42μm,17.0s,MS6.7						
CLNS				MLR	MLR		
	comp=E,10μm,15.0s,MS6.7						
YSS	**Yuzh-Sakhalins**	**61.18**	**34**	⇑*i*P	**P**	**05 58 53.1**	**+1.2**
YSS				*e*	pP	05 58 59.5	+0.6
YSS				*e**SP	sP	05 59 06.5	+5.0
YSS				*e*		05 59 37.9	
YSS				*e*S	S	06 07 06.0	-2.4
YSS				*e*PS	PS	06 07 19.0	-8.1
YSS				*e*PPS	PPS	06 07 36.0	-0.1
YSS				pmax	pmax		
	comp=Z,130nm,1.4s,mb5.9						
YSS				pmax	pmax		
	comp=Z,140nm,1.2s,mb6.0						
YSS	**Yuzh-Sakhalins**	**61.18**	**34**	P	**P**	**05 58 51.3**	**-0.6**
	comp=Z,152nm,1.2s,mb6.0						
YSS				LR	LR		
	comp=Z,21μm,20.0s,MS6.3						
TAU	**Tasmania Unive**	**61.37**	**140**	PFAKE		05 59 00.0	+6.8
TAU				LR	LR		
	comp=Z,7μm,19.0s,MS5.8						
MAK	**Makhachkala**	**62.17**	**320**	*e*P	**P**	**05 58 54.0**	**-4.7**
MAK				*i*		05 59 41.0	
MAK				*e*S	S	06 07 12.0	-9.0
MAK				*i* SS	SS	06 11 20.0	-6.0
MAK				pmax	pmax		
	comp=Z,2μm,8.0s						
MAK				pmax	pmax		
	comp=E,2μm,9.0s						
MAK				pmax	pmax		
	comp=Z,3μm,9.0s						
MAK				smax			
	comp=N,2μm,6.0s						
MAK				smax			
	comp=E,1μm,6.0s						
MSL	**Mosul**	**62.30**	**312**	*e*P	**P**	**05 59 00.0**	**+0.4**
MSL				*e*pP	pP	05 59 17.5	+11
MSL				*e*S	S	06 07 28.0	+5.3
MSL				*e*ScS	ScS	06 08 50.0	+3.5
HNR	**Honiara**	**62.53**	**100**	P	**P**	**05 59 01.6**	**+0.2**
	comp=E,295nm,0.9s,mb6.4						
HNR				LR	LR		
	comp=Z,11μm,20.0s,MS6.0						
GNI	**Garni**	**62.70**	**316**	*e*P	**P**	**05 59 02.0**	**-0.2**
GNI	**Garni**	**62.70**	**316**	*e*P	**P**	**05 59 01.5**	**-0.6**
	comp=Z,225nm,1.5s,mb6.1						
GNI				LR	LR		
	comp=Z,9μm,20.0s,MS6.0						
DGRG	**David-gareji**	**62.85**	**318**	P	**P**	**05 59 02.5**	**-0.6**
DGRG				S	S	06 07 10.0	-20
MTA	**Mtatsminda**	**63.35**	**318**	P	**P**	**05 59 11.0**	**+4.6**
TI2	**Plekhanov**	**63.40**	**318**	⇑*i*P	**P**	**05 59 05.0**	**-1.7**
TI2				*e*S	S	06 07 43.8	+7.4
TI2				MLR	MLR		
	comp=N,4μm,18.0s,MS5.8						
TI2				MLR	MLR		
	comp=E,4μm,18.0s,MS5.8						
TI2				MLR	MLR		
	comp=Z,4μm,18.0s,MS5.7						
TBLG	**Delisi**	**63.41**	**318**	P	**P**	**05 59 08.1**	**+1.3**
SVE	**Sverdlovsk**	**64.20**	**338**	*d i*P	**P**	**05 59 11.5**	**-0.3**
SVE				*e*S	S	06 07 44.7	-1.4
SVE				pmax	pmax		
	comp=Z,189nm,1.5s,mb5.9						
SVE				MLR	MLR		
	comp=Z,18μm,24.0s,MS6.2						
ZEI	**Tsey**	**64.43**	**319**	*e*P	**P**	**05 59 09.0**	**-4.5**
ZEI				*i* *PP	pP	05 59 20.7	+0.2
ZEI				*e*S	S	06 07 50.5	+1.3
ZEI				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.2						
ARU	**Arti**	**64.69**	**337**	⇓*i*P	**P**	**05 59 14.5**	**-0.5**
ARU				*i*		05 59 45.2	
ARU				*e*		06 01 34.4	
ARU				*e*PPP	PPP	06 03 07.7	-5.0

ARU				MLR	MLR		
	comp=N,12μm,18.0s,MS6.2						
ARU				MLR	MLR		
	comp=E,8μm,19.0s,MS6.2						
ARU	**Arti**	**64.69**	**337**	*e*P	**P**	**05 59 13.1**	**-1.9**
	comp=E,153nm,1.4s,mb5.8						
ARU				*e*pP	pP	05 59 18.5	-3.5
ARU				LR	LR		
	comp=Z,4μm,19.0s,MS5.6						
KIV	**Kislovodsk**	**65.74**	**319**	*e*P	**P**	**05 59 21.3**	**-0.7**
KIV				pmax	pmax		
	comp=Z,180nm,1.3s,mb5.9						
KIV	**Kislovodsk**	**65.74**	**319**	*e*P	**P**	**05 59 21.2**	**-0.7**
	comp=Z,178nm,1.3s,mb5.9						
KIV				LR	LR		
	comp=Z,2μm,20.0s						
ASF	**Jabal al Asfar**	**65.75**	**306**	P	**P**	**05 59 21.7**	**-0.5**
	comp=Z,9.8nm,1.1s,mb4.7,baz=12,slow=3.3,SNR=5.0						
URFA	**Urfa**	**65.90**	**312**	*e*P	**P**	**05 59 22.0**	**-1.1**
PTK	**Pertek**	**65.99**	**313**	*e*P	**P**	**05 59 21.5**	**-2.2**
GOF	**Gofitskoye**	**66.01**	**321**	⇑*i*P	**P**	**05 59 20.4**	**-3.2**
GOF				*i* S	S	06 08 15.4	+6.8
GOF				pmax	pmax		
	comp=Z,300nm,2.0s,mb6.0						
GOF				pmax	pmax		
	comp=Z,2μm,9.0s						
GOF				smax			
	comp=E,1μm,3.7s						
GOF				smax			
	comp=N,6μm,13.0s						
ELZG	**Elazig**	**66.15**	**313**	*i* P	**P**	**05 59 21.7**	**-3.0**
MIR	**Mirnyy**	**66.29**	**182**	*e*P	**P**	**05 59 28.0**	**+2.9**
MIR				*e*S	S	06 08 21.0	+9.3
MIR				*e*S	S	06 08 21.0	+9.3
MIR				pmax	pmax		
	comp=Z,1μm,2.6s,mb6.4						
MIR				smax			
	comp=N,6μm,16.0s						
MIR				smax			
	comp=E,3μm,13.0s						
MIR				MLR	MLR		
	comp=N,9μm,16.0s,MS6.1						
MIR				MLR	MLR		
	comp=E,4μm,16.0s,MS6.1						
MIR				MLR	MLR		
	comp=Z,23μm,16.0s,MS6.5						
MALT	**Malatya**	**66.50**	**312**	*e*P	**P**	**05 59 22.6**	**-4.2**
MALT	**Malatya**	**66.50**	**312**	⇑P	**P**	**05 59 27.5**	**+0.6**
MALT	**Malatya**	**66.50**	**312**	*e*P	**P**	**05 59 26.1**	**-0.8**
	comp=Z,148nm,1.4s,mb5.8						
CASY	**Casey**	**66.56**	**174**	*e*P	**P**	**05 59 26.5**	**-0.3**
YAK	**Yakutsk**	**66.60**	**16**	*e*P	**P**	**05 59 27.4**	**+0.3**
YAK				*i* *PP	pP	05 59 35.7	+1.5
YAK				*i* S	S	06 08 22.0	+6.5
YAK				*e**SS		06 08 41.9	
YAK				pmax	pmax		
	comp=Z,72nm,1.1s,mb5.6						
YAK				pmax	pmax		
	comp=N,29nm,1.2s						
YAK				pmax	pmax		
	comp=E,25nm,1.3s						
YAK				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.2						
YAK				pmax	pmax		
	comp=N,8.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,15nm,1.1s						
YAK				smax			
	comp=N,511nm,9.0s						
YAK				smax			
	comp=Z,480nm,9.7s						
YAK				smax			
	comp=E,893nm,9.2s						
YAK				MLR	MLR		
	comp=N,31μm,16.0s,MS6.7						
YAK				MLR	MLR		
	comp=Z,46μm,16.0s,MS6.8						
YAK				MLR	MLR		
	comp=E,25μm,15.0s,MS6.7						
YAK	**Yakutsk**	**66.60**	**16**	*e*P	**P**	**05 59 25.0**	**-2.1**
	comp=E,90nm,0.8s,mb5.8						
YAK				LR	LR		
	comp=Z,56μm,22.0s,MS6.7						
EIL	**Elat**	**66.69**	**303**	*e*P	**P**	**05 59 26.4**	**-1.8**
	comp=Z,110nm,1.3s,mb5.7						
GZT	**Gaziantep**	**66.81**	**311**	*i* P	**P**	**05 59 23.6**	**-5.4**
GAZ	**Gaziantep**	**67.02**	**311**	*e*P	**P**	**05 59 30.7**	**+0.5**
MBAR	**Mbarara**	**67.04**	**269**	*c* *i*P	**P**	**05 59 30.6**	**-0.2**
MBAR	**Mbarara**	**67.04**	**269**	*e*P	**P**	**05 59 28.4**	**-2.4**
	comp=Z,100nm,1.8s,mb5.5						
MBAR				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
SOC	**Sochi**	**67.54**	**318**	*i* P	**P**	**05 59 32.9**	**-0.5**
SOC				*e*		06 00 01.8	
SOC				*e*		06 02 02.9	
SOC				*e*PPP	PPP	06 03 35.7	-5.5
SOC				*i* S	S	06 08 30.7	+3.6
SOC				*e*SS	SS	06 12 54.7	+5.3
SOC				pmax	pmax		
	comp=N,37nm,1.2s						
SOC				pmax	pmax		
	comp=E,34nm,1.2s						
SOC				pmax	pmax		
	comp=Z,156nm,1.2s,mb5.9						
SOC				MLR	MLR		
	comp=N,3μm,19.0s,MS5.8						
SOC				MLR	MLR		
	comp=E,5μm,19.0s,MS5.8						
SOC				MLR	MLR		
	comp=Z,5μm,19.0s,MS5.7						
TOKT	**Tokat**	**68.55**	**314**	*e*P	**P**	**05 59 39.5**	**-0.3**
BNN	**Bunyan**	**68.58**	**312**	*e*P	**P**	**05 59 39.4**	**-0.6**
AVNT	**Avonos**	**69.29**	**312**	*i* P	**P**	**05 59 39.9**	**-4.5**
CSS	**Prodhromos**	**69.38**	**308**	*e*P	**P**	**05 59 44.0**	**-0.9**
	comp=Z,120nm,1.3s,mb5.7						
CSS				*e*pP	pP	05 59 49.7	-2.2
ANN	**Anapa**	**69.53**	**319**	*e*P	**P**	**05 59 46.4**	**+0.7**
ANN				*i* S	S	06 08 54.5	+3.8
ANN				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.3						
ANN				MLR	MLR		
	comp=N,10μm,23.0s,MS6.0						
ANN				MLR	MLR		
	comp=E,5μm,23.0s,MS6.0						
ANN				MLR	MLR		
	comp=Z,6μm,23.0s,MS5.8						
CORM	**Corum**	**69.89**	**313**	*e*P	**P**	**05 59 41.0**	**-7.0**
CDAG	**Cicekdag**	**69.91**	**313**	*i* P	**P**	**05 59 42.7**	**-5.4**
CTKT	**Corum**	**69.92**	**314**	*i* P	**P**	**05 59 48.5**	**+0.4**
BOYT	**Boyabat**	**70.09**	**315**	*i* P	**P**	**05 59 44.7**	**-4.5**
KWAJ	**Kwajalein Atol**	**70.11**	**81**	PFAKE		06 00 00.0	+10
KWAJ				LR	LR		
	comp=Z,2μm,21.0s						
DZM	**Mont Dzumac**	**70.20**	**113**	P	**P**	**05 59 50.4**	**+0.3**
	comp=Z,18nm,0.8s,mb5.1,baz=40,slow=2.2,SNR=8.4						
LSZ	**Lusaka**	**70.28**	**254**	*e*P	**P**	**05 59 49.2**	**-1.5**
	comp=Z,38nm,1.4s,mb5.1						
LSZ				LR	LR		
	comp=Z,12μm,21.0s,MS6.1						
KAMT	**Kaman**	**70.32**	**312**	*e*P	**P**	**05 59 49.5**	**-1.1**
BR131	**Keskin Array S**	**70.48**	**313**	PFAKE		06 00 00.0	+8.4
BR131				LR	LR		
	comp=Z,4μm,19.0s,MS5.7						
BRTR	**Keskin Array B**	**70.48**	**313**	P	**P**	**05 59 49.7**	**-1.9**
	comp=Z,2.3nm,0.7s,baz=133,slow=6.7,SNR=9.7						
HDMB	**Hadim**	**70.57**	**310**	*e*P	**P**	**05 59 51.3**	**-0.8**
TOS	**Tosya**	**70.60**	**314**	*e*P	**P**	**05 59 52.3**	**0.0**
SKR	**Severo-Kuril's**	**70.66**	**35**	*e*P	PcP	06 00 11.0	-2.5
SKR				*e*S	S	06 09 11.0	+7.1
SKR				*e*PS	PS	06 09 43.0	+8.6
SKR				*e*		06 09 55.0	
SKR				*e*SS	SS	06 13 32.0	-5.7
SKR				pmax	pmax		
	comp=Z,220nm,1.0s,mb6.0						
SKR				pmax	pmax		
	comp=Z,2μm,4.0s						
SKR				smax			
	comp=E,7μm,10.0s						
SKR				smax			
	comp=N,5μm,8.0s						
SKR				MLR	MLR		
	comp=N,11μm,16.0s,MS6.3						
SKR				MLR	MLR		
	comp=E,6μm,16.0s,MS6.3						
SKR				MLR	MLR		
	comp=Z,11μm,16.0s,MS6.2						
CANT	**Cankiri**	**70.76**	**313**	*e*P	**P**	**05 59 53.1**	**-0.2**
ELDT	**Eldivan**	**70.86**	**313**	*i* P	**P**	**05 59 51.4**	**-2.5**
PECR	**Pechory**	**70.92**	**332**	*e*P	**P**	**05 59 56.0**	**+2.1**
PECR				*e*S	S	06 09 08.0	+1.2
PECR				*e*		06 09 35.0	
PECR				pmax	pmax		
	comp=Z,1μm,8.0s						
PECR				smax			
	comp=N,2μm,15.0s						
PECR				MLR	MLR		
	comp=Z,9μm,20.0s,MS6.0						
PECR				MLR	MLR		
	comp=N,6μm,17.0s,MS6.1						
PECR				MLR	MLR		
	comp=E,9μm,21.0s,MS6.1						
PECR				MLR	MLR		
	comp=Z,13μm,22.0s						
PECR				MLR	MLR		
	comp=N,6μm,20.0s						
PECR				MLR	MLR		
	comp=E,10μm,20.0s						
KONT	**Konya--Tatoy**	**70.93**	**310**	*e*P	**P**	**05 59 54.6**	**+0.2**
VRSR	**Storozhevoye**	**71.03**	**325**	*e*P	**P**	**05 59 56.0**	**+1.3**
VRSR				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.6						
VRSR				pmax	pmax		
	comp=N,40nm,1.4s						
VRSR				pmax	pmax		
	comp=E,90nm,1.1s						
ANTO	**Ankara**	**71.14**	**313**	*e*P	**P**	**05 59 57.1**	**+1.4**
ANTO	**Ankara**	**71.14**	**313**	⇓P	**P**	**05 59 57.5**	**+1.9**
VOR	**Voronezh**	**71.25**	**326**	*e*P	**P**	**05 59 55.5**	**-0.5**
VOR				*e**PP	pP	06 00 04.5	+1.4
VOR				*e*		06 00 17.5	
VOR				*e*		06 02 31.0	
VOR				pmax	pmax		
	comp=N,150nm,1.8s						
VOR				pmax	pmax		
	comp=E,150nm,1.8s						
VOR				pmax	pmax		
	comp=Z,200nm,1.8s,mb5.8						
VOR				pmax	pmax		
	comp=Z,100nm,1.8s,mb5.4						
MAW	**Mawson**	**71.48**	**193**	P	**P**	**05 59 58.2**	**+1.0**
	comp=Z,16nm,0.9s,mb4.9,baz=38,slow=13,SNR=9.0						
KIZT	**Kizilcal**	**71.55**	**311**	*e*P	**P**	**05 59 56.3**	**-1.8**
SAFT	**Safranbolu**	**71.62**	**314**	*e*P	**P**	**05 59 55.8**	**-2.7**
SIM	**Simferopol'**	**71.79**	**318**	*d* *i*P	**P**	**06 00 00.1**	**+0.7**
SIM				*e*		06 00 12.0	
SIM				*e*		06 02 45.0	
SIM				*i* S	S	06 09 22.5	+5.5
SIM				pmax	pmax		
	comp=Z,82nm,1.1s,mb5.6						
ISP	**Isparta**	**72.32**	**310**	*e*P	**P**	**05 59 58.2**	**-4.4**
ISP	**Isparta**	**72.32**	**310**	*i* P	**P**	**06 00 01.5**	**-1.2**
ISP	**Isparta**	**72.32**	**310**	*e*P	**P**	**06 00 02.0**	**-0.6**
	comp=Z,32nm,0.9s,mb5.2						
MA2	**Magadan**	**72.34**	**25**	*e*P	**P**	**06 00 01.7**	**-0.7**
MA2				*e*S	S	06 09 22.4	-0.7
MA2				*e*SS	SS	06 14 07.8	+4.3
MA2				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.2						
MA2				MLR	MLR		
	comp=Z,72μm,20.0s,MS6.9						
MA2	**Magadan**	**72.34**	**25**	*e*P	**P**	**06 00 01.2**	**-1.3**
	comp=Z,29nm,0.6s,mb5.4						
MA2				*e*pP	pP	06 00 08.0	-1.5
MA2				LR	LR		
	comp=Z,25μm,20.0s,MS6.5						
MDU	**Mudurnu**	**72.47**	**313**	*e*P	**P**	**06 00 01.6**	**-2.0**
ESKT	**Eskisehir**	**72.49**	**312**	*e*P	**P**	**06 00 02.1**	**-1.6**
DRV	**Dumont d'Urvil**	**72.65**	**164**	P	**P**	**06 00 03.0**	**-1.1**
DRV				S	S	06 09 24.0	-2.4
DRV				L		06 18 00.0	
PET	**Petropavlovsk**	**73.07**	**33**	*e*P	**P**	**06 00 09.5**	**+2.7**
PET				*e*S	S	06 09 37.7	+6.2
PET				pmax	pmax		
	comp=Z,1μm,10.6s						
PET				pmax	pmax		
	comp=Z,67nm,1.2s,mb5.5						
PET				pmax	pmax		
	comp=Z,900nm,13.0s						
PET				smax			
	comp=N,2μm,10.5s						
PET				MLR	MLR		
	comp=Z,18μm,22.0s,MS6.3						
PET				MLR	MLR		
	comp=Z,12μm,20.0s						
PET	**Petropavlovsk**	**73.07**	**33**	*e*P	**P**	**06 00 06.5**	**-0.3**
PET				LR	LR		
	comp=Z,15μm,22.0s,MS6.2						
FETY	**Fethiye**	**73.13**	**308**	*e*P	**P**	**06 00 00.5**	**-7.0**
DALT	**Dalyan (Mudla)**	**73.51**	**309**	*e*P	**P**	**06 00 15.4**	**+5.7**
HRT	**Hereke**	**73.70**	**313**	*e*P	**P**	**06 00 11.1**	**+0.4**
LBTB	**Lobatse**	**73.79**	**244**	P	**P**	**06 00 12.3**	**+0.7**
LBTB				pmax	pmax		
	comp=Z,42nm,1.2s,mb5.2						
LBTB	**Lobatse**	**73.79**	**244**	P	**P**	**06 00 11.6**	**0.0**
	comp=Z,7.7nm,0.9s,mb4.7,baz=92,slow=5.6,SNR=8.6						
LBTB	**Lobatse**	**73.79**	**244**	*e*P	**P**	**06 00 11.4**	**-0.2**
	comp=Z,42nm,1.2s,mb5.2						
LBTB				LR	LR		
	comp=Z,15μm,21.0s,MS6.3						
MOS	**Moscow**	**73.83**	**329**	*e*P	**P**	**06 00 10.3**	**-0.8**
MOS				*e*		06 00 24.8	
MOS				*e*		06 02 57.7	
MOS				*e*S	S	06 09 43.9	+4.0
MOS				*e*		06 10 19.4	
MOS				*e*SS	SS	06 14 31.0	+4.6
MOS				pmax	pmax		
	comp=Z,400nm,1.5s,mb6.1						
MOS				pmax	pmax		
	comp=Z,336nm,1.5s,mb6.0						
YLV	**Yalova**	**73.86**	**312**	*e*P	**P**	**06 00 07.2**	**-4.4**
OBN	**Obninsk**	**74.11**	**328**	⇑*i*P	**P**	**06 00 12.1**	**-0.7**
OBN				*i*		06 00 25.1	
OBN						06 03 06.0	
OBN				*i* S	S	06 09 47.5	+4.4
OBN				*i*		06 10 10.6	
OBN				SS	SS	06 14 22.0	-8.7
OBN				pmax	pmax		
	comp=Z,233nm,1.4s,mb5.9						
OBN				MLR	MLR		
	comp=Z,5μm,17.0s,MS5.9						
OBN	**Obninsk**	**74.11**	**328**	*e*P	**P**	**06 00 11.8**	**-1.0**
	comp=Z,258nm,1.4s,mb6.0						
OBN				LR	LR		
	comp=Z,3μm,21.0s,MS5.5						
ISK	**Istanbul-Kandi**	**74.21**	**313**	*e*P	**P**	**06 00 13.0**	**-0.7**
TIXI	**Tiksi**	**74.46**	**10**	⇓*i*P	**P**	**06 00 13.4**	**-1.1**
TIXI				LR	LR		
	comp=Z,42μm,19.0s,MS6.8						
BALB	**Balikesir**	**74.74**	**311**	*e*P	**P**	**06 00 10.8**	**-6.0**
SEY	**Seymchan**	**74.82**	**23**	*e*P	**P**	**06 00 18.6**	**+1.8**
SEY						06 00 35.5	
SEY						06 03 08.5	
SEY				*e*PPP	PPP	06 04 52.9	+1.6
SEY				*e*S	S	06 09 52.5	+1.6
SEY						06 10 17.7	
SEY				*e*SS	SS	06 14 37.8	-3.4
SEY				pmax	pmax		
	comp=N,10.0nm,0.6s						
SEY				pmax	pmax		
	comp=E,30nm,0.6s						
SEY				pmax	pmax		
	comp=Z,60nm,0.6s,mb5.7						
SEY				smax			
	comp=N,5μm,9.5s						
SEY				smax			
	comp=E,7μm,10.8s						
SEY				MLR	MLR		
	comp=E,89μm,21.0s,MS7.1						
SEY				MLR	MLR		
	comp=Z,159μm,21.0s,MS7.3						
SEY				MLR	MLR		
	comp=N,46μm,17.0s,MS7.1						
BNT	**Bandirma**	**74.88**	**312**	*e*P	**P**	**06 00 17.1**	**-0.5**
IZM	**Izmir**	**74.94**	**310**	*e*P	**P**	**06 00 20.3**	**+2.4**
BLCB	**Balcova**	**75.10**	**310**	*e*P	**P**	**06 00 21.2**	**+2.3**
TIRR	**Tirgusor**	**75.53**	**316**	⇑P	**P**	**06 00 20.2**	**-1.0**
NPS	**Neapolis**	**75.61**	**306**	*e*P	**P**	**06 00 26.5**	**+4.7**
CFR	**Carcaliu**	**75.90**	**317**	⇑P	**P**	**06 00 26.2**	**+2.9**
HARR	**Harsova**	**75.92**	**316**	⇓P	**P**	**06 00 26.4**	**+3.0**
KIS	**Kishinev**	**75.93**	**319**	*e*P	**P**	**06 00 24.0**	**+0.6**
KIS				*e*		06 00 35.0	
KIS				*e*S	S	06 10 04.0	+0.6
KIS				*e*PS	PS	06 10 36.0	-8.0
KIS				pmax	pmax		
	comp=Z,180nm,1.7s,mb5.7						
KIS				pmax	pmax		
	comp=Z,1μm,10.0s						
KIS				pmax	pmax		
	comp=Z,1μm,12.0s						
PRD	**Provadia**	**75.93**	**315**	*e*P	**P**	**06 00 23.0**	**-0.5**
EDRB	**Edirne**	**76.09**	**313**	*e*P	**P**	**06 00 22.3**	**-2.1**
ALN	**Alexandroupoli**	**76.39**	**312**	*e*P	**P**	**06 00 24.2**	**-2.0**
AKASG	**Malin Array Be**	**76.72**	**323**	P	**P**	**06 00 25.8**	**-1.9**
	comp=Z,3.1nm,0.5s,mb4.5,baz=95,slow=4.2,SNR=23						
AKASG				PP	PP	06 03 21.4	-0.5
	comp=Z,4.2nm,0.8s,baz=106,slow=5.8,SNR=5.6						
GVD	**Gavdhos**	**76.76**	**306**	*e*P	**P**	**06 00 30.5**	**+2.1**
VAM	**Vamos**	**76.77**	**306**	*e*P	**P**	**06 00 33.0**	**+4.6**
ISR	**Istrita**	**76.98**	**317**	P	**P**	**06 00 32.7**	**+3.3**
ISR	**Istrita**	**76.98**	**317**	⇑P	**P**	**06 00 35.7**	**+6.4**
VRI	**Vrincioaia**	**77.03**	**317**	P	**P**	**06 00 29.8**	**+0.2**
VRI	**Vrincioaia**	**77.03**	**317**	⇑P	**P**	**06 00 34.8**	**+5.2**
MLR	**Muntele Rosu**	**77.48**	**317**	⇓P	**P**	**06 00 32.7**	**+0.6**
RZN	**Rozhen**	**77.53**	**313**	*e*P	**P**	**06 00 33.0**	**+0.5**
SNX	**Sinaia**	**77.74**	**317**	P	**P**	**06 00 34.3**	**+0.8**
OUR	**Ouranopolis**	**77.82**	**311**	*e*P	**P**	**06 00 33.8**	**-0.3**
KYTH	**Kithira**	**77.84**	**307**	*e*P	**P**	**06 00 40.0**	**+5.7**
PAIG	**Paliouri**	**77.97**	**311**	*e*P	**P**	**06 00 33.8**	**-1.1**
VLI	**Veliai**	**78.00**	**308**	*e*P	**P**	**06 00 33.0**	**-2.1**
MTUR	**Matau**	**78.03**	**316**	P	**P**	**06 00 39.8**	**+4.7**
PGB	**Panagyurishte**	**78.11**	**314**	*e*P	**P**	**06 00 36.0**	**+0.4**
MMB	**Musomiste**	**78.24**	**313**	*e*P	**P**	**06 00 36.0**	**-0.4**
SRS	**Serrai**	**78.25**	**312**	*e*P	**P**	**06 00 40.0**	**+3.6**
SOH	**Sokhos**	**78.38**	**312**	*e*P	**P**	**06 00 35.1**	**-2.0**
BURAR	**Bucovina Array**	**78.45**	**319**	⇑P	**P**	**06 00 38.8**	**+1.4**
MNK	**Minsk**	**78.63**	**326**	*e*P	**P**	**06 00 35.0**	**-3.2**
KKB	**Krupnik**	**78.77**	**313**	*e*P	**P**	**06 00 39.0**	**-0.2**
KNT	**Kendrikon**	**78.78**	**312**	*e*P	**P**	**06 00 37.8**	**-1.5**
VTS	**Vitosha**	**78.81**	**313**	⇑P	**P**	**06 00 43.8**	**+4.3**
VTS	**Vitosha**	**78.81**	**313**	*e*P	**P**	**06 00 40.0**	**+0.5**
AGG	**Agios Georgios**	**78.84**	**310**	*e*P	**P**	**06 00 38.8**	**-0.9**
SYO	**Syowa Base**	**78.86**	**198**	⇓P	**P**	**06 00 41.3**	**+2.1**
SYO	**Syowa Base**	**78.86**	**198**	⇑P	**P**	**06 00 43.5**	**+4.3**
ITM	**Ithomi**	**78.87**	**308**	*e*P	**P**	**06 00 39.0**	**-0.9**
SUR	**Sutherland**	**78.89**	**237**	P	**P**	**06 00 39.8**	**-0.3**
	comp=Z,17nm,0.8s,mb5.0,baz=86,slow=6.4,SNR=4.0						
SUR	**Sutherland**	**78.89**	**237**	*e*P	**P**	**06 00 40.0**	**-0.1**
	comp=Z,106nm,1.5s,mb5.5						
SUR				LR	LR		
	comp=Z,4μm,20.0s,MS5.8						
LIT	**Litokhoron**	**78.90**	**311**	*e*P	**P**	**06 00 38.4**	**-1.6**
PUL	**Pulkovo**	**78.99**	**332**	*e*P	**P**	**06 00 42.8**	**+2.7**
PUL				*e*S		06 10 49.4	
PUL				pmax	pmax		
	comp=Z,71nm,0.4s,mb6.0						
PUL				pmax	pmax		
	comp=N,140nm,0.6s						
PUL				pmax	pmax		
	comp=E,30nm,0.5s						
PUL				smax			
	comp=N,2μm,13.4s						
PUL				smax			
	comp=Z,698nm,12.0s						
PUL				smax			
	comp=E,1μm,10.4s						
VAY	**Valandovo**	**79.05**	**312**	⇓*i*P	**P**	**06 00 40.9**	**+0.1**
GRG	**Griva**	**79.11**	**312**	*e*P	**P**	**06 00 40.1**	**-1.0**
EVR	**Evrytania**	**79.23**	**310**	*e*P	**P**	**06 00 42.0**	**+0.2**
LVV	**L'vov**	**79.71**	**321**	*e*P	**P**	**06 00 42.1**	**-2.1**
LVV				*e*		06 03 46.3	
LVV				*e*PPP	PPP	06 05 41.5	+3.9
LVV				*e*S	S	06 10 40.7	-3.3
LVV				*e*PS	PS	06 11 42.9	+11
LVV				*e*SSS	SSS	06 19 18.7	+2.4
LVV				MLR	MLR		
	comp=N,2μm,18.0s,MS5.7						
LVV				MLR	MLR		
	comp=E,3μm,18.0s,MS5.7						
LVV				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.7						
FNA	**Florina**	**79.85**	**311**	*e*P	**P**	**06 00 44.0**	**-1.1**
BOLS	**Boljevac**	**79.93**	**315**	⇓*i*P	**P**	**06 00 44.9**	**-0.6**
SKO	**Skopje**	**79.99**	**313**	*i* P	**P**	**06 00 44.0**	**-1.9**
SNZO	**South Karori**	**80.05**	**132**	PFAKE		06 01 00.0	+14
SNZO				LR	LR		
	comp=Z,29μm,22.0s,MS6.6						
VLS	**Valsamata**	**80.06**	**309**	*e*P	**P**	**06 00 50.5**	**+4.2**
JAN	**Janina**	**80.08**	**310**	*e*P	**P**	**06 00 49.0**	**+2.6**
OHR	**Ohrid**	**80.33**	**312**	*i* P	**P**	**06 00 45.3**	**-2.4**
LVZ	**Lovozero**	**80.34**	**340**	*e*P	**P**	**06 00 50.5**	**+3.3**
LVZ				*e*S	S	06 10 48.6	-1.6
LVZ				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.5						
LVZ				pmax	pmax		
	comp=N,11nm,1.0s						
LVZ				pmax	pmax		
	comp=E,19nm,1.5s						
LVZ				smax			
	comp=N,2μm,17.5s						
LVZ				smax			
	comp=Z,1μm,13.6s						
LVZ				smax			
	comp=E,3μm,12.8s						
BZS	**Buzias**	**80.48**	**316**	⇓P	**P**	**06 00 48.9**	**+0.5**
KWP	**Kalwaria**	**80.51**	**320**	*e*P	**P**	**06 00 48.9**	**+0.5**
UZH	**Uzhgorod**	**80.58**	**319**	*e*P	**P**	**06 00 50.0**	**+1.1**
UZH				*e*S	S	06 10 48.0	-5.1
APA	**Apatity**	**80.64**	**339**	⇑*i*P	**P**	**06 00 48.3**	**-0.5**
APA				*i*		06 00 57.6	
APA				*e*S	S	06 10 53.0	-0.3
APA				pmax	pmax		
	comp=Z,73nm,1.3s,mb5.5						
APA				MLR	MLR		
	comp=Z,13μm,19.0s,MS6.3						
KOLS	**Kolonicke sedl**	**80.66**	**320**	*e*P	**P**	**06 00 50.0**	**+0.8**
KOLS				*e*	pP	06 00 55.4	-1.0
KOLS	**Kolonicke sedl**	**80.66**	**320**	*e*P	**P**	**06 00 49.8**	**+0.6**
KOLS				*e*pP	pP	06 00 55.4	-1.0
KOLS				*e*		06 22 24.3	
TSUM	**Tsumeb**	**80.67**	**251**	P	**P**	**06 00 50.2**	**+0.3**
	comp=Z,9.8nm,1.1s,mb4.7,baz=69,slow=5.3,SNR=7.3						
TSUM	**Tsumeb**	**80.67**	**251**	*e*P	**P**	**06 00 49.4**	**-0.5**
	comp=Z,28nm,1.1s,mb5.1						
TSUM				LR	LR		
	comp=Z,9μm,19.0s,MS6.2						
GRUS	**Gruza**	**80.83**	**314**	⇑*i*P	**P**	**06 00 49.2**	**-1.0**
KEK	**Kerkira**	**80.89**	**310**	*e*P	**P**	**06 00 51.3**	**+0.6**
SUW	**Suwalki**	**81.15**	**325**	*e*P	**P**	**06 00 51.5**	**-0.3**
CRVS	**Cervenica-Dubn**	**81.17**	**320**	*e*P	**P**	**06 00 58.1**	**+6.1**
CRVS				*e*	pP	06 01 04.7	+5.5
CRVS				*e*S	S	06 11 01.6	+2.4
CRVS	**Cervenica-Dubn**	**81.17**	**320**	*e*P	**P**	**06 00 57.5**	**+5.5**
CRVS				*e*S	S	06 11 03.2	+4.0
CRVS	**Cervenica-Dubn**	**81.17**	**320**	*e*pP	pP	06 00 57.5	-1.7
CRVS	**Cervenica-Dubn**	**81.17**	**320**	*e*S	S	06 11 03.2	+4.0
DIVS	**Divcibare**	**81.38**	**315**	⇑*i*P	**P**	**06 00 51.7**	**-1.4**
FINES	**FINESS Array B**	**81.50**	**333**	P

OJC eS S 06 11 11.8 -0.7
OJC MLR MLR
comp=Z,5μm,21.0s,MS5.9
OJC Ojcow 82.47 321 eP **P** **06 00 58.4 -0.3**
OJC eS S 06 11 11.8 -0.7
OJC eSS SS 06 16 25.7 -11
OJC LR LR
comp=Z,5μm,21.0s,MS5.9
OJC Ojcow 82.47 321 eP **P** **06 00 58.4 -0.3**
OJC eS S 06 11 11.8 -0.7
OJC eSS SS 06 16 25.7 -11
OJC e 06 16 25.7
OJC MLR MLR 06 42 00.5
comp=Z,5μm,21.0s,MS5.9
PKSM Moragy 82.63 317 ⇑P **P** **06 01 00.8 +1.2**
VYHS Vyhne 82.82 319 eP **P** **06 01 00.1 -0.4**
VYHS eS S 06 11 18.5 +2.4
STON Ston 82.86 313 i P **P** **06 00 58.3 -2.6**
SRO Srobarova 83.07 318 eP **P** **06 01 03.4 +1.6**
TIP Timpagrande 83.16 309 eP **P** **06 01 02.6 +0.1**
TIP epP pP 06 01 08.2 -1.5
LTRZ Laterza 83.26 311 eP **P** **06 01 04.6 +1.6**
GRI Girifalco 83.39 309 eP **P** **06 01 04.7 +1.0**
OKC Ostrava-Krasne 83.46 320 eP **P** **06 01 04.0 +0.2**
OKC eSKS SKS 06 11 26.0 -2.1
OKC AMS AMS 06 48 40.0
comp=Z,6μm,16.2s
RAC Raciborz 83.47 320 eP **P** **06 01 04.1 +0.3**
RAC MLR MLR 06 42 49.3
comp=Z,6μm,20.5s,MS6.0
ORI Oriolo Calabro 83.49 310 eP **P** **06 01 06.5 +2.4**
SOI Samo 83.60 308 eP **P** **06 01 06.8 +2.0**
KEV Kevo 83.61 341 ep **P** **06 01 07.7 +3.6**
MORC Moravsky Berou 83.84 320 P **P** **06 01 05.9 +0.2**
MORC Moravsky Berou 83.84 320 eP **P** **06 01 05.2 -0.6**
comp=Z,83nm,1.4s,mb5.7
MORC epP pP 06 01 11.7 -1.3
SCLL Scilla 83.89 308 eP **P** **06 01 08.1 +1.9**
ZST Bratislava 83.93 318 eP **P** **06 01 07.3 +1.1**
ZST eS S 06 11 32.2 +5.0
ZST Bratislava 83.93 318 eP **P** **06 01 07.1 +0.9**
ZST e 06 01 11.1
ZST eS S 06 11 32.2 +5.0
ZST Bratislava 83.93 318 eP **P** **06 01 07.1 +0.9**
ZST e 06 01 11.1
ZST Bratislava 83.93 318 eS S 06 11 32.2 +5.0
ZST eL 06 47 10.0
ARCES ARCESS Array B 84.04 340 P **P** **06 01 06.3 0.0**
comp=Z,7.0nm,0.6s,mb5.0,baz=120,slow=3.4,SNR=37
ARE0 ARCESS Array S 84.04 340 eP **P** **06 01 06.2 -0.1**
SISC Sisak 84.11 316 i P **P** **06 01 08.3 +1.1**
SLCN Sala Consilina 84.14 310 eP **P** **06 01 09.2 +1.8**
MGR Morigerati 84.18 310 eP **P** **06 01 07.4 -0.3**
MRLC Muro Lucano 84.28 311 eP **P** **06 01 10.0 +1.8**
SGO Sicignano 84.40 311 eP **P** **06 01 10.0 +1.2**
FG5 Orsara di Pugl 84.50 311 eP **P** **06 01 11.7 +2.5**
GKP Gorka Klasztor 84.50 323 eP **P** **06 01 14.0 +5.1**
CSSN Cassano Irpino 84.64 311 eP **P** **06 01 10.3 +0.3**
DPC Dobruska-Polom 84.69 320 eP **P** **06 01 10.0 0.0**
DPC eS S 06 11 39.6 +4.9
DPC AMS AMS 06 45 40.0
comp=Z,6μm,17.3s
KSP Ksiaz 84.77 321 eP **P** **06 01 11.5 +1.1**
KSP eS S 06 11 38.0 +2.5
KSP Ksiaz 84.77 321 eP **P** **06 01 11.5 +1.1**
KSP epP pP 06 01 16.1 -1.5
KSP eS S 06 11 38.0 +2.5
KSP LR LR
comp=Z,15μm,18.9s,MS6.4
KSP Ksiaz 84.77 321 eP **P** **06 01 12.2 +1.8**
ARSA Arzberg 84.88 317⇑i P **P** **06 01 10.6 -0.4**
comp=Z,251nm,2.7s,mb5.9
BOJS Bojanci 84.90 316 eP **P** **06 01 11.3 +0.1**
BOJS ePcP PcP 06 01 15.5 +0.5
UPC Upice 84.91 321 eP **P** **06 01 11.0 -0.1**
RAO Raoul Island 84.92 119 PFAKE 06 01 20.0 +8.3
RAO LR LR
comp=Z,20μm,19.0s,MS6.5
NVLJ Novalja 85.08 315 i P **P** **06 01 11.9 -0.2**
SBA Scott Base 85.44 169 eP **P** **06 01 14.5 +1.3**
comp=Z,88nm,1.5s,mb5.7
SBA LR LR
comp=Z,9μm,20.0s,MS6.2
LJU Ljubljana 85.45 316 eP **P** **06 01 14.2 +0.3**
LJU ePcP PcP 06 01 18.5 +1.1
SDI San Donato 85.62 312 eP **P** **06 01 11.3 -3.6**
MOA Molln 85.79 318⇑i P **P** **06 01 14.3 -1.2**
comp=Z,157nm,2.2s,mb5.8
PRU Pruhonice 85.80 320 eP **P** **06 01 17.9 +2.4**
PRU eS S 06 11 48.0 +2.5
PRU AMS AMS 06 48 40.0
comp=Z,6μm,16.7s
PVCC Panska Ves 85.83 321 eP **P** **06 01 17.8 +2.1**
PVCC eS S 06 11 47.8 +2.0
PVCC AMS AMS 06 45 20.0
comp=Z,6μm,18.3s
VOY Vojsko 85.89 316 eP **P** **06 01 16.0 -0.1**
VOY ePcP PcP 06 01 20.8 +1.5
PTQR Pietraquaria 85.95 312 eP **P** **06 01 16.6 +0.2**
AQU L'Aquila 85.97 312 P **P** **06 01 17.0 +0.4**
AQU L'Aquila 85.97 312 eP **P** **06 01 16.7 +0.1**
comp=Z,146nm,1.1s,mb6.1
BSD Bornholm Skovb 86.07 325 eP **P** **06 01 18.1 +1.3**
BSD i S S 06 11 37.3 -11
BSD pmax pmax
comp=Z,44nm,0.9s,mb5.7
BSD MLR MLR
comp=Z,7μm,18.0s,MS6.1
BSD Bornholm Skovb 86.07 325 eP **P** **06 01 18.1 +1.3**
comp=Z,44nm,0.9s,mb5.7
BSD i 06 01 59.7
BSD i S S 06 11 37.3 -11
BSD Bornholm Skovb 86.07 325 i P **P** **06 01 18.1 +1.3**
comp=Z,44nm,0.9s,mb5.7
BSD i 06 01 59.7
BSD i S S 06 11 37.3 -11
comp=Z,7μm,18.0s
ROBS Robic 86.17 316 eP **P** **06 01 17.3 -0.2**
NRCA Norcia 86.22 313 eP **P** **06 01 17.4 -0.3**
GEC2 GERESS Array S 86.24 319 eP **P** **06 01 17.3 -0.5**
GEC2 pmax pmax
comp=Z,129nm,1.5s,mb5.9
GEC2 GERESS Array S 86.24 319 eP **P** **06 01 17.3 -0.5**
comp=Z,129nm,1.5s,mb5.9
GERES GERESS Array B 86.24 319 P **P** **06 01 16.5 -1.3**
comp=Z,2.9nm,0.8s,mb4.6,baz=104,slow=5.5,SNR=20
BRG Berggiesshubel 86.26 321 eP **P** **06 01 17.7 -0.1**
BRG i S S 06 11 50.0 +0.1
BRG pmax pmax
comp=Z,68nm,1.4s,mb5.7
BRG MLR MLR
comp=N,5μm,16.2s,MS6.2
BRG MLR MLR
comp=E,6μm,16.2s,MS6.2
BRG MLR MLR
comp=Z,6μm,16.2s,MS6.1
BRG Berggiesshubel 86.26 321 eP **P** **06 01 17.7 -0.1**
comp=Z,68nm,1.4s,mb5.7
BRG i S S 06 11 50.0 +0.1
BRG e 06 22 34.1
BRG i 06 22 43.8
BRG LR LR
comp=Z,6μm,16.2s,MS6.1
PTCC Patocco-Chiusa 86.29 316 eP **P** **06 01 18.3 +0.2**
TRO Tromso 86.31 340 eP **P** **06 01 20.3 +2.7**
TRO MLR MLR
comp=Z,7488μm,15.4s
TRO Tromso 86.31 340 eP **P** **06 01 20.3 +2.7**
TRO eSKSa 06 11 39.8
TRO eSS SS 06 17 33.2 +0.2
TRO AMS AMS 06 43 36.3
comp=Z,7μm,15.4s,MS6.2
KBA Koelnbreinsper 86.35 317⇑i P **P** **06 01 16.9 -1.4**
comp=Z,276nm,4.8s
KBA Koelnbreinsper 86.35 317⇑i P **P** **06 01 16.9 -1.4**
KBA pmax pmax
comp=Z,276nm,4.8s
KHC Kasperske Hory 86.35 319 eP **P** **06 01 18.8 +0.5**
KHC e 06 11 50.1
KHC MLR MLR
comp=Z,6μm,19.4s,MS6.0
KHC Kasperske Hory 86.35 319 eP **P** **06 01 18.8 +0.5**
KHC e 06 01 23.0
KHC eSKS SKS 06 11 50.1 +2.6
KHC LR LR
comp=Z,6μm,19.4s,MS6.0
KHC Kasperske Hory 86.35 319 eP **P** **06 01 18.8 +0.5**
KHC pP pP 06 01 23.0 -2.5
KHC eS S 06 11 50.1 -0.7
KHC AMS AMS 06 47 40.0
comp=Z,6μm,19.4s
SNTG Esanatoglia 86.37 313 eP **P** **06 01 20.2 +1.7**
ARV Arcevia 86.39 313 eP **P** **06 01 19.4 +0.8**
RUE Ruedersdorf 86.50 322 eP **P** **06 01 19.2 +0.3**
comp=Z,52nm,0.8s,mb5.8
MNS Montasola 86.51 312 eP **P** **06 01 19.9 +0.7**
FSSB Fossombrone 86.52 314 eP **P** **06 01 20.9 +1.7**
RSM Repubblica di 86.77 314 eP **P** **06 01 23.5 +3.1**
WET Wettzell 86.81 319 eP **P** **06 01 20.0 -0.5**
WET pmax pmax
comp=Z,76nm,1.5s,mb5.7
WET Wettzell 86.81 319 eP **P** **06 01 20.0 -0.5**
comp=Z,76nm,1.5s,mb5.7
CLL Collm 86.88 321⇓i P **P** **06 01 20.5 -0.3**
CLL i 06 01 25.5
CLL eS S 06 11 53.0 -2.9
CLL pmax pmax
comp=Z,30nm,1.4s,mb5.3
CLL MLR MLR
comp=Z,8μm,16.2s,MS6.2
CLL Collm 86.88 321⇓i P **P** **06 01 20.5 -0.3**
comp=Z,30nm,1.4s,mb5.3
CLL i 06 01 25.5
CLL eS S 06 11 53.0 -2.9
CLL LR LR
comp=Z,8μm,16.2s,MS6.2
CLL Collm 86.88 321⇓P **P** **06 01 20.5 -0.3**
comp=Z,logA/T=1.3,mb5.3
CLL i *PP pP 06 01 25.5 -2.6
CLL i *SP sP 06 01 32.7 +2.3
CLL e 06 01 59.0
CLL i 06 02 18.5
CLL e 06 03 37.0
CLL ePP PP 06 04 54.0 +7.9
CLL eS S 06 11 53.0 -2.9
CLL ePPS PPS 06 13 12.0 -14
CLL e 06 14 00.0
NKC Novy Kostel 87.16 320 eP **P** **06 01 21.1 -1.1**
NKC AMS AMS 06 48 00.0
comp=Z,7μm,17.4s
SFI Santa Sofia 87.20 314 eP **P** **06 01 23.8 +1.2**
PGD Poggio Sodo 87.29 314 eP **P** **06 01 26.3 +3.3**
VMG Vicchio 87.42 314 eP **P** **06 01 25.8 +2.2**
CTI Castel Tesino 87.45 316 eP **P** **06 01 24.2 +0.5**
WTTA Wattenberg 87.52 317⇑i P **P** **06 01 24.2 +0.2**
comp=Z,101nm,2.2s,mb5.7
WTTA Wattenberg 87.52 317⇑i P **P** **06 01 24.2 +0.2**
WTTA pmax pmax
comp=Z,101nm,2.2s,mb5.7
COP Copenhagen 87.53 326 i P **P** **06 01 32.0 +8.2**
COP i S S 06 12 03.9 +2.0
COP MLR MLR
comp=Z,4μm,18.0s,MS5.9
COP Copenhagen 87.53 326 i S S 06 12 03.9 +2.0
comp=Z,4μm,18.0s
MOX Moxa 87.72 321 eP **P** **06 01 27.0 +2.2**
MOX pmax pmax
comp=Z,97nm,1.8s,mb5.7
MOX MLR MLR
comp=Z,5μm,19.0s,MS6.0
MOX Moxa 87.72 321 eP **P** **06 01 27.0 +2.2**
comp=Z,97nm,1.8s,mb5.7
MOX LR LR
comp=Z,5μm,19.0s,MS6.0
MOX Moxa 87.72 321 i P **P** **06 01 27.0 +2.2**
comp=Z,logA/T=1.7,mb5.7
MOX S S 06 12 08.0 +4.2
MOX L 06 47 31.0
GRFL Gerfalco 87.80 313 eP **P** **06 01 29.8 +4.3**
FUR Furstenfeldbru 87.81 318 eP **P** **06 01 24.3 -1.1**
ZCCA Zocca 87.85 314 eP **P** **06 01 28.4 +2.7**
MOTA Moosalm 87.89 317⇑i P **P** **06 01 27.6 +1.8**
GRA1 Grafenberg Arr 87.92 320 eP **P** **06 01 25.7 -0.1**
comp=Z,79nm,1.4s,mb5.8
GRA1 eS S 06 12 12.1 +6.4
GRA1 LR LR
comp=Z,7μm,20.5s,MS6.0
GRF Grafenberg Arr 87.92 320 eP **P** **06 01 25.7 -0.1**
GRF eS S 06 12 12.1 +6.4
GRF pmax pmax
comp=Z,79nm,1.4s,mb5.8
GRF MLR MLR
comp=Z,7μm,20.5s,MS6.0
GRF Grafenberg Arr 87.92 320 eP **P** **06 01 25.7 -0.1**
comp=Z,79nm,1.4s,mb5.8
GRF eS S 06 12 12.1 +6.4
GRF LR LR
comp=Z,7μm,20.5s,MS6.0
GRFO Grafenberg 87.92 320 eP **P** **06 01 25.8 0.0**
ERBM Eremo 88.25 314 eP **P** **06 01 31.2 +3.6**
BRMO Bormio 88.35 316 eP **P** **06 01 28.2 +0.2**
NSS Namsos 88.37 334 eSKSa 06 11 56.0
NSS AMS AMS 06 46 45.8
comp=Z,9μm,20.8s,MS6.2
NVL N'lazarevskaya 88.47 199⇑i P **P** **06 01 32.3 +4.3**
NVL i pP 06 01 40.1 +4.9
NVL i 06 06 58.0
NVL i 06 12 09.8
NVL pmax pmax
comp=Z,173nm,1.9s,mb6.0
BACM 88.49 314 P **P** **06 01 32.4 +3.6**
MAIT Maitri 88.50 199 eP **P** **06 01 30.8 +2.7**
GRAM 88.50 314 P **P** **06 01 32.9 +4.1**
NB2 NORSAR Subarra 88.51 331 P **P** **06 01 27.6 -0.8**
comp=Z,64nm,1.4s,mb5.8,baz=93,slow=4.6
NB2 NORSAR Subarra 88.51 331 P **P** **06 01 27.6 -0.8**
baz=93,slow=4.8
NOA NORSAR Array B 88.51 331 P **P** **06 01 28.4 0.0**
comp=Z,13nm,1.0s,mb5.2,baz=95,slow=4.7,SNR=9.7
NOA PP PP 06 04 56.6 -2.4
comp=Z,2.5nm,1.1s,baz=69,slow=16,SNR=3.8
CLZ Clausthal 88.55 322 eP **P** **06 01 28.5 -0.3**
comp=Z,139nm,1.5s,mb6.1
NAO01 NORSAR Array S 88.66 331 eP **P** **06 01 29.1 0.0**
NAO01 epP pP 06 01 34.2 -2.2
NAO01 LR LR
comp=Z,14μm,22.0s,MS6.3
CODM 88.66 314 P **P** **06 01 32.8 +3.3**
BSEG Bad Segeberg 88.66 324 eP **P** **06 01 29.1 -0.2**
DAVA Damuels 88.72 317⇑i P **P** **06 01 30.2 +0.5**
comp=Z,212nm,2.4s,mb6.0
PGF Pioggiola 89.23 312 eP **P** **06 01 32.0 -0.3**
comp=Z,186nm,1.4s,mb5.9
PGF Pioggiola 89.23 312 eP **P** **06 01 32.0 -0.3**
PGF pmax pmax
comp=Z,93nm,1.4s,mb5.9
KONO Kongsberg 89.25 329 i P **P** **06 01 31.8 -0.2**
KONO Kongsberg 89.25 329 eP **P** **06 01 25.7 -6.3**
KONO LR LR
comp=Z,9μm,19.0s,MS6.2
KONO Kongsberg 89.25 329 eP **P** **06 01 32.0 +0.1**
KONO eSKSa 06 12 06.3
MUD Monsted U'grnd 89.39 326 i P **P** **06 01 26.9 -5.8**
MUD MLR MLR
comp=Z,5μm,17.0s,MS6.0
MUD Monsted U'grnd 89.39 326 i P **P** **06 01 26.9 -5.8**
MUD e 06 11 37.8
MUD i S S 06 12 10.7 -8.5
comp=Z,5μm,17.0s
TOD Tromm 89.49 319 eP **P** **06 01 33.9 +0.6**
PCP Pian Castagno 89.59 314 P **P** **06 01 38.0 +4.1**
TNS Taunus Mts 89.73 320 eP **P** **06 01 34.2 -0.2**
QSPA South Pole Qui 89.75 180 eP **P** **06 01 33.8 -0.1**
comp=Z,282nm,2.1s,mb6.2
QSPA LR LR
comp=Z,15μm,19.0s,MS6.4
BFO Black Forest 89.78 318 eP **P** **06 01 33.7 -1.0**
BFO pmax pmax
comp=Z,54nm,1.4s,mb5.7
BFO Black Forest 89.78 318 eP **P** **06 01 33.7 -1.0**
comp=Z,54nm,1.4s,mb5.7
FIN Finale Ligure 89.83 314 eP **P** **06 01 40.0 +4.9**
KTD Kalmit 89.95 319 eP **P** **06 01 38.1 +2.6**
FELD Feldberg 90.00 318 eP **P** **06 01 36.7 +0.9**
MCGN Macugnaga 90.00 316 eP **P** **06 01 41.6 +5.8**
ORX Oropa 90.00 315 P **P** **06 01 39.0 +3.2**
IMI Imperia 90.06 314 eP **P** **06 01 40.4 +4.2**
ROB Roburent 90.08 314 P **P** **06 01 40.5 +4.3**
LANF Langenberg 90.14 319 eP **P** **06 01 37.7 +1.3**
MONE Monesi 90.16 314 P **P** **06 01 40.7 +4.1**
LIBD Limburg 90.27 318 eP **P** **06 01 37.7 +0.7**
SAOF Saorge 90.30 314 eP **P** **06 01 39.6 +2.3**
ABH Alteburg 90.30 320 eP **P** **06 01 40.0 +2.9**
BBS Basel-Blauen 90.33 317 eP **P** **06 01 39.3 +2.0**
AFI Afiamalu 90.38 104 PFAKE 06 01 50.0 +12
AFI LR LR
comp=Z,8μm,22.0s,MS6.1
SBF Sospel 90.39 314 eP **P** **06 01 37.2 -0.5**
comp=Z,103nm,0.8s,mb5.9
SBF Sospel 90.39 314 eP **P** **06 01 37.2 -0.5**
SBF pmax pmax
comp=Z,51nm,0.8s,mb5.9
ENR Entracque 90.40 314 P **P** **06 01 42.2 +4.5**
CMAH Djebel Manchou 90.41 306 P **P** **06 01 40.0 +2.1**
WLS Welschbruch 90.44 318 eP **P** **06 01 36.5 -1.3**
REVF Revere 90.44 314 eP **P** **06 01 40.1 +2.2**
CDF Champ du Feu 90.49 318 eP **P** **06 01 37.3 -0.7**
comp=Z,155nm,1.6s,mb5.8
BHB Bricherasio 90.51 315 P **P** **06 01 42.2 +4.1**
TOUF Mont Tournerai 90.52 314 eP **P** **06 01 37.2 -1.1**
ECH Echery 90.57 318 eP **P** **06 01 40.5 +2.1**
LSD Ceresole Reale 90.58 315 P **P** **06 01 42.3 +3.8**
MOF Molkenrain 90.58 318 eP **P** **06 01 40.5 +2.0**
MVIF Mont Vial 90.59 314 eP **P** **06 01 39.3 +0.7**
RUP Ruppelstein 90.62 320 eP **P** **06 01 38.4 -0.2**
PZZ Prazzo 90.63 314 P **P** **06 01 42.8 +4.1**
HINF Hinteralfeld 90.77 318 eP **P** **06 01 38.5 -0.8**
comp=Z,83nm,1.6s,mb5.5
LOMF Lomont 90.80 317 eP **P** **06 01 39.3 -0.1**
SURF Saint Ours 90.83 314 eP **P** **06 01 40.8 +1.1**
MBDF Montbardon 90.86 315 eP **P** **06 01 38.9 -0.9**
comp=Z,33nm,0.8s,mb5.4
LPG La Plagne 90.87 315 eP **P** **06 01 39.7 -0.1**
comp=Z,83nm,0.9s,mb5.8
LPL La Plagne 90.88 315 eP **P** **06 01 39.8 -0.1**
comp=Z,95nm,0.9s,mb5.8
BNI Bardonecchia 90.92 315 P **P** **06 01 43.8 +3.7**
BNI pmax pmax
comp=Z,26nm,1.0s,mb5.5
BNI Bardonecchia 90.92 315 eP **P** **06 01 40.6 +0.6**
comp=Z,26nm,0.9s,mb5.6
FRF La Foret Royal 90.96 313 eP **P** **06 01 40.0 -0.3**
comp=Z,208nm,1.3s,mb6.0
CKFL Kef-Lekhel 90.97 306 P **P** **06 01 43.0 +2.5**
LMR La Mourre 91.06 313 eP **P** **06 01 40.2 -0.6**
comp=Z,273nm,1.7s,mb6.0
HAU Haudompre 91.11 318 eP **P** **06 01 40.2 -0.7**
comp=Z,305nm,1.6s,mb6.1
HAU eR
comp=Z,5μm,19.0s
CASM Ain Smara 91.16 306 P **P** **06 01 45.0 +3.6**
WLF Walferdange 91.21 319 eP **P** **06 01 40.5 -0.8**
WLF pmax pmax
comp=Z,93nm,1.3s,mb6.0
WLF Walferdange 91.21 319 eP **P** **06 01 40.5 -0.8**
comp=Z,93nm,1.3s,mb6.0
CTEI Djebel Teioual 91.23 306 P **P** **06 01 44.0 +2.3**
CABF La Chapelle 91.31 316 eP **P** **06 01 41.7 -0.1**
comp=Z,164nm,1.4s,mb5.9
GDM Grand'Maison 91.32 315 eP **P** **06 01 42.7 +0.8**
THEF They Montfort 91.35 318 eP **P** **06 01 41.2 -0.8**
BER Bergen 91.39 330 eP **P** **06 01 41.1 -0.8**
BER eSKSa 06 12 16.7
BER AMS AMS 06 47 35.4
comp=Z,11μm,20.6s,MS6.3
ORIF Oris-en-Rattie 91.49 315 eP **P** **06 01 42.7 0.0**
comp=Z,74nm,1.0s,mb5.7
ORIF eR
comp=Z,7μm,21.5s
GRN Grenoble 91.58 315 eP **P** **06 01 41.9 -1.2**
CMER Merouana 91.65 305 P **P** **06 01 46.0 +2.3**
DFRA Djebel Bou Aff 91.65 306 P **P** **06 01 47.5 +3.9**
SMRF Simiane la Rot 91.73 314 eP **P** **06 01 44.0 +0.2**
comp=Z,306nm,1.7s,mb6.0
CKHR Kef el Ahmar 91.96 306 P **P** **06 01 51.0 +5.9**
MEZF Maizieres J'vi 91.97 318 eP **P** **06 01 44.4 -0.4**
comp=Z,197nm,1.4s,mb6.0
TNA Tin City 91.97 25 eP **P** **06 01 45.5 +1.1**
comp=Z,7.4nm,0.9s,mb5.0
TNA LR LR
comp=Z,9μm,20.0s,MS6.2
SET Setif 92.04 306 P **P** **06 01 52.0 +6.5**
GIVF Givet 92.06 320 eP **P** **06 01 45.0 -0.2**
comp=Z,152nm,1.5s,mb5.8
VIVF Saint-Julien-l 92.35 315 eP **P** **06 01 46.4 -0.3**
comp=Z,142nm,1.5s,mb5.8
BAIF Baives 92.46 320 eP **P** **06 01 47.1 +0.1**
comp=Z,139nm,1.3s,mb5.8
SMF Signal de Mont 92.86 317 eP **P** **06 01 48.4 -0.5**
comp=Z,216nm,1.6s,mb6.0
LASF Ste Croix 92.97 314 eP **P** **06 01 49.6 +0.1**
comp=Z,180nm,1.6s,mb5.9
PLDF La Plantade 93.04 316 eP **P** **06 01 50.7 +0.9**
SSF Saint Saulge 93.07 317 eP **P** **06 01 49.8 -0.1**
comp=Z,100nm,1.5s,mb5.7
SNAA Sanae 93.15 198⇑i P **P** **06 01 54.7 +5.0**
SNAA Sanae 93.15 198 eP **P** **06 01 50.3 +0.6**
SNAA pmax pmax
comp=Z,20nm,1.0s
SNAA Sanae 93.15 198 P **P** **06 01 52.5 +2.8**
comp=Z,8.0nm,1.1s,mb5.1,baz=98,slow=5.8,SNR=11
SNAA Sanae 93.15 198 eP **P** **06 01 50.3 +0.6**
comp=Z,20nm,1.0s,mb5.5
SNAA e 06 02 05.3
SNAA e 06 02 08.2
AVF Avril sur Loir 93.19 317 eP **P** **06 01 50.0 -0.4**
comp=Z,97nm,1.3s,mb5.8
LBL Lubilhac 93.34 315 eP **P** **06 01 51.1 -0.1**
BGF Bois d'Agland 93.55 316 eP **P** **06 01 51.9 -0.2**
comp=Z,191nm,1.5s,mb6.0
UNV Unalaska Valle 93.55 36 PFAKE 06 02 00.0 +8.1
UNV LR LR
comp=Z,20μm,22.0s,MS6.5
HYF Humbligny 93.65 317 eP **P** **06 01 52.7 +0.2**
TCF Toulx Ste Croi 94.00 316 eP **P** **06 01 54.1 -0.1**
MTLF Montolieu 94.19 313 eP **P** **06 01 54.9 -0.3**
comp=Z,72nm,1.3s,mb5.6
CAF Calviac 94.20 315 eP **P** **06 01 55.0 -0.2**
comp=Z,38nm,1.2s,mb5.4
VNA1 Neumayer--Stat 95.09 199⇑i P **P** **06 01 56.9 -1.8**
VNA1 e 06 02 07.3
VNA1 e 06 02 10.4
LFF La Frestale 95.14 315 eP **P** **06 01 58.1 -1.4**
VNA3 Neumayer Olymp 95.37 198⇑i P **P** **06 01 58.6 -1.3**
VNA3 e 06 02 09.7
VNA3 e 06 02 13.0
JMIC Jan Mayen 95.47 342 e S 06 13 13.4 +1.3
JMIC AMS AMS 06 53 46.2
comp=Z,6μm,14.9s,MS6.2
DAG Danmarks Havn 96.08 348⇑eP **P** **06 02 05.9 +2.8**
DAG pmax pmax
comp=Z,15nm,1.3s,mb5.3
DAG MLR MLR
comp=N,9μm,19.0s,MS6.4
DAG MLR MLR
comp=Z,14μm,19.0s,MS6.5
DAG MLR MLR
comp=E,9μm,18.0s,MS6.4
DAG Danmarks Havn 96.08 348⇑eP **P** **06 02 05.9 +2.8**
comp=E,15nm,1.3s,mb5.3
DAG LR LR
comp=Z,14μm,19.0s,MS6.5
DAG Danmarks Havn 96.08 348⇑i P **P** **06 02 05.9 +2.8**
comp=Z,15nm,1.3s,mb5.3
comp=Z,14μm,19.0s
ESK Eskdalemuir 96.42 326 PFAKE 06 02 20.0 +15
ESK LR LR
comp=Z,2μm,20.0s,MS5.6
IMA Indian Mountai 97.64 23 eP **P** **06 02 12.7 +2.4**
comp=Z,9.6nm,1.2s,mb5.2
ESLA Sonseca Array 99.17 310 PFAKE 06 02 30.0 +12
ESLA LR LR
comp=Z,31μm,19.0s,MS6.8
MCK McKinley 100.32 25 PFAKE 06 02 30.0 +7.5
MCK LR LR
comp=Z,5μm,19.0s,MS6.0
COLA College 100.33 23 PFAKE 06 02 30.0 +7.4
COLA LR LR
comp=Z,10μm,20.0s,MS6.3
FIB Fire Island 100.67 27 PFAKE 06 02 40.0 +16
FIB LR LR
comp=Z,7μm,19.0s,MS6.2

ILAR	Eielson Array	100.75	23	P	P	06 02 24.1	-0.4
	comp=Z,0.3nm,0.7s,baz=292,slow=4.9,SNR=2.9						
ILAR				PP	PP	06 06 21.9	-13
	comp=Z,1.0nm,0.9s,baz=284,slow=7.4,SNR=3.7						
ILAR				PKKPbc		06 18 37.6	
	comp=Z,1.0nm,0.8s,baz=152,slow=2.3,SNR=7.9						
RAR	Rarotonga	101.53	112	PFAKE		06 02 40.0	+11
RAR				LR	LR		
	comp=Z,9µm,22.0s,MS6.3						
BORG	Borgarnes	102.23	337	PFAKE		06 02 40.0	+8.9
BORG				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
DBIC	Dimbokro	102.57	277	PFAKE		06 02 50.0	+16
DBIC				LR	LR		
	comp=Z,8µm,20.0s,MS6.2						
DIV	Divide	102.67	26	PFAKE		06 02 40.0	+6.9
DIV				LR	LR		
	comp=Z,33µm,21.0s,MS6.8						
KIP	Kipapa	103.30	68	PFAKE		06 02 50.0	+13
KIP				LR	LR		
	comp=Z,5µm,20.0s,MS6.0						
INK	Inuvik	103.64	17	PKiKP		06 06 55.0	
	comp=Z,4.4nm,1.1s,baz=318,slow=4.8,SNR=2.7						
POHA	Pohakuloa	105.77	70	PFAKE		06 07 10.0	
POHA				LR	LR		
	comp=Z,38µm,22.0s,MS6.9						
TRIS	Tristan da Cun	105.82	231	PFAKE		06 07 10.0	
TRIS				LR	LR		
	comp=Z,7µm,19.0s,MS6.2						
SIT	Sitka	109.33	28	PFAKE		06 07 20.0	
SIT				LR	LR		
	comp=Z,15µm,20.0s,MS6.6						
TBI	Tubuai	110.74	115	*e*PP	PP	06 07 38.7	-11
TBI				*e*PS	PS	06 17 07.6	-7.7
TBI				*e*SS	SS	06 23 21.9	+6.4
TBI				*e*LR	LR	06 39 50.3	
	comp=Z,11µm,31.0s						
DLBC	Dease Lake	110.87	25	PKiKP		06 07 10.0	
	comp=Z,1.3nm,1.0s,baz=360,slow=26,SNR=2.6						
PPT	Papeete	111.48	109	*e*PP	PP	06 07 51.8	-3.5
PPT				*e*LR	LR	06 40 10.9	
	comp=Z,10µm,26.0s						
YKW3	Yellowknife Ar	113.22	16	P	PKPdf	06 07 12.5	-4.1
YKA	Yellowknife Ar	113.28	16	Pdiff	Pdif	06 03 22.2	+2.5
	comp=Z,0.1nm,0.5s,baz=197,slow=9.0,SNR=3.9						
YKA				PKiKP		06 07 12.5	
	comp=Z,0.7nm,0.9s,baz=318,slow=2.8,SNR=7.8						
YKA				PP	PP	06 08 03.2	-4.6
	comp=Z,4.8nm,1.2s,baz=327,slow=6.0,SNR=6.2						
YKA				PKKPbc		06 17 59.0	
	comp=Z,0.8nm,0.8s,baz=145,slow=3.7,SNR=9.6						
YKA	Yellowknife Ar	113.28	16	Pdif	Pdif	06 03 22.2	+2.5
YKA				PKPdf	PKPdf	06 07 12.5	-4.1
YKA				PP	PP	06 08 03.2	-4.6
YKA				PKKPbc		06 17 59.0	
PMSA	Palmer Station	113.83	188	PFAKE		06 07 30.0	+12
PMSA				LR	LR		
	comp=Z,21µm,21.0s,MS6.7						
FCC	Fort Churchill	120.87	7	PKIKP	PKPdf	06 07 28.7	-2.8
FCC	Fort Churchill	120.87	7	*e*PKPdf	PKPdf	06 07 28.3	-3.2
EDM	Edmonton	121.17	21	PKIKP	PKPdf	06 07 30.0	-2.2
EDM	Edmonton	121.17	21	*e*PKPdf	PKPdf	06 07 28.8	-3.4
COR	Corvallis	122.76	34	PFAKE		06 07 40.0	+4.6
COR				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
NEW	Newport	123.41	27	PKIKP	PKPdf	06 07 35.7	-0.9
NEW	Newport	123.41	27	*e*PKPdf	PKPdf	06 07 34.4	-2.2
NEW				LR	LR		
	comp=Z,12µm,22.0s,MS6.5						
HAWA	Hanford	123.58	30	*e*PKPdf	PKPdf	06 07 34.6	-2.4
HAWA				LR	LR		
	comp=Z,465nm,20.0s						
RKT	Rikitea	123.77	118	*e*PP	PP	06 09 09.8	-11
RKT				*e*PS	PS	06 19 05.0	-9.0
RKT				*e*SS	SS	06 26 11.6	+6.6
RKT				*e*LR	LR	06 45 52.0	
	comp=Z,11µm,27.0s						
SCHQ	Schefferville	124.11	349	PKP	PKPdf	06 07 35.4	-2.5
	comp=Z,1.2nm,0.6s,baz=135,slow=2.9,SNR=2.6						
SCHQ	Schefferville	124.11	349	*e*PKPdf	PKPdf	06 07 34.5	-3.4
SCHQ				LR	LR		
	comp=Z,13µm,19.0s,MS6.6						
HUMO	Hull Mountain	124.18	36	*e*PKPdf	PKPdf	06 07 36.0	-2.3
HUMO				LR	LR		
	comp=Z,4µm,19.0s,MS6.2						
WALA	Waterton Lakes	124.22	25	*e*PKPdf	PKPdf	06 07 35.1	-3.1
YBH	Yreka Blue Hor	124.86	36	PFAKE		06 07 50.0	+10
YBH				LR	LR		
	comp=Z,5µm,22.0s,MS6.1						
WDC	Whiskeytown Da	125.66	37	*e*PKPdf	PKPdf	06 07 37.7	-3.5
WDC				LR	LR		
	comp=Z,6µm,19.0s,MS6.3						
BMO	Blue Mountains	125.77	30	*e*PKPdf	PKPdf	06 07 37.4	-4.0
BMO				LR	LR		
	comp=Z,6µm,22.0s,MS6.2						
MSO	Missoula	125.92	26	*e*PKPdf	PKPdf	06 07 37.7	-3.8
MSO				LR	LR		
	comp=Z,9µm,19.0s,MS6.5						
MOD	Modoc	126.16	35	*e*PKPdf	PKPdf	06 07 39.5	-2.6
MOD				LR	LR		
	comp=Z,7µm,19.0s,MS6.4						
CHMT	Chamberlain Mo	126.16	26	*e*PKPdf	PKPdf	06 07 39.1	-2.9
HOPS	Hopland	126.28	39	PFAKE		06 07 50.0	+7.6
HOPS				LR	LR		
	comp=Z,5µm,19.0s,MS6.2						
WVOR	Wild Horse Val	126.74	33	PKIKP	PKPdf	06 07 43.1	-0.1
WVOR	Wild Horse Val	126.74	33	*e*PKPdf	PKPdf	06 07 40.9	-2.3
WVOR				LR	LR		
	comp=Z,8µm,22.0s,MS6.4						
NSHM	Saint Helena R	126.85	39	*e*PKPdf	PKPdf	06 07 42.1	-1.4
HRY	Holter Researc	126.93	25	*e*PKPdf	PKPdf	06 07 40.1	-3.3
PTCN	Pitcairn Islan	127.36	122	PFAKE		06 07 50.0	+5.1
PTCN				LR	LR		
	comp=Z,11µm,20.0s,MS6.5						
BOZ	Bozeman (W)	127.85	26	PKIKP	PKPdf	06 07 36.6	-8.7
BOZ	Bozeman (W)	127.85	26	*e*PKPpre		06 07 35.5	
BOZ				*e*PKPdf	PKPdf	06 07 41.4	-3.9
BOZ				LR	LR		
	comp=Z,10µm,20.0s,MS6.5						
MCMT	McKenzie Canyo	127.94	27	*e*PKPdf	PKPdf	06 07 43.2	-2.3
HLID	Hailey	128.14	30	*e*PKPdf	PKPdf	06 07 43.9	-2.0
HLID				LR	LR		
	comp=Z,9µm,19.0s,MS6.5						
CMB	Columbia Colle	128.54	39	*e*PKPdf	PKPdf	06 07 43.8	-3.0
CMB				LR	LR		
	comp=Z,6µm,21.0s,MS6.3						
QLMT	Earthquake Lak	128.58	26	PKPdf	PKPdf	06 07 44.7	-2.0
SAO	San Andreas Ge	128.62	41	PFAKE		06 08 00.0	+13
SAO				LR	LR		
	comp=Z,5µm,19.0s,MS6.2						
ULM	Lac du Bonnet	128.80	11	PKP	PKPdf	06 07 44.5	-2.5
	comp=Z,15nm,1.0s,baz=352,slow=2.7,SNR=7.9						
ULM	Lac du Bonnet	128.80	11	*e*PKPdf	PKPdf	06 07 43.9	-3.1
ULM				LR	LR		
	comp=Z,16µm,19.0s,MS6.7						
BMN	Battle Mountai	128.87	34	PKIKP	PKPdf	06 07 51.9	+4.5
BMN	Battle Mountai	128.87	34	*e*PKPdf	PKPdf	06 07 44.4	-3.0
BMN				LR	LR		
	comp=Z,6µm,21.0s,MS6.3						
YMR	Madison River	128.91	26	*e*PKPdf	PKPdf	06 07 44.5	-2.9
YNR	Norris Junctio	129.00	26	*e*PKPdf	PKPdf	06 07 45.6	-2.0
YFT	Old Faithful	129.14	26	*e*PKPdf	PKPdf	06 07 45.5	-2.3
LAO	LASA Array	129.16	21	*e*PKPdf	PKPdf	06 07 45.2	-2.5
LAO				LR	LR		
	comp=Z,9µm,19.0s,MS6.5						
LKWY	Lake	129.24	26	PKIKP	PKPdf	06 07 47.9	-0.1
LKWY	Lake	129.24	26	*e*PKPdf	PKPdf	06 07 46.3	-1.7
LKWY				LR	LR		
	comp=Z,24µm,19.0s,MS6.9						
NVAR	Mina Array Bea	129.56	37	PKP	PKPdf	06 07 47.0	-1.8
	comp=Z,2.2nm,0.6s,baz=267,slow=1.4,SNR=9.8						
NVAR				SKPbc		06 11 11.8	
	comp=Z,6.0nm,1.2s,baz=304,slow=2.2,SNR=3.6						
MNV	Mina	129.65	37	PKIKP	PKPdf	06 07 47.7	-1.3
MNV	Mina	129.65	37	*e*PKPdf	PKPdf	06 07 46.3	-2.7
MNV				LR	LR		
	comp=Z,4µm,21.0s,MS6.1						
MOOW	Moose Ponds	129.73	27	*e*PKPdf	PKPdf	06 07 45.6	-3.4
ELK	Elko	129.75	33	PKIKP	PKPdf	06 07 47.9	-1.2
ELK	Elko	129.75	33	*e*PKPdf	PKPdf	06 07 46.8	-2.3
ELK				LR	LR		
	comp=Z,6µm,20.0s,MS6.3						
RRI2	Red Ridge	129.78	27	*e*PKPdf	PKPdf	06 07 46.9	-2.2
TPAW	Teton Pass	129.84	27	*e*PKPdf	PKPdf	06 07 47.5	-1.7
LOHW	Long Hollow	129.90	27	*e*PKPdf	PKPdf	06 07 45.8	-3.5
SNOW	Snow King Moun	129.95	27	*e*PKPdf	PKPdf	06 07 47.4	-2.0
REDW	Red Top Meadow	129.99	27	*e*PKPdf	PKPdf	06 07 46.8	-2.6
AHID	Auburn Hatcher	130.33	28	PFAKE		06 08 00.0	+10
AHID				LR	LR		
	comp=Z,10µm,21.0s,MS6.5						
TPH	Tonopah	130.44	36	PFAKE		06 08 00.0	+10
TPH				LR	LR		
	comp=Z,5µm,21.0s,MS6.2						
HWUT	Hardware Ranch	131.00	29	*e*PKPdf	PKPdf	06 07 48.8	-2.7
HWUT				LR	LR		
	comp=Z,11µm,20.0s,MS6.5						
BW06	Boulder Array	131.04	27	*e*PKPdf	PKPdf	06 07 48.6	-2.8
BW06				LR	LR		
	comp=Z,7µm,20.0s,MS6.4						
PDAR	Pinedale Array	131.04	27	PKP	PKPdf	06 07 50.9	-0.6
	comp=Z,2.4nm,0.6s,baz=188,slow=1.7,SNR=8.0						
TRCR	Troy Canyon	131.22	35	*e*PKPdf	PKPdf	06 07 49.5	-2.5
DAC	Darwin (Calif)	131.38	39	PFAKE		06 08 00.0	+7.7
DAC				LR	LR		
	comp=Z,4µm,20.0s,MS6.2						
DUG	Dugway	131.43	31	PKIKP	PKPdf	06 07 52.0	-0.3
DUG	Dugway	131.43	31	*e*PKPdf	PKPdf	06 07 49.5	-2.7
DUG				LR	LR		
	comp=Z,6µm,19.0s,MS6.3						
CTU	Camp Tracy	131.60	30	*e*PKPdf	PKPdf	06 07 49.7	-2.9
EYMN	Ely	131.77	8	*e*PKPdf	PKPdf	06 07 49.7	-3.0
EYMN				LR	LR		
	comp=Z,14µm,19.0s,MS6.7						
JLU	Jordanelle	131.82	30	*e*PKPdf	PKPdf	06 07 51.7	-1.3
NLU	North Lily Min	131.99	31	*e*PKPdf	PKPdf	06 07 51.0	-2.3
PQI	Presque Isle	132.08	347	PFAKE		06 08 00.0	+6.7
PQI				LR	LR		
	comp=Z,39µm,19.0s,MS7.1						
RSSD	Black Hills	132.15	21	PKIKP	PKPdf	06 07 48.3	-5.3
RSSD	Black Hills	132.15	21	*e*PKPdf	PKPdf	06 07 51.5	-2.0
RSSD				LR	LR		
	comp=Z,3µm,19.0s,MS6.0						
MPU	Maple Canyon	132.17	31	*e*PKPdf	PKPdf	06 07 51.7	-2.0
TMUT	Trail Mountain	132.92	31	*e*PKPdf	PKPdf	06 07 52.7	-2.5
RWWY	Rawlins	132.94	26	*e*PKPdf	PKPdf	06 07 51.8	-3.3
MVU	Marysvale	132.98	32	*e*PKPdf	PKPdf	06 07 52.7	-2.6
MVU				LR	LR		
	comp=Z,5µm,22.0s,MS6.2						
MSU	Marysvale	132.99	32	PKIKP	PKPdf	06 07 55.6	+0.3
MSU	Marysvale	132.99	32	*e*PKPdf	PKPdf	06 07 54.9	-0.4
RCBR	Riachuelo	133.37	262	PFAKE		06 08 10.0	+13
RCBR				LR	LR		
	comp=Z,5µm,20.0s,MS6.2						
SRU	San Rafael	133.41	31	PKIKP	PKPdf	06 07 56.6	+0.6
SRU	San Rafael	133.41	31	*e*PKPdf	PKPdf	06 07 54.4	-1.6
PFO	Pinyon Flat Ob	133.78	41	PFAKE		06 08 10.0	+13
PFO				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
EMMW	East Machias	133.79	345	PFAKE		06 08 10.0	+13
EMMW				LR	LR		
	comp=Z,54µm,19.0s,MS7.3						
PHWY	Pilot Hill	134.00	24	*e*PKPdf	PKPdf	06 07 54.9	-2.1
WVL	Waterville	134.44	347	PFAKE		06 08 10.0	+12
WVL				LR	LR		
	comp=Z,26µm,19.0s,MS7.0						
PV10	Paradox Valley	134.72	30	*e*PKPdf	PKPdf	06 07 57.0	-1.5
PV01	Paradox Valley	135.14	30	*e*PKPdf	PKPdf	06 07 57.7	-1.6
ISCO	Idaho Springs	135.18	26	PKIKP	PKPdf	06 08 02.9	+3.6
ISCO	Idaho Springs	135.18	26	*e*PKPdf	PKPdf	06 07 57.5	-1.8
ISCO				LR	LR		
	comp=Z,10µm,21.0s,MS6.5						
WUAZ	Wupatki	135.60	35	*e*PKPdf	PKPdf	06 07 57.8	-2.4
WUAZ				LR	LR		
	comp=Z,5µm,19.0s,MS6.3						
NCB	Newcomb	135.84	352	*e*PKPdf	PKPdf	06 07 57.7	-2.7
NCB				LR	LR		
	comp=Z,12µm,21.0s,MS6.6						
HRV	Harvard--Oak R	136.81	348	PFAKE		06 08 10.0	+7.9
HRV				LR	LR		
	comp=Z,7µm,19.0s,MS6.4						
WES	Weston	136.88	348	PFAKE		06 08 10.0	+7.8
WES				LR	LR		
	comp=Z,10µm,22.0s,MS6.5						
SDCO	Great Sand Dun	136.92	27	*e*PKPdf	PKPdf	06 08 01.7	-0.7
SDCO				LR	LR		
	comp=Z,10µm,21.0s,MS6.5						
TRQA	Tornquist	137.60	204	PFAKE		06 08 10.0	+6.2
TRQA				LR	LR		
	comp=Z,11µm,20.0s,MS6.6						
PLCA	Paso Flores	137.89	193	PKhKP		06 07 40.8	
	comp=Z,2.1nm,1.0s,baz=66,slow=4.3,SNR=3.0						
PLCA				PKP	PKPdf	06 08 02.2	-2.0
	comp=Z,4.4nm,1.1s,baz=180,slow=7.1,SNR=2.8						
PLCA	Paso Flores	137.89	193	PKP	PKPdf	06 08 02.2	-2.0
PLCA				LR	LR		
	comp=Z,11µm,19.0s,MS6.6						
AAM	Ann Arbor	138.07	2	PFAKE		06 08 10.0	+5.5
AAM				LR	LR		
	comp=Z,15µm,22.0s,MS6.7						
TUC	Tucson	138.21	37	PKIKP	PKPdf	06 08 03.0	-2.1
TUC	Tucson	138.21	37	*e*PKPdf	PKPdf	06 08 02.5	-2.6
TUC				LR	LR		
	comp=Z,4µm,19.0s,MS6.2						
ERPA	Erie	138.23	358	PFAKE		06 08 10.0	+5.2
ERPA				LR	LR		
	comp=Z,12µm,19.0s,MS6.7						
CBKS	Cedar Bluff	138.35	21	PFAKE		06 08 10.0	+4.9
CBKS				LR	LR		
	comp=Z,7µm,20.0s,MS6.4						
ANMO	Albuquerque	138.68	31	PKIKP	PKPdf	06 08 00.7	-5.2
ANMO	Albuquerque	138.68	31	*e*PKPpre		06 08 00.2	
ANMO				LR	LR		
	comp=Z,9µm,22.0s,MS6.5						
LENM	Lemitar	139.02	32	*e*PKPdf	PKPdf	06 08 03.9	-2.6
LPM	Los Pinos Moun	139.09	31	*e*PKPdf	PKPdf	06 08 05.4	-1.2
KSU1	Kansas State U	139.11	17	*e*PKPdf	PKPdf	06 08 04.9	-1.6
BNM	Barren Site	139.22	32	*e*PKPdf	PKPdf	06 08 04.2	-2.7
SSPA	Standing Stone	139.57	355	*e*PKPdf	PKPdf	06 08 04.8	-2.5
SSPA				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
MVL	Millersville	140.03	353	*e*PKPdf	PKPdf	06 08 02.8	-5.4
ACSO	Alum Creek Sta	140.16	1	*e*PKPdf	PKPdf	06 08 06.4	-2.0
ACSO				LR	LR		
	comp=Z,18µm,19.0s,MS6.8						
MCWV	Mont Chateau	140.68	357	PFAKE		06 08 20.0	+11
MCWV				LR	LR		
	comp=Z,15µm,22.0s,MS6.7						
AMTX	Amarillo	141.00	26	*e*PKPdf	PKPdf	06 08 07.3	-2.8
AMTX				LR	LR		
	comp=Z,6µm,22.0s,MS6.3						
BLO	Bloomington	141.02	5	PKIKP	PKPdf	06 08 09.5	-0.5
BLO	Bloomington	141.02	5	*e*PKPdf	PKPdf	06 08 07.9	-2.1
CCM	Cathedral Cave	141.43	11	PKIKP	PKPdf	06 08 06.1	-4.6
CCM	Cathedral Cave	141.43	11	*e*PKPdf	PKPdf	06 08 06.3	-4.5
CCM				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
MNTX	Cornudas Mount	141.77	33	*e*PKPdf	PKPdf	06 08 06.9	-4.6
MNTX				LR	LR		
	comp=Z,11µm,19.0s,MS6.6						
GDL2	Guadalupe Moun	141.92	31	*e*PKPpre		06 08 04.2	
CBN	Corbin	141.92	354	PFAKE		06 08 20.0	+8.4
CBN				LR	LR		
	comp=Z,13µm,21.0s,MS6.7						
WCI	Wyandotte Cave	141.98	5	PKIKP	PKPdf	06 08 08.4	-3.3
WCI	Wyandotte Cave	141.98	5	*e*PKPdf	PKPdf	06 08 07.5	-4.2
WCI				LR	LR		
	comp=Z,4µm,20.0s,MS6.2						
CLNB	Carlsbad	142.12	31	PKPdf	PKPdf	06 08 09.6	-2.5
WMOK	Wichita Mounta	142.32	23	PKHKP		06 08 04.0	
WMOK	Wichita Mounta	142.32	23	*e*PKPdf	PKPdf	06 08 03.5	-8.8
WMOK				LR	LR		
	comp=Z,8µm,20.0s,MS6.5						
RPN	Rapa Nui	142.34	138	PFAKE		06 08 20.0	+7.4
RPN				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
BAO	Brasilia Array	142.71	243	PKPdf	PKPdf	06 08 07.0	-6.5
BDFB	Brasilia	142.73	243	PKhKP		06 08 07.2	
	comp=Z,3.1nm,0.5s,baz=234,slow=2.2,SNR=7.1						
BLA	Blacksburg	143.14	358	PFAKE		06 08 20.0	+13
BLA				LR	LR		
	comp=Z,9µm,19.0s,MS6.5						
TZTN	Tazewell	143.82	2	*e*PKPdf	PKPdf	06 08 09.5	-5.3
WVT	Waverly	143.88	8	PKIKP	PKPdf	06 08 09.8	-5.1
WVT	Waverly	143.88	8	*e*PKPdf	PKPdf	06 08 12.2	-2.7
WVT				LR	LR		
	comp=Z,11µm,19.0s,MS6.7						
BBSR	BB Station	143.98	334	PFAKE		06 08 20.0	+10
BBSR				LR	LR		
	comp=Z,5µm,20.0s,MS6.3						
MIAR	Mount Ida	144.22	16	*e*PKPdf	PKPdf	06 08 10.1	-5.5
MIAR				LR	LR		
	comp=Z,9µm,19.0s,MS6.5						
UALR	University of	144.33	14	*e*PKPpre		06 08 09.9	
LTX	Lajitas	144.53	33	*e*PKPdf	PKPdf	06 08 12.6	-3.8
LTX				LR	LR		
	comp=Z,11µm,21.0s,MS6.6						
TXAR	Lajitas Array	144.53	33	PKP	PKPdf	06 08 12.3	-4.0
	comp=Z,13nm,0.8s,baz=259,slow=0.4,SNR=43						
TXAR	Lajitas Array	144.53	33	PKP	PKPdf	06 08 12.3	-4.0
MDZ	Mendoza	144.76	200	*e*P	PKPbc	06 08 17.1	+4.9
FCH	Farellones	144.81	197	⇓*i*P	PKPbc	06 08 14.2	+1.8
CLCH	Cerro Calan	144.81	197	⇓*i*P	PKPbc	06 08 17.2	+4.9
CPCT	Cooper Cave	144.87	3	*e*PKPdf	PKPdf	06 08 11.3	-5.4
PLAL	Pickwick Lake	144.97	8	*e*PKPdf	PKPdf	06 08 11.8	-5.2
PLAL				LR	LR		
	comp=Z,8µm,19.0s,MS6.5						
SWET	Sewanee	145.00	5	*e*PKPdf	PKPdf	06 08 11.2	-5.8
OXF	Oxford	145.22	10	PKIKP	PKPdf	06 08 13.7	-3.7
OXF	Oxford	145.22	10	*e*PKPdf	PKPdf	06 08 13.4	-3.9
OXF				LR	LR		
	comp=Z,10µm,20.0s,MS6.6						
JCT	Junction City	145.56	27	PKIKP	PKPdf	06 08 14.5	-3.6
JCT	Junction City	145.56	27	*e*PKPdf	PKPdf	06 08 15.0	-3.1
JCT				LR	LR		
	comp=Z,8µm,20.0s,MS6.5						
CFAA	Coronel Fontan	145.70	201	PKPbc	PKPbc	06 08 15.5	+0.8
	comp=Z,8.3nm,1.0s,baz=165,slow=3.1,SNR=20						
JSC	Jenkinsville	146.09	359	PKP2	PKPab	06 08 16.5	-1.6
JSC	Jenkinsville	146.09	359	*e*PKPdf	PKPdf	06 08 16.1	-2.8
NATX	Nacogdoches	146.48	19	*e*PKPdf	PKPdf	06 08 16.8	-2.8
NATX				LR	LR		
	comp=Z,8µm,20.0s,MS6.5						
GOGA	Godfrey	146.95	2	PKP2	PKPab	06 08 19.5	-2.0
GOGA	Godfrey	146.95	2	*e*PKPdf	PKPdf	06 08 18.6	-1.8
GOGA				LR	LR		
	comp=Z,11µm,22.0s,MS6.6						
COW	Cow Castle Cre	146.97	358	*e*PKPdf	PKPdf	06 08 17.0	-3.4
LRAL	Lakeview Retre	147.04	7	*e*PKPdf	PKPdf	06 08 18.2	-2.3
LRAL				LR	LR		
	comp=Z,16µm,19.0s,MS6.8						
TWB	Tillmans-White	147.21	357	*e*PKPbc	PKPdf	06 08 20.1	-0.7
NHSC	New Hope	147.22	357	*e*PKPbc	PKPdf	06 08 21.6	+0.8
NHSC				LR	LR		
	comp=Z,12µm,21.0s,MS6.7						
ZAIG	Zacatecas	150.09	40	*i* P	PKPdf	06 08 28.9	+3.2
CJM	Chamela	150.54	48	*e*P	PKPdf	06 08 30.4	+4.0
COLM	Colima	151.73	47	*e*P	PKPdf	06 08 32.7	+4.5
DWPF	Disney	152.24	359	PFAKE		06 08 40.0	+11
DWPF				LR	LR		
	comp=Z,2µm,19.0s,MS6.0						
SIV	San Ignacio	153.64	231	PKP	PKPdf	06 08 28.6	-2.4
	comp=Z,1.6nm,0.7s,baz=139,slow=9.3,SNR=6.0						
LVC	Limon Verde	153.88	209	PKPbc	PKPdf	06 08 38.2	+7.0
	comp=Z,9.3nm,0.7s,baz=295,slow=0.4,SNR=11						
LVC	Limon Verde	153.88	209	*e*PKPdf	PKPdf	06 08 28.3	-2.9
LVC				*e*PKPbc	PKPdf	06 08 37.9	+6.7
LVC				PKPbc	PKPdf	06 08 38.2	+7.0
LVC				*e*PKPab	PKPab	06 08 49.9	-0.5
LVC				LR	LR		
	comp=Z,8µm,19.0s,MS6.5						
SJG	San Juan	156.20	319	PFAKE		06 08 40.0	+5.7
SJG				LR	LR		
	comp=Z,5µm,22.0s,MS6.3						
LPAZ	La Paz	158.51	220	PKIKP	PKPdf	06 08 37.0	-0.4
LPAZ	La Paz	158.51	220	PKP	PKPdf	06 08 36.6	-0.8
	comp=Z,2.5nm,0.7s,baz=165,slow=0.5,SNR=12						
LPAZ				PKPab	PKPab	06 09 10.1	-0.2
	comp=Z,2.4nm,0.9s,baz=135,slow=4.3,SNR=2.4						
LPAZ	La Paz	158.51	220	*e*PKPdf	PKPdf	06 08 35.5	-1.9
SAML	Samuel	158.97	244	*e*PKPdf	PKPdf	06 08 34.5	-3.6
SAML				*e*PKPab	PKPab	06 09 10.7	-1.7
SAML				LR	LR		
	comp=Z,12µm,20.0s,MS6.8						
TEIG	Tepich	159.24	16	PFAKE		06 08 50.0	+12
TEIG				LR	LR		
	comp=Z,3µm,21.0s,MS6.1						
SDV	Santo Domingo	165.59	307	PKP	PKPdf	06 08 42.2	-2.5
	comp=Z,1.0nm,0.2s,baz=11,slow=5.2,SNR=2.9						
SDV	Santo Domingo	165.59	307	*e*PKPdf	PKPdf	06 08 42.3	-2.4
SDV				LR	LR		
	comp=Z,8µm,22.0s						
JTS	JuntasAbangare	169.62	15	PFAKE		06 09 00.0	+13
JTS				LR	LR		
	comp=Z,1µm,20.0s						
ROSC	El Rosal	170.86	300	PKP	PKPdf	06 08 46.6	-1.5
	comp=Z,5.0nm,0.7s,baz=80,slow=15,SNR=5.2						
PAYG	Puerto Ayora	171.89	96	PFAKE		06 09 00.0	+11
PAYG				LR	LR		
	comp=Z,6µm,20.0s						
OTAV	Otavalo	176.23	270	*e*PKPdf	PKPdf	06 08 47.7	-2.6
OTAV				LR	LR		
	comp=Z,7µm,22.0s						

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*IDC **08** 05:56:02.5±0.8, 0.49S×97.69E, mb4.3/12, mb1 4.5/13, mb1mx4.3/20, mbtmp4.3/13, ML4.7/1, Error ellipse: s-maj=47.1km s-min=14.6km az=51.0*

*NEIC **08** 05:56:07.2±0.4, 0.46S×97.77E, h30km, mb4.7/4, Error ellipse: s-maj=13.0km s-min=7.3km az=56.0*

ISC 08 05:56:05.5±0.6, **0.40S**±0.09×**97.8E**±0.1, **h30**km, **n24**, σ**0^{s}70**/21, **mb4.4**/15, **Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	6.32	26	*e*Pn	Pn	05 57 39.0	-0.1
CMAR	Chiang Mai Arr	18.77	3	P	P	06 00 24.9	0.0
	1.0nm,0.3s,baz=191,slow=10,SNR=21						
KKM	Kota Kinabalu	19.44	70	*e*P	P	06 00 32.9	+0.2
ENH	Enshi	32.46	19	*e*P	P	06 02 35.3	-0.3
	10nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	32.50	124	P	P	06 02 35.3	-0.7
	17nm,0.8s,mb4.9,baz=62,slow=4.7,SNR=6.2						
WRA	Warramunga Arr	40.67	121	P	P	06 03 44.8	-0.3
	8.5nm,0.9s,mb4.4,baz=298,slow=9.2,SNR=10						
WRAB	Tennant Creek	40.67	121	*e*P	P	06 03 45.0	0.0
	17nm,0.8s,mb4.7						
WB2	Warramunga Arr	40.68	121	*e*P	P	06 03 44.9	-0.2
ASAR	Alice Springs	41.94	126	P	P	06 03 55.8	+0.2
	7.2nm,0.8s,mb4.3,baz=296,slow=7.6,SNR=12						
MKAR	Makanchi Array	48.94	346	P	P	06 04 51.3	+0.3
	3.2nm,0.8s,mb4.4,baz=163,slow=7.4,SNR=15						
STKA	Stephens Creek	51.82	132	*e*P	P	06 05 14.3	+1.1
	5.0nm,0.7s,mb4.5						
STKA	Stephens Creek	51.82	132	P	P	06 05 13.6	+0.4
	6.5nm,0.9s,mb4.5,baz=286,slow=8.7,SNR=5.5						
KURK	Kurchatov	53.49	345	*e*P	P	06 05 25.8	+0.4
	4.4nm,1.0s,mb4.3						
ZAL	Zalesovo	55.22	351	P	P	06 05 38.2	+0.2
	2.5nm,0.7s,mb4.4,baz=294,slow=7.3,SNR=5.3						
ZAL	Zalesovo	55.22	351	P	P	06 05 38.2	+0.2
BVAR	Borovoye Array	57.96	341	P	P	06 05 55.2	-2.3
	0.5nm,0.5s,mb3.8,baz=68,slow=7.8,SNR=3.2						
BRTR	Keskin Array B	70.65	313	P	P	06 07 19.9	-0.7
	0.4nm,0.3s,mb3.8,baz=108,slow=9.1,SNR=2.4						
AKASG	Malin Array Be	76.91	323	P	P	06 07 56.0	-0.6
	0.3nm,0.2s,mb3.9,baz=101,slow=4.2,SNR=4.1						
FINES	FINESS Array B	81.70	333	P	P	06 08 22.9	+0.5
	1.4nm,0.7s,mb4.0,baz=90,slow=3.8,SNR=5.5						
ARCES	ARCESS Array B	84.25	340	P	P	06 08 36.5	+1.2
	7.1nm,1.1s,mb4.7,baz=90,slow=4.9,SNR=4.0						
NOA	NORSAR Array B	88.70	331	P	P	06 08 58.1	+0.9
	1.4nm,0.9s,mb4.3,baz=113,slow=11,SNR=2.7						
TXAR	Lajitas Array	144.67	34	PKP	PKPdf	06 15 42.1	-3.0
	4.1nm,0.8s,baz=261,slow=1.8,SNR=24						
CFAA	Coronel Fontan	145.54	201	PKPbc	PKPbc	06 15 42.9	+0.8
	0.4nm,0.8s,baz=124,slow=1.7,SNR=4.2						
CFAA	Coronel Fontan	145.54	201	PKPbc	PKPbc	06 15 42.9	+0.8

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*IDC **08** 06:02:26.2±1.6, 18.44S×168.21E, h35km±7km, mb4.0/8, mb1 4.2/9, mb1mx4.1/16, mbtmp4.2/9, ML3.7/1, MS3.2/1, Ms1 3.2/1, ms1mx3.2/21, Error ellipse: s-maj=41.5km s-min=20.1km az=138.0*

*NEIC **08** 06:02:27.2±0.7, 18.35S×168.10E, mb4.5/5, Error ellipse: s-maj=16.9km s-min=11.7km az=124.0*

ISC 08 06:02:27.8±1.3, **18.46S**±0.06×**167.8E**±0.2, **h37**km, **h37**km±.6km**:pP-P**, **n27**, σ**0^{s}79**/23, **mb4.3**/11, **2C**, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.81	199	*e*P	P	06 03 25.6	+0.1

DZM			*e*S	S	06 04 07.8	-1.9
DZM	**Mont Dzumac**	**3.81 199**	Pn	**P**	**06 03 25.7**	**+0.2**
5.1nm,0.3s,baz=32,slow=14,SNR=103						
DZM			Sn	S	06 04 09.5	-0.1
35nm,0.3s,baz=328,slow=23,SNR=17						
DZM			LR	LR	06 04 13.3	
comp=Z,308nm,20.0s,baz=203,slow=27						
NOUC	**Port Laguerre**	**3.88 200**	*e*P	**P**	**06 03 27.2**	**+0.7**
NOUC			*e*S	S	06 04 11.8	+0.3
CTA	**Charters Tower**	**20.37 262**	P	**P**	**06 07 06.2**	**+2.2**
5.4nm,0.7s,baz=89,slow=14,SNR=3.1						
CTAO	**Charters Tower**	**20.37 262**	*e*P	**P**	**06 07 03.9**	**-0.1**
12nm,0.9s						
STKA	**Stephens Creek**	**27.11 235**	P	**P**	**06 08 09.4**	**0.0**
1.5nm,0.4s,mb3.8,baz=64,slow=4.0,SNR=3.4						
WRAB	**Tennant Creek**	**31.56 262**	P	**P**	**06 08 48.5**	**-0.8**
1.0nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**31.57 262**	P	**P**	**06 08 48.3**	**-1.0**
0.6nm,0.5s,mb3.7,baz=81,slow=6.0,SNR=8.0						
WRA			pP	pP	06 08 58.5	-1.3
0.8nm,0.5s,baz=82,slow=6.0,SNR=5.4						
ASAR	**Alice Springs**	**31.97 255**	P	**P**	**06 08 52.3**	**-0.5**
3.3nm,0.5s,mb4.4,baz=82,slow=8.7,SNR=59						
ASAR			pP	pP	06 09 02.9	-0.4
5.1nm,0.5s,baz=81,slow=8.6,SNR=17						
ASPA	**Alice Springs**	**31.98 255**	*e*P	**P**	**06 08 52.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**39.94 264**	*e*P	**P**	**06 10 01.2**	**+0.9**
14nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**39.94 264**	P	**P**	**06 10 01.1**	**+0.7**
8.8nm,0.7s,mb4.6,baz=92,slow=22,SNR=17						
FITZ			pP	pP	06 10 11.9	+0.9
17nm,0.6s,baz=95,slow=23,SNR=8.4						
MBWA	**Marble Bar**	**45.14 258**	P	**P**	**06 10 43.3**	**+0.5**
18nm,1.4s,mb4.7						
QSPA	**South Pole Qui**	**71.59 180**	*e*P	**P**	**06 13 47.1**	**+0.4**
5.7nm,0.9s,mb4.5						
CM31	**Chiang Mai Arr**	**76.91 295**	*e*P	**P**	**06 14 18.9**	**+0.3**
94nm,0.8s,mb5.8						
SONM	**Songino Array**	**85.76 324**	P	**P**	**06 15 04.3**	**0.0**
2.1nm,0.9s,mb4.4,baz=135,slow=3.5,SNR=5.6						
NVAR	**Mina Array Bea**	**89.34 49**	P	**P**	**06 15 18.2**	**-3.6**
0.4nm,0.5s,mb4.0,baz=206,slow=7.0,SNR=4.0						
ILAR	**Eielson Array**	**89.91 18**	P	**P**	**06 15 19.1**	**-4.7**
0.4nm,0.6s,mb3.9,baz=243,slow=4.8,SNR=7.7						
VNA3	**Neumayer Olymp**	**90.52 181**	*e*	pP	06 15 38.3	+0.1
VNA3	**Neumayer Olymp**	**90.52 181** ⇑*i*P		**P**	**06 15 32.2**	**+5.6**
VNA3		*e*			06 15 38.3	
VNA2	**Neumayer--Watz**	**90.79 182**	*e*	pP	06 15 39.8	+0.3
VNA2	**Neumayer--Watz**	**90.79 182** ⇑*i*P		**P**	**06 15 34.0**	**+6.1**
VNA2		*e*			06 15 39.8	
YKA	**Yellowknife Ar**	**100.62 27**	P	P	06 16 09.8	-3.1
0.1nm,0.5s,baz=256,slow=5.1,SNR=5.5						
HAU	**Haudompre**	**146.86 337**	*e*PKP1	PKPbc	06 22 05.5	-0.3
MEZF	**Maizieres J'vi**	**146.90 339**	*e*PKP1	PKPbc	06 22 06.6	+0.7
SSF	**Saint Saulge**	**148.68 339**	*e*PKP1	PKPdf	06 22 11.3	+4.1
7.2nm,0.8s						
LPG	**La Plagne**	**148.75 334**	*e*PKP1	PKPdf	06 22 12.1	+4.7
7.6nm,0.7s						

*IDC **08** 06:05:04.2±3.5, 14.97N×93.34E, mb3.6/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=65.9km s-min=33.9km az=171.0*

ISC 08 06:05:07.5±5.1, 15.0N±0.2×93.46E±0.07, h26km±38km, n13, σ0§83/14, mb3.6/3, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.25**	**56**	Pn	**Pn**	**06 06 38.8**	**-1.7**
0.8nm,0.3s,baz=243,slow=15,SNR=13							
CMAR				Sn	**Sn**	**06 07 52.3**	**+0.3**
1.8nm,0.3s,baz=243,slow=28,SNR=6.2							
JIRN	**Jiri**	**14.26**	**333**	*e*P	**P**	**06 08 30.1**	**+0.1**
17nm,0.7s							
PKI	**Pulchoki**	**14.54**	**330**	*e*P	**P**	**06 08 34.5**	**+0.8**
15nm,0.5s							
GUN	**Gumba**	**14.61**	**332**	*e*P	**P**	**06 08 34.8**	**+0.2**
21nm,1.0s							
DMN	**Daman**	**14.72**	**330**	*e*P	**P**	**06 08 35.9**	**-0.1**
7.0nm,0.5s							
KKN	**Kakani**	**14.78**	**330**	*e*P	**P**	**06 08 37.3**	**+0.4**
GKN	**Gorkha**	**15.28**	**329**	*e*P	**P**	**06 08 43.3**	**0.0**
6.5nm,0.4s							
KOLN	**Koldanda**	**15.63**	**326**	*e*P	**P**	**06 08 47.8**	**-0.1**
13nm,0.7s							
BUSP	**Coron**	**26.17**	**93**	*e*P	**P**	**06 10 42.9**	**+1.0**
MMPH	**Masbate**	**29.42**	**91**	*e*P	**P**	**06 11 12.0**	**+0.6**
MKAR	**Makanchi Array**	**33.00**	**346**	P	**P**	**06 11 42.8**	**+0.2**
0.2nm,0.5s,mb3.3,baz=162,slow=9.1,SNR=2.4							
SONM	**Songino Array**	**34.41**	**15**	P	**P**	**06 11 54.6**	**-0.2**
0.4nm,0.4s,mb3.7,baz=220,slow=9.6,SNR=3.8							
GERES	**GERESS Array B**	**72.11**	**317**	P	**P**	**06 16 29.3**	**-2.4**
0.3nm,0.3s,mb3.7,baz=76,slow=5.5,SNR=4.1							

*CSEM **08** 06:06:35.7±0.3, 35.20N×25.32E, h84km±4km, ML3.4, Error ellipse: s-maj=11.0km s-min=4.4km az=38.0*
*ATH **08** 06:06:36.8, 35.39N×25.34E, h75km±5km*
*HLW **08** 06:06:41.0, 34.87N×25.28E, h22km, Mb3.4*

ISC 08 06:06:36.8±0.7, 35.14N±0.08×25.30E±0.09, h75km, n9, σ0§93/12, 1C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**0.29**	**65**	⇓*i*P	**P**	**06 06 49.2**	**+0.7**
NPS				*e*S	**S**	**06 06 56.5**	**-0.7**
XRY	**Khrisi**	**0.42**	**129**	⇓*i*P	**P**	**06 06 51.5**	**+2.1**
VAM	**Vamos**	**0.94**	**287**	*e*P	**P**	**06 06 55.0**	**0.0**
VAM				*e*S	**S**	**06 07 09.9**	**+1.3**
KYTH	**Kithira**	**2.16**	**302**	*e*P	**P**	**06 07 11.0**	**-0.4**
VLI	**Veliai**	**2.48**	**310**	*e*P	**P**	**06 07 14.5**	**-1.4**
DABA	**Dabaa**	**4.82**	**148**	⇓P	**P**	**06 07 48.8**	**+0.3**
SWA1		**5.87**	**176**	P	**P**	**06 08 02.2**	**-0.7**
SWA2		**5.88**	**179**	⇑P	**P**	**06 08 02.4**	**-0.7**
HBRG	**Burj al 'Arab**	**5.95**	**139**	P	**P**	**06 08 03.9**	**0.0**
HBRG				S	**S**	**06 09 06.2**	**-5.2**

*MAN **08** 06:09:43.7, 15.49N×118.98E, h1km, mb4.6, ML3.5, MS3.4*
MAN Sta Cruz Zambales Intensity II.
*IDC **08** 06:09:44.5±0.3, 15.46N×119.27E, mb4.8/29, mb1 4.9/30, mb1mx4.9/32, mbtmp4.8/30, ML4.3/1, Error ellipse: s-maj=18.1km s-min=9.6km az=62.0*
*MOS **08** 06:09:47.8±0.9, 15.45N×119.30E, h33km, mb5.4/44, Error ellipse: s-maj=11.6km s-min=5.3km az=116.7*
*BJI **08** 06:09:48.3, 15.56N×119.33E, h28km, mB5.9, mb4.9, Ms5.9, Msz5.6*
*HRVD **08** 06:09:49.4±0.4, 15.58N×119.03E, h19km±1km, MW5.3/54, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s54,c92; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.34±.12; $M_{\theta\theta}$0.16±.06; $M_{\phi\phi}$1.18±.07; $M_{r\theta}$-0.13±.13; $M_{\theta\phi}$-0.04±.03; $M_{\phi r}$0.23±.10; Best double couple: $M_0$1.287×10^{17} NP1:ϕ_s2°, δ40°, λ-83°. NP2:ϕ_s173°, δ50°, λ-96°. Principal axes: T 1.204, Plg5°, Azm267°; N .167, Plg4°, Azm177°; P -1.371, Plg83°, Azm47°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*SVSA **08** 06:09:49.2, 15.46N×119.34E, h32km, Mb5.3*
*NEIC **08** 06:09:49.4±0.1, 15.48N×119.29E, mb5.3/45, Error ellipse: s-maj=5.2km s-min=3.4km az=76.0*

ISC 08 06:09:48.1±0.1, 15.45N±0.02×119.19E±0.03, h32km, h32km±.6km: pP-P, n268, σ1§08/260, mb5.1/90, MS5.6/7, 20C-22D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**1.63**	**55**	⇑*i*P	**Pn**	**06 10 15.2**	**+0.2**
BCPH				*i* S	**Sn**	**06 10 35.9**	**+0.8**
PCPH	**Palayan**	**1.84**	**86**	⇓*i*P	**Pn**	**06 10 18.2**	**+0.1**
PCPH				*i* S	**Sn**	**06 10 41.7**	**+1.3**
LUBP	**Lubang**	**1.99**	**149**	*e*P	**Pn**	**06 10 20.5**	**+0.2**
LUBP	**Lubang**	**1.99**	**149**	*e*P	**Pn**	**06 10 20.1**	**-0.2**
TGY	**Tagaytay City**	**2.16**	**128**	⇓*e*P	**Pn**	**06 10 24.5**	**+1.9**
TGY				*e*S	**Sn**	**06 10 53.1**	**+4.5**
POLP	**Polilio Island**	**2.75**	**105**	*e*P	**Pn**	**06 10 32.7**	**+1.6**
BOAC	**Boac**	**3.25**	**127**	*e*P	**Pn**	**06 10 39.6**	**+1.5**
CVP	**Callao Caves**	**3.37**	**48**	⇓*e*P	**Pn**	**06 10 40.0**	**+0.1**
GQP	**Guinayangan**	**3.51**	**116**	⇑*e*P	**Pn**	**06 10 43.0**	**+1.2**
AUQP	**San Andres**	**3.99**	**122**	*e*P	**Pn**	**06 10 52.0**	**+3.4**
OTRP	**Odiongan**	**4.12**	**138**	*e*P	**Pn**	**06 10 52.4**	**+1.9**
ENPP	**El Nido**	**4.23**	**177**	*e*P	**Pn**	**06 10 51.5**	**-0.6**
PVCP	**Virac**	**5.15**	**110**	*e*P	**Pn**	**06 11 06.7**	**+1.6**
PPR	**Puerto Princes**	**5.66**	**185**	⇓*e*P	**Pn**	**06 11 11.8**	**-0.5**
AAP	**Anini-y**	**5.68**	**151**	*i* P	**Pn**	**06 11 13.0**	**+0.5**
CNP	**Catarman**	**6.07**	**118**	*e*P	**Pn**	**06 11 20.6**	**+2.6**
BATP	**Bataraza**	**6.75**	**192**	*e*P	**Pn**	**06 11 25.5**	**-2.2**
SNPH	**Sibulan**	**7.25**	**146**	⇓*i*P	**Pn**	**06 11 38.0**	**+3.4**
NACB	**Ninganchiao**	**8.96**	**14**	P	**P**	**06 11 56.6**	**-1.9**
YHNB	**Yeheng**	**9.39**	**12**	*e*Pn	**P**	**06 12 03.3**	**-1.1**
QZH	**Quanzhou**	**9.46**	**357**	⇓*i*P	**P**	**06 12 01.0**	**-4.3**
QIZ	**Qiongzhong**	**9.61**	**293**	*e*P	**P**	**06 12 01.5**	**-6.0**
60nm,0.8s							
KKM	**Kota Kinabalu**	**9.80**	**198**	*e*Pn	**P**	**06 12 07.8**	**-2.2**
KKM	**Kota Kinabalu**	**9.80**	**198**	P	**P**	**06 12 08.1**	**-1.9**
DAV	**Davao City (W)**	**10.42**	**142**	*e*P	**P**	**06 12 21.8**	**+3.1**
JOW	**Kunigami**	**14.13**	**35**	Pn	**P**	**06 13 12.6**	**+4.2**
1.2nm,0.3s,baz=212,slow=3.0,SNR=4.2							
WHN	**Wuhan**	**15.66**	**344**	*e*P	**P**	**06 13 28.0**	**-0.3**
SSE	**Sheshan**	**15.68**	**6**	P	**P**	**06 13 25.7**	**-2.8**
SSE				AMB	AMB		
comp=Z,37nm,0.7s							
SSE	**Sheshan**	**15.68**	**6**	P	**P**	**06 13 25.7**	**-2.8**
comp=Z,37nm,0.7s							
GYA	**Guiyang**	**16.01**	**315**	P	**P**	**06 13 33.1**	**+0.4**
GYA				AP		06 13 41.0	
GYA				XP		06 13 46.8	
GYA				AMB	AMB		
comp=Z,40nm,1.3s							
GYA				AMB	AMB		
comp=Z,2μm,2.8s							
GYA				LR	LR		
comp=N,13μm,15.4s							
GYA				LR	LR		
comp=E,37μm,16.0s							
GYA				LR	LR		
comp=Z,42μm,15.0s							
KSM	**Kuching**	**16.42**	**213**	*e*Pn	**P**	**06 13 40.2**	**+2.1**
NJ2	**Nanjing**	**16.53**	**359**	*e*P	**P**	**06 13 41.2**	**+2.0**
NJ2				AP		06 13 49.0	
NJ2				XP		06 13 52.6	
NJ2				PP	PP	06 13 54.6	+1.9
NJ2				AMB	AMB		
comp=Z,320nm,1.0s							
NJ2				AMB	AMB		
comp=Z,410nm,4.5s							
NJ2				LR	LR		
comp=N,66μm,12.8s							
NJ2				LR	LR		
comp=E,41μm,13.0s							
NJ2				LR	LR		
comp=Z,34μm,11.0s							
ENH	**Enshi**	**17.23**	**331**	*e*P	**P**	**06 13 47.6**	**-0.5**
comp=Z,16nm,0.8s							
KMI	**Kunming**	**18.16**	**305**	P	**P**	**06 14 04.5**	**+4.7**
KMI				AMB	AMB		
comp=Z,42nm,2.0s							
KMI	**Kunming**	**18.16**	**305**	P	**P**	**06 14 04.5**	**+4.7**
comp=Z,42nm,2.0s							
KMI				sP		06 14 17.9	
BDT	**Bhumibol Dam**	**19.45**	**278**	P	**P**	**06 14 16.5**	**+1.3**
CM31	**Chiang Mai Arr**	**19.59**	**282**	*e*P	**P**	**06 14 18.4**	**+1.6**
comp=Z,94nm,0.8s							
CMAR	**Chiang Mai Arr**	**19.59**	**282**	P	**P**	**06 14 17.2**	**+0.5**
comp=Z,0.4nm,0.3s,baz=92,slow=9.1,SNR=57							
CMAR				PcP	PcP	06 18 35.6	+0.3
comp=Z,0.6nm,0.3s,baz=112,slow=0.5,SNR=11							
CHG	**Chiang Mai**	**19.63**	**283**	⇑P	**P**	**06 14 18.3**	**+1.1**
comp=Z,57nm,1.2s							
KGM	**Kluang**	**20.57**	**231**	P	**P**	**06 14 28.2**	**+1.1**
XAN	**Xi'an**	**20.70**	**335**	P	**P**	**06 14 27.8**	**-0.4**
XAN				AMB	AMB		
comp=Z,51nm,1.0s							
KULM	**Kulim**	**20.83**	**243**	*e*P	**P**	**06 14 31.4**	**+1.7**
IPM	**Ipoh**	**20.87**	**241**	P	**P**	**06 14 32.3**	**+2.1**
INCN	**Inchon**	**22.91**	**15**	*e*P	**P**	**06 14 49.7**	**-0.7**
DL2	**Dalian**	**23.46**	**5**	*e*P	**P**	**06 14 58.6**	**+2.9**
DL2				AMB	AMB		
comp=Z,20nm,1.4s,mb4.3							
BJT	**Baijiatuau**	**24.61**	**354**	*e*P	**P**	**06 15 07.9**	**+1.0**
BJT				pmax	pmax		
comp=Z,62nm,0.6s							
BJT	**Baijiatuau**	**24.61**	**354**	*e*P	**P**	**06 15 07.9**	**+1.0**
comp=Z,62nm,0.6s,mb5.3							
BJI	**Beijing**	**24.64**	**354**	P	**P**	**06 15 08.3**	**+1.2**
BJI				AMB	AMB		
comp=Z,81nm,1.1s,mb5.2							
BJI				LR	LR		
comp=N,26μm,15.1s,MS5.9							
BJI				LR	LR		
comp=E,9μm,14.2s,MS5.9							
BJI				LR	LR		
comp=Z,15μm,15.8s,MS5.6							
BJI	**Beijing**	**24.64**	**354**	P	**P**	**06 15 08.3**	**+1.2**
comp=Z,81nm,1.1s,mb5.2							
BJI				LR	LR		
comp=Z,15μm,15.8s,MS5.6							
LZH	**Lanzhou**	**24.70**	**329**	⇓P	**P**	**06 15 09.2**	**+1.5**
LZH				AP		06 15 18.5	
LZH				XP		06 15 22.5	
LZH				PP	PP	06 15 46.3	+1.9
LZH				*e*S	S	**06 19 26.8**	**+2.3**
LZH				XS		06 19 42.0	
LZH				*e*SS	SS	06 20 25.0	+3.1
LZH				AMB	AMB		
comp=Z,294nm,1.5s,mb5.6							
LZH				AMB	AMB		
comp=Z,685nm,4.5s							
LZH				LR	LR		
comp=E,4μm,13.6s							
LZH				LR	LR		
comp=Z,7μm,14.8s,MS5.3							
LZH	**Lanzhou**	**24.70**	**329**	⇓P	**P**	**06 15 09.2**	**+1.5**
comp=Z,294nm,1.5s,mb5.6							
LZH				pP		06 15 18.5	
LZH				sP		06 15 22.5	
LZH				PP	PP	06 15 46.3	+1.9
LZH				*e*S	S	**06 19 26.8**	**+2.3**
LZH				sS		06 19 42.0	
LZH				*e*SS	SS	06 20 25.0	+3.1
LZH				LR	LR		
comp=Z,7μm,14.8s,MS5.3							
HHC	**Hu-ho-hao-te**	**26.16**	**347**	*e*P	**P**	**06 15 22.5**	**+1.1**
HHC				XP	sP	06 15 37.1	+2.2
HHC				PP	PP	06 16 03.2	-0.3
HHC				PCP	PcP	06 18 47.8	-0.8
HHC				S	S	**06 19 52.7**	**+3.8**
HHC				SCP		06 22 22.7	
HHC				PCS		06 22 26.3	
HHC				AMB	AMB		
comp=Z,42nm,1.4s,mb4.8							
HHC				AMB	AMB		
comp=Z,33μm,17.7s							
HHC				LR	LR		
comp=N,11μm,14.5s,MS5.7							
HHC				LR	LR		
comp=E,12μm,14.3s,MS5.7							
HHC				LR	LR		
comp=Z,11μm,15.7s,MS5.5							
MJAR	**Matsushiro Arr**	**26.98**	**35**	P	**P**	**06 15 28.2**	**-0.8**
comp=Z,1.3nm,0.3s,baz=208,slow=7.3,SNR=5.6							
CN2	**Changchun**	**28.75**	**9**	*e*P	**P**	**06 15 46.4**	**+1.5**
CN2				*e*AP	pP	06 15 56.2	+1.9
CN2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
GTA	**Gaotai**	**29.29**	**328**	*e*P	**P**	**06 15 50.1**	**+0.3**
GTA				AP	pP	06 15 58.9	-0.3
GTA				XP	sP	06 16 03.0	-0.3
GTA				PP	PP	06 16 45.9	+0.8
GTA				PPP	PPP	06 16 58.5	+0.2
GTA				PCP	PcP	06 18 56.3	+0.1
GTA				S	S	**06 20 42.8**	**+3.4**
GTA				XS		06 20 50.4	
GTA				SS	SS	06 22 14.1	+2.8
GTA				AMB	AMB		
comp=Z,37nm,1.8s,mb4.8							
GTA				LR	LR		
comp=N,9μm,16.0s,MS5.6							
GTA				LR	LR		
comp=E,8μm,15.6s,MS5.6							
GTA				LR	LR		
comp=Z,14μm,14.5s,MS5.7							
MDJ	**Mudanjiang**	**30.38**	**15**	P	**P**	**06 15 58.2**	**-1.2**
MDJ				AP	pP	06 16 06.9	-1.9
MDJ				XP	sP	06 16 10.7	-2.2
MDJ				PCP	PcP	06 18 55.8	-3.1
MDJ				S	S	**06 20 57.7**	**+1.1**
MDJ				XS		06 21 12.7	
MDJ				SCP		06 22 36.4	
MDJ				PCS		06 22 41.6	
MDJ				AMB	AMB		
comp=Z,8.0nm,1.7s,mb4.2							
MDJ				AMB	AMB		
comp=Z,7μm,22.6s							
MDJ				LR	LR		
comp=N,15μm,16.2s,MS5.9							
MDJ				LR	LR		
comp=E,19μm,16.7s,MS5.9							
MDJ				LR	LR		
comp=Z,16μm,16.2s,MS5.8							
JIRN	**Jiri**	**32.90**	**297**	*e*P	**P**	**06 16 22.0**	**+0.3**
comp=Z,290nm,1.2s,mb6.1							
GUN	**Gumba**	**33.23**	**298**	*e*P	**P**	**06 16 24.7**	**+0.1**
comp=Z,255nm,1.1s,mb6.1							
PKI	**Pulchoki**	**33.55**	**297**	*e*P	**P**	**06 16 26.7**	**-0.7**
comp=Z,126nm,1.1s,mb5.8							
PKI	**Pulchoki**	**33.55**	**297**	*e*P	**P**	**06 16 26.7**	**-0.7**
PKI				pmax	pmax		
comp=Z,63nm,1.1s,mb5.5							
KKN	**Kakani**	**33.71**	**297**	*e*P	**P**	**06 16 28.1**	**-0.7**
comp=Z,116nm,1.0s,mb5.8							
KKN	**Kakani**	**33.71**	**297**	*e*P	**P**	**06 16 28.1**	**-0.7**
KKN				pmax	pmax		
comp=Z,58nm,1.0s,mb5.5							
DMN	**Daman**	**33.82**	**297**	*e*P	**P**	**06 16 29.2**	**-0.5**
comp=Z,140nm,1.1s,mb5.8							
ULN	**Ulaanbaatar**	**33.84**	**345**	*e*P	**P**	**06 16 29.1**	**-0.6**
ULN				*e*		06 19 07.7	
ULN				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.7							
ULN	**Ulaanbaatar**	**33.84**	**345**	*e*P	**P**	**06 16 29.1**	**-0.6**
comp=Z,6.0nm,0.6s,mb4.7							
ULN				*e*PcP	PcP	06 19 07.7	-0.5
FITZ	**Fitzroy Crossi**	**33.94**	**169**	⇑*i*P	**P**	**06 16 29.5**	**-1.4**
comp=Z,52nm,1.1s,mb5.4							
FITZ	**Fitzroy Crossi**	**33.94**	**169**	P	**P**	**06 16 29.7**	**-1.2**
comp=Z,52nm,1.0s,mb5.4,baz=3.3,slow=5.6,SNR=16							
SONM	**Songino Array**	**33.98**	**345**	P	**P**	**06 16 30.4**	**-0.5**
comp=Z,18nm,0.6s,mb5.1,baz=164,slow=10,SNR=66							
SONM				PcP	PcP	06 19 07.8	-0.8
comp=Z,2.5nm,0.5s,baz=158,slow=2.9,SNR=6.1							
GKN	**Gorkha**	**34.32**	**297**	*e*P	**P**	**06 16 33.1**	**-0.9**
comp=Z,64nm,0.8s,mb5.6							
ASAJ	**Asahikawa**	**34.81**	**30**	P	**P**	**06 16 38.1**	**+0.1**
comp=Z,5.1nm,0.3s,mb4.9,baz=180,slow=4.0,SNR=3.2							
KOLN	**Koldanda**	**35.16**	**296**	*e*P	**P**	**06 16 40.4**	**-0.8**
comp=Z,220nm,1.7s,mb5.8							
KLR	**Kul'dur**	**35.22**	**14**	*e*P	**P**	**06 16 37.7**	**-3.8**
MBWA	**Marble Bar**	**36.39**	**179**	*e*P	**P**	**06 16 50.6**	**-1.1**
comp=Z,102nm,1.4s,mb5.6							
MBWA				*e*PcP	PcP	06 19 15.8	-0.2
YSS	**Yuzh-Sakhalins**	**37.02**	**27**	⇑*e*P	**P**	**06 16 56.0**	**-0.7**
YSS				*e*		06 17 02.9	
YSS				pmax	pmax		
comp=Z,20nm,0.8s,mb5.0							
PMG	**Port Moresby**	**37.12**	**130**	*e*P	**P**	**06 16 56.4**	**-1.5**
PMG				*e*PP	pP	06 17 07.0	-0.4
PMG				pmax	pmax		
comp=Z,53nm,1.0s							
PMG	**Port Moresby**	**37.12**	**130**	P	**P**	**06 16 56.2**	**-1.6**
comp=Z,35nm,1.0s,mb5.2,baz=343,slow=7.5,SNR=10							
PMG	**Port Moresby**	**37.12**	**130**	*e*P	**P**	**06 16 56.4**	**-1.4**
comp=Z,53nm,1.0s,mb5.3							
PMG				*e*pP	pP	06 17 07.0	-0.4
ZAK	**Zakamensk**	**37.14**	**343**	⇑*i*P	**P**	**06 16 57.0**	**-0.7**
ZAK				*e*		06 19 17.9	
ZAK				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.4							
WRAB	**Tennant Creek**	**38.19**	**157**	*e*P	**P**	**06 17 05.1**	**-1.7**
WRAB				*e*PP	pP	06 17 14.9	-1.5
WRAB				pmax	pmax		
comp=Z,144nm,1.0s,mb5.7							
WRAB	**Tennant Creek**	**38.19**	**157**	*e*P	**P**	**06 17 05.0**	**-1.8**
comp=Z,144nm,1.0s,mb5.7							
WRAB				*e*pP	pP	06 17 14.9	-1.5
WRA	**Warramunga Arr**	**38.20**	**157**	P	**P**	**06 17 05.1**	**-1.8**
comp=Z,56nm,0.9s,mb5.3,baz=337,slow=9.3,SNR=188							
WRA				PcP	PcP	06 19 21.1	-0.4
comp=Z,4.7nm,0.9s,baz=340,slow=3.7,SNR=3.6							
WRA				S	S	**06 22 52.5**	**-5.4**
comp=Z,0.4nm,0.8s,baz=350,slow=14,SNR=3.9							
WB2	**Warramunga Arr**	**38.20**	**157**	⇑*i*P	**P**	**06 17 05.0**	**-1.9**
WB2				*i*	pP	06 17 14.7	-1.7
TLY	**Talaya**	**38.22**	**344**	⇓*i*P	**P**	**06 17 06.7**	**0.0**
TLY				pmax	pmax		
comp=Z,22nm,1.4s,mb4.7							
WMQ	**Urumqi**	**38.93**	**323**	⇑P	**P**	**06 17 14.0**	**+1.2**
WMQ				AP	pP	06 17 24.0	+1.7
WMQ				XP	sP	06 17 27.7	+1.4
WMQ				PP	PP	06 18 48.1	+2.1
WMQ				PCP	PcP	06 19 24.3	+0.8
WMQ				S	S	**06 23 10.6**	**+1.9**
WMQ				XS		06 23 26.8	
WMQ				AMB	AMB		
comp=Z,17nm,1.1s,mb4.7							
WMQ				AMB	AMB		
comp=Z,2μm,5.1s							
WMQ				LR	LR		
comp=N,8μm,16.4s,MS5.8							
WMQ				LR	LR		
comp=E,6μm,15.8s,MS5.8							
WMQ				LR	LR		
comp=Z,2μm,18.6s,MS5.1							
HYB	**Hyderabad**	**38.98**	**279**	*e*P	**P**	**06 17 14.5**	**+1.1**
HYB	**Hyderabad**	**38.98**	**279**	*i* P	**P**	**06 17 14.5**	**+1.1**
DDI	**Dehra Dun**	**40.45**	**299**	*e*	**P**	**06 17 24.0**	**-1.4**
ASPA	**Alice Springs**	**41.45**	**159**	*e*P	**P**	**06 17 32.4**	**-1.4**
ASPA				*i*	pP	06 17 43.0	-0.3
ASAR	**Alice Springs**	**41.46**	**159**	P	**P**

USP Ospenovka 47.03 315 P **P 06 18 18.9 +0.5**
SNR=23

YAK Yakutsk 47.11 7 *e*P **P 06 18 16.8 -2.1**
YAK *e* pP 06 18 26.3 -2.2
YAK pmax pmax
comp=Z,12nm,0.6s,mb5.0
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK pmax pmax
comp=N,30nm,1.0s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.8s

YAK Yakutsk 47.11 7 *e*P **P 06 18 17.5 -1.3**
comp=E,40nm,0.6s,mb5.5

AML Almayashu 47.17 314 P **P 06 18 21.0 +1.4**
SNR=37

MUN Mundaring 47.25 183 ⇓*i*P **P 06 18 22.3 +1.9**
comp=E,145nm,0.9s,mb5.9

MUN Mundaring 47.25 183 ⇓*i*P **P 06 18 22.3 +1.9**
MUN pmax pmax
comp=Z,145nm,0.9s,mb5.9

EKS2 Erkin-Say 47.30 314 P **P 06 18 21.6 +1.0**
SNR=22

KURK Kurchatov 47.93 326 *e*P **P 06 18 25.2 -0.2**
KURK *e**PP pP 06 18 35.1 0.0
KURK pmax pmax
comp=Z,33nm,0.6s,mb5.5

KURK Kurchatov 47.93 326 *e*P **P 06 18 25.1 -0.3**
comp=Z,33nm,0.6s,mb5.5
KURK *e*pP pP 06 18 35.1 0.0

NWAO Narrogin (SRO) 48.14 182 P **P 06 18 26.5 -0.8**
comp=Z,30nm,0.9s,mb5.3,baz=3.6,slow=7.9,SNR=7.2

PET Petropavlovsk 48.64 31 *e*P **P 06 18 35.2 +4.3**
PET pmax pmax
comp=Z,45nm,0.9s,mb5.5

MA2 Magadan 49.76 20 *e*P **P 06 18 38.1 -1.3**
MA2 pmax pmax
comp=Z,50nm,1.7s,mb5.3
MA2 pmax pmax
comp=E,10.0nm,1.5s

MA2 Magadan 49.76 20 *e*P **P 06 18 38.7 -0.7**
comp=E,29nm,1.0s,mb5.3

STKA Stephens Creek 51.73 156 *e*P **P 06 18 53.2 -1.6**
comp=E,16nm,0.9s,mb5.0
STKA *i* pP 06 19 03.3 -1.3

STKA Stephens Creek 51.73 156 P **P 06 18 52.7 -2.1**
comp=E,20nm,0.9s,mb5.0,baz=334,slow=7.4,SNR=3.0

BVA0 Borovoye Array 53.51 326 *i* P **P 06 19 07.1 -0.6**
BVA0 pmax pmax
comp=Z,18nm,1.9s,mb4.7

BVAR Borovoye Array 53.51 326 P **P 06 19 07.2 -0.5**
comp=Z,8.8nm,0.7s,mb4.8,baz=119,slow=8.7,SNR=41
BVAR PcP PcP 06 20 13.4 -0.9
comp=Z,5.5nm,0.6s,baz=130,slow=5.1,SNR=7.7

CHKZ Chkalovo 53.67 326 *e*P **P 06 19 08.0 -0.9**
CHKZ pmax pmax
comp=Z,19nm,0.8s,mb5.1

CHKZ Chkalovo 53.67 326 *e*P **P 06 19 08.0 -0.9**
comp=Z,18nm,0.8s,mb5.1

ARMA Armidale 55.28 146 ⇓*i*P **P 06 19 21.0 0.0**
ARMA *e* pP 06 19 32.7 +1.9

TIXI Tiksi 56.48 4 ⇓*i*P **P 06 19 26.8 -2.3**
TIXI pmax pmax
comp=Z,20nm,0.8s,mb5.2

CNB Canberra Magne 58.04 151 *e*P **P 06 19 39.8 -0.8**
comp=Z,881nm,1.1s
CNB *e* pP 06 19 49.7 -0.7

TOO Toolangi 58.26 156 *e*P **P 06 19 41.8 -0.3**
comp=Z,15nm,0.8s,mb5.1

TOO Toolangi 58.26 156 *e*P **P 06 19 41.8 -0.3**
TOO pmax pmax
comp=Z,15nm,0.8s,mb5.1

DZM Mont Dzumac 59.46 128 P **P 06 19 49.1 -1.5**
comp=Z,7.8nm,0.6s,mb4.9,baz=194,slow=21,SNR=6.5

SVE Sverdlovsk 60.15 327 ⇓*i*P **P 06 19 54.7 -0.2**
SVE pmax pmax
comp=Z,51nm,0.7s,mb5.7

BILL Bilibino 60.51 18 *e*P **P 06 19 55.7 -1.5**
BILL pmax pmax
comp=Z,70nm,1.5s,mb5.6

BILL Bilibino 60.51 18 *e*P **P 06 19 55.7 -1.5**
comp=Z,70nm,1.5s,mb5.6

ARU Arti 61.12 326 ⇑*i*P **P 06 20 00.2 -1.3**
ARU *e* 06 20 41.3
ARU *e* 06 22 11.9
ARU *e*PPP PPP 06 23 41.9 -4.5
ARU *e*S **S 06 28 20.3 +3.5**
ARU *e*SS SS 06 32 25.2 +7.0
ARU pmax pmax
comp=Z,37nm,0.7s,mb5.6

ARU Arti 61.12 326 *e*P **P 06 20 00.1 -1.5**
comp=Z,33nm,0.6s,mb5.7
ARU *e*pP pP 06 20 09.7 -1.7

TI2 Plekhanov 68.33 309 *e*P **P 06 20 49.8 +1.3**

GNI Garni 68.39 307 *e*P **P 06 20 49.6 +0.7**
GNI pmax pmax
comp=Z,57nm,1.0s

GNI Garni 68.39 307 P **P 06 20 49.1 +0.2**
comp=Z,7.5nm,0.5s,mb5.0,baz=328,slow=20,SNR=13

GNI Garni 68.39 307 *e*P **P 06 20 49.5 +0.6**
comp=Z,57nm,1.0s,mb5.6

ZEI Tsey 68.93 310 *e*P **P 06 20 47.8 -4.4**
ZEI *i* *PP pP 06 21 01.7 -0.5
ZEI pmax pmax
comp=Z,14nm,1.0s,mb4.8

BHD Baghdad 69.13 300 *e*P **P 06 20 47.0 -6.6**

GOF Gofitskoye 69.49 313 ⇑*i*P **P 06 20 54.4 -1.2**
GOF pmax pmax
comp=Z,60nm,1.7s,mb5.2

KIV Kislovodsk 69.78 312 ⇓*i*P **P 06 20 57.6 +0.2**
KIV *i* *PP pP 06 21 07.4 +0.1
KIV *e**SP sP 06 21 11.8 +0.9
KIV 06 21 19.0
KIV pmax pmax
comp=Z,34nm,0.8s,mb5.3

KIV Kislovodsk 69.78 312 *e*P **P 06 20 57.6 +0.2**
comp=Z,94nm,0.9s,mb5.7
KIV *e*pP pP 06 21 07.1 -0.2

VOR Voronezh 71.84 320 *e*P **P 06 21 08.5 -1.2**
VOR *e**SP sP 06 21 19.0 -4.2
VOR pmax pmax
comp=Z,120nm,1.8s,mb5.5

VRSR Storozhevoye 71.87 319 *e*P **P 06 21 09.4 -0.5**
VRSR *e**PP pP 06 21 18.0 -1.9
VRSR pmax pmax
comp=Z,40nm,2.1s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,2.0s
VRSR pmax pmax
comp=E,20nm,1.2s

SOC Sochi 71.94 311 *e*P **P 06 21 08.3 -2.2**
SOC pmax pmax
comp=Z,31nm,0.7s,mb5.3
SOC pmax pmax
comp=N,7.0nm,0.5s
SOC pmax pmax
comp=E,4.0nm,0.8s

MOS Moscow 72.64 324 *e*P **P 06 21 12.4 -1.9**
MOS *e* pP 06 21 22.9 -1.4
MOS pmax pmax
comp=Z,62nm,1.4s,mb5.3

OBN Obninsk 73.27 323 ⇑*i*P **P 06 21 17.3 -0.7**
OBN *i* *PP pP 06 21 26.8 -1.2
OBN pmax pmax
comp=Z,66nm,1.5s,mb5.3

MALT Malatya 73.42 306 ⇓P **P 06 21 20.7 +1.4**

ANN Anapa 73.48 313 *e*P **P 06 21 16.8 -2.7**
ANN *e*S S 06 30 44.8 -0.6
ANN pmax pmax
comp=Z,14nm,0.5s,mb5.2
ANN MLR MLR
comp=N,3μm,17.0s,MS5.8
ANN MLR MLR
comp=E,3μm,17.0s,MS5.8
ANN MLR MLR
comp=Z,3μm,17.0s,MS5.6

APA Apatity 74.23 337 ⇓*i*P **P 06 21 23.5 +0.1**
APA pmax pmax
comp=Z,20nm,0.8s,mb5.1

SVW2 Sparrevohn 74.31 30 *e*P **P 06 21 24.4 +0.4**

IMA Indian Mountai 74.84 25 *e*P **P 06 21 27.6 +0.7**
IMA pmax pmax
comp=Z,12nm,1.0s,mb4.8

IMA Indian Mountai 74.84 25 *e*P **P 06 21 27.6 +0.7**
comp=Z,12nm,1.0s,mb4.8

ASF Jabal al Asfar 75.52 300 P **P 06 21 31.7 +0.1**
comp=Z,7.4nm,0.7s,mb4.7,baz=159,slow=7.7,SNR=6.5

RPZ Rata Peaks 75.56 144 P **P 06 21 30.9 -0.6**
comp=Z,9.4nm,0.8s,mb4.8,baz=303,slow=8.4,SNR=4.0

SIM Simferopol' 75.80 313 *e*P **P 06 21 32.5 -0.4**
SIM *e* pP 06 21 43.0 +0.1
SIM pmax pmax
comp=Z,18nm,0.7s,mb5.1

KEV Kevo 76.38 339 *e*p **P 06 21 35.0 -0.6**

BRTR Keskin Array B 76.92 308 P **P 06 21 38.9 -0.4**
comp=Z,2.1nm,0.7s,mb4.2,baz=112,slow=4.3,SNR=10

ARCES ARCESS Array B 76.93 339 P **P 06 21 38.2 -0.5**
comp=Z,9.1nm,0.6s,mb4.9,baz=73,slow=7.0,SNR=44

ARE0 ARCESS Array S 76.93 339 *e*P **P 06 21 38.4 -0.3**

MCK McKinley 77.11 27 *e*P **P 06 21 39.3 -0.5**
MCK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7

MCK McKinley 77.11 27 *e*P **P 06 21 39.3 -0.4**
comp=Z,8.9nm,0.9s,mb4.7

PMR Palmer 77.35 29 *e*P **P 06 21 40.4 -0.7**
PMR pmax pmax
comp=Z,14nm,0.8s,mb4.9

PMR Palmer 77.35 29 *e*P **P 06 21 40.4 -0.7**
comp=Z,14nm,0.8s,mb4.9

COLA College 77.40 26 *i* P **P 06 21 41.3 0.0**

EIL Elat 77.60 298 *e*P **P 06 21 42.5 -0.7**
comp=Z,53nm,1.3s,mb5.3

SML Sawmill 77.69 29 *e*P **P 06 21 42.6 -0.4**

ILAR Eielson Array 77.82 26 P **P 06 21 42.4 -1.3**
comp=Z,1.2nm,0.6s,baz=266,slow=5.6,SNR=17

KAF Kangasniemi 77.83 331 *e*p **P 06 21 42.7 -1.0**
comp=Z,10nm,0.7s,mb4.9,baz=76,slow=5.1

KAF Kangasniemi 77.83 331 *e*P **P 06 21 42.7 -1.0**
KAF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8

CSS Prodhromos 77.98 303 *e*P **P 06 21 45.6 +0.4**
comp=Z,46nm,0.8s,mb5.5
CSS *e*pP pP 06 21 55.0 -0.2

FINES FINESS Array B 78.05 331 P **P 06 21 44.3 -0.7**
comp=Z,6.4nm,0.6s,mb4.7,baz=62,slow=5.4,SNR=28

AKASG Malin Array Be 78.19 319 P **P 06 21 44.9 -1.1**
comp=Z,3.4nm,0.6s,mb4.5,baz=64,slow=4.4,SNR=19

THY Trims Highway 78.57 27 *e*P **P 06 21 47.6 -0.2**

DIV Divide 79.02 30 *e*P **P 06 21 50.1 -0.2**
comp=Z,20nm,0.6s,mb5.2

ISP Isparta 79.67 306 *i* P **P 06 21 54.0 -0.3**

TIRR Tirgusor 79.89 313 ⇓P **P 06 22 05.0 +10**

VRI Vrincioaia 80.77 315 ⇓P **P 06 22 01.2 +1.2**

SUW Suwalki 81.13 324 *e*P **P 06 22 01.0 -0.7**
SUW *e* pP 06 22 09.9 -2.0

SUW Suwalki 81.13 324 *e*P **P 06 22 01.0 -0.7**
SUW *e* pP 06 22 09.9 -1.9

DAWY Dawson 81.15 26 *e*P **P 06 22 02.0 +0.4**

MLR Muntele Rosu 81.38 315 ⇑P **P 06 22 04.1 +0.9**

BURAR Bucovina Array 81.39 317 ⇑P **P 06 22 03.9 +0.7**

BURAR Bucovina Array 81.39 317 ⇑P **P 06 22 03.9 +0.7**

SNX Sinaia 81.71 315 P **P 06 22 05.9 +1.0**

CASY Casey 81.75 184 *e*P **P 06 22 04.1 -0.6**

INK Inuvik 82.00 21 *e*P **P 06 22 05.4 -0.5**
INK pmax pmax
comp=Z,18nm,1.3s

INK Inuvik 82.00 21 P **P 06 22 05.6 -0.4**
comp=Z,6.4nm,1.0s,mb4.5,baz=277,slow=5.9,SNR=11

INK Inuvik 82.00 21 *e*P **P 06 22 05.4 -0.5**
comp=Z,18nm,1.3s,mb4.8

KWP Kalwaria 82.51 319 *e*P **P 06 22 08.5 -0.5**
KWP *e* pP 06 22 18.7 -0.5

KMBO Kilima Mbogo 82.53 267 P **P 06 22 11.3 +1.5**
comp=Z,9.1nm,0.9s,mb4.8,baz=56,slow=9.6,SNR=19

KMBO Kilima Mbogo 82.53 267 *e*P **P 06 22 11.4 +1.6**
comp=Z,24nm,1.1s,mb5.1

CRVS Cervenica-Dubn 83.49 319 *e*P **P 06 22 15.8 +1.8**
CRVS *e* pP 06 22 26.0 +1.8

CRVS Cervenica-Dubn 83.49 319 *e*P **P 06 22 18.2 +4.2**
CRVS *e* 06 22 26.1

CRVS Cervenica-Dubn 83.49 319 *e*P **P 06 22 15.8 +1.8**
CRVS *e* 06 22 18.2
CRVS *e* pP 06 22 26.0 +1.8
CRVS *e*sP sP 06 22 26.1 -1.5

SANT Santorini 83.93 306 *e*P **P 06 22 16.9 +0.3**

VTS Vitosha 84.01 312 P **P 06 22 18.0 +1.1**

NIE Niedzica 84.07 320 *e*P **P 06 22 16.2 -0.8**

OJC Ojcow 84.15 320 *e*P **P 06 22 18.2 +0.8**
OJC *e*PcP PcP 06 22 26.3 +4.8

KECS Kecovo 84.23 319 *e*P **P 06 22 18.4 +0.6**

PSZ Piszkesteto 84.77 318 *e*P **P 06 22 20.0 -0.5**
PSZ pmax pmax
comp=Z,19nm,1.3s,mb5.1

PSZ Piszkesteto 84.77 318 *e*P **P 06 22 20.0 -0.5**
comp=Z,19nm,1.3s,mb5.1

NB2 NORSAR Subarra 85.04 332 P **P 06 22 20.4 -1.1**
comp=Z,5.9nm,0.6s,mb4.9,baz=69,slow=4.6

NB2 NORSAR Subarra 85.04 332 P **P 06 22 20.4 -1.1**
baz=69,slow=4.6

NOA NORSAR Array B 85.04 332 P **P 06 22 20.9 -0.6**
comp=Z,4.3nm,0.6s,mb4.8,baz=262,slow=3.5,SNR=21

NAO01 NORSAR Array S 85.26 332 *e*P **P 06 22 22.2 -0.4**
comp=Z,3.3nm,0.6s,mb4.6

VYHS Vyhne 85.27 319 *e*P **P 06 22 23.6 +0.6**

VYHS Vyhne 85.27 319 *e*P **P 06 22 22.4 -0.6**

OKC Ostrava-Krasne 85.28 320 *e*P **P 06 22 23.5 +0.5**
OKC *e*pP pP 06 22 33.7 +0.4

SKO Skopje 85.44 312 *i* P **P 06 22 24.0 0.0**

MORC Moravsky Berou 85.67 320 ⇑P **P 06 22 25.2 +0.2**

KSP Ksiaz 86.08 322 *e*P **P 06 22 26.8 -0.2**
KSP *e**PP pP 06 22 37.0 -0.2

KSP Ksiaz 86.08 322 *e*P **P 06 22 28.2 +1.3**
KSP *e* pP 06 22 37.1 -0.2

PKSM Moragy 86.10 317 ⇓P **P 06 22 27.3 +0.1**

PKSM Moragy 86.10 317 ⇓P **P 06 22 27.3 +0.1**

DPC Dobruska-Polom 86.23 321 *e*P **P 06 22 27.8 +0.1**
DPC *e*pP pP 06 22 37.6 -0.4

UPC Upice 86.36 321 *e*P **P 06 22 28.6 +0.2**
UPC *e*pP pP 06 22 38.2 -0.4

VRAC Vranov 86.41 320 ⇓P **P 06 22 29.6 +0.9**

PVCC Panska Ves 87.22 322 *e*P **P 06 22 33.2 +0.7**
PVCC *e*pP pP 06 22 42.8 0.0

DLBC Dease Lake 87.41 29 P **P 06 22 34.6 +1.4**
comp=Z,6.6nm,1.1s,mb4.8,baz=309,slow=8.7,SNR=6.6

PRU Pruhonice 87.43 321 *e*P **P 06 22 34.2 +0.6**
PRU *e*pP pP 06 22 43.6 -0.2

RES Resolute Bay 87.53 9 *e*P **P 06 22 33.3 -0.2**
RES *e**PP pP 06 22 43.2 -0.6
RES pmax pmax
comp=Z,20nm,1.2s,mb5.2

RES Resolute Bay 87.53 9 *e*P **P 06 22 33.2 -0.3**
comp=Z,20nm,1.2s,mb5.2
RES *e*pP pP 06 22 43.2 -0.6

CLL Collm 87.86 323 *e*P **P 06 22 35.0 -0.6**
CLL *e* pP 06 22 45.0 -0.8

CLL Collm 87.86 323 P **P 06 22 35.0 -0.6**
CLL *e**PP pP 06 22 45.0 -0.8

KHC Kasperske Hory 88.33 321 *e*P **P 06 22 37.8 -0.1**

GERES GERESS Array B 88.36 320 P **P 06 22 38.2 +0.2**
comp=Z,1.0nm,0.7s,mb4.2,baz=90,slow=2.7,SNR=5.9

NKC Novy Kostel 88.59 322 *e*P **P 06 22 39.3 +0.2**
NKC *e*pP pP 06 22 49.1 -0.3

MBAR Mbarara 88.67 269 *i* P **P 06 22 39.6 -0.8**

MBAR Mbarara 88.67 269 *e*P **P 06 22 41.0 +0.7**
comp=Z,6.5nm,0.9s,mb5.0

DAVOX Davos 91.53 320 P **P 06 22 53.4 +0.5**
comp=Z,2.4nm,0.5s,mb4.8,baz=150,slow=21,SNR=4.6

YKW3 Yellowknife Ar 91.67 22 *e*P **P 06 22 52.4 -0.7**

YKA Yellowknife Ar 91.72 22 P **P 06 22 53.6 +0.3**
comp=Z,4.4nm,0.9s,mb4.8,baz=313,slow=4.4,SNR=79
YKA PKKPbc 06 40 10.4
comp=Z,0.3nm,0.7s,baz=125,slow=2.8,SNR=5.8

YKA Yellowknife Ar 91.72 22 P **P 06 22 53.6 +0.3**
YKA PKKPbc 06 40 10.4

CDF Champ du Feu 92.42 322 *e*P **P 06 22 56.0 -1.0**
comp=Z,29nm,1.1s,mb5.2

CDF Champ du Feu 92.42 322 *e*P **P 06 22 56.0 -1.0**
CDF pmax pmax
comp=Z,14nm,1.1s,mb5.2

LPG La Plagne 94.05 319 *e*P **P 06 23 04.7 +0.2**
comp=Z,8.9nm,0.8s,mb5.0

LPG La Plagne 94.05 319 *e*P **P 06 23 04.7 +0.2**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.9

LPL La Plagne 94.05 319 *e*P **P 06 23 04.8 +0.3**
comp=Z,8.4nm,0.7s,mb5.0

LPL La Plagne 94.05 319 *e*P **P 06 23 04.8 +0.3**
LPL pmax pmax
comp=Z,4.0nm,0.7s,mb5.0

MBDF Montbardon 94.38 319 *e*P **P 06 23 04.7 -1.4**

LSZ Lusaka 94.91 256 *e*P **P 06 23 09.7 +0.6**
LSZ pmax pmax
comp=Z,7.0nm,0.8s,mb5.1

LSZ Lusaka 94.91 256 *e*P **P 06 23 09.7 +0.6**
comp=Z,6.9nm,0.8s,mb5.1

VIVF Saint-Julien-l 95.65 319 *e*P **P 06 23 11.1 -0.8**

PDAR Pinedale Array 106.80 35 PKKP PKKP 06 39 46.5 +11
comp=Z,0.7nm,0.9s,baz=108,slow=4.7,SNR=4.9

VNA2 Neumayer--Watz 116.04 197 ⇑*i*PKPdf PKPdf 06 28 29.1 -3.7
VNA2 *e* 06 28 39.8
VNA2 *e* 06 28 43.5
VNA2 *e* 06 29 33.9

VNA1 Neumayer--Stat 116.43 197 *e* PKPdf 06 28 32.3 -1.2

VNA1 Neumayer--Stat 116.43 197 *e* PKPdf 06 28 36.2 +2.7

VNA1 Neumayer--Stat 116.43 197 *e* PP 06 29 23.9 -16

VNA1 Neumayer--Stat 116.43 197 ⇑*i*PKPdf PKPdf 06 28 23.4 -10
VNA1 *e* 06 28 32.3
VNA1 *e* 06 28 36.2
VNA1 *e* 06 29 23.9

VNA3 Neumayer Olymp 116.50 196 PKPdf PKPdf 06 28 29.6 -4.0
VNA3 *e* 06 28 41.0
VNA3 *e* 06 28 45.5

MNTX Cornudas Mount 116.56 42 *e*PKPdf PKPdf 06 28 30.7 -4.0

TXAR Lajitas Array 119.22 43 PKP PKPdf 06 28 36.4 -3.5
comp=Z,1.1nm,0.8s,baz=300,slow=1.8,SNR=10

DBIC Dimbokro 120.38 287 PKP PKPdf 06 28 38.1 -4.4
comp=Z,4.2nm,0.7s,baz=194,slow=1.5,SNR=8.7

JCT Junction City 120.89 39 *e*PKPdf PKPdf 06 28 39.5 -3.6

SJG San Juan 146.24 9 *e*PKPdf PKPdf 06 29 25.8 -4.6

PLCA Paso Flores 153.43 163 PKPbc PKPdf 06 29 45.8 +4.9
comp=Z,3.4nm,0.8s,baz=225,slow=8.5,SNR=6.8

PLCA Paso Flores 153.43 163 *e*PKPbc PKPdf 06 29 45.3 +4.4

SDV Santo Domingo 153.93 23 PKP PKPdf 06 29 39.0 -3.3
comp=Z,2.4nm,0.7s,baz=48,slow=0.8,SNR=4.7
SDV PKPbc PKPdf 06 29 47.2 +4.8
comp=Z,9.0nm,0.7s,baz=299,slow=3.5,SNR=13

SDV Santo Domingo 153.93 23 *e*PKPdf PKPdf 06 29 39.2 -3.2
SDV *e*PKPbc PKPdf 06 29 47.0 +4.6

BDFB Brasilia 167.67 267 PKP PKPdf 06 29 53.0 -4.0
comp=Z,3.8nm,1.0s,baz=67,slow=15,SNR=2.0

LPAZ La Paz 172.91 98 PKP PKPdf 06 29 58.4 -1.6
comp=Z,2.7nm,1.0s,baz=339,slow=4.0,SNR=7.1

SAML Samuel 173.13 20 *e*PKPdf PKPdf 06 29 56.5 -3.7
SAML *e*PKPab PKPab 06 31 22.1 -2.1

SIV San Ignacio 179.41 155 PKP PKPdf 06 29 57.7 -3.7
comp=Z,3.8nm,1.1s,baz=225,slow=3.3,SNR=3.1

IDC 08 06:40:36.9±3.4, 0.01N×98.10E, mb3.7/4, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, ML4.5/1, Error ellipse: s-maj=147.9km s-min=22.6km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.35	3	Pn	P	06 44 55.1	+0.4
	0.6nm,0.3s,baz=190,slow=10,SNR=7.0						
WRA	Warramunga Arr	40.65	121	P	P	06 48 17.8	-2.9
	0.5nm,0.7s,baz=301,slow=8.9,SNR=2.9						
ASAR	Alice Springs	41.97	127	P	P	06 48 31.5	-0.1
	0.6nm,0.7s,baz=302,slow=8.2,SNR=5.2						
MKAR	Makanchi Array	48.60	346	P	P	06 49 21.9	-2.4
	1.0nm,0.6s,baz=162,slow=8.3,SNR=11						
ZAL	Zalesovo	54.86	350	P	P	06 50 08.7	-2.6
	0.9nm,0.6s,baz=19,slow=5.8,SNR=3.5						

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*IDC **08** 06:43:14.2±4.5, 19.19S×167.96E, h264km±41km, mb3.6/5, mb1 3.6/6, mb1mx3.5/16, mbtmp4.1/6, Error ellipse: s-maj=76.0km s-min=20.5km az=177.0*

ISC 08 06:43:11.4±4.5, 19.0S±0.5×168.0E±0.2, h258km±40km, n6, σ1§10/7, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.39	205	P	P	06 44 08.0	-1.1
	1.0nm,0.3s,baz=63,slow=18,SNR=11						
DZM				S	S	06 44 54.7	+0.8
	1.0nm,0.3s,baz=293,slow=21,SNR=2.4						
STKA	Stephens Creek	26.97	236	P	P	06 48 30.3	-1.2
	1.0nm,0.6s,mb3.4,baz=53,slow=12,SNR=3.7						
RAR	Rarotonga	30.36	100	P	P	06 49 01.9	+0.3
	20nm,0.9s,mb4.7,baz=120,slow=19,SNR=3.2						
WRA	Warramunga Arr	31.69	263	P	P	06 49 13.1	-0.1
	0.3nm,0.3s,mb3.3,baz=97,slow=8.5,SNR=22						
ASAR	Alice Springs	32.02	256	P	P	06 49 16.2	+0.2
	3.9nm,0.5s,mb4.2,baz=83,slow=9.0,SNR=64						
FITZ	Fitzroy Crossi	40.07	264	P	P	06 50 24.5	+1.0
	2.1nm,0.5s,mb3.8,baz=96,slow=8.0,SNR=7.0						

IDC 08 06:44:04.4±2.6, 1.35N×96.96E, mb3.9/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=116.7km s-min=21.0km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.32	122	P	P	06 52 00.6	-1.3
	0.2nm,0.4s,baz=301,slow=9.4,SNR=3.5						
ASAR	Alice Springs	43.68	127	P	P	06 52 10.9	-2.0
	0.2nm,0.4s,baz=295,slow=8.2,SNR=3.3						
SONM	Songino Array	47.02	9	P	P	06 52 37.1	-2.2
	1.3nm,0.5s,baz=196,slow=9.0,SNR=5.1						
MKAR	Makanchi Array	47.04	346	P	P	06 52 37.7	-1.8
	1.0nm,0.5s,baz=162,slow=7.7,SNR=8.5						
MKAR				pP	pP	06 52 45.6	+6.1
	0.9nm,0.6s,baz=160,slow=7.3,SNR=6.2						
ZAL	Zalesovo	53.36	351	P	P	06 53 25.7	-2.0
	1.1nm,0.3s,baz=210,slow=8.1,SNR=2.8						
ARCES	ARCESS Array B	82.31	340	P	P	06 56 27.4	-1.5
	4.6nm,1.0s,baz=90,slow=4.5,SNR=3.4						

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*IDC **08** 06:44:33.2±2.1, 1.38N×96.96E, mb4.0/7, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML4.0/1, Error ellipse: s-maj=88.5km s-min=20.0km az=57.0*
*NEIC **08** 06:44:37.8±0.9, 1.37N×97.00E, h30km, Error ellipse: s-maj=21.8km s-min=13.0km az=64.0*

ISC 08 06:44:36.0±1.1, 1.4N±0.1×97.0E±0.2, h30km, n12, σ0§69/12, mb3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.33	43	*e*Pn	Pn	06 45 55.3	-0.3
CMAR	Chiang Mai Arr	17.07	6	Pn	P	06 48 35.3	+1.0
	0.2nm,0.3s,baz=194,slow=12,SNR=4.2						
WRA	Warramunga Arr	42.31	122	P	P	06 52 29.0	-0.1
	0.4nm,0.7s,mb3.2,baz=300,slow=9.2,SNR=4.3						
ASAR	Alice Springs	43.68	127	P	P	06 52 40.6	+0.4
	0.7nm,0.9s,mb3.4,baz=293,slow=6.9,SNR=4.8						
SONM	Songino Array	46.98	9	P	P	06 53 05.2	-1.0
	3.4nm,0.8s,mb4.3,baz=188,slow=8.7,SNR=7.9						
MKAR	Makanchi Array	47.01	346	P	P	06 53 06.8	+0.4
	2.3nm,0.8s,mb4.2,baz=162,slow=7.7,SNR=8.6						
MKAR				pP	pP	06 53 14.8	-0.7
	2.0nm,0.6s,baz=161,slow=8.0,SNR=6.7						
MKAR	Makanchi Array	47.01	346	P	P	06 53 06.8	+0.4
MKAR				pP	pP	06 53 14.8	-0.7
ZAL	Zalesovo	53.33	351	P	P	06 53 54.9	+0.3
	1.6nm,0.4s,mb4.3,baz=259,slow=3.0,SNR=4.3						
ZAL	Zalesovo	53.33	351	P	P	06 53 54.9	+0.3
BVAR	Borovoye Array	56.00	341	P	P	06 54 12.9	-1.2
	0.8nm,0.7s,mb3.9,baz=135,slow=8.4,SNR=4.7						
ARCES	ARCESS Array B	82.29	340	P	P	06 56 56.2	+0.5
	3.0nm,0.9s,mb4.2,baz=90,slow=2.4,SNR=3.5						
ARCES	ARCESS Array B	82.29	340	P	P	06 56 56.2	+0.5

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*NEIC **08** 06:51:39.4±0.5, 1.57S×99.51E, h30km, mb4.2/3, Error ellipse: s-maj=16.7km s-min=8.3km az=64.0*
*IDC **08** 06:51:41.0±4.0, 1.49S×99.59E, h40km±34km, mb3.6/9, mb1 3.8/10, mb1mx3.6/19, mbtmp3.9/10, ML4.5/1, Error ellipse: s-maj=31.5km s-min=14.8km az=50.0*

ISC 08 06:51:38.7±3.2, 1.5S±0.1×99.5E±0.2, h38km±26km, n18, σ0§66/16, mb4.0/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.83	9	*e*Pn	P	06 53 19.3	+0.4
CMAR	Chiang Mai Arr	19.83	358	P	P	06 56 09.1	-0.1
	0.6nm,0.3s,baz=188,slow=10,SNR=11						

WRA Warramunga Arr 38.66 121 P **P 06 58 59.7 -0.8**
1.0nm,0.6s,mb3.8,baz=302,slow=9.2,SNR=13
WRAB Tennant Creek 38.66 121 *eP* **P 06 59 00.4 -0.2**
1.4nm,0.4s,mb4.0
ASAR Alice Springs 39.93 126 P **P 06 59 11.3 +0.3**
1.1nm,0.7s,mb3.7,baz=302,slow=7.7,SNR=12
ASAR S **S 07 05 14.2 +0.8**
0.4nm,0.8s,baz=301,slow=16,SNR=3.3
SONM Songino Array 49.49 6 P **P 07 00 27.4 0.0**
0.7nm,0.6s,mb3.9,baz=194,slow=5.9,SNR=4.4
STKA Stephens Creek 49.84 132 P **P 07 00 30.4 +0.1**
1.8nm,0.7s,mb4.2,baz=348,slow=23,SNR=3.3
STKA Stephens Creek 49.84 132 P **P 07 00 30.4 +0.1**
MKAR Makanchi Array 50.41 345 P **P 07 00 35.1 +0.6**
0.6nm,0.3s,mb4.0,baz=146,slow=8.7,SNR=11
KURK Kurchatov 54.99 344 *eP* **P 07 01 08.2 -0.2**
8.1nm,1.5s,mb4.5
ZAL Zalesovo 56.58 350 P **P 07 01 19.9 0.0**
1.2nm,0.3s,mb4.4,baz=325,slow=11,SNR=4.2
BVAR Borovoye Array 59.55 340 P **P 07 01 38.8 -1.9**
0.5nm,0.7s,mb3.7,baz=140,slow=11,SNR=3.5
KMBO Kilima Mbogo 62.26 270 P **P 07 02 00.0 +0.4**
0.9nm,0.7s,mb4.0,baz=80,slow=13,SNR=4.9
KMBO Kilima Mbogo 62.26 270 *eP* **P 07 01 59.8 +0.1**
1.5nm,0.8s,mb4.2
FINES FINESS Array B 83.44 332 P **P 07 04 04.3 +1.0**
0.5nm,0.5s,mb3.8,baz=104,slow=7.9,SNR=3.7
TXAR Lajitas Array 144.58 36 PKP PKPdf 07 11 13.7 +1.8
0.9nm,0.5s,baz=250,slow=1.3,SNR=9.3
CFAA Coronel Fontan 145.10 198 PKPbc PKPbc 07 11 14.1 +1.0
0.6nm,0.8s,baz=187,slow=4.9,SNR=9.4
CFAA Coronel Fontan 145.10 198 PKPbc PKPbc 07 11 14.1 +1.0

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*BJI **08** 07:02:37.6, 30.14N×83.53E, h13km, mb4.4*
*NEIC **08** 07:02:39.8±0.5, 30.29N×83.50E, h10km, mb4.4/6, Error ellipse: s-maj=12.2km s-min=9.7km az=79.0*
*MOS **08** 07:02:41.2±1.6, 30.28N×83.46E, h33km, mb4.4/14, Error ellipse: s-maj=15.8km s-min=9.6km az=84.8*
*NDI **08** 07:02:41.7±5.7, 30.77N×83.55E, h10km, ML4.2, mb4.4(NEIC)*
*IDC **08** 07:02:48.4±5.8, 30.40N×83.64E, h82km±53km, mb3.7/13, mb1 3.9/15, mb1mx3.8/24, mbtmp4.0/15, ML4.1/2, Error ellipse: s-maj=23.3km s-min=14.9km az=50.0*
ISC 08 07:02:38.7±0.3,**30.33N**±0.04×**83.64E**±0.03,**h10**km,**n73,**
σ1º50/79,mb4.1/20,1C,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLK	**Valmikinagar**	**3.01**	**176**	*i*	**Pg**	**07 03 38.0**	**-0.7**
VLK				*i*		07 04 33.0	
PTH	**Pithoragarh**	**3.07**	**256**	*e*PB	**Pb**	**07 03 35.6**	**+2.6**
PTH				*e*SB	**Sb**	**07 04 17.0**	**+6.4**
LGTI	**Lohaghat**	**3.07**	**254**	*e*PB	**Pg**	**07 03 37.2**	**-2.8**
LGTI				*e*SB	**Sg**	**07 04 23.2**	**+2.3**
JOSI	**Joshimath**	**3.53**	**275**	*e*	**Pn**	**07 03 25.4**	**-9.3**
JOSI				AML	AML	07 04 35.0	
	comp=N,1μm,0.7s						
JOSI				AML	AML	07 04 36.0	
	comp=E,977nm,0.4s						
DDI	**Dehra Dun**	**4.82**	**271**	*e*P	**Pn**	**07 03 56.1**	**+3.0**
DDI				*e*SG	**Sg**	**07 05 19.0**	**-0.3**
ALBI	**Allahabad**	**5.25**	**198**	*e*	**Pn**	**07 04 01.0**	**+1.8**
SMLA	**Simla**	**5.62**	**280**	⇑*i*P	Px	07 04 04.5	
SMLA				*i*		07 05 17.3	
NDI	**New Delhi**	**5.83**	**255**	*e*	**Pn**	**07 04 19.0**	**+12**
NDI				*e*		07 04 30.5	
NDI				*e*		07 05 06.0	
SDNR	**Sundarnagar**	**5.84**	**283**	*e*	**Pn**	**07 04 12.0**	**+4.5**
AGRA	**Agra**	**5.87**	**240**	*e*P	**Pn**	**07 04 09.7**	**+1.8**
AGRA				*e*S	**Sn**	**07 05 14.9**	**-1.1**
AGRA				*e*		07 06 02.5	
	comp=E,532nm,0.9s						
AGRA				*e*		07 06 02.6	
	comp=N,532nm,0.8s						
AYAN	**Aya Nagar**	**5.97**	**254**	*e*P	**Pn**	**07 04 11.3**	**+2.0**
AYAN				*e*		07 05 19.7	
SONA	**Sohna**	**6.08**	**252**	*e*P	**Pn**	**07 04 13.3**	**+2.4**
SONA				*e*S	**Sn**	**07 05 22.1**	**+0.7**
SONA				AML	AML	07 06 10.5	
	comp=E,325nm,0.5s						
SONA				AML	AML	07 06 12.6	
	comp=N,327nm,0.7s						
BOK	**Bokaro**	**6.81**	**162**	*e*	**Pn**	**07 04 21.8**	**+0.6**
THN	**Thein Dam**	**7.09**	**289**	*e*PG	**Pg**	**07 04 53.2**	**-7.0**
KHET	**Khetri**	**7.20**	**254**	*e*P	**Pn**	**07 04 28.1**	**+1.5**
KHET				*e*		07 05 48.5	
SHL	**Shillong**	**8.70**	**121**	*e*	**P**	**07 04 46.5**	**-1.0**
BHPL	**Bhopal**	**8.98**	**220**	*e*	**P**	**07 04 45.9**	**-5.5**
BHPL				*e*		07 06 25.9	
THW	**Thamme Wali**	**10.44**	**287**	P	**P**	**07 05 11.1**	**-0.4**
CEP	**Cherat**	**10.54**	**292**	P	**P**	**07 05 12.0**	**-0.9**
KSH	**Kashi**	**11.11**	**328**	*e*P	**P**	**07 05 20.4**	**-0.3**
KSH				*e*AP		07 05 30.5	
KSH				*e*XP		07 05 33.5	
JASL	**Jaisalmer**	**11.69**	**256**	*e*P	**P**	**07 05 26.6**	**-2.0**
HYB	**Hyderabad**	**13.66**	**201**	*e*P	**P**	**07 05 52.0**	**-3.0**
HYB				*e*S	**S**	**07 08 22.0**	**-5.9**
HYB	**Hyderabad**	**13.66**	**201**	*i*P	**P**	**07 05 52.0**	**-3.0**
HYB				*e*S	**S**	**07 08 22.0**	**-5.9**
WMQ	**Urumqi**	**13.85**	**12**	*e*P	**P**	**07 06 03.0**	**+5.7**
FRU	**Bishkek**	**14.42**	**332**	*e*P	**P**	**07 06 16.8**	**+12**
POO	**Poona**	**14.73**	**219**	*e*	**P**	**07 06 04.0**	**-5.1**
POO				*e*		07 08 45.0	
KAD	**Karad**	**15.57**	**216**	*e*	**S**	**07 09 04.0**	**-9.0**
GTA	**Gaotai**	**16.06**	**51**	*e*P	**P**	**07 06 29.2**	**+3.1**
GTA				AP		07 06 36.8	
GTA				XP		07 06 40.4	
GTA				AMB	AMB		
	comp=Z,11nm,1.3s						
MKAR	**Makanchi Array**	**16.47**	**357**	P	**P**	**07 06 32.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=181,slow=12,SNR=32						
LZH	**Lanzhou**	**17.85**	**66**	*e*P	**P**	**07 06 49.0**	**+0.3**
LZH				AP		07 06 59.0	
LZH				XP		07 07 02.0	
LZH				AMB	AMB		
	comp=Z,42nm,1.5s						
LZH	**Lanzhou**	**17.85**	**66**	*e*P	**P**	**07 06 49.0**	**+0.3**
LZH				pmax	pmax		
	comp=Z,42nm,1.5s						
LZH	**Lanzhou**	**17.85**	**66**	*e*P	**P**	**07 06 49.0**	**+0.3**
	comp=Z,42nm,1.5s						
LZH				pP		07 06 59.0	
LZH				sP		07 07 02.0	
CMAR	**Chiang Mai Arr**	**18.25**	**127**	P	**P**	**07 06 55.5**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=307,slow=8.6,SNR=11						
GYA	**Guiyang**	**20.61**	**95**	P	**P**	**07 07 19.8**	**-0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
KURK	**Kurchatov**	**20.71**	**351**	*i*P	**P**	**07 07 19.4**	**-2.1**
KURK	**Kurchatov**	**20.71**	**351**	*e*P	**P**	**07 07 19.3**	**-2.3**
	comp=Z,26nm,0.9s						
ZAL	**Zalesovo**	**23.61**	**2**	P	**P**	**07 07 51.0**	**+0.7**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL	**Zalesovo**	**23.61**	**2**	P	**P**	**07 07 51.0**	**+0.7**
	comp=Z,3.3nm,0.6s,mb4.0,baz=287,slow=12,SNR=8.1						
ZAL	**Zalesovo**	**23.61**	**2**	P	**P**	**07 07 51.0**	**+0.6**
BVAR	**Borovoye Array**	**24.66**	**341**	P	**P**	**07 08 00.3**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.5,baz=151,slow=10,SNR=8.7						
SONM	**Songino Array**	**24.71**	**39**	P	**P**	**07 08 02.2**	**+1.1**
	comp=Z,2.1nm,0.7s,mb3.8,baz=231,slow=7.9,SNR=6.6						
ZAK	**Zakamensk**	**24.87**	**31**	*e*P	**P**	**07 08 04.2**	**+1.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.7						
ULN	**Ulaanbaatar**	**25.08**	**39**	*e*P	**P**	**07 08 06.7**	**+2.0**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**25.08**	**39**	*e*P	**P**	**07 08 06.7**	**+2.1**
	comp=Z,7.6nm,0.9s,mb4.2						
CN2	**Changchun**	**35.60**	**56**	*e*P	**P**	**07 09 40.0**	**+1.7**
BRTR	**Keskin Array B**	**41.54**	**297**	P	**P**	**07 10 29.0**	**+1.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**41.54**	**297**	P	**P**	**07 10 28.9**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.4,baz=141,slow=7.9,SNR=4.4						
TIXI	**Tiksi**	**47.98**	**18**	*i*P	**P**	**07 11 17.7**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
FINES	**FINESS Array B**	**48.43**	**327**	P	**P**	**07 11 20.7**	**-2.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**48.43**	**327**	P	**P**	**07 11 20.6**	**-2.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=117,slow=8.5,SNR=8.3						
ARCES	**ARCESS Array B**	**50.88**	**337**	P	**P**	**07 11 40.1**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARCES	**ARCESS Array B**	**50.88**	**337**	P	**P**	**07 11 40.1**	**-1.3**
	comp=Z,1.8nm,0.6s,mb4.2,baz=98,slow=8.6,SNR=10						
MA2	**Magadan**	**52.88**	**36**	*i*P	**P**	**07 11 56.0**	**-0.6**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
KMBO	**Kilima Mbogo**	**54.09**	**243**	P	**P**	**07 12 06.2**	**+0.1**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KMBO	**Kilima Mbogo**	**54.09**	**243**	P	**P**	**07 12 06.2**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.8,baz=207,slow=24,SNR=3.1						
NOA	**NORSAR Array B**	**55.53**	**326**	P	**P**	**07 12 14.6**	**-1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**55.53**	**326**	P	**P**	**07 12 14.6**	**-1.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=81,slow=7.3,SNR=2.8						
BILL	**Bilibino**	**59.52**	**26**	*i*P	**P**	**07 12 41.8**	**-2.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
BILL	**Bilibino**	**59.52**	**26**	P	**P**	**07 12 43.8**	**-0.3**
	comp=Z,1.1nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**69.83**	**129**	P	**P**	**07 13 51.2**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**69.83**	**129**	P	**P**	**07 13 51.2**	**-0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=324,slow=6.4,SNR=27						
WRAB	**Tennant Creek**	**69.83**	**129**	*e*P	**P**	**07 13 51.5**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**69.83**	**129**	*e*P	**P**	**07 13 51.5**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**72.17**	**132**	P	**P**	**07 14 04.1**	**-1.7**
	comp=Z,0.4nm,0.6s,mb3.6,baz=322,slow=5.8,SNR=8.4						
IMA	**Indian Mountai**	**74.44**	**21**	P	**P**	**07 14 20.2**	**+2.0**
IMA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
IMA	**Indian Mountai**	**74.44**	**21**	P	**P**	**07 14 20.2**	**+2.0**
	comp=Z,8.5nm,1.0s,mb4.6						
ILAR	**Eielson Array**	**77.39**	**20**	P	**P**	**07 14 34.2**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**77.39**	**20**	P	**P**	**07 14 34.1**	**-0.8**
	comp=Z,1.1nm,0.8s,mb3.9,baz=301,slow=4.2,SNR=11						
DBIC	**Dimbokro**	**85.38**	**275**	P	**P**	**07 15 15.7**	**-2.3**
DBIC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
DBIC	**Dimbokro**	**85.38**	**275**	P	**P**	**07 15 15.7**	**-2.3**
	comp=Z,8.1nm,1.1s,mb4.8,baz=183,slow=5.3,SNR=3.0						
YKA	**Yellowknife Ar**	**86.35**	**8**	P	**P**	**07 15 20.7**	**-1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**86.35**	**8**	P	**P**	**07 15 20.7**	**-1.0**
	comp=Z,1.2nm,0.6s,mb4.3,baz=338,slow=5.1,SNR=31						
YKA	**Yellowknife Ar**	**86.35**	**8**	P	**P**	**07 15 20.7**	**-1.0**

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*JMA **08** 07:07:41.8±0.5, 34.03N×141.57E, h27km, M3.0*
*IDC **08** 07:07:42.2±2.4, 34.01N×141.39E, mb3.6/2, mb1 3.8/4, mb1mx3.5/24, mbtmp3.7/4, ML3.9/2, Error ellipse: s-maj=37.3km s-min=30.3km az=42.0*
ISC 08 07:07:43.2±1.3,**34.06N**±0.06×**141.5E**±0.1,**h29**km±10km,
n10,σ0º86/16,mb3.6/2,Off east of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.72**	**326**	P	**Pb**	**07 07 56.4**	**-0.8**
BSO1				*e*S	**Sb**	**07 08 07.8**	**+1.0**
BSO3	**Boso 3**	**1.09**	**313**	P	**Pn**	**07 08 02.5**	**-0.2**
BSO3				*e*S	**Sn**	**07 08 17.2**	**+0.3**
BSO4	**Boso 4**	**1.32**	**315**	P	**Pn**	**07 08 06.3**	**+0.3**
BSO4				*e*S	**Sn**	**07 08 23.9**	**+1.1**
JHJ	**Hachijo jima 2**	**1.69**	**237**	Pn	**Pn**	**07 08 12.2**	**+0.8**
	53nm,0.3s,baz=61,slow=19,SNR=3.3						
JHJ				Sn	**Sn**	**07 08 32.8**	**+0.5**
	101nm,0.3s,baz=76,slow=21,SNR=5.1						
KTJJ	**Kamata 2**	**2.17**	**294**	P	**Pn**	**07 08 17.5**	**-0.7**
KTJJ				*e*S	**Sn**	**07 08 42.3**	**-2.1**
JOD2	**Odawara 2**	**2.31**	**302**	P	**Pn**	**07 08 19.5**	**-0.6**
MJAR	**Matsushiro Arr**	**3.64**	**314**	Pn	**Pn**	**07 08 39.2**	**0.0**
	1.4nm,0.3s,baz=153,slow=12,SNR=4.3						
CBIJ	**Chichi jima**	**6.96**	**175**	Pn	**Pn**	**07 09 25.6**	**-0.5**
	17nm,0.3s,baz=291,slow=22,SNR=16						
CBIJ				Sn	**Sn**	**07 10 38.6**	**-6.5**
	2.6nm,0.3s,baz=82,slow=24,SNR=2.4						
WRA	**Warramunga Arr**	**54.12**	**188**	P	**P**	**07 17 07.3**	**-0.7**
	0.5nm,0.3s,mb3.9,baz=2.5,slow=7.5,SNR=5.9						
ASAR	**Alice Springs**	**57.85**	**188**	P	**P**	**07 17 36.2**	**+1.4**
	0.2nm,0.6s,mb3.3,baz=8.0,slow=7.3,SNR=4.2						

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*NEIC **08** 07:08:07.3±1.1, 17.18S×179.15W, h484km±16km, mb3.8/2, Error ellipse: s-maj=64.8km s-min=9.7km az=153.0*
*IDC **08** 07:08:11.8±3.2, 17.40S×179.15W, h538km±41km, mb3.2/7, mb1 3.5/7, mb1mx3.4/15, mbtmp4.1/7, Error ellipse: s-maj=78.2km s-min=13.0km az=153.0*
ISC 08 07:08:06.1±1.7,**17.2S**±0.6×**179.2W**±0.3,**h481**km±25km,
n11,σ0º53/11,mb3.6/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.86**	**66**	P	**P**	**07 10 01.5**	**-0.4**
	2.1nm,0.3s,baz=270,slow=19,SNR=3.5						
STKA	**Stephens Creek**	**38.32**	**240**	P	**P**	**07 14 45.8**	**0.0**
	3.6nm,0.6s,mb4.0,baz=93,slow=8.7,SNR=16						
WRAB	**Tennant Creek**	**44.02**	**259**	*e*P	**P**	**07 15 31.6**	**-0.1**
	0.9nm,0.3s,mb3.7						
WRA	**Warramunga Arr**	**44.02**	**259**	P	**P**	**07 15 32.1**	**+0.3**
	0.8nm,0.6s,mb3.4,baz=97,slow=7.2,SNR=18						
ASAR	**Alice Springs**	**44.26**	**254**	P	**P**	**07 15 33.9**	**+0.3**
	7.8nm,0.5s,mb4.4,baz=89,slow=8.2,SNR=147						
ASAR				S	**S**	**07 21 28.9**	**-2.9**
	0.9nm,0.9s,baz=82,slow=18,SNR=4.4						
ASPA	**Alice Springs**	**44.27**	**254**	*e*P	**P**	**07 15 33.8**	**+0.2**
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	**07 19 23.6**	**+0.6**
	0.3nm,0.4s,mb3.2,baz=234,slow=7.8,SNR=3.5						
ILAR	**Eielson Array**	**85.37**	**13**	P	**P**	**07 19 52.1**	**-0.1**
	0.3nm,0.4s,mb3.3,baz=224,slow=5.2,SNR=10						
TXAR	**Lajitas Array**	**86.25**	**58**	P	**P**	**07 19 57.4**	**+0.1**
	1.0nm,0.8s,mb3.5,baz=221,slow=6.2,SNR=11						
PDAR	**Pinedale Array**	**87.36**	**44**	P	**P**	**07 20 01.9**	**-0.4**
	0.6nm,0.6s,mb3.5,baz=238,slow=3.1,SNR=4.6						
GERES	**GERESS Array B**	**146.73**	**344**	PKPbc	PKPbc	07 26 53.8	+1.4
	0.5nm,0.3s,slow=2.7,SNR=6.0						

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*BJI **08** 07:24:39.0, 2.09S×100.48E, h48km, mb4.4*
*NEIC **08** 07:24:41.8±0.5, 1.59S×99.51E, h30km, mb4.5/5, Error ellipse: s-maj=17.7km s-min=8.2km az=61.0*
*IDC **08** 07:24:44.2±4.1, 1.51S×99.57E, h51km±34km, mb4.0/8, mb1 4.1/9, mb1mx3.9/18, mbtmp4.2/9, ML4.5/1, Error ellipse: s-maj=66.0km s-min=14.1km az=53.0*
ISC 08 07:24:41.3±2.9,**1.5S**±0.1×**99.6E**±0.1,**h40**km±23km,**n23,**
σ0º92/22,mb4.3/14,2C,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.83**	**9**	*e*Pn	**P**	**07 26 22.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.84**	**358**	P	**P**	**07 29 11.0**	**-0.7**
	0.5nm,0.3s,baz=190,slow=9.7,SNR=16						
CHG	**Chiang Mai**	**20.19**	**358**	P	**P**	**07 29 19.5**	**+4.0**
NANT	**Nan**	**20.20**	**3**	P	**P**	**07 29 14.5**	**-1.1**
XAN	**Xi'an**	**36.43**	**13**	P	**P**	**07 31 42.9**	**-1.3**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
WRA	**Warramunga Arr**	**38.61**	**121**	P	**P**	**07 32 02.5**	**-0.1**
	comp=Z,8.7nm,1.0s,mb4.4,baz=301,slow=9.6,SNR=30						
WRAB	**Tennant Creek**	**38.62**	**121**	*e*P	**P**	**07 32 02.2**	**-0.5**
	comp=Z,10nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**38.62**	**121**	⇑*i*P	**P**	**07 32 02.3**	**-0.4**
ASAR	**Alice Springs**	**39.89**	**126**	P	**P**	**07 32 13.3**	**+0.2**
	comp=Z,2.7nm,0.9s,mb4.0,baz=296,slow=7.7,SNR=19						
ASAR				S	**S**	**07 38 15.3**	**+0.2**
	comp=Z,1.4nm,1.0s,baz=298,slow=14,SNR=5.7						
GTA	**Gaotai**	**40.71**	**0**	P	**P**	**07 32 21.5**	**+1.7**
GTA				AP	pP	07 32 30.3	-0.8
GTA				XP	sP	07 32 34.7	-1.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.0						
BJT	**Baijiatuau**	**44.02**	**18**	P	**P**	**07 32 47.9**	**+1.0**
	comp=Z,2.8nm,0.4s,mb4.3						
WMQ	**Urumqi**	**46.36**	**348**	P	**P**	**07 33 06.0**	**+0.5**
WMQ				AP	pP	07 33 16.0	-0.8
SONM	**Songino Array**	**49.49**	**6**	P	**P**	**07 33 30.2**	**+0.4**
	comp=Z,1.4nm,0.5s,mb4.3,baz=190,slow=7.5,SNR=6.9						
STKA	**Stephens Creek**	**49.80**	**132**	⇑*i*P	**P**	**07 33 33.2**	**+0.8**
	comp=Z,4.1nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**49.80**	**132**	P	**P**	**07 33 32.3**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.5,baz=311,slow=9.3,SNR=7.2						
MKAR	**Makanchi Array**	**50.44**	**345**	P	**P**	**07 33 36.8**	**-0.3**
	comp=Z,2.0nm,0.8s,mb4.2,baz=154,slow=8.3,SNR=20						
KURK	**Kurchatov**	**55.01**	**344**	*e*P	**P**	**07 34 10.2**	**-0.9**
	comp=Z,10.0nm,1.3s,mb4.7						
BVAR	**Borovoye Array**	**59.57**	**340**	P	**P**	**07 34 41.5**	**-1.8**
	comp=Z,1.2nm,0.6s,mb4.1,baz=136,slow=8.2,SNR=11						
KMBO	**Kilima Mbogo**	**62.31**	**270**	*e*P	**P**	**07 35 02.5**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.2						
FINES	**FINESS Array B**	**83.47**	**332**	P	**P**	**07 37 06.2**	**+0.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=90,slow=5.7,SNR=6.5						
ARCES	**ARCESS Array B**	**85.86**	**340**	P	**P**	**07 37 19.5**	**+1.8**
	comp=Z,6.4nm,1.0s,mb4.8,baz=18,slow=3.8,SNR=3.7						
TXAR	**Lajitas Array**	**144.56**	**36**	PKP	PKPdf	07 44 16.2	+1.9
	comp=Z,1.9nm,0.5s,baz=268,slow=1.2,SNR=40						
TXAR	**Lajitas Array**	**144.56**	**36**	PKP	PKPdf	07 44 16.2	+1.9

IDC 08 07:41:26.1±5.0,**29.80N**×**82.84E,mb3.5/1,mb1 4.0/3,**
mb1mx3.5/22,mbtmp3.7/3,ML4.0/2,Error ellipse:
s-maj=173.2km s-min=43.7km az=66.0,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**2.29**	**262**	*e*P	Pn	07 42 29.3	+24
MKAR	**Makanchi Array**	**16.97**	**359**	Pn	P	07 45 23.4	-3.1
	0.1nm,0.3s,baz=175,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**18.51**	**124**	P	P	07 45 45.0	-0.8
	0.7nm,0.3s,baz=318,slow=11,SNR=4.4						
LUBP	**Lubang**	**38.03**	**107**	*e*P	P	07 49 03.2	+15
WRA	**Warramunga Arr**	**70.03**	**128**	P	P	07 52 39.6	-2.4
	0.3nm,0.6s,baz=324,slow=6.4,SNR=5.8						

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*IDC **08** 08:03:15.5±2.0, 1.22N×97.15E, mb4.3/8, mb1 4.4/9, mb1mx4.1/21, mbtmp4.3/9, ML4.5/1, Error ellipse: s-maj=86.9km s-min=16.3km az=59.0*
*BJI **08** 08:03:17.7, 1.02N×97.29E, h40km, mB5.4, mb4.8, Ms4.9, Msz4.2*
*MOS **08** 08:03:18.9±0.7, 1.32N×97.24E, h33km, mb4.8/7, Error ellipse: s-maj=37.8km s-min=14.4km az=97.5*
*NEIC **08** 08:03:20.0±0.6, 1.24N×97.19E, h30km, mb4.6/11, Error ellipse: s-maj=17.3km s-min=8.5km az=57.0*
ISC 08 08:03:17.9±6.3,**1.3N**±0.1×**97.3E**±0.2,**h26**km±42km,**n36,**
σ0º80/35,mb4.5/23,MS4.2/2,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.22**	**40**	*e*Pn	**Pn**	**08 04 37.6**	**+1.2**
SNG	**Songkhla**	**6.74**	**30**	P	**Pn**	**08 04 57.0**	**-0.8**
	138nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.14**	**5**	P	**P**	**08 07 16.4**	**-1.1**
	0.6nm,0.3s,baz=192,slow=13,SNR=8.9						
NANT	**Nan**	**17.73**	**11**	⇑P	**P**	**08 07 19.0**	**-5.8**
	88nm,0.9s						
KMI	**Kunming**	**24.28**	**12**	P	**P**	**08 08 37.1**	**+2.7**
KMI				AP		08 08 43.4	
KMI				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
KMI				LR	LR		
	comp=Z,264nm,17.5s,MS3.8						
KMI	**Kunming**	**24.28**	**12**	P	**P**	**08 08 37.1**	**+2.7**
	comp=Z,20nm,1.1s,mb4.5						
KMI				pP		08 08 43.4	
KMI				LR	LR		
	comp=Z,260nm,17.5s,MS3.8						
SHL	**Shillong**	**24.68**	**348**	*e*P	**P**	**08 08 38.0**	**-0.3**
GYA	**Guiyang**	**26.61**	**19**	P	**P**	**08 08 56.6**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**28.28**	**339**	*e*P	**P**	**08 09 12.1**	**+0.7**
	comp=Z,42nm,1.0s,mb5.0						
PKI	**Pulchoki**	**28.49**	**338**	*e*P	**P**	**08 09 13.5**	**+0.2**
	comp=Z,11nm,0.6s,mb4.7						
PKI	**Pulchoki**	**28.49**	**338**	*e*P	**P**	**08 09 13.5**	**+0.2**
PKI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
GUN	**Gumba**	**28.62**	**339**	*e*P	**P**	**08 09 14.9**	**+0.4**
	comp=Z,32nm,0.7s,mb5.1						
DMN	**Daman**	**28.64**	**337**	*e*P	**P**	**08 09 14.8**	**+0.1**
KKN	**Kakani**	**28.73**	**338**	*e*P	**P**	**08 09 15.5**	**0.0**
	comp=Z,20nm,0.7s,mb4.9						
KKN	**Kakani**	**28.73**	**338**	*e*P	**P**	**08 09 15.5**	**0.0**
K

ASAR Alice Springs 35.71 61 P **P 08 10 22.4 -0.7**
4.3nm,0.9s,mb4.4,baz=219,slow=6.9,SNR=16
ASAR PcP PcP 08 12 50.0 -1.6
1.1nm,0.9s,baz=213,slow=1.8,SNR=5.1
FITZ Fitzroy Crossi 35.76 44 P **P 08 10 22.9 -0.6**
2.6nm,0.7s,mb4.3,baz=335,slow=16,SNR=2.1
FITZ LR LR 08 23 53.4
comp=Z,247nm,18.5s,MS4.0,baz=151,slow=35
WRA Warramunga Arr 38.84 57 P **P 08 10 48.8 -0.7**
6.6nm,1.0s,mb4.3,baz=216,slow=7.9,SNR=7.1
WRA PcP PcP 08 12 59.2 -1.9
0.9nm,1.1s,baz=223,slow=2.7,SNR=3.7
WRAB Tennant Creek 38.86 57 *e*P **P 08 10 52.2 +2.6**
4.7nm,0.8s,mb4.3
QSPA South Pole Qui 42.94 180 *e*P **P 08 11 22.4 0.0**
10nm,1.1s,mb4.5
CTA Charters Tower 46.02 70 P **P 08 11 48.3 +0.4**
8.1nm,1.0s,mb4.6,baz=270,slow=6.1,SNR=2.8
CTAO Charters Tower 46.02 70 P **P 08 11 48.4 +0.5**
16nm,1.2s,mb4.8
CMAR Chiang Mai Arr 65.36 359 P **P 08 14 07.2 0.0**
1.1nm,0.3s,mb4.3,baz=196,slow=6.6,SNR=5.1
CMAR LR LR 08 39 09.2
comp=Z,171nm,18.1s,MS4.3,baz=25,slow=33
INK Inuvik 146.00 32 PKPbc PKPbc 08 23 01.7 +0.4
4.0nm,1.2s,baz=348,slow=1.2,SNR=12
DLBC Dease Lake 148.39 50 PKPbc PKPdf 08 23 09.8 +2.3
3.6nm,1.1s,baz=150,slow=7.0,SNR=5.1
DLBC Dease Lake 148.39 50 PKPbc PKPdf 08 23 09.8 +2.3
YBH Yreka Blue Hor 149.20 84 PKPbc PKPdf 08 23 16.0 +6.6
4.5nm,0.9s,baz=176,slow=3.6,SNR=5.3
NVAR Mina Array Bea 150.69 93 PKPbc PKPdf 08 23 16.9 +5.1
6.4nm,0.9s,baz=197,slow=4.4,SNR=16
TXAR Lajitas Array 154.30 125 PKPbc PKPdf 08 23 29.2 +12
0.8nm,1.0s,baz=191,slow=6.4,SNR=4.0
TXAR PKPab PKPab 08 23 41.9 +2.9
0.8nm,0.9s,baz=211,slow=7.3,SNR=4.6
YKA Yellowknife Ar 155.21 39 PKP PKPdf 08 23 18.3 +1.0
0.3nm,0.9s,baz=309,slow=1.5,SNR=4.1
YKA PKPbc PKPdf 08 23 29.2 +12
0.8nm,0.9s,baz=299,slow=2.1,SNR=9.8
YKA PKPab PKPab 08 23 45.5 +3.8
1.3nm,1.0s,baz=305,slow=4.4,SNR=12
YKA Yellowknife Ar 155.21 39 PKP PKPdf 08 23 18.3 +1.0
YKA PKPbc PKPdf 08 23 29.2 +12
YKA PKPab PKPab 08 23 45.5 +3.8

*IDC **08** 08:23:12.7±1.5,2.90N×126.59E,mb4.2/5,mb1 4.4/5, mb1mx4.0/18,mbtmp4.2/5,Error ellipse: s-maj=98.8km s-min=20.7km az=67.0*
*NEIC **08** 08:23:21.6±0.7,2.87N×126.72E,h75km,mb4.1/5,Error ellipse: s-maj=36.8km s-min=10.1km az=69.0*
ISC 08 08:23:19.7±1.1,2.9N±0.2×126.6E±0.3,h75km,n12, σ0§33/12,mb4.1/7,2D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.89**	**183**	*e*P	**P**	**08 27 57.8**	**-0.2**
	6.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.89**	**183**	P	**P**	**08 27 57.6**	**-0.4**
	5.1nm,0.4s,baz=34,slow=9.7,SNR=21						
WRAB	**Tennant Creek**	**23.93**	**162**	*e*P	**P**	**08 28 27.8**	**0.0**
	9.9nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**23.93**	**162**	P	**P**	**08 28 28.3**	**+0.5**
	3.3nm,0.3s,mb4.1,baz=339,slow=10,SNR=123						
WB2	**Warramunga Arr**	**23.94**	**162**	⇓*i*P	**P**	**08 28 28.0**	**+0.1**
MBWA	**Marble Bar**	**24.85**	**195**	P	**P**	**08 28 37.1**	**+0.3**
	2.3nm,0.5s,mb3.9						
ASAR	**Alice Springs**	**27.34**	**165**	P	**P**	**08 28 59.5**	**-0.4**
	1.5nm,0.5s,mb3.8,baz=350,slow=7.5,SNR=34						
ASPA	**Alice Springs**	**27.34**	**165**	*e*P	**P**	**08 28 59.3**	**-0.6**
STKA	**Stephens Creek**	**37.40**	**159**	⇓*i*P	**P**	**08 30 27.5**	**+0.3**
	3.9nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**37.40**	**159**	P	**P**	**08 30 27.6**	**+0.4**
	1.7nm,0.4s,mb4.4,baz=340,slow=9.9,SNR=17						
MKAR	**Makanchi Array**	**58.17**	**326**	P	**P**	**08 33 08.2**	**0.0**
	0.6nm,0.4s,mb4.0,baz=119,slow=8.1,SNR=16						
KURK	**Kurchatov**	**62.38**	**328**	*e*P	**P**	**08 33 36.8**	**-0.1**
	0.8nm,0.5s,mb4.0						

*JMA **08** 08:26:48.0±0.2,24.10N×122.48E,h31km,M2.7*
TAP 08 08:26:47.8,24.03N×122.38E,h6km±1km,ML3.3,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.72**	**53**	P	Pg	08 26 59.9	-2.3
YOJ				S	Sg	08 27 08.3	-3.5
IRIF	**Iriomote-Funau**	**1.27**	**76**	P	Pb	08 27 08.5	-3.3
IRIF				*e*S	Sb	08 27 24.1	-4.2
HATJ	**Hateruma jima**	**1.30**	**89**	*e*S	Sb	08 27 24.3	-4.9
JKRS	**Kuro-shima**	**1.50**	**82**	P	Pn	08 27 12.1	-3.4
JKRS				*e*S	Sb	08 27 30.8	-4.2
JIJ	**Ishigaki jima**	**1.64**	**78**	P	Pn	08 27 13.4	-4.1
JIJ				*e*S	Sb	08 27 33.2	-5.9

IDC 08 08:42:43.0±3.5,1.83N×96.49E,mb3.7/2,mb1 4.0/3, mb1mx3.6/20,mbtmp3.7/3,ML4.0/1,Error ellipse: s-maj=133.2km s-min=29.3km az=59.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.70**	**8**	Pn	P	08 46 39.1	-1.0
	0.2nm,0.3s,baz=197,slow=11,SNR=8.7						
WRA	**Warramunga Arr**	**42.97**	**122**	P	P	08 50 44.2	-1.7
	0.7nm,0.6s,baz=300,slow=9.3,SNR=10						
MKAR	**Makanchi Array**	**46.46**	**347**	P	P	08 51 11.5	-2.0
	1.5nm,0.7s,baz=143,slow=6.1,SNR=9.2						

*NEIC **08** 08:43:15.8±0.7,29.87N×82.71E,h10km,mb4.1/3,Error ellipse: s-maj=24.6km s-min=10.4km az=79.0*
*NDI **08** 08:43:17.7±4.6,30.22N×84.25E,h10km,ML3.8, mb4.1(NEIC)*
*IDC **08** 08:43:25.9±11.0,30.34N×83.78E,h64km±76km,mb3.5/6, mb1 3.8/8,mb1mx3.5/24,mbtmp3.8/8,ML4.1/2,MS3.8/1, Ms1 4.0/1,ms1mx3.4/23,Error ellipse: s-maj=211.3km s-min=20.1km az=67.0*
ISC 08 08:43:17.8±0.5,30.28N±0.06×83.76E±0.05,h10km,n28, σ1§21/37,mb3.7/8,1C,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.17**	**258**	*e*P	**Pn**	**08 44 14.3**	**+5.6**
PTH				*e*S	**Sn**	**08 44 56.3**	**+9.4**
LGTI	**Lohaghat**	**3.17**	**256**	*e*P	**Pn**	**08 44 15.2**	**+6.5**
LGTI				*e*		08 45 06.0	
JOSI	**Joshimath**	**3.64**	**275**	*e*	**Pn**	**08 44 06.5**	**-9.0**
JOSI				*e*		08 44 56.3	
JOSI				AML	AML	08 45 11.3	
	comp=E,295nm,0.7s						
JOSI				AML	AML	08 45 15.2	
	comp=N,379nm,0.8s						
KALG	**Kalgarh**	**4.42**	**261**	*e*	**Pn**	**08 44 23.1**	**-3.4**
KALG				*i* S	**Sn**	**08 45 24.6**	**+5.9**
KALG				*e*		08 45 30.9	
	comp=E,316nm,0.5s						
DDI	**Dehra Dun**	**4.94**	**272**	*e*	**Pn**	**08 44 35.8**	**+1.9**
ALBI	**Allahabad**	**5.25**	**200**	*e*	**Pg**	**08 45 00.0**	**-2.6**
SMLA	**Simla**	**5.75**	**280**	⇑*i*	**Pn**	**08 44 43.0**	**-2.3**
SMLA				*i*		08 45 50.9	
NDI	**New Delhi**	**5.92**	**256**	*e*	**Pn**	**08 44 47.0**	**-0.8**
NDI				*e*PB	**Pb**	**08 45 08.5**	**+7.4**
NDI				*e*SB	**Sb**	**08 46 28.0**	**+15**
AGRA	**Agra**	**5.94**	**241**	*i* P	**Pn**	**08 44 49.8**	**+1.7**
AGRA				*e*S	**Sn**	**08 45 57.0**	**0.0**
AGRA				AML	AML	08 46 42.6	
	comp=N,78nm,0.4s						
AGRA				AML	AML	08 46 43.6	
	comp=E,77nm,0.4s						
AYAN	**Aya Nagar**	**6.06**	**254**	*e*P	**Pn**	**08 44 53.4**	**+3.6**
AYAN				*e*S	**Sn**	**08 45 59.9**	**-0.1**
BHGR	**Bahadurgarh**	**6.16**	**257**	*e*	**Pn**	**08 45 05.9**	**+15**
SONA	**Sohna**	**6.18**	**253**	*e*P	**Pn**	**08 44 52.4**	**+1.0**
SONA				*e*S	**Sn**	**08 46 03.1**	**+0.3**
BOK	**Bokaro**	**6.73**	**163**	*e*	**Pn**	**08 44 59.8**	**+0.6**
BOK				*e*S	**Sn**	**08 46 04.9**	**-12**
KHET	**Khetri**	**7.30**	**254**	*i* P	**Pn**	**08 45 07.1**	**0.0**
KHET				*e*S	**Sn**	**08 46 29.9**	**-1.0**
BHPL	**Bhopal**	**9.01**	**220**	*e*	**P**	**08 45 32.1**	**+1.1**
BHPL				*e*		08 47 05.8	
POO	**Poona**	**14.77**	**220**	*e*	**S**	**08 49 26.0**	**-7.3**
MKAR	**Makanchi Array**	**16.53**	**356**	P	**P**	**08 47 12.4**	**+1.1**
	comp=E,0.1nm,0.3s,baz=181,slow=12,SNR=13						
CMAR	**Chiang Mai Arr**	**18.13**	**127**	P	**P**	**08 47 32.6**	**+1.1**
	comp=E,0.8nm,0.3s,baz=310,slow=12,SNR=9.4						
CMAR				LR	LR	08 56 08.3	
	comp=E,281nm,20.8s,baz=10.0,slow=42						
KURK	**Kurchatov**	**20.77**	**351**	*e*P	**P**	**08 47 58.3**	**-3.1**
	comp=E,7.7nm,0.8s						
ZAL	**Zalesovo**	**23.65**	**2**	P	**P**	**08 48 31.6**	**+1.6**
	comp=E,1.3nm,0.7s,mb3.4,baz=284,slow=9.0,SNR=5.6						
CHKZ	**Chkalovo**	**25.26**	**342**	*e*P	**P**	**08 48 44.9**	**-0.5**
	comp=E,1.6nm,0.9s,mb3.5						
WRA	**Warramunga Arr**	**69.71**	**129**	P	**P**	**08 54 30.0**	**-0.2**
	comp=E,0.7nm,0.5s,mb3.8,baz=324,slow=6.4,SNR=20						
WRAB	**Tennant Creek**	**69.71**	**129**	*e*P	**P**	**08 54 30.0**	**-0.2**
	comp=E,1.9nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**72.06**	**132**	P	**P**	**08 54 43.3**	**-1.0**
	comp=E,0.4nm,0.6s,mb3.5,baz=326,slow=6.1,SNR=6.3						
ILAR	**Eielson Array**	**77.40**	**20**	P	**P**	**08 55 13.6**	**-0.6**
	comp=E,0.4nm,0.9s,mb3.4,baz=315,slow=6.4,SNR=4.5						
INK	**Inuvik**	**77.89**	**13**	P	**P**	**08 55 16.0**	**-0.8**
	comp=E,1.2nm,1.0s,mb3.8,baz=327,slow=3.4,SNR=4.4						
YKA	**Yellowknife Ar**	**86.38**	**8**	P	**P**	**08 56 00.1**	**-0.9**
	comp=E,0.6nm,0.6s,mb4.0,baz=338,slow=5.2,SNR=14						
YKA	**Yellowknife Ar**	**86.38**	**8**	P	**P**	**08 56 00.1**	**-0.9**

*BJI **08** 08:56:50.6,2.67N×95.51E,h25km,mB5.6,mb5.0,Ms4.6, Msz4.3*
*MOS **08** 08:56:52.2±1.1,2.67N×95.35E,h33km,mb5.1/14,Error ellipse: s-maj=18.7km s-min=8.9km az=97.0*
*IDC **08** 08:56:53.4±0.6,2.74N×95.40E,h24km±3km,mb4.3/17, mb1 4.4/18,mb1mx4.2/27,mbtmp4.4/18,ML4.5/1,Error ellipse: s-maj=22.3km s-min=11.3km az=50.0*
*NEIC **08** 08:56:53.2±0.4,2.71N×95.40E,mb4.8/18,Error ellipse: s-maj=9.6km s-min=6.1km az=225.0*
ISC 08 08:56:51.5±0.5,2.73N±0.06×95.47E±0.06,h25km, h25km±.9km:pP-P,n87,σ1§04/89,mb4.7/48,MS4.4/4,5C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.76**	**64**	*e*Pn	**Pn**	**08 58 18.3**	**+0.5**
SNG	**Songkhla**	**6.76**	**49**	P	**Pn**	**08 58 32.0**	**0.0**
	142nm,0.9s						
KSM	**Kuching**	**14.88**	**95**	Pn	**P**	**09 00 24.7**	**+2.3**
CM31	**Chiang Mai Arr**	**15.99**	**12**	P	**P**	**09 00 37.5**	**+0.7**
	33nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.99**	**12**	Pn	**P**	**09 00 39.0**	**+2.1**
	0.7nm,0.3s,baz=200,slow=11,SNR=88						
CHG	**Chiang Mai**	**16.34**	**12**	⇑P	**P**	**09 00 42.8**	**+1.6**
	22nm,0.8s						
NANT	**Nan**	**16.77**	**17**	⇑P	**P**	**09 00 45.0**	**-1.6**
	102nm,0.8s						
KKM	**Kota Kinabalu**	**20.94**	**80**	*e*P	**P**	**09 01 35.9**	**+0.6**
SHL	**Shillong**	**22.96**	**352**	*e*P	**P**	**09 01 51.5**	**-4.0**
GYA	**Guiyang**	**25.92**	**23**	⇑*i*P	**P**	**09 02 23.5**	**-0.3**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
JIRN	**Jiri**	**26.33**	**341**	*e*P	**P**	**09 02 28.0**	**+0.5**
	comp=Z,69nm,0.8s,mb5.2						
PKI	**Pulchoki**	**26.50**	**340**	*e*P	**P**	**09 02 30.0**	**+0.8**
	comp=Z,39nm,1.1s,mb4.9						
PKI	**Pulchoki**	**26.50**	**340**	*e*P	**P**	**09 02 30.0**	**+0.8**
PKI				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.6						
DMN	**Daman**	**26.65**	**339**	*e*P	**P**	**09 02 31.3**	**+0.8**
	comp=Z,23nm,0.7s,mb4.8						
GUN	**Gumba**	**26.66**	**341**	*e*P	**P**	**09 02 31.0**	**+0.4**
	comp=Z,50nm,0.7s,mb5.2						
KKN	**Kakani**	**26.75**	**340**	*e*P	**P**	**09 02 31.4**	**0.0**
	comp=Z,40nm,0.8s,mb5.0						
KKN	**Kakani**	**26.75**	**340**	*e*P	**P**	**09 02 31.4**	**0.0**
KKN				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.7						
GKN	**Gorkha**	**27.17**	**339**	*e*P	**P**	**09 02 35.3**	**0.0**
	comp=Z,61nm,0.9s,mb5.1						
KOLN	**Koldanda**	**27.36**	**337**	*e*P	**P**	**09 02 36.7**	**-0.3**
	comp=Z,41nm,0.9s,mb5.0						
ENH	**Enshi**	**30.44**	**24**	*e*P	**P**	**09 03 02.4**	**-2.2**
	comp=Z,12nm,0.8s,mb4.7						
WHN	**Wuhan**	**32.93**	**31**	*e*P	**P**	**09 03 26.3**	**-0.1**
XAN	**Xi'an**	**33.58**	**20**	P	**P**	**09 03 30.2**	**-1.9**
XAN				AP	pP	09 03 36.4	-3.0
XAN				AMB	AMB		
	comp=Z,25nm,0.9s,mb5.1						
LZH	**Lanzhou**	**34.08**	**12**	P	**P**	**09 03 35.0**	**-1.4**
LZH				AP	pP	09 03 42.0	-1.7
LZH				XP	sP	09 03 45.0	-1.8
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
LZH	**Lanzhou**	**34.08**	**12**	P	**P**	**09 03 35.0**	**-1.4**
LZH				*SP	sP	09 03 45.0	-1.8
LZH				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
LZH	**Lanzhou**	**34.08**	**12**	P	**P**	**09 03 35.0**	**-1.4**
	comp=Z,40nm,1.0s,mb5.3						
LZH				pP	pP	09 03 42.0	-1.7
LZH				sP	sP	09 03 45.0	-1.8
FITZ	**Fitzroy Crossi**	**36.22**	**126**	P	**P**	**09 03 54.6**	**-0.1**
	comp=Z,10.0nm,0.8s,mb4.8,baz=358,slow=4.3,SNR=9.6						
NJ2	**Nanjing**	**36.53**	**34**	*e*P	**P**	**09 03 57.0**	**-0.2**
NJ2				AP	pP	09 04 07.1	+2.5
NJ2				XP	sP	09 04 10.3	+2.6
NJ2				PP	PP	09 05 23.1	+1.4
NJ2				S	**S**	**09 09 36.0**	**-1.4**
NJ2				XS		09 09 52.0	
NJ2				AMB	AMB		
	comp=Z,230nm,0.9s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,520nm,5.5s						
NJ2				LR	LR		
	comp=N,2μm,15.9s,MS4.9						
NJ2				LR	LR		
	comp=E,500nm,16.8s,MS4.9						
NJ2				LR	LR		
	comp=Z,1μm,16.7s,MS4.8						
GTA	**Gaotai**	**36.72**	**6**	*e*P	**P**	**09 03 58.2**	**-0.6**
GTA				AP	pP	09 04 04.7	-1.4
GTA				XP	sP	09 04 07.9	-1.3
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
SSE	**Sheshan**	**37.22**	**38**	P	**P**	**09 04 01.4**	**-1.6**
SSE				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,410nm,11.3s						
SSE	**Sheshan**	**37.22**	**38**	P	**P**	**09 04 01.4**	**-1.6**
	comp=Z,13nm,0.7s,mb4.9						
JOW	**Kunigami**	**39.51**	**50**	P	**P**	**09 04 22.8**	**+0.5**
	comp=Z,13nm,0.7s,mb4.8,baz=250,slow=9.3,SNR=9.1						
HHC	**Hu-ho-hao-te**	**40.63**	**19**	⇑P	**P**	**09 04 32.5**	**+1.2**
HHC				XP	sP	09 04 42.8	+1.0
HHC				PP	PP	09 06 08.9	+0.6
HHC				PCP	PcP	09 06 36.1	+2.4
HHC				SCP		09 10 19.4	
HHC				PCS		09 10 24.3	
HHC				S	**S**	**09 10 42.5**	**+3.1**
HHC				XS		09 10 53.7	
HHC				SCS	ScS	09 14 33.4	+0.2
HHC				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,397nm,4.0s						
HHC				LR	LR		
	comp=N,498nm,15.7s,MS4.5						
HHC				LR	LR		
	comp=E,227nm,16.2s,MS4.5						
HHC				LR	LR		
	comp=Z,305nm,15.7s,MS4.3						
WMQ	**Urumqi**	**41.49**	**352**	P	**P**	**09 04 39.0**	**+0.6**
WMQ				AP	pP	09 04 49.0	+3.2
WMQ				XP	sP	09 04 53.0	+4.2
BJT	**Baijiatuau**	**41.59**	**24**	*e*P	**P**	**09 04 40.6**	**+1.3**
BJT				*e*PP	pP	09 04 47.6	+1.0
BJT				pmax	pmax		
	comp=Z,29nm,0.8s						
BJT	**Baijiatuau**	**41.59**	**24**	*e*P	**P**	**09 04 40.6**	**+1.3**
	comp=Z,29nm,0.8s,mb5.0						
BJT				*e*pP	pP	09 04 47.6	+0.9
BJI	**Beijing**	**41.61**	**24**	P	**P**	**09 04 40.7**	**+1.3**
BJI				AP	pP	09 04 47.1	+0.3
BJI				AMB	AMB		
	comp=Z,28nm,0.9s,mb4.9						
BJI	**Beijing**	**41.61**	**24**	P	**P**	**09 04 40.7**	**+1.3**
	comp=Z,28nm,0.9s,mb4.9						
BJI				pP	pP	09 04 47.1	+0.3
ULHL	**Ulahol**	**42.94**	**339**	P	**P**	**09 04 51.3**	**+1.0**
	SNR=6.7						
UCH	**Uchtor**	**43.57**	**337**	P	**P**	**09 04 56.6**	**+1.2**
	SNR=16						
KBK	**Karagaybulak**	**43.77**	**338**	P	**P**	**09 04 58.3**	**+1.2**
	SNR=5.7						
AML	**Almayashu**	**43.81**	**337**	P	**P**	**09 04 58.5**	**+1.1**
	SNR=15						
EKS2	**Erkin-Say**	**44.22**	**337**	P	**P**	**09 05 01.5**	**+0.8**
	SNR=11						
WRA	**Warramunga Arr**	**44.31**	**122**	P	**P**	**09 05 02.2**	**+0.5**
	comp=Z,4.0nm,0.7s,mb4.2,baz=299,slow=9.4,SNR=35						
WRAB	**Tennant Creek**	**44.31**	**122**	*i* P	**P**	**09 05 02.1**	**+0.3**
WRAB	**Tennant Creek**	**44.31**	**122**	*e*P	**P**	**09 05 01.8**	**0.0**
	comp=Z,9.6nm,0.9s,mb4.5						
WRAB				*e*pP	pP	09 05 08.8	-0.3
USP	**Ospenovka**	**44.47**	**338**	P	**P**	**09 05 03.3**	**+0.6**
	SNR=18						
MKAR	**Makanchi Array**	**45.36**	**347**	P	**P**	**09 05 09.6**	**-0.2**
	comp=Z,16nm,0.6s,mb5.0,baz=165,slow=7.8,SNR=174						
MKAR	**Makanchi Array**	**45.36**	**347**	P	**P**	**09 05 09.6**	**-0.2**
ASAR	**Alice Springs**	**45.69**	**127**	P	**P**	**09 05 13.2**	**+0.5**
	comp=Z,2.1nm,0.9s,mb4.1,baz=305,slow=7.5,SNR=15						
ASAR				pP	pP	09 05 20.5	+0.4
	comp=Z,1.4nm,0.6s,baz=298,slow=8.0,SNR=11						
ASAR				PcP	PcP	09 06 51.5	+0.5
	comp=Z,0.9nm,0.8s,baz=305,slow=2.4,SNR=5.2						
SONM	**Songino Array**	**45.91**	**10**	P	**P**	**09 05 13.9**	**-0.2**
	comp=Z,10nm,0.7s,mb4.8,baz=190,slow=9.0,SNR=44						
SONM				pP	pP	09 05 21.5	0.0
	comp=Z,5.0nm,0.7s,baz=193,slow=8.2,SNR=8.2						
SONM				PcP	PcP	09 06 51.3	-0.1
	comp=Z,2.8nm,0.7s,baz=200,slow=3.3,SNR=5.0						
ULN	**Ulaanbaatar**	**46.06**	**11**	*e*P	**P**	**09 05 14.5**	**-0.7**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
ULN	**Ulaanbaatar**	**46.06**	**11**	*e*P	**P**	**09 05 14.5**	**-0.7**
	comp=Z,9.7nm,1.1s,mb4.7						
ZAK	**Zakamensk**	**47.94**	**7**	⇑*i*P	**P**	**09 05 29.8**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
CN2	**Changchun**	**48.76**	**29**	*e*P	**P**	**09 05 36.5**	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
KURK	**Kurchatov**	**49.88**	**346**	*i* P	**P**	**09 05 40.4**	**-4.6**
ZAL	**Zalesovo**	**51.79**	**352**	P	**P**	**09 05 59.4**	**-0.1**
	comp=Z,16nm,0.6s,mb5.2,baz=305,slow=6.1,SNR=53						
ZAL				pP	pP	09 06 07.2	+0.2
	comp=Z,12nm,0.5s,baz=305,slow=6.0,SNR=12						
BVAR	**Borovoye Array**	**54.25**	**342**	P	**P**	**09 06 17.0**	**-0.7**
	comp=Z,7.2nm,0.7s,mb4.7,baz=153,slow=9.9,SNR=13						
CTA	**Charters Tower**	**54.73**	**117**	P	**P**	**09 06 21.6**	**-0.1**
	comp=Z,4.5nm,0.9s,mb4.5,baz=275,slow=12,SNR=2.5						
CHKZ	**Chkalovo**	**54.74**	**342**	*e*P	**P**	**09 06 20.5**	**-0.8**
CHKZ				*e*PP	pP	09 06 26.9	-1.9
CHKZ				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
CHKZ	**Chkalovo**	**54.74**	**342**	*e*P	**P**	**09 06 20.4**	**-0.9**
	comp=Z,16nm,0.7s,mb5.2						
CHKZ				*e*pP	pP	09 06 26.9	-1.9
STKA	**Stephens Creek**	**55.66**	**132**	P	**P**	**09 06 27.4**	**-0.9**
	comp=Z,3.4nm,1.1s,mb4.3,baz=308,slow=15,SNR=3.5						
STKA	**Stephens Creek**	**55.66**	**132**	P	**P**	**09 06 27.4**	**-0.9**
KLR	**Kul'dur**	**55.69**	**28**	*e*P	**P**	**09 06 24.8**	**-3.5**
BOD	**Bodaibo**	**56.85**	**12**	*e*P	**P**	**09 06 34.7**	**-1.8**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
SVE	**Sverdlovsk**	**60.64**	**339**	*e*P	**P**	**09 07 02.1**	**-0.7**
SVE				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.1						
ARU	**Arti**	**61.11**	**338**	⇓*i*P	**P**	**09 07 04.4**	**-1.6**
ARU				*e*		09 07 44.2	
ARU				*e*S	**S**	**09 15 23.2**	**+1.3**
ARU				*e*SS	SS	09 19 23.2	-0.1
ARU				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.8						
KIV	**Kislovodsk**	**62.02**	**319**	P	**P**	**09 07 19.0**	**+6.6**
KIV				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
SOC	**Sochi**	**63.83**	**318**	*e*P	**P**	**09 07 19.7**	**-4.6**
SOC				*e*		09 07 59.9	
SOC				*e*		09 09 40.8	
SOC				*e*PPP	PPP	09 11 12.7	-5.6
SOC				*e*S	**S**	**09 15 52.0**	**-4.4**
SOC				*e*		09 17 10.3	
SOC				*e*SS	SS	09 20 02.0	-4.2
SOC				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.9						
SOC				pmax	pmax		
	comp=N,1.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.5s						
YAK	**Yakutsk**	**64.45**	**17**	*i* P	**P**	**09 07 26.4**	**-1.7**
YAK				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2						
BRTR	**Keskin Array B**	**66.81**	**312**	P	**P**	**09 07 42.4**	**-1.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=124,slow=8.9,SNR=4.1						
MATP	**Matopo**	**69.51**	**247**	P	**P**	**09 08 01.5**	**+0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=49,slow=9.3,SNR=2.8						
OBN	**Obninsk**	**70.42**	**329**	*e*P	**P**	**09 08 13.0**	**+7.4**
OBN				S	S	09 17 18.0	+2.5
OBN				SS	SS	09 21 54.0	+5.8
OBN				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
MA2	**Magadan**	**70.72**	**26**	P	**P**	**09 08 07.0**	**-0.4**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
MA2	**Magadan**	**70.72**	**26**	P	**P**	**09 08 07.0**	**-0.5**
	comp=Z,3.8nm,0.7s,mb4.4						

RTR				eS	Sn	09 03 24.8	+0.2
SBLS	**San Blas**	**1.37**	**77**	⇑eP	Pn	09 03 06.4	-0.7
SBLS				eS	Sn	09 03 25.7	+1.0
SNJE	**San Jose**	**1.40**	**76**	eP	Pn	09 03 07.2	-0.2
SNJE				eS	Sn	09 03 26.4	+1.0
MTO2	**Montecristo 2**	**1.81**	**62**	eP	Pn	09 03 12.8	-0.5
LFU	**La Fuente**	**1.85**	**83**	eP	Pn	09 03 13.9	0.0
LFRS	**El Faro**	**1.89**	**87**	⇑eP	Pn	09 03 14.3	-0.2
LFRS				eS	Sn	09 03 38.0	+0.2
LCBS	**La Ceiba**	**1.97**	**87**	⇑eP	Pn	09 03 15.7	0.0
SNVI	**San Vicente**	**2.10**	**88**	eP	Pn	09 03 17.7	+0.1
SNVI				eS	Sn	09 03 44.5	+1.1

*NEIC **08** 09:19:28.7, 35.47S×178.85E, h258km, MG4.4(WEL), After WEL.*
WEL 08 09:19:29.1±0.3, 35.43S×178.76E, h246km±5km, ML4.4/17, Error ellipse: s-maj=8.3km s-min=5.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.16**	**190**	P	P	09 20 12.9	-0.1
MXZ				S	S	09 20 48.7	+1.6
MXZ	**Matakaoa Point**	**2.16**	**190**	PN	P	09 20 12.9	-0.1
MXZ				SN	S	09 20 47.7	+0.5
PUZ	**Puketiti**	**2.67**	**189**	P	P	09 20 18.3	+0.1
PUZ				S	S	09 20 50.5	-5.8
PUZ	**Puketiti**	**2.67**	**189**	PN	P	09 20 17.8	-0.3
PUZ				SN	S	09 20 54.8	-1.5
MWZ	**Matawai**	**3.06**	**198**	P	P	09 20 22.5	+0.1
MWZ	**Matawai**	**3.06**	**198**	PN	P	09 20 22.4	0.0
MWZ				SN	S	09 21 04.2	+0.4
URZ	**Urewera**	**3.12**	**205**	P	P	09 20 22.4	-0.6
URZ	**Urewera**	**3.12**	**205**	PN	P	09 20 22.3	-0.7
URZ				SN	S	09 21 04.4	-0.6
PATZ	**Paeroa**	**3.56**	**213**	P	P	09 20 28.8	+0.7
PATZ	**Paeroa**	**3.56**	**213**	PN	P	09 20 27.7	-0.4
KNZ	**Kokohu**	**3.69**	**193**	P	P	09 20 28.9	-0.7
KNZ	**Kokohu**	**3.69**	**193**	PN	P	09 20 29.0	-0.6
KNZ				SN	S	09 21 14.9	-1.7
BKZ	**Black Stump Fm**	**4.15**	**205**	eP	P	09 20 34.0	-0.9
BKZ	**Black Stump Fm**	**4.15**	**205**	PN	P	09 20 33.9	-1.1
MGZ	**Maungaku**	**4.40**	**215**	P	P	09 20 37.6	-0.3
MGZ	**Maungaku**	**4.40**	**215**	PN	P	09 20 37.1	-0.8
OTVZ	**Oturere**	**4.47**	**213**	PN	P	09 20 38.1	-0.8
NGZ	**Ngauruhoe**	**4.51**	**213**	P	P	09 20 38.9	-0.4
NGZ	**Ngauruhoe**	**4.51**	**213**	PN	P	09 20 38.8	-0.5
CNZ	**Chateau**	**4.55**	**213**	P	P	09 20 39.4	-0.4
CNZ	**Chateau**	**4.55**	**213**	PN	P	09 20 39.4	-0.4
WPVZ	**Whakapapa**	**4.56**	**213**	eP	P	09 20 38.8	-1.1
WPVZ	**Whakapapa**	**4.56**	**213**	PN	P	09 20 39.5	-0.3
TUVZ	**Tukino**	**4.56**	**212**	P	P	09 20 39.3	-0.6
TUVZ	**Tukino**	**4.56**	**212**	PN	P	09 20 39.1	-0.9
FWVZ	**Far West T-bar**	**4.60**	**213**	P	P	09 20 39.6	-0.7
FWVZ	**Far West T-bar**	**4.60**	**213**	PN	P	09 20 39.6	-0.8
WNVZ	**Wahianoa**	**4.64**	**212**	PN	P	09 20 39.6	-1.2
MOVZ	**Moawhango**	**4.64**	**210**	P	P	09 20 39.2	-1.6
MOVZ	**Moawhango**	**4.64**	**210**	PN	P	09 20 39.2	-1.7
MTVZ	**Mangateitei**	**4.74**	**213**	PN	P	09 20 41.0	-1.0
PWZ	**Pawanui**	**4.83**	**198**	eP	P	09 20 41.6	-1.6
PWZ	**Pawanui**	**4.83**	**198**	PN	P	09 20 41.6	-1.6
TSZ	**Takapari Road**	**5.13**	**205**	PN	P	09 20 44.9	-2.0
WAZ	**Wanganui**	**5.26**	**214**	eP	P	09 20 46.8	-1.6
WAZ	**Wanganui**	**5.26**	**214**	PN	P	09 20 46.8	-1.6
BFZ	**Birch Farm**	**5.61**	**200**	P	P	09 20 50.5	-2.3
BFZ	**Birch Farm**	**5.61**	**200**	PN	P	09 20 50.9	-1.9
MRZ	**Mangatainoka R**	**5.80**	**205**	P	P	09 20 52.1	-3.0
MRZ	**Mangatainoka R**	**5.80**	**205**	PN	P	09 20 52.1	-3.1
KIW	**Kapiti Island**	**6.21**	**208**	P	P	09 20 57.1	-3.3
KIW	**Kapiti Island**	**6.21**	**208**	PN	P	09 20 57.1	-3.3
MTW	**Mount Morrison**	**6.27**	**203**	PN	P	09 20 58.0	-3.1
CAW	**Cannon Point**	**6.37**	**206**	P	P	09 20 58.7	-3.7
CAW	**Cannon Point**	**6.37**	**206**	PN	P	09 20 58.7	-3.7
MSWZ	**Moikau Station**	**6.58**	**204**	P	P	09 21 01.7	-3.3
MSWZ	**Moikau Station**	**6.58**	**204**	PN	P	09 21 01.7	-3.3
DUWZ	**D'Urville Isla**	**6.58**	**214**	PN	P	09 21 01.5	-3.6
MRW	**Makara Radio**	**6.61**	**208**	P	P	09 21 01.8	-3.6
MRW	**Makara Radio**	**6.61**	**208**	PN	P	09 21 01.8	-3.6
WEL	**Wellington**	**6.63**	**207**	P	P	09 21 02.3	-3.4
WEL	**Wellington**	**6.63**	**207**	PN	P	09 21 02.3	-3.4
SNZO	**South Karori**	**6.68**	**207**	P	P	09 21 02.4	-3.9
SNZO	**South Karori**	**6.68**	**207**	PN	P	09 21 02.4	-3.8
TUWZ	**Tuamarina**	**7.08**	**211**	PN	P	09 21 07.1	-4.3
NNZ	**Nelson**	**7.16**	**215**	eP	P	09 21 07.7	-4.7
NNZ	**Nelson**	**7.16**	**215**	PN	P	09 21 07.7	-4.6
QRZ	**Quartz Range**	**7.29**	**220**	eP	P	09 21 09.1	-4.9
QRZ	**Quartz Range**	**7.29**	**220**	PN	P	09 21 09.1	-4.9
THZ	**Tophouse**	**7.81**	**214**	PN	P	09 21 17.6	-3.1
KHZ	**Kahutara**	**8.08**	**209**	eP	P	09 21 19.8	-4.2
KHZ	**Kahutara**	**8.08**	**209**	PN	P	09 21 19.8	-4.2
DSZ	**Denniston Nort**	**8.33**	**219**	PN	P	09 21 21.3	-6.0
LTZ	**Lake Taylor**	**8.91**	**213**	PN	P	09 21 29.3	-5.3
MQZ	**McQueen's Vall**	**9.51**	**208**	eP	P	09 21 37.0	-5.3
MQZ	**McQueen's Vall**	**9.51**	**208**	PN	P	09 21 37.1	-5.2
WVZ	**Waitaha Valley**	**9.85**	**217**	eP	P	09 21 41.3	-5.2
RPZ	**Rata Peaks**	**10.19**	**213**	eP	P	09 21 45.9	-4.9
RPZ	**Rata Peaks**	**10.19**	**213**	PN	P	09 21 46.1	-4.7
FOZ	**Fox Glacier**	**10.72**	**218**	PN	P	09 21 50.8	-6.7
LBZ	**Lake Benmore**	**11.10**	**214**	PN	P	09 21 57.1	-5.2
ODZ	**Otahua Downs**	**11.43**	**210**	eP	P	09 22 02.6	-3.8
ODZ	**Otahua Downs**	**11.43**	**210**	PN	P	09 22 02.5	-3.9
JCZ	**Jackson Bay**	**11.56**	**219**	eP	P	09 22 00.4	-7.7
JCZ	**Jackson Bay**	**11.56**	**219**	PN	P	09 22 02.8	-5.3
WKZ	**Wanaka**	**11.98**	**215**	eP	P	09 22 07.9	-5.4
WKZ	**Wanaka**	**11.98**	**215**	PN	P	09 22 07.9	-5.4

*NEIC **08** 09:38:52.1, 59.36N×136.51W, h8km, ML3.5(AEIC), After AEIC.*
NEIC Felt [IV] at Haines and [II] at Petersburg.
PGC 08 09:38:54.2, 59.35N×136.45W, h10km, ML3.6/4, 2D, Southeastern Alaska., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESE	**Bessie Mountai**	**1.13**	**132**	P	Pb	09 39 14.5	-1.0
BESE				S	Sb	09 39 30.1	+0.1
WHY	**Whitehorse**	**1.53**	**30**	P	Pn	09 39 21.6	-0.3
WHY				S	Sb	09 39 42.2	+0.5
WHY	**Whitehorse**	**1.53**	**30**	⇓Pn	Pn	09 39 21.7	-0.1
WHY				Sg	Sg	09 39 42.1	-3.2
WHY				Trac		09 39 44.8	
	comp=Z,622nm,0.2s						
PNL	**Peninsula**	**1.54**	**283**	P	Pn	09 39 20.1	-1.7
PNL				S	Sb	09 39 41.0	-0.8
HYT	**Haines Junctio**	**1.57**	**341**	⇓Pn	Pn	09 39 20.6	-1.8
HYT				Pg	Pg	09 39 22.7	-3.0
HYT				Sg	Sg	09 39 42.3	-4.3
HYT				Trac		09 39 44.9	
	comp=Z,131nm,0.2s						
YKU2	**Yakutat**	**1.65**	**277**	eP	Pn	09 39 23.3	-0.3
PCA	**Pinnacle**	**2.07**	**293**	P	Pn	09 39 28.6	-0.9
PCA				S	Sn	09 39 56.5	+0.9
SIT	**Sitka**	**2.38**	**165**	eP	Pn	09 39 33.0	-0.9
CTGM	**Chitina Glacie**	**2.93**	**306**	P	Pn	09 39 41.0	-0.8
BALM	**Baldy**	**3.39**	**302**	P	Pn	09 39 47.8	-0.6
DLBC	**Dease Lake**	**3.46**	**103**	P	Pn	09 39 48.6	-0.7
DLBC				S	Sn	09 40 33.8	+3.0
DLBC	**Dease Lake**	**3.46**	**103**	Pn	Pn	09 39 47.7	-1.6
DLBC				Pg	Pg	09 39 56.2	-7.0
DLBC				Sg	Sg	09 40 41.5	-7.8
DLBC				Trac		09 40 43.7	
	comp=Z,88nm,0.4s						
GLB	**Gilahina Butte**	**4.21**	**303**	P	Pn	09 39 59.2	-0.8
CRAG	**Craig**	**4.29**	**154**	eP	Pn	09 39 58.7	-2.4
BCA3	**Beaver Creek A**	**4.53**	**328**	P	Pn	09 40 01.8	-2.7
DAWY	**Dawson**	**4.93**	**345**	P	Pn	09 40 08.2	-2.1
DAWY	**Dawson**	**4.93**	**345**	Pn	Pn	09 40 08.3	-2.0
DAWY				Pg	Pg	09 40 23.6	-9.1
DAWY				Sn	Sn	09 41 04.1	-4.0
DAWY				Sg	Sg	09 41 28.1	-10
DAWY				Trac		09 41 34.4	
	comp=Z,62nm,0.4s						
MENT	**Mentasta**	**5.03**	**319**	eP	Pn	09 40 09.8	-1.9
VLZ	**Valdez**	**5.24**	**294**	P	Pn	09 40 12.9	-1.6
DOT	**Dot Lake**	**5.64**	**323**	P	Pn	09 40 17.7	-2.5
NDB	**Naden**	**5.75**	**159**	Pn	Pn	09 40 19.7	-2.0
NDB				Sg	Sg	09 41 53.0	-13
NDB				Trac		09 42 07.2	
	comp=Z,12nm,0.6s						
SCM	**Sheep Creek Mo**	**5.91**	**300**	P	Pn	09 40 22.7	-1.3
RUBB	**Prince Rupert**	**6.08**	**143**	Pn	Pn	09 40 23.2	-3.2
RUBB				Pg	Pg	09 40 43.9	-12
RUBB				Sg	Sg	09 42 03.0	-14
RUBB				Trac		09 42 19.8	
	comp=Z,63nm,0.9s						
PMR	**Palmer**	**6.66**	**295**	eP	Pn	09 40 34.4	-0.2
RC01	**Rabbit Creek A**	**6.84**	**290**	P	Pn	09 40 34.2	-3.0
FNBB	**Fort Nelson**	**6.94**	**88**	Pn	Pn	09 40 36.0	-2.4
FNBB				Sn	Sn	09 41 48.4	-10
FNBB				Sg	Sg	09 42 29.1	-16
FNBB				Trac		09 42 39.2	
	comp=Z,16nm,0.8s						
PWA	**Palmer West**	**7.02**	**295**	P	Pn	09 40 36.1	-3.6
CNPM	**China Poot**	**7.54**	**278**	P	Pn	09 40 44.5	-2.5
STLK	**Strandline Lak**	**7.91**	**292**	P	Pn	09 40 50.1	-2.0
FSB	**Fort Saint Jam**	**8.23**	**121**	Trac		09 43 27.9	
	comp=Z,9.0nm,1.0s						
BMBC	**Bull Mountain**	**8.35**	**107**	Trac		09 43 34.0	
	comp=Z,8.0nm,0.6s						
BMBC	**Bull Mountain**	**8.35**	**107**	Sg	Sg	09 43 14.6	-18
BM3	**Burnt Mountain**	**8.88**	**339**	P	P	09 41 02.8	-2.8
INK	**Inuvik**	**9.08**	**7**	Pn	P	09 41 05.3	-3.1
INK				Sg	Sg	09 43 36.3	-20
INK				Trac		09 43 50.6	
	comp=Z,8.0nm,0.8s						
IM01	**Indian Mountai**	**10.33**	**317**	P	P	09 41 22.6	-2.9
YKW3	**Yellowknife Ar**	**11.07**	**64**	Pn	P	09 41 30.2	-5.3
YKW3				Pn	P	09 41 31.9	-3.7
YKW3				Sg	S	09 44 38.3	+58
YKW3				Sg	S	09 44 39.8	+59
YKW3				Trac		09 44 58.7	
	comp=Z,4.0nm,0.8s						
YKW3				Trac		09 44 59.0	
	comp=Z,3.0nm,0.8s						

*IDC **08** 09:46:06.0±5.0, 33.18S×179.59E, h285km±45km, mb3.6/4, mb1 3.7/5, mb1mx3.5/16, mbtmp4.2/5, Error ellipse: s-maj=54.1km s-min=25.2km az=29.0*
*NEIC **08** 09:46:07.3±2.2, 33.34S×179.60E, h308km±18km, mb3.8/1, Error ellipse: s-maj=34.0km s-min=18.5km az=215.0*
ISC 08 09:46:06.4±2.0, 33.5S±0.2×179.9E±0.4, h340km±29km, n34, σ0°69/39, mb3.6/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.25**	**198**	eP	P	09 47 18.0	+0.2
MXZ				S	S	09 48 10.8	-3.0
MXZ	**Matakaoa Point**	**4.25**	**198**	PN	P	09 47 18.1	+0.3
MXZ				SN	S	09 48 13.4	-0.4
PUZ	**Puketiti**	**4.74**	**196**	eP	P	09 47 23.4	+0.3
PUZ				S	S	09 48 23.9	+0.5
PUZ	**Puketiti**	**4.74**	**196**	PN	P	09 47 23.4	+0.2
PUZ				SN	S	09 48 23.9	+0.4
MWZ	**Matawai**	**5.18**	**201**	eP	P	09 47 28.7	+0.6
MWZ	**Matawai**	**5.18**	**201**	PN	P	09 47 28.7	+0.6
MWZ				SN	S	09 48 32.7	+0.5
URZ	**Urewera**	**5.25**	**205**	P	P	09 47 29.1	+0.2
	1.4nm,0.3s,baz=64,slow=9.9,SNR=43						
URZ				S	S	09 48 33.9	+0.3
	5.1nm,0.3s,baz=92,slow=22,SNR=21						
URZ	**Urewera**	**5.25**	**205**	eP	P	09 47 28.5	-0.4
URZ	**Urewera**	**5.25**	**205**	PN	P	09 47 28.3	-0.5
URZ				SN	S	09 48 33.3	-0.3
KNZ	**Kokohu**	**5.78**	**198**	PN	P	09 47 35.8	+0.9
KNZ				SN	S	09 48 45.5	+1.0
BKZ	**Black Stump Fm**	**6.28**	**205**	eP	P	09 47 41.0	+0.3
BKZ	**Black Stump Fm**	**6.28**	**205**	PN	P	09 47 41.0	+0.3
NGZ	**Ngauruhoe**	**6.64**	**210**	P	P	09 47 44.8	-0.1
NGZ	**Ngauruhoe**	**6.64**	**210**	PN	P	09 47 45.9	+1.0
WNVZ	**Wahianoa**	**6.76**	**210**	PN	P	09 47 45.8	-0.7
TSZ	**Takapari Road**	**7.26**	**205**	P	P	09 47 52.1	-0.2
TSZ	**Takapari Road**	**7.26**	**205**	PN	P	09 47 51.9	-0.4
BFZ	**Birch Farm**	**7.73**	**201**	PN	P	09 47 58.3	+0.4
MRZ	**Mangatainoka R**	**7.93**	**205**	eP	P	09 47 59.5	-0.8
MRZ	**Mangatainoka R**	**7.93**	**205**	PN	P	09 47 59.2	-1.1
KIW	**Kapiti Island**	**8.35**	**207**	PN	P	09 48 04.4	-0.9
MTW	**Mount Morrison**	**8.40**	**204**	PN	P	09 48 05.4	-0.5
CAW	**Cannon Point**	**8.50**	**206**	PN	P	09 48 06.3	-0.8
TUWZ	**Tuamarina**	**9.21**	**209**	PN	P	09 48 14.7	-1.0
KHZ	**Kahutara**	**10.21**	**208**	eP	P	09 48 27.6	-0.1
KHZ	**Kahutara**	**10.21**	**208**	PN	P	09 48 27.6	-0.1
CTA	**Charters Tower**	**32.74**	**286**	P	P	09 52 09.4	-0.6
	2.5nm,0.7s,mb3.6,baz=67,slow=7.7,SNR=2.6						
ASAR	**Alice Springs**	**41.30**	**271**	P	P	09 53 22.2	+1.1
	2.3nm,0.6s,mb3.6,baz=107,slow=7.5,SNR=37						
WRAB	**Tennant Creek**	**42.57**	**277**	eP	P	09 53 31.1	-0.3
	3.1nm,0.4s,mb3.8						
WRA	**Warramunga Arr**	**42.58**	**277**	P	P	09 53 31.6	+0.1
	2.9nm,0.4s,mb3.8,baz=115,slow=8.1,SNR=101						
FITZ	**Fitzroy Crossi**	**50.69**	**273**	P	P	09 54 35.0	+0.8
	1.4nm,0.4s,mb3.5,baz=180,slow=9.1,SNR=4.2						
FINES	**FINESS Array B**	**147.39**	**337**	PKPbc	PKPdf	10 05 12.2	+5.8
	0.7nm,0.4s,baz=45,slow=5.4,SNR=5.1						
NOA	**NORSAR Array B**	**151.51**	**348**	PKPbc	PKPdf	10 05 26.3	+13
	1.3nm,0.9s,baz=182,slow=1.8,SNR=3.6						
DBIC	**Dimbokro**	**152.92**	**170**	PKPab	PKPab	10 05 43.0	+4.1
	4.2nm,0.9s,baz=248,slow=5.4,SNR=3.6						

WEL 08 09:48:44.2±0.3, 41.29S×172.71E, h152km±2km, ML3.6/13, 3C, Error ellipse: s-maj=2.2km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.48**	**344**	⇑PN	P	09 49 05.8	-0.4
QRZ				SN	S	09 49 20.9	-2.2
QRZ				SN	S	09 49 20.9	-2.1
THZ	**Tophouse**	**0.50**	**163**	⇑PN	P	09 49 06.3	0.0
THZ				SN	S	09 49 22.3	-0.9
NNZ	**Nelson**	**0.51**	**83**	⇑PN	P	09 49 05.8	-0.6
NNZ				SN	S	09 49 21.8	-1.5
DSZ	**Denniston Nort**	**0.82**	**236**	PN	P	09 49 07.4	-0.6
DSZ				SN	S	09 49 24.0	-2.3
TUWZ	**Tuamarina**	**0.94**	**99**	PN	P	09 49 09.0	+0.1
TUWZ				SN	S	09 49 26.8	-1.1
BSWZ	**Blackbirch Sta**	**0.98**	**116**	PN	P	09 49 09.2	0.0
BSWZ				SN	S	09 49 28.0	-0.3
DUWZ	**D'Urville Isla**	**1.04**	**63**	PN	P	09 49 09.7	0.0
DUWZ				SN	S	09 49 28.5	-0.8
KHZ	**Kahutara**	**1.29**	**151**	PN	P	09 49 11.6	-0.5
KHZ				SN	S	09 49 31.7	-2.0
MRW	**Makara Radio**	**1.50**	**88**	PN	P	09 49 13.6	-0.7
MRW				SN	S	09 49 34.7	-2.9
SNZO	**South Karori**	**1.51**	**92**	PN	P	09 49 13.6	-0.8
SNZO				SN	S	09 49 35.1	-2.5
LTZ	**Lake Taylor**	**1.53**	**192**	PN	P	09 49 14.4	-0.2
LTZ				SN	S	09 49 36.0	-2.1
WEL	**Wellington**	**1.56**	**91**	PN	P	09 49 14.1	-0.7
BHW	**Baring Head**	**1.64**	**95**	PN	P	09 49 14.8	-0.9
KIW	**Kapiti Island**	**1.72**	**76**	PN	P	09 49 15.9	-0.7
KIW				SN	S	09 49 39.4	-2.2
CAW	**Cannon Point**	**1.79**	**85**	PN	P	09 49 16.4	-1.0
MSWZ	**Moikau Station**	**1.92**	**95**	PN	P	09 49 18.0	-0.9
PAWZ	**Paruwai Farm**	**2.05**	**94**	PN	P	09 49 19.4	-1.0
MTW	**Mount Morrison**	**2.11**	**87**	PN	P	09 49 19.9	-1.3
MRZ	**Mangatainoka R**	**2.26**	**75**	PN	P	09 49 21.6	-1.5
MRZ				SN	S	09 49 49.9	-2.9
WAZ	**Wanganui**	**2.32**	**49**	PN	P	09 49 23.3	-0.4
MQZ	**McQueen's Vall**	**2.42**	**181**	PN	P	09 49 24.0	-1.0
VRZ	**Vera Road**	**2.67**	**37**	PN	P	09 49 26.6	-1.6
RPZ	**Rata Peaks**	**2.72**	**206**	PN	P	09 49 27.5	-1.3
RPZ				SN	S	09 49 59.0	-3.8
BFZ	**Birch Farm**	**2.75**	**78**	PN	P	09 49 26.9	-2.2
BFZ				SN	S	09 50 00.2	-3.3
TUVZ	**Tukino**	**3.02**	**49**	PN	P	09 49 30.8	-1.9
FOZ	**Fox Glacier**	**3.19**	**223**	PN	P	09 49 31.9	-2.9
LBZ	**Lake Benmore**	**3.61**	**210**	PN	P	09 49 38.3	-2.0
JCZ	**Jackson Bay**	**4.03**	**225**	PN	P	09 49 43.6	-2.2
ODZ	**Otahua Downs**	**4.05**	**201**	PN	P	09 49 44.5	-1.5
WKZ	**Wanaka**	**4.45**	**216**	PN	P	09 49 48.5	-2.8
EAZ	**Earnscleugh**	**4.66**	**211**	PN	P	09 49 51.1	-2.9
TUZ	**Tuapeka**	**5.17**	**205**	PN	P	09 49 59.1	-1.7

*IDC **08** 09:49:53.9±2.7, 5.58S×149.54E, h116km±24km, mb3.9/5, mb1 4.0/7, mb1mx3.7/16, mbtmp4.3/7, MS4.2/1, Ms1 4.2/1, ms1mx2.9/23, Error ellipse: s-maj=50.6km s-min=16.0km az=129.0*
*NEIC **08** 09:49:55.2±1.9, 5.61S×149.50E, h127km±15km, mb4.3/5, Error ellipse: s-maj=19.9km s-min=16.2km az=135.0*
ISC 08 09:49:55.0±3.2, 5.6S±0.2×149.4E±0.2, h135km±24km, n17, σ0°75/19, mb4.0/6, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.37**	**210**	P	P	09 51 01.8	+1.1
	16nm,0.3s,baz=13,slow=4.1,SNR=44						
PMG				S	S	09 51 50.8	-0.5
	37nm,0.3s,baz=131,slow=18,SNR=5.0						
PMG	**Port Moresby**	**4.37**	**210**	ePn	P	09 51 00.9	+0.2
PMG				eSn	S	09 51 50.9	-0.3
CTA	**Charters Tower**	**14.70**	**192**	P	P	09 53 16.9	-0.6
	0.1nm,0.3s,baz=288,slow=19,SNR=1.6						
CTAO	**Charters Tower**	**14.70**	**192**	eP	P	09 53 17.3	-0.2
	3.7nm,0.8s						
WRAB	**Tennant Creek**	**20.41**	**224**	eP	P	09 54 22.8	-0.4
	13nm,0.6s						
WB2	**Warramunga Arr**	**20.41**	**224**	eP	P	09 54 23.1	-0.2
WRA	**Warramunga Arr**	**20.42**	**224**	P	P	09 54 23.2	-0.2
	5.8nm,0.5s,baz=50,slow=10,SNR=54						
WRA				S	S	09 58 08.5	+9.2
	0.6nm,0.8s,baz=45,slow=24,SNR=6.0						
ASAR	**Alice Springs**	**23.33**	**218**	P	P	09 54 53.4	+1.4
	2.9nm,0.3s,mb4.1,baz=54,slow=8.8,SNR=91						
ASPA	**Alice Springs**	**23.34**	**218**	eP	P	09 54 53.5	+1.4
FITZ	**Fitzroy Crossi**	**26.30**	**240**	⇓IP	P	09 55 20.0	-0.1
	14nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**26.30**	**240**	P	P	09 55 20.1	0.0
	11nm,0.4s,mb4.8,baz=44,slow=7.1,SNR=30						
STKA	**Stephens Creek**	**27.12**	**195**	P	P	09 55 26.4	-1.0
	0.7nm,0.5s,mb3.6,baz=36,slow=14,SNR=5.0						
STKA	**Stephens Creek**	**27.12**	**195**	P	P	09 55 26.4	-1.0
MBWA	**Marble Bar**	**32.63**	**239**	eP	P	09 56 15.5	-0.8
	2.6nm,0.4s,mb4.3						
CBIJ	**Chichi jima**	**33.26**	**348**	LR	LR	10 06 48.2	
	comp=Z,365nm,20.4s,baz=358,slow=30						
ILAR	**Eielson Array**	**84.20**	**23**	P	P	10 02 11.7	-0.4
	0.6nm,0.6s,mb3.5,baz=252,slow=5.3,SNR=14						
QSPA	**South Pole Qui**	**84.35**	**180**	eP	P	10 02 13.2	+0.7
	1.3nm,0.6s,mb3.8						

*IDC **08** 10:03:53.0±6.3, 13.44N×93.31E, mb3.9/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, ML3.6/1, MS3.0/1, Ms1 3.2/1, ms1mx2.8/33, Error ellipse: s-maj=131.8km s-min=47.6km az=157.0*
ISC 08 10:03:54.7±1.9, 13.3N±0.2×93.6E±0.1, h33km, n8, σ0°65/8, mb3.8/4, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**6.75**	**69**	P	P	10 05 33.8	-0.3
CMAR	**Chiang Mai Arr**	**7.25**	**45**	Pn	Pn	10 05 41.6	+0.4
	0.3nm,0.3s,baz=241,slow=15,SNR=6.6						
CMAR				Sn	Sn	10 07 03.1	-0.1
	0.4nm,0.3s,baz=241,slow=29,SNR=4.6						
CMAR				LR	LR	10 09 15.8	
	comp=Z,109nm,18.7s,baz=55,slow=44						
CHG	**Chiang Mai**	**7.50**	**43**	P	P	10 05 54.2	+10
MDRS	**Chennai**	**13.00**	**270**	e	Px	10 07 14.0	
MKAR	**Makanchi Array**	**34.69**	**346**	P	P	10 10 42.4	-1.0
	0.8nm,0.7s,mb3.8,baz=172,slow=8.6,SNR=6.4						
ZAL	**Zalesovo**	**41.11**	**352**	P	P	10 11 38.0	+0.9
	1.1nm,0.4s,mb3.8,baz=318,slow=24,SNR=4.2						
FINES	**FINESS Array B**	**67.68**	**331**	P	P	10 14 49.8	-0.6
	1.6nm,0.9s,mb4.0,baz=108,slow=4.4,SNR=4.3						
GERES	**GERESS Array B**	**73.45**	**317**	P	P	10 15 26.3	+0.6
	0.6nm,0.6s,mb3.7,baz=90,slow=5.9,SNR=4.6						

*IDC **08** 10:05:21.0±0.9, 0.91N×98.00E, mb4.1/7, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=33.2km s-min=19.4km az=57.0*
*NEIC **08** 10:05:25.4±0.8, 0.84N×97.95E, h30km, mb4.5/1, Error ellipse: s-maj=21.8km s-min=16.8km az=72.0*
**ISC 08 10:05:19.8±12.0, 0.9N±0.2×97.9E±0.2, h4km±79km, n11, σ1°25/11, mb4.0

n12,σ0°54/13,mb3.9/7,New Caledonia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**1.79**	**296**	*e*P	**P**	**10 34 01.0**	**-0.2**
DZM	**Mont Dzumac**	**1.79**	**296**	P	**P**	**10 34 01.2**	**0.0**
9.7nm,0.3s,baz=238,slow=20,SNR=336							
NOUC	**Port Laguerre**	**1.90**	**294**	*e*P	**P**	**10 34 02.7**	**+0.2**
NOUC				*e*S	**S**	**10 34 40.4**	**+14**
NOUC	**Port Laguerre**	**1.90**	**294**	*e*P	**P**	**10 34 02.7**	**+0.2**
NOUC				*e*S	**S**	**10 34 40.4**	**+14**
CTA	**Charters Tower**	**20.59**	**274**	LR	LR	10 45 00.5	
comp=Z,74nm,21.2s,baz=47,slow=33							
RAR	**Rarotonga**	**29.72**	**93**	P	**P**	**10 39 29.6**	**-0.1**
21nm,1.0s,mb4.7,baz=73,slow=17,SNR=2.3							
ASAR	**Alice Springs**	**31.45**	**262**	P	**P**	**10 39 45.0**	**+0.2**
1.4nm,1.0s,mb3.6,baz=94,slow=8.9,SNR=11							
WRAB	**Tennant Creek**	**31.59**	**269**	*e*P	**P**	**10 39 45.8**	**-0.3**
1.1nm,0.4s,mb3.9							
WRA	**Warramunga Arr**	**31.60**	**269**	P	**P**	**10 39 45.8**	**-0.3**
0.6nm,0.4s,mb3.6,baz=98,slow=8.4,SNR=25							
CMAR	**Chiang Mai Arr**	**79.12**	**295**	P	**P**	**10 45 27.4**	**+1.2**
0.6nm,0.5s,mb3.7,baz=146,slow=6.5,SNR=5.1							
SONM	**Songino Array**	**89.54**	**324**	P	**P**	**10 46 16.8**	**-1.0**
0.3nm,0.8s,mb3.5,baz=135,slow=3.5,SNR=3.9							
NVAR	**Mina Array Bea**	**91.94**	**49**	P	**P**	**10 46 29.4**	**+0.2**
0.5nm,0.6s,mb3.9,baz=232,slow=10,SNR=3.5							

IDC 08 10:37:22.4±2.5,6.21S×130.02E,mb3.8/1,mb1 3.8/4, mb1mx3.6/16,mbtmp3.6/4,ML3.5/3,MS3.3/1,Ms1 3.3/1, ms1mx2.7/25,Error ellipse: s-maj=115.0km s-min=28.0km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.57**	**199**	*e*P	P	10 40 22.6	-2.8
2.4nm,0.6s							
FITZ				*e*S	S	10 42 30.3	-17
FITZ	**Fitzroy Crossi**	**12.57**	**199**	Pn	P	10 40 22.5	-2.9
0.7nm,0.3s,baz=24,slow=13,SNR=16							
FITZ				Sn	S	10 42 29.8	-18
0.3nm,0.3s,baz=173,slow=13,SNR=3.7							
WRA	**Warramunga Arr**	**14.28**	**163**	Pn	P	10 40 46.0	-2.2
0.2nm,0.3s,baz=334,slow=13,SNR=24							
WRA				Sn	S	10 43 13.4	-15
0.2nm,0.3s,baz=350,slow=21,SNR=6.8							
WB2	**Warramunga Arr**	**14.29**	**163**	*e*P	P	10 40 46.1	-2.1
WB2				*e*S	S	10 43 13.4	-15
PMG	**Port Moresby**	**17.28**	**102**	LR	LR	10 48 06.2	
comp=Z,90nm,18.3s,baz=226,slow=37							
ASAR	**Alice Springs**	**17.75**	**168**	P	P	10 41 31.1	-1.6
0.2nm,0.3s,baz=345,slow=11,SNR=13							
MKAR	**Makanchi Array**	**67.58**	**327**	P	P	10 48 20.9	-2.1
0.4nm,0.4s,baz=114,slow=8.1,SNR=6.4							

*IDC **08** 10:42:47.3±2.9, 15.03S×173.97W,h62km±33km,mb3.8/6, mb1 4.1/7,mb1mx3.7/17,mbtmp4.2/7,ML3.2/1,Error ellipse: s-maj=49.6km s-min=17.2km az=139.0*
*NEIC **08** 10:42:48.2±1.5, 15.00S×174.07W,h68km±18km,mb4.4/1, Error ellipse: s-maj=27.7km s-min=11.5km az=138.0*

ISC 08 10:42:46.4±2.4,15.0S±0.2×174.1W±0.2,h69km±29km,n10, σ0°56/11,mb4.0/7,2D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.45**	**65**	P	**P**	**10 43 26.3**	**+1.2**
290nm,0.3s,baz=102,slow=0.9,SNR=388							
AFI				S	**S**	**10 43 52.8**	**-1.1**
99nm,0.3s,baz=87,slow=22,SNR=5.7							
URZ	**Urewera**	**24.48**	**197**	P	**P**	**10 48 00.6**	**+0.3**
3.1nm,0.3s,mb4.1,baz=72,slow=5.6,SNR=6.6							
STKA	**Stephens Creek**	**43.70**	**239**	P	**P**	**10 50 46.1**	**-0.5**
0.8nm,0.3s,mb3.9,baz=120,slow=8.1,SNR=4.9							
WB2	**Warramunga Arr**	**49.31**	**256**	⇓*i*P	**P**	**10 51 30.7**	**-0.1**
WRAB	**Tennant Creek**	**49.31**	**256**	*e*P	**P**	**10 51 30.6**	**-0.3**
2.2nm,0.5s,mb4.3							
WRA	**Warramunga Arr**	**49.32**	**256**	P	**P**	**10 51 31.0**	**+0.1**
1.1nm,0.4s,mb4.2,baz=95,slow=6.3,SNR=75							
ASAR	**Alice Springs**	**49.64**	**252**	P	**P**	**10 51 33.1**	**-0.2**
2.5nm,0.3s,mb4.6,baz=89,slow=7.4,SNR=101							
ASPA	**Alice Springs**	**49.64**	**252**	⇓*i*P	**P**	**10 51 33.3**	**-0.1**
NVAR	**Mina Array Bea**	**74.44**	**42**	P	**P**	**10 54 19.7**	**+0.5**
0.8nm,0.8s,mb3.5,baz=212,slow=7.9,SNR=5.2							
ILAR	**Eielson Array**	**82.15**	**11**	P	**P**	**10 55 01.1**	**+0.3**
0.3nm,0.6s,mb3.3,baz=230,slow=7.0,SNR=5.5							

*NEIC **08** 10:45:31.9±0.8,29.98N×83.01E,h10km,mb3.7/2,Error ellipse: s-maj=18.8km s-min=12.7km az=72.0*
*NDI **08** 10:45:31.9±2.1,29.15N×84.56E,h10km,MD3.3, mb3.7(NEIC)*
*IDC **08** 10:45:41.6±7.2,30.30N×83.60E,h68km±61km,mb3.3/6, mb1 3.6/8,mb1mx3.4/24,mbtmp3.6/8,ML3.9/2,MS3.6/1, Ms1 3.6/1,ms1mx2.7/18,Error ellipse: s-maj=62.7km s-min=21.0km az=62.0*

ISC 08 10:45:35.7±2.2,30.44N±0.08×84.16E±0.07,h17km±17km, n18,σ1°47/19,mb3.4/7,MS3.6/1,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.53**	**256**	*e*PN	**Pn**	**10 46 31.2**	**+0.1**
PTH				*e*SN	**Sn**	**10 47 13.0**	**+0.1**
LGTI	**Lohaghat**	**3.53**	**255**	*e*PN	**Pn**	**10 46 31.0**	**-0.1**
LGTI				*e*SN	**Sn**	**10 47 17.5**	**+4.6**
DDI	**Dehra Dun**	**5.27**	**270**	*e*P	**Pn**	**10 46 58.0**	**+2.2**
DDI				*e*		10 48 13.0	
LSA	**Lhasa**	**6.11**	**95**	*e*Pn	**Pn**	**10 47 15.7**	**+8.2**
41nm,1.0s							
NDI	**New Delhi**	**6.29**	**256**	*e*PB	**Pb**	**10 47 23.0**	**-1.5**
NDI				*e*		10 48 50.0	
SHL	**Shillong**	**8.38**	**124**	*e*SB	**Sn**	**10 49 13.0**	**-1.4**
MKAR	**Makanchi Array**	**16.39**	**355**	P	**P**	**10 49 29.8**	**+3.2**
0.1nm,0.3s,baz=181,slow=11,SNR=18							
CMAR	**Chiang Mai Arr**	**17.96**	**128**	P	**P**	**10 49 49.1**	**+2.7**
0.4nm,0.3s,baz=312,slow=12,SNR=8.6							
KURK	**Kurchatov**	**20.68**	**350**	*e*P	**P**	**10 50 13.5**	**-3.8**
4.8nm,0.8s							
ZAL	**Zalesovo**	**23.49**	**1**	P	**P**	**10 50 46.2**	**+1.0**
1.5nm,0.6s,mb3.6,baz=283,slow=6.7,SNR=6.4							
SONM	**Songino Array**	**24.34**	**38**	P	**P**	**10 50 56.9**	**+3.3**
0.7nm,0.7s,mb3.2,baz=224,slow=11,SNR=7.1							
BVAR	**Borovoye Array**	**24.71**	**340**	P	**P**	**10 50 55.9**	**-1.2**
0.3nm,0.4s,mb3.2,baz=90,slow=4.3,SNR=4.0							
CHKZ	**Chkalovo**	**25.22**	**341**	*e*P	**P**	**10 51 00.1**	**-1.8**
0.8nm,0.6s,mb3.4							
FINES	**FINESS Array B**	**48.59**	**327**	LR	LR	11 15 01.2	
comp=Z,56nm,18.6s,MS3.6,baz=186,slow=36							
WRA	**Warramunga Arr**	**69.55**	**130**	P	**P**	**10 56 45.6**	**-0.4**
0.5nm,0.7s,mb3.5,baz=323,slow=6.5,SNR=13							
ILAR	**Eielson Array**	**77.13**	**20**	P	**P**	**10 57 29.2**	**-0.2**
0.3nm,0.9s,mb3.2,baz=315,slow=4.2,SNR=5.1							
YKA	**Yellowknife Ar**	**86.17**	**9**	P	**P**	**10 58 16.0**	**-0.7**
0.4nm,0.6s,mb3.8,baz=338,slow=5.2,SNR=15							
YKA	**Yellowknife Ar**	**86.17**	**9**	P	**P**	**10 58 16.0**	**-0.7**

*IDC **08** 10:47:02.2±2.5,30.10N×82.91E,mb3.5/5,mb1 3.8/6, mb1mx3.6/21,mbtmp3.6/6,ML3.6/1,Error ellipse: s-maj=79.7km s-min=27.5km az=69.0*
*NEIC **08** 10:47:04.9±1.3,30.17N×83.23E,h10km,mb3.7/2,Error ellipse: s-maj=28.5km s-min=11.2km az=56.0*

ISC 08 10:47:14.4±1.3,30.5N±0.1×84.09E±0.08,h76km±18km, n12,σ1°16/13,mb3.3/6,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.50**	**253**	*e*P	**P**	**10 48 06.5**	**-1.3**
LGTI				*e*S	**S**	**10 48 49.5**	**+1.2**
LSA	**Lhasa**	**6.17**	**96**	Pn	**P**	**10 48 45.4**	**+0.7**
MKAR	**Makanchi Array**	**16.32**	**356**	Pn	**P**	**10 50 58.3**	**-1.7**
0.1nm,0.3s,baz=172,slow=10,SNR=3.6							
CMAR	**Chiang Mai Arr**	**18.05**	**128**	P	**P**	**10 51 21.4**	**-0.3**
0.1nm,0.3s,baz=302,slow=11,SNR=4.7							
KURK	**Kurchatov**	**20.59**	**350**	*e*P	**P**	**10 51 45.2**	**-4.1**
4.0nm,1.0s							
ZAL	**Zalesovo**	**23.41**	**1**	P	**P**	**10 52 18.3**	**+1.3**
0.7nm,0.7s,mb3.1,baz=268,slow=10,SNR=3.3							
ZAL	**Zalesovo**	**23.41**	**1**	P	**P**	**10 52 18.3**	**+1.3**
SONM	**Songino Array**	**24.32**	**38**	P	**P**	**10 52 30.2**	**+4.3**
0.8nm,0.6s,mb3.2,baz=232,slow=9.3,SNR=5.9							
ULN	**Ulaanbaatar**	**24.69**	**39**	*e*P	**P**	**10 52 33.1**	**+3.6**
0.9nm,0.6s,mb3.4							
WRA	**Warramunga Arr**	**69.64**	**130**	P	**P**	**10 58 17.3**	**-0.7**
0.4nm,0.8s,mb3.3,baz=324,slow=6.4,SNR=6.0							
ILAR	**Eielson Array**	**77.08**	**20**	P	**P**	**10 59 00.7**	**+0.1**
0.4nm,0.8s,mb3.2,baz=313,slow=5.4,SNR=4.8							
YKA	**Yellowknife Ar**	**86.11**	**9**	P	**P**	**10 59 47.1**	**-0.4**
0.4nm,0.7s,mb3.5,baz=338,slow=5.2,SNR=7.8							

IDC 08 11:00:40.0±4.6,1.47N×97.80E,mb3.3/3,mb1 3.5/3, mb1mx3.3/18,mbtmp3.3/3,MS3.3/1,Ms1 3.3/1, ms1mx2.6/17,Error ellipse: s-maj=170.6km s-min=31.4km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.67**	**123**	P	P	11 08 30.6	-1.7
0.3nm,0.7s,baz=300,slow=9.1,SNR=4.9							
SONM	**Songino Array**	**46.78**	**8**	P	P	11 09 11.4	-1.8
0.4nm,0.7s,baz=195,slow=8.9,SNR=3.3							
MKAR	**Makanchi Array**	**47.13**	**345**	P	P	11 09 13.9	-2.0
0.4nm,0.8s,baz=163,slow=9.2,SNR=4.1							
ZAL	**Zalesovo**	**53.38**	**350**	LR	LR	11 32 38.9	
comp=Z,35nm,21.8s,baz=80,slow=36							

*NEIC **08** 11:02:10.9±1.5,30.11N×83.19E,h10km,mb3.8/1,Error ellipse: s-maj=34.7km s-min=12.8km az=55.0*
*IDC **08** 11:02:17.2±7.8,30.29N×83.61E,h46km±64km,mb3.2/4, mb1 3.5/6,mb1mx3.3/23,mbtmp3.5/6,ML3.1/1,Error ellipse: s-maj=94.2km s-min=24.9km az=68.0*

ISC 08 11:02:14.9±0.8,30.5N±0.1×84.28E±0.09,h10km,n10, σ1°49/11,mb3.4/4,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.66**	**254**	*e*P	**Pn**	**11 03 14.5**	**+1.7**
LGTI				*e*S	**Sn**	**11 03 56.0**	**-0.5**
LSA	**Lhasa**	**6.01**	**96**	*e*Pn	**Pn**	**11 03 53.4**	**+7.4**
7.8nm,0.6s							
MKAR	**Makanchi Array**	**16.32**	**355**	P	**P**	**11 06 06.2**	**+0.5**
0.1nm,0.3s,baz=181,slow=11,SNR=9.8							
CMAR	**Chiang Mai Arr**	**17.93**	**129**	P	**P**	**11 06 26.6**	**+0.6**
baz=312,slow=12,SNR=4.8							
KURK	**Kurchatov**	**20.61**	**350**	*e*P	**P**	**11 06 52.1**	**-4.7**
3.4nm,0.8s							
ZAL	**Zalesovo**	**23.41**	**1**	P	**P**	**11 07 23.7**	**-0.9**
1.0nm,0.6s,mb3.4,baz=268,slow=5.6,SNR=4.8							
SONM	**Songino Array**	**24.21**	**38**	P	**P**	**11 07 34.6**	**+2.1**
0.4nm,0.6s,mb3.0,baz=225,slow=8.7,SNR=3.9							
WRA	**Warramunga Arr**	**69.52**	**130**	P	**P**	**11 13 23.3**	**-2.8**
0.4nm,0.7s,mb3.5,baz=324,slow=6.3,SNR=8.5							
YKA	**Yellowknife Ar**	**86.08**	**9**	P	**P**	**11 14 54.2**	**-2.3**
0.2nm,0.6s,mb3.5,baz=338,slow=5.2,SNR=7.3							
YKA	**Yellowknife Ar**	**86.08**	**9**	P	**P**	**11 14 54.2**	**-2.3**

*NEIC **08** 11:14:13.4±2.1,9.03S×130.32E,h76km±23km,mb4.3/1, Error ellipse: s-maj=26.6km s-min=9.8km az=221.0*
*IDC **08** 11:14:14.7±5.0,9.13S×130.02E,h88km±51km,mb3.3/3, mb1 3.7/6,mb1mx3.5/15,mbtmp3.8/6,ML3.8/3,MS3.1/1, Ms1 3.1/1,ms1mx2.6/19,Error ellipse: s-maj=42.5km s-min=24.8km az=55.0*

ISC 08 11:14:10.6±2.4,9.03S±0.08×130.1E±0.1,h66km±26km, n10,σ0°76/15,mb3.7/4,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.01**	**205**	P	**P**	**11 16 34.7**	**+0.6**
0.9nm,0.3s,baz=20,slow=10.0,SNR=28							
FITZ				S	**S**	**11 18 25.0**	**-0.7**
1.3nm,0.3s,baz=148,slow=9.5,SNR=3.6							
WRAB	**Tennant Creek**	**11.59**	**160**	*e*Pn	**P**	**11 16 55.1**	**-0.3**
4.6nm,0.6s							
WRAB				*e*Sn	**S**	**11 19 02.3**	**-1.6**
WRA	**Warramunga Arr**	**11.60**	**160**	P	**P**	**11 16 55.3**	**-0.2**
1.0nm,0.3s,baz=336,slow=13,SNR=68							
WRA				S	**S**	**11 19 04.0**	**0.0**
1.1nm,0.3s,baz=336,slow=23,SNR=11							
WB2	**Warramunga Arr**	**11.60**	**160**	*e*P	**P**	**11 16 55.5**	**0.0**
ASAR	**Alice Springs**	**15.00**	**166**	P	**P**	**11 17 40.5**	**+0.2**
0.5nm,0.3s,baz=336,slow=8.9,SNR=25							
ASAR				S	**S**	**11 20 25.1**	**0.0**
0.2nm,0.3s,baz=350,slow=21,SNR=4.8							
ASAR				LR	LR	11 23 45.5	
comp=Z,71nm,19.5s,baz=347,slow=38							
ASPA	**Alice Springs**	**15.00**	**166**	*e*P	**P**	**11 17 40.9**	**+0.6**
ASPA				*e*S	**S**	**11 20 27.9**	**+2.8**
STKA	**Stephens Creek**	**25.11**	**156**	P	**P**	**11 19 31.1**	**+0.1**
0.8nm,0.7s,mb3.2,baz=335,slow=19,SNR=2.4							
ULN	**Ulaanbaatar**	**60.21**	**342**	*e*P	**P**	**11 24 13.7**	**-0.4**
1.7nm,0.7s,mb4.2							
SONM	**Songino Array**	**60.39**	**342**	P	**P**	**11 24 15.0**	**-0.3**
0.6nm,0.7s,mb3.7,baz=152,slow=5.8,SNR=6.4							
MKAR	**Makanchi Array**	**69.97**	**327**	P	**P**	**11 25 17.4**	**+0.4**
0.4nm,0.5s,mb3.5,baz=124,slow=7.9,SNR=3.4							

DJA 08 11:17:03.4±0.9,9.70S×117.39E,h33km,MD4.7/4, ML5.5/4,3C-6D,Error ellipse: s-maj=29.9km s-min=17.3km az=28.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.74**	**314**	⇑*i*Pn	Pn	11 17 30.8	-1.0
2μm,0.1s							
KEDI				⇓*i*Sn	Sn	11 17 50.7	-2.4
RATI	**Rata**	**2.07**	**298**	⇑*i*Pn	Pn	11 17 35.1	-1.5
4μm,0.2s							
RATI	**Rata**	**2.07**	**298**	⇑*i*Pg	P	11 17 35.6	-0.8
RATI				⇓*i*Sn	Sn	11 17 58.6	-2.9
KELI	**Kelakatan**	**3.22**	**297**	⇓*i*Pn	Pn	11 17 51.4	-1.5
895nm,0.2s							
KELI				⇓*i*Sn	Sn	11 18 27.0	-3.5
SRDI	**Scrawed**	**3.42**	**290**	⇓*i*Pn	Pn	11 17 54.2	-1.7
2μm,0.2s							
SRDI				⇓*i*Sn	Sn	11 18 31.2	-4.6

IDC 08 11:22:06.4±3.4,4.29N×95.46E,mb3.6/3,mb1 3.8/4, mb1mx3.5/21,mbtmp3.6/4,Error ellipse: s-maj=128.9km s-min=26.7km az=63.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.49**	**13**	Pn	P	11 25 32.2	-2.7
baz=209,slow=11,SNR=5.6							
WRA	**Warramunga Arr**	**45.16**	**124**	P	P	11 30 25.7	-1.3
0.9nm,0.6s,baz=302,slow=9.2,SNR=11							
ASAR	**Alice Springs**	**46.65**	**128**	P	P	11 30 36.3	-2.4
0.2nm,0.6s,baz=299,slow=7.7,SNR=4.2							
ZAL	**Zalesovo**	**50.26**	**352**	P	P	11 31 04.3	-2.0
1.3nm,0.6s,baz=76,slow=9.7,SNR=6.6							

*IDC **08** 11:26:41.2±1.8,30.45N×83.93E,mb3.7/5,mb1 4.0/6, mb1mx3.7/23,mbtmp3.7/6,MS3.0/2,Ms1 3.1/2, ms1mx2.8/36,Error ellipse: s-maj=49.0km s-min=29.1km az=12.0*
*BJI **08** 11:26:42.7,30.40N×83.90E,h10km,mB4.5,mb4.1*
*NEIC **08** 11:26:42.8±0.9,30.45N×83.93E,h10km,mb3.9/2,Error ellipse: s-maj=25.8km s-min=14.2km az=222.0*
*NDI **08** 11:26:50.5±4.8,30.26N×83.17E,h10km,ML3.8, mb3.9(NEIC)*

ISC 08 11:26:40.6±0.6,30.3N±0.1×83.78E±0.06,h10km,n22, σ1°28/24,mb3.6/7,MS3.0/1,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.18**	**257**	*e*PN	**Pn**	**11 27 36.6**	**+4.9**
PTH				*e*SG	**Sg**	**11 28 19.2**	**-7.3**
LGTI	**Lohaghat**	**3.18**	**255**	*e*PG	**Pg**	**11 27 42.0**	**-2.1**
LGTI				*e*SG	**Sg**	**11 28 25.3**	**-1.3**
JOSI	**Joshimath**	**3.65**	**275**	*e*	**Pn**	**11 27 29.4**	**-9.0**
JOSI				*e*SG	**Sg**	**11 28 34.1**	**-8.1**
JOSI				AML	AML	11 28 37.6	
comp=E,454nm,2.3s							
JOSI				*e*		11 28 38.4	
comp=N,2μm,0.9s							
KALG	**Kalgarh**	**4.43**	**261**	*e*P	**Pn**	**11 27 50.2**	**+0.7**
DDI	**Dehra Dun**	**4.95**	**272**	*e*	**Pn**	**11 27 59.0**	**+2.2**
NDI	**New Delhi**	**5.94**	**256**	*e*P	**Pn**	**11 28 11.0**	**+0.2**
NDI				*e*		11 29 18.5	
AGRA	**Agra**	**5.97**	**241**	*e*PG	**Pg**	**11 28 34.2**	**-5.5**
AGRA				AML	AML	11 30 07.5	
comp=N,53nm,0.3s							
AGRA				AML	AML	11 30 10.7	
comp=E,73nm,0.5s							
AYAN	**Aya Nagar**	**6.08**	**254**	*e*P	**Pn**	**11 28 14.2**	**+1.5**
LSA	**Lhasa**	**6.42**	**94**	*e*Pn	**Pn**	**11 28 22.6**	**+5.0**
comp=E,50nm,1.0s							
KHET	**Khetri**	**7.31**	**254**	*e*P	**Pn**	**11 28 30.0**	**-0.1**
KHET				*e*		11 29 52.8	
JASL	**Jaisalmer**	**11.80**	**257**	*e*	**P**	**11 29 25.8**	**-6.2**
GTA	**Gaotai**	**15.97**	**51**	*e*P	**P**	**11 30 31.6**	**+4.6**
GTA				AMB	AMB		
comp=Z,7.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**18.14**	**127**	P	**P**	**11 30 54.5**	**+0.1**
baz=307,slow=12,SNR=9.5							
CMAR				LR	LR	11 39 04.8	
comp=Z,40nm,18.4s,baz=310,slow=41							
KURK	**Kurchatov**	**20.75**	**351**	*e*P	**P**	**11 31 21.6**	**-2.3**
comp=Z,8.3nm,0.9s							
XAN	**Xi'an**	**21.59**	**74**	P	**P**	**11 31 31.4**	**-1.1**
XAN				AP		11 31 40.3	
XAN				AMB	AMB		
comp=Z,7.0nm,1.0s,mb4.0							
SONM	**Songino Array**	**24.65**	**38**	P	**P**	**11 32 03.5**	**+1.0**
comp=Z,0.9nm,0.8s,mb3.4,baz=225,slow=10.0,SNR=7.7							
CHKZ	**Chkalovo**	**25.23**	**341**	P	**P**	**11 32 07.8**	**-0.1**
comp=Z,1.3nm,0.7s,mb3.6							
GNI	**Garni**	**33.13**	**298**	LR	LR	11 49 22.2	
comp=Z,26nm,18.2s,MS3.0,baz=334,slow=41							
BRTR	**Keskin Array B**	**41.66**	**297**	P	**P**	**11 34 32.9**	**+2.2**
comp=Z,0.2nm,0.3s,mb3.2,baz=108,slow=4.6,SNR=3.5							
MLR	**Muntele Rosu**	**47.10**	**306**	P	**P**	**11 35 15.3**	**+0.9**
comp=Z,1.8nm,0.6s,mb4.2,baz=131,slow=9.3,SNR=4.0							
ILAR	**Eielson Array**	**77.37**	**20**	P	**P**	**11 38 35.6**	**-1.1**
comp=Z,0.5nm,0.8s,mb3.5,baz=314,slow=5.6,SNR=4.3							
YKA	**Yellowknife Ar**	**86.35**	**8**	P	**P**	**11 39 23.3**	**-0.3**
comp=Z,0.3nm,0.7s,mb3.6,baz=338,slow=5.0,SNR=9.9							

*NIED **08** 11:33:00,33.10N×136.90E,h11km,Mw4.0 Best double couple: M0:1.17×10^15 NP1:φ=91°,δ=51°,λ=91°. NP2:φ=269°, δ=39°,λ=88°.*
*IDC **08** 11:33:22.2±0.7,33.11N×136.96E,mb4.0/17,mb1 4.2/20, mb1mx4.1/28,mbtmp4.0/20,ML3.9/3,MS2.9/3,Ms1 2.9/3, ms1mx2.5/38,Error ellipse: s-maj=19.5km s-min=16.4km az=34.0*
*NEIC **08** 11:33:23.7±0.5,33.11N×136.95E,h10km,mb4.2/6,Error ellipse: s-maj=11.9km s-min=8.6km az=121.0*
NEIC Recorded [1 JMA] in Mie and Nara Prefectures.
*JMA **08** 11:33:24.9±0.1,33.11N×136.93E,h38km±4km,M4.2*
JMA Felt I J1.

ISC 08 11:33:25.4±1.4,33.16N±0.03×136.94E±0.03,h32km±10km, n48,σ0°95/64,mb4.0/23,9D,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.81**	**42**	P	**Pn**	**11 33 40.5**	**-0.1**
TK01				S	**Sn**	**11 33 51.7**	**+0.1**
TK02	**Tokai 2**	**1.04**	**41**	⇓P	**Pn**	**11 33 43.9**	**0.0**
TK02				S	**Sn**	**11 33 57.8**	**+0.4**
JWZ	**Kozaga**	**1.09**	**290**	⇓P	**Pn**	**11 33 44.1**	**-0.6**
JWZ				S	**Sn**	**11 33 57.5**	**-1.2**
JKN2	**Miekihoku**	**1.21**	**333**	P	**Pn**	**11 33 46.7**	**+0.3**
JKN2				S	**Sn**	**11 34 01.3**	**-0.5**
JIE	**Ise**	**1.25**	**351**	⇓P	**Pn**	**11 33 47.5**	**+0.7**
JIE				S	**Sn**	**11 34 03.1**	**+0.5**
TK04	**Tokai 4**	**1.45**	**32**	⇓P	**Pn**	**11 33 50.0**	**+0.2**
TK04				S	**Sn**	**11 34 08.2**	**+0.4**
JWM	**Minabe**	**1.50**	**298**	⇓P	**Pn**	**11 33 50.2**	**-0.2**
JWM				S	**Sn**	**11 34 08.1**	**-0.9**
JWY	**Kouya**	**1.54**	**314**	⇓P	**Pn**	**11 33 51.8**	**+0.7**
JWY				S	**Sn**	**11 34 10.2**	**0.0**
TSUJ	**Tsu 2**	**1.61**	**344**	P	**Pn**	**11 33 52.6**	**+0.6**
TSUJ				S	**Sn**	**11 34 12.3**	**+0.5**
JHE	**Heguri**	**1.82**	**325**	⇓P	**Pn**	**11 33 55.6**	**+0.5**
JHE				S	**Sn**	**11 34 17.5**	**+0.2**
JAJ2	**Tsuna**	**2.13**	**307**	⇓P	**Pn**	**11 34 00.0**	**+0.6**
JAJ2				S	**Sn**	**11 34 24.6**	**-0.4**
SHZ3	**Shizuoka 3**	**2.17**	**29**	⇓P	**Pn**	**11 33 59.8**	**-0.3**
SHZ3				S	**Sn**	**11 34 24.5**	**-1.7**
JAI	**Aioi**	**2.18**	**288**	P	**Pn**	**11 33 59.9**	**-0.3**
JAI				S	**Sn**	**11 34 24.7**	**-1.6**
JIZS	**Izushimoda**	**2.24**	**45**	P	**Pn**	**11 34 02.2**	**+1.2**
JHJ	**Hachijo jima 2**	**2.38**	**90**	Pn	**Pn**	**11 34 02.9**	**-0.3**
46nm,0.3s,baz=68,slow=23,SNR=16							
JHJ				Sn	**Sn**	**11 34 28.9**	**-2.6**
97nm,0.3s,baz=177,slow=21,SNR=13							
MAT	**Matsushiro**	**3.53**	**17**	*e*P	**Pn**	**11 34 20.0**	**+0.5**
MAT				*e*S	**Sn**	**11 35 00.0**	**-0.6**
MAT	**Matsushiro**	**3.53**	**17**	P	**Pn**	**11 34 20.1**	**+0.6**
MAT				S	**Sn**	**11 34 59.9**	**-0.7**
MJAR	**Matsushiro Arr**	**3.53**	**17**	Pn	**Pn**	**11 34 19.8**	**+0.3**
20nm,0.3s,baz=

ISC 08 11:34:37.7±1.0, 18.0S±0.2×177.8W±0.2, h500km, n20, σ0∓70/14, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**20.69**	**191**	P		**P**	**11 38 43.1**	**-0.2**
	4.1nm,0.5s,baz=24,slow=10.0,SNR=6.0						
CTA	**Charters Tower**	**34.00**	**261**	P		**P**	**11 40 41.3**	**+0.9**
	2.1nm,0.3s,mb4.0,baz=84,slow=9.6,SNR=6.1						
CTAO	**Charters Tower**	**34.00**	**261**	*eP*		**P**	**11 40 41.5**	**+1.1**
	5.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**39.10**	**241**	P		**P**	**11 41 23.6**	**+1.3**
	2.8nm,0.4s,mb4.0,baz=94,slow=10.0,SNR=10						
WB2	**Warramunga Arr**	**45.17**	**260**	*eP*		**P**	**11 42 10.2**	**-0.6**
WRAB	**Tennant Creek**	**45.17**	**260**	*eP*		**P**	**11 42 10.4**	**-0.4**
	3.8nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**45.18**	**260**	P		**P**	**11 42 10.5**	**-0.4**
	4.1nm,0.4s,mb4.2,baz=95,slow=7.0,SNR=193						
WRA				PcP		PcP	11 43 39.4	-1.8
	0.5nm,0.3s,baz=90,slow=3.8,SNR=6.2						
ASAR	**Alice Springs**	**45.32**	**254**	P		**P**	**11 42 12.0**	**+0.1**
	9.2nm,0.5s,mb4.5,baz=90,slow=8.3,SNR=172						
ASAR				PcP		PcP	11 43 39.5	-2.1
	1.4nm,0.5s,baz=104,slow=3.8,SNR=8.6						
ASPA	**Alice Springs**	**45.33**	**254**	*eP*		**P**	**11 42 11.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**53.58**	**260**	P		**P**	**11 43 12.0**	**-1.4**
	2.0nm,0.3s,mb3.9,baz=24,slow=7.7,SNR=13						
MJAR	**Matsushiro Arr**	**68.31**	**323**	P		**P**	**11 44 50.0**	**0.0**
	2.9nm,0.5s,mb4.1,baz=159,slow=5.8,SNR=8.0						
ILAR	**Eielson Array**	**85.83**	**13**	P		**P**	**11 46 23.8**	**-0.4**
	0.8nm,0.4s,mb3.7,baz=221,slow=4.8,SNR=34						
CMAR	**Chiang Mai Arr**	**89.45**	**289**	P		**P**	**11 46 43.1**	**+0.9**
	1.2nm,0.7s,mb3.8,baz=99,slow=2.9,SNR=7.0						
YKA	**Yellowknife Ar**	**94.16**	**25**	P		**P**	**11 47 03.1**	**+0.2**
	0.2nm,0.5s,mb3.4,baz=241,slow=4.6,SNR=6.2						
ARCES	**ARCESS Array B**	**126.49**	**350**	PKP		PKPdf	11 52 42.5	-0.2
	2.6nm,0.8s,baz=90,slow=0.9,SNR=9.3						
ARCES	**ARCESS Array B**	**126.49**	**350**	PKP		PKPdf	11 52 42.5	-0.2
BRTR	**Keskin Array B**	**145.24**	**315**	PKPbc		PKPbc	11 53 19.6	+0.9
	1.3nm,0.4s,baz=117,slow=2.8,SNR=7.5						
CLL	**Collm**	**145.66**	**348**	*i* PKP1		PKPbc	11 53 21.0	+1.6
KHC	**Kasperske Hory**	**147.59**	**346**	*e*PKPbc		PKPdf	11 53 26.0	+4.7
GERES	**GERESS Array B**	**147.83**	**346**	PKPbc		PKPdf	11 53 24.7	+3.0
	1.5nm,0.5s,baz=34,slow=3.4,SNR=11						

*IDC **08** 11:37:05.1±1.0, 35.32S×53.88E, mb4.1/8, mb1 4.3/8, mb1mx4.0/21, mbtmp4.1/8, MS3.6/4, Ms1 3.6/4, ms1mx3.2/34, Error ellipse: s-maj=46.9km s-min=21.3km az=14.0*

*NEIC **08** 11:37:06.6±0.6, 35.33S×53.87E, h10km, Error ellipse: s-maj=28.8km s-min=12.9km az=194.0*

ISC 08 11:37:05.1±1.0, 35.3S±0.3×53.9E±0.2, h10km, n15, σ0∓48/9, mb4.0/8, MS3.5/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**25.16**	**277**	P		**P**	**11 42 32.5**	**+0.6**
	6.5nm,0.7s,mb4.2,baz=129,slow=9.2,SNR=11						
BOSA				LR	LR	11 51 25.2	
	comp=Z,123nm,18.5s,MS3.5,baz=162,slow=34						
LBTB	**Lobatse**	**26.46**	**285**	LR	LR	11 50 44.7	
	comp=Z,143nm,19.2s,MS3.5,baz=358,slow=31						
MATP	**Matopo**	**26.82**	**297**	P		**P**	**11 42 46.5**	**-1.0**
	1.2nm,0.5s,mb3.7,baz=140,slow=6.0,SNR=4.7						
MATP				LR	LR	11 52 20.2	
	comp=Z,135nm,19.3s,MS3.5,baz=238,slow=34						
SUR	**Sutherland**	**27.57**	**267**	LR	LR	11 53 13.6	
	comp=Z,144nm,18.6s,MS3.6,baz=41,slow=35						
CMAR	**Chiang Mai Arr**	**68.44**	**46**	P		**P**	**11 48 09.6**	**0.0**
	1.1nm,0.8s,mb3.9,baz=236,slow=7.0,SNR=7.5						
ASAR	**Alice Springs**	**68.90**	**105**	P		**P**	**11 48 12.2**	**-0.1**
	1.8nm,0.9s,mb4.0,baz=232,slow=5.6,SNR=5.2						
WRA	**Warramunga Arr**	**71.15**	**101**	P		**P**	**11 48 26.0**	**-0.1**
	2.1nm,0.5s,mb4.3,baz=237,slow=5.5,SNR=5.2						
BRTR	**Keskin Array B**	**76.98**	**344**	P		**P**	**11 49 00.1**	**+0.6**
	1.2nm,0.8s,mb3.9,baz=172,slow=8.7,SNR=5.7						
MLR	**Muntele Rosu**	**84.32**	**341**	P		**P**	**11 49 38.0**	**-0.3**
	1.2nm,0.6s,mb4.2,baz=142,slow=7.2,SNR=4.1						
AKASG	**Malin Array Be**	**88.37**	**345**	P		**P**	**11 49 58.2**	**+0.2**
	0.4nm,0.3s,mb4.2,baz=162,slow=4.6,SNR=5.4						
AKASG	**Malin Array Be**	**88.37**	**345**	P		**P**	**11 49 58.2**	**+0.2**
ILAR	**Eielson Array**	**147.96**	**17**	PKPbc		PKPdf	11 56 50.6	+1.0
	2.3nm,0.8s,baz=318,slow=3.6,SNR=16						
YKA	**Yellowknife Ar**	**151.86**	**349**	PKPbc		PKPdf	11 57 00.7	+5.0
	0.9nm,0.8s,baz=18,slow=2.0,SNR=12						
YKA	**Yellowknife Ar**	**151.86**	**349**	PKPbc		PKPdf	11 57 00.7	+5.0
TXAR	**Lajitas Array**	**160.15**	**259**	PKP		PKPdf	11 57 06.4	-1.1
	0.4nm,0.8s,baz=135,slow=6.4,SNR=2.4						

*IDC **08** 11:38:15.6±0.4, 23.08S×169.29E, mb4.9/19, mb1 5.1/21, mb1mx5.0/23, mbtmp4.9/21, ML4.4/2, MS5.2/21, Ms1 5.2/21, ms1mx5.1/26, Error ellipse: s-maj=15.3km s-min=8.9km az=173.0*

*LDG **08** 11:38:16.3±0.3, 23.02S×169.55E, h10km, Mb5.4/3, Ms5.3/7, Error ellipse: s-maj=41.1km s-min=5.8km az=11.0*

*HRVD **08** 11:38:17.5±0.1, 23.11S×169.21E, h14km, MW5.8/79, Centroid moment Tensor Solution. LP body waves: s73,c162;Mantle waves: s79,c184; Half duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-6.66±.07; $M_{\theta\theta}$6.74±.06; $M_{\phi\phi}$-0.08±.07; $M_{r\theta}$-1.37±.15; $M_{\theta\phi}$0.40±.06; $M_{\phi r}$-0.59±.16; Best double couple: $M_0$6.876×10^{17} NP1: ϕ_s271°, δ39°, λ-83°. NP2:ϕ_s82°, δ51°, λ-95°. Principal axes: T 6.909, Plg6°, Azm176°; N -.068, Plg4°, Azm86°; P -6.844, Plg83°, Azm320°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **08** 11:38:17.8, 22.58S×168.92E, h^3km, mB6.1, mb5.2, Ms5.6, Msz5.4*

*NEIC **08** 11:38:17.5±0.1, 23.14S×169.27E, h10km, mb5.3/53, MS5.4/138, MW6.1, Error ellipse: s-maj=4.8km s-min=4.5km az=87.0, Moment Tensor Solution. s37 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.13; $M_{\theta\theta}$1.31; $M_{\phi\phi}$-0.18; $M_{r\theta}$-1.22; $M_{\theta\phi}$-0.01; $M_{\phi r}$-0.16; Best double couple: $M_0$1.7×10^{18} NP1:ϕ_s278°, δ23°, λ-78°. NP2:ϕ_s84°, δ68°, λ-95°. Principal axes: T 1.81, Plg23°, Azm178°; N -.17, Plg5°, Azm86°; P -1.64, Plg67°, Azm345°;*

*SVSA **08** 11:38:17.1, 23.27S×169.25E, h10km, Mb5.3*

*BGS **08** 11:38:21.5, 23.14S×169.27E, h10km*

*MOS **08** 11:38:21.2±1.4, 22.95S×169.07E, h33km, mb5.5/38, MS5.5/18, Error ellipse: s-maj=9.0km s-min=8.7km az=102.9*

ISC 08 11:38:16.8±0.2, 23.21S±0.03×169.19E±0.03, h15km, h15km±2.3km: pP-P, n482, σ0∓98/209, mb5.2/79, MS5.4/169, 27C-27D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.78**	**294**	*eP*		**Pn**	**11 39 01.8**	**+0.1**
DZM				*e*S		**Sn**	**11 39 35.3**	**+0.1**
DZM	**Mont Dzumac**	**2.78**	**294**	Pn		**Pn**	**11 39 02.2**	**+0.6**
	67nm,0.3s,baz=124,slow=12,SNR=150						
DZM				Sn		**Sn**	**11 39 38.2**	**+3.0**
	260nm,0.3s,baz=147,slow=23,SNR=9.1						
DZM	**Mont Dzumac**	**2.78**	**294**	*eP*		**Pn**	**11 39 01.8**	**+0.1**
DZM				*e*S		**Sn**	**11 39 35.3**	**+0.1**
NOUC	**Port Laguerre**	**2.89**	**292**	*eP*		**Pn**	**11 39 03.7**	**+0.5**
NOUC				*e*S		**Sn**	**11 39 38.2**	**+0.3**
OUZ	**Omahuta**	**12.57**	**163**	*eP*		**P**	**11 41 17.1**	**-0.9**
OUZ	**Omahuta**	**12.57**	**163**	PN		**P**	**11 41 17.5**	**-0.5**
RAO	**Raoul Island**	**13.04**	**120**	LR		LR	11 45 16.2	
	comp=Z,11μm,20.2s,baz=112,slow=32						
WCZ	**Waipu Caves**	**13.45**	**162**	*eP*		**P**	**11 41 30.6**	**+0.9**
WCZ	**Waipu Caves**	**13.45**	**162**	PN		**P**	**11 41 30.3**	**+0.7**
HIZ	**Hauiti**	**16.01**	**164**	*eP*		**P**	**11 42 07.0**	**+4.0**
HIZ	**Hauiti**	**16.01**	**164**	PN		**P**	**11 42 03.0**	**0.0**
HNR	**Honiara**	**16.31**	**326⇑**	*eP*		**P**	**11 42 08.4**	**+1.3**
HNR				pmax		pmax		
	comp=Z,350nm,1.0s						
HNR	**Honiara**	**16.31**	**326⇑**	*eP*		**P**	**11 42 08.3**	**+1.3**
	comp=Z,350nm,0.9s						
URZ	**Urewera**	**16.46**	**157**	Pn		**P**	**11 42 08.8**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=333,slow=7.3,SNR=9.9						
URZ				LR		LR	11 47 37.4	
	comp=Z,29μm,19.0s,baz=152,slow=34						
URZ	**Urewera**	**16.46**	**157**	*e*PN		**P**	**11 42 11.9**	**+3.0**
PUZ	**Puketiti**	**16.73**	**154**	*eP*		**P**	**11 42 06.4**	**-5.8**
PUZ	**Puketiti**	**16.73**	**154**	PN		**P**	**11 42 20.7**	**+8.4**
MRZ	**Mangatainoka R**	**18.22**	**164**	*eP*		**P**	**11 42 29.3**	**-1.5**
MRZ	**Mangatainoka R**	**18.22**	**164**	P*		**P**	**11 42 30.7**	**-0.2**
DSZ	**Denniston Nort**	**18.61**	**174**	*eP**		**P**	**11 42 36.5**	**+0.8**
THZ	**Tophouse**	**18.76**	**171**	*eP*		**P**	**11 42 37.8**	**+0.3**
THZ	**Tophouse**	**18.76**	**171**	P*		**P**	**11 42 38.4**	**+0.9**
RIV	**Riverview**	**19.03**	**232**	*eP*		**P**	**11 42 43.2**	**+2.5**
KHZ	**Kahutara**	**19.50**	**170**	*eP*		**P**	**11 42 45.0**	**-1.1**
KHZ	**Kahutara**	**19.50**	**170**	P*		**P**	**11 42 46.0**	**-0.1**
LTZ	**Lake Taylor**	**19.69**	**173**	*eP*		**P**	**11 42 47.5**	**-0.8**
LTZ	**Lake Taylor**	**19.69**	**173**	P*		**P**	**11 42 48.8**	**+0.5**
AFI	**Afiamalu**	**20.25**	**66**	P		**P**	**11 42 50.8**	**-3.7**
	comp=Z,64nm,0.8s,baz=60,slow=13,SNR=6.0						
AFI				LR		LR	11 48 01.9	
	comp=Z,3μm,19.6s,MS4.6,baz=73,slow=29						
AFI	**Afiamalu**	**20.25**	**66**	*eP*		**P**	**11 42 49.4**	**-5.1**
	comp=Z,113nm,0.9s						
AFI				LR		LR		
	comp=Z,3μm,20.0s,MS4.7						
FOZ	**Fox Glacier**	**20.31**	**179**	*eP**		**P**	**11 42 54.3**	**-0.6**
RPZ	**Rata Peaks**	**20.51**	**176**	P		**P**	**11 42 56.4**	**-0.7**
	comp=Z,86nm,1.0s,baz=40,slow=1.9,SNR=17						
RPZ				LR		LR	11 50 20.4	
	comp=Z,33μm,18.5s,MS5.7,baz=7.2,slow=35						
RPZ	**Rata Peaks**	**20.51**	**176**	P		**P**	**11 42 56.4**	**-0.7**
RPZ				LR		LR	11 50 20.4	
CNB	**Canberra Magne**	**21.04**	**231**	*eP*		**P**	**11 43 05.0**	**+2.4**
	comp=Z,2μm,0.9s,mb6.3						
CNB				*e*S		S	11 47 14.2	+23
LBZ	**Lake Benmore**	**21.14**	**178**	*eP*		**P**	**11 43 03.2**	**-0.3**
MSZ	**Milford Sound**	**21.44**	**182**	*eP**		**P**	**11 43 07.1**	**+0.7**
CTA	**Charters Tower**	**21.54**	**274**	*eP*		**P**	**11 43 09.5**	**+1.8**
	comp=Z,80nm,1.8s,mb4.8						
CTA				*e*S		**S**	**11 47 12.5**	**+12**
CTA	**Charters Tower**	**21.54**	**274**	*eP*		**P**	**11 43 09.5**	**+1.8**
CTA				*e*S		**S**	**11 47 12.5**	**+12**
CTA				pmax		pmax		
	comp=Z,80nm,1.8s							
CTA	**Charters Tower**	**21.54**	**274**	P		**P**	**11 43 09.3**	**+1.6**
	comp=Z,30nm,0.7s,mb4.8,baz=100,slow=12,SNR=25						
CTA				S		**S**	**11 47 13.7**	**+13**
	comp=Z,1.2nm,0.4s,baz=307,slow=20,SNR=3.0						
CTA				LR		LR	11 51 04.3	
	comp=Z,8μm,18.1s,MS5.2,baz=92,slow=36						
CTAO	**Charters Tower**	**21.54**	**274**	*eP*		**P**	**11 43 09.1**	**+1.4**
	comp=Z,868nm,2.0s,mb5.8						
CTAO				LR		LR		
	comp=Z,5μm,20.0s,MS4.9						
TOO	**Toolangi**	**24.87**	**229**	*eP*		**P**	**11 43 43.8**	**+3.6**
	comp=Z,28nm,1.0s,mb4.8						
TOO				*e*S		S	11 48 22.1	+22
TOO	**Toolangi**	**24.87**	**229**	*eP*		**P**	**11 43 43.8**	**+3.6**
TOO				pmax		pmax		
	comp=Z,28nm,1.0s,mb4.8						
PMG	**Port Moresby**	**25.16**	**299**	P		**P**	**11 43 42.9**	**-0.3**
	comp=Z,28nm,0.8s,mb4.9,baz=106,slow=4.8,SNR=6.8						
PMG	**Port Moresby**	**25.16**	**299⇓**	*eP*		**P**	**11 43 42.6**	**-0.6**
	comp=Z,85nm,1.0s,mb5.2						
PMG				LR		LR		
	comp=Z,11μm,19.0s,MS5.4						
STKA	**Stephens Creek**	**25.89**	**244**	*eP*		**P**	**11 43 51.5**	**+1.6**
	comp=Z,42nm,0.9s,mb5.0						
STKA				*e*S		**S**	**11 48 29.5**	**+13**
STKA	**Stephens Creek**	**25.89**	**244**	P		**P**	**11 43 50.4**	**+0.5**
	comp=Z,26nm,0.8s,mb4.8,baz=78,slow=11,SNR=29						
STKA				S		**S**	**11 48 26.9**	**+10**
	comp=Z,2.5nm,0.8s,baz=322,slow=19,SNR=1.5						
STKA				LR		LR	11 53 02.1	
	comp=Z,5μm,18.1s,MS5.1,baz=74,slow=34						
TAU	**Tasmania Unive**	**26.73**	**217**	PFAKE			11 44 10.0	+12
TAU				LR		LR		
	comp=Z,2μm,20.0s,MS4.7						
RAR	**Rarotonga**	**28.78**	**92**	LR		LR	11 52 19.1	
	comp=Z,816nm,20.4s,MS4.3,baz=269,slow=29						
KWAJ	**Kwajalein Atol**	**31.85**	**357**	PFAKE			11 44 50.0	+6.4
KWAJ				LR		LR		
	comp=Z,2μm,21.0s,MS4.7						
ASAR	**Alice Springs**	**32.33**	**262**	P		**P**	**11 44 46.8**	**-1.0**
	comp=Z,6.7nm,0.5s,mb4.8,baz=92,slow=8.7,SNR=39						
ASAR				PcP		PcP	11 47 35.1	-0.6
	comp=Z,8.0nm,0.8s,baz=104,slow=2.9,SNR=4.9						
ASAR				S		**S**	**11 50 02.1**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=122,slow=8.5,SNR=2.3						
ASAR				ScP			11 51 22.4	
	comp=Z,1.8nm,1.0s,baz=78,slow=4.5,SNR=4.5						
ASAR				LR		LR	11 56 40.6	
	comp=Z,2μm,19.7s,MS4.8,baz=96,slow=34						
ASPA	**Alice Springs**	**32.33**	**262⇓**	*iP*		**P**	**11 44 47.2**	**-0.5**
ASPA				*e*S		**S**	**11 50 00.1**	**+0.3**
WB2	**Warramunga Arr**	**32.52**	**269⇓**	*iP*		**P**	**11 44 47.7**	**-1.7**
WRAB	**Tennant Creek**	**32.52**	**269⇓**	*eP*		**P**	**11 44 48.0**	**-1.4**
	comp=Z,35nm,1.0s,mb5.2						
WRAB				LR		LR		
	comp=Z,3μm,19.0s,MS5.0						
WRA	**Warramunga Arr**	**32.53**	**269**	P		**P**	**11 44 48.0**	**-1.5**
	comp=Z,8.1nm,0.6s,mb4.8,baz=98,slow=7.8,SNR=55						
WRA				PcP		PcP	11 47 35.0	-1.3
	comp=Z,5.3nm,0.8s,baz=95,slow=2.7,SNR=7.9						
WRA				S		**S**	**11 50 03.3**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=93,slow=14,SNR=3.3						
FORT	**Forrest**	**37.26**	**249**	*eP*		**P**	**11 45 30.0**	**+0.2**
	comp=Z,1μm,0.7s						
TBI	**Tubuai**	**37.89**	**99**	*e*S		Sx	11 51 04.7	
TBI				*e*LQ			11 54 02.0	
TBI				*e*LR		LR	11 55 51.5	
	comp=Z,2μm,27.8s							
PPT	**Papeete**	**38.96**	**90**	*e*S		Sx	11 51 21.2	
PPT				*e*LQ			11 54 37.4	
PPT				*e*LR		LR	11 56 22.1	
	comp=Z,2μm,24.2s,baz=266							
PPT	**Papeete**	**38.96**	**90**	LR		LR	11 57 13.2	
	comp=Z,1μm,19.2s,MS4.8,baz=255,slow=29							
FITZ	**Fitzroy Crossi**	**40.96**	**269**	*eP*		**P**	**11 45 59.9**	**-0.8**
	comp=Z,53nm,0.8s,mb5.2							
FITZ	**Fitzroy Crossi**	**40.96**	**269**	P		**P**	**11 46 00.3**	**-0.4**
	comp=Z,69nm,0.8s,mb5.4,baz=134,slow=5.7,SNR=66							
FITZ				S		**S**	**11 52 13.7**	**+1.9**
	comp=Z,2.6nm,0.8s,baz=90,slow=19,SNR=1.6							
WAKE	**Wake Island**	**42.30**	**356**	PFAKE			11 46 20.0	+8.2
WAKE				LR		LR		
	comp=Z,174μm,22.0s							
GUMO	**Guam**	**43.64**	**325**	PFAKE			11 46 30.0	+7.3
GUMO				LR		LR		
	comp=Z,3μm,22.0s,MS5.2							
MBWA	**Marble Bar**	**45.67**	**263⇓**	*eP*		**P**	**11 46 38.2**	**-0.8**
	comp=Z,89nm,0.6s,mb5.9							
MBWA				LR		LR		
	comp=Z,6μm,19.0s,MS5.5							
KLBR	**Kellerberrin**	**46.08**	**248**	*eP*		**P**	**11 46 41.3**	**-0.8**
	comp=Z,3μm,1.7s							
NWAO	**Narrogin (SRO)**	**46.46**	**246**	P		**P**	**11 46 44.8**	**-0.3**
	comp=Z,18nm,0.7s,mb5.1,baz=86,slow=7.6,SNR=14							
NWAO				LR		LR	12 05 00.3	
	comp=Z,6μm,18.9s,MS5.6,baz=96,slow=34							
NWAO	**Narrogin (SRO)**	**46.46**	**246**	*eP*		**P**	**11 46 44.5**	**-0.6**
	comp=Z,11nm,0.6s,mb5.0							
NWAO				LR		LR		
	comp=Z,4μm,21.0s,MS5.4							
DRV	**Dumont d'Urvil**	**47.20**	**195**	P		**P**	**11 46 56.0**	**+5.5**
DRV				S		**S**	**11 53 47.0**	**+5.2**
DRV				R			12 01 00.0	
MUN	**Mundaring**	**47.37**	**247**	*eP*		**P**	**11 46 51.6**	**-0.7**
	comp=Z,82nm,0.9s,mb5.7							
MUN	**Mundaring**	**47.37**	**247**	*eP*		**P**	**11 46 51.6**	**-0.7**
MUN				pmax		pmax		
	comp=Z,82nm,0.9s,mb5.7							
RKT	**Rikitea**	**51.05**	**102**	*e*S		Sx	11 54 15.6	
RKT				*e*LQ			11 59 27.5	
RKT				*e*LR		LR	12 01 53.5	
	comp=Z,1μm,30.8s							
VNDA	**Vanda**	**54.48**	**182**	P		**P**	**11 47 44.8**	**-0.8**
	comp=Z,4.1nm,1.0s,mb4.3,baz=355,slow=7.1,SNR=9.0							
VNDA				LR		LR	12 08 08.7	
	comp=Z,4μm,18.3s,MS5.5,baz=328,slow=33							
KIP	**Kipapa**	**54.67**	**38**	PFAKE			11 48 00.0	+12
KIP				LR		LR		
	comp=Z,4μm,19.0s,MS5.5							
SBA	**Scott Base**	**54.71**	**181**	*eP*		**P**	**11 47 45.3**	**-2.0**
	comp=Z,34nm,0.8s,mb5.4							
SBA				LR		LR		
	comp=Z,5μm,22.0s,MS5.5							
POHA	**Pohakuloa**	**54.85**	**42**	PFAKE			11 48 00.0	+11
POHA				LR		LR		
	comp=Z,24μm,22.0s,MS6.2							
CBIJ	**Chichi jima**	**56.41**	**331**	LR		LR	12 09 21.1	
	comp=Z,3μm,22.0s,MS5.3,baz=149,slow=33							
CASY	**Casey**	**56.50**	**204**	*eP*		**P**	**11 47 58.8**	**-1.5**
	comp=Z,28nm,1.2s,mb5.2							
CASY				LR		LR		
	comp=Z,5μm,19.0s,MS5.7							
KKM	**Kota Kinabalu**	**59.34**	**293**	*eP*		**P**	**11 48 20.1**	**-0.9**
KSM	**Kuching**	**62.27**	**285**	*eP*		**P**	**11 48 39.4**	**-1.5**
JHJ	**Hachijo jima 2**	**62.64**	**332**	LR		LR	12 16 08.5	
	comp=Z,2μm,18.2s,MS5.2,baz=93,slow=36							
JOW	**Kunigami**	**63.56**	**319**	LR		LR	12 11 59.5	
	comp=Z,1μm,21.4s,MS5.1,baz=138,slow=32							
NACB	**Ninganchiao**	**65.98**	**312**	*eP*		**P**	**11 49 02.9**	**-2.1**
MJAR	**Matsushiro Arr**	**66.24**	**333**	P		**P**	**11 49 04.3**	**-2.2**
	comp=Z,12nm,0.8s,mb5.0,baz=171,slow=7.4,SNR=22							
MJAR				LR		LR	12 18 21.9	
	comp=Z,1μm,18.1s,MS5.1,baz=140,slow=36							
MAJO	**Matsushiro**	**66.24**	**333**	*eP*		**P**	**11 49 05.6**	**-0.9**
	comp=Z,18nm,0.9s,mb5.1							
MAJO				LR		LR		
	comp=Z,2μm,20.0s,MS5.2							
MAT	**Matsushiro**	**66.24**	**333**	*eP*		**P**	**11 49 05.0**	**-1.5**
MAT				*e*S		S	11 57 49.0	-4.5
MAT				pmax		pmax		
	comp=Z,17nm,0.8s,mb5.1							
MAT				MLR		MLR		
	comp=Z,2μm,18.0s,MS5.3							
MAT	**Matsushiro**	**66.24**	**333**	*eP*		**P**	**11 49 05.0**	**-1.5**
	comp=Z,17nm,0.8s,mb5.1							
MAT				*e*S		S	11 57 49.0	-4.5
MAT				LR		LR		
	comp=Z,2μm,18.0s,MS5.3							
MAT	**Matsushiro**	**66.24**	**333**	P		**P**	**11 49 04.5**	**-2.0**
MAT				S		S	11 57 48.0	-5.5
YHNB	**Yeheng**	**66.46**	**313**	*eP*		**P**	**11 49 08.3**	**+0.3**
TATO	**Taipei**	**66.58**	**313**	PFAKE			11 49 20.0	+11
TATO				LR		LR		
	comp=Z,4μm,21.0s,MS5.6							
QSPA	**South Pole Qui**	**66.86**	**180⇑**	*iP*		**P**	**11 49 10.5**	**+0.7**
	comp=Z,49nm,1.0s,mb5.5							
QZH	**Quanzhou**	**68.54**	**311**	*i* PR			11 49 19.8	
QZH				AMB		AMB		
	comp=Z,3μm,8.2s							
QZH				LR		LR		
	comp=Z,6μm,29.3s,MS5.7							
ERM	**Erimo**	**69.22**	**340**	PFAKE			11 49 40.0	+15
ERM				LR		LR		
	comp=Z,4.0nm,20.0s							
HKC	**Hong Kong**	**70.09**	**306⇑**	*iP*		**P**	**11 49 34.0**	**+3.3**
SSE	**Sheshan**	**70.93**	**318**	P		**P**	**11 49 35.2**	**-0.5**
SSE				AP		pP	11 49 38.5	-2.0
SSE				XP		sP	11 49 39.8	-2.4
SSE				PP		PP	11 52 11.7	-3.5
SSE				S		S	11 58 51.6	+2.3
SSE				XS			11 58 57.0	
SSE				AMB		AMB		
	comp=Z,42nm,0.7s,mb5.5							
SSE				AMB		AMB		
	comp=Z,876nm,9.1s							
SSE				LR		LR		
	comp=N,1μm,21.9s,MS5.2							
SSE				LR		LR		
	comp=E,1μm,21.8s,MS5.2							
SSE				LR		LR		
	comp=Z,2μm,22.6s,MS5.4							
SSE	**Sheshan**	**70.93**	**318**	P		**P**	**11 49 35.2**	**-0.5**
	comp=Z,42nm,0.7s,mb5.5							
SSE				pP		pP	11 49 38.5	-2.0
SSE				sP		sP	11 49 39.8	-2.4
SSE				PP		PP	11 52 11.7	-3.5
SSE				S		S	11 58 51.6	+2.3
SSE				sS			11 58 57.0	
SSE				SS		SS	12 03 26.0	+1.7
SSE				LR		LR		
	comp=Z,2μm,22.6s,MS5.4							
GZH	**Guangzhou**	**71.17**	**306**	P		**P**	**11 49 38.2**	**+1.0**
GZH				LR		LR		
	comp=N,1μm,17.0s,MS5.3							
GZH				LR		LR		
	comp=E,1μm,19.1s,MS5.3							
GZH				LR		LR		
	comp=Z,2μm,23.1s,MS5.2							
ASAJ	**Asahikawa**	**71.29**	**340**	LR		LR	12 17

PET pmax pmax
comp=Z,1μm,8.9s
PET pmax pmax
comp=N,600nm,9.3s
PET pmax pmax
comp=Z,1μm,10.8s
PET pmax pmax
comp=Z,34nm,1.4s,mb5.1
PET pmax pmax
comp=Z,600nm,16.3s
PET pmax pmax
comp=Z,800nm,7.6s
PET smax
comp=E,600nm,22.9s
PET smax
comp=N,1μm,12.3s
PET Petropavlovsk 76.46 353 PFAKE 11 50 20.0 +13
PET LR LR
comp=Z,3μm,22.0s,MS5.6
MDJ Mudanjiang 76.58 332 P **P** **11 50 08.6 +0.2**
MDJ AP pP 11 50 11.9 -1.3
MDJ XP sP 11 50 13.1 -1.8
MDJ PCP PcP 11 50 19.6 -0.7
MDJ PP PP 11 53 00.9 -1.3
MDJ S S 11 59 56.2 +3.7
MDJ AMB AMB
comp=Z,31nm,1.6s,mb5.0
MDJ AMB AMB
comp=Z,1μm,7.8s
MDJ LR LR
comp=N,1μm,42.0s
MDJ LR LR
comp=E,1μm,36.1s
MDJ LR LR
comp=Z,2μm,25.6s
MDJ Mudanjiang 76.58 332 *e*P **P** **11 50 08.4 0.0**
comp=Z,101nm,1.7s,mb5.5
TIA Tai'an 76.88 319 *e*P **P** **11 50 09.7 -0.5**
TIA AMB AMB
comp=Z,75nm,1.4s,mb5.4
SNY Shenyang 77.25 327 ⇓P **P** **11 50 12.6 +0.5**
SNY AMB AMB
comp=Z,2μm,6.5s
SNY LR LR
comp=N,1μm,25.2s,MS5.3
SNY LR LR
comp=E,1μm,25.2s,MS5.3
SNY LR LR
comp=Z,2μm,44.3s
NST Nakhon Sawan 77.79 293 P **P** **11 50 16.1 +0.6**
CN2 Changchun 77.82 329 *e*P **P** **11 50 15.5 +0.3**
CN2 *e*XP sP 11 50 23.0 +1.3
CN2 PP PP 11 53 14.4 +1.5
CN2 *e*S S 12 00 07.0 +1.1
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.1
CN2 AMB AMB
comp=Z,2μm,7.0s
CN2 LR LR
comp=N,1μm,19.0s,MS5.4
CN2 LR LR
comp=E,1μm,19.0s,MS5.4
CN2 LR LR
comp=Z,2μm,21.0s,MS5.3
GYA Guiyang 78.06 306 ⇓*i*P **P** **11 50 16.8 -0.1**
GYA PP PP 11 53 14.3 -1.1
GYA S S 12 00 16.5 +7.6
GYA AMB AMB
comp=Z,80nm,1.3s,mb5.5
GYA AMB AMB
comp=Z,1μm,8.7s
GYA LR LR
comp=N,830nm,19.8s,MS5.3
GYA LR LR
comp=E,1μm,17.7s,MS5.3
GYA LR LR
comp=Z,960nm,18.6s,MS5.2
ENH Enshi 78.17 310 *e*P **P** **11 50 16.9 -0.5**
comp=Z,268nm,1.8s,mb5.9
NANT Nan 78.81 296 ⇓P **P** **11 50 19.0 -2.1**
comp=Z,200nm,1.0s,mb6.0
KLR Kul'dur 79.46 336 *e*P **P** **11 50 22.2 -1.8**
KLR pmax pmax
comp=N,130nm,2.8s
KLR pmax pmax
comp=E,140nm,2.8s
KLR pmax pmax
comp=Z,260nm,2.8s,mb5.7
BDT Bhumibol Dam 79.48 294 P **P** **11 50 24.5 -0.3**
UNV Unalaska Valle 79.56 14 PFAKE 11 50 40.0 +16
UNV LR LR
comp=Z,8μm,22.0s,MS6.0
BJT Baijiatuau 79.98 321 *e*P **P** **11 50 26.9 -0.1**
BJT pmax pmax
comp=Z,27nm,1.0s
BJT Baijiatuau 79.98 321 *e*P **P** **11 50 26.9 -0.2**
comp=Z,28nm,1.0s,mb5.1
BJI Beijing 79.99 321 P **P** **11 50 27.0 -0.1**
BJI AP pP 11 50 30.4 -1.6
BJI XP sP 11 50 31.7 -1.9
BJI AMB AMB
comp=Z,35nm,2.1s,mb4.9
BJI AMB AMB
comp=Z,2μm,6.2s
BJI LR LR
comp=N,940nm,24.2s,MS5.3
BJI LR LR
comp=E,1μm,20.4s,MS5.3
BJI LR LR
comp=Z,2μm,25.5s
BJI Beijing 79.99 321 P **P** **11 50 27.0 -0.1**
BJI *SP sP 11 50 31.7 -1.9
BJI S S 12 00 36.6 +7.6
BJI *SS 12 01 06.7
BJI pmax pmax
comp=Z,35nm,2.1s,mb4.9
BJI MLR MLR
comp=Z,2μm,25.5s,MS5.4
BJI Beijing 79.99 321 P **P** **11 50 27.0 -0.1**
comp=Z,35nm,2.1s,mb4.9
BJI pP pP 11 50 30.4 -1.6
BJI sP sP 11 50 31.7 -1.9
BJI S S 12 00 36.6 +7.6
BJI sS 12 01 06.7
BJI SS SS 12 05 55.9 +14
BJI LR LR
comp=Z,2μm,25.5s,MS5.4
CM31 Chiang Mai Arr 80.11 295 *e*P **P** **11 50 29.1 +1.0**
comp=Z,29nm,0.9s
CM31 LR LR
comp=Z,54390μm,21.0s
CMAR Chiang Mai Arr 80.11 295 P **P** **11 50 29.3 +1.2**
comp=Z,19nm,0.9s,mb5.0,baz=134,slow=4.1,SNR=65
CHG Chiang Mai 80.28 295 ⇓P **P** **11 50 30.3 +1.3**
comp=Z,37nm,1.0s,mb5.3
KMI Kunming 80.34 303 P **P** **11 50 31.0 +1.7**
KMI AP pP 11 50 36.5 +2.3
KMI XP sP 11 50 41.0 +5.2
KMI PP PP 11 53 32.2 -1.8
KMI PPP PPP 11 55 25.3 +0.3
KMI S S 12 00 39.3 +6.3
KMI AMB AMB
comp=Z,28nm,1.4s,mb5.0
KMI AMB AMB
comp=Z,1μm,6.2s
KMI LR LR
comp=N,590nm,18.1s,MS5.3
KMI LR LR
comp=E,1μm,19.6s,MS5.3
KMI LR LR
comp=Z,1μm,18.1s,MS5.3
KMI Kunming 80.34 303 P **P** **11 50 31.0 +1.7**
KMI *SP sP 11 50 41.0 +5.2
KMI 11 53 32.2
KMI PPP PPP 11 55 25.3 +0.3
KMI S S 12 00 39.3 +6.3
KMI pmax pmax
comp=Z,28nm,1.4s,mb5.0
KMI MLR MLR
comp=Z,1μm,18.1s,MS5.3
KMI Kunming 80.34 303 P **P** **11 50 31.0 +1.7**
comp=Z,28nm,1.4s,mb5.0
KMI pP pP 11 50 36.5 +2.3
KMI sP sP 11 50 41.0 +5.2
KMI PP PP 11 53 32.2 -1.8
KMI PPP PPP 11 55 25.3 +0.3
KMI S S 12 00 39.3 +6.3
KMI PS PS 12 00 54.2 -27
KMI SS SS 12 05 54.0 +6.3
KMI LR LR
comp=Z,1μm,18.1s,MS5.3
TIY Taiyuan 80.72 318 *e*P **P** **11 50 31.8 +0.8**
TIY LR LR
comp=N,909nm,17.0s
XAN Xi'an 80.76 313 P **P** **11 50 31.6 +0.3**
XAN AMB AMB
comp=Z,27nm,2.0s,mb4.8
XAN LR LR
comp=N,710nm,21.0s,MS5.2
XAN LR LR
comp=E,904nm,22.0s,MS5.2
XAN LR LR
comp=Z,2μm,20.4s,MS5.3
SYO Syowa Base 81.13 196 ⇓pP pP 11 50 38.5 +1.1
SYO Syowa Base 81.13 196 ⇑PcP PcP 11 50 41.2 +1.8
CD2 Chengdu 82.62 308 P **P** **11 50 41.8 +0.7**
CD2 SKS SKS 12 00 53.7 -10
CD2 S S 12 01 01.7 +5.4
CD2 LR LR
comp=N,1μm,20.4s
CD2 LR LR
comp=Z,2μm,36.0s
HHC Hu-ho-hao-te 83.20 320 ⇓P **P** **11 50 44.5 +0.6**
HHC AP pP 11 50 50.1 +1.3
HHC XP sP 11 50 54.4 +4.0
HHC PP PP 11 53 52.5 -4.7
HHC AMB AMB
comp=Z,30nm,1.4s,mb5.1
HHC AMB AMB
comp=Z,2μm,7.1s
HHC LR LR
comp=N,2μm,21.2s,MS5.4
HHC LR LR
comp=E,1μm,22.9s,MS5.4
HHC LR LR
comp=Z,3μm,23.4s,MS5.5
PMSA Palmer Station 83.22 160 PFAKE 11 51 00.0 +17
PMSA LR LR
comp=Z,3μm,19.0s,MS5.7
MA2 Magadan 83.86 351 *e*P **P** **11 50 46.4 -0.4**
MA2 *e*S S 12 01 07.3 -0.8
MA2 *e*SS SS 12 06 39.3 +0.5
MA2 pmax pmax
comp=Z,10.0nm,1.8s,mb4.6
MA2 Magadan 83.86 351 *e*P **P** **11 50 46.3 -0.5**
comp=Z,9.0nm,1.1s,mb4.8
MA2 LR LR
comp=Z,4μm,22.0s,MS5.7
BTO Baotou 83.98 319 *e*P **P** **11 50 45.9 -1.9**
HIA Hailar 84.51 330 *e*P **P** **11 50 49.7 -0.6**
NVL N'lazarevskaya 84.93 187 ⇓*i*P **P** **11 50 56.0 +4.1**
NVL *i* *i* pP 11 51 02.1 +5.2
NVL *e*S S 12 01 11.4 -7.1
NVL *e*SS SS 12 07 02.8 +8.2
NVL *e*SSS SSS 12 10 32.1 +10
SNAA Sanae 85.21 183 *e*P **P** **11 50 52.6 -0.7**
SNAA pmax pmax
comp=Z,44nm,1.0s
SNAA Sanae 85.21 183 P **P** **11 50 54.1 +0.8**
comp=Z,10.0nm,0.9s,mb5.0,baz=198,slow=5.3,SNR=22
SNAA Sanae 85.21 183 *e*P **P** **11 50 52.6 -0.7**
comp=Z,44nm,1.0s,mb5.5
LZH Lanzhou 85.35 312 *e*P **P** **11 50 56.4 +1.6**
LZH AP pP 11 51 05.9 +6.1
LZH PP PP 11 54 11.0 -3.6
LZH S S 12 01 27.2 +3.8
LZH AMB AMB
comp=Z,60nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,600nm,6.0s
LZH LR LR
comp=E,2μm,16.0s
LZH LR LR
comp=Z,2μm,16.6s,MS5.7
LZH Lanzhou 85.35 312 *e*P **P** **11 50 56.4 +1.6**
LZH *PP pP 11 51 05.9 +6.1
LZH *SP sP 11 51 10.6 +9.3
LZH 11 54 11.0
LZH S S 12 01 27.2 +3.8
LZH PS PS 12 02 26.3 +3.5
LZH pmax pmax
comp=Z,60nm,1.0s,mb5.7
LZH MLR MLR
comp=Z,2μm,16.6s,MS5.7
LZH Lanzhou 85.35 312 *e*P **P** **11 50 56.4 +1.6**
comp=Z,60nm,1.0s,mb5.7
LZH pP pP 11 51 05.9 +6.1
LZH sP sP 11 51 10.6 +9.3
LZH PP PP 11 54 11.0 -3.6
LZH S S 12 01 27.2 +3.8
LZH sS 12 01 45.1
LZH PS PS 12 02 26.3 +3.5
LZH SS SS 12 07 11.0 +9.4
LZH LR LR
comp=Z,2μm,16.6s,MS5.7
SEY Seymchan 86.88 352 *e*P **P** **11 51 03.8 +2.1**
SEY 11 54 26.9
SEY *e*S S 12 01 42.7 +5.2
SEY pmax pmax
comp=Z,50nm,1.4s,mb5.5
SEY smax
comp=N,6μm,20.5s
SEY smax
comp=E,900nm,20.5s
CLNS Chul'man 88.02 337 *e*P **P** **11 51 07.6 +0.3**
CLNS *e*S S 12 01 41.8 -6.5
CLNS pmax pmax
comp=Z,29nm,1.1s,mb5.4
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS smax
comp=N,6.0nm,0.9s
CLNS smax
comp=Z,5.0nm,0.8s
CLNS smax
comp=E,4.0nm,0.9s
SAO San Andreas Ge 88.46 49 *e*P **P** **11 51 10.4 +0.5**
comp=E,35nm,1.1s,mb5.5
SAO LR LR
comp=Z,2μm,20.0s,MS5.6
HOPS Hopland 88.50 46 PFAKE 11 51 20.0 +10
HOPS LR LR
comp=Z,1μm,20.0s,MS5.3
SHL Shillong 89.17 298 *e*P **P** **11 51 14.5 +0.9**
MWC Mount Wilson 89.62 52 *e*P **P** **11 51 15.8 +0.3**
WDC Whiskeytown Da 89.68 45 *e*P **P** **11 51 16.5 +0.9**
comp=Z,24nm,1.2s,mb5.4
WDC LR LR
comp=Z,1μm,19.0s,MS5.3
SLKM Skilak Lake 89.70 19 P **P** **11 51 15.6 +0.4**
GTA Gaotai 89.81 314 *e*P **P** **11 51 16.5 +0.2**
GTA AP pP 11 51 21.4 +0.2
GTA XP sP 11 51 23.9 +1.1
GTA PP PP 11 54 51.6 +0.4
GTA PPP PPP 11 56 53.7 +3.5
GTA SKS SKS 12 01 46.8 -3.6
GTA S S 12 02 10.6 +5.2
GTA XS 12 02 17.6
GTA AMB AMB
comp=Z,1μm,8.7s
GTA LR LR
comp=N,729nm,19.8s,MS5.2
GTA LR LR
comp=E,708nm,23.6s,MS5.2
GTA LR LR
comp=Z,1μm,28.5s,MS5.2
CMB Columbia Colle 89.83 48 *e*P **P** **11 51 16.1 -0.3**
comp=Z,40nm,1.2s,mb5.6
CMB LR LR
comp=Z,2μm,20.0s,MS5.4
ULN Ulaanbaatar 90.01 323 *i*P **P** **11 51 17.7 +0.7**
ULN Ulaanbaatar 90.01 323 *e*P **P** **11 51 17.3 +0.3**
comp=Z,476nm,2.5s,mb6.4
ULN LR LR
comp=Z,873nm,19.0s,MS5.2
YBH Yreka Blue Hor 90.17 44 *e*P **P** **11 51 18.7 +0.8**
comp=Z,12nm,1.0s,mb5.2
YBH LR LR
comp=Z,2μm,20.0s,MS5.5
TNA Tin City 90.21 9 *e*P **P** **11 51 16.5 -1.0**
comp=Z,3.3nm,0.9s,mb4.7
TNA LR LR
comp=Z,905nm,22.0s,MS5.2
SONM Songino Array 90.35 323 P **P** **11 51 18.3 -0.3**
comp=Z,8.3nm,0.8s,mb5.1,baz=142,slow=3.7,SNR=26
SONM PKKPbc 12 08 46.9
comp=Z,0.6nm,0.9s,baz=297,slow=2.8,SNR=3.9
HUMO Hull Mountain 90.47 43 PFAKE 11 51 30.0 +11
HUMO LR LR
comp=Z,2μm,21.0s,MS5.5
PFO Pinyon Flat Ob 90.50 53 *e*P **P** **11 51 20.0 +0.4**
comp=Z,16nm,1.1s,mb5.3
PFO LR LR
comp=Z,462nm,22.0s,MS4.9
OMM Old Mammoth Mi 90.58 49 *e*P **P** **11 51 20.5 +0.6**
YAK Yakutsk 90.62 343 *e*P **P** **11 51 19.7 +0.2**
YAK *e* 11 51 32.9
YAK *e* 11 54 55.7
YAK *e*S 12 01 49.8
YAK *e*SS SS 12 08 17.1 -0.4
YAK pmax pmax
comp=Z,14nm,1.0s,mb5.2
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=Z,185nm,8.7s
YAK pmax pmax
comp=N,42nm,6.6s
YAK pmax pmax
comp=E,48nm,7.9s
YAK smax
comp=N,193nm,8.9s
YAK smax
comp=Z,54nm,6.4s
YAK smax
comp=E,120nm,8.2s
YAK Yakutsk 90.62 343 *i*P **P** **11 51 19.4 -0.1**
YAK LR LR
comp=Z,3μm,22.0s,MS5.7
MTUM Tungsten Hills 90.75 49 *e*P **P** **11 51 21.4 +0.7**
WCN Washoe City 90.88 47 *e*P **P** **11 51 22.1 +0.9**
WCN pmax pmax
comp=Z,21nm,1.1s,mb5.4
WCN Washoe City 90.88 47 *e*P **P** **11 51 22.1 +0.8**
comp=Z,20nm,1.2s,mb5.3
PMR Palmer 90.89 19 *e*P **P** **11 51 19.7 -1.0**
comp=Z,48nm,1.9s,mb5.5
DAC Darwin (Calif) 90.92 51 PFAKE 11 51 30.0 +8.5
DAC LR LR
comp=Z,1μm,20.0s,MS5.4
BILL Bilibino 91.00 359 *d*i P **P** **11 51 20.5 -0.6**
BILL *i* PS PS 12 03 28.8 -0.7
BILL *i* SS SS 12 08 23.5 +0.9
BILL pmax pmax
comp=Z,24nm,1.2s,mb5.4
BILL MLR MLR
comp=Z,500nm,15.0s,MS5.1
BILL Bilibino 91.00 359 *e*P **P** **11 51 20.4 -0.7**
comp=Z,50nm,1.7s,mb5.6
BILL LR LR
comp=Z,1μm,22.0s,MS5.2
COR Corvallis 91.30 41 PFAKE 11 51 30.0 +7.0
COR LR LR
comp=Z,649nm,20.0s,MS5.1
PALK Pallekele 91.44 277 PFAKE 11 51 40.0 +16
PALK LR LR
comp=Z,496nm,20.0s,MS5.0
NVAR Mina Array Bea 91.45 49 P **P** **11 51 23.3 -0.6**
comp=Z,14nm,0.9s,mb5.3,baz=216,slow=5.2,SNR=49
NVAR LR LR 12 27 34.4
comp=Z,1μm,18.2s,MS5.4,baz=255,slow=32
NVAR Mina Array Bea 91.45 49 P **P** **11 51 23.3 -0.6**
NVAR LR LR 12 27 34.4
DIV Divide 91.55 20 *e*P **P** **11 51 23.7 -0.1**
comp=Z,41nm,1.1s,mb5.7
DIV LR LR
comp=Z,4μm,20.0s,MS5.8
MNV Mina 91.56 49 P **P** **11 51 24.6 +0.3**
MNV pmax pmax
comp=Z,29nm,1.1s,mb5.5
MNV Mina 91.56 49 *e*P **P** **11 51 24.2 -0.1**
comp=Z,30nm,1.1s,mb5.5
MNV LR LR
comp=Z,2μm,20.0s,MS5.5
MOD Modoc 91.81 45 *e*P **P** **11 51 25.3 -0.1**
comp=Z,11nm,1.0s,mb5.2
MOD LR LR
comp=Z,1μm,22.0s,MS5.3
TPH Tonopah 92.03 49 P **P** **11 51 27.4 +0.8**
TPH pmax pmax
comp=Z,36nm,1.3s,mb5.5
TPH Tonopah 92.03 49 *e*P **P** **11 51 27.2 +0.6**
comp=Z,36nm,1.3s,mb5.5
TPH LR LR
comp=Z,2μm,20.0s,MS5.5
SIT Sitka 92.48 27 PFAKE 11 51 40.0 +12
SIT LR LR
comp=Z,2μm,20.0s,MS5.4
MCK McKinley 92.64 17 PFAKE 11 51 40.0 +11
MCK LR LR
comp=Z,850nm,21.0s,MS5.2
BOD Bodaibo 92.86 334 *e*P **P** **11 51 29.1 -0.8**
BOD pmax pmax
comp=Z,12nm,2.2s,mb4.9
BMN Battle Mountai 93.14 47 *e*P **P** **11 51 31.9 +0.3**
BMN LR LR
comp=Z,977nm,19.0s,MS5.3
WVOR Wild Horse Val 93.15 45 P **P** **11 51 31.9 +0.3**
WVOR pmax pmax
comp=Z,13nm,1.1s,mb5.3
WVOR Wild Horse Val 93.15 45 *e*P **P** **11 51 31.6 0.0**
comp=Z,13nm,1.2s,mb5.2
WVOR LR LR
comp=Z,1μm,20.0s,MS5.4
DGAR Diego Garcia 93.26 261 PFAKE 11 51 40.0 +7.3
DGAR LR LR
comp=Z,797nm,20.0s,MS5.2
THY Trims Highway 93.30 19 *e*P **P** **11 51 31.2 -0.5**
IMA Indian Mountai 93.36 14 *e*P **P** **11 51 32.4 +0.4**
IMA pmax pmax
comp=Z,16nm,1.4s,mb5.3
IMA Indian Mountai 93.36 14 *e*P **P** **11 51 32.4 +0.4**
comp=Z,16nm,1.4s,mb5.3
ZAK Zakamensk 93.47 324 *e*P **P** **11 51 33.2 +0.3**
ZAK pmax pmax
comp=Z,12nm,1.7s,mb5.0
COLA College 93.83 17 P **P** **11 51 33.5 -0.7**
COLA pmax pmax
comp=Z,16nm,1.1s,mb5.4
COLA College 93.83 17 *e*P **P** **11 51 33.4 -0.8**
comp=Z,31nm,1.3s,mb5.6
TLY Talaya 93.99 325 *d*i P **P** **11 51 35.3 +0.1**
TLY *e* 12 02 13.5
TLY *e*S S 12 02 43.9 +2.1
TLY *e*PS PS 12 04 01.3 -2.4
TLY pmax pmax
comp=Z,30nm,2.0s,mb5.4
ILAR Eielson Array 94.02 17 P **P** **11 51 32.5 -2.5**
comp=Z,6.8nm,1.0s,mb5.0,baz=236,slow=5.7,SNR=32
ILAR PKKPbc 12 08 38.5
comp=Z,0.6nm,0.8s,baz=5.9,slow=2.9,SNR=5.6
ILAR LR LR 12 30 01.4
comp=Z,1μm,20.4s,MS5.4,baz=243,slow=33
MDRS Chennai 94.10 282 *e* **P** **11 51 42.0 +5.4**
TUC Tucson 94.21 57 P **P** **11 51 38.8 +2.1**
TUC *e* 11 51 55.4
TUC pmax pmax
comp=Z,8.0nm,1.3s,mb5.0
TUC Tucson 94.21 57 *e*P **P** **11 51 36.7 0.0**
comp=Z,8.4nm,1.3s,mb5.0
TUC LR LR
comp=Z,1μm,21.0s,MS5.4
HAWA Hanford 94.50 41 PFAKE 11 51 50.0 +12
HAWA LR LR
comp=Z,163nm,21.0s,MS4.5
ARUT Antelope Range 94.57 51 P **P** **11 51 39.8 +1.6**
ARUT Antelope Range 94.57 51 *e*P **P** **11 51 38.8 +0.5**
ELK Elko 94.62 48 P **P** **11 51 39.9 +1.5**
ELK pmax pmax

comp=Z,3.0nm,0.9s
ELK Elko 94.62 48 *e*P **P 11 51 38.6 +0.2**
comp=Z,2.7nm,0.9s,mb4.7
ELK LR LR
comp=Z,1µm,21.0s,MS5.4
WUAZ Wupatki 95.11 54 PFAKE 11 51 50.0 +9.2
WUAZ LR LR
comp=Z,2µm,22.0s,MS5.6
BMO Blue Mountains 95.14 43 *e*P **P 11 51 40.8 +0.2**
BMO LR LR
comp=Z,2µm,21.0s,MS5.5
MOY Mondy 95.38 324 *e*P **P 11 51 41.5 -0.1**
MOY pmax pmax
comp=Z,56nm,2.6s,mb5.5
PLCA Paso Flores 95.60 139 LR LR 12 27 58.4
comp=Z,725nm,19.2s,MS5.2,baz=226,slow=31
PLCA Paso Flores 95.60 139 PFAKE 11 51 50.0 +7.1
PLCA LR LR
comp=Z,905nm,20.0s,MS5.2
DAWY Dawson 95.72 20 *e*P **P 11 51 42.9 0.0**
MVU Marysvale 95.75 51 *e*P **P 11 51 44.2 +0.6**
MVU LR LR
comp=Z,2µm,20.0s,MS5.6
MSU Marysvale 95.78 51 *e*P **P 11 51 44.6 +0.8**
DUG Dugway 96.05 49 *e*P **P 11 51 46.2 +1.2**
comp=Z,2.3nm,1.0s,mb4.6
DUG LR LR
comp=Z,2µm,19.0s,MS5.6
HLID Hailey 96.42 45 *e*P **P 11 51 47.2 +0.7**
comp=Z,3.2nm,1.0s,mb4.7
HLID LR LR
comp=Z,872nm,21.0s,MS5.2
NEW Newport 96.83 40 PFAKE 11 52 00.0 +12
NEW LR LR
comp=Z,1µm,21.0s,MS5.4
HWUT Hardware Ranch 97.50 48 PFAKE 11 52 00.0 +8.6
HWUT LR LR
comp=Z,1µm,20.0s,MS5.4
MSO Missoula 98.13 42 PFAKE 11 52 10.0 +16
MSO LR LR
comp=Z,1µm,20.0s,MS5.4
MNTX Cornudas Mount 98.18 59 PFAKE 11 52 10.0 +15
MNTX LR LR
comp=Z,2µm,22.0s,MS5.5
AHID Auburn Hatcher 98.28 47 PFAKE 11 52 10.0 +15
AHID LR LR
comp=Z,924nm,21.0s,MS5.2
ANMO Albuquerque 98.57 56 *i* P **P 11 51 56.6 +0.2**
ANMO Albuquerque 98.57 56 PFAKE 11 52 10.0 +14
ANMO LR LR
comp=Z,2µm,22.0s,MS5.5
TIXI Tiksi 98.60 348 *i* P **P 11 51 55.9 +0.2**
TIXI LR LR
comp=Z,1µm,20.0s,MS5.4
TPAW Teton Pass 98.67 46 *e*P **P 11 51 59.9 +3.2**
comp=Z,4.1nm,0.8s,mb5.0
LTX Lajitas 98.68 62 PFAKE 11 52 10.0 +13
LTX LR LR
comp=Z,2µm,22.0s,MS5.5
TXAR Lajitas Array 98.68 62 P **P 11 51 56.5 -0.6**
comp=Z,1.0nm,1.0s,mb4.3,baz=225,slow=5.3,SNR=8.1
TXAR PKKPbc 12 08 27.2
comp=Z,0.6nm,0.7s,baz=101,slow=4.1,SNR=6.0
TXAR LR LR 12 27 07.8
comp=Z,1µm,21.0s,MS5.4,baz=225,slow=30
TXAR Lajitas Array 98.68 62 P **P 11 51 56.5 -0.6**
TXAR PKKPbc 12 08 27.2
TXAR LR LR 12 27 07.8
IMW Indian Meadow 98.84 46 *e*P **P 11 51 57.3 -0.1**
comp=Z,3.2nm,1.0s,mb4.8
BOZ Bozeman (W) 99.10 44 PFAKE 11 52 10.0 +11
BOZ LR LR
comp=Z,2µm,22.0s,MS5.7
BW06 Boulder Array 99.33 48 PFAKE 11 52 10.0 +10
BW06 LR LR
comp=Z,883nm,21.0s,MS5.2
PDAR Pinedale Array 99.33 48 P **P 11 51 59.1 -0.6**
comp=Z,1.0nm,0.9s,mb4.3,baz=225,slow=2.1,SNR=7.3
PDAR PP PP 11 56 01.6 -3.6
comp=Z,0.7nm,1.0s,baz=270,slow=5.9,SNR=4.2
LKWY Lake 99.47 46 PFAKE 11 52 10.0 +10
LKWY LR LR
comp=Z,1µm,19.0s,MS5.4
WMQ Urumqi 99.90 313 ⇓P **P 11 52 02.9 +0.6**
WMQ AP pP 11 52 07.6 +0.3
WMQ XP sP 11 52 09.9 +1.1
WMQ PP PP 11 56 10.4 +0.6
WMQ PPP PPP 11 58 19.1 +0.3
WMQ SKS SKS 12 02 39.7 -5.4
WMQ S S 12 03 33.1 +1.1
WMQ XS 12 03 40.9
WMQ PS PS 12 05 07.9 +1.3
WMQ AMB AMB
comp=Z,2.0nm,0.7s,mb4.7
WMQ AMB AMB
comp=Z,422nm,7.1s
WMQ LR LR
comp=N,600nm,18.8s,MS5.4
WMQ LR LR
comp=E,1µm,21.6s,MS5.4
WMQ LR LR
comp=Z,2µm,24.3s,MS5.5
SDCO Great Sand Dun 100.32 53 PFAKE 11 52 20.0 +16
SDCO LR LR
comp=Z,2µm,20.0s,MS5.5
ISCO Idaho Springs 100.98 51 PFAKE 11 52 20.0 +13
ISCO LR LR
comp=Z,945nm,22.0s,MS5.3
AMTX Amarillo 102.21 57 PFAKE 11 52 20.0 +7.0
AMTX LR LR
comp=Z,1µm,21.0s,MS5.3
JCT Junction City 102.22 62 PFAKE 11 52 20.0 +6.9
JCT LR LR
comp=Z,1µm,22.0s,MS5.4
TRQA Tornquist 102.41 141 PFAKE 11 52 30.0 +16
TRQA LR LR
comp=Z,663nm,19.0s,MS5.2
LAO LASA Array 102.97 45 PFAKE 11 52 30.0 +14
LAO LR LR
comp=Z,2µm,22.0s,MS5.7
RSSD Black Hills 103.56 48 PFAKE 11 52 30.0 +11
RSSD LR LR
comp=Z,255nm,19.0s,MS4.8
YKA Yellowknife Ar 104.19 28 Pdiff Pdif 11 52 20.9 -0.1
comp=Z,1.4nm,1.2s,baz=255,slow=4.6,SNR=6.3
YKA PKIKP 11 56 37.5
comp=Z,0.3nm,0.7s,baz=244,slow=1.5,SNR=6.0
WMOK Wichita Mounta 104.42 58 PFAKE 11 52 30.0 +7.3
WMOK LR LR
comp=Z,1µm,22.0s,MS5.4
MKAR Makanchi Array 104.51 315 Pdiff Pdif 11 52 25.2 +2.4
comp=Z,1.2nm,0.9s,baz=101,slow=6.2,SNR=6.4
MKAR PKKPbc 12 08 07.4
comp=Z,1.7nm,0.8s,baz=291,slow=4.2,SNR=9.9
CBKS Cedar Bluff 104.95 54 PFAKE 11 52 40.0 +15
CBKS LR LR
comp=Z,816nm,20.0s,MS5.3
NATX Nacogdoches 106.81 62 PFAKE 11 57 00.0
NATX LR LR
comp=Z,2µm,22.0s,MS5.6
LVC Limon Verde 107.42 125 PFAKE 11 57 00.0
LVC LR LR
comp=Z,1µm,22.0s,MS5.4
KURK Kurchatov 107.96 318 PFAKE 11 57 00.0
KURK LR LR
comp=Z,193nm,19.0s,MS4.7
MIAR Mount Ida 108.47 60 PFAKE 11 57 00.0
MIAR LR LR
comp=Z,1µm,21.0s,MS5.5
JTS JuntasAbangare 108.48 86 PFAKE 11 57 00.0
JTS LR LR
comp=Z,111nm,19.0s,MS4.5
TEIG Tepich 108.79 76 PFAKE 11 57 00.0
TEIG LR LR
comp=Z,218nm,19.0s,MS4.7
MSEY Mahe Island 109.70 256 PFAKE 11 57 00.0
MSEY LR LR
comp=Z,388nm,19.0s,MS5.0
ULM Lac du Bonnet 110.56 43 *e*PKP PKPdf 11 56 49.7 -2.4
ULM LR LR
comp=Z,528nm,19.0s,MS5.1
OTAV Otavalo 110.58 99 PFAKE 11 57 00.0 +7.0
OTAV LR LR
comp=Z,357nm,20.0s,MS4.9
CCM Cathedral Cave 111.17 57 PFAKE 11 57 00.0 +6.4
CCM LR LR
comp=Z,282nm,21.0s,MS4.8
LPAZ La Paz 111.58 120 PFAKE 11 57 10.0 +15
LPAZ LR LR
comp=Z,556nm,22.0s,MS5.1
OXF Oxford 111.79 61 PFAKE 11 57 00.0 +5.2
OXF LR LR
comp=Z,1µm,22.0s,MS5.4
PLAL Pickwick Lake 112.96 60 PFAKE 11 57 10.0 +13
PLAL LR LR
comp=Z,1µm,22.0s,MS5.5
EYMN Ely 112.97 46 *e*PKP PKPdf 11 56 53.7 -3.2
EYMN LR LR
comp=Z,3µm,21.0s,MS5.8
FCC Fort Churchill 112.99 34 PKIKP PKPdf 11 56 53.1 -3.5
FCC Fort Churchill 112.99 34 *e*PKP PKPdf 11 56 52.8 -3.9
LRAL Lakeview Retre 113.40 63 PFAKE 11 57 10.0 +12
LRAL LR LR
comp=Z,1µm,21.0s,MS5.4
WVT Waverly 113.41 59 PFAKE 11 57 10.0 +12
WVT LR LR
comp=Z,1µm,21.0s,MS5.4
BVAR Borovoye Array 113.41 319 PKiKP 11 56 56.2
comp=Z,2.1nm,0.8s,baz=63,slow=3.3,SNR=7.8
BVAR PKKPbc 12 07 38.0
comp=Z,0.7nm,0.7s,baz=252,slow=4.6,SNR=2.6
WCI Wyandotte Cave 115.03 57 PFAKE 11 57 10.0 +8.9
WCI LR LR
comp=Z,274nm,22.0s,MS4.8
GOGA Godfrey 116.37 63 PFAKE 11 57 10.0 +6.1
GOGA LR LR
comp=Z,2µm,22.0s,MS5.6
DWPF Disney 116.95 69 PFAKE 11 57 10.0 +4.9
DWPF LR LR
comp=Z,131nm,20.0s,MS4.5
SUR Sutherland 117.00 210 PFAKE 11 57 20.0 +15
SUR LR LR
comp=Z,772nm,22.0s,MS5.3
AAM Ann Arbor 117.65 53 PFAKE 11 57 20.0 +14
AAM LR LR
comp=Z,1µm,20.0s,MS5.5
BOSA Boshof 117.85 216 PFAKE 11 57 20.0 +13
BOSA LR LR
comp=Z,2µm,20.0s,MS5.8
ACSO Alum Creek Sta 117.89 56 PFAKE 11 57 20.0 +13
ACSO LR LR
comp=Z,1µm,21.0s,MS5.6
NHSC New Hope 119.02 64 PFAKE 11 57 20.0 +11
NHSC LR LR
comp=Z,1µm,20.0s,MS5.6
SVE Sverdlovsk 119.23 323 *e*PKIKP PKPdf 11 57 04.6 -4.2
SVE *e* 11 58 26.0
SVE *e* 12 04 04.0
SVE *e* 12 08 16.0
SVE *e* 12 09 36.0
BLA Blacksburg 119.46 59 *e*PKPdf PKPdf 11 57 07.5 -2.3
BLA LR LR
comp=Z,1µm,22.0s,MS5.5
SAML Samuel 119.63 116 PFAKE 11 57 20.0 +9.4
SAML LR LR
comp=Z,614nm,22.0s,MS5.2
TRIS Tristan da Cun 120.03 179 PFAKE 11 57 20.0 +9.2
TRIS LR LR
comp=Z,3µm,22.0s,MS5.8
MCWV Mont Chateau 120.21 57 PFAKE 11 57 20.0 +8.9
MCWV LR LR
comp=Z,1µm,21.0s,MS5.6
ERPA Erie 120.34 54 PFAKE 11 57 20.0 +8.7
ERPA LR LR
comp=Z,902nm,20.0s,MS5.4
ARU Arti 120.39 323 *e*PKIKP PKPdf 11 57 07.8 -3.3
ARU Arti 120.39 323 *e*PKPdf PKPdf 11 57 07.8 -3.3
ARU LR LR
comp=Z,394nm,22.0s,MS5.0
LBTB Lobatse 120.47 219 PKP PKPdf 11 57 09.7 -2.3
comp=Z,2.0nm,0.4s,baz=112,slow=9.6,SNR=3.9
LBTB Lobatse 120.47 219 PKP PKPdf 11 57 09.7 -2.3
LBTB LR LR
comp=Z,2µm,19.0s,MS5.7
SDV Santo Domingo 121.14 94 PFAKE 11 57 20.0 +6.4
SDV LR LR
comp=Z,285nm,20.0s,MS4.9
SSPA Standing Stone 121.80 56 PFAKE 11 57 20.0 +5.8
SSPA LR LR
comp=Z,220nm,20.0s,MS4.8
CBN Corbin 121.98 58 PFAKE 11 57 20.0 +5.4
CBN LR LR
comp=Z,2µm,20.0s,MS5.7
MATP Matopo 122.12 225 PKP PKPdf 11 57 13.1 -2.2
comp=Z,4.3nm,0.7s,baz=121,slow=3.2,SNR=8.2
BINY Binghamton 123.31 54 PFAKE 11 57 30.0 +13
BINY LR LR
comp=Z,1µm,21.0s,MS5.5
NCB Newcomb 124.64 52 *e*PKPdf PKPdf 11 57 16.5 -3.2
NCB LR LR
comp=Z,2µm,22.0s,MS5.7
LSZ Lusaka 125.98 229 *e*PKPdf PKPdf 11 57 20.5 -2.4
LSZ LR LR
comp=Z,3µm,20.0s,MS5.9
DAG Danmarks Havn 126.24 2⇑ *e*PKIKP PKPdf 11 57 19.1 -2.8
DAG pmax pmax
comp=Z,3.0nm,0.9s
DAG Danmarks Havn 126.24 2⇑ *i*P PKPdf 11 57 19.1 -2.8
comp=Z,2.5nm,0.9s
HRV Harvard--Oak R 126.60 53 PFAKE 11 57 30.0 +6.6
HRV LR LR
comp=Z,1µm,20.0s,MS5.6
WES Weston 126.78 54 PFAKE 11 57 30.0 +6.3
WES LR LR
comp=Z,3µm,20.0s,MS5.9
BDFB Brasília 126.94 133 PKP PKPdf 11 57 22.6 -2.1
comp=Z,6.8nm,0.8s,baz=54,slow=1.3,SNR=6.3
KMBO Kilima Mbogo 127.38 249 PKP PKPdf 11 57 23.5 -2.2
comp=Z,1.5nm,0.7s,baz=4.5,slow=6.8,SNR=4.1
KMBO Kilima Mbogo 127.38 249 *e*PKPdf PKPdf 11 57 24.5 -1.2
KMBO LR LR
comp=Z,925nm,20.0s,MS5.5
WVL Waterville 127.89 51 PFAKE 11 57 30.0 +4.1
WVL LR LR
comp=Z,5µm,22.0s,MS6.1
APA Apatity 127.95 340⇓ *i*PKIKP PKPdf 11 57 16.0 -9.4
APA MLR MLR
comp=Z,3µm,22.0s,MS5.9
SCHQ Schefferville 128.10 38 PKP PKPdf 11 57 25.1 -0.9
comp=Z,3.5nm,0.9s,baz=179,slow=2.4,SNR=6.2
SCHQ Schefferville 128.10 38 *e*PKPdf PKPdf 11 57 23.2 -2.8
SJG San Juan 128.22 85 PFAKE 11 57 40.0 +13
SJG LR LR
comp=Z,358nm,19.0s,MS5.1
PQI Presque Isle 128.85 48 PFAKE 11 57 40.0 +12
PQI LR LR
comp=Z,5µm,20.0s,MS6.2
ARCES ARCESS Array B 128.87 344 PKP PKPdf 11 57 24.1 -3.0
comp=Z,6.3nm,0.8s,baz=53,slow=1.4,SNR=19
EMMW East Machias 129.45 50 PFAKE 11 57 40.0 +11
EMMW LR LR
comp=Z,8µm,22.0s,MS6.4
TSUM Tsumeb 129.55 216 PKP PKPdf 11 57 27.3 -2.5
comp=Z,2.6nm,0.8s,baz=286,slow=0.8,SNR=6.2
TSUM Tsumeb 129.55 216 *e*PKPdf PKPdf 11 57 27.5 -2.2
TSUM LR LR
comp=Z,2µm,19.0s,MS5.9
GNI Garni 130.59 304 PFAKE 11 57 40.0 +8.8
GNI LR LR
comp=Z,593nm,20.0s,MS5.3
ZEI Tsey 131.04 307 *e*PKIKP PKPdf 11 57 31.7 -0.3
KIV Kislovodsk 131.78 309 PKIKP PKPdf 11 57 33.0 -0.3
KIV *e* 11 57 45.2
KIV *e*SS SS 12 17 21.4 -4.9
KIV MLR MLR
comp=Z,1µm,23.0s,MS5.5
KIV Kislovodsk 131.78 309 PFAKE 11 57 40.0 +6.7
KIV LR LR
comp=Z,175nm,20.0s,MS4.8
BBSR BB Station 131.88 67 PFAKE 11 57 40.0 +6.1
BBSR LR LR
comp=Z,496nm,22.0s,MS5.2
OBN Obninsk 132.74 325 *i* PKIKP PKPdf 11 57 34.9 +0.1
OBN *e* 12 00 04.2
OBN PS PS 12 10 02.0 -10
OBN *i* 12 11 54.0
OBN *e*SS SS 12 17 55.1 +17
OBN pmax pmax
comp=Z,33nm,2.0s
OBN MLR MLR
comp=Z,2µm,21.0s,MS5.7
OBN Obninsk 132.74 325 PFAKE 11 57 40.0 +5.2
OBN LR LR
comp=Z,460nm,22.0s,MS5.1
MBAR Mbarara 133.19 245 PFAKE 11 57 50.0 +13
MBAR LR LR
comp=Z,257nm,20.0s,MS4.9
SOC Sochi 133.97 309 *i* PKIKP PKPdf 11 57 31.6 -5.7
SOC *e* 12 00 02.4
SOC *e*PPP PPP 12 02 57.9 -5.4
SOC *e* 12 04 46.0
SOC *e*PS PS 12 10 21.0 -1.3
SOC *e*SS SS 12 17 50.2 -2.4
SOC pmax pmax
comp=N,6.0nm,0.6s
SOC pmax pmax
comp=Z,4.0nm,0.6s
SOC pmax pmax
comp=E,6.0nm,0.4s
FINES FINESS Array B 134.21 336 PKhKP 11 57 26.8
comp=E,0.8nm,0.6s,baz=56,slow=6.9,SNR=4.1
FINES PKP PKPdf 11 57 34.8 -2.5
comp=E,4.8nm,0.9s,baz=90,slow=3.8,SNR=8.8
BORG Borgarnes 137.90 7 PFAKE 11 57 50.0 +5.9
BORG LR LR
comp=Z,383nm,22.0s,MS5.1
AKASG Malin Array Be 138.62 322 PKP PKPdf 11 57 44.5 -1.3
comp=Z,4.8nm,0.8s,baz=54,slow=2.2,SNR=10.0
BR131 Keskin Array S 139.11 304 PFAKE 11 58 00.0 +13
BR131 LR LR
comp=Z,585nm,19.0s,MS5.3
BRTR Keskin Array B 139.11 304 PKP PKPdf 11 57 44.2 -2.7
comp=Z,1.0nm,0.8s,baz=90,slow=2.5,SNR=3.7
NOA NORSAR Array B 139.24 344 PKP PKPdf 11 57 44.2 -2.4
comp=Z,1.9nm,0.8s,baz=28,slow=2.0,SNR=5.2
NOA NORSAR Array B 139.24 344 PKP PKPdf 11 57 44.2 -2.4
KIS Kishinev 140.42 317 *e*PKHKP 11 57 36.0
KIS *e*PPP PPP 12 03 50.0 -3.8
KIS MLR MLR
comp=N,2µm,22.0s,MS5.8
KIS MLR MLR
comp=E,900nm,22.0s,MS5.8
KIS MLR MLR
comp=Z,2µm,22.0s,MS5.8
KIS MLR MLR
comp=Z,2µm,22.0s
KONO Kongsberg 140.85 344 PFAKE 11 58 00.0 +11
KONO LR LR
comp=Z,2µm,20.0s,MS5.9
LVV L'vov 141.97 323 *e*PKIKP PKPdf 11 57 46.3 -5.4
RCBR Riachuelo 142.13 137 PFAKE 11 58 00.0 +6.9
RCBR LR LR
comp=Z,1µm,19.0s,MS5.6
BURAR Bucovina Array 142.37 319 ⇑P PKPdf 11 57 51.8 -0.7
BURAR Bucovina Array 142.37 319 ⇑P PKPdf 11 57 51.8 -0.7
BSD Bornholm Skovb 142.84 336 *i* P PKPdf 11 57 46.5 -6.5
BSD *i* 12 01 06.4
MLR Muntele Rosu 142.85 316 PKP PKPdf 11 57 48.5 -4.8
comp=Z,3.4nm,0.7s,baz=317,slow=3.6,SNR=7.1
MLR Muntele Rosu 142.85 316 ⇓P PKPdf 11 57 50.8 -2.6
MLR Muntele Rosu 142.85 316 ⇓P PKPdf 11 57 50.8 -2.5
COP Copenhagen 143.29 338 *e*PKHKP 11 57 45.4
COP *i* 12 01 09.6
COP MLR MLR
comp=Z,510nm,21.0s,MS5.3
COP Copenhagen 143.29 338 *i* P PKPbc 11 57 45.4 -3.0
COP *i* 12 01 09.6
comp=Z,500nm,21.0s
KOLS Kolonicke sedl 143.41 323 *e*PKP PKPdf 11 57 52.7 -1.5
MUD Monsted U'grnd 143.70 341 *e*PKIKP PKPdf 11 57 52.2 -2.2
MUD *i* 12 01 08.6
MUD MLR MLR
comp=Z,2µm,21.0s,MS5.8
MUD Monsted U'grnd 143.70 341 *i* P PKPbc 11 57 52.2 +2.6
MUD *i* 12 01 08.6
comp=Z,2µm,21.0s
CRVS Cervenica-Dubn 143.88 323 *e*PKP PKPdf 11 57 55.1 +0.1
OJC Ojcow 144.00 326 *e*PKP PKPdf 11 57 46.5 -8.6
NIE Niedzica 144.20 325 *e*PKP PKPdf 11 57 50.8 -4.7
KECS Kecovo 144.65 323 *e*PKP PKPdf 11 57 53.8 -2.6
RAC Raciborz 144.89 327 *e*PKPdf PKPdf 11 57 54.3 -2.5
RAC MLR MLR 12 57 09.5
comp=Z,3µm,26.4s,MS5.9
OKC Ostrava-Krasne 145.07 327 *e*PKP PKPdf 11 57 53.8 -3.3
OKC AMS AMS 12 59 30.0
comp=Z,2µm,25.2s
PGB Panagyurishte 145.19 312 *e*P PKPbc 11 57 55.0 +0.7
RUE Ruedersdorf 145.25 333 *e*PKPbc PKPbc 11 57 55.5 +1.4
PSZ Piszkesteto 145.29 323 PKIKP PKPdf 11 57 56.0 -1.5
PSZ Piszkesteto 145.29 323 *e*PKPdf PKPdf 11 57 55.6 -1.9
PSZ Piszkesteto 145.29 323⇑ *i*PKP/p 11 57 55.9
KSP Ksiaz 145.31 329 *e*PKIKP PKPdf 11 57 54.9 -2.6
KSP *e* 12 13 58.0
KSP Ksiaz 145.31 329 *e*PKP PKPdf 11 57 54.9 -2.6
KSP *e*PP PP 12 01 08.0 -9.2
KSP *e* 12 13 58.0
KSP *e*SS SS 12 20 13.0 +8.0
KSP LR LR
comp=Z,6µm,28.3s,MS6.2
MORC Moravsky Berou 145.41 327 PKIKP PKPdf 11 57 56.8 -0.9
MORC Moravsky Berou 145.41 327 ⇑P PKPbc 11 57 55.9 +1.4
MORC Moravsky Berou 145.41 327 ⇑P PKPbc 11 57 55.9 +1.3
BSEG Bad Segeberg 145.43 338 *e*PKIKP PKPdf 11 57 55.3 -2.3
BZS Buzias 145.50 318 PKIKP PKPdf 11 57 56.7 -1.3
BZS Buzias 145.50 318 ⇑P PKPbc 11 57 55.5 +0.6
BZS Buzias 145.50 318 ⇑P PKPbc 11 57 55.5 +0.5
VYHS Vyhne 145.54 324 *e*PKP PKPdf 11 57 56.2 -1.7
DPC Dobruska-Polom 145.63 329 *e*PKP PKPdf 11 57 56.5 -1.5
DPC AMS AMS 13 03 30.0
comp=Z,2µm,20.3s
UPC Upice 145.67 329 *e*PKP PKPdf 11 57 56.5 -1.6
VTS Vitosha 145.83 313 ⇑P PKPbc 11 57 57.4 +1.5
VTS Vitosha 145.83 313 *e*P PKPbc 11 57 57.0 +1.1
VTS Vitosha 145.83 313 ⇑P PKPbc 11 57 57.4 +1.5
MMB Musomiste 145.86 311 *e*P PKPbc 11 57 56.0 0.0
BOLS Boljevac 146.13 315⇑ *i*PKP PKPdf 11 57 57.0 -2.0
VRAC Vranov 146.19 327 PKP2 PKPab 11 57 58.2 -1.0
VRAC Vranov 146.19 327 PKPbc PKPbc 11 57 58.3 +1.8
comp=Z,19nm,0.9s,baz=52,slow=5.4,SNR=19
VRAC Vranov 146.19 327 ⇑P PKPbc 11 57 58.4 +1.9
VRAC Vranov 146.19 327 ⇑P PKPbc 11 57 58.4 +1.9
KKB Krupnik 146.20 312 *e*P PKPbc 11 57 58.0 +1.2
NPS Neapolis 146.21 299 *e*P PKPbc 11 58 00.0 +3.0
PVCC Panska Ves 146.33 330 *e*PKP PKPdf 11 57 57.9 -1.3
PVCC AMS AMS 13 00 30.0
comp=Z,2µm,21.9s
BRG Berggiesshubel 146.36 331 *e*PKP2 PKPab 11 57 57.7 -2.1
BRG *e* 12 01 26.0
BRG *e*SS 12 14 07.0
BRG pmax pmax
comp=Z,99nm,1.2s
BRG MLR MLR
comp=N,980nm,22.3s,MS5.7
BRG MLR MLR
comp=E,810nm,22.3s,MS5.7
BRG MLR MLR
comp=Z,1µm,22.3s,MS5.7
BRG Berggiesshubel 146.36 331 *e*PKP PKPdf 11 57 57.7 -1.5
BRG *i* 11 58 00.5
BRG *e*PP PP 12 01 26.0 +2.5
BRG *e* 12 04 08.6
BRG *e*SS 12 14 07.0
BRG LR LR
comp=Z,1µm,22.3s,MS5.7
SVIS Svilajnac 146.39 317⇑ *i*PKP PKPdf 11 57 55.5 -4.0
CLL Collm 146.45 333 *i* PKP2 PKPab 11 57 58.2 -1.9
CLL pmax pmax
comp=Z,728nm,2.7s
CLL MLR MLR
comp=Z,1µm,19.2s,MS5.7
CLL Collm 146.45 333 *i* PKP PKPdf 11 57 58.2 -1.2
CLL *e*PKP PKPdf 11 58 12.0 +13
CLL *e* 11 59 02.0
CLL LR LR
comp=Z,1µm,19.2s,MS5.7
CLL Collm 146.45 333⇓ *i*PKP1 PKPbc 11 57 58.2 +1.2
CLL *e* 11 58 12.0
CLL *i* 11 58 22.3
CLL *e* 11 59 02.0
CLL *e*PP PP 12 01 22.0 -2.0
CLL *e*SKSP 12 11 37.0
CLL *e* 12 14 08.0
CLL *e* 12 15 14.0
ZST Bratislava 146.63 325 *e*PKP PKPdf 11 58 00.3 +0.5

ZST			*e*L			12 02 32.6	
PRA	**Prague**	**146.71 330**	PKP	PKPdf		11 58 00.0	+0.1
PRU	**Pruhonice**	**146.72 330**	*e*PKP	PKPdf		11 57 58.9	-1.0
PRU			AMS	AMS		12 59 40.0	
VAY	**Valandovo**	**146.76 311** ⇓	*i*PKP	PKPdf		11 57 58.9	-1.4
EDI	**Edinburgh**	**146.84 352**	*e*P	PKPbc		11 58 01.0	+3.2
EDI			AMb	AMB		11 58 01.5	
	comp=Z,124nm,1.2s						
GRUS	**Gruza**	**146.90 316** ⇓	*i*PKP	PKPdf		11 58 00.2	-0.1
CLZ	**Clausthal**	**147.09 336**	*e*PKPbc	PKPdf		11 57 59.9	-0.5
DIVS	**Divcibare**	**147.26 317** ⇓	*i*PKP	PKPdf		11 57 58.0	-3.0
SKO	**Skopje**	**147.28 313** ⇓	*i*PKP	PKPdf		11 58 01.1	0.0
VAM	**Vamos**	**147.31 300**	*e*P	PKPdf		11 58 03.0	+1.7
EKA	**Eskdalemuir Ar**	**147.42 352**	PKPbc	PKPdf		11 57 59.6	-1.2
	comp=Z,40nm,0.8s,baz=342,slow=2.6,SNR=33						
ESK	**Eskdalemuir**	**147.44 352**	*e*PKPbc	PKPdf		11 58 00.9	0.0
ESK			LR	LR			
	comp=Z,261nm,20.0s,MS5.0						
ESK	**Eskdalemuir**	**147.44 352**	*e*P	PKPdf		11 58 02.3	+1.4
ESK			AMb	AMB		11 58 05.4	
	comp=Z,87nm,1.0s						
NKC	**Novy Kostel**	**147.48 332**	*e*PKP	PKPdf		11 58 01.7	+0.6
MOX	**Moxa**	**147.53 333**	*e*PKP	PKPdf		11 58 02.5	+1.3
KHC	**Kasperske Hory**	**147.76 329**	*e*PKP	PKPdf		11 58 00.6	-1.0
KHC			*e*pPKP			11 58 10.0	
KHC			AMS	AMS		13 01 30.0	
	comp=Z,1μm,21.1s						
GEC2	**GERESS Array S**	**147.91 329**	*e*PKP2	PKPab		11 58 02.4	-3.5
GERES	**GERESS Array B**	**147.91 329**	PKPbc	PKPdf		11 58 03.1	+1.2
	comp=Z,17nm,0.9s,baz=45,slow=1.9,SNR=37						
VLI	**Veliai**	**147.99 303**	*e*P	PKPdf		11 58 02.0	-0.4
KYTH	**Kithira**	**148.03 302**	*e*P	PKPdf		11 57 58.0	-4.5
ARSA	**Arzberg**	**148.06 325** ⇑	*i*P	PKPdf		11 58 01.6	-0.5
	comp=Z,33nm,1.6s						
OHR	**Ohrid**	**148.07 312** ⇓	*i*PKP	PKPdf		11 58 02.8	+0.4
EVR	**Evrytania**	**148.18 307**	*e*P	PKPdf		11 58 04.5	+1.9
WTSB	**Winterswijk**	**148.26 339**	*e*PKP	PKPdf		11 58 03.3	+1.0
	comp=Z,148nm,1.2s						
MOA	**Molln**	**148.31 327** ⇑	*i*P	PKPdf		11 57 59.6	-2.9
	comp=Z,19nm,0.9s						
GRA1	**Grafenberg Arr**	**148.41 332**	*e*PKPbc	PKPdf		11 58 03.2	+0.6
GRA1			*e*PP	PP		12 01 36.2	+0.7
GRA1			LR	LR			
	comp=Z,800nm,21.3s,MS5.5						
GRF	**Grafenberg Arr**	**148.41 332**	*e*PKP	PKPdf		11 58 03.2	+0.6
GRF			*e*PP	PP		12 01 36.2	+0.7
GRF			LR	LR			
	comp=Z,800nm,21.3s,MS5.5						
HPK	**Haverah Park**	**148.52 350**	*e*P	PKPdf		11 58 04.5	+1.8
HPK			AMb	AMB		11 58 10.0	
	comp=Z,477nm,1.7s						
JAN	**Janina**	**148.61 309**	*e*P	PKPdf		11 58 05.0	+1.7
ITM	**Ithomi**	**148.64 304**	*e*P	PKPdf		11 58 05.0	+1.6
SISC	**Sisak**	**148.69 322**	*i* PKP	PKPdf		11 58 05.0	+1.9
GOLS	**Golise**	**148.78 323**	*e*PKPdf	PKPdf		11 58 05.0	+1.7
LHO	**Holmfirth**	**148.96 350**	*e*P	PKPdf		11 58 05.0	+1.6
LHO			AMb	AMB		11 58 07.3	
	comp=Z,145nm,1.4s						
OBKA	**Obir**	**149.05 325** ⇓	*i*P	PKPdf		11 58 00.3	-3.4
	comp=Z,36nm,2.0s						
TNS	**Taunus Mts**	**149.12 336**	*e*PKP2	PKPab		11 58 05.0	-5.8
KBA	**Koelnbreinsper**	**149.29 327** ⇓	*i*P	PKPdf		11 58 02.3	-1.8
	comp=Z,20nm,0.7s						
BOJS	**Bojanci**	**149.30 323**	*e*PKPdf	PKPdf		11 58 06.0	+1.8
VLS	**Valsamata**	**149.33 306**	*e*P	PKPdf		11 58 06.0	+1.5
KEK	**Kerkira**	**149.34 310**	*e*P	PKPdf		11 58 08.0	+3.6
LJU	**Ljubljana**	**149.36 324**	*e*PKPdf	PKPdf		11 58 04.7	+0.5
KWE	**Weaver Farm**	**149.46 349**	*e*P	PKPdf		11 58 05.7	+1.4
KWE			AMb	AMB		11 58 09.6	
	comp=Z,193nm,1.7s						
TOD	**Tromm**	**149.47 335**	PKP	PKPdf		11 58 07.2	+2.9
HGN	**Heimansgroeve**	**149.57 339**	*e*PKP	PKPdf		11 58 06.3	+1.9
	comp=Z,93nm,1.6s						
ABH	**Alteburg**	**149.74 336**	PKP	PKPdf		11 58 08.1	+3.4
PTCC	**Patocco-Chiusa**	**149.74 326**	*e*PKP	PKPdf		11 58 07.2	+2.3
STU	**Stuttgart**	**149.97 333**	*e*PKP2	PKPab		11 58 08.5	-5.9
WATA	**Walderalm**	**149.98 329** ⇑	*i*P	PKPdf		11 58 08.0	+2.8
	comp=Z,17nm,0.7s						
KTD	**Kalmit**	**149.99 335**	PKP	PKPdf		11 58 08.8	+3.6
WTTA	**Wattenberg**	**150.00 329** ⇑	*i*P	PKPdf		11 58 06.0	+0.8
	comp=Z,62nm,1.0s						
RUP	**Ruppelstein**	**150.06 336**	PKP	PKPdf		11 58 08.6	+3.3
NVLJ	**Novalja**	**150.08 322**	*i* P	PKPdf		11 58 05.0	-0.4
MOTA	**Moosalm**	**150.20 329** ⇑	*i*P	PKPdf		11 58 08.3	+2.8
	comp=Z,1.1nm,0.9s						
SQTA	**Sankt Quirin**	**150.24 329** ⇓	*i*P	PKPdf		11 58 08.5	+2.9
	comp=Z,26nm,0.6s						
LANF	**Langenberg**	**150.37 335**	PKP	PKPdf		11 58 09.5	+3.8
WLF	**Walferdange**	**150.42 337**	*e*PKIKP	PKPdf		11 58 09.4	+3.6
GIVF	**Givet**	**150.50 339**	*e*PKP1	PKPdf		11 58 08.5	+2.6
	comp=Z,143nm,0.9s						
BFO	**Black Forest**	**150.68 333**	*e*PKIKP	PKPdf		11 58 09.2	+3.0
BAIF	**Baives**	**150.73 340**	*e*PKP1	PKPdf		11 58 09.1	+2.8
	comp=Z,67nm,1.0s						
DAVA	**Damuels**	**150.81 330** ⇑	*i*P	PKPdf		11 58 08.3	+1.8
	comp=Z,17nm,0.7s						
CTI	**Castel Tesino**	**150.85 327**	*e*PKP	PKPdf		11 58 10.4	+3.8
WLS	**Welschbruch**	**151.00 335**	PKP	PKPdf		11 58 10.7	+4.0
CDF	**Champ du Feu**	**151.03 335**	*e*PKP1	PKPdf		11 58 09.6	+2.8
	comp=Z,49nm,1.0s						
FELD	**Feldberg**	**151.17 333**	PKP	PKPdf		11 58 09.0	+2.0
BRMO	**Bormio**	**151.17 329**	*e*PKP	PKPdf		11 58 11.7	+4.7
DAVOX	**Davos**	**151.18 330**	PKPbc	PKPdf		11 58 09.5	+2.5
	comp=Z,28nm,0.6s,baz=136,slow=3.5,SNR=28						
ECH	**Echery**	**151.24 335**	PKP	PKPdf		11 58 11.4	+4.3
RGNG	**Rignano Grg**	**151.28 316**	*e*PKP	PKPdf		11 58 12.9	+5.5
MOF	**Molkenrain**	**151.54 334**	PKP	PKPdf		11 58 12.3	+4.8
THEF	**They Montfort**	**151.68 336**	PKP	PKPdf		11 58 12.5	+4.8
HINF	**Hinteralfeld**	**151.68 334**	*e*PKP1	PKPdf		11 58 10.9	+3.2
	comp=Z,33nm,0.9s						
TIP	**Timpagrande**	**151.70 311**	*e*PKPdf	PKPdf		11 58 05.9	-2.1
TIP			*e*PKPbc	PKPdf		11 58 12.8	+4.8
HAU	**Haudompre**	**151.73 335**	*e*PKP1	PKPdf		11 58 11.1	+3.3
	comp=Z,78nm,1.1s						
HAU			*e*R				
	comp=Z,651nm,22.0s						
MEZF	**Maizieres J'vi**	**151.79 337**	*e*PKP1	PKPdf		11 58 11.7	+3.8
	comp=Z,119nm,1.0s						
MRLC	**Muro Lucano**	**151.81 315**	*e*PKP	PKPdf		11 58 12.8	+4.6
ARV	**Arcevia**	**151.83 322**	*e*PKP	PKPdf		11 58 12.9	+4.8
SNTG	**Esanatoglia**	**151.98 321**	*e*PKP	PKPdf		11 58 13.2	+4.9
SGO	**Sicignano**	**152.03 314**	*e*PKP	PKPdf		11 58 12.8	+4.3
LOMF	**Lomont**	**152.07 334**	PKP	PKPdf		11 58 13.5	+5.2
NRCA	**Norcia**	**152.14 320**	*e*PKP	PKPdf		11 58 14.3	+5.8
SFI	**Santa Sofia**	**152.19 323**	*e*PKP	PKPdf		11 58 14.6	+6.0
VMG	**Vicchio**	**152.32 324**	*e*PKP	PKPdf		11 58 15.9	+7.1
ZCCA	**Zocca**	**152.36 325**	*e*PKP	PKPdf		11 58 16.4	+7.5
MCGN	**Macugnaga**	**152.67 331**	*e*PKP	PKPdf		11 58 16.0	+6.7
CABF	**La Chapelle**	**152.97 334**	*e*PKP1	PKPdf		11 58 14.3	+4.7
	comp=Z,80nm,1.3s						
FLN	**La Foliniere**	**153.22 345**	*e*PKP1	PKPdf		11 58 14.1	+4.2
FLN			*e*R				
	comp=Z,2μm,22.8s						
LDF	**La Druitiere**	**153.28 344**	*e*PKP1	PKPdf		11 58 14.1	+4.1
LPL	**La Plagne**	**153.56 332**	*e*PKP1	PKPdf		11 58 15.7	+5.2
	comp=Z,21nm,0.9s						
SSF	**Saint Saulge**	**153.56 338**	*e*PKP1	PKPdf		11 58 15.2	+4.8
	comp=Z,42nm,1.0s						
LPG	**La Plagne**	**153.57 332**	*e*PKP1	PKPdf		11 58 16.0	+5.5
	comp=Z,31nm,0.9s						
SMF	**Signal de Mont**	**153.80 337**	*e*PKP1	PKPdf		11 58 15.7	+4.9
AVF	**Avril sur Loir**	**153.85 338**	*e*PKP1	PKPdf		11 58 15.5	+4.7
MBDF	**Montbardon**	**154.16 330**	*e*PKP1	PKPdf		11 58 16.3	+5.0
ORIF	**Oris-en-Rattie**	**154.41 332**	*e*PKP1	PKPdf		11 58 16.4	+4.8
ORIF			*e*R				
	comp=Z,2μm,23.0s						
TCF	**Toulx Ste Croi**	**154.68 339**	*e*PKP1	PKPdf		11 58 17.6	+5.6
	comp=Z,28nm,1.0s						
ADH	**Angra Heroismo**	**159.18 39**	*i* LR	LR		12 53 00.0	
DBIC	**Dimbokro**	**162.59 200**	*e*PKPab	PKPab		11 59 07.9	-1.4
DBIC			LR	LR			
	comp=Z,1μm,20.0s						
ESLA	**Sonseca Array**	**162.59 342**	PFAKE			11 58 30.0	+8.5
ESLA			LR	LR			
	comp=Z,7μm,20.0s						

DJA 08 11:46:00.7±0.8, 8.92S×115.27E, h101km±7km, MD4.6/4, ML3.8/3, 5C-3D, Error ellipse: s-maj=35.2km s-min=7.9km az=6.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.32**	**52** ⇑	*i*Pn	P	11 46 15.3	-0.3
	920nm,0.2s						
RATI			⇑	*i*Sn	S	11 46 25.9	-0.9
KEDI	**Kedomdong**	**0.94**	**63** ⇓	*i*Pn	P	11 46 20.2	-0.6
	100nm,0.1s						
KEDI			⇓	*i*Sn	S	11 46 34.4	-1.4
KELI	**Kelakatan**	**1.04**	**312** ⇑	*i*Pn	P	11 46 21.5	-0.5
	77nm,0.2s						
KELI			⇓	*i*Sn	S	11 46 36.9	-1.0
SRDI	**Scrawed**	**1.20**	**291** ⇑	*i*Pn	P	11 46 23.4	-0.5
	241nm,0.2s						
SRDI			⇑	*i*Sn	S	11 46 40.0	-1.2

*IDC **08** 11:48:24.5±9.1, 23.06S×169.21E, mb3.8/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, ML3.4/1, MS2.7/1, Ms1 2.7/1, ms1mx2.5/25, Error ellipse: s-maj=168.4km s-min=48.8km az=48.0*

ISC 08 11:48:26.5±3.1, 23.1S±0.4×169.3E±0.3, h33km, n7, σ0°66/8, mb3.6/3, MS2.5/1, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.84**	**290**	*e*P	**P**	**11 49 11.0**	**+0.5**
DZM				*e*S	**S**	**11 49 44.0**	**+0.1**
DZM	**Mont Dzumac**	**2.84**	**290**	Pn	**Pn**	**11 49 11.2**	**+0.5**
	6.3nm,0.3s,baz=130,slow=17,SNR=42						
DZM				Sn	**Sn**	**11 49 43.7**	**-0.4**
	14nm,0.3s,baz=155,slow=22,SNR=5.2						
NOUC	**Port Laguerre**	**2.95**	**288**	*e*P	**P**	**11 49 12.3**	**+0.2**
AFI	**Afiamalu**	**20.08**	**66**	LR	LR	11 58 16.5	
	comp=Z,21nm,18.8s,MS2.5,baz=152,slow=29						
STKA	**Stephens Creek**	**26.07**	**244**	P	**P**	**11 53 59.9**	**+1.0**
	2.4nm,0.7s,mb3.8,baz=90,slow=8.1,SNR=4.9						
ASAR	**Alice Springs**	**32.48**	**262**	P	**P**	**11 54 55.4**	**-0.9**
	0.8nm,0.9s,mb3.5,baz=74,slow=9.3,SNR=4.1						
WRA	**Warramunga Arr**	**32.66**	**269**	P	**P**	**11 54 56.8**	**-1.0**
	0.8nm,1.0s,mb3.6,baz=105,slow=9.2,SNR=3.4						

*IDC **08** 11:55:53.5±2.9, 30.24N×83.57E, mb3.7/4, mb1 3.8/6, mb1mx3.6/23, mbtmp3.6/6, ML3.7/2, MS4.0/2, Ms1 4.0/2, ms1mx3.4/33, Error ellipse: s-maj=92.4km s-min=23.6km az=75.0*

*NEIC **08** 11:55:53.2±1.3, 30.17N×83.06E, h10km, mb3.7/1, Error ellipse: s-maj=31.5km s-min=12.0km az=60.0*

*NDI **08** 11:55:55.0±0.8, 31.01N×83.34E, h10km, MD3.1*

ISC 08 11:55:53.0±0.7, 30.28N±0.09×83.42E±0.08, h10km, n12, σ1°14/12, mb3.5/4, MS4.4/1, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**2.88**	**254**	*e*PG	**Pg**	**11 56 57.3**	**+6.8**
LGTI				*e*SG	**Sg**	**11 57 42.5**	**+14**
DDI	**Dehra Dun**	**4.64**	**272**	*e*P	**Pn**	**11 57 05.0**	**+0.2**
NDI	**New Delhi**	**5.64**	**255**	*e*PG	**Pg**	**11 57 46.0**	**+0.5**
LSA	**Lhasa**	**6.73**	**93**	*e*Pn	**Pn**	**11 57 37.5**	**+3.1**
	12nm,0.6s						
MKAR	**Makanchi Array**	**16.51**	**357**	Pn	**P**	**11 59 46.2**	**0.0**
	0.1nm,0.3s,baz=172,slow=9.9,SNR=3.6						
MKAR				LR	LR	12 07 33.8	
	comp=Z,190nm,18.3s,baz=194,slow=42						
CMAR	**Chiang Mai Arr**	**18.38**	**126**	P	**P**	**12 00 09.8**	**+0.1**
	0.2nm,0.3s,baz=315,slow=12,SNR=2.7						
KURK	**Kurchatov**	**20.73**	**351**	*e*P	**P**	**12 00 33.7**	**-2.4**
	4.4nm,1.1s						
ZAL	**Zalesovo**	**23.66**	**2**	P	**P**	**12 01 07.1**	**+1.9**
	3.9nm,0.5s,mb4.1,baz=177,slow=19,SNR=7.3						
SONM	**Songino Array**	**24.86**	**39**	P	**P**	**12 01 16.8**	**-0.1**
	0.7nm,0.8s,mb3.2,baz=229,slow=8.7,SNR=4.5						
CBIJ	**Chichi jima**	**51.16**	**78**	LR	LR	12 26 19.3	
	comp=Z,395nm,20.4s,MS4.4,baz=305,slow=36						
WRA	**Warramunga Arr**	**69.95**	**129**	P	**P**	**12 07 06.2**	**-0.6**
	0.6nm,0.8s,mb3.6,baz=326,slow=6.4,SNR=9.3						
ASAR	**Alice Springs**	**72.28**	**132**	P	**P**	**12 07 20.0**	**-0.8**
	0.3nm,0.9s,mb3.2,baz=323,slow=6.3,SNR=2.7						

*CSEM **08** 12:03:22.7±0.2, 35.69N×49.01E, h2km, ML3.5, Error ellipse: s-maj=5.5km s-min=2.0km az=177.0*

*THR **08** 12:03:23.7±0.8, 35.59N×48.85E, h14km±7km, ML3.4*

*TEH **08** 12:03:26.4, 35.64N×49.01E, h10km, Mn3.5*

ISC 08 12:03:25.8±0.9, 35.5N±0.1×49.05E±0.05, h10km, n20, σ1°04/21, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.73**	**100**	Pg	**Pg**	**12 03 38.7**	**-1.7**
IRAZ				Sg	**Sg**	**12 03 50.7**	**+0.5**
ASAO	**Ashtian**	**1.27**	**141**	*e*PG	**Pg**	**12 03 50.0**	**-1.3**
ASAO				AML	AML	12 04 12.8	
	comp=N,390nm,0.4s						
IMHD	**Mahdasht**	**1.32**	**83**	Pn	**Pn**	**12 03 48.7**	**-1.7**
SNGE	**Sanandaj**	**1.46**	**253**	*e*PG	**Pg**	**12 03 48.0**	**-7.1**
SNGE				*e*SG	**Sg**	**12 04 06.7**	**-7.9**
SNGE				AML	AML	12 04 09.4	
	comp=N,682nm,0.4s						
SNGE	**Sanandaj**	**1.46**	**253**	*e*Pg	**Pg**	**12 03 48.0**	**-7.1**
	SNR=92						
SNGE				*e*Sg	**Sg**	**12 04 06.7**	**-7.9**
	comp=N,682nm,0.4s,SNR=92						
IQOM	**Qom**	**1.79**	**112**	Pn	**Pn**	**12 03 58.1**	**+1.0**
IQOM	**Qom**	**1.79**	**112**	Lg		12 04 24.6	
IKOM	**Komasi**	**1.86**	**223**	Pn	**Pn**	**12 03 58.6**	**+0.6**
IVIS	**Veys**	**2.07**	**241**	Pn	**Pn**	**12 04 01.1**	**+0.1**
IVRN	**Varamin**	**2.25**	**103**	Pn	**Pn**	**12 04 05.3**	**+1.6**
IDHR	**Dehrash**	**2.34**	**250**	Pn	**Pn**	**12 04 04.8**	**-0.1**
IGHG	**Ghaleghazi**	**2.37**	**240**	Pn	**Pn**	**12 04 05.5**	**+0.1**
DAMV	**Damavand**	**2.38**	**87**	*e*PN	**Pn**	**12 04 06.9**	**+1.4**
DAMV				AML	AML	12 04 43.1	
	comp=N,343nm,0.3s						
IDMV	**Damavand**	**2.43**	**88**	Pn	**Pn**	**12 04 05.9**	**-0.3**
IFIR	**Firoozkooh**	**3.02**	**87**	Pn	**Pn**	**12 04 13.9**	**-0.7**
IFIR	**Firoozkooh**	**3.02**	**87**	Lg		12 05 01.9	
IKLH	**Kalahroud**	**3.04**	**136**	Pn	**Pn**	**12 04 18.4**	**+3.4**
SHGR	**Shooshtar-Gavs**	**3.43**	**184**	*e*PN	**Pn**	**12 04 19.4**	**-1.1**
SHGR				AML	AML	12 05 34.0	
	comp=N,90nm,0.6s						
IZEF	**Zefreh**	**3.78**	**133**	Pn	**Pn**	**12 04 25.9**	**+0.4**
NASN	**Na'in**	**4.14**	**130**	*e*PN	**Pn**	**12 04 31.0**	**+0.5**
NASN				AML	AML	12 06 01.6	
	comp=N,17nm,0.6s						

IDC 08 12:08:07.5±3.2, 1.03N×96.86E, mb3.7/5, mb1 3.8/6, mb1mx3.7/19, mbtmp3.6/6, ML4.0/1, Error ellipse: s-maj=124.9km s-min=21.8km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.44**	**7**	P	P	12 12 12.7	-1.3
	0.2nm,0.3s,baz=195,slow=9.2,SNR=4.1						
WRA	**Warramunga Arr**	**42.24**	**122**	P	P	12 16 02.8	-1.6
	0.3nm,0.5s,baz=302,slow=9.0,SNR=5.4						
ASAR	**Alice Springs**	**43.57**	**127**	P	P	12 16 13.4	-1.8
	1.5nm,0.8s,baz=288,slow=4.4,SNR=12						
MKAR	**Makanchi Array**	**47.33**	**346**	P	P	12 16 43.1	-1.7
	0.3nm,0.5s,baz=156,slow=8.7,SNR=4.4						
SONM	**Songino Array**	**47.35**	**9**	P	P	12 16 43.1	-2.0
	0.7nm,0.9s,baz=193,slow=12,SNR=4.2						
ZAL	**Zalesovo**	**53.67**	**351**	P	P	12 17 30.5	-2.6
	1.2nm,0.4s,baz=195,slow=2.1,SNR=3.5						

IDC 08 12:10:27.6±3.4, 1.23N×97.31E, mb3.6/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, ML4.1/1, Error ellipse: s-maj=120.1km s-min=28.8km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.20**	**5**	P	P	12 14 29.7	-1.3
	0.3nm,0.3s,baz=194,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**41.95**	**122**	P	P	12 18 20.5	-1.7
	0.2nm,0.5s,baz=302,slow=9.1,SNR=4.8						
SONM	**Songino Array**	**47.09**	**8**	P	P	12 19 01.7	-1.5
	0.3nm,0.4s,baz=198,slow=9.1,SNR=3.7						
MKAR	**Makanchi Array**	**47.24**	**346**	P	P	12 19 02.4	-2.0
	0.5nm,0.5s,baz=154,slow=7.9,SNR=4.2						
ZAL	**Zalesovo**	**53.54**	**351**	P	P	12 19 49.5	-2.8
	0.6nm,0.4s,baz=71,slow=7.5,SNR=3.5						

IDC 08 12:12:54.8±7.6, 0.50N×97.76E, mb3.9/4, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=169.2km s-min=96.3km az=130.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.88**	**4**	P	P	12 17 04.2	-2.5
	0.3nm,0.3s,baz=196,slow=11,SNR=8.3						
SONM	**Songino Array**	**47.74**	**8**	P	P	12 21 33.2	-2.2
	0.4nm,0.4s,baz=191,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**48.05**	**346**	P	P	12 21 36.3	-1.6
	1.1nm,0.5s,baz=162,slow=8.1,SNR=13						
ZAL	**Zalesovo**	**54.32**	**351**	P	P	12 22 23.9	-1.2
	1.5nm,0.5s,baz=77,slow=2.8,SNR=3.8						
BVAR	**Borovoye Array**	**57.09**	**341**	P	P	12 22 41.9	-3.3
	0.4nm,0.5s,baz=149,slow=8.4,SNR=3.1						

IDC 08 12:13:24.8±2.2, 17.21S×177.77W, mb3.8/4, mb1 4.2/4, mb1mx3.8/16, mbtmp3.8/4, Error ellipse: s-maj=125.8km s-min=27.7km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.36**	**259**	P	P	12 21 45.2	-1.7
	0.5nm,0.3s,baz=96,slow=7.7,SNR=34						
ASAR	**Alice Springs**	**45.57**	**254**	P	P	12 21 46.8	-1.7
	3.7nm,0.5s,baz=87,slow=8.7,SNR=84						
ASPA	**Alice Springs**	**45.57**	**254**	*e*P	P	12 21 46.7	-1.8
ILAR	**Eielson Array**	**85.08**	**13**	P	P	12 26 01.6	-1.6
	0.2nm,0.4s,baz=223,slow=5.0,SNR=8.9						
TXAR	**Lajitas Array**	**85.11**	**57**	P	P	12 26 03.5	-0.8
	0.3nm,0.7s,baz=239,slow=5.3,SNR=3.7						

*IDC **08** 13:04:08.6±1.4, 30.23N×83.33E, mb3.7/8, mb1 4.0/9, mb1mx3.7/24, mbtmp3.7/9, ML3.6/1, Error ellipse: s-maj=41.3km s-min=22.3km az=51.0*

*NEIC **08** 13:04:10.5±0.5, 30.25N×83.31E, h10km, mb4.0/1, Error ellipse: s-maj=13.0km s-min=9.0km az=68.0*

*MOS **08** 13:04:11.1±0.5, 30.28N×83.37E, h33km, mb4.0/6, Error ellipse: s-maj=53.3km s-min=30.1km az=106.7*

*BJI **08** 13:04:13.2, 30.24N×83.86E, h10km, mb3.7*

*NDI **08** 13:04:19.0±3.7, 31.45N×82.41E, h10km, ML3.7, mb4.0(NEIC)*

ISC 08 13:04:09.7±0.5, 30.33N±0.07×83.47E±0.05, h10km, n35, σ1°34/37, mb3.6/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**2.92**	**255**	*e*PG	**Pg**	**13 05 09.0**	**+0.9**
PTH				*e*SG	**Sg**	**13 05 48.0**	**+0.9**
LGTI	**Lohaghat**	**2.93**	**253**	*e*PG	**Pg**	**13 05 12.7**	**+4.5**
LGTI				*e*SG	**Sg**	**13 05 55.0**	**+7.7**
JOSI	**Joshimath**	**3.38**	**275**	*e*P	**Pn**	**13 05 01.2**	**-2.5**
JOSI				AML	AML	13 06 07.5	
	comp=E,489nm,1.0s						
JOSI				AML	AML	13 06 07.5	
	comp=N,509nm,1.2s						
KALG	**Kalgarh**	**4.17**	**260**	*e*P	**Pn**	**13 05 15.3**	**+0.4**
KLP	**Kalpa**	**4.64**	**286**	*e*PG	**Pg**	**13 05 28.5**	**-14**
DDI	**Dehra Dun**	**4.68**	**271**	*e*	**Pn**	**13 05 28.8**	**+6.7**
DDI				*e*		13 06 48.7	
SMLA	**Simla**	**5.48**	**280**	*i* PB	**Pb**	**13 05 37.3**	**-8.0**
SMLA				*i*		13 07 14.7	
NDI	**New Delhi**	**5.69**	**255**	*e*	**Pn**	**13 05 42.0**	**+5.6**
NDI				*e*SG	**Sg**	**13 07 13.0**	**-6.1**
AGRA	**Agra**	**5.75**	**239**	AML	AML	13 11 28.6	
	comp=N,101nm,0.1s						
AGRA				AML	AML	13 11 28.6	
	comp=E,97nm,0.1s						
SONA	**Sohna**	**5.95**	**251**	*e*P	**Pn**	**13 05 44.6**	**+4.6**
LSA	**Lhasa**	**6.69**	**93**	P	**Pn**	**13 05 51.6**	**+1.1**
LSA	**Lhasa**	**6.69**	**93**	*e*P	**Pn**	**13 05 52.2**	**+1.7**
LSA				pmax	pmax		
	comp=Z,23nm,0.9s						
LSA	**Lhasa**	**6.69**	**93**	*e*Pn	**Pn**	**13 05 52.2**	**+1.7**
	comp=Z,23nm,0.9s						
BHPL	**Bhopal**	**8.88**	**219**	*e*	**P**	**13 06 23.2**	**+2.1**
HYB	**Hyderabad**	**13.61**	**200**	*e*P	**P**	**13 07

STKA Stephens Creek 62.18 133 P **P 13 18 21.6 -1.4**
1.7nm,0.5s,mb4.4,baz=294,slow=5.8,SNR=6.4
STKA pP pP 13 18 31.8 -0.8
1.4nm,0.6s,baz=303,slow=11,SNR=2.3
ILAR Eielson Array 95.26 22 P **P 13 21 23.4 -0.3**
0.2nm,0.6s,mb3.7,baz=308,slow=4.4,SNR=5.8

*NEIC **08** 13:09:51.9±2.8,23.90S×179.94W,h516km±33km,mb4.6/4, Error ellipse: s-maj=32.3km s-min=14.1km az=189.0*
*IDC **08** 13:09:53.0±1.8,23.86S×179.89E,h519km±17km,mb3.6/9, mb1 3.8/10,mb1mx3.5/18,mbtmp4.5/10,Error ellipse: s-maj=39.4km s-min=14.4km az=165.0*
ISC 08 13:09:53.6±2.3,24.0S±0.2×179.9E±0.1,h545km±32km, n19,σ0°75/17,mb4.1/10,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.42**	**189**	P	**P**	**13 12 56.7**	**-0.4**
	1.0nm,0.3s,baz=63,slow=2.3,SNR=8.2						
CTA	**Charters Tower**	**31.39**	**270**	P	**P**	**13 15 32.5**	**+0.9**
	16nm,0.5s,mb4.8,baz=97,slow=10,SNR=52						
CTAO	**Charters Tower**	**31.39**	**270**	*eP*	**P**	**13 15 32.0**	**+0.4**
	12nm,0.4s,mb4.8						
PMG	**Port Moresby**	**34.44**	**289**	P	**P**	**13 15 56.5**	**-0.8**
	20nm,0.8s,mb4.7,baz=118,slow=5.0,SNR=4.6						
STKA	**Stephens Creek**	**34.61**	**248**	P	**P**	**13 15 59.6**	**+1.1**
	0.9nm,0.5s,mb3.5,baz=99,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**41.94**	**261**	P	**P**	**13 16 58.0**	**-0.2**
	4.2nm,0.6s,mb4.2,baz=97,slow=7.3,SNR=99						
ASAR				ScP		13 21 44.5	
	1.7nm,0.8s,baz=105,slow=4.2,SNR=14						
ASAR				S	**S**	**13 22 38.5**	**+0.3**
	0.5nm,0.8s,baz=95,slow=15,SNR=8.0						
ASPA	**Alice Springs**	**41.94**	**261**	*eP*	**P**	**13 16 58.4**	**+0.2**
WRAB	**Tennant Creek**	**42.31**	**266**	*eP*	**P**	**13 17 00.8**	**-0.4**
	6.1nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**42.32**	**266**	P	**P**	**13 17 00.8**	**-0.4**
	8.6nm,0.4s,mb4.7,baz=96,slow=8.4,SNR=433						
WRA				ScP		13 21 46.1	
	1.1nm,0.9s,baz=97,slow=3.8,SNR=6.8						
WRA				S	**S**	**13 22 42.1**	**-1.6**
	0.4nm,0.6s,baz=98,slow=14,SNR=4.2						
FITZ	**Fitzroy Crossi**	**50.74**	**266**	*eP*	**P**	**13 18 05.4**	**0.0**
	9.3nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.74**	**266**	P	**P**	**13 18 04.9**	**-0.5**
	7.7nm,0.4s,mb4.4,baz=163,slow=5.9,SNR=20						
NVAR	**Mina Array Bea**	**84.87**	**44**	P	**P**	**13 21 31.4**	**-0.5**
	0.2nm,0.4s,mb3.0,baz=236,slow=9.8,SNR=3.9						
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P	**P**	**13 21 55.9**	**+1.8**
	1.2nm,0.8s,mb3.8,baz=136,slow=3.6,SNR=7.4						
TXAR	**Lajitas Array**	**90.55**	**58**	P	**P**	**13 21 58.7**	**-0.1**
	0.9nm,0.7s,mb3.8,baz=211,slow=7.3,SNR=6.1						
TXAR	**Lajitas Array**	**90.55**	**58**	P	**P**	**13 21 58.7**	**-0.1**
HFS	**Hagfors**	**142.62**	**349**	PKhKP		13 28 21.1	
	1.1nm,0.4s,baz=63,slow=3.3,SNR=13						
HFS				PKP	PKPdf	13 28 25.5	+1.7
	2.6nm,0.9s,baz=90,slow=2.9,SNR=3.5						
HFS	**Hagfors**	**142.62**	**349**	PKP	PKPdf	13 28 25.5	+1.7
AKASG	**Malin Array Be**	**145.00**	**327**	PKP	PKPdf	13 28 29.3	+1.1
	0.9nm,0.3s,baz=38,slow=4.0,SNR=5.6						
BRTR	**Keskin Array B**	**147.56**	**307**	PKPbc	PKPdf	13 28 37.6	+4.8
	0.4nm,0.4s,baz=162,slow=4.6,SNR=3.0						

IDC 08 13:26:08.7±14.0,6.41S×123.61E,mb4.0/1,mb1 3.9/3, mb1mx3.6/18,mbtmp3.8/3,ML3.0/2,Error ellipse: s-maj=222.6km s-min=195.8km az=21.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.02**	**143**	P	P	13 30 08.5	-1.4
	0.1nm,0.3s,baz=316,slow=13,SNR=19						
ASAR	**Alice Springs**	**19.81**	**151**	P	P	13 30 41.0	-2.9
	0.1nm,0.3s,baz=330,slow=9.1,SNR=12						
STKA	**Stephens Creek**	**30.41**	**149**	P	P	13 32 22.9	-2.2
	1.1nm,1.0s,baz=320,slow=16,SNR=2.9						

*IDC **08** 13:27:24.3±0.9,13.61N×93.21E,mb3.8/10,mb1 3.9/11, mb1mx3.8/23,mbtmp3.8/11,ML4.2/1,Error ellipse: s-maj=35.0km s-min=17.8km az=51.0*
*BJI **08** 13:27:26.8,13.07N×93.04E,h61km,mb4.2*
*NEIC **08** 13:27:28.6±0.7,13.48N×93.05E,h30km,mb4.1/5,Error ellipse: s-maj=16.3km s-min=13.2km az=47.0*
ISC 08 13:27:26.3±0.8,13.4N±0.1×93.04E±0.08,h30km,n27, σ1°09/28,mb3.9/16,1D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**6.58**	**96**	P	**Pn**	**13 29 13.0**	**+9.3**
BDT	**Bhumibol Dam**	**6.89**	**56**	P	**Pn**	**13 29 08.0**	**-0.1**
	16nm,0.8s						
NST	**Nakhon Sawan**	**7.22**	**71**	P	**Pn**	**13 29 10.0**	**-2.7**
CM31	**Chiang Mai Arr**	**7.57**	**48**	*e*Pn	**Pn**	**13 29 17.6**	**+0.1**
	20nm,0.8s						
CMAR	**Chiang Mai Arr**	**7.57**	**48**	Pn	**Pn**	**13 29 14.2**	**-3.4**
	1.1nm,0.3s,baz=238,slow=15,SNR=24						
CHG	**Chiang Mai**	**7.80**	**46**	⇓P	**Pn**	**13 29 22.8**	**+2.0**
	35nm,0.8s						
NANT	**Nan**	**9.10**	**53**	P	**P**	**13 29 40.0**	**+1.2**
VIS	**Vishakhapatnam**	**10.29**	**296**	*e*P	**P**	**13 29 59.4**	**+4.2**
VIS				*e*S	**S**	**13 31 35.0**	**-16**
LSA	**Lhasa**	**16.29**	**354**	P	**P**	**13 31 18.0**	**+3.2**
LSA	**Lhasa**	**16.29**	**354**	*e*P	**P**	**13 31 16.0**	**+1.2**
	3.4nm,0.5s						
ENH	**Enshi**	**22.63**	**40**	*e*P	**P**	**13 32 26.9**	**+0.7**
	8.4nm,0.6s,mb4.3						
LZH	**Lanzhou**	**24.57**	**21**	*e*P	**P**	**13 32 45.0**	**-0.1**
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.6						
LZH	**Lanzhou**	**24.57**	**21**	*e*P	**P**	**13 32 45.0**	**-0.1**
	comp=Z,30nm,1.5s,mb4.6						
LZH				pP		13 32 52.0	
LZH				sP		13 32 55.0	
XAN	**Xi'an**	**25.09**	**32**	P	**P**	**13 32 49.0**	**-1.0**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.2						
GTA	**Gaotai**	**26.57**	**12**	P	**P**	**13 33 03.7**	**0.0**
GTA				AP	pP	13 33 16.3	+3.8
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.8						
MKAR	**Makanchi Array**	**34.47**	**347**	P	**P**	**13 34 12.8**	**-0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=157,slow=9.2,SNR=12						
SONM	**Songino Array**	**36.07**	**15**	P	**P**	**13 34 26.3**	**-0.9**
	comp=Z,0.8nm,0.7s,mb3.8,baz=205,slow=9.0,SNR=7.4						
KURK	**Kurchatov**	**39.00**	**345**	*e*P	**P**	**13 34 51.5**	**-0.3**
	comp=Z,1.5nm,0.7s,mb3.8						
BVAR	**Borovoye Array**	**43.43**	**340**	P	**P**	**13 35 26.3**	**-1.8**
	comp=Z,0.8nm,0.9s,mb3.5,baz=180,slow=5.8,SNR=4.0						
CHKZ	**Chkalovo**	**43.90**	**341**	*e*P	**P**	**13 35 31.7**	**-0.2**
	comp=Z,4.8nm,1.1s,mb4.1						
WRA	**Warramunga Arr**	**52.45**	**128**	P	**P**	**13 36 38.7**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=299,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**54.36**	**132**	P	**P**	**13 36 53.3**	**+0.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=312,slow=6.9,SNR=17						
BRTR	**Keskin Array B**	**58.07**	**309**	P	**P**	**13 37 21.6**	**+2.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=123,slow=6.6,SNR=6.2						
FINES	**FINESS Array B**	**67.34**	**331**	P	**P**	**13 38 19.8**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.8,baz=69,slow=12,SNR=3.4						
GERES	**GERESS Array B**	**73.02**	**317**	P	**P**	**13 38 56.4**	**+1.1**
	comp=Z,0.2nm,0.2s,mb3.7,baz=78,slow=9.0,SNR=3.5						
HFS	**Hagfors**	**73.16**	**329**	P	**P**	**13 38 55.8**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=51,slow=9.2,SNR=2.5						
ILAR	**Eielson Array**	**90.03**	**22**	P	**P**	**13 40 24.4**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.9,baz=291,slow=5.4,SNR=4.3						

*IDC **08** 13:29:57.0±0.9,2.32N×97.29E,mb4.2/11,mb1 4.2/12, mb1mx4.1/21,mbtmp4.1/12,ML3.4/1,MS3.2/1,Ms1 3.4/1, ms1mx3.1/27,Error ellipse: s-maj=49.0km s-min=15.4km az=54.0*
*MOS **08** 13:30:00.3±0.4,2.43N×97.45E,h33km,mb4.7/3,Error ellipse: s-maj=37.8km s-min=15.3km az=111.0*
*NEIC **08** 13:30:01.6±0.4,2.37N×97.39E,h30km,mb4.5/3,Error ellipse: s-maj=12.6km s-min=6.2km az=57.0*
ISC 08 13:29:59.6±0.6,2.36N±0.08×97.4E±0.1,h30km,n23, σ0°48/23,mb4.2/14,1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.39**	**48**	*e*Pn	**Pn**	**13 31 06.2**	**+0.1**
SNG	**Songkhla**	**5.78**	**34**	P	**Pn**	**13 31 26.0**	**+0.3**
	240nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.07**	**5**	Pn	P	**13 33 44.6**	**-0.7**
	0.1nm,0.3s,baz=198,slow=8.6,SNR=2.2						
CMAR				LR	LR	13 40 26.3	
	comp=Z,79nm,20.1s,baz=200,slow=39						
WRA	**Warramunga Arr**	**42.53**	**123**	P	**P**	**13 37 54.4**	**-0.2**
	3.9nm,0.7s,mb4.3,baz=302,slow=9.1,SNR=27						
WRA				PcP	PcP	13 39 47.7	+0.3
	0.4nm,0.7s,baz=314,slow=2.5,SNR=4.7						
WRAB	**Tennant Creek**	**42.53**	**123**	*e*P	**P**	**13 37 54.3**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**42.53**	**123**	*e*P	**P**	**13 37 54.3**	**-0.3**
	comp=Z,6.0nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**42.54**	**123**	⇓*i*P	**P**	**13 37 54.2**	**-0.4**
ASPA	**Alice Springs**	**43.98**	**128**	*e*P	**P**	**13 38 06.3**	**0.0**
ASAR	**Alice Springs**	**43.98**	**128**	P	**P**	**13 38 06.2**	**0.0**
	comp=Z,1.1nm,0.4s,mb3.9,baz=297,slow=7.3,SNR=19						
SONM	**Songino Array**	**45.97**	**8**	P	**P**	**13 38 22.7**	**+0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=190,slow=9.4,SNR=9.5						
SONM				PcP	PcP	13 39 59.7	+0.9
	comp=Z,1.1nm,0.7s,baz=203,slow=3.2,SNR=7.5						
MKAR	**Makanchi Array**	**46.16**	**346**	P	**P**	**13 38 23.4**	**+0.1**
	comp=Z,3.1nm,0.6s,mb4.4,baz=157,slow=8.9,SNR=24						
KURK	**Kurchatov**	**50.72**	**345**	*e*P	**P**	**13 38 58.8**	**+0.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**50.72**	**345**	*e*P	**P**	**13 38 58.8**	**+0.1**
	comp=Z,4.5nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**52.44**	**351**	P	**P**	**13 39 11.3**	**-0.4**
	comp=Z,2.6nm,0.4s,mb4.5,baz=313,slow=5.0,SNR=12						
STKA	**Stephens Creek**	**54.02**	**133**	P	**P**	**13 39 24.1**	**+0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=329,slow=6.2,SNR=3.5						
BVAR	**Borovoye Array**	**55.21**	**341**	P	**P**	**13 39 31.3**	**-0.8**
	comp=Z,1.7nm,0.7s,mb4.2,baz=135,slow=8.2,SNR=8.1						
CHKZ	**Chkalovo**	**55.68**	**341**	*e*P	**P**	**13 39 34.7**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**55.68**	**341**	*e*P	**P**	**13 39 34.7**	**-0.8**
	comp=Z,6.0nm,0.9s,mb4.6						
BRTR	**Keskin Array B**	**68.45**	**312**	P	**P**	**13 41 01.5**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.1,baz=125,slow=6.5,SNR=6.2						
AKASG	**Malin Array Be**	**74.44**	**322**	P	**P**	**13 41 36.9**	**+0.1**
	comp=Z,0.6nm,0.3s,mb4.0,baz=88,slow=4.7,SNR=8.1						
FINES	**FINESS Array B**	**79.05**	**332**	P	**P**	**13 42 02.6**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=108,slow=6.0,SNR=6.2						
ARCES	**ARCESS Array B**	**81.50**	**340**	P	**P**	**13 42 16.3**	**+1.0**
	comp=Z,3.3nm,0.9s,mb4.3,baz=100,slow=7.4,SNR=6.2						
ARCES	**ARCESS Array B**	**81.50**	**340**	P	**P**	**13 42 16.3**	**+1.0**

*IDC **08** 13:32:41.2±1.3,8.14N×91.66E,h32km±6km,mb3.7/8, mb1 3.8/9,mb1mx3.6/23,mbtmp3.8/9,ML4.1/1,Error ellipse: s-maj=42.7km s-min=14.6km az=57.0*
*NEIC **08** 13:32:41.2±0.6,8.15N×91.68E,mb4.2/4,Error ellipse: s-maj=18.1km s-min=8.1km az=62.0*
ISC 08 13:32:39.2±0.8,8.2N±0.1×91.7E±0.2,h32km, (h32km±2km:pP-P),n14,σ0°44/14,mb3.9/11,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.41**	**34**	Pn	**P**	**13 35 36.1**	**-0.5**
	0.4nm,0.3s,baz=228,slow=15,SNR=5.2						
MKAR	**Makanchi Array**	**39.33**	**350**	P	**P**	**13 40 07.6**	**+0.4**
	1.1nm,0.5s,mb3.9,baz=170,slow=8.7,SNR=7.1						
MKAR				pP	pP	13 40 17.1	+0.3
	2.2nm,0.7s,baz=171,slow=8.5,SNR=7.7						
SONM	**Songino Array**	**41.45**	**15**	P	**P**	**13 40 25.3**	**+0.7**
	0.9nm,0.7s,mb3.5,baz=198,slow=7.8,SNR=4.0						
SONM				pP	pP	13 40 34.7	+0.5
	1.2nm,0.7s,baz=195,slow=7.6,SNR=4.8						
FITZ	**Fitzroy Crossi**	**42.45**	**128**	P	**P**	**13 40 33.3**	**+0.1**
	3.8nm,0.8s,mb4.1,baz=200,slow=2.3,SNR=4.2						
KURK	**Kurchatov**	**43.79**	**348**	*e*P	**P**	**13 40 43.4**	**-0.2**
	2.4nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**47.97**	**343**	P	**P**	**13 41 16.9**	**0.0**
	0.4nm,0.6s,mb3.7,baz=159,slow=12,SNR=2.7						
CHKZ	**Chkalovo**	**48.48**	**343**	*e*P	**P**	**13 41 20.9**	**+0.2**
	1.9nm,0.7s,mb4.2						
CHKZ				*e*pP	pP	13 41 30.4	0.0
WRA	**Warramunga Arr**	**50.39**	**124**	P	**P**	**13 41 35.8**	**-0.1**
	0.8nm,0.7s,mb3.9,baz=304,slow=8.5,SNR=9.7						
WRA				pP	pP	13 41 45.7	+0.1
	0.7nm,0.6s,baz=306,slow=8.5,SNR=4.9						
WRAB	**Tennant Creek**	**50.40**	**124**	*e*P	**P**	**13 41 35.5**	**-0.5**
	1.6nm,0.5s,mb4.3						
WB2	**Warramunga Arr**	**50.40**	**124**	*e*P	**P**	**13 41 36.0**	**0.0**
ASAR	**Alice Springs**	**51.95**	**129**	P	**P**	**13 41 47.5**	**-0.3**
	0.4nm,0.6s,mb3.6,baz=301,slow=7.6,SNR=6.0						
BRTR	**Keskin Array B**	**60.43**	**311**	P	**P**	**13 42 47.6**	**-0.7**
	0.8nm,0.8s,mb3.8,baz=124,slow=5.2,SNR=3.8						
STKA	**Stephens Creek**	**62.05**	**133**	*e*P	**P**	**13 43 00.5**	**+1.2**
	2.1nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**62.05**	**133**	P	**P**	**13 42 59.9**	**+0.6**
	2.8nm,0.7s,mb4.5,baz=304,slow=1.0,SNR=6.0						

IDC 08 13:41:46.3±3.4,1.06N×97.21E,mb3.4/4,mb1 3.5/5, mb1mx3.4/20,mbtmp3.4/5,ML3.1/1,Error ellipse: s-maj=124.5km s-min=23.6km az=61.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.38**	**6**	P	P	13 45 51.1	-0.9
	0.0nm,0.3s,baz=193,slow=10,SNR=4.8						
WRA	**Warramunga Arr**	**41.95**	**122**	P	P	13 49 38.8	-2.1
	0.4nm,0.8s,baz=302,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**43.30**	**127**	P	P	13 49 50.8	-1.1
	0.7nm,1.2s,baz=291,slow=7.7,SNR=4.0						
SONM	**Songino Array**	**47.27**	**8**	P	P	13 50 21.5	-1.8
	0.5nm,0.8s,baz=184,slow=7.9,SNR=4.3						
MKAR	**Makanchi Array**	**47.38**	**346**	P	P	13 50 22.0	-2.2
	0.3nm,0.5s,baz=156,slow=8.8,SNR=7.4						

IDC 08 13:42:53.3±10.0,1.81N×96.78E,mb3.7/2,mb1 3.8/3, mb1mx3.4/20,mbtmp3.7/3,ML3.3/1,Error ellipse: s-maj=194.9km s-min=129.4km az=144.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.68**	**7**	Pn	P	13 46 48.6	-1.6
	0.0nm,0.3s,baz=194,slow=12,SNR=5.7						
MKAR	**Makanchi Array**	**46.55**	**346**	P	P	13 51 22.6	-2.0
	0.7nm,0.5s,baz=160,slow=8.1,SNR=6.6						
SONM	**Songino Array**	**46.60**	**9**	P	P	13 51 23.2	-1.7
	0.8nm,0.7s,baz=189,slow=8.4,SNR=6.6						

IDC 08 13:56:26.6±3.1,2.15N×96.54E,mb3.5/5,mb1 3.7/6, mb1mx3.6/20,mbtmp3.5/6,ML3.0/1,Error ellipse: s-maj=119.5km s-min=21.5km az=61.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.38**	**8**	Pn	P	14 00 16.9	-2.8
	0.0nm,0.3s,baz=198,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**43.09**	**122**	P	P	14 04 29.2	-1.2
	0.5nm,1.1s,baz=300,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**44.49**	**127**	P	P	14 04 39.4	-2.4
	0.2nm,0.8s,baz=304,slow=7.5,SNR=2.9						
MKAR	**Makanchi Array**	**46.17**	**346**	P	P	14 04 52.1	-2.8
	0.9nm,0.7s,baz=165,slow=8.8,SNR=7.2						
SONM	**Songino Array**	**46.30**	**9**	P	P	14 04 54.3	-1.6
	0.2nm,0.4s,baz=193,slow=10,SNR=2.8						
ZAL	**Zalesovo**	**52.52**	**351**	P	P	14 05 42.6	-1.0
	0.8nm,0.5s,baz=244,slow=5.8,SNR=3.1						

IDC 08 14:09:02.0±2.4,8.12N×91.61E,mb3.4/5,mb1 3.6/6, mb1mx3.5/21,mbtmp3.4/6,ML3.9/1,Error ellipse: s-maj=82.1km s-min=23.1km az=70.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.51**	**34**	Pn	P	14 12 02.6	-1.7
	0.2nm,0.3s,baz=225,slow=15,SNR=4.1						
MKAR	**Makanchi Array**	**39.36**	**350**	P	P	14 16 33.4	-1.5
	1.9nm,1.1s,baz=165,slow=8.9,SNR=4.6						
SONM	**Songino Array**	**41.53**	**15**	P	P	14 16 50.5	-2.2
	0.1nm,0.3s,baz=198,slow=7.8,SNR=4.3						
WRA	**Warramunga Arr**	**50.45**	**124**	P	P	14 18 01.6	-2.4
	0.1nm,0.3s,baz=301,slow=9.5,SNR=10.0						
ASAR	**Alice Springs**	**52.01**	**128**	P	P	14 18 13.5	-2.2
	0.3nm,0.9s,baz=301,slow=8.0,SNR=4.3						
STKA	**Stephens Creek**	**62.10**	**132**	P	P	14 19 25.5	-1.8
	0.7nm,0.6s,baz=313,slow=9.1,SNR=4.6						

*IDC **08** 14:35:20.7±2.5,0.94N×96.90E,mb3.7/5,mb1 3.8/6, mb1mx3.7/19,mbtmp3.6/6,ML3.3/1,Error ellipse: s-maj=102.2km s-min=20.6km az=62.0*
*NEIC **08** 14:35:26.5±0.9,1.13N×97.17E,h30km,mb4.0/2,Error ellipse: s-maj=21.4km s-min=11.6km az=66.0*
ISC 08 14:35:24.3±1.2,1.2N±0.1×97.2E±0.2,h30km,n10, σ0°79/10,mb3.7/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.38**	**40**	*e*Pn	**Pn**	**14 36 45.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**17.27**	**6**	P	**P**	**14 39 25.8**	**+0.6**
	0.0nm,0.3s,baz=199,slow=12,SNR=6.4						
KMI	**Kunming**	**24.42**	**12**	P	**P**	**14 40 39.5**	**-2.2**
	5.0nm,1.0s,mb3.9						
KMI				pP		14 40 48.5	
WRA	**Warramunga Arr**	**42.06**	**122**	P	**P**	**14 43 15.4**	**-0.1**
	0.5nm,0.6s,mb3.3,baz=302,slow=8.9,SNR=8.6						
WRA				PcP	PcP	14 45 08.7	-1.9
	0.1nm,0.3s,baz=270,slow=3.3,SNR=9.8						
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**14 43 26.6**	**+0.1**
	0.4nm,0.7s,mb3.3,baz=300,slow=8.2,SNR=6.0						
SONM	**Songino Array**	**47.17**	**8**	P	**P**	**14 43 57.0**	**+0.9**
	0.4nm,0.4s,mb3.7,baz=188,slow=7.2,SNR=5.6						
MKAR	**Makanchi Array**	**47.26**	**346**	P	**P**	**14 43 57.2**	**+0.4**
	0.7nm,0.5s,mb3.9,baz=159,slow=9.3,SNR=12						
MKAR	**Makanchi Array**	**47.26**	**346**	P	**P**	**14 43 57.2**	**+0.4**
ZAL	**Zalesovo**	**53.57**	**351**	P	**P**	**14 44 44.8**	**+0.1**
	0.9nm,0.3s,mb4.2,baz=294,slow=7.8,SNR=4.8						
CHKZ	**Chkalovo**	**56.74**	**341**	*e*P	**P**	**14 45 07.3**	**-0.4**
	0.8nm,0.5s,mb4.0						

*IDC **08** 14:41:41.1±0.8,16.92N×93.47W,h146km±5km,mb3.7/16, mb1 3.9/18,mb1mx3.8/25,mbtmp4.2/18,Error ellipse: s-maj=24.8km s-min=10.0km az=56.0*
*NEIC **08** 14:41:41.6,16.65N×93.96W,h142km,mb4.6/11, MD4.4(MEX),After MEX.*
*MEX **08** 14:41:41.5±1.2,16.63N×93.97W,h141km±12km,MD4.4*
ISC 08 14:41:38.7±0.3,16.68N±0.04×93.93W±0.03,h149km±3km, n69,σ1°31/92,mb4.0/18,2C-5D,Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.00**	**294**	*i*P	**P**	**14 42 04.1**	**+0.6**
CMIG				*i*S	**S**	**14 42 22.0**	**-0.6**
SCX	**San Cristobal**	**1.24**	**87**	*i*P	**P**	**14 42 07.1**	**+1.2**
SCX				*i*S	**S**	**14 42 26.1**	**-0.7**
SCX	**San Cristobal**	**1.24**	**87**	*i*P	**P**	**14 42 07.1**	**+1.2**
SCX				*i*S	**S**	**14 42 26.1**	**-0.7**
TUIG	**Tuzandepetl**	**1.43**	**341**	⇓*i*P	**P**	**14 42 08.6**	**+0.9**
TUIG				*i*S	**S**	**14 42 29.8**	**-0.3**
CCIG	**Comitan**	**1.77**	**103**	*i*P	**P**	**14 42 13.1**	**+1.7**
CCIG				*i*S	**S**	**14 42 37.1**	**+0.6**
EVV	**El Vigia**	**2.23**	**323**	*i*P	**P**	**14 42 17.1**	**+0.3**
EVV				*i*S	**S**	**14 42 44.5**	**-1.6**
EVV	**El Vigia**	**2.23**	**323**	⇓*i*P	**P**	**14 42 16.9**	**+0.1**
EVV				*i*S	**S**	**14 42 46.0**	**-0.2**
HUIG	**Huatulco**	**2.28**	**247**	*e*P	**P**	**14 42 16.0**	**-1.6**
HUIG				*i*S	**S**	**14 42 46.3**	**-1.0**
HUIG	**Huatulco**	**2.28**	**247**	*e*P	**P**	**14 42 16.0**	**-1.6**
HUIG				*i*S	**S**	**14 42 45.9**	**-1.4**
OXX	**Oaxaca**	**2.70**	**279**	*i*P	**P**	**14 42 24.6**	**+1.6**
OXX				*i*S	**S**	**14 42 56.6**	**-0.1**
OXX	**Oaxaca**	**2.70**	**279**	⇓*i*P	**P**	**14 42 24.6**	**+1.6**
OXX				*i*S	**S**	**14 42 55.7**	**-1.0**
VHO	**Vista Hermosa**	**2.71**	**279**	⇑*i*P	**P**	**14 42 24.3**	**+1.3**
VHO				*i*S	**S**	**14 42 56.5**	**-0.4**
LVIG	**Laguna Verde**	**3.84**	**322**	*i*P	**P**	**14 42 37.3**	**-0.3**
LVIG				*i*S	**S**	**14 43 18.5**	**-4.5**
LVIG	**Laguna Verde**	**3.84**	**322**	*i*P	**P**	**14 42 36.4**	**-1.2**
LVIG				*i*S	**S**	**14 43 18.8**	**-4.2**
IISM	**Ciudad Serdan**	**4.00**	**305**	*i*P	**P**	**14 42 40.0**	**+0.2**
IISM				*i*S	**S**	**14 43 24.4**	**-2.4**
IISM	**Ciudad Serdan**	**4.00**	**305**	⇓*i*P	**P**	**14 42 40.0**	**+0.1**
IISM				*i*S	**

5.8nm,0.6s,mb4.4,baz=311,slow=7.7,SNR=36
YKA Yellowknife Ar 48.01 347 P **P 14 50 03.5 -0.6**
2.4nm,0.6s,mb4.0,baz=150,slow=7.5,SNR=47
YKA pP pP 14 50 36.8 -1.2
1.3nm,0.8s,baz=150,slow=7.7,SNR=4.5
YKA sP sP 14 50 52.5 -2.2
1.4nm,0.8s,baz=153,slow=7.6,SNR=4.5
YKA Yellowknife Ar 48.01 347 P **P 14 50 03.5 -0.6**
YKA pP pP 14 50 36.9 -1.2
YKA sP sP 14 50 52.5 -2.2
FRB Frobisher Bay 50.16 14 P **P 14 50 18.4 -2.3**
4.8nm,0.7s,mb4.2,baz=226,slow=9.5,SNR=9.5
INK Inuvik 57.36 344 *eP* **P 14 51 12.5 -0.7**
9.5nm,0.9s,mb4.6
ILAR Eielson Array 59.66 337 P **P 14 51 29.1 -0.1**
0.6nm,0.7s,mb3.6,baz=143,slow=5.3,SNR=6.9
PLCA Paso Flores 61.11 160 P **P 14 51 39.9 +0.5**
2.7nm,0.8s,mb4.1,baz=291,slow=3.9,SNR=5.0
NB2 NORSAR Subarra 82.69 28 P **P 14 53 47.5 +0.9**
1.6nm,0.7s,mb3.9,baz=292,slow=5.0
NOA NORSAR Array B 82.69 28 P **P 14 53 46.0 -0.5**
3.3nm,0.8s,mb4.1,baz=293,slow=4.9,SNR=7.5
ARCES ARCESS Array B 84.18 18 P **P 14 53 54.5 +0.7**
1.8nm,0.4s,mb4.1,baz=305,slow=5.4,SNR=16
GERES GERESS Array B 88.72 39 P **P 14 54 14.7 -1.6**
0.2nm,0.3s,mb3.6,baz=297,slow=9.0,SNR=4.5
FINES FINESS Array B 88.86 25 P **P 14 54 17.2 +0.5**
1.1nm,0.6s,mb3.9,baz=304,slow=6.9,SNR=5.5
FINES FINESS Array B 88.86 25 P **P 14 54 17.2 +0.5**
BOSA Boshof 123.15 114 PKP PKPdf 15 00 20.6 +2.4
2.4nm,0.7s,baz=183,slow=9.1,SNR=3.8
WRA Warramunga Arr 134.18 258 PKP PKPdf 15 00 41.2 +1.8
0.6nm,0.5s,baz=82,slow=1.9,SNR=9.9
ASAR Alice Springs 134.73 253 PKP PKPdf 15 00 42.0 +1.6
0.3nm,0.6s,baz=82,slow=2.1,SNR=5.2

IDC 08 14:43:14.4±3.7, 1.22N×97.60E, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=159.9km s-min=22.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.71**	**122**	P	P	14 51 05.0	-2.1
	0.1nm,0.4s,baz=302,slow=8.8,SNR=4.7						
ASAR	**Alice Springs**	**43.09**	**127**	P	P	14 51 16.9	-1.5
	0.3nm,0.6s,baz=299,slow=8.0,SNR=7.4						
SONM	**Songino Array**	**47.05**	**8**	P	P	14 51 48.4	-1.3
	0.1nm,0.4s,baz=194,slow=9.1,SNR=3.6						
MKAR	**Makanchi Array**	**47.31**	**346**	P	P	14 51 49.1	-2.7
	0.5nm,0.6s,baz=156,slow=7.8,SNR=5.8						
ZAL	**Zalesovo**	**53.59**	**351**	P	P	14 52 37.4	-2.1
	0.9nm,0.3s,baz=318,slow=6.4,SNR=2.9						

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*IDC **08** 14:44:36.1±1.8, 0.04N×97.04E, h32km±7km, mb3.6/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.8/8, Error ellipse: s-maj=64.4km s-min=16.4km az=57.0*
*NEIC **08** 14:44:36.5±1.1, 0.15N×97.14E, Error ellipse: s-maj=42.2km s-min=13.0km az=59.0*
ISC 08 14:44:34.8±1.3, 0.2N±0.2×97.2E±0.3, h31km, h31km±2.1km: pP-P, n8, σ0§34/8, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.24**	**5**	P	P	14 48 47.5	0.0
	baz=201,slow=11,SNR=6.1						
CMAR				pP		14 48 57.8	
	0.1nm,0.3s,baz=197,slow=10,SNR=6.4						
WRA	**Warramunga Arr**	**41.54**	**121**	P	P	14 52 21.9	+0.5
	0.4nm,0.8s,mb3.1,baz=303,slow=9.1,SNR=2.8						
WRA				pP	pP	14 52 29.8	-1.0
	0.2nm,0.4s,baz=303,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**42.82**	**126**	P	P	14 52 31.5	-0.5
	0.2nm,0.7s,mb3.0,baz=315,slow=12,SNR=2.5						
SONM	**Songino Array**	**48.13**	**8**	P	P	14 53 13.6	-0.2
	0.2nm,0.5s,mb3.5,baz=187,slow=7.8,SNR=3.6						
SONM				pP	pP	14 53 24.0	+0.6
	0.2nm,0.5s,baz=180,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**48.21**	**346**	P	P	14 53 14.7	+0.2
	0.6nm,0.5s,mb3.9,baz=169,slow=9.2,SNR=7.9						
MKAR				pP	pP	14 53 24.7	+0.7
	0.4nm,0.7s,baz=147,slow=7.7,SNR=3.5						
ZAL	**Zalesovo**	**54.53**	**351**	P	P	14 54 02.1	0.0
	1.7nm,0.5s,mb4.4,baz=305,slow=7.7,SNR=5.7						
FINES	**FINESS Array B**	**80.87**	**333**	P	P	14 56 46.7	-0.4
	5.1nm,1.2s,mb4.3,baz=112,slow=7.5,SNR=3.3						
ARCES	**ARCESS Array B**	**83.47**	**340**	P	P	14 57 00.9	+0.5
	3.2nm,0.9s,mb4.3,baz=72,slow=3.8,SNR=5.8						

IDC 08 14:57:18.0±1.9, 8.08N×91.64E, mb3.4/5, mb1 3.6/6, mb1mx3.5/22, mbtmp3.4/6, ML3.8/1, Error ellipse: s-maj=66.2km s-min=21.9km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.53**	**34**	Pn	P	15 00 17.9	-2.6
	0.2nm,0.3s,baz=229,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**39.40**	**350**	P	P	15 04 49.8	-1.4
	0.6nm,0.5s,baz=166,slow=8.9,SNR=8.0						
SONM	**Songino Array**	**41.55**	**15**	P	P	15 05 06.7	-2.3
	0.6nm,0.8s,baz=190,slow=8.8,SNR=5.1						
BVAR	**Borovoye Array**	**48.03**	**343**	P	P	15 05 59.1	-1.8
	0.1nm,0.3s,baz=186,slow=13,SNR=2.7						
WRA	**Warramunga Arr**	**50.41**	**124**	P	P	15 06 17.7	-1.9
	0.4nm,0.6s,baz=302,slow=8.6,SNR=8.1						
ASAR	**Alice Springs**	**51.97**	**128**	P	P	15 06 29.1	-2.3
	0.2nm,0.6s,baz=297,slow=7.5,SNR=5.1						

IDC 08 15:11:45.6±10.0, 9.81S×118.98E, mb4.3/2, mb1 4.1/4, mb1mx3.7/17, mbtmp4.0/4, ML3.6/2, Error ellipse: s-maj=153.3km s-min=122.6km az=118.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.92**	**126**	P	P	15 15 55.3	-2.7
	0.2nm,0.3s,baz=303,slow=13,SNR=17						
ASAR	**Alice Springs**	**19.82**	**136**	P	P	15 16 19.8	-1.0
	0.5nm,0.3s,baz=312,slow=10,SNR=52						
CTA	**Charters Tower**	**28.21**	**114**	P	P	15 17 40.7	-1.6
	6.1nm,1.0s,slow=9.1,SNR=3.3						
STKA	**Stephens Creek**	**30.34**	**140**	P	P	15 17 58.1	-3.2
	0.8nm,0.4s,baz=344,slow=8.8,SNR=4.3						

DJA 08 15:14:31.8±0.9, 8.67S×116.24E, h111km±5km, MD4.6/4, ML4.6/2, 8C, Error ellipse: s-maj=40.0km s-min=14.7km az=0.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.22**	**324**	⇑*i*Pn	P	15 14 47.2	-0.3
	2μm,0.2s						
KEDI				⇑*i*Sn	S	15 14 58.7	-0.6
RATI	**Rata**	**0.71**	**265**	⇑*i*Pn	P	15 14 50.4	0.0
	3μm,0.2s						
RATI				⇑*i*Sn	S	15 15 03.6	-0.9
KELI	**Kelakatan**	**1.79**	**284**	⇑*i*Pn	P	15 15 02.5	-0.2
	262nm,0.2s						
KELI				⇑*i*Sn	S	15 15 24.6	-1.2
SRDI	**Scrawed**	**2.09**	**275**	⇑*i*Pn	P	15 15 05.9	-0.6
	525nm,0.1s						
SRDI				⇑*i*Sn	S	15 15 31.0	-1.5

IDC 08 15:47:57.2±7.0, 1.67N×96.24E, mb3.7/3, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=135.2km s-min=62.9km az=21.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.89**	**9**	Pn	P	15 51 55.4	-1.4
	0.0nm,0.3s,baz=196,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**46.56**	**347**	P	P	15 56 26.7	-1.9
	0.5nm,0.5s,baz=162,slow=8.7,SNR=16						
SONM	**Songino Array**	**46.81**	**9**	P	P	15 56 28.7	-1.9
	0.3nm,0.6s,baz=191,slow=10.0,SNR=4.4						
MJAR	**Matsushiro Arr**	**51.99**	**43**	P	P	15 57 08.7	-2.0
	1.6nm,0.5s,baz=30,slow=13,SNR=6.6						

IDC 08 15:56:08.7±3.1, 2.54N×95.87E, mb3.7/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=111.6km s-min=27.0km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.10**	**11**	Pn	P	15 59 58.3	+0.1
	0.2nm,0.3s,baz=195,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**43.87**	**122**	P	P	16 04 17.2	-1.7
	0.1nm,0.6s,baz=303,slow=9.0,SNR=3.6						
MKAR	**Makanchi Array**	**45.64**	**347**	P	P	16 04 30.9	-1.9
	0.6nm,0.4s,baz=158,slow=8.8,SNR=16						
SONM	**Songino Array**	**46.03**	**10**	P	P	16 04 33.9	-2.0
	0.6nm,0.5s,baz=191,slow=9.5,SNR=7.6						
ZAL	**Zalesovo**	**52.03**	**352**	P	P	16 05 19.8	-2.4
	1.0nm,0.5s,baz=323,slow=1.4,SNR=4.4						

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*IDC **08** 15:59:31.3±1.4, 2.55N×95.86E, mb3.9/8, mb1 4.1/9, mb1mx3.9/20, mbtmp3.9/9, ML3.8/1, MS2.9/1, Ms1 3.1/1, ms1mx2.7/18, Error ellipse: s-maj=61.5km s-min=17.6km az=57.0*
*BJI **08** 15:59:32.9, 2.50N×95.90E, h30km, mb4.6*
*MOS **08** 15:59:34.6±0.7, 2.54N×95.84E, h33km, mb4.7/5, Error ellipse: s-maj=41.1km s-min=12.9km az=95.6*
*NEIC **08** 15:59:36.0±0.5, 2.53N×95.91E, h30km, mb4.4/10, Error ellipse: s-maj=12.1km s-min=6.7km az=48.0*
ISC 08 15:59:35.9±4.2, 2.6N±0.2×96.0E±0.2, h44km±34km, n28, σ0§52/28, mb4.2/19, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**60**	*e*Pn	P	16 00 55.6	-0.2
CMAR	**Chiang Mai Arr**	**16.05**	**10**	Pn	P	16 03 20.4	+0.3
	0.1nm,0.3s,baz=196,slow=11,SNR=10.0						
CMAR				LR	LR	16 09 06.1	
	comp=Z,44nm,21.6s,baz=210,slow=36						
JIRN	**Jiri**	**26.63**	**340**	*e*P	P	16 05 13.3	+0.7
	19nm,0.7s,mb4.7						
PKI	**Pulchoki**	**26.82**	**339**	*e*P	P	16 05 14.9	+0.6
DMN	**Daman**	**26.97**	**338**	*e*P	P	16 05 15.7	0.0
	9.6nm,0.9s,mb4.3						
KKN	**Kakani**	**27.07**	**339**	*e*P	P	16 05 16.6	0.0
	17nm,0.9s,mb4.6						
KKN	**Kakani**	**27.07**	**339**	*e*P	P	16 05 16.6	0.0
KKN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
LSA	**Lhasa**	**27.36**	**351**	*e*P	P	16 05 18.7	-0.5
LSA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
LSA	**Lhasa**	**27.36**	**351**	*e*P	P	16 05 18.7	-0.5
	comp=Z,2.6nm,0.5s,mb4.0						
GKN	**Gorkha**	**27.50**	**338**	*e*P	P	16 05 20.7	+0.2
	comp=Z,22nm,0.8s,mb4.7						
KOLN	**Koldanda**	**27.70**	**336**	*e*P	P	16 05 22.5	+0.2
	comp=Z,12nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**35.73**	**126**	P	P	16 06 32.1	-0.6
	comp=Z,2.8nm,0.8s,mb4.3,baz=37,slow=10,SNR=2.4						
GTA	**Gaotai**	**36.82**	**5**	P	P	16 06 41.4	-0.3
GTA				AP	pP	16 06 50.3	-3.4
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
BJT	**Baijiatuau**	**41.52**	**24**	*e*P	P	16 07 21.5	+0.7
BJT				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BJT	**Baijiatuau**	**41.52**	**24**	*e*P	P	16 07 21.5	+0.7
	comp=Z,5.3nm,0.5s,mb4.4						
BJI	**Beijing**	**41.55**	**24**	*e*P	P	16 07 21.7	+0.7
BJI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.7						
BJI	**Beijing**	**41.55**	**24**	*e*P	P	16 07 21.7	+0.7
	comp=Z,17nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**43.81**	**122**	P	P	16 07 39.8	+0.1
	comp=Z,0.4nm,0.4s,mb3.5,baz=301,slow=9.1,SNR=5.5						
ASAR	**Alice Springs**	**45.20**	**127**	P	P	16 07 51.4	+0.6
	comp=Z,0.2nm,0.5s,mb3.2,baz=301,slow=8.1,SNR=5.1						
MKAR	**Makanchi Array**	**45.62**	**347**	P	P	16 07 53.6	-0.3
	comp=Z,1.9nm,0.6s,mb4.2,baz=154,slow=8.9,SNR=29						
SONM	**Songino Array**	**45.97**	**10**	P	P	16 07 55.9	-0.7
	comp=Z,1.5nm,0.5s,mb4.2,baz=189,slow=9.3,SNR=18						
KURK	**Kurchatov**	**50.15**	**346**	*e*P	P	16 08 28.8	-0.3
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**50.15**	**346**	*e*P	P	16 08 28.8	-0.3
	comp=Z,1.0nm,0.6s,mb4.0						
ZAL	**Zalesovo**	**52.01**	**352**	P	P	16 08 42.8	-0.3
	comp=Z,1.8nm,0.5s,mb4.3,baz=296,slow=6.4,SNR=11						
CHKZ	**Chkalovo**	**55.04**	**342**	*e*P	P	16 09 04.4	-1.0
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
CHKZ	**Chkalovo**	**55.04**	**342**	*e*P	P	16 09 04.4	-1.1
	comp=Z,2.9nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**78.21**	**333**	P	P	16 11 31.7	-0.7
	comp=Z,1.7nm,1.0s,mb3.9,baz=90,slow=1.4,SNR=3.5						
GERES	**GERESS Array B**	**82.97**	**319**	P	P	16 11 58.6	+0.8
	comp=Z,0.4nm,0.7s,mb3.5,baz=149,slow=7.8,SNR=3.5						

IDC 08 16:00:11.9±2.2, 0.07S×128.86E, mb3.7/3, mb1 4.2/4, mb1mx3.7/17, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=102.4km s-min=29.0km az=94.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.20**	**190**	P	P	16 04 27.5	-0.4
	0.1nm,0.3s,baz=0.6,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**20.46**	**165**	P	P	16 04 49.5	-4.5
	0.4nm,0.3s,baz=344,slow=11,SNR=22						
ASAR	**Alice Springs**	**23.96**	**169**	P	P	16 05 28.9	0.0
	2.0nm,0.3s,baz=350,slow=10,SNR=80						
ASPA	**Alice Springs**	**23.96**	**169**	*e*P	P	16 05 29.5	+0.5
ILAR	**Eielson Array**	**87.60**	**25**	P	P	16 13 01.8	-1.2
	0.3nm,0.5s,baz=253,slow=5.9,SNR=6.6						

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*NAO **08** 16:11:34.8±2.6, 57.25N×10.95E, ML2.2*
*BER **08** 16:11:35.2±5.7, 57.17N×10.86E, MD3.0, ML2.2, ML2.2(NAO)*
ISC 08 16:11:32.4±0.7, 57.27N±0.03×10.72E±0.07, n13, σ1§51/23, Denmark

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUD	**Monsted U'grnd**	**1.18**	**227**	*i* P	**Pb**	16 11 56.0	+0.7
MUD				*i* S	**Sb**	16 12 12.5	+1.5
COP	**Copenhagen**	**1.85**	**148**	*i* P	**Pn**	16 12 04.0	-1.6
COP				*i* S	**Sn**	16 12 22.3	-7.7
COP				*i* S	**Sn**	16 12 26.9	-3.1
SNART	**Snartemo**	**2.17**	**301**	*e*S	**Sn**	16 12 39.1	+0.9
SNART				AML	AML	16 12 48.6	
	comp=Z,24nm,0.5s						
KONO	**Kongsberg**	**2.46**	**347**	*e*P	**Pn**	16 12 15.9	+1.5
KONO				*e*S	**Sn**	16 12 49.0	+3.3
BLS5	**Blasjo**	**3.12**	**316**	*e*P	**Pn**	16 12 25.5	+1.6
BLS5				*e*Sg	**Sg**	16 13 16.1	-0.3
BLS5				AML	AML	16 13 20.8	
	comp=Z,17nm,0.5s						
BSD	**Bornholm Skovb**	**3.18**	**131**	*i* P	**Pn**	16 12 20.1	-4.7
BSD				*i*		16 12 26.9	
BSD				*i* S	**Sn**	16 12 53.7	-10
BSD				*i* S	**Sn**	16 13 07.6	+3.6
HFS	**Hagfors**	**3.27**	**27**	Pn	**Pn**	16 12 27.5	+1.6
	baz=214,slow=12						
HFS				Pg	**Pg**	16 12 32.5	-5.2
	baz=201,slow=14						
HFS				Sn	**Sn**	16 13 05.8	-0.3
	baz=209,slow=22						
HFS				Lg		16 13 15.0	
	baz=211,slow=37						
ODD1	**Odda**	**3.41**	**323**	*e*Sg	**Sg**	16 13 25.5	-0.6
ODD1				AML	AML	16 13 27.1	
	comp=Z,19nm,0.3s						
KMY	**Karmoy**	**3.49**	**306**	*e*Sg	**Sg**	16 13 26.9	-1.8
NB2	**NORSAR Subarra**	**3.79**	**4**	Pn	**Pn**	16 12 33.8	+0.4
	baz=221,slow=18						
NB2				Sn	**Sn**	16 13 20.6	+1.1
NB2				Lg		16 13 35.2	
	baz=177,slow=37						
EGD	**Espegrend**	**4.16**	**319**	*e*Sg	**Sg**	16 13 48.6	-2.2
ASK	**Askoy**	**4.32**	**321**	*e*Sg	**Sg**	16 13 53.5	-2.7
FIA0	**FINESS Array S**	**8.88**	**55**	Pn	**P**	16 13 44.0	-1.0
	baz=234,slow=12						
FIA0				Lg		16 16 08.4	
	baz=253,slow=22						

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*IDC **08** 16:13:11.4±1.2, 2.07N×127.47E, mb3.8/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, Error ellipse: s-maj=73.6km s-min=15.7km az=68.0*
*NEIC **08** 16:13:20.4±0.6, 1.96N×127.41E, h75km, mb3.8/4, Error ellipse: s-maj=36.3km s-min=7.1km az=68.0*
ISC 08 16:13:18.8±0.8, 2.0N±0.2×127.3E±0.3, h75km, n14, σ0§30/14, mb3.7/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.99**	**184**	*e*P	**P**	16 17 47.4	-0.4
	2.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.99**	**184**	P	**P**	16 17 47.5	-0.4
	3.4nm,0.5s,baz=11,slow=14,SNR=10.0						
WRAB	**Tennant Creek**	**22.83**	**163**	*e*P	**P**	16 18 16.5	+0.1
	1.2nm,0.5s,mb3.5						
WRA	**Warramunga Arr**	**22.84**	**163**	P	**P**	16 18 16.4	-0.1
	0.7nm,0.4s,mb3.4,baz=342,slow=10,SNR=24						
WB2	**Warramunga Arr**	**22.84**	**163**	*e*P	**P**	16 18 16.6	+0.1
ASAR	**Alice Springs**	**26.27**	**166**	P	**P**	16 18 49.5	+0.3
	0.3nm,0.3s,mb3.1,baz=347,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**32.24**	**302**	P	**P**	16 19 42.9	+0.5
	0.2nm,0.4s,mb3.2,baz=112,slow=7.7,SNR=4.7						
STKA	**Stephens Creek**	**36.29**	**159**	P	**P**	16 20 17.0	0.0
	0.8nm,0.4s,mb4.0,baz=358,slow=23,SNR=3.1						
STKA	**Stephens Creek**	**36.29**	**159**	P	**P**	16 20 17.0	0.0
SONM	**Songino Array**	**49.14**	**342**	P	**P**	16 22 01.3	+0.3
	0.8nm,0.6s,mb3.8,baz=153,slow=7.1,SNR=7.9						
MKAR	**Makanchi Array**	**59.31**	**326**	P	**P**	16 23 15.4	+0.2
	3.4nm,0.5s,mb4.6,baz=117,slow=8.1,SNR=42						
KURK	**Kurchatov**	**63.51**	**328**	*e*P	**P**	16 23 43.2	-0.3
	3.3nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**69.09**	**327**	P	**P**	16 24 18.3	-0.4
	0.5nm,0.5s,mb3.6,baz=127,slow=7.4,SNR=5.7						
CHKZ	**Chkalovo**	**69.26**	**328**	P	**P**	16 24 19.5	-0.3
	0.6nm,0.4s,mb3.8						

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*KNET **08** 16:16:41.5±0.7, 41.74N×72.32E, h7km±3km, ml2.5, Error ellipse: s-maj=7.2km s-min=3.9km az=163.0*
*NNC **08** 16:16:44.1±4.2, 41.89N×72.23E, mpv3.0, Error ellipse: s-maj=46.0km s-min=14.2km az=5.0*
ISC 08 16:16:41.3±1.6, 41.6N±0.1×72.12E±0.07, h10km, n10, σ1§26/19, 6C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.30**	**65**	⇓P	**Pb**	16 17 02.6	-2.8
	19nm,0.2s,SNR=47						
AML				⇓S	**Sb**	16 17 18.9	-3.0
	104nm,0.3s						
EKS2	**Erkin-Say**	**1.64**	**48**	⇑P	**Pn**	16 17 08.8	-1.6
	3.1nm,0.1s,SNR=17						
EKS2				⇑S	**Sn**	16 17 29.1	-2.5
	13nm,0.2s						
UCH	**Uchtor**	**1.90**	**69**	⇓P	**Pn**	16 17 13.8	-0.3
	7.1nm,0.2s,SNR=27						
UCH				⇓S	**Sn**	16 17 39.6	+1.2
	42nm,0.3s						
KK31	**Karatay Array**	**1.93**	**322**	⇓P	**Pn**	16 17 14.3	-0.2
	4.5nm,0.3s,baz=131,slow=15						
KK31				⇑S	**Sn**	16 17 40.3	+1.2
	15nm,0.3s,baz=130,slow=27						
AAK	**Ala-Archa**	**2.06**	**59**	⇓P	**Pn**	16 17 16.4	0.0
	12nm,0.3s,SNR=9.9						
AAK				⇓S	**Sn**	16 17 42.5	+0.2
	15nm,0.2s						
AAK	**Ala-Archa**	**2.06**	**59**	⇓P	**Pn**	16 17 16.4	+0.1
	4.8nm,0.3s						
AAK				⇑S	**Sn**	16 17 42.5	+0.2
	9.1nm,0.4s						
KBK	**Karagaybulak**	**2.36**	**62**	⇓P	**Pn**	16 17 21.3	+0.5
	4.6nm,0.1s,SNR=9.1						
KBK				⇓S	**Sn**	16 17 51.8	+1.7
	68nm,0.5s						
KZA	**Kyzart**	**2.39**	**77**	⇓P	**Pn**	16 17 21.4	+0.2
	7.0nm,0.2s,SNR=8.3						
KZA				⇓S	**Sn**	16 17 52.5	+1.6
	22nm,0.3s						
CHMS	**Chumysh**	**2.41**	**53**	⇑P	**Pn**	16 17 21.5	0.0
	9.9nm,0.3s,SNR=6.9						
CHMS				⇑S	**Sn**	16 17 52.2	+0.8
	45nm,0.5s						
USP	**Ospenovka**	**2.44**	**46**	⇓P	**Pn**	16 17 21.3	-0.6
	9.6nm,0.3s,SNR=20						

IDC 08 16:40:30.8±3.2, 1.97N×97.24E, mb3.6/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=131.9km s-min=26.6km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.41**	**123**	P	P	16 48 27.4	-1.7
	0.2nm,0.5s,baz=301,slow=9.1,SNR=2.6						
SONM	**Songino Array**	**46.37**	**9**	P	P	16 48 58.6	-2.0
	0.5nm,0.8s,baz=190,slow=7.5,SNR=5.2						
MKAR	**Makanchi Array**	**46.51**	**346**	P	P	16 49 00.3	-1.5
	0.4nm,0.6s,baz=165,slow=6.9,SNR=5.0						
ZAL	**Zalesovo**	**52.80**	**351**	P	P	16 49 48.3	-1.8
	1.4nm,0.5s,baz=277,slow=3.2,SNR=5.0						
BVAR	**Borovoye Array**	**55.54**	**341**	P	P	16 50 07.1	-3.1
	0.6nm,0.6s,baz=143,slow=7.4,SNR=6.3						

IGQ 08 16:52:26.5, 0.53S×80.84W, h44km±2km, mb4.1, 6C-6D, Error ellipse: s-maj=7.8km s-min=2.7km az=28.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.60**	**151**	⇑P	P	16 52 38.2	-0.5
JAMA	**Jama**	**0.68**	**67**	⇓P	P	16 52 41.3	+1.4
JAMA				S	S	16 52 49.2	-0.4
MAGD	**Magdalena**	**1.16**	**67**	⇑P	P	16 52 49.7	+3.2
JUA2	**San Juan 2**	**2.25**	**82**	⇑P	P	16 53 03.0	+0.9
JUA2				S	S	16 53 29.1	+0.2
JOR1	**San Jorge 1**	**2.26**	**77**	⇑P	P	16 53 01.8	-0.5
JOR1				S	S	16 53 26.8	-2.2
PINO	**Pino**	**2.26**	**81**	P	P	16 53 03.0	+0.7
TERV	**Terraza Guagua**	**2.26**	**81**	P	P	16 53 03.0	+0.8
GGP	**Refugio Guagua**	**2.27**	**81**	⇑P	P	16 53 03.5

NWAO Narrogin (SRO) 53.62 155 LR LR 17 32 57.0
comp=Z,121nm,19.3s,baz=11,slow=38
WRA Warramunga Arr 53.77 130 P P 17 08 32.1 -2.7
0.3nm,0.9s,baz=320,slow=8.8,SNR=4.2

IDC 08 17:02:57.7±15.0, 5.57N×91.99E, mb3.4/2, mb1 3.5/3, mb1mx3.4/21, mbtmp3.4/3, ML3.8/1, Error ellipse: s-maj=292.0km s-min=97.5km az=160.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.50**	**27**	Pn			P	17 06 24.4	-2.1
	0.1nm,0.3s,baz=222,slow=13,SNR=4.0								
MKAR	**Makanchi Array**	**41.92**	**350**	P			P	17 10 49.9	-1.7
	0.4nm,0.7s,baz=161,slow=8.1,SNR=4.2								
SONM	**Songino Array**	**43.89**	**14**	P			P	17 11 06.0	-1.7
	0.3nm,0.8s,baz=207,slow=6.4,SNR=3.9								

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*ISK **08** 17:04:53.1, 36.36N×26.50E, h32km, ML2.8*
*ATH **08** 17:04:55.5, 36.61N×26.44E, h10km, MD3.0/3*
*CSEM **08** 17:04:55.8±0.2, 36.67N×26.48E, h5km, MD3.0, Error ellipse: s-maj=5.4km s-min=4.2km az=2.0*
ISC 08 17:04:55.0±1.5, 36.62N±0.08×26.44E±0.07, h8km±14km**, n7**, σ1º**20/8, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.82**	**57**	*e*PG			**Pg**	**17 05 11.1**	**-0.4**
BODT				*e*SG			**Sg**	**17 05 23.1**	**+0.5**
APE	**Apeiranthos**	**0.86**	**302**	PG			**Pg**	**17 05 11.8**	**-0.4**
APE	**Apeiranthos**	**0.86**	**302**	*e*PB			**Pb**	**17 05 12.0**	**+0.3**
SMG	**Samos**	**1.13**	**16**	*e*PB			**Pb**	**17 05 17.0**	**+0.6**
KARP	**Karpathos**	**1.22**	**151**	*e*PB			**Pb**	**17 05 18.4**	**+0.5**
MLSB	**Milas**	**1.26**	**57**	*e*PN			**Pn**	**17 05 16.2**	**-2.7**
BLCB	**Balcova**	**1.82**	**15**	*e*PN			**Pn**	**17 05 27.3**	**+0.3**

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*DJA **08** 17:05:23.9±0.9, 3.15N×126.54E, h11km, mb5.2/3, Error ellipse: s-maj=25.1km s-min=9.0km az=35.0*
*CSEM **08** 17:05:25.0, 2.90N×126.30E, h33km, mb5.5*
*BJI **08** 17:05:29.3, 3.05N×126.31E, h59km, mB5.1, mb5.3, Ms4.4, Msz4.3*
*IDC **08** 17:05:30.1±2.1, 2.76N×126.41E, h60km±17km, mb4.8/22, mb1 4.9/22, mb1mx4.8/24, mbtmp5.1/22, MS4.2/15, Ms1 4.2/15, ms1mx4.0/25, Error ellipse: s-maj=19.5km s-min=7.5km az=74.0*
*HRVD **08** 17:05:31.7±0.2, 2.98N×126.71E, h45km±1km, MW5.3/67, Centroid moment Tensor Solution. LP body waves: s62, c99; Mantle waves: s67, c115; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.97±.04; $M_{\theta\theta}$0.18±.03; $M_{\phi\phi}$-1.15±.03; $M_{r\theta}$-0.04±.02; $M_{\theta\phi}$-0.26±.03; $M_{\phi r}$0.59±.04; Best double couple: $M_0$1.242×10^{17} NP1:φs202°, δ32°, λ107° NP2:φs2°, δ60°, λ80°. Principal axes: T 1.139, Plg73°, Azm246°; N .206, Plg9°, Azm7°; P -1.344, Plg14°, Azm99°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 17:05:31.7±1.1, 2.89N×126.46E, h74km±10km, mb5.3/52 Error ellipse: s-maj=7.3km s-min=4.4km az=70.0*
NEIC Felt [III] in Sangihe-Talaud, Indonesia.
*MOS **08** 17:05:33.0±1.3, 2.98N×126.62E, h102km, mb5.3/34, Error ellipse: s-maj=8.5km s-min=5.3km az=111.3*
ISC 08 17:05:30.0±0.5, 2.94N±0.02×126.51E±0.04, h75km±4km**, h89**km±5.1km**: pP-P, n270,** σ1º**12/280, mb5.2**/101**, 32C-13D, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.20**	**160**	*e*P			**P**	**17 06 03.5**	**-1.7**
TNE				*e*S			**S**	**17 06 32.6**	**+1.3**
MNI	**Manado**	**2.23**	**228**	*e*P			**P**	**17 05 58.0**	**-7.6**
MNI				*e*S			**S**	**17 06 19.7**	**-12**
MATI	**Mati**	**3.99**	**356**	*e*P			**P**	**17 06 29.8**	**-0.4**
DAV	**Davao City (W)**	**4.21**	**347**	*e*P			**P**	**17 06 34.0**	**+0.8**
KCP	**Kidapawan**	**4.28**	**341**	⇓*e*P			**P**	**17 06 35.5**	**+1.2**
KCP				*i* S			**S**	**17 07 27.0**	**+3.6**
BIPH	**Bislig**	**5.21**	**358**	⇑*e*P			**P**	**17 06 46.2**	**-1.0**
BIPH				*e*S			**S**	**17 07 45.4**	**-1.2**
CGP	**Cagayan de Oro**	**5.77**	**342**	⇑*e*P			**P**	**17 06 57.6**	**+2.8**
ZMPH	**Zamboanga City**	**5.96**	**312**	⇓*i*P			**P**	**17 06 55.8**	**-1.5**
BUTP	**Butuan**	**6.06**	**352**	*e*P			**P**	**17 06 59.2**	**+0.5**
DCPH	**Dipolog City**	**6.43**	**331**	⇓*i*P			**P**	**17 07 05.1**	**+1.1**
SCPH	**Surigao**	**6.87**	**352**	⇓*e*P			**P**	**17 07 10.4**	**+0.2**
MSLP	**Maasin**	**7.33**	**347**	*e*P			**P**	**17 07 15.4**	**-1.1**
TSM	**Tawau**	**8.72**	**279**	P			**P**	**17 07 35.3**	**-0.2**
BUNI	**Buntu Taipa**	**9.01**	**223**	*e*P			**P**	**17 07 38.2**	**-1.2**
TANI	**Tanete Lipujan**	**9.53**	**228**	*e*P			**P**	**17 07 51.5**	**+4.9**
CUYO	**Cuyo Island**	**9.56**	**326**	*e*P			**P**	**17 07 47.0**	**-0.1**
NINI	**Niniconang**	**9.95**	**223**	*e*P			**P**	**17 07 58.5**	**+6.2**
KKM	**Kota Kinabalu**	**10.71**	**287**	*e*Pn			**P**	**17 08 05.1**	**+2.4**
KKM	**Kota Kinabalu**	**10.71**	**287**	P			**P**	**17 08 05.3**	**+2.6**
LUBP	**Lubang**	**12.38**	**330**	*e*P			**P**	**17 08 28.2**	**+3.2**
KEDI	**Kedomdong**	**15.37**	**222**	⇑*i*P			**P**	**17 09 06.6**	**+2.6**
KEDI					pmax	pmax			
	comp=Z,209nm,0.7s								
KEDI	**Kedomdong**	**15.37**	**222**	*e*pP				17 09 08.8	
KEDI	**Kedomdong**	**15.37**	**222**	⇑*i*P			**P**	**17 09 06.6**	**+2.6**
	comp=Z,418nm,0.7s								
RATI	**Rata**	**15.93**	**223**	⇑*i*P			**P**	**17 09 12.0**	**+0.8**
	comp=Z,228nm,0.6s								
KSM	**Kuching**	**16.25**	**265**	*e*Pn			**P**	**17 09 19.2**	**+4.0**
KELI	**Kelakatan**	**16.32**	**227**	⇑*i*P			**P**	**17 09 24.8**	**+8.8**
KELI	**Kelakatan**	**16.32**	**227**	*e*pP				17 09 28.6	
KELI	**Kelakatan**	**16.32**	**227**	⇑*i*P			**P**	**17 09 25.4**	**+9.4**
SRDI	**Scrawed**	**16.75**	**227**	⇑*i*P			**P**	**17 09 26.1**	**+4.7**
FITZ	**Fitzroy Crossi**	**20.92**	**182**	*e*P			**P**	**17 10 06.9**	**-1.8**
	comp=Z,200nm,0.6s								
FITZ				*e*S			**S**	**17 13 52.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**20.92**	**182**	P			**P**	**17 10 06.7**	**-2.0**
	comp=Z,106nm,0.6s,baz=16,slow=7.9,SNR=147								
FITZ				S			**S**	**17 13 52.4**	**-0.2**
	comp=Z,35nm,1.1s,baz=181,slow=21,SNR=3.9								
YHNB	**Yeheng**	**22.16**	**348**	*e*P			**P**	**17 10 18.3**	**-2.7**
PULI	**Pulasari**	**22.48**	**246**	⇑*i*P			**P**	**17 10 26.7**	**+2.6**
PULI	**Pulasari**	**22.48**	**246**	⇑*i*P			**P**	**17 10 26.4**	**+2.3**
QIZ	**Qiongzhong**	**22.84**	**316**	*e*P			**P**	**17 10 28.2**	**+0.5**
	comp=Z,30nm,0.9s,mb4.6								
PENI	**Pendagan**	**22.92**	**248**	⇑*i*P			**P**	**17 10 28.1**	**-0.5**
PENI					pmax	pmax			
	comp=Z,211nm,0.6s,mb5.7								
PENI	**Pendagan**	**22.92**	**248**	⇑*i*P			**P**	**17 10 28.1**	**-0.5**
	comp=Z,422nm,0.6s,mb5.7								
PASI	**Pasiripis**	**22.97**	**245**	*e*P			**P**	**17 10 29.8**	**+0.8**
QZH	**Quanzhou**	**23.17**	**341**	⇑*i*P			**P**	**17 10 30.6**	**-0.3**
QZH				S			**S**	**17 14 30.0**	**-3.2**
QZH					AMB	AMB			
	comp=Z,110nm,0.5s,mb5.4								
QZH					LR	LR			
	comp=N,1μm,19.2s								
QZH					LR	LR			
	comp=E,4μm,29.0s								
QZH					LR	LR			
	comp=Z,4μm,28.1s								
KGM	**Kluang**	**23.18**	**268**	P			**P**	**17 10 32.7**	**+1.6**
GZH	**Guangzhou**	**23.74**	**329**	P			**P**	**17 10 38.4**	**+2.0**
GZH				S			**S**	**17 14 43.1**	**0.0**
GZH					LR	LR			
	comp=N,520nm,19.0s								
GZH					LR	LR			
	comp=E,344nm,20.5s								
GZH					LR	LR			
	comp=Z,730nm,15.8s								
JOW	**Kunigami**	**23.82**	**4**	P			**P**	**17 10 38.4**	**+1.3**
	comp=Z,43nm,0.5s,mb5.1,baz=184,slow=8.8,SNR=36								
WRAB	**Tennant Creek**	**24.00**	**162**	*e*P			**P**	**17 10 38.1**	**-0.8**
WRAB				*e*S			**S**	**17 14 54.9**	**+7.4**
WRAB					pmax	pmax			
	comp=Z,138nm,0.7s,mb5.4								
WRAB	**Tennant Creek**	**24.00**	**162**	*e*P			**P**	**17 10 38.1**	**-0.8**
	comp=Z,138nm,0.7s,mb5.4								
WRAB				*e*S			**S**	**17 14 54.9**	**+7.4**
WRA	**Warramunga Arr**	**24.00**	**162**	P			**P**	**17 10 37.3**	**-1.7**
	comp=Z,28nm,0.4s,mb5.0,baz=338,slow=10,SNR=270								
WRA				S			**S**	**17 14 49.1**	**+1.5**
	comp=Z,7.3nm,0.8s,baz=330,slow=16,SNR=4.7								
WB2	**Warramunga Arr**	**24.01**	**162**	*e*P			**P**	**17 10 37.9**	**-1.1**
WB2				*e*S			**S**	**17 14 47.8**	**+0.1**
MBWA	**Marble Bar**	**24.85**	**195**	*e*P			**P**	**17 10 47.1**	**-0.1**
	comp=Z,51nm,0.8s,mb5.0								
IPM	**Ipoh**	**25.48**	**274**	P			**P**	**17 10 53.9**	**+0.8**
KULM	**Kulim**	**25.89**	**276**	*e*P			**P**	**17 10 56.8**	**-0.2**
KKTK	**Khon Kaen**	**26.83**	**301**	P			**P**	**17 11 04.5**	**-1.1**
ASAR	**Alice Springs**	**27.41**	**165**	P			**P**	**17 11 09.1**	**-1.8**
	comp=Z,8.3nm,0.5s,mb4.6,baz=346,slow=7.7,SNR=217								
ASAR					PcP	PcP		17 14 28.6	+0.4
	comp=Z,5.1nm,0.7s,baz=21,slow=2.1,SNR=4.0								
ASAR				S			**S**	**17 15 44.0**	**0.0**
	comp=Z,7.1nm,0.9s,baz=345,slow=14,SNR=4.2								
ASPA	**Alice Springs**	**27.41**	**165**	*e*P			**P**	**17 11 09.2**	**-1.7**
ASPA				*e*S			**S**	**17 15 43.7**	**-0.2**
NNT	**Nongplab**	**28.17**	**291**	P			**P**	**17 11 18.5**	**+0.6**
CBIJ	**Chichi jima**	**28.33**	**31**	P			**P**	**17 11 17.1**	**-2.1**
	comp=Z,46nm,0.6s,mb5.2,baz=112,slow=4.9,SNR=6.1								
CBIJ					LR	LR		17 20 50.2	
	comp=Z,224nm,21.6s,baz=201,slow=32								
SSE	**Sheshan**	**28.45**	**350**	P			**P**	**17 11 18.5**	**-1.7**
SSE				AP			pP	17 11 31.1	-6.6
SSE				S			**S**	**17 16 04.6**	**+4.0**
SSE				XS				17 16 19.7	
SSE					AMB	AMB			
	comp=Z,46nm,0.8s,mb5.1								
SSE					AMB	AMB			
	comp=Z,108nm,9.8s								
SSE					LR	LR			
	comp=N,420nm,23.3s								
SSE					LR	LR			
	comp=E,272nm,23.4s								
SSE					LR	LR			
	comp=Z,480nm,21.9s								
NST	**Nakhon Sawan**	**28.89**	**298**	P			**P**	**17 11 20.3**	**-3.9**
NANT	**Nan**	**29.77**	**304**	⇑P			**P**	**17 11 29.0**	**-3.0**
	comp=Z,240nm,0.6s,mb6.0								
NJ2	**Nanjing**	**29.84**	**347**	*e*P			**P**	**17 11 32.4**	**-0.2**
NJ2				AP			pP	17 11 41.1	-9.1
NJ2				PP			PP	17 12 31.0	-1.3
NJ2				S			**S**	**17 16 28.0**	**+5.3**
NJ2				XS				17 16 45.0	
NJ2					AMB	AMB			
	comp=Z,330nm,0.6s,mb6.1								
NJ2					AMB	AMB			
	comp=Z,230nm,5.0s								
NJ2					LR	LR			
	comp=N,2μm,23.7s								
NJ2					LR	LR			
	comp=E,850nm,24.1s								
NJ2					LR	LR			
	comp=Z,990nm,26.6s								
CTA	**Charters Tower**	**29.99**	**141**	*e*P			**P**	**17 11 34.4**	**+0.4**
	comp=Z,18nm,1.9s,mb4.4								
CTA	**Charters Tower**	**29.99**	**141**	*e*P			**P**	**17 11 34.4**	**+0.4**
CTA					pmax	pmax			
	comp=Z,18nm,1.9s								
CTA	**Charters Tower**	**29.99**	**141**	P			**P**	**17 11 33.3**	**-0.7**
	comp=Z,4.2nm,0.6s,mb4.3,baz=317,slow=11,SNR=5.7								
CTAO	**Charters Tower**	**29.99**	**141**	*e*P			**P**	**17 11 33.6**	**-0.4**
CTAO					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.4								
CTAO	**Charters Tower**	**29.99**	**141**	*e*P			**P**	**17 11 33.6**	**-0.4**
	comp=Z,8.6nm,0.9s,mb4.4								
GYA	**Guiyang**	**30.15**	**323**	P			**P**	**17 11 35.2**	**-0.2**
GYA				XP			sP	17 11 58.8	-3.0
GYA				PCP			PcP	17 14 36.6	+1.5
GYA				S			**S**	**17 16 29.2**	**+1.6**
GYA					AMB	AMB			
	comp=Z,20nm,0.8s,mb4.8								
GYA					AMB	AMB			
	comp=Z,110nm,4.5s								
GYA					LR	LR			
	comp=N,180nm,15.8s								
GYA					LR	LR			
	comp=E,240nm,16.0s								
GYA					LR	LR			
	comp=Z,270nm,15.5s								
BDT	**Bhumibol Dam**	**30.51**	**300**	P			**P**	**17 11 38.0**	**-0.6**
CM31	**Chiang Mai Arr**	**31.09**	**302**	*e*P			**P**	**17 11 43.8**	**+0.1**
	comp=Z,7.5nm,0.6s,mb4.6								
CMAR	**Chiang Mai Arr**	**31.09**	**302**	P			**P**	**17 11 43.1**	**-0.5**
	comp=Z,8.1nm,0.8s,mb4.5,baz=122,slow=7.7,SNR=43								
CMAR					ScP			17 18 16.6	
	comp=Z,2.5nm,0.9s,baz=129,slow=2.1,SNR=12								
CMAR					LR	LR		17 26 26.7	
	comp=Z,387nm,18.2s,baz=115,slow=40								
CHG	**Chiang Mai**	**31.24**	**302**	P			**P**	**17 11 44.4**	**-0.6**
ENH	**Enshi**	**31.60**	**331**	*e*P			**P**	**17 11 46.5**	**-1.6**
	comp=Z,26nm,0.6s,mb5.1								
KMI	**Kunming**	**31.78**	**316**	P			**P**	**17 11 49.0**	**-0.7**
KMI				XP			sP	17 12 13.2	-3.3
KMI				S			**S**	**17 16 52.2**	**-1.1**
KMI					AMB	AMB			
	comp=Z,11nm,0.8s,mb4.6								
KMI					AMB	AMB			
	comp=Z,102nm,6.4s								
KMI					LR	LR			
	comp=N,355nm,23.1s								
KMI					LR	LR			
	comp=E,454nm,25.0s								
KMI					LR	LR			
	comp=Z,799nm,28.8s								
KMI	**Kunming**	**31.78**	**316**	P			**P**	**17 11 49.0**	**-0.7**
KMI				*PP			pP	17 12 13.2	+5.7
KMI				*SP			sP	17 12 24.8	+8.3
KMI								17 13 00.4	
KMI				S			**S**	**17 16 52.2**	**-1.1**
KMI				SS			SS	17 18 51.3	+3.0
KMI					pmax	pmax			
	comp=Z,11nm,0.8s,mb4.6								
KMI					MLR	MLR			
	comp=Z,800nm,28.8s								
KMI	**Kunming**	**31.78**	**316**	P			**P**	**17 11 49.0**	**-0.7**
	comp=Z,11nm,0.8s,mb4.6								
KMI					pP	pP		17 12 13.2	+5.7
KMI					sP	sP		17 12 24.8	+8.3
KMI					PP	PP		17 13 00.4	+3.4
KMI				S			**S**	**17 16 52.2**	**-1.1**
KMI					sS			17 17 37.2	
KMI					SS	SS		17 18 51.3	+3.0
KMI					LR	LR			
	comp=Z,800nm,28.8s								
JHJ	**Hachijo jima 2**	**32.50**	**21**	LR			LR	17 25 37.2	
	comp=Z,301nm,19.2s,baz=136,slow=37								
FORT	**Forrest**	**33.56**	**178**	⇑*i*P			**P**	**17 12 04.1**	**-1.0**
	comp=Z,4μm,0.7s								
XAN	**Xi'an**	**35.02**	**334**	P			**P**	**17 12 15.8**	**-1.7**
XAN					AMB	AMB			
	comp=Z,32nm,0.7s,mb5.3								
MAJO	**Matsushiro**	**35.14**	**16**	*e*P			**P**	**17 12 16.4**	**-2.1**
MAJO					pmax	pmax			
	comp=Z,13nm,0.6s,mb4.9								
MAJO	**Matsushiro**	**35.14**	**16**	*e*P			**P**	**17 12 16.4**	**-2.1**
	comp=Z,13nm,0.6s,mb4.9								
MAT	**Matsushiro**	**35.14**	**16**	*e*P			**P**	**17 12 17.0**	**-1.5**
MAT				*e*S			**S**	**17 17 41.0**	**-4.1**
MAT					pmax	pmax			
	comp=Z,52nm,1.2s,mb5.2								
MAT	**Matsushiro**	**35.14**	**16**	*e*P			**P**	**17 12 17.0**	**-1.5**
	comp=Z,52nm,1.2s,mb5.2								
MAT				*e*S			**S**	**17 17 41.0**	**-4.1**
MAT	**Matsushiro**	**35.14**	**16**	P			**P**	**17 12 17.3**	**-1.2**
MAT				S			**S**	**17 17 40.0**	**-5.1**
MJAR	**Matsushiro Arr**	**35.14**	**16**	P			**P**	**17 12 17.7**	**-0.8**
	comp=Z,14nm,0.8s,mb4.8,baz=200,slow=8.7,SNR=26								
MJAR					PcP	PcP		17 14 50.0	+1.3
	comp=Z,5.5nm,0.6s,baz=183,slow=2.7,SNR=8.2								
MJAR					LR	LR		17 27 21.8	
	comp=Z,193nm,18.8s,baz=220,slow=37								
CD2	**Chengdu**	**35.15**	**325**	P			**P**	**17 12 16.6**	**-2.1**
CD2				XP			sP	17 12 39.8	-6.1
CD2				PP			PP	17 13 33.5	-6.0
CD2					AMB	AMB			
	comp=Z,70nm,0.5s,mb5.8								
CD2					LR	LR			
	comp=N,380nm,17.4s								
CD2					LR	LR			
	comp=Z,540nm,17.4s								
KLBR	**Kellerberrin**	**35.33**	**193**	*e*P			**P**	**17 12 19.2**	**-1.0**
	comp=Z,352nm,0.6s								
DL2	**Dalian**	**36.08**	**354**	P			**P**	**17 12 27.1**	**+0.7**
DL2				XP			sP	17 12 48.4	-5.2
DL2				S			**S**	**17 17 58.2**	**-1.3**
DL2					AMB	AMB			
	comp=Z,100nm,0.6s,mb5.9								
DL2					AMB	AMB			
	comp=Z,200nm,3.9s								
DL2					LR	LR			
	comp=E,220nm,21.8s								
DL2					LR	LR			
	comp=Z,360nm,19.6s								
MUN	**Mundaring**	**36.08**	**195**	⇓*i*P			**P**	**17 12 26.2**	**-0.3**
	comp=Z,61nm,0.5s,mb5.8								
MUN	**Mundaring**	**36.08**	**195**	⇓*i*P			**P**	**17 12 26.2**	**-0.3**
MUN					pmax	pmax			
	comp=Z,61nm,0.5s,mb5.8								
STKA	**Stephens Creek**	**37.47**	**159**	*e*P			**P**	**17 12 37.5**	**-0.7**
	comp=Z,25nm,0.7s,mb5.2								
STKA				*e*S			**S**	**17 18 19.4**	**-1.5**
STKA	**Stephens Creek**	**37.47**	**159**	P			**P**	**17 12 37.5**	**-0.8**
	comp=Z,14nm,0.4s,mb5.3,baz=333,slow=7.7,SNR=70								
STKA					PcP	PcP		17 14 56.5	+0.7
	comp=Z,8.7nm,0.6s,baz=342,slow=6.4,SNR=2.9								
STKA				S			**S**	**17 18 20.6**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=80,slow=23,SNR=5.6								
BJT	**Baijiatuau**	**38.08**	**347**	*e*P			**P**	**17 12 42.9**	**-0.3**
BJT					pmax	pmax			
	comp=Z,54nm,0.6s								
BJT	**Baijiatuau**	**38.08**	**347**	*e*P			**P**	**17 12 42.9**	**-0.3**
	comp=Z,54nm,0.6s,mb5.6								
BJI	**Beijing**	**38.10**	**347**	P			**P**	**17 12 43.3**	**0.0**
BJI				XP			sP	17 13 06.3	-4.2
BJI				S			**S**	**17 18 35.1**	**+4.8**
BJI					AMB	AMB			
	comp=Z,76nm,0.7s,mb5.6								
BJI					AMB	AMB			
	comp=Z,191nm,3.9s								
BJI					LR	LR			
	comp=N,387nm,18.3s								
BJI					LR	LR			
	comp=E,333nm,22.8s								
BJI					LR	LR			
	comp=Z,594nm,25.2s								
BJI	**Beijing**	**38.10**	**347**	P			**P**	**17 12 43.3**	**0.0**
BJI				*PP			pP	17 13 06.3	+4.7
BJI				*SP			sP	17 13 18.1	+7.6
BJI				S			**S**	**17 18 35.1**	**+4.8**
BJI				*SS				17 19 17.1	
BJI					pmax	pmax			
	comp=Z,76nm,0.7s,mb5.6								
BJI					MLR	MLR			
	comp=Z,590nm,25.2s								
BJI	**Beijing**	**38.10**	**347**	P			**P**	**17 12 43.3**	**0.0**
	comp=Z,76nm,0.7s,mb5.6								
BJI					pP	pP		17 13 06.3	+4.7
BJI					sP	sP		17 13 18.1	+7.6
BJI				S			**S**	**17 18 35.1**	**+4.8**
BJI					sS			17 19 17.1	
BJI					LR	LR			
	comp=Z,590nm,25.2s								
LZH	**Lanzhou**	**39.07**	**330**	⇑P			**P**	**17 12 52.0**	**+0.6**
LZH				AP			pP	17 13 03.8	-5.9
LZH				XP			sP	17 13 09.3	-9.2
LZH				PP			PP	17 14 28.0	+2.1
LZH				*e*S			**S**	**17 18 48.0**	**+3.0**
LZH				XS				17 19 05.0	
LZH				SS			SS	17 21 33.0	+0.1
LZH				AMB	AMB				
	comp=Z,110nm,1.2s,mb5.6								
LZH					AMB	AMB			
	comp=Z,280nm,4.5s								
LZH					LR	LR			
	comp=E,3μm,16.2s								
LZH					LR	LR			
	comp=Z,3μm,17.9s								
LZH	**Lanzhou**	**39.07**	**330**	⇑P			**P**	**17 12 52.0**	**+0.6**
LZH								17 14 28.0	
LZH				*e*S			**S**	**17 18 48.0**	**+3.0**
LZH				SS			SS	17 21 33.0	+0.1
LZH					pmax	pmax			
	comp=Z,110nm,1.2s,mb5.6								
LZH					MLR	MLR			
	comp=Z,3μm,17.9s								
LZH	**Lanzhou**	**39.07**	**330**	⇑P			**P**	**17 12 52.0**	**+0.6**
	comp=Z,110nm,1.2s,mb5.6								
LZH					pP	pP		17 13 03.8	-5.9
LZH					sP	sP		17 13 09.3	-9.2
LZH					PP	PP		17 14 28.0	+2.1
LZH				*e*S			**S**	**17 18 48.0**	**+3.0**
LZH					sS			17 19 05.0	
LZH					SS	SS		17 21 33.0	+0.1
LZH					LR	LR			
	comp=Z,3μm,17.9s								
HHC	**Hu-ho-hao-te**	**40.08**	**342**	*e*P			**P**	**17 12 59.7**	**0.0**
HHC					XP		sP	17 13 25.0	-1.8
HHC					PP		PP	17 14 36.3	-0.4
HHC					PCP		PcP	17 15 04.1	+0.2
HHC					PCS			17 18 52.7	
HHC				S			**S**	**17 18 57.7**	**-2.4**
HHC					SCS		ScS	17 22 55.3	-1.7
HHC					AMB	AMB			
	comp=Z,12nm,1.2s,mb4.6								
HHC					AMB	AMB			
	comp=Z,133nm,5.2s								
HHC					LR	LR			
	comp=N,389nm,20.6s								
HHC					LR	LR			
	comp=E,479nm,19.0s								
HHC					LR	LR			
	comp=Z,734nm,22.2s								
SHL	**Shillong**	**40.17**	**307**	*e*P			**P**	**17 13 01.5**	**+0.9**
CN2	**Changchun**	**40.70**	**359**	*e*P			**P**	**17 13 05.2**	**+0.4**
CN2				*e*XP			sP	17 13 28.2	-3.7
CN2				*e*S			**S**	**17 19 09.5**	**+0.2**
CN2					AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.8								
CN2					LR	LR			
	comp=Z,400nm,21.0s								
ARMA	**Armidale**	**40.94**	**146**	*e*P			**P**	**17 13 07.6**	**+0.7**
MDJ	**Mudanjiang**	**41.59**	**3**	P			**P**	**17 13 13.4**	**+1.2**
MDJ				XP			sP	17 13 34.3	-5.0
MDJ				PP			PP	17 14 51.3	-1.1
MDJ				PCP			PcP	17 15 09.4	+0.6
MDJ				SCP				17 18 50.7	
MDJ

GTA LR LR
comp=Z,868nm,24.7s
CNB Canberra Magne 43.67 153 *e*P **P 17 13 30.3 +1.0**
comp=Z,2μm,2.0s
VIS Vishakhapatnam 44.80 292 *e*P **P 17 13 39.1 +0.5**
VIS *e* pP 17 13 54.7 -2.4
comp=Z,26nm,1.2s
JIRN Jiri 45.66 307 *e*P **P 17 13 45.0 -0.3**
comp=Z,79nm,0.5s,mb5.7
YSS Yuzh-Sakhalins 46.06 15 *e*P **P 17 13 49.1 +0.9**
YSS pmax pmax
comp=Z,31nm,0.5s,mb5.3
YSS Yuzh-Sakhalins 46.06 15 *e*P **P 17 13 49.1 +0.9**
comp=Z,31nm,0.5s,mb5.3
PKI Pulchoki 46.25 306 *e*P **P 17 13 49.2 -0.7**
comp=Z,43nm,0.6s,mb5.3
PKI Pulchoki 46.25 306 *e*P **P 17 13 49.2 -0.7**
PKI pmax pmax
comp=Z,21nm,0.6s,mb5.0
KLR Kul'dur 46.34 5 *e*P **P 17 13 47.6 -2.8**
KLR pmax pmax
comp=Z,32nm,1.2s,mb4.9
KKN Kakani 46.44 306 *e*P **P 17 13 50.8 -0.7**
comp=Z,66nm,0.5s,mb5.6
KKN Kakani 46.44 306 *e*P **P 17 13 50.8 -0.7**
KKN pmax pmax
comp=Z,33nm,0.5s,mb5.3
DMN Daman 46.51 306 *e*P **P 17 13 51.3 -0.7**
comp=Z,55nm,0.5s,mb5.5
HIA Hailar 46.52 354 *e*P **P 17 13 52.5 +0.7**
HIA pmax pmax
comp=Z,26nm,0.8s
HIA Hailar 46.52 354 *e*P **P 17 13 52.5 +0.8**
comp=Z,26nm,0.8s,mb5.0
GKN Gorkha 47.05 306 *e*P **P 17 13 55.4 -0.8**
comp=Z,70nm,0.6s,mb5.6
KOLN Koldanda 47.79 305 *e*P **P 17 14 01.6 -0.5**
comp=Z,128nm,0.5s,mb6.0
ULN Ulaanbaatar 47.80 342 ⇑*i*P **P 17 14 01.9 0.0**
ULN Ulaanbaatar 47.80 342 *e*P **P 17 14 01.5 -0.3**
comp=Z,17nm,0.6s,mb5.0
SONM Songino Array 47.97 342 P **P 17 14 03.0 -0.2**
comp=Z,8.3nm,0.4s,mb4.9,baz=157,slow=8.7,SNR=111
SONM PcP PcP 17 15 31.2 +0.5
comp=Z,3.9nm,0.7s,baz=155,slow=4.6,SNR=4.2
SONM LR LR 17 35 28.6
comp=Z,232nm,21.1s,baz=159,slow=37
HYB Hyderabad 49.18 290 *e*P **P 17 14 12.5 -0.4**
HYB pmax pmax
comp=Z,77nm,0.8s,mb5.7
HYB Hyderabad 49.18 290 *e*P **P 17 14 12.5 -0.4**
comp=Z,77nm,0.8s,mb5.7
HYB Hyderabad 49.18 290 *i* P **P 17 14 12.5 -0.4**
comp=Z,77nm,0.8s,mb5.7
LGTI Lohaghat 51.16 306 *e*P **P 17 14 28.0 +0.1**
ZAK Zakamensk 51.20 341 ⇑*i*P **P 17 14 27.2 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BHPL Bhopal 51.56 297 *e*P **P 17 14 30.5 -0.5**
BHPL *e* 17 14 30.8
comp=Z,62nm,0.9s
TLY Talaya 52.21 342 ⇑*i*P **P 17 14 35.2 -0.2**
TLY pmax pmax
comp=Z,18nm,0.7s,mb5.2
IRK Irkutsk 52.51 343 *e*P **P 17 14 35.6 -2.1**
IRK pmax pmax
comp=Z,48nm,2.3s,mb5.1
MOY Mondy 53.05 340 *e*P **P 17 14 42.0 +0.3**
MOY pmax pmax
comp=Z,46nm,1.9s,mb5.2
WMQ Urumqi 53.24 326 ⇑P **P 17 14 42.8 -0.5**
WMQ XP sP 17 15 07.0 -3.6
WMQ PCP PcP 17 15 49.3 -0.8
WMQ PP PP 17 16 45.8 +0.4
WMQ S **S 17 22 04.3 -2.7**
WMQ AMB AMB
comp=Z,24nm,1.2s,mb5.1
WMQ LR LR
comp=N,438nm,21.0s
WMQ LR LR
comp=E,320nm,19.2s
WMQ LR LR
comp=Z,498nm,24.7s
DDI Dehra Dun 53.25 306 *e* **P 17 14 41.0 -2.5**
KAD Karad 53.26 289 *e*P **P 17 14 42.1 -1.6**
KAD *e* 17 14 43.6
comp=Z,37nm,0.7s
NDI New Delhi 53.37 304 *e*P **P 17 14 41.0 -3.4**
CLNS Chul'man 53.76 359 *e*P **P 17 14 47.5 +0.6**
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=Z,22nm,0.8s,mb5.2
CLNS pmax pmax
comp=E,11nm,1.0s
POO Poona 53.78 291 *e*P **P 17 14 45.0 -2.6**
SDNR Sundarnagar 54.54 307 *e*P **P 17 14 52.8 -0.2**
BOD Bodaibo 55.61 352 ⇑*i*P **P 17 15 00.6 +0.3**
BOD pmax pmax
comp=Z,21nm,1.2s,mb5.0
DLH Dalhousie 55.71 308 *e*P **P 17 15 02.0 +0.6**
THN Thein Dam 55.87 308 *e*P **P 17 15 01.6 -1.0**
PET Petropavlovsk 56.54 23 *e*P **P 17 15 07.9 +0.9**
PET *e*S **S 17 22 56.9 +5.9**
PET pmax pmax
comp=Z,25nm,1.5s,mb5.0
PET pmax pmax
comp=Z,100nm,13.8s
PET smax
comp=N,200nm,18.2s
PET MLR MLR
comp=Z,100nm,18.0s
PET Petropavlovsk 56.54 23 *e*P **P 17 15 07.2 +0.2**
comp=Z,10nm,0.5s,mb5.1
MKAR Makanchi Array 58.08 326 P **P 17 15 16.9 -1.0**
comp=Z,45nm,0.5s,mb5.8,baz=120,slow=8.2,SNR=297
MKAR PcP PcP 17 16 09.3 +0.6
comp=Z,11nm,0.5s,baz=154,slow=3.3,SNR=6.4
MKAR LR LR 17 41 22.4
comp=Z,381nm,21.1s,baz=110,slow=37
MKAR Makanchi Array 58.08 326 P **P 17 15 16.9 -1.0**
MKAR PcP PcP 17 16 09.3 +0.6
MKAR LR LR 17 41 22.4
KSH Kashi 58.45 316 *e*P **P 17 15 21.6 +1.0**
KSH *e*XP sP 17 15 45.4 -3.0
KSH *e*PP PP 17 17 33.5 +1.2
KSH *e*SCP 17 20 00.3
KSH *e*PCS 17 20 10.5
KSH *e*S **S 17 23 14.2 -1.9**
KSH *e*SCS ScS 17 24 57.0 -2.5
KSH *e*SS SS 17 27 09.4 -1.8
KSH AMB AMB
comp=Z,150nm,2.2s,mb5.6
KSH LR LR
comp=N,130nm,5.6s
KSH LR LR
comp=E,310nm,5.6s
YAK Yakutsk 59.00 2 *e*P **P 17 15 23.9 -0.2**
YAK pmax pmax
comp=Z,42nm,0.9s,mb5.5
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,27nm,0.9s,mb5.3
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 59.00 2 *e*P **P 17 15 23.9 -0.3**
comp=E,87nm,0.9s,mb5.8
MA2 Magadan 59.52 14 *c e*P **P 17 15 28.6 +0.9**
MA2 *e*S **S 17 23 34.3 +4.5**
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
MA2 MLR MLR
comp=Z,900nm,27.5s
MA2 Magadan 59.52 14 *e*P **P 17 15 28.3 +0.6**
comp=Z,35nm,1.0s,mb5.3
KZA Kyzart 60.05 318 P **P 17 15 32.6 +1.0**
SNR=32
TKM2 Tokmak 2 60.19 319 P **P 17 15 32.7 +0.1**
SNR=24
KBK Karagaybulak 60.50 318 P **P 17 15 35.0 +0.3**
SNR=21

UCH Uchtor 60.60 318 P **P 17 15 35.8 +0.4**
SNR=54
CHMS Chumysh 60.78 319 P **P 17 15 36.2 -0.4**
SNR=15
AAK Ala-Archa 60.79 318 P **P 17 15 37.3 +0.6**
SNR=15
AAK Ala-Archa 60.79 318 P **P 17 15 36.0 -0.7**
AAK pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
FRU Bishkek 60.80 318 *e*P **P 17 15 36.6 -0.1**
FRU *e* 17 16 14.0
USP Ospenovka 61.06 319 P **P 17 15 37.8 -0.7**
SNR=53
AML Almayashu 61.12 317 P **P 17 15 39.0 +0.1**
SNR=76
ZAL Zalesovo 61.19 333 P **P 17 15 38.3 -0.9**
comp=Z,9.8nm,0.4s,mb5.2,baz=352,slow=6.2,SNR=38
ZAL LR LR 17 44 57.5
comp=Z,186nm,19.3s,baz=340,slow=39
EKS2 Erkin-Say 61.28 318 P **P 17 15 40.2 +0.2**
SNR=40
KURK Kurchatov 62.28 328 ⇓*i*P **P 17 15 45.9 -0.7**
KURK Kurchatov 62.28 328 *e*P **P 17 15 45.2 -1.3**
comp=Z,75nm,0.6s,mb5.9
SEY Seymchan 62.85 13 *e*P **P 17 15 54.5 +4.3**
SEY *e* 17 16 25.9
SEY *e* 17 18 05.3
SEY *e* 17 24 22.3
SEY pmax pmax
comp=Z,30nm,0.8s,mb5.3
FX1 Attu Island--F 62.88 30 *e*P **P 17 15 50.7 +0.2**
AFI Afiamalu 63.43 107 LR LR 17 38 02.5
comp=Z,244nm,20.7s,baz=279,slow=31
KKAR Karatay Array 63.66 317 P **P 17 15 55.2 -0.6**
KKAR pmax pmax
comp=Z,12nm,0.7s,mb4.8
BVA0 Borovoye Array 67.86 327 *i* P **P 17 16 21.6 -0.8**
BVA0 pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 67.86 327 P **P 17 16 22.0 -0.4**
comp=Z,8.8nm,0.4s,mb5.0,baz=98,slow=4.1,SNR=142
CHKZ Chkalovo 68.03 328 *e*P **P 17 16 22.4 -1.1**
CHKZ pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
CHKZ Chkalovo 68.03 328 *e*P **P 17 16 22.4 -1.1**
comp=Z,10nm,0.6s,mb4.8
TIXI Tiksi 68.63 1 *i* P **P 17 16 26.4 -0.5**
CASY Casey 70.01 187 *e*P **P 17 16 35.7 +0.3**
comp=Z,8.2nm,0.8s,mb4.6
BILL Bilibino 70.37 15 *i* P **P 17 16 38.2 +0.6**
BILL *i* pP 17 17 00.8 +3.3
BILL pmax pmax
comp=Z,17nm,1.6s,mb4.6
BILL MLR MLR
comp=Z,100nm,16.0s
BILL Bilibino 70.37 15 *e*P **P 17 16 37.6 0.0**
comp=Z,4.8nm,0.6s,mb4.5
SVE Sverdlovsk 74.52 329 ⇑*i*P **P 17 17 02.8 +0.6**
SVE *e* pP 17 17 27.2 +4.9
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.1
ARU Arti 75.48 328 ⇑*i*P **P 17 17 07.3 -0.4**
ARU *e*S S 17 26 46.3 +5.6
ARU *e*SS SS 17 31 35.3 +0.2
ARU pmax pmax
comp=Z,25nm,0.7s,mb5.0
ARU Arti 75.48 328 *e*P **P 17 17 07.0 -0.7**
comp=Z,30nm,0.6s,mb5.2
SDPT Sand Point 77.97 34 *e*P **P 17 17 23.1 +1.4**
comp=Z,100nm,0.6s,mb5.7
SVW2 Sparrevohn 81.60 29 *e*P **P 17 17 43.3 +2.2**
GNI Garni 81.81 310 *e*P **P 17 17 45.2 +2.6**
GNI pmax pmax
comp=Z,11nm,0.6s
GNI Garni 81.81 310 P **P 17 17 45.0 +2.4**
comp=Z,1.8nm,0.4s,mb4.3,baz=217,slow=22,SNR=3.2
GNI Garni 81.81 310 *e*P **P 17 17 45.2 +2.6**
comp=Z,11nm,0.6s,mb4.9
TI2 Plekhanov 81.90 312 *e*P **P 17 17 45.4 +2.4**
ZEI Tsey 82.58 313 *e*P **P 17 17 47.2 +0.7**
ZEI *i* 17 20 54.0
ZEI pmax pmax
comp=Z,15nm,0.8s,mb4.9
VNDA Vanda 82.67 173 P **P 17 17 46.3 -0.1**
comp=Z,5.6nm,0.8s,mb4.4,baz=306,slow=6.3,SNR=21
MAW Mawson 82.94 200 LR LR 17 51 14.5
comp=Z,248nm,19.4s,baz=65,slow=33
IMA Indian Mountai 83.19 24 *e*P **P 17 17 52.2 +3.1**
IMA pmax pmax
comp=Z,12nm,0.7s,mb4.8
IMA Indian Mountai 83.19 24 *e*P **P 17 17 52.2 +3.1**
comp=Z,12nm,0.7s,mb4.8
GOF Gofitskoye 83.32 315 ⇓*i*P **P 17 17 49.5 -0.7**
GOF pmax pmax
comp=Z,50nm,2.5s,mb4.9
KIV Kislovodsk 83.52 314 P **P 17 17 53.0 +1.7**
KIV MLR MLR
comp=Z,100nm,19.0s
KIV Kislovodsk 83.52 314 *e*P **P 17 17 52.0 +0.7**
comp=Z,6.7nm,0.7s,mb4.6
SLKM Skilak Lake 84.14 30 *e*P **P 17 17 55.0 +1.1**
PMR Palmer 84.74 29 *e*P **P 17 17 58.2 +1.3**
PMR pmax pmax
comp=Z,29nm,0.8s,mb5.3
PMR Palmer 84.74 29 *e*P **P 17 17 58.2 +1.3**
comp=Z,29nm,0.8s,mb5.3
PPT Papeete 85.09 108 *e*S S 17 28 14.8 -6.7
PPT *e*LR LR 17 45 10.7
comp=Z,585nm,30.8s
PPT Papeete 85.09 108 LR LR 17 48 10.0
comp=Z,80nm,20.2s,baz=172,slow=30
SML Sawmill 85.14 28 *e*P **P 17 18 00.5 +1.6**
SOC Sochi 85.66 313 *i* P **P 17 18 01.8 -0.1**
SOC *e*S 17 28 11.4
SOC pmax pmax
comp=Z,44nm,0.9s,mb5.4
SOC pmax pmax
comp=N,6.0nm,0.8s
SOC pmax pmax
comp=E,2.0nm,0.5s
TBI Tubuai 85.68 114 *e*S S 17 28 20.4 -6.7
TBI *e*LR LR 17 45 33.0
comp=E,552nm,36.0s
ILAR Eielson Array 85.91 25 P **P 17 18 02.6 0.0**
comp=E,1.8nm,0.5s,mb4.3,baz=248,slow=4.9,SNR=43
ILAR LR LR 17 51 05.1
comp=E,62nm,21.8s,baz=344,slow=32
VOR Voronezh 86.04 321 *e*P **P 17 18 03.7 +0.1**
VOR pmax pmax
comp=Z,130nm,1.1s,mb5.8
VOR pmax pmax
comp=E,100nm,1.2s
VRSR Storozhevoye 86.04 321 *c i*P **P 17 18 04.0 +0.4**
VRSR pmax pmax
comp=Z,70nm,0.9s,mb5.6
VRSR pmax pmax
comp=N,10.0nm,0.6s
VRSR pmax pmax
comp=E,70nm,0.9s
DIV Divide 86.34 29 *e*P **P 17 18 07.0 +2.2**
comp=E,68nm,1.0s,mb5.5
THY Trims Highway 86.38 27 *e*P **P 17 18 04.9 -0.1**
MALT Malatya 86.69 308 *e*P **P 17 18 08.7 +1.6**
comp=E,6.3nm,0.8s,mb4.6
MOS Moscow 86.96 326 *k i*P **P 17 18 09.2 +1.2**
MOS pmax pmax
comp=Z,200nm,0.7s,mb6.2
MOS pmax pmax
comp=Z,141nm,0.6s,mb6.1
ANN Anapa 87.29 315 *e*P **P 17 18 09.7 -0.2**
ANN pmax pmax
comp=Z,94nm,1.1s,mb5.6
MENT Mentasta 87.30 27 *e*P **P 17 18 11.3 +1.8**
OBN Obninsk 87.58 325 *α i*P **P 17 18 11.3 +0.3**
OBN *e* pP 17 18 35.0 +3.4
OBN pmax pmax
comp=Z,90nm,0.7s,mb5.9
OBN MLR MLR
comp=Z,100nm,18.0s
OBN Obninsk 87.58 325 *e*P **P 17 18 11.2 +0.2**
comp=Z,83nm,0.5s,mb6.0
ASF Jabal al Asfar 88.12 302 P **P 17 18 16.0 +1.9**
comp=Z,16nm,0.9s,mb5.0,baz=288,slow=2.2,SNR=16
KMBO Kilima Mbogo 89.31 269 P **P 17 18 21.9 +1.7**
comp=Z,7.8nm,0.6s,mb4.9,baz=67,slow=6.5,SNR=32
KMBO LR LR 17 54 58.0
comp=Z,132nm,18.2s,baz=92,slow=33
KMBO Kilima Mbogo 89.31 269 *e*P **P 17 18 22.1 +1.9**
comp=Z,14nm,0.9s,mb5.0
SIM Simferopol' 89.64 315 *e*P **P 17 18 21.5 +0.5**
SIM pmax pmax
comp=Z,23nm,0.7s,mb5.4
SIM MLR MLR
comp=Z,240nm,22.8s
EIL Elat 89.91 300 *e*P **P 17 18 23.5 +0.8**
comp=Z,6.1nm,0.6s,mb4.9
BRTR Keskin Array B 90.35 310 P **P 17 18 24.6 +0.1**
comp=Z,6.0nm,0.9s,mb4.7,baz=117,slow=5.5,SNR=26
KEV Kevo 90.55 340 *e*p **P 17 18 23.0 -1.7**
comp=Z,20nm,1.1s,mb5.2
KEV Kevo 90.55 340 *e*P **P 17 18 23.0 -1.7**
KEV pmax pmax
comp=Z,20nm,1.1s,mb5.2
INK Inuvik 90.98 21 *e*P **P 17 18 27.2 +0.5**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 90.98 21 *e*P **P 17 18 27.2 +0.5**
comp=Z,4.8nm,1.0s,mb4.6
ARCES ARCESS Array B 91.11 340 P **P 17 18 27.1 -0.2**
comp=Z,5.9nm,0.3s,mb5.1,baz=81,slow=5.7,SNR=38
ARCES LR LR 18 06 49.0
comp=Z,70nm,18.6s,baz=81,slow=40
ARE0 ARCESS Array S 91.11 340 *e*P **P 17 18 26.5 -0.8**
KAF Kangasniemi 92.19 332 *e*p **P 17 18 32.1 -0.3**
comp=Z,2.9nm,0.3s,mb5.0,baz=75,slow=4.3
KAF Kangasniemi 92.19 332 *e*P **P 17 18 32.1 -0.3**
KAF pmax pmax
comp=Z,3.0nm,0.3s,mb5.0
AKASG Malin Array Be 92.36 321 P **P 17 18 33.3 -0.2**
comp=Z,16nm,0.6s,mb5.4,baz=63,slow=4.8,SNR=42
AKASG PP PP 17 22 09.5 -7.9
comp=Z,0.4nm,0.4s,baz=38,slow=7.9,SNR=4.7
FINES FINESS Array B 92.42 332 P **P 17 18 33.3 -0.2**
comp=Z,3.7nm,0.5s,mb4.9,baz=55,slow=5.6,SNR=45
FINES LR LR 18 00 52.3
comp=Z,135nm,21.9s,baz=43,slow=36
TIRR Tirgusor 93.74 315 ⇑P **P 17 18 40.1 +0.2**
DLBC Dease Lake 94.53 31 P **P 17 18 45.2 +2.0**
comp=Z,4.3nm,0.6s,mb5.1,baz=292,slow=4.4,SNR=18
DLBC Dease Lake 94.53 31 *e*P **P 17 18 45.4 +2.2**
VRI Vrincioaia 94.71 316 ⇓P **P 17 18 45.3 +1.0**
ISR Istrita 94.96 316 ⇑P **P 17 18 47.7 +2.2**
MLR Muntele Rosu 95.31 316 ⇑P **P 17 18 47.9 +0.8**
SUW Suwalki 95.44 325 *e*P **P 17 18 48.1 +0.7**
SUW *e* pP 17 19 12.1 +3.8
BURAR Bucovina Array 95.44 318 ⇓P **P 17 18 49.0 +1.4**
BURAR Bucovina Array 95.44 318 ⇓P **P 17 18 49.0 +1.4**
MBAR Mbarara 95.79 270 *e*P **P 17 18 50.1 +0.1**
comp=Z,3.0nm,0.7s,mb4.8
KWP Kalwaria 96.67 321 *e*P **P 17 18 54.5 +1.4**
OJC Ojcow 98.36 322 *e*P **P 17 19 00.0 -0.8**
LSZ Lusaka 98.79 255 *e*P **P 17 19 04.0 +0.5**
LSZ pmax pmax
comp=Z,3.0nm,0.6s,mb5.0
LSZ Lusaka 98.79 255 *e*P **P 17 19 04.0 +0.4**
comp=Z,2.9nm,0.6s,mb5.0
RKT Rikitea 98.98 113 *e*LR LR 17 51 30.8
comp=Z,310nm,36.8s
NB2 NORSAR Subarra 99.39 334 P **P 17 19 04.6 -0.6**
comp=Z,3.0nm,0.6s,mb5.0,baz=67,slow=4.6
NOA NORSAR Array B 99.39 334 P **P 17 19 04.2 -1.0**
comp=Z,3.4nm,0.6s,mb5.0,baz=67,slow=4.5,SNR=12
NOA LR LR 18 06 42.5
comp=Z,133nm,18.2s,baz=80,slow=37
NOA NORSAR Array B 99.39 334 P **P 17 19 04.2 -1.0**
NOA LR LR 18 06 42.5
YKW3 Yellowknife Ar 100.27 24 *e*P P 17 19 10.4 +1.2
YKA Yellowknife Ar 100.31 24 P P 17 19 10.5 +1.2
comp=Z,0.9nm,0.6s,baz=299,slow=4.3,SNR=25
YKA PKiKP 17 23 38.3
comp=Z,0.4nm,0.6s,baz=299,slow=1.8,SNR=8.6
YKA PKKPbc 17 35 25.7
comp=Z,0.3nm,0.5s,baz=122,slow=3.5,SNR=5.2
YKA Yellowknife Ar 100.31 24 P P 17 19 10.5 +1.2
BRG Berggiesshubel 101.74 323 P 17 19 33.3
BRG *e* 17 19 40.9
GERES GERESS Array B 102.56 321 P Pdif 17 19 20.6 +0.9
comp=Z,0.5nm,0.5s,baz=63,slow=6.0,SNR=5.4
NVAR Mina Array Bea 107.60 48 PKiKP 17 23 52.9
comp=Z,0.5nm,0.6s,baz=318,slow=2.2,SNR=3.5
PDAR Pinedale Array 112.09 41 PKiKP 17 24 00.3
comp=Z,0.5nm,0.4s,baz=82,slow=2.3,SNR=8.6
PDAR PKKPbc 17 34 49.9
comp=Z,0.7nm,0.6s,baz=103,slow=5.7,SNR=6.1
PDAR PKKPab 17 34 59.0
comp=Z,1.2nm,0.8s,baz=115,slow=5.5,SNR=7.5
RSSD Black Hills 114.95 38 *e*PKP PKPdf 17 24 05.0 +2.3
ULM Lac du Bonnet 115.76 29 PKKPbc 17 34 39.6
comp=Z,1.9nm,0.6s,baz=325,slow=4.9,SNR=3.2
ANMO Albuquerque 117.72 48 PKP PKPdf 17 24 11.3 +3.2
comp=Z,1.2nm,0.4s,baz=328,slow=3.3,SNR=4.5
ANMO Albuquerque 117.72 48 PKP PKPdf 17 24 11.3 +3.2
SCHQ Schefferville 121.38 9 PKP PKPdf 17 24 17.1 +2.3
comp=Z,3.0nm,0.6s,baz=347,slow=3.4,SNR=9.2
TXAR Lajitas Array 122.26 52 PKP PKPdf 17 24 20.3 +3.2
comp=Z,1.6nm,0.6s,baz=287,slow=0.5,SNR=23
WMOK Wichita Mounta 123.35 44 *e*PKPdf PKPdf 17 24 21.7 +2.6
JCT Junction City 124.74 49 *e*PKPdf PKPdf 17 24 24.6 +2.6
JCT *e*pPKPdf 17 24 47.3
DBIC Dimbokro 130.52 281 PKP PKPdf 17 24 36.0 +2.5
comp=Z,5.7nm,0.6s,baz=321,slow=0.3,SNR=11
PLCA Paso Flores 139.35 160 PKhKP 17 24 47.0
comp=Z,1.2nm,0.6s,baz=193,slow=18,SNR=3.1
JTS JuntasAbangare 146.03 67 PKPbc PKPbc 17 25 04.6 +1.9
comp=Z,6.6nm,0.5s,baz=327,slow=6.3,SNR=7.3
JTS JuntasAbangare 146.03 67 *e*PKPbc PKPbc 17 25 05.9 +3.2
LPAZ La Paz 160.42 134 PKP PKPdf 17 25 24.6 +2.9
comp=Z,0.8nm,0.8s,baz=40,slow=2.3,SNR=5.4
LPAZ PKPab PKPab 17 26 07.5 +2.1
comp=Z,2.1nm,0.7s,baz=215,slow=4.7,SNR=6.2
LPAZ La Paz 160.42 134 PKP PKPdf 17 25 24.6 +2.9
LPAZ PKPab PKPab 17 26 07.5 +2.1
BDFB Brasilia 166.27 203 PKPab PKPab 17 26 30.1 -0.7
comp=Z,2.8nm,0.7s,baz=134,slow=7.3,SNR=3.7

SKHL 08 17:11:28.9±0.3, 49.77N×142.09E, h11km±2km, mb4.2/5, Ms3.7/1, 3C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.69**	**181**	⇑*i*Pg	Pg	17 11 42.9	0.0
UGL				AMB	AMB	17 11 43.5	
	610nm,0.3s						
UGL				AMB	AMB	17 11 43.5	
	560nm,0.3s						
UGL				AMB	AMB	17 11 43.5	
	330nm,0.3s						
UGL				pP		17 11 46.6	
UGL				*e*Sg	Sg	17 11 53.0	+0.8
UGL				A		17 11 56.0	
	6μm,0.5s						
UGL				A		17 11 56.0	
	2μm,0.3s						
UGL				AMS	AMS	17 12 08.0	
	3μm,4.0s						
TYV	**Tymovskoe**	**1.15**	**18**	*e*Pg	Pg	17 11 52.0	0.0
TYV				AMB	AMB	17 11 53.8	
	27nm,0.3s						
TYV				AMB	AMB	17 11 53.8	
	90nm,0.3s						
TYV				pP		17 11 54.8	
TYV				*e*Sg	Sg	17 12 08.0	+0.6
TYV				A		17 12 13.0	
	2μm,2.0s						
TYV				A		17 12 16.0	
	210nm,0.5s						
TYV				A		17 12 16.0	
	560nm,0.5s						
TYV				AMS	AMS	17 12 32.0	
	2μm,5.0s						
TYV				AMS	AMS	17 12 32.0	
	1μm,5.0s						
TYV				AMS	AMS	17 12 32.0	
	1μm,5.0s						
YSS	**Yuzh-Sakhalins**	**2.85**	**171**	*e*Pn	Pn	17 12 17.5	+2.2
YSS				AMB	AMB	17 12 18.5	
	20nm,0.8s						
YSS				*e*Pb	Pb	17 12 21.8	+2.3
YSS				⇑*e*Pg	Pg	17 12 25.2	-0.7
YSS				AMB	AMB	17 12 27.0	
	93nm,1.0s						

YSS			AMB	AMB	17 12 27.0		
	68nm,0.5s						
YSS			*e*Sg	Sg	17 13 04.6	+0.7	
YSS			A		17 13 09.9		
	130nm,0.8s						
YSS			A		17 13 09.9		
	160nm,0.8s						
NKL	**Nikolayevsk**	**3.50 346**	⇑*i*Pn	Pn	17 12 23.8	-0.6	
NKL			pP		17 12 27.0		
NKL			*e*Pg	Pg	17 12 38.2	-0.6	
NKL			sP		17 12 43.0		
NKL			*e*Sn	Sn	17 13 05.8	-0.5	
NKL			*e*Sb	Sb	17 13 11.5	-1.7	
NKL			*e*Sg	Sg	17 13 26.0	+0.6	
NKL			A		17 13 35.5		
	70nm,0.5s						
NKL			A		17 13 35.5		
	100nm,0.5s						
GRNR	**Gornyy**	**3.77 288**	*e*Pb	Pb	17 12 35.0	-0.2	
GRNR			*e*Pg	Pg	17 12 43.4	-0.8	
GRNR			AMB	AMB	17 12 49.2		
	19nm,0.4s						
GRNR			*e*Sb	Sb	17 13 17.0	-4.2	
GRNR			*e*Sg	Sg	17 13 35.0	+0.5	
GRNR			A		17 13 36.2		
	252nm,0.8s						
GRNR			A		17 13 36.2		
	250nm,0.8s						
OKH	**Okha**	**3.82 8**	*e*Pn	Pn	17 12 29.8	+0.8	
OKH			*e*Pg	Pg	17 12 47.8	+2.6	
OKH			sP		17 12 53.0		
OKH			*e*Sg	Sg	17 13 39.4	+3.2	
OKH			A		17 13 49.0		
	67nm,0.6s						
EKMR	**Ekimchan**	**6.60 304**	*e*rx	rx	17 13 14.4		
EKMR			*e*Pb	Pb	17 13 25.5	+1.9	
EKMR			*e*Pg	Pg	17 13 39.0	-1.7	
EKMR			AMB	AMB	17 13 51.2		
	4.0nm,0.5s						
EKMR			*e*Sb	Sb	17 14 39.0	-4.4	
EKMR			*i* Sg	Sg	17 15 10.0	+1.3	
EKMR			A		17 15 11.0		
	60nm,0.8s						
EKMR			A		17 15 11.0		
	20nm,0.8s						
EKMR			A		17 15 11.0		
	23nm,0.8s						
KLR	**Kul'dur**	**6.76 269**	*e*rx	Sg	17 15 10.5	-3.4	

*IDC **08** 17:19:53.8±2.1, 0.99N×97.34E, mb4.1/8, mb1 4.2/9, mb1mx3.9/22, mbtmp4.0/9, ML3.9/1, Error ellipse: s-maj=93.2km s-min=15.6km az=59.0*
*NEIC **08** 17:19:58.9±0.6, 1.04N×97.41E, h30km, mb4.3/8, Error ellipse: s-maj=17.2km s-min=7.9km az=59.0*

ISC 08 17:19:56.8±0.8, 1.06N±0.09×97.4E±0.1, h30km, n21, σ0§90/21, mb4.3/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.30**	**37**	*e*Pn	**Pn**	**17 21 17.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**17.36**	**5**	P	**P**	**17 23 58.3**	**-0.4**
	0.2nm,0.3s,baz=207,slow=6.0,SNR=3.2						
KKM	**Kota Kinabalu**	**19.41**	**75**	P	**P**	**17 24 22.6**	**-1.0**
MDRS	**Chennai**	**20.77**	**306**	*e*	**P**	**17 24 34.0**	**-4.1**
MDRS				*e*		17 28 10.0	
PKI	**Pulchoki**	**28.77**	**337**	*e*P	**P**	**17 25 59.2**	**+5.0**
	8.7nm,0.6s,mb4.7						
DMN	**Daman**	**28.92**	**337**	*e*P	**P**	**17 26 00.1**	**+4.5**
	9.2nm,0.8s,mb4.6						
KKN	**Kakani**	**29.01**	**337**	*e*P	**P**	**17 26 00.5**	**+4.0**
	9.8nm,0.9s,mb4.5						
GKN	**Gorkha**	**29.45**	**337**	*e*P	**P**	**17 26 01.6**	**+1.2**
	17nm,1.1s,mb4.7						
KOLN	**Koldanda**	**29.68**	**335**	*e*P	**P**	**17 26 03.2**	**+0.8**
	11nm,0.7s,mb4.7						
ENH	**Enshi**	**31.24**	**20**	P	**P**	**17 26 15.5**	**-0.7**
	2.2nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**33.67**	**126**	P	**P**	**17 26 38.2**	**+0.7**
	2.3nm,0.6s,mb4.3,baz=286,slow=4.6,SNR=5.1						
WRA	**Warramunga Arr**	**41.78**	**122**	P	**P**	**17 27 45.2**	**-0.4**
	0.6nm,0.4s,mb3.6,baz=307,slow=8.6,SNR=12						
WRAB	**Tennant Creek**	**41.79**	**122**	P	**P**	**17 27 46.3**	**+0.6**
	2.2nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	**41.79**	**122**	*e*P	**P**	**17 27 47.3**	**+1.6**
ASAR	**Alice Springs**	**43.14**	**127**	P	**P**	**17 27 55.5**	**-1.2**
	1.2nm,0.5s,mb3.9,baz=298,slow=8.0,SNR=19						
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**17 28 29.2**	**+0.1**
	0.4nm,0.3s,mb3.8,baz=194,slow=8.5,SNR=6.1						
MKAR	**Makanchi Array**	**47.43**	**346**	P	**P**	**17 28 30.8**	**+0.1**
	2.7nm,0.5s,mb4.4,baz=159,slow=7.8,SNR=25						
STKA	**Stephens Creek**	**53.10**	**132**	P	**P**	**17 29 13.7**	**-0.5**
	2.5nm,0.8s,mb4.2,baz=282,slow=6.4,SNR=7.0						
ZAL	**Zalesovo**	**53.72**	**351**	P	**P**	**17 29 18.5**	**+0.1**
	3.8nm,0.4s,mb4.7,baz=311,slow=5.6,SNR=11						
BVAR	**Borovoye Array**	**56.45**	**341**	P	**P**	**17 29 37.0**	**-1.2**
	0.8nm,0.5s,mb4.0,baz=148,slow=14,SNR=8.3						
CHKZ	**Chkalovo**	**56.93**	**341**	*e*P	**P**	**17 29 40.6**	**-1.0**
	1.2nm,0.6s,mb4.1						

IDC 08 17:23:56.4±3.3, 0.38S×97.89E, mb3.5/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.9/1, Error ellipse: s-maj=114.1km s-min=27.1km az=59.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.75**	**3**	P	P	17 28 15.5	-3.6
	0.1nm,0.3s,baz=191,slow=11,SNR=9.1						
WRA	**Warramunga Arr**	**40.63**	**121**	P	P	17 31 38.2	-1.8
	0.4nm,0.9s,baz=287,slow=8.4,SNR=4.5						
SONM	**Songino Array**	**48.59**	**8**	P	P	17 32 43.4	-0.2
	0.3nm,0.6s,baz=203,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**48.93**	**346**	P	P	17 32 43.4	-2.9
	0.3nm,0.3s,baz=151,slow=8.2,SNR=14						

IDC 08 17:32:58.3±3.4, 2.97S×121.96W, mb4.0/5, mb1 4.3/5, mb1mx3.9/17, mbtmp4.0/5, Error ellipse: s-maj=122.1km s-min=76.2km az=103.0, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**41.33**	**4**	P	P	17 40 46.6	-0.8
	1.2nm,0.6s,baz=188,slow=11,SNR=8.6						
PDAR	**Pinedale Array**	**46.88**	**13**	P	P	17 41 31.3	-0.9
	0.4nm,0.6s,baz=168,slow=8.3,SNR=4.1						
YKA	**Yellowknife Ar**	**65.52**	**4**	P	P	17 43 42.9	-2.5
	1.7nm,0.6s,baz=187,slow=6.3,SNR=47						
INK	**Inuvik**	**71.58**	**355**	P	P	17 44 20.0	-3.0
	0.6nm,0.4s,baz=187,slow=7.3,SNR=4.5						
SCHQ	**Schefferville**	**73.23**	**30**	P	P	17 44 30.7	-2.3
	2.6nm,0.9s,baz=230,slow=7.9,SNR=3.7						
MKAR	**Makanchi Array**	**131.53**	**338**	PKP	PKPdf	17 52 13.9	-1.3
	0.3nm,0.6s,baz=38,slow=1.7,SNR=4.6						

*NEIC **08** 17:50:07.2, 16.76N×98.15W, h17km, MD3.6(MEX), After MEX.*

MEX 08 17:50:06.7±0.7, 16.79N×98.13W, h16km±13km, MD3.6, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.40 180**	⇓*i*P		Pb	17 50 13.8	-1.1
PNIG			*e*S		Sb	17 50 18.8	-1.6
VHO	**Vista Hermosa**	**1.36 78**	*i* P		Pn	17 50 29.6	-1.7
VHO			*e*S		Sb	17 50 43.7	-4.7
VHO	**Vista Hermosa**	**1.36 78**	*e*P		Pn	17 50 27.1	-4.1
VHO			*e*S		Sb	17 50 43.7	-4.7
OXX	**Oaxaca**	**1.38 78**	*e*P		Pn	17 50 29.0	-2.4
OXX			*e*S		Sb	17 50 44.0	-4.8
ACX	**Acapulco**	**1.71 273**	*e*P		Pn	17 50 31.5	-4.7
ACX			*e*S		Sn	17 50 52.0	-5.9
CAIG	**El Cayaco**	**2.06 277**	*e*P		Pn	17 50 39.0	-2.2
CAIG			*e*S		Sn	17 51 02.0	-4.8

OTT 08 17:55:36.3±0.3, 53.01N×66.87W, MN2.9/7, Blast, Labrador City, NI Mining explosion., Labrador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**1.82**	**1**	PN	Pn	17 56 08.6	-0.6
SCHQ				SN	Sn	17 56 32.9	-0.5
SCHQ				Trac		17 56 36.5	
	comp=Z,23nm,0.1s						
MNQ	**Manicouagan**	**2.75 206**		PN	Pn	17 56 21.2	-1.3
MNQ				SN	Sn	17 56 55.6	-1.3
MNQ				Trac		17 57 01.8	
	comp=Z,12nm,0.2s						
SMQ	**Clarke City**	**2.80 178**		PN	Pn	17 56 21.4	-1.7
SMQ				SG	Sg	17 57 01.0	-8.4
SMQ				Trac		17 57 04.2	
	comp=Z,9.4nm,0.1s						
ICQ	**Pointe Anglais**	**3.50 184**		PN	Pn	17 56 31.2	-2.0
ICQ				SN	Sn	17 57 12.4	-3.6
ICQ				SG	Sg	17 57 25.1	-7.9
ICQ				Trac		17 57 31.6	
	comp=Z,12nm,0.3s						
CNQ	**Baie Comeau**	**3.79 192**		PN	Pn	17 56 36.2	-1.0
CNQ				SN	Sn	17 57 19.9	-3.4
CNQ				SG	Sg	17 57 33.9	-8.7
CNQ				Trac		17 57 44.1	
	comp=Z,6.7nm,0.2s						
GSQ	**Grosses Roches**	**4.11 182**		PN	Pn	17 56 39.9	-1.9
GSQ				SN	Sn	17 57 25.8	-5.5
GSQ				SG	Sg	17 57 43.6	-9.5
GSQ				Trac		17 57 50.5	
	comp=Z,15nm,0.3s						
LG4Q	**La Grande 4**	**4.38 281**		PN	Pn	17 56 42.3	-3.3
LG4Q				PG	Pg	17 56 51.6	-12
LG4Q				SN	Sn	17 57 32.1	-6.1
LG4Q				SG	Sg	17 57 50.2	-12
LG4Q				Trac		17 57 56.9	
	comp=Z,19nm,0.5s						
LMQ	**La Malbaie**	**5.90 203**		PN	Pn	17 57 05.1	-2.0
LMQ				SN	Sn	17 58 09.9	-6.5
DRLN	**Deer Lake**	**6.99 119**		PN	Pn	17 57 18.3	-4.1
DRLN				SN	Sn	17 58 37.6	-5.9
DRLN				LG		17 59 13.8	
LMN	**Caledonia Moun**	**7.29 169**		PN	Pn	17 57 21.3	-5.4
LMN				SN	Sn	17 58 43.6	-7.6
VLDQ	**Val d'Or**	**8.33 238**		PN	P	17 57 37.5	-3.7
VLDQ				SN	Sn	17 59 08.6	-8.6
VIMO	**Victor Mine**	**10.20 276**		PN	P	17 58 00.2	-6.7
VIMO				SN	S	17 59 45.5	-18
SILO	**Sutton Inlier**	**10.79 285**		PN	P	17 58 07.8	-7.2
SILO				SN	S	18 00 03.9	-14
SILO				LG		18 01 06.5	

IDC 08 17:59:58.8±3.9, 1.32S×100.02E, mb3.3/3, mb1 3.5/4, mb1mx3.3/17, mbtmp3.3/4, ML3.8/1, Error ellipse: s-maj=159.2km s-min=24.6km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.68**	**357**	P	P	18 04 30.9	-1.6
	0.1nm,0.3s,baz=187,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**38.33**	**121**	P	P	18 07 22.5	-0.8
	0.6nm,0.8s,baz=300,slow=9.5,SNR=4.3						
ASAR	**Alice Springs**	**39.64**	**127**	P	P	18 07 31.7	-2.6
	0.2nm,0.8s,baz=304,slow=7.8,SNR=3.6						
MKAR	**Makanchi Array**	**50.38**	**344**	P	P	18 08 57.0	-2.8
	0.2nm,0.4s,baz=149,slow=7.1,SNR=3.8						

*IDC **08** 18:05:35.8±2.2, 1.06N×97.07E, mb3.8/8, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=96.5km s-min=16.2km az=59.0*
*NEIC **08** 18:05:40.6±0.6, 1.13N×97.18E, h30km, mb4.1/4, Error ellipse: s-maj=17.3km s-min=7.0km az=64.0*

ISC 08 18:05:40.0±7.1, 1.2N±0.2×97.2E±0.4, h41km±55km, n16, σ0§58/16, mb3.9/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.36**	**40**	*e*Pn	**P**	**18 06 59.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.27**	**6**	Pn	**P**	**18 09 40.8**	**+0.9**
	0.1nm,0.3s,baz=194,slow=9.3,SNR=5.8						
ENH	**Enshi**	**31.21**	**21**	*e*P	**P**	**18 11 57.2**	**-0.7**
	3.2nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**33.91**	**126**	P	**P**	**18 12 20.3**	**-1.1**
	3.5nm,1.0s,mb4.2,baz=174,slow=9.2,SNR=2.8						
WRA	**Warramunga Arr**	**42.02**	**122**	P	**P**	**18 13 29.3**	**-0.1**
	0.8nm,0.5s,mb3.6,baz=301,slow=9.1,SNR=20						
WRAB	**Tennant Creek**	**42.02**	**122**	*e*P	**P**	**18 13 29.8**	**+0.4**
	1.7nm,0.5s,mb3.9						
WB2	**Warramunga Arr**	**42.03**	**122**	*e*P	**P**	**18 13 30.0**	**+0.5**
ASAR	**Alice Springs**	**43.38**	**127**	P	**P**	**18 13 40.6**	**+0.2**
	0.4nm,0.4s,mb3.5,baz=296,slow=7.4,SNR=9.7						
SONM	**Songino Array**	**47.17**	**8**	P	**P**	**18 14 10.8**	**+0.5**
	0.5nm,0.6s,mb3.7,baz=194,slow=10.0,SNR=7.3						
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**18 14 11.3**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=161,slow=9.0,SNR=15						
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**18 14 11.3**	**+0.1**
KURK	**Kurchatov**	**51.83**	**345**	*e*P	**P**	**18 14 46.2**	**+0.2**
	1.7nm,1.0s,mb3.9						
STKA	**Stephens Creek**	**53.34**	**132**	P	**P**	**18 14 58.1**	**+0.5**
	1.0nm,0.7s,mb3.9,baz=237,slow=8.4,SNR=4.0						
ZAL	**Zalesovo**	**53.58**	**351**	P	**P**	**18 14 59.6**	**+0.4**
	1.0nm,0.5s,mb4.0,baz=301,slow=8.6,SNR=6.3						
BVAR	**Borovoye Array**	**56.28**	**341**	P	**P**	**18 15 17.8**	**-1.0**
	0.7nm,0.8s,mb3.8,baz=108,slow=4.6,SNR=5.4						
CHKZ	**Chkalovo**	**56.76**	**341**	*e*P	**P**	**18 15 21.6**	**-0.5**
	2.1nm,0.9s,mb4.2						

*IDC **08** 18:09:08.4±11.0, 18.79N×122.53E, h146km±80km, mb2.8/3, mb1 3.1/4, mb1mx2.9/22, mbtmp3.4/4, Error ellipse: s-maj=182.3km s-min=22.0km az=96.0*

ISC 08 18:08:47.4±6.6, 18.9N±0.1×120.4E±0.2, h19km±48km, n5, σ0§92/7, mb3.2/3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.78**	**132**	*e*P	**Pn**	**18 09 17.5**	**-0.2**
CVP				*e*S	**Sn**	**18 09 40.0**	**0.0**
JOW	**Kunigami**	**10.69**	**41**	P	**P**	**18 11 22.9**	**+0.1**
	0.6nm,0.3s,baz=173,slow=8.1,SNR=3.7						
JOW				S	**S**	**18 13 10.6**	**-12**
	0.3nm,0.3s,baz=247,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**40.95**	**160**	P	**P**	**18 16 29.7**	**-1.0**
	0.2nm,0.4s,mb3.1,baz=342,slow=9.2,SNR=8.2						
ASAR	**Alice Springs**	**44.31**	**162**	P	**P**	**18 16 59.4**	**+1.2**
	0.2nm,0.4s,mb3.2,baz=349,slow=6.8,SNR=6.9						
ILAR	**Eielson Array**	**74.21**	**26**	P	**P**	**18 20 24.2**	**-0.2**
	0.3nm,0.6s,mb3.4,baz=268,slow=4.1,SNR=4.7						

*IDC **08** 18:18:14.8±3.4, 19.86N×121.64E, h49km±36km, mb3.6/9, mb1 3.8/10, mb1mx3.6/22, mbtmp3.9/10, ML4.2/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/31, Error ellipse: s-maj=26.0km s-min=15.8km az=71.0*
*NEIC **08** 18:18:14.9±1.2, 19.84N×121.63E, h49km±12km, mb4.0/3, Error ellipse: s-maj=13.7km s-min=7.0km az=67.0*
*MAN **08** 18:18:16.9, 19.77N×121.36E, h52km, mb4.4, ML3.3, MS3.1*

ISC 08 18:18:14.9±0.7, 19.93N±0.04×121.66E±0.08, h66km±8km, n25, σ0§86/28, mb3.7/12, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.72**	**167**	*e*P	**P**	**18 18 44.3**	**+1.1**
APYP	**Conner**	**2.09**	**191**	*e*P	**P**	**18 18 48.2**	**-0.1**
APYP				*e*S	**S**	**18 19 12.9**	**-0.2**
CVP	**Callao Caves**	**2.22**	**176**	*e*P	**P**	**18 18 51.0**	**+0.8**
ABRA	**Dolores**	**2.44**	**202**	*e*P	**P**	**18 18 51.5**	**-1.8**
ABRA				*e*S	**S**	**18 19 20.7**	**-1.2**
PALP	**Palanan**	**2.94**	**165**	*e*P	**P**	**18 19 01.1**	**+0.7**
CAUP	**Cauayan**	**2.97**	**177**	*e*P	**P**	**18 19 02.2**	**+1.4**
BALP	**Baler**	**4.17**	**181**	*e*P	**P**	**18 19 18.5**	**+1.0**
YHNB	**Yeheng**	**4.73**	**357**	*e*Pn	**P**	**18 19 25.0**	**-0.3**
JOW	**Kunigami**	**9.17**	**40**	P	**P**	**18 20 25.6**	**-1.2**
	5.3nm,0.3s,baz=210,slow=11,SNR=22						
JOW				S	**S**	**18 22 08.8**	**-0.7**
	0.4nm,0.3s,baz=138,slow=28,SNR=3.5						
JOW				LR	LR	18 23 58.0	
	comp=Z,70nm,21.1s,baz=313,slow=37						
CMAR	**Chiang Mai Arr**	**21.50**	**270**	P	**P**	**18 22 59.0**	**-1.0**
	1.4nm,0.8s,mb3.4,baz=77,slow=8.8,SNR=8.0						
ULN	**Ulaanbaatar**	**30.28**	**340**	P	**P**	**18 24 22.0**	**+0.2**
	2.6nm,1.2s,mb3.7						
SONM	**Songino Array**	**30.47**	**340**	P	**P**	**18 24 23.4**	**-0.1**
	0.9nm,0.8s,mb3.5,baz=159,slow=11,SNR=7.8						
WRAB	**Tennant Creek**	**41.52**	**162**	*e*P	**P**	**18 25 56.7**	**-0.9**
	1.5nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**41.53**	**162**	P	**P**	**18 25 56.3**	**-1.2**
	0.4nm,0.3s,mb3.6,baz=353,slow=8.5,SNR=30						
WB2	**Warramunga Arr**	**41.53**	**162**	*e*P	**P**	**18 25 56.9**	**-0.7**
MKAR	**Makanchi Array**	**41.76**	**319**	P	**P**	**18 25 59.6**	**+0.5**
	1.2nm,0.6s,mb3.8,baz=113,slow=8.8,SNR=19						
ZAL	**Zalesovo**	**44.08**	**329**	P	**P**	**18 26 19.2**	**+1.3**
	1.0nm,0.9s,mb3.6,baz=342,slow=4.6,SNR=5.4						
ASAR	**Alice Springs**	**44.95**	**164**	P	**P**	**18 26 25.4**	**0.0**
	0.4nm,0.3s,mb3.6,baz=345,slow=6.9,SNR=28						
ASPA	**Alice Springs**	**44.95**	**164**	*e*P	**P**	**18 26 25.4**	**+0.1**
CHKZ	**Chkalovo**	**51.37**	**324**	*e*P	**P**	**18 27 15.2**	**+0.4**
	1.0nm,0.6s,mb4.0						
ARCES	**ARCESS Array B**	**73.64**	**339**	P	**P**	**18 29 43.2**	**+0.7**
	6.1nm,1.1s,mb4.3,baz=22,slow=6.5,SNR=3.7						
ARCES	**ARCESS Array B**	**73.64**	**339**	P	**P**	**18 29 43.2**	**+0.7**
FINES	**FINESS Array B**	**75.33**	**330**	P	**P**	**18 29 52.5**	**0.0**
	2.0nm,0.9s,mb3.8,baz=37,slow=9.5,SNR=5.8						
FINES	**FINESS Array B**	**75.33**	**330**	P	**P**	**18 29 52.5**	**0.0**
YKA	**Yellowknife Ar**	**86.71**	**23**	P	**P**	**18 30 53.3**	**+1.1**
	0.2nm,0.6s,mb3.2,baz=309,slow=4.6,SNR=5.4						

*NEIC **08** 18:23:25.7, 37.94S×176.34E, h179km, MG4.0(WEL), After WEL.*

WEL 08 18:23:25.6±0.2, 37.94S×176.33E, h178km±2km, ML3.9/15, 1C-4D, Error ellipse: s-maj=3.0km s-min=3.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.70 118**		P	P	18 23 51.1	-0.4
URZ	**Urewera**	**0.70 118**		⇓PN	P	18 23 51.1	-0.4
URZ				SN	S	18 24 10.9	-0.5
MWZ	**Matawai**	**1.03 113**		P	P	18 23 53.5	0.0
MWZ	**Matawai**	**1.03 113**		PN	P	18 23 53.5	-0.1
MWZ				SN	S	18 24 14.9	-0.2
MGZ	**Maungaku**	**1.23 210**		P	P	18 23 55.6	+0.3
MGZ	**Maungaku**	**1.23 210**		PN	P	18 23 55.6	+0.2
BKZ	**Black Stump Fm**	**1.24 174**		P	P	18 23 55.0	-0.4
BKZ				S	S	18 24 17.3	-1.0
BKZ	**Black Stump Fm**	**1.24 174**		⇓PN	P	18 23 55.0	-0.3
BKZ				SN	S	18 24 17.5	-0.8
OTVZ	**Oturere**	**1.33 203**		PN	P	18 23 56.4	+0.1
NGZ	**Ngauruhoe**	**1.36 204**		P	P	18 23 56.7	+0.2
NGZ	**Ngauruhoe**	**1.36 204**		PN	P	18 23 56.7	+0.2
CNZ	**Chateau**	**1.40 206**		P	P	18 23 56.7	-0.2
CNZ	**Chateau**	**1.40 206**		PN	P	18 23 56.7	-0.1
WPVZ	**Whakapapa**	**1.41 206**		P	P	18 23 56.8	-0.1
WPVZ				S	S	18 24 20.7	-0.4
WPVZ	**Whakapapa**	**1.41 206**		PN	P	18 23 56.8	-0.1
TUVZ	**Tukino**	**1.43 201**		P	P	18 23 57.0	-0.2
TUVZ	**Tukino**	**1.43 201**		PN	P	18 23 57.1	-0.1
FWVZ	**Far West T-bar**	**1.45 204**		*e*P	P	18 23 57.1	-0.3
FWVZ	**Far West T-bar**	**1.45 204**		PN	P	18 23 57.2	-0.2
WNVZ	**Wahianoa**	**1.50 202**		P	P	18 23 57.6	-0.3
WNVZ	**Wahianoa**	**1.50 202**		PN	P	18 23 57.6	-0.3
KNZ	**Kokohu**	**1.51 136**		P	P	18 23 57.8	-0.2
KNZ				S	S	18 24 22.5	-0.4
KNZ	**Kokohu**	**1.51 136**		⇓PN	P	18 23 57.8	-0.1
PUZ	**Puketiti**	**1.53 96**		P	P	18 23 57.6	-0.5
PUZ	**Puketiti**	**1.53 96**		PN	P	18 23 57.9	-0.3
MOVZ	**Moawhango**	**1.54 197**		P	P	18 23 57.3	-0.9
MOVZ	**Moawhango**	**1.54 197**		PN	P	18 23 57.5	-0.7
MTVZ	**Mangateitei**	**1.60 205**		PN	P	18 23 58.3	-0.4
MXZ	**Matakaoa Point**	**1.61 77**		P	P	18 23 58.4	-0.5
MXZ	**Matakaoa Point**	**1.61 77**		PN	P	18 23 58.4	-0.5
WAZ	**Wanganui**	**2.10 210**		PN	P	18 24 03.7	-0.3
PWZ	**Pawanui**	**2.13 169**		P	P	18 24 03.4	-1.0
PWZ	**Pawanui**	**2.13 169**		⇑PN	P	18 24 03.4	-1.0
TSZ	**Takapari Road**	**2.14 188**		P	P	18 24 03.3	-1.2
TSZ	**Takapari Road**	**2.14 188**		PN	P	18 24 03.3	-1.3
BFZ	**Birch Farm**	**2.74 181**		*e*P	P	18 24 09.3	-2.3
BFZ	**Birch Farm**	**2.74 181**		PN	P	18 24 09.3	-2.3
MRZ	**Mangatainoka R**	**2.78 192**		P	P	18 24 09.5	-2.6
MRZ	**Mangatainoka R**	**2.78 192**		⇓PN	P	18 24 09.5	-2.6
KIW	**Kapiti Island**	**3.12 200**		P	P	18 24 13.2	-3.1
KIW	**Kapiti Island**	**3.12 200**		PN	P	18 24 13.1	-3.2
MTW	**Mount Morrison**	**3.28 191**		P	P	18 24 14.8	-3.5
MTW	**Mount Morrison**	**3.28 191**		PN	P	18 24 14.8	-3.5
CAW	**Cannon Point**	**3.31 197**		PN	P	18 24 15.3	-3.4
PAWZ	**Paruwai Farm**	**3.51 191**		PN	P	18 24 17.7	-3.5
MRW	**Makara Radio**	**3.52 200**		P	P	18 24 17.7	-3.6
MRW	**Makara Radio**	**3.52 200**		PN	P	18 24 17.9	-3.4
MSWZ	**Moikau Station**	**3.57 193**		PN	P	18 24 18.5	-3.5
TUWZ	**Tuamarina**	**3.94 207**		PN	P	18 24 22.6	-4.1
NNZ	**Nelson**	**3.99 214**		PN	P	18 24 23.1	-4.2
QRZ	**Quartz Range**	**4.12 224**		*e*P	P	18 24 24.4	-4.6
QRZ	**Quartz Range**	**4.12 224**		PN	P	18 24 24.8	-4.2
THZ	**Tophouse**	**4.64 213**		*e*P	P	18 24 31.7	-4.0
THZ	**Tophouse**	**4.64 213**		PN	P	18 24 31.7	-3.9
KHZ	**Kahutara**	**4.96 205**		*e*P	P	18 24 35.5	-4.3
KHZ	**Kahutara**	**4.96 205**		PN	P	18 24 35.5	-4.3
DSZ	**Denniston Nort**	**5.16 221**		*e*P	P	18 24 37.3	-5.1
DSZ	**Denniston Nort**	**5.16 221**		PN	P	18 24 37.4	-4.9
LTZ	**Lake Taylor**	**5.75 211**		*e*P	P	18 24

ASAR S **S** **18 40 55.4 -2.9**
0.7nm,1.1s,baz=93,slow=15,SNR=4.8
ASPA Alice Springs 48.80 254 ⇑*i*P **P** **18 34 02.8 +0.1**
FITZ Fitzroy Crossi 57.07 259 *e*P **P** **18 35 04.2 +0.1**
4.0nm,1.6s,mb4.2
FITZ Fitzroy Crossi 57.07 259 P **P** **18 35 03.8 -0.3**
1.5nm,0.3s,mb4.5,baz=104,slow=4.5,SNR=9.2
MUN Mundaring 63.93 242 *e*P **P** **18 35 50.7 +0.2**
43nm,0.9s,mb5.3
QSPA South Pole Qui 72.67 180 *e*P **P** **18 36 45.4 +1.7**
5.5nm,0.9s,mb4.4
ILAR Eielson Array 84.53 11 P **P** **18 37 48.9 +0.4**
1.1nm,0.5s,mb4.0,baz=236,slow=6.1,SNR=21
SYO Syowa Base 90.51 192 ⇑sP sP 18 38 48.4 +0.4
BVAR Borovoye Array 118.96 321 PKP PKPdf 18 44 03.8 +1.1
0.6nm,0.5s,baz=51,slow=0.9,SNR=6.8
KMBO Kilima Mbogo 143.97 242 PKP PKPdf 18 44 51.2 +0.7
3.0nm,0.7s,baz=51,slow=6.6,SNR=12
MALT Malatya 144.69 313 *e*PKPdf PKPdf 18 44 53.6 +2.5
CLL Collm 145.67 352 ⇑*i*PKP1 PKPbc 18 44 55.0 +1.8
BRTR Keskin Array B 147.17 318 PKPbc PKPdf 18 45 00.0 +4.7
2.3nm,0.8s,baz=117,slow=2.8,SNR=12
KHC Kasperske Hory 147.71 350 *e*PKPbc PKPdf 18 45 01.5 +5.7
GERES GERESS Array B 147.97 350 PKPbc PKPdf 18 45 01.0 +4.7
0.9nm,0.5s,slow=2.7,SNR=11
ASF Jabal al Asfar 148.30 304 PKPbc PKPdf 18 45 04.3 +7.0
0.7nm,0.3s,baz=92,slow=7.2,SNR=3.6

IDC 08 18:28:44.5±2.4, 9.49N×90.46E, mb3.5/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.4/1, MS2.8/1, Ms1 3.0/1, ms1mx2.7/23, Error ellipse: s-maj=77.4km s-min=27.9km az=66.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.13**	**42**	Pn	P	18 31 39.2	-2.4
	0.1nm,0.3s,baz=232,slow=15,SNR=3.4						
CMAR				LR	LR	18 36 14.9	
	comp=Z,48nm,20.2s,baz=215,slow=37						
MKAR	**Makanchi Array**	**37.82**	**351**	P	P	18 36 02.4	-2.0
	0.2nm,0.5s,baz=161,slow=9.3,SNR=5.9						
WRA	**Warramunga Arr**	**52.17**	**124**	P	P	18 37 57.0	-2.4
	0.6nm,0.5s,baz=304,slow=8.9,SNR=7.1						
ASAR	**Alice Springs**	**53.75**	**129**	P	P	18 38 09.2	-1.9
	0.7nm,0.8s,baz=304,slow=7.1,SNR=6.0						

DJA 08 18:37:54.0±0.8, 7.82S×113.45E, h33km, MD4.8/4, ML4.2/4, 1C-7D, Error ellipse: s-maj=23.1km s-min=17.3km az=20.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**0.95**	**134**	⇑*i*Pn	Pn	18 38 09.3	-1.9
	358nm,0.2s						
SRDI				⇓*i*Sn	Sn	18 38 21.8	-1.8
KELI	**Kelakatan**	**1.11**	**111**	⇓*i*Pn	Pn	18 38 11.7	-1.7
	228nm,0.3s						
KELI	**Kelakatan**	**1.11**	**111**	⇓*i*P	P	18 38 12.8	-0.4
KELI				⇓*i*Sn	Sn	18 38 25.4	-2.2
RATI	**Rata**	**2.25**	**114**	⇓*i*Pn	Pn	18 38 29.8	0.0
	190nm,0.2s						
RATI				⇓*i*Sn	Sn	18 38 53.9	-2.8
KEDI	**Kedomdong**	**2.72**	**104**	⇓*i*Pn	Pn	18 38 34.5	-2.0
	129nm,0.3s						
KEDI				*e*Sn	Sn	18 39 02.9	-5.8

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*NEIC **08** 18:40:39.2±8.6, 4.97S×147.20E, h153km±31km, mb3.8/1, Error ellipse: s-maj=105.0km s-min=35.9km az=200.0*
*IDC **08** 18:40:47.6±3.4, 5.66S×146.81E, h169km±35km, mb3.5/3, mb1 3.5/5, mb1mx3.2/16, mbtmp3.9/5, Error ellipse: s-maj=55.4km s-min=29.1km az=107.0*
ISC 08 18:40:43.3±2.9, 5.4S±0.2×147.0E±0.4, h164km±31km, n8, σ0=80/10, mb3.8/3, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.95**	**178**	P	P	18 41 44.9	+1.0
	11nm,0.3s,baz=358,slow=5.5,SNR=130						
PMG				S	S	18 42 30.0	-0.6
	3.9nm,0.3s,baz=289,slow=21,SNR=6.5						
WRAB	**Tennant Creek**	**18.97**	**219**	*e*P	P	18 44 54.0	-0.4
	2.2nm,0.5s						
WB2	**Warramunga Arr**	**18.98**	**219**	⇓*i*P	P	18 44 54.0	-0.5
WRA	**Warramunga Arr**	**18.98**	**219**	P	P	18 44 54.1	-0.5
	0.4nm,0.3s,baz=38,slow=11,SNR=22						
WRA				S	S	18 48 17.1	+0.4
	0.1nm,0.3s,baz=40,slow=21,SNR=4.6						
ASAR	**Alice Springs**	**22.10**	**214**	P	P	18 45 27.1	+1.2
	0.7nm,0.4s,mb3.4,baz=46,slow=8.5,SNR=36						
ASPA	**Alice Springs**	**22.10**	**214**	*e*P	P	18 45 27.0	+1.2
FITZ	**Fitzroy Crossi**	**24.39**	**237**	P	P	18 45 47.1	-0.9
	2.9nm,0.4s,mb4.1,baz=15,slow=8.3,SNR=14						
STKA	**Stephens Creek**	**26.79**	**190**	P	P	18 46 09.3	-0.7
	2.0nm,0.9s,mb3.8,baz=97,slow=8.1,SNR=3.0						

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*IDC **08** 18:40:49.4±0.8, 2.04N×96.63E, mb4.4/16, mb1 4.6/17, mb1mx4.4/24, mbtmp4.4/17, ML4.5/1, MS3.8/7, Ms1 3.8/7, ms1mx3.4/28, Error ellipse: s-maj=34.4km s-min=12.9km az=49.0*
*BJI **08** 18:40:51.7, 1.72N×96.83E, h48km, mB5.2, mb4.9, Ms4.0, Msz3.8*
*MOS **08** 18:40:52.7±0.8, 2.10N×96.67E, h33km, mb4.8/17, Error ellipse: s-maj=16.0km s-min=7.9km az=101.9*
*NEIC **08** 18:40:54.2±0.4, 2.08N×96.70E, h30km, mb4.7/19, Error ellipse: s-maj=9.8km s-min=5.6km az=47.0*
ISC 08 18:40:52.6±0.4, 2.12N±0.05×96.75E±0.05, h30km, (h37km±4.5km: pP-P), n91, σ0=97/94, mb4.5/44, MS3.8/10, 1C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.92**	**60**	P	**Pn**	18 42 07.5	+1.0
KULM	**Kulim**	**5.01**	**51**	*e*Pn	**Pn**	18 42 08.8	+1.0
SNG	**Songkhla**	**6.33**	**37**	P	**Pn**	18 42 25.0	-1.5
	110nm,0.9s						
KGM	**Kluang**	**6.57**	**91**	P	**Pn**	18 42 31.6	+1.7
KSM	**Kuching**	**13.57**	**93**	*e*Pn	**P**	18 44 07.5	+1.6
CM31	**Chiang Mai Arr**	**16.38**	**7**	*e*Pn	**P**	18 44 44.1	+1.9
	6.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**16.38**	**7**	Pn	**P**	18 44 41.6	-0.6
	0.6nm,0.3s,baz=197,slow=11,SNR=86						
CMAR				LR	LR	18 51 03.0	
	comp=Z,218nm,18.7s,baz=185,slow=37						
CHG	**Chiang Mai**	**16.73**	**7**	P	**P**	18 44 45.7	-0.9
NANT	**Nan**	**17.02**	**13**	P	**P**	18 44 48.5	-1.8
KKM	**Kota Kinabalu**	**19.80**	**78**	*e*P	**P**	18 45 22.7	-1.2
KKM	**Kota Kinabalu**	**19.80**	**78**	P	**P**	18 45 24.4	+0.5
KMI	**Kunming**	**23.59**	**14**	P	**P**	18 46 03.3	+1.4
KMI				AP		18 46 11.6	
KMI				XP		18 46 15.3	
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.2						
KMI				AMB	AMB		
	comp=Z,84nm,4.0s						
KMI				LR	LR		
	comp=N,213nm,12.8s						
KMI				LR	LR		
	comp=E,241nm,20.5s						
KMI				LR	LR		
	comp=Z,200nm,13.7s,MS3.7						
JIRN	**Jiri**	**27.33**	**339**	*e*P	**P**	18 46 37.5	+0.4
	comp=Z,44nm,0.8s,mb5.0						
PKI	**Pulchoki**	**27.53**	**338**	*e*P	**P**	18 46 39.5	+0.5
	comp=Z,27nm,1.1s,mb4.8						
PKI	**Pulchoki**	**27.53**	**338**	*e*P	**P**	18 46 39.5	+0.5
PKI				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.5						
DMN	**Daman**	**27.68**	**337**	*e*P	**P**	18 46 40.6	+0.3
	comp=Z,10nm,0.8s,mb4.5						
KKN	**Kakani**	**27.78**	**338**	*e*P	**P**	18 46 41.4	+0.2
	comp=Z,40nm,1.0s,mb5.0						
KKN	**Kakani**	**27.78**	**338**	*e*P	**P**	18 46 41.4	+0.2
KKN				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
LSA	**Lhasa**	**27.94**	**350**	P	**P**	18 46 43.8	+1.2
LSA	**Lhasa**	**27.94**	**350**	*e*P	**P**	18 46 43.3	+0.7
LSA				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.7						
LSA	**Lhasa**	**27.94**	**350**	*e*P	**P**	18 46 43.3	+0.7
	comp=Z,20nm,1.1s,mb4.7						
GKN	**Gorkha**	**28.22**	**337**	*e*P	**P**	18 46 45.2	+0.1
	comp=Z,29nm,1.0s,mb4.9						
XAN	**Xi'an**	**33.73**	**18**	P	**P**	18 47 31.9	-1.8
XAN				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.2						
LZH	**Lanzhou**	**34.43**	**10**	*e*P	**P**	18 47 39.5	-0.2
LZH				AP	pP	18 47 52.0	+3.4
LZH				XP	sP	18 48 01.0	+8.5
LZH				AMB	AMB		
	comp=Z,30nm,1.4s,mb5.0						
LZH	**Lanzhou**	**34.43**	**10**	*e*P	**P**	18 47 39.5	-0.2
LZH				*PP	pP	18 47 52.0	+3.4
LZH				pmax	pmax		
	comp=Z,30nm,1.4s,mb5.0						
LZH	**Lanzhou**	**34.43**	**10**	*e*P	**P**	18 47 39.5	-0.2
	comp=Z,30nm,1.4s,mb5.0						
LZH				pP	pP	18 47 52.0	+3.4
LZH				sP	sP	18 48 01.0	+8.5
FITZ	**Fitzroy Crossi**	**34.84**	**126**	*e*P	**P**	18 47 42.8	-0.6
	comp=Z,5.2nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**34.84**	**126**	P	**P**	18 47 42.3	-1.1
	comp=Z,8.2nm,0.7s,mb4.8,baz=323,slow=4.9,SNR=11						
NJ2	**Nanjing**	**36.33**	**33**	*e*P	**P**	18 47 56.2	+0.3
NJ2				AP	pP	18 48 07.8	+2.9
NJ2				XP	sP	18 48 09.9	+1.3
NJ2				PP	PP	18 49 20.4	+0.9
NJ2				S	**S**	18 53 35.0	+0.7
NJ2				XS		18 53 52.0	
NJ2				AMB	AMB		
	comp=Z,230nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,14.0s						
NJ2				LR	LR		
	comp=E,1μm,22.4s						
SSE	**Sheshan**	**36.93**	**36**	P	**P**	18 47 58.6	-2.4
SSE				S	**S**	18 53 41.7	-1.8
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,17nm,3.8s						
SSE				LR	LR		
	comp=N,134nm,20.5s,MS3.8						
SSE				LR	LR		
	comp=E,92nm,20.5s,MS3.8						
SSE				LR	LR		
	comp=Z,139nm,17.5s,MS3.8						
SSE	**Sheshan**	**36.93**	**36**	P	**P**	18 47 58.6	-2.4
	comp=Z,21nm,0.8s,mb5.0						
SSE				sP	sP	18 48 11.4	-2.3
SSE				S	**S**	18 53 41.7	-1.8
SSE				sS		18 53 57.1	
SSE				SS	SS	18 56 26.8	+14
SSE				LR	LR		
	comp=Z,140nm,17.5s,MS3.8						
GTA	**Gaotai**	**37.22**	**4**	*e*P	**P**	18 48 03.2	-0.1
GTA				AP	pP	18 48 17.6	+5.3
GTA				XP	sP	18 48 23.3	+7.3
GTA				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.0						
BJT	**Baijiatuau**	**41.64**	**23**	*e*P	**P**	18 48 40.6	+0.6
BJT				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BJT	**Baijiatuau**	**41.64**	**23**	*e*P	**P**	18 48 40.6	+0.5
	comp=Z,3.5nm,0.6s,mb4.2						
BJI	**Beijing**	**41.66**	**23**	*e*P	**P**	18 48 40.5	+0.3
BJI				XP	sP	18 48 57.2	+4.2
BJI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.4						
BJI	**Beijing**	**41.66**	**23**	*e*P	**P**	18 48 40.5	+0.3
BJI				*SP	sP	18 48 57.2	+4.2
BJI						18 50 30.4	
BJI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.4						
BJI				MLR	MLR		
	comp=Z,50nm,17.3s,MS3.5						
WRA	**Warramunga Arr**	**42.91**	**123**	P	**P**	18 48 50.2	-0.5
	comp=Z,6.2nm,0.7s,mb4.5,baz=300,slow=9.3,SNR=52						
WRAB	**Tennant Creek**	**42.91**	**123**	*i*P	**P**	18 48 51.2	+0.5
WRAB	**Tennant Creek**	**42.91**	**123**	*e*P	**P**	18 48 50.6	-0.1
	comp=Z,15nm,1.2s,mb4.6						
WB2	**Warramunga Arr**	**42.92**	**123**	⇑*i*P	**P**	18 48 50.6	-0.2
ASPA	**Alice Springs**	**44.31**	**128**	*e*P	**P**	18 49 02.4	+0.4
ASAR	**Alice Springs**	**44.31**	**128**	P	**P**	18 49 02.1	+0.1
	comp=Z,4.4nm,0.8s,mb4.2,baz=301,slow=7.9,SNR=43						
ASAR				PcP	PcP	18 50 46.0	-0.5
	comp=Z,0.7nm,0.7s,baz=301,slow=2.9,SNR=4.5						
UCH	**Uchtor**	**44.63**	**336**	P	**P**	18 49 05.6	+1.2
	SNR=12						
TKM2	**Tokmak 2**	**44.80**	**338**	P	**P**	18 49 06.5	+0.8
	SNR=6.2						
KBK	**Karagaybulak**	**44.82**	**337**	P	**P**	18 49 07.5	+1.6
	SNR=14						
AML	**Almayashu**	**44.88**	**336**	P	**P**	18 49 07.7	+1.3
	SNR=9.2						
EKS2	**Erkin-Say**	**45.29**	**336**	P	**P**	18 49 11.0	+1.4
	SNR=9.2						
USP	**Ospenovka**	**45.51**	**337**	P	**P**	18 49 12.2	+0.8
	SNR=13						
MKAR	**Makanchi Array**	**46.24**	**346**	P	**P**	18 49 17.1	+0.1
	comp=Z,14nm,0.7s,mb5.0,baz=160,slow=8.2,SNR=126						
MKAR				LR	LR	19 12 32.3	
	comp=Z,75nm,18.9s,MS3.7,baz=179,slow=41						
SONM	**Songino Array**	**46.29**	**9**	P	**P**	18 49 17.5	+0.1
	comp=Z,7.1nm,0.8s,mb4.7,baz=188,slow=8.7,SNR=67						
SONM				PcP	PcP	18 50 52.8	-0.1
	comp=Z,0.5nm,0.6s,baz=177,slow=4.6,SNR=3.7						
ULN	**Ulaanbaatar**	**46.43**	**10**	*e*P	**P**	18 49 18.7	+0.2
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**46.43**	**10**	*e*P	**P**	18 49 18.7	+0.2
	comp=Z,3.0nm,0.9s,mb4.2						
ZAK	**Zakamensk**	**48.40**	**6**	*e*P	**P**	18 49 34.1	+0.1
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.9						
CN2	**Changchun**	**48.70**	**28**	*e*P	**P**	18 49 35.5	-0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
TLY	**Talaya**	**49.72**	**6**	*e*P	**P**	18 49 44.3	+0.2
TLY				*e*S	**S**	18 56 50.4	+0.5
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
TLY				MLR	MLR		
	comp=Z,123nm,20.0s,MS3.9						
KURK	**Kurchatov**	**50.79**	**345**	*i*P	**P**	18 49 51.2	-1.1
KURK	**Kurchatov**	**50.79**	**345**	*e*P	**P**	18 49 51.5	-0.7
	comp=Z,14nm,1.2s,mb4.8						
MJAR	**Matsushiro Arr**	**51.32**	**43**	P	**P**	18 49 56.4	-0.1
	comp=Z,2.5nm,0.9s,mb4.2,baz=214,slow=6.9,SNR=6.2						
PMG	**Port Moresby**	**51.51**	**104**	P	**P**	18 49 58.2	0.0
	comp=Z,6.8nm,0.6s,mb4.8,baz=320,slow=5.3,SNR=6.9						
ZAL	**Zalesovo**	**52.57**	**351**	*i*P	**P**	18 50 05.9	+0.2
ZAL				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ZAL	**Zalesovo**	**52.57**	**351**	P	**P**	18 50 05.7	-0.1
	comp=Z,8.2nm,0.5s,mb4.9,baz=310,slow=5.7,SNR=37						
ZAL				LR	LR	19 18 21.1	
	comp=Z,49nm,19.3s,MS3.6,baz=110,slow=43						
CTA	**Charters Tower**	**53.32**	**117**	LR	LR	19 14 44.9	
	comp=Z,98nm,19.8s,MS3.9,baz=70,slow=38						
STKA	**Stephens Creek**	**54.31**	**132**	P	**P**	18 50 18.3	-0.5
	comp=Z,2.1nm,0.8s,mb4.1,baz=333,slow=16,SNR=4.2						
STKA				LR	LR	19 16 20.8	
	comp=Z,118nm,19.9s,MS4.0,baz=24,slow=39						
STKA	**Stephens Creek**	**54.31**	**132**	P	**P**	18 50 18.3	-0.5
STKA				LR	LR	19 16 20.8	
BVAR	**Borovoye Array**	**55.23**	**341**	P	**P**	18 50 24.2	-1.1
	comp=Z,3.2nm,0.7s,mb4.5,baz=137,slow=8.1,SNR=26						
CHKZ	**Chkalovo**	**55.71**	**342**	*e*P	**P**	18 50 27.8	-0.9
CHKZ				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
CHKZ	**Chkalovo**	**55.71**	**342**	*e*P	**P**	18 50 27.8	-0.9
	comp=Z,13nm,1.0s,mb4.9						
BOD	**Bodaibo**	**57.19**	**11**	*e*P	**P**	18 50 38.2	-1.1
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
SVE	**Sverdlovsk**	**61.67**	**338**	⇓*i*P	**P**	18 51 09.2	-0.9
SVE				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.9						
ARU	**Arti**	**62.16**	**337**	⇓*i*P	**P**	18 51 12.3	-1.2
ARU				*e*		18 51 49.7	
ARU				*e*S	**S**	18 59 37.3	+2.3
ARU				*e*SS	SS	19 03 37.6	-2.3
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.6						
KIV	**Kislovodsk**	**63.32**	**319**	*i*P	**P**	18 51 21.4	+0.2
KIV				*e*		18 51 27.8	
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**63.32**	**319**	P	**P**	18 51 21.0	-0.2
	comp=Z,8.3nm,0.9s,mb4.9						
YAK	**Yakutsk**	**64.67**	**16**	*e*P	**P**	18 51 28.6	-1.2
YAK				*e*	pP	18 51 37.9	-1.3
YAK				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.2						
YAK	**Yakutsk**	**64.67**	**16**	*e*P	**P**	18 51 28.6	-1.2
	comp=Z,25nm,0.9s,mb5.2						
YAK				*e*	pP	18 51 37.9	-1.3
SOC	**Sochi**	**65.13**	**318**	*e*P	**P**	18 51 30.0	-3.1
SOC				*e*		18 52 01.0	
SOC				*e*		18 53 56.1	
SOC				*e*PPP	PPP	18 55 26.2	-6.5
SOC				*e*S	S	19 00 10.5	-1.8
SOC				*e*		19 01 21.5	
SOC				*e*SS	SS	19 04 21.7	-4.9
SOC				pmax	pmax		
	comp=N,4.0nm,0.6s						
SOC				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
SOC				pmax	pmax		
	comp=E,5.0nm,0.7s						
BRTR	**Keskin Array B**	**68.16**	**312**	P	**P**	18 51 51.3	-1.1
	comp=E,0.8nm,0.7s,mb3.9,baz=117,slow=8.3,SNR=4.8						
OBN	**Obninsk**	**71.60**	**328**	*e*P	**P**	18 52 12.4	-0.7
OBN				*e*	pP	18 52 21.3	-1.2
OBN				pmax	pmax		
	comp=Z,27nm,2.2s,mb4.8						
TIXI	**Tiksi**	**72.36**	**10**	*i*P	**P**	18 52 16.6	-0.8
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.5						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	18 52 27.7	-1.1
	comp=Z,0.2nm,0.3s,mb3.6,baz=87,slow=4.9,SNR=7.2						
AKASG	**Malin Array Be**	**74.25**	**322**	P	**P**	18 52 27.7	-1.1
MLR	**Muntele Rosu**	**75.09**	**317**	P	**P**	18 52 33.5	-0.2
	comp=Z,2.8nm,1.0s,mb4.1,baz=155,slow=21,SNR=3.9						
MLR	**Muntele Rosu**	**75.09**	**317**	⇓P	**P**	18 52 34.6	+0.9
MLR	**Muntele Rosu**	**75.09**	**317**	⇓P	**P**	18 52 34.6	+0.9
BURAR	**Bucovina Array**	**76.04**	**319**	⇓P	**P**	18 52 40.6	+1.6
BURAR	**Bucovina Array**	**76.04**	**319**	⇓P	**P**	18 52 40.7	+1.6
FINES	**FINESS Array B**	**78.97**	**332**	P	**P**	18 52 54.9	-0.1
	comp=Z,2.4nm,0.7s,mb4.3,baz=98,slow=5.7,SNR=12						
FINES				LR	LR	19 31 48.9	
	comp=Z,60nm,20.2s,MS3.9,baz=360,slow=39						
PKSM	**Moragy**	**80.24**	**316**	⇓P	**P**	18 53 02.5	+0.4
PKSM	**Moragy**	**80.24**	**316**	⇓P	**P**	18 53 02.5	+0.4
ARCES	**ARCESS Array B**	**81.52**	**340**	P	**P**	18 53 08.7	+0.3
	comp=Z,5.4nm,1.0s,mb4.4,baz=100,slow=5.5,SNR=8.9						
ARCES				LR	LR	19 31 56.5	
	comp=Z,88nm,19.6s,MS4.1,baz=8.8,slow=38						
GERES	**GERESS Array B**	**83.82**	**319**	P	**P**	18 53 21.5	+0.8
	comp=Z,1.2nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=10						
TXAR	**Lajitbas Array**	**143.12**	**30**	PKP	PKPdf	19 00 23.8	-5.8
	comp=Z,0.4nm,0.7s,baz=225,slow=1.8,SNR=4.3						

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*IDC **08** 19:39:35.2±9.7, 1.78N×96.24E, mb3.7/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=196.6km s-min=97.4km az=146.0*
ISC 08 19:39:36.5±4.6, 1.6N±0.5×96.6E±0.3, h33km, n7, σ0=52/7, mb3.8/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.82**	**36**	P	**P**	19 41 16.5	-0.3
	110nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.89**	**8**	Pn	**P**	19 43 32.1	0.0
	0.1nm,0.3s,baz=197,slow=12,SNR=9.4						
SHL	**Shillong**	**24.24**	**350**	*e*P	**P**	19 44 52.0	+0.3
MKAR	**Makanchi Array**	**46.70**	**347**	P	**P**	19 48 03.7	-0.4
	1.0nm,0.7s,mb3.9,baz=156,slow=9.5,SNR=14						
SONM	**Songino Array**	**46.81**	**9**	P	**P**	19 48 05.9	+0.9
	0.4nm,0.7s,mb3.4,baz=191,slow=9.8,SNR=4.5						
ZAL	**Zalesovo**	**53.05**	**351**	P	**P**	19 48 52.9	+0.3
	1.5nm,0.5s,mb4.2,baz=305,slow=6.1,SNR=8.2						
BVAR	**Borovoye Array**	**55.66**	**341**	P	**P**	19 49 10.9	-0.8
	0.6nm,0.7s,mb3.7,baz=129,slow=9.5,SNR=5.9						

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*BJI **08** 19:39:55.1, 0.30N×97.56E, h45km, mB5.1, mb4.8, Ms4.3, Msz4.2*
*IDC **08** 19:39:57.6±0.5, 0.76N×97.34E, h23km±2km, mb4.1/23, mb1 4.2/24, mb1mx4.2/27, mbtmp4.3/24, ML4.9/1, MS3.6/1, Ms1 3.8/1, ms1mx3.0/28, Error ellipse: s-maj=16.2km s-min=9.5km az=47.0*
*NEIC **08** 19:39:57.9±0.2, 0.73N×97.35E, mb4.6/18, Error ellipse: s-maj=6.6km s-min=4.7km az=53.0*
*MOS **08** 19:39:58.9±0.7, 0.91N×97.06E, h33km, mb4.7/10, Error ellipse: s-maj=24.8km s-min=10.1km az=96.9*
ISC 08 19:39:56.0±3.7, 0.74N±0.06×97.36E±0.08, h24km±25km, h25km±.9km: pP-P, n76, σ0=71/77, mb4.4/44, MS4.2/2, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.29**	**44**	P	**Pn**	19 41 16.1	+0.5
KULM	**Kulim**	**5.59**	**36**	*e*Pn	**Pn**	19 41 19.6	-0.2
KGM	**Kluang**	**6.09**	**78**	P	**Pn**	19 41 28.1	+1.1
KSM	**Kuching**	**12.97**	**87**	Pn	**P**	19 43 01.5	-0.1
BDT	**Bhumibol Dam**	**16.48**	**6**	P	**P**	19 43 48.0	+0.5
CM31	**Chiang Mai Arr**	**17.68**	**5**	*e*P	**P**	19 44 01.3	-1.2
	17nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.68**	**5**	P	**P**	19 44 01.2	-1.2
	1.4nm,0.3s,baz=194,slow=11,SNR=62						
CMAR				LR	LR	19 51 48.4	
	comp=Z,178nm,19.1s,baz=190,slow=40						
CHG	**Chiang Mai**	**18.03**	**5**	⇓P	**P**	19 44 05.9	-1.0
	16nm,0.8s						
NANT	**Nan**	**18.24**	**10**	P	**P**	19 44 09.0	-0.6
KKM	**Kota Kinabalu**	**19.54**	**74**	*e*P	**P**	19 44 25.1	+0.1
KKM	**Kota Kinabalu**	**19.54**	**74**	P	**P**	19 44 25.4	+0.5

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GTA                                  AMB     AMB
     comp=Z,6.0nm,0.7s,mb4.4
JOW  Kunigami      39.44  46  P       P       19 47 26.4 +0.2
     comp=Z,5.9nm,0.6s,mb4.5,baz=168,slow=14,SNR=3.6
WRA  Warramunga Arr 41.66 122  P       P       19 47 44.3 -0.3
     comp=Z,1.8nm,0.7s,mb3.8,baz=304,slow=9.0,SNR=16
WRA                                  pP      pP      19 47 51.9 +0.1
     comp=Z,4.4nm,0.7s,baz=304,slow=8.8,SNR=18
WRA                                  pPcP            19 49 48.0
     comp=Z,0.6nm,1.0s,baz=317,slow=2.6,SNR=4.2
WRAB Tennant Creek 41.66 122 eP      P       19 47 44.7 +0.1
WRAB                                 pmax    pmax
     comp=Z,8.0nm,0.8s,mb4.4
WRAB Tennant Creek 41.66 122 eP      P       19 47 44.6  0.0
     comp=Z,8.2nm,0.8s,mb4.4
WB2  Warramunga Arr 41.67 122 eP     P       19 47 44.9 +0.3
HHC  Hu-ho-hao-te  41.95  16 eP     P       19 47 42.3 -4.4
HHC                                  AP      pP      19 47 55.6 +1.6
HHC                                  PCP     PcP     19 49 39.5 -3.0
HHC                                  SCP             19 53 25.6
HHC                                  PCS             19 53 28.0
HHC                                  S       S       19 53 57.1 -6.4
HHC                                  AMB     AMB
     comp=Z,11nm,1.2s,mb4.4
HHC                                  AMB     AMB
     comp=Z,143nm,5.1s
HHC                                  LR      LR
     comp=N,172nm,16.2s,MS4.3
HHC                                  LR      LR
     comp=E,237nm,15.5s,MS4.3
HHC                                  LR      LR
     comp=Z,248nm,17.6s,MS4.1
BJT  Baijiatuau    42.68  21 eP     P       19 47 53.7 +1.0
BJT                                  pmax    pmax
     comp=Z,19nm,0.8s
BJT  Baijiatuau    42.68  21 eP     P       19 47 53.7 +1.0
     comp=Z,19nm,0.8s,mb4.9
BJI  Beijing       42.70  21 eP     P       19 47 54.0 +1.1
BJI                                  AMB     AMB
     comp=Z,26nm,0.7s,mb5.1
BJI  Beijing       42.70  21 eP     P       19 47 54.0 +1.1
     comp=Z,26nm,0.7s,mb5.1
ASPA Alice Springs 42.99 127 eP     P       19 47 55.6 +0.2
ASAR Alice Springs 42.99 127  P     P       19 47 55.5  0.0
     comp=Z,0.8nm,0.4s,mb3.8,baz=297,slow=7.8,SNR=24
ASAR                                 pP      pP      19 48 03.0 +0.2
     comp=Z,4.7nm,0.8s,baz=297,slow=7.8,SNR=20
ASAR                                 pPcP            19 49 52.2
     comp=Z,1.5nm,1.2s,baz=90,slow=1.4,SNR=4.3
WMQ  Urumqi        43.75 350  P       P       19 48 02.0 +0.7
WMQ                                  AP      pP      19 48 12.0 +3.4
WMQ                                  XP      sP      19 48 16.0 +4.4
SONM Songino Array 47.56   8  P       P       19 48 31.7 +0.1
     comp=Z,1.7nm,0.5s,mb4.4,baz=190,slow=9.0,SNR=25
ULN  Ulaanbaatar   47.69   9 eP       P       19 48 32.6  0.0
ULN                                  pmax    pmax
     comp=Z,2.0nm,0.8s,mb4.2
ULN  Ulaanbaatar   47.69   9 eP       P       19 48 32.6  0.0
     comp=Z,1.9nm,0.8s,mb4.2
MKAR Makanchi Array 47.72 346  P       P       19 48 33.1 +0.2
     comp=Z,6.3nm,0.6s,mb4.8,baz=162,slow=8.2,SNR=40
CN2  Changchun     49.64  27 eP       P       19 48 47.3 -0.4
CN2                                  AMB     AMB
     comp=Z,10.0nm,0.6s,mb5.0
ZAK  Zakamensk     49.71   5 eP       P       19 48 48.3 +0.1
ZAK                                  pmax    pmax
     comp=Z,1.0nm,0.8s,mb3.9
PMG  Port Moresby  50.60 103  P       P       19 48 55.7 +0.2
     comp=Z,8.1nm,0.7s,mb4.8,baz=308,slow=4.4,SNR=3.7
MJAR Matsushiro Arr 51.92  42  P       P       19 49 04.6 -0.6
     comp=Z,1.7nm,0.7s,mb4.1,baz=220,slow=5.6,SNR=5.5
KURK Kurchatov     52.27 345 eP       P       19 49 07.2 -0.4
KURK                                 pmax    pmax
     comp=Z,6.0nm,0.8s,mb4.6
KURK Kurchatov     52.27 345 eP       P       19 49 07.2 -0.5
     comp=Z,5.7nm,0.8s,mb4.5
STKA Stephens Creek 52.93 132  P       P       19 49 13.3 +0.5
     comp=Z,1.7nm,0.7s,mb4.1,baz=271,slow=11,SNR=4.4
STKA                                 pP      pP      19 49 21.1 +0.9
     comp=Z,3.6nm,0.6s,baz=310,slow=8.2,SNR=6.2
ZAL  Zalesovo      54.03 351  P       P       19 49 20.7 +0.2
     comp=Z,4.6nm,0.6s,mb4.6,baz=307,slow=5.8,SNR=20
ZAL  Zalesovo      54.03 351  P       P       19 49 20.7 +0.2
BVAR Borovoye Array 56.73 341  P       P       19 49 39.2 -1.0
     comp=Z,1.8nm,0.7s,mb4.2,baz=140,slow=8.6,SNR=15
BVAR                                 pP      pP      19 49 46.4 -1.3
     comp=Z,2.7nm,0.6s,baz=145,slow=10,SNR=14
CHKZ Chkalovo      57.21 341 eP       P       19 49 42.6 -1.0
CHKZ                                 pmax    pmax
     comp=Z,8.0nm,0.9s,mb4.8
CHKZ Chkalovo      57.21 341 eP       P       19 49 42.6 -1.0
     comp=Z,8.0nm,0.9s,mb4.8
BOD  Bodaibo       58.43  10 eP       P       19 49 51.7 -0.3
BOD                                  pmax    pmax
     comp=Z,5.0nm,0.9s,mb4.5
KMBO Kilima Mbogo  60.13 268 eP       P       19 50 04.5 +0.1
KMBO                                 pmax    pmax
     comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo  60.13 268  P       P       19 50 04.7 +0.3
     comp=Z,1.1nm,0.6s,mb4.1,baz=62,slow=12,SNR=6.0
KMBO Kilima Mbogo  60.13 268 eP       P       19 50 04.5  0.0
     comp=Z,1.8nm,0.8s,mb4.2
SVE  Sverdlovsk    63.17 338 eP       P       19 50 24.4 +0.2
SVE                                  pmax    pmax
     comp=Z,4.0nm,0.7s,mb4.7
BRTR Keskin Array B 69.54 312  P       P       19 51 03.9 -1.2
     comp=Z,0.8nm,0.5s,mb3.9,baz=135,slow=7.0,SNR=6.0
BRTR                                 pP      pP      19 51 11.6 -1.0
     comp=Z,1.0nm,0.8s,baz=143,slow=6.2,SNR=4.7
MATP Matopo        70.50 248  P       P       19 51 11.8 +0.6
     comp=Z,5.1nm,0.6s,mb4.6,baz=88,slow=5.8,SNR=14
LBTB Lobatse       73.83 244 eP       P       19 51 31.2 +0.2
LBTB                                 pmax    pmax
     comp=Z,3.0nm,0.8s,mb4.3
LBTB Lobatse       73.83 244  P       P       19 51 31.4 +0.4
     comp=Z,3.5nm,0.8s,mb4.3,baz=86,slow=4.6,SNR=4.5
LBTB Lobatse       73.83 244 eP       P       19 51 31.2 +0.2
     comp=Z,3.4nm,0.8s,mb4.3
BOSA Boshof        74.69 240  P       P       19 51 35.6 -0.3
     comp=Z,1.6nm,0.6s,mb4.2,baz=76,slow=4.2,SNR=4.7
AKASG Malin Array Be 75.72 322  P      P       19 51 40.5 -0.9
     comp=Z,0.9nm,0.4s,mb4.0,baz=85,slow=4.9,SNR=7.9
AKASG                                pP      pP      19 51 47.8 -1.2
     comp=Z,0.3nm,0.3s,baz=87,slow=4.9,SNR=1.9
MLR  Muntele Rosu  76.51 317  P       P       19 51 45.6 -0.3
     comp=Z,2.0nm,0.8s,mb4.1,baz=225,slow=14,SNR=3.7
FINES FINESS Array B 80.48 333  P      P       19 52 07.2  0.0
     comp=Z,1.0nm,0.5s,mb4.0,baz=103,slow=5.2,SNR=18
FINES                                pP      pP      19 52 14.9 -0.1
     comp=Z,1.2nm,0.8s,baz=90,slow=7.6,SNR=1.9
ARCES ARCESS Array B 83.02 340  P      P       19 52 20.6 +0.3
     comp=Z,6.0nm,0.9s,mb4.6,baz=45,slow=5.1,SNR=8.4
ARCES                                pP      pP      19 52 27.9 -0.2
     comp=Z,4.2nm,0.8s,baz=90,slow=4.9,SNR=2.0
ARCES ARCESS Array B 83.02 340  P      P       19 52 20.6 +0.3
ARCES                                pP      pP      19 52 27.9 -0.2
GERES GERESS Array B 85.26 319  P      P       19 52 32.6 +0.6
     comp=Z,0.7nm,0.8s,mb3.9,baz=90,slow=5.3,SNR=7.0
GERES                                pP      pP      19 52 40.7 +0.9
     comp=Z,1.4nm,0.9s,baz=117,slow=6.0,SNR=5.0
NOA  NORSAR Array B 87.48 331  P       P       19 52 43.3 +0.6
     comp=Z,1.0nm,0.8s,mb4.1,baz=101,slow=5.8,SNR=3.1
NOA                                  pP      pP      19 52 50.8 +0.3
     comp=Z,1.4nm,0.8s,baz=94,slow=4.9,SNR=3.4
```

*NEIC **08** 19:45:53.9, 62.48N×151.20W, h82km, MG3.4(AEIC), After AEIC.*

*IDC **08** 19:45:56.3±5.2, 62.72N×150.90W, h117km±43km, mb3.3/2, mb1 3.4/5, mb1mx3.2/23, mbtmp3.6/5, Error ellipse: s-maj=49.0km s-min=31.4km az=24.0*

ISC 08 19:45:51.5±0.3, 62.49N±0.02×151.12W±0.06, h103km±4km, n73, σ0977/83, mb3.7/2, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	Chulitna	0.40	102	P	P	19 46 06.9	-0.2
HUR	Hurricane	0.84	54	P	P	19 46 11.1	+0.3
HUR				S	S	19 46 24.5	-0.7
PWA	Palmer West	1.02	145	eP	P	19 46 12.4	-0.3
TRF	Thorofare Moun	1.04	21	P	P	19 46 13.4	+0.6
TRF				S	S	19 46 28.9	+0.1
STLK	Strandline Lak	1.05	199	P	P	19 46 12.5	-0.4
STLK				S	S	19 46 27.4	-1.6
KTH	Kantishna Hill	1.07	5	P	P	19 46 13.6	+0.4
KTH				S	S	19 46 28.3	-1.2
GHO	Glory Hole Cre	1.26	124	P	P	19 46 16.1	+0.7
GHO				S	S	19 46 34.4	+1.0
CGLM	Capps Glacier	1.26	200	P	P	19 46 14.9	-0.5
PMR	Palmer	1.30	133	eP	P	19 46 15.7	-0.2
CRP	Crater Peak	1.32	202	P	P	19 46 16.0	-0.2
CKN	Chakachatna No	1.37	202	P	P	19 46 16.8	0.0
RND	Reindeer	1.39	47	P	P	19 46 17.6	+0.7
SPU	Mount Spurr	1.39	199	eP	P	19 46 16.2	-0.7
FIB	Fire Island	1.40	161	P	P	19 46 18.2	+1.1
SML	Sawmill	1.48	116	P	P	19 46 18.6	+0.6
SML				S	S	19 46 39.1	+1.3
RC01	Rabbit Creek A	1.55	154	P	P	19 46 18.7	-0.2
MCK	McKinley	1.59	38	P	P	19 46 20.3	+0.8
KNK	Knik Glacier	1.66	129	P	P	19 46 20.7	+0.4
NKA	Nikishka	1.75	182	P	P	19 46 23.7	+2.2
BWN	Browne	1.85	23	P	P	19 46 23.7	+1.0
SCM	Sheep Creek Mo	1.90	109	P	P	19 46 23.5	+0.2
SLKM	Skilak Lake	2.03	167	P	P	19 46 24.9	-0.2
DFR	Drift River	2.05	202	P	P	19 46 25.5	+0.2
PWL	Port Wells	2.11	140	P	P	19 46 25.8	-0.3
NCT	North Crescent	2.12	205	P	P	19 46 26.6	+0.3
RDN	Redoubt North	2.13	202	P	P	19 46 26.5	+0.1
NEA	Nenana	2.29	23	P	P	19 46 28.5	0.0
TT01	Tatalina	2.30	283	P	P	19 46 28.1	-0.7
SVW2	Sparrevohn	2.54	239	eP	P	19 46 31.3	-0.7
MLY	Manley	2.56	4	P	P	19 46 32.5	+0.3
ILIM	Iliamna	2.58	201	P	P	19 46 32.6	+0.1
INE	Iliamna NE	2.61	202	P	P	19 46 33.1	+0.1
THY	Trims Highway	2.62	67	P	P	19 46 34.2	+1.0
THY				S	S	19 47 03.4	-1.0
CCB	Clear Creek Bu	2.62	33	P	P	19 46 33.3	+0.1
ILW	Iliamna West	2.63	203	P	P	19 46 33.5	+0.3
PAX	Paxson	2.65	77	P	P	19 46 34.5	+1.0
VLZ	Valdez	2.65	119	P	P	19 46 32.3	-1.2
TZL	Tazlina	2.70	97	P	P	19 46 34.9	+0.7
MDM	Murphy Dome	2.79	26	P	P	19 46 35.8	+0.4
COLA	College	2.80	30	eP	P	19 46 36.0	+0.4
HOM	Homer	2.85	185	P	P	19 46 37.1	+0.8
DIV	Divide	2.88	116	P	P	19 46 35.6	-1.1
ILAR	Eielson Array	2.97	38	P	P	19 46 38.0	+0.2
	33nm,0.3s,baz=224,slow=14,SNR=1220						
ILAR				S	S	19 47 12.2	-0.6
	20nm,0.3s,baz=222,slow=23,SNR=29						
IL1	Eielson Array	2.97	38	P	P	19 46 38.0	+0.2
CNPM	China Poot	2.98	181	P	P	19 46 37.6	-0.3
OPT	Oil Point	3.03	201	P	P	19 46 39.4	+0.7
HIN	Hinchinbrook I	3.05	131	P	P	19 46 38.3	-0.8
XLV	Seldovia	3.06	186	P	P	19 46 39.8	+0.6
EYAK	Cordova Ski Ar	3.23	125	P	P	19 46 40.5	-0.9
AUL	Augustine Lava	3.32	201	P	P	19 46 43.6	+0.9
AUI	Augustine Isla	3.36	201	P	P	19 46 43.1	-0.1
DOT	Dot Lake	3.41	67	P	P	19 46 44.4	+0.5
GCSA	Galena City Sc	3.43	314	P	P	19 46 44.2	0.0
MENT	Mentasta	3.44	79	eP	P	19 46 44.5	+0.2
GLB	Gilahina Butte	3.61	104	P	P	19 46 46.1	-0.5
IM3	Indian Mountai	3.69	343	P	P	19 46 47.6	-0.2
IMA	Indian Mountai	3.76	344	eP	P	19 46 49.2	+0.5
BCA3	Beaver Creek A	4.33	78	P	P	19 46 56.0	-0.4
BALM	Baldy	4.42	105	P	P	19 46 56.5	-1.1
COLD	Coldfoot	4.77	4	P	P	19 47 02.8	+0.3
ANCK	Angle Creek	4.82	209	P	P	19 47 03.4	+0.2
CTGM	Chitina Glacie	4.90	104	P	P	19 47 04.0	-0.2
DAWY	Dawson	5.52	68	P	P	19 47 12.7	0.0
BM3	Burnt Mountain	5.67	26	P	P	19 47 13.9	-0.7
PCA	Pinnacle	5.76	110	P	P	19 47 14.7	-1.1
PNL	Peninsula	6.35	111	P	P	19 47 22.4	-1.6
WHY	Whitehorse	7.96	96	P	P	19 47 44.6	-1.4
TNA	Tin City	7.99	300	P	P	19 47 44.2	-2.2
INK	Inuvik	9.35	44	P	P	19 48 04.8	+0.1
	0.3nm,0.3s,baz=242,slow=18,SNR=18						
INK				S	S	19 49 45.0	-3.7
	0.3nm,0.3s,baz=169,slow=22,SNR=3.4						
INK	Inuvik	9.35	44	P	P	19 48 04.8	+0.1
INK				S	S	19 49 45.0	-3.7
YKA	Yellowknife Ar	16.73	74	P	P	19 49 41.6	+1.3
	0.1nm,0.3s,baz=287,slow=13,SNR=5.6						
SONM	Songino Array	54.07	306	P	P	19 55 08.4	+1.3
	0.5nm,0.7s,mb3.7,baz=27,slow=8.3,SNR=7.7						
BVAR	Borovoye Array	60.28	333	P	P	19 55 50.3	-0.4
	0.4nm,0.6s,mb3.6,baz=37,slow=7.4,SNR=4.4						

IDC 08 19:50:56.3±3.3, 0.76N×97.53E, mb3.7/4, mb1 3.9/5, mb1mx3.7/20, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=120.5km s-min=22.2km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.65	4	P	P	19 55 03.5	-1.9
	0.2nm,0.3s,baz=193,slow=11,SNR=20						
WRA	Warramunga Arr	41.52	122	P	P	19 58 45.3	-2.0
	0.5nm,0.5s,baz=302,slow=9.0,SNR=9.6						
WRA				pP	pP	19 58 52.5	+5.2
	0.6nm,0.6s,baz=302,slow=8.9,SNR=8.3						
ASAR	Alice Springs	42.87	127	P	P	19 58 57.0	-1.4
	0.7nm,0.6s,baz=296,slow=7.8,SNR=12						
SONM	Songino Array	47.52	8	P	P	19 59 33.7	-1.5
	0.7nm,0.8s,baz=198,slow=4.6,SNR=2.2						
MKAR	Makanchi Array	47.75	346	P	P	19 59 34.7	-2.4
	1.1nm,0.6s,baz=157,slow=7.6,SNR=4.3						

*DMN **08** 19:51:31.0±0.8, 30.73N×83.53E, h10km, Ml5.2/6, Error ellipse: s-maj=18.4km s-min=14.1km az=57.0*

*BJI **08** 19:51:33.4, 30.37N×83.59E, h17km, mB5.0, mb4.7, Ms4.9, Msz4.7*

*LDG **08** 19:51:33.6±0.1, 30.50N×83.36E, h10km, Mb5.1/15, Ms4.0/5, Error ellipse: s-maj=10.6km s-min=5.5km az=52.0*

*HRVD **08** 19:51:35.5±0.3, 30.25N×83.76E, h20km, MW5.0/47, Centroid moment Tensor Solution. LP body waves: s33,c43;Mantle waves: s47,c92; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.84±.23; $M_{\theta\theta}$=-1.15±.17; $M_{\phi\phi}$=4.99±.16; $M_{r\theta}$=0.20±.46; $M_{r\phi}$=-0.75±.12; $M_{\theta\phi}$=-0.07±.30; Best double couple: M_0=4.469×10^{16} NP1:ϕ_s=177°, δ45°, λ-84°. NP2:ϕ_s=349°, δ46°, λ-96°. Principal axes: T 5.082, Plg1°, Azm83°; N 1.227, Plg4°, Azm353°; P -3.855, Plg86°, Azm181°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 19:51:35.5±0.2, 30.53N×83.67E, h10km, mb5.1/53 Error ellipse: s-maj=6.6km s-min=4.3km az=48.0*

*MOS **08** 19:51:36.8±1.3, 30.41N×83.60E, h33km, mb5.1/51, MS4.2/21, Error ellipse: s-maj=7.5km s-min=4.7km az=122.6*

*NDI **08** 19:51:36.0±5.3, 30.45N×83.70E, h10km, mb5.2, ML4.9, mb5.1(NEIC)*

*IDC **08** 19:51:37.1±4.0, 30.43N×83.75E, h21km±25km, mb4.6/33, mb1 4.7/35, mb1mx4.7/36, mbtmp4.7/35, ML4.1/2, MS4.1/14, Ms1 4.2/14, ms1mx3.9/33, Error ellipse: s-maj=14.2km s-min=9.4km az=41.0*

ISC 08 19:51:33.9±0.7, 30.37N±0.02×83.65E±0.02, h14km±4km, n308, σ1§18/326, mb4.8/97, MS4.3/31, 19C-12D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	Gorkha	2.51	160	ePn	Pg	19 52 21.4	-2.6
GKN	Gorkha	2.51	160	eSn	Sg	19 52 58.7	+1.3
	6μm,0.6s						
KOLN	Koldanda	2.59	181	ePn	Pg	19 52 22.5	-3.1
KOLN	Koldanda	2.59	181	eSn	Sg	19 53 00.4	+0.3
	7μm,0.7s						
KKN	Kakani	2.94	151	ePn	Pg	19 52 27.0	-5.5
KKN	Kakani	2.94	151	eSn	Sg	19 53 09.5	-2.2
	6μm,1.1s						
DMN	Daman	3.03	155	ePn	Pg	19 52 28.5	-5.9
DMN	Daman	3.03	155	eSn	Sg	19 53 11.2	-3.5
	8μm,1.0s						
VLK	Valmikinagar	3.04	176	i P	Pn	19 52 26.0	+3.4
VLK				i		19 52 32.0	
PTH	Pithoragarh	3.09	256	ePB	Pb	19 52 29.8	+1.5
PTH				eSB	Sb	19 53 13.0	+7.0
LGTI	Lohaghat	3.10	254	ePB	Pb	19 52 31.2	+2.9
LGTI				eSB	Sg	19 53 17.3	+0.2
PKI	Pulchoki	3.18	151	ePn	Pg	19 52 30.3	-7.1
PKI	Pulchoki	3.18	151	eSn	Sg	19 53 15.0	-4.9
	2μm,0.7s						
JIRN	Jiri	3.49	140	ePn	Pb	19 52 34.7	-0.4
JIRN				eSn	Sb	19 53 22.6	+5.0
	740nm,0.4s						
DDI	Dehra Dun	4.84	271	eP	Pn	19 52 51.6	+3.5
DDI				eSG	Sg	19 54 18.0	+2.9
SLGI	Shiliguri	5.56	130	e	Pn	19 53 01.0	+2.8
SMLA	Simla	5.64	279	i S	Sn	19 54 03.7	-0.9
SDNR	Sundarnagar	5.85	283	e	Pn	19 53 07.4	+5.0
SDNR				eSG	Sg	19 54 54.0	+5.2
NDI	New Delhi	5.86	255	eP	Pn	19 53 04.5	+2.1
BHK	Bhakra	6.31	281	ePG	Pg	19 53 36.4	-3.4
BHK				e		19 55 12.6	
LSA	Lhasa	6.53	94	eP	Pn	19 53 16.5	+4.5
LSA				pmax	pmax		
	comp=Z,738nm,1.1s						
LSA	Lhasa	6.53	94	ePn	Pn	19 53 16.5	+4.5
	comp=Z,738nm,1.1s						
PONG	Pong	6.79	285	e	Pn	19 53 19.0	+3.4
BOK	Bokaro	6.84	163	⇓i P	Pn	19 53 18.0	+1.6
BOK				i		19 54 38.0	
THN	Thein Dam	7.09	289	eP	Pn	19 53 18.8	-1.0
THN				e		19 54 46.1	
BLSP	Bilaspur	8.32	190	eP	P	19 53 37.8	+0.8
BLSP				eS	Sn	19 55 07.1	-4.4
BLSP				e		19 55 12.3	
	comp=E,417nm,1.1s						
BLSP				e		19 55 13.0	
	comp=N,557nm,1.1s						
SHL	Shillong	8.70	121	eP	P	19 53 42.0	-0.3
	comp=N,110nm,1.0s						
SHL				e		19 55 20.0	
AJM	Ajmer	8.83	246	⇓i P	P	19 53 45.0	+1.0
CAL	Calcutta	8.85	151	eP	P	19 53 45.7	+1.4
CAL				e		19 55 25.6	
BHPL	Bhopal	9.02	220	eP	P	19 53 46.5	-0.2
BHPL				eS	Sn	19 55 20.9	-8.1
BHPL				e		19 56 24.3	
	comp=N,658nm,1.1s						
BHPL				e		19 56 39.5	
	comp=E,886nm,0.8s						
AGT	Agartala	9.35	132	⇓i P	P	19 53 51.0	-0.3
AGT				i S	Sn	19 55 27.0	-10
CHCP	Chirah Chowk	9.41	293	P	P	19 53 52.6	+0.5
NGP	Nagpur	10.07	205	eP	P	19 54 01.9	+0.7
NGP				eS	S	19 55 50.5	-4.5
THW	Thamme Wali	10.44	286	P	P	19 54 05.5	-0.8
CEP	Cherat	10.54	292	P	P	19 54 08.1	+0.4
KSH	Kashi	11.09	327	eP	P	19 54 16.0	+0.9
KSH				eAP		19 54 19.1	
KSH				eXP		19 54 22.1	
KSH				ePP	PP	19 54 24.3	+0.8
KSH				ePPP	PPP	19 54 33.1	+1.7
KSH				eS	S	19 56 16.5	-3.4
KSH				eSS	SS	19 56 31.2	-2.7
KSH				AMB	AMB		
	comp=Z,200nm,1.8s						
KSH				LR	LR		
	comp=N,7μm,5.5s						
KSH				LR	LR		
	comp=E,9μm,6.6s						
SBDP	Sheikh Budin	11.15	283	P	P	19 54 15.5	-0.5
AKL	Akola	11.33	213	⇑i	P	19 54 13.0	-5.5
DRP	Derazinda	11.62	280	P	P	19 54 20.8	-1.6
VIS	Vishakhapatnam	12.59	181	eP	P	19 54 34.6	-0.9
VIS				eS	S	19 56 46.9	-10
VIS				e		19 57 11.9	
	comp=E,266nm,1.0s						
VIS				e		19 57 12.2	
	comp=N,184nm,1.6s						
BHV	Bhavnagar	13.43	233	eP	P	19 54 46.5	-0.1
LATR	Latur	13.53	210	e	P	19 54 46.0	-2.0
LATR				e		19 57 12.0	
HYB	Hyderabad	13.71	201	eP	P	19 54 47.5	-2.8
HYB				pmax	pmax		
	comp=Z,160nm,1.0s						
HYB	Hyderabad	13.71	201	eP	P	19 54 47.5	-2.8
	comp=Z,160nm,1.0s						
HYB				eS	S	19 57 13.5	-10
HYB	Hyderabad	13.71	201	i P	P	19 54 47.5	-2.8
	comp=Z,160nm,1.0s						
HYB				e		19 57 13.5	
HYB				eS	S	19 57 32.0	+8.8
HYB				LR	LR		
	comp=Z,4.7nm,14.0s						
WMQ	Urumqi	13.81	12	eP	P	19 54 51.6	+0.1
AAK	Ala-Archa	14.28	332	P	P	19 54 58.1	+0.5
AAK				pmax	pmax		
	comp=Z,266nm,2.5s						
BHJ	Bhuj	14.36	244	eP	P	19 54 57.6	-1.3
BHJ				eS	S	19 57 39.5	+0.7
FRU	Bishkek	14.39	332	eP	P	19 55 00.0	+0.8
FRU				pmax	pmax		
	comp=Z,120nm,2.0s						
POO	Poona	14.77	219	e	P	19 55 03.0	-1.3
	comp=Z,40nm,1.0s						
POO				e		19 57 31.0	
BOM	Bombay	15.07	223	e	P	19 55 04.1	-4.1
BOM				e		19 55 05.7	
BOM				e		19 57 45.5	
KAD	Karad	15.61	216	eP	P	19 55 15.8	+0.6
KAD				e		19 55 23.1	
	comp=Z,85nm,1.6s						
KAD				e		19 55 23.2	
	comp=Z,85nm,1.4s						
GTA	Gaotai	16.02	51	P	P	19 55 19.6	-0.8
GTA				AP		19 55 24.9	
GTA				XP		19 55 27.3	
GTA				PP	PP	19 55 32.8	-0.7
GTA				S	S	19 58 14.8	-2.9
GTA				SS	SS	19 58 36.1	-0.9
GTA				PCP	PcP	20 00 18.4	+0.4
GTA				AMB	AMB		
	comp=Z,11nm,2.4s						
GTA				AMB	AMB		
	comp=Z,253nm,6.1s						
GTA				LR	LR		
	comp=N,3μm,14.8s						
GTA				LR	LR		
	comp=E,2μm,11.0s						
GTA				LR	LR		
	comp=Z,2μm,11.0s						
MKAR	Makanchi Array	16.44	357	P	P	19 55 24.0	-1.6
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	16.44	357	Pn	P	19 55 23.9	-1.7
	comp=Z,1.1nm,0.3s,baz=180,slow=11,SNR=53						
MKAR				PcP	PcP	20 00 17.1	-1.4
	baz=135,slow=1.7,SNR=3.5						
KKAR	Karatay Array	16.48	324	P	P	19 55 23.5	-2.7
KKAR				pmax	pmax		
	comp=Z,16nm,0.8s						
CD2	Chengdu	17.31	83	P	P	19 55 38.5	+1.7
CD2				AMB	AMB		
	comp=Z,60nm,1.1s						
GOA	Goa	17.34	214	⇑e	P	19 55 35.3	-1.8
GOA				e		19 58 31.0	
KMI	Kunming	17.68	103	P	P	19 55 40.8	-0.6
KMI				AP		19 55 45.8	
KMI				PP	PP	19 55 56.4	+0.3
KMI				S	S	19 59 04.4	+8.5
KMI				AMB	AMB		
	comp=Z,24nm,1.0s						
KMI				AMB	AMB		
	comp=Z,270nm,5.6s						
KMI				LR	LR		
	comp=N,3μm,17.6s						
KMI				LR	LR		
	comp=E,1μm,15.1s						
KMI				LR	LR		
	comp=Z,2μm,13.8s						
KMI	Kunming	17.68	103	P	P	19 55 40.8	-0.6
KMI				S	S	19 59 04.4	+8.5
KMI				pmax	pmax		
	comp=Z,24nm,1.0s						
KMI	Kunming	17.68	103	P	P	19 55 40.8	-0.6
	comp=Z,24nm,1.0s						
KMI				pP		19 55 45.8	
KMI				PP	PP	19 55 56.4	+0.3
KMI				S	S	19 59 04.4	+8.5
KMI				sS		19 59 12.4	
KMI				SS	SS	19 59 29.1	+11
LZH	Lanzhou	17.82	66	eP	P	19 55 44.0	+1.0
LZH				AP		19 55 54.0	
LZH				PP	PP	19 55 59.0	+1.1
LZH				S	S	19 58 56.0	-3.0
LZH				X

LZH SS SS 19 59 20.0 -1.9
LZH AMB AMB
comp=Z,70nm,1.0s
LZH AMB AMB
comp=Z,340nm,5.3s
LZH LR LR
comp=E,4µm,10.0s
LZH LR LR
comp=Z,5µm,10.8s
LZH Lanzhou 17.82 66 *e*P **P 19 55 44.0 +1.0**
LZH S **S 19 58 56.0 -3.0**
LZH pmax pmax
comp=Z,70nm,1.0s
LZH Lanzhou 17.82 66 *e*P **P 19 55 44.0 +1.0**
comp=Z,70nm,1.0s
LZH pP 19 55 54.0
LZH sP 19 55 58.8
LZH PP PP 19 55 59.0 +1.1
LZH S **S 19 58 56.0 -3.0**
LZH sS 19 59 10.0
LZH SS SS 19 59 20.0 -1.9
CHG Chiang Mai 18.02 126 ⇑P **P 19 55 45.8 +0.1**
comp=Z,43nm,1.1s
CM31 Chiang Mai Arr 18.26 127 *e*P **P 19 55 48.8 0.0**
comp=Z,122nm,1.0s
CMAR Chiang Mai Arr 18.26 127 P **P 19 55 48.6 -0.1**
comp=Z,0.2nm,0.3s,baz=315,slow=12,SNR=43
CMAR S **S 19 59 16.5 +7.3**
baz=297,slow=12,SNR=2.2
CMAR PcP PcP 20 00 22.4 +0.7
comp=Z,0.1nm,0.3s,baz=301,slow=3.3,SNR=9.2
CMAR LR LR 20 02 40.8
comp=Z,710nm,20.1s,baz=305,slow=36
BDT Bhumibol Dam 19.15 130 P **P 19 56 00.0 +0.6**
NANT Nan 19.28 123 ⇑P **P 19 55 59.0 -2.0**
comp=Z,288nm,0.8s
GYA Guiyang 20.60 95 P **P 19 56 14.4 -0.9**
GYA S **S 20 00 00.2 +0.1**
GYA AMB AMB
comp=Z,20nm,0.9s
GYA AMB AMB
comp=Z,540nm,6.3s
GYA LR LR
comp=N,2µm,12.3s,MS4.7
GYA LR LR
comp=E,1µm,10.8s,MS4.7
GYA LR LR
comp=Z,1µm,11.1s,MS4.6
KURK Kurchatov 20.68 351 *e*P **P 19 56 14.1 -1.7**
KURK pmax pmax
comp=Z,149nm,1.0s
KURK Kurchatov 20.68 351 *e*P **P 19 56 14.1 -1.7**
comp=Z,149nm,1.0s
NST Nakhon Sawan 21.03 130 P **P 19 56 21.0 +1.3**
comp=Z,79nm,1.2s,mb4.9
ENH Enshi 22.29 84 *e*P **P 19 56 32.6 +0.3**
comp=Z,30nm,0.9s,mb4.7
NNT Nongplab 23.12 136 P **P 19 56 43.5 +2.9**
PALK Pallekele 23.14 187 *e*P **P 19 56 44.8 +4.0**
comp=Z,60nm,1.1s,mb4.9
ZAL Zalesovo 23.57 2 *i* P **P 19 56 46.1 +1.5**
ZAL pmax pmax
comp=Z,11nm,0.8s
ZAL Zalesovo 23.57 2 P **P 19 56 44.8 +0.2**
comp=Z,11nm,0.8s,mb4.3,baz=286,slow=9.9,SNR=65
BTO Baotou 23.70 57 *e*P **P 19 56 47.0 +1.0**
BTO S **S 20 00 59.3 +2.4**
BTO AMB AMB
comp=Z,23nm,1.2s,mb4.5
BTO LR LR
comp=N,695nm,7.2s
BTO LR LR
comp=E,917nm,8.2s
BVA0 Borovoye Array 24.63 341 *i* P **P 19 56 54.7 -0.2**
BVA0 pmax pmax
comp=Z,26nm,1.9s,mb4.4
BVAR Borovoye Array 24.63 341 P **P 19 56 55.3 +0.4**
comp=Z,4.2nm,0.6s,mb4.2,baz=136,slow=8.8,SNR=34
BVAR PcP PcP 20 00 33.2 -0.5
comp=Z,1.8nm,0.8s,baz=153,slow=3.2,SNR=4.1
SONM Songino Array 24.67 39 P **P 19 56 57.1 +1.8**
comp=Z,10.0nm,0.7s,mb4.4,baz=227,slow=10,SNR=58
SONM PcP PcP 20 00 33.7 -0.1
comp=Z,3.0nm,0.6s,baz=225,slow=3.6,SNR=15
SONM ScP 20 04 10.8
comp=Z,0.8nm,1.1s,baz=214,slow=5.2,SNR=3.6
ZAK Zakamensk 24.83 31 *e*P **P 19 56 57.9 +1.1**
ZAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
MOY Mondy 24.86 26 *e*P **P 19 56 59.3 +2.2**
HHC Hu-ho-hao-te 24.89 58 *e*P **P 19 56 56.9 -0.6**
HHC AP 19 57 08.1
HHC PP PP 19 57 34.9 +0.2
HHC PCP PcP 20 00 30.0 -4.4
HHC S **S 20 01 15.2 -2.1**
HHC SS SS 20 02 16.9 +1.3
HHC SCP 20 04 06.8
HHC PCS 20 04 10.3
HHC SCS ScS 20 07 52.6 -5.8
HHC AMB AMB
comp=Z,18nm,1.4s,mb4.4
HHC AMB AMB
comp=Z,393nm,8.2s
HHC LR LR
comp=N,796nm,11.4s,MS4.6
HHC LR LR
comp=E,954nm,12.1s,MS4.6
HHC LR LR
comp=Z,740nm,10.7s,MS4.5
ULN Ulaanbaatar 25.04 39 *e*P **P 19 57 00.0 +1.1**
ULN pmax pmax
comp=Z,42nm,1.4s,mb4.8
ULN Ulaanbaatar 25.04 39 *e*P **P 19 56 60.0 +1.0**
comp=Z,42nm,1.4s,mb4.8
CHKZ Chkalovo 25.14 342 *e*P **P 19 56 59.8 0.0**
CHKZ pmax pmax
comp=Z,7.0nm,0.3s,mb4.7
CHKZ Chkalovo 25.14 342 *e*P **P 19 56 59.8 0.0**
comp=Z,6.9nm,0.3s,mb4.7
TLY Talaya 25.93 29 ⇓ *i*P **P 19 57 08.2 +1.0**
TLY *e* 19 57 43.0
TLY *e*S **S 20 01 35.4 +0.8**
TLY *e*SS SS 20 02 46.2 +5.6
TLY pmax pmax
comp=Z,15nm,1.2s,mb4.4
TLY MLR MLR
comp=Z,350nm,14.0s,MS4.0
WHN Wuhan 26.43 82 ⇓P **P 19 57 13.3 +1.3**
GZH Guangzhou 27.44 98 P **P 19 57 21.7 +0.4**
GZH S **S 20 01 57.3 -2.2**
GZH LR LR
comp=N,1µm,15.5s,MS4.7
GZH LR LR
comp=E,554nm,10.9s,MS4.7
GZH LR LR
comp=Z,849nm,10.6s,MS4.6
BJT Baijiatuau 28.13 61 *e*P **P 19 57 28.7 +1.3**
BJT pmax pmax
comp=Z,25nm,1.0s
BJT Baijiatuau 28.13 61 *e*P **P 19 57 28.6 +1.2**
comp=Z,25nm,1.0s,mb4.8
BJI Beijing 28.14 61 *e*P **P 19 57 28.9 +1.4**
BJI AP pP 19 57 31.7 +0.1
BJI XP sP 19 57 33.4 -0.1
BJI PCP PcP 20 00 42.3 +0.4
BJI S **S 20 02 10.7 0.0**
BJI XS 20 02 21.2
BJI AMB AMB
comp=Z,15nm,1.3s,mb4.5
BJI AMB AMB
comp=Z,241nm,4.4s
BJI LR LR
comp=N,952nm,9.0s
BJI LR LR
comp=E,700nm,11.5s
BJI LR LR
comp=Z,202nm,10.5s,MS4.0
BJI Beijing 28.14 61 *e*P **P 19 57 28.9 +1.4**
BJI 20 00 42.3
BJI S **S 20 02 10.7 0.0**
BJI pmax pmax
comp=Z,15nm,1.3s,mb4.5
BJI MLR MLR
comp=Z,200nm,10.5s,MS4.0
BJI Beijing 28.14 61 *e*P **P 19 57 28.9 +1.4**
comp=Z,15nm,1.3s,mb4.5
BJI pP pP 19 57 31.7 +0.1
BJI sP sP 19 57 33.4 -0.1
BJI PcP PcP 20 00 42.3 +0.4
BJI S **S 20 02 10.7 0.0**
BJI sS 20 02 21.2
BJI LR LR
comp=Z,200nm,10.5s,MS4.0
TIA Tai'an 28.49 69 *e*P **P 19 57 31.2 +0.5**
SVE Sverdlovsk 30.96 335 ⇑ *i*P **P 19 57 52.9 +0.3**
SVE *e*S **S 20 02 54.9 -0.5**
SVE pmax pmax
comp=Z,24nm,1.2s,mb4.9
SVE MLR MLR
comp=Z,536nm,15.0s,MS4.3
ARU Arti 31.45 333 ⇓ *i*P **P 19 57 56.8 -0.1**
ARU *e* 19 58 56.5
ARU *e*PPP PPP 19 59 08.9 -7.0
ARU *i* 20 00 48.3
ARU *e*S **S 20 03 03.6 +0.6**
ARU *e*SS SS 20 04 50.2 -0.8
ARU *e*SSS SSS 20 05 10.1 -3.4
ARU *e* 20 08 27.1
ARU pmax pmax
comp=Z,23nm,1.6s,mb4.8
ARU Arti 31.45 333 *e*P **P 19 57 56.7 -0.2**
comp=Z,28nm,1.3s,mb4.9
SSE Sheshan 32.17 79 P **P 19 58 01.1 -2.3**
SSE AP pP 19 58 09.7 +2.1
SSE XP sP 19 58 13.8 +4.4
SSE S **S 20 03 10.1 -4.5**
SSE XS 20 03 26.6
SSE AMB AMB
comp=Z,35nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,59nm,5.1s
SSE LR LR
comp=N,1µm,8.2s
SSE LR LR
comp=E,820nm,8.2s
SSE LR LR
comp=Z,2µm,7.1s
SSE Sheshan 32.17 79 P **P 19 58 01.1 -2.3**
comp=Z,35nm,0.7s,mb5.3
SSE pP pP 19 58 09.7 +2.1
SSE sP sP 19 58 13.8 +4.4
SSE S **S 20 03 10.1 -4.5**
SSE sS 20 03 26.6
SSE SS SS 20 05 28.7 +20
GNI Garni 33.02 298 *e*P **P 19 58 13.4 +2.7**
GNI pmax pmax
comp=Z,29nm,1.3s
GNI Garni 33.02 298 P **P 19 58 13.1 +2.5**
comp=Z,2.4nm,0.6s,mb4.3,baz=296,slow=16,SNR=8.8
GNI Garni 33.02 298 *e*P **P 19 58 13.4 +2.7**
comp=Z,29nm,1.3s,mb5.0
HIA Hailar 33.12 45 P **P 19 58 11.5 0.0**
HIA pmax pmax
comp=Z,4.0nm,0.7s
HIA Hailar 33.12 45 P **P 19 58 11.5 0.0**
comp=Z,3.5nm,0.7s,mb4.4
TI2 Plekhanov 33.18 301 *e*P **P 19 58 14.2 +2.1**
SNY Shenyang 33.95 59 ⇑P **P 19 58 18.6 -0.2**
SNY S **S 20 03 42.2 +0.2**
SNY AMB AMB
comp=Z,20nm,0.8s,mb5.1
SNY LR LR
comp=E,570nm,12.6s
SNY LR LR
comp=Z,450nm,11.4s,MS4.4
BOD Bodaibo 34.51 29 *e*P **P 19 58 22.8 -0.6**
BOD pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
GOF Gofitskoye 34.94 306 ⇓ *i*P **P 19 58 27.0 -0.2**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.2
KIV Kislovodsk 34.99 304 *e*P **P 19 58 28.6 +0.9**
KIV *e* 19 58 38.5
KIV S **S 20 03 58.0 -0.2**
KIV pmax pmax
comp=Z,15nm,0.7s,mb5.0
KIV MLR MLR
comp=Z,300nm,16.0s,MS4.1
KIV Kislovodsk 34.99 304 *e*P **P 19 58 28.6 +0.9**
comp=Z,17nm,0.8s,mb5.0
CN2 Changchun 35.56 56 *e*P **P 19 58 32.3 -0.3**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
SOC Sochi 37.08 303 *e*P **P 19 58 44.6 -0.7**
SOC *e* 20 00 11.4
SOC *e*PPP PPP 20 00 25.8 -6.4
SOC *e* 20 01 05.7
SOC *e*S **S 20 04 27.9 -2.4**
SOC *e*SSS SSS 20 07 26.5 -4.7
SOC *e* 20 08 54.7
SOC pmax pmax
comp=Z,11nm,0.8s,mb4.7
SOC pmax pmax
comp=N,4.0nm,0.6s
SOC pmax pmax
comp=E,11nm,0.8s
SOC MLR MLR
comp=N,155nm,18.0s,MS4.1
SOC MLR MLR
comp=E,236nm,18.0s,MS4.1
SOC MLR MLR
comp=Z,242nm,18.0s,MS4.0
MALT Malatya 37.87 295 ⇑P **P 19 58 54.8 +2.7**
KSM Kuching 38.28 134 *e*P **P 19 58 57.5 +1.8**
MDJ Mudanjiang 38.62 55 *e*P **P 19 58 57.7 -0.6**
ANN Anapa 38.84 305 *e*P **P 19 58 59.7 -0.4**
ANN *e*S **S 20 04 57.2 +0.2**
ANN pmax pmax
comp=Z,17nm,0.6s,mb5.0
ANN MLR MLR
comp=Z,367nm,17.0s,MS4.3
ANN MLR MLR
comp=N,147nm,8.0s
ANN MLR MLR
comp=E,274nm,17.0s
VOR Voronezh 38.96 316 P **P 19 59 00.0 -1.1**
VOR pmax pmax
comp=Z,40nm,1.6s,mb4.9
KKM Kota Kinabalu 39.01 122 *e*P **P 19 59 03.9 +2.1**
ASF Jabal al Asfar 39.76 285 P **P 19 59 10.7 +2.7**
comp=Z,5.2nm,1.0s,mb4.2,baz=353,slow=1.4,SNR=5.0
MOS Moscow 41.05 322 *e*P **P 19 59 18.3 +0.1**
MOS pmax pmax
comp=Z,85nm,1.6s,mb5.1
MOS MLR MLR
comp=Z,2µm,16.0s,MS5.0
SIM Simferopol' 41.20 305 *e*P **P 19 59 20.4 +0.8**
SIM pmax pmax
comp=Z,23nm,0.9s,mb4.8
SIM MLR MLR
comp=Z,220nm,19.4s,MS4.0
OBN Obninsk 41.43 321 *e*P **P 19 59 21.5 +0.2**
OBN *e* 19 59 38.9
OBN *e* 20 01 19.3
OBN pmax pmax
comp=Z,26nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,500nm,16.0s,MS4.5
BRTR Keskin Array B 41.54 297 P **P 19 59 23.8 +1.4**
BRTR 20 01 19.0
BRTR pmax pmax
comp=Z,9.0nm,1.1s
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 41.54 297 P **P 19 59 23.8 +1.3**
comp=Z,8.9nm,1.1s,mb4.3,baz=112,slow=6.7,SNR=27
BRTR PcP PcP 20 01 19.0 -1.5
comp=Z,2.4nm,1.0s,baz=117,slow=3.2,SNR=3.6
ATD Arta Tunnel 42.18 253 P **P 19 59 30.9 +2.9**
comp=Z,23nm,1.0s,mb4.8,baz=11,slow=6.0,SNR=11
ANTO Ankara 42.18 297 ⇓P **P 19 59 30.5 +2.8**
YAK Yakutsk 43.41 30 *i* P **P 19 59 36.4 -1.0**
YAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
YAK MLR MLR
comp=Z,200nm,17.0s,MS4.1
ISP Isparta 44.13 295 *i* P **P 19 59 44.8 +1.1**
AKASG Malin Array Be 44.94 313 P **P 19 59 49.0 -0.9**
AKASG 20 01 30.9
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 44.94 313 P **P 19 59 49.0 -0.9**
comp=Z,1.9nm,0.7s,mb4.1,baz=80,slow=6.3,SNR=13
AKASG PcP PcP 20 01 30.9 -0.8
comp=Z,0.2nm,0.3s,baz=67,slow=3.4,SNR=4.3
AKASG Malin Array Be 44.94 313 P **P 19 59 49.0 -0.9**
AKASG PcP PcP 20 01 30.9 -0.8
KIS Kishinev 44.98 308 *e*P **P 19 59 49.0 -1.3**
MJAR Matsushiro Arr 45.43 67 P **P 19 59 54.1 +0.1**
MJAR 20 01 33.2
MJAR pmax pmax
comp=Z,3.0nm,1.2s
MJAR pmax pmax
comp=Z,3.0nm,1.1s
MJAR Matsushiro Arr 45.43 67 P **P 19 59 54.1 +0.1**
comp=Z,3.1nm,1.2s,mb4.0,baz=301,slow=11,SNR=5.7
MJAR PcP PcP 20 01 33.2 -0.5
comp=Z,3.1nm,1.1s,baz=250,slow=3.9,SNR=5.4
CFR Carcaliu 45.44 305 ⇓P **P 19 59 54.5 +0.5**
VRI Vrincioaia 46.42 306 ⇑P **P 20 00 03.2 +1.5**
MLR Muntele Rosu 46.98 306 P **P 20 00 07.7 +1.6**
comp=Z,37nm,1.0s,mb5.3,baz=63,slow=3.1,SNR=41
MLR LR LR 20 22 39.7
comp=Z,303nm,19.3s,MS4.3,baz=69,slow=40
MLR Muntele Rosu 46.98 306 ⇑P **P 20 00 08.1 +2.0**
MLR Muntele Rosu 46.98 306 ⇑P **P 20 00 08.1 +2.0**
ALN Alexandroupoli 47.23 299 *e*P **P 20 00 09.3 +1.1**
BURAR Bucovina Array 47.43 308 ⇓P **P 20 00 10.0 +0.3**
BURAR Bucovina Array 47.43 308 ⇓P **P 20 00 10.0 +0.3**
ASAJ Asahikawa 47.93 56 LR LR 20 20 19.9
comp=Z,190nm,21.2s,MS4.0,baz=331,slow=36
TIXI Tiksi 47.94 18 *d i*P **P 20 00 12.8 -0.6**
TIXI pmax pmax
comp=Z,78nm,1.9s,mb5.4
TIXI MLR MLR
comp=Z,200nm,19.0s,MS4.1
RZN Rozhen 48.14 301 *e*P **P 20 00 15.0 -0.4**
THR1 Thera Island 48.35 293 *e*P **P 20 00 17.1 +0.1**
THR3 Thira Island, 48.39 293 *e*P **P 20 00 17.6 +0.3**
FINES FINESS Array B 48.41 327 P **P 20 00 16.7 -0.4**
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES MLR MLR
comp=Z,276nm,19.4s
FINES FINESS Array B 48.41 327 P **P 20 00 16.7 -0.5**
comp=Z,4.5nm,0.7s,mb4.6,baz=102,slow=8.5,SNR=29
FINES LR LR 20 22 28.7
comp=Z,276nm,19.4s,MS4.2,baz=126,slow=38
FINES FINESS Array B 48.41 327 P **P 20 00 16.7 -0.5**
FINES LR LR 20 22 28.7
THR5 Thira Island, 48.43 293 *e*P **P 20 00 18.1 +0.5**
KAF Kangasniemi 48.46 328 *e*p **P 20 00 16.2 -1.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=104,slow=7.8
KAF Kangasniemi 48.46 328 *e*P **P 20 00 16.2 -1.3**
KAF pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
OUR Ouranopolis 48.86 299 *e*P **P 20 00 21.7 +0.8**
MMB Musomiste 48.89 301 *e*P **P 20 00 22.0 +0.9**
IDI Anoyia 49.01 292 P **P 20 00 21.9 -0.3**
comp=Z,12nm,0.9s,mb4.9,baz=21,slow=4.6,SNR=7.4
SRS Serrai 49.05 300 *e*P **P 20 00 22.5 +0.1**
KWP Kalwaria 49.08 311 *e*P **P 20 00 20.6 -1.9**
PAIG Paliouri 49.15 298 *e*P **P 20 00 24.0 +0.9**
VTS Vitosha 49.16 302 *e*P **P 20 00 24.0 +0.8**
VTS Vitosha 49.16 302 ⇑P **P 20 00 24.3 +1.1**
KKB Krupnik 49.34 301 *e*P **P 20 00 25.0 +0.5**
GRG Griva 49.96 300 *e*P **P 20 00 29.7 +0.3**
LIT Litokhoron 50.02 299 *e*P **P 20 00 29.8 -0.1**
AGG Agios Georgios 50.32 297 *e*P **P 20 00 30.9 -1.2**
KEV Kevo 50.44 338 *e*p **P 20 00 32.2 -0.4**
comp=Z,0.6nm,0.5s,mb3.9
KEV Kevo 50.44 338 *e*P **P 20 00 32.2 -0.4**
KEV pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
SKO Skopje 50.54 301 *e*P **P 20 00 33.5 -0.2**
ARCES ARCESS Array B 50.86 337 P **P 20 00 35.8 0.0**
ARCES pmax pmax
comp=Z,12nm,0.7s
ARCES MLR MLR
comp=Z,355nm,19.3s
ARCES ARCESS Array B 50.86 337 P **P 20 00 35.8 0.0**
comp=Z,12nm,0.7s,mb4.9,baz=80,slow=7.4,SNR=28
ARCES LR LR 20 22 41.6
comp=Z,355nm,19.3s,MS4.4,baz=111,slow=37
PKSM Moragy 52.02 307 ⇑P **P 20 00 44.1 -0.8**
MORC Moravsky Berou 52.42 312 ⇑P **P 20 00 47.0 -0.9**
MA2 Magadan 52.84 36 *e*P **P 20 00 50.8 -0.1**
MA2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MA2 Magadan 52.84 36 *e*P **P 20 00 50.9 0.0**
comp=Z,21nm,1.1s,mb5.0
SEY Seymchan 53.79 32 *e*P **P 20 01 00.1 +2.3**
SEY *e*S **S 20 08 39.5 +9.2**
SEY pmax pmax
comp=Z,30nm,1.1s,mb5.1
SEY MLR MLR
comp=Z,300nm,14.0s,MS4.5
SEY MLR MLR
comp=N,200nm,15.0s,MS4.5
SEY MLR MLR
comp=E,300nm,16.0s,MS4.5
KMBO Kilima Mbogo 54.12 243 P **P 20 01 02.3 +1.4**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 54.12 243 P **P 20 01 02.2 +1.3**
comp=Z,7.0nm,1.0s,mb4.5,baz=34,slow=12,SNR=11
KMBO Kilima Mbogo 54.12 243 *e*P **P 20 01 01.9 +1.0**
comp=Z,11nm,1.1s,mb4.7
HFS Hagfors 54.29 325 P **P 20 01 00.8 -0.7**
HFS pmax pmax
comp=Z,5.0nm,0.6s
HFS Hagfors 54.29 325 P **P 20 01 00.8 -0.7**
comp=Z,5.1nm,0.6s,mb4.7,baz=104,slow=6.1,SNR=27
BRG Berggiesshubel 54.62 313 *e*P **P 20 01 03.8 -0.3**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BRG Berggiesshubel 54.62 313 *e*P **P 20 01 03.8 -0.3**
comp=Z,4.3nm,1.1s,mb4.4
GERES GERESS Array B 55.02 311 P **P 20 01 06.5 -0.6**
GERES pmax pmax
comp=Z,2.0nm,1.0s
GERES MLR MLR
comp=Z,128nm,18.3s
GERES GERESS Array B 55.02 311 P **P 20 01 06.5 -0.5**
comp=Z,1.6nm,1.0s,mb4.0,baz=90,slow=5.3,SNR=8.4
GERES LR LR 20 25 50.5
comp=Z,128nm,18.3s,MS4.0,baz=257,slow=37
KHC Kasperske Hory 55.06 311 *e*P **P 20 01 06.5 -0.9**
NB2 NORSAR Subarra 55.51 326 P **P 20 01 09.0 -1.4**
comp=Z,21nm,1.2s,mb5.0,baz=87,slow=7.4
NOA NORSAR Array B 55.51 326 P **P 20 01 09.0 -1.4**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA MLR MLR
comp=Z,140nm,18.7s
NOA NORSAR Array B 55.51 326 P **P 20 01 08.9 -1.5**
comp=Z,1.2nm,0.5s,mb4.2,baz=88,slow=7.2,SNR=20
NOA LR LR 20 27 28.7
comp=Z,140nm,18.7s,MS4.1,baz=65,slow=39
PET Petropavlovsk 57.59 44 *e*P **P 20 01 24.1 -1.3**
PET *e*S **S 20 09 16.0 -5.0**
PET MLR MLR
comp=Z,300nm,16.0s,MS4.5
DAVOX Davos 57.90 309 LR LR 20 28 57.3
comp=Z,174nm,20.1s,MS4.2,baz=268,slow=39
MBAR Mbarara 58.94 249 *e*P **P 20 01 35.3 -0.1**
comp=Z,32nm,1.4s,mb5.2
PGF Pioggiola 59.48 304 *e*P **P 20 01 37.8 -0.9**
comp=Z,121nm,1.6s,mb5.4
BILL Bilibino 59.48 26 *e*P **P 20 01 38.3 -0.1**
BILL pmax pmax
comp=Z,53nm,1.8s,mb5.3
BILL Bilibino 59.48 26 *e*P **P 20 01 38.2 -0.1**
comp=Z,54nm,1.8s,mb5.3
HINF Hinteralfeld 59.70 311 *e*P **P 20 01 39.0 -1.1**
HAU Haudompre 59.98 311 *e*P **P 20 01 40.5 -1.6**
comp=Z,16nm,0.9s,mb4.7
HAU *e*R
comp=Z,219nm,17.0s
HAU Haudompre 59.98 311 *e*P **P 20 01 40.5 -1.6**
HAU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
HAU MLR MLR
comp=Z,220nm,17.0s,MS4.4
SBF Sospel 60.25 306 *e*P **P 20 01 43.0 -1.0**
LPG La Plagne 60.31 308 *e*P **P 20 01 43.8 -0.6**

comp=Z,41nm,1.3s,mb5.0
LPG La Plagne 60.31 308 *e*P **P 20 01 43.8 -0.6**
LPG pmax pmax
comp=Z,20nm,1.3s,mb5.0
LPL La Plagne 60.32 308 *e*P **P 20 01 43.8 -0.6**
comp=Z,17nm,1.0s,mb4.8
LPL La Plagne 60.32 308 *e*P **P 20 01 43.8 -0.6**
LPL pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MBDF Montbardon 60.49 307 *e*P **P 20 01 44.4 -1.2**
comp=Z,13nm,0.9s,mb4.6
MBDF Montbardon 60.49 307 *e*P **P 20 01 44.4 -1.2**
MBDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
FRF La Foret Royal 60.88 306 *e*P **P 20 01 46.9 -1.4**
comp=Z,144nm,1.9s,mb5.5
FRF La Foret Royal 60.88 306 *e*P **P 20 01 46.9 -1.4**
FRF pmax pmax
comp=Z,72nm,1.9s,mb5.5
BAIF Baives 60.88 314 *e*P **P 20 01 45.9 -2.3**
comp=Z,115nm,1.7s,mb5.4
BAIF Baives 60.88 314 *e*P **P 20 01 45.9 -2.3**
BAIF pmax pmax
comp=Z,57nm,1.7s,mb5.4
LMR La Mourre 61.04 306 *e*P **P 20 01 48.2 -1.1**
comp=Z,70nm,1.3s,mb5.3
LMR La Mourre 61.04 306 *e*P **P 20 01 48.2 -1.1**
LMR pmax pmax
comp=Z,35nm,1.3s,mb5.3
ORIF Oris-en-Rattie 61.05 307 *e*P **P 20 01 48.4 -1.0**
comp=Z,29nm,1.2s,mb5.0
ORIF *e*R
comp=Z,265nm,20.0s
MBWA Marble Bar 61.87 141 *e*P **P 20 01 54.5 -0.8**
comp=Z,31nm,1.2s,mb5.3
SSF Saint Saulge 62.08 310 *e*P **P 20 01 55.3 -1.1**
comp=Z,41nm,1.4s,mb5.1
AVF Avril sur Loir 62.26 310 *e*P **P 20 01 55.6 -2.0**
comp=Z,20nm,1.2s,mb4.8
FITZ Fitzroy Crossi 62.89 134 P **P 20 02 02.1 +0.1**
comp=Z,16nm,1.0s,mb5.1,baz=202,slow=2.2,SNR=7.1
FITZ PcP PcP 20 02 40.5 +0.4
comp=Z,20nm,0.8s,baz=316,slow=1.9,SNR=9.5
TCF Toulx Ste Croi 63.16 310 *e*P **P 20 02 01.5 -2.0**
comp=Z,30nm,1.2s,mb5.0
TCF Toulx Ste Croi 63.16 310 *e*P **P 20 02 01.5 -2.0**
TCF pmax pmax
comp=Z,15nm,1.2s,mb5.0
DAG Danmarks Havn 63.45 345⇑*e*P **P 20 02 04.6 -0.4**
DAG pmax pmax
comp=Z,23nm,1.4s,mb5.1
DAG Danmarks Havn 63.45 345⇑*e*P **P 20 02 04.6 -0.4**
comp=Z,23nm,1.4s,mb5.1
DAG Danmarks Havn 63.45 345⇑*i*P **P 20 02 04.6 -0.4**
comp=Z,23nm,1.4s,mb5.1
EKA Eskdalemuir Ar 63.88 321 P **P 20 02 07.0 -1.1**
EKA pmax pmax
comp=Z,5.0nm,0.8s
EKA Eskdalemuir Ar 63.88 321 P **P 20 02 07.0 -1.1**
comp=Z,5.0nm,0.8s,mb4.6,baz=84,slow=6.4,SNR=4.4
LDF La Druitiere 64.00 313 *e*P **P 20 02 06.9 -2.1**
GRR Gorron 64.53 313 *e*P **P 20 02 09.9 -2.5**
comp=Z,134nm,1.6s,mb5.4
GRR Gorron 64.53 313 *e*P **P 20 02 09.9 -2.5**
GRR pmax pmax
comp=Z,67nm,1.6s,mb5.4
MUN Mundaring 69.27 151 *e*P **P 20 02 41.7 -1.0**
comp=Z,129nm,1.0s,mb5.8
MUN Mundaring 69.27 151 *e*P **P 20 02 41.7 -1.0**
MUN pmax pmax
comp=Z,129nm,1.0s,mb5.8
KLBR Kellerberrin 69.60 149 *e*P **P 20 02 43.2 -1.5**
comp=Z,754nm,1.2s
ESDC Sonseca Array 69.66 305 P **P 20 02 44.6 -0.3**
comp=Z,2.6nm,0.9s,mb4.2,baz=50,slow=6.6,SNR=5.0
WRA Warramunga Arr 69.84 129 P **P 20 02 44.9 -1.5**
WRA pmax pmax
comp=Z,19nm,0.9s
WRA Warramunga Arr 69.84 129 P **P 20 02 44.9 -1.5**
comp=Z,19nm,0.9s,mb5.0,baz=324,slow=6.2,SNR=153
WRAB Tennant Creek 69.84 129 *i*P **P 20 02 46.7 +0.3**
WRAB Tennant Creek 69.84 129 *e*P **P 20 02 46.2 -0.1**
comp=Z,54nm,1.1s,mb5.4
WB2 Warramunga Arr 69.85 129 *e*P **P 20 02 46.4 0.0**
SUMG Summit 70.05 344 *e*P **P 20 02 48.0 +1.2**
comp=Z,57nm,1.3s,mb5.3
LSZ Lusaka 70.05 238 *e*P **P 20 02 48.1 +0.4**
comp=Z,8.1nm,0.8s,mb4.7
NWAO Narrogin (SRO) 70.52 150 P **P 20 02 48.7 -1.6**
NWAO pmax pmax
comp=Z,21nm,0.8s
NWAO Narrogin (SRO) 70.52 150 P **P 20 02 48.7 -1.6**
comp=Z,21nm,0.8s,mb5.1,baz=315,slow=5.2,SNR=9.1
NWAO Narrogin (SRO) 70.52 150 P **P 20 02 48.7 -1.6**
ASPA Alice Springs 72.18 132 *e*P **P 20 03 00.4 -0.1**
ASAR Alice Springs 72.18 132 P **P 20 03 00.5 0.0**
comp=Z,8.4nm,0.8s,mb4.7,baz=316,slow=5.8,SNR=82
PMG Port Moresby 72.61 112 *i*P **P 20 03 03.9 +0.7**
PMG Port Moresby 72.61 112 P **P 20 03 03.7 +0.5**
comp=Z,30nm,0.9s,mb5.2,baz=330,slow=3.1,SNR=6.7
PMG Port Moresby 72.61 112 *e*P **P 20 03 03.0 -0.3**
comp=Z,42nm,1.1s,mb5.3
IMA Indian Mountai 74.40 21 *e*P **P 20 03 13.8 +1.2**
IMA pmax pmax
comp=Z,19nm,1.2s,mb4.9
IMA Indian Mountai 74.40 21 *e*P **P 20 03 13.8 +1.2**
comp=Z,18nm,1.2s,mb4.9
RES Resolute Bay 75.21 360 *e*P **P 20 03 16.8 -0.3**
RES pmax pmax
comp=Z,13nm,1.3s,mb4.7
RES Resolute Bay 75.21 360 *e*P **P 20 03 16.8 -0.3**
comp=Z,13nm,1.3s,mb4.7
COLA College 76.99 20 *e*P **P 20 03 28.1 +0.8**
COLA pmax pmax
comp=Z,29nm,1.0s,mb5.2
COLA College 76.99 20 *e*P **P 20 03 28.1 +0.8**
comp=Z,29nm,1.0s,mb5.2
SVW2 Sparrevohn 77.01 25 *e*P **P 20 03 28.4 +0.9**
ILAR Eielson Array 77.35 20 P **P 20 03 29.3 0.0**
ILAR 20 06 19.9
ILAR pmax pmax
comp=Z,6.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ILAR Eielson Array 77.35 20 P **P 20 03 29.2 0.0**
comp=Z,6.0nm,0.9s,mb4.5,baz=299,slow=4.5,SNR=47
ILAR PP PP 20 06 19.9 -5.4
comp=Z,1.1nm,1.1s,baz=300,slow=7.3,SNR=4.6
MCK McKinley 77.48 21 *e*P **P 20 03 30.5 +0.5**
comp=Z,5.3nm,1.3s,mb4.3
INK Inuvik 77.83 13 LR LR 20 41 55.4
comp=Z,110nm,21.7s,MS4.2,baz=304,slow=39
INK Inuvik 77.83 13 *e*P **P 20 03 32.3 +0.5**
comp=Z,24nm,1.2s,mb5.0
LBTB Lobatse 78.27 232 *e*P **P 20 03 35.7 +0.6**
comp=Z,9.7nm,0.9s,mb4.7
CTA Charters Tower 78.34 122 *e*P **P 20 03 36.8 +1.2**
comp=Z,21nm,1.0s,mb5.0
CTA Charters Tower 78.34 122 *e*P **P 20 03 36.8 +1.2**
CTA pmax pmax
comp=Z,21nm,1.0s
CTA Charters Tower 78.34 122 P **P 20 03 36.5 +0.8**
comp=Z,26nm,1.0s,mb5.1,baz=313,slow=6.3,SNR=11
CTAO Charters Tower 78.34 122 *e*P **P 20 03 36.7 +1.1**
CTAO pmax pmax
comp=Z,92nm,1.6s,mb5.5
CTAO Charters Tower 78.34 122 *e*P **P 20 03 36.7 +1.1**
comp=Z,92nm,1.6s,mb5.5
PWA Palmer West 78.65 23 *e*P **P 20 03 37.1 +0.6**
comp=Z,50nm,1.1s,mb5.4
SML Sawmill 79.06 22 *e*P **P 20 03 39.3 +0.6**
DAWY Dawson 79.98 18 *e*P **P 20 03 43.9 +0.2**
TSUM Tsumeb 80.39 241 LR LR 20 38 15.3
comp=Z,115nm,18.3s,MS4.3,baz=147,slow=35
BOSA Boshof 80.88 229 P **P 20 03 50.1 +0.9**
BOSA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BOSA MLR MLR
comp=Z,153nm,20.2s,MS4.3
BOSA Boshof 80.88 229 P **P 20 03 50.1 +1.0**
comp=Z,9.1nm,1.0s,mb4.7,baz=31,slow=6.9,SNR=7.1
BOSA LR LR 20 37 15.2
comp=Z,153nm,20.2s,MS4.3,baz=27,slow=34
BOSA Boshof 80.88 229 *e*P **P 20 03 49.6 +0.4**
comp=Z,9.9nm,1.0s,mb4.7
STKA Stephens Creek 82.76 133 *e*P **P 20 03 59.0 +0.1**
comp=Z,5.6nm,1.0s,mb4.5
STKA Stephens Creek 82.76 133 P **P 20 03 59.0 +0.1**
comp=Z,5.1nm,0.8s,mb4.6,baz=312,slow=8.8,SNR=8.3
FRB Frobisher Bay 83.66 348 LR LR 20 42 14.8
comp=Z,100nm,20.8s,MS4.2,baz=171,slow=36
DBIC Dimbokro 85.39 275 P **P 20 04 14.1 +1.5**
DBIC pmax pmax
comp=Z,12nm,0.8s
DBIC Dimbokro 85.39 275 P **P 20 04 14.1 +1.5**
comp=Z,12nm,0.8s,mb5.1,baz=37,slow=5.3,SNR=8.4
YKW3 Yellowknife Ar 86.24 8 *e*P **P 20 04 15.6 -0.1**
YKA Yellowknife Ar 86.31 8 P **P 20 04 16.2 +0.2**
YKA pmax pmax
comp=Z,6.0nm,0.6s
YKA MLR MLR
comp=Z,95nm,18.2s
YKA Yellowknife Ar 86.31 8 P **P 20 04 16.2 +0.2**
comp=Z,5.9nm,0.6s,mb5.0,baz=338,slow=5.1,SNR=117
YKA LR LR 20 45 50.5
comp=Z,95nm,18.2s,MS4.2,baz=300,slow=38
YKA Yellowknife Ar 86.31 8 P **P 20 04 16.2 +0.2**
YKA LR LR 20 45 50.5
DLBC Dease Lake 87.16 17 P **P 20 04 22.0 +1.7**
comp=Z,9.4nm,1.0s,mb5.0,baz=328,slow=4.7,SNR=12
DLBC Dease Lake 87.16 17 *e*P **P 20 04 21.5 +1.2**
TOO Toolangi 88.93 136 *e*P **P 20 04 30.8 +1.5**
comp=Z,14nm,1.1s,mb5.2
TOO Toolangi 88.93 136 *e*P **P 20 04 30.8 +1.5**
TOO pmax pmax
comp=Z,14nm,1.1s,mb5.2
CNB Canberra Magne 89.92 132 *e*P **P 20 04 35.0 +1.0**
comp=Z,374nm,1.0s
SCHQ Schefferville 91.43 343 P **P 20 04 41.0 +0.6**
comp=Z,3.7nm,0.9s,mb4.7,baz=94,slow=1.8,SNR=3.5
SCHQ LR LR 20 46 12.9
comp=Z,90nm,21.4s,MS4.2,baz=319,slow=36
FFC Flin Flon 95.12 3 *e*P **P 20 04 57.4 0.0**
comp=Z,27nm,1.8s,mb5.4
MAW Mawson 98.91 188 P **P 20 05 13.7 -0.6**
MAW pmax pmax
comp=Z,5.0nm,1.0s
MAW Mawson 98.91 188 P **P 20 05 13.7 -0.6**
comp=Z,5.3nm,0.9s,mb5.0,baz=35,slow=19,SNR=2.9
VNDA Vanda 116.90 166 PKIKP PKPdf 20 10 17.6 -3.3
VNDA pmax pmax
comp=Z,1.0nm,0.7s
VNDA Vanda 116.90 166 PKP PKPdf 20 10 17.6 -3.3
comp=Z,0.8nm,0.7s,baz=308,slow=6.3,SNR=3.7
SNAA Sanae 117.41 201⇓*i*P PKPdf 20 10 20.8 -1.1
VNA2 Neumayer--Watz 118.70 202⇑*i*P PKPdf 20 10 22.6 -1.9
VNA3 Neumayer Olymp 119.48 202⇑*i*P PKPdf 20 10 25.2 -0.7
QSPA South Pole Qui 120.16 180 P PKPdf 20 10 25.0 -2.1
TXAR Lajitas Array 120.22 7 PKP PKPdf 20 10 26.9 -1.5
comp=Z,1.6nm,0.9s,baz=326,slow=0.8,SNR=12
SDV Santo Domingo 133.81 324 PKP PKPdf 20 10 52.1 -2.7
comp=Z,1.9nm,0.5s,baz=15,slow=6.9,SNR=4.5
SDV Santo Domingo 133.81 324 *e*PKPdf PKPdf 20 10 52.8 -2.0
OTAV Otavalo 145.12 327 *e*PKPdf PKPdf 20 11 14.0 -1.2
LPAZ La Paz 150.65 292 PKIKP PKPdf 20 11 23.1 -0.9
LPAZ 20 11 27.9
LPAZ pmax pmax
comp=Z,5.0nm,1.1s
LPAZ pmax pmax
comp=Z,5.0nm,1.0s
LPAZ La Paz 150.65 292 PKP PKPdf 20 11 23.1 -1.0
comp=Z,4.5nm,1.1s,baz=55,slow=5.3,SNR=5.5
LPAZ PKPbc PKPdf 20 11 27.9 +3.9
comp=Z,4.7nm,1.0s,baz=22,slow=6.5,SNR=9.8
LPAZ La Paz 150.65 292 *e*PKPdf PKPdf 20 11 23.5 -0.5
TRQA Tornquist 150.69 246 *e*PKPbc PKPdf 20 11 28.3 +4.8
PLCA Paso Flores 156.68 237 PKIKP PKPdf 20 11 31.4 -0.3
PLCA pmax pmax
comp=Z,4.0nm,1.0s
PLCA Paso Flores 156.68 237 PKP PKPdf 20 11 31.4 -0.3
comp=Z,3.8nm,1.0s,baz=116,slow=6.5,SNR=2.9
PLCA Paso Flores 156.68 237 PKP PKPdf 20 11 31.4 -0.3

IDC ***08*** *20:01:05.6±2.8, 0.96N×97.75E, h25km±6km, mb3.5/4, mb1 3.7/5, mb1mx3.4/20, mbtmp3.6/5, ML3.9/1, MS3.2/1, Ms1 3.4/1, ms1mx3.0/14, Error ellipse: s-maj=125.7km s-min=17.2km az=57.0*
NEIC ***08*** *20:01:06.0±1.2, 0.97N×97.83E, Error ellipse: s-maj=29.2km s-min=13.3km az=71.0*
ISC 08 20:01:03.7±1.4, 1.0N±0.1×97.8E±0.2, h25km, (h26km±.7km:pP-P), n7, σ0°67/6, mb3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.15**	**34**	Pn	**Pn**	**20 02 21.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.41**	**4**	Pn	**P**	**20 05 07.3**	**+0.4**
	0.2nm,0.3s,baz=193,slow=11,SNR=17						
CMAR				LR	LR	20 13 02.1	
	comp=Z,67nm,18.3s,baz=265,slow=41						
WRA	**Warramunga Arr**	**41.42**	**122**	P	**P**	**20 08 51.0**	**+0.8**
	0.4nm,0.7s,mb3.2,baz=298,slow=9.3,SNR=3.5						
WRA				pP	pP	20 08 58.6	+0.9
	0.8nm,0.6s,baz=302,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**42.80**	**127**	P	**P**	**20 09 00.9**	**-0.6**
	0.4nm,0.8s,mb3.2,baz=297,slow=8.1,SNR=3.4						
ASAR				pP	pP	20 09 09.2	+0.2
	0.5nm,0.5s,baz=299,slow=7.9,SNR=4.3						
MKAR	**Makanchi Array**	**47.60**	**346**	P	**P**	**20 09 39.3**	**-0.3**
	0.8nm,0.5s,mb4.0,baz=157,slow=8.7,SNR=11						
MKAR				pP	pP	20 09 46.8	-0.4
	1.3nm,0.6s,baz=162,slow=9.0,SNR=8.1						
ZAL	**Zalesovo**	**53.86**	**351**	P	**P**	**20 10 27.1**	**0.0**
	0.5nm,0.3s,mb3.9,baz=314,slow=5.6,SNR=3.4						
BVAR	**Borovoye Array**	**56.65**	**341**	pP	pP	20 10 52.8	-2.1
	0.6nm,0.6s,baz=141,slow=9.5,SNR=4.8						

IDC ***08*** *20:02:44.1±5.6, 24.59N×123.11E, h59km±54km, mb3.2/5, mb1 3.4/7, mb1mx3.3/24, mbtmp3.5/7, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx2.2/12, Error ellipse: s-maj=35.9km s-min=19.6km az=72.0*
NEIC ***08*** *20:02:45.3±1.0, 24.56N×123.19E, h70km±12km, Error ellipse: s-maj=17.6km s-min=12.2km az=159.0*
JMA ***08*** *20:02:45.6±0.2, 24.54N×123.26E, h57km±2km, M3.6*
ISC 08 20:02:43.9±0.5, 24.55N±0.07×123.22E±0.04, h71km±5km, n25, σ1°00/32, mb3.3/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.21**	**244**	P	**P**	**20 02 54.9**	**+0.3**
YOJ				S	**S**	**20 03 02.0**	**-0.6**
IRIF	**Iriomote-Funau**	**0.52**	**115**	P	**P**	**20 02 57.1**	**0.0**
IRIF				S	**S**	**20 03 04.9**	**-1.8**
HATJ	**Hateruma jima**	**0.73**	**132**	P	**P**	**20 02 59.6**	**+0.3**
HATJ				S	**S**	**20 03 10.3**	**-0.5**
JKRS	**Kuro-shima**	**0.79**	**113**	P	**P**	**20 03 00.5**	**+0.5**
JKRS				S	**S**	**20 03 12.2**	**+0.2**
JIJ	**Ishigaki jima**	**0.87**	**102**	P	**P**	**20 03 01.1**	**+0.1**
JIJ				S	**S**	**20 03 13.4**	**-0.2**
JTJ	**Tarama**	**1.36**	**86**	P	**P**	**20 03 08.1**	**+0.6**
JTJ				*e*S	**S**	**20 03 25.5**	**+0.5**
NACB	**Ninganchiao**	**1.52**	**256**	*e*Pn	**P**	**20 03 09.6**	**-0.2**
TATO	**Taipei**	**1.62**	**285**	*e*Pn	**P**	**20 03 12.1**	**+1.0**
YHNB	**Yeheng**	**1.68**	**274**	*e*Pn	**P**	**20 03 13.1**	**+1.3**
JMJ	**Miyako jima 2**	**1.91**	**82**	P	**P**	**20 03 15.9**	**+1.0**
JMJ				*e*S	**S**	**20 03 39.0**	**+1.2**
JOGS	**Gusukube**	**2.00**	**84**	P	**P**	**20 03 17.6**	**+1.4**
JKE	**Kume jima 2**	**3.68**	**61**	P	**P**	**20 03 40.2**	**+0.4**
JAGN	**Aguni-jima**	**4.16**	**60**	*e*S	**S**	**20 04 33.9**	**-0.4**
JOW	**Kunigami**	**5.10**	**62**	P	**P**	**20 03 58.0**	**-1.4**
	5.1nm,0.3s,baz=182,slow=10,SNR=17						
JOW				S	**S**	**20 04 58.1**	**+0.5**
	2.8nm,0.3s,baz=125,slow=18,SNR=2.4						
JOW	**Kunigami**	**5.10**	**62**	P	**P**	**20 03 58.2**	**-1.3**
JTK	**Tokunoshima**	**6.08**	**57**	P	**P**	**20 04 11.0**	**-2.0**
JAM	**Amami Oshima**	**6.89**	**55**	P	**P**	**20 04 22.2**	**-2.3**
CBIJ	**Chichi jima**	**17.27**	**78**	LR	LR	20 11 58.8	
	comp=Z,34nm,19.6s,baz=284,slow=32						
MJAR	**Matsushiro Arr**	**17.57**	**44**	P	**P**	**20 06 47.4**	**+1.9**
	0.2nm,0.3s,baz=226,slow=14,SNR=3.4						
SONM	**Songino Array**	**26.79**	**334**	P	**P**	**20 08 19.0**	**-0.2**
	0.3nm,0.6s,mb3.0,baz=152,slow=9.0,SNR=4.5						
WRA	**Warramunga Arr**	**45.53**	**165**	P	**P**	**20 10 57.6**	**-0.9**
	0.4nm,0.4s,mb3.5,baz=347,slow=8.8,SNR=8.3						
BVAR	**Borovoye Array**	**48.57**	**320**	P	**P**	**20 11 19.9**	**-2.0**
	0.3nm,0.4s,mb3.5,baz=107,slow=8.0,SNR=3.0						
ASAR	**Alice Springs**	**49.04**	**167**	P	**P**	**20 11 26.8**	**+0.9**
	0.4nm,1.1s,mb3.3,baz=352,slow=6.0,SNR=3.5						
YKA	**Yellowknife Ar**	**81.91**	**23**	P	**P**	**20 14 56.4**	**-0.3**
	0.1nm,0.4s,mb3.0,baz=304,slow=5.7,SNR=4.4						
YKA	**Yellowknife Ar**	**81.91**	**23**	P	**P**	**20 14 56.4**	**-0.3**

NIED ***08*** *20:10:00.26, 20.20N×124.70E, h5km, Mw4.6 Best double couple: M0:8.4×10^15 NP1:φ=47°, δ=72°, λ=-98°. NP2:φ=251°, δ=20°, λ=-68°.*
JMA ***08*** *20:10:15.0±0.2, 26.16N×124.73E, h18km, M4.0*
BJI ***08*** *20:10:16.8, 26.19N×124.75E, h17km, mB4.7, mb4.4, ML4.7, Ms4.4, Msz4.2*
MOS ***08*** *20:10:17.4±0.9, 26.23N×124.87E, h33km, mb4.9/15, Error ellipse: s-maj=15.1km s-min=7.7km az=117.8*
NEIC ***08*** *20:10:17.6±2.8, 26.20N×124.81E, h19km±17km, mb4.5/17, Error ellipse: s-maj=7.5km s-min=7.2km az=103.0*
IDC ***08*** *20:10:21.2±2.4, 26.23N×124.84E, h49km±25km, mb3.8/17, mb1 4.0/19, mb1mx3.9/28, mbtmp4.1/19, ML3.7/2, MS4.0/8, Ms1 4.1/8, ms1mx3.5/31, Error ellipse: s-maj=17.1km s-min=13.4km az=71.0*
ISC 08 20:10:18.0±0.4, 26.10N±0.03×124.76E±0.03, h38km±5km, n98, σ1°13/110, mb4.3/40, MS4.1/13, 3C-2D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.37**	**159**	P	**P**	**20 10 40.2**	**-0.9**
JMJ				*e*S	**S**	**20 10 58.9**	**+0.7**
JTJ	**Tarama**	**1.46**	**182**	P	**P**	**20 10 41.6**	**-0.7**
JOGS	**Gusukube**	**1.46**	**156**	P	**P**	**20 10 41.8**	**-0.5**
JIJ	**Ishigaki jima**	**1.82**	**198**	P	**P**	**20 10 46.4**	**-1.0**
JKE	**Kume jima 2**	**1.84**	**83**	P	**P**	**20 10 46.2**	**-1.5**
JKRS	**Kuro-shima**	**1.98**	**200**	P	**P**	**20 10 49.4**	**-0.2**
JKRS				*e*S	**S**	**20 11 14.1**	**+0.7**
IRIF	**Iriomote-Funau**	**1.99**	**208**	P	**P**	**20 10 49.2**	**-0.6**
IRIF				*e*S	**S**	**20 11 13.6**	**-0.1**
YOJ	**Yonaguni jima**	**2.27**	**224**	P	**P**	**20 10 58.1**	**+4.2**
JAGN	**Aguni-jima**	**2.28**	**77**	P	**P**	**20 10 53.6**	**-0.4**
JJT2	**Tamagusuku 2**	**2.69**	**89**	P	**P**	**20 11 01.6**	**+1.7**
JIH	**Iheya**	**3.02**	**71**	P	**P**	**20 11 06.8**	**+2.2**
TATO	**Taipei**	**3.16**	**250**	*e*Pn	**P**	**20 11 06.3**	**-0.2**
JOW	**Kunigami**	**3.24**	**76**	P	**P**	**20 11 07.8**	**+0.2**
	9.9nm,0.3s,baz=265,slow=9.7,SNR=36						
JOW				S	**S**	**20 11 46.0**	**+0.6**
	16nm,0.3s,baz=276,slow=28,SNR=4.4						
YHNB	**Yeheng**	**3.37**	**246**	*e*Pn	**P**	**20 11 09.4**	**-0.2**
JTK	**Tokunoshima**	**4.10**	**65**	P	**P**	**20 11 20.1**	**+0.2**
JAM	**Amami Oshima**	**4.89**	**61**	P	**P**	**20 11 32.0**	**+0.9**
QZH	**Quanzhou**	**5.69**	**260**	P	**P**	**20 11 42.1**	**-0.1**
QZH				S	**S**	**20 12 43.3**	**-3.8**
QZH				Smax			
	comp=N,290nm,1.0s						
QZH				Smax			
	comp=E,110nm,0.9s						
QZH				LR	LR		
	comp=N,2μm,6.3s						
QZH				LR	LR		
	comp=E,1μm,6.5s						
QZH				LR	LR		
	comp=Z,2μm,8.9s						
SSE	**Sheshan**	**5.88**	**329**	P	**P**	**20 11 42.6**	**-2.3**
SSE				S	**S**	**20 12 47.8**	**-4.2**
SSE				Smax			
	comp=N,375nm,1.2s						
SSE				Smax			
	comp=E,317nm,1.1s						
SSE				LR	LR		
	comp=N,2μm,7.1s						
SSE				LR	LR		
	comp=E,392nm,7.1s						
SSE				LR	LR		
	comp=Z,2μm,6.8s						
SSE	**Sheshan**	**5.88**	**329**	Pn	**P**	**20 11 42.6**	**-2.3**
	comp=Z,41nm,0.7s						
SSE				Sn	**S**	**20 12 47.8**	**-4.2**
NJ2	**Nanjing**	**7.86**	**320**	*e*P	**P**	**20 12 14.6**	**+2.0**
NJ2				S	**S**	**20 13 42.0**	**+0.8**
NJ2				Smax			
	comp=N,540nm,1.4s						
NJ2				Smax			
	comp=E,510nm,1.2s						
NJ2				LR	LR		
	comp=N,3μm,15.8s						
NJ2				LR	LR		
	comp=E,2μm,13.5s						
NJ2				LR	LR		
	comp=Z,4μm,17.0s						
WHN	**Wuhan**	**10.18**	**298**	⇓P	**P**	**20 12 43.5**	**-1.2**
WHN				LR	LR		
	comp=N,840nm,7.7s						
WHN				LR	LR		
	comp=E,3μm,6.0s						
WHN				LR	LR		
	comp=Z,3μm,6.5s						
TIA	**Tai'an**	**12.00**	**329**	*e*P	**P**	**20 13 10.0**	**+0.6**
ENH	**Enshi**	**14.09**	**291**	P	**P**	**20 13 35.0**	**-2.0**
	comp=Z,12nm,0.9s						
MJAR	**Matsushiro Arr**	**15.49**	**45**	P	**P**	**20 13 59.4**	**+4.2**
	comp=Z,0.1nm,0.3s,baz=233,slow=11,SNR=9.3						
CBIJ	**Chichi jima**	**15.62**	**82**	P	**P**	**20 13 55.6**	**-1.4**
	comp=Z,1.9nm,0.3s,baz=278,slow=19,SNR=3.0						
BJI	**Beijing**	**15.64**	**335**	*e*P	**P**	**20 13 57.1**	**0.0**
BJI				S	**S**	**20 16 50.6**	**+1.3**
BJI				AMB	AMB		
	comp=Z,6.0nm,1.3s						
BJI				LR	LR		
	comp=N,844nm,12.8s						
BJI				LR	LR		
	comp=E,257nm,10.8s						
BJI				LR	LR		
	comp=Z,485nm,17.6s						
BJI	**Beijing**	**15.64**	**335**	*e*P	**P**	**20 13 57.1**	**0.0**
	comp=Z,6.0nm,1.3s						
BJI				S	**S**	**20 16 50.6**	**+1.3**
SNY	**Shenyang**	**15.72**	**357**	⇑P	**P**	**20 13 59.4**	**+1.3**
SNY				LR	LR		
	comp=N,1μm,13.2s						
SNY				LR	LR		
	comp=Z,1μm,13.2s						
GYA	**Guiyang**	**16.23**	**275**	⇑*i*P	**P**	**20 14 09.8**	**+5.0**
GYA				S	**S**	**20 16 57.5**	**-5.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				AMB	AMB		
	comp=Z,180nm,7.0s						
GYA				LR	LR		
	comp=N,750nm,11.4s						
GYA				LR	LR		
	comp=E,400nm,12.0s						
GYA				LR	LR		
	comp=Z,510nm,9.0s						
CN2	**Changchun**	**17.67**	**2**	*e*P	**P**	**20 14 25.0**	**+2.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**18.34**	**327**	*e*P	**P**	**20 14 33.0**	**+1.9**
HHC				AP		20 14 35.8	
HHC				XP		20 14 40.2	
HHC				S	**S**	**20 18 00.3**	**+9.3**
HHC				XS		20 18 06.1	
HHC				AMB	AMB		
	comp=Z,21nm,1.1s						
HHC				AMB	AMB		
	comp=Z,198nm,7.5s						
HHC				LR	LR		
	comp=N,656nm,13.5s						
HHC				LR	LR		
	comp=E,603nm,14.9s						
HHC				LR	LR		
	comp=Z,695nm,13.3s						
MDJ	**Mudanjiang**	**18.88**	**11**	*e*P	**P**	**20 14 34.6**	**-3.0**
	comp=Z,4.6nm,0.8s						
CD2	**Chengdu**	**19.06**	**289**	P	**P**	**20 14 40.4**	**+0.6**
CD2				S	**S**	**20 18 17.7**	**+10**
CD2				LR	LR		
	comp=N,2μm,11.4s						
CD2				LR	LR		
	comp=Z,1μm,8.4s						
KMI	**Kunming**	**19.88**	**272**	P	**P**	**20 14 50.0**	**+1.2**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s						
KMI				LR	LR		
	comp=N,934nm,11.5s						
KMI				LR	LR		
	comp=E,384nm,8.0s						
KMI				LR	LR		
	comp=Z,305nm,10.6s						

KMI	**Kunming**	**19.88**	**272**	P	**P**	**20 14 50.0 +1.2**
	comp=Z,8.0nm,1.0s					
LZH	**Lanzhou**	**20.45**	**304**	*e*P	**P**	**20 14 55.9 +1.1**
LZH				AP		20 15 05.1
LZH				XP		20 15 10.6
LZH				AMB	AMB	
	comp=Z,70nm,1.2s					
LZH				AMB	AMB	
	comp=Z,370nm,4.0s					
LZH				LR	LR	
	comp=N,1μm,14.0s					
LZH				LR	LR	
	comp=Z,3μm,16.8s,MS4.7					
ASAJ	**Asahikawa**	**23.07**	**34**	P	**P**	**20 15 19.1 -1.7**
	comp=Z,15nm,1.1s,mb4.3,baz=264,slow=9.2,SNR=2.2					
HIA	**Hailar**	**23.45**	**352**	*e*P	**P**	**20 15 23.8 -0.8**
HIA				pmax	pmax	
	comp=Z,6.0nm,0.8s					
HIA	**Hailar**	**23.45**	**352**	*e*P	**P**	**20 15 23.8 -0.7**
	comp=Z,5.7nm,0.8s,mb4.0					
KLR	**Kul'dur**	**23.72**	**11**	*e*P	**P**	**20 15 26.2 -1.0**
KLR				pmax	pmax	
	comp=E,40nm,1.8s					
KLR				pmax	pmax	
	comp=Z,50nm,1.8s,mb4.6					
GTA	**Gaotai**	**24.72**	**309**	P	**P**	**20 15 37.9 +0.8**
GTA				AP		20 15 47.1
GTA				XP		20 15 50.7
GTA				PP	PP	20 16 18.1 +3.9
GTA				PPP	PPP	20 16 31.8 +6.8
GTA				S	**S**	**20 20 03.6 +10**
GTA				AMB	AMB	
	comp=Z,30nm,1.1s,mb4.7					
GTA				AMB	AMB	
	comp=Z,164nm,5.3s					
GTA				LR	LR	
	comp=N,521nm,12.2s,MS4.3					
GTA				LR	LR	
	comp=E,310nm,15.2s,MS4.3					
GTA				LR	LR	
	comp=Z,404nm,12.6s,MS4.1					
CMAR	**Chiang Mai Arr**	**25.04**	**258**	P	**P**	**20 15 41.5 +1.3**
	comp=Z,1.5nm,1.0s,mb3.5,baz=57,slow=8.3,SNR=6.9					
CMAR				LR	LR	20 26 40.9
	comp=Z,106nm,18.2s,MS3.4,baz=80,slow=39					
ULN	**Ulaanbaatar**	**25.80**	**332**	*e*P	**P**	**20 15 47.2 +0.1**
ULN				pmax	pmax	
	comp=Z,21nm,1.1s,mb4.6					
ULN	**Ulaanbaatar**	**25.80**	**332**	*e*P	**P**	**20 15 47.2 +0.1**
	comp=Z,21nm,1.1s,mb4.6					
SONM	**Songino Array**	**26.06**	**331**	P	**P**	**20 15 50.0 +0.5**
	comp=Z,7.0nm,0.9s,mb4.2,baz=145,slow=8.2,SNR=53					
SONM				LR	LR	20 27 14.2
	comp=Z,405nm,18.5s,MS4.0,baz=98,slow=39					
ZAK	**Zakamensk**	**29.32**	**331**	*e*P	**P**	**20 16 16.5 -2.6**
ZAK				pmax	pmax	
	comp=Z,2.0nm,1.4s,mb3.6					
LSA	**Lhasa**	**29.85**	**285**	*e*P	**P**	**20 16 26.2 +2.2**
LSA	**Lhasa**	**29.85**	**285**	*e*P	**P**	**20 16 26.0 +2.0**
LSA				pmax	pmax	
	comp=Z,1.0nm,0.5s,mb3.8					
LSA	**Lhasa**	**29.85**	**285**	*e*P	**P**	**20 16 26.0 +2.0**
	comp=Z,1.5nm,0.5s,mb4.0					
TLY	**Talaya**	**30.15**	**333**	*e*P	**P**	**20 16 24.0 -2.4**
TLY				*e*S	**S**	**20 21 20.2 -1.3**
TLY				pmax	pmax	
	comp=Z,11nm,1.2s,mb4.5					
TLY				MLR	MLR	
	comp=Z,302nm,15.0s,MS4.1					
MOY	**Mondy**	**31.25**	**331**	*e*P	**P**	**20 16 35.8 -0.4**
WMQ	**Urumqi**	**34.78**	**310**	P	**P**	**20 17 07.0 +0.1**
WMQ				AP	pP	20 17 17.0 -0.7
WMQ				XP	sP	20 17 21.0 -1.6
YAK	**Yakutsk**	**36.07**	**4**	*e*P	**P**	**20 17 17.2 -0.4**
YAK				pmax	pmax	
	comp=Z,14nm,0.6s,mb5.1					
YAK	**Yakutsk**	**36.07**	**4**	*e*P	**P**	**20 17 17.1 -0.5**
	comp=Z,14nm,0.6s,mb5.1					
MKAR	**Makanchi Array**	**39.31**	**313**	P	**P**	**20 17 44.9 0.0**
	comp=Z,6.2nm,0.8s,mb4.4,baz=98,slow=10,SNR=53					
MKAR				LR	LR	20 34 22.9
	comp=Z,171nm,18.3s,MS3.9,baz=117,slow=37					
ZAL	**Zalesovo**	**40.50**	**324**	P	**P**	**20 17 54.4 -0.3**
	comp=Z,1.9nm,0.9s,mb3.8,baz=7.4,slow=9.6,SNR=14					
ZAL				LR	LR	20 36 03.2
	comp=Z,177nm,19.4s,MS3.9,baz=176,slow=38					
KURK	**Kurchatov**	**42.79**	**318**	*d*P	**P**	**20 18 12.9 -0.5**
KURK	**Kurchatov**	**42.79**	**318**	*e*P	**P**	**20 18 12.7 -0.7**
	comp=Z,18nm,1.2s,mb4.7					
FITZ	**Fitzroy Crossi**	**43.95**	**179**	P	**P**	**20 18 23.6 +0.3**
	comp=Z,8.7nm,0.6s,mb4.7,baz=8.9,slow=8.7,SNR=21					
TIXI	**Tiksi**	**45.64**	**2**	*i*P	**P**	**20 18 35.5 -0.7**
TIXI				pmax	pmax	
	comp=Z,19nm,1.7s,mb4.8					
WRAB	**Tennant Creek**	**46.70**	**168**	*e*P	**P**	**20 18 45.9 +0.7**
WRAB				pmax	pmax	
	comp=Z,6.0nm,0.9s,mb4.5					
WRAB	**Tennant Creek**	**46.70**	**168**	*e*P	**P**	**20 18 45.9 +0.7**
	comp=Z,6.2nm,0.9s,mb4.5					
WRA	**Warramunga Arr**	**46.71**	**168**	P	**P**	**20 18 45.9 +0.7**
	comp=Z,1.9nm,0.9s,mb4.0,baz=350,slow=8.5,SNR=13					
BVAR	**Borovoye Array**	**48.30**	**319**	P	**P**	**20 18 57.0 -0.3**
	comp=Z,1.1nm,0.7s,mb4.0,baz=130,slow=12,SNR=8.8					
CHKZ	**Chkalovo**	**48.31**	**320**	*e*P	**P**	**20 18 56.3 -1.0**
CHKZ				pmax	pmax	
	comp=Z,5.0nm,1.0s,mb4.5					
CHKZ	**Chkalovo**	**48.31**	**320**	*e*P	**P**	**20 18 56.3 -1.0**
	comp=Z,4.6nm,1.0s,mb4.5					
ASAR	**Alice Springs**	**50.26**	**169**	P	**P**	**20 19 14.1 +1.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=356,slow=14,SNR=11					
SVE	**Sverdlovsk**	**54.46**	**323**	*e*P	**P**	**20 19 43.4 -0.2**
SVE				pmax	pmax	
	comp=Z,16nm,1.3s,mb4.8					
ARU	**Arti**	**55.56**	**322**	⇑*i*P	**P**	**20 19 50.5 -1.2**
ARU				*e*		20 20 50.9
ARU				*e*		20 21 51.5
ARU				*e*S	**S**	**20 27 34.1 +1.3**
ARU				*e*SS	SS	20 31 21.5 +3.6
ARU				pmax	pmax	
	comp=Z,6.0nm,1.2s,mb4.5					
MCK	**McKinley**	**65.31**	**29**	*e*P	**P**	**20 20 56.9 -1.1**
MCK				pmax	pmax	
	comp=Z,1.0nm,0.7s,mb4.0					
MCK	**McKinley**	**65.31**	**29**	*e*P	**P**	**20 20 56.9 -1.1**
	comp=Z,1.2nm,0.7s,mb4.0					
ILAR	**Eielson Array**	**66.02**	**28**	P	**P**	**20 21 00.9 -1.5**
	comp=Z,0.7nm,0.7s,mb3.8,baz=253,slow=3.5,SNR=7.3					
GNI	**Garni**	**66.39**	**305**	*i*P	**P**	**20 21 06.6 +1.4**
GNI				pmax	pmax	
	comp=Z,19nm,1.4s					
GNI	**Garni**	**66.39**	**305**	P	**P**	**20 21 07.2 +2.0**
	comp=Z,0.9nm,0.3s,mb4.3,baz=161,slow=22,SNR=5.9					
GOF	**Gofitskoye**	**66.39**	**310**	*e*P	**P**	**20 21 04.0 -1.1**
KIV	**Kislovodsk**	**66.90**	**309**	*i*P	**P**	**20 21 09.2 +0.8**
KIV				pmax	pmax	
	comp=Z,37nm,1.4s,mb5.2					
KIV				MLR	MLR	
	comp=Z,100nm,15.0s,MS4.2					
KIV	**Kislovodsk**	**66.90**	**309**	*e*P	**P**	**20 21 08.5 +0.2**
	comp=Z,37nm,1.3s,mb5.2					
OBN	**Obninsk**	**68.01**	**322**	*i*P	**P**	**20 21 14.5 -0.6**
OBN				pmax	pmax	
	comp=Z,16nm,1.3s,mb4.9					
OBN				MLR	MLR	
	comp=Z,100nm,13.0s,MS4.2					
ARCES	**ARCESS Array B**	**68.97**	**338**	LR	LR	20 56 18.6
	comp=Z,100nm,19.1s,MS4.1,baz=71,slow=40					
SOC	**Sochi**	**69.08**	**309**	*e*P	**P**	**20 21 20.5 -1.4**
SOC				*e*		20 21 39.4
SOC				*e*		20 23 52.0
SOC				*e*PPP	PPP	20 25 33.3 -1.9
SOC				*e*S	S	20 30 23.0 0.0
SOC				*e*		20 31 16.3
SOC				*e*SS	SS	20 34 52.8 +1.6
SOC				pmax	pmax	
	comp=Z,8.0nm,0.8s,mb4.7					
SOC				pmax	pmax	
	comp=N,3.0nm,0.6s					
SOC				pmax	pmax	
	comp=E,5.0nm,0.7s					
ANN	**Anapa**	**70.29**	**311**	*e*P	**P**	**20 21 28.4 -0.9**
ANN				*e*S	S	20 30 38.3 +1.0
ANN				pmax	pmax	
	comp=Z,24nm,1.9s,mb4.8					
FINES	**FINESS Array B**	**71.42**	**330**	P	**P**	**20 21 36.0 +0.1**
	comp=Z,3.4nm,0.9s,mb4.3,baz=45,slow=8.1,SNR=8.0					
FINES				LR	LR	20 56 47.3
	comp=Z,136nm,19.4s,MS4.2,baz=171,slow=39					
MALT	**Malatya**	**71.61**	**304**	*e*P	**P**	**20 21 39.1 +1.8**
	comp=Z,9.6nm,1.4s,mb4.5					
AKASG	**Malin Array Be**	**73.58**	**319**	P	**P**	**20 21 48.3 -0.5**
	comp=Z,0.2nm,0.3s,mb3.6,baz=55,slow=5.5,SNR=7.1					
BRTR	**Keskin Array B**	**74.63**	**307**	P	**P**	**20 21 55.8 +0.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=101,slow=6.3,SNR=6.9					
SUW	**Suwalki**	**75.71**	**323**	*e*P	**P**	**20 22 01.5 +0.5**
RES	**Resolute Bay**	**76.24**	**10**	*e*P	**P**	**20 22 02.3 -1.3**
RES				pmax	pmax	
	comp=Z,1.0nm,0.9s,mb3.8					
RES	**Resolute Bay**	**76.24**	**10**	*e*P	**P**	**20 22 02.3 -1.3**
	comp=Z,1.3nm,0.9s,mb3.9					
KWP	**Kalwaria**	**77.85**	**319**	*e*P	**P**	**20 22 14.4 +1.3**
NOA	**NORSAR Array B**	**78.03**	**333**	P	**P**	**20 22 12.4 -1.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=56,slow=5.6,SNR=4.9					
NOA				LR	LR	21 00 38.4
	comp=Z,198nm,18.2s,MS4.5,baz=175,slow=39					
YKA	**Yellowknife Ar**	**79.93**	**24**	P	**P**	**20 22 24.0 -0.2**
	comp=Z,0.9nm,0.9s,mb3.7,baz=309,slow=5.0,SNR=12					
GERES	**GERESS Array B**	**83.39**	**322**	LR	LR	21 02 26.9
	comp=Z,146nm,20.1s,MS4.3,baz=262,slow=38					
FFC	**Flin Flon**	**90.06**	**25**	P	**P**	**20 23 14.8 +0.1**
FFC				pmax	pmax	
	comp=Z,3.0nm,0.9s,mb4.6					
FFC	**Flin Flon**	**90.06**	**25**	P	**P**	**20 23 14.8 +0.1**
	comp=Z,2.8nm,0.9s,mb4.6					
HLID	**Hailey**	**91.98**	**39**	*e*P	**P**	**20 23 25.6 +1.7**
	comp=Z,4.0nm,0.9s,mb4.8					
PDAR	**Pinedale Array**	**95.18**	**37**	P	**P**	**20 23 40.1 +1.6**
	comp=Z,0.3nm,0.7s,mb3.8,baz=270,slow=6.3,SNR=2.4					
SDV	**Santo Domingo**	**142.14**	**25**	PKP	PKPdf	20 29 49.2 +2.2
	comp=Z,1.0nm,0.4s,baz=203,slow=4.9,SNR=3.8					
OTAV	**Otavalo**	**145.55**	**44**	*e*PKPbc	PKPbc	20 29 55.9 +2.3

*NEIC **08** 20:20:07.3, 16.85N×98.42W, h44km, MD4.1(MEX), After MEX.*

MEX 08 20:20:07.3±0.9, 16.86N×98.42W, h43km±35km, MD4.1, 4C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.54**	**149**	*i*P	P	20 20 17.1	-1.7
PNIG				*i*S	S	20 20 24.9	-2.1
PNIG	**Pinotepa**	**0.54**	**149**	⇑*i*P	P	20 20 17.0	-1.7
PNIG				*i*S	S	20 20 24.9	-2.1
ACX	**Acapulco**	**1.43**	**270**	*i*P	P	20 20 28.7	-2.6
ACX				*e*S	S	20 20 45.9	-3.2
ACX	**Acapulco**	**1.43**	**270**	⇑*i*P	P	20 20 28.7	-2.6
ACX				*e*S	S	20 20 45.9	-3.2
VHO	**Vista Hermosa**	**1.63**	**82**	⇑*i*P	P	20 20 32.1	-1.9
VHO				*e*S	S	20 20 51.9	-2.0
OXX	**Oaxaca**	**1.64**	**82**	*e*P	P	20 20 32.1	-2.1
OXX				*e*S	S	20 20 52.0	-2.2
CAIG	**El Cayaco**	**1.78**	**276**	⇑*i*P	P	20 20 34.7	-1.4
CAIG				*e*S	S	20 20 55.0	-2.7
PLIG	**Platanillo**	**1.84**	**326**	*e*P	P	20 20 35.0	-2.0
PLIG				*e*S	S	20 20 57.1	-2.1
PPM	**Popocatepetl**	**2.20**	**355**	*e*P	P	20 20 40.9	-1.3
PPM				*i*S	S	20 21 10.1	+1.7
IISM	**Ciudad Serdan**	**2.34**	**25**	*e*P	P	20 20 42.0	-2.2
IISM				*i*S	S	20 21 08.2	-3.6
HUIG	**Huatulco**	**2.47**	**116**	*e*P	P	20 20 45.7	-0.4
HUIG				*e*S	S	20 21 09.8	-5.4
EVV	**El Vigia**	**3.33**	**61**	*e*P	P	20 20 54.3	-3.9
EVV				*i*S	S	20 21 33.0	-4.0
CMIG	**Matias Romero**	**3.39**	**86**	*i*P	P	20 20 55.5	-3.6
CMIG				*i*S	S	20 21 36.7	-1.9
LVIG	**Laguna Verde**	**3.42**	**33**	*e*P	P	20 20 54.6	-4.9
LVIG				*i*S	S	20 21 34.4	-5.0

DJA 08 20:27:31.9±0.9, 8.64S×115.58E, h101km±6km, MD4.7/4, ML3.4/1, 6C-2D, Error ellipse: s-maj=32.7km s-min=9.1km az=3.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.10**	**213**	⇑*i*Pg	P	20 27 45.8	-0.3
	67nm,0.2s						
RATI				⇓*i*Sg	S	20 27 56.2	-0.5
KEDI	**Kedomdong**	**0.55**	**74**	⇑*i*Pg	P	20 27 47.8	-0.5
	79nm,0.2s						
KEDI				⇑*i*Sg	S	20 27 59.3	-1.3
KELI	**Kelakatan**	**1.16**	**291**	⇑*i*Pg	P	20 27 54.3	-0.3
KELI				⇑*i*Sg	S	20 28 09.9	-1.7
SRDI	**Scrawed**	**1.44**	**276**	⇑*i*Pn	P	20 27 57.2	-0.7
	38nm,0.2s						
SRDI				⇓*i*Sn	S	20 28 16.2	-1.0

IDC 08 20:34:18.6±2.3, 9.22N×92.46E, mb3.6/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, ML3.9/1, Error ellipse: s-maj=73.5km s-min=22.7km az=68.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.13**	**34**	Pn	P	20 37 00.8	-1.4
	0.2nm,0.3s,baz=225,slow=15,SNR=9.7						
MKAR	**Makanchi Array**	**38.44**	**349**	P	P	20 41 42.6	-1.2
	0.6nm,0.6s,baz=170,slow=8.6,SNR=7.4						
SONM	**Songino Array**	**40.25**	**15**	P	P	20 41 56.3	-2.6
	0.3nm,0.3s,baz=205,slow=6.9,SNR=7.2						
WRA	**Warramunga Arr**	**50.38**	**125**	P	P	20 43 18.0	-2.0
	0.7nm,0.6s,baz=308,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**52.04**	**130**	P	P	20 43 30.3	-2.3
	0.4nm,0.5s,baz=308,slow=7.1,SNR=9.3						

*NEIC **08** 20:36:38.4, 31.60S×69.77W, h139km, MD3.1(GUC), After GUC.*

GUC 08 20:36:38.4±0.6, 31.60S×69.77W, h139km±5km, MD3.1, ML3.5, 13C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.93**	**87**	⇑*i*P	P	20 37 01.9	+0.1
ZON				*e*S	S	20 37 16.0	-3.7
PTCH	**Petorca**	**1.19**	**236**	⇑*i*P	P	20 37 04.4	+0.1
PTCH				*i*S	S	20 37 23.9	-0.2
ILCH	**Illapel**	**1.20**	**268**	⇑*i*P	P	20 37 04.8	+0.4
ILCH				*i*S	S	20 37 23.9	-0.3
ILCH				AMP		20 37 26.6	
	comp=N,912nm,0.2s						
JACH	**Jahuel**	**1.29**	**213**	⇓*i*P	P	20 37 05.6	+0.3
JACH				*i*S	S	20 37 26.0	+0.1
MDZ	**Mendoza**	**1.50**	**149**	*e*P	P	20 37 05.8	-1.7
MDZ				S	S	20 37 26.7	-3.2
CHNG	**Los Chungos**	**1.50**	**259**	⇑*i*P	P	20 37 07.7	+0.1
CHNG				*i*S	S	20 37 29.2	-0.7
CHNG				AMP		20 37 35.7	
	comp=E,190nm,0.7s						
TLL	**Tololo Astrono**	**1.68**	**328**	⇑*i*P	P	20 37 10.2	+0.7
TLL				*i*S	S	20 37 33.8	+0.4
TLL				AMP		20 37 37.3	
	comp=N,497nm,0.6s						
PACH	**Papudo**	**1.70**	**236**	*e*P	P	20 37 09.7	-0.1
PACH				*i*S	S	20 37 34.0	+0.2
PEL	**Peldehue**	**1.73**	**207**	⇑*i*P	P	20 37 10.3	+0.2
PEL				*i*S	S	20 37 34.0	-0.3
ROCH	**El Roble**	**1.73**	**217**	⇑*i*P	P	20 37 10.4	+0.3
ROCH				*i*S	S	20 37 34.6	+0.3
FCH	**Farellones**	**1.78**	**194**	⇑*i*P	P	20 37 11.4	+0.8
FCH				*i*S	S	20 37 36.5	+1.1
FCH				AMP		20 37 41.1	
	comp=E,497nm,0.2s						
CLCH	**Cerro Calan**	**1.91**	**200**	⇑*i*P	P	20 37 12.5	+0.3
CLCH				*i*S	S	20 37 38.2	+0.2
CLCH				AMP		20 37 40.1	
	comp=E,385nm,0.5s						
RCDM	**Rinconada Maip**	**2.08**	**205**	⇓*i*P	P	20 37 14.3	0.0
RCDM				*i*S	S	20 37 41.7	0.0
RCDM				AMP		20 37 44.3	
	comp=E,474nm,0.1s						
ANTU	**Antumapu**	**2.10**	**200**	*i*S	S	20 37 42.2	+0.1
ANTU				AMP		20 37 44.7	
	comp=N,325nm,0.5s						
PCH	**Pirque**	**2.12**	**197**	⇑*i*P	P	20 37 14.9	+0.2
PCH				*i*S	S	20 37 42.8	+0.4
LMEL	**Las Melosas**	**2.27**	**189**	⇑*i*P	P	20 37 16.8	+0.1
LMEL				AMP		20 37 53.8	
	comp=N,210nm,0.1s						
TACH	**Talagante**	**2.28**	**205**	⇑*i*P	P	20 37 16.4	-0.4
TACH				*i*S	S	20 37 46.0	-0.1
LCCH	**Las Cruces**	**2.42**	**219**	⇓*i*P	P	20 37 18.5	-0.1
LCCH				*i*S	S	20 37 48.4	-0.7
CHCH	**Chadas Angostu**	**2.45**	**198**	⇓*i*P	P	20 37 18.9	-0.1
CHCH				*i*S	S	20 37 49.6	-0.3
CACH	**El Canelo**	**2.61**	**195**	*i*P	P	20 37 21.4	+0.3
CACH				*i*S	S	20 37 54.3	+0.7
LNV	**Longovilo**	**2.73**	**210**	⇑*i*P	P	20 37 21.1	-1.5
CICH	**Cipreses**	**2.77**	**191**	⇓*i*P	P	20 37 23.4	+0.2

DJA 08 20:39:11.8±0.9, 9.55S×113.90E, h33km, MD4.8/4, ML4.1/4, 8D, Error ellipse: s-maj=19.3km s-min=11.4km az=38.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.09**	**13**	⇓*i*Pg	P	20 39 29.4	-1.3
	130nm,0.1s						
SRDI				⇓*i*Sg	S	20 39 42.0	-2.8
KELI	**Kelakatan**	**1.44**	**24**	⇓*i*Pn	Pn	20 39 35.0	-1.0
	96nm,0.2s						
KELI				⇓*i*Sn	Sn	20 39 51.5	-2.5
RATI	**Rata**	**1.81**	**63**	⇓*i*Pn	Pn	20 39 39.2	-2.0
	698nm,0.2s						
RATI				⇓*i*Sn	Sn	20 39 59.6	-3.6
KEDI	**Kedomdong**	**2.42**	**64**	⇓*i*Pn	Pn	20 39 47.9	-2.2
	70nm,0.2s						
KEDI				⇓*i*Sn	Sn	20 40 14.3	-4.6

*IDC **08** 20:43:24.4±0.7, 5.16N×94.64E, mb4.4/16, mb1 4.5/16, mb1mx4.3/23, mbtmp4.4/16, Error ellipse: s-maj=32.2km s-min=13.2km az=48.0*
*BJI **08** 20:43:26.5, 4.61N×94.73E, h56km, mb4.7, Ms3.6, Msz3.2*
*MOS **08** 20:43:27.3±0.9, 5.02N×94.52E, h33km, mb4.8/9, Error ellipse: s-maj=18.1km s-min=8.3km az=108.0*
*NEIC **08** 20:43:28.8±0.4, 5.14N×94.62E, h30km, mb4.6/16, Error ellipse: s-maj=11.8km s-min=5.8km az=223.0*

ISC 08 20:43:31.3±2.4, 5.17N±0.09×94.8E±0.1, h65km±20km, n77, σ1§01/75, mb4.4/36, 4C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.86**	**89**	*e*Pn	**P**	**20 44 57.4**	**-0.1**
SNG	**Songkhla**	**6.15**	**71**	P	**P**	**20 45 02.0**	**+0.5**
	180nm,0.9s						
CM31	**Chiang Mai Arr**	**13.82**	**17**	Pn	**P**	**20 46 45.0**	**-0.7**
	6.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**13.82**	**17**	Pn	**P**	**20 46 48.1**	**+2.3**
	1.4nm,0.3s,baz=207,slow=14,SNR=17						
CHG	**Chiang Mai**	**14.16**	**16**	⇑P	**P**	**20 46 56.3**	**+6.2**
	13nm,0.8s						
NANT	**Nan**	**14.73**	**23**	P	**P**	**20 47 02.0**	**+4.4**
KSM	**Kuching**	**15.94**	**103**	Pn	**P**	**20 47 12.5**	**-0.6**
KMI	**Kunming**	**21.26**	**20**	P	**P**	**20 48 17.8**	**+3.6**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.0						
KMI				LR	LR		
	comp=N,100nm,15.4s						
KMI				LR	LR		
	comp=E,95nm,17.9s						
KMI				LR	LR		
	comp=Z,113nm,23.1s						
KMI	**Kunming**	**21.26**	**20**	P	**P**	**20 48 17.8**	**+3.6**
	comp=Z,8.0nm,1.0s,mb4.0						
KMI				LR	LR		
	comp=Z,110nm,23.1s						
KKM	**Kota Kinabalu**	**21.36**	**87**	P	**P**	**20 48 14.2**	**-1.1**
JIRN	**Jiri**	**23.81**	**341**	*e*P	**P**	**20 48 39.2**	**0.0**
	comp=Z,14nm,0.5s,mb4.5						
PKI	**Pulchoki**	**23.99**	**339**	*e*P	**P**	**20 48 39.5**	**-1.4**
	comp=Z,12nm,0.6s,mb4.4						
PKI	**Pulchoki**	**23.99**	**339**	*e*P	**P**	**20 48 39.5**	**-1.4**
PKI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
DMN	**Daman**	**24.13**	**339**	*e*P	**P**	**20 48 40.9**	**-1.5**
	comp=Z,11nm,0.7s,mb4.3						
KKN	**Kakani**	**24.24**	**339**	*e*P	**P**	**20 48 41.9**	**-1.5**
	comp=Z,14nm,0.7s,mb4.4						
KKN	**Kakani**	**24.24**	**339**	*e*P	**P**	**20 48 41.9**	**-1.5**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
LSA	**Lhasa**	**24.63**	**352**	P	**P**	**20 48 48.8**	**+1.6**
LSA	**Lhasa**	**24.63**	**352**	*e*P	**P**	**20 48 47.9**	**+0.7**
LSA				pmax	pmax		
	comp=Z,15nm,0.5s,mb4.7						
LSA	**Lhasa**	**24.63**	**352**	*e*P	**P**	**20 48 47.9**	**+0.6**
	comp=Z,15nm,0.5s,mb4.7						
GKN	**Gorkha**	**24.66**	**338**	*e*P	**P**	**20 48 46.9**	**-0.6**
	comp=Z,15nm,0.3s,mb4.9						
KOLN	**Koldanda**	**24.86**	**336**	*e*P	**P**	**20 48 48.4**	**-1.0**
	comp=Z,12nm,0.3s,mb4.8						
ENH	**Enshi**	**28.57**	**27**	P	**P**	**20 49 21.2**	**-2.2**
	comp=Z,3.9nm,0.5s,mb4.3						
XAN	**Xi'an**	**31.59**	**23**	P	**P**	**20 49 48.4**	**-1.7**
GTA	**Gaotai**	**34.39**	**7**	*e*P	**P**	**20 50 13.5**	**-0.8**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**38.24**	**128**	*e*P	**P**	**20 50 47.0**	**0.0**
	comp=Z,3.5nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**38.24**	**128**	P	**P**	**20 50 47.2**	**+0.3**
	comp=Z,3.8nm,0.6s,mb4.4,baz=232,slow=2.2,SNR=15						
FITZ				PcP	PcP	20 53 02.0	+1.2
	comp=Z,3.2nm,0.4s,baz=347,slow=6.7,SNR=6.1						
JOW	**Kunigami**	**38.53**	**52**	P	**P**	**20 50 50.0**	**+0.7**
	comp=Z,7.1nm,0.7s,mb4.6,baz=270,slow=13,SNR=3.0						
BJT	**Baijiatuau**	**39.69**	**26**	*e*P	**P**	**20 51 00.2**	**+1.4**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJT	**Baijiatuau**	**39.69**	**26**	*e*P	**P**	**20 51 00.2**	**+1.3**
	comp=Z,8.8nm,0.7s,mb4.7						
BJI	**Beijing**	**39.71**	**26**	*e*P	**P**	**20 51 00.4**	**+1.4**
BJI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=Z,49nm,25.

WB2	Warramunga Arr	46.23	124⇑	*i*P		P	20 51 52.8 +0.6
KURK	Kurchatov	47.36	346	*e*P		P	20 52 00.5 -0.2
KURK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
KURK	Kurchatov	47.36	346	*e*P		P	20 52 00.5 -0.2
	comp=Z,8.9nm,0.6s,mb4.7						
ASPA	Alice Springs	47.73	129	*e*P		P	20 52 04.4 +0.4
ASAR	Alice Springs	47.74	129	P		P	20 52 04.5 +0.5
	comp=Z,3.4nm,0.4s,mb4.5,baz=299,slow=7.9,SNR=43						
ZAL	Zalesovo	49.29	352	P		P	20 52 15.4 -0.1
	comp=Z,1.1nm,0.5s,mb5.0,baz=302,slow=5.7,SNR=70						
BVA0	Borovoye Array	51.73	341	*i*P		P	20 52 33.1 -1.1
CHKZ	Chkalovo	52.22	342	P		P	20 52 37.2 -0.6
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
CHKZ	Chkalovo	52.22	342	*e*P		P	20 52 37.2 -0.6
	comp=Z,13nm,0.6s,mb5.1						
PMG	Port Moresby	54.19	105	P		P	20 52 53.0 +0.1
	comp=Z,4.2nm,0.4s,mb4.8,baz=346,slow=12,SNR=4.3						
STKA	Stephens Creek	57.81	133	P		P	20 53 16.5 -2.2
	comp=Z,3.9nm,1.1s,mb4.3,baz=315,slow=9.8,SNR=4.0						
STKA	Stephens Creek	57.81	133	P		P	20 53 16.5 -2.2
SVE	Sverdlovsk	58.12	339	*e*P		P	20 53 20.6 +0.1
SVE				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
KIV	Kislovodsk	59.73	319	P		P	20 53 30.6 -1.2
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
KIV	Kislovodsk	59.73	319	P		P	20 53 30.6 -1.2
	comp=Z,3.0nm,0.6s,mb4.5						
BRTR	Keskin Array B	64.66	312	P		P	20 54 03.7 -1.1
	comp=Z,0.9nm,0.5s,mb3.8,baz=122,slow=6.5,SNR=6.8						
AKASG	Malin Array Be	70.65	322	P		P	20 54 40.6 -1.4
	comp=Z,0.3nm,0.3s,mb3.6,baz=88,slow=5.1,SNR=4.5						
VRI	Vrincioaia	71.07	317	⇓P		P	20 54 45.1 +0.5
MLR	Muntele Rosu	71.53	316	⇓P		P	20 54 48.0 +0.7
BURAR	Bucovina Array	72.46	318	⇑P		P	20 54 53.2 +0.5
BURAR	Bucovina Array	72.46	318	⇑P		P	20 54 53.3 +0.5
FINES	FINESS Array B	75.38	332	P		P	20 55 09.0 -0.4
	comp=Z,0.9nm,0.4s,mb3.9,baz=106,slow=5.8,SNR=19						
FINES	FINESS Array B	75.38	332	P		P	20 55 09.0 -0.4
ARCES	ARCESS Array B	78.00	340	P		P	20 55 24.4 +0.4
	comp=Z,4.9nm,0.7s,mb4.4,baz=90,slow=5.7,SNR=25						
GERES	GERESS Array B	80.25	319	P		P	20 55 37.6 +1.0
	comp=Z,2.2nm,0.6s,mb4.1,baz=108,slow=5.4,SNR=25						
ESDC	Sonseca Array	93.42	310	P		P	20 56 41.4 +0.3
	comp=Z,0.5nm,0.6s,mb4.0,baz=54,slow=4.4,SNR=5.4						
ILAR	Eielson Array	96.99	22	P		P	20 56 56.4 -0.4
	comp=Z,0.3nm,0.5s,mb4.0,baz=293,slow=4.1,SNR=7.1						
PDAR	Pinedale Array	127.43	22	PKP		PKPdf	21 02 31.8 +2.5
	comp=Z,0.6nm,0.5s,baz=225,slow=2.6,SNR=6.6						
TXAR	Lajitas Array	141.39	26	PKhKP			21 02 54.6
	comp=Z,0.3nm,0.5s,slow=1.8,SNR=4.3						
TXAR				PKP	PKPdf		21 02 58.4 +2.7
	comp=Z,0.4nm,0.5s,baz=216,slow=0.6,SNR=7.4						

*IDC **08** 21:02:52.3±14.0, 10.71S×161.69E, h151km±156km, mb3.2/4, mb1 3.4/6, mb1mx3.3/18, mbtmp3.8/6, ML3.8/2, Error ellipse: s-maj=96.3km s-min=29.3km az=165.0*

ISC 08 21:02:53.4±5.7, 10.8S±0.2×161.6E±0.2, h173km±59km, n6, σ0°29/7, mb3.3/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.15	158	P	P	21 05 41.9	+0.2
	0.4nm,0.3s,baz=332,slow=17,SNR=12						
DZM				S	S	21 07 54.0	-0.1
	0.2nm,0.3s,baz=107,slow=19,SNR=2.5						
CTA	Charters Tower	17.41	236	P	P	21 06 46.9	-0.3
	0.2nm,0.3s,baz=45,slow=16,SNR=2.5						
WRA	Warramunga Arr	27.76	248	P	P	21 08 28.4	+0.2
	0.6nm,0.6s,mb3.5,baz=76,slow=9.3,SNR=11						
SONM	Songino Array	76.08	325	P	P	21 14 23.4	-0.1
	0.3nm,0.5s,mb3.2,baz=127,slow=4.1,SNR=5.2						
ILAR	Eielson Array	84.62	20	P	P	21 15 08.0	-0.2
	0.2nm,0.4s,mb3.2,baz=247,slow=5.1,SNR=5.4						
MKAR	Makanchi Array	90.55	318	P	P	21 15 37.3	+0.3
	0.2nm,0.6s,mb3.4,baz=98,slow=5.0,SNR=4.1						

*IDC **08** 21:20:05.2±0.8, 26.99S×115.02W, mb4.5/17, mb1 4.6/17, mb1mx4.4/26, mbtmp4.5/17, MS4.2/27, Ms1 4.2/27, ms1mx4.1/36, Error ellipse: s-maj=24.6km s-min=18.6km az=21.0*

*NEIC **08** 21:20:07.0±0.4, 26.90S×115.02W, h10km, mb4.9/17, Error ellipse: s-maj=11.6km s-min=9.3km az=50.0*

*HRVD **08** 21:20:07.0±0.3, 26.94S×114.39W, h12km, MW5.1/64, Centroid moment Tensor Solution. LP body waves: s36,c53;Mantle waves: s64,c100; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}-1.71±.16; $M_{\theta\theta}$-0.09±.18; $M_{\phi\phi}$ 1.80±.17; $M_{r\theta}$-1.78±.45; $M_{\theta\phi}$-4.31±.11; $M_{r\phi}$2.27±.45; Best double couple: M_0=4.932×10^16 NP1: ϕ_s=274°, δ75°, λ167°. NP2:ϕ_s8°, δ78°, λ16°. Principal axes: T 6.305, Plg20°, Azm231°; N -2.747, Plg70°, Azm44°; P -3.56, Plg2°, Azm140°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **08** 21:20:09.9, 26.90S×115.00W, h10km*

ISC 08 21:20:05.3±0.5, 26.85S±0.09×115.04W±0.09, h10km, n82, σ0°96/51, mb4.6/31, MS4.3/26, 7C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	5.10	94	LR	LR	21 22 27.4	
	comp=Z,2μm,21.5s,baz=253,slow=28						
RKT	Rikitea	18.44	277	*e*P		P	21 24 22.8	0.0
	179nm,27.6s						
RKT				*e*LQ			21 28 03.8
RKT				*e*LR	LR		21 28 51.6
	992nm,34.5s						
TBI	Tubuai	31.30	269	*e*LQ			21 33 21.2
TBI				*e*LR	LR		21 34 32.1
	972nm,28.2s						
PPT	Papeete	33.19	279	*e*LQ			21 34 17.7
PPT				*e*LR	LR		21 35 37.2
	1μm,25.2s,baz=105						
PPT	Papeete	33.19	279	LR	LR		21 35 45.0
	comp=Z,198nm,20.5s,MS3.8,baz=109,slow=28						
PLCA	Paso Flores	39.08	122	P	P		21 27 34.5	+0.3
	11nm,1.2s,mb4.5,baz=271,slow=11,SNR=6.2						
PLCA				LR	LR		21 40 48.4
	comp=Z,152nm,19.2s,MS3.8,baz=102,slow=32						
PLCA	Paso Flores	39.08	122	P	P		21 27 34.5	+0.3
PLCA				LR	LR		21 40 48.4
RAR	Rarotonga	41.08	268	P	P		21 27 49.2	-1.7
	17nm,0.5s,mb4.9,baz=135,slow=2.9,SNR=2.8						
LVC	Limon Verde	41.94	95	P	P		21 27 57.3	-0.7
	11nm,1.1s,mb4.4,baz=270,slow=10,SNR=3.9						
LVC				LR	LR		21 38 49.3
	comp=Z,205nm,21.9s,MS4.0,baz=256,slow=27						
USHA	Ushuaia	43.82	143	LR	LR		21 42 01.1
	comp=Z,788nm,18.8s,MS4.7,baz=54,slow=30						
OTAV	Otavalo	44.32	59	*e*P		P	21 28 18.5	+1.0
	14nm,1.1s,mb4.6						
LPAZ	La Paz	44.66	86	P		P	21 28 18.9	-1.3
	2.9nm,1.0s,mb4.0,baz=247,slow=10,SNR=5.9						
LPAZ				LR	LR		21 42 32.1
	comp=Z,376nm,21.6s,MS4.3,baz=54,slow=30						
TRQA	Tornquist	45.61	118	*e*P		P	21 28 28.2	+0.7
	18nm,1.1s,mb4.9						
JTS	JuntasAbangare	47.08	42	P		P	21 28 41.1	+1.7
	8.2nm,0.9s,mb4.7,baz=262,slow=12,SNR=4.4						
JTS				LR	LR		21 43 30.6
	comp=Z,308nm,19.4s,MS4.3,baz=148,slow=30						
JTS	JuntasAbangare	47.08	42	P	P		21 28 40.3	+0.9
	37nm,1.4s,mb5.1						
JTS				LR	LR		21 43 30.6
ROSC	El Rosal	50.43	57	P	P		21 29 05.7	+0.3
	3.1nm,0.3s,mb4.8,baz=105,slow=19,SNR=4.3						
ROSC				LR	LR		21 46 35.4
	comp=Z,402nm,18.1s,MS4.5,baz=15,slow=32						
SDV	Santo Domingo	55.83	57	P	P		21 29 45.1	-0.3
	15nm,1.1s,mb5.0,baz=246,slow=5.5,SNR=10						
SDV				LR	LR		21 50 36.5
	comp=Z,321nm,19.2s,MS4.4,baz=214,slow=33						
SDV	Santo Domingo	55.83	57	*e*P		P	21 29 44.8	-0.6
	25nm,1.2s,mb5.1						
SDV				LR	LR		21 50 36.5
TXAR	Lajitas Array	56.92	12	P		P	21 29 53.2	+0.1
	2.1nm,1.1s,mb4.1,baz=196,slow=9.1,SNR=7.9						
TXAR				LR	LR		21 49 52.4
	comp=Z,180nm,18.4s,MS4.2,baz=310,slow=31						
TXAR	Lajitas Array	56.92	12	P		P	21 29 53.2	+0.1
				LR	LR		21 49 52.4
JCT	Junction City	58.84	15	*e*P		P	21 30 05.9	-0.7
	28nm,1.1s,mb5.2						
MNTX	Cornudas Mount	58.95	10	*e*P		P	21 30 06.0	-1.3
	7.1nm,1.1s,mb4.6						
GDL2	Guadalupe Moun	59.60	10	*e*P		P	21 30 11.0	-0.7
PCRV	Puerto La Cruz	61.20	60	LR	LR		21 53 36.6
	comp=Z,372nm,18.4s,MS4.6,baz=233,slow=33						
ANMO	Albuquerque	62.00	8	P		P	21 30 27.1	-1.0
	3.8nm,1.0s,mb4.5,baz=167,slow=11,SNR=4.5						
ANMO	Albuquerque	62.00	8	*e*P		P	21 30 26.9	-1.1
	4.9nm,1.2s,mb4.5						
VNDA	Vanda	62.49	194	LR	LR		21 50 23.8
	comp=Z,358nm,19.9s,MS4.5,baz=91,slow=29						
BDFB	Brasilia	62.85	95	P		P	21 30 31.7	-2.3
	1.9nm,0.7s,mb4.4,baz=225,slow=2.9,SNR=2.3						
BDFB				LR	LR		21 54 36.0
	comp=Z,215nm,19.1s,MS4.3,baz=258,slow=33						
NVAR	Mina Array Bea	65.01	357	P		P	21 30 47.8	-0.1
	3.5nm,1.0s,mb4.4,baz=173,slow=7.5,SNR=6.9						
NVAR				LR	LR		21 53 15.2
	comp=Z,86nm,18.1s,MS4.0,baz=180,slow=30						
SRU	San Rafael	65.75	4	*e*P		P	21 30 49.5	-3.0
DUG	Dugway	66.73	2	*e*P		P	21 30 59.2	+0.4
	12nm,1.3s,mb4.8						
ELK	Elko	67.25	360	*e*P		P	21 31 02.2	+0.1
	4.1nm,1.1s,mb4.4						
WVT	Waverly	67.70	24	*e*P		P	21 31 00.5	-4.5
	5.5nm,0.7s,mb4.7						
KSU1	Kansas State U	67.83	15	*e*P		P	21 31 05.6	-0.2
WVOR	Wild Horse Val	69.02	357	*e*P		P	21 31 14.1	+1.0
	23nm,1.5s,mb4.9						
BW06	Boulder Array	69.45	4	*e*P		P	21 31 15.0	-0.8
	15nm,1.4s,mb4.7						
PDAR	Pinedale Array	69.45	4	P		P	21 31 15.3	-0.4
	9.8nm,1.3s,mb4.6,baz=180,slow=4.4,SNR=10.0						
VNA3	Neumayer Olymp	69.61	161⇑	*i*		P	21 31 20.7	+4.5
VNA3	Neumayer Olymp	69.61	161⇑	*i*		P	21 31 23.8	+7.6
VNA3	Neumayer Olymp	69.61	161⇑	*i*		x	21 31 28.3
HLID	Hailey	70.07	0	*e*P		P	21 31 20.4	+0.9
	15nm,1.2s,mb4.8						
TPAW	Teton Pass	70.09	3	*e*P		P	21 31 19.7	+0.1
	16nm,1.1s,mb4.8						
LOHW	Long Hollow	70.23	3	*e*P		P	21 31 20.2	-0.2
	19nm,1.4s,mb4.8						
VNA1	Neumayer--Stat	70.27	160⇑	*i*		P	21 31 28.2	+8.0
MOOW	Moose Ponds	70.36	3	*e*P		P	21 31 21.0	-0.2
	6.6nm,1.3s,mb4.4						
VNA2	Neumayer--Watz	70.41	161			P	21 31 22.0	+0.9
VNA2	Neumayer--Watz	70.41	161⇑	*i*		P	21 31 30.6	+9.5
DZM	Mont Dzumac	70.56	255	LR	LR		21 55 02.7
	comp=Z,283nm,19.2s,MS4.5,baz=95,slow=30						
RSSD	Black Hills	71.34	8	*e*P		P	21 31 26.6	-0.6
	4.3nm,0.9s,mb4.4						
MCMT	McKenzie Canyo	71.36	2	P		P	21 31 27.0	-0.3
SNAA	Sanae	71.38	162⇑	*i*		P	21 31 34.4	+7.5
SNAA	Sanae	71.38	162⇑	*i*		x	21 31 39.6
CHMT	Chamberlain Mo	73.44	1	*e*P		P	21 31 40.1	+0.6
NEW	Newport	74.79	359	P		P	21 31 48.8	+1.4
	6.0nm,1.0s,mb4.5,baz=161,slow=6.8,SNR=4.7						
NEW				LR	LR		21 59 38.0
	comp=Z,182nm,18.3s,MS4.4,baz=216,slow=32						
SADO	Sadowa	78.45	25	P		P	21 32 09.8	+1.9
	1.5nm,0.3s,mb4.4,baz=233,slow=5.1,SNR=3.1						
SADO				LR	LR		22 02 38.7
	comp=Z,173nm,20.3s,MS4.4,baz=94,slow=32						
SADO	Sadowa	78.45	25	P		P	21 32 09.8	+1.9
SADO				LR	LR		22 02 38.7
ULM	Lac du Bonnet	78.62	12	LR	LR		22 02 47.1
	comp=Z,54nm,20.1s,MS3.9,baz=34,slow=32						
EDM	Edmonton	79.75	1	*e*P		P	21 32 14.8	+0.1
MAW	Mawson	85.82	179	LR	LR		22 07 08.6
	comp=Z,375nm,20.8s,MS4.8,baz=59,slow=33						
DLBC	Dease Lake	85.88	352	P		P	21 32 47.9	+1.8
	1.7nm,0.3s,mb4.8,baz=176,slow=14,SNR=5.4						
DLBC				LR	LR		22 03 53.1
	comp=Z,74nm,19.3s,MS4.1,baz=302,slow=30						
STKA	Stephens Creek	86.53	236	P		P	21 32 50.8	+0.8
	1.5nm,0.6s,mb4.4,baz=119,slow=13,SNR=3.4						
STKA				LR	LR		22 04 03.3
	comp=Z,250nm,18.1s,MS4.7,baz=295,slow=30						
CTA	Charters Tower	88.49	248	LR	LR		22 05 44.0
	comp=Z,186nm,20.2s,MS4.5,baz=144,slow=31						
YKA	Yellowknife Ar	89.03	0	P		P	21 33 01.8	+0.5
	0.8nm,0.8s,mb4.1,baz=176,slow=4.9,SNR=12						
YKA				LR	LR		22 08 26.8
	comp=Z,129nm,18.2s,MS4.4,baz=180,slow=32						
YKA	Yellowknife Ar	89.03	0	P		P	21 33 01.8	+0.5
YKA				LR	LR		22 08 26.8
SCHQ	Schefferville	91.26	26	LR	LR		22 10 04.5
	comp=Z,81nm,20.9s,MS4.1,baz=177,slow=33						
ILAR	Eielson Array	94.63	347	LR	LR		22 06 12.5
	comp=Z,54nm,20.0s,MS4.0,baz=353,slow=29						
INK	Inuvik	95.86	353	LR	LR		22 09 29.7
	comp=Z,66nm,19.5s,MS4.1,baz=107,slow=31						
ASAR	Alice Springs	96.60	239	LR	LR		22 13 50.2
	comp=Z,365nm,18.6s,MS4.9,baz=129,slow=33						
CLL	Collm	134.06	43	*e**PPKP			21 39 30.0
SONM	Songino Array	141.56	314	PKP	PKPdf		21 39 38.0	-1.7
	2.3nm,1.1s,baz=99,slow=1.5,SNR=8.0						
NST	Nakhon Sawan	145.41	258	P	PKPbc		21 39 50.0	+5.1
KMI	Kunming	146.07	276	PKP	PKPdf		21 39 52.1	+3.9
NANT	Nan	146.18	264	P	PKPbc		21 39 50.0	+3.4
CMAR	Chiang Mai Arr	147.62	262	PKPbc	PKPdf		21 39 55.4	+4.5
CHG	Chiang Mai	147.75	263	P	PKPdf		21 40 00.3	+9.2
GTA	Gaotai	148.43	302	*e*PKP	PKPdf		21 39 56.3	+4.7
ZAL	Zalesovo	149.23	337	PKPbc	PKPdf		21 39 56.2	+3.8
BRTR	Keskin Array B	151.00	56	PKPbc	PKPdf		21 39 59.8	+4.2
	1.1nm,0.9s,baz=225,slow=1.7,SNR=8.9						
BRTR				PKPab	PKPab		21 40 09.2	+1.0
	4.1nm,1.0s,baz=270,slow=1.2,SNR=9.7						
CHKZ	Chkalovo	152.88	353	*e*PKPbc	PKPdf		21 40 04.1	+6.2
BVAR	Borovoye Array	153.54	353	PKPbc	PKPdf		21 40 04.9	+6.1
	0.8nm,0.8s,baz=225,slow=2.1,SNR=5.3						
KURK	Kurchatov	153.99	340	*e*PKPbc	PKPdf		21 40 07.0	+7.6
KURK				PKPab	PKPab		21 40 20.0	-0.4
MKAR	Makanchi Array	155.84	330	PKP	PKPdf		21 40 02.4	+0.4
	0.6nm,1.1s,baz=117,slow=3.2,SNR=2.0						
MKAR				PKPab	PKPab		21 40 28.8	+0.4
	1.2nm,1.0s,baz=45,slow=5.1,SNR=3.6						

*IDC **08** 21:21:14.9±2.1, 0.63N×97.57E, mb4.0/7, mb1 4.1/8, mb1mx3.8/20, mbtmp3.9/8, ML3.6/1, MS3.0/1, Ms1 3.2/1, ms1mx2.5/35, Error ellipse: s-maj=93.7km s-min=16.9km az=59.0*

*NEIC **08** 21:21:20.2±0.9, 0.79N×97.90E, h30km, mb4.3/2, Error ellipse: s-maj=23.1km s-min=10.7km az=63.0*

ISC 08 21:21:18.1±0.9, 0.8N±0.1×97.9E±0.1, h30km, n13, σ0°82/13, mb4.1/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.23	32	*e*Pn		Pn	21 22 36.2	-0.2
CMAR	Chiang Mai Arr	17.56	3	P		P	21 25 22.5	0.0
	0.1nm,0.3s,baz=184,slow=12,SNR=3.9						
CMAR				LR	LR		21 32 46.3
	comp=Z,46nm,20.3s,baz=190,slow=39						
KKM	Kota Kinabalu	19.02	74	P		P	21 25 40.4	-0.1
WRA	Warramunga Arr	41.26	122	P		P	21 29 02.4	-0.2
	1.4nm,0.3s,mb4.0,baz=302,slow=9.0,SNR=26						
WRAB	Tennant Creek	41.27	122	*e*P		P	21 29 01.9	-0.7
	3.4nm,0.4s,mb4.3						
WB2	Warramunga Arr	41.27	122	*e*P		P	21 29 02.1	-0.5
ASAR	Alice Springs	42.63	127	P		P	21 29 14.1	+0.2
	1.3nm,0.4s,mb4.0,baz=297,slow=7.8,SNR=23						
SONM	Songino Array	47.41	8	P		P	21 29 54.4	+2.7
	0.6nm,0.7s,mb3.7,baz=187,slow=9.8,SNR=7.3						
MKAR	Makanchi Array	47.77	346	P		P	21 29 53.2	-1.4
	1.5nm,0.5s,mb4.3,baz=158,slow=8.1,SNR=14						
STKA	Stephens Creek	52.60	132	P		P	21 30 32.7	+1.0
	1.2nm,0.5s,mb4.1,baz=307,slow=12,SNR=6.4						
ZAL	Zalesovo	54.03	350	P		P	21 30 42.3	+0.5
	1.1nm,0.3s,mb4.2,baz=297,slow=9.0,SNR=6.3						
BVAR	Borovoye Array	56.83	341	P		P	21 31 01.8	-0.4
	0.8nm,0.5s,mb4.0,baz=129,slow=9.2,SNR=6.7						
CHKZ	Chkalovo	57.30	341	*e*P		P	21 31 05.5	0.0
	1.2nm,0.6s,mb4.1						

IDC 08 21:25:32.6±7.3, 18.27N×108.41W, mb3.6/4, mb1 4.0/6, mb1mx3.7/21, mbtmp3.6/6, ML3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/28, Error ellipse: s-maj=132.3km s-min=66.5km az=142.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	11.84	21	Pn	P	21 28 24.3	-1.5
	0.0nm,0.3s,baz=199,slow=14,SNR=14						
ANMO	Albuquerque	16.71	6	Pn	P	21 29 30.3	+0.6
	baz=196,slow=12,SNR=3.2						
ANMO				LR	LR	21 35 22.3	
	comp=Z,108nm,18.8s,baz=78,slow=35						
NVAR	Mina Array Bea	21.87	339	P	P	21 30 27.0	-1.9
	1.1nm,0.3s,baz=161,slow=13,SNR=7.4						
PDAR	Pinedale Array	24.44	358	P	P	21 30 52.1	-2.0
	0.5nm,0.8s,baz=153,slow=9.9,SNR=4.3						
INK	Inuvik	52.48	349	P	P	21 34 47.1	-2.1
	1.5nm,0.9s,baz=130,slow=7.6,SNR=3.8						
ILAR	Eielson Array	53.11	341	P	P	21 34 52.0	-1.9
	1.0nm,0.8s,baz=146,slow=6.9,SNR=9.5						

*CSEM **08** 21:39:29.3±0.2, 34.92N×2.79W, h15km, MD2.9, Error ellipse: s-maj=6.2km s-min=2.2km az=124.0*

*CNRM **08** 21:39:29.0, 34.98N×2.59W, h17km, MD2.9*

*MDD **08** 21:39:30.3±0.8, 34.91N×2.73W, h14km±3km, mbLg1.6/8, Error ellipse: s-maj=8.2km s-min=5.8km az=113.0, PRXIMO*

ISC 08 21:39:29.6±0.8, 34.95N±0.04×2.75W±0.06, h23km±4km, n24, σ1°34/33, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	Zaio	0.02	6	P	Pb	21 39 32.5	-1.1
ZAI				S	Sb	21 39 35.0	-1.2
ZAI	Zaio	0.02	6	*i* P	Pb	21 39 32.5	-1.1
EMLI	Melilla	0.39	335	P	Pb	21 39 38.9	+1.0
	63nm,0.1s,SNR=7.0						
EMEL	Melilla	0.39	334	P	Pb	21 39 38.9	+1.0
	63nm,0.1s,SNR=7.0						
EMEL				S	Sb	21 39 44.0	+0.4
	215nm,0.2s,SNR=18						
TOU	Touzarine	0.83	271	*i* P	Pb	21 39 45.5	+0.3
TOU				*i* S	Sb	21 39 58.0	+2.1
TZK	Tazeka	1.46	235	*i* P	Pn	21 39 55.0	0.0
TZK				*i* S	Sn	21 40 14.0	+0.5
EBER	Berja	1.95	357	S	Sn	21 40 27.7	+1.7
EBER	Berja	1.95	357	S	Sn	21 40 27.7	+1.7
	1.0nm,0.2s,SNR=4.0						
ENIJ	Nijar	2.07	12	P	Pn	21 40 04.6	+0.9
	0.8nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.31	315	P	Pn	21 40 06.2	-0.8
	0.5nm,0.2s,SNR=7.9						
EMIJ				S	Sn	21 40 33.0	-1.9
	0.5nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.31	315	P	Pn	21 40 05.8	-1.2
	0.5nm,0.2s,SNR=7.9						
ECOG	Cogollos-Vega	2.42	344	S	Sn	21 40 38.3	+0.5
	1.1nm,0.7s,SNR=7.9						
ELOJ	Sierra Loja	2.47	333	S	Sn	21 40 39.4	+0.1
	18nm,1.3s,SNR=7.9						
EQES	Quesada	2.86	355	P	Pn	21 40 18.1	+3.1
	0.5nm,0.1s,SNR=6.4						
EQES				S	Sn	21 40 48.0	-1.1
	0.9nm,0.3s,SNR=7.9						
EQES	Quesada	2.86	355	P	Pn	21 40 18.1	+3.1
	0.5nm,0.1s,SNR=6.4						
EQES				S	Sn	21 40 51.7	+2.6
	0.9nm,0.3s,SNR=7.9						
EMUR	La Murta	3.13	22	P	Pn	21 40 21.1	+2.2
	1.0nm,0.2s,SNR=7.9						
EMUR	La Murta	3.13	22	P	Pn	21 40 21.1	+2.2
	1.0nm,0.2s,SNR=7.9						
EADA	Adamuz	3.54	336	P	Pn	21 40 25.1	+0.6
	1.4nm,0.6s,SNR=7.9						
EADA				S	Sn	21 41 04.0	-2.1
	0.3nm,0.1s,SNR=4.0						
ETOB	Tobarra	3.81	14	P	Pn	21 40 29.0	+0.5
	0.2nm,0.2s,SNR=4.0						
ETOB				S	Sn	21 41 11.5	-1.7
	0.2nm,0.2s,SNR=4.0						
ETOB	Tobarra	3.81	14	P	Pn	21 40 30.7	+2.2
	0.2nm,0.2s,SNR=4.0						
EMIN	Mina Concepcio	4.24	313	P	Pn	21 40 33.0	-1.5
	0.1nm,0.1s,SNR=4.0						
EBEN	Beniarda	4.26	28	P	Pn	21 40 33.7	-1.2
	0.7nm,0.5s,SNR=7.9						
EGRO	El Granado	4.62	305	P	Pn	21 40 38.2	-1.7
	0.6nm,0.5s,SNR=7.9						
EBAD	Badajoz	5.11	319	P	Pn	21 40 46.0	-0.9
	2.9nm,0.5s,SNR=7.9						

comp=Z,1.2nm,0.7s,mb3.4,baz=284,slow=10,SNR=6.9
ZAL Zalesovo 23.48 2 P **P 22 07 50.2 +0.3**
BVAR Borovoye Array 24.54 341 P **2 22 08 00.0 -0.3**
comp=Z,0.6nm,0.6s,mb3.3,baz=153,slow=9.9,SNR=5.2
SONM Songino Array 24.60 39 P **2 22 08 01.3 +0.4**
comp=Z,1.4nm,0.8s,mb3.5,baz=226,slow=9.5,SNR=14
ZAK Zakamensk 24.75 31 *eP* **P 22 08 02.6 +0.3**
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.4
ZAK pmax pmax
comp=Z,1.0nm,1.6s,mb3.1
ULN Ulaanbaatar 24.97 39 *eP* **P 22 08 04.6 +0.1**
ULN pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
ULN Ulaanbaatar 24.97 39 *eP* **P 22 08 04.6 +0.1**
comp=Z,3.8nm,0.9s,mb3.9
CHKZ Chkalovo 25.06 342 *eP* **P 22 08 04.7 -0.5**
CHKZ pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
CHKZ Chkalovo 25.06 342 *eP* **P 22 08 04.7 -0.5**
comp=Z,2.5nm,0.9s,mb3.7
MLR Muntele Rosu 46.92 306 P **P 22 11 13.7 +1.8**
MLR pmax pmax
comp=Z,2.0nm,0.8s
MLR Muntele Rosu 46.92 306 P **P 22 11 13.7 +1.7**
comp=Z,1.9nm,0.8s,mb4.0,baz=124,slow=12,SNR=3.1
FINES FINESS Array B 48.33 327 P **P 22 11 22.3 -0.5**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES MLR MLR
comp=Z,55nm,20.4s
FINES FINESS Array B 48.33 327 P **P 22 11 22.3 -0.5**
comp=Z,1.7nm,0.8s,mb4.1,baz=117,slow=9.3,SNR=6.2
FINES LR LR 22 34 01.9
comp=Z,54nm,20.4s,MS3.5,baz=163,slow=39
WRA Warramunga Arr 69.90 129 P **P 22 13 51.8 -1.2**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 69.90 129 P **P 22 13 51.8 -1.2**
comp=Z,0.7nm,0.8s,mb3.6,baz=326,slow=6.2,SNR=5.8
ASAR Alice Springs 72.25 132 P **P 22 14 07.0 -0.1**
comp=Z,0.4nm,0.7s,mb3.4,baz=316,slow=5.5,SNR=5.7
YKA Yellowknife Ar 86.22 8 P **P 22 15 21.1 -0.7**
comp=Z,0.1nm,0.3s,mb3.5,baz=335,slow=4.8,SNR=3.6

*NEIC **08** 22:22:10.5±0.8, 0.62N×98.08E, mb4.1/2, Error ellipse: s-maj=25.4km s-min=10.8km az=63.0*
*IDC **08** 22:22:12.4±1.5, 1.01N×98.56E, h28km±4km, mb3.7/7, mb1 3.8/8, mb1mx3.6/20, mbtmp3.8/8, ML4.4/1, Error ellipse: s-maj=70.0km s-min=14.1km az=60.0*
ISC 08 22:22:08.2±1.0, 0.6N±0.1×98.0E±0.2, h29km, h29km±1.6km: pP-P, n14, σ0.66/12, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**30**	*e*Pn	**Pn**	**22 23 28.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**17.74**	**3**	P	**P**	**22 26 10.8**	**-4.1**
	0.5nm,0.3s,baz=102,slow=20,SNR=5.7						
WRA	**Warramunga Arr**	**41.05**	**122**	P	**P**	**22 29 50.0**	**-1.0**
	0.8nm,0.7s,mb3.5,baz=302,slow=9.0,SNR=8.7						
WRA				PcP	PcP	22 31 52.5	+1.3
	0.4nm,0.6s,baz=315,slow=2.6,SNR=8.1						
WRAB	**Tennant Creek**	**41.05**	**122**	P	**P**	**22 29 50.7**	**-0.4**
	3.9nm,1.1s,mb4.0						
ASAR	**Alice Springs**	**42.41**	**127**	P	**P**	**22 30 02.4**	**+0.1**
	0.4nm,0.6s,mb3.3,baz=298,slow=7.8,SNR=8.3						
ASAR				pP	pP	22 30 12.8	+1.9
	0.5nm,0.8s,baz=298,slow=7.9,SNR=3.2						
ASAR				PcP	PcP	22 31 57.4	+1.6
	0.8nm,0.9s,baz=297,slow=2.0,SNR=4.2						
SONM	**Songino Array**	**47.57**	**8**	P	**P**	**22 30 43.0**	**-0.3**
	0.9nm,0.6s,mb4.0,baz=194,slow=9.1,SNR=11						
SONM				pP	pP	22 30 50.5	-1.5
	0.5nm,0.4s,baz=191,slow=8.7,SNR=5.3						
MKAR	**Makanchi Array**	**47.99**	**345**	P	**P**	**22 30 46.8**	**+0.2**
	0.6nm,0.5s,mb3.9,baz=160,slow=8.4,SNR=18						
MKAR				pP	pP	22 30 55.8	+0.5
	1.8nm,0.7s,baz=153,slow=7.3,SNR=13						
STKA	**Stephens Creek**	**52.37**	**132**	P	**P**	**22 31 21.5**	**+1.3**
	1.6nm,0.6s,mb4.1,baz=331,slow=6.1,SNR=7.1						
STKA	**Stephens Creek**	**52.37**	**132**	P	**P**	**22 31 21.5**	**+1.3**
ZAL	**Zalesovo**	**54.24**	**350**	P	**P**	**22 31 34.1**	**+0.5**
	1.0nm,0.5s,mb4.0,baz=323,slow=6.7,SNR=4.7						
ZAL				pP	pP	22 31 42.7	+0.2
	1.8nm,0.4s,baz=286,slow=2.9,SNR=4.6						
BVAR	**Borovoye Array**	**57.05**	**341**	P	**P**	**22 31 53.8**	**-0.2**
	0.6nm,0.5s,mb3.9,baz=136,slow=9.2,SNR=6.9						
BVAR				pP	pP	22 32 02.2	-0.8
	0.9nm,0.6s,baz=141,slow=11,SNR=8.6						
CHKZ	**Chkalovo**	**57.52**	**341**	*e*P	**P**	**22 31 57.1**	**-0.3**
	1.3nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**80.87**	**332**	pP	pP	22 34 32.1	+2.0
	0.4nm,0.5s,baz=117,slow=3.1,SNR=1.1						
TXAR	**Lajitas Array**	**143.71**	**33**	PKP	PKPdf	22 41 43.9	-2.3
	0.3nm,0.7s,baz=270,slow=0.9,SNR=3.1						

*JMA **08** 22:29:56.2±0.5, 23.92N×122.33E, h20km, M3.1*
TAP 08 22:29:58.2, 24.06N×122.43E, h3km, ML3.3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.66**	**53**	P	Pg	22 30 11.6	+0.1
YOJ				S	Sg	22 30 22.9	+2.6
IRIF	**Iriomote-Funau**	**1.22**	**77**	P	Pb	22 30 20.0	-1.6
IRIF				S	Sb	22 30 37.9	+0.3
HATJ	**Hateruma jima**	**1.26**	**90**	P	Pb	22 30 20.4	-1.8
HATJ				S	Sb	22 30 36.8	-1.9
JKRS	**Kuro-shima**	**1.45**	**83**	P	Pn	22 30 23.8	-1.7
JKRS				S	Sb	22 30 42.1	-2.3
JIJ	**Ishigaki jima**	**1.59**	**79**	P	Pn	22 30 24.8	-2.7
JIJ				S	Sb	22 30 45.1	-3.4

NEIC 08 22:31:09.4, 51.38N×175.89W, h14km, ML3.9(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTD	**Great Sitkin T**	**0.69**	**347**	P	Pb	22 31 22.6	-0.1
GSTD				S	Sb	22 31 32.1	+0.3
GSTR	**Great Sitkin T**	**0.72**	**352**	P	Pb	22 31 23.0	-0.2
GSTR				S	Sb	22 31 32.5	-0.1
ADAG	**Mount Adagdak**	**0.74**	**324**	P	Pb	22 31 22.9	-0.7
ADAG				S	Sb	22 31 33.3	-0.1
KIRH	**Kanaga Island**	**0.91**	**305**	P	Pb	22 31 25.2	-1.3
KIWB	**Kanaga Island**	**0.92**	**302**	*e*P	Pb	22 31 24.7	-1.8
KIMD	**Kanaga Island**	**0.92**	**295**	P	Pb	22 31 24.9	-1.7
ATKA	**Atka Island**	**1.34**	**51**	P	Pn	22 31 31.0	-2.7
NIKO	**Nikolski**	**4.62**	**67**	P	Pn	22 32 16.4	-4.1

*CSEM **08** 22:32:49.9±0.5, 37.75N×25.39W, h3km, ML2.7, After PDA*
*PDA **08** 22:32:49.9±0.7, 37.75N×25.39W, h3km±1km, MD2.3, ML2.7, Error ellipse: s-maj=1.8km s-min=1.0km az=162.0*
SVSA 08 22:32:49.9±0.7, 37.75N×25.39W, h3km±1km, MD2.3, ML2.7, Error ellipse: s-maj=1.8km s-min=1.0km az=162.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.02**	**333**	*i*P	Pg	22 32 51.0	+0.5
PCNG				*i*S	Sg	22 32 52.2	+1.3
	6μm,0.2s						
FRA1	**Furnas**	**0.03**	**113**	*i*P	Pg	22 32 51.3	+0.7
VIF	**Vila Franca**	**0.04**	**259**	*i*P	Pg	22 32 51.4	+0.5
VIF				*i*S	Sg	22 32 52.8	+1.2
	4μm,0.2s						
MESC	**Monte Escuro**	**0.06**	**311**	*i*P	Pg	22 32 51.7	+0.5
MESC				*i*S	Sg	22 32 53.5	+1.4
PRCH	**Ribeira Ch**	**0.08**	**251**	*i*P	Pg	22 32 51.8	+0.3
PRCH				*i*S	Sg	22 32 53.6	+1.0
	2μm,0.1s						
LFA	**Lagoa do Fogo**	**0.08**	**284**	*i*P	Pg	22 32 52.0	+0.4
MIRA	**Miradouro**	**0.09**	**69**	*i*P	Pg	22 32 52.5	+0.7
MIRA				*i*S	Sg	22 32 54.4	+1.3
PMAT	**Coroa da Mata**	**0.09**	**313**	*i*P	Pg	22 32 52.0	+0.2
PMAT				*i*S	Sg	22 32 54.1	+1.0
	2μm,0.2s						
PFAD	**Fenais da Ajud**	**0.10**	**31**	*i*P	Pg	22 32 52.5	+0.5
PFAD				*i*S	Sg	22 32 54.4	+1.1
PVER	**Pico Vermelho**	**0.11**	**294**	*i*P	Pg	22 32 52.3	+0.1
	325nm,0.3s						
CML	**Cha da Macela**	**0.13**	**278**	*i*P	Pg	22 32 52.8	+0.3
CML				*i*S	Sg	22 32 55.6	+1.4
FAC	**Faja de Cima**	**0.21**	**276**	*i*S	Sg	22 32 57.8	+0.9
PSET	**Sete Cidades**	**0.27**	**285**	*i*P	Pg	22 32 55.7	+0.3
PSET				*e*S	Sg	22 33 00.4	+1.3
	540nm,0.3s						
PSAN	**Santo Antonio**	**0.29**	**290**	*e*P	Pg	22 32 55.9	+0.3
PFET	**Feteiras**	**0.33**	**282**	*e*P	Pg	22 32 56.6	+0.2
SET2	**Ginetes**	**0.34**	**285**	*e*P	Pg	22 32 56.9	+0.1
SET4	**Mosteiros**	**0.35**	**291**	*e*P	Pg	22 32 57.1	+0.2

IDC 08 22:45:56.6±2.2, 9.78N×93.58E, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=100.6km s-min=22.1km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.12**	**347**	P	P	22 53 16.0	-3.1
	0.3nm,0.7s,baz=158,slow=6.5,SNR=5.0						
SONM	**Songino Array**	**39.44**	**14**	P	P	22 53 28.8	-1.4
	0.1nm,0.6s,baz=187,slow=10.0,SNR=3.5						
WRA	**Warramunga Arr**	**49.82**	**126**	P	P	22 54 51.5	-2.2
	0.4nm,0.6s,baz=305,slow=8.6,SNR=8.4						
ASAR	**Alice Springs**	**51.56**	**131**	P	P	22 55 04.8	-2.1
	1.4nm,0.7s,baz=304,slow=6.8,SNR=16						
ARCES	**ARCESS Array B**	**73.30**	**340**	P	P	22 57 30.6	-0.8
	5.6nm,1.0s,baz=90,slow=6.8,SNR=6.1						

CASC 08 22:50:06.3±1.4, 10.83N×86.40W, h21km±7km, MD3.5, 2C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**1.05**	**46**	⇓*e*P	Pb	22 50 24.4	-1.3
CRUN	**El Crucero**	**1.15**	**5**	*e*P	Pb	22 50 27.5	+0.1
TICN	**Ticuantepe**	**1.21**	**8**	⇓*e*P	Pn	22 50 27.6	-0.6
TICN				*e*S	Sb	22 50 44.2	+0.7
MGAN	**Managua**	**1.32**	**6**	*e*P	Pn	22 50 29.4	-0.3
COPN	**Copaltepe**	**1.36**	**352**	⇑*e*P	Pn	22 50 29.8	-0.5
COPN				*e*S	Sn	22 50 47.8	0.0
APYN	**Apoyeque**	**1.40**	**2**	⇓*e*P	Pn	22 50 30.5	-0.4
APYN				*e*S	Sn	22 50 48.5	-0.3
MOMJ	**Momotombo**	**1.58**	**355**	*e*P	Pn	22 50 33.7	+0.3
LEON	**Leon**	**1.65**	**343**	⇑*e*P	Pn	22 50 34.4	-0.1
TEL3	**Telica 3**	**1.79**	**346**	*e*P	Pn	22 50 36.4	0.0

*IDC **08** 22:53:04.9±1.5, 22.82N×144.04E, mb3.8/7, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/37, Error ellipse: s-maj=64.6km s-min=18.0km az=79.0*
*NEIC **08** 22:53:21.8±0.9, 22.67N×143.64E, h135km, mb4.2/1, Error ellipse: s-maj=38.6km s-min=12.3km az=78.0*
ISC 08 22:53:06.3±6.3, 22.9N±0.1×144.1E±0.6, h26km±46km, n12, σ0.74/11, mb3.8/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.56**	**338**	Pn	**Pn**	**22 54 15.7**	**+0.2**
	6.1nm,0.3s,baz=294,slow=21,SNR=7.0						
CBIJ				Sn	**Sn**	**22 55 07.1**	**-1.2**
	13nm,0.3s,baz=222,slow=23,SNR=4.0						
JOW	**Kunigami**	**14.90**	**289**	LR	LR	23 01 15.8	
	comp=Z,82nm,19.5s,baz=318,slow=33						
SONM	**Songino Array**	**39.00**	**319**	P	**P**	**23 00 34.1**	**+1.9**
	0.3nm,0.5s,mb3.3,baz=130,slow=4.7,SNR=3.7						
WRAB	**Tennant Creek**	**43.59**	**193**	*e*P	**P**	**23 01 09.8**	**-0.5**
	2.4nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**43.60**	**193**	P	**P**	**23 01 10.3**	**-0.1**
	0.5nm,0.4s,mb3.6,baz=16,slow=8.9,SNR=31						
FITZ	**Fitzroy Crossi**	**44.53**	**205**	P	**P**	**23 01 18.0**	**0.0**
	2.6nm,0.7s,mb4.2,baz=18,slow=9.1,SNR=6.1						
ASAR	**Alice Springs**	**47.30**	**193**	P	**P**	**23 01 39.8**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=14,slow=9.2,SNR=4.9						
STKA	**Stephens Creek**	**54.48**	**183**	P	**P**	**23 02 33.5**	**-0.7**
	0.9nm,0.4s,mb4.0,baz=298,slow=17,SNR=4.0						
STKA	**Stephens Creek**	**54.48**	**183**	P	**P**	**23 02 33.5**	**-0.7**
MKAR	**Makanchi Array**	**54.54**	**312**	P	**P**	**23 02 34.6**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=91,slow=9.0,SNR=8.8						
FINES	**FINESS Array B**	**82.50**	**335**	P	**P**	**23 05 28.1**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=72,slow=4.4,SNR=8.9						
PLCA	**Paso Flores**	**145.87**	**130**	PKPbc	PKPbc	23 12 46.9	+3.1
	1.7nm,0.8s,baz=233,slow=5.1,SNR=3.0						

*IDC **08** 23:18:50.2±2.0, 33.59N×142.42E, mb3.4/3, mb1 3.5/5, mb1mx3.3/23, mbtmp3.4/5, ML3.0/2, Error ellipse: s-maj=43.3km s-min=22.3km az=51.0*
*JMA **08** 23:18:50.0±0.4, 33.76N×142.49E, h12km, M3.2*
ISC 08 23:18:53.0±1.4, 33.74N±0.05×142.46E±0.09, h42km±14km, n17, σ1.02/27, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.53**	**307**	P	**P**	**23 19 17.5**	**-0.9**
BSO1				S	**S**	**23 19 37.5**	**+0.3**
BSO2	**Boso 2**	**1.74**	**306**	S	**S**	**23 19 44.8**	**+2.5**
BSO3	**Boso 3**	**1.93**	**304**	P	**P**	**23 19 23.7**	**-0.3**
BSO3				S	**S**	**23 19 48.4**	**+1.2**
BSO4	**Boso 4**	**2.15**	**306**	P	**P**	**23 19 27.2**	**0.0**
BSO4				S	**S**	**23 19 54.1**	**+1.3**
JHJ2	**Mitsune**	**2.30**	**255**	P	**P**	**23 19 29.6**	**+0.4**
JHJ2				S	**S**	**23 19 57.2**	**+0.8**
JHJ	**Hachijo jima 2**	**2.32**	**255**	Pn	**P**	**23 19 29.0**	**-0.6**
	13nm,0.3s,baz=229,slow=19,SNR=3.5						
JHJ				Sn	**S**	**23 19 56.5**	**-0.6**
	27nm,0.3s,baz=72,slow=22,SNR=6.1						
JIM2	**Oshima 3**	**2.69**	**292**	S	**S**	**23 20 06.0**	**-0.5**
JOD2	**Odawara 2**	**3.17**	**300**	P	**P**	**23 19 41.8**	**+0.1**
JOD2				S	**S**	**23 20 17.6**	**-1.1**
JAG	**Ashikaga**	**3.64**	**318**	P	**P**	**23 19 48.1**	**-0.3**
JAG				S	**S**	**23 20 28.9**	**-1.7**
JYN	**Shimob**	**3.67**	**300**	P	**P**	**23 19 44.6**	**-4.2**
JYN				S	**S**	**23 20 30.1**	**-1.3**
JRY	**Ryogami san**	**3.70**	**309**	P	**P**	**23 19 50.0**	**+0.8**
JRY				S	**S**	**23 20 31.7**	**-0.5**
JMM	**Marumori**	**4.34**	**342**	P	**P**	**23 19 54.4**	**-3.8**
MJAR	**Matsushiro Arr**	**4.47**	**310**	Pn	**P**	**23 20 01.8**	**+1.8**
	0.5nm,0.3s,baz=162,slow=14,SNR=4.7						
MJAR				Sn	**S**	**23 20 52.4**	**+0.9**
	1.0nm,0.3s,baz=50,slow=21,SNR=5.8						
MAT	**Matsushiro**	**4.47**	**310**	S	**S**	**23 20 50.3**	**-1.2**
MKAR	**Makanchi Array**	**46.65**	**305**	P	**P**	**23 27 20.0**	**+1.0**
	0.3nm,0.8s,mb3.3,baz=79,slow=7.3,SNR=2.6						
WRA	**Warramunga Arr**	**53.94**	**189**	P	**P**	**23 28 14.1**	**-0.7**
	0.6nm,0.6s,mb3.7,baz=6.9,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**57.66**	**189**	P	**P**	**23 28 41.7**	**+0.1**
	0.3nm,0.7s,mb3.4,baz=15,slow=10,SNR=3.6						

*NEIC **08** 23:26:42.8, 37.33S×176.85E, h224km, MG4.2(WEL), After WEL.*
WEL 08 23:26:42.6±0.3, 37.34S×176.82E, h226km±3km, ML4.2/9, 1C, Error ellipse: s-maj=4.4km s-min=3.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.66**	**190**	P	P	23 27 13.2	-0.3
MARZ	**Manawahe**	**0.66**	**190**	PN	P	23 27 13.4	-0.1
TAZ	**Tarawera**	**0.93**	**195**	P	P	23 27 15.2	+0.5
TAZ	**Tarawera**	**0.93**	**195**	PN	P	23 27 15.2	+0.4
URZ	**Urewera**	**0.95**	**166**	P	P	23 27 14.4	-0.5
URZ	**Urewera**	**0.95**	**166**	⇑PN	P	23 27 14.3	-0.5
URZ				SN	S	23 27 39.3	-0.6
PATZ	**Paeroa**	**1.13**	**203**	P	P	23 27 16.4	+0.3
PATZ	**Paeroa**	**1.13**	**203**	PN	P	23 27 16.4	+0.3
MWZ	**Matawai**	**1.14**	**151**	P	P	23 27 16.0	-0.2
MWZ				S	S	23 27 41.9	-0.3
MWZ	**Matawai**	**1.14**	**151**	PN	P	23 27 15.8	-0.3
MWZ				SN	S	23 27 41.7	-0.5
MXZ	**Matakaoa Point**	**1.20**	**101**	P	P	23 27 16.2	-0.4
MXZ	**Matakaoa Point**	**1.20**	**101**	PN	P	23 27 16.2	-0.4
MXZ				SN	S	23 27 43.1	+0.1
PUZ	**Puketiti**	**1.35**	**123**	P	P	23 27 17.8	0.0
PUZ				S	S	23 27 43.6	-1.4
PUZ	**Puketiti**	**1.35**	**123**	PN	P	23 27 17.8	0.0
PUZ				SN	S	23 27 43.7	-1.3
RITZ	**Rihia Road**	**1.80**	**205**	P	P	23 27 21.7	+0.1
RITZ	**Rihia Road**	**1.80**	**205**	PN	P	23 27 22.0	+0.4
KNZ	**Kokohu**	**1.81**	**158**	P	P	23 27 21.7	+0.1
KNZ	**Kokohu**	**1.81**	**158**	PN	P	23 27 21.8	+0.1
KNZ				SN	S	23 27 51.0	-0.7
BKZ	**Black Stump Fm**	**1.84**	**188**	*e*P	P	23 27 21.4	-0.5
BKZ	**Black Stump Fm**	**1.84**	**188**	PN	P	23 27 21.5	-0.4
MGZ	**Maungaku**	**1.94**	**211**	P	P	23 27 23.0	+0.2
MGZ	**Maungaku**	**1.94**	**211**	PN	P	23 27 23.0	+0.2
WTVZ	**West Tongariro**	**2.02**	**208**	P	P	23 27 23.5	-0.1
WTVZ	**West Tongariro**	**2.02**	**208**	PN	P	23 27 23.4	-0.2
OTVZ	**Oturere**	**2.04**	**206**	PN	P	23 27 23.9	+0.1
TWVZ	**Taurewa**	**2.04**	**212**	PN	P	23 27 23.7	-0.1
NGZ	**Ngauruhoe**	**2.07**	**207**	P	P	23 27 24.4	+0.3
NGZ	**Ngauruhoe**	**2.07**	**207**	PN	P	23 27 24.4	+0.3
CNZ	**Chateau**	**2.11**	**208**	P	P	23 27 24.3	-0.2
CNZ	**Chateau**	**2.11**	**208**	PN	P	23 27 24.3	-0.2
TUVZ	**Tukino**	**2.13**	**205**	P	P	23 27 24.5	-0.2
TUVZ	**Tukino**	**2.13**	**205**	PN	P	23 27 24.7	0.0
FWVZ	**Far West T-bar**	**2.16**	**207**	*e*P	P	23 27 24.2	-0.8
FWVZ	**Far West T-bar**	**2.16**	**207**	PN	P	23 27 25.1	+0.1
WNVZ	**Wahianoa**	**2.21**	**205**	P	P	23 27 25.2	-0.3
WNVZ	**Wahianoa**	**2.21**	**205**	PN	P	23 27 25.2	-0.3
MOVZ	**Moawhango**	**2.23**	**202**	P	P	23 27 24.9	-0.8
MOVZ	**Moawhango**	**2.23**	**202**	PN	P	23 27 24.9	-0.8
MTVZ	**Mangateitei**	**2.30**	**207**	PN	P	23 27 26.1	-0.4
PWZ	**Pawanui**	**2.69**	**179**	P	P	23 27 30.1	-0.5
PWZ	**Pawanui**	**2.69**	**179**	PN	P	23 27 30.0	-0.6
TSZ	**Takapari Road**	**2.80**	**194**	P	P	23 27 30.7	-1.1
TSZ	**Takapari Road**	**2.80**	**194**	PN	P	23 27 30.9	-0.9
WAZ	**Wanganui**	**2.81**	**210**	*e*P	P	23 27 31.3	-0.6
WAZ	**Wanganui**	**2.81**	**210**	PN	P	23 27 31.3	-0.6
BFZ	**Birch Farm**	**3.37**	**187**	*e*P	P	23 27 36.9	-1.4
BFZ	**Birch Farm**	**3.37**	**187**	PN	P	23 27 37.1	-1.2
MRZ	**Mangatainoka R**	**3.46**	**196**	P	P	23 27 37.4	-2.0
MRZ	**Mangatainoka R**	**3.46**	**196**	PN	P	23 27 37.4	-2.0
KIW	**Kapiti Island**	**3.82**	**202**	PN	P	23 27 41.3	-2.4
MTW	**Mount Morrison**	**3.95**	**195**	P	P	23 27 43.0	-2.3
MTW	**Mount Morrison**	**3.95**	**195**	PN	P	23 27 42.9	-2.4
CAW	**Cannon Point**	**4.00**	**199**	PN	P	23 27 43.4	-2.5
DUWZ	**D'Urville Isla**	**4.13**	**212**	PN	P	23 27 44.7	-2.8
PAWZ	**Paruwai Farm**	**4.18**	**195**	PN	P	23 27 45.5	-2.6
MRW	**Makara Radio**	**4.22**	**202**	PN	P	23 27 45.7	-2.9
MSWZ	**Moikau Station**	**4.25**	**196**	P	P	23 27 46.2	-2.7
MSWZ	**Moikau Station**	**4.25**	**196**	PN	P	23 27 46.1	-2.9
SNZO	**South Karori**	**4.29**	**202**	P	P	23 27 46.6	-2.9
SNZO	**South Karori**	**4.29**	**202**	PN	P	23 27 46.5	-2.9
TUWZ	**Tuamarina**	**4.66**	**208**	PN	P	23 27 51.2	-2.8
NNZ	**Nelson**	**4.71**	**214**	*e*P	P	23 27 51.3	-3.3
NNZ	**Nelson**	**4.71**	**214**	PN	P	23 27 51.1	-3.4
QRZ	**Quartz Range**	**4.83**	**222**	*e*P	P	23 27 52.6	-3.5
QRZ	**Quartz Range**	**4.83**	**222**	PN	P	23 27 52.8	-3.3
THZ	**Tophouse**	**5.36**	**213**	P	P	23 28 00.5	-2.2
KHZ	**Kahutara**	**5.67**	**205**	P	P	23 28 03.5	-3.2
DSZ	**Denniston Nort**	**5.87**	**220**	*e*P	P	23 28 05.2	-4.0
LTZ	**Lake Taylor**	**6.46**	**211**	*e*P	P	23 28 12.7	-4.1
MQZ	**McQueen's Vall**	**7.11**	**205**	*e*P	P	23 28 20.7	-4.4
RPZ	**Rata Peaks**	**7.74**	**213**	*e*P	P	23 28 29.2	-4.0
LBZ	**Lake Benmore**	**8.65**	**213**	*e*P	P	23 28 40.4	-4.5
ODZ	**Otahua Downs**	**8.99**	**209**	*e*P	P	23 28 46.0	-3.4
JCZ	**Jackson Bay**	**9.09**	**220**	*e*P	P	23 28 46.1	-4.5

DJA 08 23:31:46.8±1.1, 9.81S×116.28E, h33km, MD4.7/4, ML4.8/4, 2C-4D, Error ellipse: s-maj=28.3km s-min=16.5km az=130.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.31**	**326**	⇓*i*Pn	Pn	23 32 07.2	-1.9
	1μm,0.2s						
RATI				⇓*i*Sn	Sn	23 32 23.0	-2.5
KEDI	**Kedomdong**	**1.32**	**353**	⇑*i*Pn	Pn	23 32 08.3	-1.0
	2μm,0.2s						
KEDI				⇓*i*Sn	Sn	23 32 23.9	-2.0
KELI	**Kelakatan**	**2.37**	**312**	⇑*i*Pn	Pn	23 32 23.8	-0.5
	372nm,0.2s						
SRDI	**Scrawed**	**2.49**	**302**	⇓*i*Pn	Pn	23 32 24.1	-1.9
	330nm,0.2s						

ISC 08 23:40:05.3±0.6, 40.61N±0.04×34.7E±0.1, h13km±7km, n7, σ0.82/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.07**	**78**	*i*P	**Pg**	**23 40 08.5**	**+0.4**
CTKT				*i*S	**Sg**	**23 40 10.4**	**+0.5**
CORM	**Corum**	**0.43**	**187**	PG	**Pg**	**23 40 13.8**	**-0.4**
CORM				SG	**Sg**	**23 40 20.6**	**+0.4**
BOYT	**Boyabat**	**0.83**	**11**	*i*P	**Pb**	**23 40 20.7**	**-0.3**
BOYT				*i*S	**Sb**	**23 40 32.7**	**+1.0**
BYBT	**Boyabat**	**0.86**	**3**	PG	**Pg**	**23 40 21.2**	**-1.5**
ELDT	**Eldivan**	**0.98**	**263**	*i*P	**Pb**	**23 40 22.2**	**-1.4**
ELDT				*i*S	**Sb**	**23 40 37.7**	**+1.6**
CDAG	**Cicekdag**	**

SMLA	**Simla**	**7.46**	**141**⇑	*i*P	**P**	**23 45 26.1**	**-2.3**
SMLA				*i*S	**S**	**23 46 42.5**	**-9.5**
MKAR	**Makanchi Array**	**12.50**	**36**	P	**P**	**23 46 35.3**	**-0.1**
	0.0nm,0.3s,baz=208,slow=14,SNR=4.0						
BVAR	**Borovoye Array**	**15.98**	**357**	P	**P**	**23 47 19.4**	**-0.4**
	0.1nm,0.3s,baz=164,slow=11,SNR=4.2						
ZAL	**Zalesovo**	**19.15**	**24**	P	**P**	**23 47 55.9**	**-1.2**
	0.8nm,0.3s,baz=258,slow=4.1,SNR=6.1						
SONM	**Songino Array**	**27.55**	**56**	P	**P**	**23 49 19.4**	**+1.2**
	0.4nm,0.7s,mb3.1,baz=254,slow=9.0,SNR=5.4						
FINES	**FINESS Array B**	**37.33**	**326**	P	**P**	**23 50 43.1**	**+0.3**
	0.6nm,0.8s,mb3.6,baz=117,slow=8.5,SNR=3.8						

CASC 08 23:44:05.2±1.8, 14.67N×90.77W, h6km±9km, MD3.9, ML3.6, 7C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.23**	**198**⇓	*e*P	Pg	23 44 10.7	+0.8
TP2	**Tecpan 2**	**0.27**	**296**⇑	*i*P	Pg	23 44 11.1	+0.4
TP2				*e*S	Sg	23 44 16.0	+1.7
TP2				AML	AML	23 44 16.6	
	comp=N,17μm,0.4s						
PCG	**Pacaya**	**0.31**	**150**⇑	*e*P	Pg	23 44 11.7	+0.2
PCG				*e*S	Sg	23 44 16.8	+1.0
IXG	**Ixpaco**	**0.58**	**148**⇑	*e*P	Pg	23 44 16.4	-0.3
RBDL	**Robledal**	**1.19**	**117**⇓	*e*P	Pb	23 44 26.6	-1.1
RBDL				*e*S	Sb	23 44 43.2	0.0
RTR	**El Retiro**	**1.33**	**125**⇑	*e*P	Pb	23 44 29.3	-0.9
RTR				*e*S	Sb	23 44 47.2	-0.1
SNJE	**San Jose**	**1.38**	**125**⇑	*e*P	Pb	23 44 30.0	-1.0
SNJE				*e*S	Sb	23 44 51.1	+2.4
SBLS	**San Blas**	**1.38**	**126**⇑	*e*P	Pb	23 44 30.2	-0.9
SBLS				*e*S	Sb	23 44 49.7	+0.8
MTO2	**Montecristo 2**	**1.39**	**101**⇓	*e*P	Pb	23 44 29.8	-1.4
MTO2				*e*S	Sb	23 44 49.0	-0.1
BOQS	**Boqueron**	**1.71**	**122**⇑	*e*P	Pn	23 44 35.7	-0.1
LBRS	**Las Brisas**	**1.91**	**119**⇓	*i*P	Pn	23 44 38.9	+0.2
LFRS	**El Faro**	**1.95**	**122**	*e*P	Pn	23 44 39.2	-0.1
LCBS	**La Ceiba**	**2.01**	**120**	*e*P	Pn	23 44 39.0	-1.0

MOS ***08*** *23:45:56.1±1.0, 23.23N×142.44E, h69km, mb5.2/27, Error ellipse: s-maj=11.2km s-min=6.0km az=110.4*
NEIC ***08*** *23:45:57.6±1.4, 23.21N×142.43E, h69km±12km, mb4.8/48, Error ellipse: s-maj=7.3km s-min=6.0km az=139.0*
IDC ***08*** *23:46:01.6±0.7, 23.26N×142.42E, h108km±6km, mb4.4/22, mb1 4.6/25, mb1mx4.6/28, mbtmp4.8/25, MS3.4/5, Ms1 3.5/5, ms1mx3.2/34, Error ellipse: s-maj=15.5km s-min=8.1km az=88.0*
BJI ***08*** *23:46:01.7, 23.68N×141.89E, h69km, mB5.0, mb4.8, Ms4.6, Msz4.2*
JMA ***08*** *23:46:03.7±0.2, 23.54N×142.82E, h163km, M5.0*
ISC 08 23:45:59.0±1.1, 23.19N±0.05×142.39E±0.04, h93km±8km, h103km±4.5km; pP-P, n206, σ1°06/214, mb4.7/84, 7C-6D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**3.43**	**357**	P	**P**	**23 46 53.5**	**+2.0**
JHHJ				S	**S**	**23 47 31.7**	**+0.5**
CBIJ	**Chichi jima**	**3.89**	**357**	P	**P**	**23 46 59.2**	**+1.4**
	212nm,0.3s,baz=188,slow=6.6,SNR=405						
CBIJ				S	**S**	**23 47 42.8**	**+0.2**
	521nm,0.3s,baz=354,slow=23,SNR=25						
CBIJ	**Chichi jima**	**3.89**	**357**	P	**P**	**23 46 59.6**	**+1.8**
CBIJ				S	**S**	**23 47 42.4**	**-0.2**
JHJ	**Hachijo jima 2**	**10.15**	**348**	P	**P**	**23 48 22.6**	**-0.8**
	12nm,0.3s,baz=220,slow=22,SNR=7.0						
JHJ				S	**S**	**23 50 11.9**	**-4.1**
	30nm,0.3s,baz=83,slow=23,SNR=5.8						
BSO1	**Boso 1**	**11.48**	**354**	P	**P**	**23 48 39.6**	**-1.6**
BSO1				S	**S**	**23 50 38.3**	**-10**
JWZ	**Kozaga**	**11.85**	**332**	P	**P**	**23 48 46.5**	**+0.4**
JIE	**Ise**	**12.21**	**337**	P	**P**	**23 48 51.4**	**+0.5**
JOD2	**Odawara 2**	**12.37**	**347**	P	**P**	**23 48 51.1**	**-1.8**
JOD2				S	**S**	**23 50 59.3**	**-10**
JAM	**Amami Oshima**	**12.63**	**297**	P	**P**	**23 49 02.3**	**+5.9**
JTO	**Tosashimizu**	**12.81**	**321**	P	**P**	**23 49 01.9**	**+3.1**
JRY	**Ryogami san**	**13.13**	**347**	P	**P**	**23 49 00.2**	**-2.8**
JRY				S	**S**	**23 51 17.9**	**-9.2**
JOW	**Kunigami**	**13.30**	**289**	P	**P**	**23 49 10.8**	**+5.7**
	1.4nm,0.3s,baz=115,slow=14,SNR=7.3						
JOW				LR	LR	23 53 38.1	
	comp=Z,109nm,21.1s,baz=149,slow=34						
JOW	**Kunigami**	**13.30**	**289**	P	**P**	**23 49 10.7**	**+5.6**
MJAR	**Matsushiro Arr**	**13.79**	**346**	P	**P**	**23 49 09.5**	**-1.9**
	4.0nm,0.3s,baz=128,slow=12,SNR=45						
MJAR				S	**S**	**23 51 34.2**	**-8.3**
	0.6nm,0.3s,baz=51,slow=52,SNR=5.3						
MAJO	**Matsushiro**	**13.79**	**346**	*e*P	**P**	**23 49 08.1**	**-3.3**
MAJO				pmax	pmax		
	comp=Z,28nm,0.6s						
MAJO	**Matsushiro**	**13.79**	**346**	*e*Pn	**P**	**23 49 08.1**	**-3.3**
	comp=Z,28nm,0.6s						
MAT	**Matsushiro**	**13.79**	**346**	*e*P	**P**	**23 49 08.0**	**-3.4**
MAT				*e*S	**S**	**23 51 31.0**	**-12**
MAT				pmax	pmax		
	comp=Z,31nm,0.8s						
MAT	**Matsushiro**	**13.79**	**346**	*e*P	**P**	**23 49 08.0**	**-3.4**
	comp=Z,31nm,0.8s						
MAT				*e*S	**S**	**23 51 31.0**	**-12**
MAT	**Matsushiro**	**13.79**	**346**	P	**P**	**23 49 08.4**	**-3.0**
MAT				S	**S**	**23 51 32.5**	**-10**
MAT	**Matsushiro**	**13.79**	**346**	P	**P**	**23 49 08.7**	**-2.7**
MAT				S	**S**	**23 51 31.6**	**-11**
JSJ	**Shimokoshiki**	**14.06**	**310**	P	**P**	**23 49 19.1**	**+4.1**
JHS	**Saijyo**	**14.27**	**328**	P	**P**	**23 49 23.8**	**+6.0**
JMK	**Ichinoseki**	**15.74**	**357**	P	**P**	**23 49 36.0**	**-0.5**
JMK				S	**S**	**23 52 18.0**	**-10**
JTU	**Tsushima**	**16.01**	**318**	P	**P**	**23 49 43.1**	**+3.2**
JKB	**Kayabe**	**18.68**	**357**	P	**P**	**23 50 11.9**	**-0.3**
JOSM	**Okushiri--Mats**	**18.99**	**353**	P	**P**	**23 50 15.5**	**-0.2**
SSE	**Sheshan**	**20.42**	**297**	P	**P**	**23 50 26.2**	**-4.6**
SSE				XS		23 54 27.0	
SSE				AMB	AMB		
	comp=Z,16nm,0.6s						
SSE				AMB	AMB		
	comp=Z,31nm,2.8s						
SSE	**Sheshan**	**20.42**	**297**	P	**P**	**23 50 26.2**	**-4.6**
	comp=Z,16nm,0.6s						
SSE				sP		23 50 38.4	
SSE				S	**S**	**23 54 13.0**	**+3.8**
SSE				sS		23 54 27.0	
SSE				LR	LR		
	comp=Z,30nm,18.8s						
ASAJ	**Asahikawa**	**20.87**	**0**	P	**P**	**23 50 36.8**	**+1.5**
	comp=Z,36nm,0.6s,baz=243,slow=28,SNR=9.9						
NJ2	**Nanjing**	**22.60**	**298**	*e*P	**P**	**23 50 50.1**	**-2.4**
NJ2				PP	PP	23 51 19.5	-4.2
NJ2				S	**S**	**23 54 53.0**	**+3.9**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,120nm,4.8s						
NJ2				LR	LR		
	comp=N,220nm,15.2s						
NJ2				LR	LR		
	comp=E,250nm,16.6s						
NJ2				LR	LR		
	comp=Z,140nm,14.3s						
YSS	**Yuzh-Sakhalins**	**23.71**	**1**⇑	*i*P	**P**	**23 51 04.0**	**+1.0**
YSS				*e*		23 51 18.0	
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb4.9						
YSS	**Yuzh-Sakhalins**	**23.71**	**1**	*e*P	**P**	**23 51 04.0**	**+1.0**
	comp=Z,40nm,0.7s,mb4.8						
CN2	**Changchun**	**24.85**	**330**	*e*P	**P**	**23 51 13.6**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
WHN	**Wuhan**	**26.01**	**292**	⇑P	**P**	**23 51 25.8**	**+0.7**
BJI	**Beijing**	**27.79**	**313**	*e*P	**P**	**23 51 42.4**	**+1.2**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
BJI				LR	LR		
	comp=Z,93nm,27.0s						
BJI	**Beijing**	**27.79**	**313**	*e*P	**P**	**23 51 42.4**	**+1.2**
	comp=Z,10.0nm,0.8s,mb4.4						
BJI				LR	LR		
	comp=Z,90nm,27.0s						
ENH	**Enshi**	**30.14**	**291**	*e*P	**P**	**23 52 02.0**	**-0.3**
	comp=Z,6.4nm,0.6s,mb4.4						
XAN	**Xi'an**	**31.17**	**298**	P	**P**	**23 52 11.0**	**-0.3**
XAN				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.5						
HHC	**Hu-ho-hao-te**	**31.29**	**312**	*e*P	**P**	**23 52 10.1**	**-2.2**
HHC				AP	pP	23 52 31.7	-1.8
HHC				XP	sP	23 52 37.2	-7.3
HHC				PP	PP	23 53 15.4	-2.9
HHC				S	**S**	**23 57 11.1**	**+0.1**
HHC				PCS		23 58 50.0	
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,118nm,5.2s						
HHC				LR	LR		
	comp=N,151nm,16.2s						
HHC				LR	LR		
	comp=E,446nm,18.1s						
HHC				LR	LR		
	comp=Z,138nm,13.7s						
GYA	**Guiyang**	**32.52**	**283**	P	**P**	**23 52 23.5**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2	**Chengdu**	**35.12**	**291**	P	**P**	**23 52 45.2**	**-0.2**
LZH	**Lanzhou**	**35.65**	**300**	⇓P	**P**	**23 52 51.0**	**+1.1**
LZH				AP	pP	23 53 02.0	-10
LZH				AMB	AMB		
	comp=Z,60nm,1.5s,mb5.3						
LZH	**Lanzhou**	**35.65**	**300**	⇓P	**P**	**23 52 51.0**	**+1.1**
LZH				*SP	sP	23 53 07.5	-15
LZH				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.3						
LZH	**Lanzhou**	**35.65**	**300**	⇓P	**P**	**23 52 51.0**	**+1.1**
	comp=Z,60nm,1.5s,mb5.3						
LZH				pP	pP	23 53 02.0	-10
LZH				sP	sP	23 53 07.5	-15
KMI	**Kunming**	**36.14**	**281**	P	pP	23 53 17.2	+1.3
MA2	**Magadan**	**36.83**	**7**	*e*P	**P**	**23 52 59.9**	**+0.3**
MA2				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
MA2				pmax	pmax		
	comp=N,4.0nm,0.7s						
MA2	**Magadan**	**36.83**	**7**	*e*P	**P**	**23 52 59.8**	**+0.2**
	comp=N,16nm,0.7s,mb5.1						
ULN	**Ulaanbaatar**	**37.35**	**320**	*e*P	**P**	**23 53 02.9**	**-1.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**37.35**	**320**	*e*P	**P**	**23 53 02.9**	**-1.1**
	comp=Z,2.7nm,0.8s,mb4.2						
SONM	**Songino Array**	**37.72**	**320**	P	**P**	**23 53 06.3**	**-0.8**
	comp=Z,4.0nm,0.5s,mb4.5,baz=126,slow=7.2,SNR=32						
SONM				PcP	PcP	23 55 21.7	-1.3
	comp=Z,1.8nm,0.7s,baz=110,slow=2.4,SNR=5.4						
SONM				ScP		23 58 57.9	
	comp=Z,0.7nm,0.7s,baz=127,slow=2.6,SNR=5.7						
FX1	**Attu Island--F**	**37.76**	**30**	*e*P	**P**	**23 53 09.1**	**+1.7**
GTA	**Gaotai**	**39.41**	**304**	*e*P	**P**	**23 53 22.3**	**+1.1**
GTA				AP	pP	23 53 33.8	-9.4
GTA				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.8						
YAK	**Yakutsk**	**39.78**	**351**	*e*P	**P**	**23 53 23.3**	**-0.7**
YAK				pmax	pmax		
	comp=Z,149nm,0.8s						
YAK	**Yakutsk**	**39.78**	**351**	*e*P	**P**	**23 53 23.2**	**-0.8**
	comp=Z,149nm,0.8s						
BOD	**Bodaibo**	**40.18**	**337**	*e*P	**P**	**23 53 26.1**	**-1.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
SEY	**Seymchan**	**40.29**	**7**	*e*P	**P**	**23 53 30.4**	**+2.2**
SEY				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.9						
SEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
ZAK	**Zakamensk**	**40.72**	**322**	*e*P	**P**	**23 53 33.1**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.7						
CMAR	**Chiang Mai Arr**	**40.77**	**272**	P	**P**	**23 53 34.1**	**+1.6**
	comp=Z,4.2nm,0.6s,mb4.4,baz=61,slow=8.3,SNR=15						
MOY	**Mondy**	**42.58**	**323**	*e*P	**P**	**23 53 48.5**	**+1.4**
CTA	**Charters Tower**	**43.18**	**175**	LR	LR	00 10 56.6	
	comp=Z,72nm,19.1s,baz=225,slow=35						
WRAB	**Tennant Creek**	**43.57**	**191**	*e*P	**P**	**23 53 54.8**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,13nm,0.4s,mb5.0						
WRAB	**Tennant Creek**	**43.57**	**191**	*e*P	**P**	**23 53 54.8**	**-0.9**
	comp=Z,13nm,0.4s,mb5.0						
WB2	**Warramunga Arr**	**43.58**	**191**⇑	*i*P	**P**	**23 53 55.0**	**-0.7**
WRA	**Warramunga Arr**	**43.59**	**191**	P	**P**	**23 53 55.1**	**-0.6**
	comp=Z,7.2nm,0.5s,mb4.7,baz=7.3,slow=7.9,SNR=234						
WRA				pP	pP	23 54 20.9	+3.0
	comp=Z,6.5nm,0.8s,baz=11,slow=8.5,SNR=4.5						
WRA				ScP		23 59 25.0	
	comp=Z,0.7nm,0.8s,baz=359,slow=4.1,SNR=4.7						
FITZ	**Fitzroy Crossi**	**44.18**	**203**	*e*P	**P**	**23 54 00.1**	**-0.5**
	comp=Z,9.3nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**44.18**	**203**	P	**P**	**23 54 00.4**	**-0.2**
	comp=Z,13nm,0.8s,mb4.8,baz=12,slow=9.7,SNR=11						
SHL	**Shillong**	**45.84**	**284**	*e*	**P**	**23 54 15.0**	**+1.4**
LSA	**Lhasa**	**46.03**	**290**	P	**P**	**23 54 17.6**	**+2.5**
LSA				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.3						
LSA	**Lhasa**	**46.03**	**290**	*e*P	**P**	**23 54 17.4**	**+2.3**
LSA				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.2						
LSA	**Lhasa**	**46.03**	**290**	*e*P	**P**	**23 54 17.4**	**+2.3**
	comp=Z,36nm,0.7s,mb5.2						
BILL	**Bilibino**	**47.21**	**12**	*e*P	**P**	**23 54 23.2**	**-0.7**
BILL				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8						
BILL	**Bilibino**	**47.21**	**12**	*e*P	**P**	**23 54 23.2**	**-0.7**
	comp=Z,13nm,0.6s,mb4.8						
ASAR	**Alice Springs**	**47.30**	**191**	P	**P**	**23 54 24.1**	**-1.2**
	comp=Z,3.4nm,0.6s,mb4.3,baz=17,slow=13,SNR=44						
ASAR				pP	pP	23 54 50.0	+2.5
	comp=Z,2.1nm,0.7s,baz=5.0,slow=9.2,SNR=5.5						
ASAR				ScP		23 59 36.9	
	comp=Z,0.5nm,0.6s,baz=4.7,slow=3.7,SNR=5.5						
ASAR				LR	LR	00 12 37.8	
	comp=Z,42nm,19.2s,baz=359,slow=34						
ASPA	**Alice Springs**	**47.30**	**191**	*e*P	**P**	**23 54 24.0**	**-1.2**
WMQ	**Urumqi**	**49.07**	**309**	P	**P**	**23 54 39.5**	**+0.9**
WMQ				AP	pP	23 54 53.5	-7.6
JIRN	**Jiri**	**50.59**	**287**	*e*P	**P**	**23 54 51.4**	**+0.9**
	comp=Z,94nm,0.7s						
PKI	**Pulchoki**	**51.28**	**287**	*e*P	**P**	**23 54 56.1**	**+0.4**
	comp=Z,26nm,0.8s,mb5.3						
PKI	**Pulchoki**	**51.28**	**287**	*e*P	**P**	**23 54 56.1**	**+0.4**
PKI				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
KKN	**Kakani**	**51.37**	**288**	*e*P	**P**	**23 54 56.8**	**+0.4**
	comp=Z,34nm,0.8s,mb5.4						
KKN	**Kakani**	**51.37**	**288**	*e*P	**P**	**23 54 56.8**	**+0.4**
KKN				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
DMN	**Daman**	**51.55**	**288**	*e*P	**P**	**23 54 57.9**	**+0.2**
	comp=Z,31nm,0.9s,mb5.3						
GKN	**Gorkha**	**51.90**	**288**	*e*P	**P**	**23 55 00.7**	**+0.4**
	comp=Z,60nm,0.8s,mb5.7						
ZAL	**Zalesovo**	**52.60**	**321**	P	**P**	**23 55 04.3**	**-0.9**
	comp=Z,12nm,0.4s,mb5.2,baz=8.2,slow=7.3,SNR=70						
ZAL				PcP	PcP	23 56 12.2	-1.8
	comp=Z,3.8nm,0.6s,baz=17,slow=6.1,SNR=4.1						
KOLN	**Koldanda**	**52.84**	**288**	*e*P	**P**	**23 55 07.8**	**+0.4**
	comp=Z,54nm,0.8s,mb5.6						
MKAR	**Makanchi Array**	**53.15**	**312**	P	**P**	**23 55 09.3**	**-0.1**
	comp=Z,29nm,0.5s,mb5.5,baz=87,slow=8.9,SNR=510						
MKAR				PcP	PcP	23 56 14.9	-1.3
	comp=Z,3.2nm,0.5s,baz=76,slow=7.4,SNR=4.2						
STKA	**Stephens Creek**	**54.76**	**181**	*e*P	**P**	**23 55 19.5**	**-1.9**
	comp=Z,1.7nm,0.3s,mb4.5						
STKA	**Stephens Creek**	**54.76**	**181**	P	**P**	**23 55 19.6**	**-1.8**
	comp=Z,2.3nm,0.3s,mb4.6,baz=9.2,slow=6.3,SNR=21						
KURK	**Kurchatov**	**55.88**	**316**	*e*P	**P**	**23 55 28.4**	**-0.9**
KURK				pmax	pmax		
	comp=Z,80nm,0.6s						
KURK	**Kurchatov**	**55.88**	**316**	*e*P	**P**	**23 55 28.4**	**-0.9**
	comp=Z,80nm,0.6s						
KSH	**Kashi**	**57.79**	**303**	*e*P	**P**	**23 55 44.1**	**+1.2**
KSH				*e*AP	pP	23 55 57.4	-8.6
KSH				AMB	AMB		
	comp=Z,220nm,2.2s,mb5.8						
TKM2	**Tokmak 2**	**57.85**	**307**	P	**P**	**23 55 44.3**	**+1.0**
	SNR=34						
KZA	**Kyzart**	**58.16**	**306**	P	**P**	**23 55 47.4**	**+2.0**
	SNR=16						
KBK	**Karagaybulak**	**58.34**	**307**	P	**P**	**23 55 47.6**	**+1.0**
	SNR=26						
CHMS	**Chumysh**	**58.47**	**307**	P	**P**	**23 55 48.0**	**+0.4**
	SNR=13						
IMA	**Indian Mountai**	**58.50**	**25**	*e*P	**P**	**23 55 47.4**	**-0.1**
IMA				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
IMA	**Indian Mountai**	**58.50**	**25**	*e*P	**P**	**23 55 47.4**	**0.0**
	comp=Z,15nm,0.8s,mb5.1						
FRU	**Bishkek**	**58.58**	**307**	*e*P	**P**	**23 55 48.8**	**+0.5**
FRU				*e*	pP	23 56 16.8	+5.3
USP	**Ospenovka**	**58.64**	**308**	P	**P**	**23 55 49.1**	**+0.4**
	SNR=19						
AAK	**Ala-Archa**	**58.68**	**307**	P	**P**	**23 55 49.7**	**+0.7**
	SNR=11						
AAK	**Ala-Archa**	**58.68**	**307**	P	**P**	**23 55 49.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
UCH	**Uchtor**	**58.69**	**306**	P	**P**	**23 55 50.8**	**+1.7**
	SNR=25						
EKS2	**Erkin-Say**	**59.20**	**307**	P	**P**	**23 55 53.1**	**+0.5**
	SNR=14						
AML	**Almayashu**	**59.31**	**306**	P	**P**	**23 55 54.8**	**+1.5**
	SNR=26						
MCK	**McKinley**	**60.03**	**29**	*e*P	**P**	**23 55 56.6**	**-1.4**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
MCK	**McKinley**	**60.03**	**29**	*e*P	**P**	**23 55 56.6**	**-1.4**
	comp=Z,2.5nm,0.7s,mb4.3						
SML	**Sawmill**	**60.05**	**31**	*e*P	**P**	**23 55 56.9**	**-1.3**
CHKZ	**Chkalovo**	**60.92**	**320**	*e*P	**P**	**23 56 03.1**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,78nm,0.8s,mb5.8						
CHKZ	**Chkalovo**	**60.92**	**320**	*e*P	**P**	**23 56 03.1**	**-1.1**
	comp=Z,78nm,0.8s,mb5.8						
ILAR	**Eielson Array**	**61.06**	**28**	P	**P**	**23 56 03.0**	**-2.0**
	comp=Z,5.4nm,0.8s,mb4.6,baz=261,slow=5.6,SNR=50						
ILAR				LR	LR	00 21 03.9	
	comp=Z,25nm,19.6s,baz=175,slow=34						
BVA0	**Borovoye Array**	**61.06**	**319**	*i* P	**P**	**23 56 04.7**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
BVAR	**Borovoye Array**	**61.06**	**319**	P	**P**	**23 56 05.0**	**-0.2**
	comp=Z,161nm,0.6s,baz=91,slow=7.6,SNR=1520						
THY	**Trims Highway**	**61.41**	**29**	*e*P	**P**	**23 56 06.3**	**-1.1**
KKAR	**Karatay Array**	**61.56**	**308**	P	**P**	**23 56 08.5**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
DAWY	**Dawson**	**64.26**	**29**	*e*P	**P**	**23 56 25.6**	**-0.6**
SVE	**Sverdlovsk**	**66.44**	**324**⇓	*i*P	**P**	**23 56 40.0**	**-0.2**
SVE				*e*		23 57 10.0	
SVE				pmax	pmax		
	comp=Z,76nm,1.0s,mb5.5						
INK	**Inuvik**	**66.50**	**24**	*e*P	**P**	**23 56 38.9**	**-1.6**
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
INK	**Inuvik**	**66.50**	**24**	*e*P	**P**	**23 56 38.9**	**-1.6**
	comp=Z,4.8nm,0.6s,mb4.5						
ARU	**Arti**	**67.63**	**323**⇑	*i*P	**P**	**23 56 47.0**	**-0.7**
ARU				*e*	pP	23 57 10.0	-1.5
ARU				*e*		23 59 17.1	
ARU				*e*S	S	00 05 43.5	+7.7
ARU				pmax	pmax		
	comp=Z,95nm,1.5s,mb5.4						
ARU	**Arti**	**67.63**	**323**	*e*P	**P**	**23 56 46.6**	**-1.1**
	comp=Z,48nm,0.7s,mb5.4						
DLBC	**Dease Lake**	**69.30**	**34**	LR	LR	00 25 27.3	
	comp=Z,47nm,19.2s,baz=23,slow=34						
YKW3	**Yellowknife Ar**	**75.45**	**28**	*e*P	**P**	**23 57 33.3**	**-0.8**
YKA	**Yellowknife Ar**	**75.48**	**28**	P	**P**	**23 57 33.7**	**-0.6**
	comp=Z,5.8nm,0.5s,mb4.6,baz=293,slow=5.9,SNR=135						
YKA				pP	pP	23 58 01.2	+2.7
	comp=Z,1.9nm,0.7s,baz=291,slow=5.8,SNR=4.3						
YKA	**Yellowknife Ar**	**75.48**	**28**	P	**P**	**23 57 33.7**	**-0.6**
YKA				pP	pP	23 58 01.2	+2.7
RES	**Resolute Bay**	**75.80**	**13**	*e*P	**P**	**23 57 35.0**	**-0.9**
RES				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.6						
RES	**Resolute Bay**	**75.80**	**13**	*e*P	**P**	**23 57 35.0**	**-0.9**
	comp=Z,15nm,1.2s,mb4.6						
KEV	**Kevo**	**76.71**	**341**	*e*p	**P**	**23 57 40.1**	**-1.0**
ARCES	**ARCESS Array B**	**77.28**	**341**	P	**P**	**23 57 44.1**	**-0.2**
	comp=Z,9.7nm,0.7s,mb4.7,baz=84,slow=8.7,SNR=23						
NEW	**Newport**	**79.67**	**42**	*e*P	**P**	**23 57 57.6**	**-0.1**
NEW				pmax	pmax		
	comp=Z,11nm,1.2s						
NEW	**Newport**	**79.67**	**42**	*e*P	**P**	**23 57 57.6**	**-0.1**
	comp=Z,11nm,1.2s,mb4.6						
EDM	**Edmonton**	**79.83**	**36**	*e*P	**P**	**23 57 58.1**	**-0.4**
OBN	**Obninsk**	**79.84**	**326**⇑	*i*P	**P**	**23 57 58.4**	**-0.1**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
VRSR	**Storozhevoye**	**80.08**	**322**	*e*P	**P**	**23 57 59.8**	**-0.1**
VRSR				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.4						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRSR				pmax	pmax		
	comp=E,20nm,0.9s						
KIV	**Kislovodsk**	**80.86**	**314**	*i*

DUG	**Dugway**	**85.89**	**48**	*eP*	**P**	**23 58 30.5**	**+0.8**
DUG				pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.9							
DUG	**Dugway**	**85.89**	**48**	*eP*	**P**	**23 58 30.4**	**+0.7**
comp=Z,10nm,0.6s,mb4.9							
FCC	**Fort Churchill**	**86.02**	**26**	*eP*	**P**	**23 58 28.9**	**-1.0**
FCC				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.6							
FCC	**Fort Churchill**	**86.02**	**26**	*eP*	**P**	**23 58 28.9**	**-1.0**
comp=Z,7.1nm,0.9s,mb4.6							
HWUT	**Hardware Ranch**	**86.09**	**46**	*eP*	**P**	**23 58 30.7**	**+0.1**
comp=Z,9.6nm,0.9s,mb4.7							
MALT	**Malatya**	**86.15**	**310**	⇓P	**P**	**23 58 31.7**	**+0.7**
MALT	**Malatya**	**86.15**	**310**	⇓P	**P**	**23 58 31.7**	**+0.7**
NLU	**North Lily Min**	**86.50**	**48**	*eP*	**P**	**23 58 32.8**	**+0.1**
ARUT	**Antelope Range**	**86.54**	**50**	*eP*	**P**	**23 58 33.7**	**+0.8**
DAU	**Daniels Canyon**	**86.85**	**47**	*eP*	**P**	**23 58 35.2**	**+0.8**
BW06	**Boulder Array**	**86.85**	**45**	*eP*	**P**	**23 58 34.9**	**+0.6**
PDAR	**Pinedale Array**	**86.85**	**45**	P	**P**	**23 58 34.6**	**+0.3**
comp=Z,1.3nm,0.8s,mb3.9,baz=273,slow=2.9,SNR=12							
LAO	**LASA Array**	**86.96**	**40**	*eP*	**P**	**23 58 35.4**	**+0.6**
comp=Z,14nm,1.0s,mb4.9							
SUW	**Suwalki**	**87.07**	**329**	*eP*	**P**	**23 58 34.6**	**-0.5**
HFS	**Hagfors**	**87.07**	**337**	P	**P**	**23 58 32.9**	**-2.0**
comp=Z,5.8nm,0.4s,mb4.8,baz=90,slow=3.0,SNR=68							
MSU	**Marysvale**	**87.09**	**49**	*eP*	**P**	**23 58 36.5**	**+0.9**
NB2	**NORSAR Subarra**	**87.29**	**338**	P	**P**	**23 58 34.5**	**-1.5**
comp=Z,3.9nm,0.7s,mb4.5,baz=50,slow=4.6							
NOA	**NORSAR Array B**	**87.29**	**338**	P	**P**	**23 58 34.0**	**-2.0**
comp=Z,2.5nm,1.0s,mb4.1,baz=53,slow=4.2,SNR=15							
SRU	**San Rafael**	**87.96**	**48**	*eP*	**P**	**23 58 39.8**	**0.0**
BRTR	**Keskin Array B**	**88.78**	**313**	P	**P**	**23 58 42.5**	**-1.2**
comp=Z,2.3nm,0.6s,mb4.4,baz=73,slow=2.4,SNR=15							
CFR	**Carcaliu**	**89.45**	**320**	⇑P	**P**	**23 58 45.8**	**-0.8**
RSSD	**Black Hills**	**89.62**	**41**	*eP*	**P**	**23 58 47.5**	**0.0**
RSSD				pmax	pmax		
comp=Z,3.0nm,0.5s,mb4.7							
RSSD	**Black Hills**	**89.62**	**41**	*eP*	**P**	**23 58 47.5**	**0.0**
comp=Z,3.0nm,0.5s,mb4.7							
BURAR	**Bucovina Array**	**89.77**	**323**	⇑P	**P**	**23 58 47.8**	**-0.2**
KWP	**Kalwaria**	**89.93**	**326**	*eP*	**P**	**23 58 48.5**	**-0.3**
GKP	**Gorka Klasztor**	**90.29**	**331**	*eP*	**P**	**23 58 49.8**	**-0.6**
ISCO	**Idaho Springs**	**90.91**	**46**	*eP*	**P**	**23 58 54.5**	**+0.9**
comp=Z,2.1nm,0.8s,mb4.3							
TUC	**Tucson**	**90.99**	**54**	*eP*	**P**	**23 58 54.7**	**+0.5**
TUC				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.4							
TUC	**Tucson**	**90.99**	**54**	*eP*	**P**	**23 58 54.7**	**+0.5**
comp=Z,1.8nm,0.6s,mb4.4							
OJC	**Ojcow**	**91.05**	**327**	*eP*	**P**	**23 58 53.5**	**-0.5**
NIE	**Niedzica**	**91.29**	**326**	*eP*	**P**	**23 58 54.5**	**-0.6**
MORC	**Moravsky Berou**	**92.44**	**328**	*eP*	**P**	**23 58 59.9**	**-0.5**
MORC				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.5							
MORC	**Moravsky Berou**	**92.44**	**328**	*eP*	**P**	**23 58 59.9**	**-0.5**
comp=Z,3.1nm,0.9s,mb4.5							
PSZ	**Piszkesteto**	**92.45**	**325**	*eP*	**P**	**23 59 00.5**	**0.0**
comp=Z,4.3nm,1.0s,mb4.6							
ANMO	**Albuquerque**	**92.84**	**50**	*eP*	**P**	**23 59 03.8**	**+1.2**
ANMO				pmax	pmax		
comp=Z,2.0nm,0.7s							
ANMO	**Albuquerque**	**92.84**	**50**	*eP*	**P**	**23 59 03.8**	**+1.2**
comp=Z,2.4nm,0.7s,mb4.6							
CLL	**Collm**	**93.53**	**331**	P	**P**	**23 59 04.0**	**-1.4**
GERES	**GERESS Array B**	**94.93**	**329**	P	**P**	**23 59 10.5**	**-1.3**
comp=Z,0.9nm,0.7s,mb4.3,baz=34,slow=4.8,SNR=11							
TXAR	**Lajitas Array**	**97.77**	**54**	P	**P**	**23 59 25.6**	**+0.5**
comp=Z,0.4nm,0.6s,mb4.1,baz=315,slow=3.5,SNR=5.5							
PLCA	**Paso Flores**	**147.29**	**130**	PKPbc	PKPdf	00 05 33.2	+3.9
comp=Z,3.1nm,0.7s,baz=216,slow=3.4,SNR=16							
PLCA	**Paso Flores**	**147.29**	**130**	*e*PKPbc	PKPdf	00 05 33.1	+3.8
LPAZ	**La Paz**	**150.51**	**82**	PKPbc	PKPdf	00 05 42.7	+7.6
comp=Z,4.1nm,0.6s,baz=307,slow=2.1,SNR=26							
LPAZ	**La Paz**	**150.51**	**82**	*e*PKPbc	PKPdf	00 05 42.6	+7.6
SAML	**Samuel**	**151.71**	**64**	*e*PKPbc	PKPdf	00 05 43.7	+6.8
SAML				*e*PKPab	PKPab	00 05 52.1	-2.8

IDC ***08*** *23:51:20.2±1.7, 0.26S×95.84E, h30km±5km, mb3.6/7, mb1 3.8/8, mb1mx3.5/20, mbtmp3.8/8, Error ellipse: s-maj=72.8km s-min=17.3km az=56.0*

NEIC ***08*** *23:51:23.5±0.9, 0.52N×96.89E, Error ellipse: s-maj=24.0km s-min=14.9km az=62.0*

ISC 08 23:51:18.0±1.4, 0.3S±0.2×95.7E±0.3, h31km, h31km±.6km:pP-P, n9, σ0=92/9, mb3.8/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.91**	**9**	P	**P**	**23 55 39.8**	**+0.8**
baz=196,slow=11,SNR=4.3							
WRA	**Warramunga Arr**	**42.53**	**120**	P	**P**	**23 59 11.7**	**-1.1**
0.6nm,0.6s,mb3.5,baz=303,slow=8.8,SNR=4.7							
WRA				pP	pP	23 59 21.6	-0.5
0.6nm,0.4s,baz=302,slow=8.7,SNR=4.3							
MKAR	**Makanchi Array**	**48.37**	**348**	P	**P**	**23 59 58.5**	**-0.5**
0.8nm,0.6s,mb3.9,baz=153,slow=7.4,SNR=4.4							
MKAR				pP	pP	00 00 08.0	-0.4
0.9nm,0.6s,baz=154,slow=7.6,SNR=5.2							
MKAR	**Makanchi Array**	**48.37**	**348**	P	**P**	**23 59 58.5**	**-0.5**
MKAR				pP	pP	00 00 08.0	-0.4
SONM	**Songino Array**	**48.84**	**10**	P	**P**	**00 00 02.3**	**-0.3**
0.2nm,0.4s,mb3.5,baz=180,slow=8.6,SNR=2.9							
STKA	**Stephens Creek**	**53.47**	**131**	P	**P**	**00 00 38.9**	**+1.1**
2.1nm,1.0s,mb4.0,baz=318,slow=8.4,SNR=2.9							
ZAL	**Zalesovo**	**54.81**	**352**	P	**P**	**00 00 46.6**	**-0.8**
0.9nm,0.5s,mb4.0,baz=264,slow=4.4,SNR=3.0							
ZAL				pP	pP	00 00 55.8	-1.1
1.4nm,0.5s,baz=340,slow=3.1,SNR=4.4							
BVAR	**Borovoye Array**	**57.20**	**342**	P	**P**	**00 01 03.9**	**-0.7**
0.4nm,0.6s,mb3.6,baz=150,slow=12,SNR=2.3							
ARCES	**ARCESS Array B**	**83.45**	**341**	P	**P**	**00 03 45.1**	**+1.6**
3.0nm,0.9s,mb4.3,baz=63,slow=4.0,SNR=3.5							
ARCES				pP	pP	00 03 54.7	+1.2
5.3nm,1.0s,baz=90,slow=4.5,SNR=1.5							

IDC 08 23:55:37.5±3.3, 0.78N×96.51E, mb3.5/4, mb1 3.8/5, mb1mx3.5/19, mbtmp3.5/5, ML4.5/1, Error ellipse: s-maj=115.9km s-min=27.3km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.73**	**8**	Pn	P	23 59 47.5	-0.1
0.6nm,0.3s,baz=200,slow=11,SNR=7.0							
WRA	**Warramunga Arr**	**42.40**	**121**	P	P	00 03 34.0	-1.8
0.2nm,0.4s,baz=302,slow=9.1,SNR=4.7							
MKAR	**Makanchi Array**	**47.49**	**347**	P	P	00 04 13.9	-2.2
0.3nm,0.5s,baz=163,slow=8.7,SNR=6.8							
SONM	**Songino Array**	**47.65**	**9**	P	P	00 04 15.5	-1.9
0.3nm,0.6s,baz=194,slow=5.9,SNR=2.9							
ZAL	**Zalesovo**	**53.86**	**351**	P	P	00 05 02.0	-2.4
0.8nm,0.5s,baz=330,slow=7.8,SNR=3.2							

NIED ***09*** *00:09:00, 26.10N×125.00E, h8km, Mw4.3 Best double couple: M0=3.65×10¹⁵ NP1:φs=4°, δ69°, λ-114°. NP2:φs=235°, δ32°, λ-44°.*

MOS ***09*** *00:09:10.8±1.1, 26.15N×124.89E, h33km, mb4.9/11, Error ellipse: s-maj=18.4km s-min=8.9km az=124.2*

JMA ***09*** *00:09:10.9±0.4, 26.09N×125.02E, h9km, M3.9*

BJI ***09*** *00:09:12.6, 26.11N×124.60E, h28km, mB4.7, mb4.4, ML4.7, Ms4.4, Msz4.2*

IDC ***09*** *00:09:14.0±3.5, 26.21N×124.82E, h43km±36km, mb3.9/13, mb1 4.1/14, mb1mx3.9/25, mbtmp4.1/14, ML3.6/1, MS3.8/15, Ms1 3.8/15, ms1mx3.7/28, Error ellipse: s-maj=27.3km s-min=13.8km az=70.0*

NEIC ***09*** *00:09:14.0±0.8, 26.09N×124.71E, h40km±7km, mb4.8/14, Error ellipse: s-maj=7.4km s-min=7.2km az=165.0*

ISC 09 00:09:12.0±0.5, 26.13N±0.04×124.76E±0.04, h40km±6km, n88, σ1=11/95, mb4.5/29, MS4.0/15, 5C, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.40**	**160**	P	**P**	**00 09 34.2**	**-1.3**
JOGS	**Gusukube**	**1.49**	**157**	P	**P**	**00 09 35.9**	**-0.8**
JTJ	**Tarama**	**1.49**	**182**	P	**P**	**00 09 38.1**	**+1.3**
JKE	**Kume jima 2**	**1.83**	**84**	P	**P**	**00 09 39.9**	**-1.7**
JIJ	**Ishigaki jima**	**1.85**	**198**	P	**P**	**00 09 39.7**	**-2.2**
JKRS	**Kuro-shima**	**2.01**	**200**	P	**P**	**00 09 42.7**	**-1.4**
IRIF	**Iriomote-Funau**	**2.02**	**208**	P	**P**	**00 09 46.1**	**+1.8**
IRIF				*e*S	**S**	**00 10 11.8**	**+3.3**
HATJ	**Hateruma jima**	**2.24**	**203**	P	**P**	**00 09 50.7**	**+3.2**
YOJ	**Yonaguni jima**	**2.30**	**224**	P	**P**	**00 09 52.5**	**+4.2**
YOJ				*e*S	**S**	**00 10 22.3**	**+6.7**
NAH1	**Naha**	**2.63**	**88**	P	**P**	**00 09 51.2**	**-1.8**
JIH	**Iheya**	**3.00**	**72**	P	**P**	**00 10 00.2**	**+1.8**
TATO	**Taipei**	**3.18**	**249**	*e*P	**P**	**00 09 59.1**	**-1.6**
JOW	**Kunigami**	**3.22**	**77**	P	**P**	**00 10 01.4**	**-0.1**
13nm,0.3s,baz=242,slow=18,SNR=16							
JOW				LR	LR	00 11 11.6	
comp=Z,745nm,19.3s,baz=248,slow=37							
JOW	**Kunigami**	**3.22**	**77**	P	**P**	**00 10 01.3**	**-0.2**
YHNB	**Yeheng**	**3.39**	**245**	*e*P	**P**	**00 10 02.5**	**-1.4**
NACB	**Ninganchiao**	**3.47**	**236**	*e*P	**P**	**00 10 04.9**	**-0.1**
JTK	**Tokunoshima**	**4.08**	**65**	P	**P**	**00 10 14.7**	**+1.1**
JAM	**Amami Oshima**	**4.87**	**61**	P	**P**	**00 10 25.1**	**+0.3**
QZH	**Quanzhou**	**5.70**	**259**	P	**P**	**00 10 38.1**	**+1.7**
QZH				S	**S**	**00 11 47.0**	**+5.5**
QZH				Smax			
comp=N,450nm,0.8s							
QZH				Smax			
comp=E,250nm,0.9s							
QZH				LR	LR		
comp=N,2μm,7.6s							
QZH				LR	LR		
comp=E,1μm,7.2s							
QZH				LR	LR		
comp=Z,2μm,8.4s							
WHN	**Wuhan**	**10.17**	**298**	P	**P**	**00 11 36.5**	**-2.1**
WHN				*e*S	**S**	**00 13 29.0**	**-3.4**
WHN				LR	LR		
comp=Z,2μm,12.7s							
GZH	**Guangzhou**	**10.82**	**256**	P	**P**	**00 11 43.1**	**-4.4**
ENH	**Enshi**	**14.09**	**291**	*e*P	**P**	**00 12 31.6**	**+0.5**
JHJ	**Hachijo jima 2**	**14.79**	**58**	LR	LR	00 17 49.6	
comp=Z,166nm,18.7s,baz=301,slow=35							
MJAR	**Matsushiro Arr**	**15.46**	**45**	P	**P**	**00 12 52.5**	**+3.6**
comp=Z,0.2nm,0.3s,baz=230,slow=10,SNR=5.1							
MJAR				LR	LR	00 19 20.8	
comp=Z,127nm,19.6s,baz=235,slow=39							
BJT	**Baijiatuau**	**15.60**	**335**	P	**P**	**00 12 51.1**	**+0.5**
BJI	**Beijing**	**15.61**	**335**	*e*P	**P**	**00 12 52.7**	**+1.9**
BJI				AMB	AMB		
comp=Z,8.0nm,1.3s							
BJI				LR	LR		
comp=N,965nm,13.1s							
BJI				LR	LR		
comp=E,293nm,11.4s							
BJI				LR	LR		
comp=Z,511nm,15.8s							
BJI	**Beijing**	**15.61**	**335**	*e*P	**P**	**00 12 52.7**	**+1.9**
comp=Z,8.0nm,1.3s							
SNY	**Shenyang**	**15.69**	**357**	⇑P	**P**	**00 12 56.1**	**+4.4**
SNY				S	**S**	**00 15 44.2**	**-0.1**
SNY				LR	LR		
comp=N,950nm,13.8s							
SNY				LR	LR		
comp=Z,1μm,13.7s							
XAN	**Xi'an**	**15.80**	**304**	P	**P**	**00 12 53.7**	**+0.4**
XAN				AP		00 13 00.0	
XAN				AMB	AMB		
comp=Z,6.0nm,1.1s							
XAN				LR	LR		
comp=N,569nm,14.0s							
XAN				LR	LR		
comp=E,657nm,13.2s							
XAN				LR	LR		
comp=Z,1μm,15.1s							
GYA	**Guiyang**	**16.24**	**275**	P	**P**	**00 13 02.6**	**+3.8**
GYA				AMB	AMB		
comp=Z,10.0nm,0.9s							
GYA				AMB	AMB		
comp=Z,180nm,6.1s							
GYA				LR	LR		
comp=N,690nm,13.2s							
GYA				LR	LR		
comp=E,480nm,13.5s							
GYA				LR	LR		
comp=Z,600nm,12.9s							
CN2	**Changchun**	**17.64**	**2**	*e*P	**P**	**00 13 22.0**	**+5.7**
CN2				*e*S	**S**	**00 16 35.3**	**+6.2**
CN2				AMB	AMB		
comp=Z,20nm,1.2s							
CN2				AMB	AMB		
comp=Z,500nm,4.0s							
CN2				LR	LR		
comp=N,700nm,12.0s							
CN2				LR	LR		
comp=E,800nm,12.0s							
CN2				LR	LR		
comp=Z,600nm,13.0s							
HHC	**Hu-ho-hao-te**	**18.31**	**327**	⇑P	**P**	**00 13 25.9**	**+1.1**
HHC				AP		00 13 35.5	
HHC				XP		00 13 41.2	
HHC				PP	PP	00 13 42.8	+2.6
HHC				S	**S**	**00 16 48.0**	**+3.6**
HHC				AMB	AMB		
comp=Z,14nm,1.5s							
HHC				AMB	AMB		
comp=Z,142nm,9.3s							
HHC				LR	LR		
comp=N,528nm,14.1s							
HHC				LR	LR		
comp=E,565nm,14.1s							
HHC				LR	LR		
comp=Z,725nm,13.6s							
MDJ	**Mudanjiang**	**18.85**	**11**	P	**P**	**00 13 31.6**	**+0.4**
MDJ				AP		00 13 39.0	
MDJ				XP		00 13 44.3	
MDJ				PP	PP	00 13 49.0	+1.4
MDJ				AMB	AMB		
comp=Z,10.0nm,1.8s							
MDJ				AMB	AMB		
comp=Z,148nm,4.3s							
MDJ				LR	LR		
comp=N,147nm,22.3s							
MDJ				LR	LR		
comp=E,279nm,20.2s							
MDJ				LR	LR		
comp=Z,155nm,29.4s							
CD2	**Chengdu**	**19.05**	**289**	P	**P**	**00 13 33.0**	**-0.7**
KMI	**Kunming**	**19.88**	**272**	P	**P**	**00 13 43.9**	**+1.1**
KMI				AP		00 13 53.0	
KMI				S	**S**	**00 17 18.1**	**-1.3**
KMI				AMB	AMB		
comp=Z,15nm,1.0s							
KMI				AMB	AMB		
comp=Z,179nm,5.8s							
KMI				LR	LR		
comp=N,513nm,8.1s							
KMI				LR	LR		
comp=E,340nm,8.5s							
KMI				LR	LR		
comp=Z,232nm,8.8s							
KMI	**Kunming**	**19.88**	**272**	P	**P**	**00 13 43.9**	**+1.1**
KMI				S	**S**	**00 17 18.1**	**-1.3**
KMI				pmax	pmax		
comp=Z,15nm,1.0s							
KMI	**Kunming**	**19.88**	**272**	P	**P**	**00 13 43.9**	**+1.1**
comp=Z,15nm,1.0s							
KMI				pP		00 13 53.0	
KMI				S	**S**	**00 17 18.1**	**-1.3**
LZH	**Lanzhou**	**20.44**	**304**	⇑P	**P**	**00 13 49.3**	**+0.7**
LZH				AP		00 13 55.2	
LZH				XP		00 13 57.7	
LZH				AMB	AMB		
comp=Z,110nm,1.5s							
LZH				AMB	AMB		
comp=Z,490nm,5.9s							
LZH				LR	LR		
comp=N,2μm,12.6s							
LZH				LR	LR		
comp=Z,2μm,13.3s,MS4.6							
LZH	**Lanzhou**	**20.44**	**304**	⇑P	**P**	**00 13 49.3**	**+0.7**
LZH				*SP		00 13 57.7	
LZH						00 14 15.0	
LZH				*SS		00 17 55.0	
LZH				SS	SS	00 18 20.0	+19
LZH				pmax	pmax		
comp=Z,110nm,1.5s							
LZH				MLR	MLR		
comp=Z,2μm,13.3s,MS4.6							
LZH	**Lanzhou**	**20.44**	**304**	⇑P	**P**	**00 13 49.3**	**+0.7**
comp=Z,110nm,1.5s							
LZH				pP		00 13 55.2	
LZH				sP		00 13 57.7	
LZH				PP	PP	00 14 15.0	+5.1
LZH				S	**S**	**00 17 43.0**	**+13**
LZH				sS		00 17 55.0	
LZH				SS	SS	00 18 20.0	+19
LZH				LR	LR		
comp=Z,2μm,13.3s,MS4.6							
KLR	**Kul'dur**	**23.69**	**11**	*e*P	**P**	**00 14 19.2**	**-1.6**
KLR				pmax	pmax		
comp=Z,21nm,1.2s,mb4.4							
GTA	**Gaotai**	**24.71**	**309**	*e*P	**P**	**00 14 31.2**	**+0.4**
GTA				AP		00 14 39.3	
GTA				XP		00 14 43.4	
GTA				PP	PP	00 15 12.3	+4.3
GTA				AMB	AMB		
comp=Z,26nm,1.2s,mb4.6							
GTA				AMB	AMB		
comp=Z,175nm,6.5s							
GTA				LR	LR		
comp=N,466nm,16.0s,MS4.2							
GTA				LR	LR		
comp=E,401nm,15.6s,MS4.2							
GTA				LR	LR		
comp=Z,462nm,12.6s,MS4.2							
CMAR	**Chiang Mai Arr**	**25.05**	**258**	P	**P**	**00 14 35.1**	**+0.8**
comp=Z,1.6nm,0.3s,mb4.0,baz=50,slow=8.0,SNR=9.3							
CMAR				LR	LR	00 24 12.2	
comp=Z,94nm,19.2s,MS3.3,baz=70,slow=36							
ULN	**Ulaanbaatar**	**25.78**	**332**	*e*P	**P**	**00 14 40.8**	**0.0**
ULN				pmax	pmax		
comp=Z,15nm,1.1s,mb4.4							
ULN	**Ulaanbaatar**	**25.78**	**332**	*e*P	**P**	**00 14 40.8**	**0.0**
comp=Z,15nm,1.1s,mb4.4							
SONM	**Songino Array**	**26.04**	**331**	P	**P**	**00 14 43.3**	**0.0**
comp=Z,16nm,1.3s,mb4.4,baz=146,slow=8.9,SNR=30							
SONM				LR	LR	00 26 07.8	
comp=Z,400nm,19.4s,MS4.0,baz=64,slow=39							
ZAK	**Zakamensk**	**29.30**	**331**	*e*P	**P**	**00 15 11.4**	**-1.4**
ZAK				pmax	pmax		
comp=Z,1.0nm,1.9s							
TLY	**Talaya**	**30.13**	**333**	*e*P	**P**	**00 15 12.8**	**-7.3**
TLY				*e*S	**S**	**00 20 24.3**	**+9.4**
TLY				pmax	pmax		
comp=Z,3.0nm,1.3s,mb3.9							
TLY				MLR	MLR		
comp=Z,368nm,15.0s,MS4.1							
MOY	**Mondy**	**31.23**	**331**	*e*P	**P**	**00 15 29.2**	**-0.7**
MOY				pmax	pmax		
comp=Z,25nm,1.6s,mb4.8							
WMQ	**Urumqi**	**34.77**	**310**	⇑P	**P**	**00 16 00.8**	**+0.1**
WMQ				AP	pP	00 16 12.8	+1.1
WMQ				XP	sP	00 16 18.3	+1.5
WMQ				PP	PP	00 17 19.0	+0.4
WMQ				PPP	PPP	00 17 36.8	+0.1
WMQ				PCP	PcP	00 18 33.8	0.0
WMQ				S	**S**	**00 21 27.1**	**-0.3**
WMQ				XS		00 21 47.5	
WMQ				AMB	AMB		
comp=Z,8.0nm,1.0s,mb4.6							
WMQ				AMB	AMB		
comp=Z,68nm,4.7s							
WMQ				LR	LR		
comp=N,465nm,13.0s,MS4.6							
WMQ				LR	LR		
comp=E,475nm,13.1s,MS4.6							
WMQ				LR	LR		
comp=Z,225nm,16.3s,MS4.0							
PKI	**Pulchoki**	**35.04**	**281**	*e*P	**P**	**00 16 03.1**	**-0.1**
comp=Z,40nm,1.1s,mb5.2							
PKI	**Pulchoki**	**35.04**	**281**	*e*P	**P**	**00 16 03.1**	**-0.1**
PKI				pmax	pmax		
comp=Z,20nm,1.1s,mb5.0							
KKN	**Kakani**	**35.13**	**282**	*e*P	**P**	**00 16 03.9**	**0.0**
comp=Z,57nm,1.2s,mb5.4							
KKN	**Kakani**	**35.13**	**282**	*e*P	**P**	**00 16 03.9**	**0.0**
KKN				pmax	pmax		
comp=Z,29nm,1.2s,mb5.1							
DMN	**Daman**	**35.30**	**281**	*e*P	**P**	**00 16 05.3**	**-0.1**
comp=Z,56nm,1.3s,mb5.3							
GKN	**Gorkha**	**35.67**	**282**	*e*P	**P**	**00 16 08.4**	**-0.1**
comp=Z,62nm,1.2s,mb5.4							
KOLN	**Koldanda**	**36.61**	**282**	*e*P	**P**	**00 16 16.7**	**+0.3**
comp=Z,47nm,1.2s,mb5.2							
MKAR	**Makanchi Array**	**39.30**	**313**	P	**P**	**00 16 38.0**	**-0.6**
comp=Z,4.7nm,0.8s,mb4.3,baz=97,slow=11,SNR=31							
MKAR				LR	LR	00 33 16.0	
comp=Z,135nm,19.6s,MS3.8,baz=179,slow=37							
ZAL	**Zalesovo**	**40.48**	**324**	P	**P**	**00 16 48.3**	**-0.1**
comp=Z,1.7nm,0.8s,mb3.8,baz=348,slow=7.7,SNR=9.5							
ZAL				LR	LR	00 35 30.5	
comp=Z,202nm,18.2s,MS4.0,baz=172,slow=39							
NDI	**New Delhi**	**42.07**	**285**	*e*	**P**	**00 17 01.5**	**-0.3**
KURK	**Kurchatov**	**42.77**	**318**	*e*P	**P**	**00 17 05.8**	**-1.4**
KURK				pmax	pmax		
comp=Z,11nm,1.1s,mb4.5							
KURK	**Kurchatov**	**42.77**	**318**	*e*P	**P**	**00 17 05.8**	**-1.4**
comp=Z,11nm,1.1s,mb4.5							
FITZ	**Fitzroy Crossi**	**43.98**	**179**	*e*P	**P**	**00 17 17.1**	**-0.4**
comp=Z,14nm,0.7s,mb4.8							
FITZ	**Fitzroy Crossi**	**43.98**	**179**	P	**P**	**00 17 17.2**	**-0.2**
comp=Z,18nm,0.7s,mb4.9,baz=5.4,slow=8.5,SNR=19							
WRAB	**Tennant Creek**	**46.73**	**168**	*e*P	**P**	**00 17 39.7**	**+0.4**
WRAB				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.5							
WRAB	**Tennant Creek**	**46.73**	**168**	*e*P	**P**	**00 17 39.7**	**+0.4**
comp=Z,5.4nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**46.73**	**168**	P	**P**	**00 17 39.4**	**+0.1**
comp=Z,2.4nm,0.7s,mb4.2,baz=349,slow=8.3,SNR=13							
WB2	**Warramunga Arr**	**46.74**	**168**	*e*P	**P**	**00 17 39.5**	**+0.1**
BVAR	**Borovoye Array**	**48.29**	**319**	P	**P**	**00 17 50.0**	**-1.1**
comp=Z,1.1nm,0.9s,mb3.9,baz=117,slow=6.6,SNR=6.1							
ASAR	**Alice Springs**	**50.29**	**169**	P	**P**	**00 18 07.2**	**+0.3**
comp=Z,2.1nm,0.8s,mb4.2,baz=348,slow=7.7,SNR=15							
STKA	**Stephens Creek**	**59.88**	**163**	LR	LR	00 43 47.5	
comp=Z,96nm,18.5s,MS4.0,baz=296,slow=35							
ILAR	**Eielson Array**	**65.99**	**28**	LR	LR	00 52 57.0	
comp=Z,29nm,18.6s,MS3.5,baz=354,slow=40							
KIV	**Kislovodsk**	**66.89**	**309**	*e*P	**P**	**00 20 02.0**	**-0.2**
KIV				pmax	pmax		
comp=Z,19nm,1.1s,mb5.0							
KIV	**Kislovodsk**	**66.89**	**309**	*e*P	**P**	**00 20 02.0**	**-0.2**
comp=Z,19nm,1.1s,mb5.0							
VRSR	**Storozhevoye**	**67.41**	**317**	*e*P	**P**	**00 20 04.4**	**-0.9**
VRSR				pmax	pmax		
comp=Z,10.0nm,1.3s,mb4.7							
VRSR				pmax	pmax		
comp=N,8.0nm,1.2s							
VRSR		

*PRU **09** 00:31:46.8, 43.18N×13.71E*
*ROM **09** 00:31:47.5±0.2, 43.08N×13.34E, h5km±1km, MD3.3/8, ML3.0/9, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0*
*LDG **09** 00:31:47.2±0.1, 43.24N×13.61E, h10km, Ml3.2/11, Error ellipse: s-maj=4.2km s-min=2.6km az=65.0*
*NEIC **09** 00:31:47.5, 43.08N×13.34E, h5km, MD3.3(ROM), ML3.2(LDG), After ROM.*
*CSEM **09** 00:31:47.8±0.1, 43.10N×13.40E, h12km, ML3.2/9, Error ellipse: s-maj=1.7km s-min=1.2km az=72.0*

ISC 09 00:31:48.1±0.3, 43.14N±0.02×13.36E±0.03, h30km±2km, n109, σ1°37/165, mb3.3/1, 15C-10D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CING	**Cingoli**	**0.27**	**333**	⇑*i*PG	**Pb**	**00 31 54.8**	**-0.4**
CING				SG	**Sb**	**00 32 00.4**	**+0.4**
CING	**Cingoli**	**0.27**	**333**	⇑*i*Pg	**Pb**	**00 31 54.8**	**-0.3**
CING				*e*Sg	**Sb**	**00 32 00.4**	**+0.4**
SNTG	**Esanatoglia**	**0.33**	**291**	⇓*i*PG	**Pb**	**00 31 55.5**	**-0.5**
SNTG				SG	**Sb**	**00 32 00.6**	**-0.8**
SNTG	**Esanatoglia**	**0.33**	**291**	⇓*i*Pg	**Pb**	**00 31 55.5**	**-0.6**
SNTG				*e*Sg	**Sb**	**00 32 00.6**	**-0.7**
NRCA	**Norcia**	**0.35**	**211**	⇑*i*PG	**Pb**	**00 31 55.1**	**-1.3**
NRCA	**Norcia**	**0.35**	**211**	⇑*i*Pg	**Pb**	**00 31 55.1**	**-1.3**
AOI	**Ancona**	**0.45**	**23**	*e*Pg	**Pb**	**00 31 57.8**	**+0.1**
AOI				*e*Sg	**Sb**	**00 32 06.6**	**+2.3**
AOI	**Ancona**	**0.45**	**23**	*e*Pg	**Pb**	**00 31 57.8**	**0.0**
AOI				Sg	**Sb**	**00 32 06.6**	**+2.3**
ARV	**Arcevia**	**0.47**	**320**	⇓*i*PG	**Pb**	**00 31 58.1**	**0.0**
ARV				SG	**Sb**	**00 32 05.9**	**+0.9**
ARV	**Arcevia**	**0.47**	**320**	⇓*i*Pg	**Pb**	**00 31 58.1**	**-0.1**
ARV				*e*Sg	**Sb**	**00 32 05.9**	**+0.9**
ASS	**Assisi**	**0.53**	**262**	⇓*i*PG	**Pb**	**00 31 58.2**	**-0.8**
ASS				SG	**Sb**	**00 32 05.6**	**-0.8**
ASS	**Assisi**	**0.53**	**262**	⇓*i*Pg	**Pb**	**00 31 58.2**	**-0.8**
ASS				*e*Sg	**Sb**	**00 32 05.6**	**-0.8**
TERO	**Teramo**	**0.54**	**161**	*e*PG	**Pb**	**00 31 58.0**	**-1.2**
TERO	**Teramo**	**0.54**	**161**	*e*Pg	**Pb**	**00 31 58.0**	**-1.3**
CAMP	**Campotosto**	**0.60**	**177**	⇑*i*PG	**Pb**	**00 31 58.7**	**-1.5**
CAMP				SG	**Sb**	**00 32 08.4**	**-0.1**
MURB	**Monte Urbino**	**0.62**	**282**	⇓*i*PG	**Pb**	**00 32 00.3**	**-0.3**
MURB				SG	**Sb**	**00 32 10.6**	**+1.5**
MURB	**Monte Urbino**	**0.62**	**282**	⇓*i*Pg	**Pb**	**00 32 00.3**	**-0.3**
MURB				*e*Sg	**Sb**	**00 32 10.6**	**+1.6**
FSSB	**Fossombrone**	**0.70**	**323**	*e*PG	**Pb**	**00 32 02.0**	**+0.2**
FSSB				SG	**Sb**	**00 32 13.3**	**+2.2**
	379nm,0.4s						
FSSB	**Fossombrone**	**0.70**	**323**	*e*Pg	**Pb**	**00 32 02.0**	**+0.2**
FSSB				*e*Sg	**Sb**	**00 32 13.3**	**+2.2**
FSSB	**Fossombrone**	**0.70**	**323**	*e*Pg	**Pb**	**00 32 02.0**	**+0.2**
	379nm,0.4s						
FSSB				Sg	**Sb**	**00 32 13.3**	**+2.2**
AQU	**L'Aquila**	**0.78**	**178**	*e*PG	**Pn**	**00 32 01.7**	**-1.4**
AQU	**L'Aquila**	**0.78**	**178**	*e*Pg	**Pn**	**00 32 01.7**	**-1.5**
FAGN	**Fagnano**	**0.89**	**169**	*e*PG	**Pn**	**00 32 03.8**	**-0.8**
FIAM	**Fiamignano**	**0.89**	**192**	⇑*i*PG	**Pn**	**00 32 03.4**	**-1.2**
MNS	**Montasola**	**0.90**	**214**	⇑*i*PG	**Pn**	**00 32 04.1**	**-0.8**
MNS				SG	**Sn**	**00 32 18.6**	**+1.6**
MNS	**Montasola**	**0.90**	**214**	⇑*i*Pg	**Pn**	**00 32 04.1**	**-0.8**
MNS				*e*Sg	**Sn**	**00 32 18.6**	**+1.6**
RSM	**Repubblica di**	**1.03**	**320**	*e*PG	**Pn**	**00 32 08.9**	**+2.2**
	371nm,0.5s						
RSM	**Repubblica di**	**1.03**	**320**	*e*Pg	**Pn**	**00 32 08.9**	**+2.2**
RSM	**Repubblica di**	**1.03**	**320**	*e*Pg	**Pn**	**00 32 08.9**	**+2.2**
	371nm,0.5s						
PTQR	**Pietraquaria**	**1.11**	**179**	*e*PG	**Pn**	**00 32 08.3**	**+0.4**
PTQR	**Pietraquaria**	**1.11**	**179**	*e*Pg	**Pn**	**00 32 08.3**	**+0.4**
SFI	**Santa Sofia**	**1.34**	**305**	*e*PN	**Pn**	**00 32 13.2**	**+2.1**
SFI	**Santa Sofia**	**1.34**	**305**	*e*Pg	**Pn**	**00 32 13.2**	**+2.0**
PGD	**Poggio Sodo**	**1.40**	**302**	*e*PN	**Pn**	**00 32 14.9**	**+2.9**
	173nm,0.6s						
PGD	**Poggio Sodo**	**1.40**	**302**	*e*Pg	**Pn**	**00 32 14.8**	**+2.8**
PGD	**Poggio Sodo**	**1.40**	**302**	*e*Pn	**Pn**	**00 32 14.9**	**+2.9**
	173nm,0.6s						
MA9	**Marino**	**1.46**	**201**	*e*PN	**Pn**	**00 32 14.2**	**+1.4**
	196nm,0.4s						
MA9	**Marino**	**1.46**	**201**	*e*Pg	**Pn**	**00 32 14.2**	**+1.4**
MA9	**Marino**	**1.46**	**201**	*e*Pn	**Pn**	**00 32 14.2**	**+1.4**
	196nm,0.4s						
SDI	**San Donato**	**1.47**	**167**	*e*PN	**Pn**	**00 32 14.6**	**+1.7**
	364nm,0.6s						
SDI	**San Donato**	**1.47**	**167**	*e*Pg	**Pn**	**00 32 14.6**	**+1.7**
SDI	**San Donato**	**1.47**	**167**	*e*Pn	**Pn**	**00 32 14.6**	**+1.7**
	364nm,0.6s						
LAV9	**Lanuvio**	**1.54**	**199**	*e*PN	**Pn**	**00 32 15.8**	**+1.8**
LAV9				SN	**Sn**	**00 32 35.3**	**+2.2**
	280nm,0.3s						
LAV9	**Lanuvio**	**1.54**	**199**	*e*Pg	**Pn**	**00 32 15.8**	**+1.9**
LAV9				*e*Sg	**Sn**	**00 32 35.3**	**+2.2**
LAV9	**Lanuvio**	**1.54**	**199**	*e*Pn	**Pn**	**00 32 15.8**	**+1.8**
	280nm,0.3s						
LAV9				Sn	**Sn**	**00 32 35.3**	**+2.2**
VMG	**Vicchio**	**1.56**	**303**	*e*PN	**Pn**	**00 32 17.7**	**+3.5**
VMG	**Vicchio**	**1.56**	**303**	*e*Pg	**Pn**	**00 32 17.7**	**+3.5**
CII	**Carovilli**	**1.58**	**153**	*e*PN	**Pn**	**00 32 17.3**	**+2.8**
	181nm,0.6s						
CII	**Carovilli**	**1.58**	**153**	*e*Pg	**Pn**	**00 32 17.3**	**+2.8**
NVLJ	**Novalja**	**1.79**	**37**	*i* Pn	**Pn**	**00 32 18.2**	**+0.5**
NVLJ				*i* Sg	**Sn**	**00 32 41.0**	**+1.4**
NVLJ	**Novalja**	**1.79**	**37**	*i* Pn	**Pn**	**00 32 18.1**	**+0.5**
NVLJ				*i* Sg	**Sn**	**00 32 40.9**	**+1.3**
PII	**Pisa**	**2.15**	**287**	*e*PN	**Pn**	**00 32 24.6**	**+1.9**
	45nm,0.4s						
PII	**Pisa**	**2.15**	**287**	*e*Pg	**Pn**	**00 32 24.6**	**+1.9**
PII	**Pisa**	**2.15**	**287**	*e*Pn	**Pn**	**00 32 24.6**	**+1.9**
	45nm,0.4s						
FG5	**Orsara di Pugl**	**2.33**	**142**	*e*PN	**Pn**	**00 32 26.7**	**+1.4**
	84nm,0.7s						
FG5	**Orsara di Pugl**	**2.33**	**142**	*e*Pg	**Pn**	**00 32 26.7**	**+1.4**
FG5	**Orsara di Pugl**	**2.33**	**142**	*e*Pn	**Pn**	**00 32 26.7**	**+1.4**
	84nm,0.7s						
FGMS	**Monte Sant'Ang**	**2.39**	**126**	*e*PN	**Pn**	**00 32 26.6**	**+0.4**
FGMS	**Monte Sant'Ang**	**2.39**	**126**	*e*Pg	**Pn**	**00 32 26.6**	**+0.5**
BOJS	**Bojanci**	**2.73**	**29**	*i* Pn	**Pn**	**00 32 31.9**	**+1.0**
BOJS				*e*Sn	**Sn**	**00 33 04.3**	**+1.0**
JAVS	**Javornik**	**2.80**	**10**	*e*Pn	**Pn**	**00 32 31.8**	**-0.2**
JAVS				*i* Sn	**Sn**	**00 33 06.1**	**+1.0**
VISS	**Visnje**	**2.87**	**21**	*i* Pn	**Pn**	**00 32 33.1**	**+0.2**
VISS				*i* Sn	**Sn**	**00 33 07.0**	**+0.2**
VOY	**Vojsko**	**2.92**	**7**	*e*Pn	**Pn**	**00 32 32.9**	**-0.8**
VOY				*e*Sn	**Sn**	**00 33 08.0**	**-0.1**
LJU	**Ljubljana**	**3.02**	**16**	*e*Pn	**Pn**	**00 32 35.5**	**+0.4**
LJU				*e*		00 32 45.0	
LJU				*e*Sn	**Sn**	**00 33 23.9**	**+13**
STON	**Ston**	**3.19**	**93**	*i* Pg	**Pn**	**00 32 46.0**	**+8.5**
STON				*i* Sg	Sn	00 32 47.1	-28
BLY	**Banja Luka**	**3.20**	**58**	Sg	**Sn**	**00 33 32.9**	**+18**
PGF	**Pioggiola**	**3.26**	**261**	*e*Pn	**Pn**	**00 32 38.8**	**+0.3**
PGF				*e*Sn	**Sn**	**00 33 17.8**	**+1.0**
	5.1nm,0.3s						
SG1	**Sgolgore (BA)**	**3.37**	**132**	*e*Pn	**Pn**	**00 32 39.2**	**-0.9**
OBKA	**Obir**	**3.48**	**14**	⇑*i*PN	**Pn**	**00 32 41.4**	**-0.2**
OBKA				*i* SN	**Sn**	**00 33 21.9**	**-0.3**
PE1	**Pezze di Greco**	**3.82**	**126**	*e*Pn	**Pn**	**00 32 41.4**	**-5.1**
KBA	**Koelnbreinsper**	**3.94**	**360**	⇑*i*PN	**Pn**	**00 32 48.6**	**+0.4**
KBA				*i* SN	**Sn**	**00 33 32.2**	**-1.7**
WTTA	**Wattenberg**	**4.30**	**344**	⇑*i*PN	**Pn**	**00 32 54.0**	**+0.7**
WTTA				*i* SN	**Sn**	**00 33 43.8**	**+0.7**
SQTA	**Sankt Quirin**	**4.36**	**340**	⇑*i*PN	**Pn**	**00 32 55.0**	**+0.9**
SQTA				*i* SN	**Sn**	**00 33 45.7**	**+1.2**
SBF	**Sospel**	**4.37**	**282**	*e*Pn	**Pn**	**00 32 55.5**	**+1.2**
SBF				*e*Sn	**Sn**	**00 33 43.1**	**-1.8**
	30nm,0.6s						
WATA	**Walderalm**	**4.38**	**344**	⇑*i*PN	**Pn**	**00 32 55.2**	**+0.7**
WATA				*i* SN	**Sn**	**00 33 46.2**	**+1.0**
ARSA	**Arzberg**	**4.39**	**20**	⇑*i*PN	**Pn**	**00 32 53.6**	**-0.9**
ARSA				*i* SN	**Sn**	**00 33 42.3**	**-3.0**
DAVOX	**Davos**	**4.40**	**327**	Pn	**Pn**	**00 32 56.8**	**+2.1**
	baz=162,slow=19						
DAVOX				Sn	**Sn**	**00 33 48.8**	**+3.2**
	1.0nm,0.3s,baz=319,slow=22,SNR=2.9						
MOTA	**Moosalm**	**4.50**	**340**	⇓*i*PN	**Pn**	**00 32 56.8**	**+0.7**
MOTA				*i* SN	**Sn**	**00 33 48.9**	**+0.8**
MOA	**Molln**	**4.75**	**7**	⇓*i*PN	**Pn**	**00 32 59.1**	**-0.6**
MOA				*i* SN	**Sn**	**00 33 53.3**	**-1.2**
DAVA	**Damuels**	**4.82**	**331**	⇑*i*PN	**Pn**	**00 33 01.6**	**+0.9**
DAVA				*i* SN	**Sn**	**00 33 56.9**	**+0.7**
FRF	**La Foret Royal**	**4.92**	**277**	*e*Pn	**Pn**	**00 33 02.2**	**+0.2**
LMR	**La Mourre**	**5.01**	**275**	*e*Pn	**Pn**	**00 33 02.8**	**-0.5**
MBDF	**Montbardon**	**5.02**	**291**	*e*Pn	**Pn**	**00 33 04.1**	**+0.7**
MBDF				*e*Sn	**Sn**	**00 33 57.8**	**-3.3**
	5.4nm,0.5s						
LPG	**La Plagne**	**5.30**	**299**	*e*Pn	**Pn**	**00 33 06.6**	**-0.8**
LPG				*e*Sn	**Sn**	**00 34 04.1**	**-4.0**
	9.7nm,0.6s						
LPL	**La Plagne**	**5.32**	**299**	*e*Pn	**Pn**	**00 33 06.9**	**-0.7**
LPL				*e*Sn	**Sn**	**00 34 04.2**	**-4.4**
	13nm,0.7s						
ORIF	**Oris-en-Rattie**	**5.68**	**291**	*e*Pn	**Pn**	**00 33 14.3**	**+1.5**
GEC2	**GERESS Array S**	**5.71**	**2**	*e*Pn	**Pn**	**00 33 11.6**	**-1.6**
GEC2				*e*Sn	**Sn**	**00 34 13.1**	**-5.5**
GERES	**GERESS Array B**	**5.71**	**2**	Pn	**Pn**	**00 33 11.6**	**-1.6**
	0.7nm,0.3s,baz=178,slow=12,SNR=26						
GERES				Sn	**Sn**	**00 34 15.8**	**-2.7**
	2.1nm,0.3s,baz=169,slow=24,SNR=9.1						
SMRF	**Simiane la Rot**	**5.72**	**281**	*e*Pn	**Pn**	**00 33 14.8**	**+1.5**
KHC	**Kasperske Hory**	**6.00**	**1**	*e*Pn	**Pn**	**00 33 14.7**	**-2.5**
KHC				*e*		00 33 19.5	
KHC				*e*Sn	**Sn**	**00 34 20.4**	**-5.3**
KHC	**Kasperske Hory**	**6.00**	**1**	*e*PN	**Pn**	**00 33 14.7**	**-2.5**
KHC				x	x	00 33 19.5	
KHC				*e*SN	**Sn**	**00 34 20.4**	**-5.3**
KHC	**Kasperske Hory**	**6.00**	**1**	*e*Pn	**Pn**	**00 33 14.7**	**-2.5**
KHC				*e*Sn	**Sn**	**00 34 20.4**	**-5.3**
WET	**Wettzell**	**6.02**	**357**	*e*Pn	**Pn**	**00 33 15.4**	**-2.1**
WET				*e*Sn	**Sn**	**00 34 19.7**	**-6.5**
CABF	**La Chapelle**	**6.23**	**306**	*e*Pn	**Pn**	**00 33 18.6**	**-1.9**
CABF				*e*Sn	**Sn**	**00 34 26.2**	**-5.2**
	1.6nm,0.3s						
HINF	**Hinteralfeld**	**6.54**	**318**	*e*Pn	**Pn**	**00 33 22.0**	**-2.9**
HINF				*e*Sn	**Sn**	**00 34 33.3**	**-6.0**
	9.1nm,0.5s						
VRAC	**Vranov**	**6.57**	**19**	Pn	**Pn**	**00 33 21.7**	**-3.6**
	0.4nm,0.3s,baz=199,slow=10,SNR=4.3						
CDF	**Champ du Feu**	**6.78**	**323**	*e*Pn	**Pn**	**00 33 26.4**	**-1.8**
PRU	**Pruhonice**	**6.90**	**6**	*e*PN	**Pn**	**00 33 27.1**	**-2.9**
PRU				*e*SN	**Sn**	**00 34 41.6**	**-6.6**
HAU	**Haudompre**	**6.92**	**317**	*e*Pn	**Pn**	**00 33 28.0**	**-2.2**
HAU				*e*Sn	**Sn**	**00 34 42.5**	**-6.2**
	6.1nm,0.3s						
LASF	**Ste Croix**	**6.96**	**281**	*e*Pn	**Pn**	**00 33 30.3**	**-0.5**
NKC	**Novy Kostel**	**7.13**	**355**	*e*PN	**Pn**	**00 33 29.0**	**-4.1**
NKC				*e*SN	**Sn**	**00 34 47.1**	**-6.8**
SMF	**Signal de Mont**	**7.62**	**301**	*e*Pn	**Pn**	**00 33 37.2**	**-2.8**
SMF				*e*Sn	**Sn**	**00 34 59.4**	**-6.7**
	2.9nm,0.3s						
AVF	**Avril sur Loir**	**7.98**	**301**	*e*Pn	**Pn**	**00 33 42.1**	**-3.0**
SSF	**Saint Saulge**	**8.00**	**303**	*e*Pn	**Pn**	**00 33 42.9**	**-2.4**
SSF				*e*Sn	**Sn**	**00 35 07.0**	**-8.7**
	1.9nm,0.5s						
MTLF	**Montolieu**	**8.14**	**275**	*e*Pn	**P**	**00 33 47.3**	**0.0**
BGF	**Bois d'Agland**	**8.22**	**298**	*e*Pn	**P**	**00 33 45.1**	**-3.2**
FINES	**FINESS Array B**	**19.85**	**18**	P	**P**	**00 36 12.9**	**-6.4**
	0.1nm,0.3s,baz=203,slow=21,SNR=2.2						
YKA	**Yellowknife Ar**	**66.78**	**337**	P	**P**	**00 42 36.7**	**-1.6**
	0.1nm,0.3s,mb3.3,baz=40,slow=6.1,SNR=4.7						
YKA	**Yellowknife Ar**	**66.78**	**337**	P	**P**	**00 42 36.7**	**-1.6**

JMA 09 00:42:58.4±0.4, 26.11N×125.30E, h1km, M3.6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.29**	**180**	P	Pb	00 43 22.8	-0.3
JMJ				S	Sb	00 43 39.6	-0.5
JOGS	**Gusukube**	**1.35**	**176**	P	Pb	00 43 24.3	+0.2
JOGS				S	Sb	00 43 42.3	+0.5
JKE	**Kume jima 2**	**1.35**	**81**	P	Pb	00 43 23.9	-0.3
JTJ	**Tarama**	**1.56**	**200**	P	Pn	00 43 27.4	0.0

CASC 09 00:46:52.7±1.9, 11.72N×87.94W, h4km±9km, MD3.5, 6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.24**	**56**	⇓*i*P	Pb	00 47 17.1	+0.8
LEON				*e*S	Sb	00 47 33.6	+1.1
CRIN	**San Cristobal**	**1.31**	**42**	⇓*e*P	Pb	00 47 16.9	-0.1
CRIN				*e*S	Sb	00 47 35.2	+0.7
TEL3	**Telica 3**	**1.37**	**52**	⇓*e*P	Pb	00 47 17.4	-1.2
TEL3				*e*S	Sb	00 47 36.9	+0.6
TELN	**Telica**	**1.40**	**51**	⇓*e*P	Pb	00 47 17.2	-1.9
CNGN	**Cerro Negro**	**1.44**	**57**	*e*P	Pn	00 47 17.8	-1.9
MOMJ	**Momotombo**	**1.53**	**63**	*e*P	Pn	00 47 19.3	-1.7
APYN	**Apoyeque**	**1.64**	**72**	⇓*i*P	Pn	00 47 21.4	-1.1
TICN	**Ticuantepe**	**1.70**	**79**	*e*P	Pn	00 47 23.5	+0.1
TICN				*e*S	Sn	00 47 46.5	+0.5
MGAN	**Managua**	**1.71**	**75**	*e*S	Sn	00 47 45.8	-0.4
CONN	**Concepcion**	**2.27**	**94**	⇓*e*P	Pn	00 47 31.2	-0.4
SBLS	**San Blas**	**2.67**	**322**	*e*S	Sn	00 48 11.0	+0.4

IDC 09 00:53:49.1±9.1, 13.19N×92.74E, mb3.6/5, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, ML4.1/1, Error ellipse: s-maj=170.7km s-min=48.3km az=168.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.94**	**48**	Pn	Pn	00 55 45.8	-2.9
	0.8nm,0.3s,baz=245,slow=13,SNR=4.4						
CMAR				Sn	Sn	00 57 09.9	-10
	0.3nm,0.3s,baz=244,slow=31,SNR=3.9						
MKAR	**Makanchi Array**	**34.63**	**347**	P	P	01 00 39.9	-2.2
	0.7nm,0.7s,baz=172,slow=8.6,SNR=9.6						
SONM	**Songino Array**	**36.37**	**16**	P	P	01 00 55.2	-1.7
	0.5nm,0.8s,baz=210,slow=5.6,SNR=3.7						
ZAL	**Zalesovo**	**41.13**	**353**	P	P	01 01 34.9	-1.6
	0.9nm,0.5s,baz=320,slow=10,SNR=5.3						
BVAR	**Borovoye Array**	**43.55**	**341**	P	P	01 01 54.4	-1.8
	0.2nm,0.6s,baz=113,slow=11,SNR=2.5						
FINES	**FINESS Array B**	**67.40**	**331**	P	P	01 04 46.2	-2.1
	1.6nm,1.0s,baz=140,slow=11,SNR=4.0						

*NEIC **09** 00:54:03.3, 34.02S×70.21W, h1km, ML3.7(GUC), After GUC.*

GUC 09 00:54:03.3±0.9, 34.02S×70.21W, h1km±2km, MD4.1, ML3.7, 17C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.17**	**1**	⇓*i*P	Pg	00 54 06.9	+0.2
LMEL				*i* S	Sg	00 54 10.5	+1.5
LMEL				AMP		00 54 11.3	
	comp=E,33μm,0.5s						
CACH	**El Canelo**	**0.34**	**253**	⇑*i*P	Pg	00 54 10.7	+0.6
CICH	**Cipreses**	**0.35**	**211**	⇑*i*P	Pg	00 54 10.1	-0.2
CHCH	**Chadas Angostu**	**0.38**	**283**	⇓*i*P	Pg	00 54 11.9	+1.0
SJCH	**San Jose de Ma**	**0.40**	**342**	⇑*i*P	Pg	00 54 11.5	+0.2
SJCH				*i* S	Sg	00 54 18.0	+1.5
SJCH				AMP		00 54 19.4	
	comp=N,8μm,0.3s						
PCH	**Pirque**	**0.47**	**327**	⇓*i*P	Pg	00 54 13.3	+0.6
PCH				*i* S	Sg	00 54 19.5	+0.4
ANTU	**Antumapu**	**0.57**	**322**	⇑*i*P	Pg	00 54 15.3	+0.5
ANTU				*i* S	Sg	00 54 24.3	+1.9
ANTU				AMP		00 54 25.0	
	comp=E,9μm,0.5s						
CLCH	**Cerro Calan**	**0.68**	**336**	⇑*i*P	Pg	00 54 17.0	+0.1
CLCH				*i* S	Sg	00 54 27.8	+1.8
CLCH				AMP		00 54 30.2	
	comp=E,6μm,0.6s						
SAN	**Santiago**	**0.68**	**326**	⇑*i*P	Pg	00 54 17.1	+0.2
SAN				*i* S	Sg	00 54 27.4	+1.4
SAN				AMP		00 54 35.0	
	comp=E,3μm,0.7s						
STL	**Santa Lucia**	**0.69**	**328**	*i* P	Pg	00 54 17.1	+0.1
STL				*i* S	Sg	00 54 27.6	+1.4
STL				AMP		00 54 27.8	
	comp=E,1μm,0.3s						
DSCH	**Colegio Aleman**	**0.69**	**334**	⇓*i*P	Pg	00 54 17.3	+0.2
DSCH				*i* S	Sg	00 54 27.9	+1.6
DSCH				AMP		00 54 30.3	
	comp=E,5μm,0.4s						
FCH	**Farellones**	**0.69**	**354**	⇓*i*P	Pg	00 54 16.7	-0.5
FCH				*i* S	Sg	00 54 28.0	+1.6
FCH				AMP		00 54 29.8	
	comp=E,3μm,0.2s						
TACH	**Talagante**	**0.71**	**301**	⇓*i*P	Pg	00 54 17.6	+0.2
RCDM	**Rinconada Maip**	**0.73**	**316**	⇑*i*P	Pg	00 54 17.9	+0.1
RCDM				*i* S	Sg	00 54 29.3	+1.8
RCDM				AMP		00 54 30.2	
	comp=E,3μm,0.2s						
SFDO	**San Fernando**	**0.89**	**228**	⇑*i*P	Pg	00 54 20.2	-0.9
PEL	**Peldehue**	**0.96**	**335**	⇑*i*P	Pb	00 54 22.1	-0.3
PEL				*i* S	Sg	00 54 36.0	+0.6
LNV	**Longovilo**	**1.00**	**273**	⇑*i*P	Pb	00 54 22.3	-0.9
ROCH	**El Roble**	**1.24**	**327**	⇑*i*P	Pb	00 54 26.9	-0.4
ROCH				*i* S	Sb	00 54 44.7	+1.1
LCCH	**Las Cruces**	**1.26**	**295**	⇓*i*P	Pb	00 54 26.8	-0.7
LCCH				*i* S	Sb	00 54 44.8	+0.7
NICH	**Los Niches**	**1.29**	**220**	⇓*i*P	Pb	00 54 27.1	-1.1
NICH				*i* S	Sb	00 54 44.9	-0.2
JACH	**Jahuel**	**1.37**	**346**	⇑*i*P	Pb	00 54 28.7	-0.8
JACH				*i* S	Sb	00 54 47.9	+0.4
IHA	**Instituto Hidr**	**1.56**	**309**	⇑*i*P	Pn	00 54 31.6	-0.6
MDZ	**Mendoza**	**1.60**	**45**	⇑*i*P	Pn	00 54 32.6	-0.3
PACH	**Papudo**	**1.80**	**325**	*e*P	Pn	00 54 35.7	-0.1
PACH				*i* S	Sn	00 55 00.3	+0.7
TALC	**Talca**	**1.81**	**220**	⇑*i*P	Pn	00 54 35.8	-0.1
TALC				*i* S	Sn	00 55 00.0	+0.2
TALC				AMP		00 55 01.0	
	comp=N,6μm,0.3s						
LNCH	**Linares**	**2.15**	**212**	⇑*i*P	Pn	00 54 41.8	+0.9
LNCH				*i* S	Sn	00 55 10.4	+1.9
LNCH				AMP		00 55 15.7	
	comp=E,3μm,0.5s						
CHNG	**Los Chungos**	**2.39**	**333**	⇑*i*P	Pn	00 54 44.9	+0.7
CHNG				*i* S	Sn	00 55 15.9	+1.3
CHNG				AMP		00 55 19.4	
	comp=E,2μm,0.6s						
TRQA	**Tornquist**	**7.79**	**124**	*e*P	Pn	00 55 57.7	-2.8

*IDC **09** 00:55:00.4±0.5, 0.50N×97.94E, mb4.4/20, mb1 4.5/21, mb1mx4.4/23, mbtmp4.4/21, ML4.3/1, MS4.0/9, Ms1 4.0/9, ms1mx3.6/31, Error ellipse: s-maj=24.4km s-min=11.4km az=53.0*
*BJI **09** 00:55:02.8, 0.46N×98.01E, h32km, mB5.2, mb4.8, Ms4.7, Msz4.4*
*MOS **09** 00:55:03.4±0.9, 0.49N×98.03E, h33km, mb4.8/12, Error ellipse: s-maj=16.2km s-min=7.5km az=104.8*
*NEIC **09** 00:55:04.9±0.3, 0.50N×98.01E, h30km, mb4.8/18, Error ellipse: s-maj=10.4km s-min=6.3km az=63.0*

ISC 09 00:55:04.9±1.3, 0.55N±0.06×98.00E±0.07, h42km±10km, h28km±3.3km; pP-P, n97, σ1°06/97, mb4.6/51, MS4.1/16, 9C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.01**	**37**	P	**P**	**00 56 20.4**	**+0.8**
KULM	**Kulim**	**5.40**	**29**	*e*P	**P**	**00 56 24.8**	**-0.2**
KGM	**Kluang**	**5.51**	**75**	P	**P**	**00 56 29.3**	**+2.8**
SNG	**Songkhla**	**7.08**	**22**	P	**P**	**00 56 49.0**	**+0.4**
	374nm,0.9s						
CM31	**Chiang Mai Arr**	**17.82**	**3**	*e*P	**P**	**00 59 09.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**17.82**	**3**	P	**P**	**00 59 10.2**	**-1.3**
	0.4nm,0.3s,baz=195,slow=12,SNR=26						
CMAR				LR	LR	01 07 06.6	
	comp=Z,510nm,18.2s,baz=170,slow=41						
CHG	**Chiang Mai**	**18.17**	**3**	P	**P**	**00 59 26.4**	**+10**
NANT	**Nan**	**18.33**	**8**	P	**P**	**00 59 15.0**	**-2.9**
KMI	**Kunming**	**24.86**	**10**	P	**P**	**01 00 26.0**	**+0.9**
KMI				AP		01 00 33.0	
KMI				S	**S**	**01 04 48.1**	**+5.7**
KMI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.5						
KMI				AMB	AMB

comp=Z,1.5nm,0.8s,baz=328,slow=2.8,SNR=5.0
ASAR LR LR 01 21 35.8
comp=Z,89nm,19.9s,MS3.6,baz=298,slow=38
BJT Baijiatuau 42.63 21 *eP* **P 01 02 59.7 +0.7**
BJT pmax pmax
comp=Z,41nm,0.9s
BJT Baijiatuau 42.63 21 *eP* **P 01 02 59.7 +0.7**
comp=Z,41nm,0.9s,mb5.2
BJI Beijing 42.65 21 *eP* **P 01 03 00.3 +1.2**
BJI XP sP 01 03 08.4 -7.7
BJI AMB AMB
comp=Z,44nm,0.9s,mb5.2
BJI AMB AMB
comp=Z,240nm,3.5s
BJI LR LR
comp=N,206nm,19.1s,MS4.4
BJI LR LR
comp=E,337nm,14.8s,MS4.4
BJI LR LR
comp=Z,139nm,17.8s,MS3.9
BJI Beijing 42.65 21 *eP* **P 01 03 00.3 +1.2**
comp=Z,44nm,0.9s,mb5.2
BJI sP pP 01 03 08.4 -2.5
BJI S S 01 08 56.4 -23
BJI LR LR
comp=Z,140nm,17.8s,MS3.9
KSH Kashi 43.69 335 *eP* **P 01 03 06.1 -1.5**
KSH *eAP* pP 01 03 16.0 -3.5
KSH *eXP* sP 01 03 19.5 -5.1
KSH *ePP* PP 01 04 49.0 -2.3
KSH *ePCP* PcP 01 04 53.0 -1.7
KSH *ePPP* PPP 01 05 26.0 -2.5
KSH *eSCP* 01 08 41.0
KSH *ePCS* 01 08 45.2
KSH *eS* **S 01 09 32.3 -1.9**
KSH *eXS* 01 09 49.3
KSH *eSS* SS 01 12 40.1 -2.5
KSH *eSCS* ScS 01 13 00.8 0.0
KSH AMB AMB
comp=Z,470nm,3.5s
KSH LR LR
comp=N,480nm,5.4s
KSH LR LR
comp=E,460nm,5.5s
WMQ Urumqi 44.05 349 ⇑P **P 01 03 10.5 0.0**
WMQ AP pP 01 03 20.5 -1.8
WMQ XP sP 01 03 24.2 -3.2
WMQ PCP PcP 01 04 55.5 -0.4
WMQ S **S 01 09 40.3 +1.0**
WMQ XS 01 09 56.7
WMQ AMB AMB
comp=Z,6.0nm,1.2s,mb4.2
WMQ AMB AMB
comp=Z,47nm,5.0s
WMQ LR LR
comp=N,47nm,19.8s,MS3.7
WMQ LR LR
comp=E,80nm,20.8s,MS3.7
WMQ LR LR
comp=Z,60nm,18.0s,MS3.5
SONM Songino Array 47.66 8 P **P 01 03 39.8 +0.8**
comp=Z,8.6nm,0.8s,mb4.8,baz=188,slow=9.1,SNR=71
ULN Ulaanbaatar 47.78 8 *eP* **P 01 03 40.1 +0.2**
ULN pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
ULN Ulaanbaatar 47.78 8 *eP* **P 01 03 40.1 +0.1**
comp=Z,10nm,1.1s,mb4.8
MKAR Makanchi Array 48.06 346 P **P 01 03 42.3 +0.1**
comp=Z,8.1nm,0.8s,mb4.8,baz=156,slow=7.6,SNR=71
CN2 Changchun 49.52 26 *eP* **P 01 03 53.4 -0.1**
CN2 *eXP* sP 01 04 06.0 -4.5
CN2 *eS* **S 01 10 58.7 +1.8**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,300nm,10.0s,MS4.8
CN2 LR LR
comp=E,400nm,10.0s,MS4.8
CN2 LR LR
comp=Z,200nm,14.0s,MS4.3
ZAK Zakamensk 49.85 4⇑ *iP* **P 01 03 55.9 0.0**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
TLY Talaya 51.17 5 *eP* **P 01 04 06.9 +1.0**
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,261nm,19.0s,MS4.3
MJAR Matsushiro Arr 51.63 42 P **P 01 04 08.8 -0.8**
comp=Z,1.5nm,0.7s,mb4.0,baz=230,slow=5.8,SNR=5.5
MJAR LR LR 01 28 07.0
comp=Z,111nm,18.3s,MS3.9,baz=245,slow=38
HIA Hailar 52.00 18 *eP* **P 01 04 11.9 -0.3**
HIA pmax pmax
comp=Z,4.0nm,0.6s
HIA Hailar 52.00 18 *eP* **P 01 04 11.9 -0.2**
comp=Z,3.5nm,0.6s,mb4.5
MDJ Mudanjiang 52.05 28 P **P 01 04 14.2 +1.6**
MDJ AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,82nm,4.2s
MDJ LR LR
comp=N,74nm,19.5s,MS4.0
MDJ LR LR
comp=E,115nm,20.1s,MS4.0
MDJ LR LR
comp=Z,183nm,17.1s,MS4.2
STKA Stephens Creek 52.33 132 P **P 01 04 15.0 +0.1**
comp=Z,7.0nm,0.8s,mb4.7,baz=275,slow=7.8,SNR=12
STKA LR LR 01 28 06.9
comp=Z,179nm,19.5s,MS4.1,baz=334,slow=38
KURK Kurchatov 52.63 345 *eP* **P 01 04 15.6 -1.2**
KURK pmax pmax
comp=Z,13nm,1.0s,mb4.8
KURK Kurchatov 52.63 345 *eP* **P 01 04 15.6 -1.2**
comp=Z,13nm,1.0s,mb4.8
ZAL Zalesovo 54.32 350 P **P 01 04 29.8 +0.5**
comp=Z,8.3nm,0.7s,mb4.8,baz=304,slow=6.8,SNR=38
BVAR Borovoye Array 57.12 341 P **P 01 04 48.6 -1.0**
comp=Z,7.7nm,0.7s,mb4.9,baz=141,slow=8.6,SNR=59
CHKZ Chkalovo 57.60 341 *eP* **P 01 04 51.9 -1.0**
CHKZ pmax pmax
comp=Z,68nm,0.9s,mb5.7
CHKZ Chkalovo 57.60 341 *eP* **P 01 04 51.9 -0.9**
comp=Z,68nm,0.9s,mb5.7
BOD Bodaibo 58.50 10 *eP* **P 01 04 58.6 -0.5**
BOD pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
KMBO Kilima Mbogo 60.77 268 P **P 01 05 18.4 +3.0**
comp=Z,0.7nm,0.5s,mb4.1,baz=69,slow=22,SNR=3.1
GNI Garni 62.32 316 *eP* **P 01 05 25.2 -0.2**
GNI pmax pmax
comp=Z,5.0nm,0.8s
GNI Garni 62.32 316 P **P 01 05 24.8 -0.6**
comp=Z,0.7nm,0.3s,mb4.2,baz=339,slow=14,SNR=2.9
GNI Garni 62.32 316 *eP* **P 01 05 25.2 -0.2**
comp=Z,4.7nm,0.8s,mb4.7
TI2 Plekhanov 62.99 318 *i*P **P 01 05 30.0 +0.1**
SVE Sverdlovsk 63.59 338 *eP* **P 01 05 34.0 +0.5**
ARU Arti 64.09 337 *eP* **P 01 05 35.4 -1.4**
KIV Kislovodsk 65.32 319 *eP* **P 01 05 44.6 -0.4**
KIV pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
KIV Kislovodsk 65.32 319 *eP* **P 01 05 44.0 -1.0**
comp=Z,9.1nm,0.9s,mb4.8
ASF Jabal al Asfar 65.49 305 P **P 01 05 45.5 -0.8**
comp=Z,2.2nm,0.8s,mb4.2,baz=33,slow=12,SNR=3.3
GOF Gofitskoye 65.57 320 *eP* **P 01 05 45.4 -1.2**
MALT Malatya 66.16 312 ⇑P **P 01 05 42.0 -8.4**
EIL Elat 66.48 302 LR LR 01 35 12.2
comp=Z,107nm,18.9s,MS4.1,baz=342,slow=36
BRTR Keskin Array B 70.14 312 P **P 01 06 14.7 -0.5**
comp=Z,1.8nm,0.7s,mb4.1,baz=125,slow=6.4,SNR=13
OBN Obninsk 73.59 328 *eP* **P 01 06 35.7 +0.3**
OBN pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BOSA Boshof 75.16 240 P **P 01 06 45.6 +0.5**
comp=Z,1.7nm,0.7s,mb4.1,baz=123,slow=20,SNR=2.3
AKASG Malin Array Be 76.26 322 P **P 01 06 50.2 -0.7**
comp=Z,2.1nm,0.7s,mb4.2,baz=88,slow=4.6,SNR=8.9
VRI Vrincioaia 76.64 317 ⇓P **P 01 06 53.9 +0.8**
MLR Muntele Rosu 77.09 317 ⇑P **P 01 06 54.9 -0.8**
BURAR Bucovina Array 78.04 319 ⇑P **P 01 07 01.9 +1.0**
BURAR Bucovina Array 78.04 319 ⇑P **P 01 07 01.9 +1.1**
RPZ Rata Peaks 78.18 135 P **P 01 07 03.3 +1.6**
comp=Z,6.3nm,0.8s,mb4.6,baz=42,slow=22,SNR=2.6
BZS Buzias 80.10 316 ⇑P sP 01 07 30.5 +1.1
FINES FINESS Array B 80.94 332 P **P 01 07 17.0 +0.8**
comp=Z,3.4nm,0.8s,mb4.3,baz=73,slow=5.8,SNR=11
FINES LR LR 01 45 16.7
comp=Z,86nm,18.3s,MS4.1,baz=122,slow=37
KAF Kangasniemi 81.02 333 *ep* **P 01 07 15.6 -1.0**
comp=Z,5.3nm,0.8s,mb4.5
KAF Kangasniemi 81.02 333 *eP* **P 01 07 15.6 -1.0**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BILL Bilibino 81.48 21 *eP* **P 01 07 16.8 -2.1**
BILL pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
ARCES ARCESS Array B 83.42 340 P **P 01 07 30.0 +1.2**
comp=Z,4.5nm,0.9s,mb4.5,baz=90,slow=7.3,SNR=8.6
ARCES ARCESS Array B 83.42 340 P **P 01 07 30.0 +1.2**
VNDA Vanda 85.03 169 P **P 01 07 40.0 +3.2**
comp=Z,2.4nm,0.6s,mb4.5,baz=335,slow=5.2,SNR=5.7
GERES GERESS Array B 85.83 319 P **P 01 07 41.8 +0.5**
comp=Z,1.3nm,0.9s,mb4.2,baz=104,slow=5.5,SNR=8.7
NOA NORSAR Array B 87.96 331 P **P 01 07 51.9 +0.6**
comp=Z,2.1nm,0.9s,mb4.3,baz=94,slow=5.7,SNR=3.5
NOA LR LR 01 49 38.5
comp=Z,55nm,18.4s,MS4.0,baz=130,slow=37
DAVOX Davos 88.31 317 LR LR 01 51 33.5
comp=Z,74nm,20.6s,MS4.1,baz=266,slow=38
BDFB Brasilia 143.27 244 PKP PKPdf 01 14 35.5 0.0
comp=Z,1.1nm,0.3s,baz=168,slow=9.3,SNR=2.3
TXAR Lajitas Array 143.78 33 PKP PKPdf 01 14 36.8 +0.6
comp=Z,1.3nm,0.7s,baz=294,slow=1.7,SNR=16
JCT Junction City 144.80 27 *e*PKP PKPdf 01 14 39.3 +1.4

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*NEIC **09** 01:04:25.9±0.8, 5.48N×94.46E, h30km, mb4.3/2, Error ellipse: s-maj=23.0km s-min=9.5km az=46.0*
*IDC **09** 01:04:30.1±1.5, 5.60N×94.62E, h62km±7km, mb3.3/6, mb1 3.5/6, mb1mx3.3/21, mbtmp3.6/6, Error ellipse: s-maj=65.8km s-min=16.5km az=55.0*
ISC 09 01:04:25.6±6.7,**5.5N**±0.2×**94.5E**±0.4,**h41**km±53km,**n11,**
σ0§**38**/11,**mb3.8**/8,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.08**	**92**	P	**P**	**01 05 55.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**13.55**	**18**	P	**P**	**01 07 44.0**	**+6.4**
	0.8nm,0.3s,baz=212,slow=12,SNR=4.7						
MKAR	**Makanchi Array**	**42.45**	**348**	P	**P**	**01 12 18.8**	**+0.6**
	1.2nm,0.6s,mb3.7,baz=167,slow=7.8,SNR=18						
MKAR				pP	pP	01 12 33.9	+4.1
	0.2nm,0.6s,baz=174,slow=12,SNR=2.0						
MKAR				sP	sP	01 12 41.1	+6.3
	0.1nm,0.3s,baz=153,slow=5.4,SNR=1.6						
SONM	**Songino Array**	**43.36**	**12**	P	**P**	**01 12 25.7**	**+0.1**
	0.3nm,0.4s,mb3.4,baz=198,slow=8.8,SNR=3.8						
ULN	**Ulaanbaatar**	**43.52**	**12**	*eP*	**P**	**01 12 26.9**	**0.0**
WRA	**Warramunga Arr**	**46.60**	**124**	P	**P**	**01 12 51.8**	**-0.1**
	0.7nm,0.5s,mb3.9,baz=305,slow=9.0,SNR=17						
WRA				pP	pP	01 13 08.9	+5.3
	0.6nm,0.7s,baz=304,slow=9.0,SNR=3.8						
WRAB	**Tennant Creek**	**46.61**	**124**	*eP*	**P**	**01 12 51.6**	**-0.3**
	3.8nm,1.0s,mb4.3						
ASAR	**Alice Springs**	**48.13**	**129**	P	**P**	**01 13 04.2**	**+0.3**
	0.2nm,0.4s,mb3.5,baz=298,slow=7.7,SNR=4.2						
BVAR	**Borovoye Array**	**51.32**	**342**	P	**P**	**01 13 27.6**	**-0.3**
	0.5nm,0.5s,mb3.7,baz=147,slow=11,SNR=6.4						
CHKZ	**Chkalovo**	**51.81**	**342**	*eP*	**P**	**01 13 30.7**	**-0.8**
	1.5nm,0.4s,mb4.3						
GERES	**GERESS Array B**	**79.83**	**319**	P	**P**	**01 16 31.9**	**+0.4**
	0.3nm,0.6s,mb3.4,baz=100,slow=6.0,SNR=3.9						

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*KNET **09** 01:04:41.6±0.6, 41.85N×72.65E, h10km±2km, ml2.0, Error ellipse: s-maj=4.2km s-min=2.9km az=156.0*
*NNC **09** 01:04:42.3±1.9, 41.93N×72.54E, mpv2.6, Error ellipse: s-maj=31.6km s-min=6.2km az=7.0*
ISC 09 01:04:40.8±1.6,**41.7N**±0.1×**72.53E**±0.06,**h10**km,**n9,**
σ1§**08**/17,**10C-7D,Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.98**	**62**	⇑P	**Pb**	**01 04 57.9**	**-1.6**
	5.9nm,0.1s,SNR=27						
AML				⇓S	**Sb**	**01 05 10.6**	**-1.7**
	45nm,0.3s						
EKS2	**Erkin-Say**	**1.36**	**43**	⇓P	**Pb**	**01 05 04.1**	**-1.7**
	1.1nm,0.1s,SNR=11						
UCH	**Uchtor**	**1.58**	**69**	⇑P	**Pn**	**01 05 09.1**	**+0.1**
	2.0nm,0.1s,SNR=14						
UCH				⇓S	**Sb**	**01 05 29.2**	**-0.4**
	11nm,0.2s						
AAK	**Ala-Archa**	**1.75**	**56**	⇑P	**Pn**	**01 05 11.8**	**+0.4**
	1.3nm,0.1s						
AAK				⇑S	**Sn**	**01 05 33.9**	**0.0**
	3.5nm,0.2s						
AAK	**Ala-Archa**	**1.75**	**56**	⇑P	**Pn**	**01 05 11.8**	**+0.4**
	3.1nm,0.9s						
AAK				⇑S	**Sn**	**01 05 33.9**	**0.0**
	8.1nm,0.9s						
KK31	**Karatay Array**	**2.06**	**314**	⇑P	**Pn**	**01 05 15.7**	**-0.2**
	2.0nm,0.2s,baz=126,slow=16						
KK31				⇑S	**Sn**	**01 05 41.9**	**0.0**
	3.9nm,0.3s,baz=123,slow=26						
KZA	**Kyzart**	**2.07**	**78**	⇓P	**Pn**	**01 05 17.9**	**+1.8**
	2.9nm,0.2s,SNR=7.2						
KZA				⇑S	**Sn**	**01 05 46.0**	**+3.9**
	14nm,0.3s						
CHMS	**Chumysh**	**2.12**	**51**	⇓P	**Pn**	**01 05 16.6**	**-0.1**
	4.7nm,0.2s						
CHMS				⇑S	**Sn**	**01 05 44.7**	**+1.5**
	3.2nm,0.1s						
USP	**Ospenovka**	**2.16**	**42**	⇓P	**Pn**	**01 05 17.5**	**+0.1**
	1.8nm,0.2s,SNR=7.3						
USP				⇓S	**Sn**	**01 05 45.8**	**+1.4**
	7.1nm,0.2s						

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*IDC **09** 01:10:13.1±0.8, 13.13N×92.44E, mb3.9/14, mb1 4.1/14, mb1mx4.0/23, mbtmp3.9/14, Error ellipse: s-maj=40.9km s-min=15.5km az=51.0*
*NEIC **09** 01:10:17.9±0.4, 13.16N×92.46E, h30km, mb4.1/2, Error ellipse: s-maj=22.3km s-min=7.8km az=53.0*
ISC 09 01:10:15.8±0.7,**13.1N**±0.2×**92.4E**±0.2,**h30**km,**n18,**
σ0§**45**/18,**mb3.9**/15,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**34.63**	**348**	P	**P**	**01 17 04.2**	**-0.3**
	0.6nm,0.4s,mb3.9,baz=168,slow=8.6,SNR=12						
SONM	**Songino Array**	**36.51**	**16**	P	**P**	**01 17 20.3**	**0.0**
	0.7nm,0.7s,mb3.6,baz=189,slow=6.7,SNR=7.1						
ZAL	**Zalesovo**	**41.16**	**353**	P	**P**	**01 17 59.3**	**+0.3**
	1.3nm,0.4s,mb3.9,baz=328,slow=3.0,SNR=5.0						
CHKZ	**Chkalovo**	**43.99**	**341**	*eP*	**P**	**01 18 21.7**	**-0.4**
	1.3nm,0.5s,mb3.9						
FITZ	**Fitzroy Crossi**	**45.12**	**133**	*eP*	**P**	**01 18 31.6**	**-0.1**
	5.3nm,2.0s,mb4.0						
FITZ	**Fitzroy Crossi**	**45.12**	**133**	P	**P**	**01 18 31.7**	**0.0**
	2.1nm,0.4s,mb4.3,baz=176,slow=2.4,SNR=8.3						
WRA	**Warramunga Arr**	**52.73**	**128**	P	**P**	**01 19 29.8**	**-0.6**
	0.3nm,0.4s,mb3.6,baz=307,slow=9.8,SNR=11						
WB2	**Warramunga Arr**	**52.74**	**128**	*eP*	**P**	**01 19 31.1**	**+0.6**
ASAR	**Alice Springs**	**54.60**	**132**	P	**P**	**01 19 44.0**	**-0.2**
	0.3nm,0.4s,mb3.7,baz=312,slow=6.7,SNR=6.3						
BRTR	**Keskin Array B**	**57.80**	**309**	P	**P**	**01 20 06.2**	**-0.7**
	1.0nm,0.8s,mb3.9,baz=129,slow=7.9,SNR=6.4						
MLR	**Muntele Rosu**	**64.29**	**314**	P	**P**	**01 20 51.8**	**+1.0**
	2.3nm,0.9s,mb4.2,baz=32,slow=12,SNR=5.1						
FINES	**FINESS Array B**	**67.32**	**332**	P	**P**	**01 21 09.3**	**-0.5**
	0.8nm,0.6s,mb3.9,baz=90,slow=7.6,SNR=7.1						
FINES	**FINESS Array B**	**67.32**	**332**	P	**P**	**01 21 09.3**	**-0.5**
ARCES	**ARCESS Array B**	**69.79**	**340**	P	**P**	**01 21 25.2**	**+0.2**
	4.7nm,0.9s,mb4.4,baz=53,slow=6.1,SNR=4.9						
GERES	**GERESS Array B**	**72.83**	**317**	P	**P**	**01 21 44.0**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=79,slow=6.8,SNR=6.6						
HFS	**Hagfors**	**73.11**	**329**	P	**P**	**01 21 45.0**	**0.0**
	0.9nm,0.4s,mb4.1,baz=124,slow=5.3,SNR=8.1						
NOA	**NORSAR Array B**	**74.37**	**330**	P	**P**	**01 21 52.2**	**-0.1**
	1.6nm,0.9s,mb4.0,baz=96,slow=5.6,SNR=3.2						
ILAR	**Eielson Array**	**90.52**	**22**	P	**P**	**01 23 16.2**	**+0.4**
	0.3nm,0.6s,mb3.8,baz=296,slow=5.1,SNR=5.1						

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*IDC **09** 01:14:44.0±0.7, 0.49S×96.77E, mb4.0/13, mb1 4.2/14, mb1mx4.0/23, mbtmp4.0/14, ML2.9/1, Error ellipse: s-maj=27.9km s-min=15.9km az=48.0*
*NEIC **09** 01:14:48.5±0.5, 0.40S×96.89E, h30km, mb4.2/3, Error ellipse: s-maj=15.3km s-min=10.9km az=54.0*
ISC 09 01:14:47.0±0.6,**0.38S**±0.09×**96.9E**±0.1,**h33**km,**n23,**
σ0§**93**/20,**mb4.0**/16,**Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.77**	**34**	*eP*	**P**	**01 16 24.0**	**-2.6**
CMAR	**Chiang Mai Arr**	**18.82**	**6**	P	**P**	**01 19 07.8**	**+1.1**
	0.0nm,0.3s,baz=194,slow=11,SNR=10						
WRA	**Warramunga Arr**	**41.49**	**120**	P	**P**	**01 22 32.8**	**-0.1**
	1.7nm,0.7s,mb3.8,baz=300,slow=8.7,SNR=14						
WRAB	**Tennant Creek**	**41.50**	**120**	*eP*	**P**	**01 22 32.4**	**-0.5**
	4.4nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**42.72**	**126**	P	**P**	**01 22 43.2**	**+0.1**
	2.1nm,0.8s,mb3.9,baz=300,slow=8.0,SNR=18						
MKAR	**Makanchi Array**	**48.69**	**347**	P	**P**	**01 23 31.3**	**+1.2**
	3.9nm,0.5s,mb4.7,baz=158,slow=8.5,SNR=48						
SONM	**Songino Array**	**48.73**	**9**	P	**P**	**01 23 31.6**	**+1.2**
	0.6nm,0.9s,mb3.6,baz=198,slow=7.8,SNR=4.3						
ULN	**Ulaanbaatar**	**48.86**	**9**	P	**P**	**01 23 32.3**	**+0.9**
STKA	**Stephens Creek**	**52.55**	**131**	P	**P**	**01 24 00.6**	**+0.9**
	2.0nm,0.9s,mb4.0,baz=354,slow=5.4,SNR=2.8						
KURK	**Kurchatov**	**53.23**	**346**	*eP*	**P**	**01 24 04.5**	**+0.1**
	1.3nm,0.8s,mb3.9						
ZAL	**Zalesovo**	**55.05**	**351**	P	**P**	**01 24 18.6**	**+0.8**
	1.3nm,0.5s,mb4.2,baz=307,slow=8.1,SNR=6.4						
BVAR	**Borovoye Array**	**57.63**	**341**	P	**P**	**01 24 35.6**	**-0.7**
	1.1nm,0.7s,mb4.0,baz=158,slow=8.0,SNR=8.1						
CHKZ	**Chkalovo**	**58.11**	**342**	*eP*	**P**	**01 24 37.9**	**-1.7**
	1.8nm,0.7s,mb4.2						
ASF	**Jabal al Asfar**	**65.12**	**306**	P	**P**	**01 25 27.5**	**+0.4**
	0.8nm,0.5s,mb4.0,baz=249,slow=24,SNR=3.6						
MALT	**Malatya**	**65.95**	**313**	P	**P**	**01 25 30.9**	**-1.4**
EIL	**Elat**	**66.03**	**303**	P	**P**	**01 25 33.5**	**+0.5**
	1.7nm,0.5s,mb4.4,baz=20,slow=0.3,SNR=4.6						
MATP	**Matopo**	**69.65**	**248**	P	**P**	**01 25 56.1**	**+0.4**
	2.2nm,0.7s,mb4.2,baz=151,slow=4.3,SNR=7.2						
BRTR	**Keskin Array B**	**69.94**	**313**	P	**P**	**01 25 56.5**	**-0.6**
	0.7nm,0.8s,mb3.7,baz=135,slow=8.7,SNR=5.4						
AKASG	**Malin Array Be**	**76.31**	**323**	P	**P**	**01 26 33.8**	**-0.6**
	0.1nm,0.3s,mb3.3,baz=92,slow=5.0,SNR=4.1						
GERES	**GERESS Array B**	**85.78**	**319**	P	**P**	**01 27 24.1**	**-0.3**
	0.4nm,0.5s,mb3.9,baz=117,slow=3.0,SNR=5.1						
MIAR	**Mount Ida**	**144.63**	**15**	*e*PKP	PKPdf	01 34 20.7	-0.1
TXAR	**Lajitas Array**	**145.16**	**32**	PKPbc	PKPbc	01 34 24.6	+2.3
	3.1nm,0.8s,baz=273,slow=1.6,SNR=39						
JCT	**Junction City**	**146.12**	**26**	*e*PKP	PKPdf	01 34 26.6	+3.1

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*IDC **09** 01:16:44.2±1.1, 5.85N×94.79E, mb4.0/7, mb1 4.3/8, mb1mx4.0/22, mbtmp4.1/8, ML4.7/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/37, Error ellipse: s-maj=48.0km s-min=18.8km az=51.0*
*NEIC **09** 01:16:48.5±0.8, 6.03N×95.01E, h30km, mb4.1/3, Error ellipse: s-maj=23.7km s-min=11.9km az=52.0*
ISC 09 01:16:46.6±0.8,**6.0N**±0.1×**95.0E**±0.1,**h30**km,**n18,**
σ1§**17**/14,**mb4.0**/10,**MS3.8**/5,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.70**	**97**	*eP*	**Pn**	**01 18 09.3**	**-2.2**
SNG	**Songkhla**	**5.72**	**78**	P	**Pn**	**01 18 13.0**	**+1.2**
	112nm,0.8s						
CMAR	**Chiang Mai Arr**	**12.94**	**17**	Pn	**P**	**01 19 52.0**	**+0.7**
	1.1nm,0.3s,baz=206,slow=14,SNR=8.3						
CMAR				LR	LR	01 25 00.4	
	comp=Z,91nm,21.8s,baz=185,slow=38						
FITZ	**Fitzroy Crossi**	**38.61**	**129**	P	**P**	**01 24 09.5**	**+0.2**
	7.2nm,1.0s,mb4.4,baz=166,slow=8.9,SNR=4.2						
FITZ				LR	LR	01 42 43.0	
	comp=Z,154nm,18.9s,MS3.8,baz=284,slow=40						
SONM	**Songino Array**	**42.77**	**11**	P	**P**	**01 24 45.6**	**+2.4**
	1.7nm,0.9s,mb3.8,baz=190,slow=7.5,SNR=6.3						
ULN	**Ulaanbaatar**	**42.94**	**12**	*eP*	**P**	**01 24 42.9**	**-1.6**
NWAO	**Narrogin (SRO)**	**44.15**	**153**	LR	LR	01 44 17.3	
	comp=Z,106nm,19.1s,MS3.8,baz=340,slow=38						
WRA	**Warramunga Arr**	**46.53**	**125**	P	**P**	**01 25 14.1**	**+0.4**
	1.7nm,0.7s,mb4.1,baz=303,slow=9.1,SNR=17						
WRAB	**Tennant Creek**	**46.54**	**125**	*eP*	**P**	**01 25 13.6**	**-0.2**
	2.9nm,0.7s,mb4.3						
KURK	**Kurchatov**	**46.58**	**346**	P	**P**	**01 25 12.3**	**-1.4**
	0.7nm,0.6s,mb3.8						
ASAR	**Alice Springs**	**48.11**	**129**	P	**P**	**01 25 26.4**	**+0.3**
	1.8nm,0.8s,mb4.2,baz=304,slow=7.4,SNR=10						
CHKZ	**Chkalovo**	**51.46**	**342**	P	**P**	**01 25 49.8**	**-1.5**
	1.5nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**58.25**	**133**	LR	LR	01 54 53.4	
	comp=Z,108nm,18.7s,MS4.0,baz=25,slow=39						
ASF	**Jabal al Asfar**	**59.91**	**304**	LR	LR	01 50 47.9	
	comp=Z,39nm,21.7s,MS3.5,baz=130,slow=34						
BRTR	**Keskin Array B**	**64.25**	**311**	P	**P**	**01 27 21.4**	**0.0**
	0.9nm,0.9s,mb3.8,baz=112,slow=6.7,SNR=4.3						
FINES	**FINESS Array B**	**74.71**	**332**	P	**P**	**01 28 25.7**	**+0.5**
	1.8nm,0.9s,mb4.0,baz=135,slow=11,SNR=4.4						
ARCES	**ARCESS Array B**	**77.26**	**340**	LR	LR	02 09 42.2	
	comp=Z,61nm,18.4s,MS4.0,baz=204,slow=41						
GERES	**GERESS Array B**	**79.74**	**318**	P	**P**	**01 28 54.5**	**+1.2**
	0.7nm,0.8s,mb3.6,baz=90,slow=6.7,SNR=4.1						

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*IDC **09** 01:25:57.7±1.6, 0.95N×97.42E, mb4.0/7, mb1 4.2/8, mb1mx3.9/21, mbtmp4.1/8, MS3.5/1, Ms1 3.7/1, ms1mx2.6/31, Error ellipse: s-maj=66.7km s-min=19.1km az=56.0*
*NEIC **09** 01:26:02.1±0.7, 0.97N×97.42E, h30km, mb4.3/4, Error ellipse: s-maj=18.0km s-min=10.4km az=59.0*
ISC 09 01:26:00.2±0.8,**1.0N**±0.1×**97.4E**±0.1,**h30**km,**n14,**
σ0§**80**/14,**mb4.1**/11,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**37**	*eP*	**Pn**	**01 27 20.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**17.43**	**5**	P	**P**	**01 30 01.5**	**-1.5**
	baz=185,slow=11,SNR=14						
CMAR				LR	LR	01 37 52.1	
	comp=Z,152nm,18.7s,baz=190,slow=41						
WRA	**Warramunga Arr**	**41.76**	**122**	P	**P**	**01 33 48.6**	**-0.2**
	1.2nm,0.7s,mb3.6,baz=300,slow=9.0,SNR=14						
WRAB	**Tennant Creek**	**41.76**	**122**	*eP*	**P**	**01 33 48.7**	**-0.2**
	3.4nm,0.8s,mb4.0						
BJI	**Beijing**	**42.46**	**21**	*eP*	**P**	**01 33 55.9**	**+1.5**
	13nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**43.11**	**127**	P	**P**	**01 33 59.5**	**-0.3**
	0.4nm,0.7s,mb3.3,baz=297,slow=7.4,SNR=6.0						
SONM	**Songino Array**	**47.31**	**8**	P	**P**	**01 34 33.8**	**+0.7**
	1.2nm,0.5s,mb4.0,baz=189,slow=10,SNR=10.0						
MKAR	**Makanchi Array**	**47.49**	**346**	P	**P**	**01 34 35.0**	**+0.5**
	3.5nm,0.5s,mb4.5,baz=158,slow=7.8,SNR=39						
KURK	**Kurchatov**	**52.05**	**345**	*eP*	**P**	**01 35 08.9**	**-0.5**
	1.8nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**53.79**	**351**	P	**P**	**01 35 22.5**	**+0.3**
	3.3nm,0.5s,mb4.6,baz=290,slow=4.0,SNR=12						
BVAR	**Borovoye Array**	**56.51**	**341**	P	**P**	**01 35 41.3**	**-0.8**
	1.8nm,0.7s,mb4.2,baz

KURK Kurchatov 51.77 345 P **P 01 36 58.0 -0.2**
1.3nm,0.7s,mb4.0
ZAL Zalesovo 53.52 351 P **P 01 37 11.0 -0.2**
0.8nm,0.3s,mb4.1,baz=304,slow=6.8,SNR=3.8
ZAL Zalesovo 53.52 351 P **P 01 37 11.0 -0.2**
BVAR Borovoye Array 56.23 341 P **P 01 37 30.3 -0.7**
0.9nm,0.7s,mb3.9,baz=141,slow=9.5,SNR=3.9
CHKZ Chkalovo 56.71 341 *eP* **P 01 37 33.3 -1.1**
1.7nm,0.6s,mb4.2

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*NNC **09** 01:29:23.3±4.5, 37.31N×70.64E, mpv4.2, Error ellipse: s-maj=49.4km s-min=28.9km az=8.0*
*IDC **09** 01:29:35.7±11.0, 37.01N×71.14E, h218km±74km, mb3.3/7, mb1 3.3/9, mb1mx3.0/24, mbtmp3.8/9, Error ellipse: s-maj=110.3km s-min=33.3km az=172.0*
ISC 09 01:29:18.5±1.7, 36.51N±0.06×71.4E±0.2, h99km±21km, n22, σ0§62/25, mb3.6/7, 1C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.42**	**137**	*eP*	**P**	**01 30 38.2**	**0.0**
THN				*eS*	**S**	**01 31 39.5**	**-0.4**
AML	**Almayashu**	**5.89**	**17**	P	**P**	**01 30 45.2**	**+0.5**
SNR=46							
UCH	**Uchtor**	**6.20**	**22**	P	**P**	**01 30 49.5**	**+0.5**
SNR=8.2							
KZA	**Kyzart**	**6.31**	**27**	P	**P**	**01 30 51.1**	**+0.5**
SNR=5.9							
EKS2	**Erkin-Say**	**6.41**	**16**	P	**P**	**01 30 52.1**	**+0.1**
SNR=11							
AAK	**Ala-Archa**	**6.57**	**20**	P	**P**	**01 30 54.7**	**+0.6**
SNR=21							
AAK	**Ala-Archa**	**6.57**	**20**	⇓Pn	**P**	**01 30 54.6**	**+0.5**
6.4nm,0.3s							
AAK				⇑Sn	**S**	**01 32 06.9**	**-1.2**
6.5nm,0.7s							
KK31	**Karatay Array**	**6.62**	**354**	⇓Pn	**P**	**01 30 53.2**	**-1.6**
8.3nm,0.3s,baz=177,slow=13							
KK31				⇓Sn	**S**	**01 32 03.5**	**-5.8**
4.4nm,0.3s,baz=188,slow=24							
KBK	**Karagaybulak**	**6.72**	**23**	P	**P**	**01 30 56.9**	**+0.6**
SNR=6.4							
CHMS	**Chumysh**	**6.98**	**21**	P	**P**	**01 30 59.8**	**+0.1**
SNR=9.1							
USP	**Ospenovka**	**7.16**	**19**	P	**P**	**01 31 02.2**	**0.0**
SNR=8.8							
TKM2	**Tokmak 2**	**7.17**	**26**	P	**P**	**01 31 02.8**	**+0.4**
SNR=12							
MKAR	**Makanchi Array**	**13.10**	**35**	P	**P**	**01 32 31.9**	**+10**
baz=329,slow=17,SNR=2.9							
BVAR	**Borovoye Array**	**16.53**	**358**	P	**P**	**01 33 04.8**	**-0.5**
0.2nm,0.3s,baz=162,slow=12,SNR=7.7							
AKASG	**Malin Array Be**	**33.18**	**309**	P	**P**	**01 35 46.9**	**-0.5**
0.1nm,0.3s,mb3.1,baz=82,slow=6.9,SNR=6.7							
FINES	**FINESS Array B**	**37.65**	**326**	P	**P**	**01 36 25.7**	**+0.6**
0.5nm,0.4s,mb3.7,baz=117,slow=8.5,SNR=5.3							
VRAC	**Vranov**	**41.24**	**306**	P	**P**	**01 36 55.0**	**0.0**
1.5nm,0.6s,mb4.0,baz=92,slow=14,SNR=4.0							
ARCES	**ARCESS Array B**	**41.25**	**337**	P	**P**	**01 36 56.0**	**+1.1**
2.6nm,0.8s,mb4.1,baz=126,slow=7.8,SNR=4.5							
HFS	**Hagfors**	**43.25**	**322**	P	**P**	**01 37 11.1**	**0.0**
0.9nm,0.5s,mb3.8,baz=100,slow=9.0,SNR=9.4							
NB2	**NORSAR Subarra**	**44.56**	**323**	P	**P**	**01 37 21.4**	**-0.3**
0.7nm,0.5s,mb3.6,baz=95,slow=7.4							
NOA	**NORSAR Array B**	**44.56**	**323**	P	**P**	**01 37 21.4**	**-0.2**
0.5nm,0.6s,mb3.4,baz=97,slow=8.4,SNR=3.0							
YKA	**Yellowknife Ar**	**81.22**	**3**	P	**P**	**01 41 23.6**	**-0.6**
0.2nm,0.4s,mb3.3,baz=351,slow=5.4,SNR=7.5							

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*BJI **09** 01:35:03.3, 0.40S×96.40E, h30km, mB5.2, mb4.8, Ms4.5, Msz4.2*
*IDC **09** 01:35:06.2±0.5, 0.37N×96.49E, mb4.6/25, mb1 4.7/26, mb1mx4.6/29, mbtmp4.6/26, ML4.4/1, MS3.5/5, Ms1 3.6/5, ms1mx3.2/31, Error ellipse: s-maj=17.6km s-min=11.3km az=42.0*
*NEIC **09** 01:35:10.6±0.3, 0.49N×96.64E, h30km, mb4.8/13, Error ellipse: s-maj=8.6km s-min=6.5km az=222.0*
*MOS **09** 01:35:11.7±1.2, 0.73N×96.20E, h33km, mb4.9/17, Error ellipse: s-maj=15.9km s-min=7.8km az=106.1*
ISC 09 01:35:09.1±0.3, 0.42N±0.05×96.63E±0.06, h31km, h31km±3.9km; pP-P, n113, σ1§22/113, mb4.6/51, MS3.9/8, 5C-7D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.29**	**40**	*eP*	**Pn**	**01 36 38.9**	**-3.4**
CMAR	**Chiang Mai Arr**	**18.07**	**7**	P	**P**	**01 39 20.0**	**+0.2**
0.5nm,0.3s,baz=201,slow=11,SNR=13							
CMAR				LR	LR	01 46 36.4	
comp=Z,154nm,19.8s,baz=195,slow=38							
CHG	**Chiang Mai**	**18.42**	**7**	⇓P	**P**	**01 39 32.9**	**+8.7**
14nm,0.8s							
NANT	**Nan**	**18.70**	**12**	⇑P	**P**	**01 39 26.0**	**-1.5**
100nm,1.0s							
KKM	**Kota Kinabalu**	**20.33**	**74**	P	**P**	**01 39 43.6**	**-2.1**
QIZ	**Qiongzhong**	**22.59**	**34**	P	**P**	**01 40 14.3**	**+5.7**
KMI	**Kunming**	**25.26**	**13**	P	**P**	**01 40 35.8**	**+1.4**
KMI				S	**S**	**01 44 57.2**	**+1.8**
KMI				AMB	AMB		
comp=Z,113nm,4.2s							
KMI				LR	LR		
comp=N,407nm,12.7s,MS4.3							
KMI				LR	LR		
comp=E,305nm,11.0s,MS4.3							
KMI				LR	LR		
comp=Z,459nm,12.5s,MS4.2							
KMI	**Kunming**	**25.26**	**13**	P	**P**	**01 40 35.8**	**+1.4**
comp=Z,0.1nm,4.2s							
KMI				pP	pP	01 40 43.6	+0.3
KMI				S	**S**	**01 44 57.2**	**+1.8**
KMI				LR	LR		
comp=Z,460nm,12.5s,MS4.2							
SHL	**Shillong**	**25.42**	**350**	*eP*	**P**	**01 40 37.0**	**+1.1**
LSA	**Lhasa**	**29.58**	**350**	P	**P**	**01 41 11.3**	**-2.5**
LSA				pmax	pmax		
comp=Z,9.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**29.58**	**350**	P	**P**	**01 41 11.3**	**-2.5**
comp=Z,8.8nm,0.6s,mb4.7							
CD2	**Chengdu**	**31.07**	**12**	P	**P**	**01 41 26.4**	**-0.5**
ENH	**Enshi**	**32.11**	**21**	*eP*	**P**	**01 41 34.9**	**-1.1**
comp=Z,19nm,0.7s,mb5.0							
FITZ	**Fitzroy Crossi**	**33.95**	**124**	*eP*	**P**	**01 41 51.7**	**-0.4**
comp=Z,7.5nm,0.7s,mb4.7							
FITZ	**Fitzroy Crossi**	**33.95**	**124**	P	**P**	**01 41 51.7**	**-0.4**
comp=Z,8.8nm,0.7s,mb4.8,baz=325,slow=3.3,SNR=19							
XAN	**Xi'an**	**35.38**	**18**	P	**P**	**01 42 03.7**	**-0.5**
XAN				AMB	AMB		
comp=Z,5.0nm,0.7s,mb4.5							
LZH	**Lanzhou**	**36.12**	**10**	*eP*	**P**	**01 42 16.5**	**+6.1**
LZH				AP	pP	01 42 21.0	+1.4
LZH				AMB	AMB		
comp=Z,15nm,1.0s,mb4.9							
NJ2	**Nanjing**	**37.82**	**32**	*eP*	**P**	**01 42 30.1**	**+5.3**
NJ2				AMB	AMB		
comp=Z,40nm,0.7s,mb5.3							
NJ2				AMB	AMB		
comp=Z,170nm,5.0s							
NJ2				LR	LR		
comp=N,660nm,25.9s,MS4.5							
NJ2				LR	LR		
comp=E,700nm,24.5s,MS4.5							
NJ2				LR	LR		
comp=Z,200nm,16.8s							
SSE	**Sheshan**	**38.38**	**35**	*eP*	**P**	**01 42 32.2**	**+2.7**
SSE				AP	pP	01 42 45.0	+6.3
SSE				S	**S**	**01 48 32.3**	**+11**
SSE				XS		01 48 46.5	
SSE				AMB	AMB		
comp=Z,26nm,0.6s,mb5.1							
SSE				AMB	AMB		
comp=Z,22nm,3.5s							
SSE				LR	LR		
comp=N,135nm,12.7s,MS4.0							
SSE				LR	LR		
comp=E,66nm,12.7s,MS4.0							
SSE				LR	LR		
comp=Z,203nm,12.3s,MS4.2							
WRA	**Warramunga Arr**	**42.11**	**121**	P	**P**	**01 43 00.6**	**+0.1**
comp=Z,4.4nm,0.6s,mb4.2,baz=300,slow=9.1,SNR=38							
WRAB	**Tennant Creek**	**42.12**	**121**	*i P*	**P**	**01 43 01.0**	**+0.4**
WRAB	**Tennant Creek**	**42.12**	**121**	*eP*	**P**	**01 43 00.1**	**-0.5**
comp=Z,18nm,1.1s,mb4.6							
WB2	**Warramunga Arr**	**42.12**	**121**	*eP*	**P**	**01 43 00.7**	**+0.1**
BJT	**Baijiatuau**	**43.25**	**22**	*eP*	**P**	**01 43 06.7**	**-2.8**
BJT				pmax	pmax		
comp=Z,17nm,0.8s							
BJT	**Baijiatuau**	**43.25**	**22**	*eP*	**P**	**01 43 06.7**	**-2.8**
comp=Z,17nm,0.8s,mb4.8							
KSH	**Kashi**	**43.25**	**337**	*eP*	**P**	**01 43 12.0**	**+2.5**
KSH				*eAP*	pP	01 43 21.0	+2.2
KSH				*eXP*	sP	01 43 25.1	+2.5
KSH				*ePP*	PP	01 44 55.5	+3.4
KSH				*eSCP*		01 48 47.1	
KSH				*ePCS*		01 48 50.0	
KSH				*eS*	**S**	**01 49 38.0**	**+3.8**
KSH				*eXS*		01 49 55.0	
KSH				*eSS*	SS	01 52 46.0	+5.0
KSH				*eSCS*	ScS	01 53 06.0	+1.0
KSH				AMB	AMB		
comp=Z,640nm,5.5s							
KSH				LR	LR		
comp=N,480nm,5.5s							
KSH				LR	LR		
comp=E,410nm,5.7s							
ASPA	**Alice Springs**	**43.39**	**126**	*eP*	**P**	**01 43 11.3**	**+0.5**
ASAR	**Alice Springs**	**43.39**	**126**	P	**P**	**01 43 11.3**	**+0.5**
comp=E,3.1nm,0.7s,mb4.2,baz=300,slow=7.8,SNR=33							
ASAR				PcP	PcP	01 44 59.2	-0.3
comp=E,2.2nm,0.8s,baz=309,slow=3.0,SNR=7.1							
WMQ	**Urumqi**	**43.94**	**351**	⇑P	**P**	**01 43 16.8**	**+1.7**
WMQ				AP	pP	01 43 26.8	+2.5
WMQ				XP	sP	01 43 30.8	+2.7
WMQ				PP	PP	01 45 00.8	+1.8
WMQ				S	**S**	**01 49 44.8**	**+0.6**
WMQ				AMB	AMB		
comp=Z,12nm,0.6s,mb4.8							
WMQ				AMB	AMB		
comp=Z,123nm,4.5s							
WMQ				LR	LR		
comp=N,184nm,16.0s,MS4.2							
WMQ				LR	LR		
comp=E,128nm,17.6s,MS4.2							
WMQ				LR	LR		
comp=Z,254nm,19.6s,MS4.1							
UCH	**Uchtor**	**46.14**	**337**	P	**P**	**01 43 33.9**	**+1.3**
SNR=6.6							
TKM2	**Tokmak 2**	**46.33**	**339**	P	**P**	**01 43 35.2**	**+1.1**
SNR=8.7							
KBK	**Karagaybulak**	**46.34**	**338**	P	**P**	**01 43 36.5**	**+2.3**
SNR=5.3							
AML	**Almayashu**	**46.38**	**336**	P	**P**	**01 43 36.1**	**+1.6**
SNR=5.3							
AAK	**Ala-Archa**	**46.49**	**337**	*i P*	**P**	**01 43 38.0**	**+2.6**
AAK				pmax	pmax		
comp=Z,7.0nm,1.4s,mb4.4							
EKS2	**Erkin-Say**	**46.80**	**337**	P	**P**	**01 43 39.4**	**+1.5**
SNR=5.8							
USP	**Ospenovka**	**47.03**	**338**	P	**P**	**01 43 40.5**	**+0.8**
SNR=12							
MKAR	**Makanchi Array**	**47.86**	**347**	*i P*	**P**	**01 43 46.3**	**+0.1**
MKAR				pmax	pmax		
comp=Z,14nm,0.8s							
MKAR	**Makanchi Array**	**47.86**	**347**	P	**P**	**01 43 46.4**	**+0.2**
comp=Z,7.3nm,0.6s,mb4.9,baz=158,slow=8.0,SNR=45							
SONM	**Songino Array**	**47.98**	**9**	P	**P**	**01 43 48.0**	**+0.9**
comp=Z,2.1nm,0.7s,mb4.3,baz=194,slow=8.4,SNR=14							
SONM				PcP	PcP	01 45 14.9	-0.4
comp=Z,1.8nm,0.7s,baz=189,slow=5.2,SNR=3.9							
SONM				LR	LR	02 04 26.8	
comp=Z,68nm,20.8s,MS3.6,baz=174,slow=37							
SONM	**Songino Array**	**47.98**	**9**	P	**P**	**01 43 48.0**	**+0.9**
SONM				PcP	PcP	01 45 14.9	-0.4
SONM				LR	LR	02 04 26.8	
ULN	**Ulaanbaatar**	**48.12**	**9**	P	**P**	**01 43 45.9**	**-2.2**
KKAR	**Karatay Array**	**48.51**	**335**	*i P*	**P**	**01 43 51.0**	**-0.2**
KKAR				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.8							
ZAK	**Zakamensk**	**50.10**	**6**	*eP*	**P**	**01 44 00.4**	**-3.0**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.7s,mb3.9							
CBIJ	**Chichi jima**	**51.13**	**55**	LR	LR	02 03 41.7	
comp=Z,45nm,18.9s,MS3.5,baz=349,slow=34							
PMG	**Port Moresby**	**51.24**	**102**	P	**P**	**01 44 13.2**	**+0.7**
comp=Z,15nm,0.6s,mb5.1,baz=17,slow=0.5,SNR=9.4							
JHJ	**Hachijo jima 2**	**51.96**	**47**	LR	LR	02 06 33.7	
comp=Z,46nm,21.2s,MS3.5,baz=311,slow=36							
KURK	**Kurchatov**	**52.40**	**346**	*eP*	**P**	**01 44 18.7**	**-2.1**
KURK				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.7							
KURK	**Kurchatov**	**52.40**	**346**	*eP*	**P**	**01 44 18.7**	**-2.1**
comp=Z,8.6nm,0.9s,mb4.7							
MJAR	**Matsushiro Arr**	**52.65**	**42**	P	**P**	**01 44 24.6**	**+1.7**
comp=Z,0.9nm,0.5s,mb4.0,baz=227,slow=6.7,SNR=3.4							
MJAR				LR	LR	02 06 42.6	
comp=Z,51nm,21.0s,MS3.5,baz=85,slow=36							
CTA	**Charters Tower**	**52.67**	**116**	P	**P**	**01 44 24.0**	**+0.8**
comp=Z,6.5nm,1.1s,mb4.5,baz=298,slow=8.3,SNR=2.7							
MDJ	**Mudanjiang**	**52.82**	**29**	P	**P**	**01 44 23.5**	**-0.5**
MDJ				AMB	AMB		
comp=Z,5.0nm,0.7s,mb4.5							
MDJ				AMB	AMB		
comp=Z,168nm,4.8s							
STKA	**Stephens Creek**	**53.26**	**131**	*eP*	**P**	**01 44 27.7**	**+0.2**
comp=Z,5.5nm,0.7s,mb4.6							
STKA	**Stephens Creek**	**53.26**	**131**	P	**P**	**01 44 27.9**	**+0.4**
comp=Z,6.5nm,0.7s,mb4.7,baz=305,slow=8.2,SNR=13							
ZAL	**Zalesovo**	**54.23**	**351**	P	**P**	**01 44 34.6**	**+0.5**
comp=Z,9.7nm,0.6s,mb4.9,baz=304,slow=5.8,SNR=34							
BVA0	**Borovoye Array**	**56.80**	**341**	P	**P**	**01 44 51.2**	**-1.7**
BVA0				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.9							
BVAR	**Borovoye Array**	**56.80**	**341**	P	**P**	**01 44 51.3**	**-1.6**
comp=Z,4.1nm,0.7s,mb4.6,baz=141,slow=8.2,SNR=34							
CHKZ	**Chkalovo**	**57.28**	**342**	*i P*	**P**	**01 44 55.1**	**-1.2**
CHKZ				pmax	pmax		
comp=Z,17nm,1.7s,mb4.8							
CHKZ	**Chkalovo**	**57.28**	**342**	*eP*	**P**	**01 44 54.1**	**-2.2**
comp=Z,38nm,0.8s,mb5.5							
BOD	**Bodaibo**	**58.88**	**11**	*eP*	**P**	**01 45 06.2**	**-1.2**
BOD				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.5							
KMBO	**Kilima Mbogo**	**59.40**	**268**	P	**P**	**01 45 10.9**	**-0.7**
comp=Z,0.2nm,0.3s,mb3.6,baz=46,slow=4.8,SNR=4.6							
YSS	**Yuzh-Sakhalins**	**61.31**	**34**	*eP*	**P**	**01 45 30.0**	**+5.9**
GNI	**Garni**	**61.46**	**317**	*i P*	**P**	**01 45 19.5**	**-5.8**
GNI				pmax	pmax		
comp=Z,13nm,2.2s							
TI2	**Plekhanov**	**62.17**	**318**	*i P*	**P**	**01 45 30.0**	**-0.1**
SVE	**Sverdlovsk**	**63.20**	**339**	*eP*	**P**	**01 45 35.7**	**-0.9**
SVE				pmax	pmax		
comp=Z,19nm,1.3s,mb5.1							
ARU	**Arti**	**63.68**	**338**	⇓*i P*	**P**	**01 45 36.7**	**-3.1**
ARU				*e*		01 47 57.0	
ARU				*eS*	**S**	**01 54 10.2**	**-0.1**
ARU				*eSS*	SS	01 58 19.2	-0.6
ARU				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.7							
ASF	**Jabal al Asfar**	**64.45**	**306**	P	**P**	**01 45 45.4**	**+0.2**
comp=Z,2.4nm,0.7s,mb4.3,baz=320,slow=6.2,SNR=6.2							
KIV	**Kislovodsk**	**64.53**	**320**	*eP*	**P**	**01 45 39.6**	**-5.9**
KIV				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
MALT	**Malatya**	**65.23**	**313**	⇑P	**P**	**01 45 50.5**	**+0.3**
YAK	**Yakutsk**	**66.33**	**16**	*eP*	**P**	**01 45 55.9**	**-0.8**
BRTR	**Keskin Array B**	**69.22**	**313**	P	**P**	**01 46 14.2**	**-1.1**
comp=Z,2.9nm,0.7s,mb4.3,baz=125,slow=6.9,SNR=18							
MATP	**Matopo**	**69.71**	**248**	P	**P**	**01 46 18.7**	**+0.1**
comp=Z,11nm,0.9s,mb4.8,baz=71,slow=6.1,SNR=25							
MATP	**Matopo**	**69.71**	**248**	P	**P**	**01 46 18.7**	**+0.1**
OBN	**Obninsk**	**72.98**	**329**	*eP*	**P**	**01 46 35.3**	**-2.3**
OBN				*eS*	S	01 55 59.5	-1.5
OBN				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.6							
LBTB	**Lobatse**	**73.03**	**244**	P	**P**	**01 46 38.2**	**-0.3**
comp=Z,5.4nm,0.9s,mb4.5,baz=130,slow=5.5,SNR=5.8							
LBTB	**Lobatse**	**73.03**	**244**	P	**P**	**01 46 38.2**	**-0.3**
BOSA	**Boshof**	**73.90**	**240**	P	**P**	**01 46 42.3**	**-1.2**
comp=Z,3.1nm,0.8s,mb4.3,baz=124,slow=18,SNR=5.3							
TIXI	**Tiksi**	**74.05**	**10**	*i P*	**P**	**01 46 43.1**	**-0.4**
TIXI				pmax	pmax		
comp=Z,9.0nm,1.5s,mb4.5							
AKASG	**Malin Array Be**	**75.53**	**323**	P	**P**	**01 46 51.2**	**-1.2**
comp=Z,4.6nm,0.6s,mb4.6,baz=88,slow=4.7,SNR=29							
VRI	**Vrincioaia**	**75.80**	**317**	⇑P	**P**	**01 46 52.9**	**-1.2**
MLR	**Muntele Rosu**	**76.24**	**317**	P	**P**	**01 46 56.8**	**+0.2**
comp=Z,4.1nm,0.8s,mb4.4							
MLR	**Muntele Rosu**	**76.24**	**317**	⇓P	**P**	**01 46 56.8**	**+0.2**
MLR	**Muntele Rosu**	**76.24**	**317**	⇓P	**P**	**01 46 56.8**	**+0.2**
BURAR	**Bucovina Array**	**77.23**	**319**	⇓P	**P**	**01 47 02.6**	**+0.6**
BURAR	**Bucovina Array**	**77.23**	**319**	⇓P	**P**	**01 47 02.6**	**+0.6**
VTS	**Vitosha**	**77.55**	**314**	⇓P	**P**	**01 47 01.4**	**-2.5**
KOLS	**Kolonicke sedl**	**79.44**	**320**	*eP*	**P**	**01 47 15.3**	**+1.2**
KOLS				*e*		01 50 09.6	
FINES	**FINESS Array B**	**80.43**	**333**	P	**P**	**01 47 18.7**	**-0.4**
comp=Z,3.3nm,0.8s,mb4.3,baz=104,slow=5.1,SNR=14							
KAF	**Kangasniemi**	**80.52**	**333**	*ep*	**P**	**01 47 18.4**	**-1.2**
comp=Z,3.1nm,0.6s,mb4.4							
KAF	**Kangasniemi**	**80.52**	**333**	*eP*	**P**	**01 47 18.4**	**-1.2**
KAF				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4							
PKSM	**Moragy**	**81.39**	**317**	⇑P	**P**	**01 47 24.5**	**0.0**
BILL	**Bilibino**	**82.09**	**21**	*eP*	**P**	**01 47 30.1**	**+2.4**
BILL				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.7							
MORC	**Moravsky Berou**	**82.63**	**320**	*eP*	**P**	**01 47 30.5**	**-0.4**
MORC				pmax	pmax		
comp=Z,12nm,1.6s,mb4.7							
MORC	**Moravsky Berou**	**82.63**	**320**	*eP*	**P**	**01 47 30.5**	**-0.4**
comp=Z,12nm,1.6s,mb4.7							
ZST	**Bratislava**	**82.70**	**318**	*eP*	**P**	**01 47 31.6**	**+0.3**
ARCES	**ARCESS Array B**	**83.08**	**340**	P	**P**	**01 47 33.1**	**+0.3**
comp=Z,3.6nm,0.5s,mb4.6,baz=95,slow=5.2,SNR=27							
DPC	**Dobruska-Polom**	**83.49**	**321**	*eP*	**P**	**01 47 36.1**	**+0.8**
PRU	**Pruhonice**	**84.59**	**320**	*eP*	**P**	**01 47 41.5**	**+0.7**
GERES	**GERESS Array B**	**85.02**	**319**	P	**P**	**01 47 43.7**	**+0.7**
comp=Z,2.8nm,0.9s,mb4.4,baz=90,slow=5.3,SNR=17							
KHC	**Kasperske Hory**	**85.13**	**319**	*eP*	**P**	**01 47 43.8**	**+0.3**
HFS	**Hagfors**	**86.11**	**330**	P	**P**	**01 47 48.7**	**+0.5**
comp=Z,4.2nm,0.5s,mb4.9,baz=153,slow=3.3,SNR=26							
NB2	**NORSAR Subarra**	**87.41**	**331**	P	**P**	**01 47 54.3**	**-0.2**
comp=Z,6.1nm,0.9s,mb4.8,baz=96,slow=4.8							
NB2	**NORSAR Subarra**	**87.41**	**331**	P	**P**	**01 47 54.3**	**-0.2**
NB2				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.8							
NOA	**NORSAR Array B**	**87.41**	**331**	P	**P**	**01 47 54.8**	**+0.3**
comp=Z,3.4nm,0.8s,mb4.6,baz=95,slow=4.8,SNR=8.6							
DAVOX	**Davos**	**87.47**	**317**	P	**P**	**01 47 56.1**	**+1.0**
comp=Z,3.3nm,0.5s,mb4.8,baz=104,slow=6.0,SNR=8.4							
LPG	**La Plagne**	**89.62**	**315**	*eP*	**P**	**01 48 05.8**	**+0.4**
comp=Z,9.0nm,0.9s,mb4.8							
LPG	**La Plagne**	**89.62**	**315**	*eP*	**P**	**01 48 05.8**	**+0.4**
LPG				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.8							
VNA2	**Neumayer--Watz**	**94.96**	**199**	*e*	**P**	**01 48 33.1**	**+3.7**
VNA2				*e*		01 48 36.6	
VNA3	**Neumayer Olymp**	**95.60**	**198**	*e*	**P**	**01 48 32.3**	**-0.1**
VNA3	**Neumayer Olymp**	**95.60**	**198**	*e*	**P**	**01 48 32.3**	**-0.1**
YKA	**Yellowknife Ar**	**112.99**	**15**	PP	PP	01 54 33.8	-3.4
comp=Z,0.0nm,0.3s,baz=336,slow=7.5,SNR=3.6							
TXAR	**Lajitas Array**	**144.63**	**32**	PKP	PKPdf	01 54 44.3	-4.3
comp=Z,1.7nm,0.7s,baz=242,slow=1.8,SNR=24							
JCT	**Junction City**	**145.52**	**26**	*e*PKP	PKPdf	01 54 46.2	-3.9
SAML	**Samuel**	**158.19**	**247**	*e*PKPab	PKPab	01 55 39.7	-0.6

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*IDC **09** 01:36:11.2±2.2, 10.63N×91.28E, mb3.9/4, mb1 4.1/5, mb1mx3.8/21, mbtmp3.9/5, ML4.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/30, Error ellipse: s-maj=67.0km s-min=22.8km az=69.0*
*BJI **09** 01:36:15.6, 11.10N×91.09E, h8km, mB5.2, mb4.1*
*NEIC **09** 01:36:15.3±1.0, 10.69N×91.30E, h30km, mb4.2/4, Error ellipse: s-maj=25.9km s-min=13.8km az=68.0*
ISC 09 01:36:13.6±1.1, 10.7N±0.1×91.4E±0.2, h30km, n14, σ0§88/13, mb4.1/10, MS3.2/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.60**	**43**	Pn	**P**	**01 38 45.9**	**-0.9**
0.5nm,0.3s,baz=238,slow=15,SNR=7.4							
GYA	**Guiyang**	**21.28**	**41**	P	**P**	**01 40 59.5**	**-0.5**
GYA				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.2							
GTA	**Gaotai**	**29.54**	**13**	P	**P**	**01 42 18.8**	**+0.9**
GTA				AP	pP	01 42 29.2	+2.5
GTA				XP	sP	01 42 34.1	+3.4
GTA				AMB	AMB		
comp=Z,4.0nm,1.0s,mb4.1							
BJI	**Beijing**	**36.54**	**33**	*eP*	**P**	**01 43 19.6**	**+1.1**
BJI				AMB	AMB		
comp=Z,22nm,0.8s,mb5.0							
BJI	**Beijing**	**36.54**	**33**	*eP*	**P**	**01 43 19.6**	**+1.1**
comp=Z,22nm,0.8s,mb5.0							
MKAR	**Makanchi Array**	**36.78**	**350**	P	**P**	**01 43 21.6**	**+1.1**
comp=Z,1.1nm,0.7s,mb3.8,baz=166,slow=7.7,SNR=11							
SONM	**Songino Array**	**39.09**	**16**	P	**P**	**01 43 40.9**	**+1.0**
comp=Z,2.0nm,0.9s,mb3.8,baz=207,slow=7.9,SNR=13							
SONM	**Songino Array**	**39.09**	**16**	P	**P**	**01 43 40.9**	**+1.0**
KURK	**Kurchatov**	**41.25**	**348**	*eP*	**P**	**01 43 56.2**	**-1.4**
comp=Z,2.0nm,0.9s,mb3.8							
CHKZ	**Chkalovo**	**45.97**	**343**	P	**P**	**01 44 34.6**

comp=Z,58nm,1.3s,mb4.9
CD2 Chengdu 25.60 19 P **P 02 09 32.6 +3.7**
FITZ Fitzroy Crossi 39.69 129 *e*P **P 02 11 32.6 +0.8**
comp=Z,3.9nm,0.4s,mb4.5
FITZ Fitzroy Crossi 39.69 129 P **P 02 11 33.8 +2.0**
comp=Z,8.5nm,1.0s,mb4.4,baz=355,slow=1.0,SNR=6.4
MKAR Makanchi Array 41.14 348 *i* P **P 02 11 42.8 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 41.14 348 P **P 02 11 42.9 -0.6**
comp=Z,2.3nm,0.6s,mb4.0,baz=166,slow=8.0,SNR=36
KKAR Karatay Array 41.74 334 *i* P **P 02 11 48.6 +0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
SONM Songino Array 42.19 12 P **P 02 11 52.0 -0.1**
comp=Z,0.6nm,0.4s,mb3.5,baz=194,slow=9.5,SNR=7.7
KURK Kurchatov 45.66 346 *e*P **P 02 12 19.3 -0.8**
KURK pmax pmax
comp=Z,14nm,1.0s,mb4.8
KURK Kurchatov 45.66 346 *e*P **P 02 12 19.3 -0.8**
comp=Z,14nm,1.0s,mb4.8
WRA Warramunga Arr 47.60 125 P **P 02 12 35.7 -0.1**
comp=Z,3.0nm,0.5s,mb4.6,baz=306,slow=8.4,SNR=50
WRAB Tennant Creek 47.60 125 *e*P **P 02 12 35.1 -0.8**
WRAB pmax pmax
comp=Z,18nm,1.1s,mb5.0
WRAB Tennant Creek 47.60 125 *e*P **P 02 12 35.1 -0.8**
comp=Z,18nm,1.1s,mb5.0
WB2 Warramunga Arr 47.61 125 *e*P **P 02 12 35.7 -0.2**
ZAL Zalesovo 47.61 352 P **P 02 12 34.9 -0.6**
comp=Z,6.8nm,0.3s,mb5.1,baz=310,slow=4.8,SNR=25
ASPA Alice Springs 49.19 129 *e*P **P 02 12 48.2 +0.1**
ASAR Alice Springs 49.19 129 P **P 02 12 48.4 +0.3**
comp=Z,3.5nm,0.4s,mb4.7,baz=302,slow=7.5,SNR=23
BVA0 Borovoye Array 50.02 341 *i* P **P 02 12 53.0 -1.0**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
BVAR Borovoye Array 50.02 341 P **P 02 12 53.3 -0.7**
comp=Z,1.6nm,0.3s,mb4.5,baz=140,slow=10,SNR=26
CHKZ Chkalovo 50.50 342 *e*P **P 02 12 57.1 -0.6**
CHKZ pmax pmax
comp=Z,48nm,0.7s,mb5.5
CHKZ Chkalovo 50.50 342 *e*P **P 02 12 57.1 -0.7**
comp=Z,48nm,0.7s,mb5.5
BOD Bodaibo 53.17 13 *e*P **P 02 13 16.2 -1.6**
SVE Sverdlovsk 56.41 339 *e*P **P 02 13 40.0 -1.4**
SVE *e* 02 13 57.0
ARU Arti 56.89 337 *e*P **P 02 13 42.6 -2.2**
ARU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ARU Arti 56.89 337 *e*P **P 02 13 42.6 -2.3**
comp=Z,10.0nm,0.9s,mb4.8
KMBO Kilima Mbogo 57.37 264 P **P 02 13 50.5 +1.7**
comp=Z,1.7nm,0.9s,mb4.1,baz=70,slow=9.3,SNR=4.9
KMBO Kilima Mbogo 57.37 264 P **P 02 13 50.5 +1.7**
STKA Stephens Creek 59.33 133 P **P 02 14 02.5 +0.3**
comp=Z,2.9nm,0.9s,mb4.3,baz=158,slow=23,SNR=2.8
BRTR Keskin Array B 63.17 311 P **P 02 14 26.6 -1.5**
comp=Z,0.3nm,0.5s,mb3.7,baz=146,slow=8.0,SNR=4.3
FINES FINESS Array B 73.68 332 P **P 02 15 32.3 -0.6**
comp=Z,0.9nm,0.4s,mb4.0,baz=100,slow=5.4,SNR=22
KAF Kangasniemi 73.77 333 *ep* **P 02 15 30.6 -2.8**
comp=Z,2.7nm,0.9s,mb4.2
KAF Kangasniemi 73.77 333 *e*P **P 02 15 30.6 -2.8**
KAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BOSA Boshof 75.07 238 P **P 02 15 44.1 +2.5**
comp=Z,1.6nm,0.7s,mb4.0,baz=108,slow=9.6,SNR=3.2
ARCES ARCESS Array B 76.29 340 P **P 02 15 48.2 +0.5**
comp=Z,4.8nm,1.0s,mb4.4,baz=104,slow=6.8,SNR=33
ARCES ARCESS Array B 76.29 340 P **P 02 15 48.2 +0.5**
GERES GERESS Array B 78.66 318 P **P 02 16 01.5 +0.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=101,slow=4.6,SNR=11
INK Inuvik 98.00 16 P **P 02 17 35.0 +0.5**
comp=Z,0.3nm,0.5s,mb4.1,baz=351,slow=4.4,SNR=5.3

MAN 09 02:05:06.3, 6.82N×126.71E, h15km, mb4.2, ML3.0, MS2.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.46**	**285**	*e*P	Pb	02 05 16.2	+0.5
MATI				*e*S	Sb	02 05 20.2	-1.7
BIPH	**Bislig**	**1.40**	**346**	⇑*e*P	Pn	02 05 31.1	-0.3
BIPH				*i* S	Sb	02 05 46.3	-2.7
KCP	**Kidapawan**	**1.61**	**277**	⇓*e*P	Pn	02 05 33.5	-1.0
KCP				*i* S	Sn	02 05 50.2	-5.0
BUKP	**Musuan**	**1.94**	**303**	*e*P	Pn	02 05 40.3	+1.1
BUKP				*e*S	Sn	02 05 58.5	-4.9

*IDC **09** 02:07:16.6±0.6, 1.37N×97.06E, mb4.4/15, mb1 4.5/16, mb1mx4.4/22, mbtmp4.4/16, ML4.4/1, Error ellipse: s-maj=26.2km s-min=1.9km az=69.0*
*BJI **09** 02:07:18.8, 1.34N×97.45E, h26km, mB5.1, mb4.9, Ms4.7, Msz4.4*
*MOS **09** 02:07:19.1±1.0, 1.33N×97.17E, h33km, mb4.8/18, Error ellipse: s-maj=15.7km s-min=7.3km az=101.3*
*NEIC **09** 02:07:20.9±0.5, 1.34N×97.15E, h30km, mb4.9/17, Error ellipse: s-maj=12.0km s-min=7.9km az=47.0*
ISC 09 02:07:19.0±0.5, 1.37N±0.06×97.17E±0.07, h29km, h29km±1.4km: pP-P, n88, σ1s07/93, mb4.7/48, MS4.3/11, 4C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.22**	**42**	*e*P	**Pn**	**02 08 38.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**17.07**	**6**	P	**P**	**02 11 16.6**	**-0.7**
0.5nm,0.3s,baz=194,slow=13,SNR=16							
KMI	**Kunming**	**24.22**	**12**	P	**P**	**02 12 36.8**	**+2.3**
KMI				AP		02 12 43.8	
KMI				S	**S**	**02 16 58.0**	**+10**
KMI				AMB	AMB		
comp=Z,38nm,1.2s,mb4.7							
KMI				LR	LR		
comp=N,711nm,14.3s,MS4.4							
KMI				LR	LR		
comp=E,418nm,14.2s,MS4.4							
KMI				LR	LR		
comp=Z,754nm,15.1s,MS4.3							
KMI	**Kunming**	**24.22**	**12**	P	**P**	**02 12 36.8**	**+2.3**
comp=Z,38nm,1.2s,mb4.7							
KMI				pP		02 12 43.8	
KMI				S	**S**	**02 16 58.0**	**+10**
KMI				LR	LR		
comp=Z,750nm,15.1s,MS4.3							
GYA	**Guiyang**	**26.56**	**19**	⇑*i*P	**P**	**02 12 56.7**	**+0.2**
GYA				AP	pP	02 13 05.6	+0.5
GYA				XP	sP	02 13 09.1	+0.1
GYA				AMB	AMB		
comp=Z,20nm,1.0s,mb4.6							
GYA				AMB	AMB		
comp=Z,310nm,7.2s							
GYA				LR	LR		
comp=N,970nm,16.2s,MS4.5							
GYA				LR	LR		
comp=E,600nm,15.9s,MS4.5							
GYA				LR	LR		
comp=Z,900nm,14.4s,MS4.5							
JIRN	**Jiri**	**28.18**	**339**	*e*P	**P**	**02 13 12.7**	**+1.5**
comp=Z,74nm,0.8s,mb5.3							
PKI	**Pulchoki**	**28.38**	**338**	*e*P	**P**	**02 13 14.5**	**+1.4**
DMN	**Daman**	**28.54**	**337**	*e*P	**P**	**02 13 15.7**	**+1.3**
comp=Z,33nm,0.8s,mb5.1							
KKN	**Kakani**	**28.63**	**338**	*e*P	**P**	**02 13 16.1**	**+0.8**
comp=Z,57nm,0.9s,mb5.3							
KKN	**Kakani**	**28.63**	**338**	*e*P	**P**	**02 13 16.1**	**+0.8**
KKN				pmax	pmax		
comp=Z,29nm,0.9s,mb5.0							
LSA	**Lhasa**	**28.75**	**349**	P	**P**	**02 13 18.2**	**+1.9**
LSA	**Lhasa**	**28.75**	**349**	P	**P**	**02 13 16.1**	**-0.2**
LSA				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.7							
LSA	**Lhasa**	**28.75**	**349**	P	**P**	**02 13 16.1**	**-0.2**
comp=Z,10nm,0.7s,mb4.7							
GKN	**Gorkha**	**29.07**	**337**	*e*P	**P**	**02 13 20.0**	**+0.8**
comp=Z,47nm,0.8s,mb5.3							
KOLN	**Koldanda**	**29.29**	**335**	*e*P	**P**	**02 13 22.4**	**+1.2**
comp=Z,56nm,0.7s,mb5.4							
CD2	**Chengdu**	**30.03**	**11**	*e*P	**P**	**02 13 26.4**	**-1.4**
ENH	**Enshi**	**31.03**	**21**	*e*P	**P**	**02 13 35.4**	**-1.2**
comp=Z,41nm,0.8s,mb5.3							
XAN	**Xi'an**	**34.31**	**17**	P	**P**	**02 14 04.0**	**-1.1**
XAN				AP	pP	02 14 10.8	-3.1
XAN				AMB	AMB		
comp=Z,36nm,1.0s,mb5.3							
NJ2	**Nanjing**	**36.73**	**32**	*e*P	**P**	**02 14 26.3**	**+0.6**
NJ2				AP	pP	02 14 35.9	+1.4
NJ2				XP	sP	02 14 40.6	+2.4
NJ2				PP	PP	02 15 54.3	+3.1
NJ2				S	**S**	**02 20 09.0**	**+2.1**
NJ2				XS		02 20 24.0	
NJ2				AMB	AMB		
comp=Z,30nm,1.2s,mb5.0							
NJ2				AMB	AMB		
comp=Z,160nm,6.2s							
NJ2				LR	LR		
comp=N,820nm,18.8s,MS4.6							
NJ2				LR	LR		
comp=E,360nm,14.0s,MS4.6							
NJ2				LR	LR		
comp=Z,350nm,14.2s,MS4.3							
SSE	**Sheshan**	**37.29**	**35**	*e*P	**P**	**02 14 29.1**	**-1.3**
SSE				AP	pP	02 14 37.3	-1.9
SSE				XP	sP	02 14 42.1	-0.8
SSE				S	**S**	**02 20 20.2**	**+4.7**
SSE				AMB	AMB		
comp=Z,22nm,7.0s							
SSE				LR	LR		
comp=N,180nm,21.6s,MS4.3							
SSE				LR	LR		
comp=E,508nm,21.7s,MS4.3							
SSE				LR	LR		
comp=Z,371nm,17.6s,MS4.2							
GTA	**Gaotai**	**37.94**	**3**	*e*P	**P**	**02 14 36.5**	**+0.8**
GTA				AP	pP	02 14 43.9	-0.6
GTA				XP	sP	02 14 47.9	-0.3
GTA				PP	PP	02 16 04.3	-1.5
GTA				S	**S**	**02 20 23.4**	**-1.8**
GTA				XS		02 20 38.1	
GTA				AMB	AMB		
comp=Z,79nm,4.9s							
GTA				LR	LR		
comp=N,294nm,20.9s							
GTA				LR	LR		
comp=E,236nm,15.6s							
GTA				LR	LR		
comp=Z,642nm,17.9s,MS4.5							
JOW	**Kunigami**	**39.15**	**47**	P	**P**	**02 14 47.4**	**+1.4**
comp=Z,25nm,0.6s,mb5.1,baz=241,slow=7.0,SNR=13							
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**02 15 11.6**	**+0.7**
comp=Z,2.4nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=9.3							
WRAB	**Tennant Creek**	**42.16**	**122**	*e*P	**P**	**02 15 10.1**	**-0.9**
WB2	**Warramunga Arr**	**42.16**	**122**	*e*P	**P**	**02 15 11.7**	**+0.7**
BJT	**Baijiatuao**	**42.17**	**22**	*e*P	**P**	**02 15 11.4**	**+0.6**
BJT				pmax	pmax		
comp=Z,23nm,0.6s							
BJT	**Baijiatuao**	**42.17**	**22**	*e*P	**P**	**02 15 11.4**	**+0.6**
comp=Z,22nm,0.6s,mb5.0							
KSH	**Kashi**	**42.60**	**336**	*e*P	**P**	**02 15 18.1**	**+3.7**
KSH				*e*AP	pP	02 15 27.1	+3.9
KSH				*e*XP	sP	02 15 31.1	+4.2
KSH				*e*PP	PP	02 17 01.1	+5.3
KSH				*e*PCP	PcP	02 17 05.0	-1.9
KSH				*e*PPP	PPP	02 17 38.0	+8.5
KSH				*e*SCP		02 20 53.0	
KSH				*e*PCS		02 20 57.3	
KSH				*e*S	**S**	**02 21 44.3**	**+9.3**
KSH				*e*SCS	ScS	02 25 12.1	+0.8
KSH				AMB	AMB		
comp=Z,170nm,4.6s							
KSH				LR	LR		
comp=N,500nm,6.0s							
KSH				LR	LR		
comp=E,760nm,5.7s							
WMQ	**Urumqi**	**43.10**	**350**	⇑P	**P**	**02 15 19.8**	**+1.5**
WMQ				AP	pP	02 15 29.8	+2.6
WMQ				XP	sP	02 15 33.7	+2.9
WMQ				PP	PP	02 17 03.4	+2.7
WMQ				PCP	PcP	02 17 07.8	-0.6
WMQ				AMB	AMB		
comp=Z,20nm,1.1s,mb4.8							
WMQ				AMB	AMB		
comp=Z,142nm,5.2s							
WMQ				LR	LR		
comp=N,673nm,24.8s							
WMQ				LR	LR		
comp=E,74nm,19.3s							
WMQ				LR	LR		
comp=Z,117nm,24.8s,MS3.7							
ASPA	**Alice Springs**	**43.52**	**127**	*e*P	**P**	**02 15 22.8**	**+0.8**
ASAR	**Alice Springs**	**43.52**	**127**	P	**P**	**02 15 23.2**	**+1.2**
comp=Z,2.8nm,1.0s,mb3.9,baz=306,slow=7.2,SNR=6.3							
SONM	**Songino Array**	**46.97**	**8**	P	**P**	**02 15 50.1**	**+0.9**
comp=Z,12nm,0.8s,mb4.9,baz=192,slow=8.4,SNR=69							
SONM				PcP	PcP	02 17 22.3	+0.5
comp=Z,1.4nm,0.8s,baz=185,slow=4.9,SNR=3.4							
MKAR	**Makanchi Array**	**47.07**	**346**	*i* P	**P**	**02 15 50.5**	**+0.5**
MKAR				pmax	pmax		
comp=Z,10.0nm,0.7s							
MKAR	**Makanchi Array**	**47.07**	**346**	P	**P**	**02 15 50.7**	**+0.7**
comp=Z,14nm,0.8s,mb4.9,baz=158,slow=7.9,SNR=61							
MKAR	**Makanchi Array**	**47.07**	**346**	P	**P**	**02 15 50.7**	**+0.6**
ULN	**Ulaanbaatar**	**47.10**	**9**	*e*P	**P**	**02 15 50.5**	**+0.3**
ULN				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.7							
ULN	**Ulaanbaatar**	**47.10**	**9**	*e*P	**P**	**02 15 50.5**	**+0.3**
comp=Z,7.7nm,0.9s,mb4.6							
KKAR	**Karatay Array**	**47.89**	**334**	*i* P	**P**	**02 15 57.1**	**+0.6**
KKAR				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
ZAK	**Zakamensk**	**49.11**	**5**	*e*P	**P**	**02 16 06.0**	**+0.2**
ZAK				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.2							
ZAK				pmax	pmax		
comp=Z,2.0nm,2.2s,mb3.8							
CN2	**Changchun**	**49.16**	**27**	*e*P	**P**	**02 16 06.4**	**0.0**
CN2				*e*XP	sP	02 16 19.3	+0.4
CN2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.8							
CN2				AMB	AMB		
comp=Z,300nm,3.0s							
CN2				LR	LR		
comp=N,300nm,11.0s,MS4.8							
CN2				LR	LR		
comp=E,400nm,11.0s,MS4.8							
CN2				LR	LR		
comp=Z,300nm,13.0s,MS4.5							
MOY	**Mondy**	**50.22**	**3**	*e*P	**P**	**02 16 15.3**	**+1.0**
HIA	**Hailar**	**51.49**	**19**	*e*P	**P**	**02 16 23.4**	**-0.6**
HIA				pmax	pmax		
comp=Z,7.0nm,0.9s							
HIA	**Hailar**	**51.49**	**19**	*e*P	**P**	**02 16 23.4**	**-0.6**
comp=Z,7.4nm,0.9s,mb4.6							
MJAR	**Matsushiro Arr**	**51.58**	**42**	P	**P**	**02 16 24.2**	**-0.7**
comp=Z,2.5nm,0.9s,mb4.2,baz=226,slow=6.1,SNR=7.0							
KURK	**Kurchatov**	**51.62**	**345**	*i* P	**P**	**02 16 24.9**	**-0.1**
KURK	**Kurchatov**	**51.62**	**345**	*e*P	**P**	**02 16 23.8**	**-1.2**
comp=Z,7.1nm,0.6s,mb4.8							
MDJ	**Mudanjiang**	**51.73**	**29**	P	**P**	**02 16 24.4**	**-1.5**
MDJ				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.8							
MDJ				AMB	AMB		
comp=Z,111nm,5.8s							
MDJ				LR	LR		
comp=N,176nm,34.8s,MS4.0							
MDJ				LR	LR		
comp=E,137nm,34.8s,MS4.0							
MDJ				LR	LR		
comp=Z,139nm,22.6s							
ZAL	**Zalesovo**	**53.38**	**351**	P	**P**	**02 16 38.6**	**+0.6**
comp=Z,8.9nm,0.5s,mb4.9,baz=306,slow=5.3,SNR=34							
STKA	**Stephens Creek**	**53.49**	**132**	P	**P**	**02 16 39.0**	**-0.2**
comp=Z,3.7nm,0.8s,mb4.4,baz=306,slow=9.9,SNR=1.7							
BVA0	**Borovoye Array**	**56.08**	**341**	P	**P**	**02 16 57.1**	**-0.7**
BVA0				pmax	pmax		
comp=Z,1.0nm,0.9s,mb3.9							
BVAR	**Borovoye Array**	**56.08**	**341**	P	**P**	**02 16 57.1**	**-0.7**
comp=Z,6.9nm,0.7s,mb4.8,baz=140,slow=8.6,SNR=34							
KLR	**Kul'dur**	**56.11**	**27**	*e*P	**P**	**02 16 55.8**	**-2.3**
CHKZ	**Chkalovo**	**56.55**	**341**	*i* P	**P**	**02 17 00.8**	**-0.4**
CHKZ				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
CHKZ	**Chkalovo**	**56.55**	**341**	*e*P	**P**	**02 17 00.7**	**-0.5**
comp=Z,66nm,1.0s,mb5.6							
BOD	**Bodaibo**	**57.85**	**11**	*e*P	**P**	**02 17 09.2**	**-1.0**
BOD				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.7							
YSS	**Yuzh-Sakhalins**	**60.22**	**34**	*e*P	**P**	**02 17 26.0**	**-0.9**
GNI	**Garni**	**61.15**	**316**	*i* P	**P**	**02 17 33.0**	**-0.2**
GNI				pmax	pmax		
comp=Z,10.0nm,1.9s							
SVE	**Sverdlovsk**	**62.52**	**338**	*e*P	**P**	**02 17 42.6**	**+0.4**
ARU	**Arti**	**63.01**	**337**	⇑*i*P	**P**	**02 17 44.6**	**-0.9**
ARU				*e*		02 20 00.6	
ARU				*e*S	**S**	**02 26 17.0**	**+4.8**
ARU				*e*SS	SS	02 30 25.3	+5.3
ARU				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.8							
ARU	**Arti**	**63.01**	**337**	*e*P	**P**	**02 17 44.2**	**-1.3**
comp=Z,4.1nm,0.9s,mb4.6							
KIV	**Kislovodsk**	**64.16**	**319**	*i* P	**P**	**02 17 53.0**	**-0.2**
KIV				*e*		02 18 26.0	
KIV				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.6							
KIV				MLR	MLR		
comp=Z,100nm,15.0s,MS4.1							
KIV	**Kislovodsk**	**64.16**	**319**	P	**P**	**02 17 51.0**	**-2.3**
MALT	**Malatya**	**64.99**	**312**	P	**P**	**02 17 56.3**	**-2.4**
YAK	**Yakutsk**	**65.26**	**16**	*i* P	**P**	**02 17 58.7**	**-1.4**
YAK				pmax	pmax		
comp=Z,54nm,0.9s,mb5.6							
YAK	**Yakutsk**	**65.26**	**16**	*e*P	**P**	**02 17 58.4**	**-1.7**
SOC	**Sochi**	**65.97**	**318**	*e*P	**P**	**02 18 02.4**	**-2.5**
SOC				*e*		02 18 31.7	
SOC				*e*		02 20 28.6	
SOC				*e*PPP	PPP	02 22 02.9	-4.5
SOC				*e*S	S	02 26 49.9	+0.9
SOC				*e*		02 27 54.5	
SOC				*e*SS	SS	02 31 05.1	-0.5
SOC				pmax	pmax		
comp=N,4.0nm,0.7s							
SOC				pmax	pmax		
comp=E,3.0nm,0.7s							
SOC				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.8							
ANN	**Anapa**	**67.95**	**318**	*e*P	**P**	**02 18 09.6**	**-7.8**
ANN				pmax	pmax		
comp=Z,5.0nm,1.3s,mb4.4							
BRTR	**Keskin Array B**	**68.97**	**312**	P	**P**	**02 18 23.2**	**-0.7**
comp=Z,0.7nm,0.7s,mb3.7,baz=114,slow=7.4,SNR=5.6							
MA2	**Magadan**	**71.19**	**26**	*e*P	**P**	**02 18 36.8**	**-0.2**
MA2				*e*	pP	02 18 47.3	+1.1
MA2				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6							
MA2	**Magadan**	**71.19**	**26**	*e*P	**P**	**02 18 35.7**	**-1.3**
comp=Z,9.1nm,0.7s,mb4.8							
OBN	**Obninsk**	**72.46**	**328**	*e*P	**P**	**02 18 44.0**	**-0.6**
OBN				*e*		02 19 00.7	
OBN				*e*		02 21 24.9	
OBN				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.4							
OBN				MLR	MLR		
comp=Z,100nm,18.0s,MS4.1							
TIXI	**Tiksi**	**73.02**	**10**	*i* P	**P**	**02 18 46.8**	**-0.9**
TIXI				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7							
AKASG	**Malin Array Be**	**75.10**	**322**	P	**P**	**02 18 59.4**	**-0.7**
comp=Z,1.6nm,0.6s,mb4.1,baz=91,slow=4.0,SNR=9.0							
AKASG	**Malin Array Be**	**75.10**	**322**	P	**P**	**02 18 59.4**	**-0.7**
BURAR	**Bucovina Array**	**76.88**	**319**	⇓P	**P**	**02 19 11.7**	**+1.5**
BURAR	**Bucovina Array**	**76.88**	**319**	⇓P	**P**	**02 19 11.7**	**+1.5**
FINES	**FINESS Array B**	**79.83**	**332**	P	**P**	**02 19 26.4**	**+0.3**
comp=Z,2.8nm,0.8s,mb4.3,baz=110,slow=6.3,SNR=14							
KAF	**Kangasniemi**	**79.92**	**333**	*ep*	**P**	**02 19 22.2**	**-4.3**
comp=Z,4.3nm,0.8s,mb4.4							
KAF	**Kangasniemi**	**79.92**	**333**	*e*P	**P**	**02 19 22.2**	**-4.3**
KAF				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.4							
BILL	**Bilibino**	**81.02**	**21**	*i* P	**P**	**02 19 31.6**	**-0.6**
BILL				pmax	pmax		
comp=Z,7.0nm,1.7s,mb4.3							
BILL				MLR	MLR		
comp=Z,200nm,18.0s,MS4.5							
PKSM	**Moragy**	**81.07**	**316**	⇑P	**P**	**02 19 32.4**	**-0.5**
ARCES	**ARCESS Array B**	**82.36**	**340**	P	**P**	**02 19 40.3**	**+1.1**
comp=Z,2.0nm,0.5s,mb4.3,baz=96,slow=4.5,SNR=21							
GERES	**GERESS Array B**	**84.67**	**319**	P	**P**	**02 19 52.6**	**+1.2**
comp=Z,0.3nm,0.4s,mb3.7,baz=124,slow=4.8,SNR=5.7							
NB2	**NORSAR Subarra**	**86.84**	**331**	P	**P**	**02 20 02.3**	**+0.5**
comp=Z,1.4nm,0.8s,mb4.2,baz=93,slow=4.8							
NB2	**NORSAR Subarra**	**86.84**	**331**	P	**P**	**02 20 02.3**	**+0.5**
NB2				pmax	pmax		
comp=Z,1.0nm,0.8s,mb4.1							
NOA	**NORSAR Array B**	**86.84**	**331**	P	**P**	**02 20 02.6**	**+0.7**
comp=Z,2.3nm,0.8s,mb4.5,baz=95,slow=4.9,SNR=6.4							
YKA	**Yellowknife Ar**	**111.93**	**15**	PP	PP	02 26 28.6	-10
comp=Z,0.4nm,0.8s,baz=328,slow=7.3,SNR=6.0							
TXAR	**Lajitas Array**	**143.54**	**32**	PKP	PKPdf	02 26 51.7	-4.9
comp=Z,0.7nm,0.8s,baz=98,slow=0.4,SNR=6.9							

*IDC **09** 02:08:27.5±0.5, 47.01S×100.12E, mb4.4/11, mb1 4.5/11, mb1mx4.5/14, mbtmp4.4/11, MS5.3/24, Ms1 5.4/24, ms1mx5.2/28, Error ellipse: s-maj=24.3km s-min=15.6km az=143.0*
*HRVD **09** 02:08:28.3±0.1, 47.30S×100.09E, h12km, MW5.7/81, Centroid moment Tensor Solution. LP body waves: s71,c137;Mantle waves: s81,c174; Half duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.10±.06; $M_{\theta\theta}$4.06±.05; $M_{\phi\phi}$-3.96±.06; $M_{r\theta}$-0.31±.14; $M_{\theta\phi}$1.69±.05; $M_{\phi r}$0.17±.16; Best double couple: M_o4.366×10^{17} NP1: ϕ_s214°, δ85°, λ180°. NP2:ϕ_s304°, δ90°, λ5°. Principal axes: T 4.418, Plg3°, Azm169°; N -.1, Plg85°, Azm307°; P -4.314, Plg3°, Azm78°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **09** 02:08:28.2, 47.30S×100.30E, h10km, mB5.6, mb5.1, Ms5.7, Msz5.4*
*NEIC **09** 02:08:28.3±0.3, 47.26S×100.34E, h10km, mb4.9/8, MW5.8, Error ellipse: s-maj=13.8km s-min=9.4km az=113.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.52; $M_{\theta\theta}$5.81; $M_{\phi\phi}$-5.29; $M_{r\theta}$-1.42; $M_{\theta\phi}$-1.09; $M_{\phi r}$-0.42; Best double couple: M_o5.8×10^{17} NP1:ϕ_s321°, δ77°, λ4°. NP2:ϕ_s230°, δ87°, λ167°. Principal axes: T 6.2, Plg12°, Azm185°; N -.74, Plg77°, Azm36°; P -5.46, Plg7°, Azm276°;*
ISC 09 02:08:26.9±0.4, 47.17S±0.07×100.3E±0.1, h10km, (h15km±2.5km: pP-P), n75, σ1s30/46, mb4.7/22, MS5.4/27, 4C-1D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**19.17**	**48**	LR	LR	02 18 39.5	
comp=Z,8μm,20.0s,baz=217,slow=32							
CASY	**Casey**	**19.91**	**168**	P	**P**	**02 12 56.4**	**-4.8**
MAW	**Mawson**	**28.02**	**210**	P	**P**	**02 14 20.5**	**+0.9**
12nm,1.0s,mb4.5,baz=59,slow=13,SNR=4.9							
MAW				LR	LR	02 22 19.0	
comp=Z,7μm,20.2s,MS5.3,baz=54,slow=30							
STKA	**Stephens Creek**	**34.87**	**79**	*e*P	**P**	**02 15 20.2**	**0.0**
14nm,0.8s,mb5.0							
STKA	**Stephens Creek**	**34.87**	**79**	P	**P**	**02 15 20.3**	**+0.1**
11nm,1.0s,mb4.7,baz=238,slow=5.6,SNR=8

SBA	**Scott Base**	**39.45**	**162**	*e*P		**P**	**02 15 56.8**	**-1.5**
	47nm,1.4s,mb5.0							
QSPA	**South Pole Qui**	**42.98**	**180**	*e*P		**P**	**02 16 27.8**	**+0.7**
	76nm,1.4s,mb5.2							
CTA	**Charters Tower**	**45.92**	**70**	LR		LR	02 34 55.6	
	comp=Z,5μm,18.3s,MS5.5,baz=220,slow=34							
RPZ	**Rata Peaks**	**48.19**	**113**	LR		LR	02 33 32.3	
	comp=Z,5μm,18.1s,MS5.5,baz=239,slow=31							
SNAA	**Sanae**	**49.88**	**204**	*e*		**P**	**02 17 23.9**	**+2.1**
SNAA	**Sanae**	**49.88**	**204**	*e*		**P**	**02 17 26.4**	**+4.6**
SNAA	**Sanae**	**49.88**	**204**	P		**P**	**02 17 20.9**	**-0.8**
	7.2nm,0.9s,mb4.7,baz=131,slow=7.1,SNR=18							
SNAA	**Sanae**	**49.88**	**204**	⇑*i*P		**P**	**02 17 20.3**	**-1.5**
SNAA				*e*		pP	02 17 23.9	-0.9
SNAA				*e*			02 17 26.4	
SNAA				*e*			02 17 44.2	
VNA2	**Neumayer--Watz**	**51.53**	**204**	*e*		**P**	**02 17 36.5**	**+2.2**
VNA2	**Neumayer--Watz**	**51.53**	**204**	*e*		**P**	**02 17 38.9**	**+4.6**
VNA2	**Neumayer--Watz**	**51.53**	**204**	⇑*i*P		**P**	**02 17 32.9**	**-1.4**
VNA2				*e*		pP	02 17 36.5	-0.8
VNA2				*e*			02 17 38.9	
VNA2				*e*			02 17 56.7	
VNA1	**Neumayer--Stat**	**51.92**	**204**	*e*		**P**	**02 17 42.3**	**+5.0**
VNA1	**Neumayer--Stat**	**51.92**	**204**	⇑P		**P**	**02 17 38.8**	**+1.5**
VNA1				*e*		pP	02 17 42.3	+2.0
VNA1				*e*			02 17 45.1	
VNA1				*e*			02 18 01.0	
VNA3	**Neumayer Olymp**	**51.96**	**203**	*e*		**P**	**02 17 42.2**	**+4.7**
VNA3	**Neumayer Olymp**	**51.96**	**203**	⇑*i*P		**P**	**02 17 38.4**	**+0.9**
VNA3				*e*		pP	02 17 42.2	+1.6
VNA3				*e*			02 17 44.9	
VNA3				*e*			02 18 00.0	
PMG	**Port Moresby**	**54.60**	**62**	LR		LR	02 40 24.3	
	comp=Z,4μm,18.0s,MS5.5,baz=212,slow=35							
URZ	**Urewera**	**55.00**	**111**	LR		LR	02 37 34.4	
	comp=Z,2μm,19.5s,MS5.2,baz=121,slow=32							
BOSA	**Boshof**	**59.81**	**259**	P		**P**	**02 18 34.4**	**-0.2**
	8.3nm,1.1s,mb4.7,baz=144,slow=12,SNR=3.7							
BOSA				LR		LR	02 39 06.7	
	comp=Z,6μm,19.4s,MS5.7,baz=140,slow=31							
BOSA	**Boshof**	**59.81**	**259**	P		**P**	**02 18 34.4**	**-0.2**
BOSA				LR		LR	02 39 06.7	
LBTB	**Lobatse**	**61.93**	**263**	P		**P**	**02 18 47.0**	**-2.0**
	11nm,1.1s,mb4.9							
RAO	**Raoul Island**	**63.84**	**106**	LR		LR	02 40 31.6	
	comp=Z,1μm,21.5s,MS5.1,baz=175,slow=30							
CMAR	**Chiang Mai Arr**	**65.33**	**359**	P		**P**	**02 19 10.1**	**-1.3**
	2.6nm,0.7s,mb4.4,baz=197,slow=6.1,SNR=10							
CMAR				LR		LR	02 45 15.1	
	comp=Z,4μm,18.8s,MS5.6,baz=180,slow=34							
HYB	**Hyderabad**	**67.20**	**337**	*e*P		**P**	**02 19 24.0**	**+0.6**
HYB	**Hyderabad**	**67.20**	**337**	*i*P		**P**	**02 19 24.0**	**+0.6**
KMBO	**Kilima Mbogo**	**71.14**	**290**	P		**P**	**02 19 46.8**	**-1.0**
	0.4nm,0.3s,mb3.8,baz=135,slow=4.4,SNR=2.7							
KMBO				LR		LR	02 44 50.5	
	comp=Z,2μm,19.6s,MS5.4,baz=101,slow=31							
KMI	**Kunming**	**71.98**	**2**	P		**P**	**02 19 50.0**	**-2.6**
	8.0nm,0.9s,mb4.7							
SHL	**Shillong**	**72.79**	**352**	*e*P		**P**	**02 19 55.0**	**-2.3**
GYA	**Guiyang**	**73.50**	**6**	P		**P**	**02 20 02.0**	**+0.5**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
LSA	**Lhasa**	**76.95**	**352**	*e*P		**P**	**02 20 26.6**	**+5.5**
JOW	**Kunigami**	**77.86**	**25**	LR		LR	02 54 45.7	
	comp=Z,684nm,20.8s,MS5.0,baz=152,slow=36							
NDI	**New Delhi**	**78.32**	**339**	*e*P		**P**	**02 20 31.0**	**+2.3**
AFI	**Afiamalu**	**78.53**	**98**	LR		LR	02 45 38.5	
	comp=Z,853nm,19.9s,MS5.1,baz=186,slow=28							
LZH	**Lanzhou**	**82.94**	**3**	*e*P		**P**	**02 20 55.5**	**+2.5**
LZH				AP		pP	02 21 03.2	+7.0
LZH				XP		sP	02 21 07.3	+10
LZH				AMB		AMB		
	comp=Z,42nm,1.6s,mb5.2							
LZH				AMB		AMB		
	comp=Z,250nm,4.5s							
LZH				LR		LR		
	comp=E,320nm,11.9s							
LZH				LR		LR		
	comp=Z,710nm,16.0s,MS5.1							
LZH	**Lanzhou**	**82.94**	**3**	*e*P		**P**	**02 20 55.5**	**+2.5**
	comp=Z,42nm,1.6s,mb5.2							
LZH				pP		pP	02 21 03.2	+7.0
LZH				sP		sP	02 21 07.3	+10
LZH				LR		LR		
	comp=Z,710nm,16.0s,MS5.1							
TBI	**Tubuai**	**85.91**	**120**	*e*S		S	02 31 32.9	-7.2
TBI				*e*LQ			02 44 15.5	
TBI				*e*LR		LR	02 48 29.3	
	comp=Z,2μm,30.5s							
GTA	**Gaotai**	**86.19**	**360**	*e*P		**P**	**02 21 15.9**	**+6.6**
GTA				PP		PP	02 24 32.7	+1.0
GTA				SKS		SKS	02 31 33.2	-4.1
GTA				S		S	02 31 37.6	-4.9
GTA				AMB		AMB		
	comp=Z,7.0nm,1.3s,mb4.7							
GTA				AMB		AMB		
	comp=Z,187nm,7.2s							
GTA				LR		LR		
	comp=N,2μm,19.8s,MS5.5							
GTA				LR		LR		
	comp=E,691nm,22.4s,MS5.5							
GTA				LR		LR		
	comp=Z,2μm,20.9s,MS5.5							
JHJ	**Hachijo jima 2**	**87.44**	**32**	LR		LR	02 58 12.4	
	comp=Z,683nm,19.5s,MS5.1,baz=314,slow=34							
PPT	**Papeete**	**90.25**	**116**	*e*S		S	02 32 12.9	-7.9
PPT				*e*LQ			02 46 46.3	
PPT				*e*LR		LR	02 50 34.8	
	comp=Z,2μm,23.0s							
PPT	**Papeete**	**90.25**	**116**	LR		LR	02 55 10.3	
	comp=Z,969nm,19.6s,MS5.2,baz=226,slow=31							
WMQ	**Urumqi**	**91.29**	**351**	⇓P		**P**	**02 21 32.5**	**-0.8**
WMQ				PP		PP	02 25 12.8	-0.3
WMQ				SKS		SKS	02 32 02.7	-6.1
WMQ				*e*S		S	02 32 28.7	-0.7
WMQ				AMB		AMB		
	comp=Z,5.0nm,0.5s,mb5.1							
WMQ				AMB		AMB		
	comp=Z,245nm,6.2s							
WMQ				LR		LR		
	comp=N,1μm,21.4s,MS5.4							
WMQ				LR		LR		
	comp=E,681nm,23.2s,MS5.4							
WMQ				LR		LR		
	comp=Z,1μm,22.2s,MS5.2							
PLCA	**Paso Flores**	**92.11**	**187**	P		**P**	**02 21 39.6**	**+2.4**
	comp=Z,2.4nm,0.9s,mb4.5,baz=188,slow=11,SNR=4.1							
PLCA				LR		LR	03 01 09.6	
	comp=Z,4μm,20.9s,MS5.8,baz=167,slow=34							
PLCA	**Paso Flores**	**92.11**	**187**	P		**P**	**02 21 36.8**	**-0.3**
	comp=Z,3.3nm,0.9s,mb4.7							
CN2	**Changchun**	**93.26**	**18**	*e*P		**P**	**02 21 43.8**	**+1.4**
RKT	**Rikitea**	**94.14**	**131**	*e*S		S	02 32 47.4	-7.5
RKT				*e*LQ			02 48 07.8	
RKT				*e*LR		LR	02 52 03.3	
	comp=Z,2μm,24.8s							
SONM	**Songino Array**	**94.76**	**4**	P		**P**	**02 21 49.5**	**+0.3**
	comp=Z,0.2nm,0.7s,mb3.7,baz=180,slow=5.8,SNR=2.4							
SONM				LR		LR	03 05 42.6	
	comp=Z,2μm,18.9s,MS5.6,baz=183,slow=36							
MKAR	**Makanchi Array**	**94.90**	**348**	LR		LR	03 04 32.0	
	comp=Z,2μm,19.2s,MS5.6,baz=178,slow=36							
MDJ	**Mudanjiang**	**94.97**	**21**	P		**P**	**02 21 51.0**	**+0.8**
MDJ				S		S	02 33 07.4	+6.1
MDJ				XS			02 33 12.2	
MDJ				SS		SS	02 39 30.2	-0.2
MDJ				AMB		AMB		
	comp=Z,4.0nm,0.5s,mb5.1							
MDJ				AMB		AMB		
	comp=Z,107nm,4.4s							
MDJ				LR		LR		
	comp=N,383nm,23.6s,MS4.8							
MDJ				LR		LR		
	comp=E,128nm,22.3s,MS4.8							
MDJ				LR		LR		
	comp=Z,480nm,22.3s,MS4.9							
ASF	**Jabal al Asfar**	**97.38**	**310**	LR		LR	03 00 30.3	
	comp=Z,837nm,19.2s,MS5.2,baz=189,slow=32							
ASAJ	**Asahikawa**	**98.25**	**29**	LR		LR	03 04 56.0	
	comp=Z,630nm,18.9s,MS5.1,baz=199,slow=34							
GNI	**Garni**	**100.01**	**320**	LR		LR	03 02 37.4	
	comp=Z,2μm,21.6s,MS5.5,baz=142,slow=33							
GERES	**GERESS Array B**	**121.48**	**309**	PKP		PKPdf	02 27 21.3	-1.9
	comp=Z,0.7nm,0.8s,baz=180,slow=2.7,SNR=4.5							
FINES	**FINESS Array B**	**123.51**	**326**	PKP		PKPdf	02 27 24.5	-2.2
	comp=Z,1.2nm,0.9s,baz=193,slow=25,SNR=3.0							
ILAR	**Eielson Array**	**140.69**	**39**	PKP		PKPdf	02 27 57.5	-1.1
	comp=Z,0.4nm,0.9s,baz=281,slow=4.6,SNR=3.6							
INK	**Inuvik**	**145.93**	**32**	PKPbc		PKPbc	02 28 06.9	+1.4
	comp=Z,4.8nm,1.0s,baz=273,slow=4.3,SNR=10							
DLBC	**Dease Lake**	**148.29**	**50**	PKPbc		PKPdf	02 28 15.2	+3.4
	comp=Z,3.8nm,0.9s,baz=226,slow=7.4,SNR=5.3							
NVAR	**Mina Array Bea**	**150.59**	**93**	PKPbc		PKPdf	02 28 22.4	+6.4
	comp=Z,5.0nm,0.8s,baz=211,slow=3.4,SNR=16							
TXAR	**Lajitas Array**	**154.24**	**125**	PKP		PKPdf	02 28 20.9	-0.6
	comp=Z,0.8nm,1.1s,baz=198,slow=2.9,SNR=2.7							
TXAR				PKPbc		PKPdf	02 28 29.7	+8.2
	comp=Z,1.9nm,1.1s,baz=225,slow=3.5,SNR=5.7							
TXAR				PKPab		PKPab	02 28 44.9	+1.8
	comp=Z,1.2nm,0.8s,baz=217,slow=6.3,SNR=5.6							
TXAR	**Lajitas Array**	**154.24**	**125**	PKP		PKPdf	02 28 20.9	-0.6
TXAR				PKPbc		PKPdf	02 28 29.7	+8.3
TXAR				PKPab		PKPab	02 28 44.9	+1.8
YKA	**Yellowknife Ar**	**155.12**	**39**	PKPbc		PKPdf	02 28 29.3	+7.8
	comp=Z,0.6nm,0.8s,baz=295,slow=1.8,SNR=8.2							
YKA	**Yellowknife Ar**	**155.12**	**39**	PKPbc		PKPdf	02 28 29.3	+7.8
ANMO	**Albuquerque**	**156.53**	**112**	PKPab		PKPab	02 28 53.6	+0.9
	comp=Z,0.7nm,0.3s,baz=182,slow=4.4,SNR=5.1							
PDAR	**Pinedale Array**	**158.47**	**91**	PKP		PKPdf	02 28 26.4	-0.3
	comp=Z,0.6nm,1.0s,baz=326,slow=3.3,SNR=3.6							
PDAR				PKPab		PKPab	02 29 02.4	+1.6
	comp=Z,1.6nm,1.1s,baz=214,slow=5.3,SNR=4.3							

*NNC **09** 02:16:09.3±2.8, 42.02N×79.33E, mpv3.2, Error ellipse: s-maj=28.7km s-min=11.0km az=155.0*

ISC 09 02:16:07.0±4.5, 41.6N±0.3×79.9E±0.3, h10km, n13, σ1°14/11, 6C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**2.84**	**285**	P	**Pn**	**02 16 48.5**	**-4.9**
	SNR=58						
TKM2	**Tokmak 2**	**3.50**	**295**	P	**Pn**	**02 16 57.9**	**-4.9**
	SNR=16						
KZA	**Kyzart**	**3.54**	**280**	P	**Pn**	**02 17 02.5**	**-0.8**
	SNR=8.6						
KBK	**Karagaybulak**	**3.87**	**288**	P	**Pn**	**02 17 02.8**	**-5.2**
	SNR=10.0						
UCH	**Uchtor**	**4.10**	**281**	P	**Pn**	**02 17 12.0**	**+0.7**
	SNR=7.1						
AAK	**Ala-Archa**	**4.19**	**287**	⇑Pn	**Pn**	**02 17 07.8**	**-4.7**
	5.9nm,0.4s						
AAK				⇑Lg		02 18 00.5	
	19nm,0.8s						
USP	**Ospenovka**	**4.38**	**295**	P	**Pn**	**02 17 17.4**	**+2.2**
	SNR=6.7						
AML	**Almayashu**	**4.70**	**279**	P	**Pn**	**02 17 23.5**	**+3.8**
	SNR=6.0						
MK31	**Makanchi Array**	**5.51**	**17**	⇑Pn	**Pn**	**02 17 31.2**	**-0.1**
	0.8nm,0.4s						
MK31				⇑Sn	**Sn**	**02 18 35.4**	**-0.1**
	1.6nm,0.4s						
KK31	**Karatay Array**	**7.15**	**286**	⇓Pg	**Pb**	**02 18 10.6**	**-0.7**
	0.8nm,0.5s,baz=93,slow=16,SNR=4.4						
KK31				⇓Lg		02 19 37.3	
	3.5nm,0.5s,baz=102,slow=30,SNR=4.1						
KURK	**Kurchatov**	**9.22**	**355**	⇑Lg		02 20 49.6	
	8.2nm,0.9s,baz=91,slow=12,SNR=5.4						
BVA0	**Borovoye Array**	**13.17**	**334**	⇓Lg		02 22 50.4	
	2.1nm,2.1s,baz=144,slow=29,SNR=4.5						
CHKZ	**Chkalovo**	**13.65**	**336**	⇑Lg		02 23 05.1	
	3.3nm,1.0s						

*CSEM **09** 02:21:08.6±0.1, 44.54N×6.92E, h8km, ML2.5/8, Error ellipse: s-maj=1.6km s-min=1.2km az=74.0*
*STR **09** 02:21:09.2±0.3, 44.52N×6.87E, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **09** 02:21:09.2±0.1, 44.53N×6.90E, h2km, Md2.3/1, Ml2.5/6, Error ellipse: s-maj=1.3km s-min=0.7km az=65.0*
*GEN **09** 02:21:09.2, 44.51N×6.86E, h7km, ML2.6*
*NEIC **09** 02:21:09.2, 44.51N×6.86E, h7km, ML2.6(GEN), ML2.5(LDG), ML2.3(STR), After GEN.*

ISC 09 02:21:08.6±0.3, 44.51N±0.01×6.87E±0.02, h12km±2km, n51, σ0°54/95, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.05**	**234**	Pg	**Pg**	**02 21 11.1**	**+0.2**
SURF				Sg	**Sg**	**02 21 12.4**	**0.0**
PZZ	**Prazzo**	**0.17**	**91**	P	**Pg**	**02 21 13.1**	**+0.6**
PZZ				S	**Sg**	**02 21 15.8**	**+0.7**
PZZ	**Prazzo**	**0.17**	**91**	P	**Pg**	**02 21 13.1**	**+0.6**
MBDF	**Montbardon**	**0.23**	**342**	*e*Pg	**Pg**	**02 21 13.6**	**0.0**
MBDF				*e*Sg	**Sg**	**02 21 17.5**	**+0.6**
	110nm,0.3s						
DOI	**San Damiano**	**0.27**	**91**	*e*Pg	**Pg**	**02 21 14.7**	**+0.3**
DOI				*e*Sg	**Sg**	**02 21 18.9**	**+0.6**
DOI	**San Damiano**	**0.27**	**91**	*e*Pg	**Pg**	**02 21 14.7**	**+0.3**
DOI				*e*Sg	**Sg**	**02 21 18.9**	**+0.6**
RRL	**Cesana Torines**	**0.41**	**352**	P	**Pg**	**02 21 17.5**	**+0.4**
RRL				S	**Sg**	**02 21 23.2**	**+0.4**
RRL	**Cesana Torines**	**0.41**	**352**	P	**Pg**	**02 21 17.5**	**+0.4**
STV	**Sta Anna Valdi**	**0.42**	**129**	P	**Pg**	**02 21 17.4**	**+0.2**
STV				S	**Sg**	**02 21 23.0**	**-0.1**
STV2	**Anna di Valdie**	**0.42**	**129**	P	**Pg**	**02 21 17.4**	**+0.2**
STV2				S	**Sg**	**02 21 23.0**	**-0.1**
BHB	**Bricherasio**	**0.44**	**40**	P	**Pg**	**02 21 17.6**	**0.0**
BHB				S	**Sg**	**02 21 23.4**	**-0.2**
BHB	**Bricherasio**	**0.44**	**40**	P	**Pg**	**02 21 17.6**	**+0.1**
BHB				S	**Sg**	**02 21 23.4**	**-0.1**
ENR	**Entracque**	**0.49**	**125**	P	**Pg**	**02 21 18.6**	**+0.1**
ENR				S	**Sg**	**02 21 25.0**	**-0.2**
ENR	**Entracque**	**0.49**	**125**	P	**Pg**	**02 21 18.6**	**+0.1**
FENE	**Fenestrelle**	**0.54**	**15**	P	**Pb**	**02 21 19.7**	**+0.2**
FENE				S	**Sg**	**02 21 26.7**	**-0.2**
FENE	**Fenestrelle**	**0.54**	**15**	P	**Pb**	**02 21 19.7**	**+0.2**
FENE				S	**Sg**	**02 21 26.7**	**-0.2**
TOUF	**Mont Tournerai**	**0.57**	**151**	Pg	**Pg**	**02 21 20.1**	**0.0**
TOUF				Sg	**Sg**	**02 21 28.4**	**+0.7**
MVIF	**Mont Vial**	**0.65**	**161**	Pg	**Pg**	**02 21 21.8**	**+0.2**
MVIF				Sg	**Sg**	**02 21 30.8**	**+0.4**
AUTN	**L'Aution**	**0.65**	**142**	Pg	**Pg**	**02 21 21.6**	**-0.2**
AUTN				Sg	**Sg**	**02 21 30.5**	**-0.1**
RSP	**Reno Superiore**	**0.70**	**23**	P	**Pb**	**02 21 22.7**	**+0.4**
RSP				S	**Sb**	**02 21 31.7**	**+0.1**
RSP	**Reno Superiore**	**0.70**	**23**	P	**Pb**	**02 21 22.7**	**+0.5**
RSP				S	**Sb**	**02 21 31.7**	**+0.1**
SAOF	**Saorge**	**0.72**	**136**	Pg	**Pg**	**02 21 22.6**	**-0.5**
SAOF				Sg	**Sg**	**02 21 33.2**	**+0.4**
ROB	**Roburent**	**0.75**	**106**	P	**Pb**	**02 21 23.3**	**+0.2**
ROB				S	**Sb**	**02 21 33.0**	**0.0**
ROB	**Roburent**	**0.75**	**106**	P	**Pb**	**02 21 23.3**	**+0.2**
ROB				S	**Sb**	**02 21 33.0**	**0.0**
SBF	**Sospel**	**0.76**	**148**	*e*Pg	**Pg**	**02 21 23.9**	**-0.1**
SBF				*e*Sg	**Sg**	**02 21 33.8**	**-0.5**
	19nm,0.2s						
MONE	**Monesi**	**0.77**	**124**	P	**Pb**	**02 21 23.6**	**+0.2**
MONE				S	**Sb**	**02 21 33.5**	**-0.1**
MONE	**Monesi**	**0.77**	**124**	P	**Pb**	**02 21 23.6**	**+0.2**
MONE				S	**Sb**	**02 21 33.5**	**-0.1**
ORIF	**Oris-en-Rattie**	**0.81**	**300**	*e*Pg	**Pg**	**02 21 24.7**	**-0.3**
ORIF				*e*Sg	**Sg**	**02 21 35.5**	**-0.4**
	13nm,0.2s						
REVF	**Revere**	**0.85**	**155**	Pg	**Pg**	**02 21 25.9**	**+0.2**
NEGI	**Negi**	**0.89**	**137**	P	**Pb**	**02 21 25.9**	**+0.3**
NEGI				S	**Sb**	**02 21 37.4**	**+0.1**
NEGI	**Negi**	**0.89**	**137**	P	**Pb**	**02 21 25.9**	**+0.3**
NEGI				S	**Sb**	**02 21 37.4**	**+0.2**
IMI	**Imperia**	**0.95**	**129**	*e*Pg	**Pg**	**02 21 27.5**	**-0.1**
IMI				*e*Sg	**Sg**	**02 21 39.4**	**-1.0**
IMI	**Imperia**	**0.95**	**129**	P	**Pb**	**02 21 26.8**	**+0.3**
IMI	**Imperia**	**0.95**	**129**	*e*Pg	**Pg**	**02 21 27.5**	**-0.1**
IMI				S	**Sb**	**02 21 38.6**	**-0.2**
IMI				*e*Sg	**Sg**	**02 21 39.3**	**-1.0**
FRF	**La Foret Royal**	**0.96**	**190**	*e*Pg	**Pg**	**02 21 27.2**	**-0.7**
FRF				*e*Pn	**Pn**	**02 21 28.5**	**+0.7**
FRF				*e*Sg	**Sg**	**02 21 40.0**	**-0.8**
	45nm,0.2s						
LSD	**Ceresole Reale**	**0.97**	**12**	P	**Pb**	**02 21 27.5**	**+0.6**
LSD				S	**Sb**	**02 21 40.1**	**+0.7**
LSD	**Ceresole Reale**	**0.97**	**12**	P	**Pb**	**02 21 27.5**	**+0.6**
LSD				S	**Sb**	**02 21 40.1**	**+0.7**
LPG	**La Plagne**	**0.99**	**355**	*e*Pg	**Pg**	**02 21 27.9**	**-0.6**
LPG				*e*Sg	**Sg**	**02 21 40.4**	**-1.4**
	7.5nm,0.2s						
FIN	**Finale Ligure**	**1.01**	**107**	P	**Pb**	**02 21 27.6**	**0.0**
FIN				S	**Sb**	**02 21 39.9**	**-0.6**
FIN	**Finale Ligure**	**1.01**	**107**	P	**Pb**	**02 21 27.5**	**0.0**
FIN				S	**Sb**	**02 21 39.9**	**-0.6**
LPL	**La Plagne**	**1.01**	**355**	*e*Pg	**Pg**	**02 21 28.3**	**-0.6**
LPL				*e*Sg	**Sg**	**02 21 41.0**	**-1.4**
	10nm,0.3s						
SMRF	**Simiane la Rot**	**1.07**	**241**	*e*Pg	**Pg**	**02 21 29.9**	**-0.2**
SMRF				*e*Pn	**Pn**	**02 21 30.9**	**+1.5**
SMRF				*e*Sg	**Sg**	**02 21 44.5**	**+0.1**
	6.3nm,0.2s						
TRAV		**1.18**	**32**	P	**Pb**	**02 21 30.4**	**-0.1**
TRAV		**1.18**	**32**	P	**Pb**	**02 21 30.4**	**-0.1**
PCP	**Pian Castagno**	**1.20**	**88**	P	**Pb**	**02 21 31.2**	**+0.4**
PCP	**Pian Castagno**	**1.20**	**88**	P	**Pb**	**02 21 31.2**	**+0.4**
LMR	**La Mourre**	**1.20**	**193**	*e*Pn	**Pn**	**02 21 31.7**	**+0.4**
LMR				*e*Pg	**Pg**	**02 21 32.1**	**-0.6**
LMR				*e*Sn	**Sn**	**02 21 47.6**	**0.0**
	12nm,0.2s						
ORX	**Oropa**	**1.37**	**35**	P	**Pn**	**02 21 33.2**	**-0.5**
ORX	**Oropa**	**1.37**	**35**	P	**Pn**	**02 21 33.2**	**-0.5**
VIVF	**Saint-Julien-I**	**1.60**	**283**	*e*Pn	**Pn**	**02 21 38.0**	**+1.0**
VIVF				*e*Sn	**Sn**	**02 21 57.6**	**-0.1**
	4.4nm,0.4s						
PGF	**Pioggiola**	**2.50**	**141**	*e*Pn	**Pn**	**02 21 49.2**	**-0.6**
PGF				*e*Sn	**Sn**	**02 22 18.7**	**-1.8**

*IDC **09** 02:43:31.2±4.5, 2.35N×97.01E, mb3.9/5, mb1 4.0/5, mb1mx3.8/20, mbtmp3.9/5, Error ellipse: s-maj=232.5km s-min=20.5km az=55.0*
*NEIC **09** 02:43:35.3±0.7, 2.33N×96.97E, h30km, mb4.3/3, Error ellipse: s-maj=20.2km s-min=10.6km az=52.0*

ISC 09 02:43:33.2±1.0, 2.4N±0.1×96.9E±0.2, h30km, n10, σ0°43/10, mb4.1/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.72**	**52**	*e*P	**Pn**	**02 44 44.2**	**-0.1**
DDI	**Dehra Dun**	**33.07**	**329**	*e*	**P**	**02 50 22.0**	**+13**
WRA	**Warramunga Arr**	**42.88**	**123**	P	**P**	**02 51 31.3**	**+0.3**
	0.5nm,0.4s,mb3.6,baz=301,slow=9.2,SNR=14						
WRAB	**Tennant Creek**	**42.88**	**123**	*e*P	**P**	**02 51 31.1**	**0.0**
	6.8nm,1.0s,mb4.3						
ASAR	**Alice Springs**	**44.30**	**128**	P	**P**	**02 51 42.3**	**-0.3**
	0.2nm,0.5s,mb3.1,baz=307,slow=7.7,SNR=3.9						
MKAR	**Makanchi Array**	**46.06**	**346**	P	**P**	**02 51 57.0**	**+0.8**
	0.7nm,0.3s,mb4.0,baz=162,slow=7.9,SNR=6.7						
KURK	**Kurchatov**	**50.62**	**345**	P	**P**	**02 52 31.3**	**-0.2**
	2.7nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**52.38**	**351**	P	**P**	**02 52 45.3**	**+0.5**
	4.3nm,0.5s,mb4.7,baz=304,slow=5.5,SNR=12						
BVAR	**Borovoye Array**	**55.08**	**341**	P	**P**	**02 53 04.6**	**-0.1**
	1.2nm,0.6s,mb4.1,baz=133,slow=10.0,SNR=6.0						
CHKZ	**Chkalovo**	**55.55**	**341**	*e*P	**P**	**02 53 07.4**	**-0.8**
	1.9nm,0.4s,mb4.5						

*NNC **09** 02:43:56.5±4.8, 41.94N×82.17E, h33km±23km, mpv3.4, Error ellipse: s-maj=42.5km s-min=13.2km az=141.0*

BJI 09 02:43:49.7, 41.38N×82.42E, h16km, ML3.6, 3C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.59**	**56**	*e*PG	Pn	02 45 08.2	+7.9
WMQ				SG	Sn	02 46 15.0	+21
WMQ				Smax			
	comp=N,36nm,0.8s						
WMQ				Smax			
	comp=E,52nm,1.0s						
MK31	**Makanchi Array**	**5.41**	**359**	⇑Pn	Pn	02 45 10.0	-1.8
	comp=E,3.8nm,0.5s,baz=176,slow=12,SNR=38						
MK31				⇓Pg	Pn	02 45 25.9	+14
	comp=E,1.6nm,0.3s,baz=179,slow=17,SNR=12						
MK31				⇑Lg		02 46 30.2	
	comp=E,13nm,0.6s,baz=179,slow=26,SNR=4.0						
AAK	**Ala-Archa**	**6.04**	**285**	⇑Pg	Pn	02 45 39.8	+19
	comp=E,6.4nm,0.8s						
AAK				⇓Lg		02 46 58.6	
	comp=E,12nm,0.7s						
KK31	**Karatay Array**	**9.00**	**285**	⇓Pg	P	02 46 37.6	+36
	comp=E,0.9nm,0.8s,baz=108,slow=17,SNR=3.7						
KK31				⇓Lg		02 48 34.8	
	comp=E,2.9nm,0.8s,baz=91,slow=26,SNR=4.6						

*IDC **09** 02:44:17.8±0.5, 34.06N×104.61E, mb4.4/17, mb1 4.6/19, mb1mx4.4/27, mbtmp4.4/19, ML3.6/1, Error ellipse: s-maj=21.0km s-min=12.1km az=58.0*
*BJI **09** 02:44:18.6, 34.05N×104.51E, h9km, mB5.0, mb4.5, ML4.9, Ms5.0, Msz4.8*
*NEIC **09** 02:44:19.2±0.2, 34.12N×104.51E, h10km, mb4.8/23, Error ellipse: s-maj=6.6km s-min=4.7km az=59.0*
*MOS **09** 02:44:20.2±1.3, 33.93N×104.48E, h33

KMI Smax
comp=E,68nm,1.0s
KMI LR LR
comp=N,2μm,10.4s
KMI LR LR
comp=E,5μm,11.5s
KMI LR LR
comp=Z,3μm,14.2s
KMI Kunming 8.91 190 P P 02 46 30.6 +0.9
comp=Z,66nm,0.9s
KMI S **S** **02 48 04.6 -5.4**
HHC Hu-ho-hao-te 8.92 37 *e*P **P 02 46 32.4 +2.6**
HHC AP 02 46 36.0
HHC XP 02 46 38.6
HHC S **S** **02 48 16.9 +6.7**
HHC XS 02 48 19.4
HHC AMB AMB
comp=Z,13nm,1.1s
HHC AMB AMB
comp=Z,305nm,5.1s
HHC LR LR
comp=N,3μm,8.2s
HHC LR LR
comp=E,4μm,8.4s
HHC LR LR
comp=Z,3μm,11.0s
WHN Wuhan 9.03 109 P **P 02 46 30.0 -1.4**
WHN S **S** **02 48 11.4 -1.7**
WHN LR LR
comp=N,3μm,6.1s
WHN LR LR
comp=E,8μm,8.8s
WHN LR LR
comp=Z,8μm,9.5s
TIA Tai'an 10.62 74 *e*P **P 02 46 54.8 +1.5**
TIA AMB AMB
comp=Z,182nm,1.3s
TIA AMB AMB
comp=Z,1μm,8.0s
TIA LR LR
comp=N,3μm,16.0s
TIA LR LR
comp=E,13μm,17.0s
BJI Beijing 11.17 54 *e*P **P 02 47 00.7 0.0**
BJI AMB AMB
comp=Z,9.0nm,0.8s
BJI LR LR
comp=N,5μm,4.5s
BJI LR LR
comp=E,3μm,6.0s
BJI LR LR
comp=Z,1μm,27.9s
BJI Beijing 11.17 54 *e*P **P 02 47 00.7 0.0**
comp=Z,9.0nm,0.8s
BJI Lg 02 50 05.9
LSA Lhasa 12.08 253 *e*P **P 02 47 10.7 -2.3**
NJ2 Nanjing 12.23 95 *e*P **P 02 47 14.2 -0.9**
NJ2 AP 02 47 21.1
NJ2 PP PP 02 47 23.8 -0.8
NJ2 XP 02 47 26.3
NJ2 PPP PPP 02 47 32.1 +0.5
NJ2 S **S** **02 49 30.0 -1.2**
NJ2 XS 02 49 44.0
NJ2 AMB AMB
comp=Z,20nm,0.8s
NJ2 AMB AMB
comp=Z,110nm,4.7s
NJ2 LR LR
comp=N,2μm,11.6s
NJ2 LR LR
comp=E,4μm,10.3s
NJ2 LR LR
comp=Z,1μm,9.9s
SONM Songino Array 13.96 5 Pn **P 02 47 35.2 -2.7**
comp=Z,0.3nm,0.3s,baz=184,slow=12,SNR=28
SONM Lg 02 51 38.5
comp=Z,0.2nm,0.3s,baz=191,slow=29,SNR=4.1
ULN Ulaanbaatar 14.05 7 *i*P **P 02 47 34.0 -5.0**
ULN Ulaanbaatar 14.05 7 *e*P **P 02 47 34.8 -4.3**
comp=Z,9.7nm,0.8s
SSE Sheshan 14.40 97 *e*P **P 02 47 43.8 +0.1**
SSE S **S** **02 50 22.0 -1.1**
SSE PcP PcP 02 53 03.1 +4.1
SSE AMB AMB
comp=Z,29nm,0.7s
SSE AMB AMB
comp=Z,358nm,12.0s
SSE LR LR
comp=N,1μm,16.3s
SSE LR LR
comp=E,897nm,16.3s
SSE LR LR
comp=Z,2μm,12.5s
SSE Sheshan 14.40 97 *e*P **P 02 47 43.8 +0.1**
comp=Z,29nm,0.7s
SSE S **S** **02 50 22.0 -1.1**
SSE PcP PcP 02 53 03.1 +4.1
SSE ScS ScS 03 00 23.6 +18
NANT Nan 15.45 193 ⇑P **P 02 47 56.5 -0.9**
comp=Z,369nm,0.6s
CHG Chiang Mai 15.85 199 ⇓P **P 02 48 09.7 +7.1**
comp=Z,50nm,1.0s
CMAR Chiang Mai Arr 16.19 199 Pn **P 02 48 09.1 +2.2**
baz=5.8,slow=12,SNR=18
ZAK Zakamensk 16.46 357 *e*P **P 02 48 11.5 +1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
ZAK pmax pmax
comp=Z,3.0nm,1.1s
SNY Shenyang 17.00 57 ⇓P **P 02 48 20.1 +3.1**
SNY LR LR
comp=Z,600nm,24.0s
GUN Gumba 17.03 254 *e*P **P 02 48 16.0 -1.4**
comp=Z,217nm,1.6s
PKI Pulchoki 17.55 254 *e*P **P 02 48 21.6 -2.4**
comp=Z,129nm,1.3s
PKI Pulchoki 17.55 254 *e*P **P 02 48 21.6 -2.4**
PKI pmax pmax
comp=Z,65nm,1.3s
KKN Kakani 17.56 255 *e*P **P 02 48 22.0 -2.1**
comp=Z,49nm,1.0s
KKN Kakani 17.56 255 *e*P **P 02 48 22.0 -2.1**
KKN pmax pmax
comp=Z,24nm,1.0s
TLY Talaya 17.74 358 *e*P **P 02 48 28.1 +1.9**
TLY pmax pmax
comp=Z,5.0nm,1.1s
DMN Daman 17.78 254 *e*P **P 02 48 24.6 -2.2**
comp=Z,171nm,1.5s
MOY Mondy 17.90 353 *e*P **P 02 48 29.6 +1.5**
MOY pmax pmax
comp=Z,28nm,1.8s
GKN Gorkha 17.99 256 *e*P **P 02 48 29.0 -0.4**
comp=Z,309nm,1.5s
IRK Irkutsk 18.30 360 *e*P **P 02 48 34.6 +1.4**
IRK pmax pmax
comp=Z,30nm,1.7s
KOLN Koldanda 18.92 257 *e*P **P 02 48 41.1 +0.1**
comp=Z,30nm,0.8s
CN2 Changchun 19.04 53 *e*P **P 02 48 42.1 -0.1**
CN2 *e*XP 02 48 47.2
CN2 *e*S **S** **02 52 10.4 +0.8**
CN2 AMB AMB
comp=Z,20nm,0.9s
CN2 AMB AMB
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,700nm,9.0s
CN2 LR LR
comp=E,1μm,9.0s
CN2 LR LR
comp=Z,1μm,10.0s
HIA Hailar 19.05 32 *e*P **P 02 48 41.7 -0.6**
HIA pmax pmax
comp=Z,31nm,1.3s
HIA Hailar 19.05 32 *e*P **P 02 48 41.6 -0.7**
comp=Z,31nm,1.3s
MKAR Makanchi Array 21.13 314 P **P 02 49 03.8 -0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 21.13 314 P **P 02 49 03.8 -0.7**
comp=Z,1.4nm,0.5s,mb3.5,baz=111,slow=12,SNR=6.3
MDJ Mudanjiang 22.10 54 P **P 02 49 12.4 -1.8**
MDJ AMB AMB
comp=Z,12nm,1.0s,mb4.3
MDJ AMB AMB
comp=Z,127nm,4.9s
NDI New Delhi 23.82 265 *e*P **P 02 49 32.0 +0.8**
ZAL Zalesovo 24.35 331 P **P 02 49 37.7 +1.7**
ZAL pmax pmax
comp=Z,7.0nm,1.0s
ZAL Zalesovo 24.35 331 P **P 02 49 37.7 +1.7**
comp=Z,6.8nm,1.0s,mb4.0,baz=350,slow=9.3,SNR=24
ZAL Zalesovo 24.35 331 P **P 02 49 37.7 +1.7**
BOD Bodaibo 24.74 12 *e*P **P 02 49 39.4 -0.4**
BOD pmax pmax
comp=Z,9.0nm,1.5s,mb4.1
KURK Kurchatov 25.23 319 *i*P **P 02 49 45.0 +0.5**
KURK Kurchatov 25.23 319 *e*P **P 02 49 44.9 +0.4**
comp=Z,50nm,1.1s,mb5.0
KLR Kul'dur 25.31 45 *e*P **P 02 49 42.3 -3.1**
MJAR Matsushiro Arr 27.61 75 P **P 02 50 06.3 -0.4**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MJAR Matsushiro Arr 27.61 75 P **P 02 50 06.3 -0.4**
comp=Z,2.5nm,0.7s,mb3.9,baz=280,slow=9.1,SNR=9.3
BVAR Borovoye Array 30.81 319 P **P 02 50 36.9 +1.9**
comp=Z,2.0nm,0.7s,mb4.1,baz=117,slow=9.9,SNR=14
BVAR PcP PcP 02 53 31.4 -0.4
comp=Z,1.8nm,0.8s,baz=117,slow=3.3,SNR=4.0
CHKZ Chkalovo 30.97 320 *e*P **P 02 50 35.9 -0.5**
CHKZ pmax pmax
comp=Z,35nm,0.6s,mb5.4
CHKZ Chkalovo 30.97 320 *e*P **P 02 50 35.9 -0.5**
comp=Z,35nm,0.6s,mb5.4
YSS Yuzh-Sakhalins 31.59 54 P **P 02 50 48.8 +6.8**
YAK Yakutsk 32.37 22 *e*P **P 02 50 47.1 -1.5**
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.7
SVE Sverdlovsk 37.44 321⇑*e*P **P 02 51 36.0 +4.0**
SVE *e* 02 53 48.0
SVE *e* 03 00 28.0
SVE pmax pmax
comp=Z,76nm,2.2s,mb5.1
ARU Arti 38.42 320⇓*i*P **P 02 51 40.2 0.0**
ARU *e*S **S** **02 57 32.5 -0.2**
ARU *e*SS SS 03 00 19.0 +5.7
ARU pmax pmax
comp=Z,29nm,0.9s,mb5.0
ARU MLR MLR
comp=N,1μm,20.0s,MS4.7
ARU MLR MLR
comp=Z,1μm,20.0s,MS4.8
ARU MLR MLR
comp=E,400nm,18.0s,MS4.7
ARU Arti 38.42 320 *e*P **P 02 51 39.8 -0.4**
comp=E,36nm,1.0s,mb5.1
TIXI Tiksi 39.92 12 *i*P **P 02 51 51.3 -1.3**
TIXI pmax pmax
comp=Z,13nm,1.8s,mb4.4
TIXI MLR MLR
comp=Z,400nm,18.0s,MS4.3
GOF Gofitskoye 47.63 303⇑*i*P **P 02 52 57.9 +2.9**
GOF pmax pmax
comp=Z,20nm,1.3s,mb5.0
KIV Kislovodsk 48.06 301 *i*P **P 02 52 59.3 +0.9**
KIV *i* pP 02 53 09.2 +0.9
KIV *i* 02 54 31.5
KIV *e*S **S** **02 59 55.2 +1.7**
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
BILL Bilibino 48.50 26 *i*P **P 02 52 59.4 -2.1**
BILL *e* 02 54 50.8
BILL pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BILL MLR MLR
comp=Z,700nm,24.0s,MS4.6
MOS Moscow 49.97 317 *e*P **P 02 53 21.6 +8.7**
SOC Sochi 50.24 301 *i*P **P 02 53 14.2 -1.0**
SOC *e* 02 54 33.6
SOC *e* 02 55 09.4
SOC *e*PPP PPP 02 56 07.4 -1.0
SOC *e*S **S** **03 00 23.3 -0.6**
SOC *e* 03 03 01.1
SOC *e*SS SS 03 04 00.8 +6.4
SOC pmax pmax
comp=N,3.0nm,0.7s
SOC pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
SOC pmax pmax
comp=E,5.0nm,0.6s
SOC MLR MLR
comp=Z,753nm,22.0s,MS4.7
SOC MLR MLR
comp=N,289nm,19.0s,MS4.7
SOC MLR MLR
comp=E,625nm,22.0s,MS4.7
OBN Obninsk 50.61 316 *i*P **P 02 53 17.7 -0.1**
OBN *i* pP 02 53 26.9 -0.8
OBN *e* 02 54 34.9
OBN *e*SS SS 03 04 03.8 +3.4
OBN pmax pmax
comp=Z,27nm,1.6s,mb4.9
ANN Anapa 51.59 303 *i*P **P 02 53 19.7 -5.7**
MALT Malatya 52.50 295⇑P **P 02 53 36.6 +4.3**
MALT Malatya 52.50 295 *e*P **P 02 53 33.4 +1.2**
comp=Z,2.4nm,0.6s,mb4.3
MALT Malatya 52.50 295⇑P **P 02 53 36.7 +4.4**
KEV Kevo 54.28 335 *e*p **P 02 53 45.0 0.0**
ARCES ARCESS Array B 54.81 335 P **P 02 53 49.5 +0.6**
ARCES pmax pmax
comp=Z,9.0nm,0.9s
ARCES ARCESS Array B 54.81 335 P **P 02 53 49.5 +0.6**
comp=Z,8.6nm,0.8s,mb4.8,baz=72,slow=7.7,SNR=14
KAF Kangasniemi 55.20 326 *e*p **P 02 53 51.6 -0.2**
comp=Z,6.4nm,0.8s,mb4.7
KAF Kangasniemi 55.20 326 *e*P **P 02 53 51.6 -0.2**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
FINES FINESS Array B 55.40 325 P **P 02 53 52.1 -1.2**
FINES pmax pmax
comp=Z,10.0nm,0.8s
FINES FINESS Array B 55.40 325 P **P 02 53 52.1 -1.2**
comp=Z,10nm,0.8s,mb4.9,baz=90,slow=7.6,SNR=25
FITZ Fitzroy Crossi 55.55 155 P **P 02 53 55.4 +0.5**
comp=Z,5.9nm,0.9s,mb4.6,baz=344,slow=7.5,SNR=6.2
BRTR Keskin Array B 55.64 298 P **P 02 53 55.1 -0.2**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 55.64 298 P **P 02 53 55.0 -0.3**
comp=Z,3.0nm,0.8s,mb4.4,baz=98,slow=8.7,SNR=11
AKASG Malin Array Be 55.70 312 P **P 02 53 54.7 -0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 55.70 312 P **P 02 53 54.7 -0.8**
comp=Z,4.1nm,0.8s,mb4.5,baz=66,slow=6.4,SNR=8.0
AKASG Malin Array Be 55.70 312 P **P 02 53 54.7 -0.8**
ASF Jabal al Asfar 55.70 288 P **P 02 53 56.7 +0.9**
comp=Z,1.4nm,0.3s,mb4.5,baz=285,slow=2.3,SNR=5.5
CFR Carcaliu 57.87 306⇑P **P 02 54 11.4 +0.3**
HARR Harsova 58.16 305⇑P **P 02 54 12.4 -0.7**
VRI Vrincioaia 58.60 307⇓P **P 02 54 20.5 +4.3**
ISR Istrita 58.96 306⇑P **P 02 54 21.0 +2.3**
BURAR Bucovina Array 59.06 309⇑P **P 02 54 20.4 +1.1**
BURAR Bucovina Array 59.06 309⇑P **P 02 54 20.5 +1.1**
MLR Muntele Rosu 59.24 307⇑P **P 02 54 21.3 +0.6**
KWP Kalwaria 60.02 312 *e*P **P 02 54 25.5 -0.5**
KWP pmax pmax
comp=Z,38nm,0.9s,mb5.4
KWP Kalwaria 60.02 312 *e*P **P 02 54 25.5 -0.5**
comp=Z,38nm,0.9s,mb5.4
KOLS Kolonicke sedl 60.51 311 *e*P **P 02 54 23.0 -6.3**
KOLS *e* pP 02 54 32.6 -6.8
KOLS Kolonicke sedl 60.51 311 *e* **P 02 54 23.0 -6.3**
KOLS *e*pP pP 02 54 32.6 -6.8
KOLS *e* 02 56 17.1
WRAB Tennant Creek 60.67 147 *e*P **P 02 54 30.5 -0.3**
WRAB pmax pmax
comp=Z,25nm,0.9s,mb5.3
WRAB Tennant Creek 60.67 147 *e*P **P 02 54 30.5 -0.3**
comp=Z,24nm,0.9s,mb5.3
WRA Warramunga Arr 60.67 147 P **P 02 54 31.2 +0.4**
WRA pmax pmax
comp=Z,11nm,0.9s
WRA Warramunga Arr 60.67 147 P **P 02 54 31.2 +0.3**
comp=Z,11nm,0.9s,mb5.0,baz=339,slow=7.5,SNR=54
WB2 Warramunga Arr 60.68 147 *e*P **P 02 54 31.2 +0.3**
NIE Niedzica 61.56 312 *e*P **P 02 54 34.8 -1.6**
OJC Ojcow 61.60 313 *e*P **P 02 54 39.9 +3.2**
VTS Vitosha 62.09 304⇓P **P 02 54 40.5 +0.5**
NB2 NORSAR Subarra 62.45 327 P **P 02 54 40.2 -2.0**
comp=Z,1.0nm,0.6s,mb4.1,baz=69,slow=7.0
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
NOA NORSAR Array B 62.45 327 P **P 02 54 44.2 +2.0**
NOA pmax pmax
comp=Z,5.0nm,1.0s
NOA NORSAR Array B 62.45 327 P **P 02 54 44.1 +2.0**
comp=Z,5.0nm,1.0s,mb4.6,baz=70,slow=6.8,SNR=4.9
OKC Ostrava-Krasne 62.74 313 *e*P **P 02 54 44.2 -0.1**
VYHS Vyhne 62.80 312 *e*P **P 02 54 42.1 -2.6**
VYHS *e* 02 54 48.1
MORC Moravsky Berou 63.12 313⇑P **P 02 54 46.7 -0.1**
DPC Dobruska-Polom 63.64 314 *e*P **P 02 54 50.1 -0.1**
SMOL Smolenice 63.66 312 *e*P **P 02 54 54.3 +4.0**
SMOL Smolenice 63.66 312 *e*pP pP 02 54 54.3 -6.3
ASPA Alice Springs 63.77 150 *e*P **P 02 54 52.3 +0.9**
UPC Upice 63.77 315 *e*P **P 02 54 51.1 +0.1**
ASAR Alice Springs 63.77 150 P **P 02 54 52.1 +0.7**
comp=Z,5.8nm,0.9s,mb4.6,baz=332,slow=6.2,SNR=32
PKSM Moragy 63.77 309⇑P **P 02 54 51.1 0.0**
VRAC Vranov 63.87 313⇑P **P 02 54 54.0 +2.3**
IMA Indian Mountai 64.05 26 *e*P **P 02 54 51.8 -0.7**
IMA pmax pmax
comp=Z,11nm,1.0s,mb4.8
IMA Indian Mountai 64.05 26 *e*P **P 02 54 51.8 -0.7**
comp=Z,11nm,1.0s,mb4.8
PVCC Panska Ves 64.61 315 *e*P **P 02 55 00.0 +3.6**
PRU Pruhonice 64.84 315 *e*P **P 02 55 01.2 +3.3**
BRG Berggiesshubel 64.84 316 *e*P **P 02 55 00.3 +2.4**
CLL Collm 65.21 316 *e*P **P 02 55 00.0 -0.3**
CLL Collm 65.21 316 P **P 02 55 00.0 -0.3**
KHC Kasperske Hory 65.76 314 *e*P **P 02 55 05.5 +1.6**
COLA College 66.76 26 *e*P **P 02 55 09.0 -0.9**
COLA pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
COLA College 66.76 26 *e*P **P 02 55 08.9 -1.0**
comp=Z,9.9nm,1.1s,mb4.8
ILAR Eielson Array 67.16 26 P **P 02 55 11.2 -1.3**
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR Eielson Array 67.16 26 P **P 02 55 11.2 -1.3**
comp=Z,2.1nm,1.0s,mb4.1,baz=290,slow=7.0,SNR=10
SML Sawmill 68.15 29 P **P 02 55 17.7 -1.0**
INK Inuvik 69.39 20 *e*P **P 02 55 25.0 -1.3**
INK pmax pmax
comp=Z,12nm,1.1s
INK Inuvik 69.39 20 P **P 02 55 25.8 -0.5**
comp=Z,6.4nm,0.9s,mb4.5,baz=309,slow=6.8,SNR=6.2
INK Inuvik 69.39 20 *e*P **P 02 55 25.0 -1.3**
comp=Z,12nm,1.1s,mb4.7
CDF Champ du Feu 69.81 315 *e*P **P 02 55 28.8 -0.4**
HAU Haudompre 70.55 315 *e*P **P 02 55 34.3 +0.6**
RES Resolute Bay 70.90 5 *e*P **P 02 55 34.5 -0.9**
RES pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
RES Resolute Bay 70.90 5 *e*P **P 02 55 34.5 -0.9**
comp=Z,7.6nm,1.2s,mb4.5
LPG La Plagne 71.54 313 *e*P **P 02 55 40.0 +0.3**
comp=Z,39nm,1.2s,mb4.9
LPG La Plagne 71.54 313 *e*P **P 02 55 40.0 +0.3**
LPG pmax pmax
comp=Z,19nm,1.2s,mb4.9
LPL La Plagne 71.55 313 *e*P **P 02 55 39.8 +0.1**
comp=Z,17nm,0.8s,mb4.7
LPL La Plagne 71.55 313 *e*P **P 02 55 39.8 +0.1**
LPL pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MBDF Montbardon 71.92 312 *e*P **P 02 55 41.4 -0.5**
comp=Z,24nm,1.2s,mb4.7
MBDF Montbardon 71.92 312 *e*P **P 02 55 41.4 -0.5**
MBDF pmax pmax
comp=Z,12nm,1.2s,mb4.7
ORIF Oris-en-Rattie 72.37 313 *e*P **P 02 55 44.6 0.0**
comp=Z,11nm,0.8s,mb4.5
ORIF Oris-en-Rattie 72.37 313 *e*P **P 02 55 44.6 0.0**
ORIF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
FRF La Foret Royal 72.58 311 *e*P **P 02 55 45.2 -0.6**
VIVF Saint-Julien-l 73.14 313 *e*P **P 02 55 48.8 -0.3**
STKA Stephens Creek 74.22 148 P **P 02 55 57.0 +1.2**
comp=Z,8.0nm,0.8s,mb4.7,baz=324,slow=4.8,SNR=10
STKA Stephens Creek 74.22 148 *e*P **P 02 55 55.8 +0.1**
YKA Yellowknife Ar 78.91 17 P **P 02 56 21.7 +0.2**
YKA pmax pmax
comp=Z,3.0nm,1.1s
YKA Yellowknife Ar 78.91 17 P **P 02 56 21.7 +0.2**
comp=Z,2.6nm,1.1s,mb4.1,baz=330,slow=5.0,SNR=21
YKA Yellowknife Ar 78.91 17 P **P 02 56 21.7 +0.2**
OTAV Otavalo 145.90 5 *e*PKP PKPdf 03 03 59.4 +3.1
SAML Samuel 152.65 333 *e*PKP PKPdf 03 04 08.6 +1.7
LPAZ La Paz 161.20 337 PKIKP PKPdf 03 04 20.3 +2.8
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 161.20 337 PKP PKPdf 03 04 20.3 +2.8
comp=Z,0.9nm,0.8s,baz=29,slow=9.5,SNR=3.6
LPAZ La Paz 161.20 337 PKP PKPdf 03 04 20.3 +2.8

*DJA **09** 02:58:35.8±1.2,5.96S×105.43E,h79km±10km,MD4.2/1, Error ellipse: s-maj=28.9km s-min=10.1km az=47.0*
*IDC **09** 02:58:37.3±3.0,5.96S×105.41E,mb3.8/6,mb1 3.9/6, mb1mx3.7/19,mbtmp3.8/6,Error ellipse: s-maj=142.3km s-min=20.1km az=54.0*
*NEIC **09** 02:58:42.6±2.0,5.91S×105.58E,h35km,mb4.1/2,Error ellipse: s-maj=99.1km s-min=13.7km az=52.0*
ISC 09 02:58:38.7±1.1,**6.09S**±0.10×**105.4E**±0.1,**h27**km±6km,**n13,** σ1§**00**/14,**mb3.8/8,3C-2D,Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**0.55**	**341**	⇑*i*Pg	**Pb**	**02 58 48.8**	**-1.0**
PENI	5μm,0.2s			⇑*i*Sg	**Sb**	**02 58 58.5**	**+1.1**
PASI	**Pasiripis**	**0.64**	**158**	*e*Pg	**Pb**	**02 58 51.4**	**+0.2**
PULI	**Pulasari**	**0.67**	**112**	⇓*i*Pg	**Pb**	**02 58 50.4**	**-1.4**
PULI	**Pulasari**	**0.67**	**112**	⇓*i*Pn	**Pn**	**02 58 51.5**	**-0.9**
PULI				⇑*i*Sg	**Sb**	**02 59 01.7**	**+0.9**
FITZ	**Fitzroy Crossi**	**23.12**	**123**	P	**P**	**03 03 43.9**	**+0.1**
	5.4nm,0.9s,mb4.0,baz=354,slow=4.6,SNR=3.5						
WRA	**Warramunga Arr**	**31.35**	**119**	*e*P	**P**	**03 04 59.9**	**+0.4**
	1.0nm,0.6s,mb3.8,baz=299,slow=9.2,SNR=16						
WRAB	**Tennant Creek**	**31.35**	**119**	*e*P	**P**	**03 04 57.8**	**-1.7**
	3.0nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**32.55**	**125**	P	**P**	**03 05 10.9**	**+1.0**
	0.7nm,0.7s,mb3.7,baz=305,slow=8.0,SNR=9.0						
STKA	**Stephens Creek**	**42.46**	**132**	P	**P**	**03 06 35.4**	**+2.0**
	3.0nm,0.6s,mb4.1,baz=291,slow=8.2,SNR=8.9						
SONM	**Songino Array**	**53.70**	**1**	P	**P**	**03 08 00.8**	**+0.3**
	0.4nm,0.8s,mb3.4,baz=196,slow=9.3,SNR=4.3						
MKAR	**Makanchi Array**	**56.49**	**341**	P	**P**	**03 08 20.0**	**-0.8**
	0.2nm,0.6s,mb3.3,baz=135,slow=8.2,SNR=2.5						
KURK	**Kurchatov**	**61.10**	**341**	P	**P**	**03 08 52.6**	**-0.1**
	0.7nm,0.5s,mb4.0						
TXAR	**Lajitas Array**	**144.17**	**46**	PKP	PKPdf	03 18 13.8	-3.7
	0.2nm,0.5s,baz=297,slow=2.0,SNR=4.8						

*IDC **09** 03:07:30.8±1.7,17.39S×69.59W,h157km±12km,mb3.5/4, mb1 3.5/6,mb1mx3.2/18,mbtmp3.8/6,Error ellipse: s-maj=31.3km s-min=11.4km az=106.0*
ISC 09 03:07:31.8±1.1,**17.44S**±0.08×**69.3W**±0.1,**h174**km±9km,**n7,** σ1§**01**/10,**mb3.6/3,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.62**	**45**	P	**P**	**03 08 04.3**	**-0.5**
	baz=246,slow=6.5						
LPAZ				S	**S**	**03 08 30.6**	**+0.4**
	3.6nm,0.3s,baz=148,slow=20,SNR=3.0						
LVC	**Limon Verde**	**5.16**	**176**	P	**P**	**03 08 47.8**	**-0.7**
	1.5nm,0.3s,baz=354,slow=6.4,SNR=23						
LVC				S	**S**	**03 09 47.9**	**+0.1**
	3.5nm,0.3s,baz=129,slow=23,SNR=24						
SIV	**San Ignacio**	**8.03**	**81**	P	**P**	**03 09 27.8**	**+1.4**
	0.7nm,0.3s,baz=273,slow=10,SNR=16						
SIV				S	**S**	**03 10 54.6**	**-1.3**
	0.2nm,0.3s,baz=345,slow=21,SNR=3.2						
BDFB	**Brasilia**	**20.50**	**88**	P	**P**	**03 12 01.2**	**+3.5**
	2.2nm,0.5s,baz=265,slow=10,SNR=6.0						
PLCA	**Paso Flores**	**23.23**	**182**	P	**P**	**03 12 24.9**	**+0.5**
	0.8nm,0.5s,mb3.4,baz=338,slow=8.3,SNR=3.6						
DBIC	**Dimbokro**	**68.01**	**75**	P	**P**	**03 18 14.2**	**-0.6**
	2.8nm,0.5s,mb4.2,baz=220,slow=5.9,SNR=6.3						

YKA	**Yellowknife Ar**	**87.25**	**341**	P		**P**	**03 19 58.7**	**-0.5**
	0.2nm,0.5s,mb3.2,baz=134,slow=5.1,SNR=12							

WEL 09 03:23:44.2±0.6,38.28S×179.17E,h12km,ML3.7/4,1D, Error ellipse: s-maj=5.0km s-min=2.5km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.75**	**286**	⇓P*		Pb	03 23 58.2	-0.4
PUZ				S*		Sb	03 24 08.2	-0.2
PUZ				S*		Sb	03 24 08.4	0.0
MXZ	**Matakaoa Point**	**0.99**	**316**	P*		Pb	03 24 02.0	-0.8
MXZ				S*		Sb	03 24 16.3	+0.8
MWZ	**Matawai**	**1.29**	**267**	PN		Pn	03 24 06.8	-1.2
MWZ				S*		Sb	03 24 23.5	-0.7
KNZ	**Kokohu**	**1.38**	**237**	*e*PN		Pn	03 24 09.2	-0.1
KNZ				SN		Sn	03 24 27.7	+0.1
BKZ	**Black Stump Fm**	**2.27**	**246**	PN		Pn	03 24 21.2	-0.9
BKZ				SN		Sn	03 24 49.2	-1.0

BJI 09 03:29:30.8,34.05N×104.71E,h17km,ML3.8,Gansu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**2.15**	**341**	PG		Pn	03 30 06.7	+0.2
LZH				SG		Sn	03 30 31.9	-1.1
LZH				Smax				
	comp=N,690nm,0.6s							
LZH				Smax				
	comp=E,1μm,0.6s							
CD2	**Chengdu**	**3.23**	**195**	PG		Pn	03 30 31.8	+10
CD2				SG		Sn	03 31 12.0	+12
CD2				Smax				
	comp=N,112nm,1.0s							
XAN	**Xi'an**	**3.50**	**89**	P		Pn	03 30 26.0	+0.3
XAN				PG		Pn	03 30 35.2	+10
XAN				S		Sn	03 31 11.7	+4.6
XAN				SG		Sn	03 31 24.0	+17
XAN				Smax				
	comp=N,283nm,0.6s							
XAN				Smax				
	comp=E,221nm,0.8s							

DJA 09 03:31:17.2±0.9,11.28S×116.08E,h33km,MD4.7/4, ML4.6/3,2C-7D,Error ellipse: s-maj=18.2km s-min=16.1km az=19.0,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**2.60**	**348**	⇓*i*Pn		Pn	03 31 56.2	-1.7
RATI				⇓*i*Sn		Sn	03 32 24.3	-4.4
KEDI	**Kedomdong**	**2.78**	**1**	⇓*i*Pn		Pn	03 31 58.7	-1.8
	667nm,0.2s							
KEDI	**Kedomdong**	**2.78**	**1**	⇑*i*Pg		P	03 31 59.3	-1.0
KEDI				⇓*i*Sn		Sn	03 32 30.5	-2.7
SRDI	**Scrawed**	**3.37**	**325**	⇑*i*Pn		Pn	03 32 06.8	-2.1
	115nm,0.2s							
SRDI				⇓*i*Sn		Sn	03 32 44.7	-3.6
KELI	**Kelakatan**	**3.42**	**333**	⇓*i*Pn		Pn	03 32 08.5	-1.1
	120nm,0.2s							
KELI				⇓*i*Sn		Sn	03 32 44.0	-5.5

*GUC **09** 03:39:09.4±1.1,25.18S×69.25W,h111km±19km,ML4.3*
*IDC **09** 03:39:12.7±1.2,24.99S×69.05W,h110km±8km,mb3.4/2, mb1 3.5/5,mb1mx3.3/17,mbtmp3.7/5,Error ellipse: s-maj=41.7km s-min=26.9km az=92.0*
ISC 09 03:39:09.6±0.5,25.18S±0.03×69.23W±0.09, h108km±10km,n16,σ0°88/24,mb3.6/2,4C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.20**	**297**	⇑*i*P		**P**	**03 39 34.1**	**+0.9**
CPN1				*i* S		**S**	**03 39 51.6**	**+0.7**
CPN1				AMP			03 39 52.3	
	comp=N,3μm,0.2s							
ANCH	**Antofagasta**	**1.84**	**324**	⇑*i*P		**P**	**03 39 40.9**	**+0.1**
ANCH				*i* S		**S**	**03 40 03.9**	**-0.4**
ANCH				AMP			03 40 05.7	
	comp=E,2μm,0.5s							
CPCH	**Copiapo**	**2.39**	**205**	*e*P		**P**	**03 39 47.8**	**-0.4**
CPCH				*i* S		**S**	**03 40 17.4**	**+0.3**
CPCH				AMP			03 40 27.3	
	comp=E,5μm,0.1s							
SPCH	**San Pedro de A**	**2.45**	**23**	⇑*i*P		**P**	**03 39 49.7**	**+0.6**
SPCH				*i* S		**S**	**03 40 19.5**	**+0.8**
SPCH				AMP			03 40 21.4	
	comp=N,2μm,0.5s							
LVC	**Limon Verde**	**2.58**	**7**	P		**P**	**03 39 50.5**	**-0.2**
	comp=N,18nm,0.3s,baz=179,slow=8.5,SNR=212							
LVC				S		**S**	**03 40 16.4**	**-5.2**
	comp=N,65nm,0.3s,baz=181,slow=11,SNR=19							
LVC	**Limon Verde**	**2.58**	**7**	⇑*i*P		**P**	**03 39 50.5**	**-0.2**
LVC				*i* S		**S**	**03 40 19.9**	**-1.7**
LVC				AMP			03 40 25.7	
	comp=N,563nm,0.5s							
VACH	**Vallenar**	**3.64**	**202**	*i* P		**P**	**03 40 04.4**	**-0.8**
VACH				*i* S		**S**	**03 40 46.4**	**-1.1**
LCO	**Las Campanas**	**4.03**	**199**	⇓*i*P		**P**	**03 40 09.9**	**-0.6**
LCO				*i* S		**S**	**03 40 56.9**	**-0.1**
CFAA	**Coronel Fontan**	**6.46**	**172**	P		**P**	**03 40 43.0**	**-0.5**
	comp=N,0.3nm,0.3s,baz=348,slow=13,SNR=25							
CFAA				S		**S**	**03 41 57.6**	**+1.3**
	comp=N,0.5nm,0.3s,baz=263,slow=20,SNR=4.3							
LPAZ	**La Paz**	**8.91**	**7**	P		**P**	**03 41 15.6**	**-1.2**
	comp=N,0.4nm,0.3s,baz=208,slow=3.2,SNR=11							
SIV	**San Ignacio**	**11.91**	**41**	P		**P**	**03 41 50.7**	**-6.2**
	comp=N,4.1nm,0.3s,baz=229,slow=12,SNR=79							
SIV				S		**S**	**03 43 57.4**	**-11**
	comp=N,0.1nm,0.3s,baz=155,slow=18,SNR=2.9							
PLCA	**Paso Flores**	**15.55**	**184**	P		**P**	**03 42 46.8**	**+3.0**
	comp=N,0.1nm,0.3s,baz=354,slow=11,SNR=5.4							
BDFB	**Brasilia**	**22.01**	**69**	P		**P**	**03 43 55.3**	**-0.7**
	comp=N,1.3nm,0.4s,mb3.6,baz=228,slow=12,SNR=4.6							
YKA	**Yellowknife Ar**	**94.55**	**341**	P		**P**	**03 52 19.3**	**+0.8**
	comp=N,0.2nm,0.7s,mb3.7,baz=138,slow=4.5,SNR=6.1							
YKA				pP		pP	03 52 46.8	-0.3
	comp=N,0.3nm,0.8s,baz=136,slow=4.8,SNR=4.0							
ZAL	**Zalesovo**	**145.38**	**27**	PKPbc		PKPbc	03 58 36.7	+1.8
	comp=N,1.0nm,0.5s,baz=188,slow=12,SNR=4.8							
ZAL				pPKPbc			03 59 06.2	
	comp=N,1.1nm,0.6s,baz=152,slow=8.5,SNR=3.3							
MKAR	**Makanchi Array**	**148.72**	**39**	PKPbc		PKPdf	03 58 45.9	+5.9
	comp=N,0.7nm,0.7s,baz=320,slow=2.7,SNR=6.3							
MKAR				pPKPbc			03 59 15.7	
	comp=N,0.4nm,0.6s,baz=296,slow=2.1,SNR=3.3							

*IDC **09** 03:41:33.9±0.4,1.40N×97.14E,h23km±2km,mb4.5/20, mb1 4.7/21,mb1mx4.7/22,mbtmp4.7/21,ML4.8/1,MS4.9/19, Ms1 4.9/19,ms1mx4.8/28,Error ellipse: s-maj=16.3km s-min=9.7km az=53.0*
*BJI **09** 03:41:33.1,1.18N×97.21E,h42km,mB5.7,mb5.4,Ms5.5, Msz5.4*
*MOS **09** 03:41:33.7±0.9,1.42N×97.16E,h33km,mb5.5/40, MS5.0/17,Error ellipse: s-maj=10.0km s-min=5.3km az=109.7*
*HRVD **09** 03:41:34.7±0.4,1.19N×96.78E,h34km±1km,MW5.3/51, Centroid moment Tensor Solution. LP body waves: s42,c71;Mantle waves: s51,c77; Half duration: 1±0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.74±.04; $M_{\theta\theta}$-0.27±.03; $M_{\phi\phi}$-0.46±.03; $M_{r\theta}$0.38±.04; $M_{\theta\phi}$0.44±.02; $M_{\phi r}$-0.37±.04; Best double couple: M_0.944×10^{17} NP1: ϕ_s326°,δ28°,λ98°. NP2:ϕ_s137°,δ62°,λ86°. Principal axes: T .905, Plg73°, Azm38°; N .08, Plg4°, Azm139°; P -.984, Plg17°, Azm230°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **09** 03:41:34.7±0.2,1.40N×97.16E,h30km,mb5.3/53, MS4.8/7 Error ellipse: s-maj=5.7km s-min=4.6km az=212.0*
ISC 09 03:41:32.2±0.9,1.38N±0.04×97.18E±0.03,h24km±6km, h26km±6km:pP-P,n264,σ0°99/275,mb5.1/94,MS5.1/56, 23C-4D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.99**	**50**	P		**Pn**	**03 42 48.7**	**+1.1**
KULM	**Kulim**	**5.21**	**42**	*e*P		**Pn**	**03 42 50.9**	**+0.2**
KGM	**Kluang**	**6.17**	**84**	P		**Pn**	**03 43 05.7**	**+1.4**
SNG	**Songkhla**	**6.70**	**31**	P		**Pn**	**03 43 11.0**	**-0.8**
	706nm,1.0s							
NNT	**Nongplab**	**11.42**	**13**	P		**P**	**03 44 16.5**	**-0.7**
KSM	**Kuching**	**13.12**	**89**	*e*P		**P**	**03 44 41.5**	**+1.5**
NST	**Nakhon Sawan**	**14.50**	**11**	P		**P**	**03 45 02.5**	**+4.3**
BDT	**Bhumibol Dam**	**15.87**	**6**	P		**P**	**03 45 18.0**	**+2.0**
KKTK	**Khon Kaen**	**15.87**	**20**	P		**P**	**03 45 18.5**	**+2.5**
CM31	**Chiang Mai Arr**	**17.06**	**6**	*e*P		**P**	**03 45 29.1**	**-1.9**
	62nm,0.8s							
CMAR	**Chiang Mai Arr**	**17.06**	**6**	P		**P**	**03 45 29.9**	**-1.2**
	1.3nm,0.3s,baz=194,slow=13,SNR=50							
CMAR				LR		LR	03 52 38.4	
	comp=Z,5μm,19.4s,baz=190,slow=39							
CMAR				ScP			03 53 51.7	
	0.8nm,0.3s,baz=222,slow=2.4,SNR=4.2							
CHG	**Chiang Mai**	**17.41**	**6**	P		**P**	**03 45 34.1**	**-1.4**
	28nm,0.8s							
PALK	**Pallekele**	**17.44**	**290**	*e*P		**P**	**03 45 35.1**	**-0.7**
	110nm,1.6s							
NANT	**Nan**	**17.65**	**11**	⇑P		**P**	**03 45 37.0**	**-1.5**
	349nm,0.8s							
KKM	**Kota Kinabalu**	**19.55**	**76**	*e*P		**P**	**03 46 00.7**	**-0.6**
KKM	**Kota Kinabalu**	**19.55**	**76**	P		**P**	**03 46 01.1**	**-0.2**
MDRS	**Chennai**	**20.40**	**305**	*e*		**P**	**03 46 16.0**	**+5.6**
MDRS				*e*			03 50 13.0	
MDRS				*e*			03 51 31.0	
MDRS				*e*			03 56 16.0	
TSM	**Tawau**	**20.87**	**82**	P		**P**	**03 46 14.9**	**-0.4**
VIS	**Vishakhapatnam**	**21.19**	**321**	*e*P		**P**	**03 46 17.9**	**-0.6**
VIS				*e*			03 46 29.2	
	comp=Z,136nm,1.4s							
VIS				*e*			03 50 01.3	
VIS				*e*S		**S**	**03 50 07.3**	**-0.7**
TRD	**Trivandrum**	**21.34**	**290**	*i* P		**P**	**03 46 18.1**	**-1.9**
TRD				*e*			03 46 31.9	
	comp=Z,99nm,1.4s							
TRD				*e*S		**S**	**03 50 11.1**	**+0.2**
QIZ	**Qiongzhong**	**21.49**	**34**	P		**P**	**03 46 21.7**	**+0.2**
QIZ				S		**S**	**03 50 22.3**	**+8.7**
QIZ				AMB		AMB		
	comp=Z,57nm,1.3s,mb4.7							
QIZ				LR		LR		
	comp=N,4μm,15.1s,MS5.2							
QIZ				LR		LR		
	comp=E,5μm,13.7s,MS5.2							
QIZ				LR		LR		
	comp=Z,4μm,15.1s,MS4.9							
QIZ	**Qiongzhong**	**21.49**	**34**	*e*P		**P**	**03 46 21.1**	**-0.4**
	comp=Z,28nm,0.8s,mb4.6							
PPR	**Puerto Princes**	**23.00**	**68**	*e*P		**P**	**03 46 32.9**	**-3.7**
KMI	**Kunming**	**24.21**	**12**	⇑P		**P**	**03 46 50.3**	**+2.0**
KMI				AP			03 46 57.1	
KMI				XP			03 47 03.1	
KMI				PP		PP	03 47 22.5	-0.8
KMI				S		**S**	**03 51 08.2**	**+6.0**
KMI				XS			03 51 23.3	
KMI				AMB		AMB		
	comp=Z,167nm,1.6s,mb5.2							
KMI				AMB		AMB		
	comp=Z,1μm,3.9s							
KMI				LR		LR		
	comp=N,12μm,14.3s,MS5.6							
KMI				LR		LR		
	comp=E,7μm,14.3s,MS5.6							
KMI				LR		LR		
	comp=Z,14μm,15.1s,MS5.6							
KMI	**Kunming**	**24.21**	**12**	⇑P		**P**	**03 46 50.3**	**+2.0**
	comp=Z,167nm,1.6s,mb5.2							
KMI				pP			03 46 57.1	
KMI				sP			03 47 03.1	
KMI				PP		PP	03 47 22.5	-0.8
KMI				S		**S**	**03 51 08.2**	**+6.0**
KMI				sS			03 51 23.3	
KMI				SS		SS	03 52 07.7	+12
KMI				LR		LR		
	comp=Z,14μm,15.1s,MS5.6							
HYB	**Hyderabad**	**24.28**	**312**	*e*P		**P**	**03 46 51.0**	**+1.9**
HYB				*e*S		**S**	**03 51 09.0**	**+5.6**
HYB	**Hyderabad**	**24.28**	**312**	*i* P		**P**	**03 46 51.0**	**+1.9**
HYB				*e*S		**S**	**03 51 09.0**	**+5.6**
SHL	**Shillong**	**24.58**	**348**	*e*P		**P**	**03 46 52.0**	**0.0**
SHL				*e*S		**S**	**03 51 12.0**	**+3.4**
BOK	**Bokaro**	**24.83**	**335**	*e*P		**P**	**03 46 56.5**	**+2.2**
BOK				*e*			03 46 59.1	
	comp=Z,169nm,1.1s							
BOK				*i* S		**S**	**03 51 18.3**	**+5.6**
BLSP	**Bilaspur**	**25.30**	**326**	*e*P		**P**	**03 46 59.1**	**+0.3**
BLSP				*e*			03 47 02.6	
	comp=Z,89nm,1.6s							
BLSP				*i* S		**S**	**03 51 23.8**	**+3.2**
LKP	**Lekhapani**	**25.83**	**358**	*e*P		**P**	**03 47 05.0**	**+1.3**
LKP				*e*			03 47 20.0	
GYA	**Guiyang**	**26.55**	**19**	⇑*i*P		**P**	**03 47 10.2**	**-0.2**
GYA				AP		pP	03 47 19.0	+1.6
GYA				XP		sP	03 47 22.9	+2.3
GYA				AMB		AMB		
	comp=Z,100nm,1.0s,mb5.3							
GYA				AMB		AMB		
	comp=Z,470nm,8.0s							
GYA				LR		LR		
	comp=N,11μm,14.4s,MS5.6							
GYA				LR		LR		
	comp=E,3μm,12.3s,MS5.6							
GYA				LR		LR		
	comp=Z,15μm,13.8s,MS5.7							
GZH	**Guangzhou**	**26.68**	**35**	P		**P**	**03 47 16.0**	**+4.4**
GZH				LR		LR		
	comp=N,3μm,13.4s,MS5.3							
GZH				LR		LR		
	comp=E,5μm,13.4s,MS5.3							
GZH				LR		LR		
	comp=Z,8μm,14.0s,MS5.4							
KAD	**Karad**	**27.60**	**306**	*e*P		**P**	**03 47 22.8**	**+2.8**
KAD				*e*S		**S**	**03 51 58.7**	**+0.2**
JIRN	**Jiri**	**28.17**	**339**	*e*P		**P**	**03 47 25.9**	**+0.8**
	comp=Z,298nm,0.9s,mb5.9							
PKI	**Pulchoki**	**28.38**	**338**	*e*P		**P**	**03 47 27.3**	**+0.3**
	comp=Z,419nm,1.7s,mb5.8							
PKI	**Pulchoki**	**28.38**	**338**	*e*P		**P**	**03 47 27.3**	**+0.3**
PKI				pmax		pmax		
	comp=Z,209nm,1.7s,mb5.5							
GUN	**Gumba**	**28.51**	**339**	*e*P		**P**	**03 47 29.2**	**+1.0**
	comp=Z,297nm,0.9s,mb6.0							
DMN	**Daman**	**28.53**	**337**	*e*P		**P**	**03 47 28.6**	**+0.3**
	comp=Z,132nm,0.9s,mb5.7							
KKN	**Kakani**	**28.63**	**338**	*e*P		**P**	**03 47 29.6**	**+0.4**
	comp=Z,296nm,1.3s,mb5.9							
KKN	**Kakani**	**28.63**	**338**	*e*P		**P**	**03 47 29.6**	**+0.4**
KKN				pmax		pmax		
	comp=Z,148nm,1.3s,mb5.6							
LSA	**Lhasa**	**28.74**	**349**	P		**P**	**03 47 31.6**	**+1.4**
LSA				AP		pP	03 47 39.5	+2.2
LSA				XP		sP	03 47 44.3	+3.8
LSA				PCP		PcP	03 50 37.9	-2.5
LSA				S		**S**	**03 52 18.0**	**+1.3**
LSA				XS			03 52 37.4	
LSA				PCS			03 54 21.4	
LSA				AMB		AMB		
	comp=Z,40nm,0.7s,mb5.3							
LSA				LR		LR		
	comp=N,1μm,19.2s,MS4.9							
LSA				LR		LR		
	comp=E,2μm,16.7s,MS4.9							
LSA				LR		LR		
	comp=Z,2μm,16.7s,MS4.9							
LSA	**Lhasa**	**28.74**	**349**	*e*P		**P**	**03 47 31.4**	**+1.2**
LSA				pmax		pmax		
	comp=Z,54nm,0.8s,mb5.3							
LSA	**Lhasa**	**28.74**	**349**	*e*P		**P**	**03 47 31.4**	**+1.1**
	comp=Z,54nm,0.8s,mb5.3							
BHPL	**Bhopal**	**28.98**	**320**	*e*P		**P**	**03 47 29.3**	**-3.1**
BHPL				*e*			03 47 59.0	
	comp=Z,23nm,2.1s							
GKN	**Gorkha**	**29.07**	**337**	*e*P		**P**	**03 47 33.5**	**+0.3**
	comp=Z,385nm,1.0s,mb6.1							
KOLN	**Koldanda**	**29.29**	**335**	*e*P		**P**	**03 47 35.8**	**+0.6**
	comp=Z,182nm,0.8s,mb5.9							
CD2	**Chengdu**	**30.02**	**11**	P		**P**	**03 47 40.6**	**-1.1**
CD2				AP		pP	03 47 48.7	-0.1
CD2				PP		PP	03 48 41.2	+1.3
CD2				S		**S**	**03 52 45.4**	**+8.3**
CD2				AMB		AMB		
	comp=Z,80nm,0.9s,mb5.5							
CD2				LR		LR		
	comp=N,6μm,14.4s							
CD2				LR		LR		
	comp=Z,9μm,14.4s,MS5.5							
ENH	**Enshi**	**31.02**	**21**	*e*P		**P**	**03 47 48.6**	**-1.9**
	comp=Z,122nm,0.8s,mb5.8							
QZH	**Quanzhou**	**31.25**	**40**	⇑*i*P		**P**	**03 47 51.8**	**-0.7**
QZH				S		**S**	**03 53 01.0**	**+4.6**
QZH				AMB		AMB		
	comp=Z,710nm,4.0s							
QZH				LR		LR		
	comp=N,9μm,13.5s,MS5.7							
QZH				LR		LR		
	comp=E,7μm,14.8s,MS5.7							
QZH				LR		LR		
	comp=Z,12μm,14.3s,MS5.7							
LGTI	**Lohaghat**	**32.24**	**332**	*e*P		**P**	**03 48 01.5**	**+0.3**
NDI	**New Delhi**	**33.17**	**327**	*e*S		**S**	**03 53 25.0**	**-1.4**
WHN	**Wuhan**	**33.27**	**28**	P		**P**	**03 48 10.6**	**+0.5**
WHN				AP		pP	03 48 17.8	+0.5
WHN				LR		LR		
	comp=Z,10μm,14.0s,MS5.7							
DDI	**Dehra Dun**	**34.03**	**330**	*e*P		**P**	**03 48 17.1**	**+0.3**
XAN	**Xi'an**	**34.30**	**17**	P		**P**	**03 48 17.6**	**-1.4**
XAN				S		**S**	**03 53 41.3**	**-2.5**
XAN				SS		SS	03 55 53.0	-0.9
XAN				AMB		AMB		
	comp=Z,99nm,1.0s,mb5.7							
XAN				LR		LR		
	comp=N,5μm,15.2s,MS5.5							
XAN				LR		LR		
	comp=E,5μm,16.9s,MS5.5							
XAN				LR		LR		
	comp=Z,8μm,15.2s,MS5.5							
LZH	**Lanzhou**	**35.08**	**9**	*e*P		**P**	**03 48 25.1**	**-0.6**
LZH				AP		pP	03 48 32.9	0.0
LZH				PP		PP	03 49 48.6	+4.1
LZH				S		**S**	**03 53 55.0**	**-0.9**
LZH				SS		SS	03 56 10.0	-1.9
LZH				AMB		AMB		
	comp=Z,260nm,1.5s,mb5.9							
LZH				AMB		AMB		
	comp=Z,870nm,4.0s							
LZH				LR		LR		
	comp=E,9μm,16.0s							
LZH				LR		LR		
	comp=Z,10μm,17.2s,MS5.6							
LZH	**Lanzhou**	**35.08**	**9**	*e*P		**P**	**03 48 25.1**	**-0.6**
LZH				*SP		sP	03 48 36.6	+0.6
LZH							03 49 48.6	
LZH				S		**S**	**03 53 55.0**	**-0.9**
LZH				*SS			03 54 08.0	
LZH				SS		SS	03 56 10.0	-1.9
LZH				pmax		pmax		
	comp=Z,260nm,1.5s,mb5.9							
LZH				MLR		MLR		
	comp=Z,10μm,17.2s,MS5.6							
LZH	**Lanzhou**	**35.08**	**9**	*e*P		**P**	**03 48 25.1**	**-0.6**
	comp=Z,260nm,1.5s,mb5.9							
LZH				pP		pP	03 48 32.9	0.0
LZH				sP		sP	03 48 36.6	+0.6
LZH				PP		PP	03 49 48.6	+4.1
LZH				S		**S**	**03 53 55.0**	**-0.9**
LZH				sS			03 54 08.0	
LZH				SS		SS	03 56 10.0	-1.9
LZH				LR		LR		
	comp=Z,10μm,17.2s,MS5.6							
SMLA	**Simla**	**35.13**	**329**	*i*		**P**	**03 48 22.8**	**-3.4**
SDNR	**Sundarnagar**	**35.53**	**329**	*e*P		**P**	**03 48 30.0**	**+0.4**
NJ2	**Nanjing**	**36.72**	**32**	*e*P		**P**	**03 48 40.6**	**+1.0**
NJ2				AP		pP	03 48 50.1	+3.3
NJ2				XP		sP	03 48 54.5	+4.6
NJ2				PP		PP	03 50 05.4	+0.5
NJ2				S		**S**	**03 54 21.0**	**-0.2**
NJ2				XS			03 54 38.0	
NJ2				AMB		AMB		
	comp=Z,40nm,1.1s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,310nm,9.9s							
NJ2				LR		LR		
	comp=N,3μm,19.5s,MS5.1							
NJ2				LR		LR		
	comp=E,1μm,19.4s,MS5.1							
DLH	**Dalhousie**	**36.87**	**329**	*e*		**P**	**03 48 46.0**	**+5.1**
THN	**Thein Dam**	**36.91**	**329**	*e*P		**P**	**03 48 41.2**	**0.0**
SSE	**Sheshan**	**37.28**	**35**	*e*P		**P**	**03 48 43.0**	**-1.3**
SSE				AP		pP	03 48 51.8	+0.3
SSE				PP		PP	03 50 16.4	+4.5
SSE				S		**S**	**03 54 30.2**	**+0.5**
SSE				XS			03 54 45.0	
SSE				AMB		AMB		
	comp=Z,37nm,0.9s,mb5.2							
SSE				AMB		AMB		
	comp=Z,354nm,11.4s							
SSE				LR		LR		
	comp=N,3μm,14.7s,MS5.3							
SSE				LR		LR		
	comp=E,1μm,14.6s,MS5.3							
SSE				LR		LR		
	comp=Z,4μm,15.4s,MS5.3							
SSE	**Sheshan**	**37.28**	**35**	*e*P		**P**	**03 48 43.0**	**-1.3**
	comp=Z,37nm,0.9s,mb5.2							
SSE				pP		pP	03 48 51.8	+0.3
SSE				PP		PP	03 50 16.4	+4.5
SSE				S		**S**	**03 54 30.2**	**+0.5**
SSE				sS			03 54 45.0	
SSE				SS		SS	03 57 14.5	+13
SSE				LR		LR		
	comp=Z,4μm,15.4s,MS5.3							
GTA	**Gaotai**	**37.93**	**3**	*e*P		**P**	**03 48 49.7**	**0.0**
GTA				AP		pP	03 48 57.9	+1.0
GTA				XP		sP	03 49 02.0	+2.1
GTA				PP		PP	03 50 17.3	-2.3
GTA				S		**S**	**03 54 35.4**	**-4.2**
GTA				AMB		AMB		
	comp=Z,60nm,1.0s,mb5.3							
GTA				AMB		AMB		
	comp=Z,619nm,6.8s							
GTA				LR		LR		
	comp=N,3μm,14.8s,MS5.4							
GTA				LR		LR		
	comp=E,2μm,13.3s,MS5.4							
GTA				LR		LR		
	comp=Z,3μm,14.1s,MS5.3							
TIY	**Taiyuan**	**38.79**	**19**	PR			03 49 00.0	
TIY				LR		LR		
	comp=N,9μm,14.0s							
TIY				LR		LR		
	comp=Z,2μm,13.0s,MS5.2							
NWAO	**Narrogin (SRO)**	**39.02**	**153**	P		**P**	**03 49 07.5**	**+8.5**
	comp=Z,16nm,0.8s,mb4.8,baz=315,slow=10.0,SNR=6.6							
NWAO				LR		LR	04 04 31.0	
	comp=Z,2μm,21.4s,MS4.9,baz=328,slow=35							
JOW	**Kunigami**	**39.13**	**47**	LR		LR	04 04 17.5	
	comp=Z,958nm,22.0s,MS4.6,baz=262,slow=35							
BTO	**Baotou**	**40.75**	**15**	*e*P		**P**	**03 49 12.7**	**-0.3**
BTO				AMB		AMB		
	comp=Z,43nm,2.2s,mb4.7							
HHC	**Hu-ho-hao-te**	**41.39**	**17**	*e*P		**P**	**03 49 19.4**	**+1.1**
HHC				AP		pP	03 49 28.8	+3.2
HHC				XP		sP	03 49 32.3	+3.7
HHC				PP		PP	03 50 57.6	+0.6
HHC				PCP		PcP	03 51 16.5	-0.4
HHC				SCP			03 55 01.1	
HHC				PCS			03 55 07.0	
HHC				S		**S**	**03

comp=Z,21nm,0.6s,mb4.9
WB2 Warramunga Arr 42.16 122 *e*P **P 03 49 24.0 -0.9**
BJT Baijiatuau 42.16 22 *e*P **P 03 49 25.2 +0.5**
BJT pmax pmax
comp=Z,90nm,0.7s
BJT Baijiatuau 42.16 22 *e*P **P 03 49 25.2 +0.5**
comp=Z,90nm,0.7s,mb5.5
BJI Beijing 42.18 22 P **P 03 49 25.6 +0.7**
BJI AP pP 03 49 34.2 +2.1
BJI XP sP 03 49 38.4 +3.3
BJI PP PP 03 51 03.2 -2.4
BJI S **S 03 55 46.6 +3.4**
BJI AMB AMB
comp=Z,118nm,0.7s,mb5.6
BJI AMB AMB
comp=Z,1µm,4.5s
BJI LR LR
comp=N,2µm,13.5s,MS5.2
BJI LR LR
comp=E,1µm,14.6s,MS5.2
BJI LR LR
comp=Z,1µm,20.6s
BJI Beijing 42.18 22 P **P 03 49 25.6 +0.7**
comp=Z,118nm,0.7s,mb5.6
BJI pP pP 03 49 34.2 +2.1
BJI sP sP 03 49 38.4 +3.3
BJI PP PP 03 51 03.2 -2.4
BJI S **S 03 55 46.6 +3.4**
BJI sS SS 03 56 11.1
BJI SS SS 03 59 07.9 +22
BJI LR LR
comp=Z,1µm,20.6s,MS4.8
KSH Kashi 42.60 336⇑ *i*P **P 03 49 29.0 +0.7**
KSH AP pP 03 49 38.0 +2.4
KSH XP sP 03 49 42.0 +3.4
KSH PP PP 03 51 11.1 +1.3
KSH PCP PcP 03 51 20.3 -0.7
KSH PPP PPP 03 51 45.1 +1.8
KSH SCP 03 55 07.0
KSH PCS 03 55 11.1
KSH S **S 03 55 49.4 0.0**
KSH XS 03 56 06.0
KSH SS SS 03 58 55.0 +1.3
KSH SCS ScS 03 59 25.1 -0.8
KSH AMB AMB
comp=Z,640nm,3.5s
KSH LR LR
comp=N,1µm,14.7s,MS5.3
KSH LR LR
comp=E,3µm,16.1s,MS5.3
WMQ Urumqi 43.09 350⇑ *i*P **P 03 49 32.8 +0.5**
WMQ AP pP 03 49 42.8 +3.3
WMQ XP sP 03 49 46.5 +4.0
WMQ PP PP 03 51 15.4 +0.7
WMQ PCP PcP 03 51 22.8 +0.3
WMQ PPP PPP 03 51 50.6 +0.9
WMQ SCP 03 55 10.8
WMQ S **S 03 55 55.8 -0.7**
WMQ XS 03 56 12.4
WMQ AMB AMB
comp=Z,75nm,1.1s,mb5.3
WMQ AMB AMB
comp=Z,398nm,4.4s
WMQ LR LR
comp=N,1µm,18.6s,MS5.1
WMQ LR LR
comp=E,2µm,19.4s,MS5.1
WMQ LR LR
comp=Z,862nm,19.2s,MS4.7
FORT Forrest 43.42 140 *e*P **P 03 49 36.7 +1.6**
comp=Z,1µm,0.8s
ASPA Alice Springs 43.52 127 *e*P **P 03 49 35.8 -0.2**
ASAR Alice Springs 43.52 127 P **P 03 49 35.8 -0.2**
comp=Z,8.2nm,0.8s,mb4.5,baz=302,slow=7.7,SNR=62
ASAR pP pP 03 49 43.2 0.0
comp=Z,2.5nm,0.5s,baz=297,slow=7.2,SNR=8.7
ASAR PcP PcP 03 51 24.2 0.0
comp=Z,3.3nm,0.8s,baz=309,slow=4.1,SNR=5.5
ASAR ScP 03 55 15.4
comp=Z,0.9nm,0.8s,baz=289,slow=3.7,SNR=4.5
ASAR LR LR 04 10 32.8
comp=Z,799nm,20.1s,MS4.6,baz=293,slow=40
DL2 Dalian 43.53 28 P **P 03 49 36.6 +0.7**
DL2 AMB AMB
comp=Z,30nm,0.6s,mb5.2
DL2 AMB AMB
comp=Z,310nm,4.8s
DL2 LR LR
comp=N,1µm,19.8s,MS4.9
DL2 LR LR
comp=E,940nm,16.8s,MS4.9
DL2 LR LR
comp=Z,1µm,21.1s,MS4.8
KZA Kyzart 45.06 337 P **P 03 49 49.4 +1.2**
SNR=7.8
UCH Uchtor 45.48 336 P **P 03 49 52.8 +1.3**
SNR=20
TKM2 Tokmak 2 45.65 338 P **P 03 49 53.7 +0.9**
SNR=16
KBK Karagaybulak 45.67 337 P **P 03 49 54.4 +1.4**
SNR=21
AML Almayashu 45.73 336 P **P 03 49 54.9 +1.4**
SNR=15
AAK Ala-Archa 45.83 337 *i* P **P 03 49 56.1 +1.8**
FRU Bishkek 45.95 337 *e*P **P 03 49 57.0 +1.8**
FRU *e* 03 50 09.0
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.5
FRU MLR MLR
comp=Z,1µm,16.0s,MS4.9
EKS2 Erkin-Say 46.14 336 P **P 03 49 57.7 +1.0**
SNR=8.3
USP Ospenovka 46.36 337 P **P 03 49 59.1 +0.7**
SNR=31
SNY Shenyang 46.75 27⇓ P **P 03 50 02.0 +0.4**
SNY S **S 03 56 54.8 +5.6**
SNY LR LR
comp=N,2µm,15.9s,MS5.4
SNY LR LR
comp=E,3µm,15.0s,MS5.4
SNY LR LR
comp=Z,4µm,15.0s,MS5.5
SONM Songino Array 46.96 8 P **P 03 50 03.5 +0.4**
comp=Z,39nm,0.8s,mb5.4,baz=189,slow=7.9,SNR=274
SONM pP pP 03 50 11.0 +0.5
comp=Z,28nm,0.9s,baz=190,slow=8.5,SNR=17
SONM LR LR 04 12 25.8
comp=Z,6µm,18.0s,MS5.6,baz=188,slow=39
MKAR Makanchi Array 47.06 346 P **P 03 50 04.0 +0.1**
comp=Z,32nm,0.9s,mb5.2,baz=162,slow=7.7,SNR=191
MKAR pP pP 03 50 11.9 +0.7
comp=Z,23nm,0.8s,baz=164,slow=7.6,SNR=14
MKAR LR LR 04 13 38.9
comp=Z,1µm,21.5s,MS4.8,baz=150,slow=41
MKAR Makanchi Array 47.06 346 P **P 03 50 04.0 +0.1**
MKAR pP pP 03 50 11.9 +0.7
MKAR LR LR 04 13 38.9
ULN Ulaanbaatar 47.09 9 *e*P **P 03 50 03.8 -0.3**
ULN pmax pmax
comp=Z,28nm,0.9s,mb5.2
ULN Ulaanbaatar 47.09 9 *e*P **P 03 50 03.8 -0.3**
comp=Z,28nm,0.9s,mb5.2
KKAR Karatay Array 47.89 334 *i* P **P 03 50 11.5 +1.0**
KKAR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ZAK Zakamensk 49.10 5 *e*P **P 03 50 19.3 -0.4**
ZAK *e* 03 52 16.9
ZAK pmax pmax
comp=Z,14nm,0.9s,mb5.0
ZAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
CN2 Changchun 49.16 27 *e*P **P 03 50 19.7 -0.6**
CN2 *e*XP sP 03 50 32.6 +2.1
CN2 *e*S **S 03 57 23.2 +0.2**
CN2 AMB AMB
comp=Z,60nm,0.8s,mb5.7
CN2 AMB AMB
comp=Z,700nm,4.0s
CN2 LR LR
comp=N,3µm,16.0s,MS5.5
CN2 LR LR
comp=E,3µm,16.0s,MS5.5
CN2 LR LR
comp=Z,3µm,17.0s,MS5.4

MOY Mondy 50.21 3 *e*P **P 03 50 28.1 -0.2**
MOY pmax pmax
comp=Z,56nm,2.3s,mb5.2
TLY Talaya 50.42 5 *e*P **P 03 50 30.1 +0.3**
TLY *e* 03 52 28.6
TLY *e*S **S 03 57 41.0 +0.6**
TLY pmax pmax
comp=Z,22nm,0.9s,mb5.2
TLY MLR MLR
comp=Z,2µm,16.0s,MS5.3
IRK Irkutsk 51.03 6 *e*P **P 03 50 35.3 +0.8**
IRK *e* 03 52 31.6
IRK pmax pmax
comp=Z,64nm,1.9s,mb5.2
HIA Hailar 51.48 19 *e*P **P 03 50 37.2 -0.7**
HIA pmax pmax
comp=Z,29nm,0.8s
HIA Hailar 51.48 19 *e*P **P 03 50 37.1 -0.8**
comp=Z,29nm,0.8s,mb5.2
MAT Matsushiro 51.57 42 *e*P **P 03 50 39.0 +0.2**
MAT *e*S **S 03 58 05.0 +8.4**
MAT pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MAT Matsushiro 51.57 42 *e*P **P 03 50 39.0 +0.2**
comp=Z,6.7nm,0.8s,mb4.6
MAT *e*S **S 03 58 05.0 +8.4**
MAT Matsushiro 51.57 42 P **P 03 50 38.8 0.0**
MAT S **S 03 58 04.0 +7.4**
MJAR Matsushiro Arr 51.57 42 P **P 03 50 39.1 +0.3**
comp=Z,6.8nm,0.8s,mb4.6,baz=224,slow=6.1,SNR=24
MJAR pP pP 03 50 46.2 0.0
comp=Z,5.3nm,0.8s,baz=223,slow=5.7,SNR=7.6
MJAR Matsushiro Arr 51.57 42 P **P 03 50 39.1 +0.3**
MJAR pP pP 03 50 46.2 -0.1
KURK Kurchatov 51.62 345⇑ *i*P **P 03 50 38.6 -0.3**
KURK pmax pmax
comp=Z,20nm,1.0s,mb5.0
KURK Kurchatov 51.62 345 *e*P **P 03 50 38.3 -0.6**
comp=Z,30nm,0.8s,mb5.3
MDJ Mudanjiang 51.72 29 P **P 03 50 39.7 -0.1**
MDJ AP pP 03 50 48.7 +1.5
MDJ PP PP 03 52 36.9 -1.3
MDJ SCP 03 55 46.5
MDJ S **S 03 58 02.0 +3.5**
MDJ AMB AMB
comp=Z,40nm,0.9s,mb5.3
MDJ AMB AMB
comp=Z,418nm,8.0s
MDJ LR LR
comp=N,1µm,20.9s,MS5.0
MDJ LR LR
comp=E,391nm,21.9s,MS5.0
MDJ LR LR
comp=Z,2µm,17.8s,MS5.1
MDJ Mudanjiang 51.72 29 *e*P **P 03 50 39.4 -0.4**
comp=Z,35nm,0.8s,mb5.3
CTA Charters Tower 52.60 117 *e*P **P 03 50 48.4 +1.6**
comp=Z,12nm,0.9s,mb4.8
CTA Charters Tower 52.60 117 *e*P **P 03 50 48.4 +1.6**
CTA pmax pmax
comp=Z,12nm,0.9s
CTA Charters Tower 52.60 117 LR LR 04 17 34.3
comp=Z,2µm,18.2s,MS5.1,baz=280,slow=41
ZAL Zalesovo 53.37 351 P **P 03 50 52.0 0.0**
comp=Z,30nm,0.7s,mb5.3,baz=311,slow=5.6,SNR=130
ZAL Zalesovo 53.37 351 P **P 03 50 52.0 -0.1**
STKA Stephens Creek 53.49 132⇑ *i*P **P 03 50 53.2 0.0**
comp=Z,12nm,0.6s,mb5.0
STKA Stephens Creek 53.49 132 P **P 03 50 53.3 +0.1**
comp=Z,15nm,0.7s,mb5.0,baz=305,slow=7.4,SNR=25
STKA pP pP 03 51 00.2 -0.4
comp=Z,14nm,0.6s,baz=310,slow=7.4,SNR=10
STKA LR LR 04 16 01.5
comp=Z,2µm,21.8s,MS5.2,baz=297,slow=39
ATD Arta Tunnel 54.83 283 LR LR 04 12 10.2
comp=Z,526nm,18.0s,MS4.7,baz=228,slow=34
BVA0 Borovoye Array 56.08 341 *i* P **P 03 51 10.3 -1.4**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
KLR Kul'dur 56.10 27 *e*P **P 03 51 09.3 -2.7**
CHKZ Chkalovo 56.55 341 *i* P **P 03 51 14.1 -1.1**
CHKZ pmax pmax
comp=Z,48nm,0.9s,mb5.5
BOD Bodaibo 57.84 11⇓ *i*P **P 03 51 23.1 -1.1**
BOD pmax pmax
comp=Z,31nm,0.9s,mb5.3
CLNS Chul'man 59.58 17 *e*P **P 03 51 35.8 -0.5**
CLNS *e* 03 52 21.4
CLNS *e* 03 53 43.6
CLNS *e*S **S 03 59 42.8 -0.3**
CLNS pmax pmax
comp=Z,55nm,0.7s,mb5.7
CLNS pmax pmax
comp=N,28nm,0.8s
CLNS pmax pmax
comp=E,28nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS smax
comp=N,243nm,11.8s
CLNS smax
comp=Z,91nm,11.1s
CLNS smax
comp=E,57nm,12.3s
CLNS MLR MLR
comp=Z,4µm,15.0s,MS5.7
CLNS MLR MLR
comp=N,3µm,16.0s,MS5.5
CLNS MLR MLR
comp=E,2µm,20.0s,MS5.5
KMBO Kilima Mbogo 59.98 268 P **P 03 51 40.0 +0.3**
comp=E,0.4nm,0.3s,baz=69,slow=19,SNR=3.2
KMBO pP pP 03 51 47.0 -0.2
comp=E,1.8nm,0.6s,baz=61,slow=16,SNR=6.1
KMBO LR LR 04 16 31.5
comp=E,886nm,18.2s,MS4.9,baz=92,slow=35
YSS Yuzh-Sakhalins 60.21 34⇑ *e*P **P 03 51 40.0 -0.8**
YSS *e* 03 51 55.0
YSS *e* 03 52 26.0
YSS pmax pmax
comp=E,30nm,1.0s
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS MLR MLR
comp=E,2µm,16.0s
YSS MLR MLR
comp=Z,2µm,16.0s,MS5.2
YSS Yuzh-Sakhalins 60.21 34 *e*P **P 03 51 40.2 -0.6**
comp=Z,88nm,1.1s,mb5.7
GNI Garni 61.15 316 *e*P **P 03 51 46.6 -0.7**
GNI pmax pmax
comp=Z,13nm,0.8s
GNI Garni 61.15 316 *e*P **P 03 51 46.6 -0.6**
comp=Z,13nm,0.8s,mb5.1
TI2 Plekhanov 61.83 318 *i* P **P 03 51 50.8 -1.1**
TI2 pmax pmax
comp=Z,50µm,1.0s
SVE Sverdlovsk 62.52 338⇑ *i*P **P 03 51 55.0 -1.2**
SVE *e*S **S 04 00 20.0 -0.5**
SVE *e*SS SS 04 04 28.0 +1.4
SVE pmax pmax
comp=Z,100nm,2.0s,mb5.6
SVE MLR MLR
comp=N,500nm,18.0s,MS4.9
SVE MLR MLR
comp=E,500nm,18.0s,MS4.9
SVE MLR MLR
comp=Z,600nm,18.0s,MS4.8
ZEI Tsey 62.85 318 *e*P **P 03 51 53.0 -5.6**
ZEI *i* *PP pP 03 52 02.3 -3.9
ZEI pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
ARU Arti 63.01 337⇑ *i*P **P 03 51 58.1 -1.4**
ARU *e* 03 54 15.7
ARU *e*S **S 04 00 28.3 +1.6**
ARU *e*SS SS 04 04 37.5 +3.0
ARU pmax pmax
comp=Z,27nm,1.0s,mb5.3
ARU MLR MLR
comp=Z,500nm,18.0s,MS4.7
ARU MLR MLR
comp=N,200nm,20.5s,MS4.8

ARU MLR MLR
comp=E,600nm,17.0s,MS4.8
ARU Arti 63.01 337 *e*P **P 03 51 57.5 -1.9**
comp=E,28nm,1.0s,mb5.3
KIV Kislovodsk 64.16 319 *i* P **P 03 52 06.2 -1.0**
KIV *e*S **S 04 00 41.3 +0.1**
KIV *e*SS SS 04 04 52.0 -0.1
KIV pmax pmax
comp=Z,17nm,0.9s,mb5.1
KIV Kislovodsk 64.16 319 *e*P **P 03 52 05.8 -1.5**
comp=Z,19nm,1.0s,mb5.1
KIV *e* 03 52 16.2
ASF Jabal al Asfar 64.35 305 P **P 03 52 08.6 0.0**
comp=Z,1.6nm,0.4s,mb4.4,baz=135,slow=1.4,SNR=4.3
GOF Gofitskoye 64.41 320⇑ *i*P pP 03 52 19.6 +3.2
GOF pmax pmax
comp=Z,70nm,2.5s,mb5.2
MALT Malatya 65.00 312⇑ P **P 03 52 12.4 -0.3**
comp=Z,0.2nm,0.9s
MALT Malatya 65.00 312⇑ P **P 03 52 12.4 -0.4**
YAK Yakutsk 65.25 16 *e*P **P 03 52 12.9 -1.1**
YAK *e* 03 54 35.9
YAK *e*PPP PPP 03 56 16.7 +2.7
YAK *e* 04 02 07.3
YAK pmax pmax
comp=Z,83nm,0.9s,mb5.8
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK MLR MLR
comp=N,722nm,16.0s,MS5.2
YAK MLR MLR
comp=Z,1µm,16.0s,MS5.3
YAK MLR MLR
comp=E,1µm,17.0s,MS5.2
YAK Yakutsk 65.25 16 *e*P **P 03 52 11.9 -2.1**
comp=E,152nm,0.9s,mb6.0
SOC Sochi 65.97 318 *i* P **P 03 52 16.1 -2.8**
SOC *e* 03 52 44.5
SOC *e* 03 54 40.7
SOC *e*PPP PPP 03 56 14.5 -7.0
SOC *e*S S 04 01 01.3 -2.3
SOC *e* 04 02 06.7
SOC *e*SS SS 04 05 20.6 +0.4
SOC pmax pmax
comp=Z,22nm,0.8s,mb5.2
SOC pmax pmax
comp=N,7.0nm,0.6s
SOC pmax pmax
comp=E,2.0nm,0.5s
SOC MLR MLR
comp=N,287nm,21.0s,MS4.6
SOC MLR MLR
comp=E,254nm,21.0s,MS4.6
SOC MLR MLR
comp=Z,448nm,21.0s,MS4.7
ANN Anapa 67.95 318 *e* **P 03 52 38.0 +6.5**
BRTR Keskin Array B 68.98 312 P **P 03 52 36.5 -1.4**
comp=Z,3.3nm,0.7s,mb4.4,baz=131,slow=7.1,SNR=26
BRTR pP pP 03 52 43.6 -1.9
comp=Z,2.5nm,0.7s,baz=127,slow=6.7,SNR=7.9
VRSR Storozhevoye 69.40 325 *e*P **P 03 52 38.5 -1.8**
VRSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRSR pmax pmax
comp=N,4.0nm,0.4s
VRSR pmax pmax
comp=E,10.0nm,0.7s
MA2 Magadan 71.18 26*c* *i*P **P 03 52 50.7 -0.3**
MA2 *e* 03 53 04.5
MA2 *e* 03 53 10.4
MA2 *e*S S 04 02 05.8 +0.7
MA2 *e* 04 02 41.9
MA2 pmax pmax
comp=N,5.0nm,0.8s
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
MA2 MLR MLR
comp=Z,3µm,22.5s,MS5.5
MA2 Magadan 71.18 26 *e*P **P 03 52 50.2 -0.8**
comp=Z,34nm,0.8s,mb5.3
DZM Mont Dzumac 71.37 114 LR LR 04 28 42.8
comp=Z,741nm,19.1s,MS5.0,baz=11,slow=40
PET Petropavlovsk 72.09 34 *e*P **P 03 52 56.1 -0.4**
PET *e* 03 53 08.0
PET *e* 04 02 13.8
PET pmax pmax
comp=Z,70nm,0.8s,mb5.6
PET pmax pmax
comp=Z,200nm,15.3s
PET MLR MLR
comp=E,1µm,17.0s,MS5.3
PET MLR MLR
comp=Z,900nm,17.0s,MS5.1
PET MLR MLR
comp=N,600nm,16.0s,MS5.3
PET Petropavlovsk 72.09 34 *e*P **P 03 52 55.8 -0.7**
comp=N,48nm,0.8s,mb5.5
MOS Moscow 72.17 329 *e*P **P 03 52 54.0 -2.9**
MOS *e* 03 53 11.3
MOS *e*S S 04 02 11.1 -5.4
MOS pmax pmax
comp=Z,36nm,0.8s,mb5.3
OBN Obninsk 72.46 328 *i* P **P 03 52 57.3 -1.4**
OBN *e* 03 53 13.9
OBN *e* 03 55 36.4
OBN *e*S S 04 02 19.6 -0.2
OBN pmax pmax
comp=Z,39nm,1.2s,mb5.2
OBN Obninsk 72.46 328 *e*P **P 03 52 57.2 -1.5**
comp=Z,19nm,0.8s,mb5.1
MAW Mawson 72.88 193 P **P 03 53 01.8 +0.9**
comp=Z,4.6nm,0.9s,mb4.4,baz=295,slow=6.9,SNR=3.1
MAW LR LR 04 21 26.8
comp=Z,582nm,18.3s,MS4.9,baz=55,slow=33
TIXI Tiksi 73.02 10⇑ *i*P **P 03 53 00.5 -1.1**
SEY Seymchan 73.61 23 *e*P **P 03 53 04.9 -0.3**
SEY 03 53 22.5
SEY *e* 03 55 57.8
SEY *e*S S 04 02 32.6 0.0
SEY pmax pmax
comp=Z,40nm,0.9s,mb5.3
SEY pmax pmax
comp=N,30nm,0.8s
SEY pmax pmax
comp=E,30nm,0.8s
SEY MLR MLR
comp=Z,1µm,22.0s,MS5.2
TIRR Tirgusor 73.98 316⇑ P **P 03 53 06.3 -1.5**
BOSA Boshof 74.85 240 P **P 03 53 13.8 +0.6**
comp=Z,3.9nm,1.1s,mb4.3,baz=70,slow=14,SNR=3.5
BOSA LR LR 04 20 38.2
comp=Z,712nm,19.2s,MS5.0,baz=37,slow=31
AKASG Malin Array Be 75.11 322 P **P 03 53 12.6 -1.5**
comp=Z,7.5nm,0.8s,mb4.7,baz=89,slow=4.5,SNR=31
AKASG pP pP 03 53 20.3 -1.5
comp=Z,4.1nm,0.6s,baz=84,slow=4.8,SNR=9.9
VRI Vrincioaia 75.47 317⇑ P **P 03 53 16.7 +0.3**
MLR Muntele Rosu 75.92 317 P **P 03 53 18.9 -0.1**
comp=Z,5.8nm,0.8s,mb4.5,baz=191,slow=9.5,SNR=11
MLR pP pP 03 53 27.2 +0.6
comp=Z,4.7nm,0.6s,baz=133,slow=2.6,SNR=6.4
MLR Muntele Rosu 75.92 317⇓ P **P 03 53 19.1 +0.2**
MLR Muntele Rosu 75.92 317⇓ P **P 03 53 19.1 +0.2**
BURAR Bucovina Array 76.88 319⇑ P **P 03 53 24.8 +0.6**
BURAR Bucovina Array 76.88 319⇑ P **P 03 53 24.8 +0.6**
KOLS Kolonicke sedl 79.07 320 *e*P **P 03 53 37.3 +1.1**
KOLS *e* pP 03 53 43.9 0.0
RPZ Rata Peaks 79.34 135 LR LR 04 28 05.2
comp=Z,2µm,21.7s,MS5.3,baz=196,slow=35
SUW Suwalki 79.52 325 *e*P **P 03 53 37.8 -0.8**
FINES FINESS Array B 79.83 332 P **P 03 53 39.5 -0.6**
comp=Z,6.9nm,0.7s,mb4.7,baz=104,slow=5.9,SNR=28
FINES pP pP 03 53 48.4 +0.6
comp=Z,5.8nm,0.8s,baz=106,slow=5.7,SNR=6.8
FINES LR LR 04 32 16.0
comp=Z,398nm,18.9s,MS4.8,baz=292,slow=38
KAF Kangasniemi 79.92 333 *e*p **P 03 53 39.4 -1.1**
comp=Z,11nm,0.8s,mb4.8,baz=101,slow=5.0

KAF	**Kangasniemi**	**79.92**	**333**	*e*P	**P**	**03 53 39.4**	**-1.1**
KAF				pmax	pmax		
comp=Z,11nm,0.8s,mb4.8							
NIE	**Niedzica**	**80.42**	**320**	*e*P	**P**	**03 53 44.0**	**+0.5**
FX1	**Attu Island--F**	**80.46**	**37**	*e*P	**P**	**03 53 43.2**	**-0.4**
PSZ	**Piszkesteto**	**80.46**	**318**	*e*P	**P**	**03 53 43.2**	**-0.5**
PSZ				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4							
PSZ	**Piszkesteto**	**80.46**	**318**	*e*P	**P**	**03 53 43.2**	**-0.5**
comp=Z,2.6nm,0.6s,mb4.3							
OJC	**Ojcow**	**80.87**	**321**	*e*P	**P**	**03 53 45.7**	**-0.1**
BILL	**Bilibino**	**81.00**	**21***c*	*i*P	**P**	**03 53 46.5**	**+0.3**
BILL				*e*		03 56 51.0	
BILL				*e*S	S	04 03 53.3	+0.9
BILL				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.6							
BILL				MLR	MLR		
comp=Z,1μm,12.0s,MS5.5							
BILL	**Bilibino**	**81.00**	**21**	*e*P	**P**	**03 53 45.5**	**-0.7**
comp=Z,6.8nm,0.8s,mb4.6							
PKSM	**Moragy**	**81.08**	**316**	⇑P	**P**	**03 53 46.5**	**-0.5**
OKC	**Ostrava-Krasne**	**81.87**	**320**	*e*P	**P**	**03 53 51.6**	**+0.5**
MORC	**Moravsky Berou**	**82.25**	**320**	⇑P	**P**	**03 53 53.3**	**+0.3**
ZST	**Bratislava**	**82.36**	**318**	*e*P	**P**	**03 53 52.8**	**-0.8**
ARCES	**ARCESS Array B**	**82.36**	**340**	P	**P**	**03 53 53.2**	**0.0**
comp=Z,12nm,0.8s,mb4.8,baz=90,slow=5.6,SNR=18							
ARCES				LR	LR	04 34 36.1	
comp=Z,730nm,19.5s,MS5.0,baz=213,slow=39							
ARCES	**ARCESS Array B**	**82.36**	**340**	P	**P**	**03 53 53.2**	**0.0**
ARCES				LR	LR	04 34 36.1	
URZ	**Urewera**	**82.94**	**129**	LR	LR	04 32 28.5	
comp=Z,1μm,20.2s,MS5.2,baz=263,slow=37							
DPC	**Dobruska-Polom**	**83.10**	**320**	*e*P	**P**	**03 53 58.2**	**+0.8**
DPC				AMS	AMS	04 36 50.0	
comp=Z,400nm,18.6s							
UPC	**Upice**	**83.32**	**321**	*e*P	**P**	**03 53 59.0**	**+0.5**
BOJS	**Bojanci**	**83.36**	**315**	*e*P	**P**	**03 53 59.3**	**+0.5**
PERS	**Pernice**	**83.55**	**317**	*e*P	**P**	**03 54 00.7**	**+0.9**
PRU	**Pruhonice**	**84.21**	**320**	*e*P	**P**	**03 54 03.5**	**+0.4**
PRU				AMS	AMS	04 37 50.0	
comp=Z,400nm,26.0s							
PVCC	**Panska Ves**	**84.23**	**320**	*e*P	**P**	**03 54 03.7**	**+0.5**
PVCC				AMS	AMS	04 37 40.0	
comp=Z,500nm,19.2s							
ROBS	**Robic**	**84.62**	**316**	*e*P	**P**	**03 54 05.0**	**-0.3**
BRG	**Berggiesshubel**	**84.66**	**321**	*e*P	**P**	**03 54 05.7**	**+0.4**
BRG				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.6							
BRG				MLR	MLR		
comp=N,460nm,19.3s,MS5.0							
BRG				MLR	MLR		
comp=E,430nm,19.3s,MS5.0							
BRG				MLR	MLR		
comp=Z,700nm,19.3s,MS5.1							
BRG	**Berggiesshubel**	**84.66**	**321**	*e*P	**P**	**03 54 05.7**	**+0.4**
comp=Z,3.6nm,0.8s,mb4.5							
BRG				LR	LR		
comp=Z,700nm,19.3s,MS5.1							
GERES	**GERESS Array B**	**84.67**	**319**	P	**P**	**03 54 05.9**	**+0.5**
comp=Z,4.2nm,0.8s,mb4.6,baz=90,slow=4.0,SNR=34							
GERES				pP	pP	03 54 13.8	+0.7
comp=Z,2.5nm,0.8s,baz=90,slow=4.0,SNR=6.9							
KHC	**Kasperske Hory**	**84.77**	**319**	*e*P	**P**	**03 54 05.8**	**-0.1**
KHC				*e*	pP	03 54 13.5	-0.1
KHC				MLR	MLR		
comp=Z,500nm,21.7s,MS4.9							
KHC	**Kasperske Hory**	**84.77**	**319**	*e*P	**P**	**03 54 05.8**	**-0.1**
KHC				pP	pP	03 54 13.5	-0.1
KHC				AMS	AMS	04 43 40.0	
comp=Z,500nm,21.7s							
CLL	**Collm**	**85.28**	**321**	*i* P	**P**	**03 54 08.9**	**+0.5**
CLL				*e*	pP	03 54 17.0	+0.8
CLL				*e*		03 54 23.0	
CLL				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.6							
CLL	**Collm**	**85.28**	**321**	*i* P	**P**	**03 54 08.9**	**+0.5**
comp=Z,6.0nm,1.1s,mb4.6							
CLL				*e*	pP	03 54 17.0	+0.8
CLL				*e*		03 54 23.0	
CLL	**Collm**	**85.28**	**321**	P	**P**	**03 54 08.9**	**+0.5**
comp=Z,logA/T=0.7,mb4.6							
CLL				*e**PP	pP	03 54 17.0	+0.8
CLL				*e**SP	sP	03 54 23.0	+4.4
NKC	**Novy Kostel**	**85.57**	**320**	AMS	AMS	04 38 20.0	
comp=Z,400nm,17.1s							
VNDA	**Vanda**	**86.00**	**169**	P	**P**	**03 54 12.5**	**+1.0**
comp=Z,0.9nm,0.7s,mb4.1,baz=281,slow=4.8,SNR=6.9							
VNDA				pP	pP	03 54 19.4	+0.1
comp=Z,2.6nm,0.9s,baz=328,slow=3.7,SNR=8.1							
VNDA				LR	LR	04 30 03.3	
comp=Z,637nm,19.8s,MS5.0,baz=309,slow=34							
GRA1	**Grafenberg Arr**	**86.33**	**320**	*e*P	**P**	**03 54 14.3**	**+0.6**
comp=Z,84nm,2.2s,mb5.6							
GRF	**Grafenberg Arr**	**86.33**	**320**	*e*P	**P**	**03 54 14.3**	**+0.6**
GRF				pmax	pmax		
comp=Z,84nm,2.2s,mb5.6							
GRF	**Grafenberg Arr**	**86.33**	**320**	*e*P	**P**	**03 54 14.3**	**+0.6**
GRF				pmax	pmax		
comp=Z,84nm,2.2s,mb5.6							
GRF	**Grafenberg Arr**	**86.33**	**320**	*e*P	**P**	**03 54 14.3**	**+0.6**
comp=Z,84nm,2.2s,mb5.6							
NB2	**NORSAR Subarra**	**86.84**	**331**	P	**P**	**03 54 15.6**	**-0.3**
comp=Z,3.3nm,0.8s,mb4.6,baz=95,slow=4.8							
NB2	**NORSAR Subarra**	**86.84**	**331**	P	**P**	**03 54 15.6**	**-0.3**
NB2				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.6							
NOA	**NORSAR Array B**	**86.84**	**331**	P	**P**	**03 54 15.7**	**-0.2**
comp=Z,5.1nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=15							
NOA				pP	pP	03 54 23.7	0.0
comp=Z,2.6nm,0.7s,baz=94,slow=5.0,SNR=4.1							
NOA				LR	LR	04 38 52.2	
comp=Z,439nm,20.3s,MS4.8,baz=100,slow=40							
NOA	**NORSAR Array B**	**86.84**	**331**	P	**P**	**03 54 15.7**	**-0.2**
NOA				pP	pP	03 54 23.7	0.0
NOA				LR	LR	04 38 52.2	
PGF	**Pioggiola**	**87.73**	**312**	*e*P	**P**	**03 54 20.9**	**+0.3**
comp=Z,91nm,1.4s,mb5.5							
PGF	**Pioggiola**	**87.73**	**312**	*e*P	**P**	**03 54 20.9**	**+0.3**
PGF				pmax	pmax		
comp=Z,46nm,1.4s,mb5.5							
SBF	**Sospel**	**88.87**	**314**	*e*P	**P**	**03 54 26.3**	**+0.3**
comp=Z,125nm,1.4s,mb5.7							
SBF	**Sospel**	**88.87**	**314**	*e*P	**P**	**03 54 26.3**	**+0.3**
SBF				pmax	pmax		
comp=Z,62nm,1.4s,mb5.8							
CDF	**Champ du Feu**	**88.92**	**318**	*e*P	**P**	**03 54 25.7**	**-0.4**
LPG	**La Plagne**	**89.33**	**315**	*e*P	**P**	**03 54 28.6**	**+0.4**
comp=Z,14nm,0.9s,mb5.0							
LPG	**La Plagne**	**89.33**	**315**	*e*P	**P**	**03 54 28.6**	**+0.4**
LPG				pmax	pmax		
comp=Z,7.0nm,0.9s,mb5.0							
MBDF	**Montbardon**	**89.33**	**315**	*e*P	**P**	**03 54 28.9**	**+0.7**
comp=Z,38nm,1.4s,mb5.2							
MBDF	**Montbardon**	**89.33**	**315**	*e*P	**P**	**03 54 28.9**	**+0.7**
MBDF				pmax	pmax		
comp=Z,19nm,1.4s,mb5.2							
LPL	**La Plagne**	**89.34**	**315**	*e*P	**P**	**03 54 28.6**	**+0.4**
HAU	**Haudompre**	**89.54**	**318**	*e*P	**P**	**03 54 28.5**	**-0.6**
comp=Z,18nm,1.0s,mb5.1							
HAU				*e*R			
comp=Z,359nm,20.8s							
HAU	**Haudompre**	**89.54**	**318**	*e*P	**P**	**03 54 28.5**	**-0.6**
HAU				pmax	pmax		
comp=Z,9.0nm,1.0s,mb5.0							
HAU				MLR	MLR		
comp=Z,360nm,20.8s,MS4.8							
GIVF	**Givet**	**90.47**	**320**	*e*P	**P**	**03 54 33.0**	**-0.4**
BAIF	**Baives**	**90.87**	**320**	*e*P	**P**	**03 54 35.1**	**-0.1**
comp=Z,21nm,0.8s,mb5.2							
BAIF	**Baives**	**90.87**	**320**	*e*P	**P**	**03 54 35.1**	**-0.1**
BAIF				pmax	pmax		
comp=Z,10.0nm,0.8s,mb5.2							
SMF	**Signal de Mont**	**91.31**	**317**	*e*P	**P**	**03 54 36.7**	**-0.6**
comp=Z,18nm,0.9s,mb5.1							
SMF	**Signal de Mont**	**91.31**	**317**	*e*P	**P**	**03 54 36.7**	**-0.6**
SMF				pmax	pmax		
comp=Z,9.0nm,0.9s,mb5.1							
SSF	**Saint Saulge**	**91.51**	**317**	*e*P	**P**	**03 54 38.4**	**+0.2**
SSF				pmax	pmax		
comp=Z,8.0nm,1.1s,mb5.0							
SSF	**Saint Saulge**	**91.51**	**317**	*e*P	**P**	**03 54 38.4**	**+0.2**
comp=Z,8.1nm,1.1s,mb5.0							
AVF	**Avril sur Loir**	**91.63**	**317**	*e*P	**P**	**03 54 38.2**	**-0.6**
comp=Z,42nm,1.3s,mb5.3							
AVF	**Avril sur Loir**	**91.63**	**317**	*e*P	**P**	**03 54 38.2**	**-0.6**
AVF				pmax	pmax		
comp=Z,21nm,1.3s,mb5.3							
BGF	**Bois d'Agland**	**92.00**	**316**	*e*P	**P**	**03 54 40.6**	**+0.1**
comp=Z,10nm,0.6s,mb5.0							
BGF	**Bois d'Agland**	**92.00**	**316**	*e*P	**P**	**03 54 40.6**	**+0.1**
BGF				pmax	pmax		
comp=Z,5.0nm,0.6s,mb5.0							
RJF	**Les Rejaudoux**	**93.02**	**315**	*e*P	**P**	**03 54 45.2**	**0.0**
comp=Z,41nm,1.4s,mb5.4							
RJF				*e*R			
comp=Z,302nm,20.2s							
RJF	**Les Rejaudoux**	**93.02**	**315**	*e*P	**P**	**03 54 45.2**	**0.0**
RJF				pmax	pmax		
comp=Z,20nm,1.4s,mb5.3							
RJF				MLR	MLR		
comp=Z,300nm,20.3s,MS4.7							
ETSF	**Etsaut**	**94.75**	**313**	*e*P	**P**	**03 54 52.6**	**-0.6**
IMA	**Indian Mountai**	**96.42**	**23**	*e*P	**P**	**03 55 01.2**	**+0.9**
IMA				pmax	pmax		
comp=Z,21nm,0.8s,mb5.6							
IMA	**Indian Mountai**	**96.42**	**23**	*e*P	**P**	**03 55 01.2**	**+0.9**
comp=Z,20nm,0.8s,mb5.6							
ILAR	**Eielson Array**	**99.54**	**23**	P	**P**	**03 55 13.7**	**-0.8**
comp=Z,0.4nm,0.9s,baz=324,slow=6.1,SNR=6.4							
ILAR				PP	PP	03 59 12.1	-8.5
comp=Z,0.6nm,0.9s,baz=276,slow=5.4,SNR=4.8							
SML	**Sawmill**	**100.12**	**26**	P	P	03 55 17.9	+0.7
YKA	**Yellowknife Ar**	**111.92**	**15**	PKiKP		04 00 06.3	
comp=Z,0.4nm,1.0s,baz=348,slow=3.2,SNR=4.3							
YKA				PP	PP	04 00 41.5	-11
comp=Z,1.1nm,0.8s,baz=330,slow=7.6,SNR=8.5							
YKA				PKKPbc		04 11 02.0	
comp=Z,0.2nm,0.8s,baz=138,slow=3.1,SNR=3.6							
YKA	**Yellowknife Ar**	**111.92**	**15**	PKPdf	PKPdf	04 00 06.3	-3.2
YKA				PP	PP	04 00 41.5	-11
YKA				PKKPbc		04 11 02.0	
TBI	**Tubuai**	**111.94**	**115**	*e*LR	LR	04 33 27.2	
comp=Z,670nm,24.8s							
PPT	**Papeete**	**112.55**	**108**	*e*LR	LR	04 33 45.3	
RKT	**Rikitea**	**125.03**	**117**	*e*LR	LR	04 39 30.3	
comp=Z,576nm,24.5s							
ULM	**Lac du Bonnet**	**127.37**	**11**	PKP	PKPdf	04 00 35.9	-4.0
comp=Z,2.0nm,0.7s,baz=13,slow=2.2,SNR=3.6							
NVAR	**Mina Array Bea**	**128.65**	**36**	PKP	PKPdf	04 00 40.6	-2.1
comp=Z,2.0nm,0.8s,baz=247,slow=1.6,SNR=10							
NVAR				pPKP		04 00 48.0	
comp=Z,0.7nm,0.5s,baz=265,slow=1.6,SNR=4.7							
PDAR	**Pinedale Array**	**129.89**	**26**	PKP	PKPdf	04 00 41.9	-3.0
comp=Z,0.7nm,0.7s,baz=220,slow=0.2,SNR=6.1							
PDAR				PP	PP	04 02 54.6	-1.6
comp=Z,1.1nm,1.0s,baz=342,slow=4.7,SNR=4.9							
MSU	**Marysvale**	**131.97**	**31**	*e*PKIKP	PKPdf	04 00 47.1	-1.9
PV10	**Paradox Valley**	**133.64**	**29**	*e*PKP	PKPdf	04 00 49.7	-2.4
TXAR	**Lajitas Array**	**143.53**	**32**	PKP	PKPdf	04 01 04.7	-5.5
comp=Z,2.7nm,0.7s,baz=270,slow=1.8,SNR=23							
JCT	**Junction City**	**144.43**	**26**	*e*PKP	PKPdf	04 01 06.6	-5.2
NATX	**Nacogdoches**	**145.18**	**18**	*e*PKP	PKPdf	04 01 09.3	-3.7
COW	**Cow Castle Cre**	**145.37**	**357**	*e*PKP	PKPdf	04 01 09.4	-3.9
LRAL	**Lakeview Retre**	**145.55**	**6**	*e*PKP	PKPdf	04 01 09.4	-4.2
SAML	**Samuel**	**159.06**	**248**	*e*PKPab	PKPab	04 02 07.1	-1.1
LPAZ	**La Paz**	**159.29**	**224**	PKP	PKPdf	04 01 32.8	-1.2
comp=Z,1.0nm,0.8s,baz=75,slow=6.9,SNR=5.1							

*JMA **09** 03:51:44.4±0.4,24.17N×121.90E,h67km,M2.4*
TAP 09 03:51:44.5,24.18N×121.80E,h48km±1km,ML3.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.14**	**76**	P	P	03 52 03.6	-0.7
YOJ				S	S	03 52 17.8	-1.3
IRIF	**Iriomote-Funau**	**1.77**	**85**	P	P	03 52 11.7	-1.6
IRIF				S	S	03 52 32.6	-2.0
JKRS	**Kuro-shima**	**2.02**	**88**	P	P	03 52 16.0	-0.8
JKRS				*e*S	S	03 52 39.5	-1.3
JIJ	**Ishigaki jima**	**2.15**	**85**	P	P	03 52 16.9	-1.7
JIJ				S	S	03 52 41.1	-3.0
JTJ	**Tarama**	**2.69**	**80**	P	P	03 52 24.8	-1.5
JTJ				*e*S	S	03 52 55.3	-2.5

*IDC **09** 03:51:44.2±1.9,0.39N×98.64E,mb4.0/7,mb1 4.1/8, mb1mx3.8/21,mbtmp3.9/8,Error ellipse: s-maj=80.0km s-min=27.6km az=55.0*
*NEIC **09** 03:51:48.5±0.7,0.35N×98.70E,h30km,mb3.9/3,Error ellipse: s-maj=22.4km s-min=11.3km az=63.0*
ISC 09 03:51:46.6±1.0,0.4N±0.1×98.7E±0.2,h30km,n13, σ0s74/13,mb4.0/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.28**	**22**	*e*P	**Pn**	**03 53 05.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.98**	**1**	Pn	**P**	**03 55 56.5**	**+0.3**
baz=197,slow=11,SNR=4.5							
WRA	**Warramunga Arr**	**40.37**	**122**	P	**P**	**03 59 24.1**	**+0.4**
0.4nm,0.8s,mb3.2,baz=303,slow=8.9,SNR=4.7							
WRAB	**Tennant Creek**	**40.37**	**122**	P	**P**	**03 59 23.1**	**-0.6**
2.3nm,0.9s,mb3.9							
SONM	**Songino Array**	**47.76**	**7**	P	**P**	**04 00 22.8**	**-0.1**
1.5nm,0.8s,mb4.1,baz=188,slow=7.2,SNR=8.2							
MKAR	**Makanchi Array**	**48.41**	**345**	P	**P**	**04 00 27.2**	**-0.8**
0.7nm,0.5s,mb3.9,baz=163,slow=8.8,SNR=9.3							
KURK	**Kurchatov**	**52.98**	**344**	*e*P	**P**	**04 01 02.4**	**-0.2**
0.8nm,0.6s,mb3.8							
ZAL	**Zalesovo**	**54.61**	**350**	P	**P**	**04 01 14.3**	**-0.3**
1.2nm,0.5s,mb4.2,baz=334,slow=9.0,SNR=4.9							
ZAL	**Zalesovo**	**54.61**	**350**	P	**P**	**04 01 14.3**	**-0.3**
BVAR	**Borovoye Array**	**57.51**	**340**	P	**P**	**04 01 34.6**	**-0.9**
0.6nm,0.5s,mb3.9,baz=143,slow=7.4,SNR=4.6							
CHKZ	**Chkalovo**	**57.98**	**341**	*e*P	**P**	**04 01 38.8**	**+0.1**
0.8nm,0.7s,mb3.9							
FINES	**FINESS Array B**	**81.40**	**332**	P	**P**	**04 04 02.1**	**+0.2**
2.1nm,1.1s,mb4.0,baz=176,slow=25,SNR=4.8							
ARCES	**ARCESS Array B**	**83.81**	**340**	P	**P**	**04 04 16.4**	**+2.4**
12nm,1.0s,mb5.0,baz=341,slow=22,SNR=3.7							

*IDC **09** 03:58:02.5±3.1,1.73N×96.86E,mb3.7/5,mb1 3.8/5, mb1mx3.6/20,mbtmp3.7/5,Error ellipse: s-maj=125.5km s-min=27.9km az=55.0*
*NEIC **09** 03:58:07.0±1.2,1.78N×96.94E,h30km,mb4.0/1,Error ellipse: s-maj=25.3km s-min=18.3km az=218.0*
ISC 09 03:58:04.9±1.5,1.8N±0.2×96.9E±0.2,h30km,n8,σ0s71/8, mb3.8/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.10**	**47**	P	**Pn**	**03 59 21.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.67**	**7**	Pn	**P**	**04 02 04.0**	**+5.7**
0.1nm,0.3s,baz=198,slow=11,SNR=4.9							
WRA	**Warramunga Arr**	**42.60**	**122**	P	**P**	**04 06 00.6**	**+0.1**
0.3nm,0.5s,mb3.3,baz=301,slow=9.0,SNR=5.3							
SONM	**Songino Array**	**46.59**	**9**	P	**P**	**04 06 32.8**	**+0.7**
0.7nm,0.6s,mb3.3,baz=192,slow=8.9,SNR=6.6							
MKAR	**Makanchi Array**	**46.59**	**346**	P	**P**	**04 06 33.0**	**+0.9**
0.5nm,0.4s,mb3.8,baz=157,slow=8.8,SNR=12							
ZAL	**Zalesovo**	**52.91**	**351**	P	**P**	**04 07 21.1**	**+0.5**
1.0nm,0.4s,mb4.1,baz=277,slow=0.9,SNR=4.2							
BVAR	**Borovoye Array**	**55.59**	**341**	P	**P**	**04 07 39.3**	**-0.8**
0.4nm,0.6s,mb3.6,baz=135,slow=8.2,SNR=3.7							
CHKZ	**Chkalovo**	**56.06**	**341**	*e*P	**P**	**04 07 42.5**	**-1.1**
0.9nm,0.6s,mb4.0							

*IDC **09** 03:58:03.0±1.2,6.13N×92.54E,mb3.6/7,mb1 3.8/8, mb1mx3.7/21,mbtmp3.6/8,ML4.5/1,Error ellipse: s-maj=43.8km s-min=21.4km az=53.0*
ISC 09 03:58:06.3±1.0,6.2N±0.1×92.6E±0.2,h33km,n8,σ0s72/8, mb3.6/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.68**	**26**	Pn	**P**	**04 01 20.2**	**-0.2**
0.7nm,0.3s,baz=230,slow=14,SNR=7.9							
MKAR	**Makanchi Array**	**41.44**	**349**	P	**P**	**04 05 51.5**	**0.0**
0.3nm,0.6s,mb3.1,baz=163,slow=8.0,SNR=4.2							
SONM	**Songino Array**	**43.15**	**14**	P	**P**	**04 06 05.2**	**-0.3**
0.1nm,0.4s,mb2.9,baz=219,slow=9.2,SNR=1.7							
ZAL	**Zalesovo**	**48.04**	**354**	P	**P**	**04 06 45.1**	**+0.8**
0.4nm,0.4s,mb3.8,baz=329,slow=16,SNR=3.4							
WRA	**Warramunga Arr**	**48.55**	**123**	P	**P**	**04 06 47.9**	**-0.8**
1.0nm,0.9s,mb3.9,baz=305,slow=8.7,SNR=3.9							
ASAR	**Alice Springs**	**50.03**	**128**	P	**P**	**04 07 00.8**	**+0.7**
0.6nm,0.9s,mb3.6,baz=317,slow=9.2,SNR=5.1							
BRTR	**Keskin Array B**	**62.41**	**312**	P	**P**	**04 08 27.2**	**-1.3**
0.7nm,0.8s,mb3.9,baz=112,slow=6.7,SNR=4.0							
GERES	**GERESS Array B**	**78.09**	**319**	P	**P**	**04 10 04.5**	**+0.9**
1.0nm,0.8s,mb3.8,baz=76,slow=5.5,SNR=8.9							

*FUNV **09** 04:05:58.5, 11.65N×61.75W,h19km,MW2.5*
*NEIC **09** 04:05:59.7, 11.62N×61.73W,h101km,MD3.3(TRN),After TRN.*
*TRN **09** 04:05:59.7, 11.62N×61.73W,h101km,MD3.3*
ISC 09 04:05:58.7±1.0,11.61N±0.05×61.89W±0.05,h102km±8km, n16,σ0s94/28,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	**Mount Saint Ca**	**0.59**	**22**	*e*P	**P**	**04 06 16.2**	**+0.6**
GRW				*e*S	**S**	**04 06 27.9**	**-0.3**
GRHS	**Sauteurs**	**0.66**	**21**	*e*P	**P**	**04 06 16.4**	**+0.3**
GRHS				*e*S	**S**	**04 06 28.7**	**-0.5**
GUIV	**Guiria**	**1.01**	**199**	*e*P	**P**	**04 06 18.8**	**-0.8**
GUIV				*e*S	**S**	**04 06 33.7**	**-1.7**
TRN	**Trinidad (W)**	**1.06**	**153**	*e*P	**P**	**04 06 20.6**	**+0.3**
TRN				*e*S	**S**	**04 06 36.2**	**-0.3**
BOT	**Bacolet**	**1.23**	**111**	*e*P	**P**	**04 06 21.7**	**-0.5**
ITEV	**Isla Los Testi**	**1.25**	**259**	*e*P	**P**	**04 06 22.6**	**+0.1**
ITEV				*e*S	**S**	**04 06 40.3**	**+0.1**
TPP	**Pointe-a-Pierr**	**1.35**	**161**	*e*P	**P**	**04 06 27.9**	**+4.2**
TPP				*e*S	**S**	**04 06 44.8**	**+2.4**
TBH	**Brigand Hill**	**1.38**	**144**	*e*P	**P**	**04 06 23.5**	**-0.5**
TBH				*e*S	**S**	**04 06 41.1**	**-1.8**
TBH	**Brigand Hill**	**1.38**	**144**	*e*P	**P**	**04 06 25.5**	**+1.5**
TBH	**Brigand Hill**	**1.38**	**144**	*e*P	**P**	**04 06 26.5**	**+2.5**
TBH				*e*S	**S**	**04 06 41.1**	**-1.8**
CRUV	**Carupano**	**1.61**	**235**	*e*P	**P**	**04 06 27.4**	**+0.5**
CRUV				*e*S	**S**	**04 06 49.1**	**+1.2**
GUNV	**Guanoco**	**1.77**	**216**	*e*P	**P**	**04 06 29.4**	**+0.6**
GUNV				*e*S	**S**	**04 06 52.3**	**+1.1**
CUPV	**Cœpira**	**4.13**	**248**	*e*P	**P**	**04 07 01.3**	**+0.4**
CUPV				*e*S	**S**	**04 07 47.8**	**-0.6**
MERV	**Las Mercedes**	**4.93**	**242**	*e*P	**P**	**04 07 12.0**	**+0.2**
MERV				*e*S	**S**	**04 08 06.4**	**-1.6**
CAOV	**Caicara del Or**	**6.10**	**226**	*e*P	**P**	**04 07 27.5**	**-0.3**
BAUV	**El Baul**	**6.61**	**247**	*e*P	**P**	**04 07 34.8**	**0.0**

MAN 09 04:12:26.9,7.64N×125.16E,h21km,mb3.9,ML2.7,MS2.3, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.26**	**338**	*e*P	Pb	04 12 55.8	+23
BUKP				*e*S	Sb	04 13 10.1	+33
CGP	**Cagayan de Oro**	**0.93**	**331**	⇑*i*P	Pb	04 12 43.7	-0.6
CGP				*i* S	Sb	04 12 47.2	-9.0
CGP	**Cagayan de Oro**	**0.93**	**331**	⇓*i*P	Pb	04 13 00.5	+16
CGP				*i* S	Sb	04 13 19.1	+23
MATI	**Mati**	**1.29**	**122**	*e*P	Pn	04 12 49.2	-0.8
PAGZ	**Pagadian**	**1.77**	**277**	*e*P	Pn	04 13 03.3	+6.5
PAGZ				*e*S	Sn	04 13 18.9	-0.1
SNPH	**Sibulan**	**2.55**	**312**	*e*P	Pn	04 13 07.5	-0.5

IDC 09 04:23:54.5±4.1,1.44N×97.35E,mb3.6/4,mb1 3.8/4, mb1mx3.5/19,mbtmp3.6/4,Error ellipse: s-maj=161.7km s-min=28.7km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.03**	**122**	P	P	04 31 48.1	-1.7
0.5nm,1.1s,baz=300,slow=9.1,SNR=5.5							
SONM	**Songino Array**	**46.87**	**8**	P	P	04 32 26.7	-1.7
0.4nm,0.5s,baz=188,slow=8.7,SNR=5.5							
MKAR	**Makanchi Array**	**47.05**	**346**	P	P	04 32 27.8	-2.0
0.3nm,0.4s,baz=156,slow=8.6,SNR=9.3							
ZAL	**Zalesovo**	**53.34**	**351**	P	P	04 33 15.3	-2.5
1.0nm,0.3s,baz=25,slow=2.1,SNR=2.2							

IDC 09 04:27:31.5±2.3,0.65S×95.44E,mb3.8/5,mb1 4.0/6, mb1mx3.7/20,mbtmp3.8/6,Error ellipse: s-maj=89.3km s-min=26.6km az=54.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.29**	**10**	Pn	P	04 32 00.8	+0.1
baz=194,slow=13,SNR=4.3							
WRA	**Warramunga Arr**	**42.61**	**119**	P	P	04 35 29.5	-2.1
0.5nm,0.4s,baz=303,slow=8.8,SNR=11							
MKAR	**Makan

KURK pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
KURK Kurchatov 45.59 311 P sP 04 38 32.4 +0.8
comp=Z,1.1nm,0.7s
CHKZ Chkalovo 50.41 315 *e*P sP 04 39 08.5 -0.6
CHKZ pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
CHKZ Chkalovo 50.41 315 *e*P sP 04 39 08.5 -0.6
comp=Z,1.2nm,0.5s
BVAR Borovoye Array 50.60 314 P sP 04 39 11.2 +0.7
comp=Z,0.7nm,0.6s,baz=112,slow=8.0,SNR=4.5
WRAB Tennant Creek 52.74 183 P **P 04 39 14.7 -1.8**
WRAB pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
WRAB Tennant Creek 52.74 183 P **P 04 39 14.7 -1.8**
comp=Z,1.4nm,0.7s,mb4.0
WRA Warramunga Arr 52.75 183 P **P 04 39 15.3 -1.3**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 52.75 183 P **P 04 39 15.3 -1.2**
comp=Z,1.0nm,0.7s,mb3.8,baz=4.7,slow=7.8,SNR=9.0
ASAR Alice Springs 56.47 183 P **P 04 39 43.2 -0.4**
comp=Z,0.6nm,0.7s,mb3.7,baz=8.7,slow=12,SNR=4.6
ASAR Alice Springs 56.47 183 P **P 04 39 43.2 -0.4**
INK Inuvik 59.60 26 P **P 04 40 05.9 +0.9**
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 59.60 26 P **P 04 40 05.8 +0.9**
comp=Z,0.7nm,0.6s,mb3.9,baz=309,slow=2.5,SNR=6.6
YKA Yellowknife Ar 69.09 28 P **P 04 41 07.4 +0.6**
comp=Z,0.4nm,0.8s,mb3.4,baz=295,slow=5.7,SNR=7.7
YKA Yellowknife Ar 69.09 28 P **P 04 41 07.4 +0.6**
TXAR Lajitas Array 95.50 50 P **P 04 43 26.4 +0.9**
comp=Z,0.5nm,0.8s,mb4.0,baz=276,slow=3.6,SNR=5.5

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*IDC **09** 04:30:16.0±1.1, 1.31N×97.03E, mb4.0/11, mb1 4.2/12, mb1mx4.1/21, mbtmp4.1/12, ML4.5/1, MS3.8/1, Ms1 4.0/1, ms1mx3.2/32, Error ellipse: s-maj=46.0km s-min=19.6km az=52.0*
*BJI **09** 04:30:18.8, 0.93N×97.41E, h54km, mB4.9, mb4.8, Ms4.4, Msz4.2*
*MOS **09** 04:30:19.0±0.8, 1.35N×97.10E, h33km, mb4.8/7, Error ellipse: s-maj=27.9km s-min=11.0km az=103.4*
*NEIC **09** 04:30:20.8±0.5, 1.39N×97.19E, h30km, mb4.7/11, Error ellipse: s-maj=13.0km s-min=8.0km az=51.0*
ISC 09 04:30:19.1±0.7, 1.43N±0.09×97.21E±0.10, h30km, n41, σ0°76/41, mb4.4/27, MS4.2/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.14**	**42**	*e*P	**Pn**	**04 31 37.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**17.00**	**6**	P	**P**	**04 34 16.9**	**+0.2**
	0.6nm,0.3s,baz=199,slow=12,SNR=19						
CMAR				LR	LR	04 41 33.3	
	comp=Z,263nm,18.2s,baz=93,slow=40						
SHL	**Shillong**	**24.54**	**348**	*e*P	**P**	**04 35 37.0**	**-0.6**
GYA	**Guiyang**	**26.49**	**19**	P	**P**	**04 35 56.2**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
GYA				AMB	AMB		
	comp=Z,310nm,11.2s						
GYA				LR	LR		
	comp=N,640nm,15.2s,MS4.3						
GYA				LR	LR		
	comp=E,310nm,14.7s,MS4.3						
GYA				LR	LR		
	comp=Z,760nm,14.6s,MS4.4						
JIRN	**Jiri**	**28.14**	**339**	*e*P	**P**	**04 36 12.0**	**+1.1**
	comp=Z,43nm,1.0s,mb5.0						
PKI	**Pulchoki**	**28.34**	**338**	*e*P	**P**	**04 36 13.2**	**+0.4**
	comp=Z,20nm,1.0s,mb4.7						
PKI	**Pulchoki**	**28.34**	**338**	*e*P	**P**	**04 36 13.2**	**+0.4**
PKI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
GUN	**Gumba**	**28.48**	**339**	*e*P	**P**	**04 36 14.8**	**+0.9**
	comp=Z,33nm,0.9s,mb5.0						
DMN	**Daman**	**28.50**	**337**	*e*P	**P**	**04 36 14.8**	**+0.7**
KKN	**Kakani**	**28.59**	**337**	*e*P	**P**	**04 36 15.3**	**+0.3**
	comp=Z,58nm,1.2s,mb5.2						
KKN	**Kakani**	**28.59**	**337**	*e*P	**P**	**04 36 15.3**	**+0.3**
KKN				pmax	pmax		
	comp=Z,29nm,1.2s,mb4.9						
GKN	**Gorkha**	**29.03**	**337**	*e*P	**P**	**04 36 19.6**	**+0.6**
	comp=Z,46nm,1.1s,mb5.1						
KOLN	**Koldanda**	**29.25**	**335**	*e*P	**P**	**04 36 21.4**	**+0.4**
	comp=Z,25nm,0.8s,mb5.0						
ENH	**Enshi**	**30.96**	**21**	*e*P	**P**	**04 36 34.6**	**-1.4**
	comp=Z,5.4nm,0.5s,mb4.6						
XAN	**Xi'an**	**34.24**	**17**	P	**P**	**04 37 03.7**	**-0.9**
XAN				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.9						
LZH	**Lanzhou**	**35.02**	**9**	*e*P	**P**	**04 37 11.0**	**-0.3**
LZH				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
LZH	**Lanzhou**	**35.02**	**9**	*e*P	**P**	**04 37 11.0**	**-0.3**
LZH				*SP	sP	04 37 23.0	-1.0
LZH				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
LZH	**Lanzhou**	**35.02**	**9**	*e*P	**P**	**04 37 11.0**	**-0.3**
	comp=Z,30nm,1.2s,mb5.1						
LZH				pP	pP	04 37 18.5	-1.7
LZH				sP	sP	04 37 23.0	-1.0
GTA	**Gaotai**	**37.87**	**3**	*e*P	**P**	**04 37 35.8**	**+0.5**
GTA				AP	pP	04 37 47.5	+3.3
GTA				PP	PP	04 39 05.6	+0.5
GTA				S	**S**	**04 43 23.2**	**-1.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.2						
GTA				AMB	AMB		
	comp=Z,144nm,6.8s						
GTA				LR	LR		
	comp=N,172nm,14.8s,MS4.1						
GTA				LR	LR		
	comp=E,123nm,12.9s,MS4.1						
GTA				LR	LR		
	comp=Z,205nm,15.6s,MS4.0						
WRA	**Warramunga Arr 42.15 122**			P	**P**	**04 38 10.8**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.5,baz=302,slow=9.1,SNR=6.2						
WRAB	**Tennant Creek 42.15 122**			P	**P**	**04 38 10.8**	**-0.2**
ASAR	**Alice Springs 43.53 127**			P	**P**	**04 38 22.8**	**+0.6**
	comp=Z,0.8nm,0.9s,mb3.4,baz=294,slow=6.5,SNR=5.0						
SONM	**Songino Array 46.90 8**			P	**P**	**04 38 49.4**	**+0.7**
	comp=Z,6.3nm,0.9s,mb4.5,baz=191,slow=8.3,SNR=32						
MKAR	**Makanchi Array 47.02 346**			P	**P**	**04 38 49.9**	**+0.2**
	comp=Z,4.7nm,0.8s,mb4.5,baz=160,slow=7.7,SNR=26						
ULN	**Ulaanbaatar 47.03 9**			*e*P	**P**	**04 38 49.5**	**-0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar 47.03 9**			*e*P	**P**	**04 38 49.5**	**-0.3**
	comp=Z,3.4nm,0.9s,mb4.3						
ZAK	**Zakamensk 49.04 5**			*e*P	**P**	**04 39 05.5**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.8						
KURK	**Kurchatov 51.57 345**			*e*P	**P**	**04 39 23.2**	**-1.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KURK	**Kurchatov 51.57 345**			*e*P	**P**	**04 39 23.2**	**-1.5**
	comp=Z,3.6nm,0.9s,mb4.3						
ZAL	**Zalesovo 53.32 351**			P	**P**	**04 39 38.1**	**+0.4**
	comp=Z,3.0nm,0.5s,mb4.5,baz=284,slow=4.8,SNR=13						
BVAR	**Borovoye Array 56.03 341**			P	**P**	**04 39 56.3**	**-1.2**
	comp=Z,3.1nm,0.8s,mb4.4,baz=141,slow=9.5,SNR=14						
CHKZ	**Chkalovo 56.51 341**			*e*P	**P**	**04 39 59.6**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo 56.51 341**			*e*P	**P**	**04 39 59.6**	**-1.3**
	comp=Z,5.4nm,0.8s,mb4.6						
BOD	**Bodaibo 57.78 11**			*e*P	**P**	**04 40 09.5**	**-0.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
BRTR	**Keskin Array B 68.96 312**			P	**P**	**04 41 23.4**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=149,slow=8.4,SNR=3.2						
AKASG	**Malin Array Be 75.08 322**			P	**P**	**04 41 59.7**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.5,baz=87,slow=4.7,SNR=4.5						
AKASG	**Malin Array Be 75.08 322**			P	**P**	**04 41 59.7**	**-0.4**
FINES	**FINESS Array B 79.80 332**			P	**P**	**04 42 24.9**	**-1.1**
	comp=Z,3.3nm,1.1s,mb4.2,baz=127,slow=6.9,SNR=5.7						
ARCES	**ARCESS Array B 82.32 340**			P	**P**	**04 42 39.2**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.3,baz=63,slow=5.4,SNR=5.7						
GERES	**GERESS Array B 84.65 319**			P	**P**	**04 42 52.8**	**+1.5**
	comp=Z,0.9nm,1.0s,mb3.9,baz=63,slow=6.0,SNR=4.0						
TXAR	**Lajitas Array 143.47 32**			PKP	PKPdf	04 49 56.1	-0.5
	comp=Z,0.4nm,0.8s,baz=270,slow=1.3,SNR=4.6						

IDC 09 04:32:07.6±27.0, 17.24S×174.62W, mb4.2/4, mb1 4.3/4, mb1mx3.8/17, mbtmp4.2/4, Error ellipse: s-maj=527.8km s-min=142.7km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek 42.12 241**			P	P	04 40 02.4	-1.0
	0.9nm,0.4s,baz=102,slow=6.3,SNR=2.1						
WRA	**Warramunga Arr 48.31 258**			P	P	04 40 50.4	-2.6
	0.5nm,0.3s,baz=97,slow=7.1,SNR=18						
ASAR	**Alice Springs 48.45 253**			P	P	04 40 52.0	-2.0
	4.0nm,0.5s,baz=90,slow=8.2,SNR=46						
FITZ	**Fitzroy Crossi 56.70 259**			P	P	04 41 53.6	-2.1
	1.4nm,0.4s,baz=70,slow=3.8,SNR=9.0						

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*IDC **09** 05:00:55.2±1.7, 17.94S×178.14W, h612km±20km, mb3.4/12, mb1 3.6/13, mb1mx3.5/19, mbtmp4.3/13, Error ellipse: s-maj=36.4km s-min=10.2km az=151.0*
*NEIC **09** 05:00:55.0±1.0, 17.93S×178.07W, h614km±11km, mb4.1/8, Error ellipse: s-maj=23.4km s-min=9.2km az=148.0*
ISC 09 05:00:54.2±1.2, 18.0S±0.2×178.1W±0.1, h622km±16km, n44, σ0°82/29, mb3.9/18, 2C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu 7.32 57**			P	**P**	**05 02 48.5**	**+0.1**
	4.8nm,0.3s,baz=310,slow=17,SNR=4.7						
CTAO	**Charters Tower 33.70 261**			*e*P	**P**	**05 06 48.5**	**+0.9**
	6.2nm,0.8s,mb4.3						
STKA	**Stephens Creek 38.83 241**			⇓*i*P	**P**	**05 07 30.4**	**+0.9**
	6.0nm,0.8s,mb4.2						
STKA	**Stephens Creek 38.83 241**			P	**P**	**05 07 29.5**	**0.0**
	8.7nm,0.8s,mb4.3,baz=84,slow=8.4,SNR=11						
WB2	**Warramunga Arr 44.88 260**			⇑*i*P	**P**	**05 08 17.0**	**-0.2**
WRAB	**Tennant Creek 44.88 260**			*e*P	**P**	**05 08 16.8**	**-0.5**
	5.6nm,0.5s,mb4.3						
WRA	**Warramunga Arr 44.89 260**			P	**P**	**05 08 16.7**	**-0.6**
	3.5nm,0.4s,mb4.2,baz=95,slow=7.0,SNR=107						
WRA				PcP	PcP	05 09 44.9	-0.4
	0.8nm,0.4s,baz=91,slow=3.8,SNR=8.0						
WRA				S	**S**	**05 14 12.0**	**+0.2**
	0.5nm,0.7s,baz=96,slow=13,SNR=3.8						
ASAR	**Alice Springs 45.03 254**			P	**P**	**05 08 18.4**	**0.0**
	12nm,0.6s,mb4.6,baz=89,slow=7.8,SNR=164						
ASAR				PcP	PcP	05 09 45.3	-0.5
	2.1nm,0.5s,baz=105,slow=3.7,SNR=10						
ASAR				S	**S**	**05 14 12.8**	**-1.0**
	0.9nm,0.7s,baz=87,slow=15,SNR=9.1						
ASPA	**Alice Springs 45.04 254**			⇓*i*P	**P**	**05 08 18.3**	**-0.1**
FORT	**Forrest 50.22 245**			*e*P	**P**	**05 08 56.1**	**-0.9**
	616nm,0.8s						
FITZ	**Fitzroy Crossi 53.29 261**			P	**P**	**05 09 19.1**	**0.0**
	2.8nm,0.4s,mb4.0,baz=269,slow=24,SNR=19						
MBWA	**Marble Bar 58.32 256**			*e*P	**P**	**05 09 52.8**	**-0.8**
	3.4nm,0.4s,mb3.8						
MJAR	**Matsushiro Arr 68.13 323**			P	**P**	**05 10 55.4**	**-0.2**
	2.9nm,0.4s,mb4.0,baz=155,slow=5.8,SNR=9.6						
MJAR	**Matsushiro Arr 68.13 323**			P	**P**	**05 10 55.4**	**-0.2**
QSPA	**South Pole Qui 72.07 180**			P	**P**	**05 11 18.4**	**+0.4**
NVAR	**Mina Array Bea 79.29 44**			P	**P**	**05 11 59.1**	**+1.0**
	0.5nm,0.7s,mb3.0,baz=225,slow=7.7,SNR=3.4						
ENH	**Enshi 84.54 304**			*e*P	**P**	**05 12 26.3**	**+1.5**
	6.4nm,0.6s,mb4.4						
MCK	**McKinley 84.56 13**			P	**P**	**05 12 23.4**	**-0.6**
	1.4nm,0.6s,mb3.8						
COLA	**College 85.79 12**			*e*P	**P**	**05 12 28.7**	**-1.2**
	2.2nm,0.7s,mb3.9						
ILAR	**Eielson Array 85.90 13**			P	**P**	**05 12 29.4**	**-1.0**
	0.9nm,0.5s,mb3.7,baz=220,slow=4.9,SNR=26						
PDAR	**Pinedale Array 87.22 43**			P	**P**	**05 12 37.5**	**+0.4**
	0.5nm,0.7s,mb3.3,baz=225,slow=2.1,SNR=4.2						
CMAR	**Chiang Mai Arr 89.17 290**			P	**P**	**05 12 48.7**	**+1.8**
	1.6nm,0.7s,mb4.0,baz=90,slow=1.1,SNR=7.0						
INK	**Inuvik 91.89 15**			P	**P**	**05 12 57.8**	**-0.4**
	1.0nm,0.7s,mb3.9,baz=264,slow=5.3,SNR=6.9						
INK	**Inuvik 91.89 15**			*e*P	**P**	**05 12 57.7**	**-0.5**
	0.8nm,0.6s,mb3.9						
SONM	**Songino Array 93.79 319**			P	**P**	**05 13 08.9**	**+1.6**
	0.2nm,0.5s,mb3.5,baz=124,slow=5.2,SNR=2.9						
YKA	**Yellowknife Ar 94.29 25**			P	**P**	**05 13 08.4**	**-0.8**
	0.2nm,0.5s,mb3.5,baz=245,slow=4.5,SNR=6.9						
YKA	**Yellowknife Ar 94.29 25**			P	**P**	**05 13 08.4**	**-0.8**
CHKZ	**Chkalovo 116.88 322**			*e*PKPdf	PKPdf	05 18 29.1	-0.1
BVAR	**Borovoye Array 117.08 321**			PKP	PKPdf	05 18 29.9	+0.3
	0.5nm,0.4s,baz=147,slow=3.9,SNR=3.8						
ARCES	**ARCESS Array B 126.44 350**			PKP	PKPdf	05 18 48.6	+1.3
	1.9nm,0.8s,baz=90,slow=2.4,SNR=6.3						
FINES	**FINESS Array B 133.34 344**			PKP	PKPdf	05 19 01.1	+0.5
	0.6nm,0.7s,baz=135,slow=2.7,SNR=5.8						
BURAR	**Bucovina Array 144.81 332**			⇑P	PKPdf	05 19 24.8	+3.4
BRTR	**Keskin Array B 145.03 315**			PKP	PKPdf	05 19 24.8	+2.8
	3.0nm,0.7s,baz=117,slow=2.8,SNR=14						
VRI	**Vrincioaia 145.39 329**			⇓P	PKPdf	05 19 23.5	+1.1
ASF	**Jabal al Asfar 145.45 301**			PKPbc	PKPbc	05 19 27.7	+3.5
	2.5nm,0.8s,baz=79,slow=2.7,SNR=5.8						
CLL	**Collm 145.60 348**			*e*PKIKP	PKPdf	05 19 24.0	+1.4
CLL				*i* PKP1	PKPbc	05 19 25.7	+1.7
CLL				*e*PKP2	PKPab	05 19 28.0	-1.0
BRG	**Berggiesshubel 145.81 346**			P	PKPdf	05 19 26.9	+3.9
MLR	**Muntele Rosu 146.04 329**			PKPbc	PKPbc	05 19 28.8	+3.5
	2.3nm,0.8s,baz=335,slow=20,SNR=4.7						
MLR	**Muntele Rosu 146.04 329**			⇓P	PKPdf	05 19 27.8	+4.3
MLR	**Muntele Rosu 146.04 329**			⇓P	PKPdf	05 19 27.8	+4.3
KHC	**Kasperske Hory 147.52 346**			*e*PKPbc	PKPdf	05 19 31.5	+5.7
GERES	**GERESS Array B 147.76 345**			PKPbc	PKPdf	05 19 31.7	+5.5
	2.5nm,0.7s,baz=31,slow=2.8,SNR=24						
DAVOX	**Davos 150.53 349**			PKP	PKPdf	05 19 36.0	+5.4
	5.1nm,0.6s,baz=209,slow=3.8,SNR=10						
DBIC	**Dimbokro 166.97 149**			PKP	PKPdf	05 19 53.5	+3.2
	9.4nm,1.1s,baz=157,slow=19,SNR=3.0						

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*IDC **09** 05:24:26.4±2.1, 1.12S×97.12E, mb4.0/7, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML4.4/1, Error ellipse: s-maj=84.9km s-min=18.0km az=57.0*
*NEIC **09** 05:24:30.8±1.2, 1.08S×97.19E, h30km, mb3.9/2, Error ellipse: s-maj=47.0km s-min=10.8km az=57.0*
ISC 09 05:24:29.0±1.4, 1.0S±0.2×97.3E±0.3, h30km, n11, σ0°90/10, mb3.9/9, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr 19.39 5**			P	**P**	**05 28 55.2**	**-0.4**
	0.5nm,0.3s,baz=191,slow=9.7,SNR=6.4						
FITZ	**Fitzroy Crossi 32.66 123**			P	**P**	**05 31 00.5**	**-0.4**
	4.1nm,0.7s,mb4.4,baz=339,slow=10,SNR=6.5						
WRA	**Warramunga Arr 40.87 120**			P	**P**	**05 32 10.3**	**0.0**
	1.2nm,0.7s,mb3.6,baz=298,slow=9.0,SNR=13						
WRAB	**Tennant Creek 40.88 120**			*e*P	**P**	**05 32 09.6**	**-0.7**
	2.2nm,0.7s,mb3.9						
ASAR	**Alice Springs 42.07 125**			P	**P**	**05 32 21.1**	**+0.9**
	0.9nm,0.6s,mb3.6,baz=297,slow=7.8,SNR=10						
SONM	**Songino Array 49.27 8**			P	**P**	**05 33 18.7**	**+1.7**
	0.7nm,0.7s,mb3.8,baz=187,slow=12,SNR=2.6						
MKAR	**Makanchi Array 49.36 346**			P	**P**	**05 33 17.9**	**+0.1**
	0.7nm,0.5s,mb3.9,baz=153,slow=7.6,SNR=8.4						
ZAL	**Zalesovo 55.70 351**			P	**P**	**05 34 04.7**	**-0.4**
	0.8nm,0.3s,mb4.2,baz=46,slow=4.6,SNR=4.1						
CHKZ	**Chkalovo 58.80 342**			P	**P**	**05 34 25.3**	**-1.6**
	0.6nm,0.8s,mb3.7						
FINES	**FINESS Array B 81.95 333**			P	**P**	**05 36 48.1**	**+1.0**
	1.8nm,1.0s,mb4.0,baz=51,slow=12,SNR=3.3						
TXAR	**Lajitas Array 145.47 33**			PKPbc	PKPbc	05 44 08.2	+2.7
	0.5nm,0.7s,baz=251,slow=0.9,SNR=6.6						

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*NEIC **09** 05:50:16.6±0.4, 8.64N×126.96E, h10km, mb4.4/2, Error ellipse: s-maj=21.4km s-min=7.5km az=72.0*
*MAN **09** 05:50:22.9, 8.62N×126.76E, h24km, mb4.8, ML3.7, MS3.6*
*IDC **09** 05:50:27.2±12.0, 8.55N×126.83E, h100km±120km, mb3.8/13, mb1 3.9/13, mb1mx3.8/23, mbtmp4.1/13, Error ellipse: s-maj=44.8km s-min=14.2km az=62.0*
ISC 09 05:50:20.2±1.3, 8.64N±0.05×127.03E±0.09, h54km±12km, n35, σ0°92/41, mb4.0/15, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig 0.80 236**			⇓*e*P	**P**	**05 50 30.3**	**-5.2**
BIPH				*e*S	**S**	**05 50 39.8**	**-7.1**
BUTP	**Butuan 1.43 283**			*e*P	**P**	**05 50 43.9**	**-0.5**
SCPH	**Surigao 1.90 307**			⇓*e*P	**P**	**05 50 50.5**	**-0.3**
BUKP	**Musuan 2.09 249**			*e*P	**P**	**05 50 52.7**	**-0.8**
BUKP				*e*S	**S**	**05 51 21.6**	**+3.2**
DAV	**Davao City (W) 2.12 223**			*e*P	**P**	**05 50 54.0**	**0.0**
CGP	**Cagayan de Oro 2.32 266**			⇓*e*P	**P**	**05 50 56.6**	**-0.1**
CGP				*e*S	**S**	**05 51 24.9**	**+0.8**
KCP	**Kidapawan 2.52 230**			⇑*e*P	**P**	**05 50 59.2**	**-0.4**
KCP				*i* S	**S**	**05 51 28.7**	**-0.4**
MSLP	**Maasin 2.60 305**			*e*P	**P**	**05 51 01.9**	**+1.0**
PLP	**Palo 3.22 321**			*e*P	**P**	**05 51 07.0**	**-2.6**
TBP	**Tagbilaran 3.30 289**			*e*P	**P**	**05 51 10.4**	**-0.3**
LLP	**Lapu-Lapu 3.45 299**			*e*P	**P**	**05 51 12.9**	**0.0**
LLP				*e*S	**S**	**05 51 51.4**	**-1.3**
DCPH	**Dipolog City 3.64 269**			⇑*e*P	**P**	**05 51 15.1**	**-0.3**
DCPH				*i* S	**S**	**05 51 52.9**	**-4.7**
PAGZ	**Pagadian 3.70 258**			*e*P	**P**	**05 51 17.6**	**+1.3**
SNPH	**Sibulan 3.81 281**			*e*P	**P**	**05 51 19.0**	**+1.1**
CNP	**Catarman 4.49 329**			*e*P	**P**	**05 51 35.0**	**+7.5**
GUIM	**Jordan 4.80 295**			*e*P	**P**	**05 51 34.4**	**+2.6**
RCP	**Roxas 5.12 305**			*e*P	**P**	**05 51 36.3**	**+0.1**
PVCP	**Virac 5.67 330**			*e*P	**P**	**05 51 53.2**	**+9.3**
FITZ	**Fitzroy Crossi 26.61 183**			P	**P**	**05 55 54.9**	**-0.8**
	12nm,0.6s,mb4.6,baz=9.1,slow=8.4,SNR=22						
CMAR	**Chiang Mai Arr 28.95 293**			P	**P**	**05 56 16.5**	**-0.4**
	0.5nm,0.3s,mb3.7,baz=112,slow=7.4,SNR=7.5						
WRAB	**Tennant Creek 29.30 166**			*e*P	**P**	**05 56 19.6**	**-0.4**
	7.3nm,1.0s,mb4.4						
WRA	**Warramunga Arr 29.30 166**			P	**P**	**05 56 20.2**	**+0.2**
	1.0nm,0.8s,mb3.6,baz=348,slow=9.7,SNR=16						
ASAR	**Alice Springs 32.81 168**			P	**P**	**05 56 51.0**	**+0.3**
	0.8nm,0.4s,mb4.0,baz=12,slow=13,SNR=12						
NWAO	**Narrogin (SRO) 42.38 192**			P	**P**	**05 58 10.8**	**-0.3**
	11nm,1.1s,mb4.4,baz=350,slow=12,SNR=2.2						
NWAO	**Narrogin (SRO) 42.38 192**			P	**P**	**05 58 10.8**	**-0.3**
STKA	**Stephens Creek 42.63 162**			*e*P	**P**	**05 58 13.2**	**+0.1**
	1.9nm,0.7s,mb3.9,baz=292,slow=5.4,SNR=5.2						
STKA	**Stephens Creek 42.63 162**			*e*P	**P**	**05 58 13.0**	**-0.1**
SONM	**Songino Array 42.80 340**			P	**P**	**05 58 15.2**	**+1.0**
	0.9nm,0.9s,mb3.5,baz=153,slow=8.3,SNR=6.0						
MKAR	**Makanchi Array 53.77 323**			P	**P**	**05 59 38.6**	**-0.8**
	0.9nm,0.5s,mb4.0,baz=120,slow=8.5,SNR=15						
ZAL	**Zalesovo 56.41 332**			P	**P**	**05 59 58.0**	**-0.4**
	1.0nm,0.3s,mb4.3,baz=58,slow=2.1,SNR=4.3						
KURK	**Kurchatov 57.83 326**			*e*P	**P**	**06 00 07.9**	**-0.6**
	3.2nm,0.8s,mb4.4						
BVAR	**Borovoye Array 63.42 326**			P	**P**	**06 00 45.9**	**-0.7**
	1.8nm,0.7s,mb4.3,baz=121,slow=8.6,SNR=9.9						
ILAR	**Eielson Array 80.57 26**			P	**P**	**06 02 28.6**	**+0.5**
	0.2nm,0.6s,mb3.2,baz=209,slow=14,SNR=4.2						
FINES	**FINESS Array B 87.67 332**			P	**P**	**06 03 04.0**	**+0.1**
	2.6nm,0.8s,mb4.5,baz=69,slow=4.6,SNR=11						
YKA	**Yellowknife Ar 94.93 24**			P	**P**	**06 03 40.1**	**+2.6**
	0.3nm,0.7s,mb3.8,baz=297,slow=4.2,SNR=6.7						

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*NEIC **09** 06:11:19.7±0.7, 7.47N×74.45W, h91km±7km, mb4.2/7, Error ellipse: s-maj=9.0km s-min=5.8km az=87.0*
*IDC **09** 06:11:21.1±1.2, 7.51N×74.41W, h103km±12km, mb3.8/14, mb1 4.0/17, mb1mx3.8/26, mbtmp4.1/17, MS3.2/5, Ms1 3.2/5, ms1mx3.0/25, Error ellipse: s-maj=13.9km s-min=8.3km az=104.0*
ISC 09 06:11:19.1±1.0, 7.47N±0.05×74.44W±0.06, h103km±11km, n33, σ0°97/34, mb4.0/17, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal 2.60 178**			P	**P**	**06 12 00.7**	**+0.3**
	30nm,0.3s,baz=29,slow=1.6,SNR=79						
ROSC				S	**S**	**06 12 35.9**	**+4.5**
	137nm,0.3s,baz=85,slow=23,SNR=10						
ROSC				LR	LR	06 13 22.9	
	comp=Z,290nm,21.6s,baz=8.5,slow=46						
SDV	**Santo Domingo 4.02 69**			P	**P**	**06 12 20.5**	**+0.7**
	46nm,0.3s,baz=254,slow=4.3,SNR=495						
SDV				S	**S**	**06 13 07.2**	**+1.1**
	104nm,0.3s,baz=42,slow=17,SNR=10						
SDV				LR	LR	06 14 11.8	
	comp=Z,136nm,21.5s,baz=306,slow=43						
SDV	**Santo Domingo 4.02 69**			*e*P	**P**	**06 12 19.2**	**-0.5**
OTAV	**Otavalo 8.23 209**			*e*P	**P**	**06 13 16.1**	**-1.0**
	5.6nm,0.6s						
PCRV	**Puerto La Cruz 10.05 74**			P	**P**	**06 13 41.8**	**-0.1**
	1.1nm,0.3s,ba

ms1mx3.2/24, Error ellipse: s-maj=30.4km s-min=14.4km az=57.0
*MOS **09** 06:44:08.8±2.4, 1.85N×97.90E, h33km, mb4.8/11, Error ellipse: s-maj=50.0km s-min=16.6km az=109.1*
*NEIC **09** 06:44:08.9±0.4, 1.77N×97.90E, h30km, mb4.5/10, Error ellipse: s-maj=13.9km s-min=7.9km az=57.0*
ISC 09 06:44:07.3±0.5, 1.81N±0.07×97.90E±0.08, h30km, n49, σ1§12/45, mb4.5/28, MS3.9/3, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.42**	**38**	*e*P	**Pn**	**06 45 15.1**	**+1.0**
SNG	**Songkhla**	**5.98**	**27**	P	**Pn**	**06 45 37.0**	**+0.8**
	258nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.58**	**3**	Pn	**P**	**06 48 02.1**	**+2.7**
	0.5nm,0.3s,baz=232,slow=28,SNR=13						
CMAR				LR	LR	06 55 21.9	
	comp=Z,106nm,20.4s,baz=186,slow=41						
SHL	**Shillong**	**24.32**	**347**	*e*P	**P**	**06 49 23.0**	**-0.7**
HYB	**Hyderabad**	**24.54**	**310**	*e*P	**P**	**06 49 28.0**	**+2.1**
HYB	**Hyderabad**	**24.54**	**310**	*i*P	**P**	**06 49 28.0**	**+2.1**
JIRN	**Jiri**	**28.05**	**337**	*e*P	**P**	**06 49 58.8**	**+0.6**
	12nm,0.6s,mb4.7						
PKI	**Pulchoki**	**28.28**	**336**	*e*P	**P**	**06 50 00.7**	**+0.4**
GUN	**Gumba**	**28.39**	**337**	*e*P	**P**	**06 50 01.1**	**-0.2**
	18nm,0.5s,mb5.0						
DMN	**Daman**	**28.43**	**336**	*e*P	**P**	**06 50 01.1**	**-0.6**
	9.1nm,0.6s,mb4.5						
KKN	**Kakani**	**28.52**	**336**	*e*P	**P**	**06 50 01.9**	**-0.6**
	9.8nm,0.5s,mb4.8						
KKN	**Kakani**	**28.52**	**336**	*e*P	**P**	**06 50 01.9**	**-0.6**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
KOLN	**Koldanda**	**29.22**	**333**	*e*P	**P**	**06 50 08.2**	**-0.6**
	comp=Z,20nm,0.7s,mb5.0						
NWAO	**Narrogin (SRO)**	**39.08**	**154**	P	**P**	**06 51 35.4**	**+1.8**
	comp=Z,18nm,1.0s,mb4.8,baz=304,slow=6.4,SNR=4.7						
WRA	**Warramunga Arr**	**41.77**	**123**	P	**P**	**06 51 55.1**	**-0.9**
	comp=Z,9.6nm,0.7s,mb4.6,baz=301,slow=9.1,SNR=98						
WRA				PcP	PcP	06 53 52.9	+0.3
	comp=Z,1.0nm,0.7s,baz=315,slow=2.7,SNR=7.6						
WRAB	**Tennant Creek**	**41.77**	**123**	*e*P	**P**	**06 51 55.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**41.77**	**123**	*e*P	**P**	**06 51 55.5**	**-0.4**
	comp=Z,15nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**41.77**	**123**	⇑*i*P	**P**	**06 51 55.5**	**-0.5**
ASAR	**Alice Springs**	**43.20**	**128**	P	**P**	**06 52 07.5**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.2,baz=298,slow=7.7,SNR=31						
ASAR				PcP	PcP	06 53 57.9	+0.6
	comp=Z,1.3nm,0.7s,baz=308,slow=3.1,SNR=8.0						
SONM	**Songino Array**	**46.44**	**8**	P	**P**	**06 52 32.8**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.3,baz=190,slow=8.3,SNR=15						
SONM				PcP	PcP	06 54 08.1	0.0
	comp=Z,0.4nm,0.5s,baz=192,slow=3.5,SNR=4.1						
ULN	**Ulaanbaatar**	**46.56**	**8**	P	**P**	**06 52 34.6**	**+0.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**46.56**	**8**	P	**P**	**06 52 34.6**	**+0.4**
	comp=Z,3.0nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**46.83**	**345**	*i*P	**P**	**06 52 35.7**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**46.83**	**345**	P	**P**	**06 52 36.0**	**-0.3**
	comp=Z,3.8nm,0.5s,mb4.6,baz=162,slow=7.0,SNR=33						
MJAR	**Matsushiro Arr**	**50.77**	**42**	LR	LR	07 14 43.7	
	comp=Z,64nm,21.4s,MS3.6,baz=200,slow=36						
KURK	**Kurchatov**	**51.40**	**344**	*e*P	**P**	**06 53 10.6**	**-0.9**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
KURK	**Kurchatov**	**51.40**	**344**	*e*P	**P**	**06 53 10.6**	**-0.9**
	comp=Z,9.5nm,0.9s,mb4.7						
ZAL	**Zalesovo**	**53.07**	**350**	P	**P**	**06 53 23.7**	**-0.3**
	comp=Z,5.8nm,0.4s,mb4.8,baz=324,slow=6.3,SNR=20						
BVA0	**Borovoye Array**	**55.92**	**340**	P	**P**	**06 53 43.3**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**55.92**	**340**	P	**P**	**06 53 43.7**	**-1.1**
	comp=Z,3.0nm,0.4s,mb4.7,baz=139,slow=8.7,SNR=32						
BOD	**Bodaibo**	**57.29**	**10**	*e*P	**P**	**06 53 53.1**	**-1.5**
KMBO	**Kilima Mbogo**	**60.71**	**268**	LR	LR	07 15 34.7	
	comp=Z,69nm,18.7s,MS3.8,baz=96,slow=31						
SVE	**Sverdlovsk**	**62.39**	**336**	⇓*i*P	**P**	**06 54 32.5**	**+2.9**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
KIV	**Kislovodsk**	**64.31**	**319**	*e*P	**P**	**06 54 44.8**	**+2.4**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
SOC	**Sochi**	**66.15**	**318**	*e*P	**P**	**06 54 51.8**	**-2.4**
SOC				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
SOC				pmax	pmax		
	comp=N,5.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.4s						
BRTR	**Keskin Array B**	**69.23**	**312**	P	**P**	**06 55 13.0**	**-0.6**
	comp=E,1.4nm,0.6s,mb4.1,baz=132,slow=8.0,SNR=6.8						
MATP	**Matopo**	**71.40**	**248**	P	**P**	**06 55 28.4**	**+1.3**
	comp=E,4.9nm,0.8s,mb4.5,baz=111,slow=4.4,SNR=9.0						
OBN	**Obninsk**	**72.48**	**328**	*e*P	**P**	**06 55 37.7**	**+4.7**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
AKASG	**Malin Array Be**	**75.21**	**322**	P	**P**	**06 55 47.5**	**-1.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=92,slow=4.6,SNR=5.0						
BOSA	**Boshof**	**75.69**	**240**	LR	LR	07 24 25.6	
	comp=Z,104nm,19.1s,MS4.2,baz=355,slow=32						
FINES	**FINESS Array B**	**79.79**	**332**	P	**P**	**06 56 14.2**	**+0.1**
	comp=Z,1.4nm,0.5s,mb4.1,baz=92,slow=5.5,SNR=10						
KAF	**Kangasniemi**	**79.86**	**333**	*e*p	**P**	**06 56 14.3**	**-0.1**
	comp=Z,2.0nm,0.5s,mb4.3						
KAF	**Kangasniemi**	**79.86**	**333**	*e*P	**P**	**06 56 14.3**	**-0.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**82.21**	**340**	P	**P**	**06 56 26.9**	**+0.3**
	comp=Z,4.9nm,0.9s,mb4.4,baz=27,slow=5.4,SNR=7.8						
GERES	**GERESS Array B**	**84.83**	**319**	P	**P**	**06 56 41.6**	**+1.3**
	comp=Z,0.4nm,0.5s,mb3.8,baz=158,slow=7.2,SNR=3.6						
NB2	**NORSAR Subarra**	**86.82**	**331**	P	**P**	**06 56 50.3**	**+0.4**
	comp=Z,1.1nm,0.7s,mb4.2,baz=96,slow=4.6						
NB2	**NORSAR Subarra**	**86.82**	**331**	P	**P**	**06 56 50.3**	**+0.4**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**86.82**	**331**	P	**P**	**06 56 50.5**	**+0.5**
	comp=Z,1.3nm,0.7s,mb4.3,baz=94,slow=4.9,SNR=6.2						
TXAR	**Lajitas Array**	**142.79**	**32**	PKP	PKPdf	07 03 38.1	-5.5
	comp=Z,0.1nm,0.4s,baz=270,slow=5.0,SNR=3.4						

IDC 09 06:48:42.1±3.2, 16.26S×173.32W, mb3.9/4, mb1 4.2/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=173.3km s-min=26.2km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.77**	**33**	Pn	Pn	06 49 23.2	-5.3
	7.2nm,0.3s,baz=184,slow=22,SNR=24						
AFI				Sn	Sn	06 49 50.2	-13
	61nm,0.3s,baz=73,slow=22,SNR=13						
WRA	**Warramunga Arr**	**49.73**	**257**	P	P	06 57 35.9	-2.6
	0.3nm,0.4s,baz=96,slow=6.6,SNR=19						
ASAR	**Alice Springs**	**49.93**	**253**	P	P	06 57 38.0	-1.9
	1.8nm,0.5s,baz=90,slow=7.8,SNR=28						
PDAR	**Pinedale Array**	**82.85**	**42**	P	P	07 01 08.4	-1.5
	1.0nm,0.8s,baz=214,slow=3.3,SNR=7.5						
ILAR	**Eielson Array**	**83.26**	**11**	P	P	07 01 09.6	-2.0
	0.5nm,0.6s,baz=216,slow=7.8,SNR=16						
BRTR	**Keskin Array B**	**146.87**	**320**	PKPbc	PKPbc	07 08 27.4	+1.1
	2.1nm,0.8s,baz=110,slow=2.4,SNR=8.5						
GERES	**GERESS Array B**	**147.00**	**351**	PKPbc	PKPbc	07 08 27.2	+0.9
	0.6nm,0.6s,slow=2.7,SNR=5.1						

IDC 09 06:56:04.5±6.4, 19.43S×172.99W, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.8/27, Error ellipse: s-maj=338.6km s-min=42.2km az=148.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.76**	**204**	LR	LR	07 01 21.8	
	comp=Z,287nm,21.6s,baz=119,slow=30						
ASAR	**Alice Springs**	**49.35**	**255**	P	P	07 04 54.9	-3.0
	0.2nm,0.6s,baz=98,slow=7.7,SNR=4.9						
WRA	**Warramunga Arr**	**49.43**	**260**	P	P	07 04 57.4	-1.1
	0.6nm,0.3s,baz=96,slow=8.3,SNR=46						
YKA	**Yellowknife Ar**	**93.62**	**23**	P	P	07 09 22.1	-1.4
	0.1nm,0.7s,baz=243,slow=6.9,SNR=4.1						

*THE **09** 07:20:10.3, 39.84N×23.73E, h10km, ML2.5*
*ATH **09** 07:20:11.3, 40.03N×23.30E, h30km, MD3.0/3*
*CSEM **09** 07:20:11.8±0.2, 39.97N×23.68E, h10km, ML2.5, Error ellipse: s-maj=7.9km s-min=3.2km az=109.0*
ISC 09 07:20:10.1±1.0, 39.90N±0.05×23.7E±0.1, h12km±4km, n12, σ0§68/15, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.05**	**310**	*e*Pg	**Pg**	**07 20 13.1**	**+0.6**
PAIG				*e*Sg	**Sg**	**07 20 14.4**	**+0.2**
OUR	**Ouranopolis**	**0.48**	**24**	*e*Pg	**Pg**	**07 20 20.4**	**+0.4**
PLG	**Polygyros**	**0.53**	**336**	⇑*i*PB	**Pb**	**07 20 19.4**	**-1.3**
NEO	**Neokhori**	**0.71**	**214**	*e*PN	**Pn**	**07 20 25.8**	**+0.2**
NEO				*e*SN	**Sn**	**07 20 36.6**	**+0.3**
THE	**Thessaloniki**	**0.94**	**322**	*e*Pg	**Pg**	**07 20 28.9**	**-0.1**
THE	**Thessaloniki**	**0.94**	**322**	*e*Pg	**Pg**	**07 20 28.9**	**-0.1**
SOH	**Sokhos**	**0.97**	**343**	*e*Pg	**Pg**	**07 20 29.4**	**-0.2**
LIT	**Litokhoron**	**0.97**	**283**	*e*Pg	**Pg**	**07 20 28.4**	**-1.3**
SRS	**Serrai**	**1.23**	**355**	*e*Pb	**Pb**	**07 20 32.8**	**+0.1**
KNT	**Kendrikon**	**1.42**	**334**	*e*Pb	**Pb**	**07 20 35.6**	**-0.3**
NVR	**Nevrokopi**	**1.46**	**4**	*e*PN	**Pn**	**07 20 36.4**	**+0.1**
GRG	**Griva**	**1.47**	**317**	*e*Pb	**Pb**	**07 20 36.7**	**-0.1**
GRG				*e*Sb	**Sb**	**07 20 56.9**	**+1.6**

*IDC **09** 07:35:59.3±1.2, 15.43S×173.42W, mb4.1/5, mb1 4.3/6, mb1mx3.9/19, mbtmp4.1/6, ML2.7/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/30, Error ellipse: s-maj=50.9km s-min=20.7km az=134.0*
ISC 09 07:36:02.0±0.9, 15.4S±0.2×173.4W±0.2, h33km, n8, σ1§12/7, mb4.0/5, MS3.4/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.10**	**47**	Pn	**Pn**	**07 36 36.3**	**+0.7**
	139nm,0.3s,baz=183,slow=1.2,SNR=202						
AFI				Sn	**Sn**	**07 36 57.7**	**-3.1**
	330nm,0.3s,baz=12,slow=24,SNR=22						
AFI				LR	LR	07 37 22.3	
	comp=Z,377nm,22.0s,baz=127,slow=38						
URZ	**Urewera**	**24.32**	**198**	P	**P**	**07 41 17.8**	**+0.1**
	4.2nm,0.3s,mb4.3,baz=0.4,slow=5.0,SNR=10						
CTA	**Charters Tower**	**38.69**	**257**	LR	LR	07 55 56.7	
	comp=Z,35nm,20.8s,MS3.2,baz=241,slow=31						
STKA	**Stephens Creek**	**44.09**	**240**	P	**P**	**07 44 08.7**	**-0.3**
	3.1nm,0.8s,mb4.1,baz=102,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**49.89**	**257**	P	**P**	**07 44 53.9**	**-0.7**
	0.5nm,0.4s,mb3.9,baz=92,slow=6.7,SNR=31						
ASAR	**Alice Springs**	**50.16**	**252**	P	**P**	**07 44 56.2**	**-0.4**
	3.9nm,0.6s,mb4.6,baz=87,slow=7.9,SNR=71						
ASAR				LR	LR	08 03 20.0	
	comp=Z,61nm,20.2s,MS3.6,baz=43,slow=33						
ILAR	**Eielson Array**	**82.39**	**11**	P	**P**	**07 48 23.7**	**+1.9**
	0.2nm,0.5s,mb3.3,baz=216,slow=6.2,SNR=7.1						
BRTR	**Keskin Array B**	**146.15**	**321**	PKPbc	PKPbc	07 55 41.7	+2.5
	0.7nm,0.6s,baz=56,slow=4.5,SNR=4.4						

IDC 09 07:37:53.8±11.0, 13.63N×93.25E, h101km±84km, mb3.1/3, mb1 3.3/4, mb1mx3.1/21, mbtmp3.4/4, ML4.0/1, Error ellipse: s-maj=112.4km s-min=26.0km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.28**	**48**	P	P	07 39 37.7	-1.5
	0.6nm,0.3s,baz=235,slow=15,SNR=15						
MKAR	**Makanchi Array**	**34.32**	**347**	P	P	07 44 29.8	-2.7
	0.2nm,0.5s,baz=166,slow=10.0,SNR=4.1						
SONM	**Songino Array**	**35.82**	**15**	P	P	07 44 43.7	-1.5
	0.2nm,0.5s,baz=207,slow=6.4,SNR=3.3						
WRA	**Warramunga Arr**	**52.42**	**129**	P	P	07 46 56.5	-1.9
	0.2nm,0.5s,baz=313,slow=7.7,SNR=5.5						

DJA 09 07:38:36.7±1.0, 8.70S×116.35E, h15km, MD4.6/2, 2C-4D, Error ellipse: s-maj=22.5km s-min=16.0km az=108.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.32**	**312**	⇓*e*Pg	Pg	07 38 42.7	-0.8
	251nm,0.2s						
KEDI				⇓*e*Sg	Sg	07 38 48.1	0.0
RATI	**Rata**	**0.81**	**268**	⇑*e*Pg	Pg	07 38 50.3	-2.7
	129nm,0.2s						
RATI				⇑*e*Sg	Sg	07 39 01.6	-2.4
KELI	**Kelakatan**	**1.90**	**285**	⇓*e*Pn	Pn	07 39 07.8	-1.2
SRDI	**Scrawed**	**2.19**	**276**	⇓*e*Pn	Pn	07 39 10.2	-3.0

*IDC **09** 07:43:49.1±2.4, 0.41N×97.22E, mb3.7/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=98.7km s-min=20.4km az=58.0*
ISC 09 07:43:52.1±1.8, 0.5N±0.2×97.2E±0.4, h33km, n8, σ0§41/7, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.96**	**5**	P	**P**	**07 48 01.1**	**-0.1**
	0.2nm,0.3s,baz=197,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**41.62**	**121**	P	**P**	**07 51 38.8**	**-0.4**
	0.3nm,0.5s,mb3.2,baz=305,slow=9.0,SNR=8.7						
ASAR	**Alice Springs**	**42.93**	**126**	P	**P**	**07 51 50.3**	**+0.4**
	0.3nm,0.6s,mb3.2,baz=299,slow=7.7,SNR=5.1						
SONM	**Songino Array**	**47.85**	**8**	P	**P**	**07 52 28.8**	**0.0**
	0.4nm,0.6s,mb3.6,baz=180,slow=9.9,SNR=3.7						
MKAR	**Makanchi Array**	**47.96**	**346**	P	**P**	**07 52 30.2**	**+0.6**
	1.2nm,0.5s,mb4.2,baz=161,slow=9.1,SNR=23						
ZAL	**Zalesovo**	**54.28**	**351**	P	**P**	**07 53 17.5**	**+0.2**
	1.0nm,0.4s,mb4.1,baz=313,slow=7.2,SNR=4.0						
BVAR	**Borovoye Array**	**56.95**	**341**	P	**P**	**07 53 35.9**	**-0.7**
	0.9nm,0.6s,mb4.0,baz=137,slow=7.7,SNR=4.9						
TXAR	**Lajitas Array**	**144.28**	**32**	PKP	PKPdf	08 03 26.7	+1.2
	0.1nm,0.6s,baz=354,slow=1.9,SNR=3.9						

DJA 09 07:50:34.6±1.0, 9.63S×113.69E, h30km±4km, ML3.6/3, 5C-3D, Error ellipse: s-maj=22.2km s-min=13.4km az=44.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.22**	**21**	⇑*e*Pn	Pn	07 50 53.9	-2.0
	46nm,0.2s						
SRDI	**Scrawed**	**1.22**	**21**	⇑*e*P	Pn	07 50 55.0	-0.9
SRDI				⇑*e*Sn	Sn	07 51 08.8	-2.7
KELI	**Kelakatan**	**1.61**	**29**	⇓*e*Pn	Pn	07 51 00.6	-0.8
	82nm,1.1s						
KELI				⇓*e*Sn	Sn	07 51 19.4	-1.9
RATI	**Rata**	**2.03**	**64**	⇓*i*Pn	Pn	07 51 05.3	-2.1
	40nm,0.2s						
RATI	**Rata**	**2.03**	**64**	⇑*e*P	Pn	07 51 08.0	+0.6
RATI				⇑*e*Sn	Sn	07 51 26.5	-5.4

*JMA **09** 07:52:04.5±0.2, 24.88N×122.00E, h50km, M2.5*
TAP 09 07:52:03.4, 24.54N×121.84E, h12km, ML3.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.07**	**94**	P	Pb	07 52 22.6	-0.8
YOJ				*e*S	Sb	07 52 35.5	-1.6
IRIF	**Iriomote-Funau**	**1.73**	**96**	P	Pn	07 52 31.6	-2.1
IRIF				S	Sn	07 52 52.7	-3.2
HATJ	**Hateruma jima**	**1.86**	**105**	*e*S	Sn	07 52 56.6	-2.4
JKRS	**Kuro-shima**	**2.00**	**98**	P	Pn	07 52 35.9	-1.6
JKRS				*e*S	Sn	07 52 58.9	-3.8
JIJ	**Ishigaki jima**	**2.11**	**94**	P	Pn	07 52 36.9	-2.1
JIJ				*e*S	Sn	07 53 01.1	-4.2

IDC 09 07:53:29.1±3.2, 2.27N×96.44E, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, MS3.0/1, Ms1 3.2/1, ms1mx2.6/19, Error ellipse: s-maj=127.2km s-min=27.3km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.27**	**9**	LR	LR	08 04 48.8	
	comp=Z,46nm,18.1s,baz=175,slow=42						
WRA	**Warramunga Arr**	**43.25**	**122**	P	P	08 01 32.5	-1.8
	0.3nm,0.6s,baz=302,slow=9.1,SNR=3.6						
MKAR	**Makanchi Array**	**46.02**	**347**	P	P	08 01 54.6	-1.6
	1.5nm,0.9s,baz=158,slow=7.6,SNR=8.2						
SONM	**Songino Array**	**46.20**	**9**	P	P	08 01 56.0	-1.5
	0.4nm,0.5s,baz=186,slow=9.5,SNR=5.5						
BVAR	**Borovoye Array**	**54.99**	**341**	P	P	08 03 01.6	-2.9
	0.3nm,0.6s,baz=135,slow=4.1,SNR=2.7						

*ISK **09** 08:05:47.0, 38.31N×26.79E, h31km, MD2.8*
*ATH **09** 08:05:48.1, 38.05N×26.82E, h38km±7km, MD3.0/3*
*CSEM **09** 08:05:48.0±0.3, 38.12N×26.89E, h15km, MD2.8, Error ellipse: s-maj=11.2km s-min=6.1km az=108.0*
ISC 09 08:05:48.5±0.5, 38.15N±0.02×26.77E±0.04, h15km, n17, σ1§35/29, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.32**	**42**	*i*PG	**Pg**	**08 05 54.2**	**-1.2**
BLCB				*i*SG	**Sg**	**08 05 58.2**	**-1.8**
SMG	**Samos**	**0.44**	**173**	*e*PB	**Pb**	**08 05 57.0**	**-0.5**
SMG				*e*SB	**Sb**	**08 06 04.0**	**+0.4**
IZM	**Izmir**	**0.46**	**57**	PG	**Pg**	**08 05 57.0**	**-1.1**
IZM				SG	**Sg**	**08 06 03.4**	**-1.1**
KDAG	**Bornova**	**0.47**	**57**	*i*P	**Pb**	**08 05 57.0**	**-0.8**
KDAG				*i*S	**Sb**	**08 06 03.5**	**-0.7**
AYDN	**Tasoluk**	**1.00**	**119**	*i*P	**Pb**	**08 06 07.5**	**+0.4**
AYDN				*i*S	**Sb**	**08 06 20.6**	**+0.7**
AYVA	**Ayvalik**	**1.16**	**357**	*i*P	**Pb**	**08 06 07.8**	**-1.9**
AYVA				*i*S	**Sb**	**08 06 27.4**	**+3.0**
PRK	**Paraskevi**	**1.16**	**341**	*e*PB	**Pb**	**08 06 10.5**	**+0.7**
PRK				*e*SN	**Sn**	**08 06 28.0**	**+2.2**
BODT	**Bodrum**	**1.17**	**158**	*e*PN	**Pn**	**08 06 10.2**	**-0.1**
MLSB	**Milas**	**1.17**	**137**	*e*PN	**Pn**	**08 06 08.4**	**-1.9**
BDRM	**Kayabasi**	**1.21**	**153**	*i*P	**Pb**	**08 06 11.6**	**+1.0**
BDRM				*i*S	**Sb**	**08 06 27.3**	**+1.6**
MANT	**Manisa**	**1.45**	**76**	*i*P	**Pn**	**08 06 15.2**	**+0.9**
MANT				*i*S	**Sb**	**08 06 33.6**	**+0.9**
APE	**Apeiranthos**	**1.46**	**223**	*e*PN	**Pn**	**08 06 13.4**	**-1.1**
APE	**Apeiranthos**	**1.46**	**223**	*e*Pb	**Pb**	**08 06 13.1**	**-1.8**
APE	**Apeiranthos**	**1.46**	**223**	*e*Pn	**Pn**	**08 06 13.4**	**-1.1**
BOZC	**Bozcaada**	**1.78**	**342**	*i*P	**Pn**	**08 06 18.7**	**-0.3**
BOZC				*i*S	**Sn**	**08 06 41.8**	**+0.3**
DNZL	**Cakiroluk**	**1.86**	**104**	*i*P	**Pn**	**08 06 23.6**	**+3.4**
DNZL				*i*S	**Sn**	**08 06 48.7**	**+5.2**
BTOK	**Tokmak**	**1.89**	**31**	*i*P	**Pn**	**08 06 23.6**	**+3.0**
BTOK				*i*S	**Sn**	**08 06 47.0**	**+2.8**

*NEIC **09** 08:21:02.1, 36.22S×72.57W, h69km, After GUC.*
NEIC Felt [III] at Cauquenes and [II] at Talca.
GUC 09 08:21:02.1±0.9, 36.22S×72.57W, h69km±5km, ML4.4, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	**Chanco**	**0.49**	**4**	⇑*i*P	P	08 21 15.0	+0.2
CNCO				*i*S	S	08 21 24.3	+0.1
CNCO				AMP		08 21 24.9	
	comp=N,15μm,0.2s						
CCHI	**Chillan**	**0.55**	**133**	⇑*i*P	P	08 21 15.2	-0.2
CCHI				*i*S	S	08 21 25.4	+0.2
CCHI				AMP		08 21 27.0	
	comp=N,12μm,0.2s						
CCHI				AMP		08 21 27.2	
	comp=N,19μm,0.2s						
TALC	**Talca**	**1.12**	**43**	⇓*i*P	P	08 21 23.2	+0.8
TALC				*i*S	S	08 21 38.5	+0.9
TALC				AMP		08 21 40.4	
	comp=N,27μm,0.1s						
NICH	**Los Niches**	**1.64**	**42**	*e*P	P	08 21 29.2	-0.2
NICH				*i*S	S	08 21 50.0	+0.4
SFDO	**San Fernando**	**2.05**	**39**	⇑*i*P	P	08 21 34.9	-0.1
SFDO				*i*S	S	08 21 59.0	-0.4
LNV	**Longovilo**	**2.46**	**23**	*e*P	P	08 21 40.2	-0.6
LNV				*i*S	S	08 22 09.5	-0.2
TMCH	**Temuco**	**2.52**	**181**	AMP		08 23 26.1	
	comp=N,195nm,0.4s						
CICH	**Cipreses**	**2.59**	**43**	*i*P	P	08 21 42.9	+0.2
CICH				*i*S	S	08 22 13.3	+0.2
CACH	**El Canelo**	**2.65**	**38**	*e*P	P	08 21 43.4	-0.2
CACH				*i*S	S	08 22 14.8	+0.2
CHCH	**Chadas Angostu**	**2.78**	**35**	*i*P	P	08 21 45.0	-0.3
CHCH				*i*S	S	08 22 17.1	-0.6
TACH	**Talagante**	**2.90**	**28**	*i*P	P	08 21 46.3	-0.7
LMEL	**Las Melosas**	**3.07**	**40**	*i*P	P	08 21 49.7	+0.3
LMEL				*i*S	S	08 22 25.2	+0.2
LMEL				AMP		08 22 31.3	
	comp=N,961nm,0.1s						
RCDM	**Rinconada Maip**	**3.09**	**29**	*i*P	P	08 21 48.7	-1.0
RCDM				*i*S	S	08 22 24.9	-0.7
RCDM			

0.4nm,0.8s,baz=343,slow=17,SNR=2.8
WB2 Warramunga Arr 23.54 159⇑*i*P P **08 39 37.4 +0.2**
ASPA Alice Springs 26.88 163 *e*P P **08 40 08.9 0.0**
ASAR Alice Springs 26.88 163 P P **08 40 08.6 -0.3**
0.7nm,0.3s,mb3.6,baz=341,slow=8.0,SNR=32
SONM Songino Array 48.47 343 P P **08 43 10.5 +0.5**
0.2nm,0.4s,mb3.5,baz=166,slow=5.9,SNR=2.6
MKAR Makanchi Array 58.30 326 P P **08 44 22.1 -0.5**
1.1nm,0.4s,mb4.2,baz=121,slow=7.8,SNR=28

*IDC **09** 08:40:52.3±2.1, 1.38N×97.25E, mb4.2/8, mb1 4.3/9, mb1mx4.0/22, mbtmp4.2/9, ML4.4/1, MS3.5/2, Ms1 3.6/2, ms1mx3.1/28, Error ellipse: s-maj=90.2km s-min=16.0km az=59.0*
*BJI **09** 08:40:55.5, 1.26N×97.57E, h35km, mB5.2, mb4.6, Ms4.3, Msz4.2*
*NEIC **09** 08:40:57.0±0.7, 1.42N×97.36E, h30km, mb4.6/9, Error ellipse: s-maj=29.2km s-min=8.0km az=57.0*
ISC 09 08:40:54.7±0.9,**1.4N**±0.1×**97.2E**±0.2,**h30**km,**n25,**
σ0$**85**/23,**mb4.5**/19,**MS4.0**/2,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.09**	**6**	P	**P**	**08 44 51.0**	**-2.2**
	0.4nm,0.3s,baz=193,slow=13,SNR=9.0						
CMAR				LR	LR	08 51 39.3	
	comp=Z,141nm,20.7s,baz=190,slow=38						
KMI	**Kunming**	**24.23**	**12**	P	**P**	**08 46 12.5**	**+2.3**
KMI				AP		08 46 18.0	
KMI				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.4						
KMI				AMB	AMB		
	comp=Z,79nm,3.1s						
KMI	**Kunming**	**24.23**	**12**	P	**P**	**08 46 12.5**	**+2.3**
	comp=Z,22nm,1.4s,mb4.4						
KMI				pP		08 46 18.0	
SHL	**Shillong**	**24.63**	**348**	*e*P	**P**	**08 46 14.0**	**-0.1**
GYA	**Guiyang**	**26.56**	**19**	P	**P**	**08 46 32.1**	**-0.1**
GYA				AP	pP	08 46 39.2	-1.7
GYA				XP	sP	08 46 42.0	-2.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
GYA				AMB	AMB		
	comp=Z,60nm,5.1s						
GYA				LR	LR		
	comp=N,600nm,14.7s,MS4.4						
GYA				LR	LR		
	comp=E,240nm,10.8s,MS4.4						
GYA				LR	LR		
	comp=Z,520nm,15.3s,MS4.2						
JIRN	**Jiri**	**28.23**	**339**	*e*P	**P**	**08 46 47.8**	**+0.5**
	comp=Z,44nm,1.0s,mb5.0						
PKI	**Pulchoki**	**28.44**	**338**	*e*P	**P**	**08 46 49.7**	**+0.5**
	comp=Z,56nm,1.6s,mb5.0						
GUN	**Gumba**	**28.57**	**339**	*e*P	**P**	**08 46 50.4**	**+0.1**
	comp=Z,21nm,0.7s,mb5.0						
DMN	**Daman**	**28.59**	**337**	*e*P	**P**	**08 46 50.7**	**+0.2**
	comp=Z,21nm,1.0s,mb4.8						
KKN	**Kakani**	**28.68**	**338**	*e*P	**P**	**08 46 51.6**	**+0.2**
	comp=Z,18nm,0.9s,mb4.8						
GKN	**Gorkha**	**29.12**	**337**	*e*P	**P**	**08 46 55.4**	**0.0**
	comp=Z,33nm,1.0s,mb5.0						
KOLN	**Koldanda**	**29.34**	**335**	*e*P	**P**	**08 46 57.6**	**+0.2**
	comp=Z,17nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.98**	**126**	P	**P**	**08 47 36.6**	**-1.5**
	comp=Z,2.1nm,0.7s,mb4.2,baz=52,slow=7.7,SNR=3.6						
GTA	**Gaotai**	**37.96**	**3**	*e*P	**P**	**08 48 12.1**	**+0.5**
GTA				AP	pP	08 48 21.7	+1.2
GTA				XP	sP	08 48 26.3	+2.0
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**08 48 46.2**	**+0.3**
	comp=Z,1.6nm,0.7s,mb3.8,baz=300,slow=9.1,SNR=22						
ASAR	**Alice Springs**	**43.45**	**127**	P	**P**	**08 48 57.8**	**+0.7**
	comp=Z,1.2nm,0.8s,mb3.7,baz=288,slow=7.2,SNR=8.9						
SONM	**Songino Array**	**46.98**	**8**	P	**P**	**08 49 25.4**	**+0.4**
	comp=Z,4.3nm,0.8s,mb4.4,baz=188,slow=8.8,SNR=40						
MKAR	**Makanchi Array**	**47.11**	**346**	P	**P**	**08 49 25.6**	**-0.4**
	comp=Z,2.5nm,0.7s,mb4.3,baz=158,slow=7.8,SNR=1.2						
CTA	**Charters Tower**	**52.53**	**117**	LR	LR	09 13 19.3	
	comp=Z,66nm,19.3s,MS3.7,baz=52,slow=37						
ZAL	**Zalesovo**	**53.41**	**351**	P	**P**	**08 50 14.1**	**+0.2**
	comp=Z,4.0nm,0.7s,mb4.5,baz=306,slow=5.6,SNR=20						
STKA	**Stephens Creek**	**53.42**	**132**	P	**P**	**08 50 15.1**	**+0.7**
	comp=Z,2.1nm,0.7s,mb4.2,baz=199,slow=4.8,SNR=3.1						
STKA	**Stephens Creek**	**53.42**	**132**	*e*P	**P**	**08 50 14.3**	**-0.1**
BVAR	**Borovoye Array**	**56.13**	**341**	P	**P**	**08 50 32.6**	**-1.2**
	comp=Z,3.1nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=21						
CHKZ	**Chkalovo**	**56.60**	**341**	*e*P	**P**	**08 50 36.0**	**-1.1**
	comp=Z,9.2nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**143.52**	**32**	PKhKP		09 00 26.2	
	comp=Z,0.4nm,0.8s,baz=320,slow=1.5,SNR=5.1						

*NNC **09** 08:46:37.9±1.0, 43.94N×84.74E, h32km±4km, mpv3.3, Error ellipse: s-maj=17.0km s-min=7.1km az=61.0*
BJI 09 08:46:36.8, 43.82N×84.55E, h17km, ML3.2, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.28**	**89**	*e*PG	Pn	08 47 17.5	+3.2
WMQ				SG	Sn	08 47 44.7	+2.5
WMQ				Smax			
	comp=N,35nm,0.3s						
WMQ				Smax			
	comp=E,43nm,0.3s						
MK31	**Makanchi Array**	**3.37**	**333**	⇑Pn	Pn	08 47 30.5	+0.6
	comp=E,1.7nm,0.3s,baz=149,slow=14,SNR=80						
MK31				⇓Pg	Pn	08 47 39.0	+9.1
	comp=E,4.8nm,0.3s,baz=147,slow=17,SNR=11						
MK31				Lg		08 48 24.3	
	comp=E,5.1nm,0.3s,baz=148,slow=33,SNR=13						
KURK	**Kurchatov**	**7.99**	**332**	⇑Sn	Sn	08 50 00.6	-5.2
	comp=E,7.3nm,2.5s,baz=100,slow=16,SNR=4.9						
KURK				⇓Lg		08 50 51.6	
	comp=E,3.3nm,1.0s,baz=290,slow=16,SNR=4.4						

*IDC **09** 08:54:19.8±2.0, 0.02N×97.97E, mb3.9/7, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, ML4.4/1, Error ellipse: s-maj=93.0km s-min=17.0km az=59.0*
*NEIC **09** 08:54:24.2±0.8, 0.05N×98.02E, h30km, mb4.6/2, Error ellipse: s-maj=26.5km s-min=11.1km az=67.0*
ISC 09 08:54:22.3±1.0,**0.1N**±0.1×**98.0E**±0.2,**h30**km,**n15,**
σ0$**58**/13,**mb4.0**/8,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.82**	**27**	*e*P	**Pn**	**08 55 48.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**18.29**	**3**	P	**P**	**08 58 36.1**	**+0.2**
	0.4nm,0.3s,baz=185,slow=11,SNR=5.2						
SHL	**Shillong**	**26.02**	**347**	*e*P	**P**	**08 59 55.0**	**+0.1**
WRA	**Warramunga Arr**	**40.76**	**121**	P	**P**	**09 02 01.6**	**-1.0**
	0.6nm,0.6s,mb3.4,baz=301,slow=8.9,SNR=8.9						
ASAR	**Alice Springs**	**42.08**	**127**	P	**P**	**09 02 13.9**	**+0.3**
	0.3nm,0.5s,mb3.1,baz=299,slow=8.2,SNR=7.1						
SONM	**Songino Array**	**48.13**	**8**	P	**P**	**09 03 02.1**	**+0.5**
	0.6nm,0.5s,mb3.9,baz=188,slow=11,SNR=5.0						
MKAR	**Makanchi Array**	**48.52**	**346**	P	**P**	**09 03 05.2**	**+0.6**
	3.4nm,0.5s,mb4.6,baz=155,slow=7.7,SNR=69						
MKAR	**Makanchi Array**	**48.52**	**346**	P	**P**	**09 03 05.2**	**+0.6**
STKA	**Stephens Creek**	**52.01**	**132**	P	**P**	**09 03 32.2**	**+0.7**
	1.8nm,0.5s,mb4.2,baz=320,slow=10,SNR=11						
KURK	**Kurchatov**	**53.08**	**345**	*e*P	**P**	**09 03 38.8**	**-0.5**
	4.4nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**54.78**	**350**	P	**P**	**09 03 51.9**	**+0.2**
	1.5nm,0.5s,mb4.3,baz=321,slow=8.1,SNR=7.7						
ZAL	**Zalesovo**	**54.78**	**350**	P	**P**	**09 03 51.9**	**+0.2**
BVAR	**Borovoye Array**	**57.57**	**341**	P	**P**	**09 04 10.6**	**-1.0**
	0.6nm,0.5s,mb3.9,baz=149,slow=8.4,SNR=3.7						
TXAR	**Lajitas Array**	**144.18**	**33**	PKP	PKPdf	09 13 57.0	-4.1
	0.4nm,0.7s,baz=270,slow=2.7,SNR=3.5						
TXAR	**Lajitas Array**	**144.18**	**33**	PKP	PKPdf	09 13 57.0	-4.1

*NEIC **09** 09:04:00.1, 18.27N×101.87W, h45km, MD4.1(MEX), After MEX.*
MEX 09 09:04:00.2±0.7,**18.28N**×**101.87W**,**h40**km±19km,**MD4.1, 3C, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.77**	**150**	*i*P	P	09 04 12.5	-2.1
ZIIG				*i*S	S	09 04 23.4	-1.9
ZIIG	**Zihuatanejo**	**0.77**	**150**	⇑*i*P	P	09 04 12.5	-2.1
ZIIG				*i*S	S	09 04 23.4	-1.9
MOIG	**Morelia**	**1.54**	**25**	⇑*i*P	P	09 04 24.0	-1.7
MOIG				*i*S	S	09 04 41.9	-2.7
COLM	**Colima**	**1.94**	**298**	*e*P	P	09 04 28.6	-2.8
COLM				*i*S	S	09 04 52.3	-2.4
CAIG	**El Cayaco**	**1.96**	**128**	⇑*i*P	P	09 04 29.0	-2.6
CAIG				*e*S	S	09 04 52.3	-2.8
PLIG	**Platanillo**	**2.25**	**87**	*e*P	P	09 04 34.0	-1.8
PLIG				*e*S	S	09 04 59.3	-3.3
ACX	**Acapulco**	**2.33**	**127**	*e*P	P	09 04 35.0	-2.0
ACX				*e*S	S	09 05 03.0	-1.6
SFJM	**Santa Fe**	**2.46**	**334**	*e*P	P	09 04 36.0	-2.8
PPM	**Popocatepetl**	**3.18**	**75**	*e*P	P	09 04 45.5	-3.5
PPM				*e*P		09 04 48.5	
PPM				*i*S	S	09 05 21.8	-4.2
CJM	**Chamela**	**3.24**	**293**	*i*P	P	09 04 48.3	-1.6
CJM				*i*S	S	09 05 25.2	-2.4
ZAIG	**Zacatecas**	**4.52**	**352**	*e*P	P	09 05 05.8	-2.1
ZAIG				*i*S	S	09 06 00.2	+0.3
VHO	**Vista Hermosa**	**5.04**	**103**	*e*P	P	09 05 10.3	-5.1
VHO				*i*S	S	09 06 08.9	-4.3

*TAP **09** 09:05:20.7, 24.54N×121.84E, h11km, ML3.2*
TAP Felt III J at Suao, III J at Nanau.
*JMA **09** 09:05:20.6±0.3, 25.05N×122.04E, h32km, M2.6*
ISC 09 09:05:20.5±0.3,**24.52N**±0.02×**121.94E**±0.02,**h11**km,**n40,**
σ1$**07**/62,**1C-4D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.12**	**316**	⇓*i*P	**Pg**	**09 05 23.7**	**+0.1**
TWC				S	**Sg**	**09 05 25.4**	**-0.3**
ENA	**Nanau**	**0.20**	**243**	⇑*i*P	**Pg**	**09 05 24.4**	**-0.6**
ENA				S	**Sg**	**09 05 26.8**	**-1.2**
ILA	**Ilan**	**0.30**	**324**	*e*P	**Pg**	**09 05 26.9**	**0.0**
ILA				S	**Sg**	**09 05 31.2**	**+0.2**
TWE	**Neicheng**	**0.32**	**309**	⇓*i*P	**Pg**	**09 05 26.9**	**-0.3**
TWE				S	**Sg**	**09 05 30.2**	**-1.4**
EGS		**0.32**	**358**	*e*P	**Pg**	**09 05 28.1**	**+0.8**
EGS				S	**Sg**	**09 05 32.5**	**+0.7**
ENTT	**Nioudou**	**0.36**	**289**	⇓*i*P	**Pg**	**09 05 27.4**	**-0.6**
ENTT				S	**Sg**	**09 05 31.8**	**-1.2**
TWB1	**Santiao Chiao**	**0.49**	**5**	P	**Pg**	**09 05 30.8**	**+0.3**
TWB1				S	**Sg**	**09 05 36.7**	**-0.3**
NNS	**Nan Shan**	**0.53**	**261**	*e*P	**Pg**	**09 05 30.0**	**-1.2**
NNS				S	**Sg**	**09 05 36.1**	**-2.2**
NSK	**Sanguang**	**0.55**	**286**	⇓*i*P	**Pg**	**09 05 30.9**	**-0.9**
NSK				S	**Sg**	**09 05 36.9**	**-2.3**
TWA	**Mucha**	**0.56**	**325**	*i*P	**Pg**	**09 05 31.9**	**0.0**
TWA				S	**Sg**	**09 05 38.7**	**-0.8**
NWF	**Wu-fen Shan**	**0.57**	**345**	*i*P	**Pb**	**09 05 32.2**	**+0.2**
NWF				S	**Sg**	**09 05 39.7**	**0.0**
TAP1	**Taipei**	**0.64**	**324**	*e*P	**Pb**	**09 05 33.4**	**+0.2**
TAP1				S	**Sb**	**09 05 41.6**	**-0.3**
TAP	**Taipei**	**0.65**	**323**	*e*P	**Pb**	**09 05 33.4**	**0.0**
TWT	**Tachien**	**0.75**	**249**	P	**Pb**	**09 05 34.8**	**-0.3**
TWT				S	**Sb**	**09 05 43.9**	**-1.1**
TWS1	**Kuangyinshan**	**0.75**	**321**	*e*P	**Pb**	**09 05 36.1**	**+1.0**
TWS1				S	**Sb**	**09 05 47.5**	**+2.4**
TWY	**Chenhua**	**0.81**	**338**	*e*P	**Pb**	**09 05 36.5**	**+0.3**
TWY				S	**Sb**	**09 05 46.8**	**-0.1**
NCU	**National Centr**	**0.82**	**303**	*e*P	**Pb**	**09 05 37.6**	**+1.3**
NCU				S	**Sb**	**09 05 50.2**	**+3.1**
ESL	**Shilin**	**0.84**	**214**	*e*P	**Pb**	**09 05 35.8**	**-0.9**
NSTT	**Nanjuang**	**0.86**	**278**	P	**Pb**	**09 05 37.3**	**+0.3**
NSTT				S	**Sb**	**09 05 47.3**	**-1.1**
HSN	**Hsinchu**	**0.93**	**288**	*e*P	**Pb**	**09 05 38.9**	**+0.7**
YOJ	**Yonaguni jima**	**0.97**	**93**	P	**Pb**	**09 05 39.4**	**+0.4**
YOJ				*e*S	**Sb**	**09 05 52.8**	**+1.2**
TWQ1	**Liyutan**	**1.08**	**261**	*e*P	**Pb**	**09 05 41.3**	**+0.6**
NSY	**Sanyi**	**1.08**	**265**	*e*P	**Pb**	**09 05 41.9**	**+1.1**
SMLT	**Sun Moon Lake**	**1.14**	**237**	*e*P	**Pb**	**09 05 41.6**	**-0.3**
EHY	**Hungye**	**1.16**	**209**	*e*P	**Pb**	**09 05 41.2**	**-0.9**
TYC	**Yuchr**	**1.17**	**238**	*e*P	**Pb**	**09 05 41.6**	**-0.6**
TCU	**Taichung**	**1.21**	**252**	*e*P	**Pb**	**09 05 44.2**	**+1.1**
TCU				S	**Sb**	**09 06 01.1**	**+2.6**
TWF1	**Yuli**	**1.30**	**207**	*e*P	**Pb**	**09 05 44.1**	**-0.5**
YUS	**Yu-Shan**	**1.37**	**222**	*e*P	**Pn**	**09 05 45.6**	**-0.1**
ALS	**Alishan**	**1.45**	**226**	*e*P	**Pn**	**09 05 47.3**	**+0.5**
CHN5	**Tsauling**	**1.48**	**232**	*e*P	**Pn**	**09 05 48.5**	**+1.3**
IRIF	**Iriomote-Funau**	**1.64**	**96**	P	**Pn**	**09 05 48.7**	**-0.8**
IRIF				*e*S	**Sn**	**09 06 09.7**	**-1.1**
CHN4	**Tsaushan**	**1.70**	**227**	*e*P	**Pn**	**09 05 52.1**	**+1.7**
STYT	**Tauyuan**	**1.73**	**219**	*e*P	**Pn**	**09 05 52.0**	**+1.2**
WTP	**Ta-pu**	**1.76**	**224**	*e*P	**Pn**	**09 05 52.4**	**+1.2**
TWK	**Hsinying**	**1.82**	**227**	*e*P	**Pn**	**09 05 53.9**	**+1.7**
CHN1	**Nanshi**	**1.86**	**225**	*e*P	**Pn**	**09 05 54.9**	**+2.3**
SGST	**Jiashian**	**1.90**	**221**	*e*P	**Pn**	**09 05 54.6**	**+1.4**
JKRS	**Kuro-shima**	**1.91**	**98**	P	**Pn**	**09 05 52.9**	**-0.4**
JKRS				*e*S	**Sn**	**09 06 16.5**	**-1.0**
JIJ	**Ishigaki jima**	**2.01**	**94**	P	**Pn**	**09 05 53.0**	**-1.9**
JIJ				*e*S	**Sn**	**09 06 18.1**	**-2.1**

*BJI **09** 09:12:00.0, 1.08N×96.69E, h21km, mB4.8, mb4.7, Ms4.6, Msz4.4*
*NEIC **09** 09:12:02.5±0.7, 1.12N×97.12E, mb4.4/5, Error ellipse: s-maj=21.2km s-min=10.1km az=66.0*
*IDC **09** 09:12:03.2±1.7, 1.19N×97.27E, h21km±4km, mb3.9/7, mb1 4.0/8, mb1mx3.8/21, mbtmp4.0/8, ML4.5/1, MS3.4/2, Ms1 3.5/2, ms1mx3.1/26, Error ellipse: s-maj=79.3km s-min=13.1km az=58.0*
ISC 09 09:12:00.5±0.9,**1.12N**±0.10×**97.1E**±0.1,**h21**km,
(**h23**km±1.3**km:pP-P**),**n22**,σ0$**89**/20,**mb4.2**/15,**MS3.9**/2,
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.44**	**40**	*e*P	**Pn**	**09 13 23.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.32**	**6**	P	**P**	**09 16 01.8**	**-1.2**
	0.7nm,0.3s,baz=198,slow=12,SNR=9.1						
CMAR				LR	LR	09 22 52.0	
	comp=Z,69nm,18.9s,baz=185,slow=38						
SHL	**Shillong**	**24.82**	**349**	*e*P	**P**	**09 17 24.0**	**+1.0**
GYA	**Guiyang**	**26.82**	**19**	P	**P**	**09 17 43.3**	**+1.8**
GYA				AP	pP	09 17 52.0	+4.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
GYA				AMB	AMB		
	comp=Z,70nm,6.6s						
GYA				LR	LR		
	comp=N,340nm,11.7s						
GYA				LR	LR		
	comp=E,220nm,9.9s						
GYA				LR	LR		
	comp=Z,420nm,11.7s,MS4.2						
ENH	**Enshi**	**31.28**	**21**	*e*P	**P**	**09 18 20.3**	**-1.2**
	comp=Z,12nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.95**	**126**	LR	LR	09 35 10.6	
	comp=Z,92nm,18.3s,MS3.5,baz=253,slow=41						
XAN	**Xi'an**	**34.56**	**17**	P	**P**	**09 18 47.0**	**-3.1**
GTA	**Gaotai**	**38.19**	**3**	*e*P	**P**	**09 19 21.4**	**+0.8**
GTA				AP	pP	09 19 28.1	+1.3
GTA				XP	sP	09 19 31.7	+2.4
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**09 19 52.5**	**-0.4**
	comp=Z,1.2nm,0.6s,mb3.7,baz=301,slow=9.0,SNR=18						
WRA				pP	pP	09 19 58.9	-0.3
	comp=Z,1.1nm,0.5s,baz=301,slow=9.0,SNR=8.9						
WRAB	**Tennant Creek**	**42.07**	**122**	*e*P	**P**	**09 19 52.9**	**-0.1**
	comp=Z,3.4nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**09 20 04.0**	**+0.1**
	comp=Z,0.9nm,0.5s,mb3.7,baz=302,slow=6.7,SNR=10.0						
ASAR				pP	pP	09 20 10.6	+0.5
	comp=Z,1.8nm,0.7s,baz=299,slow=7.4,SNR=13						
SONM	**Songino Array**	**47.22**	**9**	P	**P**	**09 20 34.3**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=190,slow=8.4,SNR=11						
SONM				PcP	PcP	09 22 05.5	-0.1
	comp=Z,0.4nm,0.6s,baz=197,slow=4.5,SNR=3.4						
SONM				pPcP		09 22 12.3	
	comp=Z,0.7nm,0.8s,baz=200,slow=4.9,SNR=3.5						
MKAR	**Makanchi Array**	**47.30**	**346**	P	**P**	**09 20 35.4**	**+0.8**
	comp=Z,2.0nm,0.7s,mb4.2,baz=162,slow=7.7,SNR=14						
CN2	**Changchun**	**49.41**	**27**	*e*P	**P**	**09 20 56.6**	**+5.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
HIA	**Hailar**	**51.74**	**19**	*e*P	**P**	**09 21 08.5**	**-0.2**
	comp=Z,5.6nm,0.8s,mb4.5						
KURK	**Kurchatov**	**51.85**	**345**	*e*P	**P**	**09 21 09.2**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**53.37**	**132**	P	**P**	**09 21 21.4**	**+0.3**
	comp=Z,1.8nm,0.8s,mb4.0,baz=296,slow=21,SNR=3.5						
STKA				pP	pP	09 21 28.1	+0.7
	comp=Z,4.6nm,0.7s,baz=319,slow=6.5,SNR=5.8						
STKA	**Stephens Creek**	**53.37**	**132**	P	**P**	**09 21 21.4**	**+0.3**
STKA				pP	pP	09 21 28.1	+0.7
ZAL	**Zalesovo**	**53.61**	**351**	P	**P**	**09 21 23.1**	**+0.6**
	comp=Z,1.7nm,0.5s,mb4.2,baz=310,slow=6.9,SNR=11						
ZAL				sP	sP	09 21 32.0	+0.7
	comp=Z,1.8nm,0.6s,baz=307,slow=5.3,SNR=5.0						
BVAR	**Borovoye Array**	**56.30**	**341**	P	**P**	**09 21 41.4**	**-0.7**
	comp=Z,1.5nm,0.7s,mb4.1,baz=135,slow=8.4,SNR=8.6						
BVAR				pP	pP	09 21 48.1	-0.3
	comp=Z,1.9nm,0.8s,baz=149,slow=8.6,SNR=7.2						
CHKZ	**Chkalovo**	**56.77**	**341**	*e*P	**P**	**09 21 44.6**	**-0.9**
	comp=Z,3.9nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**143.78**	**32**	PKP	PKPdf	09 31 35.0	-4.1
	comp=Z,0.2nm,0.7s,SNR=5.2						

CASC 09 09:17:28.2±2.2,**13.98N**×**89.77W**,**h6**km,**MD4.2**,**ML3.9,**
11C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.15**	**125**	⇑*i*P	Pg	09 17 31.7	+0.3
RBDL	**Robledal**	**0.15**	**33**	⇑*i*P	Pg	09 17 31.6	+0.2
RBDL				*e*S	Sg	09 17 35.0	+1.3
SNJE	**San Jose**	**0.20**	**125**	⇑*i*P	Pg	09 17 32.6	+0.3
SNJE				*e*S	Sg	09 17 37.5	+2.5
SBLS	**San Blas**	**0.20**	**134**	⇑*i*P	Pg	09 17 32.4	0.0
SBLS				*e*S	Sg	09 17 36.7	+1.5
BOQS	**Boqueron**	**0.54**	**117**	⇑*e*P	Pg	09 17 38.6	-0.4
MTO2	**Montecristo 2**	**0.57**	**44**	⇑*e*P	Pg	09 17 39.0	-0.7
MTO2				*e*S	Sg	09 17 50.0	+2.6
SNET	**Serv Nac Est T**	**0.60**	**119**	*e*P	Pg	09 17 39.9	-0.4
LFU	**La Fuente**	**0.68**	**110**	⇓*e*P	Pg	09 17 41.7	-0.2
LFU				*e*S	Sg	09 17 52.8	+1.8
IXG	**Ixpaco**	**0.69**	**286**	⇑*e*P	Pg	09 17 40.7	-1.3
IXG				AML	AML	09 17 52.6	
	comp=E,12μm,0.4s						
IXG				*e*S	Sg	09 17 53.0	+1.9
LBRS	**Las Brisas**	**0.75**	**109**	⇑*e*P	Pg	09 17 41.9	-1.3
LBRS				*e*S	Sg	09 17 55.8	+2.5
LFRS	**El Faro**	**0.78**	**117**	⇑*e*P	Pb	09 17 42.9	-0.8
LFRS				*e*S	Sg	09 17 54.0	-0.2
LCBS	**La Ceiba**	**0.84**	**113**	⇑*e*P	Pb	09 17 43.7	-1.1
SNVI	**San Vicente**	**0.98**	**112**	*e*P	Pb	09 17 46.1	-1.0
CAHU	**Cacacuatique**	**1.53**	**98**	⇑*e*P	Pn	09 17 56.0	-0.2
CAHU				*e*S	Sb	09 18 18.0	+1.8
BLLM	**Bellamira**	**1.59**	**110**	*e*P	Pn	09 17 57.1	+0.1
JAT	**Jato**	**1.84**	**281**	*e*P	Pn	09 17 59.9	-0.7
JAT				*e*S	Sn	09 18 26.5	+2.1
JAT				AML	AML	09 18 31.4	
	comp=E,795nm,0.9s						
CNCH	**Conchagua**	**2.01**	**110**	⇓*e*P	Pn	09 18 04.1	+1.0

*BJI **09** 09:20:22.3, 30.07N×83.48E, h15km, mB5.0, mb4.4, Ms4.3, Msz4.1*
*DMN **09** 09:20:23.5±0.7, 30.44N×83.69E, h10km, Ml4.5/7, Error ellipse: s-maj=14.9km s-min=12.5km az=48.0*
*IDC **09** 09:20:23.7±0.6, 30.38N×83.73E, mb4.1/17, mb1 4.3/19, mb1mx4.2/25, mbtmp4.1/19, ML4.2/2, MS3.8/15, Ms1 3.8/15, ms1mx3.7/29, Error ellipse: s-maj=19.8km s-min=14.6km az=49.0*
*NDI **09** 09:20:24.8±5.5, 30.62N×83.71E, h10km, ML4.2, mb4.4(NEIC)*
*NEIC **09** 09:20:26.1±0.3, 30.49N×83.60E, h10km, mb4.4/10, ML4.5(DMN), Error ellipse: s-maj=8.6km s-min=4.7km az=60.0*
*MOS **09** 09:20:27.6±1.3, 30.43N×83.58E, h33km, mb4.4/21, Error ellipse: s-maj=12.0km s-min=7.5km az=112.8*
ISC 09 09:20:28.9±0.5,**30.30N**±0.03×**83.51E**±0.03,**h55**km±6km,
n129,σ1$**34**/145,**mb4.2**/29,**MS3.9**/16,**8C-4D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**2.49**	**156**	*e*Pn	**P**	**09 21 09.6**	**+1.6**
GKN				*e*Sn	**S**	**09 21 44.6**	**+7.3**
	2μm,0.9s						
KOLN	**Koldanda**	**2.52**	**178**	*e*Pn	**P**	**09 21 10.7**	**+2.3**
KOLN				*e*Sn	**S**	**09 21 46.8**	**+8.8**
	2μm,0.8s						
KKN	**Kakani**	**2.94**	**148**	*e*Pn	**P**	**09 21 15.3**	**+0.9**
KKN				*e*Sn	**S**	**09 21 52.9**	**+4.2**
	940nm,0.9s

BHPL *i* 09 25 09.1
CHCP Chirah Chowk 9.32 294 P **P** **09 22 44.2 +0.9**
NGP Nagpur 9.96 205 *eP* **P** **09 22 51.7 -0.3**
NGP *eS* **S** **09 24 38.4 -4.8**
THW Thamme Wali 10.34 287 P **P** **09 22 56.6 -0.6**
CEP Cherat 10.45 293 P **P** **09 22 57.1 -1.6**
CEP S **S** **09 24 50.0 -5.2**
KSH Kashi 11.08 328 *eP* **P** **09 23 05.0 -2.2**
KSH *eAP* 09 23 14.3
KSH *eXP* 09 23 18.0
KSH AMB AMB
comp=Z,270nm,4.8s
DRP Derazinda 11.51 281 P **P** **09 23 11.7 -1.3**
JASL Jaisalmer 11.57 256 *e* **S** **09 25 21.6 -0.9**
JASL *e* 09 25 22.9
VIS Vishakhapatnam 12.52 181 *e* **S** **09 25 38.4 -6.9**
LATR Latur 13.41 210 *e* **S** **09 25 58.0 -8.5**
HYB Hyderabad 13.60 201 *eP* **P** **09 23 36.0 -4.8**
HYB pmax pmax
comp=Z,60nm,1.0s
HYB Hyderabad 13.60 201 *eP* **P** **09 23 36.0 -4.8**
comp=Z,60nm,1.0s
HYB *eS* **S** **09 26 03.0 -8.0**
HYB Hyderabad 13.60 201 *i* P **P** **09 23 36.0 -4.8**
comp=Z,60nm,1.0s
HYB *eS* **S** **09 26 03.0 -8.0**
HYB *e* 09 26 15.0
WMQ Urumqi 13.90 13 *eP* **P** **09 23 45.3 +0.7**
WMQ AP 09 23 53.8
WMQ PP PP 09 23 57.1 +1.2
WMQ *eS* **S** **09 26 17.9 -0.2**
WMQ XS 09 26 31.2
WMQ AMB AMB
comp=Z,9.0nm,0.8s
WMQ AMB AMB
comp=Z,179nm,5.4s
WMQ LR LR
comp=N,296nm,15.3s
WMQ LR LR
comp=E,423nm,14.2s
WMQ LR LR
comp=Z,109nm,19.8s
POO Poona 14.64 219⇑ *i* **P** **09 23 52.0 -2.5**
POO *e* 09 26 27.0
KAD Karad 15.48 215 *e* **P** **09 24 04.0 -1.3**
KAD *e* 09 26 49.0
GTA Gaotai 16.16 51 *eP* **P** **09 24 14.8 +1.0**
GTA AP 09 24 21.6
GTA XP 09 24 24.9
GTA S **S** **09 27 10.0 -0.9**
GTA XS 09 27 21.8
GTA SS SS 09 27 33.6 +2.1
GTA AMB AMB
comp=Z,12nm,0.9s
GTA AMB AMB
comp=Z,109nm,5.7s
GTA LR LR
comp=N,764nm,14.4s
GTA LR LR
comp=E,314nm,14.1s
GTA LR LR
comp=Z,440nm,19.8s
KKAR Karatay Array 16.46 324 *i* P **P** **09 24 14.6 -3.0**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 16.50 357 P **P** **09 24 18.6 +0.6**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 16.50 357 Pn **P** **09 24 15.3 -2.6**
comp=Z,0.4nm,0.3s,baz=179,slow=11,SNR=29
MKAR Makanchi Array 16.50 357 Pn **P** **09 24 15.3 -2.6**
KMI Kunming 17.79 102 P **P** **09 24 31.9 -2.3**
KMI AMB AMB
comp=Z,12nm,0.5s
KMI Kunming 17.79 102 P **P** **09 24 31.9 -2.3**
comp=Z,12nm,0.5s
LZH Lanzhou 17.96 66⇓P **P** **09 24 34.4 -1.9**
LZH AP 09 24 42.8
LZH XP 09 24 45.0
LZH PP PP 09 24 49.0 -2.6
LZH S **S** **09 27 54.0 +2.3**
LZH SS SS 09 28 20.0 +3.7
LZH AMB AMB
comp=Z,30nm,1.0s
LZH AMB AMB
comp=Z,190nm,4.0s
LZH LR LR
comp=E,900nm,9.6s
LZH LR LR
comp=Z,1μm,12.4s
LZH Lanzhou 17.96 66⇓P **P** **09 24 34.4 -1.9**
LZH S **S** **09 27 54.0 +2.3**
LZH pmax pmax
comp=Z,30nm,1.0s
LZH Lanzhou 17.96 66⇓P **P** **09 24 34.4 -1.9**
comp=Z,30nm,1.0s
LZH pP 09 24 42.8
LZH sP 09 24 45.0
LZH PP PP 09 24 49.0 -2.6
LZH S **S** **09 27 54.0 +2.3**
LZH sS 09 28 08.0
LZH SS SS 09 28 20.0 +3.7
CHG Chiang Mai 18.08 126⇑P **P** **09 24 36.7 -1.2**
comp=Z,14nm,1.0s
CM31 Chiang Mai Arr 18.32 127 P **P** **09 24 39.8 -1.1**
CMAR Chiang Mai Arr 18.32 127 P **P** **09 24 37.8 -3.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,172nm,19.6s
CMAR Chiang Mai Arr 18.32 127 P **P** **09 24 37.8 -3.1**
comp=Z,0.6nm,0.3s,baz=310,slow=12,SNR=23
CMAR LR LR 09 31 38.7
comp=Z,172nm,19.6s,baz=310,slow=37
NANT Nan 19.35 122 P **P** **09 24 49.0 -3.7**
GYA Guiyang 20.72 95 P **P** **09 25 05.0 -2.1**
GYA AP 09 25 14.1
GYA XP 09 25 18.2
GYA S **S** **09 28 53.3 +2.9**
GYA AMB AMB
comp=Z,10.0nm,0.9s
GYA AMB AMB
comp=Z,370nm,6.0s
GYA LR LR
comp=N,400nm,15.9s,MS4.0
GYA LR LR
comp=E,410nm,16.2s,MS4.0
GYA LR LR
comp=Z,540nm,14.7s,MS4.0
KURK Kurchatov 20.72 351 *i* P **P** **09 25 04.4 -2.6**
KURK pmax pmax
comp=Z,17nm,1.3s
KURK Kurchatov 20.72 351 *eP* **P** **09 25 04.2 -2.8**
comp=Z,2.3nm,3.3s
XAN Xi'an 21.81 74 P **P** **09 25 14.1 -4.0**
XAN AP 09 25 24.6
XAN AMB AMB
comp=Z,7.0nm,1.1s,mb4.0
ENH Enshi 22.42 83 P **P** **09 25 24.1 0.0**
KKTK Khon Kaen 22.48 124 P **P** **09 25 25.0 +0.2**
ZAL Zalesovo 23.64 2 P **P** **09 25 36.4 +0.7**
ZAL pmax pmax
comp=Z,4.0nm,0.8s
ZAL Zalesovo 23.64 2 P **P** **09 25 36.4 +0.7**
comp=Z,3.5nm,0.8s,mb3.9,baz=284,slow=12,SNR=17
BVA0 Borovoye Array 24.66 341 *i* P **P** **09 25 46.3 +0.7**
BVA0 pmax pmax
comp=Z,5.0nm,2.2s,mb3.7
BVAR Borovoye Array 24.66 341 P **P** **09 25 45.7 +0.1**
comp=Z,1.0nm,0.5s,mb3.6,baz=146,slow=10,SNR=9.8
SONM Songino Array 24.80 39 P **P** **09 25 47.2 +0.1**
comp=Z,2.2nm,0.7s,mb3.8,baz=230,slow=9.0,SNR=20
SONM PcP PcP 09 29 23.8 +0.4
comp=Z,0.9nm,0.7s,baz=236,slow=2.5,SNR=5.1
SONM LR LR 09 36 06.9
comp=Z,159nm,18.6s,MS3.5,baz=133,slow=38
ZAK Zakamensk 24.95 31 *eP* **P** **09 25 48.4 -0.1**
ZAK *e* 09 29 19.8
ZAK pmax pmax
comp=Z,2.0nm,1.7s,mb3.4
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.3
CHKZ Chkalovo 25.17 342 *eP* **P** **09 25 50.6 +0.1**
CHKZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
CHKZ Chkalovo 25.17 342 *eP* **P** **09 25 50.6 0.0**
comp=Z,5.1nm,1.0s,mb4.0
ULN Ulaanbaatar 25.18 39 *eP* **P** **09 25 50.0 -0.6**
ULN pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
ULN Ulaanbaatar 25.18 39 *eP* **P** **09 25 50.0 -0.6**
comp=Z,3.3nm,0.8s,mb3.9
GNI Garni 32.94 298 LR LR 09 43 31.2
comp=Z,114nm,20.8s,MS3.6,baz=7.7,slow=42
KIV Kislovodsk 34.93 304 *eP* **P** **09 27 19.1 +1.7**
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CN2 Changchun 35.70 56 *eP* **P** **09 27 22.9 -1.1**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 LR LR
comp=N,300nm,16.0s,MS4.3
CN2 LR LR
comp=E,300nm,16.0s,MS4.3
CN2 LR LR
comp=Z,300nm,19.0s,MS4.1
OBN Obninsk 41.40 321 *eP* **P** **09 28 16.6 +5.4**
OBN pmax pmax
comp=Z,7.0nm,1.3s,mb4.1
BRTR Keskin Array B 41.46 297 P **P** **09 28 14.1 +2.2**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
BRTR Keskin Array B 41.46 297 P **P** **09 28 14.1 +2.2**
comp=Z,1.5nm,0.8s,mb3.6,baz=117,slow=5.5,SNR=8.9
ATD Arta Tunnel 42.04 252 LR LR 09 44 41.6
comp=Z,88nm,19.8s,MS3.6,baz=65,slow=34
AKASG Malin Array Be 44.89 313 P **P** **09 28 39.4 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 44.89 313 P **P** **09 28 39.4 -0.3**
comp=Z,1.0nm,0.6s,mb3.8,baz=79,slow=7.5,SNR=6.7
MJAR Matsushiro Arr 45.57 67 LR LR 09 49 21.5
comp=Z,112nm,18.5s,MS3.8,baz=245,slow=38
MLR Muntele Rosu 46.91 306 P **P** **09 28 58.1 +2.4**
MLR pmax pmax
comp=Z,9.0nm,0.8s
MLR MLR MLR
comp=Z,98nm,18.3s
MLR Muntele Rosu 46.91 306 P **P** **09 28 58.1 +2.4**
comp=Z,8.5nm,0.8s,mb4.7,baz=114,slow=5.2,SNR=10
MLR LR LR 09 52 36.0
comp=Z,98nm,18.3s,MS3.8,baz=315,slow=41
MLR Muntele Rosu 46.91 306⇑P **P** **09 28 58.1 +2.3**
MLR Muntele Rosu 46.91 306⇑P **P** **09 28 58.1 +2.4**
FINES FINESS Array B 48.40 327 P **P** **09 29 06.4 -0.7**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,114nm,22.0s
FINES FINESS Array B 48.40 327 P **P** **09 29 06.4 -0.7**
comp=Z,1.8nm,0.6s,mb4.3,baz=108,slow=6.0,SNR=15
FINES LR LR 09 51 13.6
comp=Z,114nm,21.9s,MS3.8,baz=175,slow=38
ARCES ARCESS Array B 50.87 337 P **P** **09 29 26.2 +0.2**
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES MLR MLR
comp=Z,89nm,21.7s
ARCES ARCESS Array B 50.87 337 P **P** **09 29 26.2 +0.2**
comp=Z,6.3nm,0.8s,mb4.6,baz=76,slow=5.0,SNR=12
ARCES LR LR 09 52 31.5
comp=Z,89nm,21.7s,MS3.8,baz=107,slow=38
ARCES ARCESS Array B 50.87 337 P **P** **09 29 26.2 +0.2**
ARCES LR LR 09 52 31.5
KMBO Kilima Mbogo 53.98 243 P **P** **09 29 51.6 +1.7**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO MLR MLR
comp=Z,80nm,21.8s
KMBO Kilima Mbogo 53.98 243 P **P** **09 29 51.6 +1.7**
comp=Z,1.5nm,0.6s,mb4.1,baz=28,slow=15,SNR=6.1
KMBO LR LR 09 52 28.7
comp=Z,80nm,21.8s,MS3.7,baz=82,slow=36
KMBO Kilima Mbogo 53.98 243 *eP* **P** **09 29 51.6 +1.7**
comp=Z,7.1nm,1.4s,mb4.4
HFS Hagfors 54.27 325 LR LR 09 53 59.9
comp=Z,126nm,18.5s,MS4.0,baz=164,slow=37
GERES GERESS Array B 54.97 311 P **P** **09 29 57.1 +0.4**
comp=Z,0.2nm,0.2s,mb3.8,baz=297,slow=4.4,SNR=2.6
GERES LR LR 09 55 35.4
comp=Z,132nm,19.4s,MS4.0,baz=254,slow=38
NB2 NORSAR Subarra 55.49 326 P **P** **09 29 59.5 -0.8**
comp=Z,2.7nm,0.9s,mb4.3,baz=89,slow=7.0
NB2 NORSAR Subarra 55.49 326 P **P** **09 29 59.5 -0.8**
NB2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
NOA NORSAR Array B 55.49 326 P **P** **09 29 59.2 -1.1**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,75nm,20.3s
NOA NORSAR Array B 55.49 326 P **P** **09 29 59.2 -1.1**
comp=Z,1.8nm,0.8s,mb4.2,baz=89,slow=7.1,SNR=5.0
NOA LR LR 09 56 03.2
comp=Z,75nm,20.3s,MS3.8,baz=115,slow=38
NOA NORSAR Array B 55.49 326 P **P** **09 29 59.2 -1.1**
NOA LR LR 09 56 03.2
WRA Warramunga Arr 69.89 129 P **P** **09 31 35.9 -0.5**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 69.89 129 P **P** **09 31 35.9 -0.5**
comp=Z,2.4nm,0.8s,mb4.2,baz=322,slow=6.2,SNR=17
SUMG Summit 70.08 344 *eP* **P** **09 31 38.1 +1.4**
comp=Z,10nm,1.0s,mb4.7
ASAR Alice Springs 72.23 132 P **P** **09 31 50.2 -0.1**
comp=Z,1.4nm,0.8s,mb3.9,baz=319,slow=6.5,SNR=8.7
IMA Indian Mountai 74.51 21 *eP* **P** **09 32 03.3 +0.4**
IMA pmax pmax
comp=Z,17nm,1.0s,mb4.9
IMA Indian Mountai 74.51 21 *eP* **P** **09 32 03.3 +0.4**
comp=Z,17nm,1.0s,mb4.9
COLA College 77.09 20 *eP* **P** **09 32 18.1 +0.5**
COLA pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
COLA College 77.09 20 *eP* **P** **09 32 18.1 +0.5**
comp=Z,7.2nm,1.1s,mb4.5
ILAR Eielson Array 77.45 20 P **P** **09 32 19.5 -0.1**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR Eielson Array 77.45 20 P **P** **09 32 19.4 -0.1**
comp=Z,2.4nm,0.9s,mb4.1,baz=298,slow=4.6,SNR=26
INK Inuvik 77.92 13 *eP* **P** **09 32 22.4 +0.3**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 77.92 13 *eP* **P** **09 32 22.4 +0.3**
comp=Z,2.2nm,0.9s,mb4.1
DAWY Dawson 80.08 18 *eP* **P** **09 32 34.6 +0.7**
BOSA Boshof 80.74 229 P **P** **09 32 41.5 +3.3**
comp=Z,2.3nm,1.0s,mb4.1,baz=351,slow=10,SNR=4.0
BOSA LR LR 10 04 01.1
comp=Z,91nm,19.3s,MS4.1,baz=250,slow=32
DBIC Dimbokro 85.27 275 P **P** **09 33 03.6 +2.0**
DBIC pmax pmax
comp=Z,4.0nm,0.8s
DBIC MLR MLR
comp=Z,75nm,19.4s
DBIC Dimbokro 85.27 275 P **P** **09 33 03.6 +2.0**
comp=Z,3.5nm,0.8s,mb4.5,baz=63,slow=7.4,SNR=3.8
DBIC LR LR 10 14 10.1
comp=Z,75nm,19.4s,MS4.1,baz=64,slow=38
YKA Yellowknife Ar 86.39 8 P **P** **09 33 06.2 +0.3**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 86.39 8 P **P** **09 33 06.2 +0.3**
comp=Z,1.9nm,0.7s,mb4.5,baz=339,slow=5.0,SNR=44
SCHQ Schefferville 91.46 343 LR LR 10 24 29.4
comp=Z,41nm,18.2s,MS3.9,baz=249,slow=42
VNA2 Neumayer--Watz 118.59 202⇑ *i* PKPdf 09 39 13.1 +3.1
VNA1 Neumayer--Stat 118.83 202⇑ *i* PKPdf 09 39 14.3 +3.8
VNA3 Neumayer Olymp 119.37 202⇑ *i* PKPdf 09 39 14.2 +2.6
TXAR Lajitas Array 120.31 7 PKP PKPdf 09 39 16.9 +2.5
comp=Z,0.5nm,0.9s,baz=270,slow=1.3,SNR=4.2

*JMA **09** 09:28:47.5±0.4,23.25N×121.53E,h97km,M2.7*
TAP 09 09:28:43.3,23.09N×121.40E,h19km±1km,ML3.8,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.01**	**47**	P	Pn	09 29 17.8	+1.0
YOJ				*eS*	Sn	09 29 41.3	-0.3
HATJ	**Hateruma jima**	**2.41**	**66**	*eS*	Sn	09 29 50.4	-1.3
IRIF	**Iriomote-Funau**	**2.47**	**59**	P	Pn	09 29 24.8	+1.4
IRIF				*eS*	Sn	09 29 52.1	-1.2
JKRS	**Kuro-shima**	**2.65**	**64**	P	Pn	09 29 26.8	+0.8
JKRS				*eS*	Sn	09 29 56.3	-1.6
JIJ	**Ishigaki jima**	**2.81**	**63**	P	Pn	09 29 28.5	+0.2
JIJ				*eS*	Sn	09 30 00.0	-2.1
JTJ	**Tarama**	**3.39**	**62**	P	Pn	09 29 37.0	+0.5
JTJ				*eS*	Sn	09 30 14.9	-1.8

IDC 09 09:28:59.8±2.5,2.25N×96.24E,mb3.7/5,mb1 3.8/6,
mb1mx3.6/21,mbtmp3.7/6,ML4.1/1,Error ellipse:
s-maj=93.4km s-min=26.0km az=57.0,Northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.33**	**9**	Pn	P	09 32 52.0	-0.2
	0.3nm,0.3s,baz=194,slow=9.1,SNR=4.3						
WRA	**Warramunga Arr**	**43.40**	**122**	P	P	09 37 04.6	-1.7
	0.3nm,0.7s,baz=302,slow=9.1,SNR=4.0						
MKAR	**Makanchi Array**	**46.01**	**347**	P	P	09 37 24.8	-2.0
	1.8nm,0.9s,baz=162,slow=7.7,SNR=11						
SONM	**Songino Array**	**46.26**	**9**	P	P	09 37 26.7	-2.0
	0.7nm,0.4s,baz=190,slow=9.3,SNR=10.0						
ZAL	**Zalesovo**	**52.38**	**351**	P	P	09 38 13.9	-1.9
	1.1nm,0.5s,baz=292,slow=6.2,SNR=5.1						
BVAR	**Borovoye Array**	**54.95**	**341**	P	P	09 38 32.2	-2.7
	0.6nm,0.7s,baz=104,slow=5.9,SNR=4.3						

*IDC **09** 09:48:18.9±1.4,31.70S×66.47W,h126km±14km,mb3.6/6,*
mb1 3.8/10,mb1mx3.7/17,mbtmp4.0/10,Error ellipse:
s-maj=21.8km s-min=16.4km az=107.0
*NEIC **09** 09:48:19.1±0.5,31.70S×66.47W,h132km±8km,mb4.4/2,*
Error ellipse: s-maj=9.0km s-min=5.4km az=92.0
*GUC **09** 09:48:20.1±0.8,31.67S×66.80W,h170km,ML4.4*
ISC 09 09:48:19.1±0.7,31.68S±0.04×66.64W±0.07,h146km±8km,
n50,σ0°94/57,mb3.8/7,18C-3D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.37**	**273**	P	P	**09 48 47.5**	**+0.3**
	40nm,0.3s,baz=86,slow=10.0,SNR=825						
CFAA				S	S	**09 49 08.0**	**-1.0**
	115nm,0.3s,baz=93,slow=19,SNR=93						
CFAA	**Coronel Fontan**	**1.37**	**273**	P	P	**09 48 47.5**	**+0.3**
CFAA				S	S	**09 49 08.0**	**-1.0**
ZON	**Zonda**	**1.75**	**274**⇑	*iP*	P	**09 48 55.7**	**+4.3**
ZON				*eS*	S	**09 49 17.3**	**+1.1**
MDZ	**Mendoza**	**2.23**	**237**⇓	*iP*	P	**09 48 57.7**	**+0.6**
MDZ				*i*		09 49 26.5	
MDZ				*i* S	S	**09 49 37.6**	**+11**
FCH	**Farellones**	**3.50**	**241**⇑	*iP*	P	**09 49 14.2**	**+0.7**
FCH				*i* S	S	09 49 28.2	-27
FCH				AMP		09 49 30.2	
	comp=E,565nm,0.3s						
FCH	**Farellones**	**3.50**	**241**⇑	*iP*	P	**09 49 14.2**	**+0.7**
FCH				*i* S	S	**09 49 56.1**	**+0.9**
FCH				AMP		09 49 58.7	
	comp=N,390nm,0.8s						
JACH	**Jahuel**	**3.50**	**252**	*eP*	P	**09 49 14.7**	**+1.2**
JACH				*i* S	S	09 49 30.0	-25
JACH	**Jahuel**	**3.50**	**252**	*eP*	P	**09 49 14.3**	**+0.8**
LMEL	**Las Melosas**	**3.70**	**233**⇑	*iP*	P	**09 49 16.9**	**+0.7**
LMEL	**Las Melosas**	**3.70**	**233**⇑	*iP*	P	**09 49 16.9**	**+0.7**
CLCH	**Cerro Calan**	**3.71**	**242**	*eP*	P	**09 49 16.5**	**+0.2**
CLCH				*i* S	S	09 49 31.5	-29
CLCH				AMP		09 49 31.9	
	comp=E,426nm,0.5s						
CLCH	**Cerro Calan**	**3.71**	**242**⇑	*iP*	P	**09 49 16.8**	**+0.5**
CLCH				*i* S	S	**09 50 00.1**	**-0.2**
DSCH	**Colegio Aleman**	**3.74**	**242**	*eS*	Sx	09 49 32.1	
DSCH				AMP		09 49 34.3	
	comp=E,664nm,0.6s						
DSCH	**Colegio Aleman**	**3.74**	**242**⇑	*iP*	P	**09 49 17.3**	**+0.7**
PCH	**Pirque**	**3.80**	**238**⇓	*iP*	P	**09 49 17.9**	**+0.5**
PCH	**Pirque**	**3.80**	**238**⇑	*iP*	P	**09 49 18.1**	**+0.6**
ILCH	**Illapel**	**3.87**	**269**⇑	*iP*	P	**09 49 18.4**	**0.0**
ILCH				*i* S	S	**09 50 02.0**	**-1.9**
TLL	**Tololo Astrono**	**3.89**	**292**	*eP*	P	**09 49 19.3**	**+0.7**
TLL				*i* S	S	**09 50 04.3**	**0.0**
ROCH	**El Roble**	**3.92**	**250**⇑	*iP*	P	**09 49 18.8**	**-0.3**
RCDM	**Rinconada Maip**	**3.96**	**242**⇑	*iP*	P	**09 49 19.5**	**0.0**
RCDM				*i* S	S	**09 50 05.8**	**-0.2**
RCDM	**Rinconada Maip**	**3.96**	**242**	*eP*	P	**09 49 19.4**	**-0.1**
RCDM	**Rinconada Maip**	**3.96**	**242**⇑	*iP*	P	**09 49 19.5**	**0.0**
RCDM				*i* S	S	**09 50 05.8**	**-0.2**
CHCH	**Chadas Angostu**	**4.06**	**235**⇑	*iP*	P	**09 49 21.2**	**+0.3**
CHCH	**Chadas Angostu**	**4.06**	**235**⇑	*iP*	P	**09 49 21.2**	**+0.3**
CACH	**El Canelo**	**4.13**	**233**	*eP*	P	**09 49 22.4**	**+0.7**
CACH	**El Canelo**	**4.13**	**233**	*eP*	P	**09 49 22.4**	**+0.6**
TACH	**Talagante**	**4.13**	**240**	*eP*	P	**09 49 21.2**	**-0.5**
TACH	**Talagante**	**4.13**	**240**⇑	*iP*	P	**09 49 21.4**	**-0.4**
CICH	**Cipreses**	**4.13**	**229**⇑	*iP*	P	**09 49 23.5**	**+1.7**
CHNG	**Los Chungos**	**4.15**	**266**⇑	*iP*	P	**09 49 21.2**	**-0.8**
CHNG				*i* S	S	**09 50 08.2**	**-2.3**
LCO	**Las Campanas**	**4.41**	**306**⇓	*iP*	P	**09 49 26.4**	**+1.0**
LCCH	**Las Cruces**	**4.53**	**245**⇑	*iP*	P	**09 49 25.7**	**-1.5**
VACH	**Vallenar**	**4.73**	**310**	*i* S	S	**09 50 23.1**	**-1.0**
TRQA	**Tornquist**	**7.42**	**150**	*eP*	P	**09 50 04.2**	**-1.6**
	comp=E,22nm,0.6s						
LVC	**Limon Verde**	**9.26**	**347**	P	P	**09 50 30.4**	**+0.2**
	comp=E,2.4nm,0.3s,baz=173,slow=7.9,SNR=28						
LVC				S	S	**09 52 08.4**	**-4.3**
	comp=E,0.7nm,0.3s,baz=128,slow=19,SNR=2.4						
PLCA	**Paso Flores**	**9.57**	**198**	P	P	**09 50 33.0**	**-1.3**
	comp=E,0.3nm,0.3s,baz=19,slow=11,SNR=7.9						
LPAZ	**La Paz**	**15.38**	**355**	P	P	**09 51 51.4**	**+1.9**
	comp=E,2.7nm,0.3s,baz=164,slow=9.0,SNR=50						
LPAZ	**La Paz**	**15.38**	**355**	P	P	**09 51 51.4**	**+1.9**
SIV	**San Ignacio**	**16.42**	**19**	P	P	**09 52 01.0**	**-1.4**
	comp=E,0.4nm,0.3s,baz=212,slow=11,SNR=15						
SAML	**Samuel**	**22.84**	**9**	*eP*	P	**09 53 10.9**	**+0.5**
	comp=E,4.5nm,0.7s,mb4.0						
BDFB	**Brasília**	**23.30**	**51**	P	P	**09 53 13.7**	**-1.1**
	comp=E,2.8nm,0.4s,mb4.1,baz=213,slow=11,SNR=7.4						
VNDA	**Vanda**	**67.22**	**190**	P	P	**09 58 59.0**	**-0.2**
	comp=E,1.2nm,1.1s,mb3.6,baz=350,slow=6.1,SNR=3.7						
DBIC	**Dimbokro**	**70.11**	**69**	P	P	**09 59 17.4**	**-0.4**
	comp=E,4.7nm,1.1s,mb4.1,baz=239,slow=5.9,SNR=3.3						
TXAR	**Lajitas Array**	**70.15**	**326**	P	P	**09 59 18.2**	**+0.4**
	comp=E,0.4nm,0.7s,mb3.3,baz=164,slow=8.3,SNR=6.5						
BOSA	**Boshof**	**77.04**	**116**	P	P	**09 59 57.8**	**+0.1**
	comp=E,1.5nm,0.7s,mb3.7,baz=297,slow=2.3,SNR=3.0						
PDAR	**Pinedale Array**	**83.91**	**330**	P	P	**10 00 34.6**	**+1.0**
	comp=E,0.4nm,0.6s,mb3.4,baz=117,slow=4.0,SNR=5.3						
YKA	**Yellowknife Ar**	**101.41**	**339**	P	P	10 01 55.3	+0.8
	comp=E,0.1nm,0.6s,baz=139,slow=4.3,SNR=7.8						
WRA	**Warramunga Arr**	**124.87**	**204**	PKP	PKPdf	10 07 03.9	+1.7
	comp=E,0.3nm,0.4s,baz=165,slow=1.7,SNR=20						
WRA				pPKP		10 07 39.4	
	comp=E,0.3nm,0.6s,baz=169,slow=1.7,SNR=2.5						
ZAL	**Zalesovo**	**149.79**	**34**	PKPbc	PKPdf	10 07 54.2	+8.1
	comp=E,1.1nm,0.4s,baz=136,slow=5.6,SNR=3.3						
MKAR	**Makanchi Array**	**151.82**	**49**	PKPbc	PKPdf	10 07 58.5	+9.2
	comp=E,0.7nm,0.7s,baz=316,slow=1.1,SNR=7.7						
MKAR				PKPab	PKPab	10 08 07.5	-0.4
	comp=E,0.2nm,0.4s,baz=292,slow=2.9,SNR=4.2						

*NEIC **09** 09:54:38.3,36.71S×178.29E,h24km,ML3.8(WEL),After WEL.*
WEL 09 09:54:35.9±0.4,36.71S×178.62E,h28km±2km,ML3.9/5,
1D,Error ellipse: s-maj=2.8km s-min=2.6km az=90.0,
Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.89**	**197**	P	Pn	09 54 51.2	-1.3
MXZ				S	Sb	09 55 02.6	-1.4
MXZ	**Matakaoa Point**	**0.89**	**197**	⇓P*	Pb	09 54 51.2	-1.4
MXZ				S*	Sb	09 55 02.6	-1.5
PUZ	**Puketiti**	**1.39**	**192**	*eP*	Pn	09 54 59.0	-0.7
PUZ				S	Sn	09 55 19.4	+2.2
PUZ	**Puketiti**	**1.39**	**192**	PN	Pn	09 54 58.6	-1.1
PUZ				SN	Sn	09 55 16.1	-1.1
WIZ	**White Island**	**1.41**	**234**	P	Pb	09 54 58.8	-2.5
WIZ				S*	Sb	09 55 15.6	-3.3
MWZ	**Matawai**	**1.84**	**208**	*eP*	Pn	09 55 05.7	-0.5
MWZ	**Matawai**	**1.84**	**208**	P*	Pb	09 55 05.7	-3.0

URZ	**Urewera**	**1.96 217**	P	Pn	09 55 07.3	-0.6
URZ	**Urewera**	**1.96 217**	P*	Pb	09 55 07.3	-3.5
URZ			S*	Sb	09 55 30.9	-3.9
MYRZ	**Mayor Island**	**1.99 253**	P*	Pb	09 55 07.9	-3.4
TAZ	**Tarawera**	**2.27 227**	P	Pn	09 55 13.4	+1.1
TAZ	**Tarawera**	**2.27 227**	*e*P*	Pb	09 55 12.7	-3.3
KUZ	**Kuaotunu**	**2.33 268**	P	Pn	09 55 12.8	-0.4
KUZ	**Kuaotunu**	**2.33 268**	PN	Pn	09 55 12.5	-0.7
KUZ			SN	Sn	09 55 39.2	-2.1
KNZ	**Kokohu**	**2.42 198**	*e*P	Pn	09 55 11.7	-2.8
KNZ	**Kokohu**	**2.42 198**	PN	Pn	09 55 11.6	-2.9
PATZ	**Paeroa**	**2.51 228**	P	Pn	09 55 16.6	+0.8
MKAZ	**Moumakai**	**2.80 261**	P	Pn	09 55 18.4	-1.5
MKAZ	**Moumakai**	**2.80 261**	PN	Pn	09 55 19.7	-0.2
BKZ	**Black Stump Fm**	**2.97 214**	*e*P	Pn	09 55 19.3	-3.1
BKZ	**Black Stump Fm**	**2.97 214**	P*	Pb	09 55 20.4	-7.6
OTAZ	**Otara**	**2.98 264**	P	Pn	09 55 22.9	+0.5
OTAZ	**Otara**	**2.98 264**	PN	Pn	09 55 22.1	-0.3
KAAZ	**Kauri Point**	**3.15 267**	P	Pn	09 55 25.8	+1.0
KAAZ	**Kauri Point**	**3.15 267**	PN	Pn	09 55 25.7	+0.9
WTAZ	**Waiatarua**	**3.26 265**	P	Pn	09 55 27.1	+0.7
WTAZ	**Waiatarua**	**3.26 265**	PN	Pn	09 55 26.9	+0.6
OTVZ	**Oturere**	**3.38 223**	*e*P*	Pb	09 55 27.4	-7.6
NGZ	**Ngauruhoe**	**3.43 223**	P	Pn	09 55 27.6	-1.2
TUVZ	**Tukino**	**3.46 222**	P	Pn	09 55 27.8	-1.5
TUVZ	**Tukino**	**3.46 222**	*e*P*	Pb	09 55 27.8	-8.6
CNZ	**Chateau**	**3.47 223**	P	Pn	09 55 28.4	-1.1
CNZ	**Chateau**	**3.47 223**	*e*P*	Pb	09 55 27.9	-8.6
WPVZ	**Whakapapa**	**3.48 223**	*e*P	Pn	09 55 29.7	+0.2
WPVZ	**Whakapapa**	**3.48 223**	*e*P*	Pb	09 55 28.1	-8.6
FWVZ	**Far West T-bar**	**3.51 223**	*e*P	Pn	09 55 29.3	-0.7
FWVZ	**Far West T-bar**	**3.51 223**	*e*P*	Pb	09 55 29.1	-8.0
MOVZ	**Moawhango**	**3.52 219**	*e*P*	Pb	09 55 27.4	-10
WNVZ	**Wahianoa**	**3.54 222**	*e*P*	Pb	09 55 28.4	-9.2
WCZ	**Waipu Caves**	**3.54 281**	*e*P	Pn	09 55 30.7	+0.3
WCZ	**Waipu Caves**	**3.54 281**	*e*PN	Pn	09 55 29.7	-0.7
PWZ	**Pawanui**	**3.59 202**	*e*P	Pn	09 55 26.4	-4.7
PWZ	**Pawanui**	**3.59 202**	*e*PN	Pn	09 55 26.0	-5.1
PWZ			SN	Sn	09 56 06.3	-6.7
TSZ	**Takapari Road**	**3.94 211**	P	Pn	09 55 31.8	-4.3
TSZ	**Takapari Road**	**3.94 211**	*e*PN	Pn	09 55 31.3	-4.8
WAZ	**Wanganui**	**4.17 222**	*e*P	Pn	09 55 39.9	+0.5
WAZ	**Wanganui**	**4.17 222**	*e*PN	Pn	09 55 37.3	-2.2
BFZ	**Birch Farm**	**4.38 204**	*e*P	Pn	09 55 36.9	-5.4
BFZ	**Birch Farm**	**4.38 204**	*e*PN	Pn	09 55 36.5	-5.8
MRZ	**Mangatainoka R**	**4.61 210**	*e*P	Pn	09 55 40.6	-4.9
MRZ	**Mangatainoka R**	**4.61 210**	*e*PN	Pn	09 55 39.7	-5.9
KIW	**Kapiti Island**	**5.06 214**	*e*PN	Pn	09 55 46.0	-5.9
CAW	**Cannon Point**	**5.19 211**	*e*PN	Pn	09 55 47.8	-5.9
PAWZ	**Paruwai Farm**	**5.28 207**	SN	Sn	09 56 45.8	-10
TUWZ	**Tuamarina**	**5.95 216**	SN	Sn	09 57 02.2	-10
NNZ	**Nelson**	**6.08 221**	SN	Sn	09 57 06.6	-9.1
THZ	**Tophouse**	**6.72 220**	*e*PN	Pn	09 56 07.0	-8.4
THZ			SN	Sn	09 57 21.0	-11
KHZ	**Kahutara**	**6.92 213**	*e*PN	Pn	09 56 12.1	-6.1
MQZ	**McQueen's Vall**	**8.34 211**	SN	Sn	09 57 54.6	-18

*CSEM **09** 09:55:32.3, 34.00N×10.33E, h5km, MD3.5, After SBS*
TUN 09 09:55:32.3, 34.00N×10.33E, h5km, MD3.5, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEDT	**Meda**	**0.35**	**287**	*i* P	Pg	09 55 39.5	+0.1
MART	**Mareth**	**0.43**	**189**	*i* P	Pg	09 55 41.0	0.0
SGNT	**Sidi Gnaou**	**0.51**	**228**	*i* P	Pg	09 55 43.0	+0.4
BERT	**Berda**	**1.12**	**283**	*i* P	Pb	09 55 56.0	+2.3
SYA	**Sidi Yaiche**	**1.46**	**301**	*i* P	Pn	09 55 58.0	-1.4
TROT	**Trozza**	**1.67**	**339**	*i* P	Pn	09 56 03.0	+0.7
OAR	**Oum El Arais**	**1.68**	**289**	*i* P	Pn	09 56 03.0	+0.4

*IDC **09** 10:17:24.9±3.9, 29.74N×82.37E, mb3.4/2, mb1 3.9/4, mb1mx3.5/22, mbtmp3.6/4, ML4.1/2, Error ellipse: s-maj=156.6km s-min=33.5km az=63.0*
*NDI **09** 10:17:29.3±3.8, 29.20N×84.34E, h10km, MD3.3, ML3.3*
ISC 09 10:17:32.7±1.0, 30.2N±0.1×83.88E±0.08, h33km, n14, σ1§44/19, mb3.3/2, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.24**	**258**	*e*PB	**Pb**	**10 18 32.3**	**+2.9**
LGTI				*e*		10 19 16.0	
PTH	**Pithoragarh**	**3.24**	**259**	*e*S	**S**	**10 19 08.2**	**+7.8**
JOSI	**Joshimath**	**3.75**	**277**	*e*P	**P**	**10 18 24.4**	**-5.3**
JOSI				*e*S	**S**	**10 19 12.5**	**-0.8**
KALG	**Kalgarh**	**4.50**	**263**	*e*	**P**	**10 18 35.6**	**-4.8**
KALG				*e*S	**S**	**10 19 37.8**	**+5.5**
KLP	**Kalpa**	**5.02**	**287**	*e*P	**P**	**10 18 54.4**	**+6.8**
DDI	**Dehra Dun**	**5.04**	**273**	*e*	**P**	**10 18 48.2**	**+0.3**
NDI	**New Delhi**	**6.00**	**257**	*e*PB	**Pb**	**10 19 19.5**	**+3.1**
NDI				*e*SB	**Sb**	**10 20 36.0**	**+7.4**
AYAN	**Aya Nagar**	**6.14**	**256**	*e*P	**P**	**10 19 02.8**	**-0.5**
AYAN				*e*S	**S**	**10 20 10.8**	**-2.5**
AYAN				*e*		10 21 04.0	
	comp=Z,9.3nm,1.3s						
SONA	**Sohna**	**6.25**	**254**	*e*P	**P**	**10 19 04.6**	**-0.3**
SONA				*e*		10 20 52.9	
SONA				*e*		10 20 54.5	
	comp=E,26nm,0.6s						
SONA				*e*		10 20 55.2	
	comp=N,40nm,0.6s						
KHET	**Khetri**	**7.37**	**255**	*e*P	**P**	**10 19 19.0**	**-1.6**
KHET				*e*S	**S**	**10 20 40.6**	**-3.4**
KHET				*e*		10 21 31.0	
	comp=E,9.5nm,0.9s						
KHET				*e*		10 21 31.4	
	comp=N,9.1nm,0.6s						
MKAR	**Makanchi Array**	**16.62**	**356**	P	**P**	**10 21 25.0**	**+0.5**
	comp=N,0.1nm,0.3s,baz=180,slow=12,SNR=4.8						
CMAR	**Chiang Mai Arr**	**18.00**	**127**	P	**P**	**10 21 46.7**	**+4.7**
	comp=N,0.9nm,0.3s,baz=300,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**69.58**	**129**	P	**P**	**10 28 40.5**	**-0.2**
	comp=N,0.3nm,0.8s,mb3.2,baz=322,slow=6.5,SNR=5.0						
YKA	**Yellowknife Ar**	**86.45**	**8**	P	**P**	**10 30 11.8**	**-0.7**
	comp=N,0.2nm,0.8s,mb3.4,baz=336,slow=5.0,SNR=3.8						

*NDI **09** 10:27:25.1±4.0, 29.88N×84.66E, h10km, ML3.0*
*IDC **09** 10:27:27.0±2.9, 30.14N×83.36E, mb3.3/4, mb1 3.5/5, mb1mx3.4/22, mbtmp3.3/5, ML2.8/1, Error ellipse: s-maj=97.9km s-min=31.4km az=74.0*
ISC 09 10:27:30.5±1.3, 30.1N±0.1×84.27E±0.09, h33km, n13, σ1§34/18, mb3.3/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALG	**Kalgarh**	**4.83**	**265**	*e*	**P**	**10 28 34.8**	**-7.9**
KALG				*e*S	**S**	**10 29 38.8**	**+0.6**
KLP	**Kalpa**	**5.38**	**287**	*e*P	**P**	**10 28 50.2**	**-0.4**
KLP				*i*		10 29 03.6	
KLP				*e*S	**S**	**10 29 52.1**	**-0.1**
DDI	**Dehra Dun**	**5.39**	**274**	*e*P	**P**	**10 28 52.3**	**+1.7**
AGRA	**Agra**	**6.23**	**245**	*e*S	**S**	**10 30 09.2**	**-4.1**
AGRA				*i*		10 30 46.8	
NDI	**New Delhi**	**6.30**	**259**	*e*PB	**Pb**	**10 29 19.0**	**-0.3**
AYAN	**Aya Nagar**	**6.43**	**258**	*e*PB	**Pb**	**10 29 22.0**	**+0.5**
AYAN				*e*SB	**Sb**	**10 30 46.4**	**+7.6**
SONA	**Sohna**	**6.54**	**256**	*e*PN	**Pn**	**10 29 04.6**	**-2.3**
SONA				*i* PB	**Pb**	**10 29 24.9**	**+1.6**
SONA				*e*		10 30 24.0	
SONA				*e*		10 30 55.7	
	comp=E,13nm,0.8s						
SONA				*e*		10 30 56.4	
	comp=N,15nm,0.9s						
KHET	**Khetri**	**7.66**	**257**	*e*P	**P**	**10 29 20.3**	**-2.2**
KHET				*e*S	**S**	**10 30 42.6**	**-6.5**
KHET				*e*		10 30 47.2	
	comp=N,10.0nm,1.1s						
KHET				*e*		10 30 47.3	
	comp=E,8.8nm,0.6s						
KHET				*i*		10 31 21.9	
KHET				*i*		10 31 21.9	
MKAR	**Makanchi Array**	**16.79**	**355**	Pn	**P**	**10 31 21.1**	**-3.4**
	comp=E,0.0nm,0.3s,baz=180,slow=11,SNR=11						
ZAL	**Zalesovo**	**23.87**	**1**	P	**P**	**10 32 41.6**	**+0.1**
	comp=E,0.6nm,0.3s,mb3.5,baz=303,slow=16,SNR=3.5						
SONM	**Songino Array**	**24.59**	**38**	P	**P**	**10 32 52.5**	**+3.9**
	comp=E,0.2nm,0.7s,mb2.8,baz=243,slow=3.2,SNR=3.0						
WRA	**Warramunga Arr**	**69.23**	**130**	P	**P**	**10 38 40.3**	**+4.0**
	comp=E,0.2nm,0.6s,mb3.2,baz=323,slow=6.3,SNR=5.2						
YKA	**Yellowknife Ar**	**86.54**	**9**	P	**P**	**10 40 10.9**	**+0.2**
	comp=E,0.2nm,0.6s,mb3.5,baz=341,slow=4.7,SNR=4.5						

*NEIC **09** 10:38:16.9, 37.86S×176.99E, h131km, MG4.2(WEL), After WEL.*
WEL 09 10:38:17.0±0.2, 37.90S×176.96E, h130km±2km, ML3.7/13, 4C-3D, Error ellipse: s-maj=1.3km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.24**	**249**	P	P	10 38 35.2	+0.3
MARZ	**Manawahe**	**0.24**	**249**	PN	P	10 38 35.1	+0.1
URZ	**Urewera**	**0.38**	**162**	P	P	10 38 35.3	-0.2
URZ	**Urewera**	**0.38**	**162**	⇑PN	P	10 38 35.3	-0.2
URZ				SN	S	10 38 48.8	-0.7
LIRZ	**Lichensteins R**	**0.47**	**257**	PN	P	10 38 36.1	+0.1
TAZ	**Tarawera**	**0.49**	**227**	P	P	10 38 36.8	+0.7
TAZ	**Tarawera**	**0.49**	**227**	PN	P	10 38 36.6	+0.6
TGRZ	**Tauranga**	**0.58**	**287**	P	P	10 38 36.5	-0.1
TGRZ	**Tauranga**	**0.58**	**287**	⇓PN	P	10 38 36.5	-0.1
TGRZ				SN	S	10 38 51.8	+0.2
MWZ	**Matawai**	**0.62**	**134**	P	P	10 38 36.8	-0.1
MWZ				S	S	10 38 50.4	-1.7
MWZ	**Matawai**	**0.62**	**134**	⇑PN	P	10 38 36.8	-0.1
MWZ				SN	S	10 38 52.0	0.0
PATZ	**Paeroa**	**0.73**	**229**	P	P	10 38 38.4	+0.7
PATZ	**Paeroa**	**0.73**	**229**	PN	P	10 38 38.4	+0.7
MYRZ	**Mayor Island**	**0.84**	**317**	PN	P	10 38 38.4	-0.1
PUZ	**Puketiti**	**1.04**	**100**	P	P	10 38 40.0	-0.4
PUZ				S	S	10 38 56.9	-1.3
PUZ	**Puketiti**	**1.04**	**100**	⇑PN	P	10 38 40.0	-0.4
PUZ				SN	S	10 38 56.9	-1.3
MXZ	**Matakaoa Point**	**1.12**	**73**	P	P	10 38 41.0	-0.3
MXZ	**Matakaoa Point**	**1.12**	**73**	PN	P	10 38 40.9	-0.3
MXZ				SN	S	10 38 59.3	-0.3
KNZ	**Kokohu**	**1.25**	**154**	P	P	10 38 42.7	0.0
KNZ	**Kokohu**	**1.25**	**154**	⇑PN	P	10 38 42.7	0.0
BKZ	**Black Stump Fm**	**1.32**	**196**	*e*P	P	10 38 42.8	-0.6
BKZ	**Black Stump Fm**	**1.32**	**196**	PN	P	10 38 42.8	-0.6
BKZ				SN	S	10 39 02.5	-1.1
KUZ	**Kuaotunu**	**1.52**	**319**	P	P	10 38 44.7	-1.0
KUZ	**Kuaotunu**	**1.52**	**319**	⇓PN	P	10 38 44.6	-1.0
MKAZ	**Moumakai**	**1.63**	**298**	P	P	10 38 46.5	-0.4
MKAZ	**Moumakai**	**1.63**	**298**	⇓PN	P	10 38 46.6	-0.4
NGZ	**Ngauruhoe**	**1.66**	**220**	P	P	10 38 47.5	+0.2
CNZ	**Chateau**	**1.71**	**220**	P	P	10 38 48.1	+0.3
CNZ	**Chateau**	**1.71**	**220**	*e*PN	P	10 38 48.0	+0.2
TUVZ	**Tukino**	**1.71**	**216**	P	P	10 38 47.5	-0.3
TUVZ				P		10 38 47.7	
TUVZ	**Tukino**	**1.71**	**216**	*e*PN	P	10 38 47.3	-0.5
WPVZ	**Whakapapa**	**1.71**	**220**	PN	P	10 38 48.0	+0.1
FWVZ	**Far West T-bar**	**1.75**	**219**	P	P	10 38 47.9	-0.4
FWVZ	**Far West T-bar**	**1.75**	**219**	PN	P	10 38 47.8	-0.5
MOVZ	**Moawhango**	**1.78**	**212**	*e*PN	P	10 38 47.6	-1.0
MOVZ				SN	S	10 39 10.9	-1.9
WNVZ	**Wahianoa**	**1.78**	**216**	*e*PN	P	10 38 48.0	-0.7
OTAZ	**Otara**	**1.88**	**300**	P	P	10 38 49.9	+0.1
OTAZ	**Otara**	**1.88**	**300**	PN	P	10 38 49.6	-0.2
MTVZ	**Mangateitei**	**1.89**	**218**	PN	P	10 38 49.3	-0.6
MTAZ	**Motutapu**	**1.98**	**304**	P	P	10 38 50.8	-0.2
MTAZ	**Motutapu**	**1.98**	**304**	PN	P	10 38 50.8	-0.2
KAAZ	**Kauri Point**	**2.10**	**300**	PN	P	10 38 51.6	-1.0
PWZ	**Pawanui**	**2.13**	**182**	*e*P	P	10 38 51.7	-1.3
PWZ	**Pawanui**	**2.13**	**182**	PN	P	10 38 51.7	-1.3
WTAZ	**Waiatarua**	**2.13**	**296**	PN	P	10 38 52.6	-0.4
TSZ	**Takapari Road**	**2.29**	**200**	*e*P	P	10 38 53.3	-1.8
TSZ	**Takapari Road**	**2.29**	**200**	PN	P	10 38 53.2	-1.9
WAZ	**Wanganui**	**2.41**	**219**	PN	P	10 38 55.3	-1.4
BFZ	**Birch Farm**	**2.83**	**191**	*e*P	P	10 38 59.5	-2.7
BFZ	**Birch Farm**	**2.83**	**191**	PN	P	10 38 59.4	-2.8
BFZ				SN	S	10 39 32.4	-4.1
MRZ	**Mangatainoka R**	**2.96**	**201**	*e*P	P	10 39 00.8	-3.1
MRZ	**Mangatainoka R**	**2.96**	**201**	PN	P	10 39 00.8	-3.1
MRZ				SN	S	10 39 35.3	-4.2
KIW	**Kapiti Island**	**3.36**	**208**	PN	P	10 39 05.5	-3.6
MTW	**Mount Morrison**	**3.44**	**199**	PN	P	10 39 06.2	-4.1
CAW	**Cannon Point**	**3.52**	**204**	P	P	10 39 07.4	-3.9
CAW	**Cannon Point**	**3.52**	**204**	PN	P	10 39 07.4	-3.9
CAW				SN	S	10 39 48.4	-4.5
PAWZ	**Paruwai Farm**	**3.67**	**198**	SN	S	10 39 50.8	-5.7
MSWZ	**Moikau Station**	**3.75**	**200**	PN	P	10 39 10.2	-4.2
MSWZ				SN	S	10 39 52.1	-6.2
NNZ	**Nelson**	**4.32**	**219**	*e*PN	P	10 39 18.2	-3.8
THZ	**Tophouse**	**4.96**	**218**	*e*P	P	10 39 26.5	-4.1
MQZ	**McQueen's Vall**	**6.66**	**208**	SN	S	10 40 56.9	-12

*BJI **09** 10:49:09.8, 0.71N×97.42E, h36km, mB5.2, mb4.8, Ms4.5, Msz4.4*
*IDC **09** 10:49:11.4±0.6, 0.99N×97.22E, h20km±3km, mb4.1/13, mb1 4.2/14, mb1mx4.1/22, mbtmp4.2/14, ML4.3/1, MS3.7/7, Ms1 3.8/7, ms1mx3.4/27, Error ellipse: s-maj=26.4km s-min=12.8km az=48.0*
*MOS **09** 10:49:11.1±1.1, 0.94N×97.15E, h33km, mb4.8/12, Error ellipse: s-maj=20.0km s-min=8.7km az=98.6*
*NEIC **09** 10:49:11.6±0.4, 0.97N×97.25E, mb4.7/12, Error ellipse: s-maj=12.5km s-min=8.5km az=62.0*
ISC 09 10:49:10.5±1.9, 1.01N±0.07×97.25E±0.08, h27km±13km, h25km±2.7km: pP-P, n62, σ1§01/64, mb4.4/36, MS3.9/11, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.44**	**39**	*e*P	**Pn**	**10 50 31.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**17.42**	**5**	P	**P**	**10 53 12.4**	**-1.2**
	0.4nm,0.3s,baz=196,slow=12,SNR=24						
CMAR				LR	LR	11 00 25.1	
	comp=Z,116nm,20.2s,baz=190,slow=39						
KMI	**Kunming**	**24.55**	**12**	P	**P**	**10 54 32.1**	**+2.5**
KMI				AP		10 54 41.7	
KMI				XP		10 54 46.4	
KMI				PP	PP	10 55 07.3	+1.5
KMI				S	**S**	**10 58 50.1**	**+4.3**
KMI				XS		10 59 06.4	
KMI				AMB	AMB		
	comp=Z,41nm,1.4s,mb4.8						
KMI				AMB	AMB		
	comp=Z,203nm,3.7s						
KMI				LR	LR		
	comp=N,632nm,15.5s,MS4.3						
KMI				LR	LR		
	comp=E,270nm,10.7s,MS4.3						
KMI				LR	LR		
	comp=Z,649nm,14.6s,MS4.3						
KMI	**Kunming**	**24.55**	**12**	P	**P**	**10 54 32.1**	**+2.5**
	comp=Z,41nm,1.4s,mb4.8						
KMI				pP		10 54 41.7	
KMI				sP		10 54 46.4	
KMI				PP	PP	10 55 07.3	+1.5
KMI				S	**S**	**10 58 50.1**	**+4.3**
KMI				sS		10 59 06.4	
KMI				SS	SS	10 59 52.4	+11
KMI				LR	LR		
	comp=Z,650nm,14.6s,MS4.3						
SHL	**Shillong**	**24.95**	**348**	*e*P	**P**	**10 54 34.0**	**+0.5**
GYA	**Guiyang**	**26.87**	**19**	P	**P**	**10 54 51.5**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**28.54**	**339**	*e*P	**P**	**10 55 07.4**	**+1.0**
	comp=Z,32nm,0.9s,mb5.0						
PKI	**Pulchoki**	**28.75**	**338**	*e*P	**P**	**10 55 07.8**	**-0.4**
	comp=Z,35nm,1.2s,mb5.0						
PKI	**Pulchoki**	**28.75**	**338**	*e*P	**P**	**10 55 07.8**	**-0.4**
PKI				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.7						
GUN	**Gumba**	**28.88**	**339**	*e*P	**P**	**10 55 10.4**	**+1.0**
	comp=Z,91nm,1.2s,mb5.4						
DMN	**Daman**	**28.89**	**337**	*e*P	**P**	**10 55 10.4**	**+0.8**
KKN	**Kakani**	**28.99**	**338**	*e*P	**P**	**10 55 11.0**	**+0.5**
	comp=Z,5.0nm,0.2s,mb4.9						
KKN	**Kakani**	**28.99**	**338**	*e*P	**P**	**10 55 11.0**	**+0.5**
KKN				pmax	pmax		
	comp=Z,3.0nm,0.2s,mb4.7						
LSA	**Lhasa**	**29.11**	**349**	P	**P**	**10 55 11.3**	**-0.3**
ENH	**Enshi**	**31.34**	**21**	*e*P	**P**	**10 55 29.3**	**-1.9**
	comp=Z,7.6nm,0.8s,mb4.6						
XAN	**Xi'an**	**34.63**	**17**	P	**P**	**10 55 57.6**	**-2.2**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
GTA	**Gaotai**	**38.29**	**3**	*e*P	**P**	**10 56 31.2**	**+0.5**
GTA				AP	pP	10 56 36.9	-1.8
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**41.89**	**122**	P	**P**	**10 57 00.2**	**-0.5**
	comp=Z,1.8nm,1.0s,mb3.6,baz=306,slow=9.0,SNR=13						
WRA				pP	pP	10 57 06.7	-2.0
	comp=Z,1.7nm,0.8s,baz=301,slow=8.9,SNR=9.7						
WRAB	**Tennant Creek**	**41.90**	**122**	P	**P**	**10 57 00.4**	**-0.4**
BJT	**Baijiatuau**	**42.47**	**22**	*e*P	**P**	**10 57 06.2**	**+1.0**
BJT				pmax	pmax		
	comp=Z,13nm,0.7s						
BJT	**Baijiatuau**	**42.47**	**22**	*e*P	**P**	**10 57 06.2**	**+0.9**
	comp=Z,14nm,0.7s,mb4.7						
BJI	**Beijing**	**42.49**	**22**	*e*P	**P**	**10 57 06.2**	**+0.8**
BJI				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=Z,78nm,23.0s,MS3.5						
BJI	**Beijing**	**42.49**	**22**	*e*P	**P**	**10 57 06.2**	**+0.8**
	comp=Z,21nm,0.8s,mb4.8						
BJI				S	S	11 03 49.1	+24
BJI				LR	LR		
	comp=Z,80nm,23.0s,MS3.5						
KSH	**Kashi**	**42.96**	**336**	*e*P	**P**	**10 57 10.0**	**+0.8**
KSH				*e*AP	pP	10 57 22.2	+4.9
KSH				*e*XP	sP	10 57 27.1	+6.5
KSH				*e*PP	PP	10 58 52.1	+0.8
KSH				*e*PCP	PcP	10 59 00.0	-0.1
KSH				*e*PPP	PPP	10 59 27.0	+1.0
KSH				*e*SCP		11 02 46.2	
KSH				*e*PCS		11 02 51.1	
KSH				*e*S	**S**	**11 03 31.0**	**-1.4**
KSH				*e*XS		11 03 52.2	
KSH				*e*SCS	ScS	11 07 04.2	-1.6
KSH				AMB	AMB		
	comp=Z,230nm,5.9s						
KSH				LR	LR		
	comp=N,570nm,5.9s						
KSH				LR	LR		
	comp=E,560nm,5.9s						
ASAR	**Alice Springs**	**43.24**	**127**	P	**P**	**10 57 11.4**	**-0.4**
	comp=E,1.3nm,0.6s,mb3.8,baz=298,slow=7.2,SNR=13						
ASAR				pP	pP	10 57 18.3	-1.4
	comp=E,0.6nm,0.4s,baz=298,slow=7.1,SNR=6.0						
ASAR				LR	LR	11 14 37.5	
	comp=E,78nm,20.4s,MS3.6,baz=142,slow=35						
WMQ	**Urumqi**	**43.47**	**350**	⇑P	**P**	**10 57 14.0**	**+0.7**
WMQ				AP	pP	10 57 26.4	+5.1
WMQ				XP	sP	10 57 31.8	+7.2
WMQ				PP	PP	10 58 57.4	+1.1
WMQ				PCP	PcP	10 59 02.5	+0.8
WMQ				S	**S**	**11 03 38.5**	**-1.1**
WMQ				XS		11 03 59.3	
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,146nm,5.2s						
WMQ				LR	LR		
	comp=N,110nm,22.0s,MS3.8						
WMQ				LR	LR		
	comp=E,43nm,22.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,56nm,20.4s,MS3.5						
SONM	**Songino Array**	**47.31**	**8**	P	**P**	**10 57 44.2**	**+0.3**
	comp=Z,6.0nm,0.8s,mb4.6,baz=187,slow=8.5,SNR=28						
SONM				PcP	PcP	10 59 15.1	+0.1
	comp=Z,2.1nm,0.8s,baz=189,slow=2.9,SNR=5.9						
SONM				pPcP		10 59 21.7	
	comp=Z,1.6nm,0.7s,baz=186,slow=3.6,SNR=4.2						
MKAR	**Makanchi Array**	**47.43**	**346**	*i* P	**P**	**10 57 44.8**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**47.43**	**346**	P	**P**	**10 57 45.3**	**+0.4**
	comp=Z,7.3nm,0.9s,mb4.6,baz=158,slow=7.8,SNR=61						
MKAR				LR	LR	11 21 47.7	
	comp=Z,63nm,19.1s,MS3.6,baz=171,slow=41						
ULN	**Ulaanbaatar**	**47.44**	**9**	*e*P	**P**	**10 57 44.8**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ULN	**Ulaanbaatar**	**47.44**	**9**	*e*P	**P**	**10 57 44.8**	**-0.1**
	comp=Z,4.3nm,0.9s,mb4.4						
CN2	**Changchun**	**49.45**	**27**	*e*P	**P**	**10 58 02.0**	**+1.5**
CN2				*e*XP	sP	10 58 16.0	+4.2
CN2				*e*S	**S**	**11 05 06.7**	**+1.8**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CN2				AMB	AMB		
	comp=Z,600nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,11.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,11.0s,MS4.6						
CN2				LR	LR		
	comp=Z,300nm,13.0s,MS4.5						
ZAK	**Zakamensk**	**49.45**	**5**	*e*P	**P**	**10 57 59.8**	**-0.7**

comp=Z,40nm,18.8s,MS3.8,baz=59,slow=41
GERES GERESS Array B 84.99 319 P **P** 11 01 44.7 -0.2
comp=Z,1.1nm,0.8s,mb4.0,baz=90,slow=4.0,SNR=8.1
GERES pP pP 11 01 52.9 -0.6
comp=Z,1.5nm,0.9s,baz=117,slow=6.0,SNR=5.0
NB2 NORSAR Subarra 87.19 331 P **P** 11 01 56.0 +0.5
comp=Z,0.8nm,0.8s,mb4.0,baz=95,slow=5.0
NB2 NORSAR Subarra 87.19 331 P **P** 11 01 56.0 +0.5
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb4.1
NOA NORSAR Array B 87.19 331 P **P** 11 01 56.1 +0.6
comp=Z,1.4nm,0.8s,mb4.2,baz=94,slow=4.9,SNR=4.8
NOA LR LR 11 50 57.8
comp=Z,29nm,18.1s,MS3.7,baz=70,slow=42
TXAR Lajitas Array 143.80 32 PKP PKPdf 11 08 44.2 -4.6
comp=Z,0.4nm,0.8s,baz=53,slow=2.7,SNR=5.2
JCT Junction City 144.72 26 *e*PKPdf PKPdf 11 08 45.7 -4.8

MAN 09 10:49:38.5, 17.98N×120.92E, h15km, mb3.7, ML2.5, MS2.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.33**	**111**	*e*P	Pb	10 49 45.8	+0.2
APYP				*e*S	Sb	10 49 49.3	-1.0
ABRA	**Dolores**	**0.38**	**211**	*e*P	Pb	10 49 46.8	+0.4
CVP	**Callao Caves**	**0.91**	**108**	*e*P	Pb	10 49 55.0	-0.4
CVP				*e*S	Sb	10 50 05.0	-2.0
CAUP	**Cauayan**	**1.34**	**140**	*e*P	Pn	10 50 02.2	-0.6
BALP	**Baler**	**2.31**	**164**	*e*P	Pn	10 50 16.7	0.0

*JMA **09** 10:52:09.5±0.1, 24.45N×122.07E, h44km, M2.9*
TAP 09 10:52:09.9, 24.37N×122.00E, h9km, ML3.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.93**	**84**	P	Pb	10 52 25.3	-2.3
YOJ				*e*S	Sb	10 52 36.8	-3.0
IRIF	**Iriomote-Funau**	**1.58**	**91**	P	Pn	10 52 34.6	-3.6
IRIF				*e*S	Sb	10 52 53.8	-4.9
JKRS	**Kuro-shima**	**1.84**	**94**	P	Pn	10 52 38.8	-3.1
JKRS				*e*S	Sn	10 53 00.5	-5.0
JIJ	**Ishigaki jima**	**1.95**	**90**	P	Pn	10 52 40.4	-3.2
JIJ				*e*S	Sn	10 53 02.4	-6.0
JTJ	**Tarama**	**2.48**	**83**	P	Pn	10 52 48.0	-3.0
JTJ				*e*S	Sn	10 53 15.9	-5.8

MEX 09 11:02:03.4±0.8, 15.90N×96.65W, h36km±25km, MD3.8, 2D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.53**	**104**	⇓*i*P	P	11 02 12.9	-1.5
HUIG				*i* S	S	11 02 20.3	-2.1
VHO	**Vista Hermosa**	**1.17**	**356**	⇓*i*P	P	11 02 21.8	-1.7
VHO				*e*S	S	11 02 35.8	-2.7
OXX	**Oaxaca**	**1.18**	**356**	*e*P	P	11 02 22.5	-1.1
OXX				*e*S	S	11 02 37.0	-1.7
CMIG	**Matias Romero**	**2.06**	**55**	*e*P	P	11 02 32.8	-3.5
CMIG				*e*S	S	11 02 59.9	-1.2

*TAP **09** 11:16:51.5, 23.45N×121.59E, h26km, ML3.9*
TAP Felt I J at Hungye, I J at Shilin, II J at Chenggung, I J at Lidau.
*JMA **09** 11:16:52.7±0.3, 23.47N×121.65E, h67km, M3.1*
ISC 09 11:16:51.4±0.3, 23.42N±0.02×121.63E±0.02, h28km±2km, n62, σ0°88/102, 12C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHY	**Hungye**	**0.30**	**287**	⇑*i*P	**Pb**	**11 16 58.8**	**+0.1**
EHY				S	**Sb**	**11 17 03.3**	**-0.3**
TWF1	**Yuli**	**0.31**	**258**	⇑*i*P	**Pb**	**11 16 59.4**	**+0.4**
TWF1				S	**Sb**	**11 17 04.2**	**+0.2**
CHKT	**Chengkung**	**0.40**	**218**	⇑P	**Pb**	**11 17 00.8**	**+0.6**
CHKT				S	**Sb**	**11 17 07.6**	**+1.4**
ESL	**Shilin**	**0.43**	**335**	⇑*i*P	**Pb**	**11 17 00.4**	**-0.3**
ESL				S	**Sb**	**11 17 07.7**	**+0.7**
HWA	**Hwalien**	**0.56**	**358**	*e*P	**Pb**	**11 17 02.6**	**0.0**
HWA				S	**Sb**	**11 17 12.5**	**+2.2**
ELDTW	**Lidau**	**0.61**	**248**	*e*P	**Pb**	**11 17 02.9**	**-0.6**
YUS	**Yu-Shan**	**0.63**	**277**	⇑*i*P	**Pb**	**11 17 03.9**	**+0.1**
YUS				S	**Sb**	**11 17 11.9**	**-0.4**
ALS	**Alishan**	**0.76**	**277**	⇑*i*P	**Pb**	**11 17 06.1**	**0.0**
ALS				S	**Sb**	**11 17 15.6**	**-0.6**
TWG	**Pinlang**	**0.79**	**221**	⇓*i*P	**Pb**	**11 17 05.3**	**-1.2**
TWG				S	**Sb**	**11 17 15.3**	**-1.5**
TTN	**Taitung**	**0.80**	**214**	*e*P	**Pb**	**11 17 06.6**	**0.0**
TTN				S	**Sb**	**11 17 18.4**	**+1.3**
SMLT	**Sun Moon Lake**	**0.81**	**305**	⇑*i*P	**Pb**	**11 17 06.3**	**-0.6**
SMLT				S	**Sb**	**11 17 16.6**	**-0.9**
STYT	**Tauyuan**	**0.84**	**253**	*e*P	**Pb**	**11 17 07.0**	**-0.4**
STYT				S	**Sb**	**11 17 17.6**	**-0.8**
TYC	**Yuchr**	**0.86**	**304**	⇑*i*P	**Pb**	**11 17 06.9**	**-0.7**
TYC				S	**Sb**	**11 17 18.6**	**-0.2**
CHN5	**Tsauling**	**0.89**	**282**	⇑*i*P	**Pn**	**11 17 08.2**	**0.0**
CHN5				S	**Sb**	**11 17 19.4**	**-0.4**
TWT	**Tachien**	**0.93**	**333**	⇑*i*P	**Pn**	**11 17 08.4**	**-0.3**
TWT				S	**Sb**	**11 17 19.2**	**-1.6**
WTP	**Ta-pu**	**0.95**	**260**	*e*P	**Pn**	**11 17 08.9**	**-0.1**
WTP				S	**Sb**	**11 17 21.6**	**+0.2**
CHN4	**Tsaushan**	**0.96**	**266**	P	**Pn**	**11 17 09.3**	**+0.2**
CHN4				S	**Sb**	**11 17 21.7**	**+0.2**
WNT	**Mingjian**	**0.98**	**298**	⇑P	**Pn**	**11 17 09.6**	**+0.2**
WNT				S	**Sb**	**11 17 22.1**	**-0.2**
ENA	**Nanau**	**1.01**	**6**	*e*P	**Pn**	**11 17 09.0**	**-0.8**
WGK	**Gukeng**	**1.02**	**285**	*e*P	**Pn**	**11 17 09.9**	**0.0**
WGK				S	**Sb**	**11 17 23.2**	**-0.1**
SGST	**Jiashian**	**1.02**	**251**	*e*P	**Pn**	**11 17 10.3**	**+0.3**
SGST				S	**Sb**	**11 17 23.9**	**+0.5**
ECL	**Taimali**	**1.03**	**217**	*e*P	**Pn**	**11 17 08.4**	**-1.7**
CHN1	**Nanshi**	**1.04**	**257**	*e*P	**Pn**	**11 17 10.6**	**+0.4**
CHN1				S	**Sb**	**11 17 24.9**	**+0.9**
NNS	**Nan Shan**	**1.04**	**347**	*e*P	**Pn**	**11 17 09.8**	**-0.5**
TWK	**Hsinying**	**1.06**	**262**	⇓*i*P	**Pn**	**11 17 10.9**	**+0.3**
TWK				S	**Sn**	**11 17 24.7**	**+0.2**
CHN2	**Minshiung**	**1.07**	**276**	*e*P	**Pn**	**11 17 11.2**	**+0.6**
CHN2				S	**Sn**	**11 17 25.7**	**+1.0**
CHY	**Chiayi**	**1.11**	**274**	*e*P	**Pn**	**11 17 11.2**	**0.0**
CHY				S	**Sn**	**11 17 25.9**	**+0.1**
TCU	**Taichung**	**1.14**	**310**	*e*P	**Pn**	**11 17 12.0**	**+0.4**
TCU				S	**Sn**	**11 17 26.4**	**0.0**
SSD	**Sandimen**	**1.14**	**234**	*e*P	**Pn**	**11 17 11.0**	**-0.6**
TWC	**Suao**	**1.20**	**10**	*e*P	**Pn**	**11 17 12.9**	**+0.3**
CHN3	**Shinhua**	**1.21**	**254**	*e*P	**Pn**	**11 17 13.5**	**+0.7**
CHN3				S	**Sn**	**11 17 30.7**	**+2.3**
TWQ1	**Liyutan**	**1.21**	**320**	⇑*i*P	**Pn**	**11 17 13.7**	**+0.9**
TWQ1				S	**Sn**	**11 17 29.0**	**+0.6**
ENTT	**Nioudou**	**1.22**	**357**	*e*P	**Pn**	**11 17 12.2**	**-0.6**
EAST	**Anshuo**	**1.26**	**215**	*e*P	**Pn**	**11 17 11.9**	**-1.5**
TWM1	**Shoushan**	**1.26**	**242**	*e*P	**Pn**	**11 17 15.7**	**+2.2**
NSY	**Sanyi**	**1.27**	**321**	*e*P	**Pn**	**11 17 14.3**	**+0.7**
NSY				S	**Sn**	**11 17 31.2**	**+1.4**
NSK	**Sanguang**	**1.28**	**349**	*e*P	**Pn**	**11 17 13.3**	**-0.4**
NSK				S	**Sn**	**11 17 28.4**	**-1.6**
TWE	**Neicheng**	**1.30**	**1**	*e*P	**Pn**	**11 17 13.3**	**-0.7**
CHN8	**Yiju**	**1.31**	**267**	*e*P	**Pn**	**11 17 13.8**	**-0.3**
CHN8				S	**Sn**	**11 17 31.0**	**+0.3**
WSF	**Szhu**	**1.31**	**280**	*e*P	**Pn**	**11 17 16.4**	**+2.3**
WTCT	**Ta-ch'eng**	**1.31**	**290**	*e*P	**Pn**	**11 17 13.4**	**-0.8**
WTCT				S	**Sn**	**11 17 30.9**	**-0.1**
NSTT	**Nanjuang**	**1.34**	**335**	*e*P	**Pn**	**11 17 15.1**	**+0.6**
NSTT				S	**Sn**	**11 17 30.4**	**-1.1**
LAY	**Lan-yu**	**1.38**	**183**	*e*P	**Pn**	**11 17 13.8**	**-1.3**
SCZT	**Fangliau**	**1.40**	**222**	*e*P	**Pn**	**11 17 15.5**	**+0.1**
EGS		**1.45**	**11**	*e*P	**Pn**	**11 17 18.5**	**+2.4**
EGS				S	**Sn**	**11 17 38.0**	**+3.7**
TWA	**Mucha**	**1.56**	**358**	*e*P	**Pn**	**11 17 18.1**	**+0.5**
TWP	**Hsiaoliuchiu**	**1.58**	**228**	*e*P	**Pn**	**11 17 19.8**	**+1.7**
TWB1	**Santiao Chiao**	**1.62**	**12**	*e*P	**Pn**	**11 17 19.3**	**+0.8**
HEN	**Hengchun**	**1.63**	**211**	*e*P	**Pn**	**11 17 18.5**	**-0.2**
YOJ	**Yonaguni jima**	**1.64**	**50**	P	**Pn**	**11 17 19.3**	**+0.5**
YOJ				S	**Sn**	**11 17 39.3**	**+0.2**
NWF	**Wu-fen Shan**	**1.65**	**5**	*e*P	**Pn**	**11 17 19.0**	**0.0**
TSEB	**Hengchuen, Pin**	**1.66**	**204**	*e*P	**Pn**	**11 17 18.4**	**-0.7**
TWS1	**Kuangyinshan**	**1.69**	**353**	*e*P	**Pn**	**11 17 18.6**	**-0.9**
WDGT	**Dungji**	**1.82**	**265**	*e*P	**Pn**	**11 17 20.4**	**-1.0**
WDGT				S	**Sn**	**11 17 40.3**	**-3.4**
TWY	**Chenhua**	**1.85**	**359**	*e*P	**Pn**	**11 17 23.4**	**+1.5**
PNG	**Penghu**	**1.91**	**275**	*e*P	**Pn**	**11 17 21.7**	**-1.1**
PNG				S	**Sn**	**11 17 43.6**	**-2.5**
HATJ	**Hateruma jima**	**2.09**	**72**	P	**Pn**	**11 17 25.7**	**+0.4**
HATJ				S	**Sn**	**11 17 50.5**	**-0.2**
IRIF	**Iriomote-Funau**	**2.13**	**64**	P	**Pn**	**11 17 26.6**	**+0.8**
IRIF				*e*S	**Sn**	**11 17 51.7**	**+0.1**
JKRS	**Kuro-shima**	**2.33**	**69**	P	**Pn**	**11 17 29.4**	**+0.7**
JKRS				*e*S	**Sn**	**11 17 56.5**	**-0.1**
JIJ	**Ishigaki jima**	**2.48**	**67**	P	**Pn**	**11 17 30.8**	**-0.1**
JIJ				S	**Sn**	**11 17 59.4**	**-1.2**
JTJ	**Tarama**	**3.06**	**66**	P	**Pn**	**11 17 39.0**	**-0.1**
JTJ				*e*S	**Sn**	**11 18 14.5**	**-0.7**
KNM	**Kinmen**	**3.09**	**289**	*e*P	**Pn**	**11 17 38.9**	**-0.6**

IDC 09 11:17:12.7±2.1, 19.48N×95.69E, mb3.9/2, mb1 3.7/3, mb1mx3.3/21, mbtmp3.5/3, ML2.8/1, Error ellipse: s-maj=36.5km s-min=17.1km az=37.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**3.25**	**108**	Pn	Pn	11 18 06.0	+0.1
0.3nm,0.3s,baz=290,slow=11,SNR=3.1							
CMAR				Pg	Pg	11 18 11.2	-6.3
0.5nm,0.3s,baz=288,slow=18,SNR=12							
CMAR				Lg		11 18 55.6	
0.8nm,0.3s,baz=288,slow=32,SNR=8.4							
MKAR	**Makanchi Array**	**29.37**	**341**	P	P	11 23 16.7	-2.9
0.4nm,0.6s,baz=158,slow=7.7,SNR=5.2							
ZAL	**Zalesovo**	**35.40**	**349**	P	P	11 24 10.7	-1.4
1.4nm,0.5s,baz=330,slow=3.8,SNR=4.9							

*NEIC **09** 11:23:55.4±0.7, 6.91S×130.18E, h30km, mb3.7/1, Error ellipse: s-maj=18.9km s-min=8.9km az=73.0*
*IDC **09** 11:23:59.2±7.5, 7.11S×129.76E, h59km±70km, mb3.8/2, mb1 4.4/5, mb1mx3.8/17, mbtmp4.4/5, ML4.7/3, Error ellipse: s-maj=97.9km s-min=33.7km az=56.0*
ISC 09 11:24:04.7±2.3, 7.49S±0.08×129.9E±0.1, h141km±25km, n11, σ1°48/16, mb3.6/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.34**	**201**	*e*P	**P**	**11 26 43.8**	**+0.3**
26nm,0.3s							
FITZ				*e*S	**S**	**11 28 46.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.34**	**201**	P	**P**	**11 26 44.3**	**+0.9**
15nm,0.3s,baz=34,slow=12,SNR=93							
FITZ				S	**S**	**11 28 46.0**	**-1.8**
2.1nm,0.3s,baz=74,slow=20,SNR=3.6							
WRAB	**Tennant Creek**	**13.10**	**161**	*e*P	**P**	**11 27 05.6**	**-0.8**
11nm,0.6s							
WRA	**Warramunga Arr**	**13.10**	**161**	P	**P**	**11 27 06.6**	**+0.2**
3.9nm,0.3s,baz=340,slow=13,SNR=106							
WRA				S	**S**	**11 29 26.7**	**-2.6**
2.7nm,0.3s,baz=347,slow=23,SNR=8.8							
WB2	**Warramunga Arr**	**13.11**	**161**	*e*P	**P**	**11 27 06.1**	**-0.4**
WB2				*e*S	**S**	**11 29 27.4**	**-2.0**
ASAR	**Alice Springs**	**16.54**	**167**	P	**P**	**11 27 51.2**	**+1.4**
1.2nm,0.3s,baz=350,slow=15,SNR=40							
ASAR				S	**S**	**11 30 50.0**	**+2.1**
0.9nm,0.3s,baz=351,slow=24,SNR=6.9							
ASPA	**Alice Springs**	**16.54**	**167**	*e*P	**P**	**11 27 52.0**	**+2.2**
ASPA				*e*S	**S**	**11 30 49.2**	**+1.4**
MBWA	**Marble Bar**	**16.77**	**215**	*e*P	**P**	**11 27 56.6**	**+3.9**
3.5nm,0.5s							
MKAR	**Makanchi Array**	**68.58**	**327**	P	**P**	**11 34 53.5**	**-0.8**
2.0nm,0.5s,mb4.1,baz=124,slow=7.9,SNR=29							
BVAR	**Borovoye Array**	**78.43**	**328**	P	**P**	**11 35 50.7**	**-0.5**
0.3nm,0.6s,mb3.1,baz=135,slow=6.3,SNR=3.8							
LPAZ	**La Paz**	**150.39**	**143**	PKPbc	PKPdf	11 43 46.8	+12
0.8nm,0.4s,baz=315,slow=1.4,SNR=6.2							

IDC 09 11:35:18.6±2.8, 1.19N×97.04E, mb3.4/4, mb1 3.6/5, mb1mx3.4/21, mbtmp3.4/5, ML3.8/1, Error ellipse: s-maj=102.7km s-min=27.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.27**	**6**	P	P	11 39 23.4	+0.4
0.1nm,0.3s,baz=186,slow=13,SNR=4.0							
WRA	**Warramunga Arr**	**42.16**	**122**	P	P	11 43 13.3	-1.7
0.3nm,0.5s,baz=303,slow=8.9,SNR=7.2							
SONM	**Songino Array**	**47.17**	**9**	P	P	11 43 52.8	-1.9
0.5nm,0.7s,baz=194,slow=9.4,SNR=3.7							
MKAR	**Makanchi Array**	**47.22**	**346**	P	P	11 43 53.4	-1.8
0.3nm,0.5s,baz=161,slow=8.6,SNR=4.7							
BVAR	**Borovoye Array**	**56.21**	**341**	P	P	11 44 59.7	-3.0
0.4nm,0.5s,baz=141,slow=9.2,SNR=3.6							

*IDC **09** 11:37:08.8±2.7, 22.50S×171.06E, mb3.4/2, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=123.1km s-min=39.9km az=171.0*
ISC 09 11:37:14.7±3.1, 23.4S±0.7×170.7E±0.4, h33km, n6, σ0°65/8, mb3.4/2, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.14**	**288**	*e*P	**P**	**11 38 17.2**	**-0.1**
DZM				*e*S	**S**	**11 39 05.7**	**+0.4**
DZM	**Mont Dzumac**	**4.14**	**288**	Pn	**Pn**	**11 38 17.3**	**-0.1**
2.4nm,0.3s,baz=107,slow=18,SNR=44							
DZM				Sn	**Sn**	**11 39 06.3**	**+0.9**
3.1nm,0.3s,slow=20,SNR=9.4							
NOUC	**Port Laguerre**	**4.26**	**287**	*e*P	**P**	**11 38 19.1**	**+0.2**
NOUC				*e*S	**S**	**11 39 06.7**	**-1.4**
ASAR	**Alice Springs**	**33.68**	**262**	P	**P**	**11 43 55.4**	**+0.5**
0.6nm,0.9s,mb3.5,baz=102,slow=9.7,SNR=6.6							
WRA	**Warramunga Arr**	**33.91**	**269**	P	**P**	**11 43 56.5**	**-0.4**
0.2nm,0.5s,mb3.3,baz=96,slow=8.4,SNR=6.3							
GERES	**GERESS Array B**	**148.76**	**330**	PKPbc	PKPdf	11 56 56.2	+1.5
0.7nm,0.6s,baz=27,slow=3.0,SNR=6.3							

MEX 09 11:41:56.3±0.8, 16.07N×97.29W, h16km±999km, MD3.8, 1C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.13**	**28**	⇑*i*P	Pb	11 42 13.7	-3.3
VHO				*i* S	Sb	11 42 27.3	-4.0
OXX	**Oaxaca**	**1.15**	**28**	*e*P	Pb	11 42 14.5	-2.8
OXX				*e*S	Sb	11 42 28.0	-3.7
HUIG	**Huatulco**	**1.18**	**105**	*e*P	Pb	11 42 14.3	-3.6
HUIG				*e*S	Sb	11 42 27.7	-5.0
CMIG	**Matias Romero**	**2.52**	**66**	*e*P	Pn	11 42 35.0	-2.4
CMIG				*e*S	Sn	11 43 04.3	-3.8

*IDC **09** 11:49:29.5±1.4, 6.81N×73.04W, h157km±43km, mb2.6/2, mb1 3.1/4, mb1mx3.0/21, mbtmp3.3/4, Error ellipse: s-maj=110.1km s-min=8.2km az=134.0*
ISC 09 11:49:29.0±1.7, 6.8N±0.6×73.0W±0.6, h169km±47km, n4, σ1°57/6, mb3.0/2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.34**	**213**	P	**P**	**11 50 10.9**	**+1.1**
7.3nm,0.3s,baz=87,slow=18,SNR=37							
ROSC				S	**S**	**11 50 40.1**	**-1.0**
22nm,0.3s,baz=78,slow=19,SNR=12							
SDV	**Santo Domingo**	**3.14**	**49**	P	**P**	**11 50 20.6**	**+1.1**
9.6nm,0.3s,baz=257,slow=14,SNR=92							
SDV				S	**S**	**11 50 57.6**	**-0.8**
3.9nm,0.3s,baz=297,slow=18,SNR=7.9							
TXAR	**Lajitas Array**	**36.51**	**312**	P	**P**	**11 56 20.3**	**+0.4**
0.1nm,0.5s,mb2.8,baz=126,slow=12,SNR=2.6							
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**11 59 40.8**	**-0.9**
0.2nm,0.5s,mb3.2,baz=135,slow=6.6,SNR=5.9							

*IDC **09** 11:56:32.7±4.2, 20.67S×168.50E, mb3.8/2, mb1 4.0/3, mb1mx3.7/15, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=127.2km s-min=33.2km az=135.0*
ISC 09 11:56:31.4±2.9, 21.1S±0.9×169.1E±0.5, h33km, n7, σ0°57/9, mb4.0/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.65**	**249**	*e*P	**P**	**11 57 12.8**	**+0.1**
DZM				*e*S	**S**	**11 57 43.9**	**0.0**
DZM	**Mont Dzumac**	**2.65**	**249**	Pn	**Pn**	**11 57 13.0**	**+0.2**
5.9nm,0.3s,baz=233,slow=20,SNR=191							
DZM				Sn	**Sn**	**11 57 44.8**	**+0.6**
24nm,0.3s,baz=94,slow=22,SNR=11							
NOUC	**Port Laguerre**	**2.78**	**249**	*e*P	**P**	**11 57 14.5**	**-0.1**
NOUC				*e*S	**S**	**11 57 46.7**	**-0.6**
WRA	**Warramunga Arr**	**32.55**	**266**	P	**P**	**12 03 01.1**	**-0.7**
0.5nm,0.6s,mb3.7,baz=98,slow=8.5,SNR=13							
ASAR	**Alice Springs**	**32.60**	**259**	P	**P**	**12 03 01.6**	**-0.6**
1.1nm,0.7s,mb3.9,baz=84,slow=9.3,SNR=13							
FITZ	**Fitzroy Crossi**	**40.97**	**266**	*e*P	**P**	**12 04 14.0**	**+1.1**
11nm,0.8s,mb4.5							
GERES	**GERESS Array B**	**146.09**	**330**	PKPbc	PKPbc	12 16 12.0	+4.0
0.2nm,0.3s,baz=45,slow=5.6,SNR=3.1							

IDC 09 11:57:30.6±4.3, 2.70N×96.17E, mb3.3/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/16, Error ellipse: s-maj=158.5km s-min=29.9km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.70**	**123**	P	P	12 05 37.6	-1.8
0.2nm,0.4s,baz=301,slow=9.1,SNR=6.4							
ASAR	**Alice Springs**	**45.12**	**128**	LR	LR	12 26 02.4	
comp=Z,54nm,21.1s,baz=36,slow=38							
MKAR	**Makanchi Array**	**45.55**	**347**	P	P	12 05 51.9	-2.0
0.3nm,0.4s,baz=156,slow=9.1,SNR=7.9							
SONM	**Songino Array**	**45.82**	**10**	P	P	12 05 54.5	-1.6
0.4nm,0.8s,baz=194,slow=7.7,SNR=2.7							
CTA	**Charters Tower**	**54.09**	**117**	LR	LR	12 34 16.1	
comp=Z,66nm,19.4s,baz=223,slow=41							

*NNC **09** 12:11:15.2±22.0, 41.72N×73.20E, mpv3.1, Error ellipse: s-maj=250.5km s-min=59.7km az=4.0*
KNET 09 12:11:14.1±0.7, 41.61N×73.30E, h12km±3km, ml2.5, 7C-11D, Error ellipse: s-maj=5.4km s-min=3.5km az=94.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.60**	**30**	⇓P	Pb	12 11 26.1	+0.1
30nm,0.1s,SNR=136							
AML				⇓S	Sb	12 11 35.4	+1.4
108nm,0.2s							
UCH	**Uchtor**	**1.10**	**55**	⇓P	Pb	12 11 35.2	+0.8
12nm,0.1s,SNR=95							
UCH				⇑S	Sb	12 11 51.9	+3.4
52nm,0.2s							
EKS2	**Erkin-Say**	**1.11**	**19**	⇓P	Pb	12 11 34.7	0.0
6.1nm,0.1s,SNR=28							
AAK	**Ala-Archa**	**1.35**	**41**	⇓P	Pn	12 11 39.8	+0.9
12nm,0.1s,SNR=41							
AAK				⇓S	Sb	12 11 58.8	+2.8
38nm,0.3s							
AAK	**Ala-Archa**	**1.35**	**41**	⇓P	Pn	12 11 39.8	+0.9
5.9nm,0.3s							
AAK				⇑S	Sb	12 11 59.0	+3.0
33nm,0.6s							
KZA	**Kyzart**	**1.53**	**72**	⇓P	Pn	12 11 42.8	+1.4
9.0nm,0.1s,SNR=27							
KZA				⇓S	Sb	12 12 04.6	+3.5
26nm,0.2s							
KBK	**Karagaybulak**	**1.61**	**49**	⇓P	Pn	12 11 44.7	+2.1
18nm,0.1s,SNR=43							
KBK				⇑S	Sn	12 12 07.1	+3.8
74nm,0.3s							
CHMS	**Chumysh**	**1.76**	**37**	⇑P	Pn	12 11 46.9	+2.3
15nm,0.2s,SNR=12							
CHMS				⇑S	Sn	12 12 11.9	+4.8
29nm,0.3s							
USP	**Ospenovka**	**1.88**	**28**	⇓P	Pn	12 11 48.5	+2.2
17nm,0.2s,SNR=29							
USP				⇑S	Sn	12 12 14.8	+4.6
40nm,0.3s							
KK31	**Karatay Array**	**2.55**	**307**	⇑Lg		12 12 31.3	
6.1nm,0.4s,baz=121,slow=28,SNR=6.5							

*IDC **09** 12:13:26.3±1.5, 40.89N×140.05E, h132km±16km, mb3.4/8, mb1 3.5/10, mb1mx3.3/26, mbtmp3.9/10, Error ellipse: s-maj=20.1km s-min=11.6km az=104.0*
*MOS **09** 12:13:28.2±1.0, 41.00N×140.02E, h168km, mb4.0/5, Error ellipse: s-maj=27.5km s-min=15.0km az=90.5*
*JMA **09** 12:13:29.5±0.1, 41.03N×140.10E, h155km±1km, M2.9*
*NEIC **09** 12:13:30.2±2.0, 40.87N×139.99E, h172km±25km, mb4.1/1, Error ellipse: s-maj=26.2km s-min=22.9km az=204.0*
ISC 09 12:13:28.0±0.3, 41.02N±0.03×140.09E±0.08, h162km±3km, n40, σ0°92/52, mb3.7/10, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.25**	**81**	P	**P**	**12 13 50.5**	**+0.2**
JSI2				S	**S**	**12 14 06.1**	**-1.2**
JIW	**Iwasaki**	**0.43**	**188**	P	**P**	**12 13 51.4**	**+0.5**
JIW				S	**S**	**12 14 07.9**	**-0.6**
JSR	**Shiriuchi**	**0.57**	**26**	P	**P**	**12 13 51.5**	**0.0**
JTM	**Tenmabayashi**	**0.78**	**107**	P	**P**	**12 13 53.1**	**+0.5**
JTM				*e*S	**S**	**12 14 10.8**	**-0.8**
JOT	**Ohata**	**0.81**	**63**	P	**P**	**12 13 53.3**	**+0.5**
JAH	**Hinai**	**0.93**	**153**	P	**P**	**12 13 54.2**	**+0.6**
JAH				*e*S	**S**	**12 14 13.3**	**0.0**
JYM2	**Yakumo 2

INK	**Inuvik**	**51.35**	**28**	P	**P**	**12 22 18.1**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.4,baz=303,slow=6.0,SNR=10						
INK	**Inuvik**	**51.35**	**28**	*e*P	**P**	**12 22 17.9**	**+0.7**
WRA	**Warramunga Arr**	**60.88**	**186**	P	**P**	**12 23 23.5**	**-2.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=4.5,slow=6.9,SNR=8.9						
FINES	**FINESS Array B**	**64.82**	**331**	P	**P**	**12 23 50.1**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.82**	**331**	P	**P**	**12 23 50.0**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=53,slow=9.5,SNR=6.2						

IDC 09 12:26:14.3±2.6, 1.06N×97.66E, mb3.7/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, ML3.7/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/27, Error ellipse: s-maj=100.2km s-min=26.9km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.34**	**4**	P	P	12 30 17.4	-2.0
	0.1nm,0.3s,baz=190,slow=12,SNR=4.5						
NWAO	**Narrogin (SRO)**	**38.52**	**153**	LR	LR	12 48 46.3	
	comp=Z,57nm,20.2s,baz=201,slow=35						
WRA	**Warramunga Arr**	**41.57**	**122**	P	P	12 34 04.0	-1.8
	0.2nm,0.4s,baz=303,slow=9.2,SNR=5.7						
SONM	**Songino Array**	**47.20**	**8**	P	P	12 34 49.9	-0.8
	0.3nm,0.3s,baz=186,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**47.49**	**346**	P	P	12 34 51.2	-1.8
	1.2nm,0.5s,baz=161,slow=8.8,SNR=22						
ZAL	**Zalesovo**	**53.76**	**351**	P	P	12 35 38.4	-2.2
	1.0nm,0.5s,baz=342,slow=2.6,SNR=5.2						
BVAR	**Borovoye Array**	**56.53**	**341**	P	P	12 35 57.1	-3.6
	0.6nm,0.7s,baz=135,slow=6.3,SNR=4.1						

IDC 09 12:29:40.1±9.2, 1.56N×96.72E, mb3.9/4, mb1 4.0/5, mb1mx3.6/21, mbtmp3.9/5, ML3.9/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/24, Error ellipse: s-maj=186.8km s-min=95.6km az=146.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.94**	**7**	Pn	P	12 33 38.5	-1.7
	0.2nm,0.3s,baz=196,slow=11,SNR=14						
MKAR	**Makanchi Array**	**46.78**	**346**	P	P	12 38 11.4	-1.9
	1.5nm,0.7s,baz=161,slow=7.9,SNR=19						
SONM	**Songino Array**	**46.85**	**9**	P	P	12 38 11.9	-1.9
	1.9nm,1.1s,baz=190,slow=8.8,SNR=7.8						
ZAL	**Zalesovo**	**53.12**	**351**	P	P	12 39 00.1	-1.7
	1.1nm,0.5s,baz=314,slow=6.6,SNR=4.9						
ZAL				LR	LR	13 06 29.3	
	comp=Z,36nm,19.9s,baz=272,slow=42						
BVAR	**Borovoye Array**	**55.76**	**341**	P	P	12 39 18.2	-2.9
	0.6nm,0.5s,baz=135,slow=9.0,SNR=5.0						

*IDC **09** 12:30:18.5±1.8, 23.99S×66.76W, h190km±14km, mb2.9/2, mb1 3.3/7, mb1mx3.2/18, mbtmp3.6/7, Error ellipse: s-maj=28.0km s-min=19.3km az=175.0*
*NEIC **09** 12:30:19.2±1.0, 23.93S×66.76W, h198km±12km, mb3.7/2, Error ellipse: s-maj=18.9km s-min=13.1km az=94.0*

ISC 09 12:30:18.9±1.0, 23.9S±0.1×66.8W±0.1, h203km±12km, n14, σ0$92/14, mb2.9/2, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.34**	**301**	P	**P**	**12 31 02.0**	**+0.3**
	33nm,0.3s,baz=129,slow=6.4,SNR=647						
LVC				S	**S**	**12 31 34.3**	**-0.4**
	24nm,0.3s,baz=252,slow=20,SNR=30						
LVC	**Limon Verde**	**2.34**	**301**	*e*P	**P**	**12 31 01.8**	**+0.1**
LVC				*e*S	**S**	**12 31 33.8**	**-0.9**
LPAZ	**La Paz**	**7.64**	**350**	P	**P**	**12 32 10.3**	**+2.0**
	0.5nm,0.3s,baz=166,slow=6.6,SNR=6.5						
LPAZ	**La Paz**	**7.64**	**350**	P	**P**	**12 32 10.2**	**+1.9**
SIV	**San Ignacio**	**9.47**	**35**	P	**P**	**12 32 31.2**	**-0.9**
	0.3nm,0.3s,baz=228,slow=12,SNR=9.0						
TRQA	**Tornquist**	**14.73**	**165**	P	**P**	**12 33 39.2**	**+0.5**
	2.8nm,0.7s						
PLCA	**Paso Flores**	**17.13**	**190**	P	**P**	**12 34 03.3**	**-4.2**
	0.1nm,0.3s,baz=27,slow=5.6,SNR=2.9						
PLCA	**Paso Flores**	**17.13**	**190**	P	**P**	**12 34 02.8**	**-4.7**
	2.0nm,0.9s						
BDFB	**Brasilia**	**19.42**	**69**	P	**P**	**12 34 31.4**	**-0.3**
	0.9nm,0.3s,baz=248,slow=11,SNR=11						
TXAR	**Lajitas Array**	**63.70**	**324**	P	**P**	**12 40 30.3**	**-0.7**
	0.1nm,0.5s,mb2.7,baz=153,slow=10,SNR=2.7						
YKA	**Yellowknife Ar**	**94.07**	**340**	P	**P**	**12 43 14.9**	**+0.3**
	0.1nm,0.4s,mb3.2,baz=137,slow=5.0,SNR=5.0						
YKA	**Yellowknife Ar**	**94.07**	**340**	P	**P**	**12 43 14.9**	**+0.3**
WRA	**Warramunga Arr**	**131.86**	**207**	PKP	PKPdf	12 49 08.9	+0.2
	0.6nm,1.1s,baz=152,slow=1.9,SNR=4.8						
MKAR	**Makanchi Array**	**146.27**	**40**	PKPbc	PKPbc	12 49 37.1	+2.0
	0.4nm,0.8s,baz=318,slow=2.7,SNR=2.8						

IDC 09 12:31:54.4±1.9, 8.32S×124.91E, mb3.5/1, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=105.1km s-min=28.1km az=66.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.75**	**176**	Pn	P	12 34 16.4	-2.7
	0.9nm,0.3s,baz=6.2,slow=11,SNR=16						
FITZ				Sn	Sn	12 36 00.7	-10
	1.4nm,0.3s,baz=356,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**14.73**	**143**	Pn	P	12 35 22.4	-3.7
	0.2nm,0.3s,baz=317,slow=13,SNR=14						
WRA				Sn	S	12 38 00.7	-10
	0.2nm,0.3s,baz=312,slow=25,SNR=5.3						
ASAR	**Alice Springs**	**17.53**	**152**	P	P	12 36 01.1	-0.8
	0.1nm,0.3s,baz=319,slow=11,SNR=8.7						
ASAR				S	S	12 39 06.9	-9.3
	0.1nm,0.3s,baz=322,slow=22,SNR=6.3						
MKAR	**Makanchi Array**	**66.67**	**330**	P	P	12 42 47.1	-2.1
	0.3nm,0.7s,baz=148,slow=5.6,SNR=3.6						

IDC 09 12:34:11.8±2.8, 6.84S×128.46E, mb3.4/1, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=304.7km s-min=31.7km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.22**	**157**	Pn	P	12 37 33.7	-3.1
	0.2nm,0.3s,baz=333,slow=13,SNR=7.7						
WRA				Sn	S	12 39 58.8	-18
	0.2nm,0.3s,baz=331,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**17.53**	**163**	P	P	12 38 18.4	-1.0
	0.5nm,0.3s,baz=345,slow=11,SNR=22						
MKAR	**Makanchi Array**	**67.26**	**327**	P	P	12 45 08.3	-2.1
	0.2nm,0.3s,baz=119,slow=8.0,SNR=5.1						

*MOS **09** 12:44:26.7±0.8, 0.36S×97.20E, h33km, mb4.6/1, Error ellipse: s-maj=60.5km s-min=21.7km az=102.7*
*IDC **09** 12:44:27.7±1.4, 0.33S×97.22E, h22km±3km, mb3.8/8, mb1 3.9/9, mb1mx3.7/20, mbtmp3.8/9, ML4.1/1, Error ellipse: s-maj=68.0km s-min=12.6km az=55.0*
*NEIC **09** 12:44:29.1±0.7, 0.01N×97.70E, mb4.9/2, Error ellipse: s-maj=24.0km s-min=10.5km az=60.0*

ISC 09 12:44:25.4±1.1, 0.4S±0.2×97.1E±0.3, h24km, h24km±.4km:pP-P, n18, σ0$62/16, mb4.1/10, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.63**	**32**	*e*P	**Pn**	**12 45 55.9**	**-8.2**
CMAR	**Chiang Mai Arr**	**18.79**	**5**	P	**P**	**12 48 46.2**	**+0.4**
	0.2nm,0.3s,baz=192,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**41.30**	**120**	P	**P**	**12 52 10.6**	**-0.4**
	1.6nm,0.5s,mb3.9,baz=302,slow=9.0,SNR=38						
WRA				pP	pP	12 52 17.3	-0.8
	4.5nm,0.6s,baz=301,slow=9.0,SNR=27						
WB2	**Warramunga Arr**	**41.30**	**120**	*e*P	**P**	**12 52 10.6**	**-0.5**
WB2				*i*	pP	12 52 17.7	-0.5
ASAR	**Alice Springs**	**42.53**	**126**	P	**P**	**12 52 21.6**	**+0.3**
	2.3nm,0.6s,mb4.1,baz=297,slow=8.0,SNR=41						
ASAR				pP	pP	12 52 28.9	+0.5
	2.5nm,0.6s,baz=297,slow=7.6,SNR=16						
SONM	**Songino Array**	**48.68**	**8**	P	**P**	**12 53 10.1**	**+0.3**
	0.2nm,0.4s,mb3.5,baz=188,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**48.73**	**346**	P	**P**	**12 53 10.4**	**+0.1**
	1.3nm,0.5s,mb4.2,baz=156,slow=8.3,SNR=17						
MKAR				pP	pP	12 53 17.6	+0.1
	3.1nm,0.6s,baz=156,slow=7.9,SNR=21						
STKA	**Stephens Creek**	**52.38**	**131**	P	**P**	**12 53 38.9**	**+0.6**
	0.7nm,0.4s,mb3.9,baz=154,slow=20,SNR=5.1						
STKA	**Stephens Creek**	**52.38**	**131**	*e*P	**P**	**12 53 38.6**	**+0.3**
STKA				P		12 53 38.9	
KURK	**Kurchatov**	**53.28**	**345**	*e*P	**P**	**12 53 44.5**	**-0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
KURK	**Kurchatov**	**53.28**	**345**	*e*P	**P**	**12 53 44.5**	**-0.2**
	comp=Z,4.3nm,1.3s,mb4.2						
ZAL	**Zalesovo**	**55.08**	**351**	P	**P**	**12 53 57.4**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.2,baz=308,slow=2.9,SNR=7.7						
ZAL				pP	pP	12 54 04.5	-0.6
	comp=Z,3.1nm,0.7s,baz=318,slow=5.1,SNR=10						
ZAL	**Zalesovo**	**55.08**	**351**	P	**P**	**12 53 57.4**	**-0.4**
ZAL				pP	pP	12 54 04.5	-0.6
BVAR	**Borovoye Array**	**57.70**	**341**	P	**P**	**12 54 15.6**	**-1.0**
	comp=Z,0.3nm,0.5s,mb3.6,baz=135,slow=6.1,SNR=3.1						
BVAR				pP	pP	12 54 23.3	-0.5
	comp=Z,1.0nm,0.7s,baz=143,slow=7.4,SNR=5.9						
CHKZ	**Chkalovo**	**58.18**	**342**	*e*P	**P**	**12 54 19.3**	**-0.6**
	comp=Z,38nm,0.6s,mb5.6						
CHKZ				*e*pP	pP	12 54 27.1	-0.1
FINES	**FINESS Array B**	**81.34**	**333**	P	**P**	**12 56 42.8**	**+1.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=79,slow=9.7,SNR=4.5						
FINES				pP	pP	12 56 49.9	+0.9
	comp=Z,0.6nm,0.7s,baz=90,slow=6.9,SNR=1.7						
TXAR	**Lajitas Array**	**145.03**	**33**	PKP	PKPdf	13 04 03.2	-2.9
	comp=Z,0.2nm,0.5s,baz=219,slow=0.6,SNR=6.4						
TXAR				pPKP		13 04 10.5	
	comp=Z,0.3nm,0.5s,baz=269,slow=1.0,SNR=3.9						
TXAR	**Lajitas Array**	**145.03**	**33**	PKP	PKPdf	13 04 03.2	-2.9
TXAR				pPKP		13 04 10.5	

DJA 09 12:51:45.9±0.8, 9.53S×116.15E, h33km, ML4.4/4, 8C-2D, Error ellipse: s-maj=17.2km s-min=9.4km az=153.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.00**	**323**	⇓*e*Pn	Pn	12 52 02.5	-1.3
	598nm,0.2s						
RATI				⇑*e*Sn	Sn	12 52 15.0	-1.9
KEDI	**Kedomdong**	**1.03**	**358**	⇑*e*Pn	Pn	12 52 03.4	-0.9
	2μm,0.2s						
KEDI	**Kedomdong**	**1.03**	**358**	⇑*i*P	P	12 52 03.8	-0.3
KEDI				⇑*e*Sn	Sn	12 52 16.3	-1.4
KELI	**Kelakatan**	**2.09**	**308**	⇓*e*Pn	Pn	12 52 18.4	-1.0
	103nm,0.2s						
KELI				⇓*e*Sn	Sn	12 52 41.2	-3.4
SRDI	**Scrawed**	**2.24**	**298**	⇑*e*Pn	Pn	12 52 20.2	-1.3
	97nm,0.2s						
SRDI	**Scrawed**	**2.24**	**298**	⇑*i*P	P	12 52 21.1	-0.2
SRDI				⇑*e*Sn	Sn	12 52 44.2	-4.1

*IDC **09** 12:52:34.8±1.3, 0.02S×97.56E, h23km±3km, mb3.8/8, mb1 3.9/9, mb1mx3.7/20, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=59.9km s-min=12.4km az=56.0*
*MOS **09** 12:52:34.7±0.4, 0.16N×97.79E, h33km, mb4.6/2, Error ellipse: s-maj=45.8km s-min=19.3km az=108.9*
*NEIC **09** 12:52:35.0±0.6, 0.06N×97.71E, mb4.3/2, Error ellipse: s-maj=21.2km s-min=8.6km az=62.0*

ISC 09 12:52:33.2±0.8, 0.1N±0.1×97.7E±0.2, h24km, h24km±.3km:pP-P, n18, σ0$75/17, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.94**	**30**	*e*P	**Pn**	**12 54 01.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**18.28**	**4**	P	**P**	**12 56 46.7**	**-0.6**
	0.1nm,0.3s,baz=196,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	**41.03**	**121**	P	**P**	**13 00 16.6**	**0.0**
	1.5nm,0.6s,mb3.8,baz=301,slow=9.0,SNR=37						
WRA				pP	pP	13 00 23.9	+0.1
	3.4nm,0.6s,baz=301,slow=9.0,SNR=19						
WRAB	**Tennant Creek**	**41.04**	**121**	*e*P	**P**	**13 00 16.7**	**+0.1**
WRAB				*e**PP	pP	13 00 24.2	+0.4
WB2	**Warramunga Arr**	**41.04**	**121**	*e*P	**P**	**13 00 16.8**	**+0.2**
WB2				*i*	pP	13 00 23.9	+0.1
ASAR	**Alice Springs**	**42.34**	**126**	P	**P**	**13 00 28.0**	**+0.7**
	2.1nm,0.6s,mb4.0,baz=297,slow=8.0,SNR=37						
ASAR				pP	pP	13 00 35.4	+0.9
	2.9nm,0.9s,baz=301,slow=7.4,SNR=13						
ASAR				PcP	PcP	13 02 21.8	+0.5
	0.6nm,1.1s,baz=285,slow=2.6,SNR=3.8						
SONM	**Songino Array**	**48.14**	**8**	P	**P**	**13 01 14.8**	**+1.5**
	0.2nm,0.4s,mb3.5,baz=183,slow=8.6,SNR=4.1						
SONM				pP	pP	13 01 21.6	+1.0
	1.9nm,0.8s,baz=190,slow=9.1,SNR=14						
MKAR	**Makanchi Array**	**48.42**	**346**	P	**P**	**13 01 16.7**	**+1.2**
	1.3nm,0.6s,mb4.1,baz=155,slow=8.0,SNR=16						
MKAR				pP	pP	13 01 23.6	+0.8
	3.4nm,0.6s,baz=155,slow=7.7,SNR=22						
ZAK	**Zakamensk**	**50.32**	**5**	*e*P	**P**	**13 01 34.5**	**+4.4**
STKA	**Stephens Creek**	**52.25**	**132**	P	**P**	**13 01 43.8**	**-1.2**
	2.8nm,1.0s,mb4.2,baz=337,slow=15,SNR=3.2						
KURK	**Kurchatov**	**52.98**	**345**	*e*P	**P**	**13 01 50.5**	**+0.4**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
KURK	**Kurchatov**	**52.98**	**345**	*e*P	**P**	**13 01 50.5**	**+0.4**
	comp=Z,7.2nm,1.2s,mb4.5						
ZAL	**Zalesovo**	**54.71**	**351**	P	**P**	**13 02 02.4**	**-0.4**
	comp=Z,1.3nm,0.4s,mb4.4,baz=290,slow=2.2,SNR=7.2						
ZAL				pP	pP	13 02 09.8	-0.4
	comp=Z,3.1nm,0.7s,baz=315,slow=8.0,SNR=10						
BVAR	**Borovoye Array**	**57.45**	**341**	P	**P**	**13 02 21.5**	**-1.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=149,slow=8.4,SNR=3.9						
BVAR				pP	pP	13 02 29.0	-0.9
	comp=Z,1.1nm,0.7s,baz=143,slow=7.4,SNR=7.4						
CHKZ	**Chkalovo**	**57.92**	**341**	*e*P	**P**	**13 02 25.0**	**-0.8**
CHKZ				*e**PP	pP	13 02 32.8	-0.4
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
CHKZ	**Chkalovo**	**57.92**	**341**	*e*P	**P**	**13 02 25.0**	**-0.8**
	comp=Z,3.5nm,1.4s,mb4.2						
CHKZ				*e*pP	pP	13 02 32.8	-0.4
FINES	**FINESS Array B**	**81.20**	**333**	P	**P**	**13 04 48.5**	**+0.2**
	comp=Z,1.0nm,0.9s,mb3.7,baz=90,slow=7.6,SNR=3.5						
FINES				pP	pP	13 04 56.0	+0.1
	comp=Z,1.7nm,0.9s,baz=67,slow=11,SNR=2.9						
TXAR	**Lajitas Array**	**144.32**	**33**	PKP	PKPdf	13 12 09.2	-3.4
	comp=Z,0.2nm,0.5s,baz=243,slow=2.0,SNR=4.6						

*IDC **09** 13:01:53.2±0.6, 1.17N×97.13E, mb4.4/14, mb1 4.6/15, mb1mx4.4/20, mbtmp4.4/15, ML4.8/1, MS3.9/5, Ms1 3.9/5, ms1mx3.5/29, Error ellipse: s-maj=25.0km s-min=14.2km az=56.0*
*BJI **09** 13:01:54.7, 0.80N×97.22E, h41km, mB5.0, mb5.0, Ms4.7, Msz4.5*
*MOS **09** 13:01:56.4±0.9, 1.13N×97.19E, h33km, mb5.0/21, Error ellipse: s-maj=14.4km s-min=7.0km az=98.9*
*NEIC **09** 13:01:57.0±0.3, 1.15N×97.21E, mb4.9/27, MS4.3/2, Error ellipse: s-maj=8.9km s-min=6.0km az=56.0*

ISC 09 13:01:55.6±0.4, 1.15N±0.05×97.21E±0.05, h26km, h26km±1.7km:pP-P, n124, σ1$00/135, mb4.7/58, MS4.3/20, 8C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.11**	**48**	P	**Pn**	**13 03 13.3**	**+0.6**
KULM	**Kulim**	**5.36**	**40**	*e*P	**Pn**	**13 03 16.4**	**+0.3**
KGM	**Kluang**	**6.17**	**82**	P	**Pn**	**13 03 28.9**	**+1.3**
SNG	**Songkhla**	**6.88**	**29**	P	**Pn**	**13 03 36.0**	**-1.6**
	354nm,1.0s						
KKTK	**Khon Kaen**	**16.07**	**20**	P	**P**	**13 05 45.0**	**+3.2**
CM31	**Chiang Mai Arr**	**17.28**	**6**	*e*P	**P**	**13 05 55.6**	**-1.5**
	16nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.28**	**6**	*i*P	**P**	**13 05 58.2**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.28**	**6**	P	**P**	**13 05 55.5**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=195,slow=12,SNR=30						
CMAR				LR	LR	13 12 34.0	
	comp=Z,332nm,20.2s,baz=190,slow=37						
CHG	**Chiang Mai**	**17.64**	**5**	P	**P**	**13 06 01.7**	**+0.2**
NANT	**Nan**	**17.87**	**11**	⇓P	**P**	**13 06 04.0**	**-0.4**
	comp=Z,294nm,0.8s						
KKM	**Kota Kinabalu**	**19.58**	**75**	*e*P	**P**	**13 06 24.2**	**-0.6**
KKM	**Kota Kinabalu**	**19.58**	**75**	P	**P**	**13 06 25.2**	**+0.3**
TSM	**Tawau**	**20.87**	**81**	P	**P**	**13 06 39.6**	**+1.1**
VIS	**Vishakhapatnam**	**21.39**	**321**	*e*P	**P**	**13 06 38.0**	**-5.7**
QIZ	**Qiongzhong**	**21.66**	**34**	*e*P	**P**	**13 06 46.5**	**+0.1**
QIZ				S	**S**	**13 10 46.6**	**+6.7**
QIZ				LR	LR		
	comp=N,506nm,14.8s,MS4.3						
QIZ				LR	LR		
	comp=E,677nm,15.8s,MS4.3						
QIZ				LR	LR		
	comp=Z,623nm,13.5s,MS4.2						
KMI	**Kunming**	**24.43**	**12**	P	**P**	**13 07 15.5**	**+1.9**
KMI				AP		13 07 21.9	
KMI				XP		13 07 25.3	
KMI				PP	PP	13 07 50.7	+1.3
KMI				S	**S**	**13 11 33.1**	**+4.1**
KMI				XS		13 11 44.5	
KMI				SS	SS	13 12 32.1	+8.2
KMI				AMB	AMB		
	comp=Z,66nm,1.4s,mb4.9						
KMI				AMB	AMB		
	comp=Z,204nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,15.3s,MS4.5						
KMI				LR	LR		
	comp=E,588nm,14.1s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,14.7s,MS4.5						
KMI	**Kunming**	**24.43**	**12**	P	**P**	**13 07 15.5**	**+1.9**
KMI				*SP		13 07 25.3	
KMI						13 07 50.7	
KMI				S	**S**	**13 11 33.1**	**+4.1**
KMI				*SS		13 11 44.5	
KMI				pmax	pmax		
	comp=Z,66nm,1.4s,mb4.9						
KMI				MLR	MLR		
	comp=Z,1μm,14.7s,MS4.5						
KMI	**Kunming**	**24.43**	**12**	P	**P**	**13 07 15.5**	**+1.9**
	comp=Z,66nm,1.4s,mb4.9						
KMI				pP		13 07 21.9	
KMI				sP		13 07 25.3	
KMI				PP	PP	13 07 50.7	+1.3
KMI				S	**S**	**13 11 33.1**	**+4.1**
KMI				sS		13 11 44.5	
KMI				SS	SS	13 12 32.1	+8.2
KMI				LR	LR		
	comp=Z,1μm,14.7s,MS4.5						
HYB	**Hyderabad**	**24.45**	**312**	*e*P	**P**	**13 07 15.0**	**+1.0**
HYB	**Hyderabad**	**24.45**	**312**	*i*P	**P**	**13 07 15.0**	**+1.0**
SHL	**Shillong**	**24.81**	**348**	⇑*i*P	**P**	**13 07 18.0**	**+0.6**
SHL				*e*S	**S**	**13 11 44.0**	**+8.5**
GYA	**Guiyang**	**26.76**	**19**	⇑*i*P	**P**	**13 07 35.1**	**-0.4**
GYA				AP	pP	13 07 44.0	+1.1
GYA				XP	sP	13 07 48.2	+1.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,50nm,4.8s						
GYA				LR	LR		
	comp=N,1μm,13.2s,MS4.6						
GYA				LR	LR		
	comp=E,530nm,13.5s,MS4.6						
GYA				LR	LR		
	comp=Z,990nm,13.8s,MS4.5						
JIRN	**Jiri**	**28.40**	**339**	*e*P	**P**	**13 07 51.3**	**+1.0**
	comp=Z,63nm,0.9s,mb5.2						
PKI	**Pulchoki**	**28.60**	**338**	*e*P	**P**	**13 07 52.4**	**+0.2**
	comp=Z,57nm,1.2s,mb5.2						
PKI	**Pulchoki**	**28.60**	**338**	*e*P	**P**	**13 07 52.4**	**+0.2**
PKI				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.9						
GUN	**Gumba**	**28.74**	**339**	*e*P	**P**	**13 07 54.0**	**+0.6**
	comp=Z,50nm,0.6s,mb5.4						
DMN	**Daman**	**28.75**	**337**	*e*P	**P**	**13 07 53.8**	**+0.3**
	comp=Z,27nm,0.9s,mb5.0						
KKN	**Kakani**	**28.85**	**338**	*e*P	**P**	**13 07 54.7**	**+0.3**
	comp=Z,58nm,1.0s,mb5.3						
KKN	**Kakani**	**28.85**	**338**	*e*P	**P**	**13 07 54.7**	**+0.3**
KKN				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.0						
LSA	**Lhasa**	**28.97**	**349**	P	**P**	**13 07 56.8**	**+1.3**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
LSA	**Lhasa**	**28.97**	**349**	*e*P	**P**	**13 07 55.9**	**+0.4**
LSA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
LSA	**Lhasa**	**28.97**	**349**	*e*P	**P**	**13 07 55.9**	**+0.4**
	comp=Z,13nm,0.9s,mb4.7						
GKN	**Gorkha**	**29.29**	**337**	*e*P	**P**	**13 07 58.7**	**+0.3**
	comp=Z,45nm,0.9s,mb5.2						
KOLN	**Koldanda**	**29.51**	**335**	*e*P	**P**	**13 08 00.9**	**+0.6**
	comp=Z,36nm,0.7s,mb5.2						
CD2	**Chengdu**	**30.24**	**11**	*e*P	**P**	**13 08 06.2**	**-0.6**
ENH	**Enshi**	**31.22**	**21**	*e*P	**P**	**13 08 13.8**	**-1.7**
	comp=Z,23nm,0.7s,mb5.1						
WHN	**Wuhan**	**33.45**	**27**	P	**P**	**13 08 40.0**	**+5.0**
XAN	**Xi'an**	**34.51**	**17**	P	**P**	**13 08 42.6**	**-1.4**
XAN				S	**S**	**13 14 11.0**	**+0.9**
XAN				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.1						
XAN				LR	LR		
	comp=N,376nm,13.3s,MS4.4						
XAN				LR	LR		
	comp=E,398nm,17.3s,MS4.4						
XAN				LR	LR		
	comp=Z,511nm,12.7s,MS4.5						
LZH	**Lanzhou**	**35.30**	**9**	*e*P	**P**	**13 08 49.6**	**-1.2**
LZH				AP	pP	13 08 58.3	-0.1
LZH				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,120nm,4.6s						
LZH				LR	LR		
	comp=E,

comp=Z,25nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,109nm,5.7s
GTA LR LR
comp=N,265nm,13.3s,MS4.3
GTA LR LR
comp=E,213nm,16.0s,MS4.3
GTA LR LR
comp=Z,365nm,18.2s,MS4.2
WRA Warramunga Arr 42.00 122 P **P 13 09 46.5 -0.3**
comp=Z,5.7nm,0.6s,mb4.3,baz=302,slow=9.1,SNR=92
WRAB Tennant Creek 42.01 122‖ *e*P **P 13 09 46.8 -0.1**
WRAB Tennant Creek 42.01 122 *e*P **P 13 09 46.6 -0.2**
comp=Z,8.1nm,0.6s,mb4.5
WB2 Warramunga Arr 42.01 122‖ *i*P **P 13 09 46.8 -0.1**
BJT Baijiatuau 42.36 22 *e*P **P 13 09 50.5 +0.9**
BJT pmax pmax
comp=Z,25nm,0.8s
BJT Baijiatuau 42.36 22 *e*P **P 13 09 50.5 +0.9**
comp=Z,25nm,0.8s,mb4.9
BJI Beijing 42.38 22 *e*P **P 13 09 50.6 +0.9**
BJI S **S 13 16 17.9 +8.7**
BJI AMB AMB
comp=Z,30nm,0.9s,mb4.9
BJI LR LR
comp=N,234nm,16.4s,MS4.4
BJI LR LR
comp=E,298nm,16.4s,MS4.4
BJI LR LR
comp=Z,140nm,21.4s
BJI Beijing 42.38 22 *e*P **P 13 09 50.6 +0.9**
comp=Z,30nm,0.9s,mb4.9
BJI S **S 13 16 17.9 +8.7**
BJI LR LR
comp=Z,140nm,21.4s,MS3.8
KSH Kashi 42.82 336 *e*P **P 13 09 52.1 -1.2**
KSH *e*AP pP 13 10 00.1 -0.9
KSH *e*PP PP 13 11 33.1 -2.1
KSH *e*PCP PcP 13 11 44.0 -0.8
KSH *e*SCP 13 15 33.1
KSH *e*PCS 13 15 35.1
KSH *e*S **S 13 16 13.1 -2.6**
KSH AMB AMB
comp=Z,380nm,6.7s
KSH LR LR
comp=N,420nm,5.5s
KSH LR LR
comp=E,570nm,5.4s
WMQ Urumqi 43.33 350 ⇑P **P 13 09 58.1 +0.8**
WMQ AP pP 13 10 04.1 -0.9
WMQ PP PP 13 11 41.3 +1.1
WMQ PCP PcP 13 11 47.1 +0.6
WMQ SCP 13 15 36.1
WMQ S **S 13 16 24.6 +1.7**
WMQ AMB AMB
comp=Z,17nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,194nm,5.4s
WMQ LR LR
comp=N,110nm,22.0s,MS3.8
WMQ LR LR
comp=E,43nm,22.0s,MS3.8
WMQ LR LR
comp=Z,56nm,20.4s,MS3.5
ASPA Alice Springs 43.35 127 *e*P **P 13 09 58.4 +0.5**
ASAR Alice Springs 43.36 127 P **P 13 09 58.1 +0.3**
comp=Z,4.9nm,0.9s,mb4.2,baz=298,slow=7.9,SNR=41
ASAR PcP PcP 13 11 47.0 +0.1
comp=Z,1.1nm,0.8s,baz=274,slow=3.0,SNR=4.1
UCH Uchtor 45.70 336 P **P 13 10 17.7 +1.3**
SNR=16
TKM2 Tokmak 2 45.87 338 P **P 13 10 18.7 +0.9**
SNR=8.9
KBK Karagaybulak 45.89 337 P **P 13 10 19.8 +1.9**
SNR=6.7
AML Almayashu 45.95 336 P **P 13 10 19.7 +1.3**
SNR=9.4
AAK Ala-Archa 46.05 337 *i* P **P 13 10 21.0 +1.8**
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
EKS2 Erkin-Say 46.36 336 P **P 13 10 22.4 +0.7**
SNR=12
USP Ospenovka 46.58 337 P **P 13 10 23.7 +0.3**
SNR=17
SONM Songino Array 47.18 8 P **P 13 10 28.3 +0.2**
comp=Z,4.0nm,0.4s,mb4.7,baz=189,slow=9.9,SNR=62
SONM PcP PcP 13 11 59.6 -0.2
comp=Z,2.4nm,0.7s,baz=193,slow=4.3,SNR=6.9
SONM LR LR 13 33 02.7
comp=Z,549nm,18.2s,MS4.6,baz=199,slow=40
MKAR Makanchi Array 47.29 346 *i* P **P 13 10 28.9 -0.1**
MKAR pmax pmax
comp=Z,18nm,0.9s
MKAR Makanchi Array 47.29 346 P **P 13 10 29.0 0.0**
comp=Z,7.7nm,0.6s,mb4.8,baz=160,slow=8.7,SNR=93
MKAR LR LR 13 32 03.6
comp=Z,74nm,18.8s,MS3.7,baz=161,slow=38
ULN Ulaanbaatar 47.31 9 *e*P **P 13 10 29.2 +0.1**
ULN pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ULN Ulaanbaatar 47.31 9 *e*P **P 13 10 29.2 +0.1**
comp=Z,5.4nm,0.8s,mb4.5
KKAR Karatay Array 48.10 334 *i* P **P 13 10 35.5 +0.1**
KKAR pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ZAK Zakamensk 49.32 5⇑*i*P **P 13 10 44.5 -0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
CN2 Changchun 49.34 27 *e*P **P 13 10 45.6 +0.7**
CN2 *e*XP sP 13 10 58.0 +2.2
CN2 *e*S **S 13 17 51.6 +2.8**
CN2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
CN2 AMB AMB
comp=Z,700nm,4.0s
CN2 LR LR
comp=N,300nm,11.0s,MS4.8
CN2 LR LR
comp=E,400nm,11.0s,MS4.8
CN2 LR LR
comp=Z,500nm,13.0s,MS4.7
TLY Talaya 50.64 5 *e*P **P 13 10 54.9 +0.2**
TLY *e* 13 18 16.1
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TLY MLR MLR
comp=Z,221nm,17.0s,MS4.2
HIA Hailar 51.69 19 *e*P **P 13 11 02.3 -0.4**
HIA pmax pmax
comp=Z,20nm,0.9s
HIA Hailar 51.69 19 *e*P **P 13 11 02.3 -0.4**
comp=Z,20nm,0.9s,mb5.0
MAT Matsushiro 51.72 42 P **P 13 11 02.0 -1.1**
MAT Matsushiro 51.72 42 P **P 13 11 02.2 -0.9**
MJAR Matsushiro Arr 51.72 42 P **P 13 11 02.2 -0.9**
comp=Z,2.2nm,0.8s,mb4.1,baz=218,slow=6.2,SNR=12
MJAR LR LR 13 34 11.3
comp=Z,77nm,22.0s,MS3.7,baz=215,slow=37
KURK Kurchatov 51.84 345 *e*P **P 13 11 03.4 -0.5**
KURK pmax pmax
comp=Z,11nm,0.9s,mb4.8
KURK Kurchatov 51.84 345 *e*P **P 13 11 03.4 -0.5**
comp=Z,11nm,0.9s,mb4.8
MDJ Mudanjiang 51.91 29 P **P 13 11 04.1 -0.3**
MDJ AP pP 13 11 10.8 -1.5
MDJ S **S 13 18 27.9 +3.8**
MDJ AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,73nm,5.6s
MDJ LR LR
comp=N,114nm,19.5s,MS4.0
MDJ LR LR
comp=E,51nm,19.5s,MS4.0
MDJ LR LR
comp=Z,167nm,17.5s,MS4.1
MDJ Mudanjiang 51.91 29 *e*P **P 13 11 03.3 -1.1**
comp=Z,9.5nm,0.9s,mb4.7
STKA Stephens Creek 53.31 132‖ *i*P **P 13 11 15.8 +0.7**
comp=Z,5.8nm,0.7s,mb4.6
STKA Stephens Creek 53.31 132 P **P 13 11 15.5 +0.4**
comp=Z,6.6nm,0.7s,mb4.7,baz=304,slow=8.7,SNR=15
ZAL Zalesovo 53.60 351 P **P 13 11 16.8 -0.1**
comp=Z,8.4nm,0.4s,mb5.0,baz=307,slow=5.5,SNR=60
ZAL Zalesovo 53.60 351 P **P 13 11 16.8 -0.1**
ATD Arta Tunnel 54.91 283 LR LR 13 28 43.0
comp=Z,57nm,20.4s,MS3.6,baz=64,slow=29
KLR Kul'dur 56.29 27 *e*P **P 13 11 33.2 -3.4**
KLR MLR MLR
comp=N,500nm,13.0s
KLR MLR MLR
comp=Z,700nm,13.0s,MS4.9
BVA0 Borovoye Array 56.30 341 *i* P **P 13 11 34.9 -1.6**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
CHKZ Chkalovo 56.78 341 *e*P **P 13 11 38.7 -1.3**
CHKZ *e**PP pP 13 11 45.2 -2.6
CHKZ pmax pmax
comp=Z,16nm,0.9s,mb5.0
CHKZ Chkalovo 56.78 341 *e*P **P 13 11 38.7 -1.2**
comp=Z,16nm,0.9s,mb5.0
CHKZ *e*pP pP 13 11 45.2 -2.6
BOD Bodaibo 58.06 10 *e*P **P 13 11 47.8 -1.1**
BOD pmax pmax
comp=Z,13nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 60.38 34⇑*e*P **P 13 12 04.3 -0.9**
SVE Sverdlovsk 62.74 338⇑*e*P **P 13 12 17.0 -3.9**
SVE pmax pmax
comp=Z,108nm,1.2s,mb5.8
ARU Arti 63.23 337⇑*i*P **P 13 12 22.5 -1.6**
ARU *e* 13 14 40.4
ARU *e*S **S 13 20 53.1 +0.6**
ARU *e*SS SS 13 24 54.1 -6.8
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
ARU Arti 63.23 337 *e*P **P 13 12 22.5 -1.6**
comp=Z,10nm,1.2s,mb4.8
ARU *e*pP pP 13 12 29.4 -2.7
KIV Kislovodsk 64.35 319 *e*P **P 13 12 31.1 -0.6**
KIV *e* 13 14 54.0
KIV *e*S **S 13 21 07.6 +0.9**
KIV pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
YAK Yakutsk 65.47 16 *e*P **P 13 12 37.4 -1.2**
YAK *e**PP pP 13 12 43.7 -2.8
YAK pmax pmax
comp=Z,54nm,1.0s,mb5.5
YAK Yakutsk 65.47 16 *e*P **P 13 12 37.4 -1.2**
comp=Z,54nm,1.0s,mb5.5
YAK *e*pP pP 13 12 43.7 -2.9
SOC Sochi 66.16 318 *e*P **P 13 12 38.9 -4.4**
SOC *e* 13 15 03.3
SOC *e*S S 13 21 22.4 -6.5
SOC pmax pmax
comp=Z,14nm,1.1s,mb4.9
SOC pmax pmax
comp=N,12nm,0.9s
SOC pmax pmax
comp=E,11nm,1.1s
BRTR Keskin Array B 69.15 312 P **P 13 13 00.9 -1.3**
comp=E,1.2nm,0.7s,mb3.9,baz=126,slow=7.9,SNR=8.8
MATP Matopo 70.52 248 P **P 13 13 10.9 +0.1**
comp=E,4.9nm,1.0s,mb4.4,baz=89,slow=9.0,SNR=6.6
MA2 Magadan 71.37 26 *e*P **P 13 13 15.0 -0.3**
MA2 *e* 13 23 04.7
MA2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
OBN Obninsk 72.67 328 *e*P **P 13 13 22.2 -0.9**
OBN *i* 13 13 33.5
OBN *e*S S 13 22 46.6 +1.4
OBN pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
TIXI Tiksi 73.23 10⇑*e*P **P 13 13 24.9 -1.2**
TIXI pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
AKASG Malin Array Be 75.30 322 P **P 13 13 37.1 -1.4**
comp=Z,1.0nm,0.5s,mb4.0,baz=85,slow=4.6,SNR=7.2
FINES FINESS Array B 80.05 333 P **P 13 14 03.8 -0.6**
comp=Z,1.6nm,0.7s,mb4.0,baz=108,slow=6.0,SNR=11
KAF Kangasniemi 80.13 333 *ep* **P 13 13 58.5 -6.4**
comp=Z,5.1nm,0.9s,mb4.5
KAF Kangasniemi 80.13 333 *e*P **P 13 13 58.5 -6.4**
KAF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BILL Bilibino 81.21 21 *i* P **P 13 14 10.4 0.0**
BILL *e* 13 17 14.3
BILL *e*S S 13 24 18.4 +0.9
BILL pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
BILL MLR MLR
comp=Z,200nm,15.0s,MS4.6
ARCES ARCESS Array B 82.59 340 P **P 13 14 17.6 0.0**
comp=Z,4.1nm,0.9s,mb4.5,baz=90,slow=6.3,SNR=9.1
GERES GERESS Array B 84.86 319 P **P 13 14 29.9 +0.4**
comp=Z,1.7nm,0.9s,mb4.2,baz=90,slow=4.0,SNR=9.2
VNDA Vanda 85.77 169 P **P 13 14 34.1 +0.6**
comp=Z,0.5nm,0.8s,mb3.8,baz=291,slow=1.2,SNR=3.6
NB2 NORSAR Subarra 87.05 331 P **P 13 14 39.6 -0.5**
comp=Z,1.1nm,0.8s,mb4.1,baz=95,slow=5.0
NB2 NORSAR Subarra 87.05 331 P **P 13 14 39.6 -0.5**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb4.1
NOA NORSAR Array B 87.05 331 P **P 13 14 40.2 +0.1**
comp=Z,1.7nm,0.8s,mb4.3,baz=94,slow=5.0,SNR=5.8
NOA NORSAR Array B 87.05 331 P **P 13 14 40.2 +0.1**
IMA Indian Mountai 96.62 23 *e*P **P 13 15 25.9 +1.5**
IMA pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
IMA Indian Mountai 96.62 23 *e*P **P 13 15 25.9 +1.5**
comp=Z,8.8nm,0.8s,mb5.2
TBI Tubuai 111.82 115 *e*LR LR 13 20 21.5
comp=Z,126nm,24.5s
ULM Lac du Bonnet 127.58 11 PKP PKPdf 13 20 59.9 -3.7
comp=Z,1.2nm,0.6s,baz=342,slow=3.8,SNR=3.4
TXAR Lajitas Array 143.71 32 PKP PKPdf 13 21 28.9 -4.9
comp=Z,0.5nm,0.5s,baz=298,slow=0.1,SNR=8.4
TXAR Lajitas Array 143.71 32 PKP PKPdf 13 21 28.9 -4.9
JCT Junction City 144.62 26 *e*PKPdf PKPdf 13 21 30.8 -4.6
LRAL Lakeview Retre 145.77 6 *e*PKPdf PKPdf 13 21 33.4 -3.9

*IDC **09** 13:10:03.4±0.5, 0.94N×97.81E, mb4.5/22, mb1 4.6/23, mb1mx4.5/27, mbtmp4.5/23, ML4.0/1, Error ellipse: s-maj=19.2km s-min=11.8km az=50.0*
*MOS **09** 13:10:06.5±0.9, 0.93N×97.84E, h33km, mb4.8/14, Error ellipse: s-maj=15.2km s-min=8.6km az=105.0*
*BJI **09** 13:10:07.3, 0.53N×98.03E, h62km, mB5.1, mb4.6, Ms4.7, Msz4.5*
*NEIC **09** 13:10:09.5±2.6, 0.94N×97.85E, h42km±23km, mb4.7/19, Error ellipse: s-maj=13.3km s-min=5.3km az=54.0*
ISC 09 13:10:08.2±1.8, 0.94N±0.06×97.85E±0.08, h46km±15km, h41km±6.4km; pP-P, n87, σ1.9 09/86, mb4.6/47, MS4.4/3, 3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
IPM	**Ipoh**	**4.81**	**41**	P	**P**	**13 11 20.5**	**+0.4**	
KULM	**Kulim**	**5.15**	**33**	*e*P	**P**	**13 11 17.9**	**-6.8**	
KGM	**Kluang**	**5.57**	**79**	P	**P**	**13 11 31.2**	**+0.6**	
CMAR	**Chiang Mai Arr**	**17.44**	**3**	P	**P**	**13 14 08.2**	**-1.6**	
	0.2nm,0.3s,baz=195,slow=12,SNR=13							
KKM	**Kota Kinabalu**	**19.01**	**74**	*e*P	**P**	**13 14 28.8**	**-0.3**	
KKM	**Kota Kinabalu**	**19.01**	**74**	P	**P**	**13 14 30.8**	**+1.7**	
TSM	**Tawau**	**20.27**	**80**	P	**P**	**13 14 42.8**	**+0.1**	
KMI	**Kunming**	**24.50**	**11**	P	**P**	**13 15 25.6**	**+1.0**	
KMI				AMB	AMB			
	comp=Z,9.0nm,0.8s,mb4.3							
KMI	**Kunming**	**24.50**	**11**	P	**P**	**13 15 25.6**	**+1.0**	
	comp=Z,9.0nm,0.8s,mb4.3							
SHL	**Shillong**	**25.15**	**347**	*e*P	**P**	**13 15 31.0**	**+0.1**	
JIRN	**Jiri**	**28.82**	**338**	*e*P	**P**	**13 16 05.1**	**+0.7**	
	comp=Z,26nm,0.8s,mb5.0							
PKI	**Pulchoki**	**29.04**	**337**	*e*P	**P**	**13 16 06.7**	**+0.3**	
	comp=Z,22nm,0.9s,mb4.9							
PKI	**Pulchoki**	**29.04**	**337**	*e*P	**P**	**13 16 06.7**	**+0.3**	
PKI				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.6							
GUN	**Gumba**	**29.17**	**338**	*e*P	**P**	**13 16 07.9**	**+0.4**	
	comp=Z,55nm,0.6s,mb5.4							
DMN	**Daman**	**29.20**	**336**	*e*P	**P**	**13 16 07.9**	**+0.1**	
KKN	**Kakani**	**29.29**	**337**	*e*P	**P**	**13 16 08.5**	**-0.1**	
	comp=Z,26nm,0.9s,mb5.0							
KKN	**Kakani**	**29.29**	**337**	*e*P	**P**	**13 16 08.5**	**-0.1**	
KKN				pmax	pmax			
	comp=Z,13nm,0.9s,mb4.7							
GKN	**Gorkha**	**29.74**	**336**	*e*P	**P**	**13 16 12.4**	**-0.2**	
	comp=Z,74nm,1.3s,mb5.2							
MBWA	**Marble Bar**	**30.66**	**137**	*e*P	**P**	**13 16 21.6**	**+0.7**	
	comp=Z,5.8nm,0.7s,mb4.5							
ENH	**Enshi**	**31.20**	**20**	*e*P	**P**	**13 16 21.1**	**-4.4**	
	comp=Z,6.2nm,0.7s,mb4.5							
FITZ	**Fitzroy Crossi**	**33.25**	**126**	P	**P**	**13 16 41.7**	**-1.8**	
	comp=Z,28nm,0.5s,mb5.4,baz=301,slow=4.5,SNR=78							
XAN	**Xi'an**	**34.52**	**16**	P	**P**	**13 16 52.3**	**-2.0**	
XAN				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.8							
LZH	**Lanzhou**	**35.41**	**8**	*e*P	**P**	**13 17 03.0**	**+1.1**	
LZH				AP	pP	13 17 13.0	-1.3	
LZH				AMB	AMB			
	comp=Z,26nm,1.0s,mb5.1							
LZH	**Lanzhou**	**35.41**	**8**	*e*P	**P**	**13 17 03.0**	**+1.1**	
LZH				*PP	pP	13 17 13.0	-1.3	
LZH				*SP	sP	13 17 17.5	-2.6	
LZH				pmax	pmax			
	comp=Z,26nm,1.0s,mb5.1							
LZH	**Lanzhou**	**35.41**	**8**	*e*P	**P**	**13 17 03.0**	**+1.1**	
	comp=Z,26nm,1.0s,mb5.1							
LZH				pP	pP	13 17 13.0	-1.3	
LZH				sP	sP	13 17 17.5	-2.6	
GTA	**Gaotai**	**38.33**	**2**	*e*P	**P**	**13 17 29.7**	**+3.4**	
GTA				AP	pP	13 17 37.8	-1.0	
GTA				AMB	AMB			
	comp=Z,6.0nm,1.3s,mb4.2							
JOW	**Kunigami**	**38.95**	**46**	P	**P**	**13 17 32.5**	**+0.9**	
	comp=Z,9.1nm,0.6s,mb4.7,baz=148,slow=9.5,SNR=3.6							
WRA	**Warramunga Arr**	**41.35**	**122**	P	**P**	**13 17 50.7**	**-0.8**	
	comp=Z,12nm,0.4s,mb4.9,baz=306,slow=8.4,SNR=310							
WRAB	**Tennant Creek**	**41.35**	**122**	*e*P	**P**	**13 17 50.7**	**-0.8**	
WRAB				pmax	pmax			
	comp=Z,34nm,0.6s,mb5.2							
WRAB	**Tennant Creek**	**41.35**	**122**	*e*P	**P**	**13 17 50.7**	**-0.8**	
	comp=Z,34nm,0.6s,mb5.2							
WB2	**Warramunga Arr**	**41.36**	**122**⇑	*i*P	**P**	**13 17 50.3**	**-1.3**	
FORT	**Forrest**	**42.66**	**140**	*e*P	**P**	**13 18 04.6**	**+2.3**	
	comp=Z,495nm,0.4s							
ASPA	**Alice Springs**	**42.72**	**127**‖	*i*P	**P**	**13 18 02.4**	**-0.4**	
ASAR	**Alice Springs**	**42.72**	**127**	P	**P**	**13 18 02.3**	**-0.6**	
	comp=Z,11nm,0.4s,mb4.9,baz=296,slow=7.7,SNR=164							
ASAR				PcP	PcP	13 19 55.9	+1.4	
	comp=Z,0.9nm,0.6s,baz=321,slow=2.2,SNR=3.9							
KSH	**Kashi**	**43.27**	**335**	*e*P	**P**	**13 18 05.0**	**-2.2**	
KSH				*e*PP	PP	13 19 47.1	-3.0	
KSH				*e*PCP	PcP	13 19 55.0	-1.1	
KSH				*e*SCP		13 23 42.1		
KSH				*e*PCS		13 23 46.4		
KSH				*e*S	**S**	**13 24 27.0**	**-3.7**	
KSH				*e*SCS	ScS	13 28 00.0	-0.7	
KSH				LR	LR			
	comp=N,510nm,6.4s							
KSH				LR	LR			
	comp=E,610nm,5.6s							
WMQ	**Urumqi**	**43.64**	**349**	P	**P**	**13 18 10.6**	**+0.5**	
WMQ				AP	pP	13 18 24.6	+1.9	
WMQ				PP	PP	13 19 53.9	+0.1	
WMQ				PCP	PcP	13 19 59.1	+1.8	
WMQ				*e*S	**S**	**13 24 36.5**	**+0.5**	
WMQ				AMB	AMB			
	comp=Z,8.0nm,0.9s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,110nm,4.5s							
WMQ				LR	LR			
	comp=N,502nm,20.0s,MS4.5							
WMQ				LR	LR			
	comp=E,409nm,22.4s,MS4.5							
WMQ				LR	LR			
	comp=Z,508nm,18.4s,MS4.5							
SONM	**Songino Array**	**47.29**	**8**	P	**P**	**13 18 39.4**	**+0.3**	
	comp=Z,1.7nm,0.5s,mb4.2,baz=190,slow=9.6,SNR=15							
ULN	**Ulaanbaatar**	**47.42**	**8**‖	*e*P	**P**	**13 18 42.2**	**+2.2**	
ULN	**Ulaanbaatar**	**47.42**	**8**	P	**P**	**13 18 40.1**	**+0.1**	
	comp=Z,2.1nm,0.6s,mb4.2							
MKAR	**Makanchi Array**	**47.65**	**346**	P	**P**	**13 18 41.6**	**-0.3**	
	comp=Z,6.9nm,0.5s,mb5.0,baz=159,slow=8.5,SNR=31							
CN2	**Changchun**	**49.24**	**26**	*e*P	**P**	**13 18 56.6**	**+2.4**	
CN2				*e*AP	pP	13 19 09.6	+2.6	
CN2				*e*S	**S**	**13 26 02.6**	**+7.0**	
CN2				AMB	AMB			
	comp=Z,20nm,1.4s,mb5.0							
CN2				AMB	AMB			
	comp=Z,700nm,6.0s							
CN2				LR	LR			
	comp=N,400nm,13.0s,MS4.7							
CN2				LR	LR			
	comp=E,300nm,13.0s,MS4.7							
CN2				LR	LR			
	comp=Z,500nm,17.0s,MS4.6							
ZAK	**Zakamensk**	**49.48**	**5**	*e*P	**P**	**13 18 56.6**	**+0.7**	
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.4s,mb3.6							
PMG	**Port Moresby**	**50.16**	**103**	P	**P**	**13 19 01.0**	**-0.7**	
	comp=Z,7.2nm,0.6s,mb4.9,baz=316,slow=10.0,SNR=6.0							
MJAR	**Matsushiro Arr**	**51.45**	**42**	P	**P**	**13 19 11.0**	**-0.1**	
	comp=Z,1.8nm,0.8s,mb4.1,baz=235,slow=6.5,SNR=7.3							
MJAR	**Matsushiro Arr**	**51.45**	**42**	P	**P**	**13 19 11.0**	**-0.1**	
HIA	**Hailar**	**51.68**	**18**	*e*P	**P**	**13 19 11.3**	**-1.4**	
HIA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
HIA	**Hailar**	**51.68**	**18**	*e*P	**P**	**13 19 11.3**	**-1.4**	
	comp=Z,6.2nm,0.8s,mb4.6							
MDJ	**Mudanjiang**	**51.78**	**29**	P	**P**	**13 19 11.8**	**-1.7**	
MDJ				AMB	AMB			
	comp=Z,103nm,6.8s							
MDJ				LR	LR			
	comp=N,98nm,16.6s,MS4.0							
MDJ				LR	LR			
	comp=E,64nm,17.9s,MS4.0							
MDJ				LR	LR			
	comp=Z,113nm,17.0s,MS4.0							
CTA	**Charters Tower**	**51.81**	**117**	P	**P**	**13 19 13.7**	**-0.3**	
	comp=Z,8.1nm,0.8s,mb4.7,baz=307,slow=8.7,SNR=5.5							
CTAO	**Charters Tower**	**51.81**	**117**	*e*P	**P**	**13 19 14.2**	**+0.2**	
CTAO				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.8							
CTAO	**Charters Tower**	**51.81**	**117**	*e*P	**P**	**13 19 14.2**	**+0.2**	
	comp=Z,11nm,0.9s,mb4.8							
KURK	**Kurchatov**	**52.21**	**345**⇑	*e*P	**P**	**13 19 16.5**	**-0.1**	
KURK	**Kurchatov**	**52.21**	**345**	*e*P	**P**	**13 19 15.7**	**-1.0**	
	comp=Z,10.0nm,1.0s,mb4.7							
STKA	**Stephens Creek**	**52.70**	**132**	*e*P	**P**	**13 19 20.5**	**-0.1**	
	comp=Z,5.5nm,0.4s,mb4.8							
STKA	**Stephens Creek**	**52.70**	**132**	P	**P**	**13 19 21.2**	**+0.6**	
	comp=Z,7.2nm,0.4s,mb5.0,baz=312,slow=6.2,SNR=33							
ZAL	**Zalesovo**	**53.91**	**350**	P	**P**	**13 19 29.3**	**0.0**	
	comp=Z,4.3nm,0.6s,mb4.6,baz=312,slow=5.2,SNR=14							
ZAL	**Zalesovo**	**53.91**	**350**	P	**P**	**13 19 29.3**	**0.0**	
BVAR	**Borovoye Array**	**56.71**	**341**	P	**P**	**13 19 48.7**	**-0.8**	
	comp=Z,4.4nm,0.5s,mb4.7,baz=148,slow=8.8,SNR=25							
CHKZ	**Chkalovo**	**57.18**	**341**	*e*P	**P**	**13 19 51.5**	**-1.3**	
CHKZ				pmax	pmax			
	comp=Z,57nm,0.8s,mb5.7							
CHKZ	**Chkalovo**	**57.18**	**341**	*e*P	**P**	**13 19 51.5**	**-1.3**	
	comp=Z,57nm,0.8s,mb5.7							
BOD	**Bodaibo**	**58.15**	**10**	*e*P	**P**	**13 19 58.5**	**-1.0**	
BOD				pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.4							
YSS	**Yuzh-Sakhalins**	**60.20**	**34**⇑	*e*P	**P**	**13 20 15.3**	**+1.4**	
KIV	**Kislovodsk**	**64.93**	**319**	*e*P	**P**	**13 20 41.6**	**-3.8**	
KIV				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2							
YAK	**Yakutsk**	**65.49**	**16**	*i*P	**P**	**13 20 48.3**	**-0.4**	
YAK				pmax	pmax			
	comp=Z,16nm,1.1s,mb5.0							
BRTR	**Keskin Array B**	**69.77**	**312**	P	**P**	**13 21 13.8**	**-2.0**	
	comp=Z,0.5nm,0.4s,mb3.8,baz=112,slow=6.7,SNR=6.2							
MATP	**Matopo**	**71.03**	**248**	P	**P**	**13 21 24.4**	**+0.7**	
	comp=Z,6.9nm,0.9s,mb4.6,baz=83,slow=7.6,SNR=9.3							
OBN	**Obninsk**	**73.18**	**328**	*e*P	**P**	**13 21 39.0**	**+3.1**	
OBN				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
TIXI	**Tiksi**	**73.33**	**10**	*i*P	**P**	**13 21 36.1**	**-0.4**	
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
BOSA	**Boshof**	**75.21**	**240**	*e*P	**P**	**13 21 48.1**	**-0.2**	
BOSA				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
BOSA	**Boshof**	**75.21**	**240**	P	**P**	**13 21 49.1**	**+0.9**	
	comp=Z,5.3nm,0.8s,mb4.5,baz=146,slow=6.1,SNR=7.2							
BOSA	**Boshof**	**75.21**	**240**	*e*P	**P**	**13 21 48.1**	**-0.1**	
	comp=Z,6.3nm,0.9s,mb4.5							
AKASG	**Malin Array Be**	**75.86**	**322**	P	**P**	**13 21 50.5**	**-0.9**	
	comp=Z,0.8nm,0.4s,mb4.0,baz=84,slow=4.2,SNR=4.0							
FINES	**FINESS Array B**	**80.53**	**332**	P	**P**	**13 22 16.8**	**-0.1**	
	comp=Z,1.9nm,0.7s,mb4.2,baz=127,slow=6.9,SNR=6.1							
KAF	**Kangasniemi**	**80.61**	**333**	*ep*	**P**	**13 22 21.0**	**+3.7**	

comp=Z,2.0nm,0.6s,mb4.2
KAF Kangasniemi 80.61 333 *e*P **P 13 22 21.0 +3.7**
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ARCES ARCESS Array B 83.00 340 P **P 13 22 29.8 +0.2**
comp=Z,8.6nm,1.1s,mb4.7,baz=90,slow=16,SNR=4.5
ARCES ARCESS Array B 83.00 340 P **P 13 22 29.8 +0.2**
GERES GERESS Array B 85.44 319 P **P 13 22 43.5 +1.3**
comp=Z,1.3nm,0.9s,mb4.0,baz=90,slow=5.3,SNR=7.6
VNDA Vanda 85.44 169 P **P 13 22 43.1 +1.5**
comp=Z,0.8nm,0.8s,mb3.9,baz=325,slow=5.5,SNR=4.4
HFS Hagfors 86.27 330 P **P 13 22 46.9 +0.9**
comp=Z,1.3nm,0.5s,mb4.4,baz=146,slow=5.3,SNR=10
NB2 NORSAR Subarra 87.55 331 P **P 13 22 53.4 +1.2**
comp=Z,1.3nm,0.6s,mb4.3,baz=95,slow=6.2
NB2 NORSAR Subarra 87.55 331 P **P 13 22 53.4 +1.2**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb4.2
NOA NORSAR Array B 87.55 331 P **P 13 22 52.1 -0.2**
comp=Z,0.1nm,0.4s,baz=82,slow=14,SNR=2.8
SCHQ Schefferville 123.00 350 PKP PKPdf 13 29 01.8 +2.1
comp=Z,1.6nm,0.8s,baz=298,slow=5.3,SNR=3.6
PDAR Pinedale Array 129.99 26 PKP PKPdf 13 29 15.4 +2.0
comp=Z,0.2nm,0.7s,baz=259,slow=4.6,SNR=2.5
TXAR Lajitas Array 143.54 33 PKP PKPdf 13 29 39.2 +0.6
comp=Z,0.4nm,0.7s,baz=180,slow=1.8,SNR=3.3
TXAR Lajitas Array 143.54 33 PKP PKPdf 13 29 39.2 +0.6

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*IDC **09** 13:32:20.9±0.4, 4.27S×80.49W, h66km±2km, mb3.9/17, mb1 4.2/20, mb1mx4.1/26, mbtmp4.3/20, MS3.9/8, Ms1 3.8/8, ms1mx3.5/28, Error ellipse: s-maj=15.9km s-min=9.3km az=67.0*
*BJI **09** 13:32:21.0, 4.30S×80.40W, h68km, mB5.4, Ms4.6, Msz4.4*
*NEIC **09** 13:32:21.0±0.2, 4.29S×80.42W, mb4.8/21, MD5.0(IGQ), Error ellipse: s-maj=9.7km s-min=4.8km az=64.0*
NEIC Felt [III] at Chulucanas and Piura, Peru. Also felt at Las Lomas.
*IGQ **09** 13:32:26.5, 3.55S×80.30W, h12km±13km, mb5.0, Error ellipse: s-maj=13.7km s-min=2.7km az=126.4*
ISC 09 13:32:19.6±0.3, 4.30S±0.03×80.52W±0.04, h69km, h69km±.9km: pP-P, n119, σ0§90/92, mb4.4/29, 16C-6D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**2.15**	**347**	P	**P**	**13 32 54.1**	**+0.1**
SALI				S	**S**	**13 33 13.5**	**-5.9**
HOJA	**Cerro de Hojas**	**3.23**	**360**	⇑P	**P**	**13 33 07.7**	**-1.5**
IGUA	**Igualata**	**3.36**	**34**	⇑P	**P**	**13 33 11.1**	**+0.1**
ARRY	**Arrayan**	**3.45**	**37**	⇑P	**P**	**13 33 12.4**	**0.0**
CUSU	**Cusua**	**3.49**	**36**	⇓P	**P**	**13 33 13.6**	**+0.7**
JUIV	**Juive**	**3.52**	**36**	⇓P	**P**	**13 33 13.8**	**+0.6**
ULBA	**Ulba**	**3.53**	**37**	⇑P	**P**	**13 33 14.0**	**+0.6**
PISA	**Pisayambo**	**3.86**	**34**	⇓P	**P**	**13 33 18.7**	**+0.8**
JAMA	**Jama**	**4.02**	**4**	P	**P**	**13 33 19.2**	**-1.0**
NAS1	**Nasa**	**4.17**	**29**	⇓P	**P**	**13 33 23.0**	**+0.6**
TAMB	**Tambo**	**4.17**	**31**	⇓P	**P**	**13 33 22.6**	**+0.2**
VC1	**Cotopaxi 1**	**4.20**	**30**	P	**P**	**13 33 23.2**	**+0.5**
MAGD	**Magdalena**	**4.27**	**10**	P	**P**	**13 33 23.7**	**+0.1**
JUA2	**San Juan 2**	**4.48**	**25**	⇑P	**P**	**13 33 27.2**	**+0.5**
ANTI	**Antisana**	**4.49**	**32**	P	**P**	**13 33 26.7**	**-0.1**
TERV	**Terraza Guagua**	**4.52**	**25**	⇑P	**P**	**13 33 27.9**	**+0.7**
GGP	**Refugio Guagua**	**4.52**	**25**	⇑P	**P**	**13 33 27.8**	**+0.5**
PINO	**Pino**	**4.53**	**25**	⇑P	**P**	**13 33 27.8**	**+0.4**
YANA	**Yana**	**4.58**	**25**	⇑P	**P**	**13 33 28.3**	**+0.2**
JOR1	**San Jorge 1**	**4.66**	**24**	⇑P	**P**	**13 33 26.3**	**-2.9**
OTAV	**Otavalo**	**4.96**	**25**	*e*P	**P**	**13 33 32.7**	**-0.5**
CAYR	**Refugio Cayamb**	**4.96**	**30**	P	**P**	**13 33 33.8**	**+0.4**
CAYA	**Cayambe**	**5.02**	**30**	P	**P**	**13 33 34.3**	**+0.1**
CONE	**Cono NE Rev Vo**	**5.09**	**34**	P	**P**	**13 33 34.2**	**-0.9**
COTA	**Cotacachi**	**5.09**	**25**	P	**P**	**13 33 35.2**	**+0.1**
ECEN	**Cerro Negro**	**5.69**	**27**	P	**P**	**13 33 42.9**	**-0.4**
NNA	**Nana**	**8.46**	**155**	Pn	**P**	**13 34 20.1**	**-1.6**
	602nm,0.7s,SNR=9.7						
NNA	**Nana**	**8.46**	**155**	*e*P	**P**	**13 34 20.5**	**-1.2**
	71nm,0.6s						
JTS	**JuntasAbangare**	**15.15**	**343**	P	**P**	**13 35 52.8**	**+1.7**
	0.4nm,0.3s,baz=165,slow=5.9,SNR=22						
JTS	**JuntasAbangare**	**15.15**	**343**	*e*P	**P**	**13 35 53.5**	**+2.4**
	101nm,1.1s						
SDV	**Santo Domingo**	**16.39**	**37**	P	**P**	**13 36 07.3**	**+0.5**
	5.8nm,0.3s,baz=247,slow=12,SNR=63						
SDV	**Santo Domingo**	**16.39**	**37**	*e*P	**P**	**13 36 04.0**	**-2.8**
	106nm,0.8s						
LPAZ	**La Paz**	**17.03**	**135**	P	**P**	**13 36 16.4**	**+1.7**
	0.3nm,0.3s,baz=300,slow=12,SNR=10						
LPAZ				pP		13 36 26.9	
	0.7nm,0.3s,baz=320,slow=8.1,SNR=16						
LPAZ				LR	LR	13 44 14.8	
	comp=Z,384nm,19.8s,baz=269,slow=42						
LPAZ	**La Paz**	**17.03**	**135**	*e*P	**P**	**13 36 15.8**	**+1.1**
	31nm,1.1s						
SAML	**Samuel**	**17.82**	**106**	*e*P	**P**	**13 36 23.1**	**-1.6**
	0.8nm,1.2s						
PCRV	**Puerto La Cruz**	**21.38**	**48**	P	**P**	**13 37 03.8**	**+0.4**
	31nm,0.7s,mb4.8,baz=247,slow=2.0,SNR=11						
PCRV				pP		13 37 17.6	
	44nm,0.6s,baz=234,slow=14,SNR=5.7						
PCRV				LR	LR	13 46 34.1	
	comp=Z,389nm,19.0s,baz=217,slow=40						
LVC	**Limon Verde**	**21.39**	**149**	P	**P**	**13 37 05.4**	**+1.8**
	8.0nm,0.7s,mb4.1,baz=319,slow=8.8,SNR=9.4						
LVC				sP		13 37 27.9	
	15nm,0.8s,baz=324,slow=7.6,SNR=5.0						
LVC	**Limon Verde**	**21.39**	**149**	*e*P	**P**	**13 37 02.8**	**-0.7**
	17nm,0.8s,mb4.4						
SIV	**San Ignacio**	**22.36**	**123**	P	**P**	**13 37 15.1**	**+2.0**
	2.2nm,0.7s,mb3.6,baz=307,slow=9.0,SNR=11						
TEIG	**Tepich**	**25.53**	**343**	*e*P	**P**	**13 37 43.4**	**-0.3**
	3.1nm,0.8s,mb3.8						
SJG	**San Juan**	**26.39**	**32**	P	**P**	**13 37 51.1**	**-0.6**
	38nm,1.0s,mb4.8,baz=182,slow=2.4,SNR=5.7						
SJG				pP	pP	13 38 06.9	-1.0
	14nm,0.3s,baz=209,slow=5.3,SNR=4.6						
SJG				sP	sP	13 38 16.2	-0.1
	55nm,0.6s,baz=219,slow=4.4,SNR=6.8						
SJG	**San Juan**	**26.39**	**32**	*e*P	**P**	**13 37 51.0**	**-0.8**
	61nm,1.1s,mb5.0						
CFAA	**Coronel Fontan**	**29.51**	**158**	P	**P**	**13 38 19.4**	**-0.4**
	0.2nm,0.5s,baz=285,slow=16,SNR=2.4						
CFAA				pP	pP	13 38 35.6	-0.6
	0.3nm,0.5s,baz=273,slow=4.5,SNR=2.0						
BDFB	**Brasilia**	**33.88**	**112**	LR	LR	13 54 13.7	
	comp=Z,133nm,21.6s,baz=277,slow=39						
PLCA	**Paso Flores**	**37.37**	**167**	P	**P**	**13 39 28.0**	**+0.6**
	1.0nm,1.0s,mb3.7,baz=17,slow=16,SNR=2.5						
PLCA				pP	pP	13 39 43.4	-1.1
	2.1nm,0.6s,baz=334,slow=11,SNR=4.1						
PLCA	**Paso Flores**	**37.37**	**167**	P	**P**	**13 39 28.4**	**+0.9**
	15nm,1.3s,mb4.8						
PLCA				*e*pP	pP	13 39 43.9	-0.6
TRQA	**Tornquist**	**37.62**	**156**	*e*P	**P**	**13 39 30.1**	**+0.6**
	5.1nm,1.1s,mb4.3						
TXAR	**Lajitas Array**	**40.15**	**328**	P	**P**	**13 39 50.9**	**+0.3**
	6.0nm,0.8s,mb3.6,baz=146,slow=9.0,SNR=8.6						
TXAR				pP	pP	13 40 08.4	+0.6
	1.1nm,0.8s,baz=150,slow=10,SNR=4.3						
TXAR				PcP	PcP	13 41 54.4	-0.2
	2.3nm,0.9s,baz=143,slow=6.3,SNR=6.9						
TXAR				pPcP		13 42 13.2	
	4.0nm,0.8s,baz=158,slow=6.3,SNR=15						
TXAR				LR	LR	13 57 24.8	
	comp=Z,50nm,18.0s,baz=180,slow=38						
TXAR	**Lajitas Array**	**40.15**	**328**	P	**P**	**13 39 50.9**	**+0.3**
TXAR				pP	pP	13 40 08.4	+0.6
TXAR				PcP	PcP	13 41 54.4	-0.2
TXAR				pPcP		13 42 13.2	
TXAR				LR	LR	13 57 24.8	
WMOK	**Wichita Mounta**	**42.47**	**338**	*e*P	**P**	**13 40 09.8**	**+0.1**
	6.0nm,1.3s,mb4.2						
GDL2	**Guadalupe Moun**	**42.79**	**330**	*e*P	**P**	**13 40 13.7**	**+1.3**
CPRX	**Cap Rock**	**43.22**	**331**	*e*P	**P**	**13 40 17.1**	**+1.2**
CPRX				*e*	pP	13 40 34.2	+1.1
BNM	**Barren Site**	**45.49**	**329**	*e*P	**P**	**13 40 35.3**	**+1.2**
ANMO	**Albuquerque**	**46.04**	**330**	P	**P**	**13 40 39.2**	**+0.8**
	10nm,0.9s,mb4.5,baz=152,slow=9.4,SNR=23						
ANMO				pP	pP	13 40 56.3	+0.6
	8.2nm,0.9s,baz=163,slow=8.5,SNR=6.4						
ANMO	**Albuquerque**	**46.04**	**330**	*e*P	**P**	**13 40 38.9**	**+0.5**
	18nm,1.1s,mb4.7						
SADO	**Sadowa**	**48.86**	**1**	P	**P**	**13 41 01.4**	**+1.1**
	3.2nm,0.8s,mb4.3,baz=197,slow=11,SNR=4.7						
WUAZ	**Wupatki**	**49.05**	**326**	*e*P	**P**	**13 41 03.0**	**+1.0**
	31nm,1.1s,mb5.1						
PV01	**Paradox Valley**	**49.59**	**331**	*e*P	**P**	**13 41 06.3**	**+0.3**
PV10	**Paradox Valley**	**50.01**	**331**	*e*P	**P**	**13 41 09.0**	**-0.3**
MSU	**Marysvale**	**51.70**	**328**	*e*P	**P**	**13 41 22.2**	**+0.2**
ARUT	**Antelope Range**	**51.84**	**327**	*e*P	**P**	**13 41 24.2**	**+1.1**
RSSD	**Black Hills**	**52.63**	**339**	*e*P	**P**	**13 41 28.8**	**-0.2**
	2.8nm,0.8s,mb4.3						
RSSD				*e*pP	pP	13 41 47.7	+1.1
DAU	**Daniels Canyon**	**52.67**	**331**	*e*P	**P**	**13 41 29.9**	**+0.6**
DAU				*e*pP	pP	13 41 48.8	+1.9
JLU	**Jordanelle**	**52.91**	**331**	*e*P	**P**	**13 41 31.6**	**+0.5**
JLU				*e*pP	pP	13 41 50.3	+1.6
PDAR	**Pinedale Array**	**53.72**	**334**	P	**P**	**13 41 36.5**	**-0.6**
	2.1nm,0.9s,mb4.2,baz=127,slow=7.9,SNR=15						
PDAR				pP	pP	13 41 54.9	+0.1
	3.0nm,0.7s,baz=122,slow=8.5,SNR=12						
PDAR				LR	LR	14 04 28.4	
	comp=Z,45nm,18.2s,baz=62,slow=36						
HWUT	**Hardware Ranch**	**53.74**	**331**	*e*P	**P**	**13 41 36.4**	**-0.8**
	12nm,0.9s,mb4.9						
HWUT				*e*pP	pP	13 41 55.4	+0.5
MTUM	**Tungsten Hills**	**54.49**	**323**	*e*P	**P**	**13 41 43.4**	**+0.7**
RRI2	**Red Ridge**	**54.97**	**333**	*e*P	**P**	**13 41 45.8**	**-0.3**
	17nm,1.4s,mb4.9						
RRI2				*e*pP	pP	13 42 04.4	+0.5
NVAR	**Mina Array Bea**	**55.05**	**324**	P	**P**	**13 41 47.2**	**+0.5**
	4.6nm,0.7s,mb4.6,baz=130,slow=7.5,SNR=17						
NVAR				sP	sP	13 42 11.1	-1.3
	2.3nm,0.7s,baz=136,slow=7.6,SNR=3.7						
NVAR	**Mina Array Bea**	**55.05**	**324**	P	**P**	**13 41 47.2**	**+0.5**
NVAR				sP	sP	13 42 11.1	-1.3
ULM	**Lac du Bonnet**	**55.92**	**348**	P	**P**	**13 41 51.3**	**-1.6**
	2.9nm,0.7s,mb4.4,baz=157,slow=9.0,SNR=4.5						
ULM				pP	pP	13 42 09.4	-1.3
	15nm,0.7s,baz=157,slow=7.9,SNR=16						
ULM	**Lac du Bonnet**	**55.92**	**348**	*e*P	**P**	**13 41 50.8**	**-2.1**
	2.6nm,0.6s,mb4.4						
ULM				*e*pP	pP	13 42 09.2	-1.5
WVOR	**Wild Horse Val**	**57.94**	**327**	*e*P	**P**	**13 42 07.2**	**-0.1**
	7.2nm,1.1s,mb4.6						
SCHQ	**Schefferville**	**60.01**	**9**	P	**P**	**13 42 20.6**	**-0.8**
	1.8nm,0.8s,mb4.2,baz=209,slow=10,SNR=3.4						
SCHQ				pP	pP	13 42 37.0	-2.4
	4.2nm,0.9s,baz=135,slow=3.2,SNR=4.3						
EDM	**Edmonton**	**63.62**	**339**	*e*P	**P**	**13 42 44.1**	**-1.5**
EDM				*e*pP	pP	13 43 02.1	-1.8
FCC	**Fort Churchill**	**63.79**	**352**	*e*P	**P**	**13 42 44.5**	**-2.1**
	21nm,1.4s,mb4.8						
FCC				*e*pP	pP	13 43 02.6	-2.2
FRB	**Frobisher Bay**	**68.46**	**6**	P	**P**	**13 43 14.7**	**-1.5**
	1.3nm,0.7s,mb3.9,baz=126,slow=7.2,SNR=3.4						
FRB				pP	pP	13 43 31.8	-2.8
	1.3nm,0.4s,baz=188,slow=9.9,SNR=3.2						
PPT	**Papeete**	**68.76**	**253**	LR	LR	14 07 03.6	
	comp=Z,304nm,19.5s,baz=60,slow=30						
YKA	**Yellowknife Ar**	**71.48**	**344**	P	**P**	**13 43 33.1**	**-1.5**
	2.4nm,1.0s,mb4.0,baz=139,slow=6.0,SNR=33						
YKA				pP	pP	13 43 51.4	-1.8
	2.2nm,0.8s,baz=144,slow=6.2,SNR=12						
YKA	**Yellowknife Ar**	**71.48**	**344**	P	**P**	**13 43 33.1**	**-1.5**
YKA				pP	pP	13 43 51.4	-1.8
YKW3	**Yellowknife Ar**	**71.54**	**344**	*e*P	**P**	**13 43 33.7**	**-1.3**
YKW3				*e*pP	pP	13 43 51.5	-2.1
DLBC	**Dease Lake**	**73.90**	**335**	*e*P	**P**	**13 43 49.1**	**+0.2**
DLBC				*e*	pP	13 44 08.4	+0.8
DBIC	**Dimbokro**	**76.31**	**82**	P	**P**	**13 44 02.9**	**-0.7**
	2.8nm,0.9s,mb4.0,baz=250,slow=12,SNR=1.5						
DBIC				pP	pP	13 44 20.2	-2.1
	7.1nm,0.8s,baz=251,slow=4.4,SNR=4.7						
DBIC				sP	sP	13 44 27.7	-2.2
	5.0nm,0.6s,baz=308,slow=4.5,SNR=3.4						
DBIC	**Dimbokro**	**76.31**	**82**	P	**P**	**13 44 02.9**	**-0.7**
DBIC				pP	pP	13 44 20.2	-2.1
DBIC				sP	sP	13 44 27.7	-2.2
VNA3	**Neumayer Olymp**	**79.85**	**162**	⇑*i*	**P**	**13 44 21.7**	**-0.2**
VNA3	**Neumayer Olymp**	**79.85**	**162**	⇑*i*	pP	13 44 39.5	-1.3
VNA2	**Neumayer--Watz**	**80.48**	**161**	⇑*i*	**P**	**13 44 24.8**	**-0.5**
VNA2	**Neumayer--Watz**	**80.48**	**161**	⇑*i*	pP	13 44 42.0	-2.2
DAWY	**Dawson**	**80.80**	**338**	*e*P	**P**	**13 44 26.5**	**-0.7**
DAWY				*e*pP	pP	13 44 46.3	+0.3
INK	**Inuvik**	**81.14**	**343**	*e*P	**P**	**13 44 28.5**	**-0.3**
	28nm,1.1s,mb5.0						
INK				*e*pP	pP	13 44 47.6	-0.2
SUMG	**Summit**	**81.25**	**12**	*e*P	**P**	**13 44 29.4**	**+0.1**
	4.8nm,0.9s,mb4.3						
SUMG				*e*pP	pP	13 44 47.2	-1.1
SNAA	**Sanae**	**82.07**	**162**	⇑*i*	**P**	**13 44 33.0**	**-0.6**
SNAA	**Sanae**	**82.07**	**162**	⇑*i*	pP	13 44 51.2	-1.4
ESDC	**Sonseca Array**	**82.44**	**49**	pP	pP	13 44 53.9	-1.2
	2.7nm,0.8s,baz=268,slow=5.8,SNR=6.8						
ILAR	**Eielson Array**	**84.03**	**337**	P	**P**	**13 44 43.2**	**-0.4**
	1.8nm,0.9s,mb3.9,baz=135,slow=2.0,SNR=8.5						
ILAR				pP	pP	13 45 02.2	-0.4
	6.9nm,1.1s,baz=117,slow=3.2,SNR=15						
QSPA	**South Pole Qui**	**85.78**	**180**	⇓*i*P	**P**	**13 44 53.3**	**+1.3**
	19nm,1.1s,mb4.9						
IMA	**Indian Mountai**	**87.14**	**337**	*e*P	**P**	**13 44 58.4**	**-0.5**
	19nm,1.2s,mb4.9						
IMA				*e*pP	pP	13 45 18.4	+0.3
NOA	**NORSAR Array B**	**94.57**	**29**	LR	LR	14 28 10.3	
	comp=Z,22nm,18.1s,baz=180,slow=35						
SUR	**Sutherland**	**97.25**	**123**	LR	LR	14 26 37.1	
	comp=Z,132nm,19.6s,baz=149,slow=34						
STKA	**Stephens Creek**	**126.17**	**225**	PKP	PKPdf	13 51 15.5	+0.5
	1.4nm,0.3s,baz=5.1,slow=17,SNR=3.7						
ZAL	**Zalesovo**	**129.08**	**11**	PKP	PKPdf	13 51 20.0	0.0
	1.7nm,0.8s,baz=183,slow=3.7,SNR=12						
ZAL				pPKP		13 51 39.9	
	5.7nm,0.8s,baz=176,slow=1.3,SNR=17						
ZAL	**Zalesovo**	**129.08**	**11**	PKP	PKPdf	13 51 20.0	0.0
ZAL				pPKP		13 51 39.9	
KURK	**Kurchatov**	**130.53**	**17**	*e*PKPdf	PKPdf	13 51 23.8	+1.0
KURK				*e*pPKPdf		13 51 41.9	
MJAR	**Matsushiro Arr**	**132.12**	**317**	PKP	PKPdf	13 51 26.5	+0.3
	0.6nm,0.6s,baz=96,slow=1.9,SNR=4.0						
MJAR				pPKP		13 51 45.4	
	1.5nm,0.7s,baz=88,slow=1.7,SNR=5.8						
MJAR	**Matsushiro Arr**	**132.12**	**317**	PKP	PKPdf	13 51 26.5	+0.2
MJAR				pPKP		13 51 45.4	
MKAR	**Makanchi Array**	**135.12**	**17**	PKP	PKPdf	13 51 32.0	+0.5
	0.6nm,0.7s,slow=1.2,SNR=7.4						
MKAR				pPKP		13 51 51.0	
	2.9nm,0.8s,baz=7.2,slow=2.4,SNR=18						
SONM	**Songino Array**	**136.22**	**353**	PKP	PKPdf	13 51 33.7	+0.2
	0.8nm,0.9s,baz=12,slow=1.5,SNR=4.8						
SONM				pPKP		13 51 53.4	
	1.1nm,0.6s,baz=334,slow=1.2,SNR=7.5						
ASAR	**Alice Springs**	**136.43**	**229**	PKP	PKPdf	13 51 35.4	+0.8
	2.9nm,0.9s,baz=120,slow=2.2,SNR=18						
ASAR				pPKP		13 51 54.1	
	1.8nm,0.8s,baz=125,slow=1.9,SNR=4.7						
ASAR				sPKP		13 52 01.6	
	1.3nm,0.7s,baz=127,slow=2.0,SNR=6.4						
WB2	**Warramunga Arr**	**138.12**	**234**	*e*P	PKPdf	13 51 38.6	+0.9
WRA	**Warramunga Arr**	**138.12**	**234**	PKP	PKPdf	13 51 38.4	+0.7
	2.8nm,0.8s,baz=118,slow=1.9,SNR=20						
WRA				pPKP		13 51 57.6	
	2.2nm,0.8s,baz=113,slow=2.2,SNR=4.5						
WRA				sPKP		13 52 04.8	
	2.5nm,0.7s,baz=112,slow=2.2,SNR=8.1						
WMQ	**Urumqi**	**139.28**	**13**	PKP	PKPdf	13 51 41.1	+1.9
WMQ				XPKP		13 52 09.1	
WMQ				PP	PP	13 54 39.6	+2.4
WMQ				PP	PP		
	comp=Z,140nm,4.6s						
WMQ				LR	LR		
	comp=N,52nm,26.0s						
WMQ				LR	LR		
	comp=E,28nm,24.0s						
WMQ				LR	LR		
	comp=Z,34nm,25.2s						
JOW	**Kunigami**	**144.52**	**312**	PKP	PKPdf	13 51 48.4	-0.5
	comp=Z,29nm,1.0s,baz=73,slow=12,SNR=3.4						
JOW				pPKP		13 52 08.2	
	comp=Z,17nm,0.7s,baz=271,slow=12,SNR=3.3						
GTA	**Gaotai**	**145.05**	**360**	*e*PKP	PKPdf	13 51 49.6	+0.1
GTA	**Gaotai**	**145.05**	**360**	*e*P		13 52 08.7	
GTA				AP		13 52 17.0	
GTA				XP		13 52 21.6	
FITZ	**Fitzroy Crossi**	**145.93**	**228**	*e*P	PKPdf	13 51 54.0	+2.4
	comp=Z,23nm,0.8s						
FITZ				*i*		13 52 12.9	
FITZ	**Fitzroy Crossi**	**145.93**	**228**	PKPbc	PKPbc	13 51 53.1	+0.5
	comp=Z,32nm,0.8s,baz=165,slow=3.3,SNR=25						
FITZ				pPKPbc		13 52 13.0	
	comp=Z,20nm,0.8s,baz=240,slow=1.4,SNR=6.2						
XAN	**Xi'an**	**149.13**	**345**	PKP	PKPdf	13 52 01.0	+4.6
XAN				APKP		13 52 19.7	
ENH	**Enshi**	**152.49**	**341**	*e*PKPdf	PKPdf	13 52 02.2	+0.6
ENH				*e*PKPbc	PKPdf	13 52 08.5	+6.9
ENH				*e*pPKPbc		13 52 28.4	
CMAR	**Chiang Mai Arr**	**165.92**	**2**	PKP	PKPdf	13 52 18.6	+1.3
	comp=Z,1.6nm,0.9s,baz=307,slow=2.1,SNR=9.2						
CMAR				pPKP		13 52 37.5	
	comp=Z,1.5nm,0.9s,baz=297,slow=1.6,SNR=4.0						
CMAR				PKPab	PKPab	13 53 17.4	-2.2
	comp=Z,1.3nm,0.9s,baz=332,slow=3.5,SNR=4.2						
CMAR				pPKPab		13 53 36.5	
	comp=Z,4.6nm,0.7s,baz=334,slow=5.0,SNR=16						

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*NEIC **09** 13:36:01.0, 10.22N×69.73W, h12km, MD4.0(CAR), After CAR.*
FUNV 09 13:36:01.0, 10.22N×69.73W, h12km, MW3.3, 2C-3D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.30**	**229**	⇑*i*P	Pg	13 36 06.7	-0.8
CURV				*e*S	Sg	13 36 11.8	0.0
SIQV	**Siquisique**	**0.44**	**350**	⇓*i*P	Pg	13 36 08.7	-1.4
SIQV				*i* S	Sg	13 36 16.1	0.0
TEPV	**Terepaima**	**0.58**	**115**	⇓*i*P	Pb	13 36 11.6	-1.0
TEPV				*e*S	Sb	13 36 19.9	-0.6
SANV	**Sanarito**	**0.73**	**165**	⇓*i*P	Pb	13 36 14.9	-0.3
SANV				*e*S	Sb	13 36 25.4	+0.5
QARV	**Quebrada Arrib**	**0.78**	**269**	⇑*i*P	Pb	13 36 16.3	+0.3
DABV	**Dabajuro**	**1.14**	**308**	*e*S	Sb	13 36 36.6	0.0
JACV	**Jacura**	**1.24**	**45**	*e*P	Pb	13 36 24.1	+0.4
JACV				*e*S	Sb	13 36 40.4	+0.9
SDV	**Santo Domingo**	**1.59**	**214**	*e*Pn	Pn	13 36 30.4	+1.2
SDV				*e*S	Sn	13 36 53.9	+4.1
MONV	**Montecano**	**1.75**	**352**	*e*P	Pn	13 36 30.8	-0.6
MONV				*e*S	Sn	13 36 52.9	-0.7
TURV	**Turiamo**	**1.87**	**83**	*e*P	Pn	13 36 31.9	-1.2
TURV				*e*S	Sn	13 36 55.0	-1.8
IMOV	**Isla Los Monje**	**2.42**	**332**	*e*P	Pn	13 36 39.1	-1.9
IMOV				*e*S	Sn	13 37 08.2	-2.6
FUNV	**FUNVISIS**	**2.88**	**85**	*e*P	Pn	13 36 46.3	-1.3
LLAV	**El Llanito**	**2.88**	**85**	*e*P	Pn	13 36 46.3	-1.3
CAOV	**Caicara del Or**	**4.42**	**130**	*e*P	Pn	13 37 06.9	-2.7
CAOV				*e*S	Sn	13 37 54.7	-6.8
SJG	**San Juan**	**8.58**	**23**	*e*P	P	13 38 06.8	-1.2

NEIC 09 13:42:28.3, 51.33N×177.23W, h20km, ML2.5(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.43**	**359**	P	Pb	13 42 36.8	-0.3
KIMD				S	Sb	13 42 43.5	+0.3
KIWB	**Kanaga Island**	**0.53**	**5**	P	Pb	13 42 38.0	-0.7
KIWB				S	Sb	13 42 45.9	+0.1
KIRH	**Kanaga Island**	**0.58**	**8**	P	Pb	13 42 38.9	-0.7
KIRH				S	Sb	13 42 46.4	-0.8
GSMY	**Great Sitkin M**	**1.02**	**45**	P	Pb	13 42 45.4	-1.7
ATKA	**Atka Island**	**2.08**	**64**	P	Pn	13 43 00.7	-1.9

IDC 09 13:42:45.9±1.4, 2.33N×126.67E, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=105.6km s-min=20.2km az=72.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.33**	**183**	P	P	13 47 25.7	-0.8
	2.3nm,0.6s,baz=14,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**23.38**	**162**	P	P	13 47 55.6	-1.7
	0.9nm,0.4s,baz=339,slow=11,SNR=34						

IXG Ixpaco 1.50 82⇓ eP P 14 06 52.8 -0.5
IXG eS S 14 07 10.8 -1.1
IXG AML AML 14 07 15.0
comp=E,51μm,0.6s
RBDL Robledal 2.23 86⇓ eP P 14 07 00.9 -2.7
RBDL eS S 14 07 31.7 +1.8
RTR El Retiro 2.27 92⇓ eP P 14 07 04.5 +0.4
CCIG Comitan 2.29 356 i P P 14 07 04.6 +0.2
CCIG eS S 14 07 32.9 +1.5
CCIG Comitan 2.29 356⇑ i P P 14 07 04.6 +0.2
CCIG eS S 14 07 32.8 +1.4
SBLS San Blas 2.30 93⇑ eP P 14 07 04.6 +0.1
SBLS eS S 14 07 31.9 +0.4
SNJE San Jose 2.31 92⇑ eP P 14 07 05.0 +0.3
SNJE eS S 14 07 33.0 +1.1
BOQS Boqueron 2.64 95⇑ eP P 14 07 09.6 +0.3
BOQS eS S 14 07 39.8 -0.4
SNET Serv Nac Est T 2.69 96 eP P 14 07 10.8 +0.7
SNET eS S 14 07 40.9 -0.6
SNET i 14 07 43.3
comp=Z,2μm,0.2s
SCX San Cristobal 2.81 347 eP P 14 07 13.5 +1.8
SCX i S S 14 07 45.0 +0.5
LFRS El Faro 2.86 97⇓ eP P 14 07 12.7 +0.3
LFRS eS S 14 07 45.0 -0.8
LBRS Las Brisas 2.87 94 eP P 14 07 12.3 -0.2
LBRS eS S 14 07 47.2 +1.3
LCBS La Ceiba 2.94 96⇑ eP P 14 07 13.6 +0.1
LCBS eS S 14 07 49.0 +1.3
SNVI San Vicente 3.08 96 eP P 14 07 15.7 +0.2
SNVI eP 14 07 16.1
SNVI eS S 14 07 51.8 +0.5
SNVI eS S 14 07 52.9 +1.6
CAHU Cacacuatique 3.67 93 eP P 14 07 23.2 -0.6
BLLM Bellamira 3.68 98⇑ eP P 14 07 25.5 +1.5
BLLM eS S 14 08 06.7 +0.2
CNCH Conchagua 4.10 99 eP P 14 07 29.4 -0.4
CMIG Matias Romero 4.17 318 eP P 14 07 30.2 -0.6
CMIG eS S 14 08 17.3 -1.3
EVV El Vigia 5.50 324 eP P 14 07 50.0 +0.7
EVV eS S 14 08 54.0 +2.0
OXX Oaxaca 5.51 305 eP P 14 07 55.0 +5.5
OXX eS S 14 08 53.0 +0.7
VHO Vista Hermosa 5.51 304 eP P 14 07 56.0 +6.5
VHO eS S 14 08 49.0 -3.4
VHO Vista Hermosa 5.51 304 eP P 14 07 48.5 -1.0
VHO eS S 14 08 49.5 -2.8
TEIG Tepich 7.15 29 eP P 14 08 08.8 -3.7
comp=Z,51nm,0.6s
JTS JuntasAbangare 7.79 117 P P 14 08 21.9 +0.6
comp=Z,2.4nm,0.3s,baz=313,slow=19,SNR=8.5
JTS S S 14 09 53.2 +4.2
comp=Z,0.9nm,0.3s,baz=312,slow=22,SNR=2.1
PPM Popocatepetl 8.13 309 eP P 14 08 31.0 +5.1
TXAR Lajitas Array 18.72 327 P P 14 10 44.6 +0.1
comp=Z,0.1nm,0.3s,baz=157,slow=11,SNR=25
TXAR ScP 14 18 44.1
comp=Z,0.0nm,0.3s,baz=149,slow=5.3,SNR=4.8
TXAR LR LR 14 19 07.4
comp=Z,51nm,19.0s,baz=20,slow=40
LRAL Lakeview Retre 19.50 13 eP P 14 10 52.7 -0.5
comp=Z,20nm,1.4s
GDL2 Guadalupe Moun 21.38 330 eP P 14 11 12.1 -0.5
MNTX Cornudas Mount 21.49 327 eP P 14 11 12.6 -1.1
comp=Z,3.5nm,0.7s,mb3.8
SDV Santo Domingo 21.53 101 P P 14 11 10.6 -3.6
comp=Z,1.2nm,0.3s,mb3.7,baz=347,slow=11,SNR=3.9
BNM Barren Site 24.07 329 eP P 14 11 40.4 +1.4
ANMO Albuquerque 24.63 330 P P 14 11 44.5 +0.1
comp=Z,0.5nm,0.4s,mb3.4,baz=146,slow=12,SNR=3.9
SJG San Juan 25.16 77 LR LR 14 20 53.0
comp=Z,38nm,21.0s,MS2.9,baz=276,slow=35
PDAR Pinedale Array 32.44 336 P P 14 12 55.5 +0.6
comp=Z,0.2nm,0.6s,mb3.2,baz=135,slow=8.9,SNR=2.7
NVAR Mina Array Bea 33.70 321 P P 14 13 07.0 +1.3
comp=Z,2.3nm,0.7s,mb4.2,baz=125,slow=9.1,SNR=8.3
NVAR pP pP 14 13 22.4 +1.8
comp=Z,1.9nm,0.6s,baz=131,slow=9.6,SNR=5.1
SIV San Ignacio 42.67 133 P P 14 14 20.5 -0.5
comp=Z,2.9nm,0.8s,mb4.1,baz=313,slow=9.0,SNR=17
SCHQ Schefferville 45.23 20 LR LR 14 34 35.5
comp=Z,83nm,18.8s,MS3.7,baz=312,slow=38
CFAA Coronel Fontan 50.73 154 P P 14 15 24.1 -0.3
comp=Z,0.3nm,0.3s,mb3.7,baz=315,slow=4.3,SNR=4.8
YKA Yellowknife Ar 51.05 347 P P 14 15 22.6 -3.6
comp=Z,0.4nm,0.6s,mb3.5,baz=148,slow=7.8,SNR=10.0
YKA pP pP 14 15 38.5 -3.2
comp=Z,0.7nm,0.7s,baz=150,slow=7.6,SNR=9.2
YKA PcP PcP 14 16 38.7 -2.9
comp=Z,0.4nm,0.7s,baz=150,slow=4.1,SNR=6.9
YKA Yellowknife Ar 51.05 347 P P 14 15 22.6 -3.6
YKA pP pP 14 15 38.5 -3.2
YKA PcP PcP 14 16 38.7 -2.9
BDFB Brasilia 52.50 123 LR LR 14 39 37.9
comp=Z,78nm,18.2s,MS3.8,baz=33,slow=38
ILAR Eielson Array 62.86 337 P P 14 16 47.5 -2.6
comp=Z,2.1nm,0.9s,mb4.2,baz=122,slow=4.7,SNR=16
ILAR pP pP 14 17 04.4 -1.6
comp=Z,1.9nm,1.0s,baz=129,slow=4.6,SNR=6.9
CMAR Chiang Mai Arr 146.01 341 PKPbc PKPbc 14 26 02.6 +0.2
comp=Z,5.5nm,0.8s,baz=340,slow=3.8,SNR=33
CMAR pPKPbc 14 26 20.2
comp=Z,2.7nm,0.8s,baz=342,slow=4.1,SNR=6.6

*IDC **09** 14:07:39.7±1.3, 1.34N×96.85E, mb4.0/8, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, ML3.7/1, MS2.9/1, Ms1 3.1/1, ms1mx2.8/23, Error ellipse: s-maj=47.9km s-min=25.7km az=50.0*
*NEIC **09** 14:07:44.5±1.0, 1.49N×97.04E, h30km, mb4.1/2, Error ellipse: s-maj=20.0km s-min=18.7km az=196.0*
ISC 09 14:07:42.7±1.1, 1.5N±0.1×97.0E±0.1, h30km, n14, σ0§92/14, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.24**	**44**	eP	**Pn**	**14 09 00.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.97**	**6**	P	**P**	**14 11 40.6**	**+0.9**
CMAR	0.1nm,0.3s,baz=198,slow=11,SNR=8.3			LR	LR	14 18 33.1	
	comp=Z,40nm,20.1s,baz=236,slow=38						
ENH	**Enshi**	**30.98**	**21**	eP	**P**	**14 13 56.6**	**-3.1**
WRA	**Warramunga Arr**	**42.36**	**122**	P	**P**	**14 15 36.4**	**+0.2**
	0.2nm,0.3s,mb3.2,baz=304,slow=9.1,SNR=4.3						
SONM	**Songino Array**	**46.87**	**9**	P	**P**	**14 16 12.6**	**+0.5**
	3.7nm,1.0s,mb4.3,baz=189,slow=9.2,SNR=24						
MKAR	**Makanchi Array**	**46.91**	**346**	P	**P**	**14 16 13.3**	**+0.9**
	2.7nm,0.7s,mb4.3,baz=160,slow=8.3,SNR=32						
MKAR	**Makanchi Array**	**46.91**	**346**	P	**P**	**14 16 13.3**	**+0.9**
KURK	**Kurchatov**	**51.46**	**345**	eP	**P**	**14 16 46.1**	**-1.3**
	0.5nm,0.4s,mb3.8						
ZAL	**Zalesovo**	**53.23**	**351**	P	**P**	**14 17 01.1**	**+0.5**
	1.2nm,0.4s,mb4.2,baz=294,slow=4.4,SNR=5.4						
CHKZ	**Chkalovo**	**56.39**	**341**	eP	**P**	**14 17 22.3**	**-1.3**
	2.1nm,0.6s,mb4.3						
BRTR	**Keskin Array B**	**68.77**	**312**	P	**P**	**14 18 46.1**	**-0.1**
	0.3nm,0.6s,mb3.4,baz=135,slow=4.1,SNR=2.9						
AKASG	**Malin Array Be**	**74.91**	**322**	P	**P**	**14 19 22.1**	**-0.5**
	0.5nm,0.3s,mb3.9,baz=94,slow=4.9,SNR=8.0						
FINES	**FINESS Array B**	**79.65**	**333**	P	**P**	**14 19 49.1**	**+0.4**
	1.9nm,1.0s,mb4.0,baz=104,slow=7.9,SNR=4.8						
ARCES	**ARCESS Array B**	**82.20**	**340**	P	**P**	**14 20 03.0**	**+1.1**
	8.3nm,1.1s,mb4.6,baz=80,slow=5.5,SNR=3.1						

*IDC **09** 14:23:35.9±2.1, 8.71S×130.60E, mb3.5/1, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/14, Error ellipse: s-maj=72.0km s-min=26.8km az=78.0*
ISC 09 14:23:40.5±4.3, 8.9S±0.1×130.4E±0.1, h51km±47km, n5, σ0§42/7, mb3.4/1, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.23**	**207**	Pn	**P**	**14 26 07.8**	**+0.3**
	0.8nm,0.3s,baz=36,slow=10,SNR=22						
FITZ				Sn	**S**	**14 28 01.6**	**-0.2**
	1.1nm,0.3s,baz=170,slow=12,SNR=5.7						
WRA	**Warramunga Arr**	**11.56**	**161**	Pn	**P**	**14 26 25.1**	**-0.5**
	0.3nm,0.3s,baz=346,slow=13,SNR=17						
WRA				Sn	**S**	**14 28 34.4**	**+0.2**
	0.3nm,0.3s,baz=330,slow=22,SNR=6.9						
ASAR	**Alice Springs**	**15.01**	**168**	Pn	**P**	**14 27 11.4**	**+0.3**
	0.2nm,0.3s,baz=333,slow=8.1,SNR=11						
ASAR				Sn	**S**	**14 30 02.6**	**+6.2**
	0.1nm,0.3s,baz=327,slow=16,SNR=4.1						
CTA	**Charters Tower**	**18.88**	**128**	LR	LR	14 35 03.6	
	comp=Z,82nm,20.5s,baz=67,slow=36						
MKAR	**Makanchi Array**	**70.08**	**327**	P	**P**	**14 34 49.3**	**0.0**
	0.2nm,0.4s,mb3.4,baz=121,slow=7.2,SNR=5.6						

*MOS **09** 14:35:14.1±1.9, 42.96N×47.01E, h15km, mb4.2/1, Error ellipse: s-maj=10.8km s-min=7.6km az=97.9*
MOS Felt (IV) at Bujnaksk; (III) at Karanai.
*CSEM **09** 14:35:14.1±0.1, 42.96N×47.01E, h15km, mb4.2, Error ellipse: s-maj=2.4km s-min=1.8km az=26.0, After OBN*
*TIF **09** 14:35:17.2, 42.85N×47.14E, h6km*
ISC 09 14:35:16.0±0.4, 42.87N±0.03×47.02E±0.03, h10km, n32, σ1§21/57, 4C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUJR	**Buynaksk**	**0.08**	**125**	i Pg	**Pg**	**14 35 18.3**	**-0.1**
DBC	**Dubki**	**0.20**	**317**	i PG	**Pg**	**14 35 19.2**	**-1.2**
DBC				i S	**Sg**	**14 35 24.2**	**+0.9**
DBC				pmax	pmax		
	comp=Z,989nm,0.1s						
DBC	**Dubki**	**0.20**	**317**	i Pg	**Pg**	**14 35 19.2**	**-1.2**
	comp=Z,989nm,0.1s						
DBC				i Sg	**Sg**	**14 35 24.2**	**+0.9**
MAK	**Makhachkala**	**0.37**	**76**	ePg	**Pg**	**14 35 24.5**	**+0.9**
MAK				i Sg	**Sg**	**14 35 31.1**	**+2.4**
XNZR	**Khunzakh**	**0.40**	**215**	ePg	**Pg**	**14 35 24.0**	**-0.2**
XNZR				eSg	**Sg**	**14 35 32.0**	**+2.3**
GNBR	**Gunib**	**0.49**	**184⇑**	i PG	**Pg**	**14 35 25.0**	**-0.8**
GNBR				i S	**Sg**	**14 35 31.3**	**-1.1**
GNBR				pmax	pmax		
	comp=Z,305nm,0.2s						
GNBR	**Gunib**	**0.49**	**184**	i Pg	**Pg**	**14 35 25.0**	**-0.8**
	comp=Z,305nm,0.2s						
GNBR				i Sg	**Sg**	**14 35 31.3**	**-1.1**
BTLR	**Botlikh**	**0.62**	**251**	ePG	**Pg**	**14 35 27.5**	**-1.0**
BTLR				i S	**Sg**	**14 35 38.0**	**+1.1**
BTLR				pmax	pmax		
	comp=Z,286nm,0.2s						
BTLR	**Botlikh**	**0.62**	**251**	ePg	**Pg**	**14 35 27.5**	**-1.0**
	comp=Z,286nm,0.2s						
BTLR				i Sg	**Sg**	**14 35 38.0**	**+1.1**
URKR	**Urkarakh**	**0.84**	**147**	ePg	**Pg**	**14 35 31.0**	**-1.9**
URKR				eSg	**Sg**	**14 35 43.0**	**-1.2**
DRN	**Derbent**	**1.29**	**130**	ePG	**Pg**	**14 35 40.5**	**-1.2**
DRN				eS	**Sb**	**14 35 57.0**	**+0.7**
AKT	**Akhty**	**1.49**	**159⇑**	i PG	**Pg**	**14 35 41.3**	**-4.5**
AKT				eS	**Sb**	**14 36 02.0**	**-0.2**
AKT				pmax	pmax		
	comp=Z,242nm,0.3s						
AKT	**Akhty**	**1.49**	**159**	i Pg	**Pg**	**14 35 41.3**	**-4.5**
	comp=Z,242nm,0.3s						
AKT				eSg	**Sb**	**14 36 02.0**	**-0.2**
KSMR	**Kasumkent**	**1.52**	**147**	ePG	**Pg**	**14 35 45.5**	**-0.8**
KSMR				S	**Sg**	**14 36 08.5**	**+2.0**
KSMR				pmax	pmax		
	comp=Z,488nm,0.3s						
KSMR	**Kasumkent**	**1.52**	**147**	ePg	**Pg**	**14 35 45.5**	**-0.8**
	comp=Z,488nm,0.3s						
KSMR				Sg	**Sg**	**14 36 08.5**	**+2.0**
DGRG	**David-gareji**	**1.87**	**221**	P	**Pn**	**14 35 53.5**	**+5.0**
DGRG				S	**Sn**	**14 36 22.3**	**+10**
MTA	**Mtatsminda**	**2.03**	**235**	P	**Pn**	**14 35 55.9**	**+5.3**
MTA				S	**Sn**	**14 36 25.4**	**+9.2**
TI2	**Plekhanov**	**2.03**	**237⇑**	iPN	**Pn**	**14 35 56.0**	**+5.3**
TI2				eS	**Sg**	**14 36 24.2**	**+0.6**
TI2				i		14 36 27.0	
TI2				pmax	pmax		
	comp=Z,40nm,0.4s						
TI2				pmax	pmax		
	comp=N,90nm,0.6s						
TI2	**Plekhanov**	**2.03**	**237**	i Pn	**Pn**	**14 35 56.0**	**+5.3**
	comp=N,40nm,0.4s						
TI2				eSg	**Sg**	**14 36 24.2**	**+0.6**
	comp=N,90nm,0.6s						
TI2				i Sb	**Sb**	**14 36 27.0**	**+9.1**
TBLG	**Delisi**	**2.04**	**237**	P	**Pn**	**14 35 55.8**	**+5.0**
TBLG				S	**Sn**	**14 36 25.5**	**+9.0**
ZEI	**Tsey**	**2.29**	**268**	ePN	**Pn**	**14 35 56.5**	**+2.0**
ZEI				e		14 36 30.9	
ZEI				pmax	pmax		
	comp=Z,26nm,0.2s						
ZEI				smax			
	comp=E,89nm,0.3s						
ZEI	**Tsey**	**2.29**	**268**	ePn	**Pn**	**14 35 56.5**	**+2.0**
	comp=E,26nm,0.2s						
ZEI				eSg	**Sg**	**14 36 30.9**	**-1.6**
GNI	**Garni**	**3.21**	**213**	i Pn	**Pn**	**14 36 08.1**	**+0.5**
KIV	**Kislovodsk**	**3.33**	**290**	ePN	**Pn**	**14 36 10.0**	**+0.7**
KIV				e		14 36 18.1	
KIV				e		14 36 45.2	
KIV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIV	**Kislovodsk**	**3.33**	**290**	ePn	**Pn**	**14 36 10.0**	**+0.7**
	comp=Z,2.0nm,0.9s						
KIV	**Kislovodsk**	**3.33**	**290**	ePg	**Pg**	**14 36 18.1**	**-4.5**
	comp=Z,3.0nm,0.8s						
KIV				eSn	**Sn**	**14 36 45.2**	**-4.2**
GOF	**Gofitskoye**	**3.61**	**309⇑**	iPN	**Pg**	**14 36 27.7**	**-0.4**
GOF				i S	**Sg**	**14 37 15.5**	**-0.7**
GOF				pmax	pmax		
	comp=Z,20nm,1.0s						
GOF				smax			
	comp=N,180nm,1.0s						
GOF	**Gofitskoye**	**3.61**	**309**	i Pn	**Pg**	**14 36 27.7**	**-0.4**
	comp=N,20nm,1.0s						
GOF				i Sg	**Sg**	**14 37 15.5**	**-0.7**
	comp=N,180nm,1.0s						
ARU	**Arti**	**15.46**	**25**	eP	**P**	**14 38 50.6**	**-5.0**
ARU				eS	**S**	**14 41 40.1**	**-7.3**
SVE	**Sverdlovsk**	**16.45**	**27**	eP	**P**	**14 39 07.1**	**-1.2**
SVE				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SVE	**Sverdlovsk**	**16.45**	**27**	eP	**P**	**14 39 07.1**	**-1.2**
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**25.19**	**69**	i P	**P**	**14 40 44.3**	**+1.4**

*IDC **09** 14:35:22.2±2.9, 2.47N×95.97E, mb3.8/5, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, MS3.4/2, Ms1 3.5/2, ms1mx2.9/39, Error ellipse: s-maj=111.3km s-min=21.4km az=61.0*
*NEIC **09** 14:35:26.9±1.0, 2.49N×96.07E, h30km, mb4.0/1, Error ellipse: s-maj=21.9km s-min=13.1km az=59.0*
ISC 09 14:35:24.9±1.2, 2.5N±0.1×96.1E±0.2, h30km, n9, σ0§72/8, mb3.8/6, MS3.7/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.36**	**59**	eP	**Pn**	**14 36 44.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**16.11**	**10**	Pn	**P**	**14 39 12.7**	**+1.6**
CMAR	baz=198,slow=11,SNR=6.8			LR	LR	14 46 13.4	
	comp=Z,89nm,18.9s,baz=200,slow=40						
WRA	**Warramunga Arr**	**43.69**	**122**	P	**P**	**14 43 29.7**	**+0.4**
	0.6nm,0.7s,mb3.4,baz=300,slow=9.3,SNR=5.2						
ASAR	**Alice Springs**	**45.09**	**127**	P	**P**	**14 43 40.8**	**+0.3**
	0.2nm,0.6s,mb3.1,baz=302,slow=7.2,SNR=3.8						
MKAR	**Makanchi Array**	**45.72**	**347**	P	**P**	**14 43 45.3**	**+0.1**
	1.3nm,0.4s,mb4.2,baz=159,slow=8.9,SNR=60						
SONM	**Songino Array**	**46.04**	**10**	P	**P**	**14 43 47.3**	**-0.4**
	1.1nm,0.7s,mb3.9,baz=190,slow=9.5,SNR=12						
ZAL	**Zalesovo**	**52.10**	**352**	P	**P**	**14 44 34.1**	**-0.3**
	1.1nm,0.4s,mb4.1,baz=302,slow=2.8,SNR=5.2						
CTA	**Charters Tower**	**54.11**	**117**	LR	LR	15 08 20.3	
	comp=Z,65nm,20.9s,MS3.7,baz=56,slow=36						
CHKZ	**Chkalovo**	**55.14**	**342**	eP	**P**	**14 44 56.0**	**-0.8**
	0.6nm,0.4s,mb4.0						

*NEIC **09** 14:42:26.5, 35.01S×70.55W, h3km, ML2.8(GUC), After GUC.*
GUC 09 14:42:26.5±0.8, 35.01S×70.55W, h3km, MD3.5, ML2.8, 8C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.55**	**316⇓**	iP	Pg	14 42 37.5	+0.1
SFDO				i S	Sg	14 42 46.0	+1.3
NICH	**Los Niches**	**0.56**	**270⇑**	iP	Pg	14 42 37.5	-0.1
NICH				i S	Sg	14 42 46.6	+1.6
CICH	**Cipreses**	**0.69**	**9⇓**	iP	Pg	14 42 39.2	-1.2
CICH				i S	Sg	14 42 49.3	-0.4
CACH	**El Canelo**	**0.89**	**358⇑**	iP	Pb	14 42 42.8	-1.4
CACH				i S	Sg	14 42 56.0	-0.1
CHCH	**Chadas Angostu**	**1.07**	**356⇓**	iP	Pb	14 42 46.2	-1.2
CHCH				i S	Sb	14 43 02.0	+0.4
LMEL	**Las Melosas**	**1.19**	**14⇑**	iP	Pb	14 42 47.9	-1.5
LMEL				i S	Sb	14 43 04.9	-0.2
LMEL				AMP		14 43 06.4	
	comp=N,295nm,0.2s						
LNV	**Longovilo**	**1.27**	**326⇑**	iP	Pb	14 42 49.4	-1.2
LNV				i S	Sb	14 43 07.5	+0.3
PCH	**Pirque**	**1.38**	**1⇑**	iP	Pb	14 42 51.7	-1.0
PCH				i S	Sb	14 43 11.1	+0.5
TACH	**Talagante**	**1.39**	**347⇓**	iP	Pb	14 42 51.5	-1.3
TACH				i S	Sb	14 43 11.1	+0.3
ANTU	**Antumapu**	**1.44**	**357**	i P	Pn	14 42 52.7	-0.8
ANTU				i S	Sb	14 43 12.4	+0.2
ANTU				AMP		14 43 14.2	
	comp=E,289nm,0.5s						
RCDM	**Rinconada Maip**	**1.53**	**352⇓**	iP	Pn	14 42 54.1	-0.7
RCDM				i S	Sb	14 43 15.2	+0.4
RCDM				AMP		14 43 16.9	
	comp=E,372nm,0.2s						
CLCH	**Cerro Calan**	**1.61**	**1⇑**	iP	Pn	14 42 55.6	-0.4
CLCH				i S	Sb	14 43 17.8	+0.6
CLCH				AMP		14 43 19.7	
	comp=E,210nm,0.5s						
FCH	**Farellones**	**1.69**	**7⇓**	iP	Pn	14 42 57.2	0.0
FCH				i S	Sb	14 43 20.5	+0.9
FCH				AMP		14 43 21.5	
	comp=E,178nm,0.2s						
LCCH	**Las Cruces**	**1.75**	**331⇑**	iP	Pn	14 42 57.6	-0.3
ROCH	**El Roble**	**2.07**	**349⇑**	iP	Pn	14 43 03.1	+0.5
JACH	**Jahuel**	**2.32**	**359**	eP	Pn	14 43 07.3	+1.1
JACH				i S	Sn	14 43 38.2	+2.7

IDC 09 14:45:12.3±6.1, 1.88N×99.21E, mb3.2/3, mb1 3.4/3, mb1mx3.2/19, mbtmp3.2/3, Error ellipse: s-maj=329.2km s-min=29.1km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.72**	**124**	P	P	14 52 54.4	-2.2
	0.4nm,0.8s,baz=304,slow=8.7,SNR=3.9						
ASAR	**Alice Springs**	**42.23**	**129**	P	P	14 53 08.1	-1.0
	0.2nm,0.6s,baz=296,slow=8.2,SNR=4.6						
MKAR	**Makanchi Array**	**47.11**	**344**	P	P	14 53 46.0	-1.9
	0.2nm,0.5s,baz=153,slow=8.7,SNR=5.0						

IDC 09 14:59:55.0±3.4, 0.05N×96.70E, mb3.8/3, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, ML3.7/1, MS4.1/1, Ms1 4.1/1, ms1mx3.1/34, Error ellipse: s-maj=128.8km s-min=27.4km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.42**	**7**	P	P	15 04 12.2	-1.6
	0.1nm,0.3s,baz=194,slow=9.9,SNR=5.0						
WRA	**Warramunga Arr**	**41.87**	**121**	P	P	15 07 47.2	-1.6
	0.4nm,0.8s,baz=303,slow=9.0,SNR=2.9						
MKAR	**Makanchi Array**	**48.23**	**347**	P	P	15 08 37.3	-2.2
	0.5nm,0.5s,baz=165,slow=9.4,SNR=9.3						
CBIJ	**Chichi jima**	**51.28**	**55**	LR	LR	15 27 18.1	
	comp=Z,184nm,19.6s,baz=315,slow=32						
ZAL	**Zalesovo**	**54.60**	**351**	P	P	15 09 25.0	-2.4
	1.7nm,0.3s,baz=330,slow=2.1,SNR=5.8						

*IDC **09** 15:11:40.0±0.6, 53.54S×24.93E, mb4.2/14, mb1 4.3/14, mb1mx4.2/21, mbtmp4.2/14, MS4.4/5, Ms1 4.3/5, ms1mx4.1/27, Error ellipse: s-maj=21.4km s-min=14.3km az=82.0*
*NEIC **09** 15:11:41.3±0.5, 53.45S×25.07E, h10km, mb4.7/13, Error ellipse: s-maj=15.4km s-min=9.3km az=90.0*
ISC 09 15:11:39.9±0.4, 53.50S±0.06×24.8E±0.2, h10km, n35, σ1§03/37, mb4.4/21, MS4.2/5, 3C, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**21.30**	**351**	P	**P**	**15 16 30.3**	**+1.5**
	17nm,0.8s,mb4.4,baz=158,slow=12,SNR=16						
SUR				LR	LR	15 22 38.1	
	comp=Z,1μm,21.1s,MS4.2,baz=30,slow=31						
SUR	**Sutherland**	**21.30**	**351**	eP	**P**	**15 16 29.9**	**+1.1**
	27nm,0.8s,mb4.6						
SNAA	**Sanae**	**21.85**	**203**		**P**	**15 16 36.0**	**+2.0**
SNAA	**Sanae**	**21.85**	**203⇑**	i	**P**	**15 16 45.5**	**+11**
SNAA	**Sanae**	**21.85**	**203**	P	**P**	**15 16 34.7**	**+0.7**
	8.4nm,0.9s,mb4.2,baz=58,slow=8.7,SNR=20						
SNAA				S	**S**	**15 20 29.1**	**-1.2**
	0.3nm,0.4s,slow=20,SNR=3.1						
SNAA	**Sanae**	**21.85**	**203**	eP	**P**	**15 16 33.8**	**-0.2**
	31nm,0.8s,mb4.8						
VNA2	**Neumayer--Watz**	**22.55**	**207**		**P**	**15 16 44.1**	**+3.3**
VNA2	**Neumayer--Watz**	**22.55**	**207⇑**	i	**P**	**15 16 54.8**	**+14**
MAW	**Mawson**	**22.94**	**143**	P	**P**	**15 16 45.3**	**+0.6**
	12nm,0.8s,mb4.3,baz=288,slow=11,SNR=8.4						
MAW				S	**S**	**15 20 51.4**	**+1.3**
	2.2nm,0.5s,baz=170,slow=17,SNR=3.6						
MAW				LR	LR	15 24 04.0	
	comp=Z,562nm,19.6s,MS4.0,baz=290,slow=32						
MAW	**Mawson**	**22.94**	**143**	eP	**P**	**15 16 44.6**	**-0.1**
	20nm,1.0s,mb4.5						
VNA3	**Neumayer Olymp**	**23.34**	**208**		**P**	**15 16 52.5**	**+3.9**
VNA3	**Neumayer Olymp**	**23.34**	**208⇑**	i	**P**	**15 17 03.2**	**+15**
BOSA	**Boshof**	**24.86**	**1**	P	**P**	**15 17 05.1**	**+1.3**
	3.9nm,1.0s,mb3.9,baz=189,slow=7.1,SNR=4.5						
BOSA				LR	LR	15 24 45.6	
	comp=Z,676nm,20.4s,MS4.1,baz=177,slow=32						
BOSA	**Boshof**	**24.86**	**1**	eP	**P**	**15 17 03.1**	**-0.7**
	9.8nm,1.1s,mb4.2						
LBTB	**Lobatse**	**28.45**	**2**	P	**P**	**15 17 36.5**	**-0.4**
	1.6nm,0.6s,mb3.8,baz=217,slow=2.8,SNR=3.9						
LBTB				LR	LR	15 27 03.6	
	comp=Z,672nm,18.2s,MS4.3,baz=196,slow=32						
LBTB	**Lobatse**	**28.45**	**2**	eP	**P**	**15 17 33.2**	**-3.6**
	5.9nm,0.9s,mb4.2						
MATP	**Matopo**	**33.14**	**6**	P	**P**	**15 18 17.4**	**-0.9**
	3.6nm,0.5s,mb4.5,baz=185,slow=9.4,SNR=15						
MATP	**Matopo**	**33.14**	**6**	P	**P**	**15 18 17.4**	**-0.9**
TSUM	**Tsumeb**	**34.68**	**348**	P	**P**	**15 18 33.2**	**+1.5**
	1.5nm,0.5s,mb4.2,baz=157,slow=7.7,SNR=7.0						
QSPA	**South Pole Qui**	**36.72**	**180**	eP	**P**	**15 18 47.7**	**-0.7**
	10nm,0.7s,mb4.8						
LSZ	**Lusaka**	**38.23**	**5**	eP	**P**	**15 19 00.8**	**-0.8**
	6.7nm,1.2s,mb4.2

CRAAG ***09*** *15:16:24.9, 56.26N×154.43W, Mb5.8*
IDC ***09*** *15:16:25.8±0.3, 56.23N×154.54W, mb5.6/29, mb1 5.7/31, mb1mx5.7/31, mbtmp5.6/31, ML5.0/2, MS5.7/24, Ms1 5.7/24, ms1mx5.5/35, Error ellipse: s-maj=11.9km s-min=7.6km az=11.0*
MOS ***09*** *15:16:25.6±0.9, 56.20N×154.52W, h10km, mb6.1/88, MS5.8/32, Error ellipse: s-maj=7.8km s-min=3.8km az=91.8*
BJI ***09*** *15:16:26.8, 56.23N×155.26W, h14km, mB6.1, mb6.0, Ms6.5, Msz6.1*
HRVD ***09*** *15:16:27.9±0.1, 56.16N×154.24W, h13km, MW5.8/75, Centroid moment Tensor Solution. LP body waves: s74, c157; Mantle waves: s75, c229; Half duration: 2±1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.01±.05; $M_{\theta\theta}$3.39±.06; $M_{\phi\phi}$-3.38±.05; $M_{r\theta}$3.51±.12; $M_{\theta\phi}$-2.91±.05; $M_{\phi r}$3.47±.13; Best double couple: $M_0$6.493×10^{17} NP1: ϕ_s150°, δ44°, λ-3°. NP2: ϕ_s242°, δ88°, λ-134°. Principal axes: T 5.65, Plg29°, Azm6°; N 1.685, Plg44°, Azm245°; P -7.336, Plg33°, Azm117°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***09*** *15:16:27.9±0.1, 56.17N×154.52W, h14km, mb5.8/228, ME5.8, MS5.7/138, MW6.0, ML5.8(AEIC) Error ellipse: s-maj=2.0km s-min=1.6km az=195.0 Broadband fault plane solution: P waves. NP1: ϕ_s245°, δ85°, λ-100°. NP2: ϕ_s129°, δ11°, λ-27°. Principal axes: T Plg39°, Azm344°; N Plg0°, Azm0°; P Plg49°, Azm144°; Moment Tensor Solution. s38 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.08; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-0.04; $M_{r\theta}$1.01; $M_{\theta\phi}$-0.09; $M_{\phi r}$0.49; Best double couple: $M_0$1.1×10^{18} NP1: ϕ_s142°, δ6°, λ-13°. NP2: ϕ_s245°, δ89°, λ-96°. Principal axes: T 1.1, Plg43°, Azm340°; N .06, Plg6°, Azm245°; P -1.16, Plg46°, Azm148°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [II] at Chignik and Perryville.
BGS ***09*** *15:16:32.8, 56.64N×152.45W, h10km, mb6.0*
ISC 09 15:16:26.1±0.1, 56.14N±0.02×154.55W±0.02, h13km, h13km±1.3km: pP-P, n1082, σ1 02/1046, mb5.8/335, MS5.8/190, 134C-47D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.97**	**32**	P		**Pn**		**15 16 59.0**	**-0.6**
KDAK				S		**Sn**		**15 17 23.9**	**-0.4**
ANCK	**Angle Creek**	**2.13**	**346**	P		**Pn**		**15 17 02.9**	**+0.9**
KAPH	**Katmai Pasha**	**2.47**	**2**	P		**Pn**		**15 17 08.0**	**+1.3**
KAHC	**Katmai Hardscr**	**2.53**	**355**	P		**Pn**		**15 17 08.4**	**+0.7**
SYI	**Shuyak Island**	**2.74**	**24**	P		**Pn**		**15 17 10.4**	**-0.3**
MCNL	**McNeil River**	**3.06**	**2**	P		**Pn**		**15 17 15.6**	**+0.4**
AUI	**Augustine Isla**	**3.27**	**10**	P		**Pn**		**15 17 18.6**	**+0.5**
AUE	**Augustine Isla**	**3.29**	**11**	P		**Pn**		**15 17 19.4**	**+0.9**
AUW	**Augustine West**	**3.29**	**10**	P		**Pn**		**15 17 19.6**	**+1.1**
AUL	**Augustine Lava**	**3.31**	**10**	P		**Pn**		**15 17 19.8**	**+1.1**
SDPT	**Sand Point**	**3.44**	**259**	P		**Pn**		**15 17 21.0**	**+0.4**
SDPT				S		**Sn**		**15 18 04.7**	**+3.0**
OPT	**Oil Point**	**3.60**	**11**	P		**Pn**		**15 17 23.2**	**+0.4**
XLV	**Seldovia**	**3.66**	**23**	P		**Pn**		**15 17 23.8**	**+0.2**
CNPM	**China Poot**	**3.83**	**26**	P		**Pn**		**15 17 25.3**	**-0.8**
HOM	**Homer**	**3.86**	**22**	P		**Pn**		**15 17 26.6**	**+0.1**
ILW	**Iliamna West**	**4.01**	**10**	P		**Pn**		**15 17 28.4**	**-0.2**
INE	**Iliamna NE**	**4.01**	**11**	P		**Pn**		**15 17 28.6**	**-0.2**
ILIM	**Iliamna**	**4.04**	**11**	P		**Pn**		**15 17 29.2**	**0.0**
BRLK	**Bradley Lake**	**4.13**	**27**	P		**Pn**		**15 17 29.1**	**-1.3**
PVV	**Pavlof Volcano**	**4.16**	**262**	P		**Pn**		**15 17 30.4**	**-0.5**
HAG	**Hague Volcano**	**4.24**	**262**	P		**Pn**		**15 17 31.8**	**-0.2**
BLHA	**Black Hill**	**4.25**	**267**	P		**Pn**		**15 17 32.0**	**-0.2**
DOL	**Dolgoi Island**	**4.26**	**260**	P		**Pn**		**15 17 31.6**	**-0.7**
DTNA	**Dutton South F**	**4.48**	**260**	P		**Pn**		**15 17 34.8**	**-0.6**
RDN	**Redoubt North**	**4.49**	**11**	P		**Pn**		**15 17 35.5**	**0.0**
DT1	**Dutton Round H**	**4.50**	**260**	P		**Pn**		**15 17 35.7**	**0.0**
NCT	**North Crescent**	**4.52**	**10**	P		**Pn**		**15 17 35.8**	**-0.1**
DFR	**Drift River**	**4.58**	**12**	P		**Pn**		**15 17 36.5**	**-0.2**
BALA	**Baldy Mountain**	**4.76**	**262**	P		**Pn**		**15 17 40.0**	**+0.7**
SLKM	**Skilak Lake**	**4.94**	**26**	P		**Pn**		**15 17 40.3**	**-1.6**
SVW2	**Sparrevohn**	**5.01**	**354**	P		**Pn**		**15 17 42.5**	**-0.3**
FALS	**False Pass**	**5.20**	**259**	P		**Pn**		**15 17 45.3**	**-0.3**
FALS				S		**Sn**		**15 18 44.2**	**-1.9**
CKL	**Chakachamna La**	**5.21**	**12**	P		**Pn**		**15 17 44.7**	**-0.9**
SPU	**Mount Spurr**	**5.23**	**13**	*eP*		**Pn**		**15 17 44.3**	**-1.6**
CKN	**Chakachatna No**	**5.25**	**13**	P		**Pn**		**15 17 45.2**	**-1.1**
FIB	**Fire Island**	**5.54**	**23**	*eP*		**Pn**		**15 17 49.8**	**-0.5**
FIB	**Fire Island**	**5.54**	**23**	P		**Pn**		**15 17 51.0**	**+0.7**
SSLN	**Shishaldin Nor**	**5.54**	**260**	P		**Pn**		**15 17 50.1**	**-0.2**
STLK	**Strandline Lak**	**5.56**	**14**	P		**Pn**		**15 17 49.6**	**-1.0**
RC01	**Rabbit Creek A**	**5.57**	**25**	P		**Pn**		**15 17 48.7**	**-2.0**
WESN	**West Dahl Nort**	**5.94**	**259**	P		**Pn**		**15 17 55.4**	**-0.6**
HIN	**Hinchinbrook I**	**6.02**	**41**	P		**Pn**		**15 17 53.5**	**-3.7**
PWA	**Palmer West**	**6.04**	**22**	P		**Pn**		**15 17 56.0**	**-1.3**
WESS	**West Dahl Sout**	**6.04**	**258**	P		**Pn**		**15 17 56.7**	**-0.8**
WFAR	**Faris Peak**	**6.05**	**259**	P		**Pn**		**15 17 57.1**	**-0.5**
PMR	**Palmer**	**6.15**	**25**	P		**Pn**		**15 17 56.6**	**-2.3**
GHO	**Glory Hole Cre**	**6.36**	**25**	P		**Pn**		**15 17 59.9**	**-1.9**
EYAK	**Cordova Ski Ar**	**6.40**	**43**	P		**Pn**		**15 17 59.5**	**-3.0**
SML	**Sawmill**	**6.53**	**27**	*eP*		**Pn**		**15 18 01.4**	**-2.9**
SML	**Sawmill**	**6.53**	**27**	P		**Pn**		**15 18 01.8**	**-2.5**
AKA	**Akutan**	**6.74**	**257**	P		**Pn**		**15 18 06.2**	**-1.0**
AKUT	**Akutan**	**6.74**	**257**	P		**Pn**		**15 18 06.2**	**-1.0**
DIV	**Divide**	**6.78**	**39**	P		**Pn**		**15 18 04.6**	**-3.3**
SCM	**Sheep Creek Mo**	**6.82**	**30**	P		**Pn**		**15 18 05.5**	**-2.9**
TT01	**Tatalina**	**6.83**	**354**	P		**Pn**		**15 18 07.6**	**-1.0**
UNV	**Unalaska Valle**	**7.25**	**257**	P		**Pn**		**15 18 11.7**	**-2.7**
MSW	**Makushin Switc**	**7.38**	**258**	P		**Pn**		**15 18 14.3**	**-1.9**
TRF	**Thorofare Moun**	**7.64**	**15**	P		**Pn**		**15 18 17.9**	**-2.0**
KTH	**Kantishna Hill**	**7.66**	**12**	P		**Pn**		**15 18 18.0**	**-2.2**
GLB	**Gilahina Butte**	**7.70**	**42**	P		**Pn**		**15 18 16.7**	**-4.0**
MCK	**McKinley**	**8.12**	**18**	P		**P**		**15 18 23.7**	**-2.9**
MCK				pmax		pmax			
	comp=Z,160nm,1.2s								
MCK	**McKinley**	**8.12**	**18**	P		**P**		**15 18 23.8**	**-2.8**
OKFG	**Magazine Ridge**	**8.20**	**256**	P		**P**		**15 18 25.3**	**-2.3**
PAX	**Paxson**	**8.25**	**30**	P		**P**		**15 18 25.3**	**-3.1**
CTGM	**Chitina Glacie**	**8.43**	**50**	P		**P**		**15 18 27.8**	**-3.0**
THY	**Trims Highway**	**8.54**	**28**	P		**P**		**15 18 30.6**	**-1.7**
SPIA	**Saint Paul Isl**	**8.71**	**283**	P		**P**		**15 18 35.0**	**+0.2**
GCSA	**Galena City Sc**	**8.72**	**353**	P		**P**		**15 18 34.2**	**-0.6**
MENT	**Mentasta**	**8.75**	**34**	*eP*		**P**		**15 18 32.5**	**-2.8**
PNL	**Peninsula**	**8.81**	**60**	P		**P**		**15 18 32.3**	**-3.8**
NIKO	**Nikolski**	**8.90**	**255**	P		**P**		**15 18 35.8**	**-1.5**
CCB	**Clear Creek Bu**	**9.16**	**19**	P		**P**		**15 18 37.2**	**-3.8**
DOT	**Dot Lake**	**9.18**	**31**	P		**P**		**15 18 38.7**	**-2.6**
COLA	**College**	**9.36**	**18**	*eP*		**P**		**15 18 38.6**	**-5.2**
COLA	**College**	**9.36**	**18**	P		**P**		**15 18 40.4**	**-3.4**
MDM	**Murphy Dome**	**9.38**	**17**	P		**P**		**15 18 41.0**	**-3.0**
IL1	**Eielson Array**	**9.45**	**20**	P		**P**		**15 18 42.0**	**-2.9**
ILAR	**Eielson Array**	**9.45**	**20**	Pn		**P**		**15 18 39.6**	**-5.3**
	comp=Z,5.9nm,0.3s,baz=213,slow=13,SNR=185								
ILAR				Sn		**Sn**		**15 20 23.7**	**-8.3**
	comp=Z,5.8nm,0.3s,baz=198,slow=23,SNR=3.1								
ILAR				ScP				15 28 32.5	
	comp=Z,0.1nm,0.3s,baz=303,slow=2.9,SNR=12								
ILAR				P3KPbc				15 55 52.5	
	comp=Z,0.0nm,0.3s,baz=106,slow=3.0,SNR=4.1								
BCA3	**Beaver Creek A**	**9.48**	**38**	P		**P**		**15 18 42.7**	**-2.7**
IM3	**Indian Mountai**	**9.89**	**2**	P		**P**		**15 18 48.5**	**-2.4**
IMA	**Indian Mountai**	**9.98**	**2**	*eP*		**P**		**15 18 49.8**	**-2.3**
IMA				pmax		pmax			
	comp=Z,270nm,1.0s								
IMA	**Indian Mountai**	**9.98**	**2**	*eP*		**P**		**15 18 49.8**	**-2.3**
	comp=Z,270nm,1.0s								
SIT	**Sitka**	**10.64**	**77**	*eP*		**P**		**15 18 57.1**	**-4.0**
SIT				pmax		pmax			
	comp=Z,63nm,0.8s								
SIT	**Sitka**	**10.64**	**77**	*eP*		**P**		**15 18 57.1**	**-4.0**
	comp=Z,63nm,0.8s								
DAWY	**Dawson**	**10.95**	**37**	*eP*		**P**		**15 19 02.6**	**-2.7**
TNA	**Tin City**	**11.45**	**331**	*eP*		**P**		**15 19 10.0**	**-2.2**
CRAG	**Craig**	**12.07**	**84**	*eP*		**P**		**15 19 19.1**	**-1.5**
	comp=Z,2μm,1.9s								
GSTR	**Great Sitkin T**	**13.23**	**261**	*eP*		**P**		**15 19 33.6**	**-2.5**
DLBC	**Dease Lake**	**13.44**	**70**	Pn		**P**		**15 19 35.2**	**-3.6**
	comp=Z,1.1nm,0.3s,baz=276,slow=13,SNR=16								
DLBC				Sn		**S**		**15 22 02.2**	**-6.8**
	comp=Z,1.0nm,0.3s,baz=131,slow=19,SNR=4.4								
DLBC				LR		LR		15 24 11.7	
	comp=Z,30μm,20.8s,baz=286,slow=35								
DLBC				PcP		PcP		15 25 06.3	-0.3
	comp=Z,0.2nm,0.3s,baz=236,slow=11,SNR=3.7								
DLBC				ScP				15 28 37.0	
	comp=Z,0.1nm,0.3s,baz=50,slow=20,SNR=3.0								
DLBC	**Dease Lake**	**13.44**	**70**	*eP*		**P**		**15 19 34.6**	**-4.2**
KIWB	**Kanaga Island**	**13.95**	**262**	*eP*		**P**		**15 19 42.6**	**-2.8**
INK	**Inuvik**	**15.53**	**30**	*eP*		**P**		**15 20 03.8**	**-2.2**
INK				pmax		pmax			
	comp=Z,1.0nm,1.1s								
INK	**Inuvik**	**15.53**	**30**	Pn		**P**		**15 20 03.4**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=228,slow=15,SNR=89								
INK				Sn		**S**		**15 22 57.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=199,slow=20,SNR=1.5								
INK				LR		LR		15 26 20.3	
	comp=Z,53μm,19.0s,baz=222,slow=38								
INK				ScP				15 28 42.0	
	comp=Z,0.1nm,0.3s,baz=147,slow=2.2,SNR=4.2								
INK	**Inuvik**	**15.53**	**30**	*eP*		**P**		**15 20 03.8**	**-2.3**
	comp=Z,0.9nm,1.2s								
BBB	**Bella Bella**	**15.93**	**93**	Pn		**P**		**15 20 09.3**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=279,slow=11,SNR=8.8								
BBB				Sn		**S**		**15 23 10.9**	**+3.0**
	comp=Z,0.3nm,0.3s,baz=288,slow=19,SNR=2.2								
BBB				LR		LR		15 25 00.4	
	comp=Z,15μm,20.2s,baz=297,slow=32								
BBB	**Bella Bella**	**15.93**	**93**	Pn		**P**		**15 20 09.3**	**-2.0**
BBB				Sn		**S**		**15 23 10.9**	**+3.0**
BBB				LR		LR		15 25 00.4	
SMY	**Shemya**	**18.47**	**273**	*eP*		**P**		**15 20 42.1**	**-1.1**
SMY				pmax		pmax			
	comp=Z,736nm,0.9s								
SMY	**Shemya**	**18.47**	**273**	*eP*		**P**		**15 20 42.1**	**-1.1**
	comp=Z,736nm,0.9s								
FX1	**Attu Island--F**	**18.93**	**274**	P		**P**		**15 20 46.0**	**-2.7**
	comp=Z,45nm,0.3s,baz=144,slow=0.7,SNR=103								
FX1	**Attu Island--F**	**18.93**	**274**	*eP*		**P**		**15 20 46.7**	**-2.1**
PGC	**Sidney**	**20.27**	**99**	*eP*		**P**		**15 21 02.9**	**-0.9**
	comp=Z,1μm,1.8s								
OOW	**Octopus West**	**20.38**	**102**	P		**P**		**15 21 05.4**	**+0.4**
WISH	**Wishkah**	**20.97**	**102**	P		**P**		**15 21 12.0**	**+0.9**
YKW3	**Yellowknife Ar**	**21.06**	**56**	*eP*		**P**		**15 21 09.9**	**-2.0**
YKA	**Yellowknife Ar**	**21.07**	**56**	P		**P**		**15 21 10.4**	**-1.6**
	comp=Z,49nm,0.6s,mb5.0,baz=270,slow=9.5,SNR=442								
YKA				S		**S**		**15 25 03.9**	**+2.7**
	comp=Z,2.8nm,0.9s,baz=274,slow=19,SNR=2.9								
YKA				PcP		PcP		15 25 17.6	-1.1
	comp=Z,13nm,0.7s,baz=266,slow=1.5,SNR=6.8								
YKA				ScP				15 28 53.8	
	comp=Z,8.8nm,1.0s,baz=279,slow=2.2,SNR=8.4								
YKA				P3KPbc				15 55 11.6	
	comp=Z,1.0nm,0.7s,baz=98,slow=5.2,SNR=15								
YKA	**Yellowknife Ar**	**21.07**	**56**	P		**P**		**15 21 10.4**	**-1.6**
YKA				S		**S**		**15 25 03.9**	**+2.7**
YKA				PcP		PcP		15 25 17.6	-1.1
YKA				ScP				15 28 53.8	
BILL	**Bilibino**	**21.41**	**319**	P		**P**		**15 21 13.6**	**-1.8**
BILL	**Bilibino**	**21.41**	**319**	*c iP*		**P**		**15 21 13.3**	**-2.1**
BILL				*eS*		**S**		**15 25 08.4**	**+0.7**
BILL				pmax		pmax			
	comp=Z,657nm,1.2s,mb5.8								
BILL				MLR		MLR			
	comp=Z,97μm,11.0s,MS6.5								
BILL	**Bilibino**	**21.41**	**319**	*eP*		**P**		**15 21 13.4**	**-2.0**
	comp=Z,674nm,1.0s,mb5.9								
BILL				LR		LR			
	comp=Z,15μm,22.0s,MS5.3								
TTW	**Tolt Reservoir**	**21.78**	**99**	P		**P**		**15 21 19.5**	**+0.2**
KOSW	**Kosmos**	**22.23**	**102**	P		**P**		**15 21 24.8**	**+1.0**
COR	**Corvallis**	**22.83**	**107**	*eP*		**P**		**15 21 30.8**	**+1.3**
	comp=Z,778nm,1.4s,mb6.0								
COR				LR		LR			
	comp=Z,15μm,21.0s,MS5.4								
EBG	**Ellensburg**	**22.86**	**99**	P		**P**		**15 21 31.4**	**+1.5**
BVW	**Beverly**	**23.29**	**99**	P		**P**		**15 21 35.9**	**+1.8**
KEBM	**Edson Butte**	**23.46**	**112**	*eP*		**P**		**15 21 37.3**	**+1.6**
OD2	**Odessa Site #2**	**23.60**	**97**	P		**P**		**15 21 38.1**	**+1.0**
WRD	**Warden**	**23.71**	**98**	P		**P**		**15 21 38.9**	**+0.9**
HAWA	**Hanford**	**23.74**	**99**	*eP*		**P**		**15 21 39.4**	**+1.0**
	comp=Z,75nm,1.7s,mb4.8								
HAWA				LR		LR			
	comp=Z,1μm,21.0s								
EDM	**Edmonton**	**23.74**	**80**	*eP*		**P**		**15 21 39.0**	**+0.6**
KBO	**Bosley Butte**	**23.98**	**113**	*eP*		**P**		**15 21 43.0**	**+2.2**
NEW	**Newport**	**24.00**	**93**	P		**P**		**15 21 42.4**	**+1.5**
	comp=Z,135nm,0.9s,mb5.4,baz=305,slow=7.8,SNR=155								
NEW				PcP		PcP		15 25 25.3	+0.8
	comp=Z,13nm,1.1s,baz=257,slow=3.0,SNR=2.6								
NEW				S		**S**		**15 25 58.6**	**+4.3**
	comp=Z,1.7nm,0.7s,baz=292,slow=19,SNR=1.9								
NEW				ScP				15 29 01.7	
	comp=Z,5.4nm,0.9s,baz=334,slow=4.0,SNR=4.4								
NEW				LR		LR		15 29 42.4	
	comp=Z,12μm,21.8s,MS5.3,baz=298,slow=33								
NEW	**Newport**	**24.00**	**93**	*eP*		**P**		**15 21 41.7**	**+0.8**
	comp=Z,344nm,1.3s,mb5.6								
NEW				LR		LR			
	comp=Z,12μm,21.0s,MS5.3								
HUMO	**Hull Mountain**	**24.36**	**110**	*eP*		**P**		**15 21 45.8**	**+1.2**
	comp=Z,361nm,1.4s,mb5.6								
HUMO				LR		LR			
	comp=Z,12μm,20.0s,MS5.4								
YBH	**Yreka Blue Hor**	**25.11**	**112**	P		**P**		**15 21 53.8**	**+2.1**
	comp=Z,130nm,1.2s,mb5.3,baz=335,slow=4.7,SNR=45								
YBH				PcP		PcP		15 25 28.4	+1.4
	comp=Z,3.9nm,0.8s,baz=317,slow=1.3,SNR=4.6								
YBH				S		**S**		**15 26 12.5**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=22,slow=7.7,SNR=2.4								
YBH	**Yreka Blue Hor**	**25.11**	**112**	*eP*		**P**		**15 21 53.5**	**+1.7**
	comp=Z,402nm,1.5s,mb5.7								
YBH				LR		LR			
	comp=Z,13μm,21.0s,MS5.4								
KHMM	**Horse Mountain**	**25.21**	**114**	*eP*		**P**		**15 21 54.1**	**+1.4**
WALA	**Waterton Lakes**	**25.37**	**89**	*eP*		**P**		**15 21 54.1**	**0.0**
	comp=Z,348nm,1.3s,mb5.7								
BMO	**Blue Mountains**	**25.92**	**100**	*eP*		**P**		**15 21 59.1**	**-0.2**
	comp=Z,754nm,2.0s,mb5.9								
BMO				LR		LR			
	comp=Z,15μm,22.0s,MS5.5								
WDC	**Whiskeytown Da**	**26.04**	**113**	*eP*		**P**		**15 22 00.9**	**+0.5**
	comp=Z,313nm,1.4s,mb5.7								
WDC				LR		LR			
	comp=Z,25μm,21.0s,MS5.7								
MOD	**Modoc**	**26.26**	**108**	*eP*		**P**		**15 22 03.6**	**+1.1**
	comp=Z,481nm,1.6s,mb5.8								
MOD				LR		LR			
	comp=Z,16μm,20.0s,MS5.6								
MSO	**Missoula**	**26.59**	**93**	*eP*		**P**		**15 22 04.7**	**-0.8**
	comp=Z,67nm,1.3s,mb5.0								
MSO				LR		LR			
	comp=Z,6μm,20.0s,MS5.1								
WVOR	**Wild Horse Val**	**26.78**	**106**	*eP*		**P**		**15 22 08.1**	**+0.8**
	comp=Z,150nm,1.1s,mb5.4								
WVOR				LR		LR			
	comp=Z,13μm,21.0s,MS5.5								
PET	**Petropavlovsk**	**26.89**	**283**	*j iP*		**P**		**15 22 07.5**	**-0.7**
PET				*e*				15 22 51.5	
PET				*eS*		**S**		**15 26 38.8**	**-3.9**
PET				*e*SSS		SSS		15 28 03.4	-10
PET				pmax		pmax			
	comp=Z,2μm,9.6s								
PET				pmax		pmax			
	comp=E,2μm,10.3s								
PET				pmax		pmax			
	comp=N,800nm,9.4s								
PET				pmax		pmax			
	comp=Z,643nm,0.8s,mb6.2								
PET				pmax		pmax			
	comp=Z,3μm,5.5s								
PET				pmax		pmax			
	comp=E,3μm,4.6s								
PET				pmax		pmax			
	comp=Z,2μm,12.8s								
PET				pmax		pmax			
	comp=Z,65nm,1.8s,mb4.9								
PET				smax					
	comp=N,4μm,12.2s								
PET				smax					
	comp=N,4μm,13.7s								
PET				MLR		MLR			
	comp=E,28μm,23.0s,MS5.8								
PET				MLR		MLR			
	comp=Z,27μm,23.0s,MS5.8								
PET				MLR		MLR			
	comp=N,17μm,20.0s,MS5.8								
PET				MLR		MLR			
	comp=Z,20μm,24.0s								
PET				MLR		MLR			
	comp=E,21μm,22.0s								
PET				MLR		MLR			
	comp=N,13μm,24.0s								
PET	**Petropavlovsk**	**26.89**	**283**	*eP*		**P**		**15 22 07.1**	**-1.1**
	comp=N,805nm,1.1s,mb6.2								
PET				LR		LR			
	comp=Z,20μm,21.0s,MS5.7								
CHMT	**Chamberlain Mo**	**26.93**	**92**	*eP*		**P**		**15 22 08.1**	**-0.4**
HOPS	**Hopland**	**26.96**	**116**	*eP*		**P**		**15 22 09.2**	**+0.3**
	comp=Z,468nm,1.6s,mb5.8								
HOPS				LR		LR			
	comp=Z,9μm,20.0s,MS5.3								
SEY	**Seymchan**	**27.04**	**306**	*i* P		**P**		**15 22 09.8**	**+0.4**
SEY				*e*PPP		PPP		15 23 00.5	-7.0
SEY				*eS*		**S**		**15 26 45.5**	**+0.6**
SEY				pmax		pmax			
	comp=Z,300nm,1.1s,mb5.7								
SEY				pmax		pmax			
	comp=N,110nm,0.8s								
HRY	**Holter Researc**	**27.84**	**92**	*eP*		**P**		**15 22 16.3**	**-0.5**
PAHR	**Pah Rah Range**	**28.32**	**111**	*eP*		**P**		**15 22 21.4**	**+0.2**
	comp=N,318nm,2.1s,mb5.6								
HLID	**Hailey**	**28.34**	**99**	*eP*		**P**		**15 22 21.3**	**-0.1**
	comp=N,76nm,1.2s,mb5.2								
HLID				LR		LR			
	comp=Z,13μm,20.0s,MS5.5								
MCMT	**McKenzie Canyo**	**28.40**	**96**	*eP*		**P**		**15 22 21.8**	**-0.1**
WCN	**Washoe City**	**28.42**	**112**	*eP*		**P**		**15 22 22.3**	**+0.1**
WCN				pmax		pmax			
	comp=Z,620nm,1.9s,mb5.9								
WCN	**Washoe City**	**28.42**	**112**	*eP*		**P**		**15 22 22.3**	**+0.1**
	comp=Z,625nm,1.9s,mb5.9								
BOZ	**Bozeman (W)**	**28.58**	**93**	*eP*		**P**		**15 22 23.1**	**-0.4**
	comp=Z,181nm,1.6s,mb5.5								
BOZ				LR		LR			
	comp=Z,11μm,19.0s,MS5.5								
MA2	**Magadan**	**28.60**	**300**	*c iP*		**P**		**15 22 22.6**	**-1.0**
MA2				*e*				15 23 23.8	
MA2				*e*				15 25 33.8	
MA2				*eS*		**S**		**15 27 06.8**	**-3.3**
MA2				*e*SS		SS		15 28 39.8	+3.7
MA2				pmax		pmax			
	comp=E,100nm,1.6s								
MA2				pmax		pmax			
	comp=Z,200nm,1.6s,mb5.6								
MA2				MLR		MLR			
	comp=Z,37μm,22.0s,MS5.9								
MA2	**Magadan**	**28.60**	**300**	*eP*		**P**		**15 22 22.3**	**-1.3**
	comp=Z,132nm,0.9s,mb5.7								
MA2				LR		LR			
	comp=Z,19μm,19.0s,MS5.7								
CMB	**Columbia Colle**	**29.05**	**114**	P		**P**		**15 22 28.1**	**+0.3**
CMB				pS				15 27 24.5	
CMB	**Columbia Colle**	**29.05**	**114**	*eP*		**P**		**15 22 27.6**	**-0.3**
	comp=Z,149nm,1.4s,mb5.5								
CMB				LR		LR			
	comp=Z,21μm,19.0s,MS5.8								
RES	**Resolute Bay**	**29.07**	**28**	P		**P**		**15 22 26.7**	**-1.0**
RES				pmax		pmax			
	comp=Z,120nm,0.9s,mb5.6								
RES	**Resolute Bay**	**29.07**	**28**	*eP*		**P**		**15 22 26.3**	**-1.4**
	comp=Z,1.8nm,1.0s								
QLMT	**Earthquake Lak**	**29.19**	**94**	*eP*		**P**		**15 22 29.1**	**0.0**
SKR	**Severo-Kuril's**	**29.38**	**280**	*eP*		**P**		**15 22 26.5**	**-4.2**
SKR				*e*		pP		15 22 31.7	-2.8
SKR				*e*				15 23 26.0	
SKR				*e*				15 25 33.0	
SKR				*e*				15 29 18.0	
SKR				pmax		pmax			
	comp=N,90nm,0.7s								
SKR				pmax		pmax			
	comp=Z,2μm,0.7s								
SKR				pmax		pmax			
	comp=E,80nm,0.5s								
SKR				pmax		pmax			
	comp=Z,2μm,4.0s

NLU North Lily Min 32.07 102 *e*P **P 15 22 54.4 -0.1**
DAU Daniels Canyon 32.20 101 *e*P **P 15 22 56.0 +0.3**
MPU Maple Canyon 32.27 102 *e*P **P 15 22 55.9 -0.4**
ARUT Antelope Range 32.88 106 *e*P **P 15 23 01.5 -0.2**
TMUT Trail Mountain 33.01 102 *e*P **P 15 23 03.1 +0.3**
MSU Marysvale 33.04 104 *e*P **P 15 23 03.5 +0.5**
MWC Mount Wilson 33.19 116 *e*P **P 15 23 04.3 -0.1**
SRU San Rafael 33.51 102 *e*P **P 15 23 07.1 0.0**
RWWY Rawlins 33.57 95 *e*P **P 15 23 07.3 -0.3**
comp=Z,738nm,1.3s,mb6.5
RSSD Black Hills 33.77 89 *e*P **P 15 23 09.1 -0.2**
comp=Z,155nm,1.0s,mb5.9
RSSD LR LR
comp=Z,14μm,20.0s,MS5.7
LDFC Landfair 34.04 111 *e*P **P 15 23 11.6 -0.1**
TIXI Tiksi 34.20 327⇑*e*P **P 15 23 10.9 -1.9**
TIXI LR LR
comp=Z,13μm,19.0s,MS5.7
PFO Pinyon Flat Ob 34.49 115 *e*P **P 15 23 15.7 0.0**
comp=Z,253nm,1.5s,mb5.9
PFO LR LR
comp=Z,2μm,22.0s,MS4.8
ULM Lac du Bonnet 34.70 74 P **P 15 23 17.1 -0.1**
comp=Z,14nm,0.7s,mb5.0,baz=303,slow=9.2,SNR=25
ULM PcP PcP 15 25 50.9 -0.4
comp=Z,7.1nm,0.6s,baz=166,slow=0.5,SNR=5.3
ULM ScP 15 29 35.2
comp=Z,11nm,1.0s,baz=328,slow=8.0,SNR=5.9
ULM LR LR 15 37 00.4
comp=Z,13μm,20.6s,MS5.7,baz=61,slow=36
ULM Lac du Bonnet 34.70 74 *e*P **P 15 23 16.4 -0.9**
comp=Z,70nm,1.1s,mb5.5
ULM LR LR
comp=Z,18μm,20.0s,MS5.8
KIP Kipapa 34.76 186 PFAKE 15 23 30.0 +12
KIP LR LR
comp=Z,9μm,19.0s,MS5.6
PHWY Pilot Hill 34.81 94 *e*P **P 15 23 17.4 -0.9**
PV10 Paradox Valley 34.85 101 *e*P **P 15 23 19.1 +0.4**
BAR Barrett 35.12 116 *e*P **P 15 23 21.0 0.0**
PV01 Paradox Valley 35.28 101 *e*P **P 15 23 22.7 +0.3**
WUAZ Wupatki 35.68 107 *e*P **P 15 23 26.2 +0.4**
comp=Z,379nm,1.6s,mb6.1
WUAZ LR LR
comp=Z,11μm,20.0s,MS5.6
RW3 Ridgway 35.68 100 *e*P **P 15 23 25.7 -0.1**
ISCO Idaho Springs 35.75 96 *e*P **P 15 23 26.1 -0.2**
comp=Z,99nm,1.6s,mb5.5
ISCO LR LR
comp=Z,8μm,20.0s,MS5.5
SDCO Great Sand Dun 37.25 98 *e*P **P 15 23 39.5 +0.5**
comp=Z,143nm,1.3s,mb5.6
SDCO LR LR
comp=Z,9μm,19.0s,MS5.6
YAK Yakutsk 37.29 311 *c i*P **P 15 23 37.4 -1.6**
YAK *e*PPP PPP 15 25 11.6 -15
YAK *e* 15 26 05.3
YAK *e*SSS SS 15 31 53.1 -3.7
YAK *e* 15 33 50.4
YAK pmax pmax
comp=Z,463nm,1.0s,mb6.3
YAK pmax pmax
comp=N,94nm,1.2s
YAK pmax pmax
comp=E,289nm,1.2s
YAK pmax pmax
comp=Z,34nm,1.0s,mb5.1
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,53nm,1.1s
YAK MLR MLR
comp=Z,37μm,11.0s,MS6.4
YAK MLR MLR
comp=N,21μm,13.0s,MS6.4
YAK MLR MLR
comp=E,30μm,11.0s,MS6.4
YAK Yakutsk 37.29 311 *e*P **P 15 23 37.0 -2.0**
comp=E,747nm,1.1s,mb6.4
YAK LR LR
comp=Z,12μm,20.0s,MS5.7
EYMN Ely 38.38 75 *e*P **P 15 23 47.5 -0.8**
comp=Z,51nm,0.7s,mb5.4
EYMN LR LR
comp=Z,16μm,22.0s,MS5.8
TUC Tucson 38.45 110 *e*P **P 15 23 49.4 +0.3**
comp=Z,245nm,1.6s,mb5.7
TUC LR LR
comp=Z,6μm,22.0s,MS5.4
ANMO Albuquerque 38.76 102 P **P 15 23 52.3 +0.6**
ANMO ScP 15 29 51.7
ANMO Albuquerque 38.76 102 *e*P **P 15 23 51.7 0.0**
comp=Z,138nm,1.5s,mb5.5
ANMO *e*PcP PcP 15 26 03.3 -0.5
ANMO LR LR
comp=Z,4μm,19.0s,MS5.2
YSS Yuzh-Sakhalins 38.78 284α *i*P **P 15 23 51.0 -0.7**
YSS *e* 15 25 22.0
YSS *e* 15 26 06.0
YSS *e*S **S 15 29 45.0 -3.4**
YSS pmax pmax
comp=Z,200nm,1.4s,mb5.7
YSS pmax pmax
comp=N,130nm,1.6s
YSS pmax pmax
comp=E,270nm,1.6s
YSS pmax pmax
comp=Z,2μm,7.0s
YSS smax
comp=N,3μm,16.0s
YSS smax
comp=E,3μm,16.0s
YSS MLR MLR
comp=Z,9μm,18.0s,MS5.6
YSS MLR MLR
comp=N,4μm,17.0s,MS5.6
YSS MLR MLR
comp=E,8μm,18.0s,MS5.6
YSS Yuzh-Sakhalins 38.78 284 *e*P **P 15 23 49.9 -1.8**
comp=E,57nm,0.7s,mb5.4
YSS LR LR
comp=Z,19μm,21.0s,MS5.9
LAZ Ladron 38.80 104 *e*P **P 15 23 53.4 +1.3**
YUK Yuzh-Kuril'sk 38.89 278 P **P 15 23 51.9 -0.8**
YUK *e*PPP PPP 15 25 51.9 +3.1
YUK S **S 15 29 52.0 +1.9**
YUK *e*SSS SSS 15 33 05.9 -0.9
YUK pmax pmax
comp=Z,3μm,1.0s
YUK pmax pmax
comp=N,3μm,2.0s
YUK pmax pmax
comp=E,8μm,3.0s
YUK smax
comp=N,8μm,3.0s
YUK smax
comp=E,5μm,3.0s
YUK MLR MLR
comp=Z,13μm,20.0s,MS5.7
YUK MLR MLR
comp=N,7μm,21.0s
YUK MLR MLR
comp=E,10μm,15.0s
LENM Lemitar 39.07 104 *e*P **P 15 23 55.0 +0.7**
LPM Los Pinos Moun 39.15 103 *e*P **P 15 23 55.7 +0.8**
BNM Barren Site 39.27 103 *e*P **P 15 23 56.7 +0.7**
CBKS Cedar Bluff 39.71 92 *e*P **P 15 23 60.0 +0.4**
comp=E,497nm,1.3s,mb6.1
CBKS LR LR
comp=Z,8μm,19.0s,MS5.6
ASAJ Asahikawa 40.65 280 P **P 15 24 06.8 -0.3**
comp=Z,237nm,0.9s,mb5.8,baz=40,slow=4.3,SNR=96
ASAJ PcP PcP 15 26 09.8 +0.2
comp=Z,11nm,0.7s,baz=326,slow=3.6,SNR=3.4
ASAJ LR LR 15 41 14.4
comp=Z,6μm,20.6s,MS5.5,baz=236,slow=37
KSU1 Kansas State U 41.26 89 *e*P **P 15 24 11.8 -0.5**
AMTX Amarillo 41.45 98 *e*P **P 15 24 14.0 +0.1**
comp=Z,456nm,1.5s,mb5.9
AMTX LR LR
comp=Z,8μm,20.0s,MS5.6
CPRX Cap Rock 41.62 102 *e*P **P 15 24 15.2 -0.1**
MNTX Cornudas Mount 41.81 105⇓*e*P **P 15 24 17.2 +0.4**
comp=Z,314nm,1.5s,mb5.7
MNTX LR LR
comp=Z,7μm,19.0s,MS5.6

GDL2 Guadalupe Moun 41.98 103 *e*P **P 15 24 18.6 +0.4**
CLNS Chul'man 42.04 306⇑*i*P **P 15 24 16.8 -1.5**
CLNS *e**PP pP 15 24 23.8 +1.6
CLNS *e*PPP PPP 15 26 02.9 -28
CLNS *e* 15 26 12.4
CLNS *e*S **S 15 30 28.6 -8.2**
CLNS pmax pmax
comp=Z,253nm,0.9s,mb5.8
CLNS pmax pmax
comp=N,60nm,0.7s
CLNS pmax pmax
comp=E,128nm,1.0s
CLNS pmax pmax
comp=Z,37nm,1.1s,mb4.9
CLNS pmax pmax
comp=N,55nm,0.9s
CLNS pmax pmax
comp=E,28nm,0.9s
CLNS smax
comp=N,1μm,14.0s
CLNS smax
comp=Z,543nm,12.2s
CLNS smax
comp=E,705nm,13.2s
CLNS MLR MLR
comp=N,23μm,13.0s,MS6.4
CLNS MLR MLR
comp=Z,63μm,13.0s,MS6.7
CLNS MLR MLR
comp=E,25μm,12.0s,MS6.4
CLNB Carlsbad 42.20 103 *e*P **P 15 24 20.5 +0.6**
WMOK Wichita Mounta 43.16 96 *e*P **P 15 24 27.4 -0.4**
comp=E,140nm,1.2s,mb5.6
WMOK LR LR
comp=Z,3μm,22.0s,MS5.2
KLR Kul'dur 43.22 293⇓*i*P **P 15 24 24.0 -4.1**
KLR pmax pmax
comp=N,340nm,1.8s
KLR pmax pmax
comp=E,210nm,1.8s
KLR pmax pmax
comp=Z,520nm,1.8s,mb6.0
KLR pmax pmax
comp=N,1μm,8.5s
KLR pmax pmax
comp=E,900nm,8.5s
KLR pmax pmax
comp=Z,3μm,8.5s
KLR MLR MLR
comp=N,18μm,13.0s
KLR MLR MLR
comp=Z,20μm,13.0s,MS6.2
SUMG Summit 44.28 23 *e*P **P 15 24 35.9 -0.5**
comp=Z,245nm,0.8s,mb6.0
DAG Danmarks Havn 44.46 13⇓*i*P **P 15 24 37.1 -0.7**
DAG pmax pmax
comp=Z,440nm,0.5s,mb6.4
DAG MLR MLR
comp=Z,18μm,17.0s,MS6.1
DAG MLR MLR
comp=N,15μm,16.0s
DAG Danmarks Havn 44.46 13⇓*i*P **P 15 24 37.1 -0.7**
comp=N,439nm,0.5s,mb6.4
comp=Z,18μm,17.0s
LTX Lajitas 44.58 105 *e*P **P 15 24 39.7 +0.4**
comp=Z,296nm,1.5s,mb5.9
LTX LR LR
comp=Z,8μm,20.0s,MS5.7
TXAR Lajitas Array 44.58 105 P **P 15 24 40.1 +0.7**
comp=Z,47nm,1.0s,mb5.3,baz=315,slow=5.3,SNR=100
TXAR PcP PcP 15 26 24.7 +1.9
comp=Z,5.4nm,0.6s,baz=355,slow=1.0,SNR=5.1
TXAR ScP 15 30 14.6
comp=Z,4.7nm,1.2s,baz=270,slow=3.8,SNR=4.1
TXAR S **S 15 31 11.3 -2.9**
comp=Z,1.0nm,0.9s,baz=342,slow=5.7,SNR=2.6
TXAR LR LR 15 41 54.3
comp=Z,8μm,20.6s,MS5.6,baz=340,slow=34
CCM Cathedral Cave 44.99 86 *e*P **P 15 24 40.6 -2.0**
comp=Z,14nm,0.7s,mb4.9
CCM LR LR
comp=Z,12μm,20.0s,MS5.8
SLM Saint Louis 45.15 85 *e*P **P 15 24 42.7 -1.1**
FVM French Village 45.50 85 *e*P **P 15 24 44.9 -1.7**
FVM pmax pmax
comp=Z,79nm,1.3s,mb5.5
FVM French Village 45.50 85 *e*P **P 15 24 44.9 -1.7**
comp=Z,79nm,1.3s,mb5.5
JCT Junction City 45.80 100 *e*P **P 15 24 48.9 -0.2**
comp=Z,497nm,1.4s,mb6.2
JCT LR LR
comp=Z,7μm,22.0s,MS5.5
BOD Bodaibo 46.18 312⇓*i*P **P 15 24 50.5 -1.2**
BOD *e* 15 31 35.7
BOD pmax pmax
comp=Z,305nm,0.9s,mb6.2
MIAR Mount Ida 46.22 91 *e*P **P 15 24 51.4 -0.9**
comp=Z,213nm,1.4s,mb5.9
MIAR LR LR
comp=Z,12μm,21.0s,MS5.8
AAM Ann Arbor 46.24 76 PFAKE 15 25 00.0 +7.6
AAM LR LR
comp=Z,8μm,19.0s,MS5.7
SCHQ Schefferville 46.47 53 P **P 15 24 53.5 -0.5**
comp=Z,40nm,0.8s,mb5.4,baz=320,slow=7.9,SNR=80
SCHQ PcP PcP 15 26 26.9 -2.2
comp=Z,12nm,0.9s,baz=270,slow=4.3,SNR=1.9
SCHQ S **S 15 31 37.0 -3.9**
comp=Z,3.6nm,0.9s,baz=18,slow=19,SNR=1.9
SCHQ LR LR 15 45 36.5
comp=Z,9μm,18.8s,MS5.8,baz=313,slow=38
SCHQ Schefferville 46.47 53 *e*P **P 15 24 52.7 -1.3**
comp=Z,61nm,0.8s,mb5.6
SCHQ LR LR
comp=Z,18μm,21.0s,MS6.0
UALR University of 46.74 90 *e*P **P 15 24 54.5 -1.9**
comp=Z,37nm,1.1s,mb5.2
PARMO Parma 46.82 86 *e*P **P 15 24 54.8 -2.2**
BLO Bloomington 46.83 81 *e*P **P 15 24 55.8 -1.3**
BLO pmax pmax
comp=Z,53nm,0.6s,mb5.7
BLO Bloomington 46.83 81 *e*P **P 15 24 55.8 -1.3**
comp=Z,53nm,0.6s,mb5.7
HSP Hornsund 46.97 3 *e*P **P 15 24 57.8 +0.1**
MDJ Mudanjiang 47.34 290 P **P 15 24 59.4 -1.6**
MDJ XP sP 15 25 12.3 +5.8
MDJ PCP PcP 15 26 30.7 -1.6
MDJ PP PP 15 26 50.5 -1.3
MDJ SCP 15 30 26.1
MDJ S **S 15 31 52.5 -0.9**
MDJ AMB AMB
comp=Z,50nm,1.6s,mb5.2
MDJ AMB AMB
comp=Z,1μm,10.4s
MDJ LR LR
comp=N,17μm,22.0s,MS6.0
MDJ LR LR
comp=E,9μm,20.9s,MS6.0
MDJ LR LR
comp=Z,10μm,22.5s,MS5.7
MDJ Mudanjiang 47.34 290 *e*P **P 15 24 59.5 -1.5**
comp=Z,58nm,1.0s,mb5.5
MDJ LR LR
comp=Z,11μm,21.0s,MS5.8
UTMT University of 47.54 86 *e*P **P 15 25 02.1 -0.7**
comp=Z,143nm,0.9s,mb6.0
WCI Wyandotte Cave 47.63 82 *e*P **P 15 25 01.8 -1.6**
comp=Z,22nm,0.7s,mb5.3
WCI LR LR
comp=Z,15μm,19.0s,MS6.0
NATX Nacogdoches 47.68 95 *e*P **P 15 25 03.7 -0.2**
comp=Z,385nm,1.5s,mb6.2
NATX LR LR
comp=Z,6μm,19.0s,MS5.6
MET Memphis--Engin 47.83 88 P **P 15 25 04.0 -1.1**
ACSO Alum Creek Sta 48.04 78 *e*P **P 15 25 04.9 -1.7**
comp=Z,90nm,1.2s,mb5.7
ACSO LR LR
comp=Z,11μm,21.0s,MS5.8
MAJO Matsushiro 48.27 276 *e*P **P 15 25 07.1 -1.3**
comp=Z,123nm,0.8s,mb6.0
MAJO LR LR
comp=Z,10μm,21.0s,MS5.8
MAT Matsushiro 48.27 276 *e*P **P 15 25 08.0 -0.4**
comp=Z,215nm,1.1s,mb6.1
MAT *e*S **S 15 32 08.0 +1.3**
MAT LR LR
comp=Z,10μm,20.0s,MS5.8
MAT Matsushiro 48.27 276 P **P 15 25 07.5 -0.9**
MAT S **S 15 32 08.0 +1.3**
MJAR Matsushiro Arr 48.27 276 P **P 15 25 07.5 -0.9**
comp=Z,35nm,0.7s,mb5.5,baz=41,slow=6.4,SNR=178
MJAR PcP PcP 15 26 35.2 -0.6
comp=Z,10nm,1.0s,baz=43,slow=3.0,SNR=2.4
MJAR ScP 15 30 29.6
comp=Z,4.2nm,1.1s,baz=25,slow=2.2,SNR=4.9
MJAR S **S 15 32 05.8 -0.9**
comp=Z,0.4nm,0.6s,baz=48,slow=20,SNR=2.9
MJAR LR LR 15 45 45.9
comp=Z,7μm,20.3s,MS5.7,baz=65,slow=36
WVT Waverly 48.27 85 *e*P **P 15 25 07.0 -1.4**
comp=Z,102nm,1.3s,mb5.7
WVT LR LR
comp=Z,15μm,20.0s,MS6.0
ERPA Erie 48.35 74 *e*P **P 15 25 07.7 -1.3**
comp=Z,66nm,0.8s,mb5.7
ERPA LR LR
comp=Z,13μm,21.0s,MS5.9
OXF Oxford 48.57 88 *e*P **P 15 25 09.6 -1.2**
comp=Z,325nm,1.3s,mb6.2
OXF LR LR
comp=Z,9μm,20.0s,MS5.8
ALLY Alegheny Colle 48.59 74 *e*P **P 15 25 09.5 -1.4**
PLAL Pickwick Lake 48.97 86 *e*P **P 15 25 12.4 -1.5**
comp=Z,166nm,1.1s,mb6.0
PLAL LR LR
comp=Z,12μm,21.0s,MS5.8
GENY Geneseo 49.06 72 *e*P **P 15 25 12.5 -1.9**
MSNY Massena 49.08 67 P **P 15 25 14.0 -0.5**
HIA Hailar 49.19 300 *e*P **P 15 25 13.5 -1.9**
comp=Z,203nm,1.2s,mb6.0
HIA LR LR
comp=Z,12μm,20.0s,MS5.9
SCO Scoresbysund 49.23 19 *i*P **P 15 25 15.4 +0.1**
comp=Z,45nm,0.7s,mb5.6
SWET Sewanee 50.00 84 *e*P **P 15 25 19.6 -2.1**
CN2 Changchun 50.07 292 *e*P **P 15 25 21.3 -0.9**
CN2 PP PP 15 27 17.5 -0.8
CN2 *e*S **S 15 32 30.7 -1.0**
CN2 SS SS 15 35 59.4 -2.3
CN2 AMB AMB
comp=Z,230nm,0.9s,mb6.2
CN2 AMB AMB
comp=Z,2μm,7.0s
CN2 LR LR
comp=N,13μm,17.0s,MS6.1
CN2 LR LR
comp=E,11μm,17.0s,MS6.1
CN2 LR LR
comp=Z,12μm,19.0s,MS5.9
NCB Newcomb 50.12 68 *e*P **P 15 25 21.1 -1.4**
comp=Z,92nm,1.4s,mb5.6
NCB LR LR
comp=Z,12μm,22.0s,MS5.9
TZTN Tazewell 50.35 81 *e*P **P 15 25 22.6 -1.9**
MIV Mineville/With 50.40 68 *e*P **P 15 25 23.1 -1.6**
ZAIG Zacatecas 50.42 109 *e*P **P 15 25 24.9 -0.2**
BINY Binghamton 50.43 71 *e*P **P 15 25 23.3 -1.7**
comp=Z,112nm,1.3s,mb5.7
BINY LR LR
comp=Z,7μm,22.0s,MS5.7
SSPA Standing Stone 50.52 74 *e*P **P 15 25 23.8 -1.8**
comp=Z,159nm,1.4s,mb5.8
SSPA LR LR
comp=Z,15μm,20.0s,MS6.0
CPCT Cooper Cave 50.61 83 *e*P **P 15 25 24.1 -2.3**
ACCN Adirondack Com 50.81 68 *e*P **P 15 25 26.2 -1.6**
JMIC Jan Mayen 50.90 14 *e*P **P 15 25 28.6 +0.5**
JMIC *e*S **S 15 32 44.4 +1.6**
JMIC AMS AMS 15 50 59.3
comp=Z,6μm,20.3s,MS5.6
LRAL Lakeview Retre 51.01 87 *e*P **P 15 25 27.3 -2.2**
comp=Z,16nm,0.7s,mb5.1
LRAL LR LR
comp=Z,8μm,20.0s,MS5.8
FWV Forest Hill 51.11 78 *e*P **P 15 25 28.8 -1.3**
PQI Presque Isle 51.38 62 PFAKE 15 25 40.0 +7.9
PQI LR LR
comp=Z,61μm,21.0s,MS6.6
ELN Prospectdale 51.40 79 *e*P **P 15 25 30.2 -2.1**
BLA Blacksburg 51.59 79 *e*P **P 15 25 31.7 -2.1**
comp=Z,26nm,0.8s,mb5.2
BLA LR LR
comp=Z,9μm,20.0s,MS5.8
MVL Millersville 51.80 73 *e*P **P 15 25 33.1 -2.2**
FFD Franklin Falls 51.80 67 *e*P **P 15 25 31.1 -4.2**
CJM Chamela 51.84 114 *i*P **P 15 25 34.4 -1.5**
SDMD Soldier's Deli 51.95 74 *e*P **P 15 25 33.7 -2.9**
WVL Waterville 52.04 65 PFAKE 15 25 50.0 +13
WVL LR LR
comp=Z,33μm,19.0s,MS6.4
SNY Shenyang 52.44 291⇑P **P 15 25 39.3 -0.8**
SNY S **S 15 33 07.6 +3.3**
SNY AMB AMB
comp=Z,270nm,1.3s,mb6.0
SNY LR LR
comp=N,8μm,16.2s,MS6.1
SNY LR LR
comp=E,13μm,15.6s,MS6.1
SNY LR LR
comp=Z,9μm,22.8s
HRV Harvard--Oak R 52.53 68 *e*P **P 15 25 39.5 -1.3**
HRV LR LR
comp=Z,12μm,19.0s,MS5.9
GOGA Godfrey 52.70 84 *e*P **P 15 25 39.4 -2.8**
comp=Z,62nm,1.4s,mb5.3
GOGA LR LR
comp=Z,15μm,20.0s,MS6.0
WES Weston 52.74 68 *e*P **P 15 25 40.7 -1.7**
comp=Z,64nm,0.8s,mb5.6
WES LR LR
comp=Z,9μm,21.0s,MS5.8
EMMW East Machias 53.04 63 PFAKE 15 26 00.0 +15
EMMW LR LR
comp=Z,70μm,19.0s,MS6.7
CBIJ Chichi jima 53.14 264 P **P 15 25 44.5 -1.1**
comp=Z,336nm,0.7s,mb6.4,baz=16,slow=3.1,SNR=29
JSC Jenkinsville 53.28 82 *e*P **P 15 25 44.3 -2.2**
MOIG Morelia 53.69 110 *i*P **P 15 25 49.2 -0.4**
IRK Irkutsk 54.08 312 *e*P **P 15 25 50.9 -1.2**
IRK *e* 15 26 59.1
IRK pmax pmax
comp=Z,436nm,1.8s,mb6.1
BORG Borgarnes 54.26 23 PFAKE 15 26 00.0 +6.7
BORG LR LR
comp=Z,2μm,21.0s,MS5.1
KEV Kevo 54.41 359 *e*p **P 15 25 51.5 -2.8**
TRO Tromso 54.45 3 *e*P **P 15 25 53.2 -1.4**
comp=Z,422nm,1.6s,mb6.1
TRO Tromso 54.45 3 *e*P **P 15 25 53.2 -1.4**
TRO AMb AMB 15 25 59.2
comp=Z,422nm,1.6s,mb6.1
TRO *e*S **S 15 33 29.6 -1.6**
TRO AMS AMS 15 48 48.3
comp=Z,3μm,24.0s,MS5.3
ARCES ARCESS Array B 54.64 360 P **P 15 25 55.0 -1.0**
comp=Z,73nm,0.5s,mb5.9,baz=12,slow=7.2,SNR=316
ARCES LR LR 15 53 26.0
comp=Z,5μm,18.6s,MS5.6,baz=1.9,slow=41
ARE0 ARCESS Array S 54.64 360 *e*P **P 15 25 54.2 -1.8**
TLY Talaya 54.76 312 *c i*P **P 15 25 56.4 -0.7**
TLY *e* 15 28 02.5
TLY *e*S **S 15 33 32.6 -2.9**
TLY *e*PS PS 15 33 47.0 -0.9
TLY *e* 15 35 48.0
TLY pmax pmax
comp=Z,409nm,1.2s,mb6.3
TLY MLR MLR
comp=Z,12μm,14.0s,MS6.1
NHSC New Hope 54.76 82 *e*P **P 15 25 55.8 -1.6**
comp=Z,121nm,1.1s,mb5.8
NHSC LR LR
comp=Z,18μm,19.0s,MS6.2
KTK1 Kautokeino 55.15 1 *e*P **P 15 25 58.7 -1.1**
comp=Z,572nm,1.3s,mb6.4
KTK1 Kautokeino 55.15 1 *e*P **P 15 25 58.7 -1.1**
KTK1 AMb AMB 15 26 04.6
comp=Z,572nm,1.3s,mb6.4
ZIIG Zihuatanejo 55.26 112 *i*P **P 15 25 59.9 -1.4**
PPM Popocatepetl 55.55 108 *i*P **P 15 26 02.9 -0.4**
DL2 Dalian 55.58 290⇑*i*P **P 15 26 01.9 -1.4**
DL2 PP PP 15 28 10.1 +1.1
DL2 S **S 15 33 48.7 +1.9**

DL2 SCS ScS 15 35 50.8 +2.0
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.6
DL2 AMB AMB
comp=Z,790nm,12.0s
DL2 LR LR
comp=N,7μm,20.4s
DL2 LR LR
comp=Z,7μm,18.3s,MS5.8
LOF Lofoten 55.73 5⇓*i*P P 15 26 05.4 +1.4
comp=Z,241nm,1.9s,mb5.9
LOF Lofoten 55.73 5⇓*i*P P 15 26 05.4 +1.4
LOF AMb AMB 15 26 11.1
comp=Z,241nm,1.9s,mb5.9
KWAJ Kwajalein Atol 55.74 227 PFAKE 15 26 20.0 +15
KWAJ LR LR
comp=Z,2μm,20.0s,MS5.1
MOY Mondy 55.86 313 *e*P **P 15 26 04.9 -0.2**
MOY pmax pmax
comp=Z,365nm,2.3s,mb6.0
ZAK Zakamensk 55.88 311⇑*i*P P 15 26 04.9 -0.3
ZAK pmax pmax
comp=Z,79nm,1.3s,mb5.6
LVZ Lovozero 56.09 356⇑*i*P P 15 26 05.9 -0.7
LVZ *i* 15 28 11.6
LVZ *e*S **S 15 33 55.7 +2.5**
LVZ pmax pmax
comp=N,218nm,1.0s
LVZ pmax pmax
comp=E,41nm,1.0s
LVZ pmax pmax
comp=Z,534nm,1.0s,mb6.5
LVZ pmax pmax
comp=Z,889nm,1.1s,mb6.7
LVZ pmax pmax
comp=N,738nm,2.0s
LVZ pmax pmax
comp=E,172nm,1.6s
LVZ smax
comp=N,4μm,16.3s
LVZ smax
comp=Z,2μm,14.1s
LVZ smax
comp=E,1μm,12.2s
LVZ smax
comp=N,2μm,4.6s
LVZ smax
comp=Z,2μm,4.2s
LVZ smax
comp=E,3μm,5.7s
LVZ MLR MLR
comp=Z,5μm,16.0s,MS5.7
LVZ MLR MLR
comp=N,4μm,17.0s,MS5.7
LVZ MLR MLR
comp=E,2μm,16.0s,MS5.7
ULN Ulaanbaatar 56.12 307 *e*P **P 15 26 06.1 -0.9**
ULN pmax pmax
comp=Z,140nm,1.0s,mb6.0
ULN Ulaanbaatar 56.12 307 *e*P **P 15 26 06.0 -0.9**
comp=Z,136nm,1.0s,mb5.9
SONM Songino Array 56.43 307 P **P 15 26 08.8 -0.5**
comp=Z,248nm,0.8s,mb6.3,baz=43,slow=5.9,SNR=870
SONM PcP PcP 15 27 07.6 +1.5
comp=Z,40nm,0.7s,baz=88,slow=1.2,SNR=5.8
SONM ScP 15 31 05.8
comp=Z,6.7nm,1.1s,baz=45,slow=3.5,SNR=4.1
SONM S **S 15 34 02.1 +4.1**
comp=Z,6.0nm,1.2s,baz=49,slow=11,SNR=4.4
SONM LR LR 15 51 53.7
comp=Z,19μm,18.1s,MS6.2,baz=38,slow=38
SONM PKPPKP 15 55 53.4
comp=Z,0.7nm,1.0s,baz=198,slow=4.6,SNR=3.9
APA Apatity 56.47 356⇓*i*P P 15 26 08.8 -0.5
APA *i* 15 26 15.3
APA *i* 15 26 59.2
APA *i* 15 28 24.0
APA *i*S **S 15 33 59.0 +0.8**
APA *e* 15 36 00.0
APA pmax pmax
comp=Z,160nm,1.0s,mb6.0
MELSS Ber_school_2 57.01 5 *e*P **P 15 26 12.5 -0.6**
STOK Stokkvaagen 57.49 6 *e*P **P 15 26 15.8 -0.8**
BJI Beijing 57.56 295 P **P 15 26 16.6 -0.8**
BJI PCP PcP 15 27 05.0 -5.6
BJI S **S 15 34 14.3 +1.3**
BJI AMB AMB
comp=Z,121nm,0.8s,mb6.0
BJI AMB AMB
comp=Z,2μm,9.4s
BJI LR LR
comp=N,15μm,15.2s,MS6.3
BJI LR LR
comp=E,10μm,17.4s,MS6.3
BJI LR LR
comp=Z,10μm,16.7s,MS6.0
BJI Beijing 57.56 295 P **P 15 26 16.6 -0.8**
comp=Z,121nm,0.8s,mb6.0
BJI sP sP 15 26 30.1 +7.2
BJI PcP PcP 15 27 05.0 -5.6
BJI S **S 15 34 14.3 +1.3**
BJI sS 15 34 37.5
BJI LR LR
comp=Z,10μm,16.7s,MS6.0
BJT Baijiatuau 57.58 295 *e*P **P 15 26 16.2 -1.4**
comp=Z,94nm,0.8s,mb5.9
BJT LR LR
comp=Z,12μm,20.0s,MS6.0
MOR8 Moi Rana 57.73 5 *e*P **P 15 26 16.4 -1.8**
comp=Z,259nm,1.7s,mb6.0
MOR8 Moi Rana 57.73 5 *e*P **P 15 26 16.4 -1.8**
MOR8 AMb AMB 15 26 20.8
comp=Z,259nm,1.7s,mb6.0
DWPF Disney 57.86 87 PFAKE 15 26 30.0 +10
DWPF LR LR
comp=Z,8μm,21.0s,MS5.8
PNIG Pinotepa 58.02 109 *i*P **P 15 26 19.2 -1.7**
CMIG Matias Romero 59.17 106 *i*P **P 15 26 27.7 -1.3**
NSS Namsos 59.22 7 *e*P **P 15 26 26.8 -1.8**
comp=Z,475nm,1.3s,mb6.4
NSS Namsos 59.22 7 *e*P **P 15 26 26.8 -1.8**
NSS AMb AMB 15 26 32.7
comp=Z,475nm,1.3s,mb6.3
NSS *e*S **S 15 34 37.4 +3.1**
NSS AMS AMS 15 55 31.8
comp=Z,3μm,17.0s,MS5.5
HHC Hu-ho-hao-te 59.27 298⇑P P 15 26 28.3 -1.0
HHC AP pP 15 26 33.2 -0.1
HHC XP sP 15 26 35.5 +0.7
HHC PCP PcP 15 27 19.2 +1.9
HHC PP PP 15 28 40.4 -1.7
HHC PCS 15 31 17.9
HHC S **S 15 34 35.9 +0.6**
HHC SCS ScS 15 36 17.6 +2.1
HHC SS SS 15 38 31.4 -0.2
HHC AMB AMB
comp=Z,257nm,1.1s,mb6.2
HHC AMB AMB
comp=Z,2μm,7.3s
HHC LR LR
comp=N,9μm,15.9s,MS6.2
HHC LR LR
comp=E,13μm,15.7s,MS6.2
HHC LR LR
comp=Z,3μm,20.7s,MS5.5
HUIG Huatulco 59.61 108 *i*P **P 15 26 30.8 -1.2**
ZAL Zalesovo 60.03 324 P **P 15 26 34.4 0.0**
comp=Z,100nm,0.8s,mb5.9,baz=75,slow=7.0,SNR=449
ZAL S **S 15 34 49.5 +4.5**
comp=Z,0.8nm,0.5s,baz=38,slow=20,SNR=4.9
ZAL PKP2bc 15 56 09.3
comp=Z,0.6nm,0.8s,baz=244,slow=2.3,SNR=6.5
ZAL Zalesovo 60.03 324 P **P 15 26 34.4 0.0**
ZAL S **S 15 34 49.5 +4.5**
ZAL ⇑*e* 15 56 09.3
BTO Baotou 60.21 299 *e*P **P 15 26 35.1 -0.7**
BTO AMB AMB
comp=Z,194nm,1.2s,mb6.0
BTO LR LR
comp=N,3μm,9.3s
BTO LR LR
comp=E,1μm,9.4s
TEIG Tepich 60.24 98 *e*P **P 15 26 34.3 -1.9**
comp=E,103nm,1.6s,mb5.6
TEIG LR LR
comp=Z,3μm,19.0s,MS5.5

MOL Molde 60.81 9⇓*i*P P 15 26 41.0 +1.5
MOL AMb AMB 15 26 46.9
comp=Z,518nm,1.9s,mb6.3
JOW Kunigami 61.12 276 P **P 15 26 41.6 -0.5**
comp=Z,92nm,0.9s,mb5.9,baz=35,slow=3.6,SNR=17
TIY Taiyuan 61.23 295 ⇓P **P 15 26 43.0 +0.3**
TIY S **S 15 35 05.0 +4.5**
TIY LR LR
comp=N,13μm,13.0s
DOMB Dombas 61.47 9⇑*i*P P 15 26 42.6 -1.4
comp=N,287nm,1.5s,mb6.2
DOMB Dombas 61.47 9⇑*i*P P 15 26 42.6 -1.4
DOMB AMb AMB 15 26 49.0
comp=Z,287nm,1.5s,mb6.2
FOO Floro 61.52 11⇓*i*P P 15 26 43.6 -0.8
comp=Z,266nm,1.7s,mb6.1
FOO Floro 61.52 11⇓*i*P P 15 26 43.6 -0.8
FOO *e*pP pP 15 26 47.4 -1.0
FOO AMb AMB 15 26 49.1
comp=Z,266nm,1.7s,mb6.1
SSE Sheshan 61.72 284⇑P P 15 26 45.4 -0.8
SSE AP pP 15 26 52.2 +2.0
SSE PP PP 15 29 00.9 -3.5
SSE S **S 15 35 06.7 -0.1**
SSE XS 15 35 18.3
SSE SS SS 15 39 01.9 -8.3
SSE AMB AMB
comp=Z,161nm,1.5s,mb5.9
SSE AMB AMB
comp=Z,1μm,7.2s
SSE LR LR
comp=N,2μm,15.8s,MS5.8
SSE LR LR
comp=E,5μm,15.8s,MS5.8
SSE LR LR
comp=Z,7μm,15.3s,MS6.0
SSE Sheshan 61.72 284⇑P P 15 26 45.4 -0.8
SSE pP pP 15 26 52.2 +2.0
SSE PP PP 15 29 00.9 -3.5
SSE S **S 15 35 06.7 -0.1**
SSE sS 15 35 18.3
SSE ScS ScS 15 36 38.1 +4.2
SSE SS SS 15 39 01.9 -8.3
KAF Kangasniemi 62.09 360 *e*p **P 15 26 45.3 -2.9**
comp=Z,78nm,0.5s,mb6.1,baz=358,slow=6.4
KAF Kangasniemi 62.09 360 *e*P **P 15 26 45.3 -2.9**
KAF pmax pmax
comp=Z,78nm,0.5s,mb6.1
LRW Lerwick 62.16 15 *e*P **P 15 26 48.2 -0.6**
NJ2 Nanjing 62.24 287 *e*P **P 15 26 44.1 -5.6**
NJ2 XP sP 15 26 52.8 -2.3
NJ2 S **S 15 35 14.0 +0.6**
NJ2 XS 15 35 21.0
NJ2 AMB AMB
comp=Z,140nm,1.0s,mb6.0
NJ2 AMB AMB
comp=Z,2μm,10.6s
NJ2 LR LR
comp=N,11μm,20.9s
NJ2 LR LR
comp=E,13μm,29.1s
NJ2 LR LR
comp=Z,3μm,26.7s
GUMO Guam 62.56 253 PFAKE 15 27 00.0 +8.0
GUMO LR LR
comp=Z,3μm,20.0s,MS5.4
ASK Askoy 62.63 11 *e*P **P 15 26 51.2 -0.6**
comp=Z,541nm,1.6s,mb6.4
ASK Askoy 62.63 11 *e*P **P 15 26 51.2 -0.6**
ASK AMb AMB 15 26 57.4
comp=Z,541nm,1.6s,mb6.4
NB2 NORSAR Subarra 62.63 8 P **P 15 26 51.2 -0.6**
comp=Z,196nm,0.8s,mb6.3,baz=351,slow=6.5
NB2 NORSAR Subarra 62.63 8 P **P 15 26 51.2 -0.6**
baz=351,slow=6.9
NOA NORSAR Array B 62.63 8 P **P 15 26 50.8 -1.0**
comp=Z,115nm,0.8s,mb6.0,baz=351,slow=6.7,SNR=326
NOA PKPPKP 15 55 54.5
comp=Z,2.6nm,1.2s,baz=247,slow=3.7,SNR=3.0
RUND Rundenannen 62.71 11 *e*P **P 15 26 52.1 -0.3**
RUND *e*pP pP 15 26 56.3 -0.1
RUND AMb AMB 15 26 58.0
comp=Z,328nm,1.3s,mb6.3
BER Bergen 62.74 11⇓*i*P P 15 26 52.3 -0.2
BER Bergen 62.74 11 *e*P **P 15 26 52.2 -0.3**
BER ⇓*i*P 15 26 52.3
BER *e*S **S 15 35 20.0 +0.7**
BER AMS AMS 15 58 24.9
comp=Z,4μm,16.3s,MS5.7
FINES FINESS Array B 62.76 360 P **P 15 26 51.5 -1.1**
comp=Z,136nm,0.8s,mb6.1,baz=14,slow=8.1,SNR=414
FINES PKPPKP 15 55 57.5
comp=Z,2.6nm,0.8s,baz=108,slow=6.0,SNR=7.9
FINES FINESS Array B 62.76 360 P **P 15 26 51.5 -1.1**
FINES P'P' 15 55 57.5
NAO01 NORSAR Array S 62.80 8 *e*P **P 15 26 52.0 -0.9**
comp=Z,135nm,0.9s,mb6.1
NAO01 LR LR
comp=Z,4μm,20.0s,MS5.6
EGD Espegrend 62.84 11 *e*P **P 15 26 52.6 -0.6**
comp=Z,489nm,1.7s,mb6.4
EGD Espegrend 62.84 11 *e*P **P 15 26 52.6 -0.6**
EGD *e*pP pP 15 26 57.3 +0.1
EGD AMb AMB 15 26 58.8
comp=Z,489nm,1.7s,mb6.4
OSL Oslo 63.68 8 *e*P **P 15 26 58.3 -0.3**
comp=Z,141nm,1.3s,mb5.8
OSL Oslo 63.68 8 *e*P **P 15 26 58.3 -0.3**
OSL AMb AMB 15 27 04.1
comp=Z,141nm,1.3s,mb5.8
BBSR BB Station 63.72 71 PFAKE 15 27 10.0 +11
BBSR LR LR
comp=Z,4μm,20.0s,MS5.6
BLS5 Blasjo 63.80 11 *e*P **P 15 26 59.8 +0.4**
comp=Z,140nm,1.9s,mb5.7
BLS5 Blasjo 63.80 11 *e*P **P 15 26 59.8 +0.4**
BLS5 AMb AMB 15 27 07.2
comp=Z,140nm,1.9s,mb5.7
MVH1 Achvaich 63.82 17⇑*e*P P 15 26 59.1 -0.5
SVE Sverdlovsk 63.86 339*d*P P 15 26 59.1 -0.7
SVE *i* 15 29 25.2
SVE *i*S **S 15 35 31.4 -1.7**
SVE *i* 15 36 42.8
SVE pmax pmax
comp=Z,723nm,1.8s,mb6.4
SVE MLR MLR
comp=Z,7μm,26.0s,MS5.7
KONO Kongsberg 63.88 9 *e*P **P 15 26 59.7 -0.1**
KONO *e*P pP 15 27 03.0 -0.9
KONO *e*pP pP 15 27 04.1 +0.2
KONO *e*S **S 15 35 34.5 +1.1**
STAV Stavanger 64.20 11 *e*P **P 15 27 01.4 -0.6**
comp=Z,224nm,1.8s,mb5.9
STAV Stavanger 64.20 11 *e*P **P 15 27 01.4 -0.6**
STAV AMb AMB 15 27 07.8
comp=Z,224nm,1.8s,mb5.9
MDO Dochfour 64.25 17 *e*P **P 15 27 01.9 -0.5**
MCD Coleburn Disti 64.30 17⇑*e*P P 15 27 02.4 -0.4
PUL Pulkovo 64.38 357*de*P P 15 27 03.1 -0.1
PUL *e*S **S 15 35 42.7 +3.1**
PUL *i* 15 36 52.0
PUL *i*SS SS 15 39 53.8 +2.6
PUL *i*SSS SSS 15 42 47.1 +6.4
PUL pmax pmax
comp=Z,434nm,0.8s,mb6.5
PUL pmax pmax
comp=N,566nm,0.9s
PUL pmax pmax
comp=E,179nm,0.6s
PUL pmax pmax
comp=Z,730nm,1.1s,mb6.6
PUL pmax pmax
comp=N,789nm,1.0s
PUL pmax pmax
comp=E,245nm,0.8s
PUL Pulkovo 64.38 357⇑*i*P P 15 27 02.9 -0.3
CHKZ Chkalovo 64.46 332 *e*P **P 15 27 02.0 -1.8**
CHKZ pmax pmax
comp=Z,220nm,0.9s,mb6.2
CHKZ Chkalovo 64.46 332 *e*P **P 15 27 02.0 -1.8**
comp=Z,217nm,0.9s,mb6.2
MME1 Meikle Cairn 64.60 17 *e*P **P 15 27 03.8 -0.9**
ARU Arti 64.63 340⇑*i*P P 15 27 03.6 -1.3
ARU *i* 15 27 36.1
ARU *i*S **S 15 35 43.4 +0.7**

ARU *e* 15 36 52.6
ARU *e*SS SS 15 39 52.9 -2.4
ARU pmax pmax
comp=Z,275nm,0.8s,mb6.3
ARU MLR MLR
comp=Z,10μm,20.0s,MS6.0
ARU MLR MLR
comp=N,10μm,19.0s,MS6.1
ARU MLR MLR
comp=E,2μm,16.0s,MS6.1
ARU Arti 64.63 340 *e*P **P 15 27 03.1 -1.7**
comp=E,346nm,0.9s,mb6.4
ARU LR LR
comp=Z,2μm,20.0s,MS5.4
KURK Kurchatov 64.77 326⇑*e*P P 15 27 04.9 -1.0
comp=Z,176nm,0.9s,mb6.1
KURK LR LR
comp=Z,3μm,19.0s,MS5.5
BVA0 Borovoye Array 65.10 332 *i*P **P 15 27 07.0 -1.0**
BVA0 pmax pmax
comp=Z,34nm,0.8s,mb5.4
BVAR Borovoye Array 65.10 332 S S 15 35 45.4 -3.2
comp=Z,2.9nm,1.0s,baz=72,slow=14,SNR=4.1
BVAR PKPPKP 15 55 44.2
comp=Z,0.9nm,0.9s,baz=180,slow=5.8,SNR=4.8
EAB Aberfoyle 65.45 18⇑*i*P P 15 27 09.4 -0.8
EAB AMb AMB 15 27 15.3
comp=Z,378nm,1.8s,mb6.1
EBH Black Hill 65.54 17⇑*i*P P 15 27 09.9 -0.8
EBH AMb AMB 15 27 15.1
comp=Z,271nm,1.2s,mb6.2
WHN Wuhan 65.81 289 P **P 15 27 12.2 -0.7**
WHN S S 15 35 59.0 +1.3
WHN AMB AMB
comp=Z,230nm,0.8s,mb6.3
WHN AMB AMB
comp=Z,2μm,11.6s
WHN LR LR
comp=Z,15μm,14.7s,MS6.3
XAN Xi'an 65.87 295 P **P 15 27 12.0 -1.2**
XAN S S 15 35 56.6 -1.8
XAN AMB AMB
comp=Z,228nm,1.6s,mb6.0
XAN LR LR
comp=N,14μm,12.8s,MS6.4
XAN LR LR
comp=E,10μm,12.8s,MS6.4
XAN LR LR
comp=Z,16μm,13.6s,MS6.4
EDI Edinburgh 65.90 17 *e*P **P 15 27 12.1 -0.9**
EDI AMb AMB 15 27 17.9
comp=Z,238nm,1.5s,mb6.0
EAU Auchinoon 65.93 17⇑*i*P P 15 27 12.8 -0.5
EAU AMb AMB 15 27 18.7
comp=Z,662nm,1.7s,mb6.4
GTA Gaotai 65.98 305⇑*i*P P 15 27 13.0 -0.8
GTA AP pP 15 27 23.8 +5.9
GTA PCP PcP 15 27 43.7 -0.8
GTA PP PP 15 29 40.4 -1.1
GTA PPP PPP 15 31 17.0 +0.5
GTA PCS 15 31 46.6
GTA S S 15 35 59.5 -0.1
GTA PS PS 15 36 26.5 +3.5
GTA SS SS 15 40 16.5 +0.3
GTA AMB AMB
comp=Z,194nm,1.3s,mb6.0
GTA AMB AMB
comp=Z,2μm,9.1s
GTA LR LR
comp=N,12μm,19.4s,MS6.5
GTA LR LR
comp=E,25μm,17.5s,MS6.5
GTA LR LR
comp=Z,8μm,22.1s,MS5.9
TATO Taipei 66.34 280 PFAKE 15 27 30.0 +14
TATO LR LR
comp=Z,6μm,20.0s,MS5.8
ESK Eskdalemuir 66.48 17 *e*P **P 15 27 16.0 -0.8**
comp=Z,143nm,1.1s,mb5.9
ESK LR LR
comp=Z,2μm,19.0s,MS5.2
ESK Eskdalemuir 66.48 17⇑*e*P P 15 27 16.3 -0.4
ESK AMb AMB 15 27 22.4
comp=Z,207nm,1.8s,mb5.9
GAL1 Galloway 66.65 18⇑*e*P P 15 27 17.4 -0.4
LZH Lanzhou 66.76 300 ⇑P P 15 27 18.7 -0.2
LZH PP PP 15 29 47.3 -0.5
LZH S S 15 36 12.2 +3.1
LZH AMB AMB
comp=Z,810nm,1.4s,mb6.6
LZH AMB AMB
comp=Z,2μm,4.2s
LZH LR LR
comp=E,42μm,17.4s
LZH LR LR
comp=Z,42μm,18.4s,MS6.7
LZH Lanzhou 66.76 300 ⇑P P 15 27 18.7 -0.2
comp=Z,810nm,1.4s,mb6.6
LZH pP pP 15 27 34.9 +12
LZH sP sP 15 27 42.0 +18
LZH PP PP 15 29 47.3 -0.5
LZH S S 15 36 12.2 +3.1
LZH sS 15 36 32.0
LZH SS SS 15 40 35.1 +6.4
LZH LR LR
comp=Z,42μm,18.4s,MS6.7
PECR Pechory 66.89 349⇑*i*P P 15 27 18.0 -1.4
PECR *i* 15 27 18.0
PECR *e*S S 15 36 11.0 +0.7
PECR *e* 15 36 38.0
PECR *e* 15 37 15.0
PECR pmax pmax
comp=Z,6μm,1.6s
PECR pmax pmax
comp=Z,2μm,6.8s
PECR smax
comp=E,2μm,7.0s
PECR MLR MLR
comp=Z,9μm,23.0s,MS5.9
PECR MLR MLR
comp=Z,8μm,20.0s
PECR MLR MLR
comp=E,3μm,18.0s
NACB Ninganchiao 66.91 279 *e*P **P 15 27 17.9 -2.2**
MKAR Makanchi Array 66.94 321 P **P 15 27 18.8 -1.1**
MKAR S S 15 36 13.9 +2.8
MKAR Makanchi Array 66.94 321 P **P 15 27 18.8 -1.1**
comp=E,78nm,0.7s,mb5.8,baz=42,slow=5.6,SNR=448
MKAR PP PP 15 29 32.6 -16
comp=E,8.6nm,0.8s,baz=22,slow=7.8,SNR=2.6
MKAR S S 15 36 13.9 +2.8
comp=E,2.2nm,0.9s,baz=22,slow=7.8,SNR=7.5
MKAR PKPPKP 15 55 44.1
comp=E,3.5nm,1.2s,baz=243,slow=3.2,SNR=9.5
MKAR LR LR 15 59 15.9
comp=E,12μm,19.0s,MS6.1,baz=20,slow=38
MUD Monsted U'grnd 66.99 10⇑*i*P P 15 27 20.3 +0.3
MUD *i*S S 15 36 18.6 +7.1
MUD pmax pmax
comp=Z,180nm,1.0s,mb6.1
MUD MLR MLR
comp=Z,3μm,17.0s,MS5.5
MUD Monsted U'grnd 66.99 10⇑*i*P P 15 27 20.3 +0.3
comp=Z,175nm,1.0s,mb6.0
MUD *i*S S 15 36 18.6 +7.1
comp=Z,3μm,17.0s
GMM Mts of Mourne 67.02 19⇑*e*P P 15 27 19.6 -0.6
WMQ Urumqi 67.48 316 ⇑P P 15 27 23.4 +0.1
WMQ AP pP 15 27 28.0 +0.7
WMQ XP sP 15 27 30.4 +1.6
WMQ PCP PcP 15 27 50.9 +0.2
WMQ PP PP 15 29 53.9 0.0
WMQ PPP PPP 15 31 31.0 +0.1
WMQ SCP 15 31 51.9
WMQ PCS 15 31 54.4
WMQ S S 15 36 17.4 -0.2
WMQ XS 15 36 25.2
WMQ PS PS 15 36 42.4 -0.4
WMQ SCS ScS 15 37 17.4 -0.2
WMQ SS SS 15 40 38.7 -0.9
WMQ AMB AMB
comp=Z,127nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,368nm,2.7s,mb5.9
WMQ LR LR

comp=N,16μm,15.2s,MS6.4
WMQ LR LR
comp=E,7μm,14.4s,MS6.4
WMQ LR LR
comp=Z,11μm,18.6s,MS6.1
DCN Croghan 67.62 21 *e*P **P 15 27 23.5 -0.5**
DLF Lyons Farm 67.81 20⇑*i*P **P 15 27 24.5 -0.7**
QZH Quanzhou 67.95 282⇑*i*P **P 15 27 25.6 -1.0**
QZH PP PP 15 29 55.8 -2.7
QZH S S 15 36 27.1 +3.5
QZH SCS ScS 15 37 24.4 +2.8
QZH LR LR
comp=N,6μm,11.8s,MS6.2
QZH LR LR
comp=E,8μm,13.5s,MS6.2
QZH LR LR
comp=Z,9μm,13.8s,MS6.2
COP Copenhagen 68.04 8⇑*i*P **P 15 27 26.3 -0.3**
COP *i* S S 15 36 28.6 +4.5
COP pmax pmax
comp=Z,56nm,0.6s,mb5.8
COP MLR MLR
comp=Z,2μm,18.0s,MS5.3
COP Copenhagen 68.04 8⇑*i*P **P 15 27 26.3 -0.3**
comp=Z,56nm,0.6s,mb5.8
COP *i* S S 15 36 28.6 +4.5
COP *i* 15 44 38.2
comp=Z,2μm,18.0s
HPK Haverah Park 68.05 17⇑*e*P **P 15 27 26.7 0.0**
HPK AMb AMB 15 27 31.9
comp=Z,590nm,1.4s,mb6.4
MOS Moscow 68.05 353*α i*P **P 15 27 26.6 0.0**
MOS *e* 15 29 58.0
MOS *e*S S 15 36 25.3 +1.1
MOS pmax pmax
comp=Z,400nm,1.0s,mb6.4
MOS pmax pmax
comp=Z,440nm,1.5s,mb6.3
LHO Holmfirth 68.41 17⇑*e*P **P 15 27 28.4 -0.5**
LHO AMb AMB 15 27 35.4
comp=Z,382nm,1.5s,mb6.2
IZAR Zarasai 68.47 360 *e*P **P 15 27 28.6 -0.7**
IZAR AMPb AMB 15 27 35.3
comp=Z,62nm,1.3s,mb5.5
ENH Enshi 68.58 292 *e*P **P 15 27 28.9 -1.5**
comp=Z,528nm,1.4s,mb6.3
ENH LR LR
comp=Z,8μm,21.0s,MS5.9
ISAL Salakas 68.65 360 *i* P **P 15 27 29.9 -0.5**
ISAL AMPb AMB 15 27 32.0
comp=Z,63nm,1.1s,mb5.5
KBI1 Birley Grange 68.74 17 *e*P **P 15 27 30.1 -0.9**
OBN Obninsk 68.74 353*c i*P **P 15 27 30.1 -0.9**
OBN *e* 15 29 59.8
OBN *e*S S 15 36 31.0 -1.5
OBN *e*SS SS 15 40 53.6 -5.5
OBN pmax pmax
comp=Z,491nm,1.6s,mb6.2
OBN MLR MLR
comp=Z,3μm,13.0s,MS5.7
OBN Obninsk 68.74 353 *e*P **P 15 27 29.8 -1.2**
comp=Z,240nm,0.9s,mb6.1
OBN LR LR
comp=Z,1μm,20.0s,MS5.1
BSD Bornholm Skovb 68.78 6⇑*i*P **P 15 27 30.8 -0.4**
BSD *i* S S 15 36 36.8 +3.9
BSD pmax pmax
comp=Z,75nm,0.7s,mb5.7
BSD MLR MLR
comp=Z,2μm,20.0s,MS5.3
BSD Bornholm Skovb 68.78 6⇑*i*P **P 15 27 30.8 -0.4**
comp=Z,75nm,0.7s,mb5.7
BSD *i* S S 15 36 36.8 +3.9
comp=Z,2μm,20.0s
SBD1 Bryn Du 68.78 18⇑*e*P **P 15 27 31.3 0.0**
SBD1 AMb AMB 15 27 37.0
comp=Z,383nm,1.7s,mb6.0
IIGN Ignalina 68.87 360 *i* P **P 15 27 31.3 -0.5**
IIGN AMPb AMB 15 27 33.4
comp=Z,66nm,1.3s,mb5.4
IDID Didziasalis 68.91 359 *e*P **P 15 27 31.3 -0.7**
IDID AMPb AMB 15 27 33.5
comp=Z,67nm,1.2s,mb5.5
KWE Weaver Farm 68.92 17⇑*e*P **P 15 27 32.1 0.0**
HLM1 Long Mynd 69.22 18⇑*i*P **P 15 27 33.6 -0.3**
HLM1 AMb AMB 15 27 39.9
comp=Z,298nm,1.6s,mb6.0
RGN Rugen 69.23 8 *e*P **P 15 27 33.8 -0.2**
comp=Z,596nm,1.4s,mb6.3
SSP1 Stoney Pound 69.28 18⇑*e*P **P 15 27 34.0 -0.4**
SSP1 AMb AMB 15 27 40.3
comp=Z,314nm,1.7s,mb6.0
HTR Trewern Hill 69.57 18⇑*i*P **P 15 27 35.9 -0.3**
HTR AMb AMB 15 27 41.9
comp=Z,287nm,1.7s,mb5.9
BSEG Bad Segeberg 69.59 9 *e*P **P 15 27 36.3 +0.1**
BSEG pmax pmax
comp=Z,259nm,1.3s,mb6.0
MCH1 Michaelchurch 69.70 18⇑*e*P **P 15 27 36.5 -0.3**
HSA Swansea 69.73 19 *e*P **P 15 27 37.0 -0.1**
HAE Alders End 69.74 18⇑*i*P **P 15 27 37.4 +0.3**
HAE AMb AMB 15 27 43.1
comp=Z,466nm,1.8s,mb6.1
KTG1 Tilbrook Grang 69.82 17 *e*P **P 15 27 37.7 +0.1**
HGH Gray Hill 70.08 18⇑*i*P **P 15 27 39.1 -0.1**
HGH AMb AMB 15 27 45.1
comp=Z,260nm,1.6s,mb5.9
JTS JuntasAbangare 70.17 101 *i* P **P 15 27 40.2 -0.2**
JTS JuntasAbangare 70.17 101 PFAKE 15 27 50.0 +10
JTS LR LR
comp=Z,575nm,20.0s,MS4.8
SUW Suwalki 70.20 1 *e*P **P 15 27 38.5 -1.3**
comp=Z,400nm,0.9s,mb6.3
SUW *e*pP pP 15 27 41.4 -2.5
SUW *e*PcP PcP 15 27 55.4 -6.5
SUW *e*S S 15 36 50.5 +0.8
SUW MLR MLR 16 05 01.5
comp=Z,5μm,19.0s,MS5.8
WIT Witteveen 70.32 12 *e*P **P 15 27 41.5 +0.9**
HEX Exmoor 70.45 19 *e*P **P 15 27 41.2 -0.3**
GKP Gorka Klasztor 70.75 5 *e*P **P 15 27 43.3 0.0**
comp=Z,400nm,1.1s,mb6.3
GKP *e*pP pP 15 27 46.1 -1.2
GKP *e*PcP PcP 15 27 58.6 -5.7
GKP *e*S S 15 36 51.1 -5.0
GKP *e*sS 15 37 00.7
GKP MLR MLR 16 05 10.4
comp=Z,6μm,19.0s,MS5.8
CD2 Chengdu 70.97 297⇑*i*P **P 15 27 44.8 -0.2**
CD2 PCP PcP 15 28 07.6 +2.0
CD2 PP PP 15 30 23.6 -1.0
CD2 S S 15 36 53.1 -6.1
CD2 AMB AMB
comp=Z,300nm,1.4s,mb6.0
CD2 LR LR
comp=N,15μm,13.3s
CD2 LR LR
comp=Z,19μm,13.6s,MS6.5
PMOR Pomariorio Ree 71.08 173 *e*P **P 15 27 44.6 -1.3**
comp=Z,211nm,1.3s,mb5.9
WTSB Winterswijk 71.17 12⇑*e*P **P 15 27 45.6 -0.2**
comp=Z,184nm,1.1s,mb5.9
WTSB *e*S S 15 37 06.0 +5.0
AFI Afiamalu 71.26 198 LR LR 15 54 53.0
comp=Z,4μm,18.0s,MS5.7,baz=12,slow=32
AFI Afiamalu 71.26 198 PFAKE 15 28 00.0 +13
AFI LR LR
comp=Z,5μm,20.0s,MS5.8
RUE Ruedersdorf 71.32 8 *e*P **P 15 27 46.4 -0.3**
comp=Z,421nm,1.4s,mb6.2
VAH Vaihoa 71.33 173 *e*P **P 15 27 46.5 -0.9**
comp=Z,221nm,1.2s,mb6.0
CLZ Clausthal 71.67 10 *e*P **P 15 27 49.0 +0.2**
comp=Z,201nm,1.1s,mb6.0
AAA Alma-Ata 71.86 323*c i*P **P 15 27 50.0 -0.1**
AAA *i* S S 15 37 15.0 +5.9
AAA pmax pmax
comp=Z,2μm,8.0s
AAA smax
comp=N,2μm,4.0s
AAA smax
comp=E,4μm,4.0s
AAA MLR MLR
comp=N,13μm,15.0s,MS6.3
AAA MLR MLR
comp=E,6μm,15.0s,MS6.3
AAA MLR MLR
comp=Z,15μm,15.0s,MS6.4
VOR Voronezh 71.90 351 *e*P **P 15 27 49.0 -1.2**
VOR *e*S S 15 37 09.0 -0.4
VOR *e* 15 37 43.0
VOR pmax pmax
comp=Z,300nm,1.8s,mb5.9
VOR pmax pmax
comp=N,250nm,1.5s
VOR pmax pmax
comp=E,50nm,1.8s
VOR pmax pmax
comp=N,140nm,1.5s
VOR pmax pmax
comp=Z,90nm,1.5s,mb5.5
VOR pmax pmax
comp=E,110nm,1.2s
VOR smax
comp=N,150nm,1.7s
VOR smax
comp=E,130nm,1.7s
WAR Warsaw 71.93 3 *e*P **P 15 27 50.8 +0.4**
WAR *e*pP pP 15 27 55.4 +1.0
WAR *e* 15 28 07.0
WAR *e*S S 15 37 11.2 +1.5
WAR MLR MLR 15 58 57.3
comp=E,4μm,24.1s,MS5.6
CVP Callao Caves 71.96 275 *e*P **P 15 27 50.0 -1.2**
APYP Conner 72.16 275 *e*P **P 15 27 50.9 -1.5**
HGN Heimansgroeve 72.24 13⇑*i*P **P 15 27 51.9 -0.3**
comp=E,170nm,2.0s,mb5.6
HGN *e*PcP PcP 15 28 08.2 -2.5
HGN *e*S S 15 37 19.0 +5.6
HGN *e*SS SS 15 41 54.7 +1.5
GZH Guangzhou 72.30 285 P **P 15 27 48.9 -4.2**
GZH S S 15 37 04.6 -10
GZH AMB AMB
comp=Z,136nm,1.2s,mb5.8
GZH LR LR
comp=N,2μm,15.9s,MS6.0
GZH LR LR
comp=E,6μm,14.3s,MS6.0
GZH LR LR
comp=Z,7μm,14.3s,MS6.1
CLL Collm 72.43 8⇑*i*P **P 15 27 52.8 -0.6**
CLL *e* 15 28 02.0
CLL *i* 15 28 10.1
CLL *e*S S 15 37 14.0 -1.5
CLL pmax pmax
comp=Z,398nm,2.0s,mb6.0
CLL MLR MLR
comp=Z,5μm,19.9s,MS5.8
CLL Collm 72.43 8⇑*i*P **P 15 27 52.8 -0.6**
comp=Z,398nm,2.0s,mb6.0
CLL *e* 15 28 02.0
CLL *i* 15 28 10.1
CLL *e*S S 15 37 14.0 -1.5
CLL P'P' 15 55 48.0
CLL LR LR
comp=Z,5μm,19.9s,MS5.8
CLL Collm 72.43 8 ⇑P **P 15 27 52.8 -0.6**
comp=Z,logA/T=2.3,mb6.0
CLL *i* *PP pP 15 27 57.2 -0.2
CLL *i* 15 28 10.1
CLL *e*S S 15 37 14.0 -1.5
CLL *e*PS PS 15 37 43.0 -5.4
CLL *e*PPS PPS 15 38 04.0 +2.1
CLL *e* 15 40 08.0
CLL *e*SS SS 15 42 06.0 +10
CLL *e* 15 45 43.0
CLL L 15 48 08.0
CLL *e* 15 55 48.0
CAUP Cauayan 72.58 274 *e*P **P 15 27 54.8 0.0**
TKM2 Tokmak 2 72.62 324 P **P 15 27 55.1 +0.6**
SNR=156
ABRA Dolores 72.63 276 *e*P **P 15 27 56.2 +1.2**
USP Ospenovka 72.67 325 P **P 15 27 55.2 +0.4**
SNR=134
BAIF Baives 72.71 14 *e*P **P 15 27 55.4 +0.5**
comp=Z,346nm,1.2s,mb5.8
GIVF Givet 72.75 14 *e*P **P 15 27 55.3 +0.2**
comp=Z,433nm,1.3s,mb5.9
CHMS Chumysh 72.83 324 P **P 15 27 56.4 +0.6**
SNR=94
BRG Berggiesshubel 72.93 8 *i* P **P 15 27 56.8 +0.6**
BRG *e* 15 30 37.1
BRG *e*S S 15 37 24.0 +2.9
BRG *i* SS SS 15 42 08.0 +3.9
BRG pmax pmax
comp=Z,126nm,1.1s,mb5.8
BRG MLR MLR
comp=N,3μm,13.4s,MS6.0
BRG MLR MLR
comp=E,4μm,13.4s,MS6.0
BRG MLR MLR
comp=Z,4μm,13.4s,MS5.8
BRG Berggiesshubel 72.93 8 *i* P **P 15 27 56.8 +0.6**
comp=Z,126nm,1.1s,mb5.8
BRG *e*PP PP 15 30 37.1 -3.6
BRG *e*S S 15 37 24.0 +2.9
BRG *i* SS SS 15 42 08.0 +3.9
BRG *e*P'P' 15 55 36.9
BRG LR LR
comp=Z,4μm,13.4s,MS5.8
ULHL Ulahol 73.01 323 P **P 15 27 57.4 +0.6**
SNR=19
FRU Bishkek 73.02 324⇑*i*P **P 15 27 57.0 +0.1**
FRU *i* 15 28 21.0
FRU *e* 15 37 26.0
FRU pmax pmax
comp=Z,900nm,1.6s,mb6.5
KBK Karagaybulak 73.07 324 P **P 15 27 57.7 +0.5**
SNR=207
TNS Taunus Mts 73.07 11 *e*P **P 15 27 57.0 0.0**
TNS pmax pmax
comp=Z,100nm,0.8s,mb5.8
TNS Taunus Mts 73.07 11 *e*P **P 15 27 57.0 0.0**
comp=Z,100nm,0.8s,mb5.8
GYA Guiyang 73.11 292⇑*i*P **P 15 27 57.4 -0.4**
GYA PPP PPP 15 32 25.9 -0.1
GYA S S 15 37 26.4 +2.8
GYA AMB AMB
comp=Z,140nm,1.2s,mb5.8
GYA AMB AMB
comp=Z,2μm,9.0s
GYA LR LR
comp=N,3μm,21.1s,MS5.8
GYA LR LR
comp=E,5μm,18.9s,MS5.8
GYA LR LR
comp=Z,5μm,24.3s
KSP Ksiaz 73.12 6⇑*e*P **P 15 27 57.2 -0.1**
KSP *e* 15 28 10.2
KSP *e*S S 15 37 22.0 -1.2
KSP *e*SS SS 15 42 01.0 -6.0
KSP MLR MLR
comp=Z,7μm,20.8s,MS5.9
KSP Ksiaz 73.12 6⇑*e*P **P 15 27 57.2 -0.1**
KSP *e* 15 28 10.2
KSP *e*PP PP 15 30 33.5 -8.8
KSP *e*S S 15 37 22.0 -1.2
KSP *e*SS SS 15 42 01.0 -6.0
KSP LR LR
comp=Z,7μm,20.8s,MS5.9
KSP Ksiaz 73.12 6 *e*P **P 15 27 57.2 -0.1**
comp=Z,400nm,1.2s,mb6.2
KSP *e*pP pP 15 27 59.7 -1.6
KSP *e*PcP PcP 15 28 07.9 -6.3
KSP *e*PP PP 15 30 36.4 -5.9
KSP *e*S S 15 37 24.4 +1.2
KSP MLR MLR 16 05 12.2
comp=Z,6μm,20.8s,MS5.9
ROSF Rostrenen 73.17 20 *e*P **P 15 27 57.2 -0.4**
comp=Z,157nm,1.0s,mb5.6
AAK Ala-Archa 73.24 324 P **P 15 27 58.8 +0.6**
SNR=116
AAK Ala-Archa 73.24 324 *i* P **P 15 27 58.5 +0.3**
AAK pmax pmax
comp=Z,236nm,1.2s,mb6.0
AAK Ala-Archa 73.24 324 *i* P **P 15 27 58.6 +0.4**
FLN La Foliniere 73.25 18 *e*P **P 15 27 58.1 0.0**
comp=Z,198nm,1.2s,mb5.6
FLN *e*R
comp=Z,14μm,19.8s
ABH Alteburg 73.31 12 *e*P **P 15 27 58.5 +0.1**
ABH Alteburg 73.31 12⇑*e*P **P 15 27 58.6 +0.2**
PVCC Panska Ves 73.32 7⇑*i*P **P 15 27 58.5 0.0**
PVCC *e*PCP PcP 15 28 13.8 -1.3
PVCC *e*S S 15 37 27.0 +1.5
PVCC AMS AMS 16 09 50.0
comp=Z,4μm,15.6s
WLF Walferdange 73.35 13 *e*P **P 15 27 58.9 +0.2**
WLF pmax pmax
comp=Z,110nm,1.1s,mb5.7
WLF Walferdange 73.35 13 *e*P **P 15 27 58.9 +0.2**
comp=Z,114nm,1.1s,mb5.7
SGMF Saint Gilles 73.38 19 *e*P **P 15 27 59.3 +0.5**
comp=Z,303nm,1.2s,mb5.8
RUP Ruppelstein 73.43 12 *e*P **P 15 27 59.2 +0.1**
RUP Ruppelstein 73.43 12⇑*e*P **P 15 27 59.4 +0.3**
UPC Upice 73.44 6⇑*i*P **P 15 27 59.0 -0.1**
EKS2 Erkin-Say 73.45 325 P **P 15 28 00.1 +0.7**
SNR=214
NKC Novy Kostel 73.45 9⇑*i*P **P 15 27 59.3 +0.1**
NKC *e*pP PcP 15 28 13.3 -2.4
NKC *e*S S 15 37 27.1 +0.2
NKC Novy Kostel 73.45 9⇑*i*P **P 15 27 59.3 +0.1**
NKC *e*PCP PcP 15 28 13.3 -2.4
NKC *e*S S 15 37 27.1 +0.2
NKC AMS AMS 16 04 00.0
comp=Z,3μm,18.3s
LDF La Druitiere 73.48 17 *e*P **P 15 27 59.3 -0.1**
comp=Z,668nm,1.9s,mb6.0
AKASG Malin Array Be 73.49 358 P **P 15 27 57.5 -1.9**
AKASG S S 15 37 27.5 +0.2
AKASG Malin Array Be 73.49 358 P **P 15 27 57.5 -1.9**
comp=Z,45nm,0.6s,mb5.5,baz=1.7,slow=5.8,SNR=109
AKASG PP PP 15 30 27.1 -18
comp=Z,3.6nm,0.7s,baz=1.7,slow=9.6,SNR=3.5
AKASG S S 15 37 27.4 +0.1
comp=Z,0.2nm,0.4s,baz=13,slow=13,SNR=4.7
KZA Kyzart 73.49 324 P **P 15 28 00.8 +1.2**
SNR=68
PPT Papeete 73.53 175 *e*P **P 15 27 59.1 -1.3**
comp=Z,167nm,1.5s,mb5.8
PPT Papeete 73.53 175 *e*LQ 15 46 51.7
PPT *e*LR LR 15 49 51.1
comp=Z,5μm,19.8s,baz=356
PPT Papeete 73.53 175 P **P 15 28 00.0 -0.3**
comp=Z,31nm,0.7s,mb5.3,baz=20,slow=9.4,SNR=4.9
PPT LR LR 15 55 28.0
comp=Z,7μm,18.9s,MS6.0,baz=354,slow=32
TIAR Tiarei 73.53 175 *e*P **P 15 27 59.1 -1.3**
comp=Z,450nm,1.3s,mb6.2
GRR Gorron 73.55 18 *e*P **P 15 27 59.9 +0.1**
QUIF Quistinic 73.59 20 *e*P **P 15 27 59.6 -0.5**
comp=Z,473nm,1.7s,mb5.8
UCH Uchtor 73.60 324 P **P 15 28 01.4 +1.1**
SNR=45
DPC Dobruska-Polom 73.61 6⇑*i*P **P 15 28 00.4 +0.2**
DPC *e*S S 15 37 32.0 +3.3
DPC AMS AMS 16 10 30.0
comp=Z,3μm,15.5s
PAE Paea 73.63 175 *e*P **P 15 27 59.6 -1.3**
comp=Z,283nm,1.3s,mb6.0
BALP Baler 73.69 274 *e*P **P 15 28 00.4 -0.8**
TOD Tromm 73.72 11 *e*P **P 15 28 01.1 +0.3**
TOD Tromm 73.72 11⇑*e*P **P 15 28 01.2 +0.4**
TVO Taravao 73.76 175 *e*P **P 15 28 00.7 -1.0**
comp=Z,389nm,1.3s,mb6.2
SWS Schriesheim 73.83 11⇑*e*P **P 15 28 01.5 +0.1**
PRU Pruhonice 73.86 7⇑*i*P **P 15 28 01.7 +0.1**
PRU *e*pP PcP 15 28 14.1 -3.3
PRU *e*S S 15 37 32.7 +1.2
PRU LR LR
comp=Z,3μm,18.6s,MS5.7
PRU Pruhonice 73.86 7⇑*i*P **P 15 28 01.7 +0.1**
PRU *e*PCP PcP 15 28 14.1 -3.3
PRU *e*S S 15 37 32.7 +1.2
PRU AMS AMS 16 07 20.0
comp=Z,3μm,18.6s
GRA1 Grafenberg Arr 73.88 10 *e*P **P 15 28 02.0 +0.3**
comp=Z,100nm,0.9s,mb5.8
GRA1 *e*S S 15 37 38.3 +6.6
GRA1 LR LR
comp=Z,3μm,21.7s,MS5.5
GRF Grafenberg Arr 73.88 10 *e*P **P 15 28 02.0 +0.3**
GRF *e*S S 15 37 38.3 +6.6
GRF pmax pmax
comp=Z,100nm,0.9s,mb5.8
GRF MLR MLR
comp=Z,3μm,21.7s,MS5.5
GRF Grafenberg Arr 73.88 10 *e*P **P 15 28 02.0 +0.3**
comp=Z,100nm,0.9s,mb5.8
GRF *e*S S 15 37 38.3 +6.6
GRF LR LR
comp=Z,3μm,21.7s,MS5.5
GRFO Grafenberg 73.88 10 *e*P **P 15 28 02.0 +0.3**
OJC Ojcow 73.91 4 *e*P **P 15 28 01.5 -0.4**
OJC *e*PcP PcP 15 28 18.8 +1.2
OJC *e*PP PP 15 30 45.2 -3.4
OJC *e*S S 15 37 27.6 -4.5
OJC MLR MLR 16 05 12.4
comp=Z,4μm,19.0s,MS5.8
KTD Kalmit 73.92 12 *e*P **P 15 28 02.5 +0.5**
MEH Mehetia 73.92 174 *e*P **P 15 28 02.2 -0.4**
comp=Z,111nm,1.4s,mb5.6
AML Almayashu 73.95 325 P **P 15 28 03.7 +1.4**
SNR=148
RAC Raciborz 73.98 5 *e*P **P 15 28 02.5 +0.2**
RAC *e*S S 15 37 32.3 -0.5
RAC MLR MLR 16 15 45.3
comp=Z,4μm,17.9s,MS5.8
SIND Sindeldorf 74.06 11⇑*e*P **P 15 28 02.8 0.0**
BOLP Bolinao 74.10 276 *e*P **P 15 28 02.7 -0.9**
OKC Ostrava-Krasne 74.22 5⇑*i*P **P 15 28 03.5 -0.2**
OKC *e*PCP PcP 15 28 21.0 +2.0
OKC *e*S S 15 37 38.7 +3.1
OKC AMS AMS 16 12 50.0
comp=Z,4μm,14.5s
LANF Langenberg 74.22 12 *e*P **P 15 28 04.1 +0.4**
MORC Moravsky Berou 74.25 5 *e*P **P 15 28 03.5 -0.4**
MORC pmax pmax
comp=Z,190nm,1.6s,mb5.8
MORC Moravsky Berou 74.25 5 ⇑P **P 15 28 04.0 +0.2**
MORC Moravsky Berou 74.25 5 ⇑P **P 15 28 04.0 +0.1**
SJG San Juan 74.28 81 P **P 15 28 03.6 -1.1**
SJG pmax pmax
comp=Z,19nm,0.8s
SJG San Juan 74.28 81 *e*P **P 15 28 03.3 -1.3**
comp=Z,19nm,0.8s,mb5.1
SJG LR LR
comp=Z,5μm,21.0s,MS5.8
MEZF Maizieres J'vi 74.35 14 *e*P **P 15 28 05.1 +0.6**
comp=Z,124nm,1.1s,mb5.4
LVV L'vov 74.41 1 *e*P **P 15 28 04.5 -0.3**
LVV *e* 15 28 22.9
LVV *e*S S 15 37 28.7 -8.9
LVV *e*PS PS 15 38 02.1 -12
WET Wettzell 74.57 9 *e*P **P 15 28 06.0 +0.3**
WET pmax pmax
comp=Z,153nm,1.5s,mb5.7
WET Wettzell 74.57 9 *e*P **P 15 28 06.0 +0.3**
comp=Z,153nm,1.5s,mb5.7
KWP Kalwaria 74.58 2 *e*P **P 15 28 06.2 +0.4**
KWP *e**PP pP 15 28 08.7 -1.1
KWP *e* 15 28 13.0
KWP *e*S S 15 37 40.6 +1.0
KWP pmax pmax
comp=Z,300nm,1.0s,mb6.2
KWP MLR MLR
comp=Z,6μm,23.6s,MS5.8
KWP Kalwaria 74.58 2 *e*P **P 15 28 06.2 +0.4**
comp=Z,300nm,1.0s,mb6.2
KWP *e*pP pP 15 28 08.7 -1.1
KWP *e*PcP PcP 15 28 13.0 -7.5
KWP *e*S S 15 37 40.6 +1.0
KWP MLR MLR 16 00 23.8
comp=Z,6μm,23.6s,MS5.8
STU Stuttgart 74.58 11 P **P 15 28 06.6 +0.8**
STU pmax pmax
comp=Z,85nm,1.0s,mb5.6
STU Stuttgart 74.58 11 *e*P **P 15 28 06.0 +0.2**
comp=Z,85nm,1.0s,mb5.6
SCZP Santa Cruz 74.59 275 *e*P **P 15 28 05.3 -1.2**
STR Strasbourg 74.61 12 *e*P **P 15 28 06.7 +0.7**
KHC Kasperske Hory 74.64 8⇑*i*P **P 15 28 06.4 +0.3**
KHC *e*pP PcP 15 28 19.8 -1.0

KHC eS S 15 37 38.1 -2.1
KHC LR LR
comp=Z,4μm,20.8s,MS5.7
KHC Kasperske Hory 74.64 8⇑iP P 15 28 06.4 +0.3
KHC ePCP PcP 15 28 19.8 -1.0
KHC eS S 15 37 38.1 -2.1
KHC AMS AMS 16 07 30.0
comp=Z,4μm,20.8s
LBG Lerchenberg 74.65 11 eP P 15 28 06.2 0.0
VRAC Vranov 74.67 6 P P 15 28 07.0 +0.7
VRAC Vranov 74.67 6⇓P P 15 28 07.1 +0.8
VRAC Vranov 74.67 6⇓P P 15 28 07.1 +0.8
CDF Champ du Feu 74.72 12 eP P 15 28 07.0 +0.4
comp=Z,281nm,1.3s,mb5.7
NIE Niedzica 74.73 3 eP P 15 28 05.8 -0.8
WLS Welschbruch 74.73 12 eP P 15 28 07.1 +0.4
THEF They Montfort 74.74 13 eP P 15 28 06.9 +0.1
HDH Heidenheim 74.88 10⇑eP P 15 28 07.5 0.0
ECH Echery 74.90 13 eP P 15 28 07.8 +0.1
BUCH Bad Urach 74.92 11⇑eP P 15 28 08.3 +0.5
BFO Black Forest 74.92 12 P P 15 28 08.2 +0.4
comp=Z,294nm,0.9s,mb6.2,SNR=16
BFO Black Forest 74.92 12 eP P 15 28 07.7 -0.1
BFO pmax pmax
comp=Z,70nm,1.2s,mb5.5
BFO Black Forest 74.92 12 eP P 15 28 07.7 -0.1
comp=Z,70nm,1.2s,mb5.5
GEC2 GERESS Array S 74.93 8 eP P 15 28 07.8 0.0
GEC2 pmax pmax
comp=Z,54nm,0.9s,mb5.5
GEC2 GERESS Array S 74.93 8 eP P 15 28 07.8 0.0
comp=Z,54nm,0.9s,mb5.5
GERES GERESS Array B 74.93 8 P P 15 28 07.6 -0.2
comp=Z,32nm,0.7s,mb5.3,baz=353,slow=4.4,SNR=255
GERES PP PP 15 30 50.6 -7.1
comp=Z,3.2nm,0.9s,baz=333,slow=6.6,SNR=3.7
HAU Haudompre 75.00 13 eP P 15 28 08.6 +0.3
comp=Z,146nm,0.9s,mb5.6
HAU eR
comp=Z,8μm,19.8s
LIBD Limburg 75.02 12 eP P 15 28 08.8 +0.5
LIBD Limburg 75.02 12⇑eP P 15 28 09.0 +0.7
LIKS Likavka 75.05 4 eP P 15 28 09.5 +1.0
SPAK Spaichingen 75.20 11⇑eP P 15 28 09.9 +0.5
HYF Humbligny 75.21 16 eP P 15 28 10.1 +0.6
LCHF La Chataignera 75.23 18 eP P 15 28 10.6 +1.0
KIZ Kirchzarten 75.25 12⇑eP P 15 28 09.5 -0.2
HINF Hinteralfeld 75.25 13 eP P 15 28 09.9 +0.2
comp=Z,182nm,1.2s,mb5.6
MOF Molkenrain 75.25 13 eP P 15 28 09.7 0.0
KOLS Kolonicke sedl 75.27 2 iP P 15 28 10.6 +0.8
KOLS ePP PP 15 30 47.4 -13
GUT Gutenstein 75.27 11⇑eP P 15 28 09.9 +0.1
CRVS Cervenica-Dubn 75.28 3 eP P 15 28 10.8 +1.0
CRVS eS S 15 37 43.5 -3.9
CRVS Cervenica-Dubn 75.28 3 eP P 15 28 10.8 +1.0
CRVS e 15 30 49.8
CRVS eS S 15 37 43.5 -3.9
FELD Feldberg 75.33 12⇑eP P 15 28 10.2 0.0
HNR Honiara 75.39 227 PFAKE 15 28 20.0 +8.8
HNR LR LR
comp=Z,3μm,20.0s,MS5.6
FUR Furstenfeldbru 75.39 10 eP P 15 28 10.5 0.0
FUR pmax pmax
comp=Z,123nm,0.9s,mb5.8
FUR Furstenfeldbru 75.39 10 eP P 15 28 10.5 0.0
comp=Z,123nm,0.9s,mb5.8
MFF Saint Martin d 75.40 18 eP P 15 28 10.9 +0.3
comp=Z,211nm,1.0s,mb5.7
KOLL Kolacno 75.49 5 iP P 15 28 11.8 +0.8
SMOL Smolenice 75.51 6 iP P 15 28 12.2 +1.1
KSH Kashi 75.53 322⇑iP P 15 28 12.0 +0.5
KSH eAP pP 15 28 16.1 +0.5
KSH eXP sP 15 28 19.0 +2.0
KSH ePCP PcP 15 28 28.4 +3.5
KSH ePP PP 15 31 02.9 0.0
KSH ePPP PPP 15 32 50.0 +1.1
KSH S S 15 37 51.0 +0.6
KSH XS 15 38 00.0
KSH SKS SKS 15 38 16.0 -5.5
KSH SCS ScS 15 38 22.0 +0.6
KSH AMB AMB
comp=Z,480nm,2.4s,mb6.0
KSH LR LR
comp=N,5μm,16.5s,MS6.0
KSH LR LR
comp=E,2μm,11.9s,MS6.0
ADH Angra Heroismo 75.54 40 iLR 15 52 47.5
SSF Saint Saulge 75.54 15 eP P 15 28 11.7 +0.3
comp=E,336nm,1.1s,mb5.9
UZH Uzhgorod 75.57 2 iP P 15 28 12.0 +0.5
UZH eS S 15 37 40.0 -11
VYHS Vyhne 75.59 5 iP P 15 28 12.0 +0.4
VYHS eS S 15 37 51.9 +1.0
KECS Kecovo 75.67 3 iP P 15 28 12.6 +0.5
BBS Basel-Blauen 75.68 12⇑eP P 15 28 12.4 +0.2
LOMF Lomont 75.71 13 eP P 15 28 12.3 0.0
UBR Uberruh 75.76 11⇑eP P 15 28 12.7 +0.1
ZST Bratislava 75.81 6 eP P 15 28 13.9 +1.1
ZST eS S 15 37 57.6 +4.4
BGF Bois d'Agland 75.93 16 eP P 15 28 13.7 +0.1
comp=E,210nm,1.0s,mb5.7
MOA Molln 75.96 8⇑iP P 15 28 13.7 0.0
comp=E,163nm,1.9s,mb5.6
SMF Signal de Mont 76.00 15 eP P 15 28 14.2 +0.2
comp=E,320nm,1.2s,mb5.8
LUBP Lubang 76.06 274 eP P 15 28 13.8 -1.2
TCF Toulx Ste Croi 76.10 16 eP P 15 28 14.7 +0.2
comp=E,158nm,1.1s,mb5.6
DAVA Damuels 76.12 11⇑iP P 15 28 15.2 +0.5
comp=E,212nm,2.4s,mb5.7
MOTA Moosalm 76.19 10⇑iP P 15 28 15.6 +0.6
PSZ Piszkesteto 76.21 4 eP P 15 28 15.5 +0.3
PSZ pmax pmax
comp=Z,140nm,1.2s,mb5.8
PSZ Piszkesteto 76.21 4⇑P P 15 28 16.1 +1.0
PSZ Piszkesteto 76.21 4⇓eP P 15 28 16.4 +1.2
PSZ Piszkesteto 76.21 4⇑P P 15 28 16.1 +0.9
KMI Kunming 76.22 294⇑P P 15 28 15.4 -0.3
KMI PP PP 15 31 07.6 -1.0
KMI S S 15 37 58.4 +0.2
KMI SKS SKS 15 38 20.7 -6.1
KMI SS SS 15 42 52.8 -2.2
KMI AMB AMB
comp=Z,66nm,1.8s,mb5.3
KMI AMB AMB
comp=Z,1μm,5.6s
KMI LR LR
comp=N,7μm,19.6s,MS6.2
KMI LR LR
comp=E,10μm,18.8s,MS6.2
KMI LR LR
comp=Z,6μm,19.7s,MS5.9
KMI Kunming 76.22 294⇑P P 15 28 15.4 -0.3
comp=Z,66nm,1.8s,mb5.3
KMI pP pP 15 28 17.3 -2.4
KMI sP sP 15 28 17.7 -3.4
KMI PP PP 15 31 07.6 -1.0
KMI S S 15 37 58.4 +0.2
KMI sS 15 38 00.5
KMI SKS SKS 15 38 20.7 -6.1
KMI SS SS 15 42 52.8 -2.2
KMI LR LR
comp=Z,6μm,19.7s,MS5.9
WATA Walderalm 76.25 10⇑iP P 15 28 15.6 +0.3
comp=Z,105nm,1.1s,mb5.7
SRO Srobarova 76.25 5 eP P 15 28 16.5 +1.1
SOP Sopron 76.28 6⇑eP P 15 28 16.1 +0.5
SRO1 Iza 76.30 5 eP P 15 28 16.3 +0.7
WTTA Wattenberg 76.32 10⇓iP P 15 28 16.3 +0.5
comp=Z,274nm,1.4s,mb6.0
SQTA Sankt Quirin 76.33 10⇑iP P 15 28 16.5 +0.7
comp=Z,113nm,1.0s,mb5.8
CABF La Chapelle 76.34 14 eP P 15 28 16.6 +0.7
comp=Z,119nm,0.9s,mb5.5
AGO Saint Agoulin 76.47 16 eP P 15 28 17.2 +0.6
PAYG Puerto Ayora 76.50 112 PFAKE 15 28 30.0 +13
PAYG LR LR
comp=Z,1μm,19.0s,MS5.3
BURAR Bucovina Array 76.62 0⇓P P 15 28 18.0 +0.5
BURAR Bucovina Array 76.62 0⇓P P 15 28 18.0 +0.6
PLDF La Plantade 76.62 15 eP P 15 28 19.1 +1.6
ARSA Arzberg 76.65 7⇑iP P 15 28 18.2 +0.6
comp=Z,139nm,1.9s,mb5.6

KBA Koelnbreinsper 76.66 8⇑iP P 15 28 18.4 +0.7
comp=Z,469nm,1.9s,mb6.1
VERF Verneugheol 76.66 16 eP P 15 28 18.4 +0.7
PDA Ponta Delgada 76.91 39 e 15 55 00.0
RJF Les Rejaudoux 76.94 17 eP P 15 28 19.3 0.0
comp=Z,210nm,1.1s,mb5.7
RJF eR
comp=Z,9μm,22.5s
BRMO Bormio 76.98 11 eP P 15 28 20.9 +1.5
EMAZ Mazaricos 77.09 25 P P 15 28 20.3 +0.2
comp=Z,166nm,1.4s,mb5.8
EPON Pontenova 77.15 24 P P 15 28 19.4 -1.1
comp=Z,178nm,1.6s,mb5.8
LFF La Frestale 77.17 18 eP P 15 28 21.0 +0.5
comp=Z,276nm,0.9s,mb5.9
RAR Rarotonga 77.17 185 LR LR 15 59 42.4
comp=Z,4μm,18.0s,MS5.8,baz=43,slow=34
RAR Rarotonga 77.17 185 PFAKE 15 28 30.0 +9.0
RAR LR LR
comp=Z,7μm,19.0s,MS6.0
KIS Kishinev 77.20 358α**iP P 15 28 18.0 -2.7**
KIS e 15 28 30.0
KIS e 15 31 19.0
KIS eS S 15 38 04.0 -4.4
KIS iPS PS 15 38 34.0 -15
KIS pmax pmax
comp=Z,500nm,2.0s,mb6.1
KIS pmax pmax
comp=Z,2μm,8.0s
MCGN Macugnaga 77.22 12 eP P 15 28 22.2 +1.4
PERS Pernice 77.23 7 eP P 15 28 21.0 +0.2
STS Santiago 77.25 25 P P 15 28 21.5 +0.5
comp=Z,24nm,0.8s,mb5.2
LBL Lubilhac 77.29 16 eP P 15 28 22.8 +1.6
OBKA Obir 77.32 8⇑iP P 15 28 22.0 +0.7
comp=Z,226nm,1.2s,mb6.0
PTCC Patocco-Chiusa 77.33 9 eP P 15 28 20.4 -1.0
CAF Calviac 77.40 17 eP P 15 28 22.2 +0.4
comp=Z,211nm,1.1s,mb5.7
VAI Varese 77.40 12 eP P 15 28 22.4 +0.5
GMNA Gemona 77.45 9 eP P 15 28 21.2 -0.9
QIZ Qiongzhong 77.48 285⇓iP P 15 28 23.7 +0.9
QIZ S S 15 38 16.6 +4.6
QIZ AMB AMB
comp=Z,86nm,1.4s,mb5.5
QIZ AMB AMB
comp=Z,961nm,7.6s
QIZ LR LR
comp=N,3μm,20.0s,MS5.9
QIZ LR LR
comp=E,5μm,19.5s,MS5.9
QIZ LR LR
comp=Z,5μm,20.7s,MS5.8
QIZ Qiongzhong 77.48 285 eP P 15 28 22.8 0.0
comp=Z,165nm,1.4s,mb5.8
QIZ LR LR
comp=Z,5μm,21.0s,MS5.8
KOGS Kog 77.50 7 eP P 15 28 22.5 +0.1
LPL La Plagne 77.50 13 eP P 15 28 23.9 +1.5
LPG La Plagne 77.52 13 eP P 15 28 24.1 +1.6
comp=Z,192nm,1.4s,mb5.5
CTI Castel Tesino 77.53 10 eP P 15 28 22.4 -0.1
ORX Oropa 77.54 12 P P 15 28 23.8 +1.2
ORO Oropa 77.55 12 eP P 15 28 23.4 +0.7
EARI Arriondas 77.60 22 P P 15 28 23.5 +0.5
comp=Z,164nm,1.5s,mb5.7
LSD Ceresole Reale 77.61 13 P P 15 28 24.3 +1.3
TRAV 77.63 13 P P 15 28 25.4 +2.3
GRN Grenoble 77.64 14 eP P 15 28 23.8 +0.7
GDM Grand'Maison 77.73 14 eP P 15 28 24.5 +0.9
EINC Incio 77.74 24 P P 15 28 24.3 +0.6
comp=Z,254nm,2.4s,mb5.7
LJU Ljubljana 77.78 8 eP P 15 28 22.7 -1.1
LJU ePcP PcP 15 28 28.1 -6.3
SAL Salo 77.85 11 eP P 15 28 24.8 +0.5
PKSM Moragy 77.86 5⇓P P 15 28 24.8 +0.5
VIVF Saint-Julien-l 77.87 15 eP P 15 28 24.9 +0.5
comp=Z,136nm,1.0s,mb5.5
EZAM Zamans 77.91 25 P P 15 28 25.1 +0.5
comp=Z,34nm,0.8s,mb5.3
RSP Reno Superiore 77.93 13 P P 15 28 25.9 +1.2
BNI Bardonecchia 77.95 13 eP P 15 28 25.7 +0.9
BNI pmax pmax
comp=Z,64nm,1.0s,mb5.5
BNI Bardonecchia 77.95 13 eP P 15 28 25.7 +0.9
comp=Z,64nm,1.0s,mb5.5
ORIF Oris-en-Rattie 77.97 14 eP P 15 28 25.8 +0.8
comp=Z,78nm,0.9s,mb5.3
ORIF eR
comp=Z,5μm,21.5s
LSA Lhasa 78.00 306 P P 15 28 26.6 +1.2
LSA XP sP 15 28 38.8 +7.9
LSA S S 15 38 20.5 +3.2
LSA AMB AMB
comp=Z,190nm,1.0s,mb6.0
LSA AMB AMB
comp=Z,1μm,9.4s
LSA LR LR
comp=N,9μm,21.3s,MS6.4
LSA LR LR
comp=E,19μm,21.3s,MS6.4
LSA LR LR
comp=Z,9μm,21.3s,MS6.1
LSA Lhasa 78.00 306 eP P 15 28 26.2 +0.8
comp=Z,166nm,0.9s,mb6.0
LSA LR LR
comp=Z,10μm,20.0s,MS6.1
FENE Fenestrelle 78.02 13 P P 15 28 26.2 +1.0
ELAN Lanestosa 78.04 21 P P 15 28 25.7 +0.4
comp=Z,230nm,1.6s,mb5.9
ERUA La Rua 78.04 24 P P 15 28 26.8 +1.4
comp=Z,41nm,0.6s,mb5.5
RRL Cesana Torines 78.09 13 P P 15 28 27.5 +1.9
GOF Gofitskoye 78.10 347 iP **P 15 28 26.0 +0.4**
GOF iS S 15 38 07.7 -10
GOF pmax pmax
comp=Z,540nm,1.0s,mb6.4
GOF smax
comp=E,2μm,5.0s
OG22 Abries 78.21 13 eP P 15 28 27.6 +1.3
BHB Bricherasio 78.23 13 P P 15 28 26.4 0.0
KNDS Knezji Dol 78.28 8 eP P 15 28 25.6 -1.1
MBDF Montbardon 78.28 13 eP P 15 28 28.2 +1.5
comp=E,47nm,0.7s,mb5.2
ELOB Lobios 78.33 25 P P 15 28 27.2 +0.2
comp=E,148nm,1.7s,mb5.6
VRI Vrincioaia 78.36 359⇑P P 15 28 28.1 +1.0
EALK Alkurruntz 78.43 20 P P 15 28 27.8 +0.3
comp=E,161nm,1.7s,mb5.7
LASF Ste Croix 78.51 16 eP P 15 28 28.8 +0.9
DAV Davao City (W) 78.52 266 eP P 15 28 29.0 +0.4
SURF Saint Ours 78.53 14 eP P 15 28 29.7 +1.7
PZZ Prazzo 78.54 13 P P 15 28 29.3 +1.2
ECAL Calabor 78.56 24 P P 15 28 29.3 +1.0
comp=E,143nm,1.4s,mb5.7
BOB Bobbio (Coli) 78.57 12 eP P 15 28 29.7 +1.4
BZS Buzias 78.57 3⇓P P 15 28 28.6 +0.4
SJPF Ste Jean 78.58 20 eP P 15 28 29.4 +1.0
PCP Pian Castagno 78.69 12 P P 15 28 28.5 -0.4
PBRG Braganca 78.69 24 eP P 15 28 29.7 +0.7
comp=E,133nm,1.5s,mb5.7
LARF Larrau 78.70 19 eP P 15 28 30.5 +1.5
MLR Muntele Rosu 78.75 360 P P 15 28 29.2 +0.1
comp=E,20nm,0.7s,mb5.1,baz=2.2,slow=1.7,SNR=42
MLR PP PP 15 31 20.9 -8.5
comp=E,12nm,0.9s,baz=340,slow=4.8,SNR=3.5
MLR Muntele Rosu 78.75 360⇓P P 15 28 30.1 +0.9
MLR Muntele Rosu 78.75 360⇓P P 15 28 30.1 +0.9
ECRI Cripan 78.82 21 P P 15 28 30.5 +0.8
comp=E,58nm,1.2s,mb5.4
STV2 Anna di Valdie 78.83 13 P P 15 28 28.9 -0.7
STV Sta Anna Valdi 78.83 13 P P 15 28 29.2 -0.5
ROB Roburent 78.85 13 P P 15 28 29.4 -0.3
ENR Entracque 78.86 13 P P 15 28 29.3 -0.5
SMRF Simiane la Rot 78.86 14 eP P 15 28 31.1 +1.2
comp=E,120nm,0.9s,mb5.5
SNX Sinaia 78.88 360⇓P P 15 28 31.7 +1.8
GRAM 78.91 11 P P 15 28 30.3 +0.2
ETSF Etsaut 78.91 19 eP P 15 28 30.5 +0.3
comp=E,144nm,0.8s,mb5.6
ANN Anapa 78.93 351c**iP P 15 28 28.4 -1.8**
ANN i 15 28 45.6
ANN e 15 31 24.1
ANN eS S 15 38 25.7 -1.3
ANN e 15 38 43.8

ANN eSP SP 15 39 15.2 +4.8
ANN eSS SS 15 43 39.4 +4.1
ANN pmax pmax
comp=Z,157nm,2.0s,mb5.6
ANN pmax pmax
comp=N,405nm,8.5s
ANN pmax pmax
comp=Z,1μm,8.5s
ANN pmax pmax
comp=E,69nm,4.2s
ANN Anapa 78.93 351 eP P 15 28 28.7 -1.5
EPF Esparros 78.95 18 eP P 15 28 30.3 -0.1
comp=E,93nm,1.2s,mb5.3
MTLF Montolieu 78.97 17 eP P 15 28 31.0 +0.5
comp=E,86nm,0.9s,mb5.4
FIN Finale Ligure 78.97 13 P P 15 28 29.9 -0.6
CODM 78.98 11 P P 15 28 31.0 +0.5
FDAF Les Forges d'A 78.99 19 eP P 15 28 32.0 +1.4
MTUR Matau 79.01 0 P P 15 28 32.2 +1.5
TLCR 79.01 358⇓P P 15 28 31.5 +0.8
SIM Simferopol' 79.02 354d**iP P 15 28 31.4 +0.7**
SIM e 15 31 27.0
SIM pmax pmax
comp=Z,400nm,9.3s
SIM Simferopol' 79.02 354⇑iP P 15 28 31.1 +0.4
CFR Carcaliu 79.03 358 P P 15 28 31.2 +0.4
CFR Carcaliu 79.03 358⇑P P 15 28 31.6 +0.8
CFR Carcaliu 79.03 358⇑P P 15 28 31.6 +0.8
VIEF Viey 79.03 19 eP P 15 28 31.8 +1.0
MONE Monesi 79.05 13 P P 15 28 31.1 +0.2
TOUF Mont Tournerai 79.05 13 eP P 15 28 31.5 +0.6
AUTN L'Aution 79.09 13 eP P 15 28 32.7 +1.6
AUTN L'Aution 79.09 13 eP P 15 28 32.4 +1.3
AUTN eP 15 28 32.7
SAOF Saorge 79.11 13 eP P 15 28 31.3 +0.1
ISR Istrita 79.11 359 P P 15 28 31.8 +0.6
BACM 79.12 11 P P 15 28 31.8 +0.6
MVIF Mont Vial 79.15 13 eP P 15 28 32.1 +0.7
MLS Moulis 79.15 18 eP P 15 28 31.9 +0.4
RESF Ens 79.16 19 eP P 15 28 32.7 +1.1
SBF Sospel 79.22 13 eP P 15 28 32.3 +0.5
KIV Kislovodsk 79.22 347c**iP P 15 28 32.4 +0.5**
KIV e 15 28 39.9
KIV e 15 31 30.5
KIV eS S 15 38 29.8 -0.4
KIV eSS SS 15 43 33.6 -6.1
KIV pmax pmax
comp=Z,406nm,2.0s,mb6.0
KIV MLR MLR
comp=Z,3μm,23.0s,MS5.6
KIV Kislovodsk 79.22 347 eP P 15 28 32.1 +0.3
comp=Z,337nm,1.3s,mb6.1
KIV LR LR
comp=Z,887nm,19.0s,MS5.1
IMI Imperia 79.23 13 P P 15 28 31.7 -0.2
EBIE Bielsa 79.25 19 P P 15 28 31.9 -0.1
comp=Z,138nm,1.9s,mb5.6
SARO Sassorosso 79.25 11 P P 15 28 32.5 +0.5
VINC Vinca 79.26 11 P P 15 28 31.5 -0.6
NEGI Negi 79.27 13 P P 15 28 32.1 0.0
VLC Villacollemand 79.27 11 eP P 15 28 32.2 +0.1
comp=Z,52nm,0.9s,mb5.5
TBI Tubuai 79.28 175 ePP PP 15 31 24.3 -10
TBI eSS SS 15 43 47.5 +6.5
TBI eLQ 15 49 42.3
TBI eLR LR 15 52 38.8
baz=0.7
SDV Santo Domingo 79.29 90 eP P 15 28 31.0 -1.8
comp=Z,21nm,1.0s,mb5.0
SDV LR LR
comp=Z,4μm,19.0s,MS5.8
BEO Belgrade 79.33 4⇓iP P 15 28 27.8 -4.6
FRF La Foret Royal 79.41 14 eP P 15 28 33.3 +0.4
comp=Z,116nm,1.1s,mb5.4
HARR Harsova 79.53 358⇑P P 15 28 34.3 +0.8
MAK Makhachkala 79.53 344 eP P 15 28 33.8 +0.3
MAK i 15 28 42.0
MAK e 15 31 38.0
MAK ePPP PPP 15 33 30.0 +3.7
MAK eS S 15 38 33.0 -0.4
MAK i 15 38 50.0
MAK iPS PS 15 39 20.0 +0.8
MAK pmax pmax
comp=Z,2μm,8.0s
MAK smax
comp=N,6μm,10.0s
MAK smax
comp=E,1μm,10.0s
LMR La Mourre 79.62 14 eP P 15 28 34.5 +0.5
comp=E,94nm,1.0s,mb5.4
PGD Poggio Sodo 79.69 10 eP P 15 28 36.3 +2.0
TIRR Tirgusor 79.75 358⇓P P 15 28 35.2 +0.5
MTE Manteigas 79.84 25 eP P 15 28 35.8 +0.5
comp=E,118nm,1.3s,mb5.7
MTE eS S 15 38 43.0 +6.3
MTE eLQ 15 50 08.3
MTE eLR LR 15 58 13.6
comp=E,5μm,20.1s
MTE Manteigas 79.84 25 eP P 15 28 35.6 +0.3
comp=E,136nm,1.3s,mb5.7
BUC1 Bucharest 79.89 360⇓P P 15 28 35.5 +0.1
SOC Sochi 79.92 350 iP P 15 28 35.9 +0.3
SOC ePPP PPP 15 33 29.6 -0.2
SOC eS S 15 38 39.2 +1.7
SOC pmax pmax
comp=Z,191nm,1.8s,mb5.7
SOC pmax pmax
comp=N,42nm,1.1s
SOC pmax pmax
comp=E,19nm,1.0s
SOC pmax pmax
comp=Z,420nm,2.2s,mb6.0
EJON La Jonquera 79.95 17 P P 15 28 36.6 +0.9
comp=Z,22nm,1.0s,mb5.0
FSSB Fossombrone 79.97 9 eP P 15 28 36.6 +0.7
DIVS Divcibare 80.03 4⇓iP P 15 28 36.2 0.0
ESAC San Caprasio 80.07 19 P P 15 28 37.0 +0.6
comp=Z,382nm,1.7s,mb6.0
ARV Arcevia 80.18 9 eP P 15 28 38.0 +1.0
ZEI Tsey 80.24 346 iP **P 15 28 37.7 +0.4**
ZEI i 15 31 40.1
ZEI eS S 15 38 39.5 -1.3
ZEI pmax pmax
comp=Z,37nm,0.7s,mb5.4
GRUS Gruza 80.27 3⇓iP P 15 28 37.8 +0.3
GRFL Gerfalco 80.33 11 eP P 15 28 37.8 0.0
BOLS Boljevac 80.36 3⇓iP P 15 28 37.5 -0.5
GUD Guadarrama 80.37 22 P P 15 28 39.0 +0.9
comp=Z,26nm,0.6s,mb5.3
PTOM Tomar 80.38 26 eP P 15 28 39.1 +1.0
comp=Z,124nm,1.9s,mb5.5
PCBR Castelo Branco 80.39 25 eP P 15 28 38.5 +0.3
comp=Z,101nm,1.4s,mb5.6
PSN Preselentsi 80.53 358 P P 15 28 40.0 +1.2
ROSC El Rosal 80.53 95 P P 15 28 40.1 +0.6
comp=Z,18nm,1.1s,mb4.9,baz=108,slow=22,SNR=14
ROSC LR LR 16 03 08.5
comp=Z,1μm,19.4s,MS5.3,baz=4.4,slow=35
ASS Assisi 80.58 9 eP P 15 28 39.9 +0.7
RKT Rikitea 80.67 162 eP P 15 28 38.0 -2.0
comp=Z,137nm,1.2s,mb5.7
RKT Rikitea 80.67 162 ePP PP 15 31 37.7 -8.2
RKT eSS SS 15 43 59.0 -2.8
RKT eLQ 15 50 26.8
RKT eLR LR 15 53 28.2
comp=Z,4μm,21.5s,baz=346
PGF Pioggiola 80.71 12 eP P 15 28 40.3 +0.5
EPOB Poblet 80.71 18 P P 15 28 40.2 +0.3
comp=Z,146nm,1.5s,mb5.7
NRCA Norcia 80.85 9 eP P 15 28 41.7 +1.1
PLOU Loures 80.89 27 eP P 15 28 41.7 +0.9
ERTA Horta de San J 80.96 19 P P 15 28 42.5 +1.3
comp=Z,14nm,0.8s,mb5.0
SZH Strazhica 80.97 360 P P 15 28 41.5 +0.3
PRD Provadia 81.02 359 P P 15 28 42.5 +1.0
PMG Port Moresby 81.04 238 LR LR 16 01 33.4
comp=Z,4μm,19.8s,MS5.8,baz=39,slow=33
PMG Port Moresby 81.04 238 eP P 15 28 42.8 +0.6
comp=Z,103nm,1.3s,mb5.6
PMG LR LR
comp=Z,4μm,20.0s,MS5.8
LIS Lisbon 81.05 27 eP P 15 28 41.1 -0.6
LIS eS S 15 38 52.1 +2.8
LIS eS S 15 38 52.1 +2.8

LIS AMS AMS 16 06 02.2
comp=Z,4µm,25.8s,MS5.7
LIS Lisbon 81.05 27 *eP* **P 15 28 41.1 -0.6**
LIS *eS* S 15 38 52.1 +2.8
comp=Z,4µm,25.8s
TI2 Plekhanov 81.14 346⇑ *i P* **P 15 28 43.0 +0.9**
TI2 *i S* S 15 38 53.0 +2.8
TI2 MLR MLR
comp=N,2µm,17.0s,MS5.8
TI2 MLR MLR
comp=E,3µm,17.0s,MS5.8
TI2 MLR MLR
comp=Z,3µm,17.0s,MS5.7
TBLG Delisi 81.14 346 P **P 15 28 43.2 +1.1**
MTA Mtatsminda 81.17 345 P **P 15 28 42.6 +0.3**
SHL Shillong 81.17 303 *eP* **P 15 28 42.0 -0.6**
SHL *e* 15 38 44.0
SHL *i* 15 38 50.5
MNS Montasola 81.26 10 *eP* **P 15 28 43.0 +0.2**
DGRG David-gareji 81.33 345 P **P 15 28 44.2 +1.1**
DGRG S S 15 38 54.4 +2.2
ESDC Sonseca Array 81.34 23 P **P 15 28 43.5 +0.3**
comp=Z,35nm,0.6s,mb5.4,baz=341,slow=4.9,SNR=148
ESDC PP PP 15 31 48.4 -2.9
comp=Z,6.9nm,0.9s,baz=350,slow=7.8,SNR=3.6
ESDC PKPPKP 15 55 24.8
comp=Z,0.2nm,0.5s,baz=243,slow=3.3,SNR=4.2
ESDC Sonseca Array 81.34 23 P **P 15 28 43.6 +0.4**
comp=Z,74nm,1.0s,mb5.6
ESLA Sonseca Array 81.34 23 *eP* **P 15 28 43.7 +0.5**
comp=Z,5.5nm,0.6s,mb4.7
ESLA LR LR
comp=Z,38µm,21.0s,MS6.7
AQU L'Aquila 81.35 9⇑P **P 15 28 44.5 +1.3**
EMOS Mosqueruela 81.38 20 P **P 15 28 45.0 +1.6**
comp=Z,100nm,1.0s,mb5.7
EBAD Badajoz 81.53 25 P **P 15 28 44.6 +0.4**
comp=Z,129nm,1.6s,mb5.6
VTS Vitosha 81.63 2⇓P **P 15 28 45.0 +0.4**
VTS Vitosha 81.63 2 P **P 15 28 44.6 0.0**
VTS Vitosha 81.63 2⇓P **P 15 28 45.0 +0.4**
PGB Panagyurishte 81.68 1 *eP* **P 15 28 45.0 +0.1**
PTQR Pietraquaria 81.68 9 *eP* **P 15 28 45.8 +0.9**
JMB Yambol 81.77 359 P **P 15 28 46.0 +0.7**
KLP Kalpa 81.83 317 *eP* **P 15 28 46.5 +0.6**
KLP AMb AMB 15 28 53.5
comp=Z,349nm,1.2s,mb6.2
BCA Borcka 81.83 348 *eP* **P 15 28 46.2 +0.5**
BCA Borcka 81.83 348 P **P 15 28 46.5 +0.8**
GUN Gumba 81.88 309 *eP* **P 15 28 46.7 +0.5**
comp=Z,778nm,1.2s,mb6.5
JIRN Jiri 81.96 309 *eP* **P 15 28 47.5 +0.9**
comp=Z,867nm,1.0s,mb6.6
THN Thein Dam 81.97 319 *eP* **P 15 28 47.2 +0.6**
PBEJ Beja 82.02 26 *eP* **P 15 28 47.9 +1.2**
comp=Z,81nm,1.5s,mb5.4
SDI San Donato 82.03 9 *eP* **P 15 28 47.0 +0.3**
ECHE Chera 82.04 20 P **P 15 28 48.2 +1.4**
comp=Z,47nm,1.0s,mb5.4
CII Carovilli 82.06 8 *eP* **P 15 28 47.2 +0.3**
comp=Z,70nm,1.0s,mb5.5
OTAV Otavalo 82.07 101 *eP* **P 15 28 47.4 -0.1**
comp=Z,103nm,1.6s,mb5.5
OTAV LR LR
comp=Z,2µm,20.0s,MS5.5
PLD Plovdiv 82.13 1 P **P 15 28 48.0 +0.8**
DIM Dimitrovgrad 82.19 360 *eP* **P 15 28 48.2 +0.7**
SKO Skopje 82.20 3⇑ *i P* **P 15 28 48.7 +1.1**
comp=Z,0.2nm,1.0s
KKN Kakani 82.24 309 *eP* **P 15 28 48.5 +0.4**
comp=Z,480nm,1.2s,mb6.3
PTEO Sao Teotonio 82.26 27 *eP* **P 15 28 48.7 +0.7**
comp=Z,126nm,2.1s,mb5.5
PONG Pong 82.32 319 *eP* **P 15 28 49.0 +0.6**
PONG *e* 15 31 55.0
GKN Gorkha 82.33 310 *eP* **P 15 28 48.7 +0.1**
comp=Z,1µm,1.4s,mb6.6
KKB Krupnik 82.35 2 P **P 15 28 49.0 +0.6**
PKI Pulchoki 82.38 309 *eP* **P 15 28 49.2 +0.4**
comp=Z,524nm,1.1s,mb6.4
EDRB Edirne 82.38 359 *eP* **P 15 28 48.6 0.0**
EDRB Edirne 82.38 359 P **P 15 28 49.2 +0.7**
BYBT Boyabat 82.45 353 *eP* **P 15 28 50.5 +1.6**
BYBT Boyabat 82.45 353 P **P 15 28 49.7 +0.8**
KARS Kars 82.47 347 *eP* **P 15 28 51.0 +1.9**
KARS Kars 82.47 347 P **P 15 28 50.5 +1.5**
DMN Daman 82.47 309 *eP* **P 15 28 49.6 +0.3**
comp=Z,501nm,1.0s,mb6.4
BOYT Boyabat 82.48 353 *i P* **P 15 28 50.0 +0.9**
NANT Nan 82.51 292⇑P **P 15 28 46.5 -3.2**
comp=Z,438nm,1.0s,mb6.4
RZN Rozhen 82.55 1 P **P 15 28 50.0 +0.6**
ETOS Mallorca 82.55 17 P **P 15 28 50.2 +0.7**
comp=Z,188nm,2.1s,mb5.8
EMIN Mina Concepcio 82.55 25 P **P 15 28 50.2 +0.7**
comp=Z,347nm,2.1s,mb6.0
EGRO El Granado 82.58 26 P **P 15 28 50.3 +0.6**
comp=Z,195nm,1.9s,mb5.8
KDZ Kurdzhali 82.58 0 P **P 15 28 50.0 +0.4**
SMLA Simla 82.60 317⇑ *i* **P 15 28 47.0 -2.9**
BHK Bhakra 82.63 318 *e* **P 15 28 57.8 +7.8**
EVIA Vianos 82.65 22 P **P 15 28 51.7 +1.7**
comp=Z,86nm,0.9s,mb5.8
PALC Alcoutim 82.65 26 *eP* **P 15 28 51.3 +1.3**
comp=Z,192nm,1.6s,mb5.9
EADA Adamuz 82.65 23 P **P 15 28 51.0 +1.0**
comp=Z,353nm,2.0s,mb6.0
GNI Garni 82.69 345 *eP* **P 15 28 50.4 +0.2**
GNI Garni 82.69 345 *eP* **P 15 28 51.3 +1.1**
GNI pmax pmax
comp=Z,290nm,1.4s
GNI Garni 82.69 345 P **P 15 28 51.7 +1.5**
SAFT Safranbolu 82.80 355 *eP* **P 15 28 51.7 +0.9**
SAFT Safranbolu 82.80 355 P **P 15 28 52.2 +1.5**
PTH Pithoragarh 82.81 314 *eP* **P 15 28 51.6 +0.6**
ETOB Tobarra 82.83 21 P **P 15 28 52.9 +1.9**
comp=Z,118nm,1.3s,mb5.8
LGTI Lohaghat 82.89 314⇓ *i P* **P 15 28 52.5 +1.1**
AGT Agartala 82.91 303⇑ *i P* **P 15 28 52.0 +0.4**
AGT *i* 15 29 30.0
TOS Tosya 82.93 353 *eP* **P 15 28 53.3 +1.9**
TOS Tosya 82.93 353 P **P 15 28 54.2 +2.8**
CSSN Cassano Irpino 82.97 8 *eP* **P 15 28 52.0 +0.4**
DDI Dehra Dun 82.98 316 *eP* **P 15 28 51.4 -0.5**
DDI *eS* S 15 39 10.5 +1.3
KOLN Koldanda 82.98 311 *eP* **P 15 28 52.6 +0.6**
comp=Z,1µm,1.4s,mb6.8
EBEN Beniarda 83.04 20 P **P 15 28 54.1 +2.1**
comp=Z,394nm,1.7s,mb6.2
GUMT Gumushane 83.04 349 *eP* **P 15 28 53.7 +1.7**
GUMT Gumushane 83.04 349 P **P 15 28 54.2 +2.2**
OHR Ohrid 83.04 4⇑ *i P* **P 15 28 52.2 +0.2**
KNT Kendrikon 83.05 2 *eP* **P 15 28 52.9 +0.9**
SRS Serrai 83.11 1 *eP* **P 15 28 52.6 +0.2**
ISK Istanbul-Kandi 83.12 357 *eP* **P 15 28 52.2 -0.2**
GRG Griva 83.24 2 *eP* **P 15 28 54.3 +1.2**
CTKT Corum 83.29 353 *i P* **P 15 28 54.1 +0.9**
SGO Sicignano 83.29 8 *eP* **P 15 28 53.7 +0.4**
HENT Hendek 83.30 356 *i P* **P 15 28 53.4 +0.1**
ELUQ Luque 83.30 23 P **P 15 28 54.9 +1.4**
comp=Z,207nm,1.8s,mb5.9
EQES Quesada 83.33 22 P **P 15 28 54.5 +0.9**
comp=Z,138nm,1.6s,mb5.7
ALN Alexandroupoli 83.34 360 *eP* **P 15 28 53.2 -0.3**
HRT Hereke 83.35 357 *eP* **P 15 28 53.8 +0.2**
HRT Hereke 83.35 357 P **P 15 28 54.9 +1.3**
KELT Kelkit 83.37 349 *i P* **P 15 28 55.6 +1.9**
CANT Cankiri 83.38 354 *eP* **P 15 28 55.6 +1.8**
CANT Cankiri 83.38 354 P **P 15 28 55.2 +1.5**
FNA Florina 83.39 3 *eP* **P 15 28 53.4 -0.4**
SOH Sokhos 83.40 2 *eP* **P 15 28 54.2 +0.4**
CHG Chiang Mai 83.40 294⇑P **P 15 28 53.9 -0.4**
comp=Z,82nm,1.3s,mb5.6
KKTK Khon Kaen 83.45 289 P **P 15 28 55.0 +0.5**
comp=Z,617nm,0.7s,mb6.8
TOKT Tokat 83.45 351 *eP* **P 15 28 56.0 +1.9**
TOKT Tokat 83.45 351 P **P 15 28 54.5 +0.3**
SLCN Sala Consilina 83.48 8 *eP* **P 15 28 55.1 +0.9**
SGKT Sivrigoynuk 83.50 355 *i P* **P 15 28 54.1 -0.3**
ELDT Eldivan 83.51 354 *i P* **P 15 28 55.6 +1.3**
PTCN Pitcairn Islan 83.51 158 PFAKE 15 29 10.0 +15
PTCN LR LR
comp=Z,6µm,21.0s,MS5.9
THE Thessaloniki 83.58 2 *eP* **P 15 28 54.5 -0.1**

ESPR Espera 83.60 25 P **P 15 28 55.1 +0.2**
comp=Z,184nm,1.0s,mb6.2
YLV Yalova 83.61 357 *eP* **P 15 28 53.8 -1.0**
MRMT Marmara Adasi 83.61 358 *eP* **P 15 28 53.5 -1.3**
MDU Mudurnu 83.64 356 *eP* **P 15 28 55.9 +0.9**
MDU Mudurnu 83.64 356 P **P 15 28 55.2 +0.2**
EMUR La Murta 83.67 21 P **P 15 28 55.9 +0.7**
comp=Z,185nm,2.1s,mb5.8
CM31 Chiang Mai Arr 83.70 294 *eP* **P 15 28 55.9 +0.2**
comp=Z,116nm,0.6s,mb6.2
CM31 LR LR
comp=Z,8µm,21.0s,MS6.1
CMAR Chiang Mai Arr 83.70 294 P **P 15 28 55.6 -0.1**
comp=Z,72nm,0.6s,mb6.0,baz=14,slow=5.5,SNR=421
CMAR S S 15 39 20.6 +4.0
comp=Z,0.4nm,0.8s,baz=352,slow=13,SNR=4.2
CMAR PKKPbc 15 47 16.1
comp=Z,0.9nm,0.8s,baz=239,slow=5.3,SNR=5.3
CMAR LR LR 16 08 48.3
comp=Z,4µm,19.0s,MS5.9,baz=60,slow=38
EZC Erzincan 83.71 349 *eP* **P 15 28 57.5 +2.1**
EZC Erzincan 83.71 349 P **P 15 28 57.6 +2.3**
ELOJ Sierra Loja 83.72 23 P **P 15 28 56.6 +1.1**
comp=Z,36nm,1.0s,mb5.5
MGR Morigerati 83.73 8 *eP* **P 15 28 55.8 +0.4**
ECOG Cogollos-Vega 83.73 23 P **P 15 28 57.2 +1.7**
comp=Z,9.1nm,0.5s,mb5.2
CORM Corum 83.74 353 *eP* **P 15 28 56.8 +1.3**
VSL Villasalto 83.76 12 *eP* **P 15 28 55.6 0.0**
comp=Z,358nm,2.1s,mb6.1
CLDR Caldiran 83.80 346 *eP* **P 15 28 57.6 +1.8**
BNT Bandirma 83.86 358 *eP* **P 15 28 56.8 +0.8**
BNT Bandirma 83.86 358 P **P 15 28 57.5 +1.4**
OUR Ouranopolis 83.89 1 *eP* **P 15 28 56.7 +0.4**
ERON Agron 83.92 23 P **P 15 28 58.8 +2.3**
comp=Z,22nm,0.7s,mb5.4
EJIF Jimena Fronter 84.09 25 P **P 15 28 59.1 +1.7**
comp=Z,81nm,1.0s,mb5.8
LIT Litokhoron 84.10 2 *eP* **P 15 28 57.5 +0.2**
EMIJ Mijas 84.14 24 P **P 15 28 58.5 +0.8**
comp=Z,198nm,1.7s,mb6.0
LOD Lodumlu 84.14 354 *eP* **P 15 28 59.0 +1.4**
LOD Lodumlu 84.14 354 P **P 15 28 59.2 +1.7**
ANTO Ankara 84.16 354 *eP* **P 15 28 57.3 -0.3**
ANTO Ankara 84.16 354 P **P 15 28 58.5 +0.8**
ANTO Ankara 84.16 354⇑P **P 15 28 59.8 +2.2**
BR131 Keskin Array S 84.25 354 PFAKE 15 29 10.0 +12
BR131 LR LR
comp=Z,1µm,19.0s,MS5.4
BRTR Keskin Array B 84.25 354 P **P 15 28 58.6 +0.5**
comp=Z,34nm,0.8s,mb5.5,baz=25,slow=2.7,SNR=174
BRTR PP PP 15 32 00.9 -14
comp=Z,2.4nm,0.9s,slow=5.8,SNR=2.8
BRTR PKKPbc 15 47 08.8
comp=Z,1.0nm,0.8s,baz=162,slow=3.9,SNR=6.9
BRTR PKPPKP 15 55 18.9
comp=Z,0.7nm,0.7s,baz=145,slow=5.0,SNR=4.5
CDAG Cicekdag 84.31 353 *i P* **P 15 28 58.6 +0.2**
VANB Van 84.41 346 *eP* **P 15 29 00.4 +1.5**
VANB Van 84.41 346 P **P 15 29 00.0 +1.1**
BTOK Tokmak 84.45 358 *i P* **P 15 28 59.0 0.0**
TVAN Van 84.47 346 *i P* **P 15 29 00.8 +1.6**
BINT Bingol 84.50 348 *eP* **P 15 29 00.1 +0.8**
BINT Bingol 84.50 348 P **P 15 29 00.0 +0.7**
PTK Pertek 84.60 349 *eP* **P 15 29 01.9 +2.0**
IGT Igoumenitsa 84.60 4 *eP* **P 15 29 00.8 +0.9**
KKM Kota Kinabalu 84.60 273 *eP* **P 15 29 01.4 +1.0**
KKM Kota Kinabalu 84.60 273 P **P 15 29 02.3 +1.9**
ESKT Eskisehir 84.60 356 *eP* **P 15 29 00.7 +0.8**
ESKT Eskisehir 84.60 356 P **P 15 29 01.3 +1.5**
ESKT Eskisehir 84.60 356 *i P* **P 15 29 00.2 +0.3**
KAMT Kaman 84.61 354 *eP* **P 15 29 01.0 +1.1**
KAMT Kaman 84.61 354 P **P 15 29 00.0 +0.2**
DZM Mont Dzumac 84.61 216 LR LR 16 05 37.7
comp=Z,4µm,18.7s,MS5.8,baz=118,slow=35
BDT Bhumibol Dam 84.69 293 P **P 15 29 02.0 +1.3**
comp=Z,20nm,0.7s,mb5.4
TIP Timpagrande 84.77 7 *eP* **P 15 28 59.3 -1.4**
NDI New Delhi 84.77 316 *eP* **P 15 28 59.5 -1.4**
NDI *eS* S 15 39 22.0 -5.0
AYVA Ayvalik 84.92 359 *i P* **P 15 29 01.7 +0.2**
BNN Bunyan 84.97 352 *eP* **P 15 29 03.4 +1.7**
BNN Bunyan 84.97 352 P **P 15 29 03.2 +1.5**
AYAN Aya Nagar 84.98 316 *eP* **P 15 29 02.5 +0.5**
AYAN AMb AMB 15 29 08.5
comp=Z,42nm,1.2s,mb5.5
ELZG Elazig 85.03 349 *i P* **P 15 29 04.3 +2.3**
AOS Alonnisos 85.05 1 *eP* **P 15 29 02.2 +0.2**
BTMT Batman 85.05 347 P **P 15 29 04.3 +2.2**
GRI Girifalco 85.10 7 *eP* **P 15 29 02.6 +0.3**
TSM Tawau 85.11 270 P **P 15 29 04.0 +1.0**
AVNT Avonos 85.11 353 *i P* **P 15 29 03.1 +0.7**
AGG Agios Georgios 85.17 2 *eP* **P 15 29 02.1 -0.6**
KIZT Kizilcal 85.19 355 *eP* **P 15 29 03.5 +0.6**
KIZT Kizilcal 85.19 355 P **P 15 29 04.2 +1.4**
SONA Sohna 85.21 316 *eP* **P 15 29 03.5 +0.4**
MYA Malataya 85.26 350 *eP* **P 15 29 05.3 +2.1**
MYA Malataya 85.26 350 P **P 15 29 06.1 +2.9**
MALT Malatya 85.27 350 *eP* **P 15 29 04.4 +1.2**
MALT pmax pmax
comp=Z,320nm,1.8s,mb6.2
MALT Malatya 85.27 350 P **P 15 29 03.2 0.0**
MALT ⇓P pP 15 29 05.7 -1.6
MALT Malatya 85.27 350⇓P **P 15 29 05.7 +2.5**
HKR Hakkari 85.36 346 *eP* **P 15 29 05.2 +1.5**
BEST Besiri 85.38 348 *i P* **P 15 29 05.8 +2.1**
NST Nakhon Sawan 85.41 291 P **P 15 29 05.4 +1.0**
LKD Levkas 85.44 4 *eP* **P 15 29 02.8 -1.2**
MANT Manisa 85.70 358 *i P* **P 15 29 05.2 -0.2**
AGRA Agra 85.78 315 *eP* **P 15 29 05.9 -0.1**
KDAG Bornova 85.82 359 *i P* **P 15 29 05.9 -0.1**
SOI Samo 85.82 7 *eP* **P 15 29 05.5 -0.5**
IZM Izmir 85.82 359 *eP* **P 15 29 06.0 +0.1**
IZM Izmir 85.82 359 P **P 15 29 06.6 +0.6**
BLCB Balcova 85.84 359 *eP* **P 15 29 05.4 -0.6**
BLCB Balcova 85.84 359 P **P 15 29 05.6 -0.5**
KHET Khetri 85.86 317 *eP* **P 15 29 06.3 -0.1**
KHET AMb AMB 15 29 12.3
comp=Z,178nm,1.5s,mb6.1
KAHT Ahir Dag 86.09 351 *i P* **P 15 29 09.2 +1.9**
URFA Urfa 86.10 349 *eP* **P 15 29 09.3 +2.0**
KONT Konya--Tatoy 86.10 355 *eP* **P 15 29 06.3 -1.1**
KONT Konya--Tatoy 86.10 355 P **P 15 29 06.4 -1.0**
ISP Isparta 86.29 356 *eP* **P 15 29 07.5 -0.8**
ISP Isparta 86.29 356 *eP* **P 15 29 08.5 +0.2**
ISP pmax pmax
comp=Z,97nm,1.2s,mb5.9
ISP Isparta 86.29 356 P **P 15 29 08.8 +0.5**
ISP ⇓P 15 29 09.6
ISP Isparta 86.29 356⇓P **P 15 29 09.6 +1.3**
GZT Gaziantep 86.31 350 *i P* **P 15 29 10.1 +1.7**
SET Setif 86.45 16 P **P 15 29 15.0 +5.9**
GAZ Gaziantep 86.52 351 *eP* **P 15 29 11.4 +1.9**
GAZ Gaziantep 86.52 351 P **P 15 29 12.0 +2.6**
MSL Mosul 86.72 346 *eP* **P 15 29 13.0 +2.6**
MSL *ep*P pP 15 29 23.5 +8.9
MSL Mosul 86.72 346 *e*SKS SKS 15 39 38.5 -1.1
MSL *eS* S 15 39 51.5 +5.8
CEYT Ceyhan 86.81 352 *eP* **P 15 29 12.7 +1.8**
CEYT Ceyhan 86.81 352 P **P 15 29 13.5 +2.7**
MLSB Milas 86.91 358 *eP* **P 15 29 08.0 -3.4**
MLSB Milas 86.91 358 P **P 15 29 04.8 -6.6**
GOLH Golhisar 86.93 357 *i P* **P 15 29 11.1 -0.4**
CMER Merouana 87.10 16 P **P 15 29 12.0 -0.3**
BODT Bodrum 87.15 359 *eP* **P 15 29 11.7 -0.8**
BODT Bodrum 87.15 359 P **P 15 29 12.2 -0.3**
COBT Iskenderun 87.25 351 *i P* **P 15 29 14.5 +1.5**
MEST Erdemli 87.34 353 *i P* **P 15 29 13.3 -0.2**
RAO Raoul Island 87.35 200 LR LR 16 00 39.5
comp=Z,2µm,20.2s,MS5.6,baz=5.5,slow=30
RAO Raoul Island 87.35 200 PFAKE 15 29 30.0 +16
RAO LR LR
comp=Z,3µm,20.0s,MS5.7
FETY Fethiye 87.54 357 *eP* **P 15 29 12.8 -1.6**
HTY Hatay 87.66 351 *eP* **P 15 29 16.4 +1.5**
HTY Hatay 87.66 351 P **P 15 29 15.1 +0.2**
AJM Ajmer 87.73 317⇑ *i* **P 15 29 13.0 -2.6**
NNT Nongplab 88.20 290 P **P 15 29 19.3 +1.3**
BLSP Bilaspur 88.56 309 *eP* **P 15 29 18.2 -1.4**
BLSP *i P* 15 29 19.4
BLSP *e* 15 29 25.2
comp=Z,225nm,1.1s

ALFC Alevga 88.86 354⇑P **P 15 29 20.2 -0.6**
comp=Z,1.9nm,0.9s
ALFC Alevga 88.86 354⇑ *eP* **P 15 29 20.2 -0.6**
LEF Lefka 88.89 354 *eP* **P 15 29 21.5 +0.6**
PHNC Paralimni 88.93 353 P **P 15 29 21.8 +0.7**
CSS Prodhromos 89.01 354⇑P **P 15 29 21.7 +0.2**
comp=Z,2.7nm,1.6s
CSS Prodhromos 89.01 354⇑ *eP* **P 15 29 21.7 +0.2**
comp=Z,2.7nm,1.6s
PPCY Paphos 89.15 354⇑P **P 15 29 21.7 -0.4**
PPCY Paphos 89.15 354⇑ *eP* **P 15 29 21.7 -0.4**
SZAC Souni-Zanaja 89.25 354 P **P 15 29 23.2 +0.6**
BHD Baghdad 89.50 344 *eP* **P 15 29 19.0 -4.8**
BHD Baghdad 89.50 344 *e*SKS SKS 15 39 40.0 -17
BHD *eS* S 15 40 04.0 -7.8
BHD *e*PS PS 15 41 15.0 -6.5
BHD *e*PPS PPS 15 41 54.0 +3.5
BHPL Bhopal 89.55 314 *i P* **P 15 29 24.2 0.0**
CTA Charters Tower 90.77 234 LR LR 16 01 35.7
comp=Z,2µm,21.5s,MS5.4,baz=284,slow=30
CTA Charters Tower 90.77 234 *eP* **P 15 29 30.4 +0.4**
comp=Z,25nm,0.9s,mb5.5
CTA *eS* S 15 40 25.3 +1.7
CTAO Charters Tower 90.77 234 *eP* **P 15 29 30.3 +0.3**
comp=Z,44nm,0.9s,mb5.8
CTAO LR LR
comp=Z,1µm,19.0s,MS5.4
ASF Jabal al Asfar 91.50 350 P **P 15 29 34.1 +1.0**
comp=Z,13nm,0.8s,mb5.3,baz=320,slow=0.8,SNR=8.6
ASF PP PP 15 33 10.7 -3.0
comp=Z,16nm,1.0s,baz=33,slow=3.9,SNR=3.5
ASF S SKS 15 40 02.5 -6.6
comp=Z,4.3nm,0.3s,baz=252,slow=6.7,SNR=11
ASF LR LR 16 18 32.7
comp=Z,2µm,18.5s,MS5.5,baz=15,slow=41
KSM Kuching 91.66 275 *eP* **P 15 29 34.2 0.0**
VIS Vishakhapatnam 91.89 306 *e* **P 15 29 32.5 -2.7**
NNA Nana 93.11 107 PFAKE 15 29 50.0 +9.1
NNA LR LR
comp=Z,350nm,19.0s,MS4.8
KULM Kulim 93.82 285 *eP* **P 15 29 44.2 0.0**
EIL Elat 94.16 352 *eP* **P 15 29 45.5 +0.1**
comp=Z,26nm,1.5s,mb5.4
IPM Ipoh 94.21 285 P **P 15 29 46.5 +0.5**
HYB Hyderabad 94.27 310⇑ *eP* **P 15 29 45.5 -0.6**
comp=Z,80nm,1.0s,mb6.1
HYB *e* 15 33 27.0
HYB *eS* SKS 15 40 16.0 -8.9
HYB Hyderabad 94.27 310⇑ *i P* **P 15 29 45.5 -0.6**
comp=Z,80nm,1.0s,mb6.1
HYB *e*PP PP 15 33 36.0 +0.2
HYB *e*SKS SKS 15 40 16.0 -8.9
HYB *e*S S 15 40 58.0 +3.8
HYB *e*SP SP 15 42 20.0 +5.6
HYB LR LR
comp=Z,13nm,12.0s
POO Poona 95.22 315 *eP* **P 15 29 50.5 0.0**
POO *e* pP 15 29 53.9 -0.7
comp=Z,114nm,1.7s
KAD Karad 96.19 314 *eP* **P 15 29 54.2 -0.8**
WRAB Tennant Creek 96.33 244 *eP* **P 15 29 55.5 0.0**
comp=Z,24nm,1.1s,mb5.5
WRAB LR LR
comp=Z,1µm,20.0s,MS5.3
WB2 Warramunga Arr 96.34 244 *eP* **P 15 29 56.3 +0.7**
WB2 *eS* SKS 15 40 30.4 -5.6
WRA Warramunga Arr 96.34 244 *i P* **P 15 29 55.0 -0.6**
WRA pmax pmax
comp=Z,12nm,1.1s
WRA Warramunga Arr 96.34 244 P **P 15 29 55.0 -0.6**
comp=Z,12nm,1.1s,mb5.3,baz=39,slow=5.4,SNR=37
MDRS Chennai 97.37 307 *e* **P 15 29 59.0 -1.3**
MDRS *e* 15 33 59.0
MDRS *e* 15 40 39.0
MDRS *e* 15 42 43.0
MDRS *e* 15 49 43.0
SAML Samuel 98.12 94 PFAKE 15 30 20.0 +16
SAML LR LR
comp=Z,5µm,20.0s,MS6.0
ASAR Alice Springs 99.69 242 P **P 15 30 11.1 +0.4**
comp=Z,3.2nm,0.8s,mb4.8,baz=33,slow=4.5,SNR=18
ASAR PKKPbc 15 46 27.2
comp=Z,0.4nm,0.7s,baz=207,slow=2.0,SNR=4.3
ASAR LR LR 16 14 37.4
comp=Z,2µm,19.9s,MS5.6,baz=31,slow=35
ASPA Alice Springs 99.69 242 *eP* **P 15 30 12.5 +1.9**
ASPA *eS* SKS 15 40 45.7 -7.5
SNZO South Karori 100.51 203 PFAKE 15 30 30.0 +16
SNZO LR LR
comp=Z,3µm,22.0s,MS5.8
LPAZ La Paz 101.38 102 P 15 30 16.9 -1.5
comp=Z,1.9nm,1.0s,baz=334,slow=6.4,SNR=4.3
LPAZ La Paz 101.38 102 P 15 30 16.9 -1.5
LPAZ LR LR
comp=Z,2µm,22.0s,MS5.6
PALK Pallekele 102.26 303 PFAKE 15 30 30.0 +7.5
PALK LR LR
comp=Z,887nm,21.0s,MS5.3
TRD Trivandrum 102.88 307⇓ *e* Pdif 15 30 38.2 +13
TRD *e* 15 33 57.2
STKA Stephens Creek 103.04 232 Pdiff Pdif 15 30 28.7 +3.2
comp=Z,3.4nm,1.0s,baz=294,slow=7.2,SNR=4.8
STKA PKiKP 15 34 45.0
comp=Z,2.7nm,0.8s,baz=54,slow=2.0,SNR=3.9
MBWA Marble Bar 104.97 254 PFAKE 15 30 50.0 +16
MBWA LR LR
comp=Z,2µm,20.0s,MS5.6
LVC Limon Verde 106.11 106 PFAKE 15 35 00.0
LVC LR LR
comp=Z,2µm,20.0s,MS5.6
TAU Tasmania Unive 110.18 222 PFAKE 15 35 10.0 +10
TAU LR LR
comp=Z,592nm,20.0s,MS5.2
RCBR Riachuelo 110.52 69 PFAKE 15 35 10.0 +8.5
RCBR LR LR
comp=Z,4µm,22.0s,MS6.0
BDFB Brasilia 112.06 85 PKKPab 15 46 03.9
comp=Z,9.5nm,1.0s,baz=180,slow=4.0,SNR=4.7
DBIC Dimbokro 112.61 33 PKiKP 15 35 03.1
comp=Z,4.1nm,1.0s,baz=27,slow=2.3,SNR=3.0
DBIC PKKPbc 15 45 49.3
comp=Z,2.9nm,0.7s,baz=216,slow=3.0,SNR=3.0
DBIC Dimbokro 112.61 33 PKPdf PKPdf 15 35 03.1 -2.4
DBIC PKKPbc 15 45 49.3
DBIC LR LR
comp=Z,8µm,20.0s,MS6.3
CFAA Coronel Fontan 113.66 112 PP PP 15 36 02.0 +0.7
comp=Z,0.2nm,0.5s,baz=290,slow=9.4,SNR=3.4
NWAO Narrogin (SRO) 115.70 249 PFAKE 15 35 20.0 +8.8
NWAO LR LR
comp=Z,2µm,22.0s,MS5.8
PLCA Paso Flores 119.61 120 PKP PKPdf 15 35 15.3 -3.1
comp=Z,4.9nm,1.1s,baz=333,slow=2.3,SNR=3.3
PLCA PKKPab 15 45 28.4
comp=Z,1.9nm,0.8s,baz=38,slow=0.5,SNR=5.4
PLCA Paso Flores 119.61 120 PKP PKPdf 15 35 15.3 -3.1
PLCA PKKPab 15 45 28.4
PLCA LR LR
comp=Z,2µm,20.0s,MS5.6
TRQA Tornquist 121.90 112 PFAKE 15 35 30.0 +6.9
TRQA LR LR
comp=Z,2µm,20.0s,MS5.8
KMBO Kilima Mbogo 124.34 346 PKP PKPdf 15 35 27.1 -1.3
comp=Z,23nm,0.9s,baz=16,slow=3.9,SNR=44
KMBO PP PP 15 37 11.4 -3.7
comp=Z,12nm,1.1s,baz=22,slow=8.3,SNR=7.9
KMBO Kilima Mbogo 124.34 346 *e*PKP PKPdf 15 35 27.1 -1.3
KMBO LR LR
comp=Z,3µm,21.0s,MS6.0
MBAR Mbarara 124.48 354 *e*PKP PKPdf 15 35 25.1 -3.5
MBAR LR LR
comp=Z,704nm,19.0s,MS5.3
DRV Dumont d'Urvil 131.86 209 SS SS 15 55 36.0 +0.4
SBA Scott Base 135.83 191 PFAKE 15 36 00.0 +12
SBA LR LR
comp=Z,3µm,21.0s,MS6.0
VNDA Vanda 136.10 192 PKP PKPdf 15 35 46.4 -2.5
comp=Z,3.2nm,1.1s,baz=28,slow=3.3,SNR=6.4
VNDA SKPbc 15 39 18.0
comp=Z,6.0nm,1.1s,baz=346,slow=5.5,SNR=5.2
VNDA Vanda 136.10 192 PKP PKPdf 15 35 46.4 -2.5
VNDA SKPbc 15 39 18.0
VNDA LR LR
comp=Z,3µm,20.0s,MS6.0
PMSA Palmer Station 138.66 140 PFAKE 15 36 00.0 +6.1

PMSA LR LR
comp=Z,20µm,22.0s,MS6.8
OPO Ambohidratompo 139.08 328 PKP PKPdf 15 35 55.8 -0.1
comp=Z,7.9nm,1.0s,baz=41,slow=2.8,SNR=5.4
OPO PP PP 15 38 42.5 -6.8
comp=Z,2.3nm,0.7s,baz=329,slow=11,SNR=3.3
OPO SKP 15 39 29.8
comp=Z,22nm,1.3s,baz=269,slow=0.5,SNR=5.4
LSZ Lusaka 139.17 356 *e*PKP 15 35 43.7
LSZ LR LR
comp=Z,3µm,19.0s,MS6.1
CASY Casey 141.00 220 PFAKE 15 36 10.0 +12
CASY LR LR
comp=Z,2µm,20.0s,MS5.8
TSUM Tsumeb 142.65 12 PKhKP 15 35 56.4
comp=Z,7.8nm,0.8s,baz=337,slow=6.5,SNR=3.2
TSUM PKP PKPdf 15 35 58.9 -3.2
comp=Z,11nm,1.0s,baz=280,slow=3.6,SNR=3.2
TSUM Tsumeb 142.65 12 *e*PKPpre 15 35 56.2
TSUM LR LR
comp=Z,3µm,20.0s,MS6.0
MATP Matopo 144.27 355 PKP PKPdf 15 36 01.2 -3.7
comp=Z,44nm,0.9s,baz=2.9,slow=3.7,SNR=68
MATP PP PP 15 39 16.3 -4.2
comp=Z,17nm,1.0s,baz=8.5,slow=5.4,SNR=4.1
MATP SKPbc 15 39 43.0
comp=Z,29nm,1.1s,baz=358,slow=2.8,SNR=5.3
QSPA South Pole Qui 145.92 180 *e*P PKPbc 15 36 04.6 +1.0
LBTB Lobatse 148.91 360 PKP PKPdf 15 36 10.1 -2.4
comp=Z,57nm,1.1s,baz=230,slow=4.9,SNR=5.4
LBTB PKPbc PKPdf 15 36 15.3 +2.8
comp=Z,142nm,1.0s,baz=351,slow=2.0,SNR=92
LBTB PP PP 15 39 36.3 -11
comp=Z,8.8nm,1.0s,baz=73,slow=8.6,SNR=2.4
LBTB Lobatse 148.91 360 *e*PKPdf PKPdf 15 36 10.2 -2.4
LBTB *e*PKPbc PKPdf 15 36 15.1 +2.6
LBTB LR LR
comp=Z,3µm,20.0s,MS6.1
BOSA Boshof 152.50 0 PKPdf PKPdf 15 36 16.2 -1.7
BOSA Boshof 152.50 0 *e*PKIKP PKPdf 15 36 16.0 -1.9
BOSA MLR MLR
comp=Z,4µm,19.0s,MS6.2
BOSA Boshof 152.50 0 PKP PKPdf 15 36 16.2 -1.7
comp=Z,9.4nm,0.8s,baz=2.3,slow=4.2,SNR=10
BOSA PKPbc PKPdf 15 36 23.8 +5.9
comp=Z,34nm,0.8s,baz=1.2,slow=3.2,SNR=37
SUR Sutherland 156.03 10 PKP PKPdf 15 36 23.2 +0.7
comp=Z,14nm,1.1s,baz=341,slow=6.1,SNR=3.3
SUR PKPab PKPab 15 36 49.6 +0.5
comp=Z,14nm,0.8s,baz=348,slow=3.9,SNR=5.9
SUR Sutherland 156.03 10 PKP PKPdf 15 36 23.2 +0.7
SUR PKPab PKPab 15 36 49.6 +0.5
SUR LR LR
comp=Z,986nm,21.0s,MS5.6
VNA3 Neumayer Olymp 158.78 149⇑*i*P PKPdf 15 36 25.0 +0.1
MAW Mawson 159.35 221 PKPab PKPab 15 37 01.4 -0.8
comp=Z,21nm,1.1s,baz=104,slow=6.2,SNR=6.0
MAW Mawson 159.35 221 PFAKE 15 36 40.0 +14
MAW LR LR
comp=Z,4µm,20.0s,MS6.3
VNA2 Neumayer--Watz 159.58 149⇓*i* PKPdf 15 36 30.7 +4.9
VNA2 Neumayer--Watz 159.58 149 PKPdf PKPdf 15 36 24.6 -1.2
VNA2 ⇓*i*P 15 36 30.7
SNAA Sanae 160.39 153 P PKPdf 15 36 25.8 -0.9
SNAA Sanae 160.39 153⇑*i* PKPab 15 37 04.8 -1.8
SNAA Sanae 160.39 153 PKP PKPdf 15 36 26.3 -0.4
comp=Z,1.5nm,0.9s,baz=306,slow=19,SNR=2.9
SNAA PKPab PKPab 15 37 04.1 -2.6
comp=Z,6.3nm,1.1s,baz=233,slow=3.6,SNR=6.2

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*IDC **09** 15:33:42.4±3.2, 55.46N×154.41W, mb3.7/8, mb1 3.9/10, mb1mx3.7/25, mbtmp3.7/10, ML3.8/2, Error ellipse: s-maj=71.9km s-min=26.4km az=155.0*
*NEIC **09** 15:33:47.2, 55.95N×154.21W, h5km, ML3.3(AEIC), After AEIC.*
ISC 09 15:33:47.2±2.9**, 56.0N**±0.1×**154.2W**±0.2**, h25**km±18km**, n27, σ0s83**/29**, mb4.0**/7**, Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.98**	**26**	P	**Pn**	**15 34 20.5**	**+0.8**
KDAK				S	**Sn**	**15 34 44.2**	**+0.4**
ANCK	**Angle Creek**	**2.30**	**343**	P	**Pn**	**15 34 24.6**	**+0.3**
KAPH	**Katmai Pasha**	**2.58**	**358**	P	**Pn**	**15 34 29.6**	**+1.2**
KAHC	**Katmai Hardscr**	**2.67**	**351**	P	**Pn**	**15 34 29.9**	**+0.3**
MCNL	**McNeil River**	**3.17**	**359**	P	**Pn**	**15 34 37.2**	**+0.4**
SDPT	**Sand Point**	**3.62**	**262**	P	**Pn**	**15 34 43.4**	**+0.3**
CNPM	**China Poot**	**3.85**	**23**	P	**Pn**	**15 34 46.6**	**+0.2**
ILW	**Iliamna West**	**4.09**	**7**	P	**Pn**	**15 34 49.7**	**-0.1**
INE	**Iliamna NE**	**4.10**	**8**	P	**Pn**	**15 34 50.0**	**+0.1**
ILIM	**Iliamna**	**4.12**	**9**	P	**Pn**	**15 34 50.7**	**+0.5**
BRLK	**Bradley Lake**	**4.15**	**24**	P	**Pn**	**15 34 50.2**	**-0.4**
NCT	**North Crescent**	**4.60**	**8**	P	**Pn**	**15 34 56.9**	**-0.2**
SVW2	**Sparrevohn**	**5.14**	**352**	P	**Pn**	**15 35 04.1**	**-0.6**
CKL	**Chakachamna La**	**5.28**	**10**	P	**Pn**	**15 35 05.9**	**-0.7**
RC01	**Rabbit Creek A**	**5.59**	**23**	P	**Pn**	**15 35 10.2**	**-0.8**
HIN	**Hinchinbrook I**	**5.98**	**40**	P	**Pn**	**15 35 14.8**	**-1.7**
ILAR	**Eielson Array**	**9.49**	**19**	Pn	**P**	**15 36 03.9**	**-1.5**
	0.3nm,0.3s,baz=210,slow=14,SNR=12						
ILAR				Sn	**Sn**	**15 37 44.2**	**-8.1**
	0.1nm,0.3s,baz=180,slow=11,SNR=3.2						
INK	**Inuvik**	**15.53**	**29**	Pn	**P**	**15 37 29.2**	**+3.4**
	0.3nm,0.3s,baz=257,slow=9.7,SNR=16						
YKA	**Yellowknife Ar**	**20.97**	**56**	P	**P**	**15 38 32.4**	**+1.9**
	0.1nm,0.4s,baz=273,slow=9.9,SNR=3.4						
ARCES	**ARCESS Array B**	**54.75**	**0**	P	**P**	**15 43 15.7**	**-0.5**
	11nm,1.2s,mb4.8,baz=349,slow=6.2,SNR=4.5						
SONM	**Songino Array**	**56.66**	**307**	P	**P**	**15 43 30.5**	**+0.3**
	0.5nm,0.4s,mb3.9,baz=42,slow=6.0,SNR=6.0						
ZAL	**Zalesovo**	**60.24**	**324**	P	**P**	**15 43 55.0**	**-0.1**
	0.7nm,0.5s,mb4.0,baz=16,slow=2.8,SNR=3.1						
NOA	**NORSAR Array B**	**62.72**	**8**	P	**P**	**15 44 12.0**	**+0.3**
	0.6nm,0.7s,mb3.8,baz=340,slow=6.5,SNR=3.1						
FINES	**FINESS Array B**	**62.88**	**360**	P	**P**	**15 44 12.7**	**0.0**
	0.5nm,0.5s,mb3.9,baz=11,slow=9.7,SNR=10						
BVAR	**Borovoye Array**	**65.30**	**332**	P	**P**	**15 44 28.6**	**+0.1**
	0.9nm,0.5s,mb4.1,baz=38,slow=7.7,SNR=8.9						
MKAR	**Makanchi Array**	**67.16**	**322**	P	**P**	**15 44 39.0**	**-1.5**
	0.3nm,0.6s,mb3.5,baz=36,slow=6.5,SNR=5.2						
MKAR	**Makanchi Array**	**67.16**	**322**	P	**P**	**15 44 39.0**	**-1.5**

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*IDC **09** 15:41:06.8±2.0, 49.49S×117.11E, mb4.1/5, mb1 4.3/5, mb1mx4.0/13, mbtmp4.1/5, Error ellipse: s-maj=49.1km s-min=44.9km az=137.0*
ISC 09 15:41:04.1±3.5**, 49.9S**±0.4×**117.1E**±0.5**, h10**km**, n8, σ1s66**/6**, mb3.9**/5**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.92**	**0**	Pn	**P**	**15 45 03.4**	**+1.0**
	0.6nm,0.3s,baz=177,slow=13,SNR=7.6						
STKA	**Stephens Creek**	**25.60**	**55**	P	**P**	**15 46 37.0**	**+2.0**
	2.3nm,1.0s,mb3.7,baz=246,slow=15,SNR=3.5						
ASAR	**Alice Springs**	**29.26**	**33**	P	**P**	**15 47 07.2**	**-1.2**
	1.1nm,0.8s,mb3.6,baz=214,slow=8.1,SNR=6.9						
FITZ	**Fitzroy Crossi**	**32.41**	**15**	P	**P**	**15 47 35.7**	**-0.6**
	3.9nm,0.7s,mb4.3,baz=68,slow=19,SNR=5.1						
WRA	**Warramunga Arr**	**32.85**	**31**	P	**P**	**15 47 38.7**	**-1.4**
	1.4nm,0.8s,mb3.9,baz=199,slow=11,SNR=8.3						
CMAR	**Chiang Mai Arr**	**69.90**	**342**	P	**P**	**15 52 17.6**	**+0.3**
	1.6nm,0.7s,mb4.0,baz=190,slow=5.6,SNR=8.2						
PDAR	**Pinedale Array**	**147.42**	**84**	PKPbc	PKPdf	16 00 51.6	+3.6
	0.2nm,0.4s,baz=270,slow=0.9,SNR=2.8						
YKA	**Yellowknife Ar**	**149.46**	**46**	PKPbc	PKPdf	16 00 54.7	+4.1
	0.3nm,0.6s,baz=280,slow=2.1,SNR=6.5						

IDC 09 15:46:10.0±5.0**, 17.72S**×**172.09W, mb3.7**/2**, mb1 4.0**/2**, mb1mx3.5**/18**, mbtmp3.7**/2**, Error ellipse: s-maj=292.9km s-min=70.9km az=152.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.57**	**258**	P	P	15 55 11.0	-1.8
	0.8nm,0.7s,baz=97,slow=7.6,SNR=29						
ASAR	**Alice Springs**	**50.63**	**254**	P	P	15 55 11.0	-2.1
	0.6nm,0.5s,baz=90,slow=8.1,SNR=11						
FINES	**FINESS Array B**	**134.46**	**348**	PKP	PKPdf	16 05 29.1	-2.7
	1.2nm,0.9s,baz=90,slow=2.8,SNR=4.7						

IDC 09 15:50:23.7±11.0**, 16.34S**×**175.10E, mb3.6**/3**, mb1 4.0**/4**, mb1mx3.7**/16**, mbtmp3.9**/4**, ML4.2**/1**, Error ellipse: s-maj=218.5km s-min=95.1km az=104.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.96**	**234**	*e*P	P	15 52 45.9	-5.4
DZM	**Mont Dzumac**	**9.96**	**234**	Pn	P	15 52 48.5	-2.8
	2.3nm,0.3s,baz=49,slow=18,SNR=25						
NOUC	**Port Laguerre**	**10.09**	**234**	*e*P	P	15 52 49.8	-3.2
STKA	**Stephens Creek**	**34.10**	**237**	P	P	15 57 09.6	-2.7
	1.6nm,0.8s,baz=94,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**38.83**	**258**	P	P	15 57 50.9	-1.6
	0.1nm,0.3s,baz=82,slow=6.0,SNR=14						
ASAR	**Alice Springs**	**39.28**	**253**	P	P	15 57 54.7	-1.4
	1.0nm,0.6s,baz=82,slow=9.2,SNR=17						

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*IDC **09** 15:53:52.0±0.4, 53.57S×25.57E, mb4.8/22, mb1 4.9/22, mb1mx4.9/23, mbtmp4.8/22, MS5.3/15, Ms1 5.3/15, ms1mx5.1/24, Error ellipse: s-maj=15.9km s-min=10.1km az=63.0*
*HRVD **09** 15:53:52.9±0.2, 53.41S×25.56E, h12km, MW5.7/71, Centroid moment Tensor Solution. LP body waves: s67,c132;Mantle waves: s71,c147; Half duration: 1s8 Moment tensor: Scale 10^17 Nm; Mrr-0.05±.06; Mθθ3.18±.07; Mφφ-3.13±.07; Mrθ-0.48±.17; Mθφ2.99±.06; Mφr0.06±.17; Best double couple: M0 4.374×10^17 NP1: φs203°, δ84°, λ178°. NP2: φs293°, δ88°, λ6°. Principal axes: T 4.413, Plg5°, Azm158°; N -.079, Plg84°, Azm308°; P -4.335, Plg3°, Azm68°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **09** 15:53:52.8, 53.40S×25.30E, h10km, mB5.6, mb5.2, Ms5.5, Msz5.3*
*MOS **09** 15:53:52.4±2.1, 53.55S×25.46E, h10km, mb5.2/9, MS5.2/7, Error ellipse: s-maj=26.8km s-min=10.2km az=89.0*
*NEIC **09** 15:53:52.9±0.2, 53.45S×25.32E, h10km, mb5.1/26, MS5.1/12, Error ellipse: s-maj=9.7km s-min=6.8km az=95.0*
ISC 09 15:53:51.4±0.3**, 53.49S**±0.04×**25.3E**±0.1**, h10**km**, n127, σ1s30**/82**, mb4.9**/37**, MS5.2**/24**, 10C-3D, South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**16.94**	**162**	⇑P	**P**	**15 57 46.5**	**-3.2**
NVL	**N'lazarevskaya**	**18.36**	**194**	*e*P	**P**	**15 58 04.1**	**-3.3**
NVL				*e*S	**S**	**16 01 28.3**	**-0.9**
MAIT	**Maitri**	**18.38**	**194**	*e*P	**P**	**15 58 07.3**	**-0.4**
SUR	**Sutherland**	**21.34**	**350**	P	**P**	**15 58 40.9**	**+0.2**
	272nm,0.8s,mb5.6,baz=164,slow=10,SNR=122						
SUR				S	**S**	**16 02 28.1**	**-4.6**
	14nm,0.8s,baz=224,slow=17,SNR=2.7						
SUR				LR	LR	16 04 48.4	
	comp=Z,12µm,21.7s,MS5.3,baz=166,slow=31						
SUR	**Sutherland**	**21.34**	**350**	⇑*i*P	**P**	**15 58 40.7**	**0.0**
	304nm,0.8s,mb5.7						
SUR				LR	LR		
	comp=Z,3µm,20.0s,MS4.7						
SNAA	**Sanae**	**21.97**	**203**	⇑*i*P	**P**	**15 58 48.2**	**+1.4**
SNAA	**Sanae**	**21.97**	**203**	P	**P**	**15 58 47.1**	**+0.3**
	comp=Z,14nm,1.1s,mb4.3,baz=39,slow=9.3,SNR=21						
SNAA				S	**S**	**16 02 42.6**	**-1.6**
	comp=Z,3.8nm,1.2s,baz=317,slow=23,SNR=6.3						
VNA2	**Neumayer--Watz**	**22.69**	**207**	⇑*i*P	**P**	**15 58 54.7**	**+1.0**
VNA2	**Neumayer--Watz**	**22.69**	**207**	⇑*i*	**P**	**15 58 55.7**	**+2.0**
VNA2	**Neumayer--Watz**	**22.69**	**207**		**P**	**15 58 58.5**	**+4.8**
VNA2	**Neumayer--Watz**	**22.69**	**207**	⇑*i*S	**S**	**16 03 01.4**	**+4.3**
MAW	**Mawson**	**22.77**	**143**	*e*P	**P**	**15 58 54.9**	**+0.3**
MAW				*e*S	**S**	**16 02 53.0**	**-5.6**
MAW				pmax	pmax		
	comp=Z,48nm,0.9s						
MAW	**Mawson**	**22.77**	**143**	P	**P**	**15 58 55.3**	**+0.7**
	comp=Z,40nm,1.0s,mb4.8,baz=282,slow=7.9,SNR=14						
MAW				S	**S**	**16 03 02.4**	**+3.8**
	comp=Z,5.5nm,0.5s,baz=81,slow=3.8,SNR=4.2						
MAW				LR	LR	16 06 08.4	
	comp=Z,4µm,19.8s,MS4.8,baz=292,slow=33						
MAW	**Mawson**	**22.77**	**143**	*e*P	**P**	**15 58 54.9**	**+0.3**
	comp=Z,48nm,0.9s,mb4.9						
MAW				*e*S	**S**	**16 02 53.0**	**-5.6**
VNA1	**Neumayer--Stat**	**22.78**	**208**	⇑*i*P	**P**	**15 58 57.0**	**+2.4**
VNA3	**Neumayer Olymp**	**23.48**	**208**	⇑*i*P	**P**	**15 59 04.1**	**+2.6**
BOSA	**Boshof**	**24.85**	**360**	P	**P**	**15 59 14.8**	**-0.4**
BOSA	**Boshof**	**24.85**	**360**	*e*P	**P**	**15 59 14.7**	**-0.5**
BOSA				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.1						
BOSA				MLR	MLR		
	comp=Z,9µm,21.0s,MS5.2						
BOSA	**Boshof**	**24.85**	**360**	P	**P**	**15 59 14.9**	**-0.3**
	comp=Z,28nm,0.7s,mb4.9,baz=185,slow=9.5,SNR=32						
BOSA				LR	LR	16 06 55.9	
	comp=Z,8µm,21.6s,MS5.2,baz=176,slow=31						
BOSA	**Boshof**	**24.85**	**360**	*e*P	**P**	**15 59 14.7**	**-0.5**
	comp=Z,70nm,1.2s,mb5.1						
BOSA				LR	LR		
	comp=Z,9µm,21.0s,MS5.2						
LBTB	**Lobatse**	**28.44**	**1**	*e*P	**P**	**15 59 46.1**	**-2.1**
LBTB				*e*		15 59 51.4	
LBTB				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.0						
LBTB				MLR	MLR		
	comp=Z,8µm,20.0s,MS5.3						
LBTB	**Lobatse**	**28.44**	**1**	P	**P**	**15 59 47.4**	**-0.9**
	comp=Z,34nm,0.7s,mb5.1						
LBTB				LR	LR	16 09 13.6	
	comp=Z,8µm,18.7s,MS5.3,baz=193,slow=32						
LBTB	**Lobatse**	**28.44**	**1**	*e*P	**P**	**15 59 46.1**	**-2.1**
	comp=Z,36nm,0.8s,mb5.1						
LBTB				*e*		15 59 51.4	
LBTB				LR	LR		
	comp=Z,8µm,20.0s,MS5.3						
MATP	**Matopo**	**33.10**	**6**	LR	LR	16 11 44.0	
	comp=Z,7µm,20.1s,MS5.4,baz=176,slow=32						
TSUM	**Tsumeb**	**34.74**	**347**	LR	LR	16 12 28.3	
	comp=Z,5µm,19.3s,MS5.3,baz=156,slow=32						
TSUM	**Tsumeb**	**34.74**	**347**	*e*P	**P**	**16 00 43.3**	**-0.4**
	comp=Z,33nm,1.0s,mb5.2						
TSUM				LR	LR		
	comp=Z,2µm,19.0s,MS4.8						
QSPA	**South Pole Qui**	**36.73**	**180**	*e*P	**P**	**16 00 59.3**	**-0.7**
	comp=Z,45nm,0.9s,mb5.3						
LSZ	**Lusaka**	**38.20**	**5**	*e*P	**P**	**16 01 12.0**	**-0.9**
LSZ				*e*	pP	16 01 16.4	+0.5
LSZ				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.8						
LSZ				MLR	MLR		
	comp=Z,7µm,21.0s,MS5.5						
LSZ	**Lusaka**	**38.20**	**5**	*e*P	**P**	**16 01 12.0**	**-0.9**
	comp=Z,19nm,0.9s,mb4.8						
LSZ				*e*	pP	16 01 16.4	+0.5
LSZ				LR	LR		
	comp=Z,7µm,21.0s,MS5.5						
OPO	**Ambohidratompo**	**38.77**	**34**	P	**P**	**16 01 18.8**	**+1.1**
	comp=Z,13nm,1.1s,mb4.5,baz=131,slow=12,SNR=3.9						
CASY	**Casey**	**41.13**	**142**	P	**P**	**16 01 37.4**	**+0.7**
	comp=Z,41nm,1.0s,mb5.0						
CASY				LR	LR		
	comp=Z,2µm,19.0s,MS5.1						
PMSA	**Palmer Station**	**43.33**	**219**	*e*P	**P**	**16 01 56.1**	**+1.6**
	comp=Z,122nm,1.4s,mb5.4						
PMSA				LR	LR		
	comp=Z,1µm,20.0s,MS4.8						
VNDA	**Vanda**	**46.51**	**168**	*e*P	**P**	**16 02 19.2**	**-0.7**
VNDA				pmax	pmax		
	comp=Z,42nm,1.3s						
VNDA				MLR	MLR		
	comp=Z,3µm,20.0s						
VNDA	**Vanda**	**46.51**	**168**	P	**P**	**16 02 19.7**	**-0.2**
	comp=Z,14nm,0.8s,mb4.9,baz=238,slow=8.5,SNR=46						
VNDA				LR	LR	16 21 17.6	
	comp=Z,3µm,20.3s,MS5.2,baz=295,slow=36						
VNDA	**Vanda**	**46.51**	**168**	*e*P	**P**	**16 02 19.2**	**-0.7**
	comp=Z,42nm,1.3s,mb5.2						
VNDA				LR	LR		
	comp=Z,3µm,20.0s,MS5.2						
SBA	**Scott Base**	**46.80**	**170**	*e*P	**P**	**16 02 22.2**	**+0.1**
SBA				pmax	pmax		
	comp=Z,81nm,1.3s,mb5.5						
SBA				MLR	MLR		
	comp=Z,3µm,21.0s,MS5.2						
SBA	**Scott Base**	**46.80**	**170**	*e*P	**P**	**16 02 22.2**	**0.0**
	comp=Z,81nm,1.3s,mb5.5						
SBA				LR	LR		
	comp=Z,3µm,21.0s,MS5.2						
MBAR	**Mbarara**	**52.90**	**7**	⇑*e*P	**P**	**16 03 13.7**	**+3.9**
MBAR	**Mbarara**	**52.90**	**7**	*e*P	**P**	**16 03 08.5**	**-1.3**
	comp=Z,17nm,1.4s,mb4.8						
MBAR				LR	LR		
	comp=Z,617nm,20.0s,MS4.7						
KMBO	**Kilima Mbogo**	**53.12**	**15**	*e*P	**P**	**16 03 15.2**	**+3.8**
KMBO	**Kilima Mbogo**	**53.12**	**15**	P	**P**	**16 03 12.7**	**+1.2**
	comp=Z,4.1nm,0.8s,mb4.4,baz=45,slow=19,SNR=4.2						
KMBO				LR	LR	16 23 22.6	
	comp=Z,3µm,20.8s,MS5.3,baz=350,slow=33						
KMBO	**Kilima Mbogo**	**53.12**	**15**	*e*P	**P**	**16 03 11.9**	**+0.4**
	comp=Z,9.5nm,1.3s,mb4.6						
KMBO				*e*	pP	16 03 16.4	+1.9
KMBO				LR	LR		
	comp=Z,3µm,21.0s,MS5.3						
TRQA	**Tornquist**	**59.02**	**247**	*e*P	**P**	**16 03 51.8**	**-1.6**
	comp=Z,31nm,1.2s,mb5.2						
PLCA	**Paso Flores**	**61.64**	**239**	*e*P	**P**	**16 04 10.7**	**-0.6**
PLCA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PLCA	**Paso Flores**	**61.64**	**239**	P	**P**	**16 04 10.9**	**-0.4**
	comp=Z,11nm,0.9s,mb5.0,baz=138,slow=6.9,SNR=15						
PLCA	**Paso Flores**	**61.64**	**239**	*e*P	**P**	**16 04 10.7**	**-0.6**
	comp=Z,9.4nm,0.8s,mb5.0						
DBIC	**Dimbokro**	**65.11**	**327**	*e*P	**P**	**16 04 32.6**	**-1.9**
DBIC				pmax	pmax		
	comp=Z,12nm,0.8s						
DBIC	**Dimbokro**	**65.11**	**327**	P	**P**	**16 04 33.6**	**-1.0**
	comp=Z,7.8nm,0.8s,mb4.8,baz=144,slow=8.8,SNR=8.3						
DBIC				LR	LR	16 25 06.3	
	comp=Z,5µm,20.6s,MS5.7,baz=233,slow=29						
DBIC	**Dimbokro**	**65.11**	**327**	*e*P	**P**	**16 04 32.6**	**-1.9**
	comp=Z,12nm,0.8s,mb5.0						
NWAO	**Narrogin (SRO)**	**65.38**	**112**	P	**P**	**16 04 35.0**	**-1.0**
	comp=Z,8.0nm,0.9s,mb4.8,baz=184,slow=7.5,SNR=4.0						
NWAO	**Narrogin (SRO)**	**65.38**	**112**	*e*P	**P**	**16 04 34.4**	**-1.6**
BDFB	**Brasilia**	**67.64**	**274**	P	**P**	**16 04 53.9**	**+3.2**
	comp=Z,21nm,0.9s,mb5.2,baz=149,slow=4.2,SNR=22						
BDFB				LR	LR	16 28 24.5	
	comp=Z,4µm,18.1s,MS5.6,baz=66,slow=31						
LVC	**Limon Verde**	**74.56**	**253**	*e*P	**P**	**16 05 36.7**	**+4.6**
	comp=Z,7.8nm,1.0s,mb4.6						
LVC				*e*		16 05 42.5	
MBWA	**Marble Bar**	**75.85**	**106**	*e*P	**P**	**16 05 38.1**	**-1.4**
	comp=Z,20nm,1.2s,mb4.9						
STKA	**Stephens Creek**	**78.70**	**129**	⇓*i*P	**P**	**16 05 55.0**	**-0.1**
	comp=Z,9.5nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**78.70**	**129**	P	**P**	**16 05 55.0**	**-0.1**
	comp=Z,8.8nm,0.9s,mb4.7,baz=205,slow=5.3,SNR=13						
RPZ	**Rata Peaks**	**78.82**	**155**	P	**P**	**16 05 56.1**	**+0.6**
	comp=Z,19nm,1.1s,mb4.9,baz=188,slow=7.1,SNR=3.2						
LPAZ	**La Paz**	**79.08**	**258**	*e*P	**P**	**16 05 58.9**	**+1.4**
LPAZ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LPAZ	**La Paz**	**79.08**	**258**	P	**P**	**16 05 59.2**	**+1.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=203,slow=17,SNR=6.8						
LPAZ	**La Paz**	**79.08**	**258**	*e*P	**P**	**16 05 58.9**	**+1.4**
	comp=Z,8.2nm,1.2s,mb4.5						
LTZ	**Lake Taylor**	**80.00**	**156**	P*	**P**	**16 06 02.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**81.64**	**109**	*e*P	**P**	**16 06 12.5**	**+1.5**
	comp=Z,12nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**81.64**	**109**	LR	LR	16 35 19.7	
	comp=Z,820nm,19.8s,MS5.1,baz=253,slow=30						
ASPA	**Alice Springs**	**81.66**	**119**	*e*P	**P**	**16 06 11.0**	**0.0**
ASAR	**Alice Springs**	**81.66**	**119**	P	**P**	**16 06 10.8**	**-0.2**
	comp=Z,4.6nm,0.7s,mb4.5,baz=206,slow=5.3,SNR=35						
ASAR				LR	LR	16 34 30.6	
	comp=Z,1µm,20.5s,MS5.2,baz=209,slow=30						
SAML	**Samuel**	**81.97**	**266**	*e*P	**P**	**16 06 10.9**	**-1.9**
	comp=Z,11nm,1.0s,mb4.7						
EIL	**Elat**	**83.23**	**8**	*e*P	**P**	**16 06 23.5**	**+4.4**
	comp=Z,16nm,1.4s,mb4.8						
HYB	**Hyderabad**	**84.11**	**50**	*e*P	**P**	**16 06 23.0**	**-0.7**
HYB	**Hyderabad**	**84.11**	**50**	*i* P	**P**	**16 06 23.0**	**-0.7**
WRA	**Warramunga Arr**	**84.94**	**117**	P	**P**	**16 06 28.0**	**+0.2**
	comp=Z,6.8nm,1.0s,mb4.7,baz=209,slow=3.9,SNR=22						
WB2	**Warramunga Arr**	**84.94**	**117**	*e*P	**P**	**16 06 28.4**	**+0.6**
WRAB	**Tennant Creek**	**84.95**	**117**	⇑*e*P	**P**	**16 06 28.6**	**+0.7**
WRAB	**Tennant Creek**	**84.95**	**117**	*e*P	**P**	**16 06 27.7**	**-0.1**
	comp=Z,38nm,1.1s,mb5.4						
URZ	**Urewera**	**85.43**	**158**	P	**P**	**16 06 28.7**	**-1.2**
	comp=Z,4.4nm,0.6s,mb4.7,baz=202,slow=5.4,SNR=2.5						
URZ				LR	LR	16 43 02.6	
	comp=Z,2µm,19.0s,MS5.6,baz=67,slow=35						
ASF	**Jabal al Asfar**	**85.90**	**10**	P	**P**	**16 06 35.2**	**+2.8**
	comp=Z,2.2nm,0.5s,mb4.7,baz=31,slow=1.3,SNR=4.9						
NNA	**Nana**	**87.55**	**253**	P	**P**	**16 06 38.0**	**-2.8**
	comp=Z,27nm,1.1s,mb5.4						
CTA	**Charters Tower**	**90.88**	**126**	LR	LR	16 38 32.7	
	comp=Z,686nm,20.1s,MS5.1,baz=107,slow=30						
BRTR	**Keskin Array B**	**93.12**	**6**	P	**P**	**16 07 07.2**	**+0.9**
	comp=Z,2.6nm,0.9s,mb4.7,baz=180,slow=7.4,SNR=14						
BRTR				PP	PP	16 10 49.2	-3.1
	comp=Z,0.3nm,0.8s,baz=180,slow=2.9,SNR=2.5						
CMAR	**Chiang Mai Arr**	**95.32**	**66**	P	**P**	**16 07 16.4**	**-0.4**
	comp=Z,0.3nm,0.5s,mb4.0,baz=239,slow=5.3,SNR=3.7						
CMAR				LR	LR	16 47 13.0	
	comp=Z,449nm,18.4s,MS5.0,baz=265,slow=34						
ESDC	**Sonseca Array**	**96.17**	**338**	P	**P**	**16 07 22.9**	**+2.7**
	comp=Z,0.4nm,0.4s,mb4.2,baz=165,slow=3.7,SNR=4.2						
KMI	**Kunming**	**102.77**	**65**	P	Pdif	16 07 52.1	+1.8
KMI				AMB	AMB		
	comp=Z,4.0nm,1.0s						
KMI	**Kunming**	**102.77**	**65**	P	Pdif	16 07 52.1	+1.8
	comp=Z,4.0nm,1.0s						
CLL	**Collm**	**104.93**	**352**	*e*PP	PP	16 12 19.0	-3.5
WMQ	**Urumqi**	**110.67**	**43**	⇓PKP	PKPdf	16 12 23.3	-3.3
WMQ				PP	PP	16 13 04.3	-0.6
WMQ				PPP	PPP	16 15 24.8	-0.8
WMQ				PKS	PKS	16 15 58.8	-0.4
WMQ				SKKS		16 19 58.6	
WMQ				PP	PP		
	comp=Z,185nm,10.0s						
WMQ				LR	LR		
	comp=N,615nm,22.3s,MS5.3						
WMQ				LR	LR		
	comp=E,683nm,27.3s,MS5.3						
WMQ				LR	LR		
	comp=Z,487nm,32.3s,MS4.9						
LZH	**Lanzhou**	**111.98**	**59**	*e*PKP	PKPdf	16 12 24.2	-5.0
LZH				LR	LR		
	comp=E,253nm,18.6s						
LZH				LR	LR		
	comp=Z,524nm,19.8s,MS5.1						
NJ2	**Nanjing**	**117.07**	**72**	PKP	PKPdf	16 12 33.4	-6.0
NJ2				XPKP		16 12 47.9	
NJ2				PP	PP	16 13 48.0	-3.0
NJ2				PP	PP		
	comp=Z,1µm,11.0s						
NJ2				LR	LR		
	comp=N,940nm,16.5s						
NJ2				LR	LR		
	comp=E,1µm,23.4s						
NJ2				LR	LR		
	comp=Z,700nm,17.8s,MS5.3						
SSE	**Sheshan**	**117.70**	**75**	*e*PKP	PKPdf	16 12 41.9	+1.3
ZAL	**Zalesovo**	**117.87**	**35**	PKP	PKPdf	16 12 40.3	0.0
	comp=Z,0.6nm,0.4s,baz=246,slow=1.7,SNR=5.2						
BJI	**Beijing**	**121.40**	**64**	PKP	PKPdf	16 12 49.0	+1.4
BJI				LR	LR		
	comp=Z,948nm,22.0s,MS5.4						
BJI	**Beijing**	**121.40**	**64**	PKP	PKPdf	16 12 49.1	+1.5
BJI				LR	LR		
	comp=Z,950nm,22.0s,MS5.4						
SONM	**Songino Array**	**122.03**	**52**	PKP	PKPdf	16 12 47.8	-0.8
	comp=Z,1.2nm,0.9s,baz=235,slow=2.0,SNR=5.5						
ULN	**Ulaanbaatar**	**122.36**	**52**	⇓*i*PKIKP	PKPdf	16 12 53.4	+4.2
ZAK	**Zakamensk**	**122.44**	**48**	*e*PKIKP	PKPdf	16 12 47.6	-1.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
MDJ	**Mudanjiang**	**131.82**	**68**	PKP	PKPdf	16 13 06.0	-1.4
SCHQ	**Schefferville**	**131.82**	**309**	PKP	PKPdf	16 13 09.2	+2.1
	comp=Z,1.8nm,0.7s,baz=242,slow=15,SNR=3.0						
BOD	**Bodaibo**	**132.08**	**46**	*e*PKIKP	PKPdf	16 13 06.6	-0.9
TXAR	**Lajitas Array**	**135.95**	**258**	PKP	PKPdf	16 13 16.8	+1.4
	comp=Z,0.1nm,0.3s,baz=135,slow=5.1,SNR=4.1						
YSS	**Yuzh-Sakhalins**	**140.62**	**73**	PKIKP	PKPdf	16 13 23.7	+0.3
ANMO	**Albuquerque**	**141.63**	**261**	*i* PKIKP	PKPdf	16 13 25.6	+0.1
ULM	**Lac du Bonnet**	**144.41**	**289**	PKP	PKPdf	16 13 27.2	-2.5
	comp=Z,5.8nm,1.0s,baz=207,slow=4.5,SNR=2.6						
PV10	**Paradox Valley**	**145.47**	**263**	*e*PKPdf	PKPdf	16 13 30.6	-1.4
RSSD	**Black Hills**	**145.99**	**275**	*e*PKP2	PKPab	16 13 33.7	+0.6
FCC	**Fort Churchill**	**146.83**	**304**	*e*PKIKP	PKPdf	16 13 31.9	-1.8
MSU	**Marysvale**	**147.42**	**260**	*e*PKP2	PKPab	16 13 37.0	-1.8
ARUT	**Antelope Range**	**147.67**	**258**	*e*PKP2	PKPab	16 13 36.9	-3.0

DAU	**Daniels Canyon**	**148.10**	**264**	*e*PKIKP	PKPdf	16 13 36.9	+0.6
NLU	**North Lily Min**	**148.29**	**262**	*e*PKP	PKPdf	16 13 33.0	-3.7
PDAR	**Pinedale Array**	**148.51**	**269**	PKPbc	PKPdf	16 13 40.8	+3.9
	comp=Z,7.1nm,1.0s,baz=117,slow=3.3,SNR=21						
RES	**Resolute Bay**	**148.52**	**334**	*e*PKIKP	PKPdf	16 13 34.1	-1.9
RES				*e*		16 13 37.8	
TCUT	**Toone Canyon**	**148.62**	**265**	*e*PKPbc	PKPdf	16 13 40.9	+3.7
HWUT	**Hardware Ranch**	**149.02**	**265**	*e*PKPbc	PKPdf	16 13 39.4	+1.7
SNOW	**Snow King Moun**	**149.63**	**269**	*e*PKPbc	PKPdf	16 13 41.8	+3.1
SNOW				*e*PKPab	PKPab	16 13 47.2	-0.4
IMW	**Indian Meadow**	**149.99**	**269**	*e*PKPbc	PKPdf	16 13 41.6	+2.4
MA2	**Magadan**	**150.09**	**56**	*e*PKIKP	PKPdf	16 13 44.9	+6.0
MA2	**Magadan**	**150.09**	**56**	*e*PKPbc	PKPdf	16 13 44.0	+5.1
QLMT	**Earthquake Lak**	**150.79**	**271**	*e*PKPdf	PKPdf	16 13 39.3	-1.1
QLMT				*e*PKPbc	PKPdf	16 13 44.0	+3.6
MNV	**Mina**	**150.84**	**254**	*e*PKPbc	PKPdf	16 13 43.7	+3.0
NVAR	**Mina Array Bea**	**150.93**	**254**	PKPbc	PKPdf	16 13 44.5	+3.6
	comp=Z,2.9nm,0.9s,baz=116,slow=3.8,SNR=7.5						
NVAR				PKPab	PKPab	16 13 52.2	-1.0
	comp=Z,8.8nm,1.0s,baz=122,slow=3.4,SNR=11						
NVAR	**Mina Array Bea**	**150.93**	**254**	PKPbc	PKPdf	16 13 44.5	+3.6
NVAR				PKPab	PKPab	16 13 52.2	-1.0
HRY	**Holter Researc**	**152.01**	**274**	*e*PKPdf	PKPdf	16 13 40.9	-1.3
HRY				*e*PKPbc	PKPdf	16 13 47.5	+5.3
CHMT	**Chamberlain Mo**	**152.96**	**273**	*e*PKPdf	PKPdf	16 13 43.4	-0.1
EDM	**Edmonton**	**155.55**	**286**	*e*PKPdf	PKPdf	16 13 44.5	-2.2
YKA	**Yellowknife Ar**	**157.27**	**309**	PKP	PKPdf	16 13 48.9	+0.2
	comp=Z,1.2nm,1.0s,baz=69,slow=1.4,SNR=8.3						
YKA				PKPab	PKPab	16 14 22.2	+3.0
	comp=Z,3.5nm,0.7s,baz=88,slow=4.8,SNR=30						
YKA	**Yellowknife Ar**	**157.27**	**309**	PKP	PKPdf	16 13 48.9	+0.2
YKA				PKPab	PKPab	16 14 22.2	+3.0
INK	**Inuvik**	**162.08**	**334**	PKPab	PKPab	16 14 41.5	+1.6
	comp=Z,1.9nm,0.9s,baz=34,slow=6.9,SNR=3.9						
DLBC	**Dease Lake**	**165.35**	**300**	PKPab	PKPab	16 14 57.0	+2.5
	comp=Z,2.7nm,1.0s,baz=129,slow=6.5,SNR=2.7						
ILAR	**Eielson Array**	**168.00**	**344**	PKPab	PKPab	16 15 07.2	+1.5
	comp=Z,1.7nm,1.0s,baz=1.2,slow=3.7,SNR=4.5						

*NEIC **09** 16:02:03.5, 55.65N×153.98W, h25km, mb4.1/1, ML3.7(AEIC), After AEIC.*
*IDC **09** 16:02:04.9±1.1, 56.22N×154.54W, mb3.8/12, mb1 4.0/15, mb1mx3.9/26, mbtmp3.8/15, ML3.5/3, Error ellipse: s-maj=30.5km s-min=16.7km az=13.0*
ISC 09 16:02:05.5±2.1, 56.13N±0.07×154.56W±0.10, h19km±16km, n36, σ0§93/38, mb3.8/12, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.98**	**32**	P		**Pn**	**16 02 38.5**	**-0.2**
KDAK				S		**Sn**	**16 03 02.0**	**-1.1**
ANCK	**Angle Creek**	**2.14**	**347**	P		**Pn**	**16 02 45.1**	**+4.3**
KAPH	**Katmai Pasha**	**2.48**	**3**	P		**Pn**	**16 02 47.4**	**+1.7**
KAHC	**Katmai Hardscr**	**2.54**	**355**	P		**Pn**	**16 02 48.3**	**+1.7**
MCNL	**McNeil River**	**3.07**	**2**	P		**Pn**	**16 02 55.3**	**+1.2**
AUI	**Augustine Isla**	**3.27**	**10**	P		**Pn**	**16 02 58.1**	**+1.0**
OPT	**Oil Point**	**3.60**	**11**	P		**Pn**	**16 03 02.2**	**+0.4**
CNPM	**China Poot**	**3.84**	**26**	P		**Pn**	**16 03 04.6**	**-0.5**
ILIM	**Iliamna**	**4.05**	**11**	P		**Pn**	**16 03 08.7**	**+0.5**
BRLK	**Bradley Lake**	**4.14**	**27**	P		**Pn**	**16 03 07.8**	**-1.5**
HAG	**Hague Volcano**	**4.23**	**262**	P		**Pn**	**16 03 10.3**	**-0.3**
BLHA	**Black Hill**	**4.24**	**267**	P		**Pn**	**16 03 10.7**	**-0.2**
DOL	**Dolgoi Island**	**4.25**	**260**	P		**Pn**	**16 03 10.2**	**-0.7**
SLKM	**Skilak Lake**	**4.95**	**26**	P		**Pn**	**16 03 19.9**	**-1.0**
SVW2	**Sparrevohn**	**5.01**	**354**	P		**Pn**	**16 03 22.3**	**+0.6**
FALS	**False Pass**	**5.19**	**259**	P		**Pn**	**16 03 23.3**	**-1.0**
ILAR	**Eielson Array**	**9.46**	**20**	Pn		**P**	**16 04 21.3**	**-2.6**
	0.4nm,0.3s,baz=208,slow=13,SNR=16						
ILAR				Sn		**Sn**	**16 06 03.2**	**-7.5**
	0.2nm,0.3s,baz=207,slow=20,SNR=3.3						
DLBC	**Dease Lake**	**13.45**	**70**	Pn		**P**	**16 05 17.7**	**0.0**
	0.1nm,0.3s,baz=173,slow=16,SNR=2.7						
DLBC	**Dease Lake**	**13.45**	**70**	Pn		**P**	**16 05 17.7**	**0.0**
INK	**Inuvik**	**15.54**	**30**	Pn		**P**	**16 05 44.8**	**-0.2**
	0.1nm,0.3s,baz=255,slow=7.4,SNR=3.5						
FX1	**Attu Island--F**	**18.92**	**274**	P		**P**	**16 06 27.5**	**+0.1**
	0.9nm,0.3s,baz=135,slow=1.4,SNR=6.0						
YKA	**Yellowknife Ar**	**21.08**	**56**	P		**P**	**16 06 49.7**	**-1.0**
	0.9nm,0.7s,mb3.2,baz=270,slow=9.6,SNR=22						
YKA				PcP		PcP	16 10 55.2	-1.9
	0.2nm,0.5s,baz=287,slow=2.2,SNR=4.2						
YKA	**Yellowknife Ar**	**21.08**	**56**	P		**P**	**16 06 49.7**	**-1.0**
YKA				PcP		PcP	16 10 55.2	-1.9
NEW	**Newport**	**24.01**	**93**	P		**P**	**16 07 21.4**	**+1.8**
	1.4nm,0.4s,mb3.7,baz=289,slow=8.0,SNR=5.4						
PDAR	**Pinedale Array**	**31.56**	**96**	P		**P**	**16 08 28.9**	**+0.3**
	0.9nm,0.6s,mb3.8,baz=314,slow=5.9,SNR=6.6						
TXAR	**Lajitas Array**	**44.59**	**105**	P		**P**	**16 10 19.1**	**+1.0**
	0.2nm,0.4s,mb3.3,baz=309,slow=8.0,SNR=3.6						
TXAR				PcP		PcP	16 12 00.8	-0.6
	0.2nm,0.6s,baz=297,slow=2.0,SNR=3.0						
TXAR	**Lajitas Array**	**44.59**	**105**	P		**P**	**16 10 19.1**	**+1.0**
TXAR				PcP		PcP	16 12 00.8	-0.6
SCHQ	**Schefferville**	**46.48**	**53**	P		**P**	**16 10 32.2**	**-0.4**
	1.4nm,0.5s,mb4.1,baz=295,slow=12,SNR=6.0						
ARCES	**ARCESS Array B**	**54.64**	**360**	P		**P**	**16 11 33.8**	**-0.8**
	6.9nm,1.0s,mb4.6,baz=9.5,slow=7.4,SNR=6.0						
SONM	**Songino Array**	**56.43**	**307**	P		**P**	**16 11 48.0**	**+0.2**
	0.4nm,0.5s,mb3.7,baz=51,slow=6.0,SNR=4.9						
NOA	**NORSAR Array B**	**62.64**	**8**	P		**P**	**16 12 29.9**	**-0.5**
	0.5nm,0.7s,mb3.7,baz=332,slow=5.7,SNR=3.1						
FINES	**FINESS Array B**	**62.77**	**360**	P		**P**	**16 12 30.5**	**-0.8**
	0.8nm,0.6s,mb4.0,baz=14,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**66.94**	**321**	P		**P**	**16 12 58.4**	**0.0**
	0.2nm,0.5s,mb3.4,baz=42,slow=7.1,SNR=3.7						
MKAR	**Makanchi Array**	**66.94**	**321**	P		**P**	**16 12 58.4**	**0.0**
AKASG	**Malin Array Be**	**73.49**	**357**	P		**P**	**16 13 38.8**	**+0.9**
	0.2nm,0.2s,mb3.6,baz=3.7,slow=4.3,SNR=3.1						
CMAR	**Chiang Mai Arr**	**83.69**	**294**	P		**P**	**16 14 34.8**	**+0.5**
	0.4nm,0.6s,mb3.8,baz=17,slow=4.7,SNR=4.0						

IDC 09 16:05:27.7±4.2, 1.32N×97.38E, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=158.7km s-min=29.3km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.95**	**122**	P		P	16 13 20.6	-1.7
	0.2nm,0.5s,baz=301,slow=9.3,SNR=5.2						
SONM	**Songino Array**	**46.99**	**8**	P		P	16 14 00.9	-1.5
	0.3nm,0.5s,baz=205,slow=6.4,SNR=2.1						
MKAR	**Makanchi Array**	**47.17**	**346**	P		P	16 14 02.2	-1.6
	0.6nm,0.6s,baz=154,slow=10.0,SNR=7.3						
ZAL	**Zalesovo**	**53.46**	**351**	P		P	16 14 48.7	-3.1
	0.6nm,0.5s,baz=148,slow=5.8,SNR=3.4						

*IDC **09** 16:18:18.8±3.0, 22.76S×170.93E, h45km±25km, mb3.8/7, mb1 4.2/10, mb1mx4.0/20, mbtmp4.3/10, ML4.6/3, Error ellipse: s-maj=37.9km s-min=16.5km az=27.0*
*NEIC **09** 16:18:18.1±1.3, 22.65S×170.93E, h46km±11km, mb4.7/5, Error ellipse: s-maj=17.6km s-min=8.9km az=210.0*
ISC 09 16:18:15.6±1.8, 22.7S±0.1×170.96E±0.09, h38km±15km, n29, σ1§24/23, mb4.3/10, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.22**	**277**	*e*P		**P**	**16 19 17.6**	**-1.7**
DZM				*e*S		**S**	**16 20 06.4**	**-1.7**
DZM	**Mont Dzumac**	**4.22**	**277**	P		**P**	**16 19 19.5**	**+0.3**
	7.7nm,0.3s,baz=125,slow=15,SNR=64						
DZM				S		**S**	**16 20 09.3**	**+1.3**
	9.2nm,0.3s,baz=162,slow=20,SNR=3.6						
NOUC	**Port Laguerre**	**4.35**	**277**	*e*P		**P**	**16 19 20.9**	**-0.2**
NOUC				*e*S		**S**	**16 20 11.8**	**+0.6**
NOUC	**Port Laguerre**	**4.35**	**277**	*e*P		**P**	**16 19 20.9**	**-0.2**
NOUC				*e*S		**S**	**16 20 11.8**	**+0.6**
RAO	**Raoul Island**	**11.96**	**126**	P		**P**	**16 21 06.5**	**0.0**
	159nm,0.3s,baz=114,slow=18,SNR=2.6						
URZ	**Urewera**	**16.41**	**163**	P		**P**	**16 22 06.6**	**+1.9**
	0.2nm,0.3s,baz=37,slow=3.5,SNR=3.6						
AFI	**Afiamalu**	**18.55**	**65**	P		**P**	**16 22 25.9**	**-5.7**
	41nm,1.0s						
RPZ	**Rata Peaks**	**20.99**	**180**	P		**P**	**16 22 56.6**	**-1.4**
	7.3nm,0.8s,baz=13,slow=8.1,SNR=3.5						
CTA	**Charters Tower**	**23.14**	**272**	P		**P**	**16 23 20.4**	**+0.8**
	4.0nm,0.9s,mb3.8,baz=307,slow=8.1,SNR=2.2						
CTA	**Charters Tower**	**23.14**	**272**	P		**P**	**16 23 20.4**	**+0.8**
ASAR	**Alice Springs**	**34.02**	**261**	P		**P**	**16 24 58.5**	**+0.2**
	1.7nm,0.8s,mb4.0,baz=80,slow=8.0,SNR=11						
WRA	**Warramunga Arr**	**34.17**	**268**	P		**P**	**16 24 58.4**	**-1.2**
	0.4nm,0.4s,mb3.7,baz=97,slow=8.3,SNR=19						
FITZ	**Fitzroy Crossi**	**42.60**	**268**	P		**P**	**16 26 10.9**	**+0.7**
	8.8nm,0.7s,mb4.6,baz=173,slow=7.6,SNR=10						
MBWA	**Marble Bar**	**47.36**	**262**	P		**P**	**16 26 48.1**	**0.0**
	11nm,1.0s,mb4.7						
MAJO	**Matsushiro**	**66.52**	**332**	*e*P		**P**	**16 29 01.0**	**-2.9**
	10.0nm,1.2s,mb4.7						
QSPA	**South Pole Qui**	**67.40**	**180**	*e*P		**P**	**16 29 07.0**	**-1.7**
	7.2nm,0.9s,mb4.7						
CMAR	**Chiang Mai Arr**	**81.37**	**294**	P		**P**	**16 30 32.8**	**+2.4**
	1.4nm,0.9s,mb3.9,baz=132,slow=4.2,SNR=8.6						
CMB	**Columbia Colle**	**88.26**	**47**	P		**P**	**16 31 05.2**	**+0.8**
	4.9nm,1.1s,mb4.7						
SONM	**Songino Array**	**90.91**	**323**	P		**P**	**16 31 17.1**	**+0.4**
	0.4nm,0.6s,mb3.9,baz=135,slow=1.7,SNR=4.0						
ARCES	**ARCESS Array B**	**128.78**	**345**	PKP		PKPdf	16 37 19.1	+0.5
	4.9nm,1.0s,baz=45,slow=1.3,SNR=4.7						
FINES	**FINESS Array B**	**134.36**	**337**	PKP		PKPdf	16 37 31.6	+2.2
	1.1nm,0.9s,slow=1.4,SNR=3.2						
KOLS	**Kolonicke sedl**	**143.95**	**324**	*e*PKP		PKPdf	16 37 52.4	+5.6
DPC	**Dobruska-Polom**	**145.99**	**331**	*e*PKP		PKPdf	16 37 53.0	+2.7
VYHS	**Vyhne**	**146.02**	**326**	*e*PKP		PKPdf	16 37 53.1	+2.6
CLL	**Collm**	**146.69**	**335**	*e*PKIKP		PKPdf	16 37 52.0	+0.5
CLL				*i* PKP1		PKPbc	16 37 54.6	+1.7
CLL				*i*			16 37 58.4	
PRU	**Pruhonice**	**147.05**	**332**	*e*PKP		PKPdf	16 37 55.8	+3.6
NKC	**Novy Kostel**	**147.75**	**334**	*e*PKP		PKPdf	16 37 57.7	+4.4
KHC	**Kasperske Hory**	**148.10**	**331**	*e*PKP		PKPdf	16 37 58.7	+4.8
GERES	**GERESS Array B**	**148.26**	**331**	PKPbc		PKPdf	16 37 59.3	+5.2
	1.8nm,0.6s,baz=18,slow=2.0,SNR=15						

*NEIC **09** 16:29:09.2±2.7, 17.90S×169.53E, h30km, mb4.7/1, Error ellipse: s-maj=52.5km s-min=21.8km az=104.0*
*IDC **09** 16:29:12.6±12.0, 17.98S×168.70E, mb3.9/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML3.4/1, Error ellipse: s-maj=209.6km s-min=53.9km az=75.0*
ISC 09 16:29:25.1±5.0, 18.5S±0.2×167.9E±0.7, h55km±52km, n11, σ0§63/13, mb3.8/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.78**	**201**	*e*P		**P**	**16 30 22.4**	**0.0**
DZM				*e*S		**S**	**16 31 05.9**	**-0.1**
DZM	**Mont Dzumac**	**3.78**	**201**	Pn		**P**	**16 30 22.4**	**0.0**
	1.7nm,0.3s,baz=109,slow=18,SNR=86						
DZM				Sn		**S**	**16 31 06.0**	**0.0**
	3.4nm,0.3s,baz=105,slow=23,SNR=8.0						
DZM	**Mont Dzumac**	**3.78**	**201**	*e*P		**P**	**16 30 22.4**	**0.0**
DZM				*e*S		**S**	**16 31 05.9**	**-0.1**
CTA	**Charters Tower**	**20.50**	**262**	P		**P**	**16 34 01.5**	**+0.5**
	3.9nm,0.7s,baz=101,slow=14,SNR=4.0						
CTAO	**Charters Tower**	**20.50**	**262**	*e*P		**P**	**16 34 01.6**	**+0.6**
STKA	**Stephens Creek**	**27.18**	**236**	P		**P**	**16 35 06.8**	**+1.2**
	1.5nm,0.7s,mb3.6,baz=48,slow=8.4,SNR=3.8						
STKA	**Stephens Creek**	**27.18**	**236**	P		**P**	**16 35 05.5**	**0.0**
WRA	**Warramunga Arr**	**31.70**	**262**	P		**P**	**16 35 44.6**	**-1.3**
	0.2nm,0.4s,mb3.3,baz=82,slow=5.8,SNR=8.7						
ASAR	**Alice Springs**	**32.08**	**255**	P		**P**	**16 35 49.0**	**-0.2**
	0.8nm,0.5s,mb3.8,baz=82,slow=8.7,SNR=21						
ASAR				pP		pP	16 36 00.7	-2.6
	0.9nm,0.7s,baz=85,slow=8.7,SNR=7.1						
FITZ	**Fitzroy Crossi**	**40.06**	**264**	P		**P**	**16 36 57.2**	**+0.4**
	6.0nm,0.7s,mb4.4,baz=76,slow=4.2,SNR=7.8						
FITZ				pP		pP	16 37 08.9	-2.2
	5.1nm,0.7s,baz=140,slow=3.8,SNR=7.8						
MAJO	**Matsushiro**	**61.54**	**333**	P		Px	16 39 23.8	
	6.7nm,1.1s						

IDC 09 16:33:44.4±7.0, 6.99S×147.30E, h63km±49km, mb3.2/3, mb1 3.5/6, mb1mx3.3/17, mbtmp3.6/6, ML3.1/3, MS4.4/1, Ms1 4.3/1, ms1mx3.5/14, Error ellipse: s-maj=70.2km s-min=47.3km az=71.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.40**	**183**	P		P	16 34 21.0	-1.2
	12nm,0.3s,baz=345,slow=5.9,SNR=47						
PMG				S		S	16 34 50.6	+0.1
	20nm,0.3s,baz=223,slow=18,SNR=4.4						
CTA	**Charters Tower**	**13.06**	**184**	P		P	16 36 47.9	-0.9
	0.2nm,0.3s,baz=15,slow=15,SNR=3.7						
WRA	**Warramunga Arr**	**18.00**	**223**	P		P	16 37 49.7	-2.2
	0.1nm,0.3s,baz=51,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**20.99**	**216**	P		P	16 38 22.8	-1.9
	0.2nm,0.3s,baz=48,slow=8.2,SNR=4.5						
FITZ	**Fitzroy Crossi**	**23.82**	**240**	P		P	16 38 52.1	-0.6
	4.3nm,0.9s,baz=33,slow=7.6,SNR=4.4						
STKA	**Stephens Creek**	**25.32**	**191**	P		P	16 39 05.3	-1.8
	2.0nm,1.1s,baz=8.5,slow=12,SNR=2.5						
STKA				LR		LR	16 50 06.0	
	comp=Z,792nm,20.0s,baz=28,slow=39						

IDC 09 16:39:16.0±2.5, 5.51N×94.80E, mb3.6/5, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, ML4.1/1, Error ellipse: s-maj=96.9km s-min=21.0km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.49**	**17**	Pn		P	16 42 29.1	-2.2
	0.3nm,0.3s,baz=190,slow=16,SNR=3.2						
MKAR	**Makanchi Array**	**42.53**	**347**	P		P	16 47 12.9	-2.0
	0.5nm,0.4s,baz=174,slow=9.1,SNR=9.5						
SONM	**Songino Array**	**43.33**	**11**	P		P	16 47 19.5	-1.9
	0.4nm,0.7s,baz=191,slow=8.8,SNR=5.0						
WRA	**Warramunga Arr**	**46.38**	**124**	P		P	16 47 44.6	-1.7
	0.4nm,0.5s,baz=302,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**47.92**	**129**	P		P	16 47 56.2	-2.2
	0.3nm,0.7s,baz=305,slow=7.7,SNR=6.7						
ZAL	**Zalesovo**	**48.97**	**352**	P		P	16 48 04.4	-1.7
	0.5nm,0.3s,baz=189,slow=3.9,SNR=2.7						

*NEIC **09** 16:43:17.5, 15.57N×97.70W, h20km, mb4.5/1, MD4.2(MEX), After MEX.*
MEX 09 16:43:16.4±0.5, 15.56N×97.67W, h11km±10km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.94**	**332**	*i* P		Pb	16 43 31.8	-2.4
PNIG				*e*S		Sb	16 43 43.4	-3.0
HUIG	**Huatulco**	**1.52**	**82**	*i* P		Pn	16 43 41.0	-2.6
HUIG				*e*S		Sb	16 44 00.3	-2.9
HUIG	**Huatulco**	**1.52**	**82**	*i* P		Pn	16 43 39.9	-3.7
HUIG				*e*S		Sb	16 43 58.6	-4.6
VHO	**Vista Hermosa**	**1.75**	**31**	*i* P		Pn	16 43 43.4	-3.6
VHO				*i* S		Sn	16 44 04.7	-4.7
VHO	**Vista Hermosa**	**1.75**	**31**	*i* P		Pn	16 43 43.1	-3.8
VHO				*i* S		Sn	16 44 04.7	-4.7
OXX	**Oaxaca**	**1.76**	**31**	*e*P		Pn	16 43 45.0	-2.2
OXX				*e*S		Sn	16 44 06.0	-3.7
ACX	**Acapulco**	**2.52**	**301**	*e*P		Pn	16 43 55.0	-3.0
CAIG	**El Cayaco**	**2.90**	**301**	*e*P		Pn	16 44 01.3	-2.2
CAIG	**El Cayaco**	**2.90**	**301**	*e*P		Pn	16 44 00.5	-2.9
CAIG				*i* S		Sn	16 44 34.0	-4.6
CMIG	**Matias Romero**	**3.08**	**60**	*e*P		Pn	16 44 02.0	-3.9
CMIG				*e*S		Sn	16 44 39.9	-3.2
CMIG	**Matias Romero**	**3.08**	**60**	*e*P		Pn	16 44 02.0	-3.9
CMIG				*e*S		Sn	16 44 39.1	-4.0
PLIG	**Platanillo**	**3.32**	**328**	*e*P		Pn	16 44 06.1	-3.2
PLIG				*i* S		Sn	16 44 43.7	-5.5
IISM	**Ciudad Serdan**	**3.42**	**5**	*e*P		Pn	16 44 13.0	+2.2
IISM	**Ciudad Serdan**	**3.42**	**5**	*e*P		Pn	16 44 09.0	-1.8
PPM	**Popocatepetl**	**3.60**	**345**	*e*P		Pn	16 44 11.0	-2.4
PPM				*i* S		Sn	16 44 50.9	-5.5
PPM	**Popocatepetl**	**3.60**	**345**	*e*P		Pn	16 44 10.0	-3.4
PPM				*e*P			16 44 11.0	
PPM				*i* S		Sn	16 44 50.9	-5.5
PPM				*i* S		Sn	16 44 55.0	-1.4
LVIG	**Laguna Verde**	**4.31**	**16**	*e*P		Pn	16 44 33.9	+11
LVIG				*i* S		Sn	16 45 08.2	-6.0
MOIG	**Morelia**	**5.29**	**321**	*i* S		Sn	16 45 41.5	+2.4
BMO	**Blue Mountains**	**33.59**	**334**	*e*P		P	16 49 52.7	-6.0
	4.5nm,0.8s						

*IDC **09** 16:51:06.5±4.4, 8.05S×118.01E, h94km±24km, mb3.4/2, mb1 3.5/4, mb1mx3.2/19, mbtmp3.7/4, Error ellipse: s-maj=161.6km s-min=38.0km az=48.0*

*DJA **09** 16:51:12.1±0.9, 7.98S×118.50E, h160km, MD4.7/4, ML4.8/4, Error ellipse: s-maj=66.3km s-min=19.3km az=172.0*
ISC 09 16:51:14.4±2.3, 8.3S±0.3×118.4E±0.2, h158km±23km, n8, σ0§93/15, mb3.6/2, 4C-4D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**2.23**	**266**	⇑*e*Pn		**P**	**16 51 53.7**	**+0.6**
	499nm,0.2s						
KEDI				⇑*e*Sn		**S**	**16 52 23.8**	**+0.9**
RATI	**Rata**	**2.83**	**262**	⇓*e*Pn		**P**	**16 52 00.8**	**+0.3**
	606nm,0.2s						
RATI				⇓*e*Sn		**S**	**16 52 36.7**	**+0.8**
KELI	**Kelakatan**	**3.84**	**272**	⇓*e*Pn		**P**	**16 52 13.8**	**+0.3**
	53nm,0.2s						
KELI				⇓*e*Sn		**S**	**16 52 57.9**	**-1.1**
SRDI	**Scrawed**	**4.18**	**268**	⇑*e*Pn		**P**	**16 52 17.2**	**-0.8**
	273nm,0.2s						
SRDI				⇑*e*Sn		**S**	**16 53 06.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**12.01**	**145**	P		**P**	**16 53 59.3**	**-2.0**
	0.2nm,0.3s,baz=352,slow=18,SNR=5.9						
FITZ				S		**S**	**16 56 01.8**	**-11**
	1.0nm,0.3s,baz=175,slow=21,SNR=13						
WRA	**Warramunga Arr**	**19.29**	**128**	P		**P**	**16 55 28.3**	**-1.1**
	0.3nm,0.3s,baz=302,slow=12,SNR=35						
WRA				S		**S**	**16 58 55.1**	**+0.8**
	0.1nm,0.3s,baz=310,slow=22,SNR=4.2						
ASAR	**Alice Springs**	**21.30**	**137**	P		**P**	**16 55 50.6**	**+1.0**
	1.3nm,0.5s,mb3.6,baz=310,slow=9.0,SNR=65						
ASAR				S		**S**	**16 59 47.1**	**+16**
	0.1nm,0.5s,baz=311,slow=20,SNR=3.0						
ASAR				ScP			17 03 15.2	
	0.2nm,0.6s,baz=313,slow=2.2,SNR=3.8						
STKA	**Stephens Creek**	**31.86**	**141**	P		**P**	**16 57 27.4**	**+0.7**
	0.9nm,0.8s,mb3.6,baz=341,slow=15,SNR=3.0						

*CSEM **09** 16:59:12.1±0.6, 43.04N×46.05E, h15km, mb3.8, Error ellipse: s-maj=20.1km s-min=10.9km az=9.0, After OBN*
MOS 09 16:59:12.1±1.6, 43.04N×46.05E, h15km, mb3.8/1, Error ellipse: s-maj=20.0km s-min=12.1km az=27.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.40**	**161**	*e*PG		Pg	16 59 22.0	+1.5
BTLR				*i* S		Sb	16 59 30.5	+4.6
BTLR				pmax		pmax		
	comp=Z,172nm,0.2s						
BTLR	**Botlikh**	**0.40**	**161**	*e*Pg		Pg	16 59 22.0	+1.5
	comp=Z,172nm,0.2s						
BTLR				*i* Sg		Sg	16 59 30.5	+4.4
DBC	**Dubki**	**0.58**	**92**	*i* PG		Pg	16 59 24.2	+0.3
DBC				*i* S		Sb	16 59 35.0	+4.0
KRNR	**Karanay**	**0.67**	**108**	*e*PG		Pg	16 59 25.8	+0.1
KRNR				*i* S		Sb	16 59 37.8	+4.1
KRNR				pmax		pmax		
	comp=Z,40nm,0.2s						
KRNR	**Karanay**	**0.67**	**108**	*e*Pg		Pg	16 59 25.8	+0.1
	comp=Z,40nm,0.2s						
KRNR				*i* Sg		Sg	16 59 37.8	+3.0
XNZR	**Khunzakh**	**0.70**	**136**	*e*Pg		Pg	16 59 28.0	+1.7
XNZR				*e*Sg		Sg	16 59

DNZL			*i* S	**S**	**17 08 25.1**	**-4.1**
AKAS	**Kas**	**1.61 102**	*i* P	**P**	**17 08 09.8**	**+0.7**
AKAS			*i* S	**S**	**17 08 30.6**	**+0.2**
GOLH	**Golhisar**	**1.66 67**	*i* P	**P**	**17 08 11.1**	**+1.3**
GOLH			*i* S	**S**	**17 08 31.9**	**+0.6**
APE	**Apeiranthos**	**1.77 286**	*e*PN	**P**	**17 08 12.6**	**+1.4**
MANT	**Manisa**	**2.02 20**	*i* P	**P**	**17 08 14.8**	**+0.4**
MANT			*i* S	**S**	**17 08 37.7**	**-1.7**
XRY	**Khrisi**	**2.34 224**	*e*PN	**P**	**17 08 20.5**	**+1.7**
SLUM		**5.48 202**	P	**P**	**17 09 01.0**	**-0.4**
SLUM			S	**S**	**17 09 58.0**	**-5.7**
SWA1		**7.49 193** ⇑P	P	**P**	**17 09 28.3**	**-0.7**
SWA1			S	**S**	**17 10 45.3**	**-7.6**
AMAG	**Maghara**	**7.53 140** ⇑P	P	**P**	**17 09 28.5**	**-1.0**
SWA2		**7.56 195** ⇓P	P	**P**	**17 09 29.3**	**-0.6**
SUZ		**8.01 146** ⇓P	P	**P**	**17 09 35.4**	**-0.6**
HNKL	**Nakhl**	**8.49 140**	P	**P**	**17 09 41.5**	**-1.0**
HNKL			S	**S**	**17 11 09.5**	**-7.9**
HFRF	**Wahat Farafira**	**9.43 176** ⇑P	P	**P**	**17 09 55.1**	**-0.1**

*IDC **09** 17:11:16.4±0.8, 1.11N×27.93W, mb4.0/8, mb1 4.1/8, mb1mx3.8/22, mbtmp4.0/8, Error ellipse: s-maj=53.5km s-min=17.2km az=141.0*
*NEIC **09** 17:11:17.2±0.3, 0.89N×27.83W, h10km, mb4.4/11, Error ellipse: s-maj=16.0km s-min=6.7km az=144.0*

ISC 09 17:11:15.5±0.5, 0.9N±0.1×27.8W±0.1, h10km, n25, σ0§77/23, mb4.3/18, 1C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.50**	**230**	*e*P	**P**	**17 13 46.1**	**-3.2**
	30nm,0.5s						
DBIC	**Dimbokro**	**23.60**	**75**	P	**P**	**17 16 28.0**	**+0.4**
	7.8nm,0.9s,mb4.2,baz=240,slow=13,SNR=4.7						
DBIC	**Dimbokro**	**23.60**	**75**	*e*P	**P**	**17 16 27.5**	**-0.1**
	11nm,0.9s,mb4.3						
BDFB	**Brasilia**	**25.87**	**230**	P	**P**	**17 16 49.9**	**+0.5**
	3.7nm,0.8s,mb4.0,baz=71,slow=10,SNR=4.2						
SAML	**Samuel**	**36.57**	**254**	*e*P	**P**	**17 18 22.3**	**-1.4**
	6.1nm,1.1s,mb4.3						
SIV	**San Ignacio**	**36.89**	**241**	P	**P**	**17 18 26.5**	**+0.1**
	1.2nm,0.8s,mb3.8,baz=90,slow=17,SNR=4.3						
LPAZ	**La Paz**	**43.30**	**245**	P	**P**	**17 19 20.5**	**+0.9**
	3.9nm,1.2s,mb4.0,baz=85,slow=5.8,SNR=4.6						
LPAZ	**La Paz**	**43.30**	**245**	*e*P	**P**	**17 19 20.4**	**+0.8**
	5.2nm,1.3s,mb4.1						
SDV	**Santo Domingo**	**43.34**	**282**	P	**P**	**17 19 19.8**	**-0.1**
	5.6nm,1.3s,mb4.1						
ESDC	**Sonseca Array**	**44.27**	**27**	P	**P**	**17 19 27.8**	**+0.6**
	0.7nm,0.7s,mb3.5,baz=219,slow=9.3,SNR=4.4						
NNA	**Nana**	**50.34**	**254**	P	**P**	**17 20 15.9**	**+0.8**
	86nm,1.5s,mb5.6						
JTS	**JuntasAbangare**	**57.53**	**282**	*e*P	**P**	**17 21 03.1**	**-4.8**
LBTB	**Lobatse**	**57.73**	**121**	*e*P	**P**	**17 21 08.7**	**-0.5**
	5.6nm,1.1s,mb4.5						
GERES	**GERESS Array B**	**59.56**	**31**	P	**P**	**17 21 20.9**	**-0.7**
	0.6nm,0.7s,mb3.8,baz=236,slow=9.6,SNR=5.6						
MORC	**Moravsky Berou**	**62.11**	**31**	P	**P**	**17 21 39.2**	**+0.2**
	3.9nm,1.1s,mb4.5						
PSZ	**Piszkesteto**	**62.32**	**34**	*e*P	**P**	**17 21 39.6**	**-0.8**
	6.7nm,1.0s,mb4.7						
CSS	**Prodhromos**	**66.08**	**52**	*e*P	**P**	**17 22 04.9**	**-0.3**
	5.4nm,0.9s,mb4.6						
SUW	**Suwalki**	**67.39**	**30**	P	**P**	**17 22 13.6**	**+0.5**
	17nm,1.0s,mb5.0						
BRTR	**Keskin Array B**	**67.75**	**47**	P	**P**	**17 22 15.7**	**0.0**
	1.1nm,0.6s,mb4.0,baz=230,slow=5.2,SNR=7.4						
AKASG	**Malin Array Be**	**69.00**	**35**	P	**P**	**17 22 23.1**	**-0.1**
	2.9nm,0.8s,mb4.3,baz=243,slow=6.6,SNR=14						
MALT	**Malatya**	**70.93**	**50**	*e*P	**P**	**17 22 35.3**	**0.0**
	2.1nm,0.7s,mb4.2						
SNAA	**Sanae**	**74.25**	**172** ⇑*i*	P	**P**	**17 22 55.0**	**+0.8**
HLID	**Hailey**	**86.89**	**313**	*e*P	**P**	**17 24 05.8**	**+3.8**
	1.4nm,0.9s,mb4.2						
MBWA	**Marble Bar**	**142.50**	**125**	*e*P	PKPdf	17 30 51.2	-1.5
ASAR	**Alice Springs**	**151.28**	**143**	PKPbc	PKPdf	17 31 14.9	+7.9
	0.6nm,0.7s,baz=189,slow=1.4,SNR=11						

IDC 09 17:12:59.3±10.0, 28.40S×75.27E, mb3.5/2, mb1 3.7/2, mb1mx3.3/17, mbtmp3.5/2, Error ellipse: s-maj=505.9km s-min=58.6km az=31.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**52.46**	**99**	P	P	17 22 14.2	-2.0
	0.3nm,0.7s,baz=252,slow=6.9,SNR=4.4						
WRA	**Warramunga Arr**	**54.10**	**95**	P	P	17 22 26.0	-2.2
	0.8nm,1.0s,baz=250,slow=7.3,SNR=4.0						
YKA	**Yellowknife Ar**	**145.28**	**8**	PKPbc	PKPbc	17 32 37.1	-1.5
	0.1nm,0.5s,baz=326,slow=3.9,SNR=3.8						

*NEIC **09** 17:20:30.4, 55.87N×154.21W, h10km, ML3.5(AEIC), After AEIC.*
*IDC **09** 17:20:37.3±6.3, 56.40N×154.53W, h44km±53km, mb3.2/6, mb1 3.6/9, mb1mx3.4/26, mbtmp3.5/9, ML3.5/3, MS3.9/2, Ms1 3.9/2, ms1mx3.3/28, Error ellipse: s-maj=49.5km s-min=21.9km az=38.0*

ISC 09 17:20:39.6±1.5, 56.6N±0.1×154.3W±0.1, h75km±11km, n28, σ0§81/29, mb3.5/5, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.49**	**37**	P	**P**	**17 21 04.5**	**-0.6**
KDAK				S	**S**	**17 21 28.7**	**+4.7**
ANCK	**Angle Creek**	**1.74**	**338**	P	**P**	**17 21 08.1**	**-0.3**
KAPH	**Katmai Pasha**	**2.00**	**359**	P	**P**	**17 21 13.2**	**+1.2**
KAHC	**Katmai Hardscr**	**2.09**	**349**	P	**P**	**17 21 13.2**	**-0.1**
MCNL	**McNeil River**	**2.59**	**359**	P	**P**	**17 21 20.8**	**+0.5**
OPT	**Oil Point**	**3.11**	**10**	P	**P**	**17 21 28.4**	**+0.9**
CNPM	**China Poot**	**3.34**	**27**	P	**P**	**17 21 30.6**	**-0.1**
IVS	**Iliamna South**	**3.47**	**10**	P	**P**	**17 21 33.0**	**+0.4**
ILW	**Iliamna West**	**3.52**	**9**	P	**P**	**17 21 33.5**	**+0.3**
BRLK	**Bradley Lake**	**3.64**	**28**	P	**P**	**17 21 34.2**	**-0.7**
NCT	**North Crescent**	**4.03**	**9**	P	**P**	**17 21 40.8**	**+0.4**
SVW2	**Sparrevohn**	**4.56**	**352**	P	**P**	**17 21 47.2**	**-0.5**
RC01	**Rabbit Creek A**	**5.07**	**26**	P	**P**	**17 21 55.0**	**+0.2**
HIN	**Hinchinbrook I**	**5.56**	**44**	P	**P**	**17 21 58.5**	**-3.0**
SCM	**Sheep Creek Mo**	**6.33**	**31**	P	**P**	**17 22 11.2**	**-1.0**
TT01	**Tatalina**	**6.39**	**353**	P	**P**	**17 22 13.3**	**+0.3**
ILAR	**Eielson Array**	**8.99**	**21**	P	**P**	**17 22 48.4**	**+0.2**
	0.4nm,0.3s,baz=213,slow=13,SNR=25						
ILAR				S	**S**	**17 24 27.6**	**-0.7**
	0.1nm,0.3s,baz=190,slow=16,SNR=3.4						
IMA	**Indian Mountai**	**9.50**	**1**	P	**P**	**17 22 55.4**	**-0.2**
DLBC	**Dease Lake**	**13.13**	**72**	P	**P**	**17 23 43.1**	**-1.0**
	0.1nm,0.3s,baz=109,slow=20,SNR=2.2						
DLBC				LR	LR	17 28 36.0	
	comp=Z,508nm,19.9s,baz=70,slow=36						
DLBC	**Dease Lake**	**13.13**	**72**	P	**P**	**17 23 43.1**	**-1.0**
DLBC				LR	LR	17 28 36.0	
INK	**Inuvik**	**15.04**	**30**	P	**P**	**17 24 09.9**	**+1.2**
	0.3nm,0.3s,baz=241,slow=16,SNR=3.8						
YKA	**Yellowknife Ar**	**20.67**	**57**	P	**P**	**17 25 16.0**	**+1.0**
	0.4nm,0.6s,baz=271,slow=10.0,SNR=10						
NEW	**Newport**	**23.87**	**95**	P	**P**	**17 25 47.7**	**+1.3**
	0.9nm,0.4s,mb3.5,baz=3.2,slow=5.5,SNR=3.6						
NVAR	**Mina Array Bea**	**29.85**	**112**	LR	LR	17 36 58.5	
	comp=Z,216nm,18.2s,baz=80,slow=33						
TXAR	**Lajitas Array**	**44.55**	**106**	P	**P**	**17 28 45.1**	**-0.2**
	0.3nm,0.9s,mb3.0,baz=326,slow=13,SNR=3.0						
SONM	**Songino Array**	**56.28**	**307**	P	**P**	**17 30 12.8**	**-1.3**
	0.3nm,0.6s,mb3.5,baz=39,slow=7.3,SNR=3.5						
FINES	**FINESS Array B**	**62.29**	**360**	P	**P**	**17 30 56.1**	**+0.7**
	2.3nm,1.0s,mb4.2,baz=16,slow=14,SNR=3.3						
MKAR	**Makanchi Array**	**66.68**	**321**	P	**P**	**17 31 23.2**	**-0.7**
	0.2nm,0.5s,mb3.2,baz=27,slow=6.4,SNR=2.6						

*IDC **09** 17:47:11.5±0.6, 0.54S×98.70E, mb4.2/13, mb1 4.3/14, mb1mx4.1/22, mbtmp4.2/14, ML3.6/1, Error ellipse: s-maj=24.8km s-min=13.7km az=54.0*
*NEIC **09** 17:47:15.6±0.5, 0.62S×98.70E, h30km, mb4.4/7, Error ellipse: s-maj=15.6km s-min=8.6km az=64.0*

ISC 09 17:47:15.0±6.3, 0.5S±0.1×98.8E±0.1, h36km±56km, n29, σ0§87/28, mb4.3/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**18.59**	**69**	*e*P	**P**	**17 51 32.0**	**+0.3**
CM31	**Chiang Mai Arr**	**18.86**	**1**	*e*P	**P**	**17 51 35.4**	**+0.6**
	9.6nm,1.0s						
CMAR	**Chiang Mai Arr**	**18.86**	**1**	P	**P**	**17 51 34.1**	**-0.7**
	0.1nm,0.3s,baz=189,slow=11,SNR=9.2						
LSA	**Lhasa**	**30.92**	**347**	P	**P**	**17 53 32.6**	**+1.8**
FITZ	**Fitzroy Crossi**	**31.66**	**125**	*e*P	**P**	**17 53 36.4**	**-1.1**
	4.4nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**31.66**	**125**	P	**P**	**17 53 36.6**	**-0.8**
	2.7nm,0.6s,mb4.3,baz=339,slow=0.7,SNR=8.6						
ENH	**Enshi**	**32.28**	**18**	P	**P**	**17 53 42.0**	**-0.8**
	3.6nm,0.6s,mb4.4						
NACB	**Ninganchiao**	**33.06**	**41**	P	**P**	**17 53 43.8**	**-5.8**
WRA	**Warramunga Arr**	**39.80**	**121**	P	**P**	**17 54 46.3**	**-0.3**
	1.2nm,0.5s,mb3.9,baz=304,slow=9.0,SNR=22						
WRAB	**Tennant Creek**	**39.81**	**121**	*e*P	**P**	**17 54 46.4**	**-0.3**
	12nm,1.1s,mb4.6						
WB2	**Warramunga Arr**	**39.81**	**121**	*e*P	**P**	**17 54 46.4**	**-0.3**
ASAR	**Alice Springs**	**41.11**	**127**	P	**P**	**17 54 57.9**	**+0.4**
	1.5nm,0.5s,mb3.9,baz=302,slow=8.0,SNR=49						
ASAR				PcP	PcP	17 56 57.8	+0.7
	0.4nm,0.6s,baz=312,slow=2.3,SNR=5.0						
SONM	**Songino Array**	**48.61**	**7**	P	**P**	**17 55 58.1**	**+0.9**
	2.1nm,0.7s,mb4.3,baz=190,slow=9.2,SNR=22						
SONM				PcP	PcP	17 57 21.1	-1.6
	0.7nm,0.7s,baz=197,slow=3.5,SNR=3.0						
ULN	**Ulaanbaatar**	**48.73**	**7**	*e*P	**P**	**17 55 58.9**	**+0.9**
	1.6nm,0.6s,mb4.2						
PMG	**Port Moresby**	**48.95**	**102**	P	**P**	**17 56 00.8**	**+0.5**
	8.2nm,0.8s,mb4.8,baz=195,slow=23,SNR=2.8						
PMG	**Port Moresby**	**48.95**	**102**	P	**P**	**17 55 54.6**	**-5.6**
	20nm,1.1s,mb5.1						
MKAR	**Makanchi Array**	**49.28**	**345**	P	**P**	**17 56 02.5**	**+0.1**
	1.8nm,0.6s,mb4.3,baz=154,slow=8.4,SNR=22						
STKA	**Stephens Creek**	**51.05**	**132**	P	**P**	**17 56 16.8**	**+0.8**
	1.5nm,0.5s,mb4.2,baz=316,slow=6.2,SNR=8.0						
STKA	**Stephens Creek**	**51.05**	**132**	*e*P	**P**	**17 56 15.7**	**-0.3**
KURK	**Kurchatov**	**53.85**	**344**	*e*P	**P**	**17 56 34.0**	**-2.8**
	2.4nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**55.49**	**350**	P	**P**	**17 56 48.5**	**-0.2**
	2.1nm,0.4s,mb4.5,baz=284,slow=5.0,SNR=9.6						
BVAR	**Borovoye Array**	**58.38**	**340**	P	**P**	**17 57 07.8**	**-1.4**
	0.9nm,0.5s,mb4.1,baz=142,slow=8.7,SNR=7.6						
CASY	**Casey**	**66.16**	**175**	*e*P	**P**	**17 57 56.7**	**-4.1**
	171nm,1.7s,mb5.8						
MATP	**Matopo**	**71.35**	**249**	P	**P**	**17 58 34.2**	**+0.6**
	1.8nm,0.6s,mb4.2,baz=70,slow=8.7,SNR=5.7						
BOSA	**Boshof**	**75.30**	**241**	P	**P**	**17 58 56.7**	**0.0**
	2.1nm,0.8s,mb4.1,baz=81,slow=8.0,SNR=2.3						
BOSA	**Boshof**	**75.30**	**241**	P	**P**	**17 58 56.7**	**0.0**
RPZ	**Rata Peaks**	**76.89**	**135**	P	**P**	**17 59 06.4**	**+0.9**
	4.7nm,0.9s,mb4.4,baz=46,slow=8.6,SNR=2.4						
FINES	**FINESS Array B**	**82.24**	**332**	P	**P**	**17 59 33.5**	**-0.3**
	2.3nm,1.1s,mb4.0,baz=45,slow=2.7,SNR=4.6						
TXAR	**Lajitas Array**	**144.24**	**35**	PKP	PKPdf	18 06 48.7	+0.8
	0.1nm,0.4s,baz=333,slow=2.0,SNR=3.0						

IDC 09 17:54:02.6±4.4, 0.40S×99.06E, mb3.3/4, mb1 3.4/4, mb1mx3.3/16, mbtmp3.3/4, Error ellipse: s-maj=178.8km s-min=26.7km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.74**	**360**	P	P	17 57 51.6	-34
	0.1nm,0.3s,baz=229,slow=30,SNR=3.2						
WRA	**Warramunga Arr**	**39.62**	**122**	P	P	18 01 35.6	-2.3
	0.2nm,0.7s,baz=304,slow=9.1,SNR=2.8						
ASAR	**Alice Springs**	**40.95**	**127**	P	P	18 01 47.6	-1.2
	0.3nm,0.7s,baz=300,slow=7.9,SNR=5.2						
SONM	**Songino Array**	**48.46**	**7**	P	P	18 02 48.3	-0.7
	0.2nm,0.5s,baz=185,slow=7.8,SNR=3.5						
MKAR	**Makanchi Array**	**49.25**	**345**	P	P	18 02 51.9	-3.1
	0.3nm,0.6s,baz=147,slow=7.4,SNR=3.9						

*THE **09** 18:03:23.1, 37.92N×22.16E, h19km, ML2.6*
*CSEM **09** 18:03:24.0±0.1, 38.11N×22.15E, h80km, ML2.6, Error ellipse: s-maj=5.4km s-min=3.5km az=106.0*
*ATH **09** 18:03:25.8, 38.08N×22.14E, h39km±3km, MD3.0/7*
*NEIC **09** 18:03:25.6, 38.04N×22.16E, h36km, MD3.0(ATH), After ATH.*

ISC 09 18:03:25.0±1.1, 38.10N±0.06×22.12E±0.06, h81km±16km, n14, σ0§81/18, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.52**	**265**	*e*PN	**P**	**18 03 37.3**	**-1.8**
EVR	**Evrytania**	**0.85**	**343**	*e*PN	**P**	**18 03 42.9**	**+0.3**
EVR	**Evrytania**	**0.85**	**343**	*e*Pn	**P**	**18 03 43.3**	**+0.7**
LKR	**Lokris**	**0.88**	**52**	*e*PN	**P**	**18 03 42.7**	**-0.3**
LKR				*e*SN	**S**	**18 03 55.8**	**-0.6**
AGG	**Agios Georgios**	**0.93**	**10**	*e*Pg	**P**	**18 03 43.2**	**-0.4**
AGG				*e*Sg	**S**	**18 03 58.2**	**+0.7**
ITM	**Ithomi**	**0.94**	**189**	⇓*i*PN	**P**	**18 03 44.0**	**+0.4**
NAIG	**Nisos Aigina**	**1.14**	**107**	*e*PN	**P**	**18 03 46.2**	**+0.1**
VLS	**Valsamata**	**1.21**	**274**	*e*PN	**P**	**18 03 48.6**	**+1.6**
LKD	**Levkas**	**1.30**	**298**	*e*Pb	**P**	**18 03 46.8**	**-1.5**
LKD				*e*Sb	**S**	**18 04 06.3**	**+0.7**
PTL	**Penteli**	**1.38**	**92**	*e*PB	**P**	**18 03 50.0**	**+0.7**
VLI	**Veliai**	**1.53**	**154**	*e*PN	**P**	**18 03 51.3**	**0.0**
AOS	**Alonnisos**	**1.74**	**52**	*e*Pb	**P**	**18 03 53.7**	**-0.4**
AOS				*e*Sb	**S**	**18 04 16.3**	**+0.8**
PAIG	**Paliouri**	**2.19**	**33**	*e*Pn	**P**	**18 03 59.7**	**-0.5**
OUR	**Ouranopolis**	**2.66**	**32**	*e*Pn	**P**	**18 04 06.4**	**-0.4**

*NEIC **09** 18:06:06.6±0.5, 43.79N×105.26W, ML3.1, Error ellipse: s-maj=6.9km s-min=5.5km az=150.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
*IDC **09** 18:06:06.4±1.9, 43.83N×105.65W, mb4.3/1, mb1 3.8/4, mb1mx3.4/22, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=53.2km s-min=6.9km az=147.0*

ISC 09 18:06:04.2±0.5, 43.90N±0.04×105.16W±0.06, n34, σ1§13/41, mb4.5/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.84**	**74**	*e*Pg	**Pg**	**18 06 25.9**	**+4.8**
PHWY	**Pilot Hill**	**2.60**	**185**	*e*Pn	**Pn**	**18 06 48.0**	**-0.2**
PHWY				*e*Sn	**Sn**	**18 07 15.4**	**-5.6**
RWWY	**Rawlins**	**2.67**	**215**	*e*Pn	**Pn**	**18 06 49.6**	**+0.4**
RWWY				*e*Sn	**Sn**	**18 07 16.5**	**-6.2**
BW06	**Boulder Array**	**3.40**	**252**	*e*Pn	**Pn**	**18 06 59.2**	**-0.3**
BW06				*e*Sn	**Sn**	**18 07 40.4**	**-0.9**
PDAR	**Pinedale Array**	**3.40**	**252**	Pn	**Pn**	**18 06 59.9**	**+0.3**
	2.8nm,0.3s,baz=70,slow=16,SNR=57						
PDAR				Pg	**Pg**	**18 07 04.5**	**-7.6**
	8.5nm,0.3s,baz=71,slow=19,SNR=58						
PDAR				Lg		18 07 41.2	
	3.1nm,0.3s,baz=73,slow=20,SNR=11						
LKWY	**Lake**	**3.82**	**282**	*e*Pn	**Pn**	**18 07 09.0**	**+3.3**
LOHW	**Long Hollow**	**3.95**	**268**	*e*Pn	**Pn**	**18 07 07.4**	**-0.1**
LOHW				*e*Sn	**Sn**	**18 07 51.0**	**-4.2**
MOOW	**Moose Ponds**	**4.04**	**270**	*e*Pn	**Pn**	**18 07 09.6**	**+0.9**
YNR	**Norris Junctio**	**4.04**	**284**	Pn	**Pn**	**18 07 10.4**	**+1.6**
WUWY	**Wally Ulrich**	**4.06**	**267**	*e*Pn	**Pn**	**18 07 10.0**	**+1.0**
SNOW	**Snow King Moun**	**4.08**	**266**	*e*Pn	**Pn**	**18 07 11.4**	**+2.2**
ISCO	**Idaho Springs**	**4.11**	**185**	*e*Pn	**Pn**	**18 07 08.7**	**-0.9**
ISCO				*e*Sn	**Sn**	**18 08 00.8**	**+1.7**
YFT	**Old Faithful**	**4.12**	**280**	Pn	**Pn**	**18 07 09.1**	**-0.8**
REDW	**Red Top Meadow**	**4.16**	**265**	*e*Pn	**Pn**	**18 07 11.0**	**+0.5**
IMW	**Indian Meadow**	**4.17**	**272**	*e*Pn	**Pn**	**18 07 10.5**	**-0.1**
TPAW	**Teton Pass**	**4.22**	**266**	*e*Pn	**Pn**	**18 07 11.5**	**+0.3**
YMR	**Madison River**	**4.24**	**283**	*e*Pn	**Pn**	**18 07 10.1**	**-1.4**
AHID	**Auburn Hatcher**	**4.48**	**257**	*e*Pn	**Pn**	**18 07 17.9**	**+3.1**
RRI2	**Red Ridge**	**4.50**	**265**	*e*Pn	**Pn**	**18 07 15.8**	**+0.5**
BOZ	**Bozeman (W)**	**4.93**	**293**	*e*Pn	**Pn**	**18 07 20.2**	**-1.1**
HWUT	**Hardware Ranch**	**5.24**	**246**	*e*Pn	**Pn**	**18 07 25.0**	**-0.7**
	5.4nm,0.4s						
TCUT	**Toone Canyon**	**5.39**	**241**	*e*Pn	**Pn**	**18 07 25.9**	**-1.9**
HRY	**Holter Researc**	**5.48**	**303**	*e*Pn	**Pn**	**18 07 28.8**	**-0.4**
DAU	**Daniels Canyon**	**5.71**	**235**	*e*Pn	**Pn**	**18 07 34.1**	**+1.7**
SRU	**San Rafael**	**6.25**	**222**	*e*Pn	**Pn**	**18 07 37.5**	**-2.4**
CBKS	**Cedar Bluff**	**6.51**	**139**	Pn	**Pn**	**18 07 48.5**	**+4.8**
	32nm,1.0s						
BGU	**Big Grassy Mou**	**6.54**	**246**	*e*Pn	**Pn**	**18 07 43.3**	**-0.6**
HLID	**Hailey**	**6.71**	**270**	*e*Pn	**Pn**	**18 07 46.9**	**+0.4**
	2.4nm,0.9s						
MSU	**Marysvale**	**7.54**	**227**	*e*Pn	**Pn**	**18 07 56.6**	**-1.5**
WALA	**Waterton Lakes**	**7.94**	**314**	*e*Pn	**Pn**	**18 08 04.0**	**+0.3**
ULM	**Lac du Bonnet**	**8.97**	**42**	Pn	**P**	**18 08 19.1**	**+1.1**
	1.7nm,0.3s,baz=229,slow=12,SNR=8.9						
ULM				Sn	**Sn**	**18 10 00.1**	**-0.9**
	0.4nm,0.3s,baz=280,slow=16,SNR=5.5						
ULM				Lg		18 10 51.8	
	0.1nm,0.3s,baz=304,slow=20,SNR=2.5						
YKA	**Yellowknife Ar**	**19.43**	**347**	P	**P**	**18 10 34.5**	**0.0**
YKA	**Yellowknife Ar**	**19.43**	**347**	P	**P**	**18 10 34.5**	**0.0**
	0.1nm,0.3s,baz=154,slow=11,SNR=5.8						
ARCES	**ARCESS Array B**	**61.24**	**18**	P	**P**	**18 16 22.5**	**-0.3**
	3.3nm,0.8s,mb4.5,baz=324,slow=7.8,SNR=3.7						

*LDG **09** 18:09:37.4±0.2, 44.11N×8.64E, h10km, Md2.6/1, Ml2.9/10, Error ellipse: s-maj=2.9km s-min=2.3km az=75.0*
*CSEM **09** 18:09:38.2±0.1, 44.10N×8.55E, h15km, ML2.8/8, Error ellipse: s-maj=2.7km s-min=1.6km az=2.0*
*STR **09** 18:09:39.3±0.3, 44.21N×8.51E, h10km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **09** 18:09:39.1, 44.10N×8.53E, h9km, ML3.0*
*NEIC **09** 18:09:39.1, 44.10N×8.53E, h9km, ML3.0(GEN), ML2.9(LDG), ML2.7(STR), After GEN.*
*ROM **09** 18:09:39.4±0.2, 44.12N×8.46E, h10km±1km, MD2.6/3, ML2.1/4, Error ellipse: s-maj=2.4km s-min=1.3km az=0.0*

ISC 09 18:09:38.3±0.4, 44.14N±0.02×8.50E±0.02, h14km±2km, n72, σ1§22/133, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIN	**Finale Ligure**	**0.22**	**289**	*e*PG	**Pg**	**18 09 44.3**	**+0.9**
FIN				SG	**Sg**	**18 09 48.3**	**+1.6**
	224nm,0.2s						
FIN	**Finale Ligure**	**0.22**	**289**	P	**Pg**	**18 09 44.3**	**+0.9**
FIN				S	**Sg**	**18 09 48.0**	**+1.3**
PCP	**Pian Castagno**	**0.41**	**5**	P	**Pg**	**18 09 47.4**	**+0.6**
PCP				S	**Sg**	**18 09 53.4**	**+0.9**
PCP	**Pian Castagno**	**0.41**	**5**	P	**Pg**	**18 09 47.4**	**+0.6**
GENL	**Genova Univers**	**0.43**	**52**	P	**Pb**	**18 09 47.6**	**+0.4**
GENL				S	**Sg**	**18 09 53.8**	**+0.5**
GENL	**Genova Univers**	**0.43**	**52**	P	**Pb**	**18 09 47.6**	**+0.4**
GENL				S	**Sg**	**18 09 53.8**	**+0.5**
ROB	**Roburent**	**0.48**	**290**	P	**Pb**	**18 09 48.7**	**+0.8**
ROB				S	**Sb**	**18 09 55.4**	**+0.9**
ROB	**Roburent**	**0.48**	**290**	P	**Pb**	**18 09 48.7**	**+0.8**
ROB				S	**Sb**	**18 09 55.4**	**+0.9**
IMI	**Imperia**	**0.49**	**243**	*e*PG	**Pg**	**18 09 48.6**	**+0.1**
IMI				SG	**Sg**	**18 09 56.7**	**+1.5**
	134nm,0.2s						
IMI	**Imperia**	**0.49**	**243**	P	**Pb**	**18 09 48.6**	**+0.4**
IMI				S	**Sb**	**18 09 55.2**	**+0.2**
IMI	**Imperia**	**0.49**	**243**	P	**Pg**	**18 09 48.6**	**+0.1**
IMI				S	**Sb**	**18 09 55.2**	**+0.2**
IMI				Sg	**Sg**	**18 09 56.7**	**+1.5**
MONE	**Monesi**	**0.54**	**264**	P	**Pb**	**18 09 49.6**	**+0.6**
MONE				S	**Sb**	**18 09 57.0**	**+0.8**
MONE	**Monesi**	**0.54**	**264**	P	**Pb**	**18 09 49.6**	**+0.6**
MONE				S	**Sb**	**18 09 57.0**	**+0.8**
NEGI	**Negi**	**0.64**	**243**	P	**Pb**	**18 09 51.6**	**+0.8**
NEGI				S	**Sb**	**18 09 60.0**	**+0.7**
NEGI	**Negi**	**0.64**	**243**	P	**Pb**	**18 09 51.6**	**+0.8**
NEGI				S	**Sb**	**18 10 00.0**	**+0.7**
SAOF	**Saorge**	**0.69**	**258**	Pg	**Pg**	**18 09 52.9**	**+0.5**
SAOF				Sg	**Sg**	**18 10 02.7**	**+0.9**
ENR	**Entracque**	**0.78**	**277**	P	**Pb**	**18 09 54.0**	**+0.8**
ENR				S	**Sb**	**18 10 04.3**	**+1.0**
ENR	**Entracque**	**0.78**	**277**	P	**Pb**	**18 09 54.0**	**+0.9**
ENR				S	**Sb**	**18 10 04.3**	**+1

LPL				*e*Sg	**Sg**	**18 10 38.8**	**-1.7**
	9.7nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.03**	**294**	*e*Pn	**Pn**	**18 10 13.8**	**+1.3**
ORIF				*e*Pg	**Pg**	**18 10 17.7**	**-1.2**
ORIF				*e*Sg	**Sg**	**18 10 43.8**	**-2.1**
	13nm,0.4s						
SMRF	**Simiane la Rot**	**2.11**	**267**	*e*Pn	**Pn**	**18 10 12.4**	**-1.4**
SMRF				*e*Pg	**Pg**	**18 10 18.3**	**-2.3**
SMRF				*e*Sg	**Sg**	**18 10 46.1**	**-2.7**
	24nm,0.3s						
VIVF	**Saint-Julien-l**	**2.83**	**286**	*e*Pn	**Pn**	**18 10 22.3**	**-1.7**
VIVF				*e*Pg	**Pg**	**18 10 31.6**	**-3.2**
VIVF				*e*Sn	**Sn**	**18 10 55.4**	**-2.8**
VIVF				*e*Sg	**Sg**	**18 11 09.0**	**-3.6**
	6.0nm,0.4s						
HINF	**Hinteralfeld**	**3.85**	**343**	*e*Pn	**Pn**	**18 10 36.6**	**-2.0**

*NEIC **09** 18:14:45.8±0.8, 2.28N×98.94E, h30km, mb4.6/3, Error ellipse: s-maj=24.6km s-min=15.1km az=72.0*
*IDC **09** 18:14:56.1±11.0, 2.37N×99.00E, h118km±107km, mb3.3/7, mb1 3.5/8, mb1mx3.4/19, mbtmp3.7/8, ML3.4/1, MS3.7/6, Ms1 3.8/6, ms1mx3.4/31, Error ellipse: s-maj=73.9km s-min=16.9km az=54.0*
ISC 09 18:14:44.8±0.8, 2.3N±0.1×99.0E±0.1, h33km, n17, σ1°08/13, mb3.9/9, MS3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.40**	**30**	*e*Pn	**Pn**	**18 15 35.6**	**-1.2**
CM31	**Chiang Mai Arr**	**16.03**	**360**	*e*P	**P**	**18 18 34.4**	**+4.9**
	19nm,1.3s						
CMAR	**Chiang Mai Arr**	**16.03**	**360**	P	**P**	**18 18 33.9**	**+4.4**
	0.1nm,0.3s,baz=195,slow=10,SNR=5.9						
CMAR				LR	LR	18 24 17.0	
	comp=Z,222nm,18.9s,baz=185,slow=35						
ENH	**Enshi**	**29.54**	**19**	*e*P	**P**	**18 20 48.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**33.21**	**129**	LR	LR	18 34 57.8	
	comp=Z,158nm,21.3s,MS3.7,baz=245,slow=36						
JOW	**Kunigami**	**37.20**	**46**	LR	LR	18 36 28.8	
	comp=Z,81nm,20.5s,MS3.5,baz=128,slow=35						
WRA	**Warramunga Arr**	**41.18**	**124**	P	**P**	**18 22 29.3**	**+1.2**
	2.8nm,0.8s,mb3.9,baz=302,slow=9.2,SNR=13						
WRAB	**Tennant Creek**	**41.18**	**124**	*e*P	**P**	**18 22 27.5**	**-0.6**
	23nm,1.4s,mb4.6						
ASAR	**Alice Springs**	**42.71**	**129**	P	**P**	**18 22 41.5**	**+0.7**
	1.0nm,1.1s,mb3.5,baz=303,slow=7.1,SNR=4.4						
ASAR				LR	LR	18 40 15.0	
	comp=Z,90nm,21.5s,MS3.6,baz=325,slow=36						
SONM	**Songino Array**	**45.79**	**7**	P	**P**	**18 23 04.9**	**-0.3**
	0.5nm,1.0s,mb3.4,baz=196,slow=9.0,SNR=3.5						
MKAR	**Makanchi Array**	**46.61**	**344**	P	**P**	**18 23 12.9**	**+1.2**
	2.5nm,1.2s,mb4.0,baz=153,slow=6.4,SNR=3.2						
MJAR	**Matsushiro Arr**	**49.69**	**42**	LR	LR	18 47 18.4	
	comp=Z,134nm,18.4s,MS4.0,baz=355,slow=39						
ZAL	**Zalesovo**	**52.75**	**350**	P	**P**	**18 23 58.9**	**+0.3**
	0.5nm,0.3s,mb3.9,baz=342,slow=18,SNR=3.7						
STKA	**Stephens Creek**	**52.83**	**134**	LR	LR	18 47 36.6	
	comp=Z,119nm,19.9s,MS3.9,baz=322,slow=37						
BRTR	**Keskin Array B**	**69.67**	**312**	P	**P**	**18 25 53.6**	**+0.4**
	0.3nm,0.5s,mb3.5,baz=140,slow=9.6,SNR=4.3						
MAW	**Mawson**	**74.20**	**194**	P	**P**	**18 26 16.5**	**-3.2**
	5.8nm,0.8s,mb4.6						
AKASG	**Malin Array Be**	**75.45**	**322**	P	**P**	**18 26 26.6**	**-0.6**
	0.1nm,0.2s,mb3.3,baz=83,slow=2.9,SNR=7.1						

IDC 09 18:31:58.7±2.3, 3.27N×127.51E, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=123.5km s-min=26.8km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.32**	**185**	P	P	18 36 48.8	-0.7
	9.3nm,1.2s,baz=345,slow=4.1,SNR=2.3						
WRA	**Warramunga Arr**	**24.03**	**164**	P	P	18 37 14.1	-2.3
	0.3nm,0.5s,baz=340,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**27.49**	**167**	P	P	18 37 47.5	-1.4
	0.3nm,0.9s,baz=349,slow=8.4,SNR=3.8						
MKAR	**Makanchi Array**	**58.37**	**325**	P	P	18 41 55.5	-2.7
	0.1nm,0.5s,baz=120,slow=8.2,SNR=3.5						

*IDC **09** 18:47:50.0±0.9, 21.10S×67.15W, h185km±8km, mb3.4/2, mb1 3.6/6, mb1mx3.5/17, mbtmp3.9/6, Error ellipse: s-maj=21.0km s-min=10.5km az=121.0*
ISC 09 18:47:49.5±0.8, 21.14S±0.08×67.07W±0.10, h193km±10km, n9, σ0°78/9, mb3.5/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.25**	**229**	P	**P**	**18 48 31.6**	**+0.9**
	5.6nm,0.3s,baz=36,slow=7.0,SNR=21						
LVC				S	**S**	**18 49 01.4**	**-1.0**
	3.8nm,0.3s,baz=217,slow=19,SNR=17						
LPAZ	**La Paz**	**4.93**	**348**	P	**P**	**18 49 04.8**	**+1.3**
	1.1nm,0.3s,baz=161,slow=8.4,SNR=13						
LPAZ				S	**S**	**18 50 00.7**	**-0.2**
	0.3nm,0.3s,baz=41,slow=19,SNR=3.7						
SIV	**San Ignacio**	**7.65**	**49**	P	**P**	**18 49 38.9**	**-0.1**
	3.6nm,0.3s,baz=239,slow=12,SNR=39						
SIV				S	**S**	**18 51 03.7**	**-0.8**
	0.1nm,0.3s,baz=136,slow=23,SNR=3.3						
BDFB	**Brasilia**	**18.89**	**76**	P	**P**	**18 51 58.4**	**+0.9**
	0.9nm,0.3s,baz=256,slow=7.8,SNR=6.5						
PDAR	**Pinedale Array**	**74.67**	**329**	P	**P**	**18 59 08.9**	**-0.6**
	0.4nm,0.5s,mb3.3,baz=119,slow=9.1,SNR=4.1						
YKA	**Yellowknife Ar**	**91.43**	**340**	P	**P**	**19 00 34.0**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=131,slow=4.4,SNR=16						
YKA				pP	pP	19 01 24.4	+2.0
	0.2nm,0.5s,baz=151,slow=7.2,SNR=5.4						
ASAR	**Alice Springs**	**131.00**	**206**	PKP	PKPdf	19 06 41.1	+2.3
	0.2nm,0.7s,baz=152,slow=1.9,SNR=2.6						
MKAR	**Makanchi Array**	**144.33**	**37**	PKP	PKPdf	19 07 02.7	+0.4
	0.7nm,0.5s,baz=337,slow=2.4,SNR=7.4						
SONM	**Songino Array**	**152.85**	**10**	PKPbc	PKPdf	19 07 23.8	+8.0
	0.2nm,0.6s,baz=333,slow=2.8,SNR=3.8						
SONM				PKPab	PKPab	19 07 35.8	-1.6
	0.2nm,0.5s,baz=293,slow=2.5,SNR=3.0						

*IDC **09** 18:48:28.0±0.7, 0.37S×96.82E, mb3.9/13, mb1 4.0/14, mb1mx3.9/22, mbtmp3.9/14, ML3.9/1, MS2.9/1, Ms1 3.1/1, ms1mx2.6/34, Error ellipse: s-maj=24.6km s-min=15.4km az=53.0*
*NEIC **09** 18:48:32.7±0.4, 0.33S×96.94E, h30km, mb3.9/3, Error ellipse: s-maj=10.2km s-min=8.1km az=59.0*
ISC 09 18:48:29.9±4.9, 0.31S±0.10×96.96E±0.10, h24km±35km, n21, σ0°82/18, mb3.9/14, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.67**	**33**	*e*P	**Pn**	**18 50 08.0**	**-1.1**
KULM				*e*		18 50 15.7	
PALK	**Pallekele**	**17.88**	**295**	P	**P**	**18 52 40.1**	**+1.2**
	22nm,1.2s						
CM31	**Chiang Mai Arr**	**18.75**	**6**	*e*P	**P**	**18 52 49.2**	**-0.5**
	4.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.75**	**6**	P	**P**	**18 52 50.1**	**+0.4**
	0.2nm,0.3s,baz=194,slow=12,SNR=19						
CMAR				LR	LR	19 00 45.9	
	comp=Z,38nm,19.3s,baz=268,slow=39						
LSA	**Lhasa**	**30.35**	**350**	P	**P**	**18 54 43.8**	**+1.5**
	1.4nm,0.8s,mb3.7						
FITZ	**Fitzroy Crossi**	**33.27**	**124**	P	**P**	**18 55 07.9**	**-0.1**
	1.7nm,0.7s,mb4.1,baz=350,slow=21,SNR=2.8						
WRA	**Warramunga Arr**	**41.46**	**120**	P	**P**	**18 56 17.3**	**+0.5**
	0.5nm,0.8s,mb3.2,baz=304,slow=8.7,SNR=6.2						
ASAR	**Alice Springs**	**42.70**	**126**	P	**P**	**18 56 27.9**	**+0.9**
	0.4nm,0.4s,mb3.5,baz=297,slow=7.6,SNR=14						
MKAR	**Makanchi Array**	**48.64**	**347**	P	**P**	**18 57 14.7**	**+0.8**
	2.4nm,0.6s,mb4.4,baz=163,slow=9.0,SNR=27						
SONM	**Songino Array**	**48.65**	**8**	P	**P**	**18 57 15.0**	**+1.0**
	0.4nm,0.8s,mb3.5,baz=90,slow=3.7,SNR=2.8						
OPO	**Ambohidratompo**	**52.10**	**247**	P	**P**	**18 57 39.6**	**-1.1**
	1.5nm,0.6s,mb4.1,baz=86,slow=15,SNR=3.9						
STKA	**Stephens Creek**	**52.54**	**131**	P	**P**	**18 57 43.6**	**-0.2**
	1.0nm,0.8s,mb3.8,baz=311,slow=11,SNR=3.0						
ZAL	**Zalesovo**	**55.00**	**351**	P	**P**	**18 58 00.7**	**-1.0**
	1.7nm,0.4s,mb4.4,baz=303,slow=4.8,SNR=6.1						
BVAR	**Borovoye Array**	**57.59**	**341**	P	**P**	**18 58 18.9**	**-1.3**
	0.5nm,0.6s,mb3.7,baz=149,slow=8.6,SNR=5.3						
MATP	**Matopo**	**69.74**	**248**	P	**P**	**18 59 40.1**	**-0.5**
	1.4nm,0.7s,mb4.0,baz=89,slow=15,SNR=5.1						
BRTR	**Keskin Array B**	**69.95**	**313**	P	**P**	**18 59 41.0**	**-0.5**
	0.4nm,0.6s,mb3.5,baz=124,slow=8.9,SNR=3.9						
FINES	**FINESS Array B**	**81.22**	**333**	P	**P**	**19 00 45.1**	**0.0**
	1.1nm,0.9s,mb3.8,baz=101,slow=5.5,SNR=7.3						
ARCES	**ARCESS Array B**	**83.87**	**340**	P	**P**	**19 00 58.8**	**+0.2**
	3.9nm,0.9s,mb4.5,baz=112,slow=4.9,SNR=2.9						
BLA	**Blacksburg**	**143.20**	**357**	*e*PKP	PKPdf	19 08 09.9	+2.8
TXAR	**Lajitas Array**	**145.07**	**32**	PKPbc	PKPbc	19 08 08.0	+1.7
	0.4nm,0.6s,baz=297,slow=2.8,SNR=4.0						
TXAR	**Lajitas Array**	**145.07**	**32**	PKPbc	PKPbc	19 08 08.0	+1.7

*IDC **09** 19:03:25.4±0.5, 1.15N×97.28E, mb4.5/30, mb1 4.6/31, mb1mx4.6/34, mbtmp4.5/31, ML4.3/1, MS4.2/11, Ms1 4.2/11, ms1mx3.9/33, Error ellipse: s-maj=18.0km s-min=10.9km az=42.0*
*BJI **09** 19:03:26.8, 0.83N×97.20E, h38km, mB5.1, mb5.0, Ms4.8, Msz4.6*
*HRVD **09** 19:03:28.8±1.1, 1.14N×96.94E, h29km±2km, MW4.8/29, Centroid moment Tensor Solution. LP body waves: s16,c17; Mantle waves: s29,c38; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.04±.28; $M_{\theta\theta}$-0.36±.15; $M_{\phi\phi}$-1.68±.20; $M_{r\theta}$0.90±.24; $M_{\theta\phi}$0.57±.10; $M_{\phi r}$-0.42±.33; Best double couple: $M_0$2.189×10^{16} NP1:φs353°, δ37°, λ115°. NP2:φs143°, δ57°, λ73°. Principal axes: T 2.354, Plg72°, Azm11°; N -.331, Plg14°, Azm153°; P -2.024, Plg11°, Azm246°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **09** 19:03:28.4±0.8, 1.13N×97.31E, h33km, mb5.2/28 Error ellipse: s-maj=11.6km s-min=6.5km az=108.2*
*NEIC **09** 19:03:28.8±0.2, 1.10N×97.27E, mb5.0/36, Error ellipse: s-maj=6.4km s-min=4.5km az=46.0*
ISC 09 19:03:27.1±0.3, 1.08N±0.04×97.26E±0.04, h23km, h23km±1.0km: pP-P, n165, σ1°01/175, mb4.8/80, MS4.4/27, 13C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.12**	**47**	P	**Pn**	**19 04 45.4**	**+1.0**
KULM	**Kulim**	**5.38**	**39**	*e*P	**Pn**	**19 04 48.7**	**+0.6**
KGM	**Kluang**	**6.13**	**81**	P	**Pn**	**19 05 00.3**	**+1.7**
SNG	**Songkhla**	**6.92**	**29**	P	**Pn**	**19 05 09.0**	**-0.8**
	24nm,0.9s						
KSM	**Kuching**	**13.05**	**88**	*e*P	**P**	**19 06 36.7**	**+2.7**
KSM				*e*pP		19 06 44.7	
NST	**Nakhon Sawan**	**14.77**	**11**	P	**P**	**19 07 01.0**	**+4.3**
CM31	**Chiang Mai Arr**	**17.35**	**5**	*e*P	**P**	**19 07 28.3**	**-1.3**
	26nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.35**	**5**	*i* P	**P**	**19 07 28.6**	**-1.0**
CMAR				pmax	pmax		
	comp=Z,14nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.35**	**5**	P	**P**	**19 07 27.5**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=194,slow=12,SNR=29						
CMAR				PcP	PcP	19 12 13.7	+1.7
	comp=Z,0.1nm,0.3s,baz=239,slow=2.8,SNR=4.2						
CMAR				LR	LR	19 14 58.6	
	comp=Z,519nm,18.3s,baz=190,slow=40						
PALK	**Pallekele**	**17.62**	**291**	*e*P	**P**	**19 07 33.3**	**+0.3**
	comp=Z,28nm,1.2s						
CHG	**Chiang Mai**	**17.70**	**5**	P	**P**	**19 07 35.9**	**+1.9**
NANT	**Nan**	**17.93**	**11**	⇑P	**P**	**19 07 36.0**	**-0.8**
	comp=Z,411nm,1.0s						
KKM	**Kota Kinabalu**	**19.54**	**75**	*e*P	**P**	**19 07 56.0**	**-0.3**
KKM	**Kota Kinabalu**	**19.54**	**75**	P	**P**	**19 07 56.5**	**+0.3**
MDRS	**Chennai**	**20.64**	**306**	*e*P	**P**	**19 08 09.7**	**+1.8**
MDRS				*e*S	**S**	**19 12 00.3**	**+7.9**
VIS	**Vishakhapatnam**	**21.47**	**321**	*e*P	**P**	**19 08 17.9**	**+1.6**
VIS				*e*		19 08 26.7	
	comp=Z,55nm,1.2s						
VIS				*e*S	**S**	**19 12 15.3**	**+7.0**
QIZ	**Qiongzhong**	**21.69**	**34**	P	**P**	**19 08 23.8**	**+5.3**
QIZ				LR	LR		
	comp=E,968nm,15.0s						
QIZ				LR	LR		
	comp=Z,766nm,12.7s,MS4.3						
BWNR	**Bhubaneshwar**	**22.14**	**330**	*e*P	**P**	**19 08 24.7**	**+1.7**
BWNR				*e*		19 08 26.9	
	comp=Z,37nm,1.0s						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**19 08 47.7**	**+1.8**
KMI				AP		19 08 54.2	
KMI				XP		19 08 57.2	
KMI				PP	PP	19 09 25.7	+3.9
KMI				PPP	PPP	19 09 34.0	+1.7
KMI				S	**S**	**19 13 04.9**	**+3.0**
KMI				SS	SS	19 14 01.8	+4.6
KMI				AMB	AMB		
	comp=Z,99nm,1.4s,mb5.0						
KMI				LR	LR		
	comp=N,2μm,16.0s,MS4.7						
KMI				LR	LR		
	comp=E,729nm,14.6s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,14.6s,MS4.7						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**19 08 47.7**	**+1.8**
KMI				*SP		19 08 57.2	
KMI						19 09 25.7	
KMI				PPP	PPP	19 09 34.0	+1.7
KMI				S	**S**	**19 13 04.9**	**+3.0**
KMI				*SS		19 13 15.9	
KMI				SS	SS	19 14 01.8	+4.6
KMI				pmax	pmax		
	comp=Z,99nm,1.4s,mb5.0						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**19 08 47.7**	**+1.8**
	comp=Z,99nm,1.4s,mb5.0						
KMI				pP		19 08 54.2	
KMI				sP		19 08 57.2	
KMI				PP	PP	19 09 25.7	+3.9
KMI				PPP	PPP	19 09 34.0	+1.7
KMI				S	**S**	**19 13 04.9**	**+3.0**
KMI				sS		19 13 15.9	
KMI				SS	SS	19 14 01.8	+4.6
HYB	**Hyderabad**	**24.54**	**312**	*e*P	**P**	**19 08 48.0**	**+1.5**
HYB	**Hyderabad**	**24.54**	**312**	*i* P	**P**	**19 08 48.0**	**+1.5**
SHL	**Shillong**	**24.89**	**348**	*i* P	**P**	**19 08 50.5**	**+0.6**
SHL				*i*		19 13 16.5	
BLSP	**Bilaspur**	**25.59**	**326**	*e*P	**P**	**19 08 57.8**	**+1.3**
BLSP				*e*		19 09 09.0	
	comp=Z,48nm,1.4s						
BLSP				*e*S	**S**	**19 13 22.7**	**+2.2**
GYA	**Guiyang**	**26.80**	**19**	⇑*i*P	**P**	**19 09 07.3**	**-0.4**
GYA				AP	pP	19 09 16.1	+1.7
GYA				XP	sP	19 09 20.2	+2.7
GYA				AMB	AMB		
	comp=Z,30nm,1.4s,mb4.6						
GYA				AMB	AMB		
	comp=Z,300nm,9.0s						
GYA				LR	LR		
	comp=N,930nm,14.6s,MS4.5						
GYA				LR	LR		
	comp=E,630nm,14.9s,MS4.5						
GYA				LR	LR		
	comp=Z,890nm,13.1s,MS4.5						
JIRN	**Jiri**	**28.48**	**339**	*e*P	**P**	**19 09 23.5**	**+0.7**
	comp=Z,102nm,1.1s,mb5.4						
PKI	**Pulchoki**	**28.69**	**338**	*e*P	**P**	**19 09 24.9**	**+0.2**
	comp=Z,69nm,1.2s,mb5.3						
PKI	**Pulchoki**	**28.69**	**338**	*e*P	**P**	**19 09 24.9**	**+0.2**
PKI				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.0						
DMN	**Daman**	**28.84**	**337**	*e*P	**P**	**19 09 26.4**	**+0.3**
	comp=Z,72nm,1.4s,mb5.2						
KKN	**Kakani**	**28.93**	**338**	*e*P	**P**	**19 09 27.2**	**+0.3**
	comp=Z,105nm,1.3s,mb5.4						
KKN	**Kakani**	**28.93**	**338**	*e*P	**P**	**19 09 27.2**	**+0.3**
KKN				pmax	pmax		
	comp=Z,52nm,1.3s,mb5.1						
LSA	**Lhasa**	**29.05**	**349**	P	**P**	**19 09 29.2**	**+1.2**
LSA	**Lhasa**	**29.05**	**349**	*e*P	**P**	**19 09 28.6**	**+0.6**
LSA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
LSA	**Lhasa**	**29.05**	**349**	*e*P	**P**	**19 09 28.6**	**+0.6**
	comp=Z,13nm,0.9s,mb4.7						
GKN	**Gorkha**	**29.37**	**337**	*e*P	**P**	**19 09 31.2**	**+0.3**
	comp=Z,151nm,1.5s,mb5.5						
KOLN	**Koldanda**	**29.59**	**335**	*e*P	**P**	**19 09 33.3**	**+0.4**
	comp=Z,64nm,1.1s,mb5.3						
CD2	**Chengdu**	**30.30**	**11**	*e*P	**P**	**19 09 38.5**	**-0.6**
ENH	**Enshi**	**31.27**	**21**	*e*P	**P**	**19 09 45.9**	**-1.8**
	comp=Z,77nm,1.2s,mb5.4						
ENH				*e*pP	pP	19 09 52.4	-2.0
WHN	**Wuhan**	**33.49**	**27**	⇓P	**P**	**19 10 06.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**33.81**	**126**	⇑*i*P	**P**	**19 10 08.8**	**-1.1**
	comp=Z,7.9nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.81**	**126**	P	**P**	**19 10 08.9**	**-1.0**
	comp=Z,9.6nm,0.7s,mb4.8,baz=267,slow=1.7,SNR=12						
DDI	**Dehra Dun**	**34.33**	**330**	*e*	**P**	**19 10 13.3**	**-1.0**
XAN	**Xi'an**	**34.56**	**17**	P	**P**	**19 10 14.5**	**-1.7**
XAN				S	**S**	**19 15 49.3**	**+6.4**
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0						
XAN				LR	LR		
	comp=N,444nm,14.6s,MS4.5						
XAN				LR	LR		
	comp=E,613nm,16.7s,MS4.5						
XAN				LR	LR		
	comp=Z,788nm,13.1s,MS4.6						
LZH	**Lanzhou**	**35.36**	**9**	⇑P	**P**	**19 10 22.9**	**-0.2**
LZH				AP	pP	19 10 30.0	+0.1
LZH				PP	PP	19 11 45.0	+2.2
LZH				S	**S**	**19 15 57.0**	**+1.7**
LZH				XS		19 16 15.0	
LZH				SS	SS	19 18 22.0	+8.6
LZH				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,360nm,4.2s						
LZH				LR	LR		
	comp=E,1μm,15.3s						
LZH				LR	LR		
	comp=Z,2μm,16.6s,MS4.9						
LZH	**Lanzhou**	**35.36**	**9**	⇑P	**P**	**19 10 22.9**	**-0.2**
LZH				*SP	sP	19 10 33.3	+0.4
LZH						19 11 45.0	
LZH				S	**S**	**19 15 57.0**	**+1.7**
LZH				*SS		19 16 15.0	
LZH				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4						
LZH	**Lanzhou**	**35.36**	**9**	⇑P	**P**	**19 10 22.9**	**-0.2**
	comp=Z,50nm,1.0s,mb5.4						
LZH				pP	pP	19 10 30.0	+0.1
LZH				sP	sP	19 10 33.3	+0.4
LZH				PP	PP	19 11 45.0	+2.2
LZH				S	**S**	**19 15 57.0**	**+1.7**
LZH				sS		19 16 15.0	
LZH				SS	SS	19 18 22.0	+8.6
NJ2	**Nanjing**	**36.93**	**31**	*e*P	**P**	**19 10 36.8**	**+0.4**
NJ2				AP	pP	19 10 47.0	+3.8
NJ2				XP	sP	19 10 52.1	+6.0
NJ2				PP	PP	19 12 04.1	+1.5
NJ2				S	**S**	**19 16 29.0**	**+10**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,180nm,9.7s						
NJ2				LR	LR		
	comp=N,1μm,15.4s,MS4.9						
NJ2				LR	LR		
	comp=E,940nm,17.0s,MS4.9						
NJ2				LR	LR		
	comp=Z,650nm,14.1s,MS4.6						
SSE	**Sheshan**	**37.47**	**35**	*e*P	**P**	**19 10 40.3**	**-0.6**
SSE				AP	pP	19 10 49.3	+1.5
SSE				S	**S**	**19 16 28.4**	**+0.6**
SSE				XS		19 16 43.6	
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,152nm,4.0s						
SSE				LR	LR		
	comp=N,336nm,14.8s,MS4.5						
SSE				LR	LR		
	comp=E,465nm,14.8s,MS4.5						
SSE				LR	LR		
	comp=Z,835nm,13.5s,MS4.7						
SSE	**Sheshan**	**37.47**	**35**	*e*P	**P**	**19 10 40.3**	**-0.6**
	comp=Z,43nm,0.7s,mb5.4						
SSE				pP	pP	19 10 49.3	+1.5
SSE				S	**S**	**19 16 28.4**	**+0.6**
SSE				sS		19 16 43.6	
SSE				SS	SS	19 19 13.1	+12
GTA	**Gaotai**	**38.22**	**3**	*e*P	**P**	**19 10 47.0**	**-0.1**
GTA				AP	pP	19 10 54.0	0.0
GTA				PP	PP	19 12 15.9	-2.1
GTA				PCP	PcP	19 13 02.3	+0.5
GTA				S	**S**	**19 16 34.1**	**-4.9**
GTA				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.9						
GTA				AMB	AMB		
	comp=Z,123nm,6.5s						
GTA				LR	LR		
	comp=N,392nm,18.6s,MS4.4						
GTA				LR	LR		
	comp=E,317nm,14.1s,MS4.4						
GTA				LR	LR		
	comp=Z,401nm,19.8s						
NWAO	**Narrogin (SRO)**	**38.72**	**153**	LR	LR	19 26 17.2	
	comp=Z,365nm,21.6s,MS4.2,baz=321,slow=35						
HHC	**Hu-ho-hao-te**	**41.65**	**16**	*e*P	**P**	**19 11 16.8**	**+1.3**
HHC				AP	pP	19 11 23.8	+1.4
HHC				XP	sP	19 11 26.5	+1.2
HHC				PCP	PcP	19 13 11.6	-1.2
HHC				SCP		19 17 01.0	
HHC				PCS		19 17 03.2	
HHC				S	**S**	**19 17 33.5**	**+3.0**
HHC				SS	SS	19 20 34.5	+3.5
HHC				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.2						
HHC				AMB	AMB		
	comp=Z,101nm,5.7s						
HHC				LR	LR		
	comp=N,638nm,16.1s,MS4.7						
HHC				LR	LR		
	comp=E,542nm,16.3s,MS4.7						
HHC				LR	LR		
	comp=Z,485nm,16.3s,MS4.5						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**19 11 17.7**	**-0.3**
	comp=Z,7.6nm,0.8s,mb4.4,baz=299,slow=9.1,SNR=68						
WRAB	**Tennant Creek**	**41.92**	**122**	‖*e*P	**P**	**19 11 18.2**	**+0.2**
WRAB	**Tennant Creek**	**41.92**	**122**	*e*P	**P**	**19 11 17.6**	**-0.4**
	comp=Z,8.8nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**41.93**	**122**	*e*P	**P**	**19 11 17.7**	**-0.4**
BJT	**Baijiatuau**	**42.40**	**22**	*e*P	**P**	**19 11 22.5**	**+0.8**
BJT				*e**PP	pP	19 11

FORT	**Forrest**	43.15	140	*e*P	P	19 11 30.1	+2.2
	comp=E,418nm,0.7s						
ASPA	**Alice Springs**	43.27	127	⇑*i*P	P	19 11 29.3	+0.3
ASAR	**Alice Springs**	43.27	127	P	P	19 11 29.3	+0.3
	comp=E,6.8nm,0.9s,mb4.4,baz=303,slow=7.3,SNR=46						
WMQ	**Urumqi**	43.40	350	⇑P	P	19 11 30.3	+0.6
WMQ				AP	pP	19 11 36.3	-0.4
WMQ				PP	PP	19 13 13.3	+0.6
WMQ				PCP	PcP	19 13 19.3	+0.7
WMQ				S	S	19 17 56.8	+0.8
WMQ				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,225nm,4.2s						
WMQ				LR	LR		
	comp=N,89nm,22.8s,MS4.0						
WMQ				LR	LR		
	comp=E,215nm,23.8s,MS4.0						
WMQ				LR	LR		
	comp=Z,148nm,23.8s,MS3.8						
DL2	**Dalian**	43.75	28	P	P	19 11 33.7	+1.0
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
SONM	**Songino Array**	47.24	8	P	P	19 12 00.3	0.0
	comp=Z,10nm,0.8s,mb4.8,baz=190,slow=9.0,SNR=38						
SONM				PcP	PcP	19 13 31.2	-0.6
	comp=Z,4.2nm,0.8s,baz=192,slow=4.0,SNR=5.9						
SONM				LR	LR	19 34 36.4	
	comp=Z,770nm,18.3s,MS4.7,baz=106,slow=40						
ULN	**Ulaanbaatar**	47.37	9	*e*P	P	19 12 01.3	-0.1
ULN				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.0						
ULN	**Ulaanbaatar**	47.37	9	*e*P	P	19 12 01.3	-0.1
	comp=Z,33nm,1.5s,mb5.0						
MKAR	**Makanchi Array**	47.37	346	*i*P	P	19 12 01.2	-0.2
MKAR				pmax	pmax		
	comp=Z,16nm,0.9s						
MKAR	**Makanchi Array**	47.37	346	P	P	19 12 01.4	0.0
	comp=Z,10nm,0.8s,mb4.8,baz=159,slow=7.9,SNR=60						
MKAR				LR	LR	19 36 03.5	
	comp=Z,132nm,19.9s,MS3.9,baz=162,slow=41						
KKAR	**Karatay Array**	48.19	334	*i*P	P	19 12 07.7	-0.1
KKAR				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.1						
CN2	**Changchun**	49.38	27	*e*P	P	19 12 16.3	-0.7
CN2				*e*XP	sP	19 12 28.8	+2.0
CN2				*e*S	S	19 19 22.4	+1.1
CN2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=E,400nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=Z,500nm,16.0s,MS4.6						
ZAK	**Zakamensk**	49.38	5	*e*P	P	19 12 16.3	-0.6
ZAK				*e*		19 13 38.9	
ZAK				*e*		19 14 15.0	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.9						
TLY	**Talaya**	50.70	5	*e*P	P	19 12 26.3	-0.7
TLY				*e*S	S	19 19 53.4	+14
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
TLY				MLR	MLR		
	comp=Z,418nm,20.0s,MS4.5						
PMG	**Port Moresby**	50.77	103	P	P	19 12 27.8	-0.2
	comp=Z,11nm,0.7s,mb4.9,baz=12,slow=8.1,SNR=3.8						
HIA	**Hailar**	51.73	19	*e*P	P	19 12 34.3	-0.5
HIA				pmax	pmax		
	comp=Z,26nm,1.2s						
HIA	**Hailar**	51.73	19	*e*P	P	19 12 34.3	-0.5
	comp=Z,26nm,1.2s,mb5.0						
MJAR	**Matsushiro Arr**	51.74	42	P	P	19 12 33.8	-1.2
	comp=Z,1.8nm,0.9s,mb4.0,baz=218,slow=5.7,SNR=7.7						
KURK	**Kurchatov**	51.92	345	*e*P	P	19 12 35.7	-0.6
KURK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
KURK	**Kurchatov**	51.92	345	*e*P	P	19 12 35.6	-0.6
	comp=Z,17nm,1.0s,mb4.9						
MDJ	**Mudanjiang**	51.94	29	P	P	19 12 36.8	+0.3
MDJ				AP	pP	19 12 42.8	-0.7
MDJ				PCP	PcP	19 13 47.9	-1.1
MDJ				PP	PP	19 14 34.4	-0.8
MDJ				SCP		19 17 44.1	
MDJ				S	S	19 20 00.7	+4.1
MDJ				XS		19 20 11.6	
MDJ				AMB	AMB		
	comp=Z,19nm,2.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,117nm,3.6s						
MDJ				LR	LR		
	comp=N,152nm,21.6s,MS4.0						
MDJ				LR	LR		
	comp=E,72nm,22.2s,MS4.0						
MDJ				LR	LR		
	comp=Z,278nm,18.0s,MS4.3						
MDJ	**Mudanjiang**	51.94	29	*e*P	P	19 12 37.2	+0.7
	comp=Z,17nm,1.0s,mb4.9						
CTA	**Charters Tower**	52.40	116	P	P	19 12 39.6	-0.6
	comp=Z,7.7nm,0.9s,mb4.6,baz=236,slow=7.2,SNR=3.1						
CTA				LR	LR	19 36 56.0	
	comp=Z,284nm,20.5s,MS4.3,baz=178,slow=38						
CTAO	**Charters Tower**	52.40	116	*e*P	P	19 12 39.5	-0.7
CTAO				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.9						
CTAO	**Charters Tower**	52.40	116	*e*P	P	19 12 39.5	-0.7
	comp=Z,22nm,1.3s,mb4.9						
OPO	**Ambohidratompo**	52.93	246	P	P	19 12 44.2	0.0
	comp=Z,8.9nm,0.9s,mb4.7,baz=102,slow=7.2,SNR=5.4						
STKA	**Stephens Creek**	53.23	132	⇑*i*P	P	19 12 46.8	+0.5
	comp=Z,6.7nm,0.8s,mb4.6						
STKA				*i*	pP	19 12 53.8	+0.4
STKA	**Stephens Creek**	53.23	132	P	P	19 12 47.0	+0.7
	comp=Z,8.0nm,0.7s,mb4.7,baz=304,slow=7.1,SNR=18						
ZAL	**Zalesovo**	53.68	351	P	P	19 12 48.7	-0.5
	comp=Z,10nm,0.9s,mb4.8,baz=297,slow=6.2,SNR=58						
ZAL	**Zalesovo**	53.68	351	P	P	19 12 48.7	-0.5
KLR	**Kul'dur**	56.33	26	*e*P	P	19 13 05.7	-2.9
KLR				MLR	MLR		
	comp=N,500nm,13.5s						
KLR				MLR	MLR		
	comp=Z,900nm,13.5s,MS5.0						
BVA0	**Borovoye Array**	56.38	341	*i*P	P	19 13 07.5	-1.4
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	56.38	341	P	P	19 13 07.6	-1.4
	comp=Z,5.4nm,0.8s,mb4.6,baz=143,slow=7.4,SNR=34						
CHKZ	**Chkalovo**	56.86	341	*e*P	P	19 13 11.0	-1.4
CHKZ				*e**PP	pP	19 13 16.8	-2.7
CHKZ				pmax	pmax		
	comp=Z,63nm,0.6s,mb5.8						
CHKZ	**Chkalovo**	56.86	341	*e*P	P	19 13 11.0	-1.3
	comp=Z,63nm,0.6s,mb5.8						
CHKZ				*e*pP	pP	19 13 16.8	-2.7
BOD	**Bodaibo**	58.11	10	*e*P	P	19 13 19.7	-1.4
BOD				*e*	pP	19 13 26.7	-1.5
BOD				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
BOD				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
ASAJ	**Asahikawa**	58.72	37	P	P	19 13 24.9	-0.7
	comp=Z,4.2nm,0.8s,mb4.5,baz=321,slow=2.7,SNR=2.5						
KMBO	**Kilima Mbogo**	60.05	268	P	P	19 13 35.3	+0.2
	comp=Z,0.7nm,0.6s,mb3.9,baz=36,slow=24,SNR=3.0						
KMBO				LR	LR	19 34 58.2	
	comp=Z,119nm,19.1s,MS4.0,baz=92,slow=32						
YSS	**Yuzh-Sakhalins**	60.41	34	⇑*e*P	P	19 13 36.0	-1.1
YSS				*e*		19 13 50.0	
YSS				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.4						
YSS	**Yuzh-Sakhalins**	60.41	34	*e*P	P	19 13 35.9	-1.2
	comp=Z,33nm,1.2s,mb5.2						
GNI	**Garni**	61.42	316	*i*P	P	19 13 48.2	+4.1
GNI	**Garni**	61.42	316	P	P	19 13 45.0	+0.9
	comp=Z,2.0nm,0.5s,mb4.5,baz=328,slow=19,SNR=2.0						
GNI				LR	LR	19 45 41.0	
	comp=Z,70nm,18.8s,MS3.8,baz=205,slow=41						
TI2	**Plekhanov**	62.10	318	*e*P	P	19 13 47.8	-0.9
SVE	**Sverdlovsk**	62.82	338	⇓*i*P	P	19 13 52.2	-1.0
SVE				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
ARU	**Arti**	63.31	337	⇑*i*P	P	19 13 55.2	-1.3
ARU				*e*		19 14 29.5	
ARU				*e*S	S	19 22 26.9	+1.3
ARU				*e*		19 23 48.6	
ARU				*e*SS	SS	19 26 37.4	+3.2
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
ARU	**Arti**	63.31	337	*e*P	P	19 13 54.6	-1.8
	comp=Z,7.8nm,0.9s,mb4.8						
ARU				*e*pP	pP	19 14 02.3	-1.4
KIV	**Kislovodsk**	64.44	319	*c i*P	P	19 14 03.1	-1.0
KIV				*i*		19 14 14.7	
KIV				*e*		19 14 36.0	
KIV				*e*		19 16 25.2	
KIV				*e*SS	SS	19 26 53.6	+1.9
KIV				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
KIV	**Kislovodsk**	64.44	319	*e*P	P	19 14 02.7	-1.4
	comp=Z,7.2nm,0.9s,mb4.7						
KIV				*e*pP	pP	19 14 09.6	-1.7
ASF	**Jabal al Asfar**	64.58	305	P	P	19 14 06.1	+0.9
	comp=Z,1.3nm,0.3s,mb4.5,baz=219,slow=3.6,SNR=3.1						
MALT	**Malatya**	65.25	312	*e*P	P	19 14 09.1	-0.3
MALT				*e**PP	pP	19 14 16.8	+0.2
MALT				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MALT	**Malatya**	65.25	312	*e*P	P	19 14 09.1	-0.4
	comp=Z,2.6nm,1.0s,mb4.2						
MALT				*e*pP	pP	19 14 16.8	+0.1
YAK	**Yakutsk**	65.52	16	*e*P	P	19 14 09.2	-1.5
YAK				*e**PP	pP	19 14 15.3	-2.6
YAK				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.4						
YAK	**Yakutsk**	65.52	16	*e*P	P	19 14 09.2	-1.5
	comp=Z,42nm,1.0s,mb5.4						
YAK				*e*pP	pP	19 14 15.3	-2.6
EIL	**Elat**	65.57	302	P	P	19 14 12.2	+0.5
	comp=Z,4.1nm,1.1s,mb4.4,baz=309,slow=19,SNR=3.1						
EIL	**Elat**	65.57	302	*e*P	P	19 14 11.9	+0.3
	comp=Z,7.2nm,1.0s,mb4.7						
EIL				*e*pP	pP	19 14 18.1	-0.7
SOC	**Sochi**	66.25	318	*e*P	P	19 14 15.7	0.0
SOC				*e*S	S	19 23 00.8	-1.2
SOC				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
SOC				pmax	pmax		
	comp=N,8.0nm,1.1s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.4s						
ANN	**Anapa**	68.23	318	*e*P	P	19 14 31.7	+3.5
ANN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	69.24	312	P	P	19 14 33.1	-1.4
	comp=Z,1.8nm,0.9s,mb4.0,baz=135,slow=7.0,SNR=10.0						
MA2	**Magadan**	71.41	26	*e*P	P	19 14 52.1	+4.7
MA2				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
MAW	**Mawson**	72.61	193	LR	LR	19 43 42.8	
	comp=Z,192nm,18.2s,MS4.4,baz=243,slow=33						
OBN	**Obninsk**	72.75	328	*i*P	P	19 14 54.7	-0.7
OBN				*e*		19 15 12.5	
OBN				*e*S	S	19 24 18.2	-0.1
OBN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.1						
TIXI	**Tiksi**	73.29	10	*c i*P	P	19 14 57.0	-1.3
TIXI				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
BOSA	**Boshof**	74.77	240	P	P	19 15 08.2	+0.4
	comp=Z,3.3nm,0.8s,mb4.3,baz=177,slow=3.1,SNR=5.1						
BOSA				LR	LR	19 42 19.1	
	comp=Z,176nm,18.8s,MS4.4,baz=37,slow=31						
AKASG	**Malin Array Be**	75.39	322	P	P	19 15 09.8	-1.0
	comp=Z,1.4nm,0.6s,mb4.1,baz=89,slow=4.2,SNR=11						
MLR	**Muntele Rosu**	76.19	317	P	P	19 15 15.7	+0.2
	comp=Z,1.2nm,0.5s,mb4.1,baz=90,slow=5.0,SNR=5.0						
RPZ	**Rata Peaks**	79.08	135	P	P	19 15 32.3	+0.9
	comp=Z,8.6nm,0.8s,mb4.8,baz=29,slow=9.9,SNR=2.6						
FINES	**FINESS Array B**	80.13	333	P	P	19 15 36.0	-0.7
	comp=Z,2.0nm,0.8s,mb4.1,baz=110,slow=6.4,SNR=7.7						
FINES	**FINESS Array B**	80.13	333	P	P	19 15 36.0	-0.7
KAF	**Kangasniemi**	80.22	333	*e*p	P	19 15 33.7	-3.4
	comp=Z,3.1nm,0.9s,mb4.2						
KAF	**Kangasniemi**	80.22	333	*e*P	P	19 15 33.7	-3.4
KAF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
FX1	**Attu Island--F**	80.65	37	P	P	19 15 39.8	+0.2
	comp=Z,6.9nm,0.6s,mb4.8,baz=205,slow=19,SNR=2.6						
BILL	**Biiibino**	81.25	21	⇓*e*P	P	19 15 42.4	-0.1
BILL				*i*		19 15 56.6	
BILL				*e*S	S	19 25 50.2	+0.1
BILL				*e*SS	SS	19 31 10.2	+1.2
BILL				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.3						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.6						
MORC	**Moravsky Berou**	82.53	320	*e*P	P	19 15 49.3	-0.2
MORC				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
MORC	**Moravsky Berou**	82.53	320	*e*P	P	19 15 49.3	-0.2
	comp=Z,7.2nm,1.3s,mb4.5						
ARCES	**ARCESS Array B**	82.67	340	P	P	19 15 50.2	+0.4
	comp=Z,2.4nm,0.7s,mb4.3,baz=104,slow=5.0,SNR=11						
ARCES				LR	LR	19 57 00.7	
	comp=Z,135nm,19.0s,MS4.3,baz=196,slow=39						
ARCES	**ARCESS Array B**	82.67	340	P	P	19 15 50.2	+0.4
GERES	**GERESS Array B**	84.94	319	P	P	19 16 02.4	+0.6
	comp=Z,2.3nm,0.9s,mb4.3,baz=90,slow=5.3,SNR=16						
KHC	**Kasperske Hory**	85.04	319	*e*P	P	19 16 02.0	-0.3
HFS	**Hagfors**	85.85	330	P	P	19 16 06.1	0.0
	comp=Z,4.0nm,1.0s,mb4.6,baz=135,slow=4.2,SNR=4.3						
GRA1	**Grafenberg Arr**	86.61	320	*e*P	P	19 16 10.8	+0.8
	comp=Z,12nm,1.0s,mb5.1						
GRF	**Grafenberg Arr**	86.61	320	*e*P	P	19 16 10.8	+0.8
GRF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.1						
GRF	**Grafenberg Arr**	86.61	320	*e*P	P	19 16 10.8	+0.8
GRF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.1						
GRF	**Grafenberg Arr**	86.61	320	*e*P	P	19 16 10.8	+0.8
	comp=Z,12nm,1.0s,mb5.1						
NB2	**NORSAR Subarra**	87.14	331	P	P	19 16 12.5	+0.2
	comp=Z,0.3nm,0.8s,baz=96,slow=5.6						
NOA	**NORSAR Array B**	87.14	331	P	P	19 16 12.5	+0.2
	comp=Z,2.3nm,0.8s,mb4.5,baz=95,slow=4.9,SNR=6.7						
NOA	**NORSAR Array B**	87.14	331	P	P	19 16 12.5	+0.2
DAVOX	**Davos**	87.42	317	P	P	19 16 14.7	+0.7
	comp=Z,3.2nm,0.8s,mb4.6,baz=343,slow=21,SNR=3.9						
LPG	**La Plagne**	89.59	315	*e*P	P	19 16 24.6	+0.2
	comp=Z,33nm,1.4s,mb5.2						
LPG	**La Plagne**	89.59	315	*e*P	P	19 16 24.6	+0.2
LPG				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.2						
EKA	**Eskdalemuir Ar**	95.05	326	P	P	19 16 48.9	-0.4
	comp=Z,3.1nm,0.9s,mb4.7,baz=112,slow=4.5,SNR=3.6						
IMA	**Indian Mountai**	96.67	23	*e*P	P	19 16 57.6	+1.2
IMA				*e**PP	pP	19 17 04.5	+0.6
IMA				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.6						
IMA	**Indian Mountai**	96.67	23	*e*P	P	19 16 57.6	+1.2
	comp=Z,32nm,1.3s,mb5.6						
IMA				*e*pP	pP	19 17 04.5	+0.6
ILAR	**Eielson Array**	99.78	23	LR	LR	20 09 14.3	
	comp=Z,80nm,18.7s,MS4.2,baz=179,slow=40						
YKA	**Yellowknife Ar**	112.19	15	PP	PP	19 22 43.6	-6.3
	comp=Z,0.7nm,0.9s,baz=330,slow=7.3,SNR=7.1						
NVAR	**Mina Array Bea**	128.84	36	PKP	PKPdf	19 22 37.6	-0.3
	comp=Z,0.4nm,0.4s,baz=189,slow=1.9,SNR=4.4						
PDAR	**Pinedale Array**	130.12	26	PKP	PKPdf	19 22 37.0	-3.3
	comp=Z,0.6nm,0.7s,SNR=4.6						
PV10	**Paradox Valley**	133.86	29	*e*PKPdf	PKPdf	19 22 45.6	-1.8
TXAR	**Lajitas Array**	143.74	32	PKP	PKPdf	19 23 01.2	-4.3
	comp=Z,0.6nm,0.5s,baz=225,slow=1.8,SNR=5.6						
TXAR	**Lajitas Array**	143.74	32	PKP	PKPdf	19 23 01.2	-4.3
JCT	**Junction City**	144.66	26	*e*PKPdf	PKPdf	19 23 03.0	-4.0
JCT				*e*pPKPdf		19 23 10.4	
GOGA	**Godfrey**	145.69	1	*e*PKPdf	PKPdf	19 23 05.9	-2.9
GOGA				*e*pPKPdf		19 23 13.2	
LRAL	**Lakeview Retre**	145.83	6	*e*PKPdf	PKPdf	19 23 05.7	-3.3
LRAL				*e*pPKPdf		19 23 12.1	

*IDC **09** 19:03:31.5±0.9, 56.13N×154.64W, mb4.2/13, mb1 4.3/14, mb1mx4.1/26, mbtmp4.2/14, ML3.9/1, Error ellipse: s-maj=24.8km s-min=19.1km az=13.0*
*NEIC **09** 19:03:33.9, 56.00N×154.28W, h20km, mb4.1/2, ML3.6(AEIC), After AEIC.*

ISC 09 19:03:31.1±2.6, 56.11N±0.07×154.4W±0.1, h10km±16km, n35, σ1♀01/37, mb4.1/13, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	1.96	30	P		P	Pn	19 04 05.2	+0.5
KDAK				S			Sn	19 04 29.6	0.0
ANCK	**Angle Creek**	2.18	345	P		P	Pn	19 04 09.0	+1.0
KAPH	**Katmai Pasha**	2.50	1	P		P	Pn	19 04 13.6	+1.1
KAHC	**Katmai Hardscr**	2.57	353	P		P	Pn	19 04 14.4	+0.8
MCNL	**McNeil River**	3.09	1	P		P	Pn	19 04 21.9	+1.0
CNPM	**China Poot**	3.83	25	P		P	Pn	19 04 31.6	+0.3
ILW	**Iliamna West**	4.02	9	P		P	Pn	19 04 34.6	+0.4
INE	**Iliamna NE**	4.03	10	P		P	Pn	19 04 35.3	+1.0
ILIM	**Iliamna**	4.06	10	P		P	Pn	19 04 34.5	-0.2
BRLK	**Bradley Lake**	4.12	26	P		P	Pn	19 04 35.0	-0.6
DOL	**Dolgoi Island**	4.33	260	P		P	Pn	19 04 37.8	-0.8
NCT	**North Crescent**	4.54	9	P		P	Pn	19 04 41.8	+0.3
SLKM	**Skilak Lake**	4.94	25	*e*P		P	Pn	19 04 46.7	-0.4
SVW2	**Sparrevohn**	5.04	353	P		P	Pn	19 04 48.6	0.0
RC01	**Rabbit Creek A**	5.56	24	P		P	Pn	19 04 55.4	-0.6
HIN	**Hinchinbrook I**	5.99	41	P		P	Pn	19 04 59.6	-2.4
BALM	**Baldy**	8.01	47	P		P	P	19 05 27.9	-2.4
ILAR	**Eielson Array**	9.45	20	Pn		P	P	19 05 48.2	-2.1
	0.3nm,0.3s,baz=211,slow=13,SNR=7.5								
ILAR				Sn			Sn	19 07 31.1	-6.6
	0.3nm,0.3s,baz=52,slow=25,SNR=4.8								
IMA	**Indian Mountai**	10.01	2	*e*P		P	P	19 05 57.8	0.0
INK	**Inuvik**	15.52	30	Pn		P	P	19 07 14.2	+3.0
	0.3nm,0.3s,baz=242,slow=10.0,SNR=13								
INK	**Inuvik**	15.52	30	*e*P		P	P	19 07 12.2	+1.0
	4.3nm,0.9s								
YKA	**Yellowknife Ar**	21.02	56	P		P	P	19 08 16.6	-0.2
	1.9nm,0.8s,mb3.5,baz=268,slow=9.8,SNR=23								
PDAR	**Pinedale Array**	31.47	96	P		P	P	19 09 56.0	+1.3
	1.1nm,0.6s,mb3.9,baz=321,slow=5.7,SNR=10.0								
TXAR	**Lajitas Array**	44.49	105	P		P	P	19 11 46.3	+2.1
	0.3nm,0.6s,mb3.2,baz=336,slow=11,SNR=2.4								
SCHQ	**Schefferville**	46.42	53	P		P	P	19 11 59.1	0.0
	0.6nm,0.4s,mb3.9,baz=302,slow=12,SNR=4.6								
ARCES	**ARCESS Array B**	54.67	0	P		P	P	19 13 03.0	+1.3
	4.5nm,1.0s,mb4.5,baz=346,slow=7.4,SNR=3.9								
SONM	**Songino Array**	56.51	307	P		P	P	19 13 15.1	-0.2
	1.4nm,0.7s,mb4.1,baz=52,slow=6.3,SNR=2.8								
KAF	**Kangasniemi**	62.12	360	*e*p		P	P	19 13 47.8	-6.1
	2.9nm,0.9s,mb4.4								
NOA	**NORSAR Array B**	62.65	8	P		P	P	19 13 57.0	-0.4
	0.8nm,0.8s,mb3.9,baz=335,slow=9.1,SNR=2.7								
FINES	**FINESS Array B**	62.79	360	P		P	P	19 13 57.8	-0.6
	1.4nm,0.7s,mb4.2,baz=19,slow=7.9,SNR=9.1								
HFS	**Hagfors**	63.72	7	P		P	P	19 14 03.7	-0.6
	1.6nm,0.6s,mb4.2,baz=117,slow=3.3,SNR=7.3								
BVAR	**Borovoye Array**	65.17	332	P		P	P	19 14 12.8	-1.1
	2.7nm,0.7s,mb4.4,baz=27,slow=6.6,SNR=5.0								
MKAR	**Makanchi Array**	67.02	321	P		P	P	19 14 24.2	-1.6
	0.8nm,0.7s,mb3.9,baz=45,slow=6.1,SNR=3.7								
CMAR	**Chiang Mai Arr**	83.78	294	P		P	P	19 16 02.5	+0.8
	61nm,0.2s,baz=17,slow=6.4,SNR=0.9								
DZM	**Mont Dzumac**	84.63	216	P		P	P	19 16 05.9	0.0
	5.7nm,0.8s,mb4.8,baz=270,slow=17,SNR=3.0								

*IDC **09** 19:18:52.5±0.8, 0.50S×98.73E, mb4.0/10, mb1 4.1/11, mb1mx3.9/20, mbtmp4.0/11, ML3.7/1, Error ellipse: s-maj=35.3km s-min=15.1km az=56.0*
*NEIC **09** 19:18:57.1±0.6, 0.47S×98.80E, h30km, mb4.2/4, Error ellipse: s-maj=22.0km s-min=9.4km az=62.0*

ISC 09 19:18:55.1±0.7, 0.4S±0.1×98.8E±0.2, h30km, n17, σ0♀75/16, mb4.1/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	18.77	0	P		P	P	19 23 14.2	-0.3
	0.1nm,0.3s,baz=191,slow=11,SNR=4.5								
FITZ	**Fitzroy Crossi**	31.68	125	P		P	P	19 25 17.6	-0.9
	2.4nm,0.6s,mb4.2,baz=259,slow=2.0,SNR=5.8								
ENH	**Enshi**	32.19	18	*e*P		P	P	19 25 23.3	+0.5
	5.3nm,0.8s,mb4.4								
WRA	**Warramunga Arr**	39.82	121	P		P	P	19 26 27.3	-0.4
	0.8nm,0.5s,mb3.7,baz=310,slow=9.0,SNR=19								
WRA				PcP		PcP		19 28 34.2	+0.2
	0.3nm,1.0s,baz=312,slow=2.5,SNR=5.8								
WRAB	**Tennant Creek**	39.83	121	*e*P		P	P	19 26 27.5	-0.3
	2.8nm,0.6s,mb4.2								
ASAR	**Alice Springs**	41.14	127	P		P	P	19 26 39.0	+0.5
	1.3nm,0.6s,mb3.7,baz=303,sl

CANB	Canakkale	0.93	113		Pn		Pn	19 28 37.9 -0.9
CANB					Sg		Sb	19 28 53.9 +4.0
SART	Tekirdag	0.98	72	i	P		Pb	19 28 38.9 -0.1
SART				i	S		Sb	19 28 51.6 +0.1
PRK	Paraskevi	1.17	168	eP	N		Pn	19 28 43.0 +0.7
AYVA	Ayvalik	1.22	152	i	P		Pn	19 28 43.8 +0.8
AYVA				i	S		Sb	19 28 59.7 +1.3
MRMT	Marmara Adasi	1.27	80	i	PN		Pn	19 28 42.9 -0.8
KDZ	Kurdzhali	1.32	342		Pg		Pn	19 28 45.0 +0.6
EDC	Edincik	1.46	91		PN		Pn	19 28 46.7 +0.3
EDC	Edincik	1.46	91		Pn		Pn	19 28 47.0 +0.6
BNT	Bandirma	1.50	91		PN		Pn	19 28 47.1 0.0
BNT	Bandirma	1.50	91		Pn		Pn	19 28 47.1 +0.1
OUR	Ouranopolis	1.51	268	eP	b		Pb	19 28 47.1 -0.8
EDRB	Edirne	1.57	22		PN		Pn	19 28 46.4 -1.6
EDRB	Edirne	1.57	22		Pn		Pn	19 28 48.7 +0.6
RZN	Rozhen	1.60	325		Pg		Pn	19 28 49.0 +0.6
BALB	Balikesir	1.66	116		PN		Pn	19 28 50.1 +0.8
BALB	Balikesir	1.66	116		Pn		Pn	19 28 50.2 +0.9
DIM	Dimitrovgrad	1.69	349		P		Pn	19 28 50.0 +0.3
DIM					Pg		Pn	19 28 52.5 +2.8
BTOK	Tokmak	1.71	111	i	P		Pn	19 28 50.1 0.0
BTOK				i	S		Sn	19 29 13.3 +1.7
PAIG	Paliouri	1.80	256	eP	b		Pb	19 28 50.8 -2.1
PAIG				eS	b		Sb	19 29 13.8 -1.4
KCT	Karacabey	1.84	93		PN		Pn	19 28 52.1 +0.2
KCT	Karacabey	1.84	93		Pn		Pn	19 28 52.1 +0.2
NVR	Nevrokopi	1.85	302	⇓i	PB		Pb	19 28 52.5 -1.3
PLG	Polygyros	1.91	270	eP	N		Pn	19 28 53.1 +0.2
SRS	Serrai	1.93	293	eP	n		Pn	19 28 53.3 +0.1
PLD	Plovdiv	1.95	332		P		Pn	19 28 54.8 +1.3
PLD					Pg		Pn	19 28 58.0 +4.5
AOS	Alonnisos	2.01	233	eP	n		Pn	19 28 53.8 -0.5
SOH	Sokhos	2.02	283	eP	n		Pn	19 28 54.7 +0.2
CTT	Catalca	2.03	67		PN		Pn	19 28 53.8 -0.8
CTT	Catalca	2.03	67		Pn		Pn	19 28 53.9 -0.7
MMB	Musomiste	2.06	306		P		Pn	19 28 55.0 -0.1
MMB					Pg		Pn	19 28 59.5 +4.4
JMB	Yambol	2.13	13		P		Pn	19 28 57.0 +1.0
JMB					Pg		Pn	19 29 01.0 +5.0
DST	Dursunbey	2.20	110		PN		Pn	19 28 57.8 +0.8
KDAG	Bornova	2.23	152	i	P		Pn	19 28 57.0 -0.4
KDAG				i	S		Sn	19 29 29.4 +4.7
IZM	Izmir	2.23	153		PN		Pn	19 28 58.0 +0.5
ORLT	Orhaneli	2.28	98	eP	N		Pn	19 28 59.0 +0.8
THE	Thessaloniki	2.29	277	eP	n		Pn	19 28 58.2 -0.1
NEO	Neokhori	2.36	244	eP	N		Pn	19 29 00.1 +0.8
BADT	Buyukada	2.45	78	eP	N		Pn	19 28 59.7 -0.9
ISK	Istanbul-Kandi	2.46	73	eP	N		Pn	19 28 59.7 -1.0
PGB	Panagyurishte	2.54	329		P		Pn	19 29 02.0 +0.1
PGB					Pg		Pn	19 29 07.5 +5.6
YLV	Yalova	2.62	85	eP	N		Pn	19 29 03.1 +0.1
KKB	Krupnik	2.62	305		P		Pn	19 29 03.0 0.0
KKB					Pg		Pn	19 29 09.0 +6.0
LIT	Litokhoron	2.67	265	eP	n		Pn	19 29 03.0 -0.7
IZI	Iznik	2.69	90	eP	N		Pn	19 29 04.6 +0.6
IZI	Iznik	2.69	90		Pn		Pn	19 29 09.9 +5.8
VAY	Valandovo	2.73	291	⇑i	Pn		Pn	19 29 12.1 +7.5
VAY				i	Sn		Sn	19 29 46.0 +8.7
VAY				⇑i				19 29 49.8
GRG	Griva	2.76	283	eP	n		Pn	19 29 05.7 +0.7
SMG	Samos	2.77	165	eP	N		Pn	19 29 05.2 +0.1
MANT	Manisa	2.77	132	i	P		Pn	19 29 05.5 +0.3
MANT				i	S		Sn	19 29 47.5 +9.1
PVL	Pavlikeni	2.86	351	eP			Pn	19 29 06.0 -0.4
HRT	Hereke	2.86	80	eP	N		Pn	19 29 05.8 -0.7
HRT	Hereke	2.86	80		Pn		Pn	19 29 05.5 -1.0
HRT	Hereke	2.86	80		Pn		Pn	19 29 05.5 -1.0
SZH	Strazhica	2.87	360		P		Pn	19 29 07.0 +0.4
PRD	Provadia	3.01	21		P		Pn	19 29 07.5 -1.0
VTS	Vitosha	3.01	318	⇑P			Pn	19 29 17.5 +8.9
VTS	Vitosha	3.01	318		P		Pn	19 29 09.8 +1.2
VTS					Pg		Pn	19 29 18.0 +9.4
VTS	Vitosha	3.01	318	⇑P			Pn	19 29 17.5 +8.9
AGG	Agios Georgios	3.11	245	eP	n		Pn	19 29 09.8 -0.2
AYDN	Tasoluk	3.11	151	i	P		Pn	19 29 09.8 -0.2
ZIMR		3.29	353	⇓P			Pn	19 29 22.7 +10
ZIMR		3.29	353	⇓P			Pn	19 29 22.7 +10
GPA	Golpazari	3.33	90	eP	N		Pn	19 29 12.7 -0.4
GPA	Golpazari	3.33	90		Pn		Pn	19 29 12.2 -0.9
APE	Apeiranthos	3.33	186	eP	N		Pn	19 29 12.9 -0.3
APE	Apeiranthos	3.33	186		P		Pn	19 29 13.0 -0.2
KHL	Karahalli	3.45	126	eP	N		Pn	19 29 15.2 +0.3
KHL	Karahalli	3.45	126		Pn		Pn	19 29 13.7 -1.1
ALT	Altintas	3.47	111	eP	N		Pn	19 29 16.0 +0.9
BODT	Bodrum	3.49	162	eP	N		Pn	19 29 15.2 -0.2
BODT	Bodrum	3.49	162		Pn		Pn	19 29 15.3 -0.1
BODT	Bodrum	3.49	162		Pn		Pn	19 29 15.3 -0.1
FNA	Florina	3.51	278	eP	n		Pn	19 29 16.0 +0.4
BDRM	Kayabasi	3.52	160	i	P		Pn	19 29 15.1 -0.7
DENT	Denizli	3.56	137	eP	N		Pn	19 29 16.1 -0.3
DNZL	Cakiroluk	3.62	137	i	P		Pn	19 29 17.3 +0.1
PSN	Preselentsi	3.69	26	eP			Pn	19 29 17.0 -1.1
SKO	Skopje	3.75	296	eP	n		Pn	19 29 21.0 +1.9
SKO				i				19 29 31.0
HENT	Hendek	3.79	82	i	P		Pn	19 29 18.5 -1.1
ESKT	Eskisehir	3.86	101		PN		Pn	19 29 21.4 +0.7
ESKT	Eskisehir	3.86	101		Pn		Pn	19 29 21.4 +0.7
ESKT	Eskisehir	3.86	101	i	P		Pn	19 29 21.1 +0.4
THR5	Thira Island,	4.00	187	eP	n		Pn	19 29 21.0 -1.5
THR3	Thira Island,	4.00	186	eP	n		Pn	19 29 22.1 -0.6
MDU	Mudurnu	4.02	87		Pn		Pn	19 29 22.9 0.0
MDU	Mudurnu	4.02	87		Pn		Pn	19 29 22.9 0.0
DALT	Dalyan (Mudla)	4.18	149	eP	N		Pn	19 29 20.5 +0.6
DALT	Dalyan (Mudla)	4.18	149		Pn		Pn	19 29 21.3 -3.9
GOLH	Golhisar	4.23	137	i	P		Pn	19 29 26.3 +0.5
ISP	Isparta	4.36	124	eP	N		Pn	19 29 28.2 +0.4
ISP	Isparta	4.36	124		Pn		Pn	19 29 25.9 -1.9
TIRR	Tirgusor	4.45	23	⇑P			Pn	19 29 28.6 -0.5
TIRR	Tirgusor	4.45	23	⇑P			Pn	19 29 28.5 -0.6
TIRR	Tirgusor	4.45	23		P		Pn	19 29 28.6 -0.5
FETY	Fethiye	4.48	146	eP	N		Pn	19 29 29.8 +0.3
ITM	Ithomi	4.49	226	eP	N		Pn	19 29 30.0 +0.4
HARR	Harsova	4.54	18	⇑P			Pn	19 29 29.9 -0.4
BOLS	Boljevac	4.54	320	⇑i	Pn		Pn	19 29 30.3 0.0
BOLS					Sn		Sn	19 30 43.2 +20
SGKT	Sivrigoynuk	4.66	86	i	P		Pn	19 29 31.7 -0.3
ISR	Istrita	4.75	5	⇑P			Pn	19 29 51.8 +19
ELL	Elmali	4.78	138	eP	N		Pn	19 29 33.4 -0.3
ELL	Elmali	4.78	138		Pn		Pn	19 29 33.5 -0.2
ELL	Elmali	4.78	138		Pn		Pn	19 29 33.5 -0.2
KIZT	Kizilcal	4.82	106		Pn		Pn	19 29 34.5 +0.2
KIZT	Kizilcal	4.82	106		Pn		Pn	19 29 34.5 +0.2
CFR	Carcaliu	5.05	18	⇑P			Pn	19 29 36.6 -0.8
CFR	Carcaliu	5.05	18	⇑P			Pn	19 29 36.6 -0.9
CFR	Carcaliu	5.05	18	P			Pn	19 29 36.8 -0.7
MLR	Muntele Rosu	5.10	360		Pn		Pn	19 29 39.0 +0.8
	4.8nm,0.3s,baz=177,slow=4.1,SNR=72							
MLR					Sn		Sn	19 30 39.2 +1.9
	4.0nm,0.3s,baz=144,slow=16,SNR=3.1							
MLR					Lg			19 31 06.9
	3.6nm,0.3s,baz=158,slow=10,SNR=5.1							
MLR	Muntele Rosu	5.10	360	⇑P			Pn	19 29 39.5 +1.4
MLR	Muntele Rosu	5.10	360	⇑P			Pn	19 29 39.5 +1.3
IDI	Anoyia	5.16	190		Pn		Pn	19 29 37.2 -1.9
	0.2nm,0.3s,baz=347,slow=18,SNR=5.6							
SAFT	Safranbolu	5.18	78		Pn		Pn	19 29 38.8 -0.5
SAFT	Safranbolu	5.18	78		Pn		Pn	19 29 38.8 -0.6
BRD	Bordesti	5.22	8	⇑P			Pn	19 29 41.9 +2.0
GRUS	Gruza	5.23	314	⇓i	Pn		Pn	19 29 39.2 -0.8
GRUS					Sn		Sn	19 30 39.3 -1.3
TLCR		5.23	23	⇑P			Pn	19 29 39.7 -0.4
ANTO	Ankara	5.27	93		P		Pn	19 29 44.1 +3.5
ANTO	Ankara	5.27	93	⇓P			Pn	19 29 45.8 +5.2
VRI	Vrincioaia	5.50	6	⇑P			Pn	19 29 45.2 +1.3
KONT	Konya--Tatoy	5.55	114		Pn		Pn	19 29 45.4 +0.8
KONT	Konya--Tatoy	5.55	114		Pn		Pn	19 29 45.4 +0.9
ELDT	Eldivan	5.71	87	i	P		Pn	19 29 45.6 -1.1
BRTR	Keskin Array B	5.94	94		P		Pn	19 29 48.9 -1.1
BRTR								19 30 54.7
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BRTR	Keskin Array B	5.94	94		Pn		Pn	19 29 48.9 -1.1
	comp=Z,1.4nm,0.3s,baz=270,slow=12,SNR=67							
BRTR					Pg		Pn	19 30 10.8 +21
	comp=Z,1.1nm,0.3s,baz=273,slow=16,SNR=11							
BRTR					Sn		Sn	19 30 54.6 -3.6
	comp=Z,1.1nm,0.3s,baz=284,slow=24,SNR=5.5							
BRTR					Lg			19 31 29.7
	comp=Z,0.6nm,0.3s,baz=273,slow=23,SNR=5.0							
BRTR	Keskin Array B	5.94	94		Pg		Pn	19 30 10.8 +21
BRTR					S		Sn	19 30 54.7 -3.6
KAMT	Kaman	6.06	97		Pn		Pn	19 29 51.5 -0.3
KAMT	Kaman	6.06	97		Pn		Pn	19 29 51.5 -0.2
KIS	Kishinev	6.92	16	eP			Pn	19 30 12.0 +8.1
BURAR	Bucovina Array	7.24	356	⇑P			Pn	19 30 10.0 +1.6
BURAR	Bucovina Array	7.24	356	⇑P			Pn	19 30 10.0 +1.6
SIM	Simferopol'	7.54	50	eP			Pn	19 30 10.0 -2.6
SIM				pmax	pmax			
	comp=Z,8.0nm,0.7s							
SIM				MLR	MLR			
	comp=Z,20nm,6.0s							
SIM	Simferopol'	7.54	50	eP			Pn	19 30 10.0 -2.6
	comp=Z,20nm,6.0s							
PKSM	Moragy	7.89	320	⇑P			Pn	19 30 14.6 -2.8
PSZ	Piszkesteto	8.69	332		Pn		P	19 30 22.3 -6.3
PSZ	Piszkesteto	8.69	332	⇑P			P	19 30 29.8 +1.2
EIL	Elat	12.98	143		Pn		P	19 31 26.8 -0.2
	comp=Z,0.5nm,0.3s,baz=145,slow=40,SNR=3.8							
DAVOX	Davos	13.28	304	LR			LR	19 37 12.1
	comp=Z,61nm,18.1s,baz=84,slow=40							
FINES	FINESS Array B	21.08	0		P		P	19 33 06.4 +0.3
FINES				pmax	pmax			
	comp=Z,2.0nm,1.1s							
FINES	FINESS Array B	21.08	0		P		P	19 33 06.4 +0.3
	comp=Z,2.2nm,1.1s,mb3.4,baz=169,slow=9.7,SNR=3.8							
HFS	Hagfors	21.19	343		P		P	19 33 08.8 +1.6
HFS				pmax	pmax			
	comp=Z,1.0nm,0.8s							
HFS	Hagfors	21.19	343		P		P	19 33 08.8 +1.6
	comp=Z,1.1nm,0.8s,mb3.2,baz=144,slow=12,SNR=3.2							
NOA	NORSAR Array B	22.58	341		P		P	19 33 24.6 +3.6
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
NOA	NORSAR Array B	22.58	341		P		P	19 33 24.6 +3.7
	comp=Z,0.9nm,0.8s,mb3.3,baz=153,slow=11,SNR=3.1							
MKAR	Makanchi Array	40.55	62		P		P	19 36 00.6 +0.3
	comp=Z,0.3nm,0.6s,mb3.1,baz=271,slow=6.9,SNR=4.1							

IDC 09 19:32:55.9±2.5, 2.70N×95.91E, mb3.6/6, mb1 3.7/7, mb1mx3.5/20, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=98.2km s-min=22.8km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.93	11	Pn	P	19 36 42.3	-1.0
	0.1nm,0.3s,baz=201,slow=11,SNR=4.1						
WRA	Warramunga Arr	43.92	123	P	P	19 41 02.8	-3.7
	0.2nm,0.5s,baz=300,slow=9.3,SNR=3.2						
ASAR	Alice Springs	45.32	127	P	P	19 41 17.9	+0.1
	0.2nm,0.8s,baz=303,slow=7.6,SNR=2.9						
MKAR	Makanchi Array	45.49	347	P	P	19 41 17.1	-1.6
	0.9nm,0.6s,baz=162,slow=8.2,SNR=9.9						
SONM	Songino Array	45.86	10	P	P	19 41 19.7	-2.0
	0.4nm,0.5s,baz=189,slow=10.0,SNR=6.2						
ZAL	Zalesovo	51.88	352	P	P	19 42 06.2	-1.9
	0.6nm,0.3s,baz=230,slow=2.1,SNR=3.0						
BVAR	Borovoye Array	54.42	341	P	P	19 42 24.0	-3.0
	0.2nm,0.4s,baz=135,slow=6.3,SNR=4.6						

*THE **09** 19:57:49.8, 41.05N×22.33E, h14km, ML2.4*
*CSEM **09** 19:57:50.3±0.3, 41.03N×22.32E, h20km, ML2.4, Error ellipse: s-maj=9.4km s-min=5.1km az=163.0*
*ATH **09** 19:57:51.2, 40.87N×22.37E, h43km±21km, MD2.8/4*
*NEIC **09** 19:57:51.2, 40.87N×22.37E, h43km, MD2.8(ATH), After ATH.*

ISC 09 19:57:50.4±0.5, 40.98N±0.04×22.36E±0.05, h20km, n22, σ0°77/27, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRG	Griva	0.04	126	ePg	Pb	19 57 53.1	-0.9
GRG				eSg	Sb	19 57 55.2	-1.2
VAY	Valandovo	0.38	25	⇑iPg	Pb	19 57 58.1	-0.3
VAY				⇓iSg	Sb	19 58 03.5	-0.2
KNT	Kendrikon	0.45	66	ePg	Pb	19 57 59.5	-0.1
THE	Thessaloniki	0.58	127	ePg	Pb	19 58 02.6	+0.8
FNA	Florina	0.77	256	ePg	Pb	19 58 04.5	-0.6
FNA				eSg	Sb	19 58 15.2	+0.2
FNA	Florina	0.77	256	ePg	Pb	19 58 04.4	-0.6
FNA				eSg	Sb	19 58 15.2	+0.2
SOH	Sokhos	0.77	102	ePg	Pb	19 58 05.0	-0.1
SOH	Sokhos	0.77	102	ePg	Pb	19 58 04.9	-0.1
KZN	Kozani	0.81	214	eP	Pb	19 58 06.1	+0.4
LIT	Litokhoron	0.88	173	eSg	Sb	19 58 21.2	+2.9
LIT	Litokhoron	0.88	173	eSg	Sb	19 58 21.0	+2.7
PLG	Polygyros	1.02	126	eP	Pb	19 58 09.7	+0.3
PLG				eS	Sb	19 58 21.8	-0.6
KKB	Krupnik	1.04	31	Pg	Pb	19 58 10.0	+0.4
NVR	Nevrokopi	1.19	71	eP	Pn	19 58 13.1	+0.9
MMB	Musomiste	1.20	59	Pg	Pn	19 58 12.5	+0.2
OUR	Ouranopolis	1.39	117	ePb	Pb	19 58 15.6	-0.1
PAIG	Paliouri	1.46	136	ePb	Pb	19 58 16.0	-0.7
VTS	Vitosha	1.73	21	Pg	Pn	19 58 21.0	+1.1
NEO	Neokhori	1.80	158	eP	Pn	19 58 19.7	-1.1
AGG	Agios Georgios	1.96	181	ePn	Pn	19 58 23.1	0.0
AGG	Agios Georgios	1.96	181	ePn	Pn	19 58 23.0	-0.1
PGB	Panagyurishte	2.07	40	eP	Pn	19 58 30.0	+5.2

*LDG **09** 20:17:17.5±0.6, 42.73N×10.94E, h10km, Ml2.5/8, Error ellipse: s-maj=12.0km s-min=8.3km az=145.0*
*ROM **09** 20:17:18.0±0.5, 42.98N×10.87E, h6km±1km, MD2.5/3, ML2.0/5, Error ellipse: s-maj=2.7km s-min=2.5km az=90.0*
*NEIC **09** 20:17:18.1, 42.98N×10.87E, h6km, ML2.5(LDG), ML2.5(ROM), After ROM.*

ISC 09 20:17:17.2±0.6, 42.97N±0.03×10.75E±0.04, h8km±4km, n33, σ0°84/55, 6D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRFL	Gerfalco	0.24	43	⇓iPG	Pg	20 17 22.4	+0.2
GRFL				SG	Sg	20 17 25.3	-0.3
	580nm,0.2s						
GRFL	Gerfalco	0.24	43	⇓iPg	Pg	20 17 22.4	+0.2
GRFL				eSg	Sg	20 17 25.3	-0.3
MAON	Monte Argentar	0.61	152	ePG	Pg	20 17 29.2	-0.2
MAON	Monte Argentar	0.61	152	ePg	Pg	20 17 29.2	-0.2
CSNT	Castellina Chi	0.64	38	⇓iPG	Pg	20 17 29.9	-0.1
CSNT				SG	Sg	20 17 37.7	-0.9
CSNT	Castellina Chi	0.64	38	⇓iPg	Pg	20 17 29.9	-0.1
CSNT				eSg	Sg	20 17 37.7	-0.9
PII	Pisa	0.77	348	⇓iPG	Pg	20 17 34.0	+1.4
PII				SG	Sg	20 17 46.4	+3.5
	53nm,0.3s						
PII	Pisa	0.77	348	⇓iPg	Pg	20 17 34.0	+1.4
PII				eSg	Sg	20 17 46.4	+3.5
VMG	Vicchio	1.15	30	ePN	Pn	20 17 40.5	+1.0
VMG				SN	Sn	20 17 54.8	-0.6
	38nm,0.2s						
VMG	Vicchio	1.15	30	ePg	Pg	20 17 40.5	+0.4
VMG				eSg	Sg	20 17 54.8	-0.7
PGD	Poggio Sodo	1.15	38	ePN	Pn	20 17 39.8	+0.3
PGD				SN	Sn	20 17 55.7	+0.2
PGD	Poggio Sodo	1.15	38	ePg	Pg	20 17 39.8	-0.4
PGD				eSg	Sg	20 17 55.6	+0.2
SEI	Scarperia	1.17	22	ePN	Pn	20 17 40.8	+1.0
SEI				SN	Sn	20 17 55.8	-0.2
	37nm,0.3s						
SEI	Scarperia	1.17	22	ePg	Pg	20 17 40.8	+0.2
SEI				eSg	Sg	20 17 55.8	-0.5
SFI	Santa Sofia	1.23	40	ePN	Pn	20 17 41.2	+0.6
SFI				SN	Sn	20 17 57.5	0.0
	8.0nm,0.2s						
SFI	Santa Sofia	1.23	40	ePg	Pg	20 17 41.2	-0.5
SFI				eSg	Sg	20 17 57.5	-0.7
PGF	Pioggiola	1.36	253	ePn	Pn	20 17 43.6	+1.2
PGF				eSn	Sn	20 18 00.4	-0.3
	14nm,0.2s						
MNS	Montasola	1.54	112	ePN	Pn	20 17 45.4	+0.3
	12nm,0.4s						
FSSB	Fossombrone	1.65	63	ePN	Pn	20 17 46.9	+0.3
	15nm,0.3s						
SBF	Sospel	2.58	291	ePn	Pn	20 17 59.8	-0.1
SBF				eSn	Sn	20 18 31.6	-0.1
	8.8nm,0.3s						
FRF	La Foret Royal	3.06	283	ePn	Pn	20 18 06.4	-0.3
FRF				eSn	Sn	20 18 42.0	-1.9
	4.2nm,0.3s						
LMR	La Mourre	3.12	278	ePn	Pn	20 18 07.2	-0.5
LMR				eSn	Sn	20 18 42.9	-2.7
	3.4nm,0.2s						
MBDF	Montbardon	3.37	303	ePn	Pn	20 18 11.5	+0.3
MBDF				eSn	Sn	20 18 52.4	+0.5
	1.1nm,0.2s						
LPG	La Plagne	3.83	313	ePn	Pn	20 18 19.0	+1.3
LPG				eSn	Sn	20 19 04.1	+0.7
	0.3nm,0.3s						
LPL	La Plagne	3.85	313	ePn	Pn	20 18 20.2	+2.2
LPL				eSn	Sn	20 19 04.4	+0.4
	0.8nm,0.3s						
ORIF	Oris-en-Rattie	4.02	301	eP	Pn	20 18 23.8	+3.4
ORIF				eSn	Sn	20 19 08.4	+0.1
	1.4nm,0.2s						
VIVF	Saint-Julien-l	4.78	295	ePn	Pn	20 18 30.7	-0.5
CABF	La Chapelle	4.93	319	ePn	Pn	20 18 33.2	-0.1
LASF	Ste Croix	5.13	285	ePn	Pn	20 18 35.2	-1.0
HAU	Haudompre	5.91	330	ePn	Pn	20 18 46.5	-0.7
CDF	Champ du Feu	5.96	337	ePn	Pn	20 18 46.7	-1.2
SMF	Signal de Mont	6.14	309	ePn	Pn	20 18 50.4	0.0
CAF	Calviac	6.57	290	ePn	Pn	20 18 55.7	-0.7

*NEIC **09** 20:20:19.1, 34.97S×70.62W, h2km, ML2.8(GUC), After GUC.*

GUC 09 20:20:19.1±1.0, 34.97S×70.62W, h2km±5km, MD3.5, ML2.8, 8C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	San Fernando	0.48	317	⇑iP	Pg	20 20 28.8	0.0
SFDO				i S	Sg	20 20 36.7	+1.5
NICH	Los Niches	0.51	266	⇓iP	Pg	20 20 29.0	-0.2
NICH				i S	Sg	20 20 37.0	+1.1
CICH	Cipreses	0.67	14	⇑iP	Pg	20 20 31.2	-1.2
CICH				i S	Sg	20 20 41.0	-0.3
CACH	El Canelo	0.85	1	⇑iP	Pg	20 20 34.6	-1.5
CACH				i S	Sg	20 20 48.0	+0.5
CHCH	Chadas Angostu	1.03	358	eP	Pb	20 20 38.3	-1.1
LMEL	Las Melosas	1.17	17	⇑iP	Pb	20 20 40.0	-1.6
LMEL				i S	Sb	20 20 56.5	-0.6
LMEL				AMP		20 21 02.0	
	comp=N,220nm,0.2s						
LNV	Longovilo	1.21	327	⇓iP	Pb	20 20 41.1	-1.2
LNV				i S	Sb	20 20 58.3	+0.2
TACH	Talagante	1.34	348	⇑iP	Pb	20 20 43.4	-1.2
TACH				i S	Sb	20 21 02.0	-0.1
PCH	Pirque	1.35	4	eP	Pb	20 20 43.6	-1.1
PCH				i S	Sb	20 21 02.7	+0.4
ANTU	Antumapu	1.40	359	i S	Sb	20 21 03.7	0.0
ANTU				AMP		20 21 05.6	
	comp=E,255nm,0.2s						
RCDM	Rinconada Maip	1.49	354	⇑iP	Pn	20 20 46.1	-0.8
RCDM				i S	Sb	20 21 06.3	0.0
RCDM				AMP		20 21 08.5	
	comp=E,380nm,0.2s						
CLCH	Cerro Calan	1.57	2	⇓iP	Pn	20 20 47.7	-0.4
CLCH				i S	Sb	20 21 09.6	+0.8
CLCH				AMP		20 21 13.3	
	comp=E,218nm,0.3s						
FCH	Farellones	1.66	9	⇑iP	Pn	20 20 49.4	0.0
FCH				i S	Sb	20 21 12.1	+0.8
FCH				AMP		20 21 13.1	
	comp=E,188nm,0.2s						
LCCH	Las Cruces	1.69	332	⇓iP	Pn	20 20 49.5	-0.3
LCCH				i S	Sb	20 21 12.7	+0.5
ROCH	El Roble	2.02	351	⇑iP	Pn	20 20 55.0	+0.5
JACH	Jahuel	2.28	0	i P	Pn	20 20 59.5	+1.3
JACH				i S	Sn	20 21 31.0	+3.7

*IDC **09** 20:22:07.4±9.2, 18.08S×178.72W, h540km±83km, mb3.3/7, mb1 3.4/8, mb1mx3.1/20, mbtmp4.3/8, Error ellipse: s-maj=73.5km s-min=42.3km az=103.0*
*NEIC **09** 20:22:13.1±2.4, 17.33S×179.45W, h580km, mb4.3/4, Error ellipse: s-maj=81.8km s-min=23.2km az=131.0*

ISC 09 20:22:12.5±6.5, 18.0S±0.4×179.0W±0.6, h622km±55km, n16, σ1°16/13, mb4.0/11, Fiji Islands region

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

comp=Z,131nm,18.0s,baz=234,slow=43
ULN Ulaanbaatar 3.98 29 *e*P Pn **20 49 29.4 +1.0**
BTO Baotou 5.78 129 *e*P Pn **20 49 58.3 +4.4**
BTO SG Sg **20 51 27.0 -11**
BTO Smax
comp=N,104nm,0.9s
BTO Smax
comp=E,96nm,0.7s
GTA Gaotai 5.97 214 P Pn **20 49 57.3 +0.7**
GTA PG Pg **20 50 18.2 -7.0**
GTA S Sn **20 51 13.7 +7.8**
GTA Smax
comp=N,136nm,0.6s
GTA Smax
comp=E,187nm,0.9s
GTA LR LR
comp=N,253nm,8.4s
GTA LR LR
comp=E,281nm,9.5s
GTA LR LR
comp=Z,118nm,4.0s
ZAK Zakamensk 5.98 355 *e*P Pn **20 49 56.8 +0.1**
ZAK pmax pmax
comp=Z,21nm,0.5s
LZH Lanzhou 8.34 182 Pn P **20 50 43.9 +14**
LZH Pg P 20 51 17.2 +47
LZH Sn Sn **20 52 24.6 +20**
LZH Sg Sg **20 52 52.3 -11**
XAN Xi'an 11.01 159 P P **20 51 15.0 +8.4**
HIA Hailar 11.71 60 *e*P P **20 51 14.2 -1.8**
MKAR Makanchi Array 15.48 286 Pn P **20 52 04.9 -0.9**
comp=Z,0.1nm,0.3s,baz=94,slow=12,SNR=6.7
MKAR Lg 20 56 38.8
comp=Z,0.1nm,0.3s,baz=79,slow=29,SNR=3.4
ZAL Zalesovo 15.79 314 Pn P **20 52 10.5 +0.8**
comp=Z,0.2nm,0.3s,baz=317,slow=18,SNR=3.9
ZAL Lg 20 56 43.1
comp=Z,0.1nm,0.3s,baz=299,slow=22,SNR=3.4
ZAL Zalesovo 15.79 314 Pn P **20 52 10.5 +0.8**
ZAL Lg 20 56 43.1
KURK Kurchatov 18.29 299 *e*P P **20 52 41.4 +0.1**
KURK pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 18.29 299 *e*P P **20 52 41.4 0.0**
comp=Z,4.0nm,0.7s
CHKZ Chkalovo 23.65 305 *e*P P **20 53 37.8 -0.1**
CHKZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
CHKZ Chkalovo 23.65 305 *e*P P **20 53 37.8 -0.1**
comp=Z,5.0nm,0.8s,mb4.0
BVAR Borovoye Array 23.69 303 P P **20 53 39.5 +1.2**
comp=Z,1.3nm,0.8s,mb3.4,baz=187,slow=25,SNR=4.6
CM31 Chiang Mai Arr 26.27 191 *e*P P **20 54 02.3 -0.9**
comp=Z,4.6nm,0.9s,mb4.0
CMAR Chiang Mai Arr 26.27 191 P P **20 54 03.0 -0.2**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 26.27 191 P P **20 54 03.0 -0.2**
comp=Z,0.8nm,0.7s,mb3.3,baz=6.6,slow=9.3,SNR=6.7
MJAR Matsushiro Arr 26.92 95 LR LR 21 05 12.1
comp=Z,34nm,20.4s,MS2.9,baz=150,slow=37
ARU Arti 30.84 309 *e*P P **20 54 43.6 -0.4**
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
ARU Arti 30.84 309 *e*P P **20 54 43.6 -0.4**
comp=Z,4.0nm,0.7s,mb4.4
FINES FINESS Array B 46.93 320 P P **20 56 57.9 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 46.93 320 P P **20 56 57.9 -0.1**
comp=Z,0.6nm,0.5s,mb3.8,baz=75,slow=6.4,SNR=12
FINES FINESS Array B 46.93 320 P P **20 56 57.9 -0.1**
AKASG Malin Array Be 48.94 305 P P **20 57 12.4 -1.5**
comp=Z,0.2nm,0.3s,mb3.6,baz=48,slow=6.5,SNR=4.4
BRTR Keskin Array B 51.07 291 P P **20 57 29.9 -0.4**
comp=Z,0.2nm,0.5s,mb3.3,baz=90,slow=8.6,SNR=3.2
KWP Kalwaria 53.18 307 *e*P P **20 57 46.2 +0.1**
KWP pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KWP Kalwaria 53.18 307 *e*P P **20 57 46.2 +0.1**
comp=Z,10nm,1.0s,mb4.7
EIL Elat 55.60 280 P P **20 58 00.1 -4.0**
ILAR Eielson Array 57.95 29 P P **20 58 20.7 +0.4**
comp=Z,0.2nm,0.7s,mb3.3,baz=321,slow=5.8,SNR=3.1
GVD Gavdhos 60.11 291 *e*P P **20 58 31.6 -4.1**
comp=Z,13nm,1.0s,mb4.9
YKA Yellowknife Ar 68.99 18 P P **20 59 33.6 +0.7**
comp=Z,0.1nm,0.6s,mb2.9,baz=333,slow=5.3,SNR=4.4
WRA Warramunga Arr 69.75 150 P P **20 59 39.1 +0.8**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 69.75 150 P P **20 59 39.1 +0.8**
comp=Z,0.7nm,1.0s,mb3.5,baz=344,slow=7.1,SNR=3.1
ASAR Alice Springs 73.03 152 P P **20 59 58.0 +0.1**
comp=Z,0.3nm,0.7s,mb3.3,baz=338,slow=7.6,SNR=4.0

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*ROM **09** 20:59:04.7±0.2, 42.95N×10.94E, h8km±1km, MD2.9/20, ML2.4/17, Error ellipse: s-maj=1.6km s-min=1.0km az=90.0*
*NEIC **09** 20:59:04.8, 42.95N×10.94E, h8km, MD2.9(ROM), ML3.2(LDG), ML2.5(GEN), After ROM.*
*LDG **09** 20:59:05.3±0.4, 42.88N×10.96E, h10km, Ml3.2/18, Error ellipse: s-maj=7.9km s-min=5.3km az=122.0*
*CSEM **09** 20:59:05.1±0.1, 42.98N×10.99E, h10km, ML3.1/11, Error ellipse: s-maj=2.7km s-min=1.6km az=9.0*
*GEN **09** 20:59:08.6, 43.13N×10.56E, h7km, ML2.5*
ISC 09 20:59:03.9±0.4, 42.95N±0.02×10.79E±0.02, h14km±2km, n142, σ1°21/199, 6C-11D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRFL	**Gerfalco**	**0.24**	**35**	*i*PG	**Pg**	**20 59 09.5**	**+0.2**
GRFL				SG	**Sg**	**20 59 12.5**	**-0.4**
GRFL	**Gerfalco**	**0.24**	**35**	*i*Pg	**Pg**	**20 59 09.5**	**+0.2**
GRFL				*e*Sg	**Sg**	**20 59 12.5**	**-0.4**
MAON	**Monte Argentar**	**0.58**	**154**	*i*PG	**Pg**	**20 59 16.3**	**+0.5**
MAON				SG	**Sg**	**20 59 24.4**	**+0.7**
MAON	**Monte Argentar**	**0.58**	**154**	*i*Pg	**Pg**	**20 59 16.3**	**+0.5**
MAON				*e*Sg	**Sg**	**20 59 24.4**	**+0.7**
PII	**Pisa**	**0.79**	**346**	*i*PG	**Pg**	**20 59 21.0**	**+1.1**
PII				SG	**Sg**	**20 59 33.2**	**+2.6**
299nm,0.4s							
PII	**Pisa**	**0.79**	**346**	*i*Pg	**Pg**	**20 59 21.0**	**+1.0**
PII				*e*Sg	**Sg**	**20 59 33.2**	**+2.6**
PII	**Pisa**	**0.79**	**346**	*i*Pg	**Pg**	**20 59 21.0**	**+1.1**
299nm,0.4s							
SACS	**San Casciano d**	**0.83**	**97**	*e*Pg	**Pg**	**20 59 19.9**	**-0.8**
PGD	**Poggio Sodo**	**1.15**	**36**	*e*PN	**Pn**	**20 59 25.7**	**+0.1**
PGD				SN	**Sn**	**20 59 42.6**	**+1.5**
90nm,0.5s							
PGD	**Poggio Sodo**	**1.15**	**36**	*e*Pg	**Pg**	**20 59 25.7**	**-1.3**
PGD				*e*Sg	**Sg**	**20 59 42.6**	**+0.3**
PGD	**Poggio Sodo**	**1.15**	**36**	*e*Pn	**Pn**	**20 59 25.7**	**+0.1**
90nm,0.5s							
PGD				Sn	**Sn**	**20 59 42.6**	**+1.5**
VMG	**Vicchio**	**1.15**	**28**	⇑*i*PN	**Pn**	**20 59 26.1**	**+0.5**
VMG				SN	**Sn**	**20 59 42.5**	**+1.3**
129nm,0.2s							
VMG	**Vicchio**	**1.15**	**28**	⇑*i*Pg	**Pg**	**20 59 26.1**	**-0.9**
VMG				*e*Sg	**Sg**	**20 59 42.5**	**+0.1**
VMG	**Vicchio**	**1.15**	**28**	⇑*i*Pn	**Pn**	**20 59 26.1**	**+0.5**
129nm,0.2s							
VMG				Sn	**Sn**	**20 59 42.5**	**+1.3**
SEI	**Scarperia**	**1.18**	**20**	*e*PN	**Pn**	**20 59 26.6**	**+0.6**
SEI				SN	**Sn**	**20 59 42.8**	**+0.9**
164nm,0.3s							
SEI	**Scarperia**	**1.18**	**20**	*e*Pg	**Pn**	**20 59 26.6**	**+0.6**
SEI				*e*Sg	**Sg**	**20 59 42.8**	**-0.5**
SEI	**Scarperia**	**1.18**	**20**	*e*Pn	**Pn**	**20 59 26.6**	**+0.6**
164nm,0.3s							
SEI				Sn	**Sn**	**20 59 42.8**	**+0.9**
SFI	**Santa Sofia**	**1.23**	**39**	*e*PN	**Pn**	**20 59 26.5**	**-0.2**
SFI				SN	**Sn**	**20 59 42.9**	**-0.2**
SFI	**Santa Sofia**	**1.23**	**39**	*e*Pg	**Pn**	**20 59 26.5**	**-0.2**
SFI				*e*Sg	**Sg**	**20 59 42.9**	**-2.0**
FNVD	**Fontana Vidola**	**1.24**	**11**	*e*PN	**Pn**	**20 59 27.4**	**+0.5**
FNVD	**Fontana Vidola**	**1.24**	**11**	*e*Pg	**Pg**	**20 59 27.4**	**-1.4**
VLC	**Villacollemand**	**1.24**	**347**	*e*Pg	**Pg**	**20 59 28.0**	**-0.8**
TOLF	**Tolfa**	**1.26**	**134**	*e*PN	**Pn**	**20 59 26.4**	**-0.8**
TOLF	**Tolfa**	**1.26**	**134**	*e*Pg	**Pg**	**20 59 26.4**	**-2.9**
SARO	**Sassorosso**	**1.26**	**347**	P	**Pb**	**20 59 28.4**	**+1.3**
SARO				S	**Sb**	**20 59 41.6**	**-1.4**
SARO	**Sassorosso**	**1.26**	**347**	P	**Pb**	**20 59 28.4**	**+1.3**
SARO				S	**Sb**	**20 59 41.6**	**-1.4**
VINC	**Vinca**	**1.27**	**339**	P	**Pb**	**20 59 27.9**	**+0.6**
VINC				S	**Sb**	**20 59 41.8**	**-1.6**
VINC	**Vinca**	**1.27**	**339**	P	**Pb**	**20 59 27.9**	**+0.6**
VINC				S	**Sb**	**20 59 41.8**	**-1.6**
ASS	**Assisi**	**1.37**	**85**	*e*PN	**Pn**	**20 59 27.9**	**-0.9**
ASS				SN	**Sn**	**20 59 44.5**	**-2.3**
30nm,0.4s							
ASS	**Assisi**	**1.37**	**85**	*e*Pg	**Pg**	**20 59 27.9**	**-3.5**
ASS				*e*Sg	**Sg**	**20 59 44.5**	**-5.3**
ASS	**Assisi**	**1.37**	**85**	*e*Pn	**Pn**	**20 59 27.9**	**-0.9**
30nm,0.4s							
ASS				Sn	**Sn**	**20 59 44.5**	**-2.3**
PGF	**Pioggiola**	**1.38**	**254**	*e*Pn	**Pn**	**20 59 30.4**	**+1.5**
PGF				*e*Sn	**Sn**	**20 59 49.1**	**+2.1**
94nm,0.3s							
GSCL	**Gusciola**	**1.41**	**354**	*e*PN	**Pn**	**20 59 30.8**	**+1.5**
GSCL	**Gusciola**	**1.41**	**354**	*e*Pg	**Pg**	**20 59 30.8**	**-1.2**
ZCCA	**Zocca**	**1.41**	**6**	*e*PN	**Pn**	**20 59 31.3**	**+2.0**
53nm,0.4s							
ZCCA	**Zocca**	**1.41**	**6**	*e*Pg	**Pg**	**20 59 31.3**	**-0.8**
ZCCA	**Zocca**	**1.41**	**6**	*e*Pn	**Pn**	**20 59 31.3**	**+2.0**
53nm,0.4s							
BACM		**1.42**	**339**	P	**Pn**	**20 59 31.0**	**+1.4**
BACM				S	**Sb**	**20 59 46.0**	**-1.7**
BACM		**1.42**	**339**	P	**Pn**	**20 59 31.0**	**+1.4**
BACM				S	**Sb**	**20 59 46.0**	**-1.7**
VALM		**1.45**	**344**	P	**Pn**	**20 59 31.3**	**+1.4**
VALM		**1.45**	**344**	P	**Pn**	**20 59 31.3**	**+1.4**
ERBM	**Eremo**	**1.49**	**350**	*e*PN	**Pn**	**20 59 32.2**	**+1.7**
37nm,0.3s							
ERBM	**Eremo**	**1.49**	**350**	*e*Pg	**Pg**	**20 59 32.2**	**-1.6**
ERBM	**Eremo**	**1.49**	**350**	*e*Pn	**Pn**	**20 59 32.2**	**+1.7**
37nm,0.3s							
MNS	**Montasola**	**1.51**	**111**	*e*PN	**Pn**	**20 59 29.9**	**-0.8**
58nm,0.4s							
MNS	**Montasola**	**1.51**	**111**	*e*Pg	**Pn**	**20 59 29.9**	**-0.8**
MNS	**Montasola**	**1.51**	**111**	*e*Pn	**Pn**	**20 59 29.9**	**-0.8**
58nm,0.4s							
CODM		**1.59**	**335**	P	**Pn**	**20 59 32.9**	**+1.0**
CODM				S	**Sn**	**20 59 49.8**	**-2.6**
CODM		**1.59**	**335**	P	**Pn**	**20 59 32.9**	**+0.9**
CODM				S	**Sn**	**20 59 49.8**	**-2.6**
SNTG	**Esanatoglia**	**1.60**	**78**	*e*PN	**Pn**	**20 59 31.5**	**-0.6**
16nm,0.4s							
SNTG	**Esanatoglia**	**1.60**	**78**	*e*Pg	**Pn**	**20 59 31.5**	**-0.7**
SNTG	**Esanatoglia**	**1.60**	**78**	*e*Pn	**Pn**	**20 59 31.5**	**-0.6**
16nm,0.4s							
GRAM		**1.62**	**341**	P	**Pn**	**20 59 33.6**	**+1.2**
GRAM				S	**Sn**	**20 59 50.7**	**-2.6**
GRAM		**1.62**	**341**	P	**Pn**	**20 59 33.6**	**+1.2**
GRAM				S	**Sn**	**20 59 50.7**	**-2.6**
FSSB	**Fossombrone**	**1.63**	**62**	*e*PN	**Pn**	**20 59 32.2**	**-0.3**
44nm,0.4s							
FSSB	**Fossombrone**	**1.63**	**62**	*e*Pg	**Pn**	**20 59 32.2**	**-0.3**
FSSB	**Fossombrone**	**1.63**	**62**	*e*Pn	**Pn**	**20 59 32.2**	**-0.3**
44nm,0.4s							
ARV	**Arcevia**	**1.67**	**70**	*e*PN	**Pn**	**20 59 32.7**	**-0.3**
14nm,0.3s							
ARV	**Arcevia**	**1.67**	**70**	*e*Pg	**Pn**	**20 59 32.7**	**-0.3**
ARV	**Arcevia**	**1.67**	**70**	*e*Pn	**Pn**	**20 59 32.7**	**-0.3**
14nm,0.3s							
NRCA	**Norcia**	**1.71**	**93**	*e*PN	**Pn**	**20 59 33.3**	**-0.4**
11nm,0.5s							
NRCA	**Norcia**	**1.71**	**93**	*e*Pg	**Pn**	**20 59 33.3**	**-0.4**
NRCA	**Norcia**	**1.71**	**93**	*e*Pn	**Pn**	**20 59 33.3**	**-0.4**
11nm,0.5s							
BOB	**Bobbio (Coli)**	**2.06**	**332**	*e*PN	**Pn**	**20 59 40.8**	**+2.2**
BOB	**Bobbio (Coli)**	**2.06**	**332**	*e*Pg	**Pn**	**20 59 40.8**	**+2.2**
FIN	**Finale Ligure**	**2.26**	**305**	*e*PN	**Pn**	**20 59 44.1**	**+2.6**
25nm,0.4s							
FIN	**Finale Ligure**	**2.26**	**305**	P	**Pn**	**20 59 41.8**	**+0.3**
FIN				S	**Sn**	**21 00 02.3**	**-7.1**
FIN	**Finale Ligure**	**2.26**	**305**	P	**Pn**	**20 59 41.8**	**+0.3**
FIN	**Finale Ligure**	**2.26**	**305**	*e*Pn	**Pn**	**20 59 44.1**	**+2.6**
25nm,0.4s							
PCP	**Pian Castagno**	**2.27**	**315**	P	**Pn**	**20 59 41.8**	**0.0**
PCP	**Pian Castagno**	**2.27**	**315**	P	**Pn**	**20 59 41.8**	**+0.1**
IMI	**Imperia**	**2.32**	**295**	*e*PN	**Pn**	**20 59 42.8**	**+0.4**
11nm,0.3s							
IMI	**Imperia**	**2.32**	**295**	P	**Pn**	**20 59 42.7**	**+0.3**
IMI				S	**Sn**	**21 00 04.3**	**-6.6**
IMI	**Imperia**	**2.32**	**295**	*e*Pn	**Pn**	**20 59 42.8**	**+0.4**
11nm,0.3s							
NEGI	**Negi**	**2.42**	**293**	P	**Pn**	**20 59 43.9**	**+0.1**
NEGI	**Negi**	**2.42**	**293**	P	**Pn**	**20 59 43.9**	**+0.1**
MONE	**Monesi**	**2.48**	**298**	P	**Pn**	**20 59 45.0**	**+0.3**
MONE	**Monesi**	**2.48**	**298**	P	**Pn**	**20 59 45.0**	**+0.4**
ROB	**Roburent**	**2.51**	**303**	P	**Pn**	**20 59 45.5**	**+0.5**
ROB	**Roburent**	**2.51**	**303**	P	**Pn**	**20 59 45.5**	**+0.4**
SDI	**San Donato**	**2.56**	**118**	*e*PN	**Pn**	**20 59 46.0**	**+0.2**
17nm,0.5s							
SDI	**San Donato**	**2.56**	**118**	*e*Pg	**Pn**	**20 59 46.0**	**+0.2**
SDI	**San Donato**	**2.56**	**118**	*e*Pn	**Pn**	**20 59 46.0**	**+0.2**
17nm,0.5s							
SBF	**Sospel**	**2.61**	**292**	*e*Pn	**Pn**	**20 59 46.7**	**+0.2**
SBF				*e*Sn	**Sn**	**21 00 17.6**	**-0.6**
71nm,0.3s							
ENR	**Entracque**	**2.76**	**299**	P	**Pn**	**20 59 48.9**	**+0.2**
ENR	**Entracque**	**2.76**	**299**	P	**Pn**	**20 59 48.9**	**+0.2**
STV2	**Anna di Valdie**	**2.83**	**298**	P	**Pn**	**20 59 50.1**	**+0.5**
STV2	**Anna di Valdie**	**2.83**	**298**	P	**Pn**	**20 59 50.1**	**+0.5**
STV	**Sta Anna Valdi**	**2.83**	**298**	P	**Pn**	**20 59 49.9**	**+0.2**
STV	**Sta Anna Valdi**	**2.83**	**298**	P	**Pn**	**20 59 49.9**	**+0.2**
DOI	**San Damiano**	**3.00**	**302**	*e*PN	**Pn**	**20 59 52.8**	**+0.7**
22nm,0.3s							
DOI	**San Damiano**	**3.00**	**302**	*e*Pg	**Pn**	**20 59 52.8**	**+0.7**
DOI	**San Damiano**	**3.00**	**302**	*e*Pn	**Pn**	**20 59 52.8**	**+0.7**
22nm,0.3s							
FRF	**La Foret Royal**	**3.09**	**283**	*e*Pn	**Pn**	**20 59 53.3**	**0.0**
FRF				*e*Sn	**Sn**	**21 00 27.9**	**-2.5**
22nm,0.2s							
PZZ	**Prazzo**	**3.09**	**301**	P	**Pn**	**20 59 53.1**	**-0.3**
LMR	**La Mourre**	**3.15**	**278**	*e*Pn	**Pn**	**20 59 54.2**	**-0.1**
LMR				*e*Sn	**Sn**	**21 00 29.9**	**-2.2**
24nm,0.3s							
CTI	**Castel Tesino**	**3.16**	**11**	*e*PN	**Pn**	**20 59 54.4**	**+0.1**
6.0nm,0.2s							
CTI	**Castel Tesino**	**3.16**	**11**	*e*Pn	**Pn**	**20 59 54.4**	**+0.1**
6.0nm,0.2s							
BHB	**Bricherasio**	**3.17**	**308**	P	**Pn**	**20 59 54.5**	**-0.1**
BHB	**Bricherasio**	**3.17**	**308**	P	**Pn**	**20 59 54.5**	**0.0**
VAI	**Varese**	**3.25**	**334**	*e*PN	**Pn**	**20 59 57.2**	**+1.5**
9.0nm,0.2s							
VAI	**Varese**	**3.25**	**334**	*e*Pg	**Pn**	**20 59 57.2**	**+1.5**
VAI	**Varese**	**3.25**	**334**	*e*Pn	**Pn**	**20 59 57.2**	**+1.5**
9.0nm,0.2s							
ORO	**Oropa**	**3.35**	**324**	*e*PN	**Pn**	**20 59 59.0**	**+2.0**
11nm,0.3s							
ORO	**Oropa**	**3.35**	**324**	*e*Pg	**Pn**	**20 59 59.0**	**+1.9**
ORO	**Oropa**	**3.35**	**324**	*e*Pn	**Pn**	**20 59 59.0**	**+2.0**
11nm,0.3s							
ORX	**Oropa**	**3.35**	**324**	P	**Pn**	**20 59 56.2**	**-0.9**
ORX	**Oropa**	**3.35**	**324**	P	**Pn**	**20 59 56.2**	**-0.9**
RSP	**Reno Superiore**	**3.36**	**312**	P	**Pn**	**20 59 56.5**	**-0.7**
RSP	**Reno Superiore**	**3.36**	**312**	P	**Pn**	**20 59 56.5**	**-0.8**
FENE	**Fenestrelle**	**3.40**	**309**	P	**Pn**	**20 59 58.1**	**+0.4**
FENE	**Fenestrelle**	**3.40**	**309**	P	**Pn**	**20 59 58.1**	**+0.4**
MBDF	**Montbardon**	**3.41**	**303**	*e*Pn	**Pn**	**20 59 58.5**	**+0.7**
MBDF				*e*Sn	**Sn**	**21 00 38.2**	**-0.2**
23nm,0.6s							
LSD	**Ceresole Reale**	**3.62**	**315**	P	**Pn**	**21 00 01.7**	**+0.8**
LSD	**Ceresole Reale**	**3.62**	**315**	P	**Pn**	**21 00 01.7**	**+0.8**
LPG	**La Plagne**	**3.86**	**313**	*e*Pn	**Pn**	**21 00 05.6**	**+1.3**
LPG				*e*Sn	**Sn**	**21 00 49.5**	**-0.4**
7.3nm,0.4s							
LPL	**La Plagne**	**3.88**	**313**	*e*Pn	**Pn**	**21 00 06.1**	**+1.5**
SMRF	**Simiane la Rot**	**3.93**	**287**	*e*Pn	**Pn**	**21 00 06.2**	**+0.9**
SMRF				*e*Sn	**Sn**	**21 00 50.9**	**-0.8**
6.3nm,0.3s							
ORIF	**Oris-en-Rattie**	**4.05**	**301**	*e*Pn	**Pn**	**21 00 09.4**	**+2.3**
ORIF				*e*Sn	**Sn**	**21 00 54.1**	**-0.8**
20nm,0.5s							
SQTA	**Sankt Quirin**	**4.28**	**4**	⇓*i*PN	**Pn**	**21 00 11.5**	**+1.2**
SQTA				*i* SN	**Sn**	**21 01 02.5**	**+1.9**
WTTA	**Wattenberg**	**4.35**	**8**	⇓*i*PN	**Pn**	**21 00 12.5**	**+1.2**
WTTA				*i* SN	**Sn**	**21 01 03.4**	**+1.0**
DAVA	**Damuels**	**4.38**	**352**	⇓*i*PN	**Pn**	**21 00 13.6**	**+1.9**
DAVA				*i* SN	**Sn**	**21 01 07.1**	**+3.9**
MOTA	**Moosalm**	**4.40**	**3**	⇑*i*PN	**Pn**	**21 00 13.6**	**+1.6**
MOTA				*i* SN	**Sn**	**21 01 05.9**	**+2.3**
WATA	**Walderalm**	**4.42**	**7**	⇑*i*PN	**Pn**	**21 00 13.4**	**+1.2**
WATA				*i* SN	**Sn**	**21 01 05.5**	**+1.4**
KBA	**Koelnbreinsper**	**4.51**	**23**	⇓*i*PN	**Pn**	**21 00 13.1**	**-0.4**
KBA				*i* SN	**Sn**	**21 01 05.1**	**-1.2**
VIVF	**Saint-Julien-l**	**4.81**	**295**	*e*Pn	**Pn**	**21 00 17.8**	**0.0**
VIVF				*e*Sn	**Sn**	**21 01 12.1**	**-1.9**
8.0nm,0.3s							
CABF	**La Chapelle**	**4.96**	**319**	*e*Pn	**Pn**	**21 00 20.6**	**+0.7**
CABF				*e*Sn	**Sn**	**21 01 15.4**	**-2.3**
8.2nm,0.7s							
LASF	**Ste Croix**	**5.17**	**285**	*e*Pn	**Pn**	**21 00 22.0**	**-0.8**
LASF				*e*Sn	**Sn**	**21 01 20.2**	**-2.7**
3.8nm,0.3s							
MOA	**Molln**	**5.47**	**25**	⇑*i*PN	**Pn**	**21 00 26.3**	**-0.9**
MOA				*i* SN	**Sn**	**21 01 28.5**	**-2.2**
HINF	**Hinteralfeld**	**5.60**	**332**	*e*Pn	**Pn**	**21 00 29.1**	**+0.2**
HINF				*e*Sn	**Sn**	**21 01 30.2**	**-3.6**
2.9nm,0.4s							
HAU	**Haudompre**	**5.94**	**330**	*e*Pn	**Pn**	**21 00 33.1**	**-0.6**
HAU				*e*Sn	**Sn**	**21 01 38.3**	**-4.0**
5.9nm,0.4s							
CDF	**Champ du Feu**	**5.99**	**337**	*e*Pn	**Pn**	**21 00 33.6**	**-0.8**
CDF				*e*Sn	**Sn**	**21 01 38.9**	**-4.7**
3.7nm,0.4s							
SMF	**Signal de Mont**	**6.17**	**309**	*e*Pn	**Pn**	**21 00 36.2**	**-0.8**
SMF				*e*Sn	**Sn**	**21 01 44.5**	**-3.6**
3.0nm,0.4s							
MTLF	**Montolieu**	**6.28**	**276**	*e*Pn	**Pn**	**21 00 37.7**	**-0.9**
MTLF				*e*Sn	**Sn**	**21 01 46.9**	**-4.0**
2.0nm,0.3s							
KHC	**Kasperske Hory**	**6.48**	**16**	*e*PN	**Pn**	**21 00 38.0**	**-3.3**
AVF	**Avril sur Loir**	**6.53**	**309**	*e*Pn	**Pn**	**21 00 41.7**	**-0.3**
SSF	**Saint Saulge**	**6.60**	**311**	*e*Pn	**Pn**	**21 00 43.3**	**+0.3**
SSF				*e*Sn	**Sn**	**21 01 54.6**	**-4.2**
2.0nm,0.4s							
CAF	**Calviac**	**6.60**	**290**	*e*Pn	**Pn**	**21 00 43.0**	**0.0**
BGF	**Bois d'Agland**	**6.71**	**305**	*e*Pn	**Pn**	**21 00 43.9**	**-0.6**
BGF				*e*Sn	**Sn**	**21 01 56.8**	**-4.7**
6.7nm,0.4s							
MEZF	**Maizieres J'vi**	**6.85**	**326**	*e*Pn	**Pn**	**21 00 45.2**	**-1.3**
RJF	**Les Rejaudoux**	**7.07**	**293**	*e*Pn	**Pn**	**21 00 49.2**	**-0.5**

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*IDC **09** 21:21:20.8±0.9, 34.14N×141.66E, mb3.8/10, mb1 3.9/13, mb1mx3.8/26, mbtmp3.8/13, ML3.5/3, Error ellipse: s-maj=23.9km s-min=14.9km az=87.0*
*MOS **09** 21:21:22.0±1.1, 34.21N×141.75E, h23km, mb4.2/14, Error ellipse: s-maj=22.3km s-min=9.3km az=123.4*
*JMA **09** 21:21:23.8±0.4, 34.12N×141.66E, h45km±3km, M3.3*
*BJI **09** 21:21:28.1, 34.20N×141.40E, h50km, mB4.8, mb4.2, Ms3.9, Msz3.8*
*NEIC **09** 21:21:28.2±1.6, 34.18N×141.42E, h50km±12km, mb4.2/7, Error ellipse: s-maj=19.6km s-min=10.3km az=77.0*
ISC 09 21:21:21.9±1.1, 34.15N±0.04×141.79E±0.06, h25km±8km, n58, σ0°89/69, mb3.9/20, MS3.7/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.84**	**307**	P	**Pb**	**21 21 38.4**	**+0.6**
BSO3	**Boso 3**	**1.25**	**302**	P	**Pn**	**21 21 44.3**	**+0.4**
BSO4	**Boso 4**	**1.47**	**305**	P	**Pn**	**21 21 47.7**	**+0.6**
KTR	**Katsuura**	**1.58**	**310**	*e*S	**Sn**	**21 22 08.8**	**+0.4**
CHOJ	**Chosi**	**1.73**	**334**	P	**Pn**	**21 21 52.0**	**+1.1**
JHJ2	**Mitsune**	**1.95**	**239**	P	**Pn**	**21 21 54.7**	**+0.8**
JHJ	**Hachijo jima 2**	**1.97**	**239**	Pn	**Pn**	**21 21 54.0**	**-0.3**
102nm,0.3s,baz=138,slow=5.0,SNR=45							
JHJ				Sn	**Sn**	**21 22 17.8**	**-0.5**
58nm,0.3s,baz=56,slow=22,SNR=6.7							
JIM2	**Oshima 3**	**2.04**	**287**	P	**Pn**	**21 21 54.6**	**-0.6**
JIZS	**Izushimoda**	**2.48**	**284**	P	**Pn**	**21 22 00.9**	**-0.7**
JOD2	**Odawara 2**	**2.49**	**297**	P	**Pn**	**21 22 01.1**	**-0.7**
JAG	**Ashikaga**	**2.97**	**321**	P	**Pn**	**21 22 08.6**	**0.0**
JYN	**Shimob**	**3.00**	**298**	P	**Pn**	**21 22 08.1**	**-0.8**
JYN				*e*S	**Sn**	**21 22 45.0**	**+0.6**
JRY	**Ryogami san**	**3.02**	**309**	P	**Pn**	**21 22 09.3**	**+0.1**
JRY				S	**Sn**	**21 22 45.1**	**+0.1**
SHZ3	**Shizuoka 3**	**3.10**	**288**	P	**Pn**	**21 22 11.1**	**+0.8**
MJAR	**Matsushiro Arr**	**3.78**	**310**	P	**Pn**	**21 22 20.0**	**-0.1**
MJAR						21 23 05.9	
MJAR				pmax	pmax		
comp=Z,7.0nm,0.3s							
MJAR	**Matsushiro Arr**	**3.78**	**310**	Pn	**Pn**	**21 22 20.0**	**-0.1**
comp=Z,3.4nm,0.3s,baz=120,slow=14,SNR=32							
MJAR				Sn	**Sn**	**21 23 05.9**	**+1.5**
comp=Z,2.5nm,0.3s,baz=78,slow=41,SNR=5.6							
MAJO	**Matsushiro**	**3.78**	**310**	*e*P	**Pn**	**21 22 20.6**	**+0.5**
MAT	**Matsushiro**	**3.78**	**310**	*e*P	**Pn**	**21 22 21.0**	**+0.9**
MAT				*e*S	**Sn**	**21 23 03.0**	**-1.4**
MAT	**Matsushiro**	**3.78**	**310**	P	**Pn**	**21 22 20.5**

LSA	Lhasa	42.86	279	P	P	21 29 19.6	-0.2
	comp=Z,3.0nm,1.1s,mb3.9						
ZAL	Zalesovo	44.14	315	P	P	21 29 30.7	+0.9
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	Zalesovo	44.14	315	P	P	21 29 30.7	+0.9
	comp=Z,0.6nm,0.5s,mb3.6,baz=14,slow=8.7,SNR=4.8						
MKAR	Makanchi Array	45.96	305	P	P	21 29 44.7	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	Makanchi Array	45.96	305	P	P	21 29 44.6	+0.2
	comp=Z,1.0nm,0.7s,mb3.9,baz=88,slow=9.4,SNR=9.2						
KURK	Kurchatov	47.99	310	eP	P	21 29 59.7	-0.8
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	Kurchatov	47.99	310	eP	P	21 29 59.7	-0.8
	comp=Z,3.9nm,0.8s,mb4.5						
ILAR	Eielson Array	51.78	31	P	P	21 30 31.4	+2.1
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	Eielson Array	51.78	31	P	P	21 30 31.4	+2.1
	comp=Z,0.6nm,1.0s,mb3.5,baz=275,slow=6.0,SNR=5.1						
CHKZ	Chkalovo	52.54	315	eP	P	21 30 34.1	-1.0
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
CHKZ	Chkalovo	52.54	315	eP	P	21 30 34.1	-1.0
	comp=Z,1.9nm,0.8s,mb4.1						
FITZ	Fitzroy Crossi	54.19	199	P	P	21 30 47.6	0.0
	comp=Z,1.7nm,0.7s,mb4.1,baz=358,slow=9.2,SNR=5.1						
WRAB	Tennant Creek	54.24	189	P	P	21 30 50.6	+2.5
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
WRAB	Tennant Creek	54.24	189	P	P	21 30 50.6	+2.5
	comp=Z,3.0nm,0.8s,mb4.3						
WRA	Warramunga Arr	54.25	189	P	P	21 30 48.4	+0.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	54.25	189	P	P	21 30 48.4	+0.2
	comp=Z,0.6nm,0.6s,mb3.7,baz=5.3,slow=7.5,SNR=14						
ASAR	Alice Springs	57.98	189	P	P	21 31 15.5	+0.6
	comp=Z,0.4nm,0.7s,mb3.5,baz=355,slow=6.4,SNR=3.3						
ARU	Arti	58.74	320	eP	P	21 31 19.0	-0.8
ARU				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ARU	Arti	58.74	320	eP	P	21 31 19.0	-0.8
	comp=Z,2.0nm,0.7s,mb4.3						
FINES	FINESS Array B	71.52	333	P	P	21 32 41.8	-0.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	FINESS Array B	71.52	333	P	P	21 32 41.8	-0.4
	comp=Z,1.2nm,0.8s,mb3.9,baz=27,slow=9.3,SNR=4.3						
AKASG	Malin Array Be	76.78	323	P	P	21 33 12.2	-0.4
	comp=Z,0.3nm,0.4s,mb3.5,baz=44,slow=6.5,SNR=4.2						
NOA	NORSAR Array B	76.97	338	P	P	21 33 14.2	+0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NOA	NORSAR Array B	76.97	338	P	P	21 33 14.2	+0.7
	comp=Z,0.7nm,1.0s,mb3.5,baz=24,slow=17,SNR=2.4						

WEL 09 21:27:20.1±0.4, 45.32S×166.69E, h12km, ML3.6/9, Error ellipse: s-maj=3.5km s-min=1.8km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	Mavora Lakes	1.04	92	P*	Pb	21 27 38.2	-1.4
MLZ				S*	Sb	21 27 51.4	-1.6
MLZ				S*	Sb	21 27 52.9	-0.1
WHZ	Wether Hill Ro	1.05	124	P*	Pb	21 27 39.3	-0.5
WHZ				S*	Sb	21 27 52.8	-0.5
WHZ				S*	Sb	21 27 53.3	0.0
MSZ	Milford Sound	1.09	54	P*	Pb	21 27 38.6	-1.7
MSZ				S*	Sb	21 27 53.9	-0.4
WKZ	Wanaka	1.72	74	PN	Pn	21 27 49.7	-0.4
WKZ				SN	Sn	21 28 12.8	+0.7
EAZ	Earnscleugh	1.85	88	PN	Pn	21 27 51.8	-0.2
EAZ				SN	Sn	21 28 17.3	+1.9
JCZ	Jackson Bay	1.93	51	PN	Pn	21 27 52.7	-0.4
TUZ	Tuapeka	2.16	108	ePN	Pn	21 27 55.6	-0.8
LBZ	Lake Benmore	2.65	71	ePN	Pn	21 28 01.7	-1.7
FOZ	Fox Glacier	2.77	52	ePN	Pn	21 28 03.0	-2.1
ODZ	Otahua Downs	2.81	86	PN	Pn	21 28 03.7	-1.9
RPZ	Rata Peaks	3.51	64	PN	Pn	21 28 13.7	-1.9
LTZ	Lake Taylor	4.75	60	ePN	Pn	21 28 33.2	-0.1
DSZ	Denniston Nort	5.15	48	ePN	Pn	21 28 36.0	-2.9

*NEIC **09** 21:28:06.4±0.5, 2.22N×127.73E, h30km, mb4.2/3, Error ellipse: s-maj=19.0km s-min=8.8km az=59.0*
*IDC **09** 21:28:27.5±2.9, 2.14N×128.14E, h241km±29km, mb3.4/7, mb1 3.5/7, mb1mx3.3/18, mbtmp4.0/7, Error ellipse: s-maj=33.1km s-min=12.9km az=67.0*

ISC 09 21:28:04.6±0.7, 2.3N±0.1×127.7E±0.1, h30km, n14, σ0§80/14, mb4.1/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	Kuching	17.43	268	P	P	21 32 06.9	-0.5
FITZ	Fitzroy Crossi	20.35	186	P	P	21 32 45.7	+4.1
	2.2nm,0.5s,baz=17,slow=7.1,SNR=4.7						
PMG	Port Moresby	22.57	121	P	P	21 33 03.5	-0.6
	14nm,0.9s,mb4.4,baz=312,slow=12,SNR=2.1						
WRAB	Tennant Creek	23.00	164	eP	P	21 33 09.2	+0.9
	6.6nm,0.9s,mb4.1						
WRA	Warramunga Arr	23.01	164	P	P	21 33 08.5	+0.1
	1.3nm,0.3s,mb3.8,baz=337,slow=11,SNR=52						
WB2	Warramunga Arr	23.01	164	eP	P	21 33 09.6	+1.2
ASAR	Alice Springs	26.47	167	P	P	21 33 41.0	-0.3
	0.8nm,0.5s,mb3.5,baz=352,slow=7.7,SNR=25						
ASAR				ScP		21 40 17.3	
	0.4nm,1.0s,baz=358,slow=2.5,SNR=4.3						
STKA	Stephens Creek	36.42	160	eP	P	21 35 07.0	-1.7
	1.4nm,0.3s,mb4.4						
STKA	Stephens Creek	36.42	160	P	P	21 35 07.4	-1.3
	1.9nm,0.3s,mb4.5,baz=348,slow=8.1,SNR=19						
STKA	Stephens Creek	36.42	160	eP	P	21 35 06.9	-1.8
ULN	Ulaanbaatar	48.80	342	eP	P	21 36 48.8	-0.3
	1.2nm,0.6s,mb4.1						
SONM	Songino Array	48.99	341	P	P	21 36 51.2	+0.6
	0.4nm,0.6s,mb3.6,baz=140,slow=5.1,SNR=3.8						
MKAR	Makanchi Array	59.31	325	P	P	21 38 06.8	+0.6
	1.0nm,0.4s,mb4.2,baz=114,slow=8.3,SNR=35						
KURK	Kurchatov	63.50	328	eP	P	21 38 34.0	-0.3
	4.1nm,0.6s,mb4.7						

IDC 09 21:30:26.7±1.3, 6.69S×72.11E, mb3.7/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=55.8km s-min=28.3km az=17.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	35.20	278	P	P	21 37 23.2	-1.7
	0.6nm,0.3s,baz=69,slow=19,SNR=4.8						
ASAR	Alice Springs	61.53	113	P	P	21 40 45.4	-2.9
	0.6nm,0.8s,baz=284,slow=7.1,SNR=6.4						
WRA	Warramunga Arr	61.66	109	P	P	21 40 47.8	-1.4
	0.4nm,0.9s,baz=280,slow=6.2,SNR=7.9						
SONM	Songino Array	62.13	25	P	P	21 40 49.7	-2.3
	0.2nm,0.6s,baz=212,slow=5.8,SNR=3.1						

*IDC **09** 21:43:45.2±6.4, 6.68S×130.11E, h40km±59km, mb3.5/3, mb1 3.9/6, mb1mx3.6/17, mbtmp3.9/6, ML4.0/3, Error ellipse: s-maj=85.9km s-min=27.7km az=62.0*
*NEIC **09** 21:43:48.1±2.9, 6.96S×129.72E, h69km±31km, mb4.1/3, Error ellipse: s-maj=27.9km s-min=18.4km az=59.0*

ISC 09 21:43:48.9±2.4, 7.05S±0.08×129.7E±0.2, h97km±24km, n17, σ1§06/22, mb3.8/6, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.68	199	eP	P	21 46 35.3	+1.7
	2.3nm,0.3s						
FITZ				eS	S	21 48 36.6	-5.9
FITZ	Fitzroy Crossi	11.68	199	P	P	21 46 35.3	+1.7
	1.1nm,0.3s,baz=12,slow=12,SNR=26						
FITZ				S	S	21 48 36.9	-5.5
	2.5nm,0.3s,baz=176,slow=20,SNR=9.0						
WRAB	Tennant Creek	13.58	161	eP	P	21 46 57.4	-1.2
	3.9nm,0.4s						
WRAB				eS	S	21 49 18.1	-9.3
WRA	Warramunga Arr	13.58	161	P	P	21 46 58.2	-0.5
	0.9nm,0.3s,baz=349,slow=13,SNR=41						
WRA				S	S	21 49 21.6	-6.0
	1.8nm,0.3s,baz=331,slow=23,SNR=15						
WB2	Warramunga Arr	13.59	161	↓iP	P	21 46 58.2	-0.5
WB2				eS	S	21 49 21.4	-6.2
ASAR	Alice Springs	17.01	167	P	P	21 47 44.4	+2.4
	0.4nm,0.3s,baz=346,slow=9.5,SNR=28						
ASAR				S	S	21 50 46.5	0.0
	0.4nm,0.3s,baz=352,slow=26,SNR=7.0						
ASPA	Alice Springs	17.01	167	eP	P	21 47 45.5	+3.5
ASPA				eS	S	21 50 45.7	-0.8
MBWA	Marble Bar	17.03	214	P	P	21 47 41.0	-1.4
STKA	Stephens Creek	27.08	157	P	P	21 49 26.0	+1.6
	1.2nm,0.6s,mb3.6,baz=333,slow=7.0,SNR=6.0						
STKA	Stephens Creek	27.08	157	eP	P	21 49 25.8	+1.4
MAJO	Matsushiro	44.09	10	P	P	21 51 48.6	-0.5
	5.6nm,1.0s,mb4.2						
ULN	Ulaanbaatar	58.22	342	eP	P	21 53 35.6	+0.3
	1.0nm,0.6s,mb4.0						
SONM	Songino Array	58.40	342	P	P	21 53 36.5	0.0
	0.3nm,0.5s,mb3.6,baz=170,slow=8.4,SNR=4.1						
BVAR	Borovoye Array	77.95	328	P	P	21 55 37.2	-0.6
	0.6nm,0.7s,mb3.4,baz=129,slow=9.5,SNR=5.1						
CHKZ	Chkalovo	78.15	329	eP	P	21 55 39.2	+0.3
	1.4nm,0.9s,mb3.7						
LPAZ	La Paz	150.85	143	PKPbc	PKPdf	22 03 35.2	+10
	0.6nm,0.4s,baz=102,slow=4.6,SNR=4.6						
LPAZ	La Paz	150.85	143	PKPbc	PKPdf	22 03 35.2	+10

*STR **09** 21:51:37.6±0.1, 44.51N×7.10E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **09** 21:51:37.4, 44.49N×7.07E, h8km, MD2.5(ROM), ML2.8(GEN), ML2.7(LDG), ML2.4(STR), After GEN.*
*CSEM **09** 21:51:37.4±0.1, 44.52N×7.11E, h8km, ML2.8/10, Error ellipse: s-maj=1.5km s-min=0.8km az=58.0*
*GEN **09** 21:51:37.4, 44.49N×7.07E, h8km, ML2.8*
*ROM **09** 21:51:38.6±0.1, 44.42N×7.25E, h2km, MD2.5/3, ML1.7/3, Error ellipse: s-maj=1.0km s-min=0.5km az=90.0*
*LDG **09** 21:51:38.0±0.1, 44.49N×7.09E, h2km, Md2.6/1, Ml2.7/10, Error ellipse: s-maj=2.2km s-min=1.1km az=65.0*

ISC 09 21:51:36.8±0.2, 44.50N±0.01×7.08E±0.02, h12km±2km, n67, σ0§77/114, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	Prazzo	0.01	79	P	Pb	21 51 39.2	+0.4
PZZ				S	Sb	21 51 40.8	+0.9
PZZ	Prazzo	0.01	79	P	Pb	21 51 39.2	+0.4
DOI	San Damiano	0.12	89	ePG	Pg	21 51 40.3	+0.3
DOI				SG	Sg	21 51 42.0	-0.1
DOI	San Damiano	0.12	89	ePg	Pg	21 51 40.2	+0.3
DOI				eSg	Sg	21 51 42.0	-0.1
DOI	San Damiano	0.12	89	ePg	Pg	21 51 40.2	+0.2
DOI				Sg	Sg	21 51 42.0	-0.1
SURF	Saint Ours	0.19	264	Pg	Pg	21 51 42.0	+0.8
STV	Sta Anna Valdi	0.31	146	P	Pg	21 51 43.3	-0.1
STV				S	Sg	21 51 47.4	-0.3
STV	Sta Anna Valdi	0.31	146	P	Pg	21 51 43.3	-0.1
STV2	Anna di Valdie	0.31	146	P	Pg	21 51 43.3	-0.1
STV2				S	Sg	21 51 47.4	-0.3
STV2	Anna di Valdie	0.31	146	P	Pg	21 51 43.3	-0.1
MBDF	Montbardon	0.32	315	ePg	Pg	21 51 44.0	+0.5
MBDF				eSg	Sg	21 51 48.6	+0.7
	168nm,0.2s						
OG22	Abries	0.34	343	Pg	Pg	21 51 44.1	+0.3
OG22				Sg	Sg	21 51 49.3	+0.8
BHB	Bricherasio	0.36	21	P	Pg	21 51 44.8	+0.4
BHB				S	Sg	21 51 49.8	+0.4
ENR	Entracque	0.37	139	P	Pg	21 51 44.5	0.0
ENR				S	Sg	21 51 49.4	-0.1
ENR	Entracque	0.37	139	P	Pg	21 51 44.5	0.0
RRL	Cesana Torines	0.47	333	P	Pg	21 51 47.0	+0.6
RRL				S	Sg	21 51 53.5	+0.6
RRL	Cesana Torines	0.47	333	P	Pg	21 51 47.0	+0.6
TOUF	Mont Tournerai	0.50	166	Pg	Pg	21 51 47.4	+0.3
FENE	Fenestrelle	0.53	358	P	Pb	21 51 47.8	+0.3
FENE				S	Sg	21 51 54.4	-0.4
AUTN	L'Aution	0.56	154	Pg	Pg	21 51 48.8	+0.5
AUTN				Sg	Sg	21 51 56.2	+0.3
ROB	Roburent	0.60	110	P	Pb	21 51 49.2	+0.3
ROB				S	Sb	21 51 57.0	0.0
ROB	Roburent	0.60	110	P	Pb	21 51 49.2	+0.4
MVIF	Mont Vial	0.61	175	Pg	Pg	21 51 49.6	+0.4
MVIF				Sg	Sg	21 51 57.5	+0.1
SAOF	Saorge	0.62	146	Pg	Pg	21 51 49.4	+0.1
SAOF				Sg	Sg	21 51 57.4	-0.3
BNI	Bardonecchia	0.62	333	ePg	Pg	21 51 49.0	-0.4
BNI				eSg	Sg	21 51 57.5	-0.3
BNI	Bardonecchia	0.62	333	ePg	Pg	21 51 49.0	-0.4
BNI				eSg	Sg	21 51 57.5	-0.3
MONE	Monesi	0.64	131	P	Pb	21 51 49.9	+0.4
MONE				S	Sb	21 51 58.2	+0.1
MONE	Monesi	0.64	131	P	Pb	21 51 49.9	+0.4
RSP	Reno Superiore	0.66	11	P	Pb	21 51 50.1	+0.3
RSP				S	Sb	21 51 58.7	0.0
SBF	Sospel	0.69	158	ePg	Pg	21 51 50.4	-0.3
SBF				eSg	Sg	21 51 59.5	-0.5
	68nm,0.2s						
REVF	Revere	0.79	165	Pg	Pg	21 51 52.7	0.0
REVF				Sg	Sg	21 52 04.0	+0.7
NEGI	Negi	0.79	145	P	Pb	21 51 52.6	+0.5
NEGI	Negi	0.79	145	P	Pb	21 51 52.6	+0.5
IMI	Imperia	0.83	135	ePG	Pg	21 51 53.3	-0.2
IMI				SG	Sg	21 52 04.2	-0.5
	35nm,0.2s						
IMI	Imperia	0.83	135	ePg	Pg	21 51 53.3	-0.3
IMI				eSg	Sg	21 52 04.2	-0.4
IMI	Imperia	0.83	135	ePg	Pg	21 51 53.3	-0.2
	35nm,0.2s						
IMI				Sg	Sg	21 52 04.2	-0.5
FIN	Finale Ligure	0.86	110	ePG	Pg	21 51 53.8	-0.3
FIN				SG	Sg	21 52 04.9	-0.8
	23nm,0.2s						
FIN	Finale Ligure	0.86	110	ePg	Pg	21 51 53.8	-0.3
FIN				eSg	Sg	21 52 04.9	-0.8
FIN	Finale Ligure	0.86	110	ePg	Pg	21 51 53.8	-0.3
	23nm,0.2s						
FIN				Sg	Sg	21 52 04.9	-0.8
ORIF	Oris-en-Rattie	0.95	296	ePg	Pg	21 51 55.9	-0.1
ORIF				ePn	Pn	21 51 56.8	+0.9
ORIF				eSg	Sg	21 52 09.0	+0.2
	20nm,0.3s						
ORIF	Oris-en-Rattie	0.95	296	ePg	Pg	21 51 55.9	-0.1
ORIF				eSg	Sg	21 52 09.0	+0.2
	10nm,0.3s						
LSD	Ceresole Reale	0.96	3	P	Pb	21 51 55.4	+0.5
LSD	Ceresole Reale	0.96	3	P	Pb	21 51 55.4	+0.5
FRF	La Foret Royal	0.99	199	ePn	Pn	21 51 56.9	+0.4
FRF				eSg	Sg	21 52 09.1	-1.0
	38nm,0.3s						
LPG	La Plagne	1.02	347	ePg	Pg	21 51 56.9	-0.5
LPG				eSg	Sg	21 52 10.7	-0.4
	20nm,0.3s						
LPL	La Plagne	1.04	346	ePg	Pg	21 51 57.1	-0.7
LPL				eSg	Sg	21 52 11.1	-0.7
	54nm,0.3s						
PCP	Pian Castagno	1.05	87	P	Pb	21 51 57.1	+0.7
PCP	Pian Castagno	1.05	87	P	Pb	21 51 57.1	+0.7
SMRF	Simiane la Rot	1.21	245	ePg	Pg	21 52 01.0	0.0
SMRF				eP		21 52 02.2	
SMRF				eSg	Sg	21 52 17.0	-0.1
	29nm,0.3s						
SMRF	Simiane la Rot	1.21	245	ePg	Pg	21 52 01.0	0.0
SMRF				eSg	Sg	21 52 17.0	-0.1
LMR	La Mourre	1.24	200	ePn	Pn	21 52 01.0	0.0
LMR				eSn	Sn	21 52 17.1	+0.3
	35nm,0.2s						
ORO	Oropa	1.29	29	ePN	Pn	21 52 04.1	+3.3
	13nm,0.2s						
ORO	Oropa	1.29	29	ePg	Pg	21 52 04.0	+1.3
ORO	Oropa	1.29	29	ePn	Pn	21 52 04.1	+3.3
	13nm,0.2s						
ORX	Oropa	1.30	29	P	Pb	21 51 59.0	-1.8
MCGN	Macugnaga	1.59	23	ePN	Pn	21 52 08.1	+3.1
MCGN				SN	Sn	21 52 29.4	+3.8
	7.0nm,0.3s						
MCGN	Macugnaga	1.59	23	ePg	Pg	21 52 08.1	-0.5
MCGN				eSg	Sg	21 52 29.4	-0.4
MCGN	Macugnaga	1.59	23	ePn	Pn	21 52 08.1	+3.1
	7.0nm,0.3s						
MCGN				Sn	Sn	21 52 29.4	+3.8
VIVF	Saint-Julien-l	1.75	282	ePn	Pn	21 52 08.8	+1.4
VIVF				ePg	Pg	21 52 11.2	-0.7
VIVF				eSg	Sg	21 52 34.2	-1.2
	5.7nm,0.3s						
CABF	La Chapelle	2.22	342	ePg	Pg	21 52 19.4	-1.8
PGF	Pioggiola	2.40	144	ePn	Pn	21 52 16.9	+0.3
PGF				eSn	Sn	21 52 44.0	-2.2
SMF	Signal de Mont	3.13	314	ePn	Pn	21 52 26.7	-0.3
HINF	Hinteralfeld	3.32	357	ePn	Pn	21 52 29.4	-0.3
HINF				eSn	Sn	21 53 08.3	-1.2
HINF				eSg	Sg	21 53 23.4	-4.0
	3.3nm,0.5s						
AVF	Avril sur Loir	3.48	312	ePn	Pn	21 52 32.6	+0.6
HAU	Haudompre	3.54	352	ePn	Pn	21 52 34.1	+1.2
HAU				eSn	Sn	21 53 12.4	-2.7
	3.9nm,0.4s						
BGF	Bois d'Agland	3.62	306	ePn	Pn	21 52 33.5	-0.5
CDF	Champ du Feu	3.91	2	ePn	Pn	21 52 37.9	-0.3
CDF				eSn	Sn	21 53 21.0	-3.6
	1.4nm,0.3s						

MEX 09 21:53:14.1±0.6, 17.25N×101.40W, h5km±17km, MD3.9, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.36	351	↓iP	Pg	21 53 20.7	-0.7
ZIIG				i S	Sg	21 53 26.0	-0.2
CAIG	El Cayaco	1.10	100	i P	Pb	21 53 32.0	-3.3
CAIG				i S	Sb	21 53 45.9	-3.9
ACX	Acapulco	1.47	105	i P	Pn	21 53 38.0	-3.4
ACX				i S	Sb	21 53 56.0	-4.5
PLIG	Platanillo	2.14	58	i P	Pn	21 53 48.1	-2.8
PLIG				i S	Sn	21 54 13.4	-4.7
MOIG	Morelia	2.42	5	eP	Pn	21 53 52.1	-2.9
MOIG				i S	Sn	21 54 20.2	-5.2
YAIG	Yautepec	2.74	54	eP	Pn	21 53 56.5	-3.1
YAIG				i S	Sn	21 54 28.2	-5.3
PPM	Popocatepetl	3.20	55	eP	Pn	21 54 03.0	-3.1
PPM				eP		21 54 03.2	
PPM				i S	Sn	21 54 39.9	-5.2
PPM				i S	Sn	21 54 42.0	-3.1

*ROM **09** 21:59:57.1±0.2, 42.95N×10.95E, h8km±1km, MD2.8/16, ML2.3/10, Error ellipse: s-maj=1.5km s-min=0.8km az=90.0*
*LDG **09** 21:59:57.2±0.5, 42.83N×11.01E, h10km, Ml3.1/15, Error ellipse: s-maj=10.8km s-min=6.8km az=118.0*
*NEIC **09** 21:59:57.2, 42.95N×10.95E, h8km, MD2.8(ROM), ML3.1(LDG), ML2.9(GEN), After ROM.*
*CSEM **09** 21:59:58.1±0.1, 43.00N×11.01E, h10km, ML2.9/12, Error ellipse: s-maj=2.3km s-min=1.4km az=5.0*

ISC 09 21:59:55.8±0.4, 42.93N±0.02×10.82E±0.02, h9km±2km, n108, σ1§04/151, 5C-9D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRFL	Gerfalco	0.25	27	↓iPG	Pg	22 00 01.8	+0.7
GRFL				SG	Sg	22 00 04.7	+0.1
GRFL	Gerfalco	0.25	27	↓iPg	Pg	22 00 01.8	+0.7
GRFL				eSg	Sg	22 00 04.7	+0.1
MAON	Monte Argentar	0.55	155	↓iPG	Pg	22 00 08.6	+1.7
MAON	Monte Argentar	0.55	155	↓iPg	Pg	22 00 08.6	+1.7
CSNT	Castellina Chi	0.65	32	ePG	Pg	22 00 09.6	+0.8
CSNT				SG	Sg	22 00 17.2	-0.3
CSNT	Castellina Chi	0.65	32	ePg	Pg	22 00 09.6	+0.8
CSNT				eSg	Sg	22 00 17.2	-0.3
SACS	San Casciano d	0.80	95	ePg	Pg	22 00 12.2	+0.3
PII	Pisa	0.83	345	↓iPG	Pg	22 00 13.3	+0.9
PII				SG	Sg	22 00 25.8	+2.3
	191nm,0.4s						
PII	Pisa	0.83	345	↓iPg	Pg	22 00 13.3	+0.9
PII				eSg	Sg	22 00 25.8	+2.3
PGD	Poggio Sodo	1.15	34	ePN	Pn	22 00 18.1	0.0
PGD				SN	Sn	22 00 33.6	-0.4
PGD	Poggio Sodo	1.15	34	ePg	Pg	22 00 18.1	-0.8
PGD				eSg	Sg	22 00 33.6	-0.7
VMG	Vicchio	1.16	27	ePN	Pn	22 00 18.5	+0.3
VMG				SN	Sn	22 00 34.2	0.0
	146nm,0.2s						
VMG	Vicchio	1.16	27	ePg	Pg	22 00 18.5	-0.5
VMG				eSg	Sg	22 00 34.1	-0.4
VMG	Vicchio	1.16	27	ePn	Pn	22 00 18.5	+0.3
	146nm,0.2s						
VMG				Sn	Sn	22 00 34.2	0.0
SEI	Scarperia	1.19	19	ePN	Pn	22 00 19.9	+1.3
SEI				SN	Sn	22 00 35.1	+0.1
	135nm,0.3s						
SEI	Scarperia	1.19	19	ePg	Pg	22 00 19.9	+0.2
SEI				eSg	Sg	22 00 35.1	-0.6
SEI	Scarperia	1.19	19	ePn	Pn	22 00 19.9	+1.3
	135nm,0.3s						
SEI				Sn	Sn	22 00 35.1	+0.1
TOLF	Tolfa	1.22	134	↓iPN	Pn	22 00 18.6	-0.5
TOLF	Tolfa	1.22	134	↓iPg	Pg	22 00 18.6	-1.7
SFI	Santa Sofia	1.23	37	ePN	Pn	22 00 18.9	-0.3
SFI				SN	Sn	22 00 35.9	-0.1
	41nm,0.2s						
SFI	Santa Sofia	1.23	37	ePg	Pg	22 00 18.9	-1.6
SFI				eSg	Sg	22 00 35.9	-1.0
VLC	Villacollemand	1.27	346	ePg	Pg	22 00 21.0	-0.3
SARO	Sassorosso	1.30	346	P	Pb	22 00 20.9	+1.1
SARO	Sassorosso	1.30	346	P	Pb	22 00 21.0	+1.1
VINC	Vinca	1.31	338	P	Pb	22 00 20.6	+0.4
VINC				S	Sb	22 00 34.7	-2.1
VINC	Vinca	1.31	338	P	Pb	22 00 20.6	+0.5
ASS	Assisi	1.35	84	ePN	Pn	22 00 20.4	-0.4
	32nm,0.4s						
ASS	Assisi	1.35	84	ePg	Pn	22 00 20.4	-0.4
ASS	Assisi	1.35	84	ePn	Pn	22 00 20.4	-0.4
	32nm,0.4s

IMI	**Imperia**	**2.35 296**	P	**Pn**	**22 00 35.0**	**-0.2**
NEGI	**Negi**	**2.45 293**	P	**Pn**	**22 00 35.8**	**-0.9**
NEGI	**Negi**	**2.45 293**	P	**Pn**	**22 00 35.8**	**-0.9**
MONE	**Monesi**	**2.51 298**	P	**Pn**	**22 00 37.3**	**-0.2**
MONE	**Monesi**	**2.51 298**	P	**Pn**	**22 00 37.3**	**-0.2**
SDI	**San Donato**	**2.53 118**	*e*PN	**Pn**	**22 00 38.3**	**+0.6**
	11nm,0.4s					
SDI	**San Donato**	**2.53 118**	*e*Pg	**Pn**	**22 00 38.3**	**+0.6**
SDI	**San Donato**	**2.53 118**	*e*Pn	**Pn**	**22 00 38.3**	**+0.6**
	11nm,0.4s					
ROB	**Roburent**	**2.54 304**	P	**Pn**	**22 00 38.2**	**+0.2**
ROB	**Roburent**	**2.54 304**	P	**Pn**	**22 00 38.2**	**+0.3**
SBF	**Sospel**	**2.64 292**	*e*Pn	**Pn**	**22 00 39.1**	**-0.2**
SBF			*e*Sn	**Sn**	**22 01 09.1**	**-2.7**
	35nm,0.3s					
ENR	**Entracque**	**2.79 299**	P	**Pn**	**22 00 41.5**	**0.0**
ENR	**Entracque**	**2.79 299**	P	**Pn**	**22 00 41.5**	**0.0**
STV	**Sta Anna Valdi**	**2.86 299**	P	**Pn**	**22 00 42.5**	**0.0**
STV	**Sta Anna Valdi**	**2.86 299**	P	**Pn**	**22 00 42.5**	**0.0**
FRF	**La Foret Royal**	**3.12 283**	*e*Pn	**Pn**	**22 00 45.7**	**-0.4**
FRF			*e*Sn	**Sn**	**22 01 20.1**	**-3.7**
	16nm,0.2s					
PZZ	**Prazzo**	**3.13 302**	P	**Pn**	**22 00 46.4**	**+0.2**
PZZ	**Prazzo**	**3.13 302**	P	**Pn**	**22 00 46.4**	**+0.2**
CTI	**Castel Tesino**	**3.18 10**	*e*PN	**Pn**	**22 00 46.9**	**-0.1**
	9.0nm,0.3s					
CTI	**Castel Tesino**	**3.18 10**	*e*Pg	**Pn**	**22 00 46.9**	**0.0**
CTI	**Castel Tesino**	**3.18 10**	*e*Pn	**Pn**	**22 00 46.9**	**-0.1**
	9.0nm,0.3s					
LMR	**La Mourre**	**3.18 279**	*e*Pn	**Pn**	**22 00 46.7**	**-0.4**
LMR			*e*Sn	**Sn**	**22 01 22.1**	**-3.4**
	12nm,0.2s					
BHB	**Bricherasio**	**3.21 308**	P	**Pn**	**22 00 46.5**	**-0.9**
BHB	**Bricherasio**	**3.21 308**	P	**Pn**	**22 00 46.5**	**-0.9**
MBDF	**Montbardon**	**3.44 303**	*e*Pn	**Pn**	**22 00 51.1**	**+0.4**
MBDF			*e*Sn	**Sn**	**22 01 31.9**	**-0.1**
	7.7nm,0.3s					
LPG	**La Plagne**	**3.90 313**	*e*Pn	**Pn**	**22 00 58.5**	**+1.3**
LPG			*e*Sn	**Sn**	**22 01 42.7**	**-0.8**
	3.2nm,0.3s					
LPL	**La Plagne**	**3.92 313**	*e*Pn	**Pn**	**22 00 59.3**	**+1.8**
SMRF	**Simiane la Rot**	**3.96 287**	*e*Pn	**Pn**	**22 00 58.9**	**+0.8**
SMRF			*e*Sn	**Sn**	**22 01 44.2**	**-1.0**
	4.2nm,0.3s					
ORIF	**Oris-en-Rattie**	**4.09 301**	*e*Pn	**Pn**	**22 01 01.8**	**+1.9**
ORIF			*e*Sn	**Sn**	**22 01 48.2**	**-0.2**
	13nm,0.4s					
SQTA	**Sankt Quirin**	**4.30 4**	⇓*i*PN	**Pn**	**22 01 03.7**	**+0.7**
SQTA			*i* SN	**Sn**	**22 01 55.2**	**+1.3**
WTTA	**Wattenberg**	**4.38 7**	⇑*i*PN	**Pn**	**22 01 05.0**	**+1.0**
WTTA			*i* SN	**Sn**	**22 01 56.7**	**+1.0**
DAVA	**Damuels**	**4.41 352**	⇑*i*PN	**Pn**	**22 01 06.0**	**+1.5**
DAVA			*i* SN	**Sn**	**22 01 59.0**	**+2.4**
MOTA	**Moosalm**	**4.42 2**	⇑*i*PN	**Pn**	**22 01 05.9**	**+1.2**
MOTA			*i* SN	**Sn**	**22 01 58.1**	**+1.2**
WATA	**Walderalm**	**4.44 7**	⇑*i*PN	**Pn**	**22 01 05.4**	**+0.5**
WATA			*i* SN	**Sn**	**22 01 57.3**	**-0.1**
KBA	**Koelnbreinsper**	**4.52 22**	⇑*i*PN	**Pn**	**22 01 05.2**	**-0.9**
KBA			*i* SN	**Sn**	**22 01 56.8**	**-2.6**
VIVF	**Saint-Julien-l**	**4.85 296**	*e*Pn	**Pn**	**22 01 10.6**	**-0.1**
VIVF			*e*Sn	**Sn**	**22 02 04.8**	**-2.8**
	5.0nm,0.3s					
CABF	**La Chapelle**	**4.99 319**	*e*Pn	**Pn**	**22 01 13.0**	**+0.2**
LASF	**Ste Croix**	**5.20 285**	*e*Pn	**Pn**	**22 01 15.5**	**-0.1**
HINF	**Hinteralfeld**	**5.63 332**	*e*Pn	**Pn**	**22 01 21.2**	**-0.6**
HINF			*e*Sn	**Sn**	**22 02 23.6**	**-3.8**
	1.7nm,0.3s					
HAU	**Haudompre**	**5.97 330**	*e*Pn	**Pn**	**22 01 26.1**	**-0.5**
HAU			*e*Sn	**Sn**	**22 02 31.7**	**-4.2**
	3.0nm,0.3s					
CDF	**Champ du Feu**	**6.02 337**	*e*Pn	**Pn**	**22 01 26.2**	**-1.1**
CDF			*e*Sn	**Sn**	**22 02 32.3**	**-4.8**
	2.3nm,0.3s					
SMF	**Signal de Mont**	**6.21 309**	*e*Pn	**Pn**	**22 01 29.5**	**-0.3**
SMF			*e*Sn	**Sn**	**22 02 36.3**	**-5.4**
	2.6nm,0.5s					
MTLF	**Montolieu**	**6.31 277**	*e*Pn	**Pn**	**22 01 29.5**	**-1.8**
AVF	**Avril sur Loir**	**6.57 309**	*e*Pn	**Pn**	**22 01 34.2**	**-0.7**
CAF	**Calviac**	**6.63 291**	*e*Pn	**Pn**	**22 01 35.2**	**-0.7**
SSF	**Saint Saulge**	**6.63 311**	*e*Pn	**Pn**	**22 01 35.8**	**-0.1**
SSF			*e*Sn	**Sn**	**22 02 47.3**	**-5.1**
	0.4nm,0.4s					
BGF	**Bois d'Agland**	**6.74 305**	*e*Pn	**Pn**	**22 01 36.5**	**-0.9**
BGF			*e*Sn	**Sn**	**22 02 48.9**	**-6.2**
	5.2nm,0.5s					

OTT 09 22:10:54.2±0.1, 64.65N×110.69W, h1km, MN3.0/17, Blast, Diavik Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVKN	**Diavik Mine**	**0.22**	**131**	PG	Pg	22 10 58.2	-0.4
DVKN				SG	Sg	22 11 01.0	-0.5
DVKN				Trac		22 11 01.6	
	comp=Z,112nm,0.1s						
ACKN	**Achilles Lake**	**0.35**	**348**	PG	Pg	22 11 00.5	-0.8
ACKN				SG	Sg	22 11 04.9	-1.0
ACKN				Trac		22 11 06.0	
	comp=Z,98nm,0.1s						
LGSN	**Lac de Gras So**	**0.40**	**142**	PG	Pg	22 11 01.5	-0.7
LGSN				SG	Sg	22 11 07.2	-0.4
LGSN				Trac		22 11 07.8	
	comp=Z,65nm,0.1s						
YMBN	**Yamba Lake**	**0.42**	**302**	PG	Pg	22 11 01.9	-0.9
YMBN				SG	Sg	22 11 07.7	-0.7
YMBN				Trac		22 11 08.4	
	comp=Z,76nm,0.1s						
YNEN	**Yamba Lake Nor**	**0.46**	**341**	PG	Pg	22 11 02.5	-1.0
YNEN				SG	Sg	22 11 08.7	-1.0
YNEN				Trac		22 11 10.0	
	comp=Z,68nm,0.1s						
GLWN	**Glow Worm Lake**	**0.59**	**82**	PG	Pg	22 11 04.7	-1.3
GLWN				SG	Sg	22 11 12.6	-1.3
GLWN				Trac		22 11 13.2	
	comp=Z,71nm,0.1s						
COWN	**Contwyoto Lake**	**0.65**	**341**	PG	Pg	22 11 06.1	-1.2
COWN				SG	Sg	22 11 15.1	-0.9
COWN				Trac		22 11 15.9	
	comp=Z,23nm,0.1s						
NODN	**Nodinka Narrow**	**0.70**	**190**	PG	Pg	22 11 07.2	-1.1
NODN				SG	Sg	22 11 16.6	-1.1
NODN				Trac		22 11 17.1	
	comp=Z,43nm,0.1s						
MLON	**Marlo Lake**	**0.77**	**153**	PG	Pg	22 11 08.1	-1.5
MLON				SG	Sg	22 11 18.4	-1.4
MLON				Trac		22 11 19.9	
	comp=Z,16nm,0.1s						
BOXN	**Box Lake**	**0.91**	**152**	PG	Pg	22 11 10.9	-1.4
BOXN				SG	Sg	22 11 23.1	-1.5
CAMN	**Camsell Lake**	**0.93**	**186**	PG	Pg	22 11 11.3	-1.5
CAMN				SG	Sg	22 11 23.5	-1.6
CAMN				Trac		22 11 25.9	
	comp=Z,19nm,0.1s						
MGTN	**Margaret Lake**	**1.08**	**153**	PG	Pg	22 11 14.1	-1.8
MGTN				SG	Sg	22 11 27.1	-3.2
MGTN				Trac		22 11 29.2	
	comp=Z,147nm,0.1s						
GBLN	**Grizzly Bear L**	**1.10**	**247**	PG	Pg	22 11 14.2	-1.9
GBLN				SG	Sg	22 11 28.3	-2.5
GBLN				Trac		22 11 29.9	
	comp=Z,112nm,0.1s						
LUPN	**Lupin Mine**	**1.12**	**348**	PG	Pg	22 11 14.3	-2.2
LUPN				SG	Sg	22 11 29.0	-2.4
LUPN				Trac		22 11 33.5	
	comp=Z,89nm,0.2s						
SNPN	**Snap Lake**	**1.14**	**185**	PG	Pg	22 11 15.2	-1.9
SNPN				SG	Sg	22 11 30.4	-1.9
SNPN				Trac		22 11 34.6	
	comp=Z,706nm,0.1s						
IHLN	**Indian Hill La**	**1.35**	**184**	PG	Pg	22 11 18.6	-2.7
IHLN				SG	Sg	22 11 35.6	-3.8
IHLN				Trac		22 11 37.2	
	comp=Z,47nm,0.1s						
KNDN	**Kennady Lake**	**1.40**	**151**	PG	Pg	22 11 19.4	-2.8
KNDN				SG	Sg	22 11 37.4	-3.5
KNDN				Trac		22 11 40.7	
	comp=Z,54nm,0.1s						
ILKN	**Indian Lake**	**1.97**	**259**	PN	Pn	22 11 28.2	-0.9
ILKN				SN	Sn	22 11 54.4	-0.4
ILKN				Trac		22 11 57.0	
	comp=Z,39nm,0.2s						
DSMN	**Discovery Mine**	**2.05**	**225**	PN	Pn	22 11 28.4	-1.8
DSMN				SN	Sn	22 11 57.0	+0.2
DSMN				Trac		22 11 59.4	
	comp=Z,33nm,0.1s						
CTLN	**Castor Lake**	**2.31**	**267**	PN	Pn	22 11 32.6	-1.4
CTLN				SN	Sn	22 12 04.5	+1.0
CTLN				Trac		22 12 07.0	
	comp=Z,12nm,0.1s						
YKW3	**Yellowknife Ar**	**2.73**	**222**	PN	Pn	22 11 37.3	-2.7
YKW3				SN	Sn	22 12 10.0	-4.2
YKW3				SG	Sg	22 12 17.8	-7.5
YKW3				Trac		22 12 24.9	
	comp=Z,23nm,0.2s						
GALN	**Gameti Lake**	**2.93**	**262**	PN	Pn	22 11 40.5	-2.3
GALN				SN	Sn	22 12 14.2	-4.9
GALN				SG	Sg	22 12 22.7	-9.0
GALN				Trac		22 12 30.3	
	comp=Z,21nm,0.2s						
FNBB	**Fort Nelson**	**8.20**	**231**	PN	P	22 12 51.7	-5.6
FNBB				SN	Sn	22 14 19.5	-12
YRTN	**Rankin Inlet**	**8.44**	**94**	PN	P	22 12 54.6	-6.0
YRTN				SN	Sn	22 14 24.1	-13
INK	**Inuvik**	**9.80**	**302**	PN	P	22 13 13.0	-6.2
FCC	**Fort Churchill**	**9.83**	**119**	PN	P	22 13 13.2	-6.4
FCC				SN	Sn	22 14 54.6	-17
QILN	**Qililugaq Expl**	**10.21**	**68**	PN	P	22 13 17.6	-7.2
QILN				SN	S	22 15 04.6	-17
RES	**Resolute Bay**	**11.41**	**21**	PN	P	22 13 34.8	-6.5
RES				SN	S	22 15 34.5	-16
DAWY	**Dawson**	**12.39**	**280**	PN	P	22 14 52.9	+58

IDC 09 22:13:59.3±5.3, 21.15S×178.96W, h628km±70km, mb2.9/7, mb1 3.2/7, mb1mx3.0/16, mbtmp3.9/7, Error ellipse: s-maj=120.7km s-min=25.3km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.70**	**245**	P	P	22 20 15.1	-1.8
	1.6nm,0.9s,baz=66,slow=10.0,SNR=3.1						
ASAR	**Alice Springs**	**43.50**	**258**	P	P	22 21 10.0	-1.3
	0.6nm,0.5s,baz=92,slow=8.3,SNR=12						
WRA	**Warramunga Arr**	**43.62**	**263**	P	P	22 21 10.4	-1.9
	0.2nm,0.4s,baz=101,slow=4.9,SNR=5.1						
YBH	**Yreka Blue Hor**	**81.36**	**39**	P	P	22 25 12.7	-0.5
	1.4nm,0.7s,baz=289,slow=7.0,SNR=2.9						
NVAR	**Mina Array Bea**	**82.11**	**44**	P	P	22 25 16.7	-0.5
	0.8nm,0.6s,baz=222,slow=6.5,SNR=2.6						
ILAR	**Eielson Array**	**89.15**	**13**	P	P	22 25 47.9	-2.3
	0.6nm,0.4s,baz=224,slow=5.4,SNR=5.2						
PDAR	**Pinedale Array**	**90.05**	**44**	P	P	22 25 53.5	-1.4
	0.6nm,0.7s,baz=252,slow=4.7,SNR=4.7						
AKASG	**Malin Array Be**	**143.14**	**330**	PKP	PKPdf	22 32 21.1	-1.7
	1.8nm,0.4s,baz=38,slow=4.1,SNR=18						
BRTR	**Keskin Array B**	**146.60**	**311**	PKPbc	PKPbc	22 32 32.6	+1.4
	0.4nm,0.5s,baz=82,slow=4.2,SNR=3.7						
GERES	**GERESS Array B**	**150.57**	**343**	PKPbc	PKPdf	22 32 41.5	+6.5
	0.1nm,0.3s,slow=1.3,SNR=4.4						

*IGQ **09** 22:21:48.8, 0.01S×81.08W, h18km±4km, mb4.6, Error ellipse: s-maj=6.3km s-min=4.6km az=30.0*
*NEIC **09** 22:22:05.0±3.7, 0.12N×80.00W, h99km±34km, mb4.2/5, MD4.7(IGQ), Error ellipse: s-maj=68.0km s-min=14.8km az=56.0*
*IDC **09** 22:22:20.5±4.0, 0.01S×79.60W, h276km±44km, mb3.1/4, mb1 3.4/6, mb1mx3.2/19, mbtmp3.8/6, Error ellipse: s-maj=45.2km s-min=18.1km az=71.0*
ISC 09 22:21:53.9±0.6, 0.18S±0.06×80.86W±0.05, h18km, n39, σ1°08/44, mb3.9/7, 10C-9D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.66**	**97**	⇓P	**Pb**	**22 22 05.8**	**-0.9**
JAMA				S	**Sb**	**22 22 17.4**	**+2.1**
HOJA	**Cerro de Hojas**	**0.92**	**160**	⇓P	**Pb**	**22 22 08.7**	**-2.4**
MAGD	**Magdalena**	**1.09**	**84**	⇓P	**Pb**	**22 22 14.5**	**+0.5**
SALI	**Salinas**	**2.00**	**184**	P	**Pn**	**22 22 28.2**	**+0.8**
JOR1	**San Jorge 1**	**2.23**	**86**	⇑P	**Pn**	**22 22 29.1**	**-1.6**
PINO	**Pino**	**2.25**	**90**	⇑P	**Pn**	**22 22 30.0**	**-1.1**
JUA2	**San Juan 2**	**2.26**	**91**	⇓P	**Pn**	**22 22 30.3**	**-0.8**
TERV	**Terraza Guagua**	**2.26**	**90**	⇑P	**Pn**	**22 22 29.6**	**-1.5**
GGP	**Refugio Guagua**	**2.27**	**90**	⇓P	**Pn**	**22 22 30.2**	**-1.1**
YANA	**Yana**	**2.29**	**89**	⇑P	**Pn**	**22 22 30.4**	**-1.2**
NAS1	**Nasa**	**2.43**	**101**	⇓P	**Pn**	**22 22 33.8**	**+0.3**
OTAV	**Otavalo**	**2.45**	**80**	*e*Pn	**Pn**	**22 22 32.3**	**-1.5**
OTAV				*e*Sn	**Sn**	**22 22 47.3**	**-16**
VC1	**Cotopaxi 1**	**2.50**	**101**	⇑P	**Pn**	**22 22 35.0**	**+0.4**
VC1				S	**Sn**	**22 23 10.6**	**+5.7**
TAMB	**Tambo**	**2.55**	**102**	⇑P	**Pn**	**22 22 35.7**	**+0.5**
COTA	**Cotacachi**	**2.58**	**79**	⇑P	**Pn**	**22 22 35.0**	**-0.7**
IGUA	**Igualata**	**2.58**	**120**	P	**Pn**	**22 22 35.7**	**0.0**
PISA	**Pisayambo**	**2.63**	**109**	P	**Pn**	**22 22 36.8**	**+0.4**
JUIV	**Juive**	**2.70**	**117**	P	**Pn**	**22 22 37.9**	**+0.5**
ANTI	**Antisana**	**2.71**	**96**	⇑P	**Pn**	**22 22 38.0**	**+0.3**
ARRY	**Arrayan**	**2.75**	**119**	P	**Pn**	**22 22 38.3**	**+0.2**
ARRY				S	**Sn**	**22 23 12.7**	**+1.6**
ULBA	**Ulba**	**2.76**	**117**	⇓P	**Pn**	**22 22 38.6**	**+0.3**
ULBA				S	**Sn**	**22 23 15.7**	**+4.2**
CAYR	**Refugio Cayamb**	**2.86**	**86**	⇑P	**Pn**	**22 22 40.7**	**+1.0**
CAYR				S	**Sn**	**22 23 21.1**	**+7.0**
ELAGU	**Cayambe Volc**	**2.88**	**87**	⇓P	**Pn**	**22 22 41.0**	**+1.1**
CAYA	**Cayambe**	**2.88**	**85**	⇑P	**Pn**	**22 22 40.7**	**+0.7**
ECEN	**Cerro Negro**	**3.06**	**71**	⇓P	**Pn**	**22 22 42.0**	**-0.4**
ROSC	**El Rosal**	**8.22**	**52**	P	**P**	**22 24 04.2**	**+8.9**
	1.3nm,0.3s,baz=98,slow=21,SNR=3.2						
SAML	**Samuel**	**19.64**	**117**	*e*P	**P**	**22 26 20.1**	**-4.8**
	4.6nm,0.8s						
LPAZ	**La Paz**	**20.35**	**143**	P	**P**	**22 26 30.9**	**-1.4**
	0.3nm,0.3s,baz=326,slow=11,SNR=11						
LPAZ	**La Paz**	**20.35**	**143**	P	**P**	**22 26 30.9**	**-1.4**
MIAR	**Mount Ida**	**36.53**	**342**	*e*P	**P**	**22 29 01.2**	**+0.7**
	2.9nm,0.8s,mb4.2						
TXAR	**Lajitas Array**	**36.54**	**325**	P	**P**	**22 29 05.9**	**+5.2**
	0.3nm,0.7s,mb3.2,baz=151,slow=11,SNR=2.7						
WMOK	**Wichita Mounta**	**38.57**	**336**	P	**P**	**22 29 17.9**	**+0.2**
	2.6nm,1.0s,mb3.9						
SDCO	**Great Sand Dun**	**44.05**	**332**	*e*P	**P**	**22 30 04.4**	**+1.7**
	3.4nm,0.8s,mb4.1						
NVAR	**Mina Array Bea**	**51.56**	**322**	P	**P**	**22 31 03.0**	**+1.7**
	1.1nm,0.8s,mb3.9,baz=144,slow=7.8,SNR=3.3						
SCHQ	**Schefferville**	**56.03**	**10**	P	**P**	**22 31 27.3**	**-6.6**
	2.3nm,0.8s,mb4.3,baz=202,slow=5.4,SNR=3.4						
SCHQ	**Schefferville**	**56.03**	**10**	P	**P**	**22 31 25.6**	**-8.3**
	3.6nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**67.46**	**344**	P	**P**	**22 32 49.4**	**-1.2**
	0.4nm,0.8s,mb3.5,baz=134,slow=5.9,SNR=6.4						
YKA	**Yellowknife Ar**	**67.46**	**344**	P	**P**	**22 32 49.4**	**-1.2**
WRA	**Warramunga Arr**	**140.15**	**238**	PKP	PKPdf	22 41 19.8	-6.7
	0.3nm,0.6s,baz=111,slow=2.0,SNR=2.3						

*DJA **09** 22:33:15.1±0.8, 8.30S×118.46E, h160km, MD4.5/3, ML4.3/4, Error ellipse: s-maj=69.9km s-min=18.1km az=176.0*
*IDC **09** 22:33:22.9±6.1, 9.06S×118.60E, h134km±54km, mb3.1/2, mb1 3.2/4, mb1mx3.0/18, mbtmp3.5/4, Error ellipse: s-maj=150.7km s-min=39.2km az=40.0*
ISC 09 22:33:16.9±2.3, 8.5S±0.3×118.3E±0.2, h157km±23km, n10, σ0°89/16, mb3.4/2, 1C-8D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**2.18 269**	⇓*e*Pn	**P**	**P**	**22 33 55.2**	**+0.2**
	201nm,0.2s						
KEDI	**Kedomdong**	**2.18 269**	*e*P	**P**	**P**	**22 33 56.3**	**+1.3**
KEDI			⇓*e*Sn	**S**	**S**	**22 34 24.9**	**+0.7**
RATI	**Rata**	**2.77 265**	⇓*e*Pn	**P**	**P**	**22 34 02.7**	**+0.4**
	271nm,0.2s						
RATI			⇓*e*Sn	**S**	**S**	**22 34 37.2**	**+0.2**
KELI	**Kelakatan**	**3.80 274**	⇓*e*Pn	**P**	**P**	**22 34 14.6**	**-0.9**
	18nm,0.2s						
KELI	**Kelakatan**	**3.80 274**	⇓*e*P	**P**	**P**	**22 34 16.8**	**+1.3**
KELI			⇑*e*Sn	**S**	**S**	**22 35 00.2**	**-0.4**
SRDI	**Scrawed**	**4.13 270**	⇓*e*Pn	**P**	**P**	**22 34 19.3**	**-0.6**
	74nm,0.2s						
SRDI			⇓*e*Sn	**S**	**S**	**22 35 07.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**11.93**	**144**	P	**P**	**22 36 01.6**	**-1.3**
	0.1nm,0.3s,baz=349,slow=13,SNR=3.3						
FITZ				S	**S**	**22 38 04.2**	**-9.1**
	0.6nm,0.3s,baz=179,slow=19,SNR=12						
WRA	**Warramunga Arr**	**19.25**	**128**	P	**P**	**22 37 29.9**	**-1.7**
	0.1nm,0.3s,baz=302,slow=12,SNR=9.1						
WRA				S	**S**	**22 40 57.6**	**+1.4**
	0.0nm,0.3s,baz=294,slow=24,SNR=3.2						
ASAR	**Alice Springs**	**21.24**	**137**	P	**P**	**22 37 52.3**	**+0.7**
	0.5nm,0.5s,mb3.1,baz=311,slow=9.1,SNR=12						
STKA	**Stephens Creek**	**31.79**	**140**	P	**P**	**22 39 29.1**	**+0.2**
	1.4nm,0.9s,mb3.7,baz=288,slow=13,SNR=2.9						

*DJA **09** 22:56:49.8±0.9, 7.46S×117.20E, h240km, MD4.6/4, ML4.4/4, Error ellipse: s-maj=36.0km s-min=19.5km az=177.0*
*IDC **09** 22:56:52.8±2.2, 6.90S×116.53E, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=147.4km s-min=20.1km az=56.0*
ISC 09 22:56:55.5±0.6, 6.57S±0.07×116.89E±0.06, h33km, n13, σ1°27/18, mb3.7/5, 2C-7D, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**2.06 202**	⇓*e*Pn	**Pn**	**Pn**	**22 57 26.9**	**-1.6**
	496nm,0.3s						
KEDI			⇑*e*Sn	**Sn**	**Sn**	**22 57 54.8**	**+1.6**
RATI	**Rata**	**2.53 212**	⇑*e*Pn	**Pn**	**Pn**	**22 57 33.6**	**-1.6**
	495nm,0.2s						
RATI			⇓*e*Sn	**Sn**	**Sn**	**22 58 04.1**	**-1.1**
KELI	**Kelakatan**	**2.89 235**	⇓*e*Pn	**Pn**	**Pn**	**22 57 39.9**	**-0.4**
	70nm,0.2s						
KELI			⇓*e*Sn	**Sn**	**Sn**	**22 58 17.1**	**+2.8**
SRDI	**Scrawed**	**3.32 235**	⇓*e*Pn	**Pn**	**Pn**	**22 57 45.4**	**-1.1**
	64nm,0.2s						
SRDI			⇓*e*Sn	**Sn**	**Sn**	**22 58 24.8**	**-0.4**
NINI	**Niniconang**	**3.56 53**	*e*Pn	**Pn**	**Pn**	**22 58 07.0**	**+17**
NINI			*e*Sn	**Sn**	**Sn**	**22 58 31.0**	**-0.4**
BUNI	**Buntu Taipa**	**4.48 50**	*e*Pn	**Pn**	**Pn**	**22 58 01.0**	**-2.0**
WRA	**Warramunga Arr**	**21.54 130**	P	**P**	**P**	**23 01 43.8**	**-0.2**
	2.6nm,0.8s,mb3.7,baz=302,slow=12,SNR=28						
WB2	**Warramunga Arr**	**21.55 130**	⇓*i*P	**P**	**P**	**23 01 44.1**	**0.0**
ASPA	**Alice Springs**	**23.59 138**	*e*P	**P**	**P**	**23 02 05.7**	**+1.4**
ASAR	**Alice Springs**	**23.59 138**	P	**P**	**P**	**23 02 05.7**	**+1.3**
	2.4nm,0.6s,mb3.8,baz=310,slow=9.2,SNR=26						
STKA	**Stephens Creek**	**34.15 141**	P	**P**	**P**	**23 03 40.0**	**+0.2**
	0.8nm,0.5s,mb3.9,baz=340,slow=10,SNR=4.2						
SONM	**Songino Array**	**54.95 351**	P	**P**	**P**	**23 06 28.0**	**+2.3**
	0.3nm,0.6s,mb3.5,baz=157,slow=5.7,SNR=4.0						
MKAR	**Makanchi Array**	**61.36 334**	P	**P**	**P**	**23 07 11.2**	**+0.7**
	0.2nm,0.5s,mb3.5,baz=140,slow=7.2,SNR=5.0						

*NDI **09** 23:39:11.6±4.7, 29.19N×83.82E, h10km, ML3.6, mb4.0(NEIC)*
*NEIC **09** 23:39:15.3±0.8, 30.43N×83.38E, h10km, mb4.0/4, Error ellipse: s-maj=17.7km s-min=13.8km az=84.0*
*MOS **09** 23:39:16.7±1.9, 30.37N×83.20E, h33km, mb4.1/4, Error ellipse: s-maj=23.1km s-min=14.8km az=96.8*
*IDC **09** 23:39:32.9±8.1, 30.72N×83.95E, h146km±78km, mb3.0/5, mb1 3.1/7, mb1mx2.9/24, mbtmp3.4/7, Error ellipse: s-maj=51.0km s-min=19.6km az=55.0*
ISC 09 23:39:15.1±1.4, 30.27N±0.08×83.59E±0.05, h13km±9km, n27, σ1°64/33, mb3.6/8, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.01 257**	*e*PG	**Pg**	**Pg**	**23 40 11.0**	**-4.3**
PTH			*e*SG	**Sg**	**Sg**	**23 40 55.6**	**+0.1**
LGTI	**Lohaghat**	**3.01 255**	*e*PG	**Pg**	**Pg**	**23 40 17.0**	**+1.7**
LGTI			*e*SG	**Sg**	**Sg**	**23 41 03.0**	**+7.5**
KALG	**Kalgarh**	**4.27 261**	*e*P	**Pn**	**Pn**	**23 40 18.4**	**-2.9**
KALG			*e*			23 41 20.4	
KALG			*e*			23 41 21.5	
	comp=E,84nm,0.3s						
SMLA	**Simla**	**5.60 280**	⇓*i*P	**Pn**	**Pn**	**23 40 41.3**	**+1.2**
SMLA			*i* S	**Sn**	**Sn**	**23 41 46.3**	**+1.4**
NDI	**New Delhi**	**5.77 256**	*e*	**Pn**	**Pn**	**23 40 47.0**	**+4.4**
NDI			*e*SG	**Sg**	**Sg**	**23 42 24.5**	**-2.9**
AGRA	**Agra**	**5.80 240**	*e*PB	**Pb**	**Pb**	**23 40 49.1**	**-6.9**
AGRA			*e*SB	**Sb**	**Sb**	**23 41 56.7**	**-9.4**
AGRA			AML	AML	AML	23 42 37.4	
	comp=E,77nm,0.5s						
AGRA			AML	AML	AML	23 42 40.1	
	comp=N,64nm,0.4s						
SONA	**Sohna**	**6.03 252**	*e*P	**Pn**	**Pn**	**23 40 50.4**	**+4.2**
SONA			*e*S	**Sn**	**Sn**	**23 41 55.9**	**+0.1**

s-maj=121.7km s-min=21.9km az=56.0

ISC 09 23:48:05.9±2.0,0.0S±0.3×98.2E±0.5,h33km,n6,σ0°62/5, mb3.5/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.38**	**2**	P	**P**	**23 52 20.2**	**+0.1**
	0.7nm,0.3s,baz=231,slow=13,SNR=6.2						
WRA	**Warramunga Arr**	**40.54**	**121**	P	**P**	**23 55 43.6**	**-0.4**
	0.2nm,0.4s,mb3.1,baz=302,slow=8.9,SNR=6.2						
ASAR	**Alice Springs**	**41.86**	**127**	P	**P**	**23 55 55.2**	**+0.4**
	0.5nm,0.6s,mb3.3,baz=304,slow=8.2,SNR=5.8						
SONM	**Songino Array**	**48.19**	**7**	pP	pP	23 56 55.4	+0.4
	0.4nm,0.7s,baz=188,slow=9.4,SNR=4.5						
MKAR	**Makanchi Array**	**48.66**	**345**	P	**P**	**23 56 48.1**	**-0.7**
	0.8nm,0.7s,mb3.8,baz=164,slow=8.3,SNR=6.5						
MKAR				pP	pP	23 57 00.0	+1.3
	0.4nm,0.5s,baz=155,slow=8.1,SNR=4.0						
BVAR	**Borovoye Array**	**57.73**	**341**	P	**P**	**23 57 56.3**	**+0.5**
	0.4nm,0.6s,mb3.6,baz=153,slow=3.2,SNR=2.9						

*NEIC **09** 23:54:49.1±0.5,3.71N×95.60E,h30km,mb4.4/10,Error ellipse: s-maj=15.4km s-min=7.7km az=223.0*

*IDC **09** 23:55:01.9±9.8,3.98N×95.98E,h142km±89km,mb3.7/14, mb1 3.8/15,mb1mx3.6/25,mbtmp4.1/15,MS3.6/2, Ms1 3.6/2,ms1mx3.1/23,Error ellipse: s-maj=52.6km s-min=13.1km az=57.0*

ISC 09 23:54:47.5±0.6,3.75N±0.09×95.66E±0.06,h30km,n29, σ0°85/29,mb4.2/23,MS4.1/1,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.20**	**73**	*e*Pn	**Pn**	**23 56 07.8**	**+2.3**
KULM				*e*Sn	**Sn**	**23 57 05.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**14.96**	**12**	P	**P**	**23 58 24.8**	**+5.8**
	0.5nm,0.3s,baz=205,slow=11,SNR=13						
CMAR				LR	LR	00 04 20.9	
	comp=Z,74nm,18.2s,baz=205,slow=38						
PALK	**Pallekele**	**15.29**	**284**	P	**P**	**23 58 27.6**	**+4.3**
	13nm,1.1s						
PKI	**Pulchoki**	**25.63**	**339**	*e*P	**P**	**00 00 17.3**	**+0.9**
	9.8nm,0.6s,mb4.5						
DMN	**Daman**	**25.77**	**338**	*e*P	**P**	**00 00 18.3**	**+0.6**
	5.5nm,0.6s,mb4.2						
KKN	**Kakani**	**25.88**	**339**	*e*P	**P**	**00 00 18.7**	**+0.1**
	11nm,0.8s,mb4.5						
GKN	**Gorkha**	**26.31**	**338**	*e*P	**P**	**00 00 23.0**	**+0.4**
	24nm,0.6s,mb4.9						
KOLN	**Koldanda**	**26.51**	**335**	*e*P	**P**	**00 00 25.3**	**+0.8**
	18nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**36.67**	**127**	P	**P**	**00 01 53.1**	**-0.7**
	1.4nm,0.5s,mb4.0,baz=195,slow=4.3,SNR=4.4						
BJT	**Baijiatuau**	**40.59**	**24**	P	**P**	**00 02 25.7**	**-0.6**
	9.9nm,0.8s,mb4.5						
BJI	**Beijing**	**40.61**	**24**	*e*P	**P**	**00 02 26.3**	**-0.1**
	10.0nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**44.42**	**347**	P	**P**	**00 02 56.6**	**-0.8**
	2.0nm,0.5s,mb4.1,baz=162,slow=8.4,SNR=32						
WRA	**Warramunga Arr**	**44.70**	**123**	P	**P**	**00 03 00.2**	**+0.1**
	1.1nm,0.6s,mb3.9,baz=301,slow=9.2,SNR=14						
WRAB	**Tennant Creek**	**44.70**	**123**	P	**P**	**00 02 59.6**	**-0.5**
	8.9nm,1.0s,mb4.5						
SONM	**Songino Array**	**44.88**	**10**	P	**P**	**00 02 59.9**	**-1.2**
	0.6nm,0.4s,mb3.8,baz=189,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**46.16**	**128**	P	**P**	**00 03 12.0**	**+0.4**
	0.3nm,0.5s,mb3.5,baz=298,slow=8.1,SNR=8.1						
KURK	**Kurchatov**	**48.95**	**346**	P	**P**	**00 03 27.1**	**-6.0**
	2.0nm,1.0s,mb4.1						
ZAL	**Zalesovo**	**50.81**	**352**	P	**P**	**00 03 46.5**	**-0.8**
	2.5nm,0.5s,mb4.4,baz=319,slow=5.6,SNR=14						
ZAL	**Zalesovo**	**50.81**	**352**	P	**P**	**00 03 46.5**	**-0.8**
BVAR	**Borovoye Array**	**53.35**	**341**	P	**P**	**00 04 05.1**	**-1.3**
	2.6nm,0.6s,mb4.3,baz=141,slow=8.7,SNR=18						
BVAR	**Borovoye Array**	**53.35**	**341**	P	**P**	**00 04 05.0**	**-1.3**
IDI	**Anoyia**	**72.17**	**306**	P	**P**	**00 06 12.5**	**+0.8**
	1.3nm,0.6s,mb4.0,baz=252,slow=23,SNR=4.9						
AKASG	**Malin Array Be**	**72.31**	**322**	P	**P**	**00 06 10.9**	**-1.4**
	0.6nm,0.5s,mb3.8,baz=89,slow=4.4,SNR=4.5						
DZM	**Mont Dzumac**	**73.72**	**114**	LR	LR	00 40 33.3	
	comp=Z,99nm,19.8s,MS4.1,baz=15,slow=37						
FINES	**FINESS Array B**	**77.04**	**332**	P	**P**	**00 06 38.8**	**-0.4**
	0.6nm,0.6s,mb3.7,baz=108,slow=6.0,SNR=6.5						
ARCES	**ARCESS Array B**	**79.63**	**340**	P	**P**	**00 06 53.1**	**-0.2**
	5.3nm,1.1s,mb4.4,baz=100,slow=7.4,SNR=4.4						
GERES	**GERESS Array B**	**81.89**	**319**	P	**P**	**00 07 06.8**	**+1.2**
	0.6nm,0.5s,mb3.8,baz=115,slow=5.0,SNR=8.5						
HFS	**Hagfors**	**82.76**	**330**	P	**P**	**00 07 10.2**	**+0.3**
	1.6nm,0.8s,mb4.1,baz=90,slow=1.5,SNR=4.7						
DAVOX	**Davos**	**84.40**	**316**	P	**P**	**00 07 19.3**	**+0.8**
	1.6nm,0.6s,mb4.4,baz=160,slow=14,SNR=6.0						

IDC 10 00:11:24.9±4.5,0.57S×98.78E,mb3.4/4,mb1 3.6/4, mb1mx3.4/17,mbtmp3.4/4,Error ellipse: s-maj=176.5km s-min=24.4km az=59.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.77**	**121**	P	P	00 18 59.4	-2.0
	0.4nm,0.7s,baz=312,slow=9.5,SNR=8.8						
ASAR	**Alice Springs**	**41.08**	**127**	P	P	00 19 10.9	-1.2
	0.4nm,0.6s,baz=302,slow=8.0,SNR=6.4						
SONM	**Songino Array**	**48.67**	**7**	P	P	00 20 11.2	-1.5
	0.4nm,0.6s,baz=191,slow=7.3,SNR=3.9						
MKAR	**Makanchi Array**	**49.34**	**345**	P	P	00 20 15.4	-2.5
	0.4nm,0.6s,baz=160,slow=7.7,SNR=4.7						

*BJI **10** 00:55:09.9,0.33N×97.30E,h22km,mB4.9,mb4.9,Ms4.4, Msz4.1*

*IDC **10** 00:55:14.9±0.7,1.19N×97.11E,mb4.3/17,mb1 4.4/18, mb1mx4.3/24,mbtmp4.3/18,ML4.6/1,MS3.5/4,Ms1 3.5/4, ms1mx3.1/26,Error ellipse: s-maj=22.4km s-min=14.8km az=50.0*

*MOS **10** 00:55:17.8±0.7,1.20N×97.17E,h33km,mb4.9/14,Error ellipse: s-maj=19.2km s-min=8.5km az=101.4*

*NEIC **10** 00:55:18.4±0.4,1.18N×97.15E,mb4.7/16,Error ellipse: s-maj=9.1km s-min=7.1km az=58.0*

ISC 10 00:55:16.7±0.5,1.17N±0.06×97.14E±0.06,h24km, h24km±1.0km:pP-P,n84,σ0°89/87,mb4.5/44,MS3.7/8, 3C-2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.15**	**49**	P	**Pn**	**00 56 34.9**	**+0.5**
KULM	**Kulim**	**5.38**	**41**	⇑*i*P	**Pn**	**00 56 37.7**	**0.0**
KULM				*e*		00 56 43.6	
KGM	**Kluang**	**6.23**	**82**	P	**Pn**	**00 56 50.8**	**+1.1**
SNG	**Songkhla**	**6.90**	**30**	P	**Pn**	**00 56 58.0**	**-1.1**
	106nm,0.8s						
CM31	**Chiang Mai Arr**	**17.27**	**6**	P	**P**	**00 59 17.4**	**-0.7**
	11nm,0.4s						
CMAR	**Chiang Mai Arr**	**17.27**	**6**	P	**P**	**00 59 17.1**	**-1.0**
	0.9nm,0.3s,baz=196,slow=11,SNR=18						
CMAR				LR	LR	01 05 55.6	
	comp=Z,131nm,20.7s,baz=190,slow=37						
CHG	**Chiang Mai**	**17.62**	**6**	P	**P**	**00 59 23.8**	**+1.3**
NANT	**Nan**	**17.86**	**11**	P	**P**	**00 59 27.0**	**+1.5**
	150nm,0.9s						
KKM	**Kota Kinabalu**	**19.64**	**75**	P	**P**	**00 59 46.8**	**-0.1**
HYB	**Hyderabad**	**24.39**	**313**	*e*P	**P**	**01 00 39.5**	**+4.9**
HYB	**Hyderabad**	**24.39**	**313**	*i*P	**P**	**01 00 39.5**	**+4.9**
KMI	**Kunming**	**24.42**	**12**	P	**P**	**01 00 37.3**	**+2.4**
KMI				AP		01 00 43.4	
KMI				XP		01 00 46.2	
KMI				PP	PP	01 01 14.3	+3.8
KMI				S	**S**	**01 04 54.6**	**+4.3**
KMI				AMB	AMB		
	comp=Z,33nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,170nm,5.3s						
KMI				LR	LR		
	comp=N,429nm,14.0s,MS4.2						
KMI				LR	LR		
	comp=E,258nm,11.7s,MS4.2						
KMI				LR	LR		
	comp=Z,442nm,15.7s,MS4.0						
KMI	**Kunming**	**24.42**	**12**	P	**P**	**01 00 37.3**	**+2.4**
KMI				*SP		01 00 46.2	
KMI						01 01 14.3	
KMI				S	**S**	**01 04 54.6**	**+4.3**
KMI				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.6						
KMI				MLR	MLR		
	comp=Z,440nm,15.7s,MS4.0						
KMI	**Kunming**	**24.42**	**12**	P	**P**	**01 00 37.3**	**+2.4**
	comp=Z,33nm,1.2s,mb4.6						
KMI				pP		01 00 43.4	
KMI				sP		01 00 46.2	
KMI				PP	PP	01 01 14.3	+3.8
KMI				S	**S**	**01 04 54.6**	**+4.3**
KMI				sS		01 05 03.1	
KMI				SS	SS	01 05 51.2	+6.1
KMI				LR	LR		
	comp=Z,440nm,15.7s,MS4.0						
SHL	**Shillong**	**24.78**	**349**	*e*P	**P**	**01 00 39.5**	**+1.2**
GYA	**Guiyang**	**26.76**	**19**	P	**P**	**01 00 56.6**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**28.35**	**339**	*e*P	**P**	**01 01 12.0**	**+0.8**
	comp=Z,30nm,0.8s,mb5.0						
PKI	**Pulchoki**	**28.56**	**338**	*e*P	**P**	**01 01 11.5**	**-1.6**
	comp=Z,14nm,0.7s,mb4.8						
PKI	**Pulchoki**	**28.56**	**338**	*e*P	**P**	**01 01 11.5**	**-1.6**
PKI				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
DMN	**Daman**	**28.70**	**337**	*e*P	**P**	**01 01 13.4**	**-1.0**
	comp=Z,15nm,0.8s,mb4.8						
KKN	**Kakani**	**28.80**	**338**	*e*P	**P**	**01 01 14.6**	**-0.7**
	comp=Z,34nm,1.0s,mb5.0						
KKN	**Kakani**	**28.80**	**338**	*e*P	**P**	**01 01 14.6**	**-0.7**
KKN				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
LSA	**Lhasa**	**28.94**	**349**	*e*P	**P**	**01 01 17.3**	**+0.8**
GKN	**Gorkha**	**29.24**	**337**	*e*P	**P**	**01 01 19.1**	**-0.1**
	comp=Z,82nm,1.4s,mb5.3						
KOLN	**Koldanda**	**29.46**	**335**	*e*P	**P**	**01 01 22.0**	**+0.8**
	comp=Z,23nm,0.9s,mb4.9						
ENH	**Enshi**	**31.23**	**21**	*e*P	**P**	**01 01 35.3**	**-1.5**
	comp=Z,14nm,0.6s,mb5.0						
ENH				*e*	pP	01 01 41.8	-2.0
FITZ	**Fitzroy Crossi**	**33.96**	**126**	LR	LR	01 18 19.4	
	comp=Z,113nm,18.1s,MS3.6,baz=281,slow=41						
XAN	**Xi'an**	**34.51**	**17**	P	**P**	**01 02 03.9**	**-1.4**
XAN				AP	pP	01 02 11.2	-1.2
XAN				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.8						
GTA	**Gaotai**	**38.13**	**3**	*e*P	**P**	**01 02 36.7**	**+0.8**
GTA				AP	pP	01 02 44.6	+1.6
GTA				XP	sP	01 02 48.5	+2.5
GTA				PP	PP	01 04 05.1	-1.4
GTA				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,78nm,6.5s						
GTA				LR	LR		
	comp=N,140nm,14.8s,MS3.9						
GTA				LR	LR		
	comp=E,98nm,17.9s,MS3.9						
GTA				LR	LR		
	comp=Z,163nm,16.0s,MS3.9						
JOW	**Kunigami**	**39.30**	**47**	P	**P**	**01 02 46.5**	**+0.7**
	comp=Z,8.9nm,0.6s,mb4.7,baz=140,slow=26,SNR=3.6						
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**01 03 08.5**	**-0.2**
	comp=Z,3.5nm,0.5s,mb4.2,baz=301,slow=9.1,SNR=21						
WRAB	**Tennant Creek**	**42.08**	**122**	*e*P	**P**	**01 03 08.4**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**42.08**	**122**	*e*P	**P**	**01 03 08.4**	**-0.4**
	comp=Z,5.3nm,0.5s,mb4.4						
BJT	**Baijiatuau**	**42.36**	**22**	*e*P	**P**	**01 03 11.6**	**+0.7**
BJT				pmax	pmax		
	comp=Z,15nm,0.4s						
BJT	**Baijiatuau**	**42.36**	**22**	*e*P	**P**	**01 03 11.6**	**+0.7**
	comp=Z,15nm,0.4s,mb5.0						
BJI	**Beijing**	**42.39**	**22**	*e*P	**P**	**01 03 10.6**	**-0.5**
BJI				S	**S**	**01 09 43.8**	**+13**
BJI				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=Z,42nm,22.9s,MS3.3						
BJI	**Beijing**	**42.39**	**22**	*e*P	**P**	**01 03 10.6**	**-0.5**
BJI				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
BJI				MLR	MLR		
	comp=Z,40nm,22.9s,MS3.2						
BJI	**Beijing**	**42.39**	**22**	*e*P	**P**	**01 03 10.6**	**-0.5**
	comp=Z,18nm,0.8s,mb4.8						
BJI				S	**S**	**01 09 43.8**	**+13**
BJI				LR	LR		
	comp=Z,40nm,22.9s,MS3.2						
WMQ	**Urumqi**	**43.29**	**350**	⇑P	**P**	**01 03 19.8**	**+1.4**
WMQ				AP	pP	01 03 26.8	+1.3
WMQ				XP	sP	01 03 30.3	+1.8
WMQ				PP	PP	01 05 02.6	+1.5
WMQ				PCP	PcP	01 05 09.0	+1.3
WMQ				S	**S**	**01 09 45.1**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,82nm,4.7s						
WMQ				LR	LR		
	comp=N,334nm,18.6s,MS4.4						
WMQ				LR	LR		
	comp=E,349nm,22.4s,MS4.4						
WMQ				LR	LR		
	comp=Z,267nm,19.4s,MS4.2						
ASAR	**Alice Springs**	**43.43**	**127**	P	**P**	**01 03 19.8**	**0.0**
	comp=Z,1.6nm,0.4s,mb4.1,baz=304,slow=7.8,SNR=16						
ASAR				PcP	PcP	01 05 08.8	+0.3
	comp=Z,0.8nm,0.8s,baz=292,slow=2.9,SNR=4.3						
ASAR				LR	LR	01 23 46.8	
	comp=Z,49nm,19.4s,MS3.4,baz=317,slow=39						
SONM	**Songino Array**	**47.17**	**8**	P	**P**	**01 03 49.8**	**+0.5**
	comp=Z,3.2nm,0.6s,mb4.4,baz=190,slow=9.6,SNR=31						
SONM				PcP	PcP	01 05 21.2	+0.2
	comp=Z,1.1nm,0.4s,baz=183,slow=4.2,SNR=6.3						
MKAR	**Makanchi Array**	**47.25**	**346**	*e*P	**P**	**01 03 50.3**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**47.25**	**346**	P	**P**	**01 03 50.5**	**+0.5**
	comp=Z,4.1nm,0.5s,mb4.6,baz=160,slow=9.1,SNR=95						
MKAR				LR	LR	01 25 48.5	
	comp=Z,33nm,19.4s,MS3.3,baz=357,slow=39						
MKAR	**Makanchi Array**	**47.25**	**346**	P	**P**	**01 03 50.5**	**+0.5**
MKAR				LR	LR	01 25 48.5	
ULN	**Ulaanbaatar**	**47.30**	**9**	*e*P	**P**	**01 03 50.5**	**+0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**47.30**	**9**	*e*P	**P**	**01 03 50.5**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.3						
KKAR	**Karatay Array**	**48.05**	**334**	*e*P	**P**	**01 03 57.3**	**+1.0**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ZAK	**Zakamensk**	**49.30**	**5**	*e*P	**P**	**01 04 05.9**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.5s,mb3.6						
CN2	**Changchun**	**49.35**	**27**	*e*P	**P**	**01 04 05.3**	**-1.0**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
TLY	**Talaya**	**50.62**	**5**	*e*P	**P**	**01 04 15.6**	**-0.3**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
TLY				MLR	MLR		
	comp=Z,99nm,18.0s,MS3.9						
HIA	**Hailar**	**51.69**	**19**	*e*P	**P**	**01 04 23.7**	**-0.3**
HIA				pmax	pmax		
	comp=Z,11nm,0.9s						
HIA	**Hailar**	**51.69**	**19**	*e*P	**P**	**01 04 23.7**	**-0.3**
	comp=Z,11nm,0.9s,mb4.8						
MJAR	**Matsushiro Arr**	**51.75**	**42**	P	**P**	**01 04 23.7**	**-1.0**
	comp=Z,1.0nm,0.7s,mb3.9,baz=218,slow=6.4,SNR=5.5						
MJAR	**Matsushiro Arr**	**51.75**	**42**	P	**P**	**01 04 23.7**	**-1.0**
KURK	**Kurchatov**	**51.80**	**345**	*e*P	**P**	**01 04 24.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**51.80**	**345**	*e*P	**P**	**01 04 24.6**	**-0.3**
	comp=Z,7.3nm,1.0s,mb4.6						
OPO	**Ambohidratompo**	**52.86**	**246**	P	**P**	**01 04 33.9**	**+0.7**
	comp=Z,2.3nm,0.9s,mb4.1,baz=135,slow=11,SNR=2.7						
STKA	**Stephens Creek**	**53.38**	**132**	P	**P**	**01 04 37.3**	**+0.4**
	comp=Z,3.3nm,0.5s,mb4.5,baz=320,slow=7.1,SNR=6.9						
STKA	**Stephens Creek**	**53.38**	**132**	*e*P	**P**	**01 04 37.1**	**+0.1**
STKA				*e*	pP	01 04 44.9	+0.7
ZAL	**Zalesovo**	**53.57**	**351**	P	**P**	**01 04 38.2**	**+0.2**
	comp=Z,5.5nm,0.5s,mb4.7,baz=314,slow=6.4,SNR=32						
ZAL	**Zalesovo**	**53.57**	**351**	P	**P**	**01 04 38.2**	**+0.2**
NVS	**Novosibirsk**	**54.69**	**350**	*i*P	**P**	**01 04 36.6**	**-10**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.0s						
BVA0	**Borovoye Array**	**56.26**	**341**	*i*P	**P**	**01 04 55.8**	**-1.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**56.26**	**341**	P	**P**	**01 04 56.6**	**-0.9**
	comp=Z,3.4nm,0.6s,mb4.5,baz=146,slow=8.6,SNR=29						
KLR	**Kul'dur**	**56.30**	**27**	*e*P	**P**	**01 04 53.8**	**-4.1**
CHKZ	**Chkalovo**	**56.73**	**341**	*e*P	**P**	**01 05 00.1**	**-0.9**
CHKZ				*e*	pP	01 05 06.5	-1.8
CHKZ				pmax	pmax		
	comp=Z,59nm,0.8s						
CHKZ	**Chkalovo**	**56.73**	**341**	*e*P	**P**	**01 05 00.1**	**-0.8**
	comp=Z,59nm,0.8s						
CHKZ				*e*	pP	01 05 06.5	-1.8
BOD	**Bodaibo**	**58.05**	**11**	*e*P	**P**	**01 05 09.3**	**-0.8**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
SVE	**Sverdlovsk**	**62.69**	**338**	*e*P	**P**	**01 05 41.4**	**-0.5**
SVE				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
YAK	**Yakutsk**	**65.46**	**16**	*e*P	**P**	**01 05 58.6**	**-1.3**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=E,3.0nm,1.3s						
BRTR	**Keskin Array B**	**69.08**	**312**	P	**P**	**01 06 22.4**	**-0.7**
	comp=E,1.0nm,0.7s,mb3.9,baz=144,slow=6.7,SNR=7.2						
AKASG	**Malin Array Be**	**75.24**	**322**	P	**P**	**01 06 58.7**	**-0.7**
	comp=E,0.4nm,0.3s,mb3.8,baz=96,slow=4.0,SNR=5.0						
AKASG	**Malin Array Be**	**75.24**	**322**	P	**P**	**01 06 58.7**	**-0.7**
VRI	**Vrincioaia**	**75.60**	**317**	⇑P	**P**	**01 07 01.4**	**-0.2**
MLR	**Muntele Rosu**	**76.05**	**317**	⇓P	**P**	**01 07 04.5**	**+0.4**
BURAR	**Bucovina Array**	**77.00**	**319**	⇓P	**P**	**01 07 11.2**	**+1.8**
FINES	**FINESS Array B**	**80.00**	**333**	P	**P**	**01 07 25.3**	**-0.2**
	comp=E,1.0nm,0.6s,mb3.9,baz=104,slow=5.0,SNR=15						
FX1	**Attu Island--F**	**80.65**	**37**	P	**P**	**01 07 29.9**	**+0.8**
	comp=E,6.1nm,0.6s,mb4.7,baz=72,slow=22,SNR=2.9						
ARCES	**ARCESS Array B**	**82.54**	**340**	P	**P**	**01 07 39.0**	**+0.4**
	comp=E,2.7nm,0.8s,mb4.3,baz=72,slow=3.8,SNR=7.6						
GERES	**GERESS Array B**	**84.79**	**319**	P	**P**	**01 07 51.4**	**+0.9**
	comp=E,0.7nm,0.8s,mb3.9,baz=90,slow=4.0,SNR=6.8						
NOA	**NORSAR Array B**	**87.00**	**331**	P	**P**	**01 08 00.5**	**-0.7**
	comp=E,1.0nm,0.8s,mb4.1,baz=94,slow=5.0,SNR=3.3						
NOA	**NORSAR Array B**	**87.00**	**331**	P	**P**	**01 08 00.5**	**-0.7**
YKA	**Yellowknife Ar**	**112.13**	**15**	PP	PP	01 14 30.5	-8.5
	comp=E,0.1nm,0.4s,baz=328,slow=6.5,SNR=3.8						
JCT	**Junction City**	**144.63**	**26**	*e*PKP	PKPdf	01 14 53.1	-3.4

*IDC **10** 00:56:14.3±1.4,5.46N×126.30E,mb4.0/7,mb1 4.1/7, mb1mx3.8/21,mbtmp4.0/7,MS3.7/1,Ms1 3.6/1, ms1mx2.8/25,Error ellipse: s-maj=76.2km s-min=19.8km az=71.0*

*NEIC **10** 00:56:15.4±0.7,5.55N×126.57E,h10km,mb4.3/2,Error ellipse: s-maj=38.1km s-min=12.2km az=81.0*

*MAN **10** 00:56:22.6,4.94N×126.31E,h63km,mb4.3,ML3.2,MS3.0*

ISC 10 00:56:26.9±0.9,5.23N±0.10×126.2E±0.1,h116km±13km, n16,σ1°33/18,mb3.9/9,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.71**	**3**	*e*P	**P**	**00 56 54.9**	**-2.2**
MATI				*e*S	**S**	**00 57 19.5**	**-0.3**
KCP	**Kidapawan**	**2.06**	**329**	⇓*e*P	**P**	**00 57 01.2**	**-0.3**
KCP				*i*S	**S**	**00 57 29.9**	**+2.4**
BUKP	**Musuan**	**2.85**	**338**	*e*P	**P**	**00 57 11.1**	**-0.9**
BIPH	**Bislig**	**2.94**	**4**	⇑*e*P	**P**	**00 57 13.7**	**+0.4**
BIPH				*i*S	**S**	**00 57 50.0**	**+1.7**
PAGZ	**Pagadian**	**3.79**	**313**	*e*P	**P**	**00 57 23.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**23.19**	**181**	P	**P**	**01 01 26.4**	**+2.2**
	4.7nm,0.5s,mb4.1,baz=3.8,slow=7.9,SNR=20						
WRAB	**Tennant Creek**	**26.27**	**162**	*e*P	**P**	**01 01 53.3**	**-0.1**
	4.2nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**26.27**	**162**	P	**P**	**01 01 54.4**	**+1.0**
	0.6nm,0.4s,mb3.3,baz=340,slow=10,SNR=14						
ASAR	**Alice Springs**	**29.70**	**166**	P	**P**	**01 02 22.1**	**-2.1**
	0.4nm,0.6s,mb3.3,baz=336,slow=7.3,SNR=7.3						
MAJO	**Matsushiro**	**33.07**	**18**	*e*P	**P**	**01 02 47.2**	**-6.4**
	2.3nm,0.5s,mb4.3						
NWAO	**Narrogin (SRO)**	**38.88**	**192**	P	**P**	**01 03 43.7**	**+1.1**
	3.5nm,0.4s,mb4.5,baz=92,slow=3.2,SNR=7.4						
STKA	**Stephens Creek**	**39.72**	**159**	P	**P**	**01 03 49.3**	**-0.3**
	1.7nm,0.8s,mb4.0,baz=346,slow=8.3,SNR=2.5						
MKAR	**Makanchi Array**	**56.01**	**325**	P	**P**	**01 05 54.0**	**-1.7**
	0.8nm,0.4s,mb4.1,baz=116,slow=7.6,SNR=7.6						
ZAL	**Zalesovo**	**59.01**	**333**	LR	LR	01 33 50.7	
	comp=Z,55nm,18.8s,baz=40,slow=38						
FINES	**FINESS Array B**	**90.25**	**332**	P	**P**	**01 09 16.2**	**+0.8**
	0.6nm,0.7s,mb3.9,baz=45,slow=5.4,SNR=4.7		

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.78**	**291**	*e*P	P	01 13 31.4	+0.4
BUTP				*e*S	S	01 13 43.4	+1.8
BUKP	**Musuan**	**1.52**	**238**	*e*P	P	01 13 41.8	+0.3
CGP	**Cagayan de Oro**	**1.66**	**262**⇓	*e*P	P	01 13 43.9	+0.3
CGP				*e*S	S	01 14 06.4	+2.5
MSLP	**Maasin**	**2.06**	**314**	*e*P	P	01 13 47.6	-1.5
KCP	**Kidapawan**	**2.09**	**217**⇑	*e*P	P	01 13 49.3	-0.4
KCP				*i* S	S	01 14 18.6	+3.9
TBP	**Tagbilaran**	**2.66**	**292**	*e*P	P	01 13 57.9	+0.1
TBP				*i* S	S	01 14 28.9	-0.1
PLP	**Palo**	**2.81**	**331**	*e*P	P	01 14 00.6	+0.7
PLP				*e*S	S	01 14 32.9	+0.1
BESP	**Borongan**	**3.03**	**343**	*e*P	P	01 14 02.9	-0.1
PAGZ	**Pagadian**	**3.06**	**254**	*e*P	P	01 14 05.0	+1.5
CNP	**Cataman**	**4.14**	**336**	*e*P	P	01 14 16.6	-2.2

*IDC **10** 01:18:06.9±1.5, 30.15N×83.55E, mb3.6/9, mb1 3.8/11, mb1mx3.6/25, mbtmp3.6/11, ML3.9/2, Error ellipse: s-maj=51.1km s-min=20.7km az=57.0*
*NEIC **10** 01:18:09.7±4.8, 30.25N×83.59E, h17km±32km, mb3.9/2, Error ellipse: s-maj=14.7km s-min=10.3km az=68.0*
*MOS **10** 01:18:10.3±1.6, 30.26N×83.48E, h33km, mb4.0/5, Error ellipse: s-maj=72.4km s-min=16.9km az=99.5*
*NDI **10** 01:18:13.5±4.3, 29.67N×83.49E, h15km, MD2.9*
ISC 10 01:18:07.6±0.5, 30.24N±0.07×83.75E±0.05, h10km, n29, σ1§10/31, mb3.6/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.14**	**256**	*e*PG	**Pg**	**01 19 09.0**	**-1.3**
LGTI				*e*SG	**Sg**	**01 19 52.0**	**-0.2**
PTH	**Pithoragarh**	**3.14**	**258**	*e*PG	**Pg**	**01 19 05.0**	**-5.3**
PTH				*e*SB	**Sb**	**01 19 43.0**	**+1.3**
DDI	**Dehra Dun**	**4.92**	**272**	*e*P	**Pn**	**01 19 25.5**	**+2.1**
NDI	**New Delhi**	**5.90**	**256**	*e*P	**Pn**	**01 19 38.0**	**+0.8**
LSA	**Lhasa**	**6.45**	**93**	P	**Pn**	**01 19 47.0**	**+2.1**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LSA	**Lhasa**	**6.45**	**93**	P	**Pn**	**01 19 47.0**	**+2.0**
	comp=Z,10.0nm,0.6s						
HYB	**Hyderabad**	**13.62**	**202**	*e*P	**P**	**01 21 22.0**	**-1.3**
HYB	**Hyderabad**	**13.62**	**202**	*i* P	**P**	**01 21 22.0**	**-1.3**
MKAR	**Makanchi Array**	**16.57**	**356**	Pn	**P**	**01 22 01.5**	**0.0**
	comp=Z,0.1nm,0.3s,baz=178,slow=11,SNR=14						
CMAR	**Chiang Mai Arr**	**18.12**	**127**	P	**P**	**01 22 20.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=305,slow=14,SNR=6.4						
KURK	**Kurchatov**	**20.81**	**351**	*e*P	**P**	**01 22 47.7**	**-3.8**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KURK	**Kurchatov**	**20.81**	**351**	*e*P	**P**	**01 22 47.7**	**-3.9**
	comp=Z,6.8nm,1.0s						
ZAL	**Zalesovo**	**23.70**	**2**	P	**P**	**01 23 20.9**	**+0.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**23.70**	**2**	P	**P**	**01 23 20.9**	**+0.8**
	comp=Z,1.2nm,0.5s,mb3.5,baz=288,slow=9.8,SNR=7.1						
SONM	**Songino Array**	**24.72**	**38**	P	**P**	**01 23 30.7**	**+0.6**
	comp=Z,0.3nm,0.5s,mb3.1,baz=233,slow=12,SNR=3.5						
BVAR	**Borovoye Array**	**24.78**	**341**	P	**P**	**01 23 29.7**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.2,baz=153,slow=9.7,SNR=3.2						
CHKZ	**Chkalovo**	**25.29**	**342**	P	**P**	**01 23 34.2**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6						
CHKZ	**Chkalovo**	**25.29**	**342**	P	**P**	**01 23 34.2**	**-1.3**
	comp=Z,2.2nm,1.0s,mb3.6						
FINES	**FINESS Array B**	**48.56**	**327**	P	**P**	**01 26 50.7**	**-2.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=105,slow=7.7,SNR=8.0						
FINES	**FINESS Array B**	**48.56**	**327**	P	**P**	**01 26 50.7**	**-2.0**
ARCES	**ARCESS Array B**	**51.01**	**337**	P	**P**	**01 27 11.4**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	**ARCESS Array B**	**51.01**	**337**	P	**P**	**01 27 11.3**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.1,baz=72,slow=3.8,SNR=3.5						
WRA	**Warramunga Arr**	**69.70**	**129**	P	**P**	**01 29 19.5**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**69.70**	**129**	P	**P**	**01 29 19.5**	**-0.4**
	comp=Z,0.6nm,0.8s,mb3.5,baz=324,slow=6.3,SNR=9.0						
ILAR	**Eielson Array**	**77.44**	**20**	P	**P**	**01 30 04.8**	**+0.7**
	comp=Z,0.4nm,0.8s,mb3.4,baz=304,slow=5.2,SNR=5.5						
INK	**Inuvik**	**77.93**	**13**	*e*P	**P**	**01 30 06.5**	**-0.3**
INK	**Inuvik**	**77.93**	**13**	P	**P**	**01 30 08.0**	**+1.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=255,slow=3.2,SNR=4.0						
YKA	**Yellowknife Ar**	**86.42**	**8**	P	**P**	**01 30 50.5**	**-0.5**
	comp=Z,0.3nm,0.6s,mb3.7,baz=337,slow=5.1,SNR=8.1						
YKA	**Yellowknife Ar**	**86.42**	**8**	P	**P**	**01 30 50.5**	**-0.5**

*ATH **10** 01:30:28.5, 38.97N×21.09E, h22km±5km, MD3.1/6*
*NEIC **10** 01:30:28.5, 38.97N×21.09E, h22km, MD3.1(ATH), After ATH.*
*THE **10** 01:30:29.3, 39.02N×21.09E, h10km, ML2.8*
*CSEM **10** 01:30:29.5±0.1, 38.93N×21.05E, h10km, ML2.8, Error ellipse: s-maj=3.1km s-min=2.1km az=164.0*
ISC 10 01:30:28.0±0.8, 38.97N±0.04×21.06E±0.05, h6km±7km, n19, σ1§13/23, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.41**	**230**	*e*Pg	**Pg**	**01 30 38.5**	**+2.2**
EVR	**Evrytania**	**0.59**	**95**⇓	*i* PN	**Pn**	**01 30 39.7**	**-2.9**
JAN	**Janina**	**0.70**	**347**	*e*PB	**Pb**	**01 30 41.6**	**-0.7**
JAN				*e*SN	**Sn**	**01 30 52.5**	**-2.9**
IGT	**Igoumenitsa**	**0.79**	**315**	*e*Pg	**Pg**	**01 30 43.9**	**0.0**
MEV	**Metsovon**	**0.82**	**9**	*e*Pg	**Pg**	**01 30 43.3**	**-1.2**
VLS	**Valsamata**	**0.87**	**205**	*e*PN	**Pn**	**01 30 45.7**	**-0.9**
RLS	**Riolos of Patr**	**0.97**	**160**	*e*PN	**Pn**	**01 30 47.8**	**-0.2**
AGG	**Agios Georgios**	**0.99**	**87**	*e*Pg	**Pg**	**01 30 46.8**	**-1.1**
AGG				*e*Sg	**Sg**	**01 31 02.1**	**+1.0**
SRN	**Sarande**	**1.22**	**318**	*i* Pn	**Pn**	**01 30 52.6**	**+1.0**
KEK	**Kerkira**	**1.22**	**308**	*e*PN	**Pn**	**01 30 52.6**	**+0.9**
LSK	**Leskovik**	**1.23**	**343**	*i* Pn	**Pn**	**01 30 50.4**	**-1.3**
LSK				*i* Sn	**Sn**	**01 31 10.4**	**+1.6**
LIT	**Litokhoron**	**1.58**	**44**	*e*Pb	**Pb**	**01 30 57.5**	**+0.2**
LIT				*e*Sb	**Sb**	**01 31 19.4**	**+1.9**
NEO	**Neokhori**	**1.72**	**78**	*e*PN	**Pn**	**01 30 58.9**	**+0.2**
FNA	**Florina**	**1.83**	**8**	*e*Pb	**Pb**	**01 31 01.0**	**-0.5**
AOS	**Alonnisos**	**2.21**	**84**	*e*Pn	**Pn**	**01 31 05.6**	**-0.1**
GRG	**Griva**	**2.24**	**27**	*e*Pn	**Pn**	**01 31 05.4**	**-0.8**
PAIG	**Paliouri**	**2.24**	**64**	*e*Pn	**Pn**	**01 31 07.1**	**+0.8**
SOH	**Sokhos**	**2.56**	**43**	*e*Pn	**Pn**	**01 31 10.8**	**0.0**
SRS	**Serrai**	**2.90**	**41**	*e*Pn	**Pn**	**01 31 15.9**	**+0.3**

*IDC **10** 01:31:01.9±0.4, 0.36S×96.79E, mb4.4/23, mb1 4.5/24, mb1mx4.4/25, mbtmp4.4/24, ML4.5/1, MS4.0/14, Ms1 4.0/14, ms1mx3.9/22, Error ellipse: s-maj=16.5km s-min=11.4km az=59.0*
*BJI **10** 01:31:05.0, 0.72S×96.60E, h48km, mB5.2, mb4.7, Ms4.7, Msz4.5*
*MOS **10** 01:31:05.5±1.2, 0.32S×96.80E, h33km, mb4.9/19, MS4.3/7, Error ellipse: s-maj=14.0km s-min=7.1km az=108.9*
*NEIC **10** 01:31:06.5±0.2, 0.37S×96.87E, mb4.8/21, Error ellipse: s-maj=6.5km s-min=5.0km az=60.0*
ISC 10 01:31:04.7±0.3, 0.37S±0.04×96.87E±0.05, h31km, h31km±1.8km:pP-P, n122, σ1§02/130, mb4.6/62, MS4.3/26, 7C-8D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**6.44**	**40**	P	**Pn**	**01 32 37.6**	**-2.4**
KULM	**Kulim**	**6.77**	**34**⇑	*i* P	**Pn**	**01 32 41.6**	**-3.1**
KGM	**Kluang**	**6.87**	**70**	P	**Pn**	**01 32 44.3**	**-1.8**
PALK	**Pallekele**	**17.82**	**296**	*e*P	**P**	**01 35 13.2**	**+0.8**
	46nm,1.5s						
CM31	**Chiang Mai Arr**	**18.82**	**6**	*e*P	**P**	**01 35 24.3**	**-0.3**
	17nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.82**	**6**	P	**P**	**01 35 24.1**	**-0.5**
	0.6nm,0.3s,baz=195,slow=11,SNR=33						
CMAR				LR	LR	01 42 55.0	
	comp=Z,716nm,19.6s,baz=180,slow=38						
CHG	**Chiang Mai**	**19.17**	**6**	P	**P**	**01 35 29.2**	**+0.5**
NANT	**Nan**	**19.42**	**11**	P	**P**	**01 35 34.5**	**+3.0**
	88nm,1.0s						
KKM	**Kota Kinabalu**	**20.34**	**71**	*e*P	**P**	**01 35 40.6**	**-0.8**
KKM	**Kota Kinabalu**	**20.34**	**71**	P	**P**	**01 35 41.0**	**-0.4**
TRD	**Trivandrum**	**21.71**	**294**⇓	*e*P	**P**	**01 35 55.2**	**-0.2**
TRD				*e*S	**S**	**01 39 33.2**	**-16**
QIZ	**Qiongzhong**	**23.11**	**33**⇑	*i* P	**P**	**01 36 09.8**	**+0.5**
QIZ				S	**S**	**01 40 18.9**	**+4.7**
QIZ				AMB	AMB		
	comp=Z,354nm,9.5s						
QIZ				LR	LR		
	comp=N,365nm,13.0s,MS4.4						
QIZ				LR	LR		
	comp=E,915nm,14.0s,MS4.4						
QIZ				LR	LR		
	comp=Z,1μm,11.3s,MS4.6						
HYB	**Hyderabad**	**25.25**	**315**	*e*P	**P**	**01 36 31.5**	**+1.5**
HYB	**Hyderabad**	**25.25**	**315**	*i* P	**P**	**01 36 31.5**	**+1.5**
KMI	**Kunming**	**25.97**	**12**	P	**P**	**01 36 40.1**	**+3.5**
KMI				AP	pP	01 36 49.3	+3.6
KMI				XP	sP	01 36 53.7	+3.8
KMI				S	**S**	**01 40 58.3**	**-4.5**
KMI				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.5						
KMI				AMB	AMB		
	comp=Z,269nm,12.0s						
KMI				LR	LR		
	comp=N,1μm,14.8s						
KMI				LR	LR		
	comp=E,833nm,20.9s						
KMI				LR	LR		
	comp=Z,1μm,14.0s,MS4.5						
KMI	**Kunming**	**25.97**	**12**	P	**P**	**01 36 40.1**	**+3.5**
KMI				*PP	pP	01 36 49.3	+3.6
KMI				*SP	sP	01 36 53.7	+3.8
KMI						01 37 16.9	
KMI				S	**S**	**01 40 58.3**	**-4.5**
KMI				*SS		01 41 18.5	
KMI				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.5						
KMI				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.5						
KMI	**Kunming**	**25.97**	**12**	P	**P**	**01 36 40.1**	**+3.5**
	comp=Z,19nm,1.3s,mb4.5						
KMI				pP	pP	01 36 49.3	+3.6
KMI				sP	sP	01 36 53.7	+3.8
KMI				PP	PP	01 37 16.9	-1.0
KMI				S	**S**	**01 40 58.3**	**-4.5**
KMI				sS		01 41 18.5	
KMI				SS	SS	01 41 55.3	-14
KMI				LR	LR		
	comp=Z,1μm,14.0s,MS4.5						
SHL	**Shillong**	**26.23**	**350**	*e*P	**P**	**01 36 40.0**	**+1.0**
SHL				*e*S	**S**	**01 41 19.0**	**+12**
GYA	**Guiyang**	**28.30**	**19**	P	**P**	**01 36 59.5**	**+1.7**
GYA				AP	pP	01 37 09.1	+2.2
GYA				S	**S**	**01 41 40.0**	**-0.5**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,300nm,7.8s						
GYA				LR	LR		
	comp=N,630nm,16.1s,MS4.5						
GYA				LR	LR		
	comp=E,710nm,13.4s,MS4.5						
GYA				LR	LR		
	comp=Z,940nm,17.0s,MS4.5						
JIRN	**Jiri**	**29.70**	**341**	*e*P	**P**	**01 37 10.6**	**+0.2**
	comp=Z,41nm,1.1s,mb5.1						
PKI	**Pulchoki**	**29.89**	**339**	*e*P	**P**	**01 37 12.1**	**0.0**
	comp=Z,7.1nm,0.5s,mb4.7						
PKI	**Pulchoki**	**29.89**	**339**	*e*P	**P**	**01 37 12.1**	**0.0**
PKI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
DMN	**Daman**	**30.03**	**339**	*e*P	**P**	**01 37 12.5**	**-0.8**
	comp=Z,9.8nm,0.7s,mb4.7						
GUN	**Gumba**	**30.03**	**340**	*e*P	**P**	**01 37 13.3**	**-0.1**
	comp=Z,22nm,0.7s,mb5.0						
KKN	**Kakani**	**30.13**	**339**	*e*P	**P**	**01 37 13.6**	**-0.6**
	comp=Z,69nm,1.5s,mb5.2						
KKN	**Kakani**	**30.13**	**339**	*e*P	**P**	**01 37 13.6**	**-0.6**
KKN				pmax	pmax		
	comp=Z,35nm,1.5s,mb4.9						
LSA	**Lhasa**	**30.40**	**350**	*e*P	**P**	**01 37 18.1**	**+1.5**
GKN	**Gorkha**	**30.56**	**338**	*e*P	**P**	**01 37 18.0**	**0.0**
	comp=Z,28nm,0.9s,mb5.1						
KOLN	**Koldanda**	**30.75**	**337**	*e*P	**P**	**01 37 19.4**	**-0.2**
	comp=Z,50nm,1.0s,mb5.3						
ENH	**Enshi**	**32.76**	**20**	*e*P	**P**	**01 37 36.7**	**-0.5**
	comp=Z,9.1nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.31**	**124**	P	**P**	**01 37 41.9**	**-0.3**
	comp=Z,4.8nm,0.7s,mb4.6,baz=342,slow=5.3,SNR=8.5						
FITZ				LR	LR	01 49 55.7	
	comp=Z,131nm,21.3s,MS3.6,baz=283,slow=34						
XAN	**Xi'an**	**36.05**	**17**	P	**P**	**01 38 05.1**	**-0.4**
XAN				S	**S**	**01 43 41.6**	**-0.2**
XAN				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.8						
XAN				LR	LR		
	comp=N,473nm,12.6s,MS4.6						
XAN				LR	LR		
	comp=E,375nm,12.1s,MS4.6						
XAN				LR	LR		
	comp=Z,624nm,12.1s,MS4.6						
LZH	**Lanzhou**	**36.85**	**9**	*e*P	**P**	**01 38 13.4**	**+1.2**
LZH				AP	pP	01 38 26.4	+4.9
LZH				PP	PP	01 39 41.0	+2.8
LZH				S	**S**	**01 43 57.4**	**+3.4**
LZH				AMB	AMB		
	comp=Z,52nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,300nm,5.0s						
LZH				LR	LR		
	comp=E,1μm,15.3s						
LZH				LR	LR		
	comp=Z,1μm,16.3s,MS4.8						
LZH	**Lanzhou**	**36.85**	**9**	*e*P	**P**	**01 38 13.4**	**+1.2**
LZH				*PP	pP	01 38 21.6	+0.1
LZH				*SP	sP	01 38 26.4	+1.0
LZH						01 39 41.0	
LZH				S	**S**	**01 43 57.4**	**+3.4**
LZH				*SS		01 44 14.5	
LZH				SS	SS	01 46 22.3	-0.6
LZH				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.2						
LZH				MLR	MLR		
	comp=Z,1μm,16.3s,MS4.8						
LZH	**Lanzhou**	**36.85**	**9**	*e*P	**P**	**01 38 13.4**	**+1.2**
	comp=Z,52nm,1.2s,mb5.2						
LZH				pP	pP	01 38 21.6	+0.1
LZH				sP	sP	01 38 26.4	+1.0
LZH				PP	PP	01 39 41.0	+2.8
LZH				S	**S**	**01 43 57.4**	**+3.4**
LZH				sS		01 44 14.5	
LZH				SS	SS	01 46 22.3	-0.6
LZH				LR	LR		
	comp=Z,1μm,16.3s,MS4.8						
NWAO	**Narrogin (SRO)**	**37.63**	**151**	P	**P**	**01 38 19.6**	**+0.8**
	comp=Z,4.5nm,0.9s,mb4.2,baz=18,slow=15,SNR=3.1						
NJ2	**Nanjing**	**38.37**	**31**	*e*P	**P**	**01 38 28.5**	**+3.5**
NJ2				AP	pP	01 38 38.2	+3.9
NJ2				PP	PP	01 40 00.4	+3.9
NJ2				S	**S**	**01 44 23.0**	**+5.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1μm,3.8s						
SSE	**Sheshan**	**38.88**	**34**	*e*P	**P**	**01 38 30.6**	**+1.3**
SSE				S	**S**	**01 44 29.3**	**+4.3**
SSE				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,182nm,3.5s						
SSE				LR	LR		
	comp=N,619nm,13.2s,MS4.7						
SSE				LR	LR		
	comp=E,480nm,13.2s,MS4.7						
SSE				LR	LR		
	comp=Z,1μm,12.7s,MS4.9						
SSE	**Sheshan**	**38.88**	**34**	*e*P	**P**	**01 38 30.6**	**+1.3**
	comp=Z,24nm,0.8s,mb5.0						
SSE				pP	pP	01 38 39.3	+0.6
SSE				PP	PP	01 40 01.2	-1.2
SSE				S	**S**	**01 44 29.3**	**+4.3**
SSE				sS		01 44 46.2	
SSE				SS	SS	01 47 35.8	+27
SSE				LR	LR		
	comp=Z,1μm,12.7s,MS4.9						
GTA	**Gaotai**	**39.68**	**4**	*e*P	**P**	**01 38 35.3**	**-0.6**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.9s,mb3.8						
WRA	**Warramunga Arr**	**41.51**	**120**	P	**P**	**01 38 51.2**	**0.0**
	comp=Z,2.3nm,0.5s,mb4.0,baz=300,slow=8.9,SNR=33						
WRAB	**Tennant Creek**	**41.52**	**120**⇑	*e*P	**P**	**01 38 52.3**	**+1.1**
WRAB	**Tennant Creek**	**41.52**	**120**	*e*P	**P**	**01 38 51.0**	**-0.2**
	comp=Z,18nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**42.74**	**126**	P	**P**	**01 39 01.4**	**+0.3**
	comp=Z,2.7nm,0.5s,mb4.3,baz=297,slow=7.7,SNR=58						
ASAR				PcP	PcP	01 40 53.3	+0.3
	comp=Z,1.2nm,0.8s,baz=276,slow=3.3,SNR=4.2						
HHC	**Hu-ho-hao-te**	**43.15**	**16**	*e*P	**P**	**01 39 04.2**	**-0.1**
HHC				PP	PP	01 40 45.7	-1.0
HHC				PCP	PcP	01 40 53.5	-0.6
HHC				SCP		01 44 43.0	
HHC				PCS		01 44 46.6	
HHC				S	**S**	**01 45 29.5**	**+1.3**
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,103nm,7.6s						
HHC				LR	LR		
	comp=N,350nm,17.3s,MS4.5						
HHC				LR	LR		
	comp=E,358nm,13.9s,MS4.5						
HHC				LR	LR		
	comp=Z,485nm,15.3s,MS4.5						
BJI	**Beijing**	**43.91**	**21**	*e*P	**P**	**01 39 10.0**	**-0.5**
BJI				PP	PP	01 41 00.3	+6.0
BJI				S	**S**	**01 45 44.3**	**+5.0**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
BJI				LR	LR		
	comp=N,348nm,14.8s,MS4.6						
BJI				LR	LR		
	comp=E,369nm,13.9s,MS4.6						
BJI				LR	LR		
	comp=Z,238nm,31.8s						
BJI	**Beijing**	**43.91**	**21**	*e*P	**P**	**01 39 10.0**	**-0.5**
	comp=Z,6.0nm,0.7s,mb4.4						
BJI				PP	PP	01 41 00.3	+6.0
BJI				S	**S**	**01 45 44.3**	**+5.0**
BJI				SS	SS	01 49 06.8	+19
BJI				LR	LR		
	comp=Z,240nm,31.8s,MS3.9						
WMQ	**Urumqi**	**44.76**	**351**	⇑P	**P**	**01 39 19.8**	**+2.5**
WMQ				AP	pP	01 39 28.8	+2.2
WMQ				PCP	PcP	01 41 02.8	+3.3
WMQ				PP	PP	01 41 05.2	+2.5
WMQ				S	**S**	**01 45 54.8**	**+3.3**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,171nm,3.6s						
WMQ				LR	LR		
	comp=N,89nm,19.6s,MS3.8						
WMQ				LR	LR		
	comp=E,62nm,16.5s,MS3.8						
WMQ				LR	LR		
	comp=Z,134nm,22.6s						
MKAR	**Makanchi Array**	**48.68**	**347**	*e*P	**P**	**01 39 47.9**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MKAR	**Makanchi Array**	**48.68**	**347**	P	**P**	**01 39 48.1**	**0.0**
	comp=Z,15nm,0.5s,mb5.3,baz=161,slow=8.8,SNR=210						
MKAR				LR	LR	02 02 59.9	
	comp=Z,83nm,18.8s,MS3.8,baz=174,slow=39						
SONM	**Songino Array**	**48.72**	**9**	P	**P**	**01 39 49.3**	**+0.9**
	comp=Z,2.0nm,0.8s,mb4.2,baz=194,slow=9.3,SNR=8.0						
SONM				LR	LR	02 02 46.1	
	comp=Z,393nm,19.0s,MS4.4,baz=188,slow=39						
ULN	**Ulaanbaatar**	**48.85**	**9**	*e*P	**P**	**01 39 49.8**	**+0.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**48.85**	**9**	*e*P	**P**	**01 39 49.8**	**+0.4**
	comp=Z,2.5nm,0.7s,mb4.3						
KKAR	**Karatay Array**	**49.32**	**335**	P	**P**	**01 39 52.8**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
ZAK	**Zakamensk**	**50.86**	**5**	*e*P	**P**	**01 40 04.0**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
OPO	**Ambohidratompo**	**51.99**	**247**	P	**P**	**01 40 13.7**	**-0.1**
	comp=Z,3.6nm,1.0s,mb4.3,baz=121,slow=11,SNR=3.5						
CTAO	**Charters Tower**	**52.12**	**115**	*e*P	**P**	**01 40 15.3**	**+0.6**
TLY	**Talaya**	**52.18**	**5**	*e*P	**P**	**01 40 19.3**	**+4.6**
TLY				*e*PPP	PP	01 42 19.1	+5.3
TLY				*e*SS	SS	01 51 16.2	+5.0
TLY				*e*SSS	SSS	01 52 54.5	+0.3
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
TLY				MLR	MLR		
	comp=Z,328nm,19.0s,MS4.4						
STKA	**Stephens Creek**	**52.57**	**131**	P	**P**	**01 40 18.0**	**+0.1**
	comp=Z,4.4nm,0.9s,mb4.4,baz=309,slow=8.1,SNR=6.4						
MJAR	**Matsushiro Arr**	**53.07**	**42**	P	**P**	**01 40 21.4**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=225,slow=6.9,SNR=3.5						
MJAR				LR	LR	02 02 39.1	
	comp=Z,134nm,21.6s,MS4.0,baz=230,slow=36						
KURK	**Kurchatov**	**53.22**	**346**⇑	*e*P	**P**	**01 40 22.3**	**-0.2**
KURK	**Kurchatov**	**53.22**	**346**	*e*P	**P**	**01 40 21.6**	**-0.9**
	comp=Z,20nm,1.4s,mb4.9						
ZAL	**Zalesovo**	**55.04**	**351**	P	**P**	**01 40 35.8**	**0.0**
	comp=Z,11nm,0.5s,mb5.2,baz=314,slow=5.3,SNR=36						
ZAL				LR	LR	02 08 40.2	
	comp=Z,113nm,19.5s,MS4.0,baz=315,slow=41						
BVA0	**Borovoye Array**	**57.62**	**341**	P	**P**	**01 40 52.7**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
BVAR	**Borovoye Array**	**57.62**	**341**	P	**P**	**01 40 52.5**	**-1.7**
	comp=Z,2.2nm,0.5s,mb4.4,baz=148,slow=9.6,SNR=27						
KLR	**Kul'dur**	**57.80**	**26**	*e*P	**P**	**01 40 54.8**	**-0.7**
CHKZ	**Chkalovo**	**58.10**	**342**	*e*P	**P**	**01 40 56.0**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,36nm,0.6s,mb5.6						
CHKZ	**Chkalovo**	**58.10**	**342**	*e*P	**P**	**01 40 56.0**	**-1.6**
	comp=Z,36nm,0.6s,mb5.6						
BOD	**Bodaibo**	**59.60**	**11**	*e*P	**P**	**01 41 00.6**	**-7.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
KMBO	**Kilima Mbogo**	**59.62**	**269**	*i* P	**

SOC	Sochi	67.06	318	*i* P		P	01 41 54.6	-2.8
SOC				*e*			01 44 23.1	
SOC				*e*S		S	01 50 45.1	-2.4
SOC				*e*			01 51 43.6	
SOC				*e*SS		SS	01 55 05.4	-2.9
SOC				pmax		pmax		
	comp=Z,9.0nm,0.7s,mb4.9							
SOC				pmax		pmax		
	comp=N,4.0nm,0.6s							
SOC				pmax		pmax		
	comp=E,3.0nm,0.5s							
ANN	Anapa	69.05	319	*e*P		P	01 42 06.2	-3.6
MATP	Matopo	69.64	248	P		P	01 42 13.5	-0.2
	comp=E,7.1nm,0.5s,mb4.8,baz=76,slow=5.4,SNR=36							
MATP	Matopo	69.64	248	P		P	01 42 13.5	-0.2
BRTR	Keskin Array B	69.92	313	P		P	01 42 13.9	-1.2
	comp=E,1.0nm,0.5s,mb4.0,baz=135,slow=7.0,SNR=8.2							
MAW	Mawson	71.12	193	P		P	01 42 22.0	0.0
	comp=E,4.6nm,0.9s,mb4.4,baz=186,slow=9.3,SNR=3.0							
MAW				LR		LR	02 07 23.9	
	comp=E,228nm,18.5s,MS4.5,baz=66,slow=31							
MOS	Moscow	73.51	330	*e*P		P	01 42 31.5	-4.7
MOS				*e*		pP	01 42 41.2	-4.8
MOS				pmax		pmax		
	comp=Z,38nm,1.1s,mb5.2							
BOSA	Boshof	73.72	240	P		P	01 42 37.6	-0.4
	comp=Z,2.2nm,0.5s,mb4.3,baz=114,slow=8.0,SNR=9.3							
BOSA				LR		LR	02 08 20.3	
	comp=Z,185nm,18.9s,MS4.4,baz=71,slow=30							
OBN	Obninsk	73.78	329⇑	*i* P		P	01 42 37.5	-0.3
OBN				*e*S		S	01 52 09.4	+3.9
OBN				*e*SS		SS	01 56 46.7	-5.1
OBN				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.8							
TIXI	Tiksi	74.78	10⇑	*e*P		P	01 42 42.4	-0.9
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.4							
TIXI				MLR		MLR		
	comp=Z,200nm,18.0s,MS4.5							
IDI	Anoyia	75.56	307	LR		LR	02 18 29.7	
	comp=Z,43nm,19.4s,MS3.8,baz=267,slow=38							
AKASG	Malin Array Be	76.30	323	P		P	01 42 51.0	-1.4
	comp=Z,1.6nm,0.5s,mb4.2,baz=85,slow=4.1,SNR=11							
BURAR	Bucovina Array	77.98	319	‖P		P	01 43 01.6	-0.2
BURAR	Bucovina Array	77.98	319	‖P		P	01 43 01.5	-0.2
JOF	Joensuu	79.42	335	*e*p		P	01 43 08.7	-0.6
FINES	FINESS Array B	81.23	333	P		P	01 43 18.7	-0.3
	comp=Z,2.1nm,0.5s,mb4.4,baz=104,slow=6.0,SNR=68							
FINES				LR		LR	02 25 45.4	
	comp=Z,55nm,21.0s,MS3.9,baz=122,slow=40							
FINES	FINESS Array B	81.23	333	P		P	01 43 18.7	-0.3
FINES				LR		LR	02 25 45.4	
KAF	Kangasniemi	81.33	333	*e*p		P	01 43 18.6	-0.8
	comp=Z,2.7nm,0.5s,mb4.4,baz=111,slow=5.0							
KAF	Kangasniemi	81.33	333	*e*P		P	01 43 18.6	-0.8
KAF				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.5							
BILL	Bilibino	82.74	21‖	*e*P		P	01 43 31.5	+4.8
BILL				pmax		pmax		
	comp=Z,8.0nm,1.6s,mb4.5							
ARCES	ARCESS Array B	83.89	340	P		P	01 43 32.9	+0.4
	comp=Z,3.1nm,0.9s,mb4.4,baz=104,slow=5.0,SNR=11							
ARCES				LR		LR	02 24 30.3	
	comp=Z,97nm,20.5s,MS4.2,baz=325,slow=38							
VNDA	Vanda	84.36	169	P		P	01 43 35.5	+0.8
	comp=Z,1.3nm,0.7s,mb4.2,baz=273,slow=4.2,SNR=5.1							
VNDA				LR		LR	02 15 06.4	
	comp=Z,97nm,18.5s,MS4.2,baz=319,slow=31							
GERES	GERESS Array B	85.77	319	P		P	01 43 42.5	+0.2
	comp=Z,1.1nm,0.9s,mb4.1,baz=149,slow=7.8,SNR=8.6							
BRG	Berggiesshubel	85.81	321	*e*P		P	01 43 43.9	+1.4
BRG				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.6							
BRG	Berggiesshubel	85.81	321	P		P	01 43 43.9	+1.4
	comp=Z,4.1nm,1.1s,mb4.6							
NB2	NORSAR Subarra	88.21	331	P		P	01 43 54.1	+0.2
	comp=Z,8.5nm,1.2s,mb4.8,baz=96,slow=4.8							
NB2	NORSAR Subarra	88.21	331	P		P	01 43 54.1	+0.2
NB2				pmax		pmax		
	comp=Z,9.0nm,1.2s,mb4.9							
NOA	NORSAR Array B	88.21	331	P		P	01 43 54.6	+0.8
	comp=Z,1.4nm,0.8s,mb4.2,baz=98,slow=4.4,SNR=4.1							
YKA	Yellowknife Ar	113.68	15	PKIKP			01 49 42.4	
	comp=Z,0.2nm,0.6s,baz=326,slow=2.1,SNR=3.8							
YKA				PKKPbc			02 00 23.9	
	comp=Z,0.2nm,0.5s,baz=140,slow=3.2,SNR=7.1							
YKA	Yellowknife Ar	113.68	15	PKPdf		PKPdf	01 49 42.4	-2.7
YKA				PKKPbc			02 00 23.9	
PDAR	Pinedale Array	131.59	26	PKP		PKPdf	01 50 17.7	-2.5
	comp=Z,0.3nm,0.6s,baz=270,slow=1.8,SNR=3.0							
MIAR	Mount Ida	144.63	15	*e*PKIKP		PKPdf	01 50 39.2	-4.8
LTX	Lajitas	145.17	32	*e*PKIKP		PKPdf	01 50 42.3	-2.8
CFAA	Coronel Fontan	145.21	203	PKPbc		PKPbc	01 50 41.2	+0.9
	comp=Z,2.1nm,0.5s,baz=337,slow=20,SNR=3.7							
JCT	Junction City	146.12	26	*e*PKP2		PKPab	01 50 44.6	-0.6
LPAZ	La Paz	157.79	221	PKP		PKPdf	01 51 02.0	-2.2
	comp=Z,0.8nm,0.7s,baz=17,slow=8.0,SNR=4.8							
LPAZ				PKPab		PKPab	01 51 34.7	+0.6
	comp=Z,0.9nm,0.8s,baz=90,slow=6.8,SNR=4.5							
LPAZ	La Paz	157.79	221	PKP		PKPdf	01 51 02.0	-2.2
LPAZ				PKPab		PKPab	01 51 34.7	+0.6

*KRSC **10** 01:39:55.6±1.2, 50.49N×157.05E, h18km±6km, ML4.3*
*MOS **10** 01:39:56.0±2.4, 50.48N×157.41E, h47km, mb4.2/1, Error ellipse: s-maj=55.9km s-min=13.4km az=75.2*
ISC 10 01:39:55.3±1.2, 50.45N±0.07×157.2E±0.1, h23km±15km, n33, σ1§18/51, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.72	289⇑	*i* PN		Pb	01 40 06.9	-2.1
SKR				pmax		pmax		
	comp=N,170nm,0.2s							
SKR				pmax		pmax		
	comp=E,550nm,0.2s							
SKR				pmax		pmax		
	comp=Z,1μm,0.2s							
SKR	Severo-Kuril's	0.72	289	*i* P		Pb	01 40 06.9	-2.1
SKR				*i* S		Sb	01 40 16.5	-1.9
PAU	Pauzhetka	1.04	347	*i* P		Pb	01 40 15.2	+0.7
PAU				*i* S		Sb	01 40 28.5	+0.7
PAU				Smax				
	comp=Z,13μm,0.2s							
ALID	Alaid	1.12	293	*i* P		Pb	01 40 16.0	+0.2
ALID				*e*S		Sb	01 40 30.0	+0.1
RUS	Russkaya	2.15	22	P		Pn	01 40 29.8	-0.7
RUS				S		Sn	01 40 54.4	-2.3
RUS	Russkaya	2.15	22	*i* P		Pn	01 40 29.9	-0.6
RUS				*i* S		Sn	01 40 54.6	-2.1
GRL	Gorelyy	2.18	15	*i* P		Pn	01 40 31.1	+0.3
GRL				*e*S		Sn	01 40 56.9	-0.4
KRMR	Karymshinskiy	2.46	14	*e*P		Pn	01 40 35.3	+0.5
KRMR				*e*S		Sn	01 41 04.4	0.0
APC	Apacha	2.48	360	*e*P		Pn	01 40 35.3	+0.2
APC				*e*S		Sn	01 41 05.3	+0.3
APC				Smax				
	comp=Z,70nm,1.1s							
PET	Petropavlovsk	2.74	19	P		Pn	01 40 38.6	-0.2
PET				S		Sn	01 41 09.7	-1.8
PET	Petropavlovsk	2.74	19	*e*P		Pn	01 40 38.7	-0.1
PET				*e*S		Sn	01 41 10.3	-1.2
UGLR	Uglovaya	2.95	20	*i* P		Pn	01 40 42.4	+0.6
UGLR				*e*S		Sn	01 41 15.4	-1.4
AVH	Avacha	2.98	18	*e*P		Pn	01 40 43.2	+0.9
AVH				*e*S		Sn	01 41 18.9	+1.2
KOK	Koryaka	2.99	17	*e*P		Pn	01 40 43.6	+1.3
KOK				*e*S		Sn	01 41 18.4	+0.6
SMAR	Somma	2.99	19	*e*P		Pn	01 40 42.9	+0.5
SDLR	Sedlovina	3.02	20	*i* P		Pn	01 40 42.9	0.0
NLC	Nalytchevo	3.04	25	*e*P		Pn	01 40 41.4	-1.7
SPN	Mys Shipunski	3.19	33	P		Pn	01 40 44.5	-0.7
SPN				S		Sn	01 41 19.9	-3.0
SPN	Mys Shipunski	3.19	33	*e*P		Pn	01 40 44.6	-0.6
SPN				*e*S		Sn	01 41 20.1	-2.8
GNL	Ganaly	3.28	8	*e*P		Pn	01 40 47.0	+0.4
KII	Karymskiy	3.85	20	*e*P		Pn	01 40 55.5	+0.9
MKZ	Mys Kozlova	4.96	32	P		Pn	01 41 08.6	-1.8
MKZ				S		Sn	01 42 00.8	-7.0
MKZ	Mys Kozlova	4.96	32	*e*P		Pn	01 41 09.0	-1.4
MKZ				*e*S		Sn	01 42 04.6	-3.2
TUMR	Tumrok	5.16	19	*e*P		Pn	01 41 14.4	+1.2
ESO	Esso	5.56	9	*e*P		Pn	01 41 20.6	+1.8
KMNR	Kamenistaya	5.63	18	*e*P		Pn	01 41 21.2	+1.5
KPT	Kopyto	5.82	17	*e*P		Pn	01 41 24.5	+2.0
KOZ	Kozyrevsk	5.85	15	P		Pn	01 41 23.1	+0.3
KOZR	Kozyr	5.86	15	PN		Pn	01 41 23.1	+0.1
SRDR	Sredinnyy	6.07	13	*e*P		Pn	01 41 27.8	+1.8
KRSR	Krestovskiy	6.12	18	*e*P		Pn	01 41 27.6	+0.9
KBTR	Krutoberegovo	6.68	28	*e*P		Pn	01 41 32.8	-1.8
BKI	Bering	7.14	45	*e*P		Pn	01 41 39.3	-1.8
BKI				*e*S		Sn	01 42 52.8	-10

IDC 10 01:46:37.8±3.1, 0.33S×96.93E, mb3.5/4, mb1 3.7/5, mb1mx3.4/19, mbtmp3.6/5, Error ellipse: s-maj=123.4km s-min=22.2km az=58.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.77	6	P		P	01 50 58.7	-2.1
	baz=198,slow=12,SNR=6.8							
WRA	Warramunga Arr	41.48	120	P		P	01 54 28.1	-0.3
	0.4nm,1.2s,baz=295,slow=11,SNR=5.2							
ASAR	Alice Springs	42.72	126	P		P	01 54 35.8	-2.9
	0.2nm,0.4s,baz=304,slow=7.2,SNR=3.4							
MKAR	Makanchi Array	48.65	347	P		P	01 55 22.8	-2.7
	1.1nm,0.5s,baz=159,slow=8.2,SNR=18							
ZAL	Zalesovo	55.00	351	P		P	01 56 11.7	-1.5
	0.6nm,0.7s,baz=330,slow=4.6,SNR=4.0							

*ATH **10** 01:54:06.8, 35.77N×29.09E, h10km, MD2.9/3*
*ISK **10** 01:54:07.5, 36.00N×29.06E, h25km, MD3.2*
*CSEM **10** 01:54:08.4±0.3, 36.10N×29.12E, h40km, MD3.2, Error ellipse: s-maj=7.6km s-min=4.3km az=142.0*
ISC 10 01:54:06.8±1.1, 35.94N±0.05×29.05E±0.05, h6km±6km, n15, σ1§09/22, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.48	64	*e*PB		Pb	01 54 17.5	+0.2
AKAS	Kas	0.54	57	*i* P		Pg	01 54 18.3	+0.7
AKAS				*i* S		Sg	01 54 26.4	+1.6
FETY	Fethiye	0.70	2	PG		Pg	01 54 20.7	0.0
FETY				SG		Sg	01 54 30.4	+0.4
ARG	Arkhangelos	0.80	291	*e*PB		Pb	01 54 23.9	+1.3
DALT	Dalyan (Mudla)	0.89	338	PG		Pg	01 54 23.9	-0.7
DALT				SG		Sg	01 54 36.3	-0.3
ELL	Elmali	1.07	40	PG		Pg	01 54 26.3	-1.8
GOLH	Golhisar	1.36	18	*i* P		Pb	01 54 32.2	-0.1
GOLH				*i* S		Sb	01 54 50.2	+0.3
KARP	Karpathos	1.58	256	*e*PB		Pb	01 54 36.5	+0.4
MLSB	Milas	1.70	323	*e*PN		Pn	01 54 35.3	-1.9
BDRM	Kayabasi	1.71	312	*e*P		Pn	01 54 48.1	+11
BDRM				*e*S		Sn	01 55 08.3	+8.4
DNZL	Cakiroluk	1.75	0	*i* P		Pn	01 54 38.5	+0.6
DNZL				*i* S		Sn	01 54 59.8	-1.0
BODT	Bodrum	1.79	309	*e*PN		Pn	01 54 37.7	-0.9
DENT	Denizli	1.81	360	*e*PN		Pn	01 54 37.8	-1.0
AYDN	Tasoluk	1.96	332	*i* P		Pn	01 54 43.2	+2.3
AYDN				*i* S		Sn	01 55 07.6	+1.5
BCK	Bucak	1.96	39	*e*PN		Pn	01 54 39.6	-1.4

IDC 10 01:58:19.6±2.6, 6.04N×92.38E, mb3.6/4, mb1 3.9/5, mb1mx3.5/21, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=98.2km s-min=24.5km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.90	27	Pn		P	02 01 39.0	-1.5
	0.1nm,0.3s,baz=227,slow=15,SNR=6.0							
MKAR	Makanchi Array	41.52	350	P		P	02 06 07.7	-2.6
	0.3nm,0.6s,baz=180,slow=9.7,SNR=4.0							
ZAL	Zalesovo	48.15	354	P		P	02 07 02.1	-1.2
	0.8nm,0.3s,baz=17,slow=18,SNR=3.4							
WRA	Warramunga Arr	48.68	123	P		P	02 07 05.4	-2.5
	0.8nm,0.9s,baz=305,slow=8.7,SNR=6.6							
ASAR	Alice Springs	50.14	128	P		P	02 07 17.5	-1.6
	0.8nm,0.7s,baz=305,slow=8.4,SNR=7.9							

*IDC **10** 02:05:26.4±12.0, 30.84N×51.71E, mb3.6/5, mb1 3.8/7, mb1mx3.5/25, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=206.3km s-min=47.5km az=150.0*
*THR **10** 02:05:36.9±0.7, 31.62N×50.97E, h14km±5km, ML3.1*
*CSEM **10** 02:05:40.4±0.1, 31.67N×50.96E, h50km, ML3.1, Error ellipse: s-maj=3.4km s-min=2.7km az=13.0*
*TEH **10** 02:05:45.9, 32.15N×51.35E, h10km, Mn3.1*
ISC 10 02:05:39.9±0.5, 31.67N±0.05×50.89E±0.05, h33km, n33, σ1§39/31, mb3.5/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGAR	Garneh	1.25	62	Pg	P	02 05 56.6	-4.4
IZEF	Zefreh	1.72	45	Pg	P	02 06 06.4	-1.5
IKLH	Kalahroud	1.74	19	Pg	P	02 06 06.9	-1.3
SHGO	Shushtar	1.83	284	*e*PG	P	02 06 11.6	+2.1
SHGO				AML	AML	02 06 51.2	
	comp=N,163nm,0.7s						
SHGR	Shooshtar-Gavs	1.83	284	*e*PG	P	02 06 11.6	+2.1
SHGR				AML	AML	02 06 58.7	
	comp=N,261nm,0.6s						
NASN	Na'in	1.98	55	*e*PG	P	02 06 12.6	+1.1
NASN				AML	AML	02 06 50.6	
	comp=N,83nm,0.5s						
ISAD	Sadrabad	2.39	83	Pn	Pn	02 06 19.7	+2.0
IPAR	Pars	2.60	134	Pn	Pn	02 06 20.8	+0.1
ASAO	Ashtian	2.96	346	*e*PN	Pn	02 06 27.0	+1.3
ASAO				AML	AML	02 07 25.6	
	comp=N,67nm,0.7s						
ISRV	Sarvestan	2.98	139	Pn	Pn	02 06 25.1	-1.0
ICHK	Chekchek	3.04	78	Pn	Pn	02 06 28.4	+1.5
IMOK	Mook	3.06	148	Pn	Pn	02 06 23.6	-3.5
IQOM	Qom	3.17	3	Pn	Pn	02 06 28.8	+0.1
IQOM	Qom	3.17	3	Lg		02 07 09.6	
IMEH	Mehriz	3.19	94	Pn	Pn	02 06 31.0	+2.0
IVRN	Varamin	3.39	12	Pn	Pn	02 06 31.3	-0.5
IRAZ	Razeghan	3.81	348	Lg		02 07 35.4	
IRAZ	Razeghan	3.81	348	Pn	Pn	02 06 38.2	+0.4
GHIR	Ghir-Karzin	3.83	151	*e*PN	Pn	02 06 36.7	-1.5
GHIR				AML	AML	02 07 52.2	
	comp=N,30nm,0.5s						
IBAF	Bafgh	3.99	90	Pn	Pn	02 06 41.6	+1.2
IMHD	Mahdasht	4.01	357	Pn	Pn	02 06 40.4	-0.2
IDMV	Damavand	4.01	13	Pn	Pn	02 06 39.9	-0.8
DAMV	Damavand	4.05	13	*e*PN	Pn	02 06 41.1	-0.1
DAMV				AML	AML	02 08 10.1	
	comp=N,26nm,0.7s						
IFIR	Firoozkooh	4.25	21	Pn	Pn	02 06 42.3	-1.8
SNGE	Sanandaj	4.52	320	*e*PN	Pn	02 06 48.3	+0.4
IDHR	Dehrash	4.83	310	Pn	Pn	02 06 52.3	-0.1
ASF	Jabal al Asfar	11.90	276	Pn	P	02 08 28.5	-1.7
	comp=N,0.6nm,0.3s,baz=320,slow=9.7,SNR=4.2						
BRTR	Keskin Array B	16.14	305	P	P	02 09 27.8	+2.0
	comp=N,0.1nm,0.3s,baz=129,slow=14,SNR=7.8						
IDI	Anoyia	21.96	286	P	P	02 10 31.3	-1.2
	comp=N,1.4nm,0.4s,mb3.7,baz=112,slow=11,SNR=2.8						
MLR	Muntele Rosu	23.77	313	P	P	02 10 52.1	+2.0
	comp=N,0.8nm,0.5s,mb3.5,baz=159,slow=17,SNR=2.3						
AKASG	Malin Array Be	24.89	326	P	P	02 10 59.8	-1.1
	comp=N,0.3nm,0.3s,mb3.3,baz=134,slow=8.8,SNR=7.4						
FINES	FINESS Array B	33.89	339	P	P	02 12 19.5	-1.9
	comp=N,0.3nm,0.4s,mb3.6,baz=129,slow=8.9,SNR=4.0						
NOA	NORSAR Array B	39.12	330	P	P	02 13 03.6	-1.9
	comp=N,0.8nm,0.8s,mb3.5,baz=130,slow=8.7,SNR=2.9						

*IDC **10** 02:08:25.0±1.1, 63.22N×151.42W, mb3.6/5, mb1 3.8/9, mb1mx3.6/22, mbtmp3.6/9, ML3.5/4, MS3.1/2, Ms1 3.1/2, ms1mx2.7/37, Error ellipse: s-maj=21.3km s-min=13.0km az=175.0*
*NEIC **10** 02:08:26.1, 63.23N×151.37W, h7km, ML4.1(PMR), ML3.7(AEIC), After AEIC.*
ISC 10 02:08:26.7±0.6, 63.29N±0.03×151.30W±0.07, h24km±5km, n50, σ0§85/53, mb3.7/5, MS2.9/1, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.32	32	P	Pb	02 08 34.0	+0.1
KTH				S	Sb	02 08 39.3	+0.4
TRF	Thorofare Moun	0.49	70	P	Pb	02 08 36.7	0.0
TRF				S	Sb	02 08 43.3	-0.1
HUR	Hurricane	0.82	111	P	Pb	02 08 41.6	-0.6
HUR				S	Sb	02 08 52.4	-0.4
CUT	Chulitna	1.00	151	P	Pb	02 08 44.6	-0.7
RND	Reindeer	1.11	83	P	Pn	02 08 47.2	+0.3
MCK	McKinley	1.15	66	P	Pn	02 08 48.4	+0.9
BWN	Browne	1.21	42	P	Pn	02 08 49.8	+1.5
PWA	Palmer West	1.77	157	P	Pn	02 08 56.1	-0.3
MLY	Manley	1.77	8	P	Pn	02 08 57.1	+0.8
STLK	Strandline Lak	1.81	188	P	Pn	02 08 57.0	+0.1
GHO	Glory Hole Cre	1.88	143	P	Pn	02 08 57.7	-0.2
PMR	Palmer	1.98	148	P	Pn	02 08 59.1	-0.2
CGLM	Capps Glacier	2.01	190	P	Pn	02 09 00.0	+0.2
SML	Sawmill	2.02	136	P	Pn	02 08 59.7	-0.3
CRP	Crater Peak	2.06	192	P	Pn	02 09 00.8	+0.2
CP2	Crater Peak Tw	2.08	193	P	Pn	02 09 01.2	+0.5
BGL	Barrier Glacie	2.09	195	P	Pn	02 09 01.2	+0.2
CKN	Chakachatna No	2.11	192	P	Pn	02 09 01.4	+0.2
SPU	Mount Spurr	2.14	190	*e*P	Pn	02 09 01.5	-0.2
CKL	Chakachamna La	2.15	193	P	Pn	02 09 02.5	+0.6
TT01	Tatalina	2.18	262	P	Pn	02 09 02.3	+0.1
COLA	College	2.20	42	*e*P	Pn	02 09 02.3	-0.2
SCM	Sheep Creek Mo	2.35	127	P	Pn	02 09 04.2	-0.4
ILAR	Eielson Array	2.45	51	Pn	Pn	02 09 05.7	-0.4
	2.6nm,0.3s,baz=238,slow=13,SNR=121						
ILAR				Lg		02 09 43.8	
	72nm,0.3s,baz=243,slow=30,SNR=12						
THY	Trims Highway	2.50	85	P	Pn	02 09 08.4	+1.5
PAX	Paxson	2.67	94	P	Pn	02 09 10.1	+0.9
SLKM	Skilak Lake	2.83	169	*e*P	Pn	02 09 11.6	0.0
IM3	Indian Mountai	2.91	340	P	Pn	02 09 12.9	+0.3
SVW2	Sparrevohn	2.97	224	P	Pn	02 09 12.9	-0.7
IMA	Indian Mountai	2.98	341	*e*P	Pn	02 09 14.4	+0.8
DIV	Divide	3.38	127	P	Pn	02 09 19.6	+0.3
MENT	Mentasta	3.46	92	*e*P	Pn	02 09 22.3	+1.8
CNPM	China Poot	3.77	179	P	Pn	02 09 24.9	0.0
GLB	Gilahina Butte	3.95	115	P	Pn	02 09 28.4	+1.0
COLD	Coldfoot	3.99	6	P	Pn	02 09 28.2	+0.3
BCA3	Beaver Creek A	4.32	89	P	Pn	02 09 32.6	-0.1
BALM	Baldy	4.77	114	P	Pn	02 09 39.0	-0.1
DAWY	Dawson	5.36	76	*e*P	Pn	02 09 45.8	-1.6
TNA	Tin City	7.54	295	P	Pn	02 10 16.4	-1.7
INK	Inuvik	8.85	48	Pn	P	02 10 34.5	-1.7
	0.5nm,0.3s,baz=243,slow=14,SNR=38						
INK				Sn	Sn	02 12 14.0	-2.2
	0.2nm,0.3s,baz=115,slow=19,SNR=2.2						
INK				Lg		02 13 06.3	
	0.2nm,0.3s,baz=139,slow=18,SNR=2.7						
INK				LR	LR	02 14 31.4	
	comp=Z,115nm,18.9s,baz=288,slow=41						
DLBC	Dease Lake	11.42	105	Pn	P	02 11 10.2	-1.1
	0.2nm,0.3s,baz=248,slow=13,SNR=4.7						
DLBC				Lg		02 14 28.2	
	0.3nm,0.3s,baz=345,slow=19,SNR=2.6						
DLBC	Dease Lake	11.42	105	Pn	P	02 11 10.2	-1.1
DLBC				Lg		02 14 28.2	
YKA	Yellowknife Ar	16.60	76	Pn	P	02 12 18.4	-0.7
	0.1nm,0.3s,baz=294,slow=10,SNR=19						
NEW	Newport	24.01	113	LR	LR	02 23 04.0	
	comp=Z,39nm,18.4s,MS2.9,baz=134,slow=37						
PDAR	Pinedale Array	31.59	111	P	P	02 14 50.3	+0.9
	0.6nm,0.8s,mb3.5,baz=339,slow=3.4,SNR=6.1						
SONM	Songino Array	53.54	305	P	P	02 17 47.5	+0.4
	1.3nm,0.9s,mb3.9,baz=11,slow=6.3,SNR=8.7						
ZAL	Zalesovo	55.23	323	P	P	02 17 58.6	-0.8
	0.5nm,0.7s,mb3.6,baz=89,slow=13,SNR=3.8						
FINES	FINESS Array B	55.57	2	P	P	02 18 03.7	+1.9
	1.0nm,1.0s,mb3.8,baz=344,slow=14,SNR=2.5						
FINES	FINESS Array B	55.57	2	P	P	02 18 03.7	+1.9
MKAR	Makanchi Array	62.37	321	P	P	02 18 47.1	-2.1
	0.3nm,0.6s,mb3.6,baz=42,slow=6.2,SNR=3.9						

*IDC **10** 02:23:45.7±0.4, 10.60N×92.26E, mb4.7/27, mb1 4.8/28, mb1mx4.7/32, mbtmp4.7/28, ML4.5/1, MS4.2/21, Ms1 4.2/21, ms1mx4.1/36, Error ellipse: s-maj=15.8km s-min=10.8km az=52.0*
*BJI **10** 02:23:48.1, 10.42N×92.31E, h40km, mB5.0, mb5.0, Ms4.6, Msz4.3*
*MOS **10** 02:23:48.7±0.8, 10.57N×92.25E, h33km, mb5.2/25, MS4.4/11, Error ellipse: s-maj=9.2km s-min=5.5km az=104.3*
*HRVD **10** 02:23:50.3±0.7, 10.75N×92.09E, h12km, MW5.0/37, Centroid moment Tensor Solution. LP body waves: s13,c17; Mantle waves: s37,c48; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.70±.16; $M_{\theta\theta}$0.62±.13; $M_{\phi\phi}$-1.32±.10; $M_{r\theta}$-0.12±.43; $M_{\theta\phi}$-0.76±.10; $M_{\phi r}$-3.58±.29; Best double couple: $M_0$3.792×10^{16} NP1:φ$_s$56°, δ13°, λ144°. NP2:φ$_s$181°, δ82°, λ79°. Principal axes: T 3.455, Plg52°, Azm78°; N .673, Plg11°, Azm182°; P -4.129, Plg36°, Azm280°; nsta1

comp=Z,36nm,1.5s
KMI pP 02 28 00.6
KMI S S 02 31 26.7 +21
AKL Akola 17.78 306 *e* **S 02 30 58.0 -12**
JIRN Jiri 17.96 342 *eP* **P 02 27 57.2 +0.1**
comp=Z,31nm,0.4s
PKI Pulchoki 18.12 340 *eP* **P 02 27 58.9 -0.3**
comp=Z,23nm,0.2s
PKI Pulchoki 18.12 340 *eP* **P 02 27 58.9 -0.3**
PKI pmax pmax
comp=Z,11nm,0.2s
DMN Daman 18.26 339 *eP* **P 02 28 00.7 -0.2**
GUN Gumba 18.29 342 *eP* **P 02 28 02.2 +1.0**
comp=Z,38nm,0.5s
KKN Kakani 18.37 340 *eP* **P 02 28 01.9 -0.3**
KAD Karad 18.75 293 *eP* **P 02 28 07.1 +0.3**
KAD *e* 02 31 01.1
GKN Gorkha 18.79 339 *eP* **P 02 28 07.1 -0.1**
comp=Z,55nm,0.4s
BHPL Bhopal 18.95 314 *eP* **P 02 28 09.6 +0.4**
BHPL *e* 02 31 29.5
BHPL *e* 02 32 28.8
comp=N,43nm,1.0s
BHPL *e* 02 32 28.9
comp=E,30nm,0.6s
BHPL *i* 02 34 54.0
BHPL *i* 02 35 09.2
BHPL *i* 02 41 06.1
KOLN Koldanda 18.97 336 *eP* **P 02 28 09.4 0.0**
comp=E,56nm,0.7s
QIZ Qiongzhong 19.01 62 P **P 02 28 09.8 -0.2**
QIZ LR LR
comp=N,1μm,17.5s
QIZ LR LR
comp=E,547nm,18.6s
QIZ LR LR
comp=Z,973nm,18.2s
QIZ Qiongzhong 19.01 62 P **P 02 28 11.1 +1.1**
comp=Z,30nm,1.0s
LSA Lhasa 19.10 357 P **P 02 28 11.8 +0.8**
LSA AP 02 28 19.6
LSA S **S 02 31 39.9 +0.2**
LSA AMB AMB
comp=Z,20nm,1.1s
LSA LR LR
comp=N,420nm,14.9s
LSA LR LR
comp=E,590nm,14.9s
LSA LR LR
comp=Z,780nm,16.0s
LSA Lhasa 19.10 357 *eP* **P 02 28 11.0 0.0**
LSA pmax pmax
comp=Z,33nm,0.6s
LSA Lhasa 19.10 357 *eP* **P 02 28 11.0 +0.1**
comp=Z,33nm,0.6s
POO Poona 19.46 296 *eP* **P 02 28 13.5 -1.7**
POO *i* 02 32 17.0
KSM Kuching 20.10 115 *eP* **P 02 28 20.2 -1.9**
GYA Guiyang 20.91 39⇑*iP* **P 02 28 30.0 -0.5**
GYA AMB AMB
comp=Z,30nm,1.0s
GYA AMB AMB
comp=Z,190nm,5.7s
GYA LR LR
comp=N,740nm,16.8s,MS4.4
GYA LR LR
comp=E,960nm,15.6s,MS4.4
GYA LR LR
comp=Z,1μm,17.7s,MS4.3
NDI New Delhi 22.88 324 *eP* **P 02 28 51.5 +1.2**
NDI *eS* **S 02 32 58.5 +4.6**
CD2 Chengdu 22.94 26 P **P 02 28 50.2 -0.6**
CD2 PP PP 02 29 25.1 +4.5
CD2 AMB AMB
comp=Z,120nm,1.0s,mb5.3
CD2 AMB AMB
comp=Z,270nm,7.8s
CD2 LR LR
comp=E,1μm,18.0s
CD2 LR LR
comp=Z,550nm,15.6s,MS4.1
DDI Dehra Dun 23.70 328 *e* **P 02 29 02.0 +3.9**
KKM Kota Kinabalu 24.16 99 *eP* **P 02 29 04.1 +1.3**
ENH Enshi 25.39 37 *eP* **P 02 29 13.2 -1.2**
comp=Z,72nm,0.6s,mb5.4
LZH Lanzhou 27.54 21 *eP* **P 02 29 33.7 -0.5**
LZH XP sP 02 29 51.6 +6.8
LZH S **S 02 34 11.4 -0.7**
LZH AMB AMB
comp=Z,110nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,300nm,4.0s
LZH LR LR
comp=E,2μm,14.8s
LZH LR LR
comp=Z,2μm,15.4s,MS4.9
LZH Lanzhou 27.54 21 *eP* **P 02 29 33.7 -0.5**
LZH *PP pP 02 29 51.6 +10
LZH 02 30 33.4
LZH S **S 02 34 11.4 -0.7**
LZH pmax pmax
comp=Z,110nm,1.3s,mb5.3
LZH MLR MLR
comp=Z,2μm,15.4s,MS4.9
LZH Lanzhou 27.54 21 *eP* **P 02 29 33.7 -0.5**
comp=Z,110nm,1.3s,mb5.3
LZH pP pP 02 29 51.6 +10
LZH sP sP 02 29 58.8 +14
LZH PP PP 02 30 33.4 +11
LZH S **S 02 34 11.4 -0.7**
LZH sS 02 34 33.1
LZH SS SS 02 35 38.0 +7.1
LZH LR LR
comp=Z,2μm,15.4s,MS4.9
XAN Xi'an 27.96 31 P **P 02 29 34.8 -3.2**
XAN S **S 02 34 23.4 +4.6**
XAN AMB AMB
comp=Z,17nm,0.8s,mb4.7
XAN LR LR
comp=N,511nm,20.0s,MS4.3
XAN LR LR
comp=E,468nm,18.4s,MS4.3
XAN LR LR
comp=Z,674nm,18.0s,MS4.3
GTA Gaotai 29.55 12 *eP* **P 02 29 52.8 +0.6**
GTA AP pP 02 30 01.5 +1.9
GTA XP sP 02 30 05.2 +2.4
GTA AMB AMB
comp=Z,29nm,1.6s,mb4.8
WMQ Urumqi 33.40 354⇑P **P 02 30 26.5 +0.5**
WMQ AP pP 02 30 36.0 +2.6
WMQ XP sP 02 30 40.0 +3.4
WMQ PP PP 02 31 38.8 +0.7
WMQ PPP PPP 02 31 56.6 +1.7
WMQ PCP PcP 02 33 07.3 0.0
WMQ S **S 02 35 44.5 0.0**
WMQ XS 02 36 00.5
WMQ AMB AMB
comp=Z,26nm,0.8s,mb5.2
WMQ AMB AMB
comp=Z,230nm,5.2s
WMQ LR LR
comp=N,339nm,16.2s,MS4.5
WMQ LR LR
comp=E,656nm,17.6s,MS4.5
WMQ LR LR
comp=Z,369nm,22.4s,MS4.0
SSE Sheshan 33.77 48 *eP* **P 02 30 26.8 -2.5**
SSE AP pP 02 30 35.9 -0.8
SSE S **S 02 35 50.1 -0.2**
SSE XS 02 36 05.5
SSE AMB AMB
comp=Z,32nm,1.2s,mb5.1
SSE AMB AMB
comp=Z,216nm,3.7s
SSE LR LR
comp=N,309nm,15.9s,MS4.5
SSE LR LR
comp=E,619nm,15.8s,MS4.5
SSE Sheshan 33.77 48 *eP* **P 02 30 26.8 -2.5**
comp=E,32nm,1.2s,mb5.1
SSE pP pP 02 30 35.9 -0.8
SSE S **S 02 35 50.1 -0.2**
SSE sS 02 36 05.5
SSE SS SS 02 38 20.1 +24

BTO Baotou 33.84 25 *eP* **P 02 30 28.7 -1.2**
BTO AMB AMB
comp=Z,23nm,1.2s,mb5.0
HHC Hu-ho-hao-te 34.70 26⇑P **P 02 30 37.2 0.0**
HHC AP pP 02 30 46.0 +1.4
HHC XP sP 02 30 51.2 +3.4
HHC PCP PcP 02 33 08.6 -2.4
HHC S **S 02 36 05.5 +0.8**
HHC XS 02 36 24.8
HHC SCP 02 36 50.1
HHC PCS 02 36 53.8
HHC SS SS 02 38 20.8 +2.9
HHC AMB AMB
comp=Z,31nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,172nm,8.2s
HHC LR LR
comp=N,287nm,16.9s,MS4.3
HHC LR LR
comp=E,384nm,15.9s,MS4.3
HHC LR LR
comp=Z,376nm,17.5s,MS4.2
BJT Baijiatuau 36.25 32 *eP* **P 02 30 50.5 +0.1**
BJT pmax pmax
comp=Z,20nm,0.8s
BJT Baijiatuau 36.25 32 *eP* **P 02 30 50.5 +0.1**
comp=Z,20nm,0.8s,mb5.1
BJI Beijing 36.27 32 *eP* **P 02 30 50.7 +0.1**
BJI S **S 02 36 35.4 +6.5**
BJI AMB AMB
comp=Z,40nm,0.8s,mb5.4
BJI LR LR
comp=N,741nm,16.3s,MS4.8
BJI LR LR
comp=E,936nm,16.9s,MS4.8
BJI LR LR
comp=Z,807nm,17.2s,MS4.6
BJI Beijing 36.27 32 *eP* **P 02 30 50.7 +0.1**
comp=Z,40nm,0.8s,mb5.4
BJI S **S 02 36 35.4 +6.5**
BJI SS SS 02 39 21.8 +28
BJI LR LR
comp=Z,810nm,17.2s,MS4.6
MKAR Makanchi Array 37.11 349 P **P 02 30 57.9 +0.3**
comp=Z,12nm,0.7s,mb4.8,baz=169,slow=8.1,SNR=114
KKAR Karatay Array 37.55 334 *eP* **P 02 31 02.4 +1.1**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
JOW Kunigami 37.64 59 P **P 02 31 02.5 +0.3**
comp=Z,11nm,0.4s,mb4.9,baz=197,slow=25,SNR=5.2
SONM Songino Array 39.06 15 P **P 02 31 14.3 +0.5**
comp=Z,5.8nm,0.4s,mb4.6,baz=202,slow=8.8,SNR=29
SONM PcP PcP 02 33 24.4 +0.3
comp=Z,2.1nm,0.7s,baz=204,slow=3.9,SNR=3.9
SONM LR LR 02 50 31.8
comp=Z,121nm,21.0s,MS3.7,baz=195,slow=41
ULN Ulaanbaatar 39.26 16 *eP* **P 02 31 15.5 0.0**
ULN pmax pmax
comp=Z,22nm,1.2s,mb4.8
ULN Ulaanbaatar 39.26 16 *eP* **P 02 31 15.5 0.0**
comp=Z,22nm,1.2s,mb4.8
ZAK Zakamensk 40.77 11 *eP* **P 02 31 28.6 +0.6**
ZAK *e* 02 33 29.1
ZAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.0
ZAK pmax pmax
comp=Z,3.0nm,1.8s
MBWA Marble Bar 41.50 139 *eP* **P 02 31 33.5 -0.9**
comp=Z,35nm,1.4s,mb4.8
SNY Shenyang 41.57 36⇑P **P 02 31 34.4 -0.2**
SNY AMB AMB
comp=Z,30nm,1.4s,mb4.7
SNY AMB AMB
comp=Z,140nm,11.2s
SNY LR LR
comp=E,680nm,16.3s
SNY LR LR
comp=Z,630nm,18.0s,MS4.5
KURK Kurchatov 41.60 347 *eP* **P 02 31 35.2 +0.4**
KURK *e* pP 02 31 44.7 +2.4
KURK pmax pmax
comp=Z,25nm,1.3s,mb4.7
KURK Kurchatov 41.60 347 *eP* **P 02 31 35.1 +0.4**
comp=Z,25nm,1.3s,mb4.7
KURK *e* 02 31 44.7
MOY Mondy 41.64 8 *eP* **P 02 31 34.2 -0.9**
TLY Talaya 42.08 11 *eP* **P 02 31 40.1 +1.4**
TLY *e* 02 33 33.0
TLY *eS* **S 02 37 48.1 -8.2**
TLY pmax pmax
comp=Z,14nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,326nm,25.0s,MS4.1
FITZ Fitzroy Crossi 43.57 131⇓*iP* **P 02 31 50.9 -0.4**
comp=Z,78nm,1.0s,mb5.4
FITZ Fitzroy Crossi 43.57 131 P **P 02 31 51.0 -0.3**
comp=Z,114nm,0.9s,mb5.6,baz=332,slow=4.9,SNR=83
FITZ LR LR 02 52 48.7
comp=Z,250nm,20.5s,MS4.1,baz=277,slow=40
ZAL Zalesovo 43.70 354 P **P 02 31 52.4 +0.5**
comp=Z,6.3nm,0.8s,mb4.4,baz=297,slow=7.2,SNR=42
ZAL LR LR 02 54 30.8
comp=Z,278nm,18.4s,MS4.2,baz=291,slow=42
CN2 Changchun 43.88 35 *eP* **P 02 31 51.8 -1.7**
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,15.0s,MS4.5
CN2 LR LR
comp=E,400nm,15.0s,MS4.5
CN2 LR LR
comp=Z,500nm,16.0s,MS4.5
HIA Hailar 44.89 25 *eP* **P 02 32 01.6 0.0**
HIA pmax pmax
comp=Z,37nm,1.2s
HIA Hailar 44.89 25 *eP* **P 02 32 01.6 0.0**
comp=Z,37nm,1.2s,mb5.1
BVA0 Borovoye Array 45.88 342 *i* P **P 02 32 09.5 +0.1**
BVA0 pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
BVAR Borovoye Array 45.88 342 P **P 02 32 09.3 -0.1**
comp=Z,3.9nm,0.8s,mb4.4,baz=149,slow=8.6,SNR=19
CHKZ Chkalovo 46.38 342 *eP* **P 02 32 13.7 +0.4**
CHKZ pmax pmax
comp=Z,17nm,0.8s,mb5.0
CHKZ Chkalovo 46.38 342 *eP* **P 02 32 13.7 +0.5**
comp=Z,17nm,0.8s,mb5.0
MUN Mundaring 48.10 152 *eP* **P 02 32 28.8 +1.7**
comp=Z,104nm,0.6s
MUN Mundaring 48.10 152 *eP* **P 02 32 28.8 +1.7**
MUN pmax pmax
comp=Z,104nm,0.6s
ATD Arta Tunnel 48.42 276 LR LR 02 51 05.5
comp=Z,289nm,18.6s,MS4.3,baz=107,slow=34
KLBR Kellerberrin 48.51 151 *eP* **P 02 32 30.4 +0.1**
comp=Z,203nm,0.6s
MAT Matsushiro 48.87 50 *eP* **P 02 32 33.0 0.0**
MAT pmax pmax
comp=Z,23nm,1.2s,mb5.1
MAT Matsushiro 48.87 50 *eP* **P 02 32 33.0 0.0**
comp=Z,23nm,1.2s,mb5.1
MAT Matsushiro 48.87 50 P **P 02 32 32.5 -0.5**
MAT *eS* **S 02 39 37.0 +3.1**
MJAR Matsushiro Arr 48.87 50 P **P 02 32 32.7 -0.3**
comp=Z,4.6nm,0.8s,mb4.6,baz=229,slow=6.3,SNR=20
MJAR PcP PcP 02 33 57.3 -0.3
comp=Z,1.4nm,0.6s,baz=251,slow=3.0,SNR=5.0
MJAR LR LR 02 55 56.2
comp=Z,257nm,19.2s,MS4.2,baz=270,slow=40
NWAO Narrogin (SRO) 49.37 152 *eP* **P 02 32 37.2 +0.3**
NWAO pmax pmax
comp=Z,55nm,1.3s
NWAO Narrogin (SRO) 49.37 152 P **P 02 32 37.2 +0.3**
comp=Z,36nm,1.0s,mb5.3,baz=311,slow=7.4,SNR=11
NWAO Narrogin (SRO) 49.37 152 *eP* **P 02 32 37.2 +0.3**
comp=Z,55nm,1.3s,mb5.4
BOD Bodaibo 50.06 15 *eP* **P 02 32 41.0 -0.8**
BOD pmax pmax
comp=Z,24nm,1.0s,mb5.2
KLR Kul'dur 50.63 33 *eP* **P 02 32 41.0 -5.3**
KLR MLR MLR
comp=E,500nm,15.0s
KLR MLR MLR
comp=Z,800nm,15.0s,MS4.9

GNI Garni 51.24 314 *i* P **P 02 32 52.9 +1.9**
GNI pmax pmax
comp=Z,6.0nm,0.7s
GNI MLR MLR
comp=Z,100nm,18.0s
GNI Garni 51.24 314 P **P 02 32 51.5 +0.5**
comp=Z,2.5nm,0.5s,mb4.4,baz=152,slow=15,SNR=5.0
GNI Garni 51.24 314 *eP* **P 02 32 52.5 +1.5**
comp=Z,17nm,1.1s,mb4.9
WRA Warramunga Arr 51.35 126 P **P 02 32 51.6 -0.6**
comp=Z,20nm,0.3s,mb5.5,baz=306,slow=8.3,SNR=387
WRAB Tennant Creek 51.35 126*c i*P **P 02 32 51.8 -0.4**
WRAB Tennant Creek 51.35 126 *eP* **P 02 32 51.5 -0.6**
comp=Z,55nm,0.6s,mb5.7
WB2 Warramunga Arr 51.36 126⇑*iP* **P 02 32 51.6 -0.6**
WB2 *eS* **S 02 40 06.2 -2.3**
TI2 Plekhanov 51.83 315 *eP* **P 02 32 57.2 +1.7**
SVE Sverdlovsk 52.25 339 *eP* **P 02 32 58.0 -0.5**
SVE *eS* **S 02 40 19.8 -0.5**
SVE pmax pmax
comp=Z,38nm,1.7s,mb5.0
SVE MLR MLR
comp=Z,337nm,21.0s,MS4.4
CLNS Chul'man 52.66 22 *eP* **P 02 33 00.2 -1.3**
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax
comp=Z,40nm,0.9s,mb5.3
CLNS pmax pmax
comp=E,15nm,0.8s
ARU Arti 52.72 337⇑*iP* **P 02 33 02.0 0.0**
ARU *e* 02 34 05.3
ARU *e* 02 35 01.2
ARU *e*PPP PPP 02 36 04.2 -3.6
ARU *eS* **S 02 40 28.8 +2.1**
ARU *e*SS SS 02 44 06.0 +1.7
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.7
ASPA Alice Springs 53.07 130⇑*iP* **P 02 33 04.5 -0.5**
ASPA *eS* **S 02 40 28.1 -3.8**
ASAR Alice Springs 53.07 130 P **P 02 33 04.5 -0.5**
comp=Z,47nm,0.8s,mb5.5,baz=304,slow=7.0,SNR=253
ASAR LR LR 02 56 19.8
comp=Z,157nm,20.9s,MS4.0,baz=298,slow=37
FORT Forrest 53.59 141 *eP* **P 02 33 08.6 -0.1**
comp=Z,270nm,0.8s
KIV Kislovodsk 54.09 317*c iP* **P 02 33 12.5 +0.3**
KIV *eS* **S 02 40 47.2 +1.7**
KIV pmax pmax
comp=Z,13nm,0.9s,mb4.9
KIV Kislovodsk 54.09 317 *eP* **P 02 33 12.9 +0.7**
comp=Z,9.1nm,0.8s,mb4.8
ASAJ Asahikawa 54.72 43 P **P 02 33 16.6 -0.3**
comp=Z,9.8nm,0.6s,mb5.0,baz=271,slow=10,SNR=12
ASF Jabal al Asfar 55.20 302 LR LR 03 00 07.9
comp=Z,232nm,18.3s,MS4.3,baz=131,slow=40
MALT Malatya 55.31 309 *eP* **P 02 33 20.2 -1.1**
MALT pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
MALT Malatya 55.31 309 *eP* **P 02 33 20.2 -1.1**
comp=Z,3.9nm,1.1s,mb4.3
KMBO Kilima Mbogo 55.88 261 LR LR 02 56 31.3
comp=Z,372nm,18.6s,MS4.5,baz=94,slow=35
YSS Yuzh-Sakhalins 55.92 40⇑*eP* **P 02 33 25.1 -0.4**
YSS pmax pmax
comp=Z,45nm,1.3s,mb5.3
YSS MLR MLR
comp=Z,200nm,13.0s,MS4.4
YSS Yuzh-Sakhalins 55.92 40 *eP* **P 02 33 24.8 -0.7**
comp=Z,35nm,1.0s,mb5.3
SOC Sochi 55.96 316 *eP* **P 02 33 23.1 -2.8**
SOC *e* 02 35 29.7
SOC *e*PPP PPP 02 36 41.6 -6.2
SOC *eS* **S 02 41 07.9 -2.6**
SOC *e*SS SS 02 44 54.0 -2.6
SOC pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
SOC pmax pmax
comp=N,6.0nm,0.5s
SOC pmax pmax
comp=E,2.0nm,0.4s
EIL Elat 56.48 299 LR LR 03 00 12.0
comp=E,162nm,18.6s,MS4.2,baz=294,slow=39
ANN Anapa 57.91 317 P **P 02 33 36.9 -2.8**
ANN pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
YAK Yakutsk 58.12 20*c iP* **P 02 33 39.9 -1.0**
YAK pmax pmax
comp=Z,43nm,0.9s,mb5.5
YAK MLR MLR
comp=Z,200nm,10.0s,MS4.5
YAK Yakutsk 58.12 20 *eP* **P 02 33 39.6 -1.3**
comp=Z,28nm,0.6s,mb5.5
PMG Port Moresby 58.14 108 P **P 02 33 41.7 0.0**
comp=Z,32nm,0.8s,mb5.4,baz=265,slow=3.8,SNR=6.1
BRTR Keskin Array B 59.27 310 P **P 02 33 48.2 -1.1**
comp=Z,0.6nm,0.7s,mb3.8,baz=127,slow=6.2,SNR=5.7
SIM Simferopol' 60.21 316 *eP* **P 02 33 55.0 -0.6**
SIM *eS* **S 02 42 11.0 +4.9**
SIM pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
SIM MLR MLR
comp=Z,100nm,18.1s,MS4.0
CTA Charters Tower 61.26 120 P **P 02 34 03.0 -0.1**
comp=Z,5.7nm,0.7s,mb4.8,baz=328,slow=7.4,SNR=5.4
CTA LR LR 03 01 27.1
comp=Z,171nm,21.0s,MS4.2,baz=47,slow=37
OBN Obninsk 62.13 328⇓*eP* **P 02 34 08.5 0.0**
OBN *e* 02 36 23.5
OBN *i* S **S 02 42 33.9 +3.5**
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.3
STKA Stephens Creek 63.30 134⇑*iP* **P 02 34 16.8 +0.2**
comp=Z,25nm,1.0s,mb5.3
STKA Stephens Creek 63.30 134 P **P 02 34 17.1 +0.5**
comp=Z,10nm,0.4s,mb5.3,baz=311,slow=6.1,SNR=33
STKA LR LR 03 06 32.3
comp=Z,178nm,19.9s,MS4.2,baz=208,slow=40
AKASG Malin Array Be 64.91 321 P **P 02 34 25.4 -1.3**
comp=Z,1.3nm,0.5s,mb4.2,baz=85,slow=4.9,SNR=7.6
AKASG Malin Array Be 64.91 321 P **P 02 34 25.4 -1.3**
TIXI Tiksi 65.03 12*c iP* **P 02 34 26.1 -1.2**
TIXI pmax pmax
comp=Z,35nm,1.3s,mb5.2
MA2 Magadan 65.33 29 *eP* **P 02 34 28.6 -0.8**
MA2 *eS* S 02 43 07.7 -2.4
MA2 pmax pmax
comp=Z,20nm,1.4s,mb5.0
MA2 MLR MLR
comp=Z,690nm,25.0s,MS4.8
VRI Vrincioaia 65.48 316⇑P **P 02 34 31.6 +1.0**
MLR Muntele Rosu 65.96 315⇑P **P 02 34 34.2 +0.6**
BURAR Bucovina Array 66.82 317⇑P **P 02 34 39.9 +0.8**
BURAR Bucovina Array 66.82 317⇑P **P 02 34 39.9 +0.8**
JOF Joensuu 67.65 334 *ep* **P 02 34 43.8 -0.3**
KWP Kalwaria 68.79 319 *eP* **P 02 34 48.5 -2.9**
KWP Kalwaria 68.79 319 *eP* **P 02 34 48.5 -2.8**
KOLS Kolonicke sedl 68.97 318 *eP* **P 02 34 48.2 -4.3**
SUW Suwalki 69.25 324 *eP* **P 02 34 53.5 -0.7**
FINES FINESS Array B 69.49 332 P **P 02 34 55.2 -0.2**
comp=Z,1.1nm,0.4s,mb4.1,baz=106,slow=6.3,SNR=24
KAF Kangasniemi 69.58 333 *ep* **P 02 34 55.6 -0.4**
comp=Z,1.4nm,0.5s,mb4.2,baz=105,slow=5.9
KAF Kangasniemi 69.58 333 *eP* **P 02 34 55.6 -0.4**
KAF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
MATP Matopo 69.79 244 P **P 02 35 00.5 +2.5**
comp=Z,2.4nm,1.2s,mb4.0,baz=138,slow=8.2,SNR=1.8
MATP LR LR 03 03 20.2
comp=Z,208nm,18.0s,MS4.4,baz=165,slow=34
OJC Ojcow 70.73 320 *eP* **P 02 35 03.2 0.0**
KEV Kevo 71.72 341 *ep* **P 02 35 08.8 0.0**
ARCES ARCESS Array B 72.14 340 P **P 02 35 11.7 +0.4**
comp=Z,4.4nm,0.7s,mb4.5,baz=93,slow=5.2,SNR=19
ARCES LR LR 03 09 12.2
comp=Z,313nm,18.7s,MS4.6,baz=114,slow=38
ARE0 ARCESS Array S 72.14 340 *eP* **P 02 35 11.8 +0.4**
BILL Bilibino 74.35 22*c iP* **P 02 35 24.0 -0.2**
BILL *e* 02 35 37.3
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,200nm,13.0s,MS4.6

BILL Bilibino 74.35 22 *eP* **P 02 35 24.0 -0.2**
comp=Z,5.1nm,0.9s,mb4.5
BRG Berggiesshubel 74.51 320 *eP* **P 02 35 26.3 +0.8**
BRG pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
BRG Berggiesshubel 74.51 320 *eP* **P 02 35 26.3 +0.8**
comp=Z,5.4nm,1.4s,mb4.3
GERES GERESS Array B 74.59 318 P **P 02 35 26.3 +0.3**
comp=Z,1.2nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=12
GERES LR LR 03 10 29.4
comp=Z,107nm,20.3s,MS4.1,baz=75,slow=38
KHC Kasperske Hory 74.68 318 *eP* **P 02 35 26.5 0.0**
CLL Collm 75.12 320 *eP* **P 02 35 29.0 0.0**
CLL Collm 75.12 320 P **P 02 35 29.0 0.0**
BOSA Boshof 75.41 237 P **P 02 35 33.5 +2.4**
comp=Z,3.0nm,0.9s,mb4.2,baz=200,slow=8.5,SNR=3.5
BOSA LR LR 03 05 29.4
comp=Z,413nm,19.1s,MS4.8,baz=251,slow=33
FX1 Attu Island--F 76.22 38 P **P 02 35 35.9 +0.7**
comp=Z,19nm,0.7s,mb5.2,baz=332,slow=4.3,SNR=5.7
GRA1 Grafenberg Arr 76.23 319 *eP* **P 02 35 36.3 +1.0**
comp=Z,30nm,1.7s,mb5.0
GRF Grafenberg Arr 76.23 319 *eP* **P 02 35 36.3 +1.0**
GRF pmax pmax
comp=Z,30nm,1.7s,mb5.0
GRF Grafenberg Arr 76.23 319 *eP* **P 02 35 36.3 +1.0**
GRF pmax pmax
comp=Z,30nm,1.7s,mb5.0
GRF Grafenberg Arr 76.23 319 *eP* **P 02 35 36.3 +1.0**
comp=Z,30nm,1.7s,mb5.0
NB2 NORSAR Subarra 76.50 330 P **P 02 35 36.4 -0.2**
comp=Z,1.1nm,0.6s,mb4.0,baz=96,slow=5.3
NB2 NORSAR Subarra 76.50 330 P **P 02 35 36.4 -0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
NOA NORSAR Array B 76.50 330 P **P 02 35 36.5 -0.1**
comp=Z,3.1nm,0.9s,mb4.2,baz=94,slow=5.6,SNR=5.5
NOA LR LR 03 16 05.4
comp=Z,85nm,18.1s,MS4.1,baz=70,slow=41
LPG La Plagne 79.41 314 *eP* **P 02 35 53.9 +0.9**
comp=Z,16nm,0.9s,mb4.7
LPG La Plagne 79.41 314 *eP* **P 02 35 53.9 +0.9**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MAW Mawson 80.75 191 LR LR 03 03 49.9
comp=Z,171nm,21.2s,MS4.4,baz=244,slow=30
ESDC Sonseca Array 88.06 310 P **P 02 36 38.3 +1.2**
comp=Z,1.2nm,0.8s,mb4.2,baz=70,slow=4.7,SNR=4.0
IMA Indian Mountai 89.89 22 *eP* **P 02 36 46.4 +1.3**
IMA pmax pmax
comp=Z,115nm,1.7s,mb5.9
IMA Indian Mountai 89.89 22 *eP* **P 02 36 46.4 +1.3**
comp=Z,115nm,1.7s,mb5.9
COLA College 92.60 22 ||*eP* **P 02 36 58.6 +1.0**
ILAR Eielson Array 93.00 22 P **P 02 36 59.5 0.0**
comp=Z,2.7nm,0.9s,mb4.7,baz=298,slow=4.2,SNR=26
ILAR LR LR 03 27 07.2
comp=Z,113nm,18.3s,MS4.4,baz=166,slow=41
INK Inuvik 94.97 16 P **P 02 37 09.0 +0.6**
comp=Z,2.0nm,0.6s,mb4.7,baz=318,slow=6.1,SNR=8.8
INK Inuvik 94.97 16 P **P 02 37 09.0 +0.6**
DBIC Dimbokro 95.70 278 LR LR 03 21 16.0
comp=Z,121nm,18.1s,MS4.4,baz=58,slow=36
VNDA Vanda 95.90 168 LR LR 03 18 31.3
comp=Z,144nm,19.0s,MS4.5,baz=68,slow=34
DAWY Dawson 96.06 20 *eP* **P 02 37 14.4 +0.9**
YKA Yellowknife Ar 104.28 12 Pdiff Pdiff 02 37 51.0 +0.6
comp=Z,0.2nm,0.9s,baz=326,slow=4.2,SNR=5.7
YKA PP PP 02 42 05.8 -5.6
comp=Z,0.6nm,0.8s,baz=332,slow=7.7,SNR=10
YKA Yellowknife Ar 104.28 12 Pdif Pdif 02 37 51.0 +0.6
YKA PP PP 02 42 05.8 -5.6
PDAR Pinedale Array 123.35 19 PKP PKPdf 02 42 44.9 -2.3
comp=Z,0.3nm,0.5s,baz=315,slow=2.1,SNR=4.6
NVAR Mina Array Bea 123.57 29 PKP PKPdf 02 42 46.6 -1.1
comp=Z,2.0nm,0.9s,baz=67,slow=1.2,SNR=8.9
PLCA Paso Flores 146.28 204 PKPbc PKPbc 02 43 28.9 +2.9
comp=Z,2.5nm,0.8s,baz=157,slow=2.1,SNR=8.5
LPAZ La Paz 160.05 251 PKPab PKPab 02 44 28.3 +1.1
comp=Z,0.5nm,0.7s,baz=66,slow=9.0,SNR=3.2

IDC 10 02:24:20.4±5.3, 1.04N×98.92E, mb4.1/5, mb1 4.3/5, mb1mx3.8/20, mbtmp4.1/5, Error ellipse: s-maj=274.6km s-min=20.8km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**32.45 127**		P	P	02 30 52.5	-2.3
	3.1nm,0.8s,baz=332,slow=15,SNR=2.6						
WRA	**Warramunga Arr**	**40.50 123**		P	P	02 32 02.0	-1.0
	0.4nm,0.5s,baz=303,slow=9.1,SNR=7.9						
ASAR	**Alice Springs**	**41.93 128**		P	P	02 32 12.7	-2.1
	1.1nm,0.6s,baz=298,slow=7.6,SNR=17						
MKAR	**Makanchi Array**	**47.83 345**		P	P	02 32 59.2	-2.6
	3.8nm,0.6s,baz=165,slow=8.9,SNR=9.2						
ZAL	**Zalesovo**	**54.00 350**		P	P	02 33 46.9	-1.6
	2.3nm,0.5s,baz=356,slow=4.2,SNR=4.1						

*IDC **10** 02:43:52.6±4.5, 30.53S×179.53W, h405km±45km, mb2.9/2, mb1 3.4/4, mb1mx3.1/15, mbtmp4.1/4, Error ellipse: s-maj=44.6km s-min=29.3km az=35.0*

ISC 10 02:43:44.3±1.3, 30.31S±0.08×178.7W±0.3, h385km±17km, n28, σ0°91/32, mb3.2/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**7.64 198**		PN	P	02 45 35.0	-0.8
PUZ	**Puketiti**	**8.14 197**		PN	P	02 45 40.7	-0.8
PUZ				SN	S	02 47 13.8	-0.1
MWZ	**Matawai**	**8.59 200**		PN	P	02 45 45.9	-0.8
MWZ				SN	S	02 47 24.3	+1.0
URZ	**Urewera**	**8.65 202**		P	P	02 45 49.5	+2.0
	8.5nm,0.3s,baz=256,slow=5.1,SNR=27						
URZ				S	S	02 47 26.5	+1.9
	2.8nm,0.3s,baz=126,slow=21,SNR=13						
URZ	**Urewera**	**8.65 202**		PN	P	02 45 47.0	-0.4
URZ				SN	S	02 47 24.6	0.0
KNZ	**Kokohu**	**9.18 198**		PN	P	02 45 53.4	-0.3
FWVZ	**Far West T-bar**	**10.09 206**		PN	P	02 46 05.7	+1.3
WNVZ	**Wahianoa**	**10.13 206**		PN	P	02 46 05.2	+0.3
MOVZ	**Moawhango**	**10.15 205**		PN	P	02 46 05.6	+0.5
TSZ	**Takapari Road**	**10.65 203**		PN	P	02 46 11.7	+0.6
WAZ	**Wanganui**	**10.74 207**		PN	P	02 46 13.0	+0.9
BFZ	**Birch Farm**	**11.13 200**		PN	P	02 46 18.1	+1.5
BFZ				SN	S	02 48 16.8	-0.5
MRZ	**Mangatainoka R**	**11.32 203**		PN	P	02 46 17.4	-1.5
MRZ				SN	S	02 48 18.9	-2.6
KIW	**Kapiti Island**	**11.73 204**		PN	P	02 46 23.6	0.0
CAW	**Cannon Point**	**11.89 203**		PN	P	02 46 25.0	-0.4
MRW	**Makara Radio**	**12.13 204**		PN	P	02 46 28.2	0.0
TUWZ	**Tuamarina**	**12.59 206**		PN	P	02 46 33.1	-0.3
TUWZ				SN	S	02 48 47.3	-0.7
NNZ	**Nelson**	**12.63 208**		SN	S	02 48 48.7	-0.1
THZ	**Tophouse**	**13.28 208**		PN	P	02 46 40.8	-0.4
THZ				SN	S	02 49 01.2	-1.1
KHZ	**Kahutara**	**13.59 205**		SN	S	02 49 09.4	+0.7
MQZ	**McQueen's Vall**	**15.03 205**		SN	S	02 49 38.9	+1.8
DZM	**Mont Dzumac**	**15.63 298**		P	P	02 47 06.6	+0.3
	0.9nm,0.3s,baz=343,slow=23,SNR=8.9						
ASAR	**Alice Springs**	**42.49 267**		P	P	02 51 04.3	-0.6
	0.4nm,0.5s,mb3.0,baz=107,slow=7.2,SNR=6.1						
WRA	**Warramunga Arr**	**43.47 272**		P	P	02 51 12.8	0.0
	1.0nm,0.6s,mb3.4,baz=111,slow=7.7,SNR=34						
ARCES	**ARCESS Array B 138.37 347**			PKP	PKPdf	03 02 30.8	+7.2
	1.6nm,0.8s,baz=63,slow=2.0,SNR=4.9						
FINES	**FINESS Array B 144.85 340**			PKP	PKPdf	03 02 39.9	+4.9
	1.7nm,0.6s,baz=63,slow=3.1,SNR=25						
NOA	**NORSAR Array B 148.57 351**			PKPbc	PKPdf	03 02 51.2	+10
	1.2nm,0.9s,baz=59,slow=3.3,SNR=3.4						
HFS	**Hagfors 149.03 348**			PKPbc	PKPdf	03 02 53.4	+11
	0.7nm,0.6s,baz=333,slow=3.2,SNR=4.3						

IDC 10 02:53:27.4±17.0, 6.33N×92.89E, h86km±142km, mb3.2/5, mb1 3.4/6, mb1mx3.2/21, mbtmp3.5/6, ML3.8/1, Error ellipse: s-maj=158.1km s-min=21.9km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.42 26**		P	P	02 56 34.6	-0.8
	0.2nm,0.3s,baz=224,slow=15,SNR=5.9						
MKAR	**Makanchi Array**	**41.33 349**		P	P	03 01 03.6	-2.6
	0.3nm,0.5s,baz=159,slow=8.9,SNR=4.5						
SONM	**Songino Array**	**42.93 13**		P	P	03 01 17.3	-2.0
	0.4nm,0.8s,baz=195,slow=10,SNR=3.0						
ZAL	**Zalesovo**	**47.91 354**		P	P	03 01 57.9	-1.0
	0.8nm,0.3s,baz=92,slow=7.5,SNR=2.5						
WRA	**Warramunga Arr**	**48.41 124**		P	P	03 02 01.2	-2.0
	0.1nm,0.5s,baz=297,slow=7.4,SNR=4.3						
ASAR	**Alice Springs**	**49.91 128**		P	P	03 02 12.7	-2.0
	0.6nm,0.7s,baz=301,slow=7.8,SNR=4.7						

*IDC **10** 02:55:48.5±1.7, 25.88N×100.66E, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.6/3, Error ellipse: s-maj=77.8km s-min=25.3km az=65.0*
*BJI **10** 02:55:50.2, 26.05N×100.44E, h18km, ML3.4*

ISC 10 02:55:47.6±2.4, 25.8N±0.1×100.58E±0.09, h9km±19km, n5, σ0°43/6, mb3.5/3, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.06 108**		PG	**Pg**	**02 56 29.2**	**+0.4**
KMI				SG	**Sg**	**02 56 56.1**	**-0.2**
KMI				Smax			
	comp=N,468nm,0.9s						
KMI				Smax			
	comp=E,297nm,0.9s						
KMI				LR	LR		
	comp=N,730nm,3.8s						
KMI				LR	LR		
	comp=E,507nm,3.8s						
KMI				LR	LR		
	comp=Z,331nm,5.2s						
CMAR	**Chiang Mai Arr**	**7.44 192**		Pg	**Pg**	**02 58 15.9**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=357,slow=16,SNR=8.8						
CMAR				Lg		02 59 54.1	
	comp=Z,0.6nm,0.3s,baz=1.7,slow=30,SNR=15						
SONM	**Songino Array**	**22.49 10**		P	**P**	**03 00 48.4**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.1,baz=188,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**25.52 330**		P	**P**	**03 01 18.1**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.6,baz=136,slow=10,SNR=12						
WRA	**Warramunga Arr**	**56.04 141**		P	**P**	**03 05 29.6**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=329,slow=7.7,SNR=12						

IDC 10 02:57:47.4±0.8, 6.81N×73.07W, h158km±17km, mb3.0/1, mb1 3.2/3, mb1mx2.9/20, mbtmp3.4/3, Error ellipse: s-maj=64.6km s-min=7.9km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.31 213**		P	P	02 58 28.9	+1.8
	6.5nm,0.3s,baz=62,slow=22,SNR=45						
ROSC				S	S	02 58 57.7	+0.1
	9.5nm,0.3s,baz=102,slow=14,SNR=9.0						
SDV	**Santo Domingo**	**3.18 49**		P	P	02 58 38.5	+0.6
	4.3nm,0.3s,baz=267,slow=3.6,SNR=28						
SDV				S	S	02 59 16.3	-0.5
	10nm,0.3s,baz=67,slow=19,SNR=38						
YKA	**Yellowknife Ar**	**63.29 340**		P	P	03 07 58.9	-2.4
	0.3nm,0.6s,baz=132,slow=6.7,SNR=9.3						
WRA	**Warramunga Arr**	**150.38 241**		PKPbc	PKPdf	03 17 20.6	+5.3
	0.2nm,0.5s,baz=107,slow=3.0,SNR=7.5						

*NEIC **10** 03:09:28.2±4.7, 2.25N×96.24E, h37km±38km, mb4.2/3, Error ellipse: s-maj=45.0km s-min=10.7km az=56.0*
*IDC **10** 03:09:30.4±10.0, 2.29N×96.20E, h56km±89km, mb3.5/9, mb1 3.6/10, mb1mx3.5/21, mbtmp3.8/10, ML3.9/1, Error ellipse: s-maj=62.5km s-min=18.2km az=55.0*

ISC 10 03:09:25.8±0.8, 2.2N±0.1×96.2E±0.1, h33km, n17, σ0°81/17, mb3.9/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.36 56**		*eP*	**P**	**03 10 44.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**16.33 9**		P	**P**	**03 13 16.1**	**+1.7**
WRA	**Warramunga Arr**	**43.42 122**		P	**P**	**03 17 27.0**	**-0.6**
WRAB	**Tennant Creek**	**43.43 122**		*eP*	**P**	**03 17 27.3**	**-0.4**
	4.5nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**44.81 127**		P	**P**	**03 17 40.4**	**+1.7**
	0.2nm,0.5s,mb3.2,baz=303,slow=7.8,SNR=3.1						
MKAR	**Makanchi Array**	**46.00 347**		P	**P**	**03 17 47.9**	**0.0**
	3.3nm,0.9s,mb4.2,baz=158,slow=8.9,SNR=22						
MKAR	**Makanchi Array**	**46.00 347**		P	**P**	**03 17 47.9**	**0.0**
SONM	**Songino Array**	**46.26 9**		P	**P**	**03 17 49.7**	**-0.3**
	0.6nm,0.3s,mb3.9,baz=188,slow=9.2,SNR=10						
SONM				PcP	PcP	03 19 25.5	0.0
	0.1nm,0.3s,baz=192,slow=3.7,SNR=3.7						
ULN	**Ulaanbaatar**	**46.40 10**		*eP*	**P**	**03 17 51.4**	**+0.4**
	2.3nm,1.0s,mb4.1						
ZAL	**Zalesovo**	**52.37 352**		P	**P**	**03 18 36.9**	**+0.1**
	1.7nm,0.5s,mb4.2,baz=312,slow=3.9,SNR=8.0						
ZAL	**Zalesovo**	**52.37 352**		P	**P**	**03 18 36.9**	**+0.1**
BVAR	**Borovoye Array**	**54.95 341**		P	**P**	**03 18 54.9**	**-1.0**
	1.0nm,0.6s,mb4.0,baz=142,slow=8.9,SNR=8.9						
CHKZ	**Chkalovo**	**55.43 342**		*eP*	**P**	**03 18 58.6**	**-0.7**
	1.5nm,0.6s,mb4.2						
BRTR	**Keskin Array B**	**67.68 312**		P	**P**	**03 20 22.1**	**+0.2**
	0.1nm,0.4s,mb3.2,baz=109,slow=10.0,SNR=2.5						
FINES	**FINESS Array B**	**78.62 333**		P	**P**	**03 21 25.2**	**-0.6**
	0.5nm,0.7s,mb3.5,baz=135,slow=2.7,SNR=5.7						
ARCES	**ARCESS Array B**	**81.23 340**		P	**P**	**03 21 40.1**	**+0.5**
	2.2nm,0.8s,mb4.1,baz=90,slow=2.4,SNR=4.3						

*IDC **10** 03:28:49.4±0.7, 0.38N×98.08E, mb4.2/12, mb1 4.3/13, mb1mx4.2/20, mbtmp4.2/13, ML4.4/1, MS3.7/6, Ms1 3.8/6, ms1mx3.3/33, Error ellipse: s-maj=24.9km s-min=17.2km az=58.0*
*NEIC **10** 03:28:55.5±2.0, 0.41N×98.14E, h43km±18km, mb4.5/6, Error ellipse: s-maj=15.6km s-min=8.0km az=58.0*

ISC 10 03:28:53.6±3.3, 0.4N±0.1×98.1E±0.1, h42km±29km, n25, σ0°67/23, mb4.2/17, MS3.8/5, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.44 27**		*eP*	**P**	**03 30 14.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**17.93 2**		P	**P**	**03 33 00.7**	**-0.9**
	0.5nm,0.3s,baz=194,slow=11,SNR=6.1						
CMAR				LR	LR	03 40 04.9	
	comp=Z,171nm,19.1s,baz=200,slow=38						
LSA	**Lhasa**	**29.86 348**		*eP*	**P**	**03 34 59.8**	**+0.4**
	14nm,0.8s,mb4.8						
NWAO	**Narrogin (SRO)**	**37.75 153**		LR	LR	03 50 45.2	
	comp=Z,96nm,20.7s,MS3.6,baz=135,slow=35						
WRA	**Warramunga Arr**	**40.83 122**		P	**P**	**03 36 33.6**	**+0.5**
	0.8nm,0.8s,mb3.4,baz=302,slow=9.4,SNR=6.7						
WRAB	**Tennant Creek**	**40.84 122**		*eP*	**P**	**03 36 33.2**	**+0.1**
	2.7nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**42.18 127**		P	**P**	**03 36 44.5**	**+0.2**
	0.6nm,0.6s,mb3.4,baz=297,slow=7.7,SNR=8.3						
SONM	**Songino Array**	**47.76 8**		P	**P**	**03 37 29.2**	**+0.6**
	1.2nm,0.4s,mb4.3,baz=192,slow=9.6,SNR=16						
SONM				PcP	PcP	03 38 57.9	+0.4
	0.3nm,0.4s,baz=181,slow=4.5,SNR=4.8						
ULN	**Ulaanbaatar**	**47.88 8**		*eP*	**P**	**03 37 29.4**	**-0.1**
	2.7nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**48.21 345**		P	**P**	**03 37 32.1**	**0.0**
	4.0nm,0.8s,mb4.5,baz=159,slow=8.4,SNR=16						
MKAR				LR	LR	03 59 29.3	
	comp=Z,55nm,20.2s,MS3.5,baz=182,slow=38						
CTA	**Charters Tower**	**51.32 116**		LR	LR	04 03 22.2	
	comp=Z,82nm,19.9s,MS3.8,baz=47,slow=40						
STKA	**Stephens Creek**	**52.15 132**		P	**P**	**03 38 00.7**	**-1.5**
	1.8nm,0.6s,mb4.2,baz=307,slow=13,SNR=3.7						
KURK	**Kurchatov**	**52.77 345**		*eP*	**P**	**03 38 06.2**	**-0.5**
	8.3nm,1.0s,mb4.6						
ZAL	**Zalesovo**	**54.46 350**		P	**P**	**03 38 19.3**	**+0.2**
	8.7nm,0.4s,mb5.1,baz=312,slow=4.0,SNR=7.6						
ZAL	**Zalesovo**	**54.46 350**		P	**P**	**03 38 19.3**	**+0.2**
CHKZ	**Chkalovo**	**57.75 341**		*eP*	**P**	**03 38 41.6**	**-1.1**
	6.8nm,0.7s,mb4.8						
CHKZ				*e*		03 38 45.5	
KMBO	**Kilima Mbogo**	**60.91 268**		P	**P**	**03 39 05.0**	**0.0**
	0.6nm,0.5s,mb4.0,baz=40,slow=11,SNR=3.5						
KMBO				LR	LR	04 00 27.8	
	comp=Z,85nm,18.6s,MS3.9,baz=102,slow=31						
BRTR	**Keskin Array B**	**70.32 312**		P	**P**	**03 40 03.8**	**-1.2**
	0.8nm,0.7s,mb3.8,baz=140,slow=6.5,SNR=4.9						
LBTB	**Lobatse**	**74.39 244**		P	**P**	**03 40 30.1**	**+0.6**
	2.3nm,0.9s,mb4.1,baz=46,slow=9.7,SNR=3.5						
LBTB	**Lobatse**	**74.39 244**		*eP*	**P**	**03 40 29.9**	**+0.4**
BOSA	**Boshof**	**75.22 240**		P	**P**	**03 40 34.4**	**+0.2**
	2.6nm,0.7s,mb4.2,baz=23,slow=11,SNR=5.1						
BURAR	**Bucovina Array**	**78.22 319**	⇑	P	**P**	**03 40 51.7**	**+1.1**
FINES	**FINESS Array B**	**81.11 332**		P	**P**	**03 41 05.9**	**+0.1**
	0.7nm,0.4s,mb3.9,baz=109,slow=5.5,SNR=14						
ARCES	**ARCESS Array B**	**83.57 340**		P	**P**	**03 41 18.9**	**+0.6**
	7.1nm,1.0s,mb4.8,baz=100,slow=5.5,SNR=3.7						
ARCES				LR	LR	04 20 05.3	
	comp=Z,74nm,18.0s,MS4.1,baz=128,slow=37						
ARCES	**ARCESS Array B**	**83.57 340**		P	**P**	**03 41 18.9**	**+0.6**
ARCES				LR	LR	04 20 05.3	

*IDC **10** 03:29:11.5±0.8, 6.30N×92.77E, mb4.2/12, mb1 4.3/13, mb1mx4.2/22, mbtmp4.1/13, ML4.5/1, Error ellipse: s-maj=37.4km s-min=14.6km az=53.0*
*BJI **10** 03:29:14.7, 5.85N×92.96E, h56km, mB4.8, mb4.6, Ms4.3, Msz4.1*
*NEIC **10** 03:29:16.1±0.5, 6.27N×92.78E, h30km, mb4.5/9, Error ellipse: s-maj=13.5km s-min=7.1km az=53.0*

ISC 10 03:29:14.4±0.6, 6.27N±0.08×92.81E±0.08, h30km, n38, σ1°08/36, mb4.4/24, MS4.0/4, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.86 97**		P	**Pn**	**03 31 13.5**	**+3.8**
CM31	**Chiang Mai Arr**	**13.51 26**		P	**P**	**03 32 28.8**	**+2.0**
CM31				*e*		03 32 39.1	
CMAR	**Chiang Mai Arr**	**13.51 26**		Pn	**P**	**03 32 24.8**	**-1.9**
	0.7nm,0.3s,baz=217,slow=14,SNR=5.7						
HYB	**Hyderabad**	**17.80 310**		*eP*	**P**	**03 33 23.5**	**+1.7**
HYB	**Hyderabad**	**17.80 310**		*i* P	**P**	**03 33 23.5**	**+1.7**
KSM	**Kuching**	**18.09 105**		*eP*	**P**	**03 33 26.6**	**+1.1**
SHL	**Shillong**	**19.21 357**		*eP*	**P**	**03 33 35.8**	**-3.1**
KMI	**Kunming**	**21.02 26**		P	**P**	**03 33 57.2**	**-1.0**
KMI				AMB	AMB		
	comp=Z,164nm,3.8s						
KMI				LR	LR		
	comp=N,346nm,12.2s,MS4.1						
KMI				LR	LR		
	comp=E,509nm,16.3s,MS4.1						
KMI				LR	LR		
	comp=Z,447nm,16.3s,MS3.9						
KMI	**Kunming**	**21.02 26**		P	**P**	**03 33 57.2**	**-1.0**
	comp=Z,0.2nm,3.8s						
KMI				pP		03 34 04.2	
KMI				sP		03 34 07.1	
KMI				PP	PP	03 34 32.3	+11
KMI				S	S	03 38 15.5	+30
KMI				sS		03 38 27.0	
KMI				LR	LR		
	comp=Z,450nm,16.3s,MS3.9						
JIRN	**Jiri**	**22.18 344**		*eP*	**P**	**03 34 10.1**	**+0.3**
	comp=Z,18nm,0.9s,mb4.5						
PKI	**Pulchoki**	**22.32 342**		*eP*	**P**	**03 34 12.4**	**+1.2**
	comp=Z,36nm,0.9s,mb4.8						
DMN	**Daman**	**22.45 342**		*eP*	**P**	**03 34 13.4**	**+1.0**
	comp=Z,41nm,0.9s,mb4.8						
KKN	**Kakani**	**22.57 342**		*eP*	**P**	**03 34 14.0**	**+0.3**
	comp=Z,44nm,1.1s,mb4.8						
GKN	**Gorkha**	**22.96 341**		*eP*	**P**	**03 34 17.6**	**0.0**
	comp=Z,57nm,1.1s,mb4.9						
KOLN	**Koldanda**	**23.10 339**		*eP*	**P**	**03 34 19.9**	**+1.0**
	comp=Z,48nm,1.3s,mb4.8						
GYA	**Guiyang**	**24.04 32**	⇑	*i* P	**P**	**03 34 28.6**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
GYA				AMB	AMB		
	comp=Z,140nm,6.5s						
GYA				LR	LR		
	comp=N,260nm,14.7s,MS4.1						
GYA				LR	LR		
	comp=E,380nm,14.4s,MS4.1						
GYA				LR	LR		
	comp=Z,470nm,13.5s,MS4.1						
HHC	**Hu-ho-hao-te**	**38.30 23**		*eP*	**P**	**03 36 35.8**	**+1.7**
HHC				AP	pP	03 36 45.5	+2.4
HHC				XP	sP	03 36 50.8	+3.9
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,111nm,5.5s						
HHC				LR	LR		
	comp=N,230nm,15.3s,MS4.2						
HHC				LR	LR		
	comp=E,149nm,16.9s,MS4.2						
HHC				LR	LR		
	comp=Z,243nm,15.8s,MS4.1						
BJI	**Beijing**	**39.64 29**		*eP*	**P**	**03 36 44.4**	**-0.9**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
BJI				LR	LR		
	comp=N,222nm,17.3s,MS4.3						
BJI				LR	LR		
	comp=E,236nm,13.6s,MS4.3						
BJI				LR	LR		
	comp=Z,91nm,17.5s,MS3.7						
FITZ	**Fitzroy Crossi**	**40.45 127**		P	**P**	**03 36 51.8**	**-0.3**
	comp=Z,5.3nm,0.7s,mb4.4,baz=334,slow=3.9,SNR=6.3						
MKAR	**Makanchi Array**	**41.38 349**		P	**P**	**03 36 58.9**	**-0.6**
	comp=Z,2.0nm,0.7s,mb3.9,baz=168,slow=9.0,SNR=22						
SONM	**Songino Array**	**43.01 13**		P	**P**	**03 37 12.4**	**-0.5**
	comp=Z,1.9nm,0.7s,mb3.9,baz=196,slow=9.0,SNR=18						
SONM				PcP	PcP	03 39 04.9	+1.5
	comp=Z,0.4nm,0.7s,baz=190,slow=4.2,SNR=4.5						
KURK	**Kurchatov**	**45.86 347**		*eP*	**P**	**03 37 34.6**	**-1.1**
	comp=Z,1.9nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**47.97 354**		P	**P**	**03 37 52.4**	**+0.1**
	comp=Z,2.7nm,0.5s,mb4.5,baz=308,slow=6.7,SNR=12						
ZAL	**Zalesovo**	**47.97 354**		P	**P**	**03 37 52.4**	**+0.1**
WRA	**Warramunga Arr**	**48.45 124**		P	**P**	**03 37 56.2**	**-0.3**
	comp=Z,4.0nm,0.7s,mb4.6,baz=304,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**48.45 124**		*eP*	**P**	**03 37 56.4**	**-0.1**
	comp=Z,6.0nm,0.6s,mb4.8						
ASAR	**Alice Springs**	**49.94 128**		P	**P**	**03 38 07.9**	**0.0**
	comp=Z,5.3nm,0.7s,mb4.7,baz=299,slow=7.4,SNR=19						
CHKZ	**Chkalovo**	**50.59 343**		*eP*	**P**	**03 38

s-min=15.2km az=57.0
*NEIC **10** 03:50:21.6±0.6, 1.60S×99.72E, h30km, mb3.9/1, Error ellipse: s-maj=30.2km s-min=8.4km az=57.0*
ISC 10 03:50:19.2±1.3, 1.6S±0.2×99.7E±0.3, h30km, n15, σ0°71/13, mb4.0/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.95**	**358**	P	**P**	**03 54 51.6**	**-0.4**
	baz=190,slow=10,SNR=2.7						
FITZ	**Fitzroy Crossi**	**30.32**	**124**	P	**P**	**03 56 30.0**	**-0.7**
	6.5nm,1.1s,mb4.3,baz=117,slow=9.2,SNR=3.3						
WRA	**Warramunga Arr**	**38.49**	**121**	P	**P**	**03 57 40.8**	**-0.1**
	1.5nm,0.5s,mb4.0,baz=302,slow=9.2,SNR=17						
WRA				PcP	PcP	03 59 54.4	+0.5
	0.3nm,0.5s,baz=314,slow=2.5,SNR=5.7						
WRAB	**Tennant Creek**	**38.50**	**121**	*eP*	**P**	**03 57 40.4**	**-0.5**
ASAR	**Alice Springs**	**39.77**	**126**	P	**P**	**03 57 52.1**	**+0.7**
	0.7nm,0.6s,mb3.6,baz=299,slow=7.9,SNR=10.0						
SONM	**Songino Array**	**49.59**	**6**	P	**P**	**03 59 10.8**	**+1.0**
	0.5nm,0.8s,mb3.6,baz=202,slow=7.8,SNR=3.4						
STKA	**Stephens Creek**	**49.67**	**132**	P	**P**	**03 59 10.8**	**+0.2**
	1.4nm,0.7s,mb4.1,baz=25,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**50.56**	**345**	P	**P**	**03 59 17.8**	**+0.6**
	0.9nm,0.6s,mb3.9,baz=150,slow=8.2,SNR=12						
KURK	**Kurchatov**	**55.13**	**344**	P	**P**	**03 59 50.1**	**-1.1**
	1.1nm,0.8s,mb3.9						
ZAL	**Zalesovo**	**56.71**	**350**	P	**P**	**04 00 03.2**	**+0.7**
	1.9nm,0.4s,mb4.5,baz=308,slow=4.6,SNR=7.5						
BVAR	**Borovoye Array**	**59.70**	**340**	P	**P**	**04 00 22.6**	**-0.7**
	0.7nm,0.6s,mb3.9,baz=141,slow=9.2,SNR=6.0						
CHKZ	**Chkalovo**	**60.16**	**341**	*eP*	**P**	**04 00 25.6**	**-0.8**
FINES	**FINESS Array B**	**83.60**	**332**	P	**P**	**04 02 46.8**	**+0.9**
	0.8nm,0.8s,mb3.9,baz=45,slow=2.7,SNR=3.1						
CFAA	**Coronel Fontan**	**145.03**	**198**	PKPbc	PKPbc	04 09 56.6	+2.1
	0.2nm,0.4s,baz=178,slow=2.1,SNR=7.6						
JCT	**Junction City**	**145.87**	**31**	*e*PKP	PKPdf	04 09 59.6	-1.3
JCT				*e*		04 10 06.8	

*IGQ **10** 03:53:23.3, 4.37S×80.60W, h59km±19km, mb4.8, Error ellipse: s-maj=7.4km s-min=5.6km az=45.4*
*IDC **10** 03:53:28.4±0.8, 3.92S×80.09W, h33km±5km, mb3.5/11, mb1 3.8/12, mb1mx3.7/20, mbtmp3.8/12, ML4.0/1, Error ellipse: s-maj=33.5km s-min=13.5km az=52.0*
*NEIC **10** 03:53:28.6±0.6, 4.13S×80.32W, mb4.2/3, Error ellipse: s-maj=15.9km s-min=9.3km az=68.0*
ISC 10 03:53:27.1±1.0, 4.15S±0.05×80.39W±0.08, h47km±9km, n46, σ1°10/49, mb3.7/12, 4C-2D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**2.04**	**343**	P	**P**	**03 53 58.3**	**-1.3**
HOJA	**Cerro de Hojas**	**3.08**	**357**	P	**P**	**03 54 11.4**	**-3.1**
IGUA	**Igualata**	**3.17**	**34**	P	**P**	**03 54 15.4**	**-0.2**
ARRY	**Arrayan**	**3.26**	**36**	P	**P**	**03 54 16.6**	**-0.3**
ULBA	**Ulba**	**3.33**	**36**	P	**P**	**03 54 18.5**	**+0.5**
PISA	**Pisayambo**	**3.66**	**33**	P	**P**	**03 54 23.2**	**+0.5**
JAMA	**Jama**	**3.87**	**3**	P	**P**	**03 54 25.4**	**-0.1**
NAS1	**Nasa**	**3.98**	**29**	⇑P	**P**	**03 54 27.4**	**+0.3**
TAMB	**Tambo**	**3.98**	**31**	P	**P**	**03 54 28.6**	**+1.4**
VC1	**Cotopaxi 1**	**4.01**	**30**	⇑P	**P**	**03 54 27.8**	**+0.2**
MAGD	**Magdalena**	**4.10**	**9**	P	**P**	**03 54 28.2**	**-0.7**
ANTI	**Antisana**	**4.29**	**31**	P	**P**	**03 54 33.4**	**+1.8**
JUA2	**San Juan 2**	**4.29**	**25**	P	**P**	**03 54 31.8**	**+0.1**
JUA2				S	**S**	**03 55 19.7**	**-1.4**
TERV	**Terraza Guagua**	**4.33**	**24**	⇓P	**P**	**03 54 32.5**	**+0.4**
TERV				S	**S**	**03 55 22.4**	**+0.4**
GGP	**Refugio Guagua**	**4.33**	**24**	P	**P**	**03 54 32.3**	**+0.1**
GGP				S	**S**	**03 55 20.8**	**-1.3**
PINO	**Pino**	**4.34**	**24**	⇑P	**P**	**03 54 32.4**	**+0.1**
PINO				S	**S**	**03 55 21.9**	**-0.4**
YANA	**Yana**	**4.39**	**24**	⇓P	**P**	**03 54 33.1**	**+0.1**
JOR1	**San Jorge 1**	**4.47**	**23**	P	**P**	**03 54 30.9**	**-3.3**
OTAV	**Otavalo**	**4.77**	**24**	*e*P	**P**	**03 54 37.5**	**-0.8**
CAYR	**Refugio Cayamb**	**4.77**	**30**	P	**P**	**03 54 40.8**	**+2.5**
CAYA	**Cayambe**	**4.83**	**30**	P	**P**	**03 54 41.9**	**+2.8**
COTA	**Cotacachi**	**4.90**	**25**	⇑P	**P**	**03 54 40.3**	**+0.1**
ECEN	**Cerro Negro**	**5.50**	**26**	P	**P**	**03 54 47.9**	**-0.5**
NNA	**Nana**	**8.54**	**156**	*e*P	**P**	**03 55 29.9**	**-0.9**
	14nm,0.5s						
SDV	**Santo Domingo**	**16.19**	**37**	Pn	**P**	**03 57 15.4**	**+2.3**
	0.5nm,0.3s,baz=14,slow=9.3,SNR=5.2						
SDV				Sn	**S**	**03 59 59.2**	**-12**
	0.3nm,0.3s,baz=88,slow=17,SNR=2.5						
LPAZ	**La Paz**	**17.04**	**136**	P	**P**	**03 57 24.3**	**+0.6**
	0.3nm,0.3s,baz=322,slow=13,SNR=18						
LPAZ	**La Paz**	**17.04**	**136**	*e*P	**P**	**03 57 23.6**	**-0.1**
	3.8nm,0.7s						
SAML	**Samuel**	**17.74**	**106**	*e*P	**P**	**03 57 30.9**	**-1.5**
	22nm,1.1s						
PCRV	**Puerto La Cruz**	**21.18**	**48**	P	**P**	**03 58 10.9**	**0.0**
	4.2nm,0.6s,mb4.0,baz=102,slow=22,SNR=3.2						
LVC	**Limon Verde**	**21.46**	**150**	P	**P**	**03 58 16.7**	**+3.2**
	12nm,0.7s,mb4.3,baz=313,slow=9.2,SNR=10						
SIV	**San Ignacio**	**22.34**	**123**	P	**P**	**03 58 22.3**	**+0.1**
	2.2nm,0.5s,mb3.8,baz=310,slow=12,SNR=15						
CFAA	**Coronel Fontan**	**29.61**	**159**	P	**P**	**03 59 30.2**	**+0.1**
	0.1nm,0.6s,mb2.7,baz=274,slow=9.9,SNR=3.7						
BDFB	**Brasilia**	**33.81**	**112**	P	**P**	**04 00 06.2**	**-1.0**
	1.9nm,0.8s,mb4.0,baz=124,slow=11,SNR=2.8						
ANMO	**Albuquerque**	**45.97**	**330**	P	**P**	**04 01 48.0**	**+0.3**
	0.7nm,0.6s,mb3.8,baz=158,slow=11,SNR=4.7						
ANMO	**Albuquerque**	**45.97**	**330**	P	**P**	**04 01 48.0**	**+0.3**
PDAR	**Pinedale Array**	**53.65**	**334**	P	**P**	**04 02 45.9**	**-0.3**
	0.3nm,0.7s,mb3.3,baz=135,slow=7.7,SNR=2.5						
NVAR	**Mina Array Bea**	**55.00**	**324**	P	**P**	**04 02 57.4**	**+1.1**
	0.8nm,0.7s,mb3.9,baz=135,slow=7.7,SNR=4.6						
NVAR				sP	sP	04 03 10.2	-4.5
	0.6nm,0.6s,baz=140,slow=8.5,SNR=2.9						
SCHQ	**Schefferville**	**59.84**	**9**	P	**P**	**04 03 30.2**	**0.0**
	1.4nm,0.9s,mb4.0,baz=236,slow=17,SNR=3.0						
SCHQ	**Schefferville**	**59.84**	**9**	*e*P	**P**	**04 03 30.0**	**-0.1**
YKA	**Yellowknife Ar**	**71.38**	**344**	P	**P**	**04 04 42.3**	**-1.6**
	0.1nm,0.6s,mb2.9,baz=143,slow=6.2,SNR=5.1						
YKA				pP	pP	04 04 54.9	-2.5
	0.1nm,0.6s,baz=138,slow=6.2,SNR=3.9						
YKA	**Yellowknife Ar**	**71.38**	**344**	P	**P**	**04 04 42.3**	**-1.6**
YKA				pP	pP	04 04 54.9	-2.5
DBIC	**Dimbokro**	**76.16**	**82**	P	**P**	**04 05 11.1**	**-1.7**
	2.8nm,0.7s,mb4.3,baz=278,slow=5.7,SNR=5.8						
DBIC				pP	pP	04 05 22.6	-3.7
	3.3nm,0.7s,baz=269,slow=4.7,SNR=2.5						
DBIC	**Dimbokro**	**76.16**	**82**	*e*P	**P**	**04 05 11.7**	**-1.0**
	6.5nm,1.0s,mb4.5						
DBIC				*e*pP	pP	04 05 22.4	-3.9
ILAR	**Eielson Array**	**83.94**	**337**	P	**P**	**04 05 55.2**	**+2.0**
	0.3nm,0.8s,mb3.5,baz=108,slow=2.9,SNR=3.1						
WRA	**Warramunga Arr**	**138.32**	**234**	PKP	PKPdf	04 12 50.0	+1.7
	0.3nm,0.5s,baz=113,slow=2.1,SNR=5.3						
WRA				pPKP		04 13 02.6	
	0.5nm,0.8s,baz=114,slow=2.1,SNR=2.5						
FITZ	**Fitzroy Crossi**	**146.13**	**228**	PKPbc	PKPbc	04 13 07.2	+3.9
	5.0nm,1.0s,baz=104,slow=8.3,SNR=3.4						

IDC 10 04:01:47.8±1.7, 9.00S×125.39E, mb3.5/1, mb1 3.5/4, mb1mx3.4/16, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=82.5km s-min=21.8km az=67.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.05**	**179**	Pn	P	04 03 58.9	-3.8
	0.2nm,0.3s,baz=76,slow=23,SNR=9.3						
FITZ				Sn	Sn	04 05 46.2	-0.4
	0.4nm,0.3s,baz=65,slow=17,SNR=4.7						
WRA	**Warramunga Arr**	**13.90**	**142**	Pn	P	04 05 04.2	-4.4
	0.1nm,0.3s,baz=317,slow=14,SNR=9.2						
WRA				Sn	S	04 07 44.1	-0.7
	0.1nm,0.3s,baz=314,slow=28,SNR=8.8						
ASAR	**Alice Springs**	**16.70**	**152**	Pn	P	04 05 44.5	-0.5
	0.0nm,0.3s,baz=330,slow=13,SNR=5.4						
ASAR				Sn	S	04 08 52.0	+1.2
	0.0nm,0.3s,baz=237,slow=48,SNR=2.3						
MKAR	**Makanchi Array**	**67.50**	**329**	P	P	04 12 45.9	-2.0
	0.3nm,0.6s,baz=143,slow=7.2,SNR=2.8						

*IDC **10** 04:01:53.4±0.5, 0.42S×96.91E, mb4.2/17, mb1 4.3/18, mb1mx4.2/23, mbtmp4.2/18, ML4.1/1, MS3.1/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=23.8km s-min=13.0km az=57.0*
*BJI **10** 04:01:56.0, 0.40S×97.00E, h30km, mb4.5*
*NEIC **10** 04:01:58.0±0.3, 0.36S×97.01E, h30km, mb4.4/9, Error ellipse: s-maj=10.2km s-min=6.0km az=66.0*
ISC 10 04:01:52.9±9.3, 0.4S±0.1×97.0E±0.2, h8km±57km, n41, σ1°00/37, mb4.3/26, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.72**	**33**	*e*P	**Pn**	**04 03 33.2**	**-1.1**
CM31	**Chiang Mai Arr**	**18.82**	**6**	*e*P	**P**	**04 06 15.4**	**-0.1**
	8.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**18.82**	**6**	P	**P**	**04 06 15.6**	**+0.2**
	0.2nm,0.3s,baz=196,slow=11,SNR=41						
CMAR				LR	LR	04 14 06.1	
	comp=Z,61nm,20.3s,baz=185,slow=39						
CHG	**Chiang Mai**	**19.18**	**6**	P	**P**	**04 06 21.1**	**+1.5**
NANT	**Nan**	**19.41**	**11**	P	**P**	**04 06 25.0**	**+2.6**
JIRN	**Jiri**	**29.75**	**340**	*e*P	**P**	**04 08 02.5**	**+0.3**
	11nm,0.7s,mb4.7						
DMN	**Daman**	**30.08**	**339**	*e*P	**P**	**04 08 05.9**	**+0.8**
GUN	**Gumba**	**30.09**	**340**	*e*P	**P**	**04 08 05.4**	**+0.2**
	12nm,0.7s,mb4.7						
KKN	**Kakani**	**30.18**	**339**	*e*P	**P**	**04 08 06.1**	**+0.1**
	11nm,0.7s,mb4.7						
GKN	**Gorkha**	**30.61**	**338**	*e*P	**P**	**04 08 09.3**	**-0.5**
	11nm,0.7s,mb4.8						
KOLN	**Koldanda**	**30.80**	**336**	*e*P	**P**	**04 08 11.5**	**0.0**
	15nm,0.8s,mb4.9						
ENH	**Enshi**	**32.73**	**20**	*e*P	**P**	**04 08 27.7**	**-0.7**
	7.3nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.21**	**124**	P	**P**	**04 08 32.3**	**-0.3**
	7.1nm,1.1s,mb4.5,baz=130,slow=5.2,SNR=3.4						
XAN	**Xi'an**	**36.03**	**17**	P	**P**	**04 08 54.3**	**-2.4**
XAN				AP	pP	04 09 02.8	+3.6
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**41.41**	**120**	P	**P**	**04 09 41.9**	**+0.3**
	comp=Z,1.8nm,0.8s,mb3.7,baz=296,slow=9.2,SNR=8.6						
WRAB	**Tennant Creek**	**41.41**	**120**	*e*P	**P**	**04 09 41.9**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**42.64**	**126**	P	**P**	**04 09 52.2**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.0,baz=296,slow=7.8,SNR=30						
MKAR	**Makanchi Array**	**48.72**	**347**	P	**P**	**04 10 39.8**	**-0.1**
	comp=Z,10nm,0.6s,mb5.0,baz=157,slow=8.1,SNR=83						
SONM	**Songino Array**	**48.72**	**8**	P	**P**	**04 10 40.5**	**+0.6**
	comp=Z,1.8nm,1.1s,mb4.0,baz=189,slow=9.7,SNR=7.2						
ULN	**Ulaanbaatar**	**48.85**	**9**	P	**P**	**04 10 40.7**	**-0.1**
CTA	**Charters Tower**	**52.01**	**115**	P	**P**	**04 11 05.9**	**+0.6**
	comp=Z,6.7nm,1.0s,mb4.5,baz=292,slow=13,SNR=2.9						
STKA	**Stephens Creek**	**52.47**	**131**	P	**P**	**04 11 08.1**	**-0.6**
	comp=Z,1.3nm,0.4s,mb4.2,baz=303,slow=8.5,SNR=4.9						
STKA	**Stephens Creek**	**52.47**	**131**	*e*P	**P**	**04 11 08.0**	**-0.7**
KURK	**Kurchatov**	**53.26**	**346**	*e*P	**P**	**04 11 13.3**	**-1.0**
	comp=Z,3.6nm,1.0s,mb4.3						
ZAL	**Zalesovo**	**55.07**	**351**	P	**P**	**04 11 27.3**	**-0.2**
	comp=Z,5.2nm,0.5s,mb4.8,baz=315,slow=5.1,SNR=20						
BVAR	**Borovoye Array**	**57.67**	**341**	P	**P**	**04 11 43.8**	**-2.3**
	comp=Z,2.2nm,0.7s,mb4.3,baz=141,slow=9.5,SNR=12						
CHKZ	**Chkalovo**	**58.15**	**342**	*e*P	**P**	**04 11 47.6**	**-1.8**
MATP	**Matopo**	**69.74**	**248**	P	**P**	**04 13 04.6**	**-1.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=87,slow=8.7,SNR=7.4						
MATP	**Matopo**	**69.74**	**248**	P	**P**	**04 13 04.6**	**-1.4**
BRTR	**Keskin Array B**	**70.02**	**313**	P	**P**	**04 13 07.5**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=132,slow=7.0,SNR=5.4						
AKASG	**Malin Array Be**	**76.38**	**323**	P	**P**	**04 13 44.8**	**+0.4**
	comp=Z,0.2nm,0.2s,mb3.6,baz=88,slow=3.9,SNR=4.6						
FINES	**FINESS Array B**	**81.30**	**333**	P	**P**	**04 14 10.2**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=135,slow=2.7,SNR=19						
ARCES	**ARCESS Array B**	**83.95**	**340**	P	**P**	**04 14 26.4**	**+1.9**
	comp=Z,4.7nm,1.1s,mb4.5,baz=90,slow=2.4,SNR=3.9						
VNDA	**Vanda**	**84.32**	**169**	P	**P**	**04 14 26.5**	**+0.3**
	comp=Z,1.0nm,0.9s,mb3.9,baz=297,slow=9.9,SNR=2.8						
VNDA	**Vanda**	**84.32**	**169**	P	**P**	**04 14 26.5**	**+0.3**
GERES	**GERESS Array B**	**85.86**	**319**	P	**P**	**04 14 36.1**	**+1.6**
	comp=Z,0.5nm,0.8s,mb3.8,baz=63,slow=6.0,SNR=4.2						
NOA	**NORSAR Array B**	**88.28**	**331**	P	**P**	**04 14 47.0**	**+1.1**
	comp=Z,0.5nm,0.7s,mb3.9,baz=100,slow=6.3,SNR=3.0						
CFAA	**Coronel Fontan**	**145.24**	**202**	PKPbc	PKPbc	04 21 32.7	+0.5
	comp=Z,0.4nm,0.7s,baz=205,slow=2.2,SNR=6.4						
SIV	**San Ignacio**	**152.90**	**232**	PKPbc	PKPdf	04 21 54.9	+7.8
	comp=Z,0.4nm,0.8s,baz=271,slow=20,SNR=3.0						
LVC	**Limon Verde**	**153.33**	**210**	PKPbc	PKPdf	04 21 55.6	+8.1
	comp=Z,1.3nm,0.5s,baz=98,slow=14,SNR=2.9						
LPAZ	**La Paz**	**157.86**	**221**	PKPab	PKPab	04 22 25.9	-0.3
	comp=Z,0.8nm,1.0s,baz=75,slow=8.5,SNR=3.0						

IDC 10 04:08:22.8±3.3, 0.74N×97.99E, mb3.6/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=137.9km s-min=26.6km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.12**	**122**	P	P	04 16 08.7	-1.7
	0.1nm,0.6s,baz=305,slow=8.8,SNR=2.9						
SONM	**Songino Array**	**47.48**	**8**	P	P	04 16 60.0	-1.4
	0.5nm,0.8s,baz=188,slow=8.7,SNR=4.4						
MKAR	**Makanchi Array**	**47.88**	**345**	P	P	04 17 02.8	-1.8
	0.8nm,0.8s,baz=149,slow=7.1,SNR=6.0						
ZAL	**Zalesovo**	**54.13**	**350**	P	P	04 17 49.8	-2.0
	1.0nm,0.6s,baz=298,slow=5.5,SNR=6.2						
BVAR	**Borovoye Array**	**56.95**	**340**	P	P	04 18 08.8	-3.4
	0.7nm,0.7s,baz=149,slow=8.6,SNR=5.6						

*NEIC **10** 04:11:13.3±2.1, 0.49S×97.04E, h30km, mb4.1/3, Error ellipse: s-maj=56.1km s-min=16.7km az=130.0*
*IDC **10** 04:11:14.2±4.0, 0.00N×95.88E, mb4.1/8, mb1 4.2/9, mb1mx4.0/21, mbtmp4.1/9, ML4.3/1, Error ellipse: s-maj=124.1km s-min=27.9km az=120.0*
ISC 10 04:11:11.6±2.2, 0.4S±0.3×97.0E±0.3, h30km, n13, σ1°04/13, mb4.1/10, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.72**	**32**	*e*P	**Pn**	**04 12 50.2**	**-0.8**
CM31	**Chiang Mai Arr**	**18.85**	**6**	P	**P**	**04 15 31.8**	**-0.1**
	7.3nm,1.0s						
CMAR	**Chiang Mai Arr**	**18.85**	**6**	P	**P**	**04 15 32.7**	**+0.8**
	0.4nm,0.3s,baz=194,slow=11,SNR=9.9						
SONM	**Songino Array**	**48.74**	**8**	P	**P**	**04 19 59.3**	**+3.7**
	0.4nm,0.7s,mb3.6,baz=202,slow=6.7,SNR=4.6						
MKAR	**Makanchi Array**	**48.76**	**347**	P	**P**	**04 19 57.0**	**+1.2**
	2.2nm,0.5s,mb4.5,baz=164,slow=9.1,SNR=34						
KURK	**Kurchatov**	**53.30**	**346**	P	**P**	**04 20 29.7**	**-0.4**
	3.0nm,1.3s,mb4.1						
ZAL	**Zalesovo**	**55.11**	**351**	P	**P**	**04 20 44.1**	**+0.8**
	1.9nm,0.4s,mb4.5,baz=341,slow=1.9,SNR=8.0						
BVAR	**Borovoye Array**	**57.71**	**341**	P	**P**	**04 21 00.4**	**-1.6**
	0.6nm,0.6s,mb3.8,baz=135,slow=6.3,SNR=5.1						
CHKZ	**Chkalovo**	**58.20**	**342**	*e*P	**P**	**04 21 04.8**	**-0.5**
	2.0nm,1.0s,mb4.1						
MATP	**Matopo**	**69.77**	**248**	P	**P**	**04 22 21.8**	**+0.1**
	2.4nm,0.6s,mb4.3,baz=72,slow=4.5,SNR=9.3						
BRTR	**Keskin Array B**	**70.07**	**313**	P	**P**	**04 22 21.8**	**-1.3**
	0.5nm,0.7s,mb3.6,baz=141,slow=7.9,SNR=4.2						
FINES	**FINESS Array B**	**81.34**	**333**	P	**P**	**04 23 26.3**	**-0.3**
	0.7nm,0.8s,mb3.7,baz=116,slow=4.4,SNR=9.5						
ARCES	**ARCESS Array B**	**83.99**	**340**	P	**P**	**04 23 42.0**	**+2.0**
	6.1nm,1.0s,mb4.7,baz=11,slow=6.2,SNR=3.0						

*IDC **10** 04:12:01.4±0.7, 22.72S×171.25E, mb4.6/13, mb1 4.7/16, mb1mx4.7/19, mbtmp4.6/16, ML3.8/3, MS4.3/20, Ms1 4.3/20, ms1mx4.3/22, Error ellipse: s-maj=21.7km s-min=15.8km az=165.0*
*HRVD **10** 04:12:03.5±0.2, 22.81S×170.94E, h14km, MW5.2/66, Centroid moment Tensor Solution. LP body waves: s54,c86;Mantle waves: s66,c114; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.61±.03; $M_{\theta\theta}$-0.66±.02; $M_{\phi\phi}$0.05±.02; $M_{r\theta}$0.50±.05; $M_{\theta\phi}$0.14±.01; $M_{\phi r}$0.01±.04; Best double couple: M_o82×10^{17} NP1:ϕ_s290°, δ27°, λ105°. NP2:ϕ_s93°, δ64°, λ82°. Principal axes: T.786, Plg70°, Azm347°; N.068, Plg7°, Azm96°; P-.853, Plg19°, Azm189°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 04:12:03.5±0.3, 22.71S×171.16E, h10km, mb5.2/11, MS4.3/4 Error ellipse: s-maj=10.8km s-min=8.9km az=14.0*
*BJI **10** 04:12:04.1, 21.81S×171.25E, h10km, mB5.5, mb4.9, Ms5.2, Msz5.0*
*MOS **10** 04:12:08.0±1.6, 22.84S×170.81E, h33km, mb5.2/10, Error ellipse: s-maj=16.0km s-min=11.9km az=29.5*
*ORF **10** 04:12:10.8, 23.78S×167.88E, h30km, mb5.9*
ISC 10 04:12:03.2±0.4, 22.75S±0.07×171.05E±0.05, h18km, h18km±5.3km: pP-P, n154, σ1°08/70, mb4.8/29, MS4.4/23, 15C-7D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.31**	**278**	*e*P	**Pn**	**04 13 10.0**	**+0.4**
DZM				*e*S	**Sn**	**04 13 59.8**	**-0.2**
DZM	**Mont Dzumac**	**4.31**	**278**	Pn	**Pn**	**04 13 09.7**	**+0.1**
	33nm,0.3s,baz=94,slow=16,SNR=168						
DZM				Sn	**Sn**	**04 13 59.7**	**-0.3**
	14nm,0.3s,baz=190,slow=22,SNR=3.2						
DZM				LR	LR	04 14 40.8	
	comp=Z,2μm,19.8s,baz=161,slow=36						
DZM	**Mont Dzumac**	**4.31**	**278**	*e*P	**Pn**	**04 13 09.9**	**+0.4**
DZM				*e*S	**Sn**	**04 13 59.8**	**-0.2**
NOUC	**Port Laguerre**	**4.43**	**277**	*e*P	**Pn**	**04 13 11.6**	**+0.3**
NOUC				*e*S	**Sn**	**04 14 01.6**	**-1.6**
NOUC	**Port Laguerre**	**4.43**	**277**	*e*P	**Pn**	**04 13 11.6**	**+0.3**
NOUC				*e*S	**Sn**	**04 14 01.6**	**-1.6**
RAO	**Raoul Island**	**11.85**	**125**	LR	LR	04 18 19.0	
	comp=Z,2μm,19.4s,baz=5.3,slow=32						
URZ	**Urewera**	**16.31**	**163**	Pn	**P**	**04 15 52.1**	**-1.0**
	0.7nm,0.3s,baz=334,slow=7.4,SNR=15						
URZ				LR	LR	04 20 43.4	
	comp=Z,3μm,21.1s,baz=237,slow=32						
AFI	**Afiamalu**	**18.51**	**65**	P	**P**	**04 16 15.6**	**-5.2**
	1.3nm,0.3s,baz=336,slow=15,SNR=3.6						
AFI				LR	LR	04 22 02.8	
	comp=Z,679nm,19.9s,baz=214,slow=33						
RPZ	**Rata Peaks**	**20.91**	**180**	P	**P**	**04 16 46.5**	**-0.7**
	57nm,0.9s,baz=27,slow=1.5,SNR=18						
RPZ				LR	LR	04 23 35.7	
	comp=Z,1μm,21.0s,MS4.2,baz=358,slow=33						
CTA	**Charters Tower**	**23.23**	**272**	*e*P	**P**	**04 17 13.9**	**+3.4**
	10nm,0.9s,mb4.3						
CTA				*e*S	**S**	**04 21 25.1**	**+7.6**
CTA	**Charters Tower**	**23.23**	**272**	*e*P	**P**	**04 17 13.9**	**+3.4**
CTA				*e*S	**S**	**04 21 25.1**	**+7.6**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CTA	**Charters Tower**	**23.23**	**272**	P	**P**	**04 17 14.1**	**+3.6**
	comp=Z,16nm,1.1s,mb4.4,baz=101,slow=12,SNR=4.1						
CTA				S	**S**	**04 21 26.1**	**+8.6**
	comp=Z,4.7nm,0.7s,baz=214,slow=3.4,SNR=2.2						
CTA				LR	LR	04 25 20.6	
	comp=Z,317nm,18.3s,MS3.8,baz=264,slow=34						
CTAO	**Charters Tower**	**23.23**	**272**	*e*P	**P**	**04 17 13.8**	**+3.3**
CTAO				pmax	pmax		
	comp=Z,99nm,1.6s,mb5.0						
CTAO				MLR	MLR		
	comp=Z,523nm,19.0s,MS4.0						
CTAO	**Charters Tower**	**23.23**	**272**	*e*P	**P**	**04 17 13.8**	**+3.3**
	comp=Z,99nm,1.6s,mb5.0						
CTAO				LR	LR		
	comp=Z,523nm,19.0s,MS4.0						
PMG	**Port Moresby**	**26.45**	**296**	P	**P**	**04 17 43.3**	**+2.0**
	comp=Z,15nm,0.8s,mb4.6,baz=84,slow=9.7,SNR=3.9						
PMG				LR	LR	04 26 16.2	
	comp=Z,627nm,21.2s,MS4.1,baz=113,slow=32						
STKA	**Stephens Creek**	**27.63**	**244**	*e*P	**P**	**04 17 56.7**	**+4.8**
	comp=Z,14nm,1.4s,mb4.4						
STKA	**Stephens Creek**	**27.63**	**244**	P	**P**	**04 17 52.8**	**+0.9**
	comp=Z,7.9nm,1.2s,mb4.2,baz=67,slow=7.2,SNR=4.8						
STKA				LR	LR	04 28 10.2	
	comp=

KMI AMB AMB
comp=Z,19nm,1.5s,mb4.8
KMI AMB AMB
comp=Z,189nm,4.4s
KMI LR LR
comp=N,474nm,13.9s,MS5.1
KMI LR LR
comp=E,333nm,13.4s,MS5.1
KMI LR LR
comp=Z,511nm,13.4s,MS5.0
KMI Kunming 81.55 302 P **P** **04 24 23.6 +2.0**
comp=Z,19nm,1.5s,mb4.8
KMI pP pP 04 24 27.1 -0.2
KMI sP sP 04 24 31.9 +2.8
XAN Xi'an 81.71 312 P **P** **04 24 22.0 -0.3**
XAN AMB AMB
comp=Z,8.0nm,1.4s,mb4.5
SNAA Sanae 85.74 182 *i* P **P** **04 24 46.3 +4.4**
LZH Lanzhou 86.31 312 ⇑P **P** **04 24 46.5 +0.9**
LZH AP pP 04 24 51.5 +0.2
LZH XP sP 04 24 57.5 +4.4
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.5
LZH Lanzhou 86.31 312 ⇑P **P** **04 24 46.5 +0.9**
LZH *SP sP 04 24 57.5 +4.4
LZH pmax pmax
comp=Z,42nm,1.5s,mb5.5
LZH Lanzhou 86.31 312 ⇑P **P** **04 24 46.5 +0.9**
comp=Z,42nm,1.5s,mb5.5
LZH pP pP 04 24 51.5 +0.2
LZH sP sP 04 24 57.5 +4.4
SEY Seymchan 86.66 352 *e*P **P** **04 24 41.4 -5.3**
SEY *e* 04 35 16.6
SEY *e* 04 41 09.5
SEY *e* 04 44 36.1
CMB Columbia Colle 88.25 47 P **P** **04 24 53.9 -1.0**
comp=Z,24nm,1.5s,mb5.2
NVAR Mina Array Bea 89.87 48 P **P** **04 25 02.0 -0.6**
comp=Z,6.8nm,1.0s,mb5.0,baz=232,slow=9.7,SNR=16
NVAR LR LR 04 58 00.1
comp=Z,268nm,19.4s,MS4.7,baz=270,slow=31
SHL Shillong 90.47 297 *e*P **P** **04 25 05.5 -0.2**
BILL Biiibino 90.58 358 *e*P **P** **04 25 08.9 +3.7**
BILL pmax pmax
comp=Z,7.0nm,1.5s,mb4.8
ULN Ulaanbaatar 90.67 323⇑*e*P **P** **04 25 06.2 +0.1**
ULN Ulaanbaatar 90.67 323 *e*P **P** **04 25 05.8 -0.3**
comp=Z,24nm,1.5s,mb5.3
GTA Gaotai 90.75 313 *e*P **P** **04 25 07.7 +1.1**
GTA AP pP 04 25 16.9 +4.6
GTA AMB AMB
comp=Z,6.0nm,1.6s,mb4.7
SONM Songino Array 91.02 322 P **P** **04 25 07.5 -0.2**
comp=Z,4.9nm,1.1s,mb4.8,baz=135,slow=3.5,SNR=17
SONM LR LR 05 07 23.2
comp=Z,148nm,19.2s,MS4.4,baz=91,slow=36
ILAR Eielson Array 93.08 17 P **P** **04 25 14.3 -2.4**
comp=Z,1.2nm,0.9s,mb4.3,baz=234,slow=5.8,SNR=7.6
ILAR LR LR 05 06 39.5
comp=Z,190nm,18.8s,MS4.6,baz=65,slow=35
ZAK Zakamensk 94.11 324⇑*i*P **P** **04 25 21.3 -0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.6
TLY Talaya 94.59 325 *e*P **P** **04 25 23.7 -0.3**
TLY pmax pmax
comp=Z,8.0nm,1.6s,mb4.9
PLCA Paso Flores 94.81 138 LR LR 04 58 20.7
comp=Z,99nm,19.4s,MS4.3,baz=223,slow=29
WMQ Urumqi 100.83 313 P P 04 25 52.4 -0.1
WMQ AP 04 25 57.4
WMQ XP 04 25 59.9
WMQ PP PP 04 30 02.9 -0.3
WMQ SKS SKS 04 36 29.6 -6.2
WMQ *e*S S 04 37 26.1 +0.5
WMQ AMB AMB
comp=Z,9.0nm,0.6s
WMQ AMB AMB
comp=Z,111nm,3.8s
WMQ LR LR
comp=N,25nm,26.2s,MS4.0
WMQ LR LR
comp=E,47nm,23.2s,MS4.0
WMQ LR LR
comp=Z,100nm,23.2s,MS4.3
BVAR Borovoye Array 114.17 319 PKP PKPdf 04 30 41.9 -3.5
comp=Z,0.4nm,0.4s,baz=90,slow=1.5,SNR=5.6
ARU Arti 121.05 323⇓*i*PKIKP PKPdf 04 30 58.9 +0.3
ARCES ARCESS Array B 128.87 345 PKP PKPdf 04 31 09.2 -4.1
comp=Z,2.7nm,1.0s,slow=3.6,SNR=6.9
OBN Obninsk 133.34 326⇓*i*PKIKP PKPdf 04 31 20.6 -1.5
OBN *e*PS PS 04 44 11.8 +8.9
OBN pmax pmax
comp=Z,14nm,1.5s
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.6
FINES FINESS Array B 134.46 337 PKhKP 04 31 17.7
comp=Z,0.9nm,0.9s,baz=90,slow=4.2,SNR=4.1
AKASG Malin Array Be 139.30 323 PKP PKPdf 04 31 29.3 -3.9
comp=Z,0.2nm,0.2s,baz=54,slow=1.5,SNR=5.8
AKASG Malin Array Be 139.30 323 PKP PKPdf 04 31 29.3 -4.0
BRTR Keskin Array B 140.25 305 PKP PKPdf 04 31 32.1 -3.2
comp=Z,0.3nm,0.4s,baz=127,slow=6.2,SNR=3.7
KONO Kongsberg 140.86 345 *i* PKIKP PKPdf 04 31 38.3 +2.6
MLR Muntele Rosu 143.69 317 ⇑P PKPbc 04 31 36.3 +0.3
MLR ⇓P 04 31 42.3
MLR Muntele Rosu 143.69 317 ⇑P PKPbc 04 31 36.3 +0.3
PRD Provadia 143.70 313 *e*P PKPbc 04 31 47.0 +11
KOLS Kolonicke sedl 144.06 324 *e*PKP PKPdf 04 31 40.2 -1.3
KOLS *e* 04 31 54.4
KOLS *e* 04 33 16.1
CRVS Cervenica-Dubn 144.51 325 *e*PKP PKPdf 04 31 45.1 +2.8
JMB Yambol 144.53 312 *e*P PKPbc 04 31 41.0 +2.5
SZH Strazhica 144.66 314 *e*P PKPbc 04 31 44.0 +5.2
PVL Pavlikeni 145.08 314 *e*P PKPbc 04 31 42.0 +2.0
KECS Kecovo 145.28 325 *e*PKP PKPdf 04 31 40.4 -3.3
KECS *e* 04 31 58.2
RUE Ruedersdorf 145.58 335 *e*P PKPbc 04 31 41.5 +0.6
OKC Ostrava-Krasne 145.60 329 *e*PKP PKPdf 04 31 42.0 -2.2
BSEG Bad Segeberg 145.62 340 *e*PKIKP PKPdf 04 31 41.4 -2.7
LIKS Likavka 145.64 327 *e* PKPbc 04 31 54.9 +14
KDZ Kurdzhali 145.65 311 *e*P PKPbc 04 31 42.5 +1.1
KSP Ksiaz 145.76 331 *e*PKIKP PKPdf 04 31 42.0 -2.4
MORC Moravsky Berou 145.93 329 *e*PKIKP PKPdf 04 31 42.6 -2.2
MORC Moravsky Berou 145.93 329 ⇓P PKPbc 04 31 42.3 +0.4
PSZ Piszkesteto 145.93 325⇑*e*PKP/p PKPdf 04 31 42.7 -2.1
PSZ Piszkesteto 145.93 325 ⇓P PKPbc 04 31 42.6 +0.7
DPC Dobruska-Polom 146.10 331 *e*PKP PKPdf 04 31 43.2 -1.8
RZN Rozhen 146.12 312 *e*P PKPbc 04 31 44.0 +1.4
UPC Upice 146.12 331 *e*PKP PKPdf 04 31 43.3 -1.8
VYHS Vyhne 146.13 326 *i* PKP PKPdf 04 31 44.2 -1.0
VYHS *e* 04 31 54.2
PGB Panagyurishte 146.13 314 *e*P PKPbc 04 31 46.0 +3.4
VRAC Vranov 146.70 329 ⇑P PKPbc 04 31 44.9 +1.2
PVCC Panska Ves 146.74 332 *e*PKP PKPdf 04 31 45.2 -0.9
BRG Berggiesshubel 146.75 333 *i* PKIKP PKPdf 04 31 45.1 -1.0
BRG *i* 04 31 56.0
BRG pmax pmax
comp=Z,49nm,1.1s
VTS Vitosha 146.75 314 *e*P PKPbc 04 31 46.0 +2.0
CLL Collm 146.79 335 *i* PKIKP PKPdf 04 31 44.8 -1.4
CLL *i* 04 31 47.5
CLL pmax pmax
comp=Z,28nm,1.1s
CLL Collm 146.79 335 *i* PKP1 PKPbc 04 31 44.8 +1.0
CLL *i* 04 31 47.5
CLL *e*PPKP 04 31 52.0
SRO2 Moca 146.82 326 *e*PKP PKPdf 04 31 46.0 -0.4
MMB Musomiste 146.83 312 *i* P PKPbc 04 31 45.5 +1.3
SRO Srobarova 146.83 326 *e*PKP PKPdf 04 31 45.5 -0.9
PRU Pruhonice 147.15 332 *e*PKP PKPdf 04 31 46.6 -0.2
KKB Krupnik 147.16 313 *e*P PKPdf 04 31 46.0 -1.1
ZST Bratislava 147.20 327 *e*PKP PKPdf 04 31 47.1 +0.1
ZST *e* 04 31 56.5
PKSM Moragy 147.65 323 ⇑P PKPdf 04 31 48.3 +0.6
PKSM Moragy 147.65 323 ⇑P PKPdf 04 31 48.3 +0.6
NKC Novy Kostel 147.85 334 *e*PKP PKPdf 04 31 48.1 +0.2
SKO Skopje 148.21 314 *i* P PKPdf 04 31 49.0 +0.2
KHC Kasperske Hory 148.21 331 *e*PKP PKPdf 04 31 49.2 +0.7
GEC2 GERESS Array S 148.37 331 *e*PKIKP PKPdf 04 31 49.6 +0.8
GERES GERESS Array B 148.37 331 PKPbc PKPdf 04 31 49.7 +0.9
comp=Z,13nm,0.9s,baz=45,slow=1.9,SNR=48
WET Wettzell 148.50 332 *e*PKIKP PKPdf 04 31 49.9 +0.9
GRF Grafenberg Arr 148.77 334 *e*PKIKP PKPdf 04 31 50.4 +1.0
MOA Molln 148.83 329⇑*i*P PKPdf 04 31 48.0 -1.6
PERS Pernice 149.25 327 *e*PKPdf PKPdf 04 31 51.7 +1.4
TNS Taunus Mts 149.37 338 *e*PKHKP 04 31 52.2
TOD Tromm 149.76 337 PKP PKPdf 04 31 53.1 +2.1
KBA Koelnbreinsper 149.81 329⇑*i*P PKPdf 04 31 45.5 -5.7
KBA *i* 04 31 52.3
BOJS Bojanci 149.94 325 *e*PKPdf PKPdf 04 31 54.3 +2.9
LJU Ljubljana 149.95 326 *e*PKPdf PKPdf 04 31 53.5 +2.0
ABH Alteburg 149.97 338 PKP PKPdf 04 31 52.7 +1.4
RUP Ruppelstein 150.29 339 PKP PKPdf 04 31 54.6 +2.8
STU Stuttgart 150.30 335 *e*PKPbc PKPdf 04 31 54.5 +2.6
WATA Walderalm 150.44 331⇓*i*P PKPdf 04 31 49.6 -2.5
WATA *i* 04 31 54.3
WTTA Wattenberg 150.47 331⇓*i*P PKPdf 04 31 49.3 -2.9
WTTA *i* 04 31 54.6
WLF Walferdange 150.62 340 *e*PKIKP PKPdf 04 31 55.1 +2.8
GIVF Givet 150.63 342 *e*PKIKP PKPdf 04 31 54.7 +2.4
comp=Z,81nm,1.1s
SQTA Sankt Quirin 150.69 331⇑*i*P PKPdf 04 31 50.5 -2.0
SQTA *i* 04 31 55.1
BAIF Baives 150.85 342 *e*PKIKP PKPdf 04 31 55.4 +2.7
comp=Z,49nm,1.3s
BFO Black Forest 150.99 336 *e*PKIKP PKPdf 04 31 55.5 +2.6
WLS Welschbruch 151.28 337 PKP PKPdf 04 31 56.8 +3.4
CDF Champ du Feu 151.31 337 *e*PKIKP PKPdf 04 31 56.2 +2.8
comp=Z,67nm,1.3s
FELD Feldberg 151.49 336 PKP PKPdf 04 31 57.2 +3.5
ECH Echery 151.52 337 PKP PKPdf 04 31 57.2 +3.5
HINF Hinteralfeld 151.97 337 *e*PKIKP PKPdf 04 31 57.6 +3.2
comp=Z,86nm,1.7s
HAU Haudompre 151.99 338 *e*PKIKP PKPdf 04 31 57.7 +3.3
comp=Z,79nm,1.5s
MEZF Maizieres J'vi 151.99 340 *e*PKIKP PKPdf 04 31 58.1 +3.7
comp=Z,153nm,1.5s
LOMF Lomont 152.37 336 PKP PKPdf 04 31 59.6 +4.6
LDF La Druitiere 153.27 347 *e*PKIKP PKPdf 04 31 59.0 +2.8
comp=Z,69nm,1.3s
SGMF Saint Gilles 154.04 350 *e*PKIKP PKPdf 04 32 00.8 +3.5
BGF Bois d'Agland 154.40 341 *e*PKIKP PKPdf 04 32 00.4 +2.6
TCF Toulx Ste Croi 154.83 342 *e*PKIKP PKPdf 04 31 59.3 +0.9
comp=Z,32nm,1.3s

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*IDC **10** 04:12:05.3±1.1, 1.23N×96.93E, mb4.1/11, mb1 4.3/12, mb1mx4.1/21, mbtmp4.1/12, ML4.3/1, Error ellipse: s-maj=52.5km s-min=17.7km az=55.0*
*BJI **10** 04:12:07.0, 0.86N×97.20E, h43km, mB5.0, mb4.7, Ms4.3, Msz3.8*
*MOS **10** 04:12:08.6±0.7, 1.35N×97.09E, h33km, mb4.9/8, Error ellipse: s-maj=25.7km s-min=11.5km az=98.9*
*NEIC **10** 04:12:08.9±0.5, 1.29N×97.07E, mb4.7/13, Error ellipse: s-maj=12.6km s-min=7.4km az=57.0*
ISC 10 04:12:10.9±3.0, 1.4N±0.1×97.2E±0.1, h50km±24km, n45, σ0=96/45, mb4.4/32, MS4.6/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.19**	**42**	*e*P		**P**		**04 13 27.5**	**-0.6**
KULM				*e*				04 13 33.7	
CM31	**Chiang Mai Arr**	**17.05**	**6**	*e*P		**P**		**04 16 09.2**	**+1.7**
CMAR	**Chiang Mai Arr**	**17.05**	**6**	P		**P**		**04 16 06.3**	**-1.2**
	0.4nm,0.3s,baz=198,slow=11,SNR=9.6								
KMI	**Kunming**	**24.20**	**12**	P		**P**		**04 17 26.6**	**+2.5**
KMI				AMB	AMB				
	comp=Z,18nm,1.1s,mb4.4								
KMI	**Kunming**	**24.20**	**12**	P		**P**		**04 17 26.6**	**+2.5**
	comp=Z,18nm,1.1s,mb4.4								
GYA	**Guiyang**	**26.54**	**19**	P		**P**		**04 17 45.7**	**-0.5**
GYA				AMB	AMB				
	comp=Z,10.0nm,1.2s,mb4.2								
JIRN	**Jiri**	**28.17**	**339**	*e*P		**P**		**04 18 00.8**	**-0.2**
	comp=Z,29nm,0.9s,mb4.9								
GUN	**Gumba**	**28.51**	**339**	*e*P		**P**		**04 18 04.4**	**+0.4**
	comp=Z,16nm,0.5s,mb5.0								
DMN	**Daman**	**28.53**	**337**	*e*P		**P**		**04 18 04.4**	**+0.2**
	comp=Z,15nm,0.8s,mb4.8								
KKN	**Kakani**	**28.62**	**338**	*e*P		**P**		**04 18 05.0**	**0.0**
	comp=Z,37nm,1.2s,mb5.0								
KKN	**Kakani**	**28.62**	**338**	*e*P		**P**		**04 18 05.0**	**0.0**
KKN				pmax	pmax				
	comp=Z,18nm,1.2s,mb4.7								
GKN	**Gorkha**	**29.06**	**337**	*e*P		**P**		**04 18 09.2**	**+0.3**
	comp=Z,14nm,0.6s,mb4.9								
KOLN	**Koldanda**	**29.28**	**335**	*e*P		**P**		**04 18 11.1**	**+0.2**
	comp=Z,19nm,0.8s,mb4.9								
ENH	**Enshi**	**31.01**	**21**	*e*P		**P**		**04 18 24.9**	**-1.2**
	comp=Z,13nm,0.8s,mb4.8								
ENH				*e*				04 18 31.5	
XAN	**Xi'an**	**34.29**	**17**	P		**P**		**04 18 53.2**	**-1.4**
XAN				AMB	AMB				
	comp=Z,14nm,1.0s,mb4.8								
NJ2	**Nanjing**	**36.71**	**32**	*e*P		**P**		**04 19 18.0**	**+2.8**
NJ2				LR	LR				
	comp=N,460nm,16.3s,MS4.8								
NJ2				LR	LR				
	comp=E,1μm,19.0s,MS4.8								
NJ2				LR	LR				
	comp=Z,610nm,21.8s,MS4.3								
GTA	**Gaotai**	**37.92**	**3**	*e*P		**P**		**04 19 25.7**	**+0.5**
GTA				AP	pP			04 19 33.1	-5.4
GTA				AMB	AMB				
	comp=Z,7.0nm,0.8s,mb4.4								
HHC	**Hu-ho-hao-te**	**41.38**	**17**	*e*P		**P**		**04 19 59.6**	**+5.7**
HHC				AP	pP			04 20 08.9	+1.6
HHC				XP	sP			04 20 14.2	+0.9
HHC				PP	PP			04 21 36.0	+3.0
HHC				AMB	AMB				
	comp=Z,7.0nm,1.2s,mb4.2								
HHC				AMB	AMB				
	comp=Z,139nm,5.9s								
WRA	**Warramunga Arr**	**42.14**	**122**	P		**P**		**04 20 00.4**	**-0.1**
	comp=Z,2.2nm,0.7s,mb3.9,baz=300,slow=9.0,SNR=7.5								
BJT	**Baijiatuau**	**42.15**	**22**	*e*P		**P**		**04 20 01.7**	**+1.4**
BJT				pmax	pmax				
	comp=Z,11nm,0.6s								
BJT	**Baijiatuau**	**42.15**	**22**	*e*P		**P**		**04 20 01.7**	**+1.4**
	comp=Z,11nm,0.6s,mb4.7								
WRAB	**Tennant Creek**	**42.15**	**122**	*e*P		**P**		**04 20 00.8**	**+0.3**
BJI	**Beijing**	**42.17**	**22**	*e*P		**P**		**04 20 01.0**	**+0.5**
BJI				AMB	AMB				
	comp=Z,15nm,0.8s,mb4.7								
BJI	**Beijing**	**42.17**	**22**	*e*P		**P**		**04 20 01.0**	**+0.5**
	comp=Z,15nm,0.8s,mb4.7								
WMQ	**Urumqi**	**43.09**	**350**	*e*P		**P**		**04 20 09.5**	**+1.6**
ASAR	**Alice Springs**	**43.52**	**127**	P		**P**		**04 20 11.6**	**0.0**
	comp=Z,1.8nm,0.9s,mb3.8,baz=305,slow=8.2,SNR=2.3								
SONM	**Songino Array**	**46.95**	**8**	P		**P**		**04 20 39.4**	**+0.8**
	comp=Z,4.8nm,0.8s,mb4.5,baz=188,slow=9.6,SNR=24								
MKAR	**Makanchi Array**	**47.06**	**346**	P		**P**		**04 20 40.0**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.3,baz=160,slow=8.9,SNR=12								
ULN	**Ulaanbaatar**	**47.08**	**9**	*e*P		**P**		**04 20 39.8**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.3								
ZAK	**Zakamensk**	**49.09**	**5**	*e*P		**P**		**04 20 54.7**	**-0.6**
ZAK				pmax	pmax				
	comp=Z,2.0nm,0.9s,mb4.2								
CN2	**Changchun**	**49.14**	**27**	*e*P		**P**		**04 20 54.8**	**-1.0**
CN2				AMB	AMB				
	comp=Z,10.0nm,1.4s,mb4.7								
KURK	**Kurchatov**	**51.61**	**345**	*e*P		**P**		**04 21 14.5**	**0.0**
KURK				pmax	pmax				
	comp=Z,6.0nm,1.1s,mb4.4								
KURK	**Kurchatov**	**51.61**	**345**	*e*P		**P**		**04 21 14.5**	**0.0**
	comp=Z,6.3nm,1.1s,mb4.5								
ZAL	**Zalesovo**	**53.36**	**351**	P		**P**		**04 21 27.9**	**+0.3**
	comp=Z,5.1nm,0.8s,mb4.5,baz=305,slow=6.4,SNR=16								
STKA	**Stephens Creek**	**53.49**	**132**	P		**P**		**04 21 29.5**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.2,baz=329,slow=9.5,SNR=2.5								
BVAR	**Borovoye Array**	**56.07**	**341**	P		**P**		**04 21 46.3**	**-1.0**
	comp=Z,3.2nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=17								
KLR	**Kul'dur**	**56.09**	**27**	*e*P		**P**		**04 21 44.2**	**-3.2**
CHKZ	**Chkalovo**	**56.55**	**341**	*e*P		**P**		**04 21 49.2**	**-1.4**
CHKZ				*e*				04 21 54.9	
CHKZ				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.7								
CHKZ	**Chkalovo**	**56.55**	**341**	*e*P		**P**		**04 21 49.2**	**-1.4**
	comp=Z,6.3nm,0.8s,mb4.7								
CHKZ				*e*				04 21 54.9	
BOD	**Bodaibo**	**57.83**	**11**	*e*P		**P**		**04 21 58.5**	**-1.1**
BOD				pmax	pmax				
	comp=Z,4.0nm,1.3s,mb4.3								
YAK	**Yakutsk**	**65.25**	**16**	*e*P		**P**		**04 22 48.4**	**-1.0**
YAK				pmax	pmax				
	comp=Z,11nm,0.9s,mb4.9								
YAK				pmax	pmax				
	comp=N,4.0nm,1.2s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.1s								
BRTR	**Keskin Array B**	**68.98**	**312**	P		**P**		**04 23 12.8**	**-0.5**
	comp=E,0.3nm,0.5s,mb3.5,baz=121,slow=8.4,SNR=2.3								
FINES	**FINESS Array B**	**79.83**	**332**	P		**P**		**04 24 15.1**	**-0.4**
	comp=E,0.9nm,0.7s,mb3.8,baz=113,slow=6.9,SNR=7.6								
ARCES	**ARCESS Array B**	**82.36**	**340**	P		**P**		**04 24 29.1**	**+0.5**
	comp=E,3.0nm,0.9s,mb4.2,baz=90,slow=6.1,SNR=5.5								
NOA	**NORSAR Array B**	**86.84**	**331**	P		**P**		**04 24 50.8**	**-0.2**
	comp=E,0.8nm,0.8s,mb4.0,baz=99,slow=3.4,SNR=3.1								

IDC 10 04:24:44.5±4.4, 2.90N×96.91E, mb3.4/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=166.4km s-min=31.3km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.19**	**123**	P		P	P	04 32 47.4	-1.8
	0.1nm,0.4s,baz=302,slow=9.1,SNR=5.0								
SONM	**Songino Array**	**45.51**	**9**	P		P	P	04 33 06.0	-1.4
	0.3nm,0.4s,baz=194,slow=9.4,SNR=5.1								
MKAR	**Makanchi Array**	**45.53**	**346**	P		P	P	04 33 05.5	-2.2
	0.3nm,0.4s,baz=158,slow=9.0,SNR=5.1								

IDC 10 04:28:46.5±1.6, 1.60S×127.67E, mb3.7/4, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, ML3.0/1, MS4.1/4, Ms1 4.1/4, ms1mx3.4/29, Error ellipse: s-maj=178.5km s-min=21.6km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.36**	**161**	P		P	P	04 33 12.0	-4.4
	0.1nm,0.3s,baz=342,slow=13,SNR=4.7								
ASAR	**Alice Springs**	**22.75**	**165**	P		P	P	04 33 51.8	0.0
	1.2nm,0.7s,baz=350,slow=12,SNR=11								
URZ	**Urewera**	**58.07**	**135**	LR		LR		05 00 27.1	
	comp=Z,156nm,20.3s,baz=206,slow=33								
MKAR	**Makanchi Array**	**62.47**	**327**	P		P	P	04 39 10.3	-3.7
	0.3nm,0.4s,baz=124,slow=7.8,SNR=6.3								
ZAL	**Zalesovo**	**65.75**	**334**	P		P	P	04 39 32.2	-3.1
	0.7nm,0.5s,baz=137,slow=3.9,SNR=2.6								
BVAR	**Borovoye Array**	**72.29**	**328**	P		P	P	04 40 15.8	+0.1
	0.2nm,0.4s,baz=124,slow=5.2,SNR=3.0								
KMBO	**Kilima Mbogo**	**90.39**	**269**	LR		LR	LR	05 24 12.0	
	comp=Z,112nm,19.1s,baz=101,slow=37								
FINES	**FINESS Array B**	**96.94**	**332**	LR		LR	LR	05 29 19.2	
	comp=Z,169nm,20.0s,baz=17,slow=38								
MLR	**Muntele Rosu**	**99.36**	**316**	LR		LR	LR	05 26 52.7	
	comp=Z,42nm,21.8s,baz=58,slow=35								

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*IDC **10** 04:57:07.1±5.3, 20.33S×178.70W, h537km±53km, mb3.1/6, mb1 3.4/7, mb1mx3.2/16, mbtmp4.0/7, Error ellipse: s-maj=98.3km s-min=25.4km az=148.0*
*NEIC **10** 04:57:08.4±3.4, 20.45S×178.69W, h560km±31km, mb4.0/1, Error ellipse: s-maj=87.2km s-min=21.1km az=150.0*
ISC 10 04:57:10.5±4.6, 20.4S±0.6×178.9W±0.4, h593km±51km, n15, σ0=50/10, mb3.6/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.80**	**260**	P		**P**		**05 00 06.8**	**-0.2**
	0.6nm,0.3s,baz=82,slow=20,SNR=6.4								
CTAO	**Charters Tower**	**32.69**	**264**	*e*P		**P**		**05 02 57.6**	**+0.8**
STKA	**Stephens Creek**	**37.11**	**244**	P		**P**		**05 03 33.0**	**-0.3**
	2.4nm,1.1s,mb3.6,baz=56,slow=7.3,SNR=3.1								
ASAR	**Alice Springs**	**43.75**	**257**	P		**P**		**05 04 26.8**	**+0.4**
	3.0nm,0.8s,mb3.9,baz=96,slow=8.0,SNR=26								
ASAR				PcP	PcP			05 06 00.2	+0.1
	0.6nm,0.6s,baz=107,slow=3.6,SNR=5.6								
WRAB	**Tennant Creek**	**43.80**	**262**	*e*P		**P**		**05 04 26.7**	**-0.1**
	2.8nm,0.6s,mb4.0								
WRA	**Warramunga Arr**	**43.80**	**262**	P		**P**		**05 04 26.8**	**-0.1**
	1.1nm,0.3s,mb3.9,baz=96,slow=7.3,SNR=63								
MBWA	**Marble Bar**	**57.08**	**257**	*e*P		**P**		**05 06 03.2**	**-0.2**
NVAR	**Mina Array Bea**	**81.49**	**44**	P		**P**		**05 08 29.0**	**+1.0**
	0.5nm,0.5s,mb3.2,baz=225,slow=7.7,SNR=3.1								
ILAR	**Eielson Array**	**88.36**	**13**	P		**P**		**05 09 00.1**	**-0.6**
	0.7nm,0.7s,mb3.5,baz=224,slow=6.0,SNR=10								
PDAR	**Pinedale Array**	**89.42**	**44**	P		**P**		**05 09 05.7**	**-0.5**
	0.4nm,0.6s,mb3.4,baz=225,slow=2.1,SNR=3.6								
FINES	**FINESS Array B**	**135.40**	**343**	PKP		PKPdf		05 15 25.5	+2.2
	0.7nm,0.8s,baz=315,slow=5.4,SNR=5.4								
AKASG	**Malin Array Be**	**142.49**	**331**	PKhKP				05 15 35.6	
	2.3nm,0.5s,baz=37,slow=4.1,SNR=22								
BRTR	**Keskin Array B**	**146.13**	**312**	PKPbc		PKPbc		05 15 47.9	+3.2
	0.6nm,0.5s,baz=125,slow=3.7,SNR=4.7								
CLL	**Collm**	**147.73**	**346**	*e*PKP1		PKPdf		05 15 51.0	+5.9
GERES	**GERESS Array B**	**149.83**	**343**	PKPbc		PKPdf		05 15 56.7	+8.2
	0.7nm,0.7s,slow=2.7,SNR=7.4								

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*IDC **10** 05:00:56.3±4.5, 24.92N×123.57E, h94km±43km, mb3.0/4, mb1 3.3/5, mb1mx3.1/22, mbtmp3.5/5, Error ellipse: s-maj=34.4km s-min=22.4km az=80.0*
*JMA **10** 05:00:57.5±0.1, 24.81N×123.53E, h90km±2km, M2.8*
ISC 10 05:00:55.5±0.7, 24.86N±0.09×123.50E±0.06, h101km±6km, n13, σ0=87/21, mb3.2/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.56**	**158**	P		**P**		**05 01 12.1**	**+0.1**
IRIF				S		**S**		**05 01 23.4**	**-0.9**
YOJ	**Yonaguni jima**	**0.60**	**228**	P		**P**		**05 01 13.1**	**+0.8**
YOJ				S		**S**		**05 01 24.6**	**-0.2**
JIJ	**Ishigaki jima**	**0.77**	**130**	P		**P**		**05 01 14.1**	**+0.3**
JIJ				S		**S**		**05 01 26.4**	**-1.0**
JKRS	**Kuro-shima**	**0.78**	**143**	P		**P**		**05 01 14.5**	**+0.6**
JKRS				S		**S**		**05 01 27.3**	**-0.3**
HATJ	**Hateruma jima**	**0.85**	**161**	P		**P**		**05 01 15.0**	**+0.4**
HATJ				S		**S**		**05 01 28.1**	**-0.8**
JTJ	**Tarama**	**1.11**	**101**	P		**P**		**05 01 18.4**	**+0.9**
JTJ				S		**S**		**05 01 33.7**	**-0.4**
JMJ	**Miyako jima 2**	**1.63**	**91**	*e*S		**S**		**05 01 45.4**	**+0.6**
JOGS	**Gusukube**	**1.73**	**93**	P		**P**		**05 01 26.4**	**+1.3**
JOGS				*e*S		**S**		**05 01 49.2**	**+2.1**
JOW	**Kunigami**	**4.73**	**64**	P		**P**		**05 02 05.0**	**-0.9**
	4.3nm,0.3s,baz=121,slow=29,SNR=12								
JOW				S		**S**		**05 02 57.5**	**-2.4**
	0.4nm,0.3s,baz=209,slow=12,SNR=2.6								
MKAR	**Makanchi Array**	**39.35**	**314**	P		**P**		**05 08 16.1**	**-0.2**
	0.1nm,0.3s,mb3.1,baz=99,slow=9.7,SNR=5.3								

TBKS	Tabuk	3.28	4	P	Pn	05 29 55.6	+0.1
HAQS	Haql	4.28	344	P	Pn	05 30 09.9	+0.1
ASUT		4.92	301	P	Pn	05 30 19.1	+0.3

IDC 10 05:29:32.7±7.2, 3.37N×94.36E, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, Error ellipse: s-maj=347.2km s-min=30.0km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**44.50**	**348**	P	P	05 37 45.8	-1.9
	0.2nm,0.4s,baz=162,slow=9.3,SNR=5.0						
WRA	**Warramunga Arr**	**45.59**	**122**	P	P	05 37 54.7	-2.0
	0.7nm,0.7s,baz=300,slow=9.2,SNR=6.3						
ASAR	**Alice Springs**	**46.96**	**127**	P	P	05 38 05.8	-1.7
	0.2nm,0.3s,baz=295,slow=7.1,SNR=5.2						

*NEIC **10** 05:39:42.5, 17.09N×95.24W, h119km, MD3.7(MEX), After MEX.*

MEX 10 05:39:42.8±0.6, 17.09N×95.24W, h118km±7km, MD3.8, 3D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.34**	**89**	*i* P	P	05 39 58.4	-1.3
CMIG				*i* S	S	05 40 10.3	-2.2
CMIG	**Matias Romero**	**0.34**	**89**	‖ *i* P	P	05 39 58.4	-1.3
CMIG				*i* S	S	05 40 10.3	-2.2
OXX	**Oaxaca**	**1.42**	**270**	*e*P	P	05 40 08.0	-1.5
OXX				*e*S	S	05 40 28.0	-1.8
VHO	**Vista Hermosa**	**1.43**	**270**	*i* P	P	05 40 08.1	-1.5
VHO				*e*S	S	05 40 27.7	-2.3
VHO	**Vista Hermosa**	**1.43**	**270**	‖ *i* P	P	05 40 08.2	-1.5
VHO				*e*S	S	05 40 27.7	-2.2
HUIG	**Huatulco**	**1.55**	**212**	*e*P	P	05 40 08.9	-2.3
HUIG				*i* S	S	05 40 30.7	-1.8
HUIG	**Huatulco**	**1.55**	**212**	‖ *e*P	P	05 40 08.9	-2.2
HUIG				*i* S	S	05 40 30.6	-1.9
CCIG	**Comitan**	**3.08**	**105**	*i* P	P	05 40 30.8	-0.2
CCIG				*i* S	S	05 41 04.8	-2.8

*DMN **10** 05:59:31.2±0.7, 30.72N×83.46E, h10km, Ml4.6/4, Error ellipse: s-maj=17.3km s-min=13.7km az=65.0*
*MOS **10** 05:59:39.8±1.3, 30.35N×83.54E, h33km, mb4.5/17, MS3.8/7, Error ellipse: s-maj=11.4km s-min=7.0km az=110.8*
*BJI **10** 05:59:40.7, 30.35N×83.77E, h38km, mB4.7, mb4.4, Ms4.5, Msz4.3*
*NDI **10** 05:59:41.0±5.3, 30.32N×83.64E, h10km, mb4.8, mb4.6(NEIC)*
*IDC **10** 05:59:42.6±4.3, 30.31N×83.70E, h47km±41km, mb3.9/14, mb1 4.1/16, mb1mx4.0/24, mbtmp4.1/16, ML4.1/2, MS4.0/18, Ms1 4.0/18, ms1mx3.9/25, Error ellipse: s-maj=24.1km s-min=14.3km az=47.0*
*NEIC **10** 05:59:43.5±0.6, 30.36N×83.70E, h56km±7km, mb4.6/11, Error ellipse: s-maj=7.2km s-min=5.9km az=58.0*

ISC 10 05:59:39.8±0.2, 30.34N±0.03×83.55E±0.03, h33km, n110, σ1§36/118, mb4.2/26, MS4.0/18, 1C-1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**2.51**	**157**	*e*Pn	Pn	06 00 21.9	+2.6
GKN				*e*Sn	S	06 00 58.9	+10
	801nm,0.4s						
KOLN	**Koldanda**	**2.56**	**179**	*e*Pn	Pn	06 00 22.8	+2.9
KOLN				*e*Sn	S	06 01 00.3	+10
	2μm,1.0s						
KKN	**Kakani**	**2.96**	**149**	*e*Pn	Pn	06 00 27.5	+1.9
KKN				*e*Sn	S	06 01 10.3	+10
	571nm,0.6s						
PTH	**Pithoragarh**	**3.00**	**256**	*e*PB	Pb	06 00 33.4	+1.1
PTH				*e*SB	Sb	06 01 15.8	+7.0
LGTI	**Lohaghat**	**3.00**	**254**	*e*P	P	06 00 34.0	+7.9
LGTI				*e*SB	S	06 01 20.5	+19
VLK	**Valmikinagar**	**3.02**	**175**	*i* P	P	06 00 31.0	+4.6
VLK				*i*		06 01 15.0	
DMN	**Daman**	**3.04**	**153**	*e*Pn	Pn	06 00 29.1	+2.3
DMN				*e*Sn	S	06 01 13.1	+11
GUN	**Gumba**	**3.16**	**139**	*e*Pn	Pn	06 00 30.0	+1.5
GUN				*e*Sn	Sn	06 01 15.0	+9.5
	847nm,0.7s						
PKI	**Pulchoki**	**3.20**	**149**	*e*Pn	Pn	06 00 30.6	+1.5
PKI				*e*Sn	Sn	06 01 15.6	+9.1
JIRN	**Jiri**	**3.53**	**138**	*e*Pn	Pn	06 00 35.9	+2.1
DDI	**Dehra Dun**	**4.75**	**271**	*e*P	P	06 00 54.5	+3.6
SMLA	**Simla**	**5.55**	**280**	‖ *i*P	P	06 01 02.2	0.0
SMLA				*i*		06 02 10.8	
NDI	**New Delhi**	**5.76**	**255**	*e*P	P	06 01 06.5	+1.4
	4.0nm,0.0s						
NDI				*e*		06 02 14.0	
SDNR	**Sundarnagar**	**5.77**	**283**	*e*	P	06 01 11.0	+5.7
SDNR				*e*SG	S	06 02 54.0	+43
BHK	**Bhakra**	**6.22**	**282**	*e*	Px	06 01 38.1	
BHK				*e*SG	Sx	06 03 13.3	
JHNI	**Jhansi**	**6.57**	**224**	*i* P	P	06 01 18.0	+1.5
JHNI				*e*S	S	06 03 01.0	+30
LSA	**Lhasa**	**6.62**	**94**	P	P	06 01 18.2	+0.9
LSA				AMB	AMB		
	comp=Z,60nm,1.0s						
LSA				LR	LR		
	comp=N,150nm,5.3s						
LSA				LR	LR		
	comp=E,190nm,5.3s						
LSA				LR	LR		
	comp=Z,440nm,5.3s						
LSA	**Lhasa**	**6.62**	**94**	*e*P	P	06 01 17.4	+0.1
THN	**Thein Dam**	**7.01**	**289**	*e*	S	06 02 46.1	+3.9
BLSP	**Bilaspur**	**8.27**	**189**	*e*P	P	06 01 38.7	-1.6
BLSP				*e*S	S	06 03 10.4	-3.1
BLSP				*i*		06 04 57.0	
AJM	**Ajmer**	**8.73**	**246**	*e*	S	06 03 24.0	-1.0
SHL	**Shillong**	**8.77**	**121**	*e*	P	06 01 39.0	-8.2
SHL				*e*S	S	06 03 19.0	-6.9
CAL	**Calcutta**	**8.87**	**150**	*e*P	P	06 01 47.9	-0.7
CAL				*e*		06 02 59.2	
BHPL	**Bhopal**	**8.93**	**219**	*e*P	P	06 01 48.1	-1.4
BHPL				*e*S	S	06 03 24.9	-5.2
BHPL				*i*		06 05 13.9	
AGT	**Agartala**	**9.40**	**131**	*e*P	P	06 01 54.0	-1.9
NGP	**Nagpur**	**10.00**	**205**	*e*P	P	06 02 02.7	-1.6
NGP				*e*S	S	06 03 48.6	-7.9
THW	**Thamme Wali**	**10.36**	**287**	P	P	06 02 09.8	+0.6
KSH	**Kashi**	**11.06**	**328**	P	P	06 02 19.1	+0.3
KSH				AMB	AMB		
	comp=Z,200nm,5.0s						
KSH				LR	LR		
	comp=N,3μm,6.8s						
KSH				LR	LR		
	comp=E,11μm,17.3s						
AKL	**Akola**	**11.26**	**213**	*e*P	P	06 02 20.0	-1.4
VIS	**Vishakhapatnam**	**12.56**	**181**	AMb	AMB	06 02 37.2	
	comp=Z,23nm,1.1s						
VIS				*e*		06 04 51.4	
LATR	**Latur**	**13.46**	**210**	*e*S	S	06 05 10.0	-10
HYB	**Hyderabad**	**13.64**	**201**	*e*P	P	06 02 47.0	-6.4
HYB				*e*S	S	06 05 16.0	-8.7
HYB	**Hyderabad**	**13.64**	**201**	*i* P	P	06 02 47.0	-6.4
HYB				*e*S	S	06 05 16.0	-8.7
FRU	**Bishkek**	**14.38**	**333**	*e*P	P	06 03 03.0	+0.2
FRU				pmax	pmax		
	comp=Z,35nm,2.0s						
POO	**Poona**	**14.69**	**219**	*e*	P	06 03 04.0	-3.1
	comp=Z,20nm,1.0s						
POO				*i*		06 05 41.0	
KAD	**Karad**	**15.53**	**215**	*e*S	S	06 06 14.3	+5.1
KAD				*i*		06 10 41.1	
GTA	**Gaotai**	**16.11**	**51**	P	P	06 03 26.8	+1.5
GTA				AP		06 03 36.6	
GTA				XP		06 03 41.0	
GTA				S	S	06 06 22.7	+0.1
GTA				SS	SS	06 06 42.4	+0.4
GTA				AMB	AMB		
	comp=Z,12nm,0.9s						
GTA				AMB	AMB		
	comp=Z,159nm,5.3s						
GTA				LR	LR		
	comp=N,2μm,14.1s						
GTA				LR	LR		
	comp=E,794nm,13.7s						
GTA				LR	LR		
	comp=Z,859nm,13.3s						
KKAR	**Karatay Array**	**16.45**	**324**	*i* P	P	06 03 27.2	-2.4
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MKAR	**Makanchi Array**	**16.46**	**357**	P	P	06 03 30.6	+0.9
	comp=Z,0.4nm,0.3s,baz=177,slow=10,SNR=41						
MKAR				S	S	06 06 36.4	+5.7
	comp=Z,0.0nm,0.3s,baz=188,slow=8.6,SNR=2.4						
MKAR				LR	LR	06 11 05.1	
	comp=Z,212nm,20.5s,baz=266,slow=41						
KMI	**Kunming**	**17.76**	**102**	P	P	06 03 46.8	+0.7
KMI				AP		06 03 54.4	
KMI				XP		06 03 57.7	
KMI				PP	PP	06 04 02.6	+1.8
KMI				S	S	06 07 02.0	+1.5
KMI				AMB	AMB		
	comp=Z,22nm,0.8s						
KMI				LR	LR		
	comp=N,1μm,19.0s						
KMI				LR	LR		
	comp=E,1μm,19.8s						
KMI				LR	LR		
	comp=Z,2μm,22.3s						
KMI	**Kunming**	**17.76**	**102**	P	P	06 03 46.8	+0.7
KMI				S	S	06 07 02.0	+1.5
KMI				pmax	pmax		
	comp=Z,22nm,0.8s						
KMI	**Kunming**	**17.76**	**102**	P	P	06 03 46.8	+0.7
	comp=Z,22nm,0.8s						
KMI				pP		06 03 54.4	
KMI				sP		06 03 57.7	
KMI				PP	PP	06 04 02.6	+1.8
KMI				S	S	06 07 02.0	+1.5
KMI				sS		06 07 19.7	
KMI				SS	SS	06 07 25.6	+2.5
LZH	**Lanzhou**	**17.92**	**66**	*e*P	P	06 03 46.5	-1.5
LZH				AP		06 03 53.1	
LZH				PP	PP	06 04 03.0	+0.3
LZH				XS		06 07 18.1	
LZH				AMB	AMB		
	comp=Z,30nm,1.0s						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,14.0s						
LZH				LR	LR		
	comp=Z,3μm,14.2s						
LZH	**Lanzhou**	**17.92**	**66**	*e*P	P	06 03 46.5	-1.5
LZH				S	S	06 07 09.3	+5.4
LZH				pmax	pmax		
	comp=Z,30nm,1.0s						
LZH	**Lanzhou**	**17.92**	**66**	*e*P	P	06 03 46.5	-1.5
	comp=Z,30nm,1.0s						
LZH				pP		06 03 53.1	
LZH				sP		06 03 56.5	
LZH				PP	PP	06 04 03.0	+0.3
LZH				S	S	06 07 09.3	+5.4
LZH				sS		06 07 18.1	
LZH				SS	SS	06 07 31.2	+4.3
CM31	**Chiang Mai Arr**	**18.32**	**127**	*e*P	P	06 03 51.5	-1.6
CMAR	**Chiang Mai Arr**	**18.32**	**127**	P	P	06 03 51.3	-1.9
	comp=Z,0.4nm,0.3s,baz=309,slow=12,SNR=19						
CMAR				LR	LR	06 10 50.8	
	comp=Z,360nm,21.5s,baz=310,slow=37						
GYA	**Guiyang**	**20.69**	**95**	P	P	06 04 17.2	-2.4
GYA				AP		06 04 26.1	
GYA				XP		06 04 30.0	
GYA				S	S	06 08 05.7	+1.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				AMB	AMB		
	comp=Z,320nm,7.5s						
GYA				LR	LR		
	comp=N,720nm,13.8s						
GYA				LR	LR		
	comp=E,710nm,9.6s						
GYA				LR	LR		
	comp=Z,590nm,9.3s						
KURK	**Kurchatov**	**20.69**	**351**	*i* P	P	06 04 17.3	-2.1
KURK				pmax	pmax		
	comp=Z,26nm,1.0s						
KURK	**Kurchatov**	**20.69**	**351**	*e*P	P	06 04 17.5	-2.0
	comp=Z,45nm,0.9s						
XAN	**Xi'an**	**21.77**	**74**	P	P	06 04 28.1	-2.4
XAN				AP		06 04 38.6	
XAN				S	S	06 08 23.7	-0.6
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.1						
XAN				LR	LR		
	comp=N,291nm,10.3s						
XAN				LR	LR		
	comp=E,450nm,16.1s						
XAN				LR	LR		
	comp=Z,545nm,16.4s						
ENH	**Enshi**	**22.39**	**84**	*e*P	P	06 04 35.4	-1.2
	comp=Z,13nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**23.60**	**2**	P	P	06 04 49.0	+0.7
ZAL				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ZAL	**Zalesovo**	**23.60**	**2**	P	P	06 04 49.0	+0.7
	comp=Z,4.5nm,0.8s,mb3.9,baz=284,slow=11,SNR=21						
ZAL	**Zalesovo**	**23.60**	**2**	P	P	06 04 49.0	+0.7
BVAR	**Borovoye Array**	**24.63**	**341**	P	P	06 04 58.3	0.0
	comp=Z,3.0nm,0.9s,mb3.8,baz=143,slow=7.4,SNR=14						
SONM	**Songino Array**	**24.75**	**39**	P	P	06 04 59.9	+0.4
	comp=Z,3.0nm,0.7s,mb3.9,baz=228,slow=9.9,SNR=20						
SONM				PcP	PcP	06 08 35.6	-1.2
	comp=Z,0.5nm,0.5s,baz=223,slow=2.9,SNR=5.0						
SONM				LR	LR	06 15 31.1	
	comp=Z,362nm,21.6s,MS3.8,baz=45,slow=38						
ZAK	**Zakamensk**	**24.90**	**31**	*e*P	P	06 05 00.5	-0.4
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.7						
MOY	**Mondy**	**24.93**	**26**	*e*P	P	06 05 02.5	+1.3
HHC	**Hu-ho-hao-te**	**24.98**	**58**	*e*P	P	06 05 02.7	+0.9
HHC				AP		06 05 11.9	
HHC				XP		06 05 16.6	
HHC				PP	PP	06 05 42.5	+2.9
HHC				SCP		06 12 08.6	
HHC				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
HHC				AMB	AMB		
	comp=Z,164nm,5.6s						
HHC				LR	LR		
	comp=N,424nm,12.6s,MS4.2						
HHC				LR	LR		
	comp=E,238nm,14.1s,MS4.2						
HHC				LR	LR		
	comp=Z,406nm,13.6s,MS4.1						
ULN	**Ulaanbaatar**	**25.13**	**39**	*e*P	P	06 05 02.9	-0.2
ULN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
ULN	**Ulaanbaatar**	**25.13**	**39**	*e*P	P	06 05 02.9	-0.2
	comp=Z,6.0nm,0.9s,mb4.1						
CHKZ	**Chkalovo**	**25.15**	**342**	*e*P	P	06 05 02.8	-0.4
CHKZ				pmax	pmax		
	comp=Z,54nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**25.15**	**342**	*e*P	P	06 05 02.8	-0.4
	comp=Z,54nm,0.8s,mb5.1						
TLY	**Talaya**	**26.01**	**29**	‖ *i*P	P	06 05 12.0	+0.7
TLY				*e*		06 05 53.7	
TLY				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb3.9						
TLY				MLR	MLR		
	comp=Z,283nm,21.0s,MS3.8						
GNI	**Garni**	**32.95**	**298**	LR	LR	06 22 34.4	
	comp=Z,198nm,19.7s,MS3.8,baz=76,slow=42						
BOD	**Bodaibo**	**34.58**	**29**	*e*P	P	06 06 22.1	-5.2
KIV	**Kislovodsk**	**34.93**	**304**	P	P	06 06 31.9	+1.4
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
KIV	**Kislovodsk**	**34.93**	**304**	P	P	06 06 31.9	+1.4
	comp=Z,7.6nm,0.7s,mb4.7						
ASF	**Jabal al Asfar**	**39.68**	**285**	LR	LR	06 26 19.1	
	comp=Z,472nm,18.1s,MS4.4,baz=128,slow=40						
BRTR	**Keskin Array B**	**41.47**	**297**	P	P	06 07 26.3	+1.1
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BRTR	**Keskin Array B**	**41.47**	**297**	P	P	06 07 26.3	+1.1
	comp=Z,2.7nm,1.1s,mb3.8,baz=135,slow=7.0,SNR=11						
ATD	**Arta Tunnel**	**42.08**	**252**	LR	LR	06 24 23.3	
	comp=Z,146nm,19.0s,MS3.9,baz=30,slow=35						
AKASG	**Malin Array Be**	**44.89**	**313**	P	P	06 07 51.2	-1.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**44.89**	**313**	P	P	06 07 51.1	-1.6
	comp=Z,0.5nm,0.4s,mb3.7,baz=74,slow=8.1,SNR=5.2						
MJAR	**Matsushiro Arr**	**45.52**	**67**	LR	LR	06 28 24.5	
	comp=Z,237nm,20.9s,MS4.1,baz=275,slow=38						
FINES	**FINESS Array B**	**48.39**	**327**	P	P	06 08 19.4	-0.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES				MLR	MLR		
	comp=Z,225nm,19.5s						
FINES	**FINESS Array B**	**48.39**	**327**	P	P	06 08 19.4	-0.8
	comp=Z,2.0nm,0.7s,mb4.2,baz=106,slow=7.0,SNR=11						
FINES				LR	LR	06 30 38.3	
	comp=Z,225nm,19.5s,MS4.2,baz=249,slow=38						
KAF	**Kangasniemi**	**48.44**	**328**	*e*p	P	06 08 22.5	+2.0
ARCES	**ARCESS Array B**	**50.85**	**337**	P	P	06 08 39.1	+0.1
ARCES				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,168nm,18.4s						
ARCES	**ARCESS Array B**	**50.85**	**337**	P	P	06 08 39.1	+0.2
	comp=Z,6.6nm,0.8s,mb4.6,baz=63,slow=5.4,SNR=8.9						
ARCES				LR	LR	06 30 43.8	
	comp=Z,168nm,18.4s,MS4.1,baz=152,slow=37						
KMBO	**Kilima Mbogo**	**54.02**	**243**	LR	LR	06 31 20.3	
	comp=Z,161nm,18.6s,MS4.1,baz=96,slow=35						
GERES	**GERESS Array B**	**54.97**	**311**	P	P	06 09 11.6	+1.8
GERES				pmax	pmax		
	comp=Z,1.0nm,1.0s						
GERES				MLR	MLR		
	comp=Z,72nm,20.1s						
GERES	**GERESS Array B**	**54.97**	**311**	P	P	06 09 11.6	+1.8
	comp=Z,1.2nm,1.0s,mb3.9,baz=140,slow=10,SNR=5.3						
GERES				LR	LR	06 36 21.7	
	comp=Z,72nm,20.1s,MS3.7,baz=76,slow=40						
NB2	**NORSAR Subarra**	**55.48**	**326**	P	P	06 09 12.6	-0.8
	comp=Z,2.2nm,0.9s,mb4.2,baz=86,slow=7.0						
NB2	**NORSAR Subarra**	**55.48**	**326**	P	P	06 09 12.6	-0.8
NB2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
NOA	**NORSAR Array B**	**55.48**	**326**	P	P	06 09 12.6	-0.8
NOA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,141nm,18.3s						
NOA	**NORSAR Array B**	**55.48**	**326**	P	P	06 09 12.6	-0.8
	comp=Z,3.1nm,0.9s,mb4.3,baz=90,slow=7.0,SNR=7.9						
NOA				LR	LR	06 34 46.2	
	comp=Z,141nm,18.3s,MS4.1,baz=85,slow=38						
BILL	**Bilibino**	**59.55**	**26**	*e*P	P	06 09 41.3	-0.7
BILL				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
WRA	**Warramunga Arr**	**69.89**	**129**	P	P	06 10 47.8	-1.9
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**69.89**	**129**	P	P	06 10 47.8	-1.8
	comp=Z,1.5nm,0.7s,mb4.0,baz=322,slow=6.3,SNR=24						
SUMG	**Summit**	**70.05**	**344**	*e*P	P	06 10 49.0	-0.7
	comp=Z,20nm,1.1s,mb5.0						
ASAR	**Alice Springs**	**72.23**	**132**	P	P	06 11 02.4	-1.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=317,slow=5.5,SNR=11						
ASAR				LR	LR	06 48 37.8	
	comp=Z,66nm,19.9s,MS3.9,baz=168,slow=41						
IMA	**Indian Mountai**	**74.46**	**21**	*e*P	P	06 11 16.1	+0.2
IMA				pmax	pmax		
	comp=Z,32nm,1.2s,mb5.1						
IMA	**Indian Mountai**	**74.46**	**21**	*e*P	P	06 11 16.1	+0.2
	comp=Z,32nm,1.2s,mb5.1						
ILAR	**Eielson Array**	**77.41**	**20**	P	P	06 11 32.0	-0.7
	comp=Z,2.3nm,0.8s,mb4.1,baz=307,slow=7.1,SNR=14						
ILAR				LR	LR	06 51 06.0	
	comp=Z,51nm,18.3s,MS3.9,baz=359,slow=40						
INK	**Inuvik**	**77.88**	**13**	*e*P	P	06 11 34.5	-0.8
INK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
INK	**Inuvik**	**77.88**	**13**	*e*P	P	06 11 34.5	-0.8
	comp=Z,9.3nm,1.3s,mb4.5						
BOSA	**Boshof**	**80.79**	**229**	P	P	06 11 52.7	+0.9
	comp=Z,3.9nm,1.0s,mb4.3,baz=3.0,slow=4.9,SNR=3.2						
BOSA				LR	LR	06 46 08.9	
	comp=Z,161nm,18.1s,MS4.4,baz=345,slow=34						
FRB	**Frobisher Bay**	**83.67**	**348**	LR	LR	06 51 30.4	
	comp=Z,78nm,18.8s,MS4.1,baz=358,slow=37						
DBIC	**Dimbokro**	**85.30**	**275**	LR	LR	06 53 22.5	
	comp=Z,146nm,19.7s,MS4.4,baz=56,slow=38						
YKW3	**Yellowknife Ar**	**86.29**	**8**	*e*P	P	06 12 18.5	-0.3
YKA	**Yellowknife Ar**	**86.35**	**8**	P	P	06 12 18.8	-0.4
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**86.35**	**8**	P	P	06 12 18.8	-0.4
	comp=Z,2.0nm,0.6s,mb4.5,baz=338,slow=5.1,SNR=58						
SCHQ	**Schefferville**	**91.43**	**343**	LR	LR	07 03 22.8	
	comp=Z,47nm,18.9s,MS4.0,baz=209,slow=42						
TXAR	**Lajitas Array**	**120.27**	**7**	PKP	PKPdf	06 18 29.4	+1.5
	comp=Z,0.3nm,0.7s,baz=90,slow=1.8,SNR=3.7						
TXAR	**Lajitas Array**	**120.27**	**7**	PKP	PKPdf	06 18 29.4	+1.5
LPAZ	**La Paz**	**150.57**	**292**	PKIKP	PKPdf	06 19 30.7	+7.4
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	**La Paz**	**150.57**	**292**	PKPbc	PKPdf	06 19 30.6	+7.3
	comp=Z,0.5nm,0.3s,baz=0.4,slow=8.3,SNR=3.9						
LPAZ	**La Paz**	**150.57**	**292**	*e*PKPbc	PKPdf	06 19 30.6	+7.3

*CSEM **10** 06:02:05.2±0.2, 25.09N×36.33E, h30km, ML3.1, Error ellipse: s-maj=12.6km s-min=5.0km az=172.0*
*SNSN **10** 06:02:08.8, 25.13N×36.54E, h51km, Ml2.5*
*HLW **10** 06:02:09.5, 24.92N×36.04E, h18km, Mb3.1*

ISC 10 06:02:03.5±0.7, 25.0N±0.1×36.33E±0.05, h10km, n8, σ1§01/11, 1C-2D, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJS	**Umm Lajj**	**0.93**	**74**	S	Sb	06 02 33.1	-0.3
UMJS				P		06 02 22.6	
UMJS	**Umm Lajj**	**0.93**	**74**	P	Pb	06 02 22.6	+1.4
UMJS				S	Sb	06 02 33.1	-0.3
EMRS	**Mersa Alam**	**1.35**	**272**	‖ P	Pb	06 02 28.5	+0.1
HAGS	**Hagol**	**1.36**	**244**	‖ P	Pb	06 02 28.8	+0.2
HAGS				S	Sb	06 02 42.6	-3.3
YNBS	**Yanbu' al Bahr**	**1.65**	**113**	P	Pn	06 02 33.7	+1.0
YNBS				S	Sn	06 02 53.0	-1.1
HSHL	**Bi'r Shalatayn**	**2.05**	**205**	‖ P	Pn	06 02 39.5	+1.0
KBRS	**Khaybar**	**2.77**	**73**	P	Pn	06 02 47.7	-1.2
HEDF	**Idfu**	**2.85**	**273**	P	Pn	06 02 49.8	-0.2

*IDC **10** 06:03:18.9±4.3, 29.81N×83.23E, mb3.5/4, mb1 3.7/5, mb1mx3.4/22, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=92.4km s-min=61.0km az=17.0*

ISC 10 06:03:28.7±2.1, 30.6N±0.3×83.9E±0.2, h33km, n6, σ2§18/6, mb3.3/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.36**	**253**	*e*PG	P	06 04 47.0	+27
PTH				*e*SG	S	06 05 00.0	+0.6
MKAR	**Makanchi Array**	**16.24**	**356**	Pn	P	06 07 17.0	+1.3
	0.1nm,0.3s,baz=174,slow=11,SNR=3.6						
SONM	**Songino Array**	**24.36**	**39**	P	P	06 08 47.2	+2.5
	0.2nm,0.4s,mb2.9,baz=220,slow=11,SNR=2.6						
BVAR	**Borovoye Array**	**24.50**	**340**	P	P	06 08 44.0	-2.0
	0.3nm,0.4s,mb3.2,baz=153,slow=9.7,SNR=3.0						
ILAR	**Eielson Array**	**77.07**	**20**	P	P	06 15 19.8	0.0
	0.4nm,0.7s,mb3.5,baz=309,slow=5.8,SNR=3.7						
YKA	**Yellowknife Ar**	**86.06**	**8**	P	P	06 16 04.7	-2.0
	0.4nm,0.7s,mb3.8,baz=337,slow=5.0,SNR=6.8						

*BJI **10** 06:12:46.3, 0.07N×

6.7nm,0.7s
CMAR Chiang Mai Arr 17.43 5 P **P 06 16 55.8 -0.5**
0.5nm,0.3s,baz=196,slow=11,SNR=25
CMAR LR LR 06 24 26.2
comp=Z,103nm,18.1s,baz=195,slow=40
ENH Enshi 31.32 20 *e*P **P 06 19 12.2 -1.4**
4.8nm,0.6s,mb4.5
FITZ Fitzroy Crossi 33.66 126 *e*P **P 06 19 33.7 -0.4**
3.2nm,0.9s,mb4.2
FITZ Fitzroy Crossi 33.66 126 P **P 06 19 33.0 -1.1**
1.9nm,0.6s,mb4.2,baz=342,slow=12,SNR=5.0
GTA Gaotai 38.30 3 *e*P **P 06 20 14.0 +0.7**
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
WRA Warramunga Arr 41.77 122 P **P 06 20 41.9 -0.3**
comp=Z,1.6nm,0.5s,mb3.9,baz=301,slow=9.0,SNR=29
WRAB Tennant Creek 41.78 122 *e*P **P 06 20 42.5 +0.2**
comp=Z,3.2nm,0.5s,mb4.2
WB2 Warramunga Arr 41.78 122 *e*P **P 06 20 42.7 +0.4**
BJI Beijing 42.47 21 *e*P **P 06 20 48.7 +1.0**
BJI AMB AMB
comp=Z,17nm,0.7s,mb4.8
BJI Beijing 42.47 21 *e*P **P 06 20 48.7 +1.0**
comp=Z,17nm,0.7s,mb4.8
ASAR Alice Springs 43.13 127 P **P 06 20 53.0 -0.2**
comp=Z,0.9nm,0.5s,mb3.7,baz=301,slow=7.7,SNR=12
SONM Songino Array 47.31 8 P **P 06 21 27.1 +0.7**
comp=Z,1.9nm,0.5s,mb4.2,baz=190,slow=10,SNR=16
SONM PcP PcP 06 22 57.6 +0.2
comp=Z,0.9nm,0.5s,baz=190,slow=4.1,SNR=5.1
MKAR Makanchi Array 47.49 346 P **P 06 21 28.2 +0.4**
comp=Z,3.7nm,0.5s,mb4.5,baz=160,slow=8.3,SNR=58
CN2 Changchun 49.41 27 *e*P **P 06 21 36.8 -5.9**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
KURK Kurchatov 52.04 345 *e*P **P 06 22 02.2 -0.4**
comp=Z,3.9nm,0.9s,mb4.3
STKA Stephens Creek 53.08 132 P **P 06 22 11.3 +0.6**
comp=Z,2.7nm,0.7s,mb4.3,baz=252,slow=7.1,SNR=5.0
STKA Stephens Creek 53.08 132 *e*P **P 06 22 10.6 -0.1**
ZAL Zalesovo 53.79 351 P **P 06 22 15.8 +0.3**
comp=Z,7.4nm,0.4s,mb4.9,baz=312,slow=4.1,SNR=30
ZAL Zalesovo 53.79 351 *e*P **P 06 22 15.8 +0.3**
BVAR Borovoye Array 56.51 341 P **P 06 22 34.2 -1.1**
comp=Z,2.1nm,0.5s,mb4.4,baz=143,slow=7.4,SNR=14
CHKZ Chkalovo 56.98 341 *e*P **P 06 22 37.7 -1.0**
comp=Z,4.7nm,0.8s,mb4.6
CHKZ *e* 06 22 44.3
FINES FINESS Array B 80.27 332 P **P 06 25 02.8 0.0**
comp=Z,1.1nm,0.8s,mb3.8,baz=63,slow=4.3,SNR=5.4
ARCES ARCESS Array B 82.79 340 P **P 06 25 16.4 +0.6**
comp=Z,2.4nm,0.9s,mb4.2,baz=108,slow=3.8,SNR=6.2
ARCES ARCESS Array B 82.79 340 P **P 06 25 16.4 +0.6**
GERES GERESS Array B 85.09 319 P **P 06 25 28.9 +1.0**
comp=Z,0.3nm,0.4s,mb3.8,baz=149,slow=5.7,SNR=5.4

*IDC **10** 06:22:03.2±2.4, 1.02N×97.11E, mb3.6/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.6/7, ML4.0/1, Error ellipse: s-maj=99.7km s-min=20.7km az=58.0*

ISC 10 06:22:05.9±1.8, 1.0N±0.2×97.1E±0.4, h33km, n7, σ0§64/7, mb3.6/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.44**	**6**	P	**P**	**06 26 08.4**	**+0.1**
	0.2nm,0.3s,baz=196,slow=9.6,SNR=5.9						
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**06 29 56.0**	**-0.6**
	0.3nm,0.6s,mb3.1,baz=300,slow=9.1,SNR=2.9						
ASAR	**Alice Springs**	**43.40**	**127**	P	**P**	**06 30 08.2**	**+0.7**
	0.5nm,1.0s,mb3.2,baz=307,slow=9.0,SNR=4.0						
SONM	**Songino Array**	**47.34**	**9**	P	**P**	**06 30 38.0**	**-0.5**
	0.3nm,0.4s,mb3.6,baz=181,slow=7.3,SNR=5.2						
MKAR	**Makanchi Array**	**47.38**	**346**	P	**P**	**06 30 39.6**	**+0.7**
	0.9nm,0.7s,mb3.8,baz=160,slow=7.9,SNR=12						
ZAL	**Zalesovo**	**53.71**	**351**	P	**P**	**06 31 27.4**	**+0.6**
	1.0nm,0.6s,mb3.9,baz=286,slow=6.0,SNR=6.9						
BVAR	**Borovoye Array**	**56.38**	**341**	P	**P**	**06 31 45.3**	**-1.0**
	1.0nm,0.8s,mb3.9,baz=143,slow=7.4,SNR=5.9						

*TEH **10** 06:36:58.0, 33.18N×45.63E, h8km, Mn3.3*
*CSEM **10** 06:36:58.5±0.5, 34.13N×45.38E, h10km, ML3.3, Error ellipse: s-maj=17.6km s-min=4.7km az=160.0*
*THR **10** 06:37:12.4±0.4, 33.88N×46.58E, h18km±7km, ML2.8*

ISC 10 06:37:09.8±1.8, 33.80N±0.09×46.1E±0.1, h33km, n16, σ1§45/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGHG	**Ghaleghazi**	**0.66**	**36**	Pg	**P**	**06 37 22.7**	**+0.1**
IDHR	**Dehrash**	**0.93**	**15**	Pn	**Pn**	**06 37 27.0**	**+0.3**
IVIS	**Veys**	**0.96**	**40**	Pn	**Pn**	**06 37 27.7**	**+0.6**
IKOM	**Komasi**	**1.23**	**72**	Pn	**Pn**	**06 37 31.5**	**+0.4**
BHD	**Baghdad**	**1.53**	**250**	*e*Pb	Px	06 37 21.0	
BHD				*i* Sb	Sx	06 37 38.5	
BHD				*i* Sn	Sx	06 37 40.0	
SNGE	**Sanandaj**	**1.65**	**38**	*e*PG	**P**	**06 37 37.8**	**+0.9**
SNGE				AML	AML	06 38 22.1	
	comp=N,125nm,0.6s						
SHGO	**Shushtar**	**2.83**	**126**	*e*PN	**Pn**	**06 37 55.1**	**+1.3**
SHGO				AML	AML	06 38 44.9	
	comp=N,47nm,0.5s						
SHGR	**Shooshtar-Gavs**	**2.83**	**126**	*e*PN	**Pn**	**06 37 55.1**	**+1.3**
SHGR				AML	AML	06 38 55.0	
	comp=N,78nm,0.6s						
ASAO	**Ashtian**	**3.34**	**76**	*e*PN	**Pn**	**06 38 00.3**	**-0.8**
ASAO				*e*SG	**S**	**06 38 44.1**	**+4.1**
ASAO				AML	AML	06 39 08.4	
	comp=N,25nm,0.7s						
ASAO	**Ashtian**	**3.34**	**76**	*e*Pn	**Pn**	**06 38 00.3**	**-0.8**
	SNR=52						
ASAO				*e*Sg	**S**	**06 38 44.1**	**+4.1**
	comp=N,25nm,0.7s,SNR=91						
MSL	**Mosul**	**3.51**	**316**	*e*Pn	Px	06 38 14.0	
MSL				*e*Sn	Sx	06 39 01.0	
MSL				*e*Lg		06 39 18.0	
MSL				*e*Pb	Px	06 39 20.0	
IRAZ	**Razeghan**	**3.54**	**62**	Lg		06 39 08.8	
IRAZ	**Razeghan**	**3.54**	**62**	Pn	**Pn**	**06 38 01.6**	**-2.4**
IQOM	**Qom**	**4.24**	**74**	Pn	**Pn**	**06 38 10.0**	**-3.9**
IQOM				Sn	**Sn**	**06 39 03.3**	**+0.3**
IKLH	**Kalahroud**	**4.60**	**94**	Pn	**Pn**	**06 38 16.6**	**-2.4**
IDMV	**Damavand**	**5.20**	**68**	Pn	**Pn**	**06 38 23.4**	**-4.0**

*NEIC **10** 06:45:35.1, 16.21N×97.65W, h38km, MD4.1(MEX), After MEX.*

MEX 10 06:45:34.4±0.9, 16.22N×97.62W, h7km±12km, MD4.1, 3C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.51**	**290**	⇑*i*P	Pg	06 45 43.7	-1.0
PNIG				*i* S	Sg	06 45 51.7	+0.1
PNIG	**Pinotepa**	**0.51**	**290**	⇑*i*P	Pg	06 45 43.7	-1.0
PNIG				*i* S	Sg	06 45 51.5	0.0
VHO	**Vista Hermosa**	**1.20**	**45**	⇑*i*P	Pb	06 45 53.7	-3.5
VHO				*e*S	Sb	06 46 08.8	-3.9
OXX	**Oaxaca**	**1.22**	**45**	*e*P	Pb	06 45 55.0	-2.4
OXX				*e*S	Sb	06 46 10.0	-3.1
HUIG	**Huatulco**	**1.52**	**107**	*e*P	Pn	06 45 58.4	-3.9
HUIG				*e*S	Sb	06 46 17.9	-4.2
ACX	**Acapulco**	**2.29**	**287**	*e*P	Pn	06 46 12.0	-1.2
ACX	**Acapulco**	**2.29**	**287**	*e*P	Pn	06 46 10.0	-3.2
ACX				*i* S	Sn	06 46 38.0	-4.0
CAIG	**El Cayaco**	**2.67**	**288**	*e*P	Pn	06 46 14.6	-4.0
CAIG				*i* S	Sn	06 46 45.2	-6.3
IISM	**Ciudad Serdan**	**2.76**	**5**	*e*P	Pn	06 46 21.5	+1.5
IISM	**Ciudad Serdan**	**2.76**	**5**	*e*P	Pn	06 46 19.0	-1.0
IISM				*i* S	Sn	06 46 55.0	+1.0
CMIG	**Matias Romero**	**2.77**	**71**	*e*P	Pn	06 46 15.2	-4.8
CMIG				*e*S	Sn	06 46 49.2	-4.9
PLIG	**Platanillo**	**2.81**	**321**	*e*P	Pn	06 46 17.1	-3.5
PLIG				*i* S	Sn	06 46 49.5	-5.6
PLIG	**Platanillo**	**2.81**	**321**	*e*P	Pn	06 46 17.1	-3.5
PLIG				*i* S	Sn	06 46 50.6	-4.6
PPM	**Popocatepetl**	**2.99**	**341**	*e*P	Pn	06 46 22.7	-0.4
PPM				*i* S	Sn	06 46 57.9	-1.8
PPM	**Popocatepetl**	**2.99**	**341**	*e*P	Pn	06 46 20.0	-3.2
PPM				*e*P		06 46 22.7	
PPM				*i* S	Sn	06 46 50.0	-10
PPM				*i* S	Sn	06 46 57.9	-1.8

*NEIC **10** 06:46:42.3±1.1, 6.23N×92.81E, h41km±10km, mb4.2/5, Error ellipse: s-maj=10.3km s-min=8.5km az=218.0*
*IDC **10** 06:46:43.2±6.3, 6.31N×92.84E, h45km±57km, mb3.7/10, mb1 3.9/11, mb1mx3.7/22, mbtmp4.0/11, ML4.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/25, Error ellipse: s-maj=46.4km s-min=18.2km az=50.0*

ISC 10 06:46:38.7±4.4, 6.14N±0.10×92.82E±0.09, h28km±31km, n24, σ0§82/22, mb4.2/18, MS3.5/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**12.08**	**276**	*e*P	**P**	**06 49 31.7**	**-0.5**
CM31	**Chiang Mai Arr**	**13.63**	**25**	P	**P**	**06 49 52.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**13.63**	**25**	P	**P**	**06 49 52.8**	**0.0**
	0.3nm,0.3s,baz=230,slow=14,SNR=25						
JIRN	**Jiri**	**22.31**	**344**	*e*P	**P**	**06 51 37.2**	**+1.5**
	5.9nm,0.2s,mb4.6						
PKI	**Pulchoki**	**22.45**	**343**	*e*P	**P**	**06 51 39.0**	**+2.0**
	9.6nm,0.4s,mb4.6						
DMN	**Daman**	**22.58**	**342**	*e*P	**P**	**06 51 39.2**	**+0.8**
	16nm,0.7s,mb4.5						
GUN	**Gumba**	**22.64**	**344**	*e*P	**P**	**06 51 38.8**	**-0.2**
	11nm,0.6s,mb4.5						
KKN	**Kakani**	**22.70**	**342**	*e*P	**P**	**06 51 39.9**	**+0.4**
	9.8nm,0.5s,mb4.5						
GKN	**Gorkha**	**23.09**	**341**	*e*P	**P**	**06 51 42.8**	**-0.6**
	7.4nm,0.3s,mb4.6						
KOLN	**Koldanda**	**23.23**	**339**	*e*P	**P**	**06 51 45.0**	**+0.3**
	12nm,0.6s,mb4.5						
LSA	**Lhasa**	**23.49**	**356**	*e*P	**P**	**06 51 47.7**	**+0.4**
	4.5nm,0.7s,mb4.0						
MKAR	**Makanchi Array**	**41.51**	**349**	P	**P**	**06 54 24.1**	**-1.1**
	1.0nm,0.4s,mb3.8,baz=167,slow=8.9,SNR=34						
SONM	**Songino Array**	**43.14**	**13**	P	**P**	**06 54 37.7**	**-0.9**
	0.9nm,0.7s,mb3.6,baz=198,slow=7.6,SNR=6.1						
SONM				PcP	PcP	06 56 28.0	-0.4
	0.5nm,0.7s,baz=207,slow=3.2,SNR=3.2						
ZAL	**Zalesovo**	**48.10**	**354**	P	**P**	**06 55 17.5**	**-0.4**
	2.4nm,0.4s,mb4.5,baz=257,slow=2.7,SNR=7.0						
WRA	**Warramunga Arr**	**48.37**	**123**	P	**P**	**06 55 20.5**	**0.0**
	0.4nm,0.7s,mb3.6,baz=302,slow=9.2,SNR=5.7						
WRAB	**Tennant Creek**	**48.37**	**123**	*e*P	**P**	**06 55 19.9**	**-0.6**
ATD	**Arta Tunnel**	**49.62**	**280**	LR	LR	07 13 18.8	
	comp=Z,42nm,18.0s,MS3.5,baz=66,slow=32						
ASAR	**Alice Springs**	**49.85**	**128**	P	**P**	**06 55 33.3**	**+1.5**
	0.8nm,0.8s,mb3.8,baz=300,slow=7.6,SNR=9.1						
BRTR	**Keskin Array B**	**62.58**	**312**	P	**P**	**06 57 02.0**	**-0.8**
	0.7nm,0.5s,mb4.0,baz=108,slow=7.8,SNR=4.5						
IDI	**Anoyia**	**68.48**	**305**	P	**P**	**06 57 41.2**	**+0.3**
	1.6nm,0.6s,mb4.2,baz=341,slow=19,SNR=2.9						
FINES	**FINESS Array B**	**73.63**	**333**	P	**P**	**06 58 10.1**	**-1.2**
	0.8nm,0.8s,mb3.7,baz=124,slow=10.0,SNR=3.7						
ARCES	**ARCESS Array B**	**76.45**	**341**	P	**P**	**06 58 27.1**	**-0.2**
	4.9nm,0.9s,mb4.4,baz=84,slow=8.2,SNR=3.3						
GERES	**GERESS Array B**	**78.24**	**318**	P	**P**	**06 58 38.1**	**+0.5**
	0.8nm,0.9s,mb3.7,baz=124,slow=4.8,SNR=6.1						
PDAR	**Pinedale Array**	**127.25**	**21**	PKP	PKPdf	07 05 44.1	-1.9
	0.1nm,0.4s,baz=342,slow=4.7,SNR=3.5						

*IDC **10** 06:52:53.1±1.9, 0.01S×97.61E, mb4.3/7, mb1 4.4/8, mb1mx4.0/20, mbtmp4.3/8, ML4.3/1, MS3.2/1, Ms1 3.4/1, ms1mx2.9/19, Error ellipse: s-maj=80.1km s-min=17.1km az=57.0*
*NEIC **10** 06:52:58.0±0.7, 0.11N×97.77E, h30km, mb4.3/2, Error ellipse: s-maj=21.8km s-min=8.1km az=63.0*

ISC 10 06:52:56.4±1.0, 0.2N±0.1×97.8E±0.2, h30km, n16, σ0§46/15, mb4.3/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.84**	**29**	*e*P	**Pn**	**06 54 23.5**	**+0.2**
KULM				*e*		06 54 30.4	
CMAR	**Chiang Mai Arr**	**18.22**	**3**	P	**P**	**06 57 08.2**	**-0.9**
	0.4nm,0.3s,baz=193,slow=11,SNR=7.0						
CMAR				LR	LR	07 05 04.4	
	comp=Z,63nm,18.0s,baz=185,slow=40						
FITZ	**Fitzroy Crossi**	**32.84**	**125**	P	**P**	**06 59 29.0**	**-0.8**
	6.4nm,0.8s,mb4.6,baz=177,slow=4.5,SNR=5.5						
WRA	**Warramunga Arr**	**40.98**	**121**	P	**P**	**07 00 38.7**	**+0.2**
	1.4nm,0.5s,mb3.9,baz=303,slow=9.0,SNR=29						
WRAB	**Tennant Creek**	**40.98**	**121**	*e*P	**P**	**07 00 38.4**	**-0.2**
	3.7nm,0.6s,mb4.2						
WRAB				*e*	pP	07 00 45.5	-2.0
WB2	**Warramunga Arr**	**40.99**	**121**	*e*P	**P**	**07 00 38.7**	**+0.1**
ASPA	**Alice Springs**	**42.29**	**127**	*e*P	**P**	**07 00 49.7**	**+0.4**
ASAR	**Alice Springs**	**42.29**	**127**	P	**P**	**07 00 49.4**	**+0.1**
	2.6nm,0.6s,mb4.0,baz=298,slow=7.9,SNR=41						
SONM	**Songino Array**	**48.07**	**8**	P	**P**	**07 01 36.1**	**+0.9**
	2.3nm,0.8s,mb4.3,baz=189,slow=8.3,SNR=13						
MKAR	**Makanchi Array**	**48.39**	**346**	P	**P**	**07 01 38.0**	**+0.3**
	3.5nm,0.5s,mb4.7,baz=157,slow=8.3,SNR=39						
KURK	**Kurchatov**	**52.95**	**345**	*e*P	**P**	**07 02 12.1**	**-0.2**
	3.8nm,0.9s,mb4.3						
ZAL	**Zalesovo**	**54.67**	**351**	P	**P**	**07 02 25.0**	**+0.2**
	4.1nm,0.6s,mb4.7,baz=318,slow=6.4,SNR=17						
ZAL	**Zalesovo**	**54.67**	**351**	*e*P	**P**	**07 02 25.0**	**+0.2**
FINES	**FINESS Array B**	**81.20**	**333**	P	**P**	**07 05 10.4**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=108,slow=6.0,SNR=4.4						
FINES	**FINESS Array B**	**81.20**	**333**	P	**P**	**07 05 10.4**	**-0.2**
TXAR	**Lajitas Array**	**144.22**	**33**	PKP	PKPdf	07 12 30.7	-4.5
	0.6nm,0.6s,baz=270,slow=0.9,SNR=7.5						

ISC 10 06:53:23.3±0.8, 37.67N±0.04×35.68E±0.06, h10km, n7, σ1§04/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.66**	**176**	PG	**Pg**	**06 53 35.1**	**-1.6**
CEYT				SG	**Sg**	**06 53 45.3**	**-0.3**
KAHT	**Ahir Dag**	**0.94**	**92**	*i* P	**Pb**	**06 53 41.0**	**-0.3**
KAHT				*i* S	**Sb**	**06 53 58.2**	**+4.6**
BNN	**Bunyan**	**1.19**	**6**	*e*PN	**Pn**	**06 53 44.6**	**-1.3**
COBT	**Iskenderun**	**1.24**	**158**	*i* P	**Pb**	**06 53 45.3**	**-1.0**
COBT				*i* S	**Sb**	**06 54 02.4**	**+0.2**
GZT	**Gaziantep**	**1.53**	**101**	*i* P	**Pn**	**06 53 50.8**	**0.0**
GZT				*i* S	**Sb**	**06 54 12.6**	**+2.0**
MEST	**Erdemli**	**1.64**	**229**	*i* P	**Pn**	**06 53 52.5**	**+0.1**
MEST				*i* S	**Sn**	**06 54 15.2**	**+1.6**
KAMT	**Kaman**	**2.29**	**318**	*e*PN	**Pn**	**06 54 02.6**	**+0.8**

IDC 10 07:14:60.0±3.2, 1.17N×97.35E, mb3.6/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, MS3.0/1, Ms1 3.2/1, ms1mx2.5/30, Error ellipse: s-maj=115.8km s-min=27.0km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.25**	**5**	P	P	07 19 02.8	-1.3
	baz=197,slow=12,SNR=3.8						
CMAR				LR	LR	07 25 31.1	
	comp=Z,58nm,20.9s,baz=185,slow=37						
WRA	**Warramunga Arr**	**41.89**	**122**	P	P	07 22 52.3	-1.7
	0.3nm,0.6s,baz=301,slow=9.1,SNR=7.1						
SONM	**Songino Array**	**47.14**	**8**	P	P	07 23 34.2	-1.8
	1.0nm,0.8s,baz=192,slow=8.9,SNR=5.9						
MKAR	**Makanchi Array**	**47.31**	**346**	P	P	07 23 35.0	-2.3
	0.6nm,0.7s,baz=160,slow=8.4,SNR=9.2						
ZAL	**Zalesovo**	**53.61**	**351**	P	P	07 24 23.1	-2.1
	0.8nm,0.7s,baz=301,slow=12,SNR=5.1						

*NEIC **10** 07:27:14.0, 32.02S×71.54W, h29km, ML2.5(GUC), After GUC.*

GUC 10 07:27:14.0±0.8, 32.02S×71.54W, h29km±3km, MD3.6, ML2.5, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.14**	**15**	⇑*i*P	Pb	07 27 19.4	-0.2
CHNG				*i* S	Sb	07 27 23.6	+0.3
CHNG				AMP		07 27 24.0	
	comp=E,2μm,0.3s						
ILCH	**Illapel**	**0.49**	**40**	*e*P	Pb	07 27 24.1	-0.2
ILCH				*i* S	Sb	07 27 31.8	+0.5
ILCH				AMP		07 27 36.9	
	comp=N,295nm,0.2s						
PACH	**Papudo**	**0.53**	**170**	⇑*i*P	Pb	07 27 24.6	-0.1
PACH				*i* S	Sb	07 27 32.3	+0.1
JACH	**Jahuel**	**1.04**	**130**	*e*P	Pn	07 27 32.8	0.0
JACH				*i* S	Sn	07 27 47.5	+1.0
ROCH	**El Roble**	**1.05**	**155**	*i* P	Pn	07 27 33.5	+0.6
ROCH				*i* S	Sn	07 27 47.8	+1.1
RCDM	**Rinconada Maip**	**1.59**	**157**	⇑*i*P	Pn	07 27 41.0	+0.4
RCDM				*i* S	Sn	07 28 02.1	+1.7
RCDM				AMP		07 28 11.0	
	comp=E,114nm,0.2s						
CLCH	**Cerro Calan**	**1.62**	**149**	⇑*i*P	Pn	07 27 41.7	+0.7
CLCH				*i* S	Sn	07 28 02.9	+1.9
CLCH				AMP		07 28 05.9	
	comp=N,138nm,0.5s						
FCH	**Farellones**	**1.68**	**141**	⇑*i*P	Pn	07 27 42.8	+0.9
FCH				*i* S	Sn	07 28 04.9	+2.3
FCH				AMP		07 28 05.5	
	comp=N,75nm,0.3s						
TACH	**Talagante**	**1.71**	**163**	*e*S	Sn	07 28 05.2	+1.8
CHCH	**Chadas Angostu**	**2.05**	**159**	*e*P	Pn	07 27 47.6	+0.3
LMEL	**Las Melosas**	**2.15**	**149**	⇓*i*P	Pn	07 27 49.7	+1.1
LMEL				*i* S	Sn	07 28 16.9	+2.4
LMEL				AMP		07 28 21.0	
	comp=N,61nm,0.2s						

*STR **10** 07:38:31.1±0.2, 48.36N×6.66E, h10km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*BGR **10** 07:38:31.9±0.2, 48.34N×6.68E, h10km, MD2.0/3, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*
*LDG **10** 07:38:31.8±0.0, 48.32N×6.65E, h13km, MD2.9/2, Ml2.8/13, Error ellipse: s-maj=1.0km s-min=0.7km az=162.0*
*NEIC **10** 07:38:31.8, 48.32N×6.65E, h13km, ML2.8(LDG), ML2.5(STR), After LDG.*
*CSEM **10** 07:38:31.5±0.0, 48.34N×6.67E, h12km, ML2.7/12, Error ellipse: s-maj=0.6km s-min=0.5km az=156.0*

ISC 10 07:38:29.4±0.2, 48.34N±0.01×6.60E±0.02, h13km, n50, σ1§26/111, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.37**	**206**	*e*Pg	**Pg**	**07 38 39.3**	**+2.1**
HAU				*e*Sg	**Sg**	**07 38 43.5**	**+1.1**
	66nm,0.2s						
ECH	**Echery**	**0.40**	**108**	*e*Pg	**Pg**	**07 38 38.6**	**+1.0**
	SNR=12						
ECH				*e*Sg	**Sg**	**07 38 43.1**	**0.0**
	SNR=9.5						
THEF	**They Montfort**	**0.42**	**255**	*e*Pg	**Pg**	**07 38 40.4**	**+2.3**
	SNR=16						
THEF				*e*Sg	**Sg**	**07 38 46.7**	**+2.7**
	SNR=9.0						
THEF	**They Montfort**	**0.42**	**255**	Pg	**Pg**	**07 38 40.5**	**+2.4**
THEF				Sg	**Sg**	**07 38 46.6**	**+2.6**
THEF	**They Montfort**	**0.42**	**255**	Pg	**Pg**	**07 38 40.5**	**+2.4**
THEF				Sg	**Sg**	**07 38 46.7**	**+2.7**
	SNR=9.0						
CDF	**Champ du Feu**	**0.46**	**81**	*e*Pg	**Pg**	**07 38 39.8**	**+1.0**
CDF				*e*Pn	**Pn**	**07 38 41.8**	**+0.5**
CDF				*e*Sg	**Sg**	**07 38 45.1**	**0.0**
	256nm,0.4s						
WLS	**Welschbruch**	**0.51**	**81**	*e*Pg	**Pg**	**07 38 40.8**	**+0.9**
	SNR=36						
WLS				*e*Sg	**Sg**	**07 38 47.0**	**+0.2**
	SNR=11						
HINF	**Hinteralfeld**	**0.55**	**162**	*e*Pg	**Pg**	**07 38 41.8**	**+1.2**
HINF				*e*Pn	**Pn**	**07 38 43.3**	**+0.7**
HINF				*e*Sg	**Sg**	**07 38 48.7**	**+0.6**
HINF				*e*Sn	**Sn**	**07 38 51.4**	**-0.1**
	56nm,0.2s						
MOF	**Molkenrain**	**0.61**	**143**	*e*Pg	**Pg**	**07 38 42.7**	**+1.0**
	SNR=12						
MOF				*e*Sg	**Sg**	**07 38 51.4**	**+1.4**
	SNR=5.2						
MOF	**Molkenrain**	**0.61**	**143**	Pg	**Pg**	**07 38 42.9**	**+1.2**
MOF				Sg	**Sg**	**07 38 51.4**	**+1.5**
	SNR=5.2						
LIBD	**Limburg**	**0.70**	**105**	Pg	**Pg**	**07 38 44.5**	**+1.0**
RFYF	**Reffroy**	**0.80**	**292**	*e*Pn	**Pn**	**07 38 48.3**	**+2.2**
	baz=115						
RFYF				*e*Pg	**Pg**	**07 38 48.5**	**+3.0**
RFYF				*e*Sg	**Sg**	**07 38 58.9**	**+2.6**
	29nm,0.2s						
RFYF	**Reffroy**	**0.80**	**292**	*e*Pg	**Pg**	**07 38 48.5**	**+3.0**
RFYF				*e*Sg	**Sg**	**07 38 58.9**	**+2.6**
	14nm,0.2s						
LOMF	**Lomont**	**1.00**	**171**	*e*Pg	**Pg**	**07 38 50.6**	**+1.1**
	SNR=9.2						
LOMF				*e*Sg	**Sg**	**07 39 03.9**	**+0.9**
	SNR=6.9						
LOMF	**Lomont**	**1.00**	**171**	Pg	**Pg**	**07 38 50.5**	**+1.0**
LOMF				Sg	**Sg**	**07 39 03.9**	**+1.0**
	SNR=6.9						
LANF	**Langenberg**	**1.03**	**51**	*e*Pg	**Pg**	**07 38 49.9**	**-0.1**
	SNR=6.0						
LANF				*e*Sg	**Sg**	**07 39 02.9**	**-0.8**
	SNR=2.1						
LANF	**Langenberg**	**1.03**	**51**	Pg	**Pg**	**07 38 49.8**	**-0.2**
LANF				Sg	**Sg**	**07 39 03.2**	**-0.6**
LANF	**Langenberg**	**1.03**	**51**	Pg	**Pg**	**07 38 49.9**	**-0.1**
	SNR=6.0						
LANF				Sg	**Sg**	**07 39 03.2**	**-0.6**
MEZF	**Maizieres J'vi**	**1.04**	**280**	*e*Pn	**Pn**	**07 38 51.4**	**+1.8**
MEZF				*e*Pg	**Pg**	**07 38 52.1**	**+1.8**
MEZF				*e*Sn	**Sn**	**07 39 04.8**	**+0.8**
MEZF				*e*Sg	**Sg**	**07 39 06.1**	**+1.9**
	26nm,0.3s						
SFTF	**Sexfontaines**	**1.05**	**263**	*e*Pn	**Pn**	**07 38 51.1**	**+1.4**
SFTF				*e*Pg	**Pg**	**07 38 52.0**	**+1.6**
SFTF				*e*Sn	**Sn**	**07 39 05.1**	**+0.9**
SFTF				*e*Sg	**Sg**	**07 39 06.4**	**+1.9**
	45nm,0.2s						
FELD

SMF			*e*Pg	**Pg**	**07 39 19.1**	**-0.7**
SMF			*e*Sn	**Sn**	**07 39 39.8**	**-1.8**
SMF			*e*Sg	**Sg**	**07 39 51.3**	**-2.1**
	16nm,0.3s					
AVF	**Avril sur Loir**	**2.69 236**	*e*Pn	**Pn**	**07 39 13.3**	**+0.2**
AVF			*e*Pg	**Pg**	**07 39 22.1**	**-1.0**
AVF			*e*Sn	**Sn**	**07 39 43.8**	**-2.0**
AVF			*e*Sg	**Sg**	**07 39 57.3**	**-1.6**
	4.1nm,0.2s					
HYF	**Humbligny**	**2.87 250**	*e*Pn	**Pn**	**07 39 16.2**	**+0.4**
HYF			*e*Sg	**Sg**	**07 40 02.8**	**-2.3**
BGF	**Bois d'Agland**	**3.11 236**	*e*Pn	**Pn**	**07 39 19.0**	**-0.1**
BGF			*e*Pg	**Pg**	**07 39 29.8**	**-1.6**
BGF			*e*Sn	**Sn**	**07 39 54.0**	**-2.4**
BGF			*e*Sg	**Sg**	**07 40 09.7**	**-3.2**
	14nm,0.3s					
ORIF	**Oris-en-Rattie**	**3.46 188**	*e*Sg	**Sg**	**07 40 20.4**	**-4.2**
	5.7nm,0.7s					
TCF	**Toulx Ste Croi**	**3.62 237**	*e*Pn	**Pn**	**07 39 26.0**	**-0.4**
TCF			*e*Pg	**Pg**	**07 39 39.3**	**-2.4**
TCF			*e*Sn	**Sn**	**07 40 06.2**	**-3.2**
TCF			*e*Sg	**Sg**	**07 40 26.0**	**-4.0**
	2.5nm,0.2s					
VIVF	**Saint-Julien-l**	**3.73 202**	*e*Pg	**Pg**	**07 39 40.7**	**-3.1**
WET	**Wettzell**	**4.24 77**	*e*Pn	**Pn**	**07 39 34.7**	**-0.4**
WET			*e*Sg	**Sg**	**07 40 42.8**	**-7.6**
	SNR=3.0					
GUNZ	**Gunzen**	**4.26 59**	*e*Sg	**Sg**	**07 40 45.5**	**-5.7**
	SNR=1.8					
WERD	**Werda**	**4.29 58**	*e*Sg	**Sg**	**07 40 45.3**	**-6.8**
	SNR=2.9					
FLN	**La Foliniere**	**4.72 278**	*e*Pn	**Pn**	**07 39 41.1**	**-0.9**
GEC2	**GERESS Array S**	**4.74 81**	*e*Pn	**Pn**	**07 39 42.0**	**-0.3**
GEC2			*e*Sg	**Sg**	**07 41 00.6**	**-6.7**
	SNR=2.7					
MFF	**Saint Martin d**	**4.89 252**	*e*Pn	**Pn**	**07 39 43.4**	**-1.0**
GRR	**Gorron**	**4.97 273**	*e*Pg	**Pg**	**07 40 04.5**	**-4.1**

DJA ***10*** *07:58:22.3±1.3,2.41S×98.03E,h42km±35km,mb5.5/1, ML5.4/1,Error ellipse: s-maj=299.5km s-min=26.6km az=26.0*

IDC ***10*** *07:58:32.6±0.5,1.54S×99.47E,mb4.3/20,mb1 4.4/21, mb1mx4.4/23,mbtmp4.3/21,ML4.0/1,MS3.9/12,Ms1 3.9/12, ms1mx3.6/39,Error ellipse: s-maj=22.2km s-min=12.1km az=54.0*

BJI ***10*** *07:58:34.4,1.32S×99.68E,h7km,mB4.9,mb4.7,Ms4.5, Msz4.1*

MOS ***10*** *07:58:35.6±0.8,1.57S×99.60E,h33km,mb4.8/11,Error ellipse: s-maj=14.7km s-min=8.7km az=115.1*

NEIC ***10*** *07:58:35.6±3.5,1.58S×99.54E,h20km±21km,mb4.8/7, Error ellipse: s-maj=12.0km s-min=5.3km az=65.0*

ISC 10 07:58:35.8±0.3,1.56S±0.05×99.60E±0.07,h33km, (h22km±5.3km:pP-P),n74,σ1ŝ01/72,mb4.4/44,MS4.1/17, 1C-3D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**6.84**	**126**	*e*Pn	**Pn**	**08 00 15.1**	**-1.4**
	151nm,0.3s						
PENI				*e*Sn	**Sn**	**08 01 38.9**	**+4.9**
KULM	**Kulim**	**6.88**	**9**	*e*P	**P**	**08 00 17.6**	**+0.6**
PASI	**Pasiripis**	**7.85**	**131**	*e*P	**P**	**08 00 28.1**	**-2.3**
PASI				*e*S	**S**	**08 02 04.5**	**+5.4**
PULI	**Pulasari**	**7.94**	**127**	*e*P	**P**	**08 00 30.5**	**-1.2**
	117nm,0.2s						
CM31	**Chiang Mai Arr**	**19.90**	**358**	*e*P	**P**	**08 03 06.0**	**-1.5**
CMAR	**Chiang Mai Arr**	**19.90**	**358**	P	**P**	**08 03 06.8**	**-0.6**
	0.2nm,0.3s,baz=187,slow=10,SNR=27						
CMAR				LR	LR	08 11 51.3	
	comp=Z,241nm,20.5s,baz=190,slow=40						
SHL	**Shillong**	**27.98**	**345**	*e*P	**P**	**08 04 25.5**	**-0.3**
SHL				*e*		08 18 44.5	
FITZ	**Fitzroy Crossi**	**30.39**	**124**	P	**P**	**08 04 47.8**	**+0.5**
	7.5nm,0.7s,mb4.5,baz=235,slow=6.8,SNR=6.5						
FITZ				LR	LR	08 18 44.9	
	comp=Z,180nm,19.7s,MS3.7,baz=313,slow=40						
FITZ	**Fitzroy Crossi**	**30.39**	**124**	P	**P**	**08 04 47.8**	**+0.5**
FITZ				LR	LR	08 18 44.9	
ENH	**Enshi**	**33.03**	**16**	*e*P	**P**	**08 05 08.8**	**-1.6**
	17nm,1.1s,mb4.9						
NWAO	**Narrogin (SRO)**	**35.33**	**154**	P	**P**	**08 05 31.1**	**+1.0**
	6.4nm,0.8s,mb4.6,baz=232,slow=5.8,SNR=3.5						
XAN	**Xi'an**	**36.48**	**13**	P	**P**	**08 05 38.5**	**-1.3**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
NJ2	**Nanjing**	**38.09**	**27**	*e*P	**P**	**08 05 55.6**	**+2.3**
NJ2				PP	PP	08 07 27.3	+3.3
NJ2				S	**S**	**08 11 47.0**	**+3.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,1μm,5.4s						
NJ2				LR	LR		
	comp=N,740nm,15.8s,MS4.8						
NJ2				LR	LR		
	comp=E,790nm,15.8s,MS4.8						
NJ2				LR	LR		
	comp=Z,490nm,24.9s						
SSE	**Sheshan**	**38.42**	**31**	*e*P	**P**	**08 05 55.5**	**-0.6**
SSE				AP	pP	08 06 04.0	-1.9
SSE				PP	PP	08 07 28.5	+0.7
SSE				S	**S**	**08 11 49.4**	**+0.8**
SSE				XS		08 12 04.4	
SSE				SS	SS	08 14 30.8	+1.6
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,108nm,3.5s						
SSE				LR	LR		
	comp=N,230nm,14.5s,MS4.4						
SSE				LR	LR		
	comp=E,342nm,14.5s,MS4.4						
SSE				LR	LR		
	comp=Z,452nm,11.8s,MS4.5						
SSE	**Sheshan**	**38.42**	**31**	*e*P	**P**	**08 05 55.5**	**-0.6**
	comp=Z,32nm,0.7s,mb5.2						
SSE				pP	pP	08 06 04.0	-1.9
SSE				PP	PP	08 07 28.5	+0.7
SSE				S	**S**	**08 11 49.4**	**+0.8**
SSE				sS		08 12 04.4	
SSE				SS	SS	08 14 30.8	+1.6
SSE				LR	LR		
	comp=Z,450nm,11.8s,MS4.5						
WRA	**Warramunga Arr**	**38.56**	**121**	P	**P**	**08 05 57.1**	**-0.2**
	comp=Z,2.4nm,0.4s,mb4.3,baz=300,slow=9.9,SNR=64						
WRAB	**Tennant Creek**	**38.57**	**121**	*i* P	**P**	**08 05 58.1**	**+0.7**
WRAB	**Tennant Creek**	**38.57**	**121**	*e*P	**P**	**08 05 57.6**	**+0.2**
	comp=Z,8.1nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**38.57**	**121**	*e*P	**P**	**08 05 57.5**	**0.0**
ASAR	**Alice Springs**	**39.84**	**126**	P	**P**	**08 06 08.5**	**+0.6**
	comp=Z,1.5nm,0.4s,mb4.0,baz=298,slow=7.4,SNR=18						
ASAR				LR	LR	08 25 03.3	
	comp=Z,158nm,19.5s,MS3.9,baz=297,slow=40						
GTA	**Gaotai**	**40.77**	**0**	P	**P**	**08 06 16.8**	**+1.3**
GTA				AP	pP	08 06 25.1	-0.2
GTA				XP	sP	08 06 29.2	-0.3
GTA				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.1						
GTA				AMB	AMB		
	comp=Z,92nm,4.9s						
GTA				LR	LR		
	comp=N,212nm,19.0s,MS4.3						
GTA				LR	LR		
	comp=E,308nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=Z,172nm,13.7s,MS4.1						
BJI	**Beijing**	**44.09**	**18**	*e*P	**P**	**08 06 43.0**	**+0.3**
BJI				S	**S**	**08 13 06.7**	**-5.9**
BJI				SS	SS	08 16 25.6	+3.5
BJI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
BJI				LR	LR		
	comp=N,242nm,10.9s,MS4.5						
BJI				LR	LR		
	comp=E,310nm,14.0s,MS4.5						
BJI				LR	LR		
	comp=Z,96nm,18.8s,MS3.7						
BJI	**Beijing**	**44.09**	**18**	*e*P	**P**	**08 06 43.0**	**+0.3**
	comp=Z,12nm,1.0s,mb4.6						
BJI				S	**S**	**08 13 06.7**	**-5.9**
BJI				SS	SS	08 16 25.6	+3.5
BJI				LR	LR		
	comp=Z,100nm,18.8s,MS3.8						
WMQ	**Urumqi**	**46.42**	**348**	⇑P	**P**	**08 07 02.8**	**+1.6**

IDC 10 07:40:29.5±13.0,56.52S×25.48W,h67km±116km, mb3.7/3,mb1 3.9/3,mb1mx3.5/13,mbtmp4.0/3,Error ellipse: s-maj=76.2km s-min=25.1km az=46.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**39.20**	**143**	P	P	07 47 50.3	-1.7
	2.5nm,0.7s,baz=252,slow=16,SNR=3.5						
VNDA	**Vanda**	**46.15**	**182**	P	P	07 48 46.3	-1.9
	0.8nm,0.7s,baz=197,slow=5.6,SNR=6.5						
LPAZ	**La Paz**	**51.43**	**304**	P	P	07 49 28.4	-1.4
	1.1nm,0.3s,baz=152,slow=6.6,SNR=9.1						
CMAR	**Chiang Mai Arr**	**124.01**	**109**	PKP	PKPdf	07 59 20.4	+0.3
	0.6nm,0.4s,baz=236,slow=3.3,SNR=3.0						
YKA	**Yellowknife Ar**	**137.16**	**317**	PKP	PKPdf	07 59 42.6	-1.1
	0.1nm,0.6s,baz=128,slow=2.4,SNR=7.0						
SONM	**Songino Array**	**149.81**	**86**	PKPbc	PKPdf	08 00 09.9	+4.1
	0.5nm,0.7s,baz=207,slow=3.2,SNR=3.2						
ILAR	**Eielson Array**	**151.14**	**311**	PKPbc	PKPdf	08 00 12.9	+5.6
	0.5nm,0.7s,baz=148,slow=4.3,SNR=10						

MEX 10 07:50:32.7±0.6,16.22N×98.30W,h9km±8km,MD3.5,1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.23**	**44**	⇑*i*P	Pg	07 50 36.9	-0.7
PNIG				*e*S	Sg	07 50 40.9	0.0
ACX	**Acapulco**	**1.68**	**293**	*e*P	Pn	07 50 59.0	-3.6
ACX				*e*S	Sn	07 51 19.0	-5.4
VHO	**Vista Hermosa**	**1.72**	**60**	*e*P	Pn	07 51 00.2	-2.9
VHO				*i* S	Sn	07 51 20.1	-5.3
OXX	**Oaxaca**	**1.73**	**60**	*e*P	Pn	07 51 00.5	-2.8
OXX				*e*S	Sn	07 51 25.0	-0.7
PPM	**Popocatepetl**	**2.85**	**354**	*e*P	Pn	07 51 18.0	-1.2

IDC 10 07:53:39.0±11.0,4.46S×103.06W,mb3.4/4,mb1 3.7/4, mb1mx3.6/15,mbtmp3.4/4,Error ellipse: s-maj=453.3km s-min=171.9km az=108.0,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**47.37**	**353**	P	P	08 02 15.1	-1.7
	0.1nm,0.5s,baz=170,slow=5.5,SNR=2.4						
YKA	**Yellowknife Ar**	**67.35**	**354**	P	P	08 04 35.9	-2.0
	0.1nm,0.7s,baz=162,slow=6.4,SNR=3.7						
INK	**Inuvik**	**75.65**	**349**	P	P	08 05 25.9	-1.5
	0.4nm,0.7s,baz=166,slow=4.2,SNR=2.9						
ILAR	**Eielson Array**	**76.20**	**342**	P	P	08 05 28.4	-2.3
	1.2nm,1.2s,baz=158,slow=4.9,SNR=5.0						

TAP ***10*** *07:55:27.1,23.60N×121.58E,h27km,ML3.8*

TAP Felt I J at Hungye, I J at Shilin, I J at Chenggung.

JMA ***10*** *07:55:27.6±0.3,23.62N×121.66E,h75km,M3.2*

ISC 10 07:55:26.8±0.3,23.58N±0.02×121.66E±0.02,h26km±2km, n55,σ0ŝ85/94,15C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.31**	**318**	⇑*i*P	**Pb**	**07 55 34.3**	**+0.2**
ESL				S	**Sb**	**07 55 39.1**	**+0.1**
EHY	**Hungye**	**0.32**	**256**	⇑*i*P	**Pb**	**07 55 34.3**	**+0.1**
EHY				S	**Sb**	**07 55 38.9**	**-0.4**
HWA	**Hwalien**	**0.40**	**353**	*i* P	**Pb**	**07 55 36.2**	**+0.8**
HWA				S	**Sb**	**07 55 42.6**	**+1.4**
TWF1	**Yuli**	**0.41**	**236**	⇑*i*P	**Pb**	**07 55 35.6**	**+0.1**
TWF1				S	**Sb**	**07 55 41.5**	**0.0**
CHKT	**Chengkung**	**0.55**	**210**	P	**Pb**	**07 55 38.4**	**+0.6**
CHKT				S	**Sb**	**07 55 47.1**	**+1.6**
YUS	**Yu-Shan**	**0.66**	**262**	⇑*i*P	**Pb**	**07 55 39.6**	**0.0**
YUS				S	**Sb**	**07 55 47.7**	**-0.7**
ELDTW	**Lidau**	**0.71**	**237**	⇑*i*P	**Pb**	**07 55 39.5**	**-1.0**
SMLT	**Sun Moon Lake**	**0.76**	**293**	⇑*i*P	**Pb**	**07 55 40.7**	**-0.6**
SMLT				S	**Sb**	**07 55 51.2**	**-0.1**
ALS	**Alishan**	**0.79**	**265**	⇑*i*P	**Pb**	**07 55 41.7**	**-0.1**
TWT	**Tachien**	**0.80**	**326**	⇑*i*P	**Pb**	**07 55 41.9**	**-0.1**
TWT				S	**Sb**	**07 55 51.5**	**-1.0**
TYC	**Yuchr**	**0.80**	**294**	⇑*i*P	**Pb**	**07 55 41.3**	**-0.7**
TYC				S	**Sb**	**07 55 52.0**	**-0.5**
ENA	**Nanau**	**0.84**	**5**	⇑*i*P	**Pb**	**07 55 42.4**	**-0.4**
ENA				S	**Sb**	**07 55 53.3**	**-0.4**
NNS	**Nan Shan**	**0.89**	**343**	P	**Pb**	**07 55 42.8**	**-0.8**
CHN5	**Tsauling**	**0.90**	**271**	⇑P	**Pb**	**07 55 43.5**	**-0.2**
CHN5				S	**Sb**	**07 55 55.6**	**+0.3**
STYT	**Tauyuan**	**0.93**	**243**	⇑P	**Pb**	**07 55 43.6**	**-0.6**
STYT				S	**Sb**	**07 55 55.3**	**-0.8**
TWG	**Pinlang**	**0.93**	**216**	*e*P	**Pb**	**07 55 42.3**	**-2.0**
WNT	**Mingjian**	**0.94**	**288**	*e*P	**Pn**	**07 55 44.5**	**+0.1**
WNT				S	**Sb**	**07 55 56.7**	**+0.2**
CHN4	**Tsaushan**	**1.01**	**257**	⇑P	**Pn**	**07 55 45.4**	**+0.1**
CHN4				S	**Sb**	**07 55 59.8**	**+1.4**
WGK	**Gukeng**	**1.01**	**276**	*e*P	**Pn**	**07 55 45.1**	**-0.3**
WGK				S	**Sb**	**07 55 58.4**	**-0.1**
WTP	**Ta-pu**	**1.02**	**251**	⇑*i*P	**Pn**	**07 55 45.4**	**-0.1**
WTP				S	**Sb**	**07 55 58.9**	**+0.2**
TWC	**Suao**	**1.04**	**10**	*e*P	**Pn**	**07 55 45.8**	**0.0**
TWC				S	**Sb**	**07 55 59.4**	**+0.2**
ENTT	**Nioudou**	**1.06**	**355**	P	**Pn**	**07 55 45.4**	**-0.7**
TCU	**Taichung**	**1.06**	**302**	*e*P	**Pn**	**07 55 46.6**	**+0.4**
TCU				S	**Sb**	**07 56 00.7**	**+0.7**
CHN2	**Minshiung**	**1.09**	**268**	*e*P	**Pn**	**07 55 47.0**	**+0.5**
CHN2				S	**Sb**	**07 56 01.6**	**+0.9**
SGST	**Jiashian**	**1.11**	**244**	*e*P	**Pn**	**07 55 47.0**	**+0.2**
SGST				S	**Sn**	**07 56 01.5**	**+0.2**
CHN1	**Nanshi**	**1.11**	**249**	P	**Pn**	**07 55 46.8**	**-0.1**
CHN1				S	**Sn**	**07 56 02.1**	**+0.6**
TWQ1	**Liyutan**	**1.11**	**313**	P	**Pn**	**07 55 47.3**	**+0.4**
TWQ1				S	**Sn**	**07 56 02.0**	**+0.5**
TWK	**Hsinying**	**1.12**	**254**	⇑P	**Pn**	**07 55 46.7**	**-0.3**
TWK				S	**Sn**	**07 56 01.6**	**-0.1**
NSK	**Sanguang**	**1.12**	**346**	*e*P	**Pn**	**07 55 46.6**	**-0.4**
NSK				S	**Sn**	**07 56 00.3**	**-1.4**
TWE	**Neicheng**	**1.13**	**0**	*e*P	**Pn**	**07 55 46.3**	**-0.9**
CHY	**Chiayi**	**1.14**	**266**	*e*P	**Pn**	**07 55 47.2**	**0.0**
CHY				S	**Sn**	**07 56 02.2**	**+0.1**
NSY	**Sanyi**	**1.17**	**315**	*e*P	**Pn**	**07 55 48.2**	**+0.5**
NSY				S	**Sn**	**07 56 03.8**	**+1.0**
ECL	**Taimali**	**1.18**	**214**	*e*P	**Pn**	**07 55 46.1**	**-1.7**
NSTT	**Nanjuang**	**1.21**	**330**	*e*P	**Pn**	**07 55 47.6**	**-0.6**
NSTT				S	**Sn**	**07 56 02.9**	**-0.9**
SSD	**Sandimen**	**1.26**	**229**	*e*P	**Pn**	**07 55 49.5**	**+0.5**
SSD				S	**Sn**	**07 56 05.2**	**+0.1**
CHN3	**Shinhua**	**1.29**	**247**	*e*P	**Pn**	**07 55 51.3**	**+1.8**
WTCT	**Ta-ch'eng**	**1.29**	**283**	*e*P	**Pn**	**07 55 49.1**	**-0.4**
WTCT				S	**Sn**	**07 56 06.4**	**+0.3**
WSF	**Szhu**	**1.32**	**273**	S	**Sn**	**07 56 06.0**	**-0.7**
TWM1	**Shoushan**	**1.37**	**237**	*e*P	**Pn**	**07 55 52.8**	**+2.3**
HSN	**Hsinchu**	**1.37**	**333**	S	**Sn**	**07 56 10.1**	**+2.1**
TWA	**Mucha**	**1.39**	**357**	*e*P	**Pn**	**07 55 52.6**	**+1.8**
EAST	**Anshuo**	**1.41**	**212**	*e*P	**Pn**	**07 55 50.2**	**-0.9**
TWB1	**Santiao Chiao**	**1.45**	**12**	*e*P	**Pn**	**07 55 52.7**	**+1.0**
NWF	**Wu-fen Shan**	**1.49**	**4**	*e*P	**Pn**	**07 55 52.2**	**0.0**
YOJ	**Yonaguni jima**	**1.51**	**54**	P	**Pn**	**07 55 53.1**	**+0.5**
YOJ				S	**Sn**	**07 56 12.2**	**+0.6**
TWS1	**Kuangyinshan**	**1.53**	**352**	*e*P	**Pn**	**07 55 53.9**	**+1.1**
TWS1				S	**Sn**	**07 56 12.6**	**+0.6**
SCZT	**Fangliau**	**1.54**	**219**	*e*P	**Pn**	**07 55 54.6**	**+1.6**
SCZT				S	**Sn**	**07 56 13.6**	**+1.3**
WDGT	**Dungji**	**1.87**	**260**	*e*P	**Pn**	**07 55 56.4**	**-1.2**
WDGT				S	**Sn**	**07 56 17.4**	**-3.2**
PNG	**Penghu**	**1.93**	**270**	*e*P	**Pn**	**07 55 57.3**	**-1.3**
PNG				S	**Sn**	**07 56 19.7**	**-2.6**
HATJ	**Hateruma jima**	**2.02**	**76**	P	**Pn**	**07 56 00.0**	**+0.1**
HATJ				S	**Sn**	**07 56 24.2**	**-0.3**
IRIF	**Iriomote-Funau**	**2.04**	**68**	P	**Pn**	**07 56 00.5**	**+0.4**
IRIF				S	**Sn**	**07 56 25.1**	**+0.2**
JKRS	**Kuro-shima**	**2.25**	**73**	P	**Pn**	**07 56 03.7**	**+0.6**
JKRS				S	**Sn**	**07 56 30.7**	**+0.5**
JIJ	**Ishigaki jima**	**2.40**	**71**	P	**Pn**	**07 56 05.2**	**-0.1**
JIJ				S	**Sn**	**07 56 33.3**	**-0.8**
JTJ	**Tarama**	**2.97**	**69**	P	**Pn**	**07 56 13.0**	**-0.5**
JTJ				*e*S	**Sn**	**07 56 48.0**	**-0.6**
JKE	**Kume jima 2**	**5.39**	**59**	P	**Pn**	**07 56 45.9**	**-1.9**
WMQ				AP	pP	08 07 08.8	-2.3
WMQ				XP	sP	08 07 11.6	-3.6
WMQ				PCP	PcP	08 08 38.0	+1.9
WMQ				PP	PP	08 08 51.8	+1.7
WMQ				S	**S**	**08 13 48.8**	**+2.9**
WMQ				XS		08 13 59.0	
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,102nm,5.3s						
WMQ				LR	LR		
	comp=N,116nm,20.6s,MS3.9						
WMQ				LR	LR		
	comp=E,78nm,20.6s,MS3.9						
WMQ				LR	LR		
	comp=Z,74nm,20.6s,MS3.6						
SONM	**Songino Array**	**49.55**	**6**	P	**P**	**08 07 26.3**	**+0.8**
	comp=Z,1.5nm,0.6s,mb4.2,baz=190,slow=7.5,SNR=11						
SONM				PcP	PcP	08 08 48.3	+1.0
	comp=Z,0.6nm,0.5s,baz=198,slow=4.6,SNR=2.0						
ULN	**Ulaanbaatar**	**49.65**	**7**	*e*P	**P**	**08 07 26.6**	**+0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**49.65**	**7**	*e*P	**P**	**08 07 26.6**	**+0.3**
	comp=Z,5.1nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**49.74**	**132**	P	**P**	**08 07 28.2**	**+1.0**
	comp=Z,2.4nm,0.4s,mb4.5,baz=295,slow=8.3,SNR=7.1						
CBIJ	**Chichi jima**	**49.92**	**52**	LR	LR	08 29 12.0	
	comp=Z,58nm,19.2s,MS3.6,baz=39,slow=37						
MKAR	**Makanchi Array**	**50.50**	**345**	P	**P**	**08 07 30.6**	**-2.1**
	comp=Z,2.2nm,0.7s,mb4.3,baz=168,slow=8.4,SNR=17						
MKAR	**Makanchi Array**	**50.50**	**345**	P	**P**	**08 07 30.6**	**-2.1**
ZAK	**Zakamensk**	**51.84**	**3**	*e*P	**P**	**08 07 42.7**	**-0.1**
ZAK				*e*		08 09 41.4	
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.2s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
MJAR	**Matsushiro Arr**	**52.19**	**40**	P	**P**	**08 07 46.4**	**+0.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=225,slow=7.6,SNR=5.5						
TLY	**Talaya**	**53.15**	**3**	⇓*i*P	**P**	**08 07 52.9**	**+0.3**
TLY				*e*S	**S**	**08 15 25.9**	**+6.5**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
TLY				MLR	MLR		
	comp=Z,113nm,13.0s,MS4.1						
KURK	**Kurchatov**	**55.07**	**344**	*i* P	**P**	**08 08 06.6**	**-0.1**
KURK	**Kurchatov**	**55.07**	**344**	*e*P	**P**	**08 08 06.4**	**-0.4**
	comp=Z,14nm,1.3s,mb4.8						
ZAL	**Zalesovo**	**56.66**	**350**	P	**P**	**08 08 16.6**	**-1.4**
	comp=Z,3.0nm,0.4s,mb4.6,baz=317,slow=4.7,SNR=17						
BVAR	**Borovoye Array**	**59.63**	**340**	P	**P**	**08 08 37.8**	**-1.2**
	comp=Z,1.9nm,0.8s,mb4.2,baz=137,slow=8.7,SNR=6.7						
BVAR	**Borovoye Array**	**59.63**	**340**	P	**P**	**08 08 37.8**	**-1.2**
BOD	**Bodaibo**	**60.31**	**9**	*e*P	**P**	**08 08 42.9**	**-0.6**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
YSS	**Yuzh-Sakhalins**	**61.32**	**32**	*i* P	**P**	**08 08 50.3**	**-0.3**
YSS				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.0						
KMBO	**Kilima Mbogo**	**62.33**	**270**	P	**P**	**08 08 57.5**	**-0.2**
	comp=Z,0.9nm,0.7s,mb4.0,baz=111,slow=9.6,SNR=3.1						
KMBO	**Kilima Mbogo**	**62.33**	**270**	P	**P**	**08 08 57.5**	**-0.2**
SVE	**Sverdlovsk**	**66.12**	**338**	*e*P	**P**	**08 09 21.5**	**-0.3**
SVE				pmax	pmax		
	comp=Z,22nm,1.7s,mb4.9						
ARU	**Arti**	**66.64**	**337**	⇓*i*P	**P**	**08 09 23.5**	**-1.6**
ARU				*e*PPP	PPP	08 13 26.0	-4.2
ARU				*e*S	S	08 18 13.5	+0.8
ARU				*e*SS	SS	08 22 27.6	-4.4
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
YAK	**Yakutsk**	**67.42**	**15**	*i* P	**P**	**08 09 29.3**	**-0.6**
YAK				pmax	pmax		
	comp=Z,43nm,1.7s,mb5.2						
KIV	**Kislovodsk**	**67.95**	**319**	*i* P	**P**	**08 09 34.7**	**+1.2**
KIV				*e*S	S	08 18 31.7	+3.1
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
ASF	**Jabal al Asfar**	**68.01**	**306**	P	**P**	**08 09 34.9**	**+0.8**
	comp=Z,0.9nm,0.3s,mb4.3,baz=28,slow=3.9,SNR=3.0						
EIL	**Elat**	**68.95**	**303**	LR	LR	08 38 59.6	
	comp=Z,73nm,18.2s,MS4.0,baz=105,slow=35						
ANN	**Anapa**	**71.74**	**318**	*e*P	**P**	**08 09 51.6**	**-5.0**
ANN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BRTR	**Keskin Array B**	**72.73**	**312**	P	**P**	**08 10 00.9**	**-1.7**
	comp=Z,0.6nm,0.5s,mb3.8,baz=117,slow=5.5,SNR=4.6						
MA2	**Magadan**	**72.80**	**25**	*i* P	**P**	**08 10 03.6**	**+1.0**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
MA2	**Magadan**	**72.80**	**25**	*e*P	**P**	**08 10 03.7**	**+1.0**
	comp=Z,6.9nm,0.8s,mb4.6						
LBTB	**Lobatse**	**74.85**	**245**	LR	LR	08 40 33.1	
	comp=Z,151nm,18.5s,MS4.3,baz=282,slow=34						
TIXI	**Tiksi**	**75.49**	**9**	*i* P	**P**	**08 10 18.0**	**0.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
BOSA	**

WRAB	Tennant Creek	50.41	124	eP		P	08 08 49.6	-0.5
	2.0nm,0.6s,mb4.3							
STKA	Stephens Creek	62.06	133	P		P	08 10 13.8	+0.5
	1.2nm,0.7s,mb4.2,baz=317,slow=5.3,SNR=3.7							
STKA	Stephens Creek	62.06	133	P		P	08 10 13.9	+0.5
FINES	FINESS Array B	71.35	332	P		P	08 11 11.1	-0.6
	0.8nm,0.6s,mb3.9,baz=108,slow=4.9,SNR=13							

ZUR ***10*** *08:04:37.7, 45.33N×6.52E, h6km±1km, ML3.2/22*
CSEM ***10*** *08:04:38.8±0.1, 45.32N×6.56E, h5km, ML3.9/30, Error ellipse: s-maj=1.1km s-min=1.0km az=76.0*
STR ***10*** *08:04:39.0±0.2, 45.35N×6.63E, h5km±1km, Ml3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***10*** *08:04:39.2±0.1, 45.36N×6.56E, h3km, Md3.4/2, Ml3.8/36, Error ellipse: s-maj=1.3km s-min=1.1km az=109.0*
GEN ***10*** *08:04:39.5, 45.34N×6.64E, h1km, ML3.0*
NEIC ***10*** *08:04:39.2, 45.36N×6.56E, h3km, ML3.8(LDG), ML3.8(CSEM), ML3.7(SZGRF), ML3.4(STR), ML3.1(ZUR), ML3.0(GEN), After LDG.*
PRU ***10*** *08:04:43.9, 45.16N×6.62E*
ISC 10 08:04:36.7±0.1, 45.372N±0.008×6.45E±0.01, h3km, n155, σ1§34/302, 20C-7D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPL	La Plagne	0.25	54	ePg	Pg	08 04 42.8	+1.1
LPL				eSg	Sg	08 04 46.0	+1.0
	3μm,0.2s						
LPG	La Plagne	0.25	60	ePg	Pg	08 04 42.7	+1.0
LPG				eSg	Sg	08 04 46.0	+0.9
	3μm,0.2s						
GDM	Grand'Maison	0.29	234	Pg	Pg	08 04 45.0	+2.5
GDM				Sg	Sg	08 04 49.4	+3.1
BNI	Bardonecchia	0.36	153	⇑iPg	Pg	08 04 44.5	+0.6
BNI				eSg	Sg	08 04 48.8	0.0
BNI	Bardonecchia	0.36	153	⇑iPg	Pg	08 04 44.5	+0.6
BNI				eSg	Sg	08 04 48.8	+0.1
LSD	Ceresole Reale	0.51	80	P	Pg	08 04 46.6	-0.2
LSD				S	Sg	08 04 52.3	-1.3
LSD	Ceresole Reale	0.51	80	P	Pg	08 04 46.7	-0.2
GRN	Grenoble	0.51	256	Pg	Pg	08 04 50.1	+3.2
GRN				Sg	Sg	08 04 58.7	+5.0
RRL	Cesana Torines	0.51	152	P	Pg	08 04 47.8	+0.8
RRL				S	Sg	08 04 54.0	+0.2
RRL	Cesana Torines	0.51	152	P	Pg	08 04 47.8	+0.8
FENE	Fenestrelle	0.56	128	P	Pg	08 04 47.8	-0.1
FENE				S	Sg	08 04 54.3	-1.0
FENE	Fenestrelle	0.56	128	P	Pg	08 04 47.8	0.0
ORIF	Oris-en-Rattie	0.60	222	ePg	Pg	08 04 50.6	+1.8
ORIF				eSg	Sg	08 04 59.3	+2.4
	1μm,0.5s						
RSP	Reno Superiore	0.61	111	P	Pg	08 04 49.0	0.0
RSP				S	Sg	08 04 55.9	-1.3
RSP	Reno Superiore	0.61	111	P	Pg	08 04 49.0	0.0
OG22	Abries	0.65	147	Pg	Pg	08 04 49.9	+0.1
OG22				Sg	Sg	08 04 57.7	-0.8
MBDF	Montbardon	0.69	160	ePg	Pg	08 04 50.4	0.0
MBDF				eSg	Sg	08 04 59.9	+0.3
	544nm,0.4s						
EMV	Vieux Emosson	0.76	25	⇑iP	Pg	08 04 52.6	+0.7
BHB	Bricherasio	0.79	132	P	Pg	08 04 52.1	-0.3
BHB				S	Sg	08 05 01.3	-1.6
BHB	Bricherasio	0.79	132	P	Pg	08 04 52.1	-0.3
SALAN	Lac Salanfe	0.86	25	⇑iP	Pg	08 04 54.3	+0.5
TRAV		0.93	81	P	Pb	08 04 54.4	-0.7
TRAV				S	Sb	08 05 05.5	-2.1
TRAV		0.93	81	P	Pb	08 04 54.4	-0.7
SURF	Saint Ours	0.93	164	Pg	Pg	08 04 55.2	-0.1
SURF				Sg	Sg	08 05 09.1	+1.4
DIX	Grande Dixence	0.98	43	⇑iP	Pb	08 04 55.9	-0.1
DIX				eS	Sb	08 05 09.4	+0.3
PZZ	Prazzo	0.98	152	P	Pb	08 04 55.8	-0.3
PZZ				S	Sb	08 05 08.5	-0.7
PZZ	Prazzo	0.98	152	P	Pb	08 04 55.8	-0.3
PZZ				S	Sb	08 05 08.5	-0.8
GRYON	Gryon	0.99	28	⇑iP	Pb	08 04 56.8	+0.6
AIGLE	Aigle	1.03	20	⇑iP	Pb	08 04 57.6	+0.7
DOI	San Damiano	1.04	146	⇑iPg	Pg	08 04 56.6	-0.9
DOI				eSg	Sg	08 05 10.6	-0.7
DOI	San Damiano	1.04	146	⇑iPg	Pg	08 04 56.6	-0.9
DOI				eSg	Sg	08 05 10.6	-0.7
ORO	Oropa	1.11	76	ePg	Pg	08 04 57.8	-1.1
ORO				eSg	Sg	08 05 11.1	-2.6
ORO	Oropa	1.11	76	ePg	Pg	08 04 57.8	-1.1
ORO				eSg	Sg	08 05 11.1	-2.6
ORX	Oropa	1.11	76	P	Pb	08 04 57.8	-0.4
ORX				S	Sb	08 05 10.9	-2.0
ORX	Oropa	1.11	76	P	Pb	08 04 57.8	-0.4
ORX				S	Sb	08 05 10.9	-2.0
SENIN	Lac Senin	1.16	31	⇑iP	Pb	08 04 59.7	+0.7
GIMEL	Gimel	1.17	354	eP	Pb	08 05 01.6	+2.4
MCGN	Macugnaga	1.23	61	ePg	Pg	08 05 00.0	-1.3
MCGN				eSg	Sg	08 05 16.7	-1.0
MCGN	Macugnaga	1.23	61	ePg	Pg	08 05 00.0	-1.3
MCGN				eSg	Sg	08 05 16.7	-1.0
MMK	Mattmark	1.26	57	⇑iP	Pb	08 05 00.2	-0.6
CABF	La Chapelle	1.26	349	ePg	Pg	08 05 03.4	+1.4
CABF				eSn	Sn	08 05 18.7	-0.2
CABF				eSg	Sg	08 05 20.3	+1.5
	592nm,0.2s						
STV2	Anna di Valdie	1.29	151	P	Pb	08 05 01.5	+0.2
STV2				S	Sb	08 05 16.8	-1.3
STV2	Anna di Valdie	1.29	151	P	Pb	08 05 01.5	+0.2
STV2				S	Sb	08 05 16.8	-1.3
STV	Sta Anna Valdi	1.29	151	P	Pb	08 05 01.4	+0.1
STV				S	Sb	08 05 16.8	-1.3
STV	Sta Anna Valdi	1.29	151	P	Pb	08 05 01.4	+0.1
STV				S	Sb	08 05 16.8	-1.3
LKBD	Leukerbad	1.31	39	eP	Pb	08 05 02.8	+1.2
ENR	Entracque	1.34	148	P	Pb	08 05 01.9	-0.2
ENR				S	Sb	08 05 17.8	-1.8
ENR	Entracque	1.34	148	P	Pb	08 05 02.0	-0.1
ENR				S	Sb	08 05 17.8	-1.8
VIVF	Saint-Julien-I	1.36	248	ePn	Pn	08 05 04.5	+1.9
VIVF				ePg	Pg	08 05 06.0	+2.2
VIVF				eSn	Sn	08 05 22.8	+1.5
VIVF				eSg	Sg	08 05 24.6	+2.7
	516nm,0.4s						
TORNY	Torny	1.45	14	eP	Pn	08 05 06.2	+2.3
TOUF	Mont Tournerai	1.47	157	Pg	Pg	08 05 05.2	-1.0
TOUF				Sg	Sg	08 05 25.3	-0.5
ROB	Roburent	1.48	136	P	Pn	08 05 04.2	-0.1
ROB	Roburent	1.48	136	P	Pn	08 05 04.2	-0.1
SMRF	Simiane la Rot	1.53	204	ePn	Pn	08 05 06.2	+1.2
SMRF				ePg	Pg	08 05 07.8	+0.6
SMRF				eSn	Sn	08 05 25.5	-0.1
SMRF				eSg	Sg	08 05 28.4	+0.8
	137nm,0.5s						
WIMIS	Wimmis	1.53	32	⇓iP	Pn	08 05 06.8	+1.7
AUTN	L'Aution	1.54	153	Pg	Pg	08 05 06.0	-1.6
AUTN				Sg	Sg	08 05 26.5	-1.7
MVIF	Mont Vial	1.56	161	Pg	Pg	08 05 06.3	+0.4
BRANT	Les Verrieres	1.57	1	⇓iP	Pn	08 05 07.7	+2.1
MONE	Monesi	1.59	144	P	Pn	08 05 06.3	+0.3
MONE	Monesi	1.59	144	P	Pn	08 05 06.3	+0.3
SAOF	Saorge	1.60	150	Pg	Pg	08 05 06.4	-2.2
SBF	Sospel	1.67	155	ePn	Pn	08 05 07.4	+0.4
SBF				ePg	Pg	08 05 09.4	-0.6
SBF				eSg	Sg	08 05 30.4	-1.8
	347nm,0.4s						
VAI	Varese	1.70	72	ePn	Pn	08 05 09.0	+1.4
VAI				eSn	Sn	08 05 30.0	-0.1
VAI	Varese	1.70	72	ePn	Pn	08 05 09.0	+1.4
VAI				eSn	Sn	08 05 30.0	-0.1
PCP	Pian Castagno	1.71	118	P	Pn	08 05 08.3	+0.7
PCP	Pian Castagno	1.71	118	P	Pn	08 05 08.3	+0.7
FIN	Finale Ligure	1.71	132	ePn	Pn	08 05 08.6	+0.9
FIN				eSn	Sn	08 05 31.0	+0.7
FIN	Finale Ligure	1.71	132	P	Pn	08 05 08.3	+0.6
FIN	Finale Ligure	1.71	132	ePn	Pn	08 05 08.6	+0.9
FIN				eSn	Sn	08 05 31.0	+0.7
REVF	Revere	1.76	158	Pg	Pg	08 05 10.6	-1.3
REVF				Sg	Sg	08 05 37.9	+2.6
NEGI	Negi	1.77	149	P	Pn	08 05 09.5	+1.0
NEGI	Negi	1.77	149	P	Pn	08 05 09.5	+1.0
IMI	Imperia	1.79	144	ePn	Pn	08 05 09.8	+1.0
IMI				eSn	Sn	08 05 30.4	-1.9
IMI	Imperia	1.79	144	P	Pn	08 05 09.3	+0.5
IMI	Imperia	1.79	144	ePn	Pn	08 05 09.8	+1.0
				eSn	Sn	08 05 30.4	-1.9
FRF	La Foret Royal	1.82	175	ePn	Pn	08 05 10.1	+0.9
FRF				ePg	Pg	08 05 12.5	-0.5
FRF				eSn	Sn	08 05 30.7	-2.3
FRF				eSg	Sg	08 05 36.1	-1.1
	195nm,0.5s						
HASLI	Hasliberg	1.82	40	⇓iP	Pn	08 05 11.9	+2.6
FUSIO	Fusio	1.89	54	⇑iP	Pn	08 05 12.6	+2.4
MUGIO	Muggio	1.90	72	eP	Pn	08 05 11.9	+1.5
LOMF	Lomont	2.00	7	Pg	Pg	08 05 16.5	-0.1
BNALP	Bannalp	2.04	42	eP	Pn	08 05 14.8	+2.5
LMR	La Mourre	2.04	179	ePn	Pn	08 05 13.3	+1.0
LMR				ePg	Pg	08 05 16.4	-1.0
LMR				eSn	Sn	08 05 36.6	-2.0
LMR				eSg	Sg	08 05 42.4	-2.2
	105nm,0.5s						
PLDF	La Plantade	2.07	288	Pn	Pn	08 05 17.1	+4.3
BOURR	Bourrignon	2.09	15	⇑iP	Pn	08 05 14.2	+1.1
BALST	Balsthal	2.15	23	⇓iP	Pn	08 05 15.2	+1.3
MUO	Muotathal	2.21	43	⇑iP	Pn	08 05 17.3	+2.6
BOB	Bobbio (Coli)	2.21	105	ePn	Pn	08 05 17.9	+3.1
BOB	Bobbio (Coli)	2.21	105	ePn	Pn	08 05 17.9	+3.1
SMF	Signal de Mont	2.22	306	ePn	Pn	08 05 16.3	+1.4
SMF				eP		08 05 18.5	
SMF				ePg	Pg	08 05 21.6	+0.6
SMF				eSg	Sg	08 05 51.4	+0.9
	182nm,0.3s						
BBS	Basel-Blauen	2.22	19	Pg	Pg	08 05 20.6	-0.4
BBS				Sg	Sg	08 05 49.6	-1.0
LASF	Ste Croix	2.25	236	ePn	Pn	08 05 17.0	+1.6
LASF				eP		08 05 19.2	
LASF				ePg	Pg	08 05 22.1	+0.4
LASF				eSn	Sn	08 05 43.7	-0.4
LASF				eSg	Sg	08 05 51.7	-0.1
	86nm,0.5s						
LBL	Lubilhac	2.26	268	Pn	Pn	08 05 19.4	+3.9
LLS	Linth-Limmern	2.31	49	eP	Pn	08 05 19.2	+2.9
AGO	Saint Agoulin	2.42	288	Pn	Pn	08 05 21.5	+3.7
AGO				Pg	Pg	08 05 30.4	+5.4
SULZ	Sulz-Cheisache	2.45	28	⇓iP	Pn	08 05 19.1	+0.9
HINF	Hinteralfeld	2.46	6	ePn	Pn	08 05 18.8	+0.4
HINF				ePg	Pg	08 05 24.8	-1.1
HINF				eSn	Sn	08 05 46.4	-3.0
HINF				eSg	Sg	08 05 56.2	-2.5
	141nm,0.3s						
MOF	Molkenrain	2.52	11	Pn	Pn	08 05 19.0	-0.3
MOF				Sg	Sg	08 06 01.2	+0.4
AVF	Avril sur Loir	2.58	304	ePn	Pn	08 05 21.2	+1.1
AVF				ePg	Pg	08 05 28.4	+0.2
AVF				eSg	Sg	08 06 02.3	-0.2
	104nm,0.4s						
HAU	Haudompre	2.63	359	ePn	Pn	08 05 21.7	+0.8
HAU				ePg	Pg	08 05 28.4	-0.9
HAU				eSg	Sg	08 06 02.0	-2.5
	184nm,0.3s						
SSF	Saint Saulge	2.65	311	ePn	Pn	08 05 21.3	+0.2
SSF				ePg	Pg	08 05 29.4	-0.2
SSF				eSn	Sn	08 05 53.5	-0.6
SSF				eSg	Sg	08 06 04.4	-0.5
	89nm,0.4s						
SSF	Saint Saulge	2.65	311	ePg	Pg	08 05 29.4	-0.2
SSF				eSn	Sn	08 05 53.5	-0.6
SSF				eSg	Sg	08 06 04.4	-0.5
	44nm,0.4s						
FRNF	Fournols	2.74	272	Pg	Pg	08 05 32.4	+1.1
BGF	Bois d'Agland	2.78	297	ePn	Pn	08 05 24.3	+1.4
BGF				ePg	Pg	08 05 32.1	0.0
BGF				eSg	Sg	08 06 07.5	-1.6
	455nm,0.5s						
SLE	Schleitheim	2.78	30	eP	Pn	08 05 23.0	0.0
LIENZ	Alp Oberkamor	2.86	47	eP	Pn	08 05 25.7	+1.7
THEF	They Montfort	2.87	354	Pn	Pn	08 05 25.5	+1.2
ECH	Echery	2.89	10	Pn	Pn	08 05 24.5	0.0
ECH				Sg	Sg	08 06 12.5	-0.3
BRMO	Bormio	2.96	67	ePn	Pn	08 05 29.3	+3.9
BRMO	Bormio	2.96	67	ePn	Pn	08 05 29.3	+3.9
SFTF	Sexfontaines	2.99	342	ePn	Pn	08 05 26.2	+0.2
	baz=158						
SFTF				ePg	Pg	08 05 35.4	-1.1
	baz=153						
SFTF				eSn	Sn	08 06 01.1	-1.8
SFTF				eSg	Sg	08 06 13.9	-2.5
	209nm,0.4s						
DAVA	Damuels	3.06	50	⇑iPN	Pn	08 05 31.0	+4.1
DAVA				i SN	Sn	08 06 14.7	+10
CDF	Champ du Feu	3.09	10	ePn	Pn	08 05 27.4	0.0
CDF				ePg	Pg	08 05 36.4	-2.1
CDF				eSn	Sn	08 06 02.3	-3.1
CDF				eSg	Sg	08 06 16.1	-3.6
	36nm,0.2s						
TCF	Toulx Ste Croi	3.10	289	ePn	Pn	08 05 28.9	+1.4
TCF				ePg	Pg	08 05 37.9	-0.7
TCF				eSn	Sn	08 06 04.4	-1.1
TCF				eSg	Sg	08 06 18.7	-1.2
	118nm,0.4s						
WLS	Welschbruch	3.10	11	Pn	Pn	08 05 27.5	-0.1
CAF	Calviac	3.13	263	ePn	Pn	08 05 29.3	+1.4
CAF				ePg	Pg	08 05 37.9	-1.3
CAF				eSn	Sn	08 06 04.8	-1.6
CAF				eSg	Sg	08 06 19.9	-1.1
	44nm,0.5s						
BFO	Black Forest	3.23	23	ePn	Pn	08 05 28.7	-0.6
BFO				eSg	Sg	08 06 22.1	-2.1
HYF	Humbligny	3.25	307	ePn	Pn	08 05 30.2	+0.6
HYF				eP		08 05 33.3	
HYF				ePg	Pg	08 05 40.7	-0.9
HYF				eSg	Sg	08 06 23.8	-1.1
MEZF	Maizieres J'vi	3.27	344	ePn	Pn	08 05 31.0	+1.0
MEZF				ePg	Pg	08 05 40.3	-1.8
	baz=161						
MEZF				eSn	Sn	08 06 07.7	-2.2
MEZF				eSg	Sg	08 06 22.8	-2.9
	129nm,0.4s						
RFYF	Reffroy	3.33	349	ePn	Pn	08 05 30.5	-0.2
RFYF				ePg	Pg	08 05 40.5	-2.6
	baz=164						
RFYF				eSn	Sn	08 06 09.0	-2.3
RFYF				eSg	Sg	08 06 24.1	-3.3
	197nm,0.3s						
PGF	Pioggiola	3.37	146	ePn	Pn	08 05 30.3	-1.1
PGF				eSn	Sn	08 06 07.9	-4.5
ZCCA	Zocca	3.38	106	ePn	Pn	08 05 34.2	+2.8
RJF	Les Rejaudoux	3.48	271	ePn	Pn	08 05 34.4	+1.6
RJF				ePg	Pg	08 05 44.4	-1.7
RJF				eSn	Sn	08 06 15.5	+0.4
RJF				eSg	Sg	08 06 30.0	-2.5
	81nm,0.5s						
MTLF	Montolieu	3.65	238	ePn	Pn	08 05 35.9	+0.6
MTLF				ePg	Pg	08 05 47.8	-1.8
MTLF				eSg	Sg	08 06 35.5	-2.7
	30nm,0.5s						
CTI	Castel Tesino	3.71	78	ePn	Pn	08 05 38.6	+2.5
CTI	Castel Tesino	3.71	78	ePn	Pn	08 05 38.6	+2.5
MOTA	Moosalm	3.78	57	⇑iPN	Pn	08 05 39.0	+1.8
MOTA				i SN	Sn	08 06 31.6	+8.8
SQTA	Sankt Quirin	3.78	59	⇓iPN	Pn	08 05 39.7	+2.5
SQTA				i SN	Sn	08 06 31.2	+8.3
LFF	La Frestale	4.06	266	eP	Pn	08 05 44.4	+3.3
LFF				ePg	Pg	08 05 55.4	-2.4
LFF				eSg	Sg	08 06 48.1	-3.8
	73nm,0.5s						
WATA	Walderalm	4.06	59	⇑iPN	Pn	08 05 43.4	+2.3
WATA				i SN	Sn	08 06 37.0	+7.2
WTTA	Wattenberg	4.06	60	⇑iPN	Pn	08 05 43.7	+2.5
WTTA				i SN	Sn	08 06 38.2	+8.2
SFI	Santa Sofia	4.12	109	ePn	Pn	08 05 43.8	+1.7
SFI	Santa Sofia	4.12	109	ePn	Pn	08 05 43.8	+1.7
MFF	Saint Martin d	4.76	287	ePn	Pn	08 05 52.4	+1.4
MFF				ePg	Pg	08 06 08.5	-3.2
MFF				eSn	Sn	08 06 43.7	-3.8
MFF				eSg	Sg	08 07 11.0	-4.0
	52nm,0.5s						
GIVF	Givet	4.86	348	ePn	Pn	08 05 53.4	+0.9
GIVF				eSn	Sn	08 06 45.2	-4.8
GIVF				eSg	Sg	08 07 12.1	-6.3
	48nm,0.6s						
BAIF	Baives	4.93	343	ePn	Pn	08 05 53.9	+0.5
BAIF				eSn	Sn	08 06 47.0	-4.8
BAIF				eSg	Sg	08 07 14.0	-6.7
	30nm,0.5s						
PTCC	Patocco-Chiusa	4.93	75	ePn	Pn	08 05 54.5	+1.0
EPF	Esparros	4.97	244	ePn	Pn	08 05 53.8	-0.3
EPF				eSg	Sg	08 07 17.1	-5.2
	20nm,0.5s						
TNS	Taunus Mts	5.04	15	ePn	Pn	08 05 53.8	-1.2
KBA	Koelnbreinsper	5.08	68	⇑iPN	Pn	08 05 57.0	+1.4
KBA				i SN	Sn	08 07 00.9	+5.2
LDF	La Druitiere	5.53	308	ePn	Pn	08 06 01.8	-0.1
LDF				ePg	Pg	08 06 22.1	-5.0
LDF				eSn	Sn	08 07 02.4	-4.5
LDF				eSg	Sg	08 07 34.9	-5.9
	19nm,0.4s						
ETSF	Etsaut	5.61	246	eP	Pn	08 06 06.8	+3.7
ETSF				eSg	Sg	08 07 37.3	-6.3
	12nm,0.6s						
WET	Wettzell	5.78	47	ePn	Pn	08 06 04.6	-0.9
WET				eSn	Sn	08 07 07.0	-6.2
WET				eSg	Sg	08 07 43.8	-5.3
FLN	La Foliniere	5.82	308	ePn	Pn	08 06 06.0	-0.1
	baz=131						
FLN				ePg	Pg	08 06 28.1	-4.8
FLN				eSn	Sn	08 07 09.4	-4.8
FLN				eSg	Sg	08 07 44.3	-6.2
	30nm,0.5s						
GRR	Gorron	5.84	304	ePn	Pn	08 06 06.3	-0.1
GRR				ePg	Pg	08 06 27.9	-5.5
GRR				eSn	Sn	08 07 09.5	-5.3
GRR				eSg	Sg	08 07 44.6	-6.7
	16nm,0.5s						
MOA	Molln	5.93	63	⇓iPN	Pn	08 06 09.5	+1.9
MOA				i SN	Sn	08 07 24.3	+7.3
SJPF	Ste Jean	5.95	250	ePn	Pn	08 06 07.6	-0.3
SJPF				eSg	Sg	08 07 47.8	-7.2
	12nm,0.6s						
GEC2	GERESS Array S	6.05	52	ePn	Pn	08 06 08.9	-0.4
GEC2				eSn	Sn	08 07 15.4	-4.6
KHC	Kasperske Hory	6.14	50	ePN	Pn	08 06 09.9	-0.7
KHC				ePG	Pg	08 06 34.0	-5.3
KHC				eSN	Sn	08 07 15.6	-6.6
KHC				eSG	Sg	08 07 52.5	-8.6
NKC	Novy Kostel	6.32	38	ePG	Pg	08 06 38.6	-4.4
NKC				eSG	Sg	08 07 58.0	-9.2
ARSA	Arzberg	6.56	70	⇑iPN	Pn	08 06 16.9	+0.4
ARSA				i SN	Sn	08 07 36.8	+4.0
SGMF	Saint Gilles	6.82	298	ePn	Pn	08 06 20.1	0.0
SGMF				eSg	Sg	08 08 15.1	-8.6
	13nm,0.6s						
QUIF	Quistinic	7.09	294	ePn	Pn	08 06 22.7	-1.2
QUIF				eSg	Sg	08 08 23.5	-9.2
	23nm,0.7s						
PRU	Pruhonice	7.15	47	eSG	Sg	08 08 25.2	-10
CLL	Collm	7.37	34	ePG	Pg	08 06 59.0	-4.9
CLL				e		08 08 20.0	
CLL				eSG	Sg	08 08 43.0	+0.9
DPC	Dobruska-Polom	8.30	50	eSG	Sg	08 08 59.8	-13

IDC 10 08:11:55.4±4.9, 1.12N×97.09E, mb3.4/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=184.9km s-min=31.6km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.08	122	P	P	08 19 49.3	-1.8
	0.2nm,0.7s,baz=301,slow=9.0,SNR=5.2						
SONM	Songino Array	47.23	9	P	P	08 20 30.5	-1.5
	0.3nm,0.4s,baz=180,slow=12,SNR=3.8						
MKAR	Makanchi Array	47.30	346	P	P	08 20 30.4	-2.2
	0.3nm,0.5s,baz=159,slow=8.1,SNR=5.5						

IDC 10 08:12:41.9±3.3, 1.26N×97.25E, mb3.7/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, ML4.4/1, Error ellipse: s-maj=119.9km s-min=28.2km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.17	5	P	P	08 16 44.5	-0.6
	0.5nm,0.3s,baz=197,slow=9.4,SNR=3.8						
WRA	Warramunga Arr	42.02	122	P	P	08 20 35.3	-1.7
	0.3nm,0.5s,baz=302,slow=9.1,SNR=5.5						
SONM	Songino Array	47.07	8	P	P	08 21 15.6	-1.6
	0.5nm,0.6s,baz=198,slow=9.1,SNR=2.7						
MKAR	Makanchi Array	47.20	346	P	P	08 21 16.1	-2.2
	0.5nm,0.5s,baz=158,slow=9.3,SNR=7.6						
ZAL	Zalesovo	53.50	351	P	P	08 22 03.7	-2.6
	0.6nm,0.4s,baz=340,slow=14,SNR=3.4						

IDC ***10*** *08:14:39.9±0.8, 8.12N×91.64E, mb4.1/14, mb1 4.2/15, mb1mx4.1/22, mbtmp4.1/15, ML4.4/1, Error ellipse: s-maj=35.4km s-min=14.2km az=53.0*
BJI ***10*** *08:14:43.0, 7.88N×91.94E, h45km, mb4.5*
NEIC ***10*** *08:14:44.6±0.4, 8.18N×91.78E, h30km, mb4.6/6, Error ellipse: s-maj=11.2km s-min=7.4km az=67.0*
ISC 10 08:14:43.1±0.6, 8.17N±0.08×91.8E±0.1, h33km, (h25km±2.1km:pP-P), n36, σ0§83/33, mb4.2/23, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	Pallekele	11.03	266	eP	P	08 17 16.8	-5.1
CM31	Chiang Mai Arr	12.36	33	P	P	08 17 38.6	-1.0
CMAR	Chiang Mai Arr	12.36	33	Pn	P	08 17 38.6	-1.0
	0.7nm,0.3s,baz=227,slow=14,SNR=16						
HYB	Hyderabad	15.84	307	eP	P	08 18 30.0	+4.5
HYB	Hyderabad	15.84	307	i P	P	08 18 30.0	+4.5
LSA	Lhasa	21.43	358	eP	P	08 19 32.6	+2.1
LSA	Lhasa	21.43	358	eP	P	08 19 30.7	+0.2
	10nm,1.0s,mb4.1						
GYA	Guiyang	23.02	36	P	P	08 19 47.9	+1.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
CD2	Chengdu	25.23	25	⇑iP	P	08 20 08.

HFS	Hagfors	77.04	330	P	P	08 26 34.6	+0.2
	comp=Z,0.7nm,0.5s,mb3.8,baz=74,slow=11,SNR=4.5						
ILAR	Eielson Array	95.33	22	P	P	08 28 05.2	+0.4
	comp=Z,0.3nm,0.7s,mb3.8,baz=302,slow=4.3,SNR=4.8						
NVAR	Mina Array Bea	125.82	29	PKP	PKPdf	08 33 45.2	+3.1
	comp=Z,0.4nm,0.3s,baz=243,slow=2.0,SNR=4.2						
NVAR	Mina Array Bea	125.82	29	PKP	PKPdf	08 33 45.2	+3.1
TXAR	Lajitas Array	139.85	21	PKP	PKPdf	08 34 12.5	+3.8
	comp=Z,0.1nm,0.5s,baz=302,slow=0.6,SNR=3.7						

IDC 10 08:16:19.2±2.0, 44.99N×33.50E, mb3.9/1, mb1 3.5/5, mb1mx3.3/24, mbtmp3.4/5, ML3.4/4, MS3.6/2, Ms1 3.6/2, ms1mx2.5/36, Error ellipse: s-maj=27.5km s-min=17.0km az=95.0, Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	5.26	179	Pn	Pn	08 17 38.0	-3.0
	0.4nm,0.3s,baz=7.4,slow=10.0,SNR=7.0						
MLR	Muntele Rosu	5.36	278	Pn	Pn	08 17 41.5	-0.9
	1.6nm,0.3s,baz=49,slow=1.3,SNR=18						
AKASG	Malin Array Be	6.40	335	Pn	Pn	08 17 53.6	-3.4
	1.6nm,0.3s,baz=135,slow=16,SNR=9.0						
AKASG				Sn	Sn	08 19 05.0	-6.8
	1.9nm,0.3s,baz=91,slow=24,SNR=4.4						
AKASG				Lg		08 19 42.2	
	1.7nm,0.3s,baz=152,slow=29,SNR=6.1						
FINES	FINESS Array B	17.05	348	Pn	P	08 20 12.5	-7.8
	0.1nm,0.3s,baz=170,slow=16,SNR=4.2						
HFS	Hagfors	19.24	329	P	P	08 20 42.5	-4.9
	0.0nm,0.3s,baz=135,slow=13,SNR=6.5						
ARCES	ARCESS Array B	24.94	353	P	P	08 21 43.8	-1.2
	2.2nm,0.9s,baz=169,slow=9.2,SNR=4.4						
ZAL	Zalesovo	33.84	56	LR	LR	08 39 35.1	
	comp=Z,83nm,18.0s,baz=304,slow=41						
KMBO	Kilima Mbogo	46.04	175	LR	LR	08 44 08.2	
	comp=Z,63nm,18.0s,baz=89,slow=36						

*SNSN **10** 08:16:27.9, 24.93N×36.49E, h7km, Ml2.8*
*CSEM **10** 08:16:27.3±0.1, 25.00N×36.28E, h35km, ML3.3, Error ellipse: s-maj=2.3km s-min=1.8km az=5.0*
*HLW **10** 08:16:30.3, 24.99N×36.09E, h20km, Mb3.3*

ISC 10 08:16:24.7±0.6, 24.98N±0.05×36.29E±0.04, h10km, n13, σ0°71/17, 3C-1D, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJS	Umm Lajj	0.96	75	P	Pb	08 16 43.5	+0.5
UMJS				S	Sb	08 16 54.5	-1.0
EMRS	Mersa Alam	1.32	272	⇑P	Pb	08 16 49.4	+0.2
HAGS	Hagol	1.33	243	⇑P	Pb	08 16 50.1	+0.7
HAGS				S	Sb	08 17 04.8	-1.5
HADB		1.56	284	⇑P	Pn	08 16 52.7	+0.1
YNBS	Yanbu' al Bahr	1.67	112	P	Pn	08 16 54.8	+0.5
YNBS				S	Sn	08 17 15.5	-0.5
KBRS	Khaybar	2.80	73	P	Pn	08 17 11.1	+0.6
HEDF	Idfu	2.82	273	⇓P	Pn	08 17 10.8	0.0
TBKS	Tabuk	3.24	4	P	Pn	08 17 17.1	+0.4
TBKS				S	Sn	08 17 54.1	-1.6
HHRG	Al Ghardaqah	3.31	313	P	Pn	08 17 17.7	0.0
BDAS	Al Bad'	3.60	343	P	Pn	08 17 22.0	+0.2
TAYS	Tayyib Ism	3.77	341	P	Pn	08 17 24.2	-0.1
JMQS	Jabal Moqyreh	3.91	355	P	Pn	08 17 27.1	+1.0
HAQS	Haql	4.24	344	P	Pn	08 17 31.2	+0.4

MAN 10 08:20:39.2, 13.75N×120.51E, h91km, mb4.6, ML3.5, MS3.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.26	267	eP	P	08 20 54.3	+1.7
LUBP				eS	S	08 21 15.2	+13
TGY	Tagaytay City	0.55	49	⇑P	P	08 20 55.5	+0.9
TGY				i S	S	08 21 08.5	+2.5
BOAC	Boac	1.33	102	eP	P	08 21 03.5	+0.3
SJMP	San Jose	1.41	155	eP	P	08 21 05.0	+0.7
SJMP				eS	S	08 21 23.1	+0.2
BUSP	Coron	1.76	190	eP	P	08 21 08.8	0.0
OTRP	Odiongan	2.02	133	eP	P	08 21 12.9	+0.8
BALP	Baler	2.23	27	eP	P	08 21 15.6	+0.4
ENPP	El Nido	2.74	203	eP	P	08 21 22.0	-0.2
CUYO	Cuyo Island	2.92	170	eP	P	08 21 23.9	-0.8

*MOS **10** 08:21:58.4±1.6, 43.16N×146.75E, h33km, mb4.5/7, Error ellipse: s-maj=17.8km s-min=10.5km az=95.4*
*NIED **10** 08:22:00, 43.20N×146.50E, h44km, Mw3.8 Best double couple: M_0:5.36×10^{14} NP1:ϕ_s78°, δ79°, λ102°. NP2:ϕ_s208°, δ16°, λ41°.*
*NEIC **10** 08:22:02.5±0.5, 43.31N×146.54E, mb4.6/2, Error ellipse: s-maj=13.2km s-min=9.4km az=138.0*
*JMA **10** 08:22:02.4±0.1, 43.24N×146.51E, h49km±1km, M3.9*
*IDC **10** 08:22:05.3±2.9, 43.33N×146.42E, h75km±26km, mb3.7/13, mb1 3.8/15, mb1mx3.6/28, mbtmp3.9/15, Error ellipse: s-maj=24.6km s-min=18.3km az=157.0*

ISC 10 08:22:01.4±0.9, 43.27N±0.06×146.57E±0.07, h58km±6km, n45, σ0°72/55, mb4.0/14, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.61	279	P	P	08 22 14.5	0.0
NEM2				eS	S	08 22 23.3	-0.8
YUK	Yuzh-Kuril'sk	0.92	326	⇑/PN	P	08 22 19.9	+1.4
YUK				i S	S	08 22 31.0	-0.2
YUK				pmax	pmax		
	comp=N,760nm,0.3s						
YUK				pmax	pmax		
	comp=E,570nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				smax			
	comp=N,9μm,0.5s						
YUK				smax			
	comp=E,6μm,0.5s						
YUK				smax			
	comp=E,10μm,1.0s						
JRA	Rausu	1.24	303	P	P	08 22 23.5	+0.5
JRA				eS	S	08 22 38.9	-0.1
JNK	Nakash	1.38	284	P	P	08 22 24.8	-0.2
JNK				eS	S	08 22 41.6	-0.9
JAK	Akkeshi	1.40	259	P	P	08 22 25.0	-0.2
JOB	Onbets	2.04	260	P	P	08 22 34.4	+0.4
JAR	Ashorobuto	2.04	272	P	P	08 22 34.5	+0.3
JAR				eS	S	08 22 58.3	-0.1
JTKR	Abashiri--Toko	2.05	291	P	P	08 22 35.2	+0.9
JTKR				eS	S	08 22 59.3	+0.6
KUR	Kuril'sk	2.17	25	ePN	P	08 22 35.0	-1.0
KUR				eS	S	08 23 00.5	-1.2
KUR				pmax	pmax		
	comp=N,70nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,110nm,0.5s						
KUR				smax			
	comp=N,350nm,0.5s						
KUR				smax			
	comp=E,300nm,0.5s						
JMP	Maruseppu	2.44	289	P	P	08 22 40.8	+1.0
JCH	Churui	2.44	255	P	P	08 22 40.0	+0.1
JCH				eS	S	08 23 07.6	-1.0
ASAJ	Asahikawa	3.00	288	PN	P	08 22 49.2	+1.4
ASAJ				S	S	08 23 28.9	+6.2
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ	Asahikawa	3.00	288	P	P	08 22 49.1	+1.4
	comp=Z,8.3nm,0.3s,baz=90,slow=14,SNR=31						
ASAJ				S	S	08 23 28.9	+6.2
	comp=Z,5.9nm,0.3s,baz=211,slow=33,SNR=9.8						
YSS	Yuzh-Sakhalins	4.56	325	ePN	P	08 23 10.0	+0.3
MJAR	Matsushiro Arr	9.29	226	P	P	08 24 14.5	-0.8
	comp=Z,0.4nm,0.3s,baz=29,slow=16,SNR=4.9						
SONM	Songino Array	28.27	293	P	P	08 27 51.4	+0.2
	comp=Z,1.0nm,0.5s,mb3.7,baz=91,slow=7.7,SNR=6.0						
IMA	Indian Mountai	39.31	34	eP	P	08 29 27.1	+1.1
IMA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
IMA	Indian Mountai	39.31	34	eP	P	08 29 27.1	+1.1
	comp=Z,10nm,0.6s,mb4.7						
ILAR	Eielson Array	42.12	36	P	P	08 29 50.2	+1.2
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	Eielson Array	42.12	36	P	P	08 29 50.1	+1.1
	comp=Z,0.6nm,0.5s,mb3.5,baz=257,slow=5.7,SNR=18						
MKAR	Makanchi Array	44.43	298	P	P	08 30 07.6	-0.4
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	44.43	298	P	P	08 30 07.6	-0.5
	comp=Z,0.5nm,0.5s,mb3.5,baz=81,slow=8.9,SNR=10						
MKAR	Makanchi Array	44.43	298	P	P	08 30 07.6	-0.5
KURK	Kurchatov	45.45	304	eP	P	08 30 15.6	-0.5
INK	Inuvik	47.03	30	eP	P	08 30 28.6	+0.3
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	Inuvik	47.03	30	P	P	08 30 29.0	+0.6
	comp=Z,2.5nm,0.6s,mb4.3,baz=290,slow=7.2,SNR=34						
INK	Inuvik	47.03	30	eP	P	08 30 28.6	+0.3
	comp=Z,2.9nm,0.6s,mb4.4						
YKA	Yellowknife Ar	56.44	33	P	P	08 31 38.8	-0.2
	comp=Z,0.7nm,0.7s,mb3.8,baz=299,slow=6.9,SNR=16						
YKA				pP	pP	08 31 52.1	-2.3
	comp=Z,0.9nm,0.8s,baz=301,slow=6.8,SNR=12						
FINES	FINESS Array B	65.11	333	P	P	08 32 36.7	-1.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	65.11	333	P	P	08 32 36.7	-1.0
	comp=Z,1.0nm,0.5s,mb4.1,baz=52,slow=7.5,SNR=15						
FINES	FINESS Array B	65.11	333	P	P	08 32 36.7	-1.0
ASAR	Alice Springs	67.62	193	P	P	08 32 54.6	+0.4
	comp=Z,0.5nm,0.7s,mb3.7,baz=14,slow=7.4,SNR=4.5						
FRB	Frobisher Bay	69.76	16	P	P	08 33 06.0	-0.7
FRB				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FRB	Frobisher Bay	69.76	16	P	P	08 33 06.0	-0.8
	comp=Z,1.0nm,0.3s,mb4.2,baz=357,slow=8.9,SNR=8.0						
FRB	Frobisher Bay	69.76	16	P	P	08 33 06.0	-0.8
NB2	NORSAR Subarra	69.89	339	P	P	08 33 06.8	-0.8
	comp=Z,1.4nm,0.5s,mb4.2,baz=33,slow=6.5						
NOA	NORSAR Array B	69.89	339	P	P	08 33 06.7	-0.9
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	69.89	339	P	P	08 33 06.7	-0.9
	comp=Z,1.0nm,0.5s,mb4.0,baz=32,slow=6.2,SNR=6.6						
HFS	Hagfors	69.97	337	P	P	08 33 07.4	-0.7
HFS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HFS	Hagfors	69.97	337	P	P	08 33 07.4	-0.7
	comp=Z,2.7nm,0.4s,mb4.5,baz=45,slow=6.3,SNR=27						
PDAR	Pinedale Array	70.54	49	P	P	08 33 12.5	+0.6
	comp=Z,0.1nm,0.4s,mb3.1,slow=3.6,SNR=2.5						
PDAR				pP	pP	08 33 26.5	-1.4
	comp=Z,0.5nm,0.8s,baz=312,slow=2.6,SNR=5.1						
AKASG	Malin Array Be	71.71	323	P	P	08 33 18.3	-0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	71.71	323	P	P	08 33 18.3	-0.5
	comp=Z,1.2nm,0.4s,mb4.2,baz=37,slow=5.9,SNR=8.9						
EKA	Eskdalemuir Ar	78.46	343	P	P	08 33 57.7	+0.5
EKA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
EKA	Eskdalemuir Ar	78.46	343	P	P	08 33 57.7	+0.5
	comp=Z,3.9nm,1.1s,mb4.2,baz=25,slow=5.7,SNR=4.8						

*NEIC **10** 08:22:12.1, 37.86S×176.77E, h7km, ML3.8(WEL), After WEL.*
NEIC Felt at Kawerau and Matata.

WEL 10 08:22:13.0±0.1, 37.88S×176.71E, h5km, ML3.8/10, 1C-1D, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	Manawahe	0.11	195	P	Pg	08 22 15.7	+0.2
MARZ	Manawahe	0.11	195	⇑PG	Pg	08 22 15.7	+0.2
EDRZ	Edgecumbe	0.23	175	P	Pg	08 22 17.8	+0.1
EDRZ	Edgecumbe	0.23	175	⇓PG	Pg	08 22 17.8	0.0
LIRZ	Lichensteins R	0.29	244	P	Pg	08 22 19.2	+0.3
LIRZ	Lichensteins R	0.29	244	PG	Pg	08 22 19.1	+0.3
MKRZ	Makatiti	0.33	216	P	Pg	08 22 20.1	+0.5
MKRZ	Makatiti	0.33	216	PG	Pg	08 22 20.0	+0.4
MKRZ				SG	Sg	08 22 25.5	+1.5
TGRZ	Tauranga	0.39	292	P	Pg	08 22 20.8	0.0
TGRZ	Tauranga	0.39	292	PG	Pg	08 22 20.8	0.0
TGRZ				SG	Sg	08 22 26.9	+0.9
TAZ	Tarawera	0.39	204	P	Pg	08 22 21.1	+0.2
TAZ	Tarawera	0.39	204	PG	Pg	08 22 21.1	+0.2
URZ	Urewera	0.49	141	P	Pg	08 22 22.4	-0.6
URZ	Urewera	0.49	141	PG	Pg	08 22 22.3	-0.6
URZ				SG	Sg	08 22 29.1	-0.5
UTU	Utuhina	0.51	234	P	Pg	08 22 23.4	+0.2
UTU	Utuhina	0.51	234	PG	Pg	08 22 23.4	+0.2
WIZ	White Island	0.52	48	P	Pg	08 22 23.6	+0.2
WIZ	White Island	0.52	48	PG	Pg	08 22 23.4	0.0
PATZ	Paeroa	0.62	215	P	Pg	08 22 25.8	+0.4
PATZ	Paeroa	0.62	215	P*	Pb	08 22 25.6	-0.3
MYRZ	Mayor Island	0.70	328	P*	Pb	08 22 26.7	-0.6
MWZ	Matawai	0.79	126	P	Pg	08 22 27.9	-0.9
MWZ	Matawai	0.79	126	P*	Pb	08 22 27.8	-1.1
MWZ				S*	Sb	08 22 38.8	-0.8
TOZ	Tahuroa Road	0.97	278	eP	Pb	08 22 30.2	-1.7
TOZ	Tahuroa Road	0.97	278	P*	Pb	08 22 30.2	-1.8
TOZ				S*	Sb	08 22 44.5	-0.4
PUZ	Puketiti	1.24	100	eP	Pb	08 22 36.1	-0.4
PUZ	Puketiti	1.24	100	P*	Pb	08 22 36.0	-0.5
PUZ				S*	Sb	08 22 51.6	-1.1
BKZ	Black Stump Fm	1.30	188	P*	Pb	08 22 36.2	-1.4
MXZ	Matakaoa Point	1.30	77	P	Pb	08 22 37.1	-0.5
MXZ	Matakaoa Point	1.30	77	P*	Pb	08 22 36.9	-0.8
KNZ	Kokohu	1.37	147	P	Pb	08 22 38.4	-0.4
KNZ	Kokohu	1.37	147	PN	Pn	08 22 38.2	-0.7
KUZ	Kuaotunu	1.38	325	P	Pb	08 22 37.0	-1.9
KUZ	Kuaotunu	1.38	325	PN	Pn	08 22 37.0	-2.0
MGZ	Maungaku	1.45	219	P	Pn	08 22 38.2	-1.8
MGZ	Maungaku	1.45	219	P*	Pb	08 22 38.1	-2.1
NGZ	Ngauruhoe	1.56	214	P	Pn	08 22 42.0	+0.4
NGZ	Ngauruhoe	1.56	214	P*	Pb	08 22 38.5	-3.6
HIZ	Hauiti	1.59	246	eP	Pn	08 22 39.7	-2.4
HIZ	Hauiti	1.59	246	PN	Pn	08 22 39.7	-2.4
CNZ	Chateau	1.60	214	P	Pn	08 22 46.5	+4.3
CNZ	Chateau	1.60	214	P*	Pb	08 22 43.1	+0.3
TUVZ	Tukino	1.62	210	P	Pn	08 22 42.6	+0.2
TUVZ	Tukino	1.62	210	P*	Pb	08 22 42.6	-0.5
WNVZ	Wahianoa	1.69	211	P	Pn	08 22 43.4	-0.1
WNVZ	Wahianoa	1.69	211	P*	Pb	08 22 43.5	-0.8
OTAZ	Otara	1.70	302	P	Pn	08 22 44.4	+0.9
OTAZ	Otara	1.70	302	PN	Pn	08 22 44.4	+0.9
MTAZ	Motutapu	1.80	307	P	Pn	08 22 45.8	+0.8
MTAZ	Motutapu	1.80	307	PN	Pn	08 22 45.8	+0.7
KAAZ	Kauri Point	1.91	303	PN	Pn	08 22 47.9	+1.3
WTAZ	Waiatarua	1.94	298	P	Pn	08 22 48.9	+1.8
WTAZ	Waiatarua	1.94	298	PN	Pn	08 22 47.0	-0.1
TSZ	Takapari Road	2.26	195	eP	Pn	08 22 50.5	-1.1
TSZ	Takapari Road	2.26	195	PN	Pn	08 22 50.2	-1.4
WCZ	Waipu Caves	2.71	315	PN	Pn	08 22 54.7	-3.4

IDC 10 08:24:15.8±2.9, 32.33S×178.34W, mb3.9/2, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=70.0km s-min=44.4km az=123.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	7.00	211	Pn	Pn	08 25 58.4	-3.7
	1.3nm,0.3s,baz=253,slow=3.1,SNR=7.2						
URZ				Sn	Sn	08 27 14.5	-8.8
	1.3nm,0.3s,baz=211,slow=21,SNR=12						
ASAR	Alice Springs	42.76	269	P	P	08 32 14.9	-1.8
	0.8nm,0.8s,baz=124,slow=8.0,SNR=5.3						
WRA	Warramunga Arr	43.92	274	P	P	08 32 24.9	-1.3
	1.2nm,0.4s,baz=113,slow=7.9,SNR=32						
FINES	FINESS Array B	146.84	339	PKPbc	PKPbc	08 43 58.4	-0.4
	4.0nm,1.0s,baz=45,slow=3.9,SNR=10						

CASC 10 08:31:54.9±1.8, 12.35N×87.11W, h83km±10km, MD3.8, ML3.1, 3C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	Leon	0.22	72	eP	P	08 32 07.0	-0.1
TEL3	Telica 3	0.34	49	⇓eP	P	08 32 08.2	+0.4
TEL3				eS	S	08 32 17.6	+0.1
CRIN	San Cristobal	0.35	9	eP	P	08 32 08.4	+0.5
TELN	Telica	0.37	47	⇑eP	P	08 32 08.5	+0.5
TELN				eS	S	08 32 18.6	+0.7
CNGN	Cerro Negro	0.42	69	eP	P	08 32 08.2	-0.2
CNGN				eS	S	08 32 19.4	+0.8
MOMJ	Momotombo	0.56	84	eP	P	08 32 09.7	+0.1
APYN	Apoyeque	0.75	99	eP	P	08 32 11.8	+0.3
APYN				eS	S	08 32 23.9	0.0
MGAN	Managua	0.86	103	eP	P	08 32 10.7	-2.0
MGAN				eS	S	08 32 25.0	-1.1
MGAN				i		08 32 28.3	
	comp=N,335nm,0.4s						
TICN	Ticuantepe	0.91	110	eP	P	08 32 13.9	+0.7
TICN				eS	S	08 32 28.6	+1.5
APON	Apoyo	1.10	113	eP	P	08 32 15.7	+0.1
APON				eS	S	08 32 31.5	+0.3
LCBS	La Ceiba	2.24	306	⇑eP	P	08 32 30.7	-0.1
LCBS				eS	S	08 32 58.5	+1.1
LFRS	El Faro	2.29	304	⇑eP	P	08 32 30.9	-0.6
LFRS				eS	S	08 32 58.7	+0.1

OTT 10 08:34:53.6±0.3, 65.57N×89.47W, h18km, MN2.8/6, Wager Bay, Nu 180km southwest from Repulse Bay, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QILN	Qililugaq Expl	1.66	48	PN	Pn	08 35 21.7	-0.6
QILN				PG	Pn	08 35 23.5	+1.2
QILN				SN	Sn	08 35 43.6	+0.3
QILN				Trac		08 35 46.2	
	comp=Z,22nm,0.1s						
YRTN	Rankin Inlet	3.00	204	PN	Pn	08 35 40.4	-1.1
YRTN				SN	Sn	08 36 15.6	-1.8
YRTN				SG	Sn	08 36 23.6	+6.3
YRTN				Trac		08 36 27.7	
	comp=Z,26nm,0.2s						
FCC	Fort Churchill	7.17	200	PN	Pn	08 36 37.0	-3.4
FCC				SN	Sn	08 37 51.6	-11
FCC				LG		08 38 31.7	
FCC				Trac		08 38 35.2	
	comp=Z,4.4nm,0.8s						
PINU	Pond Inlet	8.23	25	PN	P	08 36 50.6	-4.5
PINU				SN	Sn	08 38 17.7	-11
PINU				LG		08 39 06.5	
PINU				Trac		08 39 17.9	
	comp=Z,4.2nm,0.3s						
GLWN	Glow Worm Lake	8.40	273	PN	P	08 36 57.7	+0.1
GLWN				SN	Sn	08 38 26.4	-6.5
GLWN				LG		08 39 17.6	
GLWN				Trac		08 39 26.3	
	comp=Z,1.3nm,0.3s						
KNDN	Kennady Lake	8.77	265	SN	Sn	08 38 35.7	-6.4
KNDN				LG		08 39 28.3	
ACKN	Achilles Lake	8.98	276	PN	P	08 37 04.1	-1.4
ACKN				SN	Sn	08 38 39.0	-8.1
ACKN				LG		08 39 33.0	
ACKN				Trac		08 39 41.6	
	comp=Z,1.2nm,0.3s						
LUPN	Lupin Mine	8.99	281	PN	P	08 37 04.2	-1.4
LUPN				SN	Sn	08 38 40.5	-7.0
LUPN				Trac		08 39 45.6	
	comp=Z,1.2nm,0.3s						
FRB	Frobisher Bay	9.14	92	PN	P	08 36 60.0	-7.8
FRB				SN	Sn	08 38 36.2	-15
FRB				LG		08 39 26.5	
FRB				Trac		08 39 41.9	
	comp=Z,1.3nm,0.3s						
RES	Resolute Bay	9.34	351	SN	Sn	08 38 51.7	-4.4
RES				LG		08 39 47.9	
RES				Trac		08 39 49.1	
	comp=Z,1.1nm,0.7s						
SNPN	Snap Lake	9.44	267	SN	Sn	08 38 50.3	-8.4
SNPN				Trac		08 38 59.1	
	comp=Z,2.4nm,0.1s						
SILO	Sutton Inlier	11.36	166	LG		08 40 38.5	
YKW3	Yellowknife Ar	11.38	266	PN	P	08 37 34.9	-3.3
YKW3				SN	S	08 39 33.6	-12
YKW3				LG		08 40 46.4	
YKW3				Trac		08 40 50.7	
	comp=Z,0.3nm,0.5s						

*CSEM **10** 08:35:09.7±0.3, 40.68N×29.15W, h10km, ML3.1, Error ellipse: s-maj=7.6km s-min=3.1km az=102.0, After PDA*
*PDA **10** 08:35:09.7±0.5, 40.68N×29.15W, h10km, ML3.1, Error ellipse: s-maj=7.6km s-min=3.1km az=97.0*

SVSA 10 08:35:09.7±0.5, 40.68N×29.15W, h10km, ML3.1, Error ellipse: s-maj=7.6km s-min=3.1km az=97.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	Santa Cruz	1.82	151	eP	Pn	08 35 36.2	-5.2
STGR				eS	Sn	08 35 56.6	-8.1
	34nm,0.3s						
PCED	Cedros	2.07	170	eS	Sn	08 36 02.9	-8.2
	36nm,0.3s						
CALA	Caldeira	2.12	170	eS	Sn	08 36 04.0	-8.3
HOR	Horta	2.18	169	eS	Sn	08 36 05.0	-8.9
PMAN	Manadas	2.20	158	ex		08 36 15.1	
PICO	Pico	2.24	165	eP	Pn	08 35 42.3	-5.2
PICO				eS	Sn	08 36 06.8	-8.6
PSBA	Serra de Santa	2.37	143	ex		08 36 10.1	
ASBA	Santa Barbara	2.41	144	eP	Pn	08 35 44.6	-5.2
PBIS	Biscoitos	2.41	142	eP	Pn	08 35 44.5	-5.3
PPAD	Pico dos Padre	2.44	143	eP	Pn	08 35 45.2	-5.1
PVNV	Vila Nova	2.45	140	eP	Pn	08 35 45.3	-5.2
RIB2	Ribeirinha	2.52	142	eP	Pn	08 35 46.1	-5.3
PFAV	Pico das Favas	2.53	140	eP	Pn	08 35 46.5	-5.0
PFAV				eS	Sn	08 36 13.6	-9.1
	8.4nm,0.1s						

IDC 10 08:54:00.9±2.0, 0.27N×126.27E, mb3.7/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=165.3km s-min=26.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.59	159	P	P	08 58 52.0	-2.5
	3.5nm,0.7s,baz=338,slow=11,SNR=16						
ASAR	Alice Springs	24.92	163	P	P	08 59 26.2	-1.0
	0.5nm,0.4s,baz=340,slow=10,SNR=11						
MKAR	Makanchi Array	60.15	327	P	P	09 04 10.3	-2.4
	0.8nm,0.5s,baz=126,slow=8.2,

BVAR	**Borovoye Array**	**57.55**	**341**	P	**P**	**09 04 24.1**	**-1.0**
	0.5nm,0.5s,mb3.8,baz=143,slow=7.4,SNR=5.8						
CHKZ	**Chkalovo**	**58.03**	**342**	*e*P	**P**	**09 04 27.5**	**-1.0**
	1.4nm,0.8s,mb4.0						
MATP	**Matopo**	**69.73**	**248**	P	**P**	**09 05 45.5**	**-0.3**
	0.8nm,0.4s,mb4.0,baz=87,slow=7.1,SNR=4.4						
MATP	**Matopo**	**69.73**	**248**	P	**P**	**09 05 45.5**	**-0.3**
FINES	**FINESS Array B**	**81.17**	**333**	P	**P**	**09 06 49.7**	**-0.4**
	0.8nm,0.7s,mb3.7,baz=101,slow=7.1,SNR=5.5						
TXAR	**Lajitas Array**	**145.05**	**32**	PKPbc	PKPbc	09 14 13.9	+2.5
	0.2nm,0.4s,baz=198,slow=0.3,SNR=9.1						

*IDC **10** 09:02:35.3±2.0, 0.60S×96.54E, mb3.7/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=87.9km s-min=20.1km az=55.0*
*NEIC **10** 09:02:40.2±1.1, 0.51S×96.72E, h30km, mb3.8/1, Error ellipse: s-maj=46.1km s-min=11.5km az=56.0*

ISC 10 09:02:38.3±1.3, 0.4S±0.2×96.8E±0.3, h30km, n11, σ0°61/9, mb3.8/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.89**	**6**	P	**P**	**09 06 59.0**	**-0.1**
	0.2nm,0.3s,baz=198,slow=11,SNR=13						
WRA	**Warramunga Arr**	**41.58**	**120**	P	**P**	**09 10 25.6**	**+0.1**
	0.3nm,0.6s,mb3.1,baz=294,slow=8.7,SNR=4.0						
WRAB	**Tennant Creek**	**41.59**	**120**	*e*P	**P**	**09 10 25.1**	**-0.4**
ASAR	**Alice Springs**	**42.80**	**125**	P	**P**	**09 10 35.8**	**+0.3**
	0.6nm,0.8s,mb3.4,baz=298,slow=7.1,SNR=7.1						
MKAR	**Makanchi Array**	**48.71**	**347**	P	**P**	**09 11 23.4**	**+1.4**
	2.7nm,0.7s,mb4.4,baz=159,slow=8.2,SNR=26						
ZAL	**Zalesovo**	**55.08**	**351**	P	**P**	**09 12 09.5**	**-0.3**
	1.3nm,0.5s,mb4.2,baz=273,slow=5.1,SNR=5.2						
BVAR	**Borovoye Array**	**57.63**	**341**	P	**P**	**09 12 27.0**	**-1.1**
	0.6nm,0.7s,mb3.7,baz=112,slow=7.8,SNR=3.6						
CHKZ	**Chkalovo**	**58.12**	**342**	*e*P	**P**	**09 12 31.5**	**0.0**
	0.6nm,0.6s,mb3.8						
FINES	**FINESS Array B**	**81.23**	**333**	P	**P**	**09 14 52.8**	**+0.1**
	1.0nm,0.9s,mb3.7,baz=117,slow=8.5,SNR=3.5						
TXAR	**Lajitas Array**	**145.27**	**32**	PKPbc	PKPbc	09 22 16.9	+2.6
	0.2nm,0.5s,baz=248,slow=1.2,SNR=6.3						
TXAR	**Lajitas Array**	**145.27**	**32**	PKPbc	PKPbc	09 22 16.9	+2.6

IDC 10 09:35:48.9±6.6, 1.17N×97.77E, mb3.3/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, Error ellipse: s-maj=332.9km s-min=28.6km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.53**	**122**	P	P	09 43 38.2	-1.7
	0.2nm,0.6s,baz=299,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**42.92**	**127**	P	P	09 43 49.6	-1.7
	0.3nm,0.6s,baz=297,slow=7.9,SNR=4.7						
MKAR	**Makanchi Array**	**47.41**	**346**	P	P	09 44 25.0	-2.0
	0.3nm,0.6s,baz=161,slow=7.9,SNR=6.5						

MAN 10 09:40:26.4, 6.26N×123.14E, h8km, mb4.1, ML2.9, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**1.63**	**340**	*e*P	Pn	09 40 55.0	-0.6
DCPH	**Dipolog City**	**2.32**	**5**	⇓*i*P	Pn	09 41 06.7	+1.2
DCPH				*i*S	Sn	09 41 34.8	+0.2
BUKP	**Musuan**	**2.50**	**50**	*e*P	Pn	09 41 07.8	-0.2
CUYO	**Cuyo Island**	**5.03**	**335**	*e*P	Pn	09 41 42.4	-1.5

*NIED **10** 09:44:00, 33.80N×134.40E, h17km, Mw3.2 Best double couple: M0:8.07×10^13 NP1:φs247°, δ84°, λ-163°. NP2: φs155°, δ73°, λ-6°.*

JMA 10 09:44:10.9, 33.78N×134.40E, h15km, M3.6, 3C-3D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**0.04**	**74**	⇑P	Pb	09 44 13.7	+0.6
JAI				S	Sb	09 44 15.7	+1.3
JMN	**Monobe**	**0.44**	**263**	⇓P	Pb	09 44 19.8	0.0
JMN				S	Sb	09 44 25.9	+0.1
MRT2	**Murotomisaki 2**	**0.45**	**209**	⇑P	Pb	09 44 19.7	-0.2
MRT2				S	Sb	09 44 25.6	-0.5
JJS	**Sakaide**	**0.71**	**327**	⇓P	Pb	09 44 24.3	-0.1
JJS				S	Sb	09 44 33.6	-0.1
JAJ2	**Tsuna**	**0.75**	**32**	⇑P	Pb	09 44 25.2	0.0
JAJ2				S	Sb	09 44 35.5	+0.5
JWM	**Minabe**	**0.80**	**85**	⇓P	Pb	09 44 25.3	-0.6
JWM				S	Sb	09 44 35.8	-0.5

*BJI **10** 09:50:59.6, 1.26N×97.28E, h32km, mB5.3, mb5.0, Ms4.7, Msz4.6*
*MOS **10** 09:51:00.5±0.7, 1.42N×97.08E, h33km, mb5.1/26, Error ellipse: s-maj=13.8km s-min=7.1km az=99.7*
*IDC **10** 09:51:01.1±0.6, 1.39N×97.04E, h25km±3km, mb4.4/16, mb1 4.5/17, mb1mx4.4/21, mbtmp4.5/17, ML4.7/1, MS4.1/2, Ms1 4.2/2, ms1mx3.4/31, Error ellipse: s-maj=25.4km s-min=11.3km az=51.0*
*NEIC **10** 09:51:01.5±0.3, 1.38N×97.11E, mb5.0/33, Error ellipse: s-maj=7.2km s-min=5.0km az=45.0*
NEIC Felt at Padang, Sumatra.

ISC 10 09:50:59.6±0.3, 1.40N±0.05×97.11E±0.04, h26km, h26km±1.4km: pP-P, n124, σ0°90/127, mb4.8/62, MS4.5/13, 10C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.03**	**51**	P	**Pn**	**09 52 16.2**	**+0.8**
KULM	**Kulim**	**5.24**	**42**	⇑*i*P	**Pn**	**09 52 18.8**	**+0.5**
KGM	**Kluang**	**6.24**	**84**	P	**Pn**	**09 52 34.1**	**+1.6**
KSM	**Kuching**	**13.20**	**90**	*e*Pn	**P**	**09 54 08.5**	**+0.4**
KSM				*e*		09 54 19.6	
CM31	**Chiang Mai Arr**	**17.05**	**6**	*e*P	**P**	**09 54 57.5**	**-0.6**
	27nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.05**	**6**	*i*P	**P**	**09 54 57.3**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.05**	**6**	P	**P**	**09 54 56.5**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=194,slow=13,SNR=23						
CMAR				LR	LR	10 02 04.6	
	comp=Z,368nm,19.4s,baz=190,slow=39						
PALK	**Pallekele**	**17.36**	**290**	P	**P**	**09 55 02.9**	**+0.8**
	comp=Z,8.7nm,0.7s						
PALK				*e*		09 55 11.3	
KKM	**Kota Kinabalu**	**19.61**	**76**	*e*P	**P**	**09 55 29.1**	**-0.1**
KKM	**Kota Kinabalu**	**19.61**	**76**	P	**P**	**09 55 29.9**	**+0.7**
KMI	**Kunming**	**24.21**	**13**	P	**P**	**09 56 18.0**	**+2.6**
KMI				AMB	AMB		
	comp=Z,51nm,1.3s,mb4.8						
KMI				AMB	AMB		
	comp=Z,154nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,15.0s,MS4.5						
KMI				LR	LR		
	comp=E,727nm,13.3s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,13.5s,MS4.5						
KMI	**Kunming**	**24.21**	**13**	P	**P**	**09 56 18.0**	**+2.6**
KMI				*PP		09 56 25.9	
KMI				*SP		09 56 29.0	
KMI						09 56 58.3	
KMI				SS	SS	10 01 43.4	+21
KMI				pmax	pmax		
	comp=Z,51nm,1.3s,mb4.8						
KMI				MLR	MLR		
	comp=Z,1μm,13.5s,MS4.5						
KMI	**Kunming**	**24.21**	**13**	P	**P**	**09 56 18.0**	**+2.6**
	comp=Z,51nm,1.3s,mb4.8						
KMI				pP		09 56 25.9	
KMI				sP		09 56 29.0	
KMI				PP	PP	09 56 58.3	+7.9
KMI				S	**S**	**10 00 40.1**	**+11**
KMI				sS		10 00 53.5	
KMI				SS	SS	10 01 43.4	+21
KMI				LR	LR		
	comp=Z,1μm,13.5s,MS4.5						
HYB	**Hyderabad**	**24.21**	**312**	*e*P	**P**	**09 56 18.0**	**+2.5**
HYB	**Hyderabad**	**24.21**	**312**	*i*P	**P**	**09 56 18.0**	**+2.5**
SHL	**Shillong**	**24.55**	**349**	*e*P	**P**	**09 56 18.5**	**-0.2**
SHL				*e*S	**S**	**10 00 39.5**	**+4.6**
GYA	**Guiyang**	**26.56**	**19**	⇑*i*P	**P**	**09 56 37.1**	**-0.4**
GYA				AP	pP	09 56 50.0	+4.7
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.7						
GYA				AMB	AMB		
	comp=Z,200nm,5.1s						
GYA				LR	LR		
	comp=N,1μm,14.1s,MS4.6						
GYA				LR	LR		
	comp=E,560nm,14.1s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,14.7s,MS4.6						
JIRN	**Jiri**	**28.13**	**339**	*e*P	**P**	**09 56 52.9**	**+1.1**
	comp=Z,76nm,0.9s,mb5.3						
PKI	**Pulchoki**	**28.34**	**338**	*e*P	**P**	**09 56 54.5**	**+0.8**
	comp=Z,37nm,1.0s,mb5.0						
PKI	**Pulchoki**	**28.34**	**338**	*e*P	**P**	**09 56 54.5**	**+0.8**
PKI				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.7						
GUN	**Gumba**	**28.47**	**339**	*e*P	**P**	**09 56 55.9**	**+1.0**
	comp=Z,57nm,0.7s,mb5.3						
DMN	**Daman**	**28.49**	**337**	*e*P	**P**	**09 56 56.0**	**+1.0**
	comp=Z,70nm,1.3s,mb5.1						
KKN	**Kakani**	**28.58**	**338**	*e*P	**P**	**09 56 56.7**	**+0.8**
	comp=Z,44nm,0.9s,mb5.2						
KKN	**Kakani**	**28.58**	**338**	*e*P	**P**	**09 56 56.7**	**+0.8**
KKN				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.9						
LSA	**Lhasa**	**28.71**	**349**	*e*P	**P**	**09 56 57.2**	**+0.2**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**28.71**	**349**	*e*P	**P**	**09 56 57.2**	**+0.2**
	comp=Z,6.0nm,0.6s,mb4.5						
GKN	**Gorkha**	**29.02**	**337**	*e*P	**P**	**09 57 00.6**	**+0.7**
	comp=Z,69nm,1.0s,mb5.3						
KOLN	**Koldanda**	**29.24**	**335**	*e*P	**P**	**09 57 02.7**	**+0.9**
	comp=Z,57nm,0.8s,mb5.3						
ENH	**Enshi**	**31.03**	**21**	*e*P	**P**	**09 57 15.8**	**-1.8**
	comp=Z,48nm,0.8s,mb5.4						
ENH				*e*	pP	09 57 23.5	-2.0
MBWA	**Marble Bar**	**31.50**	**137**	*e*P	**P**	**09 57 22.2**	**+0.3**
	comp=Z,15nm,1.2s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.12**	**126**	P	**P**	**09 57 42.6**	**-2.1**
	comp=Z,8.9nm,0.6s,mb4.8,baz=277,slow=6.8,SNR=12						
XAN	**Xi'an**	**34.30**	**18**	P	**P**	**09 57 44.8**	**-1.3**
XAN				S	**S**	**10 03 09.0**	**-1.7**
XAN				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.2						
XAN				LR	LR		
	comp=N,443nm,13.5s,MS4.4						
XAN				LR	LR		
	comp=E,352nm,16.0s,MS4.4						
XAN				LR	LR		
	comp=Z,746nm,14.3s,MS4.6						
LZH	**Lanzhou**	**35.08**	**10**	⇑P	**P**	**09 57 52.5**	**-0.2**
LZH				AP	pP	09 58 08.0	+7.4
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,123nm,4.5s						
LZH				LR	LR		
	comp=E,1μm,16.4s						
LZH				LR	LR		
	comp=Z,2μm,17.0s,MS4.9						
LZH	**Lanzhou**	**35.08**	**10**	⇑P	**P**	**09 57 52.5**	**-0.2**
LZH				*PP	pP	09 58 03.5	+2.9
LZH				*SP	sP	09 58 08.0	+4.0
LZH				pmax	pmax		
	comp=Z,42nm,1.2s,mb5.2						
LZH				MLR	MLR		
	comp=Z,2μm,17.0s,MS4.9						
LZH	**Lanzhou**	**35.08**	**10**	⇑P	**P**	**09 57 52.5**	**-0.2**
	comp=Z,42nm,1.2s,mb5.2						
LZH				pP	pP	09 58 03.5	+2.9
LZH				sP	sP	09 58 08.0	+4.0
LZH				LR	LR		
	comp=Z,2μm,17.0s,MS4.9						
NJ2	**Nanjing**	**36.75**	**32**	*e*P	**P**	**09 58 06.8**	**-0.1**
NJ2				AP	pP	09 58 16.6	+1.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,1μm,4.2s						
NJ2				LR	LR		
	comp=Z,7μm,15.0s,MS5.6						
SSE	**Sheshan**	**37.31**	**35**	*e*P	**P**	**09 58 10.6**	**-1.0**
SSE				AP	pP	09 58 18.9	-0.6
SSE				S	**S**	**10 03 56.5**	**-0.5**
SSE				AMB	AMB		
	comp=Z,42nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,215nm,3.5s						
SSE				LR	LR		
	comp=N,142nm,12.5s,MS4.4						
SSE				LR	LR		
	comp=E,402nm,12.6s,MS4.4						
SSE				LR	LR		
	comp=Z,469nm,15.2s,MS4.4						
SSE	**Sheshan**	**37.31**	**35**	*e*P	**P**	**09 58 10.6**	**-1.0**
	comp=Z,42nm,0.7s,mb5.4						
SSE				pP	pP	09 58 18.9	-0.6
SSE				sP	sP	09 58 23.8	+1.0
SSE				S	**S**	**10 03 56.5**	**-0.5**
SSE				sS		10 04 12.1	
SSE				SS	SS	10 06 40.7	+12
SSE				LR	LR		
	comp=Z,470nm,15.2s,MS4.4						
JOW	**Kunigami**	**39.17**	**47**	P	**P**	**09 58 27.9**	**+0.5**
	comp=Z,40nm,0.7s,mb5.3,baz=243,slow=8.1,SNR=9.7						
BJT	**Baijiatuau**	**42.17**	**22**	*e*P	**P**	**09 58 52.5**	**+0.6**
BJT				pmax	pmax		
	comp=Z,33nm,0.7s						
BJT	**Baijiatuau**	**42.17**	**22**	*e*P	**P**	**09 58 52.5**	**+0.7**
	comp=Z,33nm,0.7s,mb5.1						
BJI	**Beijing**	**42.19**	**22**	*e*P	**P**	**09 58 52.9**	**+0.9**
BJI				S	**S**	**10 05 11.7**	**+1.5**
BJI				AMB	AMB		
	comp=Z,46nm,1.0s,mb5.1						
BJI				LR	LR		
	comp=N,223nm,13.7s,MS4.3						
BJI				LR	LR		
	comp=E,207nm,14.2s,MS4.3						
BJI				LR	LR		
	comp=Z,140nm,19.6s						
BJI	**Beijing**	**42.19**	**22**	*e*P	**P**	**09 58 52.9**	**+0.9**
	comp=Z,46nm,0.7s,mb5.2						
BJI				S	**S**	**10 05 11.7**	**+1.5**
BJI				SS	SS	10 08 24.3	+11
BJI				LR	LR		
	comp=Z,140nm,19.6s,MS3.9						
WRA	**Warramunga Arr**	**42.22**	**122**	P	**P**	**09 58 52.4**	**-0.1**
	comp=Z,4.6nm,0.6s,mb4.3,baz=301,slow=9.1,SNR=73						
WRAB	**Tennant Creek**	**42.22**	**122**	*i*P	**P**	**09 58 52.9**	**+0.4**
WRAB	**Tennant Creek**	**42.22**	**122**	*e*P	**P**	**09 58 52.5**	**0.0**
	comp=Z,17nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**42.23**	**122**	*e*P	**P**	**09 58 52.5**	**-0.1**
WMQ	**Urumqi**	**43.06**	**350**	P	**P**	**09 59 00.4**	**+1.3**
WMQ				AP	pP	09 59 14.4	+7.3
ASPA	**Alice Springs**	**43.58**	**127**	*e*P	**P**	**09 59 04.2**	**+0.6**
ASAR	**Alice Springs**	**43.59**	**127**	P	**P**	**09 59 03.4**	**-0.3**
	comp=Z,4.6nm,0.9s,mb4.2,baz=304,slow=7.5,SNR=36						
ASAR				PcP	PcP	10 00 51.9	+0.4
	comp=Z,0.8nm,0.9s,baz=289,slow=3.4,SNR=3.5						
ASAR				pPcP		10 00 59.5	
	comp=Z,0.8nm,0.7s,baz=314,slow=2.4,SNR=4.2						
KS15	**Wonju Array Si**	**45.71**	**35**	*e*P	**P**	**09 59 20.6**	**+0.2**
KS15				*e*	pP	09 59 27.6	-0.9
SONM	**Songino Array**	**46.95**	**9**	P	**P**	**09 59 30.1**	**0.0**
	comp=Z,15nm,0.8s,mb5.0,baz=188,slow=8.7,SNR=45						
SONM				pP	pP	09 59 37.8	-0.3
	comp=Z,7.4nm,0.8s,baz=188,slow=8.9,SNR=8.2						
SONM				LR	LR	10 21 52.0	
	comp=Z,342nm,18.8s,MS4.3,baz=258,slow=39						
MKAR	**Makanchi Array**	**47.03**	**346**	P	**P**	**09 59 30.8**	**+0.1**
	comp=Z,9.1nm,0.5s,mb4.9,baz=162,slow=8.2,SNR=127						
MKAR				pP	pP	09 59 38.5	-0.3
	comp=Z,6.8nm,0.6s,baz=164,slow=8.3,SNR=11						
MKAR	**Makanchi Array**	**47.03**	**346**	P	**P**	**09 59 30.8**	**+0.1**
MKAR				pP	pP	09 59 38.5	-0.3
ULN	**Ulaanbaatar**	**47.08**	**9**	*e*P	**P**	**09 59 31.8**	**+0.6**
ULN				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
ULN	**Ulaanbaatar**	**47.08**	**9**	*e*P	**P**	**09 59 31.8**	**+0.6**
	comp=Z,15nm,1.0s,mb4.9						
ZAK	**Zakamensk**	**49.09**	**5**	*e*P	**P**	**09 59 47.0**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
CN2	**Changchun**	**49.17**	**27**	*e*P	**P**	**09 59 46.4**	**-1.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,400nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=E,500nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=Z,300nm,16.0s,MS4.4						
TLY	**Talaya**	**50.41**	**5**	*e*P	**P**	**09 59 57.6**	**+0.8**
TLY				*e*		10 01 52.2	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
TLY				MLR	MLR		
	comp=Z,241nm,17.0s,MS4.3						
HIA	**Hailar**	**51.48**	**19**	*e*P	**P**	**10 00 04.8**	**-0.2**
HIA				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	**Hailar**	**51.48**	**19**	*e*P	**P**	**10 00 04.8**	**-0.2**
	comp=Z,15nm,1.0s,mb4.9						
KURK	**Kurchatov**	**51.58**	**345**	*i*P	**P**	**10 00 05.5**	**-0.2**
KURK	**Kurchatov**	**51.58**	**345**	*e*P	**P**	**10 00 05.7**	**-0.1**
	comp=Z,15nm,1.1s,mb4.8						
MJAR	**Matsushiro Arr**	**51.61**	**42**	P	**P**	**10 00 05.2**	**-1.0**
	comp=Z,3.0nm,0.8s,mb4.3,baz=227,slow=7.2,SNR=8.2						
MDJ	**Mudanjiang**	**51.74**	**29**	P	**P**	**10 00 07.5**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,139nm,4.5s						
MDJ	**Mudanjiang**	**51.74**	**29**	*e*P	**P**	**10 00 08.2**	**+1.2**
	comp=Z,12nm,0.8s,mb4.9						
ZAL	**Zalesovo**	**53.34**	**351**	*i*P	**P**	**10 00 19.2**	**+0.3**
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ZAL	**Zalesovo**	**53.34**	**351**	P	**P**	**10 00 18.5**	**-0.4**
	comp=Z,8.7nm,0.6s,mb4.8,baz=306,slow=5.6,SNR=48						
STKA	**Stephens Creek**	**53.55**	**132**	⇑*i*P	**P**	**10 00 21.4**	**+0.7**
	comp=Z,5.0nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**53.55**	**132**	P	**P**	**10 00 21.6**	**+0.9**
	comp=Z,6.0nm,0.6s,mb4.7,baz=313,slow=7.8,SNR=22						
STKA				pP	pP	10 00 28.8	0.0
	comp=Z,5.8nm,0.7s,baz=322,slow=7.7,SNR=8.4						
BVAR	**Borovoye Array**	**56.03**	**341**	P	**P**	**10 00 37.3**	**-1.2**
	comp=Z,4.3nm,0.7s,mb4.6,baz=142,slow=9.5						
KLR	**Kul'dur**	**56.12**	**27**	*e*P	**P**	**10 00 35.5**	**-3.7**
CHKZ	**Chkalovo**	**56.51**	**341**	*e*P	**P**	**10 00 41.0**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.5						
CHKZ	**Chkalovo**	**56.51**	**341**	*e*P	**P**	**10 00 41.0**	**-0.9**
	comp=Z,32nm,0.6s,mb5.5						
BOD	**Bodaibo**	**57.83**	**11**	*e*P	**P**	**10 00 50.5**	**-0.7**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CLNS	**Chul'man**	**59.58**	**17**	*e*P	**P**	**10 01 03.4**	**0.0**
CLNS				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
YSS	**Yuzh-Sakhalins**	**60.24**	**34**	⇓*i*P	**P**	**10 01 08.0**	**0.0**
YSS				*e*		10 01 19.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
YSS	**Yuzh-Sakhalins**	**60.24**	**34**	*e*P	**P**	**10 01 07.7**	**-0.4**
	comp=Z,28nm,0.9s,mb5.3						
GNI	**Garni**	**61.09**	**316**	*i*P	**P**	**10 01 13.1**	**-0.8**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SVE	**Sverdlovsk**	**62.47**	**338**	⇓*e*P	**P**	**10 01 19.3**	**-3.7**
SVE				*e*		10 01 33.5	
SVE				pmax	pmax		
	comp=Z,30nm,2.0s,mb5.1						
ARU	**Arti**	**62.97**	**337**	⇓*i*P	**P**	**10 01 25.4**	**-0.8**
ARU				*e*		10 01 59.0	
ARU				*e*		10 03 40.1	
ARU				*e*S	**S**	**10 09 53.0**	**0.0**
ARU				*e*SS	SS	10 13 59.8	-0.9
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**64.10**	**319**	*i*P	**P**	**10 01 33.5**	**-0.4**
KIV				*e*	pP	10 01 40.9	-1.3
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KIV	**Kislovodsk**	**64.10**	**319**	P	**P**	**10 01 33.2**	**-0.7**
	comp=Z,12nm,0.9s,mb4.9						
MALT	**Malatya**	**64.93**	**312**	P	**P**	**10 01 39.2**	**-0.2**
MALT				*e*	pP	10 01 47.7	0.0
MALT				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
MALT	**Malatya**	**64.93**	**312**	P	**P**	**10 01 39.2**	**-0.2**
	comp=Z,2.1nm,0.3s,mb4.7						
MALT				*e*	pP	10 01 47.7	0.0
YAK	**Yakutsk**	**65.26**	**16**	*e*P	**P**	**10 01 40.2**	**-0.9**
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.3						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK	**Yakutsk**	**65.26**	**16**	*e*P	**P**	**10 01 40.2**	**-0.9**
	comp=E,52nm,0.9s,mb5.6						
YAK				*e*	pP	10 01 47.2	-2.2
SOC	**Sochi**	**65.91**	**318**	*e*P	**P**	**10 01 44.3**	**-1.3**
SOC				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
SOC				pmax	pmax		
	comp=N,6.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.7s						
ANN	**Anapa**	**67.89**	**318**	*e*P	**P**	**10 01 59.3**	**+1.2**
ANN				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
BRTR	**Keskin Array B**	**68.91**	**312**	P	**P**	**10 02 03.5**	**-1.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=141,slow=7.9,SNR=7.2						
BRTR				pP	pP	10 02 11.5	-1.3
	comp=Z,2.0nm,0.8s,baz=143,slow=6.2,SNR=6.6						
MA2	**Magadan**	**71.19**	**26**	*e*P	**P**	**10 02 17.8**	**-0.3**
MA2				*e*		10 02 31.3	
MA2				*e*S	S	10 11 21.3	-11
MA2				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
MA2				MLR	MLR		
	comp=Z,140nm,21.0s,MS4.2						
MA2	**Magadan**	**71.19**	**26**	*e*P	**P**	**10 02 17.8**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9						
MOS	**Moscow**	**72.12**	**329**	*e*P	**P**	**10 02 23.2**	**-

FINES FINESS Array B 79.78 332 P **P** **10 03 06.8 -0.1**
comp=Z,3.1nm,0.8s,mb4.3,baz=104,slow=7.9,SNR=15
FINES pP pP 10 03 15.1 -0.2
comp=Z,2.7nm,0.7s,baz=105,slow=6.7,SNR=6.1
KAF Kangasniemi 79.87 333 *ep* **P** **10 03 06.9 -0.4**
comp=Z,4.6nm,0.7s,mb4.5,baz=104,slow=5.1
KAF Kangasniemi 79.87 333 *eP* **P** **10 03 06.9 -0.4**
KAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BILL Bilibino 81.01 21 *i* P **P** **10 03 12.7 -0.6**
ARCES ARCESS Array B 82.32 340 P **P** **10 03 20.5 +0.5**
comp=Z,6.8nm,0.9s,mb4.6,baz=102,slow=4.7,SNR=20
ARCES ARCESS Array B 82.32 340 P **P** **10 03 20.5 +0.5**
BRG Berggiesshubel 84.60 321 *eP* **P** **10 03 39.7 +7.6**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
BRG Berggiesshubel 84.60 321 P **P** **10 03 39.7 +7.6**
comp=Z,3.2nm,0.9s,mb4.5
GERES GERESS Array B 84.61 319 P **P** **10 03 33.1 +1.0**
comp=Z,1.9nm,1.0s,mb4.2,baz=90,slow=5.3,SNR=11
GERES pP pP 10 03 40.6 -0.1
comp=Z,2.0nm,1.0s,baz=76,slow=5.5,SNR=6.7
NB2 NORSAR Subarra 86.79 331 P **P** **10 03 42.7 0.0**
comp=Z,0.3nm,0.8s,baz=92,slow=5.8
NOA NORSAR Array B 86.79 331 P **P** **10 03 42.6 0.0**
comp=Z,2.8nm,0.8s,mb4.5,baz=95,slow=4.8,SNR=7.0
IMA Indian Mountai 96.44 23 *eP* **P** **10 04 28.9 +1.5**
IMA pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
IMA Indian Mountai 96.44 23 *eP* **P** **10 04 28.9 +1.5**
comp=Z,7.1nm,0.9s,mb5.1
ILAR Eielson Array 99.55 23 PP PP 10 08 46.0 -1.8
comp=Z,0.6nm,0.9s,baz=276,slow=7.2,SNR=5.4
YKA Yellowknife Ar 111.93 15 PP PP 10 10 12.9 -7.0
comp=Z,0.9nm,1.1s,baz=328,slow=7.0,SNR=6.6
PDAR Pinedale Array 129.90 26 PKP PKPdf 10 10 09.4 -2.8
comp=Z,0.4nm,0.6s,baz=117,slow=3.3,SNR=3.7
PDAR PP PP 10 12 21.1 -2.2
comp=Z,0.1nm,0.5s,baz=18,slow=4.7,SNR=3.8
TXAR Lajitas Array 143.55 31 PKP PKPdf 10 10 32.3 -5.2
comp=Z,0.6nm,0.7s,baz=165,slow=0.4,SNR=11
JCT Junction City 144.44 26 *e*PKPdf PKPdf 10 10 34.5 -4.5

*IDC **10** 09:58:54.6±1.1,23.08S×169.20E,mb4.5/11,mb1 4.7/12, mb1mx4.6/17,mbtmp4.5/12,ML3.8/1,MS3.7/3,Ms1 3.7/3, ms1mx3.3/28,Error ellipse: s-maj=36.2km s-min=20.0km az=157.0*
*NEIC **10** 09:58:56.5±0.6,23.11S×169.17E,h10km,mb4.8/9,Error ellipse: s-maj=17.3km s-min=11.7km az=170.0*
ISC 10 09:58:54.8±3.7,23.2S±0.1×169.17E±0.08,h11km±23km, n51,σ1°100/30,mb4.6/17,MS3.4/2,2D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.76**	**294**	*eP*	**Pn**	**09 59 40.2**	**+0.4**
DZM				*eS*	**Sn**	**10 00 13.4**	**0.0**
DZM	**Mont Dzumac**	**2.76**	**294**	Pn	**Pn**	**09 59 40.2**	**+0.4**
	16nm,0.3s,baz=94,slow=17,SNR=109						
DZM				Sn	**Sn**	**10 00 14.4**	**+1.0**
	50nm,0.3s,baz=135,slow=21,SNR=6.7						
NOUC	**Port Laguerre**	**2.87**	**292**	*eP*	**Pn**	**09 59 41.5**	**+0.2**
NOUC				*eS*	**Sn**	**10 00 15.9**	**-0.2**
URZ	**Urewera**	**16.47**	**157**	LR	LR	10 07 53.7	
	comp=Z,330nm,19.2s,baz=57,slow=32						
RPZ	**Rata Peaks**	**20.51**	**176**	LR	LR	10 10 36.7	
	comp=Z,540nm,18.8s,MS3.9,baz=5.5,slow=34						
CTA	**Charters Tower**	**21.52**	**274**	*eP*	**P**	**10 03 48.0**	**+2.0**
	9.4nm,0.9s,mb4.2						
CTA	**Charters Tower**	**21.52**	**274**	P	**P**	**10 03 47.2**	**+1.2**
	9.3nm,0.8s,mb4.3,baz=103,slow=10,SNR=6.4						
CTA				LR	LR	10 11 29.2	
	comp=Z,52nm,20.2s,MS2.9,baz=267,slow=35						
CTAO	**Charters Tower**	**21.52**	**274**	*eP*	**P**	**10 03 47.6**	**+1.6**
	11nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**25.87**	**244**	*eP*	**P**	**10 04 29.4**	**+1.1**
	11nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**25.87**	**244**	P	**P**	**10 04 29.6**	**+1.4**
	13nm,0.8s,mb4.5,baz=82,slow=12,SNR=17						
ASAR	**Alice Springs**	**32.31**	**262**	P	**P**	**10 05 25.6**	**-0.4**
	7.8nm,1.0s,mb4.5,baz=83,slow=8.8,SNR=28						
ASAR				PcP	PcP	10 08 12.9	-1.3
	2.2nm,0.9s,baz=107,slow=3.1,SNR=7.2						
ASPA	**Alice Springs**	**32.31**	**262**	*eP*	**P**	**10 05 25.4**	**-0.7**
WB2	**Warramunga Arr**	**32.49**	**269**	*eP*	**P**	**10 05 26.3**	**-1.4**
WRAB	**Tennant Creek**	**32.50**	**269**	*eP*	**P**	**10 05 26.1**	**-1.7**
	27nm,1.4s,mb4.9						
WRA	**Warramunga Arr**	**32.51**	**269**	P	**P**	**10 05 26.6**	**-1.2**
	3.7nm,0.9s,mb4.3,baz=98,slow=8.0,SNR=13						
WRA				PcP	PcP	10 08 13.6	-1.2
	1.1nm,0.9s,baz=97,slow=2.7,SNR=8.0						
FITZ	**Fitzroy Crossi**	**40.94**	**269**	*eP*	**P**	**10 06 39.2**	**+0.1**
	14nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.94**	**269**	P	**P**	**10 06 38.5**	**-0.6**
	21nm,0.9s,mb4.8,baz=102,slow=8.4,SNR=13						
MBWA	**Marble Bar**	**45.65**	**263**	*eP*	**P**	**10 07 17.4**	**0.0**
	20nm,0.8s,mb5.1						
NWAO	**Narrogin (SRO)**	**46.44**	**246**	P	**P**	**10 07 23.3**	**-0.2**
	9.1nm,0.9s,mb4.7,baz=88,slow=8.9,SNR=3.9						
NWAO	**Narrogin (SRO)**	**46.44**	**246**	*eP*	**P**	**10 07 23.2**	**-0.3**
	17nm,1.1s,mb4.9						
SBA	**Scott Base**	**54.71**	**181**	*eP*	**P**	**10 08 26.3**	**+0.5**
	41nm,2.0s,mb5.1						
MJAR	**Matsushiro Arr**	**66.23**	**333**	P	**P**	**10 09 42.8**	**-2.2**
	4.2nm,0.8s,mb4.5,baz=163,slow=7.6,SNR=9.8						
ENH	**Enshi**	**78.16**	**310**	*eP*	**P**	**10 10 55.7**	**-0.2**
	3.6nm,0.4s,mb4.7						
CMAR	**Chiang Mai Arr**	**80.09**	**295**	P	**P**	**10 11 07.7**	**+1.0**
	5.2nm,0.8s,mb4.5,baz=134,slow=4.2,SNR=23						
CHG	**Chiang Mai**	**80.26**	**295**	⇓P	**P**	**10 11 08.9**	**+1.4**
	13nm,0.8s,mb4.9						
ULN	**Ulaanbaatar**	**90.00**	**323**	*eP*	**P**	**10 11 56.6**	**+1.1**
	3.7nm,1.0s,mb4.7						
SONM	**Songino Array**	**90.34**	**323**	P	**P**	**10 11 57.8**	**+0.7**
	2.3nm,0.9s,mb4.5,baz=146,slow=4.5,SNR=4.7						
NVAR	**Mina Array Bea**	**91.47**	**49**	P	**P**	**10 12 03.3**	**+0.8**
	1.5nm,0.9s,mb4.3,baz=227,slow=11,SNR=6.3						
ILAR	**Eielson Array**	**94.02**	**17**	P	**P**	**10 12 12.3**	**-1.3**
	0.8nm,0.9s,mb4.2,baz=234,slow=7.2,SNR=6.9						
KOLS	**Kolonicke sedl**	**143.40**	**323**	*e*	PKPbc	10 18 24.9	-2.7
KECS	**Kecovo**	**144.64**	**323**	*e*PKP	PKPdf	10 18 32.4	-2.1
KSP	**Ksiaz**	**145.31**	**329**	*eP*	PKPbc	10 18 34.3	+1.4
VYHS	**Vyhne**	**145.53**	**324**	*e*PKP	PKPdf	10 18 35.5	-0.5
DPC	**Dobruska-Polom**	**145.62**	**329**	*e*PKPDF	PKPdf	10 18 35.8	-0.3
UPC	**Upice**	**145.66**	**329**	*e*PKPDF	PKPdf	10 18 35.8	-0.4
PVCC	**Panska Ves**	**146.32**	**330**	*e*PKPDF	PKPdf	10 18 37.8	+0.5
BRG	**Berggiesshubel**	**146.35**	**331**	*eP*	PKPbc	10 18 37.5	+2.1
CLL	**Collm**	**146.44**	**333**	⇓*i*PKP1	PKPbc	10 18 37.2	+1.6
CLL				*i*		10 18 41.2	
PRU	**Pruhonice**	**146.71**	**330**	*e*PKPDF	PKPdf	10 18 38.6	+0.6
NKC	**Novy Kostel**	**147.47**	**332**	*e*PKPDF	PKPdf	10 18 41.0	+1.8
KHC	**Kasperske Hory**	**147.76**	**329**	*e*PKPDF	PKPdf	10 18 41.6	+1.9
GERES	**GERESS Array B**	**147.90**	**329**	PKPbc	PKPdf	10 18 41.7	+1.8
	4.9nm,1.1s,baz=45,slow=1.9,SNR=15						
GIVF	**Givet**	**150.49**	**339**	*e*PKP1	PKPdf	10 18 48.5	+4.5
	29nm,1.0s						
BAIF	**Baives**	**150.73**	**340**	*e*PKP1	PKPdf	10 18 49.2	+4.8
CDF	**Champ du Feu**	**151.03**	**335**	*e*PKP1	PKPdf	10 18 48.7	+3.8
	12nm,1.0s						
HINF	**Hinteralfeld**	**151.68**	**334**	*e*PKP1	PKPdf	10 18 49.9	+4.0
	36nm,1.4s						
HAU	**Haudompre**	**151.72**	**335**	*e*PKP1	PKPdf	10 18 50.3	+4.4
	6.9nm,0.8s						
MEZF	**Maizieres J'vi**	**151.79**	**337**	*e*PKP1	PKPdf	10 18 50.7	+4.7
	31nm,1.1s						
SSF	**Saint Saulge**	**153.56**	**338**	*e*PKP1	PKPdf	10 18 54.5	+5.9
LPG	**La Plagne**	**153.56**	**331**	*e*PKP1	PKPdf	10 18 55.6	+7.0
TCF	**Toulx Ste Croi**	**154.68**	**339**	*e*PKP1	PKPdf	10 18 57.5	+7.4
	12nm,1.2s						

*IDC **10** 10:01:37.4±1.3,1.10N×97.22E,mb4.1/8,mb1 4.3/9, mb1mx4.0/22,mbtmp4.1/9,ML4.3/1,Error ellipse: s-maj=55.4km s-min=16.4km az=54.0*
*BJI **10** 10:01:39.8,0.65N×97.22E,h48km,mB5.0,mb4.6,Ms4.5, Msz4.1*
*NEIC **10** 10:01:40.8±0.7,1.10N×97.21E,mb4.3/6,Error ellipse: s-maj=18.5km s-min=9.4km az=64.0*
ISC 10 10:01:40.5±0.8,1.14N±0.09×97.2E±0.1,h33km,n20, σ0°69/19,mb4.2/16,MS4.2/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.36**	**40**	*eP*	**P**	**10 03 00.9**	**+0.7**
CM31	**Chiang Mai Arr**	**17.29**	**5**	*eP*	**P**	**10 05 40.7**	**-0.5**
	6.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.29**	**5**	P	**P**	**10 05 39.8**	**-1.4**
	0.4nm,0.3s,baz=194,slow=12,SNR=12						
GYA	**Guiyang**	**26.76**	**19**	P	**P**	**10 07 20.1**	**+0.7**
GYA				AP	pP	10 07 29.0	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
GYA				AMB	AMB		
	comp=Z,150nm,4.8s						
GYA				LR	LR		
	comp=N,450nm,12.9s,MS4.3						
GYA				LR	LR		
	comp=E,440nm,13.2s,MS4.3						
GYA				LR	LR		
	comp=Z,340nm,13.8s,MS4.1						
ENH	**Enshi**	**31.23**	**21**	*eP*	**P**	**10 07 58.7**	**-0.7**
	comp=Z,13nm,0.9s,mb4.8						
ENH				*e*		10 08 04.8	
FITZ	**Fitzroy Crossi**	**33.87**	**126**	P	**P**	**10 08 21.6**	**-0.9**
	comp=Z,6.7nm,0.8s,mb4.6,baz=34,slow=3.6,SNR=2.1						
XAN	**Xi'an**	**34.51**	**17**	P	**P**	**10 08 27.2**	**-0.7**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
GTA	**Gaotai**	**38.16**	**3**	*eP*	**P**	**10 08 59.6**	**+1.0**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**41.98**	**122**	P	**P**	**10 09 30.9**	**+0.4**
	comp=Z,2.3nm,0.8s,mb3.9,baz=300,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**41.98**	**122**	P	**P**	**10 09 30.8**	**+0.3**
	comp=Z,1.9nm,0.6s,mb3.9						
WRAB				*e*	pP	10 09 39.6	-0.9
ASAR	**Alice Springs**	**43.34**	**127**	P	**P**	**10 09 41.5**	**-0.1**
	comp=Z,1.3nm,0.9s,mb3.7,baz=298,slow=7.7,SNR=7.2						
SONM	**Songino Array**	**47.19**	**8**	P	**P**	**10 10 11.9**	**-0.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=188,slow=8.7,SNR=6.8						
MKAR	**Makanchi Array**	**47.31**	**346**	P	**P**	**10 10 13.9**	**+1.0**
	comp=Z,2.0nm,0.8s,mb4.1,baz=153,slow=8.1,SNR=11						
ULN	**Ulaanbaatar**	**47.32**	**9**	*eP*	**P**	**10 10 13.8**	**+0.8**
	comp=Z,3.1nm,1.0s,mb4.2						
KURK	**Kurchatov**	**51.86**	**345**	*eP*	**P**	**10 10 48.0**	**+0.3**
	comp=Z,3.5nm,1.0s,mb4.2						
ZAL	**Zalesovo**	**53.61**	**351**	P	**P**	**10 11 01.1**	**+0.4**
	comp=Z,2.1nm,0.6s,mb4.2,baz=286,slow=6.6,SNR=13						
BVAR	**Borovoye Array**	**56.31**	**341**	P	**P**	**10 11 19.6**	**-0.9**
	comp=Z,2.0nm,0.9s,mb4.2,baz=149,slow=8.6,SNR=8.8						
CHKZ	**Chkalovo**	**56.79**	**341**	*eP*	**P**	**10 11 23.3**	**-0.6**
	comp=Z,4.6nm,0.9s,mb4.5						
CHKZ				*e*		10 11 29.0	
BRTR	**Keskin Array B**	**69.17**	**312**	P	**P**	**10 12 46.2**	**+0.3**
	comp=Z,0.3nm,0.3s,mb3.7,baz=111,slow=12,SNR=3.2						
TXAR	**Lajitas Array**	**143.71**	**32**	PKP	PKPdf	10 21 12.8	0.0
	comp=Z,0.6nm,1.0s,baz=45,slow=1.3,SNR=2.9						

*BJI **10** 10:02:26.9,0.35N×97.08E,h30km,mB5.2,mb4.8*
*IDC **10** 10:02:30.9±2.2,1.24N×97.44E,mb4.2/8,mb1 4.3/9, mb1mx4.0/22,mbtmp4.1/9,ML4.4/1,MS3.5/1,Ms1 3.7/1, ms1mx3.0/34,Error ellipse: s-maj=97.6km s-min=16.7km az=59.0*
*NEIC **10** 10:02:35.0±0.6,1.15N×97.30E,h30km,mb4.4/6,Error ellipse: s-maj=18.2km s-min=7.7km az=65.0*
ISC 10 10:02:32.8±0.9,1.14N±0.10×97.3E±0.2,h30km,n19, σ0°69/19,mb4.3/15,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.33**	**39**	*eP*	**Pn**	**10 03 52.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**17.29**	**5**	P	**P**	**10 06 33.2**	**-0.6**
	0.5nm,0.3s,baz=193,slow=12,SNR=6.9						
CMAR				LR	LR	10 13 46.0	
	comp=Z,183nm,21.5s,baz=197,slow=39						
ENH	**Enshi**	**31.21**	**21**	*eP*	**P**	**10 08 51.0**	**-1.0**
	18nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.85**	**126**	P	**P**	**10 09 14.0**	**-1.1**
	3.1nm,0.8s,mb4.3,baz=326,slow=7.3,SNR=2.0						
GTA	**Gaotai**	**38.16**	**3**	P	**P**	**10 09 52.7**	**+1.3**
GTA				AP	pP	10 09 58.9	-1.5
GTA				XP	sP	10 10 02.4	-1.7
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**10 10 23.1**	**0.0**
	comp=Z,3.3nm,0.8s,mb4.0,baz=301,slow=9.1,SNR=7.1						
WRAB	**Tennant Creek**	**41.96**	**122**	*eP*	**P**	**10 10 23.5**	**+0.4**
	comp=Z,3.6nm,0.6s,mb4.2						
BJI	**Beijing**	**42.37**	**22**	*eP*	**P**	**10 10 27.4**	**+1.2**
BJI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.6						
BJI	**Beijing**	**42.37**	**22**	*eP*	**P**	**10 10 27.4**	**+1.2**
	comp=Z,12nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**43.31**	**127**	P	**P**	**10 10 34.4**	**+0.2**
	comp=Z,2.2nm,1.0s,mb3.8,baz=293,slow=6.6,SNR=5.7						
SONM	**Songino Array**	**47.18**	**8**	P	**P**	**10 11 04.0**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.2,baz=158,slow=6.7,SNR=6.0						
ULN	**Ulaanbaatar**	**47.31**	**9**	*eP*	**P**	**10 11 06.3**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.0						
MKAR	**Makanchi Array**	**47.31**	**346**	P	**P**	**10 11 05.8**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.3,baz=153,slow=8.1,SNR=6.5						
KURK	**Kurchatov**	**51.86**	**345**	*eP*	**P**	**10 11 41.1**	**+0.5**
	comp=Z,2.8nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**10 11 51.7**	**+0.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=240,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**10 11 51.7**	**+0.3**
ZAL	**Zalesovo**	**53.62**	**351**	P	**P**	**10 11 54.0**	**+0.4**
	comp=Z,3.0nm,0.4s,mb4.6,baz=289,slow=6.6,SNR=9.4						
BVAR	**Borovoye Array**	**56.32**	**341**	P	**P**	**10 12 12.8**	**-0.5**
	comp=Z,1.8nm,0.8s,mb4.1,baz=127,slow=7.4,SNR=5.5						
CHKZ	**Chkalovo**	**56.80**	**341**	*eP*	**P**	**10 12 15.8**	**-0.9**
	comp=Z,5.1nm,1.1s,mb4.5						

WEL 10 10:08:25.6±0.1,38.90S×176.10E,h85km±1km,ML3.6/16, 6C,Error ellipse: s-maj=0.8km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATZ	**Hinemaiaia**	**0.01**	**313**	P*	P	10 08 37.5	-0.2
HATZ				S*	S	10 08 46.4	-0.3
HATZ				S*	S	10 08 46.4	-0.3
RITZ	**Rihia Road**	**0.21**	**248**	P*	P	10 08 38.2	+0.1
RITZ				S*	S	10 08 48.1	+0.6
WHTZ	**Whakaora**	**0.26**	**334**	P*	P	10 08 38.5	+0.2
WHTZ				S*	S	10 08 49.0	+1.1
RATZ	**Rangitukua**	**0.26**	**277**	⇑P*	P	10 08 38.1	-0.3
RATZ				S*	S	10 08 47.9	-0.1
RATZ				S*	S	10 08 48.1	+0.1
KATZ	**Kakaramea**	**0.33**	**257**	⇑P*	P	10 08 38.7	-0.1
WATZ	**Wairara**	**0.35**	**303**	P*	P	10 08 38.6	-0.3
WATZ				S*	S	10 08 48.5	-0.3
BKZ	**Black Stump Fm**	**0.40**	**131**	P*	P	10 08 39.4	+0.1
BKZ				S*	S	10 08 49.5	0.0
OTVZ	**Oturere**	**0.43**	**232**	P*	P	10 08 39.5	+0.1
OTVZ				S*	S	10 08 50.0	+0.2
MGZ	**Maungaku**	**0.45**	**257**	P*	P	10 08 39.2	-0.4
WTVZ	**West Tongariro**	**0.46**	**242**	P*	P	10 08 39.3	-0.3
NGZ	**Ngauruhoe**	**0.48**	**235**	P*	P	10 08 39.6	-0.2
TUVZ	**Tukino**	**0.51**	**223**	P*	P	10 08 40.1	0.0
CNZ	**Chateau**	**0.53**	**235**	P*	P	10 08 39.7	-0.5
WPVZ	**Whakapapa**	**0.53**	**235**	P*	P	10 08 39.8	-0.5
PATZ	**Paeroa**	**0.53**	**13**	P*	P	10 08 40.3	0.0
TWVZ	**Taurewa**	**0.55**	**252**	P*	P	10 08 40.0	-0.4
TWVZ				S*	S	10 08 50.8	-0.7
FWVZ	**Far West T-bar**	**0.56**	**230**	P*	P	10 08 40.2	-0.3
DRZ	**Dome Shelter**	**0.56**	**228**	P*	P	10 08 40.7	0.0
MOVZ	**Moawhango**	**0.58**	**208**	⇑P*	P	10 08 40.3	-0.4
WNVZ	**Wahianoa**	**0.58**	**223**	⇑P*	P	10 08 40.7	-0.1
WNVZ				S*	S	10 08 52.9	+0.9
MTVZ	**Mangateitei**	**0.69**	**225**	⇑P*	P	10 08 41.7	-0.2
UTU	**Utuhina**	**0.73**	**5**	P*	P	10 08 42.2	-0.1
TAZ	**Tarawera**	**0.74**	**26**	P*	P	10 08 42.3	-0.1
LIRZ	**Lichensteins R**	**0.92**	**14**	P*	P	10 08 44.2	-0.1
EDRZ	**Edgecumbe**	**0.94**	**32**	P*	P	10 08 43.9	-0.5
EDRZ				S*	S	10 08 58.8	+0.2
URZ	**Urewera**	**1.01**	**51**	P*	P	10 08 45.0	-0.4
URZ				S*	S	10 08 59.3	-1.0
URZ				S*	S	10 08 59.4	-0.9
MARZ	**Manawahe**	**1.02**	**26**	P*	P	10 08 45.2	-0.3
HIZ	**Hauiti**	**1.05**	**291**	PN	P	10 08 45.4	-0.5
HIZ				SN	S	10 09 00.5	-0.5
VRZ	**Vera Road**	**1.07**	**257**	P*	P	10 08 45.3	-0.8
VRZ				S*	S	10 09 00.9	-0.6
TSZ	**Takapari Road**	**1.16**	**185**	PN	P	10 08 46.6	-0.7
TSZ				SN	S	10 09 03.0	-0.5
WAZ	**Wanganui**	**1.22**	**225**	⇑PN	P	10 08 47.9	-0.1
WAZ				SN	S	10 09 04.6	0.0
KNZ	**Kokohu**	**1.23**	**96**	PN	P	10 08 47.8	-0.3
MWZ	**Matawai**	**1.25**	**64**	P*	P	10 08 48.0	-0.4
MWZ				S*	S	10 09 05.2	-0.2
PWZ	**Pawanui**	**1.27**	**153**	PN	P	10 08 48.2	-0.4
PWZ				SN	S	10 09 05.3	-0.7
WIZ	**White Island**	**1.61**	**32**	P*	P	10 08 55.5	+2.3
PKE	**Pukeiti**	**1.67**	**259**	PN	P	10 08 53.4	-0.5
PKE				SN	S	10 09 14.6	-0.2
BFZ	**Birch Farm**	**1.78**	**177**	PN	P	10 08 53.6	-1.8
BFZ				SN	S	10 09 15.5	-1.7
MRZ	**Mangatainoka R**	**1.81**	**193**	PN	P	10 08 53.6	-2.1
MRZ				SN	S	10 09 15.2	-2.5
PUZ	**Puketiti**	**1.88**	**65**	PN	P	10 08 55.7	-0.9
PUZ				SN	S	10 09 18.5	-1.0
KIW	**Kapiti Island**	**2.16**	**205**	PN	P	10 08 57.9	-2.7
KIW				SN	S	10 09 22.9	-3.4
KUZ	**Kuaotunu**	**2.17**	**352**	PN	P	10 08 59.7	-0.9
MXZ	**Matakaoa Point**	**2.19**	**53**	PN	P	10 08 60.0	-0.9
MTW	**Mount Morrison**	**2.30**	**191**	PN	P	10 08 59.3	-3.2
CAW	**Cannon Point**	**2.34**	**200**	PN	P	10 08 59.9	-3.2
PAWZ	**Paruwai Farm**	**2.53**	**192**	PN	P	10 09 02.1	-3.6
MRW	**Makara Radio**	**2.56**	**204**	PN	P	10 09 02.4	-3.7
MSWZ	**Moikau Station**	**2.60**	**194**	PN	P	10 09 02.8	-3.8

*IDC **10** 10:19:32.4±2.8,1.17N×97.52E,mb3.9/6,mb1 4.0/7, mb1mx3.8/20,mbtmp3.9/7,ML4.1/1,Error ellipse: s-maj=116.3km s-min=19.5km az=61.0*
*NEIC **10** 10:19:35.9±0.9,1.06N×97.27E,h30km,mb4.0/1,Error ellipse: s-maj=24.5km s-min=11.5km az=69.0*
ISC 10 10:19:33.7±1.1,1.1N±0.1×97.2E±0.2,h30km,n9,σ0°47/9, mb3.9/7,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.42**	**39**	⇑*iP*	**Pn**	**10 20 55.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**17.37**	**5**	P	**P**	**10 23 35.2**	**-0.6**
	0.3nm,0.3s,baz=198,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**41.94**	**122**	P	**P**	**10 27 23.2**	**-0.7**
	0.4nm,0.5s,mb3.3,baz=302,slow=9.0,SNR=7.9						
ASAR	**Alice Springs**	**43.29**	**127**	P	**P**	**10 27 34.9**	**+0.1**
	0.8nm,0.8s,mb3.5,baz=299,slow=7.0,SNR=5.6						
SONM	**Songino Array**	**47.27**	**8**	P	**P**	**10 28 06.3**	**0.0**
	1.4nm,0.5s,mb4.1,baz=187,slow=8.3,SNR=6.1						
MKAR	**Makanchi Array**	**47.38**	**346**	P	**P**	**10 28 07.5**	**+0.3**
	1.1nm,0.7s,mb3.9,baz=157,slow=7.9,SNR=8.9						
STKA	**Stephens Creek**	**53.24**	**132**	P	**P**	**10 28 52.5**	**+0.4**
	2.1nm,0.9s,mb4.1,baz=302,slow=15,SNR=2.8						
ZAL	**Zalesovo**	**53.69**	**351**	P	**P**	**10 28 55.8**	**+0.7**
	1.5nm,0.4s,mb4.3,baz=277,slow=5.3,SNR=5.4						
CHKZ	**Chkalovo**	**56.87**	**341**	*eP*	**P**	**10 29 17.6**	**-0.5**
	1.1nm,0.6s,mb4.1						
CHKZ				*e*		10 29 23.9	

*BJI **10** 10:27:55.1,2.88N×95.30E,h25km,mB5.5,mb5.4,Ms6.1, Msz6.0*
*IDC **10** 10:27:56.7±0.4,2.89N×95.36E,h22km±2km,mb4.8/32, mb1 4.9/33,mb1mx4.9/35,mbtmp4.9/33,ML5.4/1,Error ellipse: s-maj=13.0km s-min=8.3km az=44.0*
*MOS **10** 10:27:56.6±0.9,2.89N×95.38E,h33km,mb5.5/51,Error ellipse: s-maj=9.3km s-min=5.3km az=110.8*
*NEIC **10** 10:27:57.0±0.1,2.86N×95.34E,mb5.3/61,MS5.4/2,Error ellipse: s-maj=4.3km s-min=3.4km az=47.0*
ISC 10 10:27:55.5±0.2,2.87N±0.03×95.41E±0.03,h25km, h25km±.7km:pP-P,n279,σ0°90/246,mb5.2/110,MS5.8/6, 34C-2D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.75**	**65**	*e*Pn	**Pn**	**10 29 23.1**	**+1.4**
SNG	**Songkhla**	**6.72**	**50**	P	**Pn**	**10 29 35.0**	**-0.4**
	910nm,1.0s						
NNT	**Nongplab**	**10.56**	**24**	P	**P**	**10 30 30.0**	**+1.3**
NST	**Nakhon Sawan**

comp=N,8μm,15.4s,MS5.6
GYA LR LR
comp=E,10μm,15.0s,MS5.6
GYA LR LR
comp=Z,10μm,15.8s,MS5.5
JIRN Jiri 26.18 341 *e*P **P 10 33 30.9 +0.8**
comp=Z,371nm,0.9s,mb5.9
POO Poona 26.22 308 *e*P **P 10 33 32.5 +1.9**
PKI Pulchoki 26.35 340 *e*P **P 10 33 31.9 +0.2**
comp=Z,660nm,1.7s,mb5.9
PKI Pulchoki 26.35 340 *e*P **P 10 33 31.9 +0.2**
PKI pmax pmax
comp=Z,330nm,1.7s,mb5.6
DMN Daman 26.50 339 *e*P **P 10 33 33.2 +0.2**
comp=Z,89nm,0.8s,mb5.3
GUN Gumba 26.51 341 *e*P **P 10 33 33.7 +0.5**
comp=Z,280nm,0.9s,mb5.8
GZH Guangzhou 26.57 39 P **P 10 33 38.2 +4.5**
KKN Kakani 26.60 340 *e*P **P 10 33 34.1 +0.1**
comp=Z,218nm,1.0s,mb5.7
KKN Kakani 26.60 340 *e*P **P 10 33 34.1 +0.1**
KKN pmax pmax
comp=Z,109nm,1.0s,mb5.3
BHPL Bhopal 26.70 321 *e*P **P 10 33 36.2 +1.2**
BHPL *e* 10 33 37.2
comp=Z,41nm,1.4s
LSA Lhasa 26.98 352 P **P 10 33 38.2 +0.7**
LSA AMB AMB
comp=Z,120nm,0.9s,mb5.4
LSA LR LR
comp=Z,88μm,23.9s,MS6.2
LSA Lhasa 26.98 352⇑*i*P **P 10 33 38.4 +0.9**
LSA pmax pmax
comp=Z,103nm,0.8s,mb5.4
LSA Lhasa 26.98 352⇑*i*P **P 10 33 38.4 +0.9**
comp=Z,104nm,0.8s,mb5.4
GKN Gorkha 27.02 339 *e*P **P 10 33 37.9 0.0**
comp=Z,417nm,0.9s,mb6.0
KOLN Koldanda 27.21 337 *e*P **P 10 33 39.7 +0.2**
comp=Z,342nm,0.8s,mb5.9
CD2 Chengdu 28.98 15 P **P 10 33 54.0 -1.6**
CD2 AMB AMB
comp=Z,110nm,1.2s,mb5.5
ENH Enshi 30.34 25 *e*P **P 10 34 06.2 -1.4**
comp=Z,52nm,1.0s,mb5.2
AJM Ajmer 30.78 322⇑*i*P **P 10 34 12.0 +0.4**
NDI New Delhi 30.97 328 *e*P **P 10 34 11.0 -2.2**
DDI Dehra Dun 31.86 331 *e*P **P 10 34 20.1 -1.0**
WHN Wuhan 32.84 31⇑P **P 10 34 29.9 +0.3**
WHN AP pP 10 34 38.4 +1.4
WHN AMB AMB
comp=Z,300nm,1.4s,mb6.0
SDNR Sundarnagar 33.36 331 *e*P **P 10 34 33.6 -0.5**
XAN Xi'an 33.47 21 P **P 10 34 34.0 -1.1**
XAN AP pP 10 34 42.6 +0.1
XAN AMB AMB
comp=Z,81nm,1.1s,mb5.6
LZH Lanzhou 33.96 12⇑*i*P **P 10 34 38.5 -0.8**
LZH AP pP 10 34 46.5 -0.2
LZH XP sP 10 34 53.0 +3.2
LZH PP PP 10 35 52.5 -0.7
LZH AMB AMB
comp=Z,90nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,320nm,4.5s
LZH LR LR
comp=Z,4μm,18.5s,MS5.2
LZH Lanzhou 33.96 12⇑*i*P **P 10 34 38.5 -0.8**
LZH *PP pP 10 34 46.5 -0.2
LZH *SP sP 10 34 53.0 +3.2
LZH 10 35 52.5
LZH *e*S **S 10 40 01.6 0.0**
LZH *SS 10 40 13.5
LZH *e*SS SS 10 42 09.5 +0.2
LZH pmax pmax
comp=Z,90nm,1.0s,mb5.7
LZH MLR MLR
comp=Z,4μm,18.5s,MS5.2
LZH Lanzhou 33.96 12⇑*i*P **P 10 34 38.5 -0.8**
comp=Z,90nm,1.0s,mb5.7
LZH pP pP 10 34 46.5 -0.2
LZH sP sP 10 34 53.0 +3.2
LZH PP PP 10 35 52.5 -0.7
LZH *e*S **S 10 40 01.6 0.0**
LZH sS 10 40 13.5
LZH *e*SS SS 10 42 09.5 +0.2
LZH LR LR
comp=Z,4μm,18.5s,MS5.2
FITZ Fitzroy Crossi 36.35 126⇑*i*P **P 10 34 58.7 -1.1**
comp=Z,52nm,0.8s,mb5.5
FITZ *e* pP 10 35 07.1 -0.2
FITZ Fitzroy Crossi 36.35 126 P **P 10 34 58.9 -1.0**
comp=Z,73nm,0.8s,mb5.7,baz=305,slow=5.4,SNR=67
FITZ pP pP 10 35 06.0 -1.3
comp=Z,78nm,0.8s,baz=306,slow=5.6,SNR=18
NJ2 Nanjing 36.45 35 *e*P **P 10 35 01.2 +0.7**
NJ2 AMB AMB
comp=Z,110nm,0.9s,mb5.8
GTA Gaotai 36.59 6 *e*P **P 10 35 01.1 -0.5**
GTA AP pP 10 35 09.2 +0.2
GTA XP sP 10 35 13.3 +1.1
GTA PP PP 10 36 26.4 +0.1
GTA PPP PPP 10 36 46.9 +0.6
GTA AMB AMB
comp=Z,52nm,1.0s,mb5.3
GTA AMB AMB
comp=Z,290nm,8.0s
GTA LR LR
comp=Z,56μm,19.0s,MS6.4
SSE Sheshan 37.15 38 *e*P **P 10 35 07.6 +1.2**
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,186nm,4.5s
SSE Sheshan 37.15 38 *e*P **P 10 35 07.6 +1.2**
comp=Z,40nm,0.7s,mb5.4
TIA Tai'an 38.77 29 *e*P **P 10 35 19.7 -0.3**
JOW Kunigami 39.47 50 P **P 10 35 25.4 -0.5**
comp=Z,15nm,0.5s,mb5.0,baz=231,slow=11,SNR=7.3
BTO Baotou 39.82 17 *e*P **P 10 35 28.1 -0.5**
BTO AMB AMB
comp=Z,67nm,0.8s,mb5.4
MUN Mundaring 39.90 152⇑*i*P **P 10 35 30.4 +1.1**
comp=Z,81nm,0.5s,mb5.7
MUN Mundaring 39.90 152⇑*i*P **P 10 35 30.4 +1.1**
MUN pmax pmax
comp=Z,81nm,0.5s,mb5.7
HHC Hu-ho-hao-te 40.52 19⇑*i*P **P 10 35 36.0 +1.6**
HHC AP pP 10 35 44.6 +2.7
HHC XP sP 10 35 46.3 +1.3
HHC AMB AMB
comp=Z,128nm,1.3s,mb5.4
HHC AMB AMB
comp=Z,861nm,5.0s
KSH Kashi 40.52 337 P **P 10 35 35.1 +0.7**
KSH *e*AP pP 10 35 44.0 +2.1
KSH *e*XP sP 10 35 48.0 +3.0
KSH LR LR
comp=N,14μm,9.2s
KSH LR LR
comp=E,10μm,6.7s
NWAO Narrogin (SRO) 41.16 152 *e*P **P 10 35 40.3 +0.6**
NWAO *e*PP pP 10 35 47.2 0.0
NWAO pmax pmax
comp=Z,39nm,1.1s
NWAO Narrogin (SRO) 41.16 152 P **P 10 35 40.2 +0.5**
comp=Z,9.4nm,0.9s,mb4.4,baz=275,slow=7.7,SNR=6.5
NWAO pP pP 10 35 47.0 -0.2
comp=Z,24nm,0.9s,baz=318,slow=11,SNR=6.7
NWAO Narrogin (SRO) 41.16 152 *e*P **P 10 35 40.3 +0.6**
comp=Z,39nm,1.1s,mb5.0
NWAO *e*pP pP 10 35 47.1 -0.1
WMQ Urumqi 41.34 352⇑⇑P **P 10 35 41.9 +0.8**
WMQ AP pP 10 35 48.9 +0.3
WMQ XP sP 10 35 51.4 -0.3
WMQ PP PP 10 37 20.7 +1.0
WMQ AMB AMB
comp=Z,94nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,376nm,3.1s
WMQ LR LR
comp=Z,34μm,27.8s,MS6.1
BJT Baijiatuau 41.49 24 *e*P **P 10 35 43.5 +1.2**
BJT pmax pmax
comp=Z,133nm,1.0s
BJT Baijiatuau 41.49 24 *e*P **P 10 35 43.5 +1.2**
comp=Z,133nm,1.0s,mb5.5
BJI Beijing 41.51 24 *e*P **P 10 35 43.9 +1.3**
BJI AMB AMB
comp=Z,100nm,1.0s,mb5.4
BJI AMB AMB
comp=Z,878nm,3.5s
BJI Beijing 41.51 24 *e*P **P 10 35 43.9 +1.3**
comp=Z,100nm,1.0s,mb5.4
ULHL Ulahol 42.79 339 P **P 10 35 53.8 +0.8**
SNR=27
KZA Kyzart 43.01 338 P **P 10 35 56.1 +1.3**
SNR=26
DL2 Dalian 43.10 30 P **P 10 35 55.6 0.0**
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,330nm,3.4s
UCH Uchtor 43.42 337 P **P 10 35 59.3 +1.2**
SNR=79
TKM2 Tokmak 2 43.61 339 P **P 10 36 00.5 +0.8**
SNR=28
KBK Karagaybulak 43.62 338 P **P 10 36 01.2 +1.5**
SNR=34
AML Almayashu 43.66 337 P **P 10 36 01.3 +1.3**
SNR=82
AAK Ala-Archa 43.77 338 P **P 10 36 01.8 +0.9**
SNR=23
FRU Bishkek 43.90 338⇑*e*P **P 10 36 03.0 +1.0**
FRU pmax pmax
comp=Z,150nm,2.2s,mb5.3
CHMS Chumysh 43.99 338 P **P 10 36 03.2 +0.5**
SNR=8.5
EKS2 Erkin-Say 44.07 337 P **P 10 36 04.6 +1.2**
SNR=50
USP Ospenovka 44.31 338 P **P 10 36 06.1 +0.7**
SNR=31
WRA Warramunga Arr 44.44 122 P **P 10 36 06.4 -0.3**
comp=Z,33nm,0.8s,mb5.1,baz=299,slow=9.5,SNR=176
WRA pP pP 10 36 13.7 -0.5
comp=Z,53nm,1.0s,baz=300,slow=9.2,SNR=29
WRAB Tennant Creek 44.44 122 *e*P **P 10 36 06.4 -0.3**
WB2 Warramunga Arr 44.45 122⇑*i*P **P 10 36 06.4 -0.4**
WB2 *e* pP 10 36 14.4 +0.1
MKAR Makanchi Array 45.21 347 P **P 10 36 12.7 +0.2**
comp=Z,101nm,0.9s,mb5.6,baz=162,slow=7.7,SNR=465
FORT Forrest 45.70 140⇑*i*P **P 10 36 17.3 +0.7**
comp=Z,2μm,0.7s
FORT *e* pP 10 36 25.7 +1.6
SONM Songino Array 45.78 10 P **P 10 36 17.3 +0.3**
comp=Z,79nm,0.8s,mb5.7,baz=190,slow=8.3,SNR=202
SONM pP pP 10 36 24.6 0.0
comp=Z,29nm,0.8s,baz=198,slow=7.5,SNR=8.5
SONM PcP PcP 10 37 55.3 +0.4
comp=Z,13nm,0.8s,baz=195,slow=3.8,SNR=6.9
ASPA Alice Springs 45.83 127⇑*i*P **P 10 36 17.4 -0.3**
ASPA *e* pP 10 36 25.1 -0.1
ASAR Alice Springs 45.83 127 P **P 10 36 17.5 -0.2**
comp=Z,17nm,0.9s,mb5.0,baz=302,slow=7.7,SNR=105
ULN Ulaanbaatar 45.93 11 *e*P **P 10 36 18.1 -0.1**
ULN pmax pmax
comp=Z,51nm,0.9s,mb5.5
ULN Ulaanbaatar 45.93 11 *e*P **P 10 36 18.1 -0.1**
comp=Z,51nm,0.9s,mb5.5
SNY Shenyang 46.28 29⇑P **P 10 36 21.0 -0.1**
SNY AMB AMB
comp=Z,50nm,1.8s,mb5.1
ZAK Zakamensk 47.81 7 *i*P **P 10 36 32.3 -0.7**
ZAK pmax pmax
comp=Z,21nm,1.1s,mb5.1
ZAK pmax pmax
comp=Z,139nm,2.2s,mb5.6
ZAK pmax pmax
comp=Z,102nm,1.5s,mb5.6
CN2 Changchun 48.67 29 *e*P **P 10 36 38.4 -1.4**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
MOY Mondy 48.85 5 *e*P **P 10 36 41.1 +0.1**
MOY pmax pmax
comp=Z,52nm,2.3s,mb5.2
TLY Talaya 49.13 7⇑*i*P **P 10 36 43.7 +0.6**
TLY pmax pmax
comp=Z,40nm,0.8s,mb5.5
KURK Kurchatov 49.74 346 *e*P **P 10 36 47.6 -0.2**
KURK pmax pmax
comp=Z,104nm,1.4s,mb5.7
KURK Kurchatov 49.74 346 *e*P **P 10 36 47.6 -0.3**
comp=Z,104nm,1.4s,mb5.7
HIA Hailar 50.67 20 *e*P **P 10 36 54.8 -0.2**
HIA pmax pmax
comp=Z,21nm,0.9s
HIA Hailar 50.67 20 *e*P **P 10 36 54.8 -0.2**
comp=Z,21nm,0.9s,mb5.1
MDJ Mudanjiang 51.33 31 P **P 10 37 00.3 +0.3**
MDJ AMB AMB
comp=Z,30nm,1.2s,mb5.1
MDJ AMB AMB
comp=Z,273nm,5.8s
MDJ Mudanjiang 51.33 31 *e*P **P 10 36 59.7 -0.3**
comp=Z,46nm,1.2s,mb5.3
ZAL Zalesovo 51.64 352 P **P 10 37 02.6 +0.4**
comp=Z,60nm,0.9s,mb5.5,baz=300,slow=6.9,SNR=256
MAT Matsushiro 51.71 44 *e*P **P 10 37 03.0 -0.1**
MAT Matsushiro 51.71 44 P **P 10 37 01.7 -1.4**
MJAR Matsushiro Arr 51.71 44 P **P 10 37 02.5 -0.5**
comp=Z,2.8nm,0.7s,mb4.3,baz=246,slow=8.4,SNR=11
MJAR PcP PcP 10 38 16.9 +0.5
comp=Z,54nm,1.2s,baz=244,slow=4.2,SNR=18
OPO Ambohidratompo 52.01 244 P **P 10 37 05.3 -0.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=53,slow=6.5,SNR=4.2
OPO pP pP 10 37 12.0 -1.2
comp=Z,6.4nm,0.8s,baz=28,slow=7.0,SNR=5.6
PMG Port Moresby 52.99 104 P **P 10 37 12.6 -0.3**
comp=Z,32nm,0.7s,mb5.3,baz=331,slow=2.4,SNR=9.2
BVAR Borovoye Array 54.10 342 P **P 10 37 19.7 -0.9**
comp=Z,28nm,0.8s,mb5.3,baz=143,slow=7.4,SNR=191
CHKZ Chkalovo 54.59 342 *e*P **P 10 37 23.4 -0.7**
CTA Charters Tower 54.85 117⇑*i*P **P 10 37 26.4 -0.1**
comp=Z,19nm,0.9s,mb5.1
CTA *e* pP 10 37 35.1 +0.9
CTA Charters Tower 54.85 117⇑*i*P **P 10 37 26.4 -0.1**
CTA *e* pP 10 37 35.1 +0.9
CTA pmax pmax
comp=Z,19nm,0.9s
CTA Charters Tower 54.85 117 P **P 10 37 26.4 -0.2**
comp=Z,28nm,0.9s,mb5.3,baz=286,slow=8.2,SNR=13
KLR Kul'dur 55.60 28 *e*P **P 10 37 29.0 -2.6**
KLR pmax pmax
comp=N,28nm,1.0s
KLR pmax pmax
comp=E,36nm,1.0s
KLR pmax pmax
comp=Z,48nm,1.0s,mb5.5
STKA Stephens Creek 55.80 132 *e*P **P 10 37 32.6 -0.7**
comp=Z,12nm,1.1s,mb4.8
STKA *e* pP 10 37 40.1 -0.8
STKA Stephens Creek 55.80 132 P **P 10 37 32.9 -0.4**
comp=Z,14nm,1.0s,mb5.0,baz=306,slow=8.6,SNR=16
BHD Baghdad 56.39 309 *e*P **P 10 37 30.0 -7.5**
BOD Bodaibo 56.73 12⇓*i*P **P 10 37 38.5 -1.0**
BOD pmax pmax
comp=Z,49nm,0.9s,mb5.5
KMBO Kilima Mbogo 58.27 267 P **P 10 37 50.6 -0.4**
comp=Z,1.7nm,0.6s,mb4.2,baz=71,slow=8.6,SNR=6.8
KMBO pP pP 10 37 58.0 -0.7
comp=Z,8.5nm,1.0s,baz=51,slow=9.8,SNR=9.3
CLNS Chul'man 58.71 18 *e*P **P 10 37 53.2 -0.3**
CLNS pmax pmax
comp=N,28nm,0.9s
CLNS pmax pmax
comp=E,20nm,0.9s
CLNS pmax pmax
comp=Z,49nm,0.9s,mb5.5
GNI Garni 58.85 316 *i*P **P 10 37 53.0 -1.7**
GNI pmax pmax
comp=Z,13nm,1.3s
GNI Garni 58.85 316 P **P 10 37 53.1 -1.6**
comp=Z,2.7nm,0.3s,mb4.7,baz=28,slow=16,SNR=5.3
GNI Garni 58.85 316 *e*P **P 10 37 52.4 -2.4**
comp=Z,26nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 60.01 36⇑*i*P **P 10 38 02.0 -0.6**
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 60.01 36 *e*P **P 10 38 01.8 -0.8**
comp=Z,52nm,0.9s,mb5.6
SVE Sverdlovsk 60.49 339 *e*P **P 10 38 04.7 -1.0**
SVE pmax pmax
comp=Z,97nm,1.3s,mb5.7
ARU Arti 60.96 338⇑*i*P **P 10 38 07.6 -1.3**
ARU *i* 10 38 54.7
ARU *e* 10 40 17.5
ARU *e* 10 47 55.2
ARU pmax pmax
comp=Z,51nm,1.2s,mb5.5
ARU Arti 60.96 338 *e*P **P 10 38 07.5 -1.4**
comp=Z,55nm,1.2s,mb5.6
TOO Toolangi 61.38 136 *e*P **P 10 38 13.2 +1.1**
comp=Z,15nm,0.9s,mb5.1
TOO Toolangi 61.38 136 *e*P **P 10 38 13.2 +1.1**
TOO pmax pmax
comp=Z,15nm,0.9s,mb5.1
KIV Kislovodsk 61.88 319 *e*P **P 10 38 13.3 -2.0**
KIV pmax pmax
comp=Z,22nm,1.1s,mb5.2
KIV Kislovodsk 61.88 319 *e*P **P 10 38 13.3 -2.1**
comp=Z,22nm,1.1s,mb5.2
ASF Jabal al Asfar 62.04 305 P **P 10 38 16.3 -0.3**
comp=Z,4.8nm,0.8s,mb4.7,baz=353,slow=4.3,SNR=7.1
EIL Elat 63.05 302 P **P 10 38 23.2 -0.1**
comp=Z,4.9nm,0.7s,mb4.7,baz=206,slow=6.0,SNR=4.6
SOC Sochi 63.68 318 *e*P **P 10 38 24.4 -2.9**
SOC pmax pmax
comp=Z,34nm,1.0s,mb5.3
SOC pmax pmax
comp=N,7.0nm,0.8s
SOC pmax pmax
comp=E,17nm,1.0s
YAK Yakutsk 64.34 17*c i*P **P 10 38 30.3 -1.0**
YAK *e* pP 10 38 37.3 -1.8
YAK pmax pmax
comp=Z,64nm,0.9s,mb5.7
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=Z,42nm,0.9s,mb5.5
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,14nm,1.1s
YAK Yakutsk 64.34 17 *e*P **P 10 38 30.1 -1.2**
comp=E,116nm,0.8s,mb6.0
MBAR Mbarara 64.73 268 *e*P **P 10 38 32.8 -1.9**
MBAR pmax pmax
comp=Z,11nm,1.2s,mb4.8
MBAR Mbarara 64.73 268 *e*P **P 10 38 32.8 -1.9**
comp=Z,11nm,1.2s,mb4.8
ANN Anapa 65.67 319 *e*P **P 10 38 36.6 -3.5**
ANN pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
BRTR Keskin Array B 66.67 312 P **P 10 38 44.6 -2.0**
comp=Z,3.7nm,0.8s,mb4.5,baz=127,slow=6.2,SNR=21
BRTR pP pP 10 38 52.2 -2.2
comp=Z,5.4nm,0.8s,baz=125,slow=7.3,SNR=11
SIM Simferopol' 67.93 318 *e*P **P 10 38 53.0 -1.5**
SIM pmax pmax
comp=Z,14nm,0.9s,mb5.0
MOS Moscow 69.99 329⇑*i*P **P 10 39 06.2 -0.8**
MOS *e* 10 39 16.6
MOS pmax pmax
comp=Z,101nm,1.4s,mb5.6
OBN Obninsk 70.26 329*c e*P **P 10 39 07.3 -1.4**
OBN pmax pmax
comp=Z,38nm,1.2s,mb5.2
OBN Obninsk 70.26 329 *e*P **P 10 39 07.3 -1.3**
comp=Z,71nm,1.4s,mb5.4
MA2 Magadan 70.62 26 *e*P **P 10 39 10.4 -0.4**
MA2 *e* pP 10 39 18.7 +0.1
MA2 pmax pmax
comp=Z,20nm,1.3s,mb4.9
MA2 Magadan 70.62 26 *e*P **P 10 39 10.4 -0.3**
comp=Z,39nm,1.1s,mb5.2
PET Petropavlovsk 71.87 35 *i*P **P 10 39 17.2 -1.2**
PET pmax pmax
comp=Z,35nm,1.3s,mb5.1
TIXI Tiksi 71.87 11⇑⇑*i*P **P 10 39 17.1 -1.0**
TIXI pmax pmax
comp=Z,45nm,1.3s,mb5.2
IDI Anoyia 72.47 306 P **P 10 39 21.4 -0.9**
comp=Z,18nm,0.7s,mb5.1,baz=80,slow=6.3,SNR=16
AKASG Malin Array Be 72.85 322 P **P 10 39 22.6 -1.6**
comp=Z,4.6nm,0.6s,mb4.6,baz=89,slow=4.6,SNR=36
AKASG pP pP 10 39 30.0 -2.1
comp=Z,5.4nm,0.7s,baz=90,slow=4.7,SNR=9.1
LBTB Lobatse 73.03 243 *e*P **P 10 39 25.9 +0.1**
LBTB *e*PP pP 10 39 32.4 -1.3
LBTB pmax pmax
comp=Z,26nm,1.4s,mb5.0
LBTB Lobatse 73.03 243 *e*P **P 10 39 25.9 0.0**
comp=Z,26nm,1.4s,mb5.0
LBTB *e*pP pP 10 39 32.4 -1.3
DZM Mont Dzumac 73.59 114 P **P 10 39 30.0 +0.9**
comp=Z,13nm,0.9s,mb4.8,baz=286,slow=13,SNR=4.1
MLR Muntele Rosu 73.63 317 P **P 10 39 29.1 +0.2**
comp=Z,12nm,0.9s,mb4.8,baz=117,slow=2.3,SNR=22
MAW Mawson 73.94 192 *e*P **P 10 39 30.6 +0.4**
MAW *e*PP pP 10 39 38.3 +0.2
MAW pmax pmax
comp=Z,21nm,1.0s
MAW Mawson 73.94 192 P **P 10 39 30.7 +0.5**
comp=Z,2.0nm,0.8s,baz=332,slow=6.9,SNR=4.8
MAW Mawson 73.94 192 *e*P **P 10 39 30.6 +0.4**
comp=Z,21nm,1.0s,mb5.0
MAW *e*pP pP 10 39 38.3 +0.3
BOSA Boshof 74.07 239 P **P 10 39 31.0 -0.8**
comp=Z,4.3nm,0.7s,mb4.5,baz=90,slow=6.9,SNR=7.0
BOSA Boshof 74.07 239 P **P 10 39 31.0 -0.8**
JOF Joensuu 75.88 335 *e*p **P 10 39 40.4 -1.1**
KOLS Kolonicke sedl 76.79 320 *e*P **P 10 39 47.3 +0.4**
KOLS *e* pP 10 39 53.6 -1.2
APA Apatity 76.94 340⇓*i*P **P 10 39 47.0 -0.4**
APA *i* 10 40 04.8
APA pmax pmax
comp=Z,32nm,0.8s,mb5.3
CRVS Cervenica-Dubn 77.31 319 *e*P **P 10 39 50.6 +0.8**
FINES FINESS Array B 77.70 333 P **P 10 39 51.2 -0.4**
comp=Z,13nm,0.7s,mb5.0,baz=104,slow=7.9,SNR=60
KAF Kangasniemi 77.79 333 *e*p **P 10 39 51.2 -0.9**
comp=Z,30nm,1.0s,mb5.2,baz=103,slow=5.2
KAF Kangasniemi 77.79 333 *e*P **P 10 39 51.2 -0.9**
KAF pmax pmax
comp=Z,30nm,1.0s,mb5.2
KECS Kecovo 77.88 319 *e*P **P 10 39 52.6 -0.3**
OJC Ojcow 78.60 321 *e*P **P 10 39 56.7 -0.1**
VYHS Vyhne 78.96 319 *e*P **P 10 39 58.8 0.0**
SRO Srobarova 79.21 318 *e*P **P 10 39 58.3 -1.9**
OKC Ostrava-Krasne 79.60 320 *e*P **P 10 40 02.6 +0.4**
KEV Kevo 79.94 341 *e*p **P 10 40 03.3 -0.4**
ZST Bratislava 80.07 318 *e*P **P 10 40 05.0 +0.2**
ZST *e* 10 40 10.5
BILL Bilibino 80.25 21 *i*P **P 10 40 05.4 0.0**
BILL *e* 10 40 15.6
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BILL Bilibino 80.25 21 *e*P **P 10 40 05.1 -0.3**
comp=Z,3.8nm,0.6s,mb4.5
ARCES ARCESS Array B 80.37 340 P **P 10 40 05.9 -0.1**
comp=Z,28nm,0.8s,mb5.2,baz=98,slow=5.4,SNR=80
DPC Dobruska-Polom 80.83 320 *e*P **P 10 40 09.6 +0.8**
KSP Ksiaz 80.90 321 *e*P **P 10 40 09.3 +0.1**
KSP *e*pP pP 10 40 13.2 -3.9
SYO Syowa Base 81.04 198⇑⇑P **P 10 40 10.7 +1.2**
SYO Syowa Base 81.04 198⇑PcP PcP 10 40 17.0 +0.7
UPC Upice 81.04 321 *e*P **P 10 40 10.2 +0.3**
PRU Pruhonice 81.93 320 *e*P **P 10 40 14.9 +0.4**
PVCC Panska Ves 81.96 320 *e*P **P 10 40 15.3 +0.6**
AQU L'Aquila 82.16 312 *e*P **P 10 40 14.6 -1.3**
AQU *e*PP pP 10 40 23.9 0.0
AQU pmax pmax
comp=Z,26nm,1.0s,mb5.1
AQU L'Aquila 82.16 312 *e*P **P 10 40 14.6 -1.3**
comp=Z,26nm,1.0s,mb5.1
AQU *e*pP pP 10 40 23.9 +0.1
GERES GERESS Array B 82.38 319 P **P 10 40 16.8 -0.1**
comp=Z,10nm,0.8s,mb4.8,baz=104,slow=5.5,SNR=90
GERES pP pP 10 40 24.2 -0.6
comp=Z,8.1nm,1.0s,baz=90,slow=5.3,SNR=9.6
BRG Berggiesshubel 82.39 321 *e*P **P 10 40 17.4 +0.5**
BRG *e* pP 10 40 25.5 +0.6
BRG pmax pmax
comp=Z,12nm,1.5s,mb4.6

BRG	**Berggiesshubel**	**82.39**	**321**	*e*P	**P**	**10 40 17.4 +0.5**
	comp=Z,12nm,1.5s,mb4.6					
BRG				*e*	pP	10 40 25.5 +0.6
KHC	**Kasperske Hory**	**82.48**	**319**	*e*P	**P**	**10 40 17.6 +0.2**
KHC				*ex*	x	10 40 30.0
CLL	**Collm**	**83.01**	**321**	*i* P	**P**	**10 40 19.9 -0.2**
CLL				pmax	pmax	
	comp=Z,12nm,1.0s,mb4.9					
CLL	**Collm**	**83.01**	**321**	*i* P	**P**	**10 40 19.9 -0.2**
	comp=Z,12nm,1.0s,mb4.9					
CLL				*e*		10 41 04.0
CLL				*i*		10 41 10.8
CLL	**Collm**	**83.01**	**321**	P	**P**	**10 40 19.9 -0.2**
	comp=Z,logA/T=1.1,mb4.9					
CLL				*e*		10 41 04.0
CLL				*i*		10 41 10.8
NKC	**Novy Kostel**	**83.29**	**320**	*e*P	**P**	**10 40 22.3 +0.7**
MOX	**Moxa**	**83.85**	**320**	*e*P	**P**	**10 40 25.0 +0.6**
NB2	**NORSAR Subarra**	**84.68**	**331**	P	**P**	**10 40 27.9 -0.4**
	comp=Z,13nm,0.9s,mb5.0,baz=97,slow=5.0					
NB2	**NORSAR Subarra**	**84.68**	**331**	P	**P**	**10 40 27.9 -0.4**
	baz=97,slow=5.1					
NOA	**NORSAR Array B**	**84.68**	**331**	P	**P**	**10 40 27.6 -0.7**
	comp=Z,6.8nm,0.8s,mb4.8,baz=95,slow=5.4,SNR=18					
NOA				pP	pP	10 40 35.3 -1.0
	comp=Z,0.9nm,0.9s,baz=313,slow=23,SNR=1.3					
PGF	**Pioggiola**	**85.42**	**312**	*e*P	**P**	**10 40 33.4 +0.9**
	comp=Z,109nm,1.4s,mb5.5					
PGF	**Pioggiola**	**85.42**	**312**	*e*P	**P**	**10 40 33.4 +0.9**
PGF				pmax	pmax	
	comp=Z,55nm,1.4s,mb5.5					
CDF	**Champ du Feu**	**86.63**	**318**	*e*P	**P**	**10 40 37.9 -0.4**
	comp=Z,10.0nm,0.8s,mb4.8					
CDF	**Champ du Feu**	**86.63**	**318**	*e*P	**P**	**10 40 37.9 -0.4**
CDF				pmax	pmax	
	comp=Z,5.0nm,0.8s,mb4.8					
LPG	**La Plagne**	**87.03**	**315**	*e*P	**P**	**10 40 40.6 +0.3**
	comp=Z,18nm,0.8s,mb5.0					
LPG	**La Plagne**	**87.03**	**315**	*e*P	**P**	**10 40 40.6 +0.3**
LPG				pmax	pmax	
	comp=Z,9.0nm,0.8s,mb5.0					
LPL	**La Plagne**	**87.04**	**315**	*e*P	**P**	**10 40 40.6 +0.2**
	comp=Z,27nm,0.9s,mb5.2					
LPL	**La Plagne**	**87.04**	**315**	*e*P	**P**	**10 40 40.6 +0.2**
LPL				pmax	pmax	
	comp=Z,14nm,0.9s,mb5.2					
HAU	**Haudompre**	**87.25**	**318**	*e*P	**P**	**10 40 40.9 -0.5**
	comp=Z,31nm,0.8s,mb5.3					
HAU	**Haudompre**	**87.25**	**318**	*e*P	**P**	**10 40 40.9 -0.5**
HAU				pmax	pmax	
	comp=Z,16nm,0.8s,mb5.3					
CABF	**La Chapelle**	**87.46**	**316**	*e*P	**P**	**10 40 42.6 +0.2**
	comp=Z,11nm,0.7s,mb4.9					
CABF	**La Chapelle**	**87.46**	**316**	*e*P	**P**	**10 40 42.6 +0.2**
CABF				pmax	pmax	
	comp=Z,6.0nm,0.7s,mb4.9					
MEZF	**Maizieres J'vi**	**88.11**	**318**	*e*P	**P**	**10 40 44.9 -0.5**
	comp=Z,23nm,0.9s,mb5.1					
GIVF	**Givet**	**88.19**	**320**	*e*P	**P**	**10 40 46.0 +0.2**
BAIF	**Baives**	**88.59**	**320**	*e*P	**P**	**10 40 48.1 +0.4**
	comp=Z,24nm,0.8s,mb5.3					
BAIF	**Baives**	**88.59**	**320**	*e*P	**P**	**10 40 48.1 +0.4**
BAIF				pmax	pmax	
	comp=Z,12nm,0.8s,mb5.3					
SBA	**Scott Base**	**88.91**	**168**	*e*P	**P**	**10 40 50.0 +1.3**
	comp=Z,22nm,1.1s,mb5.4					
SBA				*e*pP	pP	10 40 57.6 +0.9
SMF	**Signal de Mont**	**89.01**	**316**	*e*P	**P**	**10 40 49.6 -0.2**
	comp=Z,11nm,0.7s,mb5.0					
SMF	**Signal de Mont**	**89.01**	**316**	*e*P	**P**	**10 40 49.6 -0.2**
SMF				pmax	pmax	
	comp=Z,6.0nm,0.7s,mb5.0					
SSF	**Saint Saulge**	**89.22**	**317**	*e*P	**P**	**10 40 51.1 +0.3**
SSF				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.7					
SSF	**Saint Saulge**	**89.22**	**317**	*e*P	**P**	**10 40 51.1 +0.3**
	comp=Z,3.3nm,0.8s,mb4.7					
AVF	**Avril sur Loir**	**89.34**	**317**	*e*P	**P**	**10 40 51.2 -0.2**
	comp=Z,12nm,1.0s,mb4.9					
AVF	**Avril sur Loir**	**89.34**	**317**	*e*P	**P**	**10 40 51.2 -0.2**
AVF				pmax	pmax	
	comp=Z,6.0nm,1.0s,mb4.9					
BGF	**Bois d'Agland**	**89.70**	**316**	*e*P	**P**	**10 40 53.4 +0.3**
LFF	**La Freistale**	**91.30**	**315**	*e*P	**P**	**10 41 01.4 +0.9**
LDF	**La Druitiere**	**91.53**	**319**	*e*P	**P**	**10 41 01.8 +0.4**
	comp=Z,32nm,0.9s,mb5.3					
LDF	**La Druitiere**	**91.53**	**319**	*e*P	**P**	**10 41 01.8 +0.4**
LDF				pmax	pmax	
	comp=Z,16nm,0.9s,mb5.3					
FLN	**La Foliniere**	**91.75**	**319**	*e*P	**P**	**10 41 02.8 +0.4**
	comp=Z,32nm,0.9s,mb5.4					
FLN	**La Foliniere**	**91.75**	**319**	*e*P	**P**	**10 41 02.8 +0.4**
FLN				pmax	pmax	
	comp=Z,16nm,0.9s,mb5.3					
MFF	**Saint Martin d**	**91.75**	**317**	*e*P	**P**	**10 41 02.9 +0.4**
GRR	**Gorron**	**92.04**	**318**	*e*P	**P**	**10 41 04.2 +0.4**
	comp=Z,53nm,1.1s,mb5.5					
GRR	**Gorron**	**92.04**	**318**	*e*P	**P**	**10 41 04.2 +0.4**
GRR				pmax	pmax	
	comp=Z,27nm,1.1s,mb5.5					
EKA	**Eskdalemuir Ar**	**92.53**	**326**	P	**P**	**10 41 06.3 +0.5**
	comp=Z,4.8nm,0.7s,mb5.0,baz=94,slow=4.9,SNR=11					
QSPA	**South Pole Qui**	**92.81**	**180**	*e*P	**P**	**10 41 08.2 +1.5**
	comp=Z,14nm,1.1s,mb5.3					
QSPA				*e*pP	pP	10 41 15.0 +0.3
SJPF	**Ste Jean**	**92.90**	**313**	*e*P	**P**	**10 41 08.8 +0.9**
	comp=Z,21nm,0.9s,mb5.3					
SJPF	**Ste Jean**	**92.90**	**313**	*e*P	**P**	**10 41 08.8 +0.9**
SJPF				pmax	pmax	
	comp=Z,10.0nm,0.9s,mb5.2					
ESDC	**Sonseca Array**	**95.38**	**310**	P	**P**	**10 41 19.8 +0.4**
	comp=Z,0.1nm,0.3s,baz=44,slow=5.0,SNR=4.7					
IMA	**Indian Mountai**	**95.74**	**23**	*e*P	**P**	**10 41 21.5 +1.1**
IMA				pmax	pmax	
	comp=Z,77nm,1.4s,mb5.9					
IMA	**Indian Mountai**	**95.74**	**23**	*e*P	**P**	**10 41 21.5 +1.1**
	comp=Z,77nm,1.4s,mb5.9					
ILAR	**Eielson Array**	**98.86**	**23**	P	**P**	**10 41 33.0 -1.4**
	comp=Z,0.3nm,0.7s,baz=291,slow=4.2,SNR=4.6					
INK	**Inuvik**	**101.41**	**17**	P	P	10 41 45.1 -0.9
	comp=Z,1.7nm,1.0s,baz=347,slow=3.4,SNR=4.6					
CHMT	**Chamberlain Mo**	**124.37**	**23**	*e*P	PKPdf	10 46 53.3 -4.2
ULM	**Lac du Bonnet**	**126.20**	**9**	PKP	PKPdf	10 46 57.0 -3.8
	comp=Z,4.2nm,0.7s,baz=357,slow=4.0,SNR=6.0					
ULM	**Lac du Bonnet**	**126.20**	**9**	*e*P	PKPdf	10 46 57.1 -3.7
SNOW	**Snow King Moun**	**128.22**	**24**	*e*PKPdf	PKPdf	10 47 03.4 -1.6
ELK	**Elko**	**128.35**	**30**	*e*PKPdf	PKPdf	10 47 03.2 -2.1
NVAR	**Mina Array Bea**	**128.44**	**34**	PKP	PKPdf	10 47 01.2 -4.3
	comp=Z,4.2nm,0.9s,baz=44,slow=1.6,SNR=10					
BW06	**Boulder Array**	**129.28**	**24**	*e*PKPdf	PKPdf	10 47 03.5 -3.5
PDAR	**Pinedale Array**	**129.28**	**24**	PKP	PKPdf	10 47 02.8 -4.3
	comp=Z,2.3nm,0.9s,baz=270,slow=1.5,SNR=8.5					
RSSD	**Black Hills**	**130.07**	**18**	*e*PKPdf	PKPdf	10 47 06.1 -2.4
MSU	**Marysvale**	**131.58**	**29**	*e*PKPdf	PKPdf	10 47 09.8 -1.7
PV10	**Paradox Valley**	**133.15**	**26**	*e*PKPdf	PKPdf	10 47 12.5 -2.0
KSU1	**Kansas State U**	**136.79**	**14**	*e*PKPdf	PKPdf	10 47 17.7 -3.4
TUC	**Tucson**	**137.09**	**33**	*e*PKPdf	PKPdf	10 47 19.6 -2.2
ANMO	**Albuquerque**	**137.14**	**27**	PKP	PKPdf	10 47 19.1 -2.8
	comp=Z,3.4nm,0.9s,baz=222,slow=1.5,SNR=9.3					
PLCA	**Paso Flores**	**140.23**	**197**	PKP	PKPdf	10 47 24.6 -2.8
	comp=Z,1.8nm,0.9s,baz=187,slow=8.1,SNR=2.5					
WMOK	**Wichita Mounta**	**140.28**	**18**	*e*PKPpre		10 47 17.4
MNTX	**Cornudas Mount**	**140.34**	**28**	*e*PKPpre		10 47 18.5
GDL2	**Guadalupe Moun**	**140.39**	**27**	PKPdf	PKPdf	10 47 25.4 -2.5
WVT	**Waverly**	**141.08**	**4**	*e*PKPpre		10 47 18.9
BDFB	**Brasilia**	**141.82**	**248**	PKP	PKPdf	10 47 26.9 -4.0
	comp=Z,4.0nm,0.9s,baz=138,slow=2.6,SNR=5.8					
MIAR	**Mount Ida**	**141.84**	**12**	*e*PKPpre		10 47 22.0
TXAR	**Lajitas Array**	**143.13**	**28**	PKhKP		10 47 26.7
	comp=Z,3.3nm,0.8s,baz=259,slow=1.9,SNR=22					
JCT	**Junction City**	**143.80**	**23**	*e*PKPpre		10 47 28.1
CFAA	**Coronel Fontan**	**147.53**	**207**	PKP	PKPdf	10 47 36.0 -4.2
	comp=Z,2.9nm,0.6s,baz=156,slow=2.9,SNR=46					
CFAA				PKPbc	PKPdf	10 47 39.7 -0.5
	comp=Z,2.9nm,0.6s,baz=175,slow=2.2,SNR=46					
CFAA	**Coronel Fontan**	**147.53**	**207**	PKP	PKPdf	10 47 36.0 -4.2
CFAA				PKPbc	PKPdf	10 47 39.7 -0.5
ZON	**Zonda**	**147.77**	**206**	*e*P	PKPdf	10 47 53.2 +13
SIV	**San Ignacio**	**153.43**	**239**	PKP	PKPdf	10 47 45.8 -3.7
	comp=Z,0.7nm,0.6s,baz=235,slow=22,SNR=6.0					
SIV				PKPbc	PKPdf	10 47 53.8 +4.2
	comp=Z,1.6nm,0.5s,baz=134,slow=2.5,SNR=8.6					
LVC	**Limon Verde**	**155.17**	**217**	PKPbc	PKPdf	10 47 58.3 +6.6
	comp=Z,3.8nm,0.7s,baz=38,slow=2.6,SNR=5.1					
LVC	**Limon Verde**	**155.17**	**217**	PKPbc	PKPdf	10 47 58.3 +6.6
PCRV	**Puerto La Cruz**	**156.27**	**303**	PKPbc	PKPdf	10 47 59.4 +6.0
	comp=Z,9.6nm,1.0s,baz=54,slow=11,SNR=3.2					
LPAZ	**La Paz**	**159.02**	**229**	PKP	PKPdf	10 47 55.0 -1.9
	comp=Z,3.2nm,0.9s,baz=140,slow=1.2,SNR=12					
LPAZ				PKPab	PKPab	10 48 31.5 +0.4
	comp=Z,3.1nm,0.9s,baz=132,slow=5.5,SNR=5.5					
LPAZ	**La Paz**	**159.02**	**229**	*e*PKPdf	PKPdf	10 47 54.9 -2.0
LPAZ				*e*pPKPdf		10 48 02.8
SDV	**Santo Domingo**	**161.83**	**310**	PKPab	PKPab	10 48 42.7 -0.7
	comp=Z,2.4nm,0.7s,baz=22,slow=5.9,SNR=3.6					
ROSC	**El Rosal**	**167.19**	**307**	PKP	PKPdf	10 48 03.0 -1.8
	comp=Z,4.2nm,0.5s,baz=103,slow=19,SNR=3.2					
OTAV	**Otavalo**	**173.12**	**297**	*e*PKPdf	PKPdf	10 48 05.5 -2.8

CRAAG ***10*** *10:29:09.3, 1.55S×99.59E, Mb6.8*
NIC ***10*** *10:29:09.3±0.8, 1.55S×99.59E, h10km, Earthquake Southern Sumatera, Indonesia 51 km NE Sabatti.*
BJI ***10*** *10:29:09.1, 2.13S×99.53E, h45km, mB6.4, mb5.9, Ms7.0, Msz6.8*
DJA ***10*** *10:29:11.2±1.1, 1.76S×99.71E, h33km, mb6.1/2, ML6.8/2, Error ellipse: s-maj=60.1km s-min=6.8km az=57.0*
HRVD ***10*** *10:29:11.3±0.1, 1.68S×99.54E, h12km, MW6.7/82, Centroid moment Tensor Solution. LP body waves: s80,c205;Mantle waves: s82,c366; Half duration: 5±4 Moment tensor: Scale 1019Nm; Mrr1.29±.01; Mθθ-0.50±.01; Mφφ-0.78±.01; Mrθ-0.28±.02; Mrφ0.53±.01; Mθφ0.40±.02; Best double couple: M0=1.329×1019 NP1: φs142°, δ34°, λ89°. NP2:φs323°, δ56°, λ91°. Principal axes: T 1.381, Plg79°, Azm237°; N -.1, Plg1°, Azm143°; P -1.277, Plg11°, Azm53°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s.*
NEIC ***10*** *10:29:11.3±0.1, 1.64S×99.61E, h19km, mb6.4/133, ME6.8, MS6.7/114, MW6.5 Error ellipse: s-maj=4.7km s-min=2.7km az=34.0 Broadband fault plane solution: P waves. NP1:φs300°, δ70°, λ90°. NP2:φs120°, δ20°, λ90°. Principal axes: T Plg65°, Azm210°; N Plg0°, Azm0°; P Plg21°, Azm35°; Moment Tensor Solution. s15 Moment tensor: Scale 1018 Nm; Mrr7.06; Mθθ-3.55; Mφφ-3.51; Mrθ-1.17; Mrφ4.56; Mθφ3.04; Best double couple: M=8.3×1018 NP1:φs124°, δ35°, λ72°. NP2:φs325°, δ57°, λ102°. Principal axes: T 7.87, Plg75°, Azm271°; N .79, Plg10°, Azm138°; P -8.67, Plg11°, Azm46°; Complex earthquake observed on broadband displacement seismograms. Two events about 3 seconds apart. Depth and focal mechanism based on first event. Energy computed from BB mechanism.*
NEIC Felt [V] at Padang, [IV] at Padangsidempuan and [II] at Pekanbaru, Sumatra. Felt [III] at Kuala Lumpur, Malaysia and in Singapore. Also felt [II] on Nias. A tsunami with a wave height of 40 cm was observed at Padang, Sumatra.
IDC ***10*** *10:29:12.6±1.4, 1.63S×99.65E, h29km±8km, mb5.7/35, ML5.2/1 Error ellipse: s-maj=10.7km s-min=5.9km az=51.0*
BGS ***10*** *10:29:13.5, 1.64S×99.61E, h19km, mb6.6*
MOS ***10*** *10:29:14.2±0.9, 1.32S×99.21E, h33km, mb6.6/53, MS6.4/32, Error ellipse: s-maj=10.6km s-min=4.6km az=119.7*

ISC 10 10:29:10.8±0.1, 1.64S±0.02×99.58E±0.02, h26km, h26km±1.0km:pP-P, n1314, σ1311/1118, mb6.3/206, MS6.6/156, 167C-67D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**3.62**	**124**	*e*Pn	**Pn**	**10 30 02.0**	**-4.6**
PSI	**Prapat**	**4.36**	**351**	*e*Pn	**Pn**	**10 30 17.6**	**+0.5**
KGM	**Kluang**	**5.22**	**46**	P	**Pn**	**10 30 32.9**	**+3.6**
IPM	**Ipoh**	**6.35**	**13**	P	**Pn**	**10 30 46.4**	**+1.2**
PENI	**Pendagan**	**6.81**	**125**	⇓*e*Pn	**Pn**	**10 30 49.1**	**-2.6**
	5μm,0.4s						
KULM	**Kulim**	**6.97**	**9**	⇓*e*P	**Pn**	**10 30 54.0**	**0.0**
PASI	**Pasiripis**	**7.82**	**130**	*e*Pn	**Pn**	**10 31 01.8**	**-4.0**
PULI	**Pulasari**	**7.91**	**126**	⇓*e*Pn	**Pn**	**10 31 03.6**	**-3.5**
PULI	**Pulasari**	**7.91**	**126**	⇓*e*Pn	**Pn**	**10 31 03.7**	**-3.4**
	4μm,1.0s						
KSM	**Kuching**	**11.17**	**74**	⇓*e*P	**P**	**10 31 52.4**	**+0.3**
SRDI	**Scrawed**	**16.01**	**116**	⇓*e*P	**P**	**10 32 52.5**	**-3.7**
	4μm,0.9s						
KELI	**Kelakatan**	**16.23**	**114**	⇓*e*P	**P**	**10 32 58.1**	**-0.8**
	1μm,0.4s						
KELI	**Kelakatan**	**16.23**	**114**	⇓*e*P	**P**	**10 32 57.1**	**-1.8**
NST	**Nakhon Sawan**	**17.21**	**2**	P	**P**	**10 33 11.0**	**-0.3**
	392nm,1.0s						
RATI	**Rata**	**17.37**	**114**	⇓*e*P	**P**	**10 33 09.8**	**-3.5**
	5μm,0.4s						
KEDI	**Kedomdong**	**17.81**	**113**	⇓*e*P	**P**	**10 33 15.6**	**-3.2**
	1μm,0.6s						
KKM	**Kota Kinabalu**	**18.29**	**65**	⇓*e*P	**P**	**10 33 25.9**	**+1.1**
KKM	**Kota Kinabalu**	**18.29**	**65**	P	**P**	**10 33 27.4**	**+2.7**
BDT	**Bhumibol Dam**	**18.77**	**358**	SG	**P**	**10 33 29.0**	**-1.6**
TSM	**Tawau**	**19.21**	**72**	P	**P**	**10 33 37.5**	**+1.6**
CM31	**Chiang Mai Arr**	**19.98**	**358**	*e*P	**P**	**10 33 41.3**	**-3.1**
	653nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.98**	**358**	P	**P**	**10 33 41.2**	**-3.2**
	3.0nm,0.3s,baz=188,slow=9.9,SNR=17						
CMAR				S	**S**	**10 37 27.4**	**+5.1**
	1.0nm,0.3s,baz=180,slow=14,SNR=4.8						
CMAR				PcP	PcP	10 38 01.3	+1.6
	1.1nm,0.3s,baz=204,slow=3.4,SNR=4.1						
CMAR				P3KP		11 08 39.6	
	baz=285,slow=4.5,SNR=5.4						
CHG	**Chiang Mai**	**20.34**	**358**	⇑P	**P**	**10 33 57.3**	**+9.3**
	150nm,0.9s						
PALK	**Pallekele**	**20.81**	**295**	*e*P	**P**	**10 33 52.5**	**-0.5**
PALK				LR	LR		
	comp=Z,19μm,19.0s,MS5.5						
BATP	**Bataraza**	**20.92**	**60**	*e*P	**P**	**10 33 53.7**	**-0.4**
QIZ	**Qiongzhong**	**22.89**	**26**	P	**P**	**10 34 14.2**	**+0.4**
QIZ				S	**S**	**10 38 16.9**	**-0.5**
QIZ				LR	LR		
	comp=N,127μm,19.4s,MS6.8						
QIZ				LR	LR		
	comp=E,319μm,20.7s,MS6.8						
QIZ				LR	LR		
	comp=Z,255μm,12.2s						
QIZ	**Qiongzhong**	**22.89**	**26**	*e*P	**P**	**10 34 13.6**	**-0.2**
	comp=Z,692nm,1.0s,mb6.0						
ENPP	**El Nido**	**23.50**	**57**	*e*P	**P**	**10 34 19.4**	**-0.5**
MDRS	**Chennai**	**24.11**	**308**	*i*	**P**	**10 34 27.0**	**+1.2**
MDRS				*i*		10 38 58.0	
MDRS				*e*		10 40 54.0	
MDRS				*e*		10 43 26.0	
MDRS				*e*		10 49 33.0	
MDRS				*e*		10 51 04.0	
MDRS	**Chennai**	**24.11**	**308**	*i* P	**P**	**10 34 27.0**	**+1.2**
MDRS				*e*		10 40 54.0	
BUSP	**Coron**	**24.57**	**56**	*e*P	**P**	**10 34 30.8**	**+0.5**
CUYO	**Cuyo Island**	**24.68**	**59**	*e*P	**P**	**10 34 33.4**	**+2.1**
TRD	**Trivandrum**	**24.70**	**294**	⇓*e*P	**P**	**10 34 32.2**	**+0.7**
TRD				*e*S	**S**	**10 38 52.2**	**+3.5**
KOD	**Kodaikanal**	**24.97**	**299**	⇑*i*	**P**	**10 34 36.0**	**+1.9**
KOD				*e*		10 39 48.0	
KOD	**Kodaikanal**	**24.97**	**299**	⇑*i*P	**P**	**10 34 36.0**	**+1.9**
KOD				*e*		10 39 48.0	
VIS	**Vishakhapatnam**	**25.03**	**321**	⇑*e*P	**P**	**10 34 35.3**	**+0.7**
VIS				*e*		10 34 49.2	
	comp=Z,3μm,1.7s						
VIS				*i*		10 46 02.9	
	comp=Z,58μm,20.3s						
PAGZ	**Pagadian**	**25.55**	**68**	*e*P	**P**	**10 34 40.6**	**+1.1**
LUBP	**Lubang**	**25.56**	**53**	*e*P	**P**	**10 34 39.6**	**0.0**
SJMP	**San Jose**	**25.57**	**56**	*e*P	**P**	**10 34 40.0**	**+0.3**
BWNR	**Bhubaneshwar**	**25.64**	**329**	*e*P	**P**	**10 34 43.1**	**+2.8**
BWNR				*e*		10 34 43.3	
BWNR				*e*S	**S**	**10 39 07.9**	**+3.4**
DCPH	**Dipolog City**	**25.79**	**66**	⇑*i*P	**P**	**10 34 44.2**	**+2.4**
GUIM	**Jordan**	**25.94**	**61**	*e*P	**P**	**10 34 43.1**	**0.0**
SNPH	**Sibulan**	**25.97**	**65**	*e*P	**P**	**10 34 45.0**	**+1.5**
KALP	**Kalibo**	**26.21**	**59**	*e*P	**P**	**10 34 45.0**	**-0.6**
OTRP	**Odiongan**	**26.28**	**57**	*e*P	**P**	**10 34 46.9**	**+0.7**
CAL	**Calcutta**	**26.42**	**336**	*e*	**P**	**10 34 49.6**	**+2.1**
CAL				*e*		10 39 23.9	
	comp=Z,5μm,0.3s						
CAL	**Calcutta**	**26.42**	**336**	*e*	**P**	**10 34 49.6**	**+2.1**
CAL				*e*		10 39 23.9	
	comp=Z,5μm,0.3s						
RCP	**Roxas**	**26.50**	**60**	⇑*e*P	**P**	**10 34 49.5**	**+1.2**
SCZP	**Santa Cruz**	**26.52**	**49**	*e*P	**P**	**10 34 49.9**	**+1.4**
AGT	**Agartala**	**26.63**	**343**	*i* P	**P**	**10 34 50.0**	**+0.6**
TBP	**Tagbilaran**	**26.68**	**65**	⇓*e*P	**P**	**10 34 49.9**	**0.0**
KMI	**Kunming**	**26.78**	**6**	⇑P	**P**	**10 34 53.0**	**+2.2**
KMI				AP	pP	10 35 01.0	+2.5
KMI				XP	sP	10 35 05.6	+3.6
KMI				PP	PP	10 35 38.2	+2.3
KMI				PPP	PPP	10 35 51.7	+3.8
KMI				S	**S**	**10 39 27.1**	**+3.8**
KMI				XS		10 39 41.7	
KMI				SS	SS	10 40 40.5	+4.4
KMI				AMB	AMB		
	comp=Z,209nm,1.1s,mb5.6						
KMI				AMB	AMB		
	comp=Z,2μm,6.4s						
KMI				LR	LR		
	comp=N,114μm,15.9s						
KMI				LR	LR		
	comp=E,210μm,25.4s						
KMI				LR	LR		
	comp=Z,146μm,18.2s,MS6.6						
KMI	**Kunming**	**26.78**	**6**	⇑P	**P**	**10 34 53.0**	**+2.2**
KMI				*PP	pP	10 35 01.0	+2.5
KMI				*SP	sP	10 35 05.6	+3.6
KMI						10 35 38.2	
KMI				PPP	PPP	10 35 51.7	+3.8
KMI				S	**S**	**10 39 27.1**	**+3.8**
KMI				*SS		10 39 41.7	
KMI				pmax	pmax		
	comp=Z,209nm,1.1s,mb5.6						
KMI				MLR	MLR		
	comp=Z,146μm,18.2s,MS6.6						
KMI	**Kunming**	**26.78**	**6**	⇑P	**P**	**10 34 53.0**	**+2.2**
	comp=Z,209nm,1.1s,mb5.6						
KMI				pP	pP	10 35 01.0	+2.5
KMI				sP	sP	10 35 05.6	+3.6
KMI				PP	PP	10 35 38.2	+2.3
KMI				PPP	PPP	10 35 51.7	+3.8
KMI				S	**S**	**10 39 27.1**	**+3.8**
KMI				sS		10 39 41.7	
KMI				SS	SS	10 40 40.5	+4.4
KMI				LR	LR		
	comp=Z,146μm,18.2s,MS6.6						
KCP	**Kidapawan**	**26.87**	**71**	⇓*e*P	**P**	**10 34 58.5**	**+6.7**
BOLP	**Bolinao**	**26.91**	**47**	*e*P	**P**	**10 34 52.3**	**+0.3**
CGP	**Cagayan de Oro**	**26.98**	**68**	⇓*e*P	**P**	**10 34 56.0**	**+3.3**
LLP	**Lapu-Lapu**	**27.03**	**63**	⇓*e*P	**P**	**10 34 53.8**	**+0.7**
LLP				*e*S	**S**	**10 39 32.3**	**+4.9**
PCPH	**Palayan**	**27.29**	**50**	⇓*e*P	**P**	**10 34 55.5**	**0.0**
DAV	**Davao City (W)**	**27.35**	**71**	⇓*e*P	**P**	**10 34 59.5**	**+3.4**
BCPH	**Baguio City Da**	**27.40**	**48**	⇓*e*P	**P**	**10 34 56.7**	**+0.2**
GQP	**Guinayangan**	**27.43**	**55**	*e*P	**P**	**10 34 59.2**	**+2.4**
MBWA	**Marble Bar**	**27.61**	**136**	*e*P	**P**	**10 34 56.0**	**-2.4**
	comp=Z,440nm,1.4s,mb5.9						
MBWA				LR	LR		
	comp=Z,195μm,20.0s,MS6.7						
DGAR	**Diego Garcia**	**27.63**	**257**	P	**P**	**10 34 58.4**	**-0.2**
DGAR				pmax	pmax		
	comp=Z,3μm,1.7s,mb6.6						
DGAR	**Diego Garcia**	**27.63**	**257**	P	**P**	**10 34 58.4**	**-0.3**
	comp=Z,3μm,1.7s,mb6.6						
HKC	**Hong Kong**	**27.74**	**30**	⇓*i*P	**P**	**10 35 01.0**	**+1.5**
HKC				*i* S	**S**	**10 39 46.0**	**+7.3**
MSLP	**Maasin**	**27.75**	**65**	*e*P	**P**	**10 35 00.1**	**+0.4**
BALP	**Baler**	**27.77**	**51**	*e*P	**P**	**10 35 00.3**	**+0.4**
MATI	**Mati**	**27.96**	**72**	*e*P	**P**	**10 35 01.7**	**+0.1**
SHL	**Shillong**	**28.05**	**345**	*e*P	**P**	**10 35 01.0**	**-1.3**
SHL				*e*S	**S**	**10 39 46.5**	**+2.7**
HYB	**Hyderabad**	**28.07**	**313**	*e*P	**P**	**10 35 02.0**	**-0.6**
HYB				pmax	pmax		
	comp=Z,917nm,1.8s,mb6.1						
HYB	**Hyderabad**	**28.07**	**313**	*e*P	**P**	**10 35 02.0**	**-0.6**
	comp=Z,917nm,1.8s,mb6.1						
HYB				*e*S	**S**	**10 39 52.0**	**+7.8**
HYB	**Hyderabad**	**28.07**	**313**	*i* P	**P**	**10 35 02.0**	**-0.6**
	comp=Z,917nm,1.8s,mb6.1						
HYB				*e*S	**S**	**10 39 52.0**	**+7.8**
HYB				LR	LR		
	comp=Z,74nm,20.0s						
MNCY	**Minicoy**	**28.23**	**291**	⇓*i*	PP	10 36 05.0	+10
MNCY				⇑*i*		10 41 26.0	
PLP	**Palo**	**28.29**	**63**	*e*P	**P**	**10 35 03.6**	**-0.9**
BOK	**Bokaro**	**28.57**	**333**	⇑*i*	**P**	**10 35 07.2**	**+0.1**
BOK				*i*		10 39 58.2	
BOK	**Bokaro**	**28.57**	**333**	⇑*i*P	**P**	**10 35 07.2**	**+0.1**
BOK				*i*		10 39 58.2	
CNP	**Catarman**	**28.60**

KKN	**Kakani**	**32.33**	**336**	*e*P	**P**	**10 35 39.8**	**-0.5**
KKN				pmax	pmax		
	comp=Z,651nm,0.9s,mb6.5						
VLK	**Valmikinagar**	**32.52**	**333**	*i*	**P**	**10 35 42.0**	**0.0**
VLK				*i*		10 35 47.0	
VLK	**Valmikinagar**	**32.52**	**333**	*i* P	**P**	**10 35 42.0**	**0.0**
VLK				*i*		10 35 47.0	
CD2	**Chengdu**	**32.61**	**7**	P	**P**	**10 35 41.0**	**-1.7**
CD2				PP	PP	10 36 51.3	-0.6
CD2				S	**S**	**10 40 49.8**	**-6.0**
CD2				AMB	AMB		
	comp=Z,340nm,1.0s,mb6.2						
CD2				AMB	AMB		
	comp=Z,12μm,19.2s						
CD2				LR	LR		
	comp=E,287μm,21.6s						
CD2				LR	LR		
	comp=Z,146μm,20.4s,MS6.7						
GKN	**Gorkha**	**32.78**	**335**	*e*P	**P**	**10 35 44.0**	**-0.2**
	comp=Z,2μm,1.1s,mb7.0						
BHPL	**Bhopal**	**32.82**	**320**⇑	*e*P	**P**	**10 35 43.2**	**-1.3**
BHPL				*e*	pP	10 35 51.3	-1.1
	comp=Z,757nm,1.5s						
KOLN	**Koldanda**	**33.03**	**333**	*e*P	**P**	**10 35 46.6**	**+0.2**
	comp=Z,2μm,0.9s,mb7.0						
ENH	**Enshi**	**33.11**	**16**	*e*P	**P**	**10 35 44.9**	**-2.2**
BOM	**Bombay**	**33.30**	**309**	*e*	**P**	**10 35 48.9**	**+0.1**
BOM				*e*		10 36 00.3	
	comp=Z,6μm,2.6s						
BOM				*e*		10 41 08.8	
BOM	**Bombay**	**33.30**	**309**	*e*P	**P**	**10 35 48.9**	**+0.1**
BOM				*e*		10 36 00.3	
	comp=Z,6μm,2.6s						
BOM				*e*		10 41 08.8	
NACB	**Ninganchiao**	**33.41**	**38**	*e*P	**P**	**10 35 50.1**	**+0.4**
YHNB	**Yeheng**	**33.64**	**38**	*e*P	**P**	**10 35 52.1**	**+0.4**
JHNI	**Jhansi**	**33.78**	**324**⇓	*i*	**P**	**10 35 50.0**	**-2.9**
JHNI				*e*		10 38 32.0	
JHNI	**Jhansi**	**33.78**	**324**⇓	*i*P	**P**	**10 35 50.0**	**-2.9**
JHNI				*e*		10 38 32.0	
TATO	**Taipei**	**33.93**	**37**	*e*P	**P**	**10 35 54.7**	**+0.5**
	comp=Z,686nm,1.0s,mb6.5						
TATO				LR	LR		
	comp=Z,77μm,19.0s,MS6.5						
MUN	**Mundaring**	**34.01**	**154**	*e*P	**P**	**10 35 54.4**	**-0.4**
	comp=Z,3μm,1.2s,mb7.0						
MUN	**Mundaring**	**34.01**	**154**	*e*P	**P**	**10 35 54.4**	**-0.4**
MUN				pmax	pmax		
	comp=Z,3μm,1.2s,mb7.0						
KLBR	**Kellerberrin**	**34.38**	**152**	*e*P	**P**	**10 35 58.1**	**0.0**
	comp=Z,16μm,1.4s						
WHN	**Wuhan**	**34.97**	**23**	P	**P**	**10 36 02.8**	**-0.3**
WHN				PPP	PPP	10 37 33.0	-6.4
WHN				S	**S**	**10 41 26.0**	**-6.3**
WHN				LR	LR		
	comp=Z,245μm,13.8s,MS7.1						
NWAO	**Narrogin (SRO)**	**35.27**	**154**	P	**P**	**10 36 04.5**	**-1.1**
	comp=Z,423nm,1.0s,mb6.3,baz=321,slow=9.2,SNR=35						
NWAO	**Narrogin (SRO)**	**35.27**	**154**	*e*P	**P**	**10 36 04.6**	**-1.0**
	comp=Z,641nm,1.1s,mb6.5						
NWAO				LR	LR		
	comp=Z,131μm,21.0s,MS6.7						
AGRA	**Agra**	**35.47**	**326**	*e*P	**P**	**10 36 07.3**	**-0.1**
BHV	**Bhavnagar**	**35.48**	**312**	*e*	**P**	**10 36 07.5**	**0.0**
BHV	**Bhavnagar**	**35.48**	**312**	*e*P	**P**	**10 36 07.5**	**0.0**
LGTI	**Lohaghat**	**36.02**	**331**⇑	*i*P	**P**	**10 36 12.0**	**0.0**
LGTI				*e*		10 37 43.5	
PTH	**Pithoragarh**	**36.12**	**331**	*e*	**P**	**10 36 13.0**	**+0.1**
PTH	**Pithoragarh**	**36.12**	**331**	*e*P	**P**	**10 36 13.0**	**+0.1**
XAN	**Xi'an**	**36.56**	**13**	P	**P**	**10 36 15.5**	**-1.0**
XAN				AP	pP	10 36 24.4	0.0
XAN				PP	PP	10 37 40.4	-0.8
XAN				AMB	AMB		
	comp=Z,225nm,1.0s,mb6.0						
XAN				LR	LR		
	comp=N,105μm,15.9s,MS7.1						
XAN				LR	LR		
	comp=E,297μm,19.7s,MS7.1						
XAN				LR	LR		
	comp=Z,203μm,16.5s,MS7.0						
SONA	**Sohna**	**36.74**	**326**	*e*P	**P**	**10 36 17.9**	**-0.2**
SONA				*e*S	**S**	**10 42 03.6**	**+4.0**
AYAN	**Aya Nagar**	**36.89**	**326**	*e*P	**P**	**10 36 16.8**	**-2.6**
NDI	**New Delhi**	**37.00**	**326**	*e*		10 42 20.0	
BHGR	**Bahadurgarh**	**37.15**	**326**	*e*P	**P**	**10 36 21.6**	**0.0**
KHET	**Khetri**	**37.34**	**324**	*e*P	**P**	**10 36 22.7**	**-0.4**
KHET				*e*	pP	10 36 30.0	-1.0
	comp=Z,699nm,1.7s						
LZH	**Lanzhou**	**37.74**	**6**	⇓P	**P**	**10 36 27.2**	**+0.8**
LZH				AP	pP	10 36 40.0	+5.7
LZH				PP	PP	10 37 59.0	+3.2
LZH				S	**S**	**10 42 13.0**	**-1.9**
LZH				XS		10 42 39.0	
LZH				SS	SS	10 44 51.3	+1.0
LZH				AMB	AMB		
	comp=Z,340nm,1.1s,mb6.0						
LZH				AMB	AMB		
	comp=Z,3μm,5.2s						
LZH				LR	LR		
	comp=E,101μm,15.6s						
LZH				LR	LR		
	comp=Z,123μm,16.0s,MS6.8						
LZH	**Lanzhou**	**37.74**	**6**	⇓P	**P**	**10 36 27.2**	**+0.8**
LZH				*PP	pP	10 36 40.0	+5.7
LZH						10 37 59.0	
LZH				PPP	PPP	10 38 17.3	+0.1
LZH				S	**S**	**10 42 13.0**	**-1.9**
LZH				SS	SS	10 44 51.3	+1.0
LZH				pmax	pmax		
	comp=Z,340nm,1.1s,mb6.0						
LZH				MLR	MLR		
	comp=Z,123μm,16.0s,MS6.8						
LZH	**Lanzhou**	**37.74**	**6**	⇓P	**P**	**10 36 27.2**	**+0.8**
	comp=Z,340nm,1.1s,mb6.0						
LZH				pP	pP	10 36 40.0	+5.7
LZH				sP	sP	10 36 49.6	+12
LZH				PP	PP	10 37 59.0	+3.2
LZH				PPP	PPP	10 38 17.3	+0.1
LZH				S	**S**	**10 42 13.0**	**-1.9**
LZH				sS		10 42 39.0	
LZH				SS	SS	10 44 51.3	+1.0
LZH				LR	LR		
	comp=Z,123μm,16.0s,MS6.8						
DDI	**Dehra Dun**	**37.84**	**329**	*e*P	**P**	**10 36 27.1**	**-0.2**
DDI				*e*S	**S**	**10 42 18.7**	**+2.4**
NJ2	**Nanjing**	**38.17**	**27**	*e*P	**P**	**10 36 31.0**	**+0.9**
NJ2				AP	pP	10 36 40.8	+2.9
NJ2				XP	sP	10 36 44.7	+3.5
NJ2				PP	PP	10 38 02.6	+1.8
NJ2				S	**S**	**10 42 20.0**	**-1.3**
NJ2				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,1μm,4.3s						
NJ2				LR	LR		
	comp=N,280μm,35.2s						
NJ2				LR	LR		
	comp=E,387μm,26.8s						
NJ2				LR	LR		
	comp=Z,94μm,18.8s						
KKR	**Kurukshetra**	**38.20**	**327**	*e*P	**P**	**10 36 29.7**	**-0.7**
BHJ	**Bhuj**	**38.22**	**312**⇑	*i*P	**P**	**10 36 31.4**	**+0.9**
BHJ				*e*		10 36 49.4	
	comp=Z,2μm,1.6s						
BHJ				*e*S	**S**	**10 42 25.9**	**+3.7**
SSE	**Sheshan**	**38.50**	**30**	⇑P	**P**	**10 36 34.2**	**+1.3**
SSE				AP	pP	10 36 42.7	+2.0
SSE				XP	sP	10 36 46.8	+2.8
SSE				PP	PP	10 38 08.1	+3.4
SSE				S	**S**	**10 42 27.9**	**+1.5**
SSE				XS		10 42 43.9	
SSE				AMB	AMB		
	comp=Z,137nm,1.2s,mb5.6						
SSE				AMB	AMB		
	comp=Z,2μm,6.3s						
SSE				LR	LR		
	comp=N,162μm,20.8s,MS7.0						
SSE				LR	LR		
	comp=E,145μm,20.8s,MS7.0						
SSE				LR	LR		
	comp=Z,95μm,16.1s,MS6.7						
SSE	**Sheshan**	**38.50**	**30**	⇑P	**P**	**10 36 34.2**	**+1.3**
	comp=Z,137nm,1.2s,mb5.6						
SSE				pP	pP	10 36 42.7	+2.0
SSE				sP	sP	10 36 46.8	+2.8
SSE				PP	PP	10 38 08.1	+3.4
SSE				S	**S**	**10 42 27.9**	**+1.5**
SSE				sS		10 42 43.9	
SSE				SS	SS	10 45 24.5	+17
SSE				ScS	ScS	10 46 45.6	+5.9
SSE				LR	LR		
	comp=Z,95μm,16.1s,MS6.7						
WRA	**Warramunga Arr**	**38.54**	**121**	P	**P**	**10 36 31.1**	**-2.2**
	comp=Z,431nm,1.1s,mb6.1,baz=300,slow=9.6,SNR=74						
WRA				PcP	PcP	10 38 47.1	+0.8
	comp=Z,35nm,0.5s,baz=318,slow=2.4,SNR=6.7						
WRA				S	**S**	**10 42 24.1**	**-3.0**
	comp=Z,161nm,1.2s,baz=298,slow=15,SNR=7.6						
WRAB	**Tennant Creek**	**38.55**	**121**	*e*P	**P**	**10 36 32.0**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,995nm,0.8s,mb6.6						
WRAB				MLR	MLR		
	comp=Z,38μm,21.0s,MS6.2						
WRAB	**Tennant Creek**	**38.55**	**121**	*e*P	**P**	**10 36 32.0**	**-1.3**
	comp=Z,995nm,0.8s,mb6.6						
WRAB				LR	LR		
	comp=Z,38μm,21.0s,MS6.2						
WB2	**Warramunga Arr**	**38.55**	**121**	*e*P	**P**	**10 36 32.0**	**-1.4**
WB2				*e*S	**S**	**10 42 24.7**	**-2.5**
WB2				*e*SCS	ScS	10 46 40.4	+0.3
SMLA	**Simla**	**38.94**	**329**⇑	*i*	**P**	**10 36 32.6**	**-3.9**
	comp=Z,49nm,0.5s,mb5.5						
SMLA				*i* S	**S**	**10 42 33.6**	**+0.6**
SDNR	**Sundarnagar**	**39.33**	**329**	*e*P	**P**	**10 36 39.6**	**-0.2**
BHK	**Bhakra**	**39.56**	**328**	*e*	**P**	**10 36 45.3**	**+3.6**
BHK				*e*		10 42 04.1	
BHK	**Bhakra**	**39.56**	**328**	*e*	**P**	**10 36 45.3**	**+3.6**
BHK				*e*		10 42 04.1	
JOW	**Kunigami**	**39.58**	**42**	P	**P**	**10 36 41.8**	**-0.2**
	comp=Z,44nm,0.4s,mb5.5,baz=247,slow=10.0,SNR=13						
FORT	**Forrest**	**39.59**	**140**	*e*P	**P**	**10 36 42.3**	**+0.4**
	comp=Z,16μm,0.7s						
FORT				*e*S	**S**	**10 42 47.1**	**+4.3**
JASL	**Jaisalmer**	**39.63**	**318**	*e*P	**P**	**10 36 41.5**	**-0.8**
ASPA	**Alice Springs**	**39.80**	**126**	*e*P	**P**	**10 36 43.0**	**-0.8**
ASPA				*e*S	**S**	**10 42 46.0**	**-0.1**
ASPA				*e*SCS	ScS	10 46 51.6	+4.3
ASAR	**Alice Springs**	**39.80**	**126**	P	**P**	**10 36 43.1**	**-0.6**
	comp=Z,146nm,0.6s,mb5.9,baz=298,slow=7.6,SNR=64						
ASAR				PcP	PcP	10 38 50.8	+0.6
	comp=Z,71nm,0.9s,baz=312,slow=2.8,SNR=3.3						
ASAR				S	**S**	**10 42 45.9**	**-0.3**
	comp=Z,145nm,1.0s,baz=298,slow=13,SNR=13						
PONG	**Pong**	**40.22**	**328**	*e*	**P**	**10 36 46.0**	**-1.1**
PONG				*e*		10 43 26.0	
PONG	**Pong**	**40.22**	**328**	*e*P	**P**	**10 36 46.0**	**-1.1**
PONG				*e*		10 43 26.0	
DLH	**Dalhousie**	**40.68**	**329**	*e*P	**P**	**10 36 52.0**	**+1.2**
DLH				*e*		10 38 55.0	
THN	**Thein Dam**	**40.72**	**328**	*e*P	**P**	**10 36 50.3**	**-0.9**
THN				*e*		10 38 53.2	
GTA	**Gaotai**	**40.85**	**0**	P	**P**	**10 36 51.7**	**-0.5**
GTA				AP	pP	10 37 01.0	+0.9
GTA				PP	PP	10 38 30.9	+1.4
GTA				PCS		10 42 44.9	
GTA				S	**S**	**10 42 57.5**	**-4.1**
GTA				SCS	ScS	10 46 54.1	+0.7
GTA				AMB	AMB		
	comp=Z,97nm,1.3s,mb5.3						
GTA				AMB	AMB		
	comp=Z,3μm,6.1s						
GTA				LR	LR		
	comp=N,69μm,18.3s,MS6.8						
GTA				LR	LR		
	comp=E,85μm,16.7s,MS6.8						
GTA				LR	LR		
	comp=Z,76μm,14.4s,MS6.7						
TIY	**Taiyuan**	**40.93**	**16**	⇓P	**P**	**10 36 53.0**	**+0.2**
TIY				S	**S**	**10 43 00.0**	**-2.7**
TIY				LR	LR		
	comp=E,97μm,15.0s						
TIA	**Tai'an**	**41.06**	**22**	*e*P	**P**	**10 36 53.2**	**-0.7**
TIA				S	**S**	**10 43 00.0**	**-4.7**
TIA				AMB	AMB		
	comp=Z,94nm,1.1s,mb5.3						
TIA				LR	LR		
	comp=N,23μm,13.1s,MS6.8						
TIA				LR	LR		
	comp=E,72μm,12.1s,MS6.8						
BTO	**Baotou**	**43.11**	**12**	*e*P	**P**	**10 37 10.0**	**-0.8**
BTO				AMB	AMB		
	comp=Z,67nm,1.0s,mb5.3						
HHC	**Hu-ho-hao-te**	**43.68**	**13**	*e*P	**P**	**10 37 13.8**	**-1.5**
HHC				AP	pP	10 37 23.5	+0.3
HHC				PP	PP	10 38 59.4	+0.6
HHC				SCP		10 42 50.7	
HHC				PCS		10 42 54.3	
HHC				S	**S**	**10 43 41.4**	**-1.7**
HHC				SCS	ScS	10 47 11.4	+0.8
HHC				AMB	AMB		
	comp=Z,95nm,1.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,9μm,9.4s						
HHC				LR	LR		
	comp=N,151μm,15.9s,MS7.1						
HHC				LR	LR		
	comp=E,124μm,16.7s,MS7.1						
HHC				LR	LR		
	comp=Z,126μm,15.2s,MS6.9						
BJT	**Baijiatuau**	**44.15**	**18**	*e*P	**P**	**10 37 19.8**	**+0.6**
BJT				pmax	pmax		
	comp=Z,308nm,1.1s						
BJT	**Baijiatuau**	**44.15**	**18**	*e*P	**P**	**10 37 19.8**	**+0.5**
	comp=Z,308nm,1.1s,mb6.0						
BJI	**Beijing**	**44.18**	**18**	*e*P	**P**	**10 37 19.9**	**+0.5**
BJI				AP	pP	10 37 28.6	+1.3
BJI				XP	sP	10 37 32.6	+2.0
BJI				PP	PP	10 39 03.3	-0.5
BJI				S	**S**	**10 43 48.3**	**-2.1**
BJI				SS	SS	10 47 06.5	+6.2
BJI				AMB	AMB		
	comp=Z,257nm,1.1s,mb5.9						
BJI				AMB	AMB		
	comp=Z,3μm,6.3s						
BJI				LR	LR		
	comp=N,71μm,23.3s,MS6.9						
BJI				LR	LR		
	comp=E,145μm,22.7s,MS6.9						
BJI				LR	LR		
	comp=Z,70μm,23.2s,MS6.5						
BJI	**Beijing**	**44.18**	**18**	*e*P	**P**	**10 37 19.9**	**+0.5**
BJI				*PP	pP	10 37 28.6	+1.3
BJI				*SP	sP	10 37 32.6	+2.0
BJI						10 39 03.3	
BJI				S	**S**	**10 43 48.3**	**-2.1**
BJI				*SS		10 44 06.6	
BJI				SS	SS	10 47 06.5	+6.2
BJI				pmax	pmax		
	comp=Z,257nm,1.1s,mb5.9						
BJI				MLR	MLR		
	comp=Z,70μm,23.2s,MS6.5						
BJI	**Beijing**	**44.18**	**18**	*e*P	**P**	**10 37 19.9**	**+0.5**
	comp=Z,257nm,1.1s,mb5.9						
BJI				pP	pP	10 37 28.6	+1.3
BJI				sP	sP	10 37 32.6	+2.0
BJI				PP	PP	10 39 03.3	-0.5
BJI				S	**S**	**10 43 48.3**	**-2.1**
BJI				sS		10 44 06.6	
BJI				SS	SS	10 47 06.5	+6.2
BJI				LR	LR		
	comp=Z,70μm,23.2s,MS6.5						
DL2	**Dalian**	**45.16**	**24**	P	**P**	**10 37 28.0**	**+0.6**
DL2				AP	pP	10 37 34.2	-1.1
DL2				XP	sP	10 37 43.8	+5.3
DL2				S	**S**	**10 44 01.9**	**-2.8**
DL2				SS	SS	10 47 19.4	+0.8
DL2				AMB	AMB		
	comp=Z,310nm,0.8s,mb6.2						
DL2				AMB	AMB		
	comp=Z,6μm,10.8s						
DL2				LR	LR		
	comp=N,55μm,21.4s,MS6.8						
DL2				LR	LR		
	comp=E,103μm,21.6s,MS6.8						
DL2				LR	LR		
	comp=Z,61μm,18.4s,MS6.6						
KSH	**Kashi**	**46.33**	**335**	*e*P	**P**	**10 37 36.8**	**+0.3**
KSH				*e*AP	pP	10 37 44.0	-0.5
KSH				LR	LR		
	comp=N,10μm,12.0s,MS6.2						
KSH				LR	LR		
	comp=E,15μm,14.6s,MS6.2						
WBK	**Wadi Bani Khal**	**46.34**	**304**⇑	P	**P**	**10 37 37.1**	**+0.2**
	SNR=26						
WMQ	**Urumqi**	**46.49**	**348**⇑	P	**P**	**10 37 38.6**	**+0.8**
WMQ				PCP	PcP	10 39 13.4	+0.9
WMQ				PP	PP	10 39 27.8	+0.9
WMQ				PCS		10 43 06.6	
WMQ				S	**S**	**10 44 25.1**	**+1.5**
WMQ				SCS	ScS	10 47 30.0	+1.6
WMQ				SS	SS	10 47 43.6	+1.6
WMQ				LR	LR		
	comp=N,57μm,25.4s,MS6.7						
WMQ				LR	LR		
	comp=E,83μm,25.0s,MS6.7						
WMQ				LR	LR		
	comp=Z,49μm,22.8s,MS6.4						
JMDO	**Jabal Madar**	**46.96**	**303**⇑	P	**P**	**10 37 42.2**	**+0.4**
	SNR=16						
SMDO	**Samad**	**47.30**	**304**⇑	P	**P**	**10 37 44.9**	**+0.4**
	SNR=24						
BIDO	**Bidbid**	**47.43**	**304**	P	**P**	**10 37 46.1**	**+0.6**
	SNR=32						
SHAO	**Shalim**	**47.47**	**296**⇑	P	**P**	**10 37 46.3**	**+0.5**
	SNR=18						
BSY	**Bisya**	**47.87**	**303**	P	**P**	**10 37 49.4**	**+0.5**
	SNR=30						
PMG	**Port Moresby**	**47.94**	**101**	P	**P**	**10 37 49.0**	**-0.6**
	comp=Z,44nm,0.5s,mb5.8,baz=299,slow=6.9,SNR=12						
PMG				S	**S**	**10 44 42.6**	**-1.8**
	comp=Z,9.8nm,0.9s,baz=246,slow=20,SNR=1.8						
HOQ	**Hoqain**	**48.13**	**304**⇓	P	**P**	**10 37 51.7**	**+0.8**
	SNR=15						
SNY	**Shenyang**	**48.43**	**24**⇑	P	**P**	**10 37 52.3**	**-0.7**
SNY				AP	pP	10 38 01.6	+0.6
SNY				XP	sP	10 38 07.1	+3.0
SNY				PP	PP	10 39 48.1	+2.8
SNY				AMB	AMB		
	comp=Z,90nm,1.2s,mb5.7						
SNY				LR	LR		
	comp=N,39μm,17.2s,MS6.9						
SNY				LR	LR		
	comp=E,128μm,21.3s,MS6.9						
SNY				LR	LR		
	comp=Z,75μm,18.6s,MS6.7						
RBK	**Rabkut**	**48.58**	**295**⇓	P	**P**	**10 37 55.5**	**+1.1**
	SNR=41						
ARQ	**Araqi**	**48.69**	**303**⇑	P	**P**	**10 37 56.0**	**+0.7**
	SNR=12						
SARN	**Sarigan**	**49.08**	**66**	*e*P	**P**	**10 37 57.5**	**-0.9**
WHFO	**Wadi Hawf**	**49.10**	**295**⇑	P	**P**	**10 37 59.1**	**+0.6**
	SNR=22						
AAA	**Alma-Ata**	**49.12**	**338**	*e*P	**P**	**10 37 58.0**	**-0.3**
AAA				*i* S	**S**	**10 45 00.0**	**-0.7**
AAA				pmax	pmax		
	comp=Z,6μm,5.0s						
AAA				smax			
	comp=E,21μm,12.0s						
AAA				MLR	MLR		
	comp=Z,14μm,22.0s,MS5.9						
CTA	**Charters Tower**	**49.13**	**115**⇓	*i*P	**P**	**10 37 57.5**	**-1.2**
	comp=Z,498nm,2.0s,mb6.2						
CTA				*e*S	**S**	**10 45 01.6**	**+0.5**
CTA	**Charters Tower**	**49.13**	**115**⇓	*i*P	**P**	**10 37 57.5**	**-1.2**
CTA				*e*S	**S**	**10 45 01.6**	**+0.5**
CTA				pmax	pmax		
	comp=Z,498nm,2.0s						
CTA	**Charters Tower**	**49.13**	**115**	P	**P**	**10 37 56.5**	**-2.2**
	comp=Z,164nm,1.0s,mb6.0,baz=288,slow=9.1,SNR=24						
CTA				S	**S**	**10 45 00.9**	**-0.2**
	comp=Z,15nm,0.9s,baz=188,slow=14,SNR=3.0						
CTAO	**Charters Tower**	**49.13**	**115**	*e*P	**P**	**10 37 57.3**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,359nm,1.0s,mb6.4						
CTAO				MLR	MLR		
	comp=Z,111μm,20.0s,MS6.8						
CTAO	**Charters Tower**	**49.13**	**115**	*e*P	**P**	**10 37 57.3**	**-1.4**
	comp=Z,359nm,1.0s,mb6.4						
CTAO				LR	LR		
	comp=Z,111μm,20.0s,MS6.8						
UCH	**Uchtor**	**49.20**	**335**	P	**P**	**10 37 60.0**	**+1.1**
	SNR=20						
ADE	**Adelaide**	**49.23**	**137**	*e*P	**P**	**10 38 00.0**	**+0.7**
TKM2	**Tokmak 2**	**49.34**	**337**	P	**P**	**10 38 01.7**	**+1.7**
	SNR=18						
ABTO	**Aybut**	**49.35**	**295**⇑	P	**P**	**10 38 01.3**	**+0.8**
	SNR=27						
KBK	**Karagaybulak**	**49.37**	**336**	P	**P**	**10 38 01.5**	**+1.2**
	SNR=40						
AML	**Almayashu**	**49.46**	**335**	P	**P**	**10 38 01.9**	**+0.9**
	SNR=34						
AAK	**Ala-Archa**	**49.54**	**336**	P	**P**	**10 38 04.0**	**+2.5**
	SNR=22						
AAK	**Ala-Archa**	**49.54**	**336**	P	**P**	**10 38 01.8**	**+0.3**
AAK				pmax	pmax		
	comp=Z,4μm,2.2s,mb7.1						
AAK	**Ala-Archa**	**49.54**	**336**	*i* P	**P**	**10 38 01.9**	**+0.4**
SONM	**Songino Array**	**49.63**	**6**	P	**P**	**10 38 02.2**	**0.0**
	comp=Z,99nm,0.7s,mb6.0,baz=188,slow=6.5,SNR=33						
SONM				PcP	PcP	10 39 24.0	+0.4
	comp=Z,93nm,0.9s,baz=186,slow=4.6,SNR=2.7						
ASHO	**Ashiyiah**	**49.64**	**305**⇑	P	**P**	**10 38 03.8**	**+1.2**
	SNR=47						
FRU	**Bishkek**	**49.66**	**336**	*αe*P	**P**	**10 38 02.8**	**+0.4**
FRU				*e*S	**S**	**10 45 12.5**	**+4.4**
FRU				pmax	pmax		
	comp=Z,3μm,2.2s,mb6.9						
FRU				pmax	pmax		
	comp=Z,15μm,6.5s						
FRU				smax			
	comp=E,33μm,25.0s						
STKA	**Stephens Creek**	**49.70**	**132**⇑	*i*P	**P**	**10 38 02.5**	**-0.5**
	comp=E,550nm,0.8s,mb6.6						
STKA				*e*S	**S**	**10 45 11.3**	**+2.4**
STKA	**Stephens Creek**	**49.70**	**132**	P	**P**	**10 38 01.6**	**-1.3**
	comp=E,104nm,0.5s,mb6.1,baz=307,slow=8.2,SNR=49						
STKA				S	**S**	**10 45 10.3**	**+1.4**
	comp=E,15nm,0.7s,baz=65,slow=19,SNR=2.3						
ULN	**Ulaanbaatar**	**49.73**	**7**	*c i*P	**P**	**10 38 02.0**	**-1.0**
ULN	**Ulaanbaatar**	**49.73**	**7**⇑	*e*P	**P**	**10 38 02.4**	**-0.6**
	comp=E,312nm,0.8s,mb6.4						
ULN				LR	LR		
	comp=Z,81μm,21.0s,MS6.7						
CHMS	**Chumysh**	**49.74**	**336**	P	**P**	**10 38 02.8**	**-0.3**
	SNR=31						
EKS2	**Erkin-Say**	**49.86**	**335**	P	**P**	**10 38 04.2**	**+0.2**
	SNR=40						
BANOM	**Banah**	**49.98**	**306**⇑	P	**P**	**10 38 06.6**	**+1.4**
	SNR=15						
CBIJ	**Chichi jima**	**49.99**	**52**	P	**P**	**10 38 03.4**	**-1.8**
	comp=Z,162nm,0.4s,mb6.4,baz=254,slow=5.9,SNR=20						
USP	**Ospenovka**	**50.06**	**336**	P	**P**	**10 38 05.3**	**-0.3**
	SNR=42						
MKAR	**Makanchi Array**	**50.57**	**345**	P	**P**	**10 38 08.7**	**-0.7**
	comp=Z,124nm,0.8s,mb5.9,baz=150,slow=7.6,SNR=42						
MKAR				S	**S**	**10 45 24.1**	**+3.4**
	comp=Z,47nm,1.0s,baz=159,slow=10,SNR=8.3						
CN2	**Changchun**	**50.83**	**24**⇑	P	**P**	**10 38 11.2**	**-0.2**
CN2				XP	sP	10 38 24.2	+1.7
CN2				PP	PP	10 40 10.5	+2.0
CN2				S	**S**	**10 45 24.6**	**+0.3**
CN2				SS	SS	10 48 57.4	+0.7
CN2				AMB	AMB		
	comp=Z,170nm,1.0s,mb5.9						
CN2				AMB	AMB		
	comp=Z,10μm,10.0s						
CN2				LR	LR		
	comp=N,94μm,16.0s,MS7.0						
CN2				LR	LR		
	comp=E,64μm

MAJO					pmax	pmax	
	comp=Z,366nm,1.2s,mb6.2						
MAJO					MLR	MLR	
	comp=Z,55μm,21.0s,MS6.6						
MAJO	**Matsushiro**	**52.27**	**39**	*e*P	**P**		**10 38 20.7 -1.7**
	comp=Z,366nm,1.2s,mb6.2						
MAJO					LR	LR	
	comp=Z,55μm,21.0s,MS6.6						
MAT	**Matsushiro**	**52.27**	**39**	*e*P	**P**		**10 38 22.0 -0.4**
MAT				*e*S	**S**		**10 45 46.0 +1.8**
MAT					pmax	pmax	
	comp=Z,250nm,1.5s,mb5.9						
MAT	**Matsushiro**	**52.27**	**39**	*e*P	**P**		**10 38 22.0 -0.4**
	comp=Z,250nm,1.5s,mb5.9						
MAT				*e*S	**S**		**10 45 46.0 +1.8**
MAT	**Matsushiro**	**52.27**	**39**	P	**P**		**10 38 21.5 -0.9**
MAT				S	**S**		**10 45 45.0 +0.8**
MJAR	**Matsushiro Arr**	**52.27**	**39**	P	**P**		**10 38 21.6 -0.7**
	comp=Z,67nm,1.0s,mb5.5,baz=222,slow=7.8,SNR=34						
MJAR				S	**S**		**10 45 43.7 -0.5**
	comp=Z,1.2nm,0.4s,baz=229,slow=21,SNR=4.4						
MUKL	**Al Mukalla**	**52.53**	**290⇑**	*e*P	**P**		**10 38 25.3 +0.7**
MOY	**Mondy**	**53.12**	**1**	*e*P	**P**		**10 38 28.5 0.0**
TLY	**Talaya**	**53.23**	**3***c*	*i*P	**P**		**10 38 28.7 -0.6**
TLY				*e*			10 39 44.4
TLY				*e*PPP	PPP		10 41 41.3 +3.6
TLY				*e*S	**S**		**10 45 48.8 -8.3**
TLY				*e*			10 48 15.3
TLY				pmax	pmax		
	comp=Z,903nm,2.1s,mb6.3						
TLY				MLR	MLR		
	comp=Z,56μm,16.0s,MS6.7						
MDJ	**Mudanjiang**	**53.26**	**26**	P	**P**		**10 38 29.5 -0.1**
MDJ				PP	PP		10 40 28.6 -2.7
MDJ				PCS			10 43 37.0
MDJ				S	**S**		**10 45 57.5 0.0**
MDJ				SS	SS		10 49 36.3 -0.4
MDJ				AMB	AMB		
	comp=Z,96nm,1.0s,mb5.7						
MDJ				AMB	AMB		
	comp=Z,8μm,10.0s						
MDJ				LR	LR		
	comp=N,95μm,20.3s,MS7.0						
MDJ				LR	LR		
	comp=E,122μm,20.3s,MS7.0						
MDJ				LR	LR		
	comp=Z,76μm,12.7s						
MDJ	**Mudanjiang**	**53.26**	**26**	*e*P	**P**		**10 38 28.7 -0.9**
	comp=Z,225nm,0.9s,mb6.1						
HIA	**Hailar**	**53.62**	**16**	*e*P	**P**		**10 38 32.1 -0.1**
HIA				pmax	pmax		
	comp=Z,103nm,0.8s						
HIA	**Hailar**	**53.62**	**16**	*e*P	**P**		**10 38 32.1 -0.1**
	comp=Z,103nm,0.8s,mb5.8						
IRK	**Irkutsk**	**53.83**	**4⇑**	*i*P	**P**		**10 38 32.6 -1.1**
IRK				*e*S	**S**		**10 46 11.5 +6.3**
IRK				pmax	pmax		
	comp=Z,1μm,2.0s,mb6.4						
OPO	**Ambohidratompo**	**54.01**	**248**	P	**P**		**10 38 36.6 +1.2**
	comp=Z,193nm,1.1s,mb5.9,baz=75,slow=8.2,SNR=27						
ASH	**Ashkhabad**	**54.77**	**320**	P	**P**		**10 38 39.0 -1.8**
ASH				S	**S**		**10 46 23.0 +5.0**
KURK	**Kurchatov**	**55.15**	**344**	*i*P	**P**		**10 38 42.3 -1.1**
KURK				pmax	pmax		
	comp=Z,2μm,1.9s,mb6.8						
KURK	**Kurchatov**	**55.15**	**344**	*e*P	**P**		**10 38 41.7 -1.7**
KURK				LR	LR		
	comp=Z,14μm,21.0s,MS6.0						
TOO	**Toolangi**	**55.26**	**136⇑**	*i*P	**P**		**10 38 45.2 +0.8**
	comp=Z,213nm,1.1s,mb6.1						
TOO				*e*S	**S**		**10 46 39.3 +15**
TOO	**Toolangi**	**55.26**	**136⇑**	*i*P	**P**		**10 38 45.2 +0.8**
TOO				*e*S	**S**		**10 46 39.3 +15**
TOO				pmax	pmax		
	comp=Z,213nm,1.1s,mb6.1						
LBOS		**55.99**	**288⇑**	*e*P	**P**		**10 38 50.1 +0.2**
LBOS				AMb	AMB		10 38 52.7
	comp=Z,2μm,1.8s,mb6.8						
ZAL	**Zalesovo**	**56.73**	**350**	P	**P**		**10 38 54.1 -0.6**
	comp=Z,229nm,0.5s,mb6.4,baz=310,slow=4.5,SNR=36						
ZAL				S	**S**		**10 46 45.8 +1.8**
	comp=Z,62nm,1.2s,baz=167,slow=18,SNR=11						
DHBB	**Dhamar BB**	**56.94**	**288⇑**	*e*P	**P**		**10 38 57.6 +0.9**
TRBA	**At Turbah**	**56.95**	**287⇓**	*e*P	**P**		**10 38 57.7 +0.9**
CNB	**Canberra Magne**	**57.03**	**132⇑**	*i*P	**P**		**10 38 56.4 -0.8**
	comp=Z,10μm,1.3s						
KLR	**Kul'dur**	**57.78**	**24**	*e*P	**P**		**10 38 57.2 -5.0**
KLR				*e*S	**S**		**10 46 59.0 +1.2**
KLR				pmax	pmax		
	comp=N,450nm,2.0s						
KLR				pmax	pmax		
	comp=E,720nm,2.0s						
KLR				pmax	pmax		
	comp=Z,1μm,2.0s,mb6.5						
KLR				pmax	pmax		
	comp=N,6μm,10.0s						
KLR				pmax	pmax		
	comp=E,4μm,10.0s						
KLR				pmax	pmax		
	comp=Z,9μm,10.0s						
KLR				smax			
	comp=N,310nm,2.2s						
KLR				smax			
	comp=E,240nm,2.2s						
RIV	**Riverview**	**57.80**	**130**	*e*P	**P**		**10 39 02.1 -0.5**
RIV				*e*S	**S**		**10 47 04.8 +6.4**
TAU	**Tasmania Unive**	**59.13**	**141**	*e*P	**P**		**10 39 11.5 -0.2**
TAU				pmax	pmax		
	comp=Z,890nm,1.4s,mb6.6						
TAU				MLR	MLR		
	comp=Z,18μm,20.0s,MS6.2						
TAU	**Tasmania Unive**	**59.13**	**141**	*e*P	**P**		**10 39 11.5 -0.2**
	comp=Z,890nm,1.4s,mb6.6						
TAU				LR	LR		
	comp=Z,18μm,20.0s,MS6.2						
BVA0	**Borovoye Array**	**59.70**	**340**	*i*P	**P**		**10 39 13.5 -2.0**
BVA0				pmax	pmax		
	comp=Z,121nm,1.2s,mb5.8						
BVAR	**Borovoye Array**	**59.70**	**340**	P	**P**		**10 39 13.5 -2.0**
	comp=Z,112nm,0.8s,mb6.0,baz=143,slow=7.3,SNR=34						
BVAR				S	**S**		**10 47 23.1 +0.2**
	comp=Z,4.2nm,0.8s,baz=217,slow=7.2,SNR=2.1						
CHKZ	**Chkalovo**	**60.17**	**341**	P	**P**		**10 39 16.9 -1.8**
CHKZ				pmax	pmax		
	comp=Z,2μm,1.6s,mb6.9						
CHKZ	**Chkalovo**	**60.17**	**341**	*e*P	**P**		**10 39 17.1 -1.6**
BOD	**Bodaibo**	**60.39**	**9**	*e*P	**P**		**10 39 18.8 -1.3**
BOD				pmax	pmax		
	comp=Z,619nm,2.0s,mb6.3						
YSS	**Yuzh-Sakhalins**	**61.41**	**32⇑**	*e*P	**P**		**10 39 25.6 -1.6**
YSS				*e*PPP	PPP		10 43 08.0 -5.0
YSS				*i*S	**S**		**10 47 46.0 +1.3**
YSS				*e*PS	PS		10 47 56.0 -8.1
YSS				*e*			10 48 22.0
YSS				*e*			10 49 18.0
YSS				pmax	pmax		
	comp=N,280nm,1.1s						
YSS				pmax	pmax		
	comp=Z,670nm,1.1s,mb6.7						
YSS				pmax	pmax		
	comp=Z,4μm,6.0s						
YSS				pmax	pmax		
	comp=N,360nm,1.1s						
YSS				pmax	pmax		
	comp=Z,1μm,1.1s,mb6.9						
YSS				smax			
	comp=N,10μm,12.0s						
YSS				MLR	MLR		
	comp=E,22μm,17.0s						
YSS				MLR	MLR		
	comp=Z,22μm,17.0s,MS6.4						
YSS	**Yuzh-Sakhalins**	**61.41**	**32**	*e*P	**P**		**10 39 26.0 -1.1**
	comp=Z,1μm,1.2s,mb7.0						
YSS				LR	LR		
	comp=Z,22μm,19.0s,MS6.3						
YUK	**Yuzh-Kuril'sk**	**61.41**	**36**	*e*P	**P**		**10 39 30.0 +2.7**
YUK				*e*			10 40 18.0
YUK				*e*			10 41 43.0
YUK				*i*S	**S**		**10 47 50.0 +5.2**
YUK				pmax	pmax		
	comp=Z,980nm,1.0s,mb6.9						
YUK				pmax	pmax		
	comp=Z,13μm,8.0s						
YUK				pmax	pmax		
	comp=N,8μm,7.0s						
YUK				pmax	pmax		
	comp=E,5μm,9.0s						
YUK				smax			
	comp=N,14μm,10.0s						
YUK				smax			
	comp=E,16μm,10.0s						
YUK				MLR	MLR		
	comp=N,49μm,21.0s,MS6.7						
YUK				MLR	MLR		
	comp=E,33μm,21.0s,MS6.7						
YUK				MLR	MLR		
	comp=Z,46μm,21.0s,MS6.6						
CLNS	**Chul'man**	**61.78**	**15**	*e*P	**P**		**10 39 30.1 +0.5**
CLNS				*e**PP	pP		10 39 35.5 -2.3
CLNS				*e*			10 40 14.9
CLNS				*e*S	**S**		**10 47 43.3 -6.0**
CLNS				pmax	pmax		
	comp=Z,119nm,1.0s,mb6.0						
CLNS				pmax	pmax		
	comp=N,40nm,0.9s						
CLNS				pmax	pmax		
	comp=E,65nm,1.1s						
CLNS				smax			
	comp=E,34nm,1.5s						
CLNS				smax			
	comp=N,22nm,1.1s						
CLNS				smax			
	comp=Z,18nm,1.1s						
CLNS				MLR	MLR		
	comp=N,40μm,16.0s,MS6.8						
CLNS				MLR	MLR		
	comp=E,25μm,14.0s,MS6.8						
CLNS				MLR	MLR		
	comp=Z,43μm,14.0s,MS6.8						
KMBO	**Kilima Mbogo**	**62.30**	**270**	*i*P	**P**		**10 39 34.1 +0.4**
KMBO				pmax	pmax		
	comp=Z,213nm,1.0s						
KMBO	**Kilima Mbogo**	**62.30**	**270**	P	**P**		**10 39 34.1 +0.4**
	comp=Z,213nm,1.0s,mb6.2,baz=64,slow=8.1,SNR=41						
BHD	**Baghdad**	**62.45**	**309**	*i*P	**P**		**10 39 27.0 -7.4**
BHD				*i*S	**S**		**10 47 52.0 -6.1**
MAK	**Makhachkala**	**64.42**	**320⇓**	*i*P	**P**		**10 39 48.0 +0.8**
MAK				*i*S	**S**		**10 48 14.0 -8.6**
MSL	**Mosul**	**64.59**	**312**	*e*P	**P**		**10 39 48.0 -0.4**
MSL				*i*pP	pP		10 40 02.0 +5.3
MSL				*e*PP	PP		10 42 18.0 +5.6
MSL				*e*S	**S**		**10 48 21.5 -3.2**
MSL				*e*ScS	ScS		10 49 31.0 -6.2
HKR	**Hakkari**	**64.61**	**313**	P	**P**		**10 39 47.1 -1.5**
HKR	**Hakkari**	**64.61**	**313**	P	**P**		**10 39 48.1 -0.5**
MIR	**Mirnyy**	**64.95**	**183**	*e*P	**P**		**10 39 50.0 -0.2**
MIR				*e*			10 42 23.0
MIR				*e*S	**S**		**10 48 36.0 +7.4**
MIR				pmax	pmax		
	comp=E,1μm,12.0s						
MIR				smax			
	comp=N,11μm,20.0s						
GNI	**Garni**	**64.97**	**316**	P	**P**		**10 39 50.0 -0.8**
GNI	**Garni**	**64.97**	**316**	P	**P**		**10 39 50.7 -0.2**
	comp=N,69nm,0.9s,mb5.7,baz=3.4,slow=9.5,SNR=23						
GNI	**Garni**	**64.97**	**316**	*e*P	**P**		**10 39 49.8 -1.1**
GNI				LR	LR		
	comp=Z,17μm,21.0s,MS6.2						
CASY	**Casey**	**64.97**	**175**	*e*P	**P**		**10 39 49.8 -0.6**
VANB	**Van**	**65.28**	**314**	P	**P**		**10 39 50.0 -2.9**
VANB	**Van**	**65.28**	**314**	P	**P**		**10 39 52.7 -0.2**
MTA	**Mtatsminda**	**65.61**	**318**	P	**P**		**10 39 53.1 -1.9**
TI2	**Plekhanov**	**65.66**	**318⇑**	*i*P	**P**		**10 39 54.8 -0.5**
TI2				*i*S	S		10 48 37.4 -0.4
TI2				pmax	pmax		
	comp=Z,170nm,1.0s,mb6.0						
TI2				pmax	pmax		
	comp=Z,8μm,4.0s						
TBLG	**Delisi**	**65.67**	**318**	P	**P**		**10 39 54.5 -0.8**
SVE	**Sverdlovsk**	**66.19**	**338***d*	*i*P	**P**		**10 39 57.3 -1.1**
SVE				*i*S	S		10 48 42.0 -2.0
SVE				*i*SS	SS		10 52 53.9 -7.6
SVE				pmax	pmax		
	comp=Z,1μm,1.7s,mb6.7						
KARS	**Kars**	**66.31**	**316**	*e*P	**P**		**10 39 59.0 -0.5**
KARS	**Kars**	**66.31**	**316**	P	**P**		**10 40 00.1 +0.7**
BTMT	**Batman**	**66.49**	**313**	*e*P	**P**		**10 39 59.8 -0.8**
BEST	**Besiri**	**66.54**	**313**	*i*P	**P**		**10 39 59.8 -1.2**
ZEI	**Tsey**	**66.69**	**319**	*e*P	**P**		**10 39 56.1 -5.7**
ZEI				*i**PP	pP		10 40 08.3 -1.7
ZEI				*i*			10 42 23.2
ZEI				*e*S	S		10 48 49.2 -1.0
ZEI				pmax	pmax		
	comp=Z,115nm,0.9s,mb5.9						
ARU	**Arti**	**66.71**	**337⇑**	*i*P	**P**		**10 40 00.1 -1.6**
ARU				*e*			10 40 24.8
ARU				*e*			10 42 24.8
ARU				*e*PPP	PPP		10 44 09.4 +2.5
ARU				*i*S	S		10 48 50.7 +0.4
ARU				*e*			10 49 52.4
ARU				pmax	pmax		
	comp=Z,637nm,1.1s,mb6.6						
ARU	**Arti**	**66.71**	**337**	*e*P	**P**		**10 39 59.8 -1.9**
ARU				LR	LR		
	comp=Z,5μm,20.0s,MS5.8						
DIY	**Diyarbakir**	**67.31**	**312**	*e*P	**P**		**10 40 05.2 -0.6**
DIY	**Diyarbakir**	**67.31**	**312**	P	**P**		**10 40 05.7 -0.1**
BINT	**Bingol**	**67.48**	**314**	*e*P	**P**		**10 40 05.7 -1.1**
BINT	**Bingol**	**67.48**	**314**	P	**P**		**10 40 05.7 -1.2**
YAK	**Yakutsk**	**67.50**	**15***c*	*i*P	**P**		**10 40 04.4 -2.2**
YAK				*e**PP	pP		10 40 12.4 -2.4
YAK				*e*			10 40 31.5
YAK				*e*			10 42 36.5
YAK				*e*S	S		10 48 56.9 -2.9
YAK				*e*			10 49 53.6
YAK				pmax	pmax		
	comp=Z,370nm,1.0s,mb6.4						
YAK				pmax	pmax		
	comp=N,124nm,1.1s						
YAK				pmax	pmax		
	comp=E,86nm,1.2s						
YAK				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.3						
YAK				pmax	pmax		
	comp=N,13nm,0.8s						
YAK				pmax	pmax		
	comp=E,33nm,0.9s						
YAK				smax			
	comp=N,83nm,1.2s						
YAK				smax			
	comp=Z,19nm,1.0s						
YAK				smax			
	comp=E,57nm,1.3s						
YAK				MLR	MLR		
	comp=Z,35μm,17.0s,MS6.7						
YAK				MLR	MLR		
	comp=N,30μm,15.0s,MS6.7						
YAK				MLR	MLR		
	comp=E,15μm,13.0s,MS6.7						
YAK	**Yakutsk**	**67.50**	**15**	*e*P	**P**		**10 40 04.7 -1.9**
	comp=E,2μm,1.0s,mb7.1						
YAK				LR	LR		
	comp=Z,45μm,19.0s,MS6.7						
BCA	**Borcka**	**67.67**	**316**	*e*P	**P**		**10 40 06.7 -1.4**
BCA	**Borcka**	**67.67**	**316**	P	**P**		**10 40 05.7 -2.3**
NOUC	**Port Laguerre**	**67.86**	**113**	*e*P	**P**		**10 40 08.3 -1.2**
NOUC	**Port Laguerre**	**67.86**	**113**	*e*P	**P**		**10 40 08.3 -1.2**
DZM	**Mont Dzumac**	**67.98**	**113**	*e*P	**P**		**10 40 07.5 -2.8**
DZM	**Mont Dzumac**	**67.98**	**113**	P	**P**		**10 40 09.3 -1.0**
	comp=Z,42nm,0.7s,mb5.6,baz=292,slow=3.6,SNR=16						
DZM				S	S		10 49 11.4 +5.2
	comp=Z,14nm,1.0s,baz=29,slow=21,SNR=10						
DZM	**Mont Dzumac**	**67.98**	**113**	*e*P	**P**		**10 40 07.5 -2.8**
KIV	**Kislovodsk**	**68.00**	**319***c*	*i*P	**P**		**10 40 08.4 -1.6**
KIV				*e*			10 42 45.3
KIV				*i*S	S		10 49 07.1 +1.2
KIV				pmax	pmax		
	comp=Z,711nm,1.6s,mb6.5						
KIV				MLR	MLR		
	comp=Z,11μm,23.0s,MS6.0						
KIV	**Kislovodsk**	**68.00**	**319**	*e*P	**P**		**10 40 08.9 -1.2**
	comp=Z,1μm,1.1s,mb6.8						
KIV				LR	LR		
	comp=Z,3μm,20.0s,MS5.5						
ASF	**Jabal al Asfar**	**68.04**	**306**	P	**P**		**10 40 09.5 -1.0**
	comp=Z,168nm,1.0s,mb6.0,baz=343,slow=2.0,SNR=35						
URFA	**Urfa**	**68.19**	**312**	*e*P	**P**		**10 40 10.6 -0.8**
GOF	**Gofitskoye**	**68.25**	**320⇓**	*i*P	**P**		**10 40 09.3 -2.3**
GOF				*i*S	S		10 49 11.5 +2.5
GOF				pmax	pmax		
	comp=Z,640nm,1.7s,mb6.4						
GOF				pmax	pmax		
	comp=Z,9μm,4.0s						
GOF				smax			
	comp=E,9.0nm,5.0s						
PTK	**Pertek**	**68.28**	**313**	*e*P	**P**		**10 40 10.2 -1.7**
ELZG	**Elazig**	**68.44**	**313**	*i*P	**P**		**10 40 12.6 -0.3**
KWAJ	**Kwajalein Atol**	**68.58**	**80**	*e*P	**P**		**10 40 12.5 -1.6**
	comp=E,722nm,1.1s,mb6.5						
KWAJ				LR	LR		
	comp=Z,6μm,20.0s,MS5.8						
MALT	**Malatya**	**68.78**	**312**	P	**P**		**10 40 12.9 -2.1**
MALT	**Malatya**	**68.78**	**312**	P	**P**		**10 40 14.5 -0.5**
GUMT	**Gumushane**	**68.78**	**315**	*e*P	**P**		**10 40 14.2 -0.7**
GUMT	**Gumushane**	**68.78**	**315**	P	**P**		**10 40 15.2 +0.2**
MYA	**Malataya**	**68.79**	**312**	*e*P	**P**		**10 40 14.1 -0.9**
MYA	**Malataya**	**68.79**	**312**	P	**P**		**10 40 13.1 -2.0**
MBAR	**Mbarara**	**68.83**	**270**	*e*P	**P**		**10 40 14.5 -1.2**
MBAR				pmax	pmax		
	comp=Z,519nm,1.4s,mb6.3						
MBAR				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.8						
MBAR	**Mbarara**	**68.83**	**270**	*e*P	**P**		**10 40 14.5 -1.2**
	comp=Z,519nm,1.4s,mb6.3						
MBAR				LR	LR		
	comp=Z,5μm,20.0s,MS5.8						
KELT	**Kelkit**	**68.83**	**314**	*i*P	**P**		**10 40 14.7 -0.6**
EIL	**Elat**	**68.97**	**303**	P	**P**		**10 40 15.7 -0.6**
	comp=Z,184nm,0.9s,mb6.0,baz=101,slow=6.5,SNR=41						
EIL	**Elat**	**68.97**	**303**	P	**P**		**10 40 15.6 -0.7**
WAKE	**Wake Island**	**69.00**	**69**	PFAKE			10 40 30.0 +13
WAKE				LR	LR		
	comp=Z,230μm,22.0s,MS7.4						
ZFRI	**Zfri**	**69.01**	**304**	P	**P**		**10 40 15.9 -0.6**
MBH	**Mount Berech**	**69.03**	**303**	P	**P**		**10 40 16.2 -0.5**
MZDA	**Masada**	**69.05**	**304**	P	**P**		**10 40 16.2 -0.6**
PRNI	**Paran**	**69.10**	**303**	P	**P**		**10 40 16.7 -0.4**
DRGI	**Dragot**	**69.11**	**305**	P	**P**		**10 40 16.5 -0.6**
GZT	**Gaziantep**	**69.11**	**311**	*i*P	**P**		**10 40 16.1 -1.0**
KMTI	**Karmit**	**69.27**	**303**	P	**P**		**10 40 17.4 -0.8**
MMLI	**Mount Malkishu**	**69.31**	**306**	P	**P**		**10 40 18.2 -0.2**
GAZ	**Gaziantep**	**69.31**	**311**	*e*P	**P**		**10 40 17.8 -0.5**
GAZ	**Gaziantep**	**69.31**	**311**	P	**P**		**10 40 15.9 -2.4**
MASH	**Mash'abbe Sade**	**69.45**	**304**	P	**P**		**10 40 21.4 +2.2**
BHL	**Bhannes**	**69.53**	**307**	*e*P	**P**		**10 40 19.4 -0.3**
RTMM	**Retamin**	**69.55**	**304**	P	**P**		**10 40 20.7 +0.9**
SLTI	**Sal'it**	**69.57**	**305**	P	**P**		**10 40 19.5 -0.4**
HNTI	**Hanita**	**69.69**	**306**	P	**P**		**10 40 20.4 -0.2**
OFRI	**'Ofer**	**69.72**	**306**	P	**P**		**10 40 20.3 -0.5**
KAHT	**Ahir Dag**	**69.72**	**311**	*i*P	**P**		**10 40 20.4 -0.3**
KZIT	**Kziot**	**69.75**	**304**	P	**P**		**10 40 20.4 -0.7**
HTY	**Hatay**	**69.81**	**309**	*e*P	**P**		**10 40 20.9 -0.5**
HTY	**Hatay**	**69.81**	**309**	P	**P**		**10 40 20.5 -0.8**
SOC	**Sochi**	**69.81**	**318**	*i*P	**P**		**10 40 19.2 -2.0**
SOC				*e*			10 40 43.5
SOC				*e*			10 42 53.5
SOC				*e*PPP	PPP		10 44 37.4 +0.3
SOC				*i*S	S		10 49 22.6 -4.8
SOC				*e*			10 50 16.1
SOC				*e*SS	SS		10 53 52.7 -5.0
SOC				pmax	pmax		
	comp=Z,904nm,1.3s,mb6.5						
SOC				pmax	pmax		
	comp=N,170nm,1.4s						
SOC				pmax	pmax		
	comp=E,103nm,0.7s						
SOC				pmax	pmax		
	comp=Z,3μm,1.9s,mb6.9						
SOC				MLR	MLR		
	comp=N,9μm,17.0s,MS6.3						
SOC				MLR	MLR		
	comp=E,12μm,18.0s,MS6.3						
SOC				MLR	MLR		
	comp=Z,10μm,18.0s,MS6.1						
SOC	**Sochi**	**69.81**	**318⇑**	*i*P	**P**		**10 40 19.0 -2.2**
COBT	**Iskenderun**	**69.84**	**310**	*i*P	**P**		**10 40 20.8 -0.7**
SVST	**Sivas**	**70.36**	**313**	*i*P	**P**		**10 40 23.9 -0.7**
CEYT	**Ceyhan**	**70.37**	**310**	*e*P	**P**		**10 40 24.2 -0.5**
CEYT	**Ceyhan**	**70.37**	**310**	P	**P**		**10 40 24.2 -0.6**
MAW	**Mawson**	**70.53**	**194**	*e*P	**P**		**10 40 25.7 +0.5**
	comp=Z,181nm,0.9s,mb6.0						
MAW	**Mawson**	**70.53**	**194**	*e*P	**P**		**10 40 25.7 +0.5**
MAW				pmax	pmax		
	comp=Z,181nm,0.9s						
MAW	**Mawson**	**70.53**	**194**	P	**P**		**10 40 25.4 +0.2**
	comp=Z,276nm,1.1s,mb6.1,baz=24,slow=7.1,SNR=32						
DRV	**Dumont d'Urvil**	**70.78**	**164**	P	**P**		**10 40 26.0 -0.7**
DRV				S	S		10 49 56.0 +18
DRV				L			10 58 00.0
DRV				R			11 03 00.0
SKR	**Severo-Kuril's**	**70.81**	**34**	*e*P	**P**		**10 40 24.5 -2.7**
SKR				*e*			10 40 50.0
SKR				*e*			10 43 12.0
SKR				*i*S	S		10 49 40.0 +0.9
SKR				*i*			10 50 10.0
SKR				pmax	pmax		
	comp=Z,1μm,1.0s,mb6.8						
SKR				pmax	pmax		
	comp=N,240nm,0.8s						
SKR				pmax	pmax		
	comp=E,790nm,1.2s						
SKR				pmax	pmax		
	comp=N,5μm,14.0s						
SKR				pmax	pmax		
	comp=E,6μm,14.0s						
SKR				pmax	pmax		
	comp=Z,12μm,14.0s						
SKR				pmax	pmax		
	comp=Z,5μm,14.0s						
SKR				smax			
	comp=N,19μm,14.0s						
SKR				smax			
	comp=E,28μm,14.0s						
SKR				MLR	MLR		
	comp=Z,40μm,18.0s,MS6.7						
SKR				MLR	MLR		
	comp=N,27μm,22.0s,MS6.6						
SKR				MLR	MLR		
	comp=E,25μm,22.0s,MS6.6						
TOKT	**Tokat**	**70.84**	**314**	*e*P	**P**		**10 40 26.9 -0.6**
TOKT	**Tokat**	**70.84**	**314**	P	**P**		**10 40 26.0 -1.5**
BNN	**Bunyan**	**70.87**	**312**	*e*P	**P**		**10 40 26.4 -1.4**
PHNC	**Paralimni**	**71.13**	**308**	P	**P**		**10 40 29.1 -0.3**
MCQ	**Macquarie Isla**	**71.33**	**148**	*e*P	**P**		**10 40 32.0 +1.8**
MEST	**Erdemli**	**71.48**	**309**	*i*P	**P**		**10 40 30.0 -1.5**
CSS	**Prodhromos**	**71.67**	**308⇑**	P	**P**		**10 40 31.6 -1.0**
	comp=E,12nm,1.0s						
CSS	**Prodhromos**	**71.67**	**308⇑**	*e*P	**P**		**10 40 31.6 -1.0**
	comp=E,12nm,1.0s						
ANN	**Anapa**	**71.79**	**318⇑**	*i*P	**P**		**10 40 30.7 -2.4**
ANN				*e*S	S		10 49 46.3 -4.1
ANN				*e*SS	SS		10 54 24.1 -4.3
ANN				pmax	pmax		
	comp=Z,165nm,1.7s,mb5.7						
ANN				pmax	pmax		
	comp=N,2μm,13.9s						
ANN				pmax	pmax		
	comp=E,7μm,13.9s						
ANN				pmax	pmax		
	comp=Z,2μm,13.9s						
ANN				MLR	MLR		
	comp=N,19μm,24.0s,MS6.4						
ANN				MLR	MLR		
	comp=E,16μm,24.0s,MS6.4						
ANN				MLR	MLR		
	comp=Z,15μm,24.0s,MS6.2						
ANN	**Anapa**	**71.79**	**318⇑**	*i*P	**P**		**10 40 30.8 -2.3**
MAMC	**Mammari**	**71.81**	**308**	*i*P	**P**		**10 40 33.0 -0.5**
MAMC	**Mammari**	**71.81**	**308⇑**	*e*P	**P**		**10 40 33.0 -0.5**
SZAC	**Souni

BR131	Keskin Array S	72.77 312	PFAKE			10 40 50.0 +11
BR131			LR	LR		
	comp=Z,16μm,22.0s,MS6.2					
BRTR	Keskin Array B	72.77 312	P	P		10 40 37.6 -1.5
	comp=Z,96nm,0.8s,mb5.8,baz=130,slow=6.0,SNR=37					
HDMB	Hadim	72.86 309	eP	P		10 40 38.0 -1.7
HDMB	Hadim	72.86 309	P	P		10 40 38.9 -0.8
MA2	Magadan	72.88 25	ceP	P		10 40 38.7 -0.6
MA2			eS	S		10 50 03.2 +0.6
MA2			pmax	pmax		
	comp=E,320nm,1.4s					
MA2			pmax	pmax		
	comp=Z,1μm,1.4s,mb6.6					
MA2			pmax	pmax		
	comp=N,260nm,1.6s					
MA2			MLR	MLR		
	comp=Z,81μm,25.0s,MS6.9					
MA2	Magadan	72.88 25	eP	P		10 40 38.7 -0.7
	comp=Z,224nm,0.6s,mb6.3					
MA2			LR	LR		
	comp=Z,54μm,21.0s,MS6.8					
TOS	Tosya	72.88 314	eP	P		10 40 38.8 -0.9
TOS	Tosya	72.88 314	P	P		10 40 41.7 +2.0
PECR	Pechory	73.03 331	⇑iP	P		10 40 39.4 -0.9
PECR			e			10 43 27.0
PECR			eS	S		10 50 03.4 -0.9
PECR			i			10 50 42.0
PECR			pmax	pmax		
	comp=Z,6μm,1.6s,mb7.3					
PECR			pmax	pmax		
	comp=Z,11μm,14.0s					
PECR			MLR	MLR		
	comp=Z,32μm,25.0s,MS6.5					
PECR			MLR	MLR		
	comp=Z,33μm,23.0s					
CANT	Cankiri	73.04 313	eP	P		10 40 39.6 -1.1
CANT	Cankiri	73.04 313	P	P		10 40 39.0 -1.7
ELDT	Eldivan	73.15 313	iP	P		10 40 39.6 -1.7
BZK	Bozkurt	73.18 315	eP	P		10 40 40.5 -1.0
BZK	Bozkurt	73.18 315	P	P		10 40 41.1 -0.4
KONT	Konya--Tatoy	73.22 310	eP	P		10 40 40.7 -1.1
KONT	Konya--Tatoy	73.22 310	P	P		10 40 42.7 +0.9
PET	Petropavlovsk	73.28 33	αiP	P		10 40 41.1 -0.7
PET			e			10 43 27.7
PET			iS	S		10 50 06.0 -1.3
PET			ePS	PS		10 50 41.9 -1.5
PET			eSS	SS		10 54 59.5 +7.8
PET			pmax	pmax		
	comp=N,186nm,0.8s					
PET			pmax	pmax		
	comp=E,109nm,0.8s					
PET			pmax	pmax		
	comp=Z,275nm,0.7s,mb6.3					
PET			pmax	pmax		
	comp=Z,9μm,12.8s					
PET			pmax	pmax		
	comp=Z,9μm,17.2s					
PET			pmax	pmax		
	comp=Z,6μm,16.1s					
PET			pmax	pmax		
	comp=Z,5μm,14.3s					
PET			smax			
	comp=N,15μm,13.1s					
PET			smax			
	comp=E,14μm,13.2s					
PET			smax			
	comp=N,21μm,20.0s					
PET			smax			
	comp=E,18μm,20.3s					
PET			MLR	MLR		
	comp=Z,35μm,19.0s,MS6.7					
PET			MLR	MLR		
	comp=Z,30μm,18.0s					
PET	Petropavlovsk	73.28 33	eP	P		10 40 40.6 -1.2
	comp=Z,2μm,1.4s,mb6.9					
PET			LR	LR		
	comp=Z,32μm,19.0s,MS6.6					
ANTO	Ankara	73.43 312	eP	P		10 40 39.6 -3.3
ANTO	Ankara	73.43 312	⇑P	P		10 40 41.7 -1.3
ANTO	Ankara	73.43 312	⇑P	P		10 40 41.8 -1.2
ANTO	Ankara	73.43 312	⇑P	P		10 40 41.8 -1.2
VOR	Voronezh	73.44 326	⇑iP	P		10 40 41.6 -1.1
VOR			e*PP	pP		10 40 49.5 -1.5
VOR						10 43 25.0
VOR			eS	S		10 50 09.0 0.0
VOR			pmax	pmax		
	comp=N,600nm,1.8s					
VOR			pmax	pmax		
	comp=Z,2μm,1.8s,mb6.8					
VOR			pmax	pmax		
	comp=N,370nm,2.4s					
VOR			smax			
	comp=N,370nm,2.5s					
VOR			smax			
	comp=Z,250nm,2.5s					
LOD	Lodumlu	73.46 312	eP	P		10 40 41.4 -1.7
LOD	Lodumlu	73.46 312	P	P		10 40 42.7 -0.4
MSZ	Milford Sound	73.56 136	PN	P		10 40 44.2 +0.6
KIZT	Kizilcal	73.84 311	eP	P		10 40 43.3 -2.0
KIZT	Kizilcal	73.84 311	P	P		10 40 44.1 -1.2
MLZ	Mavora Lakes	73.89 137	PN	P		10 40 45.3 -0.2
SAFT	Safranbolu	73.91 314	eP	P		10 40 44.2 -1.5
SAFT	Safranbolu	73.91 314	P	P		10 40 45.1 -0.6
JCZ	Jackson Bay	73.99 136	PN	P		10 40 46.6 +0.5
SIM	Simferopol'	74.05 318	ciP	P		10 40 45.0 -1.4
SIM			e			10 43 38.0
SIM			eS	S		10 50 14.0 -2.0
SIM			pmax	pmax		
	comp=Z,413nm,1.0s,mb6.3					
SIM	Simferopol'	74.05 318	⇑iP	P		10 40 45.0 -1.4
SGKT	Sivrigoynuk	74.17 313	iP	P		10 40 45.7 -1.6
ANTB	Antalya	74.27 309	eP	P		10 40 47.1 -0.7
BCK	Bucak	74.45 310	eP	P		10 40 48.7 -0.3
BCK	Bucak	74.45 310	P	P		10 40 47.3 -1.6
ISP	Isparta	74.61 310	eP	P		10 40 46.9 -2.9
ISP	Isparta	74.61 310	P	P		10 40 48.0 -1.8
MDU	Mudurnu	74.76 313	eP	P		10 40 49.0 -1.7
ESKT	Eskisehir	74.78 312	eP	P		10 40 49.1 -1.7
ESKT	Eskisehir	74.78 312	P	P		10 40 50.1 -0.7
ESKT	Eskisehir	74.78 312	iP	P		10 40 49.4 -1.4
LBTB	Lobatse	74.80 245	eP	P		10 40 51.6 +0.4
LBTB			pmax	pmax		
	comp=Z,380nm,1.2s,mb6.2					
LBTB	Lobatse	74.80 245	eP	P		10 40 50.7 -0.4
	comp=Z,378nm,1.3s,mb6.2					
LBTB			LR	LR		
	comp=Z,51μm,19.0s,MS6.8					
ELL	Elmali	74.81 309	eP	P		10 40 49.4 -1.6
ELL	Elmali	74.81 309	P	P		10 40 50.1 -0.9
AKAS	Kas	74.93 308	iP	P		10 40 49.4 -2.3
TUZ	Tuapeka	75.03 137	PN	P		10 40 52.3 +0.2
LBZ	Lake Benmore	75.06 136	PN	P		10 40 51.9 -0.4
HENT	Hendek	75.09 313	iP	P		10 40 50.2 -2.3
GOLH	Golhisar	75.19 309	iP	P		10 40 52.5 -0.7
ALT	Altintas	75.22 311	eP	P		10 40 46.7 -6.6
ALT	Altintas	75.22 311	P	P		10 40 51.9 -1.4
FETY	Fethiye	75.43 308	eP	P		10 40 52.2 -2.4
SEY	Seymchan	75.45 22	iP	P		10 40 54.7 +0.5
SEY			e			10 41 09.0
SEY			eS	S		10 50 33.1 +1.8
SEY			e			10 51 07.5
SEY			pmax	pmax		
	comp=Z,5μm,1.3s,mb7.3					
SEY			pmax	pmax		
	comp=E,2μm,1.4s					
SEY			smax			
	comp=N,69μm,16.2s					
SEY			smax			
	comp=E,38μm,14.3s					
BOSA	Boshof	75.46 241	P	P		10 40 54.5 -0.4
BOSA			PKKPdf			10 57 30.5
BOSA	Boshof	75.46 241	eP	P		10 40 54.5 -0.4
BOSA			pmax	pmax		
	comp=Z,330nm,1.2s,mb6.1					
BOSA			MLR	MLR		
	comp=Z,44μm,21.0s,MS6.7					
BOSA	Boshof	75.46 241	P	P		10 40 53.8 -1.1
	comp=Z,178nm,1.0s,mb6.0,baz=99,slow=5.3,SNR=28					
BOSA	Boshof	75.46 241	eP	P		10 40 54.5 -0.4
	comp=Z,330nm,1.2s,mb6.1					
BOSA			LR	LR		
	comp=Z,44μm,21.0s,MS6.7					
KHL	Karahalli	75.48 310	eP	P		10 40 54.5 -0.3
KHL	Karahalli	75.48 310	P	P		10 40 55.6 +0.8
ODZ	Otahua Downs	75.52 136	PN	P		10 40 55.1 +0.2
RPZ	Rata Peaks	75.53 135	PN	P		10 40 54.8 -0.2
TIXI	Tiksi	75.57 9	iP	P		10 40 53.1 -1.6
TIXI			pmax	pmax		
	comp=Z,310nm,1.7s,mb6.0					
TIXI	Tiksi	75.57 9	iP	P		10 40 53.2 -1.5
TIXI			LR	LR		
	comp=Z,55μm,22.0s,MS6.8					
DNZL	Cakiroluk	75.70 309	iP	P		10 40 56.1 0.0
DENT	Denizli	75.72 310	eP	P		10 40 56.9 +0.6
DENT	Denizli	75.72 310	P	P		10 40 52.8 -3.4
DALT	Dalyan (Mudla)	75.81 308	eP	P		10 40 54.2 -2.6
DALT	Dalyan (Mudla)	75.81 308	P	P		10 40 55.6 -1.1
MOS	Moscow	75.97 329	iP	P		10 40 56.8 -0.4
MOS			e	pP		10 41 05.2 -0.3
MOS			i			10 41 11.5
MOS			i			10 43 47.2
MOS			ePPP	PPP		10 45 32.8 -3.7
MOS			iS	S		10 50 37.4 +0.3
MOS			e			10 51 10.1
MOS			pmax	pmax		
	comp=Z,4μm,2.0s,mb7.0					
MOS			pmax	pmax		
	comp=Z,2μm,1.7s,mb6.9					
MOS			smax			
	comp=N,5μm,5.4s					
MOS			MLR	MLR		
	comp=Z,32μm,20.9s,MS6.6					
MOS	Moscow	75.97 329	⇑iP	P		10 40 56.8 -0.4
HRT	Hereke	75.99 313	eP	P		10 40 55.2 -2.5
HRT	Hereke	75.99 313	P	P		10 40 56.9 -0.8
IZI	Iznik	76.01 312	eP	P		10 40 56.7 -1.1
IZI	Iznik	76.01 312	P	P		10 40 58.4 +0.6
QRZ	Quartz Range	76.06 132	PN	P		10 40 58.0 0.0
ARG	Arkhangelos	76.09 308	⇑iP	P		10 40 57.3 -1.0
YLV	Yalova	76.14 312	eP	P		10 40 56.4 -2.1
YLV	Yalova	76.14 312	P	P		10 40 57.1 -1.4
ULDT	Uludag	76.22 312	iP	P		10 40 58.1 -0.9
LTZ	Lake Taylor	76.22 134	PN	P		10 40 58.7 -0.2
MANT	Manisa	76.26 310	iP	P		10 40 58.0 -1.2
OBN	Obninsk	76.27 328	ciP	P		10 40 57.6 -1.3
OBN			e			10 43 51.7
OBN			iS	S		10 50 35.7 -4.6
OBN			pmax	pmax		
	comp=Z,2μm,1.7s,mb6.7					
OBN	Obninsk	76.27 328	eP	P		10 40 57.6 -1.3
	comp=Z,2μm,1.3s,mb6.8					
OBN			LR	LR		
	comp=Z,7μm,22.0s,MS5.9					
ORLT	Orhaneli	76.37 312	eP	P		10 40 57.4 -2.4
ORLT	Orhaneli	76.37 312	P	P		10 40 58.4 -1.4
ISK	Istanbul-Kandi	76.50 313	eP	P		10 40 58.8 -1.7
ISK	Istanbul-Kandi	76.50 313	P	P		10 40 59.4 -1.1
THZ	Tophouse	76.50 133	PN	P		10 40 59.9 -0.6
AYDN	Tasoluk	76.59 309	iP	P		10 41 00.1 -1.0
MLSB	Milas	76.59 309	eP	P		10 40 59.7 -1.5
MLSB	Milas	76.59 309	P	P		10 40 58.4 -2.7
CRLZ	Canterbury Las	76.62 134	PN	P		10 41 01.5 +0.4
MQZ	McQueen's Vall	76.67 135	PN	P		10 41 01.7 +0.3
KARP	Karpathos	76.71 307	⇑iP	P		10 40 59.6 -2.2
WCZ	Waipu Caves	76.72 126	PN	P		10 41 02.8 +0.9
NNZ	Nelson	76.76 132	PN	P		10 41 02.1 +0.1
BODT	Bodrum	76.91 309	eP	P		10 41 01.1 -1.8
BTOK	Tokmak	76.95 311	iP	P		10 41 03.2 +0.1
CTT	Catalca	76.98 313	eP	P		10 41 02.0 -1.2
CTT	Catalca	76.98 313	P	P		10 41 02.1 -1.1
BALB	Balikesir	77.04 311	eP	P		10 41 01.6 -2.0
BALB	Balikesir	77.04 311	P	P		10 41 05.2 +1.7
KHZ	Kahutara	77.08 133	PN	P		10 41 03.1 -0.6
DUWZ	D'Urville Isla	77.10 131	PN	P		10 41 03.8 -0.1
BNT	Bandirma	77.17 312	eP	P		10 41 03.0 -1.3
BNT	Bandirma	77.17 312	P	P		10 41 03.9 -0.4
KDAG	Bornova	77.23 310	iP	P		10 41 04.1 -0.5
IZM	Izmir	77.23 310	eP	P		10 41 02.9 -1.8
IZM	Izmir	77.23 310	P	P		10 41 02.1 -2.5
SMG	Samos	77.41 309	eP	P		10 41 04.8 -0.9
MRMT	Marmara Adasi	77.47 312	eP	P		10 41 02.6 -3.3
MRMT	Marmara Adasi	77.47 312	P	P		10 41 04.2 -1.7
HIZ	Hauiti	77.47 129	PN	P		10 41 07.1 +1.1
TLCR		77.71 317	⇑P	P		10 41 07.0 -0.1
WAZ	Wanganui	77.75 130	PN	P		10 41 08.5 +1.0
XRY	Khrisi	77.76 306	eP	P		10 41 07.0 -0.6
SNZO	South Karori	77.76 132	eP	P		10 41 06.6 -0.9
	comp=Z,870nm,1.3s,mb6.5					
SNZO			LR	LR		
	comp=Z,110μm,20.0s,MS7.2					
PSN	Preselentsi	77.77 315	iP	P		10 41 08.0 +0.5
TIRR	Tirgusor	77.80 316	⇑P	P		10 41 06.5 -1.1
KUZ	Kuaotunu	77.92 127	PN	P		10 41 08.4 0.0
MGZ	Maungaku	78.07 129	PN	P		10 41 09.9 +0.7
SYO	Syowa Base	78.07 199	⇓P	P		10 41 08.8 +0.2
WPVZ	Whakapapa	78.10 130	PN	P		10 41 10.1 +0.7
CNZ	Chateau	78.10 130	PN	P		10 41 09.9 +0.5
FWVZ	Far West T-bar	78.11 130	PN	P		10 41 09.9 +0.5
WTVZ	West Tongariro	78.12 130	PN	P		10 41 09.9 +0.4
DRZ	Dome Shelter	78.12 130	PN	P		10 41 10.4 +0.9
NGZ	Ngauruhoe	78.14 130	PN	P		10 41 10.0 +0.4
WNVZ	Wahianoa	78.16 130	PN	P		10 41 10.0 +0.3
PRK	Paraskevi	78.17 311	eP	P		10 41 08.9 -0.9
CFR	Carcaliu	78.17 317	⇑P	P		10 41 08.5 -1.2
KIS	Kishinev	78.19 319	ciP	P		10 41 07.5 -2.2
KIS			S	S		10 50 58.0 -3.2
OTVZ	Oturere	78.19 130	PN	P		10 41 10.8 +0.9
TUVZ	Tukino	78.19 130	PN	P		10 41 10.8 +0.9
HARR	Harsova	78.19 316	⇑P	P		10 41 09.2 -0.6
PRD	Provadia	78.21 315	iP	P		10 41 09.5 -0.4
THR1	Thera Island	78.23 308	eP	P		10 41 08.9 -1.3
EZN	Ezine	78.25 311	eP	P		10 41 08.6 -1.6
EZN	Ezine	78.25 311	P	P		10 41 08.5 -1.7
THR3	Thira Island,	78.28 308	eP	P		10 41 10.0 -0.5
THR4	Thira Island,	78.29 308	eP	P		10 41 09.8 -0.7
APE	Apeiranthos	78.31 308	eP	P		10 41 06.0 -4.5
APE	Apeiranthos	78.31 308	⇓P	P		10 41 10.2 -0.4
APE	Apeiranthos	78.31 308	eP	P		10 41 08.9 -1.7
APE	Apeiranthos	78.31 308	⇓P	P		10 41 10.2 -0.4
MRZ	Mangatainoka R	78.32 131	PN	P		10 41 09.8 -0.8
THR5	Thira Island,	78.33 308	eP	P		10 41 10.5 -0.2
EDRB	Edirne	78.37 313	eP	P		10 41 08.4 -2.4
EDRB	Edirne	78.37 313	P	P		10 41 10.0 -0.8
IDI	Anoyia	78.48 306	P	P		10 41 10.7 -0.9
	comp=Z,238nm,1.0s,mb6.1,baz=104,slow=7.2,SNR=24					
TSZ	Takapari Road	78.53 130	PN	P		10 41 11.5 -0.3
JMB	Yambol	78.63 314	iP	P		10 41 12.0 -0.2
ALN	Alexandroupoli	78.68 312	eP	P		10 41 11.5 -1.0
BKZ	Black Stump Fm	78.83 129	PN	P		10 41 13.1 -0.2
BFZ	Birch Farm	78.83 131	PN	P		10 41 13.3 -0.1
AKASG	Malin Array Be	78.94 322	P	P		10 41 12.3 -1.5
	comp=Z,64nm,0.8s,mb5.6,baz=88,slow=3.8,SNR=28					
AKASG			S	S		10 51 09.1 -0.2
	comp=Z,0.6nm,0.3s,baz=99,slow=11,SNR=32					
AKASG	Malin Array Be	78.94 322	P	P		10 41 12.3 -1.5
AKASG			S	S		10 51 09.1 -0.2
KIEV	Kiev	78.95 322	P	P		10 41 13.0 -0.8
VAM	Vamos	79.06 306	⇑iP	P		10 41 14.8 0.0
IAS	Iasi	79.06 319	P	P		10 41 13.9 -0.6
IAS	Iasi	79.06 319	⇑P	P		10 41 15.6 +1.1
IAS	Iasi	79.06 319	⇑P	P		10 41 15.6 +1.1
LIA	Limnos Island	79.12 311	eP	P		10 41 16.0 +1.0
URZ	Urewera	79.20 129	PN	P		10 41 14.5 -0.9
LOS	Limnos	79.20 311	eP	P		10 41 15.3 -0.1
PWZ	Pawanui	79.21 130	PN	P		10 41 15.9 +0.4
ISR	Istrita	79.25 316	⇑P	P		10 41 16.6 +1.0
SZH	Strazhica	79.27 314	iP	P		10 41 15.5 -0.2
DIM	Dimitrovgrad	79.30 313	iP	P		10 41 16.0 +0.1
KDZ	Kurdzhali	79.30 313	iP	P		10 41 15.5 -0.4
VRI	Vrincioaia	79.30 317	⇑P	P		10 41 15.7 -0.1
BUC1	Bucharest	79.44 316	P	P		10 41 16.8 +0.2
MWZ	Matawai	79.53 129	PN	P		10 41 16.8 -0.4
SUR	Sutherland	79.63 238	eP	P		10 41 17.6 -0.3
	comp=Z,606nm,1.1s,mb6.4					
SUR			LR	LR		
	comp=Z,15μm,21.0s,MS6.3					
PVL	Pavlikeni	79.69 314	iP	P		10 41 18.5 +0.5
KNZ	Kokohu	79.72 129	PN	P		10 41 18.2 0.0
MLR	Muntele Rosu	79.75 317	P	P		10 41 18.2 -0.1
	comp=Z,428nm,0.9s,mb6.4,baz=67,slow=1.8,SNR=42					
MLR	Muntele Rosu	79.75 317	⇑P	P		10 41 18.1 -0.2
ZIMR		79.75 315	⇓P	P		10 41 19.4 +1.1
ZIMR		79.75 315	⇓P	P		10 41 19.5 +1.2
RZN	Rozhen	79.82 313	iP	P		10 41 18.5 -0.2
ATH	Athens Observa	79.89 309	⇑iP	P		10 41 17.5 -1.7
MPAR	Parnis Oros	79.90 309	eP	P		10 41 18.0 -1.2
PLD	Plovdiv	79.91 313	iP	P		10 41 18.5 -0.7
AOS	Alonnisos	79.97 310	eP	P		10 41 20.1 +0.5
SNX	Sinaia	80.02 316	⇑P	P		10 41 19.1 -0.6
NAIG	Nisos Aigina	80.03 309	eP	P		10 41 21.0 +1.1
NSAL	Nisos Salamina	80.07 309	eP	P		10 41 18.5 -1.7
PUZ	Puketiti	80.08 128	PN	P		10 41 19.6 -0.6
OUR	Ouranopolis	80.11 311	eP	P		10 41 22.9 +2.6
KMPD	K-Podol'skiy	80.12 320	P	P		10 41 20.0 -0.2
KYTH	Kithira	80.14 307	eP	P		10 41 20.0 -0.5
MGER	Gerania Oros	80.25 309	eP	P		10 41 19.5 -1.6
PAIG	Paliouri	80.26 311	eP	P		10 41 19.6 -1.6
MTUR	Matau	80.30 316	⇓P	P		10 41 20.5 -0.7
NVR	Nevrokopi	80.39 312	⇑P	P		10 41 20.3 -1.4
PGB	Panagyurishte	80.39 314	iP	P		10 41 21.0 -0.7
NEO	Neokhori	80.50 310	⇑iP	P		10 41 20.4 -2.0
PLG	Polygyros	80.52 311	⇓iP	P		10 41 21.1 -1.4
MMB	Musomiste	80.53 312	iP	P		10 41 21.5 -1.0
SRS	Serrai	80.54 312	eP	P		10 41 21.0 -1.6
LKR	Lokris	80.56 309	⇑iP	P		10 41 20.5 -2.2
SOH	Sokhos	80.67 312	eP	P		10 41 22.0 -1.2
BURAR	Bucovina Array	80.71 319	⇑P	P		10 41 23.9 +0.5
BURAR	Bucovina Array	80.71 319	⇑P	P		10 41 23.9 +0.6
MNK	Minsk	80.82 326	⇑iP	P		10 41 21.0 -2.7
THE	Thessaloniki	80.92 311	eP	P		10 41 23.4 -1.2
THE	Thessaloniki	80.92 311	eP	P		10 41 22.9 -1.7
KKB	Krupnik	81.06 313	iP	P		10 41 24.5 -0.8
VTS	Vitosha	81.09 313	iP	P		10 41 25.0 -0.4
VTS	Vitosha	81.09 313	⇑P	P		10 41 24.7 -0.7
PUL	Pulkovo	81.11 331	eP	P		10 41 25.5 +0.4
PUL			eS	S		10 51 28.7 -3.0
PUL			pmax	pmax		
	comp=Z,677nm,1.0s,mb6.5					
PUL			pmax	pmax		
	comp=N,132nm,0.7s					
PUL			pmax	pmax		
	comp=E,529nm,0.9s					
PUL			MLR	MLR		
	comp=N,17μm,23.0s,MS6.6					
PUL			MLR	MLR		
	comp=E,29μm,23.0s,MS6.6					
PUL			MLR	MLR		
	comp=Z,37μm,23.0s,MS6.7					
PUL	Pulkovo	81.11 331	iP	P		10 41 25.5 +0.4
AGG	Agios Georgios	81.14 310	eP	P		10 41 23.4 -2.4
ITM	Ithomi	81.16 308	⇑iP	P		10 41 24.8 -1.1
LIT	Litokhoron	81.19 311	eP	P		10 41 24.4 -1.6
VAY	Valandovo	81.34 312	⇑iP	P		10 41 25.2 -1.5
VAY			iS	S		10 51 31.5 -3.0
GRG	Griva	81.40 312	eP	P		10 41 25.7 -1.4
FX1	Attu Island--F	81.46 36	P	P		10 41 25.8 -1.3
	comp=Z,120nm,0.6s,mb6.0,baz=7.2,slow=11,SNR=16					
FX1	Attu Island--F	81.46 36	eP	P		10 41 26.9 -0.2
EVR	Evrytania	81.52 310	eP	P		10 41 26.5 -1.3
IDID	Didziasalis	81.65 326	eP	P		10 41 28.1 +0.1
IDID			AMPb	AMB		10 41 38.8
	comp=Z,355nm,1.2s,mb6.2					
RLS	Riolos of Patr	81.66 309	⇑iP	P		10 41 28.2 -0.3
JOF	Joensuu	81.71 335	ep	P		10 41 27.7 -0.5
KZN	Kozani	81.77 311	⇑iP	P		10 41 28.9 -0.1
IIGN	Ignalina	81.94 326	eP	P		10 41 29.7 +0.1
IIGN			AMPb	AMB		10 41 40.3
	comp=Z,419nm,1.3s,mb6.2					
LVV	L'vov	81.95 321	eP	P		10 41 29.1 -0.6
LVV			eS	S		10 51 39.6 -1.0
LVV			eSS	SS		10 56 57.8 -5.1
LVV	L'vov	81.95 321	eP	P		10 41 29.0 -0.7
SMY	Shemya	81.97 36	P	P		10 41 32.6 +2.8
SMY			pmax	pmax		
	comp=Z,2μm,1.6s,mb6.8					
SMY	Shemya	81.97 36	eP	P		10 41 31.1 +1.3
	comp=Z,294nm,1.1s,mb6.1					
IZAR	Zarasai	82.03 327	eP	P		10 41 29.9 -0.1
IZAR			AMPb	AMB		10 41 40.6
	comp=Z,198nm,1.1s,mb6.0					
ISAL	Salakas	82.05 327	eP	P		10 41 30.0 -0.1
ISAL			AMPb	AMB		10 41 40.8
	comp=Z,301nm,1.3s,mb6.1					
MEV	Metsovon	82.10 310	eP	P		10 41 32.6 +1.9
FNA	Florina	82.14 311	eP	P		10 41 29.7 -1.2
BOLS	Boljevac	82.21 314	⇑iP	P		10 41 30.4 -0.9
SKO	Skopje	82.28 313	⇑iP	P		10 41 30.4 -1.2
	comp=Z,0.3nm,1.0s					
LVZ	Lovozero	82.30 340	eP	P		10 41 30.8 -0.4
LVZ			eS	S		10 51 36.8 -7.0
LVZ			pmax	pmax		
	comp=Z,617nm,1.6s,mb6.3					
LVZ			pmax	pmax		
	comp=N,48nm,0.9s					
LVZ			pmax	pmax		
	comp=E,129nm,1.1s					
LVZ			pmax	pmax		
	comp=Z,2μm,1.9s,mb6.8					
LVZ			pmax	pmax		
	comp=N,608nm,2.5s					
LVZ			pmax	pmax		
	comp=E,804nm,1.7s					
LVZ			smax			
	comp=N,1μm,2.7s					
LVZ			smax			
	comp=E,8μm,8.2s					
LVZ			MLR	MLR		
	comp=Z,31μm,24.0s,MS6.6					
LVZ			MLR	MLR		
	comp=E,20μm,26.0s					
LVZ	Lovozero	82.30 340	iP	P		10 41 31.4 +0.2
VLS	Valsamata	82.36 309	⇓iP	P		10 41 33.7 +1.6
JAN	Janina	82.37 310	eP	P		10 41 31.6 -0.5
LKD	Levkas	82.39 309	eP	P		10 41 32.1 -0.1
VNDA	Vanda	82.59 169	P	P		10 41 32.4 -0.2
	comp=E,135nm,1.2s,mb5.8,baz=301,slow=7.3,SNR=19					
APA	Apatity	82.60 339	⇑iP	P		10 41 33.0 +0.2
APA			iS	S		10 51 37.0 -10
APA			iSS	SS		10 57 03.0 -9.3
APA			pmax	pmax		
	comp=Z,690nm,1.6s,mb6.4					
APA			pmax	pmax		
	comp=Z,15μm,14.0s					
OHR	Ohrid	82.62 312	⇑iP	P		10 41 31.9 -1.5
OHR			iPP	PP		10 44 52.2 +7.1
IGT	Igoumenitsa	82.75 310	eP	P		10 41 33.1 -1.0
KWP	Kalwaria	82.76 320	eP	P		10 41 34.5 +0.6
KWP			e			10 41 37.0
KWP	Kalwaria	82.76 320	eP	P		10 41 34.5 +0.6
KWP			e			10 41 37.0
SVIS	Svilajnac	82.81 315	⇓iP	P		10 41 34.0 -0.3
UZH	Uzhgorod	82.84 319	eP	P		10 41 34.0 -0.4
UZH	Uzhgorod	82.84 319	iP	P		10 41 34.8 +0.4
KOLS	Kolonicke sedl	82.91 320	eP	P		10 41 35.3 +0.6
KOLS			e			10 41 51.9
KOLS			eS	S		10 51 53.1 +2.8
KOLS	Kolonicke sedl	82.91 320	eP	P		10 41 35.3 +0.6
KOLS			e			10 41 39.8
KOLS			e			10 41 51.9
KOLS			eS	S		10 51 53.1 +2.8
KOLS	Kolonicke sedl	82.91 320	eP	P		10 41 35.3 +0.6
KOLS			e			10 41 39.8
KOLS			e			10 41 51.9
KOLS	Kolonicke sedl	82.91

FINES pmax pmax
comp=Z,93nm,0.8s
FINES FINESS Array B 83.60 332 P P 10 41 38.0 0.0
comp=Z,93nm,0.8s,mb6.0,baz=111,slow=4.8,SNR=74
FINES FINESS Array B 83.60 332 P P 10 41 38.0 0.0
DIVS Divcibare 83.66 315⇓iP P 10 41 38.1 -0.6
KAF Kangasniemi 83.67 333 *ep* **P 10 41 37.8 -0.5**
comp=Z,308nm,0.9s,mb6.4,baz=101,slow=4.6
KAF Kangasniemi 83.67 333 *eP* **P 10 41 37.8 -0.5**
KAF pmax pmax
comp=Z,309nm,0.9s,mb6.4
SBA Scott Base 83.69 169 *eP* **P 10 41 39.3 +1.1**
SBA pmax pmax
comp=Z,488nm,1.4s,mb6.4
SBA MLR MLR
comp=Z,24μm,19.0s,MS6.6
SBA Scott Base 83.69 169 *eP* **P 10 41 39.3 +1.2**
comp=Z,488nm,1.4s,mb6.4
SBA LR LR
comp=Z,24μm,19.0s,MS6.6
NVSS Nova Varos 2 83.78 314⇓iP P 10 41 39.5 +0.1
KECS Kecovo 83.99 319 *eP* **P 10 41 40.5 +0.2**
KECS *e* pP 10 41 49.1 +0.4
KECS Kecovo 83.99 319 *eP* **P 10 41 40.5 +0.2**
KECS *e* 10 41 44.5
KECS *e*sP sP 10 41 49.1 -2.4
BBLS Bajina Basta - 84.04 314⇓iP P 10 41 40.5 -0.2
NIE Niedzica 84.26 320 *eP* **P 10 41 40.0 -1.6**
WAR Warsaw 84.29 323 *eP* **P 10 41 43.6 +2.0**
WAR *e* pP 10 41 50.7 +0.6
PSZ Piszkesteto 84.30 318⇑P P 10 41 41.8 0.0
PSZ Piszkesteto 84.30 318⇑iP P 10 41 41.9 +0.1
MIDW Midway 84.65 62 PFAKE 10 42 00.0 +16
MIDW LR LR
comp=Z,13μm,20.0s,MS6.3
OJC Ojcow 84.71 321 *eP* **P 10 41 43.8 0.0**
OJC *e*PP PP 10 45 00.7 -0.9
OJC *e*S S 10 52 06.4 -1.9
OJC MLR MLR 11 23 17.5
comp=Z,9μm,20.2s,MS6.2
BUD Budapest 84.81 318 P **P 10 41 47.5 +3.1**
BUD Budapest 84.81 318 *eP* **P 10 41 44.4 0.0**
PKSM Moragy 84.90 316⇑P P 10 41 44.2 -0.7
LIKS Likavka 84.98 319 *eP* **P 10 41 47.6 +2.4**
VYHS Vyhne 85.08 319 *eP* **P 10 41 45.8 +0.1**
VYHS *e*sP sP 10 41 54.9 -2.0
VYHS *e* 10 42 01.8
VYHS *e*PP PP 10 44 56.1 -8.5
STON Ston 85.15 313 *iP* **P 10 41 44.9 -1.3**
SRO2 Moca 85.27 318 *eP* **P 10 41 48.0 +1.3**
SRO2 *e* pP 10 41 55.0 -0.2
SRO2 *e* 10 42 03.4
SRO2 Moca 85.27 318 *eP* **P 10 41 48.0 +1.3**
SRO2 *e* 10 41 50.8
SRO2 *e*pP pP 10 41 55.0 -0.2
SRO2 *e* 10 42 03.4
BRT Bari-Castellan 85.29 311 *eP* **P 10 41 47.0 0.0**
SRO Srobarova 85.33 318 *eP* **P 10 41 47.8 +0.8**
SRO *e*S S 10 52 10.1 -4.4
SRO Srobarova 85.33 318 *eP* **P 10 41 47.8 +0.8**
SRO *e* 10 41 50.5
SRO *e*S S 10 52 10.1 -4.4
SRO Srobarova 85.33 318 *eP* **P 10 41 47.8 +0.8**
SRO *e* 10 41 50.5
SRO Srobarova 85.33 318 *eS* S 10 52 10.1 -4.4
KOLL Kolacno 85.38 319 P **P 10 41 48.6 +1.4**
SRO1 Iza 85.38 318 *eP* **P 10 41 48.3 +1.1**
TIP Timpagrande 85.45 309 *eP* **P 10 41 48.1 +0.2**
KEV Kevo 85.55 341 *ep* **P 10 41 47.4 -0.2**
LTRZ Laterza 85.55 311 *eP* **P 10 41 48.3 0.0**
GRI Girifalco 85.68 309 *eP* **P 10 41 50.4 +1.4**
OKC Ostrava-Krasne 85.71 320 *eP* **P 10 41 49.2 +0.4**
OKC *e* 10 52 11.8
OKC *e*S S 10 52 22.1 +4.1
OKC MLR MLR
comp=Z,9μm,17.6s,MS6.2
OKC Ostrava-Krasne 85.71 320 *eP* **P 10 41 49.2 +0.4**
OKC *e*pP pP 10 41 53.3 -4.0
OKC *e*SKS SKS 10 52 11.8 -5.4
OKC *e*S S 10 52 22.1 +4.1
OKC AMS AMS 11 31 10.0
comp=Z,9μm,17.6s
RAC Raciborz 85.71 320 *eP* **P 10 41 49.7 +0.9**
RAC *e*S S 10 52 23.4 +5.3
RAC MLR MLR
comp=N,35μm,24.2s
RAC Raciborz 85.71 320 *eP* **P 10 41 49.7 +0.9**
RAC *e*SKSac 10 52 15.9
RAC *e*S S 10 52 23.4 +5.3
RAC LR LR
comp=Z,14μm,22.7s,MS6.3
RAC Raciborz 85.71 320 *eP* **P 10 41 49.7 +0.9**
RAC ⇑*e*SKSa 10 52 15.9
RAC *e*S S 10 52 23.4 +5.3
RAC LME 11 14 30.0
RAC LMN 11 21 36.8
RAC MLR MLR 11 28 00.3
comp=Z,14μm,22.7s,MS6.3
ORI Oriolo Calabro 85.78 310 *eP* **P 10 41 51.1 +1.7**
TDS Terranova Siba 85.83 310 *eP* **P 10 41 50.4 +0.7**
JAVC Velka Javorina 85.89 319 P **P 10 41 51.0 +1.2**
SOI Samo 85.90 308 *eP* **P 10 41 52.1 +1.2**
ARCES ARCESS Array B 85.99 340 P **P 10 41 50.0 +0.2**
comp=Z,294nm,1.0s,mb6.5,baz=104,slow=5.0,SNR=29
ARE0 ARCESS Array S 85.99 340 *eP* **P 10 41 49.9 0.0**
SMOL Smolenice 86.01 319 *eP* **P 10 41 50.6 +0.2**
SMOL *e* pP 10 41 58.6 -0.2
CEL Celeste 86.04 308 P **P 10 41 51.7 +0.9**
CEL P 10 41 52.7
MORC Moravsky Berou 86.09 320⇑P P 10 41 51.0 +0.3
MTTG Motta San Giov 86.17 308 *eP* **P 10 41 52.7 +1.3**
SCLL Scilla 86.18 308 *eP* **P 10 41 53.9 +2.4**
ZST Bratislava 86.19 318 *eP* **P 10 41 51.5 +0.2**
ZST *e*S S 10 52 22.9 +0.2
ZST Bratislava 86.19 318 *eP* **P 10 41 51.5 +0.2**
ZST *e*PP PP 10 45 02.4 -11
ZST *e*S S 10 52 22.9 +0.2
FGMS Monte Sant'Ang 86.31 312 *eP* **P 10 41 50.7 -1.4**
SISC Sisak 86.39 316 *iP* **P 10 41 51.8 -0.5**
SLCN Sala Consilina 86.43 310 P **P 10 41 53.8 +1.1**
MGR Morigerati 86.47 310 *eP* **P 10 41 52.6 -0.2**
AGST Augusta-Monte 86.48 307 *eP* **P 10 41 55.7 +2.7**
SOP Sopron 86.49 318 P **P 10 41 53.6 +0.8**
SOP Sopron 86.49 318⇑eP P 10 41 52.7 -0.1
KOGS Kog 86.57 317 *eP* **P 10 41 53.4 +0.2**
KOGS *e* pP 10 42 02.0 +0.4
MRLC Muro Lucano 86.58 311 *eP* **P 10 41 53.2 -0.1**
RGNG Rignano Grg 86.58 312 *eP* **P 10 41 53.4 0.0**
FG4 Candela 86.59 311 *eP* **P 10 41 53.9 +0.5**
KTK1 Kautokeino 86.64 339 *eP* **P 10 41 53.2 +0.2**
comp=Z,2μm,2.1s,mb6.9
KTK1 Kautokeino 86.64 339 *eP* **P 10 41 53.2 +0.2**
KTK1 AMb AMB 10 42 05.1
comp=Z,2μm,2.1s,mb6.9
VRAC Vranov 86.65 319⇑P P 10 41 53.2 -0.3
PZI Palazzolo 86.69 307 P **P 10 41 57.4 +3.4**
SGO Sicignano 86.70 311 *eP* **P 10 41 54.4 +0.5**
GKP Gorka Klasztor 86.72 323 *eP* **P 10 41 53.9 +0.2**
GKP *e* 10 41 58.2
GKP Gorka Klasztor 86.72 323 *eP* **P 10 41 53.9 +0.2**
GKP *e* 10 41 58.2
KRUC Moravsky 86.75 319 P **P 10 41 54.3 +0.3**
FG5 Orsara di Pugl 86.79 311 *eP* **P 10 41 55.4 +1.1**
FG2 Serracapriola 86.91 312 *eP* **P 10 41 56.5 +1.5**
CSSN Cassano Irpino 86.94 311 *eP* **P 10 41 55.2 +0.1**
DPC Dobruska-Polom 86.94 320 *eP* **P 10 41 55.6 +0.7**
DPC *e* 10 52 20.9
DPC *e*S S 10 52 34.4 +4.6
DPC MLR MLR
comp=Z,15μm,17.3s,MS6.5
DPC Dobruska-Polom 86.94 320 *eP* **P 10 41 55.6 +0.7**
DPC *e*pP pP 10 41 58.8 -4.5
DPC *e*SKS SKS 10 52 20.9 -4.4
DPC *e*S S 10 52 34.4 +4.6
DPC AMS AMS 11 31 50.0
comp=Z,15μm,17.3s
MNO Monte Soro 86.95 308 *eP* **P 10 41 59.2 +3.9**
KSP Ksiaz 87.01 321⇑eP P 10 41 55.6 +0.4
KSP *e*pP pP 10 42 04.2 +0.5
KSP *e*S S 10 52 33.5 +3.0
KSP LR LR
comp=Z,31μm,25.1s,MS6.6
KSP Ksiaz 87.01 321 *eP* **P 10 41 56.0 +0.8**
KSP *e* 10 42 00.2
KIWB Kanaga Island 87.12 38 *eP* **P 10 41 55.0 -0.7**
ARSA Arzberg 87.15 317⇑iP P 10 41 56.4 +0.4
comp=Z,2μm,2.1s,mb7.0
UPC Upice 87.15 321 *eP* **P 10 41 56.7 +0.8**
UPC *e*S S 10 52 38.5 +6.6
BOJS Bojanci 87.17 316 *eP* **P 10 41 56.1 0.0**
BOJS *e* pP 10 42 05.0 +0.4
NVLJ Novalja 87.36 315 *iP* **P 10 41 57.4 +0.3**
GIB Gibilmanna 87.49 308 *eP* **P 10 42 00.3 +2.4**
MIDA Miranda 87.58 312 P **P 10 41 58.1 -0.1**
NVL N'lazarevskaya 87.71 199⇓iP P 10 42 02.4 +4.3
NVL *i* 10 42 13.4
NVL pmax pmax
comp=Z,264nm,1.0s,mb6.4
NVL MLR MLR
comp=Z,49μm,15.6s,MS7.0
LJU Ljubljana 87.72 316 *eP* **P 10 41 59.3 +0.5**
LJU *e* pP 10 42 07.8 +0.6
LJU *e*S S 10 52 40.4 +3.0
LJU *e* 10 53 11.3
LJU Ljubljana 87.72 316 *eP* **P 10 41 59.3 +0.5**
LJU *e* pP 10 42 07.8 +0.6
LJU *e*PP PP 10 45 19.0 -7.9
LJU *e*S S 10 52 40.4 +3.0
LJU *e* 10 53 11.3
LJU *e* 10 55 08.8
LJU *e* 10 59 08.1
MAIT Maitri 87.75 199 *eP* **P 10 42 00.5 +2.2**
OBKA Obir 87.75 316⇑iP P 10 41 59.2 +0.3
comp=Z,3μm,2.5s,mb7.1
MCT Mte Cammarata 87.77 308 *eP* **P 10 42 03.3 +4.1**
GSTR Great Sitkin T 87.81 38 *eP* **P 10 41 59.5 +0.5**
INTR Introdacqua 87.86 312 P **P 10 41 59.5 0.0**
SDI San Donato 87.91 312 *eP* **P 10 41 59.9 +0.1**
PRU Pruhonice 88.04 320 *eP* **P 10 42 00.9 +0.7**
PRU *e* 10 45 33.1
PRU *e* 10 52 28.4
PRU *e*S S 10 52 42.4 +2.2
PRU MLR MLR
comp=Z,13μm,20.0s,MS6.3
PRU Pruhonice 88.04 320 *eP* **P 10 42 00.9 +0.7**
PRU *e*pP pP 10 42 04.6 -4.0
PRU *e*PP PP 10 45 33.1 +3.8
PRU *e*SKS SKS 10 52 28.4 -4.0
PRU *e*S S 10 52 42.4 +2.2
PRU AMS AMS 11 32 20.0
comp=Z,13μm,20.0s
MOA Molln 88.05 318⇑iP P 10 42 00.1 -0.2
comp=Z,2μm,2.5s,mb6.8
VVLD Villa Vallelon 88.06 312 P **P 10 41 57.2 -3.3**
PVCC Panska Ves 88.07 320 *eP* **P 10 42 01.1 +0.8**
PVCC *e* 10 52 28.1
PVCC *e*S S 10 52 43.0 +2.5
PVCC MLR MLR
comp=Z,15μm,20.2s,MS6.4
PVCC Panska Ves 88.07 320 *eP* **P 10 42 01.1 +0.8**
PVCC *e*x x 10 45 42.8
PVCC *e*SKS SKS 10 52 28.1 -4.5
PVCC *e*S S 10 52 43.0 +2.5
PVCC AMS AMS 11 29 00.0
comp=Z,15μm,20.2s
CLTB Caltabellotta 88.10 308 P **P 10 42 02.5 +1.7**
PRA Prague 88.12 320 P **P 10 42 03.0 +2.5**
PRA pP pP 10 42 09.0 0.0
PRA AMS AMS 11 43 30.0
TERO Teramo 88.13 313 P **P 10 42 00.7 -0.1**
VOY Vojsko 88.17 316 *eP* **P 10 42 00.6 -0.3**
VOY *e* pP 10 42 09.7 +0.4
USI Ustica 88.20 309 *eP* **P 10 42 03.7 +2.5**
TRI Trieste 88.23 316 *eP* **P 10 42 00.3 -0.9**
PTQR Pietraquaria 88.24 312 *eP* **P 10 42 01.5 +0.2**
AQU L'Aquila 88.26 312 *eP* **P 10 42 01.8 +0.4**
AQU pmax pmax
comp=Z,1μm,1.1s,mb7.1
AQU L'Aquila 88.26 312 *eP* **P 10 42 01.9 +0.4**
AQU L'Aquila 88.26 312⇑P P 10 42 01.8 +0.4
TRO Tromso 88.27 340 *eP* **P 10 41 58.9 -1.9**
TRO LR LR
comp=Z,12788μm,20.8s
TRO Tromso 88.27 340 *eP* **P 10 41 59.9 -0.9**
TRO AMb AMB 10 42 13.6
comp=Z,1μm,1.9s,mb6.7
TRO *e* 10 52 26.9
TRO *e*SS SS 10 58 36.7 +1.8
TRO AMS AMS 11 26 33.2
comp=Z,13μm,20.8s,MS6.3
BSD Bornholm Skovb 88.27 325⇑iP P 10 42 00.9 -0.2
BSD *i* pP 10 42 09.6 0.0
BSD *e*S S 10 52 27.7 -15
BSD *i*S S 10 52 42.6 +0.4
BSD pmax pmax
comp=Z,810nm,1.2s,mb6.8
BSD MLR MLR
comp=Z,20μm,20.0s,MS6.5
BSD Bornholm Skovb 88.27 325⇑iP P 10 42 00.9 -0.2
comp=Z,814nm,1.2s,mb6.8
BSD *i* pP 10 42 09.6 0.0
BSD *e*S S 10 52 27.7 -15
BSD *i*S S 10 52 42.6 +0.4
BSD Bornholm Skovb 88.27 325⇑iP P 10 42 00.9 -0.2
comp=Z,814nm,1.2s,mb6.8
BSD *i* pP 10 42 09.6 0.0
BSD Bornholm Skovb 88.27 325 *eS* S 10 52 27.7 -15
BSD *i*S S 10 52 42.6 +0.4
comp=Z,20μm,20.0s
GUAR Guarcino 88.29 312 P **P 10 42 04.0 +2.4**
AFI Afiamalu 88.30 104 P **P 10 42 03.1 +0.9**
comp=Z,311nm,1.2s,mb6.4,baz=242,slow=5.9,SNR=10
AFI Afiamalu 88.30 104 P **P 10 42 03.1 +0.9**
QSPA South Pole Qui 88.32 180 *eP* **P 10 42 02.2 +1.3**
comp=Z,292nm,1.0s,mb6.5
ROBS Robic 88.45 316 *eP* **P 10 42 01.9 -0.3**
ROBS *e* pP 10 42 10.5 -0.2
FIAM Fiamignano 88.47 312 P **P 10 42 02.5 +0.1**
CING Cingoli 88.48 313 P **P 10 42 03.0 +0.6**
BRG Berggiesshubel 88.50 321 *iP* **P 10 42 03.0 +0.7**
BRG *i* 10 45 35.0
BRG *e* 10 52 31.9
BRG *i*S S 10 52 48.0 +3.6
BRG *i* 10 53 49.0
BRG pmax pmax
comp=Z,701nm,1.5s,mb6.7
BRG MLR MLR
comp=N,18μm,27.1s,MS6.5
BRG MLR MLR
comp=E,15μm,27.1s,MS6.5
BRG MLR MLR
comp=Z,15μm,27.1s,MS6.3
BRG Berggiesshubel 88.50 321 *iP* **P 10 42 03.0 +0.7**
comp=Z,701nm,1.5s,mb6.7
BRG *i* 10 42 33.0
BRG *i* PP PP 10 45 35.0 +2.1
BRG *e*SKS SKS 10 52 31.9 -3.3
BRG *i*S S 10 52 48.0 +3.6
BRG *i* 10 53 49.0
BRG LR LR
comp=Z,15μm,27.1s,MS6.3
GEC2 GERESS Array S 88.50 319 *eP* **P 10 42 02.8 +0.4**
GEC2 pmax pmax
comp=Z,885nm,1.5s,mb6.9
GEC2 GERESS Array S 88.50 319 *eP* **P 10 42 02.8 +0.4**
comp=Z,885nm,1.5s,mb6.9
GERES GERESS Array B 88.50 319 P **P 10 42 02.6 +0.2**
comp=Z,82nm,0.9s,mb6.0,baz=88,slow=2.8,SNR=40
NRCA Norcia 88.50 313 *eP* **P 10 42 02.5 0.0**
COLI Coloredo 88.53 316⇓eP P 10 42 03.0 +0.4
CERT Cerreto 88.55 312 P **P 10 42 02.5 -0.3**
PTCC Patocco-Chiusa 88.56 316 *eP* **P 10 42 02.8 0.0**
KHC Kasperske Hory 88.60 319 *eP* **P 10 42 03.3 +0.4**
KHC *e* 10 42 18.5
KHC *e* 10 52 31.3
KHC *e*S S 10 52 48.7 +3.3
KHC MLR MLR
comp=Z,16μm,20.0s,MS6.4
KHC Kasperske Hory 88.60 319 *eP* **P 10 42 03.3 +0.4**
KHC *e*pP pP 10 42 06.8 -4.5
KHC *e*x x 10 42 18.5
KHC *e*x x 10 45 41.4
KHC *e*SKS SKS 10 52 31.3 -4.6
KHC *e*S S 10 52 48.7 +3.3
KHC AMS AMS 11 26 30.0
comp=Z,16μm,20.0s
KBA Koelnbreinsper 88.62 317⇑iP P 10 42 02.7 -0.3
comp=Z,1μm,2.3s,mb6.8
ERC Erice 88.62 308 *eP* **P 10 42 04.4 +1.1**
BAD Bernadia 88.63 316⇓eP P 10 42 03.0 -0.1
GMNA Gemona 88.64 316 *eP* **P 10 42 03.2 +0.1**
SNTG Esanatoglia 88.66 313 *eP* **P 10 42 02.7 -0.6**
ARV Arcevia 88.67 313 *eP* **P 10 42 04.1 +0.7**
TLI Talmassons 88.71 316⇓eP P 10 42 06.0 +2.5
BUA Buia 88.71 316⇓eP P 10 42 04.0 +0.5
LAV9 Lanuvio 88.74 312 *eP* **P 10 42 06.7 +3.0**
MA9 Marino 88.78 312 *eP* **P 10 42 06.5 +2.6**
MNS Montasola 88.80 312 *eP* **P 10 42 03.7 -0.3**
FSSB Fossombrone 88.80 314 *eP* **P 10 42 04.5 +0.5**
ZOU Zoufplan 88.84 316⇓eP P 10 42 06.0 +1.9
ASS Assisi 88.86 313 *eP* **P 10 42 03.5 -0.8**
ROM9 Roma 88.89 312 P **P 10 42 06.8 +2.4**
FVI Forni Avoltri 88.97 316 P **P 10 42 03.8 -0.9**
RSM Repubblica di 89.05 314 *eP* **P 10 42 04.6 -0.6**
WET Wettzell 89.06 319 *eP* **P 10 42 05.3 +0.2**
comp=Z,564nm,1.4s,mb6.7
MLNI Malnisio 89.06 316⇑eP P 10 42 05.0 -0.2
CLL Collm 89.12 321 *iP* **P 10 42 05.4 +0.1**
comp=Z,586nm,1.6s,mb6.7
CLL *i* pP 10 42 14.1 +0.4
CLL *e*S S 10 52 51.0 +0.8
CLL LR LR
comp=Z,15μm,19.7s,MS6.4
CLL Collm 89.12 321 P **P 10 42 05.4 +0.1**
comp=Z,logA/T=2.6,mb6.7
CLL *i* *SP sP 10 42 14.1 -2.4
CLL *e* 10 44 27.0
CLL *e*PP PP 10 45 34.0 -3.9
CLL *e* 10 52 03.0
CLL *e* 10 52 38.0
CLL *e*S S 10 52 51.0 +0.8
CLL *e*SP SP 10 53 55.0 -2.0
CLL *e* 10 54 57.0
CLL *e*SS SS 10 58 54.0 +6.7
CAE Caneva 89.18 316⇓eP P 10 42 06.0 +0.3
TOLF Tolfa 89.28 312 P **P 10 42 07.4 +1.1**
SEST Monte Rota 89.37 317 P **P 10 42 06.4 -0.2**
AFL Alpe Faloria 89.38 316⇓eP P 10 42 09.0 +2.3
NKC Novy Kostel 89.41 320 *eP* **P 10 42 07.2 +0.5**
NKC *e*x x 10 45 49.2
NKC *e*SKS SKS 10 52 41.7 +0.9
NKC *e*S S 10 52 57.9 +5.1
NKC AMS AMS 11 29 50.0
comp=Z,17μm,21.2s
SFI Santa Sofia 89.48 314 *eP* **P 10 42 08.4 +1.2**
MOR8 Moi Rana 89.52 336 *eP* **P 10 42 06.4 -0.4**
comp=Z,769nm,2.4s,mb6.6
MOR8 Moi Rana 89.52 336 *eP* **P 10 42 06.4 -0.4**
MOR8 AMb AMB 10 42 18.7
comp=Z,769nm,2.4s,mb6.6
PGD Poggio Sodo 89.58 314 *eP* **P 10 42 09.3 +1.6**
BRES Bressanone 89.70 317 P **P 10 42 08.1 0.0**
VMG Vicchio 89.71 314 *eP* **P 10 42 09.3 +1.1**
CTI Castel Tesino 89.73 316 *eP* **P 10 42 08.9 +0.6**
COP Copenhagen 89.73 326⇑iP P 10 42 09.8 +1.8
comp=Z,151nm,1.1s,mb6.2
COP *i* pP 10 42 17.2 +0.7
COP *e* 10 42 21.2
COP *i*S S 10 52 41.5 -14
COP *i* 10 52 59.3
COP LR LR
comp=Z,8μm,22.0s,MS6.1
COP Copenhagen 89.73 326 *i*S S 10 52 41.5 -14
COP *i* 10 52 59.3
comp=Z,8μm,22.0s
WTTA Wattenberg 89.79 317⇑iP P 10 42 07.5 -1.1
comp=Z,2μm,2.3s,mb7.1
WATA Walderalm 89.83 317⇑iP P 10 42 08.4 -0.4
comp=Z,597nm,1.5s,mb6.7
SEI Scarperia 89.85 314 *eP* **P 10 42 10.8 +2.0**
MELSS Ber_school_2 89.86 337 *eP* **P 10 42 10.2 +1.8**
MAON Monte Argentar 89.94 312 P **P 10 42 10.5 +1.1**
MOX Moxa 89.96 320⇑eP P 10 42 09.0 -0.3
FNVD Fontana Vidola 90.02 314 P **P 10 42 11.2 +1.5**
APPI Appiano 90.04 316 P **P 10 42 11.0 +1.3**
RAVA Ravarino 90.05 315 P **P 10 42 12.1 +2.3**
FUR Furstenfeldbru 90.07 318 *eP* **P 10 42 09.8 0.0**
SQTA Sankt Quirin 90.08 317⇑iP P 10 42 09.5 -0.4
comp=Z,692nm,1.6s,mb6.7
GRFL Gerfalco 90.09 313 *eP* **P 10 42 10.0 0.0**
STOK Stokkvaagen 90.10 336 *eP* **P 10 42 11.5 +1.9**
STOK Stokkvaagen 90.10 336⇓iP P 10 42 11.5 +1.9
ZCCA Zocca 90.13 314 *eP* **P 10 42 11.5 +1.2**
MOTA Moosalm 90.16 317⇓iP P 10 42 09.9 -0.4
GRA1 Grafenberg Arr 90.17 320 *eP* **P 10 42 10.8 +0.5**
comp=Z,970nm,1.5s,mb6.9
GRA1 *e*PP PP 10 45 45.4 -0.9
GRA1 *e*S S 10 53 04.2 +4.4
GRA1 *e*SS SS 10 59 02.6 -0.4
GRA1 *e*SSS SSS 11 02 53.0 +15
GRA1 LR LR
comp=Z,18μm,21.0s,MS6.5
GRF Grafenberg Arr 90.17 320 *eP* **P 10 42 10.8 +0.5**
comp=Z,970nm,1.5s,mb6.9
GRF *e*PP PP 10 45 45.4 -0.9
GRF *e*S S 10 53 04.2 +4.4
GRF *e*SS SS 10 59 02.6 -0.4
GRF *e*SSS SSS 11 02 53.0 +15
GRF LR LR
comp=Z,18μm,21.0s,MS6.5
HSP Hornsund 90.24 347 *eP* **P 10 42 09.6 -0.4**
BDI Bagni Di Lucca 90.39 314 *eP* **P 10 42 12.6 +1.1**
GSCL Gusciola 90.41 314 *eP* **P 10 42 12.6 +1.1**
PII Pisa 90.43 314 *eP* **P 10 42 10.9 -0.8**
NSS Namsos 90.44 334 *eP* **P 10 42 10.0 -1.1**
NSS AMb AMB 10 42 22.2
comp=Z,754nm,2.2s,mb6.6
NSS *e* 10 53 03.9
NSS *e*SS SS 10 59 08.4 +2.1
NSS AMS AMS 11 29 02.3
comp=Z,15μm,15.7s,MS6.5
SAL Salo 90.49 315 *eP* **P 10 42 12.9 +1.0**
MABI Malga Bissina 90.52 316 P **P 10 42 12.5 +0.6**
ERBM Eremo 90.54 314 *eP* **P 10 42 13.0 +0.9**
SARO Sassorosso 90.54 314 P **P 10 42 13.6 +1.5**
VLC Villacollemand 90.55 314 *eP* **P 10 42 13.5 +1.3**
comp=Z,203nm,1.1s,mb6.4
NB2 NORSAR Subarra 90.63 331 P **P 10 42 12.3 +0.2**
comp=Z,30nm,0.9s,mb5.6,baz=95,slow=5.3
NB2 NORSAR Subarra 90.63 331 P **P 10 42 12.3 +0.2**
baz=95,slow=5.3
NOA NORSAR Array B 90.63 331 P **P 10 42 10.9 -1.2**
comp=Z,6.5nm,0.8s,mb5.0,baz=116,slow=3.3,SNR=21
BRMO Bormio 90.63 316 *eP* **P 10 42 13.0 +0.6**
VALM 90.65 314 P **P 10 42 13.6 +1.0**
FUORN Ofenpass 90.71 316⇑iP P 10 42 13.6 +0.8
NAO01 NORSAR Array S 90.78 331 *eP* **P 10 42 12.7 -0.1**
comp=Z,158nm,1.2s,mb6.2
NAO01 LR LR
comp=Z,19μm,21.0s,MS6.5
CLZ Clausthal 90.78 322 *eP* **P 10 42 13.5 +0.5**
comp=Z,579nm,1.5s,mb6.7
GRAM 90.79 314 P **P 10 42 16.0 +2.8**
HDH Heidenheim 90.80 318 P **P 10 42 13.3 +0.1**
HDH Heidenheim 90.80 318 *eP* **P 10 42 12.7 -0.5**
OSL Oslo 90.83 330 *eP* **P 10 42 15.0 +2.0**
UBR Uberruh 90.84 317 P **P 10 42 14.2 +0.8**
UBR Uberruh 90.84 317 *eP* **P 10 42 13.1 -0.3**
BERNI Berninapass 90.87 316⇑iP P 10 42 14.3 +0.8
BSEG Bad Segeberg 90.88 324 *eP* **P 10 42 14.1 +0.7**
DAVOX Davos 90.97 317⇑iP P 10 42 14.6 +0.6
DAVA Damuels 90.99 317⇑iP P 10 42 14.5 +0.4
comp=Z,2μm,1.6s,mb7.2
VSL Villasalto 91.19 309 *eP* **P 10 42 15.4 +0.2**
comp=Z,343nm,1.2s,mb6.6
SIND Sindeldorf 91.21 319 P **P 10 42 15.7 +0.6**
SIND Sindeldorf 91.21 319 *eP* **P 10 42 15.4 +0.3**
CGL Cagliari Serpe 91.25 309 *eP* **P 10 42 16.4 +0.9**
LIENZ Alp Oberkamor 91.25 317⇑iP P 10 42 15.7 +0.4
VDL Val di Lei 91.25 316⇑iP P 10 42 15.4 +0.1
PLONS Plons 91.32 317⇑iP P 10 42 15.9 +0.3
TUE Stuetta 91.34 316 P **P 10 42 17.4 +1.7**
BUCH Bad Urach 91.36 318 P **P 10 42 16.4 +0.6**
BUCH Bad Urach 91.36 318 *eP* **P 10 42 15.8 0.0**
KONO Kongsberg 91.39 329 *eP* **P 10 42 17.1 +1.5**
KONO LR LR
comp=Z,140nm,24.8s

KONO **Kongsberg** 91.39 329 *eP* P 10 42 17.1 +1.5
KONO *e* 10 52 47.6
GUT **Gutenstein** 91.52 318 P P 10 42 16.9 +0.4
GUT **Gutenstein** 91.52 318 *eP* P 10 42 16.5 0.0
PGF **Pioggiola** 91.52 312 *eP* P 10 42 17.0 +0.3
comp=Z,1µm,1.4s,mb6.8
MUGIO **Muggio** 91.54 316⇑ *iP* P 10 42 15.7 -0.9
GENL **Genova Univers** 91.57 314 P P 10 42 18.4 +1.6
LLS **Linth-Limmern** 91.57 317⇑ *iP* P 10 42 17.0 +0.2
MUD **Monsted U'grnd** 91.58 326⇑ *iP* P 10 42 17.5 +0.9
comp=Z,154nm,1.3s,mb6.2
MUD *i* pP 10 42 25.8 +0.8
MUD *i* S S 10 52 48.3 -24
MUD *i* 10 53 16.7
MUD **Monsted U'grnd** 91.58 326 *i* S S 10 52 48.3 -24
MUD *i* 10 53 16.7
comp=Z,12µm,20.0s
SISB **Singen-Sch Ber** 91.61 317 P P 10 42 17.9 +1.0
WILA **Wila** 91.65 317⇑ *iP* P 10 42 17.1 0.0
DOMB **Dombas** 91.68 332 *eP* P 10 42 19.2 +2.3
comp=Z,292nm,1.2s,mb6.5
DOMB **Dombas** 91.68 332⇓ *iP* P 10 42 19.2 +2.3
DOMB AMb AMB 10 42 27.5
comp=Z,292nm,1.2s,mb6.5
VAI **Varese** 91.73 316 *eP* P 10 42 17.4 -0.2
LBG **Lerchenberg** 91.74 318 P P 10 42 18.1 +0.6
LBG **Lerchenberg** 91.74 318 *eP* P 10 42 17.4 -0.1
SPAK **Spaichingen** 91.74 318 *eP* P 10 42 17.9 +0.4
SPAK **Spaichingen** 91.74 318 *eP* P 10 42 17.7 +0.2
TOD **Tromm** 91.74 319 *eP* P 10 42 17.5 0.0
TOD **Tromm** 91.74 319 *eP* P 10 42 17.6 +0.1
SWS **Schriesheim** 91.81 319 P P 10 42 20.5 +2.7
SWS **Schriesheim** 91.81 319 *eP* P 10 42 18.0 +0.2
FUSIO **Fusio** 91.81 316⇑ *iP* P 10 42 19.3 +1.4
MUO **Muotathal** 91.83 317 ⇑P P 10 42 18.6 +0.6
ZUR **Zurich** 91.87 317⇑ *iP* P 10 42 18.1 0.0
PCP **Pian Castagno** 91.88 314 P P 10 42 20.5 +2.3
SLE **Schleitheim** 91.93 318⇑ *eP* P 10 42 18.0 -0.4
TNS **Taunus Mts** 91.97 320 *eP* P 10 42 19.1 +0.6
BNALP **Bannalp** 91.97 317⇑ *iP* P 10 42 18.9 +0.3
BNALP **Bannalp** 91.97 317⇑ *iP* P 10 42 18.8 +0.2
BFO **Black Forest** 92.05 318 P P 10 42 19.9 +1.0
comp=Z,861nm,1.1s,mb7.0,SNR=36
BFO **Black Forest** 92.05 318 *eP* P 10 42 18.9 0.0
comp=Z,226nm,1.4s,mb6.3
FIN **Finale Ligure** 92.12 314 *eP* P 10 42 19.6 +0.3
HASLI **Hasliberg** 92.16 317⇑ *iP* P 10 42 19.7 +0.2
SULZ **Sulz-Cheisache** 92.19 317⇑ *iP* P 10 42 19.4 -0.2
KTD **Kalmit** 92.21 319 *eP* P 10 42 20.5 +0.9
KTD **Kalmit** 92.21 319 *eP* P 10 42 20.2 +0.6
FELD **Feldberg** 92.26 318 *eP* P 10 42 19.9 0.0
MCGN **Macugnaga** 92.28 316 *eP* P 10 42 17.6 -2.4
ORO **Oropa** 92.28 315 *eP* P 10 42 19.5 -0.6
ORX **Oropa** 92.28 315 P P 10 42 21.6 +1.5
MMK **Mattmark** 92.29 316⇑ *eP* P 10 42 19.8 -0.3
KIZ **Kirchzarten** 92.32 318 P P 10 42 20.5 +0.3
KIZ **Kirchzarten** 92.32 318 *eP* P 10 42 19.8 -0.4
IMI **Imperia** 92.34 314 *eP* P 10 42 23.4 +3.0
SNAA **Sanae** 92.35 198⇑ *iP* P 10 42 22.5 +2.7
SNAA *e* pP 10 42 32.2 +4.0
SNAA *e* 10 42 35.9
ROB **Roburent** 92.36 314 P P 10 42 22.7 +2.2
MOL **Molde** 92.38 332 *eP* P 10 42 23.7 +3.6
comp=Z,559nm,1.3s,mb6.7
MOL **Molde** 92.38 332 *eP* P 10 42 23.7 +3.6
MOL AMb AMB 10 42 32.5
comp=Z,559nm,1.3s,mb6.7
LANF **Langenberg** 92.39 319 *eP* P 10 42 20.8 +0.3
STR **Strasbourg** 92.42 318 *eP* P 10 42 20.7 +0.1
MONE **Monesi** 92.44 314 P P 10 42 22.7 +1.9
BALST **Balsthal** 92.47 317⇑ *eP* P 10 42 19.9 -1.0
NEGI **Negi** 92.48 314 P P 10 42 22.4 +1.4
LKBD **Leukerbad** 92.53 316⇑ *eP* P 10 42 20.5 -0.7
LIBD **Limburg** 92.53 318 *eP* P 10 42 21.7 +0.5
LIBD **Limburg** 92.53 318 *eP* P 10 42 21.2 0.0
ABH **Alteburg** 92.56 320 *eP* P 10 42 21.7 +0.5
ABH **Alteburg** 92.56 320⇑ *eP* P 10 42 21.6 +0.4
SAOF **Saorge** 92.59 314 *eP* P 10 42 22.8 +1.3
BBS **Basel-Blauen** 92.60 317 *eP* P 10 42 21.2 -0.3
SBF **Sospel** 92.67 314 *eP* P 10 42 22.0 +0.1
comp=Z,1µm,1.4s,mb6.8
DIX **Grande Dixence** 92.68 316 ⇑P P 10 42 22.8 +0.9
AUTN **L'Aution** 92.68 314 *eP* P 10 42 25.3 +3.4
ENR **Entracque** 92.68 314 P P 10 42 23.5 +1.5
WLS **Welschbruch** 92.70 318 *eP* P 10 42 21.5 -0.4
REVF **Revere** 92.72 314 *eP* P 10 42 22.4 +0.3
CDF **Champ du Feu** 92.75 318 *eP* P 10 42 22.1 0.0
comp=Z,512nm,1.5s,mb6.4
STV2 **Anna di Valdie** 92.75 314 P P 10 42 23.4 +1.1
STV **Sta Anna Valdi** 92.75 314 P P 10 42 23.6 +1.4
BHB **Bricherasio** 92.79 315 P P 10 42 22.9 +0.5
RSP **Reno Superiore** 92.79 315 P P 10 42 24.5 +2.1
DOI **San Damiano** 92.81 314 *eP* P 10 42 24.1 +1.6
TOUF **Mont Tournerai** 92.81 314 *eP* P 10 42 24.7 +2.2
ECH **Echery** 92.83 318 *eP* P 10 42 22.7 +0.2
MOF **Molkenrain** 92.85 318 *eP* P 10 42 22.2 -0.4
LSD **Ceresole Reale** 92.86 315 P P 10 42 23.2 +0.4
RUP **Ruppelstein** 92.87 319 *eP* P 10 42 23.1 +0.4
RUP **Ruppelstein** 92.87 319⇑ *eP* P 10 42 22.8 +0.1
MVF **Mont Vial** 92.88 314 *eP* P 10 42 24.5 +1.6
GRYON **Gryon** 92.88 316⇑ *iP* P 10 42 23.1 +0.3
FENE **Fenestrelle** 92.93 315 P P 10 42 23.5 +0.4
TORNY **Torny** 92.98 317⇑ *iP* P 10 42 23.5 +0.2
AIGLE **Aigle** 92.99 316⇑ *iP* P 10 42 23.3 0.0
BLS5 **Blasjo** 93.00 329 *eP* P 10 42 25.3 +2.3
comp=Z,285nm,1.5s,mb6.5
BLS5 **Blasjo** 93.00 329 *eP* P 10 42 25.3 +2.3
BLS5 AMb AMB 10 42 35.9
comp=Z,285nm,1.5s,mb6.5
WTSB **Winterswijk** 93.00 322 *eP* P 10 42 24.7 +1.5
comp=Z,294nm,2.3s,mb6.3
OG22 **Abries** 93.02 315 *eP* P 10 42 25.5 +2.0
EMV **Vieux Emosson** 93.03 316 ⇓P P 10 42 26.0 +2.5
HINF **Hinteralfeld** 93.04 318 *eP* P 10 42 23.0 -0.5
comp=Z,936nm,1.9s,mb6.6
WIT **Witteveen** 93.06 323 *eP* P 10 42 26.4 +2.9
LOMF **Lomont** 93.06 317 *eP* P 10 42 23.4 -0.2
CALN **Calern** 93.07 314 *eP* P 10 42 23.9 +0.2
SURF **Saint Ours** 93.12 314 *eP* P 10 42 25.3 +1.4
RRL **Cesana Torines** 93.13 315 P P 10 42 25.9 +1.9
MBDF **Montbardon** 93.14 315 *eP* P 10 42 25.1 +1.1
comp=Z,400nm,1.4s,mb6.4
LPG **La Plagne** 93.14 315 *eP* P 10 42 24.4 +0.4
comp=Z,253nm,0.9s,mb6.3
LPL **La Plagne** 93.15 315 *eP* P 10 42 24.3 +0.2
CAEH **'Ain El Ouahch** 93.16 307 P P 10 42 28.0 +3.7
BNI **Bardonecchia** 93.20 315 P P 10 42 24.6 +0.2
comp=Z,762nm,2.0s,mb6.8
FRF **La Foret Royal** 93.25 313 *eP* P 10 42 24.7 +0.1
comp=Z,1µm,1.6s,mb6.7
CKFL **Kef-Lekhel** 93.27 306 P P 10 42 29.0 +4.2
LMR **La Mourre** 93.35 313 *eP* P 10 42 25.1 +0.1
comp=Z,874nm,1.8s,mb6.6
HAU **Haudompre** 93.38 318 *eP* P 10 42 24.9 -0.1
comp=Z,1µm,1.5s,mb6.8
HAU *eR*
comp=Z,17µm,22.2s
CASM **Ain Smara** 93.45 306 P P 10 42 29.0 +3.3
WLF **Walferdange** 93.46 319 P P 10 42 29.0 +3.6
BER **Bergen** 93.52 330 *eP* P 10 42 27.6 +2.2
BER AMb AMB 10 42 38.0
comp=Z,340nm,1.5s,mb6.6
BER *e* 10 53 32.8
BER AMS AMS 11 31 03.8
comp=Z,20µm,21.3s,MS6.5
CTEI **Djebel Teioual** 93.52 306 P P 10 42 31.0 +5.0
HGN **Heimansgroeve** 93.57 321 *eP* P 10 42 25.7 -0.2
comp=Z,98nm,1.8s,mb5.9
HGN *ex* x 10 42 34.3
HGN *e*PP PP 10 46 11.8 -1.7
HGN *e*S S 10 53 31.4 +1.7
HGN *e*SS SS 11 00 11.6 +20
CABF **La Chapelle** 93.58 316 *eP* P 10 42 26.4 +0.4
comp=Z,1µm,1.6s,mb6.8
GDM **Grand'Maison** 93.60 315 *eP* P 10 42 27.1 +1.0
THEF **They Montfort** 93.61 318 *eP* P 10 42 26.2 +0.1
ORIF **Oris-en-Rattie** 93.77 315 *eP* P 10 42 27.1 +0.2
comp=Z,438nm,1.3s,mb6.4
ORIF *eR*
comp=Z,16µm,21.8s
GRN **Grenoble** 93.86 315 *eP* P 10 42 28.6 +1.3
CMER **Merouana** 93.94 305 P P 10 42 31.0 +3.0

DFRA **Djebel Bou Aff** 93.94 306 P P 10 42 32.0 +4.0
VNA2 **Neumayer--Watz** 93.96 198 *e* P 10 42 37.0 +10
VNA2 **Neumayer--Watz** 93.96 198 *e* P 10 42 41.0 +14
VNA2 **Neumayer--Watz** 93.96 198⇑ *iP* P 10 42 28.1 +0.9
VNA2 *e* pP 10 42 37.0 +1.3
VNA2 *e* 10 42 41.0
VNA2 *e* 10 46 12.4
SMRF **Simiane la Rot** 94.02 314 *eP* P 10 42 28.7 +0.6
comp=Z,1µm,1.9s,mb6.6
MEZF **Maizieres J'vi** 94.22 318 *eP* P 10 42 29.0 +0.1
comp=Z,1µm,1.7s,mb6.7
GIVF **Givet** 94.31 320 *eP* P 10 42 29.3 0.0
comp=Z,526nm,1.6s,mb6.4
SET **Setif** 94.33 306 P P 10 42 33.0 +3.2
VNA3 **Neumayer Olymp** 94.57 198 *e* P 10 42 39.5 +9.5
VNA3 **Neumayer Olymp** 94.57 198 *e* P 10 42 44.2 +14
VNA3 **Neumayer Olymp** 94.57 198⇑ *iP* P 10 42 31.3 +1.3
VNA3 *e* pP 10 42 39.5 +1.0
VNA3 *e* 10 42 44.2
VNA3 *e* 10 46 16.2
VIVF **Saint-Julien-l** 94.63 315 *eP* P 10 42 30.9 0.0
comp=Z,454nm,1.5s,mb6.4
BAIF **Baives** 94.70 320 *eP* P 10 42 31.3 +0.2
comp=Z,496nm,1.4s,mb6.5
SMF **Signal de Mont** 95.13 317 *eP* P 10 42 32.9 -0.2
comp=Z,485nm,1.3s,mb6.5
LASF **Ste Croix** 95.25 314 *eP* P 10 42 33.9 +0.1
comp=Z,231nm,1.3s,mb6.2
ATAF **Djebel Tarf** 95.25 306 P P 10 42 29.0 -5.0
PLDF **La Plantade** 95.32 316 *eP* P 10 42 36.7 +2.7
SSF **Saint Saulge** 95.34 317 *eP* P 10 42 34.1 0.0
comp=Z,657nm,1.7s,mb6.5
AVF **Avril sur Loir** 95.46 317 *eP* P 10 42 34.4 -0.2
comp=Z,425nm,1.4s,mb6.4
AKET **Djebel Ketaf** 95.57 306 P P 10 42 30.6 -4.8
LBL **Lubilhac** 95.62 315 *eP* P 10 42 36.9 +1.5
AGO **Saint Agoulin** 95.66 316 *eP* P 10 42 35.8 +0.2
BGF **Bois d'Agland** 95.82 316 *eP* P 10 42 36.5 +0.2
comp=Z,1µm,1.6s,mb6.7
HYF **Humbligny** 95.91 317 *eP* P 10 42 37.1 +0.4
FRNF **Fournols** 96.09 315 *eP* P 10 42 40.2 +2.6
TCF **Toulx Ste Croi** 96.28 316 *eP* P 10 42 38.6 +0.2
comp=Z,395nm,1.7s,mb6.2
CAF **Calviac** 96.48 315 *eP* P 10 42 39.6 +0.2
comp=Z,235nm,1.3s,mb6.1
MTLF **Montolieu** 96.48 313 *eP* P 10 42 39.5 +0.1
comp=Z,408nm,1.5s,mb6.3
RJF **Les Rejaudoux** 96.84 315 *eP* P 10 42 41.3 +0.4
comp=Z,378nm,1.6s,mb6.3
RJF *eR*
comp=Z,14µm,22.2s
JMIC **Jan Mayen** 97.39 342 *eP* P 10 42 48.8 +5.9
JMIC AMb AMB 10 42 56.0
comp=Z,528nm,2.0s,mb6.6
JMIC *e* 10 54 03.8
JMIC *e*SS SS 11 00 51.5 +6.9
JMIC AMS AMS 11 27 59.6
comp=Z,10µm,21.5s,MS6.3
LFF **La Frestale** 97.42 315 *eP* P 10 42 43.9 +0.3
comp=Z,645nm,1.8s,mb6.5
EPOB **Poblet** 97.47 311 P P 10 42 46.4 +2.5
comp=Z,69nm,1.2s,mb6.0
LDF **La Druitiere** 97.65 319 *eP* P 10 42 44.2 -0.3
comp=Z,304nm,1.5s,mb6.3
LCP **Cassop** 97.72 325 *eP* P 10 42 47.2 +2.6
DAG **Danmarks Havn** 97.85 348⇓ *eP* P 10 42 44.1 -0.7
comp=Z,115nm,1.1s,mb6.3
DAG LR LR
comp=Z,34µm,22.0s,MS6.8
DAG **Danmarks Havn** 97.85 348⇓ *iP* P 10 42 44.1 -0.7
comp=Z,115nm,1.1s,mb6.3
comp=Z,34µm,22.0s
FLN **La Foliniere** 97.86 319 *eP* P 10 42 45.2 -0.3
comp=Z,211nm,1.3s,mb6.2
FLN *eR*
comp=Z,14µm,20.8s
EPF **Esparros** 97.87 313 *eP* P 10 42 45.1 -0.6
comp=Z,147nm,1.8s,mb5.9
MFF **Saint Martin d** 97.87 317 *eP* P 10 42 45.4 -0.2
comp=Z,330nm,1.6s,mb6.3
HPK **Haverah Park** 97.91 324 *eP* P 10 42 48.5 +2.9
HPK AMb AMB 10 42 56.3
comp=Z,525nm,1.7s,mb6.8
EBR **Ebro Roquetas** 97.95 311 *e*PCP PcP 10 42 51.3 +5.0
KBI1 **Birley Grange** 97.95 323 *eP* P 10 42 48.2 +2.4
EBIE **Bielsa** 98.05 313 P P 10 42 49.6 +3.2
comp=Z,62nm,1.8s,mb5.8
ERTA **Horta de San J** 98.06 311 P P 10 42 49.0 +2.5
comp=Z,91nm,1.4s,mb6.1
LHO **Holmfirth** 98.11 324 *eP* P 10 42 49.1 +2.6
OJGS **Djebel Guires** 98.14 305 P P 10 42 52.0 +4.9
GRR **Gorron** 98.16 319 *eP* P 10 42 46.5 -0.3
comp=Z,186nm,1.3s,mb6.1
KWE **Weaver Farm** 98.18 323 *eP* P 10 42 49.0 +2.2
IMA **Indian Mountai** 98.25 23 *eP* P 10 42 47.7 +0.9
comp=Z,132nm,1.4s,mb6.3
EDI **Edinburgh** 98.50 326 *eP* P 10 42 50.6 +2.5
EDI AMb AMB 10 42 59.0
comp=Z,144nm,2.0s,mb6.2
ETSF **Etsaut** 98.54 313 *eP* P 10 42 49.0 +0.3
comp=Z,129nm,1.3s,mb6.0
EKA **Eskdalemuir Ar** 98.58 326 P P 10 42 48.6 +0.1
comp=Z,21nm,1.0s,mb5.6,baz=100,slow=5.1,SNR=15
EKA PKKPbc 10 59 20.6
comp=Z,1.4nm,0.6s,baz=256,slow=2.7,SNR=4.5
ESAC **San Caprasio** 98.59 312 P P 10 42 55.7 +6.8
comp=Z,82nm,1.3s,mb6.1
ESK **Eskdalemuir** 98.61 326 *eP* P 10 42 50.8 +2.1
comp=Z,95nm,1.3s,mb6.2
ESK LR LR
comp=Z,2µm,21.0s,MS5.6
ESK **Eskdalemuir** 98.61 326 *eP* P 10 42 51.2 +2.5
ESK AMb AMB 10 43 00.3
comp=Z,151nm,1.9s,mb6.2
EMOS **Mosqueruela** 98.72 310 P P 10 42 53.3 +3.7
comp=Z,120nm,1.6s,mb6.2
SJPF **Ste Jean** 99.01 313 *eP* P 10 42 51.2 +0.4
comp=Z,132nm,1.3s,mb6.0
EALK **Alkurruntz** 99.20 313 P P 10 42 59.9 +8.3
comp=Z,117nm,1.9s,mb6.1
SGMF **Saint Gilles** 99.30 319 *eP* P 10 42 51.5 -0.5
comp=Z,201nm,1.6s,mb6.1
QUIF **Quistinic** 99.75 318 *eP* P 10 42 53.4 -0.7
comp=Z,298nm,1.8s,mb6.1
ROSF **Rostrenen** 99.76 319 *eP* P 10 42 53.6 -0.5
comp=Z,82nm,1.2s,mb5.7
ECRI **Cripan** 100.00 313 P P 10 42 59.4 +4.0
comp=Z,12nm,0.8s
EVIA **Vianos** 100.46 309 P P 10 43 03.0 +5.5
comp=Z,12nm,0.8s
KDAK **Kodiak Island** 100.84 31 PFAKE 10 43 10.0 +11
KDAK LR LR
comp=Z,8µm,22.0s,MS6.2
COLA **College** 100.93 24 Pdif P 10 43 00.7 +1.7
comp=Z,52nm,1.4s
COLA LR LR
comp=Z,6µm,21.0s,MS6.1
EBER **Berja** 100.95 307 P P 10 43 04.0 +4.3
comp=Z,81nm,1.8s
EQES **Quesada** 101.00 308 P P 10 43 08.4 +8.5
comp=Z,39nm,2.0s
SLKM **Skilak Lake** 101.28 28 *e*Pdif P 10 43 00.6 0.0
ILAR **Eielson Array** 101.35 24 P P 10 42 59.4 -1.5
comp=Z,0.7nm,0.5s,baz=294,slow=3.9,SNR=12
ILAR PKKPbc 10 59 09.7
comp=Z,14nm,0.9s,baz=137,slow=1.9,SNR=25
ESDC **Sonseca Array** 101.46 310 P P 10 43 03.5 +1.5
comp=Z,2.1nm,0.7s,baz=62,slow=3.2,SNR=6.2
ESDC PKKPbc 10 59 10.8
comp=Z,1.4nm,0.7s,baz=254,slow=2.7,SNR=3.8
ESDC **Sonseca Array** 101.46 310 P P 10 43 04.6 +2.6
comp=Z,11nm,1.6s
ESLA **Sonseca Array** 101.46 310 PFAKE 10 43 10.0 +8.0
ESLA LR LR
comp=Z,51µm,20.0s,MS7.0
GUD **Guadarrama** 101.48 311 P P 10 43 04.4 +2.3
comp=Z,7.6nm,0.9s
SCO **Scoresbysund** 101.68 343 *eP* P 10 43 00.9 -1.4
SCO **Scoresbysund** 101.68 343 *i* P P 10 43 00.9 -1.4
EADA **Adamuz** 102.13 309 P Pdif 10 43 07.6 +2.6
comp=Z,34nm,1.6s
KIP **Kipapa** 102.15 69 PFAKE 10 43 20.0 +15
KIP LR LR
comp=Z,10µm,21.0s,MS6.3
PVRL **Vila Real** 104.04 312 *e*PP PP 10 47 32.4 -1.1
MTE **Manteigas** 104.07 311 *e*PP PP 10 47 34.1 +0.4

MTE *e*SS SS 11 02 25.8 +8.0
PCBR **Castelo Branco** 104.11 311 *e*PP PP 10 47 34.4 +0.3
BORG **Borgarnes** 104.24 338 PFAKE 10 43 30.0 +16
BORG LR LR
comp=Z,4µm,20.0s,MS6.0
INK **Inuvik** 104.45 18 Pdiff Pdif 10 43 12.6 -1.9
comp=Z,4.7nm,0.9s,baz=307,slow=7.4,SNR=8.6
INK PKKPbc 10 58 58.6
comp=Z,6.0nm,1.0s,baz=59,slow=2.5,SNR=9.4
INK **Inuvik** 104.45 18 *e*Pdif Pdif 10 43 13.7 -0.8
comp=Z,39nm,1.2s
PALC **Alcoutim** 104.50 308 *e*PP PP 10 47 35.5 -1.8
DBIC **Dimbokro** 104.52 276 Pdiff Pdif 10 43 14.2 -1.9
comp=Z,6.2nm,1.2s,baz=72,slow=3.2,SNR=2.5
DBIC **Dimbokro** 104.52 276 *e*Pdif Pdif 10 43 16.9 +0.8
comp=Z,39nm,1.1s
DBIC LR LR
comp=Z,17µm,20.0s,MS6.6
DAWY **Dawson** 104.61 23 *e*Pdif Pdif 10 43 15.2 -0.1
PBEJ **Beja** 104.72 309 *e*PP PP 10 47 34.8 -4.2
PTOM **Tomar** 104.86 311 *e*PP PP 10 47 39.4 -0.7
PTEO **Sao Teotonio** 105.47 308 *e*PP PP 10 47 43.9 -0.7
PLOU **Loures** 105.56 310 *e*PP PP 10 47 45.7 +0.5
LIS **Lisbon** 105.59 310 *e*P Pdif 10 43 25.3 +5.1
LIS AMP 10 54 40.9
LIS *e*SS SS 11 02 45.3 +6.1
LIS *e*SS SS 11 02 47.3 +8.2
LIS AMS AMS 11 39 20.1
comp=E,13µm,16.3s
LIS **Lisbon** 105.59 310 *e*P Pdif 10 43 25.3 +5.1
LIS -MP 10 54 40.9
LIS *e*SS SS 11 02 47.3 +8.2
RES **Resolute Bay** 106.54 4 *e*Pdif Pdif 10 43 23.2 -0.4
comp=E,36nm,1.4s
TBI **Tubuai** 108.51 115 *e*PP PP 10 47 58.9 -8.8
TBI *e*SKSac 10 54 15.6
TBI *e*SKKSac 10 54 16.9
TBI *e*SP SP 10 57 18.5 -5.5
TBI *e*SS SS 11 03 17.3 -1.5
TBI *e*LR LR 11 19 18.5
comp=E,42µm,29.2s
PPT **Papeete** 109.32 109 *e*PP PP 10 48 00.3 -14
PPT *e*SKSac 10 54 15.9
PPT *e*LR LR 11 19 30.7
comp=E,50µm,25.2s
SIT **Sitka** 109.75 28 PFAKE 10 47 50.0
SIT LR LR
comp=Z,26µm,21.0s,MS6.8
PMSA **Palmer Station** 112.66 188 PFAKE 10 48 00.0 +11
PMSA LR LR
comp=Z,22µm,22.0s,MS6.7
YKA **Yellowknife Ar** 114.15 17 Pdiff Pdif 10 43 57.6 +0.3
comp=Z,1.0nm,0.9s,baz=323,slow=4.4,SNR=11
YKA PKiKP 10 47 47.9
comp=Z,4.5nm,0.8s,baz=342,slow=2.0,SNR=22
YKA PKKPbc 10 58 29.3
comp=Z,7.8nm,1.1s,baz=124,slow=2.9,SNR=14
YKA SKKP 11 02 29.2
comp=Z,2.1nm,1.0s,baz=140,slow=3.6,SNR=4.5
YKA **Yellowknife Ar** 114.15 17 Pdif Pdif 10 43 57.6 +0.3
YKA PKPdf PKPdf 10 47 47.9 -4.5
YKA PKKPbc 10 58 29.3
YKA SKKP 11 02 29.2
BBB **Bella Bella** 115.89 30 PKP PKPdf 10 47 52.3 -3.8
comp=Z,51nm,1.0s,baz=149,slow=1.5,SNR=3.9
FRB **Frobisher Bay** 117.42 354 PKP PKPdf 10 47 55.5 -3.3
comp=Z,12nm,0.6s,baz=310,slow=2.1,SNR=11
PDA **Ponta Delgada** 118.33 313 *i* PP PP 10 49 25.0 +7.4
PDA **Ponta Delgada** 118.33 313 *e*SS SS 11 05 36.0 +7.8
ADH **Angra Heroismo** 119.12 314 *i* PP PP 10 49 40.0 +17
ADH *i* 10 59 22.5
ADH *i* SS SS 11 05 42.5 +4.1
ADH **Angra Heroismo** 119.12 314 *i* LR LR 11 25 40.0
PGC **Sidney** 120.39 32 *e*PKPdf PKPdf 10 48 03.2 -1.6
VDB **Vedder Mountai** 120.85 31 P PKPdf 10 48 01.9 -3.9
RKT **Rikitea** 121.51 118 *e*PP PP 10 49 31.9 -7.3
RKT *e*SP SP 10 59 22.0 -3.0
RKT *e*SS SS 11 06 06.1 -3.7
RKT *e*LR LR 11 25 12.0
comp=Z,65µm,26.0s
EDM **Edmonton** 121.82 23 *e*PKPdf PKPdf 10 48 03.0 -4.5
FCC **Fort Churchill** 122.04 8 *e*PKPdf PKPdf 10 48 02.3 -5.5
KOSW **Kosmos** 122.41 33 P PKPdf 10 48 08.1 -0.7
WTV **Waterville** 122.81 31 P PKPdf 10 48 05.8 -3.7
TBM **Table Mountain** 122.81 32 P PKPdf 10 48 06.7 -2.9
USHA **Ushuaia** 122.86 188 PKP PKPdf 10 48 06.5 -3.0
comp=Z,54nm,1.0s,baz=67,slow=3.4,SNR=10
COR **Corvallis** 122.91 35 *e*PKPdf PKPdf 10 48 06.6 -3.2
COR LR LR
comp=Z,3µm,19.0s,MS6.0
EBG **Ellensburg** 123.00 32 P PKPdf 10 48 06.9 -3.0
VLMM **Larch Mountain** 123.06 34 P PKPdf 10 48 07.3 -2.7
MXC **Moxie City** 123.36 32 P PKPdf 10 48 07.5 -3.1
OD2 **Odessa Site #2** 123.64 30 P PKPdf 10 48 07.8 -3.5
WRD **Warden** 123.81 31 P PKPdf 10 48 08.4 -3.2
NEW **Newport** 123.83 29 *e*PKPdf PKPdf 10 48 06.4 -5.1
NEW LR LR
comp=Z,26µm,21.0s,MS6.9
HAWA **Hanford** 123.88 32 *e*PKPdf PKPdf 10 48 08.5 -3.2
HAWA LR LR
comp=Z,1µm,21.0s,MS5.5
HUMO **Hull Mountain** 124.26 37 *e*PKPdf PKPdf 10 48 09.2 -3.3
HUMO LR LR
comp=Z,11µm,21.0s,MS6.5
KRMB **Red Mountain** 124.29 39 *e*PKPdf PKPdf 10 48 09.8 -2.8
WALA **Waterton Lakes** 124.74 26 *e*PKPdf PKPdf 10 48 09.7 -3.6
KHMM **Horse Mountain** 124.76 39 *e*PKPdf PKPdf 10 48 10.9 -2.7
BUOR **Burton Butte** 124.88 37 P PKPdf 10 48 10.8 -3.0
YBH **Yreka Blue Hor** 124.92 38 PKP PKPdf 10 48 09.5 -4.4
comp=Z,5.0nm,0.7s,baz=32,slow=2.8,SNR=5.9
YBH **Yreka Blue Hor** 124.92 38 *e*PKPdf PKPdf 10 48 10.5 -3.4
YBH LR LR
comp=Z,13µm,22.0s,MS6.5
PTCN **Pitcairn Islan** 125.08 122 PFAKE 10 48 20.0 +5.4
PTCN LR LR
comp=Z,12µm,21.0s,MS6.5
WDC **Whiskeytown Da** 125.67 39 *e*PKPdf PKPdf 10 48 11.2 -4.1
WDC LR LR
comp=Z,15µm,21.0s,MS6.6
SCHQ **Schefferville** 125.83 350 PKP PKPdf 10 48 11.7 -3.5
comp=Z,25nm,0.8s,baz=356,slow=4.6,SNR=32
SCHQ **Schefferville** 125.83 350 *e*PKPdf PKPdf 10 48 10.9 -4.3
SCHQ LR LR
comp=Z,30µm,22.0s,MS6.9
BMO **Blue Mountains** 126.07 32 *e*PKPdf PKPdf 10 48 11.5 -4.4
BMO LR LR
comp=Z,14µm,21.0s,MS6.6
HOPS **Hopland** 126.21 41 *e*PKPdf PKPdf 10 48 13.7 -2.7
HOPS LR LR
comp=Z,14µm,20.0s,MS6.7
MOD **Modoc** 126.27 36 *e*PKPdf PKPdf 10 48 13.1 -3.3
MOD LR LR
comp=Z,17µm,22.0s,MS6.7
LBCM **Butte Creek Ri** 126.27 38 P PKPdf 10 48 13.6 -2.9
MSO **Missoula** 126.36 28 *e*PKPdf PKPdf 10 48 12.0 -4.4
MSO LR LR
comp=Z,13µm,20.0s,MS6.6
CHMT **Chamberlain Mo** 126.62 28 *e*PKPdf PKPdf 10 48 12.6 -4.3
NSHM **Saint Helena R** 126.78 41 *e*PKPdf PKPdf 10 48 14.5 -2.9
WVOR **Wild Horse Val** 126.91 35 *e*PKPdf PKPdf 10 48 14.8 -2.8
WVOR LR LR
comp=Z,24µm,21.0s,MS6.8
HRY **Holter Researc** 127.42 27 *e*PKPdf PKPdf 10 48 14.8 -3.7
PAHR **Pah Rah Range** 128.15 38 *e*PKPdf PKPdf 10 48 17.4 -2.7
WCN **Washoe City** 128.16 39 *e*PKPdf PKPdf 10 48 17.2 -3.0
BOZ **Bozeman (W)** 128.32 28 *e*PKPdf PKPdf 10 48 17.1 -3.2
BOZ LR LR
comp=Z,17µm,19.0s,MS6.8
MCMT **McKenzie Canyo** 128.35 29 *e*PKPdf PKPdf 10 48 17.2 -3.2
HLID **Hailey** 128.46 31 *e*PKPdf PKPdf 10 48 18.0 -2.6
HLID LR LR
comp=Z,16µm,21.0s,MS6.7
CMB **Columbia Colle** 128.50 40 *e*PKPdf PKPdf 10 48 17.2 -3.6
CMB LR LR
comp=Z,14µm,20.0s,MS6.7
SAO **San Andreas Ge** 128.50 42 *e*PKPdf PKPdf 10 48 18.7 -2.2
SAO LR LR
comp=Z,13µm,22.0s,MS6.6
LRV **Little Rabbit** 128.98 42 *e*PKPdf PKPdf 10 48 20.1 -1.7
QLMT **Earthquake Lak** 129.02 28 *e*PKPdf PKPdf 10 48 19.1 -2.5
GCMT **Greycliff** 129.09 26 *e*PKPdf PKPdf 10 48 18.6 -3.1
YMR **Madison River** 129.36 28 *e*PKPdf PKPdf 10 48 20.2 -2.2
YNR **Norris Junctio** 129.46 28 *e*PKPdf PKPdf 10 48 21.0 -1.5
YFT **Old Faithful** 129.59 28 *e*PKPdf PKPdf 10 48 21.9 -0.8

NVAR Mina Array Bea 129.59 39 PKP PKPdf 10 48 20.3 -2.6
comp=Z,18nm,0.8s,baz=290,slow=2.6,SNR=25
OMM Old Mammoth Mi 129.64 40 *e*PKPdf PKPdf 10 48 20.3 -2.7
MNV Mina 129.68 39 *e*PKPdf PKPdf 10 48 19.6 -3.5
MNV LR LR
comp=Z,14μm,21.0s,MS6.6
LKWY Lake 129.71 28 *e*PKPdf PKPdf 10 48 21.8 -1.2
LKWY LR LR
comp=Z,35μm,20.0s,MS7.0
LAO LASA Array 129.81 23 *e*PKPdf PKPdf 10 48 21.1 -2.0
LAO LR LR
comp=Z,30μm,22.0s,MS6.9
ULM Lac du Bonnet 129.82 13 PKP PKPdf 10 48 19.4 -3.7
comp=Z,42nm,0.8s,baz=347,slow=2.4,SNR=18
ULM Lac du Bonnet 129.82 13 *e*PKPdf PKPdf 10 48 19.3 -3.7
ULM LR LR
comp=Z,32μm,22.0s,MS7.0
ELK Elko 129.94 34 *e*PKPdf PKPdf 10 48 20.3 -3.2
ELK LR LR
comp=Z,15μm,22.0s,MS6.6
IMW Indian Meadow 129.96 29 *e*PKPdf PKPdf 10 48 21.2 -2.3
MTUM Tungsten Hills 130.07 40 *e*PKPdf PKPdf 10 48 21.4 -2.5
MOOW Moose Ponds 130.16 29 *e*PKPdf PKPdf 10 48 20.1 -3.8
RRI2 Red Ridge 130.18 29 *e*PKPdf PKPdf 10 48 21.9 -2.0
TPAW Teton Pass 130.25 29 *e*PKPdf PKPdf 10 48 20.8 -3.2
WUWY Wally Ulrich 130.32 29 *e*PKPdf PKPdf 10 48 21.7 -2.5
LOHW Long Hollow 130.33 29 *e*PKPdf PKPdf 10 48 21.5 -2.7
SNOW Snow King Moun 130.37 29 *e*PKPdf PKPdf 10 48 21.8 -2.5
REDW Red Top Meadow 130.40 29 *e*PKPdf PKPdf 10 48 21.8 -2.5
HVU Hansel Valley 130.58 32 *e*PKPdf PKPdf 10 48 21.8 -3.0
AHID Auburn Hatcher 130.72 30 *e*PKPdf PKPdf 10 48 22.6 -2.4
AHID LR LR
comp=Z,18μm,22.0s,MS6.7
BGU Big Grassy Mou 131.04 33 *e*PKPdf PKPdf 10 48 23.8 -1.9
SPUT South Promonto 131.08 32 *e*PKPdf PKPdf 10 48 23.2 -2.5
TRCR Troy Canyon 131.31 37 *e*PKPdf PKPdf 10 48 24.0 -2.2
HWUT Hardware Ranch 131.33 31 *e*PKPdf PKPdf 10 48 23.0 -3.2
HWUT LR LR
comp=Z,16μm,20.0s,MS6.7
BW06 Boulder Array 131.47 29 *e*PKPdf PKPdf 10 48 22.9 -3.4
BW06 LR LR
comp=Z,13μm,20.0s,MS6.6
PDAR Pinedale Array 131.47 29 PKhKP 10 48 15.9
comp=Z,2.0nm,0.9s,baz=342,slow=2.0,SNR=4.5
PDAR PKP PKPdf 10 48 23.2 -3.2
comp=Z,7.2nm,0.6s,baz=180,slow=0.9,SNR=20
DUG Dugway 131.67 33 *e*PKPdf PKPdf 10 48 24.5 -2.3
DUG LR LR
comp=Z,14μm,22.0s,MS6.6
NOQ North Oquirrh 131.73 32 *e*PKPdf PKPdf 10 48 24.0 -2.9
TCUT Toone Canyon 131.77 31 *e*PKPdf PKPdf 10 48 24.2 -2.8
CTU Camp Tracy 131.89 32 *e*PKPdf PKPdf 10 48 25.0 -2.3
MWC Mount Wilson 132.21 43 *e*PKPdf PKPdf 10 48 26.2 -1.9
NLU North Lily Min 132.24 33 *e*PKPdf PKPdf 10 48 25.2 -2.7
DAU Daniels Canyon 132.36 32 *e*PKPdf PKPdf 10 48 25.8 -2.3
COYC Coyhaique 132.41 188 *e*P PKPdf 10 48 24.5 -3.6
MPU Maple Canyon 132.44 33 *e*PKPdf PKPdf 10 48 24.9 -3.4
RSSD Black Hills 132.80 23 *e*PKPdf PKPdf 10 48 27.1 -1.8
RSSD LR LR
comp=Z,4μm,20.0s,MS6.1
EYMN Ely 132.89 10 *e*PKPdf PKPdf 10 48 24.2 -4.7
EYMN LR LR
comp=Z,32μm,22.0s,MS7.0
ARUT Antelope Range 132.96 36 *e*PKPdf PKPdf 10 48 26.2 -3.1
TMUT Trail Mountain 133.18 33 *e*PKPdf PKPdf 10 48 27.5 -2.2
MSU Marysvale 133.19 34 *e*PKPdf PKPdf 10 48 26.9 -2.9
RWWY Rawlins 133.41 28 *e*PKPdf PKPdf 10 48 26.4 -3.6
PFO Pinyon Flat Ob 133.65 43 *e*PKPdf PKPdf 10 48 27.1 -3.6
PFO LR LR
comp=Z,3μm,21.0s,MS5.9
LDFC Landfair 133.66 40 *e*PKPdf PKPdf 10 48 28.6 -2.1
SRU San Rafael 133.69 33 *e*PKPdf PKPdf 10 48 27.0 -3.6
PQI Presque Isle 133.86 348 *e*PKPdf PKPdf 10 48 27.5 -3.2
PQI LR LR
comp=Z,85μm,21.0s,MS7.4
BAR Barrett 134.04 44 *e*PKPdf PKPdf 10 48 28.7 -2.8
PHWY Pilot Hill 134.51 27 *e*PKPdf PKPdf 10 48 28.6 -3.6
CAUB Caruaru 134.65 257 *e*P PKPdf 10 48 27.6 -5.5
CAUB *e* 10 48 32.4
CAUB *i* 10 48 39.3
RCBR Riachuelo 134.92 260 PKPdf PKPdf 10 48 29.4 -4.3
RCBR LR LR
comp=Z,25μm,19.0s,MS7.0
PV10 Paradox Valley 135.01 32 *e*PKPdf PKPdf 10 48 30.6 -2.6
CAM3 Guarapari 135.06 238⇓ *i*P PKPdf 10 48 30.6 -3.0
CAM3 *i* 10 48 36.3
CAM3 *i* 10 48 46.4
PV01 Paradox Valley 135.44 32 *e*PKPpre 10 48 18.8
EMMW East Machias 135.60 347 *e*PKPpre 10 48 20.9
EMMW LR LR
comp=Z,60μm,19.0s,MS7.3
ISCO Idaho Springs 135.64 28 *e*PKPdf PKPdf 10 48 30.2 -4.0
ISCO LR LR
comp=Z,17μm,20.0s,MS6.8
WUAZ Wupatki 135.71 37 PKPdf PKPdf 10 48 32.0 -2.5
WUAZ LR LR
comp=Z,22μm,21.0s,MS6.9
CAM4 Nova Friburgo 136.04 235 *e*P 10 48 24.7
CAM4 *i* PKPdf 10 48 32.8 -2.6
CAM4 *i* 10 48 42.7
WVL Waterville 136.21 349 *e*PKPdf PKPdf 10 48 32.0 -3.1
WVL LR LR
comp=Z,54μm,22.0s,MS7.2
MSNY Massena 136.55 354 *e*PKPdf PKPdf 10 48 34.2 -1.5
PLCA Paso Flores 136.88 191 PKhKP 10 48 26.7
comp=Z,2.9nm,0.7s,baz=209,slow=3.4,SNR=6.6
PLCA Paso Flores 136.88 191 PKP PKPdf 10 48 26.7 -10
PLCA PKPdf PKPdf 10 48 33.4 -3.0
PLCA LR LR
comp=Z,36μm,20.0s,MS7.1
TRQA Tornquist 136.98 201 PKPpre 10 48 24.6
TRQA LR LR
comp=Z,24μm,19.0s,MS7.0
MIV Mineville/With 137.31 353 *e*PKPdf PKPdf 10 48 34.4 -2.7
SDCO Great Sand Dun 137.31 30 PKPpre 10 48 24.9
SDCO LR LR
comp=Z,17μm,20.0s,MS6.8
NCB Newcomb 137.49 353 *e*PKPpre 10 48 28.5
NCB LR LR
comp=Z,20μm,22.0s,MS6.8
HNH Hanover 137.50 351 *e*PKPdf PKPdf 10 48 35.5 -2.0
CS6B Jaguaretama 137.70 260 *e*P PKPdf 10 48 31.4 -7.3
CS6B *e* 10 48 35.3
CS6B *e* 10 48 43.6
CS6B *e* 10 48 50.3
CS6B *e* 10 49 07.0
LPA La Plata 137.97 208 *de*PKP PKPdf 10 48 29.0 -10
LPA *e*PP PP 10 51 22.0 -4.2
LPA *e*PKS PKS 10 52 10.0 +1.0
LPA SKIKP 10 52 11.0
LPA *e*PKS PKS 10 52 17.0 +8.0
ACCN Adirondack Com 138.00 353 PKPpre 10 48 27.6
TUC Tucson 138.20 40 *e*PKPpre 10 48 27.1
TUC LR LR
comp=Z,14μm,22.0s,MS6.7
HRV Harvard--Oak R 138.55 350 *e*PKPdf PKPdf 10 48 37.4 -2.1
HRV LR LR
comp=Z,22μm,22.0s,MS6.9
WES Weston 138.62 350 *e*PKPdf PKPdf 10 48 34.5 -5.2
WES LR LR
comp=Z,11μm,19.0s,MS6.6
QUA2 Belchertown 138.90 351 PKPpre 10 48 28.1
ANMO Albuquerque 138.94 33 PKhKP 10 48 29.2
comp=Z,21nm,0.8s,baz=317,slow=2.3,SNR=32
ANMO PKP PKPdf 10 48 37.9 -2.5
comp=Z,32nm,0.9s,baz=352,slow=2.7,SNR=13
GENY Geneseo 138.99 357 *e*PKPpre 10 48 27.7
BRYW Bryant College 139.11 350 *e*PKPpre 10 48 29.5
LENM Lemitar 139.23 35 *e*PKPpre 10 48 35.8
LPM Los Pinos Moun 139.32 34 *e*PKPpre 10 48 31.3
AAM Ann Arbor 139.42 4 PKPpre 10 48 29.6
AAM LR LR
comp=Z,20μm,22.0s,MS6.8
BNM Barren Site 139.44 34 *e*PKPpre 10 48 31.8
ERPA Erie 139.70 359 *e*PKPdf PKPdf 10 48 38.9 -2.7
ERPA LR LR
comp=Z,23μm,22.0s,MS6.9
KSU1 Kansas State U 139.89 20 *e*PKPpre 10 48 30.8
ALLY Alegheny Colle 140.17 360 *e*PKPpre 10 48 32.6
PAL Palisades 140.38 352 *e*PKPpre 10 48 34.4
CPNY Central Park 140.59 352 PKPdf PKPdf 10 48 40.1 -3.1
BRNJ Basking Ridge 140.78 353 PKPdf PKPdf 10 48 39.4 -4.2
SSPA Standing Stone 141.12 357 *e*PKPpre 10 48 36.1
SSPA LR LR
comp=Z,7μm,22.0s,MS6.3
AMTX Amarillo 141.45 29 PKPpre 10 48 38.9
AMTX LR LR
comp=Z,20μm,22.0s,MS6.8
ACSO Alum Creek Sta 141.52 3 *e*PKPpre 10 48 35.4
ACSO LR LR
comp=Z,24μm,21.0s,MS6.9
MVL Millersville 141.64 355 *e*PKPpre 10 48 38.0
CPRX Cap Rock 141.80 33 *e*PKPpre 10 48 37.3
MNTX Cornudas Mount 141.94 36 *e*PKPpre 10 48 36.9
MNTX LR LR
comp=Z,16μm,20.0s,MS6.8
SLM Saint Louis 142.10 13 *e*PKPdf PKPdf 10 48 41.6 -4.4
GDL2 Guadalupe Moun 142.15 34 *e*PKPpre 10 48 38.2
BLO Bloomington 142.23 8 *e*PKPpre 10 48 37.1
SDMD Soldier's Deli 142.27 355 *e*PKPpre 10 48 38.6
CLNB Carlsbad 142.37 34 *e*PKPpre 10 48 39.3
CCM Cathedral Cave 142.42 14 *e*PKPpre 10 48 37.3
CCM LR LR
comp=Z,5μm,22.0s,MS6.2
NICH Los Niches 142.54 192⇓ *i*P PKPdf 10 48 41.4 -5.4
FVM French Village 142.68 13 *e*PKPpre 10 48 38.7
WMOK Wichita Mounta 142.89 25 *e*PKPpre 10 48 39.1
WMOK LR LR
comp=Z,20μm,22.0s,MS6.8
WCI Wyandotte Cave 143.19 8 *e*PKPpre 10 48 40.4
WCI LR LR
comp=Z,6μm,21.0s,MS6.3
LMEL Las Melosas 143.41 194⇑ *i*P PKPbc 10 48 40.8 -1.2
BAO Brasilia Array 143.63 241 PKPdf PKPdf 10 48 47.5 -1.6
BDFB Brasilia 143.65 241 PKhKP 10 48 42.7
comp=Z,102nm,1.1s,baz=106,slow=2.8,SNR=21
CLCH Cerro Calan 143.92 194⇑ *i*P PKPbc 10 48 43.6 +0.1
FCH Farellones 143.93 194⇑ *i*P PKPbc 10 48 44.1 +0.5
MDZ Mendoza 143.96 197 P PKPbc 10 48 46.4 +2.7
MDZ SP SP 10 50 26.3 0.0
MDZ PP PP 10 52 19.4 +17
MDZ PPP tx 10 53 47.0
MDZ SS tx 11 06 25.9
MDZ LQ 11 14 33.9
MDZ LR LR 11 19 27.0
PARMO Parma 144.10 13 *e*PKP PKPdf 10 48 43.9 -5.6
FWV Forest Hill 144.23 1 *e*PKPpre 10 48 43.6
PVMO Portageville 144.35 13 *e*PKPdf PKPdf 10 48 46.1 -3.8
GLAT Glass 144.58 12 *e*PKPdf PKPdf 10 48 45.1 -5.2
ELN Prospectdale 144.59 0 *e*PKPdf PKPdf 10 48 44.1 -6.2
UTMT University of 144.60 12 *e*PKPdf PKPdf 10 48 45.0 -5.3
BLA Blacksburg 144.60 360 *e*PKPdf PKPdf 10 48 44.8 -5.5
BLA LR LR
comp=Z,26μm,21.0s,MS7.0
LTX Lajitas 144.67 37 *e*PKP PKPdf 10 48 46.5 -4.2
LTX LR LR
comp=Z,14μm,20.0s,MS6.7
TXAR Lajitas Array 144.67 37 PKP PKPdf 10 48 45.9 -4.8
comp=Z,165nm,0.7s,baz=269,slow=1.2,SNR=158
HALT Halls 144.91 13 *e*PKPdf PKPdf 10 48 46.5 -4.4
HBAR Harrisburg 144.94 15 *e*PKPdf PKPdf 10 48 46.5 -4.5
CFAA Coronel Fontan 144.97 198 PKPbc PKPbc 10 48 46.6 +0.1
comp=Z,67nm,0.9s,baz=173,slow=3.1,SNR=68
WVT Waverly 145.00 10 *e*PKP PKPdf 10 48 46.2 -4.9
WVT LR LR
comp=Z,25μm,21.0s,MS7.0
MIAR Mount Ida 145.04 19 *e*PKPbc PKPbc 10 48 47.1 +0.5
MIAR LR LR
comp=Z,22μm,22.0s,MS6.9
TZTN Tazewell 145.15 4 *e*PKP PKPdf 10 48 46.6 -4.7
UALR University of 145.21 17 *e*PKPdf PKPdf 10 48 47.1 -4.4
MET Memphis--Engin 145.53 14 *e*PKPdf PKPdf 10 48 48.0 -3.9
JCT Junction City 145.94 31 *e*PKP PKPdf 10 48 50.3 -2.5
JCT LR LR
comp=Z,20μm,21.0s,MS6.9
BBSR BB Station 146.03 336 PKPdf PKPdf 10 48 50.2 -2.7
BBSR PKPdf PKPdf 10 48 50.3 -2.7
BBSR BB Station 146.03 336 *e*PKPbc PKPbc 10 48 50.7 +1.5
BBSR LR LR
comp=Z,16μm,20.0s,MS6.8
PLAL Pickwick Lake 146.07 11 *e*PKPdf PKPdf 10 48 49.1 -3.8
PLAL LR LR
comp=Z,20μm,22.0s,MS6.8
CPCT Cooper Cave 146.15 6 *e*PKP PKPdf 10 48 50.1 -2.9
SWET Sewanee 146.21 8 *e*PKP PKPdf 10 48 49.5 -3.6
OXF Oxford 146.24 13 *e*PKPbc PKPbc 10 48 50.0 +0.4
OXF LR LR
comp=Z,19μm,22.0s,MS6.8
TLL Tololo Astrono 147.06 195⇑ *i*P PKPdf 10 48 53.1 -1.6
NATX Nacogdoches 147.17 23 *e*PKPbc PKPdf 10 48 53.5 -1.3
NATX LR LR
comp=Z,17μm,20.0s,MS6.8
JSC Jenkinsville 147.52 1 *e*PKPdf PKPdf 10 48 52.0 -3.3
LRAL Lakeview Retre 148.17 11 *e*PKPdf PKPdf 10 48 52.5 -3.9
LRAL LR LR
comp=Z,25μm,22.0s,MS7.0
GOGA Godfrey 148.27 5 *e*PKPdf PKPdf 10 48 53.9 -2.7
GOGA LR LR
comp=Z,15μm,20.0s,MS6.8
COW Cow Castle Cre 148.43 0 *e*PKPbc PKPdf 10 48 56.6 -0.3
NHSC New Hope 148.70 360 *e*PKPbc PKPdf 10 48 57.5 +0.2
NHSC LR LR
comp=Z,26μm,22.0s,MS7.0
CSU Charleston Sou 148.82 359 *e*PKPdf PKPdf 10 48 54.6 -2.9
HBF Harts Bluff 148.87 360 *e*PKPbc PKPdf 10 48 58.0 +0.5
ZAIG Zacatecas 149.94 44⇑ *i*P PKPdf 10 48 58.7 -0.8
CJM Chamela 150.08 52 *i* P PKPdf 10 48 56.6 -3.2
MOIG Morelia 152.91 47⇑ *i*P PKPdf 10 49 01.3 -2.6
LVC Limon Verde 153.41 204 PKP PKPdf 10 49 02.2 -2.4
comp=Z,4.9nm,0.9s,baz=144,slow=3.4,SNR=14
LVC Limon Verde 153.41 204 PKP PKPdf 10 49 02.2 -2.4
DWPF Disney 153.66 2 *e*PKPbc PKPdf 10 49 09.7 +4.8
DWPF LR LR
comp=Z,5μm,20.0s,MS6.3
ZIIG Zihuatanejo 153.94 51 *i* P PKPdf 10 49 03.9 -1.6
SIV San Ignacio 154.06 227 PKP PKPdf 10 49 01.8 -3.8
comp=Z,35nm,1.2s,baz=120,slow=2.6,SNR=14
PPM Popocatepetl 155.14 45 *i* P PKPdf 10 49 05.6 -1.4
LPAZ La Paz 158.44 214 PKPdf PKPdf 10 49 09.4 -2.0
comp=Z,54nm,1.2s,baz=50,slow=3.4,SNR=15
LPAZ La Paz 158.44 214 *e*PKPdf PKPdf 10 49 09.6 -1.8
LPAZ LR LR
comp=Z,23μm,20.0s,MS7.0
SJG San Juan 158.45 320 PKP PKPdf 10 49 07.4 -4.0
comp=Z,26nm,1.0s,baz=324,slow=4.6,SNR=9.0
SJG San Juan 158.45 320 *e*PKPdf PKPdf 10 49 08.0 -3.4
SJG LR LR
comp=Z,15μm,21.0s,MS6.8
CMIG Matias Romero 159.07 42 *i* P PKPdf 10 49 08.8 -3.3
TRN Trinidad (W) 159.09 296 *e*P PKPdf 10 49 13.2 +0.9
HUIG Huatulco 159.12 47⇑ *i*P PKPdf 10 49 09.2 -3.0
TPP Pointe-a-Pierr 159.27 295 *e*P PKPdf 10 49 10.6 -1.9
SAML Samuel 159.85 238 *e*PKPdf PKPdf 10 49 09.8 -3.3
SAML LR LR
comp=Z,28μm,20.0s,MS7.1
ARE Arequipa 159.97 206 *e*P PKPdf 10 49 13.0 -0.1
ARE *e* 10 49 53.0
PCRV Puerto La Cruz 162.16 299 PKP PKPdf 10 49 11.1 -4.3
comp=Z,19nm,1.1s,baz=268,slow=2.2,SNR=4.6
NNA Nana 166.00 195 *e*PKPdf PKPdf 10 49 15.6 -3.5
NNA LR LR
comp=Z,5μm,20.0s
SDV Santo Domingo 167.89 307 PKPdf PKPdf 10 49 16.4 -4.0
SDV Santo Domingo 167.89 307 PKP PKPdf 10 49 16.5 -3.9
comp=Z,31nm,1.1s,baz=149,slow=2.6,SNR=12
PAYG Puerto Ayora 169.88 103 PKPdf PKPdf 10 49 17.7 -3.9
PAYG LR LR
comp=Z,15μm,22.0s
JTS JuntasAbangare 170.30 27 PKP PKPdf 10 49 17.1 -4.7
comp=Z,25nm,1.1s,baz=335,slow=4.9,SNR=8.3
JTS JuntasAbangare 170.30 27 *e*PKPdf PKPdf 10 49 17.4 -4.4
JTS LR LR
comp=Z,6μm,22.0s
ROSC El Rosal 173.13 298 PKP PKPdf 10 49 19.8 -3.7
comp=Z,90nm,1.2s,baz=113,slow=6.2,SNR=15
OTAV Otavalo 177.58 235 *e*PKPdf PKPdf 10 49 22.0 -2.6
OTAV LR LR
comp=Z,22μm,20.0s

*IDC **10** 10:35:11.8±0.8, 1.64S×99.53E, mb5.0/9, mb1 5.1/10, mb1mx4.9/19, mbtmp5.0/10, ML4.6/1, Error ellipse: s-maj=30.7km s-min=20.8km az=75.0*
*MOS **10** 10:35:15.0±1.6, 1.58S×99.82E, h33km, mb5.4/3, Error ellipse: s-maj=70.8km s-min=22.4km az=96.6*
*NEIC **10** 10:35:16.8±0.5, 1.61S×99.58E, h30km, mb5.3/3, Error ellipse: s-maj=20.3km s-min=12.5km az=76.0*
ISC 10 10:35:15.1±0.6,**1.53S**±0.10×**99.6E**±0.1,**h33**km,**n24,**
σ0**94**/21,**mb5.0**/11,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**19.88**	**358**	P	**P**	**10 39 45.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**19.88**	**358**	P	**P**	**10 39 44.9**	**-1.6**
0.7nm,0.3s,baz=191,slow=9.5,SNR=4.2							
LSA	**Lhasa**	**32.09**	**346**	P	**P**	**10 41 45.1**	**+3.5**
LSA				pmax	pmax		
comp=Z,20nm,0.5s,mb5.2							
LSA	**Lhasa**	**32.09**	**346**	P	**P**	**10 41 45.1**	**+3.5**
comp=Z,20nm,0.5s,mb5.2							
WRA	**Warramunga Arr**	**38.55**	**121**	P	**P**	**10 42 35.9**	**-0.8**
comp=Z,45nm,1.0s,mb5.2,baz=302,slow=9.2,SNR=5.4							
STKA	**Stephens Creek**	**49.74**	**132**	*e*P	**P**	**10 44 06.7**	**+0.2**
MKAR	**Makanchi Array**	**50.48**	**345**	P	**P**	**10 44 13.1**	**+1.2**
comp=Z,15nm,0.6s,mb5.2,baz=153,slow=8.1,SNR=8.0							
ZAL	**Zalesovo**	**56.63**	**350**	P	**P**	**10 44 58.4**	**+1.1**
comp=Z,17nm,0.5s,mb5.3,baz=317,slow=5.2,SNR=4.1							
BVAR	**Borovoye Array**	**59.62**	**340**	P	**P**	**10 45 18.3**	**+0.1**
comp=Z,6.2nm,0.6s,mb4.8,baz=129,slow=9.2,SNR=3.4							
BVAR	**Borovoye Array**	**59.62**	**340**	P	**P**	**10 45 18.2**	**+0.1**
CHKZ	**Chkalovo**	**60.08**	**341**	*e*P	**P**	**10 45 21.6**	**+0.2**
YSS	**Yuzh-Sakhalins**	**61.29**	**32**	*e*P	**P**	**10 45 30.6**	**+0.9**
YSS				pmax	pmax		
comp=Z,45nm,1.1s,mb5.5							
YSS	**Yuzh-Sakhalins**	**61.29**	**32**	*e*P	**P**	**10 45 30.6**	**+0.9**
comp=Z,45nm,1.1s,mb5.5							
KMBO	**Kilima Mbogo**	**62.35**	**270**	P	**P**	**10 45 37.0**	**-0.3**
comp=Z,13nm,0.9s,mb5.1,baz=69,slow=8.7,SNR=6.9							
MAW	**Mawson**	**70.64**	**194**	P	**P**	**10 46 29.3**	**+0.3**
comp=Z,16nm,0.9s,mb5.0,baz=59,slow=8.0,SNR=5.3							
BRTR	**Keskin Array B**	**72.73**	**312**	P	**P**	**10 46 40.5**	**-1.5**
comp=Z,5.1nm,0.7s,mb4.5,baz=116,slow=6.1,SNR=5.3							
BOSA	**Boshof**	**75.55**	**241**	*e*P	**P**	**10 46 58.5**	**-0.1**
BOSA				pmax	pmax		
comp=Z,13nm,0.9s,mb4.9							
BOSA	**Boshof**	**75.55**	**241**	P	**P**	**10 46 57.6**	**-1.0**
comp=Z,8.4nm,0.9s,mb4.7,baz=166,slow=3.4,SNR=3.5							
BOSA	**Boshof**	**75.55**	**241**	*e*P	**P**	**10 46 58.5**	**-0.1**
comp=Z,13nm,0.9s,mb4.9							
IDI	**Anoyia**	**78.46**	**306**	P	**P**	**10 47 14.9**	**+0.2**
comp=Z,8.6nm,0.8s,mb4.7,baz=181,slow=3.9,SNR=3.9							
CLL	**Collm**	**89.06**	**321**	P	**P**	**10 48 09.0**	**+0.8**
TXAR	**Lajitas Array**	**144.56**	**37**	PKP	PKPdf	10 54 51.1	+2.1
comp=Z,15nm,0.7s,baz=278,slow=1.5,SNR=6.9							
CFAA	**Coronel Fontan**	**145.09**	**198**	PKP	PKPdf	10 54 51.5	+1.7
comp=Z,5.8nm,0.7s,baz=166,slow=3.0,SNR=14							
JCT	**Junction City**	**145.82**	**31**	*e*PKP	PKPdf	10 54 54.5	+3.4
JCT				*e*		10 55 01.5	

*IDC **10** 10:43:28.1±0.6, 1.64S×99.61E, mb4.5/16, mb1 4.6/17, mb1mx4.5/23, mbtmp4.5/17, ML4.1/1, Error ellipse: s-maj=24.0km s-min=13.9km az=53.0*
*NEIC **10** 10:43:31.7±6.9, 1.59S×99.67E, h20km±48km, mb4.7/6, Error ellipse: s-maj=16.3km s-min=8.3km az=58.0*
ISC 10 10:43:31.7±0.4,**1.54S**±0.09×**99.7E**±0.1,**h33**km,**n33,**
σ0**99**/27,**mb4.6**/22,**1C**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.88**	**358**	P	**P**	**10 48 02.8**	**-0.4**
0.2nm,0.3s,baz=186,slow=9.6,SNR=4.5							
FITZ	**Fitzroy Crossi**	**30.30**	**125**	P	**P**	**10 49 40.6**	**-1.9**
16nm,0.9s,mb4.8,baz=280,slow=6.1,SNR=3.7							
WRA	**Warramunga Arr**	**38.47**	**121**	P	**P**	**10 50 52.3**	**-0.2**
9.5nm,0.8s,mb4.6,baz=296,slow=9.3,SNR=10							
WRAB	**Tennant Creek**	**38.47**	**121**	*e*P	**P**	**10 50 52.5**	**0.0**
19nm,0.8s,mb4.9							
ASAR	**Alice Springs**	**39.75**	**126**	P	**P**	**10 51 03.1**	**0.0**
5.2nm,0.8s,mb4.3,baz=306,slow=8.4,SNR=8.8							
CTAO	**Charters Tower**	**49.04**	**115**	P	**P**	**10 52 18.1**	**+0.2**
5.0nm,0.8s,mb4.6							
SONM	**Songino Array**	**49.52**	**6**	P	**P**	**10 52 23.1**	**+1.9**
2.4nm,0.7s,mb4.3,baz=187,slow=8.4,SNR=4.9							
ULN	**Ulaanbaatar**	**49.62**	**6**	*e*P	**P**	**10 52 22.2**	**+0.3**
5.5nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**49.66**	**132**	P	**P**	**10 52 22.0**	**-0.6**
7.8nm,0.8s,mb4.8,baz=352,slow=3.3,SNR=5.7							
STKA	**Stephens Creek**	**49.66**	**132**	*e*P	**P**	**10 52 23.1**	**+0.6**
MKAR	**Makanchi Array**	**50.51**	**345**	P	**P**	**10 52 29.9**	**+1.1**
4.8nm,0.6s,mb4.6,baz=153,slow=8.1,SNR=9.3							
KURK	**Kurchatov**	**55.09**	**344**	*e*P	**P**	**10 53 03.4**	**+0.6**
15nm,1.3s,mb4.9							
ZAL	**Zalesovo**	**56.66**	**349**	P	**P**	**10 53 12.5**	**-1.5**
5.9nm,0.4s,mb5.0,baz=303,slow=5.8,SNR=7.1							
ZAL	**Zalesovo**	**56.66**	**349**	P	**P**	**10 53 12.5**	**-1.5**
BVAR	**Borovoye Array**	**59.66**	**340**	P	**P**	**10 53 33.5**	**-1.6**
3.7nm,0.8s,mb4.5,baz=143,slow=7.4,SNR=8.1							
CHKZ	**Chkalovo**	**60.12**	**341**	*e*P	**P**	**10 53 37.8**	**-0.4**
7.5nm,0.9s,mb4.7							
KMBO	**Kilima Mbogo**	**62.45**	**270**	P	**P**	**10 53 54.0**	**-0.5**
2.2nm,0.9s,mb4.3,baz=56,slow=13,SNR=5.6							
MAW	**Mawson**	**70.66**	**194**	P	**P**	**10 54 46.1**	**+0.3**
4.0nm,0.8s,mb4.4,baz=52,slow=8.0,SNR=4.2							
MATP	**Matopo**	**71.88**	**249**	P	**P**	**10 54 52.6**	**-1.2**
5.7nm,0.9s,mb4.5,baz=86,slow=6.6,SNR=7.1							
BRTR	**Keskin Array B**	**72.81**	**312**	P	**P**	**10 54 58.1**	**-0.9**
1.4nm,0.8s,mb3.9,baz=135,slow=7.0,SNR=5.0							
LBTB	**Lobatse**	**74.97**	**245**	P	**P**	**10 55 13.2**	**+1.2**
IDI	**Anoyia**	**78.54**	**306**	P	**P**	**10 55 30.9**	**-1.0**
7.2nm,0.8s,mb4.7,baz=265,slow=2.0,SNR=3.0							
MLR	**Muntele Rosu**	**79.78**	**317**	P	**P**	**10 55 38.2**	**0.0**
4.4nm,0.8s,mb4.5,baz=142,slow=8.1,SNR=5.4							
FINES	**FINESS Array B**	**83.58**	**332**	P	**P**	**10 55 58.1**	**+0.5**
0.9nm,0.3s,mb4.3,baz=116,slow=4.7,SNR=13							
SBA	**Scott Base**	**83.76**	**169**	*e*P	**P**	**10 56 00.5**	**+2.1**
4.0nm,0.8s,mb4.6							
ARCES	**ARCESS Array B**	**85.95**	**340**	P	**P**	**10 56 10.1**	**+0.8**
3.7nm,0.8s,mb4.7,baz=45,slow=3.4,SNR=4.4							
MOX	**Moxa**	**89.97**	**320**⇑ *e*P		**P**	**10 56 30.0**	**+0.9**
TXAR	**Lajitas Array**	**144.50**	**37**	PKP	PKPdf	11 03 07.1	+1.6
7.8nm,0.7s,baz=262,slow=1.2,SNR=26							
TXAR	**Lajitas Array**	**144.50**	**37**	PKP	PKPdf	11 03 07.1	+1.6
WVT	**Waverly**	**144.88**	**11**	*e*PKP	PKPdf	11 03 07.1	+1.2
MIAR	**Mount Ida**	**144.90**	**19**	*e*PKP	PKPdf	11 03 07.7	+1.8
CFAA	**Coronel Fontan**	**145.11**	**198**	PKP	PKPdf	11 03 07.4	+1.0
1.9nm,0.7s,baz=195,slow=2.0,SNR=14							
JCT	**Junction City**	**145.77**	**31**	*e*PKP	PKPdf	11 03 10.9	+3.3

*DJA **10** 10:45:32.7±2.9, 5.22S×97.28E, h30km, ML6.5/4, Error ellipse: s-maj=130.5km s-min=52.3km az=162.0*
*IDC **10** 10:45:44.5±0.3, 1.55S×99.66E, mb5.3/37, mb1 5.4/38, mb1mx5.4/38, mbtmp5.3/38, ML5.1/1, MS5.8/1, Ms1 6.0/1, ms1mx4.5/34, Error ellipse: s-maj=11.6km s-min=7.8km az=55.0*
*BJI **10** 10:45:47.2, 1.79S×99.75E, h39km, mB6.5, mb5.5, Ms6.5, Msz6.3*
*MOS **10** 10:45:48.4±0.9, 1.54S×99.66E, h33km, mb5.9/64, MS5.9/4, Error ellipse: s-maj=9.4km s-min=4.3km az=123.1*
*NEIC **10** 10:45:49.4±0.1, 1.61S×99.62E, h30km, mb5.7/76, Error ellipse: s-maj=4.8km s-min=2.9km az=223.0*
NEIC Felt [III] at Padang, Sumatra and in Singapore.
ISC 10 10:45:47.4±0.1,**1.61S**±0.03×**99.58E**±0.02,**h27**km,
h27km±.8km:**pP-P**,**n511**,σ0**95**/447,**mb5.6**/139,**MS6.2**/12,
43C-34D,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.19**	**46**	P	**Pn**	**10 47 07.1**	**+1.8**
IPM	**Ipoh**	**6.32**	**13**	P	**Pn**	**10 47 22.3**	**

KELI	Kelakatan	16.23	114	⇑	eP	n	P	10 49 35.2 -0.3
	comp=Z,258nm,0.3s							
RATI	Rata	17.38	115	⇓	eP		P	10 49 46.6 -3.3
	comp=Z,844nm,0.3s							
RATI	Rata	17.38	115	⇓	eP	n	P	10 49 46.9 -3.0
	comp=Z,844nm,0.2s							
KEDI	Kedomdong	17.82	113	⇓	eP		P	10 49 53.3 -2.1
KEDI						pmax	pmax	
	comp=Z,139nm,0.4s							
KEDI	Kedomdong	17.82	113	⇓	eP		P	10 49 53.3 -2.1
	comp=Z,139nm,0.4s							
KEDI	Kedomdong	17.82	113	⇑	iP	n	P	10 49 53.9 -1.5
	comp=Z,279nm,0.4s							
KKM	Kota Kinabalu	18.27	65		eP		P	10 50 01.9 +0.9
KKM	Kota Kinabalu	18.27	65		P		P	10 50 02.9 +1.9
TSM	Tawau	19.20	72		P		P	10 50 12.7 +0.5
CM31	Chiang Mai Arr	19.95	358		eP		P	10 50 15.8 -4.7
	comp=Z,82nm,0.6s							
CMAR	Chiang Mai Arr	19.95	358		P		P	10 50 16.1 -4.5
	comp=Z,2.5nm,0.3s,baz=187,slow=9.8,SNR=54							
CMAR					S		S	10 54 08.2 +10
	comp=Z,0.3nm,0.3s,baz=180,slow=14,SNR=3.5							
CMAR					LR		LR	10 58 13.3
	comp=Z,25µm,18.2s,baz=165,slow=38							
PALK	Pallekele	20.80	295		eP		P	10 50 29.0 -0.3
	comp=Z,274nm,3.4s							
BATP	Bataraza	20.90	60		eP		P	10 50 30.9 +0.6
QIZ	Qiongzhong	22.86	26		P		P	10 50 50.5 +0.5
QIZ	Qiongzhong	22.86	26		eP		P	10 50 50.1 +0.1
	comp=Z,204nm,1.0s,mb5.5							
ENPP	El Nido	23.48	57		eP		P	10 50 57.3 +1.1
BUSP	Coron	24.55	56		eP		P	10 51 08.2 +1.8
CUYO	Cuyo Island	24.66	59		eP		P	10 51 09.6 +2.1
TRD	Trivandrum	24.69	294	⇓	eP		P	10 51 06.0 -1.9
TRD					e			10 55 22.0
VIS	Vishakhapatnam	25.01	321		eP		P	10 51 11.2 +0.3
VIS					e			10 51 31.0
	comp=Z,362nm,1.4s							
VIS					eS		S	10 55 34.1 +3.8
PAGZ	Pagadian	25.53	68		eP		P	10 51 16.9 +1.1
LUBP	Lubang	25.54	53		eP		P	10 51 16.5 +0.7
SJMP	San Jose	25.55	56		eP		P	10 51 16.9 +0.9
DCPH	Dipolog City	25.77	66	⇑	eP		P	10 51 20.3 +2.3
SNPH	Sibulan	25.95	65		eP		P	10 51 21.0 +1.2
RCP	Roxas	26.48	60	⇓	eP		P	10 51 26.1 +1.5
KMI	Kunming	26.75	6		P		P	10 51 27.9 +0.9
KMI					AP		pP	10 51 36.3 +1.4
KMI					XP		sP	10 51 39.5 +1.0
KMI					S		S	10 56 00.0 +0.8
KMI					AMB		AMB	
	comp=Z,81nm,1.0s,mb5.2							
KMI					AMB		AMB	
	comp=Z,87µm,9.0s							
KMI					LR		LR	
	comp=N,21µm,13.1s,MS6.1							
KMI					LR		LR	
	comp=E,30µm,12.4s,MS6.1							
KMI					LR		LR	
	comp=Z,57µm,15.8s,MS6.2							
KMI	Kunming	26.75	6		P		P	10 51 27.9 +0.9
	comp=Z,81nm,1.0s,mb5.2							
KMI					pP		pP	10 51 36.3 +1.4
KMI					sP		sP	10 51 39.5 +1.0
KMI					S		S	10 56 00.0 +0.8
KMI					LR		LR	
	comp=Z,57µm,15.8s,MS6.2							
BUKP	Musuan	27.11	69		eP		P	10 51 30.5 +0.2
PCPH	Palayan	27.27	50	⇑	eP		P	10 51 31.2 -0.5
MBWA	Marble Bar	27.63	136		eP		P	10 51 34.8 -0.2
	comp=Z,92nm,1.9s,mb5.1							
BALP	Baler	27.75	51		eP		P	10 51 36.3 +0.2
CAUP	Cauayan	28.66	49		eP		P	10 51 44.4 +0.1
GYA	Guiyang	28.73	13	⇑	iP		P	10 51 44.0 -0.9
GYA					AP		pP	10 51 53.2 +0.3
GYA					XP		sP	10 51 57.3 +0.9
GYA					PP		PP	10 52 35.7 -2.2
GYA					S		S	10 56 27.2 -3.8
GYA					AMB		AMB	
	comp=Z,90nm,1.0s,mb5.5							
GYA					AMB		AMB	
	comp=Z,9µm,10.8s							
GYA					LR		LR	
	comp=N,13µm,16.7s,MS6.0							
GYA					LR		LR	
	comp=E,25µm,16.0s,MS6.0							
GYA					LR		LR	
	comp=Z,28µm,15.8s,MS6.0							
LKP	Lekhapani	28.97	354		eP		P	10 51 47.0 -0.1
LKP					e		pP	10 51 55.0 -0.1
BLSP	Bilaspur	29.10	325		eP		P	10 51 47.6 -0.7
BLSP					e			10 52 16.3
	comp=Z,277nm,1.4s							
FITZ	Fitzroy Crossi	30.38	124	⇑	iP		P	10 51 58.3 -1.4
	comp=Z,98nm,0.9s,mb5.5							
FITZ	Fitzroy Crossi	30.38	124		P		P	10 51 58.3 -1.3
	comp=Z,145nm,0.9s,mb5.7,baz=313,slow=7.1,SNR=34							
BBP	Basco	31.01	44		eP		P	10 52 04.7 -0.5
KAD	Karad	31.31	308		eP		P	10 52 07.4 -0.5
KAD					e			10 52 11.9
	comp=Z,111nm,1.4s							
JIRN	Jiri	31.83	337		eP		P	10 52 13.2 +0.9
	comp=Z,494nm,0.9s,mb6.3							
PKI	Pulchoki	32.06	336		eP		P	10 52 14.5 +0.1
	comp=Z,608nm,1.6s,mb6.2							
PKI	Pulchoki	32.06	336		eP		P	10 52 14.5 +0.1
PKI					pmax		pmax	
	comp=Z,304nm,1.6s,mb5.9							
LSA	Lhasa	32.16	346		P		P	10 52 16.2 +1.0
LSA					AMB		AMB	
	comp=Z,170nm,1.1s,mb5.8							
LSA	Lhasa	32.16	346		eP		P	10 52 16.3 +1.1
LSA					pmax		pmax	
	comp=Z,540nm,1.2s,mb6.2							
LSA	Lhasa	32.16	346		eP		P	10 52 16.3 +1.1
	comp=Z,540nm,1.2s,mb6.2							
GUN	Gumba	32.17	337		eP		P	10 52 15.8 +0.4
	comp=Z,438nm,0.8s,mb6.3							
QZH	Quanzhou	32.19	34	⇑	iP		P	10 52 15.4 -0.2
QZH					AMB		AMB	
	comp=Z,180nm,0.8s,mb6.0							
DMN	Daman	32.22	335		eP		P	10 52 15.8 0.0
	comp=Z,396nm,1.3s,mb6.1							
POO	Poona	32.27	310		eP		P	10 52 15.3 -1.0
POO					e			10 52 36.2
	comp=Z,178nm,1.6s							
KKN	Kakani	32.30	336		eP		P	10 52 16.3 -0.2
	comp=Z,277nm,0.9s,mb6.1							
KKN	Kakani	32.30	336		eP		P	10 52 16.3 -0.2
KKN					pmax		pmax	
	comp=Z,139nm,0.9s,mb5.8							
CD2	Chengdu	32.58	7		P		P	10 52 17.0 -1.9
CD2					AMB		AMB	
	comp=Z,72nm,1.0s,mb5.6							
GKN	Gorkha	32.76	335		eP		P	10 52 20.7 +0.2
	comp=Z,440nm,1.1s,mb6.3							
BHPL	Bhopal	32.80	320		eP		P	10 52 19.3 -1.5
BHPL					e			10 52 41.0
	comp=Z,110nm,1.5s							
KOLN	Koldanda	33.01	333		eP		P	10 52 22.9 +0.3
	comp=Z,456nm,1.1s,mb6.3							
ENH	Enshi	33.08	16		eP		P	10 52 21.2 -2.0
	comp=Z,175nm,0.8s,mb6.0							
MUN	Mundaring	34.03	154	⇓	iP		P	10 52 32.5 +1.0
	comp=Z,346nm,0.9s,mb6.3							
MUN	Mundaring	34.03	154	⇓	iP		P	10 52 32.5 +1.0
MUN					pmax		pmax	
	comp=Z,346nm,0.9s,mb6.3							
KLBR	Kellerberrin	34.41	152	⇑	iP		P	10 52 34.6 -0.1
	comp=Z,680nm,0.8s,mb6.6							
NWAO	Narrogin (SRO)	35.29	154		P		P	10 52 41.9 -0.4
	comp=Z,62nm,0.8s,mb5.6,baz=321,slow=9.1,SNR=29							
NWAO	Narrogin (SRO)	35.29	154		eP		P	10 52 42.1 -0.2
LGTI	Lohaghat	36.00	331		eP		P	10 52 48.5 +0.2
PTH	Pithoragarh	36.10	331		eP		P	10 52 51.0 +1.9
XAN	Xi'an	36.53	13		P		P	10 52 51.0 -1.7
XAN					AP		pP	10 53 00.7 -0.1
XAN					AMB		AMB	
	comp=Z,166nm,1.0s,mb5.8							
SONA	Sohna	36.72	326		eP		P	10 52 52.5 -1.8
KALG	Kalgarh	36.80	329		e		P	10 52 51.1 -3.9
	comp=Z,227nm,0.9s,mb6.0							
AJM	Ajmer	36.87	321		eP		P	10 52 54.0 -1.7
AJM					e			10 53 29.0
	comp=Z,207nm,1.8s							
AYAN	Aya Nagar	36.87	326		eP		P	10 52 54.8 -0.8
KHET	Khetri	37.32	324		eP		P	10 53 00.0 +0.6
LZH	Lanzhou	37.71	6	⇓	P		P	10 53 02.4 -0.2
LZH					AP		pP	10 53 13.6 +2.8
LZH					XP		sP	10 53 18.3 +4.1
LZH					PP		PP	10 54 32.4 +0.6
LZH					eS		S	10 58 51.5 +0.7
LZH					XS			10 59 07.4
LZH					eSS		SS	11 01 27.4 +1.4
LZH					AMB		AMB	
	comp=Z,330nm,1.0s,mb6.0							
LZH					AMB		AMB	
	comp=Z,932nm,4.5s							
LZH					LR		LR	
	comp=N,4µm,14.5s							
LZH					LR		LR	
	comp=Z,6µm,15.6s,MS5.5							
LZH	Lanzhou	37.71	6	⇓	P		P	10 53 02.4 -0.2
	comp=Z,330nm,1.0s,mb6.0							
LZH					pP		pP	10 53 13.6 +2.8
LZH					sP		sP	10 53 18.3 +4.1
LZH					PP		PP	10 54 32.4 +0.6
LZH					eS		S	10 58 51.5 +0.7
LZH					sS			10 59 07.4
LZH					eSS		SS	11 01 27.4 +1.4
LZH					LR		LR	
	comp=Z,6µm,15.6s,MS5.5							
DDI	Dehra Dun	37.81	329		eP		P	10 53 04.1 +0.6
DDI					e			10 59 02.4
NJ2	Nanjing	38.14	27		eP		P	10 53 06.3 +0.1
NJ2					AP		pP	10 53 16.1 +1.7
NJ2					XP		sP	10 53 20.0 +2.2
NJ2					PP		PP	10 54 38.1 +1.2
NJ2					S		S	10 58 58.0 +0.7
NJ2					XS			10 59 14.0
NJ2					AMB		AMB	
	comp=Z,10.0nm,1.0s,mb4.5							
NJ2					AMB		AMB	
	comp=Z,1µm,4.8s							
BHJ	Bhuj	38.20	312		eP		P	10 53 06.3 -0.6
BHJ					e			10 53 11.3
	comp=Z,170nm,1.3s							
SSE	Sheshan	38.47	31		eP		P	10 53 09.8 +0.7
SSE					AMB		AMB	
	comp=Z,60nm,1.0s,mb5.3							
SSE					AMB		AMB	
	comp=Z,32µm,12.0s							
SSE					LR		LR	
	comp=N,20µm,14.0s,MS6.1							
SSE					LR		LR	
	comp=E,8µm,14.0s,MS6.1							
SSE					LR		LR	
	comp=Z,30µm,12.4s,MS6.3							
SSE	Sheshan	38.47	31		eP		P	10 53 09.8 +0.7
	comp=Z,60nm,1.0s,mb5.3							
SSE					LR		LR	
	comp=Z,30µm,12.4s,MS6.3							
WRA	Warramunga Arr	38.55	121		P		P	10 53 08.8 -1.0
	comp=Z,52nm,0.7s,mb5.4,baz=297,slow=9.3,SNR=61							
WRA					PcP		PcP	10 55 22.5 -0.2
	comp=Z,13nm,0.8s,baz=305,slow=2.4,SNR=5.3							
WRA					S		S	10 58 59.5 -4.1
	comp=Z,6.1nm,1.0s,baz=291,slow=16,SNR=4.6							
WRAB	Tennant Creek	38.55	121		eP		P	10 53 09.1 -0.8
WRAB					pmax		pmax	
	comp=Z,180nm,1.0s,mb5.8							
WRAB	Tennant Creek	38.55	121		eP		P	10 53 09.1 -0.8
	comp=Z,183nm,1.0s,mb5.8							
WB2	Warramunga Arr	38.56	121	⇑	iP		P	10 53 08.8 -1.1
SMLA	Simla	38.91	329	⇓	i		P	10 53 09.2 -3.5
SDNR	Sundarnagar	39.31	329		eP		P	10 53 16.0 -0.1
JOW	Kunigami	39.56	42		P		P	10 53 17.9 -0.3
	comp=Z,31nm,0.5s,mb5.3,baz=250,slow=11,SNR=11							
FORT	Forrest	39.61	140	⇑	iP		P	10 53 19.5 +1.0
	comp=Z,4µm,0.8s							
JASL	Jaisalmer	39.61	318		eP		P	10 53 18.4 -0.2
ASPA	Alice Springs	39.82	126		eP		P	10 53 20.7 +0.4
ASPA					eS		S	10 59 20.4 -2.3
ASAR	Alice Springs	39.82	126		P		P	10 53 20.0 -0.3
	comp=Z,39nm,0.7s,mb5.3,baz=299,slow=7.6,SNR=41							
ASAR					PcP		PcP	10 55 27.3 +0.6
	comp=Z,21nm,0.8s,baz=296,slow=3.2,SNR=8.2							
ASAR					S		S	10 59 21.1 -1.7
	comp=Z,59nm,1.2s,baz=294,slow=15,SNR=14							
PONG	Pong	40.20	328		eP		P	10 53 23.0 -0.4
THN	Thein Dam	40.70	328		eP		P	10 53 27.6 +0.1
GTA	Gaotai	40.82	0		P		P	10 53 28.5 +0.1
GTA					AP		pP	10 53 36.9 +0.3
GTA					XP		sP	10 53 40.2 +0.2
GTA					PP		PP	10 55 05.2 -0.4
GTA					PPP		PPP	10 55 32.6 -2.2
GTA					S		S	10 59 36.3 -1.2
GTA					XS			10 59 53.1
GTA					SS		SS	11 02 30.9 -3.5
GTA					AMB		AMB	
	comp=Z,71nm,1.3s,mb5.1							
GTA					AMB		AMB	
	comp=Z,7µm,6.8s							
GTA					LR		LR	
	comp=N,21µm,13.7s,MS6.3							
GTA					LR		LR	
	comp=E,16µm,12.5s,MS6.3							
GTA					LR		LR	
	comp=Z,13µm,17.9s							
TIA	Tai'an	41.03	22		eP		P	10 53 28.4 -1.7
HHC	Hu-ho-hao-te	43.65	13		eP		P	10 53 51.8 +0.3
HHC					AP		pP	10 54 01.9 +2.2
HHC					PP		PP	10 55 30.1 -4.8
HHC					PCP		PcP	10 55 39.0 -0.1
HHC					SCP			10 59 25.1
HHC					PCS			10 59 31.7
HHC					S		S	11 00 19.8 +0.8
HHC					XS			11 00 37.7
HHC					AMB		AMB	
	comp=Z,65nm,1.2s,mb5.2							
HHC					LR		LR	
	comp=N,32µm,17.7s,MS6.4							
HHC					LR		LR	
	comp=E,26µm,15.7s,MS6.4							
HHC					LR		LR	
	comp=Z,28µm,14.5s,MS6.3							
BJI	Beijing	44.15	18		eP		P	10 53 55.2 -0.4
BJI					AMB		AMB	
	comp=Z,125nm,1.2s,mb5.5							
BJI	Beijing	44.15	18		eP		P	10 53 55.2 -0.4
	comp=Z,125nm,1.2s,mb5.5							
DL2	Dalian	45.13	24		P		P	10 54 03.7 +0.1
DL2					AMB		AMB	
	comp=Z,70nm,0.7s,mb5.6							
KSH	Kashi	46.30	335		eP		P	10 54 15.0 +2.2
KSH					eAP		pP	10 54 24.0 +3.0
KSH					eXP		sP	10 54 28.0 +3.6
KSH					ePCP		PcP	10 55 50.0 +1.7
KSH					ePP		PP	10 56 03.0 +1.5
KSH					ePPP		PPP	10 56 49.0 +2.7
KSH					eSCP			10 59 39.0
KSH					ePCS			10 59 43.0
KSH					eS		S	11 00 59.6 +2.3
KSH					eXS			11 01 16.0
KSH					eSCS		ScS	11 04 04.0 +0.4
KSH					eSS		SS	11 04 17.0 +1.8
KSH					LR		LR	
	comp=N,38µm,12.7s,MS6.7							
KSH					LR		LR	
	comp=E,36µm,11.2s,MS6.7							
WBK	Wadi Bani Khal	46.33	304		P		P	10 54 13.8 +0.6
SNR=13								
WMQ	Urumqi	46.47	348	⇓	P		P	10 54 14.7 +0.7
WMQ					AP		pP	10 54 25.1 +2.9
WMQ					XP		sP	10 54 29.0 +3.4
WMQ					PCP		PcP	10 55 49.9 +1.1
WMQ					PP		PP	10 56 04.1 +1.0
WMQ					PPP		PPP	10 56 49.4 +1.1
WMQ					SCP			10 59 39.5
WMQ					PCS			10 59 43.1
WMQ					S		S	11 01 00.2 +0.6
WMQ					XS			11 01 16.9
WMQ					AMB		AMB	
	comp=Z,125nm,1.2s,mb5.7							
WMQ					AMB		AMB	
	comp=Z,8µm,8.5s							
WMQ					LR		LR	
	comp=N,11µm,16.2s,MS6.3							
WMQ					LR		LR	
	comp=E,24µm,14.5s,MS6.3							
WMQ					LR		LR	
	comp=Z,16µm,19.0s,MS6.0							
JMDO	Jabal Madar	46.95	303		P		P	10 54 18.4 +0.3
SNR=9.4								
SMDO	Samad	47.29	304		P		P	10 54 21.0 +0.2
SNR=11								
BIDO	Bidbid	47.42	304		P		P	10 54 22.9 +1.0
SNR=8.6								
BSY	Bisya	47.86	303		P		P	10 54 25.8 +0.4
SNR=16								
PMG	Port Moresby	47.94	101		P		P	10 54 25.1 -0.9
	comp=Z,11nm,0.5s,mb5.1,baz=128,slow=7.0,SNR=7.7							
ULHL	Ulahol	48.49	337		P		P	10 54 28.2 -1.7
SNR=8.1								
RBK	Rabkut	48.57	295		P		P	10 54 31.5 +0.7
SNR=15								
ARQ	Araqi	48.68	303		P		P	10 54 32.0 +0.4
SNR=9.3								
KZA	Kyzart	48.74	336		P		P	10 54 32.6 +0.8
SNR=20								
WHFO	Wadi Hawf	49.09	295		P		P	10 54 34.9 0.0
SNR=15								
CTA	Charters Tower	49.14	115	⇓	iP		P	10 54 34.7 -0.5
	comp=Z,34nm,0.9s,mb5.4							
CTA	Charters Tower	49.14	115	⇓	iP		P	10 54 34.7 -0.5
CTA					pmax		pmax	
	comp=Z,34nm,0.9s							
UCH	Uchtor	49.17	335		P		P	10 54 38.6 +3.5
SNR=16								
TKM2	Tokmak 2	49.31	337		P		P	10 54 38.0 +1.8
SNR=5.6								
ABTO	Aybut	49.35	295		P		P	10 54 37.1 +0.2
SNR=12								
KBK	Karagaybulak	49.35	336		P		P	10 54 38.5 +2.0
SNR=34								
AML	Almayashu	49.44	335		P		P	10 54 37.7 +0.5
SNR=32								
AAK	Ala-Archa	49.51	336		P		P	10 54 39.5 +1.6
SNR=12								
AAK	Ala-Archa	49.51	336		P		P	10 54 36.4 -1.4
AAK					pmax		pmax	
	comp=Z,195nm,1.5s,mb5.9							
AAK	Ala-Archa	49.51	336		iP		P	10 54 36.5 -1.3
SONM	Songino Array	49.60	6		P		P	10 54 38.6 +0.2
	comp=Z,56nm,0.8s,mb5.7,baz=187,slow=9.1,SNR=68							
SONM					PcP		PcP	10 55 59.6 -0.4
	comp=Z,15nm,0.7s,baz=196,slow=3.4,SNR=3.6							
SONM					ScP			10 59 53.6
	comp=Z,6.0nm,1.1s,baz=180,slow=2.5,SNR=3.6							
ASHO	Ashiyiah	49.63	305		P		P	10 54 39.4 +0.5
SNR=6.0								
ULN	Ulaanbaatar	49.70	7		eP		P	10 54 38.1 -1.1
ULN					pmax		pmax	
	comp=Z,310nm,0.8s,mb6.4							
ULN	Ulaanbaatar	49.70	7		eP		P	10 54 38.1 -1.1
	comp=Z,64nm,1.0s,mb5.6							
CHMS	Chumysh	49.71	336		P		P	10 54 39.4 0.0
SNR=18								
STKA	Stephens Creek	49.72	132	⇑	iP		P	10 54 39.7 +0.2
	comp=Z,41nm,0.6s,mb5.6							
STKA	Stephens Creek	49.72	132		P		P	10 54 39.8 +0.3
	comp=Z,65nm,0.9s,mb5.7,baz=305,slow=7.6,SNR=34							
EKS2	Erkin-Say	49.84	335		P		P	10 54 41.1 +0.9
SNR=22								
USP	Ospenovka	50.04	336		P		P	10 54 43.4 +1.6
SNR=30								
MKAR	Makanchi Array	50.54	345		P		P	10 54 45.4 -0.2
	comp=Z,86nm,0.6s,mb5.8,baz=151,slow=6.9,SNR=82							
MKAR					S		S	11 02 00.5 +3.8
	comp=Z,5.0nm,0.8s,baz=151,slow=15,SNR=5.0							
CN2	Changchun	50.80	24		eP		P	10 54 46.1 -1.5
CN2					XP		sP	10 54 59.0 -0.1
CN2					eS		S	11 01 59.4 -0.9
CN2					AMB		AMB	
	comp=Z,70nm,1.1s,mb5.5							
CN2					AMB		AMB	
	comp=Z,5µm,6.0s							
CN2					LR		LR	
	comp=N,100µm,15.0s,MS7.0							
CN2					LR		LR	
	comp=E,51µm,15.0s,MS7.0							
CN2					LR		LR	
	comp=Z,84µm,17.0s,MS6.8							
KKAR	Karatay Array	51.62	333		iP		P	10 54 53.8 0.0
KKAR					pmax		pmax	
	comp=Z,166nm,1.6s,mb5.7							
ZAK	Zakamensk	51.89	3		eP		P	10 54 55.4 -0.4
ZAK					e			10 56 07.6
ZAK					pmax		pmax	
	comp=Z,29nm,1.4s,mb5.0							
ZAK					pmax		pmax	
	comp=Z,14nm,1.9s,mb4.6							
MAT	Matsushiro	52.24	39		eP		P	10 54 58.0 -0.6
MAT	Matsushiro	52.24	39		P		P	10 54 56.5 -2.1
MJAR	Matsushiro Arr	52.24	39		P		P	10 54 56.8 -1.8
	comp=Z,23nm,0.9s,mb5.1,baz=220,slow=7.2,SNR=49							
MOY	Mondy	53.09	1		eP		P	10 55 03.9 -0.8
MOY					pmax		pmax	
	comp=Z,223nm,2.6s,mb5.6							
TLY	Talaya	53.20	3	⇓	iP		P	10 55 05.5 -0.1
TLY					pmax		pmax	
	comp=Z,113nm,1.8s,mb5.5							
MDJ	Mudanjiang	53.23	26		P		P	10 55 05.1 -0.7
MDJ					AMB		AMB	
	comp=Z,43nm,1.0s,mb5.3							
MDJ					AMB		AMB	
	comp=Z,4µm,10.4s							
IRK	Irkutsk	53.80	4		eP		P	10 55 09.8 -0.1
IRK					e			10 56 15.9
IRK					eS		S	11 02 45.8 +4.6
IRK					pmax		pmax	
	comp=Z,195nm,1.9s,mb5.7							
OPO	Ambohidratompo	54.02	248		P		P	10 55 11.4 -0.6
	comp=Z,33nm,0.9s,mb5.3,baz=67,slow=6.2,SNR=34							
KURK	Kurchatov	55.12	344		d iP		P	10 55 18.3 -1.3
KURK					pmax		pmax	
	comp=Z,99nm,0.9s,mb5.8							
KURK	Kurchatov	55.12	344		eP		P	10 55 18.8 -0.8
	comp=Z,40nm,1.4s,mb5.3							
TOO	Toolangi	55.28	136	⇑	iP		P	10 55 22.5 +1.5
	comp=Z,26nm,1.0s,mb5.2							
TOO	Toolangi	55.28	136	⇑	iP		P	10 55 22.5 +1.5
TOO					pmax		pmax	
	comp=Z,26nm,1.0s,mb5.2							
ZAL	Zalesovo	56.70	350		P		P	10 55 30.7 -0.3
	comp=Z,115nm,0.6s,mb6.1,baz=313,slow=5.6,SNR=69							
ZAL					S		S	11 03 20.8 +0.9
	comp=Z,11nm,1.0s,baz=172,slow=20,SNR=23							
CNB	Canberra Magne	57.05	132	⇓	iP		P	10 55 34.2 +0.5
	comp=Z,1µm,1.3s							
KLR	Kul'dur	57.75	24	⇑	iP		P	10 55 34.6 -3.8
ATD	Arta Tunnel	57.87	285		P		P	10 55 39.9 +0.2
	comp=Z,4.9nm,0.4s,mb4.9,baz=172,slow=6.8,SNR=6.5							
ATD	Arta Tunnel	57.87	285		P		P	10 55 39.9 +0.2
BVA0	Borovoye Array	59.68	340		iP		P	10 55 50.1 -1.7
BVA0					pmax		pmax	
	comp=Z,10.0nm,0.9s,mb4.8							
BVAR	Borovoye Array	59.68	340		P		P	10 55 49.3 -2.5
	comp=Z,20nm,0.7s,mb5.3,baz=144,slow=8.3,SNR=39							
C

GNI Garni 64.96 316 P **P 10 56 26.3 -0.9**
comp=Z,11nm,0.6s,mb5.1,baz=172,slow=6.3
GNI Garni 64.96 316 *eP* **P 10 56 26.4 -0.8**
comp=Z,100nm,1.3s,mb5.7
SVE Sverdlovsk 66.17 338⇓ *iP* **P 10 56 34.6 0.0**
SVE pmax pmax
comp=Z,189nm,1.7s,mb5.8
ZEI Tsey 66.67 319 *eP* **P 10 56 35.4 -2.7**
ZEI *i* *PP pP 10 56 45.3 -1.3
ZEI pmax pmax
comp=Z,27nm,0.8s,mb5.3
ARU Arti 66.69 337⇓ *iP* **P 10 56 36.6 -1.4**
ARU *e* 10 57 04.9
ARU *eS* S 11 05 27.8 +1.4
ARU *eSSS* SSS 11 12 48.0 +5.9
ARU pmax pmax
comp=Z,117nm,1.2s,mb5.8
ARU Arti 66.69 337 *eP* **P 10 56 35.6 -2.3**
YAK Yakutsk 67.47 15*d iP* **P 10 56 41.1 -1.8**
YAK *e**PP pP 10 56 48.8 -2.6
YAK *e* 10 57 07.5
YAK *ePPP* PPP 11 00 49.6 -0.8
YAK *eS* S 11 05 32.1 -3.6
YAK *e* 11 06 32.1
YAK *eSSS* SSS 11 12 50.3 -5.9
YAK pmax pmax
comp=Z,89nm,0.8s,mb5.8
YAK pmax pmax
comp=N,57nm,1.1s
YAK pmax pmax
comp=E,38nm,1.3s
YAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
YAK smax
comp=N,6.0nm,1.1s
YAK smax
comp=E,5.0nm,1.3s
YAK MLR MLR
comp=Z,6μm,12.0s,MS6.1
YAK MLR MLR
comp=N,5μm,11.0s,MS6.2
YAK MLR MLR
comp=E,7μm,13.0s,MS6.2
YAK Yakutsk 67.47 15 *eP* **P 10 56 40.9 -2.0**
comp=E,185nm,0.8s,mb6.2
KIV Kislovodsk 67.98 319*d iP* **P 10 56 45.9 -0.5**
KIV pmax pmax
comp=Z,53nm,1.0s,mb5.5
KIV Kislovodsk 67.98 319 *eP* **P 10 56 45.7 -0.7**
comp=Z,84nm,1.0s,mb5.7
ASF Jabal al Asfar 68.02 306 P **P 10 56 47.4 +0.6**
comp=Z,26nm,1.0s,mb5.2,baz=352,slow=2.6,SNR=20
GOF Gofitskoye 68.23 320⇓ *iP* **P 10 56 46.0 -1.9**
GOF *eS* S 11 05 45.7 +0.6
GOF pmax pmax
comp=Z,90nm,1.7s,mb5.5
ELZG Elazig 68.42 313 *i P* **P 10 56 49.1 -0.1**
EIL Elat 68.96 303 P **P 10 56 52.1 -0.6**
comp=Z,39nm,0.9s,mb5.3,baz=54,slow=3.9,SNR=23
GZT Gaziantep 69.09 311 *i P* **P 10 56 53.2 -0.2**
SOC Sochi 69.79 318 *eP* **P 10 56 55.4 -2.1**
SOC *e* 10 57 23.3
SOC *e* 10 59 37.8
SOC *ePPP* PPP 11 01 16.5 +3.2
SOC *eS* S 11 05 58.0 -5.5
SOC *eSSS* SSS 11 13 42.0 +3.8
SOC pmax pmax
comp=N,28nm,1.0s
SOC pmax pmax
comp=E,24nm,1.0s
SOC pmax pmax
comp=Z,70nm,1.0s,mb5.5
SOC MLR MLR
comp=Z,9μm,17.0s,MS6.1
SOC MLR MLR
comp=N,5μm,16.0s,MS6.0
SOC MLR MLR
comp=E,6μm,17.0s,MS6.0
COBT Iskenderun 69.82 310 *i P* **P 10 56 56.8 -1.1**
MAW Mawson 70.56 194 *eP* **P 10 57 02.2 +0.4**
comp=E,35nm,0.9s,mb5.3
MAW Mawson 70.56 194 *eP* **P 10 57 02.2 +0.4**
MAW pmax pmax
comp=Z,35nm,0.9s
MAW Mawson 70.56 194 P **P 10 57 02.4 +0.6**
comp=Z,42nm,0.8s,mb5.4,baz=35,slow=7.0,SNR=40
MEST Erdemli 71.47 309 *i P* **P 10 57 07.0 -0.8**
CSS Prodhromos 71.66 308 *eP* **P 10 57 07.9 -1.1**
comp=Z,51nm,1.0s,mb5.4
MATP Matopo 71.72 249 P **P 10 57 09.5 -0.1**
comp=Z,130nm,0.8s,mb5.9,baz=86,slow=6.0,SNR=158
MATP Matopo 71.72 249 P **P 10 57 09.5 -0.1**
ANN Anapa 71.77 318 *eP* **P 10 57 02.8 -6.7**
ANN *eS* S 11 06 21.5 -5.0
ANN pmax pmax
comp=Z,18nm,1.2s,mb4.9
ANN pmax pmax
comp=Z,2μm,9.5s
CTKT Corum 72.18 314 *i P* **P 10 57 11.6 -0.5**
BOYT Boyabat 72.35 314 *i P* **P 10 57 12.0 -1.0**
BRTR Keskin Array B 72.75 312 P **P 10 57 13.7 -1.7**
comp=Z,12nm,0.6s,mb5.0,baz=132,slow=6.8,SNR=52
MA2 Magadan 72.85 25*deP* **P 10 57 15.6 0.0**
MA2 pmax pmax
comp=Z,150nm,1.8s,mb5.6
MA2 Magadan 72.85 25 *eP* **P 10 57 15.3 -0.3**
comp=Z,80nm,0.6s,mb5.8
PECR Pechory 73.00 331 *eP* **P 10 57 15.4 -1.2**
PECR pmax pmax
comp=Z,230nm,2.0s,mb5.8
ELDT Eldivan 73.13 313 *i P* **P 10 57 17.0 -0.7**
PET Petropavlovsk 73.25 33⇑ *iP* **P 10 57 18.2 +0.1**
PET *e* pP 10 57 26.5 -0.1
PET pmax pmax
comp=Z,111nm,0.6s,mb6.0
PET pmax pmax
comp=E,34nm,0.7s
PET pmax pmax
comp=N,47nm,0.8s
PET Petropavlovsk 73.25 33 *eP* **P 10 57 17.5 -0.6**
comp=N,74nm,0.6s,mb5.8
VOR Voronezh 73.42 326 *eP* **P 10 57 18.0 -1.1**
VOR *e**PP pP 10 57 26.0 -1.6
VOR pmax pmax
comp=N,70nm,1.7s
VOR pmax pmax
comp=Z,250nm,1.7s,mb5.9
MSZ Milford Sound 73.58 136 PN **P 10 57 21.6 +1.4**
SIM Simferopol' 74.03 318 *eP* **P 10 57 22.0 -0.8**
SIM pmax pmax
comp=Z,22nm,0.5s,mb5.3
SGKT Sivrigoynuk 74.16 313 *i P* **P 10 57 22.7 -0.9**
ISP Isparta 74.60 310 P **P 10 57 25.2 -1.0**
ESKT Eskisehir 74.77 312 *i P* **P 10 57 26.2 -0.9**
LBTB Lobatse 74.81 245 *eP* **P 10 57 26.8 -0.9**
LBTB pmax pmax
comp=Z,27nm,0.6s,mb5.3
LBTB Lobatse 74.81 245 P **P 10 57 27.6 -0.2**
comp=Z,30nm,0.7s,mb5.3,baz=116,slow=4.9,SNR=42
LBTB Lobatse 74.81 245 *eP* **P 10 57 26.8 -0.9**
comp=Z,27nm,0.6s,mb5.3
HENT Hendek 75.07 313 *i P* **P 10 57 27.5 -1.3**
BOSA Boshof 75.48 241 *eP* **P 10 57 30.8 -0.7**
BOSA pmax pmax
comp=Z,32nm,0.7s,mb5.4
BOSA Boshof 75.48 241 P **P 10 57 31.0 -0.4**
comp=Z,40nm,0.7s,mb5.5,baz=82,slow=5.2,SNR=72
BOSA Boshof 75.48 241 *eP* **P 10 57 30.8 -0.6**
comp=Z,32nm,0.7s,mb5.4
TIXI Tiksi 75.54 9⇓ *iP* **P 10 57 29.7 -1.2**
TIXI pmax pmax
comp=Z,70nm,1.0s,mb5.5
TIXI Tiksi 75.54 9⇓ *iP* **P 10 57 29.8 -1.1**
RPZ Rata Peaks 75.55 135 P **P 10 57 31.5 0.0**
comp=Z,43nm,0.6s,mb5.5,baz=234,slow=1.5,SNR=28
MOS Moscow 75.95 329 *eP* **P 10 57 32.9 -0.6**
MOS *e* pP 10 57 41.3 -0.8
MOS *e* 10 57 49.5
MOS pmax pmax
comp=Z,279nm,1.6s,mb5.9
QRZ Quartz Range 76.08 132 PN **P 10 57 35.6 +1.0**
ULDT Uludag 76.20 312 *i P* **P 10 57 34.1 -1.2**
LTZ Lake Taylor 76.24 134 PN **P 10 57 35.7 +0.3**
OBN Obninsk 76.25 328*d iP* **P 10 57 34.9 -0.3**
OBN *e* 11 00 25.0
OBN *eS* S 11 07 10.5 -5.9
OBN pmax pmax
comp=Z,193nm,1.7s,mb5.8
OBN Obninsk 76.25 328 *eP* **P 10 57 34.1 -1.1**
comp=Z,284nm,1.4s,mb6.0
THZ Tophouse 76.52 133 PN **P 10 57 36.7 -0.3**
KDAG Bornova 77.21 310 *i P* **P 10 57 40.6 -0.4**
HIZ Hauiti 77.49 129 PN **P 10 57 43.8 +1.3**
PSN Preselentsi 77.75 315 *eP* **P 10 57 44.0 +0.2**
TIRR Tirgusor 77.78 316 P **P 10 57 44.1 +0.1**
SYO Syowa Base 78.10 199⇑ P **P 10 57 45.0 -0.2**
CFR Carcaliu 78.16 317 P **P 10 57 46.0 0.0**
KIS Kishinev 78.17 319 *eP* **P 10 57 46.0 0.0**
KIS *i* 10 57 50.0
HARR Harsova 78.18 316 P **P 10 57 46.2 +0.1**
PRD Provadia 78.19 315 *eP* **P 10 57 46.0 -0.2**
MRZ Mangatainoka R 78.34 131 PN **P 10 57 47.3 +0.1**
IDI Anoyia 78.47 306 P **P 10 57 47.6 -0.3**
comp=Z,30nm,0.6s,mb5.4,baz=93,slow=7.7,SNR=31
TSZ Takapari Road 78.55 130 PN **P 10 57 49.0 +0.7**
JMB Yambol 78.61 314 *eP* **P 10 57 49.0 +0.4**
ALN Alexandroupoli 78.66 312 *eP* **P 10 57 48.5 -0.4**
BKZ Black Stump Fm 78.84 129 PN **P 10 57 50.0 +0.1**
BFZ Birch Farm 78.84 131 PN **P 10 57 50.2 +0.3**
AKASG Malin Array Be 78.92 322 P **P 10 57 48.8 -1.3**
comp=Z,6.5nm,0.7s,mb4.7,baz=84,slow=5.0,SNR=23
AKASG PP PP 11 00 50.9 +0.2
comp=Z,0.4nm,0.3s,baz=110,slow=6.8,SNR=4.7
PWZ Pawanui 79.23 130 PN **P 10 57 52.3 +0.3**
DIM Dimitrovgrad 79.28 313 *i P* **P 10 57 52.5 +0.3**
VRI Vrincioaia 79.28 317 P **P 10 57 52.2 0.0**
BUC1 Bucharest 79.42 316 P **P 10 57 53.7 +0.8**
SUR Sutherland 79.65 238 *eP* **P 10 57 55.6 +1.2**
comp=Z,119nm,1.0s,mb5.8
MLR Muntele Rosu 79.73 317 P **P 10 57 54.2 -0.4**
comp=Z,54nm,0.9s,mb5.5,baz=96,slow=2.1,SNR=49
MLR Muntele Rosu 79.73 317 P **P 10 57 54.2 -0.4**
RZN Rozhen 79.81 313 *i P* **P 10 57 55.0 -0.1**
PLD Plovdiv 79.90 313 *eP* **P 10 57 55.0 -0.6**
OUR Ouranopolis 80.09 311 *eP* **P 10 57 55.2 -1.5**
PAIG Paliouri 80.25 311 *eP* **P 10 57 56.5 -1.0**
MTUR Matau 80.28 316 P **P 10 57 57.7 +0.2**
PGB Panagyurishte 80.38 314 *i P* **P 10 57 58.0 -0.1**
MMB Musomiste 80.51 312 *i P* **P 10 57 58.0 -0.9**
SOH Sokhos 80.65 312 *eP* **P 10 57 58.6 -1.0**
KKB Krupnik 81.04 313 *i P* **P 10 58 01.5 -0.1**
KNT Kendrikon 81.05 312 *eP* **P 10 58 01.1 -0.5**
VTS Vitosha 81.08 313 *i P* **P 10 58 02.0 +0.2**
PUL Pulkovo 81.08 331 *i P* **P 10 57 59.2 -2.2**
AGG Agios Georgios 81.12 310 *eP* **P 10 58 00.8 -1.3**
LIT Litokhoron 81.18 311 *eP* **P 10 58 00.5 -1.9**
GRG Griva 81.39 312 *eP* **P 10 58 02.7 -0.7**
FX1 Attu Island--F 81.43 36 *eP* **P 10 58 03.8 +0.4**
JOF Joensuu 81.69 335 *ep* **P 10 58 04.0 -0.5**
TSUM Tsumeb 81.92 251 P **P 10 58 07.0 +0.4**
comp=Z,32nm,0.9s,mb5.3,baz=84,slow=5.1,SNR=40
MEV Metsovon 82.08 310 *eP* **P 10 58 07.0 -0.1**
BOLS Boljevac 82.19 314⇑ *iP* **P 10 58 07.3 -0.2**
SKO Skopje 82.27 313 *i P* **P 10 58 07.0 -1.0**
LVZ Lovozero 82.27 340 *i P* **P 10 58 03.8 -3.7**
LVZ pmax pmax
comp=Z,82nm,2.5s,mb5.2
APA Apatity 82.58 339⇑ *iP* **P 10 58 09.5 +0.4**
APA *i* pP 10 58 17.3 -0.5
APA pmax pmax
comp=Z,120nm,1.6s,mb5.7
APA MLR MLR
comp=Z,15μm,17.0s,MS6.4
VNDA Vanda 82.62 169 P **P 10 58 09.6 +0.5**
comp=Z,13nm,0.9s,mb5.0,baz=307,slow=6.7,SNR=35
IGT Igoumenitsa 82.73 310 *eP* **P 10 58 10.2 -0.2**
KWP Kalwaria 82.74 320 P **P 10 58 11.0 +0.7**
KWP pmax pmax
comp=Z,96nm,1.2s,mb5.7
KWP Kalwaria 82.74 320 *eP* **P 10 58 11.1 +0.8**
KWP Kalwaria 82.74 320 *eP* **P 10 58 11.1 +0.9**
KOLS Kolonicke sedl 82.89 320 *i P* **P 10 58 12.2 +1.1**
KOLS *epP* pP 10 58 20.5 +0.7
BILL Bilibino 82.94 20 *i P* **P 10 58 11.1 +0.2**
BILL *e* pP 10 58 17.9 -1.8
BILL pmax pmax
comp=Z,40nm,1.6s,mb5.2
BILL Bilibino 82.94 20 *i P* **P 10 58 11.2 +0.3**
GRUS Gruza 83.09 314⇑ *iP* **P 10 58 12.4 +0.2**
SUW Suwalki 83.33 325 *eP* **P 10 58 12.7 -0.5**
CRVS Cervenica-Dubn 83.41 319 *eP* **P 10 58 15.5 +1.8**
CRVS *esP* sP 10 58 30.5 +5.2
FINES FINESS Array B 83.58 332 P **P 10 58 14.2 -0.1**
comp=Z,13nm,0.6s,mb5.2,baz=108,slow=6.0,SNR=40
DIVS Divcibare 83.64 315⇑ *iP* **P 10 58 14.1 -1.0**
KAF Kangasniemi 83.65 333 *ep* **P 10 58 14.7 0.0**
comp=Z,30nm,0.8s,mb5.5,baz=101,slow=4.7
KAF Kangasniemi 83.65 333 *eP* **P 10 58 14.7 0.0**
KAF pmax pmax
comp=Z,30nm,0.8s,mb5.5
KECS Kecovo 83.97 319 *eP* **P 10 58 17.5 +0.9**
KECS *e* pP 10 58 25.1 -0.3
NIE Niedzica 84.24 320 *eP* **P 10 58 17.2 -0.7**
PSZ Piszkesteto 84.28 318 P **P 10 58 18.5 +0.3**
OJC Ojcow 84.69 321 *eP* **P 10 58 20.2 0.0**
VYHS Vyhne 85.06 319 *eP* **P 10 58 22.5 +0.4**
VYHS *epP* pP 10 58 30.2 -0.6
SRO Srobarova 85.32 318 *eP* **P 10 58 23.8 +0.4**
SRO *epP* pP 10 58 32.2 +0.1
TIP Timpagrande 85.44 309 *eP* **P 10 58 25.0 +0.8**
KEV Kevo 85.53 341 *ep* **P 10 58 24.5 +0.6**
OKC Ostrava-Krasne 85.69 320 *eP* **P 10 58 26.1 +0.9**
OKC *epP* pP 10 58 34.2 +0.3
ARCES ARCESS Array B 85.97 340 P **P 10 58 26.4 +0.3**
comp=Z,25nm,0.8s,mb5.5,baz=91,slow=4.9,SNR=39
ARE0 ARCESS Array S 85.97 340 *eP* **P 10 58 27.5 +1.4**
ZST Bratislava 86.17 318 *eP* **P 10 58 28.2 +0.6**
ZST *e* pP 10 58 35.9 -0.5
ZST *eS* S 11 08 58.0 -0.9
KTK1 Kautokeino 86.62 339 *eP* **P 10 58 29.8 +0.5**
comp=Z,132nm,1.5s,mb6.0
KTK1 Kautokeino 86.62 339 *eP* **P 10 58 29.8 +0.5**
KTK1 AMb AMB 10 58 41.6
comp=Z,132nm,1.5s,mb6.0
VRAC Vranov 86.63 319 P **P 10 58 30.4 +0.6**
comp=Z,1.8nm,0.3s,mb4.8,baz=84,slow=7.0,SNR=4.9
DPC Dobruska-Polom 86.92 320 *eP* **P 10 58 32.7 +1.5**
DPC *epP* pP 10 58 40.7 +0.7
KSP Ksiaz 86.99 321 *eP* **P 10 58 31.8 +0.3**
KSP *e**PP pP 10 58 40.1 -0.2
KSP Ksiaz 86.99 321 *eP* **P 10 58 32.6 +1.0**
KIWB Kanaga Island 87.09 38 *eP* **P 10 58 32.6 +0.6**
ARSA Arzberg 87.13 317⇑ *iP* **P 10 58 30.7 -1.6**
comp=Z,37nm,1.2s,mb5.5
UPC Upice 87.13 321 *eP* **P 10 58 33.5 +1.3**
BOJS Bojanci 87.16 316 *eP* **P 10 58 33.2 +0.7**
PERS Pernice 87.35 317 *eP* **P 10 58 33.9 +0.5**
LJU Ljubljana 87.71 316 *eP* **P 10 58 36.5 +1.4**
OBKA Obir 87.73 316⇑ *iP* **P 10 58 35.8 +0.6**
comp=Z,22nm,1.1s,mb5.3
MAIT Maitri 87.78 199 *eP* **P 10 58 36.6 +1.7**
MAIT *eS* S 11 09 39.6 +26
PRU Pruhonice 88.03 320 *eP* **P 10 58 37.4 +0.9**
MOA Molln 88.03 318⇑ *iP* **P 10 58 36.8 +0.2**
comp=Z,29nm,1.6s,mb5.3
PVCC Panska Ves 88.05 320 *eP* **P 10 58 38.0 +1.4**
TRO Tromso 88.24 340 *eP* **P 10 58 37.0 -0.1**
TRO pmax pmax
comp=Z,108nm,1.7s,mb5.8
TRO Tromso 88.24 340 *eP* **P 10 58 37.0 -0.1**
comp=Z,108nm,1.7s,mb5.8
AQU L'Aquila 88.25 312 P **P 10 58 38.8 +1.0**
AQU pmax pmax
comp=Z,83nm,1.0s,mb5.9
AQU L'Aquila 88.25 312 *eP* **P 10 58 39.0 +1.2**
BSD Bornholm Skovb 88.25 325 *i P* **P 10 58 37.7 +0.2**
BSD *i* pP 10 58 45.6 -0.6
BSD pmax pmax
comp=Z,30nm,0.8s,mb5.6
BSD Bornholm Skovb 88.25 325 *i P* **P 10 58 37.7 +0.2**
comp=Z,30nm,0.8s,mb5.6
BSD *i* pP 10 58 45.6 -0.6
QSPA South Pole Qui 88.35 180⇑ *iP* **P 10 58 38.8 +1.3**
comp=Z,63nm,1.1s,mb5.8
ROBS Robic 88.43 316 *eP* **P 10 58 38.4 -0.2**
BRG Berggiesshubel 88.48 321 *i P* **P 10 58 39.9 +1.2**
BRG pmax pmax
comp=Z,47nm,1.2s,mb5.6
BRG Berggiesshubel 88.48 321 *i P* **P 10 58 39.9 +1.2**
comp=Z,47nm,1.2s,mb5.6
GEC2 GERESS Array S 88.48 319 *eP* **P 10 58 39.1 +0.3**
GERES GERESS Array B 88.48 319 P **P 10 58 38.8 0.0**
comp=Z,8.0nm,0.8s,mb5.0,baz=92,slow=3.7,SNR=35
NRCA Norcia 88.49 313 *eP* **P 10 58 39.0 +0.1**
PTCC Patocco-Chiusa 88.55 316 *eP* **P 10 58 39.8 +0.6**
KHC Kasperske Hory 88.58 319 *eP* **P 10 58 40.1 +0.9**
KHC *epP* pP 10 58 48.0 0.0
KBA Koelnbreinsper 88.60 317⇓ *iP* **P 10 58 39.3 -0.1**
comp=Z,21nm,1.1s,mb5.4
KBA Koelnbreinsper 88.60 317⇓ *iP* **P 10 58 39.3 -0.1**
KBA pmax pmax
comp=Z,21nm,1.1s,mb5.4
GMNA Gemona 88.62 316 *eP* **P 10 58 39.9 +0.5**
ARV Arcevia 88.66 313 *eP* **P 10 58 41.0 +1.3**
RUE Ruedersdorf 88.70 322 *eP* **P 10 58 39.4 -0.3**
comp=Z,85nm,0.9s,mb6.1
MNS Montasola 88.78 312 *eP* **P 10 58 40.4 +0.1**
WET Wettzell 89.04 319 *eP* **P 10 58 42.2 +0.8**
WET pmax pmax
comp=Z,35nm,1.2s,mb5.6
WET Wettzell 89.04 319 *eP* **P 10 58 42.2 +0.8**
comp=Z,35nm,1.2s,mb5.6
CLL Collm 89.10 321⇑ *iP* **P 10 58 41.8 +0.2**
CLL *i* pP 10 58 49.5 -0.9
CLL pmax pmax
comp=Z,26nm,1.1s,mb5.5
CLL Collm 89.10 321⇑ *iP* **P 10 58 41.8 +0.2**
comp=Z,26nm,1.1s,mb5.5
CLL *i* 10 58 44.7
CLL *i* pP 10 58 49.5 -0.9
CLL Collm 89.10 321 ⇑P **P 10 58 41.8 +0.2**
comp=Z,logA/T=1.4,mb5.5
CLL *i* 10 58 44.7
CLL *i* *PP pP 10 58 49.5 -0.9
CLL *e* 10 58 57.0
CLL *e* 10 59 09.0
HFS Hagfors 89.33 330 P **P 10 58 42.7 +0.2**
comp=Z,17nm,0.9s,mb5.4,baz=117,slow=3.2,SNR=2.9
NKC Novy Kostel 89.39 320 *eP* **P 10 58 44.3 +1.3**
NKC *epP* pP 10 58 51.7 -0.1
SFI Santa Sofia 89.47 314 *eP* **P 10 58 45.4 +1.8**
MOR8 Moi Rana 89.49 336 *eP* **P 10 58 43.4 +0.2**
comp=Z,92nm,1.1s,mb6.0
CTI Castel Tesino 89.71 316 *eP* **P 10 58 45.4 +0.8**
WTTA Wattenberg 89.77 317⇑ *iP* **P 10 58 44.9 0.0**
comp=Z,38nm,1.0s,mb5.7
WTTA Wattenberg 89.77 317⇑ *iP* **P 10 58 44.9 0.0**
WTTA pmax pmax
comp=Z,38nm,1.0s,mb5.7
WATA Walderalm 89.82 317⇓ *iP* **P 10 58 44.6 -0.5**
comp=Z,36nm,1.4s,mb5.5
WATA Walderalm 89.82 317⇓ *iP* **P 10 58 44.6 -0.5**
WATA pmax pmax
comp=Z,36nm,1.4s,mb5.5
MELSS Ber_school_2 89.83 337 *eP* **P 10 58 45.8 +1.1**
FUR Furstenfeldbru 90.05 318 *eP* **P 10 58 46.4 +0.2**
FUR pmax pmax
comp=Z,55nm,1.5s,mb5.7
FUR Furstenfeldbru 90.05 318 *eP* **P 10 58 46.4 +0.2**
comp=Z,55nm,1.5s,mb5.7
SQTA Sankt Quirin 90.06 317⇑ *iP* **P 10 58 46.1 -0.2**
comp=Z,42nm,1.4s,mb5.6
SQTA Sankt Quirin 90.06 317⇑ *iP* **P 10 58 46.1 -0.2**
SQTA pmax pmax
comp=Z,42nm,1.4s,mb5.6
MOTA Moosalm 90.14 317⇓ *iP* **P 10 58 46.9 +0.3**
GRA1 Grafenberg Arr 90.15 320 *eP* **P 10 58 47.4 +0.8**
comp=Z,43nm,1.0s,mb5.7
GRF Grafenberg Arr 90.15 320 *eP* **P 10 58 47.4 +0.8**
GRF pmax pmax
comp=Z,43nm,1.0s,mb5.7
GRF Grafenberg Arr 90.15 320 *eP* **P 10 58 47.4 +0.8**
GRF pmax pmax
comp=Z,43nm,1.0s,mb5.7
GRF Grafenberg Arr 90.15 320 *eP* **P 10 58 47.4 +0.8**
comp=Z,43nm,1.0s,mb5.7
GSCL Gusciola 90.39 314 *eP* **P 10 58 49.7 +1.8**
NB2 NORSAR Subarra 90.60 331 P **P 10 58 48.0 -0.4**
comp=Z,47nm,1.4s,mb5.6,baz=92,slow=4.6
NB2 NORSAR Subarra 90.60 331 P **P 10 58 48.0 -0.4**
NB2 pmax pmax
comp=Z,47nm,1.4s,mb5.6
NB2 NORSAR Subarra 90.60 331 P **P 10 58 48.0 -0.4**
baz=92,slow=4.6
NOA NORSAR Array B 90.60 331 P **P 10 58 48.3 -0.1**
comp=Z,4.5nm,0.8s,mb4.8,baz=93,slow=4.7,SNR=12
BRMO Bormio 90.61 316 *eP* **P 10 58 50.2 +1.4**
CLZ Clausthal 90.76 322 *eP* **P 10 58 50.3 +0.9**
BSEG Bad Segeberg 90.86 324 *eP* **P 10 58 50.6 +0.9**
DAVOX Davos 90.96 317 P **P 10 58 51.8 +1.4**
comp=Z,41nm,1.0s,mb5.7,baz=126,slow=5.2,SNR=26
DAVA Damuels 90.97 317⇑ *iP* **P 10 58 51.5 +1.1**
comp=Z,53nm,1.0s,mb5.8
VSL Villasalto 91.17 309 *eP* **P 10 58 52.1 +0.5**
comp=Z,112nm,1.5s,mb6.0
PGF Pioggiola 91.51 312 *eP* **P 10 58 53.2 +0.2**
MUD Monsted U'grnd 91.56 326 *i P* **P 10 59 05.0 +12**
TNS Taunus Mts 91.95 320 *eP* **P 10 58 55.9 +1.0**
BFO Black Forest 92.03 318 *eP* **P 10 58 55.6 +0.3**
BFO pmax pmax
comp=Z,15nm,0.9s,mb5.3
BFO Black Forest 92.03 318 *eP* **P 10 58 55.6 +0.3**
comp=Z,15nm,0.9s,mb5.3
MCGN Macugnaga 92.26 316 *eP* **P 10 58 57.5 +1.2**
SNAA Sanae 92.38 198 *e* **P 10 59 07.0 +11**
SNAA Sanae 92.38 198 *e* **P 10 59 09.3 +13**
SNAA Sanae 92.38 198⇑ *iP* **P 10 58 57.5 +1.1**
SNAA *e* pP 10 59 07.0 +1.9
SNAA *e* 10 59 09.3
SNAA Sanae 92.38 198 P **P 10 58 58.2 +1.9**
comp=Z,4.3nm,0.8s,mb4.8,baz=55,slow=4.8,SNR=9.6
SBF Sospel 92.66 314 *eP* **P 10 58 58.3 0.0**
comp=Z,64nm,1.0s,mb5.7
SBF Sospel 92.66 314 *eP* **P 10 58 58.3 0.0**
SBF pmax pmax
comp=Z,32nm,1.0s,mb5.7
CDF Champ du Feu 92.73 318 *eP* **P 10 58 58.4 -0.1**
comp=Z,13nm,0.9s,mb5.0
CDF Champ du Feu 92.73 318 *eP* **P 10 58 58.4 -0.1**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
HINF Hinteralfeld 93.02 318 *eP* **P 10 58 59.3 -0.5**
MBDF Montbardon 93.12 315 *eP* **P 10 59 01.3 +0.9**
LPG La Plagne 93.13 315 *eP* **P 10 59 00.8 +0.4**
comp=Z,57nm,1.2s,mb5.6
LPG La Plagne 93.13 315 *eP* **P 10 59 00.8 +0.4**
LPG pmax pmax
comp=Z,28nm,1.2s,mb5.6
LPL La Plagne 93.14 315 *eP* **P 10 59 00.8 +0.3**
comp=Z,95nm,1.4s,mb5.7
LPL La Plagne 93.14 315 *eP* **P 10 59 00.8 +0.3**
LPL pmax pmax
comp=Z,48nm,1.4s,mb5.7
FRF La Foret Royal 93.23 313 *eP* **P 10 59 01.2 +0.3**
comp=Z,232nm,1.7s,mb6.0
FRF La Foret Royal 93.23 313 *eP* **P 10 59 01.2 +0.3**
FRF pmax pmax
comp=Z,116nm,1.7s,mb6.0
HAU Haudompre 93.36 318 *eP* **P 10 59 01.3 -0.1**
comp=Z,54nm,1.3s,mb5.5
HAU Haudompre 93.36 318 *eP* **P 10 59 01.3 -0.1**
HAU pmax pmax
comp=Z,27nm,1.3s,mb5.5
CABF La Chapelle 93.57 316 *eP* **P 10 59 02.8 +0.4**
ORIF Oris-en-Rattie 93.75 315 *eP* **P 10 59 03.6 +0.3**
comp=Z,20nm,0.9s,mb5.2
ORIF Oris-en-Rattie 93.75 315 *eP* **P 10 59 03.6 +0.3**
ORIF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
VNA2 Neumayer--Watz 93.99 198 *e* **P 10 59 14.6 +11**
VNA2 Neumayer--Watz 93.99 198 *e* **P 10 59 17.2 +13**
VNA2 Neumayer--Watz 93.99 198⇑ *iP* **P 10 59 05.3 +1.5**
VNA2 *e* pP 10 59 14.6 +2.1
VNA2 *e* 10 59 17.2
MEZF Maizieres J'vi 94.21 318 *eP* **P 10 59 05.3 0.0**
VNA3 Neumayer Olymp 94.60 198 *e* **P 10 59 17.4 +11**
VNA3 Neumayer Olymp 94.60 198 *e* **P 10 59 20.2 +14**
VNA3 Neumayer Olymp 94.60 198⇑ *iP* **P 10 59 08.4 +1.8**
VNA3 *e* pP 10 59 17.4 +2.1
VNA3 *e* 10 59 20.2
VIVF Saint-Julien-l 94.61 315 *eP* **P 10 59 07.2 -0.1**
comp=Z,12nm,0.8s,mb5.1
VIVF Saint-Julien-l 94.61 315 *eP* **P 10 59 07.2 -0.1**

VIVF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
BAIF Baives 94.69 320 *eP* **P 10 59 07.7 +0.3**
SMF Signal de Mont 95.11 317 *eP* **P 10 59 09.3 -0.2**
comp=Z,40nm,1.3s,mb5.4
SMF Signal de Mont 95.11 317 *eP* **P 10 59 09.3 -0.2**
SMF pmax pmax
comp=Z,20nm,1.3s,mb5.4
SSF Saint Saulge 95.32 317 *eP* **P 10 59 10.7 +0.3**
AVF Avril sur Loir 95.44 317 *eP* **P 10 59 10.8 -0.2**
RJF Les Rejaudoux 96.82 315 *eP* **P 10 59 17.6 +0.3**
comp=Z,18nm,1.1s,mb5.1
RJF Les Rejaudoux 96.82 315 *eP* **P 10 59 17.6 +0.3**
RJF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
LFF La Frestale 97.40 315 *eP* **P 10 59 20.3 +0.4**
LDF La Druitiere 97.63 319 *eP* **P 10 59 20.6 -0.2**
comp=Z,17nm,0.9s,mb5.3
LDF La Druitiere 97.63 319 *eP* **P 10 59 20.6 -0.2**
LDF pmax pmax
comp=Z,9.0nm,0.9s,mb5.3
MFF Saint Martin d 97.86 317 *eP* **P 10 59 21.8 -0.1**
GRR Gorron 98.14 319 *eP* **P 10 59 22.9 -0.2**
IMA Indian Mountai 98.22 23 *eP* **P 10 59 20.8 -2.3**
IMA pmax pmax
comp=Z,220nm,1.1s,mb6.6
SJPF Ste Jean 98.99 313 *eP* **P 10 59 27.4 +0.3**
ILAR Eielson Array 101.32 24 PKKPbc 11 15 46.1
comp=Z,4.3nm,0.7s,baz=137,slow=2.0,SNR=33
INK Inuvik 104.42 18 PKKPbc 11 15 37.0
comp=Z,2.0nm,0.7s,baz=113,slow=3.6,SNR=5.8
YKA Yellowknife Ar 114.12 17 PKIKP 11 04 25.2
comp=Z,1.3nm,0.8s,baz=360,slow=1.0,SNR=15
YKA PP PP 11 05 12.4 -11
comp=Z,0.8nm,0.7s,baz=334,slow=7.3,SNR=5.5
YKA PKKPbc 11 15 04.9
comp=Z,1.3nm,0.8s,baz=143,slow=3.3,SNR=13
YKA Yellowknife Ar 114.12 17 PKPdf PKPdf 11 04 25.2 -3.6
YKA PP PP 11 05 12.4 -11
YKA PKKPbc 11 15 05.0
EDM Edmonton 121.79 23 PKIKP PKPdf 11 04 40.6 -3.4
EDM Edmonton 121.79 23 *e*PKPdf PKPdf 11 04 40.0 -4.0
NEW Newport 123.80 29 PKP PKPdf 11 04 44.7 -3.3
comp=Z,6.8nm,0.9s,baz=122,slow=0.8,SNR=11
YBH Yreka Blue Hor 124.89 38 PKP PKPdf 11 04 48.5 -1.8
comp=Z,2.4nm,0.9s,baz=92,slow=13,SNR=5.7
SCHQ Schefferville 125.80 350 PKP PKPdf 11 04 48.5 -3.1
comp=Z,6.4nm,0.8s,baz=27,slow=4.1,SNR=14
SCHQ PP PP 11 06 40.3 -3.5
comp=Z,3.8nm,0.9s,baz=16,slow=8.9,SNR=4.2
SCHQ Schefferville 125.80 350 *e*PKPdf PKPdf 11 04 48.4 -3.3
MSO Missoula 126.33 28 *e*PKPdf PKPdf 11 04 48.9 -4.0
CHMT Chamberlain Mo 126.59 28 *e*PKPdf PKPdf 11 04 50.6 -2.8
WVOR Wild Horse Val 126.88 35 PKIKP PKPdf 11 04 51.9 -2.2
WVOR Wild Horse Val 126.88 35 *e*PKPdf PKPdf 11 04 52.0 -2.1
MCMT McKenzie Canyo 128.32 29 *e*PKPdf PKPdf 11 04 54.1 -2.7
QLMT Earthquake Lak 128.99 28 *e*PKPdf PKPdf 11 04 56.8 -1.3
NVAR Mina Array Bea 129.56 39 PKP PKPdf 11 04 56.6 -2.8
comp=Z,4.9nm,0.8s,baz=269,slow=2.9,SNR=18
ULM Lac du Bonnet 129.79 13 PKP PKPdf 11 04 55.7 -3.8
comp=Z,8.4nm,0.8s,baz=328,slow=3.2,SNR=8.4
ULM Lac du Bonnet 129.79 13 *e*PKPdf PKPdf 11 04 55.6 -3.8
ELK Elko 129.92 34 PKIKP PKPdf 11 04 58.5 -1.5
ELK Elko 129.92 34 *e*PKPdf PKPdf 11 04 57.8 -2.2
MOOW Moose Ponds 130.13 29 PKPdf PKPdf 11 04 58.1 -2.2
TRCR Troy Canyon 131.28 37 *e*PKPdf PKPdf 11 05 01.1 -1.6
HWUT Hardware Ranch 131.30 31 *e*PKPdf PKPdf 11 04 59.7 -2.9
PDAR Pinedale Array 131.44 29 PKP PKPdf 11 04 59.1 -3.7
comp=Z,2.4nm,0.8s,baz=1.7,slow=1.9,SNR=9.3
PDAR PP PP 11 07 17.1 -4.1
comp=Z,3.6nm,1.0s,baz=333,slow=3.3,SNR=5.5
TMUT Trail Mountain 133.15 33 *e*PKPdf PKPdf 11 05 04.1 -2.1
MSU Marysvale 133.16 34 PKIKP PKPdf 11 05 04.9 -1.3
MSU Marysvale 133.16 34 *e*PKPdf PKPdf 11 05 04.7 -1.5
PV10 Paradox Valley 134.99 32 *e*PKPdf PKPdf 11 05 07.5 -2.1
CAM3 Guarapari 135.08 238 *eP* PKPdf 11 05 06.8 -3.4
CAM3 *i* 11 05 10.8
CAM4 Nova Friburgo 136.06 235 *eP* PKPdf 11 05 09.6 -2.3
CAM4 *i* 11 05 13.0
CAM4 *i* 11 05 18.3
CAM4 *i* 11 05 23.3
PLCA Paso Flores 136.91 191 PKP PKPdf 11 05 10.2 -2.8
comp=Z,6.0nm,1.1s,baz=217,slow=6.3,SNR=4.5
SADO Sadowa 137.01 359 PKP PKPdf 11 05 09.8 -3.3
comp=Z,4.2nm,0.5s,baz=302,slow=5.0,SNR=7.2
ANMO Albuquerque 138.91 33 PKhKP 11 05 06.0
comp=Z,5.3nm,0.8s,baz=325,slow=3.1,SNR=19
BNM Barren Site 139.41 34 *e*PKPpre 11 05 07.2
CPRX Cap Rock 141.77 33 *e*PKPpre 11 05 16.1
GDL2 Guadalupe Moun 142.12 34 *e*PKPpre 11 05 14.8
CLNB Carlsbad 142.34 34 *e*PKPpre 11 05 16.6
CCM Cathedral Cave 142.39 14 PKHKP 11 05 13.9
CCM Cathedral Cave 142.39 14 *e*PKPpre 11 05 13.3
WMOK Wichita Mounta 142.86 25 PKIKP PKPdf 11 05 16.9 -7.0
WMOK Wichita Mounta 142.86 25 *e*PKPpre 11 05 15.7
WCI Wyandotte Cave 143.16 8 PKIKP PKPdf 11 05 17.4 -6.9
WCI Wyandotte Cave 143.16 8 *e*PKPpre 11 05 17.1
BDFB Brasilia 143.67 241 PKP PKPdf 11 05 20.5 -5.3
comp=Z,20nm,1.0s,baz=85,slow=1.4,SNR=11
PARMO Parma 144.07 13 PKP PKPdf 11 05 23.3 -2.6
GLAT Glass 144.55 12 *e*PKPdf PKPdf 11 05 22.7 -4.1
UTMT University of 144.57 12 *e*PKPdf PKPdf 11 05 22.5 -4.3
LTX Lajitas 144.64 37 PKIKP PKPdf 11 05 23.7 -3.4
LTX Lajitas 144.64 37 *e*PKPdf PKPdf 11 05 23.6 -3.6
TXAR Lajitas Array 144.65 37 PKP PKPdf 11 05 23.4 -3.8
comp=Z,70nm,0.7s,baz=278,slow=1.4,SNR=162
GNAR Gosnell 144.68 14 *e*PKPdf PKPdf 11 05 23.3 -3.7
HBAR Harrisburg 144.91 15 *e*PKP PKPdf 11 05 23.7 -3.8
WVT Waverly 144.97 10 *e*PKIKP PKPdf 11 05 23.0 -4.5
WVT Waverly 144.97 10 *e*PKP PKPdf 11 05 22.6 -4.9
CFAA Coronel Fontan 145.00 198 PKP PKPdf 11 05 23.8 -4.0
comp=Z,24nm,0.7s,baz=168,slow=2.7,SNR=172
MIAR Mount Ida 145.01 19 *e*PKIKP PKPdf 11 05 23.8 -3.8
MIAR Mount Ida 145.01 19 *e*PKP PKPdf 11 05 23.4 -4.2
TZTN Tazewell 145.12 4 *e*PKP PKPdf 11 05 23.5 -4.3
UALR University of 145.18 17 *e*PKP PKPdf 11 05 24.3 -3.7
JCT Junction City 145.91 31 *e*PKP2 PKPab 11 05 27.0 -0.7
JCT Junction City 145.91 31 *e*PKP PKPdf 11 05 26.5 -2.7
PLAL Pickwick Lake 146.04 11 *e*PKPdf PKPdf 11 05 25.8 -3.6
CPCT Cooper Cave 146.12 6 *e*PKPdf PKPdf 11 05 26.6 -2.9
SWET Sewanee 146.17 8 *e*PKPdf PKPdf 11 05 26.1 -3.6
OXF Oxford 146.21 13 PKP2 PKPab 11 05 27.2 -1.5
OXF Oxford 146.21 13 *e*PKPdf PKPdf 11 05 26.7 -3.0
TLL Tololo Astrono 147.09 195⇑ PKPdf 11 05 30.2 -1.1
NATX Nacogdoches 147.14 23 *e*PKPbc PKPdf 11 05 30.0 -1.3
JSC Jenkinsville 147.49 1 PKP2 PKPab 11 05 32.6 -1.1
JSC Jenkinsville 147.49 1 *e*PKPbc PKPdf 11 05 31.1 -0.7
LRAL Lakeview Retre 148.14 11 *e*PKPbc PKPdf 11 05 32.0 -0.9
GOGA Godfrey 148.24 5 PKP2 PKPab 11 05 33.7 -3.0
GOGA Godfrey 148.24 5 *e*PKPbc PKPdf 11 05 32.9 -0.2
COW Cow Castle Cre 148.39 0 *e*PKPbc PKPdf 11 05 33.8 +0.5
NHSC New Hope 148.67 360 *e*PKPbc PKPdf 11 05 34.3 +0.5
LVC Limon Verde 153.44 204 PKP PKPdf 11 05 39.8 -1.3
comp=Z,6.3nm,1.0s,baz=126,slow=4.7,SNR=21
LVC PKPbc PKPdf 11 05 47.7 +6.5
comp=Z,32nm,0.9s,baz=210,slow=0.3,SNR=29
LVC PKPab PKPab 11 05 58.4 -0.2
comp=Z,27nm,0.8s,baz=108,slow=0.6,SNR=6.3
LVC Limon Verde 153.44 204 PKP PKPdf 11 05 39.8 -1.3
LVC PKPbc PKPdf 11 05 47.7 +6.5
LVC PKPab PKPab 11 05 58.4 -0.2
SIV San Ignacio 154.09 227 PKP PKPdf 11 05 39.4 -2.8
comp=Z,4.7nm,0.9s,baz=101,slow=3.0,SNR=10
SIV PKPbc PKPdf 11 05 47.0 +4.8
comp=Z,19nm,0.8s,baz=124,slow=6.2,SNR=44
LPAZ La Paz 158.47 214 PKP PKPdf 11 05 45.9 -2.1
comp=Z,4.5nm,0.9s,baz=63,slow=0.3,SNR=10
LPAZ PKPab PKPab 11 06 18.0 -2.3
comp=Z,3.8nm,0.7s,baz=92,slow=2.5,SNR=4.2
SDV Santo Domingo 167.87 307 PKP PKPdf 11 05 52.8 -4.1
comp=Z,1.9nm,0.6s,slow=6.1,SNR=3.4
SDV PKPab PKPab 11 06 59.6 -1.6
comp=Z,6.3nm,0.8s,baz=66,slow=4.9,SNR=6.0
ROSC El Rosal 173.12 298 PKP PKPdf 11 05 56.7 -3.3
comp=Z,3.8nm,0.3s,baz=81,slow=19,SNR=3.1
OTAV Otavalo 177.61 235 *e*PKPdf PKPdf 11 05 58.1 -3.0

IDC ***10*** *10:49:55.9±1.1, 1.49S×99.17E, mb4.5/7, mb1 4.7/8, mb1mx4.4/19, mbtmp4.5/8, ML4.8/1, Error ellipse: s-maj=37.3km s-min=25.8km az=63.0*
MOS ***10*** *10:49:59.7±1.8, 1.30S×99.23E, h33km, mb5.2/7, Error ellipse: s-maj=46.8km s-min=16.1km az=101.4*
NEIC ***10*** *10:49:59.9±0.8, 1.46S×99.26E, h30km, mb5.0/6, Error ellipse: s-maj=25.4km s-min=17.0km az=84.0*
ISC 10 10:50:01.5±3.7, 1.3S±0.2×99.3E±0.2, h52km±28km, n25, σ1§22/23, mb4.8/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.64**	**11**	*eP*	**P**	**10 51 38.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**19.61**	**359**	P	**P**	**10 54 26.6**	**-1.7**
	1.1nm,0.3s,baz=188,slow=10,SNR=8.5						
LSA	**Lhasa**	**31.77**	**346**	*eP*	**P**	**10 56 25.0**	**+1.8**
LSA	comp=Z,13nm,0.7s,mb4.9			pmax	pmax		
LSA	**Lhasa**	**31.77**	**346**	*eP*	**P**	**10 56 25.0**	**+1.8**
	comp=Z,13nm,0.7s,mb4.9						
WRA	**Warramunga Arr**	**38.93**	**121**	P	**P**	**10 57 24.9**	**+0.9**
	comp=Z,3.9nm,0.5s,mb4.4,baz=302,slow=8.9,SNR=4.5						
SONM	**Songino Array**	**49.29**	**6**	P	**P**	**10 58 48.0**	**+0.9**
	comp=Z,3.3nm,0.4s,mb4.7,baz=195,slow=9.4,SNR=5.7						
ULN	**Ulaanbaatar**	**49.39**	**7**	*eP*	**P**	**10 58 48.8**	**+0.9**
ULN	comp=Z,4.0nm,0.6s,mb4.6			pmax	pmax		
ULN	**Ulaanbaatar**	**49.39**	**7**	*eP*	**P**	**10 58 48.8**	**+0.9**
	comp=Z,3.9nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**50.15**	**345**	P	**P**	**10 58 55.1**	**+1.3**
	comp=Z,5.9nm,0.5s,mb4.9,baz=159,slow=8.7,SNR=6.3						
KURK	**Kurchatov**	**54.73**	**344**	P	**P**	**10 59 27.3**	**-0.5**
KURK	comp=Z,14nm,0.9s,mb5.0			pmax	pmax		
KURK	**Kurchatov**	**54.73**	**344**	P	**P**	**10 59 27.3**	**-0.5**
	comp=Z,14nm,0.9s,mb5.0						
ZAL	**Zalesovo**	**56.33**	**350**	P	**P**	**10 59 40.5**	**+1.1**
	comp=Z,11nm,0.5s,mb5.2,baz=312,slow=6.6,SNR=5.3						
BVAR	**Borovoye Array**	**59.28**	**340**	P	**P**	**11 00 00.2**	**+0.2**
	comp=Z,1.8nm,0.6s,mb4.3,baz=141,slow=9.2,SNR=3.0						
CHKZ	**Chkalovo**	**59.74**	**341**	P	**P**	**11 00 00.4**	**-2.8**
CHKZ	comp=Z,9.0nm,0.8s,mb4.8			pmax	pmax		
CHKZ	**Chkalovo**	**59.74**	**341**	P	**P**	**11 00 00.4**	**-2.8**
	comp=Z,9.1nm,0.8s,mb4.9						
YSS	**Yuzh-Sakhalins**	**61.22**	**32**	*eP*	**P**	**11 00 12.0**	**-1.4**
YSS	comp=Z,30nm,1.0s,mb5.4			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**61.22**	**32**	*eP*	**P**	**11 00 12.0**	**-1.4**
	comp=Z,15nm,0.9s,mb5.1						
KMBO	**Kilima Mbogo**	**62.08**	**269**	P	**P**	**11 00 18.2**	**-1.3**
	comp=Z,2.2nm,0.7s,mb4.4,baz=61,slow=10,SNR=4.8						
YAK	**Yakutsk**	**67.21**	**15**	*eP*	**P**	**11 00 50.9**	**-1.2**
YAK	comp=Z,12nm,0.5s,mb5.2			pmax	pmax		
YAK	**Yakutsk**	**67.21**	**15**	*eP*	**P**	**11 00 50.9**	**-1.1**
	comp=Z,12nm,0.5s,mb5.2						
MA2	**Magadan**	**72.64**	**25**	*eP*	**P**	**11 01 25.2**	**0.0**
MA2	comp=Z,6.0nm,0.8s,mb4.6			pmax	pmax		
PET	**Petropavlovsk**	**73.10**	**33**	*eP*	**P**	**11 01 26.9**	**-1.1**
PET	comp=Z,38nm,1.1s,mb5.2			pmax	pmax		
FINES	**FINESS Array B**	**83.16**	**332**	P	**P**	**11 02 24.8**	**+1.7**
	comp=Z,1.9nm,0.6s,mb4.3,baz=107,slow=5.5,SNR=3.9						
TXAR	**Lajitas Array**	**144.51**	**36**	PKP	PKPdf	11 09 33.0	+0.2
	comp=Z,2.8nm,0.5s,baz=206,slow=0.7,SNR=6.9						
CFAA	**Coronel Fontan**	**145.25**	**199**	PKP	PKPdf	11 09 33.6	-0.3
	comp=Z,0.9nm,0.9s,baz=198,slow=2.9,SNR=4.3						

NEIC ***10*** *10:54:56.0, 32.43S×71.74W, h28km, ML3.5(GUC), After GUC.*
GUC 10 10:54:56.0±0.9, 32.43S×71.74W, h28km±3km, MD4.1, ML3.5, 10C-9D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.28**	**112**	⇓*iP*	Pb	10 55 03.2	+0.2
CHNG	**Los Chungos**	**0.59**	**21**	⇓*iP*	Pb	10 55 07.5	-0.2
CHNG				*i* S	Sb	10 55 15.9	+0.2
CHNG				AMP		10 55 18.6	
	comp=N,2μm,0.3s						
IHA	**Instituto Hidr**	**0.60**	**172**	*eP*	Pb	10 55 07.6	-0.3
IHA				*i* S	Sb	10 55 16.2	+0.2
PTCH	**Petorca**	**0.71**	**76**	⇑*iP*	Pb	10 55 09.7	0.0
PTCH				*i* S	Sb	10 55 19.7	+0.6
PTCH				AMP		10 55 20.2	
	comp=E,4μm,0.2s						
ROCH	**El Roble**	**0.82**	**131**	⇑*iP*	Pb	10 55 11.4	-0.1
ROCH				*i* S	Sb	10 55 22.6	+0.4
ILCH	**Illapel**	**0.93**	**32**	⇓*iP*	Pn	10 55 12.9	-0.4
ILCH				*i* S	Sb	10 55 25.6	+0.1
ILCH				AMP		10 55 31.5	
	comp=E,1μm,0.1s						
JACH	**Jahuel**	**1.00**	**105**	⇑*iP*	Pn	10 55 13.9	-0.4
JACH				*i* S	Sb	10 55 27.6	+0.2
LCCH	**Las Cruces**	**1.05**	**172**	⇑*iP*	Pn	10 55 14.7	-0.3
LCCH				*e*S	Sn	10 55 28.3	-0.5
PEL	**Peldehue**	**1.14**	**129**	⇑*iP*	Pn	10 55 16.6	+0.3
PEL				*i* S	Sn	10 55 31.6	+0.5
RCDM	**Rinconada Maip**	**1.31**	**144**	⇑*iP*	Pn	10 55 19.0	+0.2
RCDM				*i* S	Sn	10 55 36.2	+0.7
RCDM				AMP		10 55 37.9	
	comp=E,4μm,0.1s						
STL	**Santa Lucia**	**1.36**	**138**	*eP*	Pn	10 55 19.6	+0.1
STL				AMP		10 55 38.3	
	comp=N,695nm,0.3s						
SAN	**Santiago**	**1.36**	**139**	*eP*	Pn	10 55 19.2	-0.3
SAN				*i* S	Sn	10 55 38.0	+1.2
SAN				AMP		10 55 39.8	
	comp=N,2μm,0.2s						
DSCH	**Colegio Aleman**	**1.38**	**135**	⇑*iP*	Pn	10 55 20.0	+0.3
DSCH				*i* S	Sn	10 55 38.2	+1.1
DSCH				AMP		10 55 46.1	
	comp=N,2μm,0.4s						
TACH	**Talagante**	**1.39**	**151**	⇓*iP*	Pn	10 55 20.6	+0.7
TACH				*i* S	Sn	10 55 38.5	+1.0
CLCH	**Cerro Calan**	**1.40**	**134**	⇓*iP*	Pn	10 55 20.2	+0.2
CLCH				*i* S	Sn	10 55 38.2	+0.6
CLCH				AMP		10 55 45.0	
	comp=N,2μm,0.4s						
CLCH				AMP		10 55 45.6	
	comp=N,2μm,0.5s						
FSR	**Penalolen**	**1.46**	**136**	⇑*iP*	Pn	10 55 21.3	+0.5
FSR				*i* S	Sn	10 55 40.8	+1.6
FSR				AMP		10 55 42.9	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**1.51**	**127**	⇓*iP*	Pn	10 55 22.0	+0.4
FCH				*i* S	Sn	10 55 42.1	+1.5
FCH				AMP		10 55 43.7	
	comp=E,1μm,0.2s						
LNV	**Longovilo**	**1.54**	**170**	⇑*iP*	Pn	10 55 21.8	-0.3
LNV				*i* S	Sn	10 55 40.6	-0.7
PCH	**Pirque**	**1.57**	**139**	⇑*iP*	Pn	10 55 23.2	+0.7
PCH				*i* S	Sn	10 55 43.9	+1.9
SJCH	**San Jose de Ma**	**1.68**	**136**	*eP*	Pn	10 55 24.0	0.0
SJCH				*i* S	Sn	10 55 45.9	+1.2
SJCH				AMP		10 55 50.3	
	comp=N,564nm,0.3s						
CHCH	**Chadas Angostu**	**1.75**	**149**	⇓*iP*	Pn	10 55 26.1	+1.0
CHCH				*e*S	Sn	10 55 48.4	+1.8
LMEL	**Las Melosas**	**1.91**	**138**	*eP*	Pn	10 55 28.1	+0.7
LMEL				*i* S	Sn	10 55 53.1	+2.4
LMEL				AMP		10 55 59.2	
	comp=N,1μm,0.2s						
CACH	**El Canelo**	**1.93**	**151**	⇓*iP*	Pn	10 55 29.4	+1.8
CACH				*e*S	Sn	10 55 54.7	+3.5
CICH	**Cipreses**	**2.18**	**150**	⇓*iP*	Pn	10 55 32.5	+1.2
CICH				*i* S	Sn	10 55 59.6	+2.0
SFDO	**San Fernando**	**2.26**	**165**	*eP*	Pn	10 55 32.6	+0.2
TLL	**Tololo Astrono**	**2.40**	**20**	*eP*	Pn	10 55 34.9	+0.6
TLL				*e*S	Sn	10 56 05.1	+2.0
TLL				AMP		10 56 13.7	
	comp=N,582nm,0.6s						
ZON	**Zonda**	**2.75**	**72**	*eP*	Pn	10 55 46.8	+7.5
ZON				*e*S	Sn	10 56 30.4	+18

BJI ***10*** *10:55:06.0, 2.33S×99.89E, h58km, mB6.6, mb5.1, Ms6.1, Msz5.8*
IDC ***10*** *10:55:07.9±0.3, 1.71S×99.84E, h28km±2km, mb4.8/39, mb1 4.9/39, mb1mx4.9/39, mbtmp5.0/39, Error ellipse: s-maj=10.7km s-min=6.8km az=49.0*
MOS ***10*** *10:55:07.3±1.0, 1.60S×99.85E, h33km, mb5.4/33, Error ellipse: s-maj=11.4km s-min=5.5km az=118.3*
NEIC ***10*** *10:55:08.0±0.1, 1.68S×99.78E, mb5.2/38, Error ellipse: s-maj=5.3km s-min=3.6km az=55.0*
CSEM ***10*** *10:55:08.4, 1.46S×99.91E, h33km, mb5.5*
ISC 10 10:55:06.3±0.2, 1.67S±0.04×99.81E±0.04, h27km, h27km±8km: pP-P, n267, σ0§89/216, mb5.1/94, MS6.0/3, 19C-15D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.96**	**7**	*eP*	**Pn**	**10 56 49.8**	**+0.5**
KSM	**Kuching**	**10.95**	**73**	*eP*	**P**	**10 57 46.8**	**+2.2**
KKM	**Kota Kinabalu**	**18.09**	**65**	*eP*	**P**	**10 59 19.9**	**+2.1**
CM31	**Chiang Mai Arr**	**20.02**	**358**	*eP*	**P**	**10 59 39.7**	**-0.4**
	29nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.02**	**358**	P	**P**	**10 59 38.5**	**-1.7**
	14nm,0.7s,baz=187,slow=9.8,SNR=18						
CMAR				PcP	PcP	11 03 55.0	-0.2
	3.6nm,0.7s,baz=206,slow=2.6,SNR=5.7						
QIZ	**Qiongzhong**	**22.81**	**25**	P	**P**	**11 00 10.0**	**+1.5**
QIZ	**Qiongzhong**	**22.81**	**25**	*eP*	**P**	**11 00 10.0**	**+1.5**
	61nm,1.0s,mb5.0						
MBWA	**Marble Bar**	**27.43**	**136**	*eP*	**P**	**11 00 51.9**	**-0.3**
	12nm,2.0s,mb4.1						
GYA	**Guiyang**	**28.74**	**13**	⇓*iP*	**P**	**11 01 03.7**	**-0.2**
GYA				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.9						
FITZ	**Fitzroy Crossi**	**30.16**	**124**	⇓*iP*	**P**	**11 01 15.3**	**-1.4**
	comp=Z,40nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**30.16**	**124**	P	**P**	**11 01 15.4**	**-1.3**
	comp=Z,42nm,0.5s,mb5.4,baz=314,slow=7.2,SNR=34						
JIRN	**Jiri**	**31.97**	**337**	*eP*	**P**	**11 01 33.1**	**+0.6**
	comp=Z,222nm,0.8s,mb6.0						
PKI	**Pulchoki**	**32.21**	**336**	*eP*	**P**	**11 01 34.8**	**+0.2**
	comp=Z,50nm,0.8s,mb5.4						
PKI	**Pulchoki**	**32.21**	**336**	*eP*	**P**	**11 01 34.8**	**+0.2**
PKI				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.1						
LSA	**Lhasa**	**32.27**	**346**	P	**P**	**11 01 36.1**	**+1.0**
LSA	**Lhasa**	**32.27**	**346**	*eP*	**P**	**11 01 35.9**	**+0.8**
LSA				pmax	pmax		
	comp=Z,82nm,1.0s,mb5.5						
LSA	**Lhasa**	**32.27**	**346**	*eP*	**P**	**11 01 35.9**	**+0.8**
	comp=Z,82nm,1.0s,mb5.5						
GUN	**Gumba**	**32.31**	**337**	*eP*	**P**	**11 01 36.2**	**+0.7**
	comp=Z,211nm,0.7s,mb6.1						
DMN	**Daman**	**32.37**	**335**	*eP*	**P**	**11 01 36.5**	**+0.5**
	comp=Z,78nm,0.8s,mb5.6						
KKN	**Kakani**	**32.45**	**336**	*eP*	**P**	**11 01 36.9**	**+0.2**
	comp=Z,121nm,0.9s,mb5.8						
KKN	**Kakani**	**32.45**	**336**	*eP*	**P**	**11 01 36.9**	**+0.2**
KKN				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.4						
POO	**Poona**	**32.48**	**309**	*eP*	**P**	**11 01 36.0**	**-1.0**
GKN	**Gorkha**	**32.91**	**335**	*eP*	**P**	**11 01 40.6**	**-0.1**
	comp=Z,98nm,0.9s,mb5.8						
ENH	**Enshi**	**33.08**	**15**	*eP*	**P**	**11 01 39.9**	**-2.3**
	comp=Z,20nm,0.6s,mb5.2						
KOLN	**Koldanda**	**33.16**	**333**	*eP*	**P**	**11 01 43.1**	**+0.2**
	comp=Z,155nm,0.8s,mb6.0						
MUN	**Mundaring**	**33.88**	**155**	*eP*	**P**	**11 01 50.3**	**+1.2**
	comp=Z,90nm,0.8s,mb5.8						
MUN	**Mundaring**	**33.88**	**155**	*eP*	**P**	**11 01 50.3**	**+1.2**
MUN				pmax	pmax		
	comp=Z,90nm,0.8s,mb5.8						
KLBR	**Kellerberrin**	**34.25**	**152**	*eP*	**P**	**11 01 53.0**	**+0.7**
	comp=Z,436nm,0.8s						
NWAO	**Narrogin (SRO)**	**35.14**	**154**	P	**P**	**11 01 59.6**	**-0.3**
	comp=Z,16nm,0.8s,mb5.0,baz=323,slow=11,SNR=8.5						
LGTI	**Lohaghat**	**36.16**	**330**	*eP*	**P**	**11 02 08.0**	**-0.6**
XAN	**Xi'an**	**36.54**	**13**	P	**P**	**11 02 10.0**	**-1.7**
XAN				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
NJ2	**Nanjing**	**38.09**	**27**	*eP*	**P**	**11 02 25.8**	**+1.0**
NJ2				AP	pP	11 02 35.7	+2.7
NJ2				PP	PP	11 03 57.7	+2.4
NJ2				S	**S**	**11 08 17.0**	**+1.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,560nm,5.4s						
NJ2				LR	LR		
	comp=N,14μm,18.9s						
NJ2				LR	LR		
	comp=E,9μm,12.2s						
NJ2				LR	LR		
	comp=Z,4μm,13.1s						
WRA	**Warramunga Arr**	**38.33**	**121**	P	**P**	**11 02 26.0**	**-0.8**
	comp=Z,43nm,0.4s,mb5.5,baz=302,slow=9.2,SNR=120						
WRA				pP	pP	11 02 34.7	-0.4
	comp=Z,28nm,0.6s,baz=300,slow=9.2,SNR=13						
WRA				PcP	PcP	11 04 40.9	0.0
	comp=Z,6.9nm,0.5s,baz=314,slow=2.4,SNR=8.5						
WRA				S	**S**	**11 08 15.5**	**-3.6**
	comp=Z,2.8nm,0.9s,baz=298,slow=15,SNR=3.2						
WRAB	**Tennant Creek**	**38.33**	**121**	*i* P	**P**	**11 02 27.0**	**+0.1**
WRAB	**Tennant Creek**	**38.33**	**121**	*eP*	**P**	**11 02 26.3**	**-0.6**
	comp=Z,161nm,0.9s,mb5.8						
WB2	**Warramunga Arr**	**38.34**	**121**	⇓*iP*	**P**	**11 02 26.0**	**-0.9**
WB2				*e*		11 04 40.8	
SSE	**Sheshan**	**38.41**	**30**	*eP*	**P**	**11 02 25.9**	**-1.6**
SSE				AMB	AMB		
	comp=Z,49nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,6μm,7.7s						
SSE	**Sheshan**	**38.41**	**30**	*eP*	**P**	**11 02 25.9**	**-1.6**
	comp=Z,49nm,0.8s,mb5.3						
SMLA	**Simla**	**39.08**	**328**	⇑*iP*	**P**	**11 02 29.6**	**-3.5**
FORT	**Forrest**	**39.42**	**140**	*eP*	**P**	**11 02 37.2**	**+1.3**
	comp=Z,1μm,0.8s						
JOW	**Kunigami**	**39.45**	**42**	P	**P**	**11 02 35.8**

UCH Uchtor 49.32 335 P **P 11 03 53.3 -1.9**
SNR=7.4
TKM2 Tokmak 2 49.45 337 P **P 11 03 56.8 +0.5**
SNR=20
KBK Karagaybulak 49.49 336 P **P 11 03 57.5 +0.9**
SNR=11
STKA Stephens Creek 49.51 132 *e*P **P 11 03 56.8 -0.1**
comp=Z,12nm,0.5s,mb5.2
STKA Stephens Creek 49.51 132 P **P 11 03 57.0 +0.1**
comp=Z,18nm,0.5s,mb5.3,baz=311,slow=7.5,SNR=29
AML Almayashu 49.59 335 P **P 11 03 57.9 +0.6**
SNR=15
SONM Songino Array 49.64 6 P **P 11 03 57.6 0.0**
comp=Z,16nm,0.8s,mb5.1,baz=187,slow=8.4,SNR=36
SONM PcP PcP 11 05 18.3 -0.7
comp=Z,7.8nm,0.5s,baz=189,slow=4.6,SNR=8.2
AAK Ala-Archa 49.66 336 P **P 11 03 58.3 +0.5**
SNR=5.1
ULN Ulaanbaatar 49.74 6 *i* P **P 11 03 58.7 +0.3**
CHMS Chumysh 49.86 336 P **P 11 03 59.4 0.0**
SNR=7.3
EKS2 Erkin-Say 49.98 335 P **P 11 04 01.0 +0.7**
SNR=17
USP Ospenovka 50.19 336 P **P 11 04 01.9 +0.1**
SNR=11
MKAR Makanchi Array 50.66 344 P **P 11 04 05.3 -0.1**
comp=Z,47nm,0.7s,mb5.5,baz=148,slow=8.1,SNR=66
MKAR pP pP 11 04 14.1 +0.3
comp=Z,58nm,0.8s,baz=152,slow=7.8,SNR=21
MKAR S **S 11 11 21.1 +3.9**
comp=Z,1.7nm,0.5s,baz=140,slow=11,SNR=2.4
CN2 Changchun 50.76 24 *e*P **P 11 04 04.3 -1.9**
CN2 AP pP 11 04 18.3 +3.7
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
KKAR Karatay Array 51.77 333 *i* P **P 11 04 13.0 -0.9**
KKAR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ZAK Zakamensk 51.94 3 *e*P **P 11 04 15.4 +0.4**
ZAK *e* 11 05 27.4
ZAK pmax pmax
comp=Z,5.0nm,2.2s,mb4.1
ZAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MAT Matsushiro 52.14 39 *e*P **P 11 04 17.0 +0.2**
MAT pmax pmax
comp=Z,28nm,1.2s,mb5.1
MAT Matsushiro 52.14 39 *e*P **P 11 04 17.0 +0.2**
comp=Z,28nm,1.2s,mb5.1
MAT Matsushiro 52.14 39 P **P 11 04 16.4 -0.4**
MJAR Matsushiro Arr 52.14 39 P **P 11 04 16.0 -0.8**
comp=Z,5.7nm,0.6s,mb4.7,baz=227,slow=8.1,SNR=14
MDJ Mudanjiang 53.18 26 *e*P **P 11 04 24.5 +0.1**
comp=Z,10nm,0.7s,mb4.9
OPO Ambohidratompo 54.21 248 P **P 11 04 32.5 +0.2**
comp=Z,3.5nm,0.9s,mb4.3,baz=81,slow=7.4,SNR=2.9
TOO Toolangi 55.08 136 *e*P **P 11 04 40.0 +1.5**
comp=Z,16nm,0.9s,mb5.0
TOO Toolangi 55.08 136 *e*P **P 11 04 40.0 +1.5**
TOO pmax pmax
comp=Z,16nm,0.9s,mb5.0
KURK Kurchatov 55.24 344 *e*P **P 11 04 38.6 -0.8**
KURK *e* pP 11 04 46.8 -1.0
KURK pmax pmax
comp=Z,90nm,0.9s,mb5.8
KURK Kurchatov 55.24 344 *e*P **P 11 04 38.5 -0.9**
comp=Z,90nm,0.9s,mb5.8
KURK *e* pP 11 04 46.8 -1.0
ZAL Zalesovo 56.80 349 P **P 11 04 50.3 -0.3**
comp=Z,42nm,0.7s,mb5.6,baz=315,slow=5.4,SNR=50
ZAL pP pP 11 04 58.8 -0.2
comp=Z,47nm,0.6s,baz=290,slow=7.7,SNR=15
ZAL S **S 11 12 41.2 +1.1**
comp=Z,1.9nm,0.6s,baz=196,slow=22,SNR=6.1
KLR Kul'dur 57.71 24 *e*P **P 11 04 52.8 -4.3**
ASAJ Asahikawa 59.45 35 P **P 11 05 08.8 -0.4**
comp=Z,18nm,0.7s,mb5.2,baz=236,slow=8.8,SNR=9.4
BVA0 Borovoye Array 59.81 340 *i* P **P 11 05 10.0 -1.6**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BVAR Borovoye Array 59.81 340 P **P 11 05 10.0 -1.6**
comp=Z,22nm,0.6s,mb5.3,baz=141,slow=8.7,SNR=47
CHKZ Chkalovo 60.27 340 *e*P **P 11 05 13.4 -1.4**
CHKZ pmax pmax
comp=Z,46nm,0.8s,mb5.6
CHKZ Chkalovo 60.27 340 *e*P **P 11 05 13.4 -1.4**
comp=Z,46nm,0.8s,mb5.6
BOD Bodaibo 60.39 9 *e*P **P 11 05 14.7 -0.8**
BOD pmax pmax
comp=Z,26nm,1.8s,mb5.0
YSS Yuzh-Sakhalins 61.31 32⇑*i*P **P 11 05 21.0 -0.9**
YSS *e* pP 11 05 29.0 -1.4
YSS pmax pmax
comp=Z,60nm,0.9s,mb5.7
YSS Yuzh-Sakhalins 61.31 32 *i* P **P 11 05 21.3 -0.6**
KMBO Kilima Mbogo 62.54 270 P **P 11 05 30.7 +0.1**
comp=Z,5.1nm,0.7s,mb4.8,baz=62,slow=10,SNR=17
KMBO Kilima Mbogo 62.54 270 P **P 11 05 30.7 +0.1**
GNI Garni 65.16 316 *i* P **P 11 05 46.7 -0.7**
GNI pmax pmax
comp=Z,17nm,1.7s
GNI Garni 65.16 316 P **P 11 05 48.2 +0.8**
comp=Z,2.9nm,0.5s,mb4.6,baz=218,slow=8.6,SNR=4.1
SVE Sverdlovsk 66.31 338 *e*P **P 11 05 53.0 -1.5**
SVE pmax pmax
comp=Z,41nm,0.8s,mb5.5
ARU Arti 66.83 337⇑*i*P **P 11 05 56.3 -1.5**
ARU *e*S S 11 14 47.8 +0.8
ARU pmax pmax
comp=Z,29nm,0.9s,mb5.3
ARU Arti 66.83 337 *i* P **P 11 05 56.3 -1.5**
comp=Z,3.5nm,0.8s,mb4.4
ZEI Tsey 66.86 318 *e*P **P 11 05 57.8 -0.5**
ZEI *i* 11 08 34.0
ZEI pmax pmax
comp=Z,12nm,0.8s,mb5.0
YAK Yakutsk 67.47 15 *e*P **P 11 06 00.3 -1.5**
YAK *e* pP 11 06 08.9 -1.5
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=Z,37nm,0.9s,mb5.4
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK pmax pmax
comp=Z,35nm,0.8s,mb5.4
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK Yakutsk 67.47 15 *i* P **P 11 06 00.7 -1.1**
comp=E,5.8nm,0.7s,mb4.7
KIV Kislovodsk 68.17 319 *i* P **P 11 06 05.9 -0.6**
KIV pmax pmax
comp=Z,23nm,1.0s,mb5.2
KIV Kislovodsk 68.17 319 *i* P **P 11 06 05.9 -0.6**
comp=Z,3.7nm,1.1s,mb4.3
ASF Jabal al Asfar 68.24 306 P **P 11 06 07.0 -0.1**
comp=Z,8.9nm,1.0s,mb4.8,baz=344,slow=5.1,SNR=8.7
GOF Gofitskoye 68.42 320 *i* P **P 11 06 07.3 -0.7**
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.2
MALT Malatya 68.97 312⇓P **P 11 06 11.6 0.0**
EIL Elat 69.18 303 P **P 11 06 12.4 -0.5**
comp=Z,12nm,0.6s,mb5.0,baz=67,slow=5.8,SNR=14
SOC Sochi 69.98 318 *e*P **P 11 06 13.4 -4.2**
SOC pmax pmax
comp=N,11nm,0.8s
SOC pmax pmax
comp=Z,36nm,0.8s,mb5.3
SOC pmax pmax
comp=E,12nm,0.7s
MAW Mawson 70.55 194 P **P 11 06 20.6 -0.1**
comp=E,6.0nm,0.6s,mb4.7,baz=23,slow=4.5,SNR=16
CSS Prodhromos 71.87 308 *e*P **P 11 06 27.9 -1.3**
comp=E,12nm,0.6s,mb5.0
MATP Matopo 71.91 249 P **P 11 06 29.5 -0.2**
comp=E,6.6nm,0.6s,mb4.8,baz=83,slow=5.7,SNR=24
MATP pP pP 11 06 37.4 -0.8
comp=E,34nm,0.8s,baz=92,slow=7.4,SNR=22
MATP Matopo 71.91 249 P **P 11 06 29.5 -0.2**
MATP pP pP 11 06 37.4 -0.8
ANN Anapa 71.96 318 *e*P **P 11 06 23.2 -6.4**
MA2 Magadan 72.81 24 *e*P **P 11 06 34.6 +0.3**
MA2 *e* pP 11 06 43.1 +0.2
MA2 pmax pmax
comp=Z,30nm,0.7s,mb5.3
MA2 Magadan 72.81 24 *i* P **P 11 06 35.2 +0.9**
BRTR Keskin Array B 72.96 312 P **P 11 06 34.1 -1.4**
comp=Z,5.2nm,0.6s,mb4.7,baz=132,slow=6.9,SNR=25
BRTR pP pP 11 06 43.6 -0.5
comp=Z,3.7nm,0.7s,baz=126,slow=5.8,SNR=6.3
PET Petropavlovsk 73.18 33 *i* P **P 11 06 37.6 +1.0**
VOR Voronezh 73.59 326 *e*P **P 11 06 38.5 -0.5**
VOR pmax pmax
comp=Z,100nm,1.7s,mb5.5
LBTB Lobatse 74.99 245 P **P 11 06 47.2 -0.4**
comp=Z,2.9nm,0.8s,mb4.3,baz=149,slow=3.4,SNR=4.1
RPZ Rata Peaks 75.35 135 P **P 11 06 49.5 +0.2**
comp=Z,32nm,0.6s,mb5.4,baz=256,slow=3.1,SNR=23
RPZ pP pP 11 06 57.1 -0.8
comp=Z,27nm,0.6s,baz=174,slow=9.2,SNR=7.3
TIXI Tiksi 75.56 9 *i* P **P 11 06 49.1 -0.9**
BOSA Boshof 75.65 241 P **P 11 06 50.9 -0.5**
comp=Z,5.1nm,0.7s,mb4.6,baz=145,slow=2.6,SNR=9.4
MOS Moscow 76.12 329 *e*P **P 11 06 54.2 +0.8**
MOS *e* pP 11 07 01.0 -1.1
MOS pmax pmax
comp=Z,95nm,0.8s,mb5.8
OBN Obninsk 76.41 328⇓*e*P **P 11 06 54.6 -0.5**
OBN *e* 11 09 50.5
OBN *e*S S 11 16 40.1 +2.9
OBN pmax pmax
comp=Z,96nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,10μm,21.0s,MS6.1
OBN Obninsk 76.41 328 *i* Pr 11 06 54.6
TIRR Tirgusor 77.98 316⇓P **P 11 07 03.4 -0.6**
SYO Syowa Base 78.12 199⇑P **P 11 07 04.5 +0.3**
SYO Syowa Base 78.12 199⇑PcP PcP 11 07 14.5 +0.3
CFR Carcaliu 78.35 317⇑P **P 11 07 05.6 -0.4**
HARR Harsova 78.38 316 P **P 11 07 06.0 -0.2**
HARR Harsova 78.38 316⇑P **P 11 07 05.7 -0.4**
HARR Harsova 78.38 316⇑P **P 11 07 05.7 -0.5**
IDI Anoyia 78.69 306 P **P 11 07 07.4 -0.7**
comp=Z,17nm,0.6s,mb5.1,baz=92,slow=7.7,SNR=20
AKASG Malin Array Be 79.11 322 P **P 11 07 08.7 -1.4**
comp=Z,3.5nm,0.6s,mb4.5,baz=86,slow=4.6,SNR=22
VRI Vrinciooaia 79.48 317⇓P **P 11 07 12.6 +0.4**
MLR Muntele Rosu 79.93 317 P **P 11 07 14.6 0.0**
comp=Z,20nm,0.8s,mb5.1,baz=162,slow=2.3,SNR=31
MLR Muntele Rosu 79.93 317⇓P **P 11 07 14.9 +0.3**
MLR Muntele Rosu 79.93 317⇓P **P 11 07 14.9 +0.3**
RZN Rozhen 80.01 313 *i* P **P 11 07 15.0 -0.1**
MMB Musomiste 80.72 312 *e*P **P 11 07 18.0 -0.9**
BURAR Bucovina Array 80.89 319⇓P **P 11 07 20.7 +1.1**
BURAR Bucovina Array 80.89 319⇓P **P 11 07 20.7 +1.1**
KKB Krupnik 81.25 313 *e*P **P 11 07 21.0 -0.6**
VTS Vitosha 81.28 313 *i* P **P 11 07 21.5 -0.3**
VTS Vitosha 81.28 313⇓P **P 11 07 21.7 -0.1**
FX1 Attu Island--F 81.35 36 P **P 11 07 22.4 +0.5**
comp=Z,23nm,0.6s,mb5.3,baz=358,slow=17,SNR=7.2
JOF Joensuu 81.84 335 *ep* P **11 07 24.3 +0.1**
TSUM Tsumeb 82.11 251 P **P 11 07 26.8 +0.3**
comp=Z,3.2nm,0.9s,mb4.3,baz=70,slow=5.1,SNR=4.2
BOLS Boljevac 82.40 314⇑*i*P **P 11 07 26.5 -1.1**
APA Apatity 82.71 339⇑*e*P **P 11 07 29.0 +0.3**
APA *i* pP 11 07 38.0 +0.5
APA pmax pmax
comp=Z,36nm,1.0s,mb5.4
BILL Bilibino 82.92 20 *i* P **P 11 07 29.9 +0.1**
BILL pmax pmax
comp=Z,15nm,1.6s,mb4.8
KWP Kalwaria 82.93 320 *e*P **P 11 07 30.4 +0.3**
KOLS Kolonicke sedl 83.08 320 *i* P **P 11 07 32.0 +1.0**
KOLS *ep*P pP 11 07 38.5 -1.2
KOLS *e* 11 10 30.6
SUW Suwalki 83.51 325 *e*P **P 11 07 32.8 -0.3**
CRVS Cervenica-Dubn 83.60 319 *e*P **P 11 07 35.5 +1.9**
SBA Scott Base 83.61 169 *e*P **P 11 07 34.6 +1.5**
SBA pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
SBA Scott Base 83.61 169 *e*P **P 11 07 34.6 +1.4**
comp=Z,8.1nm,0.8s,mb4.9
FINES FINESS Array B 83.73 332 P **P 11 07 34.1 +0.1**
comp=Z,13nm,0.6s,mb5.3,baz=107,slow=5.5,SNR=68
KAF Kangasniemi 83.80 333 *ep* **P 11 07 34.8 +0.4**
comp=Z,16nm,0.5s,mb5.4,baz=100,slow=4.6
KAF Kangasniemi 83.80 333 *e*P **P 11 07 34.8 +0.4**
KAF pmax pmax
comp=Z,16nm,0.5s,mb5.4
KECS Kecovo 84.17 319 *e*P **P 11 07 35.5 -1.0**
KECS *e* 11 08 01.0
PSZ Piszkesteto 84.47 318⇓P **P 11 07 38.5 +0.4**
OJC Ojcow 84.88 321 *e*P **P 11 07 40.5 +0.4**
PKSM Moragy 85.08 316⇓P **P 11 07 41.2 +0.1**
VYHS Vyhne 85.25 319 *e*P **P 11 07 41.6 -0.4**
VYHS *e* 11 08 03.8
KEV Kevo 85.66 341 *ep* **P 11 07 43.7 +0.2**
OKC Ostrava-Krasne 85.88 320 *e*P **P 11 07 45.4 +0.3**
ARCES ARCESS Array B 86.10 340 P **P 11 07 46.2 +0.5**
comp=Z,15nm,0.8s,mb5.3,baz=96,slow=6.1,SNR=21
ARCES pP pP 11 07 55.1 +0.6
comp=Z,32nm,0.8s,baz=90,slow=4.5,SNR=14
ARCES ARCESS Array B 86.10 340 P **P 11 07 46.2 +0.5**
ARCES pP pP 11 07 55.1 +0.6
ARE0 ARCESS Array S 86.10 340 *e*P **P 11 07 46.6 +0.9**
MORC Moravsky Berou 86.26 320⇓P **P 11 07 47.7 +0.8**
ZST Bratislava 86.36 318 *e*P **P 11 07 47.9 +0.4**
ZST *ep*P pP 11 07 56.8 +0.5
DPC Dobruska-Polom 87.11 320 *e*P **P 11 07 52.0 +0.9**
DPC *ep*P pP 11 08 01.3 +1.4
KSP Ksiaz 87.18 321 *e*P **P 11 07 52.2 +0.8**
KSP Ksiaz 87.18 321 *e*P **P 11 07 52.6 +1.2**
UPC Upice 87.32 321 *ep*P pP 11 08 10.4 +10
ARSA Arzberg 87.33 317⇑P **P 11 07 52.5 +0.3**
comp=Z,15nm,1.4s,mb5.0
BOJS Bojanci 87.36 316 *e*P **P 11 08 01.9 +10**
PERS Pernice 87.55 317 *e*P **P 11 07 54.0 +0.7**
PRU Pruhonice 88.22 320 *e*P **P 11 07 57.2 +0.8**
PRU *ep*P pP 11 08 05.0 -0.2
PVCC Panska Ves 88.24 320 *e*P **P 11 07 58.2 +1.7**
PVCC *ep*P pP 11 08 07.2 +1.9
BSD Bornholm Skovb 88.43 325 *e*P **P 11 07 56.3 -1.0**
BSD *i* pP 11 08 06.3 +0.2
BSD pmax pmax
comp=Z,14nm,0.7s,mb5.3
BSD Bornholm Skovb 88.43 325 *e*P **P 11 07 56.3 -1.0**
comp=Z,14nm,0.7s,mb5.3
BSD *i* pP 11 08 06.3 +0.2
BSD *e* 11 08 18.3
BSD Bornholm Skovb 88.43 325 *i* P **P 11 07 56.3 -1.0**
comp=Z,14nm,0.7s,mb5.3
BSD *i* pP 11 08 06.3 +0.2
BSD *e* 11 08 18.3
ROBS Robic 88.63 316 *e*P **P 11 07 58.5 +0.1**
BRG Berggiesshubel 88.67 321 *i* P **P 11 07 59.5 +1.0**
BRG pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
BRG Berggiesshubel 88.67 321 *i* P **P 11 07 59.5 +1.0**
comp=Z,8.5nm,0.8s,mb5.1
GERES GERESS Array B 88.68 319 P **P 11 07 58.9 +0.3**
comp=Z,3.9nm,0.6s,mb4.9,baz=91,slow=3.6,SNR=32
KHC Kasperske Hory 88.78 319 *e*P **P 11 07 59.2 +0.1**
CLL Collm 89.29 321 *e*P **P 11 08 00.0 -1.5**
CLL *e* pP 11 08 07.0 -3.3
CLL Collm 89.29 321 P **P 11 08 03.0 +1.5**
CLL *e**PP pP 11 08 11.0 +0.7
HFS Hagfors 89.49 330 P **P 11 08 02.7 +0.5**
comp=Z,3.9nm,0.6s,mb4.9,baz=135,slow=4.2,SNR=16
HFS pP pP 11 08 10.7 -0.3
comp=Z,8.0nm,0.8s,baz=153,slow=3.2,SNR=6.6
NKC Novy Kostel 89.58 320 *e*P **P 11 08 04.4 +1.6**
WTTA Wattenberg 89.97 317⇑*i*P **P 11 08 05.2 +0.4**
comp=Z,23nm,1.4s,mb5.3
WTTA Wattenberg 89.97 317⇑*i*P **P 11 08 05.2 +0.4**
WTTA pmax pmax
comp=Z,23nm,1.4s,mb5.3
WATA Walderalm 90.01 317⇑*i*P **P 11 08 04.5 -0.5**
comp=Z,7.4nm,1.1s,mb4.9
WATA Walderalm 90.01 317⇑*i*P **P 11 08 04.5 -0.5**
WATA pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
MOX Moxa 90.13 320⇑*e*P **P 11 08 06.0 +0.6**
SQTA Sankt Quirin 90.26 317⇑*i*P **P 11 08 06.0 -0.1**
comp=Z,6.1nm,0.8s,mb5.0
SQTA Sankt Quirin 90.26 317⇑*i*P **P 11 08 06.0 -0.1**
SQTA pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
GRA1 Grafenberg Arr 90.34 320 *e*P **P 11 08 07.3 +0.9**
comp=Z,32nm,1.2s,mb5.5
GRF Grafenberg Arr 90.34 320 *e*P **P 11 08 07.3 +0.9**
GRF pmax pmax
comp=Z,32nm,1.2s,mb5.5
GRF Grafenberg Arr 90.34 320 *e*P **P 11 08 07.3 +0.9**
GRF pmax pmax
comp=Z,32nm,1.2s,mb5.5
GRF Grafenberg Arr 90.34 320 *e*P **P 11 08 07.3 +0.9**
comp=Z,32nm,1.2s,mb5.5
NB2 NORSAR Subarra 90.77 331 P **P 11 08 07.8 -0.3**
comp=Z,3.8nm,0.7s,mb4.8,baz=94,slow=4.6
NB2 NORSAR Subarra 90.77 331 P **P 11 08 07.8 -0.3**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
NOA NORSAR Array B 90.77 331 P **P 11 08 08.3 +0.2**
comp=Z,2.6nm,0.6s,mb4.7,baz=94,slow=4.7,SNR=12
NOA pP pP 11 08 16.9 0.0
comp=Z,2.6nm,0.7s,baz=96,slow=4.9,SNR=6.1
NOA NORSAR Array B 90.77 331 P **P 11 08 08.3 +0.2**
NOA pP pP 11 08 16.9 0.0
DAVOX Davos 91.16 317 P **P 11 08 11.3 +1.1**
comp=Z,14nm,0.6s,mb5.5,baz=116,slow=5.5,SNR=34
SNAA Sanae 92.39 198 P **P 11 08 16.2 +0.8**
comp=Z,1.3nm,0.8s,mb4.3,baz=90,slow=6.1,SNR=3.3
LPG La Plagne 93.33 315 *e*P **P 11 08 20.7 +0.5**
comp=Z,11nm,0.7s,mb5.1
LPG La Plagne 93.33 315 *e*P **P 11 08 20.7 +0.5**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
IMA Indian Mountai 98.18 23 *e*P **P 11 08 43.7 +1.8**
IMA pmax pmax
comp=Z,21nm,0.6s,mb5.8
IMA Indian Mountai 98.18 23 *e*P **P 11 08 43.7 +1.8**
comp=Z,21nm,0.6s,mb5.8
EKA Eskdalemuir Ar 98.74 326 P **P 11 08 44.4 -0.2**
comp=Z,3.5nm,1.1s,mb4.8,baz=90,slow=5.8,SNR=3.7
ILAR Eielson Array 101.28 24 P P 11 08 55.5 -0.4
comp=Z,0.5nm,0.7s,baz=278,slow=3.3,SNR=4.3
ILAR pP 11 09 04.4
comp=Z,0.6nm,0.8s,baz=293,slow=4.0,SNR=2.5
YKA Yellowknife Ar 114.11 17 PKiKP 11 13 43.3
comp=Z,0.8nm,0.6s,baz=353,slow=2.2,SNR=24
EDM Edmonton 121.76 23 *e*PKPdf PKPdf 11 13 59.4 -3.5
EDM *e* 11 14 07.5
NEW Newport 123.74 29 PKP PKPdf 11 14 03.4 -3.4
comp=Z,1.2nm,0.5s,baz=156,slow=3.4,SNR=3.9
NEW Newport 123.74 29 PKP PKPdf 11 14 03.4 -3.4
SCHQ Schefferville 125.89 351 PKP PKPdf 11 14 07.2 -3.6
comp=Z,4.2nm,0.6s,baz=18,slow=2.9,SNR=14
SCHQ Schefferville 125.89 351 PKP PKPdf 11 14 07.2 -3.6
CHMT Chamberlain Mo 126.54 28 *e*PKPdf PKPdf 11 14 08.8 -3.5
MCMT McKenzie Canyo 128.26 29 *e*PKPdf PKPdf 11 14 13.2 -2.5
NVAR Mina Array Bea 129.47 39 PKP PKPdf 11 14 15.8 -2.3
comp=Z,2.2nm,0.6s,baz=291,slow=2.7,SNR=16
NVAR pPKP 11 14 24.5
comp=Z,2.2nm,0.7s,baz=270,slow=2.7,SNR=8.1
ULM Lac du Bonnet 129.79 13 PKP PKPdf 11 14 14.6 -3.9
comp=Z,6.8nm,0.6s,baz=1.0,slow=2.8,SNR=9.1
ULM pPKP 11 14 23.3
comp=Z,5.9nm,0.6s,baz=6.2,slow=2.8,SNR=6.6
ULM Lac du Bonnet 129.79 13 PKP PKPdf 11 14 14.6 -3.9
ULM pPKP 11 14 23.3
ELK Elko 129.84 35 *e*PKPdf PKPdf 11 14 16.4 -2.4
SNOW Snow King Moun 130.28 29 *e*PKPdf PKPdf 11 14 17.1 -2.5
PDAR Pinedale Array 131.38 29 PKP PKPdf 11 14 18.6 -3.1
comp=Z,1.1nm,0.6s,baz=223,slow=0.9,SNR=10
PDAR pPKP 11 14 27.6
comp=Z,1.5nm,0.6s,slow=1.8,SNR=6.5
RSSD Black Hills 132.73 23 *e*PKPdf PKPdf 11 14 21.7 -2.5
MSU Marysvale 133.09 35 *e*PKPdf PKPdf 11 14 23.6 -1.4
PV10 Paradox Valley 134.92 32 *e*PKPdf PKPdf 11 14 26.1 -2.3
PV01 Paradox Valley 135.34 32 *e*PKPdf PKPdf 11 14 26.8 -2.4
PLCA Paso Flores 136.89 191 PKP PKPdf 11 14 29.7 -2.2
comp=Z,1.3nm,0.6s,baz=336,slow=1.5,SNR=6.0
SADO Sadowa 137.07 359 PKP PKPdf 11 14 28.9 -3.2
comp=Z,3.3nm,0.6s,baz=302,slow=11,SNR=5.2
ANMO Albuquerque 138.84 34 PKhKP 11 14 25.9
comp=Z,1.9nm,0.6s,baz=357,slow=5.0,SNR=12
BNM Barren Site 139.33 35 *e*PKPdf PKPdf 11 14 33.3 -3.3
KSU1 Kansas State U 139.84 20 PKPdf PKPdf 11 14 33.0 -4.4
MNTX Cornudas Mount 141.83 36 *e*PKPpre 11 14 33.2
GDL2 Guadalupe Moun 142.05 34 *e*PKPpre 11 14 34.1
WMOK Wichita Mounta 142.82 26 *e*PKPpre 11 14 34.7
WCI Wyandotte Cave 143.19 8 *e*PKPpre 11 14 35.9
BDFB Brasilia 143.84 240 PKP PKPdf 11 14 40.0 -5.0
comp=Z,3.9nm,0.6s,baz=203,slow=5.8,SNR=6.0
FWV Forest Hill 144.26 1 *e*PKPdf PKPdf 11 14 39.5 -5.6
LTX Lajitas 144.56 37 *e*PKP PKPdf 11 14 42.3 -3.6
TXAR Lajitas Array 144.56 37 PKP PKPdf 11 14 42.1 -3.9
comp=Z,27nm,0.6s,baz=267,slow=1.1,SNR=135
TXAR pPKP 11 14 50.9
comp=Z,38nm,0.7s,baz=265,slow=1.5,SNR=20
GLAT Glass 144.56 13 *e*PKPdf PKPdf 11 14 41.4 -4.3
ELN Prospectdale 144.61 1 *e*PKPdf PKPdf 11 14 40.4 -5.4
BLA Blacksburg 144.63 0 *e*PKPdf PKPdf 11 14 40.9 -4.9
HALT Halls 144.89 13 *e*PKP PKPdf 11 14 42.1 -4.3
HBAR Harrisburg 144.91 15 *e*PKP PKPdf 11 14 42.5 -3.9
MIAR Mount Ida 144.99 19 *e*PKP PKPdf 11 14 42.3 -4.2
WVT Waverly 144.99 11 *e*PKP PKPdf 11 14 41.8 -4.7
CFAA Coronel Fontan 145.01 198 PKP PKPdf 11 14 42.8 -3.9
comp=Z,4.6nm,0.7s,baz=166,slow=2.9,SNR=50
TZTN Tazewell 145.16 5 *e*PKP PKPdf 11 14 42.5 -4.3
TZTN *e* 11 14 51.2
UALR University of 145.17 18 *e*PKP PKPdf 11 14 42.6 -4.3
UALR *e* 11 14 51.5
JCT Junction City 145.84 31 *e*PKP PKPdf 11 14 45.7 -2.5
JCT *e* 11 14 54.5
PLAL Pickwick Lake 146.05 12 *e*PKPdf PKPdf 11 14 44.9 -3.5
CPCT Cooper Cave 146.15 6 *e*PKP PKPdf 11 14 45.6 -2.9
SWET Sewanee 146.20 8 *e*PKPdf PKPdf 11 14 45.1 -3.5
OXF Oxford 146.21 14 *e*PKP PKPdf 11 14 45.5 -3.2
NATX Nacogdoches 147.10 23 *e*PKPbc PKPdf 11 14 49.0 -1.2
JSC Jenkinsville 147.54 2 *e*PKPbc PKPdf 11 14 49.9 -0.9
LRAL Lakeview Retre 148.15 11 *e*PKPbc PKPdf 11 14 51.0 -0.9
GOGA Godfrey 148.28 5 *e*PKPbc PKPdf 11 14 51.9 -0.2
COW Cow Castle Cre 148.45 1 *e*PKPbc PKPdf 11 14 52.7 +0.3
LVC Limon Verde 153.47 204 PKPbc PKPdf 11 15 05.3 +5.1
comp=Z,8.4nm,0.7s,baz=229,slow=0.6,SNR=14
LVC pPKPbc 11 15 14.6
comp=Z,8.5nm,0.7s,baz=319,slow=0.5,SNR=6.3
LVC Limon Verde 153.47 204 PKPbc PKPdf 11 15 05.3 +5.1
LVC pPKPbc 11 15 14.6
SIV San Ignacio 154.21 226 PKP PKPdf 11 14 59.1 -2.2
comp=Z,1.1nm,0.7s,baz=127,slow=7.1,SNR=4.4
SIV PKPbc PKPdf 11 15 06.1 +4.8
comp=Z,3.9nm,0.6s,baz=106,slow=4.4,SNR=14
LPAZ La Paz 158.54 213 PKP PKPdf 11 15 04.9 -2.1
comp=Z,1.3nm,0.7s,baz=185,slow=8.8,SNR=4.7

IDC ***10*** *10:58:06.0±0.7, 1.64S×99.77E, h20km±4km, mb4.4/13, mb1 4.5/14, mb1mx4.3/22, mbtmp4.5/14, ML4.3/1, Error ellipse: s-maj=25.1km s-min=13.1km az=61.0*
MOS ***10*** *10:58:05.8±0.9, 1.57S×99.76E, h33km, mb4.9/4, Error ellipse: s-maj=32.0km s-min=15.9km az=119.1*
NEIC ***10*** *10:58:07.3±0.4, 1.64S×99.78E, h30km, mb4.7/4, Error ellipse: s-maj=17.9km s-min=8.1km az=56.0*
ISC 10 10:58:05.1±0.6, 1.6S±0.1×99.8E±0.1, h30km, n32, σ0:94/26, mb4.6/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**					P	P	**11 02 38.0**	**+0.1**
	0.4nm,0.3s,baz=189,slow=10,SNR=3.5								
FITZ	**Fitzroy Crossi**					P	P	**11 04 14.3**	**-1.3**
	27nm,1.0s,mb4.9,baz=336,slow=1.7,SNR=3.1								
WRA	**Warramunga Arr**					P	P	**11 05 26.4**	**+0.7**
	10nm,0.6s,mb4.8,baz=298,slow=9.2,SNR=7.0								
WRAB	**Tennant Creek**					P	P	**11 05 25.5**	**-0.3**
WRAB						pmax	pmax		
	comp=Z,18nm,0.6s,mb5.0								
WRAB	**Tennant Creek**					P	P	**11 05 25.5**	**-0.3**
	comp=Z,18nm,0.6s,mb5.0								
ASAR	**Alice Springs**					P	P	**11 05 35.3**	**-1.1**
	comp=Z,6.2nm,0.8s,mb4.4,baz=307,slow=9.0,SNR=3.5								
CTA	**Charters Tower**					P	P	**11 06 52.2**	**+1.0**
	comp=Z,4.9nm,0.7s,mb4.7,baz=277,slow=11,SNR=3.5								
CTA	**Charters Tower**					P	P	**11 06 52.2**	**+1.0**
CTAO	**Charters Tower**					P	P	**11 06 51.7**	**+0.5**
CTAO						pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7								
CTAO	**Charters Tower**					P	P	**11 06 51.7**	**+0.6**
	comp=Z,5.2nm,0.7s,mb4.7								
STKA	**Stephens Creek**					P	P	**11 06 56.5**	**+0.8**

comp=Z,9.9nm,0.7s,mb4.9,baz=345,slow=5.2,SNR=3.6
STKA Stephens Creek 49.57 132 *eP* **P 11 06 57.0 +1.3**
SONM Songino Array 49.57 6 P **P 11 06 55.8 +0.2**
comp=Z,1.6nm,0.6s,mb4.2,baz=191,slow=7.3,SNR=2.4
MKAR Makanchi Array 50.59 344 P **P 11 07 01.9 -1.4**
comp=Z,5.1nm,0.6s,mb4.6,baz=153,slow=13,SNR=6.4
KURK Kurchatov 55.17 344 P **P 11 07 37.7 +0.3**
KURK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KURK Kurchatov 55.17 344 P **P 11 07 37.7 +0.3**
comp=Z,4.9nm,0.6s,mb4.7
ZAL Zalesovo 56.74 349 P **P 11 07 49.2 +0.6**
comp=Z,10nm,0.4s,mb5.2,baz=319,slow=4.2,SNR=9.0
ZAL pP pP 11 07 55.2 -2.6
comp=Z,11nm,0.5s,baz=322,slow=4.7,SNR=8.4
ZAL Zalesovo 56.74 349 P **P 11 07 49.2 +0.6**
ZAL pP pP 11 07 55.2 -2.6
BVAR Borovoye Array 59.74 340 P **P 11 08 08.4 -1.2**
comp=Z,3.7nm,0.7s,mb4.6,baz=140,slow=8.7,SNR=5.4
BVAR Borovoye Array 59.74 340 P **P 11 08 08.4 -1.2**
CHKZ Chkalovo 60.20 340 *eP* **P 11 08 12.0 -0.7**
CHKZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
CHKZ Chkalovo 60.20 340 *eP* **P 11 08 12.0 -0.7**
comp=Z,4.1nm,0.6s,mb4.6
MAW Mawson 70.61 194 P **P 11 09 19.7 +0.3**
comp=Z,7.7nm,0.9s,mb4.6,baz=310,slow=5.6,SNR=2.9
MATP Matopo 71.91 249 P **P 11 09 27.3 -0.8**
comp=Z,2.2nm,0.6s,mb4.3,baz=92,slow=4.8,SNR=4.0
AKASG Malin Array Be 79.04 322 P **P 11 10 10.3 +2.2**
comp=Z,0.8nm,0.3s,mb4.1,baz=131,slow=12,SNR=5.4
FINES FINESS Array B 83.67 332 P **P 11 10 32.9 +0.8**
comp=Z,0.7nm,0.4s,mb4.1,baz=110,slow=6.1,SNR=3.5
TXAR Lajitas Array 144.52 37 PKP PKPdf 11 17 41.7 -2.8
comp=Z,9.5nm,0.6s,baz=193,slow=1.0,SNR=13
TXAR pPKP 11 17 48.2
comp=Z,4.3nm,0.5s,baz=270,slow=0.5,SNR=8.7
TXAR Lajitas Array 144.52 37 PKP PKPdf 11 17 41.7 -2.8
TXAR pPKP 11 17 48.2
WVT Waverly 144.93 11 *e*PKP PKPdf 11 17 41.1 -3.9
WVT *e* 11 17 48.1
CFAA Coronel Fontan 145.07 198 PKPbc PKPbc 11 17 42.2 +1.7
comp=Z,1.8nm,0.6s,baz=169,slow=3.1,SNR=9.3
CFAA pPKPbc 11 17 47.8
comp=Z,1.1nm,0.6s,baz=140,slow=1.2,SNR=7.3
TZTN Tazewell 145.10 5 *e*PKP PKPdf 11 17 41.7 -3.6
TZTN *e* 11 17 47.5
JCT Junction City 145.80 31 *e*PKP PKPdf 11 17 45.0 -1.6
JCT *e* 11 17 51.1

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*IDC **10** 11:01:41.8±0.6, 1.64S×99.63E, mb4.4/13, mb1 4.5/14, mb1mx4.3/21, mbtmp4.3/14, ML4.4/1, Error ellipse: s-maj=26.7km s-min=15.6km az=52.0*
*NEIC **10** 11:01:46.3±0.3, 1.59S×99.70E, h30km, mb4.4/4, Error ellipse: s-maj=12.8km s-min=6.5km az=66.0*
ISC 10 11:01:45.0±0.5, 1.53S±0.08×99.7E±0.1, h33km, n25, σ0°81/23, mb4.3/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.84**	**8**	*eP*	**P**	**11 03 25.8**	**+0.3**
CM31	**Chiang Mai Arr**	**19.88**	**358**	*eP*	**P**	**11 06 15.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**19.88**	**358**	P	**P**	**11 06 14.7**	**-1.7**
	0.4nm,0.3s,baz=187,slow=10.0,SNR=8.8						
LSA	**Lhasa**	**32.12**	**346**	P	**P**	**11 08 11.6**	**-0.1**
NWAO	**Narrogin (SRO)**	**35.30**	**154**	*eP*	**P**	**11 08 38.6**	**-0.5**
	1.5nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**38.47**	**121**	P	**P**	**11 09 05.5**	**-0.3**
	5.9nm,0.8s,mb4.4,baz=302,slow=9.1,SNR=7.1						
WRAB	**Tennant Creek**	**38.47**	**121**	*eP*	**P**	**11 09 05.8**	**-0.1**
	20nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**39.75**	**126**	P	**P**	**11 09 16.9**	**+0.4**
	2.1nm,0.6s,mb4.0,baz=297,slow=7.6,SNR=6.1						
SONM	**Songino Array**	**49.51**	**6**	P	**P**	**11 10 35.5**	**+1.1**
	1.0nm,0.5s,mb4.1,baz=190,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**49.66**	**132**	P	**P**	**11 10 35.2**	**-0.6**
	3.8nm,0.6s,mb4.6,baz=298,slow=8.9,SNR=4.7						
STKA	**Stephens Creek**	**49.66**	**132**	*eP*	**P**	**11 10 34.9**	**-0.9**
MKAR	**Makanchi Array**	**50.51**	**345**	P	**P**	**11 10 42.3**	**+0.3**
	2.1nm,0.3s,mb4.5,baz=154,slow=9.0,SNR=16						
KURK	**Kurchatov**	**55.08**	**344**	*eP*	**P**	**11 11 16.1**	**+0.1**
	2.4nm,0.7s,mb4.3						
ZAL	**Zalesovo**	**56.65**	**349**	P	**P**	**11 11 27.8**	**+0.5**
	5.9nm,0.4s,mb5.0,baz=313,slow=3.3,SNR=14						
CHKZ	**Chkalovo**	**60.11**	**340**	*eP*	**P**	**11 11 50.6**	**-0.9**
	2.0nm,0.6s,mb4.3						
KMBO	**Kilima Mbogo**	**62.45**	**270**	P	**P**	**11 12 07.5**	**-0.3**
	0.6nm,0.3s,mb4.2,baz=59,slow=14,SNR=5.2						
MATP	**Matopo**	**71.88**	**249**	P	**P**	**11 13 06.9**	**-0.2**
	2.8nm,0.7s,mb4.3,baz=80,slow=5.2,SNR=8.5						
BRTR	**Keskin Array B**	**72.80**	**312**	P	**P**	**11 13 11.6**	**-0.8**
	0.5nm,0.6s,mb3.6,baz=133,slow=6.7,SNR=4.3						
RPZ	**Rata Peaks**	**75.50**	**135**	P	**P**	**11 13 28.7**	**+0.8**
	7.8nm,0.8s,mb4.7,baz=200,slow=3.5,SNR=5.6						
MLR	**Muntele Rosu**	**79.77**	**317**	P	**P**	**11 13 52.6**	**+1.0**
	2.6nm,0.6s,mb4.3,baz=173,slow=4.5,SNR=4.1						
FINES	**FINESS Array B**	**83.57**	**332**	P	**P**	**11 14 10.9**	**0.0**
	0.6nm,0.4s,mb4.1,baz=108,slow=5.2,SNR=6.7						
ARCES	**ARCESS Array B**	**85.94**	**340**	P	**P**	**11 14 25.2**	**+2.6**
	2.0nm,0.7s,mb4.5,baz=76,slow=5.0,SNR=4.3						
ARCES	**ARCESS Array B**	**85.94**	**340**	P	**P**	**11 14 25.2**	**+2.6**
TXAR	**Lajitas Array**	**144.50**	**37**	PKP	PKPdf	11 21 20.6	+1.9
	2.2nm,0.5s,baz=210,slow=0.4,SNR=22						
CFAA	**Coronel Fontan**	**145.12**	**198**	PKP	PKPdf	11 21 21.1	+1.3
	1.5nm,0.6s,baz=162,slow=2.7,SNR=12						

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*BJI **10** 11:07:44.5, 4.12N×94.98E, h45km, mb4.7*
*NEIC **10** 11:07:47.4±0.4, 4.36N×94.74E, h30km, mb4.5/11, Error ellipse: s-maj=12.2km s-min=7.1km az=52.0*
*IDC **10** 11:07:50.9±0.9, 4.61N×95.02E, h54km±7km, mb4.0/14, mb1 4.1/14, mb1mx3.9/24, mbtmp4.3/14, Error ellipse: s-maj=37.4km s-min=13.8km az=51.0*
ISC 10 11:07:45.9±0.6, 4.39N±0.08×94.92E±0.07, h30km, (h48km±2.7km: pP-P), n44, σ1°08/43, mb4.4/26, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.78**	**81**	*eP*	**Pn**	**11 09 13.0**	**+1.0**
KULM				*eS*	**Sn**	**11 10 15.4**	**-2.6**
CM31	**Chiang Mai Arr**	**14.52**	**15**	P	**P**	**11 11 13.4**	**+1.9**
	4.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**14.52**	**15**	P	**P**	**11 11 13.9**	**+2.4**
	0.7nm,0.3s,baz=207,slow=11,SNR=31						
JIRN	**Jiri**	**24.59**	**341**	*eP*	**P**	**11 13 04.9**	**0.0**
	14nm,0.5s,mb4.7						
GYA	**Guiyang**	**24.65**	**26**	P	**P**	**11 13 05.4**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
PKI	**Pulchoki**	**24.77**	**340**	*eP*	**P**	**11 13 07.2**	**+0.6**
	comp=Z,15nm,0.6s,mb4.7						
DMN	**Daman**	**24.91**	**339**	*eP*	**P**	**11 13 07.6**	**-0.4**
	comp=Z,15nm,0.8s,mb4.5						
GUN	**Gumba**	**24.92**	**341**	*eP*	**P**	**11 13 08.1**	**0.0**
	comp=Z,15nm,0.6s,mb4.7						
KKN	**Kakani**	**25.01**	**339**	*eP*	**P**	**11 13 08.3**	**-0.6**
	comp=Z,12nm,0.6s,mb4.6						
LSA	**Lhasa**	**25.42**	**352**	*eP*	**P**	**11 13 12.4**	**-0.3**
	comp=Z,7.4nm,0.5s,mb4.5						
GKN	**Gorkha**	**25.44**	**338**	*eP*	**P**	**11 13 12.1**	**-0.8**
	comp=Z,15nm,0.6s,mb4.7						
KOLN	**Koldanda**	**25.63**	**336**	*eP*	**P**	**11 13 14.6**	**-0.1**
	comp=Z,19nm,0.6s,mb4.8						
ENH	**Enshi**	**29.19**	**27**	P	**P**	**11 13 43.6**	**-3.5**
	comp=Z,5.1nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**37.65**	**127**	P	**P**	**11 15 00.3**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.2,baz=339,slow=8.6,SNR=4.1						
TIA	**Tai'an**	**37.69**	**30**	*eP*	**P**	**11 14 59.0**	**-1.5**
ULHL	**Ulaho**I	**41.20**	**339**	P	**P**	**11 15 30.8**	**+1.2**
	SNR=5.2						
UCH	**Uchtor**	**41.84**	**337**	P	**P**	**11 15 35.7**	**+0.8**
	SNR=9.1						
TKM2	**Tokmak 2**	**42.03**	**339**	P	**P**	**11 15 37.6**	**+1.2**
	SNR=6.3						
KBK	**Karagaybulak**	**42.04**	**338**	P	**P**	**11 15 37.9**	**+1.4**
	SNR=10.0						
AML	**Almayashu**	**42.08**	**336**	P	**P**	**11 15 38.1**	**+1.2**
	SNR=13						
AAK	**Ala-Archa**	**42.19**	**337**	P	**P**	**11 15 40.3**	**+2.5**
	SNR=8.0						
EKS2	**Erkin-Say**	**42.49**	**337**	P	**P**	**11 15 40.5**	**+0.3**
	SNR=9.9						
USP	**Ospenovka**	**42.73**	**338**	P	**P**	**11 15 42.7**	**+0.6**
	SNR=6.7						
MKAR	**Makanchi Array**	**43.63**	**347**	P	**P**	**11 15 48.5**	**-0.9**
	comp=Z,7.4nm,0.6s,mb4.6,baz=169,slow=7.9,SNR=38						
MKAR	**Makanchi Array**	**43.63**	**347**	P	**P**	**11 15 48.5**	**-1.0**
SONM	**Songino Array**	**44.39**	**11**	P	**P**	**11 15 54.6**	**-1.0**
	comp=Z,1.6nm,0.7s,mb3.9,baz=194,slow=8.3,SNR=5.3						
SONM				PcP	PcP	11 17 39.2	-0.4
	comp=Z,1.2nm,0.5s,baz=199,slow=4.8,SNR=3.9						
WRA	**Warramunga Arr**	**45.67**	**123**	P	**P**	**11 16 06.9**	**+0.7**
	comp=Z,3.1nm,0.6s,mb4.4,baz=301,slow=9.2,SNR=12						
WRAB	**Tennant Creek**	**45.67**	**123**	*eP*	**P**	**11 16 06.9**	**+0.8**
	comp=Z,12nm,0.6s,mb5.0						
ASAR	**Alice Springs**	**47.14**	**128**	P	**P**	**11 16 18.6**	**+0.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=299,slow=8.0,SNR=9.1						
KURK	**Kurchatov**	**48.15**	**346**	*eP*	**P**	**11 16 24.4**	**-0.9**
	comp=Z,4.7nm,0.7s,mb4.6						
ZAL	**Zalesovo**	**50.08**	**352**	P	**P**	**11 16 39.3**	**-0.7**
	comp=Z,4.4nm,0.6s,mb4.7,baz=307,slow=6.4,SNR=12						
BVAR	**Borovoye Array**	**52.51**	**342**	P	**P**	**11 16 57.3**	**-1.2**
	comp=Z,5.0nm,0.7s,mb4.6,baz=141,slow=9.5,SNR=15						
CHKZ	**Chkalovo**	**53.00**	**342**	*eP*	**P**	**11 17 00.9**	**-1.2**
BRTR	**Keskin Array B**	**65.29**	**312**	P	**P**	**11 18 26.8**	**-0.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=133,slow=7.0,SNR=4.2						
BRTR				pP	pP	11 18 42.5	+5.7
	comp=Z,1.2nm,0.8s,baz=121,slow=7.2,SNR=3.5						
AKASG	**Malin Array Be**	**71.35**	**322**	P	**P**	**11 19 03.5**	**-1.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=87,slow=5.3,SNR=8.9						
MLR	**Muntele Rosu**	**72.20**	**316**	P	**P**	**11 19 08.8**	**-1.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=132,slow=6.8,SNR=3.1						
MLR	**Muntele Rosu**	**72.20**	**316**	P	**P**	**11 19 08.8**	**-1.3**
FINES	**FINESS Array B**	**76.13**	**333**	P	**P**	**11 19 31.7**	**-0.9**
	comp=Z,1.6nm,0.6s,mb4.2,baz=101,slow=6.1,SNR=14						
FINES	**FINESS Array B**	**76.13**	**333**	P	**P**	**11 19 31.7**	**-0.9**
ARCES	**ARCESS Array B**	**78.78**	**340**	P	**P**	**11 19 46.7**	**-0.3**
	comp=Z,2.7nm,0.9s,mb4.2,baz=97,slow=6.6,SNR=6.2						
GERES	**GERESS Array B**	**80.93**	**319**	P	**P**	**11 20 00.0**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=10.0						
GERES				pP	pP	11 20 15.0	+6.5
	comp=Z,1.7nm,0.8s,baz=90,slow=5.3,SNR=7.6						
HFS	**Hagfors**	**81.83**	**330**	P	**P**	**11 20 02.8**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=90,slow=5.9,SNR=8.3						
HFS				pP	pP	11 20 18.0	+5.0
	comp=Z,1.3nm,0.5s,baz=117,slow=6.6,SNR=1.9						
TXAR	**Lajitas Array**	**142.01**	**27**	pPKP		11 27 33.4	
	comp=Z,0.9nm,0.5s,baz=209,slow=0.8,SNR=15						
CFAA	**Coronel Fontan**	**148.65**	**208**	PKPbc	PKPdf	11 27 34.4	+2.3
	comp=Z,0.4nm,0.6s,baz=154,slow=2.6,SNR=7.3						

IDC 10 11:11:56.4±1.5, 1.66S×99.75E, mb3.8/5, mb1 4.1/5, mb1mx3.7/17, mbtmp3.9/5, Error ellipse: s-maj=67.3km s-min=25.6km az=65.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.00**	**358**	P	P	11 16 30.0	-3.7
	1.4nm,0.8s,baz=189,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**38.38**	**121**	P	P	11 19 19.9	-1.4
	1.5nm,0.9s,baz=298,slow=9.3,SNR=5.3						
SONM	**Songino Array**	**49.63**	**6**	P	P	11 20 49.3	-2.4
	0.5nm,0.5s,baz=198,slow=9.1,SNR=2.8						
MKAR	**Makanchi Array**	**50.63**	**345**	P	P	11 20 58.0	-1.4
	0.8nm,0.5s,baz=154,slow=8.1,SNR=5.9						
ZAL	**Zalesovo**	**56.78**	**349**	P	P	11 21 42.4	-2.2
	1.4nm,0.4s,baz=299,slow=3.6,SNR=4.9						
TXAR	**Lajitas Array**	**144.58**	**37**	PKP	PKPdf	11 31 34.2	-3.3
	0.5nm,0.7s,baz=248,slow=1.2,SNR=4.3						
CFAA	**Coronel Fontan**	**145.01**	**198**	PKPbc	PKPbc	11 31 34.6	-1.9
	0.1nm,0.4s,baz=190,slow=2.7,SNR=4.6						

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*IDC **10** 11:12:22.4±0.8, 1.38S×99.83E, mb4.2/8, mb1 4.3/9, mb1mx4.0/20, mbtmp4.1/9, ML4.2/1, Error ellipse: s-maj=36.6km s-min=17.1km az=54.0*
*NEIC **10** 11:12:26.9±0.5, 1.36S×99.87E, h30km, mb4.4/2, Error ellipse: s-maj=23.8km s-min=10.0km az=56.0*
ISC 10 11:12:25.5±0.8, 1.2S±0.1×100.0E±0.2, h33km, n16, σ0°75/11, mb4.2/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.59**	**357**	P	**P**	**11 16 53.3**	**-0.5**
	0.3nm,0.3s,baz=187,slow=7.3,SNR=3.4						
FITZ	**Fitzroy Crossi**	**30.29**	**125**	P	**P**	**11 18 35.7**	**-0.4**
	5.6nm,0.8s,mb4.3,baz=261,slow=5.6,SNR=3.5						
WRA	**Warramunga Arr**	**38.43**	**121**	P	**P**	**11 19 46.0**	**0.0**
	3.6nm,0.8s,mb4.2,baz=297,slow=9.3,SNR=7.8						
WRAB	**Tennant Creek**	**38.43**	**121**	*eP*	**P**	**11 19 45.7**	**-0.3**
	7.0nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**39.74**	**127**	P	**P**	**11 19 57.5**	**+0.6**
	2.2nm,0.8s,mb3.9,baz=299,slow=7.9,SNR=6.6						
STKA	**Stephens Creek**	**49.70**	**132**	P	**P**	**11 21 16.7**	**+0.1**
	1.6nm,0.7s,mb4.2,baz=300,slow=7.7,SNR=4.9						
MKAR	**Makanchi Array**	**50.28**	**344**	P	**P**	**11 21 23.1**	**+2.3**
	2.2nm,0.8s,mb4.3,baz=153,slow=8.1,SNR=5.7						
ZAL	**Zalesovo**	**56.40**	**349**	P	**P**	**11 22 05.9**	**-0.1**
	1.7nm,0.4s,mb4.5,baz=324,slow=6.3,SNR=3.8						
BVAR	**Borovoye Array**	**59.45**	**340**	P	**P**	**11 22 26.4**	**-1.1**
	1.1nm,0.6s,mb4.1,baz=150,slow=12,SNR=3.7						
CHKZ	**Chkalovo**	**59.91**	**340**	P	**P**	**11 22 30.7**	**+0.1**
	1.7nm,0.9s,mb4.1						
MATP	**Matopo**	**72.20**	**249**	P	**P**	**11 23 49.3**	**-0.2**
	1.1nm,0.7s,mb3.9,baz=131,slow=9.3,SNR=4.1						
TXAR	**Lajitas Array**	**144.13**	**37**	PKP	PKPdf	11 32 01.1	+2.6
	1.3nm,0.6s,baz=247,slow=0.9,SNR=8.5						
MIAR	**Mount Ida**	**144.53**	**19**	*e*PKP	PKPdf	11 32 01.1	+1.9
JCT	**Junction City**	**145.40**	**31**	*e*PKP	PKPdf	11 32 04.3	+3.6
CFAA	**Coronel Fontan**	**145.47**	**198**	PKPbc	PKPbc	11 32 01.3	-0.2
	0.5nm,0.6s,baz=206,slow=5.5,SNR=6.4						
CFAA	**Coronel Fontan**	**145.47**	**198**	PKPbc	PKPbc	11 32 01.3	-0.2

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*IDC **10** 11:13:52.8±0.6, 1.58S×99.52E, mb4.1/14, mb1 4.2/15, mb1mx4.1/20, mbtmp4.1/15, ML4.2/1, Error ellipse: s-maj=26.2km s-min=15.5km az=53.0*
*NEIC **10** 11:13:57.1±0.4, 1.60S×99.57E, h30km, mb4.5/3, Error ellipse: s-maj=17.0km s-min=9.2km az=55.0*
ISC 10 11:13:55.8±0.6, 1.5S±0.1×99.6E±0.1, h33km, n28, σ0°93/22, mb4.2/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**19.88**	**358**	P	**P**	**11 18 21.6**	**-5.7**
CMAR	**Chiang Mai Arr**	**19.88**	**358**	P	**P**	**11 18 28.2**	**+1.0**
	0.3nm,0.3s,baz=187,slow=10,SNR=6.2						
GQP	**Guinayangan**	**27.36**	**55**	*eP*	**P**	**11 19 48.0**	**+7.7**
WRA	**Warramunga Arr**	**38.58**	**121**	P	**P**	**11 21 17.3**	**-0.3**
	2.0nm,0.4s,mb4.2,baz=302,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	**38.59**	**121**	*eP*	**P**	**11 21 16.6**	**-1.1**
	6.4nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**39.85**	**126**	P	**P**	**11 21 28.5**	**+0.4**
	1.0nm,0.5s,mb3.8,baz=296,slow=7.4,SNR=13						
SONM	**Songino Array**	**49.52**	**6**	P	**P**	**11 22 46.2**	**+0.8**
	0.4nm,0.4s,mb3.8,baz=189,slow=9.5,SNR=2.8						
STKA	**Stephens Creek**	**49.76**	**132**	P	**P**	**11 22 48.0**	**+0.6**
	1.4nm,0.5s,mb4.3,baz=324,slow=6.5,SNR=4.7						
STKA	**Stephens Creek**	**49.76**	**132**	*eP*	**P**	**11 22 48.1**	**+0.6**
MKAR	**Makanchi Array**	**50.47**	**345**	P	**P**	**11 22 52.8**	**+0.1**
	0.9nm,0.4s,mb4.2,baz=155,slow=10,SNR=8.4						
KURK	**Kurchatov**	**55.05**	**344**	P	**P**	**11 23 25.9**	**-0.8**
	2.7nm,0.7s,mb4.4						
ZAL	**Zalesovo**	**56.63**	**350**	P	**P**	**11 23 38.0**	**0.0**
	2.5nm,0.4s,mb4.6,baz=319,slow=1.7,SNR=7.2						
ZAL	**Zalesovo**	**56.63**	**350**	P	**P**	**11 23 38.0**	**0.0**
BVAR	**Borovoye Array**	**59.61**	**340**	P	**P**	**11 23 57.5**	**-1.3**
	0.8nm,0.5s,mb4.0,baz=141,slow=9.2,SNR=3.4						
CHKZ	**Chkalovo**	**60.07**	**341**	*eP*	**P**	**11 24 00.7**	**-1.4**
	5.6nm,1.1s,mb4.5						
KMBO	**Kilima Mbogo**	**62.32**	**270**	P	**P**	**11 24 18.3**	**+0.6**
	0.9nm,0.3s,mb4.3,baz=46,slow=10,SNR=6.1						
MATP	**Matopo**	**71.76**	**249**	P	**P**	**11 25 17.4**	**+0.2**
	1.9nm,0.6s,mb4.2,baz=119,slow=4.8,SNR=5.5						
BRTR	**Keskin Array B**	**72.71**	**312**	P	**P**	**11 25 21.5**	**-1.1**
	0.9nm,0.6s,mb3.9,baz=126,slow=6.6,SNR=6.0						
AKASG	**Malin Array Be**	**78.87**	**322**	P	**P**	**11 25 56.5**	**-0.8**
	0.3nm,0.4s,mb3.6,baz=87,slow=4.7,SNR=4.0						
FINES	**FINESS Array B**	**83.51**	**332**	P	**P**	**11 26 21.9**	**+0.5**
	1.1nm,0.5s,mb4.3,baz=100,slow=5.0,SNR=11						
ARCES	**ARCESS Array B**	**85.90**	**340**	P	**P**	**11 26 36.0**	**+2.8**
	3.0nm,0.9s,mb4.5,baz=72,slow=3.8,SNR=4.7						
GERES	**GERESS Array B**	**88.43**	**319**	P	**P**	**11 26 47.0**	**+1.1**
	0.5nm,0.8s,mb3.8,baz=90,slow=2.7,SNR=3.6						
TXAR	**Lajitas Array**	**144.58**	**37**	PKP	PKPdf	11 33 31.4	+1.7
	2.7nm,0.6s,baz=208,slow=0.8,SNR=22						
TXAR	**Lajitas Array**	**144.58**	**37**	PKP	PKPdf	11 33 31.4	+1.7
WVT	**Waverly**	**144.90**	**10**	PKP	PKPdf	11 33 30.4	+0.3
MIAR	**Mount Ida**	**144.93**	**19**	*e*PKP	PKPdf	11 33 31.5	+1.3
CFAA	**Coronel Fontan**	**145.08**	**198**	PKPbc	PKPbc	11 33 31.9	+1.2
	1.5nm,0.6s,baz=159,slow=3.1,SNR=18						
CPCT	**Cooper Cave**	**146.04**	**6**	*e*PKP	PKPdf	11 33 34.3	+2.3

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*DJA **10** 11:14:10.0±1.8, 2.55S×98.69E, h61km±5km, mb5.9/3, Error ellipse: s-maj=71.6km s-min=7.7km az=59.0*
*IDC **10** 11:14:15.1±0.3, 1.66S×99.75E, mb5.8/38, mb1 5.9/38, mb1mx5.9/38, mbtmp5.8/38, MS6.2/23, Ms1 6.2/23, ms1mx6.0/36, Error ellipse: s-maj=11.4km s-min=9.6km az=44.0*
*BJI **10** 11:14:17.2, 2.16S×99.67E, h53km, mB6.8, mb5.7, Ms6.9, Msz6.7*
*CRAAG **10** 11:14:18.4, 0.93S×99.74E, Mb6.3*
*MOS **10** 11:14:18.7±1.1, 1.61S×99.83E, h33km, mb6.4/68, MS6.3/29, Error ellipse: s-maj=7.9km s-min=3.9km az=121.3*
*HRVD **10** 11:14:19.6±0.1, 1.77S×99.64E, h15km, MW6.5/77, Centroid moment Tensor Solution. LP body waves: s74,c161;Mantle waves: s77,c333; Half duration: 4s2 Moment tensor: Scale 10^18Nm; M_{rr}6.03±.05; $M_{\theta\theta}$-6.87±.04; $M_{\phi\phi}$0.83±.05; $M_{r\theta}$-0.36±.16; $M_{\theta\phi}$1.64±.04; $M_{\phi r}$1.12±.17; Best double couple: $M_0$6.746×10^18 NP1: ϕ_s90°, δ44°, λ73°. NP2:ϕ_s293°, δ49°, λ105°. Principal axes: T 6.261, Plg78°, Azm269°; N .967, Plg11°, Azm102°; P -7.23, Plg3°, Azm12°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=125s.*
*NEIC **10** 11:14:19.6±0.1, 1.71S×99.78E, h30km, mb6.2/122, MS6.3/11 Error ellipse: s-maj=4.5km s-min=2.6km az=220.0*
NEIC Felt [III] at Padang, Sumatra and in Singapore. Felt [II] at Kuala Lumpur, Malaysia.
*BGS **10** 11:14:20.0, 1.71S×99.78E, h30km, mb6.3*
ISC 10 11:14:18.5±0.1, 1.69S±0.02×99.72E±0.02, h33km, h33km±.7km: pP-P, n1021, σ1°04/811, mb6.1/194, MS6.4/67, 121C-31D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**3.47**	**124**	*e*Pn	**Pn**	**11 15 10.0**	**-1.6**
PSI	**Prapat**	**4.42**	**350**	*e*Pn	**Pn**	**11 15 26.8**	**+1.6**
KGM	**Kluang**	**5.14**	**44**	P	**Pn**	**11 15 37.7**	**+2.4**
IPM	**Ipoh**	**6.36**	**12**	P	**Pn**	**11 15 54.4**	**+1.9**
PENI	**Pendagan**	**6.66**	**125**	||*i*Pn	**Pn**	**11 15 53.9**	**-2.9**
KULM	**Kulim**	**6.99**	**8**	||*e*P	**Pn**	**11 16 00.9**	**-0.5**
PASI	**Pasiripis**	**7.67**	**131**	*e*Pn	**Pn**	**11 16 06.7**	**-4.3**
PULI	**Pulasari**	**7.77**	**127**	||*e*Pn	**Pn**	**11 16 08.8**	**-3.4**
SINI	**Singah**	**9.39**	**125**	||*e*Pn	**P**	**11 16 30.3**	**-4.4**
KSM	**Kuching**	**11.04**	**74**	*e*P	**P**	**11 16 56.5**	**-1.0**
PBA	**Port Blair**	**14.96**	**333**	*e*P	**P**	**11 17 48.2**	**-1.4**
PBA				*e*		11 22 08.1	
SRDI	**Scrawed**	**15.86**	**116**	||*e*P	**P**	**11 17 57.5**	**-3.8**
SRDI				pmax	pmax		
	comp=Z,1μm,0.3s						
SRDI	**Scrawed**	**15.86**	**116**	||*e*P	**P**	**11 17 57.5**	**-3.8**
	comp=Z,2μm,0.3s						
KELI	**Kelakatan**	**16.07**	**114**	||*e*P	**P**	**11 18 03.1**	**-0.9**
RATI	**Rata**	**17.22**	**115**	||*e*P	**P**	**11 18 15.3**	**-3.1**
	comp=Z,3μm,0.3s						
UBT	**Ubonrachathani**	**17.62**	**17**	P	**P**	**11 18 23.5**	**+0.1**
KEDI	**Kedomdong**	**17.66**	**113**	||*e*P	**P**	**11 18 20.5**	**-3.4**
KEDI				pmax	pmax		
	comp=Z,1μm,0.9s						
KEDI	**

KMI S **S** **11 24 33.5 +3.4**
KMI sS 11 24 49.1
KMI SS SS 11 25 49.3 +6.0
KMI LR LR
comp=Z,92μm,14.8s,MS6.5
BOLP Bolinao 26.83 47 *e*P **P** **11 19 58.5 +0.4**
CGP Cagayan de Oro 26.86 68 *e*P **P** **11 20 01.8 +3.4**
LLP Lapu-Lapu 26.92 63⇓*e*P **P** **11 19 59.1 +0.1**
LLP *e*S **S** **11 24 39.3 +7.5**
BUKP Musuan 27.00 69 *e*P **P** **11 20 00.3 +0.5**
PCPH Palayan 27.21 50⇓*e*P **P** **11 20 01.7 0.0**
DAV Davao City (W) 27.23 71 *e*P **P** **11 20 03.5 +1.6**
POLP Polillo Island 27.38 53 *e*P **P** **11 20 05.1 +1.9**
MBWA Marble Bar 27.48 136 *e*P **P** **11 20 02.6 -1.4**
comp=Z,231nm,0.9s,mb5.7
MSLP Maasin 27.64 64 *e*P **P** **11 20 04.5 -1.1**
BALP Baler 27.69 50 *e*P **P** **11 20 05.0 -1.0**
GZH Guangzhou 27.97 28 P **P** **11 20 13.8 +5.3**
GZH LR LR
comp=N,138μm,14.6s,MS6.7
GZH LR LR
comp=E,42μm,11.8s,MS6.7
GZH LR LR
comp=Z,159μm,15.5s,MS6.7
SHL Shillong 28.14 345 *e*P **P** **11 20 08.5 -1.4**
SHL *e* 11 24 51.0
HYB Hyderabad 28.21 313 *i* P **P** **11 20 10.0 -0.7**
HYB LR LR
comp=Z,47nm,20.0s
MNCY Minicoy 28.39 291⇓*i* PP 11 21 13.0 +9.0
MNCY *i* 11 24 29.0
CNP Catarman 28.50 60 *e*P **P** **11 20 14.3 +1.0**
PVCP Virac 28.59 57 *e*P **P** **11 20 13.9 -0.2**
CAUP Cauayan 28.60 49 *e*P **P** **11 20 11.5 -2.7**
GYA Guiyang 28.77 13⇑*i*P **P** **11 20 14.3 -1.4**
GYA AP pP 11 20 27.1 +1.8
GYA S **S** **11 25 01.5 -0.1**
GYA AMB AMB
comp=Z,190nm,0.9s,mb5.8
GYA AMB AMB
comp=Z,10μm,12.6s
GYA LR LR
comp=N,100μm,17.0s,MS6.6
GYA LR LR
comp=E,107μm,19.8s,MS6.6
GYA LR LR
comp=Z,144μm,16.2s,MS6.7
LKP Lekhapani 29.07 353 *e*P **P** **11 20 18.0 -0.3**
LKP *e* 11 20 25.0
CVP Callao Caves 29.07 48⇓*e*P **P** **11 20 17.5 -1.0**
FITZ Fitzroy Crossi 30.22 124 *e*P **P** **11 20 26.8 -1.8**
comp=Z,1μm,1.0s,mb6.6
FITZ Fitzroy Crossi 30.22 124 P **P** **11 20 27.2 -1.4**
comp=Z,1μm,1.0s,mb6.6,baz=312,slow=7.4,SNR=65
SLGI Shiliguri 30.26 340 *e*P **P** **11 20 30.8 +1.9**
LATR Latur 30.31 312 *e*P **P** **11 20 28.0 -1.4**
NGP Nagpur 30.40 319 *e*P **P** **11 20 30.1 -0.1**
NGP *e* 11 20 34.2
comp=Z,479nm,1.1s
NGP *e* 11 21 20.5
GOA Goa 30.78 305⇓*e*P **P** **11 20 32.1 -1.5**
GOA *e*S **S** **11 25 34.4 +1.0**
BBP Basco 30.96 44 *e*P **P** **11 20 35.3 +0.1**
KAD Karad 31.47 308 *e*P **P** **11 20 39.5 -0.2**
KAD *e* 11 20 55.2
comp=Z,758nm,2.1s
JIRN Jiri 31.95 337 *e*P **P** **11 20 44.1 +0.3**
comp=Z,2μm,1.1s,mb6.9
QZH Quanzhou 32.18 33⇑*i*P **P** **11 20 46.5 +0.7**
QZH S **S** **11 25 58.0 +2.7**
QZH AMB AMB
comp=Z,460nm,1.0s,mb6.3
QZH LR LR
comp=N,166μm,15.2s,MS7.0
QZH LR LR
comp=E,150μm,14.3s,MS7.0
QZH LR LR
comp=Z,285μm,15.2s,MS7.1
PKI Pulchoki 32.19 336 *e*P **P** **11 20 45.9 0.0**
comp=Z,577nm,1.1s,mb6.3
PKI Pulchoki 32.19 336 *e*P **P** **11 20 45.9 0.0**
PKI pmax pmax
comp=Z,288nm,1.1s,mb6.0
LSA Lhasa 32.27 346 P **P** **11 20 46.8 +0.2**
LSA PP PP 11 22 01.8 +7.5
LSA S **S** **11 26 03.4 +6.7**
LSA XS 11 26 17.2
LSA AMB AMB
comp=Z,60nm,1.1s,mb5.3
LSA LR LR
comp=N,31μm,23.8s
LSA LR LR
comp=E,51μm,31.7s
LSA LR LR
comp=Z,58μm,29.1s
LSA Lhasa 32.27 346 *e*P **P** **11 20 47.1 +0.5**
LSA pmax pmax
comp=Z,556nm,0.9s,mb6.4
LSA MLR MLR
comp=Z,38μm,22.0s,MS6.0
LSA Lhasa 32.27 346 *e*P **P** **11 20 47.1 +0.6**
comp=Z,556nm,0.9s,mb6.4
LSA LR LR
comp=Z,38μm,22.0s,MS6.0
GUN Gumba 32.30 337 *e*P **P** **11 20 46.9 +0.1**
comp=Z,2μm,0.9s,mb6.8
DMN Daman 32.34 335 *e*P **P** **11 20 47.2 -0.1**
comp=Z,763nm,1.1s,mb6.5
POO Poona 32.42 309 *e*P **P** **11 20 49.0 +1.0**
comp=Z,250nm,1.0s,mb6.0
POO *i* 11 26 36.0
KKN Kakani 32.43 336 *e*P **P** **11 20 47.8 -0.2**
comp=Z,992nm,1.0s,mb6.6
KKN Kakani 32.43 336 *e*P **P** **11 20 47.8 -0.2**
KKN pmax pmax
comp=Z,496nm,1.0s,mb6.3
VLK Valmikinagar 32.63 333 *i* P **P** **11 20 51.0 +1.3**
VLK *i* 11 21 11.0
CD2 Chengdu 32.64 6⇑*i*P **P** **11 20 47.4 -2.4**
CD2 S **S** **11 25 58.4 -4.1**
CD2 AMB AMB
comp=Z,210nm,1.0s,mb6.0
CD2 AMB AMB
comp=Z,24μm,15.6s
CD2 LR LR
comp=E,130μm,13.2s
CD2 LR LR
comp=Z,126μm,15.6s,MS6.7
GKN Gorkha 32.89 335 *e*P **P** **11 20 51.8 -0.2**
comp=Z,2μm,1.2s,mb6.9
BHPL Bhopal 32.95 320 *e*P **P** **11 20 52.0 -0.5**
BHPL *e* 11 21 05.4
comp=Z,400nm,1.6s
ENH Enshi 33.12 16 *e*P **P** **11 20 51.0 -3.0**
comp=Z,232nm,0.6s,mb6.3
ENH LR LR
comp=Z,72μm,22.0s,MS6.3
KOLN Koldanda 33.14 333 *e*P **P** **11 20 54.1 -0.1**
comp=Z,1μm,1.1s,mb6.8
NACB Ninganchiao 33.35 38 *e*P **P** **11 20 56.6 +0.5**
YHNB Yeheng 33.58 37 *e*P **P** **11 20 58.2 +0.2**
TATO Taipei 33.88 37 *e*P **P** **11 21 00.9 +0.3**
comp=Z,804nm,1.4s,mb6.5
JHNI Jhansi 33.90 324⇓*i* **P** **11 20 57.0 -3.8**
JHNI *e* 11 22 20.0
MUN Mundaring 33.90 154⇑*i*P **P** **11 21 01.0 +0.2**
comp=Z,1μm,1.0s,mb6.8
MUN Mundaring 33.90 154⇑*i*P **P** **11 21 01.0 +0.2**
MUN pmax pmax
comp=Z,1μm,1.0s,mb6.8
KLBR Kellerberrin 34.27 152⇑*i*P **P** **11 21 03.2 -0.8**
comp=Z,8μm,1.3s
WHN Wuhan 34.95 22⇑P **P** **11 21 08.9 -0.9**
WHN LR LR
comp=Z,181μm,15.4s,MS6.9
NWAO Narrogin (SRO) 35.16 154 P **P** **11 21 11.2 -0.4**
NWAO pmax pmax
comp=Z,140nm,0.7s
NWAO Narrogin (SRO) 35.16 154 P **P** **11 21 11.1 -0.4**
comp=Z,176nm,1.0s,mb6.0,baz=325,slow=9.5,SNR=30
NWAO LR LR 11 35 47.2
comp=Z,78μm,19.5s,MS6.5,baz=329,slow=37
NWAO Narrogin (SRO) 35.16 154 *e*P **P** **11 21 10.9 -0.6**
comp=Z,136nm,0.6s,mb6.0
AGRA Agra 35.59 325 *e*P **P** **11 21 15.9 +0.7**

BHV Bhavnagar 35.62 312 *e*P **P** **11 21 15.0 -0.5**
LGTI Lohaghat 36.13 330 *e*P **P** **11 21 19.5 -0.3**
LGTI *e* 11 22 36.5
PTH Pithoragarh 36.23 331 *e*P **P** **11 21 22.0 +1.4**
XAN Xi'an 36.58 13 P **P** **11 21 21.3 -2.2**
XAN PP PP 11 22 50.1 +1.8
XAN AMB AMB
comp=Z,340nm,1.2s,mb6.0
XAN LR LR
comp=N,108μm,13.3s
XAN LR LR
comp=E,104μm,20.6s
XAN LR LR
comp=Z,151μm,14.0s,MS6.9
SONA Sohna 36.86 326 *e*P **P** **11 21 24.4 -1.5**
AYAN Aya Nagar 37.01 326 *e*P **P** **11 21 26.4 -0.7**
AJM Ajmer 37.02 321⇑*i*P **P** **11 21 25.0 -2.2**
NDI New Delhi 37.12 326 *e*P **P** **11 21 25.8 -2.3**
NDI *e* 11 26 27.0
BHGR Bahadurgarh 37.27 326 *e*P **P** **11 21 30.6 +1.2**
KHET Khetri 37.46 324 *e*P **P** **11 21 30.8 -0.2**
LZH Lanzhou 37.77 5⇑P **P** **11 21 34.4 +0.9**
LZH AP pP 11 21 42.7 -0.6
LZH S **S** **11 27 14.0 -7.6**
LZH AMB AMB
comp=Z,690nm,1.3s,mb6.2
LZH AMB AMB
comp=Z,2μm,5.0s
LZH LR LR
comp=E,108μm,15.1s
LZH LR LR
comp=Z,151μm,17.1s,MS6.9
LZH Lanzhou 37.77 5⇑P **P** **11 21 34.4 +0.9**
LZH *PP pP 11 21 42.7 -0.6
LZH *SP sP 11 21 48.2 +0.7
LZH 11 23 19.3
LZH S **S** **11 27 14.0 -7.6**
LZH *SS 11 27 34.0
LZH pmax pmax
comp=Z,690nm,1.3s,mb6.2
LZH MLR MLR
comp=Z,151μm,17.1s,MS6.9
LZH Lanzhou 37.77 5⇑P **P** **11 21 34.4 +0.9**
comp=Z,690nm,1.3s,mb6.2
LZH pP pP 11 21 42.7 -0.6
LZH sP sP 11 21 48.2 +0.7
LZH PP PP 11 23 19.3 +16
LZH S **S** **11 27 14.0 -7.6**
LZH sS 11 27 34.0
LZH SS SS 11 29 43.0 -15
LZH LR LR
comp=Z,151μm,17.1s,MS6.9
DDI Dehra Dun 37.95 329 *e*P **P** **11 21 34.6 -0.5**
DDI *e* 11 27 33.9
NJ2 Nanjing 38.14 27 *e*P **P** **11 21 35.9 -0.8**
NJ2 AP pP 11 21 45.8 -0.7
NJ2 PP PP 11 23 07.8 +0.4
NJ2 S **S** **11 27 28.0 +0.8**
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,2μm,3.5s
NJ2 LR LR
comp=N,107μm,21.4s
NJ2 LR LR
comp=E,151μm,28.2s
NJ2 LR LR
comp=Z,61μm,25.0s,MS6.3
KKR Kurukshetra 38.32 327 *e*P **P** **11 21 39.7 +1.5**
WRA Warramunga Arr 38.39 121 P **P** **11 21 37.7 -1.1**
WRA pmax pmax
comp=Z,218nm,0.7s
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 38.39 121 P **P** **11 21 37.7 -1.2**
comp=Z,218nm,0.7s,mb6.0,baz=302,slow=9.3,SNR=128
WRA P3KPbc 11 51 49.1
comp=Z,1.7nm,0.9s,baz=114,slow=4.7,SNR=5.7
WRA Warramunga Arr 38.39 121 P **P** **11 21 37.7 -1.2**
WRA *e* 11 51 49.1
WRAB Tennant Creek 38.40 121⇑*e*P **P** **11 21 37.0 -1.9**
WRAB pmax pmax
comp=Z,990nm,1.0s,mb6.5
WRAB Tennant Creek 38.40 121⇑*e*P **P** **11 21 37.0 -1.9**
comp=Z,985nm,1.1s,mb6.5
WB2 Warramunga Arr 38.40 121⇑*i*P **P** **11 21 37.0 -1.9**
WB2 *e*S **S** **11 27 29.3 -1.9**
SSE Sheshan 38.47 30 P **P** **11 21 39.5 +0.1**
SSE AP pP 11 21 48.2 -1.0
SSE S **S** **11 27 35.6 +3.5**
SSE XS 11 27 52.4
SSE AMB AMB
comp=Z,221nm,1.3s,mb5.7
SSE AMB AMB
comp=Z,10μm,12.0s
SSE LR LR
comp=N,80μm,15.6s,MS6.7
SSE LR LR
comp=E,46μm,15.5s,MS6.7
SSE LR LR
comp=Z,79μm,13.2s,MS6.7
SSE Sheshan 38.47 30 P **P** **11 21 39.5 +0.1**
comp=Z,221nm,1.3s,mb5.7
SSE pP pP 11 21 48.2 -1.0
SSE sP sP 11 21 53.0 -0.3
SSE S **S** **11 27 35.6 +3.5**
SSE sS 11 27 52.4
SSE SS SS 11 30 31.4 +18
SSE ScS ScS 11 31 49.9 +4.5
SSE LR LR
comp=Z,79μm,13.2s,MS6.7
SMLA Simla 39.05 329⇑*i* **P** **11 21 40.3 -4.0**
comp=Z,34nm,0.3s,mb5.5
SMLA *i* 11 27 53.1
SDNR Sundarnagar 39.45 329 *e*P **P** **11 21 47.0 -0.6**
FORT Forrest 39.46 140 *e*P **P** **11 21 48.0 +0.3**
comp=Z,7μm,0.7s
JOW Kunigami 39.52 42 P **P** **11 21 48.8 +0.6**
comp=Z,67nm,0.5s,mb5.6,baz=262,slow=8.4,SNR=32
JOW LR LR 11 38 40.3
comp=Z,15μm,19.2s,MS5.9,baz=229,slow=37
JOW Kunigami 39.52 42 P **P** **11 21 48.8 +0.6**
JOW LR LR 11 38 40.3
ASPA Alice Springs 39.66 126⇑*i*P **P** **11 21 48.6 -0.8**
ASPA *e*S **S** **11 27 48.7 -1.5**
ASPA *e*SCS ScS 11 32 00.6 +8.2
ASAR Alice Springs 39.66 126 P **P** **11 21 48.6 -0.8**
comp=Z,110nm,0.6s,mb5.8,baz=303,slow=8.0,SNR=76
ASAR P3KPbc 11 51 44.8
comp=Z,0.6nm,0.7s,baz=135,slow=3.8,SNR=3.8
ASAR Alice Springs 39.66 126 P **P** **11 21 48.6 -0.8**
ASAR *e* 11 51 44.8
BHK Bhakra 39.67 328 *e* **P** **11 21 53.1 +3.7**
BHK *e* 11 28 11.7
JASL Jaisalmer 39.76 318 *e*P **P** **11 21 50.2 0.0**
PONG Pong 40.34 328 *e*P **P** **11 21 54.0 -0.9**
PONG *e* 11 28 28.0
THN Thein Dam 40.84 328 *e*P **P** **11 21 58.3 -0.7**
THN *e* 11 24 01.4
GTA Gaotai 40.90 0 *e*P **P** **11 21 59.2 -0.2**
GTA AP pP 11 22 11.1 +1.8
GTA PP PP 11 23 37.9 +1.2
GTA PCP PcP 11 24 00.3 +0.1
GTA PCS 11 27 50.9
GTA S **S** **11 28 09.0 +0.5**
GTA SCS ScS 11 32 01.0 +1.5
GTA AMB AMB
comp=Z,129nm,1.4s,mb5.4
GTA AMB AMB
comp=Z,13μm,9.1s
GTA LR LR
comp=N,55μm,15.2s,MS6.6
GTA LR LR
comp=E,31μm,12.2s,MS6.6
GTA LR LR
comp=Z,47μm,14.5s,MS6.5
BTO Baotou 43.13 11 *e*P **P** **11 22 17.6 -0.1**
BTO AMB AMB
comp=Z,133nm,0.8s,mb5.7
HHC Hu-ho-hao-te 43.69 13⇓P **P** **11 22 23.5 +1.2**
HHC AP pP 11 22 33.5 +1.4
HHC XP sP 11 22 37.4 +1.2
HHC PP PP 11 24 06.7 +1.1
HHC S **S** **11 28 52.1 +2.6**

HHC SCS ScS 11 32 16.8 +0.2
HHC AMB AMB
comp=Z,135nm,1.2s,mb5.5
HHC LR LR
comp=N,91μm,14.7s,MS6.9
HHC LR LR
comp=E,39μm,13.7s,MS6.9
HHC LR LR
comp=Z,81μm,15.2s,MS6.8
BJT Baijiatuau 44.15 18 *e*P **P** **11 22 25.4 -0.6**
BJT pmax pmax
comp=Z,688nm,1.1s
BJT MLR MLR
comp=Z,42μm,20.0s
BJT Baijiatuau 44.15 18 *e*P **P** **11 22 25.4 -0.6**
comp=Z,688nm,1.1s,mb6.3
BJT LR LR
comp=Z,42μm,20.0s,MS6.4
BJI Beijing 44.17 18 *e*P **P** **11 22 25.8 -0.4**
BJI PP PP 11 24 16.5 +6.0
BJI S **S** **11 29 05.2 +8.6**
BJI AMB AMB
comp=Z,269nm,1.2s,mb5.8
BJI LR LR
comp=N,64μm,14.7s,MS6.9
BJI LR LR
comp=E,89μm,14.1s,MS6.9
BJI LR LR
comp=Z,42μm,33.7s
BJI Beijing 44.17 18 *e*P **P** **11 22 25.8 -0.4**
comp=Z,269nm,1.2s,mb5.8
BJI PP PP 11 24 16.5 +6.0
BJI S **S** **11 29 05.2 +8.6**
BJI SS SS 11 32 45.6 +39
BJI LR LR
comp=Z,42μm,33.7s,MS6.1
DL2 Dalian 45.15 24 P **P** **11 22 33.9 -0.1**
DL2 S **S** **11 29 11.1 +0.5**
DL2 AMB AMB
comp=Z,190nm,1.0s,mb5.9
DL2 LR LR
comp=N,21μm,16.5s,MS6.4
DL2 LR LR
comp=E,28μm,16.1s,MS6.4
DL2 LR LR
comp=Z,26μm,14.7s,MS6.3
KSH Kashi 46.43 335 *e*P **P** **11 22 44.3 +0.1**
KSH *e*AP pP 11 22 53.6 -0.5
KSH *e*PCP PcP 11 24 19.1 +0.1
KSH *e*PP PP 11 24 32.0 -1.1
KSH *e*SCP 11 28 08.5
KSH *e*PCS 11 28 12.0
KSH *e*S **S** **11 29 28.6 -0.4**
KSH *e*SCS ScS 11 32 33.1 -0.9
KSH *e*SS SS 11 32 46.1 -1.1
KSH AMB AMB
comp=Z,13μm,7.9s
KSH LR LR
comp=N,24μm,12.3s,MS6.6
KSH LR LR
comp=E,35μm,12.8s,MS6.6
WBK Wadi Bani Khal 46.49 304 P **P** **11 22 45.5 +0.7**
SNR=76
WMQ Urumqi 46.57 348 P **P** **11 22 45.7 +0.5**
WMQ AP pP 11 22 55.7 +0.6
WMQ XP sP 11 22 59.7 +0.6
WMQ PCP PcP 11 24 19.9 +0.5
WMQ PP PP 11 24 35.2 +0.8
WMQ PPP PPP 11 25 21.0 +0.9
WMQ SCP 11 28 09.4
WMQ PCS 11 28 13.5
WMQ S **S** **11 29 31.7 +0.8**
WMQ SCS ScS 11 32 35.5 +0.7
WMQ SS SS 11 32 50.2 +0.8
WMQ AMB AMB
comp=Z,18μm,3.7s
WMQ LR LR
comp=N,19μm,15.2s,MS6.3
WMQ LR LR
comp=E,26μm,19.4s,MS6.3
WMQ LR LR
comp=Z,33μm,24.4s,MS6.2
KS15 Wonju Array Si 46.87 31 *e*P **P** **11 22 46.7 -0.9**
JMDO Jabal Madar 47.11 303 P **P** **11 22 50.0 +0.2**
SNR=32
BIDO Bidbid 47.58 304 P **P** **11 22 53.8 +0.4**
SNR=18
SHAO Shalim 47.62 296⇓P **P** **11 22 53.2 -0.6**
SNR=18
PMG Port Moresby 47.79 101 P **P** **11 22 53.2 -2.0**
PMG pmax pmax
comp=Z,122nm,0.9s
PMG Port Moresby 47.79 101 P **P** **11 22 53.2 -2.0**
comp=Z,122nm,0.9s,mb5.9,baz=273,slow=5.3,SNR=19
BSY Bisya 48.02 303 P **P** **11 22 57.3 +0.3**
SNR=94
HOQ Hoqain 48.28 304 P **P** **11 22 59.5 +0.6**
SNR=27
SNY Shenyang 48.41 24⇓P **P** **11 22 59.1 -0.5**
SNY XP sP 11 23 14.8 +1.2
SNY AMB AMB
comp=Z,110nm,1.3s,mb5.7
SNY LR LR
comp=N,38μm,14.7s,MS6.9
SNY LR LR
comp=E,76μm,14.9s,MS6.9
SNY LR LR
comp=Z,65μm,14.9s,MS6.7
ULHL Ulahol 48.61 337 P **P** **11 23 01.1 -0.1**
SNR=106
RBK Rabkut 48.73 295 P **P** **11 23 02.6 +0.2**
SNR=53
ARQ Araqi 48.84 303 P **P** **11 23 03.3 +0.1**
SNR=59
KZA Kyzart 48.87 336 P **P** **11 23 04.0 +0.8**
SNR=98
CTA Charters Tower 48.98 115⇓*i*P **P** **11 23 03.1 -1.2**
comp=Z,248nm,1.2s,mb6.1
CTA Charters Tower 48.98 115⇓*i*P **P** **11 23 03.1 -1.2**
CTA pmax pmax
comp=Z,248nm,1.2s
CTA Charters Tower 48.98 115 LR LR 11 47 11.8
comp=Z,66μm,19.8s,MS6.6,baz=283,slow=40
CTAO Charters Tower 48.98 115⇑*e*P **P** **11 23 02.6 -1.7**
CTAO pmax pmax
comp=Z,490nm,1.1s,mb6.5
CTAO Charters Tower 48.98 115⇑*e*P **P** **11 23 02.6 -1.7**
comp=Z,492nm,1.1s,mb6.5
ADE Adelaide 49.10 137 *e*P **P** **11 23 06.0 +1.0**
WHFO Wadi Hawf 49.25 295 P **P** **11 23 06.0 -0.4**
SNR=73
UCH Uchtor 49.30 335 P **P** **11 23 06.9 +0.4**
SNR=165
TKM2 Tokmak 2 49.44 337 P **P** **11 23 08.2 +0.6**
SNR=16
KBK Karagaybulak 49.48 336 P **P** **11 23 09.2 +1.4**
SNR=159
ABTO Aybut 49.51 295⇓P **P** **11 23 07.3 -1.1**
SNR=66
STKA Stephens Creek 49.56 132⇑*i*P **P** **11 23 08.3 -0.4**
comp=Z,175nm,0.6s,mb6.3
STKA *e*S **S** **11 30 17.5 +4.3**
STKA Stephens Creek 49.56 132 P **P** **11 23 08.1 -0.6**
comp=Z,63nm,0.7s,mb5.8,baz=306,slow=7.5,SNR=81
AML Almayashu 49.56 335 P **P** **11 23 08.9 +0.3**
SNR=126
AAK Ala-Archa 49.64 336 P **P** **11 23 09.3 +0.2**
SNR=63
AAK Ala-Archa 49.64 336 *i* P **P** **11 23 09.4 +0.3**
SONM Songino Array 49.66 6 P **P** **11 23 09.1 -0.2**
comp=Z,175nm,0.9s,mb6.1,baz=188,slow=7.5,SNR=177
FRU Bishkek 49.76 336⇑*i*P **P** **11 23 10.5 +0.5**
FRU *i* S **S** **11 30 28.0 +12**
FRU pmax pmax
comp=Z,1μm,2.1s,mb6.6
FRU MLR MLR
comp=N,31μm,19.0s,MS6.5
FRU MLR MLR
comp=E,29μm,19.0s,MS6.5
FRU MLR MLR
comp=Z,36μm,19.0s,MS6.4
ULN Ulaanbaatar 49.76 6 *i* P **P** **11 23 10.1 +0.1**
ULN Ulaanbaatar 49.76 6 *e*P **P** **11 23 09.2 -0.8**
comp=Z,183nm,0.9s,mb6.1
ULN LR LR
comp=Z,68μm,19.0s,MS6.7

ASHO	**Ashiyiah**	**49.79**	**305**	P	**P**	**11 23 10.7**	**+0.2**
	SNR=73						
CHMS	**Chumysh**	**49.84**	**336**	P	**P**	**11 23 10.7**	**+0.1**
	SNR=105						
CBIJ	**Chichi jima**	**49.90**	**52**	P	**P**	**11 23 10.9**	**-0.4**
	comp=Z,59nm,0.3s,mb6.0,baz=81,slow=17,SNR=16						
EKS2	**Erkin-Say**	**49.96**	**335**	P	**P**	**11 23 11.7**	**+0.1**
	SNR=154						
BANOM	**Banah**	**50.13**	**306**	P	**P**	**11 23 14.0**	**+0.9**
	SNR=8.7						
USP	**Ospenovka**	**50.16**	**336**	P	**P**	**11 23 12.8**	**-0.4**
	SNR=124						
MKAR	**Makanchi Array**	**50.66**	**345**	*i* P	**P**	**11 23 16.1**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,572nm,0.9s						
MKAR	**Makanchi Array**	**50.66**	**345**	P	**P**	**11 23 16.6**	**-0.1**
	comp=Z,169nm,0.8s,mb6.0,baz=157,slow=8.9,SNR=43						
MKAR				LR	LR	11 49 55.9	
	comp=Z,19μm,18.3s,MS6.2,baz=148,slow=42						
CN2	**Changchun**	**50.81**	**24**	⇑P	**P**	**11 23 16.5**	**-1.5**
CN2				AP	pP	11 23 30.0	+1.9
CN2				*e*S	**S**	**11 30 30.0**	**-0.3**
CN2				SS	SS	11 34 02.5	0.0
CN2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.5						
CN2				AMB	AMB		
	comp=Z,6μm,9.0s						
CN2				LR	LR		
	comp=N,66μm,15.0s,MS6.9						
CN2				LR	LR		
	comp=E,52μm,15.0s,MS6.9						
CN2				LR	LR		
	comp=Z,74μm,16.0s,MS6.8						
JHJ	**Hachijo jima 2**	**51.23**	**44**	P	**P**	**11 23 20.6**	**-0.8**
	comp=Z,140nm,0.9s,mb5.9,baz=244,slow=7.2,SNR=2.6						
JHJ				LR	LR	11 41 54.5	
	comp=Z,12μm,20.2s,MS5.9,baz=72,slow=32						
KKAR	**Karatay Array**	**51.75**	**333**	*i* P	**P**	**11 23 23.7**	**-1.5**
KKAR				pmax	pmax		
	comp=Z,225nm,1.2s,mb6.0						
ZAK	**Zakamensk**	**51.96**	**3**	*i* P	**P**	**11 23 25.8**	**-0.8**
ZAK				*e*		11 24 40.2	
ZAK				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.4						
ZAK				pmax	pmax		
	comp=Z,44nm,1.5s,mb5.2						
MAJO	**Matsushiro**	**52.21**	**39**	*e*P	**P**	**11 23 26.3**	**-2.5**
	comp=Z,254nm,1.3s,mb6.0						
MAJO				LR	LR		
	comp=Z,26μm,19.0s,MS6.3						
MAT	**Matsushiro**	**52.21**	**39**	*e*P	**P**	**11 23 27.0**	**-1.7**
MAT				*e*S	**S**	**11 31 02.0**	**+12**
MAT				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.5						
MAT				MLR	MLR		
	comp=Z,28μm,20.0s,MS6.3						
MAT	**Matsushiro**	**52.21**	**39**	*e*P	**P**	**11 23 27.0**	**-1.7**
	comp=Z,70nm,1.0s,mb5.5						
MAT				*e*S	**S**	**11 31 02.0**	**+12**
MAT				LR	LR		
	comp=Z,28μm,20.0s,MS6.3						
MAT	**Matsushiro**	**52.21**	**39**	P	**P**	**11 23 26.8**	**-1.9**
MAT				S	**S**	**11 30 51.0**	**+1.4**
MJAR	**Matsushiro Arr**	**52.21**	**39**	P	**P**	**11 23 27.0**	**-1.7**
MJAR				pmax	pmax		
	comp=Z,50nm,0.7s						
MJAR				MLR	MLR		
	comp=Z,16μm,18.7s						
MJAR	**Matsushiro Arr**	**52.21**	**39**	P	**P**	**11 23 27.0**	**-1.7**
	comp=Z,50nm,0.7s,mb5.5,baz=221,slow=6.6,SNR=106						
MJAR				LR	LR	11 48 12.0	
	comp=Z,16μm,18.7s,MS6.1,baz=215,slow=39						
MOY	**Mondy**	**53.16**	**1**	*e*P	**P**	**11 23 35.4**	**-0.2**
MOY				pmax	pmax		
	comp=Z,522nm,2.7s,mb6.0						
MDJ	**Mudanjiang**	**53.23**	**26**	P	**P**	**11 23 35.0**	**-1.2**
MDJ				AP	pP	11 23 48.3	+2.0
MDJ				PP	PP	11 25 35.4	-2.4
MDJ				SCP		11 28 32.9	
MDJ				PCS		11 28 35.1	
MDJ				S	**S**	**11 31 06.6**	**+3.2**
MDJ				SCS	ScS	11 33 21.1	+1.4
MDJ				AMB	AMB		
	comp=Z,79nm,0.9s,mb5.6						
MDJ				AMB	AMB		
	comp=Z,11μm,9.3s						
MDJ				LR	LR		
	comp=N,47μm,13.8s,MS6.8						
MDJ				LR	LR		
	comp=E,33μm,12.0s,MS6.8						
MDJ				LR	LR		
	comp=Z,62μm,12.9s,MS6.8						
MDJ	**Mudanjiang**	**53.23**	**26**	*e*P	**P**	**11 23 35.3**	**-1.0**
	comp=Z,210nm,1.1s,mb6.0						
TLY	**Talaya**	**53.27**	**3**	⇑*i*P	**P**	**11 23 35.8**	**-0.6**
TLY				*e*S	**S**	**11 31 15.8**	**+12**
TLY				pmax	pmax		
	comp=Z,184nm,1.3s,mb5.8						
TLY				MLR	MLR		
	comp=Z,43μm,16.0s,MS6.6						
IRK	**Irkutsk**	**53.87**	**3**	*e*P	**P**	**11 23 40.3**	**-0.4**
IRK				*e*S	**S**	**11 31 18.4**	**+6.5**
IRK				pmax	pmax		
	comp=Z,572nm,2.1s,mb6.1						
OPO	**Ambohidratompo**	**54.12**	**248**	P	**P**	**11 23 42.8**	**-0.3**
	comp=Z,30nm,0.8s,mb5.3,baz=72,slow=6.9,SNR=14						
TOO	**Toolangi**	**55.12**	**136**	⇑*i*P	**P**	**11 23 50.7**	**+0.5**
	comp=Z,76nm,0.8s,mb5.8						
TOO				*e*S	S	11 31 58.5	+30
TOO	**Toolangi**	**55.12**	**136**	⇑*i*P	**P**	**11 23 50.7**	**+0.5**
TOO				pmax	pmax		
	comp=Z,76nm,0.8s,mb5.8						
KURK	**Kurchatov**	**55.23**	**344**	⇑*i*P	**P**	**11 23 49.6**	**-1.2**
KURK				pmax	pmax		
	comp=Z,748nm,1.0s,mb6.7						
KURK	**Kurchatov**	**55.23**	**344**	⇑*i*P	**P**	**11 23 49.5**	**-1.2**
	comp=Z,748nm,1.0s,mb6.7						
ZAL	**Zalesovo**	**56.80**	**350**	P	**P**	**11 24 01.2**	**-0.8**
ZAL				pmax	pmax		
	comp=Z,353nm,0.8s						
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAL	**Zalesovo**	**56.80**	**350**	P	**P**	**11 24 01.2**	**-0.8**
	comp=Z,353nm,0.8s,mb6.5,baz=296,slow=6.3,SNR=177						
ZAL				PKPPKP		11 53 56.7	
	comp=Z,2.1nm,0.8s,baz=214,slow=3.5,SNR=6.6						
CNB	**Canberra Magne**	**56.89**	**132**	*e*P	**P**	**11 24 02.3**	**-0.7**
RIV	**Riverview**	**57.66**	**130**	*e*P	**P**	**11 24 08.4**	**0.0**
KLR	**Kul'dur**	**57.76**	**24**	⇓*i*P	**P**	**11 24 04.8**	**-4.0**
KLR				*e*S	**S**	**11 32 03.3**	**-0.4**
KLR				pmax	pmax		
	comp=N,720nm,3.0s						
KLR				pmax	pmax		
	comp=E,1μm,3.0s						
KLR				pmax	pmax		
	comp=Z,2μm,3.0s						
KLR				smax			
	comp=N,300nm,2.6s						
KLR				smax			
	comp=E,250nm,2.6s						
ATD	**Arta Tunnel**	**58.02**	**285**	P	**P**	**11 24 11.3**	**+0.2**
	comp=E,38nm,1.0s,mb5.4,baz=93,slow=6.3,SNR=14						
ATD				LR	LR	11 45 27.3	
	comp=E,18μm,19.8s,MS6.2,baz=263,slow=32						
TAU	**Tasmania Unive**	**59.00**	**141**	*e*P	**P**	**11 24 18.1**	**+0.5**
TAU				pmax	pmax		
	comp=Z,1μm,1.7s,mb6.7						
TAU	**Tasmania Unive**	**59.00**	**141**	*e*P	**P**	**11 24 18.1**	**+0.5**
	comp=Z,1μm,1.8s,mb6.6						
BVA0	**Borovoye Array**	**59.80**	**340**	P	**P**	**11 24 20.9**	**-2.0**
BVA0				pmax	pmax		
	comp=Z,122nm,1.4s,mb5.7						
BVAR	**Borovoye Array**	**59.80**	**340**	P	**P**	**11 24 20.9**	**-2.1**
	comp=Z,105nm,0.8s,mb5.9,baz=143,slow=7.4,SNR=113						
BVAR				PKP2bc		11 53 53.6	
	comp=Z,1.6nm,0.9s,baz=315,slow=2.1,SNR=5.3						
BVAR	**Borovoye Array**	**59.80**	**340**	P	**P**	**11 24 20.9**	**-2.1**
BVAR				⇑*e*		11 53 53.6	
CHKZ	**Chkalovo**	**60.26**	**341**	*e*P	**P**	**11 24 24.2**	**-1.9**
CHKZ				pmax	pmax		
	comp=Z,405nm,0.8s,mb6.5						
CHKZ	**Chkalovo**	**60.26**	**341**	*e*P	**P**	**11 24 24.2**	**-1.8**
	comp=Z,405nm,0.8s,mb6.5						
BOD	**Bodaibo**	**60.42**	**9**	*e*P	**P**	**11 24 25.6**	**-1.5**
BOD				pmax	pmax		
	comp=Z,209nm,1.2s,mb6.0						
YUK	**Yuzh-Kuril'sk**	**61.36**	**36**	*e*P	**P**	**11 24 32.0**	**-1.7**
YUK				*e*SP	sP	11 24 43.0	-4.6
YUK				*e*		11 25 10.0	
YUK				S	**S**	**11 32 52.0**	**+1.7**
YUK				pmax	pmax		
	comp=Z,820nm,1.0s,mb6.8						
YUK				MLR	MLR		
	comp=E,18μm,18.0s						
YUK				MLR	MLR		
	comp=Z,18μm,18.0s,MS6.3						
YSS	**Yuzh-Sakhalins**	**61.37**	**32**	⇑*i*P	**P**	**11 24 32.5**	**-1.2**
YSS				*e*		11 24 48.0	
YSS				*e*		11 25 07.5	
YSS				S	**S**	**11 32 54.0**	**+3.7**
YSS				pmax	pmax		
	comp=Z,530nm,1.0s,mb6.6						
YSS				pmax	pmax		
	comp=Z,770nm,1.1s,mb6.8						
YSS				MLR	MLR		
	comp=Z,18μm,15.0s,MS6.3						
YSS				MLR	MLR		
	comp=E,24μm,16.0s						
YSS	**Yuzh-Sakhalins**	**61.37**	**32**	⇑*e*P	**P**	**11 24 32.5**	**-1.1**
	comp=E,659nm,1.0s,mb6.7						
CLNS	**Chul'man**	**61.78**	**15**	*e*P	**P**	**11 24 35.3**	**-1.1**
CLNS				*e**PP	pP	11 24 48.4	+1.8
CLNS				*e*		11 34 24.7	
CLNS				pmax	pmax		
	comp=Z,121nm,0.8s,mb6.1						
CLNS				pmax	pmax		
	comp=N,73nm,0.9s						
CLNS				pmax	pmax		
	comp=E,51nm,0.9s						
CLNS				pmax	pmax		
	comp=N,40nm,0.8s						
CLNS				pmax	pmax		
	comp=E,22nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.5						
CLNS				MLR	MLR		
	comp=N,34μm,15.0s,MS6.7						
CLNS				MLR	MLR		
	comp=E,13μm,15.0s,MS6.7						
CLNS				MLR	MLR		
	comp=Z,44μm,15.0s,MS6.7						
KMBO	**Kilima Mbogo**	**62.45**	**270**	P	**P**	**11 24 41.5**	**+0.1**
	comp=Z,49nm,0.8s,mb5.7,baz=78,slow=7.0,SNR=34						
KMBO				LR	LR	11 49 14.7	
	comp=Z,30μm,18.6s,MS6.5,baz=74,slow=34						
MIR	**Mirnyy**	**64.91**	**183**	*d i*P	**P**	**11 24 59.0**	**+2.2**
MIR				pmax	pmax		
	comp=Z,2μm,3.2s						
CASY	**Casey**	**64.92**	**175**	*e*P	**P**	**11 24 56.9**	**+0.1**
GNI	**Garni**	**65.11**	**316**	*i* P	**P**	**11 24 58.4**	**-0.1**
GNI				pmax	pmax		
	comp=Z,243nm,1.3s						
GNI	**Garni**	**65.11**	**316**	P	**P**	**11 24 58.2**	**-0.3**
	comp=Z,196nm,1.1s,mb6.0,baz=339,slow=5.3,SNR=43						
GNI				LR	LR	11 54 48.9	
	comp=Z,6μm,18.2s,MS5.9,baz=286,slow=37						
GNI	**Garni**	**65.11**	**316**	*e*P	**P**	**11 24 57.5**	**-1.0**
	comp=Z,533nm,1.3s,mb6.4						
TVAN	**Van**	**65.38**	**314**	*i* P	**P**	**11 25 00.1**	**-0.2**
MTA	**Mtatsminda**	**65.75**	**318**	P	**P**	**11 25 01.6**	**-1.0**
TI2	**Plekhanov**	**65.79**	**318**	⇑*i*P	**P**	**11 25 02.8**	**-0.1**
TI2				*e*S	S	11 33 42.8	-2.8
TI2				*e*S	S	11 33 50.0	+4.4
TBLG	**Delisi**	**65.80**	**318**	P	**P**	**11 25 02.7**	**-0.2**
SVE	**Sverdlovsk**	**66.29**	**338**	*d i*P	**P**	**11 25 04.9**	**-0.9**
SVE				*i* S	S	11 33 51.6	+0.2
SVE				pmax	pmax		
	comp=Z,805nm,1.5s,mb6.5						
SVE				MLR	MLR		
	comp=Z,52μm,25.0s,MS6.6						
BEST	**Besiri**	**66.68**	**313**	*i* P	**P**	**11 25 07.6**	**-1.0**
ARU	**Arti**	**66.81**	**337**	⇑*i*P	**P**	**11 25 07.4**	**-1.7**
ARU				*e*		11 25 34.1	
ARU				*e*		11 27 31.9	
ARU				*i* S	S	11 33 58.9	+1.2
ARU				*e*		11 35 05.9	
ARU				pmax	pmax		
	comp=Z,467nm,1.4s,mb6.3						
ARU				MLR	MLR		
	comp=Z,27μm,20.0s,MS6.5						
ARU				MLR	MLR		
	comp=N,18μm,19.0s,MS6.4						
ARU				MLR	MLR		
	comp=E,14μm,22.0s,MS6.4						
ARU	**Arti**	**66.81**	**337**	*e*P	**P**	**11 25 06.9**	**-2.2**
	comp=E,95nm,1.1s,mb5.7						
ZEI	**Tsey**	**66.82**	**318**	*e*P	**P**	**11 25 08.9**	**-0.5**
ZEI				*i* *PP	pP	11 25 20.6	+1.0
ZEI				pmax	pmax		
	comp=Z,45nm,0.7s,mb5.6						
YAK	**Yakutsk**	**67.51**	**15**	*e*P	**P**	**11 25 11.5**	**-1.9**
YAK				*e**PP	pP	11 25 21.2	-2.5
YAK				*e*		11 25 38.0	
YAK				*e*		11 27 42.0	
YAK				*e*PPP	PPP	11 29 21.5	+0.5
YAK				*e*S	S	11 34 11.7	+5.7
YAK				*e*		11 35 04.9	
YAK				pmax	pmax		
	comp=Z,459nm,1.0s,mb6.5						
YAK				pmax	pmax		
	comp=N,139nm,0.9s						
YAK				pmax	pmax		
	comp=E,118nm,1.1s						
YAK				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
YAK				pmax	pmax		
	comp=N,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,19nm,0.9s						
YAK				smax			
	comp=N,56nm,1.2s						
YAK				smax			
	comp=Z,15nm,1.1s						
YAK				smax			
	comp=E,25nm,1.0s						
YAK				MLR	MLR		
	comp=N,18μm,14.0s,MS6.5						
YAK				MLR	MLR		
	comp=E,10μm,14.0s,MS6.5						
YAK				MLR	MLR		
	comp=Z,25μm,14.0s,MS6.6						
YAK	**Yakutsk**	**67.51**	**15**	*e*P	**P**	**11 25 11.2**	**-2.2**
	comp=Z,915nm,1.0s,mb6.8						
NOUC	**Port Laguerre**	**67.70**	**113**	*e*P	**P**	**11 25 13.1**	**-2.2**
DZM	**Mont Dzumac**	**67.83**	**113**	*e*P	**P**	**11 25 15.6**	**-0.6**
KIV	**Kislovodsk**	**68.13**	**319**	*c i*P	**P**	**11 25 16.6**	**-1.0**
KIV				*e*		11 25 41.9	
KIV				*i* S	S	11 34 22.3	+8.7
KIV				pmax	pmax		
	comp=Z,660nm,1.2s,mb6.5						
KIV	**Kislovodsk**	**68.13**	**319**	*e*P	**P**	**11 25 16.3**	**-1.3**
	comp=Z,495nm,1.0s,mb6.5						
ASF	**Jabal al Asfar**	**68.18**	**306**	P	**P**	**11 25 18.7**	**+0.5**
	comp=Z,120nm,1.0s,mb5.9,baz=349,slow=0.7,SNR=49						
ASF				PKP2bc		11 53 39.6	
	comp=Z,1.1nm,0.3s,baz=159,slow=2.0,SNR=12						
ASF				LR	LR	11 57 14.2	
	comp=Z,36μm,18.8s,MS6.6,baz=211,slow=38						
ASF	**Jabal al Asfar**	**68.18**	**306**	P	**P**	**11 25 18.7**	**+0.5**
ASF				⇑*e*		11 53 39.6	
ASF				LR	LR	11 57 14.2	
GOF	**Gofitskoye**	**68.38**	**320**	*i* P	**P**	**11 25 16.2**	**-3.0**
GOF				*i* S	S	11 34 19.7	+3.0
GOF				pmax	pmax		
	comp=Z,640nm,1.3s,mb6.5						
GOF				pmax	pmax		
	comp=Z,10μm,10.0s						
GOF				smax			
	comp=E,6μm,5.0s						
KWAJ	**Kwajalein Atol**	**68.44**	**80**	P	**P**	**11 25 20.4**	**+0.4**
	comp=E,542nm,1.3s,mb6.4						
ELZG	**Elazig**	**68.58**	**313**	*i* P	**P**	**11 25 20.4**	**-0.1**
MALT	**Malatya**	**68.92**	**312**	⇑P	**P**	**11 25 22.1**	**-0.5**
	comp=E,7.6nm,1.3s						
KELT	**Kelkit**	**68.97**	**314**	*i* P	**P**	**11 25 20.4**	**-2.5**
MBAR	**Mbarara**	**68.98**	**270**	*e*P	**P**	**11 25 22.2**	**-1.2**
MBAR				pmax	pmax		
	comp=Z,97nm,1.1s,mb5.7						
MBAR	**Mbarara**	**68.98**	**270**	*e*P	**P**	**11 25 22.2**	**-1.2**
	comp=Z,96nm,1.1s,mb5.6						
EIL	**Elat**	**69.12**	**303**	*e*P	**P**	**11 25 23.0**	**-1.0**
	comp=Z,513nm,1.3s,mb6.3						
GZT	**Gaziantep**	**69.25**	**311**	*i* P	**P**	**11 25 24.6**	**0.0**
KAHT	**Ahir Dag**	**69.86**	**311**	*i* P	**P**	**11 25 28.4**	**0.0**
SOC	**Sochi**	**69.94**	**318**	*i* P	**P**	**11 25 26.4**	**-2.3**
SOC				*e*		11 25 48.8	
SOC				*e*		11 28 02.8	
SOC				*e*PPP	PPP	11 29 39.7	-5.4
SOC				*e*S	S	11 34 34.2	-0.9
SOC				*e*		11 35 25.4	
SOC				*e*SS	SS	11 39 06.1	+0.3
SOC				*e*SSS	SSS	11 42 16.3	+5.6
SOC				pmax	pmax		
	comp=N,95nm,1.1s						
SOC				pmax	pmax		
	comp=Z,401nm,1.1s,mb6.3						
SOC				pmax	pmax		
	comp=E,82nm,0.9s						
COBT	**Iskenderun**	**69.98**	**310**	*i* P	**P**	**11 25 28.6**	**-0.5**
SVST	**Sivas**	**70.50**	**313**	*i* P	**P**	**11 25 31.5**	**-0.7**
MAW	**Mawson**	**70.52**	**194**	*e*P	**P**	**11 25 31.8**	**-0.1**
MAW				pmax	pmax		
	comp=Z,250nm,1.2s						
MAW	**Mawson**	**70.52**	**194**	P	**P**	**11 25 32.1**	**+0.3**
	comp=Z,52nm,0.8s,mb5.5,baz=35,slow=6.7,SNR=37						
MAW				PKPPKP		11 53 28.2	
	comp=Z,8.1nm,1.0s,baz=136,slow=0.4,SNR=7.8						
MAW				LR	LR	11 53 53.9	
	comp=Z,20μm,18.6s,MS6.4,baz=38,slow=34						
MAW	**Mawson**	**70.52**	**194**	*e*P	**P**	**11 25 31.8**	**-0.1**
	comp=Z,250nm,1.2s,mb6.0						
SKR	**Severo-Kuril's**	**70.77**	**34**	*e*P	**P**	**11 25 31.0**	**-2.7**
SKR				*e*		11 25 38.5	
SKR				pmax	pmax		
	comp=Z,1μm,1.2s,mb6.7						
SKR				pmax	pmax		
	comp=N,220nm,1.0s						
SKR				pmax	pmax		
	comp=E,550nm,1.2s						
PHNC	**Paralimni**	**71.27**	**308**	P	**P**	**11 25 36.2**	**-0.8**
MEST	**Erdemli**	**71.62**	**309**	*i* P	**P**	**11 25 37.4**	**-1.7**
CSS	**Prodhromos**	**71.81**	**308**	⇑P	**P**	**11 25 39.2**	**-1.0**
	comp=E,4.8nm,1.1s						
CSS	**Prodhromos**	**71.81**	**308**	⇑*e*P	**P**	**11 25 39.2**	**-1.0**
	comp=E,4.8nm,1.1s						
MATP	**Matopo**	**71.83**	**249**	P	**P**	**11 25 40.4**	**-0.2**
	comp=E,98nm,0.9s,mb5.7,baz=80,slow=6.0,SNR=50						
MATP				LR	LR	11 52 54.6	
	comp=E,21μm,19.4s,MS6.4,baz=81,slow=32						
ANN	**Anapa**	**71.92**	**318**	⇑*i*P	**P**	**11 25 39.6**	**-1.1**
ANN				*e*S	S	11 34 59.0	+1.0
ANN				pmax	pmax		
	comp=Z,122nm,1.2s,mb5.7						
ANN				pmax	pmax		
	comp=Z,3μm,5.6s						
ANN				MLR	MLR		
	comp=N,18μm,26.0s,MS6.2						
ANN				MLR	MLR		
	comp=E,7μm,26.0s,MS6.2						
ANN				MLR	MLR		
	comp=Z,10μm,26.0s,MS6.0						
ANN	**Anapa**	**71.92**	**318**	⇑*i*P	**P**	**11 25 38.5**	**-2.2**
MAMC	**Mammari**	**71.96**	**308**	P	**P**	**11 25 41.0**	**-0.1**
CDAG	**Cicekdag**	**72.34**	**313**	*i* P	**P**	**11 25 42.1**	**-1.2**
CTKT	**Corum**	**72.34**	**314**	*i* P	**P**	**11 25 41.2**	**-2.0**
ALFC	**Alevga**	**72.44**	**308**	⇑P	**P**	**11 25 43.1**	**-0.9**
	comp=Z,3.6nm,0.8s						
ALFC	**Alevga**	**72.44**	**308**	⇑*i*P	**P**	**11 25 43.1**	**-0.9**
BOYT	**Boyabat**	**72.51**	**314**	*i* P	**P**	**11 25 42.9**	**-1.4**
PPCY	**Paphos**	**72.58**	**307**	P	**P**	**11 25 43.3**	**-1.5**
MA2	**Magadan**	**72.86**	**24**	*e*P	**P**	**11 25 45.4**	**-0.6**
MA2				pmax	pmax		
	comp=Z,430nm,1.3s,mb6.2						
MA2	**Magadan**	**72.86**	**24**	*e*P	**P**	**11 25 45.0**	**-1.0**
	comp=Z,1μm,1.9s,mb6.5						
BRTR	**Keskin Array B**	**72.91**	**312**	P	**P**	**11 25 44.8**	**-1.9**
BRTR				pmax	pmax		
	comp=Z,63nm,0.9s						
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**72.91**	**312**	P	**P**	**11 25 44.8**	**-1.9**
	comp=Z,63nm,0.9s,mb5.6,baz=133,slow=7.1,SNR=83						
BRTR				PKPPKP		11 53 30.7	
	comp=Z,0.6nm,0.7s,baz=225,slow=2.0,SNR=3.3						
PECR	**Pechory**	**73.14**	**331**	*i* P	**P**	**11 25 46.0**	**-1.7**
PECR				pmax	pmax		
	comp=Z,5μm,1.6s						
PECR				pmax	pmax		
	comp=Z,10μm,16.0s						
PET	**Petropavlovsk**	**73.24**	**33**	⇑*i*P	**P**	**11 25 47.9**	**-0.4**
PET				*e*S	S	11 35 11.9	-1.0
PET				MLR	MLR		
	comp=Z,17μm,19.0s,MS6.3						
PET	**Petropavlovsk**	**73.24**	**33**	*e*P	**P**	**11 25 47.6**	**-0.7**
	comp=Z,450nm,1.0s,mb6.3						
ELDT	**Eldivan**	**73.29**	**313**	*i* P	**P**	**11 25 47.3**	**-1.5**
MSZ	**Milford Sound**	**73.42**	**136**	PN	**P**	**11 25 50.4**	**+0.9**
VOR	**Voronezh**	**73.56**	**326**	⇑*i*P	**P**	**11 25 48.6**	**-1.6**
VOR				*e**PP	pP	11 25 57.0	-3.5
VOR				S	S	11 35 22.0	+5.5
VOR				pmax	pmax		
	comp=N,430nm,1.5s						
VOR				pmax	pmax		
	comp=Z,1μm,1.5s,mb6.6						
VOR				smax			
	comp=N,130nm,1.8s						
VOR				smax			
	comp=Z,100nm,1.8s						
ANTO	**Ankara**	**73.57**	**312**	⇑P	**P**	**11 25 49.2**	**-1.3**
JCZ	**Jackson Bay**	**73.86**	**136**	PN	**P**	**11 25 52.7**	**+0.6**
JCZ				PP	PP	11 28 39.1	+0.4
SIM	**Simferopol'**	**74.18**	**318**	*c i*P	**P**	**11 25 53.0**	**-1.0**
SIM				*e*S	S	11 35 29.0	+5.4
SIM				pmax	pmax		
	comp=Z,254nm,0.8s,mb6.2						
WKZ	**Wanaka**	**74.22**	**136**	PN	**P**	**11 25 54.8**	**+0.7**
SGKT	**Sivrigoynuk**	**74.31**	**313**	*i* P	**P**	**11 25 53.5**	**-1.3**
ISP	**Isparta**	**74.75**	**310**	P	**P**	**11 25 56.7**	**-0.7**
ISP	**Isparta**	**74.75**	**310**	*e*P	**P**	**11 25 55.9**	**-1.6**
	comp=Z,442nm,1.3s,mb6.2						
TUZ	**Tuapeka**	**74.90**	**137**	PN	**P**	**11 25 58.7**	**+0.6**
LBTB	**Lobatse**	**74.91**	**245**	P	**P**	**11 25 59.1**	**+0.5**
LBTB				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.3						
LBTB	**Lobatse**	**74.91**	**245**	P	**P**	**11 25 59.0**	**+0.5**
	comp=Z,34nm,0.8s,mb5.3,baz=93,slow=6.3,SNR=12						
ESKT	**Eskisehir**	**74.92**	**312**	*i* P	**P**	**11 25 56.7**	**-1.6**
KSL	**Kastellorizon**	**75.07**	**308**	*e*P	**P**	**11 25 59.0**	**-0.3**
AKAS	**Kas**	**75.07**	**308**	*i* P	**P**	**11 25 58.1**	**-1.2**
HENT	**Hendek**	**75.23**	**313**	*i* P	**P**	**11 25 58.5**	**-1.6**
GOLH	**Golhisar**	**75.34**	**309**	*i* P	**P**	**11 25 59.3**	**-1.5**
ODZ	**Otahua Downs**	**75.39**	**136**	PN	**P**	**11 26 01.4**	**+0.5**
RPZ	**Rata Peaks**	**75.40**	**135**	P	**P**	**11 26 00.7**	**-0.3**
	comp=Z,172nm,0.6s,mb6.1,baz=260,slow=2.9,SNR=48						
RPZ				LR	LR	12 00 44.3	
	comp=Z,39μm,19.8s,MS6.7,baz=279,slow=

MOS MLR MLR
comp=Z,27µm,24.6s,MS6.5
MOS Moscow 76.09 329 ⇑*i*P **P 11 26 04.2 -0.4**
ARG Arkhangelos 76.23 308 *e*P **P 11 26 04.9 -1.0**
ULDT Uludag 76.35 312 *i* P **P 11 26 05.1 -1.4**
THZ Tophouse 76.36 133 PN **P 11 26 06.4 -0.1**
OBN Obninsk 76.38 328*c i*P **P 11 26 05.3 -1.0**
OBN *e*S S 11 35 48.8 +1.1
OBN pmax pmax
comp=Z,898nm,1.2s,mb6.6
OBN MLR MLR
comp=Z,16µm,20.0s,MS6.3
OBN Obninsk 76.38 328 *e*P **P 11 26 05.2 -1.1**
comp=Z,1µm,1.4s,mb6.6
MANT Manisa 76.40 310 *i* P **P 11 26 05.8 -1.0**
CRLZ Canterbury Las 76.48 134 PN **P 11 26 08.0 +0.9**
MQZ McQueen's Vall 76.53 135 PN **P 11 26 09.4 +2.1**
WCZ Waipu Caves 76.57 126 PN **P 11 26 09.2 +1.4**
NNZ Nelson 76.62 132 PN **P 11 26 08.5 +0.5**
AYDN Tasoluk 76.74 309 *i* P **P 11 26 07.5 -1.1**
KARP Karpathos 76.86 307 *e*P **P 11 26 07.2 -2.2**
KHZ Kahutara 76.94 133 PN **P 11 26 09.6 -0.1**
BDRM Kayabasi 76.95 309 *i* P **P 11 26 18.5 +8.6**
BTOK Tokmak 77.09 311 *i* P **P 11 26 10.3 -0.2**
HIZ Hauiti 77.33 129 PN **P 11 26 13.4 +1.5**
KDAG Bornova 77.37 310 *i* P **P 11 26 11.3 -0.8**
SMG Samos 77.56 309 *e*P **P 11 26 12.3 -0.9**
WAZ Wanganui 77.61 130 PN **P 11 26 14.5 +1.1**
SNZO South Karori 77.62 132 *e*P **P 11 26 12.7 -0.8**
comp=Z,363nm,1.0s,mb6.3
TLCR 77.85 317 ⇑P **P 11 26 14.6 0.0**
PSN Preselentsi 77.91 315 *e*P **P 11 26 15.0 0.0**
XRY Khrisi 77.91 306 *e*P **P 11 26 14.5 -0.7**
MGZ Maungaku 77.93 129 PN **P 11 26 15.8 +0.6**
TIRR Tirgusor 77.94 316 P **P 11 26 14.6 -0.5**
TIRR Tirgusor 77.94 316 ⇑P **P 11 26 14.2 -1.0**
TIRR Tirgusor 77.94 316 ⇑P **P 11 26 14.2 -0.9**
CNZ Chateau 77.96 130 PN **P 11 26 16.2 +0.8**
FWVZ Far West T-bar 77.97 130 PN **P 11 26 15.6 +0.2**
DRZ Dome Shelter 77.98 130 PN **P 11 26 16.4 +0.9**
NGZ Ngauruhoe 78.00 130 PN **P 11 26 15.9 +0.3**
AYVA Ayvalik 78.00 311 *i* P **P 11 26 14.8 -0.8**
TUVZ Tukino 78.05 130 PN **P 11 26 16.4 +0.5**
SYO Syowa Base 78.07 199 ⇓P **P 11 26 14.0 -1.4**
SYO Syowa Base 78.07 199 ⇑PcP PcP 11 26 24.2 -1.1
MRZ Mangatainoka R 78.18 131 PN **P 11 26 16.5 -0.1**
PRK Paraskevi 78.31 311 *e*P **P 11 26 16.3 -1.0**
CFR Carcaliu 78.31 317 P **P 11 26 17.1 -0.1**
CFR Carcaliu 78.31 317 ⇑P **P 11 26 16.3 -0.9**
CFR Carcaliu 78.31 317 ⇑P **P 11 26 16.3 -0.9**
KIS Kishinev 78.32 319 ⇑*i*P **P 11 26 15.0 -2.2**
KIS *i* pP 11 26 24.0 -3.6
KIS pmax pmax
comp=Z,700nm,1.2s,mb6.5
HARR Harsova 78.33 316 ⇑P **P 11 26 17.0 -0.3**
PRD Provadia 78.34 315 *e*P **P 11 26 17.0 -0.4**
SANT Santorini 78.37 308 *e*P **P 11 26 15.8 -1.9**
comp=Z,523nm,1.3s,mb6.3
THR1 Thera Island 78.37 308 *e*P **P 11 26 16.9 -0.8**
TSZ Takapari Road 78.39 130 PN **P 11 26 18.0 +0.2**
THR3 Thira Island, 78.43 308 *e*P **P 11 26 18.8 +0.8**
APE Apeiranthos 78.45 308 P **P 11 26 19.1 +1.0**
APE Apeiranthos 78.45 308 *e*P **P 11 26 17.0 -1.1**
BOZC Bozcaada 78.59 311 *i* P **P 11 26 16.1 -2.7**
IDI Anoyia 78.63 306 P **P 11 26 18.5 -0.7**
comp=Z,187nm,1.0s,mb6.0,baz=76,slow=7.6,SNR=31
BKZ Black Stump Fm 78.68 129 PN **P 11 26 18.9 -0.4**
BFZ Birch Farm 78.69 131 PN **P 11 26 19.5 +0.2**
JMB Yambol 78.76 314 *e*P **P 11 26 20.0 +0.3**
ALN Alexandroupoli 78.82 312 *e*P **P 11 26 18.8 -1.3**
URZ Urewera 79.06 129 LR LR 12 01 19.3
comp=Z,21µm,20.8s,MS6.5,baz=272,slow=36
AKASG Malin Array Be 79.07 322 P **P 11 26 19.8 -1.4**
AKASG 11 29 16.7
AKASG pmax pmax
comp=Z,47nm,0.8s
AKASG pmax pmax
comp=Z,27nm,1.1s
AKASG Malin Array Be 79.07 322 P **P 11 26 19.8 -1.5**
comp=Z,46nm,0.8s,mb5.5,baz=89,slow=4.4,SNR=74
AKASG PP PP 11 29 16.7 -5.5
comp=Z,27nm,1.1s,baz=108,slow=5.9,SNR=4.9
AKASG PKPPKP 11 53 21.1
comp=Z,0.1nm,0.2s,baz=284,slow=3.4,SNR=5.4
AKASG Malin Array Be 79.07 322 P **P 11 26 19.8 -1.5**
AKASG PP PP 11 29 16.7 -5.5
AKASG P'P' 11 53 21.1
PWZ Pawanui 79.07 130 PN **P 11 26 21.7 +0.3**
IAS Iasi 79.20 319 P **P 11 26 21.6 -0.4**
GVD Gavdhos 79.20 306 *e*P **P 11 26 21.6 -0.7**
comp=Z,290nm,1.1s,mb6.1
VAM Vamos 79.21 306 ⇑*i*P **P 11 26 22.2 -0.1**
RDO Rodhopi 79.25 312 *e*P **P 11 26 21.7 -0.7**
LIA Limnos Island 79.26 311 *e*P **P 11 26 21.3 -1.2**
LOS Limnos 79.35 311 *e*P **P 11 26 24.2 +1.3**
ISR Istrita 79.39 316 ⇑P **P 11 26 25.2 +2.1**
SZH Strazhica 79.41 314 *e*P **P 11 26 23.0 -0.2**
VRI Vrincioaia 79.44 317 P **P 11 26 23.4 +0.1**
VRI Vrincioaia 79.44 317 ⇑P **P 11 26 23.3 0.0**
VRI Vrincioaia 79.44 317 ⇑P **P 11 26 23.3 0.0**
DIM Dimitrovgrad 79.44 313 *e*P **P 11 26 23.5 +0.1**
KDZ Kurdzhali 79.44 313 *e*P **P 11 26 24.0 +0.6**
BUC1 Bucharest 79.57 316 P **P 11 26 24.9 +0.8**
SUR Sutherland 79.73 238 *e*P **P 11 26 26.2 +1.0**
comp=Z,372nm,1.3s,mb6.2
PVL Pavlikeni 79.82 314 *i* P **P 11 26 26.0 +0.6**
MLR Muntele Rosu 79.88 317 P **P 11 26 26.0 +0.3**
MLR Muntele Rosu 79.88 317 P **P 11 26 25.6 -0.1**
comp=Z,442nm,1.1s,mb6.3,baz=52,slow=2.1,SNR=75
MLR LR LR 12 09 30.6
comp=Z,9µm,18.4s,MS6.2,baz=256,slow=42
MLR Muntele Rosu 79.88 317 ⇑P **P 11 26 25.6 -0.1**
MLR Muntele Rosu 79.88 317 ⇑P **P 11 26 25.6 -0.1**
ZIMR 79.89 315 ⇑P **P 11 26 28.0 +2.2**
ZIMR 79.89 315 ⇑P **P 11 26 28.0 +2.2**
PTL Penteli 79.93 309 *e*P **P 11 26 25.5 -0.6**
PUZ Puketiti 79.94 128 PN **P 11 26 25.7 -0.5**
RZN Rozhen 79.96 313 *i* P **P 11 26 26.0 -0.2**
ATH Athens Observa 80.03 309 *e*P **P 11 26 24.8 -1.9**
MPAR Parnis Oros 80.05 309 *e*P **P 11 26 26.0 -0.8**
PLD Plovdiv 80.05 313 *e*P **P 11 26 25.5 -1.2**
AOS Alonnisos 80.12 310 *e*P **P 11 26 27.0 -0.1**
SNX Sinaia 80.15 316 P **P 11 26 30.0 +2.9**
NAIG Nisos Aigina 80.17 309 *e*P **P 11 26 25.5 -1.9**
NSAL Nisos Salamina 80.22 309 *e*P **P 11 26 26.5 -1.2**
OUR Ouranopolis 80.25 311 *e*P **P 11 26 27.1 -0.7**
KYTH Kithira 80.28 307 *e*P **P 11 26 27.5 -0.6**
MGER Gerania Oros 80.39 309 *e*P **P 11 26 27.0 -1.6**
PAIG Paliouri 80.40 311 *e*P **P 11 26 27.3 -1.3**
MTUR Matau 80.43 316 P **P 11 26 28.4 -0.2**
NVR Nevrokopi 80.53 312 *e*P **P 11 26 28.1 -1.1**
PGB Panagyurishte 80.53 313 *i* P **P 11 26 29.0 -0.2**
NEO Neokhori 80.64 310 *e*P **P 11 26 29.8 -0.1**
PLG Polygyros 80.66 311 ⇑*i*P **P 11 26 28.6 -1.4**
MMB Musomiste 80.67 312 *i* P **P 11 26 29.0 -1.0**
LKR Lokris 80.70 309 *e*P **P 11 26 28.0 -2.2**
SOH Sokhos 80.81 312 *e*P **P 11 26 29.8 -0.9**
BURAR Bucovina Array 80.84 319 ⇑P **P 11 26 31.4 +0.6**
MNK Minsk 80.94 326 ⇓*i*P **P 11 26 27.0 -4.1**
THE Thessaloniki 81.07 311 *e*P **P 11 26 30.3 -1.8**
THE Thessaloniki 81.07 311 *e*P **P 11 26 30.3 -1.8**
KKB Krupnik 81.19 313 *i* P **P 11 26 32.0 -0.7**
KNT Kendrikon 81.21 312 *e*P **P 11 26 32.3 -0.5**
PUL Pulkovo 81.22 331 *i* P **P 11 26 32.6 +0.1**
VTS Vitosha 81.23 313 P **P 11 26 32.6 -0.3**
VTS Vitosha 81.23 313 ⇑P **P 11 26 32.3 -0.6**
VTS Vitosha 81.23 313 *i* P **P 11 26 32.0 -0.9**
AGG Agios Georgios 81.28 310 *e*P **P 11 26 30.7 -2.5**
ITM Ithomi 81.31 308 *e*P **P 11 26 32.1 -1.3**
LIT Litokhoron 81.33 311 *e*P **P 11 26 32.0 -1.5**
FX1 Attu Island--F 81.41 36 P **P 11 26 33.7 +0.1**
FX1 pmax pmax
comp=Z,73nm,0.5s
FX1 Attu Island--F 81.41 36 P **P 11 26 33.7 +0.1**
comp=Z,73nm,0.5s,mb5.9,baz=1.8,slow=3.2,SNR=13
FX1 Attu Island--F 81.41 36 *e*P **P 11 26 33.5 0.0**
GRG Griva 81.54 312 *e*P **P 11 26 33.1 -1.5**
EVR Evrytania 81.66 310 *e*P **P 11 26 35.0 -0.2**
IDID Didziasalis 81.77 326 *e*P **P 11 26 35.5 +0.1**
IDID AMPb AMB 11 26 40.0
comp=Z,157nm,1.3s,mb5.8
RLS Riolos of Patr 81.80 309 ⇑*i*P **P 11 26 35.2 -0.7**
JOF Joensuu 81.82 335 *e*p **P 11 26 35.6 +0.1**
TSUM Tsumeb 82.02 251 P **P 11 26 37.9 +0.5**
comp=Z,41nm,0.9s,mb5.4,baz=87,slow=5.2,SNR=25
IIGN Ignalina 82.06 326 *e*P **P 11 26 37.0 +0.1**
IIGN AMPb AMB 11 26 41.6
comp=Z,188nm,1.2s,mb5.9
LVV L'vov 82.08 321 *e*P **P 11 26 36.4 -0.8**
IZAR Zarasai 82.15 327 *e*P **P 11 26 37.2 -0.1**
IZAR AMPb AMB 11 26 41.9
comp=Z,107nm,1.2s,mb5.7
ISAL Salakas 82.17 327 *e*P **P 11 26 37.4 -0.1**
ISAL AMPb AMB 11 26 42.1
comp=Z,121nm,1.3s,mb5.7
FNA Florina 82.28 311 *e*P **P 11 26 36.0 -2.4**
BOLS Boljevac 82.35 314 ⇓*i*P **P 11 26 37.9 -0.7**
LVZ Lovozero 82.39 340 *i* P **P 11 26 37.9 -0.5**
LVZ pmax pmax
comp=Z,391nm,1.7s,mb6.1
LVZ Lovozero 82.39 340 *i* P **P 11 26 37.0 -1.4**
SKO Skopje 82.42 313 ⇑*i*P **P 11 26 37.7 -1.4**
comp=Z,0.1nm,1.0s
VLS Valsamata 82.50 309 *e*P **P 11 26 38.8 -0.8**
JAN Janina 82.51 310 *e*P **P 11 26 39.5 -0.1**
VNDA Vanda 82.52 169 P **P 11 26 39.5 +0.5**
comp=Z,13nm,0.7s,mb5.1,baz=302,slow=5.3,SNR=16
VNDA LR LR 11 59 32.1
comp=Z,14µm,18.9s,MS6.3,baz=309,slow=33
LKD Levkas 82.53 309 *e*P **P 11 26 39.8 +0.1**
APA Apatity 82.70 339 ⇑*i*P **P 11 26 40.4 +0.4**
APA *i* pP 11 26 49.3 -1.2
APA pmax pmax
comp=Z,320nm,1.2s,mb6.2
OHR Ohrid 82.76 312 *i* P **P 11 26 39.4 -1.5**
KWP Kalwaria 82.89 320 *e*P **P 11 26 41.5 +0.2**
KWP *e* 11 26 43.2
KWP Kalwaria 82.89 320 *e*P **P 11 26 41.5 +0.1**
KWP *e* 11 26 43.2
IGT Igoumenitsa 82.89 310 *e*P **P 11 26 40.6 -1.0**
SVIS Svilajnac 82.95 315 ⇓*i*P **P 11 26 41.5 -0.3**
BILL Bilibino 82.96 20 *i* P **P 11 26 40.9 -0.5**
BILL *e* 11 26 48.9
BILL pmax pmax
comp=Z,130nm,1.6s,mb5.7
BILL pmax pmax
comp=Z,9µm,8.0s
KOLS Kolonicke sedl 83.03 320 *e*P **P 11 26 42.9 +0.8**
KOLS *e* pP 11 26 52.9 +0.3
KOLS *e*S S 11 37 01.7 +4.0
GRUS Gruza 83.25 314 ⇑*i*P **P 11 26 43.3 0.0**
KEK Kerkira 83.32 310 *e*P **P 11 26 43.2 -0.6**
SUW Suwalki 83.47 325 *e*P **P 11 26 43.7 -0.5**
SUW *e* 11 26 45.8
SUW Suwalki 83.47 325 *e*P **P 11 26 43.7 -0.5**
SUW *e* 11 26 45.8
QSH Qafa e Shtames 83.49 312 *i* p **P 11 26 45.6 +1.0**
CRVS Cervenica-Dubn 83.56 319 *e*P **P 11 26 46.1 +1.3**
CRVS *e*S S 11 37 14.1 +11
PVY Plav 83.59 313 ⇑*i*P **P 11 26 46.0 +0.9**
IVA Berane 83.69 313 ⇑*i*P **P 11 26 45.7 +0.1**
FINES FINESS Array B 83.71 332 P **P 11 26 45.1 -0.1**
comp=Z,68nm,0.6s,mb6.0,baz=108,slow=5.5,SNR=120
FINES PKKPbc 11 45 01.9
comp=Z,3.3nm,0.9s,baz=270,slow=1.4,SNR=4.3
FINES LR LR 12 10 56.4
comp=Z,11µm,20.3s,MS6.2,baz=260,slow=41
KAF Kangasniemi 83.78 333 *e*p **P 11 26 44.8 -0.8**
comp=Z,160nm,0.8s,mb6.2,baz=100,slow=4.7
KAF Kangasniemi 83.78 333 *e*P **P 11 26 44.8 -0.8**
KAF pmax pmax
comp=Z,160nm,0.8s,mb6.2
DIVS Divcibare 83.79 315 ⇓*i*P **P 11 26 45.9 -0.2**
ULC Ulcinj 84.04 312 ⇑*i*P **P 11 26 47.2 -0.2**
TTG Podgorica 84.09 313 ⇑*i*P **P 11 26 46.8 -0.9**
KECS Kecovo 84.12 319 *e*P **P 11 26 48.2 +0.5**
BBLS Bajina Basta - 84.18 314 ⇓*i*P **P 11 26 48.3 +0.2**
NKY Niksic 84.33 313 ⇑*i*P **P 11 26 48.9 0.0**
BUM Brajici-Budva 84.34 313 ⇑*i*P **P 11 26 49.9 +1.0**
NIE Niedzica 84.39 320 *e*P **P 11 26 47.5 -1.5**
WAR Warsaw 84.41 323 *e*P **P 11 26 51.5 +2.5**
PSZ Piszkesteto 84.43 318 P **P 11 26 49.4 +0.2**
PSZ Piszkesteto 84.43 318 ⇑P **P 11 26 49.2 0.0**
PSZ Piszkesteto 84.43 318 ⇑*i*P **P 11 26 49.2 0.0**
UPM Unac-Piva 84.45 314 ⇑*i*P **P 11 26 48.8 -0.7**
BRY Bratogost 84.67 313 ⇑*i*P **P 11 26 50.4 -0.2**
OJC Ojcow 84.84 321 *e*P **P 11 26 51.2 0.0**
BUD Budapest 84.95 318 *e*P **P 11 26 52.1 +0.3**
PKSM Moragy 85.03 316 ⇑P **P 11 26 52.1 -0.2**
VYHS Vyhne 85.21 319 *e*P **P 11 26 53.2 +0.1**
VYHS *e* pP 11 27 03.8 +0.1
VYHS *e*S S 11 37 27.0 +7.7
SRO2 Moca 85.41 318 *e*P **P 11 26 54.7 +0.6**
SRO2 *e*pP pP 11 27 05.4 +0.7
BRT Bari-Castellan 85.43 311 *e*P **P 11 26 55.3 +0.9**
SRO Srobarova 85.47 318 *e*P **P 11 26 54.7 +0.3**
SRO *e*pP pP 11 27 05.3 +0.3
KOLL Kolacno 85.51 319 *e*P **P 11 26 54.6 0.0**
KOLL *e*pP pP 11 27 04.9 -0.2
SRO1 Iza 85.51 318 *e*P **P 11 26 55.7 +1.1**
SRO1 *e*pP pP 11 27 05.1 -0.1
TIP Timpagrande 85.60 309 *e*P **P 11 26 55.5 +0.2**
KEV Kevo 85.64 341 *e*p **P 11 26 54.3 -0.5**
LTRZ Laterza 85.69 311 *e*P **P 11 26 55.8 +0.1**
GRI Girifalco 85.83 309 *e*P **P 11 26 57.2 +0.8**
OKC Ostrava-Krasne 85.84 320 *e*P **P 11 26 57.0 +0.8**
OKC AMS AMS 12 11 20.0
comp=Z,6µm,18.0s
RAC Raciborz 85.84 320 *e*P **P 11 26 56.0 -0.2**
ORI Oriolo Calabro 85.92 310 *e*P **P 11 26 58.8 +1.9**
TDS Terranova Siba 85.97 310 *e*P **P 11 26 59.9 +2.7**
SOI Samo 86.04 308 *e*P **P 11 27 00.3 +2.8**
ARCES ARCESS Array B 86.09 340 P **P 11 26 57.5 +0.5**
ARCES pmax pmax
comp=Z,211nm,0.9s
ARCES MLR MLR
comp=Z,21µm,21.2s
ARCES ARCESS Array B 86.09 340 P **P 11 26 57.5 +0.5**
comp=Z,211nm,0.9s,mb6.4,baz=90,slow=4.9,SNR=93
ARCES LR LR 12 09 42.0
comp=Z,21µm,21.2s,MS6.5,baz=109,slow=39
ARE0 ARCESS Array S 86.09 340 *e*P **P 11 26 57.6 +0.6**
SMOL Smolenice 86.14 319 *e*P **P 11 26 58.4 +0.6**
SMOL *e*pP pP 11 27 08.9 +0.6
MORC Moravsky Berou 86.22 320 P **P 11 26 58.8 +0.7**
MORC Moravsky Berou 86.22 320 ⇑P **P 11 26 58.6 +0.4**
MTTG Motta San Giov 86.32 308 *e*P **P 11 27 02.0 +3.1**
ZST Bratislava 86.32 318 *e*P **P 11 26 58.6 0.0**
ZST *e* pP 11 27 07.7 -1.5
ZST *e*S S 11 37 39.0 +9.0
SCLL Scilla 86.32 308 *e*P **P 11 26 59.6 +0.7**
FGMS Monte Sant'Ang 86.45 312 *e*P **P 11 27 01.1 +1.6**
SISC Sisak 86.52 316 *i* P **P 11 27 00.0 +0.3**
MGR Morigerati 86.61 310 *e*P **P 11 27 00.3 0.0**
SOP Sopron 86.63 318 *e*P **P 11 27 00.0 -0.2**
KOGS Kog 86.71 317 *i* P **P 11 27 01.1 +0.5**
MRLC Muro Lucano 86.72 311 *e*P **P 11 27 02.8 +2.0**
FG4 Candela 86.73 311 *e*P **P 11 27 02.0 +1.2**
KTK1 Kautokeino 86.74 339 *e*P **P 11 27 00.6 +0.4**
comp=Z,557nm,1.3s,mb6.6
KTK1 Kautokeino 86.74 339 *e*P **P 11 27 00.6 +0.4**
KTK1 *e*pP pP 11 27 10.3 -0.5
KTK1 AMb AMB 11 27 12.8
comp=Z,557nm,1.3s,mb6.6
VRAC Vranov 86.78 319 P **P 11 27 01.3 +0.4**
comp=Z,19nm,1.0s,mb5.3,baz=69,slow=6.4,SNR=18
VRAC Vranov 86.78 319 ⇑P **P 11 27 02.8 +2.0**
SGO Sicignano 86.84 311 *e*P **P 11 27 01.4 0.0**
GKP Gorka Klasztor 86.84 323 *e*P **P 11 27 01.3 +0.3**
GKP *e* 11 27 03.2
GKP Gorka Klasztor 86.84 323 *e*P **P 11 27 01.3 +0.2**
GKP *e* 11 27 03.1
VKA Vienna 86.85 318 ⇑*i*P **P 11 27 03.4 +2.2**
comp=Z,1µm,3.0s
FG5 Orsara di Pugl 86.93 311 *e*P **P 11 27 03.0 +1.2**
FG2 Serracapriola 87.05 312 *e*P **P 11 27 04.2 +1.8**
KIWB Kanaga Island 87.06 38 *e*P **P 11 27 01.9 -0.3**
DPC Dobruska-Polom 87.07 320 *e*P **P 11 27 03.0 +0.8**
DPC MLR MLR
comp=Z,12µm,19.7s,MS6.3
DPC Dobruska-Polom 87.07 320 *e*P **P 11 27 03.0 +0.8**
DPC *e*S S 11 38 05.2 +28
DPC AMS AMS 12 10 40.0
comp=Z,12µm,19.7s
CSSN Cassano Irpino 87.08 311 *e*P **P 11 27 03.2 +0.7**
KSP Ksiaz 87.14 321 ⇑*e*P **P 11 27 03.0 +0.4**
KSP *e**PP pP 11 27 12.9 -0.2
KSP Ksiaz 87.14 321 *e*P **P 11 27 03.1 +0.5**
KSP *e* 11 27 05.2
ARSA Arzberg 87.28 317 ⇑*i*P **P 11 27 03.8 +0.5**
comp=Z,3µm,4.5s
UPC Upice 87.28 321 *e*P **P 11 27 04.5 +1.2**
UPC *e*S S 11 37 53.8 +15
BOJS Bojanci 87.31 316 *e*P **P 11 27 03.9 +0.4**
CII Carovilli 87.69 312 *e*P **P 11 27 05.0 -0.4**
comp=Z,482nm,1.4s,mb6.5
LJU Ljubljana 87.86 316 *e*P **P 11 27 06.7 +0.5**
OBKA Obir 87.88 316 ⇑*i*P **P 11 27 06.8 +0.6**
comp=Z,2µm,4.2s
SDI San Donato 88.05 312 *e*P **P 11 27 07.2 +0.1**
PRU Pruhonice 88.17 320 *e*P **P 11 27 08.6 +1.1**
PRU *e*S S 11 37 56.0 +8.5
PRU AMS AMS 12 11 30.0
comp=Z,10µm,20.3s
MOA Molln 88.18 318 ⇑*i*P **P 11 27 07.5 -0.1**
comp=Z,644nm,3.7s
PVCC Panska Ves 88.20 320 *e*P **P 11 27 08.9 +1.2**
PVCC MLR MLR
comp=Z,12µm,19.5s,MS6.3
PVCC Panska Ves 88.20 320 *e*P **P 11 27 08.9 +1.2**
PVCC *e*S S 11 38 00.6 +13
PVCC AMS AMS 12 15 00.0
comp=Z,12µm,19.5s
PRA Prague 88.25 320 P **P 11 27 10.0 +2.1**
QSPA South Pole Qui 88.27 180 *e*P **P 11 27 08.5 +1.1**
comp=Z,118nm,0.9s,mb6.1
VOY Vojsko 88.30 316 *e*P **P 11 27 07.9 -0.3**
TRO Tromso 88.36 340 *e*P **P 11 27 06.5 -1.5**
comp=Z,395nm,1.5s,mb6.4
TRO Tromso 88.36 340 *e*P **P 11 27 06.5 -1.5**
TRO AMb AMB 11 27 22.7
comp=Z,395nm,1.5s,mb6.4
TRI Trieste 88.37 316 *e*P **P 11 27 06.0 -2.5**
PTQR Pietraquaria 88.38 312 *e*P **P 11 27 09.3 +0.5**
BSD Bornholm Skovb 88.39 325 ⇑*i*P **P 11 27 08.2 -0.3**
BSD *i* pP 11 27 19.4 +0.4
BSD pmax pmax
comp=Z,240nm,0.9s,mb6.4
BSD Bornholm Skovb 88.39 325 ⇑*i*P **P 11 27 08.2 -0.3**
comp=Z,236nm,0.9s,mb6.4
BSD *i* pP 11 27 19.4 +0.4
AQU L'Aquila 88.40 312 P **P 11 27 09.9 +1.1**
AQU L'Aquila 88.40 312 *e*P **P 11 27 10.0 +1.2**
ROBS Robic 88.58 316 *e*P **P 11 27 09.6 0.0**
BRG Berggiesshubel 88.63 321 *i* P **P 11 27 10.9 +1.2**
BRG *i* pP 11 27 20.4 +0.2
BRG *e* 11 30 36.9
BRG *e* 11 37 42.6
BRG pmax pmax
comp=Z,333nm,1.5s,mb6.5
BRG MLR MLR
comp=N,14µm,25.9s,MS6.3
BRG MLR MLR
comp=E,10µm,25.9s,MS6.3
BRG MLR MLR
comp=Z,10µm,25.9s,MS6.1
BRG Berggiesshubel 88.63 321 *i* P **P 11 27 10.9 +1.2**
comp=Z,333nm,1.5s,mb6.5
BRG *i* pP 11 27 20.4 +0.2
BRG *e*PP PP 11 30 36.9 -3.8
BRG *e*SKS SKS 11 37 42.6 -0.4
BRG *e* 11 44 54.9
BRG *e* 11 48 26.0
BRG *e*P'P' 11 53 03.2
BRG LR LR
comp=Z,10µm,25.9s,MS6.1
GEC2 GERESS Array S 88.63 319 *e*P **P 11 27 10.1 +0.3**
GERES GERESS Array B 88.63 319 P **P 11 27 10.7 +0.9**
GERES pmax pmax
comp=Z,75nm,1.0s
GERES pmax pmax
comp=Z,1.0nm,1.1s
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 88.63 319 P **P 11 27 10.7 +1.0**
comp=Z,75nm,1.0s,mb6.0,baz=95,slow=2.9,SNR=73
GERES PKKP PKKP 11 44 45.1 +7.9
comp=Z,1.1nm,1.1s,baz=180,slow=2.0,SNR=5.6
GERES PKKPbc 11 44 53.0
comp=Z,0.7nm,0.8s,baz=243,slow=3.0,SNR=3.6
NRCA Norcia 88.64 313 *e*P **P 11 27 10.2 +0.2**
PTCC Patocco-Chiusa 88.70 316 *e*P **P 11 27 10.2 0.0**
KHC Kasperske Hory 88.73 319 *e*P **P 11 27 10.2 0.0**
KHC MLR MLR
comp=Z,10µm,20.2s,MS6.2
KHC Kasperske Hory 88.73 319 *e*P **P 11 27 10.2 0.0**
KHC *e*S S 11 38 05.5 +13
KHC AMS AMS 12 13 00.0
comp=Z,10µm,20.2s
KBA Koelnbreinsper 88.75 317 ⇑*i*P **P 11 27 09.9 -0.5**
comp=Z,475nm,2.4s,mb6.4
GMNA Gemona 88.77 316 *e*P **P 11 27 11.0 +0.5**
SNTG Esanatoglia 88.80 313 *e*P **P 11 27 11.4 +0.7**
ARV Arcevia 88.81 313 *e*P **P 11 27 11.4 +0.6**
RUE Ruedersdorf 88.85 322 *e*P **P 11 27 11.2 +0.5**
comp=Z,630nm,1.1s,mb6.9
LAV9 Lanuvio 88.88 312 *e*P **P 11 27 13.5 +2.4**
MA9 Marino 88.92 312 *e*P **P 11 27 11.8 +0.4**
MNS Montasola 88.94 312 *e*P **P 11 27 11.6 +0.2**
FSSB Fossombrone 88.94 314 *e*P **P 11 27 11.5 +0.1**
WET Wettzell 89.19 319 *e*P **P 11 27 12.9 +0.5**
WET pmax pmax
comp=Z,312nm,1.6s,mb6.4
WET Wettzell 89.19 319 *e*P **P 11 27 12.9 +0.5**
comp=Z,312nm,1.6s,mb6.4
CLL Collm 89.25 321 ⇑*i*P **P 11 27 12.6 0.0**
CLL *i* pP 11 27 22.8 -0.4
CLL pmax pmax
comp=Z,203nm,1.4s,mb6.3
CLL MLR MLR
comp=Z,12µm,22.4s,MS6.2
CLL Collm 89.25 321 ⇑*i*P **P 11 27 12.6 0.0**
comp=Z,203nm,1.4s,mb6.3
CLL *i* pP 11 27 22.8 -0.4
CLL *i* 11 27 42.5
CLL LR LR
comp=Z,12µm,22.4s,MS6.2
CLL Collm 89.25 321 ⇑P **P 11 27 12.6 0.0**
comp=Z,logA/T=2.2,mb6.3
CLL *i **PP pP 11 27 22.8 -0.4
CLL *i* 11 27 42.5
CLL *e*PP PP 11 30 34.0 -12
CLL *e*SCS ScS 11 38 09.0 +7.8
RGN Rugen 89.27 324 *e*P **P 11 27 14.2 +1.6**
comp=Z,412nm,1.3s,mb6.6
HFS Hagfors 89.47 330 P **P 11 27 14.0 +0.6**
comp=Z,45nm,0.7s,mb5.9,baz=117,slow=3.3,SNR=45
HFS LR LR 12 12 30.3
comp=Z,9µm,21.5s,MS6.2,baz=214,slow=39
NKC Novy Kostel 89.53 320 *e*P **P 11 27 15.2 +1.2**
NKC MLR MLR
comp=Z,11µm,19.2s,MS6.3
NKC Novy Kostel 89.53 320 *e*P **P 11 27 15.2 +1.2**
NKC *e*S S 11 38 12.6 +12
NKC AMS AMS 12 15 40.0
comp=Z,11µm,19.2s
MOR8 Moi Rana 89.62 336 *e*P **P 11 27 13.1 -0.9**
comp=Z,322nm,1.4s,mb6.5
MOR8 Moi Rana 89.62 336 *e*P **P 11 27 13.1 -0.9**
MOR8 *e*pP pP 11 27 23.6 -1.0
MOR8 AMb AMB 11 27 29.6
comp=Z,322nm,1.4s,mb6.5
SFI Santa Sofia 89.62 314 *e*P **P 11 27 16.1 +1.5**
PGD Poggio Sodo 89.71 314 *e*P **P 11 27 16.5 +1.4**
VMG Vicchio 89.84 314 *e*P **P 11 27 16.8 +1.2**
COP Copenhagen 89.85 326 *i* P **P 11 27 17.3 +2.0**
COP pmax pmax
comp=Z,49nm,0.7s,mb6.0
COP Copenhagen 89.85 326 *i* P **P 11 27 17.3 +2.0**
comp=Z,49nm,0.7s,mb5.9
CTI Castel Tesino 89.86 316 *e*P **P 11 27 16.2 +0.5**
WTTA Wattenberg 89.92 317 ⇑*i*P **P 11 27 15.6 -0.3**
comp=Z,535nm,2.9s,mb6.4
MELSS Ber_school_2 89.96 337 *e*P **P 11 27 16.1 +0.5**
MELSS *e*pP pP 11 27 25.7 -0.5
WATA Walderalm 89.97 317 ⇓*i*P **P 11 27 15.6 -0.5**
comp=Z,401nm,1.9s,mb6.4

SEI Scarperia 89.98 314 eP P 11 27 18.3 +2.0
FUR Furstenfeldbru 90.20 318 eP P 11 27 17.0 -0.2
FUR pmax pmax
comp=Z,247nm,1.5s,mb6.3
FUR Furstenfeldbru 90.20 318 eP P 11 27 17.0 -0.2
comp=Z,247nm,1.5s,mb6.3
SQTA Sankt Quirin 90.21 317⇑ iP P 11 27 17.0 -0.3
comp=Z,226nm,1.5s,mb6.3
GRFL Gerfalco 90.22 313 eP P 11 27 16.8 -0.6
ZCCA Zocca 90.27 314 eP P 11 27 19.9 +2.3
MOTA Moosalm 90.29 317⇑ iP P 11 27 17.2 -0.4
GRA1 Grafenberg Arr 90.30 320 eP P 11 27 18.2 +0.6
comp=Z,419nm,1.6s,mb6.5
GRA1 epP pP 11 27 28.5 +0.4
GRF Grafenberg Arr 90.30 320 eP P 11 27 18.2 +0.6
GRF e*PP pP 11 27 28.5 +0.4
GRF pmax pmax
comp=Z,419nm,1.6s,mb6.5
GRF Grafenberg Arr 90.30 320 eP P 11 27 18.2 +0.6
comp=Z,419nm,1.6s,mb6.5
GRF epP pP 11 27 28.5 +0.4
NSS Namsos 90.54 334 eP P 11 27 17.9 -0.4
comp=Z,254nm,1.7s,mb6.3
NSS Namsos 90.54 334 eP P 11 27 17.9 -0.4
NSS AMb AMB 11 27 30.0
comp=Z,254nm,1.7s,mb6.3
GSCL Gusciola 90.55 314 eP P 11 27 19.8 +1.0
SAL Salo 90.63 315 eP P 11 27 20.8 +1.6
ERBM Eremo 90.67 314 eP P 11 27 21.4 +2.0
SARO Sassorosso 90.67 314 P P 11 27 19.5 0.0
VLC Villacollemand 90.69 314 eP P 11 27 18.4 -1.1
comp=Z,127nm,1.0s,mb6.2
NB2 NORSAR Subarra 90.74 331 P P 11 27 19.0 -0.3
comp=Z,149nm,1.4s,mb6.1,baz=93,slow=4.6
NB2 NORSAR Subarra 90.74 331 P P 11 27 19.0 -0.3
baz=93,slow=4.8
NOA NORSAR Array B 90.74 331 P P 11 27 19.7 +0.4
NOA pmax pmax
comp=Z,32nm,0.9s
NOA MLR MLR
comp=Z,9μm,21.8s
NOA NORSAR Array B 90.74 331 P P 11 27 19.7 +0.4
comp=Z,32nm,0.9s,mb5.7,baz=93,slow=4.7,SNR=32
NOA LR LR 12 11 01.4
comp=Z,9μm,21.8s,MS6.2,baz=95,slow=38
NOA NORSAR Array B 90.74 331 P P 11 27 19.7 +0.3
NOA LR LR 12 11 01.4
BRMO Bormio 90.76 316 eP P 11 27 20.5 +0.7
VALM 90.79 314 P P 11 27 20.0 0.0
NAO01 NORSAR Array S 90.89 331 eP P 11 27 20.1 +0.1
comp=Z,88nm,1.2s,mb6.0
CLZ Clausthal 90.91 322 eP P 11 27 20.9 +0.6
comp=Z,234nm,1.4s,mb6.3
GRAM 90.92 314 P P 11 27 21.4 +0.9
HDH Heidenheim 90.93 318 eP P 11 27 20.3 -0.2
OSL Oslo 90.94 330 eP P 11 27 22.5 +2.2
UBR Uberruh 90.97 317⇑ eP P 11 27 21.0 +0.3
BSEG Bad Segeberg 91.00 324 eP P 11 27 21.2 +0.5
DAVA Damuels 91.12 317⇑ iP P 11 27 21.8 +0.4
comp=Z,1μm,3.9s
VSL Villasalto 91.33 309 eP P 11 27 22.5 0.0
comp=Z,126nm,0.9s,mb6.2
SIND Sindeldorf 91.34 319⇑ eP P 11 27 22.5 +0.1
BOB Bobbio (Coli) 91.37 315 eP P 11 27 23.9 +1.3
CGL Cagliari Serpe 91.39 309 eP P 11 27 23.3 +0.4
BUCH Bad Urach 91.50 318⇑ eP P 11 27 23.3 +0.2
KONO Kongsberg 91.51 329 P P 11 27 23.4 +0.5
KONO pmax pmax
comp=Z,67nm,1.0s,mb5.9
KONO Kongsberg 91.51 329 eP P 11 27 23.2 +0.3
comp=Z,4μm,1.0s
KONO Kongsberg 91.51 329 eP P 11 27 23.2 +0.3
KONO AMb AMB 11 27 37.6
comp=Z,178nm,1.0s,mb6.4
STU Stuttgart 91.61 319 P P 11 27 24.4 +0.8
STU pmax pmax
comp=Z,320nm,1.5s,mb6.4
STU Stuttgart 91.61 319 eP P 11 27 24.1 +0.5
comp=Z,322nm,1.5s,mb6.4
GUT Gutenstein 91.65 318⇑ eP P 11 27 23.7 -0.1
PGF Pioggiola 91.66 312 eP P 11 27 24.7 +0.7
comp=Z,171nm,1.0s,mb6.0
MUD Monsted U'grnd 91.70 326⇑ iP P 11 27 26.4 +2.6
MUD pmax pmax
comp=Z,61nm,1.0s,mb5.9
MUD Monsted U'grnd 91.70 326⇑ iP P 11 27 26.4 +2.6
comp=Z,61nm,1.0s,mb5.9
DOMB Dombas 91.79 332 eP P 11 27 24.6 +0.5
comp=Z,75nm,1.2s,mb5.9
DOMB Dombas 91.79 332⇓ iP P 11 27 24.9 +0.8
DOMB epP pP 11 27 34.2 -0.5
DOMB AMb AMB 11 27 37.0
comp=Z,75nm,1.2s,mb5.9
VAI Varese 91.86 316 eP P 11 27 24.8 0.0
LBG Lerchenberg 91.87 318⇑ eP P 11 27 24.7 -0.1
TOD Tromm 91.87 319 eP P 11 27 25.7 +0.9
TOD Tromm 91.87 319 eP P 11 27 25.0 +0.2
SPAK Spaichingen 91.87 318 eP P 11 27 25.7 +0.9
SPAK Spaichingen 91.87 318 eP P 11 27 25.1 +0.3
SWS Schriesheim 91.94 319 eP P 11 27 25.0 -0.1
PCP Pian Castagno 92.01 314 P P 11 27 25.9 +0.4
TNS Taunus Mts 92.10 320 eP P 11 27 26.2 +0.3
BFO Black Forest 92.18 318 P P 11 27 26.9 +0.7
comp=Z,381nm,0.9s,mb6.7,SNR=16
BFO Black Forest 92.18 318 eP P 11 27 26.1 -0.1
BFO pmax pmax
comp=Z,160nm,1.6s,mb6.1
BFO Black Forest 92.18 318 eP P 11 27 26.1 -0.1
comp=Z,160nm,1.6s,mb6.1
FIN Finale Ligure 92.25 314 eP P 11 27 27.1 +0.4
SNAA Sanae 92.35 198 P P 11 27 27.6 +1.1
SNAA pmax pmax
comp=Z,70nm,1.1s
SNAA Sanae 92.35 198⇑ iP P 11 27 24.9 -1.6
SNAA e pP 11 27 35.9 -1.2
SNAA e 11 27 39.2
FELD Feldberg 92.40 318 eP P 11 27 27.1 -0.2
MCGN Macugnaga 92.41 316 eP P 11 27 28.4 +1.0
ORO Oropa 92.42 315 eP P 11 27 27.2 -0.3
ORX Oropa 92.42 315 P P 11 27 27.0 -0.4
KIZ Kirchzarten 92.45 318 eP P 11 27 27.2 -0.3
IMI Imperia 92.48 314 eP P 11 27 29.8 +2.1
MOL Molde 92.49 332 eP P 11 27 30.2 +2.8
comp=Z,206nm,1.8s,mb6.2
MOL Molde 92.49 332⇑ iP P 11 27 30.2 +2.8
MOL AMb AMB 11 27 42.5
comp=Z,206nm,1.8s,mb6.2
ROB Roburent 92.50 314 P P 11 27 28.4 +0.6
LANF Langenberg 92.52 319 eP P 11 27 28.7 +0.9
MONE Monesi 92.58 314 P P 11 27 28.9 +0.7
LIBD Limburg 92.66 318 eP P 11 27 29.6 +1.1
LIBD Limburg 92.66 318 eP P 11 27 28.2 -0.3
ABH Alteburg 92.69 320 eP P 11 27 30.0 +1.5
ABH Alteburg 92.69 320⇑ eP P 11 27 28.9 +0.4
SAOF Saorge 92.72 314 eP P 11 27 30.4 +1.5
BBS Basel-Blauen 92.73 317 eP P 11 27 29.3 +0.5
BBS Basel-Blauen 92.73 317 eP P 11 27 28.6 -0.2
SBF Sospel 92.81 314 eP P 11 27 29.8 +0.5
comp=Z,277nm,1.1s,mb6.3
AUTN L'Aution 92.82 314 eP P 11 27 30.4 +1.1
WLS Welschbruch 92.83 318 eP P 11 27 30.0 +0.8
CGMA Guelma 92.86 306 P P 11 27 30.0 +0.3
REVF Revere 92.86 314 eP P 11 27 31.9 +2.4
CDF Champ du Feu 92.88 318 eP P 11 27 29.7 +0.2
comp=Z,353nm,1.6s,mb6.2
TOUF Mont Tournerai 92.94 314 eP P 11 27 31.0 +1.1
ECH Echery 92.96 318 eP P 11 27 28.7 -1.2
MOF Molkenrain 92.98 318 eP P 11 27 30.6 +0.6
LSD Ceresole Reale 93.00 315 P P 11 27 30.6 +0.5
RUP Ruppelstein 93.00 319 eP P 11 27 31.3 +1.3
RUP Ruppelstein 93.00 319 eP P 11 27 29.8 -0.2
MVIF Mont Vial 93.02 314 eP P 11 27 31.0 +0.8
PZZ Prazzo 93.05 314 P P 11 27 31.2 +0.9
FENE Fenestrelle 93.07 315 P P 11 27 30.2 -0.2
BLS5 Blasjo 93.11 329 eP P 11 27 32.8 +2.5
comp=Z,89nm,1.3s,mb6.0
BLS5 Blasjo 93.11 329 eP P 11 27 32.8 +2.5
BLS5 AMb AMB 11 27 47.6
comp=Z,89nm,1.3s,mb6.0
WTSB Winterswijk 93.12 322 eP P 11 27 33.0 +2.5
comp=Z,110nm,3.0s
HINF Hinteralfeld 93.17 318 eP P 11 27 30.9 +0.1
LOMF Lomont 93.20 317 eP P 11 27 31.7 +0.7
CALN Calern 93.21 314 eP P 11 27 32.3 +1.2

SURF Saint Ours 93.25 314 eP P 11 27 31.8 +0.5
RRL Cesana Torines 93.27 315 P P 11 27 31.8 +0.5
MBDF Montbardon 93.28 315 eP P 11 27 32.9 +1.5
comp=Z,75nm,0.9s,mb5.8
LPG La Plagne 93.28 315⇑ iP P 11 27 32.1 +0.7
comp=Z,94nm,0.8s,mb6.0
LPL La Plagne 93.29 315⇑ iP P 11 27 32.1 +0.6
comp=Z,220nm,1.1s,mb6.2
BNI Bardonecchia 93.34 315 P P 11 27 33.2 +1.5
BNI pmax pmax
comp=Z,190nm,1.7s,mb6.2
BNI Bardonecchia 93.34 315 eP P 11 27 32.4 +0.7
comp=Z,186nm,1.7s,mb6.2
FRF La Foret Royal 93.39 313⇑ iP P 11 27 32.4 +0.5
comp=Z,166nm,1.1s,mb6.1
CKFL Kef-Lekhel 93.41 306 P P 11 27 35.0 +2.8
LMR La Mourre 93.49 313 eP P 11 27 32.8 +0.4
comp=Z,110nm,1.1s,mb5.9
HAU Haudompre 93.51 318 eP P 11 27 32.5 +0.1
comp=Z,288nm,1.2s,mb6.3
HAU eR
comp=Z,8μm,19.2s
WLF Walferdange 93.59 319 P P 11 27 33.6 +0.9
WLF pmax pmax
comp=Z,69nm,1.1s,mb6.0
WLF Walferdange 93.59 319 eP P 11 27 33.5 +0.8
comp=Z,69nm,1.1s,mb6.0
CASM Ain Smara 93.60 306 P P 11 27 35.5 +2.4
CTEI Djebel Teioual 93.67 306 P P 11 27 36.0 +2.6
HGN Heimansgroeve 93.70 321 eP P 11 27 31.7 -1.5
comp=Z,67nm,3.0s
CABF La Chapelle 93.72 316⇑ iP P 11 27 34.1 +0.7
comp=Z,277nm,1.3s,mb6.2
GDM Grand'Maison 93.73 315 eP P 11 27 36.6 +3.1
THEF They Montfort 93.74 318 eP P 11 27 32.6 -0.9
ORIF Oris-en-Rattie 93.91 315 eP P 11 27 34.9 +0.6
comp=Z,180nm,1.3s,mb6.0
ORIF eR
comp=Z,15μm,22.8s
VNA2 Neumayer--Watz 93.96 198⇑ iP P 11 27 33.9 -0.1
VNA2 e pP 11 27 44.8 +0.3
VNA2 e 11 27 47.5
GRN Grenoble 94.00 315 eP P 11 27 36.8 +2.1
CMER Merouana 94.09 305 P P 11 27 40.0 +4.6
DFRA Djebel Bou Alf 94.09 306 P P 11 27 38.0 +2.6
SMRF Simiane la Rot 94.15 314 eP P 11 27 36.5 +1.0
comp=Z,508nm,1.8s,mb6.3
VNA1 Neumayer--Stat 94.32 199 P P 11 27 35.0 -0.6
VNA1 e pP 11 27 46.2 +0.1
VNA1 e 11 27 49.5
MEZF Maizieres J'vi 94.36 318 eP P 11 27 36.7 +0.4
comp=Z,80nm,0.9s,mb5.8
GIVF Givet 94.44 320 eP P 11 27 36.9 +0.3
comp=Z,46nm,1.0s,mb5.6
SET Setif 94.48 306 P P 11 27 37.0 -0.2
VNA3 Neumayer Olymp 94.57 198⇑ iP P 11 27 36.5 -0.2
VNA3 e pP 11 27 47.5 +0.2
VNA3 e 11 27 50.2
VIVF Saint-Julien-l 94.77 315 eP P 11 27 38.7 +0.4
comp=Z,47nm,0.9s,mb5.6
BAIF Baives 94.83 320 eP P 11 27 38.9 +0.5
comp=Z,70nm,1.1s,mb5.7
SMF Signal de Mont 95.27 317⇑ iP P 11 27 40.5 0.0
comp=Z,195nm,1.5s,mb6.0
LASF Ste Croix 95.39 314 eP P 11 27 41.7 +0.6
comp=Z,310nm,1.8s,mb6.1
PLDF La Plantade 95.45 316 eP P 11 27 41.3 -0.1
SSF Saint Saulge 95.47 317 eP P 11 27 41.7 +0.3
comp=Z,169nm,1.6s,mb5.9
AVF Avril sur Loir 95.59 317 eP P 11 27 42.1 +0.1
comp=Z,90nm,1.2s,mb5.8
LBL Lubilhac 95.76 315 eP P 11 27 45.9 +3.1
AGO Saint Agoulin 95.79 316 eP P 11 27 45.9 +3.0
BGF Bois d'Agland 95.95 316 eP P 11 27 44.2 +0.5
comp=Z,189nm,1.4s,mb6.0
HYF Humbligny 96.05 317 eP P 11 27 44.8 +0.7
TCF Toulx Ste Croi 96.41 316 eP P 11 27 46.3 +0.6
comp=Z,106nm,1.5s,mb5.7
CAF Calviac 96.62 315 eP P 11 27 47.4 +0.7
comp=Z,71nm,1.2s,mb5.7
MTLF Montolieu 96.62 313 eP P 11 27 47.1 +0.4
comp=Z,115nm,1.3s,mb5.9
RJF Les Rejaudoux 96.97 315 eP P 11 27 49.0 +0.7
comp=Z,130nm,1.5s,mb5.8
RJF eR
comp=Z,14μm,22.2s
JMIC Jan Mayen 97.48 342 LR LR 12 22 21.7
comp=Z,6μm,19.3s,MS6.1,baz=256,slow=42
LFF La Frestale 97.55 315 eP P 11 27 51.5 +0.6
LDF La Druitiere 97.78 319 eP P 11 27 51.8 0.0
comp=Z,60nm,1.1s,mb5.8
LCP Cassop 97.84 325 eP P 11 27 53.0 +1.1
LCP AMb AMB 11 28 06.8
comp=Z,208nm,1.8s,mb6.4
DAG Danmarks Havn 97.92 348⇑ iP P 11 27 52.0 +0.1
DAG pmax pmax
comp=Z,63nm,1.0s,mb6.1
DAG Danmarks Havn 97.92 348⇑ iP P 11 27 52.0 +0.1
comp=Z,63nm,1.0s,mb6.1
FLN La Foliniere 98.00 319 eP P 11 27 52.8 0.0
comp=Z,48nm,0.9s,mb5.7
FLN eR
comp=Z,10μm,23.0s
MFF Saint Martin d 98.01 317 eP P 11 27 52.9 0.0
comp=Z,61nm,1.2s,mb5.7
HPK Haverah Park 98.04 324 eP P 11 27 53.8 +0.9
HPK AMb AMB 11 27 56.9
comp=Z,257nm,1.3s,mb6.6
KBI1 Birley Grange 98.08 323 eP P 11 27 53.5 +0.4
KBI1 AMb AMB 11 27 56.8
comp=Z,93nm,1.2s,mb6.2
IMA Indian Mountai 98.23 23 P P 11 27 54.6 +1.1
IMA pmax pmax
comp=Z,470nm,1.0s,mb7.0
IMA Indian Mountai 98.23 23 eP P 11 27 55.0 +1.5
comp=Z,111nm,1.4s,mb6.2
LHO Holmfirth 98.23 324 eP P 11 27 54.3 +0.5
LHO AMb AMB 11 28 06.7
comp=Z,85nm,2.2s,mb5.9
GRR Gorron 98.29 319 eP P 11 27 54.4 +0.3
comp=Z,40nm,1.0s,mb5.6
KWE Weaver Farm 98.30 323 eP P 11 27 54.8 +0.7
KWE AMb AMB 11 28 05.4
comp=Z,98nm,1.6s,mb6.1
ETSF Etsaut 98.68 313 eP P 11 27 56.8 +0.8
comp=Z,164nm,1.7s,mb6.0
ESK Eskdalemuir 98.73 326 eP P 11 27 57.0 +1.0
ESK AMb AMB 11 27 59.2
comp=Z,52nm,1.5s,mb5.8
SJPF Ste Jean 99.14 313 eP P 11 27 58.9 +0.8
comp=Z,77nm,1.4s,mb5.8
SGMF Saint Gilles 99.43 319 eP P 11 27 59.3 0.0
comp=Z,136nm,1.5s,mb6.0
SLKM Skilak Lake 101.25 28 P P 11 28 08.2 +1.0
SLKM Skilak Lake 101.25 28 ePdif P 11 28 06.1 -1.1
ILAR Eielson Array 101.33 24 P P 11 28 06.5 -1.0
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR pmax pmax
comp=Z,10.0nm,1.0s
ILAR pmax pmax
comp=Z,4.0nm,0.9s
ILAR Eielson Array 101.33 24 P P 11 28 06.5 -1.1
comp=Z,2.3nm,0.8s,baz=287,slow=4.0,SNR=14
ILAR PP PP 11 32 11.7 -8.0
comp=Z,10nm,1.0s,baz=293,slow=7.1,SNR=4.8
ILAR PKKPbc 11 44 16.9
comp=Z,4.0nm,0.8s,baz=145,slow=2.1,SNR=14
ESDC Sonseca Array 101.60 310 P P 11 28 10.4 +1.0
comp=Z,2.0nm,0.8s,baz=53,slow=4.9,SNR=5.9
ESDC PP PP 11 32 20.7 -1.5
comp=Z,3.1nm,0.8s,baz=80,slow=6.5,SNR=4.7
ESDC PKKPbc 11 44 18.6
comp=Z,2.9nm,0.9s,baz=267,slow=3.1,SNR=5.7
INK Inuvik 104.45 18 P Pdif 11 28 20.8 -0.3
INK 11 32 39.3
INK pmax pmax
comp=Z,5.0nm,0.8s
INK pmax pmax
comp=Z,8.0nm,0.9s
INK pmax pmax
comp=Z,1.0nm,0.7s
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 104.45 18 Pdiff Pdif 11 28 20.8 -0.4
comp=Z,4.7nm,0.8s,baz=316,slow=4.1,SNR=9.7

INK PP PP 11 32 39.3 -3.6
comp=Z,8.1nm,0.9s,baz=24,slow=2.5,SNR=5.2
INK PKKPbc 11 44 07.1
comp=Z,1.4nm,0.7s,baz=112,slow=6.2,SNR=5.1
INK PKKP PKKP 11 44 14.2 +4.9
comp=Z,4.1nm,0.8s,baz=139,slow=6.1,SNR=8.9
DAWY Dawson 104.59 23 ePdif Pdif 11 28 22.9 +1.0
SUMG Summit 104.61 348 ePdif Pdif 11 28 23.7 +1.9
comp=Z,26nm,1.1s
DBIC Dimbokro 104.67 276 P Pdif 11 28 27.8 +4.4
DBIC pmax pmax
comp=Z,4.0nm,0.8s
DBIC Dimbokro 104.67 276 Pdiff Pdif 11 28 27.8 +4.4
comp=Z,3.6nm,0.8s,baz=162,slow=7.1,SNR=3.9
RES Resolute Bay 106.57 4 P Pdif 11 28 32.0 +1.6
RES pmax pmax
comp=Z,11nm,1.0s
RES Resolute Bay 106.57 4 ePdif Pdif 11 28 31.8 +1.4
comp=Z,11nm,1.0s
TBI Tubuai 108.36 115 eLR LR 12 04 25.6
comp=Z,22μm,23.5s
PPT Papeete 109.17 109 eLR LR 12 04 47.3
comp=Z,21μm,23.2s
DLBC Dease Lake 111.38 26 PKiKP 11 32 51.1
comp=Z,4.2nm,0.8s,baz=321,slow=7.8,SNR=5.8
DLBC PKKP PKKP 11 44 01.6 +4.9
comp=Z,6.2nm,0.9s,baz=125,slow=3.2,SNR=5.8
YKA Yellowknife Ar 114.15 17 P Pdif 11 29 04.7 +0.8
YKA 11 32 55.0
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 114.15 17 Pdiff Pdif 11 29 04.7 +0.8
comp=Z,0.4nm,0.7s,baz=327,slow=4.5,SNR=12
YKA PKP PKPdf 11 32 55.0 -4.7
comp=Z,7.3nm,0.8s,baz=317,slow=2.4,SNR=19
YKA PKKPbc 11 43 36.0
comp=Z,1.0nm,0.8s,baz=138,slow=3.1,SNR=6.9
YKA Yellowknife Ar 114.15 17 Pdif Pdif 11 29 04.7 +0.8
YKA PKP PKPdf 11 32 55.0 -4.7
YKA PKKPbc 11 43 36.0
PGC Sidney 120.35 32 ePKPdf PKPdf 11 33 08.6 -3.5
RKT Rikitea 121.36 118 eLR LR 12 10 27.6
comp=Z,21μm,27.2s
EDM Edmonton 121.81 23 PKIKP PKPdf 11 33 10.5 -4.3
EDM Edmonton 121.81 23 ePKPdf PKPdf 11 33 10.1 -4.7
FCC Fort Churchill 122.06 8 PKIKP PKPdf 11 33 10.7 -4.5
FCC Fort Churchill 122.06 8 ePKPdf PKPdf 11 33 10.4 -4.8
WTV Waterville 122.77 31 P PKPdf 11 33 12.8 -3.9
TBM Table Mountain 122.78 32 P PKPdf 11 33 13.1 -3.7
EBG Ellensburg 122.96 32 P PKPdf 11 33 13.8 -3.4
VLMM Larch Mountain 123.01 34 P PKPdf 11 33 14.3 -3.0
TDH Tom, Dick, Har 123.30 34 P PKPdf 11 33 14.5 -3.4
BROR Big Rock Looko 123.54 35 P PKPdf 11 33 14.9 -3.5
WRD Warden 123.77 31 P PKPdf 11 33 15.3 -3.5
NEW Newport 123.80 29 PKIKP PKPdf 11 33 14.9 -3.9
NEW pmax pmax
comp=Z,16nm,0.9s
NEW Newport 123.80 29 PKP PKPdf 11 33 14.8 -4.0
comp=Z,16nm,0.8s,baz=264,slow=1.4,SNR=19
NEW Newport 123.80 29 ePKPdf PKPdf 11 33 14.4 -4.4
HAWA Hanford 123.84 32 ePKPdf PKPdf 11 33 15.3 -3.6
HBO Huckleberry Mo 123.87 36 P PKPdf 11 33 15.7 -3.4
HUMO Hull Mountain 124.21 37 ePKPdf PKPdf 11 33 16.6 -3.2
KHMM Horse Mountain 124.70 39 ePKPdf PKPdf 11 33 17.8 -3.0
WALA Waterton Lakes 124.71 26 ePKPdf PKPdf 11 33 16.6 -4.0
YBH Yreka Blue Hor 124.86 38 PKIKP PKPdf 11 33 17.2 -3.9
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH Yreka Blue Hor 124.86 38 PKP PKPdf 11 33 17.2 -3.9
comp=Z,7.3nm,0.8s,baz=338,slow=2.6,SNR=12
LASM Arnica Sink 125.63 38 P PKPdf 11 33 19.4 -3.1
SCHQ Schefferville 125.90 350 PKP PKPdf 11 33 18.9 -3.8
comp=Z,17nm,0.8s,baz=26,slow=2.9,SNR=18
SCHQ Schefferville 125.90 350 ePKPdf PKPdf 11 33 18.5 -4.1
MOD Modoc 126.22 37 ePKPdf PKPdf 11 33 20.5 -3.1
MSO Missoula 126.33 28 ePKPdf PKPdf 11 33 19.4 -4.3
CHMT Chamberlain Mo 126.59 28 ePKPdf PKPdf 11 33 19.7 -4.5
NSHM Saint Helena R 126.71 41 ePKPdf PKPdf 11 33 21.8 -2.9
WVOR Wild Horse Val 126.86 35 PKIKP PKPdf 11 33 21.8 -3.0
WVOR Wild Horse Val 126.86 35 ePKPdf PKPdf 11 33 21.7 -3.1
HRY Holter Researc 127.40 27 ePKPdf PKPdf 11 33 22.2 -3.6
BOZ Bozeman (W) 128.29 28 PKIKP PKPdf 11 33 23.3 -4.3
BOZ Bozeman (W) 128.29 28 ePKPdf PKPdf 11 33 24.0 -3.6
MCMT McKenzie Canyo 128.31 29 ePKPdf PKPdf 11 33 22.8 -4.8
HLID Hailey 128.43 31 ePKPdf PKPdf 11 33 24.3 -3.6
CMB Columbia Colle 128.44 40 ePKIKP PKPdf 11 33 26.2 -1.9
CMB Columbia Colle 128.44 40 ePKPdf PKPdf 11 33 24.4 -3.7
LRV Little Rabbit 128.91 43 ePKPdf PKPdf 11 33 27.2 -1.8
QLMT Earthquake Lak 128.99 28 ePKPdf PKPdf 11 33 26.1 -2.8
GCMT Greycliff 129.07 26 ePKPdf PKPdf 11 33 25.3 -3.8
YMR Madison River 129.34 28 ePKPdf PKPdf 11 33 26.1 -3.5
YNR Norris Junctio 129.43 28 ePKPdf PKPdf 11 33 27.9 -1.9
NVAR Mina Array Bea 129.53 39 PKP PKPdf 11 33 27.4 -2.8
comp=Z,14nm,0.8s,baz=259,slow=3.2,SNR=17
NVAR SKKPbc 11 46 36.3
comp=Z,3.0nm,1.1s,baz=146,slow=3.3,SNR=4.2
YFT Old Faithful 129.56 28 ePKPdf PKPdf 11 33 28.5 -1.5
MNV Mina 129.63 39 PKIKP PKPdf 11 33 27.4 -2.9
MNV Mina 129.63 39 ePKPdf PKPdf 11 33 26.6 -3.7
LAO LASA Array 129.79 23 ePKPdf PKPdf 11 33 27.4 -2.9
ULM Lac du Bonnet 129.83 13 PKP PKPdf 11 33 26.2 -4.1
comp=Z,32nm,0.8s,baz=344,slow=3.1,SNR=25
ULM SKKPbc 11 46 34.8
comp=Z,5.6nm,0.9s,baz=22,slow=1.0,SNR=4.7
ULM Lac du Bonnet 129.83 13 ePKPdf PKPdf 11 33 25.8 -4.5
ELK Elko 129.90 35 PKIKP PKPdf 11 33 27.2 -3.6
ELK Elko 129.90 35 ePKPdf PKPdf 11 33 27.0 -3.8
IMW Indian Meadow 129.93 29 ePKPdf PKPdf 11 33 27.9 -2.8
MTUM Tungsten Hills 130.01 40 ePKPdf PKPdf 11 33 29.0 -2.1
MOOW Moose Ponds 130.13 29 ePKPdf PKPdf 11 33 26.7 -4.4
RRI2 Red Ridge 130.15 29 ePKPdf PKPdf 11 33 27.8 -3.4
TPAW Teton Pass 130.22 29 ePKPdf PKPdf 11 33 27.4 -3.9
WUWY Wally Ulrich 130.29 29 ePKPdf PKPdf 11 33 28.4 -3.0
LOHW Long Hollow 130.30 29 ePKPdf PKPdf 11 33 28.2 -3.2
SNOW Snow King Moun 130.34 29 ePKPdf PKPdf 11 33 28.5 -3.0
REDW Red Top Meadow 130.37 29 ePKPdf PKPdf 11 33 28.6 -2.9
HVU Hansel Valley 130.54 32 PKIKP PKPdf 11 33 28.9 -3.0
HVU Hansel Valley 130.54 32 ePKPdf PKPdf 11 33 28.2 -3.8
AHID Auburn Hatcher 130.69 30 PKPdf PKPdf 11 33 28.6 -3.6
BGU Big Grassy Mou 131.00 33 ePKPdf PKPdf 11 33 29.8 -3.0
TRCR Troy Canyon 131.26 37 ePKPdf PKPdf 11 33 31.6 -1.8
HWUT Hardware Ranch 131.30 31 ePKPdf PKPdf 11 33 30.1 -3.3
BW06 Boulder Array 131.44 29 ePKPdf PKPdf 11 33 29.9 -3.7
PDAR Pinedale Array 131.44 29 PKhKP 11 33 19.4
comp=Z,0.9nm,0.6s,baz=172,slow=0.5,SNR=6.4
PDAR PKP PKPdf 11 33 29.8 -3.9
comp=Z,8.4nm,0.9s,baz=238,slow=1.8,SNR=10
PDAR SKPbc 11 36 57.4
comp=Z,12nm,0.9s,baz=180,slow=0.9,SNR=2.8
PDAR SKKPbc 11 46 30.9
comp=Z,3.0nm,0.9s,baz=153,slow=6.0,SNR=5.8
DUG Dugway 131.63 33 ePKPdf PKPdf 11 33 31.2 -2.9
NOQ North Oquirrh 131.69 33 ePKPdf PKPdf 11 33 30.4 -3.8
TCUT Toone Canyon 131.73 32 ePKPdf PKPdf 11 33 31.6 -2.6
CTU Camp Tracy 131.85 32 ePKPdf PKPdf 11 33 31.0 -3.5
MWC Mount Wilson 132.14 43 PKIKP PKPdf 11 33 34.6 -0.6
MWC Mount Wilson 132.14 43 ePKPdf PKPdf 11 33 32.5 -2.7
NLU North Lily Min 132.20 33 ePKPdf PKPdf 11 33 32.1 -3.1
DAU Daniels Canyon 132.32 32 PKIKP PKPdf 11 33 33.6 -1.8
DAU Daniels Canyon 132.32 32 ePKPdf PKPdf 11 33 33.1 -2.2
MPU Maple Canyon 132.40 33 ePKPdf PKPdf 11 33 31.6 -4.0
RSSD Black Hills 132.78 23 PKHKP 11 33 21.9
RSSD Black Hills 132.78 23 ePKPdf PKPdf 11 33 32.4 -3.7
ARUT Antelope Range 132.91 36 PKIKP PKPdf 11 33 36.1 -0.5
ARUT Antelope Range 132.91 36 ePKPdf PKPdf 11 33 33.8 -2.8
EYMN Ely 132.91 10 ePKPdf PKPdf 11 33 32.3 -4.0
TMUT Trail Mountain 133.14 33 ePKPdf PKPdf 11 33 34.3 -2.6
MSU Marysvale 133.15 35 PKIKP PKPdf 11 33 31.7 -5.3
MSU Marysvale 133.15 35 ePKPdf PKPdf 11 33 34.0 -2.9
RWWY Rawlins 133.38 28 ePKPdf PKPdf 11 33 33.3 -4.0
PFO Pinyon Flat Ob 133.59 43 PKIKP PKPdf 11 33 36.0 -1.9
PFO Pinyon Flat Ob 133.59 43 ePKPdf PKPdf 11 33 35.6 -2.2
LDFC Landfair 133.60 40 ePKPdf PKPdf 11 33 34.5 -3.4
SRU San Rafael 133.64 33 PKIKP PKPdf 11 33 31.3 -6.5
SRU San Rafael 133.64 33 ePKPdf PKPdf 11 33 35.3 -2.6
BAR Barrett 133.97 44 ePKPdf PKPdf 11 33 36.0 -2.6
PHWY Pilot Hill 134.49 27 ePKPdf PKPdf 11 33 33.5 -5.9
PV10 Paradox Valley 134.97 32 ePKPpre 11 33 22.9
PV10 PKPdf PKPdf 11 33 37.4 -3.0
PV01 Paradox Valley 135.40 32 ePKPpre 11 33 26.1
ISCO Idaho Springs 135.62 28 PKIKP PKPdf 11 33 33.5 -8.0

ISCO	Idaho Springs	135.62	28	PKPpre		11 33 25.6	
WUAZ	Wupatki	135.66	37	PKPpre		11 33 30.6	
WVL	Waterville	136.28	349	ePKPdf	PKPdf	11 33 39.7	-2.8
MSNY	Massena	136.61	354	ePKPdf	PKPdf	11 33 38.1	-5.0
PLCA	Paso Flores	136.86	191	*i* PKHKP		11 33 32.4	
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PLCA	**Paso Flores**	**136.86**	**191**	PKhKP		11 33 32.4	
	comp=Z,3.8nm,0.8s,baz=157,slow=5.0,SNR=7.9						
TRQA	Tornquist	136.99	201	ePKPdf	PKPdf	11 33 40.6	-3.4
SADO	Sadowa	137.09	359	PKHKP		11 33 30.4	
	comp=Z,2.2nm,0.4s,baz=15,slow=4.0,SNR=2.9						
SADO				PKP	PKPdf	11 33 40.8	-3.2
	comp=Z,21nm,0.8s,baz=349,slow=2.7,SNR=17						
SADO				SKPab		11 37 18.8	
	comp=Z,17nm,0.8s,baz=44,slow=3.1,SNR=3.4						
SADO				SKKPbc		11 45 50.1	
	comp=Z,2.5nm,0.7s,baz=270,slow=10,SNR=3.3						
SDCO	Great Sand Dun	137.28	30	PKPpre		11 33 23.1	
MIV	Mineville/With	137.37	353	ePKPdf	PKPdf	11 33 39.1	-5.5
NCB	Newcomb	137.56	354	PKPpre		11 33 33.8	
HNH	Hanover	137.56	351	ePKPdf	PKPdf	11 33 41.4	-3.6
CS6B	Jaguaretama	137.84	260	*e*P	PKPdf	11 33 42.8	-3.4
CS6B				*i*		11 33 46.9	
CS6B				*i*		11 33 51.4	
CS6B				*e*		11 34 12.9	
ACCN	Adirondack Com	138.07	353	ePKPdf	PKPdf	11 33 42.4	-3.5
TUC	Tucson	138.14	40	PKIKP	PKPdf	11 33 36.1	-10
TUC	Tucson	138.14	40	ePKPpre		11 33 35.2	
HRV	Harvard--Oak R	138.62	350	PKIKP	PKPdf	11 33 44.2	-2.7
HRV	Harvard--Oak R	138.62	350	ePKPdf	PKPdf	11 33 43.8	-3.1
ANMO	Albuquerque	138.90	33	*i* PKHKP		11 33 37.1	
ANMO				pmax	pmax		
	comp=Z,24nm,1.0s						
ANMO				pmax	pmax		
	comp=Z,28nm,1.1s						
ANMO	**Albuquerque**	**138.90**	**33**	PKhKP		11 33 37.0	
	comp=Z,24nm,1.0s,baz=289,slow=3.4,SNR=30						
ANMO				SKPab		11 37 26.3	
	comp=Z,28nm,1.1s,baz=283,slow=3.2,SNR=6.9						
LAZ	Ladron	138.92	35	PKPdf	PKPdf	11 33 44.7	-3.0
QUA2	Belchertown	138.97	351	PKPdf	PKPdf	11 33 44.2	-3.3
LENM	Lemitar	139.18	35	ePKPpre		11 33 33.2	
BRYW	Bryant College	139.19	350	PKPdf	PKPdf	11 33 44.0	-3.9
LPM	Los Pinos Moun	139.27	34	ePKPpre		11 33 32.6	
BNM	Barren Site	139.39	34	ePKPpre		11 33 36.7	
AAM	Ann Arbor	139.45	4	PKHKP		11 33 37.1	
AAM	Ann Arbor	139.45	4	ePKPpre		11 33 35.7	
ERPA	Erie	139.75	360	PKPpre		11 33 40.5	
KSU1	Kansas State U	139.89	20	ePKPpre		11 33 36.3	
ALLY	Alegheny Colle	140.22	360	ePKPpre		11 33 39.3	
ALLY				PKPdf	PKPdf	11 33 46.8	-3.0
PAL	Palisades	140.44	352	PKIKP	PKPdf	11 33 42.8	-7.4
PAL	Palisades	140.44	352	ePKPpre		11 33 38.0	
CPNY	Central Park	140.66	352	ePKPpre		11 33 43.8	
SSPA	Standing Stone	141.17	357	ePKPdf	PKPdf	11 33 47.9	-3.7
AMTX	Amarillo	141.42	29	ePKPdf	PKPdf	11 33 48.2	-4.0
ACSO	Alum Creek Sta	141.56	3	ePKPpre		11 33 41.6	
MVL	Millersville	141.70	355	ePKPpre		11 33 45.4	
CPRX	Cap Rock	141.76	33	ePKPpre		11 33 44.2	
MNTX	Cornudas Mount	141.89	36	ePKPpre		11 33 44.4	
GDL2	Guadalupe Moun	142.11	34	ePKPpre		11 33 44.4	
SLM	Saint Louis	142.11	13	PKIKP	PKPdf	11 33 47.1	-6.2
SLM	Saint Louis	142.11	13	ePKPpre		11 33 46.9	
BLO	Bloomington	142.26	8	PKHKP		11 33 43.3	
BLO	Bloomington	142.26	8	ePKPpre		11 33 43.2	
SDMD	Soldier's Deli	142.32	356	PKPpre		11 33 43.2	
CLNB	Carlsbad	142.33	34	ePKPpre		11 33 46.1	
CCM	Cathedral Cave	142.43	14	PKHKP		11 33 44.0	
CCM	Cathedral Cave	142.43	14	ePKPpre		11 33 43.4	
FVM	French Village	142.69	13	PKIKP	PKPdf	11 33 45.9	-8.4
FVM	French Village	142.69	13	ePKPpre		11 33 45.6	
WMOK	Wichita Mounta	142.87	26	ePKIKP	PKPdf	11 33 46.2	-8.5
WMOK	Wichita Mounta	142.87	26	ePKPpre		11 33 45.9	
WCI	Wyandotte Cave	143.22	8	PKHKP		11 33 46.2	
WCI	Wyandotte Cave	143.22	8	ePKPpre		11 33 46.9	
LMEL	Las Melosas	143.40	194	*e*P	PKPbc	11 33 49.8	+1.1
BAO	Brasilia Array	143.74	240	PKPdf	PKPdf	11 33 49.0	-7.6
BDFB	Brasilia	143.75	240	PKIKP	PKPdf	11 33 51.7	-5.0
BDFB				pmax	pmax		
	comp=Z,41nm,1.0s						
BDFB	**Brasilia**	**143.75**	**240**	PKP	PKPdf	11 33 51.6	-5.0
	comp=Z,41nm,1.0s,baz=78,slow=3.2,SNR=16						
FCH	Farellones	143.92	194	*e*P	PKPbc	11 33 50.7	+0.5
MDZ	Mendoza	143.96	196	P	PKPbc	11 33 51.7	+1.4
MDZ				SP	SP	11 34 31.8	0.0
MDZ				PP	tx	11 35 59.7	
MDZ				PPP	PP	11 36 58.5	-11
MDZ				ScP		11 39 14.7	
MDZ				PcS		11 39 30.9	
MDZ				S	tx	11 42 27.7	
MDZ				LQ		11 45 22.4	
MDZ				LR	LR	11 49 13.1	
PARMO	Parma	144.11	13	*e*PKPdf	PKPdf	11 33 50.7	-6.0
FWV	Forest Hill	144.28	1	*e*PKPdf	PKPdf	11 33 50.7	-6.3
GLAT	Glass	144.59	13	*e*PKPdf	PKPdf	11 33 52.6	-5.0
UTMT	University of	144.61	12	*e*PKPdf	PKPdf	11 33 52.2	-5.5
LTX	Lajitas	144.62	37	PKIKP	PKPdf	11 33 53.4	-4.5
LTX	Lajitas	144.62	37	*e*PKPdf	PKPdf	11 33 53.2	-4.7
TXAR	Lajitas Array	144.62	37	PKP	PKPdf	11 33 53.9	-4.0
	comp=Z,130nm,0.7s,baz=282,slow=1.4,SNR=158						
TXAR	Lajitas Array	144.62	37	PKP	PKPdf	11 33 53.9	-4.0
ELN	Prospectdale	144.63	1	*e*PKPdf	PKPdf	11 33 51.3	-6.3
BLA	Blacksburg	144.65	0	*e*PKPdf	PKPdf	11 33 52.0	-5.7
GNAR	Gosnell	144.72	14	*e*PKPdf	PKPdf	11 33 53.6	-4.2
HALT	Halls	144.93	13	*e*PKP	PKPdf	11 33 53.2	-5.1
HBAR	Harrisburg	144.95	15	*e*PKPdf	PKPdf	11 33 53.2	-5.0
CFAA	Coronel Fontan	144.97	198	PKPbc	PKPbc	11 33 54.0	+0.7
	comp=Z,19nm,0.8s,baz=150,slow=3.7,SNR=91						
WVT	Waverly	145.02	11	PKIKP	PKPdf	11 33 53.1	-5.3
WVT	Waverly	145.02	11	*e*PKP	PKPdf	11 33 53.0	-5.4
MIAR	Mount Ida	145.03	19	*e*PKIKP	PKPdf	11 33 53.6	-4.9
MIAR	Mount Ida	145.03	19	*e*PKP	PKPdf	11 33 53.3	-5.2
TZTN	Tazewell	145.19	5	*e*PKPdf	PKPdf	11 33 53.4	-5.3
UALR	University of	145.21	18	*e*PKPdf	PKPdf	11 33 53.6	-5.2
MET	Memphis--Engin	145.54	14	*e*PKP	PKPdf	11 33 55.3	-4.0
JCT	Junction City	145.90	31	*e*PKP	PKPdf	11 33 56.7	-3.3
PLAL	Pickwick Lake	146.09	12	*e*PKPdf	PKPdf	11 33 55.8	-4.4
BBSR	BB Station	146.14	336	*e*PKP	PKPdf	11 33 57.9	-2.5
CPCT	Cooper Cave	146.18	6	*e*PKPdf	PKPdf	11 33 56.5	-3.9
SWET	Sewanee	146.23	8	*e*PKPdf	PKPdf	11 33 56.5	-4.0
OXF	Oxford	146.25	14	PKP2	PKPab	11 33 57.4	-1.7
OXF	Oxford	146.25	14	*e*PKPdf	PKPdf	11 33 56.6	-3.9
TLL	Tololo Astrono	147.06	195	*e*P	PKPdf	11 33 59.7	-2.3
NATX	Nacogdoches	147.15	23	*e*PKPdf	PKPdf	11 33 58.6	-3.6
JSC	Jenkinsville	147.56	2	PKP2	PKPab	11 34 00.0	-4.2
JSC	Jenkinsville	147.56	2	*e*PKPdf	PKPdf	11 33 58.7	-4.0
JSC				*e*PKPbc	PKPdf	11 34 01.0	-1.7
LRAL	Lakeview Retre	148.19	11	*e*PKPdf	PKPdf	11 33 59.9	-3.9
GOGA	Godfrey	148.30	5	PKP2	PKPab	11 34 01.7	-5.5
GOGA	Godfrey	148.30	5	*e*PKPdf	PKPdf	11 34 00.3	-3.6
GOGA				*e*PKPbc	PKPdf	11 34 03.0	-1.0
COW	Cow Castle Cre	148.47	1	*e*PKPbc	PKPdf	11 34 03.9	-0.3
NHSC	New Hope	148.75	360	*e*PKPbc	PKPdf	11 34 04.7	0.0
CSU	Charleston Sou	148.87	360	PKPbc	PKPdf	11 34 03.8	-1.1
HBF	Harts Bluff	148.92	0	PKIKP	PKPdf	11 34 03.1	-1.8
HBF	Harts Bluff	148.92	0	*e*PKPdf	PKPdf	11 33 60.0	-4.9
ZAIG	Zacatecas	149.87	44	*e*P	PKPdf	11 34 01.4	-5.3
CJM	Chamela	149.99	52	*i* P	PKPdf	11 34 01.6	-5.4
MOIG	Morelia	152.83	47	*e*P	PKPdf	11 34 07.3	-3.9
LVC	Limon Verde	153.43	204	PKP	PKPdf	11 34 10.1	-1.8
	comp=Z,13nm,0.9s,baz=347,slow=2.2,SNR=8.4						
LVC				PKPbc	PKPdf	11 34 18.0	+6.1
	comp=Z,36nm,0.8s,baz=270,slow=1.6,SNR=33						
DWPF	Disney	153.70	2	PKPbc	PKPdf	11 34 16.2	+4.0
ZIIG	Zihuatanejo	153.85	51	*e*P	PKPdf	11 34 09.2	-3.5
SIV	San Ignacio	154.14	227	PKP	PKPdf	11 34 09.4	-3.7
	comp=Z,6.4nm,0.8s,baz=137,slow=2.7,SNR=3.1						
PLIG	Platanillo	154.88	47	*i* P	PKPdf	11 34 11.5	-2.5
PPM	Popocatepetl	155.07	45	*i* P	PKPdf	11 34 13.4	-0.8
VHO	Vista Hermosa	157.74	46	*e*P	PKPdf	11 34 17.7	-0.1
LPAZ	La Paz	158.48	213	PKIKP	PKPdf	11 34 16.1	-2.7
LPAZ	La Paz	158.48	213	PKP	PKPdf	11 34 16.1	-2.6
	comp=Z,11nm,0.8s,baz=356,slow=0.9,SNR=26						
LPAZ	La Paz	158.48	213	*e*PKPdf	PKPdf	11 34 15.7	-3.1
SJG	San Juan	158.58	321	PKIKP	PKPdf	11 34 16.2	-2.6
SJG	San Juan	158.58	321	*e*PKPdf	PKPdf	11 34 15.8	-3.0
CMIG	Matias Romero	159.01	42	*i* P	PKPdf	11 34 15.4	-4.0
HUIG	Huatulco	159.04	47	*e*P	PKPdf	11 34 15.7	-3.7
SAML	Samuel	159.95	238	*e*PKPdf	PKPdf	11 34 16.3	-4.2
ARE	Arequipa	159.99	205	*e*P	PKPdf	11 34 20.0	-0.5
CCIG	Comitan	161.38	38	*e*P	PKPdf	11 34 22.1	+0.2
NNA	Nana	165.99	194	*e*PKPdf	PKPdf	11 34 22.6	-3.9
JTS	JuntasAbangare	170.27	28	PKP	PKPdf	11 34 27.1	-2.0
	comp=Z,6.7nm,0.8s						
ROSC	El Rosal	173.28	298	PKP	PKPdf	11 34 27.9	-2.9
	comp=Z,20nm,0.9s,baz=99,slow=23,SNR=16						
OTAV	Otavalo	177.67	232	*e*PKPdf	PKPdf	11 34 27.8	-4.1

*MOS **10** 11:21:48.4±0.7, 1.54S×99.99E, h33km, mb5.0/5, Error ellipse: s-maj=54.0km s-min=17.8km az=102.4*
*NEIC **10** 11:21:48.7±0.3, 1.76S×99.94E, h30km, mb4.9/3, Error ellipse: s-maj=12.0km s-min=7.8km az=69.0*
*IDC **10** 11:21:54.1±0.8, 1.76S×99.93E, h76km±6km, mb4.4/14, mb1 4.6/14, mb1mx4.4/19, mbtmp4.8/14, Error ellipse: s-maj=21.3km s-min=16.1km az=75.0*
ISC 10 11:21:47.4±0.5, 1.70S±0.09×100.0E±0.1, h33km, (h75km±3.9km:pP-P), n40, σ0°73/30, mb4.8/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	Chiang Mai Arr	20.06	357	P	P	11 26 21.6	+0.8
CMAR	Chiang Mai Arr	20.06	357	P	P	11 26 21.1	+0.4
	8.4nm,0.7s,baz=187,slow=9.7,SNR=5.2						
LSA	Lhasa	32.34	346	*e*P	P	11 28 17.1	+1.0
ENH	Enshi	33.07	15	*e*P	P	11 28 20.5	-1.9
	42nm,0.9s,mb5.4						
WRA	Warramunga Arr	38.18	121	P	P	11 29 05.6	-0.3
	10nm,0.5s,mb4.8,baz=303,slow=9.0,SNR=5.9						
WRAB	Tennant Creek	38.19	121	*e*P	P	11 29 05.9	0.0
ASAR	Alice Springs	39.46	126	P	P	11 29 17.1	+0.7
	7.4nm,0.6s,mb4.6,baz=306,slow=7.5,SNR=4.5						
SONM	Songino Array	49.65	6	P	P	11 30 38.8	+0.8
	10nm,0.8s,mb4.9,baz=189,slow=8.3,SNR=7.1						
SONM				PcP	PcP	11 31 59.1	-0.2
	2.7nm,0.5s,baz=194,slow=4.5,SNR=5.5						
MKAR	Makanchi Array	50.73	344	P	P	11 30 46.2	0.0
	12nm,0.4s,mb5.2,baz=153,slow=9.4,SNR=16						
MKAR				pP	pP	11 31 06.9	+11
	9.9nm,0.6s,baz=156,slow=8.3,SNR=3.1						
MKAR	Makanchi Array	50.73	344	P	P	11 30 46.2	0.0
MKAR				pP	pP	11 31 06.9	+11
KURK	Kurchatov	55.31	344	*e*P	P	11 31 19.6	-0.5
KURK				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.2						
KURK	Kurchatov	55.31	344	*e*P	P	11 31 19.6	-0.5
	comp=Z,19nm,0.8s,mb5.2						
ZAL	Zalesovo	56.86	349	P	P	11 31 31.0	-0.2
	comp=Z,22nm,0.5s,mb5.5,baz=322,slow=6.2,SNR=13						
ZAL				pP	pP	11 31 51.1	+10
	comp=Z,17nm,0.6s,baz=276,slow=6.8,SNR=5.2						
BVAR	Borovoye Array	59.89	340	P	P	11 31 50.9	-1.5
	comp=Z,4.6nm,0.6s,mb4.7,baz=143,slow=9.1,SNR=5.5						
CHKZ	Chkalovo	60.35	340	*e*P	P	11 31 54.3	-1.2
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
CHKZ	Chkalovo	60.35	340	*e*P	P	11 31 54.3	-1.3
	comp=Z,7.4nm,0.6s,mb4.9						
YSS	Yuzh-Sakhalins	61.26	32	*e*P	P	11 32 01.5	-0.3
KMBO	Kilima Mbogo	62.68	270	P	P	11 32 11.6	-0.2
	comp=Z,2.1nm,0.6s,mb4.4,baz=41,slow=13,SNR=4.0						
MATP	Matopo	72.04	249	P	P	11 33 10.4	-0.1
	comp=Z,6.3nm,0.8s,mb4.6,baz=107,slow=6.0,SNR=5.6						
MATP				pP	pP	11 33 29.9	+9.1
	comp=Z,4.8nm,0.6s,baz=84,slow=6.7,SNR=3.3						
MA2	Magadan	72.78	24	*e*P	P	11 33 14.3	+0.1
MA2				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
BRTR	Keskin Array B	73.09	312	pP	pP	11 33 35.5	+8.7
	comp=Z,3.4nm,0.9s,baz=130,slow=5.4,SNR=4.1						
BOSA	Boshof	75.76	241	*e*P	P	11 33 31.8	-0.3
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BOSA	Boshof	75.76	241	P	P	11 33 31.9	-0.2
	comp=Z,3.4nm,0.9s,mb4.3,baz=77,slow=7.0,SNR=3.8						
BOSA	Boshof	75.76	241	*e*P	P	11 33 31.8	-0.4
	comp=Z,1.1nm,0.5s,mb4.0						
IDI	Anoyia	78.83	306	P	P	11 33 49.2	+0.1
	comp=Z,8.1nm,0.7s,mb4.8,baz=82,slow=7.1,SNR=4.7						
FINES	FINESS Array B	83.83	332	P	P	11 34 15.2	+0.4
	comp=Z,3.7nm,0.5s,mb4.8,baz=121,slow=4.7,SNR=11						
KAF	Kangasniemi	83.90	333	*e*p	P	11 34 15.3	+0.3
	comp=Z,6.1nm,0.6s,mb4.9,baz=109,slow=4.8						
KAF	Kangasniemi	83.90	333	*e*P	P	11 34 15.3	+0.3
KAF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
ARCES	ARCESS Array B	86.18	340	P	P	11 34 27.2	+1.1
	comp=Z,8.6nm,0.8s,mb5.0,baz=102,slow=3.4,SNR=9.4						
ARCES				pP	pP	11 34 46.4	+10
	comp=Z,9.4nm,0.9s,baz=100,slow=5.3,SNR=3.0						
ARCES	ARCESS Array B	86.18	340	P	P	11 34 27.2	+1.1
ARCES				pP	pP	11 34 46.4	+10
GERES	GERESS Array B	88.80	319	P	P	11 34 39.9	+0.6
	comp=Z,1.3nm,0.6s,mb4.5,baz=63,slow=3.0,SNR=5.4						
SCHQ	Schefferville	125.95	351	PKP	PKPdf	11 40 47.9	+1.6
	comp=Z,3.0nm,0.9s,baz=348,slow=3.9,SNR=3.7						
TXAR	Lajitas Array	144.49	37	PKP	PKPdf	11 41 22.6	+1.4
	comp=Z,5.3nm,0.5s,baz=220,slow=0.7,SNR=15						
MIAR	Mount Ida	144.97	20	*e*PKP	PKPdf	11 41 22.6	+0.8
WVT	Waverly	144.99	11	*e*PKP	PKPdf	11 41 22.3	+0.4
CFAA	Coronel Fontan	145.03	198	PKP	PKPdf	11 41 23.3	+1.2
	comp=Z,2.4nm,0.6s,baz=166,slow=3.1,SNR=15						
CFAA	Coronel Fontan	145.03	198	PKP	PKPdf	11 41 23.3	+1.2
JCT	Junction City	145.79	31	*e*PKP	PKPdf	11 41 26.0	+2.6
CPCT	Cooper Cave	146.17	7	*e*PKP	PKPdf	11 41 25.9	+2.0
LVC	Limon Verde	153.50	204	PKPbc	PKPdf	11 41 46.7	+11
	comp=Z,4.0nm,0.7s,baz=305,slow=1.3,SNR=3.6						

*IDC **10** 11:23:52.0±1.0, 1.54S×99.11E, mb4.4/8, mb1 4.5/9, mb1mx4.3/19, mbtmp4.3/9, ML4.4/1, Error ellipse: s-maj=28.9km s-min=24.6km az=79.0*
*NEIC **10** 11:23:56.1±0.6, 1.37S×99.19E, h30km, mb4.6/1, Error ellipse: s-maj=22.6km s-min=15.1km az=54.0*
ISC 10 11:23:55.3±0.7, 1.4S±0.1×99.2E±0.1, h33km, n16, σ1°91/13, mb4.5/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	6.79	12	P	P	11 25 29.3	-5.8
CMAR	Chiang Mai Arr	19.71	359	P	P	11 28 23.8	-1.2
	0.4nm,0.3s,baz=192,slow=11,SNR=4.7						
LSA	Lhasa	31.84	347	P	P	11 30 18.2	-1.4
WRA	Warramunga Arr	39.01	121	P	P	11 31 20.4	-0.2
	4.3nm,0.6s,mb4.4,baz=303,slow=9.2,SNR=4.6						
WRAB	Tennant Creek	39.02	121	*e*P	P	11 31 20.7	0.0
	6.1nm,0.5s,mb4.6						
SONM	Songino Array	49.42	6	P	P	11 32 45.8	+1.8
	4.4nm,0.8s,mb4.5,baz=184,slow=11,SNR=2.0						
MKAR	Makanchi Array	50.22	345	P	P	11 32 52.3	+2.1
	2.4nm,0.5s,mb4.5,baz=143,slow=8.4,SNR=2.4						
ZAL	Zalesovo	56.41	350	P	P	11 33 35.7	-0.2
	4.2nm,0.4s,mb4.9,baz=240,slow=6.9,SNR=1.6						
ZAL	Zalesovo	56.41	350	P	P	11 33 35.7	-0.2
KMBO	Kilima Mbogo	61.91	269	P	P	11 34 15.1	+0.7
	3.6nm,1.0s,mb4.5,baz=51,slow=7.8,SNR=3.9						
MATP	Matopo	71.43	249	P	P	11 35 14.0	-0.7
	4.6nm,0.8s,mb4.5,baz=74,slow=8.5,SNR=3.7						
FINES	FINESS Array B	83.19	332	P	P	11 36 19.0	-0.4
	1.9nm,0.6s,mb4.3,baz=101,slow=7.1,SNR=4.0						
GERES	GERESS Array B	88.04	319	P	P	11 36 43.6	+0.1
	1.5nm,0.8s,mb4.2,baz=135,slow=2.8,SNR=3.4						
TXAR	Lajitas Array	144.70	36	PKP	PKPdf	11 43 31.6	+2.2
	5.3nm,0.7s,baz=275,slow=1.2,SNR=7.5						
MIAR	Mount Ida	144.92	18	*e*PKP	PKPdf	11 43 27.2	-2.4
MIAR				*e*	*e*	11 43 35.5	
CPCT	Cooper Cave	145.93	5	*e*PKP	PKPdf	11 43 30.4	-0.9

IDC 10 11:28:08.6±24.0, 1.23S×100.64E, h144km±216km, mb3.7/4, mb1 3.9/4, mb1mx3.4/17, mbtmp4.1/4, Error ellipse: s-maj=229.2km s-min=28.0km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	37.85	122	P	P	11 35 11.9	-1.4
	1.5nm,0.6s,baz=304,slow=9.1,SNR=4.1						
ASAR	Alice Springs	39.20	127	P	P	11 35 22.6	-1.9
	1.4nm,0.6s,baz=299,slow=8.0,SNR=5.5						
MKAR	Makanchi Array	50.46	344	P	P	11 36 52.1	-1.7
	1.1nm,0.4s,baz=158,slow=9.0,SNR=4.5						
FINES	FINESS Array B	83.73	332	P	P	11 40 20.4	-2.0
	2.0nm,0.9s,baz=76,slow=7.9,SNR=3.5						
TXAR	Lajitas Array	143.71	37	PKP	PKPdf	11 47 28.4	+1.3
	0.5nm,0.5s,baz=177,slow=1.3,SNR=5.2						

*IDC **10** 11:29:17.9±2.4, 1.03S×99.67E, mb4.1/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, ML3.7/1, Error ellipse: s-maj=111.9km s-min=18.2km az=57.0*
*NEIC **10** 11:29:23.0±1.2, 0.93S×99.82E, h30km, mb4.3/1, Error ellipse: s-maj=53.6km s-min=9.5km az=57.0*
ISC 10 11:29:20.8±1.5, 0.9S±0.3×99.8E±0.4, h30km, n11, σ0°67/11, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	19.25	358	P	P	11 33 45.0	-0.8
	0.1nm,0.3s,baz=188,slow=9.9,SNR=2.9						
WRA	Warramunga Arr	38.74	121	P	P	11 36 44.5	0.0
	1.0nm,0.7s,mb3.7,baz=302,slow=9.1,SNR=3.5						
WRAB	Tennant Creek	38.75	121	P	P	11 36 45.0	+0.5
ASAR	Alice Springs	40.08	127	P	P	11 36 55.5	-0.1
	3.1nm,0.8s,mb4.1,baz=299,slow=7.7,SNR=5.0						
SONM	Songino Array	48.87	6	P	P	11 38 06.3	+0.5
	0.4nm,0.6s,mb3.6,baz=180,slow=12,SNR=3.6						
MKAR	Makanchi Array	49.91	344	P	P	11 38 15.0	+1.2
	1.4nm,0.3s,mb4.4,baz=160,slow=8.7,SNR=9.6						
STKA	Stephens Creek	50.05	132	P	P	11 38 14.4	-0.6
	1.8nm,0.6s,mb4.3,baz=288,slow=13,SNR=3.4						
KURK	Kurchatov	54.49	344	*e*P	P	11 38 47.8	-0.2
	2.5nm,0.9s,mb4.1						
ZAL	Zalesovo	56.04	349	P	P	11 38 59.6	+0.4
	2.4nm,0.5s,mb4.5,baz=304,slow=6.6,SNR=5.1						
BVAR	Borovoye Array	59.08	340	P	P	11 39 19.3	-1.3
	0.7nm,0.4s,mb4.0,baz=135,slow=8.6,SNR=5.3						
CHKZ	Chkalovo	59.54	340	*e*P	P	11 39 24.3	+0.5

*IDC **10** 11:29:55.8±3.2, 1.65S×99.70E, mb4.0/3, mb1 4.1/4, mb1mx3.8/17, mbtmp3.9/4, ML4.5/1, Error ellipse: s-maj=138.1km s-min=26.2km az=56.0*
ISC 10 11:29:59.3±3.4, 1.5S±0.5×99.8E±0.8, h33km, n5, σ0°35/4, mb4.0/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	19.86	358	P	P	11 34 30.6	0.0
	0.5nm,0.3s,baz=185,slow=11,SNR=5.4						
WRA	Warramunga Arr	38.41	121	P	P	11 37 19.7	0.0
	1.5nm,0.9s,mb3.7,baz=299,slow=9.4,SNR=2.9						
MKAR	Makanchi Array	50.51	344	P	P	11 38 56.6	+0.2
	1.0nm,0.5s,mb4.0,baz=157,slow=7.5,SNR=2.9						
ZAL	Zalesovo	56.65	349	P	P	11 39 41.3	-0.3
	1.4nm,0.4s,mb4.3,baz=322,slow=9.4,SNR=3.2						
TXAR	Lajitas Array	144.44	37	PKP	PKPdf	11 49 33.5	+0.6
	0.9nm,0.5s,baz=226,slow=0.8,SNR=8.4						

*IDC **10** 11:31:27.6±1.2, 1.76S×99.44E, mb4.0/8, mb1 4.2/8, mb1mx4.0/18, mbtmp4.1/8, MS2.6/1, Ms1 2.6/1, ms1mx2.6/37, Error ellipse: s-maj=

1.4nm,0.6s,baz=263,slow=0.9,SNR=6.6
TXAR Lajitas Array 144.58 38 PKP PKPdf 11 53 25.9 +1.2
CPCT Cooper Cave 146.55 7 *e*PKP PKPdf 11 53 28.7 +0.7

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*BJI **10** 11:34:32.6, 33.14N×131.18E, h23km, mB5.8, mb4.9*
*IDC **10** 11:34:37.2±0.7, 33.54N×130.25E, mb4.4/13, mb1 4.5/16, mb1mx4.4/28, mbtmp4.4/16, ML3.8/3, Error ellipse: s-maj=17.8km s-min=17.0km az=25.0*
*JMA **10** 11:34:37.8, 33.67N×130.28E, h5km, M5.0*
JMA Felt IV J1.
*MOS **10** 11:34:39.8±1.2, 33.49N×130.34E, h33km, mb4.9/23, Error ellipse: s-maj=10.3km s-min=8.2km az=94.1*
*NEIC **10** 11:34:41.4±2.6, 33.66N×130.23E, h24km±20km, mb4.7/18, Error ellipse: s-maj=10.7km s-min=8.5km az=153.0*
NEIC Recorded [4 JMA] in Fukuoka and Saga; [2 JMA] in Kumamoto and Nagasaki; [1 JMA] in Oita Prefectures. Also recorded [1 JMA] in Shimane and Yamaguchi Prefectures, Honshu and on Uku-jima and the Tsushima Islands.

ISC 10 11:34:37.9±0.5, 33.65N±0.02×130.28E±0.02, h10km±4km, n116, σ0§91/127, mb4.6/30, 15C-9D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.24**	**157**	⇑P	**Pg**	**11 34 43.0**	**-0.1**
JFA	**Akaike**	**0.44**	**82**	⇓P	**Pg**	**11 34 46.2**	**-0.6**
JFA				S	**Sg**	**11 34 52.5**	**-0.2**
JII	**Iki**	**0.47**	**287**	⇓P	**Pg**	**11 34 47.4**	**-0.1**
JII				S	**Sg**	**11 34 54.2**	**+0.2**
JUR	**Ureshino**	**0.62**	**206**	⇓P	**Pb**	**11 34 50.0**	**-0.3**
JUR				S	**Sg**	**11 34 58.6**	**-0.2**
JTA	**Tamana**	**0.72**	**163**	⇑P	**Pb**	**11 34 51.9**	**-0.1**
JTA				S	**Sb**	**11 35 01.8**	**+0.1**
JNU	**Nakatsue**	**0.73**	**136**	⇑P	**Pb**	**11 34 51.8**	**-0.4**
JTY	**Toyota**	**0.89**	**47**	⇓P	**Pb**	**11 34 54.4**	**-0.6**
OIT2	**Oita 2**	**1.05**	**111**	⇑P	**Pb**	**11 34 58.0**	**+0.3**
JKI	**Kunimi**	**1.08**	**91**	⇓P	**Pb**	**11 34 57.9**	**-0.2**
JTU	**Tsushima**	**1.13**	**320**	S	**Sb**	**11 35 14.2**	**+0.6**
JHD	**Hondo**	**1.19**	**186**	⇑P	**Pb**	**11 35 00.3**	**+0.2**
JIU2	**Izumi 2**	**1.19**	**158**	⇑P	**Pb**	**11 35 00.2**	**+0.1**
JUS	**Usuki**	**1.37**	**115**	⇑P	**Pn**	**11 35 03.3**	**+0.3**
JKD	**Kudamatsu**	**1.39**	**73**	⇓P	**Pn**	**11 35 03.1**	**-0.2**
JKIT	**Kitakata**	**1.43**	**136**	⇑P	**Pn**	**11 35 04.2**	**+0.3**
JZO	**Okuchi**	**1.53**	**170**	⇑P	**Pn**	**11 35 05.7**	**+0.3**
JHIK	**Hikimi**	**1.63**	**57**	⇓P	**Pn**	**11 35 07.2**	**+0.4**
JTSN	**Tsuno**	**1.74**	**143**	⇑P	**Pn**	**11 35 08.9**	**+0.5**
JTZ	**Takazaki**	**1.88**	**158**	⇑P	**Pn**	**11 35 11.1**	**+0.8**
JHM	**Kurahashi**	**1.94**	**75**	P	**Pn**	**11 35 11.5**	**+0.3**
UWA2	**Uwa jima 2**	**2.01**	**102**	P	**Pn**	**11 35 12.6**	**+0.3**
JHT	**Toyohira**	**2.04**	**60**	⇓P	**Pn**	**11 35 13.8**	**+1.1**
JSU	**Suzuyama**	**2.15**	**176**	P	**Pn**	**11 35 14.2**	**0.0**
JTO	**Tosashimizu**	**2.26**	**110**	⇑P	**Pn**	**11 35 16.6**	**+0.8**
JNAR	**Kushima--Naru**	**2.28**	**158**	P	**Pn**	**11 35 16.9**	**+0.8**
JKU	**Kubokawa**	**2.35**	**98**	P	**Pn**	**11 35 18.0**	**+0.8**
JTSR	**Tashiro 2**	**2.54**	**167**	P	**Pn**	**11 35 20.1**	**+0.3**
JHS	**Saijyo**	**2.71**	**59**	⇓P	**Pn**	**11 35 23.2**	**+1.0**
JKS	**Kasai**	**4.01**	**69**	P	**Pn**	**11 35 41.0**	**+0.3**
JKSM	**Kasumi**	**4.10**	**61**	P	**Pn**	**11 35 42.6**	**+0.6**
JWM	**Minabe**	**4.24**	**86**	P	**Pn**	**11 35 43.1**	**-0.8**
KS15	**Wonju Array Si**	**4.25**	**333**	*e*Pn	**Pn**	**11 35 42.9**	**-1.2**
KS15				*e*Pg	**Pg**	**11 35 56.5**	**-6.3**
KS15				Sn	**Sn**	**11 36 30.2**	**-4.2**
KS15				*e*Sg	**Sg**	**11 36 49.2**	**-10**
JWY	**Kouya**	**4.46**	**81**	P	**Pn**	**11 35 46.8**	**-0.3**
JWT	**Wachi**	**4.54**	**68**	P	**Pn**	**11 35 47.9**	**-0.3**
JWZ	**Kozaga**	**4.54**	**90**	P	**Pn**	**11 35 46.7**	**-1.6**
TSUJ	**Tsu 2**	**5.20**	**77**	P	**Pn**	**11 35 57.7**	**+0.1**
JGM	**Miyama**	**5.69**	**67**	P	**Pn**	**11 36 04.3**	**-0.2**
JAO	**Obara**	**5.99**	**72**	P	**Pn**	**11 36 08.3**	**-0.4**
JNT	**Takato**	**6.84**	**69**	P	**Pn**	**11 36 21.2**	**+0.5**
JOW	**Kunigami**	**7.02**	**195**	Pn	**Pn**	**11 36 24.9**	**+1.7**
	3.2nm,0.3s,baz=342,slow=9.4,SNR=7.4						
MAJO	**Matsushiro**	**7.11**	**64**	*e*P	**Pn**	**11 36 22.6**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,59nm,0.9s						
MAJO	**Matsushiro**	**7.11**	**64**	*e*Pn	**Pn**	**11 36 22.6**	**-2.0**
	comp=Z,59nm,0.9s						
MAJO				*e*		11 36 41.3	
MAJO				*e*Sg	**Sg**	**11 38 18.7**	**-16**
MAT	**Matsushiro**	**7.11**	**64**	*e*P	**Pn**	**11 36 25.0**	**+0.5**
MAT				*e*S	**Sn**	**11 37 50.0**	**+3.8**
MAT				pmax	pmax		
	comp=Z,17nm,0.7s						
MAT	**Matsushiro**	**7.11**	**64**	*e*P	**Pn**	**11 36 25.0**	**+0.5**
	comp=Z,17nm,0.7s						
MAT				*e*S	**Sn**	**11 37 50.0**	**+3.8**
MAT	**Matsushiro**	**7.11**	**64**	P	**Pn**	**11 36 24.3**	**-0.2**
MAT				*e*S	**Sn**	**11 37 45.8**	**-0.4**
MAT	**Matsushiro**	**7.11**	**64**	P	**Pn**	**11 36 25.0**	**+0.5**
MJAR	**Matsushiro Arr**	**7.11**	**64**	Pn	**Pn**	**11 36 24.8**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=250,slow=12,SNR=25						
MJAR				Lg		11 38 23.1	
	comp=Z,0.5nm,0.3s,baz=234,slow=33,SNR=4.3						
JRY	**Ryogami san**	**7.47**	**69**	P	**Pn**	**11 36 30.1**	**+0.5**
JHJ	**Hachijo jima 2**	**7.97**	**91**	Pn	**Pn**	**11 36 34.2**	**-2.3**
	comp=Z,14nm,0.3s,baz=46,slow=23,SNR=4.1						
JRG	**Rokugo**	**10.11**	**53**	P	**P**	**11 37 09.9**	**+3.7**
ASAJ	**Asahikawa**	**14.17**	**39**	Pn	**P**	**11 38 00.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=239,slow=12,SNR=3.0						
KLR	**Kul'dur**	**15.60**	**4**	*e*P	**P**	**11 38 21.0**	**+1.7**
YSS	**Yuzh-Sakhalins**	**16.31**	**32**	*e*P	**P**	**11 38 28.3**	**-0.2**
YSS				pmax	pmax		
	comp=Z,17nm,0.9s						
YSS	**Yuzh-Sakhalins**	**16.31**	**32**	*e*P	**P**	**11 38 28.3**	**-0.2**
	comp=Z,17nm,0.9s						
HIA	**Hailar**	**17.45**	**336**	*e*P	**P**	**11 38 43.4**	**+0.6**
HIA				pmax	pmax		
	comp=Z,26nm,0.8s						
HIA	**Hailar**	**17.45**	**336**	*e*P	**P**	**11 38 43.4**	**+0.6**
	comp=Z,26nm,0.8s						
ENH	**Enshi**	**17.96**	**265**	*e*P	**P**	**11 38 50.5**	**+1.2**
	comp=Z,56nm,1.2s						
GYA	**Guiyang**	**21.63**	**257**	P	**P**	**11 39 30.0**	**-0.2**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
LZH	**Lanzhou**	**21.80**	**284**	*e*P	**P**	**11 39 33.8**	**+1.9**
LZH				AP		11 39 42.6	
LZH				XP		11 39 45.3	
LZH				AMB	AMB		
	comp=Z,60nm,1.1s,mb4.9						
LZH	**Lanzhou**	**21.80**	**284**	*e*P	**P**	**11 39 33.8**	**+1.9**
LZH				*SP		11 39 45.3	
LZH				pmax	pmax		
	comp=Z,60nm,1.1s,mb4.9						
LZH	**Lanzhou**	**21.80**	**284**	*e*P	**P**	**11 39 33.8**	**+1.9**
	comp=Z,60nm,1.1s,mb4.9						
LZH				pP		11 39 42.6	
LZH				sP		11 39 45.3	
ULN	**Ulaanbaatar**	**22.49**	**316**	*e*P	**P**	**11 39 38.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.7						
ULN	**Ulaanbaatar**	**22.49**	**316**	*e*P	**P**	**11 39 38.5**	**-0.2**
	comp=Z,40nm,1.2s,mb4.7						
CD2	**Chengdu**	**22.57**	**270**	P	**P**	**11 39 44.3**	**+4.8**
CD2				AMB	AMB		
	comp=Z,100nm,0.8s,mb5.3						
SONM	**Songino Array**	**22.86**	**315**	P	**P**	**11 39 43.4**	**+1.2**
	comp=Z,16nm,1.0s,mb4.4,baz=129,slow=7.9,SNR=29						
ZAK	**Zakamensk**	**25.90**	**318**	*e*P	**P**	**11 40 12.2**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
YAK	**Yakutsk**	**28.40**	**359**	P	**P**	**11 40 33.1**	**-1.0**
YAK				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.8						
YAK	**Yakutsk**	**28.40**	**359**	P	**P**	**11 40 33.1**	**-1.0**
	comp=Z,16nm,0.7s,mb4.8						
CMAR	**Chiang Mai Arr**	**31.80**	**249**	P	**P**	**11 41 01.7**	**-3.1**
CMAR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**31.80**	**249**	P	**P**	**11 41 01.7**	**-3.1**
	comp=Z,5.9nm,1.0s,mb4.3,baz=59,slow=7.6,SNR=8.0						
LSA	**Lhasa**	**33.40**	**274**	*e*P	**P**	**11 41 16.7**	**-1.9**
LSA				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
LSA	**Lhasa**	**33.40**	**274**	*e*P	**P**	**11 41 16.7**	**-1.9**
	comp=Z,18nm,1.3s,mb4.8						
JIRN	**Jiri**	**38.17**	**273**	*e*P	**P**	**11 41 58.6**	**-0.6**
	comp=Z,64nm,0.8s,mb5.4						
MKAR	**Makanchi Array**	**38.34**	**305**	P	**P**	**11 42 00.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**38.34**	**305**	P	**P**	**11 42 00.4**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.1,baz=90,slow=11,SNR=6.5						
GKN	**Gorkha**	**39.35**	**274**	*e*P	**P**	**11 42 05.9**	**-3.2**
	comp=Z,43nm,1.1s,mb5.1						
BILL	**Bilibino**	**40.10**	**20**	*e*P	**P**	**11 42 15.2**	**+0.3**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.4						
BILL	**Bilibino**	**40.10**	**20**	*e*P	**P**	**11 42 15.2**	**+0.3**
	comp=Z,10nm,1.3s,mb4.4						
KURK	**Kurchatov**	**41.00**	**311**	*e*P	**P**	**11 42 22.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.5						
KURK	**Kurchatov**	**41.00**	**311**	*e*P	**P**	**11 42 22.2**	**-0.2**
	comp=Z,16nm,1.2s,mb4.5						
CHKZ	**Chkalovo**	**46.05**	**315**	*e*P	**P**	**11 43 02.5**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CHKZ	**Chkalovo**	**46.05**	**315**	*e*P	**P**	**11 43 02.5**	**-0.7**
	comp=Z,4.6nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**46.18**	**314**	P	**P**	**11 43 04.0**	**-0.2**
	comp=Z,5.7nm,0.6s,mb4.7,baz=102,slow=9.1,SNR=17						
BVAR				PcP	PcP	11 44 40.6	0.0
	comp=Z,3.0nm,0.7s,baz=82,slow=3.8,SNR=5.4						
ARU	**Arti**	**52.84**	**319**	*e*P	**P**	**11 43 55.3**	**-0.2**
WRA	**Warramunga Arr**	**53.44**	**175**	P	**P**	**11 43 58.0**	**-2.3**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRA	**Warramunga Arr**	**53.44**	**175**	P	**P**	**11 43 58.0**	**-2.3**
	comp=Z,4.7nm,0.8s,mb4.5,baz=353,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**57.10**	**176**	P	**P**	**11 44 25.1**	**-1.8**
	comp=Z,2.4nm,0.7s,mb4.3,baz=4.1,slow=14,SNR=7.8						
JOF	**Joensuu**	**64.47**	**330**	*e*p	**P**	**11 45 14.3**	**-2.0**
KIV	**Kislovodsk**	**65.99**	**308**	*e*P	**P**	**11 45 26.1**	**-0.3**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
KAF	**Kangasniemi**	**66.91**	**330**	*e*p	**P**	**11 45 30.7**	**-1.3**
	comp=Z,6.5nm,0.8s,mb4.7,baz=60,slow=6.0						
KAF	**Kangasniemi**	**66.91**	**330**	*e*P	**P**	**11 45 30.7**	**-1.3**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
FINES	**FINESS Array B**	**67.33**	**330**	P	**P**	**11 45 33.9**	**-0.7**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.6s						
FINES	**FINESS Array B**	**67.33**	**330**	P	**P**	**11 45 33.9**	**-0.7**
	comp=Z,6.3nm,0.6s,mb4.8,baz=72,slow=6.0,SNR=13						
YKA	**Yellowknife Ar**	**71.09**	**26**	P	**P**	**11 45 58.1**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=305,slow=6.4,SNR=9.6						
AKASG	**Malin Array Be**	**71.09**	**319**	P	**P**	**11 45 57.3**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**71.09**	**319**	P	**P**	**11 45 57.3**	**-0.7**
	comp=Z,3.1nm,0.6s,mb4.4,baz=53,slow=6.2,SNR=19						
NB2	**NORSAR Subarra**	**73.46**	**334**	P	**P**	**11 46 10.6**	**-1.1**
	comp=Z,2.9nm,0.7s,mb4.3,baz=46,slow=5.8						
NB2	**NORSAR Subarra**	**73.46**	**334**	P	**P**	**11 46 10.6**	**-1.1**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
NOA	**NORSAR Array B**	**73.46**	**334**	P	**P**	**11 46 11.1**	**-0.6**
NOA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NOA	**NORSAR Array B**	**73.46**	**334**	P	**P**	**11 46 11.1**	**-0.6**
	comp=Z,5.7nm,0.8s,mb4.5,baz=49,slow=5.8,SNR=16						
BRTR	**Keskin Array B**	**73.93**	**307**	P	**P**	**11 46 15.1**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**73.93**	**307**	P	**P**	**11 46 15.1**	**+0.2**
	comp=Z,1.2nm,0.8s,mb3.9,baz=104,slow=5.1,SNR=5.1						
BRG	**Berggiesshubel**	**78.91**	**325**	*e*P	**P**	**11 46 43.4**	**+0.7**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CLL	**Collm**	**79.08**	**325**	⇑*i*P	**P**	**11 46 44.1**	**+0.5**
CLL				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
CLL	**Collm**	**79.08**	**325**	⇑*i*P	**P**	**11 46 44.1**	**+0.5**
	comp=Z,11nm,0.9s,mb4.8						
CLL	**Collm**	**79.08**	**325**	⇑P	**P**	**11 46 44.1**	**+0.5**
	comp=Z,logA/T=1.1,mb4.8						
GERES	**GERESS Array B**	**80.35**	**323**	P	**P**	**11 46 51.3**	**+0.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**80.35**	**323**	P	**P**	**11 46 51.3**	**+0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=45,slow=3.8,SNR=5.8						
GRA1	**Grafenberg Arr**	**81.00**	**325**	*e*P	**P**	**11 46 55.3**	**+1.4**
	comp=Z,9.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**81.00**	**325**	*e*P	**P**	**11 46 55.3**	**+1.4**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**81.00**	**325**	*e*P	**P**	**11 46 55.3**	**+1.4**
GRF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**81.00**	**325**	*e*P	**P**	**11 46 55.3**	**+1.4**
	comp=Z,9.0nm,1.0s,mb4.7						
FRB	**Frobisher Bay**	**81.78**	**8**	P	**P**	**11 46 58.2**	**+0.5**
FRB				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FRB	**Frobisher Bay**	**81.78**	**8**	P	**P**	**11 46 58.2**	**+0.5**
	comp=Z,5.1nm,0.8s,mb4.5,baz=323,slow=2.4,SNR=4.9						
FRB	**Frobisher Bay**	**81.78**	**8**	P	**P**	**11 46 58.2**	**+0.5**
PV10	**Paradox Valley**	**89.63**	**43**	*e*P	**P**	**11 47 39.2**	**+2.2**

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*IDC **10** 11:35:29.7±0.6, 1.71S×99.71E, mb4.5/19, mb1 4.6/19, mb1mx4.5/25, mbtmp4.5/19, Error ellipse: s-maj=25.0km s-min=13.0km az=51.0*
*MOS **10** 11:35:32.9±0.8, 1.60S×99.86E, h33km, mb5.1/9, Error ellipse: s-maj=22.5km s-min=10.4km az=111.6*
*NEIC **10** 11:35:33.4±0.3, 1.68S×99.78E, mb4.9/12, Error ellipse: s-maj=11.4km s-min=5.4km az=59.0*

ISC 10 11:35:34.1±2.7, 1.61S±0.09×99.9E±0.1, h42km±23km, n65, σ0§93/56, mb4.7/33, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.90**	**7**	*e*P	**P**	**11 37 16.4**	**+1.1**
CM31	**Chiang Mai Arr**	**19.96**	**357**	*e*P	**P**	**11 40 02.3**	**-3.3**
	15nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.96**	**357**	P	**P**	**11 40 04.8**	**-0.8**
	4.8nm,0.6s,baz=186,slow=9.4,SNR=8.2						
MBWA	**Marble Bar**	**27.45**	**136**	*e*P	**P**	**11 41 18.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**30.15**	**125**	*e*P	**P**	**11 41 41.6**	**-1.0**
	9.7nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.15**	**125**	P	**P**	**11 41 41.9**	**-0.8**
	16nm,1.0s,mb4.7,baz=297,slow=10,SNR=6.1						
PKI	**Pulchoki**	**32.17**	**335**	*e*P	**P**	**11 42 00.5**	**+0.2**
LSA	**Lhasa**	**32.22**	**346**	P	**P**	**11 42 01.8**	**+1.0**
LSA				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
LSA	**Lhasa**	**32.22**	**346**	P	**P**	**11 42 01.8**	**+1.0**
	comp=Z,12nm,1.0s,mb4.7						
GUN	**Gumba**	**32.28**	**336**	*e*P	**P**	**11 42 01.3**	**0.0**
	comp=Z,197nm,0.9s,mb6.0						
DMN	**Daman**	**32.33**	**335**	*e*P	**P**	**11 42 01.5**	**-0.2**
KKN	**Kakani**	**32.41**	**335**	*e*P	**P**	**11 42 02.5**	**0.0**
	comp=Z,67nm,1.1s,mb5.4						
KKN	**Kakani**	**32.41**	**335**	*e*P	**P**	**11 42 02.5**	**0.0**
KKN				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.1						
ENH	**Enshi**	**33.01**	**15**	P	**P**	**11 42 06.1**	**-1.5**
	comp=Z,13nm,1.0s,mb4.8						
KOLN	**Koldanda**	**33.13**	**333**	*e*P	**P**	**11 42 08.9**	**+0.2**
	comp=Z,26nm,0.9s,mb5.2						
WRA	**Warramunga Arr**	**38.32**	**121**	P	**P**	**11 42 52.4**	**-0.3**
	comp=Z,5.3nm,0.5s,mb4.6,baz=303,slow=9.1,SNR=16						
WRAB	**Tennant Creek**	**38.32**	**121**	*e*P	**P**	**11 42 52.3**	**-0.5**
WRAB				*e*		11 42 59.4	
WRAB				pmax	pmax		
	comp=Z,21nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**38.32**	**121**	*e*P	**P**	**11 42 52.3**	**-0.5**
	comp=Z,21nm,0.6s,mb5.0						
WRAB				*e*		11 42 59.4	
WB2	**Warramunga Arr**	**38.33**	**121**	*e*P	**P**	**11 42 52.4**	**-0.4**
ASPA	**Alice Springs**	**39.60**	**126**	*e*P	**P**	**11 43 03.4**	**+0.1**
ASAR	**Alice Springs**	**39.60**	**126**	P	**P**	**11 43 03.5**	**+0.1**
	comp=Z,4.1nm,0.7s,mb4.3,baz=304,slow=8.0,SNR=14						
STKA	**Stephens Creek**	**49.52**	**132**	P	**P**	**11 44 23.2**	**+0.3**
	comp=Z,4.0nm,0.8s,mb4.5,baz=312,slow=8.9,SNR=6.0						
STKA	**Stephens Creek**	**49.52**	**132**	*e*P	**P**	**11 44 23.0**	**+0.1**
STKA				*e*		11 44 30.4	
SONM	**Songino Array**	**49.57**	**6**	P	**P**	**11 44 23.7**	**+0.7**
	comp=Z,3.5nm,0.8s,mb4.5,baz=183,slow=9.8,SNR=11						
SONM				PcP	PcP	11 45 44.9	+0.4
	comp=Z,2.7nm,0.8s,baz=180,slow=4.9,SNR=4.2						
ULN	**Ulaanbaatar**	**49.67**	**6**	*e*P	**P**	**11 44 24.2**	**+0.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**49.67**	**6**	*e*P	**P**	**11 44 24.2**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**50.61**	**344**	P	**P**	**11 44 31.1**	**+0.1**
	comp=Z,9.5nm,0.7s,mb4.9,baz=150,slow=8.1,SNR=19						
MJAR	**Matsushiro Arr**	**52.07**	**39**	P	**P**	**11 44 42.6**	**+0.6**
	comp=Z,0.9nm,0.6s,mb3.9,baz=220,slow=8.8,SNR=5.2						
KURK	**Kurchatov**	**55.19**	**344**	*e*P	**P**	**11 45 04.3**	**-0.7**
KURK				*e*		11 45 11.8	
KURK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
KURK	**Kurchatov**	**55.19**	**344**	*e*P	**P**	**11 45 04.3**	**-0.7**
	comp=Z,11nm,0.8s,mb4.9						
KURK				*e*		11 45 11.8	
ZAL	**Zalesovo**	**56.75**	**349**	P	**P**	**11 45 16.1**	**0.0**
	comp=Z,10nm,0.5s,mb5.1,baz=318,slow=5.4,SNR=19						
ASAJ	**Asahikawa**	**59.38**	**35**	P	**P**	**11 45 35.5**	**+0.8**
	comp=Z,3.5nm,0.5s,mb4.7,baz=9.5,slow=24,SNR=4.1						
BVAR	**Borovoye Array**	**59.77**	**340**	P	**P**	**11 45 36.1**	**-1.1**
	comp=Z,4.2nm,0.7s,mb4.6,baz=138,slow=8.7,SNR=8.8						
CHKZ	**Chkalovo**	**60.23**	**340**	*e*P	**P**	**11 45 39.0**	**-1.3**
CHKZ				*e*		11 45 46.3	
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**60.23**	**340**	*e*P	**P**	**11 45 39.0**	**-1.4**
	comp=Z,6.0nm,0.6s,mb4.8						
CHKZ				*e*		11 45 46.3	
BOD	**Bodaibo**	**60.32**	**9**	*e*P	**P**	**11 45 38.9**	**-2.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.3						
YSS	**Yuzh-Sakhalins**	**61.23**	**32**	*e*P	**P**	**11 45 47.6**	**+0.4**
YSS				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
YSS	**Yuzh-Sakhalins**	**61.23**	**32**	*e*P	**P**	**11 45 47.6**	**+0.4**
	comp=Z,7.2nm,0.7s,mb4.9						
ARU	**Arti**	**66.79**	**336**	*e*P	**P**	**11 46 20.4**	**-2.9**
YAK	**Yakutsk**	**67.40**	**15**	*e*P	**P**	**11 46 26.8**	**-0.3**
YAK				*e*		11 46 33.4	
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
YAK	**Yakutsk**	**67.40**	**15**	*e*P	**P**	**11 46 26.8**	**-0.3**
	comp=Z,16nm,0.8s,mb5.1						
YAK				*e*		11 46 33.4	
KIV	**Kislovodsk**	**68.15**	**319**	*e*P	**P**	**11 46 31.5**	**-0.6**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**68.15**	**319**	*e*P	**P**	**11 46 31.5**	**-0.6**
	comp=Z,8.1nm,0.8s,mb4.8						
ASF	**Jabal al Asfar**	**68.24**	**306**	P	**P**	**11 46 33.5**	**+0.6**
	comp=Z,1.1nm,0.3s,mb4.3,baz=125,slow=1.8,SNR=3.2						
MATP	**Matopo**	**71.98**	**249**	P	**P**	**11 46 55.5**	**-0.2**
	comp=Z,1.5nm,0.4s,mb4.3,baz=54,slow=6.8,SNR=4.2						
MATP	**Matopo**	**71.98**	**249**	P	**P**	**11 46 55.5**	**-0.2**
BRTR	**Keskin Array B**	**72.95**	**312**	P	**P**	**11 46 59.9**	**-1.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=125,slow=5.4,SNR=3.5						
SEY	**Seymchan**	**75.32**	**22**	*e*P	**P**	**11 47 17.4**	**+2.9**
SEY				pmax	pmax		
	comp=E,10.0nm,0.8s						
SEY				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
RPZ	**Rata Peaks**	**75.36**	**135**	P	**P**	**11 47 16.1**	**+1.0**
	comp=Z,6.2nm,0.6s,mb4.7,baz=337,slow=7.7,SNR=3.5						
MLR	**Muntele Rosu**	**79.92**	**317**	P	**P**	**11 47 40.6**	**+0.2**
	comp=Z,8.5nm,0.9s,mb4.7,baz=139,slow=3.6,SNR=8.0						
KOLS	**Kolonicke sedl**	**83.06**	**320**	*e*P	**P**	**11 47 58.5**	**+1.9**
FINES	**FINESS Array B**	**83.70**	**332**	P	**P**	**11 48 00.4**	**+0.8**
	comp=Z,2.9nm,0.6s,mb4.6,baz=108,slow=5.7,SNR=13						
KAF	**Kangasniemi**	**83.77**	**333**	*e*

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	56.74	349	P		**P**	11 49 45.5	+0.2
	2.4nm,0.4s,mb4.6,baz=326,slow=6.1,SNR=4.3							
BVAR	**Borovoye Array**	59.80	340	P		**P**	11 50 05.6	-1.1
	0.5nm,0.5s,mb3.9,baz=148,slow=10.0,SNR=4.0							
FINES	**FINESS Array B**	83.76	332	P		**P**	11 52 29.3	0.0
	1.1nm,0.7s,mb4.1,baz=117,slow=4.3,SNR=3.9							
FINES	**FINESS Array B**	83.76	332	P		**P**	11 52 29.3	0.0
ARCES	**ARCESS Array B**	86.08	340	P		**P**	11 52 41.5	+0.8
	2.6nm,0.8s,mb4.5,baz=112,slow=4.9,SNR=3.9							
TXAR	**Lajitas Array**	144.30	37	PKPbc		PKPbc	11 59 37.4	+2.1
	0.3nm,0.5s,baz=317,slow=1.9,SNR=3.4							

*IDC **10** 11:41:42.3±1.4,0.41S×99.74E,mb4.2/6,mb1 4.3/7, mb1mx3.9/17,mbtmp4.1/7,ML4.0/1,Error ellipse: s-maj=62.6km s-min=19.0km az=62.0*
*NEIC **10** 11:41:46.5±0.8,0.45S×99.66E,h30km,mb4.5/1,Error ellipse: s-maj=38.2km s-min=11.1km az=61.0*
ISC 10 11:41:43.3±1.7,0.6S±0.3×99.4E±0.4,h30km,n14, σ0.70/11,mb4.2/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	18.91	359	P		**P**	11 46 04.9	+0.6
	0.2nm,0.3s,baz=186,slow=9.8,SNR=4.1							
WRA	**Warramunga Arr**	39.25	122	P		**P**	11 49 10.9	-0.3
	3.3nm,0.6s,mb4.3,baz=297,slow=9.3,SNR=8.3							
WRAB	**Tennant Creek**	39.26	122	*eP*		**P**	11 49 11.0	-0.2
	6.6nm,0.6s,mb4.5							
ASAR	**Alice Springs**	40.59	127	P		**P**	11 49 22.6	+0.3
	1.1nm,0.5s,mb3.8,baz=310,slow=9.3,SNR=5.4							
SONM	**Songino Array**	48.59	6	P		**P**	11 50 25.1	-1.1
	1.2nm,0.8s,mb4.0,baz=180,slow=8.6,SNR=3.1							
MKAR	**Makanchi Array**	49.49	345	P		**P**	11 50 34.1	+1.0
	2.5nm,0.6s,mb4.4,baz=159,slow=8.4,SNR=5.3							
STKA	**Stephens Creek**	50.56	132	P		**P**	11 50 41.9	+0.5
	1.7nm,0.5s,mb4.2,baz=300,slow=7.3,SNR=3.2							
STKA	**Stephens Creek**	50.56	132	*eP*		**P**	11 50 41.8	+0.3
ZAL	**Zalesovo**	55.65	350	P		**P**	11 51 19.3	+0.4
	2.9nm,0.5s,mb4.5,baz=317,slow=5.7,SNR=4.8							
ZAL	**Zalesovo**	55.65	350	P		**P**	11 51 19.3	+0.4
CHKZ	**Chkalovo**	59.10	341	P		**P**	11 51 42.1	-1.2
TXAR	**Lajitas Array**	143.93	35	PKP		PKPdf	12 01 20.5	-1.1
	0.7nm,0.5s,baz=238,slow=1.1,SNR=4.4							
MIAR	**Mount Ida**	144.09	18	PKPdf		PKPdf	12 01 20.3	-1.4
MIAR				*e*			12 01 26.7	
CFAA	**Coronel Fontan**	145.92	199	PKPbc		PKPbc	12 01 24.3	+3.5
	0.5nm,0.6s,baz=178,slow=4.0,SNR=6.1							

*DJA **10** 11:44:41.8±2.3,4.62S×97.03E,h33km,mb4.7/3,ML5.9/2, Error ellipse: s-maj=146.0km s-min=51.6km az=178.0*
*IDC **10** 11:44:57.9±0.3,1.55S×99.71E,mb5.2/29,mb1 5.2/30, mb1mx5.2/31,mbtmp5.2/30,ML4.7/1,Error ellipse: s-maj=13.3km s-min=8.2km az=44.0*
*BJI **10** 11:45:01.3,1.35S×99.75E,h18km,mB6.4,mb5.1,Ms5.9, Msz5.6*
*MOS **10** 11:45:01.7±0.9,1.59S×99.64E,h33km,mb5.6/55,Error ellipse: s-maj=10.1km s-min=4.6km az=122.8*
*NEIC **10** 11:45:02.8±0.1,1.62S×99.59E,h30km,mb5.5/60,Error ellipse: s-maj=5.5km s-min=3.2km az=224.0*
NEIC Felt at Padang, Sumatra.
ISC 10 11:45:00.4±1.0,1.66S±0.03×99.61E±0.03,h25km±7km, h26km±.9km:pP-P,n377,σ1.00/355,mb5.3/114,MS5.6/11, 38C-25D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
KGM	**Kluang**	5.21	45	P		**Pn**	11 46 21.9	+3.1
IPM	**Ipoh**	6.36	13	P		**Pn**	11 46 35.7	+0.7
PENI	**Pendagan**	6.77	125	⇑*i*Pn		**Pn**	11 46 39.9	-1.0
	4μm,0.6s							
KULM	**Kulim**	6.98	9	*e*Pn		**Pn**	11 46 43.7	-0.1
PULI	**Pulasari**	7.88	126	⇓*e*Pn		**Pn**	11 46 53.9	-2.4
PULI	**Pulasari**	7.88	126	⇓*i*Pn		**Pn**	11 46 54.5	-1.8
SINI	**Singah**	9.50	124	⇑*e*Pn		**P**	11 47 15.8	-3.0
SINI	**Singah**	9.50	124	⇑*i*Pn		**P**	11 47 15.8	-3.0
	16nm,0.5s							
KSM	**Kuching**	11.14	74	P		**P**	11 47 42.8	+1.3
SRDI	**Scrawed**	15.98	116	⇑*e*P		**P**	11 48 42.9	-2.6
SRDI				pmax	pmax			
	comp=Z,88nm,0.2s							
SRDI	**Scrawed**	15.98	116	⇑*e*P		**P**	11 48 42.9	-2.6
	comp=Z,88nm,0.2s							
SRDI	**Scrawed**	15.98	116	⇓*i*P		**P**	11 48 43.9	-1.6
	comp=Z,176nm,0.2s							
KELI	**Kelakatan**	16.19	114	⇓*e*P		**P**	11 48 48.3	+0.1
KELI	**Kelakatan**	16.19	114	⇑*i*P		**P**	11 48 48.0	-0.2
	comp=Z,70nm,0.2s							
RATI	**Rata**	17.33	114	⇓*e*P		**P**	11 49 00.6	-2.0
	comp=Z,349nm,0.2s							
RATI	**Rata**	17.33	114	⇓*e*P		**P**	11 49 00.0	-2.6
	comp=Z,349nm,0.2s							
UBT	**Ubonrachathani**	17.63	17	P		**P**	11 49 10.9	+4.7
KEDI	**Kedomdong**	17.78	113	⇓*e*P		**P**	11 49 06.6	-1.5
KEDI	**Kedomdong**	17.78	113	⇓*e*P		**P**	11 49 07.2	-0.9
KKM	**Kota Kinabalu**	18.26	65	*e*P		**P**	11 49 15.7	+1.5
KKM	**Kota Kinabalu**	18.26	65	P		**P**	11 49 17.6	+3.4
TSM	**Tawau**	19.19	72	P		**P**	11 49 26.7	+1.4
CM31	**Chiang Mai Arr**	20.00	358	*e*P		**P**	11 49 30.4	-3.9
	comp=Z,117nm,0.9s							
CMAR	**Chiang Mai Arr**	20.00	358	P		**P**	11 49 30.1	-4.3
	comp=Z,0.9nm,0.3s,baz=185,slow=9.9,SNR=22							
CHG	**Chiang Mai**	20.35	358	⇑P		**P**	11 49 37.6	-0.4
	comp=Z,24nm,0.8s							
PALK	**Pallekele**	20.85	295	*e*P		**P**	11 49 43.5	+0.3
	comp=Z,107nm,1.3s							
BATP	**Bataraza**	20.90	60	*e*P		**P**	11 49 44.2	+0.6
QIZ	**Qiongzhong**	22.89	26	P		**P**	11 50 03.4	-0.2
ENPP	**El Nido**	23.49	57	*e*P		**P**	11 50 10.4	+0.9
TRD	**Trivandrum**	24.73	294	⇓*e*		**P**	11 50 33.2	+12
TRD				*e*			11 54 37.2	
IPIL	**Ipil**	24.75	67	*e*P		**P**	11 50 22.5	+0.7
VIS	**Vishakhapatnam**	25.06	321	*e*P		**P**	11 50 27.2	+2.6
VIS				*e*			11 50 30.0	
	comp=Z,138nm,1.0s							
PAGZ	**Pagadian**	25.52	68	*e*P		**P**	11 50 30.7	+1.7
LUBP	**Lubang**	25.54	53	*e*P		**P**	11 50 30.1	+0.9
SJMP	**San Jose**	25.55	56	*e*P		**P**	11 50 31.9	+2.6
BWNR	**Bhubaneshwar**	25.67	329	*e*P		**P**	11 50 34.8	+4.4
BWNR				*e*			11 50 37.4	
	comp=Z,413nm,1.8s							
DCPH	**Dipolog City**	25.76	66	*e*P		**P**	11 50 35.0	+3.7
SNPH	**Sibulan**	25.95	65	*e*P		**P**	11 50 36.0	+3.0
AGT	**Agartala**	26.66	343	⇓*i*P		**P**	11 50 42.0	+2.6
AGT				*i*			11 51 37.0	
KMI	**Kunming**	26.80	6	⇑P		**P**	11 50 41.5	+0.8
KMI				AP	pP		11 50 49.7	+1.7
KMI				S	**S**		11 55 13.9	+0.5
KMI				AMB	AMB			
	comp=Z,30nm,1.1s,mb4.7							
KMI				AMB	AMB			
	comp=Z,15μm,11.4s							
KMI				LR	LR			
	comp=N,7μm,11.3s,MS5.6							
KMI				LR	LR			
	comp=E,8μm,12.5s,MS5.6							
KMI				LR	LR			
	comp=Z,11μm,9.3s							
KMI	**Kunming**	26.80	6	⇑P		**P**	11 50 41.5	+0.8
	comp=Z,30nm,1.1s,mb4.7							
KMI				pP	pP		11 50 49.7	+1.7
KMI				S	**S**		11 55 13.9	+0.5
BUKP	**Musuan**	27.10	69	*e*P		**P**	11 50 45.0	+1.4
MBWA	**Marble Bar**	27.58	136	*e*P		**P**	11 50 48.2	+0.3
	comp=Z,63nm,1.3s,mb5.1							
MSLP	**Maasin**	27.73	65	*e*P		**P**	11 50 49.3	-0.1
ABRA	**Dolores**	28.29	46	*e*P		**P**	11 50 53.7	-0.6
GYA	**Guiyang**	28.77	13	⇑*i*P		**P**	11 50 57.8	-0.8
GYA				AP	pP		11 51 07.2	+1.3
GYA				XP	sP		11 51 11.4	+2.2
GYA				PP	PP		11 51 49.3	-2.4
GYA				S	**S**		11 55 42.5	-2.7
GYA				AMB	AMB			
	comp=Z,60nm,1.1s,mb5.2							
GYA				LR	LR			
	comp=N,5μm,15.7s,MS5.5							
GYA				LR	LR			
	comp=E,9μm,15.4s,MS5.5							
GYA				LR	LR			
	comp=Z,10μm,16.0s,MS5.5							
BLSP	**Bilaspur**	29.16	325	*e*P		**P**	11 51 03.7	+1.6
BLSP				*e*			11 51 19.2	
	comp=Z,95nm,1.1s							
FITZ	**Fitzroy Crossi**	30.33	124	⇑*i*P		**P**	11 51 11.6	-1.0
	comp=Z,127nm,0.9s,mb5.7							
FITZ	**Fitzroy Crossi**	30.33	124	P		**P**	11 51 11.7	-0.9
	comp=Z,181nm,0.9s,mb5.8,baz=304,slow=7.1,SNR=90							
KAD	**Karad**	31.36	308	*e*P		**P**	11 51 22.0	+0.3
KAD				*e*			11 51 33.2	
	comp=Z,46nm,1.3s							
JIRN	**Jiri**	31.88	337	*e*P		**P**	11 51 25.6	-0.5
	comp=Z,352nm,1.2s,mb6.1							
PKI	**Pulchoki**	32.11	336	*e*P		**P**	11 51 27.9	-0.3
	comp=Z,116nm,1.3s,mb5.6							
PKI	**Pulchoki**	32.11	336	*e*P		**P**	11 51 27.9	-0.3
PKI				pmax	pmax			
	comp=Z,58nm,1.3s,mb5.2							
LSA	**Lhasa**	32.21	346	P		**P**	11 51 30.3	+1.3
LSA				AMB	AMB			
	comp=Z,60nm,1.3s,mb5.3							
LSA	**Lhasa**	32.21	346	*e*P		**P**	11 51 29.6	+0.6
QZH	**Quanzhou**	32.22	34	⇑*i*P		**P**	11 51 29.4	+0.3
QZH				AMB	AMB			
	comp=Z,130nm,1.1s,mb5.7							
GUN	**Gumba**	32.23	337	*e*P		**P**	11 51 28.1	-1.0
	comp=Z,180nm,0.8s,mb6.0							
DMN	**Daman**	32.27	335	*e*P		**P**	11 51 29.3	-0.2
	comp=Z,103nm,1.0s,mb5.6							
POO	**Poona**	32.32	310	*e*P		**P**	11 51 29.7	-0.3
POO				*e*			11 51 41.9	
	comp=Z,70nm,1.5s							
KKN	**Kakani**	32.36	336	*e*P		**P**	11 51 29.9	-0.4
	comp=Z,189nm,1.0s,mb5.9							
KKN	**Kakani**	32.36	336	*e*P		**P**	11 51 29.9	-0.4
KKN				pmax	pmax			
	comp=Z,94nm,1.0s,mb5.6							
CD2	**Chengdu**	32.63	7	P		**P**	11 51 30.2	-2.4
CD2				AMB	AMB			
	comp=Z,30nm,1.0s,mb5.2							
GKN	**Gorkha**	32.81	335	*e*P		**P**	11 51 34.2	-0.1
	comp=Z,296nm,1.3s,mb6.1							
BHPL	**Bhopal**	32.85	320	*e*P		**P**	11 51 36.2	+1.6
BHPL				*e*			11 51 59.4	
	comp=Z,40nm,1.2s							
KOLN	**Koldanda**	33.06	333	*e*P		**P**	11 51 36.5	+0.1
	comp=Z,266nm,1.3s,mb6.0							
ENH	**Enshi**	33.12	16	*e*P		**P**	11 51 34.7	-2.2
	comp=Z,76nm,1.1s,mb5.5							
MUN	**Mundaring**	33.98	154	*e*P		**P**	11 51 45.8	+1.4
	comp=Z,255nm,0.8s,mb6.2							
MUN	**Mundaring**	33.98	154	*e*P		**P**	11 51 45.8	+1.4
MUN				pmax	pmax			
	comp=Z,255nm,0.8s,mb6.2							
KLBR	**Kellerberrin**	34.35	152	⇑*i*P		**P**	11 51 48.0	+0.4
	comp=Z,1μm,1.1s							
WHN	**Wuhan**	34.97	23	⇑P		**P**	11 51 52.4	-0.5
WHN				AMB	AMB			
	comp=Z,210nm,1.8s,mb5.8							
NWAO	**Narrogin (SRO)**	35.24	154	*e*P		**P**	11 51 55.6	+0.5
NWAO				pmax	pmax			
	comp=Z,163nm,1.4s							
NWAO	**Narrogin (SRO)**	35.24	154	P		**P**	11 51 55.8	+0.7
	comp=Z,47nm,0.7s,mb5.5,baz=325,slow=9.3,SNR=43							
NWAO	**Narrogin (SRO)**	35.24	154	*e*P		**P**	11 51 55.6	+0.5
	comp=Z,163nm,1.4s,mb5.8							
LGTI	**Lohaghat**	36.05	331	*e*P		**P**	11 52 02.0	-0.1
XAN	**Xi'an**	36.57	13	P		**P**	11 52 04.1	-2.3
XAN				AP	pP		11 52 12.2	-1.7
XAN				AMB	AMB			
	comp=Z,60nm,1.2s,mb5.3							
NDI	**New Delhi**	37.03	326	*e*P		**P**	11 52 11.0	+0.7
LZH	**Lanzhou**	37.76	6	*e*P		**P**	11 52 18.0	+1.7
LZH				AP	pP		11 52 27.8	+4.0
LZH				XP	sP		11 52 31.7	+4.8
LZH				PP	PP		11 53 48.0	+2.3
LZH				*e*S	**S**		11 58 07.0	+2.0
LZH				AMB	AMB			
	comp=Z,228nm,1.6s,mb5.7							
LZH				AMB	AMB			
	comp=Z,787nm,5.0s							
LZH				LR	LR			
	comp=E,4μm,15.6s							
LZH				LR	LR			
	comp=Z,5μm,16.5s,MS5.4							
LZH	**Lanzhou**	37.76	6	*e*P		**P**	11 52 18.0	+1.7
LZH				*PP	pP		11 52 27.8	+4.0
LZH				*SP	sP		11 52 31.7	+4.8
LZH							11 53 48.0	
LZH				*e*S	**S**		11 58 07.0	+2.0
LZH				*SS			11 58 23.0	
LZH				*e*SS	SS		12 00 44.0	+3.5
LZH				pmax	pmax			
	comp=Z,228nm,1.6s,mb5.7							
LZH				MLR	MLR			
	comp=Z,5μm,16.5s,MS5.4							
LZH	**Lanzhou**	37.76	6	*e*P		**P**	11 52 18.0	+1.7
	comp=Z,228nm,1.6s,mb5.7							
LZH				pP	pP		11 52 27.8	+4.0
LZH				sP	sP		11 52 31.7	+4.8
LZH				PP	PP		11 53 48.0	+2.3
LZH				*e*S	**S**		11 58 07.0	+2.0
LZH				sS			11 58 23.0	
LZH				*e*SS	SS		12 00 44.0	+3.5
LZH				LR	LR			
	comp=Z,5μm,16.5s,MS5.4							
DDI	**Dehra Dun**	37.87	329	*e*P		**P**	11 52 17.6	+0.3
DDI				*e*			11 58 22.5	
NJ2	**Nanjing**	38.17	27	*e*P		**P**	11 52 19.8	0.0
NJ2				AP	pP		11 52 29.6	+2.3
NJ2				XP	sP		11 52 33.5	+3.1
NJ2				PP	PP		11 53 51.7	+1.1
NJ2				S	**S**		11 58 11.0	-0.3
NJ2				XS			11 58 26.0	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.5s,mb4.8							
NJ2				AMB	AMB			
	comp=Z,4μm,3.8s							
NJ2				LR	LR			
	comp=N,14μm,11.8s,MS6.0							
NJ2				LR	LR			
	comp=E,12μm,16.0s,MS6.0							
NJ2				LR	LR			
	comp=Z,3μm,12.5s,MS5.3							
SSE	**Sheshan**	38.50	30	*e*P		**P**	11 52 23.6	+1.0
SSE				AMB	AMB			
	comp=Z,60nm,0.8s,mb5.4							
SSE				AMB	AMB			
	comp=Z,2μm,8.7s							
SSE	**Sheshan**	38.50	30	*e*P		**P**	11 52 23.6	+1.0
	comp=Z,60nm,0.8s,mb5.4							
WRA	**Warramunga Arr**	38.50	121	P		**P**	11 52 22.0	-0.8
	comp=Z,96nm,0.9s,mb5.5,baz=297,slow=9.4,SNR=190							
WRA				PcP	PcP		11 54 36.0	+0.1
	comp=Z,8.4nm,0.7s,baz=308,slow=2.4,SNR=7.7							
WRA				S	**S**		11 58 14.5	-1.9
	comp=Z,1.6nm,0.6s,baz=288,slow=16,SNR=8.8							
WRAB	**Tennant Creek**	38.51	121	*i*P		**P**	11 52 22.4	-0.4
WRAB	**Tennant Creek**	38.51	121	*e*P		**P**	11 52 22.1	-0.7
	comp=Z,219nm,0.9s,mb5.9							
WB2	**Warramunga Arr**	38.51	121	⇑*i*P		**P**	11 52 21.9	-0.9
SMLA	**Simla**	38.97	329	⇓*i*		**P**	11 52 22.8	-3.8
	comp=Z,26nm,0.3s,mb5.4							
SMLA				*i*			11 59 36.4	
SDNR	**Sundarnagar**	39.37	329	*e*P		**P**	11 52 29.0	-0.8
FORT	**Forrest**	39.55	140	⇑*i*P		**P**	11 52 32.7	+1.3
	comp=Z,4μm,0.7s							
JOW	**Kunigami**	39.58	42	P		**P**	11 52 30.4	-1.2
	comp=Z,44nm,0.9s,mb5.2,baz=270,slow=8.5,SNR=3.6							
ASPA	**Alice Springs**	39.77	126	⇑*i*P		**P**	11 52 33.3	+0.1
ASPA				*e*S	**S**		11 58 34.1	-1.4
ASAR	**Alice Springs**	39.77	126	P		**P**	11 52 33.5	+0.2
	comp=Z,47nm,0.8s,mb5.2,baz=300,slow=7.5,SNR=132							
ASAR				PcP	PcP		11 54 40.6	+0.7
	comp=Z,14nm,0.8s,baz=298,slow=2.6,SNR=8.2							
ASAR				S	**S**		11 58 35.1	-0.4
	comp=Z,48nm,1.3s,baz=294,slow=15,SNR=10.0							
PONG	**Pong**	40.26	328	*e*P		**P**	11 52 37.0	-0.2
GTA	**Gaotai**	40.87	0	*e*P		**P**	11 52 42.3	+0.2
GTA				AP	pP		11 52 51.2	+1.6
GTA				XP	sP		11 52 55.2	+2.5
GTA				PP	PP		11 54 20.7	+1.2
GTA				PCP	PcP		11 54 43.0	-0.3
GTA				PPP	PPP		11 54 48.1	-0.6
GTA				SCP			11 58 31.0	
GTA				PCS			11 58 33.3	
GTA				S	**S**		11 58 52.2	+0.4
GTA				XS			11 59 06.6	
GTA				SS	SS		12 01 47.4	-1.5
GTA				SCS	ScS		12 02 45.2	+1.8
GTA				AMB	AMB			
	comp=Z,32nm,1.2s,mb4.8							
GTA				AMB	AMB			
	comp=Z,10μm,4.8s							
GTA				LR	LR			
	comp=N,4μm,14.8s,MS5.6							
GTA				LR	LR			
	comp=E,5μm,14.1s,MS5.6							
GTA				LR	LR			
	comp=Z,6μm,14.1s,MS5.6							
TIA	**Tai'an**	41.06	22	*e*P		**P**	11 52 42.9	-0.8
HHC	**Hu-ho-hao-te**	43.69	13	*e*P		**P**	11 53 05.7	+0.5
HHC				AP	pP		11 53 13.6	+0.9
HHC				XP	sP		11 53 19.5	+3.7
HHC				PP	PP		11 54 49.0	+0.3
HHC				PCP	PcP		11 54 54.4	+1.8
HHC				SCP			11 58 37.3	
HHC				PCS			11 58 45.6	
HHC				S	**S**		11 59 34.4	+1.2
HHC				XS			11 59 45.9	
HHC				SS	SS		12 02 39.1	-2.2
HHC				SCS	ScS		12 03 04.3	+3.7
HHC				AMB	AMB			
	comp=Z,29nm,1.2s,mb4.9							
HHC				AMB	AMB			
	comp=Z,7μm,11.3s							
HHC				LR	LR			
	comp=N,9μm,16.2s,MS5.8							
HHC				LR	LR			
	comp=E,5μm,14.7s,MS5.8							
HHC				LR	LR			
	comp=Z,6μm,14.3s,MS5.7							
BJI	**Beijing**	44.18	18	*e*P		**P**	11 53 09.0	-0.2
BJI				AMB	AMB			
	comp=Z,61nm,1.3s,mb5.2							
BJI	**Beijing**	44.18	18	*e*P		**P**	11 53 09.0	-0.2
	comp=Z,61nm,1.3s,mb5.2							
DL2	**Dalian**	45.17	24	P		**P**	11 53 18.3	+1.1
DL2				S	**S**		11 59 57.3	+2.7
DL2				AMB	AMB			
	comp=Z,30nm,1.3s,mb5.0							
DL2				LR	LR			
	comp=N,1μm,12.7s,MS5.4							
DL2				LR	LR			
	comp=E,3μm,12.6s,MS5.4							
DL2				LR	LR			
	comp=Z,4μm,14.3s,MS5.5							
KSH	**Kashi**	46.36	335	P		**P**	11 53 28.0	+1.4
KSH				AP	pP		11 53 39.0	+4.9
KSH				XP	sP		11 53 41.1	+3.9
KSH				PCP	PcP		11 55 03.0	+1.1
KSH				PP	PP		11 55 16.1	+0.7
KSH				PPP	PPP		11 56 02.0	+1.7
KSH				SCP			11 58 52.0	
KSH				PCS			11 58 56.0	
KSH				S	**S**		12 00 12.0	+0.4
KSH				XS			12 00 29.0	
KSH				SCS	ScS		12 03 17.0	-0.6
KSH				SS	SS		12 03 30.0	+0.3
KSH				AMB	AMB			
	comp=Z,10μm,10.4s							
KSH				LR	LR			
	comp=N,8μm,11.5s,MS6.1							
KSH				LR	LR			
	comp=E,10μm,11.2s,MS6.1							
WBK	**Wadi Bani Khal**	46.38	304	P		**P**	11 53 27.0	+0.1
	SNR=7.8							
WMQ	**Urumqi**	46.52	348	⇑P		**P**	11 53 28.5	+0.7
WMQ				AP	pP		11 53 38.5	+3.2
WMQ				XP	sP		11 53 42.3	+3.9
WMQ				PCP	PcP		11 55 03.1	+0.7
WMQ				PP	PP		11 55 17.5	+0.5
WMQ				PPP	PPP		11 56 03.5	+1.2
WMQ				S	**S**		12 00 14.0	+0.1
WMQ				XS			12 00 30.5	
WMQ				SCS	ScS		12 03 18.1	-0.5
WMQ				SS	SS		12 03 32.3	0.0
WMQ				AMB	AMB			
	comp=Z,170nm,1.1s,mb5.9							
WMQ				AMB	AMB			
	comp=Z,4μm,6.7s							
WMQ				LR	LR			
	comp=N,5μm,15.4s,MS5.6							
WMQ				LR	LR			
	comp=E,3μm,16.3s,MS5.6							
WMQ				LR	LR			
	comp=Z,2μm,18.4s,MS5.2							
KS15	**Wonju Array Si**	46.90	31	*e*P		**P**	11 53 30.8	-0.1
BSY	**Bisya**	47.91	303	⇓P		**P**	11 53 39.7	+0.7
	SNR=5.8							
ULHL	**Ulahol**	48.54	337	P		**P**	11 53 45.0	+1.3
	SNR=11							
RBK	**Rabkut**	48.61	295	⇑P		**P**	11 53 44.7	+0.2
	SNR=7.5							
KZA	**Kyzart**	48.80	336	P		**P**	11 53 46.6	+1.0
	SNR=24							
CTA	**Charters Tower**	49.10	115	⇑*i*P		**P**	11 53 47.8	-0.4
	comp=Z,42nm,0.9s,mb5.5							
CTA	**Charters Tower**	49.10	115	⇑*i*P		**P**	11 53 47.8	-0.4
CTA				pmax	pmax			
	comp=Z,43nm,0.9s							
CTA	**Charters Tower**	49.10	115	P		**P**	11 53 48.1	-0.1
	comp=Z,61nm,0.9s,mb5.6,baz=288,slow=9.3,SNR=21							
CTA				PcP	PcP		11 55 12.2	+0.3
	comp=Z,22nm,1.2s,baz=128,slow=15,SNR=2.5							
WHFO	**Wadi Hawf**	49.14	295	P		**P**	11 53 48.3	-0.3
	SNR=8.2							
ADE	**Adelaide**	49.20	137	⇑*i*P		**P**	11 53 50.2	+1.4
UCH	**Uchtor**	49.22	335	P		**P**	11 53 46.4	-2.5
	SNR=17							
TKM2	**Tokmak 2**	49.37	337	P		**P**	11 53 49.2	-0.8
	SN

ZAK Zakamensk 51.94 3 *eP* **P 11 54 08.8 -0.6**
MAT Matsushiro 52.26 39 *eP* **P 11 54 12.0 -0.1**
MAT pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
MAT Matsushiro 52.26 39 *eP* **P 11 54 12.0 -0.1**
comp=Z,8.7nm,0.6s,mb4.9
MAT Matsushiro 52.26 39 P **P 11 54 11.1 -1.0**
MJAR Matsushiro Arr 52.26 39 P **P 11 54 11.4 -0.7**
comp=Z,12nm,0.9s,mb4.8,baz=216,slow=7.4,SNR=21
MOY Mondy 53.14 1 *eP* **P 11 54 18.1 -0.3**
TLY Talaya 53.25 3 *eP* **P 11 54 18.9 -0.3**
TLY *e* 11 54 35.3
TLY pmax pmax
comp=Z,51nm,1.4s,mb5.3
MDJ Mudanjiang 53.26 26 P **P 11 54 19.3 -0.1**
MDJ AMB AMB
comp=Z,16nm,0.8s,mb5.0
IRK Irkutsk 53.85 4 *eP* **P 11 54 21.4 -2.2**
IRK *e* 12 01 57.1
IRK pmax pmax
comp=Z,85nm,1.7s,mb5.4
OPO Ambohidratompo 54.03 248 P **P 11 54 25.3 -0.1**
comp=Z,15nm,0.8s,mb5.0,baz=66,slow=6.3,SNR=14
KURK Kurchatov 55.17 344 *i P* **P 11 54 33.2 -0.1**
KURK pmax pmax
comp=Z,50nm,1.0s,mb5.5
TOO Toolangi 55.23 136⇑ *i P* **P 11 54 35.6 +1.7**
comp=Z,21nm,0.9s,mb5.2
TOO Toolangi 55.23 136⇑ *i P* **P 11 54 35.6 +1.7**
TOO pmax pmax
comp=Z,21nm,0.9s,mb5.2
ZAL Zalesovo 56.76 350 P **P 11 54 42.8 -1.9**
comp=Z,43nm,0.8s,mb5.5,baz=322,slow=4.6,SNR=82
KLR Kul'dur 57.78 24 *eP* **P 11 54 47.8 -4.2**
BVA0 Borovoye Array 59.73 340 *i P* **P 11 55 03.5 -2.0**
BVA0 pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
BVAR Borovoye Array 59.73 340 P **P 11 55 02.6 -2.8**
comp=Z,11nm,0.6s,mb5.0,baz=144,slow=7.8,SNR=23
CHKZ Chkalovo 60.19 341 *eP* **P 11 55 07.4 -1.2**
CHKZ pmax pmax
comp=Z,77nm,1.1s,mb5.7
CHKZ Chkalovo 60.19 341 *eP* **P 11 55 07.4 -1.3**
comp=Z,77nm,1.1s,mb5.7
YSS Yuzh-Sakhalins 61.40 32⇑ *eP* **P 11 55 17.0 +0.1**
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 61.40 32 *eP* **P 11 55 16.5 -0.5**
comp=Z,76nm,0.9s,mb5.8
CLNS Chul'man 61.79 15 *eP* **P 11 55 18.1 -1.3**
CLNS pmax pmax
comp=Z,38nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,24nm,0.8s
CLNS pmax pmax
comp=E,22nm,0.9s
KMBO Kilima Mbogo 62.34 270 P **P 11 55 23.6 0.0**
comp=E,22nm,0.8s,mb5.3,baz=59,slow=8.8,SNR=50
BHD Baghdad 62.49 309 *eP* **P 11 55 25.0 +0.6**
MSL Mosul 64.62 312 *eP* **P 11 55 50.0 +12**
GNI Garni 65.01 316 P **P 11 55 40.5 -0.4**
comp=E,2.6nm,0.4s,mb4.6,baz=23,slow=18,SNR=3.3
TI2 Plekhanov 65.69 318 *eP* **P 11 55 45.2 -0.1**
SVE Sverdlovsk 66.22 338⇓ *i P* **P 11 55 47.7 -0.6**
SVE pmax pmax
comp=Z,53nm,1.3s,mb5.4
ZEI Tsey 66.72 319 *eP* **P 11 55 45.2 -6.6**
ZEI *i* *PP pP 11 55 56.1 -3.5
ZEI pmax pmax
comp=Z,15nm,0.9s,mb5.0
ARU Arti 66.74 337⇑ *i P* **P 11 55 50.5 -1.2**
ARU *e* 11 56 19.1
ARU *eS* S 12 04 41.0 +0.4
ARU pmax pmax
comp=Z,46nm,1.1s,mb5.4
ARU Arti 66.74 337 *eP* **P 11 55 50.2 -1.5**
comp=Z,38nm,1.0s,mb5.4
YAK Yakutsk 67.51 15 *eP* **P 11 55 54.0 -2.5**
YAK *e*PP pP 11 56 04.4 +0.1
YAK *e* 11 56 20.1
YAK *e* 11 58 19.3
YAK *eS* S 12 04 46.5 -3.3
YAK *e* 12 05 46.6
YAK pmax pmax
comp=Z,17nm,1.0s,mb5.0
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
YAK smax
comp=N,3.0nm,1.2s
YAK smax
comp=E,7.0nm,1.2s
YAK MLR MLR
comp=Z,2µm,14.0s,MS5.5
YAK MLR MLR
comp=N,1µm,13.0s,MS5.5
YAK MLR MLR
comp=E,1µm,12.0s,MS5.5
YAK Yakutsk 67.51 15 *eP* **P 11 55 55.0 -1.5**
comp=E,220nm,1.4s,mb6.0
KIV Kislovodsk 68.03 319 *d i P* **P 11 55 59.5 -0.5**
KIV *e* 11 56 18.4
KIV pmax pmax
comp=Z,57nm,1.6s,mb5.3
KIV Kislovodsk 68.03 319 *eP* **P 11 55 59.5 -0.6**
comp=Z,39nm,1.0s,mb5.4
ASF Jabal al Asfar 68.07 306 P **P 11 55 59.6 -0.9**
comp=Z,10nm,0.9s,mb4.9,baz=345,slow=2.6,SNR=8.1
GOF Gofitskoye 68.28 320⇑ *i P* **P 11 56 00.0 -1.6**
GOF pmax pmax
comp=Z,40nm,1.0s,mb5.4
EIL Elat 69.01 303 *eP* **P 11 56 05.7 -0.7**
comp=Z,29nm,0.9s,mb5.2
SOC Sochi 69.84 318 *i P* **P 11 56 11.5 +0.3**
SOC pmax pmax
comp=Z,45nm,1.3s,mb5.2
SOC pmax pmax
comp=N,11nm,0.8s
SOC pmax pmax
comp=E,12nm,0.5s
MAW Mawson 70.52 194 P **P 11 56 15.8 +0.9**
comp=E,29nm,0.9s,mb5.2,baz=30,slow=6.8,SNR=16
CSS Prodhromos 71.70 308 *eP* **P 11 56 21.7 -0.9**
comp=E,48nm,1.1s,mb5.3
MATP Matopo 71.73 249 P **P 11 56 23.1 +0.1**
comp=E,57nm,0.8s,mb5.6,baz=88,slow=5.8,SNR=105
ANN Anapa 71.82 318 *eP* **P 11 56 30.2 +7.1**
ANN pmax pmax
comp=Z,24nm,1.2s,mb5.0
ANN pmax pmax
comp=Z,4µm,17.0s
BRTR Keskin Array B 72.80 312 P **P 11 56 27.4 -1.7**
comp=Z,6.4nm,0.7s,mb4.7,baz=132,slow=6.7,SNR=29
MA2 Magadan 72.88 25 *eP* **P 11 56 29.7 +0.6**
MA2 pmax pmax
comp=Z,70nm,1.4s,mb5.4
MA2 Magadan 72.88 25 *i P* **P 11 56 29.2 +0.1**
PET Petropavlovsk 73.28 33 *eP* **P 11 56 32.0 +0.4**
PET pmax pmax
comp=Z,27nm,0.7s,mb5.3
PET Petropavlovsk 73.28 33 *i P* **P 11 56 31.9 +0.3**
VOR Voronezh 73.47 326 *eP* **P 11 56 31.5 -1.2**
VOR *e*PP pP 11 56 39.0 -1.6
VOR pmax pmax
comp=Z,140nm,1.7s,mb5.6
VOR pmax pmax
comp=N,60nm,1.5s
SIM Simferopol' 74.08 318 *eP* **P 11 56 35.0 -1.4**
SIM pmax pmax
comp=Z,17nm,0.8s,mb5.0
ISP Isparta 74.65 310 *eP* **P 11 56 40.6 +0.8**
LBTB Lobatse 74.82 245 *eP* **P 11 56 40.2 -0.9**
LBTB pmax pmax
comp=Z,52nm,1.6s,mb5.2
LBTB Lobatse 74.82 245 *eP* **P 11 56 40.2 -0.9**
comp=Z,52nm,1.6s,mb5.2
SEY Seymchan 75.46 22 *eP* **P 11 56 46.5 +2.5**
SEY pmax pmax
comp=Z,300nm,1.3s,mb6.1
BOSA Boshof 75.48 241 P **P 11 56 44.6 -0.2**
comp=Z,19nm,0.8s,mb5.1,baz=95,slow=7.1,SNR=27
RPZ Rata Peaks 75.50 135 P **P 11 56 45.3 +0.7**
comp=Z,44nm,0.7s,mb5.5,baz=251,slow=1.6,SNR=44

TIXI Tiksi 75.58 9 *i P* **P 11 56 43.8 -0.7**
MOS Moscow 76.00 329 *i P* **P 11 56 47.5 +0.3**
MOS *e* pP 11 56 54.1 -1.0
MOS *e* 11 57 03.5
MOS pmax pmax
comp=Z,66nm,0.7s,mb5.7
OBN Obninsk 76.30 328 *de P* **P 11 56 48.6 -0.3**
OBN *e* 11 59 39.4
OBN *eS* S 12 06 29.6 -1.0
OBN pmax pmax
comp=Z,107nm,1.7s,mb5.5
OBN Obninsk 76.30 328 *eP* **P 11 56 48.1 -0.8**
comp=Z,152nm,1.4s,mb5.7
TIRR Tirgusor 77.84 316 P **P 11 56 57.2 -0.4**
TIRR Tirgusor 77.84 316⇓⇓ P **P 11 56 56.7 -0.9**
SYO Syowa Base 78.06 199⇓⇓ P **P 11 56 59.8 +1.4**
CFR Carcaliu 78.21 317 P **P 11 56 59.5 -0.2**
CFR Carcaliu 78.21 317⇓⇓ P **P 11 56 58.8 -0.9**
CFR Carcaliu 78.21 317⇓⇓ P **P 11 56 58.8 -0.9**
KIS Kishinev 78.22 319 *eP* **P 11 56 58.0 -1.7**
KIS *e* pP 11 57 06.0 -1.6
HARR Harsova 78.23 316⇓⇓ P **P 11 56 59.7 -0.1**
AKASG Malin Array Be 78.98 322 P **P 11 57 02.9 -0.9**
comp=Z,4.4nm,0.8s,mb4.5,baz=88,slow=4.5,SNR=19
AKASG PP PP 12 00 05.4 +0.9
comp=Z,0.1nm,0.3s,baz=102,slow=6.5,SNR=4.2
URZ Urewera 79.16 129 P **P 11 57 05.4 +0.3**
comp=Z,15nm,0.7s,mb5.0,baz=262,slow=1.0,SNR=13
VRI Vrincioaia 79.34 317 P **P 11 57 06.1 +0.3**
VRI Vrincioaia 79.34 317⇓⇓ P **P 11 57 05.8 0.0**
VRI Vrincioaia 79.34 317⇓⇓ P **P 11 57 05.8 0.0**
BUC1 Bucharest 79.47 316 P **P 11 57 07.2 +0.6**
MLR Muntele Rosu 79.78 317 P **P 11 57 08.9 +0.7**
MLR Muntele Rosu 79.78 317 P **P 11 57 08.3 0.0**
comp=Z,31nm,0.9s,mb5.2,baz=103,slow=3.1,SNR=29
MLR Muntele Rosu 79.78 317⇑ P **P 11 57 07.9 -0.3**
MLR Muntele Rosu 79.78 317⇑ P **P 11 57 07.9 -0.3**
RZN Rozhen 79.86 313 *i P* **P 11 57 08.5 -0.2**
MTUR Matau 80.33 316 P **P 11 57 11.2 0.0**
PGB Panagyurishte 80.43 314 *eP* **P 11 57 11.5 -0.2**
MMB Musomiste 80.57 312 *eP* **P 11 57 11.5 -1.0**
BURAR Bucovina Array 80.75 319⇓⇓ P **P 11 57 14.3 +1.0**
BURAR Bucovina Array 80.75 319⇓⇓ P **P 11 57 14.3 +1.0**
KKB Krupnik 81.09 313 *eP* **P 11 57 14.5 -0.7**
VTS Vitosha 81.13 313 P **P 11 57 15.4 0.0**
VTS Vitosha 81.13 313 *i P* **P 11 57 15.5 +0.1**
PUL Pulkovo 81.14 331 *i P* **P 11 57 13.5 -1.6**
JOF Joensuu 81.74 335 *ep* **P 11 57 17.7 -0.5**
LVV L'vov 81.99 321 *eP* **P 11 57 19.2 -0.5**
SKO Skopje 82.32 313 *i P* **P 11 57 21.0 -0.6**
APA Apatity 82.63 339⇑ *i P* **P 11 57 30.0 +7.3**
APA pmax pmax
comp=Z,31nm,1.0s,mb5.3
KWP Kalwaria 82.79 320 *eP* **P 11 57 24.3 +0.4**
KOLS Kolonicke sedl 82.94 320 *eP* **P 11 57 25.3 +0.6**
KOLS *e* pP 11 57 33.9 +1.2
BILL Bilibino 82.97 20 *i P* **P 11 57 24.2 -0.3**
BILL *e* pP 11 57 31.7 -0.8
BILL pmax pmax
comp=Z,25nm,1.6s,mb5.0
BILL Bilibino 82.97 20 *i P* **P 11 57 24.3 -0.2**
SUW Suwalki 83.38 325 *eP* **P 11 57 26.9 0.0**
CRVS Cervenica-Dubn 83.46 319 *eP* **P 11 57 27.2 -0.2**
FINES FINESS Array B 83.63 332 P **P 11 57 26.2 -1.7**
comp=Z,5.7nm,0.6s,mb4.9,baz=104,slow=5.5,SNR=35
DIVS Divcibare 83.69 315⇓ *i* **P 11 57 28.4 -0.3**
KAF Kangasniemi 83.70 333 *ep* **P 11 57 27.9 -0.4**
comp=Z,8.7nm,0.6s,mb5.1,baz=99,slow=4.6
KAF Kangasniemi 83.70 333 *eP* **P 11 57 27.9 -0.4**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
KECS Kecovo 84.03 319 *epP* pP 11 57 38.7 +0.4
NIE Niedzica 84.29 320 *eP* **P 11 57 31.5 -0.1**
PSZ Piszkesteto 84.33 318 P **P 11 57 32.1 +0.3**
PSZ Piszkesteto 84.33 318 *eP* **P 11 57 31.4 -0.4**
comp=Z,20nm,1.0s,mb5.2
OJC Ojcow 84.75 321 *eP* **P 11 57 33.8 0.0**
VYHS Vyhne 85.11 319 *eP* **P 11 57 35.1 -0.6**
VYHS *e* pP 11 57 41.7 -2.0
SRO Srobarova 85.37 318 *eP* **P 11 57 38.1 +1.1**
KEV Kevo 85.58 341 *ep* **P 11 57 43.6 +6.1**
OKC Ostrava-Krasne 85.75 320 *eP* **P 11 57 39.4 +0.6**
OKC *epP* pP 11 57 47.6 +0.8
ARCES ARCESS Array B 86.02 340 P **P 11 57 40.7 +1.0**
comp=Z,14nm,1.0s,mb5.2,baz=90,slow=3.6,SNR=14
MORC Moravsky Berou 86.12 320 P **P 11 57 41.4 +0.7**
ZST Bratislava 86.22 318 *eP* **P 11 57 42.2 +1.0**
ZST *e* pP 11 57 49.8 +0.6
GKP Gorka Klasztor 86.75 323 *eP* **P 11 57 43.4 -0.2**
DPC Dobruska-Polom 86.97 320 *eP* **P 11 57 45.8 +1.0**
DPC *epP* pP 11 57 54.1 +1.2
KSP Ksiaz 87.05 321 *eP* **P 11 57 46.4 +1.3**
UPC Upice 87.19 321 *eP* **P 11 57 47.0 +1.1**
UPC *epP* pP 11 57 54.1 +0.2
BOJS Bojanci 87.21 316 *eP* **P 11 57 46.7 +0.6**
PERS Pernice 87.40 317 *eP* **P 11 57 47.5 +0.5**
MAIT Maitri 87.74 199 *eP* **P 11 57 50.3 +2.2**
PRU Pruhonice 88.08 320 *eP* **P 11 57 50.7 +0.6**
PRU *epP* pP 11 57 59.0 +0.8
PVCC Panska Ves 88.11 320 *eP* **P 11 57 51.3 +1.0**
PVCC *epP* pP 11 57 59.3 +1.0
PTQR Pietraquaria 88.28 312 *eP* **P 11 57 52.0 +0.7**
AQU L'Aquila 88.30 312 P **P 11 57 52.2 +0.8**
AQU pmax pmax
comp=Z,46nm,1.0s,mb5.7
AQU L'Aquila 88.30 312 *eP* **P 11 57 51.5 +0.1**
comp=Z,46nm,1.0s,mb5.7
QSPA South Pole Qui 88.30 180⇑ *i P* **P 11 57 52.3 +1.7**
comp=Z,57nm,1.2s,mb5.7
BSD Bornholm Skovb 88.30 325 *eP* **P 11 57 51.8 +0.7**
BSD pmax pmax
comp=Z,14nm,0.7s,mb5.3
BSD Bornholm Skovb 88.30 325 *eP* **P 11 57 51.8 +0.7**
comp=Z,14nm,0.7s,mb5.3
BSD Bornholm Skovb 88.30 325 *i P* **P 11 57 51.8 +0.7**
comp=Z,14nm,0.7s,mb5.3
BRG Berggiesshubel 88.53 321 *i P* **P 11 57 52.9 +0.6**
BRG *i* pP 11 58 00.8 +0.5
BRG pmax pmax
comp=Z,23nm,1.2s,mb5.4
BRG Berggiesshubel 88.53 321 *i P* **P 11 57 52.9 +0.6**
comp=Z,23nm,1.2s,mb5.4
BRG *i* pP 11 58 00.8 +0.5
GEC2 GERESS Array S 88.53 319 *eP* **P 11 57 52.6 +0.2**
GERES GERESS Array B 88.53 319 P **P 11 57 51.5 -0.9**
comp=Z,3.9nm,0.8s,mb4.8,baz=93,slow=3.9,SNR=30
PTCC Patocco-Chiusa 88.60 316 *eP* **P 11 57 52.1 -0.6**
KHC Kasperske Hory 88.64 319 *eP* **P 11 57 53.4 +0.6**
KHC *epP* pP 11 58 01.5 +0.6
ARV Arcevia 88.71 313 *eP* **P 11 57 54.5 +1.1**
RUE Ruedersdorf 88.75 322 *eP* **P 11 57 52.4 -0.9**
comp=Z,45nm,0.9s,mb5.8
WET Wettzell 89.10 319 *eP* **P 11 57 55.3 +0.3**
WET pmax pmax
comp=Z,16nm,1.1s,mb5.3
WET Wettzell 89.10 319 *eP* **P 11 57 55.3 +0.3**
comp=Z,16nm,1.1s,mb5.3
CLL Collm 89.15 321⇑ *i P* **P 11 57 55.6 +0.3**
CLL *i* 11 58 06.0
CLL pmax pmax
comp=Z,21nm,1.3s,mb5.3
CLL Collm 89.15 321⇑ *i P* **P 11 57 55.6 +0.3**
comp=Z,21nm,1.3s,mb5.3
CLL *i* 11 58 01.6
CLL *i* 11 58 06.0
CLL Collm 89.15 321⇑ P **P 11 57 55.6 +0.3**
comp=Z,logA/T=1.2,mb5.3
CLL *i* *PP pP 11 58 01.6 -1.7
CLL *i* *SP sP 11 58 06.0 +0.1
NKC Novy Kostel 89.44 320 *eP* **P 11 57 57.4 +0.8**
NKC *epP* pP 11 58 04.8 +0.1
CTI Castel Tesino 89.76 316 *eP* **P 11 57 59.4 +1.2**
GRA1 Grafenberg Arr 90.20 320 *eP* **P 11 58 01.0 +0.8**
comp=Z,22nm,1.0s,mb5.4
GRA1 *epP* pP 11 58 08.6 +0.4
GRF Grafenberg Arr 90.20 320 *eP* **P 11 58 01.0 +0.8**
GRF *e*PP pP 11 58 08.6 +0.4
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.4
GRF Grafenberg Arr 90.20 320 *eP* **P 11 58 01.0 +0.8**
GRF *e*PP pP 11 58 08.6 +0.4
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.4

GRF Grafenberg Arr 90.20 320 *eP* **P 11 58 01.0 +0.8**
comp=Z,22nm,1.0s,mb5.4
GRF *epP* pP 11 58 08.6 +0.4
GRFO Grafenberg 90.21 320 *eP* **P 11 58 01.0 +0.8**
GSCL Gusciola 90.44 314 *eP* **P 11 58 03.1 +1.6**
NB2 NORSAR Subarra 90.66 331 P **P 11 58 01.8 -0.2**
comp=Z,8.3nm,1.1s,mb5.0,baz=94,slow=4.6
NB2 NORSAR Subarra 90.66 331 P **P 11 58 01.8 -0.2**
NB2 pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
NB2 NORSAR Subarra 90.66 331 P **P 11 58 01.8 -0.2**
baz=94,slow=4.6
NOA NORSAR Array B 90.66 331 P **P 11 58 02.4 +0.4**
comp=Z,1.2nm,0.9s,baz=105,slow=3.8,SNR=6.6
NOA NORSAR Array B 90.66 331 P **P 11 58 02.4 +0.4**
BRMO Bormio 90.66 316 *eP* **P 11 58 03.7 +1.3**
CLZ Clausthal 90.82 322 *eP* **P 11 58 03.3 +0.3**
comp=Z,14nm,1.1s,mb5.2
PGF Pioggiola 91.56 312 *eP* **P 11 58 06.4 -0.2**
comp=Z,83nm,1.4s,mb5.6
PGF Pioggiola 91.56 312 *eP* **P 11 58 06.4 -0.2**
PGF pmax pmax
comp=Z,42nm,1.4s,mb5.6
TNS Taunus Mts 92.01 320 *eP* **P 11 58 09.1 +0.6**
BFO Black Forest 92.08 318 *eP* **P 11 58 09.1 +0.2**
BFO pmax pmax
comp=Z,13nm,1.1s,mb5.2
BFO Black Forest 92.08 318 *eP* **P 11 58 09.1 +0.2**
comp=Z,13nm,1.1s,mb5.2
SNAA Sanae 92.34 198⇑ *i P* **P 11 58 11.1 +1.5**
SNAA Sanae 92.34 198 P **P 11 58 11.2 +1.6**
baz=22,slow=11
SBF Sospel 92.71 314 *eP* **P 11 58 11.3 -0.6**
comp=Z,82nm,1.2s,mb5.7
SBF Sospel 92.71 314 *eP* **P 11 58 11.3 -0.6**
SBF pmax pmax
comp=Z,41nm,1.2s,mb5.7
CDF Champ du Feu 92.78 318 *eP* **P 11 58 11.5 -0.6**
comp=Z,8.5nm,0.8s,mb4.9
CDF Champ du Feu 92.78 318 *eP* **P 11 58 11.5 -0.6**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
HINF Hinteralfeld 93.07 318 *eP* **P 11 58 12.6 -0.8**
MBDF Montbardon 93.18 315 *eP* **P 11 58 14.4 +0.4**
comp=Z,20nm,1.2s,mb5.1
MBDF Montbardon 93.18 315 *eP* **P 11 58 14.4 +0.4**
MBDF pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
LPG La Plagne 93.18 315 *eP* **P 11 58 14.0 0.0**
comp=Z,33nm,1.1s,mb5.4
LPG La Plagne 93.18 315 *eP* **P 11 58 14.0 0.0**
LPG pmax pmax
comp=Z,17nm,1.1s,mb5.4
LPL La Plagne 93.19 315 *eP* **P 11 58 14.0 -0.1**
comp=Z,29nm,1.1s,mb5.3
LPL La Plagne 93.19 315 *eP* **P 11 58 14.0 -0.1**
LPL pmax pmax
comp=Z,15nm,1.1s,mb5.3
FRF La Foret Royal 93.28 313 *eP* **P 11 58 14.1 -0.4**
HAU Haudompre 93.41 318 *eP* **P 11 58 14.5 -0.5**
CABF La Chapelle 93.62 316 *eP* **P 11 58 16.0 0.0**
comp=Z,97nm,1.5s,mb5.7
CABF La Chapelle 93.62 316 *eP* **P 11 58 16.0 0.0**
CABF pmax pmax
comp=Z,49nm,1.5s,mb5.7
ORIF Oris-en-Rattie 93.81 315 *eP* **P 11 58 16.8 -0.1**
comp=Z,92nm,1.5s,mb5.7
ORIF Oris-en-Rattie 93.81 315 *eP* **P 11 58 16.8 -0.1**
ORIF pmax pmax
comp=Z,46nm,1.5s,mb5.7
SMRF Simiane la Rot 94.05 314 *eP* **P 11 58 18.4 +0.4**
MEZF Maizieres J'vi 94.26 318 *eP* **P 11 58 18.6 -0.3**
VNA1 Neumayer--Stat 94.31 199⇑ *i P* **P 11 58 15.6 -3.0**
VIVF Saint-Julien-l 94.67 315 *eP* **P 11 58 20.4 -0.5**
comp=Z,7.6nm,0.8s,mb4.9
VIVF Saint-Julien-l 94.67 315 *eP* **P 11 58 20.4 -0.5**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
BAIF Baives 94.74 320 *eP* **P 11 58 20.8 -0.2**
comp=Z,35nm,1.3s,mb5.3
BAIF Baives 94.74 320 *eP* **P 11 58 20.8 -0.2**
BAIF pmax pmax
comp=Z,18nm,1.3s,mb5.3
SMF Signal de Mont 95.17 317 *eP* **P 11 58 22.6 -0.5**
LASF Ste Croix 95.28 314 *eP* **P 11 58 23.6 -0.1**
SSF Saint Saulge 95.37 317 *eP* **P 11 58 24.1 +0.1**
SSF pmax pmax
comp=Z,12nm,1.4s,mb5.1
SSF Saint Saulge 95.37 317 *eP* **P 11 58 24.1 +0.1**
comp=Z,12nm,1.4s,mb5.1
AVF Avril sur Loir 95.49 317 *eP* **P 11 58 24.0 -0.6**
BGF Bois d'Agland 95.86 316 *eP* **P 11 58 26.1 -0.2**
MTLF Montolieu 96.52 313 *eP* **P 11 58 29.1 -0.3**
RJF Les Rejaudoux 96.87 315 *eP* **P 11 58 30.5 -0.4**
LDF La Druitiere 97.68 319 *eP* **P 11 58 33.7 -0.7**
comp=Z,24nm,1.2s,mb5.3
LDF La Druitiere 97.68 319 *eP* **P 11 58 33.7 -0.7**
LDF pmax pmax
comp=Z,12nm,1.2s,mb5.3
FLN La Foliniere 97.90 319 *eP* **P 11 58 34.9 -0.5**
EPF Esparros 97.91 313 *eP* **P 11 58 34.8 -0.8**
MFF Saint Martin d 97.91 317 *eP* **P 11 58 34.6 -0.9**
GRR Gorron 98.19 319 *eP* **P 11 58 35.4 -1.3**
IMA Indian Mountai 98.25 23 P **P 11 58 38.5 +1.9**
IMA pmax pmax
comp=Z,97nm,1.3s,mb6.2
IMA Indian Mountai 98.25 23 *eP* **P 11 58 38.5 +1.9**
comp=Z,2.3nm,0.7s,mb4.8
SJPF Ste Jean 99.04 313 *eP* **P 11 58 40.4 -0.3**
ILAR Eielson Array 101.35 24 PKKPbc 12 14 59.7
comp=Z,2.4nm,0.8s,baz=164,slow=1.7,SNR=10
YKA Yellowknife Ar 114.16 17 PKP PKPdf 12 03 38.1 -4.0
comp=Z,0.6nm,0.8s,baz=353,slow=2.4,SNR=13
YKA PP PP 12 04 23.5 -14
comp=Z,0.4nm,0.8s,baz=311,slow=5.7,SNR=4.3
EDM Edmonton 121.82 23 *e*PKPdf PKPdf 12 03 53.6 -3.6
SCHQ Schefferville 125.85 350 PKP PKPdf 12 04 01.6 -3.3
comp=Z,2.5nm,0.8s,baz=62,slow=4.3,SNR=6.1
CHMT Chamberlain Mo 126.62 28 *e*PKPdf PKPdf 12 04 03.3 -3.3
MCMT McKenzie Canyo 128.34 29 *e*PKPdf PKPdf 12 04 08.2 -1.9
QLMT Earthquake Lak 129.02 28 *e*PKPdf PKPdf 12 04 09.6 -1.8
QLMT *e* 12 04 18.4
NVAR Mina Array Bea 129.58 39 PKP PKPdf 12 04 10.1 -2.5
comp=Z,2.2nm,0.7s,baz=65,slow=1.9,SNR=9.2
LKWY Lake 129.71 28 *e*PKPdf PKPdf 12 04 11.8 -0.9
ULM Lac du Bonnet 129.83 13 PKP PKPdf 12 04 08.6 -4.1
comp=Z,3.6nm,0.7s,baz=281,slow=1.3,SNR=4.6
PDAR Pinedale Array 131.47 29 PKP PKPdf 12 04 13.7 -2.4
comp=Z,1.2nm,0.7s,SNR=11
MSU Marysvale 133.19 35 *e*PKPdf PKPdf 12 04 16.2 -3.2
PV10 Paradox Valley 135.01 32 *e*PKPdf PKPdf 12 04 21.1 -1.7
PV01 Paradox Valley 135.44 32 PKPdf PKPdf 12 04 21.3 -2.3
PLCA Paso Flores 136.87 191 PKP PKPdf 12 04 24.9 -1.1
comp=Z,2.9nm,1.1s,baz=240,slow=5.3,SNR=4.2
MDV Middlebury 137.36 352 PKPdf PKPdf 12 04 24.3 -2.6
BNM Barren Site 139.43 34 *e*PKPpre 12 04 22.1
GDL2 Guadalupe Moun 142.15 34 *e*PKPpre 12 04 29.1
BDFB Brasilia 143.67 241 PKP PKPdf 12 04 36.0 -2.9
comp=Z,9.4nm,0.8s,baz=223,slow=2.4,SNR=10
ELN Prospectdale 144.60 0 *e*PKPdf PKPdf 12 04 33.7 -6.3
UTMT University of 144.61 12 *e*PKP PKPdf 12 04 36.3 -3.8
LTX Lajitas 144.67 37 *e*PKPdf PKPdf 12 04 37.0 -3.3
TXAR Lajitas Array 144.67 37 PKP PKPdf 12 04 37.5 -2.9
comp=Z,32nm,0.8s,baz=277,slow=1.3,SNR=166
HBAR Harrisburg 144.95 15 *e*PKP PKPdf 12 04 37.0 -3.7
CFAA Coronel Fontan 144.96 198 PKPbc PKPbc 12 04 37.6 +1.2
comp=Z,13nm,0.7s,baz=173,slow=2.8,SNR=123
MIAR Mount Ida 145.04 19 *e*PKPdf PKPdf 12 04 37.0 -3.8
TZTN Tazewell 145.17 4 *e*PKP PKPdf 12 04 37.1 -3.9
UALR University of 145.22 17 *e*PKP PKPdf 12 04 37.5 -3.6
JCT Junction City 145.94 31 *e*PKP PKPdf 12 04 40.5 -2.0
PLAL Pickwick Lake 146.08 11 *e*PKPdf PKPdf 12 04 39.4 -3.2
CPCT Cooper Cave 146.16 6 *e*PKPdf PKPdf 12 04 40.1 -2.6
OXF Oxford 146.25 13 *e*PKPdf PKPdf 12 04 39.6 -3.3
NATX Nacogdoches 147.17 23 PKPdf PKPdf 12 04 42.2 -2.3
JSC Jenkinsville 147.53 1 *e*PKPbc PKPdf 12 04 44.0 -1.0
LRAL Lakeview Retre 148.18 11 *e*PKPbc PKPdf 12 04 45.8 -0.3
LPAZ La Paz 158.44 214 PKP PKPdf 12 04 58.4 -2.7
comp=Z,6.6nm,1.3s,baz=45,slow=3.6,SNR=9.7
LPAZ PKPab PKPab 12 05 33.7 +0.2
comp=Z,5.6nm,1.0s,baz=148,slow=8.6,SNR=6.9
SAML Samuel 159.87 238 *e*PKPdf PKPdf 12 04 59.7 -3.1

*MOS **10** 11:48:31.9±0.7, 1.60S×99.77E, h33km, mb5.1/5, Error ellipse: s-maj=28.9km s-min=12.2km az=110.7*
*NEIC **10** 11:48:33.3±0.3, 1.69S×99.67E, h30km, mb4.6/5, Error ellipse: s-maj=10.2km s-min=8.1km az=67.0*
*IDC **10** 11:48:35.4±6.5, 1.65S×99.67E, h45km±60km, mb4.3/16, mb1 4.5/17, mb1mx4.4/20, mbtmp4.6/17, ML4.4/1, Error ellipse: s-maj=26.1km s-min=15.0km az=59.0*
ISC 10 11:48:34.7±5.4, 1.6S±0.1×99.7E±0.2, h56km±48km, n42, σ0§64/33, mb4.7/21, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**18.13**	**65**	*eP*	**P**	**11 52 44.6**	**+0.3**
CM31	**Chiang Mai Arr**	**19.95**	**358**	P	**P**	**11 53 05.5**	**+0.5**
	5.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**19.95**	**358**	P	**P**	**11 53 04.2**	**-0.7**
	0.4nm,0.3s,baz=188,slow=8.8,SNR=5.0						
LSA	**Lhasa**	**32.20**	**346**	*eP*	**P**	**11 54 59.9**	**+0.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
LSA	**Lhasa**	**32.20**	**346**	*e*P	**P**	**11 54 59.9**	**+0.2**
	comp=Z,7.4nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**38.42**	**121**	P	**P**	**11 55 52.4**	**-0.3**
	comp=Z,5.5nm,0.5s,mb4.5,baz=302,slow=9.1,SNR=5.6						
WRA				PcP	PcP	11 58 06.2	+0.5
	comp=Z,2.3nm,0.6s,baz=312,slow=2.5,SNR=7.2						
ASAR	**Alice Springs**	**39.70**	**126**	P	**P**	**11 56 03.4**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.3,baz=297,slow=7.7,SNR=4.9						
ASAR				PcP	PcP	11 58 10.5	+0.7
	comp=Z,4.8nm,0.8s,baz=309,slow=3.2,SNR=6.3						
SONM	**Songino Array**	**49.58**	**6**	P	**P**	**11 57 23.2**	**+1.0**
	comp=Z,3.3nm,0.6s,mb4.5,baz=189,slow=10.0,SNR=5.1						
MKAR	**Makanchi Array**	**50.58**	**345**	P	**P**	**11 57 30.5**	**+0.6**
	comp=Z,10.0nm,0.6s,mb4.9,baz=154,slow=8.5,SNR=6.7						
KURK	**Kurchatov**	**55.16**	**344**	*eP*	**P**	**11 58 03.3**	**-0.5**
KURK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
KURK	**Kurchatov**	**55.16**	**344**	*e*P	**P**	**11 58 03.3**	**-0.5**
	comp=Z,16nm,0.9s,mb5.0						
ZAL	**Zalesovo**	**56.73**	**349**	P	**P**	**11 58 15.3**	**+0.3**
	comp=Z,15nm,0.5s,mb5.3,baz=316,slow=5.7,SNR=10.0						
ZAL	**Zalesovo**	**56.73**	**349**	P	**P**	**11 58 15.3**	**+0.3**
KLR	**Kul'dur**	**57.69**	**24**	*eP*	**P**	**11 58 15.2**	**-6.7**
BVAR	**Borovoye Array**	**59.70**	**340**	P	**P**	**11 58 35.0**	**-0.9**
	comp=Z,6.4nm,0.7s,mb4.8,baz=142,slow=8.8,SNR=6.5						
CHKZ	**Chkalovo**	**60.19**	**341**	*eP*	**P**	**11 58 38.1**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**60.19**	**341**	*e*P	**P**	**11 58 38.1**	**-1.0**
	comp=Z,7.2nm,0.7s,mb4.8						
KMBO	**Kilima Mbogo**	**62.47**	**270**	P	**P**	**11 58 55.6**	**+0.6**
	comp=Z,4.0nm,0.9s,mb4.5,baz=48,slow=11,SNR=4.9						
YAK	**Yakutsk**	**67.43**	**15**	*eP*	**P**	**11 59 25.4**	**-0.9**
YAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
YAK	**Yakutsk**	**67.43**	**15**	*e*P	**P**	**11 59 25.4**	**-0.9**
	comp=Z,20nm,0.7s,mb5.2						
MAW	**Mawson**	**70.60**	**194**	P	**P**	**11 59 45.5**	**-0.2**
	comp=Z,5.5nm,0.8s,mb4.5,baz=26,slow=9.1,SNR=4.7						
MATP	**Matopo**	**71.86**	**249**	P	**P**	**11 59 54.1**	**0.0**
	comp=Z,14nm,1.0s,mb4.8,baz=78,slow=6.6,SNR=7.3						
BRTR	**Keskin Array B**	**72.86**	**312**	P	**P**	**11 59 58.8**	**-0.9**
	comp=Z,2.1nm,0.6s,mb4.2,baz=127,slow=5.9,SNR=5.6						
AKASG	**Malin Array Be**	**79.01**	**322**	P	**P**	**12 00 33.4**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=85,slow=4.7,SNR=4.2						
MLR	**Muntele Rosu**	**79.83**	**317**	P	**P**	**12 00 39.4**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8,baz=183,slow=6.3,SNR=4.6						
BILL	**Bilibino**	**82.88**	**20**	*eP*	**P**	**12 00 47.3**	**-7.1**
BILL				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.7						
FINES	**FINESS Array B**	**83.64**	**332**	P	**P**	**12 00 59.3**	**+1.0**
	comp=Z,3.8nm,0.6s,mb4.7,baz=109,slow=6.5,SNR=9.3						
KAF	**Kangasniemi**	**83.72**	**333**	*ep*	**P**	**12 00 59.0**	**+0.3**
ARCES	**ARCESS Array B**	**86.02**	**340**	P	**P**	**12 01 10.7**	**+0.7**
	comp=Z,6.7nm,0.8s,mb4.9,baz=90,slow=6.1,SNR=5.8						
GERES	**GERESS Array B**	**88.58**	**319**	P	**P**	**12 01 23.3**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.3,baz=108,slow=4.2,SNR=4.8						
NB2	**NORSAR Subarra**	**90.67**	**331**	P	**P**	**12 01 32.8**	**+0.5**
	comp=Z,0.8nm,0.7s,mb4.2,baz=93,slow=4.8						
NB2	**NORSAR Subarra**	**90.67**	**331**	P	**P**	**12 01 32.8**	**+0.5**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**90.67**	**331**	P	**P**	**12 01 32.0**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.3,baz=93,slow=5.0,SNR=4.0						
NVAR	**Mina Array Bea**	**129.46**	**39**	PKhKP		12 07 30.4	
	comp=Z,1.3nm,0.8s,baz=270,slow=4.7,SNR=3.8						
PDAR	**Pinedale Array**	**131.37**	**29**	PKhKP		12 07 36.9	
	comp=Z,3.1nm,1.1s,baz=348,slow=1.4,SNR=5.4						
TXAR	**Lajitas Array**	**144.55**	**37**	PKP	PKPdf	12 08 07.7	+2.0
	comp=Z,7.6nm,0.7s,baz=208,slow=0.7,SNR=14						
WVT	**Waverly**	**144.94**	**11**	*e*PKP	PKPdf	12 08 07.1	+1.0
MIAR	**Mount Ida**	**144.96**	**19**	*e*PKP	PKPdf	12 08 07.5	+1.4
MIAR				*e*		12 08 15.3	
CFAA	**Coronel Fontan**	**145.05**	**198**	PKP	PKPdf	12 08 07.7	+1.3
	comp=Z,2.4nm,0.7s,baz=176,slow=3.1,SNR=11						
TZTN	**Tazewell**	**145.11**	**5**	*e*PKP	PKPdf	12 08 07.5	+1.1
UALR	**University of**	**145.13**	**18**	*e*PKP	PKPdf	12 08 07.5	+1.0
JCT	**Junction City**	**145.83**	**31**	*e*PKP	PKPdf	12 08 10.6	+2.8
JCT				*e*		12 08 18.5	

*IDC **10** 11:52:05.9±2.6, 1.63S×99.59E, mb4.2/7, mb1 4.2/8, mb1mx3.9/19, mbtmp4.1/8, ML4.2/1, Error ellipse: s-maj=92.1km s-min=33.0km az=113.0*
*NEIC **10** 11:52:10.8±0.9, 1.51S×99.66E, h30km, mb4.4/2, Error ellipse: s-maj=28.9km s-min=17.8km az=82.0*
ISC 10 11:52:09.1±0.9, 1.4S±0.1×99.7E±0.2, h30km, n12, σ1§27/11, mb4.2/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.75**	**9**	*eP*	**Pn**	**11 53 48.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.77**	**358**	P	**P**	**11 56 38.4**	**-1.6**
	0.3nm,0.3s,baz=190,slow=10,SNR=4.2						
WRAB	**Tennant Creek**	**38.59**	**121**	P	**P**	**11 59 31.3**	**-0.2**
	5.3nm,0.8s,mb4.3						
SONM	**Songino Array**	**49.41**	**6**	P	**P**	**12 00 59.5**	**+1.2**
	1.0nm,0.6s,mb4.0,baz=191,slow=10,SNR=4.6						
MKAR	**Makanchi Array**	**50.39**	**345**	P	**P**	**12 01 07.8**	**+2.0**
	2.4nm,0.6s,mb4.4,baz=156,slow=8.5,SNR=7.0						
ZAL	**Zalesovo**	**56.54**	**350**	P	**P**	**12 01 49.5**	**-1.7**
	2.8nm,0.4s,mb4.7,baz=338,slow=2.3,SNR=8.1						
BVAR	**Borovoye Array**	**59.53**	**340**	P	**P**	**12 02 12.1**	**0.0**
	1.2nm,0.5s,mb4.2,baz=144,slow=9.7,SNR=6.8						
CHKZ	**Chkalovo**	**59.99**	**341**	P	**P**	**12 02 15.5**	**+0.2**
	1.6nm,0.6s,mb4.2						
MATP	**Matopo**	**71.84**	**249**	P	**P**	**12 03 30.3**	**-1.3**
	2.0nm,0.7s,mb4.2,baz=56,slow=6.4,SNR=4.1						
FINES	**FINESS Array B**	**83.44**	**332**	P	**P**	**12 04 35.5**	**+0.5**
	0.6nm,0.7s,mb3.8,baz=127,slow=6.9,SNR=3.6						
ARCES	**ARCESS Array B**	**85.82**	**340**	P	**P**	**12 04 49.5**	**+2.7**
	2.3nm,0.9s,mb4.4,baz=101,slow=4.6,SNR=3.4						
TXAR	**Lajitas Array**	**144.46**	**36**	PKP	PKPdf	12 11 44.4	-4.0
	1.2nm,0.5s,baz=188,slow=1.1,SNR=14						

*IDC **10** 11:53:54.3±1.0, 1.72S×99.54E, mb4.0/7, mb1 4.1/7, mb1mx3.8/19, mbtmp4.0/7, Error ellipse: s-maj=39.1km s-min=20.8km az=52.0*
*NEIC **10** 11:53:58.9±0.5, 1.72S×99.58E, h30km, mb4.1/2, Error ellipse: s-maj=24.8km s-min=11.1km az=50.0*
ISC 10 11:53:57.0±0.8, 1.7S±0.2×99.6E±0.2, h30km, n11, σ0§70/9, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.52**	**121**	P	**P**	**12 01 18.5**	**-0.3**
	1.1nm,0.6s,mb3.8,baz=302,slow=9.3,SNR=2.7						
WRAB	**Tennant Creek**	**38.52**	**121**	P	**P**	**12 01 18.6**	**-0.2**
	0.8nm,0.3s,mb3.9						
ASAR	**Alice Springs**	**39.78**	**126**	P	**P**	**12 01 29.6**	**+0.4**
	0.8nm,0.5s,mb3.7,baz=302,slow=7.5,SNR=3.3						
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**12 02 49.1**	**+0.9**
	1.4nm,0.7s,mb4.1,baz=190,slow=11,SNR=3.1						
MKAR	**Makanchi Array**	**50.61**	**345**	P	**P**	**12 02 55.8**	**+0.4**
	0.9nm,0.3s,mb4.2,baz=156,slow=9.0,SNR=5.6						
BVAR	**Borovoye Array**	**59.74**	**340**	P	**P**	**12 03 59.9**	**-1.6**
	0.7nm,0.5s,mb3.9,baz=140,slow=11,SNR=2.7						
CHKZ	**Chkalovo**	**60.20**	**341**	*eP*	**P**	**12 04 04.1**	**-0.5**
	1.2nm,0.5s,mb4.2						
CHKZ				*e*		12 04 08.7	
MATP	**Matopo**	**71.70**	**249**	P	**P**	**12 05 19.0**	**+0.3**
	0.9nm,0.5s,mb4.0,baz=95,slow=9.0,SNR=4.4						
FINES	**FINESS Array B**	**83.63**	**332**	P	**P**	**12 06 24.4**	**+0.6**
	0.9nm,0.8s,mb4.0,baz=135,slow=2.7,SNR=3.6						
TXAR	**Lajitas Array**	**144.70**	**37**	PKP	PKPdf	12 13 33.4	-3.3
	1.2nm,0.5s,baz=192,slow=0.8,SNR=5.7						
CPCT	**Cooper Cave**	**146.18**	**6**	PKP	PKPdf	12 13 36.5	-2.6

*IDC **10** 11:54:07.0±0.6, 1.84S×99.77E, mb4.4/17, mb1 4.5/17, mb1mx4.4/22, mbtmp4.4/17, MS4.8/1, Ms1 4.8/1, ms1mx4.1/31, Error ellipse: s-maj=27.5km s-min=14.2km az=48.0*
*NEIC **10** 11:54:11.5±0.4, 1.81S×99.82E, h30km, mb4.7/3, Error ellipse: s-maj=17.8km s-min=8.5km az=50.0*
ISC 10 11:54:10.3±0.5, 1.8S±0.1×99.9E±0.1, h33km, n25, σ0§92/23, mb4.4/19, MS4.8/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.11**	**357**	P	**P**	**11 58 44.2**	**+0.1**
	2.3nm,0.7s,baz=182,slow=9.6,SNR=3.3						
FITZ	**Fitzroy Crossi**	**30.05**	**124**	P	**P**	**12 00 17.6**	**-1.2**
	4.6nm,0.5s,mb4.5,baz=275,slow=3.7,SNR=7.1						
WRA	**Warramunga Arr**	**38.23**	**121**	P	**P**	**12 01 29.0**	**-0.1**
	5.4nm,0.5s,mb4.5,baz=302,slow=9.0,SNR=13						
WRAB	**Tennant Creek**	**38.23**	**121**	P	**P**	**12 01 28.6**	**-0.5**
	8.8nm,0.6s,mb4.7						
WRAB				*e*	pP	12 01 36.5	-2.4
ASAR	**Alice Springs**	**39.50**	**126**	P	**P**	**12 01 40.0**	**+0.4**
	3.7nm,0.6s,mb4.3,baz=301,slow=7.9,SNR=13						
ASAR				LR	LR	12 18 14.1	
	comp=Z,1μm,20.4s,MS4.8,baz=295,slow=37						
STKA	**Stephens Creek**	**49.41**	**132**	P	**P**	**12 03 00.3**	**+1.1**
	2.3nm,0.6s,mb4.4,baz=339,slow=7.3,SNR=5.4						
SONM	**Songino Array**	**49.72**	**6**	P	**P**	**12 03 01.9**	**+0.6**
	2.3nm,0.6s,mb4.4,baz=184,slow=9.2,SNR=6.0						
MKAR	**Makanchi Array**	**50.76**	**344**	P	**P**	**12 03 09.6**	**+0.3**
	5.9nm,0.6s,mb4.7,baz=151,slow=7.9,SNR=9.2						
KURK	**Kurchatov**	**55.34**	**344**	*eP*	**P**	**12 03 42.2**	**-0.9**
	6.5nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**56.90**	**349**	P	**P**	**12 03 54.4**	**0.0**
	6.7nm,0.6s,mb4.9,baz=306,slow=6.9,SNR=6.9						
BVAR	**Borovoye Array**	**59.91**	**340**	P	**P**	**12 04 14.2**	**-1.2**
	2.3nm,0.6s,mb4.4,baz=143,slow=9.8,SNR=5.5						
CHKZ	**Chkalovo**	**60.38**	**340**	*eP*	**P**	**12 04 15.6**	**-2.9**
	1.4nm,0.5s,mb4.2						
KMBO	**Kilima Mbogo**	**62.60**	**270**	P	**P**	**12 04 34.5**	**+0.4**
	1.4nm,0.8s,mb4.2,baz=43,slow=9.3,SNR=4.7						
MATP	**Matopo**	**71.94**	**249**	P	**P**	**12 05 32.1**	**-0.6**
	4.9nm,0.9s,mb4.4,baz=104,slow=7.7,SNR=5.9						
BRTR	**Keskin Array B**	**73.06**	**312**	P	**P**	**12 05 38.1**	**-1.1**
	0.6nm,0.5s,mb3.8,baz=125,slow=6.8,SNR=3.8						
MLR	**Muntele Rosu**	**80.04**	**317**	P	**P**	**12 06 18.0**	**-0.2**
	1.5nm,0.4s,mb4.2,baz=145,slow=6.8,SNR=4.0						
MLR	**Muntele Rosu**	**80.04**	**317**	P	**P**	**12 06 18.0**	**-0.2**
FINES	**FINESS Array B**	**83.84**	**332**	P	**P**	**12 06 38.4**	**+0.8**
	1.7nm,0.6s,mb4.4,baz=104,slow=5.1,SNR=11						
FINES	**FINESS Array B**	**83.84**	**332**	P	**P**	**12 06 38.4**	**+0.8**
ARCES	**ARCESS Array B**	**86.20**	**340**	P	**P**	**12 06 50.6**	**+1.5**
	5.3nm,0.9s,mb4.8,baz=79,slow=6.2,SNR=5.4						
GERES	**GERESS Array B**	**88.78**	**319**	P	**P**	**12 07 02.8**	**+0.7**
	0.6nm,0.7s,mb4.0,baz=104,slow=5.5,SNR=5.0						
HFS	**Hagfors**	**89.60**	**330**	P	**P**	**12 07 06.8**	**+1.2**
	1.4nm,0.9s,mb4.3,baz=153,slow=6.6,SNR=4.4						
HFS	**Hagfors**	**89.60**	**330**	P	**P**	**12 07 06.8**	**+1.2**
TXAR	**Lajitas Array**	**144.59**	**37**	PKP	PKPdf	12 13 45.8	+1.6
	2.5nm,0.7s,baz=277,slow=1.1,SNR=6.5						
CPCT	**Cooper Cave**	**146.23**	**6**	*e*PKP	PKPdf	12 13 48.6	+1.8

*BJI **10** 11:55:28.6, 2.13S×99.73E, h50km, mB6.1, mb5.1, Ms6.0, Msz5.8*
*HRVD **10** 11:55:30.7±1.0, 1.41S×99.68E, h26km±1km, MW5.8/38, Centroid moment Tensor Solution. LP body waves: s17,c17;Mantle waves: s38,c59; Half duration: 2s0 Moment tensor: Scale 10^18Nm; Mrr0.86±.09; Mθθ-0.36±.06; Mφφ-0.49±.07; Mrθ-0.08±.14; Mrφ0.14±.03; Mθφ0.17±.14; Best double couple: M0.743×10^18 NP1: φs147°,δ38°,λ88°. NP2:φs329°,δ52°,λ91°. Principal axes: T.881, Plg83°, Azm247°; N-.274, Plg1°, Azm149°; P-.606, Plg7°, Azm58°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **10** 11:55:30.1±0.8, 1.62S×99.75E, h33km, mb6.0/63, MS5.6/6 Error ellipse: s-maj=9.5km s-min=4.1km az=124.4*
*NEIC **10** 11:55:30.7±0.1, 1.71S×99.72E, mb5.7/79, Error ellipse: s-maj=4.5km s-min=2.7km az=219.0*
NEIC Felt at Padang, Sumatra and in Singapore.
*IDC **10** 11:55:33.8±2.5, 1.68S×99.73E, h53km±21km, mb5.1/35, mb1 5.1/35, mb1mx5.1/35, mbtmp5.4/35, MS5.4/3, Ms1 5.5/3, ms1mx4.9/30, Error ellipse: s-maj=11.8km s-min=7.9km az=38.0*
*DJA **10** 11:55:39.5±1.0, 1.58S×100.79E, h33km, ML6.5/3, Error ellipse: s-maj=36.7km s-min=22.8km az=21.0*
ISC 10 11:55:28.5±1.0, 1.70S±0.03×99.70E±0.03, h25km±6km, h29km±1.0km: pP-P, n541, σ0§89/503, mb5.6/137, MS5.6/16, 127C-31D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.17**	**44**	P	**Pn**	**11 56 49.1**	**+2.7**
IPM	**Ipoh**	**6.38**	**12**	P	**Pn**	**11 57 03.8**	**+0.3**
PENI	**Pendagan**	**6.67**	**125**	*e*Pn	**Pn**	**11 57 06.5**	**-1.1**
PENI				*e*Sn	**Sn**	**11 58 23.3**	**-0.3**
KULM	**Kulim**	**7.01**	**8**	*eP*	**Pn**	**11 57 13.1**	**+0.7**
PULI	**Pulasari**	**7.77**	**127**	*e*Pn	**Pn**	**11 57 20.9**	**-2.1**
PULI	**Pulasari**	**7.77**	**127**	*e*Pn	**Pn**	**11 57 22.0**	**-1.0**
SNG	**Songkhla**	**8.87**	**6**	P	**P**	**11 57 39.0**	**+0.8**
	1μm,1.0s						
KSM	**Kuching**	**11.06**	**73**	*eP*	**P**	**11 58 07.0**	**-1.6**
NNT	**Nongplab**	**14.20**	**0**	P	**P**	**11 58 52.5**	**+2.0**
SRDI	**Scrawed**	**15.87**	**116**	*e*P	**P**	**11 59 09.5**	**-2.7**
SRDI				pmax	pmax		
	comp=Z,139nm,0.3s						
SRDI	**Scrawed**	**15.87**	**116**	*e*P	**P**	**11 59 09.5**	**-2.7**
	comp=Z,139nm,0.3s						
SRDI	**Scrawed**	**15.87**	**116**	*e*Pn	**P**	**11 59 09.6**	**-2.6**
	comp=Z,278nm,0.3s						
SRDI				*e*Sn	**S**	**12 01 54.7**	**-13**
KELI	**Kelakatan**	**16.08**	**114**	*e*P	**P**	**11 59 14.8**	**-0.1**
	comp=Z,428nm,1.1s						
KELI	**Kelakatan**	**16.08**	**114**	*e*Pn	**P**	**11 59 15.3**	**+0.4**
	comp=Z,428nm,1.1s						
RATI	**Rata**	**17.23**	**114**	*e*P	**P**	**11 59 27.1**	**-2.3**
	comp=Z,518nm,0.3s						
RATI	**Rata**	**17.23**	**114**	*e*Pn	**P**	**11 59 28.4**	**-1.0**
	comp=Z,518nm,0.2s						
RATI				*e*Sn	**S**	**12 02 25.8**	**-13**
UBT	**Ubonrachathani**	**17.64**	**17**	P		11 59 47.5	
KEDI	**Kedomdong**	**17.67**	**113**	*e*P	**P**	**11 59 33.8**	**-1.1**
KEDI	**Kedomdong**	**17.67**	**113**	*e*Pn	**P**	**11 59 33.6**	**-1.3**
KKM	**Kota Kinabalu**	**18.19**	**65**	*eP*	**P**	**11 59 42.5**	**+1.0**
KKM	**Kota Kinabalu**	**18.19**	**65**	P	**P**	**11 59 43.4**	**+1.9**
TSM	**Tawau**	**19.11**	**72**	P	**P**	**11 59 53.3**	**+0.8**
CM31	**Chiang Mai Arr**	**20.05**	**358**	*eP*	**P**	**12 00 00.9**	**-2.0**
	comp=Z,225nm,1.1s						
CMAR	**Chiang Mai Arr**	**20.05**	**358**	P	**P**	**12 00 01.9**	**-1.0**
	comp=Z,30nm,0.7s,baz=187,slow=9.6,SNR=29						
CMAR				LR	LR	12 08 33.4	
	comp=Z,7μm,19.8s,MS5.0,baz=195,slow=39						
NANT	**Nan**	**20.40**	**3**	PG	**P**	**12 00 06.0**	**-0.6**
NANT				SG		12 00 14.0	
BATP	**Bataraza**	**20.84**	**60**	*eP*	**P**	**12 00 11.5**	**+0.4**
QIZ	**Qiongzhong**	**22.89**	**25**	P	**P**	**12 00 33.0**	**+1.3**
QIZ	**Qiongzhong**	**22.89**	**25**	*eP*	**P**	**12 00 31.6**	**-0.1**
	comp=Z,117nm,1.0s,mb5.3						
ENPP	**El Nido**	**23.43**	**56**	*eP*	**P**	**12 00 38.3**	**+1.2**
BUSP	**Coron**	**24.50**	**56**	*eP*	**P**	**12 00 49.0**	**+1.6**
CUYO	**Cuyo Island**	**24.60**	**59**	*eP*	**P**	**12 00 48.9**	**+0.5**
TRD	**Trivandrum**	**24.84**	**294**	*e*	**P**	**12 00 44.2**	**-6.5**
TRD				*e*		12 05 04.4	
VIS	**Vishakhapatnam**	**25.16**	**321**	*eP*	**P**	**12 00 54.7**	**+1.0**
VIS				*e*		12 00 58.2	
	comp=Z,336nm,1.4s						
PAGZ	**Pagadian**	**25.45**	**68**	*eP*	**P**	**12 00 57.9**	**+1.4**
SJMP	**San Jose**	**25.50**	**56**	*eP*	**P**	**12 00 59.0**	**+2.0**
DCPH	**Dipolog City**	**25.69**	**66**	*eP*	**P**	**12 01 01.5**	**+2.8**
GUIM	**Jordan**	**25.86**	**61**	*eP*	**P**	**12 01 00.8**	**+0.6**
SNPH	**Sibulan**	**25.88**	**65**	*e*P	**P**	**12 01 11.2**	**+11**
AGT	**Agartala**	**26.73**	**343**	*i*P	**P**	**12 01 09.0**	**+0.8**
AGT				*i*		12 01 45.0	
KMI	**Kunming**	**26.83**	**6**	*e*P	**P**	**12 01 11.8**	**+2.7**
KMI				AP	pP	12 01 19.5	+3.1
KMI				PP	PP	12 02 00.0	+5.6
KMI				S	**S**	**12 05 45.3**	**+3.2**
KMI				XS		12 06 01.4	
KMI				SS	SS	12 06 58.2	+3.0
KMI				AMB	AMB		
	comp=Z,26nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,6μm,9.4s						
KMI				LR	LR		
	comp=N,9μm,11.4s,MS5.7						
KMI				LR	LR		
	comp=E,9μm,11.9s,MS5.7						
KMI				LR	LR		
	comp=Z,9μm,10.4s,MS5.6						
KMI	**Kunming**	**26.83**	**6**	*e*P	**P**	**12 01 11.8**	**+2.7**
KMI				*PP	pP	12 01 19.5	+3.1
KMI				*SP	sP	12 01 23.0	+3.2
KMI						12 02 00.0	
KMI				S	**S**	**12 05 45.3**	**+3.2**
KMI				*SS		12 06 01.4	
KMI				SS	SS	12 06 58.2	+3.0
KMI				pmax	pmax		
	comp=Z,26nm,0.9s,mb4.8						
KMI				MLR	MLR		
	comp=Z,9μm,10.4s,MS5.6						
KMI	**Kunming**	**26.83**	**6**	*e*P	**P**	**12 01 11.8**	**+2.7**
	comp=Z,26nm,0.9s,mb4.8						
KMI				pP	pP	12 01 19.5	+3.1
KMI				sP	sP	12 01 23.0	+3.2
KMI				PP	PP	12 02 00.0	+5.6
KMI				S	**S**	**12 05 45.3**	**+3.2**
KMI				sS		12 06 01.4	
KMI				SS	SS	12 06 58.2	+3.0
KMI				LR	LR		
	comp=Z,9μm,10.4s,MS5.6						
BUKP	**Musuan**	**27.02**	**69**	*eP*	**P**	**12 01 10.1**	**-0.9**
MBWA	**Marble Bar**	**27.48**	**136**	*eP*	**P**	**12 01 14.8**	**-0.3**
	comp=Z,56nm,1.0s,mb5.0						
SHL	**Shillong**	**28.15**	**345**	*eP*	**P**	**12 01 20.5**	**-0.6**
HYB	**Hyderabad**	**28.21**	**313**	*eP*	**P**	**12 01 21.0**	**-0.7**
HYB	**Hyderabad**	**28.21**	**313**	*i* P	**P**	**12 01 21.0**	**-0.7**
HYB				*e*pP	pP	12 01 31.0	+2.0
HYB				*e*PcP	PcP	12 04 34.5	-0.8
GYA	**Guiyang**	**28.79**	**13**	*i*P	**P**	**12 01 25.7**	**-1.2**
GYA				S	**S**	**12 06 11.9**	**-1.8**
GYA				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.5						
GYA				AMB	AMB		
	comp=Z,6μm,12.3s						
GYA				LR	LR		
	comp=N,13μm,14.7s,MS5.7						
GYA				LR	LR		
	comp=E,5μm,12.9s,MS5.7						
GYA				LR	LR		
	comp=Z,18μm,14.4s,MS5.8						
BLSP	**Bilaspur**	**29.25**	**325**	*eP*	**P**	**12 01 31.1**	**0.0**
BLSP				*e*		12 01 35.3	
	comp=Z,192nm,1.5s						
BLSP				*i*		12 01 51.2	
FITZ	**Fitzroy Crossi**	**30.22**	**124**	*eP*	**P**	**12 01 38.6**	**-1.2**
	comp=Z,101nm,1.0s,mb5.5						
FITZ				*i*		12 01 48.3	
FITZ	**Fitzroy Crossi**	**30.22**	**124**	P	**P**	**12 01 38.9**	**-0.9**
	comp=Z,205nm,1.1s,mb5.8,baz=312,slow=7.3,SNR=27						
KAD	**Karad**	**31.46**	**308**	*eP*	**P**	**12 01 50.3**	**-0.4**
KAD				*e*		12 01 52.6	
	comp=Z,204nm,1.3s						
JIRN	**Jiri**	**31.96**	**337**	*eP*	**P**	**12 01 55.4**	**+0.5**
	comp=Z,704nm,1.0s,mb6.5						
PKI	**Pulchoki**	**32.19**	**336**	*eP*	**P**	**12 01 56.6**	**-0.4**
	comp=Z,178nm,1.1s,mb5.8						
PKI	**Pulchoki**	**32.19**	**336**	*eP*	**P**	**12 01 56.6**	**-0.4**
PKI				pmax	pmax		
	comp=Z,89nm,1.1s,mb5.5						
LSA	**Lhasa**	**32.28**	**346**	P	**P**	**12 01 58.2**	**+0.5**

comp=N,18μm,21.9s
NJ2 LR LR
comp=E,12μm,12.2s
NJ2 LR LR
comp=Z,5μm,16.0s
WRA Warramunga Arr 38.40 121 P **P** **12 02 49.1 -0.9**
comp=Z,46nm,0.7s,mb5.3,baz=298,slow=9.8,SNR=44
WRA PcP PcP 12 05 03.6 -0.1
comp=Z,13nm,0.8s,baz=302,slow=2.3,SNR=6.2
WRA S **S** **12 08 40.6 -2.4**
comp=Z,15nm,1.2s,baz=296,slow=16,SNR=5.4
WRAB Tennant Creek 38.40 121 *e*P **P** **12 02 49.2 -0.8**
WRAB pmax pmax
comp=Z,170nm,1.0s,mb5.7
WRAB Tennant Creek 38.40 121 *e*P **P** **12 02 49.2 -0.9**
comp=Z,168nm,1.0s,mb5.7
WB2 Warramunga Arr 38.41 121⇑*i*P **P** **12 02 49.1 -1.0**
WB2 *e*S **S** **12 08 39.0 -4.1**
SSE Sheshan 38.49 30 *e*P **P** **12 02 50.7 0.0**
SSE AMB AMB
comp=Z,40nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,3μm,8.8s
SSE Sheshan 38.49 30 *e*P **P** **12 02 50.7 0.0**
comp=Z,40nm,0.8s,mb5.2
SDNR Sundarnagar 39.45 329 *e*P **P** **12 02 59.0 +0.3**
FORT Forrest 39.46 140⇑*i*P **P** **12 02 59.9 +1.2**
comp=Z,3μm,0.8s
JOW Kunigami 39.54 42 P **P** **12 02 59.6 +0.2**
comp=Z,29nm,0.8s,mb5.0,baz=291,slow=17,SNR=6.0
ASPA Alice Springs 39.66 126⇑*i*P **P** **12 03 00.2 -0.3**
ASPA *i* 12 03 11.6
ASPA *i*S **S** **12 09 02.7 +0.7**
ASPA *i*SCS ScS 12 13 06.2 +1.6
ASAR Alice Springs 39.66 126 P **P** **12 03 00.4 -0.1**
comp=Z,36nm,0.9s,mb5.1,baz=298,slow=7.6,SNR=39
ASAR PcP PcP 12 05 08.0 +0.3
comp=Z,27nm,0.8s,baz=310,slow=2.9,SNR=11
ASAR S **S** **12 09 01.3 -0.8**
comp=Z,26nm,1.0s,baz=296,slow=15,SNR=13
PONG Pong 40.34 328⇓*e*P **P** **12 03 05.0 -1.0**
THN Thein Dam 40.84 328 *e*P **P** **12 03 09.8 -0.3**
GTA Gaotai 40.91 0 P **P** **12 03 10.4 -0.2**
GTA AP pP 12 03 19.7 +1.6
GTA PP PP 12 04 48.7 +0.7
GTA PCP PcP 12 05 10.6 -0.9
GTA PPP PPP 12 05 16.4 -1.1
GTA SCP 12 08 58.3
GTA PCS 12 09 01.1
GTA S **S** **12 09 19.4 -1.1**
GTA SCS ScS 12 13 11.4 -0.4
GTA AMB AMB
comp=Z,23nm,1.7s
GTA AMB AMB
comp=Z,6μm,7.2s
GTA LR LR
comp=N,5μm,12.6s,MS5.7
GTA LR LR
comp=E,4μm,12.2s,MS5.7
GTA LR LR
comp=Z,7μm,13.7s,MS5.7
TIA Tai'an 41.07 22 *e*P **P** **12 03 11.4 -0.5**
BTO Baotou 43.15 12 *e*P **P** **12 03 29.6 +0.7**
HHC Hu-ho-hao-te 43.71 13 *e*P **P** **12 03 34.4 +0.9**
HHC XP sP 12 03 48.3 +4.2
HHC PP PP 12 05 16.7 -0.3
HHC PCP PcP 12 05 23.1 +2.3
HHC SCP 12 09 08.6
HHC PCS 12 09 15.3
HHC S **S** **12 10 03.4 +1.8**
HHC SS SS 12 13 10.8 +1.0
HHC AMB AMB
comp=Z,18nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,4μm,13.7s
HHC LR LR
comp=N,10μm,13.7s,MS5.9
HHC LR LR
comp=E,3μm,13.2s,MS5.9
HHC LR LR
comp=Z,11μm,14.5s,MS5.9
BJT Baijiatuau 44.17 18 *e*P **P** **12 03 37.4 +0.1**
BJT *e* pP 12 03 46.2 +1.4
BJT pmax pmax
comp=Z,145nm,1.1s
BJT Baijiatuau 44.17 18 *e*P **P** **12 03 37.4 +0.1**
comp=Z,145nm,1.1s,mb5.6
BJT *e* pP 12 03 46.1 +1.4
BJI Beijing 44.19 18 *e*P **P** **12 03 37.7 +0.2**
BJI AMB AMB
comp=Z,36nm,1.0s,mb5.1
BJI Beijing 44.19 18 *e*P **P** **12 03 37.7 +0.2**
comp=Z,36nm,1.0s,mb5.1
DL2 Dalian 45.17 24 P **P** **12 03 47.6 +2.3**
DL2 AP pP 12 03 54.2 +1.4
DL2 S **S** **12 10 23.5 +0.8**
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.2
DL2 LR LR
comp=N,3μm,16.1s,MS5.3
DL2 LR LR
comp=E,940nm,15.7s,MS5.3
DL2 LR LR
comp=Z,3μm,15.3s,MS5.3
KSH Kashi 46.44 335⇑*i*P **P** **12 03 55.5 +0.2**
KSH AP pP 12 04 06.0 +3.1
KSH PCP PcP 12 05 30.4 +0.1
KSH PP PP 12 05 44.0 -0.4
KSH PPP PPP 12 06 29.5 +0.1
KSH SCP 12 09 19.6
KSH PCS 12 09 23.5
KSH S **S** **12 10 40.0 -0.9**
KSH SCS ScS 12 13 45.0 -1.2
KSH SS SS 12 13 58.0 -1.2
KSH AMB AMB
comp=Z,8μm,12.2s
KSH LR LR
comp=N,9μm,12.6s,MS6.1
KSH LR LR
comp=E,9μm,11.4s,MS6.1
WBK Wadi Bani Khal 46.48 304 P **P** **12 03 56.1 +0.3**
SNR=23
WMQ Urumqi 46.58 348 P **P** **12 03 57.1 +0.7**
WMQ AP pP 12 04 07.1 +3.1
WMQ XP sP 12 04 10.9 +3.9
WMQ PCP PcP 12 05 31.7 +1.0
WMQ PP PP 12 05 46.1 +0.4
WMQ PPP PPP 12 06 32.1 +0.9
WMQ S **S** **12 10 42.6 -0.3**
WMQ SCS ScS 12 13 46.7 -0.4
WMQ SS SS 12 14 00.9 -0.6
WMQ AMB AMB
comp=Z,274nm,1.0s,mb6.1
WMQ AMB AMB
comp=Z,1μm,6.6s
WMQ LR LR
comp=N,2μm,18.8s,MS5.3
WMQ LR LR
comp=E,3μm,20.6s,MS5.3
WMQ LR LR
comp=Z,3μm,18.6s,MS5.3
KS15 Wonju Array Si 46.89 31 *e*P **P** **12 03 58.7 -0.2**
KS15 *e* pP 12 04 07.7 +1.2
JMDO Jabal Madar 47.10 303 P **P** **12 04 00.9 +0.1**
SNR=10
BIDO Bidbid 47.58 304 P **P** **12 04 05.2 +0.7**
SNR=6.7
SHAO Shalim 47.61 296⇑P **P** **12 04 05.2 +0.3**
SNR=5.6
PMG Port Moresby 47.80 101 P **P** **12 04 05.7 -0.7**
comp=Z,7.4nm,0.5s,mb5.0,baz=161,slow=11,SNR=9.1
BSY Bisya 48.02 303 P **P** **12 04 08.5 +0.6**
SNR=25
HOQ Hoqain 48.28 304 P **P** **12 04 10.0 +0.1**
SNR=7.9
ULHL Ulahol 48.62 337 P **P** **12 04 12.7 +0.4**
SNR=27
RBK Rabkut 48.72 295 P **P** **12 04 13.7 +0.3**
SNR=22
ARQ Araqi 48.83 303 P **P** **12 04 14.5 +0.3**
SNR=14
KZA Kyzart 48.88 336 P **P** **12 04 15.1 +0.8**
SNR=24
CTA Charters Tower 48.99 115 *e*P **P** **12 04 15.1 -0.4**
comp=Z,37nm,1.2s,mb5.3
CTA *i* pP 12 04 24.1 +1.0
CTA Charters Tower 48.99 115 *e*P **P** **12 04 15.1 -0.4**
CTA *i* pP 12 04 24.1 +1.0
CTA pmax pmax
comp=Z,37nm,1.2s
CTA Charters Tower 48.99 115 P **P** **12 04 15.2 -0.2**
comp=Z,50nm,1.1s,mb5.5,baz=306,slow=8.9,SNR=10
WHFO Wadi Hawf 49.24 295⇓P **P** **12 04 17.8 +0.3**
SNR=36
UCH Uchtor 49.30 335 P **P** **12 04 18.3 +0.6**
SNR=58
TKM2 Tokmak 2 49.44 337 P **P** **12 04 18.5 -0.2**
SNR=73
KBK Karagaybulak 49.48 336 P **P** **12 04 20.0 +1.0**
SNR=34
ABTO Aybut 49.50 295 P **P** **12 04 19.7 +0.3**
SNR=19
STKA Stephens Creek 49.57 132⇑*i*P **P** **12 04 19.9 +0.1**
comp=Z,51nm,1.1s,mb5.5
STKA *i* 12 04 31.3
STKA Stephens Creek 49.57 132 P **P** **12 04 20.1 +0.3**
comp=Z,39nm,0.8s,mb5.5,baz=303,slow=7.4,SNR=29
STKA Stephens Creek 49.57 132⇑*i*P **P** **12 04 19.9 +0.1**
STKA *e* 12 04 29.9
STKA *i* 12 04 31.3
AML Almayashu 49.57 335 P **P** **12 04 20.4 +0.7**
SNR=45
AAK Ala-Archa 49.65 336 P **P** **12 04 20.9 +0.6**
SNR=27
AAK Ala-Archa 49.65 336 *i*P **P** **12 04 20.8 +0.5**
SONM Songino Array 49.68 6 P **P** **12 04 21.0 +0.5**
comp=Z,28nm,0.7s,mb5.4,baz=187,slow=8.6,SNR=51
SONM PcP PcP 12 05 41.6 -0.2
comp=Z,34nm,1.0s,baz=186,slow=4.2,SNR=8.7
FRU Bishkek 49.76 336⇑*i*P **P** **12 04 21.5 +0.3**
FRU *i* pP 12 04 31.0 +2.2
FRU pmax pmax
comp=Z,390nm,2.2s,mb6.0
ASHO Ashiyiah 49.78 305 P **P** **12 04 22.1 +0.6**
SNR=8.7
ULN Ulaanbaatar 49.78 6 *e*P **P** **12 04 21.2 0.0**
ULN pmax pmax
comp=Z,68nm,1.0s,mb5.6
ULN Ulaanbaatar 49.78 6 *e*P **P** **12 04 21.2 0.0**
comp=Z,68nm,1.0s,mb5.6
CHMS Chumysh 49.85 336 P **P** **12 04 21.7 -0.1**
SNR=24
CBIJ Chichi jima 49.92 52 P **P** **12 04 22.6 -0.1**
comp=Z,45nm,0.6s,mb5.7,baz=288,slow=20,SNR=6.1
EKS2 Erkin-Say 49.97 335 P **P** **12 04 23.4 +0.7**
SNR=102
USP Ospenovka 50.17 336 P **P** **12 04 24.4 +0.1**
SNR=61
MKAR Makanchi Array 50.66 345 *i*P **P** **12 04 27.7 -0.3**
MKAR pmax pmax
comp=Z,161nm,1.0s
MKAR Makanchi Array 50.66 345 P **P** **12 04 27.8 -0.2**
comp=Z,128nm,0.9s,mb5.9,baz=153,slow=8.1,SNR=96
MKAR Makanchi Array 50.66 345 P **P** **12 04 27.8 -0.2**
CN2 Changchun 50.84 24 *e*P **P** **12 04 28.2 -1.1**
CN2 *e*S **S** **12 11 41.5 -0.9**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
CN2 LR LR
comp=N,5μm,15.0s,MS5.8
CN2 LR LR
comp=E,5μm,15.0s,MS5.8
CN2 LR LR
comp=Z,6μm,17.0s,MS5.6
KKAR Karatay Array 51.76 333 *i*P **P** **12 04 35.2 -1.1**
KKAR pmax pmax
comp=Z,77nm,1.2s,mb5.5
ZAK Zakamensk 51.97 3 *e*P **P** **12 04 37.4 -0.5**
ZAK *e* 12 05 48.8
ZAK pmax pmax
comp=Z,13nm,1.2s,mb4.7
MAJO Matsushiro 52.23 39 *e*P **P** **12 04 38.6 -1.4**
MAJO pmax pmax
comp=Z,46nm,1.2s,mb5.3
MAJO Matsushiro 52.23 39 *e*P **P** **12 04 38.6 -1.4**
comp=Z,46nm,1.2s,mb5.3
MAT Matsushiro 52.23 39 *e*P **P** **12 04 39.0 -1.0**
comp=Z,5.5nm,0.7s,mb4.6
MAT Matsushiro 52.23 39 P **P** **12 04 38.6 -1.4**
MJAR Matsushiro Arr 52.23 39 P **P** **12 04 39.5 -0.5**
comp=Z,5.7nm,0.8s,mb4.6,baz=218,slow=6.6,SNR=19
MOY Mondy 53.18 1 *e*P **P** **12 04 46.3 -0.6**
MOY pmax pmax
comp=Z,63nm,1.9s,mb5.2
MDJ Mudanjiang 53.25 26 P **P** **12 04 47.0 -0.5**
MDJ AMB AMB
comp=Z,21nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,2μm,9.9s
TLY Talaya 53.29 3 *e*P **P** **12 04 47.7 +0.1**
TLY pmax pmax
comp=Z,30nm,1.0s,mb5.2
IRK Irkutsk 53.89 3 *e*P **P** **12 04 52.1 +0.1**
IRK pmax pmax
comp=Z,79nm,1.7s,mb5.4
OPO Ambohidratompo 54.10 248 P **P** **12 04 53.9 -0.1**
comp=Z,32nm,1.0s,mb5.2,baz=73,slow=7.4,SNR=19
TOO Toolangi 55.13 136⇓*i*P **P** **12 05 03.1 +1.8**
comp=Z,29nm,1.3s,mb5.1
KURK Kurchatov 55.24 344 *e*P **P** **12 05 01.0 -1.0**
KURK pmax pmax
comp=Z,165nm,0.9s,mb6.1
KURK Kurchatov 55.24 344 *e*P **P** **12 05 00.9 -1.0**
comp=Z,166nm,0.9s,mb6.1
ZAL Zalesovo 56.82 350 P **P** **12 05 12.9 -0.3**
comp=Z,114nm,0.5s,mb6.2,baz=305,slow=4.7,SNR=106
KLR Kul'dur 57.78 24 *e*P **P** **12 05 16.2 -3.9**
ATD Arta Tunnel 58.01 285 P **P** **12 05 22.0 -0.2**
comp=Z,14nm,0.8s,mb5.0,baz=310,slow=16,SNR=10
ATD LR LR 12 25 53.5
comp=Z,3μm,20.5s,MS5.3,baz=250,slow=31
ASAJ Asahikawa 59.54 35 P **P** **12 05 32.4 0.0**
comp=Z,10nm,0.4s,mb5.2,baz=250,slow=9.6,SNR=22
BVA0 Borovoye Array 59.80 340 *i*P **P** **12 05 32.5 -1.6**
BVA0 pmax pmax
comp=Z,15nm,1.1s,mb4.9
BVAR Borovoye Array 59.80 340 P **P** **12 05 32.4 -1.7**
comp=Z,68nm,0.8s,mb5.7,baz=143,slow=7.4,SNR=88
CHKZ Chkalovo 60.27 341 P **P** **12 05 36.0 -1.3**
CHKZ pmax pmax
comp=Z,120nm,1.1s,mb5.8
CHKZ Chkalovo 60.27 341 *e*P **P** **12 05 35.8 -1.5**
comp=Z,69nm,0.6s,mb5.9
BOD Bodaibo 60.43 9 *e*P **P** **12 05 36.4 -1.9**
BOD *e* pP 12 05 46.1 -0.1
BOD pmax pmax
comp=Z,33nm,1.0s,mb5.3
BOD pmax pmax
comp=Z,48nm,1.2s,mb5.4
YSS Yuzh-Sakhalins 61.39 32 *e*P **P** **12 05 43.8 -1.2**
YSS pmax pmax
comp=Z,131nm,1.1s,mb6.0
YSS Yuzh-Sakhalins 61.39 32 *e*P **P** **12 05 43.8 -1.1**
comp=Z,131nm,1.1s,mb6.0
CLNS Chul'man 61.80 15 *e*P **P** **12 05 52.8 +5.1**
CLNS pmax pmax
comp=Z,32nm,1.1s,mb5.4
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=E,24nm,1.1s
KMBO Kilima Mbogo 62.43 270 P **P** **12 05 52.6 +0.1**
comp=E,39nm,1.0s,mb5.5,baz=65,slow=8.0,SNR=63
KMBO LR LR 12 29 49.7
comp=E,5μm,18.2s,MS5.7,baz=307,slow=33
BHD Baghdad 62.59 309 *i*P **P** **12 05 46.0 -7.2**
MSL Mosul 64.72 312 *e*P **P** **12 06 07.5 +0.3**
GNI Garni 65.11 316*c*P **P** **12 06 08.6 -1.0**
GNI pmax pmax
comp=Z,83nm,1.3s
GNI Garni 65.11 316 P **P** **12 06 09.2 -0.4**
comp=Z,34nm,0.9s,mb5.4,baz=43,slow=1.2,SNR=30
GNI Garni 65.11 316 *e*P **P** **12 06 08.8 -0.8**
comp=Z,76nm,1.0s,mb5.7
TI2 Plekhanov 65.79 318⇑*i*P **P** **12 06 14.2 +0.2**
SVE Sverdlovsk 66.30 338⇑*i*P **P** **12 06 13.0 -3.9**
SVE *e* 12 06 32.0
SVE *e* 12 06 45.0
SVE pmax pmax
comp=Z,400nm,1.8s,mb6.2
SVE MLR MLR
comp=N,4μm,17.0s,MS5.8
SVE MLR MLR
comp=E,3μm,17.0s,MS5.8
SVE MLR MLR
comp=Z,8μm,17.0s,MS6.0
ARU Arti 66.82 337⇑*i*P **P** **12 06 18.8 -1.5**
ARU *e* 12 06 45.4
ARU *e* 12 08 44.6
ARU *e*S S 12 15 09.8 +0.2
ARU *e*SS SS 12 19 28.9 -0.6
ARU pmax pmax
comp=Z,123nm,1.0s,mb5.9
ARU Arti 66.82 337 *e*P **P** **12 06 18.7 -1.6**
comp=Z,127nm,1.0s,mb5.9
YAK Yakutsk 67.53 15 *e*P **P** **12 06 22.5 -2.2**
YAK *e**PP pP 12 06 31.8 -0.7
YAK *e* 12 06 50.4
YAK *e*S S 12 15 12.9 -5.2
YAK *e* 12 16 16.7
YAK *e*SSS SSS 12 22 30.7 -8.2
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=Z,66nm,0.9s,mb5.7
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,3.0nm,0.9s
YAK smax
comp=N,15nm,1.3s
YAK smax
comp=E,2.0nm,1.0s
YAK MLR MLR
comp=Z,2μm,14.0s,MS5.5
YAK MLR MLR
YAK MLR MLR
comp=E,1μm,14.0s
YAK Yakutsk 67.53 15 *e*P **P** **12 06 23.0 -1.7**
comp=E,132nm,0.8s,mb6.0
DZM Mont Dzumac 67.84 113 P **P** **12 06 26.9 -0.5**
comp=E,11nm,0.8s,mb4.9,baz=25,slow=21,SNR=6.7
KIV Kislovodsk 68.13 319*c*/*i*P **P** **12 06 27.6 -1.1**
KIV *e* 12 06 38.7
KIV pmax pmax
comp=Z,343nm,1.6s,mb6.1
KIV Kislovodsk 68.13 319 *e*P **P** **12 06 27.6 -1.1**
comp=Z,197nm,1.1s,mb6.0
ASF Jabal al Asfar 68.18 306 P **P** **12 06 29.5 +0.2**
comp=Z,44nm,0.9s,mb5.5,baz=352,slow=3.3,SNR=51
GOF Gofitskoye 68.38 320⇑*i*P **P** **12 06 28.0 -2.3**
GOF pmax pmax
comp=Z,170nm,1.3s,mb5.9
ELZG Elazig 68.57 313 *i*P **P** **12 06 31.0 -0.6**
GZT Gaziantep 69.24 311 *i*P **P** **12 06 35.0 -0.8**
KAHT Ahir Dag 69.85 311 *i*P **P** **12 06 39.0 -0.5**
SOC Sochi 69.94 318 *e*P **P** **12 06 36.7 -3.2**
SOC pmax pmax
comp=N,32nm,1.0s
SOC pmax pmax
comp=E,21nm,1.0s
SOC pmax pmax
comp=Z,153nm,1.0s,mb5.9
COBT Iskenderun 69.97 310 *i*P **P** **12 06 39.1 -1.1**
MAW Mawson 70.50 194⇑*i*P **P** **12 06 43.5 +0.6**
comp=Z,40nm,1.1s,mb5.3
MAW Mawson 70.50 194⇑*i*P **P** **12 06 43.5 +0.6**
MAW pmax pmax
comp=Z,40nm,1.1s
MAW Mawson 70.50 194 P **P** **12 06 43.8 +0.9**
comp=Z,49nm,1.0s,mb5.4,baz=26,slow=6.4,SNR=35
PHNC Paralimni 71.27 308 P **P** **12 06 46.8 -1.3**
MEST Erdemli 71.62 309 *i*P **P** **12 06 48.8 -1.4**
MATP Matopo 71.80 249 P **P** **12 06 51.8 +0.2**
comp=Z,110nm,1.1s,mb5.7,baz=87,slow=5.8,SNR=75
CSS Prodhromos 71.81 308⇑P **P** **12 06 50.5 -0.9**
comp=Z,1.3nm,1.0s
CSS Prodhromos 71.81 308⇑*e*P **P** **12 06 50.5 -0.9**
comp=Z,1.3nm,1.0s
ANN Anapa 71.92 318⇑*i*P **P** **12 06 49.7 -2.1**
ANN *e* 12 07 14.2
ANN *e*S S 12 16 07.1 -2.8
ANN pmax pmax
comp=Z,33nm,1.3s,mb5.1
ANN pmax pmax
comp=Z,2μm,15.7s
MAMC Mammari 71.95 308 P **P** **12 06 51.9 -0.3**
CTKT Corum 72.34 314 *i*P **P** **12 06 52.6 -1.8**
ALFC Alevga 72.44 308⇑P **P** **12 06 53.9 -1.2**
comp=Z,1.0nm,0.7s
ALFC Alevga 72.44 308⇑*e*P **P** **12 06 53.9 -1.2**
BOYT Boyabat 72.50 314 *i*P **P** **12 06 54.1 -1.3**
MA2 Magadan 72.88 24 *e*P **P** **12 06 57.4 +0.1**
MA2 pmax pmax
comp=Z,40nm,0.8s,mb5.4
MA2 Magadan 72.88 24 *i*P **P** **12 06 57.4 +0.1**
BRTR Keskin Array B 72.91 312 P **P** **12 06 56.1 -1.7**
comp=Z,27nm,0.9s,mb5.2,baz=135,slow=7.0,SNR=91
PET Petropavlovsk 73.27 33⇓*i*P **P** **12 06 59.6 0.0**
PET pmax pmax
comp=Z,52nm,0.8s,mb5.5
PET Petropavlovsk 73.27 33 *i*P **P** **12 06 56.3 -3.3**
ELDT Eldivan 73.28 313 *i*P **P** **12 06 58.4 -1.6**
MSZ Milford Sound 73.43 136 PN **P** **12 07 01.8 +1.1**
VOR Voronezh 73.56 326 *e*P **P** **12 07 00.0 -1.4**
VOR *e**PP pP 12 07 08.5 -0.8
VOR pmax pmax
comp=Z,480nm,1.4s,mb6.2
VOR pmax pmax
comp=N,200nm,1.3s
SIM Simferopol' **74.18 318** *e*P **P** **12 07 04.0 -1.1**
SIM pmax pmax
comp=Z,77nm,0.8s,mb5.7
SGKT Sivrigoynuk 74.31 313 *i*P **P** **12 07 04.5 -1.5**
ISP Isparta 74.75 310 *e*P **P** **12 07 07.3 -1.2**
ISP pmax pmax
comp=Z,35nm,0.9s,mb5.3
ISP Isparta 74.75 310 *e*P **P** **12 07 07.3 -1.2**
comp=Z,35nm,0.9s,mb5.3
ESKT Eskisehir 74.92 312 *i*P **P** **12 07 07.3 -2.2**
HENT Hendek 75.22 313 *i*P **P** **12 07 09.3 -1.9**
SEY Seymchan 75.46 22 *e*P **P** **12 07 14.2 +2.1**
SEY pmax pmax
comp=Z,200nm,0.9s,mb6.0
SEY pmax pmax
comp=N,50nm,0.8s
SEY pmax pmax
comp=E,50nm,0.8s
BOSA Boshof 75.54 241 P **P** **12 07 13.0 -0.3**
BOSA Boshof 75.54 241 P **P** **12 07 13.1 -0.2**
comp=E,35nm,1.0s,mb5.2,baz=94,slow=6.2,SNR=17
TIXI Tiksi 75.61 9 *i*P **P** **12 07 12.0 -0.8**
MOS Moscow 76.09 329⇑*i*P **P** **12 07 15.7 -0.1**
MOS *e* pP 12 07 24.1 +0.4
MOS *e* 12 10 07.9
MOS *e*S S 12 16 59.6 +3.2
MOS pmax pmax
comp=Z,508nm,1.5s,mb6.2
ULDT Uludag 76.35 312 *i*P **P** **12 07 16.4 -1.2**
THZ Tophouse 76.37 133 PN **P** **12 07 17.7 +0.1**
OBN Obninsk 76.39 328*c*/*i*P **P** **12 07 16.7 -0.8**
OBN *i* 12 07 29.2
OBN *e*S S 12 17 14.8 +15
OBN pmax pmax
comp=Z,347nm,1.5s,mb6.1
OBN MLR MLR
comp=Z,2μm,17.0s,MS5.6
OBN Obninsk 76.39 328 *e*P **P** **12 07 16.6 -0.9**
comp=Z,241nm,1.1s,mb6.0
KDAG Bornova 77.37 310 *i*P **P** **12 07 22.5 -0.8**
TIRR Tirgusor 77.94 316⇑P **P** **12 07 25.8 -0.5**
SYO Syowa Base 78.05 199⇓P **P** **12 07 27.0 +0.6**
CFR Carcaliu 78.31 317⇑P **P** **12 07 27.9 -0.4**
CFR Carcaliu 78.31 317⇑P **P** **12 07 27.9 -0.4**
HARR Harsova 78.33 316 P **P** **12 07 28.0 -0.4**
HARR Harsova 78.33 316⇓P **P** **12 07 28.2 -0.2**
HARR Harsova 78.33 316⇓P **P** **12 07 28.2 -0.2**
SANT Santorini 78.37 308 *e*P **P** **12 07 27.8 -1.1**
comp=Z,128nm,1.3s,mb5.7
BOZC Bozcaada 78.59 311 *i*P **P** **12 07 28.3 -1.7**
BFZ Birch Farm 78.69 131 PN **P** **12 07 31.2 +0.6**
ALN Alexandroupoli 78.82 312 *e*P **P** **12 07 30.5 -0.7**
AKASG Malin Array Be 79.07 322 P **P** **12 07 31.2 -1.2**
comp=Z,17nm,0.8s,mb5.0,baz=88,slow=4.5,SNR=35
AKASG Malin Array Be 79.07 322 P **P** **12 07 31.2 -1.2**
IAS Iasi 79.20 319 P **P** **12 07 33.0 -0.1**

ISR Istrita 79.39 316 P **P 12 07 35.8 +1.6**
VRI Vrincioaia 79.43 317 P **P 12 07 34.7 +0.2**
VRI Vrincioaia 79.43 317⇑ P **P 12 07 34.9 +0.4**
VRI Vrincioaia 79.43 317⇑ P **P 12 07 34.8 +0.3**
BUC1 Bucharest 79.57 316 P **P 12 07 35.8 +0.6**
MLR Muntele Rosu 79.88 317 P **P 12 07 37.1 +0.2**
comp=Z,120nm,1.0s,mb5.8,baz=92,slow=2.0,SNR=96
MLR Muntele Rosu 79.88 317⇑ P **P 12 07 37.1 +0.3**
MLR Muntele Rosu 79.88 317⇑ P **P 12 07 37.1 +0.2**
SNX Sinaia 80.15 316 P **P 12 07 38.4 +0.1**
OUR Ouranopolis 80.25 311 *eP* **P 12 07 38.5 -0.5**
PAIG Paliouri 80.40 311 *eP* **P 12 07 38.5 -1.3**
MTUR Matau 80.43 316 P **P 12 07 39.3 -0.5**
PGB Panagyurishte 80.53 313 *eP* **P 12 07 40.0 -0.4**
MMB Musomiste 80.67 312 *i P* **P 12 07 40.0 -1.1**
SOH Sokhos 80.81 312 *eP* **P 12 07 40.8 -1.1**
BURAR Bucovina Array 80.84 319⇓ P **P 12 07 43.2 +1.3**
BURAR Bucovina Array 80.84 319⇓ P **P 12 07 43.2 +1.3**
MNK Minsk 80.94 326⇓ *iP* **P 12 07 38.0 -4.3**
THE Thessaloniki 81.06 311 *eP* **P 12 07 41.9 -1.3**
KKB Krupnik 81.19 313 *i P* **P 12 07 43.0 -0.9**
VTS Vitosha 81.23 313 P **P 12 07 44.1 0.0**
VTS Vitosha 81.23 313 *i P* **P 12 07 44.0 -0.1**
AGG Agios Georgios 81.28 310 *eP* **P 12 07 42.4 -1.9**
LIT Litokhoron 81.33 311 *eP* **P 12 07 43.3 -1.4**
FX1 Attu Island--F 81.43 36 *eP* **P 12 07 45.4 +0.5**
VAY Valandovo 81.48 312⇑ *iP* **P 12 07 44.2 -1.2**
JOF Joensuu 81.82 335 *ep* **P 12 07 46.8 +0.1**
LVV L'vov 82.08 321 *eP* **P 12 07 49.0 +0.7**
FNA Florina 82.28 311 *eP* **P 12 07 48.1 -1.4**
BOLS Boljevac 82.35 314⇓ *iP* **P 12 07 49.1 -0.7**
LVZ Lovozero 82.40 340*c iP* **P 12 07 49.0 -0.6**
LVZ pmax pmax
comp=Z,164nm,1.7s,mb5.7
LVZ Lovozero 82.40 340⇑ *iP* **P 12 07 49.1 -0.5**
SKO Skopje 82.42 313⇑ *iP* **P 12 07 49.0 -1.2**
comp=Z,0.0nm,1.1s
APA Apatity 82.71 339⇓ *iP* **P 12 07 51.0 -0.2**
APA pmax pmax
comp=Z,83nm,1.2s,mb5.6
APA MLR MLR
comp=Z,4μm,18.0s,MS5.8
IGT Igoumenitsa 82.89 310 *eP* **P 12 07 52.2 -0.5**
KWP Kalwaria 82.89 320 *eP* **P 12 07 52.8 +0.3**
KWP pmax pmax
comp=Z,100nm,1.1s,mb5.8
KWP Kalwaria 82.89 320 *eP* **P 12 07 52.6 +0.1**
KWP Kalwaria 82.89 320 *eP* **P 12 07 52.6 +0.1**
BILL Bilibino 82.98 20 *i P* **P 12 07 52.0 -0.6**
BILL *e* pP 12 08 01.7 +1.0
BILL pmax pmax
comp=Z,20nm,1.6s,mb4.9
BILL pmax pmax
comp=Z,22μm,15.0s
BILL Bilibino 82.98 20 *eP* **P 12 07 52.0 -0.7**
comp=Z,36nm,1.4s,mb5.2
KOLS Kolonicke sedl 83.04 320 *i P* **P 12 07 54.2 +0.9**
KOLS *e*PP PP 12 10 58.6 -7.6
GRUS Gruza 83.24 314⇓ *iP* **P 12 07 54.4 -0.1**
SUW Suwalki 83.47 325 *eP* **P 12 07 55.0 -0.4**
CRVS Cervenica-Dubn 83.56 319 *eP* **P 12 07 57.2 +1.2**
CRVS *e* 12 08 08.5
BEO Belgrade 83.57 315⇑ *iP* **P 12 07 59.3 +3.1**
FINES FINESS Array B 83.71 332 P **P 12 07 56.7 +0.2**
comp=Z,28nm,0.7s,mb5.5,baz=104,slow=7.9,SNR=71
KAF Kangasniemi 83.79 333 *ep* **P 12 07 56.5 -0.3**
comp=Z,66nm,0.7s,mb5.9,baz=100,slow=4.7
KAF Kangasniemi 83.79 333 *eP* **P 12 07 56.5 -0.3**
KAF pmax pmax
comp=Z,66nm,0.7s,mb5.9
DIVS Divcibare 83.79 315⇓ *iP* **P 12 07 56.9 -0.4**
KECS Kecovo 84.12 319 *eP* **P 12 07 59.1 +0.2**
BBLS Bajina Basta - 84.17 314⇓ *iP* **P 12 07 59.4 +0.1**
NIE Niedzica 84.39 320⇑ *eP* **P 12 07 58.9 -1.3**
PSZ Piszkesteto 84.43 318 *eP* **P 12 08 00.2 -0.2**
PSZ pmax pmax
comp=Z,169nm,1.6s,mb5.9
PSZ Piszkesteto 84.43 318 *eP* **P 12 08 00.2 -0.2**
comp=Z,169nm,1.6s,mb5.9
PSZ Piszkesteto 84.43 318⇑ *iP* **P 12 08 00.6 +0.2**
OJC Ojcow 84.84 321 *eP* **P 12 08 01.9 -0.5**
LIKS Likavka 85.11 319 *eP* **P 12 08 01.8 -2.0**
VYHS Vyhne 85.21 319 *eP* **P 12 08 04.5 +0.2**
VYHS *ep*P pP 12 08 14.8 +2.5
KOLL Kolacno 85.51 319 *eP* **P 12 08 06.0 +0.2**
KOLL *e* pP 12 08 13.5 -0.3
KEV Kevo 85.65 341 *ep* **P 12 08 08.5 +2.5**
GRI Girifalco 85.82 309 *eP* **P 12 08 09.1 +1.5**
OKC Ostrava-Krasne 85.84 320⇑ *iP* **P 12 08 07.8 +0.4**
RAC Raciborz 85.84 320 *eP* **P 12 08 08.4 +1.0**
ARCES ARCESS Array B 86.09 340 P **P 12 08 08.9 +0.7**
comp=Z,73nm,0.9s,mb5.9,baz=104,slow=5.0,SNR=75
ARE0 ARCESS Array S 86.09 340 *eP* **P 12 08 08.8 +0.6**
ARE0 *e* pP 12 08 17.5 +1.2
MORC Moravsky Berou 86.22 320 *eP* **P 12 08 09.4 +0.1**
MORC pmax pmax
comp=Z,110nm,1.4s,mb5.9
MORC Moravsky Berou 86.22 320 *eP* **P 12 08 09.3 +0.1**
comp=Z,110nm,1.4s,mb5.9
ZST Bratislava 86.32 318 *eP* **P 12 08 10.3 +0.5**
ZST *ep*P pP 12 08 19.9 +2.0
SISC Sisak 86.52 316 *i P* **P 12 08 11.3 +0.5**
VRAC Vranov 86.78 319 P **P 12 08 12.3 +0.3**
comp=Z,7.5nm,0.9s,mb4.9,baz=108,slow=5.6,SNR=12
SGO Sicignano 86.83 311 *eP* **P 12 08 13.3 +0.8**
GKP Gorka Klasztor 86.84 323 *eP* **P 12 08 12.6 +0.3**
DPC Dobruska-Polom 87.07 320⇑ *iP* **P 12 08 14.5 +1.1**
CSSN Cassano Irpino 87.07 311 *eP* **P 12 08 14.4 +0.8**
KIWB Kanaga Island 87.09 38 *eP* **P 12 08 13.7 +0.2**
KSP Ksiaz 87.14 321⇑ *eP* **P 12 08 14.3 +0.6**
KSP *e**PP pP 12 08 21.8 0.0
KSP Ksiaz 87.14 321 *eP* **P 12 08 14.5 +0.7**
ARSA Arzberg 87.28 317⇑ *iP* **P 12 08 14.9 +0.4**
comp=Z,77nm,1.9s,mb5.6
UPC Upice 87.28 321⇑ *iP* **P 12 08 15.1 +0.7**
BOJS Bojanci 87.31 316 *eP* **P 12 08 15.0 +0.3**
CII Carovilli 87.68 312 *eP* **P 12 08 17.4 +0.8**
MAIT Maitri 87.73 199 *eP* **P 12 08 18.6 +2.5**
LJU Ljubljana 87.86 316 *eP* **P 12 08 17.9 +0.6**
LJU *e* 12 08 28.0
OBKA Obir 87.88 316⇑ *iP* **P 12 08 18.2 +0.8**
comp=Z,68nm,1.9s,mb5.5
AFI Afiamalu 88.16 104 P **P 12 08 20.3 +0.9**
comp=Z,70nm,1.2s,mb5.8,baz=302,slow=9.5,SNR=3.8
PRU Pruhonice 88.17 320⇑ *iP* **P 12 08 19.3 +0.6**
MOA Molln 88.18 318⇑ *iP* **P 12 08 18.9 +0.1**
comp=Z,39nm,1.7s,mb5.4
PVCC Panska Ves 88.20 320⇑ *iP* **P 12 08 19.6 +0.8**
QSPA South Pole Qui 88.26 180⇑ *iP* **P 12 08 20.2 +1.7**
comp=Z,73nm,1.1s,mb5.8
PTQR Pietraquaria 88.38 312 *eP* **P 12 08 20.4 +0.5**
AQU L'Aquila 88.40 312 P **P 12 08 21.0 +1.0**
AQU pmax pmax
comp=Z,460nm,1.6s,mb6.5
AQU L'Aquila 88.40 312 *eP* **P 12 08 20.5 +0.5**
ROBS Robic 88.58 316 *eP* **P 12 08 20.6 -0.1**
BRG Berggiesshubel 88.63 321 *i P* **P 12 08 21.6 +0.7**
BRG *i* 12 08 32.5
BRG pmax pmax
comp=Z,272nm,2.0s,mb6.2
BRG Berggiesshubel 88.63 321 *i P* **P 12 08 21.6 +0.7**
comp=Z,272nm,2.0s,mb6.2
BRG *i* 12 08 32.5
BRG *e*PP PP 12 11 32.0 -20
GEC2 GERESS Array S 88.63 319 *eP* **P 12 08 21.6 +0.7**
GERES GERESS Array B 88.63 319 P **P 12 08 21.5 +0.5**
comp=Z,16nm,0.9s,mb5.4,baz=90,slow=4.0,SNR=96
NRCA Norcia 88.64 313 *eP* **P 12 08 21.5 +0.3**
PTCC Patocco-Chiusa 88.70 316 *eP* **P 12 08 21.6 +0.3**
KHC Kasperske Hory 88.73 319⇑ *iP* **P 12 08 21.8 +0.4**
KHC *e* pP 12 08 28.5 -1.0
KHC Kasperske Hory 88.73 319⇑ *iP* **P 12 08 21.8 +0.4**
KHC pP pP 12 08 28.5 -1.0
KBA Koelnbreinsper 88.75 317⇑ *iP* **P 12 08 20.4 -1.2**
comp=Z,30nm,1.4s,mb5.4
KBA Koelnbreinsper 88.75 317⇑ *iP* **P 12 08 20.4 -1.2**
KBA pmax pmax
comp=Z,30nm,1.4s,mb5.4
GMNA Gemona 88.77 316 *eP* **P 12 08 22.0 +0.3**
ARV Arcevia 88.81 313 *eP* **P 12 08 22.9 +1.0**
RUE Ruedersdorf 88.85 322 *eP* **P 12 08 22.6 +0.8**
comp=Z,802nm,1.8s

MA9 Marino 88.91 312 *eP* **P 12 08 22.9 +0.5**
MNS Montasola 88.93 312 *eP* **P 12 08 22.1 -0.5**
FSSB Fossombrone 88.94 314 *eP* **P 12 08 23.9 +1.4**
WET Wettzell 89.19 319 *eP* **P 12 08 24.4 +0.8**
WET pmax pmax
comp=Z,300nm,2.1s,mb6.2
WET Wettzell 89.19 319 *eP* **P 12 08 24.4 +0.8**
comp=Z,300nm,2.1s,mb6.2
CLL Collm 89.25 321⇑ *iP* **P 12 08 24.1 +0.3**
CLL *i* pP 12 08 32.2 +0.3
CLL *e* 12 08 41.0
CLL pmax pmax
comp=Z,70nm,1.2s,mb5.9
CLL Collm 89.25 321⇑ *iP* **P 12 08 24.1 +0.3**
comp=Z,70nm,1.2s,mb5.9
CLL *i* pP 12 08 32.2 +0.3
CLL *e* 12 08 41.0
CLL Collm 89.25 321⇑ P **P 12 08 24.1 +0.3**
comp=Z,logA/T=1.8,mb5.9
CLL *i* *PP pP 12 08 32.2 +0.3
CLL *e* 12 08 41.0
CLL *e* 12 09 10.0
HFS Hagfors 89.47 330 P **P 12 08 25.2 +0.6**
comp=Z,26nm,0.9s,mb5.5,baz=135,slow=4.2,SNR=36
NKC Novy Kostel 89.54 320⇑ *iP* **P 12 08 25.9 +0.7**
SFI Santa Sofia 89.62 314 *eP* **P 12 08 27.3 +1.5**
VMG Vicchio 89.84 314 *eP* **P 12 08 28.0 +1.2**
CTI Castel Tesino 89.86 316 *eP* **P 12 08 27.7 +0.9**
WTTA Wattenberg 89.92 317⇑ *iP* **P 12 08 27.1 0.0**
comp=Z,214nm,2.1s,mb6.1
WTTA Wattenberg 89.92 317⇑ *iP* **P 12 08 27.1 0.0**
WTTA pmax pmax
comp=Z,214nm,2.1s,mb6.1
WATA Walderalm 89.97 317⇑ *iP* **P 12 08 27.0 -0.3**
comp=Z,99nm,1.7s,mb5.9
WATA Walderalm 89.97 317⇑ *iP* **P 12 08 27.0 -0.3**
WATA pmax pmax
comp=Z,99nm,1.7s,mb5.9
FUR Furstenfeldbru 90.20 318 *eP* **P 12 08 28.4 0.0**
SQTA Sankt Quirin 90.21 317⇑ *iP* **P 12 08 28.5 +0.1**
comp=Z,210nm,2.0s,mb6.1
SQTA Sankt Quirin 90.21 317⇑ *iP* **P 12 08 28.5 +0.1**
SQTA pmax pmax
comp=Z,210nm,2.0s,mb6.1
ZCCA Zocca 90.27 314 *eP* **P 12 08 29.5 +0.7**
MOTA Moosalm 90.29 317⇑ *iP* **P 12 08 28.6 -0.2**
GRA1 Grafenberg Arr 90.30 320 *eP* **P 12 08 29.7 +0.9**
comp=Z,100nm,1.1s,mb6.1
GRF Grafenberg Arr 90.30 320 *eP* **P 12 08 29.7 +0.9**
GRF pmax pmax
comp=Z,100nm,1.1s,mb6.1
GRF Grafenberg Arr 90.30 320 *eP* **P 12 08 29.7 +0.9**
GRF pmax pmax
comp=Z,100nm,1.1s,mb6.1
GRF Grafenberg Arr 90.30 320 *eP* **P 12 08 29.7 +0.9**
comp=Z,100nm,1.1s,mb6.1
GSCL Gusciola 90.55 314 *eP* **P 12 08 31.4 +1.4**
ERBM Eremo 90.67 314 *eP* **P 12 08 32.2 +1.6**
NB2 NORSAR Subarra 90.74 331 P **P 12 08 30.3 -0.2**
comp=Z,28nm,1.0s,mb5.5,baz=93,slow=4.6
NB2 NORSAR Subarra 90.74 331 P **P 12 08 30.3 -0.2**
NB2 pmax pmax
comp=Z,28nm,1.0s,mb5.5
NB2 NORSAR Subarra 90.74 331 P **P 12 08 30.3 -0.2**
baz=93,slow=4.6
NOA NORSAR Array B 90.74 331 P **P 12 08 30.5 0.0**
comp=Z,9.8nm,0.8s,mb5.2,baz=94,slow=4.6,SNR=25
NOA NORSAR Array B 90.74 331 P **P 12 08 30.5 0.0**
BRMO Bormio 90.76 316 *eP* **P 12 08 32.0 +1.0**
CLZ Clausthal 90.91 322 *eP* **P 12 08 32.3 +0.8**
HDH Heidenheim 90.93 318⇑ *eP* **P 12 08 31.6 -0.1**
UBR Uberruh 90.97 317⇑ *eP* **P 12 08 32.1 +0.2**
BSEG Bad Segeberg 91.00 324 *eP* **P 12 08 32.6 +0.7**
DAVA Damuels 91.12 317⇑ *iP* **P 12 08 33.2 +0.6**
comp=Z,92nm,1.0s,mb6.1
SIND Sindeldorf 91.34 319⇑ *eP* **P 12 08 34.1 +0.5**
BUCH Bad Urach 91.50 318⇑ *eP* **P 12 08 34.7 +0.4**
KONO Kongsberg 91.51 329 *eP* **P 12 08 32.6 -1.5**
STU Stuttgart 91.61 319 *eP* **P 12 08 34.8 0.0**
STU pmax pmax
comp=Z,54nm,1.2s,mb5.8
STU Stuttgart 91.61 319 *eP* **P 12 08 34.8 +0.1**
comp=Z,54nm,1.2s,mb5.8
GUT Gutenstein 91.65 318⇑ *eP* **P 12 08 35.3 +0.3**
PGF Pioggiola 91.66 312⇑ *iP* **P 12 08 35.6 +0.4**
comp=Z,194nm,1.5s,mb5.9
PGF Pioggiola 91.66 312⇑ *iP* **P 12 08 35.6 +0.4**
PGF pmax pmax
comp=Z,97nm,1.5s,mb5.9
VAI Varese 91.86 316 *eP* **P 12 08 35.5 -0.6**
LBG Lerchenberg 91.87 318⇑ *eP* **P 12 08 36.3 +0.3**
SPAK Spaichingen 91.87 318⇑ *eP* **P 12 08 36.5 +0.5**
SPAK Spaichingen 91.87 318⇑ *eP* **P 12 08 36.6 +0.6**
TOD Tromm 91.87 319⇑ *eP* **P 12 08 36.1 +0.1**
TOD Tromm 91.87 319 *eP* **P 12 08 36.4 +0.4**
SWS Schriesheim 91.94 319 *eP* **P 12 08 36.7 +0.4**
TNS Taunus Mts 92.10 320 *eP* **P 12 08 38.0 +1.0**
TNS pmax pmax
comp=Z,60nm,1.0s,mb5.9
TNS Taunus Mts 92.10 320 *eP* **P 12 08 38.0 +1.0**
comp=Z,60nm,1.0s,mb5.9
BFO Black Forest 92.18 318 P **P 12 08 37.9 +0.5**
comp=Z,157nm,1.0s,mb6.3,SNR=12
BFO Black Forest 92.18 318 *eP* **P 12 08 37.5 +0.1**
FIN Finale Ligure 92.25 314 *eP* **P 12 08 38.4 +0.5**
KTD Kalmit 92.34 319⇑ *eP* **P 12 08 38.7 +0.6**
KTD Kalmit 92.34 319 *eP* **P 12 08 38.5 +0.4**
FELD Feldberg 92.39 318⇑ *eP* **P 12 08 38.5 +0.1**
MCGN Macugnaga 92.41 316 *eP* **P 12 08 39.2 +0.7**
KIZ Kirchzarten 92.45 318 *eP* **P 12 08 38.9 +0.2**
LANF Langenberg 92.52 319⇑ *eP* **P 12 08 39.7 +0.7**
LIBD Limburg 92.66 318⇑ *eP* **P 12 08 40.2 +0.5**
LIBD Limburg 92.66 318⇑ *eP* **P 12 08 40.1 +0.4**
ABH Alteburg 92.69 320⇑ *eP* **P 12 08 40.4 +0.7**
ABH Alteburg 92.69 320⇑ *eP* **P 12 08 40.5 +0.8**
BBS Basel-Blauen 92.73 317 *eP* **P 12 08 39.7 -0.3**
BBS Basel-Blauen 92.73 317 *eP* **P 12 08 39.8 -0.2**
SBF Sospel 92.81 314⇑ *iP* **P 12 08 40.7 +0.2**
comp=Z,119nm,1.2s,mb5.9
SBF Sospel 92.81 314⇑ *iP* **P 12 08 40.7 +0.2**
SBF pmax pmax
comp=Z,59nm,1.2s,mb5.9
WLS Welschbruch 92.83 318⇑ *eP* **P 12 08 40.6 +0.2**
CDF Champ du Feu 92.88 318⇑ *iP* **P 12 08 40.7 0.0**
comp=Z,73nm,1.3s,mb5.6
CDF Champ du Feu 92.88 318⇑ *iP* **P 12 08 40.7 0.0**
CDF pmax pmax
comp=Z,36nm,1.3s,mb5.6
ECH Echery 92.96 318⇑ *eP* **P 12 08 41.0 0.0**
MOF Molkenrain 92.98 318⇑ *eP* **P 12 08 41.0 -0.1**
RUP Ruppelstein 93.00 319⇑ *eP* **P 12 08 41.7 +0.5**
RUP Ruppelstein 93.00 319 *eP* **P 12 08 41.3 +0.1**
HINF Hinteralfeld 93.17 318 *eP* **P 12 08 41.6 -0.4**
LOMF Lomont 93.20 317⇑ *eP* **P 12 08 42.1 0.0**
MBDF Montbardon 93.28 315⇑ *iP* **P 12 08 43.7 +1.1**
LPG La Plagne 93.28 315⇑ *iP* **P 12 08 43.1 +0.5**
comp=Z,35nm,1.0s,mb5.4
LPG La Plagne 93.28 315⇑ *iP* **P 12 08 43.1 +0.5**
LPG pmax pmax
comp=Z,17nm,1.0s,mb5.4
LPL La Plagne 93.29 315⇑ *iP* **P 12 08 43.1 +0.5**
comp=Z,52nm,1.1s,mb5.6
LPL La Plagne 93.29 315⇑ *iP* **P 12 08 43.1 +0.5**
LPL pmax pmax
comp=Z,26nm,1.1s,mb5.6
FRF La Foret Royal 93.38 313⇑ *iP* **P 12 08 43.5 +0.4**
comp=Z,56nm,1.0s,mb5.7
FRF La Foret Royal 93.38 313⇑ *iP* **P 12 08 43.5 +0.4**
FRF pmax pmax
comp=Z,28nm,1.0s,mb5.7
LMR La Mourre 93.49 313 *eP* **P 12 08 43.9 +0.3**
HAU Haudompre 93.51 318⇑ *iP* **P 12 08 43.5 -0.1**
comp=Z,68nm,1.1s,mb5.7
HAU Haudompre 93.51 318⇑ *iP* **P 12 08 43.5 -0.1**
HAU pmax pmax
comp=Z,34nm,1.1s,mb5.7
CABF La Chapelle 93.72 316⇑ *iP* **P 12 08 45.1 +0.5**
comp=Z,60nm,1.2s,mb5.6
CABF La Chapelle 93.72 316⇑ *iP* **P 12 08 45.1 +0.5**
CABF pmax pmax
comp=Z,30nm,1.2s,mb5.6
THEF They Montfort 93.74 318⇑ *eP* **P 12 08 44.7 +0.1**
ORIF Oris-en-Rattie 93.91 315 *eP* **P 12 08 45.9 +0.4**
comp=Z,79nm,1.3s,mb5.7

ORIF Oris-en-Rattie 93.91 315 *eP* **P 12 08 45.9 +0.4**
ORIF pmax pmax
comp=Z,39nm,1.3s,mb5.7
SMRF Simiane la Rot 94.15 314 *eP* **P 12 08 47.5 +0.9**
MEZF Maizieres J'vi 94.36 318⇑ *iP* **P 12 08 47.7 +0.3**
comp=Z,86nm,1.3s,mb5.7
GIVF Givet 94.44 320⇑ *iP* **P 12 08 48.0 +0.2**
comp=Z,12nm,0.7s,mb5.1
GIVF Givet 94.44 320⇑ *iP* **P 12 08 48.0 +0.2**
GIVF pmax pmax
comp=Z,6.0nm,0.7s,mb5.1
VIVF Saint-Julien-I 94.77 315⇑ *iP* **P 12 08 49.6 +0.2**
comp=Z,34nm,1.1s,mb5.4
VIVF Saint-Julien-I 94.77 315⇑ *iP* **P 12 08 49.6 +0.2**
VIVF pmax pmax
comp=Z,17nm,1.1s,mb5.4
BAIF Baives 94.83 320 *eP* **P 12 08 50.0 +0.4**
comp=Z,29nm,1.0s,mb5.4
SMF Signal de Mont 95.26 317⇑ *iP* **P 12 08 51.6 -0.1**
comp=Z,73nm,1.2s,mb5.7
SMF Signal de Mont 95.26 317⇑ *iP* **P 12 08 51.6 -0.1**
SMF pmax pmax
comp=Z,37nm,1.2s,mb5.7
SSF Saint Saulge 95.47 317⇑ *iP* **P 12 08 52.7 +0.1**
SSF pmax pmax
comp=Z,31nm,1.5s,mb5.5
SSF Saint Saulge 95.47 317⇑ *iP* **P 12 08 52.7 +0.1**
comp=Z,31nm,1.5s,mb5.5
AVF Avril sur Loir 95.59 317⇑ *iP* **P 12 08 53.1 -0.1**
comp=Z,41nm,1.2s,mb5.4
AVF Avril sur Loir 95.59 317⇑ *iP* **P 12 08 53.1 -0.1**
AVF pmax pmax
comp=Z,20nm,1.2s,mb5.4
BGF Bois d'Agland 95.95 316⇑ *iP* **P 12 08 55.2 +0.4**
comp=Z,78nm,1.3s,mb5.7
BGF Bois d'Agland 95.95 316⇑ *iP* **P 12 08 55.2 +0.4**
BGF pmax pmax
comp=Z,39nm,1.3s,mb5.7
HYF Humbligny 96.05 317 *eP* **P 12 08 55.8 +0.6**
TCF Toulx Ste Croi 96.41 316⇑ *iP* **P 12 08 57.3 +0.4**
CAF Calviac 96.61 315 *eP* **P 12 08 58.4 +0.5**
MTLF Montolieu 96.62 313 *eP* **P 12 08 58.1 +0.2**
comp=Z,16nm,0.9s,mb5.1
MTLF Montolieu 96.62 313 *eP* **P 12 08 58.1 +0.2**
MTLF pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
RJF Les Rejaudoux 96.97 315⇑ *iP* **P 12 08 59.8 +0.3**
comp=Z,73nm,1.5s,mb5.6
RJF Les Rejaudoux 96.97 315⇑ *iP* **P 12 08 59.8 +0.3**
RJF pmax pmax
comp=Z,37nm,1.5s,mb5.6
LFF La Frestale 97.55 315 *eP* **P 12 09 02.8 +0.7**
LDF La Druitiere 97.78 319 *eP* **P 12 09 02.9 -0.1**
FLN La Foliniere 98.00 319 *eP* **P 12 09 03.8 -0.2**
MFF Saint Martin d 98.01 317⇑ *iP* **P 12 09 04.0 -0.1**
comp=Z,14nm,1.0s,mb5.2
MFF Saint Martin d 98.01 317⇑ *iP* **P 12 09 04.0 -0.1**
MFF pmax pmax
comp=Z,7.0nm,1.0s,mb5.2
EPF Esparros 98.01 313 *eP* **P 12 09 03.8 -0.4**
IMA Indian Mountai 98.25 23 P **P 12 09 06.1 +1.4**
IMA pmax pmax
comp=Z,97nm,1.1s,mb6.2
IMA Indian Mountai 98.25 23 *eP* **P 12 09 06.2 +1.5**
comp=Z,15nm,1.3s,mb5.4
ETSF Etsaut 98.68 313 *eP* **P 12 09 07.8 +0.6**
SJPF Ste Jean 99.14 313 *eP* **P 12 09 09.9 +0.6**
SGMF Saint Gilles 99.43 319 *eP* **P 12 09 10.1 -0.4**
ROSF Rostrenen 99.89 319⇑ *iP* **P 12 09 12.3 -0.3**
ILAR Eielson Array 101.35 24 PKKPbc 12 25 27.7
comp=Z,3.0nm,0.9s,baz=132,slow=1.8,SNR=22
YKA Yellowknife Ar 114.17 17 PKP PKPdf 12 14 06.2 -4.0
comp=Z,2.7nm,0.9s,baz=322,slow=2.1,SNR=28
YKA PP PP 12 14 53.7 -12
comp=Z,1.1nm,1.0s,baz=336,slow=7.8,SNR=3.9
YKA PKKPbc 12 24 47.2
comp=Z,1.7nm,1.1s,baz=141,slow=3.8,SNR=13
YKA PKKPab 12 24 53.9
comp=Z,1.7nm,1.1s,baz=142,slow=5.0,SNR=10
YKA Yellowknife Ar 114.17 17 PKP PKPdf 12 14 06.2 -4.0
YKA PP PP 12 14 53.7 -12
YKA PKKPbc 12 24 47.2
YKA PKKPab 12 24 53.9
EDM Edmonton 121.83 23 PKIKP PKPdf 12 14 22.0 -3.3
EDM Edmonton 121.83 23 *e*PKPdf PKPdf 12 14 20.9 -4.5
SCHQ Schefferville 125.91 350 PKP PKPdf 12 14 29.8 -3.4
comp=Z,6.9nm,0.9s,baz=48,slow=5.3,SNR=11
CHMT Chamberlain Mo 126.62 28 *e*PKPdf PKPdf 12 14 31.3 -3.4
HRY Holter Researc 127.42 27 *e*PKPdf PKPdf 12 14 33.2 -3.1
MCMT McKenzie Canyo 128.34 29 *e*PKPdf PKPdf 12 14 36.0 -2.1
QLMT Earthquake Lak 129.02 28 *e*PKPdf PKPdf 12 14 37.5 -1.9
NVAR Mina Array Bea 129.56 39 PKP PKPdf 12 14 39.5 -1.2
comp=Z,3.9nm,0.8s,baz=264,slow=3.1,SNR=20
LKWY Lake 129.70 28 *e*PKPdf PKPdf 12 14 40.0 -0.8
ULM Lac du Bonnet 129.85 13 PKP PKPdf 12 14 37.6 -3.3
comp=Z,10nm,0.7s,baz=336,slow=2.8,SNR=15
PDAR Pinedale Array 131.46 29 PKP PKPdf 12 14 41.0 -3.2
comp=Z,2.7nm,0.8s,baz=295,slow=0.5,SNR=22
DUG Dugway 131.65 33 PKIKP PKPdf 12 14 42.6 -2.0
DUG Dugway 131.65 33 *e*PKPdf PKPdf 12 14 42.0 -2.7
TMUT Trail Mountain 133.16 33 *e*PKPdf PKPdf 12 14 44.7 -2.7
MSU Marysvale 133.17 35 *e*PKPdf PKPdf 12 14 45.5 -2.0
PV10 Paradox Valley 135.00 32 *e*PKPdf PKPdf 12 14 48.5 -2.4
PV01 Paradox Valley 135.43 32 *e*PKPdf PKPdf 12 14 49.1 -2.6
PLCA Paso Flores 136.84 191 PKP PKPdf 12 14 51.6 -2.6
comp=Z,6.8nm,1.1s,baz=170,slow=7.8,SNR=5.8
LPM Los Pinos Moun 139.29 34 *e*PKPdf PKPdf 12 14 56.2 -2.6
BNM Barren Site 139.41 34 *e*PKPpre 12 14 49.9
CPRX Cap Rock 141.78 33 *e*PKPpre 12 14 54.6
GDL2 Guadalupe Moun 142.13 34 *e*PKPpre 12 14 56.7
GDL2 PKPdf PKPdf 12 15 01.1 -2.9
BAO Brasilia Array 143.72 240 PKPdf PKPdf 12 15 02.0 -5.1
BAO PKPdf PKPdf 12 15 06.0 -1.1
BDFB Brasilia 143.73 240 PKP PKPdf 12 15 02.1 -5.0
comp=Z,22nm,1.1s,baz=66,slow=4.7,SNR=16
FWV Forest Hill 144.29 1 *e*PKPdf PKPdf 12 15 01.6 -6.0
GLAT Glass 144.61 13 *e*PKPdf PKPdf 12 15 03.0 -5.1
UTMT University of 144.63 12 *e*PKPdf PKPdf 12 15 03.5 -4.7
LTX Lajitas 144.65 37 *e*PKIKP PKPdf 12 15 04.7 -3.7
TXAR Lajitas Array 144.65 37 PKP PKPdf 12 15 05.0 -3.4
comp=Z,23nm,0.4s,baz=276,slow=1.2,SNR=120
GNAR Gosnell 144.74 14 *e*PKPdf PKPdf 12 15 04.4 -4.0
HALT Halls 144.94 13 *e*PKPdf PKPdf 12 15 04.4 -4.3
HBAR Harrisburg 144.97 15 *e*PKP PKPdf 12 15 04.9 -4.0
WVT Waverly 145.04 11 *e*PKIKP PKPdf 12 15 04.5 -4.4
MIAR Mount Ida 145.06 19 PKIKP PKPdf 12 15 05.5 -3.5
MIAR Mount Ida 145.06 19 *e*PKP PKPdf 12 15 05.4 -3.6
TZTN Tazewell 145.20 5 *e*PKPdf PKPdf 12 15 05.2 -4.0
UALR University of 145.23 18 *e*PKP PKPdf 12 15 05.5 -3.8
JCT Junction City 145.92 31 PKP2 PKPab 12 15 08.4 -0.8
JCT Junction City 145.92 31 *e*PKPdf PKPdf 12 15 07.7 -2.9
PLAL Pickwick Lake 146.11 11 *e*PKP PKPdf 12 15 07.6 -3.2
CPCT Cooper Cave 146.19 6 *e*PKPdf PKPdf 12 15 08.2 -2.8
SWET Sewanee 146.25 8 *e*PKP PKPdf 12 15 07.6 -3.4
OXF Oxford 146.27 14 PKP2 PKPab 12 15 08.4 -2.0
OXF Oxford 146.27 14 *e*PKPdf PKPdf 12 15 07.8 -3.2
TLL Tololo Astrono 147.04 195 *i P* PKPdf 12 15 11.5 -1.0
NATX Nacogdoches 147.17 23 *e*PKPdf PKPdf 12 15 09.1 -3.5
NATX *e*PKPbc PKPdf 12 15 11.6 -1.0
JSC Jenkinsville 147.58 1 PKP2 PKPab 12 15 12.4 -3.1
JSC Jenkinsville 147.58 1 *e*PKPbc PKPdf 12 15 12.2 -1.1
LRAL Lakeview Retre 148.20 11 *e*PKPdf PKPdf 12 15 10.7 -3.6
LRAL *e*PKPbc PKPdf 12 15 13.8 -0.5
GOGA Godfrey 148.32 5 PKP2 PKPab 12 15 14.6 -3.9
GOGA Godfrey 148.32 5 *e*PKPbc PKPdf 12 15 14.2 -0.2
COW Cow Castle Cre 148.49 1 *e*PKPbc PKPdf 12 15 14.9 +0.2
HBF Harts Bluff 148.94 0 PKP2 PKPab 12 15 17.3 -3.8
HBF Harts Bluff 148.94 0 *e*PKPdf PKPdf 12 15 11.8 -3.6
LPAZ La Paz 158.46 213 PKP PKPdf 12 15 27.8 -1.4
comp=Z,8.0nm,1.0s,baz=41,slow=2.1,SNR=15
LPAZ PKPab PKPab 12 16 02.5 +0.8
comp=Z,11nm,1.0s,baz=130,slow=6.9,SNR=8.1
ROSC El Rosal 173.27 298 PKP PKPdf 12 15 38.6 -2.7
comp=Z,14nm,1.0s,baz=79,slow=22,SNR=11

*MOS **10** 11:58:32.6± 1.4, 1.89S× 99.38E, h33km, mb5.3/4, Error ellipse: s-maj=32.6km s-min=15.0km az=105.9*
*IDC **10** 11:58:33.0± 0.8, 1.51S× 98.94E, mb4.7/12, mb1 4.8/13, mb1mx4.7/20, mbtmp4.7/13, ML4.4/1, MS5.2/1, Ms1 5.2/1, ms1mx4.6/29, Error ellipse: s-maj=29.1km s-min=20.3km az=61.0*

*NEIC **10** 11:58:36.9±0.6, 1.52S×99.04E, h5km±1km, mb5.2/5, Error ellipse: s-maj=23.6km s-min=15.7km az=67.0*

ISC 10 11:58:36.4±0.6, 1.4S±0.1×99.0E±0.1, h33km, n38, σ1♀00/31, mb4.8/17, MS5.2/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**18.71**	**67**	*eP*	**P**	**12 02 46.7**	**-8.1**
CM31	**Chiang Mai Arr**	**19.74**	**360**	P	**P**	**12 03 04.9**	**-1.5**
14nm,0.6s							
CMAR	**Chiang Mai Arr**	**19.74**	**360**	P	**P**	**12 03 07.3**	**+0.9**
0.4nm,0.3s,baz=186,slow=9.2,SNR=4.3							
ASAR	**Alice Springs**	**40.40**	**126**	P	**P**	**12 06 13.5**	**+0.2**
20nm,0.9s,mb4.9,baz=302,slow=8.0,SNR=5.0							
SONM	**Songino Array**	**49.47**	**7**	P	**P**	**12 07 24.7**	**-0.9**
4.8nm,0.8s,mb4.6,baz=187,slow=8.9,SNR=3.5							
MKAR	**Makanchi Array**	**50.20**	**345**	P	**P**	**12 07 32.4**	**+1.2**
7.9nm,0.6s,mb4.9,baz=155,slow=8.9,SNR=4.7							
MKAR	**Makanchi Array**	**50.20**	**345**	P	**P**	**12 07 32.4**	**+1.2**
STKA	**Stephens Creek**	**50.28**	**132**	P	**P**	**12 07 31.5**	**-0.5**
14nm,0.8s,mb5.0,baz=302,slow=11,SNR=3.8							
STKA	**Stephens Creek**	**50.28**	**132**	P	**P**	**12 07 31.4**	**-0.6**
MJAR	**Matsushiro Arr**	**52.45**	**40**	LR	LR	12 31 36.9	
comp=Z,2μm,18.9s,MS5.2,baz=145,slow=38							
KURK	**Kurchatov**	**54.77**	**344**	*eP*	**P**	**12 08 05.6**	**+0.4**
KURK				pmax	pmax		
comp=Z,15nm,0.8s,mb5.1							
KURK	**Kurchatov**	**54.77**	**344**	*eP*	**P**	**12 08 05.6**	**+0.4**
comp=Z,15nm,0.8s,mb5.1							
ZAL	**Zalesovo**	**56.41**	**350**	P	**P**	**12 08 17.6**	**+0.7**
comp=Z,8.2nm,0.5s,mb5.0,baz=350,slow=2.4,SNR=4.6							
BVAR	**Borovoye Array**	**59.30**	**340**	P	**P**	**12 08 37.1**	**-0.2**
comp=Z,6.6nm,0.7s,mb4.8,baz=147,slow=8.9,SNR=5.0							
CHKZ	**Chkalovo**	**59.76**	**341**	*eP*	**P**	**12 08 40.1**	**-0.4**
CHKZ				pmax	pmax		
comp=Z,15nm,0.9s,mb5.0							
CHKZ	**Chkalovo**	**59.76**	**341**	*eP*	**P**	**12 08 40.0**	**-0.5**
comp=Z,15nm,0.9s,mb5.0							
YSS	**Yuzh-Sakhalins**	**61.52**	**33**	*eP*	**P**	**12 08 48.0**	**-4.5**
YSS	**Yuzh-Sakhalins**	**61.52**	**33**	*eP*	**P**	**12 08 48.2**	**-4.3**
KMBO	**Kilima Mbogo**	**61.74**	**269**	P	**P**	**12 08 53.2**	**-1.2**
comp=Z,3.6nm,0.8s,mb4.6,baz=51,slow=10.0,SNR=4.3							
KMBO	**Kilima Mbogo**	**61.74**	**269**	P	**P**	**12 08 53.2**	**-1.2**
YAK	**Yakutsk**	**67.43**	**15**	*eP*	**P**	**12 09 30.6**	**0.0**
YAK				pmax	pmax		
comp=Z,28nm,0.8s,mb5.3							
YAK	**Yakutsk**	**67.43**	**15**	*eP*	**P**	**12 09 30.6**	**0.0**
comp=Z,28nm,0.8s,mb5.3							
YAK				*e*		12 09 35.0	
KIV	**Kislovodsk**	**67.45**	**319**	P	**P**	**12 09 30.3**	**-0.8**
KIV				pmax	pmax		
comp=Z,26nm,1.0s,mb5.2							
KIV	**Kislovodsk**	**67.45**	**319**	P	**P**	**12 09 30.3**	**-0.8**
comp=Z,26nm,1.0s,mb5.2							
MATP	**Matopo**	**71.25**	**249**	P	**P**	**12 09 55.9**	**+1.0**
comp=Z,11nm,0.9s,mb4.8,baz=87,slow=7.3,SNR=4.4							
BRTR	**Keskin Array B**	**72.19**	**313**	P	**P**	**12 09 59.5**	**-0.6**
comp=Z,2.1nm,0.6s,mb4.2,baz=121,slow=6.6,SNR=4.2							
MA2	**Magadan**	**72.91**	**25**	*eP*	**P**	**12 10 09.3**	**+5.3**
MA2				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.8							
OBN	**Obninsk**	**75.77**	**328**	*eP*	**P**	**12 10 17.6**	**-3.0**
MLR	**Muntele Rosu**	**79.19**	**317**	P	**P**	**12 10 39.3**	**-0.6**
comp=Z,19nm,1.2s,mb4.9,baz=300,slow=3.4,SNR=3.1							
FINES	**FINESS Array B**	**83.13**	**332**	P	**P**	**12 11 01.1**	**+0.9**
comp=Z,2.6nm,0.6s,mb4.4,baz=108,slow=6.6,SNR=4.0							
ARCES	**ARCESS Array B**	**85.58**	**340**	P	**P**	**12 11 13.4**	**+1.1**
comp=Z,8.4nm,0.9s,mb5.0,baz=108,slow=8.6,SNR=5.1							
CLL	**Collm**	**88.58**	**321**	P	**P**	**12 11 29.0**	**+1.8**
CLL				*e**PP	pP	12 11 39.0	+1.2
TXAR	**Lajitas Array**	**144.82**	**36**	PKP	PKPdf	12 18 10.1	-0.7
comp=Z,3.8nm,0.7s,baz=288,slow=1.1,SNR=5.4							
WVT	**Waverly**	**144.88**	**10**	PKP	PKPdf	12 18 08.7	-2.0
TZTN	**Tazewell**	**144.96**	**4**	*e*PKP	PKPdf	12 18 09.0	-1.8
MIAR	**Mount Ida**	**145.00**	**18**	*e*PKP	PKPdf	12 18 09.5	-1.4
CPCT	**Cooper Cave**	**145.97**	**5**	PKP	PKPdf	12 18 12.3	-0.2
JCT	**Junction City**	**146.03**	**30**	*e*PKP	PKPdf	12 18 14.0	+1.2

*STR **10** 12:01:15.6±1.1, 45.40N×6.55E, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*CSEM **10** 12:01:15.7±0.1, 45.35N×6.64E, h12km, ML2.8/15, Error ellipse: s-maj=1.8km s-min=1.2km az=74.0*
*GEN **10** 12:01:15.6, 45.37N×6.55E, h1km, ML2.6*
*LDG **10** 12:01:16.4±0.1, 45.36N×6.56E, h3km, Md2.5/2, Ml2.8/17, Error ellipse: s-maj=1.5km s-min=1.0km az=87.0*
*NEIC **10** 12:01:16.4, 45.36N×6.56E, h3km, ML2.8(LDG), ML2.7(STR), ML2.6(GEN), After LDG.*

ISC 10 12:01:14.2±0.2, 45.39N±0.01×6.51E±0.02, h5km±3km, n64, σ1♀20/122, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.20**	**59**	*ePg*	**Pg**	**12 01 20.2**	**+2.0**
LPG				*eSg*	**Sg**	**12 01 23.4**	**+2.5**
157nm,0.2s							
LPL	**La Plagne**	**0.20**	**52**	*ePg*	**Pg**	**12 01 20.2**	**+2.0**
LPL				*eSg*	**Sg**	**12 01 23.5**	**+2.6**
142nm,0.2s							
GDM	**Grand'Maison**	**0.34**	**236**	Pg	**Pg**	**12 01 22.6**	**+1.7**
GDM				Sg	**Sg**	**12 01 27.0**	**+1.5**
LSD	**Ceresole Reale**	**0.46**	**82**	P	**Pg**	**12 01 24.2**	**+0.8**
LSD				S	**Sg**	**12 01 29.9**	**+0.4**
LSD	**Ceresole Reale**	**0.46**	**82**	P	**Pg**	**12 01 24.2**	**+0.8**
RRL	**Cesana Torines**	**0.51**	**158**	P	**Pg**	**12 01 25.0**	**+0.6**
RRL				S	**Sg**	**12 01 31.6**	**+0.4**
RRL	**Cesana Torines**	**0.51**	**158**	P	**Pg**	**12 01 25.0**	**+0.6**
RRL				S	**Sg**	**12 01 31.6**	**+0.3**
FENE	**Fenestrelle**	**0.53**	**133**	P	**Pg**	**12 01 25.4**	**+0.6**
FENE				S	**Sg**	**12 01 32.1**	**+0.2**
FENE	**Fenestrelle**	**0.53**	**133**	P	**Pg**	**12 01 25.4**	**+0.6**
FENE				S	**Sg**	**12 01 32.1**	**+0.1**
GRN	**Grenoble**	**0.56**	**255**	Pg	**Pg**	**12 01 27.8**	**+2.4**
RSP	**Reno Superiore**	**0.58**	**114**	P	**Pg**	**12 01 26.5**	**+0.7**
RSP				S	**Sg**	**12 01 33.8**	**+0.3**
RSP	**Reno Superiore**	**0.58**	**114**	P	**Pg**	**12 01 26.5**	**+0.7**
RSP				S	**Sg**	**12 01 33.8**	**+0.3**
OG22	**Abries**	**0.65**	**151**	Pg	**Pg**	**12 01 27.6**	**+0.5**
OG22				Sg	**Sg**	**12 01 35.0**	**-0.8**
ORIF	**Oris-en-Rattie**	**0.65**	**223**	*ePg*	**Pg**	**12 01 28.1**	**+0.9**
ORIF				*eSg*	**Sg**	**12 01 36.9**	**+1.0**
59nm,0.2s							
MBDF	**Montbardon**	**0.69**	**164**	*ePg*	**Pg**	**12 01 28.1**	**+0.1**
MBDF				*eSg*	**Sg**	**12 01 37.4**	**+0.2**
31nm,0.2s							
BHB	**Bricherasio**	**0.77**	**136**	P	**Pg**	**12 01 29.8**	**+0.3**
BHB	**Bricherasio**	**0.77**	**136**	P	**Pg**	**12 01 29.8**	**+0.3**
SURF	**Saint Ours**	**0.94**	**167**	Pg	**Pg**	**12 01 33.0**	**+0.1**
PZZ	**Prazzo**	**0.98**	**155**	P	**Pb**	**12 01 33.6**	**+0.3**
PZZ				S	**Sb**	**12 01 45.7**	**-0.7**
PZZ	**Prazzo**	**0.98**	**155**	P	**Pb**	**12 01 33.6**	**+0.3**
PZZ				S	**Sb**	**12 01 45.7**	**-0.7**
DOI	**San Damiano**	**1.03**	**149**	*ePg*	**Pg**	**12 01 34.3**	**-0.5**
DOI				*eSg*	**Sg**	**12 01 47.1**	**-1.5**
DOI	**San Damiano**	**1.03**	**149**	*ePg*	**Pg**	**12 01 34.3**	**-0.5**
DOI				*eSg*	**Sg**	**12 01 47.1**	**-1.4**
ORO	**Oropa**	**1.06**	**77**	*ePg*	**Pg**	**12 01 34.7**	**-0.7**
ORO				*eSg*	**Sg**	**12 01 48.1**	**-1.4**
ORO	**Oropa**	**1.06**	**77**	*ePg*	**Pg**	**12 01 34.7**	**-0.6**
ORO				*eSg*	**Sg**	**12 01 48.1**	**-1.4**
ORX	**Oropa**	**1.06**	**76**	P	**Pb**	**12 01 35.3**	**+0.7**
ORX				S	**Sb**	**12 01 48.3**	**-0.3**
ORX	**Oropa**	**1.06**	**76**	P	**Pb**	**12 01 35.3**	**+0.6**
ORX				S	**Sb**	**12 01 48.3**	**-0.4**
MCGN	**Macugnaga**	**1.18**	**61**	*ePg*	**Pg**	**12 01 38.6**	**+0.9**
MCGN	**Macugnaga**	**1.18**	**61**	*ePg*	**Pg**	**12 01 38.6**	**+0.9**
CABF	**La Chapelle**	**1.25**	**347**	*ePg*	**Pg**	**12 01 40.9**	**+1.7**
CABF				*e*Sn	**Sn**	**12 01 56.1**	**+0.3**
CABF				*eSg*	**Sg**	**12 01 57.7**	**+1.8**
31nm,0.2s							
STV2	**Anna di Valdie**	**1.29**	**153**	P	**Pb**	**12 01 38.4**	**-0.1**
STV2				S	**Sb**	**12 01 54.2**	**-1.0**
STV2	**Anna di Valdie**	**1.29**	**153**	P	**Pb**	**12 01 38.4**	**-0.1**
STV2				S	**Sb**	**12 01 54.2**	**-1.0**
STV	**Sta Anna Valdi**	**1.29**	**153**	P	**Pb**	**12 01 38.5**	**0.0**
STV				S	**Sb**	**12 01 54.1**	**-1.1**
STV	**Sta Anna Valdi**	**1.29**	**153**	P	**Pb**	**12 01 38.5**	**0.0**
STV				S	**Sb**	**12 01 54.1**	**-1.1**
ENR	**Entracque**	**1.33**	**151**	P	**Pb**	**12 01 39.2**	**-0.2**
ENR				S	**Sb**	**12 01 55.1**	**-1.5**
ENR	**Entracque**	**1.33**	**151**	P	**Pb**	**12 01 39.2**	**-0.1**
ENR				S	**Sb**	**12 01 55.1**	**-1.5**
VIVF	**Saint-Julien-l**	**1.41**	**248**	*e*Pn	**Pn**	**12 01 41.9**	**+1.4**
VIVF				*e*Pg	**Pg**	**12 01 43.5**	**+1.2**
VIVF				*e*Sn	**Sn**	**12 02 00.0**	**+0.3**
VIVF				*e*Sg	**Sg**	**12 02 01.8**	**+0.8**
21nm,0.3s							
ROB	**Roburent**	**1.47**	**138**	P	**Pn**	**12 01 41.5**	**+0.2**
ROB	**Roburent**	**1.47**	**138**	P	**Pn**	**12 01 41.5**	**+0.1**
TOUF	**Mont Tournerai**	**1.48**	**159**	Pg	**Pg**	**12 01 42.9**	**-0.8**
AUTN	**L'Aution**	**1.54**	**155**	Pg	**Pg**	**12 01 44.4**	**-0.6**
AUTN				Sg	**Sg**	**12 02 06.5**	**+0.9**
MVIF	**Mont Vial**	**1.57**	**163**	Pg	**Pg**	**12 01 46.1**	**+0.7**
SMRF	**Simiane la Rot**	**1.57**	**206**	*e*Pg	**Pg**	**12 01 45.2**	**-0.2**
SMRF				*e*Sg	**Sg**	**12 02 06.0**	**-0.3**
13nm,0.5s							
CALN	**Calern**	**1.66**	**170**	Pg	**Pg**	**12 01 48.3**	**+0.9**
CALN				Sg	**Sg**	**12 02 11.8**	**+2.2**
SBF	**Sospel**	**1.67**	**156**	*e*Pn	**Pn**	**12 01 44.8**	**+0.5**
SBF				*e*Pg	**Pg**	**12 01 47.0**	**-0.4**
SBF				*e*Sg	**Sg**	**12 02 07.8**	**-1.9**
21nm,0.3s							
PCP	**Pian Castagno**	**1.68**	**120**	P	**Pn**	**12 01 44.5**	**+0.1**
PCP	**Pian Castagno**	**1.68**	**120**	P	**Pn**	**12 01 44.5**	**+0.1**
FIN	**Finale Ligure**	**1.69**	**134**	P	**Pn**	**12 01 43.7**	**-0.9**
FIN	**Finale Ligure**	**1.69**	**134**	P	**Pn**	**12 01 43.7**	**-0.9**
IMI	**Imperia**	**1.78**	**146**	P	**Pn**	**12 01 45.3**	**-0.6**
IMI	**Imperia**	**1.78**	**146**	P	**Pn**	**12 01 45.3**	**-0.6**
FRF	**La Foret Royal**	**1.84**	**177**	*e*Pg	**Pg**	**12 01 49.0**	**-1.8**
FRF				*e*Sg	**Sg**	**12 02 13.5**	**-1.8**
20nm,0.4s							
LMR	**La Mourre**	**2.06**	**180**	*e*Pn	**Pn**	**12 01 50.6**	**+0.7**
LMR				*e*Pg	**Pg**	**12 01 53.7**	**-1.6**
LMR				*e*Sg	**Sg**	**12 02 19.5**	**-3.2**
11nm,0.4s							
SMF	**Signal de Mont**	**2.24**	**305**	*e*Pn	**Pn**	**12 01 53.5**	**+1.0**
SMF				*e*Pg	**Pg**	**12 01 59.1**	**+0.2**
SMF				*e*Sg	**Sg**	**12 02 28.2**	**-0.6**
15nm,0.3s							
LASF	**Ste Croix**	**2.30**	**236**	*e*Pg	**Pg**	**12 01 59.0**	**-1.2**
LASF				*e*Sg	**Sg**	**12 02 29.2**	**-1.7**
3.3nm,0.3s							
HINF	**Hinteralfeld**	**2.44**	**5**	*e*Pn	**Pn**	**12 01 56.2**	**+0.9**
HINF				*e*Pg	**Pg**	**12 02 02.0**	**-0.8**
HINF				*e*Sg	**Sg**	**12 02 33.4**	**-1.8**
7.7nm,0.3s							
HAU	**Haudompre**	**2.62**	**358**	*e*Pn	**Pn**	**12 01 59.1**	**+1.3**
HAU				*e*Pg	**Pg**	**12 02 05.9**	**-0.5**
HAU				*e*Sn	**Sn**	**12 02 26.7**	**-3.7**
HAU				*e*Sg	**Sg**	**12 02 39.4**	**-1.8**
9.7nm,0.2s							
SSF	**Saint Saulge**	**2.67**	**310**	*e*Pn	**Pn**	**12 01 58.8**	**+0.2**
SSF				*e*Pg	**Pg**	**12 02 06.5**	**-1.0**
SSF				*e*Sg	**Sg**	**12 02 41.7**	**-1.4**
6.8nm,0.4s							
SSF	**Saint Saulge**	**2.67**	**310**	*e*Pg	**Pg**	**12 02 06.5**	**-1.0**
SSF				*e*Sg	**Sg**	**12 02 41.7**	**-1.4**
3.4nm,0.4s							
BGF	**Bois d'Agland**	**2.81**	**296**	*e*Pn	**Pn**	**12 02 02.2**	**+1.6**
BGF				*e*Pg	**Pg**	**12 02 09.6**	**-0.6**
BGF				*e*Sg	**Sg**	**12 02 44.8**	**-2.8**
24nm,0.4s							
SFTF	**Sexfontaines**	**2.99**	**341**	*e*Pn	**Pn**	**12 02 03.6**	**+0.4**
SFTF				*e*Pg	**Pg**	**12 02 12.9**	**-0.9**
SFTF				*e*Sg	**Sg**	**12 02 51.2**	**-2.4**
15nm,0.4s							
CDF	**Champ du Feu**	**3.06**	**10**	*e*Pn	**Pn**	**12 02 04.7**	**+0.5**
CDF				*e*Pg	**Pg**	**12 02 13.7**	**-1.6**
CDF				*e*Sg	**Sg**	**12 02 53.8**	**-2.4**
2.5nm,0.3s							
MEZF	**Maizieres J'vi**	**3.27**	**343**	*e*Pg	**Pg**	**12 02 17.6**	**-1.8**
MEZF				*e*Sg	**Sg**	**12 03 00.2**	**-2.7**
12nm,0.5s							
GIVF	**Givet**	**4.85**	**347**	*e*Pn	**Pn**	**12 02 30.8**	**+1.3**
ETSF	**Etsaut**	**5.67**	**246**	*e*P	**Pn**	**12 02 44.3**	**+3.2**

IDC 10 12:03:01.5±3.5, 0.73S×97.06E, mb4.1/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.1/4, Error ellipse: s-maj=187.4km s-min=29.8km az=49.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.16**	**120**	P	P	12 10 48.0	-1.5
1.4nm,0.5s,baz=303,slow=9.0,SNR=4.6							
MKAR	**Makanchi Array**	**49.07**	**347**	P	P	12 11 51.8	-0.6
2.2nm,0.6s,baz=162,slow=8.4,SNR=4.7							
BVAR	**Borovoye Array**	**58.02**	**341**	P	P	12 12 56.1	-2.3
1.9nm,0.8s,baz=135,slow=8.2,SNR=3.3							
FINES	**FINESS Array B**	**81.64**	**333**	P	P	12 15 19.9	-2.8
0.8nm,0.5s,baz=105,slow=5.7,SNR=4.5							

*IDC **10** 12:07:13.9±1.3, 1.73S×99.88E, mb4.0/9, mb1 4.2/9, mb1mx4.0/18, mbtmp4.0/9, Error ellipse: s-maj=65.6km s-min=19.1km az=57.0*
*NEIC **10** 12:07:18.7±0.5, 1.69S×99.96E, h30km, mb4.4/3, Error ellipse: s-maj=25.2km s-min=8.1km az=58.0*

ISC 10 12:07:17.6±1.3, 1.6S±0.2×100.0E±0.3, h33km, n19, σ0♀60/13, mb4.2/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.94**	**357**	P	**P**	**12 11 50.3**	**+0.6**
0.8nm,0.6s,baz=193,slow=9.9,SNR=3.1							
WRA	**Warramunga Arr**	**38.18**	**121**	P	**P**	**12 14 35.9**	**-0.1**
1.2nm,0.5s,mb3.9,baz=302,slow=9.0,SNR=5.7							
WRAB	**Tennant Creek**	**38.19**	**121**	*eP*	**P**	**12 14 36.2**	**+0.1**
4.5nm,0.7s,mb4.3							
ASAR	**Alice Springs**	**39.48**	**126**	P	**P**	**12 14 46.6**	**-0.1**
0.5nm,0.5s,mb3.5,baz=299,slow=7.5,SNR=4.4							
SONM	**Songino Array**	**49.53**	**6**	P	**P**	**12 16 06.8**	**-0.4**
0.8nm,0.7s,mb3.9,baz=184,slow=9.1,SNR=3.8							
SONM				PcP	PcP	12 17 29.1	+0.1
0.3nm,0.4s,baz=207,slow=3.2,SNR=3.1							
MKAR	**Makanchi Array**	**50.64**	**344**	P	**P**	**12 16 15.8**	**+0.1**
1.7nm,0.4s,mb4.4,baz=160,slow=8.7,SNR=12							
KURK	**Kurchatov**	**55.22**	**344**	P	**P**	**12 16 49.5**	**-0.1**
3.3nm,0.8s,mb4.4							
ZAL	**Zalesovo**	**56.76**	**349**	P	**P**	**12 17 00.9**	**+0.3**
3.3nm,0.5s,mb4.6,baz=323,slow=4.9,SNR=8.2							
BVAR	**Borovoye Array**	**59.80**	**340**	P	**P**	**12 17 20.6**	**-1.4**
0.9nm,0.5s,mb4.0,baz=143,slow=7.4,SNR=4.9							
CHKZ	**Chkalovo**	**60.26**	**340**	*eP*	**P**	**12 17 24.4**	**-0.7**
2.8nm,1.0s,mb4.2							
FINES	**FINESS Array B**	**83.76**	**332**	P	**P**	**12 19 45.1**	**+0.7**
0.6nm,0.4s,mb4.1,baz=124,slow=6.9,SNR=6.8							
ARCES	**ARCESS Array B**	**86.09**	**340**	P	**P**	**12 19 56.9**	**+1.0**
6.4nm,1.1s,mb4.8,baz=63,slow=2.7,SNR=4.8							
ARCES	**ARCESS Array B**	**86.09**	**340**	P	**P**	**12 19 56.9**	**+1.0**
TXAR	**Lajitas Array**	**144.36**	**37**	PKP	PKPdf	12 26 52.7	+1.6
0.6nm,0.5s,baz=180,slow=2.0,SNR=7.1							
TXAR	**Lajitas Array**	**144.36**	**37**	PKP	PKPdf	12 26 52.7	+1.6
WVT	**Waverly**	**144.86**	**11**	*e*PKP	PKPdf	12 26 52.7	+0.9
TZTN	**Tazewell**	**145.06**	**5**	*e*PKP	PKPdf	12 26 53.1	+1.0
CFAA	**Coronel Fontan**	**145.16**	**198**	PKP	PKPdf	12 26 53.5	+1.1
0.2nm,0.5s,baz=106,slow=11							
CPCT	**Cooper Cave**	**146.04**	**7**	*e*PKP	PKPdf	12 26 56.0	+2.2

*IDC **10** 12:10:00.9±2.4, 1.63S×99.76E, mb3.8/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, Error ellipse: s-maj=102.7km s-min=19.3km az=56.0*
*NEIC **10** 12:10:06.0±1.1, 1.47S×99.96E, h30km, mb4.1/2, Error ellipse: s-maj=46.5km s-min=10.6km az=58.0*

ISC 10 12:10:04.0±1.7, 1.4S±0.3×99.9E±0.4, h30km, n13, σ0♀83/11, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.78**	**357**	P	**P**	**12 14 33.8**	**-1.2**
baz=146,slow=3.3,SNR=2.9							
WRA	**Warramunga Arr**	**38.34**	**121**	P	**P**	**12 17 23.6**	**-0.7**
1.4nm,0.9s,mb3.7,baz=297,slow=9.7,SNR=5.6							
WRAB	**Tennant Creek**	**38.35**	**121**	*eP*	**P**	**12 17 24.6**	**+0.2**
ASAR	**Alice Springs**	**39.65**	**127**	P	**P**	**12 17 35.4**	**+0.2**
0.5nm,0.6s,mb3.4,baz=306,slow=7.8,SNR=5.0							
SONM	**Songino Array**	**49.38**	**6**	P	**P**	**12 18 54.6**	**+1.7**
0.3nm,0.4s,mb3.7,baz=192,slow=8.5,SNR=3.8							
ULN	**Ulaanbaatar**	**49.48**	**6**	P	**P**	**12 18 53.4**	**-0.3**
1.1nm,0.6s,mb4.1							
MKAR	**Makanchi Array**	**50.46**	**344**	P	**P**	**12 19 02.1**	**+1.0**
0.6nm,0.3s,mb4.1,baz=152,slow=8.7,SNR=8.2							
ZAL	**Zalesovo**	**56.58**	**349**	P	**P**	**12 19 46.7**	**+0.4**
1.8nm,0.5s,mb4.4,baz=320,slow=7.1,SNR=5.6							
ZAL	**Zalesovo**	**56.58**	**349**	P	**P**	**12 19 46.7**	**+0.4**
BVAR	**Borovoye Array**	**59.62**	**340**	P	**P**	**12 20 06.8**	**-0.8**
1.2nm,0.8s,mb4.0,baz=235,slow=36,SNR=4.2							
CHKZ	**Chkalovo**	**60.08**	**340**	*eP*	**P**	**12 20 10.3**	**-0.5**
1.5nm,1.0s,mb4.0							
TXAR	**Lajitas Array**	**144.28**	**37**	PKP	PKPdf	12 29 39.6	-3.3
1.0nm,0.7s,baz=275,slow=1.3,SNR=9.0							
CPCT	**Cooper Cave**	**145.89**	**6**	*e*PKP	PKPdf	12 29 42.7	-2.8

*IDC **10** 12:12:22.1±1.0, 1.76S×99.66E, mb3.8/8, mb1 3.9/8, mb1mx3.8/19, mbtmp3.8/8, Error ellipse: s-maj=38.6km s-min=19.8km az=59.0*
*NEIC **10** 12:12:26.6±0.6, 1.79S×99.65E, h30km, mb3.9/1, Error ellipse: s-maj=19.0km s-min=9.4km az=66.0*

ISC 10 12:12:27.5±4.1, 1.7S±0.2×99.7E±0.2, h53km±35km, n15, σ0♀51/12, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.95**	**8**	P	**P**	**12 14 09.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**19.99**	**358**	P	**P**	**12 16 57.5**	**-0.9**
0.7nm,0.6s,baz=184,slow=9.6,SNR=4.5							
WRA	**Warramunga Arr**	**38.41**	**121**	P	**P**	**12 19 45.1**	**-0.7**
0.4nm,0.4s,mb3.5,baz=302,slow=9.2,SNR=6.3							
WRAB	**Tennant Creek**	**38.42**	**121**	*eP*	**P**	**12 19 46.0**	**+0.1**
1.0nm,0.5s,mb3.8							
ASAR	**Alice Springs**	**39.69**	**126**	P	**P**	**12 19 56.8**	**+0.4**
0.3nm,0.6s,mb3.2,baz=301,slow=8.0,SNR=4.8							
SONM	**Songino Array**	**49.62**	**6**	P	**P**	**12 21 16.6**	**+0.9**
0.6nm,0.6s,mb3.8,baz=188,slow=8.3,SNR=4.8							
MKAR	**Makanchi Array**	**50.61**	**345**	P	**P**	**12 21 23.3**	**0.0**
1.3nm,0.5s,mb4.1,baz=154,slow=8.5,SNR=9.3							
MKAR	**Makanchi Array**	**50.61**	**345**	P	**P**	**12 21 23.3**	**0.0**
ZAL	**Zalesovo**	**56.76**	**350**	P	**P**	**12 22 08.8**	**+0.4**
2.1nm,0.5s,mb4.4,baz=293,slow=4.9,SNR=8.2							
BVAR	**Borovoye Array**	**59.76**	**340**	P	**P**	**12 22 28.8**	**-0.5**
1.4nm,0.6s,mb4.2,baz=234,slow=40,SNR=4.2							
MATP	**Matopo**	**71.83**	**249**	P	**P**	**12 23 47.2**	**+0.1**
2.9nm,1.0s,mb4.2,baz=90,slow=6.1,SNR=3.7							
MATP	**Matopo**	**71.83**	**249**	P	**P**	**12 23 47.2**	**+0.1**
TXAR	**Lajitas Array**	**144.59**	**37**	PKP	PKPdf	12 32 00.6	+1.7
0.3nm,0.5s,baz=182,slow=0.5,SNR=5.4							
TXAR	**Lajitas Array**	**144.59**	**37**	PKP	PKPdf	12 32 00.6	+1.7
TZTN	**Tazewell**	**145.15**	**5**	*e*PKP	PKPdf	12 32 01.7	+2.1

*IDC **10** 12:13:16.7±1.1, 1.47S×99.82E, mb3.9/8, mb1 4.0/9, mb1mx3.9/18, mbtmp3.9/9, Error ellipse: s-maj=59.0km s-min=17.2km az=58.0*
*NEIC **10** 12:13:22.2±5.2, 1.51S×99.80E, h39km±43km, mb4.7/1, Error ellipse: s-maj=47.2km s-min=9.3km az=58.0*

ISC 10 12:13:19.3±1.3, 1.5S±0.2×99.7E±0.3, h33km, n18, σ0♀79/13, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**19.84**	**358**	P	**P**	**12 17 51.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**19.84**	**358**	P	**P**	**12 17 49.5**	**-0.8**
baz=192,slow=10,SNR=5.1							
WRA	**Warramunga Arr**	**38.48**	**121**	P	**P**	**12 20 39.6**	**-0.6**
1.5nm,0.7s,mb3.9,baz=302,slow=9.2,SNR=7.7							

comp=Z,10.0nm,1.3s,mb4.5
LSA Lhasa 32.23 346 P **P 12 21 07.7 -0.1**
comp=Z,10nm,1.3s,mb4.5
WRA Warramunga Arr 38.36 121 P **P 12 21 59.3 -0.7**
comp=Z,1.4nm,0.5s,mb4.0,baz=303,slow=9.0,SNR=6.9
WRAB Tennant Creek 38.37 121 *eP* **P 12 22 00.1 0.0**
WRAB *e* 12 22 07.4
ASAR Alice Springs 39.64 126 P **P 12 22 11.7 +1.0**
comp=Z,1.0nm,0.5s,mb3.8,baz=301,slow=7.9,SNR=4.6
BJI Beijing 44.11 18 *eP* **P 12 22 47.7 +0.6**
BJI pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
BJI Beijing 44.11 18 *eP* **P 12 22 47.7 +0.6**
comp=Z,5.0nm,0.7s,mb4.3
STKA Stephens Creek 49.55 132 P **P 12 23 31.0 +1.0**
comp=Z,2.1nm,0.6s,mb4.3,baz=294,slow=9.1,SNR=3.6
STKA Stephens Creek 49.55 132 P **P 12 23 31.0 +1.0**
SONM Songino Array 49.61 6 P **P 12 23 30.8 +0.6**
comp=Z,1.6nm,0.6s,mb4.3,baz=186,slow=9.5,SNR=5.9
SONM PcP PcP 12 24 52.1 +0.6
comp=Z,0.5nm,0.7s,baz=185,slow=4.8,SNR=2.1
MKAR Makanchi Array 50.62 345 P **P 12 23 38.6 +0.6**
comp=Z,6.2nm,0.6s,mb4.7,baz=149,slow=7.7,SNR=13
KURK Kurchatov 55.20 344 *eP* **P 12 24 11.8 -0.1**
KURK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
KURK Kurchatov 55.20 344 *eP* **P 12 24 11.8 -0.2**
comp=Z,2.7nm,0.7s,mb4.4
ZAL Zalesovo 56.77 349 P **P 12 24 23.7 +0.5**
comp=Z,3.6nm,0.5s,mb4.7,baz=283,slow=2.8,SNR=5.8
ZAL Zalesovo 56.77 349 P **P 12 24 23.7 +0.5**
BVAR Borovoye Array 59.77 340 P **P 12 24 43.5 -0.6**
comp=Z,1.4nm,0.5s,mb4.2,baz=143,slow=7.2,SNR=5.2
CHKZ Chkalovo 60.23 340 P **P 12 24 45.9 -1.4**
CHKZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
CHKZ Chkalovo 60.23 340 P **P 12 24 45.9 -1.4**
comp=Z,2.1nm,0.7s,mb4.3
MATP Matopo 71.90 249 P **P 12 26 02.2 +0.1**
comp=Z,2.2nm,0.7s,mb4.2,baz=105,slow=4.0,SNR=4.4
MLR Muntele Rosu 79.89 317 P **P 12 26 46.8 -0.4**
comp=Z,1.1nm,0.5s,mb4.1,baz=163,slow=15,SNR=2.4
FINES FINESS Array B 83.69 332 P **P 12 27 07.0 +0.6**
comp=Z,0.6nm,0.6s,mb3.9,baz=90,slow=3.8,SNR=3.8
ARCES ARCESS Array B 86.06 340 P **P 12 27 19.2 +1.1**
comp=Z,2.7nm,1.0s,mb4.5,baz=68,slow=9.7,SNR=2.8
TXAR Lajitas Array 144.54 37 PKP PKPdf 12 34 15.4 +1.9
comp=Z,1.1nm,0.5s,baz=201,slow=0.9,SNR=10
CFAA Coronel Fontan 145.04 198 PKP PKPdf 12 34 15.7 +1.3
comp=Z,0.6nm,0.7s,baz=186,slow=3.5,SNR=7.6
TZTN Tazewell 145.13 5 *e*PKP PKPdf 12 34 16.6 +2.2
TZTN *e* 12 34 22.9
CPCT Cooper Cave 146.12 6 PKP PKPdf 12 34 19.6 +3.4

*IDC **10** 12:18:17.6±1.3, 1.42S×99.99E, mb3.7/6, mb1 3.9/6, mb1mx3.7/16, mbtmp3.7/6, Error ellipse: s-maj=61.9km s-min=21.4km az=57.0*
*NEIC **10** 12:18:20.9±0.7, 1.85S×99.53E, h30km, mb3.9/1, Error ellipse: s-maj=28.4km s-min=11.3km az=62.0*
ISC 10 12:18:22.4±1.8, 1.0S±0.4×100.4E±0.5, h33km, n13, σ0$60/9, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.29**	**2**	*eP*	**P**	**12 20 04.5**	**+9.2**
WRA	**Warramunga Arr**	**38.13**	**122**	P	**P**	**12 25 40.4**	**0.0**
0.8nm,0.4s,mb3.8,baz=302,slow=9.2,SNR=6.8							
WRAB	**Tennant Creek**	**38.13**	**122**	*eP*	**P**	**12 25 40.4**	**0.0**
ASAR	**Alice Springs**	**39.49**	**127**	P	**P**	**12 25 51.8**	**+0.1**
0.5nm,0.7s,mb3.4,baz=298,slow=8.0,SNR=4.5							
SONM	**Songino Array**	**48.95**	**5**	P	**P**	**12 27 07.5**	**-0.1**
0.2nm,0.6s,mb3.4,baz=198,slow=4.6,SNR=2.1							
MKAR	**Makanchi Array**	**50.22**	**344**	P	**P**	**12 27 18.0**	**+0.6**
0.4nm,0.3s,mb3.9,baz=161,slow=9.0,SNR=5.7							
ZAL	**Zalesovo**	**56.30**	**349**	P	**P**	**12 28 02.6**	**+0.4**
1.0nm,0.6s,mb4.0,baz=298,slow=5.9,SNR=4.0							
CHKZ	**Chkalovo**	**59.89**	**340**	*eP*	**P**	**12 28 25.9**	**-1.5**
0.6nm,0.6s,mb3.8							
FINES	**FINESS Array B**	**83.46**	**332**	P	**P**	**12 30 48.3**	**+0.5**
1.4nm,0.9s,mb4.0,baz=331,slow=20,SNR=2.8							
TXAR	**Lajitas Array**	**143.69**	**37**	PKP	PKPdf	12 37 55.0	+0.3
0.8nm,0.5s,baz=195,slow=1.1,SNR=9.5							
CPCT	**Cooper Cave**	**145.46**	**7**	*e*PKP	PKPdf	12 37 58.7	+1.1
CFAA	**Coronel Fontan**	**145.80**	**197**	PKPbc	PKPbc	12 37 56.0	-3.2
0.3nm,0.5s,baz=119,slow=3.2,SNR=4.8							
CFAA	**Coronel Fontan**	**145.80**	**197**	PKPbc	PKPbc	12 37 56.0	-3.2

*IDC **10** 12:18:28.0±1.3, 1.51S×99.81E, mb4.0/7, mb1 4.0/8, mb1mx3.8/17, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=59.6km s-min=18.1km az=60.0*
*NEIC **10** 12:18:32.4±0.8, 1.50S×99.84E, h30km, mb4.2/2, Error ellipse: s-maj=35.4km s-min=10.7km az=60.0*
ISC 10 12:18:32.1±1.5, 1.3S±0.3×100.2E±0.4, h33km, n15, σ0$56/11, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.62**	**357**	P	**P**	**12 23 00.1**	**-0.7**
0.1nm,0.3s,baz=191,slow=8.6,SNR=4.2							
WRA	**Warramunga Arr**	**38.25**	**121**	P	**P**	**12 25 50.8**	**-0.4**
0.9nm,0.5s,mb3.8,baz=303,slow=9.1,SNR=9.5							
WRAB	**Tennant Creek**	**38.26**	**121**	*eP*	**P**	**12 25 51.0**	**-0.3**
2.1nm,0.4s,mb4.2							
ASAR	**Alice Springs**	**39.58**	**127**	P	**P**	**12 26 02.8**	**+0.6**
0.9nm,0.6s,mb3.6,baz=302,slow=8.4,SNR=6.6							
SONM	**Songino Array**	**49.19**	**6**	P	**P**	**12 27 19.6**	**+0.5**
0.9nm,0.7s,mb3.9,baz=186,slow=8.3,SNR=5.3							
STKA	**Stephens Creek**	**49.54**	**132**	P	**P**	**12 27 22.0**	**-0.1**
1.8nm,0.7s,mb4.2,baz=330,slow=14,SNR=3.0							
MKAR	**Makanchi Array**	**50.35**	**344**	P	**P**	**12 27 29.1**	**+1.1**
1.6nm,0.7s,mb4.2,baz=150,slow=7.8,SNR=6.2							
KURK	**Kurchatov**	**54.93**	**343**	*eP*	**P**	**12 28 01.6**	**-0.5**
2.0nm,0.8s,mb4.2							
ZAL	**Zalesovo**	**56.45**	**349**	P	**P**	**12 28 13.3**	**+0.3**
2.2nm,0.4s,mb4.5,baz=326,slow=3.3,SNR=7.4							
FINES	**FINESS Array B**	**83.52**	**332**	P	**P**	**12 30 57.2**	**-0.6**
0.2nm,0.4s,mb3.6,baz=90,slow=1.9,SNR=3.3							
FINES	**FINESS Array B**	**83.52**	**332**	P	**P**	**12 30 57.2**	**-0.6**
TXAR	**Lajitas Array**	**144.02**	**37**	PKP	PKPdf	12 38 05.8	+0.8
0.5nm,0.5s,baz=180,slow=1.1,SNR=6.4							
TXAR	**Lajitas Array**	**144.02**	**37**	PKP	PKPdf	12 38 05.8	+0.8
CFAA	**Coronel Fontan**	**145.52**	**198**	PKPbc	PKPbc	12 38 06.6	-1.6
0.1nm,0.4s,baz=204,slow=5.6,SNR=4.3							
CFAA	**Coronel Fontan**	**145.52**	**198**	PKPbc	PKPbc	12 38 06.6	-1.6

*IDC **10** 12:18:58.0±1.5, 1.82S×99.65E, mb4.0/8, mb1 4.2/8, mb1mx3.9/18, mbtmp4.0/8, Error ellipse: s-maj=70.0km s-min=19.0km az=56.0*
*NEIC **10** 12:19:02.8±0.6, 1.78S×99.75E, h30km, mb4.3/3, Error ellipse: s-maj=30.2km s-min=8.8km az=57.0*
ISC 10 12:19:01.4±1.4, 1.7S±0.3×99.7E±0.4, h33km, n15, σ0$36/11, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.06**	**358**	P	**P**	**12 23 35.0**	**+0.2**
0.9nm,0.6s,baz=185,slow=11,SNR=3.6							
WRA	**Warramunga Arr**	**38.36**	**121**	P	**P**	**12 26 21.3**	**0.0**
1.2nm,0.5s,mb3.9,baz=306,slow=9.3,SNR=8.4							
WRAB	**Tennant Creek**	**38.36**	**121**	*eP*	**P**	**12 26 21.3**	**0.0**
3.1nm,0.6s,mb4.2							
WRAB				*e*	pP	12 26 29.8	-1.3
ASAR	**Alice Springs**	**39.62**	**126**	P	**P**	**12 26 31.9**	**+0.1**
1.2nm,0.6s,mb3.8,baz=301,slow=7.9,SNR=7.4							
SONM	**Songino Array**	**49.69**	**6**	P	**P**	**12 27 51.7**	**-0.5**
0.8nm,0.6s,mb3.9,baz=189,slow=9.8,SNR=4.2							
MKAR	**Makanchi Array**	**50.69**	**345**	P	**P**	**12 28 00.4**	**+0.5**
1.8nm,0.4s,mb4.4,baz=154,slow=8.3,SNR=8.1							
KURK	**Kurchatov**	**55.27**	**344**	*eP*	**P**	**12 28 34.2**	**+0.5**
2.6nm,0.8s,mb4.3							
ZAL	**Zalesovo**	**56.84**	**350**	P	**P**	**12 28 45.0**	**0.0**
3.0nm,0.5s,mb4.6,baz=316,slow=5.0,SNR=6.4							
BVAR	**Borovoye Array**	**59.83**	**340**	P	**P**	**12 29 05.4**	**-0.6**
0.6nm,0.4s,mb4.0,baz=108,slow=4.6,SNR=3.0							
CHKZ	**Chkalovo**	**60.29**	**341**	*eP*	**P**	**12 29 08.6**	**-0.6**
1.0nm,0.6s,mb4.0							
FINES	**FINESS Array B**	**83.74**	**332**	P	**P**	**12 31 28.4**	**+0.2**
0.5nm,0.4s,mb4.0,baz=123,slow=5.5,SNR=6.4							
TXAR	**Lajitas Array**	**144.63**	**37**	PKP	PKPdf	12 38 36.9	+1.5
0.6nm,0.5s,baz=184,slow=1.4,SNR=5.1							
CFAA	**Coronel Fontan**	**144.95**	**198**	PKP	PKPdf	12 38 38.0	+2.1
0.1nm,0.6s,baz=154,slow=1.7,SNR=4.7							
TZTN	**Tazewell**	**145.21**	**5**	*e*PKP	PKPdf	12 38 37.8	+1.7
CPCT	**Cooper Cave**	**146.20**	**6**	*e*PKP	PKPdf	12 38 40.8	+3.0

*IDC **10** 12:21:56.2±0.6, 1.66S×99.85E, mb4.5/20, mb1 4.6/20, mb1mx4.5/25, mbtmp4.5/20, Error ellipse: s-maj=23.3km s-min=13.9km az=50.0*
*BJI **10** 12:21:57.2, 2.17S×100.04E, h44km, mB5.7, mb4.9, Ms5.3, Msz5.0*
*MOS **10** 12:21:59.7±0.9, 1.56S×99.97E, h33km, mb4.9/17, Error ellipse: s-maj=17.5km s-min=8.5km az=107.3*
*NEIC **10** 12:22:00.2±0.3, 1.71S×99.87E, mb5.0/17, Error ellipse: s-maj=10.0km s-min=5.2km az=56.0*
ISC 10 12:22:00.9±2.0, 1.61S±0.07×99.97E±0.07, h44km±17km, n89, σ0$92/84, mb4.7/45, MS5.0/2, 3C-1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.89**	**6**	*eP*	**P**	**12 23 43.1**	**+1.2**
CM31	**Chiang Mai Arr**	**19.97**	**357**	*eP*	**P**	**12 26 30.6**	**-1.8**
11nm,0.7s							
CMAR	**Chiang Mai Arr**	**19.97**	**357**	P	**P**	**12 26 30.8**	**-1.6**
4.7nm,0.6s,baz=187,slow=9.9,SNR=23							
SHL	**Shillong**	**28.13**	**344**	*eP*	**P**	**12 27 50.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.06**	**125**	P	**P**	**12 28 07.5**	**-0.9**
5.0nm,0.8s,mb4.3,baz=128,slow=10.0,SNR=3.0							
JIRN	**Jiri**	**31.98**	**336**	*eP*	**P**	**12 28 26.2**	**+0.9**
57nm,0.8s,mb5.4							
PKI	**Pulchoki**	**32.22**	**335**	*eP*	**P**	**12 28 27.4**	**0.0**
LSA	**Lhasa**	**32.26**	**346**	*eP*	**P**	**12 28 28.7**	**+1.0**
LSA				pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**32.26**	**346**	*eP*	**P**	**12 28 28.7**	**+1.0**
comp=Z,7.5nm,0.6s,mb4.7							
GUN	**Gumba**	**32.33**	**336**	*eP*	**P**	**12 28 28.9**	**+0.6**
comp=Z,52nm,0.7s,mb5.5							
DMN	**Daman**	**32.38**	**335**	*eP*	**P**	**12 28 28.9**	**+0.1**
comp=Z,15nm,0.9s,mb4.8							
KKN	**Kakani**	**32.47**	**335**	*eP*	**P**	**12 28 29.4**	**-0.1**
comp=Z,35nm,0.9s,mb5.2							
KKN	**Kakani**	**32.47**	**335**	*eP*	**P**	**12 28 29.4**	**-0.1**
KKN				pmax	pmax		
comp=Z,18nm,0.9s,mb4.9							
GKN	**Gorkha**	**32.92**	**335**	*eP*	**P**	**12 28 33.6**	**+0.1**
comp=Z,25nm,0.7s,mb5.2							
KOLN	**Koldanda**	**33.18**	**333**	*eP*	**P**	**12 28 35.8**	**0.0**
comp=Z,31nm,0.9s,mb5.2							
XAN	**Xi'an**	**36.45**	**13**	P	**P**	**12 29 02.8**	**-0.8**
XAN				AMB	AMB		
comp=Z,10.0nm,0.5s,mb5.0							
NJ2	**Nanjing**	**37.96**	**27**	*eP*	**P**	**12 29 17.6**	**+1.3**
NJ2				AP	pP	12 29 27.4	-0.9
NJ2				XP	sP	12 29 31.3	-2.4
NJ2				PP	PP	12 30 49.2	+2.5
NJ2				S	**S**	**12 35 06.0**	**+1.2**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
NJ2				LR	LR		
comp=N,2μm,10.7s,MS5.2							
NJ2				LR	LR		
comp=E,2μm,14.8s,MS5.2							
NJ2				LR	LR		
comp=Z,1μm,13.9s,MS4.9							
WRA	**Warramunga Arr**	**38.22**	**121**	P	**P**	**12 29 18.2**	**-0.3**
comp=Z,3.4nm,0.5s,mb4.4,baz=302,slow=9.1,SNR=19							
WRAB	**Tennant Creek**	**38.22**	**121**	*eP*	**P**	**12 29 18.7**	**+0.1**
WRAB				pmax	pmax		
comp=Z,39nm,1.1s,mb5.0							
WRAB	**Tennant Creek**	**38.22**	**121**	*eP*	**P**	**12 29 18.7**	**+0.1**
comp=Z,39nm,1.1s,mb5.0							
WB2	**Warramunga Arr**	**38.23**	**121**	*eP*	**P**	**12 29 19.0**	**+0.4**
SSE	**Sheshan**	**38.28**	**30**	*eP*	**P**	**12 29 17.9**	**-1.0**
SSE				AMB	AMB		
comp=Z,30nm,0.7s,mb5.1							
SSE				AMB	AMB		
comp=Z,1μm,10.7s							
SSE	**Sheshan**	**38.28**	**30**	*eP*	**P**	**12 29 17.9**	**-1.0**
comp=Z,30nm,0.7s,mb5.1							
ASPA	**Alice Springs**	**39.50**	**126**	*eP*	**P**	**12 29 29.7**	**+0.5**
ASAR	**Alice Springs**	**39.51**	**126**	P	**P**	**12 29 29.7**	**+0.5**
comp=Z,1.7nm,0.6s,mb4.0,baz=294,slow=7.6,SNR=11							
BJI	**Beijing**	**44.02**	**18**	*eP*	**P**	**12 30 06.8**	**+0.6**
BJI				AMB	AMB		
comp=Z,11nm,1.0s,mb4.5							
BJI	**Beijing**	**44.02**	**18**	*eP*	**P**	**12 30 06.8**	**+0.6**
comp=Z,11nm,1.0s,mb4.5							
WMQ	**Urumqi**	**46.55**	**348**	P	**P**	**12 30 27.4**	**+1.2**
WMQ				AP	pP	12 30 37.4	-0.9
WMQ				XP	sP	12 30 41.2	-2.4
WMQ				PCP	PcP	12 32 02.0	+1.7
WMQ				AMB	AMB		
comp=Z,1μm,7.0s							
WMQ				LR	LR		
comp=N,1μm,20.5s,MS5.1							
WMQ				LR	LR		
comp=E,2μm,20.0s,MS5.1							
WMQ				LR	LR		
comp=Z,2μm,19.0s,MS5.0							
UCH	**Uchtor**	**49.33**	**335**	P	**P**	**12 30 49.0**	**+1.2**
SNR=5.8							
STKA	**Stephens Creek**	**49.43**	**132**	P	**P**	**12 30 49.2**	**+0.4**
comp=Z,2.4nm,0.7s,mb4.3,baz=313,slow=10,SNR=4.1							
STKA	**Stephens Creek**	**49.43**	**132**	P	**P**	**12 30 49.2**	**+0.4**
TKM2	**Tokmak 2**	**49.47**	**336**	P	**P**	**12 30 49.6**	**+0.7**
SNR=14							
KBK	**Karagaybulak**	**49.51**	**336**	P	**P**	**12 30 50.9**	**+1.7**
SNR=5.7							
SONM	**Songino Array**	**49.56**	**6**	P	**P**	**12 30 50.2**	**+0.6**
comp=Z,4.7nm,0.6s,mb4.7,baz=187,slow=9.5,SNR=33							
SONM				PcP	PcP	12 32 11.5	+0.4
comp=Z,1.9nm,0.6s,baz=191,slow=4.5,SNR=5.9							
AML	**Almayashu**	**49.60**	**334**	P	**P**	**12 30 50.9**	**+0.9**
SNR=9.6							
ULN	**Ulaanbaatar**	**49.66**	**6**	*eP*	**P**	**12 30 51.1**	**+0.8**
ULN				*e*		12 30 59.7	
ULN				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
ULN	**Ulaanbaatar**	**49.66**	**6**	*eP*	**P**	**12 30 51.0**	**+0.7**
comp=Z,2.6nm,0.6s,mb4.4							
ULN				*e*		12 30 59.6	
EKS2	**Erkin-Say**	**50.00**	**335**	P	**P**	**12 30 54.0**	**+0.9**
SNR=10							
USP	**Ospenovka**	**50.20**	**336**	P	**P**	**12 30 54.7**	**+0.2**
SNR=6.2							
CN2	**Changchun**	**50.64**	**24**	*eP*	**P**	**12 30 57.2**	**-0.7**
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
MKAR	**Makanchi Array**	**50.65**	**344**	*i* P	**P**	**12 30 58.2**	**+0.3**
MKAR				pmax	pmax		
comp=Z,12nm,0.6s							
MKAR	**Makanchi Array**	**50.65**	**344**	P	**P**	**12 30 57.9**	**0.0**
comp=Z,12nm,0.6s,mb5.0,baz=149,slow=8.0,SNR=66							
ZAK	**Zakamensk**	**51.87**	**3**	*eP*	**P**	**12 31 04.9**	**-2.1**
ZAK				*e*		12 32 17.9	
ZAK				*e*		12 34 02.7	
ZAK				pmax	pmax		
comp=Z,1.0nm,1.1s,mb3.7							
ZAK				pmax	pmax		
comp=Z,1.0nm,1.2s,mb3.6							
ZAK				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.0							
MJAR	**Matsushiro Arr**	**51.99**	**39**	P	**P**	**12 31 07.7**	**-0.4**
comp=Z,0.9nm,0.7s,mb3.8,baz=315,slow=16,SNR=4.0							
KURK	**Kurchatov**	**55.23**	**344**	*eP*	**P**	**12 31 31.6**	**-0.2**
KURK				*e*		12 31 38.3	
KURK				pmax	pmax		
comp=Z,14nm,0.9s,mb5.0							
KURK	**Kurchatov**	**55.23**	**344**	*eP*	**P**	**12 31 31.6**	**-0.3**
comp=Z,14nm,0.9s,mb5.0							
KURK				*e*		12 31 38.3	
ZAL	**Zalesovo**	**56.77**	**349**	P	**P**	**12 31 42.9**	**-0.1**
comp=Z,13nm,0.6s,mb5.2,baz=318,slow=5.7,SNR=41							
KLR	**Kul'dur**	**57.59**	**24**	*eP*	**P**	**12 31 46.2**	**-2.5**
ASAJ	**Asahikawa**	**59.31**	**35**	P	**P**	**12 32 00.1**	**-0.6**
comp=Z,9.2nm,0.8s,mb4.9,baz=220,slow=5.3,SNR=5.7							
BVAR	**Borovoye Array**	**59.81**	**340**	P	**P**	**12 32 02.6**	**-1.5**
comp=Z,4.4nm,0.6s,mb4.7,baz=139,slow=9.0,SNR=13							
CHKZ	**Chkalovo**	**60.27**	**340**	*eP*	**P**	**12 32 05.9**	**-1.3**
CHKZ				pmax	pmax		
comp=Z,15nm,1.1s,mb4.9							
CHKZ	**Chkalovo**	**60.27**	**340**	*eP*	**P**	**12 32 05.9**	**-1.3**
comp=Z,15nm,1.1s,mb5.0							
BOD	**Bodaibo**	**60.30**	**9**	*eP*	**P**	**12 32 07.2**	**-0.2**
BOD				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.5							
YSS	**Yuzh-Sakhalins**	**61.17**	**32**	*eP*	**P**	**12 32 14.0**	**+0.6**
YSS				*e*		12 32 23.0	
YSS				pmax	pmax		
comp=Z,30nm,1.0s,mb5.4							
YSS	**Yuzh-Sakhalins**	**61.17**	**32**	*eP*	**P**	**12 32 13.6**	**+0.2**
comp=Z,14nm,0.9s,mb5.1							
YSS				*e*		12 32 21.9	
GNI	**Garni**	**65.22**	**316**	*i* P	**P**	**12 32 40.6**	**+0.3**
GNI				pmax	pmax		
comp=Z,9.0nm,1.7s							
SVE	**Sverdlovsk**	**66.31**	**338**	*eP*	**P**	**12 32 43.5**	**-3.4**
ARU	**Arti**	**66.84**	**336**	⇑*i* P	**P**	**12 32 49.2**	**-1.1**
ARU				*e*		12 33 13.4	
ARU				*e*S	S	12 41 38.4	+0.3
ARU				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.8							
YAK	**Yakutsk**	**67.38**	**15**	*i* P	**P**	**12 32 53.1**	**-0.4**
YAK				pmax	pmax		
comp=Z,23nm,0.8s,mb5.3							
YAK	**Yakutsk**	**67.38**	**15**	*eP*	**P**	**12 32 52.9**	**-0.6**
comp=Z,23nm,0.6s,mb5.4							
KIV	**Kislovodsk**	**68.23**	**319**	*i* P	**P**	**12 32 58.9**	**-0.3**
KIV				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
KIV	**Kislovodsk**	**68.23**	**319**	*eP*	**P**	**12 32 58.6**	**-0.6**
comp=Z,7.7nm,0.7s,mb4.8							
ASF	**Jabal al Asfar**	**68.34**	**306**	P	**P**	**12 32 59.1**	**-0.9**
comp=Z,1.2nm,0.4s,mb4.3,baz=286,slow=5.1,SNR=3.6							
MATP	**Matopo**	**72.08**	**249**	P	**P**	**12 33 22.6**	**-0.3**
comp=Z,2.7nm,0.7s,mb4.3,baz=92,slow=6.7,SNR=3.5							
MA2	**Magadan**	**72.69**	**24**	*i* P	**P**	**12 33 27.1**	**+1.2**
MA2				pmax	pmax		
comp=Z,15nm,1.3s,mb4.8							
BRTR	**Keskin Array B**	**73.04**	**312**	P	**P**	**12 33 26.7**	**-1.7**
comp=Z,1.2nm,0.6s,mb4.0,baz=132,slow=6.4,SNR=9.1							
TIXI	**Tiksi**	**75.48**	**9**	*i* P	**P**	**12 33 40.7**	**-1.2**
TIXI				pmax	pmax		
comp=Z,8.0nm,1.3s,mb4.5							
MOS	**Moscow**	**76.15**	**329**	*eP*	**P**	**12 33 44.2**	**-1.8**
OBN	**Obninsk**	**76.45**	**328**	*eP*	**P**	**12 33 47.3**	**-0.4**
OBN				pmax	pmax		
comp=Z,14nm,1.2s,mb4.8							
TIRR	**Tirgusor**	**78.05**	**316**	⇑P	**P**	**12 33 56.2**	**-0.6**
AKASG	**Malin Array Be**	**79.16**	**322**	*i* P	**P**	**12 34 03.4**	**+0.6**
VRI	**Vrincioaia**	**79.55**	**317**	⇑P	**P**	**12 34 05.3**	**+0.3**
MLR	**Muntele Rosu**	**80.00**	**317**	P	**P**	**12 34 07.9**	**+0.5**
comp=Z,5.7nm,0.9s,mb4.5,baz=229,slow=2.5,SNR=7.1							
MLR	**Muntele Rosu**	**80.00**	**317**	⇓P	**P**	**12 34 13.6**	**+6.2**
BILL	**Bilibino**	**82.81**	**20**	*i* P	**P**	**12 34 23.0**	**+1.4**
BILL				pmax	pmax		
comp=Z,4.0nm,1.7s,mb4.2							
FINES	**FINESS Array B**	**83.75**	**332**	P	**P**	**12 34 26.9**	**+0.5**
comp=Z,3.1nm,0.5s,mb4.7,baz=107,slow=5.5,SNR=39							
KAF	**Kangasnimi**	**83.82**	**333**	*ep*	**P**	**12 34 27.3**	**+0.5**
ARCES	**ARCESS Array B**	**86.10**	**340**	P	**P**	**12 34 38.8**	**+0.9**
comp=Z,6.3nm,1.0s,mb4.8,baz=83,slow=6.1,SNR=11							
GERES	**GERESS Array B**	**88.74**	**319**	P	**P**	**12 34 51.7**	**+0.5**
comp=Z,0.9nm,0.7s,mb4.2,baz=90,slow=2.7,SNR=8.6							
CLL	**Collm**	**89.34**	**321**	P	**P**	**12 34 54.0**	**0.0**
HFS	**Hagfors**	**89.52**	**330**	P	**P**	**12 34 55.5**	**+0.9**
comp=Z,1.0nm,0.4s,mb4.5,baz=153,slow=3.3,SNR=11							
HFS	**Hagfors**	**89.52**	**330**	P	**P**	**12 34 55.5**	**+0.9**
DAVOX	**Davos**	**91.22**	**317**	P	**P**	**12 35 03.5**	**+0.6**
comp=Z,2.0nm,0.6s,mb4.7,baz=29,slow=18,SNR=5.9							
YKA	**Yellowknife Ar**	**114.01**	**17**	PKP	PKPdf	12 40 35.2	+0.2
comp=Z,0.1nm,0.5s,baz=343,slow=1.8,SNR=5.8							
YKA	**Yellowknife Ar**	**114.01**	**17**	PKP	PKPdf	12 40 35.2	+0.2
TXAR	**Lajitas Array**	**144.41**	**37**	PKP	PKPdf	12 41 34.8	+1.7
comp=Z,4.8nm,0.6s,baz=212,slow=0.7,SNR=52							
MIAR	**Mount Ida**	**144.88**	**20**	*e*PKP	PKPdf	12 41 35.4	+1.6
CFAA	**Coronel Fontan**	**145.12**	**198**	PKPbc	PKPbc	12 41 35.6	+1.0
comp=Z,0.3nm,0.6s,baz=190,slow=4.3,SNR=5.1							
JCT	**Junction City**	**145.71**	**31**	*e*PKP	PKPdf	12 41 38.1	+2.8

*IDC **10** 12:23:43.2±0.5, 1.61S×99.66E, mb4.5/19, mb1 4.6/20, mb1mx4.5/24, mbtmp4.5/20, ML4.4/1, Error ellipse: s-maj=21.8km s-min=13.0km az=55.0*
*MOS **10** 12:23:46.4±0.7, 1.58S×99.73E, h33km, mb4.7/5, Error ellipse: s-maj=24.0km s-min=13.0km az=118.4*
*BJI **10** 12:23:47.8, 1.60S×99.70E, h30km, mb5.0*
*NEIC **10** 12:23:47.8±0.2, 1.63S×99.70E, h30km, mb4.6/6, Error ellipse: s-maj=10.1km s-min=5.7km az=57.0*
**ISC 10 12:23:46.4±0.4,

MLR	**Muntele Rosu**	**79.82**	**317**	P	**P**		**12 35 54.2 +0.9**
VNDA	**Vanda**	**82.61**	**169**	P	**P**		**12 36 08.4 +1.1**
	comp=Z,1.9nm,1.0s,mb4.1,baz=306,slow=10,SNR=4.8						
FINES	**FINESS Array B**	**83.63**	**332**	P	**P**		**12 36 13.3 +0.6**
	comp=Z,0.8nm,0.4s,mb4.2,baz=110,slow=4.8,SNR=5.7						
ARCES	**ARCESS Array B**	**86.00**	**340**	P	**P**		**12 36 24.4 +0.1**
	comp=Z,8.1nm,1.1s,mb4.9,baz=80,slow=7.4,SNR=4.4						
GERES	**GERESS Array B**	**88.57**	**319**	P	**P**		**12 36 38.2 +1.0**
	comp=Z,0.8nm,0.6s,mb4.2,baz=90,slow=4.0,SNR=8.3						
YKA	**Yellowknife Ar**	**114.06**	**17**	PKP	PKPdf		12 42 22.7 +0.6
	comp=Z,0.2nm,0.7s,baz=324,slow=2.4,SNR=4.7						
PDAR	**Pinedale Array**	**131.35**	**29**	PKP	PKPdf		12 42 57.5 +1.5
	comp=Z,0.5nm,0.7s,baz=270,slow=1.5,SNR=4.1						
BDFB	**Brasilia**	**143.81**	**241**	PKP	PKPdf		12 43 22.8 +3.6
	comp=Z,3.1nm,0.8s,baz=89,slow=6.8,SNR=3.3						
TXAR	**Lajitas Array**	**144.54**	**37**	PKP	PKPdf		12 43 22.1 +1.8
	comp=Z,7.4nm,0.7s,baz=270,slow=1.1,SNR=22						
TXAR				SKP			12 46 58.1
	comp=Z,0.2nm,0.5s,baz=207,slow=1.2,SNR=4.2						
WVT	**Waverly**	**144.93**	**11**	*e*P	PKPdf		12 43 22.0 +1.2
MIAR	**Mount Ida**	**144.94**	**19**	*e*PKP	PKPdf		12 43 22.4 +1.6
CFAA	**Coronel Fontan**	**145.06**	**198**	PKPbc	PKPbc		12 43 22.6 +1.3
	comp=Z,2.0nm,0.6s,baz=167,slow=3.2,SNR=20						
JCT	**Junction City**	**145.82**	**31**	*e*PKP	PKPdf		12 43 25.6 +3.1
JCT				*e*			12 43 32.4
CPCT	**Cooper Cave**	**146.08**	**6**	*e*P	PKPdf		12 43 25.3 +2.6

IDC 10 12:25:58.6±2.1, 1.73S×99.81E, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=86.4km s-min=26.4km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.08**	**358**	P	P	12 30 32.0	-4.7
	3.5nm,0.8s,baz=236,slow=13,SNR=8.0						
WRA	**Warramunga Arr**	**38.29**	**121**	P	P	12 33 21.1	-1.8
	1.1nm,0.5s,baz=300,slow=9.1,SNR=7.7						
SONM	**Songino Array**	**49.70**	**6**	P	P	12 34 53.0	-1.4
	0.6nm,0.6s,baz=183,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**50.72**	**345**	P	P	12 35 01.1	-1.1
	0.8nm,0.4s,baz=158,slow=8.6,SNR=7.1						
FINES	**FINESS Array B**	**83.79**	**332**	P	P	12 38 28.9	-1.9
	0.9nm,0.8s,baz=90,slow=4.2,SNR=4.5						
TXAR	**Lajitas Array**	**144.61**	**37**	PKP	PKPdf	12 45 37.5	-2.2
	0.6nm,0.5s,baz=206,slow=0.9,SNR=3.9						

*IDC **10** 12:29:33.5±0.5, 1.63S×99.54E, mb4.6/22, mb1 4.7/22, mb1mx4.6/24, mbtmp4.6/22, Error ellipse: s-maj=16.1km s-min=12.4km az=54.0*
*MOS **10** 12:29:36.6±0.9, 1.55S×99.65E, h33km, mb4.9/17, Error ellipse: s-maj=14.8km s-min=8.0km az=105.3*
*NEIC **10** 12:29:38.2±0.3, 1.59S×99.62E, h30km, mb4.9/18, Error ellipse: s-maj=9.3km s-min=6.0km az=65.0*
*BJI **10** 12:29:42.3, 0.89S×100.04E, h30km, mB5.9, mb4.7, Ms5.4, Msz4.9*

ISC 10 12:29:38.9±1.4, 1.57S±0.05×99.61E±0.06, h52km±11km, n103, σ0§97/98, mb4.7/54, MS5.3/3, 5C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.15**	**46**	P	**P**		**12 30 57.2 +1.8**
IPM	**Ipoh**	**6.27**	**13**	P	**P**		**12 31 10.9 -0.2**
KULM	**Kulim**	**6.90**	**9**	*e*P	**P**		**12 31 19.6 -0.3**
KKM	**Kota Kinabalu**	**18.23**	**65**	*e*P	**P**		**12 33 51.2 +1.1**
KKM	**Kota Kinabalu**	**18.23**	**65**	P	**P**		**12 33 51.2 +1.2**
TSM	**Tawau**	**19.16**	**72**	P	**P**		**12 34 02.4 +1.4**
CM31	**Chiang Mai Arr**	**19.92**	**358**	*e*P	**P**		**12 34 05.1 -4.0**
	32nm,1.0s						
CMAR	**Chiang Mai Arr**	**19.92**	**358**	*i*P	**P**		**12 34 06.0 -3.1**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.92**	**358**	P	**P**		**12 34 05.2 -3.9**
	comp=Z,0.8nm,0.3s,baz=187,slow=10,SNR=21						
KMI	**Kunming**	**26.71**	**6**	P	**P**		**12 35 13.1 -2.4**
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.3						
KMI	**Kunming**	**26.71**	**6**	P	**P**		**12 35 13.1 -2.4**
	comp=Z,11nm,1.2s,mb4.3						
MBWA	**Marble Bar**	**27.64**	**136**	*e*P	**P**		**12 35 21.2 -2.8**
GYA	**Guiyang**	**28.69**	**13**	P	**P**		**12 35 32.8 -0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.37**	**124**	⇓*i*P	**P**		**12 35 47.4 -1.1**
	comp=Z,16nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.37**	**124**	P	**P**		**12 35 47.1 -1.3**
	comp=Z,22nm,0.9s,mb4.9,baz=318,slow=3.8,SNR=14						
JIRN	**Jiri**	**31.80**	**337**	*e*P	**P**		**12 36 01.4 +0.4**
	comp=Z,26nm,0.7s,mb5.2						
PKI	**Pulchoki**	**32.04**	**336**	*e*P	**P**		**12 36 03.8 +0.8**
LSA	**Lhasa**	**32.13**	**346**	P	**P**		**12 36 05.8 +2.0**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
LSA	**Lhasa**	**32.13**	**346**	*e*P	**P**		**12 36 04.7 +0.9**
LSA				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.0						
LSA	**Lhasa**	**32.13**	**346**	*e*P	**P**		**12 36 04.7 +0.9**
	comp=Z,16nm,0.6s,mb5.0						
GUN	**Gumba**	**32.15**	**337**	*e*P	**P**		**12 36 04.3 +0.3**
	comp=Z,38nm,0.5s,mb5.5						
DMN	**Daman**	**32.20**	**335**	*e*P	**P**		**12 36 05.0 +0.6**
KKN	**Kakani**	**32.28**	**336**	*e*P	**P**		**12 36 05.4 +0.2**
	comp=Z,19nm,0.7s,mb5.1						
KKN	**Kakani**	**32.28**	**336**	*e*P	**P**		**12 36 05.4 +0.2**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
CD2	**Chengdu**	**32.54**	**7**	*e*P	**P**		**12 36 08.1 +0.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GKN	**Gorkha**	**32.74**	**335**	*e*P	**P**		**12 36 08.5 -0.6**
	comp=Z,10nm,0.4s,mb5.1						
KOLN	**Koldanda**	**32.99**	**333**	*e*P	**P**		**12 36 11.7 +0.4**
	comp=Z,22nm,0.7s,mb5.2						
ENH	**Enshi**	**33.04**	**16**	*e*P	**P**		**12 36 09.6 -2.2**
	comp=Z,10nm,0.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**35.31**	**154**	P	**P**		**12 36 30.9 -0.3**
	comp=Z,8.6nm,0.7s,mb4.8,baz=320,slow=4.0,SNR=7.0						
NJ2	**Nanjing**	**38.09**	**27**	*e*P	**P**		**12 36 54.3 -0.3**
NJ2				PP	PP		12 38 26.2 +0.7
NJ2				S	**S**		**12 42 44.0 +0.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,1μm,5.2s						
NJ2				LR	LR		
	comp=N,3μm,13.9s,MS5.5						
NJ2				LR	LR		
	comp=E,4μm,14.3s,MS5.5						
NJ2				LR	LR		
	comp=Z,3μm,35.1s						
SSE	**Sheshan**	**38.43**	**31**	*e*P	**P**		**12 36 54.8 -2.5**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,809nm,10.6s						
SSE	**Sheshan**	**38.43**	**31**	*e*P	**P**		**12 36 54.8 -2.5**
	comp=Z,34nm,0.7s,mb5.2						
WRA	**Warramunga Arr**	**38.55**	**121**	P	**P**		**12 36 57.7 -0.7**
	comp=Z,8.2nm,0.6s,mb4.6,baz=301,slow=9.2,SNR=37						
WRAB	**Tennant Creek**	**38.55**	**121**	*e*P	**P**		**12 36 58.2 -0.3**
WRAB				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.9						
WRAB	**Tennant Creek**	**38.55**	**121**	*e*P	**P**		**12 36 58.2 -0.3**
	comp=Z,18nm,0.7s,mb4.9						
WB2	**Warramunga Arr**	**38.55**	**121**	*e*P	**P**		**12 36 58.1 -0.4**
FORT	**Forrest**	**39.62**	**140**	*e*P	**P**		**12 37 08.4 +1.2**
	comp=Z,197nm,0.4s						
ASPA	**Alice Springs**	**39.81**	**126**	⇓*i*P	**P**		**12 37 09.2 +0.3**
ASPA				*e*S	**S**		**12 43 11.5 +2.1**
ASAR	**Alice Springs**	**39.82**	**126**	P	**P**		**12 37 09.1 +0.1**
	comp=Z,5.4nm,0.6s,mb4.5,baz=301,slow=7.8,SNR=30						
ASAR				PcP	PcP		12 39 13.8 -1.0
	comp=Z,1.1nm,0.7s,baz=278,slow=2.2,SNR=4.1						
GTA	**Gaotai**	**40.78**	**0**	*e*P	**P**		**12 37 17.7 +0.9**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.9s,mb4.1						
BJI	**Beijing**	**44.10**	**18**	*e*P	**P**		**12 37 44.4 +0.4**
BJI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.6						
BJI	**Beijing**	**44.10**	**18**	*e*P	**P**		**12 37 44.4 +0.4**
	comp=Z,14nm,1.2s,mb4.6						
WMQ	**Urumqi**	**46.44**	**348**	P	**P**		**12 38 04.1 +1.6**
WMQ				AP	pP		12 38 14.1 -2.2
WMQ				PCP	PcP		12 39 38.7 +1.7
WMQ				PP	PP		12 39 53.1 +1.2
WMQ				S	**S**		**12 44 49.6 +3.9**
WMQ				LR	LR		
	comp=N,1μm,20.5s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,20.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
SONM	**Songino Array**	**49.56**	**6**	P	**P**		**12 38 27.1 +0.3**
	comp=Z,5.5nm,0.7s,mb4.7,baz=187,slow=9.8,SNR=28						
ULN	**Ulaanbaatar**	**49.66**	**7**	*e*P	**P**		**12 38 27.7 +0.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**49.66**	**7**	*e*P	**P**		**12 38 27.7 +0.2**
	comp=Z,5.8nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**49.72**	**132**	⇓*i*P	**P**		**12 38 28.8 +0.6**
	comp=Z,5.6nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**49.72**	**132**	P	**P**		**12 38 28.6 +0.4**
	comp=Z,7.4nm,0.6s,mb4.9,baz=312,slow=7.8,SNR=12						
MKAR	**Makanchi Array**	**50.52**	**345**	P	**P**		**12 38 34.2 +0.2**
	comp=Z,19nm,0.7s,mb5.1,baz=150,slow=7.9,SNR=49						
MKAR	**Makanchi Array**	**50.52**	**345**	P	**P**		**12 38 34.2 +0.2**
CN2	**Changchun**	**50.76**	**24**	*e*P	**P**		**12 38 34.3 -1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
ZAK	**Zakamensk**	**51.85**	**3**	*e*P	**P**		**12 38 43.7 -0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.8						
MJAR	**Matsushiro Arr**	**52.20**	**39**	P	**P**		**12 38 46.3 -0.6**
	comp=Z,2.6nm,0.9s,mb4.2,baz=222,slow=8.6,SNR=5.8						
OPO	**Ambohidratompo**	**54.06**	**248**	P	**P**		**12 39 01.7 +0.8**
	comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=8.8,SNR=3.8						
KURK	**Kurchatov**	**55.09**	**344**	*i*P	**P**		**12 39 07.1 -0.9**
KURK	**Kurchatov**	**55.09**	**344**	*e*P	**P**		**12 39 07.7 -0.3**
	comp=Z,14nm,0.9s,mb5.0						
ZAL	**Zalesovo**	**56.67**	**350**	*i*P	**P**		**12 39 19.5 +0.2**
ZAL				pmax	pmax		
	comp=Z,14nm,0.4s						
ZAL	**Zalesovo**	**56.67**	**350**	P	**P**		**12 39 19.0 -0.3**
	comp=Z,14nm,0.4s,mb5.3,baz=322,slow=4.4,SNR=28						
ZAL	**Zalesovo**	**56.67**	**350**	P	**P**		**12 39 19.0 -0.3**
KLR	**Kul'dur**	**57.71**	**24**	*e*P	**P**		**12 39 21.2 -5.5**
ASAJ	**Asahikawa**	**59.49**	**35**	P	**P**		**12 39 39.9 +0.7**
	comp=Z,13nm,1.1s,mb4.9,baz=226,slow=6.9,SNR=5.0						
BVAR	**Borovoye Array**	**59.65**	**340**	P	**P**		**12 39 39.6 -0.6**
	comp=Z,2.9nm,0.5s,mb4.5,baz=144,slow=9.4,SNR=12						
CHKZ	**Chkalovo**	**60.12**	**341**	*e*P	**P**		**12 39 42.7 -0.6**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**60.12**	**341**	*e*P	**P**		**12 39 42.7 -0.6**
	comp=Z,11nm,0.8s,mb4.9						
BOD	**Bodaibo**	**60.32**	**9**	*e*P	**P**		**12 39 42.7 -2.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
YSS	**Yuzh-Sakhalins**	**61.33**	**32**	*i*P	**P**		**12 39 52.2 +0.6**
YSS				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.1						
YSS	**Yuzh-Sakhalins**	**61.33**	**32**	*e*P	**P**		**12 39 51.4 -0.3**
	comp=Z,23nm,1.0s,mb5.2						
KMBO	**Kilima Mbogo**	**62.34**	**270**	P	**P**		**12 39 58.3 -0.6**
	comp=Z,4.9nm,0.8s,mb4.7,baz=54,slow=11,SNR=13						
GNI	**Garni**	**64.95**	**316**	*i*P	**P**		**12 40 16.6 +1.0**
GNI				pmax	pmax		
	comp=Z,4.0nm,1.2s						
SVE	**Sverdlovsk**	**66.14**	**338**	*e*P	**P**		**12 40 23.1 +0.1**
SVE				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.8						
ARU	**Arti**	**66.66**	**337**	⇑*i*P	**P**		**12 40 26.1 -0.2**
ARU				*e*			12 40 57.0
ARU				*e*S	S		12 49 17.8 +5.4
ARU				*e*			12 50 19.2
ARU				*e*SS	SS		12 53 33.6 +1.4
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
YAK	**Yakutsk**	**67.43**	**15**	*i*P	**P**		**12 40 30.2 -0.8**
YAK				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
KIV	**Kislovodsk**	**67.97**	**319**	*i*P	**P**		**12 40 34.2 -0.5**
KIV				*e*			12 41 01.5
KIV				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.6						
GOF	**Gofitskoye**	**68.22**	**320**	*e*P	**P**		**12 40 47.5 +11**
MAW	**Mawson**	**70.60**	**194**	P	**P**		**12 40 50.2 -0.2**
	comp=Z,4.5nm,0.9s,mb4.4,baz=304,slow=12,SNR=5.0						
ANN	**Anapa**	**71.76**	**318**	*e*P	**P**		**12 40 47.2 -11**
ANN				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
MATP	**Matopo**	**71.76**	**249**	P	**P**		**12 40 57.8 -0.4**
	comp=Z,9.2nm,0.7s,mb4.8,baz=83,slow=5.7,SNR=20						
BRTR	**Keskin Array B**	**72.75**	**312**	P	**P**		**12 41 02.6 -1.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=124,slow=6.6,SNR=7.0						
MA2	**Magadan**	**72.81**	**25**	*e*P	**P**		**12 41 03.9 +0.2**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
LBTB	**Lobatse**	**74.85**	**245**	P	**P**		**12 41 16.1 -0.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=94,slow=8.8,SNR=3.9						
LBTB	**Lobatse**	**74.85**	**245**	*e*P	**P**		**12 41 16.1 -0.2**
TIXI	**Tiksi**	**75.50**	**9**	*i*P	**P**		**12 41 18.6 -0.5**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BOSA	**Boshof**	**75.52**	**241**	P	**P**		**12 41 19.4 -0.6**
	comp=Z,3.1nm,0.7s,mb4.3,baz=8.6,slow=10,SNR=6.8						
OBN	**Obninsk**	**76.23**	**328**	*e*P	**P**		**12 41 23.3 -0.2**
OBN				*e*S	S		12 50 55.4 -7.0
OBN				pmax	pmax		
	comp=Z,23nm,1.6s,mb4.9						
OBN				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.4						
VRI	**Vrincioaia**	**79.28**	**317**	⇓P	**P**		**12 41 41.2 +0.6**
MLR	**Muntele Rosu**	**79.72**	**317**	P	**P**		**12 41 43.4 +0.3**
	comp=Z,3.1nm,0.8s,mb4.3,baz=195,slow=13,SNR=5.6						
MLR	**Muntele Rosu**	**79.72**	**317**	⇑P	**P**		**12 41 43.6 +0.6**
MLR	**Muntele Rosu**	**79.72**	**317**	⇑P	**P**		**12 41 43.7 +0.7**
BURAR	**Bucovina Array**	**80.68**	**319**	⇑P	**P**		**12 41 49.3 +1.2**
BURAR	**Bucovina Array**	**80.68**	**319**	⇑P	**P**		**12 41 49.3 +1.2**
BILL	**Bilibino**	**82.90**	**20**	*i*P	**P**		**12 41 57.8 -1.3**
BILL				pmax	pmax		
	comp=Z,9.0nm,2.5s,mb4.4						
FINES	**FINESS Array B**	**83.56**	**332**	P	**P**		**12 42 02.8 +0.3**
	comp=Z,1.6nm,0.7s,mb4.3,baz=107,slow=5.9,SNR=11						
ARCES	**ARCESS Array B**	**85.94**	**340**	P	**P**		**12 42 16.4 +2.2**
	comp=Z,1.7nm,0.5s,mb4.5,baz=92,slow=6.1,SNR=12						
QSPA	**South Pole Qui**	**88.39**	**180**	*e*P	**P**		**12 42 27.0 +1.1**
	comp=Z,7.7nm,0.9s,mb4.9						
GERES	**GERESS Array B**	**88.47**	**319**	P	**P**		**12 42 27.7 +0.8**
	comp=Z,1.0nm,0.9s,mb4.0,baz=117,slow=3.0,SNR=6.2						
ILAR	**Eielson Array**	**101.28**	**24**	PKKPbc		12 59 35.0	
	comp=Z,0.6nm,0.8s,baz=147,slow=2.3,SNR=6.9						
PDAR	**Pinedale Array**	**131.40**	**29**	PKP	PKPdf	12 48 49.1	+3.0
	comp=Z,0.3nm,0.5s,baz=207,slow=2.0,SNR=3.2						
BDFB	**Brasilia**	**143.71**	**241**	PKP	PKPdf	12 49 11.4	+2.3
	comp=Z,1.2nm,0.4s,baz=125,slow=4.8,SNR=2.7						
TXAR	**Lajitas Array**	**144.60**	**37**	PKP	PKPdf	12 49 12.7	+2.3
	comp=Z,4.0nm,0.5s,baz=199,slow=0.9,SNR=59						
WVT	**Waverly**	**144.93**	**11**	*e*PKP	PKPdf	12 49 12.2	+1.4
MIAR	**Mount Ida**	**144.97**	**19**	*e*PKP	PKPdf	12 49 12.8	+1.9
JCT	**Junction City**	**145.86**	**31**	*e*PKP	PKPdf	12 49 15.7	+3.2
CPCT	**Cooper Cave**	**146.08**	**6**	*e*PKP	PKPdf	12 49 16.5	+3.7

*IDC **10** 12:33:17.9±2.3, 1.64S×99.67E, mb3.8/6, mb1 3.9/6, mb1mx3.7/16, mbtmp3.8/6, Error ellipse: s-maj=107.1km s-min=22.0km az=55.0*
*NEIC **10** 12:33:22.6±1.4, 1.60S×99.78E, h30km, mb3.8/1, Error ellipse: s-maj=63.9km s-min=15.3km az=56.0*

ISC 10 12:33:21.8±1.9, 1.5S±0.3×99.9E±0.5, h33km, n8, σ0§78/7, mb3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.36**	**121**	P	**P**		**12 40 40.4 -1.3**
	0.8nm,0.5s,mb3.7,baz=303,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**39.66**	**126**	P	**P**		**12 40 53.7 +1.2**
	0.4nm,0.6s,mb3.4,baz=299,slow=8.2,SNR=3.1						
SONM	**Songino Array**	**49.44**	**6**	P	**P**		**12 42 11.4 +0.7**
	0.5nm,0.6s,mb3.7,baz=190,slow=8.8,SNR=2.6						
ULN	**Ulaanbaatar**	**49.54**	**6**	P	**P**		**12 42 11.5 0.0**
	0.8nm,0.8s,mb3.8						
MKAR	**Makanchi Array**	**50.50**	**344**	P	**P**		**12 42 18.6 -0.2**
	1.3nm,0.6s,mb4.2,baz=140,slow=8.6,SNR=4.1						
ZAL	**Zalesovo**	**56.63**	**349**	P	**P**		**12 43 03.3 -0.7**
	2.1nm,0.3s,mb4.6,baz=339,slow=1.7,SNR=3.8						
FINES	**FINESS Array B**	**83.60**	**332**	P	**P**		**12 45 48.1 +0.3**
	0.4nm,0.5s,mb3.8,baz=90,slow=3.8,SNR=4.0						
TXAR	**Lajitas Array**	**144.36**	**37**	PKP	PKPdf	12 52 56.3	+1.0
	0.7nm,0.5s,baz=186,slow=1.0,SNR=5.9						

IDC 10 12:35:16.7±5.5, 1.31S×99.87E, mb3.7/2, mb1 4.0/2, mb1mx3.5/16, mbtmp3.7/2, Error ellipse: s-maj=316.1km s-min=75.8km az=46.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.46**	**121**	P	P	12 42 40.4	-1.8
	1.2nm,0.8s,baz=296,slow=9.4,SNR=5.0						
ASAR	**Alice Springs**	**39.77**	**127**	P	P	12 42 51.6	-1.5
	1.1nm,0.9s,baz=298,slow=8.0,SNR=5.1						
TXAR	**Lajitas Array**	**144.23**	**37**	PKP	PKPdf	12 54 54.9	-2.2
	0.4nm,0.7s,baz=310,slow=1.7,SNR=3.7						

*IDC **10** 12:37:31.3±0.4, 1.66S×99.78E, mb4.6/26, mb1 4.7/26, mb1mx4.7/26, mbtmp4.6/26, Error ellipse: s-maj=15.2km s-min=9.7km az=52.0*
*BJI **10** 12:37:33.7, 1.89S×99.97E, h37km, mB5.8, mb4.8, Ms5.4, Msz5.0*
*MOS **10** 12:37:35.1±0.9, 1.60S×99.76E, h33km, mb5.1/20, Error ellipse: s-maj=14.2km s-min=7.2km az=112.4*
*NEIC **10** 12:37:36.1±0.2, 1.66S×99.74E, mb4.9/25, Error ellipse: s-maj=7.6km s-min=5.2km az=58.0*

ISC 10 12:37:34.5±0.3, 1.68S±0.04×99.70E±0.05, h30km, h30km±1.4km: pP-P, n130, σ1§00/129, mb4.8/65, MS5.2/4, 7C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.16**	**45**	P	**Pn**		**12 38 53.6 +1.8**
IPM	**Ipoh**	**6.36**	**12**	P	**Pn**		**12 39 09.5 +0.9**
KULM	**Kulim**	**6.99**	**8**	*e*P	**Pn**		**12 39 17.9 +0.3**
KKM	**Kota Kinabalu**	**18.19**	**65**	*e*P	**P**		**12 41 48.3 +1.5**
KKM	**Kota Kinabalu**	**18.19**	**65**	P	**P**		**12 41 48.9 +2.0**
TSM	**Tawau**	**19.11**	**72**	P	**P**		**12 41 59.3 +1.4**
CM31	**Chiang Mai Arr**	**20.02**	**358**	*e*P	**P**		**12 42 06.8 -1.2**
	28nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.02**	**358**	P	**P**		**12 42 04.1 -3.9**
	8.2nm,0.6s,baz=187,slow=9.9,SNR=31						
NANT	**Nan**	**20.37**	**3**	P	**P**		**12 42 11.0 -0.6**
	94nm,0.6s						
CHG	**Chiang Mai**	**20.38**	**358**	⇓P	**P**		**12 42 15.0 +3.3**
	16nm,1.0s						
QIZ	**Qiongzhong**	**22.87**	**25**	P	**P**		**12 42 37.5 +0.7**
MBWA	**Marble Bar**	**27.50**	**136**	*e*P	**P**		**12 43 19.6 -1.0**
SHL	**Shillong**	**28.12**	**345**	*e*P	**P**		**12 43 26.8 +0.7**
SHL				*e*			12 48 05.5
GYA	**Guiyang**	**28.77**	**13**	P	**P**		**12 43 30.6 -1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.24**	**124**	*e*P	**P**		**12 43 44.2 -1.0**
	comp=Z,19nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.24**	**124**	P	**P**		**12 43 43.8 -1.4**
	comp=Z,14nm,0.9s,mb4.7,baz=298,slow=3.1,SNR=7.7						
JIRN	**Jiri**	**31.93**	**337**	*e*P	**P**		**12 44 00.6 +0.6**
	comp=Z,50nm,0.9s,mb5.4						
PKI	**Pulchoki**	**32.17**	**336**	*e*P	**P**		**12 44 03.5 +1.5**
LSA	**Lhasa**	**32.25**	**346**	*e*P	**P**		**12 44 03.4 +0.6**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
LSA	**Lhasa**	**32.25**	**346**	*e*P	**P**		**12 44 03.4 +0.6**
	comp=Z,11nm,0.6s,mb4.9						
GUN	**Gumba**	**32.28**	**337**	*e*P	**P**		**12 44 03.8 +0.8**
	comp=Z,50nm,0.6s,mb5.5						
DMN	**Daman**	**32.33**	**335**	*e*P	**P**		**12 44 03.9 +0.5**
	comp=Z,20nm,1.0s,mb4.9						
KKN	**Kakani**	**32.41**	**336**	*e*P	**P**		**12 44 04.5 +0.3**
	comp=Z,48nm,0.9s,mb5.3						
KKN	**Kakani**	**32.41**	**336**	*e*P	**P**		**12 44 04.5 +0.3**
KKN				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.0						
GKN	**Gorkha**	**32.87**	**335**	*e*P	**P**		**12

comp=N,1μm,20.4s,MS4.9
WMQ LR LR
comp=E,1μm,21.6s,MS4.9
WMQ LR LR
comp=Z,958nm,21.6s,MS4.7
STKA Stephens Creek 49.59 132 *eP* **P 12 46 25.8 +0.6**
comp=Z,6.1nm,0.9s,mb4.6
STKA Stephens Creek 49.59 132 P **P 12 46 25.5 +0.3**
comp=Z,4.9nm,0.7s,mb4.6,baz=323,slow=7.9,SNR=5.9
SONM Songino Array 49.66 6 P **P 12 46 25.6 +0.1**
comp=Z,7.3nm,0.7s,mb4.8,baz=191,slow=9.4,SNR=43
SONM PcP PcP 12 47 47.0 +0.2
comp=Z,1.9nm,0.6s,baz=193,slow=4.2,SNR=5.5
ULN Ulaanbaatar 49.76 6 *eP* **P 12 46 26.5 +0.2**
ULN *e* pP 12 46 34.7 -0.8
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ULN Ulaanbaatar 49.76 6 *eP* **P 12 46 26.5 +0.2**
comp=Z,6.1nm,0.8s,mb4.7
ULN *e* pP 12 46 34.7 -0.8
MKAR Makanchi Array 50.64 345 P **P 12 46 33.0 0.0**
comp=Z,14nm,0.5s,mb5.1,baz=151,slow=7.6,SNR=90
MKAR S **S 12 53 48.2 +3.7**
comp=Z,1.1nm,0.8s,baz=166,slow=12,SNR=5.1
MKAR Makanchi Array 50.64 345 P **P 12 46 33.0 -0.1**
MKAR S **S 12 53 48.2 +3.7**
CN2 Changchun 50.82 24 *eP* **P 12 46 33.4 -1.0**
CN2 AP pP 12 46 43.6 0.0
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
ZAK Zakamensk 51.95 3 *eP* **P 12 46 42.2 -0.7**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
MJAR Matsushiro Ar 52.22 39 P **P 12 46 43.7 -1.4**
comp=Z,2.2nm,0.7s,mb4.2,baz=224,slow=7.8,SNR=7.9
OPO Ambohidratompo 54.10 248 P **P 12 46 59.8 +0.6**
comp=Z,5.5nm,0.9s,mb4.5,baz=55,slow=7.8,SNR=4.7
KURK Kurchatov 55.22 344 *eP* **P 12 47 06.0 -1.0**
KURK *e* pP 12 47 16.6 +0.3
KURK pmax pmax
comp=Z,18nm,0.8s,mb5.2
KURK Kurchatov 55.22 344 *eP* **P 12 47 06.0 -1.1**
comp=Z,18nm,0.8s,mb5.2
KURK *e* pP 12 47 16.6 +0.4
ZAL Zalesovo 56.79 350 P **P 12 47 17.6 -0.6**
comp=Z,19nm,0.5s,mb5.4,baz=312,slow=3.9,SNR=48
KLR Kul'dur 57.76 24 *eP* **P 12 47 21.2 -4.0**
ATD Arta Tunnel 58.00 285 P **P 12 47 27.4 +0.1**
comp=Z,7.1nm,0.8s,mb4.8,baz=24,slow=23,SNR=3.7
ASAJ Asahikawa 59.52 35 P **P 12 47 37.5 0.0**
comp=Z,4.4nm,0.5s,mb4.8,baz=76,slow=18,SNR=5.3
BVA0 Borovoye Array 59.78 340 P **P 12 47 36.7 -2.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BVAR Borovoye Array 59.78 340 P **P 12 47 37.3 -1.9**
comp=Z,7.2nm,0.7s,mb4.8,baz=143,slow=9.4,SNR=23
CHKZ Chkalovo 60.24 341 *eP* **P 12 47 41.1 -1.2**
CHKZ pmax pmax
comp=Z,16nm,0.8s,mb5.1
CHKZ Chkalovo 60.24 341 *eP* **P 12 47 41.1 -1.2**
comp=Z,16nm,0.8s,mb5.1
BOD Bodaibo 60.41 9 *eP* **P 12 47 42.2 -1.2**
BOD pmax pmax
comp=Z,15nm,1.2s,mb4.9
YSS Yuzh-Sakhalins 61.37 32 *iP* **P 12 47 49.6 -0.5**
YSS pmax pmax
comp=Z,27nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 61.37 32 *eP* **P 12 47 49.6 -0.4**
comp=Z,27nm,0.9s,mb5.4
KMBO Kilima Mbogo 62.43 270 P **P 12 47 58.4 +0.7**
comp=Z,6.4nm,1.0s,mb4.7,baz=49,slow=10,SNR=13
GNI Garni 65.08 316 *iP* **P 12 48 14.2 -0.5**
GNI pmax pmax
comp=Z,42nm,1.3s
SVE Sverdlovsk 66.27 338 *eP* **P 12 48 18.0 -4.0**
SVE *e* 12 48 34.0
ARU Arti 66.79 337⇑ *iP* **P 12 48 23.9 -1.4**
ARU *e* 12 48 51.7
ARU *e*S S 12 57 15.2 +1.1
ARU *e*SS SS 13 01 30.7 -3.2
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
YAK Yakutsk 67.51 15 *eP* **P 12 48 28.0 -1.8**
YAK *e*S S 12 57 22.7 +0.1
YAK pmax pmax
comp=Z,16nm,1.0s,mb5.0
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK smax
comp=E,2.0nm,1.0s
YAK Yakutsk 67.51 15 *eP* **P 12 48 27.9 -1.9**
comp=E,26nm,0.8s,mb5.3
KIV Kislovodsk 68.10 319 *eP* **P 12 48 33.4 -0.4**
KIV pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KIV Kislovodsk 68.10 319 *eP* **P 12 48 33.4 -0.4**
comp=Z,6.2nm,0.7s,mb4.8
ASF Jabal al Asfar 68.16 306 P **P 12 48 34.1 -0.3**
comp=Z,1.4nm,0.3s,mb4.5,baz=344,slow=2.9,SNR=6.7
MALT Malatya 68.90 312 *eP* **P 12 48 38.2 -0.7**
MALT *e* pP 12 48 46.0 -2.3
MALT pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MALT Malatya 68.90 312 *eP* **P 12 48 38.2 -0.6**
comp=Z,2.0nm,0.6s,mb4.2
MALT *e* pP 12 48 46.0 -2.3
MAW Mawson 70.52 194 P **P 12 48 48.6 +0.4**
comp=Z,6.2nm,0.9s,mb4.5,baz=45,slow=8.9,SNR=5.9
MATP Matopo 71.81 249 P **P 12 48 56.6 -0.1**
comp=Z,14nm,0.9s,mb4.9,baz=91,slow=5.0,SNR=24
ANN Anapa 71.89 318 *eP* **P 12 48 55.5 -1.4**
ANN pmax pmax
comp=Z,17nm,1.2s,mb4.8
MA2 Magadan 72.87 24 *eP* **P 12 49 02.7 +0.3**
MA2 *e* 12 49 20.4
MA2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
MA2 Magadan 72.87 24 *eP* **P 12 49 02.6 +0.2**
comp=Z,13nm,0.6s,mb5.0
BRTR Keskin Array B 72.88 312 P **P 12 49 01.2 -1.6**
comp=Z,3.1nm,0.7s,mb4.3,baz=131,slow=6.9,SNR=20
PET Petropavlovsk 73.25 33 *eP* **P 12 49 04.8 +0.1**
PET *e* pP 12 49 15.0 +0.8
PET pmax pmax
comp=Z,19nm,0.6s,mb5.2
PET MLR MLR
comp=Z,2μm,19.0s,MS5.5
SIM Simferopol' 74.16 318 *eP* **P 12 49 10.0 -0.2**
SIM pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BOSA Boshof 75.55 241 P **P 12 49 17.7 -0.8**
comp=Z,3.5nm,0.8s,mb4.3,baz=113,slow=8.2,SNR=4.8
TIXI Tiksi 75.59 9 *iP* **P 12 49 17.3 -0.6**
TIXI pmax pmax
comp=Z,9.0nm,1.7s,mb4.4
MOS Moscow 76.07 329 *eP* **P 12 49 20.8 -0.1**
MOS pmax pmax
comp=Z,48nm,1.0s,mb5.4
OBN Obninsk 76.36 328⇓ *iP* **P 12 49 22.5 -0.1**
OBN *e* 12 52 11.8
OBN *e*S S 12 59 02.7 -1.4
OBN pmax pmax
comp=Z,19nm,1.2s,mb4.9
SYO Syowa Base 78.07 199⇑ P **P 12 49 30.5 -1.2**
AKASG Malin Array Be 79.05 322 P **P 12 49 36.1 -1.4**
comp=Z,2.0nm,0.7s,mb4.2,baz=83,slow=4.8,SNR=9.1
VRI Vrincioaia 79.41 317⇑ P **P 12 49 40.1 +0.6**
MLR Muntele Rosu 79.86 317 P **P 12 49 41.9 -0.1**
comp=Z,11nm,0.9s,mb4.8,baz=145,slow=2.9,SNR=18
MLR Muntele Rosu 79.86 317⇑ P **P 12 49 42.4 +0.4**
MLR Muntele Rosu 79.86 317⇑ P **P 12 49 42.3 +0.3**
BURAR Bucovina Array 80.82 319⇑ P **P 12 49 48.2 +1.2**
BURAR Bucovina Array 80.82 319⇑ P **P 12 49 48.2 +1.2**
JOF Joensuu 81.80 335 *ep* **P 12 49 51.5 -0.3**
VNDA Vanda 82.53 169 P **P 12 49 56.3 +0.9**
baz=309,slow=5.5
KWP Kalwaria 82.86 320 *eP* **P 12 49 51.0 -6.6**
KWP Kalwaria 82.86 320 *eP* **P 12 49 51.0 -6.6**
BILL Bilibino 82.96 20 *iP* **P 12 49 58.4 +0.7**
BILL pmax pmax
comp=Z,7.0nm,2.5s,mb4.2
KOLS Kolonicke sedl 83.01 320 *eP* **P 12 49 59.8 +1.4**
KOLS *e*pP pP 12 50 07.9 -0.1

SUW Suwalki 83.45 325 *eP* **P 12 50 00.4 -0.1**
FINES FINESS Array B 83.69 332 P **P 12 50 02.0 +0.5**
comp=Z,3.7nm,0.6s,mb4.7,baz=104,slow=5.9,SNR=33
KAF Kangasniemi 83.76 333 *ep* **P 12 50 02.2 +0.3**
comp=Z,8.9nm,0.6s,mb5.1,baz=100,slow=4.7
KAF Kangasniemi 83.76 333 *eP* **P 12 50 02.2 +0.3**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
ARCES ARCESS Array B 86.07 340 P **P 12 50 14.0 +0.7**
comp=Z,4.8nm,0.7s,mb4.8,baz=90,slow=7.3,SNR=13
DPC Dobroska-Polom 87.05 320 *eP* **P 12 50 19.6 +1.1**
PRU Pruhonice 88.15 320 *eP* **P 12 50 25.1 +1.3**
BRG Berggiesshubel 88.60 321 *eP* **P 12 50 27.4 +1.5**
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
BRG Berggiesshubel 88.60 321 *eP* **P 12 50 27.4 +1.5**
comp=Z,6.4nm,1.1s,mb4.9
GERES GERESS Array B 88.61 319 P **P 12 50 27.0 +0.9**
comp=Z,2.2nm,0.8s,mb4.6,baz=86,slow=4.1,SNR=18
KHC Kasperske Hory 88.71 319 *eP* **P 12 50 27.7 +1.2**
CLL Collm 89.22 321 *eP* **P 12 50 30.0 +1.1**
CLL Collm 89.22 321 P **P 12 50 30.0 +1.1**
NB2 NORSAR Subarra 90.72 331 P **P 12 50 36.0 +0.4**
comp=Z,1.0nm,0.6s,mb4.3,baz=93,slow=4.8
NB2 NORSAR Subarra 90.72 331 P **P 12 50 36.0 +0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb4.3
NOA NORSAR Array B 90.72 331 P **P 12 50 36.0 +0.3**
comp=Z,0.6nm,0.6s,mb4.1,baz=97,slow=4.4,SNR=5.5
DAVOX Davos 91.09 317 P **P 12 50 38.7 +1.1**
comp=Z,6.2nm,0.7s,mb5.1,baz=139,slow=6.9,SNR=13
YKA Yellowknife Ar 114.15 17 PKP PKPdf 12 56 10.8 -5.1
comp=Z,0.2nm,0.8s,baz=336,slow=1.6,SNR=5.6
PDAR Pinedale Array 131.44 29 PKP PKPdf 12 56 46.6 -3.2
comp=Z,0.2nm,0.4s,baz=135,slow=1.3,SNR=3.6
PDAR SKPbc 13 00 07.9
comp=Z,1.2nm,1.0s,baz=225,slow=2.1,SNR=5.4
TXAR Lajitas Array 144.63 37 PKP PKPdf 12 57 10.2 -3.8
comp=Z,6.3nm,0.6s,baz=275,slow=1.1,SNR=77
WVT Waverly 145.02 11 *e*PKP PKPdf 12 57 10.5 -4.0
WVT *e* 12 57 18.5
MIAR Mount Ida 145.03 19 *e*PKP PKPdf 12 57 10.5 -4.1
MIAR *e* 12 57 20.9
TZTN Tazewell 145.18 5 *e*PKP PKPdf 12 57 10.8 -3.9
TZTN *e* 12 57 20.3
JCT Junction City 145.91 31 *eP* PKPbc 12 57 14.3 +2.3
JCT *e* 12 57 23.8

*IDC **10** 12:42:10.5±0.5, 1.67S×99.67E, mb4.4/21, mb1 4.6/21, mb1mx4.5/24, mbtmp4.4/21, Error ellipse: s-maj=20.2km s-min=9.5km az=44.0*
*MOS **10** 12:42:14.0±0.8, 1.57S×99.63E, h33km, mb4.8/7, Error ellipse: s-maj=18.2km s-min=9.5km az=117.0*
*BJI **10** 12:42:17.1, 1.60S×99.60E, h43km, mb4.8*
*NEIC **10** 12:42:17.1±1.7, 1.60S×99.58E, h43km±15km, mb4.7/16, Error ellipse: s-maj=12.0km s-min=5.4km az=55.0*
ISC 10 12:42:13.5±2.2, 1.64S±0.06×99.56E±0.07, h29km±14km, n69, σ0:99/67, mb4.5/34, 4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.97**	**9**	*eP*	**Pn**	**12 43 57.0**	**+0.6**
KKM	**Kota Kinabalu**	**18.30**	**65**	P	**P**	**12 46 29.4**	**+2.1**
CM31	**Chiang Mai Arr**	**19.98**	**358**	*eP*	**P**	**12 46 43.1**	**-3.6**
5.8nm,0.6s							
CMAR	**Chiang Mai Arr**	**19.98**	**358**	P	**P**	**12 46 44.0**	**-2.7**
5.7nm,0.6s,baz=188,slow=10,SNR=13							
FITZ	**Fitzroy Crossi**	**30.37**	**124**⇓	*iP*	**P**	**12 48 24.8**	**-0.7**
14nm,0.9s,mb4.7							
FITZ	**Fitzroy Crossi**	**30.37**	**124**	P	**P**	**12 48 24.4**	**-1.1**
20nm,0.9s,mb4.9,baz=281,slow=4.4,SNR=11							
JIRN	**Jiri**	**31.85**	**337**	*eP*	**P**	**12 48 38.5**	**+0.1**
23nm,0.9s,mb5.0							
PKI	**Pulchoki**	**32.08**	**336**	*eP*	**P**	**12 48 40.7**	**+0.3**
LSA	**Lhasa**	**32.19**	**346**	*eP*	**P**	**12 48 43.4**	**+2.1**
LSA	**Lhasa**	**32.19**	**346**	*eP*	**P**	**12 48 42.1**	**+0.8**
LSA	pmax pmax						
comp=Z,12nm,0.9s,mb4.7							
LSA	**Lhasa**	**32.19**	**346**	*eP*	**P**	**12 48 42.1**	**+0.8**
comp=Z,12nm,0.9s,mb4.7							
GUN	**Gumba**	**32.19**	**337**	*eP*	**P**	**12 48 42.3**	**+0.9**
comp=Z,25nm,0.5s,mb5.3							
DMN	**Daman**	**32.24**	**335**	*eP*	**P**	**12 48 41.5**	**-0.3**
comp=Z,7.3nm,0.6s,mb4.7							
KKN	**Kakani**	**32.33**	**336**	*eP*	**P**	**12 48 43.0**	**+0.4**
GKN	**Gorkha**	**32.78**	**335**	*eP*	**P**	**12 48 47.1**	**+0.6**
comp=Z,8.2nm,0.4s,mb5.0							
KOLN	**Koldanda**	**33.03**	**333**	*eP*	**P**	**12 48 48.5**	**-0.2**
comp=Z,13nm,0.8s,mb4.9							
ENH	**Enshi**	**33.12**	**16**	*eP*	**P**	**12 48 47.7**	**-1.8**
comp=Z,5.0nm,0.5s,mb4.7							
NWAO	**Narrogin (SRO)**	**35.27**	**154**	*eP*	**P**	**12 49 08.9**	**+0.9**
NWAO	pmax pmax						
comp=Z,5.0nm,0.7s							
NWAO	**Narrogin (SRO)**	**35.27**	**154**	P	**P**	**12 49 08.0**	**0.0**
comp=Z,3.3nm,0.7s,mb4.4,baz=9.5,slow=5.8,SNR=5.7							
NWAO	**Narrogin (SRO)**	**35.27**	**154**	*eP*	**P**	**12 49 08.9**	**+0.9**
comp=Z,5.0nm,0.7s,mb4.5							
WRA	**Warramunga Arr**	**38.55**	**121**	P	**P**	**12 49 34.9**	**-0.8**
comp=Z,11nm,0.8s,mb4.6,baz=297,slow=9.3,SNR=23							
WRA	PcP PcP					12 51 48.4	-0.1
comp=Z,1.3nm,0.7s,baz=308,slow=2.4,SNR=5.2							
WRA	S **S**					**12 55 28.3**	**-1.1**
comp=Z,0.4nm,0.8s,baz=293,slow=13,SNR=3.1							
WRAB	**Tennant Creek**	**38.56**	**121**	*eP*	**P**	**12 49 35.4**	**-0.3**
WRAB	pmax pmax						
comp=Z,14nm,0.7s,mb4.8							
WRAB	**Tennant Creek**	**38.56**	**121**	*eP*	**P**	**12 49 35.4**	**-0.4**
comp=Z,14nm,0.7s,mb4.8							
WB2	**Warramunga Arr**	**38.56**	**121**⇓	*iP*	**P**	**12 49 35.4**	**-0.4**
FORT	**Forrest**	**39.59**	**140**	*eP*	**P**	**12 49 46.0**	**+1.7**
comp=Z,378nm,0.7s							
ASPA	**Alice Springs**	**39.81**	**126**⇓	*iP*	**P**	**12 49 46.7**	**+0.5**
ASPA	*e*S **S**					**12 55 49.5**	**+1.1**
ASAR	**Alice Springs**	**39.81**	**126**	P	**P**	**12 49 46.1**	**-0.1**
comp=Z,4.8nm,0.8s,mb4.3,baz=299,slow=7.7,SNR=15							
ASAR	PcP PcP					12 51 52.8	+0.3
comp=Z,1.6nm,0.7s,baz=298,slow=2.5,SNR=6.3							
ASAR	S **S**					**12 55 48.0**	**-0.4**
comp=Z,2.1nm,1.1s,baz=292,slow=15,SNR=5.7							
GTA	**Gaotai**	**40.85**	**0**	*eP*	**P**	**12 49 55.6**	**+1.1**
GTA	AP pP					12 50 04.1	+0.9
GTA	XP sP					12 50 08.1	+1.4
GTA	AMB AMB						
comp=Z,3.0nm,1.1s,mb3.8							
BJI	**Beijing**	**44.18**	**18**	*eP*	**P**	**12 50 20.4**	**-1.4**
BJI	AMB AMB						
comp=Z,7.0nm,0.6s,mb4.6							
BJI	**Beijing**	**44.18**	**18**	*eP*	**P**	**12 50 20.4**	**-1.4**
comp=Z,7.0nm,0.6s,mb4.6							
WMQ	**Urumqi**	**46.49**	**348**	P	**P**	**12 50 42.3**	**+2.2**
WMQ	AP pP					12 50 52.3	+3.5
WMQ	XP sP					12 50 56.1	+3.8
WMQ	PP PP					12 52 31.3	+2.1
WMQ	*e*S **S**					**12 57 27.8**	**+2.1**
WMQ	AMB AMB						
comp=Z,6.0nm,0.5s,mb4.8							
CTA	**Charters Tower**	**49.14**	**115**	P	**P**	**12 51 00.8**	**-0.3**
comp=Z,9.9nm,0.9s,mb4.8,baz=264,slow=9.9,SNR=3.2							
CTA	**Charters Tower**	**49.14**	**115**	P	**P**	**12 51 00.8**	**-0.3**
CTAO	**Charters Tower**	**49.14**	**115**	P	**P**	**12 51 00.2**	**-0.9**
CTAO	pmax pmax						
comp=Z,15nm,1.0s,mb5.0							
CTAO	**Charters Tower**	**49.14**	**115**	P	**P**	**12 51 00.2**	**-0.9**
comp=Z,15nm,1.0s,mb5.0							
SONM	**Songino Array**	**49.63**	**6**	P	**P**	**12 51 04.7**	**+0.2**
comp=Z,2.0nm,0.7s,mb4.3,baz=189,slow=8.7,SNR=9.1							
SONM	PcP PcP					12 52 25.9	0.0
comp=Z,1.1nm,0.6s,baz=183,slow=4.5,SNR=2.8							
STKA	**Stephens Creek**	**49.71**	**132**⇓	*iP*	**P**	**12 51 06.2**	**+0.9**
comp=Z,5.4nm,0.7s,mb4.7							
STKA	**Stephens Creek**	**49.71**	**132**	P	**P**	**12 51 05.5**	**+0.2**
comp=Z,6.8nm,0.7s,mb4.8,baz=312,slow=7.4,SNR=9.5							
ULN	**Ulaanbaatar**	**49.73**	**7**	*eP*	**P**	**12 51 05.9**	**+0.6**
ULN	pmax pmax						
comp=Z,2.0nm,0.7s,mb4.3							
ULN	**Ulaanbaatar**	**49.73**	**7**	*eP*	**P**	**12 51 05.9**	**+0.6**
comp=Z,2.4nm,0.7s,mb4.3							
MKAR	**Makanchi Array**	**50.57**	**345**	P	**P**	**12 51 11.6**	**0.0**
comp=Z,3.4nm,0.4s,mb4.7,baz=155,slow=7.9,SNR=19							
KURK	**Kurchatov**	**55.14**	**344**	*eP*	**P**	**12 51 44.8**	**-0.9**
ZAL	**Zalesovo**	**56.73**	**350**	P	**P**	**12 51 56.9**	**-0.1**
comp=Z,8.2nm,0.5s,mb5.0,baz=307,slow=4.7,SNR=16							
ZAL	**Zalesovo**	**56.73**	**350**	P	**P**	**12 51 56.9**	**-0.1**

KLR Kul'dur 57.78 24 *eP* **P 12 52 10.3 +5.8**
BVAR Borovoye Array 59.70 340 P **P 12 52 16.3 -1.5**
comp=Z,1.8nm,0.7s,mb4.2,baz=90,slow=5.8,SNR=7.5
CHKZ Chkalovo 60.16 341 *eP* **P 12 52 20.0 -0.9**
CHKZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CHKZ Chkalovo 60.16 341 *eP* **P 12 52 19.9 -1.0**
comp=Z,4.7nm,0.7s,mb4.6
YSS Yuzh-Sakhalins 61.41 32 *eP* **P 12 52 29.0 -0.5**
YSS Yuzh-Sakhalins 61.41 32 *eP* **P 12 52 27.9 -1.6**
comp=Z,10nm,0.9s,mb5.0
KMBO Kilima Mbogo 62.29 270 P **P 12 52 35.8 -0.1**
comp=Z,4.5nm,1.0s,mb4.6,baz=51,slow=11,SNR=10
YAK Yakutsk 67.51 15 *eP* **P 12 53 08.2 -0.7**
MATP Matopo 71.69 249 P **P 12 53 35.5 +0.2**
comp=Z,7.5nm,0.8s,mb4.7,baz=77,slow=5.2,SNR=15
BRTR Keskin Array B 72.76 313 P **P 12 53 40.3 -1.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=133,slow=5.5,SNR=6.2
BOSA Boshof 75.45 241 P **P 12 53 56.9 -0.2**
comp=Z,2.6nm,0.7s,mb4.2,baz=125,slow=8.1,SNR=4.8
AKASG Malin Array Be 78.94 322 P **P 12 54 14.5 -1.5**
comp=Z,0.2nm,0.3s,mb3.6,baz=86,slow=4.2,SNR=4.3
MLR Muntele Rosu 79.74 317 P **P 12 54 20.7 +0.2**
comp=Z,5.5nm,0.9s,mb4.5,baz=91,slow=3.7,SNR=7.7
VNDA Vanda 82.60 169 P **P 12 54 34.9 0.0**
comp=Z,1.0nm,0.8s,mb3.9,baz=293,slow=9.9
VNDA Vanda 82.60 169 P **P 12 54 34.9 0.0**
FINES FINESS Array B 83.59 332 P **P 12 54 40.6 +0.4**
comp=Z,0.9nm,0.5s,mb4.2,baz=108,slow=6.0,SNR=6.3
ARCES ARCESS Array B 85.99 340 P **P 12 54 53.2 +1.2**
comp=Z,2.8nm,0.8s,mb4.5,baz=68,slow=6.5,SNR=4.1
ARCES ARCESS Array B 85.99 340 P **P 12 54 53.2 +1.1**
GERES GERESS Array B 88.49 319 P **P 12 55 05.5 +0.9**
comp=Z,0.8nm,0.8s,mb4.0,baz=104,slow=5.5,SNR=6.1
TXAR Lajitas Array 144.68 37 PKP PKPdf 13 01 50.2 -3.0
comp=Z,2.9nm,0.5s,baz=220,slow=1.0,SNR=24
TXAR Lajitas Array 144.68 37 PKP PKPdf 13 01 50.2 -3.0
WVT Waverly 145.00 10 *e*PKP PKPdf 13 01 49.2 -4.4
MIAR Mount Ida 145.04 19 *e*PKP PKPdf 13 01 50.0 -3.7
JCT Junction City 145.94 31 *e*PKP PKPdf 13 01 53.4 -1.9
CPCT Cooper Cave 146.15 6 *e*PKP PKPdf 13 01 53.0 -2.5

*IDC **10** 12:50:34.5±1.8, 2.03S×99.11E, mb3.9/9, mb1 4.1/9, mb1mx3.9/18, mbtmp3.9/9, Error ellipse: s-maj=84.3km s-min=17.1km az=56.0*
*NEIC **10** 12:50:39.7±0.8, 1.93S×99.31E, h30km, mb4.2/3, Error ellipse: s-maj=31.9km s-min=10.5km az=61.0*
ISC 10 12:50:38.0±1.0, 1.9S±0.1×99.3E±0.2, h33km, n17, σ0:83/14, mb4.1/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.25**	**11**	*eP*	**P**	**12 52 24.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**20.21**	**359**	P	**P**	**12 55 11.7**	**-1.3**
0.9nm,0.6s,baz=188,slow=9.7,SNR=4.0							
WRA	**Warramunga Arr**	**38.65**	**120**	P	**P**	**12 57 59.9**	**-0.4**
2.4nm,0.8s,mb4.0,baz=302,slow=9.1,SNR=12							
WRAB	**Tennant Creek**	**38.65**	**120**	*eP*	**P**	**12 58 00.2**	**-0.2**
4.4nm,0.8s,mb4.2							
ASAR	**Alice Springs**	**39.88**	**126**	P	**P**	**12 58 10.5**	**0.0**
0.9nm,0.9s,mb3.5,baz=301,slow=9.0,SNR=8.3							
STKA	**Stephens Creek**	**49.74**	**131**	P	**P**	**12 59 30.0**	**+0.5**
2.3nm,0.8s,mb4.3,baz=307,slow=11,SNR=4.4							
SONM	**Songino Array**	**49.90**	**6**	P	**P**	**12 59 31.3**	**+0.8**
0.7nm,0.6s,mb3.9,baz=185,slow=7.5,SNR=5.6							
MKAR	**Makanchi Array**	**50.73**	**345**	P	**P**	**12 59 37.2**	**+0.4**
1.4nm,0.6s,mb4.1,baz=146,slow=8.4,SNR=13							
KURK	**Kurchatov**	**55.30**	**344**	*eP*	**P**	**13 00 10.4**	**-0.2**
2.3nm,0.9s,mb4.2							
ZAL	**Zalesovo**	**56.92**	**350**	P	**P**	**13 00 22.5**	**+0.3**
2.9nm,0.5s,mb4.6,baz=340,slow=2.6,SNR=7.3							
ZAL	**Zalesovo**	**56.92**	**350**	P	**P**	**13 00 22.5**	**+0.3**
BVAR	**Borovoye Array**	**59.84**	**340**	P	**P**	**13 00 40.1**	**-2.5**
0.7nm,0.6s,mb3.6,baz=141,slow=9.5,SNR=5.3							
CHKZ	**Chkalovo**	**60.31**	**341**	*eP*	**P**	**13 00 46.7**	**+0.9**
1.8nm,1.0s,mb4.1							
FINES	**FINESS Array B**	**83.69**	**332**	P	**P**	**13 03 05.1**	**+0.5**
1.8nm,0.9s,mb4.2,baz=90,slow=5.7,SNR=4.6							
TXAR	**Lajitas Array**	**145.03**	**36**	PKPbc	PKPbc	13 10 15.8	+3.0
1.5nm,0.6s,baz=269,slow=1.2,SNR=18							
MIAR	**Mount Ida**	**145.35**	**19**	*e*PKP	PKPdf	13 10 16.3	+3.2
CPCT	**Cooper Cave**	**146.41**	**6**	*e*PKP	PKPdf	13 10 18.0	+3.1

*IDC **10** 12:55:12.7±0.5, 1.71S×99.65E, mb4.3/19, mb1 4.4/19, mb1mx4.4/23, mbtmp4.3/19, Error ellipse: s-maj=24.8km s-min=10.9km az=45.0*
*BJI **10** 12:55:14.3, 2.03S×99.62E, h36km, mb4.8*
*MOS **10** 12:55:16.3±0.8, 1.61S×99.71E, h33km, mb4.7/9, Error ellipse: s-maj=21.8km s-min=10.5km az=112.1*
*NEIC **10** 12:55:17.6±0.3, 1.69S×99.65E, h30km, mb4.6/16, Error ellipse: s-maj=11.9km s-min=6.2km az=56.0*
ISC 10 12:55:13.4±2.6, 1.65S±0.07×99.69E±0.09, h13km±15km, n61, σ0:97/56, mb4.5/36, 2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.96**	**8**	*eP*	**Pn**	**12 56 59.3**	**+1.7**
CM31	**Chiang Mai Arr**	**19.99**	**358**	*eP*	**P**	**12 59 46.5**	**-2.1**
8.7nm,0.8s							
CMAR	**Chiang Mai Arr**	**19.99**	**358**	P	**P**	**12 59 47.2**	**-1.5**
2.1nm,0.5s,baz=188,slow=10,SNR=13							
FITZ	**Fitzroy Crossi**	**30.27**	**124**	P	**P**	**13 01 25.9**	**-0.7**
12nm,0.9s,mb4.6,baz=303,slow=6.4,SNR=6.6							
JIRN	**Jiri**	**31.90**	**337**	*eP*	**P**	**13 01 42.0**	**+1.1**
22nm,0.7s,mb5.1							
LSA	**Lhasa**	**32.22**	**346**	P	**P**	**13 01 44.7**	**+1.1**
LSA	pmax pmax						
comp=Z,10.0nm,1.3s,mb4.5							
LSA	**Lhasa**	**32.22**	**346**	P	**P**	**13 01 44.7**	**+1.1**
comp=Z,9.6nm,1.3s,mb4.5							
GUN	**Gumba**	**32.24**	**337**	*eP*	**P**	**13 01 44.9**	**+1.0**
comp=Z,20nm,0.5s,mb5.2							
DMN	**Daman**	**32.29**	**335**	*eP*	**P**	**13 01 44.6**	**+0.3**
comp=Z,19nm,1.2s,mb4.8							
KKN	**Kakani**	**32.38**	**336**	*eP*	**P**	**13 01 45.6**	**+0.5**
comp=Z,8.8nm,0.6s,mb4.8							
KKN	**Kakani**	**32.38**	**336**	*eP*	**P**	**13 01 45.6**	**+0.5**
KKN	pmax pmax						
comp=Z,4.0nm,0.6s,mb4.4							
GKN	**Gorkha**	**32.83**	**335**	*eP*	**P**	**13 01 49.4**	**+0.4**
KOLN	**Koldanda**	**33.09**	**333**	*eP*	**P**	**13 01 52.0**	**+0.8**
comp=Z,14nm,0.8s,mb5.0							
ENH	**Enshi**	**33.09**	**16**	*eP*	**P**	**13 01 50.4**	**-0.8**
comp=Z,4.7nm,0.3s,mb4.9							
XAN	**Xi'an**	**36.54**	**13**	P	**P**	**13 02 19.7**	**-1.0**
XAN	AMB AMB						
comp=Z,6.0nm,1.4s,mb4.2							
WRA	**Warramunga Arr**	**38.44**	**121**	P	**P**	**13 02 36.4**	**-0.4**
comp=Z,4.2nm,0.

SONM PcP PcP 13 05 27.9 -0.4
comp=Z,1.3nm,0.5s,baz=192,slow=4.7,SNR=5.9
ULN Ulaanbaatar 49.73 6 P **P** **13 04 05.7 -1.6**
ULN pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
ULN Ulaanbaatar 49.73 6 P **P** **13 04 05.7 -1.7**
comp=Z,2.1nm,0.7s,mb4.3
MKAR Makanchi Array 50.60 345 P **P** **13 04 14.4 +0.4**
comp=Z,3.5nm,0.7s,mb4.4,baz=150,slow=8.1,SNR=28
KURK Kurchatov 55.18 344 *eP* **P** **13 04 47.1 -1.0**
KURK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
KURK Kurchatov 55.18 344 *eP* **P** **13 04 47.1 -0.9**
comp=Z,4.0nm,0.8s,mb4.5
ZAL Zalesovo 56.76 350 P **P** **13 04 59.4 0.0**
comp=Z,5.8nm,0.4s,mb5.0,baz=312,slow=4.7,SNR=22
BVAR Borovoye Array 59.74 340 P **P** **13 05 18.8 -1.5**
comp=Z,2.4nm,0.7s,mb4.3,baz=142,slow=8.5,SNR=18
CHKZ Chkalovo 60.21 341 *eP* **P** **13 05 22.5 -0.9**
CHKZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CHKZ Chkalovo 60.21 341 *eP* **P** **13 05 22.5 -0.9**
comp=Z,3.6nm,0.8s,mb4.5
BOD Bodaibo 60.38 9 *eP* **P** **13 05 24.1 -0.4**
BOD pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
YSS Yuzh-Sakhalins 61.35 32 *eP* **P** **13 05 31.8 +0.5**
YSS Yuzh-Sakhalins 61.35 32 *eP* **P** **13 05 31.5 +0.2**
comp=Z,3.9nm,0.6s,mb4.7
KMBO Kilima Mbogo 62.41 270 P **P** **13 05 39.4 +0.5**
comp=Z,1.9nm,0.8s,mb4.3,baz=64,slow=6.0,SNR=5.2
KMBO Kilima Mbogo 62.41 270 P **P** **13 05 39.4 +0.5**
YAK Yakutsk 67.48 15 *eP* **P** **13 06 09.7 -1.3**
YAK pmax pmax
comp=Z,12nm,0.7s,mb5.0
YAK Yakutsk 67.48 15 *eP* **P** **13 06 09.7 -1.3**
comp=Z,12nm,0.7s,mb5.0
ASF Jabal al Asfar 68.13 306 P **P** **13 06 15.9 +0.3**
comp=Z,1.2nm,0.3s,mb4.4,baz=114,slow=2.4,SNR=3.0
MATP Matopo 71.81 249 P **P** **13 06 37.5 -0.7**
comp=Z,3.7nm,0.7s,mb4.4,baz=105,slow=5.7,SNR=8.4
BRTR Keskin Array B 72.85 312 P **P** **13 06 42.4 -1.8**
comp=Z,1.1nm,0.5s,mb4.0,baz=129,slow=7.9,SNR=6.4
AKASG Malin Array Be 79.01 322 P **P** **13 07 17.2 -1.5**
comp=Z,0.1nm,0.3s,mb3.2,baz=93,slow=4.1,SNR=4.6
MLR Muntele Rosu 79.83 317 P **P** **13 07 23.0 -0.2**
comp=Z,6.2nm,1.0s,mb4.5,baz=93,slow=2.1,SNR=8.4
FINES FINESS Array B 83.65 332 P **P** **13 07 43.1 +0.3**
comp=Z,1.0nm,0.4s,mb4.3,baz=114,slow=4.9,SNR=40
KAF Kangasniemi 83.73 333 *ep* **P** **13 07 43.3 +0.1**
comp=Z,1.2nm,0.4s,mb4.4,baz=118,slow=5.0
KAF Kangasniemi 83.73 333 *eP* **P** **13 07 43.3 +0.1**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
ARCES ARCESS Array B 86.03 340 P **P** **13 07 55.3 +0.8**
comp=Z,2.3nm,0.9s,mb4.4,baz=90,slow=6.1,SNR=6.2
GERES GERESS Array B 88.58 319 P **P** **13 08 08.0 +0.6**
comp=Z,0.2nm,0.4s,mb3.8,baz=146,slow=4.8,SNR=5.3
HFS Hagfors 89.41 330 P **P** **13 08 11.8 +0.8**
comp=Z,2.6nm,0.9s,mb4.5,baz=90,slow=7.4,SNR=4.4
YKA Yellowknife Ar 114.12 17 PKP PKPdf 13 13 52.4 -3.3
comp=Z,0.1nm,0.5s,baz=323,slow=1.3,SNR=5.3
TXAR Lajitas Array 144.61 37 PKP PKPdf 13 14 52.2 -1.6
comp=Z,3.8nm,0.4s,baz=208,slow=0.6,SNR=95
WVT Waverly 144.99 11 *e*PKP PKPdf 13 14 51.8 -2.5
MIAR Mount Ida 145.01 19 *e*PKP PKPdf 13 14 52.4 -2.0
TZTN Tazewell 145.15 5 *e*PKP PKPdf 13 14 52.1 -2.5
JCT Junction City 145.88 31 *e*PKP PKPdf 13 14 55.2 -0.8
JCT *e* 13 15 03.6
CPCT Cooper Cave 146.14 6 *e*PKP PKPdf 13 14 55.2 -1.1

IDC 10 12:58:50.0±3.9, 0.55S×101.31E, mb3.8/5, mb1 4.0/5, mb1mx3.6/18, mbtmp3.8/5, Error ellipse: s-maj=222.8km s-min=21.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.64**	**123**	P	P	13 06 07.7	-1.0
0.7nm,0.4s,baz=304,slow=9.1,SNR=5.3							
ASAR	**Alice Springs**	**39.09**	**128**	P	P	13 06 18.6	-2.2
0.4nm,0.6s,baz=291,slow=7.7,SNR=4.0							
MKAR	**Makanchi Array**	**50.01**	**343**	P	P	13 07 46.8	-1.4
0.9nm,0.5s,baz=154,slow=8.7,SNR=4.8							
ZAL	**Zalesovo**	**56.00**	**348**	P	P	13 08 30.6	-2.0
1.2nm,0.4s,baz=1.4,slow=7.5,SNR=4.5							
BVAR	**Borovoye Array**	**59.30**	**339**	P	P	13 08 52.7	-3.2
0.4nm,0.5s,baz=157,slow=11,SNR=3.9							
TXAR	**Lajitas Array**	**142.76**	**38**	PKP	PKPdf	13 18 23.6	-4.3
0.6nm,0.6s,baz=321,slow=1.1,SNR=4.9							

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*IDC **10** 12:59:42.7±2.2, 1.48S×99.96E, mb4.0/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=101.4km s-min=17.9km az=58.0*
*NEIC **10** 12:59:45.1±1.0, 2.02S×99.30E, h30km, mb4.3/1, Error ellipse: s-maj=39.2km s-min=12.3km az=61.0*
ISC 10 12:59:45.9±1.6, 1.4S±0.3×100.0E±0.4, h33km, n16, σ1900/13, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.65**	**5**	P	P	13 01 32.1	+8.3
CMAR	**Chiang Mai Arr**	**19.74**	**357**	P	P	13 04 14.7	-1.1
0.1nm,0.3s,baz=192,slow=9.7,SNR=3.6							
WRA	**Warramunga Arr**	**38.27**	**121**	P	P	13 07 04.7	-0.4
1.1nm,0.4s,mb3.9,baz=303,slow=9.2,SNR=6.3							
WRAB	**Tennant Creek**	**38.28**	**121**	*eP*	P	13 07 05.1	-0.1
ASAR	**Alice Springs**	**39.58**	**127**	P	P	13 07 16.3	+0.3
0.7nm,0.5s,mb3.6,baz=301,slow=7.6,SNR=6.6							
SONM	**Songino Array**	**49.32**	**6**	P	P	13 08 34.7	+0.8
0.7nm,0.5s,mb3.9,baz=190,slow=8.8,SNR=3.9							
STKA	**Stephens Creek**	**49.53**	**132**	P	P	13 08 35.7	-0.1
2.4nm,1.1s,mb4.2,baz=305,slow=15,SNR=2.9							
STKA	**Stephens Creek**	**49.53**	**132**	P	P	13 08 35.7	-0.1
MKAR	**Makanchi Array**	**50.44**	**344**	P	P	13 08 42.8	+0.2
2.1nm,0.6s,mb4.4,baz=147,slow=8.0,SNR=8.0							
KURK	**Kurchatov**	**55.03**	**344**	*eP*	P	13 09 18.7	+2.1
ZAL	**Zalesovo**	**56.56**	**349**	P	P	13 09 28.1	+0.6
1.7nm,0.4s,mb4.4,baz=70,slow=2.7,SNR=5.2							
BVAR	**Borovoye Array**	**59.62**	**340**	P	P	13 09 48.5	-0.6
0.7nm,0.6s,mb3.9,baz=144,slow=12,SNR=4.2							
CHKZ	**Chkalovo**	**60.08**	**340**	*eP*	P	13 09 50.4	-1.8
2.1nm,0.8s,mb4.2							
TXAR	**Lajitas Array**	**144.18**	**37**	PKP	PKPdf	13 19 20.2	+1.1
0.7nm,0.5s,baz=248,slow=0.8,SNR=7.8							
MIAR	**Mount Ida**	**144.64**	**20**	*e*PKP	PKPdf	13 19 20.8	+1.0
JCT	**Junction City**	**145.47**	**31**	*e*PKP	PKPdf	13 19 23.4	+2.1

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*IDC **10** 13:01:36.4±1.7, 54.44N×152.01W, mb3.6/5, mb1 4.0/7, mb1mx3.7/25, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=48.7km s-min=22.5km az=4.0*
*NEIC **10** 13:01:37.5±0.7, 54.33N×151.93W, h10km, mb4.3/8(AEIC), Error ellipse: s-maj=7.9km s-min=6.0km az=195.0*
ISC 10 13:01:37.0±1.0, 54.47N±0.07×151.7W±0.1, h10km, n48, σ0984/51, mb3.6/4, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**3.36**	**352**	P	Pn	13 02 31.9	+1.2
KDAK				S	Sn	13 03 10.1	-1.0
SYI	**Shuyak Island**	**4.17**	**355**	P	Pn	13 02 43.2	+1.1
ANCK	**Angle Creek**	**4.30**	**332**	P	Pn	13 02 44.6	+0.5
ANCK				S	Sn	13 03 34.5	-0.5
KAPH	**Katmai Pasha**	**4.39**	**341**	P	Pn	13 02 46.5	+1.1
KAHC	**Katmai Hardscr**	**4.58**	**338**	P	Pn	13 02 48.6	+0.6
MCNL	**McNeil River**	**4.95**	**344**	P	Pn	13 02 54.1	+0.8
XLV	**Seldovia**	**5.00**	**360**	P	Pn	13 02 55.0	+1.1
CNPM	**China Poot**	**5.07**	**2**	P	Pn	13 02 55.3	+0.3
SDPT	**Sand Point**	**5.16**	**283**	*eP*	Pn	13 02 51.0	-5.3
OPT	**Oil Point**	**5.27**	**351**	P	Pn	13 02 58.9	+1.2
BRLK	**Bradley Lake**	**5.32**	**4**	P	Pn	13 02 58.6	0.0
INE	**Iliamna NE**	**5.66**	**353**	P	Pn	13 03 03.6	+0.4
ILW	**Iliamna West**	**5.66**	**352**	P	Pn	13 03 03.8	+0.5
ILIM	**Iliamna**	**5.67**	**353**	P	Pn	13 03 03.6	+0.2
RDN	**Redoubt North**	**6.09**	**355**	P	Pn	13 03 09.6	+0.3
SLKM	**Skilak Lake**	**6.10**	**7**	P	Pn	13 03 10.1	+0.6
NCT	**North Crescent**	**6.15**	**354**	P	Pn	13 03 10.2	0.0
DFR	**Drift River**	**6.16**	**355**	P	Pn	13 03 10.8	+0.4
HIN	**Hinchinbrook I**	**6.56**	**23**	P	Pn	13 03 15.8	-0.2
RC01	**Rabbit Creek A**	**6.72**	**8**	P	Pn	13 03 17.4	-0.8
SPU	**Mount Spurr**	**6.73**	**358**	*eP*	Pn	13 03 17.8	-0.6
CKL	**Chakachamna La**	**6.75**	**357**	P	Pn	13 03 18.1	-0.6
EYAK	**Cordova Ski Ar**	**6.87**	**25**	P	Pn	13 03 20.1	-0.2
SVW2	**Sparrevohn**	**6.97**	**344**	P	Pn	13 03 21.2	-0.5
STLK	**Strandline Lak**	**7.05**	**359**	P	Pn	13 03 22.4	-0.5
PWA	**Palmer West**	**7.26**	**7**	*eP*	Pn	13 03 27.1	+1.3
PMR	**Palmer**	**7.27**	**10**	P	Pn	13 03 25.5	-0.4
DIV	**Divide**	**7.38**	**23**	P	Pn	13 03 27.7	+0.2
GHO	**Glory Hole Cre**	**7.46**	**10**	P	Pn	13 03 28.5	-0.2
SML	**Sawmill**	**7.56**	**12**	P	Pn	13 03 29.7	-0.3
SCM	**Sheep Creek Mo**	**7.73**	**15**	P	Pn	13 03 32.4	0.0
GLB	**Gilahina Butte**	**8.13**	**28**	P	P	13 03 38.0	-0.1
BALM	**Baldy**	**8.25**	**33**	P	P	13 03 39.1	-0.5
PNL	**Peninsula**	**8.46**	**47**	P	P	13 03 41.9	-0.7
CTGM	**Chitina Glacie**	**8.53**	**36**	P	P	13 03 43.2	-0.4
TT01	**Tatalina**	**8.76**	**347**	P	P	13 03 45.3	-1.4
MENT	**Mentasta**	**9.43**	**23**	*eP*	P	13 03 56.5	+0.5
ILAR	**Eielson Array**	**10.61**	**11**	Pn	P	13 04 11.6	-0.4
1.5nm,0.3s,baz=197,slow=14,SNR=82							
ILAR				Sn	S	13 06 08.2	-3.7
0.2nm,0.3s,baz=205,slow=24,SNR=4.1							
COLA	**College**	**10.61**	**9**	*eP*	P	13 04 11.8	-0.2
DAWY	**Dawson**	**11.46**	**28**	*eP*	P	13 04 23.7	+0.1
IMA	**Indian Mountai**	**11.68**	**356**	*eP*	P	13 04 25.3	-1.3
DLBC	**Dease Lake**	**12.59**	**63**	Pn	P	13 04 37.3	-1.5
0.3nm,0.3s,baz=243,slow=13,SNR=8.8							
INK	**Inuvik**	**16.26**	**24**	Pn	P	13 05 28.4	+1.6
0.2nm,0.3s,baz=204,slow=15,SNR=24							
YKA	**Yellowknife Ar**	**20.70**	**52**	P	P	13 06 18.9	-0.7
0.5nm,0.6s,baz=261,slow=9.9,SNR=26							
NEW	**Newport**	**22.27**	**92**	P	P	13 06 38.2	+2.7
2.4nm,0.8s,mb3.7,baz=306,slow=8.5,SNR=6.9							
PDAR	**Pinedale Array**	**29.74**	**96**	P	P	13 07 46.4	+1.0
0.4nm,0.8s,mb3.2,baz=304,slow=5.3,SNR=3.6							
SONM	**Songino Array**	**58.76**	**310**	P	P	13 11 35.8	-1.3
0.4nm,0.5s,mb3.7,baz=53,slow=7.2,SNR=5.2							
CMAR	**Chiang Mai Arr**	**85.90**	**296**	P	P	13 14 16.2	-2.0
0.8nm,0.8s,mb4.0,baz=11,slow=4.6,SNR=4.6							

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*IDC **10** 13:02:50.8±1.5, 1.67S×99.87E, mb3.8/9, mb1 4.0/9, mb1mx3.8/18, mbtmp3.8/9, Error ellipse: s-maj=75.1km s-min=16.4km az=57.0*
*NEIC **10** 13:02:55.3±0.9, 1.65S×99.87E, h30km, mb4.2/3, Error ellipse: s-maj=49.1km s-min=12.3km az=60.0*
ISC 10 13:02:54.2±1.3, 1.5S±0.2×100.0E±0.4, h33km, n19, σ0987/15, mb4.0/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.88**	**357**	P	P	13 07 25.6	-0.2
0.8nm,0.6s,baz=189,slow=10.0,SNR=5.3							
WRA	**Warramunga Arr**	**38.22**	**121**	P	P	13 10 12.5	-0.6
1.6nm,0.5s,mb4.0,baz=302,slow=9.1,SNR=16							
WRA				PcP	PcP	13 12 27.0	-0.6
0.3nm,0.6s,baz=314,slow=2.5,SNR=4.8							
WRAB	**Tennant Creek**	**38.23**	**121**	*eP*	P	13 10 12.9	-0.2
3.2nm,0.5s,mb4.3							
ASAR	**Alice Springs**	**39.52**	**127**	P	P	13 10 23.8	0.0
0.9nm,0.6s,mb3.6,baz=302,slow=8.2,SNR=10.0							
ASAR				PcP	PcP	13 12 31.4	-0.2
0.5nm,0.6s,baz=295,slow=2.9,SNR=4.6							
STKA	**Stephens Creek**	**49.46**	**132**	P	P	13 11 44.2	+0.7
0.8nm,0.6s,mb4.0,baz=348,slow=11,SNR=3.1							
STKA	**Stephens Creek**	**49.46**	**132**	P	P	13 11 44.2	+0.7
SONM	**Songino Array**	**49.47**	**6**	P	P	13 11 44.4	+1.0
0.6nm,0.8s,mb3.7,baz=180,slow=10,SNR=3.8							
SONM	**Songino Array**	**49.47**	**6**	P	P	13 11 44.4	+1.0
MKAR	**Makanchi Array**	**50.58**	**344**	P	P	13 11 52.8	+1.0
0.8nm,0.5s,mb3.9,baz=149,slow=7.9,SNR=7.0							
KURK	**Kurchatov**	**55.16**	**344**	P	P	13 12 26.3	+0.5
2.2nm,0.8s,mb4.2							
ZAL	**Zalesovo**	**56.70**	**349**	P	P	13 12 36.2	-0.6
1.3nm,0.5s,mb4.2,baz=328,slow=3.5,SNR=4.1							
ZAL	**Zalesovo**	**56.70**	**349**	P	P	13 12 36.2	-0.7
BVAR	**Borovoye Array**	**59.74**	**340**	P	P	13 12 56.8	-1.4
0.3nm,0.5s,mb3.6,baz=135,slow=8.4,SNR=3.7							
CHKZ	**Chkalovo**	**60.20**	**340**	*eP*	P	13 12 59.9	-1.5
1.7nm,0.9s,mb4.1							
FINES	**FINESS Array B**	**83.70**	**332**	P	P	13 15 22.1	+1.3
2.8nm,1.1s,mb4.3,baz=90,slow=8.3,SNR=3.0							
TXAR	**Lajitas Array**	**144.32**	**37**	PKP	PKPdf	13 22 28.8	+1.1
0.6nm,0.5s,baz=201,slow=1.0,SNR=10							
TXAR	**Lajitas Array**	**144.32**	**37**	PKP	PKPdf	13 22 28.8	+1.1
MIAR	**Mount Ida**	**144.78**	**20**	*e*P	PKPbc	13 22 28.9	+0.6
CPCT	**Cooper Cave**	**145.98**	**7**	*e*PKP	PKPdf	13 22 32.2	+1.8

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*IDC **10** 13:05:54.8±0.7, 1.74S×99.58E, mb4.2/13, mb1 4.4/13, mb1mx4.2/20, mbtmp4.2/13, Error ellipse: s-maj=33.9km s-min=14.2km az=54.0*
*BJI **10** 13:05:54.9, 2.37S×99.94E, h45km, mb4.8*
*NEIC **10** 13:05:58.5±0.4, 1.67S×99.70E, mb4.4/5, Error ellipse: s-maj=18.1km s-min=7.1km az=56.0*
*MOS **10** 13:06:00.5±1.3, 1.40S×99.23E, h33km, mb4.6/4, Error ellipse: s-maj=66.4km s-min=16.8km az=99.7*
ISC 10 13:05:58.1±0.6, 1.6S±0.1×99.7E±0.1, h33km, n31, σ0993/27, mb4.3/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**19.96**	**358**	P	P	13 10 27.8	-2.6
1.9nm,0.5s							
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	P	13 10 30.1	-0.4
2.6nm,0.8s,baz=188,slow=9.7,SNR=13							
FITZ	**Fitzroy Crossi**	**30.24**	**124**	P	P	13 12 07.5	-0.8
5.1nm,0.9s,mb4.2,baz=305,slow=12,SNR=5.0							
WRA	**Warramunga Arr**	**38.41**	**121**	P	P	13 13 18.3	-0.1
3.2nm,0.8s,mb4.1,baz=296,slow=9.4,SNR=14							
WRA				PcP	PcP	13 15 32.7	+0.7
0.3nm,0.4s,baz=313,slow=2.4,SNR=5.1							
WRAB	**Tennant Creek**	**38.41**	**121**	*eP*	P	13 13 18.0	-0.5
WRAB				*e*		13 13 24.1	
WRAB				pmax	pmax		
comp=Z,11nm,0.8s,mb4.6							
WRAB	**Tennant Creek**	**38.41**	**121**	*eP*	P	13 13 18.0	-0.5
comp=Z,11nm,0.8s,mb4.6							
WRAB				*e*		13 13 24.1	
WB2	**Warramunga Arr**	**38.42**	**121**	*eP*	P	13 13 18.9	+0.4
ASAR	**Alice Springs**	**39.69**	**126**	P	P	13 13 29.2	+0.2
comp=Z,1.4nm,0.7s,mb3.8,baz=301,slow=8.1,SNR=8.7							
ASAR				PcP	PcP	13 15 36.7	+0.7
comp=Z,0.9nm,0.8s,baz=343,slow=3.2,SNR=5.3							
WMQ	**Urumqi**	**46.50**	**348**	P	P	13 14 26.0	+1.8
WMQ				AP	pP	13 14 36.0	+2.0
WMQ				XP	sP	13 14 40.0	+1.8
SONM	**Songino Array**	**49.59**	**6**	P	P	13 14 48.8	+0.7
comp=Z,2.5nm,0.7s,mb4.4,baz=188,slow=9.5,SNR=15							
SONM				PcP	PcP	13 16 10.1	+0.4
comp=Z,1.1nm,0.6s,baz=194,slow=4.9,SNR=6.2							
STKA	**Stephens Creek**	**49.60**	**132**	P	P	13 14 48.9	+0.5
comp=Z,2.3nm,0.6s,mb4.4,baz=313,slow=8.4,SNR=4.8							
STKA	**Stephens Creek**	**49.60**	**132**	P	P	13 14 48.9	+0.5
ULN	**Ulaanbaatar**	**49.69**	**6**	*eP*	P	13 14 49.7	+0.8
ULN				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.3							
ULN	**Ulaanbaatar**	**49.69**	**6**	*eP*	P	13 14 49.7	+0.8
comp=Z,1.6nm,0.7s,mb4.2							
MKAR	**Makanchi Array**	**50.59**	**345**	P	P	13 14 56.5	+0.7
comp=Z,2.7nm,0.5s,mb4.4,baz=153,slow=8.1,SNR=17							
MKAR	**Makanchi Array**	**50.59**	**345**	P	P	13 14 56.5	+0.7
KURK	**Kurchatov**	**55.17**	**344**	*eP*	P	13 15 29.7	-0.1
KURK				*e*		13 15 37.7	
KURK				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6							
KURK	**Kurchatov**	**55.17**	**344**	*eP*	P	13 15 29.7	-0.1
comp=Z,4.7nm,0.8s,mb4.6							
KURK				*e*		13 15 37.6	
ZAL	**Zalesovo**	**56.74**	**349**	P	P	13 15 41.5	+0.5
comp=Z,6.6nm,0.4s,mb5.0,baz=316,slow=5.6,SNR=20							
BVAR	**Borovoye Array**	**59.73**	**340**	P	P	13 16 01.1	-0.9
comp=Z,1.7nm,0.7s,mb4.2,baz=127,slow=7.4,SNR=9.4							
CHKZ	**Chkalovo**	**60.20**	**341**	*eP*	P	13 16 04.2	-1.0
CHKZ				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
CHKZ	**Chkalovo**	**60.20**	**341**	*eP*	P	13 16 04.2	-1.0
comp=Z,2.2nm,0.6s,mb4.4							
BOD	**Bodaibo**	**60.34**	**9**	*eP*	P	13 16 05.1	-1.0
MATP	**Matopo**	**71.87**	**249**	P	P	13 17 19.9	-0.3
comp=Z,2.2nm,0.7s,mb4.2,baz=68,slow=6.9,SNR=3.8							
BRTR	**Keskin Array B**	**72.87**	**312**	P	P	13 17 24.6	-1.2
comp=Z,0.7nm,0.7s,mb3.7,baz=117,slow=6.4,SNR=3.5							
FINES	**FINESS Array B**	**83.65**	**332**	P	P	13 18 25.3	+0.9
comp=Z,0.7nm,0.7s,mb3.9,baz=108,slow=4.4,SNR=9.3							
ARCES	**ARCESS Array B**	**86.03**	**340**	P	P	13 18 37.6	+1.5
comp=Z,2.0nm,0.8s,mb4.4,baz=117,slow=2.7,SNR=3.7							
TXAR	**Lajitas Array**	**144.55**	**37**	PKP	PKPdf	13 25 33.8	+1.8
comp=Z,2.6nm,0.5s,baz=194,slow=1.2,SNR=32							
MIAR	**Mount Ida**	**144.96**	**19**	*e*PKP	PKPdf	13 25 33.7	+1.3
JCT	**Junction City**	**145.83**	**31**	*e*PKP	PKPdf	13 25 36.9	+2.8
CPCT	**Cooper Cave**	**146.10**	**6**	*e*PKP	PKPdf	13 25 37.1	+2.7

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*STR **10** 13:06:19.7±0.4, 42.66N×1.43W, h5km±1km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*INMG **10** 13:06:23.2±0.9, 42.73N×1.27W, h10km±2km, ML2.7, Error ellipse: s-maj=2.2km s-min=1.9km az=44.0*
*LDG **10** 13:06:23.9±0.1, 42.73N×1.23W, h5km, Md3.2/3, Ml3.4/21, Error ellipse: s-maj=1.7km s-min=1.2km az=129.0*
*CSEM **10** 13:06:23.5±0.0, 42.72N×1.23W, h5km, ML3.4/34, Error ellipse: s-maj=0.9km s-min=0.7km az=124.0*
*NEIC **10** 13:06:23.3, 42.74N×1.26W, h4km, ML3.4(LDG), ML2.9(STR), MN2.9(MDD), After MDD.*
NEIC Felt [II] at Aos, Domeno, Ecay, Lumbier, Ripodas and San Vicente, Spain.
MDD 10 13:06:22.6±0.3, 42.74N×1.26W, h11km±4km, mbLg2.8/39, 7C-4D, Error ellipse: s-maj=3.2km s-min=2.8km az=159.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARF	**Larrau**	**0.36**	**34**	Pg	Pg	13 06 29.5	-0.6
LARF				Sg	Sg	13 06 36.0	+0.9
LARF	**Larrau**	**0.36**	**34**	Pg	Pg	13 06 29.6	-0.5
LARF				Lg		13 06 35.8	
SJPF	**Ste Jean**	**0.38**	**4**	*e*Pg	Pg	13 06 29.9	-0.5
SJPF				*e*Sg	Sg	13 06 36.3	+0.7
914nm,0.3s							
EALK	**Alkurruntz**	**0.52**	**340**	Pg	Pg	13 06 32.6	-0.4
EALK				Lg		13 06 40.7	
EALK	**Alkurruntz**	**0.52**	**340**	Pg	Pg	13 06 32.6	-0.4
55nm,0.1s,SNR=226							
EALK				Lg		13 06 40.5	
929nm,0.4s,SNR=5.0							
FDAF	**Les Forges d'A**	**0.52**	**81**	Pg	Pg	13 06 32.2	-0.9
FDAF				Sg	Sg	13 06 42.0	+1.9
FDAF	**Les Forges d'A**	**0.52**	**81**	Pg	Pg	13 06 32.1	-1.0
OSSF	**Osses**	**0.52**	**360**	Pg	Pg	13 06 32.4	-0.7
OSSF				Lg		13 06 39.5	
ORDF	**Ordiarp**	**0.53**	**27**	Pg	Pg	13 06 32.8	-0.6
ORDF				Sg	Sg	13 06 41.2	+0.6
ORDF	**Ordiarp**	**0.53**	**27**	Pg	Pg	13 06 32.8	-0.6
ORDF				Lg		13 06 39.9	
ATE	**Arette**	**0.54**	**50**	Pg	Pg	13 06 32.9	-0.7
ATE				Lg		13 06 41.5	
ETSF	**Etsaut**	**0.54**	**72**	*e*Pg	Pg	13 06 32.7	-0.9
ETSF				*e*Sg	Sg	13 06 40.7	-0.2
227nm,0.3s							
REYF	**Montagne du Re**	**0.72**	**62**	Pg	Pg	13 06 35.8	-1.3
REYF				Lg		13 06 47.2	
ECRI	**Cripan**	**0.93**	**262**	⇑Pg	Pg	13 06 40.8	-0.5
46nm,0.2s,SNR=18							
ECRI				Lg		13 06 53.0	
130nm,0.4s,SNR=22							
VIEF	**Viey**	**0.96**	**81**	Pg	Pg	13 06 39.9	-1.9
VIEF				Sg	Sg	13 06 56.1	+1.5
VIEF	**Viey**	**0.96**	**81**	Pg	Pg	13 06 40.2	-1.6
LABF	**Labassere**	**1.03**	**72**	Pg	Pg	13 06 41.4	-1.8
LABF				Lg		13 06 57.1	
EBIE	**Bielsa**	**1.04**	**92**	Pg	Pg	13 06 42.3	-1.0
94nm,0.2s,SNR=262							
EBIE				Lg		13 06 57.2	
149nm,0.2s,SNR=5.0							
EBIE	**Bielsa**	**1.04**	**92**	Pg	Pg	13 06 42.3	-1.1
94nm,0.2s,SNR=262							
ESAC	**San Caprasio**	**1.17**	**150**	⇓Pg	Pg	13 06 44.3	-1.8
ESAC				Lg		13 07 02.2	
ESAC	**San Caprasio**	**1.17**	**150**	⇓Pg	Pg	13 06 44.3	-1.8
443nm,0.2s,SNR=18							
ESAC				Lg		13 07 01.2	
710nm,0.2s,SNR=5.0							
ESAC	**San Caprasio**	**1.17**	**150**	Pg	Pg	13 06 44.3	-1.8
443nm,0.2s,SNR=18							
RESF	**Ens**	**1.18**	**86**	Pg	Pg	13 06 44.3	-1.9
RESF				Sg	Sg	13 07 02.5	+0.5
RESF	**Ens**	**1.18**	**86**	Pg	Pg	13 06 44.4	-1.8
RESF				Lg	

EMOS				Sn	Sn	13 07 33.7	+0.4
	13nm,0.3s,SNR=4.0						
EMOS				Lg		13 07 40.4	
	23nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.44**	**166**	Pn	Pn	13 07 03.1	0.0
	0.7nm,0.1s,SNR=14						
EMOS	**Mosqueruela**	**2.44**	**166**	Pg	Pg	13 07 07.6	-3.8
EMOS				Sn	Sn	13 07 32.0	-1.3
	13nm,0.3s,SNR=4.0						
MTLF	**Montolieu**	**2.62**	**76**	*e*Pn	Pn	13 07 06.6	+1.0
MTLF				*e*Pg	Pg	13 07 11.1	-3.9
MTLF				*e*Sn	Sn	13 07 34.8	-2.9
MTLF	**Montolieu**	**2.62**	**76**	*e*Pg	Pg	13 07 11.1	-3.9
MTLF				*e*Sn	Sn	13 07 34.8	-2.9
LFF	**La Frestale**	**2.63**	**33**	*e*Pn	Pn	13 07 04.8	-1.0
LFF				*e*Sn	Sn	13 07 35.7	-2.4
	31nm,0.3s						
EARI	**Arriondas**	**2.95**	**282**	Pn	Pn	13 07 10.0	-0.4
	3.0nm,0.2s,SNR=28						
EARI				Pg	Pg	13 07 16.6	-4.9
	4.9nm,0.2s,SNR=4.0						
EARI				Sn	Sn	13 07 45.6	-0.5
	2.3nm,0.2s,SNR=5.0						
EARI				Lg		13 07 57.0	
	25nm,1.2s,SNR=7.9						
EARI	**Arriondas**	**2.95**	**282**	Pn	Pn	13 07 10.0	-0.3
	3.0nm,0.2s,SNR=28						
EARI	**Arriondas**	**2.95**	**282**	Pg	Pg	13 07 16.6	-4.9
	4.9nm,0.2s,SNR=4.0						
EARI				Sn	Sn	13 07 45.6	-0.5
	2.3nm,0.2s,SNR=5.0						
GUD	**Guadarrama**	**3.01**	**227**	⇑Pn	Pn	13 07 10.9	-0.3
GUD				Pg	Pg	13 07 19.1	-3.7
GUD				Sn	Sn	13 07 46.7	-1.0
GUD				Lg		13 07 58.0	
GUD	**Guadarrama**	**3.01**	**227**	⇑Pn	Pn	13 07 10.9	-0.3
	4.1nm,0.2s,SNR=18						
GUD				Pg	Pg	13 07 18.0	-4.7
	11nm,0.3s,SNR=4.0						
GUD				Sn	Sn	13 07 46.7	-1.0
	7.8nm,0.2s,SNR=5.5						
GUD				Lg		13 07 58.0	
	18nm,0.3s,SNR=6.4						
GUD	**Guadarrama**	**3.01**	**227**	Pg	Pg	13 07 19.1	-3.6
	11nm,0.3s,SNR=4.0						
GUD				Sn	Sn	13 07 46.7	-0.9
	7.8nm,0.2s,SNR=5.5						
EJON	**La Jonquera**	**3.08**	**94**	Pn	Pn	13 07 12.6	+0.4
EJON				Pg	Pg	13 07 20.5	-3.6
EJON				Lg		13 07 59.9	
EJON	**La Jonquera**	**3.08**	**94**	Pn	Pn	13 07 12.0	-0.1
	1.6nm,0.1s,SNR=6.5						
EJON				Pg	Pg	13 07 19.1	-5.0
	5.2nm,0.2s,SNR=7.2						
EJON				Sn	Sn	13 07 49.4	+0.1
	8.4nm,1.7s,SNR=7.9						
EJON				Lg		13 07 59.9	
	26nm,0.4s,SNR=5.0						
EJON	**La Jonquera**	**3.08**	**94**	Pn	Pn	13 07 12.6	+0.5
EJON	**La Jonquera**	**3.08**	**94**	Pg	Pg	13 07 20.5	-3.6
	5.2nm,0.2s,SNR=7.2						
ECHE	**Chera**	**3.15**	**176**	Pg	Pg	13 07 20.2	-5.4
ECHE				Lg		13 08 00.5	
ECHE	**Chera**	**3.15**	**176**	Pg	Pg	13 07 20.2	-5.4
	8.0nm,0.4s,SNR=4.0						
ECHE				Lg		13 08 02.8	
	18nm,0.4s,SNR=6.3						
CAF	**Calviac**	**3.25**	**47**	*e*Pn	Pn	13 07 14.0	-0.6
CAF				*e*Sn	Sn	13 07 49.8	-3.9
	26nm,0.3s						
RJF	**Les Rejaudoux**	**3.26**	**37**	*e*Pn	Pn	13 07 14.4	-0.3
RJF				*e*Sn	Sn	13 07 50.4	-3.4
	54nm,0.5s						
ESDC	**Sonseca Array**	**3.68**	**215**	Pn	Pn	13 07 18.9	-1.8
ESDC				Pg	Pg	13 07 31.4	-4.6
ESDC				Sn	Sn	13 08 00.5	-3.9
ESDC				Lg		13 08 17.0	
ESDC	**Sonseca Array**	**3.68**	**215**	Pn	Pn	13 07 18.9	-1.8
	4.3nm,0.1s,baz=38,slow=14,SNR=36						
ESDC				Pg	Pg	13 07 29.3	-6.7
	13nm,0.2s,baz=36,slow=17,SNR=17						
ESDC				Sn	Sn	13 08 03.1	-1.4
	3.5nm,0.2s,baz=36,slow=24,SNR=7.8						
ESDC				Lg		13 08 19.2	
	14nm,0.4s,baz=38,slow=30,SNR=8.5						
ESDC	**Sonseca Array**	**3.68**	**215**	Pn	Pn	13 07 18.9	-1.7
	4.3nm,0.1s,slow=14,SNR=36						
ESDC	**Sonseca Array**	**3.68**	**215**	Pg	Pg	13 07 31.4	-4.6
	13nm,0.2s,slow=17,SNR=17						
ESDC				Sn	Sn	13 08 00.5	-4.0
	3.5nm,0.2s,slow=24,SNR=7.8						
MFF	**Saint Martin d**	**3.95**	**11**	*e*Pn	Pn	13 07 22.9	-1.6
MFF				*e*Pg	Pg	13 07 36.7	-4.7
MFF				*e*Sn	Sn	13 08 06.6	-4.7
	18nm,0.4s						
LASF	**Ste Croix**	**3.96**	**69**	*e*Pn	Pn	13 07 24.8	+0.1
LASF				*e*Sn	Sn	13 08 07.2	-4.5
	12nm,0.3s						
ETOB	**Tobarra**	**4.09**	**183**	Pn	Pn	13 07 26.3	-0.3
ETOB				Pg	Pg	13 07 38.9	-5.5
ETOB				Lg		13 08 32.6	
ETOB	**Tobarra**	**4.09**	**183**	Pn	Pn	13 07 25.7	-0.9
	1.0nm,0.1s,SNR=7.9						
ETOB				Pg	Pg	13 07 37.4	-7.0
	3.4nm,0.3s,SNR=8.3						
ETOB				Sn	Sn	13 08 14.4	-0.6
	9.4nm,0.8s,SNR=7.9						
ETOB				Lg		13 08 32.6	
	4.0nm,0.4s,SNR=5.0						
ETOB	**Tobarra**	**4.09**	**183**	Pn	Pn	13 07 26.3	-0.3
	1.0nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.09**	**183**	Pg	Pg	13 07 38.9	-5.4
	3.4nm,0.3s,SNR=8.3						
EBEN	**Beniarda**	**4.11**	**169**	Pn	Pn	13 07 26.4	-0.4
EBEN				Pg	Pg	13 07 38.6	-6.0
EBEN				Sn	Sn	13 08 12.0	-3.4
EBEN				Lg		13 08 28.9	
EBEN	**Beniarda**	**4.11**	**169**	Pn	Pn	13 07 26.0	-0.7
	2.9nm,0.3s,SNR=4.0						
EBEN				Pg	Pg	13 07 37.8	-6.8
	7.0nm,0.6s,SNR=5.0						
EBEN				Sn	Sn	13 08 14.9	-0.4
	7.9nm,0.8s,SNR=7.9						
EBEN				Lg		13 08 32.9	
	22nm,1.7s,SNR=7.9						
EBEN	**Beniarda**	**4.11**	**169**	Pn	Pn	13 07 26.4	-0.3
	SNR=4.0						
EBEN	**Beniarda**	**4.11**	**169**	Pg	Pg	13 07 38.6	-6.0
	7.0nm,0.6s,SNR=5.0						
EBEN				Sn	Sn	13 08 12.0	-3.3
	SNR=7.9						
ECAL	**Calabor**	**4.14**	**261**	⇓Pn	Pn	13 07 25.8	-1.4
ECAL				Sn	Sn	13 08 12.4	-3.7
ECAL				Lg		13 08 30.3	
ECAL	**Calabor**	**4.14**	**261**	⇓Pn	Pn	13 07 25.8	-1.4
	6.5nm,0.1s,SNR=18						
ECAL				Sn	Sn	13 08 14.9	-1.2
	10.0nm,0.3s,SNR=5.0						
ECAL				Lg		13 08 34.0	
	24nm,0.3s,SNR=6.8						
ECAL	**Calabor**	**4.14**	**261**	Pn	Pn	13 07 25.8	-1.4
	6.5nm,0.1s,SNR=18						
ECAL				Sn	Sn	13 08 12.4	-3.7
	10.0nm,0.3s,SNR=5.0						
PBRG	**Braganca**	**4.17**	**259**	*e*Pn	Pn	13 07 26.1	-1.6
PBRG				*e*Sn	Sn	13 08 13.3	-3.7
	10nm,0.5s						
PBRG	**Braganca**	**4.17**	**259**	*e*Pn	Pn	13 07 26.1	-1.6
PBRG				*e*Sn	Sn	13 08 13.3	-3.7
	10nm,0.5s						
EVIA	**Vianos**	**4.20**	**193**	Pn	Pn	13 07 27.6	-0.5
EVIA				Pg	Pg	13 07 40.8	-5.7
EVIA				Sn	Sn	13 08 14.8	-3.0
EVIA				Lg		13 08 41.1	
EVIA	**Vianos**	**4.20**	**193**	Pn	Pn	13 07 26.4	-1.7
	2.0nm,0.2s,SNR=7.9						
EVIA				Pg	Pg	13 07 39.6	-6.9
	8.0nm,0.4s,SNR=7.9						
EVIA				Sn	Sn	13 08 17.6	-0.1
	13nm,0.5s,SNR=7.9						
EVIA				Lg		13 08 36.7	
	18nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**4.20**	**193**	Pn	Pn	13 07 27.6	-0.5
	2.0nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**4.20**	**193**	Pg	Pg	13 07 40.8	-5.7
	8.0nm,0.4s,SNR=7.9						
EVIA				Sn	Sn	13 08 14.8	-3.0
	13nm,0.5s,SNR=7.9						
TCF	**Toulx Ste Croi**	**4.33**	**34**	*e*Pn	Pn	13 07 27.9	-2.1
TCF				*e*Sn	Sn	13 08 16.2	-4.9
	11nm,0.3s						
EPON	**Pontenova**	**4.36**	**280**	Pn	Pn	13 07 29.5	-0.8
EPON				Sn	Sn	13 08 17.5	-4.2
EPON	**Pontenova**	**4.36**	**280**	Pn	Pn	13 07 28.8	-1.5
	5.2nm,0.3s,SNR=12						
EPON				Sn	Sn	13 08 19.5	-2.2
	4.9nm,0.3s,SNR=5.0						
EPON				Lg		13 08 41.3	
	2.0nm,1.4s,SNR=7.9						
EPON	**Pontenova**	**4.36**	**280**	Pn	Pn	13 07 29.5	-0.8
	5.2nm,0.3s,SNR=12						
EPON				Sn	Sn	13 08 17.5	-4.2
	4.9nm,0.3s,SNR=5.0						
ERUA	**La Rua**	**4.36**	**267**	⇑Pn	Pn	13 07 29.0	-1.3
ERUA				Sn	Sn	13 08 18.3	-3.4
ERUA				Lg		13 08 40.9	
ERUA	**La Rua**	**4.36**	**267**	⇑Pn	Pn	13 07 29.0	-1.3
	3.4nm,0.2s,SNR=18						
ERUA				Sn	Sn	13 08 20.5	-1.3
	3.6nm,0.3s,SNR=7.9						
ERUA				Lg		13 08 40.9	
	8.3nm,0.5s,SNR=5.0						
ERUA	**La Rua**	**4.36**	**267**	Pn	Pn	13 07 29.0	-1.3
	3.4nm,0.2s,SNR=18						
ERUA				Sn	Sn	13 08 18.3	-3.4
	3.6nm,0.3s,SNR=7.9						
EINC	**Incio**	**4.49**	**271**	Pn	Pn	13 07 31.2	-1.0
EINC				Sn	Sn	13 08 20.6	-4.4
EINC				Lg		13 08 44.8	
EINC	**Incio**	**4.49**	**271**	Pn	Pn	13 07 31.2	-1.0
	4.5nm,0.2s,SNR=20						
EINC				Sn	Sn	13 08 20.6	-4.4
	3.2nm,0.2s,SNR=7.9						
VIVF	**Saint-Julien-l**	**4.79**	**62**	*e*Pn	Pn	13 07 35.1	-1.4
VIVF				*e*Sn	Sn	13 08 27.1	-5.5
	8.3nm,0.4s						
BGF	**Bois d'Agland**	**4.81**	**36**	*e*Pn	Pn	13 07 34.0	-2.8
BGF				*e*Sn	Sn	13 08 27.7	-5.6
	50nm,0.5s						
EMUR	**La Murta**	**4.89**	**180**	Pn	Pn	13 07 36.8	-1.0
EMUR				Pg	Pg	13 07 53.7	-6.5
EMUR				Lg		13 08 58.5	
EMUR	**La Murta**	**4.89**	**180**	Pn	Pn	13 07 36.8	-1.0
	1.2nm,0.3s,SNR=4.0						
EMUR				Pg	Pg	13 07 51.7	-8.6
	1.2nm,0.3s,SNR=7.9						
EMUR				Lg		13 08 58.5	
	5.0nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**4.89**	**180**	Pn	Pn	13 07 36.8	-1.1
	SNR=4.0						
EMUR	**La Murta**	**4.89**	**180**	Pg	Pg	13 07 53.7	-6.5
	1.2nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**4.96**	**204**	Pn	Pn	13 07 37.4	-1.4
EBAN				Pg	Pg	13 07 54.7	-6.8
EBAN				Lg		13 08 59.0	
EBAN	**Banos Encina**	**4.96**	**204**	Pn	Pn	13 07 37.4	-1.4
	2.6nm,0.2s,SNR=7.9						
EBAN				Pg	Pg	13 07 52.7	-8.8
	3.0nm,0.3s,SNR=7.9						
EBAN				Lg		13 09 00.3	
	11nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**4.96**	**204**	Pg	Pg	13 07 54.7	-6.9
	3.0nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**5.03**	**255**	*e*Pn	Pn	13 07 37.7	-2.1
PVRL				*e*Sn	Sn	13 08 33.5	-5.1
PVRL				*e*Sg	Sg	13 09 00.1	-10
	10nm,0.5s						
PVRL	**Vila Real**	**5.03**	**255**	*e*Pn	Pn	13 07 37.7	-2.1
PVRL				*e*Sn	Sn	13 08 33.5	-5.1
PVRL				*e*Sg	Sg	13 09 00.1	-10
	10nm,0.5s						
ELOB	**Lobios**	**5.12**	**263**	Pn	Pn	13 07 38.8	-2.3
ELOB				Sn	Sn	13 08 35.1	-5.8
ELOB				Lg		13 09 00.3	
ELOB	**Lobios**	**5.12**	**263**	Pn	Pn	13 07 38.8	-2.3
	1.1nm,0.1s,SNR=16						
ELOB				Sn	Sn	13 08 39.3	-1.6
	2.4nm,0.3s,SNR=7.9						
ELOB				Lg		13 09 05.1	
	13nm,0.5s,SNR=5.0						
ELOB	**Lobios**	**5.12**	**263**	Pn	Pn	13 07 38.8	-2.3
	1.1nm,0.1s,SNR=16						
ELOB				Sn	Sn	13 08 35.1	-5.8
	2.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.12**	**196**	Pn	Pn	13 07 40.2	-0.9
EQES				Pg	Pg	13 07 57.7	-7.1
EQES				Sn	Sn	13 08 36.0	-4.9
EQES				Lg		13 09 05.8	
EQES	**Quesada**	**5.12**	**196**	Pn	Pn	13 07 39.8	-1.3
	6.0nm,0.3s,SNR=11						
EQES				Pg	Pg	13 07 55.6	-9.2
	8.6nm,0.4s,SNR=9.3						
EQES				Sn	Sn	13 08 38.8	-2.1
	7.3nm,0.4s,SNR=7.9						
EQES				Lg		13 09 05.8	
	12nm,0.4s,SNR=5.0						
EQES	**Quesada**	**5.12**	**196**	Pn	Pn	13 07 40.2	-0.9
	6.0nm,0.3s,SNR=11						
EQES	**Quesada**	**5.12**	**196**	Pg	Pg	13 07 57.7	-7.1
	8.6nm,0.4s,SNR=9.3						
EQES				Sn	Sn	13 08 36.0	-4.9
	7.3nm,0.4s,SNR=7.9						
AVF	**Avril sur Loir**	**5.22**	**37**	*e*Pn	Pn	13 07 39.6	-2.9
AVF				*e*Sn	Sn	13 08 37.5	-5.9
	9.0nm,0.4s						
EADA	**Adamuz**	**5.22**	**210**	Pn	Pn	13 07 40.6	-1.9
EADA				Pg	Pg	13 08 00.0	-6.8
EADA				Sn	Sn	13 08 37.4	-6.0
EADA				Lg		13 09 06.7	
EADA	**Adamuz**	**5.22**	**210**	Pn	Pn	13 07 40.6	-1.9
	1.9nm,0.1s,SNR=24						
EADA				Pg	Pg	13 07 57.4	-9.4
	2.8nm,0.2s,SNR=5.3						
EADA				Sn	Sn	13 08 41.8	-1.6
	1.4nm,0.2s,SNR=7.9						
EADA				Lg		13 09 09.0	
	6.2nm,0.4s,SNR=5.0						
EADA	**Adamuz**	**5.22**	**210**	Pn	Pn	13 07 40.6	-1.9
	1.9nm,0.1s,SNR=24						
EADA	**Adamuz**	**5.22**	**210**	Pg	Pg	13 08 00.0	-6.8
	2.8nm,0.2s,SNR=5.3						
EADA				Sn	Sn	13 08 37.4	-6.0
	1.4nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**5.26**	**246**	*e*Pn	Pn	13 07 40.7	-2.4
MTE				*e*Sn	Sn	13 08 40.7	-3.7
MTE				*e*Sg	Sg	13 09 10.4	-7.3
	14nm,0.4s						
MTE	**Manteigas**	**5.26**	**246**	*e*Pn	Pn	13 07 40.7	-2.4
MTE				*e*Sn	Sn	13 08 40.7	-3.7
MTE				*e*Sg	Sg	13 09 10.4	-7.3
	14nm,0.4s						
HYF	**Humbligny**	**5.31**	**30**	*e*Pn	Pn	13 07 41.1	-2.7
HYF				*e*Sn	Sn	13 08 39.5	-6.2
SMF	**Signal de Mont**	**5.34**	**41**	*e*Pn	Pn	13 07 42.5	-1.7
SMF				*e*Sn	Sn	13 08 40.7	-5.7
	6.1nm,0.5s						
QUIF	**Quistinic**	**5.35**	**346**	*e*Pn	Pn	13 07 43.0	-1.4
QUIF				*e*Sn	Sn	13 08 40.7	-6.0
	13nm,0.4s						
STS	**Santiago**	**5.36**	**274**	Pn	Pn	13 07 42.5	-2.0
	2.4nm,0.2s,SNR=4.0						
SSF	**Saint Saulge**	**5.49**	**36**	*e*Pn	Pn	13 07 43.0	-3.4
SSF				*e*Sn	Sn	13 08 43.9	-6.4
	3.3nm,0.3s						
PCBR	**Castelo Branco**	**5.50**	**240**	*e*Pn	Pn	13 07 44.1	-2.4
PCBR				*e*Sg	Sg	13 09 15.5	-10
	6.5nm,0.7s						
PCBR	**Castelo Branco**	**5.50**	**240**	Pn	Pn	13 07 44.1	-2.4
PCBR				Lg		13 09 15.5	
	3.2nm,0.7s						
EZAM	**Zamans**	**5.53**	**266**	Sn	Sn	13 08 48.7	-2.5
	2.9nm,0.4s,SNR=7.9						
EZAM	**Zamans**	**5.53**	**266**	Sn	Sn	13 08 47.9	-3.4
	2.9nm,0.4s,SNR=7.9						
SGMF	**Saint Gilles**	**5.59**	**351**	*e*Pn	Pn	13 07 46.5	-1.3
SGMF				*e*Sn	Sn	13 08 46.5	-6.3
	16nm,0.7s						
ORIF	**Oris-en-Rattie**	**5.61**	**65**	*e*Pn	Pn	13 07 47.6	-0.4
ORIF				*e*Sn	Sn	13 08 46.3	-6.9
	4.9nm,0.5s						
GRR	**Gorron**	**5.66**	**3**	*e*Pn	Pn	13 07 46.0	-2.7
GRR				*e*Sn	Sn	13 08 48.2	-6.3
	60nm,0.6s						
ELUQ	**Luque**	**5.66**	**205**	Pn	Pn	13 07 46.5	-2.3
	1.0nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**5.68**	**275**	Pn	Pn	13 07 46.9	-2.1
EMAZ				Sn	Sn	13 08 49.6	-5.3
EMAZ	**Mazaricos**	**5.68**	**275**	Pn	Pn	13 07 46.9	-2.1
	4.1nm,0.1s,SNR=10.0						
EMAZ				Sn	Sn	13 08 52.4	-2.5
	3.8nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**5.68**	**275**	Pn	Pn	13 07 46.9	-2.1
	4.1nm,0.1s,SNR=10.0						
EMAZ				Sn	Sn	13 08 49.6	-5.3
	3.8nm,0.2s,SNR=7.9						
LMR	**La Mourre**	**5.73**	**81**	*e*Sg	Sg	13 09 22.9	-10
	10nm,0.9s						
ECOG	**Cogollos-Vega**	**5.73**	**199**	Pn	Pn	13 07 48.5	-1.2
	0.7nm,0.2s,SNR=7.9						
ECOG				Sn	Sn	13 08 54.8	-1.6
	5.4nm,1.0s,SNR=7.9						
ECOG				Lg		13 09 24.7	
	2.6nm,1.1s,SNR=7.9						
ROSF	**Rostrenen**	**5.78**	**347**	*e*Pn	Pn	13 07 48.5	-1.9
ROSF				*e*Sn	Sn	13 08 50.9	-6.5
	6.3nm,0.3s						
EBAD	**Badajoz**	**5.91**	**230**	Pn	Pn	13 07 49.3	-2.9
EBAD				Sn	Sn	13 08 53.7	-7.0
EBAD				Lg		13 09 31.3	
EBAD	**Badajoz**	**5.91**	**230**	Pn	Pn	13 07 49.3	-2.9
	0.3nm,0.1s,SNR=4.7						
EBAD				Sn	Sn	13 08 58.1	-2.6
	4.3nm,1.0s,SNR=7.9						
EBAD				Lg		13 09 30.4	
	5.4nm,0.5s,SNR=7.9						
EBAD	**Badajoz**	**5.91**	**230**	Pn	Pn	13 07 49.3	-2.9
	0.3nm,0.1s,SNR=4.7						
LDF	**La Druitiere**	**5.91**	**7**	*e*Pn	Pn	13 07 50.5	-1.8
LDF				*e*Sn	Sn	13 08 54.1	-6.7
	10nm,0.3s						
EBER	**Berja**	**5.96**	**193**	Pn	Pn	13 07 53.9	+0.9
EBER				Sn	Sn	13 08 57.1	-5.1
EBER				Lg		13 09 33.0	
EBER	**Berja**	**5.96**	**193**	Pn	Pn	13 07 51.9	-1.1
	4.0nm,0.2s,SNR=4.0						
EBER				Sn	Sn	13 09 00.2	-2.0
	6.5nm,0.6s,SNR=7.9						
EBER				Lg		13 09 33.0	
	5.6nm,0.5s,SNR=7.9						
EBER	**Berja**	**5.96**	**193**	Pn	Pn	13 07 53.9	+0.9
EBER				Sn	Sn	13 08 57.1	-5.0
ELOJ	**Sierra Loja**	**6.01**	**203**	Pn	Pn	13 07 52.0	-1.6
	1.4nm,0.4s,SNR=4.0						
ELOJ	**Sierra Loja**	**6.01**	**203**	Pn	Pn	13 07 52.4	-1.2
ERON	**Agron**	**6.04**	**200**	Pn	Pn	13 07 53.4	-0.7
ERON	**Agron**	**6.04**	**200**	Pn	Pn	13 07 52.1	-1.9
	1.8nm,0.4s,SNR=4.0						
ERON				Sn	Sn	13 09 01.9	-2.0
	2.5nm,0.6s,SNR=7.9						
ERON				Lg		13 09 34.5	
	1.8nm,0.8s,SNR=7.9						
ERON	**Agron**	**6.04**	**200**	Pn	Pn	13 07 53.4	-0.7
FLN	**La Foliniere**	**6.05**	**5**	*e*Pn	Pn	13 07 51.5	-2.8
	baz=188						
FLN				*e*Sn	Sn	13 08 57.8	-6.5
	9.5nm,0.4s						
PTOM	**Tomar**	**6.23**	**242**	*e*Pn	Pn	13 07 54.5	-2.3
PTOM				*e*Sg	Sg	13 09 39.8	-10
	9.0nm,0.3s						
PTOM	**Tomar**	**6.23**	**242**	*e*Pn	Pn	13 07 54.5	-2.3
PTOM				*e*Sg	Sg	13 09 39.8	-10
	9.0nm,0.3s						
EMIN	**Mina Concepcio**	**6.46**	**222**	Pn	Pn	13 07 57.4	-2.7
EMIN				Sn	Sn	13 09 06.1	-8.4
EMIN				Lg		13 09 47.4	
EMIN	**Mina Concepcio**	**6.46**	**222**	Pn	Pn	13 07 57.4	-2.7
	0.4nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	13 09 11.5	-3.0
	0.6nm,0.3s,SNR=7.9						
EMIN				Lg		13 09 47.4	
	3.2nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.46**	**222**	Pn	Pn	13 07 57.4	-2.6
CABF	**La Chapelle**	**6.51**	**51**	*e*Pn	Pn	13 07 58.6	-2.2
EMIJ	**Mijas**	**6.73**	**205**	Pn	Pn	13 08 01.7	-2.2
EMIJ				Lg		13 09 57.2	
EMIJ	**Mijas**	**6.73**	**205**	Pn	Pn	13 08 01.7	-2.2
	0.3nm,0.2s,SNR=4.0						
EMIJ				Sn	Sn	13 09 18.8	-2.6
	8.3nm,0.8s,SNR=7.9						
EMIJ				Lg		13 09 57.2	
	5.9nm,0.5s,SNR=7.9						
PBEJ	**Beja**	**6.89**	**229**	*e*Sn	Sn	13 09 18.7	-6.7
EGRO	**El Granado**	**7.05**	**225**	Pn	Pn	13 08 05.5	-2.8
EGRO				Sn	Sn	13 09 20.2	-9.1
EGRO				Lg		13 10 07.6	
EGRO	**El Granado**	**7.05**	**225**	Pn	Pn	13 08 05.5	-2.8
	0.2nm,0.1s,SNR=7.9						
EGRO				Sn	Sn	13 09 26.0	-3.2
	1.4nm,0.4s,SNR=4.0						
EGRO				Lg		13 10 07.0	
	5.1nm,0.5s,SNR=7.9						
EGRO	**El Granado**	**7.05**	**225**	Pn	Pn	13 08 05.5	-2.8
PALC	**Alcoutim**	**7.10**	**224**	*e*Pn	Pn	13 08 05.4	-3.6
PALC				*e*Sn	Sn	13 09 22.0	-8.5
PALC				*e*Sg	Sg	13 10 11.5	-7.5
	7.0nm,0.6s						
MEZF	**Maizieres J'vi**	**7.27**	**35**	*e*Pn	Pn	13 08 08.3	-3.1
HAU	**Haudompre**	**7.51**	**43**	*e*Pn	Pn	13 08 11.4	-3.4
HINF	**Hinteralfeld**	**7.65**	**46**	*e*Pn	Pn	13 08 13.1	-3.6
BAIF	**Baives**	**8.24**	**25**	*e*Pn	P	13 08 21.9	-3.0
CDF	**Champ du Feu**	**8.25**	**44**	*e*Pn	P	13 08 21.5	-3

0.3nm,0.5s,mb3.2,baz=301,slow=7.7,SNR=4.6
SONM Songino Array 49.49 6 P **P 13 23 04.9 +1.1**
0.9nm,0.7s,mb3.9,baz=187,slow=8.6,SNR=6.4
MKAR Makanchi Array 50.59 344 P **P 13 23 12.5 +0.3**
1.3nm,0.5s,mb4.1,baz=154,slow=8.4,SNR=9.7
MKAR Makanchi Array 50.59 344 P **P 13 23 12.5 +0.3**
KURK Kurchatov 55.17 344 *eP* **P 13 23 45.9 -0.3**
1.8nm,0.9s,mb4.1
ZAL Zalesovo 56.72 349 P **P 13 23 57.2 -0.1**
2.5nm,0.4s,mb4.6,baz=314,slow=7.2,SNR=6.7
ZAL Zalesovo 56.72 349 P **P 13 23 57.2 -0.1**
BVAR Borovoye Array 59.76 340 P **P 13 24 17.2 -1.4**
0.7nm,0.6s,mb3.9,baz=135,slow=6.3,SNR=4.9
FINES FINESS Array B 83.71 332 P **P 13 26 41.6 +0.4**
0.8nm,0.9s,mb3.9,baz=135,slow=3.9,SNR=4.3
ARCES ARCESS Array B 86.05 340 P **P 13 26 53.4 +0.8**
1.8nm,1.0s,mb4.3,baz=90,slow=6.3,SNR=4.2
TXAR Lajitas Array 144.33 37 PKP PKPdf 13 33 49.2 +1.2
0.5nm,0.5s,baz=272,slow=0.8,SNR=8.0
MIAR Mount Ida 144.80 20 *e*PKP PKPdf 13 33 49.3 +0.7
WVT Waverly 144.83 11 *e*PKP PKPdf 13 33 49.0 +0.4
CPCT Cooper Cave 146.00 7 *e*PKP PKPdf 13 33 52.6 +1.9

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*NEIC **10** 13:16:55.9±0.7, 1.88S×99.66E, mb4.3/2, Error ellipse: s-maj=36.4km s-min=7.5km az=55.0*
*IDC **10** 13:16:56.0±1.3, 1.81S×99.73E, h24km±4km, mb3.9/11, mb1 4.1/11, mb1mx3.9/19, mbtmp4.1/11, Error ellipse: s-maj=67.2km s-min=12.7km az=53.0*
ISC 10 13:16:55.1±1.2, 1.8S±0.2×99.7E±0.3, h33km, (h24km±2.3km:pP-P), n22, σ0§78/17, mb4.2/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.14**	**358**	P	**P**	**13 21 30.5**	**+1.2**
	1.0nm,0.6s,baz=187,slow=8.9,SNR=4.2						
FITZ	**Fitzroy Crossi**	**30.15**	**124**	P	**P**	**13 23 03.9**	**-0.6**
	7.6nm,0.9s,mb4.4,baz=312,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**38.33**	**120**	P	**P**	**13 24 14.8**	**0.0**
	1.6nm,0.4s,mb4.1,baz=303,slow=9.1,SNR=21						
WRA				pP	pP	13 24 22.1	-2.4
	0.6nm,0.5s,baz=305,slow=8.9,SNR=7.6						
WRAB	**Tennant Creek**	**38.34**	**120**	*eP*	**P**	**13 24 14.8**	**0.0**
	2.7nm,0.4s,mb4.3						
WB2	**Warramunga Arr**	**38.34**	**120**	*eP*	**P**	**13 24 14.7**	**-0.2**
ASAR	**Alice Springs**	**39.59**	**126**	P	**P**	**13 24 25.6**	**+0.3**
	0.9nm,0.6s,mb3.7,baz=296,slow=7.8,SNR=11						
ASAR				pP	pP	13 24 33.7	-1.3
	0.8nm,0.5s,baz=302,slow=8.0,SNR=5.8						
ASAR				PcP	PcP	13 26 34.0	+1.3
	0.8nm,0.7s,baz=297,slow=2.3,SNR=5.1						
STKA	**Stephens Creek**	**49.49**	**132**	P	**P**	**13 25 45.0**	**+0.4**
	2.0nm,0.8s,mb4.2,baz=302,slow=7.2,SNR=3.3						
STKA	**Stephens Creek**	**49.49**	**132**	P	**P**	**13 25 45.0**	**+0.4**
SONM	**Songino Array**	**49.77**	**6**	P	**P**	**13 25 46.2**	**-0.4**
	0.4nm,0.5s,mb3.8,baz=187,slow=10.0,SNR=4.7						
SONM				PcP	PcP	13 27 08.1	+0.8
	0.3nm,0.5s,baz=176,slow=4.1,SNR=3.6						
MKAR	**Makanchi Array**	**50.76**	**345**	P	**P**	**13 25 54.2**	**+0.1**
	1.7nm,0.5s,mb4.2,baz=146,slow=8.0,SNR=14						
KURK	**Kurchatov**	**55.34**	**344**	*eP*	**P**	**13 26 27.6**	**-0.4**
ZAL	**Zalesovo**	**56.91**	**350**	P	**P**	**13 26 38.9**	**-0.4**
	2.5nm,0.4s,mb4.6,baz=311,slow=7.5,SNR=7.5						
BVAR	**Borovoye Array**	**59.90**	**340**	P	**P**	**13 26 58.8**	**-1.4**
	0.8nm,0.5s,mb4.0,baz=157,slow=11,SNR=7.0						
BVAR				pP	pP	13 27 08.0	-2.3
	0.5nm,0.4s,baz=158,slow=16,SNR=3.9						
CHKZ	**Chkalovo**	**60.36**	**341**	*eP*	**P**	**13 27 02.1**	**-1.2**
	1.5nm,0.8s,mb4.1						
FINES	**FINESS Array B**	**83.81**	**332**	P	**P**	**13 29 23.2**	**+0.9**
	0.7nm,0.5s,mb4.0,baz=90,slow=3.8,SNR=9.5						
FINES				pP	pP	13 29 30.7	-2.0
	0.5nm,0.5s,baz=108,slow=6.0,SNR=1.6						
FINES	**FINESS Array B**	**83.81**	**332**	P	**P**	**13 29 23.2**	**+0.9**
FINES				pP	pP	13 29 30.7	-2.0
ARCES	**ARCESS Array B**	**86.19**	**340**	P	**P**	**13 29 35.6**	**+1.7**
	5.2nm,1.0s,mb4.7,baz=90,slow=6.1,SNR=6.6						
TXAR	**Lajitas Array**	**144.71**	**37**	PKP	PKPdf	13 36 30.8	+1.6
	1.6nm,0.7s,baz=279,slow=1.2,SNR=19						
TXAR				pPKP		13 36 38.0	
	0.9nm,0.6s,baz=189,slow=1.4,SNR=6.0						
TXAR	**Lajitas Array**	**144.71**	**37**	PKP	PKPdf	13 36 30.8	+1.6
TXAR				pPKP		13 36 38.0	
MIAR	**Mount Ida**	**145.14**	**19**	*e*PKP	PKPdf	13 36 31.1	+1.3
MIAR				*e*		13 36 38.3	
JCT	**Junction City**	**145.99**	**31**	*e*PKP	PKPdf	13 36 34.5	+3.1
CPCT	**Cooper Cave**	**146.29**	**6**	*e*PKP	PKPdf	13 36 34.4	+2.7

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*BJI **10** 13:18:39.1, 6.82S×102.43E, h40km, mb4.9*
*IDC **10** 13:18:40.5±1.6, 6.44S×102.54E, h18km±3km, mb4.1/10, mb1 4.3/10, mb1mx4.0/19, mbtmp4.2/10, Error ellipse: s-maj=60.9km s-min=13.0km az=54.0*
*MOS **10** 13:18:40.0±1.2, 6.52S×102.54E, h33km, mb4.9/7, Error ellipse: s-maj=29.7km s-min=12.7km az=106.7*
*NEIC **10** 13:18:41.2±0.4, 6.47S×102.55E, mb4.7/14, Error ellipse: s-maj=16.9km s-min=4.6km az=55.0*
ISC 10 13:18:40.9±3.4, 6.4S±0.1×102.6E±0.2, h36km±30km, h25km±4.7km:pP-P, n50, σ0§77/46, mb4.5/28, 2C, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**11.81**	**350**	P	**P**	**13 21 29.1**	**-1.0**
NST	**Nakhon Sawan**	**22.11**	**354**	P	**P**	**13 23 35.0**	**+0.1**
CM31	**Chiang Mai Arr**	**25.00**	**352**	*eP*	**P**	**13 24 03.6**	**+0.4**
	19nm,0.8s,mb4.7						
CMAR	**Chiang Mai Arr**	**25.00**	**352**	P	**P**	**13 24 03.9**	**+0.7**
	21nm,1.0s,mb4.6,baz=186,slow=8.4,SNR=60						
CMAR				sP	sP	13 24 12.3	-4.8
	15nm,0.8s,baz=182,slow=7.2,SNR=14						
FITZ	**Fitzroy Crossi**	**25.28**	**119**	P	**P**	**13 24 06.3**	**+0.4**
	7.6nm,0.7s,mb4.3,baz=292,slow=5.8,SNR=6.6						
CHG	**Chiang Mai**	**25.35**	**352**	⇑P	**P**	**13 24 07.0**	**+0.5**
	13nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**29.66**	**155**	P	**P**	**13 24 44.9**	**-0.6**
GYA	**Guiyang**	**32.94**	**7**	⇑*iP*	**P**	**13 25 15.8**	**+1.3**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
SHL	**Shillong**	**33.48**	**342**	*eP*	**P**	**13 25 19.0**	**-0.2**
WRA	**Warramunga Arr**	**33.60**	**117**	P	**P**	**13 25 20.5**	**+0.2**
	comp=Z,2.6nm,0.7s,mb4.3,baz=286,slow=11,SNR=10.0						
WRA				sP	sP	13 25 28.4	-6.7
	comp=Z,4.8nm,0.7s,baz=287,slow=11,SNR=12						
WRAB	**Tennant Creek**	**33.61**	**117**	*eP*	**P**	**13 25 20.0**	**-0.3**
WRAB				*e*	pP	13 25 28.2	-2.3
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**33.61**	**117**	*eP*	**P**	**13 25 20.0**	**-0.3**
	comp=Z,9.1nm,0.8s,mb4.8						
WRAB				*e*	pP	13 25 28.2	-2.3
WB2	**Warramunga Arr**	**33.61**	**117**	*eP*	**P**	**13 25 20.1**	**-0.2**
WB2				*i*	pP	13 25 28.7	-1.9
ASAR	**Alice Springs**	**34.61**	**123**	P	**P**	**13 25 29.3**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=298,slow=7.9,SNR=2.5						
ASAR				sP	sP	13 25 37.4	-6.4
	comp=Z,1.1nm,0.7s,baz=291,slow=7.6,SNR=2.7						
ENH	**Enshi**	**37.09**	**10**	*eP*	**P**	**13 25 49.5**	**-0.4**
	comp=Z,18nm,1.0s,mb4.8						
JIRN	**Jiri**	**37.43**	**336**	*eP*	**P**	**13 25 53.6**	**+0.9**
	comp=Z,29nm,0.8s,mb5.2						
LSA	**Lhasa**	**37.58**	**344**	P	**P**	**13 25 54.7**	**+0.7**
LSA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
LSA	**Lhasa**	**37.58**	**344**	P	**P**	**13 25 54.7**	**+0.8**
	comp=Z,7.6nm,1.0s,mb4.4						
PKI	**Pulchoki**	**37.68**	**335**	*eP*	**P**	**13 25 55.3**	**+0.5**
GUN	**Gumba**	**37.78**	**335**	*eP*	**P**	**13 25 56.5**	**+0.8**
	comp=Z,16nm,0.6s,mb4.9						
DMN	**Daman**	**37.84**	**334**	*eP*	**P**	**13 25 56.6**	**+0.4**
	comp=Z,21nm,1.0s,mb4.8						
KKN	**Kakani**	**37.92**	**335**	*eP*	**P**	**13 25 57.4**	**+0.5**
GKN	**Gorkha**	**38.39**	**334**	*eP*	**P**	**13 26 00.8**	**+0.1**
	comp=Z,18nm,1.0s,mb4.8						
KOLN	**Koldanda**	**38.65**	**332**	*eP*	**P**	**13 26 02.8**	**-0.1**
	comp=Z,19nm,1.0s,mb4.8						
XAN	**Xi'an**	**40.70**	**8**	P	**P**	**13 26 20.6**	**+0.7**
XAN				AP	pP	13 26 27.7	-2.6
XAN				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.8						
LZH	**Lanzhou**	**42.32**	**1**	*eP*	**P**	**13 26 33.1**	**-0.1**
LZH				AP	pP	13 26 43.0	-0.6
LZH				XP	sP	13 26 47.3	-0.8
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.9						
LZH	**Lanzhou**	**42.32**	**1**	*eP*	**P**	**13 26 33.1**	**-0.1**
	comp=Z,40nm,1.2s,mb4.9						
LZH				pP	pP	13 26 43.0	-0.6
LZH				sP	sP	13 26 47.3	-0.8
STKA	**Stephens Creek**	**44.30**	**130**	P	**P**	**13 26 50.4**	**+1.0**
	comp=Z,1.4nm,0.7s,mb3.8,baz=276,slow=11,SNR=3.7						
WMQ	**Urumqi**	**51.81**	**346**	P	**P**	**13 27 48.3**	**+0.7**
WMQ				AP	pP	13 27 58.3	+0.2
WMQ				XP	sP	13 28 02.3	-0.2
SONM	**Songino Array**	**54.14**	**3**	P	**P**	**13 28 06.0**	**+1.1**
	comp=Z,4.3nm,0.7s,mb4.5,baz=182,slow=9.2,SNR=25						
ULN	**Ulaanbaatar**	**54.21**	**4**	*eP*	**P**	**13 28 05.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**54.21**	**4**	*eP*	**P**	**13 28 05.7**	**+0.4**
	comp=Z,5.6nm,1.0s,mb4.5						
MJAR	**Matsushiro Arr**	**54.22**	**35**	P	**P**	**13 28 04.4**	**-1.2**
	comp=Z,2.0nm,1.0s,mb4.0,baz=224,slow=6.4,SNR=4.1						
MJAR				sP	sP	13 28 12.8	-7.7
	comp=Z,2.9nm,1.0s,baz=219,slow=8.8,SNR=2.2						
MKAR	**Makanchi Array**	**55.99**	**343**	P	**P**	**13 28 17.3**	**-0.9**
	comp=Z,2.4nm,0.6s,mb4.4,baz=146,slow=8.7,SNR=11						
MKAR				pP	pP	13 28 22.4	-6.5
	comp=Z,3.9nm,0.8s,baz=145,slow=8.2,SNR=14						
MKAR	**Makanchi Array**	**55.99**	**343**	P	**P**	**13 28 17.3**	**-0.9**
MKAR				pP	pP	13 28 22.4	-6.5
ZAK	**Zakamensk**	**56.59**	**1**	*eP*	**P**	**13 28 21.2**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.0s,mb3.8						
KURK	**Kurchatov**	**60.58**	**343**	*eP*	**P**	**13 28 49.3**	**-1.0**
KURK				*e*		13 28 54.7	
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
KURK	**Kurchatov**	**60.58**	**343**	*eP*	**P**	**13 28 49.3**	**-1.1**
	comp=Z,6.8nm,1.0s,mb4.7						
KURK				*e*		13 28 54.7	
ZAL	**Zalesovo**	**61.99**	**348**	P	**P**	**13 28 59.5**	**-0.3**
	comp=Z,3.7nm,0.6s,mb4.7,baz=302,slow=4.9,SNR=13						
ZAL	**Zalesovo**	**61.99**	**348**	P	**P**	**13 28 59.5**	**-0.3**
BOD	**Bodaibo**	**64.71**	**7**	*eP*	**P**	**13 29 15.8**	**-1.8**
BVAR	**Borovoye Array**	**65.22**	**339**	P	**P**	**13 29 19.6**	**-1.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=127,slow=7.4,SNR=5.5						
CHKZ	**Chkalovo**	**65.68**	**340**	*eP*	**P**	**13 29 22.5**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
CHKZ	**Chkalovo**	**65.68**	**340**	*eP*	**P**	**13 29 22.5**	**-1.3**
	comp=Z,2.9nm,0.7s,mb4.4						
YAK	**Yakutsk**	**71.40**	**13**	*eP*	**P**	**13 29 59.1**	**-0.1**
YAK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
YAK	**Yakutsk**	**71.40**	**13**	*eP*	**P**	**13 29 59.0**	**-0.1**
	comp=Z,15nm,0.7s,mb5.0						
TXAR	**Lajitas Array**	**146.35**	**44**	PKPbc	PKPbc	13 38 21.4	+2.8
	comp=Z,2.1nm,0.8s,baz=306,slow=0.9,SNR=13						
JCT	**Junction City**	**148.15**	**39**	*e*PKPbc	PKPdf	13 38 25.9	+5.5
MIAR	**Mount Ida**	**148.29**	**26**	*e*PKPbc	PKPdf	13 38 25.4	+5.0
WVT	**Waverly**	**148.94**	**17**	*e*PKPbc	PKPdf	13 38 26.7	+5.2

IDC 10 13:20:01.1±5.7, 0.28S×100.79E, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, Error ellipse: s-maj=218.4km s-min=94.6km az=50.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.22**	**123**	P	P	13 27 23.3	-1.4
	1.5nm,0.5s,baz=302,slow=9.1,SNR=8.4						
ASAR	**Alice Springs**	**39.66**	**128**	P	P	13 27 35.1	-1.6
	1.1nm,0.6s,baz=302,slow=7.7,SNR=7.3						
STKA	**Stephens Creek**	**49.72**	**133**	P	P	13 28 54.4	-2.9
	1.5nm,0.6s,baz=308,slow=9.3,SNR=3.3						
FINES	**FINESS Array B**	**82.97**	**332**	pP	pP	13 32 36.4	+7.3
	0.5nm,0.5s,baz=122,slow=5.2,SNR=1.4						
TXAR	**Lajitas Array**	**142.87**	**37**	PKP	PKPdf	13 39 37.6	-1.5
	0.2nm,0.3s,baz=270,slow=1.8,SNR=4.9						

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*IDC **10** 13:20:49.9±0.7, 0.12N×98.01E, mb4.1/14, mb1 4.2/14, mb1mx4.1/20, mbtmp4.1/14, Error ellipse: s-maj=29.1km s-min=17.3km az=54.0*
*MOS **10** 13:20:52.9±1.4, 0.06N×98.02E, h33km, mb4.7/5, Error ellipse: s-maj=26.0km s-min=12.5km az=105.6*
*BJI **10** 13:20:53.4, 0.00N×98.00E, h30km, mb4.7*
*NEIC **10** 13:20:54.5±0.5, 0.03N×97.96E, h30km, mb4.5/5, Error ellipse: s-maj=14.3km s-min=9.7km az=67.0*
ISC 10 13:20:53.2±0.5, 0.07N±0.08×98.0E±0.1, h33km, n31, σ1§15/30, mb4.2/19, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.82**	**27**	*eP*	**P**	**13 22 19.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**18.29**	**3**	P	**P**	**13 25 07.5**	**+1.1**
	0.1nm,0.3s,baz=190,slow=11,SNR=2.5						
LSA	**Lhasa**	**30.18**	**348**	P	**P**	**13 27 04.5**	**+1.8**
LSA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
LSA	**Lhasa**	**30.18**	**348**	P	**P**	**13 27 04.5**	**+1.8**
	comp=Z,8.9nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**40.78**	**121**	P	**P**	**13 28 32.0**	**-1.2**
	comp=Z,1.2nm,0.6s,mb3.7,baz=301,slow=9.1,SNR=6.6						
WRAB	**Tennant Creek**	**40.78**	**121**	P	**P**	**13 28 33.1**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
WRAB	**Tennant Creek**	**40.78**	**121**	P	**P**	**13 28 33.1**	**-0.1**
	comp=Z,3.2nm,0.7s,mb4.1						
ASAR	**Alice Springs**	**42.09**	**127**	P	**P**	**13 28 44.1**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.5,baz=298,slow=7.9,SNR=4.5						
BJI	**Beijing**	**43.10**	**21**	*eP*	**P**	**13 28 53.8**	**+1.7**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
BJI	**Beijing**	**43.10**	**21**	*eP*	**P**	**13 28 53.8**	**+1.7**
	comp=Z,9.0nm,1.0s,mb4.5						
SONM	**Songino Array**	**48.13**	**8**	P	**P**	**13 29 32.7**	**+0.7**
	comp=Z,1.2nm,0.5s,mb4.2,baz=191,slow=9.2,SNR=3.4						
MKAR	**Makanchi Array**	**48.52**	**346**	P	**P**	**13 29 35.0**	**0.0**
	comp=Z,3.3nm,0.5s,mb4.6,baz=162,slow=8.7,SNR=10						
MKAR	**Makanchi Array**	**48.52**	**346**	P	**P**	**13 29 35.0**	**0.0**
STKA	**Stephens Creek**	**52.02**	**132**	P	**P**	**13 30 02.4**	**+0.5**
	comp=Z,2.4nm,0.6s,mb4.3,baz=319,slow=7.8,SNR=5.4						
KURK	**Kurchatov**	**53.08**	**345**	*eP*	**P**	**13 30 07.8**	**-1.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**53.08**	**345**	*eP*	**P**	**13 30 07.8**	**-1.7**
	comp=Z,5.6nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**54.78**	**350**	P	**P**	**13 30 20.9**	**-1.1**
	comp=Z,2.0nm,0.4s,mb4.5,baz=314,slow=4.6,SNR=4.8						
NVS	**Novosibirsk**	**55.92**	**350**	*i P*	**P**	**13 30 37.4**	**+7.2**
BVAR	**Borovoye Array**	**57.57**	**341**	P	**P**	**13 30 40.6**	**-1.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=141,slow=9.2,SNR=2.4						
CHKZ	**Chkalovo**	**58.04**	**341**	*eP*	**P**	**13 30 43.2**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**58.04**	**341**	*eP*	**P**	**13 30 43.2**	**-2.0**
	comp=Z,3.5nm,0.9s,mb4.4						
BOD	**Bodaibo**	**58.97**	**10**	*eP*	**P**	**13 30 49.2**	**-2.5**
BRTR	**Keskin Array B**	**70.45**	**312**	P	**P**	**13 32 05.5**	**-0.9**
	comp=Z,0.9nm,0.8s,mb3.7,baz=129,slow=7.9,SNR=3.6						
MATP	**Matopo**	**70.84**	**248**	P	**P**	**13 32 09.9**	**+0.8**
	comp=Z,6.2nm,1.1s,mb4.5,baz=84,slow=3.1,SNR=6.0						
BOSA	**Boshof**	**74.91**	**240**	P	**P**	**13 32 34.2**	**+1.2**
	comp=Z,1.4nm,0.5s,mb4.2,baz=208,slow=7.7,SNR=3.8						
BOSA	**Boshof**	**74.91**	**240**	P	**P**	**13 32 34.2**	**+1.2**
AKASG	**Malin Array Be**	**76.63**	**322**	P	**P**	**13 32 41.5**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=100,slow=4.0,SNR=4.6						
ARCES	**ARCESS Array B**	**83.86**	**340**	P	**P**	**13 33 21.0**	**+0.6**
	comp=Z,4.2nm,1.0s,mb4.5,baz=90,slow=6.1,SNR=4.3						
GERES	**GERESS Array B**	**86.17**	**319**	P	**P**	**13 33 33.5**	**+1.1**
	comp=Z,2.3nm,1.2s,mb4.3,baz=90,slow=4.0,SNR=5.3						
HFS	**Hagfors**	**87.08**	**330**	P	**P**	**13 33 37.2**	**+0.6**
	comp=Z,2.1nm,0.9s,mb4.3,baz=191,slow=7.6,SNR=5.0						
TXAR	**Lajitas Array**	**144.19**	**33**	PKP	PKPdf	13 40 28.8	+2.5
	comp=Z,0.7nm,0.6s,baz=156,slow=0.8,SNR=4.9						

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*IDC **10** 13:22:51.3±0.6, 1.54S×99.56E, mb4.2/15, mb1 4.3/16, mb1mx4.2/21, mbtmp4.2/16, ML4.2/1, Error ellipse: s-maj=27.3km s-min=14.9km az=48.0*
*NEIC **10** 13:22:55.6±0.3, 1.52S×99.63E, mb4.3/4, Error ellipse: s-maj=14.6km s-min=6.9km az=53.0*
ISC 10 13:22:54.5±0.5, 1.44S±0.10×99.7E±0.1, h33km, n30, σ0§88/24, mb4.2/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**19.79**	**358**	*eP*	**P**	**13 27 23.7**	**-1.2**
	4.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.79**	**358**	P	**P**	**13 27 25.4**	**+0.4**
	0.3nm,0.3s,baz=186,slow=9.9,SNR=4.9						
FITZ	**Fitzroy Crossi**	**30.38**	**125**	P	**P**	**13 29 04.9**	**-1.1**
	8.4nm,1.0s,mb4.4,baz=345,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**38.55**	**121**	P	**P**	**13 30 15.9**	**-0.1**
	1.9nm,0.5s,mb4.0,baz=302,slow=9.2,SNR=9.4						
WRA				pP	pP	13 30 24.1	-1.6
	1.9nm,0.5s,baz=302,slow=9.1,SNR=5.1						
WRAB	**Tennant Creek**	**38.55**	**121**	*eP*	**P**	**13 30 15.7**	**-0.3**
	4.8nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**38.56**	**121**	*eP*	**P**	**13 30 15.5**	**-0.5**
ASAR	**Alice Springs**	**39.83**	**126**	P	**P**	**13 30 27.2**	**+0.6**
	1.2nm,0.5s,mb3.9,baz=301,slow=6.8,SNR=10						
ASAR				pP	pP	13 30 36.5	0.0
	4.2nm,0.7s,baz=302,slow=7.9,SNR=14						
SONM	**Songino Array**	**49.42**	**6**	P	**P**	**13 31 44.7**	**+1.4**
	0.8nm,0.4s,mb4.1,baz=186,slow=9.4,SNR=5.9						
SONM				PcP	PcP	13 33 06.0	+0.5
	1.0nm,0.5s,baz=190,slow=4.6,SNR=6.2						
STKA	**Stephens Creek**	**49.75**	**132**	P	**P**	**13 31 47.0**	**+0.9**
	1.6nm,0.5s,mb4.3,baz=274,slow=23,SNR=3.9						
MKAR	**Makanchi Array**	**50.41**	**345**	P	**P**	**13 31 51.0**	**+0.1**
	1.3nm,0.4s,mb4.3,baz=158,slow=8.4,SNR=7.5						
MKAR				PcP	PcP	13 33 07.8	-1.3
	2.0nm,0.6s,baz=149,slow=8.0,SNR=3.7						
MKAR	**Makanchi Array**	**50.41**	**345**	P	**P**	**13 31 51.0**	**+0.1**
MKAR				PcP	PcP	13 33 07.8	-1.3
KURK	**Kurchatov**	**54.99**	**344**	*eP*	**P**	**13 32 25.0**	**+0.1**
	2.1nm,0.7s,mb4.3						
ZAL	**Zalesovo**	**56.56**	**350**	P	**P**	**13 32 36.3**	**+0.2**
	2.9nm,0.4s,mb4.7,baz=303,slow=1.9,SNR=7.8						
BVAR	**Borovoye Array**	**59.56**	**340**	P	**P**	**13 32 55.4**	**-1.7**
	1.0nm,0.7s,mb4.0,baz=157,slow=11,SNR=3.8						
CHKZ	**Chkalovo**	**60.02**	**341**	*eP*	**P**	**13 32 59.1**	**-1.2**
	2.9nm,0.8s,mb4.4						
KMBO	**Kilima Mbogo**	**62.42**	**269**	P	**P**	**13 33 17.0**	**-0.1**
	0.6nm,0.4s,mb4.1,baz=74,slow=10,SNR=6.1						
MATP	**Matopo**	**71.88**	**249**	P	**P**	**13 34 16.3**	**-0.3**
	0.6nm,0.4s,mb3.8,baz=93,slow=6.4,SNR=5.1						
MATP	**Matopo**	**71.88**	**249**	P	**P**	**13 34 16.3**	**-0.3**
BRTR	**Keskin Array B**	**72.72**	**312**	P	**P**	**13 34 20.0**	**-1.3**
	0.9nm,0.7s,mb3.8,baz=134,slow=6.8,SNR=4.1						
MLR	**Muntele Rosu**	**79.68**	**317**	P	**P**	**13 35 01.3**	**+0.7**
	3.3nm,0.7s,mb4.4,baz=113,slow=3.0,SNR=7.3						
MLR	**Muntele Rosu**	**79.68**	**317**	P	**P**	**13 35 01.3**	**+0.7**
FINES	**FINESS Array B**	**83.48**	**332**	P	**P**	**13 35 20.6**	**+0.7**
	1.0nm,0.5s,mb4.1,baz=99,slow=4.3,SNR=7.9						
ARCES	**ARCESS Array B**	**85.85**	**340**	P	**P**	**13 35 32.8**	**+1.1**
	5.3nm,1.1s,mb4.7,baz=90,slow=2.7,SNR=3.6						
GERES	**GERESS Array B**	**88.43**	**319**	P	**P**	**13 35 45.8**	**+1.2**
	0.2nm,0.3s,mb3.9,baz=90,slow=2.7,SNR=4.4						
TXAR	**Lajitas Array**	**144.45**	**37**	PKP	PKPdf	13 42 30.1	+1.9
	3.2nm,0.6s,baz=250,slow=0.9,SNR=22						
WVT	**Waverly**	**144.79**	**11**	*e*PKP	PKPdf	13 42 29.3	+0.8
MIAR	**Mount Ida**	**144.82**	**19**	*e*PKP	PKPdf	13 42 30.0	+1.4
MIAR				*e*		13 42 36.5	
TZTN	**Tazewell**	**144.95**	**5**	*e*PKP	PKPdf	13 42 29.8	+1.0
JCT	**Junction City**	**145.71**	**31**	*e*PKP	PKPdf	13 42 32.9	+2.6
CPCT	**Cooper Cave**	**145.

comp=Z,1.1nm,0.5s,mb4.2,baz=124,slow=6.9,SNR=9.3
FINES FINESS Array B 83.64 332 P P 13 40 07.6 +0.6
ARCES ARCESS Array B 86.01 340 P P 13 40 20.7 +2.0
comp=Z,4.1nm,1.0s,mb4.6,baz=90,slow=3.6,SNR=5.3
YKA Yellowknife Ar 114.08 17 PKP PKPdf 13 46 18.1 -2.9
comp=Z,0.2nm,0.9s,baz=329,slow=2.9,SNR=4.0
YKA Yellowknife Ar 114.08 17 PKP PKPdf 13 46 18.1 -2.9
TXAR Lajitas Array 144.56 37 PKP PKPdf 13 47 16.5 -2.6
comp=Z,5.0nm,0.5s,baz=248,slow=0.9,SNR=46
TXAR pPKP 13 47 22.9
comp=Z,3.4nm,0.6s,baz=194,slow=0.8,SNR=12
TXAR Lajitas Array 144.56 37 PKP PKPdf 13 47 16.5 -2.7
TXAR pPKP 13 47 22.9
WVT Waverly 144.95 11 ePKP PKPdf 13 47 15.5 -4.1
TZTN Tazewell 145.11 5 ePKP PKPdf 13 47 16.7 -3.3
JCT Junction City 145.84 31 ePKP PKPdf 13 47 19.6 -1.7
JCT e 13 47 25.6
CPCT Cooper Cave 146.10 6 ePKP PKPdf 13 47 19.3 -2.3

IDC 10 13:28:58.9±4.0, 1.34S×100.77E, mb4.1/5, mb1 4.3/5, mb1mx3.9/17, mbtmp4.1/5, Error ellipse: s-maj=163.6km s-min=23.1km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	29.55	126	P	P	13 35 05.6	-2.2
	6.3nm,0.8s,baz=280,slow=4.6,SNR=3.5						
WRA	Warramunga Arr	37.67	122	P	P	13 36 16.5	-1.4
	1.7nm,0.5s,baz=302,slow=9.0,SNR=7.6						
ASAR	Alice Springs	39.02	127	P	P	13 36 27.1	-2.2
	1.5nm,0.6s,baz=301,slow=7.9,SNR=7.6						
SONM	Songino Array	49.22	5	P	P	13 37 49.7	-1.3
	1.0nm,0.5s,baz=181,slow=7.1,SNR=5.8						
MKAR	Makanchi Array	50.61	344	P	P	13 37 59.0	-2.7
	0.6nm,0.5s,baz=148,slow=8.8,SNR=3.1						

*IDC **10** 13:29:41.2±2.7, 2.41S×99.43E, mb3.9/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=88.4km s-min=61.7km az=77.0*
*NEIC **10** 13:29:46.3±1.0, 2.44S×99.22E, mb4.5/2, Error ellipse: s-maj=41.5km s-min=10.4km az=57.0*

ISC 10 13:29:44.1±1.1, 2.4S±0.2×99.3E±0.3, h29km, h29km±1.2km: pP-P, n24, σ0°99/17, mb4.1/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.70	359	P	P	13 34 25.6	+0.8
	1.7nm,0.8s,baz=188,slow=10,SNR=4.1						
FITZ	Fitzroy Crossi	30.20	123	P	P	13 35 53.9	-0.7
	4.5nm,0.7s,mb4.3,baz=316,slow=6.6,SNR=3.3						
ENH	Enshi	33.89	16	P	P	13 36 28.4	+1.6
WRA	Warramunga Arr	38.42	120	P	P	13 37 04.8	-0.5
	2.3nm,0.6s,mb4.1,baz=302,slow=9.0,SNR=7.3						
WRA				pP	pP	13 37 13.9	0.0
	1.1nm,0.4s,baz=303,slow=8.9,SNR=4.3						
WRAB	Tennant Creek	38.43	120	eP	P	13 37 04.8	-0.5
	3.9nm,0.6s,mb4.3						
WRAB				e	pP	13 37 13.6	-0.3
ASAR	Alice Springs	39.62	125	P	P	13 37 15.6	+0.4
	2.0nm,0.6s,mb4.0,baz=301,slow=8.0,SNR=5.8						
ASAR				pP	pP	13 37 25.6	+1.9
	1.0nm,0.5s,baz=308,slow=6.6,SNR=2.7						
STKA	Stephens Creek	49.44	131	P	P	13 38 35.0	+1.2
	1.2nm,0.6s,mb4.1,baz=307,slow=10,SNR=3.9						
SONM	Songino Array	50.38	6	P	P	13 38 39.2	-1.6
	0.7nm,0.6s,mb3.9,baz=185,slow=8.7,SNR=3.5						
SONM	Songino Array	50.38	6	P	pP	13 38 46.3	-3.4
	2.5nm,0.8s,baz=185,slow=8.9,SNR=7.9						
SONM	Songino Array	50.38	6	P	P	13 38 39.2	-1.6
SONM				P	pP	13 38 46.3	-3.4
MKAR	Makanchi Array	51.20	345	P	P	13 38 46.1	-1.0
	0.8nm,0.4s,mb4.0,baz=159,slow=8.8,SNR=4.5						
MKAR	Makanchi Array	51.20	345	P	pP	13 38 54.2	-1.6
	3.0nm,0.6s,baz=150,slow=8.0,SNR=6.8						
MKAR	Makanchi Array	51.20	345	P	P	13 38 46.1	-1.0
MKAR				P	pP	13 38 54.2	-1.6
KURK	Kurchatov	55.77	344	eP	P	13 39 19.3	-1.5
	1.8nm,0.8s,mb4.2						
KURK				e		13 39 25.7	
ZAL	Zalesovo	57.40	350	P	pP	13 39 39.2	-2.0
	3.3nm,0.4s,baz=300,slow=5.5,SNR=7.2						
BVAR	Borovoye Array	60.29	340	P	P	13 39 52.5	+0.1
	0.8nm,0.5s,mb4.0,baz=143,slow=7.4,SNR=3.6						
FINES	FINESS Array B	84.11	332	P	P	13 42 14.5	+1.0
	0.7nm,0.7s,mb3.9,baz=146,slow=5.0,SNR=3.7						
FINES	FINESS Array B	84.11	332	P	pP	13 42 23.8	+1.1
	1.0nm,0.7s,baz=101,slow=7.1,SNR=3.3						
FINES	FINESS Array B	84.11	332	P	P	13 42 14.5	+1.0
FINES				P	pP	13 42 23.8	+1.1
ARCES	ARCESS Array B	86.58	340	P	P	13 42 26.3	+0.7
	2.2nm,0.9s,mb4.4,baz=100,slow=5.5,SNR=3.0						
ARCES	ARCESS Array B	86.58	340	P	pP	13 42 35.6	+0.8
	3.0nm,0.9s,baz=117,slow=5.4,SNR=4.6						
ARCES	ARCESS Array B	86.58	340	P	P	13 42 26.3	+0.7
ARCES				P	pP	13 42 35.6	+0.8
TXAR	Lajitas Array	145.43	37	PKPbc	PKPbc	13 49 21.6	+0.9
	0.4nm,0.6s,baz=270,slow=0.9,SNR=3.9						
WVT	Waverly	145.77	10	ePKP	PKPbc	13 49 30.9	+10

*BJI **10** 13:31:12.2, 1.80S×99.80E, h30km, mb4.9*
*MOS **10** 13:31:13.1±1.5, 1.66S×99.93E, h33km, mb4.7/9, Error ellipse: s-maj=20.0km s-min=9.2km az=112.0*
*IDC **10** 13:31:14.4±0.5, 1.74S×99.80E, h29km±3km, mb4.2/21, mb1 4.3/21, mb1mx4.3/24, mbtmp4.4/21, Error ellipse: s-maj=20.6km s-min=9.7km az=52.0*
*NEIC **10** 13:31:14.3±0.2, 1.76S×99.85E, mb4.7/14, Error ellipse: s-maj=9.6km s-min=4.7km az=59.0*

ISC 10 13:31:12.5±0.4, 1.70S±0.07×99.90E±0.09, h30km, h30km±.7km: pP-P, n70, σ0°83/58, mb4.5/35, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.99	6	eP	Pn	13 32 57.0	+1.4
CM31	Chiang Mai Arr	20.05	357	P	P	13 35 44.3	-2.1
	5.0nm,0.6s						
CMAR	Chiang Mai Arr	20.05	357	P	P	13 35 46.0	-0.3
	3.0nm,0.7s,baz=187,slow=9.9,SNR=9.6						
FITZ	Fitzroy Crossi	30.07	124	eP	P	13 37 21.0	-0.7
	4.0nm,0.6s,mb4.3						
FITZ				i	pP	13 37 30.4	0.0
FITZ	Fitzroy Crossi	30.07	124	P	P	13 37 21.1	-0.6
	6.8nm,0.7s,mb4.5,baz=341,slow=8.5,SNR=5.6						
FITZ				pP	pP	13 37 30.5	0.0
	11nm,0.6s,baz=287,slow=6.3,SNR=5.0						
JIRN	Jiri	32.03	337	eP	P	13 37 39.6	+0.7
	26nm,0.7s,mb5.2						
PKI	Pulchoki	32.27	335	eP	P	13 37 41.4	+0.4
LSA	Lhasa	32.33	346	P	P	13 37 42.0	+0.5
LSA				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.7						
LSA	Lhasa	32.33	346	P	P	13 37 42.0	+0.5
	comp=Z,14nm,1.2s,mb4.7						
GUN	Gumba	32.38	336	eP	P	13 37 42.4	+0.4
	comp=Z,33nm,0.6s,mb5.3						
DMN	Daman	32.43	335	eP	P	13 37 42.5	+0.1
	comp=Z,18nm,1.0s,mb4.8						
KKN	Kakani	32.52	335	eP	P	13 37 43.1	-0.1
	comp=Z,17nm,0.9s,mb5.0						
KKN	Kakani	32.52	335	eP	P	13 37 43.1	-0.1
KKN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
GKN	Gorkha	32.98	335	eP	P	13 37 47.2	+0.1
	comp=Z,30nm,1.1s,mb5.1						
KOLN	Koldanda	33.23	333	eP	P	13 37 49.5	+0.1
	comp=Z,17nm,0.9s,mb5.0						
WRA	Warramunga Arr	38.23	121	P	P	13 38 31.6	-0.3
	comp=Z,3.6nm,0.4s,mb4.4,baz=302,slow=9.1,SNR=17						
WRA				pP	pP	13 38 40.9	+0.1
	comp=Z,3.8nm,0.4s,baz=304,slow=9.0,SNR=11						
WRA				PcP	PcP	13 40 46.5	+0.1
	comp=Z,0.9nm,0.5s,baz=314,slow=2.5,SNR=6.1						
WRA				pPcP		13 40 55.6	
	comp=Z,0.8nm,0.5s,baz=314,slow=2.5,SNR=5.5						
WRAB	Tennant Creek	38.24	121	eP	P	13 38 31.8	-0.2
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
WRAB	Tennant Creek	38.24	121	eP	P	13 38 31.8	-0.2
	comp=Z,6.6nm,0.5s,mb4.6						
WB2	Warramunga Arr	38.24	121	eP	P	13 38 31.7	-0.3
ASPA	Alice Springs	39.51	126	eP	P	13 38 42.6	0.0
ASPA	Alice Springs	39.51	126	eP	pP	13 38 54.0	+2.6
ASAR	Alice Springs	39.51	126	P	P	13 38 43.0	+0.4
	comp=Z,2.4nm,0.5s,mb4.2,baz=302,slow=7.8,SNR=10						
ASAR				pP	pP	13 38 52.5	+1.0
	comp=Z,11nm,0.6s,baz=301,slow=8.0,SNR=21						
ASAR				PcP	PcP	13 40 51.0	+0.6
	comp=Z,2.3nm,0.7s,baz=295,slow=2.8,SNR=7.4						
ASAR				pPcP		13 41 00.2	
	comp=Z,2.0nm,0.9s,baz=302,slow=3.0,SNR=5.7						
WMQ	Urumqi	46.62	348	P	P	13 39 41.7	+1.7
WMQ				AP	pP	13 39 51.7	+2.7
WMQ				XP	sP	13 39 55.7	+3.1
STKA	Stephens Creek	49.42	132	P	P	13 40 02.8	+0.8
	comp=Z,1.7nm,0.5s,mb4.4,baz=300,slow=12,SNR=4.2						
SONM	Songino Array	49.66	6	P	P	13 40 04.3	+0.7
	comp=Z,2.0nm,0.7s,mb4.3,baz=188,slow=9.5,SNR=9.3						
SONM				pP	pP	13 40 13.2	+0.5
	comp=Z,4.3nm,0.8s,baz=182,slow=8.4,SNR=16						
SONM				PcP	PcP	13 41 24.7	-0.2
	comp=Z,2.0nm,0.8s,baz=191,slow=4.4,SNR=3.0						
SONM				pPcP		13 41 34.3	
	comp=Z,1.6nm,0.7s,baz=201,slow=3.9,SNR=4.9						
ULN	Ulaanbaatar	49.76	6	eP	P	13 40 04.6	+0.2
ULN				e	pP	13 40 13.1	-0.3
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
ULN	Ulaanbaatar	49.76	6	eP	P	13 40 04.6	+0.2
	comp=Z,2.5nm,0.8s,mb4.3						
ULN				e	pP	13 40 13.1	-0.4
MKAR	Makanchi Array	50.72	344	P	P	13 40 11.7	0.0
	comp=Z,5.0nm,0.5s,mb4.7,baz=141,slow=7.8,SNR=17						
MKAR				pP	pP	13 40 21.3	+0.5
	comp=Z,3.9nm,0.7s,baz=154,slow=8.9,SNR=11						
CN2	Changchun	50.76	24	eP	P	13 40 11.1	-0.9
KURK	Kurchatov	55.29	344	iP	P	13 40 45.0	-0.7
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
KURK	Kurchatov	55.29	344	eP	P	13 40 44.8	-0.9
	comp=Z,9.9nm,0.9s,mb4.8						
ZAL	Zalesovo	56.85	349	P	P	13 40 56.6	-0.2
	comp=Z,5.5nm,0.5s,mb4.8,baz=319,slow=5.8,SNR=16						
ZAL				pP	pP	13 41 05.4	-0.5
	comp=Z,7.4nm,0.8s,baz=299,slow=3.2,SNR=11						
KLR	Kul'dur	57.70	24	eP	P	13 41 07.8	+4.9
BVAR	Borovoye Array	59.87	340	P	P	13 41 16.3	-1.6
	comp=Z,3.0nm,0.7s,mb4.5,baz=137,slow=8.2,SNR=13						
BVAR				pP	pP	13 41 25.8	-1.3
	comp=Z,2.6nm,0.6s,baz=151,slow=9.7,SNR=7.6						
CHKZ	Chkalovo	60.33	340	eP	P	13 41 19.6	-1.4
CHKZ				e	pP	13 41 28.9	-1.4
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
CHKZ	Chkalovo	60.33	340	eP	P	13 41 19.6	-1.4
	comp=Z,5.6nm,0.7s,mb4.7						
CHKZ				e	pP	13 41 28.9	-1.3
BOD	Bodaibo	60.41	9	eP	P	13 41 20.5	-0.9
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
YSS	Yuzh-Sakhalins	61.29	32	eP	pP	13 41 37.0	+0.2
KMBO	Kilima Mbogo	62.62	270	P	P	13 41 36.9	-0.1
	comp=Z,2.5nm,0.8s,mb4.4,baz=60,slow=12,SNR=7.0						
SVE	Sverdlovsk	66.37	338	eP	P	13 41 57.0	-3.7
KIV	Kislovodsk	68.25	319	eP	P	13 42 12.6	-0.2
KIV				e	pP	13 42 20.2	-1.9
KIV	Kislovodsk	68.25	319	eP	P	13 42 12.6	-0.2
KIV				e	pP	13 42 20.2	-1.9
EIL	Elat	69.28	303	P	P	13 42 18.3	-1.1
	comp=Z,1.3nm,0.4s,mb4.2,baz=270,slow=5.4,SNR=4.2						
MAW	Mawson	70.55	194	P	P	13 42 26.9	+0.5
	comp=Z,1.9nm,0.8s,mb4.1,baz=86,slow=6.9,SNR=4.1						
MATP	Matopo	71.98	249	P	P	13 42 35.6	-0.3
	comp=Z,3.6nm,0.7s,mb4.4,baz=78,slow=4.6,SNR=7.6						
BRTR	Keskin Array B	73.05	312	P	P	13 42 40.4	-1.5
	comp=Z,1.6nm,0.7s,mb4.1,baz=126,slow=7.1,SNR=8.6						
AKASG	Malin Array Be	79.19	322	P	P	13 43 15.2	-1.1
	comp=Z,1.1nm,0.7s,mb3.9,baz=102,slow=4.1,SNR=5.3						
AKASG				pP	pP	13 43 24.6	-1.1
	comp=Z,0.2nm,0.3s,baz=83,slow=4.7,SNR=2.0						
MLR	Muntele Rosu	80.01	317	P	P	13 43 21.4	+0.6
	comp=Z,4.8nm,0.7s,mb4.5,baz=154,slow=3.1,SNR=10.0						
MLR				pP	pP	13 43 31.0	+0.7
	comp=Z,7.0nm,0.8s,baz=172,slow=9.9,SNR=8.2						
MLR	Muntele Rosu	80.01	317	P	P	13 43 21.4	+0.6
MLR				pP	pP	13 43 31.0	+0.7
VNDA	Vanda	82.47	169	P	P	13 43 33.5	+0.3
	comp=Z,1.4nm,1.0s,mb3.9,baz=324,slow=5.3,SNR=4.2						
FINES	FINESS Array B	83.80	332	P	P	13 43 40.7	+0.5
	comp=Z,2.6nm,0.5s,mb4.6,baz=108,slow=6.0,SNR=29						
FINES				pP	pP	13 43 49.8	+0.1
	comp=Z,1.7nm,0.5s,baz=102,slow=5.6,SNR=5.1						
FINES	FINESS Array B	83.80	332	P	P	13 43 40.7	+0.5
FINES				pP	pP	13 43 49.8	+0.1
KAF	Kangasniemi	83.87	333	ep	P	13 43 40.8	+0.3
	comp=Z,3.5nm,0.6s,mb4.7,baz=100,slow=4.6						
KAF	Kangasniemi	83.87	333	eP	P	13 43 40.8	+0.3
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
ARCES	ARCESS Array B	86.16	340	P	P	13 43 53.1	+1.3
	comp=Z,4.7nm,0.8s,mb4.8,baz=76,slow=10.0,SNR=6.1						
ARCES				pP	pP	13 44 02.1	+0.8
	comp=Z,9.0nm,1.1s,baz=90,slow=7.3,SNR=3.1						
BRG	Berggiesshubel	88.75	321	eP	P	13 44 05.7	+1.0
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.6						
BRG	Berggiesshubel	88.75	321	eP	P	13 44 05.7	+1.0
	comp=Z,3.3nm,0.9s,mb4.7						
GERES	GERESS Array B	88.76	319	P	P	13 44 04.9	0.0
	comp=Z,1.0nm,0.7s,mb4.3,baz=90,slow=4.0,SNR=10.0						
HFS	Hagfors	89.56	330	P	P	13 44 09.5	+1.2
	comp=Z,1.5nm,0.8s,mb4.4,baz=135,slow=4.2,SNR=7.3						
DAVOX	Davos	91.24	317	P	P	13 44 17.4	+1.0
	comp=Z,4.2nm,0.6s,mb4.9,baz=34,slow=14,SNR=6.9						
YKA	Yellowknife Ar	114.12	17	PKP	PKPdf	13 49 49.7	-4.1
	comp=Z,0.2nm,0.8s,baz=315,slow=1.7,SNR=4.1						
YKA	Yellowknife Ar	114.12	17	PKP	PKPdf	13 49 49.7	-4.1
NVAR	Mina Array Bea	129.44	39	PKP	PKPdf	13 50 21.0	-3.1
	comp=Z,0.3nm,0.6s,slow=5.4,SNR=3.4						
TXAR	Lajitas Array	144.53	37	PKP	PKPdf	13 50 48.1	-3.8
	comp=Z,2.3nm,0.5s,baz=262,slow=0.9,SNR=20						
TXAR				pPKP		13 50 57.7	
	comp=Z,5.3nm,0.8s,baz=232,slow=0.7,SNR=15						
TXAR	Lajitas Array	144.53	37	PKP	PKPdf	13 50 48.1	-3.8
TXAR				pPKP		13 50 57.7	
MIAR	Mount Ida	144.99	20	ePKP	PKPdf	13 50 48.4	-4.1
MIAR				e		13 50 57.8	
WVT	Waverly	145.00	11	ePKP	PKPdf	13 50 47.8	-4.7
WVT				e		13 50 57.0	
TZTN	Tazewell	145.19	5	ePKP	PKPdf	13 50 48.1	-4.7
TZTN				e		13 50 57.6	
JCT	Junction City	145.82	31	ePKP	PKPdf	13 50 51.3	-2.8
JCT				e		13 51 00.8	
CPCT	Cooper Cave	146.17	6	ePKP	PKPdf	13 50 51.5	-3.0
CPCT				e		13 51 01.0	

*IDC **10** 13:34:26.5±2.0, 6.60N×94.56E, mb3.9/5, mb1 4.2/6, mb1mx3.8/21, mbtmp4.0/6, ML4.9/1, Error ellipse: s-maj=80.8km s-min=21.4km az=60.0*
*NEIC **10** 13:34:28.0±0.7, 6.73N×94.15E, h30km, mb4.5/7, Error ellipse: s-maj=17.3km s-min=7.6km az=59.0*
*BJI **10** 13:34:29.5, 6.55N×93.47E, h45km, mb5.0, mb4.2*

ISC 10 13:34:27.0±0.9, 6.8N±0.1×94.4E±0.2, h30km, n18, σ0°79/18, mb4.4/13, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	12.41	21	eP	P	13 37 24.6	-0.1
	6.8nm,0.3s						
CMAR	Chiang Mai Arr	12.41	21	Pn	P	13 37 24.8	0.0
	2.2nm,0.3s,baz=212,slow=15,SNR=25						
JIRN	Jiri	22.14	340	eP	P	13 39 21.7	-0.4
	14nm,0.5s,mb4.6						
PKI	Pulchoki	22.33	339	eP	P	13 39 23.8	-0.1
DMN	Daman	22.48	338	eP	P	13 39 25.0	-0.4
	22nm,0.9s,mb4.6						
GUN	Gumba	22.48	340	eP	P	13 39 25.2	-0.2
	21nm,0.5s,mb4.8						
KKN	Kakani	22.58	339	eP	P	13 39 25.7	-0.8
GYA	Guiyang	22.79	30	↓iP	P	13 39 36.6	+8.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
LSA	Lhasa	22.97	353	eP	P	13 39 30.4	+0.1
GKN	Gorkha	23.01	338	eP	P	13 39 30.6	-0.1
	comp=Z,29nm,0.7s,mb4.8						
KOLN	Koldanda	23.21	335	eP	P	13 39 33.4	+0.7
	comp=Z,15nm,0.6s,mb4.6						
MKAR	Makanchi Array	41.17	347	P	P	13 42 13.8	+3.4
	comp=Z,0.6nm,0.6s,mb3.4,baz=149,slow=8.4,SNR=3.2						
WRA	Warramunga Arr	47.47	125	P	P	13 43 02.0	+0.5
	comp=Z,1.6nm,0.4s,mb4.3,baz=303,slow=9.1,SNR=9.1						
WRAB	Tennant Creek	47.47	125	eP	P	13 43 02.0	+0.4
	comp=Z,2.8nm,0.4s,mb4.5						
ZAL	Zalesovo	47.63	352	P	P	13 43 07.1	+4.8
	comp=Z,2.7nm,0.5s,mb4.6,baz=307,slow=9.3,SNR=4.3						
ASAR	Alice Springs	49.07	129	P	P	13 43 12.8	-1.1
	comp=Z,0.5nm,0.4s,mb3.9,baz=304,slow=7.8,SNR=6.5						
BVAR	Borovoye Array	50.06	341	P	P	13 43 25.0	+3.9
	comp=Z,0.6nm,0.4s,mb4.0,baz=139,slow=8.5,SNR=4.7						
CHKZ	Chkalovo	50.55	342	eP	P	13 43 29.0	+4.2
	comp=Z,2.4nm,0.4s,mb4.5						

JMA 10 13:34:30.2±0.1, 39.19N×142.28E, h79km±1km, M3.5, 6C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.49	257	↓P	P	13 34 44.0	+0.2
OFUJ				S	S	13 34 54.0	-0.1
MIYJ	Miyakonagasawa	0.53	317	P	P	13 34 44.1	-0.1
MIYJ				S	S	13 34 54.1	-0.5
JTH	Tanohata	0.81	337	↑P	P	13 34 46.9	-0.4
JTH				S	S	13 34 59.2	-0.7
JOM	Ohasama	0.82	291	↑P	P	13 34 47.2	-0.1
JOM				S	S	13 34 59.9	-0.1
JMK	Ichinoseki	0.86	254	↑P	P	13 34 47.7	0.0
JMK				S	S	13 35 00.6	-0.3
JIO	Ouri	1.03	225	↓P	P	13 34 49.3	-0.5
JIO				S	S	13 35 03.1	-1.5
JANG	Nango	1.32	334	↑P	P	13 34 52.8	-0.9
JANG				S	S	13 35 09.3	-1.7
JOU	Okura	1.51	237	P	P	13 34 55.5	-0.6
JOU				S	S	13 35 14.4	-0.8
JYK	Kaneyama	1.52	260	↑P	P	13 34 56.0	-0.3
JAH	Hinai	1.61	309	↑P	P	13 34 57.1	-0.4
JMM	Marumori	1.76	222	P	P	13 34 58.1	-1.4
JMM				S	S	13 35 18.9	-2.1
JTM	Tenmabayashi	1.85	330	P	P	13 34 59.7	-0.9

*ATH **10** 13:37:12.2, 39.19N×21.62E, h20km±3km, MD3.3/9*
*NEIC **10** 13:37:12.2, 39.20N×21.64E, h23km, MD3.9(ATH), After ATH.*
*CSEM **10** 13:37:12.7±0.1, 39.18N×21.61E, h11km±1km, MD3.9, Error ellipse: s-maj=3.0km s-min=2.5km az=49.0*
*THE **10** 13:37:13.0, 39.19N×21.59E, h9km, ML3.2*

ISC 10 13:37:12.0±0.6, 39.20N±0.03×21.59E±0.04, h13km±5km, n24, σ0°84/28, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.33	149	ePB	Pb	13 37 18.9	-0.4
EVR				eSB	Sb	13 37 24.5	+0.3
AGG	Agios Georgios	0.60	107	ePg	Pg	13 37 24.0	-0.2
AGG				eSg	Sg	13 37 33.7	+1.3
MEV	Metsovon	0.65	334	ePg	Pg	13 37 25.2	0.0
JAN	Janina	0.73	309	ePN	Pn	13 37 27.0	-0.9
LKD	Levkas	0.89	236	ePg	Pg	13 37 29.6	-0.2
LKD	Levkas	0.89	236	ePg	Pg	13 37 29.6	-0.2
IGT	Igoumenitsa	1.03	289	ePg	Pg	13 37 32.5	-0.2
KZN	Kozani	1.11	7	ePN	Pn	13 37 33.3	0.0
KZN				eSN	Sn	13 37 49.3	+0.8
LIT	Litokhoron	1.13	37	ePg	Pg	13 37 33.6	-1.2
LIT				eSg	Sg	13 37 51.4	+1.4
RLS	Riolos of Patr	1.15	185	ePN	Pn	13 37 34.1	+0.3
LKR	Lokris	1.23	116	ePN	Pn	13 37 35.2	+0.3
NEO	Neokhori	1.27	85	ePN	Pn	13 37 36.0	+0.4
VLS	Valsamata	1.29	218	ePB	Pb	13 37 35.5	-0.2
KEK	Kerkira	1.48	291	ePN	Pn	13 37 40.7	+2.2
FNA	Florina	1.59	354	ePb	Pb	13 37 41.4	+0.6
PAIG	Paliouri	1.77	65	ePb	Pb	13 37 42.8	-1.1
THE	Thessaloniki	1.78	36	ePb	Pb	13 37 43.0	-1.1
AOS	Alonnisos	1.78	90	ePb	Pb	13 37 43.0	-1.1
PLG	Polygyros	1.85	50	ePB	Pb	13 37 43.8	-1.4
GRG	Griva	1.86	19	ePb	Pb	13 37 44.5	-0.9
SOH	Sokhos	2.11	39	ePn	Pn	13 37 48.1	+0.6
OUR	Ouranopolis	2.16	58	ePn	Pn	13 37 48.8	+0.5
KNT	Kendrikon	2.20	27	ePn	Pn	13 37 49.6	+0.7
ALN	Alexandroupoli	3.81	62	ePn	Pn	13 38 11.4	-0.5

IDC 10 13:38:48.9±40.0, 24.02S×179.26W, h426km±356km, mb3.6/3, mb1 3.8/3, mb1mx3.4/14, mbtmp4.5/3, Error ellipse: s-maj=253.5km s-min=122.8km az=109.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.16	270	P	P	13 44 40.5	-0.4
	5.9nm,0.3s,baz=88,slow=12,SNR=12						
ASAR	Alice Springs	42.69

KKN	**Kakani**	**32.40**	**336**	*e*P	**P**	**13 46 04.4**	**-0.3**
KKN				pmax	pmax		
comp=Z,46nm,0.9s,mb5.3							
GKN	**Gorkha**	**32.86**	**335**	*e*P	**P**	**13 46 08.7**	**0.0**
comp=Z,230nm,1.3s							
KOLN	**Koldanda**	**33.11**	**333**	*e*P	**P**	**13 46 10.6**	**-0.2**
comp=Z,92nm,0.8s,mb5.8							
ENH	**Enshi**	**33.15**	**16**	*e*P	**P**	**13 46 09.3**	**-1.9**
comp=Z,6.9nm,0.5s,mb4.8							
NWAO	**Narrogin (SRO)**	**35.19**	**154**	P	**P**	**13 46 29.9**	**+1.1**
WRA	**Warramunga Arr**	**38.46**	**121**	P	**P**	**13 46 55.8**	**-0.7**
comp=Z,20nm,0.8s,mb4.9,baz=295,slow=9.5,SNR=61							
WRAB	**Tennant Creek**	**38.47**	**121**	*e*P	**P**	**13 46 55.5**	**-1.0**
WRAB				pmax	pmax		
comp=Z,29nm,0.8s,mb5.1							
WRAB	**Tennant Creek**	**38.47**	**121**	*e*P	**P**	**13 46 55.5**	**-1.0**
comp=Z,29nm,0.8s,mb5.1							
WB2	**Warramunga Arr**	**38.47**	**121**	⇓*i*P	**P**	**13 46 55.7**	**-0.8**
SSE	**Sheshan**	**38.52**	**30**	*e*P	**P**	**13 46 56.9**	**+0.1**
comp=Z,25nm,1.2s,mb4.8							
SSE				pP	pP	13 47 06.1	+6.5
SSE				sP	sP	13 47 09.2	+8.5
SSE				S	**S**	**13 52 53.0**	**+0.8**
SSE				sS		13 53 11.3	
SSE				SS	SS	13 56 00.3	+28
SSE				LR	LR		
comp=Z,9μm,12.7s,MS5.8							
FORT	**Forrest**	**39.51**	**140**	*e*P	**P**	**13 47 06.4**	**+1.3**
comp=Z,416nm,0.7s							
ASPA	**Alice Springs**	**39.73**	**126**	*e*P	**P**	**13 47 06.8**	**-0.1**
ASAR	**Alice Springs**	**39.73**	**126**	P	**P**	**13 47 06.8**	**-0.2**
comp=Z,12nm,0.8s,mb4.7,baz=301,slow=7.8,SNR=42							
BJT	**Baijiatuau**	**44.19**	**18**	*e*P	**P**	**13 47 42.3**	**-1.0**
BJT				pmax	pmax		
comp=Z,3.0nm,0.3s							
BJT	**Baijiatuau**	**44.19**	**18**	*e*P	**P**	**13 47 42.3**	**-1.0**
comp=Z,3.5nm,0.3s,mb4.6							
BJI	**Beijing**	**44.21**	**18**	*e*P	**P**	**13 47 43.6**	**+0.1**
BJI				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.5							
BJI				MLR	MLR		
comp=Z,3μm,21.4s,MS5.2							
BJI	**Beijing**	**44.21**	**18**	*e*P	**P**	**13 47 43.6**	**+0.1**
comp=Z,8.0nm,0.9s,mb4.5							
BJI				LR	LR		
comp=Z,3μm,21.4s,MS5.2							
WMQ	**Urumqi**	**46.56**	**348**	P	**P**	**13 48 03.6**	**+1.4**
WMQ				LR	LR		
comp=N,2μm,14.0s,MS5.4							
WMQ				LR	LR		
comp=E,1μm,14.0s,MS5.4							
WMQ				LR	LR		
comp=Z,1μm,17.3s,MS4.9							
CTA	**Charters Tower**	**49.06**	**115**	*e*P	**P**	**13 48 21.4**	**-0.6**
comp=Z,8.8nm,0.8s,mb4.8							
CTA	**Charters Tower**	**49.06**	**115**	*e*P	**P**	**13 48 21.4**	**-0.6**
CTA				pmax	pmax		
comp=Z,9.0nm,0.8s							
CTA	**Charters Tower**	**49.06**	**115**	P	**P**	**13 48 21.7**	**-0.3**
comp=Z,12nm,0.8s,mb5.0,baz=309,slow=9.5,SNR=6.7							
CTAO	**Charters Tower**	**49.06**	**115**	*e*P	**P**	**13 48 21.6**	**-0.4**
CTAO				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.9							
CTAO	**Charters Tower**	**49.06**	**115**	*e*P	**P**	**13 48 21.6**	**-0.4**
comp=Z,10nm,0.8s,mb4.9							
AML	**Almayashu**	**49.53**	**335**	P	**P**	**13 48 26.3**	**+0.9**
SNR=5.1							
STKA	**Stephens Creek**	**49.62**	**132**	*e*P	**P**	**13 48 26.8**	**+0.6**
comp=Z,9.2nm,0.7s,mb4.9							
STKA	**Stephens Creek**	**49.62**	**132**	P	**P**	**13 48 26.8**	**+0.6**
comp=Z,11nm,0.7s,mb5.0,baz=302,slow=7.0,SNR=21							
SONM	**Songino Array**	**49.68**	**6**	P	**P**	**13 48 26.9**	**+0.5**
comp=Z,7.3nm,0.8s,mb4.7,baz=185,slow=8.6,SNR=37							
ULN	**Ulaanbaatar**	**49.78**	**7**	*e*P	**P**	**13 48 27.5**	**+0.3**
ULN				*e*		13 48 44.9	
ULN				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
ULN	**Ulaanbaatar**	**49.78**	**7**	*e*P	**P**	**13 48 27.5**	**+0.3**
comp=Z,4.3nm,0.8s,mb4.5							
ULN				*e*		13 48 44.9	
MKAR	**Makanchi Array**	**50.64**	**345**	*i*P	**P**	**13 48 33.7**	**-0.1**
MKAR				pmax	pmax		
comp=Z,33nm,0.8s							
MKAR	**Makanchi Array**	**50.64**	**345**	P	**P**	**13 48 33.6**	**-0.1**
comp=Z,6.6nm,0.7s,mb4.7,baz=149,slow=7.1,SNR=28							
ZAK	**Zakamensk**	**51.97**	**3**	*e*P	**P**	**13 48 43.7**	**-0.1**
ZAK				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.5							
ZAK				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.5							
MJAR	**Matsushiro Arr**	**52.27**	**39**	P	**P**	**13 48 45.7**	**-0.6**
comp=Z,3.0nm,0.9s,mb4.2,baz=212,slow=7.2,SNR=7.8							
MDJ	**Mudanjiang**	**53.28**	**26**	P	**P**	**13 48 53.6**	**-0.1**
comp=Z,3.4nm,0.5s,mb4.5							
TLY	**Talaya**	**53.29**	**3**	*e*P	**P**	**13 48 53.9**	**+0.3**
TLY				pmax	pmax		
comp=Z,17nm,1.0s,mb4.9							
TLY				MLR	MLR		
comp=Z,3μm,15.0s,MS5.5							
KURK	**Kurchatov**	**55.22**	**344**	*i*P	**P**	**13 49 07.4**	**-0.4**
KURK				pmax	pmax		
comp=Z,31nm,1.0s,mb5.3							
KURK	**Kurchatov**	**55.22**	**344**	*e*P	**P**	**13 49 07.0**	**-0.8**
comp=Z,9.9nm,0.8s,mb4.9							
ZAL	**Zalesovo**	**56.80**	**350**	P	**P**	**13 49 19.1**	**0.0**
comp=Z,8.5nm,0.5s,mb5.1,baz=306,slow=6.7,SNR=33							
ASAJ	**Asahikawa**	**59.57**	**35**	P	**P**	**13 49 39.1**	**+0.5**
comp=Z,6.8nm,0.8s,mb4.7,baz=260,slow=12,SNR=7.4							
BVA0	**Borovoye Array**	**59.77**	**340**	P	**P**	**13 49 38.4**	**-1.5**
BVA0				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.3							
BVAR	**Borovoye Array**	**59.77**	**340**	P	**P**	**13 49 38.6**	**-1.3**
comp=Z,2.3nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=13							
CHKZ	**Chkalovo**	**60.24**	**341**	*e*P	**P**	**13 49 41.6**	**-1.5**
CHKZ				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**60.24**	**341**	*e*P	**P**	**13 49 41.6**	**-1.5**
comp=Z,3.5nm,0.6s,mb4.6							
YSS	**Yuzh-Sakhalins**	**61.42**	**32**	*e*P	**P**	**13 49 49.2**	**-2.0**
YSS				pmax	pmax		
comp=Z,23nm,1.0s,mb5.3							
YSS	**Yuzh-Sakhalins**	**61.42**	**32**	*e*P	**P**	**13 49 49.2**	**-2.0**
comp=Z,23nm,1.0s,mb5.3							
KMBO	**Kilima Mbogo**	**62.36**	**270**	*i*P	**P**	**13 50 00.3**	**+2.3**
KMBO				pmax	pmax		
comp=Z,2.0nm,0.7s							
KMBO	**Kilima Mbogo**	**62.36**	**270**	P	**P**	**13 49 58.7**	**+0.7**
comp=Z,1.7nm,0.7s,mb4.3,baz=51,slow=14,SNR=5.3							
KMBO	**Kilima Mbogo**	**62.36**	**270**	P	**P**	**13 49 58.7**	**+0.7**
BHD	**Baghdad**	**62.53**	**309**	*e*P	**P**	**13 50 02.0**	**+3.1**
BHD				*e*S	**S**	**13 58 26.0**	**+1.2**
GNI	**Garni**	**65.05**	**316**	*i*P	**P**	**13 50 12.5**	**-2.8**
GNI				pmax	pmax		
comp=Z,3.0nm,1.0s							
GNI	**Garni**	**65.05**	**316**	P	**P**	**13 50 12.2**	**-3.1**
comp=Z,2.6nm,0.4s,mb4.6							
ARU	**Arti**	**66.78**	**337**	⇑*i*P	**P**	**13 50 24.6**	**-1.5**
ARU				*e*		13 50 51.1	
ARU				*e*PPP	PPP	13 54 38.4	+6.8
ARU				*e*S	S	13 59 15.6	-1.3
ARU				*e*		14 00 16.0	
ARU				*e*SS	SS	14 03 36.7	+0.2
ARU				pmax	pmax		
comp=Z,29nm,1.0s,mb5.3							
ARU	**Arti**	**66.78**	**337**	*e*P	**P**	**13 50 24.6**	**-1.5**
comp=Z,2.2nm,0.5s,mb4.4							
YAK	**Yakutsk**	**67.54**	**15**	*e*P	**P**	**13 50 29.0**	**-1.8**
YAK				pmax	pmax		
comp=Z,30nm,0.8s,mb5.4							
YAK	**Yakutsk**	**67.54**	**15**	*e*P	**P**	**13 50 29.0**	**-1.8**
comp=Z,30nm,0.8s,mb5.4							
KIV	**Kislovodsk**	**68.07**	**319**	*i*P	**P**	**13 50 31.6**	**-2.9**
KIV				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
KIV	**Kislovodsk**	**68.07**	**319**	P	**P**	**13 50 33.0**	**-1.5**
comp=Z,3.7nm,0.4s,mb4.8							
ASF	**Jabal al Asfar**	**68.11**	**306**	P	**P**	**13 50 35.5**	**+0.6**
comp=Z,2.0nm,0.4s,mb4.5,baz=145,slow=7.2,SNR=3.3							
EIL	**Elat**	**69.05**	**303**	P	**P**	**13 50 38.7**	**-2.0**
comp=Z,1.3nm,0.4s,mb4.2							
MAW	**Mawson**	**70.49**	**194**	*e*P	**P**	**13 50 49.3**	**+0.4**
MAW				pmax	pmax		
comp=Z,4.0nm,0.9s							
MAW	**Mawson**	**70.49**	**194**	P	**P**	**13 50 49.6**	**+0.7**
comp=Z,3.0nm,0.9s,mb4.2,baz=10,slow=9.5,SNR=4.1							
MAW	**Mawson**	**70.49**	**194**	*e*P	**P**	**13 50 49.3**	**+0.4**
comp=Z,3.6nm,0.9s,mb4.3							
MATP	**Matopo**	**71.74**	**249**	P	**P**	**13 50 57.4**	**+0.2**
comp=Z,5.7nm,0.9s,mb4.5,baz=101,slow=6.5,SNR=10							
CSS	**Prodhromos**	**71.75**	**308**	*e*P	**P**	**13 50 56.4**	**-0.7**
comp=Z,2.2nm,0.5s,mb4.3							
BRTR	**Keskin Array B**	**72.85**	**312**	P	**P**	**13 51 02.8**	**-0.8**
comp=Z,0.9nm,0.5s,mb4.0,baz=129,slow=7.9,SNR=5.9							
MA2	**Magadan**	**72.91**	**24**	*e*P	**P**	**13 51 04.0**	**+0.5**
MA2				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.8							
MA2	**Magadan**	**72.91**	**24**	*e*P	**P**	**13 51 03.8**	**+0.3**
comp=Z,14nm,0.7s,mb5.0							
PET	**Petropavlovsk**	**73.30**	**33**	*e*P	**P**	**13 51 05.4**	**-0.5**
PET				pmax	pmax		
comp=Z,12nm,0.6s,mb5.0							
PET	**Petropavlovsk**	**73.30**	**33**	*e*P	**P**	**13 51 05.4**	**-0.5**
comp=Z,12nm,0.6s,mb5.0							
SEY	**Seymchan**	**75.48**	**22**	*e*P	**P**	**13 51 19.5**	**+1.2**
SEY				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.8							
TIXI	**Tiksi**	**75.62**	**9**	*i*P	**P**	**13 51 18.0**	**-0.9**
TIXI				pmax	pmax		
comp=Z,28nm,1.4s,mb5.0							
OBN	**Obninsk**	**76.34**	**328**	*e*P	**P**	**13 51 23.2**	**-0.1**
OBN				*e*		13 54 13.5	
OBN				*e*S	S	14 01 12.5	+5.5
OBN				pmax	pmax		
comp=Z,9.0nm,1.2s,mb4.6							
OBN				MLR	MLR		
comp=Z,500nm,18.0s,MS4.9							
OBN	**Obninsk**	**76.34**	**328**	P	**P**	**13 51 20.7**	**-2.6**
comp=Z,14nm,0.5s,mb5.2							
SYO	**Syowa Base**	**78.03**	**199**	⇑P	**P**	**13 51 33.0**	**+0.6**
AKASG	**Malin Array Be**	**79.02**	**322**	P	**P**	**13 51 37.5**	**-0.7**
comp=Z,0.1nm,0.3s,baz=89,slow=4.4,SNR=4.9							
MLR	**Muntele Rosu**	**79.83**	**317**	P	**P**	**13 51 43.0**	**+0.3**
comp=Z,5.2nm,0.9s,mb4.5,baz=162,slow=3.7,SNR=10							
KOLS	**Kolonicke sedl**	**82.98**	**320**	*e*P	**P**	**13 52 00.9**	**+1.8**
SBA	**Scott Base**	**83.62**	**169**	*e*P	**P**	**13 52 03.0**	**+1.1**
SBA				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.5							
SBA	**Scott Base**	**83.62**	**169**	*e*P	**P**	**13 52 03.0**	**+1.2**
comp=Z,2.6nm,0.8s,mb4.4							
FINES	**FINESS Array B**	**83.67**	**332**	P	**P**	**13 52 02.6**	**+0.2**
comp=Z,1.2nm,0.7s,mb4.1,baz=117,slow=8.5,SNR=6.5							
ARCES	**ARCESS Array B**	**86.06**	**340**	P	**P**	**13 52 15.6**	**+1.4**
comp=Z,2.3nm,0.8s,mb4.5,baz=90,slow=7.3,SNR=4.5							
ZST	**Bratislava**	**86.27**	**318**	*e*P	**P**	**13 52 16.2**	**+0.5**
KIWB	**Kanaga Island**	**87.12**	**38**	P	**P**	**13 52 18.9**	**-0.9**
QSPA	**South Pole Qui**	**88.26**	**180**	*e*P	**P**	**13 52 24.7**	**0.0**
comp=Z,2.3nm,0.6s,mb4.6							
GERES	**GERESS Array B**	**88.58**	**319**	P	**P**	**13 52 27.8**	**+1.0**
comp=Z,0.9nm,0.8s,mb4.1,baz=90,slow=5.3,SNR=5.7							
HFS	**Hagfors**	**89.43**	**330**	P	**P**	**13 52 30.5**	**0.0**
comp=Z,1.9nm,0.8s,mb4.5,baz=180,slow=1.5,SNR=2.9							
SNAA	**Sanae**	**92.31**	**198**	P	**P**	**13 52 42.9**	**-0.8**
IMA	**Indian Mountai**	**98.28**	**23**	P	**P**	**13 53 13.1**	**+2.2**
comp=Z,4.2nm,0.6s,mb5.2							
EDM	**Edmonton**	**121.85**	**23**	*e*PKPdf	PKPdf	13 58 27.8	-2.1
BOZ	**Bozeman (W)**	**128.34**	**28**	*e*PKPdf	PKPdf	13 58 41.5	-1.1
YMR	**Madison River**	**129.39**	**28**	PKPdf	PKPdf	13 58 42.7	-2.0
NVAR	**Mina Array Bea**	**129.60**	**39**	PKP	PKPdf	13 58 45.2	-0.1
comp=Z,0.5nm,0.7s,baz=263,slow=3.2,SNR=4.0							
NVAR	**Mina Array Bea**	**129.60**	**39**	PKP	PKPdf	13 58 45.2	-0.1
ULM	**Lac du Bonnet**	**129.86**	**13**	PKPdf	PKPdf	13 58 41.0	-4.4
RRI2	**Red Ridge**	**130.20**	**29**	*e*PKPdf	PKPdf	13 58 45.2	-1.1
REDW	**Red Top Meadow**	**130.42**	**29**	PKP	PKPdf	13 58 46.9	+0.2
RSSD	**Black Hills**	**132.82**	**23**	PKPdf	PKPdf	13 58 47.2	-4.0
WMOK	**Wichita Mounta**	**142.91**	**26**	*e*PKPpre		13 59 05.0	
BAO	**Brasilia Array**	**143.66**	**241**	P	PKPbc	13 59 12.0	+4.7
LTX	**Lajitas**	**144.68**	**37**	*e*PKP	PKPdf	13 59 11.3	-1.8
TXAR	**Lajitas Array**	**144.68**	**37**	PKP	PKPdf	13 59 11.6	-1.4
comp=Z,8.1nm,0.7s,baz=271,slow=1.1,SNR=74							
TXAR	**Lajitas Array**	**144.68**	**37**	PKP	PKPdf	13 59 11.6	-1.5
CFAA	**Coronel Fontan**	**144.94**	**198**	PKP	PKPdf	13 59 11.6	-1.8
comp=Z,1.9nm,0.7s,baz=165,slow=2.8,SNR=39							
WVT	**Waverly**	**145.05**	**11**	*e*PKP	PKPdf	13 59 10.4	-3.0
MIAR	**Mount Ida**	**145.07**	**19**	*e*PKP	PKPdf	13 59 11.4	-2.2
TZTN	**Tazewell**	**145.20**	**4**	*e*PKP	PKPdf	13 59 11.4	-2.3
UALR	**University of**	**145.25**	**17**	*e*PKP	PKPdf	13 59 12.0	-1.8
JCT	**Junction City**	**145.96**	**31**	*e*PKP	PKPdf	13 59 14.7	-0.5
CPCT	**Cooper Cave**	**146.20**	**6**	*e*PKP	PKPdf	13 59 14.0	-1.4
SWET	**Sewanee**	**146.25**	**8**	*e*PKP	PKPdf	13 59 14.2	-1.3
OXF	**Oxford**	**146.28**	**14**	*e*PKPdf	PKPdf	13 59 11.4	-4.2
NATX	**Nacogdoches**	**147.20**	**23**	*e*PKPbc	PKPdf	13 59 18.6	+1.3
JSC	**Jenkinsville**	**147.57**	**1**	*e*PKPab	PKPab	13 59 19.7	-2.0
LRAL	**Lakeview Retre**	**148.21**	**11**	*e*PKPbc	PKPdf	13 59 19.6	+0.8
OTAV	**Otavalo**	**177.60**	**233**	PKPdf	PKPdf	13 59 46.0	-0.8

IDC ***10*** *13:39:43.4±0.3, 1.62S×99.61E, mb5.0/34, mb1 5.1/34, mb1mx5.1/34, mbtmp5.0/34, MS5.2/1, Ms1 5.2/1, ms1mx3.9/13, Error ellipse: s-maj=14.6km s-min=9.4km az=45.0*

BJI ***10*** *13:39:44.5, 2.05S×99.62E, h44km, mB5.8, mb5.1, Ms5.7, Msz5.5*

MOS ***10*** *13:39:46.9±1.1, 1.56S×99.72E, h33km, mb5.5/38, MS5.1/10, Error ellipse: s-maj=11.5km s-min=5.5km az=116.9*

HRVD ***10*** *13:39:47.2±0.6, 1.67S×99.51E, h17km±1km, MW5.6/62, Centroid moment Tensor Solution. LP body waves: s24,c29; Mantle waves: s62,c110; Half duration: 1§6 Moment tensor: Scale 1017Nm; Mrr3.01±.24; Mθθ-2.52±.16; Mφφ-0.48±.15; Mrθ0.35±.42; Mrφ0.94±.09; Mθφ0.22±.51; Best double couple: M0=2.976×1017 NP1: φ=297°, δ43°, λ99°. NP2: φ=105°, δ48°, λ82°. Principal axes: T 3.055, Plg84°, Azm313°; N -.152, Plg6°, Azm111°; P -2.896, Plg2°, Azm201°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***10*** *13:39:47.2±0.1, 1.63S×99.64E, mb5.3/44, MS5.0/1 Error ellipse: s-maj=5.8km s-min=4.1km az=51.0*

NEIC Felt at Bukittinggi and Pematangsiantar, Sumatra. Also felt at Kuala Lumpur, Malaysia and in Singapore.

ISC 10 13:39:45.5±0.2, 1.63S±0.03×99.68E±0.04, h25km, h25km±1.3km:pP-P, n299, σ1§04/256, mb5.2/85, MS5.5/15, 27C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.94**	**8**	*e*P	**Pn**	**13 41 28.4**	**0.0**
KSM	**Kuching**	**11.06**	**74**	*e*P	**P**	**13 42 25.5**	**0.0**
NNT	**Nongplab**	**14.12**	**0**	P	**P**	**13 43 12.0**	**+5.5**
NST	**Nakhon Sawan**	**17.19**	**1**	P	**P**	**13 43 47.0**	**+1.1**
KKTK	**Khon Kaen**	**18.12**	**10**	P	**P**	**13 43 57.0**	**-0.5**
CM31	**Chiang Mai Arr**	**19.97**	**358**	*e*P	**P**	**13 44 20.3**	**+1.1**
41nm,0.6s							
CMAR	**Chiang Mai Arr**	**19.97**	**358**	P	**P**	**13 44 20.4**	**+1.2**
2.1nm,0.3s,baz=190,slow=10.0,SNR=30							
PALK	**Pallekele**	**20.90**	**295**	*e*P	**P**	**13 44 28.5**	**-0.3**
101nm,1.3s							
QIZ	**Qiongzhong**	**22.83**	**25**	*e*P	**P**	**13 44 49.6**	**+1.5**
36nm,0.6s,mb5.0							
MDRS	**Chennai**	**24.19**	**308**	*e*P	**P**	**13 45 03.0**	**+1.6**
MDRS				*e*		13 49 19.0	
VIS	**Vishakhapatnam**	**25.08**	**321**	*e*P	**P**	**13 45 11.0**	**+1.0**
SNPH	**Sibulan**	**25.87**	**65**	*e*P	**P**	**13 45 25.0**	**+7.6**
KMI	**Kunming**	**26.75**	**6**	⇑P	**P**	**13 45 25.6**	**+0.2**
KMI				XP	sP	13 45 39.2	+3.1
KMI				SS	SS	13 51 11.9	+1.5
KMI				AMB	AMB		
comp=Z,19nm,1.1s,mb4.5							
KMI				AMB	AMB		
comp=Z,1μm,9.6s							
KMI				LR	LR		
comp=N,7μm,14.1s,MS5.6							
KMI				LR	LR		
comp=E,8μm,12.3s,MS5.6							
KMI				LR	LR		
comp=Z,8μm,13.0s,MS5.4							
KMI	**Kunming**	**26.75**	**6**	⇑P	**P**	**13 45 25.6**	**+0.2**
KMI				*PP	pP	13 45 34.9	+2.1
KMI				*SP	sP	13 45 39.2	+3.1
KMI						13 46 11.0	
KMI				S	**S**	**13 49 58.2**	**+0.3**
KMI				*SS		13 50 13.8	
KMI				SS	SS	13 51 11.9	+1.5
KMI				LR	LR		
comp=Z,19nm,1.1s,mb4.5							
KMI				pP	pP	13 45 34.9	+2.1
KMI				sP	sP	13 45 39.2	+3.1
KMI				PP	PP	13 46 11.0	+0.6
KMI				S	**S**	**13 49 58.2**	**+0.3**
KMI				sS		13 50 13.8	
KMI				SS	SS	13 51 11.9	+1.5
KMI				LR	LR		
comp=Z,8μm,13.0s,MS5.4							
HYB	**Hyderabad**	**28.14**	**313**	*e*P	**P**	**13 45 38.0**	**-0.1**
HYB	**Hyderabad**	**28.14**	**313**	*i*P	**P**	**13 45 38.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**30.28**	**124**	*e*P	**P**	**13 45 56.4**	**-0.9**
comp=Z,59nm,0.9s,mb5.3							
FITZ				*e*S	**S**	**13 50 53.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**30.28**	**124**	P	**P**	**13 45 56.2**	**-1.1**
comp=Z,99nm,1.0s,mb5.5,baz=309,slow=6.6,SNR=26							
FITZ				LR	LR	13 58 55.5	
comp=Z,4μm,19.7s,MS5.1,baz=237,slow=38							
QZH	**Quanzhou**	**32.15**	**34**	P	**P**	**13 46 13.2**	**-0.4**
LSA	**Lhasa**	**32.20**	**346**	P	**P**	**13 46 14.8**	**+0.8**
LSA				AMB	AMB		
comp=Z,20nm,1.1s,mb4.9							
LSA				LR	LR		
comp=N,620nm,17.2s,MS5.0							
LSA				LR	LR		
comp=E,2μm,13.6s,MS5.0							
LSA				LR	LR		
comp=Z,2μm,12.7s,MS4.9							
LSA	**Lhasa**	**32.20**	**346**	*e*P	**P**	**13 46 14.6**	**+0.6**
LSA				pmax	pmax		
comp=Z,29nm,0.6s,mb5.3							
LSA	**Lhasa**	**32.20**	**346**	*e*P	**P**	**13 46 14.6**	**+0.5**
comp=Z,29nm,0.6s,mb5.3							
POO	**Poona**	**32.35**	**309**	⇑*i*P	**P**	**13 46 14.0**	**-1.5**
comp=Z,50nm,1.0s,mb5.3							
ENH	**Enshi**	**33.07**	**16**	*e*P	**P**	**13 46 20.5**	**-1.1**
comp=Z,34nm,0.6s,mb5.5							
MUN	**Mundaring**	**33.98**	**154**	*e*P	**P**	**13 46 31.0**	**+1.6**
comp=Z,123nm,0.9s,mb5.8							
MUN	**Mundaring**	**33.98**	**154**	*e*P	**P**	**13 46 31.0**	**+1.6**
MUN				pmax	pmax		
comp=Z,123nm,0.9s,mb5.8							
WHN	**Wuhan**	**34.91**	**22**	⇓P	**P**	**13 46 37.5**	**0.0**
WHN				LR	LR		
comp=Z,20μm,13.7s,MS6.0							
NWAO	**Narrogin (SRO)**	**35.23**	**154**	*e*P	**P**	**13 46 41.3**	**+1.1**
NWAO				pmax	pmax		
comp=Z,24nm,0.8s							
NWAO	**Narrogin (SRO)**	**35.23**	**154**	P	**P**	**13 46 41.3**	**+1.1**
comp=Z,34nm,0.9s,mb5.3,baz=315,slow=9.7,SNR=13							
NWAO	**Narrogin (SRO)**	**35.23**	**154**	*e*P	**P**	**13 46 41.3**	**+1.1**
comp=Z,24nm,0.8s,mb5.2							
LGTI	**Lohaghat**	**36.06**	**330**	*e*P	**P**	**13 46 47.5**	**+0.2**
LGTI				*e*		13 47 40.0	
XAN	**Xi'an**	**36.53**	**13**	P	**P**	**13 46 49.2**	**-1.9**
XAN				S	**S**	**13 52 31.8**	**+0.5**
XAN				AMB	AMB		
comp=Z,60nm,0.9s,mb5.4							
XAN				LR	LR		
comp=N,10μm,13.4s,MS5.9							
XAN				LR	LR		
comp=E,7μm,11.1s,MS5.9							
XAN				LR	LR		
comp=Z,16μm,12.9s,MS6.0							
NDI	**New Delhi**	**37.04**	**326**	*e*P	**P**	**13 46 54.0**	**-1.5**
NDI				*e*		13 52 54.0	
LZH	**Lanzhou**	**37.72**	**6**	*e*P	**P**	**13 47 00.8**	**-0.3**
LZH				AP	pP	13 47 08.4	-0.2
LZH				PP	PP	13 48 30.0	-0.3
LZH				S	**S**	**13 52 48.0**	**-1.5**
LZH				XS		13 53 07.1	
LZH				AMB	AMB		
comp=Z,80nm,1.2s,mb5.3							
LZH				AMB	AMB		
comp=Z,300nm,4.5s							
LZH				LR	LR		
comp=N,13μm,11.0s							
LZH				LR	LR		
comp=Z,16μm,13.2s,MS6.0							
LZH	**Lanzhou**	**37.72**	**6**	*e*P	**P**	**13 47 00.8**	**-0.3**
LZH				*SP	sP	13 47 12.2	+0.5
LZH						13 48 30.0	
LZH				S	**S**	**13 52 48.0**	**-1.5**
LZH				*SS		13 53 07.1	
LZH				SS	SS	13 55 20.0	-4.7
LZH				pmax	pmax		
comp=Z,80nm,1.2s,mb5.3							
LZH				MLR	MLR		
comp=Z,16μm,13.2s,MS6.0							
LZH	**Lanzhou**	**37.72**	**6**	*e*P	**P**	**13 47 00.8**	**-0.3**
comp=Z,80nm,1.2s,mb5.3							
LZH				pP	pP	13 47 08.4	-0.2
LZH				sP	sP	13 47 12.2	+0.5
LZH				PP	PP	13 48 30.0	-0.3
LZH				S	**S**	**13 52 48.0**	**-1.5**
LZ

comp=Z,30nm,1.1s,mb4.9
BJI Beiging 44.13 18 *e*P **P 13 47 53.2 -0.7**
comp=Z,30nm,1.1s,mb4.9
DL2 Dalian 45.11 24 P **P 13 48 03.7 +1.9**
DL2 S **S 13 54 40.1 +1.3**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
DL2 AMB AMB
comp=Z,730nm,7.5s
DL2 LR LR
comp=N,2µm,14.3s,MS5.3
DL2 LR LR
comp=E,2µm,15.9s,MS5.3
DL2 LR LR
comp=Z,3µm,15.1s,MS5.3
KSH Kashi 46.36 335 *e*P **P 13 48 10.3 -1.4**
KSH AMB AMB
comp=Z,960nm,4.0s
KSH Kashi 46.36 335 *e*P **P 13 48 11.3 -0.4**
KSH *e*AP pP 13 48 21.0 +1.7
KSH *e*XP sP 13 48 25.1 +2.8
KSH AMB AMB
comp=Z,960nm,4.0s
WMQ Urumqi 46.50 348 P **P 13 48 14.1 +1.3**
WMQ AP pP 13 48 24.1 +3.8
WMQ XP sP 13 48 27.6 +4.2
WMQ PCP PcP 13 49 49.1 +1.7
WMQ PP PP 13 50 03.2 +1.3
WMQ S **S 13 54 59.1 +0.3**
WMQ XS 13 55 16.1
WMQ AMB AMB
comp=Z,97nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,833nm,4.4s
WMQ LR LR
comp=N,2µm,14.0s,MS5.4
WMQ LR LR
comp=E,1µm,14.0s,MS5.4
WMQ LR LR
comp=Z,1µm,17.3s,MS4.9
ULHL Ulahol 48.54 337 P **P 13 48 29.8 +1.1**
SNR=5.9
KZA Kyzart 48.80 336 P **P 13 48 33.0 +2.3**
SNR=7.5
CTA Charters Tower 49.04 115 *e*P **P 13 48 32.5 -0.4**
comp=Z,22nm,1.1s,mb5.1
CTA Charters Tower 49.04 115 *e*P **P 13 48 32.5 -0.4**
CTA pmax pmax
comp=Z,22nm,1.1s
CTA Charters Tower 49.04 115 P **P 13 48 32.0 -0.9**
comp=Z,40nm,1.1s,mb5.4,baz=286,slow=10,SNR=13
CTAO Charters Tower 49.04 115 *e*P **P 13 48 32.3 -0.6**
CTAO pmax pmax
comp=Z,60nm,1.2s,mb5.5
CTAO Charters Tower 49.04 115 *e*P **P 13 48 32.3 -0.6**
comp=Z,60nm,1.2s,mb5.5
UCH Uchtor 49.23 335 P **P 13 48 35.0 +0.9**
SNR=11
TKM2 Tokmak 2 49.37 337 P **P 13 48 31.7 -3.4**
SNR=15
KBK Karagaybulak 49.40 336 P **P 13 48 36.4 +1.0**
SNR=12
AAK Ala-Archa 49.57 336 P **P 13 48 37.5 +0.9**
SNR=8.5
AAK Ala-Archa 49.57 336 P **P 13 48 37.3 +0.6**
AAK pmax pmax
comp=Z,70nm,1.7s,mb5.4
SONM Songino Array 49.61 6 P **P 13 48 37.3 +0.4**
comp=Z,18nm,0.7s,mb5.2,baz=188,slow=9.2,SNR=38
SONM PcP PcP 13 49 58.0 -0.5
comp=Z,9.7nm,0.5s,baz=190,slow=4.0,SNR=9.0
STKA Stephens Creek 49.63 132 *e*P **P 13 48 37.6 +0.3**
comp=Z,35nm,0.7s,mb5.5
STKA Stephens Creek 49.63 132 P **P 13 48 37.7 +0.4**
comp=Z,43nm,0.7s,mb5.6,baz=308,slow=7.0,SNR=21
FRU Bishkek 49.69 336 *e*P **P 13 48 38.0 +0.4**
FRU pmax pmax
comp=Z,130nm,2.5s,mb5.5
ULN Ulaanbaatar 49.71 7 *e*P **P 13 48 37.7 0.0**
ULN pmax pmax
comp=Z,21nm,0.9s,mb5.2
ULN Ulaanbaatar 49.71 7 *e*P **P 13 48 37.7 0.0**
comp=Z,21nm,0.9s,mb5.2
CHMS Chumysh 49.77 336 P **P 13 48 37.9 -0.3**
SNR=6.7
EKS2 Erkin-Say 49.89 335 P **P 13 48 39.7 +0.5**
SNR=9.8
USP Ospenovka 50.09 336 P **P 13 48 41.0 +0.4**
SNR=9.6
MKAR Makanchi Array 50.59 345 P **P 13 48 44.6 +0.2**
comp=Z,34nm,0.6s,mb5.4,baz=148,slow=8.0,SNR=47
MKAR S **S 13 56 02.8 +6.8**
comp=Z,9.2nm,1.2s,baz=139,slow=13,SNR=8.6
KKAR Karatay Array 51.68 333 *i* P **P 13 48 48.7 -4.0**
KKAR pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ZAK Zakamensk 51.90 3 *e*P **P 13 48 53.9 -0.4**
MAT Matsushiro 52.19 39 *e*P **P 13 48 53.0 -3.7**
MAT pmax pmax
comp=Z,44nm,1.5s,mb5.2
MAT Matsushiro 52.19 39 *e*P **P 13 48 53.0 -3.7**
comp=Z,44nm,1.5s,mb5.2
MAT Matsushiro 52.19 39 P **P 13 48 55.7 -1.0**
MJAR Matsushiro Arr 52.19 39 P **P 13 48 55.9 -0.7**
comp=Z,6.0nm,0.7s,mb4.6,baz=208,slow=7.5,SNR=18
MOY Mondy 53.11 1 *e*P **P 13 49 03.6 +0.3**
MOY pmax pmax
comp=Z,47nm,2.3s,mb5.0
MDJ Mudanjiang 53.20 26 *e*P **P 13 49 04.1 0.0**
comp=Z,13nm,0.8s,mb4.9
HIA Hailar 53.58 16 *e*P **P 13 49 05.2 -1.6**
HIA pmax pmax
comp=Z,5.0nm,0.7s
HIA Hailar 53.58 16 *e*P **P 13 49 05.2 -1.6**
comp=Z,5.4nm,0.7s,mb4.6
IRK Irkutsk 53.81 3 *e*P **P 13 49 06.3 -2.1**
IRK pmax pmax
comp=Z,62nm,1.4s,mb5.3
OPO Ambohidratompo 54.11 248 P **P 13 49 10.8 -0.2**
comp=Z,4.9nm,0.8s,mb4.5,baz=49,slow=9.8,SNR=5.1
KURK Kurchatov 55.16 344 *e*P **P 13 49 17.5 -0.9**
KURK *e* pP 13 49 26.1 0.0
KURK pmax pmax
comp=Z,47nm,0.8s,mb5.6
KURK Kurchatov 55.16 344 *e*P **P 13 49 17.5 -0.8**
comp=Z,47nm,0.8s,mb5.6
KURK *e* pP 13 49 26.1 +0.1
HASS Wahat al Ahsa' 55.23 302 P **P 13 49 16.5 -2.7**
ZAL Zalesovo 56.74 350 P **P 13 49 29.2 -0.4**
comp=Z,58nm,0.5s,mb5.9,baz=304,slow=5.2,SNR=48
ZAL PKP2bc 14 19 36.4
comp=Z,0.6nm,0.3s,baz=188,slow=5.7,SNR=3.6
ZAL Zalesovo 56.74 350 P **P 13 49 29.2 -0.4**
ZAL ⇑*e* 14 19 36.4
KLR Kul'dur 57.72 24 *e*P **P 13 49 33.2 -3.5**
KLR *e* 13 50 26.0
ATD Arta Tunnel 57.97 285 P **P 13 49 39.0 +0.1**
comp=Z,3.8nm,0.4s,mb4.8,baz=243,slow=23,SNR=3.6
ASAJ Asahikawa 59.49 35 P **P 13 49 50.2 +1.2**
comp=Z,18nm,0.5s,mb5.3,baz=254,slow=12,SNR=23
BVAR Borovoye Array 59.73 340 P **P 13 49 48.6 -1.9**
comp=Z,7.4nm,0.5s,mb5.0,baz=149,slow=8.6,SNR=29
CHKZ Chkalovo 60.19 341 *e*P **P 13 49 52.0 -1.7**
CHKZ pmax pmax
comp=Z,22nm,0.7s,mb5.3
CHKZ Chkalovo 60.19 341 *e*P **P 13 49 52.0 -1.7**
comp=Z,22nm,0.7s,mb5.3
YSS Yuzh-Sakhalins 61.34 32 ⇑*i*P **P 13 50 01.0 -0.6**
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 61.34 32 *e*P **P 13 50 00.7 -0.9**
comp=Z,48nm,0.8s,mb5.7
CLNS Chul'man 61.74 15 *e*P **P 13 50 08.9 +4.7**
CLNS *e* 13 52 16.8
CLNS *e*S **S 13 58 13.1 -11**
CLNS *e* 13 59 53.6
CLNS pmax pmax
comp=Z,15nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,12nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS smax
comp=N,381nm,11.5s
CLNS smax
comp=Z,357nm,13.3s
CLNS smax
comp=E,105nm,11.5s
CLNS MLR MLR
comp=Z,3µm,13.0s,MS5.6
CLNS MLR MLR
comp=N,2µm,12.0s,MS5.5
CLNS MLR MLR
comp=E,500nm,10.0s,MS5.5
KMBO Kilima Mbogo 62.41 270 P **P 13 50 09.3 0.0**
KMBO Kilima Mbogo 62.41 270 P **P 13 50 09.2 -0.1**
comp=E,10.0nm,1.0s,mb4.9,baz=58,slow=8.2,SNR=15
KMBO Kilima Mbogo 62.41 270 P **P 13 50 09.2 -0.1**
MAK Makhachkala 64.48 320 *e*P **P 13 50 20.0 -2.5**
MAK *e*S **S 13 58 59.0 +0.7**
MAK *i* 14 00 10.0
MAK pmax pmax
comp=Z,2µm,7.0s
MAK smax
comp=E,2µm,9.0s
GNI Garni 65.04 316 *e*P **P 13 50 25.6 -0.6**
GNI pmax pmax
comp=Z,19nm,0.8s
GNI Garni 65.04 316 P **P 13 50 26.4 +0.3**
comp=Z,3.1nm,0.4s,mb4.7,baz=318,slow=7.0,SNR=6.1
GNI Garni 65.04 316 *e*P **P 13 50 25.6 -0.6**
comp=Z,19nm,0.8s,mb5.2
TI2 Plekhanov 65.72 318 *e*P **P 13 50 30.2 -0.3**
SVE Sverdlovsk 66.22 338 ⇑*i*P **P 13 50 29.0 -4.4**
SVE *e* pP 13 50 36.8 -4.5
SVE pmax pmax
comp=Z,80nm,1.3s,mb5.6
ARU Arti 66.74 337 *e*P **P 13 50 35.1 -1.7**
ARU *e* pP 13 50 43.4 -1.2
ARU pmax pmax
comp=Z,22nm,0.8s,mb5.2
ARU Arti 66.74 337 *e*P **P 13 50 35.1 -1.7**
comp=Z,22nm,0.8s,mb5.2
ARU *e* pP 13 50 43.4 -1.2
YAK Yakutsk 67.46 15 *c i*P **P 13 50 39.3 -2.0**
YAK *e**PP pP 13 50 47.0 -2.1
YAK *e* 13 51 05.6
YAK *e* 13 53 07.6
YAK *e*PPP PPP 13 54 45.3 -3.5
YAK *e*S S 13 59 34.1 -0.2
YAK *e* 14 00 36.7
YAK pmax pmax
comp=N,28nm,1.0s
YAK pmax pmax
comp=Z,95nm,1.0s,mb5.8
YAK pmax pmax
comp=E,23nm,1.2s
YAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK smax
comp=N,10.0nm,1.3s
YAK smax
comp=E,8.0nm,1.3s
YAK MLR MLR
comp=N,3µm,15.0s,MS5.8
YAK MLR MLR
comp=Z,4µm,15.0s,MS5.8
YAK MLR MLR
comp=E,2µm,14.0s,MS5.8
YAK Yakutsk 67.46 15 *e*P **P 13 50 39.1 -2.1**
comp=E,80nm,0.7s,mb5.9
DZM Mont Dzumac 67.89 113 P **P 13 50 44.9 +0.3**
comp=E,20nm,1.1s,mb5.1,baz=205,slow=18,SNR=3.3
KIV Kislovodsk 68.05 319 ⇑*i*P **P 13 50 43.1 -2.2**
KIV *i* pP 13 50 50.8 -2.3
KIV *e*S S 14 00 11.1 +29
KIV pmax pmax
comp=Z,59nm,1.7s,mb5.3
KIV MLR MLR
comp=Z,700nm,20.0s,MS4.9
KIV Kislovodsk 68.05 319 *e*P **P 13 50 44.4 -0.9**
comp=Z,19nm,0.7s,mb5.2
JMQS Jabal Moqyreh 68.07 302 P **P 13 50 45.6 -0.1**
ASF Jabal al Asfar 68.11 306 P **P 13 50 45.9 0.0**
comp=Z,6.7nm,0.9s,mb4.7,baz=16,slow=1.7,SNR=8.6
GOF Gofitskoye 68.31 320 ⇓*i*P **P 13 50 44.2 -2.7**
GOF pmax pmax
comp=Z,30nm,1.0s,mb5.3
BDAS Al Bad' **68.62 301** P **P 13 50 48.5 -0.6**
JMOS Jabal al Moail 68.80 302 P **P 13 50 50.5 +0.4**
TAYS Tayyib Ism 68.85 301 P **P 13 50 50.1 -0.3**
MALT Malatya 68.85 312 ⇑P **P 13 50 50.4 0.0**
ALWS Ilw as Safayha 68.87 302 P **P 13 50 48.8 -1.8**
HAQS Haql 68.92 302 P **P 13 50 50.2 -0.7**
EIL Elat 69.05 303 P **P 13 50 51.2 -0.5**
comp=Z,11nm,0.8s,mb4.8,baz=118,slow=5.8,SNR=12
EIL Elat 69.05 303 *e*P **P 13 50 51.1 -0.7**
comp=Z,12nm,0.8s,mb4.9
SOC Sochi 69.87 318 *e*P **P 13 50 52.4 -4.0**
SOC *e* 13 51 04.8
SOC *e*S S 14 00 00.4 -2.7
SOC *e* 14 00 40.4
SOC *e*SSS SSS 14 07 40.1 +1.8
SOC pmax pmax
comp=Z,28nm,0.9s,mb5.2
SOC pmax pmax
comp=N,9.0nm,1.1s
SOC pmax pmax
comp=E,13nm,0.9s
MAW Mawson 70.57 194 *e*P **P 13 51 00.0 -0.3**
MAW pmax pmax
comp=Z,25nm,1.0s
MAW Mawson 70.57 194 P **P 13 51 01.1 +0.8**
comp=Z,17nm,0.9s,mb5.0,baz=36,slow=8.3,SNR=13
MAW Mawson 70.57 194 *e*P **P 13 51 00.0 -0.3**
comp=Z,25nm,1.0s,mb5.1
CSS Prodhromos 71.75 308 *e*P **P 13 51 06.8 -1.2**
comp=Z,14nm,0.6s,mb5.1
MATP Matopo 71.81 249 P **P 13 51 08.4 -0.2**
comp=Z,19nm,0.9s,mb5.0,baz=84,slow=5.5,SNR=20
MA2 Magadan 72.83 24 *e*P **P 13 51 13.6 -0.3**
MA2 pmax pmax
comp=Z,80nm,1.3s,mb5.5
MA2 Magadan 72.83 24 *e*P **P 13 51 13.9 0.0**
comp=Z,45nm,0.5s,mb5.7
BRTR Keskin Array B 72.84 312 P **P 13 51 12.7 -1.8**
comp=Z,5.6nm,0.6s,mb4.7,baz=131,slow=7.3,SNR=19
PET Petropavlovsk 73.22 33 *e*P **P 13 51 16.6 +0.3**
PET *e*S S 14 00 43.2 +1.7
PET Petropavlovsk 73.22 33 *e*P **P 13 51 16.1 -0.2**
comp=Z,55nm,0.6s,mb5.7
SIM Simferopol' 74.11 318 *c i*P **P 13 51 21.0 -0.7**
SIM *e*S S 14 01 00.0 +8.3
SIM pmax pmax
comp=Z,16nm,0.8s,mb5.0
ISP Isparta 74.68 310 *e*P **P 13 51 24.2 -1.0**
ISP pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ISP Isparta 74.68 310 *e*P **P 13 51 24.1 -1.0**
comp=Z,6.4nm,0.6s,mb4.7
SEY Seymchan 75.40 22 *e*P **P 13 51 30.2 +1.4**
RPZ Rata Peaks 75.47 135 P **P 13 51 30.0 +0.4**
comp=Z,25nm,0.7s,mb5.3,baz=240,slow=3.8,SNR=14
BOSA Boshof 75.56 241 P **P 13 51 28.9 -1.4**
comp=Z,7.2nm,1.0s,mb4.5,baz=89,slow=8.0,SNR=8.5
MOS Moscow 76.02 329 *e*P **P 13 51 31.8 -0.6**
MOS *e* pP 13 51 40.6 +0.3
MOS pmax pmax
comp=Z,118nm,1.5s,mb5.6
OBN Obninsk 76.31 328 *e*P **P 13 51 33.6 -0.5**
comp=Z,13nm,0.4s,mb5.2
TIRR Tirgusor 77.87 316 ⇑P **P 13 51 42.5 -0.4**
SYO Syowa Base 78.12 199 ⇓P **P 13 51 45.2 +1.4**
SYO Syowa Base 78.12 199 ⇑pP pP 13 51 55.0 +3.3
CFR Carcaliu 78.24 317 P **P 13 51 44.5 -0.4**
CFR Carcaliu 78.24 317 ⇑P **P 13 51 44.4 -0.5**
CFR Carcaliu 78.24 317 ⇑P **P 13 51 44.4 -0.5**
KIS Kishinev 78.24 319 *e*P **P 13 51 44.0 -0.9**
KIS *e* pP 13 51 51.0 -1.9
HARR Harsova 78.26 316 P **P 13 51 44.9 -0.1**
HARR Harsova 78.26 316 ⇑P **P 13 51 44.5 -0.5**
HARR Harsova 78.26 316 ⇑P **P 13 51 44.5 -0.5**
IDI Anoyia 78.56 306 P **P 13 51 46.7 -0.2**
comp=Z,13nm,0.6s,mb5.1,baz=66,slow=7.2,SNR=14
AKASG Malin Array Be 79.00 322 P **P 13 51 47.5 -1.5**
comp=Z,3.2nm,0.5s,mb4.5,baz=93,slow=4.4,SNR=20
AKASG Malin Array Be 79.00 322 P **P 13 51 47.5 -1.5**
URZ Urewera 79.12 129 P **P 13 51 50.4 +0.4**
comp=Z,15nm,0.6s,mb5.1,baz=300,slow=6.7,SNR=10
VRI Vrincioaia 79.36 317 P **P 13 51 51.1 0.0**
VRI Vrincioaia 79.36 317 ⇑P **P 13 51 51.7 +0.6**
VRI Vrincioaia 79.36 317 ⇑P **P 13 51 51.7 +0.6**
MLR Muntele Rosu 79.81 317 P **P 13 51 54.1 +0.6**
comp=Z,22nm,0.9s,mb5.1,baz=122,slow=3.1,SNR=18
MLR Muntele Rosu 79.81 317 ⇑P **P 13 51 54.0 +0.6**
MLR Muntele Rosu 79.81 317 ⇑P **P 13 51 54.0 +0.5**
RZN Rozhen 79.89 313 *i* P **P 13 51 54.0 0.0**
MMB Musomiste 80.60 312 *e*P **P 13 51 58.0 +0.2**
BURAR Bucovina Array 80.77 319 ⇑P **P 13 51 58.9 +0.4**
BURAR Bucovina Array 80.77 319 ⇑P **P 13 51 58.9 +0.4**
KKB Krupnik 81.12 313 *e*P **P 13 52 00.0 -0.5**
VTS Vitosha 81.16 313 P **P 13 52 00.5 -0.2**
VTS Vitosha 81.16 313 *i* P **P 13 52 01.0 +0.3**
JOF Joensuu 81.75 335 *e*p **P 13 52 03.0 -0.3**
LVV L'vov 82.01 321 *e*P **P 13 52 05.6 +0.7**
BOLS Boljevac 82.28 314 ⇓*i*P **P 13 52 03.8 -2.6**
APA Apatity 82.63 339 ⇑*e*P **P 13 52 05.6 -2.2**
APA pmax pmax
comp=Z,36nm,1.2s,mb5.3
KWP Kalwaria 82.81 320 *e*P **P 13 52 08.4 -0.7**
BILL Bilibino 82.92 20 *i* P **P 13 52 00.8 -8.5**
BILL Bilibino 82.92 20 *i* P **P 13 52 04.2 -5.1**
BILL pmax pmax
comp=Z,17nm,1.7s,mb4.8
BILL MLR MLR
comp=Z,2µm,18.0s,MS5.5
KOLS Kolonicke sedl 82.96 320 *e*P **P 13 52 10.9 +1.0**
SUW Suwalki 83.40 325 *e*P **P 13 52 11.7 -0.3**
CRVS Cervenica-Dubn 83.48 319 *e*P **P 13 52 16.8 +4.2**
FINES FINESS Array B 83.64 332 P **P 13 52 13.2 +0.1**
comp=Z,5.9nm,0.4s,mb5.1,baz=110,slow=5.2,SNR=37
SBA Scott Base 83.68 169 *e*P **P 13 52 14.3 +1.3**
SBA pmax pmax
comp=Z,12nm,0.8s,mb5.1
SBA Scott Base 83.68 169 *e*P **P 13 52 14.3 +1.3**
comp=Z,12nm,0.8s,mb5.1
KAF Kangasniemi 83.71 333 *e*p **P 13 52 13.5 +0.1**
DIVS Divcibare 83.72 315 *e*P **P 13 52 10.9 -3.0**
KECS Kecovo 84.05 319 *e*P **P 13 52 16.1 +0.6**
NIE Niedzica 84.31 320 *e*P **P 13 52 15.9 -0.9**
PSZ Piszkesteto 84.36 318 ⇑P **P 13 52 17.3 +0.3**
PSZ Piszkesteto 84.36 318 *e*P **P 13 52 19.0 +2.0**
OJC Ojcow 84.77 321 *e*P **P 13 52 19.7 +0.7**
PKSM Moragy 84.96 316 ⇑P **P 13 52 20.3 +0.2**
LIKS Likavka 85.04 319 *e*P **P 13 52 22.0 +1.6**
VYHS Vyhne 85.14 319 *e*P **P 13 52 21.5 +0.6**
VYHS *e*pP pP 13 52 28.1 -0.9
SRO Srobarova 85.39 318 *e*P **P 13 52 24.4 +2.2**
KEV Kevo 85.57 341 *e*p **P 13 52 22.7 +0.1**
OKC Ostrava-Krasne 85.77 320 *e*P **P 13 52 24.3 +0.3**
OKC AMS AMS 14 38 20.0
comp=Z,500nm,10.9s
ARCES ARCESS Array B 86.02 340 P **P 13 52 25.1 +0.3**
comp=Z,17nm,0.9s,mb5.3,baz=108,slow=3.8,SNR=6.7
MORC Moravsky Berou 86.15 320 ⇓P **P 13 52 26.3 +0.4**
ZST Bratislava 86.25 318 *e*P **P 13 52 27.3 +0.8**
ZST *e* 14 02 16.1
DPC Dobruska-Polom 87.00 320 *e*P **P 13 52 30.6 +0.5**
KIWB Kanaga Island 87.04 38 *e*P **P 13 52 31.1 +0.9**
KSP Ksiaz 87.07 321 *e*P **P 13 52 30.7 +0.3**
KSP Ksiaz 87.07 321 *e*P **P 13 52 31.1 +0.7**
UPC Upice 87.21 321 *e*P **P 13 52 31.8 +0.7**
PRU Pruhonice 88.10 320 *e*P **P 13 52 35.8 +0.4**
PVCC Panska Ves 88.13 320 *e*P **P 13 52 36.2 +0.7**
PVCC AMS AMS 14 39 10.0
comp=Z,500nm,16.5s
BSD Bornholm Skovb 88.32 325 *i* P **P 13 52 38.3 +2.0**
BSD pmax pmax
comp=Z,26nm,0.8s,mb5.5
BSD Bornholm Skovb 88.32 325 *i* P **P 13 52 38.3 +2.0**
comp=Z,26nm,0.8s,mb5.5
QSPA South Pole Qui 88.33 180 *e*P **P 13 52 37.4 +1.5**
comp=Z,25nm,1.1s,mb5.4
BRG Berggiesshubel 88.55 321 *e*P **P 13 52 38.2 +0.7**
BRG pmax pmax
comp=Z,32nm,1.5s,mb5.4
BRG Berggiesshubel 88.55 321 *e*P **P 13 52 38.2 +0.7**
comp=Z,32nm,1.5s,mb5.4
GERES GERESS Array B 88.56 319 P **P 13 52 37.9 +0.3**
comp=Z,3.2nm,0.8s,mb4.7,baz=108,slow=4.2,SNR=20
KHC Kasperske Hory 88.66 319 *e*P **P 13 52 39.0 +0.9**
KHC *e* 13 52 44.5
KHC MLR MLR
comp=Z,500nm,18.2s,MS5.0
KHC Kasperske Hory 88.66 319 *e*P **P 13 52 39.0 +0.9**
KHC *e* 13 52 44.5
KHC *e* 13 53 06.5
KHC LR LR
comp=Z,500nm,18.2s,MS5.0
KHC Kasperske Hory 88.66 319 *e*P **P 13 52 39.0 +0.9**
KHC pP pP 13 52 44.5 -1.6
KHC AMS AMS 14 38 40.0
comp=Z,500nm,18.2s
CLL Collm 89.17 321 ⇓*i*P **P 13 52 40.6 +0.1**
CLL *e* pP 13 52 48.0 -0.5
CLL pmax pmax
comp=Z,15nm,1.1s,mb5.2
CLL Collm 89.17 321 ⇓*i*P **P 13 52 40.6 +0.1**
comp=Z,15nm,1.1s,mb5.2
CLL *e* pP 13 52 48.0 -0.5
CLL Collm 89.17 321 ⇓P **P 13 52 40.6 +0.1**
comp=Z,logA/T=1.1,mb5.2
CLL *e**PP pP 13 52 48.0 -0.5
HFS Hagfors 89.39 330 P **P 13 52 42.1 +0.9**
comp=Z,3.9nm,0.6s,mb4.9,baz=162,slow=4.7,SNR=16
NKC Novy Kostel 89.46 320 *e*P **P 13 52 42.9 +1.0**
NKC AMS AMS 14 39 50.0
comp=Z,500nm,18.2s
GRA1 Grafenberg Arr 90.23 320 *e*P **P 13 52 46.8 +1.4**
comp=Z,106nm,2.0s,mb5.8
GRA1 *e*pP pP 13 52 52.9 -0.6
GRF Grafenberg Arr 90.23 320 *e*P **P 13 52 46.8 +1.4**
GRF *e**PP pP 13 52 52.9 -0.6
GRF pmax pmax
comp=Z,106nm,2.0s,mb5.8
GRF Grafenberg Arr 90.23 320 *e*P **P 13 52 46.8 +1.4**
GRF *e**PP pP 13 52 52.9 -0.6
GRF pmax pmax
comp=Z,106nm,2.0s,mb5.8
GRF Grafenberg Arr 90.23 320 *e*P **P 13 52 46.8 +1.4**
comp=Z,106nm,2.0s,mb5.8
GRF *e*pP pP 13 52 52.9 -0.6
NB2 NORSAR Subarra 90.67 331 P **P 13 52 46.7 -0.5**
comp=Z,5.3nm,0.9s,mb4.9,baz=95,slow=4.6
NB2 NORSAR Subarra 90.67 331 P **P 13 52 46.7 -0.5**
NB2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
NOA NORSAR Array B 90.67 331 P **P 13 52 47.4 +0.2**
comp=Z,2.3nm,0.7s,mb4.6,baz=93,slow=4.7,SNR=11
DAVOX Davos 91.04 317 P **P 13 52 50.0 +0.8**
comp=Z,8.0nm,0.5s,mb5.3,baz=93,slow=6.3,SNR=25
LPG La Plagne 93.21 315 *e*P **P 13 53 01.7 +2.5**
comp=Z,9.1nm,0.7s,mb5.0
LPG La Plagne 93.21 315 *e*P **P 13 53 01.7 +2.5**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
IMA Indian Mountai 98.19 23 *e*P **P 13 53 22.8 +1.3**
IMA pmax pmax
comp=Z,21nm,0.8s,mb5.7
IMA Indian Mountai 98.19 23 *e*P **P 13 53 22.8 +1.4**
comp=Z,20nm,0.8s,mb5.7
ILAR Eielson Array 101.29 24 P P 13 53 37.6 +2.1
comp=Z,0.3nm,0.9s,baz=293,slow=3.4,SNR=4.7
ILAR PKKPbc 14 09 45.2
comp=Z,0.9nm,0.7s,baz=132,slow=2.2,SNR=9.1
INK Inuvik 104.41 18 Pdiff Pdif 13 53 49.4 +0.2
comp=Z,5.9nm,1.3s,baz=261,slow=3.0,SNR=4.8
INK PP PP 13 58 10.1 -0.6
comp=Z,1.4nm,0.9s,baz=100,slow=0.1,SNR=4.6
INK Inuvik 104.41 18 Pdif Pdif 13 53 49.4 +0.2
INK PP PP 13 58 10.1 -0.6
YKA Yellowknife Ar 114.11 17 PKP PKPdf 13 58 23.1 -4.0
comp=Z,0.3nm,0.4s,baz=321,slow=1.2,SNR=15
YKA PKKPbc 14 09 08.0
comp=Z,0.2nm,0.6s,baz=143,slow=3.7,SNR=5.4

YKA				PKKPab		14 09 12.4	
	comp=Z,0.6nm,0.8s,baz=140,slow=4.2,SNR=7.0						
YKA	**Yellowknife Ar**	**114.11**	**17**	PKP	PKPdf	13 58 23.1	-4.1
YKA				PKKPbc		14 09 08.0	
YKA				PKKPab		14 09 12.4	
EDM	**Edmonton**	**121.77**	**23**	*e*P	PKPdf	13 58 37.8	-4.4
NEW	**Newport**	**123.76**	**29**	PKP	PKPdf	13 58 44.2	-2.0
	comp=Z,3.1nm,1.0s,baz=14,slow=7.4,SNR=3.7						
YBH	**Yreka Blue Hor**	**124.84**	**38**	PP	PP	14 00 35.9	-0.3
	comp=Z,3.5nm,1.1s,baz=198,slow=6.4,SNR=3.1						
SCHQ	**Schefferville**	**125.83**	**350**	PKP	PKPdf	13 58 47.5	-2.6
	comp=Z,2.0nm,0.6s,baz=14,slow=1.1,SNR=9.5						
CHMT	**Chamberlain Mo**	**126.56**	**28**	*e*P	PKPdf	13 58 47.9	-3.7
BOZ	**Bozeman (W)**	**128.26**	**28**	*e*PKPdf	PKPdf	13 58 52.2	-2.8
MCMT	**McKenzie Canyo**	**128.28**	**29**	*e*PKPdf	PKPdf	13 58 51.9	-3.2
QLMT	**Earthquake Lak**	**128.96**	**28**	*e*PKPdf	PKPdf	13 58 55.1	-1.2
YMR	**Madison River**	**129.30**	**28**	*e*PKPdf	PKPdf	13 58 55.4	-1.6
NVAR	**Mina Array Bea**	**129.51**	**39**	PKP	PKPdf	13 58 56.3	-1.3
	comp=Z,2.0nm,0.8s,baz=280,slow=2.9,SNR=9.5						
NVAR				PP	PP	14 01 14.1	+6.8
	comp=Z,1.3nm,0.8s,baz=277,slow=8.2,SNR=4.4						
NVAR	**Mina Array Bea**	**129.51**	**39**	PKP	PKPdf	13 58 56.3	-1.3
NVAR				PP	PP	14 01 14.1	+6.8
ULM	**Lac du Bonnet**	**129.78**	**13**	PKP	PKPdf	13 58 54.9	-2.8
	comp=Z,4.1nm,0.5s,baz=221,slow=0.9,SNR=6.5						
ULM	**Lac du Bonnet**	**129.78**	**13**	*e*PKPdf	PKPdf	13 58 54.7	-3.1
RRI2	**Red Ridge**	**130.12**	**29**	*e*PKPdf	PKPdf	13 58 57.0	-1.6
SNOW	**Snow King Moun**	**130.31**	**29**	*e*PKPdf	PKPdf	13 58 57.0	-2.0
REDW	**Red Top Meadow**	**130.33**	**29**	*e*PKPdf	PKPdf	13 58 57.3	-1.7
TRCR	**Troy Canyon**	**131.23**	**37**	*e*PKPdf	PKPdf	13 58 59.8	-1.1
PDAR	**Pinedale Array**	**131.41**	**29**	PKP	PKPdf	13 58 58.8	-2.3
	comp=Z,2.7nm,1.0s,baz=72,slow=0.5,SNR=11						
PDAR				PP	PP	14 01 19.6	+0.1
	comp=Z,1.4nm,1.0s,SNR=4.8						
RSSD	**Black Hills**	**132.74**	**23**	*e*PKPdf	PKPdf	13 59 00.4	-3.1
MSU	**Marysvale**	**133.12**	**35**	*e*PKPdf	PKPdf	13 59 02.9	-1.5
PV01	**Paradox Valley**	**135.37**	**32**	*e*PKPdf	PKPdf	13 59 06.6	-2.0
TUC	**Tucson**	**138.12**	**40**	*e*PKPdf	PKPdf	13 59 12.7	-1.1
LPM	**Los Pinos Moun**	**139.24**	**34**	*e*PKPdf	PKPdf	13 59 15.1	-0.7
BNM	**Barren Site**	**139.37**	**34**	*e*PKPdf	PKPdf	13 59 14.4	-1.6
MNTX	**Cornudas Mount**	**141.87**	**36**	PKPpre		13 59 14.1	
GDL2	**Guadalupe Moun**	**142.08**	**34**	*e*PKPpre		13 59 14.7	
WMOK	**Wichita Mounta**	**142.83**	**26**	*e*PKPpre		13 59 15.5	
BDFB	**Brasilia**	**143.75**	**241**	PKP	PKPdf	13 59 21.0	-3.1
	comp=Z,4.4nm,0.6s,baz=132,slow=3.0,SNR=6.6						
ELN	**Prospectdale**	**144.57**	**1**	*e*PKP	PKPdf	13 59 19.8	-5.3
LTX	**Lajitas**	**144.60**	**37**	*e*PKP	PKPdf	13 59 21.8	-3.6
TXAR	**Lajitas Array**	**144.60**	**37**	PKP	PKPdf	13 59 21.7	-3.7
	comp=Z,26nm,0.6s,baz=258,slow=1.2,SNR=48						
TXAR	**Lajitas Array**	**144.60**	**37**	PKP	PKPdf	13 59 21.7	-3.7
HALT	**Halls**	**144.88**	**13**	*e*PKP	PKPdf	13 59 21.9	-3.8
WVT	**Waverly**	**144.97**	**11**	*e*PKP	PKPdf	13 59 21.7	-4.1
MIAR	**Mount Ida**	**144.99**	**19**	*e*PKP	PKPdf	13 59 21.7	-4.2
CFAA	**Coronel Fontan**	**145.02**	**198**	PKP	PKPdf	13 59 22.1	-3.9
	comp=Z,3.9nm,0.6s,baz=186,slow=2.2,SNR=30						
TZTN	**Tazewell**	**145.13**	**5**	*e*PKP	PKPdf	13 59 21.5	-4.5
UALR	**University of**	**145.17**	**17**	*e*PKP	PKPdf	13 59 21.6	-4.6
MET	**Memphis--Engin**	**145.49**	**14**	*e*PKP	PKPdf	13 59 25.3	-1.4
JCT	**Junction City**	**145.87**	**31**	*e*PKPdf	PKPdf	13 59 25.5	-2.0
PLAL	**Pickwick Lake**	**146.04**	**11**	*e*PKPdf	PKPdf	13 59 25.0	-2.7
CPCT	**Cooper Cave**	**146.12**	**6**	*e*PKPdf	PKPdf	13 59 25.1	-2.7
SWET	**Sewanee**	**146.18**	**8**	*e*PKPdf	PKPdf	13 59 25.2	-2.7
OXF	**Oxford**	**146.20**	**14**	*e*PKPdf	PKPdf	13 59 25.5	-2.4
NATX	**Nacogdoches**	**147.11**	**23**	*e*PKPdf	PKPdf	13 59 28.1	-1.4
JSC	**Jenkinsville**	**147.50**	**1**	*e*PKPdf	PKPdf	13 59 28.6	-1.5
LRAL	**Lakeview Retre**	**148.13**	**11**	*e*PKPbc	PKPdf	13 59 29.5	-1.7
GOGA	**Godfrey**	**148.24**	**5**	*e*PKPdf	PKPdf	13 59 29.6	-1.7
LVC	**Limon Verde**	**153.46**	**204**	PKPbc	PKPdf	13 59 35.0	-4.5
	comp=Z,3.6nm,0.7s,baz=315,slow=3.3,SNR=7.4						
LVC	**Limon Verde**	**153.46**	**204**	PKPbc	PKPdf	13 59 45.7	+6.3
	comp=Z,8.8nm,0.8s,baz=312,slow=1.6,SNR=12						
SIV	**San Ignacio**	**154.15**	**227**	PKPbc	PKPdf	13 59 34.8	-5.7
	comp=Z,1.8nm,0.8s,baz=98,slow=5.0,SNR=10.0						
SIV	**San Ignacio**	**154.15**	**227**	PKPbc	PKPdf	13 59 44.6	+4.1
	comp=Z,3.8nm,0.7s,baz=110,slow=4.6,SNR=13						
SAML	**Samuel**	**159.95**	**238**	*e*PKPdf	PKPdf	13 59 44.9	-3.1
OTAV	**Otavalo**	**177.68**	**234**	*e*PKPdf	PKPdf	13 59 57.6	-1.8

*MOS **10** 13:40:38.2±0.9, 1.81S×99.51E, h33km, mb5.6/10, Error ellipse: s-maj=25.7km s-min=12.5km az=91.3*
*NEIC **10** 13:40:39.4±0.7, 1.64S×99.70E, mb5.3/10, Error ellipse: s-maj=23.6km s-min=11.0km az=65.0*
ISC 10 13:40:39.7±0.8, 1.6S±0.1×99.8E±0.2, h33km, (h33km±6.9km:pP-P), n41, σ1§07/33, mb5.4/14, MS5.8/2, 2C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**32.18**	**346**	*e*P	**P**	**13 47 06.5**	**-0.4**
LSA				pmax	pmax		
	comp=Z,42nm,0.8s,mb5.3						
LSA	**Lhasa**	**32.18**	**346**	*e*P	**P**	**13 47 06.5**	**-0.4**
	comp=Z,42nm,0.8s,mb5.3						
ENH	**Enshi**	**33.00**	**16**	*e*P	**P**	**13 47 12.8**	**-1.3**
	comp=Z,41nm,0.8s,mb5.4						
LZH	**Lanzhou**	**37.67**	**5**	⇓P	**P**	**13 47 54.3**	**+0.6**
LZH				*PP	pP	13 48 06.7	+3.3
LZH						13 49 18.7	
LZH				pmax	pmax		
	comp=Z,140nm,1.4s,mb5.5						
LZH				MLR	MLR		
	comp=Z,16μm,13.2s,MS6.0						
LZH	**Lanzhou**	**37.67**	**5**	⇓P	**P**	**13 47 54.3**	**+0.6**
	comp=Z,140nm,1.4s,mb5.5						
LZH				pP	pP	13 48 06.7	+3.3
LZH				sP	sP	13 48 13.0	+5.3
LZH				PP	PP	13 49 18.7	-4.2
LZH				LR	LR		
	comp=Z,16μm,13.2s,MS6.0						
WRAB	**Tennant Creek**	**38.41**	**121**	*e*P	**P**	**13 47 59.9**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,44nm,0.6s,mb5.4						
WRAB	**Tennant Creek**	**38.41**	**121**	*e*P	**P**	**13 47 59.9**	**-0.1**
	comp=Z,44nm,0.6s,mb5.4						
BJT	**Baijiatuan**	**44.04**	**18**	*e*P	**P**	**13 48 47.1**	**+0.9**
BJT				pmax	pmax		
	comp=Z,47nm,1.0s						
BJT	**Baijiatuan**	**44.04**	**18**	*e*P	**P**	**13 48 47.1**	**+0.9**
	comp=Z,47nm,1.0s,mb5.2						
CTAO	**Charters Tower**	**48.98**	**115**	*e*P	**P**	**13 49 24.7**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
CTAO	**Charters Tower**	**48.98**	**115**	*e*P	**P**	**13 49 24.7**	**-0.7**
	comp=Z,24nm,1.0s,mb5.2						
ULN	**Ulaanbaatar**	**49.65**	**6**	*e*P	**P**	**13 49 28.7**	**-1.5**
ULN				*e*	pP	13 49 36.6	-3.5
ULN				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
ULN	**Ulaanbaatar**	**49.65**	**6**	*e*P	**P**	**13 49 28.7**	**-1.6**
	comp=Z,18nm,0.8s,mb5.2						
ULN				*e*		13 49 36.5	
ZAK	**Zakamensk**	**51.85**	**3**	*e*P	**P**	**13 49 46.4**	**-0.4**
MDJ	**Mudanjiang**	**53.12**	**26**	*e*P	**P**	**13 49 56.6**	**+0.2**
	comp=Z,18nm,1.0s,mb5.0						
TLY	**Talaya**	**53.17**	**3**	*e*P	**P**	**13 49 57.9**	**+1.3**
IRK	**Irkutsk**	**53.76**	**3**	*e*P	**P**	**13 49 57.9**	**-3.2**
KURK	**Kurchatov**	**55.15**	**344**	*e*P	**P**	**13 50 10.7**	**-0.5**
KURK				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
KURK	**Kurchatov**	**55.15**	**344**	*e*P	**P**	**13 50 10.7**	**-0.4**
	comp=Z,30nm,0.8s,mb5.4						
ZAL	**Zalesovo**	**56.71**	**349**	P	**P**	**13 50 23.3**	**+0.9**
YSS	**Yuzh-Sakhalins**	**61.25**	**32**	⇑*i*P	**P**	**13 50 53.9**	**-0.1**
YSS				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.8						
YSS	**Yuzh-Sakhalins**	**61.25**	**32**	*e*P	**P**	**13 50 54.3**	**+0.3**
	comp=Z,59nm,0.9s,mb5.7						
SVE	**Sverdlovsk**	**66.21**	**338**	*e*P	**P**	**13 51 26.5**	**+0.2**
SVE				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.5						
YAK	**Yakutsk**	**67.40**	**15**	*e*P	**P**	**13 51 32.4**	**-1.3**
YAK				*e*PP	pP	13 51 42.4	-1.6
YAK				*e*		13 51 59.2	
YAK				*e*		13 54 00.9	
YAK				*e*S	S	14 00 27.6	+2.0
YAK				*e*		14 01 24.9	
YAK				*e*SS	SS	14 04 47.2	-0.3
YAK				pmax	pmax		
	comp=Z,92nm,1.0s,mb5.8						
YAK				pmax	pmax		
	comp=N,20nm,0.8s						
YAK				pmax	pmax		
	comp=E,23nm,1.1s						
YAK				smax			
	comp=N,7.0nm,1.0s						
YAK				smax			
	comp=E,6.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,2μm,14.0s,MS5.5						
YAK				MLR	MLR		
	comp=N,2μm,17.0s,MS5.5						
YAK				MLR	MLR		
	comp=E,463nm,12.0s,MS5.5						
YAK	**Yakutsk**	**67.40**	**15**	*e*P	**P**	**13 51 32.8**	**-0.8**
	comp=E,86nm,0.9s,mb5.8						
YAK				*e*		13 51 38.6	
MA2	**Magadan**	**72.75**	**24**	*e*P	**P**	**13 52 07.2**	**+1.0**
MA2				*e*		13 52 13.1	
MA2				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
MA2	**Magadan**	**72.75**	**24**	*e*P	**P**	**13 52 07.1**	**+0.8**
	comp=Z,64nm,0.8s,mb5.6						
MA2				*e*		13 52 13.1	
PET	**Petropavlovsk**	**73.13**	**33**	*e*P	**P**	**13 52 08.9**	**+0.2**
PET				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.4						
PET	**Petropavlovsk**	**73.13**	**33**	*e*P	**P**	**13 52 08.9**	**+0.2**
	comp=Z,41nm,0.8s,mb5.4						
SEY	**Seymchan**	**75.33**	**22**	*e*P	**P**	**13 52 23.1**	**+1.9**
SEY				*e*		13 52 27.9	
MOS	**Moscow**	**76.02**	**329**	*e*P	**P**	**13 52 22.9**	**-2.4**
SYO	**Syowa Base**	**78.19**	**199**	⇑P	**P**	**13 52 37.2**	**+0.1**
CLL	**Collm**	**89.20**	**321**	P	**P**	**13 53 35.0**	**+1.6**
CLL				*e*SP	sP	13 53 45.0	-2.4
LTX	**Lajitas**	**144.51**	**37**	*e*PKP	PKPdf	14 00 15.0	+1.6
WVT	**Waverly**	**144.91**	**11**	*e*PKP	PKPdf	14 00 14.9	+0.9
MIAR	**Mount Ida**	**144.92**	**19**	*e*PKP	PKPdf	14 00 15.4	+1.4
TZTN	**Tazewell**	**145.08**	**5**	*e*PKP	PKPdf	14 00 15.0	+0.8
UALR	**University of**	**145.10**	**18**	*e*PKP	PKPdf	14 00 15.5	+1.2
JCT	**Junction City**	**145.79**	**31**	*e*PKP	PKPdf	14 00 18.0	+2.4
CPCT	**Cooper Cave**	**146.07**	**6**	*e*PKP	PKPdf	14 00 17.8	+1.9
SWET	**Sewanee**	**146.12**	**8**	*e*PKP	PKPdf	14 00 18.0	+2.0

IDC 10 13:44:41.6±3.9, 1.57S×100.25E, mb4.1/5, mb1 4.3/5, mb1mx3.9/16, mbtmp4.1/5, Error ellipse: s-maj=172.9km s-min=22.7km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.00**	**121**	P	P	13 52 01.6	-1.8
	1.8nm,0.5s,baz=301,slow=9.0,SNR=5.2						
ASAR	**Alice Springs**	**39.31**	**127**	P	P	13 52 12.6	-1.7
	1.6nm,0.6s,baz=304,slow=8.2,SNR=3.9						
SONM	**Songino Array**	**49.49**	**5**	P	P	13 53 34.5	-1.3
	0.8nm,0.7s,baz=190,slow=8.2,SNR=2.5						
MKAR	**Makanchi Array**	**50.68**	**344**	P	P	13 53 42.6	-2.3
	1.2nm,0.3s,baz=154,slow=9.2,SNR=10						
ZAL	**Zalesovo**	**56.78**	**349**	P	P	13 54 27.1	-2.7
	2.3nm,0.5s,baz=291,slow=5.0,SNR=5.8						

*NEIC **10** 13:46:34.5, 45.37N×6.57E, h1km, ML3.1(CSEM), ML3.1(LDG), ML2.9(STR), ML2.8(GEN), After GEN.*
*CSEM **10** 13:46:34.3±0.1, 45.32N×6.59E, h5km, ML3.1/23, Error ellipse: s-maj=0.9km s-min=0.8km az=49.0*
*GEN **10** 13:46:34.5, 45.37N×6.57E, h1km, ML2.8*
*STR **10** 13:46:35.5±0.4, 45.34N×6.53E, h5km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **10** 13:46:35.4±0.1, 45.35N×6.56E, h3km, Ml3.1/26, Error ellipse: s-maj=1.8km s-min=1.4km az=84.0*
*ZUR **10** 13:46:37.2, 45.48N×6.70E, h13km, ML2.2/9*
ISC 10 13:46:33.1±0.2, 45.38N±0.01×6.51E±0.02, h6km±2km, n102, σ1§24/192, 2C-4D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	**La Plagne**	**0.21**	**56**	*e*Pg	**Pg**	**13 46 39.1**	**+1.8**
LPG				*e*Sg	**Sg**	**13 46 42.1**	**+2.0**
	256nm,0.2s						
LPL	**La Plagne**	**0.21**	**50**	*e*Pg	**Pg**	**13 46 39.1**	**+1.8**
LPL				*e*Sg	**Sg**	**13 46 42.2**	**+2.0**
	340nm,0.2s						
GDM	**Grand'Maison**	**0.33**	**237**	Pg	**Pg**	**13 46 41.4**	**+1.7**
GDM				Sg	**Sg**	**13 46 45.9**	**+1.7**
LSD	**Ceresole Reale**	**0.46**	**81**	P	**Pg**	**13 46 43.0**	**+0.6**
LSD				S	**Sg**	**13 46 48.5**	**-0.1**
LSD	**Ceresole Reale**	**0.46**	**81**	P	**Pg**	**13 46 43.0**	**+0.6**
RRL	**Cesana Torines**	**0.50**	**157**	P	**Pg**	**13 46 44.0**	**+0.8**
RRL				S	**Sg**	**13 46 50.5**	**+0.6**
RRL	**Cesana Torines**	**0.50**	**157**	P	**Pg**	**13 46 44.0**	**+0.8**
RRL				S	**Sg**	**13 46 50.5**	**+0.6**
FENE	**Fenestrelle**	**0.53**	**132**	P	**Pg**	**13 46 44.0**	**+0.4**
FENE				S	**Sg**	**13 46 50.9**	**+0.2**
FENE	**Fenestrelle**	**0.53**	**132**	P	**Pg**	**13 46 44.0**	**+0.3**
FENE				S	**Sg**	**13 46 50.9**	**+0.2**
GRN	**Grenoble**	**0.56**	**256**	Pg	**Pg**	**13 46 46.4**	**+2.2**
GRN				Sg	**Sg**	**13 46 54.7**	**+3.1**
RSP	**Reno Superiore**	**0.58**	**113**	P	**Pg**	**13 46 45.3**	**+0.6**
RSP				S	**Sg**	**13 46 52.6**	**+0.2**
RSP	**Reno Superiore**	**0.58**	**113**	P	**Pg**	**13 46 45.3**	**+0.7**
RSP				S	**Sg**	**13 46 52.6**	**+0.2**
OG22	**Abries**	**0.64**	**151**	Pg	**Pg**	**13 46 46.3**	**+0.4**
OG22				Sg	**Sg**	**13 46 53.8**	**-0.7**
ORIF	**Oris-en-Rattie**	**0.64**	**224**	*e*Pg	**Pg**	**13 46 46.9**	**+1.0**
ORIF				*e*Sg	**Sg**	**13 46 55.4**	**+0.9**
	166nm,0.2s						
MBDF	**Montbardon**	**0.68**	**164**	*e*Pg	**Pg**	**13 46 46.8**	**+0.1**
MBDF				*e*Sg	**Sg**	**13 46 56.0**	**+0.1**
	99nm,0.3s						
EMV	**Vieux Emosson**	**0.73**	**22**	⇑*i*Pg	**Pg**	**13 46 48.9**	**+1.2**
BHB	**Bricherasio**	**0.76**	**135**	P	**Pg**	**13 46 48.6**	**+0.3**
BHB				S	**Sg**	**13 46 58.1**	**-0.4**
BHB	**Bricherasio**	**0.76**	**135**	P	**Pg**	**13 46 48.6**	**+0.3**
BHB				S	**Sg**	**13 46 58.1**	**-0.4**
SALAN	**Lac Salanfe**	**0.83**	**23**	*e*Pg	**Pg**	**13 46 50.5**	**+0.9**
TRAV		**0.88**	**81**	P	**Pb**	**13 46 50.5**	**+0.1**
TRAV				S	**Sb**	**13 47 01.7**	**-0.6**
TRAV		**0.88**	**81**	P	**Pb**	**13 46 50.5**	**+0.1**
TRAV				S	**Sb**	**13 47 01.7**	**-0.6**
SURF	**Saint Ours**	**0.93**	**166**	Pg	**Pg**	**13 46 51.9**	**+0.3**
DIX	**Grande Dixence**	**0.94**	**42**	⇑*i*Pg	**Pg**	**13 46 52.6**	**+0.7**
GRYON	**Gryon**	**0.96**	**26**	⇓*i*Pg	**Pg**	**13 46 53.2**	**+0.9**
PZZ	**Prazzo**	**0.97**	**154**	P	**Pb**	**13 46 52.3**	**+0.3**
PZZ				S	**Sb**	**13 47 04.9**	**0.0**
PZZ	**Prazzo**	**0.97**	**154**	P	**Pb**	**13 46 52.3**	**+0.3**
PZZ				S	**Sb**	**13 47 04.9**	**0.0**
AIGLE	**Aigle**	**1.01**	**18**	*e*Pg	**Pg**	**13 46 54.5**	**+1.3**
DOI	**San Damiano**	**1.02**	**149**	*e*Pg	**Pg**	**13 46 52.9**	**-0.6**
DOI				*e*Sg	**Sg**	**13 47 07.6**	**+0.4**
DOI	**San Damiano**	**1.02**	**149**	*e*Pg	**Pg**	**13 46 52.9**	**-0.6**
DOI				*e*Sg	**Sg**	**13 47 07.6**	**+0.4**
ORO	**Oropa**	**1.06**	**76**	*e*Pg	**Pg**	**13 46 54.2**	**-0.1**
ORO				*e*Sg	**Sg**	**13 47 08.2**	**-0.4**
ORO	**Oropa**	**1.06**	**76**	*e*Pg	**Pg**	**13 46 54.2**	**-0.1**
ORO				*e*Sg	**Sg**	**13 47 08.2**	**-0.4**
ORX	**Oropa**	**1.07**	**76**	P	**Pb**	**13 46 53.9**	**+0.4**
ORX				S	**Sb**	**13 47 07.2**	**-0.4**
ORX	**Oropa**	**1.07**	**76**	P	**Pb**	**13 46 53.9**	**+0.3**
ORX				S	**Sb**	**13 47 07.2**	**-0.4**
SENIN	**Lac Senin**	**1.13**	**29**	⇓*i*Pg	**Pg**	**13 46 56.1**	**+0.5**
GIMEL	**Gimel**	**1.16**	**352**	⇓*i*Pn	**Pn**	**13 46 58.4**	**+2.5**
OCF	**Saint Nazaire**	**1.18**	**227**	Pg	**Pg**	**13 46 58.6**	**+2.1**
OG26	**St.-Nazaire-De**	**1.18**	**227**	Pg	**Pg**	**13 46 58.6**	**+2.1**
MCGN	**Macugnaga**	**1.19**	**61**	*e*Pg	**Pg**	**13 46 56.7**	**-0.1**
MCGN				*e*Sg	**Sg**	**13 47 13.0**	**+0.4**
MCGN	**Macugnaga**	**1.19**	**61**	*e*Pg	**Pg**	**13 46 56.7**	**-0.1**
MCGN				*e*Sg	**Sg**	**13 47 13.0**	**+0.4**
MMK	**Mattmark**	**1.22**	**56**	⇓*i*Pg	**Pg**	**13 46 56.9**	**-0.6**
CABF	**La Chapelle**	**1.26**	**347**	*e*Pg	**Pg**	**13 46 59.8**	**+1.5**
CABF				*e*Sn	**Sn**	**13 47 14.9**	**+0.2**
CABF				*e*Sg	**Sg**	**13 47 16.7**	**+1.6**
	144nm,0.5s						
STV2	**Anna di Valdie**	**1.28**	**153**	P	**Pb**	**13 46 57.5**	**+0.3**
STV2				S	**Sb**	**13 47 13.3**	**-0.4**
STV2	**Anna di Valdie**	**1.28**	**153**	P	**Pb**	**13 46 57.5**	**+0.3**
STV2				S	**Sb**	**13 47 13.4**	**-0.4**
STV	**Sta Anna Valdi**	**1.28**	**153**	P	**Pb**	**13 46 57.7**	**+0.5**
STV				S	**Sb**	**13 47 13.4**	**-0.3**
STV	**Sta Anna Valdi**	**1.28**	**153**	P	**Pb**	**13 46 57.7**	**+0.5**
STV				S	**Sb**	**13 47 13.4**	**-0.4**
ENR	**Entracque**	**1.33**	**150**	P	**Pb**	**13 46 58.1**	**+0.1**
ENR				S	**Sb**	**13 47 14.2**	**-0.9**
ENR	**Entracque**	**1.33**	**150**	P	**Pb**	**13 46 58.1**	**+0.1**
ENR				S	**Sb**	**13 47 14.2**	**-1.0**
VIVF	**Saint-Julien-l**	**1.40**	**249**	*e*Pn	**Pn**	**13 47 00.9**	**+1.6**
VIVF				*e*Pg	**Pg**	**13 47 02.3**	**+1.2**
VIVF				*e*Sn	**Sn**	**13 47 18.9**	**+0.6**
VIVF				*e*Sg	**Sg**	**13 47 20.8**	**+1.0**
	107nm,0.3s						
ROB	**Roburent**	**1.46**	**138**	P	**Pn**	**13 47 00.4**	**+0.3**
ROB	**Roburent**	**1.46**	**138**	P	**Pn**	**13 47 00.4**	**+0.3**
TOUF	**Mont Tournerai**	**1.47**	**159**	Pg	**Pg**	**13 47 01.6**	**-0.8**
AUTN	**L'Aution**	**1.54**	**154**	Pg	**Pg**	**13 47 03.1**	**-0.6**
BRANT	**Les Verrieres**	**1.56**	**359**	*e*Pn	**Pn**	**13 47 04.0**	**+2.5**
SMRF	**Simiane la Rot**	**1.56**	**206**	*e*Pg	**Pg**	**13 47 04.1**	**-0.1**
SMRF				*e*Sg	**Sg**	**13 47 24.7**	**-0.2**
	32nm,0.4s						
MVIF	**Mont Vial**	**1.56**	**163**	Pg	**Pg**	**13 47 04.5**	**+0.3**
MONE	**Monesi**	**1.58**	**145**	P	**Pn**	**13 47 01.7**	**-0.1**
MONE	**Monesi**	**1.58**	**145**	P	**Pn**	**13 47 01.7**	**-0.1**
SAOF	**Saorge**	**1.58**	**151**	Pg	**Pg**	**13 47 03.0**	**-1.7**
CALN	**Calern**	**1.65**	**170**	Pg	**Pg**	**13 47 05.9**	**-0.2**
CALN				Sg	**Sg**	**13 47 30.2**	**+2.1**
SBF	**Sospel**	**1.66**	**156**	*e*Pg	**Pg**	**13 47 05.8**	**-0.4**
SBF				*e*Sg	**Sg**	**13 47 26.7**	**-1.6**
	66nm,0.4s						
VAI	**Varese**	**1.66**	**72**	*e*Pg	**Pg**	**13 47 05.3**	**-0.9**
VAI				*e*Sg	**Sg**	**13 47 26.3**	**-2.0**
VAI	**Varese**	**1.66**	**72**	*e*Pg	**Pg**	**13 47 05.3**	**-0.9**
VAI				*e*Sg	**Sg**	**13 47 26.3**	**-2.0**
PCP	**Pian Castagno**	**1.67**	**119**	P	**Pn**	**13 47 03.4**	**+0.3**
PCP	**Pian Castagno**	**1.67**	**119**	P	**Pn**	**13 47 03.4**	**+0.2**
FIN	**Finale Ligure**	**1.69**	**134**	*e*Pg	**Pg**	**13 47 04.9**	**-1.9**
FIN				*e*Sg	**Sg**	**13 47 27.7**	**-1.5**
FIN	**Finale Ligure**	**1.69**	**134**	P	**Pn**	**13 47 02.8**	**-0.6**
FIN	**Finale Ligure**	**1.69**	**134**	*e*Pg	**Pg**	**13 47 04.9**	**-1.9**
FIN				*e*Sg	**Sg**	**13 47 27.7**	**-1.5**
NEGI	**Negi**	**1.76**	**150**	P	**Pn**	**13 47 04.3**	**-0.1**
NEGI	**Negi**	**1.76**	**150**	P	**Pn**	**13 47 04.3**	**-0.1**
IMI	**Imperia**	**1.77**	**146**	*e*Pg	**Pg**	**13 47 06.4**	**-2.1**
IMI				*e*Sg	**Sg**	**13 47 30.5**	**-1.6**
IMI	**Imperia**	**1.77**	**146**	P	**Pn**	**13 47 04.1**	**-0.5**
IMI				*e*Sg	**Sg**	**13 47 30.5**	**-1.6**
FRF	**La Foret Royal**	**1.82**	**177**	*e*Pg	**Pg**	**13 47 08.9**	**-0.6**
FRF				*e*Sg	**Sg**	**13 47 32.6**	**-1.2**
	49nm,0.3s						
LOMF	**Lomont**	**1.98**	**6**	Pn	**Pn**	**13 47 09.0**	**+1.4**
LMR	**La Mourre**	**2.05**	**180**	*e*Pg	**Pg**	**13 47 12.5**	**-1.5**
LMR				*e*Sg	**Sg**	**13 47 38.7**	**-2.6**
	11nm,0.2s						
PLDF	**La Plantade**	**2.11**	**287**	Pn	**Pn**	**13 47 13.1**	**+3.7**
PLDF				Pg	**Pg**	**13 47 16.0**	**+0.9**
PLDF				Sg	**Sg**	**13 47 43.2**	**0.0**
PLDF	**La Plantade**	**2.11**	**287**	Pg	**Pg**	**13 47 16.0**	**+0.9**
PLDF				Sg	**Sg**	**13 47 43.2**	**0.0**
SMF	**Signal de Mont**	**2.25**	**305**	*e*Pn	**Pn**	**13 47 12.9**

KURK Kurchatov 55.15 344 eP P 13 56 55.2 -0.9
5.4nm,0.9s,mb4.6
ZAL Zalesovo 56.73 350 P P 13 57 07.8 +0.3
2.5nm,0.5s,mb4.5,baz=298,slow=1.5,SNR=7.5
CHKZ Chkalovo 60.17 341 eP P 13 57 30.4 -1.1
1.7nm,0.7s,mb4.2
MATP Matopo 71.77 249 P P 13 58 46.2 +0.2
1.4nm,0.7s,mb4.0,baz=89,slow=13,SNR=3.5
MATP Matopo 71.77 249 P P 13 58 46.2 +0.2
0.4nm,0.6s,mb3.8,baz=135,slow=5.4,SNR=4.0
TXAR Lajitas Array 144.62 37 PKP PKPdf 14 07 00.2 +1.6
1.8nm,0.7s,baz=266,slow=1.2,SNR=14
TXAR Lajitas Array 144.62 37 PKP PKPdf 14 07 00.2 +1.6
MIAR Mount Ida 145.00 19 ePKP PKPdf 14 07 00.2 +1.1
CFAA Coronel Fontan 145.00 198 PKP PKPdf 14 07 00.5 +1.4
0.6nm,0.8s,baz=158,slow=4.2,SNR=9.2
CFAA Coronel Fontan 145.00 198 PKP PKPdf 14 07 00.5 +1.4
JCT Junction City 145.89 31 ePKP PKPdf 14 07 03.3 +2.7

*ORF **10** 13:50:01.1, 9.55S×175.45E, h30km, mb5.9*
*MOS **10** 13:50:06.7±1.2, 15.11S×174.92W, h220km, mb4.9/17, Error ellipse: s-maj=13.2km s-min=12.1km az=60.7*
*IDC **10** 13:50:09.9±0.9, 15.32S×174.84W, h245km±9km, mb4.5/19, mb1 4.6/21, mb1mx4.5/26, mbtmp5.0/21, Error ellipse: s-maj=18.0km s-min=7.8km az=144.0*
*BJI **10** 13:50:09.8, 15.30S×174.90W, h253km, mB5.8, mb4.9*
*NEIC **10** 13:50:10.8±0.2, 15.26S×174.90W, mb4.8/39, Error ellipse: s-maj=10.3km s-min=4.6km az=147.0*
ISC 10 13:50:08.9±0.8, 15.27S±0.08×174.93W±0.06, h246km±7km, h252km±.4km; pP-P, n311, σ0 s81/119, mb4.7/58, 14C-15D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AFI	Afiamalu	3.34	66	P	P		13 51 06.0	+0.5
	132nm,0.3s,baz=39,slow=1.8,SNR=190							
AFI				S	S		13 51 49.1	-0.1
	58nm,0.3s,baz=24,slow=19,SNR=9.1							
AFI	Afiamalu	3.34	66	P	P		13 51 06.0	+0.5
AFI				S	S		13 51 49.1	-0.1
DZM	Mont Dzumac	18.89	246	P	P		13 54 13.6	+0.5
	1.1nm,0.3s,baz=58,slow=20,SNR=9.7							
URZ	Urewera	23.95	196	P	P		13 55 00.7	-1.7
	24nm,0.3s,mb5.3,baz=310,slow=2.2,SNR=50							
CTA	Charters Tower	37.23	257	P	P		13 56 59.1	+0.4
	11nm,0.5s,mb4.7,baz=89,slow=9.2,SNR=21							
CTAO	Charters Tower	37.23	257	eP	P		13 56 59.2	+0.4
CTAO				pmax	pmax			
	comp=Z,10.0nm,0.5s,mb4.6							
CTAO	Charters Tower	37.23	257	eP	P		13 56 59.2	+0.4
	comp=Z,9.7nm,0.5s,mb4.6							
PMG	Port Moresby	37.45	274	P	P		13 57 02.5	+1.9
	comp=Z,19nm,0.7s,mb4.7,baz=219,slow=4.3,SNR=9.0							
STKA	Stephens Creek	42.83	239	P	P		13 57 44.7	+0.2
	comp=Z,15nm,0.8s,mb4.5,baz=84,slow=10,SNR=13							
STKA				PcP	PcP		13 59 31.6	+0.1
	comp=Z,3.7nm,0.6s,baz=350,slow=3.9,SNR=3.6							
STKA	Stephens Creek	42.83	239	P	P		13 57 44.7	+0.2
STKA				PcP	PcP		13 59 31.6	+0.1
WB2	Warramunga Arr	48.43	257	⇑iP	P		13 58 28.1	-0.5
WRAB	Tennant Creek	48.43	257	eP	P		13 58 27.7	-0.9
WRAB				pmax	pmax			
	comp=Z,21nm,0.6s,mb4.6							
WRAB	Tennant Creek	48.43	257	eP	P		13 58 27.7	-0.9
	comp=Z,20nm,0.6s,mb4.6							
WRA	Warramunga Arr	48.44	257	P	P		13 58 27.8	-0.9
	comp=Z,7.7nm,0.2s,mb4.6,baz=88,slow=8.2,SNR=34							
WRA				PcP	PcP		13 59 50.7	-0.6
	comp=Z,3.7nm,0.6s,baz=88,slow=3.7,SNR=5.5							
ASAR	Alice Springs	48.75	252	P	P		13 58 29.9	-1.1
	comp=Z,115nm,0.5s,mb5.4,baz=86,slow=8.0,SNR=890							
ASAR				PcP	PcP		13 59 51.9	-0.5
	comp=Z,5.9nm,0.6s,baz=99,slow=4.2,SNR=4.5							
ASAR				S	S		14 05 14.0	+0.4
	comp=Z,5.3nm,1.1s,baz=83,slow=14,SNR=4.0							
ASAR	Alice Springs	48.75	252	P	P		13 58 29.9	-1.1
ASAR				PcP	PcP		13 59 51.9	-0.5
ASAR				S	S		14 05 14.0	+0.4
ASPA	Alice Springs	48.75	252	⇓iP	P		13 58 30.8	-0.2
FORT	Forrest	54.16	243	eP	P		13 59 10.0	-1.0
	comp=Z,862nm,1.3s							
FITZ	Fitzroy Crossi	56.79	258	eP	P		13 59 30.0	+0.1
	comp=Z,16nm,0.6s,mb4.8							
MBWA	Marble Bar	61.98	254	eP	P		14 00 04.8	-0.5
	comp=Z,29nm,0.9s,mb4.9							
SBA	Scott Base	63.26	184	eP	P		14 00 14.2	+1.3
SBA				pmax	pmax			
	comp=Z,14nm,0.8s,mb4.6							
SBA	Scott Base	63.26	184	eP	P		14 00 14.2	+1.2
	comp=Z,14nm,0.8s,mb4.7							
MJAR	Matsushiro Arr	67.90	321	P	P		14 00 41.8	-1.1
	comp=Z,3.1nm,0.5s,mb4.2,baz=154,slow=6.1,SNR=18							
MAT	Matsushiro	67.90	321	eP	P		14 00 42.0	-0.9
MAT				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.5							
MAT	Matsushiro	67.90	321	eP	P		14 00 42.0	-0.9
	comp=Z,13nm,1.0s,mb4.5							
MAT	Matsushiro	67.90	321	P	P		14 00 41.8	-1.1
CASY	Casey	69.91	205	eP	P		14 00 53.4	-1.3
	comp=Z,8.5nm,0.7s,mb4.5							
ASAJ	Asahikawa	70.66	329	P	P		14 00 60.0	+0.4
	comp=Z,24nm,0.9s,mb4.8,baz=221,slow=7.0,SNR=11							
YSS	Yuzh-Sakhalins	72.65	331	eP	P		14 01 11.5	+0.1
YSS				pmax	pmax			
	comp=Z,33nm,0.9s,mb5.0							
YSS	Yuzh-Sakhalins	72.65	331	eP	P		14 01 11.5	+0.1
	comp=Z,33nm,0.9s,mb5.0							
YBH	Yreka Blue Hor	74.39	38	P	P		14 01 21.9	+0.2
	comp=Z,13nm,0.6s,mb4.8,baz=174,slow=1.6,SNR=47							
YBH	Yreka Blue Hor	74.39	38	eP	P		14 01 21.9	+0.2
	comp=Z,21nm,1.2s,mb4.6							
QSPA	South Pole Qui	74.77	180	⇓iP	P		14 01 24.1	+1.0
	comp=Z,28nm,0.7s,mb5.0							
HUMO	Hull Mountain	74.79	37	eP	P		14 01 24.3	+0.5
	comp=Z,14nm,1.0s,mb4.5							
NVAR	Mina Array Bea	75.23	43	P	P		14 01 26.7	+0.2
	comp=Z,9.6nm,0.8s,mb4.5,baz=228,slow=10,SNR=22							
NVAR	Mina Array Bea	75.23	43	P	P		14 01 26.7	+0.2
MNV	Mina	75.33	43	eP	P		14 01 26.9	-0.1
MNV				pmax	pmax			
	comp=Z,16nm,1.1s,mb4.6							
MNV	Mina	75.33	43	eP	P		14 01 26.9	-0.2
	comp=Z,16nm,1.1s,mb4.6							
MOD	Modoc	75.94	39	eP	P		14 01 30.2	-0.2
	comp=Z,19nm,1.1s,mb4.6							
SSE	Sheshan	76.71	308	eP	P		14 01 35.9	+1.1
SSE				AMB	AMB			
	comp=Z,45nm,0.7s,mb5.2							
SSE				AMB	AMB			
	comp=Z,3μm,12.0s							
SSE				LR	LR			
	comp=N,1μm,15.1s							
SSE				LR	LR			
	comp=E,2μm,15.2s							
SSE				LR	LR			
	comp=Z,3μm,12.7s							
SSE	Sheshan	76.71	308	eP	P		14 01 35.9	+1.1
	comp=Z,45nm,0.7s,mb5.2							
SSE				LR	LR			
	comp=Z,3μm,12.7s							
WVOR	Wild Horse Val	77.26	39	eP	P		14 01 37.7	+0.1
WVOR				pmax	pmax			
	comp=Z,17nm,1.0s,mb4.6							
WVOR	Wild Horse Val	77.26	39	eP	P		14 01 37.7	+0.1
	comp=Z,17nm,1.0s,mb4.6							
TUC	Tucson	77.45	51	eP	P		14 01 39.3	+0.4
TUC				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.2							
TUC	Tucson	77.45	51	eP	P		14 01 39.3	+0.4
	comp=Z,3.6nm,0.6s,mb4.2							
SPU	Mount Spurr	78.35	11	eP	P		14 01 41.5	-1.8
ELK	Elko	78.47	42	eP	P		14 01 43.9	-0.4
	comp=Z,18nm,1.1s,mb4.6							
RSW	Rattlesnake Hi	78.99	35	P	P		14 01 47.1	+0.2
HAWA	Hanford	79.02	35	eP	P		14 01 46.5	-0.5
	comp=Z,1.0nm,0.7s							
GBB	Gable Butte	79.09	35	P	P		14 01 47.5	0.0
ETW	Entiat	79.30	34	P	P		14 01 48.5	-0.1
MSU	Marysvale	79.38	45	P	P		14 01 49.7	+0.6
BMO	Blue Mountains	79.42	38	eP	P		14 01 48.6	-0.6
	comp=Z,18nm,1.4s,mb4.5							
WTV	Waterville	79.56	34	P	P		14 01 49.7	-0.2
MA2	Magadan	79.60	343	eP	P		14 01 48.6	-1.3
MA2				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.4							
CN2	Changchun	80.05	321	eP	P		14 01 53.0	+0.4
CN2				eAP	pP		14 02 53.0	+1.5
CN2				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.8							
CN2				AMB	AMB			
	comp=Z,700nm,5.0s							
OD2	Odessa Site #2	80.06	35	P	P		14 01 52.5	-0.1
TMUT	Trail Mountain	80.42	45	eP	P		14 01 55.5	+0.9
HLID	Hailey	80.47	40	eP	P		14 01 55.0	+0.2
	comp=Z,15nm,0.9s,mb4.6							
TCUT	Toone Canyon	81.16	43	eP	P		14 01 59.0	+0.6
MNTX	Cornudas Mount	81.34	54	eP	P		14 01 59.6	0.0
	comp=Z,2.4nm,0.6s,mb4.0							
BNM	Barren Site	81.39	51	eP	P		14 02 00.5	+0.7
NEW	Newport	81.44	35	P	P		14 01 59.0	-0.7
	comp=Z,6.3nm,0.7s,mb4.4,baz=244,slow=4.1,SNR=12							
LPM	Los Pinos Moun	81.45	51	eP	P		14 01 58.3	-1.9
PV01	Paradox Valley	81.70	47	eP	P		14 02 01.5	+0.2
ANMO	Albuquerque	81.85	51	P	P		14 02 02.7	+0.5
	comp=Z,6.0nm,0.7s,mb4.4,baz=241,slow=6.5,SNR=14							
SEY	Seymchan	82.02	346	eP	P		14 02 03.3	+0.9
SEY				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.6							
MCMT	McKenzie Canyo	82.08	39	eP	P		14 02 03.6	+0.4
DLBC	Dease Lake	82.13	22	P	P		14 02 02.3	-0.8
	comp=Z,3.6nm,0.8s,mb4.1,baz=216,slow=6.3,SNR=5.2							
RRI2	Red Ridge	82.30	41	eP	P		14 02 04.7	+0.4
	comp=Z,49nm,1.0s,mb5.1							
GDL2	Guadalupe Moun	82.33	54	eP	P		14 02 05.5	+0.8
COLA	College	82.52	11	eP	P		14 02 04.0	-1.0
COLA				pmax	pmax			
	comp=Z,11nm,0.6s,mb4.8							
COLA	College	82.52	11	eP	P		14 02 04.0	-1.0
	comp=Z,11nm,0.6s,mb4.8							
COLA				epP	pP		14 03 04.6	+0.5
BSMT	Bassoo Peak	82.52	36	P	P		14 02 05.1	-0.2
TPAW	Teton Pass	82.61	41	eP	P		14 02 06.2	+0.4
	comp=Z,26nm,0.7s,mb5.1							
REDW	Red Top Meadow	82.61	41	eP	P		14 02 06.0	+0.1
	comp=Z,33nm,1.1s,mb5.0							
ILAR	Eielson Array	82.61	12	P	P		14 02 04.5	-1.0
	comp=Z,9.3nm,0.5s,mb4.8,baz=222,slow=5.3,SNR=376							
IMA	Indian Mountai	82.65	9	eP	P		14 02 05.8	+0.2
IMA				pmax	pmax			
	comp=Z,106nm,1.4s,mb5.4							
IMA	Indian Mountai	82.65	9	eP	P		14 02 05.8	+0.2
	comp=Z,106nm,1.4s,mb5.4							
IMA				epP	pP		14 03 06.4	+1.5
SNOW	Snow King Moun	82.72	41	eP	P		14 02 06.9	+0.4
	comp=Z,42nm,0.9s,mb5.2							
WUWY	Wally Ulrich	82.76	41	eP	P		14 02 06.9	+0.2
IMW	Indian Meadow	82.81	41	eP	P		14 02 07.4	+0.5
	comp=Z,29nm,0.7s,mb5.1							
MOOW	Moose Ponds	82.86	41	eP	P		14 02 06.8	-0.4
	comp=Z,18nm,1.4s,mb4.6							
LOHW	Long Hollow	82.89	41	eP	P		14 02 07.2	-0.1
	comp=Z,15nm,1.0s,mb4.7							
CHMT	Chamberlain Mo	82.91	37	eP	P		14 02 06.8	-0.6
QLMT	Earthquake Lak	82.96	40	eP	P		14 02 08.6	+0.9
CPRX	Cap Rock	83.04	53	eP	P		14 02 08.5	+0.2
PDAR	Pinedale Array	83.16	42	P	P		14 02 08.4	-0.3
	comp=Z,22nm,0.6s,mb5.1,baz=210,slow=3.6,SNR=98							
PDAR				PKKPbc			14 20 28.5	
	comp=Z,0.6nm,0.8s,baz=72,slow=4.7,SNR=4.8							
YMR	Madison River	83.17	40	eP	P		14 02 09.8	+1.1
YNR	Norris Junctio	83.37	40	P	P		14 02 10.7	+0.9
LKWY	Lake	83.47	41	eP	P		14 02 12.0	+1.7
	comp=Z,28nm,1.1s,mb4.9							
HRY	Holter Researc	83.65	38	eP	P		14 02 11.1	0.0
DAWY	Dawson	83.67	15	eP	P		14 02 10.4	-0.4
SDCO	Great Sand Dun	83.72	48	eP	P		14 02 10.6	-1.1
	comp=Z,11nm,1.0s,mb4.5							
BILL	Bilibino	84.19	353	⇑iP	P		14 02 12.6	-0.7
BILL				pmax	pmax			
	comp=Z,27nm,1.0s,mb4.9							
BILL	Bilibino	84.19	353	eP	P		14 02 12.7	-0.6
	comp=Z,25nm,1.0s,mb4.9							
BJT	Baijiatuau	84.31	314	eP	P		14 02 15.7	+1.1
BJT				pmax	pmax			
	comp=Z,42nm,1.0s							
BJT	Baijiatuau	84.31	314	eP	P		14 02 15.7	+1.2
	comp=Z,42nm,1.0s,mb5.1							
BJI	Beijing	84.31	314	eP	P		14 02 15.8	+1.2
BJI				AMB	AMB			
	comp=Z,20nm,1.1s,mb4.8							
BJI	Beijing	84.31	314	eP	P		14 02 15.8	+1.2
	comp=Z,20nm,1.1s,mb4.8							
EDM	Edmonton	86.15	32	eP	P		14 02 22.6	-0.7
RSSD	Black Hills	87.36	43	eP	P		14 02 28.2	-1.1
RSSD				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.5							
RSSD	Black Hills	87.36	43	eP	P		14 02 28.2	-1.1
	comp=Z,12nm,1.1s,mb4.5							
MAW	Mawson	87.44	199	eP	P		14 02 29.5	+0.4
MAW				pmax	pmax			
	comp=Z,14nm,0.8s							
MAW	Mawson	87.44	199	P	P		14 02 29.9	+0.8
	comp=Z,18nm,0.7s,mb4.9,baz=132,slow=7.2,SNR=27							
MAW	Mawson	87.44	199	eP	P		14 02 29.5	+0.3
	comp=Z,14nm,0.8s,mb4.7							
YAK	Yakutsk	88.42	337	eP	P		14 02 32.3	-1.5
YAK				pmax	pmax			
	comp=Z,11nm,0.6s,mb4.9							
YAK	Yakutsk	88.42	337	eP	P		14 02 32.3	-1.5
	comp=Z,11nm,0.6s,mb4.8							
INK	Inuvik	88.50	14	P	P		14 02 33.8	-0.3
	comp=Z,3.9nm,0.8s,mb4.3,baz=248,slow=3.3,SNR=16							
KMI	Kunming	89.64	296	P	P		14 02 41.7	+1.2
KMI				AMB	AMB			
	comp=Z,11nm,0.9s,mb4.7							
KMI	Kunming	89.64	296	P	P		14 02 41.7	+1.2
	comp=Z,11nm,0.9s,mb4.7							
YKA	Yellowknife Ar	90.57	24	P	P		14 02 43.1	-0.8
	comp=Z,1.5nm,0.6s,mb4.1,baz=234,slow=4.6,SNR=35							
CM31	Chiang Mai Arr	91.18	289	eP	P		14 02 49.3	+1.6
	comp=Z,17nm,0.8s,mb5.0							
CMAR	Chiang Mai Arr	91.18	289	P	P		14 02 49.8	+2.0
	comp=Z,9.2nm,0.9s,mb4.7,baz=87,slow=2.8,SNR=12							
CMAR				PKKPbc			14 20 07.0	
	comp=Z,1.3nm,0.7s,baz=200,slow=11,SNR=7.2							
GNAR	Gosnell	94.79	54	eP	P		14 03 02.9	-1.1
CHKZ	Chkalovo	116.62	323	ePKIKP	PKPdf		14 08 23.1	-0.4
BVAR	Borovoye Array	116.88	322	PKP	PKPdf		14 08 24.3	+0.3
	comp=Z,5.7nm,0.4s,baz=112,slow=1.8,SNR=23							
SVE	Sverdlovsk	121.24	328	eP	Pdif		14 05 02.0	+1.3
SVE				pmax	pmax			
	comp=Z,44nm,1.0s							
SVE	Sverdlovsk	121.24	328	ePKIKP	PKPdf		14 08 32.9	+0.5
SVE				pmax	pmax			
	comp=Z,19nm,1.6s							
ARU	Arti	122.45	328	eP	Pdif		14 05 04.5	-1.5
ARU				e			14 08 34.9	
ARU	Arti	122.45	328	ePdif	Pdif		14 05 04.5	-1.6
ARU				ePKPdf	PKPdf		14 08 34.9	+0.2
ARCES	ARCESS Array B	124.27	351	PKP	PKPdf		14 08 38.2	+0.2
	comp=Z,13nm,0.7s,baz=12,slow=1.4,SNR=9.2							
ARCES				PKKPbc			14 18 23.5	
	comp=Z,6.8nm,1.0s,baz=14,slow=10.0,SNR=5.0							
OPO	Ambohidratompo	126.60	232	PKP	PKPdf		14 08 45.4	+1.7
	comp=Z,2.7nm,0.7s,baz=290,slow=2.6,SNR=3.9							
FINES	FINESS Array B	131.49	347	PKP	PKPdf		14 08 53.0	+1.1
	comp=Z,2.4nm,0.6s,baz=8.4,slow=3.9,SNR=6.6							
BOSA	Boshof	132.20	204	PKP	PKPdf		14 08 56.6	+2.4
	comp=Z,2.4nm,0.9s,baz=23,slow=7.3,SNR=4.1							
MOS	Moscow	132.53	336	e	PKPdf		14 08 53.0	-1.0
OBN	Obninsk	133.40	336	e	PKPdf		14 08 56.6	+0.9
MATP	Matopo	137.71	214	PKP	PKPdf		14 09 06.0	+1.6
	comp=Z,6.1nm,0.8s,baz=142,slow=2.1,SNR=6.5							
AKASG	Malin Array Be	139.64	336	PKhKP			14 08 58.2	
	comp=Z,0.4nm,0.3s,baz=35,slow=4.1,SNR=4.3							
AKASG				PKP	PKPdf		14 09 07.6	+0.4
	comp=Z,1.9nm,0.7s,baz=25,slow=2.5,SNR=5.3							
AKASG	Malin Array Be	139.64	336	PKP			14 08 58.2	
AKASG				PKP	PKPdf		14 09 07.6	+0.4
MALT	Malatya	142.73	314	ePKPpre			14 09 11.8	
TATS	Tathlith	143.16	282	P	PKPbc		14 09 14.2	+1.6
AFFS	'Afif	143.34	290	P	PKPbc		14 09 13.9	+0.8
CLL	Collm	143.49	352	iPKHKP			14 09 11.8	
CLL				i			14 09 15.4	
CLL				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CLL	Collm	143.49	352	i	PKPbc		14 09 11.8	-0.9
CLL				iPKIKP	PKPdf		14 09 15.4	+1.6
KOLS	Kolonicke sedl	143.59	341	ePKP	PKPdf		14 09 12.6	-1.5
KOLS	Kolonicke sedl	143.59	341	eP	Pdif		14 06 40.7	+1.5
KOLS				e			14 06 51.5	
BURAR	Bucovina Array	143.69	337	⇑P	PKPbc		14 09 14.2	+0.8
UPC	Upice	143.75	348	ePKP	PKPdf		14 09 13.8	-0.5
BRG	Berggiesshubel	143.77	350	ePKIKP	PKPdf		14 09 13.4	-1.0
BRG				pmax	pmax			
	comp=Z,12nm,1.2s							
BRG	Berggiesshubel	143.77	350	eP	PKPbc		14 09 13.4	-0.1
BRG				e			14 10 26.7	
DPC	Dobruska-Polom	143.84	348	ePKP	PKPdf		14 09 14.0	-0.5
CRVS	Cervenica-Dubn	143.87	342	ePKP	PKPdf		14 09 14.1	-0.5
CRVS	Cervenica-Dubn	143.87	342	eP	Pdif		14 06 40.8	+0.4
OKC	Ostrava-Krasne	143.92	346	ePKP	PKPdf		14 09 14.2	-0.4
PVCC	Panska Ves	144.00	350	ePKP	PKPdf		14 09 14.7	-0.1
MORC	Moravsky Berou	144.12	346	ePKPdf	PKPdf		14 09 14.8	-0.2
KMBO	Kilima Mbogo	144.25	246	PKP	PKPdf		14 09 17.9	+1.5
	comp=Z,14nm,0.9s,baz=62,slow=5.6,SNR=26							
CFR	Carcaliu	144.40	332	PKIKP	PKPdf		14 09 15.9	+0.3
CFR	Carcaliu	144.40	332	⇓P	PKPbc		14 09 17.3	+1.8
VRI	Vrincioaia	144.49	334	PKIKP	PKPdf		14 09 16.4	+0.6
VRI	Vrincioaia	144.49	334	⇓P	PKPbc		14 09 16.1	+0.3
PRU	Pruhonice	144.53	349	ePKP	PKPdf		14 09 16.3	+0.6
KECS	Kecovo	144.53	342	iPKP	PKPdf		14 09 16.3	+0.5
KECS	Kecovo	144.53	342	eP	Pdif		14 06 45.9	+2.5
KECS				epP			14 06 54.4	
BRD	Bordesti	144.61	333	⇑P	PKPdf		14 09 17.9	+1.9
NKC	Novy Kostel	144.62	352	ePKP	PKPdf		14 09 16.3	+0.4
VRAC	Vranov	144.77	347	PKIKP	PKPdf		14 09 17.3	+1.1
VRAC	Vranov	144.77	347	PKP	PKPdf		14 09 17.1	+0.9
	comp=Z,34nm,1.0s,baz=22,slow=6.2,SNR=23							
TIRR	Tirgusor	144.81	331	⇑P	PKPdf		14 09 17.6	+1.2
HARR	Harsova	144.87	331	PKIKP	PKPdf		14 09 17.7	+1.2
BLJS	Baljurashi	144.92	283	P	PKPdf		14 09 20.4	+3.1
VYHS	Vyhne	144.99	344	iPKP	PKPdf		14 09 17.9	+1.3
VYHS	Vyhne	144.99	344	eP	Pdif		14 06 50.4	+5.0
VYHS				epP			14 07 01.5	
KOLL	Kolacno	145.02	345	iPKP	PKPdf		14 09 17.9	+1.3
TNS	Taunus Mts	145.03	356	ePKIKP	PKPdf		14 09 17.7	+1.1
BRTR	Keskin Array B	145.12	320	PKPbc	PKPbc		14 09 18.5	+0.8
	comp=Z,15nm,0.8s,baz=87,slow=2.4,SNR=41							
MLR	Muntele Rosu	145.12	334	PKIKP	PKPdf		14 09 18.7	+1.8
MLR	Muntele Rosu	145.12	334	PKPbc	PKPbc		14 09 18.0	+0.5
	comp=Z,42nm,0.7s,baz=208,slow=2.9,SNR=43							
MLR	Muntele Rosu	145.12	334	⇓P	PKPdf		14 09 18.1	+1.2
MLR	Muntele Rosu	145.12	334	⇓P	PKPdf		14 09 18.1	+1.2
ISR	Istrita	145.16	333	PKIKP	PKPdf		14 09 19.1	+2.1
PSZ	Piszkesteto	145.21	342	PKIKP	PKPdf		14 09 18.6	+1.7
PSZ	Piszkesteto	145.21	342	ePKP	PKPdf		14 09 18.4	+1.5
GIVF	Givet	145.26	0	ePKP1	PKPbc		14 09 17.8	+0.1
	comp=Z,45nm,0.9s							
BAIF	Baives	145.30	1	ePKP1	PKPbc		14 09 18.0	+0.2
GRF	Grafenberg Arr	145.31	353	ePKP2	PKPab		14 09 19.8	-0.4
SMOL	Smolenice	145.32	346	ePKP	PKPdf		14 09 19.6	+2.5
SNX	Sinaia	145.41	334	PKP2	PKPab		14 09 20.3	-0.5
ABH	Alteburg	145.42	357	⇑eP	PKPdf		14 09 19.3	+2.1
ABH	Alteburg	145.42	357	⇓eP	PKPdf		14 09 19.0	+1.8
KHC	Kasperske Hory	145.52	350	eP	PKPdf		14 09 19.3	+1.9
KHC				e			14 10 24.5	
KHC	Kasperske Hory	145.52	350	ePKP	PKPdf		14 09 19.3	+1.9
KHC				pPKP			14 10 24.5	
WET	Wettzell	145.62	351	ePKP2	PKPab		14 09 19.6	-1.8
TOD	Tromm	145.62	356	eP	PKPdf		14 09 19.8	+2.2
TOD	Tromm	145.62	356	⇓eP	PKPdf		14 09 19.4	+1.8
RUP	Ruppelstein	145.62	358	⇑eP	PKPdf		14 09 20.2	+2.6
RUP	Ruppelstein	145.62	358	⇓eP	PKPdf		14 09 19.8	+2.2
WLF	Walferdange	145.69	359	ePKPdf	PKPdf		14 09 20.0	+2.3
ZST	Bratislava	145.70	346	ePKP	PKPdf		14 09 20.1	+2.3
ZST	Bratislava	145.70	346	eP	Pdif		14 06 56.1	+7.6
ZST				e			14 07 05.2	
SRO	Srobarova	145.75	344	ePKP	PKPdf		14 09 20.9	+3.0
SWS	Schriesheim	145.75

comp=Z,46nm,0.8s
LPG La Plagne 149.84 358 *e*PKP1 PKPdf 14 09 31.5 +6.9
comp=Z,50nm,0.8s
LSD Ceresole Reale 149.86 357 P PKPdf 14 09 31.5 +6.9
RJF Les Rejaudoux 149.91 5 *e*PKP1 PKPdf 14 09 30.3 +5.6
comp=Z,30nm,1.0s
STS Santiago 150.10 20 P PKPdf 14 09 31.4 +6.3
MBAR Mbarara 150.13 240 *e*PKPbc PKPdf 14 09 32.0 +6.0
EPON Pontenova 150.15 18 P PKPdf 14 09 31.3 +6.2
RSP Reno Superiore 150.16 357 P PKPdf 14 09 30.4 +5.3
LFF La Frestale 150.20 6 *e*PKP1 PKPdf 14 09 31.1 +5.9
comp=Z,89nm,1.0s
BNI Bardonecchia 150.28 358 *e*PKPbc PKPdf 14 09 33.1 +7.8
BNI *e*PKPab PKPab 14 09 40.5 +0.2
FENE Fenestrelle 150.29 357 P PKPdf 14 09 30.8 +5.5
CAF Calviac 150.33 4 *e*PKP1 PKPdf 14 09 31.5 +6.2
comp=Z,29nm,0.8s
RRL Cesana Torines 150.41 358 P PKPdf 14 09 32.5 +7.0
ORIF Oris-en-Rattie 150.44 359 *e*PKP1 PKPdf 14 09 32.3 +6.8
comp=Z,22nm,0.8s
BHB Bricherasio 150.47 357 P PKPdf 14 09 30.7 +5.2
VIVF Saint-Julien-l 150.51 1 *e*PKP1 PKPdf 14 09 32.4 +6.8
comp=Z,79nm,1.3s
MBDF Montbardon 150.60 358 *e*PKP1 PKPdf 14 09 32.6 +6.8
comp=Z,25nm,0.7s
EINC Incio 150.69 19 P PKPdf 14 09 32.8 +6.9
EARI Arriondas 150.71 15 P PKPdf 14 09 32.5 +6.6
PZZ Prazzo 150.81 357 P PKPdf 14 09 32.5 +6.4
SARO Sassorosso 150.83 352 P PKPdf 14 09 32.0 +5.9
ROB Roburent 150.97 356 P PKPdf 14 09 32.2 +5.9
ERUA La Rua 151.00 19 P PKPdf 14 09 33.3 +6.9
FIN Finale Ligure 151.03 355 P PKPdf 14 09 32.5 +6.1
ENR Entracque 151.07 357 P PKPdf 14 09 31.5 +5.0
ELOB Lobios 151.17 21 P PKPdf 14 09 33.9 +7.2
ELAN Lanestosa 151.20 13 P PKPdf 14 09 34.0 +7.3
LASF Ste Croix 151.27 2 *e*PKP1 PKPdf 14 09 34.2 +7.4
IMI Imperia 151.35 356 P PKPdf 14 09 33.1 +6.2
SMRF Simiane la Rot 151.39 359 *e*PKP1 PKPdf 14 09 34.8 +7.8
comp=Z,23nm,0.8s
NEGI Negi 151.43 356 P PKPdf 14 09 32.9 +5.9
SBF Sospel 151.43 356 *e*PKP1 PKPdf 14 09 33.8 +6.8
comp=Z,32nm,0.7s
ECAL Calabor 151.53 19 P PKPdf 14 09 34.9 +7.6
EALK Alkurruntz 151.58 10 P PKPdf 14 09 35.9 +8.6
PBRG Braganca 151.66 19 *e*PKPbc PKPdf 14 09 35.1 +7.7
SJPF Ste Jean 151.73 10 *e*PKP1 PKPdf 14 09 34.8 +7.3
comp=Z,9.0nm,0.7s
PVRL Vila Real 151.81 21 *e*PKPbc PKPdf 14 09 35.9 +8.2
MTLF Montolieu 151.92 4 *e*PKP1 PKPdf 14 09 35.3 +7.5
ECRI Cripan 151.99 12 P PKPdf 14 09 36.3 +8.4
LMR La Mourre 152.00 358 *e*PKP1 PKPdf 14 09 35.3 +7.4
comp=Z,19nm,0.8s
EPF Esparros 152.04 7 *e*PKP1 PKPdf 14 09 35.8 +7.8
comp=Z,8.3nm,0.8s
ETSF Etsaut 152.05 9 *e*PKP1 PKPdf 14 09 36.0 +8.0
comp=Z,13nm,0.6s
EBIE Bielsa 152.35 8 P PKPdf 14 09 39.2 +11
PGF Pioggiola 152.61 354 *e*PKP1 PKPdf 14 09 36.4 +7.6
comp=Z,71nm,1.1s
MTE Manteigas 152.65 21 *e*PKPbc PKPdf 14 09 37.6 +8.7
PTOM Tomar 153.02 23 *e*PKPbc PKPdf 14 09 38.4 +8.9
PCBR Castelo Branco 153.17 22 *e*PKPbc PKPdf 14 09 38.9 +9.2
IDI Anoyia 153.29 322 PKPbc PKPdf 14 09 39.5 +10
comp=Z,4.9nm,0.4s,baz=353,slow=5.5,SNR=9.6
GUD Guadarrama 153.47 16 P PKPdf 14 09 39.6 +10
ESDC Sonseca Array 154.43 16 PKPbc PKPdf 14 09 41.0 +10
comp=Z,0.5nm,0.4s,baz=327,slow=2.5,SNR=7.1

*IDC **10** 13:50:46.6±0.8, 1.84S×99.62E, mb4.4/16, mb1 4.5/16, mb1mx4.4/22, mbtmp4.4/16, Error ellipse: s-maj=42.9km s-min=14.0km az=51.0*
*MOS **10** 13:50:50.2±1.1, 1.61S×99.83E, h33km, mb5.0/6, Error ellipse: s-maj=27.8km s-min=11.5km az=114.4*
*NEIC **10** 13:50:50.3±0.3, 1.81S×99.68E, mb4.8/11, Error ellipse: s-maj=12.3km s-min=4.6km az=56.0*
ISC 10 13:50:49.1±7.2, 1.7S±0.2×99.8E±0.2, h26km±48km, n46, σ0°77/40, mb4.6/26, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.01**	**7**	*e*P	**Pn**	**13 52 33.5**	**+0.8**
CM31	**Chiang Mai Arr**	**20.06**	**358**	P	**P**	**13 55 23.4**	**0.0**
11nm,1.1s							
CMAR	**Chiang Mai Arr**	**20.06**	**358**	P	**P**	**13 55 23.1**	**-0.3**
1.9nm,0.7s,baz=187,slow=10.0,SNR=7.7							
FITZ	**Fitzroy Crossi**	**30.16**	**124**	P	**P**	**13 56 59.0**	**-0.6**
6.3nm,0.6s,mb4.5,baz=238,slow=8.9,SNR=8.6							
JIRN	**Jiri**	**31.99**	**337**	*e*P	**P**	**13 57 16.5**	**+0.9**
24nm,0.7s,mb5.1							
PKI	**Pulchoki**	**32.23**	**336**	*e*P	**P**	**13 57 16.7**	**-0.9**
GUN	**Gumba**	**32.34**	**337**	*e*P	**P**	**13 57 19.5**	**+0.9**
16nm,0.4s,mb5.2							
DMN	**Daman**	**32.39**	**335**	*e*P	**P**	**13 57 17.8**	**-1.2**
KKN	**Kakani**	**32.47**	**336**	*e*P	**P**	**13 57 18.8**	**-1.0**
12nm,0.8s,mb4.8							
KKN	**Kakani**	**32.47**	**336**	*e*P	**P**	**13 57 18.8**	**-1.0**
KKN				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.5							
GKN	**Gorkha**	**32.93**	**335**	*e*P	**P**	**13 57 23.8**	**+0.1**
comp=Z,18nm,0.9s,mb5.0							
KOLN	**Koldanda**	**33.18**	**333**	*e*P	**P**	**13 57 26.2**	**+0.3**
comp=Z,19nm,0.9s,mb5.0							
WRA	**Warramunga Arr**	**38.33**	**121**	P	**P**	**13 58 09.7**	**-0.1**
comp=Z,4.4nm,0.4s,mb4.5,baz=303,slow=9.1,SNR=28							
WRAB	**Tennant Creek**	**38.34**	**121**	*e*P	**P**	**13 58 09.6**	**-0.2**
WRAB				pmax	pmax		
comp=Z,26nm,0.8s,mb5.0							
WRAB	**Tennant Creek**	**38.34**	**121**	*e*P	**P**	**13 58 09.6**	**-0.2**
comp=Z,26nm,0.8s,mb5.0							
WB2	**Warramunga Arr**	**38.34**	**121**	*e*P	**P**	**13 58 09.6**	**-0.3**
ASPA	**Alice Springs**	**39.60**	**126**	*e*P	**P**	**13 58 20.9**	**+0.6**
ASAR	**Alice Springs**	**39.60**	**126**	P	**P**	**13 58 20.8**	**+0.4**
comp=Z,2.2nm,0.5s,mb4.1,baz=293,slow=7.9,SNR=17							
ASAR	**Alice Springs**	**39.60**	**126**	P	**P**	**13 58 20.8**	**+0.4**
STKA	**Stephens Creek**	**49.51**	**132**	P	**P**	**13 59 39.5**	**-0.2**
comp=Z,3.3nm,0.8s,mb4.4,baz=313,slow=10,SNR=2.9							
SONM	**Songino Array**	**49.68**	**6**	P	**P**	**13 59 41.4**	**+0.6**
comp=Z,1.6nm,0.5s,mb4.3,baz=185,slow=9.6,SNR=13							
SONM				PcP	PcP	14 01 02.1	+0.1
comp=Z,1.5nm,0.5s,baz=190,slow=4.7,SNR=8.4							
ULN	**Ulaanbaatar**	**49.78**	**6**	*e*P	**P**	**13 59 41.9**	**+0.4**
ULN				*e*	pP	13 59 49.5	-0.1
ULN				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.4							
ULN	**Ulaanbaatar**	**49.78**	**6**	*e*P	**P**	**13 59 41.9**	**+0.3**
comp=Z,3.9nm,1.1s,mb4.3							
ULN				*e*	pP	13 59 49.5	-0.2
MKAR	**Makanchi Array**	**50.69**	**345**	P	**P**	**13 59 48.7**	**+0.2**
comp=Z,5.9nm,0.6s,mb4.7,baz=158,slow=8.3,SNR=37							
KURK	**Kurchatov**	**55.27**	**344**	*e*P	**P**	**14 00 22.0**	**-0.5**
KURK				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.5							
KURK	**Kurchatov**	**55.27**	**344**	*e*P	**P**	**14 00 22.0**	**-0.5**
comp=Z,4.1nm,0.8s,mb4.5							
ZAL	**Zalesovo**	**56.84**	**349**	P	**P**	**14 00 33.7**	**0.0**
comp=Z,10.0nm,0.5s,mb5.2,baz=317,slow=5.2,SNR=37							
BVAR	**Borovoye Array**	**59.84**	**340**	P	**P**	**14 00 53.4**	**-1.2**
comp=Z,3.6nm,0.6s,mb4.6,baz=142,slow=9.8,SNR=14							
CHKZ	**Chkalovo**	**60.30**	**341**	*e*P	**P**	**14 00 56.8**	**-1.0**
CHKZ				pmax	pmax		
comp=Z,11nm,1.3s,mb4.7							
CHKZ	**Chkalovo**	**60.30**	**341**	*e*P	**P**	**14 00 56.8**	**-1.0**
comp=Z,11nm,1.3s,mb4.7							
YSS	**Yuzh-Sakhalins**	**61.36**	**32**	P	**P**	**14 01 04.5**	**-0.6**
YSS				*e*	pP	14 01 11.3	-2.0
YSS				pmax	pmax		
comp=Z,40nm,1.0s,mb5.5							
YSS	**Yuzh-Sakhalins**	**61.36**	**32**	P	**P**	**14 01 04.5**	**-0.6**
comp=Z,40nm,1.0s,mb5.5							
YSS				*e*	pP	14 01 11.3	-2.1
SVE	**Sverdlovsk**	**66.33**	**338**	*e*P	**P**	**14 01 36.0**	**-1.5**
SVE				pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.9							
BRTR	**Keskin Array B**	**72.96**	**312**	P	**P**	**14 02 17.2**	**-1.3**
comp=Z,0.8nm,0.5s,mb3.9,baz=113,slow=5.2,SNR=4.6							
SYO	**Syowa Base**	**78.07**	**199**	‖PcP	PcP	14 02 52.0	-4.8
MLR	**Muntele Rosu**	**79.94**	**317**	P	**P**	**14 02 58.1**	**+0.7**
comp=Z,1.4nm,0.5s,mb4.1,baz=151,slow=5.1,SNR=5.6							
FINES	**FINESS Array B**	**83.75**	**332**	P	**P**	**14 03 17.8**	**+0.8**
comp=Z,7.3nm,0.4s,mb4.4,baz=110,slow=5.6,SNR=21							
ARCES	**ARCESS Array B**	**86.12**	**340**	P	**P**	**14 03 30.1**	**+1.4**
comp=Z,3.5nm,0.8s,mb4.6,baz=89,slow=5.7,SNR=9.8							
GERES	**GERESS Array B**	**88.68**	**319**	P	**P**	**14 03 42.7**	**+1.2**
comp=Z,0.7nm,0.7s,mb4.1,baz=90,slow=2.7,SNR=4.8							
HFS	**Hagfors**	**89.51**	**330**	P	**P**	**14 03 45.8**	**+0.6**
comp=Z,1.3nm,0.8s,mb4.3,baz=90,slow=5.9,SNR=5.3							
DAVOX	**Davos**	**91.16**	**317**	P	**P**	**14 03 54.0**	**+0.9**
comp=Z,4.7nm,0.9s,mb4.8,baz=172,slow=6.6,SNR=4.7							
TXAR	**Lajitas Array**	**144.61**	**37**	PKP	PKPdf	14 10 25.8	-3.1
comp=Z,4.3nm,0.6s,baz=216,slow=0.5,SNR=42							
CFAA	**Coronel Fontan**	**144.97**	**198**	PKP	PKPdf	14 10 26.3	-3.1
comp=Z,0.6nm,0.6s,baz=173,slow=2.6,SNR=11							
MIAR	**Mount Ida**	**145.04**	**19**	*e*PKP	PKPdf	14 10 26.0	-3.4
JCT	**Junction City**	**145.90**	**31**	*e*PKP	PKPdf	14 10 28.7	-2.3
CPCT	**Cooper Cave**	**146.19**	**6**	*e*PKP	PKPdf	14 10 28.8	-2.5

*IDC **10** 13:53:18.8±1.5, 1.66S×99.84E, mb4.3/6, mb1 4.5/6, mb1mx4.0/18, mbtmp4.3/6, Error ellipse: s-maj=63.8km s-min=20.5km az=61.0*
*NEIC **10** 13:53:23.4±0.7, 1.65S×99.81E, h30km, mb4.3/3, Error ellipse: s-maj=33.1km s-min=12.0km az=64.0*
ISC 10 13:53:22.7±2.3, 1.5S±0.3×100.0E±0.5, h33km, n15, σ1°05/9, mb4.4/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.87**	**357**	P	**P**	**13 57 52.6**	**-1.4**
1.8nm,0.6s,baz=188,slow=10,SNR=5.2							
FITZ	**Fitzroy Crossi**	**30.08**	**125**	P	**P**	**13 59 29.8**	**-1.7**
7.1nm,0.5s,mb4.7,baz=262,slow=3.4,SNR=12							
WRA	**Warramunga Arr**	**38.23**	**121**	P	**P**	**14 00 42.2**	**+0.7**
2.4nm,0.4s,mb4.2,baz=302,slow=9.1,SNR=4.4							
WRAB	**Tennant Creek**	**38.24**	**121**	*e*P	**P**	**14 00 42.2**	**+0.6**
5.5nm,0.5s,mb4.5							
SONM	**Songino Array**	**49.45**	**6**	P	**P**	**14 02 12.9**	**+1.2**
2.0nm,0.7s,mb4.3,baz=188,slow=9.1,SNR=5.8							
ULN	**Ulaanbaatar**	**49.55**	**6**	*e*P	**P**	**14 02 13.2**	**+0.7**
1.3nm,0.7s,mb4.1							
MKAR	**Makanchi Array**	**50.56**	**344**	P	**P**	**14 02 19.6**	**-0.5**
3.2nm,0.6s,mb4.4,baz=146,slow=7.5,SNR=6.9							
KURK	**Kurchatov**	**55.14**	**344**	*e*P	**P**	**14 02 55.4**	**+1.2**
2.4nm,0.7s,mb4.3							
ZAL	**Zalesovo**	**56.68**	**349**	P	**P**	**14 03 04.3**	**-0.9**
2.6nm,0.6s,mb4.5,baz=312,slow=3.5,SNR=5.3							
TXAR	**Lajitas Array**	**144.31**	**37**	PKP	PKPdf	14 12 57.2	+1.2
2.2nm,0.5s,baz=208,slow=1.0,SNR=18							
MIAR	**Mount Ida**	**144.77**	**20**	*e*PKP	PKPdf	14 12 56.9	+0.1
WVT	**Waverly**	**144.79**	**11**	*e*PKP	PKPdf	14 12 57.0	+0.2
CFAA	**Coronel Fontan**	**145.23**	**198**	PKPbc	PKPbc	14 12 57.7	-0.3
0.3nm,0.5s,baz=170,slow=3.7,SNR=4.1							
JCT	**Junction City**	**145.60**	**31**	*e*PKP	PKPdf	14 13 00.7	+2.4
CPCT	**Cooper Cave**	**145.97**	**7**	*e*PKP	PKPdf	14 13 00.1	+1.3

*DJA **10** 13:53:33.3±2.8, 2.52S×96.41E, h2km, ML6.2/1, Error ellipse: s-maj=354.9km s-min=51.2km az=29.0*
*BJI **10** 13:54:14.0, 2.11S×100.04E, h48km, mB5.7, mb5.0, Ms5.5, Msz5.3*
*MOS **10** 13:54:14.7±1.0, 1.75S×99.95E, h33km, mb5.5/40, MS4.9/5, Error ellipse: s-maj=11.1km s-min=5.3km az=118.2*
*IDC **10** 13:54:16.5±0.3, 1.75S×99.94E, h31km±2km, mb4.8/37, mb1 4.9/37, mb1mx4.9/37, mbtmp5.0/37, MS4.8/3, Ms1 4.9/3, ms1mx4.2/35, Error ellipse: s-maj=11.7km s-min=7.7km az=47.0*
*NEIC **10** 13:54:16.3±0.1, 1.78S×99.93E, mb5.4/51, MS5.0/1, Error ellipse: s-maj=4.9km s-min=3.5km az=47.0*
*HRVD **10** 13:54:16.3±0.9, 1.65S×100.09E, h29km±1km, MW5.5/47, Centroid moment Tensor Solution. LP body waves: s15,c15;Mantle waves: s47,c67; Half duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.85±.29; $M_{\theta\theta}$-1.74±.16; $M_{\phi\phi}$-0.11±.16; $M_{r\theta}$-0.34±.16; $M_{\theta\phi}$0.36±.08; $M_{\phi r}$1.19±.31; Best double couple: $M_0$2.169×10^{17} NP1: ϕ_s83°, δ40°, λ53°. NP2:ϕ_s307°, δ59°, λ116°. Principal axes: T 2.417, Plg65°, Azm265°; N -.499, Plg22°, Azm112°; P -1.922, Plg10°, Azm18°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ORF **10** 13:54:17.9, 1.06S×100.31E, h30km, mb5.5*
ISC 10 13:54:14.3±0.2, 1.83S±0.03×99.91E±0.03, h32km, h32km±.4km: pP-P, n338, σ1°08/287, mb5.2/106, MS5.1/14, 31C-9D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.12**	**42**	P	**Pn**	**13 55 32.1**	**+1.1**
PENI	**Pendagan**	**6.43**	**125**	*e*Pn	**Pn**	**13 55 48.6**	**-0.8**
IPM	**Ipoh**	**6.47**	**10**	P	**Pn**	**13 55 49.9**	**0.0**
KULM	**Kulim**	**7.11**	**6**	*e*P	**Pn**	**13 55 58.4**	**-0.6**
PULI	**Pulasari**	**7.53**	**127**	*e*Pn	**Pn**	**13 56 03.9**	**-0.9**
SNG	**Songkhla**	**8.98**	**5**	P	**P**	**13 56 25.0**	**+0.1**
972nm,1.0s							
KSM	**Kuching**	**10.91**	**73**	*e*P	**P**	**13 56 48.0**	**-3.5**
SRDI	**Scrawed**	**15.63**	**115**	‖*e*Pn	**P**	**13 57 52.5**	**-1.7**
215nm,0.2s							
KELI	**Kelakatan**	**15.85**	**114**	‖*e*Pn	**P**	**13 57 57.8**	**+0.8**
RATI	**Rata**	**16.99**	**114**	‖*e*Pn	**P**	**13 58 09.9**	**-1.5**
KEDI	**Kedomdong**	**17.43**	**113**	‖*e*Pn	**P**	**13 58 14.8**	**-2.2**
UBT	**Ubonrachathani**	**17.71**	**16**	P	**P**	**13 58 25.5**	**+5.1**
KKM	**Kota Kinabalu**	**18.07**	**64**	*e*P	**P**	**13 58 26.0**	**+1.1**
KKTK	**Khon Kaen**	**18.28**	**9**	P	**P**	**13 58 32.0**	**+4.4**
TSM	**Tawau**	**18.96**	**71**	P	**P**	**13 58 37.5**	**+1.8**
CM31	**Chiang Mai Arr**	**20.18**	**357**	*e*P	**P**	**13 58 46.9**	**-2.4**
14nm,0.5s							
CMAR	**Chiang Mai Arr**	**20.18**	**357**	P	**P**	**13 58 47.5**	**-1.8**
16nm,0.6s,baz=188,slow=10,SNR=32							
CMAR				LR	LR	14 06 21.9	
comp=Z,1μm,19.7s,MS4.2,baz=190,slow=36							
NANT	**Nan**	**20.52**	**2**	PG	**P**	**13 58 52.0**	**-0.7**
NANT				SG		13 59 00.0	
CHG	**Chiang Mai**	**20.54**	**357**	P	**P**	**13 58 54.8**	**+1.9**
22nm,0.9s							
BATP	**Bataraza**	**20.73**	**59**	*e*P	**P**	**13 58 55.1**	**+0.2**
PALK	**Pallekele**	**21.19**	**295**	*e*P	**P**	**13 58 57.7**	**-1.9**
56nm,1.1s,mb4.8							
QIZ	**Qiongzhong**	**22.92**	**25**	P	**P**	**13 59 17.5**	**+0.6**
QIZ				*e*S	**S**	**14 03 22.6**	**+2.3**
QIZ				AMB	AMB		
comp=Z,84nm,1.1s,mb5.1							
QIZ				LR	LR		
comp=N,5μm,13.1s,MS5.2							
QIZ				LR	LR		
comp=E,3μm,11.9s,MS5.2							
QIZ				LR	LR		
comp=Z,7μm,12.3s,MS5.3							
QIZ	**Qiongzhong**	**22.92**	**25**	*e*P	**P**	**13 59 17.7**	**+0.8**
comp=Z,108nm,0.9s,mb5.3							
ENPP	**El Nido**	**23.34**	**56**	*e*P	**P**	**13 59 22.8**	**+1.8**
BUSP	**Coron**	**24.40**	**55**	*e*P	**P**	**13 59 32.2**	**+0.8**
CUYO	**Cuyo Island**	**24.49**	**59**	*e*P	**P**	**13 59 34.5**	**+2.2**
PAGZ	**Pagadian**	**25.31**	**67**	*e*P	**P**	**13 59 41.6**	**+1.5**
VIS	**Vishakhapatnam**	**25.39**	**321**	*e*P	**P**	**13 59 39.7**	**-1.0**
SJMP	**San Jose**	**25.41**	**55**	*e*P	**P**	**13 59 42.5**	**+1.6**
LUBP	**Lubang**	**25.41**	**52**	*e*P	**P**	**13 59 41.7**	**+0.7**
SNPH	**Sibulan**	**25.76**	**64**	*e*P	**P**	**13 59 50.0**	**+5.8**
TBP	**Tagbilaran**	**26.46**	**64**	‖*e*P	**P**	**13 59 51.5**	**+0.8**
AGT	**Agartala**	**26.91**	**342**	‖*i*P	**P**	**13 59 54.0**	**-0.7**
AGT				*i*		14 00 24.0	
KMI	**Kunming**	**26.94**	**6**	P	**P**	**13 59 56.8**	**+1.8**
KMI				AMB	AMB		
comp=Z,10.0nm,1.3s,mb4.2							
KMI				LR	LR		
comp=N,4μm,12.0s,MS5.2							
KMI				LR	LR		
comp=E,3μm,13.1s,MS5.2							
KMI				LR	LR		
comp=Z,3μm,12.4s,MS5.1							
KMI	**Kunming**	**26.94**	**6**	P	**P**	**13 59 56.8**	**+1.8**
comp=Z,10.0nm,1.3s,mb4.2							
KMI				S	**S**	**14 04 30.2**	**+2.1**
KMI				LR	LR		
comp=Z,3μm,12.4s,MS5.1							
MBWA	**Marble Bar**	**27.25**	**136**	*e*P	**P**	**13 59 58.2**	**+0.4**
comp=Z,33nm,0.9s,mb4.9							
SHL	**Shillong**	**28.32**	**345**	*e*P	**P**	**14 00 06.8**	**-0.7**
SHL				*e*		14 04 48.2	
CAUP	**Cauayan**	**28.56**	**48**	*e*P	**P**	**14 00 09.1**	**-0.6**
GYA	**Guiyang**	**28.87**	**13**	‖*i*P	**P**	**14 00 11.4**	**-1.1**
GYA				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.5							
GYA				AMB	AMB		
comp=Z,2μm,8.9s							
FITZ	**Fitzroy Crossi**	**29.98**	**124**	*e*P	**P**	**14 00 21.5**	**-1.0**
comp=Z,70nm,0.7s,mb5.5							
FITZ	**Fitzroy Crossi**	**29.98**	**124**	P	**P**	**14 00 21.6**	**-0.9**
comp=Z,110nm,0.8s,mb5.6,baz=294,slow=5.1,SNR=32							
JIRN	**Jiri**	**32.16**	**337**	*e*P	**P**	**14 00 42.0**	**+0.5**
comp=Z,148nm,0.7s,mb5.9							
PKI	**Pulchoki**	**32.39**	**335**	*e*P	**P**	**14 00 43.2**	**-0.4**
comp=Z,158nm,1.4s,mb5.7							
PKI	**Pulchoki**	**32.39**	**335**	*e*P	**P**	**14 00 43.2**	**-0.4**
PKI				pmax	pmax		
comp=Z,79nm,1.4s,mb5.3							
LSA	**Lhasa**	**32.45**	**346**	P	**P**	**14 00 45.3**	**+1.2**
LSA				AMB	AMB		
comp=Z,40nm,0.9s,mb5.2							
LSA	**Lhasa**	**32.45**	**346**	*e*P	**P**	**14 00 44.9**	**+0.8**
LSA				pmax	pmax		
comp=Z,52nm,0.6s,mb5.5							
LSA	**Lhasa**	**32.45**	**346**	*e*P	**P**	**14 00 44.9**	**+0.8**
comp=Z,52nm,0.6s,mb5.5							
GUN	**Gumba**	**32.50**	**336**	*e*P	**P**	**14 00 45.1**	**+0.6**
comp=Z,185nm,0.5s,mb6.3							
DMN	**Daman**	**32.55**	**335**	*e*P	**P**	**14 00 44.9**	**-0.1**
comp=Z,112nm,1.1s,mb5.7							
KKN	**Kakani**	**32.64**	**335**	*e*P	**P**	**14 00 45.6**	**-0.1**
comp=Z,89nm,0.7s,mb5.8							
KKN	**Kakani**	**32.64**	**335**	*e*P	**P**	**14 00 45.6**	**-0.1**
KKN				pmax	pmax		
comp=Z,45nm,0.7s,mb5.5							
POO	**Poona**	**32.66**	**309**	*e*P	**P**	**14 00 45.0**	**-0.9**
CD2	**Chengdu**	**32.77**	**6**	P	**P**	**14 00 48.0**	**+1.2**
GKN	**Gorkha**	**33.10**	**335**	*e*P	**P**	**14 00 49.6**	**-0.1**
comp=Z,259nm,1.2s,mb6.0							
ENH	**Enshi**	**33.21**	**15**	*e*P	**P**	**14 00 48.3**	**-2.3**
comp=Z,42nm,0.6s,mb5.5							
KOLN	**Koldanda**	**33.35**	**333**	*e*P	**P**	**14 00 52.0**	**+0.1**
comp=Z,70nm,0.7s,mb5.7							
NACB	**Ninganchiao**	**33.35**	**38**	P	**P**	**14 00 50.7**	**-1.2**
NWAO	**Narrogin (SRO)**	**34.95**	**154**	*e*P	**P**	**14 01 07.3**	**+1.7**
NWAO				pmax	pmax		
comp=Z,59nm,1.1s							
NWAO	**Narrogin (SRO)**	**34.95**	**154**	P	**P**	**14 01 06.9**	**+1.3**
comp=Z,13nm,1.0s,mb4.8,baz=332,slow=10,SNR=3.7							
NWAO				pP	pP	14 01 16.1	+0.9
comp=Z,42nm,0.9s,baz=328,slow=9.3,SNR=12							
NWAO				LR	LR	14 13 33.1	
comp=Z,2μm,20.8s,MS4.8,baz=289,slow=33							
NWAO	**Narrogin (SRO)**	**34.95**	**154**	*e*P	**P**	**14 01 07.3**	**+1.7**
comp=Z,59nm,1.1s,mb5.4							
WHN	**Wuhan**	**35.02**	**22**	*e*P	**P**	**14 01 05.5**	**-0.7**
LGTI	**Lohaghat**	**36.35**	**330**	*e*P	**P**	**14 01 17.7**	**+0.2**
XAN	**Xi'an**	**36.68**	**13**	P	**P**	**14 01 18.6**	**-1.6**
XAN				AMB	AMB		
comp=Z,65nm,1.0s,mb5.4							
NDI	**New Delhi**	**37.34**	**326**	*e*P	**P**	**14 01 24.0**	**-1.8**
NDI				*e*		14 07 24.0	
LZH	**Lanzhou**	**37.90**	**5**	*e*P	**P**	**14 01 30.4**	**-0.1**
LZH				AP	pP	14 01 40.0	0.0
LZH				XP	sP	14 01 43.2	-0.8
LZH				*e*S	**S**	**14 07 20.2**	**+0.7**
LZH				*e*SS	SS	14 09 57.8	+1.4
LZH				AMB	AMB		
comp=Z,90nm,1.0s,mb5.5							
LZH				AMB	AMB		
comp=Z,293nm,4.0s							
LZH				LR	LR		
comp=N,6μm,12.4s							
LZH				LR	LR		
comp=Z,7μm,12.6s,MS5.7							
LZH	**Lanzhou**	**37.90**	**5**	*e*P	**P**	**14 01 30.4**	**-0.1**
LZH				*PP	pP	14 01 40.0	0.0
LZH				*SP	sP	14 01 43.2	-0.8
LZH						14 02 52.6	
LZH				*e*S	**S**	**14 07 20.2**	**+0.7**
LZH				*SS		14 07 36.0	
LZH				*e*SS	SS	14 09 57.8	+1.4
LZH				pmax	pmax		
comp=Z,90nm,1.0s,mb5.5							
LZH				MLR	MLR		
comp=Z,7μm,12.6s,MS5.7							
LZH	**Lanzhou**	**37.90**	**5**	*e*P	**P**	**14 01 30.4**	**-0.1**
comp=Z,90nm,1.0s,mb5.5							
LZH				pP	pP	14 01 40.0	0.0
LZH				sP	sP	14 01 43.2	-0.8
LZH				PP	PP	14 02 52.6	-7.9
LZH				*e*S	**S**	**14 07 20.2**	**+0.7**
LZH				sS		14 07 36.0	
LZH				*e*SS	SS	14 09 57.8	+1.4
LZH				LR	LR		
comp=Z,7μm,12.6s,MS5.7							
WRA	**Warramunga Arr**	**38.16**	**121**	P	**P**	**14 01 31.9**	**-0.9**
WRA				*PP	pP	14 01 42.5	+0.2
WRA						14 03 48.1	
WRA				S	**S**	**14 07 22.0**	**-1.5**
WRA	**Warramunga Arr**	**

HHC PP PP 14 04 00.2 -2.4
HHC PCP PcP 14 04 08.1 +2.3
HHC SCP 14 07 54.1
HHC PCS 14 07 59.2
HHC S **S** **14 08 48.2 +1.3**
HHC SS SS 14 11 54.7 -0.7
HHC AMB AMB
comp=Z,23nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,1µm,8.9s
HHC LR LR
comp=N,4µm,13.9s,MS5.6
HHC LR LR
comp=E,3µm,13.7s,MS5.6
HHC LR LR
comp=Z,4µm,15.2s,MS5.5
WMQ Urumqi 46.75 348 P **P** **14 02 43.3 +0.8**
WMQ AP pP 14 02 53.3 +1.2
WMQ XP sP 14 02 57.4 +1.4
WMQ PCP PcP 14 04 17.5 +1.5
WMQ PP PP 14 04 33.1 +1.0
WMQ S **S** **14 09 29.7 +0.2**
WMQ AMB AMB
comp=Z,230nm,1.0s,mb6.1
WMQ AMB AMB
comp=Z,921nm,3.8s
WMQ LR LR
comp=N,551nm,14.3s,MS4.9
WMQ LR LR
comp=E,886nm,14.3s,MS4.9
WMQ LR LR
comp=Z,1µm,20.5s
PMG Port Moresby 47.58 101 P **P** **14 02 49.0 -0.4**
comp=Z,19nm,0.9s,mb5.1,baz=96,slow=21,SNR=3.7
PMG pP pP 14 02 57.9 -1.2
comp=Z,19nm,0.8s,baz=260,slow=14,SNR=3.4
SNY Shenyang 48.47 24 ⇑P **P** **14 02 55.0 -1.0**
SNY AMB AMB
comp=Z,20nm,1.4s,mb5.0
CTA Charters Tower 48.75 115 P **P** **14 02 58.4 0.0**
comp=Z,14nm,0.9s,mb5.0,baz=299,slow=8.5,SNR=5.9
CTA pP pP 14 03 08.1 0.0
comp=Z,17nm,0.6s,baz=286,slow=10,SNR=6.1
CTA Charters Tower 48.75 115 P **P** **14 02 58.4 0.0**
CTA pP pP 14 03 08.1 0.0
CTAO Charters Tower 48.75 115 *e*P **P** **14 02 58.1 -0.4**
CTAO *e* pP 14 03 07.0 -1.2
CTAO pmax pmax
comp=Z,16nm,0.6s,mb5.2
CTAO Charters Tower 48.75 115 *e*P **P** **14 02 58.1 -0.4**
comp=Z,16nm,0.6s,mb5.2
CTAO *e* pP 14 03 07.0 -1.2
ULHL Ulahol 48.82 337 P **P** **14 02 59.2 +0.6**
SNR=12
STKA Stephens Creek 49.33 132 *e*P **P** **14 03 03.4 +0.6**
comp=Z,11nm,0.4s,mb5.2
STKA *i* pP 14 03 12.9 +0.4
STKA Stephens Creek 49.33 132 P **P** **14 03 03.2 +0.5**
comp=Z,14nm,0.6s,mb5.2,baz=307,slow=7.4,SNR=22
STKA pP pP 14 03 12.6 +0.1
comp=Z,43nm,0.6s,baz=303,slow=7.9,SNR=20
STKA LR LR 14 23 25.8
comp=Z,2µm,18.4s,MS5.2,baz=310,slow=35
UCH Uchtor 49.51 335 P **P** **14 03 05.0 +1.0**
SNR=15
TKM2 Tokmak 2 49.64 337 P **P** **14 03 05.4 +0.4**
SNR=36
KBK Karagaybulak 49.68 336 P **P** **14 03 06.3 +1.0**
SNR=17
AML Almayashu 49.77 335 P **P** **14 03 07.0 +0.9**
SNR=23
SONM Songino Array 49.79 6 P **P** **14 03 06.2 +0.2**
comp=Z,23nm,0.8s,mb5.3,baz=189,slow=8.4,SNR=58
SONM PcP PcP 14 04 27.1 +0.3
comp=Z,9.5nm,0.7s,baz=185,slow=3.9,SNR=4.3
SONM pPcP 14 04 36.7
comp=Z,5.6nm,0.7s,baz=187,slow=5.1,SNR=3.7
AAK Ala-Archa 49.85 336 P **P** **14 03 07.5 +0.9**
SNR=6.5
AAK Ala-Archa 49.85 336 *i* P **P** **14 03 06.9 +0.3**
ULN Ulaanbaatar 49.89 6 *e*P **P** **14 03 06.5 -0.3**
ULN pmax pmax
comp=Z,23nm,0.8s,mb5.3
ULN Ulaanbaatar 49.89 6 *e*P **P** **14 03 06.5 -0.3**
ULN pmax pmax
comp=Z,23nm,0.8s,mb5.3
ULN Ulaanbaatar 49.89 6 *e*P **P** **14 03 06.5 -0.3**
comp=Z,23nm,0.8s,mb5.3
FRU Bishkek 49.97 336 *e*P **P** **14 03 08.0 +0.5**
FRU *i* pP 14 03 18.0 +0.7
FRU pmax pmax
comp=Z,300nm,2.8s,mb5.8
CHMS Chumysh 50.05 336 P **P** **14 03 08.3 +0.2**
SNR=8.7
EKS2 Erkin-Say 50.17 335 P **P** **14 03 09.3 +0.2**
SNR=25
USP Ospenovka 50.37 336 P **P** **14 03 10.9 +0.3**
SNR=23
MKAR Makanchi Array 50.84 344 P **P** **14 03 14.0 -0.1**
comp=Z,27nm,0.4s,mb5.5,baz=153,slow=8.1,SNR=67
MKAR S **S** **14 10 29.6 +3.0**
comp=Z,4.0nm,1.1s,baz=153,slow=16,SNR=7.6
CN2 Changchun 50.87 24 *e*P **P** **14 03 13.7 -0.7**
CN2 XP sP 14 03 26.7 -1.2
CN2 *e*S **S** **14 10 26.9 -0.2**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2µm,13.0s,MS5.4
CN2 LR LR
comp=E,2µm,13.0s,MS5.4
CN2 LR LR
comp=Z,2µm,14.0s,MS5.3
KKAR Karatay Array 51.96 333 *i* P **P** **14 03 21.5 -1.2**
KKAR pmax pmax
comp=Z,24nm,1.2s,mb5.0
ZAK Zakamensk 52.09 3 *e*P **P** **14 03 23.0 -0.5**
ZAK *e* 14 04 34.5
ZAK pmax pmax
comp=Z,6.0nm,2.1s,mb4.2
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MAJO Matsushiro 52.20 39 *e*P **P** **14 03 24.2 -0.4**
MAJO pmax pmax
comp=Z,14nm,0.8s,mb4.9
MAJO Matsushiro 52.20 39 *e*P **P** **14 03 24.2 -0.4**
comp=Z,14nm,0.8s,mb4.9
MAT Matsushiro 52.20 39 *e*P **P** **14 03 23.0 -1.6**
MAT pmax pmax
comp=Z,11nm,1.0s,mb4.7
MAT Matsushiro 52.20 39 *e*P **P** **14 03 23.0 -1.6**
comp=Z,11nm,1.0s,mb4.7
MAT Matsushiro 52.20 39 P **P** **14 03 23.3 -1.3**
MJAR Matsushiro Arr 52.20 39 P **P** **14 03 23.8 -0.8**
comp=Z,11nm,1.0s,mb4.7,baz=226,slow=7.6,SNR=14
MJAR Matsushiro Arr 52.20 39 P **P** **14 03 23.8 -0.8**
MDJ Mudanjiang 53.28 26 P **P** **14 03 31.2 -1.3**
MDJ AMB AMB
comp=Z,12nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,198nm,5.4s
MDJ Mudanjiang 53.28 26 *e*P **P** **14 03 30.2 -2.2**
comp=Z,11nm,1.1s,mb4.7
MDJ *e* pP 14 03 40.9 -1.3
MOY Mondy 53.31 1 *e*P pP 14 03 41.0 -1.3
MOY pmax pmax
comp=Z,74nm,2.1s,mb5.2
TLY Talaya 53.41 3 *e*P **P** **14 03 33.3 0.0**
TLY pmax pmax
comp=Z,11nm,1.0s,mb4.7
IRK Irkutsk 54.00 3 *e*P pP 14 03 46.7 -0.7
IRK pmax pmax
comp=Z,81nm,2.3s,mb5.2
OPO Ambohidratompo 54.24 248 P **P** **14 03 40.5 +0.6**
comp=Z,7.2nm,0.8s,mb4.6,baz=90,slow=6.2,SNR=7.3
OPO pP pP 14 03 50.5 +1.0
comp=Z,4.3nm,0.8s,baz=339,slow=3.0,SNR=3.8
KURK Kurchatov 55.42 344 *i* P **P** **14 03 47.3 -0.8**
KURK pmax pmax
comp=Z,36nm,0.9s,mb5.4
KURK Kurchatov 55.42 344 *e*P **P** **14 03 47.0 -1.0**
comp=Z,79nm,0.8s,mb5.8
ZAL Zalesovo 56.98 349 P **P** **14 03 58.9 -0.3**
comp=Z,54nm,0.5s,mb5.9,baz=298,slow=8.4,SNR=85

ZAL pP pP 14 04 08.7 -0.3
comp=Z,42nm,0.4s,baz=320,slow=4.9,SNR=12
ZAL S **S** **14 11 51.5 +2.2**
comp=Z,1.3nm,0.5s,baz=202,slow=21,SNR=14
KLR Kul'dur 57.82 24 *e*P **P** **14 04 01.8 -3.3**
KLR *e* pP 14 04 10.8 -4.2
KLR pmax pmax
comp=N,40nm,1.8s
KLR pmax pmax
comp=E,78nm,1.8s
KLR pmax pmax
comp=Z,120nm,1.8s,mb5.6
ASAJ Asahikawa 59.53 35 P **P** **14 04 17.1 0.0**
comp=Z,12nm,0.8s,mb5.0,baz=277,slow=9.4,SNR=9.5
ASAJ pP pP 14 04 26.8 -0.3
comp=Z,13nm,0.4s,baz=244,slow=6.0,SNR=7.7
BVA0 Borovoye Array 60.00 340 P **P** **14 04 18.4 -1.8**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BVAR Borovoye Array 60.00 340 P **P** **14 04 18.5 -1.7**
comp=Z,18nm,0.7s,mb5.2,baz=143,slow=7.4,SNR=54
CHKZ Chkalovo 60.46 340 *e*P **P** **14 04 21.8 -1.5**
CHKZ pmax pmax
comp=Z,83nm,0.9s,mb5.8
CHKZ Chkalovo 60.46 340 *e*P **P** **14 04 21.8 -1.5**
comp=Z,83nm,0.9s,mb5.8
BOD Bodaibo 60.53 9 *e*P **P** **14 04 22.9 -0.9**
BOD pmax pmax
comp=Z,37nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 61.39 32 *e*P **P** **14 04 29.1 -0.7**
YSS pmax pmax
comp=Z,116nm,1.1s,mb5.9
YSS Yuzh-Sakhalins 61.39 32 *e*P **P** **14 04 29.1 -0.7**
comp=Z,116nm,1.1s,mb5.9
YSS P 14 05 30.1
KMBO Kilima Mbogo 62.63 270 P **P** **14 04 39.3 +0.8**
comp=Z,9.6nm,0.8s,mb5.0,baz=60,slow=8.9,SNR=26
KMBO pP pP 14 04 49.0 +0.6
comp=Z,2.2nm,0.7s,baz=56,slow=13,SNR=3.0
BHD Baghdad 62.83 309 *e*P **P** **14 04 37.0 -2.6**
MSL Mosul 64.96 312 *e*Pn **P** **14 04 49.0 -4.5**
MSL *e*Sn PcP 14 05 31.5 +5.3
GNI Garni 65.34 316 *e*P **P** **14 04 55.3 -0.6**
GNI pmax pmax
comp=Z,67nm,0.6s
GNI Garni 65.34 316 P **P** **14 04 55.9 0.0**
comp=Z,3.1nm,0.4s,mb4.7,baz=351,slow=7.4,SNR=4.6
GNI Garni 65.34 316 *e*P **P** **14 04 55.3 -0.6**
comp=Z,67nm,0.6s,mb5.8
TI2 Plekhanov 66.03 318 *e*P **P** **14 04 59.6 -0.6**
SVE Sverdlovsk 66.49 338⇑6 *e*P **P** **14 04 59.0 -4.0**
SVE *e* pP 14 05 09.0 -3.9
SVE MLR MLR
comp=N,600nm,20.0s,MS4.9
SVE MLR MLR
comp=E,500nm,20.0s,MS4.9
SVE MLR MLR
comp=Z,600nm,20.0s,MS4.8
ARU Arti 67.02 337⇑ *i*P **P** **14 05 04.8 -1.5**
ARU *e* 14 05 33.5
ARU *e*S S 14 13 58.2 +2.1
ARU *e*SS SS 14 18 18.4 +1.6
ARU pmax pmax
comp=Z,40nm,1.1s,mb5.4
ZEI Tsey 67.05 318 *e*P **P** **14 05 06.5 -0.3**
ZEI *i* 14 07 33.9
ZEI *e*S S 14 13 59.0 +2.3
ZEI pmax pmax
comp=Z,19nm,0.9s,mb5.1
DZM Mont Dzumac 67.60 113 P **P** **14 05 10.9 +0.3**
comp=Z,8.3nm,0.9s,mb4.8,baz=211,slow=5.9,SNR=3.4
YAK Yakutsk 67.60 15 *e*P **P** **14 05 08.9 -1.0**
YAK *e**PP pP 14 05 18.2 -1.7
YAK *e* 14 05 36.1
YAK *e* 14 07 36.6
YAK *e*S S 14 13 59.3 -3.8
YAK *e* 14 15 01.8
YAK pmax pmax
comp=Z,58nm,1.0s,mb5.6
YAK pmax pmax
comp=N,19nm,1.1s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
YAK smax
comp=E,2.0nm,1.1s
YAK smax
comp=N,3.0nm,1.0s
YAK MLR MLR
comp=Z,1µm,15.0s,MS5.2
YAK MLR MLR
comp=N,640nm,14.0s,MS5.1
YAK MLR MLR
comp=E,435nm,13.0s,MS5.1
YAK Yakutsk 67.60 15 *e*P **P** **14 05 08.2 -1.7**
comp=E,115nm,1.0s,mb5.9
KIV Kislovodsk 68.36 319*c* *i*P **P** **14 05 14.3 -0.6**
KIV *i* pP 14 05 25.3 +0.4
KIV *e* 14 05 44.4
KIV pmax pmax
comp=Z,39nm,1.0s,mb5.4
KIV Kislovodsk 68.36 319 *e*P **P** **14 05 13.9 -1.0**
comp=Z,45nm,0.9s,mb5.5
KIV *e* pP 14 05 25.8 +0.9
ASF Jabal al Asfar 68.42 306 P **P** **14 05 16.0 +0.4**
comp=Z,13nm,0.8s,mb5.0,baz=341,slow=4.1,SNR=15
GOF Gofitskoye 68.61 320⇑ *i*P **P** **14 05 14.6 -1.9**
GOF pmax pmax
comp=Z,30nm,1.0s,mb5.2
MALT Malatya 69.16 312 ⇑P **P** **14 05 19.9 -0.1**
MBAR Mbarara 69.16 270 *e*P **P** **14 05 19.2 -1.2**
MBAR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MBAR Mbarara 69.16 270 *e*P **P** **14 05 19.2 -1.3**
comp=Z,6.7nm,0.9s,mb4.6
EIL Elat 69.35 303 P **P** **14 05 21.4 0.0**
comp=Z,18nm,0.8s,mb5.0,baz=80,slow=2.1,SNR=11
EIL Elat 69.35 303 *e*P **P** **14 05 20.9 -0.5**
comp=Z,16nm,0.8s,mb5.0
EIL *e* pP 14 05 29.9 -1.3
SOC Sochi 70.17 318 *e*P **P** **14 05 23.6 -2.4**
SOC *e* 14 05 45.0
SOC *e* 14 08 05.4
SOC *e*PPP PPP 14 09 47.9 +4.5
SOC *e*S S 14 14 32.8 -1.0
SOC *e* 14 15 21.0
SOC *e*SS SS 14 19 04.5 -1.0
SOC pmax pmax
comp=Z,24nm,0.5s,mb5.4
SOC pmax pmax
comp=N,8.0nm,0.9s
SOC pmax pmax
comp=E,3.0nm,0.6s
MAW Mawson 70.42 194 *e*P **P** **14 05 26.9 -0.3**
MAW pmax pmax
comp=Z,16nm,1.0s
MAW Mawson 70.42 194 P **P** **14 05 28.7 +1.5**
comp=Z,13nm,1.1s,mb4.8,baz=35,slow=8.1,SNR=7.6
MAW Mawson 70.42 194 *e*P **P** **14 05 26.9 -0.3**
comp=Z,16nm,1.0s,mb4.9
MATP Matopo 71.95 249 P **P** **14 05 37.9 +0.8**
comp=Z,28nm,0.8s,mb5.2,baz=86,slow=6.6,SNR=45
MATP Matopo 71.95 249 P **P** **14 05 37.9 +0.8**
CSS Prodhromos 72.05 308 *e*P **P** **14 05 37.1 -0.4**
comp=Z,20nm,0.9s,mb5.0
ANN Anapa 72.15 318 *e*P **P** **14 05 35.1 -2.9**
ANN *e*S S 14 14 53.7 -3.0
ANN pmax pmax
comp=Z,14nm,1.2s,mb4.8
MA2 Magadan 72.92 24 *e*P **P** **14 05 42.6 +0.4**
MA2 *e* pP 14 05 51.7 -0.5
MA2 pmax pmax
comp=Z,30nm,1.2s,mb5.1
MA2 Magadan 72.92 24 *e*P **P** **14 05 41.9 -0.3**
comp=Z,40nm,0.9s,mb5.3
MA2 *e* pP 14 05 51.6 -0.6
BRTR Keskin Array B 73.14 312 P **P** **14 05 42.5 -1.4**
comp=Z,8.4nm,0.8s,mb4.7,baz=128,slow=7.2,SNR=35
PET Petropavlovsk 73.27 33 *i* P **P** **14 05 44.9 +0.5**
VOR Voronezh 73.78 326 *e*P **P** **14 05 46.0 -1.4**
VOR *e**SP sP 14 05 58.0 -2.9
VOR pmax pmax
comp=N,40nm,1.1s
VOR pmax pmax
comp=Z,60nm,1.1s,mb5.4
SIM Simferopol' 74.41 318*c* *i*P **P** **14 05 50.0 -1.2**
SIM pmax pmax
comp=Z,25nm,0.9s,mb5.1
ISP Isparta 74.99 310 *e*P **P** **14 05 54.1 -0.6**
ISP *e* pP 14 06 04.4 -0.3
ISP pmax pmax
comp=Z,13nm,1.0s,mb4.8
ISP Isparta 74.99 310 *e*P **P** **14 05 54.1 -0.6**
comp=Z,13nm,1.0s,mb4.8
ISP *e* pP 14 06 04.4 -0.3
SEY Seymchan 75.51 22 *e*P **P** **14 05 58.5 +1.4**
SEY *e* pP 14 06 08.9 +1.7
SEY pmax pmax
comp=Z,40nm,0.9s,mb5.3
BOSA Boshof 75.66 241 P **P** **14 05 59.0 +0.4**
comp=Z,8.4nm,0.8s,mb4.7,baz=83,slow=9.4,SNR=9.9
TIXI Tiksi 75.71 9 *i* P **P** **14 05 56.8 -1.3**
MOS Moscow 76.31 329 *e*P **P** **14 06 00.9 -0.9**
MOS *e* pP 14 06 12.3 +0.5
MOS pmax pmax
comp=Z,57nm,0.9s,mb5.5
MOS Moscow 76.31 329 *e*P **P** **14 06 00.9 -0.9**
MOS pmax pmax
comp=Z,57nm,0.9s,mb5.5
OBN Obninsk 76.60 328*c* *i*P **P** **14 06 03.1 -0.3**
OBN pmax pmax
comp=Z,39nm,1.0s,mb5.3
OBN MLR MLR
comp=Z,400nm,20.0s,MS4.7
OBN Obninsk 76.60 328 *e*P **P** **14 06 02.8 -0.7**
comp=Z,18nm,0.8s,mb5.0
OBN *e* pP 14 06 12.0 -1.6
OBN Obninsk 76.60 328*c* *i*P **P** **14 06 03.1 -0.3**
OBN pmax pmax
comp=Z,39nm,1.0s,mb5.3
SYO Syowa Base 78.00 199 ⇑P **P** **14 06 09.8 -1.1**
SYO Syowa Base 78.00 199 ⇑PcP PcP 14 06 19.5 -1.4
PSN Preselentsi 78.14 315 *e*P **P** **14 06 16.0 +3.8**
TIRR Tirgusor 78.17 316 P **P** **14 06 12.0 -0.3**
TIRR Tirgusor 78.17 316 ⇑P **P** **14 06 11.7 -0.6**
TIRR Tirgusor 78.17 316 ⇑P **P** **14 06 11.7 -0.6**
CFR Carcaliu 78.54 317 ⇓P **P** **14 06 14.4 +0.1**
KIS Kishinev 78.55 319 *e*P **P** **14 06 13.0 -1.3**
KIS *e* pP 14 06 25.0 +0.6
HARR Harsova 78.56 316 P **P** **14 06 14.7 +0.2**
URZ Urewera 78.82 129 P **P** **14 06 16.6 +0.5**
comp=Z,3.1nm,0.5s,mb4.5,baz=219,slow=6.5,SNR=3.9
IDI Anoyia 78.86 306 P **P** **14 06 16.9 +0.5**
comp=Z,22nm,0.7s,mb5.2,baz=111,slow=5.5,SNR=11
AKASG Malin Array Be 79.30 322 P **P** **14 06 17.3 -1.0**
comp=Z,5.5nm,0.8s,mb4.5,baz=86,slow=4.8,SNR=21
AKASG pP pP 14 06 27.9 -0.6
comp=Z,2.5nm,0.6s,baz=86,slow=4.7,SNR=6.3
VRI Vrincioaia 79.67 317 ⇑P **P** **14 06 20.8 +0.4**
MLR Muntele Rosu 80.12 317 P **P** **14 06 23.4 +0.5**
MLR Muntele Rosu 80.12 317 P **P** **14 06 23.2 +0.4**
comp=Z,29nm,0.9s,mb5.2,baz=118,slow=1.5,SNR=42
MLR Muntele Rosu 80.12 317 ⇑P **P** **14 06 23.2 +0.4**
MLR Muntele Rosu 80.12 317 ⇑P **P** **14 06 23.3 +0.4**
RZN Rozhen 80.19 313 *i* P **P** **14 06 23.5 +0.1**
PGB Panagyurishte 80.76 313 *e*P **P** **14 06 27.0 +0.6**
MMB Musomiste 80.90 312 *e*P **P** **14 06 26.0 -1.1**
BURAR Bucovina Array 81.07 319 ⇑P **P** **14 06 28.9 +1.0**
BURAR Bucovina Array 81.07 319 ⇑P **P** **14 06 28.9 +1.0**
MNK Minsk 81.16 326 *e*P **P** **14 06 26.0 -2.2**
FX1 Attu Island--F 81.42 36 P **P** **14 06 30.0 +0.5**
comp=Z,24nm,0.6s,mb5.3,baz=9.6,slow=20,SNR=5.5
FX1 Attu Island--F 81.42 36 *e*P **P** **14 06 30.3 +0.8**
VTS Vitosha 81.47 313 P **P** **14 06 30.1 +0.1**
VTS Vitosha 81.47 313 ⇑P **P** **14 06 29.9 -0.1**
VTS Vitosha 81.47 313 *i* P **P** **14 06 30.0 0.0**
JOF Joensuu 82.03 335 *e*p **P** **14 06 31.3 -1.2**
LVV L'vov 82.31 321 *e*P **P** **14 06 28.0 -6.3**
LVV L'vov 82.31 321 *e*P **P** **14 06 28.0 -6.3**
VNDA Vanda 82.34 169 P **P** **14 06 35.0 +1.0**
comp=Z,4.7nm,1.1s,mb4.3,baz=290,slow=4.5,SNR=10.0
VNDA pP pP 14 06 44.9 +0.7
comp=Z,5.3nm,1.0s,baz=321,slow=6.5,SNR=9.4
VNDA Vanda 82.34 169 P **P** **14 06 35.0 +1.0**
VNDA pP pP 14 06 44.9 +0.7
BOLS Boljevac 82.58 314⇑ *i*P **P** **14 06 33.4 -2.4**
APA Apatity 82.90 339⇑ *i*P **P** **14 06 37.0 0.0**
APA pmax pmax
comp=Z,31nm,1.0s,mb5.3
BILL Bilibino 83.03 20 *i* P **P** **14 06 37.0 -0.6**
BILL *i* pP 14 06 47.2 -0.6
BILL *e* 14 09 55.8
BILL pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BILL MLR MLR
comp=Z,900nm,18.0s,MS5.2
BILL Bilibino 83.03 20 *e*P **P** **14 06 37.4 -0.2**
comp=Z,28nm,1.4s,mb5.1
KWP Kalwaria 83.12 320 *e*P **P** **14 06 39.3 +0.8**
SBA Scott Base 83.44 169 *e*P **P** **14 06 41.1 +1.5**
SBA *e* pP 14 06 50.6 +0.8
SBA pmax pmax
comp=Z,18nm,1.0s,mb5.1
SBA Scott Base 83.44 169 *e*P **P** **14 06 41.1 +1.5**
comp=Z,18nm,1.0s,mb5.1
SBA *e* pP 14 06 50.6 +0.8
SUW Suwalki 83.70 325 *e*P **P** **14 06 41.1 -0.2**
FINES FINESS Array B 83.92 332 P **P** **14 06 43.0 +0.7**
comp=Z,9.9nm,0.7s,mb5.1,baz=110,slow=5.4,SNR=50
FINES pP pP 14 06 52.8 +0.3
comp=Z,7.4nm,0.7s,baz=124,slow=6.9,SNR=7.0
KAF Kangasniemi 83.99 333 *e*p **P** **14 06 41.5 -1.1**
comp=Z,12nm,0.6s,mb5.2,baz=101,slow=4.7
KAF Kangasniemi 83.99 333 *e*P **P** **14 06 41.5 -1.1**
KAF pmax pmax
comp=Z,12nm,0.6s,mb5.2
DIVS Divcibare 84.03 315⇑ *i*P **P** **14 06 43.6 +0.4**
NIE Niedzica 84.62 320 *e*P **P** **14 06 45.4 -0.6**
PSZ Piszkesteto 84.66 318 ⇑P **P** **14 06 46.8 +0.5**
PSZ Piszkesteto 84.66 318⇑ *e*P **P** **14 06 46.6 +0.3**
OJC Ojcow 85.07 321 *e*P **P** **14 06 48.7 +0.4**
PKSM Moragy 85.27 316 ⇑P **P** **14 06 49.5 +0.1**
KEV Kevo 85.84 341 *e*p **P** **14 06 50.4 -1.3**
OKC Ostrava-Krasne 86.07 320 *e*P **P** **14 06 54.4 +1.1**
OKC *e*pP pP 14 07 04.9 +1.4
OKC AMS AMS 14 41 20.0
comp=Z,400nm,18.0s
ARCES ARCESS Array B 86.28 340 P **P** **14 06 54.9 +1.0**
comp=Z,36nm,0.9s,mb5.6,baz=104,slow=5.0,SNR=35
ARCES ARCESS Array B 86.28 340 P **P** **14 06 54.9 +1.0**
MORC Moravsky Berou 86.45 320 ⇓P **P** **14 06 56.1 +1.0**
VRAC Vranov 87.01 319 P **P** **14 06 58.8 +0.9**
comp=Z,1.9nm,0.7s,mb4.5,baz=160,slow=12,SNR=3.0
DPC Dobruska-Polom 87.30 320 *e*P **P** **14 07 00.4 +1.2**
DPC *e*pP pP 14 07 10.8 +1.3
DPC AMS AMS 14 43 40.0
comp=Z,500nm,15.1s
KSP Ksiaz 87.37 321 *e*P **P** **14 07 00.7 +1.1**
KSP *e**PP pP 14 07 11.4 +1.6
KSP Ksiaz 87.37 321 *e*P **P** **14 07 00.9 +1.3**
UPC Upice 87.51 321 *e*P **P** **14 07 01.7 +1.4**
UPC *e*pP pP 14 07 11.8 +1.3
BOJS Bojanci 87.54 316 *e*P **P** **14 07 01.3 +0.7**
LJU Ljubljana 88.09 316 *e*P **P** **14 07 04.4 +1.3**
QSPA South Pole Qui 88.13 180 *e*P **P** **14 07 04.7 +2.1**
comp=Z,28nm,1.3s,mb5.3
PRU Pruhonice 88.40 320 *e*P **P** **14 07 05.6 +1.1**
PRU *e*pP pP 14 07 15.6 +0.8
PRU AMS AMS 14 40 50.0
comp=Z,600nm,16.4s
PVCC Panska Ves 88.43 320 *e*P **P** **14 07 06.0 +1.3**
PVCC *e*pP pP 14 07 16.8 +1.9
PVCC AMS AMS 14 39 00.0
comp=Z,500nm,23.8s
AQU L'Aquila 88.63 312 *e*P **P** **14 07 07.1 +1.2**
ROBS Robic 88.81 316 *i* P **P** **14 07 07.1 +0.5**
BRG Berggiesshubel 88.86 321 *i* P **P** **14 07 07.7 +1.0**
BRG *i* pP 14 07 18.4 +1.5
BRG pmax pmax
comp=Z,34nm,1.2s,mb5.5
BRG Berggiesshubel 88.86 321 *i* P **P** **14 07 07.7 +1.0**
comp=Z,34nm,1.2s,mb5.5
BRG *i* pP 14 07 18.4 +1.5
GERES GERESS Array B 88.86 319 P **P** **14 07 07.9 +1.1**
comp=Z,6.4nm,0.8s,mb5.0,baz=90,slow=4.0,SNR=36
GERES pP pP 14 07 17.9 +0.8
comp=Z,3.8nm,0.8s,baz=90,slow=5.3,SNR=9.4
PTCC Patocco-Chiusa 88.93 316 *e*P **P** **14 07 08.0 +0.8**

KHC Kasperske Hory 88.96 319 *eP* P 14 07 08.1 +0.8
KHC *epP* pP 14 07 17.8 +0.3
KHC AMS AMS 14 38 40.0
comp=Z,500nm,18.2s
RUE Ruedersdorf 89.07 322 *eP* P 14 07 08.5 +0.8
comp=Z,44nm,0.9s,mb5.8
CLL Collm 89.48 321 *i P* P 14 07 09.9 +0.3
CLL *i* pP 14 07 21.1 +1.2
CLL pmax pmax
comp=Z,14nm,1.1s,mb5.2
CLL Collm 89.48 321 *i P* P 14 07 09.9 +0.3
comp=Z,14nm,1.1s,mb5.2
CLL *i* pP 14 07 21.1 +1.2
CLL Collm 89.48 321 P P 14 07 09.9 +0.3
comp=Z,logA/T=1.1,mb5.2
CLL *i* *PP pP 14 07 21.1 +1.2
HFS Hagfors 89.68 330 P P 14 07 11.1 +0.7
comp=Z,9.6nm,0.9s,mb5.1,baz=117,slow=3.3,SNR=12
NKC Novy Kostel 89.77 320 *eP* P 14 07 12.1 +1.1
NKC *epP* pP 14 07 23.1 +1.9
NKC AMS AMS 14 40 00.0
comp=Z,500nm,18.2s
WTTA Wattenberg 90.16 317 ⇓ *iP* P 14 07 13.1 +0.2
comp=Z,20nm,0.8s,mb5.5
SQTA Sankt Quirin 90.44 317 ⇑ *iP* P 14 07 14.8 +0.6
comp=Z,5.5nm,0.8s,mb4.9
MOTA Moosalm 90.52 317 ⇓ *iP* P 14 07 15.0 +0.4
GRA1 Grafenberg Arr 90.53 320 *eP* P 14 07 15.9 +1.3
comp=Z,19nm,0.9s,mb5.4
GRA1 *epP* pP 14 07 25.3 +0.5
GRF Grafenberg Arr 90.53 320 *eP* P 14 07 15.9 +1.3
GRF *e*PP pP 14 07 25.3 +0.5
GRF pmax pmax
comp=Z,19nm,0.9s,mb5.4
GRF Grafenberg Arr 90.53 320 *eP* P 14 07 15.9 +1.3
comp=Z,19nm,0.9s,mb5.4
GRF *epP* pP 14 07 25.3 +0.5
NB2 NORSAR Subarra 90.95 331 P P 14 07 16.2 0.0
comp=Z,7.6nm,1.0s,mb5.0,baz=94,slow=4.6
NOA NORSAR Array B 90.95 331 P P 14 07 16.7 +0.5
comp=Z,2.5nm,0.7s,mb4.7,baz=94,slow=4.7,SNR=11
NOA pP pP 14 07 26.4 0.0
comp=Z,3.3nm,0.8s,baz=94,slow=4.8,SNR=6.8
BRMO Bormio 90.99 316 *eP* P 14 07 18.3 +1.5
DAVOX Davos 91.34 317 P P 14 07 19.9 +1.5
comp=Z,23nm,0.8s,mb5.6,baz=115,slow=5.6,SNR=27
DAVA Damuels 91.35 317 ⇑ *iP* P 14 07 19.4 +1.0
comp=Z,27nm,0.8s,mb5.6
LPG La Plagne 93.51 315 ⇑ *iP* P 14 07 29.3 +0.9
comp=Z,14nm,0.8s,mb5.1
IMA Indian Mountai 98.29 23 *eP* P 14 07 51.7 +2.1
comp=Z,1.2nm,0.4s,mb4.8
ILAR Eielson Array 101.39 24 P P 14 08 03.6 0.0
comp=Z,0.3nm,0.6s,baz=299,slow=3.9,SNR=4.2
ILAR PP PP 14 12 17.8 +1.8
comp=Z,1.4nm,0.9s,baz=302,slow=7.9,SNR=4.4
ILAR PKiKP 14 12 26.3
comp=Z,1.9nm,1.1s,baz=291,slow=6.6,SNR=4.8
YKA Yellowknife Ar 114.24 17 PKP PKPdf 14 12 51.4 -4.3
comp=Z,1.1nm,0.8s,baz=319,slow=2.2,SNR=18
YKA PP PP 14 13 47.3 -3.6
comp=Z,0.6nm,0.8s,baz=329,slow=7.6,SNR=4.4
EDM Edmonton 121.87 23 *e*PKPdf PKPdf 14 13 06.8 -3.9
EDM *e* 14 13 16.1
NEW Newport 123.83 29 PKP PKPdf 14 13 12.7 -2.0
comp=Z,3.8nm,0.9s,baz=70,slow=3.5,SNR=6.4
HUMO Hull Mountain 124.22 37 *e*PKPdf PKPdf 14 13 12.8 -2.8
YBH Yreka Blue Hor 124.86 38 PKP PKPdf 14 13 13.3 -3.6
comp=Z,2.0nm,0.9s,baz=349,slow=5.3,SNR=3.8
SCHQ Schefferville 126.07 351 PKP PKPdf 14 13 15.2 -3.6
comp=Z,4.7nm,0.8s,baz=226,slow=2.4,SNR=6.8
MOD Modoc 126.22 37 *e*PKPdf PKPdf 14 13 16.4 -3.0
MSO Missoula 126.38 28 *e*PKPdf PKPdf 14 13 15.2 -4.3
WVOR Wild Horse Val 126.88 35 *e*PKPdf PKPdf 14 13 17.4 -3.2
BOZ Bozeman (W) 128.33 28 *e*PKPdf PKPdf 14 13 20.5 -2.9
MCMT McKenzie Canyo 128.35 29 *e*PKPdf PKPdf 14 13 20.9 -2.6
QLMT Earthquake Lak 129.03 28 *e*PKPdf PKPdf 14 13 20.9 -3.9
QLMT *e* 14 13 32.2
NVAR Mina Array Bea 129.53 39 PKP PKPdf 14 13 23.0 -2.9
comp=Z,2.6nm,0.7s,baz=272,slow=2.7,SNR=16
ULM Lac du Bonnet 129.93 13 PKP PKPdf 14 13 22.0 -4.3
comp=Z,5.1nm,0.8s,baz=17,slow=3.0,SNR=7.1
ULM Lac du Bonnet 129.93 13 *e*PKPdf PKPdf 14 13 22.7 -3.7
RRI2 Red Ridge 130.18 30 *e*PKPdf PKPdf 14 13 24.6 -2.4
TPAW Teton Pass 130.26 29 *e*PKPdf PKPdf 14 13 24.5 -2.7
LOHW Long Hollow 130.34 29 *e*PKPdf PKPdf 14 13 23.9 -3.4
SNOW Snow King Moun 130.38 29 *e*PKPdf PKPdf 14 13 24.5 -2.9
TRCR Troy Canyon 131.26 37 *e*PKPdf PKPdf 14 13 27.0 -2.2
PDAR Pinedale Array 131.48 29 PKP PKPdf 14 13 26.9 -2.6
comp=Z,1.1nm,0.7s,baz=244,slow=1.3,SNR=8.6
PDAR pPKP 14 13 36.5
comp=Z,1.5nm,0.7s,baz=98,slow=3.2,SNR=5.6
DUG Dugway 131.65 34 *e*PKPdf PKPdf 14 13 27.4 -2.6
RSSD Black Hills 132.84 23 *e*PKPdf PKPdf 14 13 27.4 -4.6
MSU Marysvale 133.16 35 *e*PKPdf PKPdf 14 13 31.2 -1.6
PV10 Paradox Valley 135.00 33 *e*PKPdf PKPdf 14 13 33.4 -2.8
PV01 Paradox Valley 135.43 32 *e*PKPdf PKPdf 14 13 33.9 -3.1
WUAZ Wupatki 135.66 37 *e*PKPdf PKPdf 14 13 35.4 -2.1
ANMO Albuquerque 138.92 34 PKiKP 14 13 33.5
comp=Z,2.0nm,0.8s,baz=8.5,slow=1.1,SNR=9.5
ANMO PKP PKPdf 14 13 41.3 -2.2
comp=Z,2.8nm,0.8s,baz=272,slow=2.2,SNR=8.5
BNM Barren Site 139.41 35 PKPdf PKPdf 14 13 41.3 -3.1
MNTX Cornudas Mount 141.90 36 *e*PKPpre 14 13 41.7
GDL2 Guadalupe Moun 142.12 35 *e*PKPpre 14 13 41.7
WMOK Wichita Mounta 142.92 26 *e*PKPpre 14 13 41.9
WCI Wyandotte Cave 143.34 8 *e*PKPpre 14 13 44.0
BAO Brasilia Array 143.83 240 PKPdf PKPdf 14 13 48.0 -4.6
BDFB Brasilia 143.84 240 PKP PKPdf 14 13 47.8 -4.9
comp=Z,6.2nm,0.9s,baz=93,slow=4.9,SNR=6.9
FWV Forest Hill 144.42 1 *e*PKPpre 14 13 47.0
LTX Lajitas 144.63 37 *e*PKPdf PKPdf 14 13 49.5 -4.2
TXAR Lajitas Array 144.63 37 PKP PKPdf 14 13 49.8 -4.0
comp=Z,17nm,0.7s,baz=283,slow=1.4,SNR=70
ELN Prospectdale 144.77 1 *e*PKP PKPdf 14 13 48.4 -5.4
CFAA Coronel Fontan 144.89 198 PKP PKPdf 14 13 50.7 -3.4
comp=Z,6.3nm,0.8s,baz=173,slow=2.8,SNR=64
CFAA pPKP 14 14 00.1
comp=Z,2.4nm,0.6s,baz=199,slow=2.9,SNR=6.3
CFAA Coronel Fontan 144.89 198 PKP PKPdf 14 13 50.7 -3.4
CFAA pPKP 14 14 00.1
MIAR Mount Ida 145.11 20 *e*PKPdf PKPdf 14 13 50.0 -4.5
WVT Waverly 145.13 11 *e*PKP PKPdf 14 13 49.7 -4.7
UALR University of 145.29 18 *e*PKPdf PKPdf 14 13 50.0 -4.7
TZTN Tazewell 145.31 5 *e*PKP PKPdf 14 13 50.5 -4.2
TZTN *e* 14 14 00.1
JCT Junction City 145.93 31 *e*PKPdf PKPdf 14 13 52.5 -3.4
PLAL Pickwick Lake 146.19 12 *e*PKP PKPdf 14 13 52.6 -3.6
CPCT Cooper Cave 146.30 7 *e*PKP PKPdf 14 13 53.4 -3.0
SWET Sewanee 146.34 9 *e*PKP PKPdf 14 13 52.8 -3.7
OXF Oxford 146.35 14 *e*PKP PKPdf 14 13 53.4 -3.1
OXF *e* 14 14 04.0
NATX Nacogdoches 147.21 23 *e*PKPbc PKPdf 14 13 56.8 -1.3
NATX *e* 14 14 07.5
JSC Jenkinsville 147.70 2 *e*PKPbc PKPdf 14 13 58.0 -0.7
JSC *e* 14 14 08.0
LRAL Lakeview Retre 148.29 11 *e*PKPbc PKPdf 14 13 59.2 -0.5
GOGA Godfrey 148.43 5 *e*PKPbc PKPdf 14 13 59.4 -0.6
COW Cow Castle Cre 148.61 1 *e*PKPbc PKPdf 14 14 00.8 +0.5
ZAIG Zacatecas 149.85 45 *i P* PKPdf 14 14 02.2 -0.3
LVC Limon Verde 153.37 204 PKPbc PKPdf 14 14 13.9 +6.2
comp=Z,8.0nm,0.8s,baz=292,slow=1.9,SNR=11
SIV San Ignacio 154.17 226 PKP PKPdf 14 14 06.3 -2.6
comp=Z,1.3nm,0.9s,baz=63,slow=0.9,SNR=5.6
SIV PKPbc PKPdf 14 14 14.2 +5.2
comp=Z,3.8nm,0.8s,baz=110,slow=2.9,SNR=16
PPM Popocatepetl 155.04 45 *eP* PKPdf 14 14 08.0 -2.0
LPAZ La Paz 158.46 213 PKP PKPdf 14 14 13.3 -1.2
comp=Z,1.7nm,0.6s,baz=73,slow=3.7,SNR=5.8
LPAZ pPKP 14 14 23.6
comp=Z,3.6nm,1.0s,baz=57,slow=7.2,SNR=3.8
LPAZ PKPab PKPab 14 14 48.2 +1.8
comp=Z,3.0nm,0.9s,baz=154,slow=6.5,SNR=4.2
LPAZ La Paz 158.46 213 PKP PKPdf 14 14 13.3 -1.2
LPAZ pPKP 14 14 23.6
LPAZ PKPab PKPab 14 14 48.2 +1.8
SDV Santo Domingo 168.27 307 PKPab PKPab 14 15 28.8 -0.3
comp=Z,1.1nm,0.3s,baz=257,slow=9.3,SNR=4.5
OTAV Otavalo 177.72 226 *e*PKPdf PKPdf 14 14 24.9 -2.8

*IDC **10** 13:58:32.9±1.4, 1.52S×99.80E, h23km±5km, mb3.9/5, mb1 4.0/6, mb1mx3.8/17, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=58.3km s-min=15.1km az=60.0*
*NEIC **10** 13:58:32.1±0.7, 1.58S×99.63E, mb4.6/3, Error ellipse: s-maj=28.6km s-min=10.2km az=64.0*
ISC 10 13:58:29.3±1.1, 1.6S±0.2×99.4E±0.2, h23km, (h23km±.9km:pP-P), n16, σ0§68/12, mb4.3/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.97	359	P	P	14 03 02.2	-1.0
	0.2nm,0.3s,baz=218,slow=2.5,SNR=5.7						
WRA	Warramunga Arr	38.67	120	P	P	14 05 52.6	-0.7
	0.9nm,0.6s,mb3.7,baz=303,slow=9.2,SNR=3.3						
WRA				pP	pP	14 05 58.9	-1.4
	5.7nm,0.9s,baz=295,slow=9.3,SNR=9.7						
ASAR	Alice Springs	39.93	126	P	P	14 06 04.5	+0.7
	0.9nm,0.6s,mb3.7,baz=304,slow=7.7,SNR=3.4						
ASAR				pP	pP	14 06 11.3	+0.6
	4.4nm,0.9s,baz=308,slow=8.1,SNR=7.7						
SONM	Songino Array	49.63	6	P	P	14 07 21.5	+0.4
	1.6nm,0.8s,mb4.1,baz=185,slow=10,SNR=5.2						
SONM				pP	pP	14 07 28.9	+0.7
	4.6nm,0.7s,baz=185,slow=9.4,SNR=12						
ULN	Ulaanbaatar	49.74	7	P	P	14 07 22.5	+0.6
	3.2nm,0.8s,mb4.4						
ULN				*e*	pP	14 07 29.3	+0.3
MKAR	Makanchi Array	50.52	345	P	P	14 07 29.0	+1.1
	3.2nm,0.7s,mb4.4,baz=140,slow=9.5,SNR=4.3						
MKAR				pP	pP	14 07 36.8	+1.8
	5.1nm,0.7s,baz=141,slow=7.8,SNR=10.0						
MKAR	Makanchi Array	50.52	345	P	P	14 07 29.0	+1.1
MKAR				pP	pP	14 07 36.8	+1.8
KURK	Kurchatov	55.09	344	P	P	14 08 01.8	-0.1
	8.4nm,1.0s,mb4.7						
ZAL	Zalesovo	56.70	350	P	P	14 08 14.1	+0.7
	2.9nm,0.8s,mb4.4,baz=304,slow=6.8,SNR=3.0						
CHKZ	Chkalovo	60.11	341	P	P	14 08 37.0	-0.3
	4.9nm,0.8s,mb4.6						
YAK	Yakutsk	67.53	15	*eP*	P	14 09 25.0	-0.8
	5.2nm,0.4s,mb4.9						
JMOS	Jabal al Moall	68.58	302	P	P	14 09 32.4	-0.6
TXAR	Lajitas Array	144.75	36	PKP	PKPdf	14 18 07.2	-2.3
	2.3nm,0.8s,baz=214,slow=1.1,SNR=5.6						
CFAA	Coronel Fontan	144.94	198	PKPbc	PKPbc	14 18 07.7	+2.2
	0.5nm,0.7s,baz=166,slow=2.8,SNR=4.8						
CFAA	Coronel Fontan	144.94	198	PKPbc	PKPbc	14 18 07.7	+2.2
MIAR	Mount Ida	145.08	19	*e*PKP	PKPdf	14 18 07.0	-3.0

IDC 10 14:01:38.5±3.5, 5.05N×96.41E, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=140.6km s-min=23.6km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	43.34	346	P	P	14 09 42.3	-1.7
	0.9nm,0.4s,baz=153,slow=9.3,SNR=8.6						
SONM	Songino Array	43.48	10	P	P	14 09 43.3	-1.8
	0.6nm,0.8s,baz=180,slow=10,SNR=2.7						
WRA	Warramunga Arr	44.80	125	P	P	14 09 55.1	-1.1
	1.2nm,0.5s,baz=303,slow=9.2,SNR=7.0						
ASAR	Alice Springs	46.39	130	P	P	14 10 06.3	-2.5
	0.8nm,0.8s,baz=305,slow=8.5,SNR=7.3						

*IDC **10** 14:02:55.2±11.0, 7.25N×94.14E, mb4.0/4, mb1 4.0/5, mb1mx3.6/21, mbtmp4.0/5, ML3.9/1, Error ellipse: s-maj=293.7km s-min=66.4km az=137.0*
*NEIC **10** 14:02:57.5±1.1, 7.06N×94.54E, h30km, mb4.1/2, Error ellipse: s-maj=27.1km s-min=15.1km az=33.0*
ISC 10 14:02:56.0±1.3, 7.2N±0.2×94.6E±0.2, h30km, n8, σ0§82/8, mb4.0/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.26	107	*eP*	Pn	14 04 28.6	-0.2
CMAR	Chiang Mai Arr	12.00	20	Pn	P	14 05 48.7	+0.5
	0.2nm,0.3s,baz=210,slow=15,SNR=5.5						
KURK	Kurchatov	45.43	346	*eP*	P	14 11 13.1	-0.9
	1.5nm,0.6s,mb4.0						
CHKZ	Chkalovo	50.31	342	*eP*	P	14 11 50.3	-1.7
	1.5nm,0.7s,mb4.1						
FINES	FINESS Array B	73.58	332	P	P	14 14 28.1	+0.1
	0.8nm,0.6s,mb3.8,baz=90,slow=4.2,SNR=7.6						
ARCES	ARCESS Array B	76.11	340	P	P	14 14 43.4	+0.9
	3.7nm,1.0s,mb4.3,baz=100,slow=5.5,SNR=4.6						
HFS	Hagfors	79.33	330	P	P	14 15 01.1	+0.7
	1.0nm,0.5s,mb4.0,baz=117,slow=6.6,SNR=8.1						
NOA	NORSAR Array B	80.60	331	P	P	14 15 07.4	+0.3
	0.5nm,0.6s,mb3.6,baz=97,slow=5.1,SNR=2.6						

IDC 10 14:03:48.3±3.9, 1.75N×97.47E, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=151.5km s-min=29.3km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.10	123	P	P	14 11 42.4	-1.7
	0.5nm,0.5s,baz=302,slow=9.0,SNR=4.5						
SONM	Songino Array	46.55	8	P	P	14 12 18.0	-1.5
	0.6nm,0.4s,baz=190,slow=8.7,SNR=5.3						
MKAR	Makanchi Array	46.77	346	P	P	14 12 19.2	-2.1
	1.3nm,0.5s,baz=163,slow=8.5,SNR=8.1						
TXAR	Lajitas Array	143.06	32	PKP	PKPdf	14 23 24.1	-2.5
	0.4nm,0.5s,baz=228,slow=0.9,SNR=4.4						

*IDC **10** 14:09:29.8±1.6, 1.90S×99.49E, h25km±4km, mb3.3/8, mb1 3.5/8, mb1mx3.4/18, mbtmp3.5/8, Error ellipse: s-maj=70.6km s-min=15.8km az=54.0*
ISC 10 14:09:27.6±1.6, 1.9S±0.3×99.4E±0.4, h25km, (h26km±1.0km:pP-P), n9, σ0§67/8, mb3.6/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.23	359	P	P	14 14 04.7	+0.7
	0.2nm,0.3s,baz=184,slow=12,SNR=2.8						
WRA	Warramunga Arr	38.55	120	P	P	14 16 49.9	-0.4
	0.3nm,0.5s,mb3.3,baz=303,slow=9.0,SNR=3.2						
WRA				pP	pP	14 16 58.1	+0.2
	0.4nm,0.5s,baz=303,slow=9.1,SNR=3.1						
ASAR	Alice Springs	39.78	126	P	P	14 17 01.1	+0.5
	0.2nm,0.4s,mb3.2,baz=302,slow=7.5,SNR=3.3						
ASAR				pP	pP	14 17 07.5	-0.7
	0.3nm,0.5s,baz=299,slow=7.8,SNR=2.7						
SONM	Songino Array	49.90	6	P	P	14 18 20.6	-0.6
	0.4nm,0.8s,mb3.5,baz=191,slow=7.3,SNR=2.8						
SONM				pP	pP	14 18 28.1	-0.8
	0.8nm,0.9s,baz=188,slow=8.1,SNR=4.7						
MKAR	Makanchi Array	50.77	345	P	P	14 18 28.4	+0.5
	0.6nm,0.5s,mb3.8,baz=149,slow=7.9,SNR=7.1						
MKAR				pP	pP	14 18 36.0	+0.5
	0.6nm,0.6s,baz=153,slow=7.7,SNR=5.5						
ZAL	Zalesovo	56.95	350	P	P	14 19 13.0	-0.3
	0.7nm,0.5s,mb4.0,baz=170,slow=7.6,SNR=4.0						
ZAL				pP	pP	14 19 21.7	+0.6
	1.3nm,0.5s,baz=329,slow=6.4,SNR=4.4						
BVAR	Borovoye Array	59.89	340	P	P	14 19 32.6	-1.2
	0.3nm,0.5s,mb3.6,baz=104,slow=5.9,SNR=3.9						
BVAR				pP	pP	14 19 41.3	-0.3
	0.2nm,0.4s,baz=162,slow=9.4,SNR=3.2						
FINES	FINESS Array B	83.75	332	P	P	14 21 56.5	+0.7
	0.9nm,0.9s,mb3.9,baz=288,slow=6.0,SNR=3.3						
FINES				pP	pP	14 22 05.4	+1.6
	2.8nm,1.2s,baz=90,slow=5.7,SNR=2.5						
TXAR	Lajitas Array	144.97	37	PKP	PKPdf	14 29 05.3	-2.8
	0.3nm,0.3s,baz=270,slow=0.9,SNR=6.1						

IDC 10 14:11:23.8±2.4, 1.26S×100.32E, mb3.5/5, mb1 3.6/5, mb1mx3.5/16, mbtmp3.5/5, Error ellipse: s-maj=105.1km s-min=23.9km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.10	121	P	P	14 18 44.3	-2.1
	0.2nm,0.4s,baz=304,slow=9.1,SNR=4.8						
ASAR	Alice Springs	39.43	127	P	P	14 18 56.2	-1.2
	0.2nm,0.5s,baz=300,slow=8.1,SNR=3.8						
SONM	Songino Array	49.18	5	P	P	14 20 13.9	-1.6
	0.3nm,0.7s,baz=180,slow=7.2,SNR=2.9						
MKAR	Makanchi Array	50.41	344	P	P	14 20 23.9	-1.1
	0.5nm,0.4s,baz=156,slow=8.5,SNR=5.3						
FINES	FINESS Array B	83.61	332	P	P	14 23 52.4	-2.7
	1.0nm,0.8s,baz=101,slow=7.1,SNR=4.0						

*IDC **10** 14:16:15.2±2.0, 3.86N×95.62E, mb4.0/7, mb1 4.2/7, mb1mx3.8/19, mbtmp4.0/7, Error ellipse: s-maj=83.8km s-min=27.1km az=55.0*
*NEIC **10** 14:16:19.2±0.8, 3.79N×95.65E, h30km, mb3.9/3, Error ellipse: s-maj=23.0km s-min=10.8km az=46.0*
ISC 10 14:16:18.6±0.9, 4.0N±0.1×95.81E±0.08, h30km, n15, σ0§68/16, mb3.9/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	4.99	75	*eP*	Pn	14 17 35.4	+1.9
KULM				*e*S	Sn	14 18 29.8	-1.1
CMAR	Chiang Mai Arr	14.67	12	Pn	P	14 19 53.0	+6.8
	0.1nm,0.3s,baz=203,slow=12,SNR=7.6						
MKAR	Makanchi Array	44.19	347	P	P	14 24 26.7	0.0
	0.6nm,0.3s,mb3.8,baz=160,slow=8.6,SNR=14						
SONM	Songino Array	44.59	10	P	P	14 24 30.3	+0.4
	1.4nm,0.6s,mb4.0,baz=191,slow=8.6,SNR=11						
SONM				PcP	PcP	14 26 12.7	-0.4
	0.3nm,0.5s,baz=192,slow=2.6,SNR=4.1						
WRA	Warramunga Arr	44.72	124	P	P	14 24 31.1	-0.3
	0.4nm,0.5s,mb3.5,baz=303,slow=9.2,SNR=5.6						
WRAB	Tennant Creek	44.73	124	P	P	14 24 31.4	0.0
ULN	Ulaanbaatar	44.74	11	*eP*	P	14 24 31.1	0.0
	1.1nm,0.7s,mb3.8						
KURK	Kurchatov	48.73	346	P	P	14 25 02.7	+0.2
	0.6nm,0.4s,mb4.0						
ZAL	Zalesovo	50.57	352	P	P	14 25 16.7	+0.2
	1.8nm,0.5s,mb4.3,baz=317,slow=8.7,SNR=8.8						
BVAR	Borovoye Array	53.15	341	P	P	14 25 35.6	-0.4
	0.7nm,0.6s,mb3.8,baz=158,slow=7.8,SNR=4.9						
BVAR	Borovoye Array	53.15	341	P	P	14 25 35.6	-0.4
CHKZ	Chkalovo	53.62	342	*eP*	P	14 25 39.0	-0.5
	1.2nm,0.6s,mb4.0						
FINES	FINESS Array B	76.87	332	P	P	14 28 08.9	-0.5
	0.3nm,0.6s,mb3.4,baz=149,slow=11,SNR=3.7						
ARCES	ARCESS Array B	79.43	340	P	P	14 28 23.5	+0.2
	5.7nm,1.1s,mb4.4,baz=90,slow=6.3,SNR=6.0						
ARCES	ARCESS Array B	79.43	340	P	P	14 28 23.5	+0.2

*IDC **10** 14:16:42.3±8.4, 20.12N×145.22E, h169km±80km, mb3.4/9, mb1 3.5/10, mb1mx3.4/23, mbtmp3.8/10, Error ellipse: s-maj=27.1km s-min=13.8km az=91.0*
ISC 10 14:16:38.1±5.4, 20.1N±0.1×145.3E±0.3, h147km±49km, n10, σ0§46/10, mb3.6/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	17.47	341	P	P	14 20 34.0	0.0
	0.5nm,0.3s,baz=167,slow=10,SNR=5.6						
WRA	Warramunga Arr	41.24	196	P	P	14 24 10.4	0.0
	0.4nm,0.6s,mb3.2,baz=9.6,slow=8.5,SNR=8.3						
SONM	Songino Array	41.76	321	P	P	14 24 14.6	+0.2
	0.3nm,0.4s,mb3.3,baz=124,slow=6.4,SNR=9.2						
FITZ	Fitzroy Crossi	42.59	208	P	P	14 24 21.9	+0.4
	4.1nm,0.6s,mb4.2,baz=15,slow=8.7,SNR=8.6						
ASAR	Alice Springs	44.92	195	P	P	14 24 39.7	-0.4
	0.3nm,0.6s,mb3.1,baz=13,slow=6.7,SNR=9.7						
MKAR	Makanchi Array	57.17	313	P	P	14 26 12.2	+0.4
	0.4nm,0.3s,mb3.7,baz=89,slow=10,SNR=9.3						
ILAR	Eielson Array	62.55	27	P	P	14 26 47.8	-0.6
	0.7nm,0.6s,mb3.7,baz=255,slow=5.0,SNR=16						
BVAR	Borovoye Array	65.10	320	P	P	14 27 04.7	-0.4
	1.0nm,0.4s,mb4.0,baz=101,slow=8.4,SNR=14						
YKA	Yellowknife Ar	76.92	28	P	P	14 28 16.4	+1.0
	0.6nm,0.5s,mb3.5,baz=290,slow=5.5,SNR=18						
FINES	FINESS Array B	85.41	335	P	P	14 28 59.4	-0.4
	0.6nm,0.4s,mb3.7,baz=61,slow=3.6,SNR=8.8						

*IDC **10** 14:17:40.2±2.7, 1.74S×99.74E, mb3.8/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, Error ellipse: s-maj=118.3km s-min=18.5km az=59.0*
*NEIC **10** 14:17:44.7±1.1, 1.70S×99.79E, h30km, mb3.9/1, Error ellipse: s-maj=50.1km s-min=9.5km az=61.0*
ISC 10 14:17:42.7±2.0, 1.7S±0.3×99.8E±0.5, h30km, n11, σ0§44/9, mb4.0/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.00	358	P	P	14 22 15.2	-0.8
	0.5nm,0.7s,baz=189,slow=10.0,SNR=4.4						
WRA	Warramunga Arr	38.36	121	P	P	14 25 03.2	0.0
	1.1nm,0.4s,mb3.9,baz=303,slow=9.2,SNR=7.2						
ASAR	Alice Springs	39.63	126	P	P	14 25 13.4	-0.4
	0.7nm,0.4s,mb3.7,baz=308,slow=8.7,SNR=11						
STKA	Stephens Creek	49.54	132	P	P	14 26 33.4	+0.2
	0.7nm,0.4s,mb4.0,baz=333,slow=9.0,SNR=3.0						
SONM	Songino Array	49.63	6	P	P	14 26 34.3	+0.7
	0.8nm,0.7s,mb3.8,baz=187,slow=8.1,SNR=5.3						
ULN	Ulaanbaatar	49.73	6	*eP*	P	14 26 34.7	+0.4
	0.7nm,0.6s,mb3.9						
MKAR	Makanchi Array	50.64	345	P	P	14 26 41.6	+0.3
	0.9nm,0.5s,mb4.0,baz=157,slow=8.3,SNR=9.4						
KURK	Kurchatov	55.22	344	P	P	14 27 15.0	-0.3
ZAL	Zalesovo	56.78	349	P	P	14 27 26.4	-0.1
	1.7nm,0.4s,mb4.5,baz=268,slow=1.6,SNR=6.7						
TXAR	Lajitas Array	144.56	37	PKP	PKPdf	14 37 18.7	-3.5
	0.7nm,0.5s,baz=242,slow=0.6,SNR=14						
MIAR	Mount Ida	144.99	19	*e*PKP	PKPdf	14 37 18.6	-4.2

*IDC **10** 14:19:23.4±1.4, 1.76S×99.56E, mb4.0/9, mb1 4.1/9, mb1mx3.9/18, mbtmp4.0/9, Error ellipse: s-maj=65.7km s-min=19.7km az=57.0*
*NEIC **10** 14:19:28.4±0.6, 1.65S×99.70E, h30km, mb4.2/5, Error ellipse: s-maj=23.3km s-min=9.5km az=67.0*
ISC 10 14:19:27.0±1.0, 1.6S±0.1×99.7E±0.2, h33km, n21, σ0§96/16, mb4.2/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.89	8	*eP*	P	14 21 10.0	+1.7
CM31	Chiang Mai Arr	19.93	358	P	P	14 23 57.3	-1.6
	4.6nm,0.9s						
CMAR	Chiang Mai Arr	19.93	358	P	P	14 23 58.0	-0.9
	1.0nm,0.6s,baz=183,slow=9.9,SNR=4.5						
ENH	Enshi	33.02	16

Error ellipse: s-maj=20.9km s-min=7.1km az=56.0
*MOS **10** 14:20:38.1±1.2, 1.44S×100.03E, h33km, mb4.7/5, Error ellipse: s-maj=45.9km s-min=18.6km az=115.5*

ISC 10 14:20:37.4±0.6, 1.7S±0.1×99.8E±0.1, h33km, n35, σ0:90/29, mb4.2/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**20.00**	**358**	*eP*	**P**	**14 25 08.6**	**-1.5**
	5.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.00**	**358**	P	**P**	**14 25 09.8**	**-0.3**
	1.1nm,0.6s,baz=187,slow=10,SNR=4.2						
FITZ	**Fitzroy Crossi**	**30.16**	**124**	P	**P**	**14 26 45.8**	**-1.1**
	3.8nm,0.8s,mb4.2,baz=314,slow=12,SNR=3.6						
LSA	**Lhasa**	**32.25**	**346**	*eP*	**P**	**14 27 06.4**	**+1.1**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
LSA	**Lhasa**	**32.25**	**346**	*eP*	**P**	**14 27 06.4**	**+1.1**
	comp=Z,4.6nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**38.33**	**121**	P	**P**	**14 27 57.1**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.2,baz=298,slow=9.5,SNR=9.8						
WRA				PcP	PcP	14 30 11.5	+0.4
	comp=Z,0.5nm,0.6s,baz=314,slow=2.1,SNR=3.8						
WRAB	**Tennant Creek**	**38.34**	**121**	*eP*	**P**	**14 27 57.5**	**+0.4**
WB2	**Warramunga Arr**	**38.34**	**121**	*eP*	**P**	**14 27 57.7**	**+0.5**
ASAR	**Alice Springs**	**39.61**	**126**	P	**P**	**14 28 07.8**	**+0.1**
	comp=Z,1.7nm,0.8s,mb3.8,baz=304,slow=8.2,SNR=7.1						
ASAR				PcP	PcP	14 30 15.3	+0.3
	comp=Z,1.2nm,0.8s,baz=293,slow=1.7,SNR=5.6						
WMQ	**Urumqi**	**46.55**	**348**	*eP*	**P**	**14 29 11.0**	**+7.1**
STKA	**Stephens Creek**	**49.52**	**132**	P	**P**	**14 29 26.8**	**-0.4**
	comp=Z,3.1nm,0.7s,mb4.4,baz=329,slow=9.9,SNR=5.3						
SONM	**Songino Array**	**49.61**	**6**	P	**P**	**14 29 28.6**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.8,baz=189,slow=9.9,SNR=2.9						
SONM				PcP	PcP	14 30 49.3	+0.2
	comp=Z,0.8nm,0.7s,baz=180,slow=3.7,SNR=2.6						
ULN	**Ulaanbaatar**	**49.71**	**6**	*eP*	**P**	**14 29 23.9**	**-4.5**
ULN				*e*	pP	14 29 34.0	-4.3
ULN				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
ULN	**Ulaanbaatar**	**49.71**	**6**	*eP*	**P**	**14 29 23.9**	**-4.5**
	comp=Z,3.5nm,1.2s,mb4.3						
ULN				*e*	pP	14 29 34.0	-4.4
MKAR	**Makanchi Array**	**50.64**	**344**	P	**P**	**14 29 36.0**	**+0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=148,slow=8.0,SNR=5.6						
MKAR	**Makanchi Array**	**50.64**	**344**	P	**P**	**14 29 36.0**	**+0.5**
KURK	**Kurchatov**	**55.22**	**344**	*eP*	**P**	**14 30 09.4**	**-0.1**
KURK				*e*		14 30 14.7	
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**55.22**	**344**	*eP*	**P**	**14 30 09.3**	**-0.1**
	comp=Z,8.3nm,1.0s,mb4.7						
KURK				*e*		14 30 14.7	
ZAL	**Zalesovo**	**56.78**	**349**	P	**P**	**14 30 20.9**	**+0.2**
	comp=Z,3.7nm,0.4s,mb4.8,baz=313,slow=6.8,SNR=7.9						
BVAR	**Borovoye Array**	**59.79**	**340**	P	**P**	**14 30 40.0**	**-1.7**
	comp=Z,1.3nm,0.7s,mb4.1,baz=143,slow=7.4,SNR=5.0						
CHKZ	**Chkalovo**	**60.25**	**340**	*eP*	**P**	**14 30 42.3**	**-2.6**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
CHKZ	**Chkalovo**	**60.25**	**340**	*eP*	**P**	**14 30 42.3**	**-2.5**
	comp=Z,4.9nm,1.0s,mb4.5						
BOD	**Bodaibo**	**60.36**	**9**	*eP*	**P**	**14 30 45.5**	**-0.1**
YSS	**Yuzh-Sakhalins**	**61.28**	**32**	P	**P**	**14 30 53.1**	**+1.2**
YSS				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.9						
YSS	**Yuzh-Sakhalins**	**61.28**	**32**	P	**P**	**14 30 53.1**	**+1.2**
	comp=Z,13nm,1.2s,mb4.9						
MATP	**Matopo**	**71.93**	**249**	P	**P**	**14 31 59.4**	**-0.4**
	comp=Z,2.1nm,0.7s,mb4.2,baz=120,slow=8.1,SNR=4.6						
BRTR	**Keskin Array B**	**72.95**	**312**	P	**P**	**14 32 06.7**	**+1.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=166,slow=5.1,SNR=4.0						
FINES	**FINESS Array B**	**83.72**	**332**	P	**P**	**14 33 04.7**	**+0.5**
	comp=Z,0.5nm,0.4s,mb4.0,baz=100,slow=3.7,SNR=5.5						
GERES	**GERESS Array B**	**88.66**	**319**	P	**P**	**14 33 29.3**	**+0.7**
	comp=Z,0.5nm,0.8s,mb3.9,baz=124,slow=3.5,SNR=2.5						
RKT	**Rikitea**	**121.30**	**118**	*e*LR	LR	14 35 54.8	
	comp=Z,1μm,28.8s						
TXAR	**Lajitas Array**	**144.53**	**37**	PKP	PKPdf	14 40 13.1	+1.9
	comp=Z,1.1nm,0.4s,baz=210,slow=0.5,SNR=9.1						
WVT	**Waverly**	**144.97**	**11**	*e*PKP	PKPdf	14 40 12.4	+0.6
TZTN	**Tazewell**	**145.14**	**5**	*e*PKP	PKPdf	14 40 13.2	+1.2
JCT	**Junction City**	**145.82**	**31**	*e*PKP	PKPdf	14 40 16.0	+2.6
JCT				*e*		14 40 22.4	
CPCT	**Cooper Cave**	**146.13**	**6**	*e*PKP	PKPdf	14 40 15.2	+1.5

IDC 10 14:24:35.3±4.0, 1.43S×100.39E, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, MS4.5/1, Ms1 4.5/1, ms1mx3.5/30, Error ellipse: s-maj=159.8km s-min=24.1km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.95**	**121**	P	P	14 31 55.0	-1.6
	0.6nm,0.4s,baz=302,slow=9.0,SNR=7.3						
ASAR	**Alice Springs**	**39.28**	**127**	P	P	14 32 05.8	-2.0
	0.6nm,0.6s,baz=304,slow=7.8,SNR=7.7						
SONM	**Songino Array**	**49.34**	**5**	P	P	14 33 27.5	-0.8
	0.3nm,0.5s,baz=190,slow=9.3,SNR=3.4						
MKAR	**Makanchi Array**	**50.59**	**344**	P	P	14 33 34.6	-3.3
	0.7nm,0.5s,baz=148,slow=8.5,SNR=4.3						
JHJ	**Hachijo jima 2**	**50.59**	**44**	LR	LR	14 53 12.1	
	comp=Z,493nm,21.9s,baz=270,slow=34						

*BJI **10** 14:25:38.1, 1.68S×99.76E, h34km, mB5.5, mb5.0, Ms5.3, Msz5.2*
*MOS **10** 14:25:38.7±0.9, 1.62S×99.66E, h33km, mb5.3/29, MS4.7/6, Error ellipse: s-maj=11.2km s-min=6.0km az=113.0*
*HRVD **10** 14:25:39.8±0.9, 1.58S×99.33E, h22km±1km, MW5.4/52, Centroid moment Tensor Solution. LP body waves: s21,c21;Mantle waves: s52,c72; Half duration: 1±2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.36±.15; $M_{\theta\theta}$-0.86±.09; $M_{\phi\phi}$-0.50±.10; $M_{r\theta}$0.07±.12; $M_{\theta\phi}$0.32±.04; $M_{\phi r}$-0.65±.14; Best double couple: $M_0$1.344×10^{17} NP1: ϕ_s291°,δ37°,λ66°. NP2:ϕ_s139°,δ57°,λ107°. Principal axes: T 1.565, Plg72°, Azm92°; N -.445, Plg14°, Azm310°; P -1.123, Plg10°, Azm217°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 14:25:39.8±0.2, 1.62S×99.64E, h30km, mb5.2/39 Error ellipse: s-maj=5.6km s-min=4.0km az=52.0*
*IDC **10** 14:25:40.2±3.1, 1.61S×99.65E, h32km±21km, mb4.7/30, mb1 4.7/31, mb1mx4.7/31, mbtmp4.8/31, ML5.0/1, MS4.7/11, Ms1 4.7/11, ms1mx4.3/32, Error ellipse: s-maj=13.3km s-min=9.0km az=47.0*
*DJA **10** 14:26:04.5±1.4, 1.98S×102.31E, h2km, ML6.0/3, Error ellipse: s-maj=35.6km s-min=24.4km az=148.0*

ISC 10 14:25:36.2±1.1, 1.64S±0.03×99.67E±0.03, h17km±7km, h30km±1.9km; pP-P, n233, σ1:00/221, mb5.0/83, MS4.9/26, 11C-14D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.14**	**45**	P	**Pn**	**14 26 59.5**	**+5.1**
IPM	**Ipoh**	**6.32**	**12**	P	**Pn**	**14 27 13.6**	**+2.6**
PENI	**Pendagan**	**6.73**	**126**	‖*e*Pn	**Pn**	**14 27 15.6**	**-1.2**
KULM	**Kulim**	**6.95**	**8**	*eP*	**Pn**	**14 27 20.7**	**+0.8**
PULI	**Pulasari**	**7.83**	**127**	*e*Pn	**Pn**	**14 27 26.7**	**-5.6**
KSM	**Kuching**	**11.07**	**74**	*eP*	**P**	**14 28 18.1**	**+1.0**
SRDI	**Scrawed**	**15.93**	**116**	‖*e*Pn	**P**	**14 29 19.8**	**-1.6**
	127nm,0.2s						
KELI	**Kelakatan**	**16.14**	**114**	‖*e*Pn	**P**	**14 29 24.9**	**+0.8**
	90nm,0.2s						
RATI	**Rata**	**17.28**	**115**	‖*e*Pn	**P**	**14 29 37.2**	**-1.4**
	211nm,0.3s						
KEDI	**Kedomdong**	**17.72**	**113**	‖*e*Pn	**P**	**14 29 43.4**	**-0.7**
KKM	**Kota Kinabalu**	**18.19**	**65**	*eP*	**P**	**14 29 52.0**	**+2.0**
KKM	**Kota Kinabalu**	**18.19**	**65**	P	**P**	**14 29 53.7**	**+3.8**
TSM	**Tawau**	**19.12**	**72**	P	**P**	**14 30 03.5**	**+2.4**
CM31	**Chiang Mai Arr**	**19.98**	**358**	*eP*	**P**	**14 30 07.8**	**-3.1**
	73nm,1.0s						
CMAR	**Chiang Mai Arr**	**19.98**	**358**	P	**P**	**14 30 08.2**	**-2.7**
	1.8nm,0.3s,baz=185,slow=10.0,SNR=36						
CMAR				PcP	PcP	14 34 27.2	+0.6
	baz=219,slow=2.7,SNR=4.4						
PALK	**Pallekele**	**20.90**	**295**	*eP*	**P**	**14 30 19.8**	**-0.6**
	37nm,1.0s						
QIZ	**Qiongzhong**	**22.84**	**25**	P	**P**	**14 30 39.4**	**-0.5**
QIZ				S	**S**	**14 34 42.2**	**-1.7**
QIZ				XS		14 34 57.4	
				LR	LR		
QIZ							
	comp=N,2μm,11.7s,MS5.1						
QIZ				LR	LR		
	comp=E,3μm,10.8s,MS5.1						
QIZ				LR	LR		
	comp=Z,4μm,11.6s,MS5.1						
VIS	**Vishakhapatnam**	**25.09**	**321**	*eP*	**P**	**14 31 03.1**	**+1.4**
VIS				*e*		14 31 04.3	
	comp=Z,44nm,0.8s						
VIS				*e*		14 35 54.5	
KMI	**Kunming**	**26.77**	**6**	P	**P**	**14 31 18.7**	**+1.4**
KMI				AP	pP	14 31 27.6	+5.3
KMI				XP	sP	14 31 32.9	+8.4
KMI				PP	PP	14 32 06.0	+3.8
KMI				S	**S**	**14 35 51.5**	**+1.1**
KMI				XS		14 36 07.8	
KMI				SS	SS	14 37 04.1	+1.3
KMI				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.6						
KMI				AMB	AMB		
	comp=Z,467nm,7.6s						
KMI				LR	LR		
	comp=N,3μm,10.3s,MS5.2						
KMI				LR	LR		
	comp=E,3μm,11.6s,MS5.2						
KMI				LR	LR		
	comp=Z,3μm,11.0s,MS5.1						
KMI	**Kunming**	**26.77**	**6**	P	**P**	**14 31 18.7**	**+1.4**
	comp=Z,21nm,1.1s,mb4.6						
KMI				pP	pP	14 31 27.6	+5.3
KMI				sP	sP	14 31 32.9	+8.4
KMI				PP	PP	14 32 06.0	+3.8
KMI				S	**S**	**14 35 51.5**	**+1.1**
KMI				sS		14 36 07.8	
KMI				SS	SS	14 37 04.1	+1.3
KMI				LR	LR		
	comp=Z,3μm,11.0s,MS5.1						
MBWA	**Marble Bar**	**27.55**	**136**	*eP*	**P**	**14 31 24.5**	**0.0**
SHL	**Shillong**	**28.07**	**345**	*eP*	**P**	**14 31 28.2**	**-0.9**
SHL				*e*S	**S**	**14 36 16.2**	**+4.7**
GYA	**Guiyang**	**28.73**	**13**	‖*i*P	**P**	**14 31 35.0**	**-0.1**
GYA				AP	pP	14 31 44.0	+3.9
GYA				XP	sP	14 31 47.0	+4.6
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,280nm,6.4s						
GYA				LR	LR		
	comp=N,2μm,14.3s,MS5.0						
GYA				LR	LR		
	comp=E,2μm,11.7s,MS5.0						
GYA				LR	LR		
	comp=Z,2μm,12.8s,MS5.0						
BLSP	**Bilaspur**	**29.18**	**325**	*eP*	**P**	**14 31 39.3**	**+0.2**
BLSP				*e*		14 31 40.4	
	comp=Z,32nm,1.0s						
FITZ	**Fitzroy Crossi**	**30.28**	**124**	*eP*	**P**	**14 31 48.3**	**-0.7**
	comp=Z,30nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**30.28**	**124**	P	**P**	**14 31 48.1**	**-0.9**
	comp=Z,36nm,0.8s,mb5.2,baz=294,slow=4.8,SNR=26						
FITZ				LR	LR	14 45 18.1	
	comp=Z,1μm,18.5s,MS4.5,baz=5.2,slow=39						
KAD	**Karad**	**31.40**	**308**	*eP*	**P**	**14 31 59.1**	**+0.2**
KAD				*e*		14 32 07.2	
	comp=Z,35nm,1.4s						
JIRN	**Jiri**	**31.89**	**337**	*eP*	**P**	**14 32 03.0**	**0.0**
	comp=Z,111nm,0.9s,mb5.7						
PKI	**Pulchoki**	**32.12**	**336**	*eP*	**P**	**14 32 04.0**	**-1.1**
	comp=Z,29nm,1.0s,mb5.1						
PKI	**Pulchoki**	**32.12**	**336**	*eP*	**P**	**14 32 04.0**	**-1.1**
PKI				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
LSA	**Lhasa**	**32.21**	**346**	P	**P**	**14 32 07.2**	**+1.4**
LSA				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
LSA	**Lhasa**	**32.21**	**346**	*eP*	**P**	**14 32 06.2**	**+0.4**
LSA				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.2						
LSA	**Lhasa**	**32.21**	**346**	*eP*	**P**	**14 32 06.2**	**+0.4**
	comp=Z,26nm,0.6s,mb5.2						
GUN	**Gumba**	**32.23**	**337**	*eP*	**P**	**14 32 06.0**	**0.0**
	comp=Z,87nm,0.8s,mb5.7						
DMN	**Daman**	**32.28**	**335**	*eP*	**P**	**14 32 06.6**	**+0.1**
	comp=Z,56nm,1.2s,mb5.3						
POO	**Poona**	**32.36**	**309**	*i* P	**P**	**14 32 07.6**	**+0.4**
POO				*e*		14 32 09.3	
	comp=Z,48nm,1.7s						
KKN	**Kakani**	**32.37**	**336**	*eP*	**P**	**14 32 06.8**	**-0.4**
	comp=Z,64nm,0.9s,mb5.5						
KKN	**Kakani**	**32.37**	**336**	*eP*	**P**	**14 32 06.8**	**-0.4**
KKN				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
CD2	**Chengdu**	**32.60**	**7**	‖*i*P	**P**	**14 32 08.1**	**-1.1**
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GKN	**Gorkha**	**32.82**	**335**	*eP*	**P**	**14 32 10.0**	**-1.2**
	comp=Z,83nm,1.1s,mb5.6						
BHPL	**Bhopal**	**32.88**	**320**	*eP*	**P**	**14 32 10.9**	**-0.8**
BHPL				*e*		14 32 19.1	
	comp=Z,12nm,0.9s						
KOLN	**Koldanda**	**33.07**	**333**	*eP*	**P**	**14 32 13.3**	**-0.1**
	comp=Z,74nm,0.8s,mb5.6						
ENH	**Enshi**	**33.08**	**16**	*eP*	**P**	**14 32 11.8**	**-1.6**
	comp=Z,29nm,0.8s,mb5.2						
WHN	**Wuhan**	**34.92**	**22**	*eP*	**P**	**14 32 29.0**	**-0.3**
NWAO	**Narrogin (SRO)**	**35.23**	**154**	P	**P**	**14 32 31.9**	**0.0**
	comp=Z,5.7nm,0.6s,mb4.7,baz=336,slow=8.5,SNR=8.7						
NWAO				LR	LR	14 47 26.3	
	comp=Z,1μm,18.4s,MS4.7,baz=337,slow=37						
NWAO	**Narrogin (SRO)**	**35.23**	**154**	P	**P**	**14 32 31.9**	**0.0**
NWAO				LR	LR	14 47 26.3	
LGTI	**Lohaghat**	**36.07**	**330**	*eP*	**P**	**14 32 39.5**	**+0.4**
XAN	**Xi'an**	**36.54**	**13**	P	**P**	**14 32 41.8**	**-1.2**
XAN				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
NDI	**New Delhi**	**37.05**	**326**	*eP*	**P**	**14 32 46.0**	**-1.3**
LZH	**Lanzhou**	**37.73**	**6**	*eP*	**P**	**14 32 53.3**	**+0.3**
LZH				AP	pP	14 33 02.1	+4.0
LZH				XP	sP	14 33 07.3	+7.1
LZH				PP	PP	14 34 23.3	+1.2
LZH				*e*S	**S**	**14 38 42.5**	**+0.4**
LZH				XS		14 38 58.5	
LZH				*e*SS	SS	14 41 19.5	+2.4
LZH				AMB	AMB		
	comp=Z,90nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,298nm,4.6s						
LZH				LR	LR		
	comp=N,4μm,12.0s						
LZH				LR	LR		
	comp=Z,4μm,13.4s,MS5.4						
LZH	**Lanzhou**	**37.73**	**6**	*eP*	**P**	**14 32 53.3**	**+0.3**
	comp=Z,90nm,1.2s,mb5.4						
LZH				pP	pP	14 33 02.1	+4.0
LZH				sP	sP	14 33 07.3	+7.1
LZH				PP	PP	14 34 23.3	+1.2
LZH				*e*S	**S**	**14 38 42.5**	**+0.4**
LZH				sS		14 38 58.5	
LZH				*e*SS	SS	14 41 19.5	+2.4
LZH				LR	LR		
	comp=Z,4μm,13.4s,MS5.4						
NJ2	**Nanjing**	**38.12**	**27**	*eP*	**P**	**14 32 56.6**	**+0.3**
NJ2				AP	pP	14 33 06.5	+5.1
NJ2				XP	sP	14 33 10.3	+6.7
NJ2				PP	PP	14 34 28.5	+1.7
NJ2				S	**S**	**14 38 49.0**	**+0.9**
NJ2				XS		14 39 05.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,450nm,5.3s						
NJ2				LR	LR		
	comp=N,3μm,21.1s						
NJ2				LR	LR		
	comp=E,3μm,15.2s						
NJ2				LR	LR		
	comp=Z,2μm,18.6s,MS4.8						
SSE	**Sheshan**	**38.45**	**30**	*eP*	**P**	**14 32 59.2**	**+0.2**
SSE				AP	pP	14 33 08.1	+3.9
SSE				XP	sP	14 33 12.2	+5.9
SSE				S	**S**	**14 38 52.8**	**-0.2**
SSE				XS		14 39 08.9	
SSE				AMB	AMB		
	comp=Z,44nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,260nm,7.1s						
SSE				LR	LR		
	comp=N,980nm,12.3s,MS5.2						
SSE				LR	LR		
	comp=E,2μm,12.3s,MS5.2						
SSE				LR	LR		
	comp=Z,3μm,13.1s,MS5.3						
SSE	**Sheshan**	**38.45**	**30**	*eP*	**P**	**14 32 59.2**	**+0.2**
	comp=Z,44nm,0.8s,mb5.2						
SSE				pP	pP	14 33 08.1	+3.9
SSE				sP	sP	14 33 12.2	+5.9
SSE				S	**S**	**14 38 52.8**	**-0.2**
SSE				sS		14 39 08.9	
SSE				SS	SS	14 41 44.9	+12
SSE				LR	LR		
	comp=Z,3μm,13.1s,MS5.3						
WRA	**Warramunga Arr**	**38.46**	**121**	P	**P**	**14 32 58.5**	**-0.7**
	comp=Z,16nm,0.5s,mb5.0,baz=301,slow=9.2,SNR=87						
WRA				PcP	PcP	14 35 13.0	+0.2
	comp=Z,3.8nm,0.5s,baz=315,slow=2.5,SNR=11						
WRA				S	**S**	**14 38 53.7**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=298,slow=16,SNR=4.5						
WRAB	**Tennant Creek**	**38.46**	**121**	*i* P	**P**	**14 32 59.2**	**-0.1**
WRAB	**Tennant Creek**	**38.46**	**121**	*eP*	**P**	**14 32 58.5**	**-0.8**
	comp=Z,53nm,0.8s,mb5.3						
WB2	**Warramunga Arr**	**38.47**	**121**	‖*i*P	**P**	**14 32 59.3**	**0.0**
WB2				*e*S	**S**	**14 38 52.6**	**-0.8**
JOW	**Kunigami**	**39.52**	**42**	LR	LR	14 48 53.4	
	comp=Z,506nm,19.4s,MS4.4,baz=138,slow=35						
FORT	**Forrest**	**39.53**	**140**	*eP*	**P**	**14 33 09.8**	**+1.7**
	comp=Z,764nm,0.7s						
ASPA	**Alice Springs**	**39.73**	**126**	‖*i*P	**P**	**14 33 10.4**	**+0.6**
ASPA				*e*S	**S**	**14 39 12.3**	**-0.1**
ASAR	**Alice Springs**	**39.73**	**126**	P	**P**	**14 33 09.8**	**+0.1**
	comp=Z,12nm,0.6s,mb4.8,baz=300,slow=7.3,SNR=67						
ASAR				PcP	PcP	14 35 17.2	+0.4
	comp=Z,7.1nm,0.9s,baz=299,slow=3.0,SNR=9.7						
ASAR				S	**S**	**14 39 12.5**	**0.0**
	comp=Z,3.0nm,1.0s,baz=300,slow=15,SNR=4.7						
GTA	**Gaotai**	**40.85**	**0**	*eP*	**P**	**14 33 19.7**	**+0.9**
GTA				AP	pP	14 33 28.9	+4.9
GTA				XP	sP	14 33 33.4	+7.3
GTA				PP	PP	14 34 59.6	+3.3
GTA				PPP	PPP	14 35 25.8	+0.6
GTA				S	**S**	**14 39 29.9**	**+0.9**
GTA				XS		14 39 45.9	
GTA				SS	SS	14 42 26.4	+0.7
GTA				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,550nm,7.6s						
GTA				LR	LR		
	comp=N,1μm,11.8s,MS5.0						
GTA				LR	LR		
	comp=E,817nm,11.8s,MS5.0						
GTA				LR	LR		
	comp=Z,1μm,12.2s,MS5.0						
HHC	**Hu-ho-hao-te**	**43.65**	**13**	*eP*	**P**	**14 33 46.8**	**+5.0**
HHC				AP	pP	14 33 56.5	+10
HHC				XP	sP	14 34 00.9	+12
HHC				SCP		14 39 19.4	
HHC				SCS	ScS	14 43 40.2	+1.9
HHC				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.5						
HHC				AMB	AMB		
	comp=Z,649nm,15.2s						
HHC				LR	LR		
	comp=N,3μm,13.7s,MS5.4						
HHC				LR	LR		
	comp=E,2μm,12.3s,MS5.4						
HHC				LR	LR		
	comp=Z,3μm,13.3s,MS5.3						
BJT	**Baijiatuau**	**44.12**	**18**	*eP*	**P**	**14 33 46.3**	**+0.7**
BJT				pmax	pmax		
	comp=Z,30nm,1.1s						
BJT	**Baijiatuau**	**44.12**	**18**	*eP*	**P**	**14 33 46.3**	**+0.7**
	comp=Z,30nm,1.1s,mb4.9						
BJI	**Beijing**	**44.14**	**18**	*eP*	**P**	**14 33 46.7**	**+0.9**
BJI				LR	LR		
	comp=E,1μm,16.4s						
BJI				LR	LR		
	comp=Z,678nm,23.1s						
DL2	**Dalian**	**45.12**	**24**	P	**P**	**14 33 54.3**	**+0.6**
DL2				S	**S**	**14 40 26.0**	**-5.5**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
DL2				LR	LR		
	comp=N,450nm,15.1s,MS4.8						
DL2				LR	LR		
	comp=E,740nm,16.1s,MS4.8						
DL2				LR	LR		
	comp=Z,760nm,18.6s,MS4.7						
KSH	**Kashi**	**46.37**	**335**	P	**P**	**14 34 04.0**	**+0.5**
KSH				*e*AP	pP	14 34 13.0	+4.3
KSH				*e*XP	sP	14 34 17.0	+6.2
KSH				*e*PCP	PcP	14 35 39.0	0.0
KSH				*e*PP	PP	14 35 52.0	-0.5
KSH				*e*PPP	PPP	14 36 38.2	+1.1
KSH				*e*SCP		14 39 28.0	
KSH				*e*PCS		14 39 32.0	
KSH				*e*S	**S**	**14 40 48.7**	**-0.7**
KSH				*e*XS		14 41 05.0	
KSH				*e*SCS	ScS	14 43 53.0	-2.6
KSH				*e*SS	SS	14 44 06.0	-1.5
KSH				AMB	AMB		
	comp=Z,880nm,9.0s						
KSH				LR	LR		
	comp=N,390nm,7.7s						
KSH				LR	LR		
	comp=E,710nm,8.5s						
ULHL	**Ulahol**	**48.55**	**337**	P	**P**	**14 34 21.3**	**+0.7**
	SNR=5.7						
KZA	**Kyzart**	**48.80**	**336**	P	**P**	**14 34 23.6**	**+1.1**
	SNR=8.9						
CTA	**Charters Tower**	**49.05**	**115**	*eP*	**P**	**14 34 24.7**	**0.0**
	comp=E,15nm,1.5s,mb4.8						
CTA	**Charters Tower**	**49.05**	**115**	*eP*	**P**	**14 34 24.7**	**0.0**
CTA				pmax	pmax		
	comp=Z,15nm,1.5s						
CTA	**Charters Tower**	**49.05**	**115**	P	**P**	**14 34 24.6**	**-0.1**
	comp=Z,9.8nm,0.7s,mb4.9,baz=302,slow=7.7,SNR=9.1						
CTA				PcP	PcP	14 35 49.0	+0.3
	comp=Z,3.9nm,0.6s,baz=18,slow=3.2,SNR=2.8						
CTA				LR	LR	14 56 10.9	
	comp=Z,802nm,21.1s,MS4.7,baz=286,slow=37						
CTAO	**Charters Tower**	**49.05**	**115

CN2 *e*S **S** **14 41 50.3 -0.9**
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CN2 AMB AMB
comp=Z,500nm,5.0s
CN2 LR LR
comp=N,4μm,15.0s,MS5.6
CN2 LR LR
comp=E,2μm,15.0s,MS5.6
CN2 LR LR
comp=Z,4μm,18.0s,MS5.5
ZAK Zakamensk 51.91 3 *e*P **P** **14 34 46.2 +0.1**
ZAK *e* 14 35 58.5
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
MAT Matsushiro 52.20 39 *e*P **P** **14 34 48.0 -0.5**
MAT Matsushiro 52.20 39 P **P** **14 34 47.7 -0.8**
MJAR Matsushiro Arr 52.20 39 P **P** **14 34 48.1 -0.5**
comp=Z,7.1nm,0.9s,mb4.6,baz=218,slow=7.6,SNR=17
MJAR LR LR 14 58 20.7
comp=Z,552nm,19.8s,MS4.6,baz=230,slow=38
MOY Mondy 53.12 1 *e*P **P** **14 34 56.0 +0.9**
MDJ Mudanjiang 53.21 26 P **P** **14 34 56.0 +0.1**
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,312nm,6.2s
MDJ LR LR
comp=N,968nm,12.7s,MS5.1
MDJ LR LR
comp=E,397nm,10.5s,MS5.1
MDJ LR LR
comp=Z,1μm,12.7s,MS5.2
TLY Talaya 53.23 3 *e*P **P** **14 34 56.8 +0.8**
TLY pmax pmax
comp=Z,14nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,817nm,14.0s,MS4.9
OPO Ambohidratompo 54.10 248 P **P** **14 35 03.1 +0.3**
comp=Z,2.0nm,0.3s,mb4.5,baz=94,slow=16,SNR=6.9
KURK Kurchatov 55.17 344 *c i*P **P** **14 35 09.7 -0.5**
KURK Kurchatov 55.17 344 *e*P **P** **14 35 09.1 -1.2**
comp=Z,33nm,0.9s,mb5.4
ZAL Zalesovo 56.75 350 P **P** **14 35 20.9 -0.6**
comp=Z,32nm,0.5s,mb5.7,baz=305,slow=4.2,SNR=108
KLR Kul'dur 57.74 24 *e*P **P** **14 35 25.6 -3.0**
ASAJ Asahikawa 59.50 35 P **P** **14 35 40.8 -0.1**
comp=Z,4.1nm,0.5s,mb4.8,baz=264,slow=10,SNR=6.8
BVAR Borovoye Array 59.73 340 P **P** **14 35 40.6 -1.8**
comp=Z,12nm,0.8s,mb5.0,baz=149,slow=8.6,SNR=61
CHKZ Chkalovo 60.20 341 *e*P **P** **14 35 43.8 -1.8**
CHKZ pmax pmax
comp=Z,110nm,1.1s,mb5.8
CHKZ Chkalovo 60.20 341 *e*P **P** **14 35 43.8 -1.8**
comp=Z,110nm,1.1s,mb5.8
BOD Bodaibo 60.37 9 *e*P **P** **14 35 45.7 -1.0**
BOD pmax pmax
comp=Z,27nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 61.35 32⇑ *e*P **P** **14 35 53.0 -0.5**
YSS *e* 14 36 06.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 61.35 32 *e*P **P** **14 35 51.9 -1.6**
comp=Z,43nm,1.0s,mb5.5
CLNS Chul'man 61.75 15 *e*P **P** **14 35 53.3 -2.8**
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS MLR MLR
comp=N,500nm,12.0s,MS4.9
CLNS MLR MLR
comp=Z,700nm,12.0s,MS5.0
CLNS MLR MLR
comp=E,200nm,11.0s,MS4.9
KMBO Kilima Mbogo 62.40 270 P **P** **14 36 00.9 -0.1**
comp=E,7.8nm,0.8s,mb4.9,baz=58,slow=8.0,SNR=24
BHD Baghdad 62.53 309 *e*P **P** **14 35 53.0 -8.6**
MSL Mosul 64.66 312 *e*P **P** **14 36 15.0 -0.6**
GNI Garni 65.04 316 P **P** **14 36 17.4 -0.6**
comp=E,3.2nm,0.4s,mb4.7,baz=113,slow=7.7,SNR=6.2
DGRG David-gareji 65.18 318 P **P** **14 36 19.0 +0.1**
SVE Sverdlovsk 66.22 338⇑ *i*P **P** **14 36 21.7 -3.6**
SVE pmax pmax
comp=Z,40nm,1.3s,mb5.3
SVE MLR MLR
comp=N,400nm,20.0s,MS4.8
SVE MLR MLR
comp=E,400nm,20.0s,MS4.8
SVE MLR MLR
comp=Z,400nm,20.0s,MS4.6
ARU Arti 66.75 337⇑ *i*P **P** **14 36 27.4 -1.2**
ARU *e* 14 36 54.9
ARU *e*S S 14 45 19.1 +0.8
ARU *e*SS SS 14 49 38.6 +0.6
ARU pmax pmax
comp=Z,24nm,1.1s,mb5.1
ARU Arti 66.75 337 *e*P **P** **14 36 26.3 -2.4**
comp=Z,18nm,0.9s,mb5.1
YAK Yakutsk 67.48 15 *e*P **P** **14 36 31.8 -1.4**
YAK *e*S SKS 14 46 32.3 0.0
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=Z,38nm,0.9s,mb5.4
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK smax
comp=E,2.0nm,1.0s
YAK Yakutsk 67.48 15 *e*P **P** **14 36 31.0 -2.2**
comp=E,78nm,0.9s,mb5.7
KIV Kislovodsk 68.06 319 *e*P **P** **14 36 36.4 -0.7**
KIV pmax pmax
comp=Z,18nm,0.8s,mb5.2
KIV Kislovodsk 68.06 319 *e*P **P** **14 36 36.4 -0.8**
comp=Z,18nm,0.8s,mb5.1
ASF Jabal al Asfar 68.11 306 P **P** **14 36 37.3 -0.4**
comp=Z,7.9nm,0.9s,mb4.8,baz=336,slow=2.6,SNR=8.8
ASF LR LR 15 06 55.0
comp=Z,569nm,18.8s,MS4.8,baz=343,slow=36
GOF Gofitskoye 68.31 320 *e*P **P** **14 36 36.8 -1.9**
MALT Malatya 68.85 312 *e*P **P** **14 36 41.8 -0.4**
MALT pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MALT Malatya 68.85 312 *e*P **P** **14 36 41.8 -0.3**
comp=Z,7.2nm,0.8s,mb4.7
SOC Sochi 69.87 318 *e*P **P** **14 36 44.9 -3.4**
SOC *e* 14 37 07.8
SOC *e*PPP PPP 14 41 01.5 -3.0
SOC *e*S S 14 45 52.6 -3.1
SOC *e* 14 46 44.9
SOC *e*SS SS 14 50 18.1 -8.2
SOC pmax pmax
comp=Z,25nm,0.9s,mb5.1
SOC pmax pmax
comp=N,11nm,1.2s
SOC pmax pmax
comp=E,4.0nm,0.9s
MAW Mawson 70.55 194 *e*P **P** **14 36 52.5 +0.5**
MAW pmax pmax
comp=Z,6.0nm,0.7s
MAW Mawson 70.55 194 P **P** **14 36 53.0 +0.9**
comp=Z,6.4nm,0.8s,mb4.6,baz=26,slow=11,SNR=9.1
MAW LR LR 15 03 38.0
comp=Z,420nm,19.1s,MS4.7,baz=44,slow=32
MAW Mawson 70.55 194 *e*P **P** **14 36 52.5 +0.5**
comp=Z,6.0nm,0.7s,mb4.6
MATP Matopo 71.80 249 P **P** **14 37 00.2 -0.1**
comp=Z,16nm,0.7s,mb5.0,baz=90,slow=5.6,SNR=36
MATP LR LR 15 03 02.9
comp=Z,538nm,21.1s,MS4.8,baz=26,slow=31
MATP Matopo 71.80 249 P **P** **14 37 00.2 -0.1**
MATP LR LR 15 03 02.9
BRTR Keskin Array B 72.84 312 P **P** **14 37 04.3 -2.0**
comp=Z,5.5nm,0.8s,mb4.5,baz=130,slow=7.4,SNR=36
MA2 Magadan 72.84 24 *e*P **P** **14 37 06.8 +1.0**
MA2 pmax pmax
comp=Z,30nm,0.8s,mb5.3
MA2 Magadan 72.84 24 *e*P **P** **14 37 06.4 +0.6**
comp=Z,26nm,0.8s,mb5.2
PET Petropavlovsk 73.23 33 *e*P **P** **14 37 07.8 -0.4**
PET pmax pmax
comp=Z,151nm,1.4s,mb5.7
PET Petropavlovsk 73.23 33 *e*P **P** **14 37 07.8 -0.5**
comp=Z,151nm,1.4s,mb5.7
VOR Voronezh 73.49 326 *e*P **P** **14 37 08.7 -1.1**
VOR pmax pmax
comp=Z,80nm,1.7s,mb5.4
SIM Simferopol' 74.11 318 *c i*P **P** **14 37 13.0 -0.5**
SIM pmax pmax
comp=Z,16nm,0.6s,mb5.1
ISP Isparta 74.68 310 *e*P **P** **14 37 14.5 -2.5**
ISP pmax pmax
comp=Z,11nm,1.1s,mb4.7
ISP Isparta 74.68 310 *e*P **P** **14 37 14.5 -2.5**
comp=Z,11nm,1.1s,mb4.7
LBTB Lobatse 74.89 245 *e*P **P** **14 37 18.1 -0.3**
LBTB pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
LBTB Lobatse 74.89 245 LR LR 15 07 57.8
comp=Z,678nm,18.7s,MS5.0,baz=98,slow=34
LBTB Lobatse 74.89 245 *e*P **P** **14 37 18.1 -0.3**
comp=Z,3.6nm,0.6s,mb4.5
BOSA Boshof 75.55 241 P **P** **14 37 21.9 -0.3**
comp=Z,4.7nm,0.6s,mb4.6,baz=90,slow=5.1,SNR=12
BOSA LR LR 15 03 52.9
comp=Z,464nm,18.9s,MS4.8,baz=163,slow=30
TIXI Tiksi 75.55 9 *i*P **P** **14 37 20.2 -1.1**
MOS Moscow 76.02 329 *e*P **P** **14 37 23.6 -0.6**
MOS pmax pmax
comp=Z,35nm,0.6s,mb5.5
OBN Obninsk 76.32 328 *de*P **P** **14 37 22.8 -3.1**
OBN pmax pmax
comp=Z,24nm,0.8s,mb5.2
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.7
OBN Obninsk 76.32 328 *i*P **P** **14 37 21.0 -4.9**
TIRR Tirgusor 77.87 316 P **P** **14 37 34.5 -0.2**
TIRR Tirgusor 77.87 316⇑ P **P** **14 37 33.8 -0.9**
TIRR Tirgusor 77.87 316⇑ P **P** **14 37 33.8 -0.9**
SYO Syowa Base 78.11 199⇓ P **P** **14 37 35.8 +0.3**
SYO Syowa Base 78.11 199⇓ PcP PcP 14 37 45.5 -0.1
KIS Kishinev 78.25 319 *e*P **P** **14 37 34.0 -2.8**
HARR Harsova 78.26 316 P **P** **14 37 36.8 -0.1**
AKASG Main Array Be 79.00 322 P **P** **14 37 39.3 -1.5**
comp=Z,4.0nm,0.8s,mb4.4,baz=87,slow=4.7,SNR=16
VRI Vrincioaia 79.37 317⇑ P **P** **14 37 43.3 +0.4**
MLR Muntele Rosu 79.81 317 P **P** **14 37 46.0 +0.7**
comp=Z,23nm,0.9s,mb5.1,baz=157,slow=3.5,SNR=39
MLR Muntele Rosu 79.81 317⇑ P **P** **14 37 45.6 +0.3**
SNX Sinaia 80.08 316 P **P** **14 37 48.9 +2.1**
BURAR Bucovina Array 80.77 319⇑ P **P** **14 37 51.1 +0.8**
BURAR Bucovina Array 80.77 319⇑ P **P** **14 37 51.2 +0.8**
VTS Vitosha 81.16 313 P **P** **14 37 52.4 -0.1**
JOF Joensuu 81.75 335 *ep* P **P** **14 37 55.5 +0.3**
VNDA Vanda 82.58 169 P **P** **14 37 59.5 +0.2**
comp=Z,2.3nm,0.9s,mb4.2,baz=290,slow=6.4,SNR=11
KWP Kalwaria 82.82 320 *e*P **P** **14 38 01.8 +0.8**
BILL Bilibino 82.93 20 *e*P **P** **14 38 01.6 +0.4**
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BILL Bilibino 82.93 20 *e*P **P** **14 38 01.6 +0.3**
comp=Z,2.6nm,0.8s,mb4.3
KOLS Kolonicke sedl 82.97 320 *e*P **P** **14 38 02.8 +1.0**
SUW Suwalki 83.40 325 *e*P **P** **14 38 04.2 +0.3**
FINES FINESS Array B 83.64 332 P **P** **14 38 05.1 +0.2**
comp=Z,4.1nm,0.5s,mb4.8,baz=109,slow=5.6,SNR=46
SBA Scott Base 83.67 169 *e*P **P** **14 38 05.9 +1.1**
SBA pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
SBA Scott Base 83.67 169 *e*P **P** **14 38 05.9 +1.0**
comp=Z,6.9nm,0.8s,mb4.8
KAF Kangasniemi 83.72 333 *ep* P **P** **14 38 05.3 0.0**
comp=Z,9.1nm,0.7s,mb5.0,baz=106,slow=5.2
KAF Kangasniemi 83.72 333 *e*P **P** **14 38 05.3 0.0**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
DIVS Divcibare 83.72 315 *e*P **P** **14 38 03.1 -2.7**
NIE Niedzica 84.32 320 *e*P **P** **14 38 09.1 +0.5**
OJC Ojcow 84.77 321 *e*P **P** **14 38 11.2 +0.3**
VYHS Vyhne 85.14 319 *e*P **P** **14 38 12.8 0.0**
OKC Ostrava-Krasne 85.77 320 *e*P **P** **14 38 16.7 +0.8**
ARCES ARCESS Array B 86.02 340 P **P** **14 38 17.2 +0.5**
comp=Z,16nm,0.9s,mb5.2,baz=79,slow=7.6,SNR=20
DPC Dobruska-Polom 87.00 320 *e*P **P** **14 38 23.1 +1.2**
UPC Upice 87.21 321 *e*P **P** **14 38 24.0 +1.1**
PRU Pruhonice 88.11 320 *e*P **P** **14 38 28.1 +0.9**
PVCC Panska Ves 88.13 320 *e*P **P** **14 38 28.7 +1.4**
BRG Berggiesshubel 88.56 321 *e*P **P** **14 38 30.5 +1.1**
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
BRG Berggiesshubel 88.56 321 *e*P **P** **14 38 30.5 +1.1**
comp=Z,8.4nm,1.0s,mb5.0
GERES GERESS Array B 88.56 319 P **P** **14 38 29.5 0.0**
comp=Z,2.6nm,0.8s,mb4.6,baz=90,slow=4.0,SNR=20
KHC Kasperske Hory 88.66 319 *e*P **P** **14 38 30.5 +0.6**
RUE Ruedersdorf 88.78 322 P **P** **14 38 31.1 +0.7**
comp=Z,25nm,0.8s,mb5.6
CLL Collm 89.18 321⇓ *i*P **P** **14 38 33.0 +0.7**
CLL *e* pP 14 38 39.0 +1.1
CLL Collm 89.18 321⇓ P **P** **14 38 33.0 +0.7**
CLL *e*PP pP 14 38 39.0 +1.1
CLL *e* 14 39 18.0
HFS Hagfors 89.40 330 P **P** **14 38 34.3 +1.1**
comp=Z,2.9nm,0.7s,mb4.7,baz=162,slow=4.7,SNR=12
NKC Novy Kostel 89.47 320 *e*P **P** **14 38 35.1 +1.4**
GRA1 Grafenberg Arr 90.23 320 *e*P **P** **14 38 38.2 +0.9**
comp=Z,11nm,1.1s,mb5.1
GRF Grafenberg Arr 90.23 320 *e*P **P** **14 38 38.2 +0.9**
GRF pmax pmax
comp=Z,11nm,1.1s,mb5.1
GRF Grafenberg Arr 90.23 320 *e*P **P** **14 38 38.2 +0.9**
GRF pmax pmax
comp=Z,11nm,1.1s,mb5.1
GRF Grafenberg Arr 90.23 320 *e*P **P** **14 38 38.2 +0.9**
comp=Z,11nm,1.1s,mb5.1
NB2 NORSAR Subarra 90.67 331 P **P** **14 38 39.1 +0.1**
comp=Z,0.6nm,0.6s,mb4.1,baz=94,slow=4.8
NB2 NORSAR Subarra 90.67 331 P **P** **14 38 39.1 +0.1**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb4.3
NOA NORSAR Array B 90.67 331 P **P** **14 38 39.2 +0.2**
comp=Z,1.7nm,0.9s,mb4.4,baz=95,slow=4.5,SNR=4.6
DAVOX Davos 91.04 317 P **P** **14 38 42.0 +1.0**
comp=Z,5.7nm,0.5s,mb5.2,baz=113,slow=6.2,SNR=14
IMA Indian Mountai 98.21 23 *e*P **P** **14 39 15.0 +1.6**
IMA pmax pmax
comp=Z,32nm,1.2s,mb5.7
IMA Indian Mountai 98.21 23 *e*P **P** **14 39 15.0 +1.6**
comp=Z,32nm,1.2s,mb5.7
ILAR Eielson Array 101.31 24 PKKPbc 14 55 36.7
comp=Z,0.8nm,0.6s,baz=140,slow=2.6,SNR=14
YKA Yellowknife Ar 114.12 17 PKP PKPdf 14 44 14.7 -3.6
comp=Z,0.3nm,0.6s,baz=356,slow=1.6,SNR=9.6
YKA PP PP 14 45 06.2 -8.1
comp=Z,0.3nm,0.9s,baz=326,slow=8.2,SNR=3.9
YKA PKKPbc 14 54 56.1
comp=Z,0.2nm,0.7s,baz=146,slow=3.2,SNR=4.7
YKA Yellowknife Ar 114.12 17 PKP PKPdf 14 44 14.7 -3.6
YKA PP PP 14 45 06.2 -8.1
YKA PKKPbc 14 54 56.1
SCHQ Schefferville 125.84 350 PKP PKPdf 14 44 39.0 -2.2
comp=Z,1.9nm,0.7s,baz=21,slow=2.1,SNR=9.0
NVAR Mina Array Bea 129.53 39 PKP PKPdf 14 44 47.8 -0.9
comp=Z,1.1nm,0.6s,baz=265,slow=2.9,SNR=8.7
ULM Lac du Bonnet 129.79 13 PKP PKPdf 14 44 46.1 -2.8
comp=Z,3.3nm,0.8s,baz=357,slow=1.0,SNR=5.1
REDW Red Top Meadow 130.35 29 *e*PKPdf PKPdf 14 44 48.4 -1.8
PDAR Pinedale Array 131.42 29 PKP PKPdf 14 44 50.0 -2.2
comp=Z,0.5nm,0.4s,baz=254,slow=1.5,SNR=6.4
PDAR PP PP 14 47 07.6 -3.9
comp=Z,1.2nm,1.0s,baz=342,slow=4.7,SNR=4.6
MSU Marysvale 133.13 35 *e*PKPdf PKPdf 14 44 54.5 -1.0
WMOK Wichita Mounta 142.84 26 *e*PKPpre 14 45 06.5
BDFB Brasilia 143.74 241 PKP PKPdf 14 45 12.1 -3.1
comp=Z,3.0nm,0.5s,baz=82,slow=4.5,SNR=3.2
LTX Lajitas 144.61 37 *e*PKPdf PKPdf 14 45 13.3 -3.1
TXAR Lajitas Array 144.61 37 PKP PKPdf 14 45 13.7 -2.8
comp=Z,18nm,0.6s,baz=210,slow=0.8,SNR=234
WVT Waverly 144.98 11 *e*PKP PKPdf 14 45 13.0 -4.0
MIAR Mount Ida 145.00 19 *e*PKPdf PKPdf 14 45 13.7 -3.4
TZTN Tazewell 145.14 5 *e*PKPdf PKPdf 14 45 13.2 -4.0
UALR University of 145.18 17 *e*PKP PKPdf 14 45 14.4 -3.0
JCT Junction City 145.88 31 *e*PKPdf PKPdf 14 45 16.8 -1.9
PLAL Pickwick Lake 146.05 11 *e*PKP PKPdf 14 45 17.1 -1.7
CPCT Cooper Cave 146.13 6 *e*PKP PKPdf 14 45 17.4 -1.5
SWET Sewanee 146.19 8 *e*PKPdf PKPdf 14 45 16.8 -2.3
OXF Oxford 146.21 14 *e*PKPbc PKPbc 14 45 17.4 +1.0
LRAL Lakeview Retre 148.15 11 *e*PKPbc PKPdf 14 45 22.5 +0.2
GOGA Godfrey 148.26 5 *e*PKPbc PKPdf 14 45 23.7 +1.2
LPAZ La Paz 158.50 214 PKP PKPdf 14 45 36.0 -1.4
comp=Z,1.2nm,0.8s,baz=63,slow=1.0,SNR=5.7
LPAZ PKPab PKPab 14 46 11.1 +0.3
comp=Z,1.0nm,0.7s,baz=140,slow=6.4,SNR=3.7
OTAV Otavalo 177.67 233 PKPdf PKPdf 14 45 49.4 -1.1

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*IDC **10** 14:33:08.0±1.6, 1.47S×99.85E, mb4.0/9, mb1 4.1/10, mb1mx3.9/18, mbtmp3.9/10, ML4.1/1, Error ellipse: s-maj=79.4km s-min=16.6km az=56.0*
*NEIC **10** 14:33:12.1±0.8, 1.59S×99.73E, h30km, mb4.1/1, Error ellipse: s-maj=34.1km s-min=10.7km az=61.0*
ISC 10 14:33:10.8±1.0, 1.5S±0.1×99.8E±0.2, h33km, n15, σ1°03/14, mb4.0/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.82**	**7**	*e*P	**P**	**14 34 52.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**19.87**	**358**	P	**P**	**14 37 40.4**	**-1.8**
0.3nm,0.3s,baz=190,slow=10.0,SNR=8.3							
WRA	**Warramunga Arr**	**38.44**	**121**	P	**P**	**14 40 30.5**	**-1.0**
0.7nm,0.4s,mb3.7,baz=303,slow=9.1,SNR=7.1							
WRAB	**Tennant Creek**	**38.45**	**121**	*e*P	**P**	**14 40 31.6**	**+0.1**
ASAR	**Alice Springs**	**39.73**	**126**	P	**P**	**14 40 41.9**	**-0.2**
0.6nm,0.6s,mb3.5,baz=308,slow=8.3,SNR=8.9							
SONM	**Songino Array**	**49.49**	**6**	P	**P**	**14 41 60.0**	**-0.1**
0.4nm,0.6s,mb3.6,baz=201,slow=9.5,SNR=3.4							
SONM				PcP	PcP	14 43 21.9	-0.2
0.2nm,0.5s,baz=199,slow=2.4,SNR=3.3							
STKA	**Stephens Creek**	**49.65**	**132**	P	**P**	**14 42 02.5**	**+0.9**
1.3nm,0.6s,mb4.2,baz=348,slow=4.0,SNR=2.7							
MKAR	**Makanchi Array**	**50.50**	**344**	P	**P**	**14 42 08.1**	**+0.2**
1.1nm,0.5s,mb4.0,baz=145,slow=8.2,SNR=7.6							
MKAR	**Makanchi Array**	**50.50**	**344**	P	**P**	**14 42 08.1**	**+0.2**
ZAL	**Zalesovo**	**56.65**	**349**	P	**P**	**14 42 52.5**	**-0.5**
2.1nm,0.4s,mb4.5,baz=36,slow=3.3,SNR=12							
BVAR	**Borovoye Array**	**59.65**	**340**	P	**P**	**14 43 12.8**	**-1.4**
0.4nm,0.4s,mb3.8,baz=145,slow=8.6,SNR=5.4							
CHKZ	**Chkalovo**	**60.12**	**340**	P	**P**	**14 43 17.8**	**+0.5**
1.0nm,0.6s,mb4.0							
FINES	**FINESS Array B**	**83.58**	**332**	P	**P**	**14 45 36.9**	**+0.1**
0.6nm,0.6s,mb3.9,baz=127,slow=9.5,SNR=4.3							
ARCES	**ARCESS Array B**	**85.94**	**340**	P	**P**	**14 45 51.0**	**+2.6**
7.1nm,1.0s,mb4.8,baz=31,slow=7.1,SNR=4.4							
TXAR	**Lajitas Array**	**144.47**	**37**	PKP	PKPdf	14 52 45.9	+1.4
0.6nm,0.4s,baz=201,slow=1.1,SNR=17							

IDC 10 14:37:50.2±6.9, 8.98N×93.91E, mb3.6/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=364.0km s-min=29.9km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**38.96**	**347**	P	P	14 45 17.9	-1.9
0.7nm,0.7s,baz=172,slow=8.9,SNR=4.3							
WRA	**Warramunga Arr**	**49.09**	**126**	P	P	14 46 38.2	-3.5
0.2nm,0.4s,baz=304,slow=9.0,SNR=4.0							
ASAR	**Alice Springs**	**50.80**	**130**	P	P	14 46 54.6	-0.1
0.3nm,0.7s,baz=302,slow=7.9,SNR=3.8							

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*IDC **10** 14:41:24.9±0.9, 1.73S×99.54E, mb3.7/9, mb1 3.9/9, mb1mx3.7/19, mbtmp3.7/9, Error ellipse: s-maj=37.4km s-min=17.5km az=58.0*
*NEIC **10** 14:41:29.4±0.6, 1.70S×99.57E, h30km, mb4.3/2, Error ellipse: s-maj=23.4km s-min=9.6km az=59.0*
ISC 10 14:41:27.9±0.8, 1.6S±0.1×99.6E±0.2, h33km, n13, σ0°54/11, mb3.9/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.98**	**358**	P	**P**	**14 46 01.0**	**+0.6**
0.3nm,0.5s,baz=190,slow=11,SNR=3.1							
LSA	**Lhasa**	**32.19**	**346**	*e*P	**P**	**14 47 54.0**	**-1.2**
2.6nm,0.4s,mb4.4							
WRA	**Warramunga Arr**	**38.54**	**121**	P	**P**	**14 48 48.9**	**-0.5**
0.9nm,0.5s,mb3.8,baz=301,slow=9.1,SNR=10							
WRAB	**Tennant Creek**	**38.54**	**121**	*e*P	**P**	**14 48 49.2**	**-0.1**
1.8nm,0.6s,mb4.0							
ASAR	**Alice Springs**	**39.80**	**126**	P	**P**	**14 49 00.1**	**+0.2**
0.7nm,0.7s,mb3.5,baz=299,slow=7.6,SNR=7.5							
SONM	**Songino Array**	**49.63**	**6**	P	**P**	**14 50 18.6**	**+0.3**
0.4nm,0.6s,mb3.6,baz=198,slow=9.1,SNR=3.2							
STKA	**Stephens Creek**	**49.70**	**132**	P	**P**	**14 50 19.2**	**+0.2**
0.8nm,0.6s,mb3.9,baz=298,slow=8.1,SNR=3.4							
MKAR	**Makanchi Array**	**50.57**	**345**	P	**P**	**14 50 25.9**	**+0.5**
0.3nm,0.3s,mb3.7,baz=154,slow=8.6,SNR=6.3							
ZAL	**Zalesovo**	**56.73**	**350**	P	**P**	**14 51 11.2**	**+0.5**
0.9nm,0.3s,mb4.2,baz=303,slow=5.0							
BVAR	**Borovoye Array**	**59.70**	**340**	P	**P**	**14 51 30.9**	**-0.7**
0.4nm,0.6s,mb3.6,baz=150,slow=11,SNR=3.4							
MATP	**Matopo**	**71.71**	**249**	P	**P**	**14 52 49.3**	**+0.3**
1.7nm,0.9s,mb4.0,baz=141,slow=6.5,SNR=4.1							
TXAR	**Lajitas Array**	**144.67**	**37**	PKP	PKPdf	15 01 04.2	+2.2
0.8nm,0.5s,baz=263,slow=1.0,SNR=11							
MIAR	**Mount Ida**	**145.03**	**19**	*e*PKP	PKPdf	15 01 04.3	+1.8

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*IDC **10** 14:42:41.4±1.6, 1.93S×99.64E, mb3.8/9, mb1 4.0/9, mb1mx3.8/19, mbtmp3.9/9, Error ellipse: s-maj=71.8km s-min=17.4km az=59.0*
*NEIC **10** 14:42:45.2±1.0, 2.08S×99.43E, h30km, mb4.3/2, Error ellipse: s-maj=36.8km s-min=11.0km az=66.0*
ISC 10 14:42:44.2±1.1, 1.9S±0.2×99.6E±0.3, h33km, n16, σ1°02/14, mb4.1/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.25**	**8**	P	**P**	**14 44 34.0**	**+3.5**
CMAR	**Chiang Mai Arr**	**20.27**	**358**	P	**P**	**14 47 18.3**	**-1.5**
0.5nm,0.6s,baz=191,slow=9.6,SNR=4.5							
FITZ	**Fitzroy Crossi**	**30.18**	**124**	P	**P**	**14 48 53.0**	**-0.9**
1.9nm,0.8s,mb3.9,baz=300,slow=8.1,SNR=3.8							
NWAO	**Narrogin (SRO)**	**35.00**	**154**	P	**P**	**14 49 35.2**	**-0.5**
3.8nm,0.8s,mb4.4,baz=346,slow=4.2,SNR=3.0							
NWAO	**Narrogin (SRO)**	**35.00**	**154**	P	**P**	**14 49 35.2**	**-0.5**
WRA	**Warramunga Arr**	**38.37**	**120**	P	**P**	**14 50 04.4**	**+0.1**
1.4nm,0.4s,mb4.0,baz=303,slow=9.1,SNR=14							
WRAB	**Tennant Creek**	**38.38**	**120**	*e*P	**P**	**14 50 04.9**	**+0.6**
2.5nm,0.4s,mb4.3							
ASAR	**Alice Springs**	**39.62**	**126**	P	**P**	**14 50 15.4**	**+0.9**
0.6nm,0.7s,mb3.5,baz=297,slow=7.9,SNR=5.2							
SONM	**Songino Array**	**49.92**	**6**	P	**P**	**14 51 36.3**	**-0.5**
0.4nm,0.6s,mb3.6,baz=173,slow=12,SNR=2.7							
MKAR	**Makanchi Array**	**50.86**	**345**	P	**P**	**14 51 43.5**	**-0.4**
0.5nm,0.6s,mb3.7,baz=149,slow=8.4,SNR=3.3							
KURK	**Kurchatov**	**55.43**	**344**	*e*P	**P**	**14 52 24.8**	**+7.1**
2.0nm,0.8s,mb4.2							
ZAL	**Zalesovo**	**57.02**	**350**	P	**P**	**14 52 30.3**	**+1.1**
1.2nm,0.4s,mb4.3,baz=308,slow=3.3,SNR=5.0							
YAK	**Yakutsk**	**67.78**	**15**	P	**P**	**14 53 39.6**	**-1.0**
4.1nm,0.4s,mb4.8							
FINES	**FINESS Array B**	**83.87**	**332**	P	**P**	**14 55 12.7**	**+1.0**
2.1nm,1.0s,mb4.2,baz=133,slow=6.8,SNR=3.6							
TXAR	**Lajitas Array**	**144.89**	**37**	PKP	PKPdf	15 02 20.4	+1.8
0.4nm,0.4s,baz=225,slow=0.5,SNR=6.5							
MIAR	**Mount Ida**	**145.31**	**19**	*e*PKP	PKPdf	15 02 21.3	+2.1

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*IDC **10** 14:44:17.5±0.7, 1.70S×99.67E, mb4.1/13, mb1 4.3/13, mb1mx4.1/19, mbtmp4.1/13, Error ellipse: s-maj=33.3km s-min=15.5km az=55.0*
*MOS **10** 14:44:21.0±0.8, 1.52S×99.91E, h33km, mb4.7/8, Error ellipse: s-maj=34.0km s-min=11.2km az=113.0*
*NEIC **10** 14:44:23.2±1.8, 1.69S×99.72E, h39km±14km, mb4.5/12, Error ellipse: s-maj=17.6km s-min=6.1km az=52.0*
ISC 10 14:44:21.2±3.7, 1.6S±0.1×99.8E±0.2, h36km±31km, n43, σ0°68/39, mb4.4/25, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.93**	**7**	*e*P	**P**	**14 46 03.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**19.98**	**358**	P	**P**	**14 48 52.9**	**-0.6**
1.2nm,0.5s,baz=186,slow=10,SNR=10							
JIRN	**Jiri**	**31.92**	**337**	*e*P	**P**	**14 50 46.7**	**+0.9**
20nm,0.7s,mb5.0							
PKI	**Pulchoki**	**32.15**	**336**	*e*P	**P**	**14 50 48.1**	**+0.2**
LSA	**Lhasa**	**32.23**	**346**	P	**P**	**14 50 49.4**	**+0.9**
LSA				pmax	pmax		

comp=Z,4.0nm,0.8s,mb4.3
LSA Lhasa 32.23 346 P **P** **14 50 49.4 +0.9**
comp=Z,4.3nm,0.8s,mb4.3
GUN Gumba 32.26 337 *e*P **P** **14 50 49.5 +0.6**
comp=Z,21nm,0.5s,mb5.2
DMN Daman 32.31 335 *e*P **P** **14 50 49.2 -0.1**
comp=Z,9.2nm,0.9s,mb4.6
KKN Kakani 32.40 336 *e*P **P** **14 50 49.9 -0.2**
comp=Z,12nm,0.8s,mb4.8
KKN Kakani 32.40 336 *e*P **P** **14 50 49.9 -0.2**
KKN pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
GKN Gorkha 32.86 335 *e*P **P** **14 50 53.9 -0.1**
comp=Z,9.7nm,0.8s,mb4.8
KOLN Koldanda 33.11 333 *e*P **P** **14 50 54.8 -1.4**
comp=Z,13nm,0.7s,mb5.0
WRA Warramunga Arr 38.38 121 P **P** **14 51 40.4 -0.6**
comp=Z,1.2nm,0.5s,mb3.9,baz=303,slow=9.1,SNR=11
WRA PcP PcP 14 53 54.8 +0.2
comp=Z,0.4nm,0.7s,baz=313,slow=2.2,SNR=4.9
WRAB Tennant Creek 38.39 121 *e*P **P** **14 51 41.1 +0.1**
WRAB pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
WRAB Tennant Creek 38.39 121 *e*P **P** **14 51 41.1 +0.1**
comp=Z,7.3nm,1.0s,mb4.4
ASAR Alice Springs 39.66 126 P **P** **14 51 51.7 +0.1**
comp=Z,1.2nm,0.7s,mb3.7,baz=312,slow=8.4,SNR=6.9
ASAR PcP PcP 14 53 59.0 +0.4
comp=Z,0.9nm,0.7s,baz=299,slow=3.5,SNR=5.9
STKA Stephens Creek 49.57 132 P **P** **14 53 11.0 0.0**
comp=Z,1.6nm,0.8s,mb4.1,baz=316,slow=15,SNR=2.8
SONM Songino Array 49.60 6 P **P** **14 53 11.5 +0.5**
comp=Z,1.2nm,0.6s,mb4.1,baz=190,slow=9.0,SNR=9.8
SONM PcP PcP 14 54 32.6 +0.2
comp=Z,1.0nm,0.8s,baz=182,slow=4.5,SNR=4.8
ULN Ulaanbaatar 49.70 6 *e*P **P** **14 53 06.8 -5.0**
ULN pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ULN Ulaanbaatar 49.70 6 *e*P **P** **14 53 06.8 -5.0**
comp=Z,1.2nm,0.4s,mb4.3
MKAR Makanchi Array 50.61 345 P **P** **14 53 19.1 +0.3**
comp=Z,4.8nm,0.6s,mb4.6,baz=147,slow=8.0,SNR=28
KURK Kurchatov 55.19 344 *e*P **P** **14 53 51.8 -0.9**
KURK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
KURK Kurchatov 55.19 344 *e*P **P** **14 53 51.8 -0.9**
comp=Z,5.2nm,0.9s,mb4.6
ZAL Zalesovo 56.76 349 P **P** **14 54 03.6 -0.3**
comp=Z,4.9nm,0.4s,mb4.9,baz=314,slow=5.7,SNR=18
BVAR Borovoye Array 59.76 340 P **P** **14 54 23.7 -1.3**
comp=Z,2.1nm,0.6s,mb4.3,baz=143,slow=8.6,SNR=16
CHKZ Chkalovo 60.22 340 *e*P **P** **14 54 27.1 -1.0**
CHKZ pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
CHKZ Chkalovo 60.22 340 *e*P **P** **14 54 27.1 -1.0**
comp=Z,5.6nm,1.2s,mb4.5
SVE Sverdlovsk 66.25 338 *e*P **P** **14 55 08.2 +0.5**
SVE pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
KIV Kislovodsk 68.11 319 *e*P **P** **14 55 19.1 -0.5**
KIV pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
KIV Kislovodsk 68.11 319 *e*P **P** **14 55 19.1 -0.5**
comp=Z,5.8nm,0.9s,mb4.6
MATP Matopo 71.88 249 P **P** **14 55 43.2 +0.2**
comp=Z,1.9nm,0.7s,mb4.1,baz=82,slow=4.1,SNR=4.5
MATP Matopo 71.88 249 P **P** **14 55 43.2 +0.2**
BRTR Keskin Array B 72.90 312 P **P** **14 55 47.8 -1.0**
comp=Z,0.8nm,0.5s,mb3.9,baz=114,slow=6.0,SNR=5.0
FINES FINESS Array B 83.68 332 P **P** **14 56 48.0 +0.7**
comp=Z,1.5nm,0.5s,mb4.4,baz=109,slow=5.5,SNR=19
FINES FINESS Array B 83.68 332 P **P** **14 56 48.0 +0.6**
KAF Kangasniemi 83.75 333 *e*p **P** **14 56 48.5 +0.8**
ARCES ARCESS Array B 86.05 340 P **P** **14 56 59.4 +0.5**
comp=Z,3.8nm,0.9s,mb4.6,baz=97,slow=4.4,SNR=9.7
ARCES ARCESS Array B 86.05 340 P **P** **14 56 59.4 +0.5**
GERES GERESS Array B 88.62 319 P **P** **14 57 13.1 +1.3**
comp=Z,0.3nm,0.5s,mb3.9,baz=153,slow=3.0,SNR=5.5
TXAR Lajitas Array 144.56 37 PKP PKPdf 15 03 56.3 +1.6
comp=Z,1.8nm,0.5s,baz=198,slow=0.9,SNR=27
WVT Waverly 144.96 11 *e*PKP PKPdf 15 03 55.9 +0.7
MIAR Mount Ida 144.97 19 *e*PKP PKPdf 15 03 56.3 +1.1
JCT Junction City 145.84 31 *e*PKP PKPdf 15 03 59.6 +2.8
JCT *e* 15 04 05.8

BJI ***10*** *14:47:22.4, 1.81S×99.70E, h40km, mB5.5, mb4.9, Ms5.0, Msz4.8*
MOS ***10*** *14:47:22.8±1.0, 1.65S×99.63E, h33km, mb5.4/32, Error ellipse: s-maj=12.0km s-min=5.9km az=112.3*
IDC ***10*** *14:47:24.4±3.8, 1.62S×99.63E, h30km±26km, mb4.5/25, mb1 4.6/26, mb1mx4.6/27, mbtmp4.7/26, ML4.8/1, MS4.3/6, Ms1 4.2/6, ms1mx3.9/34, Error ellipse: s-maj=14.9km s-min=9.7km az=47.0*
NEIC ***10*** *14:47:24.2±0.1, 1.65S×99.62E, h30km, mb5.2/43, Error ellipse: s-maj=5.1km s-min=3.7km az=53.0*
HRVD ***10*** *14:47:24.2±1.6, 1.57S×99.59E, h21km±3km, MW5.3/31, Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s31,c43; Half duration: 1s1 Moment tensor: Scale 10^17^Nm; Mrr0.98±.20; Mθθ-0.31±.10; Mφφ-0.67±.14; Mrθ0.45±.19; Mθφ0.24±.05; Mφr0.25±.21; Best double couple: M0.981×10^17^ NP1:φs135°, δ48°, λ61°. NP2:φs354°, δ50°, λ118°. Principal axes: T 1.172, Plg69°, Azm332°; N -.382, Plg21°, Azm155°; P -.79, Plg1°, Azm65°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 14:47:23.0±0.2, 1.65S±0.03×99.62E±0.04, h34km, h34km±2.3km: pP-P, n212, σ0.998/209, mb5.0/88, MS4.6/18, 15C-9D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.19**	**45**	P		**P**	**14 48 44.4**	**+4.0**
IPM	**Ipoh**	**6.35**	**13**	P		**P**	**14 48 57.7**	**+1.1**
KULM	**Kulim**	**6.97**	**8**	*e*Pn		**P**	**14 49 05.3**	**-0.1**
KSM	**Kuching**	**11.13**	**74**	*e*P		**P**	**14 50 01.0**	**-1.9**
KKM	**Kota Kinabalu**	**18.25**	**65**	*e*P		**P**	**14 51 36.5**	**+0.9**
KKM	**Kota Kinabalu**	**18.25**	**65**	P		**P**	**14 51 37.7**	**+2.1**
TSM	**Tawau**	**19.17**	**72**	P		**P**	**14 51 47.9**	**+1.2**
CM31	**Chiang Mai Arr**	**19.99**	**358**	*e*P		**P**	**14 51 52.9**	**-2.7**
	49nm,0.9s							
CMAR	**Chiang Mai Arr**	**19.99**	**358**	P		**P**	**14 51 53.9**	**-1.8**
	1.2nm,0.3s,baz=189,slow=9.9,SNR=33							
CMAR				LR		LR	14 59 46.1	
	comp=Z,512nm,21.6s,baz=195,slow=37							
QIZ	**Qiongzhong**	**22.88**	**26**	P		**P**	**14 52 26.7**	**+1.8**
QIZ				*e*S		**S**	**14 56 30.3**	**+2.5**
QIZ				AMB		AMB		
	comp=Z,53nm,1.2s,mb4.8							
QIZ				LR		LR		
	comp=E,1μm,12.4s							
QIZ				LR		LR		
	comp=Z,2μm,11.4s,MS4.7							
QIZ	**Qiongzhong**	**22.88**	**26**	*e*P		**P**	**14 52 26.3**	**+1.4**
VIS	**Vishakhapatnam**	**25.07**	**321**	*e*P		**P**	**14 52 47.5**	**+1.4**
VIS				*e*			14 52 49.7	
	comp=Z,50nm,1.5s							
VIS				*e*			14 57 43.2	
KMI	**Kunming**	**26.79**	**6**	⇓P		**P**	**14 53 03.2**	**+1.1**
KMI				AP		pP	14 53 11.1	-0.5
KMI				XP		sP	14 53 15.6	-0.1
KMI				S		**S**	**14 57 33.7**	**-0.2**
KMI				AMB		AMB		
	comp=Z,16nm,1.0s,mb4.5							
KMI				AMB		AMB		
	comp=Z,928nm,8.4s							
KMI				LR		LR		
	comp=N,984nm,12.4s,MS4.8							
KMI				LR		LR		
	comp=E,1μm,13.5s,MS4.8							
KMI				LR		LR		
	comp=Z,899nm,15.3s,MS4.4							
KMI	**Kunming**	**26.79**	**6**	⇓P		**P**	**14 53 03.2**	**+1.1**
	comp=Z,16nm,1.0s,mb4.5							
KMI				pP		pP	14 53 11.1	-0.5
KMI				sP		sP	14 53 15.6	-0.1
KMI				S		**S**	**14 57 33.7**	**-0.2**
KMI				LR		LR		
	comp=Z,900nm,15.3s,MS4.4							
MBWA	**Marble Bar**	**27.57**	**136**	*e*P		**P**	**14 53 09.3**	**0.0**
	comp=Z,9.4nm,0.8s,mb4.5							
SHL	**Shillong**	**28.07**	**345**	*e*P		**P**	**14 53 13.2**	**-0.6**
SHL				*e*			14 58 12.5	
GYA	**Guiyang**	**28.76**	**13**	⇓*i*P		**P**	**14 53 18.9**	**-1.0**
GYA				AP		pP	14 53 28.0	-1.6
GYA				XP		sP	14 53 32.0	-1.9
GYA				S		**S**	**14 58 07.4**	**+1.7**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
GYA				AMB		AMB		
	comp=Z,210nm,6.0s							
GYA				LR		LR		
	comp=N,1μm,13.8s,MS4.8							
GYA				LR		LR		
	comp=E,1μm,12.0s,MS4.8							
GYA				LR		LR		
	comp=Z,1μm,11.7s,MS4.8							
BLSP	**Bilaspur**	**29.16**	**325**	*e*P		**P**	**14 53 24.0**	**+0.5**
BLSP				*e*			14 53 26.0	
	comp=Z,27nm,1.2s							
FITZ	**Fitzroy Crossi**	**30.32**	**124**	*e*P		**P**	**14 53 33.1**	**-0.8**
	comp=Z,45nm,1.0s,mb5.2							
FITZ	**Fitzroy Crossi**	**30.32**	**124**	P		**P**	**14 53 32.8**	**-1.0**
	comp=Z,58nm,1.0s,mb5.2,baz=308,slow=6.2,SNR=22							
KAD	**Karad**	**31.37**	**308**	*e*P		**P**	**14 53 40.6**	**-2.5**
JIRN	**Jiri**	**31.88**	**337**	*e*P		**P**	**14 53 48.2**	**+0.6**
	comp=Z,59nm,0.7s,mb5.5							
PKI	**Pulchoki**	**32.11**	**336**	*e*P		**P**	**14 53 48.8**	**-0.8**
	comp=Z,72nm,1.4s,mb5.3							
PKI	**Pulchoki**	**32.11**	**336**	*e*P		**P**	**14 53 48.8**	**-0.8**
PKI				pmax		pmax		
	comp=Z,36nm,1.4s,mb5.0							
LSA	**Lhasa**	**32.21**	**346**	P		**P**	**14 53 51.4**	**+1.0**
LSA				AMB		AMB		
	comp=Z,20nm,1.4s,mb4.8							
LSA	**Lhasa**	**32.21**	**346**	*e*P		**P**	**14 53 51.2**	**+0.8**
LSA				pmax		pmax		
	comp=Z,54nm,1.1s,mb5.3							
LSA	**Lhasa**	**32.21**	**346**	*e*P		**P**	**14 53 51.2**	**+0.7**
	comp=Z,54nm,1.1s,mb5.3							
GUN	**Gumba**	**32.22**	**337**	*e*P		**P**	**14 53 51.2**	**+0.6**
	comp=Z,68nm,0.7s,mb5.6							
DMN	**Daman**	**32.27**	**335**	*e*P		**P**	**14 53 50.4**	**-0.6**
	comp=Z,29nm,1.0s,mb5.1							
POO	**Poona**	**32.33**	**310**	*e*P		**P**	**14 53 48.0**	**-3.6**
POO				*e*			14 53 53.0	
	comp=Z,38nm,1.4s							
KKN	**Kakani**	**32.36**	**336**	*e*P		**P**	**14 53 51.7**	**-0.1**
	comp=Z,81nm,1.2s,mb5.4							
KKN	**Kakani**	**32.36**	**336**	*e*P		**P**	**14 53 51.7**	**-0.1**
KKN				pmax		pmax		
	comp=Z,40nm,1.2s,mb5.1							
CD2	**Chengdu**	**32.62**	**7**	⇑*i*P		**P**	**14 53 52.3**	**-1.7**
CD2				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.0							
GKN	**Gorkha**	**32.81**	**335**	*e*P		**P**	**14 53 55.8**	**+0.1**
	comp=Z,160nm,1.4s,mb5.8							
BHPL	**Bhopal**	**32.85**	**320**	*e*P		**P**	**14 53 54.0**	**-2.1**
KOLN	**Koldanda**	**33.06**	**333**	*e*P		**P**	**14 53 58.2**	**+0.3**
	comp=Z,37nm,0.7s,mb5.4							
ENH	**Enshi**	**33.11**	**16**	*e*P		**P**	**14 53 56.7**	**-1.6**
	comp=Z,33nm,0.9s,mb5.3							
WHN	**Wuhan**	**34.96**	**23**	*e*P		**P**	**14 54 14.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**35.24**	**154**	*e*P		**P**	**14 54 16.9**	**+0.4**
NWAO				pmax		pmax		
	comp=Z,12nm,0.9s							
NWAO	**Narrogin (SRO)**	**35.24**	**154**	P		**P**	**14 54 16.9**	**+0.3**
	comp=Z,10nm,0.8s,mb4.8,baz=327,slow=8.3,SNR=9.6							
NWAO				LR		LR	15 07 33.5	
	comp=Z,300nm,19.3s,MS4.1,baz=319,slow=34							
NWAO	**Narrogin (SRO)**	**35.24**	**154**	*e*P		**P**	**14 54 16.9**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8							
LGTI	**Lohaghat**	**36.05**	**331**	*e*P		**P**	**14 54 23.8**	**+0.3**
XAN	**Xi'an**	**36.56**	**13**	P		**P**	**14 54 26.0**	**-1.7**
XAN				AMB		AMB		
	comp=Z,35nm,1.0s,mb5.1							
LZH	**Lanzhou**	**37.75**	**6**	*e*P		**P**	**14 54 37.2**	**-0.4**
LZH				AP		pP	14 54 49.5	+2.0
LZH				XP		sP	14 54 53.6	+1.8
LZH				*e*S		**S**	**15 00 19.0**	**-6.5**
LZH				AMB		AMB		
	comp=Z,70nm,1.2s,mb5.3							
LZH				AMB		AMB		
	comp=Z,370nm,4.0s							
LZH				LR		LR		
	comp=N,2μm,12.0s							
LZH				LR		LR		
	comp=Z,2μm,12.8s,MS5.1							
LZH	**Lanzhou**	**37.75**	**6**	*e*P		**P**	**14 54 37.2**	**-0.4**
LZH				*PP		pP	14 54 49.5	+2.0
LZH				*e*S		**S**	**15 00 19.0**	**-6.5**
LZH				*SS			15 00 36.0	
LZH				pmax		pmax		
	comp=Z,70nm,1.2s,mb5.3							
LZH				MLR		MLR		
	comp=Z,2μm,12.8s,MS5.1							
LZH	**Lanzhou**	**37.75**	**6**	*e*P		**P**	**14 54 37.2**	**-0.4**
	comp=Z,70nm,1.2s,mb5.3							
LZH				pP		pP	14 54 49.5	+2.0
LZH				sP		sP	14 54 53.6	+1.8
LZH				*e*S		**S**	**15 00 19.0**	**-6.5**
LZH				sS			15 00 36.0	
LZH				SS		SS	15 02 50.0	-11
LZH				LR		LR		
	comp=Z,2μm,12.8s,MS5.1							
DDI	**Dehra Dun**	**37.87**	**329**	*e*P		**P**	**14 54 37.8**	**-0.9**
NJ2	**Nanjing**	**38.16**	**27**	*e*P		**P**	**14 54 41.9**	**+0.8**
NJ2				AP		pP	14 54 51.6	+0.7
NJ2				XP		sP	14 54 55.6	+0.4
NJ2				PP		PP	14 56 12.4	+0.4
NJ2				S		**S**	**15 00 33.0**	**+1.3**
NJ2				XS			15 00 48.0	
NJ2				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,920nm,8.6s							
NJ2				LR		LR		
	comp=N,2μm,15.1s,MS5.3							
NJ2				LR		LR		
	comp=E,2μm,10.4s,MS5.3							
NJ2				LR		LR		
	comp=Z,490nm,19.8s							
SSE	**Sheshan**	**38.49**	**30**	*e*P		**P**	**14 54 44.7**	**+0.9**
SSE				XP		sP	14 54 57.2	-0.8
SSE				S		**S**	**15 00 38.2**	**+1.4**
SSE				XS			15 00 53.2	
SSE				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.8							
SSE				AMB		AMB		
	comp=Z,1μm,12.0s							
SSE				LR		LR		
	comp=N,239nm,13.0s,MS4.7							
SSE				LR		LR		
	comp=E,682nm,12.9s,MS4.7							
SSE				LR		LR		
	comp=Z,1μm,12.1s,MS4.9							
SSE	**Sheshan**	**38.49**	**30**	*e*P		**P**	**14 54 44.7**	**+0.9**
	comp=Z,20nm,1.0s,mb4.8							
SSE				sP		sP	14 54 57.2	-0.8
SSE				S		**S**	**15 00 38.2**	**+1.4**
SSE				sS			15 00 53.2	
SSE				SS		SS	15 03 28.0	+10
SSE				LR		LR		
	comp=Z,1μm,12.1s,MS4.9							
WRA	**Warramunga Arr**	**38.49**	**121**	P		**P**	**14 54 43.1**	**-0.9**
	comp=Z,26nm,0.9s,mb5.0,baz=296,slow=9.2,SNR=65							
WRA				PcP		PcP	14 56 57.2	+0.1
	comp=Z,3.1nm,0.7s,baz=317,slow=2.4,SNR=4.9							
WRA				S		**S**	**15 00 35.5**	**-1.4**
	comp=Z,1.5nm,0.9s,baz=287,slow=16,SNR=4.8							
WRAB	**Tennant Creek**	**38.50**	**121**	*e*P		**P**	**14 54 43.1**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,58nm,0.9s,mb5.3							
WRAB	**Tennant Creek**	**38.50**	**121**	*e*P		**P**	**14 54 43.0**	**-1.0**
	comp=Z,58nm,0.9s,mb5.3							
WB2	**Warramunga Arr**	**38.50**	**121**	*e*P		**P**	**14 54 43.1**	**-1.0**
WB2				*e*S		**S**	**15 00 35.8**	**-1.3**
SDNR	**Sundarnagar**	**39.37**	**329**	*e*P		**P**	**14 54 51.4**	**+0.3**
FORT	**Forrest**	**39.55**	**140**	*e*P		**P**	**14 54 54.2**	**+1.5**
	comp=Z,737nm,0.7s							
JOW	**Kunigami**	**39.56**	**42**	LR		LR	15 12 48.7	
	comp=Z,174nm,18.9s,MS3.9,baz=328,slow=38							
ASPA	**Alice Springs**	**39.76**	**126**	*e*P		**P**	**14 54 54.4**	**-0.1**
ASPA				*e*S		**S**	**15 00 55.5**	**-0.5**
ASAR	**Alice Springs**	**39.76**	**126**	P		**P**	**14 54 54.5**	**0.0**
	comp=Z,17nm,0.9s,mb4.8,baz=299,slow=7.4,SNR=51							
ASAR				PcP		PcP	14 57 01.5	+0.4
	comp=Z,5.9nm,0.8s,baz=290,slow=2.7,SNR=8.2							
ASAR				S		**S**	**15 00 57.3**	**+1.2**
	comp=Z,2.5nm,1.0s,baz=294,slow=15,SNR=5.3							
GTA	**Gaotai**	**40.86**	**0**	*e*P		**P**	**14 55 03.8**	**+0.3**
GTA				AP		pP	14 55 13.1	-0.3
GTA				XP		sP	14 55 17.8	+0.2
GTA				PP		PP	14 56 43.2	+2.5
GTA				PPP		PPP	14 57 10.2	0.0
GTA				S		**S**	**15 01 12.7**	**+0.4**
GTA				XS			15 01 28.6	
GTA				SS		SS	15 04 08.7	-1.0
GTA				AMB		AMB		
	comp=Z,17nm,1.3s,mb4.5							
GTA				AMB		AMB		
	comp=Z,1μm,4.9s							
GTA				LR		LR		
	comp=N,584nm,14.1s,MS4.7							
GTA				LR		LR		
	comp=E,651nm,17.1s,MS4.7							
GTA				LR		LR		
	comp=Z,441nm,14.8s,MS4.5							
TIA	**Tai'an**	**41.05**	**22**	*e*P		**P**	**14 55 04.3**	**-0.7**
HHC	**Hu-ho-hao-te**	**43.68**	**13**	*e*P		**P**	**14 55 28.5**	**+2.0**
HHC				AP		pP	14 55 38.7	+2.2
HHC				PP		PP	14 57 09.9	0.0
HHC				SCP			15 01 02.8	
HHC				PCS			15 01 05.2	
HHC				S		**S**	**15 01 58.4**	**+4.7**
HHC				XS			15 02 15.5	
HHC				SS		SS	15 05 05.6	+3.8
HHC				AMB		AMB		
	comp=Z,13nm,1.2s,mb4.5							
HHC				AMB		AMB		
	comp=Z,518nm,16.4s							
HHC				LR		LR		
	comp=N,1μm,13.2s,MS5.0							
HHC				LR		LR		
	comp=E,724nm,14.2s,MS5.0							
HHC				LR		LR		
	comp=Z,1μm,13.3s,MS5.0							
BJT	**Baijiatuau**	**44.15**	**18**	*e*P		**P**	**14 55 30.5**	**+0.2**
BJT				pmax		pmax		
	comp=Z,18nm,0.9s							
BJT	**Baijiatuau**	**44.15**	**18**	*e*P		**P**	**14 55 30.5**	**+0.2**
	comp=Z,18nm,0.9s,mb4.8							
BJI	**Beijing**	**44.17**	**18**	*e*P		**P**	**14 55 30.9**	**+0.4**
BJI				AMB		AMB		
	comp=Z,27nm,1.2s,mb4.8							
BJI				LR		LR		
	comp=N,495nm,17.1s,MS4.7							
BJI				LR		LR		
	comp=E,508nm,17.2s,MS4.7							
BJI				LR		LR		
	comp=Z,354nm,29.3s							
BJI	**Beijing**	**44.17**	**18**	*e*P		**P**	**14 55 30.9**	**+0.4**
	comp=Z,27nm,1.2s,mb4.8							
BJI				LR		LR		
	comp=Z,350nm,29.3s,MS4.1							
KSH	**Kashi**	**46.36**	**335**	*e*P		**P**	**14 55 48.0**	**+0.1**
KSH				*e*AP		pP	14 55 57.2	-0.7
KSH				*e*XP		sP	14 56 01.1	-1.0
KSH				*e*PCP		PcP	14 57 23.0	-0.1
KSH				*e*PP		PP	14 57 36.4	-0.4
KSH				*e*PPP		PPP	14 58 21.0	-0.8
KSH				*e*SCP			15 01 13.2	
KSH				*e*PCS			15 01 17.0	
KSH				*e*S		**S**	**15 02 31.1**	**-1.1**
KSH				*e*SCS		ScS	15 05 38.0	+0.2
KSH				*e*SS		SS	15 05 48.8	-1.4
KSH				AMB		AMB		
	comp=Z,480nm,7.4s							
KSH				LR		LR		
	comp=N,300nm,4.9s							
KSH				LR		LR		
	comp=E,610nm,6.8s							
WMQ	**Urumqi**	**46.51**	**348**	⇑P		**P**	**14 55 50.2**	**+1.1**
WMQ				AP		pP	14 56 00.2	+1.1
WMQ				XP		sP	14 56 03.7	+0.4
WMQ				PCP		PcP	14 57 25.0	+1.4
WMQ				PP		PP	14 57 39.5	+1.2
WMQ				S		**S**	**15 02 35.5**	**+1.1**
WMQ				XS			15 02 52.7	
WMQ				AMB		AMB		
	comp=Z,45nm,1.0s,mb5.3							
WMQ				AMB		AMB		
	comp=Z,571nm,5.2s							
WMQ				LR		LR		
	comp=N,129nm,17.1s,MS4.2							
WMQ				LR		LR		
	comp=E,247nm,21.6s,MS4.2							
WMQ				LR		LR		
	comp=Z,138nm,18.6s,MS3.9							
KZA	**Kyzart**	**48.80**	**336**	P		**P**	**14 56 07.9**	**+1.0**
	SNR=10.0							
CTA	**Charters Tower**	**49.09**	**115**	P		**P**	**14 56 08.8**	**-0.7**
	comp=Z,20nm,1.0s,mb5.1,baz=300,slow=7.8,SNR=8.5							
CTAO	**Charters Tower**	**49.09**	**115**	*e*P		**P**	**14 56 09.2**	**-0.3**
UCH	**Uchtor**	**49.22**	**335**	P		**P**	**14 56 11.2**	**+0.9**
	SNR=9.1							
TKM2	**Tokmak 2**	**49.36**	**337**	P		**P**	**14 56 11.5**	**+0.2**
	SNR=23							
KBK	**Karagaybulak**	**49.40**	**336**	P		**P**	**14 56 12.5**	**+0.9**
	SNR=18							
AML	**Almayashu**	**49.49**	**335**	P		**P**	**14 56 13.1**	**+0.8**
	SNR=25							
AAK	**Ala-Archa**	**49.57**	**336**	P		**P**	**14 56 13.4**	**+0.5**
AAK				pmax		pmax		
	comp=Z,46nm,1.7s,mb5.2							
SONM	**Songino Array**	**49.64**	**6**	P		**P**	**14 56 13.7**	**+0.3**
	comp=Z,11nm,0.8s,mb4.9,baz=188,slow=8.8,SNR=53							
SONM				PcP		PcP	14 57 34.7	0.0
	comp=Z,4.5nm,0.7s,baz=193,slow=4.4,SNR=4.7							
STKA	**Stephens Creek**	**49.66**	**132**	⇑*i*P		**P**	**14 56 14.0**	**+0.2**
	comp=Z,19nm,0.9s,mb5.1							
STKA	**Stephens Creek**	**49.66**	**132**	P		**P**	**14 56 14.2**	**+0.4**
	comp=Z,12nm,0.8s,mb5.0,baz=310,slow=7.5,SNR=23							
STKA				LR		LR	15 19 00.1	
	comp=Z,460nm,20.6s,MS4.5,baz=240,slow=38							
FRU	**Bishkek**	**49.68**	**336**	*e*P		**P**	**14 56 14.5**	**+0.7**
FRU				pmax		pmax		
	comp=Z,100nm,2.2s,mb5.5							
ULN	**Ulaanbaatar**	**49.74**	**7**	*e*P		**P**	**14 56 14.2**	**+0.1**
ULN				pmax		pmax		
	comp=Z,23nm,1.3s,mb5.0							
ULN	**Ulaanbaatar**	**49.74**	**7**	*e*P		**P**	**14 56 14.2**	**+0.1**
	comp=Z,23nm,1.3s,mb5.0							
CHMS	**Chumysh**	**49.77**	**336**	P		**P**	**14 56 14.4**	**0.0**
	SNR=6.3							
EKS2	**Erkin-Say**	**49.89**	**335**	P		**P**	**14 56 15.8**	**+0.4**
	SNR=22							
USP	**Ospenovka**	**50.09**	**336**	P		**P**	**14 56 17.4**	**+0.5**
	SNR=11							
MKAR	**Makanchi Array**	**50.59**	**345**	*i*P		**P**	**14 56 20.5**	**-0.2**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.4s							
MKAR	**Makanchi Array**	**50.59**	**345**	P		**P**	**14 56 20.6**	**-0.1**
	comp=Z,7.3nm,0.6s,mb4.8,baz=153,slow=8.1,SNR=43							
CN2	**Changchun**	**50.82**	**24**	*e*P		**P**	**14 56 20.6**	**-1.8**
CN2				*e*XP		sP	14 56 33.6	-3.0
CN2				*e*S		**S**	**15 03 34.0**	**-0.7**
CN2				AMB		AMB	

MDJ AMB AMB
comp=Z,15nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,206nm,4.8s
MDJ Mudanjiang 53.24 26 *eP* **P 14 56 40.5 -0.1**
comp=Z,16nm,1.0s,mb4.9
IRK Irkutsk 53.84 4 *eP* **P 14 56 45.1 +0.2**
IRK *e* 14 57 55.1
IRK pmax pmax
comp=Z,32nm,1.7s,mb5.0
OPO Ambohidratompo 54.05 248 P **P 14 56 47.3 +0.4**
comp=Z,3.8nm,0.9s,mb4.3,baz=347,slow=7.1,SNR=3.4
KURK Kurchatov 55.17 344*c iP* **P 14 56 54.1 -0.5**
KURK Kurchatov 55.17 344 *eP* **P 14 56 53.9 -0.7**
comp=Z,23nm,1.0s,mb5.2
ZAL Zalesovo 56.75 350 P **P 14 57 05.8 -0.1**
comp=Z,20nm,0.5s,mb5.4,baz=324,slow=4.9,SNR=57
KLR Kul'dur 57.77 24 *eP* **P 14 57 09.7 -3.5**
BVA0 Borovoye Array 59.73 340 *i P* **P 14 57 25.2 -1.6**
BVA0 pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
BVAR Borovoye Array 59.73 340 P **P 14 57 25.2 -1.6**
comp=Z,6.8nm,0.7s,mb4.8,baz=146,slow=8.4,SNR=34
CHKZ Chkalovo 60.19 341 *eP* **P 14 57 28.7 -1.3**
CHKZ pmax pmax
comp=Z,72nm,0.9s,mb5.7
CHKZ Chkalovo 60.19 341 *eP* **P 14 57 28.7 -1.3**
comp=Z,72nm,0.9s,mb5.7
YSS Yuzh-Sakhalins 61.39 32⇑*eP* **P 14 57 37.5 -0.7**
YSS pmax pmax
comp=Z,50nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 61.39 32 *eP* **P 14 57 37.6 -0.5**
comp=Z,36nm,0.9s,mb5.5
KMBO Kilima Mbogo 62.35 270 P **P 14 57 45.6 +0.5**
comp=Z,5.1nm,1.0s,mb4.6,baz=44,slow=11,SNR=11
GNI Garni 65.01 316 P **P 14 58 02.4 +0.2**
comp=Z,1.9nm,0.3s,mb4.6,baz=182,slow=18,SNR=5.1
SVE Sverdlovsk 66.22 338⇑*eP* **P 14 58 05.6 -4.0**
SVE pmax pmax
comp=Z,60nm,1.9s,mb5.3
ARU Arti 66.74 337⇑*iP* **P 14 58 11.7 -1.2**
ARU *eS* S 15 07 02.3 +1.3
ARU pmax pmax
comp=Z,16nm,1.0s,mb5.0
ARU Arti 66.74 337 *eP* **P 14 58 11.4 -1.4**
comp=Z,9.8nm,0.7s,mb5.0
YAK Yakutsk 67.50 15 *eP* **P 14 58 16.4 -1.2**
YAK *e**PP pP 14 58 26.1 -1.9
YAK *e* 14 58 42.7
YAK *eS* S 15 07 12.2 +2.1
YAK *e* 15 08 11.0
YAK *e*SSS SSS 15 14 34.5 +3.7
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=Z,35nm,1.0s,mb5.3
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK smax
comp=N,3.0nm,1.0s
YAK smax
comp=E,1.0nm,1.0s
YAK MLR MLR
comp=Z,290nm,16.0s,MS4.6
YAK MLR MLR
comp=N,185nm,15.0s,MS4.5
YAK MLR MLR
comp=E,77nm,12.0s,MS4.5
YAK Yakutsk 67.50 15 *eP* **P 14 58 16.1 -1.5**
comp=E,66nm,0.9s,mb5.7
KIV Kislovodsk 68.03 319 *eP* **P 14 58 19.9 -1.3**
KIV pmax pmax
comp=Z,16nm,0.9s,mb5.0
KIV Kislovodsk 68.03 319 *eP* **P 14 58 19.9 -1.3**
comp=Z,16nm,0.9s,mb5.0
ASF Jabal al Asfar 68.08 306 P **P 14 58 22.3 +0.5**
comp=Z,2.6nm,0.3s,mb4.7,baz=19,slow=1.6,SNR=8.9
GOF Gofitskoye 68.29 320⇓*iP* **P 14 58 20.9 -1.9**
GOF pmax pmax
comp=Z,20nm,1.3s,mb5.0
MALT Malatya 68.83 312 *eP* **P 14 58 25.8 -0.5**
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MALT Malatya 68.83 312 *eP* **P 14 58 25.8 -0.5**
comp=Z,4.2nm,0.8s,mb4.4
EIL Elat 69.02 303 *eP* **P 14 58 27.2 -0.4**
comp=Z,18nm,1.4s,mb4.8
SOC Sochi 69.84 318 *i P* **P 14 58 29.0 -3.4**
SOC *e* 14 58 54.8
SOC *e* 15 01 03.9
SOC *e*PPP PPP 15 02 44.4 -4.2
SOC *eS* S 15 07 34.0 -4.3
SOC *e* 15 08 26.2
SOC *e*SS SS 15 12 08.6 -0.2
SOC pmax pmax
comp=Z,18nm,0.8s,mb5.0
SOC pmax pmax
comp=N,15nm,0.9s
SOC pmax pmax
comp=E,3.0nm,0.5s
MAW Mawson 70.53 194 P **P 14 58 37.1 +1.0**
comp=E,7.7nm,0.8s,mb4.7,baz=330,slow=5.7,SNR=7.6
MAW LR LR 15 21 34.8
comp=E,399nm,20.6s,MS4.7,baz=58,slow=29
CSS Prodhromos 71.71 308 *eP* **P 14 58 43.2 -0.6**
comp=E,6.9nm,0.6s,mb4.8
MATP Matopo 71.74 249 P **P 14 58 44.4 +0.1**
comp=E,11nm,0.9s,mb4.8,baz=84,slow=5.1,SNR=22
BRTR Keskin Array B 72.81 312 P **P 14 58 49.0 -1.4**
comp=E,3.1nm,0.6s,mb4.4,baz=131,slow=6.7,SNR=17
MA2 Magadan 72.87 25 *eP* **P 14 58 50.4 +0.1**
MA2 pmax pmax
comp=Z,20nm,1.1s,mb5.0
MA2 Magadan 72.87 25 *eP* **P 14 58 50.1 -0.1**
comp=Z,22nm,0.8s,mb5.2
PET Petropavlovsk 73.27 33 *eP* **P 14 58 53.5 +0.8**
PET pmax pmax
comp=Z,31nm,0.7s,mb5.3
PET Petropavlovsk 73.27 33 *i P* **P 14 58 53.5 +0.8**
VOR Voronezh 73.47 326 *eP* **P 14 58 52.8 -1.2**
VOR pmax pmax
comp=Z,70nm,1.7s,mb5.3
SIM Simferopol' 74.09 318 *eP* **P 14 58 57.0 -0.7**
SIM pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ISP Isparta 74.65 310 *eP* **P 14 59 00.9 -0.2**
LBTB Lobatse 74.83 245 P **P 14 59 02.4 0.0**
LBTB pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LBTB Lobatse 74.83 245 P **P 14 59 01.8 -0.6**
comp=Z,3.0nm,1.0s,mb4.2,baz=80,slow=6.1,SNR=4.1
LBTB Lobatse 74.83 245 P **P 14 59 02.4 0.0**
comp=Z,4.6nm,0.9s,mb4.4
SEY Seymchan 75.45 22 *eP* **P 14 59 08.1 +3.0**
SEY *e* 14 59 23.3
SEY pmax pmax
comp=E,30nm,1.0s
SEY pmax pmax
comp=Z,50nm,1.0s,mb5.4
BOSA Boshof 75.49 241 P **P 14 59 05.6 -0.6**
comp=Z,4.2nm,0.8s,mb4.4,baz=99,slow=11,SNR=5.1
BOSA LR LR 15 27 49.2
comp=Z,211nm,20.2s,MS4.4,baz=359,slow=32
BOSA Boshof 75.49 241 P **P 14 59 05.6 -0.6**
BOSA LR LR 15 27 49.1
TIXI Tiksi 75.57 9 *i P* **P 14 59 04.0 -1.7**
MOS Moscow 76.00 329 *eP* **P 14 59 08.6 +0.2**
MOS *e* pP 14 59 20.4 +1.5
MOS *e* 15 01 59.6
MOS pmax pmax
comp=Z,64nm,0.9s,mb5.5
MOS MLR MLR
comp=Z,600nm,29.8s,MS4.7
OBN Obninsk 76.30 328*cePP* **P 14 59 09.7 -0.4**
OBN *eS* S 15 08 53.9 +2.7
OBN pmax pmax
comp=Z,65nm,1.7s,mb5.3
OBN Obninsk 76.30 328⇑*iP* **P 14 59 09.7 -0.4**
TIRR Tirgusor 77.84 316 ⇑P P 14 59 18.5 -0.5
SYO Syowa Base 78.08 199 ⇑P P 14 59 20.5 +0.7
SYO Syowa Base 78.08 199 ⇓PcP PcP 14 59 30.2 +0.5
CFR Carcaliu 78.21 317 ⇑P P 14 59 20.8 -0.2
KIS Kishinev 78.22 319 *eP* **P 14 59 20.0 -1.0**
KIS *e* 14 59 27.0
IDI Anoyia 78.53 306 P **P 14 59 22.7 -0.2**
comp=Z,8.6nm,0.9s,mb4.7,baz=89,slow=7.4,SNR=4.4
AKASG Malin Array Be 78.98 322 *i P* **P 14 59 24.1 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 78.98 322 P **P 14 59 24.0 -1.1**
comp=Z,1.4nm,0.6s,mb4.1,baz=91,slow=4.4,SNR=18
VRI Vrincioaia 79.34 317 ⇓P P 14 59 27.5 +0.3
MLR Muntele Rosu 79.79 317 ⇓P P 14 59 30.2 +0.6
BURAR Bucovina Array 80.75 319 ⇓P P 14 59 35.5 +0.8
BURAR Bucovina Array 80.75 319 ⇓P P 14 59 35.5 +0.8
KOLS Kolonicke sedl 82.94 320 *i P* **P 14 59 47.1 +1.1**
BILL Bilibino 82.96 20 *i P* **P 14 59 45.9 +0.2**
BILL pmax pmax
comp=Z,8.0nm,2.5s,mb4.3
SUW Suwalki 83.38 325 *eP* **P 14 59 47.1 -1.0**
FINES FINESS Array B 83.63 332 P **P 14 59 49.6 +0.4**
comp=Z,3.7nm,0.8s,mb4.6,baz=101,slow=5.1,SNR=16
SBA Scott Base 83.67 169 *eP* **P 14 59 50.5 +1.4**
SBA pmax pmax
comp=Z,14nm,1.3s,mb4.9
SBA Scott Base 83.67 169 *eP* **P 14 59 50.5 +1.3**
comp=Z,14nm,1.3s,mb4.9
NIE Niedzica 84.29 320 *eP* **P 14 59 53.0 +0.2**
VYHS Vyhne 85.12 319 *eP* **P 14 59 57.0 0.0**
SRO Srobarova 85.37 318 *eP* **P 15 00 04.1 +5.9**
SRO Srobarova 85.37 318 *e* **P 15 00 04.1 +5.9**
OKC Ostrava-Krasne 85.75 320 *eP* **P 15 00 01.2 +1.2**
OKC *e* 15 00 18.5
ARCES ARCESS Array B 86.02 340 P **P 15 00 01.8 +0.9**
comp=Z,5.2nm,0.9s,mb4.8,baz=90,slow=3.6,SNR=7.6
ARCES ARCESS Array B 86.02 340 P **P 15 00 01.8 +0.9**
ZST Bratislava 86.23 318 *eP* **P 15 00 03.1 +0.7**
DPC Dobruska-Polom 86.98 320 *eP* **P 15 00 06.1 +0.1**
UPC Upice 87.19 321 *eP* **P 15 00 08.6 +1.5**
PRU Pruhonice 88.08 320 *eP* **P 15 00 12.6 +1.3**
PVCC Panska Ves 88.11 320 *eP* **P 15 00 12.3 +0.8**
BRG Berggiesshubel 88.53 321 *eP* **P 15 00 14.9 +1.4**
BRG pmax pmax
comp=Z,16nm,1.4s,mb5.2
BRG Berggiesshubel 88.53 321 *eP* **P 15 00 14.9 +1.4**
comp=Z,16nm,1.4s,mb5.2
BRG *e* 15 08 39.0
GEC2 GERESS Array S 88.54 319 *eP* **P 15 00 14.1 +0.5**
GEC2 pmax pmax
comp=Z,36nm,1.7s,mb5.4
GEC2 GERESS Array S 88.54 319 *eP* **P 15 00 14.1 +0.5**
comp=Z,36nm,1.7s,mb5.4
GERES GERESS Array B 88.54 319 P **P 15 00 14.5 +0.9**
comp=Z,2.0nm,0.9s,mb4.5,baz=90,slow=4.0,SNR=18
WET Wettzell 89.10 319 *eP* **P 15 00 16.9 +0.7**
WET pmax pmax
comp=Z,49nm,2.0s,mb5.5
WET Wettzell 89.10 319 *eP* **P 15 00 16.9 +0.7**
comp=Z,49nm,2.0s,mb5.5
CLL Collm 89.16 321⇑*iP* **P 15 00 16.9 +0.4**
CLL *e* pP 15 00 28.0 +0.8
CLL *e* 15 00 34.0
CLL pmax pmax
comp=Z,14nm,1.3s,mb5.1
CLL Collm 89.16 321⇑*iP* **P 15 00 16.9 +0.4**
comp=Z,14nm,1.3s,mb5.1
CLL *e* pP 15 00 28.0 +0.8
CLL *e* 15 00 34.0
CLL Collm 89.16 321 ⇑P P 15 00 16.9 +0.4
comp=Z,logA/T=1.0,mb5.1
CLL *e**SP sP 15 00 28.0 -2.6
CLL *e* 15 00 34.0
GRA1 Grafenberg Arr 90.21 320 *eP* **P 15 00 22.4 +1.0**
comp=Z,51nm,1.5s,mb5.6
GRF Grafenberg Arr 90.21 320 *eP* **P 15 00 22.4 +1.0**
GRF pmax pmax
comp=Z,51nm,1.5s,mb5.6
GRF Grafenberg Arr 90.21 320 *eP* **P 15 00 22.4 +1.0**
GRF pmax pmax
comp=Z,51nm,1.5s,mb5.6
GRF Grafenberg Arr 90.21 320 *eP* **P 15 00 22.4 +1.0**
comp=Z,51nm,1.5s,mb5.6
CLZ Clausthal 90.82 322 *eP* **P 15 00 25.0 +0.7**
comp=Z,40nm,1.8s,mb5.5
TNS Taunus Mts 92.01 320 *eP* **P 15 00 31.2 +1.4**
TNS pmax pmax
comp=Z,12nm,1.2s,mb5.1
TNS Taunus Mts 92.01 320 *eP* **P 15 00 31.2 +1.4**
comp=Z,12nm,1.2s,mb5.1
IMA Indian Mountai 98.24 23 *eP* **P 15 00 58.8 +1.0**
IMA pmax pmax
comp=Z,19nm,1.1s,mb5.5
IMA Indian Mountai 98.24 23 *eP* **P 15 00 58.8 +1.0**
comp=Z,19nm,1.1s,mb5.5
YKA Yellowknife Ar 114.15 17 PKP PKPdf 15 05 59.7 +1.0
comp=Z,0.5nm,0.8s,baz=335,slow=1.8,SNR=9.0
YKA Yellowknife Ar 114.15 17 PKP PKPdf 15 05 59.7 +1.0
NVAR Mina Array Bea 129.57 39 PKP PKPdf 15 06 32.5 +3.3
comp=Z,1.0nm,0.7s,baz=274,slow=2.6,SNR=7.4
ULM Lac du Bonnet 129.82 13 PKP PKPdf 15 06 30.9 +1.6
comp=Z,1.2nm,0.5s,baz=5.7,slow=6.6,SNR=3.0
PDAR Pinedale Array 131.46 29 PKP PKPdf 15 06 34.3 +1.7
comp=Z,0.6nm,0.7s,baz=270,slow=1.5,SNR=5.2
MSU Marysvale 133.18 35 *e*PKPdf PKPdf 15 06 39.2 +3.2
BDFB Brasilia 143.69 241 PKP PKPdf 15 06 58.0 +2.4
comp=Z,1.5nm,0.6s,baz=39,slow=16,SNR=3.4
LTX Lajitas 144.65 37 *e*PKPdf PKPdf 15 06 58.1 +1.2
TXAR Lajitas Array 144.65 37 PKP PKPdf 15 06 58.5 +1.6
comp=Z,11nm,0.6s,baz=264,slow=1.2,SNR=94
WVT Waverly 145.00 11 *e*PKPdf PKPdf 15 06 57.8 +0.5
MIAR Mount Ida 145.03 19 *e*PKP PKPdf 15 06 58.8 +1.4
TZTN Tazewell 145.16 4 *e*PKPdf PKPdf 15 06 58.3 +0.7
UALR University of 145.21 17 *e*PKP PKPdf 15 06 58.8 +1.1
JCT Junction City 145.92 31 *e*P PKPdf 15 07 01.9 +2.8
PLAL Pickwick Lake 146.07 11 *e*PKP PKPdf 15 07 00.8 +1.6
CPCT Cooper Cave 146.15 6 *e*PKP PKPdf 15 07 01.5 +2.2
SWET Swanee 146.21 8 *e*PKP PKPdf 15 07 00.6 +1.1
GOGA Godfrey 148.27 5 PKPbc PKPdf 15 07 07.7 +4.9
LPAZ La Paz 158.46 214 PKP PKPdf 15 07 21.2 +3.5
comp=Z,2.2nm,1.2s,baz=118,slow=4.1,SNR=4.3
LPAZ PKPab PKPab 15 07 56.3 +1.5
comp=Z,0.9nm,0.6s,baz=204,slow=7.6,SNR=4.0
OTAV Otavalo 177.62 234 *e*PKPdf PKPdf 15 07 32.9 +2.0

*IDC **10** 14:49:44.4±2.4, 1.74S×99.42E, mb4.3/8, mb1 4.4/8, mb1mx4.1/18, mbtmp4.3/8, MS4.2/1, Ms1 4.2/1, ms1mx3.5/36, Error ellipse: s-maj=68.8km s-min=51.7km az=104.0*
*MOS **10** 14:49:45.1±1.4, 2.04S×99.69E, h33km, mb4.8/4, Error ellipse: s-maj=75.3km s-min=21.6km az=102.7*
NEIC 10 14:49:49.0±0.9, 1.61S×99.74E, h30km, mb4.5/5, Error ellipse: s-maj=35.1km s-min=20.2km az=82.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**19.96**	**358**	*eP*		P	14 54 17.9	-4.0
	3.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P		P	14 54 18.2	-3.7
	2.8nm,0.8s,baz=189,slow=9.9,SNR=6.1							
SONM	**Songino Array**	**49.59**	**6**	P		P	14 58 38.7	-0.8
	3.0nm,0.6s,baz=195,slow=9.8,SNR=7.4							
SONM				PcP		PcP	14 59 59.3	-1.8
	1.2nm,0.5s,baz=191,slow=3.9,SNR=5.4							
ULN	**Ulaanbaatar**	**49.69**	**6**	*eP*		P	14 58 39.0	-1.3
ULN				pmax		pmax		
	comp=Z,2.0nm,0.6s							
ULN	**Ulaanbaatar**	**49.69**	**6**	*eP*		P	14 58 39.0	-1.3
	comp=Z,1.8nm,0.6s							
MKAR	**Makanchi Array**	**50.59**	**345**	P		P	14 58 45.8	-1.4
	comp=Z,4.7nm,0.7s,baz=157,slow=6.9,SNR=11							
KURK	**Kurchatov**	**55.16**	**344**	*eP*		P	14 59 19.3	-1.9
KURK				pmax		pmax		
	comp=Z,6.0nm,0.8s							
KURK	**Kurchatov**	**55.16**	**344**	*eP*		P	14 59 19.3	-1.9
	comp=Z,6.2nm,0.8s							
ZAL	**Zalesovo**	**56.73**	**349**	P		P	14 59 30.9	-1.5
	comp=Z,8.4nm,0.5s,baz=316,slow=5.7,SNR=9.6							
ZAL				LR		LR	15 29 21.3	
	comp=Z,189nm,18.4s,baz=286,slow=42							
ZAL	**Zalesovo**	**56.73**	**349**	P		P	14 59 30.9	-1.5
ZAL				LR		LR	15 29 21.4	
BVAR	**Borovoye Array**	**59.73**	**340**	P		P	14 59 50.1	-3.3
	comp=Z,2.3nm,0.7s,baz=135,slow=8.2,SNR=4.5							
CHKZ	**Chkalovo**	**60.19**	**341**	*eP*		P	14 59 53.7	-2.8
CHKZ				pmax		pmax		
	comp=Z,4.0nm,0.9s							
CHKZ	**Chkalovo**	**60.19**	**341**	*eP*		P	14 59 53.7	-2.8
	comp=Z,4.3nm,0.9s							
YAK	**Yakutsk**	**67.44**	**15**	*eP*		P	15 00 40.2	-3.7
YAK				pmax		pmax		
	comp=Z,11nm,0.7s							
YAK	**Yakutsk**	**67.44**	**15**	*eP*		P	15 00 40.2	-3.7
	comp=Z,11nm,0.7s							
BRTR	**Keskin Array B**	**72.87**	**312**	P		P	15 01 14.5	-2.8
	comp=Z,0.6nm,0.6s,baz=135,slow=8.2,SNR=2.5							
FINES	**FINESS Array B**	**83.65**	**332**	P		P	15 02 14.5	-1.4
	comp=Z,1.0nm,0.6s,baz=90,slow=3.8,SNR=3.4							
ARCES	**ARCESS Array B**	**86.02**	**340**	P		P	15 02 27.4	-0.2
	comp=Z,3.3nm,0.9s,baz=90,slow=5.4,SNR=4.5							
TXAR	**Lajitas Array**	**144.55**	**37**	PKP		PKPdf	15 09 23.0	-5.4
	comp=Z,3.4nm,0.5s,baz=195,slow=1.0,SNR=14							
WVT	**Waverly**	**144.95**	**11**	*e*PKP		PKPdf	15 09 22.2	-6.7
MIAR	**Mount Ida**	**144.96**	**19**	*e*PKP		PKPdf	15 09 23.3	-5.7
JCT	**Junction City**	**145.83**	**31**	*e*PKP		PKPdf	15 09 26.4	-4.2
CPCT	**Cooper Cave**	**146.10**	**6**	*e*PKP		PKPdf	15 09 26.5	-4.4

*IDC **10** 14:54:10.5±1.8, 1.88S×99.40E, mb3.8/8, mb1 4.0/8, mb1mx3.8/17, mbtmp3.8/8, Error ellipse: s-maj=75.9km s-min=25.8km az=55.0*
*NEIC **10** 14:54:14.9±0.8, 1.87S×99.42E, h30km, mb4.2/2, Error ellipse: s-maj=27.2km s-min=13.5km az=66.0*
ISC 10 14:54:13.7±1.2, 1.8S±0.2×99.4E±0.2, h33km, n15, σ0§88/11, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.12**	**10**	*eP*		P	**14 55 58.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**20.11**	**359**	P		P	**14 58 47.0**	**-0.7**
	0.7nm,0.7s,baz=190,slow=10,SNR=4.1							
WRA	**Warramunga Arr**	**38.59**	**120**	P		P	**15 01 35.2**	**-0.3**
	0.7nm,0.5s,mb3.6,baz=303,slow=9.2,SNR=6.2							
SONM	**Songino Array**	**49.78**	**6**	P		P	**15 03 05.8**	**+0.6**
	0.3nm,0.5s,mb3.6,baz=191,slow=9.1,SNR=2.6							
MKAR	**Makanchi Array**	**50.67**	**345**	P		P	**15 03 12.4**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=153,slow=9.0,SNR=6.0							
KURK	**Kurchatov**	**55.24**	**344**	*eP*		P	**15 03 45.3**	**-0.6**
	2.4nm,0.9s,mb4.2							
ZAL	**Zalesovo**	**56.84**	**350**	P		P	**15 03 57.5**	**+0.1**
	1.4nm,0.8s,mb4.0,baz=306,slow=7.8,SNR=5.1							
BVAR	**Borovoye Array**	**59.78**	**340**	P		P	**15 04 17.0**	**-1.0**
	0.8nm,0.7s,mb3.9,baz=135,slow=8.4,SNR=4.2							
CHKZ	**Chkalovo**	**60.25**	**341**	*eP*		P	**15 04 20.0**	**-1.1**
	2.1nm,0.9s,mb4.2							
FINES	**FINESS Array B**	**83.66**	**332**	P		P	**15 06 40.6**	**+0.5**
	0.6nm,0.7s,mb3.8,baz=76,slow=5.7,SNR=3.3							
ARCES	**ARCESS Array B**	**86.08**	**340**	P		P	**15 06 54.5**	**+2.5**
	6.7nm,1.0s,mb4.8,baz=77,slow=12,SNR=3.4							
TXAR	**Lajitas Array**	**144.86**	**37**	PKP		PKPdf	15 13 50.0	+1.9
	1.3nm,0.6s,baz=214,slow=0.8,SNR=10							
TXAR	**Lajitas Array**	**144.86**	**37**	PKP		PKPdf	15 13 50.0	+1.9
WVT	**Waverly**	**145.16**	**10**	PKP		PKPdf	15 13 49.4	+0.9
MIAR	**Mount Ida**	**145.21**	**19**	*e*PKP		PKPdf	15 13 49.8	+1.3

IDC 10 15:05:43.2±2.9, 1.23S×100.07E, h24km±8km, mb3.0/3, mb1 3.2/4, mb1mx3.1/17, mbtmp3.1/4, ML3.2/1, Error ellipse: s-maj=130.8km s-min=24.4km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.60**	**357**	P		P	15 10 11.6	-1.2
	0.0nm,0.3s,baz=186,slow=9.1,SNR=1.7							
WRA	**Warramunga Arr**	**38.33**	**121**	P		P	15 13 02.2	-2.1
	0.2nm,0.5s,baz=302,slow=9.2,SNR=2.1							
WRA				pP		pP	15 13 09.9	-1.6
	0.4nm,0.8s,baz=300,slow=9.1,SNR=2.7							
ASAR	**Alice Springs**	**39.65**	**127**	P		P	15 13 13.4	-1.8
	0.2nm,0.5s,baz=300,slow=7.2,SNR=1.6							
ASAR				pP		pP	15 13 21.4	-1.0
	0.4nm,1.0s,baz=302,slow=7.8,SNR=2.0							
MKAR	**Makanchi Array**	**50.31**	**344**	P		P	15 14 37.5	-2.7
	0.1nm,0.4s,baz=141,slow=9.2,SNR=2.0							
TXAR	**Lajitas Array**	**144.05**	**37**	PKP		PKPdf	15 25 16.4	-5.7
	0.2nm,0.5s,baz=288,slow=1.4,SNR=3.7							
TXAR				pPKP			15 25 24.2	
	0.2nm,0.4s,baz=207,slow=2.0,SNR=3.7							

*IDC **10** 15:08:47.7±1.9, 1.65S×100.10E, h32km±5km, mb3.6/9, mb1 3.8/9, mb1mx3.6/19, mbtmp3.8/9, Error ellipse: s-maj=83.7km s-min=12.4km az=58.0*
*NEIC **10** 15:08:47.1±0.9, 1.78S×99.91E, mb4.3/3, Error ellipse: s-maj=34.1km s-min=8.3km az=61.0*
ISC 10 15:08:44.6±1.1, 1.8S±0.2×99.9E±0.3, h30km, h30km±.8km:pP-P, n14, σ0§71/14, mb4.0/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.05**	**6**	*eP*		**Pn**	**15 10 29.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**20.11**	**357**	P		P	**15 13 17.9**	**-1.2**
	0.8nm,0.6s,baz=186,slow=10,SNR=7.9							
FITZ	**Fitzroy Crossi**	**30.05**	**124**	P		P	**15 14 52.7**	**-1.1**
	3.2nm,1.1s,mb4.0,baz=294,slow=10.0,SNR=2.4							
WRA	**Warramunga Arr**	**38.23**	**121**	P		P	**15 16 03.8**	**-0.2**
	0.5nm,0.5s,mb3.5,baz=302,slow=9.0,SNR=8.9							
WRA				pP		pP	15 16 12.9	0.0
	1.5nm,0.4s,baz=303,slow=9.0,SNR=7.7							
WRAB	**Tennant Creek**	**38.23**	**121**	*eP*		P	**15 16 04.7**	**+0.7**
	3.4nm,0.5s,mb4.3							
WRAB				*e*		pP	15 16 13.6	+0.7
ASAR	**Alice Springs**	**39.50**	**126**	P		P	**15 16 14.9**	**+0.3**
	0.6nm,0.6s,mb3.5,baz=303,slow=7.7,SNR=14							
ASAR				pP		pP	15 16 23.6	+0.1
	1.5nm,0.6s,baz=300,slow=7.6,SNR=11							
STKA	**Stephens Creek**	**49.41**	**132**	P		P	**15 17 34.4**	**+0.4**
	1.0nm,0.9s,mb3.9,baz=299,slow=10,SNR=2.1							
STKA				pP		pP	15 17 43.6	+0.5
	3.3nm,0.6s,baz=276,slow=6.5,SNR=5.6							
SONM	**Songino Array**	**49.72**	**6**	P		P	**15 17 35.7**	**-0.5**
	0.8nm,0.7s,mb3.9,baz=192,slow=9.6,SNR=7.7							
SONM				pP		pP	15 17 46.2	+0.9
	0.7nm,0.8s,baz=180,slow=4.9,SNR=4.0							
MKAR	**Makanchi Array**	**50.77**	**344**	P		P	**15 17 44.7**	**+0.6**
	1.4nm,0.4s,mb4.3,baz=159,slow=8.7,SNR=29							
MKAR				pP		pP	15 17 54.0	+0.8
	0.9nm,0.6s,baz=141,slow=7.8,SNR=5.1							
KURK	**Kurchatov**	**55.34**	**344**	*eP*		P	**15 18 17.7**	**-0.4**
	1.4nm,0.7s,mb4.1							
KURK				*e*		pP	15 18 26.2	-1.1
ZAL	**Zalesovo**	**56.90**	**349**	P		P	**15 18 28.9**	**-0.3**
	1.4nm,0.5s,mb4.3,baz=307,slow=3.2,SNR=6.0							
ZAL	**Zalesovo**	**56.90**	**349**	P		P	**15 18 28.9**	**-0.3**
BVAR	**Borovoye Array**	**59.92**	**340**	P		P	**15 18 49.9**	**-0.4**
	0.3nm,0.3s,mb3.8,baz=224,slow=42,SNR=3.9							
CHKZ	**Chkalovo**	**60.38**	**340**	*eP*		P	**15 18 54.7**	**+1.3**
	2.4nm,1.1s,mb4.1							
CHKZ				*e*		pP	15 19 03.0	+0.3

IDC 10 15:12:50.2±5.0, 0.00N×102.06E, mb3.4/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, Error ellipse: s-maj=273.2km s-min=22.6km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.31**	**124**	P		P	15 20 04.5	-1.7
	0.2nm,0.4s,baz=304,slow=9.2,SNR=4.4							
ASAR	**Alice Springs**	**38.84**	**130**	P		P	15 20 17.2	-1.8
	0.2nm,0.7s,baz=296,slow=7.9,SNR=3.3							
MKAR	**Makanchi Array**	**49.71**	**342**	P		P	15 21 43.1	-3.0
	0.4nm,0.6s,baz=155,slow=8.1,SNR=5.1							
ZAL	**Zalesovo**	**55.62**	**348**	P		P	15 22 28.4	-1.7
	0.5nm,0.3s,baz=322,slow=19,SNR=2.2							

*IDC **10** 15:15:22.4±3.9, 1.51S×99.75E, mb3.6/6, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, Error ellipse: s-maj=223.5km s-min=19.5km az=53.0*
*NEIC **10** 15:15:26.4±2.0, 1.57S×99.68E, mb3.8/2, Error ellipse: s-maj=117.0km s-min=10.4km az=53.0*
ISC 10 15:15:25.0±3.1, 1.5S±0.7×99.7E±0.9, h33km, n11, σ0§52/10, mb3.7/8, Southern Sumatera

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

WRA Warramunga Arr 38.52 121 P **P 15 22 45.9 -0.5**
0.5nm,0.4s,mb3.6,baz=302,slow=9.2,SNR=9.1
WRA pP pP 15 22 54.2 -2.0
0.4nm,0.5s,baz=302,slow=9.1,SNR=3.3
WRAB Tennant Creek 38.53 121 P **P 15 22 46.1 -0.3**
ASAR Alice Springs 39.80 126 P **P 15 22 57.2 +0.2**
0.3nm,0.6s,mb3.2,baz=302,slow=7.6,SNR=6.1
ASAR pP pP 15 23 05.8 -1.0
0.3nm,0.7s,baz=304,slow=7.8,SNR=2.5
STKA Stephens Creek 49.72 132 P **P 15 24 16.9 +0.6**
1.7nm,0.9s,mb4.1,baz=333,slow=6.8,SNR=3.1
MKAR Makanchi Array 50.48 345 P **P 15 24 22.6 +0.6**
0.6nm,0.7s,mb3.8,baz=153,slow=8.1,SNR=8.0
KURK Kurchatov 55.06 344 P **P 15 24 56.3 +0.4**
0.7nm,0.8s,mb3.7
ZAL Zalesovo 56.63 350 P **P 15 25 07.6 +0.4**
0.9nm,0.4s,mb4.1,baz=307,slow=3.4,SNR=3.7
ZAL Zalesovo 56.63 350 P **P 15 25 07.6 +0.4**
BVAR Borovoye Array 59.62 340 P **P 15 25 27.7 -0.4**
0.3nm,0.6s,mb3.5,baz=135,slow=4.1,SNR=2.2
CHKZ Chkalovo 60.08 341 *eP* **P 15 25 30.4 -0.9**
0.6nm,0.8s,mb3.7
TXAR Lajitas Array 144.53 37 PKP PKPdf 15 35 00.5 +1.7
0.5nm,0.5s,baz=270,slow=1.8,SNR=13

*IDC **10** 15:17:56.8±1.6, 1.68S×99.83E, mb3.9/11, mb1 4.1/11, mb1mx3.9/20, mbtmp3.9/11, Error ellipse: s-maj=80.1km s-min=15.3km az=55.0*
*NEIC **10** 15:18:01.6±0.7, 1.65S×99.91E, h30km, mb4.4/3, Error ellipse: s-maj=32.2km s-min=7.2km az=56.0*
ISC 10 15:18:00.4±1.2, 1.6S±0.2×100.0E±0.3, h33km, n16, σ0§50/15, mb4.0/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.92**	**357**	P	**P**	**15 22 32.2**	**0.0**
	0.9nm,0.6s,baz=186,slow=10,SNR=6.2						
FITZ	**Fitzroy Crossi**	**30.06**	**125**	P	**P**	**15 24 08.3**	**-0.7**
	2.7nm,1.0s,mb4.0,baz=245,slow=17,SNR=2.0						
WRA	**Warramunga Arr**	**38.22**	**121**	P	**P**	**15 25 19.2**	**0.0**
	0.7nm,0.6s,mb3.5,baz=303,slow=9.0,SNR=7.2						
ASAR	**Alice Springs**	**39.52**	**126**	P	**P**	**15 25 30.2**	**+0.4**
	0.5nm,0.9s,mb3.3,baz=302,slow=7.7,SNR=5.5						
STKA	**Stephens Creek**	**49.45**	**132**	P	**P**	**15 26 49.5**	**0.0**
	2.3nm,1.0s,mb4.1,baz=315,slow=10.0,SNR=2.5						
SONM	**Songino Array**	**49.51**	**6**	P	**P**	**15 26 50.0**	**+0.2**
	0.6nm,0.7s,mb3.7,baz=190,slow=10.0,SNR=5.1						
MKAR	**Makanchi Array**	**50.61**	**344**	P	**P**	**15 26 58.5**	**+0.3**
	1.0nm,0.6s,mb4.0,baz=148,slow=8.1,SNR=16						
MKAR	**Makanchi Array**	**50.61**	**344**	P	**P**	**15 26 58.5**	**+0.3**
KURK	**Kurchatov**	**55.19**	**344**	*eP*	**P**	**15 27 32.1**	**0.0**
	1.8nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**56.73**	**349**	P	**P**	**15 27 42.6**	**-0.6**
	1.7nm,0.5s,mb4.3,baz=310,slow=5.6,SNR=7.6						
BVAR	**Borovoye Array**	**59.77**	**340**	P	**P**	**15 28 03.5**	**-1.0**
	1.2nm,0.7s,mb4.1,baz=129,slow=9.2,SNR=5.0						
CHKZ	**Chkalovo**	**60.23**	**340**	*eP*	**P**	**15 28 07.2**	**-0.5**
	1.4nm,0.6s,mb4.2						
YAK	**Yakutsk**	**67.32**	**15**	*eP*	**P**	**15 28 54.4**	**+0.6**
	7.9nm,0.4s,mb5.1						
FINES	**FINESS Array B**	**83.72**	**332**	P	**P**	**15 30 27.9**	**+0.8**
	0.7nm,0.7s,mb3.9,baz=90,slow=3.8,SNR=3.5						
ARCES	**ARCESS Array B**	**86.06**	**340**	P	**P**	**15 30 39.0**	**+0.5**
	1.9nm,0.9s,mb4.3,baz=80,slow=5.5,SNR=3.4						
TXAR	**Lajitas Array**	**144.36**	**37**	PKP	PKPdf	15 37 36.3	+2.5
	0.4nm,0.7s,baz=332,slow=1.8,SNR=3.8						

IDC 10 15:22:28.6±3.0, 1.90S×99.59E, mb3.4/6, mb1 3.6/6, mb1mx3.5/17, mbtmp3.4/6, Error ellipse: s-maj=121.4km s-min=21.4km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.24**	**358**	P	P	15 27 05.8	-2.6
	0.3nm,0.7s,baz=190,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**38.39**	**120**	P	P	15 29 51.5	-2.2
	0.3nm,0.4s,baz=304,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**39.64**	**126**	P	P	15 30 03.0	-1.1
	0.1nm,0.4s,baz=295,slow=7.6,SNR=4.4						
SONM	**Songino Array**	**49.89**	**6**	P	P	15 31 23.9	-2.0
	0.2nm,0.5s,baz=180,slow=2.9,SNR=2.7						
MKAR	**Makanchi Array**	**50.83**	**345**	P	P	15 31 30.9	-2.1
	0.4nm,0.4s,baz=146,slow=9.5,SNR=5.8						
ZAL	**Zalesovo**	**56.99**	**350**	P	P	15 32 15.8	-2.5
	0.9nm,0.3s,baz=310,slow=7.9,SNR=3.0						
TXAR	**Lajitas Array**	**144.87**	**37**	PKP	PKPdf	15 42 07.8	-2.5
	0.2nm,0.4s,baz=174,slow=1.1,SNR=5.9						

IDC 10 15:23:20.5±2.9, 1.95S×99.50E, mb3.5/6, mb1 3.7/6, mb1mx3.6/17, mbtmp3.5/6, Error ellipse: s-maj=119.3km s-min=20.5km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.28**	**358**	P	P	15 27 57.1	-3.5
	0.4nm,0.5s,baz=188,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**38.45**	**120**	P	P	15 30 44.7	-1.3
	0.6nm,0.5s,baz=302,slow=9.1,SNR=6.0						
ASAR	**Alice Springs**	**39.69**	**126**	P	P	15 30 54.1	-2.1
	0.6nm,0.9s,baz=294,slow=8.9,SNR=3.2						
SONM	**Songino Array**	**49.94**	**6**	P	P	15 32 16.4	-1.7
	0.2nm,0.5s,baz=189,slow=7.5,SNR=2.5						
MKAR	**Makanchi Array**	**50.85**	**345**	P	P	15 32 22.4	-2.6
	0.4nm,0.4s,baz=152,slow=8.4,SNR=6.2						
ZAL	**Zalesovo**	**57.02**	**350**	P	P	15 33 08.4	-2.0
	0.9nm,0.4s,baz=316,slow=2.2,SNR=2.7						
TXAR	**Lajitas Array**	**144.96**	**37**	PKP	PKPdf	15 42 60.0	-2.2
	0.5nm,0.6s,baz=233,slow=0.9,SNR=6.6						

*IDC **10** 15:24:54.4±0.5, 0.83N×97.34E, mb4.5/20, mb1 4.5/21, mb1mx4.5/26, mbtmp4.5/21, ML4.6/1, Error ellipse: s-maj=20.3km s-min=12.3km az=49.0*
*BJI **10** 15:24:57.6, 0.70N×97.51E, h41km, mB5.1, mb4.8, Ms4.3, Msz4.3*
*MOS **10** 15:24:58.0±0.8, 0.90N×97.44E, h33km, mb4.9/15, Error ellipse: s-maj=17.7km s-min=8.7km az=98.8*
*NEIC **10** 15:25:00.0±1.7, 0.84N×97.40E, h36km±14km, mb4.7/21, Error ellipse: s-maj=12.9km s-min=6.1km az=53.0*
ISC 10 15:24:59.1±1.9, 0.89N±0.07×97.46E±0.08, h41km±15km, h32km±1.3km: pP-P, n90, σ1§00/89, mb4.6/48, MS4.2/2, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.11**	**44**	P	**P**	**15 26 15.7**	**+0.4**
KULM	**Kulim**	**5.41**	**36**	*eP*	**P**	**15 26 19.2**	**-0.2**
KGM	**Kluang**	**5.96**	**79**	P	**P**	**15 26 28.5**	**+1.3**
KSM	**Kuching**	**12.86**	**87**	*eP*	**P**	**15 28 02.0**	**0.0**
CM31	**Chiang Mai Arr**	**17.52**	**5**	*eP*	**P**	**15 29 00.5**	**-1.6**
	9.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.52**	**5**	P	**P**	**15 29 00.5**	**-1.7**
	0.8nm,0.3s,baz=192,slow=12,SNR=24						
CHG	**Chiang Mai**	**17.88**	**5**	P	**P**	**15 29 04.7**	**-1.8**
	16nm,0.9s						
KKM	**Kota Kinabalu**	**19.41**	**74**	*eP*	**P**	**15 29 24.7**	**-0.1**
KKM	**Kota Kinabalu**	**19.41**	**74**	P	**P**	**15 29 26.7**	**+1.9**
KMI	**Kunming**	**24.63**	**12**	P	**P**	**15 30 19.7**	**+2.4**
KMI				XP		15 30 32.0	
KMI				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.4						
KMI				AMB	AMB		
	comp=Z,112nm,4.4s						
KMI				LR	LR		
	comp=N,359nm,14.8s,MS4.1						
KMI				LR	LR		
	comp=E,328nm,16.5s,MS4.1						
KMI				LR	LR		
	comp=Z,457nm,16.3s,MS4.1						
KMI	**Kunming**	**24.63**	**12**	P	**P**	**15 30 19.7**	**+2.4**
	comp=Z,19nm,1.5s,mb4.4						
KMI				sP		15 30 32.0	
KMI				S	**S**	**15 34 53.1**	**+20**
KMI				LR	LR		
	comp=Z,460nm,16.3s,MS4.1						
SHL	**Shillong**	**25.12**	**348**	*eP*	**P**	**15 30 22.0**	**0.0**
SHL				*e*		15 33 09.2	
GYA	**Guiyang**	**26.93**	**18**	P	**P**	**15 30 38.4**	**-0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
JIRN	**Jiri**	**28.73**	**339**	*eP*	**P**	**15 30 55.6**	**+0.6**
	comp=Z,30nm,0.8s,mb5.1						
PKI	**Pulchoki**	**28.94**	**337**	*eP*	**P**	**15 30 58.4**	**+1.5**
	comp=Z,20nm,0.8s,mb4.9						
PKI	**Pulchoki**	**28.94**	**337**	*eP*	**P**	**15 30 58.4**	**+1.5**
PKI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
GUN	**Gumba**	**29.07**	**339**	*eP*	**P**	**15 30 58.8**	**+0.7**
	comp=Z,30nm,0.6s,mb5.2						
DMN	**Daman**	**29.09**	**337**	*eP*	**P**	**15 30 58.8**	**+0.5**
	comp=Z,14nm,0.7s,mb4.8						
KKN	**Kakani**	**29.19**	**337**	*eP*	**P**	**15 30 59.1**	**0.0**
	comp=Z,24nm,1.0s,mb4.9						
KKN	**Kakani**	**29.19**	**337**	*eP*	**P**	**15 30 59.1**	**0.0**
KKN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
LSA	**Lhasa**	**29.28**	**349**	*eP*	**P**	**15 31 01.0**	**+1.1**
LSA	**Lhasa**	**29.28**	**349**	*eP*	**P**	**15 30 59.7**	**-0.2**
LSA				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
LSA	**Lhasa**	**29.28**	**349**	*eP*	**P**	**15 30 59.7**	**-0.2**
	comp=Z,16nm,0.8s,mb4.8						
GKN	**Gorkha**	**29.63**	**337**	*eP*	**P**	**15 31 02.9**	**-0.1**
	comp=Z,27nm,0.9s,mb5.0						
KOLN	**Koldanda**	**29.85**	**335**	*eP*	**P**	**15 31 05.2**	**+0.2**
	comp=Z,24nm,0.7s,mb5.0						
ENH	**Enshi**	**31.38**	**20**	*eP*	**P**	**15 31 16.9**	**-1.6**
	comp=Z,7.3nm,0.4s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.54**	**126**	P	**P**	**15 31 35.0**	**-2.4**
	comp=Z,3.7nm,0.5s,mb4.5,baz=316,slow=9.3,SNR=8.9						
XAN	**Xi'an**	**34.69**	**17**	P	**P**	**15 31 45.6**	**-1.5**
XAN				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.2						
LZH	**Lanzhou**	**35.52**	**9**	*eP*	**P**	**15 31 53.5**	**-0.8**
LZH				AP	pP	15 32 03.0	-2.6
LZH				XP	sP	15 32 08.0	-2.8
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,82nm,4.5s						
LZH				LR	LR		
	comp=N,400nm,12.0s						
LZH				LR	LR		
	comp=Z,520nm,15.4s,MS4.4						
LZH	**Lanzhou**	**35.52**	**9**	*eP*	**P**	**15 31 53.5**	**-0.8**
	comp=Z,20nm,1.0s,mb5.0						
LZH				pP	pP	15 32 03.0	-2.6
LZH				sP	sP	15 32 08.0	-2.8
LZH				LR	LR		
	comp=Z,520nm,15.4s,MS4.4						
GTA	**Gaotai**	**38.40**	**3**	*eP*	**P**	**15 32 18.8**	**+0.4**
GTA				AP	pP	15 32 27.8	-2.0
GTA				XP	sP	15 32 31.8	-3.1
GTA				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
JOW	**Kunigami**	**39.27**	**46**	P	**P**	**15 32 26.6**	**+0.9**
	comp=Z,22nm,0.6s,mb5.0,baz=234,slow=16,SNR=5.2						
WRA	**Warramunga Arr**	**41.65**	**122**	P	**P**	**15 32 45.1**	**-0.5**
	comp=Z,4.1nm,0.7s,mb4.2,baz=300,slow=9.0,SNR=23						
WB2	**Warramunga Arr**	**41.66**	**122**	*eP*	**P**	**15 32 45.7**	**0.0**
HHC	**Hu-ho-hao-te**	**41.78**	**16**	*eP*	**P**	**15 32 46.6**	**+0.2**
HHC				AP	pP	15 32 56.7	-1.2
HHC				XP	sP	15 33 01.1	-1.8
HHC				PP	PP	15 34 29.3	+3.0
HHC				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.6						
HHC				AMB	AMB		
	comp=Z,148nm,8.7s						
BJT	**Baijiatuau**	**42.51**	**21**	*eP*	**P**	**15 32 53.5**	**+1.1**
BJT				pmax	pmax		
	comp=Z,20nm,0.8s						
BJT	**Baijiatuau**	**42.51**	**21**	*eP*	**P**	**15 32 53.5**	**+1.1**
	comp=Z,20nm,0.8s,mb4.9						
BJI	**Beijing**	**42.53**	**21**	*eP*	**P**	**15 32 53.4**	**+0.8**
BJI				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.2						
BJI	**Beijing**	**42.53**	**21**	*eP*	**P**	**15 32 53.4**	**+0.8**
	comp=Z,32nm,0.7s,mb5.2						
ASPA	**Alice Springs**	**43.00**	**127**	*eP*	**P**	**15 32 57.2**	**+0.6**
ASAR	**Alice Springs**	**43.00**	**127**	P	**P**	**15 32 56.5**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.2,baz=298,slow=7.9,SNR=22						
WMQ	**Urumqi**	**43.63**	**350**	*eP*	**P**	**15 33 02.7**	**+1.3**
ULHL	**Ulaahol**	**45.38**	**338**	P	**P**	**15 33 16.4**	**+0.8**
	SNR=5.6						
UCH	**Uchtor**	**46.04**	**336**	P	**P**	**15 33 22.1**	**+1.3**
	SNR=10						
TKM2	**Tokmak 2**	**46.20**	**338**	P	**P**	**15 33 23.0**	**+1.0**
	SNR=7.9						
KBK	**Karagaybulak**	**46.23**	**337**	P	**P**	**15 33 24.1**	**+1.9**
	SNR=8.3						
AML	**Almayashu**	**46.29**	**336**	P	**P**	**15 33 23.9**	**+1.2**
	SNR=13						
EKS2	**Erkin-Say**	**46.70**	**336**	P	**P**	**15 33 27.2**	**+1.3**
	SNR=9.0						
USP	**Ospenovka**	**46.92**	**337**	P	**P**	**15 33 28.3**	**+0.7**
	SNR=9.4						
SONM	**Songino Array**	**47.40**	**8**	P	**P**	**15 33 31.6**	**+0.2**
	comp=Z,2.8nm,0.3s,mb4.6,baz=191,slow=9.5,SNR=30						
SONM				PcP	PcP	15 35 02.2	+0.3
	comp=Z,1.8nm,0.8s,baz=188,slow=4.5,SNR=4.6						
ULN	**Ulaanbaatar**	**47.53**	**9**	*eP*	**P**	**15 33 32.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**47.53**	**9**	*eP*	**P**	**15 33 32.7**	**+0.3**
	comp=Z,6.3nm,1.1s,mb4.6						
MKAR	**Makanchi Array**	**47.61**	**346**	P	**P**	**15 33 32.8**	**-0.3**
	comp=Z,14nm,0.5s,mb5.3,baz=161,slow=8.5,SNR=81						
CN2	**Changchun**	**49.47**	**27**	*eP*	**P**	**15 33 47.2**	**-0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
ZAK	**Zakamensk**	**49.56**	**5**	*eP*	**P**	**15 33 47.5**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
PMG	**Port Moresby**	**50.53**	**103**	P	**P**	**15 33 55.9**	**-0.1**
	comp=Z,12nm,0.8s,mb4.8,baz=259,slow=16,SNR=2.6						
MJAR	**Matsushiro Arr**	**51.75**	**42**	P	**P**	**15 34 03.9**	**-0.9**
	comp=Z,2.9nm,0.8s,mb4.3,baz=225,slow=5.8,SNR=8.8						
HIA	**Hailar**	**51.85**	**18**	*eP*	**P**	**15 34 05.2**	**-0.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HIA	**Hailar**	**51.85**	**18**	*eP*	**P**	**15 34 05.2**	**-0.2**
	comp=Z,5.8nm,0.8s,mb4.6						
KURK	**Kurchatov**	**52.16**	**345**	*eP*	**P**	**15 34 07.1**	**-0.6**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
KURK	**Kurchatov**	**52.16**	**345**	*eP*	**P**	**15 34 07.1**	**-0.6**
	comp=Z,10nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**52.95**	**132**	P	**P**	**15 34 15.1**	**+1.1**
	comp=Z,3.4nm,0.8s,mb4.3,baz=319,slow=9.1,SNR=8.4						
ZAL	**Zalesovo**	**53.90**	**351**	P	**P**	**15 34 20.4**	**-0.3**
	comp=Z,9.5nm,0.6s,mb4.9,baz=312,slow=5.7,SNR=29						
KLR	**Kul'dur**	**56.42**	**26**	*eP*	**P**	**15 34 35.7**	**-3.3**
BVAR	**Borovoye Array**	**56.63**	**341**	P	**P**	**15 34 39.2**	**-1.2**
	comp=Z,5.0nm,0.7s,mb4.7,baz=135,slow=6.3,SNR=24						
BVAR	**Borovoye Array**	**56.63**	**341**	P	**P**	**15 34 39.2**	**-1.2**
CHKZ	**Chkalovo**	**57.10**	**341**	*eP*	**P**	**15 34 42.8**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CHKZ	**Chkalovo**	**57.10**	**341**	*eP*	**P**	**15 34 42.8**	**-1.1**
	comp=Z,9.1nm,0.8s,mb4.9						
BOD	**Bodaibo**	**58.27**	**10**	*eP*	**P**	**15 34 51.2**	**-0.7**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
YSS	**Yuzh-Sakhalins**	**60.46**	**34**	*eP*	**P**	**15 35 07.0**	**-0.2**
	comp=Z,9.3nm,0.8s,mb4.9						
YAK	**Yakutsk**	**65.65**	**16**	*eP*	**P**	**15 35 39.9**	**-1.3**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
YAK	**Yakutsk**	**65.65**	**16**	*eP*	**P**	**15 35 39.9**	**-1.3**
	comp=Z,10nm,0.6s,mb5.0						
BRTR	**Keskin Array B**	**69.51**	**312**	P	**P**	**15 36 03.9**	**-1.8**
	comp=Z,1.0nm,0.7s,mb3.8,baz=135,slow=7.0,SNR=5.0						
MATP	**Matopo**	**70.65**	**248**	P	**P**	**15 36 12.8**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=95,slow=4.2,SNR=3.1						
MATP	**Matopo**	**70.65**	**248**	P	**P**	**15 36 12.8**	**-0.2**
SEY	**Seymchan**	**73.95**	**23**	*eP*	**P**	**15 36 34.8**	**+3.0**
SEY				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
AKASG	**Malin Array Be**	**75.66**	**322**	P	**P**	**15 36 40.8**	**-1.1**
	comp=Z,2.0nm,0.5s,mb4.3,baz=89,slow=4.8,SNR=12						
JOF	**Joensuu**	**78.54**	**335**	*ep*	**P**	**15 36 56.9**	**-0.8**
RPZ	**Rata Peaks**	**78.80**	**135**	P	**P**	**15 36 59.6**	**0.0**
	comp=Z,6.4nm,0.6s,mb4.7,baz=262,slow=7.1,SNR=4.2						
FINES	**FINESS Array B**	**80.39**	**332**	P	**P**	**15 37 07.6**	**-0.2**
	comp=Z,1.8nm,0.5s,mb4.2,baz=96,slow=6.1,SNR=18						
KAF	**Kangasniemi**	**80.48**	**333**	*ep*	**P**	**15 37 08.1**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.2,baz=102,slow=4.9						
KAF	**Kangasniemi**	**80.48**	**333**	*eP*	**P**	**15 37 08.1**	**-0.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
TSUM	**Tsumeb**	**80.73**	**250**	P	**P**	**15 37 09.1**	**-1.3**
	comp=Z,2.7nm,1.0s,mb4.1,baz=90,slow=8.1,SNR=2.5						
ARCES	**ARCESS Array B**	**82.92**	**340**	P	**P**	**15 37 20.8**	**+0.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=92,slow=5.0,SNR=12						
GERES	**GERESS Array B**	**85.22**	**319**	P	**P**	**15 37 33.5**	**+0.8**
	comp=Z,2.2nm,0.9s,mb4.3,baz=72,slow=4.2,SNR=14						
NB2	**NORSAR Subarra**	**87.41**	**331**	P	**P**	**15 37 43.4**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.4,baz=97,slow=4.6						
NB2	**NORSAR Subarra**	**87.41**	**331**	P	**P**	**15 37 43.4**	**+0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
NOA	**NORSAR Array B**	**87.41**	**331**	P	**P**	**15 37 43.6**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.4,baz=95,slow=4.7,SNR=6.6						
TXAR	**Lajitas Array**	**143.80**	**32**	PKP	PKPdf	15 44 30.2	-0.4
	comp=Z,0.4nm,0.6s,baz=221,slow=0.6,SNR=4.0						
TXAR	**Lajitas Array**	**143.80**	**32**	PKP	PKPdf	15 44 30.2	-0.4

*MOS **10** 15:27:17.9±0.8, 1.68S×99.62E, h33km, mb4.8/17, Error ellipse: s-maj=15.6km s-min=8.3km az=109.4*
*IDC **10** 15:27:19.0±0.7, 1.72S×99.58E, h27km±4km, mb4.2/20, mb1 4.3/20, mb1mx4.3/22, mbtmp4.4/20, Error ellipse: s-maj=19.4km s-min=9.8km az=52.0*
*NEIC **10** 15:27:19.0±0.2, 1.72S×99.61E, mb4.8/20, Error ellipse: s-maj=8.5km s-min=4.8km az=59.0*
*BJI **10** 15:27:23.0, 0.96S×99.74E, h27km, mB5.1, mb4.7, Ms4.6, Msz4.5*
ISC 10 15:27:16.9±0.3, 1.69S±0.05×99.63E±0.07, h26km, h26km±1.0km: pP-P, n88, σ0§87/80, mb4.6/49, MS4.3/3, 4C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**20.04**	**358**	*eP*	**P**	**15 31 51.2**	**+0.2**
	5.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**20.04**	**358**	P	**P**	**15 31 50.8**	**-0.3**
	3.7nm,0.6s,baz=186,slow=9.1,SNR=7.2						
NANT	**Nan**	**20.39**	**3**	P	**P**	**15 31 56.0**	**+1.2**
MBWA	**Marble Bar**	**27.54**	**136**	*eP*	**P**	**15 33 04.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**30.29**	**124**	*eP*	**P**	**15 33 28.3**	**-0.3**
	11nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.29**	**124**	P	**P**	**15 33 27.9**	**-0.7**
	17nm,0.8s,mb4.8,baz=331,slow=5.2,SNR=7.5						
JIRN	**Jiri**	**31.92**	**337**	*eP*	**P**	**15 33 43.8**	**+0.9**
	42nm,0.9s,mb5.3						
PKI	**Pulchoki**	**32.15**	**336**	*eP*	**P**	**15 33 44.9**	**0.0**
	8.0nm,0.7s,mb4.7						
PKI	**Pulchoki**	**32.15**	**336**	*eP*	**P**	**15 33 44.9**	**0.0**
PKI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
LSA	**Lhasa**	**32.25**	**346**	*eP*	**P**	**15 33 47.2**	**+1.5**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**32.25**	**346**	*eP*	**P**	**15 33 47.2**	**+1.5**
	comp=Z,6.6nm,0.8s,mb4.5						
GUN	**Gumba**	**32.27**	**337**	*eP*	**P**	**15 33 46.8**	**+0.9**
	comp=Z,33nm,0.6s,mb5.3						
DMN	**Daman**	**32.31**	**335**	*eP*	**P**	**15 33 46.9**	**+0.6**
	comp=Z,12nm,0.9s,mb4.7						
KKN	**Kakani**	**32.40**	**336**	*eP*	**P**	**15 33 47.5**	**+0.5**
	comp=Z,26nm,0.9s,mb5.1						
KKN	**Kakani**	**32.40**	**336**	*eP*	**P**	**15 33 47.5**	**+0.5**
KKN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
GKN	**Gorkha**	**32.85**	**335**	*eP*	**P**	**15 33 51.5**	**+0.5**
	comp=Z,36nm,1.1s,mb5.2						
KOLN	**Koldanda**	**33.10**	**333**	*eP*	**P**	**15 33 54.0**	**+0.8**
	comp=Z,25nm,0.9s,mb5.2						
ENH	**Enshi**	**33.15**	**16**	*eP*	**P**	**15 33 52.2**	**-1.3**
	comp=Z,4.9nm,0.5s,mb4.7						
XAN	**Xi'an**	**36.60**	**13**	P	**P**	**15 34 21.4**	**-1.6**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
NJ2	**Nanjing**	**38.19**	**27**	*eP*	**P**	**15 34 37.8**	**+1.4**
NJ2				PP	PP	15 36 08.2	+1.0
NJ2				S	**S**	**15 40 32.0**	**+4.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				LR	LR		
	comp=N,440nm,20.0s,MS4.4						
NJ2				LR	LR		
	comp=E,350nm,18.3s,MS4.4						
NJ2				LR	LR		
	comp=Z,640nm,12.2s						
WRA	**Warramunga Arr**	**38.47**	**121**	P	**P**	**15 34 38.1**	**-0.8**
	comp=Z,10nm,0.8s,mb4.6,baz=297,slow=9.4,SNR=19						
WRA				pP	pP	15 34 46.8	+0.2
	comp=Z,8.2nm,0.7s,baz=302,slow=9.0,SNR=9.8					

comp=Z,5.9nm,0.4s,baz=302,slow=4.8,SNR=6.3
BVAR Borovoye Array 59.77 340 P **P 15 37 20.3 -1.8**
comp=Z,3.6nm,0.8s,mb4.5,baz=149,slow=8.6,SNR=9.3
CHKZ Chkalovo 60.23 341 *e*P **P 15 37 24.2 -1.1**
CHKZ pmax pmax
comp=Z,51nm,0.8s,mb5.6
CHKZ Chkalovo 60.23 341 *e*P **P 15 37 24.2 -1.1**
comp=Z,51nm,0.8s,mb5.6
BOD Bodaibo 60.44 9 *e*P **P 15 37 25.2 -1.4**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
YSS Yuzh-Sakhalins 61.42 32 *e*P **P 15 37 35.0 +1.5**
KMBO Kilima Mbogo 62.36 270 P **P 15 37 39.6 -0.6**
comp=Z,2.2nm,0.9s,mb4.3,baz=75,slow=6.8,SNR=5.1
GNI Garni 65.05 316 *i* P **P 15 37 58.0 +0.5**
GNI pmax pmax
comp=Z,4.0nm,1.0s
SVE Sverdlovsk 66.26 338 *e*P **P 15 38 04.8 -0.2**
SVE pmax pmax
comp=Z,16nm,1.0s,mb5.0
ARU Arti 66.78 337 ⇓*i*P **P 15 38 07.6 -0.7**
ARU *e* 15 38 34.9
ARU *e* 15 40 33.4
ARU *e*S S 15 46 58.5 +1.2
ARU *e*SS SS 15 51 17.1 0.0
ARU pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
YAK Yakutsk 67.54 15 *e*P **P 15 38 11.8 -1.2**
YAK *e* pP 15 38 19.6 -1.5
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
YAK Yakutsk 67.54 15 *e*P **P 15 38 11.8 -1.2**
comp=Z,12nm,0.9s,mb4.9
YAK *e* pP 15 38 19.6 -1.5
KIV Kislovodsk 68.07 319 *c i*P **P 15 38 16.3 -0.4**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
KIV Kislovodsk 68.07 319 *e*P **P 15 38 16.3 -0.4**
comp=Z,6.4nm,0.8s,mb4.7
MALT Malatya 68.86 312 P **P 15 38 21.4 -0.2**
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
MALT Malatya 68.86 312 P **P 15 38 21.4 -0.3**
comp=Z,2.0nm,0.8s,mb4.1
SOC Sochi 69.88 318 *e*P **P 15 38 23.4 -4.4**
SOC *e* 15 38 50.0
SOC *e* 15 41 00.1
SOC *e*PPP PPP 15 42 38.7 -5.3
SOC *e*S S 15 47 27.6 -6.9
SOC *e* 15 48 26.3
SOC *e*SS SS 15 52 06.0 +1.0
SOC pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SOC pmax pmax
comp=N,3.0nm,0.5s
SOC pmax pmax
comp=E,3.0nm,0.5s
MAW Mawson 70.49 194 P **P 15 38 31.3 +0.2**
comp=E,2.6nm,0.7s,mb4.2,baz=53,slow=5.1,SNR=3.7
MATP Matopo 71.73 249 P **P 15 38 39.7 +0.3**
comp=E,8.2nm,1.1s,mb4.6,baz=80,slow=3.6,SNR=9.9
BRTR Keskin Array B 72.84 312 P **P 15 38 44.6 -1.1**
comp=E,1.1nm,0.6s,mb4.0,baz=133,slow=6.5,SNR=5.8
MA2 Magadan 72.91 24 *i* P **P 15 38 44.8 -0.9**
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LBTB Lobatse 74.82 245 P **P 15 38 56.5 -1.0**
BOSA Boshof 75.48 241 P **P 15 39 00.1 -1.1**
comp=Z,2.7nm,0.8s,mb4.2,baz=90,slow=1.0,SNR=3.6
SEY Seymchan 75.48 22 *e*P **P 15 39 03.9 +3.4**
SEY *e* pP 15 39 10.4 +1.7
SEY pmax pmax
comp=Z,90nm,0.6s
TIXI Tiksi 75.61 9 *i* P **P 15 39 00.2 -0.9**
TIXI pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
OBN Obninsk 76.34 328 *e*P **P 15 39 04.8 -0.7**
OBN pmax pmax
comp=Z,15nm,1.2s,mb4.8
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.1
AKASG Malin Array Be 79.02 322 P **P 15 39 18.9 -1.5**
comp=Z,0.1nm,0.3s,baz=85,slow=4.9,SNR=6.5
VRI Vrincioaia 79.38 317 ⇑P **P 15 39 23.1 +0.7**
MLR Muntele Rosu 79.82 317 ⇑P **P 15 39 25.6 +0.8**
BURAR Bucovina Array 80.78 319 ⇓P **P 15 39 31.5 +1.6**
BURAR Bucovina Array 80.78 319 ⇓P **P 15 39 31.5 +1.6**
VNDA Vanda 82.53 169 P **P 15 39 39.4 +0.9**
comp=Z,0.9nm,0.8s,mb3.9,baz=300,slow=7.0,SNR=4.9
BILL Bilibino 83.00 20 *i* P **P 15 39 40.7 -0.3**
BILL pmax pmax
comp=Z,4.0nm,1.7s,mb4.2
FINES FINESS Array B 83.67 332 P **P 15 39 44.8 +0.3**
comp=Z,1.0nm,0.6s,mb4.1,baz=120,slow=5.2,SNR=8.9
ARCES ARCESS Array B 86.06 340 P **P 15 39 57.5 +1.2**
comp=Z,7.6nm,1.0s,mb4.9,baz=18,slow=3.8,SNR=5.9
GERES GERESS Array B 88.57 319 P **P 15 40 09.6 +0.6**
comp=Z,0.3nm,0.4s,mb4.0,baz=108,slow=4.2,SNR=6.1
DAVOX Davos 91.05 317 P **P 15 40 21.2 +0.7**
comp=Z,1.8nm,0.7s,mb4.5,baz=126,slow=7.1,SNR=3.7
YKA Yellowknife Ar 114.19 17 PKP PKPdf 15 45 55.1 -3.5
comp=Z,0.1nm,0.5s,baz=336,slow=2.4,SNR=4.2
NVAR Mina Array Bea 129.60 39 PKP PKPdf 15 46 28.0 -1.1
comp=Z,1.1nm,0.9s,baz=257,slow=4.0,SNR=4.7
LTX Lajitas 144.68 37 *e*P PKPbc 15 46 54.1 +2.1
TXAR Lajitas Array 144.68 37 PKP PKPdf 15 46 53.9 -3.0
comp=Z,7.8nm,0.7s,baz=268,slow=1.2,SNR=67
WVT Waverly 145.04 11 *e*PKP PKPdf 15 46 53.4 -3.9
MIAR Mount Ida 145.07 19 *e*PKP PKPdf 15 46 54.2 -3.2
TZTN Tazewell 145.20 4 *e*P PKPbc 15 46 54.1 +0.9
TZTN *e* 15 47 04.2
UALR University of 145.25 17 *e*PKP PKPdf 15 46 54.2 -3.4
JCT Junction City 145.95 31 *e*PKP PKPdf 15 46 57.4 -1.6
JCT *e* 15 47 04.7
CPCT Cooper Cave 146.19 6 *e*PKP PKPdf 15 46 57.1 -2.1

*IDC **10** 15:28:19.6±0.8, 1.75S×99.59E, mb4.2/10, mb1 4.4/10, mb1mx4.2/18, mbtmp4.2/10, Error ellipse: s-maj=32.8km s-min=17.8km az=57.0*
*NEIC **10** 15:28:24.2±0.4, 1.71S×99.65E, h30km, mb4.5/3, Error ellipse: s-maj=17.7km s-min=7.5km az=59.0*
ISC 10 15:28:22.8±0.6, 1.7S±0.1×99.7E±0.2, h33km, n19, σ0°51/14, mb4.3/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.00**	**358**	P	**P**	**15 32 55.8**	**+0.3**
	1.6nm,0.6s,baz=184,slow=10,SNR=3.0						
NWAO	**Narrogin (SRO)**	**35.21**	**154**	*e*P	**P**	**15 35 16.5**	**+0.3**
	1.2nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**38.44**	**121**	P	**P**	**15 35 43.2**	**-0.2**
	4.2nm,0.5s,mb4.4,baz=302,slow=9.2,SNR=5.7						
WRAB	**Tennant Creek**	**38.44**	**121**	*e*P	**P**	**15 35 43.1**	**-0.4**
	7.4nm,0.6s,mb4.6						
WRAB				*e*		15 35 50.4	
ASAR	**Alice Springs**	**39.71**	**126**	P	**P**	**15 35 54.0**	**+0.1**
	2.6nm,0.8s,mb4.0,baz=304,slow=8.0,SNR=2.8						
ASAR				PcP	PcP	15 38 01.6	+0.8
	1.7nm,0.8s,baz=288,slow=2.9,SNR=4.5						
STKA	**Stephens Creek**	**49.61**	**132**	P	**P**	**15 37 13.4**	**+0.2**
	5.6nm,0.8s,mb4.7,baz=314,slow=8.6,SNR=3.7						
SONM	**Songino Array**	**49.63**	**6**	P	**P**	**15 37 13.6**	**+0.4**
	1.5nm,0.6s,mb4.2,baz=191,slow=9.4,SNR=3.8						
SONM				PcP	PcP	15 38 34.9	+0.3
	1.1nm,0.5s,baz=193,slow=2.5,SNR=3.7						
MKAR	**Makanchi Array**	**50.61**	**345**	P	**P**	**15 37 20.8**	**+0.1**
	3.6nm,0.7s,mb4.4,baz=157,slow=8.0,SNR=3.9						
ZAL	**Zalesovo**	**56.76**	**350**	P	**P**	**15 38 05.7**	**-0.2**
	5.7nm,0.6s,mb4.8,baz=288,slow=5.4,SNR=5.0						
ZAL	**Zalesovo**	**56.76**	**350**	P	**P**	**15 38 05.7**	**-0.2**
CHKZ	**Chkalovo**	**60.21**	**341**	*e*P	**P**	**15 38 28.5**	**-1.5**
	4.1nm,0.8s,mb4.5						
MATP	**Matopo**	**71.81**	**249**	P	**P**	**15 39 44.4**	**-0.1**
	3.5nm,0.9s,mb4.3,baz=81,slow=7.9,SNR=3.1						
FINES	**FINESS Array B**	**83.66**	**332**	P	**P**	**15 40 49.8**	**+0.5**
	0.6nm,0.5s,mb4.0,baz=108,slow=4.4,SNR=3.1						
GERES	**GERESS Array B**	**88.58**	**319**	P	**P**	**15 41 14.1**	**+0.4**
	0.4nm,0.6s,mb3.9,baz=90,slow=2.9,SNR=3.5						
TXAR	**Lajitas Array**	**144.61**	**37**	PKP	PKPdf	15 47 58.6	+1.8
	4.8nm,0.7s,baz=195,slow=0.8,SNR=11						
WVT	**Waverly**	**144.99**	**11**	*e*PKP	PKPdf	15 47 58.1	+0.8
MIAR	**Mount Ida**	**145.01**	**19**	*e*PKP	PKPdf	15 47 58.7	+1.4
JCT	**Junction City**	**145.89**	**31**	*e*PKP	PKPdf	15 48 01.6	+2.7
CPCT	**Cooper Cave**	**146.15**	**6**	*e*PKP	PKPdf	15 48 01.5	+2.3

MAN 10 15:29:49.3, 7.76N×121.95E, h22km, mb4.3, ML3.1, MS2.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.62**	**88**	*e*P	Pb	15 30 01.1	-0.2
IPIL				*e*S	Sb	15 30 09.2	-0.5
PAGZ	**Pagadian**	**1.43**	**87**	*e*P	Pn	15 30 14.0	-0.2
PAGZ				*e*S	Sn	15 30 32.7	+0.3
DCPH	**Dipolog City**	**1.61**	**60**	⇑*i*P	Pn	15 30 17.3	+0.4
DCPH				*i* S	Sn	15 30 40.2	+3.0
TBP	**Tagbilaran**	**2.69**	**45**	*e*P	Pn	15 30 31.8	-0.6
GUIM	**Jordan**	**2.92**	**13**	*e*P	Pn	15 30 34.9	-0.6
CUYO	**Cuyo Island**	**3.20**	**343**	*e*P	Pn	15 30 39.6	0.0

*IDC **10** 15:30:21.5±1.4, 1.85S×99.60E, mb4.4/10, mb1 4.5/10, mb1mx4.2/19, mbtmp4.4/10, Error ellipse: s-maj=74.1km s-min=15.8km az=57.0*
*NEIC **10** 15:30:26.6±0.6, 1.72S×99.76E, h30km, mb4.4/4, Error ellipse: s-maj=18.1km s-min=7.8km az=60.0*
ISC 10 15:30:24.8±0.8, 1.7S±0.1×99.7E±0.1, h33km, n23, σ0°88/18, mb4.2/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.00**	**8**	P	**P**	**15 32 05.8**	**-1.8**
KKM	**Kota Kinabalu**	**18.18**	**65**	*e*P	**P**	**15 34 37.8**	**+1.3**
CM31	**Chiang Mai Arr**	**20.04**	**358**	*e*P	**P**	**15 34 58.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**20.04**	**358**	P	**P**	**15 34 57.4**	**-0.5**
	0.9nm,0.5s,baz=187,slow=10,SNR=5.6						
FITZ	**Fitzroy Crossi**	**30.21**	**124**	P	**P**	**15 36 34.3**	**-0.5**
	2.4nm,0.7s,mb4.0,baz=9.0,slow=1.1,SNR=3.6						
WRA	**Warramunga Arr**	**38.39**	**121**	P	**P**	**15 37 44.9**	**0.0**
	2.2nm,0.5s,mb4.1,baz=297,slow=9.3,SNR=5.5						
WRA				PcP	PcP	15 39 58.2	-0.4
	0.7nm,0.6s,baz=312,slow=2.5,SNR=7.1						
WRAB	**Tennant Creek**	**38.39**	**121**	*e*P	**P**	**15 37 44.8**	**-0.2**
	3.6nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**39.66**	**126**	P	**P**	**15 37 54.8**	**-0.7**
	1.0nm,0.6s,mb3.7,baz=297,slow=7.7,SNR=5.0						
ASAR				PcP	PcP	15 40 03.0	+0.3
	1.0nm,0.8s,baz=302,slow=8.0,SNR=5.6						
STKA	**Stephens Creek**	**49.56**	**132**	P	**P**	**15 39 15.1**	**+0.3**
	2.1nm,0.7s,mb4.3,baz=308,slow=9.8,SNR=3.0						
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**15 39 16.7**	**+1.2**
	0.8nm,0.6s,mb3.9,baz=202,slow=7.8,SNR=3.5						
SONM				PcP	PcP	15 40 37.2	+0.5
	0.2nm,0.4s,baz=185,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**50.66**	**345**	P	**P**	**15 39 23.8**	**+0.7**
	2.4nm,0.6s,mb4.3,baz=147,slow=8.2,SNR=5.4						
MKAR	**Makanchi Array**	**50.66**	**345**	P	**P**	**15 39 23.8**	**+0.7**
KURK	**Kurchatov**	**55.24**	**344**	*e*P	**P**	**15 39 57.3**	**+0.3**
	2.0nm,0.7s,mb4.3						
ZAL	**Zalesovo**	**56.81**	**350**	P	**P**	**15 40 09.2**	**+0.9**
	4.8nm,0.5s,mb4.8,baz=318,slow=5.4,SNR=6.2						
BVAR	**Borovoye Array**	**59.80**	**340**	P	**P**	**15 40 27.9**	**-1.3**
	0.9nm,0.5s,mb4.0,baz=124,slow=10,SNR=4.0						
CHKZ	**Chkalovo**	**60.27**	**341**	*e*P	**P**	**15 40 31.9**	**-0.4**
	1.0nm,0.5s,mb4.1						
YAK	**Yakutsk**	**67.52**	**15**	P	**P**	**15 41 18.5**	**-1.1**
	6.1nm,0.7s,mb4.7						
FINES	**FINESS Array B**	**83.72**	**332**	P	**P**	**15 42 52.8**	**+1.3**
	0.6nm,0.4s,mb4.0,baz=104,slow=7.9,SNR=5.7						
TXAR	**Lajitas Array**	**144.63**	**37**	PKP	PKPdf	15 50 00.9	+2.2
	1.7nm,0.6s,baz=225,slow=0.6,SNR=11						
WVT	**Waverly**	**145.03**	**11**	*e*P	PKPdf	15 50 00.4	+1.1
MIAR	**Mount Ida**	**145.04**	**19**	*e*PKP	PKPdf	15 50 01.3	+1.9
MIAR				*e*		15 50 07.4	
JCT	**Junction City**	**145.91**	**31**	*e*PKP	PKPdf	15 50 04.6	+3.7
CPCT	**Cooper Cave**	**146.19**	**6**	*e*PKP	PKPdf	15 50 04.0	+2.7

*IDC **10** 15:35:38.0±1.6, 1.52S×99.79E, mb3.9/7, mb1 4.0/8, mb1mx3.8/17, mbtmp3.9/8, ML4.0/1, Error ellipse: s-maj=81.4km s-min=17.7km az=59.0*
*NEIC **10** 15:35:42.6±0.6, 1.46S×99.89E, h30km, mb4.2/2, Error ellipse: s-maj=25.8km s-min=8.3km az=64.0*
ISC 10 15:35:41.2±1.1, 1.4S±0.1×99.9E±0.3, h33km, n15, σ0°53/12, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.69**	**6**	*e*P	**P**	**15 37 19.5**	**-0.1**
KULM				*e*		15 37 24.6	
CMAR	**Chiang Mai Arr**	**19.75**	**357**	P	**P**	**15 40 10.4**	**-0.8**
	0.2nm,0.3s,baz=187,slow=10,SNR=12						
WRA	**Warramunga Arr**	**38.38**	**121**	P	**P**	**15 43 01.4**	**+0.1**
	0.7nm,0.6s,mb3.5,baz=300,slow=9.3,SNR=6.3						
WRA				PcP	PcP	15 45 15.3	+0.3
	0.8nm,1.2s,baz=314,slow=2.5,SNR=6.0						
ASAR	**Alice Springs**	**39.68**	**127**	P	**P**	**15 43 12.2**	**+0.2**
	0.8nm,0.8s,mb3.5,baz=298,slow=8.0,SNR=5.5						
ASAR				PcP	PcP	15 45 19.9	+0.8
	0.3nm,0.6s,baz=292,slow=2.3,SNR=4.3						
SONM	**Songino Array**	**49.36**	**6**	P	**P**	**15 44 30.5**	**+1.0**
	1.0nm,0.8s,mb3.9,baz=190,slow=8.4,SNR=6.8						
SONM				PcP	PcP	15 45 52.0	+0.1
	0.4nm,0.6s,baz=182,slow=4.9,SNR=3.4						
STKA	**Stephens Creek**	**49.62**	**132**	P	**P**	**15 44 31.1**	**-0.6**
	1.7nm,0.9s,mb4.1,baz=138,slow=21,SNR=2.9						
MKAR	**Makanchi Array**	**50.43**	**344**	P	**P**	**15 44 37.8**	**+0.2**
	1.3nm,0.6s,mb4.2,baz=152,slow=8.2,SNR=9.7						
KURK	**Kurchatov**	**55.01**	**344**	*e*P	**P**	**15 45 11.3**	**-0.3**
	1.6nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**56.56**	**349**	P	**P**	**15 45 23.4**	**+0.6**
	2.4nm,0.5s,mb4.5,baz=325,slow=6.6,SNR=6.9						
CHKZ	**Chkalovo**	**60.05**	**340**	*e*P	**P**	**15 45 46.5**	**-0.7**
	1.5nm,0.7s,mb4.1						
FINES	**FINESS Array B**	**83.54**	**332**	P	**P**	**15 48 07.3**	**+0.4**
	0.4nm,0.5s,mb3.8,baz=63,slow=4.3,SNR=4.0						
FINES	**FINESS Array B**	**83.54**	**332**	P	**P**	**15 48 07.3**	**+0.4**
TXAR	**Lajitas Array**	**144.28**	**37**	PKP	PKPdf	15 55 16.4	+1.8
	1.4nm,0.5s,baz=199,slow=1.0,SNR=22						
MIAR	**Mount Ida**	**144.70**	**19**	*e*PKP	PKPdf	15 55 16.6	+1.5
CPCT	**Cooper Cave**	**145.87**	**6**	*e*PKP	PKPdf	15 55 19.8	+2.7

*CSEM **10** 15:36:53.8±0.1, 24.98N×36.26E, h35km, ML2.8, Error ellipse: s-maj=2.6km s-min=2.4km az=152.0*
*SNSN **10** 15:36:54.8, 25.08N×36.44E, h23km, Ml2.8*
*HLW **10** 15:36:55.9, 24.99N×36.11E, h20km, Mb3.1*
ISC 10 15:36:51.1±0.6, 24.97N±0.05×36.28E±0.04, h10km, n15, σ0°64/19, 1C, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJS	**Umm Lajj**	**0.97**	**74**	P	**Pb**	**15 37 10.1**	**+0.6**
UMJS				S	**Sb**	**15 37 21.3**	**-0.9**
EMRS	**Mersa Alam**	**1.31**	**272**	⇑P	**Pb**	**15 37 15.8**	**+0.4**
HAGS	**Hagol**	**1.32**	**244**	P	**Pb**	**15 37 16.2**	**+0.6**
HAGS				S	**Sb**	**15 37 30.8**	**-1.5**
HADB		**1.55**	**284**	P	**Pn**	**15 37 19.3**	**+0.4**
YNBS	**Yanbu' al Bahr**	**1.68**	**112**	P	**Pn**	**15 37 21.4**	**+0.6**
YNBS				S	**Sn**	**15 37 42.2**	**-0.3**
HQSR		**1.88**	**295**	P	**Pn**	**15 37 23.8**	**+0.1**
HSFG		**2.65**	**307**	P	**Pn**	**15 37 34.3**	**-0.4**
HEDF	**Idfu**	**2.82**	**273**	P	**Pn**	**15 37 36.8**	**-0.3**
TBKS	**Tabuk**	**3.25**	**4**	P	**Pn**	**15 37 43.7**	**+0.5**
TBKS				S	**Sn**	**15 38 20.8**	**-1.6**
AYUS	**'Aynunah**	**3.33**	**344**	P	**Pn**	**15 37 44.4**	**0.0**
BDAS	**Al Bad'**	**3.60**	**343**	P	**Pn**	**15 37 48.6**	**+0.3**
TAYS	**Tayyib Ism**	**3.78**	**341**	P	**Pn**	**15 37 50.7**	**-0.1**
HAQS	**Haql**	**4.24**	**344**	P	**Pn**	**15 37 57.8**	**+0.5**
JMOS	**Jabal al Moall**	**4.31**	**346**	P	**Pn**	**15 37 58.7**	**+0.4**
ALWS	**Ilw as Safayha**	**4.46**	**346**	P	**Pn**	**15 38 00.8**	**+0.5**

IDC 10 15:39:47.3±7.0, 4.43N×94.94E, mb3.1/3, mb1 3.3/3, mb1mx3.2/19, mbtmp3.1/3, Error ellipse: s-maj=349.5km s-min=27.9km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.60**	**347**	P	P	15 47 53.2	-1.8
	0.1nm,0.4s,baz=166,slow=9.4,SNR=2.6						
WRA	**Warramunga Arr**	**45.67**	**123**	P	P	15 48 10.0	-2.0
	0.3nm,0.4s,baz=302,slow=8.8,SNR=5.7						
ASAR	**Alice Springs**	**47.14**	**128**	P	P	15 48 21.9	-1.7
	0.1nm,0.4s,baz=301,slow=8.2,SNR=2.5						

*IDC **10** 15:41:22.8±0.4, 1.62S×99.59E, mb4.6/18, mb1 4.7/19, mb1mx4.6/21, mbtmp4.5/19, ML4.5/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/31, Error ellipse: s-maj=19.7km s-min=11.7km az=56.0*
*BJI **10** 15:41:25.6, 2.14S×99.67E, h54km, mB5.2, mb4.8, Ms4.9, Ms24.6*
*MOS **10** 15:41:25.9±0.9, 1.62S×99.59E, h33km, mb4.8/15, Error ellipse: s-maj=17.9km s-min=8.6km az=113.5*
*NEIC **10** 15:41:27.4±0.2, 1.65S×99.62E, h30km, mb4.8/22, Error ellipse: s-maj=8.6km s-min=4.8km az=59.0*
ISC 10 15:41:26.1±0.3, 1.66S±0.05×99.62E±0.06, h33km, (h32km±.8km:pP-P), n102, σ0°91/90, mb4.7/51, MS4.4/4, 2C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.98**	**8**	⇓*e*P	**P**	**15 43 08.8**	**+0.1**
KKM	**Kota Kinabalu**	**18.25**	**65**	*e*P	**P**	**15 45 40.7**	**+1.9**
CM31	**Chiang Mai Arr**	**20.00**	**358**	*e*P	**P**	**15 45 57.2**	**-1.6**
	10nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.00**	**358**	P	**P**	**15 45 55.0**	**-3.9**
	0.5nm,0.3s,baz=187,slow=10,SNR=28						
CHG	**Chiang Mai**	**20.36**	**358**	P	**P**	**15 46 05.3**	**+2.7**
NANT	**Nan**	**20.36**	**3**	P	**P**	**15 46 03.0**	**+0.4**
MBWA	**Marble Bar**	**27.57**	**136**	P	**P**	**15 47 12.8**	**+0.4**
SHL	**Shillong**	**28.09**	**345**	*e*P	**P**	**15 47 17.1**	**0.0**
FITZ	**Fitzroy Crossi**	**30.31**	**124**	*e*P	**P**	**15 47 36.1**	**-0.9**
	17nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.31**	**124**	P	**P**	**15 47 36.0**	**-1.0**
	23nm,0.9s,mb4.9,baz=288,slow=3.3,SNR=13						
JIRN	**Jiri**	**31.89**	**337**	*e*P	**P**	**15 47 51.5**	**+0.7**
	44nm,0.9s,mb5.3						
PKI	**Pulchoki**	**32.12**	**336**	*e*P	**P**	**15 47 52.9**	**0.0**
	4.7nm,0.5s,mb4.5						
PKI	**Pulchoki**	**32.12**	**336**	*e*P	**P**	**15 47 52.9**	**0.0**
PKI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
LSA	**Lhasa**	**32.22**	**346**	*e*P	**P**	**15 47 55.2**	**+1.5**
LSA	**Lhasa**	**32.22**	**346**	*e*P	**P**	**15 47 54.7**	**+1.0**
LSA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.8						
LSA	**Lhasa**	**32.22**	**346**	*e*P	**P**	**15 47 54.7**	**+1.0**
	comp=Z,14nm,0.9s,mb4.8						
GUN	**Gumba**	**32.23**	**337**	*e*P	**P**	**15 47 54.2**	**+0.4**
	comp=Z,33nm,0.6s,mb5.4						
DMN	**Daman**	**32.28**	**335**	*e*P	**P**	**15 47 54.5**	**+0.3**
	comp=Z,19nm,1.0s,mb4.9						
KKN	**Kakani**	**32.37**	**336**	*e*P	**P**	**15 47 54.7**	**-0.3**
	comp=Z,25nm,0.9s,mb5.1						
KKN	**Kakani**	**32.37**	**336**	*e*P	**P**	**15 47 54.7**	**-0.3**
KKN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
GKN	**Gorkha**	**32.82**	**335**	*e*P	**P**	**15 47 59.0**	**+0.1**
	comp=Z,24nm,0.8s,mb5.2						
KOLN	**Koldanda**	**33.07**	**333**	*e*P	**P**	**15 48 01.3**	**+0.2**
	comp=Z,24nm,0.8s,mb5.2						
ENH	**Enshi**	**33.12**	**16**	*e*P	**P**	**15 47 59.9**	**-1.6**
	comp=Z,9.6nm,0.9s,mb4.7						
NWAO	**Narrogin (SRO)**	**35.23**	**154**	P	**P**	**15 48 20.0**	**+0.4**
	comp=Z,8.8nm,1.0s,mb4.7,baz=316,slow=12,SNR=3.8						
XAN	**Xi'an**	**36.57**	**13**	P	**P**	**15 48 29.6**	**-1.3**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
NJ2	**Nanjing**	**38.16**	**27**	*e*P	**P**	**15 48 44.4**	**+0.1**
NJ2				AP	pP	15 48 54.3	+0.2
NJ2				PP	PP	15 50 14.6	-0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,2μm,4.6s						
NJ2				LR	LR		
	comp=N,920nm,19.2s,MS4.7						
NJ2				LR	LR		
	comp=E,620nm,16.1s,MS4.7						
NJ2				LR	LR		
	comp=Z,2μm,17.5s,MS4.9						
WRA	**Warramunga Arr**	**38.49**	**121**	P	**P**	**15 48 46.4**	**-0.7**
	comp=Z,13nm,0.8s,mb4.7,baz=297,slow=9.4,SNR=44						
WRA				PcP	PcP	15 51 00.5	+0.3
	comp=Z,1.4nm,0.5s,baz=314,slow=2.5,SNR=10						
WRAB	**Tennant Creek**	**38.49**	**121**	*i* P	**P**	**15 48 46.8**	**-0.3**
WRAB	**Tennant Creek**	**38.49**	**121**	*e*P	**P**	**15 48 47.0**	**-0.2**
	comp=Z,25nm,0.9s,mb5.0						
SSE	**Sheshan**	**38.49**	**30**	*e*P	**P**	**15 48 46.4**	**-0.7**
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,198nm,4.1s						
SSE	**Sheshan**	**38.49**	**30**	*e*P	**P**	**15 48 46.4**	**-0.7**
	comp=Z,34nm,0.7s,mb5.2						
WB2	**Warramunga Arr**	**38.50**	**121**	⇓*i*P	**P**	**15 48 46.9**	**-0.3**
ASPA	**Alice Springs**	**39.75**	**126**	*e*P	**P**	**15 48 58.0**	**+0.4**
ASAR	**Alice Springs**	**39.75**	**126**	P	**P**	**15 48 57.8**	**+0.2**
	comp=Z,11nm,0.9s,mb4.6,baz=302,slow=7.9,SNR=46						
ASAR				PcP	PcP	15 51 04.9	+0.7
	comp=Z,2.9nm,0.8s,baz=305,slow=2.6,SNR=10						
GTA	**Gaotai**	**40.87**	**0**	*e*P	**P**	**15 49 07.4**	**+0.7**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
HHC	**Hu-ho-hao-te**	**43.69**	**13**	*e*P	**P**	**15 49 31.3**	**+1.5**
HHC				AP	pP	15 49 41.0	+1.3
HHC				PP	PP	15 51 16.4	+3.2
HHC				SCP		15 55 05.2	
HHC				PCS		15 55 08.1	
HHC				S	**S**	**15 56 00.5**	**+3.4**
HHC				SS	SS	15 59 10.9	+5.7
HHC				SCS	ScS	15 59 24.6	+0.5
HHC				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5						
HHC				AMB	AMB		
	com

ULN	**Ulaanbaatar**	**49.75**	**7**	*e*P	**P**	**15 50 17.9**	**+0.6**
	comp=Z,4.8nm,0.9s,mb4.5						
EKS2	**Erkin-Say**	**49.90**	**335**	P	**P**	**15 50 19.6**	**+0.9**
	SNR=17						
MKAR	**Makanchi Array**	**50.60**	**345**	P	**P**	**15 50 23.9**	**0.0**
	comp=Z,8.3nm,0.7s,mb4.8,baz=153,slow=8.1,SNR=55						
CN2	**Changchun**	**50.83**	**24**	*e*P	**P**	**15 50 24.9**	**-0.8**
ZAK	**Zakamensk**	**51.94**	**3**	*e*P	**P**	**15 50 33.7**	**-0.2**
ZAK				*e*		15 51 46.0	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
KURK	**Kurchatov**	**55.18**	**344**	*i* P	**P**	**15 50 57.4**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**55.18**	**344**	*e*P	**P**	**15 50 57.3**	**-0.6**
	comp=Z,8.6nm,0.8s,mb4.8						
ZAL	**Zalesovo**	**56.76**	**350**	P	**P**	**15 51 09.0**	**-0.2**
	comp=Z,7.9nm,0.4s,mb5.1,baz=310,slow=5.6,SNR=39						
ASAJ	**Asahikawa**	**59.55**	**35**	LR	LR	16 21 33.4	
	comp=Z,85nm,19.0s,MS3.9,baz=184,slow=40						
BVA0	**Borovoye Array**	**59.74**	**340**	*i* P	**P**	**15 51 28.6**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**59.74**	**340**	P	**P**	**15 51 28.6**	**-1.4**
	comp=Z,6.4nm,0.8s,mb4.7,baz=135,slow=8.4,SNR=27						
CHKZ	**Chkalovo**	**60.20**	**341**	*e*P	**P**	**15 51 31.9**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**60.20**	**341**	*e*P	**P**	**15 51 31.9**	**-1.3**
	comp=Z,8.8nm,1.0s,mb4.7						
BOD	**Bodaibo**	**60.41**	**9**	*e*P	**P**	**15 51 33.3**	**-1.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
YSS	**Yuzh-Sakhalins**	**61.40**	**32**	*e*P	**P**	**15 51 41.0**	**-0.4**
KMBO	**Kilima Mbogo**	**62.35**	**270**	P	**P**	**15 51 48.5**	**+0.2**
	comp=Z,5.8nm,1.0s,mb4.7,baz=65,slow=8.7,SNR=11						
GNI	**Garni**	**65.02**	**316**	*i* P	**P**	**15 52 02.4**	**-3.0**
GNI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SVE	**Sverdlovsk**	**66.23**	**338**	*e*P	**P**	**15 52 12.3**	**-0.5**
SVE				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
ARU	**Arti**	**66.75**	**337**	⇑*i*P	**P**	**15 52 15.2**	**-0.9**
ARU				*e*		15 52 45.2	
ARU				*e*		15 54 41.0	
ARU				*e*S	S	16 01 05.8	+1.5
ARU				*e*SS	SS	16 05 19.4	-4.6
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
ARU	**Arti**	**66.75**	**337**	*e*P	**P**	**15 52 15.3**	**-0.8**
	comp=Z,3.2nm,0.6s,mb4.5						
YAK	**Yakutsk**	**67.51**	**15**	*i* P	**P**	**15 52 19.9**	**-0.9**
YAK				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
YAK	**Yakutsk**	**67.51**	**15**	P	**P**	**15 52 19.0**	**-1.8**
	comp=Z,11nm,0.7s,mb5.0						
KIV	**Kislovodsk**	**68.04**	**319**	*e*P	**P**	**15 52 23.8**	**-0.7**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
KIV	**Kislovodsk**	**68.04**	**319**	*e*P	**P**	**15 52 23.8**	**-0.6**
	comp=Z,6.1nm,0.7s,mb4.7						
MALT	**Malatya**	**68.83**	**312**	*e*P	**P**	**15 52 29.6**	**+0.1**
MALT				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
MALT	**Malatya**	**68.83**	**312**	*e*P	**P**	**15 52 29.6**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.0						
SOC	**Sochi**	**69.85**	**318**	*e*P	**P**	**15 52 32.5**	**-3.1**
SOC				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
SOC				pmax	pmax		
	comp=N,3.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.6s						
MAW	**Mawson**	**70.52**	**194**	P	**P**	**15 52 39.6**	**+0.4**
	comp=E,7.4nm,0.9s,mb4.6,baz=22,slow=7.4,SNR=6.5						
MATP	**Matopo**	**71.74**	**249**	P	**P**	**15 52 47.9**	**+0.6**
	baz=90,slow=4.0						
MATP	**Matopo**	**71.74**	**249**	P	**P**	**15 52 47.9**	**+0.5**
BRTR	**Keskin Array B**	**72.82**	**312**	P	**P**	**15 52 52.2**	**-1.3**
	comp=E,1.8nm,0.7s,mb4.1,baz=128,slow=6.6,SNR=11						
MA2	**Magadan**	**72.88**	**25**	*e*P	**P**	**15 52 54.1**	**+0.6**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
BOSA	**Boshof**	**75.49**	**241**	P	**P**	**15 53 09.6**	**+0.3**
	comp=Z,5.1nm,0.9s,mb4.5,baz=58,slow=5.8,SNR=4.6						
TIXI	**Tiksi**	**75.58**	**9**	*i* P	**P**	**15 53 08.3**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
OBN	**Obninsk**	**76.31**	**328**	⇑*i*P	**P**	**15 53 13.0**	**-0.4**
OBN				*e*SS	SS	16 07 53.3	+1.6
OBN				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8						
IDI	**Anoyia**	**78.53**	**306**	P	**P**	**15 53 26.3**	**+0.1**
	comp=Z,9.1nm,0.8s,mb4.8,baz=358,slow=9.0,SNR=3.8						
AKASG	**Malin Array Be**	**78.99**	**322**	P	**P**	**15 53 27.4**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.9,baz=84,slow=5.0,SNR=7.0						
BILL	**Bilibino**	**82.97**	**20**	*i* P	**P**	**15 53 48.9**	**0.0**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.9						
FINES	**FINESS Array B**	**83.64**	**332**	P	**P**	**15 53 52.5**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.4,baz=115,slow=5.2,SNR=11						
ARCES	**ARCESS Array B**	**86.03**	**340**	P	**P**	**15 54 04.3**	**+0.2**
	comp=Z,7.5nm,0.9s,mb4.9,baz=90,slow=4.9,SNR=8.3						
GERES	**GERESS Array B**	**88.55**	**319**	P	**P**	**15 54 17.5**	**+0.7**
	comp=Z,1.0nm,0.8s,mb4.2,baz=104,slow=5.5,SNR=9.4						
CLL	**Collm**	**89.17**	**321**	P	**P**	**15 54 21.0**	**+1.3**
ILAR	**Eielson Array**	**101.35**	**24**	PKKPbc		16 11 23.9	
	comp=Z,0.5nm,0.8s,baz=100,slow=1.8,SNR=5.0						
YKA	**Yellowknife Ar**	**114.16**	**17**	PKP	PKPdf	16 00 02.7	+0.8
	comp=Z,0.2nm,0.8s,baz=320,slow=1.9,SNR=3.9						
YKA	**Yellowknife Ar**	**114.16**	**17**	PKP	PKPdf	16 00 02.7	+0.8
NVAR	**Mina Array Bea**	**129.58**	**39**	PKP	PKPdf	16 00 34.8	+2.4
	comp=Z,0.5nm,0.6s,baz=277,slow=2.7,SNR=3.9						
LTX	**Lajitas**	**144.66**	**37**	*e*PKPdf	PKPdf	16 01 02.0	+1.8
TXAR	**Lajitas Array**	**144.66**	**37**	PKP	PKPdf	16 01 01.9	+1.8
	comp=Z,8.5nm,0.7s,baz=274,slow=1.5,SNR=82						
TXAR	**Lajitas Array**	**144.66**	**37**	PKP	PKPdf	16 01 01.9	+1.8
WVT	**Waverly**	**145.01**	**11**	*e*P	PKPdf	16 01 01.5	+0.9
MIAR	**Mount Ida**	**145.04**	**19**	*e*PKPdf	PKPdf	16 01 02.1	+1.4
TZTN	**Tazewell**	**145.17**	**4**	*e*PKPdf	PKPdf	16 01 01.8	+1.0
JCT	**Junction City**	**145.93**	**31**	*e*PKPbc	PKPbc	16 01 05.3	+2.1
LPAZ	**La Paz**	**158.45**	**214**	PKP	PKPdf	16 01 24.1	+3.2
	comp=Z,0.3nm,0.5s,baz=14,slow=8.3,SNR=2.6						
LPAZ				PKPab	PKPab	16 01 57.5	-0.4
	comp=Z,1.0nm,0.9s,baz=90,slow=7.1,SNR=2.8						

*IDC **10** 15:44:01.8±1.2, 1.78S×99.35E, mb4.0/10, mb1 4.1/10, mb1mx4.0/18, mbtmp4.0/10, Error ellipse: s-maj=55.9km s-min=16.6km az=54.0*
*NEIC **10** 15:44:06.6±0.5, 1.72S×99.47E, h30km, mb4.2/3, Error ellipse: s-maj=21.5km s-min=7.8km az=60.0*
*BJI **10** 15:44:07.7, 2.74S×99.73E, h27km, mB5.2, mb4.8, Ms4.9, Msz4.6*

ISC 10 15:44:05.0±0.9, 1.7S±0.1×99.5E±0.2, h33km, n24, σ0s78/17, mb4.1/12, MS3.6/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**20.00**	**359**	P	**P**	**15 48 37.2**	**-0.6**
CM31				*e*		15 48 43.4	
CMAR	**Chiang Mai Arr**	**20.00**	**359**	P	**P**	**15 48 36.8**	**-1.0**
	1.2nm,0.5s,baz=188,slow=10,SNR=4.4						
ENH	**Enshi**	**33.16**	**16**	P	**P**	**15 50 40.6**	**-0.1**
WRA	**Warramunga Arr**	**38.61**	**120**	P	**P**	**15 51 26.4**	**-0.7**
	1.5nm,0.5s,mb3.9,baz=304,slow=9.1,SNR=6.2						
WRAB	**Tennant Creek**	**38.62**	**120**	*e*P	**P**	**15 51 26.2**	**-1.0**
	2.1nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**39.87**	**126**	P	**P**	**15 51 37.9**	**+0.4**
	0.9nm,0.7s,mb3.6,baz=298,slow=8.0,SNR=2.8						
BJI	**Beijing**	**44.23**	**18**	*e*P	**P**	**15 52 14.8**	**+1.7**
	4.0nm,0.8s,mb4.2						
BJI				LR	LR		
	comp=Z,110nm,28.7s,MS3.6						
SONM	**Songino Array**	**49.66**	**6**	P	**P**	**15 52 56.5**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.1,baz=187,slow=8.6,SNR=3.7						
STKA	**Stephens Creek**	**49.76**	**132**	P	**P**	**15 52 57.4**	**+0.7**
	comp=Z,2.4nm,0.8s,mb4.3,baz=336,slow=9.8,SNR=3.1						
MKAR	**Makanchi Array**	**50.56**	**345**	P	**P**	**15 53 03.0**	**+0.4**
	comp=Z,2.6nm,0.7s,mb4.3,baz=153,slow=8.1,SNR=6.0						
MKAR	**Makanchi Array**	**50.56**	**345**	P	**P**	**15 53 03.0**	**+0.4**
KURK	**Kurchatov**	**55.14**	**344**	*e*P	**P**	**15 53 35.8**	**-0.7**
ZAL	**Zalesovo**	**56.73**	**350**	P	**P**	**15 53 48.6**	**+0.6**
	comp=Z,4.3nm,0.5s,mb4.8,baz=318,slow=5.1,SNR=7.5						
BVAR	**Borovoye Array**	**59.69**	**340**	P	**P**	**15 54 08.0**	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.1,baz=143,slow=7.4,SNR=3.9						
CHKZ	**Chkalovo**	**60.15**	**341**	*e*P	**P**	**15 54 11.3**	**-0.5**
	comp=Z,1.2nm,0.6s,mb4.1						
BRTR	**Keskin Array B**	**72.71**	**313**	P	**P**	**15 55 31.6**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=161,slow=8.1,SNR=3.0						
FINES	**FINESS Array B**	**83.57**	**332**	P	**P**	**15 56 32.1**	**+1.1**
	comp=Z,0.7nm,0.6s,mb4.0,baz=135,slow=5.4,SNR=4.6						
LTX	**Lajitas**	**144.75**	**36**	*e*PKP	PKPdf	16 03 41.8	+2.6
TXAR	**Lajitas Array**	**144.75**	**36**	PKP	PKPdf	16 03 41.5	+2.2
	comp=Z,2.0nm,0.6s,baz=243,slow=1.1,SNR=9.9						
MIAR	**Mount Ida**	**145.09**	**19**	*e*PKP	PKPdf	16 03 41.4	+1.7
TZTN	**Tazewell**	**145.18**	**4**	*e*PKP	PKPdf	16 03 41.4	+1.6
JCT	**Junction City**	**146.00**	**31**	*e*PKP	PKPdf	16 03 45.0	+3.7
CPCT	**Cooper Cave**	**146.18**	**6**	*e*PKP	PKPdf	16 03 43.4	+1.9
SWET	**Sewanee**	**146.24**	**8**	*e*PKP	PKPdf	16 03 43.7	+2.1

*MOS **10** 15:44:15.5±1.1, 1.67S×99.86E, h33km, mb4.9/14, Error ellipse: s-maj=17.7km s-min=8.7km az=111.0*
*IDC **10** 15:44:16.6±0.7, 1.72S×99.82E, h30km±4km, mb4.2/19, mb1 4.3/19, mb1mx4.3/20, mbtmp4.4/19, Error ellipse: s-maj=18.8km s-min=8.6km az=52.0*
*NEIC **10** 15:44:16.2±0.3, 1.83S×99.78E, mb4.9/11, Error ellipse: s-maj=13.5km s-min=7.6km az=58.0*
*HRVD **10** 15:44:16.2±1.3, 1.97S×100.16E, h34km±2km, MW5.2/35, Centroid moment Tensor Solution. LP body waves: s8,c9; Mantle waves: s35,c45; Half duration: 1s2 Moment tensor: Scale 10^16Nm; Mrr5.39±1.37; Mθθ-6.09±.85; Mφφ0.70±.94; Mrθ1.24±.71; Mθφ1.78±.47; Mφr4.62±1.14; Best double couple: M0 7.514×10^16 NP1:φs312°, δ53°, λ133°. NP2:φs75°, δ54°, λ48°. Principal axes: T 8.499, Plg57°, Azm284°; N -1.968, Plg33°, Azm103°; P -6.529, Plg1°, Azm193°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 15:44:14.8±0.3, 1.74S±0.05×99.85E±0.07, h30km, h30km±1.4km: pP-P, n87, σ1s23/84, mb4.6/39, MS4.5/4, 1C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.03**	**7**	P	**Pn**	**15 46 00.8**	**+2.3**
CM31	**Chiang Mai Arr**	**20.09**	**358**	*e*P	**P**	**15 48 51.1**	**+2.1**
	24nm,1.1s						
CMAR	**Chiang Mai Arr**	**20.09**	**358**	P	**P**	**15 48 47.5**	**-1.5**
	2.9nm,0.7s,baz=182,slow=9.9,SNR=5.3						
NANT	**Nan**	**20.43**	**2**	P	**P**	**15 48 53.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**30.09**	**124**	*e*P	**P**	**15 50 21.8**	**-2.4**
	17nm,1.1s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.09**	**124**	P	**P**	**15 50 22.3**	**-1.9**
	6.7nm,0.8s,mb4.4,baz=321,slow=2.8,SNR=7.2						
LSA	**Lhasa**	**32.35**	**346**	*e*P	**P**	**15 50 45.1**	**+1.2**
LSA	**Lhasa**	**32.35**	**346**	*e*P	**P**	**15 50 45.2**	**+1.3**
LSA				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.9						
LSA	**Lhasa**	**32.35**	**346**	*e*P	**P**	**15 50 45.2**	**+1.2**
	comp=Z,22nm,1.0s,mb5.0						
ENH	**Enshi**	**33.13**	**15**	*e*P	**P**	**15 50 51.8**	**+1.0**
	comp=Z,17nm,1.1s,mb4.9						
LZH	**Lanzhou**	**37.81**	**5**	*e*P	**P**	**15 51 28.5**	**-2.0**
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,83nm,4.5s						
LZH				LR	LR		
	comp=N,1μm,13.0s						
LZH				LR	LR		
	comp=Z,1μm,13.4s,MS4.9						
LZH	**Lanzhou**	**37.81**	**5**	*e*P	**P**	**15 51 28.5**	**-2.0**
	comp=Z,20nm,1.5s,mb4.6						
LZH				pP	pP	15 51 37.5	-1.9
LZH				sP	sP	15 51 42.5	-0.6
LZH				LR	LR		
	comp=Z,1μm,13.4s,MS4.9						
NJ2	**Nanjing**	**38.13**	**27**	*e*P	**P**	**15 51 33.1**	**-0.2**
NJ2				AP	pP	15 51 42.9	+0.8
NJ2				XP	sP	15 51 46.8	+1.0
NJ2				PP	PP	15 53 03.4	-0.6
NJ2				S	**S**	**15 57 24.0**	**0.0**
NJ2				AMB	AMB		
	comp=Z,2μm,8.3s						
NJ2				LR	LR		
	comp=N,940nm,19.4s,MS4.7						
NJ2				LR	LR		
	comp=E,590nm,19.7s,MS4.7						
NJ2				LR	LR		
	comp=Z,210nm,16.4s,MS4.0						
WRA	**Warramunga Arr**	**38.26**	**121**	P	**P**	**15 51 34.5**	**+0.1**
WRA				*PP	pP	15 51 43.3	0.0
WRA						15 53 48.6	
WRA				S	**S**	**15 57 26.1**	**0.0**
WRA	**Warramunga Arr**	**38.26**	**121**	P	**P**	**15 51 34.5**	**0.0**
	comp=Z,5.0nm,0.5s,mb4.5,baz=303,slow=9.1,SNR=17						
WRA				pP	pP	15 51 43.3	0.0
	comp=Z,6.5nm,0.4s,baz=303,slow=9.0,SNR=9.4						
WRA				PcP	PcP	15 53 48.6	-0.2
	comp=Z,1.4nm,0.5s,baz=315,slow=2.3,SNR=5.3						
WRA				pPcP		15 53 58.6	
	comp=Z,0.5nm,0.6s,baz=319,slow=2.4,SNR=5.5						
WRA				S	**S**	**15 57 26.1**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=297,slow=15,SNR=3.9						
WRA	**Warramunga Arr**	**38.26**	**121**	P	**P**	**15 51 34.5**	**0.0**
WRA				pP	pP	15 51 43.3	0.0
WRA				PcP	PcP	15 53 48.6	-0.2
WRA				pPcP		15 53 58.6	
WRA				S	**S**	**15 57 26.1**	**+0.1**
WRAB	**Tennant Creek**	**38.26**	**121**	*i* P	**P**	**15 51 35.6**	**+1.1**
WRAB	**Tennant Creek**	**38.26**	**121**	*e*P	**P**	**15 51 35.1**	**+0.7**
	comp=Z,20nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**38.27**	**121**	*e*P	**P**	**15 51 33.2**	**-1.3**
SSE	**Sheshan**	**38.45**	**30**	*e*P	**P**	**15 51 33.1**	**-2.8**
SSE				AP	pP	15 51 42.4	-2.4
SSE				S	**S**	**15 57 26.5**	**-2.3**
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,189nm,3.9s						
SSE				LR	LR		
	comp=N,196nm,16.8s,MS4.2						
SSE				LR	LR		
	comp=E,230nm,16.8s,MS4.2						
SSE				LR	LR		
	comp=Z,311nm,13.9s,MS4.3						
SSE	**Sheshan**	**38.45**	**30**	*e*P	**P**	**15 51 33.1**	**-2.8**
	comp=Z,26nm,0.8s,mb5.0						
SSE				pP	pP	15 51 38.9	-5.9
SSE				sP	sP	15 51 42.4	-6.1
SSE				PP	PP	15 52 59.5	-8.1
SSE				S	**S**	**15 57 26.5**	**-2.3**
SSE				sS		15 57 37.1	
SSE				SS	SS	16 00 15.9	+6.4
SSE				LR	LR		
	comp=Z,310nm,13.9s,MS4.3						
ASPA	**Alice Springs**	**39.53**	**126**	*e*P	**P**	**15 51 45.9**	**+0.9**
ASAR	**Alice Springs**	**39.53**	**126**	P	**P**	**15 51 45.2**	**+0.2**
	comp=Z,3.3nm,0.6s,mb4.3,baz=301,slow=7.9,SNR=9.8						
ASAR				PcP	PcP	15 53 53.7	+0.9
	comp=Z,2.3nm,0.7s,baz=303,slow=2.7,SNR=6.5						
ASAR				pPcP		15 54 03.0	
	comp=Z,2.9nm,0.8s,baz=307,slow=2.8,SNR=4.5						
ASAR				S	**S**	**15 57 46.8**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=299,slow=17,SNR=6.2						
ASAR	**Alice Springs**	**39.53**	**126**	P	**P**	**15 51 45.2**	**+0.2**
ASAR				PcP	PcP	15 53 53.7	+0.9
ASAR				pPcP		15 54 03.0	
ASAR				S	**S**	**15 57 46.8**	**+1.5**
GTA	**Gaotai**	**40.95**	**360**	*e*P	**P**	**15 51 59.1**	**+2.6**
GTA				AP	pP	15 52 06.1	+0.7
GTA				XP	sP	15 52 09.9	+0.9
GTA				AMB	AMB		
	comp=Z,7.0nm,1.5s,mb4.1						
KSH	**Kashi**	**46.53**	**334**	*e*P	**P**	**15 52 41.0**	**-0.7**
KSH				*e*AP	pP	15 52 51.0	+0.4
KSH				*e*XP	sP	15 52 55.4	+1.2
KSH				AMB	AMB		
	comp=Z,220nm,5.4s						
WMQ	**Urumqi**	**46.64**	**348**	P	**P**	**15 52 44.3**	**+1.8**
WMQ				AP	pP	15 52 54.3	+2.9
WMQ				XP	sP	15 52 58.3	+3.3
STKA	**Stephens Creek**	**49.44**	**132**	P	**P**	**15 53 06.0**	**+1.5**
	comp=Z,3.7nm,0.8s,mb4.5,baz=310,slow=7.3,SNR=4.1						
STKA	**Stephens Creek**	**49.44**	**132**	P	**P**	**15 53 06.0**	**+1.5**
SONM	**Songino Array**	**49.70**	**6**	P	**P**	**15 53 06.8**	**+0.6**
	comp=Z,1.4nm,0.6s,mb4.2,baz=190,slow=9.1,SNR=6.3						
SONM				PcP	PcP	15 54 27.3	0.0
	comp=Z,1.6nm,0.5s,baz=192,slow=4.4,SNR=7.4						
SONM				pPcP		15 54 36.7	
	comp=Z,1.5nm,0.6s,baz=181,slow=4.9,SNR=5.0						
ULN	**Ulaanbaatar**	**49.80**	**6**	*e*P	**P**	**15 53 06.6**	**-0.4**
ULN				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
FRU	**Bishkek**	**49.85**	**336**	*e*P	**P**	**15 53 09.0**	**+1.5**
FRU				*e*		15 53 21.0	
MKAR	**Makanchi Array**	**50.73**	**344**	P	**P**	**15 53 14.3**	**+0.2**
	comp=Z,5.8nm,0.5s,mb4.8,baz=160,slow=8.2,SNR=25						
MKAR				S	**S**	**16 00 28.6**	**+2.4**
	comp=Z,0.5nm,0.9s,baz=141,slow=16,SNR=7.4						
CN2	**Changchun**	**50.81**	**24**	*e*P	**P**	**15 53 20.0**	**+5.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
CN2				LR	LR		
	comp=N,400nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=E,500nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=Z,500nm,17.0s,MS4.6						
ZAK	**Zakamensk**	**52.00**	**3**	*e*P	**P**	**15 53 26.7**	**+3.0**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.5s,mb3.5						
KURK	**Kurchatov**	**55.31**	**344**	*i* P	**P**	**15 53 47.5**	**-0.6**
KURK	**Kurchatov**	**55.31**	**344**	*e*P	**P**	**15 53 48.3**	**+0.2**
	comp=Z,21nm,1.0s,mb5.1						
ZAL	**Zalesovo**	**56.88**	**349**	P	**P**	**15 53 59.1**	**-0.1**
	comp=Z,12nm,0.4s,mb5.3,baz=324,slow=4.6,SNR=3.8						
ZAL				S	**S**	**16 01 47.6**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=147,slow=20,SNR=3.0						
KLR	**Kul'dur**	**57.76**	**24**	*e*P	**P**	**15 54 03.8**	**-1.7**
ASAJ	**Asahikawa**	**59.48**	**35**	P	**P**	**15 54 18.6**	**+0.9**
	comp=Z,4.0nm,0.6s,mb4.6,baz=110,slow=25,SNR=4.6						
BVAR	**Borovoye Array**	**59.88**	**340**	P	**P**	**15 54 18.7**	**-1.5**
	comp=Z,2.7nm,0.5s,mb4.5,baz=147,slow=10,SNR=12						
BVAR				pP	pP	15 54 28.5	-1.0
	comp=Z,2.2nm,0.5s,baz=135,slow=6.3,SNR=5.7						
CHKZ	**Chkalovo**	**60.35**	**340**	*e*P	**P**	**15 54 22.0**	**-1.4**
BOD	**Bodaibo**	**60.45**	**9**	*e*P	**P**	**15 54 24.0**	**0.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s,mb4.1						
YSS	**Yuzh-Sakhalins**	**61.34**	**32**	*e*P	**P**	**15 54 26.0**	**-4.2**
YSS				*e*		15 54 41.0	
KMBO	**Kilima Mbogo**	**62.58**	**270**	*i* P	**P**	**15 54 39.7**	**+0.7**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO	**Kilima Mbogo**	**62.58**	**270**	P	**P**	**15 54 39.0**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.4,baz=74,slow=9.6,SNR=6.0						
GNI	**Garni**	**65.23**	**316**	*i* P	**P**	**15 54 56.3**	**+0.3**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SVE	**Sverdlovsk**	**66.38**	**338**	*e*P	**P**	**15 54 54.7**	**-8.4**
SVE				*e*		15 55 07.0	
ARU	**Arti**	**66.91**	**337**	⇑*i*P	**P**	**15 55 05.7**	**-0.7**
ARU				*e*		15 55 36.6	
ARU				*e*		15 57 28.4	
ARU				*e*S	S	16 03 56.4	+0.6
ARU				*e*SS	SS	16 08 11.8	-4.3
ARU				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
ARU	**Arti**	**66.91**	**337**	*e*P	**P**	**15 55 05.3**	**-1.1**
	comp=Z,14nm,1.3s,mb4.8						
YAK	**Yakutsk**	**67.53**	**15**	*i* P	**P**	**15 55 09.1**	**-1.2**
YAK				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
KIV	**Kislovodsk**	**68.24**	**319**	*d i* P	**P**	**15 55 14.8**	**-0.3**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
GOF	**Gofitskoye**	**68.50**	**320**	⇓*i*P	**P**	**15 55 14.2**	**-2.4**
GOF				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
MAW	**Mawson**	**70.50**	**194**	P	**P**	**15 55 28.3**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.4,baz=45,slow=7.4,SNR=4.5						
BRTR	**Keskin Array B**	**73.03**	**312**	P	**P**	**15 55 42.5**	**-1.7**
	comp=Z,1.8nm,0.6s,mb4.2,baz=128,slow=6.0,SNR=10.0						
SIM	**Simferopol'**	**74.30**	**318**	*e*P	**P**	**15 55 51.0**	**-0.4**
SIM				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.9						
SEY	**Seymchan**	**75.44**	**22**	*e*P	**P**	**15 55 50.0**	**-7.6**
SEY				*e*	pP	15 55 59.2	-7.7
SEY

JRG				*e*S	S	15 50 33.0	+1.8
JYK	**Kaneyama**	**3.35**	**117**	P	P	15 49 42.3	+1.1
JOT	**Ohata**	**3.54**	**74**	P	P	15 49 44.2	+1.2
JHK	**Hiroka**	**3.78**	**148**	P	P	15 49 46.1	+0.7
JMK	**Ichinoseki**	**3.93**	**112**	P	P	15 49 47.1	+0.2
JMK				*e*S	S	15 50 41.7	+0.3
MAJO	**Matsushiro**	**4.16**	**161**	P	P	15 49 47.9	-1.4
MJAR	**Matsushiro Arr**	**4.16**	**161**	P	P	15 49 48.6	-0.7
	0.2nm,0.3s,baz=356,slow=16,SNR=4.6						
JFT	**Otama**	**4.20**	**134**	P	P	15 49 50.2	+0.6
JMM	**Marumori**	**4.23**	**127**	P	P	15 49 49.8	-0.1
JMM				*e*S	S	15 50 46.3	-0.5
JNG	**Nsakai**	**4.26**	**163**	P	P	15 49 50.8	+0.5
JFK	**Kawauchi**	**4.61**	**131**	P	P	15 49 53.4	-0.5
JFK				*e*S	S	15 50 52.3	-1.6
JRY	**Ryogami san**	**4.84**	**157**	P	P	15 49 56.4	-0.1
JRY				*e*S	S	15 50 59.5	+1.1
JCH	**Churui**	**5.55**	**65**	P	P	15 50 04.4	+0.2
JCH				*e*S	S	15 51 10.7	-1.5
ASAJ	**Asahikawa**	**5.77**	**49**	P	P	15 50 06.8	+0.1
	1.9nm,0.3s,baz=210,slow=7.6,SNR=15						
ASAJ				S	S	15 51 15.2	-1.5
	0.8nm,0.3s,baz=50,slow=30,SNR=7.0						
JTKR	**Abashiri--Toko**	**6.48**	**55**	*e*S	S	15 51 31.8	+0.4
NEM2	**Nemuro 2**	**7.44**	**64**	*e*S	S	15 51 48.9	-2.6
JHJ	**Hachijo jima 2**	**7.81**	**159**	P	P	15 50 29.6	-0.8
	13nm,0.3s,baz=259,slow=22,SNR=5.4						
JHJ				S	S	15 51 55.8	-3.5
	4.5nm,0.3s,baz=236,slow=23,SNR=2.3						
KURK	**Kurchatov**	**40.81**	**305**	P	P	15 55 44.6	-1.5
	1.2nm,0.4s,mb3.5						
CHKZ	**Chkalovo**	**45.16**	**310**	P	P	15 56 19.4	-1.3
ILAR	**Eielson Array**	**48.68**	**34**	P	P	15 56 49.0	+1.4
	0.5nm,0.6s,mb2.9,baz=273,slow=5.7,SNR=10						
FITZ	**Fitzroy Crossi**	**59.17**	**192**	P	P	15 58 02.5	-1.0
	7.4nm,1.1s,mb4.0,baz=11,slow=5.2,SNR=2.1						
WRA	**Warramunga Arr**	**60.16**	**182**	P	P	15 58 09.3	-0.7
	0.8nm,0.5s,mb3.4,baz=359,slow=7.3,SNR=19						
YKA	**Yellowknife Ar**	**62.72**	**30**	P	P	15 58 27.1	+0.9
	0.2nm,0.5s,mb3.0,baz=306,slow=5.8,SNR=8.4						
NVAR	**Mina Array Bea**	**75.90**	**51**	P	P	15 59 48.8	+2.6
	0.3nm,0.5s,mb3.3,baz=310,slow=7.0,SNR=3.3						
PDAR	**Pinedale Array**	**77.88**	**44**	P	P	15 59 58.6	+1.6
	0.5nm,0.6s,mb3.4,baz=291,slow=1.3,SNR=4.7						

IDC 10 15:55:29.7±2.4, 2.29N×95.31E, mb3.3/5, mb1 3.6/6, mb1mx3.4/21, mbtmp3.4/6, ML4.1/1, Error ellipse: s-maj=91.9km s-min=21.4km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.46**	**12**	Pn	P	15 59 23.0	-0.8
	0.2nm,0.3s,baz=204,slow=12,SNR=16						
WRA	**Warramunga Arr**	**44.20**	**122**	P	P	16 03 41.6	-1.1
	0.2nm,0.8s,baz=303,slow=9.0,SNR=2.3						
ASAR	**Alice Springs**	**45.55**	**127**	P	P	16 03 50.8	-2.6
	0.2nm,0.7s,baz=321,slow=5.8,SNR=2.5						
MKAR	**Makanchi Array**	**45.76**	**348**	P	P	16 03 53.2	-1.5
	0.3nm,0.6s,baz=156,slow=9.2,SNR=5.6						
SONM	**Songino Array**	**46.37**	**10**	P	P	16 03 57.6	-2.0
	0.2nm,0.4s,baz=192,slow=8.7,SNR=4.0						
BVAR	**Borovoye Array**	**54.62**	**342**	P	P	16 04 59.8	-2.6
	0.3nm,0.5s,baz=135,slow=6.1,SNR=2.8						

IDC 10 16:00:19.6±2.1, 1.55S×99.68E, h28km±5km, mb3.4/6, mb1 3.5/7, mb1mx3.4/17, mbtmp3.5/7, ML3.2/1, Error ellipse: s-maj=89.3km s-min=14.1km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.90**	**358**	P	P	16 04 48.7	-3.3
	0.0nm,0.3s,baz=187,slow=9.8,SNR=3.8						
WRA	**Warramunga Arr**	**38.50**	**121**	P	P	16 07 38.7	-2.8
	0.3nm,0.4s,baz=304,slow=9.1,SNR=8.5						
WRA				pP	pP	16 07 47.3	-2.7
	0.7nm,0.4s,baz=302,slow=9.1,SNR=11						
WRA				PcP	PcP	16 09 52.4	-2.2
	0.4nm,1.0s,baz=315,slow=2.4,SNR=5.0						
ASAR	**Alice Springs**	**39.78**	**126**	P	P	16 07 50.2	-1.9
	0.3nm,0.6s,baz=298,slow=7.5,SNR=7.7						
ASAR				pP	pP	16 07 59.4	-1.2
	0.7nm,0.8s,baz=309,slow=8.0,SNR=5.4						
SONM	**Songino Array**	**49.53**	**6**	P	P	16 09 08.6	-1.4
	0.2nm,0.4s,baz=190,slow=8.8,SNR=3.3						
SONM				pP	pP	16 09 17.5	-1.2
	0.9nm,0.9s,baz=196,slow=9.0,SNR=5.8						
STKA	**Stephens Creek**	**49.69**	**132**	P	P	16 09 10.2	-1.1
	0.3nm,0.3s,baz=323,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**50.51**	**345**	P	P	16 09 15.6	-1.8
	0.5nm,0.4s,baz=155,slow=8.9,SNR=11						
MKAR				pP	pP	16 09 23.5	-2.7
	0.8nm,0.6s,baz=150,slow=9.1,SNR=5.2						
ZAL	**Zalesovo**	**56.66**	**350**	P	P	16 09 58.2	-4.5
	1.0nm,0.4s,baz=323,slow=6.6,SNR=4.4						
TXAR	**Lajitas Array**	**144.54**	**37**	PKP	PKPdf	16 19 53.8	-5.3
	0.2nm,0.6s,baz=207,slow=2.0,SNR=4.0						

*BJI **10** 16:05:28.0, 1.02N×97.33E, h38km, mB5.1, mb4.9, Ms4.5, Msz4.3*
*MOS **10** 16:05:29.2±0.9, 1.26N×97.16E, h33km, mb4.9/13, Error ellipse: s-maj=17.6km s-min=8.2km az=101.6*
*IDC **10** 16:05:30.2±0.5, 1.30N×97.11E, h24km±3km, mb4.2/20, mb1 4.3/21, mb1mx4.2/27, mbtmp4.3/21, ML4.5/1, Error ellipse: s-maj=19.2km s-min=10.6km az=51.0*
*NEIC **10** 16:05:30.2±0.3, 1.30N×97.16E, mb4.7/23, Error ellipse: s-maj=8.8km s-min=5.5km az=51.0*

ISC 10 16:05:28.7±0.4, 1.31N±0.05×97.20E±0.05, h25km, h25km±1.7km: pP-P, n98, σ0°98/95, mb4.6/49, MS4.2/1, 2C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.01**	**50**	P	Pn	16 06 45.0	+0.7
KULM	**Kulim**	**5.24**	**41**	⇑*iP*	Pn	16 06 47.7	+0.2
KGM	**Kluang**	**6.15**	**83**	P	Pn	16 07 01.7	+1.3
KSM	**Kuching**	**13.10**	**89**	*e*P	P	16 08 36.4	+0.4
KSM				*e*		16 08 47.0	
CM31	**Chiang Mai Arr**	**17.13**	**6**	*e*P	P	16 09 27.1	-1.1
	5.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.13**	**6**	P	P	16 09 26.6	-1.6
	0.6nm,0.3s,baz=195,slow=11,SNR=23						
CHG	**Chiang Mai**	**17.48**	**5**	P	P	16 09 34.5	+1.9
NANT	**Nan**	**17.72**	**11**	P	P	16 09 33.0	-2.6
	88nm,0.6s						
KKM	**Kota Kinabalu**	**19.54**	**76**	*e*P	P	16 09 56.7	-0.8
KKM	**Kota Kinabalu**	**19.54**	**76**	P	P	16 09 57.4	-0.2
KMI	**Kunming**	**24.27**	**12**	⇓P	P	16 10 47.2	+2.0
KMI				AP		16 10 52.5	
KMI				AMB	AMB		
	comp=Z,29nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,127nm,4.2s						
KMI				LR	LR		
	comp=N,536nm,16.4s,MS4.2						
KMI				LR	LR		
	comp=E,240nm,14.1s,MS4.2						
KMI				LR	LR		
	comp=Z,588nm,16.9s,MS4.1						
KMI	**Kunming**	**24.27**	**12**	⇓P	P	16 10 47.2	+2.0
	comp=Z,29nm,1.2s,mb4.6						
KMI				pP		16 10 52.5	
KMI				S	S	16 15 19.1	+20
KMI				LR	LR		
	comp=Z,590nm,16.9s,MS4.1						
SHL	**Shillong**	**24.66**	**348**	⇑*iP*	P	16 10 48.5	-0.4
GYA	**Guiyang**	**26.61**	**19**	⇓*iP*	P	16 11 07.0	-0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
JIRN	**Jiri**	**28.25**	**339**	*e*P	P	16 11 23.0	+0.9
	comp=Z,38nm,0.7s,mb5.1						
PKI	**Pulchoki**	**28.45**	**338**	*e*P	P	16 11 25.2	+1.3
	comp=Z,16nm,0.7s,mb4.7						
PKI	**Pulchoki**	**28.45**	**338**	*e*P	P	16 11 25.2	+1.3
PKI				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
GUN	**Gumba**	**28.59**	**339**	*e*P	P	16 11 25.8	+0.7
	comp=Z,40nm,0.6s,mb5.3						
DMN	**Daman**	**28.61**	**337**	*e*P	P	16 11 26.1	+0.8
	comp=Z,15nm,0.8s,mb4.8						
KKN	**Kakani**	**28.70**	**338**	*e*P	P	16 11 26.1	0.0
	comp=Z,35nm,1.1s,mb5.0						
KKN	**Kakani**	**28.70**	**338**	*e*P	P	16 11 26.1	0.0
KKN				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
LSA	**Lhasa**	**28.82**	**349**	*e*P	P	16 11 28.2	+1.0
LSA	**Lhasa**	**28.82**	**349**	*e*P	P	16 11 27.9	+0.7
LSA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**28.82**	**349**	*e*P	P	16 11 27.9	+0.8
	comp=Z,6.7nm,0.7s,mb4.5						
GKN	**Gorkha**	**29.14**	**337**	*e*P	P	16 11 30.6	+0.5
	comp=Z,34nm,0.9s,mb5.1						
KOLN	**Koldanda**	**29.36**	**335**	*e*P	P	16 11 32.8	+0.7
	comp=Z,25nm,0.7s,mb5.1						
ENH	**Enshi**	**31.08**	**21**	*e*P	P	16 11 45.3	-1.9
	comp=Z,30nm,0.7s,mb5.2						
MBWA	**Marble Bar**	**31.37**	**137**	P	P	16 11 50.8	+0.8
FITZ	**Fitzroy Crossi**	**33.99**	**126**	*e*P	P	16 12 11.7	-1.1
	comp=Z,4.4nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.99**	**126**	P	P	16 12 11.8	-1.0
	comp=Z,6.9nm,0.7s,mb4.7,baz=272,slow=3.4,SNR=8.4						
XAN	**Xi'an**	**34.36**	**17**	P	P	16 12 14.3	-1.5
XAN				AMB	AMB		
	comp=Z,24nm,0.9s,mb5.1						
LZH	**Lanzhou**	**35.15**	**9**	*e*P	P	16 12 22.0	-0.5
LZH				AP	pP	16 12 29.0	-1.1
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.0						
LZH	**Lanzhou**	**35.15**	**9**	*e*P	P	16 12 22.0	-0.5
LZH				*SP	sP	16 12 31.5	-1.8
LZH				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.0						
LZH	**Lanzhou**	**35.15**	**9**	*e*P	P	16 12 22.0	-0.5
	comp=Z,30nm,1.5s,mb5.0						
LZH				pP	pP	16 12 29.0	-1.1
LZH				sP	sP	16 12 31.5	-1.8
GTA	**Gaotai**	**38.00**	**3**	*e*P	P	16 12 46.8	+0.3
GTA				AP	pP	16 12 53.8	-0.3
GTA				XP	sP	16 12 57.8	+0.5
GTA				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.7						
JOW	**Kunigami**	**39.16**	**47**	P	P	16 12 56.6	+0.2
	comp=Z,25nm,0.6s,mb5.2,baz=130,slow=26,SNR=9.8						
WRA	**Warramunga Arr**	**42.09**	**122**	P	P	16 13 20.2	-0.4
	comp=Z,4.0nm,0.6s,mb4.2,baz=301,slow=9.2,SNR=54						
WRA				pP	pP	16 13 27.8	-0.5
	comp=Z,2.4nm,0.3s,baz=302,slow=9.1,SNR=9.7						
WRAB	**Tennant Creek**	**42.09**	**122**	*e*P	P	16 13 20.4	-0.3
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.5						
WRAB	**Tennant Creek**	**42.09**	**122**	*e*P	P	16 13 20.4	-0.3
	comp=Z,6.5nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**42.10**	**122**	⇓*iP*	P	16 13 20.7	0.0
BJT	**Baijiatuau**	**42.22**	**22**	*e*P	P	16 13 22.4	+1.0
BJT				pmax	pmax		
	comp=Z,14nm,0.6s						
BJT	**Baijiatuau**	**42.22**	**22**	*e*P	P	16 13 22.4	+0.9
	comp=Z,14nm,0.6s,mb4.8						
BJI	**Beijing**	**42.24**	**22**	*e*P	P	16 13 22.3	+0.7
BJI				AP	pP	16 13 33.9	+4.7
BJI				AMB	AMB		
	comp=Z,22nm,0.6s,mb5.0						
BJI	**Beijing**	**42.24**	**22**	*e*P	P	16 13 22.3	+0.7
	comp=Z,22nm,0.6s,mb5.0						
BJI				pP	pP	16 13 33.9	+4.7
WMQ	**Urumqi**	**43.17**	**350**	*e*P	P	16 13 30.0	+0.9
ASPA	**Alice Springs**	**43.45**	**127**	*e*P	P	16 13 31.5	-0.3
ASAR	**Alice Springs**	**43.46**	**127**	P	P	16 13 31.9	+0.1
	comp=Z,1.9nm,0.6s,mb4.0,baz=299,slow=7.7,SNR=22						
ASAR				pP	pP	16 13 39.0	-0.5
	comp=Z,1.5nm,0.4s,baz=298,slow=7.7,SNR=9.5						
ASAR				PcP	PcP	16 15 20.3	0.0
	comp=Z,0.7nm,0.7s,baz=348,slow=2.8,SNR=4.1						
ULHL	**Ulahol**	**44.90**	**338**	P	P	16 13 44.2	+1.0
	SNR=6.0						
UCH	**Uchtor**	**45.55**	**336**	P	P	16 13 49.8	+1.4
	SNR=8.2						
TKM2	**Tokmak 2**	**45.72**	**338**	P	P	16 13 50.6	+1.0
	SNR=6.8						
KBK	**Karagaybulak**	**45.74**	**337**	P	P	16 13 51.4	+1.5
	SNR=12						
AML	**Almayashu**	**45.80**	**336**	P	P	16 13 51.7	+1.3
	SNR=9.3						
EKS2	**Erkin-Say**	**46.21**	**336**	P	P	16 13 54.8	+1.3
	SNR=6.1						
SONM	**Songino Array**	**47.02**	**8**	P	P	16 14 00.2	+0.3
	comp=Z,5.4nm,0.6s,mb4.7,baz=190,slow=9.3,SNR=65						
SONM				PcP	PcP	16 15 32.2	-0.1
	comp=Z,1.3nm,0.4s,baz=193,slow=4.4,SNR=8.6						
MKAR	**Makanchi Array**	**47.14**	**346**	P	P	16 14 00.9	+0.1
	comp=Z,6.0nm,0.6s,mb4.7,baz=165,slow=8.6,SNR=73						
ULN	**Ulaanbaatar**	**47.15**	**9**	*e*P	P	16 14 00.9	0.0
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**47.15**	**9**	*e*P	P	16 14 00.8	-0.1
	comp=Z,5.7nm,1.0s,mb4.5						
ZAK	**Zakamensk**	**49.16**	**5**	*e*P	P	16 14 16.3	-0.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
CN2	**Changchun**	**49.20**	**27**	*e*P	P	16 14 16.1	-0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
HIA	**Hailar**	**51.54**	**19**	*e*P	P	16 14 34.4	-0.2
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HIA	**Hailar**	**51.54**	**19**	*e*P	P	16 14 34.4	-0.3
	comp=Z,5.4nm,0.7s,mb4.6						
KURK	**Kurchatov**	**51.69**	**345**	*e*P	P	16 14 35.2	-0.6
KURK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**51.69**	**345**	*e*P	P	16 14 35.2	-0.5
	comp=Z,6.1nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**53.43**	**132**	P	P	16 14 49.5	+0.5
	comp=Z,3.7nm,0.6s,mb4.5,baz=326,slow=5.5,SNR=13						
STKA				pP	pP	16 14 57.7	+0.9
	comp=Z,2.9nm,0.5s,baz=296,slow=8.0,SNR=4.4						
STKA	**Stephens Creek**	**53.43**	**132**	P	P	16 14 49.5	+0.5
STKA				pP	pP	16 14 57.7	+0.9
ZAL	**Zalesovo**	**53.44**	**351**	P	P	16 14 48.8	-0.1
	comp=Z,13nm,0.3s,mb5.3,baz=310,slow=4.8,SNR=48						
ZAL				pP	pP	16 14 56.0	-0.6
	comp=Z,4.6nm,0.4s,baz=284,slow=5.9,SNR=7.1						
BVAR	**Borovoye Array**	**56.15**	**341**	P	P	16 15 07.3	-1.3
	comp=Z,6.6nm,0.7s,mb4.8,baz=139,slow=9.4,SNR=43						
KLR	**Kul'dur**	**56.16**	**27**	*e*P	P	16 15 05.4	-3.2
CHKZ	**Chkalovo**	**56.62**	**341**	*e*P	P	16 15 11.0	-0.9
CHKZ				pmax	pmax		
	comp=Z,54nm,0.8s,mb5.6						
CHKZ	**Chkalovo**	**56.62**	**341**	*e*P	P	16 15 11.0	-1.0
	comp=Z,54nm,0.8s,mb5.6						
BOD	**Bodaibo**	**57.90**	**11**	*e*P	P	16 15 19.7	-1.2
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ASAJ	**Asahikawa**	**58.57**	**37**	P	P	16 15 26.7	+0.9
	comp=Z,2.0nm,0.3s,mb4.6,baz=250,slow=11,SNR=6.5						
YSS	**Yuzh-Sakhalins**	**60.26**	**34**	*e*P	P	16 15 36.5	-0.9
YSS	**Yuzh-Sakhalins**	**60.26**	**34**	P	P	16 15 36.6	-0.8
	comp=Z,14nm,1.1s,mb4.9						
SVE	**Sverdlovsk**	**62.59**	**338**	*e*P	P	16 15 52.1	-0.9
SVE				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.9						
KIV	**Kislovodsk**	**64.23**	**319**	P	P	16 16 02.1	-1.9
KIV	**Kislovodsk**	**64.23**	**319**	P	P	16 16 02.1	-1.8
MALT	**Malatya**	**65.06**	**312**	*e*P	P	16 16 09.3	-0.1
MALT				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
MALT	**Malatya**	**65.06**	**312**	*e*P	P	16 16 09.3	-0.2
	comp=Z,1.1nm,0.4s,mb4.2						
YAK	**Yakutsk**	**65.31**	**16**	*e*P	P	16 16 09.3	-1.4
YAK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK	**Yakutsk**	**65.31**	**16**	*e*P	P	16 16 09.4	-1.3
	comp=E,33nm,0.9s,mb5.4						
BRTR	**Keskin Array B**	**69.04**	**312**	P	P	16 16 33.6	-1.0
	comp=E,0.4nm,0.4s,mb3.7,baz=127,slow=6.2,SNR=3.7						
MATP	**Matopo**	**70.57**	**248**	P	P	16 16 43.4	-0.8
	comp=E,0.9nm,0.7s,mb3.8,baz=52,slow=8.4,SNR=2.3						
MATP				pP	pP	16 16 51.9	-0.3
	comp=E,4.0nm,1.0s,baz=69,slow=9.2,SNR=4.4						
MATP	**Matopo**	**70.57**	**248**	P	P	16 16 43.4	-0.8
MATP				pP	pP	16 16 51.9	-0.3
AKASG	**Malin Array Be**	**75.17**	**322**	P	P	16 17 09.7	-1.1
	comp=E,0.6nm,0.5s,mb3.8,baz=85,slow=4.4,SNR=5.9						
MLR	**Muntele Rosu**	**75.99**	**317**	P	P	16 17 14.7	-0.9
	comp=E,0.7nm,0.6s,mb3.8,baz=130,slow=16,SNR=3.1						
FINES	**FINESS Array B**	**79.90**	**332**	P	P	16 17 36.4	-0.3
	comp=E,0.7nm,0.4s,mb3.9,baz=117,slow=6.9,SNR=12						
FINES				pP	pP	16 17 44.0	-0.8
	comp=E,0.8nm,0.6s,baz=117,slow=8.5,SNR=2.6						
FINES	**FINESS Array B**	**79.90**	**332**	P	P	16 17 36.4	-0.3
FINES				pP	pP	16 17 44.0	-0.8
ARCES	**ARCESS Array B**	**82.43**	**340**	P	P	16 17 50.1	+0.3
	comp=E,1.6nm,0.6s,mb4.1,baz=90,slow=4.9,SNR=10						
GERES	**GERESS Array B**	**84.73**	**319**	P	P	16 18 02.5	+0.5
	comp=E,0.4nm,0.4s,mb3.9,baz=108,slow=4.2,SNR=6.4						
HFS	**Hagfors**	**85.63**	**330**	P	P	16 18 06.5	+0.3
	comp=E,5.4nm,1.1s,mb4.7,baz=90,slow=3.0,SNR=4.1						
HFS				pP	pP	16 18 14.0	-0.4
	comp=E,2.5nm,0.9s,baz=153,slow=6.6,SNR=2.1						
VNDA	**Vanda**	**85.93**	**169**	P	P	16 18 09.6	+2.2
	comp=E,0.4nm,0.8s,mb3.7,baz=262,slow=7.1,SNR=2.2						
NOA	**NORSAR Array B**	**86.91**	**331**	P	P	16 18 11.5	-1.0
	comp=E,0.4nm,0.5s,mb3.9,baz=96,slow=5.2,SNR=3.0						
DAVOX	**Davos**	**87.22**	**317**	P	P	16 18 14.0	-0.3
	comp=E,2.0nm,0.8s,mb4.4,baz=135,slow=14,SNR=3.4						
YKA	**Yellowknife Ar**	**111.99**	**15**	PP	PP	16 24 37.5	-12
	comp=E,0.1nm,0.8s,baz=332,slow=6.9,SNR=2.4						
MIAR	**Mount Ida**	**142.93**	**15**	*e*PKPpre		16 24 58.5	
TXAR	**Lajitas Array**	**143.57**	**32**	PKP	PKPdf	16 25 01.5	-5.1
	comp=E,0.5nm,0.6s,baz=29,slow=0.9,SNR=9.7						
TXAR	**Lajitas Array**	**143.57**	**32**	PKP	PKPdf	16 25 01.5	-5.1

*MOS **10** 16:09:28.9±0.6, 8.02N×91.95E, h33km, mb4.7/8, Error ellipse: s-maj=19.1km s-min=10.4km az=105.5*
*BJI **10** 16:09:30.4, 7.89N×91.21E, h45km, mb4.4*
*NEIC **10** 16:09:30.6±0.3, 8.01N×91.87E, h30km, mb4.5/12, Error ellipse: s-maj=7.2km s-min=5.6km az=52.0*
*IDC **10** 16:09:33.8±5.3, 8.09N×91.92E, h57km±48km, mb3.9/17, mb1 4.0/18, mb1mx3.9/27, mbtmp4.2/18, ML3.9/1, Error ellipse: s-maj=25.0km s-min=14.0km az=52.0*

ISC 10 16:09:29.2±0.5, 8.03N±0.07×91.94E±0.06, h33km, n55, σ0°64/55, mb4.3/30, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.07**	**107**	*e*P	P	16 11 40.4	-0.4
CM31	**Chiang Mai Arr**	**12.40**	**33**	*e*P	P	16 12 26.3	-0.1
	3.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**12.40**	**33**	P	P	16 12 26.3	-0.1
	0.2nm,0.3s,baz=230,slow=14,SNR=15						
HYB	**Hyderabad**	**16.04**	**307**	*e*P	P	16 13 17.5	+3.5
HYB	**Hyderabad**	**16.04**	**307**	*i*P	P	16 13 17.5	+3.5
HYB				*e*S	S	16 16 11.0	+0.5
JIRN	**Jiri**	**20.27**	**345**	*e*P	P	16 14 05.3	+0.6
	28nm,0.9s						
PKI	**Pulchoki**	**20.40**	**343**	*e*P	P	16 14 06.1	0.0
	13nm,0.4s						
DMN	**Daman**	**20.52**	**342**	*e*P	P	16 14 07.2	-0.2
	39nm,1.0s						
GUN	**Gumba**	**20.59**	**345**	*e*P	P	16 14 07.8	-0.3
	27nm,0.7s						
KKN	**Kakani**	**20.64**	**343**	*e*P	P	16 14 07.8	-0.8
	62nm,1.5s						
KKN	**Kakani**	**20.64**	**343**	*e*P	P	16 14 07.8	-0.8
KKN				pmax	pmax		
	comp=Z,31nm,1.5s						
GKN	**Gorkha**	**21.03**	**342**	*e*P	P	16 14 12.4	-0.2
	comp=Z,49nm,0.9s,mb4.8						
KOLN	**Koldanda**	**21.16**	**339**	*e*P	P	16 14 13.4	-0.5
	comp=Z,81nm,1.4s,mb4.9						
LSA	**Lhasa**	**21.57**	**358**	*e*P	P	16 14 22.1	+4.1
LSA	**Lhasa**	**21.57**	**358**	P	P	16 14 18.0	0.0
LSA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.3						
LSA	**Lhasa**	**21.57**	**358**	P	P	16 14 18.0	0.0
	comp=Z,12nm,0.9s,mb4.3						
GYA	**Guiyang**	**23.06**	**36**	P	P	16 14 42.1	+9.2
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
CD2	**Chengdu**	**25.30**	**24**	*e*P	P	16 14 55.0	+0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GTA	**Gaotai**	**32.04**	**12**	P	P	16 15 56.2	+1.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**39.50**	**350**	P	P	16 16 58.6	+0.2
	comp=Z,0.4nm,0.4s,mb3.5,baz=163,slow=8.8,SNR=6.8						
SONM	**Songino Array**	**41.53**	**15**	P	P	16 17 15.6	+0.5

IDC 10 16:10:52.9±1.9, 1.70N×128.51E, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=125.9km s-min=24.4km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.26**	**165**	P	P	16 15 51.7	-1.5
	0.9nm,0.5s,baz=345,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**25.75**	**169**	P	P	16 16 25.5	-1.6
	1.2nm,0.9s,baz=0.3,slow=7.6,SNR=6.4						
STKA	**Stephens Creek**	**35.63**	**161**	P	P	16 17 52.4	-2.2
	2.1nm,0.7s,baz=335,slow=8.9,SNR=5.7						
MKAR	**Makanchi Array**	**60.22**	**325**	P	P	16 21 03.0	-2.2
	0.3nm,0.4s,baz=120,slow=8.0,SNR=6.1						

IDC 10 16:15:50.1±4.3, 0.77S×100.94E, mb3.5/5, mb1 3.6/5, mb1mx3.4/17, mbtmp3.5/5, Error ellipse: s-maj=239.5km s-min=22.2km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.83**	**122**	P	P	16 23 08.7	-1.7
	0.3nm,0.4s,baz=303,slow=8.9,SNR=4.8						
ASAR	**Alice Springs**	**39.23**	**128**	P	P	16 23 20.4	-1.8
	0.1nm,0.5s,baz=304,slow=8.1,SNR=3.9						
MKAR	**Makanchi Array**	**50.12**	**343**	P	P	16 24 48.6	-0.5
	0.5nm,0.4s,baz=153,slow=8.5,SNR=8.6						
ZAL	**Zalesovo**	**56.14**	**349**	P	P	16 25 31.2	-2.5
	0.6nm,0.6s,baz=291,slow=17,SNR=3.5						
BVAR	**Borovoye Array**	**59.37**	**339**	P	P	16 25 52.6	-3.8
	0.3nm,0.5s,baz=121,slow=8.4,SNR=3.7						

IDC 10 16:19:29.1±1.7, 0.72N×96.87E, mb3.5/5, mb1 3.7/6, mb1mx3.5/18, mbtmp3.5/6, ML3.6/1, Error ellipse: s-maj=55.6km s-min=27.9km az=53.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.74**	**6**	P	P	16 23 38.4	-1.0
	0.1nm,0.3s,baz=195,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**42.06**	**121**	P	P	16 27 22.9	-1.7
	0.5nm,0.9s,baz=304,slow=9.0,SNR=5.1						
MKAR	**Makanchi Array**	**47.63**	**346**	P	P	16 28 07.5	-1.5
	0.3nm,0.5s,baz=164,slow=8.4,SNR=5.3						
SONM	**Songino Array**	**47.65**	**9**	P	P	16 28 07.6	-1.5
	0.2nm,0.5s,baz=180,slow=5.8,SNR=2.7						
ZAL	**Zalesovo**	**53.97**	**351**	P	P	16 28 53.4	-3.6
	0.8nm,0.3s,baz=9.4,slow=5.7,SNR=2.9						
BRTR	**Keskin Array B**	**69.19**	**313**	P	P	16 30 38.3	-1.6
	0.3nm,0.6s,baz=113,slow=11,SNR=2.4						

*IDC **10** 16:27:10.3±2.1, 1.18N×97.38E, mb3.8/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.7/6, ML3.9/1, Error ellipse: s-maj=87.5km s-min=20.8km az=58.0*
*BJI **10** 16:27:10.0, 0.97N×97.56E, h19km, mB4.8, mb4.6*
*NEIC **10** 16:27:12.4±0.9, 1.09N×97.24E, mb4.2/6, Error ellipse: s-maj=22.5km s-min=12.5km az=67.0*
ISC 10 16:27:10.6±1.1, 1.1N±0.1×97.2E±0.2, h19km, h19km±2.2km: pP-P, n16, σ0§88/16, mb4.1/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.42**	**40**	*eP*	**Pn**	**16 28 32.6**	**+0.1**
CM31	**Chiang Mai Arr**	**17.34**	**6**	*eP*	**P**	**16 31 12.9**	**-0.6**
	1.6nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.34**	**6**	P	**P**	**16 31 12.8**	**-0.7**
	0.1nm,0.3s,baz=194,slow=13,SNR=10						
KMI	**Kunming**	**24.49**	**12**	P	**P**	**16 32 32.2**	**+2.2**
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.3						
KMI				AMB	AMB		
	comp=Z,107nm,4.5s						
KMI	**Kunming**	**24.49**	**12**	P	**P**	**16 32 32.2**	**+2.2**
	comp=Z,15nm,1.1s,mb4.3						
ENH	**Enshi**	**31.29**	**21**	*eP*	**P**	**16 33 30.2**	**-1.7**
	comp=Z,4.1nm,0.5s,mb4.5						
GTA	**Gaotai**	**38.21**	**3**	*eP*	**P**	**16 34 31.3**	**+0.2**
GTA				AP	pP	16 34 38.5	+1.7
GTA				XP	sP	16 34 42.0	+2.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**41.98**	**122**	P	**P**	**16 35 02.5**	**-0.1**
	comp=Z,0.7nm,0.8s,mb3.4,baz=300,slow=9.2,SNR=8.5						
ASAR	**Alice Springs**	**43.34**	**127**	P	**P**	**16 35 13.6**	**0.0**
	comp=Z,0.5nm,1.0s,mb3.2,baz=306,slow=7.2,SNR=4.7						
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**16 35 44.6**	**+0.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=193,slow=9.3,SNR=13						
SONM				PcP	PcP	16 37 16.3	+0.3
	comp=Z,0.6nm,0.8s,baz=180,slow=3.7,SNR=3.9						
MKAR	**Makanchi Array**	**47.34**	**346**	P	**P**	**16 35 45.6**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=160,slow=7.9,SNR=19						
ULN	**Ulaanbaatar**	**47.37**	**9**	*eP*	**P**	**16 35 47.5**	**+2.0**
	comp=Z,1.3nm,0.7s,mb4.0						
CN2	**Changchun**	**49.41**	**27**	*eP*	**P**	**16 36 01.0**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
KURK	**Kurchatov**	**51.90**	**345**	*eP*	**P**	**16 36 20.1**	**0.0**
	comp=Z,3.0nm,1.0s,mb4.2						
KURK				*e*	pP	16 36 25.2	-0.7
BVAR	**Borovoye Array**	**56.35**	**341**	P	**P**	**16 36 52.3**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.8,baz=135,slow=8.2,SNR=5.2						
CHKZ	**Chkalovo**	**56.83**	**341**	*eP*	**P**	**16 36 55.7**	**-0.5**
	comp=Z,3.8nm,1.4s,mb4.2						
CHKZ				*e*	pP	16 37 00.8	-1.3

*IDC **10** 16:29:56.4±0.9, 1.73S×99.66E, h24km±4km, mb3.8/12, mb1 4.0/12, mb1mx3.8/18, mbtmp4.0/12, MS3.1/1, Ms1 3.3/1, ms1mx2.7/26, Error ellipse: s-maj=43.5km s-min=13.7km az=52.0*
*BJI **10** 16:29:56.3, 1.70S×99.70E, h25km, mb4.7*
*NEIC **10** 16:29:56.3±0.4, 1.75S×99.69E, mb4.4/6, Error ellipse: s-maj=18.8km s-min=6.0km az=59.0*
ISC 10 16:29:54.5±0.7, 1.7S±0.1×99.8E±0.2, h25km, h25km±.7km: pP-P, n26, σ0§82/23, mb4.1/15, MS2.9/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.97**	**7**	*eP*	**Pn**	**16 31 38.8**	**+1.0**
CM31	**Chiang Mai Arr**	**20.02**	**358**	P	**P**	**16 34 28.0**	**-0.6**
	16nm,1.3s						
CMAR	**Chiang Mai Arr**	**20.02**	**358**	P	**P**	**16 34 28.1**	**-0.5**
	1.0nm,0.5s,baz=187,slow=9.3,SNR=15						
CMAR				LR	LR	16 42 56.9	
	comp=Z,54nm,21.2s,MS2.9,baz=279,slow=39						
MBWA	**Marble Bar**	**27.47**	**136**	*eP*	**P**	**16 35 41.6**	**+0.6**
	15nm,1.2s,mb4.4						
FITZ	**Fitzroy Crossi**	**30.20**	**124**	*eP*	**P**	**16 36 04.8**	**-0.7**
	3.9nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**30.20**	**124**	P	**P**	**16 36 04.7**	**-0.9**
	3.2nm,0.8s,mb4.1,baz=265,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**38.37**	**121**	P	**P**	**16 37 15.6**	**-0.2**
	1.6nm,0.4s,mb4.1,baz=304,slow=9.0,SNR=31						
WRA				PcP	PcP	16 39 30.0	+0.4
	0.4nm,0.4s,baz=311,slow=2.6,SNR=5.7						
WRAB	**Tennant Creek**	**38.38**	**121**	*eP*	**P**	**16 37 15.0**	**-0.8**
	3.9nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**38.38**	**121**	*eP*	**P**	**16 37 15.1**	**-0.7**
ASPA	**Alice Springs**	**39.64**	**126**	*eP*	**P**	**16 37 26.5**	**+0.2**
ASAR	**Alice Springs**	**39.65**	**126**	P	**P**	**16 37 26.8**	**+0.5**
	0.5nm,0.4s,mb3.6,baz=293,slow=7.7,SNR=17						
ASAR				PcP	PcP	16 39 34.3	+0.7
	0.7nm,0.6s,baz=307,slow=2.6,SNR=4.3						
WMQ	**Urumqi**	**46.56**	**348**	*eP*	**P**	**16 38 21.8**	**-0.4**
STKA	**Stephens Creek**	**49.55**	**132**	P	**P**	**16 38 46.5**	**+0.8**
	1.0nm,0.5s,mb4.1,baz=310,slow=16,SNR=5.5						
SONM	**Songino Array**	**49.64**	**6**	P	**P**	**16 38 46.8**	**+0.7**
	0.4nm,0.3s,mb3.9,baz=194,slow=10,SNR=8.6						
SONM				pP	pP	16 38 55.1	+1.4
	2.9nm,1.0s,baz=188,slow=9.2,SNR=9.2						
MKAR	**Makanchi Array**	**50.64**	**345**	P	**P**	**16 38 54.1**	**+0.4**
	1.0nm,0.3s,mb4.2,baz=156,slow=8.6,SNR=19						
KURK	**Kurchatov**	**55.22**	**344**	*eP*	**P**	**16 39 26.8**	**-1.0**
	5.1nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**59.79**	**340**	P	**P**	**16 39 58.8**	**-1.1**
	0.6nm,0.4s,mb4.0,baz=148,slow=9.6,SNR=8.9						
BVAR				pP	pP	16 40 05.7	-1.9
	1.1nm,0.4s,baz=156,slow=14,SNR=8.4						
CHKZ	**Chkalovo**	**60.25**	**341**	*eP*	**P**	**16 40 02.2**	**-0.9**
	3.2nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**72.92**	**312**	P	**P**	**16 41 22.9**	**-0.9**
	0.5nm,0.5s,mb3.7,baz=104,slow=5.1,SNR=3.9						
FINES	**FINESS Array B**	**83.70**	**332**	P	**P**	**16 42 23.1**	**+0.8**
	0.7nm,0.5s,mb4.1,baz=108,slow=6.7,SNR=20						
FINES				pP	pP	16 42 31.3	+1.0
	0.6nm,0.5s,baz=119,slow=5.5,SNR=3.0						
FINES	**FINESS Array B**	**83.70**	**332**	P	**P**	**16 42 23.1**	**+0.8**
FINES				pP	pP	16 42 31.3	+0.9
ARCES	**ARCESS Array B**	**86.08**	**340**	P	**P**	**16 42 35.7**	**+1.6**
	4.5nm,1.0s,mb4.6,baz=90,slow=6.1,SNR=7.2						
ARCES				pP	pP	16 42 43.6	+1.5
	1.1nm,0.5s,baz=100,slow=6.1,SNR=1.7						
GERES	**GERESS Array B**	**88.64**	**319**	P	**P**	**16 42 48.3**	**+1.3**
	0.3nm,0.7s,mb3.8,baz=140,slow=7.7,SNR=3.5						
GERES				pP	pP	16 42 56.2	+1.4
	0.3nm,0.6s,baz=104,slow=5.5,SNR=2.3						
TXAR	**Lajitas Array**	**144.59**	**37**	PKP	PKPdf	16 49 31.4	-2.8
	0.5nm,0.4s,baz=206,slow=0.7,SNR=19						
TXAR				pPKP		16 49 39.6	
	1.2nm,0.5s,baz=189,slow=1.1,SNR=12						
JCT	**Junction City**	**145.87**	**31**	*e*PKP	PKPdf	16 49 34.4	-2.0
CPCT	**Cooper Cave**	**146.16**	**6**	*e*PKP	PKPdf	16 49 34.9	-1.9
CPCT				*e*		16 49 42.3	

IDC 10 16:35:43.7±3.4, 0.28S×99.07E, mb3.5/2, mb1 3.6/3, mb1mx3.3/17, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=142.1km s-min=29.5km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.62**	**360**	P	P	16 40 03.5	-1.5
	0.1nm,0.3s,baz=190,slow=11,SNR=8.0						
ASAR	**Alice Springs**	**41.01**	**127**	P	P	16 43 28.8	-1.7
	0.5nm,1.0s,baz=291,slow=12,SNR=4.1						
MKAR	**Makanchi Array**	**49.14**	**345**	P	P	16 44 33.0	-2.2
	1.0nm,0.6s,baz=161,slow=8.1,SNR=11						

*IDC **10** 16:36:22.9±0.7, 1.81S×99.85E, mb4.0/12, mb1 4.1/12, mb1mx4.0/20, mbtmp4.0/12, Error ellipse: s-maj=27.8km s-min=16.0km az=49.0*
*NEIC **10** 16:36:27.5±0.5, 1.75S×99.93E, h30km, mb4.4/7, Error ellipse: s-maj=17.5km s-min=10.9km az=66.0*
ISC 10 16:36:25.8±0.6, 1.71S±0.09×100.0E±0.1, h33km, n25, σ1§02/21, mb4.1/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.99**	**6**	*eP*	**P**	**16 38 08.5**	**+0.1**
CM31	**Chiang Mai Arr**	**20.07**	**357**	*eP*	**P**	**16 40 57.0**	**-2.3**
	4.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**20.07**	**357**	P	**P**	**16 40 57.8**	**-1.5**
	4.0nm,0.7s,baz=189,slow=10,SNR=25						
FITZ	**Fitzroy Crossi**	**29.99**	**125**	P	**P**	**16 42 33.4**	**-0.3**
	4.3nm,0.8s,mb4.2,baz=270,slow=20,SNR=2.1						
LSA	**Lhasa**	**32.36**	**346**	*eP*	**P**	**16 42 55.4**	**+0.8**
	2.8nm,0.4s,mb4.5						
ENH	**Enshi**	**33.07**	**15**	P	**P**	**16 43 00.5**	**-0.3**
	3.1nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**38.16**	**121**	P	**P**	**16 43 43.9**	**-0.1**
	2.1nm,0.7s,mb4.0,baz=304,slow=9.1,SNR=9.0						
ASAR	**Alice Springs**	**39.44**	**126**	P	**P**	**16 43 54.5**	**-0.2**
	0.4nm,0.6s,mb3.3,baz=296,slow=7.7,SNR=4.7						
ASAR				PcP	PcP	16 46 06.1	+3.2
	0.7nm,0.8s,baz=304,slow=2.9,SNR=5.7						
SONM	**Songino Array**	**49.66**	**6**	P	**P**	**16 45 18.7**	**+2.3**
	1.7nm,0.8s,mb4.1,baz=186,slow=8.6,SNR=16						
ULN	**Ulaanbaatar**	**49.76**	**6**	*eP*	**P**	**16 45 19.4**	**+2.2**
	1.5nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**50.75**	**344**	P	**P**	**16 45 25.4**	**+0.7**
	2.3nm,0.7s,mb4.2,baz=153,slow=8.1,SNR=16						
KURK	**Kurchatov**	**55.33**	**344**	*eP*	**P**	**16 45 58.7**	**+0.1**
	2.7nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**59.91**	**340**	P	**P**	**16 46 30.3**	**-0.5**
	1.9nm,0.7s,mb4.2,baz=145,slow=9.1,SNR=9.6						
CHKZ	**Chkalovo**	**60.37**	**340**	*eP*	**P**	**16 46 33.3**	**-0.7**
	3.5nm,1.0s,mb4.3						
CHKZ				*e*	pP	16 46 42.3	-1.8
KMBO	**Kilima Mbogo**	**62.71**	**270**	P	**P**	**16 46 50.6**	**+0.3**
	0.2nm,0.3s,mb3.8,baz=41,slow=19,SNR=3.9						
KIV	**Kislovodsk**	**68.31**	**319**	*eP*	**P**	**16 47 25.9**	**+0.1**
	5.3nm,0.9s,mb4.6						
MATP	**Matopo**	**72.06**	**249**	P	**P**	**16 47 48.9**	**-0.1**
	2.0nm,0.7s,mb4.2,baz=109,slow=6.3,SNR=6.3						
BRTR	**Keskin Array B**	**73.11**	**312**	P	**P**	**16 47 54.0**	**-1.0**
	0.8nm,0.6s,mb3.8,baz=138,slow=7.9,SNR=6.1						
AKASG	**Malin Array Be**	**79.25**	**322**	P	**P**	**16 48 28.7**	**-0.7**
	0.1nm,0.2s,mb3.3,baz=81,slow=5.0,SNR=4.6						
FINES	**FINESS Array B**	**83.85**	**332**	P	**P**	**16 48 54.7**	**+1.5**
	0.9nm,0.6s,mb4.1,baz=63,slow=4.3,SNR=7.0						
FINES	**FINESS Array B**	**83.85**	**332**	P	**P**	**16 48 54.7**	**+1.5**
TXAR	**Lajitas Array**	**144.49**	**37**	PKP	PKPdf	16 56 03.5	+4.0
	2.6nm,0.7s,baz=282,slow=1.2,SNR=29						
MIAR	**Mount Ida**	**144.97**	**20**	*e*PKP	PKPdf	16 56 03.5	+3.3
WVT	**Waverly**	**145.00**	**11**	*e*PKP	PKPdf	16 56 01.0	+0.8
JCT	**Junction City**	**145.79**	**31**	*e*PKP	PKPdf	16 56 06.0	+4.2

*ISK **10** 16:37:33.3, 37.06N×28.60E, h16km, MD3.1*
*NEIC **10** 16:37:33.6, 37.02N×28.56E, h17km, MD3.1(ATH), MD3.0(ISK), After ISK.*
*CSEM **10** 16:37:33.4±0.1, 37.05N×28.59E, h15km, MD3.1, Error ellipse: s-maj=3.0km s-min=1.9km az=37.0*
*ATH **10** 16:37:37.5, 36.89N×28.04E, h10km, MD3.1/3*
ISC 10 16:37:34.2±0.5, 37.00N±0.03×28.50E±0.04, h11km±5km, n23, σ0§92/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.22**	**307**	*i* PG	**Pg**	**16 37 39.3**	**+0.2**
YER				*i* SG	**Sg**	**16 37 43.9**	**+1.6**
YER	**Yerkesik**	**0.22**	**307**	Pg	**Pg**	**16 37 39.3**	**+0.2**
YER				Sg	**Sg**	**16 37 43.3**	**+1.0**
DALT	**Dalyan (Mudla)**	**0.26**	**155**	*i* PG	**Pg**	**16 37 39.3**	**-0.4**
DALT				*i* SG	**Sg**	**16 37 45.2**	**+1.8**
DALT	**Dalyan (Mudla)**	**0.26**	**155**	Pg	**Pg**	**16 37 39.4**	**-0.4**
DALT				Sg	**Sg**	**16 37 45.4**	**+2.0**
FETY	**Fethiye**	**0.59**	**128**	PG	**Pg**	**16 37 45.0**	**-1.2**
FETY				SG	**Sg**	**16 37 53.5**	**-0.7**
MLSB	**Milas**	**0.65**	**297**	*e*PG	**Pg**	**16 37 46.9**	**-0.5**
MLSB	**Milas**	**0.65**	**297**	Pg	**Pg**	**16 37 46.9**	**-0.5**
DNZL	**Cakiroluk**	**0.81**	**32**	*i* P	**Pb**	**16 37 48.8**	**-1.1**
DNZL				*i* S	**Sb**	**16 38 01.0**	**+0.4**
AYDN	**Tasoluk**	**0.82**	**323**	*i* P	**Pb**	**16 37 50.1**	**0.0**
AYDN				*i* S	**Sb**	**16 38 01.6**	**+0.6**
ARG	**Arkhangelos**	**0.84**	**201**	*e*PB	**Pb**	**16 37 50.5**	**+0.2**
BDRM	**Kayabasi**	**0.85**	**275**	*i* P	**Pb**	**16 38 01.6**	**+11**
BDRM				*i* S	**Sb**	**16 38 16.3**	**+15**
DENT	**Denizli**	**0.86**	**29**	*e*PG	**Pg**	**16 37 49.5**	**-2.1**
DENT	**Denizli**	**0.86**	**29**	Pg	**Pg**	**16 37 50.2**	**-1.4**
GOLH	**Golhisar**	**0.88**	**74**	*i* P	**Pb**	**16 37 51.1**	**+0.1**
GOLH				*i* S	**Sb**	**16 38 05.3**	**+2.8**
BODT	**Bodrum**	**0.96**	**274**	PG	**Pg**	**16 37 53.7**	**+0.3**
BODT	**Bodrum**	**0.96**	**274**	Pg	**Pg**	**16 37 53.8**	**+0.4**
AKAS	**Kas**	**1.17**	**130**	*i* P	**Pb**	**16 37 56.8**	**+0.8**
AKAS				*i* S	**Sb**	**16 38 15.3**	**+4.3**
MANT	**Manisa**	**1.49**	**2**	*i* P	**Pn**	**16 38 01.3**	**+0.2**
MANT				*i* S	**Sb**	**16 38 20.5**	**+0.3**
SMG	**Samos**	**1.50**	**299**	*e*PB	**Pb**	**16 38 01.3**	**-0.4**
IZM	**Izmir**	**1.71**	**325**	*e*PN	**Pn**	**16 38 03.4**	**-0.8**
IZM	**Izmir**	**1.71**	**325**	Pn	**Pn**	**16 38 03.4**	**-0.8**
KDAG	**Bornova**	**1.71**	**325**	*i* P	**Pn**	**16 38 04.2**	**0.0**
KDAG				*i* S	**Sn**	**16 38 31.9**	**+5.7**
KARP	**Karpathos**	**1.81**	**217**	*e*PB	**Pb**	**16 38 06.0**	**-1.0**

*BJI **10** 16:40:39.2, 1.52N×97.14E, h39km, mB5.3, mb4.7*
*MOS **10** 16:40:40.5±1.2, 1.79N×96.97E, h33km, mb4.9/10, Error ellipse: s-maj=17.9km s-min=9.3km az=96.7*
*IDC **10** 16:40:41.3±0.6, 1.85N×96.93E, h24km±3km, mb4.0/13, mb1 4.1/14, mb1mx4.0/19, mbtmp4.1/14, ML3.7/1, MS4.1/4, Ms1 4.1/4, ms1mx3.4/28, Error ellipse: s-maj=22.9km s-min=13.7km az=49.0*
*NEIC **10** 16:40:41.3±0.3, 1.80N×96.93E, mb4.6/17, Error ellipse: s-maj=8.5km s-min=5.5km az=56.0*
ISC 10 16:40:39.5±0.5, 1.81N±0.07×96.95E±0.08, h26km, h26km±.6km: pP-P, n56, σ0§88/54, mb4.4/35, MS4.2/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.05**	**47**	*eP*	**Pn**	**16 41 56.5**	**+0.8**
KULM				*e*		16 42 12.2	
CM31	**Chiang Mai Arr**	**16.66**	**7**	*eP*	**P**	**16 44 34.0**	**+1.0**
	4.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.66**	**7**	Pn	**P**	**16 44 33.1**	**+0.1**
	0.1nm,0.3s,baz=197,slow=12,SNR=17						
CMAR				LR	LR	16 51 34.5	
	comp=Z,311nm,18.8s,baz=188,slow=39						
GYA	**Guiyang**	**26.22**	**20**	P	**P**	**16 46 15.0**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**27.69**	**339**	*eP*	**P**	**16 46 28.3**	**+0.5**
	comp=Z,44nm,1.2s,mb5.0						
PKI	**Pulchoki**	**27.90**	**338**	*eP*	**P**	**16 46 29.9**	**+0.2**
	comp=Z,26nm,1.2s,mb4.7						
PKI	**Pulchoki**	**27.90**	**338**	*eP*	**P**	**16 46 29.9**	**+0.2**
PKI				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
GUN	**Gumba**	**28.03**	**339**	*eP*	**P**	**16 46 31.3**	**+0.5**
	comp=Z,28nm,0.8s,mb4.9						
DMN	**Daman**	**28.05**	**337**	*eP*	**P**	**16 46 30.8**	**-0.2**
	comp=Z,21nm,1.0s,mb4.7						
KKN	**Kakani**	**28.14**	**338**	*eP*	**P**	**16 46 31.5**	**-0.4**
	comp=Z,32nm,1.2s,mb4.8						
KKN	**Kakani**	**28.14**	**338**	*eP*	**P**	**16 46 31.5**	**-0.4**
KKN				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.5						
LSA	**Lhasa**	**28.28**	**349**	*eP*	**P**	**16 46 33.7**	**+0.6**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
LSA	**Lhasa**	**28.28**	**349**	*eP*	**P**	**16 46 33.7**	**+0.7**
	comp=Z,2.1nm,0.4s,mb4.1						
GKN	**Gorkha**	**28.58**	**337**	*eP*	**P**	**16 46 35.3**	**-0.5**
	comp=Z,28nm,1.0s,mb4.9						
KOLN	**Koldanda**	**28.80**	**335**	*eP*	**P**	**16 46 38.3**	**+0.5**
	comp=Z,15nm,1.0s,mb4.7						
ENH	**Enshi**	**30.70**	**22**	*eP*	**P**	**16 46 53.2**	**-1.5**
	comp=Z,6.1nm,0.8s,mb4.5						
MBWA	**Marble Bar**	**31.91**	**137**	*eP*	**P**	**16 47 05.9**	**+0.5**
XAN	**Xi'an**	**33.96**	**18**	P	**P**	**16 47 21.9**	**-1.2**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9						
GTA	**Gaotai**	**37.51**	**4**	*eP*	**P**	**16 47 53.1**	**-0.1**
GTA				AP	pP	16 48 01.5	+0.5
GTA				XP	sP	16 48 05.8	+1.5
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
BJT	**Baijiatuau**	**41.85**	**22**	*eP*	**P**	**16 48 30.6**	**+1.5**
BJT				pmax	pmax		
	comp=Z,27nm,1.1s						
BJT	**Baijiatuau**	**41.85**	**22**	*eP*	**P**	**16 48 30.6**	**+1.4**
	comp=Z,27nm,1.1s,mb4.8						
BJI	**Beijing**	**41.87**	**22**	*eP*	**P**	**16 48 30.2**	**+0.9**
BJI				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.8						
BJI	**Beijing**	**41.87**	**22**	*eP*	**P**	**16 48 30.2**	**+0.9**
	comp=Z,21nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**42.57**	**122**	P	**P**	**16 48 34.9**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=11						
WRAB	**Tennant Creek**	**42.58**	**122**	*eP*	**P**	**16 48 34.7**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
WRAB	**Tennant Creek**	**42.58**	**122**	*eP*	**P**	**16 48 34.7**	**-0.7**
	comp=Z,9.7nm,1.1s,mb4.5						
ASAR	**Alice Springs**	**43.96**	**127**	P	**P**	**16 48 46.9**	**+0.2**
	comp=Z,1.5nm,0.8s,mb3.8,baz=298,slow=7.3,SNR=9.3						
ASAR				pP	pP	16 48 55.5	+1.0
	comp=Z,1.1nm,0.8s,baz=302,slow=8.2,SNR=4.8						
SONM	**Songino Array**	**46.57**	**9**	P	**P**	**16 49 07.6**	**+0.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=187,slow=8.7,SNR=18						
SONM				pP	pP	16 49 15.0	+0.1
	comp=Z,1.3nm,0.7s,baz=192,slow=7.7,SNR=7.1						
SONM				PcP	PcP	16 50 41.0	-0.4
	comp=Z,1.2nm,0.8s,baz=204,slow=2.7,SNR=3.6						
MKAR	**Makanchi Array**	**46.59**	**346**	P	**P**	**16 49 07.4**	**+0.2**
	comp=Z,4.5nm,0.9s,mb4.4,baz=162,slow=7.7,SNR=28						
MKAR				pP	pP	16 49 15.3	+0.2
	comp=Z,2.0nm,0.7s,baz=157,slow=8.6,SNR=7.2						
MKAR				LR	LR	17 12 32.5	
	comp=Z,99nm,19.6s,MS3.8,baz=260,slow=41						
MKAR	**Makanchi Array**	**46.59**	**346**	P	**P**	**16 49 07.4**	**+0.2**
MKAR				pP	pP	16 49 15.3	+0.2
MK

IDC 10 16:40:51.4±6.4, 0.18S×101.01E, mb3.5/2, mb1 3.8/2, mb1mx3.4/16, mbtmp3.5/2, Error ellipse: s-maj=270.7km s-min=98.5km az=49.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.08**	**123**	P	P	16 48 12.7	-1.2
	0.5nm,0.4s,baz=302,slow=9.4,SNR=7.6						
ASAR	**Alice Springs**	**39.54**	**129**	P	P	16 48 23.7	-2.3
	0.3nm,0.4s,baz=300,slow=7.4,SNR=7.1						
TXAR	**Lajitas Array**	**142.65**	**37**	PKP	PKPdf	17 00 27.4	-1.7
	0.4nm,0.6s,baz=306,slow=0.7,SNR=4.2						

IDC 10 16:40:55.8±1.3, 1.91N×96.49E, mb4.0/7, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, Error ellipse: s-maj=59.8km s-min=21.4km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.01**	**122**	P	P	16 48 56.7	-2.3
	2.9nm,0.8s,baz=302,slow=9.0,SNR=6.9						
ASAR	**Alice Springs**	**44.39**	**127**	P	P	16 49 09.3	-0.9
	0.8nm,0.7s,baz=301,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**46.39**	**347**	P	P	16 49 24.9	-0.9
	1.9nm,0.7s,baz=162,slow=7.7,SNR=5.7						
SONM	**Songino Array**	**46.54**	**9**	P	P	16 49 25.2	-1.8
	3.0nm,0.9s,baz=197,slow=9.2,SNR=7.5						
BRTR	**Keskin Array B**	**68.11**	**312**	P	P	16 51 58.8	-1.1
	0.6nm,0.7s,baz=122,slow=6.8,SNR=3.6						
AKASG	**Malin Array Be**	**74.27**	**322**	P	P	16 52 33.9	-2.8
	0.5nm,0.5s,baz=80,slow=4.8,SNR=5.6						
ARCES	**ARCESS Array B**	**81.63**	**340**	P	P	16 53 14.8	-2.1
	5.1nm,1.0s,baz=102,slow=8.3,SNR=3.1						

*IDC **10** 16:43:50.9±0.7, 1.52S×99.66E, h35km±5km, mb3.7/10, mb1 3.8/11, mb1mx3.7/20, mbtmp3.9/11, ML4.0/1, Error ellipse: s-maj=27.2km s-min=12.9km az=57.0*
*NEIC **10** 16:43:50.6±0.4, 1.54S×99.65E, mb4.2/2, Error ellipse: s-maj=15.4km s-min=8.9km az=66.0*

ISC 10 16:43:48.7±0.6, 1.50S±0.09×99.7E±0.1, h34km, h34km±1.1km: pP-P, n20, σ0°83/17, mb4.0/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.81**	**8**	*eP*	**P**	**16 45 30.0**	**+1.2**
CMAR	**Chiang Mai Arr**	**19.84**	**358**	P	**P**	**16 48 17.3**	**-2.3**
	0.2nm,0.3s,baz=188,slow=9.6,SNR=8.2						
WRA	**Warramunga Arr**	**38.55**	**121**	P	**P**	**16 51 10.1**	**-0.1**
	0.6nm,0.4s,mb3.7,baz=305,slow=9.3,SNR=7.0						
WRA				pP	pP	16 51 19.8	-0.3
	1.0nm,0.5s,baz=304,slow=9.1,SNR=5.2						
WRAB	**Tennant Creek**	**38.56**	**121**	*eP*	**P**	**16 51 09.8**	**-0.4**
ASAR	**Alice Springs**	**39.83**	**126**	P	**P**	**16 51 20.9**	**+0.1**
	0.8nm,0.5s,mb3.7,baz=298,slow=8.0,SNR=9.1						
ASAR				pP	pP	16 51 31.4	+0.6
	1.5nm,0.8s,baz=300,slow=7.1,SNR=7.4						
SONM	**Songino Array**	**49.48**	**6**	P	**P**	**16 52 38.8**	**+1.0**
	0.6nm,0.4s,mb3.9,baz=189,slow=10,SNR=4.3						
SONM				pP	pP	16 52 48.7	+0.8
	0.8nm,0.6s,baz=189,slow=8.8,SNR=5.1						
SONM				PcP	PcP	16 53 59.3	-0.5
	0.4nm,0.6s,baz=181,slow=5.2,SNR=2.5						
STKA	**Stephens Creek**	**49.75**	**132**	P	**P**	**16 52 40.1**	**0.0**
	0.7nm,0.4s,mb4.0,baz=303,slow=7.5,SNR=3.5						
STKA				pP	pP	16 52 50.9	+0.7
	1.2nm,0.6s,baz=302,slow=8.4,SNR=2.0						
STKA	**Stephens Creek**	**49.75**	**132**	P	**P**	**16 52 40.1**	**0.0**
STKA				pP	pP	16 52 50.9	+0.7
MKAR	**Makanchi Array**	**50.45**	**345**	P	**P**	**16 52 45.6**	**+0.3**
	0.7nm,0.4s,mb4.1,baz=152,slow=8.6,SNR=8.3						
OPO	**Ambohidratompo**	**54.12**	**248**	P	**P**	**16 53 13.4**	**+0.2**
	3.3nm,0.9s,mb4.2,baz=264,slow=2.7,SNR=3.2						
KURK	**Kurchatov**	**55.03**	**344**	*eP*	**P**	**16 53 18.8**	**-0.4**
	1.9nm,0.8s,mb4.2						
ZAL	**Zalesovo**	**56.60**	**350**	P	**P**	**16 53 31.2**	**+0.6**
	1.4nm,0.5s,mb4.2,baz=334,slow=10,SNR=7.8						
ZAL				pP	pP	16 53 41.5	+0.6
	2.0nm,0.4s,baz=314,slow=4.9,SNR=5.8						
ZAL	**Zalesovo**	**56.60**	**350**	P	**P**	**16 53 31.2**	**+0.6**
ZAL				pP	pP	16 53 41.5	+0.6
BVAR	**Borovoye Array**	**59.59**	**340**	P	**P**	**16 53 50.7**	**-0.8**
	0.3nm,0.5s,mb3.6,baz=143,slow=7.2,SNR=2.9						
CHKZ	**Chkalovo**	**60.05**	**341**	*eP*	**P**	**16 53 53.6**	**-1.1**
	1.2nm,0.7s,mb4.0						
MATP	**Matopo**	**71.82**	**249**	P	**P**	**16 55 10.6**	**+0.2**
	1.8nm,0.7s,mb4.1,baz=126,slow=10,SNR=3.6						
FINES	**FINESS Array B**	**83.50**	**332**	P	**P**	**16 56 15.2**	**+1.0**
	2.4nm,1.1s,mb4.2,baz=90,slow=7.6,SNR=5.8						
FINES				pP	pP	16 56 25.1	+0.2
	0.5nm,0.6s,baz=100,slow=8.5,SNR=1.3						
TXAR	**Lajitas Array**	**144.51**	**37**	PKP	PKPdf	17 03 23.9	+1.5
	0.7nm,0.5s,baz=218,slow=0.8,SNR=14						
MIAR	**Mount Ida**	**144.88**	**19**	*e*PKP	PKPdf	17 03 23.8	+0.9
JCT	**Junction City**	**145.78**	**31**	*eP*	PKPdf	17 03 27.6	+3.0

IDC 10 16:45:03.7±5.8, 0.87S×100.56E, mb3.7/2, mb1 4.0/2, mb1mx3.4/16, mbtmp3.7/2, Error ellipse: s-maj=288.5km s-min=85.5km az=48.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.09**	**122**	P	P	16 52 24.8	-1.4
	0.8nm,0.4s,baz=300,slow=9.2,SNR=5.3						
ASAR	**Alice Springs**	**39.47**	**128**	P	P	16 52 35.8	-1.9
	0.5nm,0.5s,baz=297,slow=7.9,SNR=3.5						
TXAR	**Lajitas Array**	**143.47**	**37**	PKP	PKPdf	17 04 40.8	-2.0
	0.2nm,0.6s,baz=237,slow=1.6,SNR=5.1						

*BJI **10** 16:48:09.2, 1.90S×99.65E, h31km, mB5.0, mb4.8, Ms4.6, Msz4.2*
*IDC **10** 16:48:10.2±0.6, 1.60S×99.64E, h16km±3km, mb4.4/24, mb1 4.5/25, mb1mx4.5/25, mbtmp4.5/25, ML4.4/1, MS3.3/1, Ms1 3.5/1, ms1mx2.8/33, Error ellipse: s-maj=14.8km s-min=9.4km az=49.0*
*MOS **10** 16:48:10.8±0.8, 1.55S×99.70E, h33km, mb4.8/18, Error ellipse: s-maj=14.6km s-min=7.9km az=112.7*
*NEIC **10** 16:48:10.5±0.2, 1.61S×99.68E, mb4.9/24, Error ellipse: s-maj=8.2km s-min=4.5km az=60.0*

ISC 10 16:48:09.1±0.3, 1.60S±0.05×99.70E±0.06, h20km, h20km±1.9km: pP-P, n115, σ0°94/104, mb4.7/55, MS4.3/3, 3C-7D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.91**	**8**	*eP*	**Pn**	**16 49 52.9**	**+1.1**
CM31	**Chiang Mai Arr**	**19.94**	**358**	*eP*	**P**	**16 52 41.9**	**-1.0**
	5.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.94**	**358**	P	**P**	**16 52 41.2**	**-1.7**
	0.4nm,0.3s,baz=187,slow=10,SNR=32						
CMAR				LR	LR	17 00 21.5	
	comp=Z,85nm,21.5s,baz=190,slow=37						
MBWA	**Marble Bar**	**27.56**	**136**	*eP*	**P**	**16 53 57.2**	**+0.3**
SHL	**Shillong**	**28.04**	**345**	*eP*	**P**	**16 54 01.7**	**+0.4**
SHL				*eP*		16 56 46.0	
FITZ	**Fitzroy Crossi**	**30.29**	**124**	⇑*iP*	**P**	**16 54 20.5**	**-1.0**
	13nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.29**	**124**	P	**P**	**16 54 20.5**	**-1.0**
	18nm,0.8s,mb4.9,baz=338,slow=3.9,SNR=16						
JIRN	**Jiri**	**31.86**	**337**	*eP*	**P**	**16 54 35.9**	**+0.7**
	55nm,0.7s,mb5.5						
PKI	**Pulchoki**	**32.09**	**336**	*eP*	**P**	**16 54 37.4**	**+0.2**
	6.8nm,0.6s,mb4.7						
PKI	**Pulchoki**	**32.09**	**336**	*eP*	**P**	**16 54 37.4**	**+0.2**
PKI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**32.17**	**346**	*eP*	**P**	**16 54 39.2**	**+1.3**
LSA	**Lhasa**	**32.17**	**346**	*eP*	**P**	**16 54 39.1**	**+1.2**
LSA				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
LSA	**Lhasa**	**32.17**	**346**	*eP*	**P**	**16 54 39.1**	**+1.2**
	comp=Z,15nm,0.8s,mb4.9						
GUN	**Gumba**	**32.20**	**337**	*eP*	**P**	**16 54 38.8**	**+0.6**
	comp=Z,49nm,0.5s,mb5.6						
DMN	**Daman**	**32.25**	**335**	*eP*	**P**	**16 54 38.6**	**0.0**
	comp=Z,14nm,0.8s,mb4.8						
KKN	**Kakani**	**32.34**	**336**	*eP*	**P**	**16 54 39.5**	**+0.1**
	comp=Z,22nm,0.8s,mb5.0						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKN	**Kakani**	**32.34**	**336**	*eP*	**P**	**16 54 39.5**	**+0.1**
KKN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
GKN	**Gorkha**	**32.79**	**335**	*eP*	**P**	**16 54 43.4**	**+0.1**
	comp=Z,36nm,1.1s,mb5.2						
ENH	**Enshi**	**33.04**	**16**	*eP*	**P**	**16 54 44.0**	**-1.4**
	comp=Z,7.7nm,0.6s,mb4.8						
KOLN	**Koldanda**	**33.05**	**333**	*eP*	**P**	**16 54 45.8**	**+0.3**
	comp=Z,21nm,0.6s,mb5.2						
NWAO	**Narrogin (SRO)**	**35.26**	**154**	*eP*	**P**	**16 55 05.2**	**+0.7**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**35.26**	**154**	P	**P**	**16 55 05.0**	**+0.5**
	comp=Z,5.3nm,0.7s,mb4.6,baz=321,slow=13,SNR=5.9						
NWAO	**Narrogin (SRO)**	**35.26**	**154**	*eP*	**P**	**16 55 05.2**	**+0.6**
	comp=Z,5.7nm,0.8s,mb4.5						
XAN	**Xi'an**	**36.49**	**13**	P	**P**	**16 55 13.6**	**-1.4**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.3						
SSE	**Sheshan**	**38.40**	**30**	*eP*	**P**	**16 55 29.2**	**-1.9**
SSE				AP	pP	16 55 38.5	+1.3
SSE				S	**S**	**17 01 26.4**	**+2.0**
SSE				sS		17 01 42.5	
SSE				XS		17 01 42.5	
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,95nm,4.7s						
SSE				LR	LR		
	comp=N,71nm,19.8s,MS3.8						
SSE				LR	LR		
	comp=E,122nm,19.9s,MS3.8						
SSE				LR	LR		
	comp=Z,385nm,11.0s						
SSE	**Sheshan**	**38.40**	**30**	*eP*	**P**	**16 55 29.2**	**-1.9**
	comp=Z,20nm,0.8s,mb4.9						
SSE				pP	pP	16 55 38.5	+1.3
SSE				S	**S**	**17 01 26.4**	**+2.0**
SSE				sS		17 01 42.5	
SSE				SS	SS	17 04 20.1	+16
SSE				LR	LR		
	comp=Z,390nm,11.0s,MS4.5						
WRA	**Warramunga Arr**	**38.46**	**121**	P	**P**	**16 55 31.3**	**-0.3**
	comp=Z,12nm,0.5s,mb4.8,baz=302,slow=9.2,SNR=97						
WRA				pP	pP	16 55 37.1	-0.7
	comp=Z,7.8nm,0.6s,baz=302,slow=8.6,SNR=13						
WRA				PcP	PcP	16 57 45.3	+0.1
	comp=Z,2.3nm,0.6s,baz=313,slow=2.5,SNR=11						
WRAB	**Tennant Creek**	**38.47**	**121**	*eP*	**P**	**16 55 31.4**	**-0.3**
WRAB				*e*	pP	16 55 37.6	-0.2
WRAB				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**38.47**	**121**	*eP*	**P**	**16 55 31.4**	**-0.3**
	comp=Z,24nm,0.6s,mb5.1						
WRAB				*e*	pP	16 55 37.6	-0.2
WB2	**Warramunga Arr**	**38.47**	**121**	⇓*iP*	**P**	**16 55 31.3**	**-0.4**
FORT	**Forrest**	**39.54**	**140**	*eP*	**P**	**16 55 42.0**	**+1.4**
	comp=Z,453nm,0.6s						
ASPA	**Alice Springs**	**39.73**	**126**	*eP*	**P**	**16 55 42.2**	**0.0**
ASAR	**Alice Springs**	**39.73**	**126**	P	**P**	**16 55 42.4**	**+0.1**
	comp=Z,5.4nm,0.6s,mb4.5,baz=301,slow=7.6,SNR=64						
ASAR				PcP	PcP	16 57 49.5	+0.4
	comp=Z,3.2nm,0.7s,baz=293,slow=2.7,SNR=9.7						
ASAR				S	**S**	**17 01 46.1**	**+1.4**
	comp=Z,2.4nm,1.1s,baz=289,slow=15,SNR=5.5						
GTA	**Gaotai**	**40.81**	**0**	*eP*	**P**	**16 55 54.6**	**+3.7**
GTA				AP	pP	16 56 02.9	+5.9
GTA				XP	sP	16 56 07.3	+7.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.0						
HHC	**Hu-ho-hao-te**	**43.61**	**13**	*eP*	**P**	**16 56 17.2**	**+3.4**
HHC				AP	pP	16 56 23.3	+3.3
HHC				XP	sP	16 56 26.0	+3.5
HHC				PP	PP	16 58 00.4	+3.2
HHC				PCP	PcP	16 58 04.2	+2.5
HHC				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,109nm,6.4s						
HHC				LR	LR		
	comp=N,291nm,13.1s,MS4.5						
HHC				LR	LR		
	comp=E,264nm,14.3s,MS4.5						
HHC				LR	LR		
	comp=Z,233nm,14.9s,MS4.2						
BJI	**Beijing**	**44.10**	**18**	*eP*	**P**	**16 56 19.7**	**+1.9**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
BJI	**Beijing**	**44.10**	**18**	*eP*	**P**	**16 56 19.7**	**+1.9**
	comp=Z,7.0nm,0.7s,mb4.5						
WMQ	**Urumqi**	**46.48**	**348**	⇓*iP*	**P**	**16 56 38.5**	**+1.8**
WMQ				AP	pP	16 56 44.5	+1.6
WMQ				XP	sP	16 56 47.5	+2.1
WMQ				PCP	PcP	16 58 13.3	+1.7
WMQ				PP	PP	16 58 27.7	+1.8
WMQ				PPP	PPP	16 59 12.8	+1.9
WMQ				S	**S**	**17 03 25.0**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,16nm,0.6s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,47nm,2.9s,mb4.9						
WMQ				LR	LR		
	comp=N,340nm,25.4s,MS4.5						
WMQ				LR	LR		
	comp=E,535nm,25.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,270nm,22.8s,MS4.1						
CTA	**Charters Tower**	**49.04**	**115**	P	**P**	**16 56 57.2**	**+0.2**
	comp=Z,4.8nm,0.8s,mb4.6,baz=278,slow=10.0,SNR=6.0						
CTA	**Charters Tower**	**49.04**	**115**	P	**P**	**16 56 57.2**	**+0.2**
CTAO	**Charters Tower**	**49.04**	**115**	*eP*	**P**	**16 56 56.8**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
CTAO	**Charters Tower**	**49.04**	**115**	*eP*	**P**	**16 56 56.8**	**-0.3**
	comp=Z,5.0nm,0.6s,mb4.7						
TKM2	**Tokmak 2**	**49.34**	**337**	P	**P**	**16 57 00.0**	**+0.9**
	SNR=18						
KBK	**Karagaybulak**	**49.38**	**336**	P	**P**	**16 57 00.8**	**+1.4**
	SNR=6.8						
AML	**Almayashu**	**49.47**	**335**	P	**P**	**16 57 00.9**	**+0.9**
	SNR=15						
SONM	**Songino Array**	**49.57**	**6**	P	**P**	**16 57 01.9**	**+1.1**
	comp=Z,3.0nm,0.7s,mb4.4,baz=188,slow=8.8,SNR=21						
SONM				PcP	PcP	16 58 22.7	+0.1
	comp=Z,3.1nm,0.7s,baz=190,slow=5.2,SNR=7.1						
STKA	**Stephens Creek**	**49.64**	**132**	⇑*iP*	**P**	**16 57 01.9**	**+0.3**
	comp=Z,9.0nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**49.64**	**132**	P	**P**	**16 57 02.0**	**+0.4**
	comp=Z,10nm,0.7s,mb5.0,baz=305,slow=8.2,SNR=32						
ULN	**Ulaanbaatar**	**49.68**	**6**	*eP*	**P**	**16 57 02.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**49.68**	**6**	*eP*	**P**	**16 57 02.3**	**+0.7**
	comp=Z,3.8nm,0.9s,mb4.4						
EKS2	**Erkin-Say**	**49.87**	**335**	P	**P**	**16 57 04.1**	**+1.0**
	SNR=13						
USP	**Ospenovka**	**50.07**	**336**	P	**P**	**16 57 05.0**	**+0.3**
	SNR=8.1						
MKAR	**Makanchi Array**	**50.56**	**345**	P	**P**	**16 57 08.4**	**+0.1**
	comp=Z,8.0nm,0.6s,mb4.8,baz=148,slow=8.0,SNR=71						
MKAR				pP	pP	16 57 13.4	-1.2
	comp=Z,10nm,0.7s,baz=153,slow=8.4,SNR=18						
CN2	**Changchun**	**50.74**	**24**	*eP*	**P**	**16 57 09.4**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
MJAR	**Matsushiro Arr**	**52.16**	**39**	P	**P**	**16 57 20.2**	**-0.3**
	comp=Z,0.9nm,0.6s,mb3.9,baz=222,slow=7.7,SNR=3.4						
OPO	**Ambohidratompo**	**54.13**	**248**	P	**P**	**16 57 35.2**	**-0.2**
	comp=Z,4.7nm,1.0s,mb4.4,baz=68,slow=15,SNR=2.6						
KURK	**Kurchatov**	**55.14**	**344**	*eP*	**P**	**16 57 41.4**	**-1.0**
KURK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
KURK	**Kurchatov**	**55.14**	**344**	*eP*	**P**	**16 57 41.4**	**-1.0**
	comp=Z,12nm,1.0s,mb4.9						
ZAL	**Zalesovo**	**56.71**	**350**	P	**P**	**16 57 53.6**	**0.0**
	comp=Z,16nm,0.4s,mb5.4,baz=319,slow=4.6,SNR=88						
ASAJ	**Asahikawa**	**59.45**	**35**	P	**P**	**16 58 13.1**	**+0.1**
	comp=Z,4.2nm,0.8s,mb4.5,baz=270,slow=9.1,SNR=3.4						
BVAR	**Borovoye Array**	**59.70**	**340**	P	**P**	**16 58 13.3**	**-1.3**
	comp=Z,5.3nm,0.6s,mb4.8,baz=143,slow=9.0,SNR=40						
CHKZ	**Chkalovo**	**60.16**	**341**	*eP*	**P**	**16 58 16.3**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	**60.16**	**341**	*eP*	**P**	**16 58 16.3**	**-1.4**
	comp=Z,4.9nm,0.6s,mb4.7						
BOD	**Bodaibo**	**60.33**	**9**	*eP*	**P**	**16 58 18.4**	**-0.4**
BOD				pmax	pmax		

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	comp=Z,5.0nm,1.3s,mb4.4						
YSS	**Yuzh-Sakhalins**	**61.30**	**32**	P	**P**	**16 58 25.0**	**-0.6**
YSS				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**61.30**	**32**	P	**P**	**16 58 25.0**	**-0.6**
	comp=Z,12nm,1.0s,mb5.0						
KMBO	**Kilima Mbogo**	**62.42**	**270**	P	**P**	**16 58 33.7**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.5,baz=53,slow=9.8,SNR=9.6						
KMBO	**Kilima Mbogo**	**62.42**	**270**	P	**P**	**16 58 33.7**	**+0.1**
GNI	**Garni**	**65.02**	**316**	*iP*	**P**	**16 58 49.2**	**-1.1**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SVE	**Sverdlovsk**	**66.19**	**338**	*eP*	**P**	**16 58 56.7**	**-0.8**
SVE				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
ARU	**Arti**	**66.72**	**337**	⇑*iP*	**P**	**16 58 59.4**	**-1.4**
ARU				*e*		16 59 28.2	
ARU				*e*S	S	17 07 49.6	-0.4
ARU				*e*SS	SS	17 12 10.6	+1.1
ARU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
ARU	**Arti**	**66.72**	**337**	*eP*	**P**	**16 58 59.6**	**-1.2**
	comp=Z,4.8nm,0.6s,mb4.7						
YAK	**Yakutsk**	**67.43**	**15**	*eP*	**P**	**16 59 03.9**	**-1.4**
YAK				*e*	pP	16 59 10.0	-1.6
YAK				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
YAK	**Yakutsk**	**67.43**	**15**	*eP*	**P**	**16 59 03.9**	**-1.4**
	comp=Z,20nm,0.9s,mb5.2						
YAK				*e*	pP	16 59 10.0	-1.6
KIV	**Kislovodsk**	**68.04**	**319**	*eP*	**P**	**16 59 09.1**	**-0.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KIV	**Kislovodsk**	**68.04**	**319**	*eP*	**P**	**16 59 09.1**	**-0.3**
	comp=Z,6.2nm,0.8s,mb4.7						
MAW	**Mawson**	**70.60**	**194**	P	**P**	**16 59 25.3**	**+0.6**
	comp=Z,7.5nm,0.9s,mb4.6,baz=8.8,slow=7.9,SNR=6.3						
MATP	**Matopo**	**71.83**	**249**	P	**P**	**16 59 32.8**	**-0.1**
	comp=Z,7.9nm,0.8s,mb4.7,baz=88,slow=6.8,SNR=18						
MA2	**Magadan**	**72.79**	**24**	*iP*	**P**	**16 59 36.3**	**-1.6**
MA2				pmax	pmax		
	comp=Z,24nm,1.7s,mb4.8						
BRTR	**Keskin Array B**	**72.83**	**312**	P	**P**	**16 59 36.8**	**-1.8**
	comp=Z,1.6nm,0.7s,mb4.1,baz=133,slow=6.5,SNR=8.7						
BRTR				pP	pP	16 59 42.1	-2.9
	comp=Z,1.2nm,0.7s,baz=132,slow=7.1,SNR=3.6						
TIXI	**Tiksi**	**75.51**	**9**	*iP*	**P**	**16 59 52.7**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
BOSA	**Boshof**	**75.58**	**241**	P	**P**	**16 59 54.4**	**-0.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=27,slow=4.5,SNR=3.2						
OBN	**Obninsk**	**76.29**	**328**	⇓*eP*	**P**	**16 59 57.3**	**-0.8**
OBN				*e*		17 02 50.5	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
AKASG	**Malin Array Be**	**78.98**	**322**	P	**P**	**17 00 12.1**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=86,slow=4.6,SNR=5.7						
AKASG	**Malin Array Be**	**78.98**	**322**	P	**P**	**17 00 12.1**	**-1.0**
VRI	**Vrincioaia**	**79.35**	**317**	⇓*iP*	**P**	**17 00 15.8**	**+0.6**
MLR	**Muntele Rosu**	**79.80**	**317**	⇓*iP*	**P**	**17 00 17.3**	**-0.3**
BURAR	**Bucovina Array**	**80.76**	**319**	⇓*iP*	**P**	**17 00 23.8**	**+1.1**
BURAR	**Bucovina Array**	**80.76**	**319**	⇓*iP*	**P**	**17 00 23.8**	**+1.1**
FX1	**Attu Island--F**	**81.35**	**36**	P	**P**	**17 00 26.0**	**+0.4**
	comp=Z,20nm,0.8s,mb5.1,baz=239,slow=18,SNR=3.3						
BILL	**Bilibino**	**82.89**	**20**	*iP*	**P**	**17 00 34.4**	**+1.1**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.7						
FINES	**FINESS Array B**	**83.61**	**332**	P	**P**	**17 00 37.7**	**+0.5**
	comp=Z,2.4nm,0.7s,mb4.4,baz=100,slow=7.8,SNR=11						
FINES				pP	pP	17 00 43.0	-0.8
	comp=Z,2.5nm,0.6s,baz=93,slow=6.5,SNR=5.4						
FINES	**FINESS Array B**	**83.61**	**332**	P	**P**	**17 00 37.7**	**+0.5**
FINES				pP	pP	17 00 43.0	-0.8
KAF	**Kangasniemi**	**83.69**	**333**	*ep*	**P**	**17 00 37.2**	**-0.3**
	comp=Z,2.8nm,0.6s,mb4.6,baz=101,slow=4.6						
KAF	**Kangasniemi**	**83.69**	**333**	*eP*	**P**	**17 00 37.2**	**-0.3**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
ARCES	**ARCESS Array B**	**85.99**	**340**	P	**P**	**17 00 49.9**	**+1.0**
	comp=Z,1.7nm,0.8s,mb4.3,baz=97,slow=4.3,SNR=10.0						
ARCES	**ARCESS Array B**	**85.99**	**340**	P	**P**	**17 00 49.9**	**+1.0**
GERES	**GERESS Array B**	**88.55**	**319**	P	**P**	**17 01 02.4**	**+0.7**
	comp=Z,0.9nm,0.7s,mb4.2,baz=72,slow=4.2,SNR=6.7						
NOA	**NORSAR Array B**	**90.64**	**331**	P	**P**	**17 01 10.5**	**-0.8**
	comp=Z,0.8nm,0.8s,mb4.1,baz=139,slow=4.2,S

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KULM	**Kulim**	**5.00**	**44**	*eP*	**Pn**	**16 52 47.8**	**+1.7**
CM31	**Chiang Mai Arr** 4.6nm,0.7s	**16.75**	**6**	*eP*	**P**	**16 55 26.3**	**+1.0**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=197,slow=11,SNR=10	**16.75**	**6**	Pn	**P**	**16 55 24.2**	**-1.0**
GYA	**Guiyang**	**26.27**	**20**	P	**P**	**16 57 05.6**	**-0.2**
GYA	comp=Z,10.0nm,1.0s,mb4.3			AMB	AMB		
JIRN	**Jiri**	**27.86**	**339**	*eP*	**P**	**16 57 20.7**	**+0.4**
PKI	comp=Z,18nm,0.8s,mb4.8 **Pulchoki**	**28.07**	**337**	*eP*	**P**	**16 57 22.5**	**+0.3**
PKI	comp=Z,18nm,1.0s,mb4.7 **Pulchoki**	**28.07**	**337**	*eP*	**P**	**16 57 22.5**	**+0.3**
PKI	comp=Z,9.0nm,1.0s,mb4.3			pmax	pmax		
GUN	**Gumba**	**28.20**	**339**	*eP*	**P**	**16 57 23.8**	**+0.5**
DMN	comp=Z,31nm,0.6s,mb5.1 **Daman**	**28.22**	**337**	*eP*	**P**	**16 57 23.6**	**+0.1**
KKN	comp=Z,26nm,0.9s,mb4.8 **Kakani**	**28.31**	**337**	*eP*	**P**	**16 57 23.5**	**-0.9**
KKN	comp=Z,15nm,0.8s,mb4.6 **Kakani**	**28.31**	**337**	*eP*	**P**	**16 57 23.5**	**-0.9**
KKN	comp=Z,7.0nm,0.8s,mb4.3			pmax	pmax		
LSA	**Lhasa**	**28.42**	**349**	*eP*	**P**	**16 57 26.1**	**+0.8**
LSA	comp=Z,4.0nm,0.6s,mb4.2			pmax	pmax		
LSA	**Lhasa**	**28.42**	**349**	*eP*	**P**	**16 57 26.1**	**+0.7**
GKN	comp=Z,4.1nm,0.6s,mb4.2 **Gorkha**	**28.75**	**337**	*eP*	**P**	**16 57 28.0**	**-0.3**
KOLN	comp=Z,34nm,1.1s,mb5.0 **Koldanda**	**28.98**	**335**	*eP*	**P**	**16 57 28.8**	**-1.5**
ENH	comp=Z,16nm,0.7s,mb4.8 **Enshi**	**30.74**	**21**	*eP*	**P**	**16 57 44.4**	**-1.6**
MBWA	comp=Z,22nm,1.0s,mb4.9 **Marble Bar**	**31.71**	**137**	*eP*	**P**	**16 57 55.4**	**+0.8**
XAN	**Xi'an**	**34.01**	**18**	P	**P**	**16 58 13.2**	**-1.3**
XAN	comp=Z,26nm,0.9s,mb5.2			AMB	AMB		
FITZ	**Fitzroy Crossi** comp=Z,7.8nm,0.9s,mb4.6,baz=286,slow=4.3,SNR=4.6	**34.28**	**126**	P	**P**	**16 58 17.0**	**0.0**
LZH	**Lanzhou**	**34.77**	**10**	*eP*	**P**	**16 58 20.0**	**-1.1**
LZH				AP	pP	16 58 31.5	+1.7
LZH				XP	sP	16 58 36.5	+3.0
LZH				AMB	AMB		
LZH	comp=Z,26nm,1.2s,mb5.0 **Lanzhou**	**34.77**	**10**	*eP*	**P**	**16 58 20.0**	**-1.1**
LZH	comp=Z,26nm,1.2s,mb5.0			pP	pP	16 58 31.5	+1.7
LZH				sP	sP	16 58 36.5	+3.0
GTA	**Gaotai**	**37.61**	**3**	*eP*	**P**	**16 58 45.3**	**+0.3**
GTA				AP	pP	16 58 54.9	+1.2
GTA				XP	sP	16 58 58.7	+1.3
GTA				AMB	AMB		
HHC	comp=Z,12nm,1.1s,mb4.5 **Hu-ho-hao-te**	**41.10**	**17**	*eP*	**P**	**16 59 10.7**	**-3.2**
HHC				AP	pP	16 59 19.5	-3.2
HHC				XP	sP	16 59 25.1	-1.2
HHC				PP	PP	17 00 50.4	-1.3
HHC				AMB	AMB		
HHC	comp=Z,19nm,1.2s,mb4.6			AMB	AMB		
HHC	comp=Z,179nm,7.9s			LR	LR		
HHC	comp=N,291nm,13.5s,MS4.4			LR	LR		
HHC	comp=E,264nm,13.9s,MS4.4			LR	LR		
BJT	**Baijiatuau**	**41.88**	**22**	*eP*	**P**	**16 59 21.9**	**+1.5**
BJT	comp=Z,11nm,0.5s			pmax	pmax		
BJT	**Baijiatuau**	**41.88**	**22**	*eP*	**P**	**16 59 21.9**	**+1.5**
BJI	comp=Z,11nm,0.5s,mb4.7 **Beijing**	**41.90**	**22**	*eP*	**P**	**16 59 21.6**	**+1.0**
BJI	comp=Z,36nm,0.6s,mb5.2			AMB	AMB		
BJI	**Beijing**	**41.90**	**22**	*eP*	**P**	**16 59 21.6**	**+1.0**
WRA	comp=Z,36nm,0.6s,mb5.2 **Warramunga Arr**	**42.36**	**122**	P	**P**	**16 59 24.5**	**-0.1**
WRA	comp=Z,2.2nm,0.6s,mb4.0,baz=302,slow=9.2,SNR=7.8 comp=Z,3.5nm,0.5s,baz=303,slow=9.1,SNR=17			pP	pP	16 59 32.2	-1.2
WRAB	**Tennant Creek**	**42.37**	**122**	*eP*	**P**	**16 59 24.4**	**-0.2**
ASAR	**Alice Springs** comp=Z,1.2nm,0.6s,mb3.8,baz=297,slow=7.5,SNR=5.4	**43.75**	**127**	P	**P**	**16 59 36.0**	**+0.1**
ULHL	**Ulahol** SNR=7.3	**44.51**	**338**	P	**P**	**16 59 42.8**	**+1.0**
UCH	**Uchtor** SNR=12	**45.16**	**336**	P	**P**	**16 59 48.4**	**+1.4**
TKM2	**Tokmak 2** SNR=10	**45.33**	**338**	P	**P**	**16 59 49.2**	**+1.0**
KBK	**Karagaybulak** SNR=12	**45.35**	**337**	P	**P**	**16 59 50.4**	**+1.9**
AML	**Almayashu** SNR=8.2	**45.42**	**335**	P	**P**	**16 59 50.5**	**+1.4**
EKS2	**Erkin-Say** SNR=9.1	**45.83**	**336**	P	**P**	**16 59 53.6**	**+1.4**
USP	**Ospenovka** SNR=12	**46.05**	**337**	P	**P**	**16 59 54.5**	**+0.5**
SONM	**Songino Array** comp=Z,6.7nm,0.6s,mb4.8,baz=191,slow=9.7,SNR=30	**46.65**	**9**	P	**P**	**16 59 59.0**	**+0.4**
SONM	comp=Z,1.3nm,0.9s,baz=200,slow=2.9,SNR=4.2			PcP	PcP	17 01 32.4	-0.2
MKAR	**Makanchi Array** comp=Z,18nm,0.7s,mb5.1,baz=158,slow=7.6,SNR=39	**46.74**	**346**	P	**P**	**16 59 59.6**	**+0.3**
ULN	**Ulaanbaatar**	**46.78**	**9**	*eP*	**P**	**17 00 00.2**	**+0.5**
ULN	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,2.9nm,0.6s,mb4.4	**46.78**	**9**	*eP*	**P**	**17 00 00.1**	**+0.5**
ZAK	**Zakamensk**	**48.78**	**5**	*eP*	**P**	**17 00 15.3**	**0.0**
ZAK	comp=Z,3.0nm,0.8s,mb4.4			pmax	pmax		
PMG	**Port Moresby** comp=Z,7.2nm,0.8s,mb4.7,baz=294,slow=17,SNR=2.6	**51.04**	**103**	P	**P**	**17 00 32.6**	**-0.4**
HIA	**Hailar**	**51.19**	**19**	*eP*	**P**	**17 00 33.7**	**0.0**
HIA	comp=Z,6.0nm,0.8s			pmax	pmax		
HIA	**Hailar** comp=Z,5.5nm,0.8s,mb4.5	**51.19**	**19**	*eP*	**P**	**17 00 33.7**	**0.0**
KURK	**Kurchatov**	**51.29**	**345**	*eP*	**P**	**17 00 34.2**	**-0.3**
KURK	comp=Z,17nm,1.2s,mb4.8			pmax	pmax		
KURK	**Kurchatov** comp=Z,17nm,1.2s,mb4.9	**51.29**	**345**	*eP*	**P**	**17 00 34.2**	**-0.3**
MJAR	**Matsushiro Arr** comp=Z,3.2nm,0.7s,mb4.4,baz=213,slow=5.9,SNR=9.2	**51.37**	**43**	P	**P**	**17 00 35.4**	**+0.1**
ZAL	**Zalesovo** comp=Z,11nm,0.7s,mb4.9,baz=310,slow=5.7,SNR=29	**53.05**	**351**	P	**P**	**17 00 47.7**	**+0.1**
ZAL	**Zalesovo**	**53.05**	**351**	P	**P**	**17 00 47.7**	**+0.1**
STKA	**Stephens Creek** comp=Z,3.0nm,0.9s,mb4.2,baz=323,slow=9.3,SNR=3.4	**53.74**	**132**	P	**P**	**17 00 53.6**	**+0.6**
STKA	comp=Z,3.0nm,0.6s,baz=318,slow=8.1,SNR=5.0			pP	pP	17 01 02.5	+0.6
BVAR	**Borovoye Array** comp=Z,5.0nm,0.8s,mb4.6,baz=143,slow=7.4,SNR=12	**55.76**	**341**	P	**P**	**17 01 06.3**	**-1.1**
KLR	**Kul'dur**	**55.84**	**27**	*eP*	**P**	**17 01 05.2**	**-2.9**
CHKZ	**Chkalovo**	**56.23**	**341**	*eP*	**P**	**17 01 10.0**	**-0.8**
CHKZ	comp=Z,10.0nm,0.9s,mb4.8			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,10nm,0.9s,mb4.8	**56.23**	**341**	*eP*	**P**	**17 01 10.0**	**-0.8**
BOD	**Bodaibo**	**57.53**	**11**	*eP*	**P**	**17 01 18.8**	**-1.2**
BOD	comp=Z,5.0nm,1.1s,mb4.5			pmax	pmax		
ASAJ	**Asahikawa** comp=Z,4.2nm,0.5s,mb4.7,baz=270,slow=23,SNR=6.7	**58.31**	**37**	P	**P**	**17 01 25.6**	**0.0**
YSS	**Yuzh-Sakhalins**	**59.98**	**34**	*eP*	**P**	**17 01 37.1**	**0.0**
SVE	**Sverdlovsk**	**62.20**	**338**	*eP*	**P**	**17 01 51.6**	**-0.5**
SVE	comp=Z,11nm,1.3s,mb4.8			pmax	pmax		
ARU	**Arti**	**62.70**	**337**	*eP*	**P**	**17 01 53.8**	**-1.6**
ARU	comp=Z,3.0nm,0.8s,mb4.5			pmax	pmax		
ARU	**Arti** comp=Z,3.2nm,0.8s,mb4.5	**62.70**	**337**	*eP*	**P**	**17 01 53.8**	**-1.6**
YAK	**Yakutsk**	**64.96**	**16**	*eP*	**P**	**17 02 09.0**	**-1.1**
YAK	comp=Z,15nm,0.9s,mb5.0			pmax	pmax		
YAK	comp=N,5.0nm,1.1s			pmax	pmax		
YAK	comp=E,4.0nm,1.1s			pmax	pmax		
YAK	**Yakutsk** comp=E,24nm,0.8s,mb5.3	**64.96**	**16**	*eP*	**P**	**17 02 08.9**	**-1.1**
BRTR	**Keskin Array B** comp=E,1.7nm,0.7s,mb4.1,baz=130,slow=6.7,SNR=9.4	**68.72**	**312**	P	**P**	**17 02 33.1**	**-1.1**
AKASG	**Malin Array Be** comp=E,1.6nm,0.5s,mb4.2,baz=90,slow=4.6,SNR=13	**74.82**	**322**	P	**P**	**17 03 09.1**	**-1.4**
AKASG	**Malin Array Be**	**74.82**	**322**	P	**P**	**17 03 09.1**	**-1.4**
FINES	**FINESS Array B** comp=E,2.1nm,0.7s,mb4.2,baz=98,slow=6.2,SNR=11	**79.52**	**332**	P	**P**	**17 03 36.3**	**-0.1**
FINES	comp=E,1.6nm,0.5s,baz=108,slow=6.0,SNR=5.0			pP	pP	17 03 44.1	-1.5
ARCES	**ARCESS Array B** comp=E,10nm,1.1s,mb4.7,baz=89,slow=4.7,SNR=20	**82.04**	**340**	P	**P**	**17 03 50.0**	**+0.5**
ARCES	**ARCESS Array B**	**82.04**	**340**	P	**P**	**17 03 50.0**	**+0.5**
GERES	**GERESS Array B** comp=E,0.7nm,0.5s,mb4.1,baz=90,slow=4.0,SNR=9.5	**84.39**	**319**	P	**P**	**17 04 02.7**	**+0.8**
GERES	comp=E,1.1nm,0.7s,baz=104,slow=5.5,SNR=6.2			pP	pP	17 04 11.8	+0.5
NB2	**NORSAR Subarra** comp=E,3.0nm,0.9s,mb4.5,baz=93,slow=5.0	**86.53**	**331**	P	**P**	**17 04 12.2**	**-0.1**
NB2	**NORSAR Subarra**	**86.53**	**331**	P	**P**	**17 04 12.2**	**-0.1**
NB2	comp=Z,3.0nm,0.9s,mb4.5			pmax	pmax		
NOA	**NORSAR Array B** comp=Z,0.4nm,0.7s,mb3.8,baz=117,slow=3.7,SNR=2.9	**86.53**	**331**	P	**P**	**17 04 12.4**	**+0.1**
NOA	comp=Z,1.5nm,0.9s,baz=94,slow=5.3,SNR=3.4			pP	pP	17 04 21.4	-0.3
YKA	**Yellowknife Ar** comp=Z,0.6nm,1.0s,baz=330,slow=6.9,SNR=6.6	**111.63**	**15**	PP	PP	17 10 46.3	-2.4

MOS ***10*** *16:56:04.0±0.8, 1.63S×99.97E, h33km, mb4.9/16, Error ellipse: s-maj=19.2km s-min=8.9km az=117.1*
IDC ***10*** *16:56:05.7±0.5, 1.72S×99.86E, h32km±3km, mb4.3/18, mb1 4.4/18, mb1mx4.3/21, mbtmp4.5/18, MS3.5/1, Ms1 3.7/1, ms1mx3.0/34, Error ellipse: s-maj=19.7km s-min=9.3km az=54.0*
NEIC ***10*** *16:56:05.5±0.2, 1.73S×99.91E, mb4.8/17, Error ellipse: s-maj=8.8km s-min=4.2km az=58.0*
BJI ***10*** *16:56:05.5, 1.10S×100.07E, h12km, mB5.3, mb4.7, Ms4.4, Msz4.1*
ISC 10 16:56:03.5±0.3, 1.70S±0.06×99.92E±0.07, h31km, h31km±1.0km:pP-P, n81, σ0°87/74, mb4.7/44, MS4.0/3, 2C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.98**	**6**	*eP*	**Pn**	**16 57 46.6**	**+0.2**
CM31	**Chiang Mai Arr** 4.7nm,0.6s	**20.05**	**357**	*eP*	**P**	**17 00 37.4**	**+0.2**
CMAR	**Chiang Mai Arr** 1.5nm,0.4s,baz=184,slow=11,SNR=12	**20.05**	**357**	P	**P**	**17 00 36.8**	**-0.5**
CMAR	4.6nm,0.6s,baz=186,slow=9.7,SNR=13			pP		17 00 45.7	
CMAR				LR	LR	17 09 11.3	
CMAR	comp=Z,151nm,20.8s,MS3.3,baz=200,slow=39 **Chiang Mai Arr**	**20.05**	**357**	P	**P**	**17 00 36.8**	**-0.5**
CMAR				pP		17 00 45.7	
CMAR				LR	LR	17 09 11.3	
MBWA	**Marble Bar** 4.2nm,0.7s,mb4.1	**27.33**	**136**	*eP*	**P**	**17 01 48.2**	**+0.3**
FITZ	**Fitzroy Crossi** 30nm,0.9s,mb5.0,baz=293,slow=3.8,SNR=17	**30.04**	**124**	P	**P**	**17 02 12.0**	**-0.3**
FITZ	15nm,0.7s,baz=337,slow=8.1,SNR=6.2			pP	pP	17 02 20.1	-1.4
JIRN	**Jiri** 42nm,0.8s,mb5.3	**32.04**	**337**	*eP*	**P**	**17 02 30.5**	**+0.6**
PKI	**Pulchoki** 6.6nm,0.6s,mb4.6	**32.28**	**335**	*eP*	**P**	**17 02 32.0**	**+0.1**
PKI	**Pulchoki**	**32.28**	**335**	*eP*	**P**	**17 02 32.0**	**+0.1**
PKI	comp=Z,3.0nm,0.6s,mb4.3			pmax	pmax		
LSA	**Lhasa**	**32.33**	**346**	*eP*	**P**	**17 02 33.2**	**+0.9**
LSA	**Lhasa**	**32.33**	**346**	*eP*	**P**	**17 02 33.3**	**+1.0**
LSA	comp=Z,6.0nm,0.6s,mb4.6			pmax	pmax		
LSA	**Lhasa** comp=Z,6.0nm,0.6s,mb4.6	**32.33**	**346**	*eP*	**P**	**17 02 33.3**	**+1.0**
GUN	**Gumba** comp=Z,38nm,0.5s,mb5.5	**32.39**	**336**	*eP*	**P**	**17 02 33.5**	**+0.6**
DMN	**Daman** comp=Z,16nm,0.8s,mb4.9	**32.44**	**335**	*eP*	**P**	**17 02 33.5**	**+0.2**
KKN	**Kakani** comp=Z,27nm,0.8s,mb5.2	**32.53**	**335**	*eP*	**P**	**17 02 34.2**	**+0.1**
KKN	**Kakani**	**32.53**	**335**	*eP*	**P**	**17 02 34.2**	**+0.1**
KKN	comp=Z,14nm,0.8s,mb4.9			pmax	pmax		
GKN	**Gorkha** comp=Z,23nm,0.9s,mb5.1	**32.99**	**335**	*eP*	**P**	**17 02 37.9**	**-0.2**
KOLN	**Koldanda** comp=Z,18nm,0.7s,mb5.1	**33.24**	**333**	*eP*	**P**	**17 02 40.0**	**-0.3**
XAN	**Xi'an**	**36.55**	**13**	P	**P**	**17 03 07.5**	**-0.9**
XAN	comp=Z,5.0nm,0.6s,mb4.5			AMB	AMB		
NJ2	**Nanjing**	**38.06**	**27**	*eP*	**P**	**17 03 21.5**	**+0.3**
NJ2				AP	pP	17 03 31.2	+0.7
NJ2				XP	sP	17 03 35.2	+0.8
NJ2				PP	PP	17 04 51.9	+0.2
NJ2				S	**S**	**17 09 13.0**	**+1.6**
NJ2	comp=Z,10.0nm,0.8s,mb4.6			AMB	AMB		
NJ2	comp=Z,920nm,3.9s			AMB	AMB		
NJ2	comp=N,380nm,14.1s,MS4.7			LR	LR		
NJ2	comp=E,680nm,11.8s,MS4.7			LR	LR		
NJ2	comp=Z,360nm,22.5s			LR	LR		
WRA	**Warramunga Arr** comp=Z,9.8nm,0.6s,mb4.7,baz=303,slow=9.0,SNR=78	**38.21**	**121**	P	**P**	**17 03 22.4**	**-0.1**
WRA	comp=Z,12nm,1.0s,baz=304,slow=9.0,SNR=11			pP	pP	17 03 32.2	+0.4
WRAB	**Tennant Creek**	**38.21**	**121**	*eP*	**P**	**17 03 22.2**	**-0.4**
WRAB				*e*	pP	17 03 31.6	-0.3
WRAB	comp=Z,16nm,0.6s,mb4.9			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,16nm,0.6s,mb4.9	**38.21**	**121**	*eP*	**P**	**17 03 22.2**	**-0.4**
WRAB				*e*	pP	17 03 31.6	-0.4
WB2	**Warramunga Arr**	**38.22**	**121**	*eP*	**P**	**17 03 21.9**	**-0.8**
SSE	**Sheshan**	**38.38**	**30**	*eP*	**P**	**17 03 22.2**	**-1.7**
SSE	comp=Z,25nm,0.7s,mb5.0			AMB	AMB		
SSE	comp=Z,59nm,5.1s			AMB	AMB		
SSE	**Sheshan** comp=Z,25nm,0.7s,mb5.0	**38.38**	**30**	*eP*	**P**	**17 03 22.2**	**-1.7**
FORT	**Forrest** comp=Z,424nm,0.9s	**39.32**	**140**	*eP*	**P**	**17 03 37.9**	**+6.2**
ASPA	**Alice Springs**	**39.49**	**126**	⇑*iP*	**P**	**17 03 33.9**	**+0.7**
ASPA				*e*	pP	17 03 43.6	+1.1
ASAR	**Alice Springs** comp=Z,7.6nm,0.6s,mb4.6,baz=300,slow=8.0,SNR=88	**39.49**	**126**	P	**P**	**17 03 33.7**	**+0.5**
ASAR	comp=Z,12nm,0.7s,baz=295,slow=6.8,SNR=21			pP	pP	17 03 43.5	+0.9
ASAR				pPcP		17 05 52.4	
WMQ	comp=Z,1.2nm,0.6s,baz=302,slow=2.4,SNR=5.9 **Urumqi**	**46.63**	**348**	⇓*iP*	**P**	**17 04 32.2**	**+1.3**
WMQ				AP	pP	17 04 38.2	-2.1
WMQ				XP	sP	17 04 41.2	-2.9
WMQ				PP	PP	17 06 21.2	+1.0
WMQ				*e*S	**S**	**17 11 18.7**	**+1.6**
WMQ	comp=Z,20nm,0.9s,mb5.0			AMB	AMB		
WMQ	comp=Z,101nm,3.2s			AMB	AMB		
WMQ	comp=N,86nm,21.5s,MS3.9			LR	LR		
WMQ	comp=E,101nm,22.8s,MS3.9			LR	LR		
CTA	**Charters Tower** comp=E,12nm,1.2s,mb4.8,baz=133,slow=20,SNR=3.1	**48.79**	**115**	P	**P**	**17 04 48.7**	**+0.6**
CTA	**Charters Tower**	**48.79**	**115**	P	**P**	**17 04 48.7**	**+0.6**
STKA	**Stephens Creek** comp=E,3.8nm,0.6s,mb4.6	**49.40**	**132**	*eP*	**P**	**17 04 53.2**	**+0.5**
STKA				*e*	pP	17 05 03.4	+1.2
STKA	**Stephens Creek** comp=E,5.2nm,0.7s,mb4.7,baz=319,slow=6.4,SNR=16	**49.40**	**132**	P	**P**	**17 04 53.8**	**+1.1**
STKA	comp=E,15nm,0.8s,baz=308,slow=7.4,SNR=15			pP	pP	17 05 03.8	+1.6
SONM	**Songino Array** comp=E,2.5nm,0.6s,mb4.4,baz=187,slow=8.4,SNR=13	**49.66**	**6**	P	**P**	**17 04 55.1**	**+0.7**
SONM	comp=E,2.0nm,0.6s,baz=191,slow=8.6,SNR=7.4			pP	pP	17 05 04.3	+0.4
SONM				PcP	PcP	17 06 15.7	0.0
SONM	comp=E,1.0nm,0.7s,baz=198,slow=4.9,SNR=2.8			pPcP		17 06 25.8	
ULN	comp=E,2.5nm,0.8s,baz=186,slow=4.6,SNR=4.5 **Ulaanbaatar**	**49.75**	**6**	*eP*	**P**	**17 04 55.4**	**+0.2**
ULN	comp=Z,2.0nm,0.6s,mb4.3			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,1.7nm,0.6s,mb4.2	**49.75**	**6**	*eP*	**P**	**17 04 55.4**	**+0.2**
MKAR	**Makanchi Array** comp=Z,6.6nm,0.8s,mb4.8,baz=155,slow=8.7,SNR=64	**50.72**	**344**	P	**P**	**17 05 02.6**	**0.0**
MKAR				S	**S**	**17 12 16.8**	**+2.4**
CN2	comp=Z,1.0nm,1.0s,baz=150,slow=17,SNR=4.2 **Changchun**	**50.74**	**24**	*eP*	**P**	**17 05 05.2**	**+2.4**
KURK	**Kurchatov**	**55.30**	**344**	*iP*	**P**	**17 05 36.1**	**-0.4**
KURK	**Kurchatov** comp=Z,12nm,0.8s,mb5.0	**55.30**	**344**	*eP*	**P**	**17 05 35.8**	**-0.7**
ZAL	**Zalesovo** comp=Z,7.8nm,0.5s,mb5.0,baz=306,slow=6.2,SNR=30	**56.85**	**349**	P	**P**	**17 05 47.0**	**-0.6**
ZAL				pP	pP	17 05 57.1	-0.1
BVAR	comp=Z,5.6nm,0.5s,baz=297,slow=6.3,SNR=9.0 **Borovoye Array**	**59.88**	**340**	P	**P**	**17 06 07.2**	**-1.5**
BVAR	comp=Z,3.2nm,0.5s,mb4.6,baz=145,slow=8.9,SNR=28 comp=Z,3.7nm,0.7s,baz=149,slow=8.6,SNR=9.4			pP	pP	17 06 17.4	-1.0
CHKZ	**Chkalovo**	**60.34**	**340**	*eP*	**P**	**17 06 10.7**	**-1.2**
CHKZ	comp=Z,8.0nm,1.0s,mb4.7			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,7.7nm,1.0s,mb4.7	**60.34**	**340**	*eP*	**P**	**17 06 10.7**	**-1.1**
KMBO	**Kilima Mbogo** comp=Z,2.3nm,0.9s,mb4.3,baz=47,slow=12,SNR=7.0	**62.65**	**270**	P	**P**	**17 06 28.4**	**+0.4**
KMBO	**Kilima Mbogo**	**62.65**	**270**	P	**P**	**17 06 28.4**	**+0.4**
GNI	**Garni**	**65.26**	**316**	*iP*	**P**	**17 06 44.8**	**+0.1**
GNI	comp=Z,4.0nm,1.0s			pmax	pmax		
SVE	**Sverdlovsk**	**66.38**	**338**	*eP*	**P**	**17 06 51.0**	**-0.6**
SVE	comp=Z,9.0nm,1.0s,mb4.8			pmax	pmax		
ARU	**Arti**	**66.90**	**336**	⇓*iP*	**P**	**17 06 54.0**	**-0.9**
ARU				*e*		17 07 20.6	
ARU				*e*S	S	17 15 47.0	+2.8
ARU				*e*SS	SS	17 19 58.1	-6.3
ARU	comp=Z,6.0nm,0.9s,mb4.6			pmax	pmax		
YAK	**Yakutsk**	**67.47**	**15**	*iP*	**P**	**17 06 57.1**	**-1.4**
YAK	comp=Z,8.0nm,1.0s,mb4.7			pmax	pmax		
KIV	**Kislovodsk**	**68.27**	**319**	*iP*	**P**	**17 07 03.5**	**-0.2**
KIV	comp=Z,10.0nm,1.0s,mb4.8			pmax	pmax		
GOF	**Gofitskoye**	**68.52**	**320**	⇑*iP*	**P**	**17 07 03.2**	**-2.1**
GOF	comp=Z,20nm,1.3s,mb4.9			pmax	pmax		
MATP	**Matopo** comp=Z,6.5nm,0.9s,mb4.6,baz=89,slow=5.9,SNR=11	**72.01**	**249**	P	**P**	**17 07 26.9**	**0.0**
MATP	**Matopo**	**72.01**	**249**	P	**P**	**17 07 26.9**	**0.0**
MA2	**Magadan**	**72.79**	**24**	*iP*	**P**	**17 07 29.3**	**-1.5**
MA2	comp=Z,15nm,1.7s,mb4.7			pmax	pmax		
BRTR	**Keskin Array B** comp=Z,1.8nm,0.7s,mb4.1,baz=124,slow=6.4,SNR=12	**73.07**	**312**	P	**P**	**17 07 31.4**	**-1.4**
TIXI	**Tiksi**	**75.58**	**9**	*iP*	**P**	**17 07 45.7**	**-1.0**
TIXI	comp=Z,4.0nm,1.0s,mb4.3			pmax	pmax		
BOSA	**Boshof** comp=Z,3.1nm,0.9s,mb4.2,baz=135,slow=13,SNR=3.6	**75.73**	**241**	P	**P**	**17 07 48.6**	**+0.1**
OBN	**Obninsk**	**76.50**	**328**	*de*P	**P**	**17 07 52.1**	**-0.1**
OBN				*e*		17 10 38.4	
OBN				*e*SS	SS	17 22 30.3	-2.2
OBN	comp=Z,9.0nm,0.7s,mb4.8			pmax	pmax		
AKASG	**Malin Array Be**	**79.20**	**322**	*iP*	**P**	**17 08 07.9**	**+0.7**
AKASG	**Malin Array Be** comp=Z,0.1nm,0.3s,baz=94,slow=3.9,SNR=6.4	**79.20**	**322**	P	**P**	**17 08 06.7**	**-0.5**
BILL	**Bilibino**	**82.90**	**20**	*iP*	**P**	**17 08 25.9**	**-0.4**
BILL	comp=Z,7.0nm,2.4s,mb4.3			pmax	pmax		
SBA	**Scott Base**	**83.56**	**169**	*eP*	**P**	**17 08 29.7**	**+0.2**
FINES	**FINESS Array B** comp=Z,2.6nm,0.5s,mb4.6,baz=100,slow=5.5,SNR=29	**83.81**	**332**	P	**P**	**17 08 31.8**	**+0.8**
FINES				pP	pP	17 08 41.9	+0.8
KAF	comp=Z,1.7nm,0.5s,baz=99,slow=5.0,SNR=4.4 **Kangasniemi**	**83.88**	**333**	*ep*	**P**	**17 08 31.9**	**+0.5**
KAF	comp=Z,3.1nm,0.6s,mb4.6,baz=100,slow=4.7 **Kangasniemi**	**83.88**	**333**	*eP*	**P**	**17 08 31.9**	**+0.5**
KAF	comp=Z,3.0nm,0.6s,mb4.6			pmax	pmax		
ARCES	**ARCESS Array B** comp=Z,4.7nm,0.8s,mb4.8,baz=104,slow=5.0,SNR=15	**86.17**	**340**	P	**P**	**17 08 43.7**	**+1.0**
BRG	**Berggiesshubel**	**88.76**	**321**	*eP*	**P**	**17 08 56.9**	**+1.3**
BRG	comp=Z,11nm,1.7s,mb4.9			pmax	pmax		
BRG	**Berggiesshubel** comp=Z,11nm,1.7s,mb4.9	**88.76**	**321**	P	**P**	**17 08 56.9**	**+1.3**
GERES	**GERESS Array B** comp=Z,1.2nm,0.7s,mb4.3,baz=72,slow=4.2,SNR=10.0	**88.78**	**319**	P	**P**	**17 08 56.8**	**+1.1**
GERES	comp=Z,0.5nm,0.6s,baz=63,slow=3.0,SNR=3.8			pP	pP	17 09 07.3	+1.6
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.8s,baz=317,slow=2.3,SNR=3.9	**114.11**	**17**	PKP	PKPdf	17 14 40.8	-3.9
YKA				pPKP		17 14 51.1	
LTX	comp=Z,0.7nm,1.0s,baz=324,slow=2.3,SNR=5.2 **Lajitas**	**144.51**	**37**	*e*PKP	PKPdf	17 15 39.1	-3.7
LTX				*e*		17 15 49.2	
TXAR	**Lajitas Array** comp=Z,1.5nm,0.5s,baz=197,slow=1.1,SNR=23	**144.51**	**37**	PKP	PKPdf	17 15 39.4	-3.5
TXAR	comp=Z,7.6nm,0.7s,baz=274,slow=1.8,SNR=34			pPKP		17 15 49.4	
TXAR	**Lajitas Array**	**144.51**	**37**	PKP	PKPdf	17 15 39.4	-3.5
TXAR				pPKP		17 15 49.4	
MIAR	**Mount Ida**	**144.98**	**20**	*e*PKP	PKPdf	17 15 39.5	-3.9
MIAR				*e*		17 15 49.2	
WVT	**Waverly**	**145.00**	**11**	*e*PKP	PKPdf	17 15 39.3	-4.1
WVT				*e*		17 15 49.3	
TZTN	**Tazewell**	**145.18**	**5**	*e*PKP	PKPdf	17 15 39.5	-4.3
TZTN				*e*		17 15 49.9	
JCT	**Junction City**	**145.81**	**31**	*e*PKP	PKPdf	17 15 42.6	-2.4
JCT				*e*		17 15 52.6	
CPCT	**Cooper Cave**	**146.17**	**7**	*e*PKP	PKPdf	17 15 42.5	-3.0
CPCT				*e*		17 15 52.2	
SWET	**Sewanee**	**146.21**	**9**	*e*PKP	PKPdf	17 15 42.3	-3.3
SWET				*e*		17 15 52.2

ASAR Alice Springs 17.13 164 P **P 17 06 41.0 +1.2**
0.9nm,0.3s,baz=345,slow=12,SNR=22
ASAR S **S 17 09 44.3 +0.1**
0.5nm,0.3s,baz=352,slow=26,SNR=6.8
ASPA Alice Springs 17.13 164 *eP* **P 17 06 40.7 +0.9**
PMG Port Moresby 18.39 98 P **P 17 06 57.8 +3.4**
1.3nm,0.3s,baz=283,slow=9.5,SNR=9.6
KSM Kuching 20.28 294 *eP* **P 17 07 15.2 +0.9**
CTAO Charters Tower 21.30 129 *eP* **P 17 07 25.4 +1.0**
17nm,1.2s,mb4.2
KLBR Kellerberrin 26.35 201 *eP* **P 17 08 13.1 +0.5**
864nm,1.8s
NWAO Narrogin (SRO) 27.74 201 P **P 17 08 25.1 -0.2**
2.1nm,0.4s,mb4.2,baz=54,slow=7.4,SNR=7.5
NWAO Narrogin (SRO) 27.74 201 *eP* **P 17 08 25.0 -0.4**
40nm,1.5s,mb4.9
CMAR Chiang Mai Arr 38.88 311 P **P 17 10 01.9 +0.6**
1.0nm,0.4s,mb3.8,baz=148,slow=6.7,SNR=9.9
LSA Lhasa 51.46 317 *eP* **P 17 11 42.4 +1.4**
2.1nm,0.5s,mb4.0
JIRN Jiri 53.75 312 *eP* **P 17 11 58.2 +0.1**
2.5nm,0.3s,mb4.4
GUN Gumba 54.12 312 *eP* **P 17 12 00.5 -0.3**
13nm,0.6s,mb4.8
PKI Pulchoki 54.28 311 *eP* **P 17 12 01.4 -0.5**
4.5nm,0.5s,mb4.4
KKN Kakani 54.50 312 *eP* **P 17 12 03.4 -0.1**
4.3nm,0.5s,mb4.5
DMN Daman 54.53 311 *eP* **P 17 12 03.2 -0.5**
8.4nm,0.8s,mb4.5
GKN Gorkha 55.09 311 *eP* **P 17 12 07.3 -0.5**
6.7nm,0.3s,mb4.8
KOLN Koldanda 55.74 311 *eP* **P 17 12 12.4 -0.2**
9.5nm,0.7s,mb4.7
ULN Ulaanbaatar 58.06 343 *eP* **P 17 12 27.9 -0.7**
0.7nm,0.5s,mb3.8
SONM Songino Array 58.22 342 P **P 17 12 30.1 +0.4**
1.2nm,0.9s,mb3.7,baz=157,slow=8.8,SNR=7.6
MKAR Makanchi Array 67.69 327 P **P 17 13 32.2 +0.1**
3.8nm,0.4s,mb4.5,baz=118,slow=8.3,SNR=51
MKAR Makanchi Array 67.69 327 P **P 17 13 32.2 0.0**
ZAL Zalesovo 71.19 334 P **P 17 13 52.8 -0.5**
1.0nm,0.6s,mb3.7,baz=344,slow=11,SNR=6.3
KURK Kurchatov 72.02 329 *eP* **P 17 13 57.7 -0.5**
3.8nm,0.6s,mb4.3
VNDA Vanda 72.42 173 P **P 17 13 59.6 -0.6**
0.2nm,0.5s,baz=3.5,slow=5.0,SNR=3.5
BVAR Borovoye Array 77.54 328 P **P 17 14 29.8 0.0**
1.1nm,0.5s,mb3.7,baz=124,slow=9.6,SNR=7.9
CHKZ Chkalovo 77.75 329 *eP* **P 17 14 30.2 -0.6**
1.6nm,0.8s,mb3.7
DBIC Dimbokro 133.92 272 PKP PKPdf 17 21 52.0 +2.3
2.7nm,0.8s,baz=145,slow=9.9,SNR=4.5

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*IDC **10** 17:06:42.1±1.0, 1.93S×99.33E, mb4.0/8, mb1 4.2/8, mb1mx3.9/18, mbtmp4.0/8, Error ellipse: s-maj=40.1km s-min=17.9km az=53.0*
*NEIC **10** 17:06:48.8±2.0, 1.79S×99.55E, h47km±17km, mb4.2/6, Error ellipse: s-maj=19.2km s-min=9.9km az=50.0*
ISC 10 17:06:46.8±3.2, 1.8S±0.1×99.5E±0.1, h47km±28km, n23, σ0°95/19, mb4.1/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.09**	**9**	*eP*	**P**	**17 08 29.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**20.10**	**358**	P	**P**	**17 11 20.1**	**+0.8**
0.6nm,0.3s,baz=187,slow=10,SNR=4.8							
PALK	**Pallekele**	**20.82**	**296**	P	**P**	**17 11 28.0**	**+1.1**
LSA	**Lhasa**	**32.29**	**346**	P	**P**	**17 13 16.7**	**+3.1**
1.6nm,0.4s,mb4.2							
WRA	**Warramunga Arr**	**38.52**	**120**	P	**P**	**17 14 06.2**	**-0.4**
1.6nm,0.5s,mb4.0,baz=302,slow=9.2,SNR=5.6							
WRAB	**Tennant Creek**	**38.52**	**120**	*eP*	**P**	**17 14 06.2**	**-0.5**
6.2nm,0.8s,mb4.4							
ASAR	**Alice Springs**	**39.77**	**126**	P	**P**	**17 14 17.6**	**+0.7**
0.8nm,0.6s,mb3.7,baz=297,slow=7.9,SNR=7.7							
STKA	**Stephens Creek**	**49.66**	**132**	P	**P**	**17 15 36.9**	**+0.8**
1.5nm,0.8s,mb4.1,baz=290,slow=16,SNR=4.3							
STKA	**Stephens Creek**	**49.66**	**132**	P	**P**	**17 15 36.9**	**+0.8**
SONM	**Songino Array**	**49.75**	**6**	P	**P**	**17 15 36.9**	**+0.2**
0.7nm,0.6s,mb3.9,baz=187,slow=9.5,SNR=8.4							
SONM				PcP	PcP	17 16 58.0	+0.7
0.3nm,0.4s,baz=194,slow=3.8,SNR=4.4							
ULN	**Ulaanbaatar**	**49.85**	**7**	*eP*	**P**	**17 15 37.9**	**+0.5**
1.1nm,0.9s,mb3.9							
MKAR	**Makanchi Array**	**50.67**	**345**	P	**P**	**17 15 44.2**	**+0.6**
1.3nm,0.6s,mb4.0,baz=151,slow=9.1,SNR=11							
KURK	**Kurchatov**	**55.24**	**344**	*eP*	**P**	**17 16 16.9**	**-0.6**
1.7nm,0.9s,mb4.1							
ZAL	**Zalesovo**	**56.84**	**350**	P	**P**	**17 16 29.3**	**+0.3**
3.0nm,0.5s,mb4.6,baz=309,slow=2.1,SNR=9.7							
ZAL	**Zalesovo**	**56.84**	**350**	P	**P**	**17 16 29.3**	**+0.3**
ATD	**Arta Tunnel**	**57.86**	**285**	P	**P**	**17 16 34.9**	**-1.7**
4.2nm,0.6s,mb4.7,baz=270,slow=20,SNR=2.3							
ATD	**Arta Tunnel**	**57.86**	**285**	P	**P**	**17 16 34.9**	**-1.7**
CHKZ	**Chkalovo**	**60.26**	**341**	P	**P**	**17 16 51.6**	**-1.1**
0.5nm,0.6s,mb3.7							
YAK	**Yakutsk**	**67.63**	**15**	*eP*	**P**	**17 17 39.4**	**-1.3**
3.3nm,0.5s,mb4.6							
TXAR	**Lajitas Array**	**144.79**	**37**	PKPbc	PKPbc	17 26 21.7	+2.4
1.6nm,0.7s,baz=268,slow=1.2,SNR=17							
TXAR	**Lajitas Array**	**144.79**	**37**	PKPbc	PKPbc	17 26 21.7	+2.4
WVT	**Waverly**	**145.12**	**10**	PKP	PKPdf	17 26 21.1	+1.5
CPCT	**Cooper Cave**	**146.27**	**6**	*e*PKP	PKPdf	17 26 24.8	+3.1

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*IDC **10** 17:08:50.8±1.9, 2.31S×100.59E, mb3.8/9, mb1 4.0/9, mb1mx3.8/18, mbtmp3.9/9, Error ellipse: s-maj=88.3km s-min=16.6km az=57.0*
*NEIC **10** 17:08:58.3±1.6, 1.19S×101.84E, h30km, mb4.4/1, Error ellipse: s-maj=79.2km s-min=13.5km az=58.0*
ISC 10 17:08:54.5±1.7, 2.1S±0.3×100.8E±0.4, h33km, n14, σ0°72/12, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.36**	**359**	*eP*	**P**	**17 10 31.4**	**-11**
CMAR	**Chiang Mai Arr**	**20.53**	**355**	P	**P**	**17 13 31.8**	**-1.0**
0.5nm,0.3s,baz=190,slow=10,SNR=3.1							
FITZ	**Fitzroy Crossi**	**29.06**	**125**	P	**P**	**17 14 53.4**	**-0.8**
4.0nm,0.9s,mb4.2,baz=350,slow=19,SNR=2.8							
WRA	**Warramunga Arr**	**37.22**	**121**	P	**P**	**17 16 05.2**	**+0.3**
0.9nm,0.4s,mb3.9,baz=303,slow=9.0,SNR=8.4							
WRAB	**Tennant Creek**	**37.22**	**121**	*eP*	**P**	**17 16 05.2**	**+0.3**
5.2nm,0.9s,mb4.4							
ASAR	**Alice Springs**	**38.51**	**127**	P	**P**	**17 16 16.1**	**+0.3**
1.1nm,0.5s,mb3.8,baz=299,slow=7.8,SNR=8.1							
STKA	**Stephens Creek**	**48.45**	**132**	P	**P**	**17 17 35.6**	**-0.5**
0.6nm,0.4s,mb3.9,baz=337,slow=13,SNR=3.7							
SONM	**Songino Array**	**49.98**	**5**	P	**P**	**17 17 49.1**	**+1.5**
0.4nm,0.8s,mb3.5,baz=182,slow=7.9,SNR=3.2							
MKAR	**Makanchi Array**	**51.37**	**344**	P	**P**	**17 17 57.6**	**-0.5**
0.5nm,0.4s,mb3.8,baz=170,slow=9.5,SNR=4.0							
ZAL	**Zalesovo**	**57.43**	**349**	P	**P**	**17 18 42.2**	**-0.2**
1.4nm,0.4s,mb4.3,baz=325,slow=9.5,SNR=5.0							
ZAL	**Zalesovo**	**57.43**	**349**	P	**P**	**17 18 42.2**	**-0.2**
FINES	**FINESS Array B**	**84.60**	**332**	P	**P**	**17 21 26.3**	**+0.6**
0.6nm,0.8s,mb3.8,baz=108,slow=6.0,SNR=5.6							
TXAR	**Lajitas Array**	**144.28**	**38**	PKP	PKPdf	17 28 29.8	+1.9
0.4nm,0.5s,baz=297,slow=2.0,SNR=2.8							
TXAR	**Lajitas Array**	**144.28**	**38**	PKP	PKPdf	17 28 29.8	+1.9

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*IDC **10** 17:11:48.6±2.1, 1.84S×99.93E, mb3.9/8, mb1 4.0/8, mb1mx3.8/18, mbtmp3.9/8, Error ellipse: s-maj=102.4km s-min=17.5km az=55.0*
*NEIC **10** 17:11:53.4±1.2, 1.79S×100.05E, h30km, mb4.2/1, Error ellipse: s-maj=58.9km s-min=9.0km az=54.0*
ISC 10 17:11:51.6±1.7, 1.7S±0.3×100.1E±0.5, h30km, n12, σ0°56/11, mb3.8/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**29.88**	**125**	P	**P**	**17 17 58.2**	**-1.0**
3.5nm,0.8s,mb4.2,baz=263,slow=17,SNR=2.8							
WRA	**Warramunga Arr**	**38.05**	**121**	P	**P**	**17 19 10.0**	**+0.6**
0.2nm,0.3s,mb3.3,baz=306,slow=8.9,SNR=7.0							
WRAB	**Tennant Creek**	**38.05**	**121**	*eP*	**P**	**17 19 09.1**	**-0.4**
ASAR	**Alice Springs**	**39.33**	**126**	P	**P**	**17 19 20.8**	**+0.6**
0.5nm,0.7s,mb3.4,baz=303,slow=7.9,SNR=5.8							
STKA	**Stephens Creek**	**49.26**	**132**	P	**P**	**17 20 39.9**	**+0.1**
1.2nm,0.8s,mb4.0,baz=325,slow=12,SNR=3.0							
SONM	**Songino Array**	**49.66**	**6**	P	**P**	**17 20 43.2**	**+0.5**
0.2nm,0.5s,mb3.4,baz=189,slow=10,SNR=3.8							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**50.79**	**344**	P	**P**	**17 20 51.5**	**+0.2**
0.6nm,0.4s,mb3.9,baz=149,slow=8.0,SNR=9.5							
KURK	**Kurchatov**	**55.37**	**344**	*eP*	**P**	**17 21 25.1**	**-0.2**
2.3nm,1.0s,mb4.2							
ZAL	**Zalesovo**	**56.91**	**349**	P	**P**	**17 21 35.4**	**-0.9**
1.6nm,0.3s,mb4.6,baz=339,slow=7.5,SNR=3.2							
FINES	**FINESS Array B**	**83.91**	**332**	P	**P**	**17 24 20.2**	**+0.4**
0.5nm,0.7s,mb3.7,baz=101,slow=7.1,SNR=4.8							
FINES	**FINESS Array B**	**83.91**	**332**	P	**P**	**17 24 20.2**	**+0.4**
MIAR	**Mount Ida**	**144.94**	**20**	PKP	PKPdf	17 31 27.3	-4.3

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*BER **10** 17:15:36.5±3.3, 77.32N×18.25E, h1km±36km, MD2.0, ML3.3, ML2.2(NAO)*
*CSEM **10** 17:15:36.5, 77.32N×18.25E, h1km, ML3.3, After BER*
*NAO **10** 17:15:37.0±2.2, 77.44N×18.77E, h22km±27km, ML2.2*
ISC 10 17:15:34.2±1.1, 77.3N±0.1×17.8E±0.5, h10km, n7, σ0°92/11, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.56**	**244**	*e*Pg	**Pg**	**17 15 52.4**	**+6.9**
SPA0	**Spitsbergen Ar**	**0.97**	**343**	Pg	**Pg**	**17 15 53.6**	**-0.2**
baz=144,slow=22							
SPA0				Lg		17 16 04.9	
baz=155,slow=28							
SPA0	**Spitsbergen Ar**	**0.97**	**343**	Pg	**Pg**	**17 15 53.6**	**-0.2**
baz=144,slow=19,SNR=91							
SPA0				Lg		17 16 04.9	
baz=155,slow=27,SNR=50							
HOPEN	**Hopen**	**1.81**	**111**	*e*P	**Pn**	**17 16 06.3**	**+0.5**
HOPEN				*e*S	**Sn**	**17 16 28.8**	**-0.3**
HOPEN				AML	AML	17 16 37.0	
comp=Z,511nm,0.8s							
KBS	**Kingsbay**	**2.07**	**327**	Pn	**Pn**	**17 16 11.2**	**+1.7**
KBS				Pg	**Pg**	**17 16 14.2**	**-1.4**
KBS				Lg		17 16 40.3	
ARA0	**ARCESS Array S**	**8.06**	**160**	Pn	**P**	**17 17 33.9**	**-0.3**
baz=351,slow=12							
ARA0				Sn	**Sn**	**17 18 57.5**	**-8.9**
baz=0.3,slow=22							
ARA0	**ARCESS Array S**	**8.06**	**160**	Pn	**P**	**17 17 33.9**	**-0.3**
baz=351,slow=12,SNR=50							
ARA0				Sn	**Sn**	**17 18 57.5**	**-8.8**
baz=0.3,slow=21,SNR=50							

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*NEIC **10** 17:19:44.3, 37.52N×20.88E, h11km, MD3.5(ATH), After ATH.*
*CSEM **10** 17:19:44.3, 37.52N×20.88E, h11km, MD3.5/11, After ATH*
ATH 10 17:19:44.4, 37.53N×20.90E, h10km±3km, MD3.5/11, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.69**	**339**	*e*PG	Pg	17 19 57.2	-1.1
VLS				*e*SB	Sb	17 20 08.0	+0.6
RLS	**Riolos of Patr**	**0.69**	**40**	*e*PG	Pg	17 19 57.5	-0.8
ITM	**Ithomi**	**0.89**	**113**	*e*PG	Pg	17 20 01.1	-1.2
EVR	**Evrytania**	**1.56**	**27**	*e*PB	Pb	17 20 14.0	+1.1
EVR	**Evrytania**	**1.56**	**27**	*e*Pb	Pb	17 20 15.5	+2.6
VLI	**Veliai**	**1.82**	**116**	*e*PN	Pn	17 20 18.0	+1.9
MGER	**Gerania Oros**	**1.93**	**76**	*e*PN	Pn	17 20 19.5	+1.9
LKR	**Lokris**	**2.00**	**55**	*e*PN	Pn	17 20 20.2	+1.5
NAIG	**Nisos Aigina**	**2.07**	**83**	*e*PN	Pn	17 20 22.0	+2.4
NSAL	**Nisos Salamina**	**2.07**	**79**	*e*PN	Pn	17 20 21.0	+1.4
KYTH	**Kithira**	**2.12**	**125**	*e*PN	Pn	17 20 22.5	+2.1
NEO	**Neokhori**	**2.54**	**45**	*e*PB	Pb	17 20 27.1	-2.7

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*NIED **10** 17:21:00, 22.40N×121.20E, h59km, Mw3.9 Best double couple: M0 6.86×10^14 NP1:φs 275°, δ 78°, λ -64°. NP2:φs 28°, δ 29°, λ -155°.*
*JMA **10** 17:21:26.3±0.3, 22.36N×121.23E, h94km, M3.5*
TAP 10 17:21:25.0, 22.51N×120.87E, h40km, ML4.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.76**	**45**	P	P	17 22 08.3	+0.4
YOJ				S	S	17 22 39.2	-1.2
HATJ	**Hateruma jima**	**3.11**	**60**	P	P	17 22 11.5	-1.3
HATJ				*e*S	S	17 22 45.8	-3.3
IRIF	**Iriomote-Funau**	**3.19**	**55**	P	P	17 22 12.9	-1.1
IRIF				S	S	17 22 49.2	-2.1
JKRS	**Kuro-shima**	**3.36**	**59**	P	P	17 22 15.2	-1.2
JKRS				S	S	17 22 53.7	-1.8
JIJ	**Ishigaki jima**	**3.53**	**58**	P	P	17 22 17.3	-1.4
JIJ				S	S	17 22 55.8	-3.9
JTJ	**Tarama**	**4.11**	**58**	P	P	17 22 25.4	-1.6
JTJ				*e*S	S	17 23 10.9	-3.5
JOGS	**Gusukube**	**4.72**	**61**	P	P	17 22 33.6	-2.1
JOGS				*e*S	S	17 23 26.2	-3.8

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*MOS **10** 17:21:51.5±1.0, 1.80S×99.85E, h33km, mb4.7/6, Error ellipse: s-maj=29.3km s-min=11.7km az=112.1*
*IDC **10** 17:21:53.0±0.9, 1.84S×99.83E, h31km±4km, mb3.9/13, mb1 4.1/13, mb1mx4.0/19, mbtmp4.1/13, Error ellipse: s-maj=45.6km s-min=10.8km az=54.0*
*BJI **10** 17:21:53.1, 1.80S×99.90E, h31km, mb4.1*
*NEIC **10** 17:21:53.1±0.4, 1.76S×99.93E, mb4.6/8, Error ellipse: s-maj=16.6km s-min=5.8km az=61.0*
ISC 10 17:21:51.2±0.6, 1.72S±0.09×100.0E±0.1, h31km, h31km±4km: pP-P, n42, σ0°92/36, mb4.3/19, 2C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.99**	**6**	*eP*	**Pn**	**17 23 35.8**	**+1.5**
CM31	**Chiang Mai Arr**	**20.07**	**357**	P	**P**	**17 26 23.3**	**-1.9**
2.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**20.07**	**357**	P	**P**	**17 26 24.2**	**-1.0**
1.2nm,0.5s,baz=186,slow=10,SNR=9.5							
KMI	**Kunming**	**26.82**	**6**	⇑P	**P**	**17 27 31.8**	**+0.8**
KMI				AMB	AMB		
comp=Z,5.0nm,1.2s,mb3.9							
KMI	**Kunming**	**26.82**	**6**	⇑P	**P**	**17 27 31.8**	**+0.8**
comp=Z,5.0nm,1.2s,mb3.9							
FITZ	**Fitzroy Crossi**	**30.00**	**124**	P	**P**	**17 27 58.8**	**-0.9**
comp=Z,5.0nm,0.8s,mb4.3,baz=31,slow=12,SNR=6.8							
FITZ				pP	pP	17 28 08.0	-0.7
comp=Z,20nm,0.8s,baz=229,slow=3.4,SNR=9.9							
LSA	**Lhasa**	**32.36**	**346**	*eP*	**P**	**17 28 21.7**	**+1.4**
LSA				pmax	pmax		
comp=Z,4.0nm,0.4s,mb4.6							
LSA	**Lhasa**	**32.36**	**346**	*eP*	**P**	**17 28 21.7**	**+1.3**
comp=Z,4.1nm,0.4s,mb4.6							
ENH	**Enshi**	**33.08**	**15**	*eP*	**P**	**17 28 25.1**	**-1.5**
comp=Z,3.5nm,0.4s,mb4.6							
NWAO	**Narrogin (SRO)**	**35.03**	**154**	P	**P**	**17 28 43.8**	**+0.4**
WRA	**Warramunga Arr**	**38.16**	**121**	P	**P**	**17 29 09.9**	**0.0**
comp=Z,1.8nm,0.4s,mb4.2,baz=305,slow=9.0,SNR=37							
WRA				pP	pP	17 29 19.2	+0.1
comp=Z,5.9nm,0.5s,baz=300,slow=9.1,SNR=28							
WRAB	**Tennant Creek**	**38.17**	**121**	*eP*	**P**	**17 29 09.3**	**-0.7**
WRAB				*e*	pP	17 29 18.5	-0.6
WRAB				pmax	pmax		
comp=Z,13nm,0.6s,mb4.8							
WRAB	**Tennant Creek**	**38.17**	**121**	*eP*	**P**	**17 29 09.3**	**-0.7**
comp=Z,13nm,0.6s,mb4.8							
WRAB				*e*	pP	17 29 18.5	-0.7
WB2	**Warramunga Arr**	**38.17**	**121**	*eP*	**P**	**17 29 09.6**	**-0.4**
ASPA	**Alice Springs**	**39.44**	**126**	*eP*	**P**	**17 29 21.3**	**+0.7**
ASAR	**Alice Springs**	**39.44**	**126**	P	**P**	**17 29 21.4**	**+0.7**
comp=Z,1.5nm,0.6s,mb3.9,baz=305,slow=7.9,SNR=40							
ASAR				pP	pP	17 29 30.1	+0.3
comp=Z,6.6nm,0.6s,baz=300,slow=7.8,SNR=29							
WMQ	**Urumqi**	**46.65**	**348**	*eP*	**P**	**17 30 22.9**	**+4.0**
STKA	**Stephens Creek**	**49.36**	**132**	P	**P**	**17 30 40.5**	**+0.3**
comp=Z,1.3nm,0.6s,mb4.1,baz=321,slow=6.8,SNR=5.0							
STKA				pP	pP	17 30 50.0	+0.6
comp=Z,8.8nm,0.7s,baz=311,slow=7.4,SNR=14							
STKA	**Stephens Creek**	**49.36**	**132**	P	**P**	**17 30 40.5**	**+0.3**
STKA				pP	pP	17 30 50.0	+0.6
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**17 30 42.8**	**+0.6**
comp=Z,1.8nm,0.6s,mb4.3,baz=190,slow=9.1,SNR=22							
SONM				pP	pP	17 30 52.5	+0.8
comp=Z,1.7nm,0.8s,baz=187,slow=10,SNR=9.2							
ULN	**Ulaanbaatar**	**49.77**	**6**	*eP*	**P**	**17 30 43.3**	**+0.3**
ULN				pmax	pmax		
comp=Z,4.0nm,1.2s,mb4.3							
ULN	**Ulaanbaatar**	**49.77**	**6**	*eP*	**P**	**17 30 43.3**	**+0.3**
comp=Z,3.9nm,1.2s,mb4.3							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**50.75**	**344**	P	**P**	**17 30 51.4**	**+0.9**
comp=Z,3.0nm,0.4s,mb4.6,baz=149,slow=8.0,SNR=20							
MKAR				pP	pP	17 31 00.3	+0.4
comp=Z,4.9nm,0.8s,baz=149,slow=7.1,SNR=10							
MKAR	**Makanchi Array**	**50.75**	**344**	P	**P**	**17 30 51.4**	**+0.9**
MKAR				pP	pP	17 31 00.3	+0.4
KURK	**Kurchatov**	**55.33**	**344**	*eP*	**P**	**17 31 24.1**	**-0.4**
KURK				*e*	pP	17 31 33.2	-0.7
KURK				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
KURK	**Kurchatov**	**55.33**	**344**	*eP*	**P**	**17 31 24.1**	**-0.4**
comp=Z,9.7nm,0.9s,mb4.8							
KURK				*e*	pP	17 31 33.2	-0.7
ZAL	**Zalesovo**	**56.88**	**349**	P	**P**	**17 31 35.5**	**-0.1**
comp=Z,1.8nm,0.5s,mb4.4,baz=272,slow=5.3,SNR=8.0							
ZAL	**Zalesovo**	**56.88**	**349**	P	**P**	**17 31 35.5**	**-0.1**
BVAR	**Borovoye Array**	**59.91**	**340**	P	**P**	**17 31 55.9**	**-0.9**
comp=Z,1.0nm,0.4s,mb4.2,baz=141,slow=9.2,SNR=9.7							
BVAR				pP	pP	17 32 05.6	-0.6
comp=Z,1.0nm,0.6s,baz=138,slow=9.2,SNR=3.7							
CHKZ	**Chkalovo**	**60.37**	**340**	*eP*	**P**	**17 31 59.1**	**-0.8**
CHKZ				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.6							
CHKZ	**Chkalovo**	**60.37**	**340**	*eP*	**P**	**17 31 59.1**	**-0.7**
comp=Z,6.3nm,1.0s,mb4.6							
KIV	**Kislovodsk**	**68.31**	**319**	*eP*	**P**	**17 32 51.5**	**-0.3**
BRTR	**Keskin Array B**	**73.11**	**312**	P	**P**	**17 33 19.3**	**-1.6**
comp=Z,0.6nm,0.8s,mb3.6,baz=127,slow=6.2,SNR=4.2							
FINES	**FINESS Array B**	**83.85**	**332**	P	**P**	**17 34 19.8**	**+0.7**
comp=Z,0.7nm,0.7s,mb3.9,baz=108,slow=6.0,SNR=9.1							
ARCES	**ARCESS Array B**	**86.20**	**340**	P	**P**	**17 34 31.4**	**+0.9**
comp=Z,1.0nm,0.7s,mb4.2,baz=90,slow=3.6,SNR=4.0							
GERES	**GERESS Array B**	**88.82**	**319**	P	**P**	**17 34 44.7**	**+1.0**
comp=Z,0.4nm,0.6s,mb3.9,baz=90,slow=4.9,SNR=3.2							
NVAR	**Mina Array Bea**	**129.40**	**39**	PKP	PKPdf	17 40 59.1	-3.6
comp=Z,0.4nm,0.8s,baz=312,slow=12,SNR=3.0							
TXAR	**Lajitas Array**	**144.50**	**37**	PKP	PKPdf	17 41 27.1	-3.4
comp=Z,0.8nm,0.5s,baz=176,slow=1.1,SNR=9.5							
TXAR				pPKP		17 41 36.9	
comp=Z,1.3nm,0.6s,baz=275,slow=1.3,SNR=8.5							
MIAR	**Mount Ida**	**144.98**	**20**	*e*PKP	PKPdf	17 41 27.6	-3.6
WVT	**Waverly**	**145.00**	**11**	*e*PKP	PKPdf	17 41 27.1	-4.1
JCT	**Junction City**	**145.80**	**31**	*e*PKP	PKPdf	17 41 30.4	-2.3
CPCT	**Cooper Cave**	**146.18**	**7**	*e*PKP	PKPdf	17 41 30.4	-2.8

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*TEH **10** 17:23:05.2, 30.57N×56.91E, h10km, Mn3.1*
*THR **10** 17:23:06.6±0.6, 30.79N×56.68E, h14km±6km, ML3.1*
*CSEM **10** 17:23:07.0±0.1, 30.78N×56.67E, h16km, ML3.1, Error ellipse: s-maj=5.7km s-min=2.5km az=55.0*
ISC 10 17:23:07.1±0.8, 30.78N±0.06×56.7E±0.1, h14km, n11, σ0°95/14, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.80**	**176**	*e*PG	**Pg**	**17 23 22.2**	**-0.9**
KRBR				*e*SG	**Sg**	**17 23 33.2**	**-0.7**
KRBR				AML	AML	17 23 33.5	
comp=E,1μm,0.2s							
KRBR	**Kerman**	**0.80**	**176**	*e*Pg	**Pg**	**17 23 22.2**	**-0.9**
SNR=90							
KRBR				*e*Sg	**Sg**	**17 23 33.2**	**-0.7**
SNR=90							
IBAF	**Bafgh**	**1.26**	**310**	Pn	**Pn**	**17 23 30.2**	**-0.1**
IMEH	**Mehriz**	**1.89**	**289**	Pn	**Pn**	**17 23 40.9**	**+1.6**
ICHK	**Chekchek**	**2.44**	**307**	Pn	**Pn**	**17 23 48.2**	**+1.0**
BNDS	**Bandar-Abbas**	**3.40**	**188**	*e*PN	**Pn**	**17 24 01.6**	**+0.8**
BNDS				AML	AML	17 25 04.5	
comp=N,16nm,0.4s							
BNDS	**Bandar-Abbas**	**3.40**	**188**	*e*Pn	**Pn**	**17 24 01.6**	**+0.8**
SNR=52							
ZHSF	**Zahedan**	**3.72**	**107**	*e*PN	**Pn**	**17 24 06.0**	**+0.6**
NASN	**Na'in**	**3.88**	**302**	*e*PN	**Pn**	**17 24 07.6**	**0.0**
NASN				*e*SG	**Sg**	**17 25 06.6**	**-9.5**
NASN				AML	AML	17 25 18.1	
comp=N,27nm,0.6s							
IFIR	**Firoozkooh**	**5.87**	**327**	Sn	**Sn**	**17 25 41.9**	**-1.7**
IDMV	**Damavand**	**6.18**	**322**	Pn	**Pn**	**17 24 39.5**	**-0.7**

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*IDC **10** 17:24:34.4±0.3, 1.61S×99.78E, mb5.6/31, mb1 5.7/32, mb1mx5.7/32, mbtmp5.6/32, ML6.0/1, MS6.0/28, Ms1 6.0/28, ms1mx5.9/38, Error ellipse: s-maj=10.8km s-min=7.3km az=58.0*
*DJA **10** 17:24:36.5±6.0, 2.97S×98.90E, h100km, ML6.8/4, Error ellipse: s-maj=317.5km s-min=55.2km az=50.0*
*BJI **10** 17:24:36.8, 1.60S×99.83E, h29km, mB6.2, mb5.8, Ms6.6, Msz6.6*
*MOS **10** 17:24:38.6±1.1, 1.50S×99

TSM Tawau 19.07 72 P **P** **17 29 01.2 +0.7**
CM31 Chiang Mai Arr 19.94 358 *e*P **P** **17 29 06.9 -3.5**
comp=Z,683nm,0.9s
CMAR Chiang Mai Arr 19.94 358 *i* P **P** **17 29 08.6 -1.8**
CMAR pmax pmax
comp=Z,59nm,0.5s
CMAR Chiang Mai Arr 19.94 358 P **P** **17 29 06.8 -3.6**
comp=Z,19nm,0.3s,baz=188,slow=7.5,SNR=104
CMAR LR LR 17 37 38.3
comp=Z,77µm,18.1s,baz=190,slow=39
NANT Nan 20.29 3 ⇑P **P** **17 29 11.0 -2.9**
comp=Z,2µm,0.5s
CHG Chiang Mai 20.30 358 P **P** **17 29 12.1 -1.9**
BATP Bataraza 20.78 60 *e*P 17 29 29.3
PALK Pallekele 20.92 295⇑*e*P **P** **17 29 20.4 0.0**
comp=Z,643nm,1.4s
PALK LR LR
comp=Z,5µm,19.0s
PPR Puerto Princes 22.05 59⇑*e*P **P** **17 29 32.4 +0.6**
QIZ Qiongzhong 22.79 25 P **P** **17 29 39.3 +0.1**
QIZ AP 17 29 48.6
QIZ S **S** **17 33 41.3 -0.3**
QIZ XS 17 33 55.4
QIZ AMB AMB
comp=Z,626nm,1.0s,mb6.0
QIZ AMB AMB
comp=Z,5µm,8.9s
QIZ LR LR
comp=N,55µm,14.0s,MS6.4
QIZ LR LR
comp=E,88µm,13.1s,MS6.4
QIZ LR LR
comp=Z,84µm,15.9s,MS6.3
QIZ Qiongzhong 22.79 25 *e*P **P** **17 29 39.1 0.0**
comp=Z,747nm,1.1s,mb6.0
ENPP El Nido 23.37 57 *e*P **P** **17 29 45.8 +1.0**
MDRS Chennai 24.20 308 *e*P **P** **17 29 55.2 +2.3**
MDRS *e* 17 30 06.0
comp=Z,371nm,1.1s
MDRS *e* 17 34 05.7
BUSP Coron 24.43 56 *e*P **P** **17 29 56.5 +1.4**
IPIL Ipil 24.63 67 *e*P **P** **17 29 58.8 +1.7**
KOD Kodaikanal 25.07 298⇑*i*P **P** **17 30 00.0 -1.3**
VIS Vishakhapatnam 25.08 321 *e*P **P** **17 30 02.4 +1.0**
VIS *e* 17 30 08.7
comp=Z,674nm,1.2s
VIS *e* 17 34 20.2
PAGZ Pagadian 25.40 68 *e*P **P** **17 30 06.1 +1.7**
LUBP Lubang 25.42 53 *e*P **P** **17 30 05.5 +0.9**
SJMP San Jose 25.43 56 *e*P **P** **17 30 05.3 +0.6**
DCPH Dipolog City 25.64 66⇑*e*P **P** **17 30 08.3 +1.6**
BWNR Bhubaneshwar 25.68 329 *e* **P** **17 30 09.9 +3.0**
BWNR *e* 17 30 16.0
comp=Z,1µm,1.2s
BWNR *e* 17 34 28.8
GUIM Jordan 25.80 61 *e*P **P** **17 30 09.1 +1.0**
OTRP Odiongan 26.14 57 *e*P **P** **17 30 12.3 +1.0**
TGY Tagaytay City 26.18 53⇓*e*P **P** **17 30 13.1 +1.5**
RCP Roxas 26.36 60⇓*e*P **P** **17 30 14.0 +0.7**
CAL Calcutta 26.44 336 *e*P **P** **17 30 16.7 +2.8**
TBP Tagbilaran 26.54 65⇓*i*P **P** **17 30 15.1 +0.1**
BOAC Boac 26.56 55 *e*P **P** **17 30 14.9 -0.3**
KMI Kunming 26.73 6 ⇓P **P** **17 30 16.5 -0.1**
KMI AP pP 17 30 25.2 -0.3
KMI XP sP 17 30 28.7 -0.8
KMI PP PP 17 31 00.4 -1.0
KMI S **S** **17 34 49.9 +1.6**
KMI XS 17 35 04.6
KMI SS SS 17 36 03.7 +2.9
KMI AMB AMB
comp=Z,132nm,1.3s,mb5.3
KMI AMB AMB
comp=Z,3µm,7.1s
KMI LR LR
comp=N,48µm,16.0s,MS6.3
KMI LR LR
comp=E,48µm,17.0s,MS6.3
KMI LR LR
comp=Z,58µm,16.7s,MS6.2
KMI Kunming 26.73 6 ⇓P **P** **17 30 16.5 -0.1**
comp=Z,132nm,1.3s,mb5.3
KMI pP pP 17 30 25.2 -0.3
KMI sP sP 17 30 28.7 -0.8
KMI PP PP 17 31 00.4 -1.0
KMI S **S** **17 34 49.9 +1.6**
KMI sS 17 35 04.6
KMI SS SS 17 36 03.7 +2.9
KMI LR LR
comp=Z,58µm,16.7s,MS6.2
BOLP Bolinao 26.78 47 *e*P **P** **17 30 17.7 +0.6**
BUKP Musuan 26.98 69 *e*P **P** **17 30 19.8 +0.8**
PCPH Palayan 27.16 50⇑*e*P **P** **17 30 20.0 -0.6**
DAV Davao City (W) 27.21 71⇑*e*P **P** **17 30 23.0 +1.9**
BCPH Baguio City Da 27.27 48⇑*i*P **P** **17 30 22.4 +0.8**
GQP Guinayangan 27.29 55 *e*P pP 17 30 34.0 +3.2
MBWA Marble Bar 27.55 136⇑*e*P **P** **17 30 23.3 -0.8**
comp=Z,95nm,0.8s,mb5.5
MBWA LR LR
comp=Z,51µm,21.0s,MS6.1
MSLP Maasin 27.61 65 *e*P **P** **17 30 24.3 -0.5**
HKC Hong Kong 27.63 30⇓*i*P **P** **17 30 26.0 +1.1**
HKC *i* S **S** **17 35 14.0 +11**
MATI Mati 27.82 72 *e*P **P** **17 30 26.0 -0.7**
SHL Shillong 28.05 345⇓*i*P **P** **17 30 28.0 -0.6**
SHL *e*S **S** **17 35 12.0 +2.4**
HYB Hyderabad 28.14 313 *e*P **P** **17 30 29.0 -0.5**
HYB *e*S **S** **17 35 10.0 -1.2**
HYB Hyderabad 28.14 313 *i* P **P** **17 30 29.0 -0.5**
HYB *e*pP pP 17 30 39.0 +0.5
HYB *e*PP PP 17 31 19.0 -1.2
HYB *e*PcP PcP 17 33 43.5 +0.1
HYB *e*S **S** **17 35 10.0 -1.2**
HYB *e*SS SS 17 36 52.0 +17
HYB *e*ScP 17 37 24.0
HYB *e*ScS ScS 17 41 14.0 +2.0
HYB LR LR
comp=Z,36nm,20.0s
ABRA Dolores 28.18 46 *e*P **P** **17 30 29.6 -0.2**
CNP Cataraman 28.46 60 *e*P **P** **17 30 32.6 +0.2**
PVCP Virac 28.55 57 *e*P **P** **17 30 33.4 +0.2**
CAUP Cauayan 28.55 49 *e*P **P** **17 30 32.9 -0.3**
BOK Bokaro 28.60 333⇑*i*P **P** **17 30 33.8 +0.2**
BOK *i* 17 35 23.8
GYA Guiyang 28.69 13⇓*i*P **P** **17 30 30.0 -4.4**
GYA AP pP 17 30 38.9 -4.4
GYA XP sP 17 30 43.0 -4.3
GYA S **S** **17 35 20.4 +0.5**
GYA AMB AMB
comp=Z,120nm,1.0s,mb5.6
GYA LR LR
comp=N,99µm,15.3s,MS6.6
GYA LR LR
comp=E,26µm,13.5s,MS6.6
GYA LR LR
comp=Z,144µm,18.0s,MS6.6
LKP Lekhapani 28.98 353 *e*P **P** **17 30 36.5 -0.4**
LKP *e* pP 17 30 45.0 -0.9
CVP Callao Caves 29.02 48⇑*e*P **P** **17 30 37.0 -0.4**
BLSP Bilaspur 29.17 325 *e*P **P** **17 30 38.9 +0.2**
BLSP *e* 17 30 54.7
comp=Z,498nm,1.6s
BLSP *e* 17 35 22.7
SLGI Shiliguri 30.17 340 *e* **P** **17 30 48.8 +1.2**
LATR Latur 30.24 312 *e*P **P** **17 30 47.9 -0.4**
FITZ Fitzroy Crossi 30.27 124 P **P** **17 30 47.3 -1.3**
comp=Z,328nm,0.9s,mb6.1,baz=321,slow=4.7,SNR=151
NGP Nagpur 30.33 319 *e*P **P** **17 30 49.4 +0.4**
NGP *e* pP 17 31 00.2 +2.1
comp=Z,199nm,1.1s
NGP *e* 17 31 39.5
GOA Goa 30.72 305⇓*e*P **P** **17 30 51.9 -0.6**
GOA *e*S **S** **17 35 51.6 -0.6**
BBP Basco 30.91 44 *e*P **P** **17 30 53.9 -0.3**
AKL Akola 31.39 316 *e* **P** **17 30 54.0 -4.4**
KAD Karad 31.41 308 *e*P **P** **17 30 58.6 +0.1**
KAD *e* 17 31 10.5
comp=Z,179nm,1.2s
KAD *e* 17 31 12.2
comp=Z,187nm,0.9s
KAD *e* 17 36 00.5
JIRN Jiri 31.87 337 *e*P **P** **17 31 03.1 +0.6**
comp=Z,1µm,0.9s,mb6.8
PKI Pulchoki 32.10 336 *e*P **P** **17 31 04.7 +0.1**
comp=Z,312nm,1.0s,mb6.1
PKI Pulchoki 32.10 336 *e*P **P** **17 31 04.7 +0.1**
PKI pmax pmax
comp=Z,156nm,1.0s,mb5.8
QZH Quanzhou 32.11 34⇑*i*P **P** **17 31 04.4 -0.3**
QZH S **S** **17 36 15.8 +1.9**
QZH AMB AMB
comp=Z,600nm,1.1s,mb6.3
QZH AMB AMB
comp=Z,3µm,6.8s
QZH LR LR
comp=N,65µm,16.2s,MS6.6
QZH LR LR
comp=E,83µm,14.6s,MS6.6
QZH LR LR
comp=Z,114µm,15.2s,MS6.7
LSA Lhasa 32.18 346 P **P** **17 31 05.9 +0.7**
LSA AP pP 17 31 14.6 +0.3
LSA S **S** **17 36 16.9 +2.0**
LSA XS 17 36 29.2
LSA AMB AMB
comp=Z,320nm,1.1s,mb6.1
LSA AMB AMB
comp=Z,3µm,7.4s
LSA LR LR
comp=N,13µm,20.9s,MS5.8
LSA LR LR
comp=E,17µm,20.9s,MS5.8
LSA LR LR
comp=Z,25µm,21.3s,MS5.9
LSA Lhasa 32.18 346 *e*P **P** **17 31 06.1 +0.9**
LSA pmax pmax
comp=Z,693nm,1.1s,mb6.4
LSA Lhasa 32.18 346 *e*P **P** **17 31 06.0 +0.8**
comp=Z,693nm,1.1s,mb6.4
GUN Gumba 32.21 337 *e*P **P** **17 31 06.1 +0.6**
comp=Z,1µm,0.7s,mb6.9
DMN Daman 32.26 335 *e*P **P** **17 31 06.3 +0.3**
comp=Z,815nm,1.0s,mb6.5
KKN Kakani 32.35 336 *e*P **P** **17 31 06.8 +0.1**
comp=Z,896nm,1.0s,mb6.5
KKN Kakani 32.35 336 *e*P **P** **17 31 06.8 +0.1**
KKN pmax pmax
comp=Z,448nm,1.0s,mb6.2
POO Poona 32.36 309 *e*P **P** **17 31 07.1 +0.2**
POO *e* 17 31 20.5
comp=Z,211nm,0.9s
POO *e* 17 36 15.3
VLK Valmikinagar 32.55 333 *i* P **P** **17 31 09.0 +0.5**
VLK *i* 17 31 22.0
CD2 Chengdu 32.56 6⇓*i*P **P** **17 31 06.4 -2.1**
CD2 PP PP 17 32 11.3 -6.2
CD2 PPP PPP 17 32 24.5 -8.5
CD2 S **S** **17 36 12.8 -8.0**
CD2 AMB AMB
comp=Z,130nm,1.0s,mb5.8
CD2 AMB AMB
comp=Z,3µm,19.2s
CD2 LR LR
comp=E,94µm,13.2s
CD2 LR LR
comp=Z,90µm,13.2s,MS6.7
GKN Gorkha 32.80 335 *e*P **P** **17 31 10.9 +0.2**
comp=Z,1µm,1.1s,mb6.7
BHPL Bhopal 32.87 320 *e*P **P** **17 31 11.4 +0.1**
BHPL *e* pP 17 31 22.3 +1.9
comp=Z,120nm,1.1s
ENH Enshi 33.04 16 *e*P **P** **17 31 10.5 -2.2**
comp=Z,328nm,0.7s,mb6.4
KOLN Koldanda 33.06 333 *e*P **P** **17 31 13.3 +0.4**
comp=Z,1µm,0.8s,mb6.8
NACB Ninganchiao 33.29 38 *e*P **P** **17 31 15.4 +0.4**
BOM Bombay 33.38 309 *e* pP 17 31 24.3 -0.5
BOM *e* 17 36 31.4
YHNB Yeheng 33.52 37 *e*P **P** **17 31 16.7 -0.2**
TATO Taipei 33.81 37⇓*i*P **P** **17 31 19.6 +0.1**
comp=Z,283nm,0.9s,mb6.2
TATO LR LR
comp=Z,25µm,21.0s,MS5.9
JHNI Jhansi 33.82 324⇑*i*P **P** **17 31 17.0 -2.6**
JHNI *e* 17 31 30.0
MUN Mundaring 33.99 154⇑*i*P **P** **17 31 21.2 +0.3**
comp=Z,1µm,1.0s,mb6.7
KLBR Kellerberrin 34.35 152⇑*i*P **P** **17 31 23.8 -0.3**
comp=Z,3µm,1.0s
WHN Wuhan 34.88 22 ⇓P **P** **17 31 28.0 -0.6**
WHN PP PP 17 32 49.0 +2.4
WHN S **S** **17 36 55.0 -1.7**
WHN AMB AMB
comp=Z,4µm,9.0s
WHN LR LR
comp=Z,162µm,14.2s,MS6.9
NWAO Narrogin (SRO) 35.24 154 *e*P **P** **17 31 31.6 -0.1**
NWAO pmax pmax
comp=Z,340nm,1.3s
NWAO MLR MLR
comp=Z,37µm,20.0s
NWAO Narrogin (SRO) 35.24 154 P **P** **17 31 31.4 -0.4**
comp=Z,162nm,0.9s,mb6.0,baz=321,slow=9.9,SNR=69
NWAO LR LR 17 45 01.8
comp=Z,47µm,20.5s,MS6.2,baz=326,slow=35
NWAO Narrogin (SRO) 35.24 154 *e*P **P** **17 31 31.6 -0.1**
comp=Z,340nm,1.3s,mb6.1
NWAO LR LR
comp=Z,37µm,20.0s,MS6.1
BHV Bhavnagar 35.55 312 *e*P **P** **17 31 35.0 +0.6**
LGTI Lohaghat 36.05 330⇑*i*P **P** **17 31 39.0 +0.4**
LGTI *e* 17 32 56.0
PTH Pithoragarh 36.15 330 *e*P **P** **17 31 40.0 +0.6**
XAN Xi'an 36.49 13 P **P** **17 31 40.5 -1.7**
XAN AP pP 17 31 50.0 -1.3
XAN PP PP 17 33 00.5 -6.1
XAN S **S** **17 37 11.1 -11**
XAN AMB AMB
comp=Z,440nm,1.0s,mb6.3
XAN LR LR
comp=Z,148µm,14.7s,MS6.9
AJM Ajmer 36.94 321⇓*i*P **P** **17 31 45.0 -1.1**
NDI New Delhi 37.04 326 *e*P **P** **17 31 45.0 -1.9**
NDI *e* 17 37 40.0
LZH Lanzhou 37.69 5 ⇓P **P** **17 31 51.7 -0.6**
LZH AP pP 17 32 01.6 +0.2
LZH XP sP 17 32 07.5 +2.3
LZH PP PP 17 33 18.4 -3.0
LZH S **S** **17 37 37.0 -2.9**
LZH XS 17 37 54.0
LZH SS SS 17 40 10.2 -5.0
LZH AMB AMB
comp=Z,340nm,1.0s,mb6.0
LZH AMB AMB
comp=Z,3µm,6.3s
LZH LR LR
comp=N,114µm,13.4s
LZH LR LR
comp=Z,133µm,13.7s,MS6.9
LZH Lanzhou 37.69 5 ⇓P **P** **17 31 51.7 -0.6**
comp=Z,340nm,1.0s,mb6.0
LZH pP pP 17 32 01.6 +0.2
LZH sP sP 17 32 07.5 +2.3
LZH PP PP 17 33 18.4 -3.0
LZH S **S** **17 37 37.0 -2.9**
LZH sS 17 37 54.0
LZH SS SS 17 40 10.2 -5.0
LZH LR LR
comp=Z,133µm,13.7s,MS6.9
DDI Dehra Dun 37.87 329 *e*P **P** **17 31 52.9 -0.9**
DDI *e* 17 36 52.5
NJ2 Nanjing 38.07 27 *e*P **P** **17 31 55.5 0.0**
NJ2 AP pP 17 32 05.3 +0.7
NJ2 XP sP 17 32 09.2 +0.7
NJ2 PP PP 17 33 25.9 -0.1
NJ2 S **S** **17 37 44.0 -1.7**
NJ2 XS 17 38 00.0
NJ2 AMB AMB
comp=Z,100nm,0.6s,mb5.7
NJ2 AMB AMB
comp=Z,2µm,7.2s
NJ2 LR LR
comp=N,91µm,14.8s,MS6.9
NJ2 LR LR
comp=E,98µm,13.8s,MS6.9
NJ2 LR LR
comp=Z,65µm,14.0s,MS6.6
BHJ Bhuj 38.29 312 *e*P **P** **17 31 58.9 +1.4**
BHJ *e* 17 32 04.2
comp=Z,148nm,1.2s
BHJ *e* 17 37 46.5
SSE Sheshan 38.40 30 P **P** **17 31 58.6 +0.4**
SSE AP pP 17 32 07.9 +0.5
SSE XP sP 17 32 11.4 +0.2
SSE PP PP 17 33 31.5 +1.7
SSE S **S** **17 37 51.3 +0.6**
SSE XS 17 38 09.0
SSE AMB AMB
comp=Z,173nm,1.5s,mb5.6
SSE AMB AMB
comp=Z,2µm,7.6s
SSE LR LR
comp=N,35µm,13.4s,MS6.6
SSE LR LR
comp=E,50µm,13.4s,MS6.6
SSE LR LR
comp=Z,82µm,13.1s,MS6.7
SSE Sheshan 38.40 30 P **P** **17 31 58.6 +0.4**
comp=Z,173nm,1.5s,mb5.6
SSE pP pP 17 32 07.9 +0.5
SSE sP sP 17 32 11.4 +0.2
SSE PP PP 17 33 31.5 +1.7
SSE S **S** **17 37 51.3 +0.6**
SSE sS 17 38 09.0
SSE SS SS 17 40 53.7 +23
SSE LR LR
comp=Z,82µm,13.1s,MS6.7
WRA Warramunga Arr 38.44 121 P **P** **17 31 57.6 -1.1**
WRA S **S** **17 37 46.6 -4.9**
WRA pmax pmax
comp=Z,208nm,0.8s
WRA Warramunga Arr 38.44 121 P **P** **17 31 57.6 -1.2**
comp=Z,208nm,0.8s,mb5.9,baz=295,slow=9.5,SNR=209
WRA S **S** **17 37 46.6 -4.8**
comp=Z,26nm,1.0s,baz=298,slow=16,SNR=11
WRAB Tennant Creek 38.45 121 *e*P **P** **17 31 57.8 -1.0**
WRAB pmax pmax
comp=Z,390nm,0.8s,mb6.2
WRAB Tennant Creek 38.45 121 *e*P **P** **17 31 57.6 -1.2**
comp=Z,388nm,0.8s,mb6.2
WRAB *e* pP 17 32 07.0 -0.9
WRAB LR LR
comp=Z,7µm,20.0s,MS5.5
WB2 Warramunga Arr 38.45 121⇑*i*P **P** **17 31 57.4 -1.4**
WB2 *e*pP pP 17 32 07.0 -1.0
WB2 *e*S **S** **17 37 46.9 -4.7**
SMLA Simla 38.97 328⇑*i* **P** **17 31 59.7 -3.3**
SMLA *i* 17 38 08.5
SDNR Sundarnagar 39.37 329 *e*P **P** **17 32 07.0 +0.6**
SDNR *e*S **S** **17 38 05.0 -0.4**
JOW Kunigami 39.46 42 P **P** **17 32 06.5 -0.7**
comp=Z,42nm,0.5s,mb5.5,baz=248,slow=4.3,SNR=22
JOW LR LR 17 47 17.6
comp=Z,11µm,21.2s,MS5.7,baz=230,slow=35
JOW Kunigami 39.46 42 P **P** **17 32 06.5 -0.7**
JOW LR LR 17 47 17.6
FORT Forrest 39.53 140⇑*i*P **P** **17 32 08.6 +0.9**
comp=Z,10µm,0.8s
FORT *e*S **S** **17 38 04.7 -3.2**
BHK Bhakra 39.59 328 *e*P **P** **17 32 09.7 +1.5**
BHK *e*S **S** **17 38 10.7 +1.9**
ASPA Alice Springs 39.72 126⇑*i*P **P** **17 32 08.9 -0.4**
ASPA *e*sP sP 17 32 21.3 -1.0
ASPA *e*S **S** **17 38 08.0 -2.7**
ASPA *e*SCS ScS 17 42 14.1 +1.6
ASAR Alice Springs 39.72 126 P **P** **17 32 08.9 -0.4**
comp=Z,151nm,0.9s,mb5.7,baz=301,slow=7.9,SNR=191
ASAR PcP PcP 17 34 15.2 -0.9
comp=Z,50nm,0.9s,baz=327,slow=3.9,SNR=4.6
ASAR S **S** **17 38 08.9 -1.8**
comp=Z,180nm,1.3s,baz=298,slow=16,SNR=13
ASAR LR LR 17 50 26.0
comp=Z,16µm,21.8s,MS5.8,baz=301,slow=39
PONG Pong 40.26 328 *e*P **P** **17 32 13.0 -0.7**
PONG *e* 17 38 40.0
DLH Dalhousie 40.71 329 *e*P **P** **17 32 19.0 +1.6**
THN Thein Dam 40.76 328 *e*P **P** **17 32 17.5 -0.3**
THN *e* 17 38 43.6
GTA Gaotai 40.81 0⇓*i*P **P** **17 32 18.1 0.0**
GTA AP pP 17 32 27.1 -0.2
GTA XP sP 17 32 31.8 +0.7
GTA PP PP 17 33 55.5 +0.2
GTA PCP PcP 17 34 19.8 +0.4
GTA PPP PPP 17 34 23.6 -0.9
GTA SCP 17 38 06.5
GTA PCS 17 38 08.8
GTA S **S** **17 38 27.1 +0.2**
GTA XS 17 38 42.6
GTA SS SS 17 41 23.8 0.0
GTA SCS ScS 17 42 18.7 -0.1
GTA AMB AMB
comp=Z,187nm,1.4s,mb5.5
GTA AMB AMB
comp=Z,3µm,7.6s
GTA LR LR
comp=N,36µm,14.4s,MS6.5
GTA LR LR
comp=E,22µm,12.9s,MS6.5
GTA LR LR
comp=Z,46µm,16.3s,MS6.4
TIY Taiyuan 40.85 15 ⇑P **P** **17 32 18.0 -0.5**
TIY S **S** **17 38 20.0 -7.5**
TIY LR LR
comp=E,26µm,14.0s
TIA Tai'an 40.97 22 *e*P **P** **17 32 18.2 -1.3**
TIA S **S** **17 38 28.2 -1.0**
TIA AMB AMB
comp=Z,64nm,1.1s,mb5.2
TIA AMB AMB
comp=Z,1µm,7.0s
TIA LR LR
comp=E,55µm,15.0s,MS6.6
TIA LR LR
comp=N,32µm,12.9s,MS6.6
TIA LR LR
comp=E,19µm,13.8s
BTO Baotou 43.04 12 *e*P **P** **17 32 36.2 -0.3**
BTO AMB AMB
comp=Z,160nm,1.1s,mb5.7
BTO LR LR
comp=N,40µm,13.3s,MS6.6
BTO LR LR
comp=E,26µm,12.9s,MS6.6
HHC Hu-ho-hao-te 43.61 13 ⇓P **P** **17 32 41.4 +0.4**
HHC AP pP 17 32 50.9 +0.7
HHC XP sP 17 32 55.0 +1.0
HHC PP PP 17 34 24.7 +0.4
HHC PCP PcP 17 34 30.6 +1.9
HHC SCP 17 38 17.1
HHC PCS 17 38 18.6
HHC S **S** **17 39 09.5 +1.5**
HHC SS SS 17 42 16.2 +0.3
HHC SCS ScS 17 42 34.6 -1.2
HHC AMB AMB
comp=Z,146nm,1.3s,mb5.5
HHC AMB AMB
comp=Z,2µm,10.0s
HHC LR LR
comp=N,99µm,14.7s,MS6.9
HHC LR LR
comp=E,39µm,15.3s,MS6.9
HHC LR LR
comp=Z,86µm,14.1s,MS6.8
BJT Baijiatuau 44.07 18 *e*P **P** **17 32 44.8 0.0**
BJT pmax pmax
comp=Z,549nm,1.0s
BJT Baijiatuau 44.07 18 *e*P **P** **17 32 44.8 0.0**
comp=Z,549nm,1.0s,mb6.2
BJI Beijing 44.09 18 *e*P **P** **17 32 44.9 -0.1**
BJI AP pP 17 32 54.9 +0.7
BJI PP PP 17 34 29.2 0.0
BJI SCP 17 38 19.8
BJI S **S** **17 39 16.2 +1.1**
BJI AMB AMB
comp=Z,292nm,1.1s,mb5.9
BJI AMB AMB
comp=Z,1µm,2.6s,mb6.2
BJI LR LR
comp=N,17µm,18.7s,MS6.2
BJI LR LR
comp=E,25µm,23.5s,MS6.2
BJI LR LR
comp=Z,19µm,2.0s

BJI Beijing 44.09 18 *e*P **P 17 32 44.9 -0.1**
BJI *PP pP 17 32 54.9 +0.7
BJI 17 34 29.2
BJI S **S 17 39 16.2 +1.1**
BJI *SS 17 39 35.6
BJI SS SS 17 42 39.0 +14
BJI pmax pmax
comp=Z,292nm,1.1s,mb5.9
BJI Beijing 44.09 18 *e*P **P 17 32 44.9 -0.1**
comp=Z,292nm,1.1s,mb5.9
BJI pP pP 17 32 54.9 +0.7
BJI PP PP 17 34 29.2 0.0
BJI ScP 17 38 19.8
BJI S **S 17 39 16.2 +1.1**
BJI sS 17 39 35.6
BJI SS SS 17 42 39.0 +14
DL2 Dalian 45.07 24 PR **P 17 32 52.7 -0.2**
DL2 PP PP 17 34 42.2 +3.2
DL2 SCP 17 38 24.6
DL2 S **S 17 39 26.1 -3.1**
DL2 SS SS 17 42 36.9 -5.8
DL2 AMB AMB
comp=Z,130nm,1.0s,mb5.7
DL2 AMB AMB
comp=Z,1μm,7.1s
DL2 LR LR
comp=N,24μm,14.3s
DL2 LR LR
comp=Z,26μm,15.1s,MS6.3
KSH Kashi 46.35 335⇑ *i*P **P 17 33 03.0 0.0**
KSH *e*AP pP 17 33 12.0 -0.2
KSH *e*XP sP 17 33 16.0 +0.1
KSH PCP PcP 17 34 38.0 -0.2
KSH PP PP 17 34 51.0 -0.8
KSH *e*PPP PPP 17 35 36.0 -0.7
KSH *e*SCP 17 38 28.2
KSH *e*PCS 17 38 32.2
KSH *e*S **S 17 39 46.4 -1.1**
KSH XS 17 40 02.1
KSH *e*SCS ScS 17 42 53.0 -0.2
KSH SS SS 17 43 03.8 -1.6
KSH AMB AMB
comp=Z,1μm,2.8s,mb6.3
KSH LR LR
comp=N,28μm,17.6s,MS6.4
KSH LR LR
comp=E,24μm,16.7s,MS6.4
WMQ Urumqi 46.48 348⇓ P **P 17 33 05.0 +1.0**
WMQ AP pP 17 33 15.0 +1.8
WMQ XP sP 17 33 18.5 +1.6
WMQ PCP PcP 17 34 40.0 +1.4
WMQ PP PP 17 34 54.1 +1.1
WMQ S **S 17 39 50.0 +0.7**
WMQ XS 17 40 07.0
WMQ AMB AMB
comp=Z,544nm,1.2s,mb6.4
WMQ AMB AMB
comp=Z,4μm,2.8s,mb6.9
WMQ LR LR
comp=N,14μm,16.0s,MS6.2
WMQ LR LR
comp=E,13μm,15.0s,MS6.2
WMQ LR LR
comp=Z,10μm,19.0s,MS5.8
GUMO Guam 47.24 70 PFAKE 17 33 20.0 +10
GUMO LR LR
comp=Z,5μm,22.0s,MS5.4
BIDO Bidbid 47.52 304⇓ P **P 17 33 14.0 +1.5**
SNR=12
SHAO Shalim 47.57 296⇓ P **P 17 33 14.3 +1.4**
SNR=7.2
PMG Port Moresby 47.81 101 P **P 17 33 13.2 -1.6**
comp=Z,31nm,0.6s,mb5.5,baz=297,slow=6.9,SNR=13
PMG PcP PcP 17 34 44.5 +0.7
comp=Z,64nm,1.1s,baz=226,slow=8.3,SNR=3.4
BSY Bisya 47.97 303 P **P 17 33 16.9 +0.9**
SNR=8.0
HOQ Hoqain 48.23 304 P **P 17 33 18.7 +0.8**
SNR=12
SNY Shenyang 48.33 24⇓ P **P 17 33 17.1 -1.4**
SNY AP pP 17 33 25.1 -2.7
SNY XP sP 17 33 29.9 -1.6
SNY PP PP 17 35 12.2 +1.7
SNY S **S 17 40 10.9 -4.6**
SNY AMB AMB
comp=Z,80nm,2.0s,mb5.4
SNY AMB AMB
comp=Z,2μm,20.8s
SNY LR LR
comp=N,20μm,19.4s,MS6.6
SNY LR LR
comp=E,50μm,17.1s,MS6.6
SNY LR LR
comp=Z,43μm,17.4s,MS6.5
ULHL Ulahol 48.53 337 P **P 17 33 20.4 +0.4**
SNR=67
RBK Rabkut 48.68 295 P **P 17 33 21.8 +0.3**
SNR=15
ARQ Araqi 48.78 303 P **P 17 33 22.4 +0.2**
SNR=10
KZA Kyzart 48.79 336 P **P 17 33 22.9 +0.9**
SNR=57
CTA Charters Tower 49.03 115⇑ *i*P **P 17 33 23.3 -0.8**
comp=Z,101nm,0.9s,mb5.8
CTA *es*P sP 17 33 34.5 -2.6
CTA *e*S **S 17 40 22.0 -3.5**
CTA Charters Tower 49.03 115⇑ *i*P **P 17 33 23.3 -0.8**
CTA *e**SP sP 17 33 34.5 -2.6
CTA *e*S **S 17 40 22.0 -3.5**
CTA pmax pmax
comp=Z,101nm,0.9s
CTA Charters Tower 49.03 115 P **P 17 33 23.4 -0.8**
comp=Z,123nm,0.9s,mb5.9,baz=291,slow=9.1,SNR=50
CTA LR LR 17 58 42.9
comp=Z,22μm,18.9s,MS6.2,baz=288,slow=42
CTAO Charters Tower 49.03 115 *e*P **P 17 33 23.3 -0.8**
CTAO pmax pmax
comp=Z,395nm,1.3s,mb6.3
CTAO MLR MLR
comp=Z,20μm,20.0s,MS6.1
CTAO Charters Tower 49.03 115 *e*P **P 17 33 23.2 -0.9**
comp=Z,394nm,1.3s,mb6.3
CTAO LR LR
comp=Z,20μm,20.0s,MS6.1
AAA Alma-Ata 49.13 338 *e*P **P 17 33 24.0 -0.7**
AAA *e* 17 35 22.0
AAA *e*S **S 17 40 27.8 +1.1**
AAA pmax pmax
comp=Z,3μm,8.0s
AAA smax
comp=N,6μm,9.0s
AAA MLR MLR
comp=Z,10μm,16.0s,MS5.9
ADE Adelaide 49.17 137⇑ *i*P **P 17 33 26.0 +1.0**
WHFO Wadi Hawf 49.21 295 P **P 17 33 25.7 +0.2**
SNR=18
UCH Uchtor 49.21 335 P **P 17 33 26.0 +0.7**
SNR=77
TKM2 Tokmak 2 49.35 337 P **P 17 33 26.8 +0.4**
SNR=173
KBK Karagaybulak 49.39 336 P **P 17 33 27.4 +0.8**
SNR=113
ABTO Aybut 49.46 294 P **P 17 33 27.2 -0.3**
SNR=22
AML Almayashu 49.48 335 P **P 17 33 28.1 +0.8**
SNR=118
AAK Ala-Archa 49.56 336 P **P 17 33 28.5 +0.6**
SNR=54
AAK Ala-Archa 49.56 336 *i* P **P 17 33 28.6 +0.6**
SONM Songino Array 49.58 6 P **P 17 33 28.1 +0.1**
comp=Z,231nm,0.9s,mb6.2,baz=190,slow=8.2,SNR=482
SONM PcP PcP 17 34 50.4 +0.8
comp=Z,58nm,0.8s,baz=188,slow=3.3,SNR=4.3
SONM ScP 17 38 43.0
comp=Z,3.9nm,0.9s,baz=194,slow=5.9,SNR=3.9
SONM S **S 17 40 37.7 +4.9**
comp=Z,4.0nm,1.0s,baz=203,slow=11,SNR=3.2
SONM LR LR 17 57 03.2
comp=Z,34μm,19.0s,MS6.4,baz=188,slow=39
STKA Stephens Creek 49.63 132⇑ *i*P **P 17 33 28.6 0.0**
comp=Z,151nm,0.9s,mb6.0
STKA *es*P sP 17 33 42.3 +0.7
STKA *e*S **S 17 40 34.4 +0.6**
STKA Stephens Creek 49.63 132 P **P 17 33 28.7 0.0**
comp=Z,142nm,0.8s,mb6.1,baz=302,slow=7.9,SNR=189
STKA S **S 17 40 36.8 +3.0**
comp=Z,14nm,0.7s,baz=125,slow=19,SNR=6.7
STKA LR LR 17 55 57.4
comp=Z,28μm,20.7s,MS6.2,baz=297,slow=38
FRU Bishkek 49.67 336κ *i*P **P 17 33 29.2 +0.4**
FRU *i* 17 33 43.0
FRU *e* 17 35 29.0
FRU *i* S **S 17 40 38.0 +3.8**
FRU pmax pmax
comp=Z,530nm,2.0s,mb6.2
FRU pmax pmax
comp=Z,3μm,9.0s
FRU smax
comp=E,8μm,11.0s
ULN Ulaanbaatar 49.68 6⇓ *i*P **P 17 33 28.5 -0.3**
comp=E,332nm,1.1s,mb6.3
ULN LR LR
comp=Z,29μm,20.0s,MS6.3
ASHO Ashiyiah 49.73 305 P **P 17 33 29.3 -0.2**
SNR=36
CHMS Chumysh 49.76 336 P **P 17 33 29.5 0.0**
SNR=54
CBIJ Chichi jima 49.85 52 P **P 17 33 30.5 +0.1**
comp=Z,113nm,0.4s,mb6.2,baz=261,slow=6.1,SNR=27
CBIJ LR LR 17 53 19.3
comp=Z,8μm,20.6s,MS5.7,baz=221,slow=35
EKS2 Erkin-Say 49.88 335 P **P 17 33 31.0 +0.6**
SNR=176
USP Ospenovka 50.08 336 P **P 17 33 32.1 +0.2**
SNR=137
MKAR Makanchi Array 50.57 345 P **P 17 33 35.5 -0.1**
MKAR S **S 17 40 51.3 +4.8**
MKAR pmax pmax
comp=Z,223nm,0.6s
MKAR MLR MLR
comp=Z,9μm,18.9s
MKAR Makanchi Array 50.57 345 P **P 17 33 35.5 -0.1**
comp=Z,222nm,0.6s,mb6.3,baz=153,slow=8.1,SNR=397
MKAR S **S 17 40 51.3 +4.8**
comp=Z,41nm,1.2s,baz=162,slow=15,SNR=11
MKAR LR LR 17 58 53.7
comp=Z,9μm,18.9s,MS5.8,baz=49,slow=41
CN2 Changchun 50.74 24 *e*P **P 17 33 35.6 -1.3**
CN2 *e*XP sP 17 33 48.5 -1.4
CN2 *e*S **S 17 40 48.4 -0.5**
CN2 AMB AMB
comp=Z,250nm,0.8s,mb6.2
CN2 AMB AMB
comp=Z,760nm,10.0s
CN2 LR LR
comp=N,60μm,16.0s,MS6.8
CN2 LR LR
comp=E,36μm,16.0s,MS6.8
CN2 LR LR
comp=Z,46μm,17.0s,MS6.6
KKAR Karatay Array 51.67 333 *i* P **P 17 33 43.1 -0.9**
KKAR pmax pmax
comp=Z,278nm,1.5s,mb6.0
ZAK Zakamensk 51.87 3⇑ *i*P **P 17 33 44.6 -0.8**
ZAK *e* 17 34 55.1
ZAK pmax pmax
comp=Z,52nm,1.4s,mb5.3
ZAK pmax pmax
comp=Z,33nm,1.0s,mb5.2
MAJO Matsushiro 52.15 39 *e*P **P 17 33 46.2 -1.5**
MAJO pmax pmax
comp=Z,154nm,1.3s,mb5.8
MAJO MLR MLR
comp=Z,11μm,19.0s,MS5.9
MAJO Matsushiro 52.15 39 *e*P **P 17 33 46.2 -1.5**
comp=Z,154nm,1.3s,mb5.8
MAJO LR LR
comp=Z,11μm,19.0s,MS5.9
MAT Matsushiro 52.15 39 *e*P **P 17 33 46.0 -1.7**
MAT *e*S **S 17 41 10.0 +1.6**
MAT pmax pmax
comp=Z,122nm,1.2s,mb5.7
MAT MLR MLR
comp=Z,11μm,20.0s,MS5.9
MAT Matsushiro 52.15 39 *e*P **P 17 33 46.0 -1.7**
comp=Z,122nm,1.2s,mb5.7
MAT *e*S **S 17 41 10.0 +1.6**
MAT LR LR
comp=Z,11μm,20.0s,MS5.9
MAT Matsushiro 52.15 39 P **P 17 33 46.3 -1.4**
MAT S **S 17 41 09.0 +0.6**
MJAR Matsushiro Arr 52.15 39 P **P 17 33 46.5 -1.2**
MJAR pmax pmax
comp=Z,60nm,1.0s
MJAR MLR MLR
comp=Z,10μm,19.6s
MJAR Matsushiro Arr 52.15 39 P **P 17 33 46.5 -1.2**
comp=Z,60nm,1.0s,mb5.5,baz=223,slow=6.9,SNR=73
MJAR LR LR 17 57 23.6
comp=Z,10μm,19.6s,MS5.8,baz=245,slow=38
MOY Mondy 53.08 1 *e*P **P 17 33 54.1 -0.3**
MOY pmax pmax
comp=Z,300nm,2.3s,mb5.8
MDJ Mudanjiang 53.16 26 P **P 17 33 54.5 -0.6**
MDJ AP pP 17 34 03.6 -0.9
MDJ XP sP 17 34 06.8 -1.3
MDJ PP PP 17 35 53.7 -2.9
MDJ SCP 17 38 57.3
MDJ PCS 17 39 01.5
MDJ S **S 17 41 21.3 -0.7**
MDJ XS 17 41 37.2
MDJ SCS ScS 17 43 41.0 +2.1
MDJ SS SS 17 45 01.3 +0.4
MDJ AMB AMB
comp=Z,142nm,1.0s,mb5.8
MDJ AMB AMB
comp=Z,2μm,7.9s
MDJ LR LR
comp=N,53μm,14.2s,MS6.8
MDJ LR LR
comp=E,12μm,13.5s,MS6.8
MDJ LR LR
comp=Z,57μm,15.0s,MS6.7
MDJ Mudanjiang 53.16 26 *e*P **P 17 33 54.5 -0.7**
comp=Z,104nm,0.9s,mb5.8
TLY Talaya 53.19 3 *e*P **P 17 33 55.3 +0.1**
TLY *e* 17 35 55.7
TLY *e*S **S 17 41 18.3 -4.0**
TLY pmax pmax
comp=Z,88nm,0.9s,mb5.7
TLY MLR MLR
comp=Z,15μm,13.0s,MS6.2
HIA Hailar 53.54 16 *e*P **P 17 33 56.4 -1.5**
HIA pmax pmax
comp=Z,83nm,0.9s
HIA Hailar 53.54 16 *e*P **P 17 33 56.4 -1.5**
comp=Z,83nm,0.9s,mb5.7
IRK Irkutsk 53.78 3⇓ *i*P **P 17 33 59.0 -0.6**
IRK *e* 17 35 57.9
IRK *e*S **S 17 41 34.6 +4.2**
IRK pmax pmax
comp=Z,371nm,2.0s,mb6.0
OPO Ambohidratompo 54.15 248 P **P 17 34 02.2 -0.5**
comp=Z,53nm,1.0s,mb5.4,baz=67,slow=7.1,SNR=24
KURK Kurchatov 55.14 344 *i* P **P 17 34 09.1 -0.5**
KURK pmax pmax
comp=Z,631nm,1.4s,mb6.5
KURK Kurchatov 55.14 344⇓ *e*P **P 17 34 08.7 -0.9**
comp=Z,911nm,1.2s,mb6.7
KURK LR LR
comp=Z,3μm,21.0s,MS5.4
TOO Toolangi 55.20 136⇑ *i*P **P 17 34 11.3 +1.1**
comp=Z,63nm,0.9s,mb5.7
TOO *e*S **S 17 41 51.2 +1.6**
TOO Toolangi 55.20 136⇑ *i*P **P 17 34 11.3 +1.1**
TOO *e*S **S 17 41 51.2 +1.6**
TOO pmax pmax
comp=Z,63nm,0.9s,mb5.7
ZAL Zalesovo 56.72 350 P **P 17 34 20.6 -0.3**
ZAL S **S 17 42 12.6 +3.0**
ZAL pmax pmax
comp=Z,280nm,0.4s
ZAL MLR MLR
comp=Z,10μm,20.5s
ZAL Zalesovo 56.72 350 P **P 17 34 20.6 -0.3**
comp=Z,280nm,0.4s,mb6.6,baz=305,slow=6.0,SNR=518
ZAL S **S 17 42 12.6 +3.0**
comp=Z,52nm,1.0s,baz=169,slow=20,SNR=26
ZAL LR LR 18 01 17.9
comp=Z,10μm,20.5s,MS5.9,baz=191,slow=39
CNB Canberra Magne 56.96 132⇑ *i*P **P 17 34 22.6 -0.3**
comp=Z,9μm,2.0s
KLR Kul'dur 57.69 24⇑ *i*P **P 17 34 23.8 -4.0**
KLR *e*S **S 17 42 17.0 -5.4**
KLR *e* 17 44 09.5
KLR pmax pmax
comp=N,120nm,1.2s
KLR pmax pmax
comp=E,190nm,1.2s
KLR pmax pmax
comp=Z,260nm,1.2s,mb6.1
KLR pmax pmax
comp=N,1μm,8.5s
KLR pmax pmax
comp=Z,2μm,8.5s
RIV Riverview 57.73 130 *e*P **P 17 34 28.9 +0.6**
ATD Arta Tunnel 57.99 285 P **P 17 34 30.4 0.0**
comp=Z,18nm,0.9s,mb5.1,baz=263,slow=18,SNR=7.3
TAU Tasmania Unive 59.07 141 P **P 17 34 38.4 +0.9**
TAU pmax pmax
comp=Z,310nm,1.3s,mb6.2
TAU Tasmania Unive 59.07 141 *e*P **P 17 34 38.1 +0.5**
comp=Z,306nm,1.3s,mb6.2
TAU LR LR
comp=Z,3μm,20.0s,MS5.5
ASAJ Asahikawa 59.45 35 P **P 17 34 39.6 -0.5**
ASAJ pmax pmax
comp=Z,106nm,0.8s
ASAJ Asahikawa 59.45 35 P **P 17 34 39.5 -0.6**
comp=Z,106nm,0.8s,mb5.9,baz=255,slow=11,SNR=54
BVA0 Borovoye Array 59.71 340 *i* P **P 17 34 40.2 -1.6**
BVA0 pmax pmax
comp=Z,25nm,0.9s,mb5.2
BVAR Borovoye Array 59.71 340 P **P 17 34 40.2 -1.6**
comp=Z,50nm,0.6s,mb5.7,baz=143,slow=7.4,SNR=226
BVAR S **S 17 42 53.4 +4.6**
comp=Z,5.9nm,1.0s,baz=121,slow=8.6,SNR=4.8
CHKZ Chkalovo 60.17 341 P **P 17 34 43.9 -1.1**
CHKZ pmax pmax
comp=Z,343nm,1.0s,mb6.3
CHKZ Chkalovo 60.17 341 *e*P **P 17 34 43.8 -1.2**
comp=Z,471nm,1.0s,mb6.5
BOD Bodaibo 60.33 9 *e*P **P 17 34 44.9 -1.1**
BOD *e* pP 17 34 56.1 +0.6
BOD pmax pmax
comp=Z,249nm,1.2s,mb6.1
BOD pmax pmax
comp=Z,254nm,1.2s,mb6.1
YSS Yuzh-Sakhalins 61.30 32κ *i*P **P 17 34 52.0 -0.7**
YSS *e* 17 35 04.0
YSS *e* 17 37 08.0
YSS *i* S **S 17 43 10.0 +0.9**
YSS *e*PS PS 17 43 22.0 -7.0
YSS pmax pmax
comp=Z,670nm,1.1s,mb6.7
YSS smax
comp=N,3μm,10.0s
YSS smax
comp=E,2μm,10.0s
YSS MLR MLR
comp=N,15μm,15.0s,MS6.3
YSS MLR MLR
comp=E,9μm,15.0s,MS6.3
YSS MLR MLR
comp=Z,10μm,15.0s,MS6.1
YSS Yuzh-Sakhalins 61.30 32 *e*P **P 17 34 52.2 -0.5**
comp=Z,526nm,1.0s,mb6.6
YSS LR LR
comp=Z,8μm,20.0s,MS5.8
CLNS Chul'man 61.70 15 *e*P **P 17 34 54.6 -0.7**
CLNS *e**PP pP 17 35 03.4 -1.4
CLNS *e* 17 35 35.9
CLNS *e* 17 37 06.7
CLNS *e*S **S 17 43 16.1 +2.0**
CLNS *e* 17 44 40.2
CLNS *e*SS SS 17 47 15.5 -2.0
CLNS pmax pmax
comp=Z,176nm,1.0s,mb6.2
CLNS pmax pmax
comp=N,74nm,0.8s
CLNS pmax pmax
comp=E,83nm,0.9s
CLNS pmax pmax
comp=Z,14nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,43nm,1.3s
CLNS pmax pmax
comp=E,19nm,0.8s
CLNS smax
comp=N,25nm,1.2s
CLNS smax
comp=Z,5.0nm,1.2s
CLNS smax
comp=E,14nm,1.3s
CLNS MLR MLR
comp=N,18μm,14.0s,MS6.4
CLNS MLR MLR
comp=Z,30μm,14.0s,MS6.6
CLNS MLR MLR
comp=E,4μm,13.0s,MS6.4
KMBO Kilima Mbogo 62.44 270 P **P 17 35 01.0 +0.1**
KMBO pmax pmax
comp=Z,85nm,1.1s
KMBO MLR MLR
comp=Z,16μm,19.5s
KMBO Kilima Mbogo 62.44 270 P **P 17 35 00.9 +0.1**
comp=Z,84nm,1.1s,mb5.8,baz=68,slow=7.7,SNR=66
KMBO LR LR 17 58 53.0
comp=Z,16μm,19.5s,MS6.2,baz=88,slow=33
BHD Baghdad 62.53 309 *e*P **P 17 34 54.0 -7.2**
BHD *e*pP pP 17 35 02.0 -8.7
BHD *i* PcP PcP 17 35 21.0 -19
BHD *i* S **S 17 43 19.0 -6.0**
BHD *e*ScS ScS 17 44 44.0 -3.4
MAK Makhachkala 64.48 320*d* *i*P **P 17 35 18.0 +4.1**
MAK *i* 17 37 43.0
MAK *e*S **S 17 43 48.5 -0.6**
MAK *i* PS PS 17 44 09.0 -3.9
MAK *i* 17 45 04.0
MAK pmax pmax
comp=Z,2μm,7.0s
MAK pmax pmax
comp=Z,2μm,6.0s
MAK smax
comp=N,6μm,10.0s
MAK smax
comp=E,7μm,10.0s
MAK MLR MLR
comp=Z,5μm,14.0s,MS5.8
MSL Mosul 64.66 312 *e*P **P 17 35 15.0 -0.2**
MSL *e*S **S 17 43 51.0 -0.5**
MSL *e*ScS ScS 17 45 06.0 +2.5
CASY Casey 65.00 175⇑ *i*P **P 17 35 16.4 -0.5**
GNI Garni 65.04 316 P **P 17 35 17.3 -0.2**
comp=Z,17nm,0.8s,mb5.1,slow=4.0,SNR=22
GNI LR LR 18 06 41.8
comp=Z,5μm,21.0s,MS5.7,baz=107,slow=39
GNI Garni 65.04 316 *e*P **P 17 35 17.1 -0.4**
comp=Z,159nm,1.0s,mb6.0
GNI LR LR
comp=Z,5μm,22.0s,MS5.7
DGRG David-gareji 65.18 318 P **P 17 35 18.2 -0.2**
DGRG S S 17 44 00.1 +2.4
TVAN Van 65.31 314 *i* P **P 17 35 20.3 +1.0**
VANB Van 65.35 314 *e*P **P 17 35 20.4 +0.9**
TI2 Plekhanov 65.72 318 *i* P **P 17 35 22.2 +0.3**
TI2 *i* 17 35 34.4
TI2 *i* S S 17 44 04.8 +0.4
TI2 pmax pmax
comp=E,20nm,0.8s
TI2 pmax pmax
comp=Z,70nm,0.8s,mb5.7
TI2 smax
comp=N,4μm,6.0s
TI2 smax
comp=E,4μm,6.0s
TI2 MLR MLR
comp=N,2μm,18.0s,MS5.5
TI2 MLR MLR
comp=E,2μm,18.0s,MS5.5
TI2 MLR MLR
comp=Z,2μm,18.0s,MS5.5
TBLG Delisi 65.73 318 P **P 17 35 21.5 -0.4**
SVE Sverdlovsk 66.20 338*c* *i*P **P 17 35 24.0 -0.7**
SVE *i* *PP pP 17 35 33.4 -0.8
SVE *i* *SP sP 17 35 37.3 -0.4
SVE *e* 17 35 53.8

SVE e 17 37 51.3
SVE i PPP PPP 17 39 27.6 -0.4
SVE i S S 17 44 08.0 -2.0
SVE i 17 45 16.5
SVE i SS SS 17 48 21.3 -6.2
SVE pmax pmax
comp=Z,288nm,1.3s,mb6.2
SVE MLR MLR
comp=Z,10μm,21.0s,MS6.0
BTMT Batman 66.56 313 eP **P 17 35 28.4 +1.0**
BEST Besiri 66.61 313 i P **P 17 35 26.7 -0.9**
ARU Arti 66.73 337⇓ i P **P 17 35 26.5 -1.5**
ARU e 17 35 56.2
ARU i 17 37 53.2
ARU i PPP PPP 17 39 26.3 -7.0
ARU i S S 17 44 17.5 +1.2
ARU i 17 45 19.5
ARU i SS SS 17 48 29.7 -6.2
ARU pmax pmax
comp=Z,119nm,0.9s,mb5.9
ARU MLR MLR
comp=N,9μm,20.0s,MS6.1
ARU MLR MLR
comp=E,8μm,20.0s,MS6.1
ARU MLR MLR
comp=Z,11μm,20.0s,MS6.1
ARU Arti 66.73 337 eP **P 17 35 26.7 -1.4**
comp=Z,304nm,1.1s,mb6.2
ARU LR LR
comp=Z,3μm,20.0s,MS5.5
ZEI Tsey 66.75 318 i P **P 17 35 28.2 -0.2**
ZEI i *PP pP 17 35 40.9 +3.0
ZEI i 17 38 04.3
ZEI eS S 17 44 12.9 -3.9
ZEI pmax pmax
comp=Z,34nm,1.0s,mb5.3
YAK Yakutsk 67.43 15d i P **P 17 35 30.8 -1.6**
YAK e*PP pP 17 35 40.6 -1.3
YAK e 17 35 58.5
YAK e 17 38 00.2
YAK ePPP PPP 17 39 33.5 -6.3
YAK i S S 17 44 20.7 -4.0
YAK e 17 45 24.4
YAK pmax pmax
comp=Z,395nm,1.0s,mb6.4
YAK pmax pmax
comp=N,120nm,0.9s
YAK pmax pmax
comp=E,64nm,1.0s
YAK pmax pmax
comp=Z,24nm,1.1s,mb5.1
YAK pmax pmax
comp=N,18nm,1.0s
YAK pmax pmax
comp=E,16nm,1.1s
YAK smax
comp=E,25nm,1.2s
YAK smax
comp=Z,12nm,1.2s
YAK smax
comp=N,25nm,1.3s
YAK MLR MLR
comp=N,12μm,14.0s,MS6.3
YAK MLR MLR
comp=E,5μm,14.0s,MS6.3
YAK MLR MLR
comp=Z,16μm,14.0s,MS6.4
YAK Yakutsk 67.43 15 eP **P 17 35 30.8 -1.6**
comp=Z,661nm,0.9s,mb6.7
YAK LR LR
comp=Z,23μm,19.0s,MS6.4
DZM Mont Dzumac 67.87 113 eP **P 17 35 35.9 +0.1**
KIV Kislovodsk 68.05 319d i P **P 17 35 35.9 -0.7**
KIV e pP 17 35 46.3 +0.1
KIV e 17 36 00.4
KIV i S S 17 44 30.3 -2.2
KIV pmax pmax
comp=Z,99nm,1.0s,mb5.8
KIV MLR MLR
comp=Z,4μm,20.0s,MS5.7
KIV Kislovodsk 68.05 319 eP **P 17 35 36.0 -0.6**
comp=Z,145nm,0.9s,mb6.0
KIV LR LR
comp=Z,1μm,21.0s,MS5.1
ASF Jabal al Asfar 68.12 306 P **P 17 35 37.4 +0.1**
comp=Z,52nm,1.0s,mb5.5,baz=334,slow=1.3,SNR=20
ASF LR LR 18 06 15.2
comp=Z,9μm,19.0s,MS6.0,baz=162,slow=37
URFA Urfa 68.27 312 eP **P 17 35 41.0 +3.0**
GOF Gofitskoye 68.31 320⇑ i P **P 17 35 37.0 -1.2**
GOF i S S 17 44 34.5 -1.0
GOF pmax pmax
comp=Z,90nm,1.3s,mb5.6
GOF pmax pmax
comp=Z,3μm,4.0s
GOF smax
comp=E,3μm,5.0s
GOF smax
comp=Z,21μm,8.0s
GOF MLR MLR
comp=Z,2μm,18.0s,MS5.4
PTK Pertek 68.35 313 eP **P 17 35 41.1 +2.5**
KWAJ Kwajalein Atol 68.44 80 PFAKE 17 35 50.0 +10
KWAJ LR LR
comp=Z,1μm,21.0s
ELZG Elazig 68.51 313 i P **P 17 35 38.9 -0.7**
WAKE Wake Island 68.85 69 PFAKE 17 35 50.0 +8.0
WAKE LR LR
comp=Z,268μm,19.0s
MALT Malatya 68.86 312 eP **P 17 35 41.2 -0.5**
MALT pmax pmax
comp=Z,111nm,1.1s,mb5.7
MALT Malatya 68.86 312 eP **P 17 35 41.2 -0.5**
comp=Z,110nm,1.1s,mb5.7
KELT Kelkit 68.90 314 i P **P 17 35 42.1 +0.2**
MBAR Mbarara 68.97 270 eP **P 17 35 41.6 -1.2**
MBAR pmax pmax
comp=Z,73nm,1.2s,mb5.5
MBAR MLR MLR
comp=Z,2μm,21.0s,MS5.4
MBAR Mbarara 68.97 270 eP **P 17 35 41.6 -1.2**
comp=Z,73nm,1.2s,mb5.5
MBAR LR LR
comp=Z,2μm,21.0s,MS5.4
EIL Elat 69.07 303 LR LR 18 06 02.7
comp=Z,11μm,18.0s,MS6.1,baz=92,slow=36
EIL Elat 69.07 303 eP **P 17 35 42.4 -0.8**
comp=Z,290nm,1.2s,mb6.1
GZT Gaziantep 69.18 311 i P **P 17 35 43.3 -0.4**
GAZ Gaziantep 69.39 311 eP **P 17 35 43.1 -1.9**
BHL Bhannes 69.62 307 eP **P 17 35 49.2 +2.8**
KAHT Ahir Dag 69.79 311 i P **P 17 35 46.9 -0.6**
SOC Sochi 69.87 318 i P **P 17 35 45.3 -2.5**
SOC e 17 36 07.4
SOC ePPP PPP 17 40 03.6 -0.3
SOC i S S 17 44 50.5 -3.5
SOC e 17 45 39.1
SOC eSS SS 17 49 16.9 -7.6
SOC pmax pmax
comp=Z,156nm,0.9s,mb5.9
SOC pmax pmax
comp=N,22nm,0.7s
SOC pmax pmax
comp=E,77nm,1.1s
SOC pmax pmax
comp=Z,292nm,1.0s,mb6.2
SOC MLR MLR
comp=Z,3μm,17.0s,MS5.7
SOC MLR MLR
comp=N,4μm,19.0s,MS5.9
SOC MLR MLR
comp=E,4μm,17.0s,MS5.9
COBT Iskenderun 69.92 310 i P **P 17 35 47.7 -0.5**
CEYT Ceyhan 70.45 310 eP **P 17 35 51.0 -0.4**
MAW Mawson 70.60 194⇑ i P **P 17 35 52.0 +0.2**
comp=E,94nm,0.9s,mb5.7
MAW Mawson 70.60 194 P **P 17 35 52.2 +0.4**
MAW pmax pmax
comp=Z,123nm,1.0s
MAW MLR MLR
comp=Z,20μm,21.3s
MAW Mawson 70.60 194 P **P 17 35 52.2 +0.4**
comp=Z,123nm,1.0s,mb5.8,baz=30,slow=6.9,SNR=93
MAW LR LR 17 59 57.2
comp=Z,20μm,21.2s,MS6.3,baz=26,slow=30

SKR Severo-Kuril's 70.70 34 eP **P 17 35 47.6 -5.1**
SKR e pP 17 35 55.5 -6.8
SKR e 17 36 09.0
SKR e 17 38 38.0
SKR eS S 17 45 02.0 -1.6
SKR e 17 45 35.0
SKR ePS PS 17 45 40.0 +4.9
SKR eSS SS 17 49 30.0 -7.5
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,450nm,1.0s,mb6.3
SKR pmax pmax
comp=Z,3μm,8.0s
SKR pmax pmax
comp=N,2μm,6.0s
SKR pmax pmax
comp=E,2μm,6.0s
SKR smax
comp=N,6μm,10.0s
SKR smax
comp=E,9μm,10.0s
SKR MLR MLR
comp=N,6μm,20.0s,MS6.0
SKR MLR MLR
comp=E,6μm,20.0s,MS6.0
SKR MLR MLR
comp=Z,7μm,20.0s,MS5.9
DRV Dumont d'Urvil 70.78 164 P **P 17 35 54.0 +1.0**
DRV S S 17 45 08.0 +3.7
DRV SS SS 17 49 52.0 +13
DRV L 17 54 00.0
TOKT Tokat 70.91 314 eP **P 17 35 53.3 -0.9**
MEST Erdemli 71.56 309 i P **P 17 35 56.5 -1.6**
CSS Prodhromos 71.75 308 eP **P 17 35 58.4 -1.0**
comp=Z,191nm,1.1s,mb5.9
ANN Anapa 71.85 318 eP **P 17 35 57.2 -2.5**
ANN i S S 17 45 13.1 -3.8
ANN pmax pmax
comp=E,180nm,7.5s
ANN pmax pmax
comp=Z,920nm,7.5s
ANN smax
comp=N,5μm,12.1s
ANN smax
comp=E,5μm,11.0s
MATP Matopo 71.85 249 P **P 17 35 59.9 -0.3**
comp=E,176nm,1.0s,mb5.9,baz=86,slow=6.0,SNR=123
MATP LR LR 18 02 01.5
comp=E,16μm,21.6s,MS6.2,baz=90,slow=31
CORM Corum 72.25 313 eP **P 17 35 57.8 -4.4**
CDAG Cicekdag 72.27 313 i P **P 17 36 01.0 -1.4**
CTKT Corum 72.27 314 i P **P 17 36 01.2 -1.1**
BOYT Boyabat 72.44 314 i P **P 17 36 02.3 -1.0**
KAMT Kaman 72.68 312 eP **P 17 36 01.2 -3.6**
MA2 Magadan 72.79 24de **P 17 36 05.1 +0.1**
MA2 eS S 17 45 20.6 -6.7
MA2 pmax pmax
comp=Z,200nm,0.9s,mb6.0
MA2 MLR MLR
comp=Z,16μm,19.0s,MS6.3
MA2 Magadan 72.79 24 eP **P 17 36 04.9 -0.1**
comp=Z,227nm,0.7s,mb6.2
MA2 LR LR
comp=Z,15μm,22.0s,MS6.2
BR131 Keskin Array S 72.84 312 PFAKE 17 36 20.0 +14
BR131 LR LR
comp=Z,2μm,20.0s,MS5.5
BRTR Keskin Array B 72.84 312 P **P 17 36 04.4 -1.4**
BRTR pmax pmax
comp=Z,13nm,0.7s
BRTR Keskin Array B 72.84 312 P **P 17 36 04.3 -1.4**
comp=Z,13nm,0.7s,mb5.0,baz=135,slow=7.0,SNR=71
HDMB Hadim 72.94 309 eP **P 17 36 02.4 -4.0**
TOS Tosya 72.95 314 eP **P 17 36 04.6 -1.7**
PECR Pechory 73.06 331⇓ i P **P 17 36 06.0 -0.7**
PECR e 17 36 25.4
PECR e 17 38 48.0
PECR eS S 17 45 28.0 -2.5
PECR e 17 46 11.0
PECR pmax pmax
comp=Z,420nm,2.0s,mb6.0
PECR pmax pmax
comp=Z,1μm,5.0s
PECR MLR MLR
comp=Z,7μm,21.0s,MS5.9
CANT Cankiri 73.11 313 eP **P 17 36 06.9 -0.4**
PET Petropavlovsk 73.17 33κ i P **P 17 36 07.2 -0.2**
PET e 17 36 23.9
PET e 17 38 53.9
PET i S S 17 45 32.8 +0.9
PET ePS PS 17 46 06.0 -2.3
PET pmax pmax
comp=Z,249nm,0.7s,mb6.2
PET pmax pmax
comp=N,89nm,0.8s
PET pmax pmax
comp=E,71nm,0.8s
PET pmax pmax
comp=Z,900nm,12.6s
PET pmax pmax
comp=Z,1μm,11.6s
PET pmax pmax
comp=Z,1μm,15.0s
PET smax
comp=E,5μm,11.8s
PET smax
comp=N,5μm,11.3s
PET smax
comp=N,4μm,11.0s
PET smax
comp=E,5μm,11.4s
PET MLR MLR
comp=Z,8μm,16.0s,MS6.1
PET Petropavlovsk 73.17 33 eP **P 17 36 06.5 -0.9**
comp=Z,347nm,1.0s,mb6.2
PET LR LR
comp=Z,8μm,20.0s,MS6.0
ELDT Eldivan 73.22 313 i P **P 17 36 06.8 -1.2**
BZK Bozkurt 73.25 315 eP **P 17 36 06.9 -1.2**
VOR Voronezh 73.48 326 eP **P 17 36 08.3 -0.9**
VOR e*PP pP 17 36 16.0 -2.8
VOR 17 38 50.0
VOR eS S 17 45 33.5 -1.9
VOR pmax pmax
comp=N,160nm,1.6s
VOR pmax pmax
comp=Z,330nm,1.6s,mb6.0
VOR pmax pmax
comp=N,160nm,1.6s
VOR smax
comp=N,190nm,2.5s
VOR smax
comp=Z,120nm,2.5s
MSZ Milford Sound 73.49 136 PN **P 17 36 10.2 +0.8**
ANTO Ankara 73.51 312 eP **P 17 36 10.9 +1.3**
ANTO Ankara 73.51 312⇑ i P **P 17 36 08.4 -1.2**
KIZT Kizilcal 73.92 311 eP **P 17 36 10.8 -1.2**
JCZ Jackson Bay 73.93 136 PN **P 17 36 12.6 +0.6**
SAFT Safranbolu 73.98 314 eP **P 17 36 12.4 +0.1**
SIM Simferopol' 74.11 318c i P **P 17 36 12.0 -1.0**
SIM eS S 17 45 39.0 -3.5
SIM pmax pmax
comp=Z,103nm,0.9s,mb5.8
SGKT Sivrigoynuk 74.25 313 i P **P 17 36 11.1 -2.8**
ISP Isparta 74.69 310 eP **P 17 36 17.1 +0.6**
ISP Isparta 74.69 310 P **P 17 36 16.1 -0.4**
ISP pmax pmax
comp=Z,90nm,1.1s,mb5.6
ISP Isparta 74.69 310 eP **P 17 36 15.7 -0.8**
comp=Z,90nm,1.1s,mb5.6
MDU Mudurnu 74.83 313 eP **P 17 36 15.8 -1.5**
ESKT Eskisehir 74.86 312 eP **P 17 36 14.8 -2.6**
ESKT Eskisehir 74.86 312 i P **P 17 36 16.2 -1.3**
ELL Elmali 74.89 309 eP **P 17 36 16.0 -1.8**
LBTB Lobatse 74.94 245 P **P 17 36 17.9 -0.3**
LBTB pmax pmax
comp=Z,120nm,1.2s,mb5.7
LBTB Lobatse 74.94 245 eP **P 17 36 17.7 -0.5**
comp=Z,120nm,1.2s,mb5.7
LBTB LR LR
comp=Z,19μm,19.0s,MS6.4
TUZ Tuapeka 74.97 137 PN **P 17 36 18.3 +0.3**
ALT Altintas 75.29 311 eP **P 17 36 19.6 -0.4**
SEY Seymchan 75.36 22 i P **P 17 36 22.2 +2.3**

SEY pP 17 36 32.4 +2.9
SEY 17 39 11.2
SEY ePPP PPP 17 41 03.3 +6.8
SEY eS S 17 45 58.4 +2.3
SEY e 17 46 31.9
SEY eSS SS 17 50 45.3 -3.6
SEY pmax pmax
comp=Z,300nm,0.8s,mb6.3
SEY pmax pmax
comp=E,200nm,0.9s
SEY smax
comp=N,10μm,9.1s
SEY smax
comp=E,9μm,9.3s
RPZ Rata Peaks 75.46 135 LR LR 18 07 31.9
comp=E,11μm,21.6s,MS6.1,baz=278,slow=34
RPZ Rata Peaks 75.46 135 PN **P 17 36 21.0 +0.2**
TIXI Tiksi 75.51 9 i P **P 17 36 19.3 -1.2**
TIXI Tiksi 75.51 9 i Pr **P 17 36 19.3 -1.2**
TIXI LR LR
comp=Z,33μm,19.0s,MS6.7
FETY Fethiye 75.51 308 eP **P 17 36 16.0 -5.3**
BOSA Boshof 75.60 241 P **P 17 36 21.3 -0.6**
BOSA pmax pmax
comp=Z,68nm,1.0s,mb5.5
BOSA MLR MLR
comp=Z,12μm,19.1s,MS6.2
BOSA Boshof 75.60 241 P **P 17 36 21.3 -0.6**
comp=Z,68nm,1.0s,mb5.5,baz=96,slow=7.1,SNR=36
BOSA LR LR 18 04 51.0
comp=Z,12μm,19.1s,MS6.2,baz=83,slow=32
BOSA Boshof 75.60 241 eP **P 17 36 21.1 -0.9**
comp=Z,116nm,1.2s,mb5.7
BOSA LR LR
comp=Z,13μm,20.0s,MS6.2
DNZL Cakiroluk 75.78 309 i P pP 17 36 30.2 -2.2
DALT Dalyan (Mudla) 75.89 308 eP **P 17 36 19.4 -4.0**
QRZ Quartz Range 75.99 132 PN **P 17 36 24.5 +0.6**
MOS Moscow 76.01 329κ i P **P 17 36 23.6 -0.1**
MOS e 17 36 36.8
MOS e 17 39 13.1
MOS ePPP PPP 17 41 01.6 -1.5
MOS i S S 17 46 00.4 -2.9
MOS e 17 46 20.6
MOS e 17 46 33.6
MOS eSS SS 17 51 00.7 +1.3
MOS pmax pmax
comp=Z,203nm,0.9s,mb6.0
MOS MLR MLR
comp=Z,10μm,20.5s,MS6.1
MOS MLR MLR
comp=N,6μm,18.5s,MS6.1
MOS MLR MLR
comp=E,8μm,19.5s,MS6.1
HRT Hereke 76.06 313 eP **P 17 36 23.9 -0.4**
LTZ Lake Taylor 76.15 134 PN **P 17 36 24.9 +0.1**
ARG Arkhangelos 76.17 308 eP **P 17 36 24.5 -0.5**
YLV Yalova 76.22 312 eP **P 17 36 23.4 -1.8**
ULDT Uludag 76.29 312 i P **P 17 36 24.7 -0.9**
OBN Obninsk 76.31 328d i P **P 17 36 24.8 -0.5**
OBN e 17 39 11.2
OBN eS S 17 45 58.0 -8.5
OBN eSS SS 17 50 58.5 -5.3
OBN pmax pmax
comp=Z,169nm,1.2s,mb5.8
OBN MLR MLR
comp=Z,5μm,24.0s,MS5.7
OBN Obninsk 76.31 328 eP **P 17 36 24.8 -0.6**
comp=Z,288nm,1.1s,mb6.1
OBN LR LR
comp=Z,2μm,19.0s,MS5.3
MANT Manisa 76.34 310 i P **P 17 36 24.8 -1.1**
THZ Tophouse 76.43 133 PN **P 17 36 26.2 -0.1**
WCZ Waipu Caves 76.63 126 PN **P 17 36 28.1 +0.5**
AYDN Tasoluk 76.67 309 i P **P 17 36 26.9 -0.9**
MLSB Milas 76.68 309 eP **P 17 36 25.0 -2.8**
KARP Karpathos 76.80 307 eP **P 17 36 28.5 0.0**
BDRM Kayabasi 76.89 309 i P pP 17 36 38.1 -0.5
BODT Bodrum 76.99 309 eP **P 17 36 31.4 +1.9**
KHZ Kahutara 77.01 133 PN **P 17 36 29.4 -0.1**
BTOK Tokmak 77.03 311 i P **P 17 36 28.4 -1.3**
BALB Balikesir 77.11 311 eP **P 17 36 25.0 -5.2**
BNT Bandirma 77.24 312 eP **P 17 36 29.6 -1.3**
KDAG Bornova 77.31 310 i P **P 17 36 30.4 -0.9**
IZM Izmir 77.31 310 eP **P 17 36 30.9 -0.4**
SMG Samos 77.49 309 eP **P 17 36 35.5 +3.2**
MRMT Marmara Adasi 77.54 312 eP **P 17 36 26.2 -6.4**
WAZ Wanganui 77.67 130 PN **P 17 36 34.3 +1.1**
SNZO South Karori 77.69 132 eP **P 17 36 33.0 -0.3**
comp=Z,320nm,1.1s,mb6.2
SNZO LR LR
comp=Z,26μm,21.0s,MS6.5
CANB Canakkale 77.81 311 eP **P 17 36 34.1 +0.1**
PSN Preselentsi 77.84 315 i P **P 17 36 34.5 +0.4**
PSN Preselentsi 77.84 315 i P **P 17 36 34.5 +0.4**
XRY Khrisi 77.85 306 eP **P 17 36 34.0 -0.3**
TIRR Tirgusor 77.87 316 P **P 17 36 34.2 0.0**
TIRR Tirgusor 77.87 316⇑ i P **P 17 36 33.4 -0.9**
TIRR Tirgusor 77.87 316⇑ i P **P 17 36 33.4 -0.8**
AYVA Ayvalik 77.94 311 i P **P 17 36 33.7 -1.0**
NPS Neapolis 77.98 306 eP **P 17 36 35.5 +0.4**
FWVZ Far West T-bar 78.03 130 PN **P 17 36 36.1 +0.9**
SYO Syowa Base 78.15 199⇓ i P **P 17 36 35.2 -0.1**
SYO Syowa Base 78.15 199⇓ pP pP 17 36 47.8 +2.8
CFR Carcaliu 78.24 317 P **P 17 36 35.9 -0.3**
CFR Carcaliu 78.24 317⇓ i P **P 17 36 35.5 -0.8**
CFR Carcaliu 78.24 317⇓ i P **P 17 36 35.5 -0.7**
PRK Paraskevi 78.24 311 eP **P 17 36 36.0 -0.4**
KIS Kishinev 78.24 319 eP **P 17 36 34.0 -2.2**
KIS i pP 17 36 43.0 -2.9
KIS e 17 39 42.0
KIS ePPP PPP 17 41 22.0 -2.4
KIS i S S 17 46 24.0 -3.7
KIS i PS PS 17 46 48.0 -25
KIS smax
comp=N,2μm,16.0s
KIS smax
comp=E,2μm,10.0s
KIS MLR MLR
comp=Z,4μm,18.0s,MS5.8
KIS MLR MLR
comp=N,3μm,20.0s,MS5.9
KIS MLR MLR
comp=E,4μm,18.0s,MS5.9
KIS MLR MLR
comp=Z,5μm,18.0s
MRZ Mangatainoka R 78.25 131 PN **P 17 36 36.3 -0.1**
HARR Harsova 78.26 316⇑ i P **P 17 36 36.5 +0.1**
MTW Mount Morrison 78.26 132 PN **P 17 36 36.4 0.0**
PRD Provadia 78.28 315 i P **P 17 36 37.0 +0.5**
PRD Provadia 78.28 315 i P **P 17 36 37.0 +0.5**
SANT Santorini 78.31 308 eP **P 17 36 37.8 +0.9**
comp=Z,273nm,1.1s,mb6.1
EDRB Edirne 78.44 313 eP **P 17 36 35.2 -2.2**
TSZ Takapari Road 78.45 130 PN **P 17 36 37.9 +0.3**
BOZC Bozcaada 78.53 311 i P **P 17 36 37.1 -0.8**
IDI Anoyia 78.57 306 LR LR 18 14 40.8
comp=Z,3μm,21.4s,MS5.6,baz=80,slow=38
JMB Yambol 78.70 314 i P **P 17 36 39.0 +0.2**
JMB Yambol 78.70 314 i P **P 17 36 39.0 +0.2**
BKZ Black Stump Fm 78.75 130 PN **P 17 36 39.3 +0.1**
BFZ Birch Farm 78.75 131 PN **P 17 36 39.6 +0.5**
ALN Alexandroupoli 78.75 312 eP **P 17 36 37.9 -1.2**
AKASG Malin Array Be 78.99 322 P **P 17 36 39.0 -1.3**
AKASG pmax pmax
comp=Z,13nm,0.9s
AKASG Malin Array Be 78.99 322 P **P 17 36 39.0 -1.3**
comp=Z,13nm,0.9s,mb4.9,baz=88,slow=4.5,SNR=51
IAS Iasi 79.12 319 P **P 17 36 41.1 0.0**
PWZ Pawanui 79.14 130 PN **P 17 36 41.9 +0.6**
VAM Vamos 79.15 306 eP **P 17 36 41.5 +0.1**
ISR Istrita 79.32 316 P **P 17 36 43.5 +1.3**
ISR Istrita 79.32 316⇓ i P **P 17 36 42.9 +0.7**
SZH Strazhica 79.34 314 i P **P 17 36 42.5 +0.2**
SZH Strazhica 79.34 314 i P **P 17 36 42.5 +0.2**
VRI Vrincioaia 79.36 317⇑ i P **P 17 36 42.6 +0.2**
DIM Dimitrovgrad 79.37 313 i P **P 17 36 43.0 +0.5**
DIM Dimitrovgrad 79.37 313 i P **P 17 36 43.0 +0.5**
KDZ Kurdzhali 79.37 313 eP **P 17 36 46.0 +3.5**
KDZ Kurdzhali 79.37 313 eP **P 17 36 46.0 +3.5**
MWZ Matawai 79.45 129 PN **P 17 36 42.7 -0.4**
BUC1 Bucharest 79.50 316 P **P 17 36 43.1 -0.1**
PVL Pavlikeni 79.75 314 i P **P 17 36 45.0 +0.4**

PVL	**Pavlikeni**	**79.75 314**	*i* P		**P**	**17 36 45.0 +0.4**
SUR	**Sutherland**	**79.77 238**	*e*P		**P**	**17 36 45.6 +0.8**
	comp=Z,404nm,1.4s,mb6.2					
SUR			*e*		pP	17 36 56.6 +2.1
SUR			LR		LR	
	comp=Z,5μm,20.0s,MS5.9					
MLR	**Muntele Rosu**	**79.81 317**	P		**P**	**17 36 45.1 +0.3**
MLR	**Muntele Rosu**	**79.81 317**	LR		LR	18 18 32.5
	comp=Z,9μm,20.0s,MS6.1,baz=74,slow=40					
MLR	**Muntele Rosu**	**79.81 317**	⇑P		**P**	**17 36 45.0 +0.2**
MLR	**Muntele Rosu**	**79.81 317**	⇑P		**P**	**17 36 45.0 +0.2**
RZN	**Rozhen**	**79.89 313**	*e*P		**P**	**17 36 46.0 +0.7**
RZN	**Rozhen**	**79.89 313**	*e*P		**P**	**17 36 46.0 +0.7**
PLD	**Plovdiv**	**79.99 313**	*e*P		**P**	**17 36 45.5 -0.3**
PLD	**Plovdiv**	**79.99 313**	*e*P		**P**	**17 36 45.5 -0.3**
SNX	**Sinaia**	**80.08 316**	P		**P**	**17 36 46.5 +0.3**
SNX	**Sinaia**	**80.08 316**	⇓P		**P**	**17 36 46.0 -0.2**
SNX	**Sinaia**	**80.08 316**	⇓P		**P**	**17 36 46.0 -0.2**
OUR	**Ouranopolis**	**80.19 311**	*e*P		**P**	**17 36 46.3 -0.6**
KYTH	**Kithira**	**80.22 307**	*e*P		**P**	**17 36 47.0 -0.2**
PAIG	**Paliouri**	**80.34 311**	*e*P		**P**	**17 36 47.0 -0.7**
MTUR	**Matau**	**80.36 316**	⇓P		pP	17 36 58.3 +0.9
VLI	**Veliai**	**80.37 307**	*e*P		**P**	**17 36 46.0 -2.0**
PGB	**Panagyurishte**	**80.46 313**	*i* P		**P**	**17 36 47.0 -1.3**
PGB	**Panagyurishte**	**80.46 313**	*i* P		**P**	**17 36 47.0 -1.3**
MMB	**Musomiste**	**80.60 312**	*i* P		**P**	**17 36 48.5 -0.6**
MMB	**Musomiste**	**80.60 312**	*i* P		**P**	**17 36 48.5 -0.6**
SRS	**Serrai**	**80.62 312**	*e*P		**P**	**17 36 49.5 +0.3**
SOH	**Sokhos**	**80.74 312**	*e*P		**P**	**17 36 48.7 -1.2**
BURAR	**Bucovina Array**	**80.77 319**	⇑P		**P**	**17 36 50.7 +0.8**
BURAR	**Bucovina Array**	**80.77 319**	⇑P		**P**	**17 36 50.7 +0.8**
MNK	**Minsk**	**80.86 326**	⇑*e*P		**P**	**17 36 47.0 -3.2**
KKB	**Krupnik**	**81.13 313**	*i* P		**P**	**17 36 51.0 -0.9**
KKB	**Krupnik**	**81.13 313**	*i* P		**P**	**17 36 51.0 -0.9**
PUL	**Pulkovo**	**81.14 331**	*i* P		**P**	**17 36 50.6 -0.9**
PUL	**Pulkovo**	**81.14 331**	*e*P		**P**	**17 36 51.6 +0.1**
PUL			*e*S		S	17 46 51.9 -5.9
PUL			pmax		pmax	
	comp=Z,116nm,0.6s,mb6.0					
PUL			pmax		pmax	
	comp=N,100nm,0.7s					
PUL			pmax		pmax	
	comp=E,111nm,0.7s					
VTS	**Vitosha**	**81.17 313**	⇑P		**P**	**17 36 51.6 -0.4**
VTS	**Vitosha**	**81.17 313**	*i* P		**P**	**17 36 52.0 0.0**
VTS	**Vitosha**	**81.17 313**	*i* P		**P**	**17 36 52.0 0.0**
AGG	**Agios Georgios**	**81.22 310**	*e*P		**P**	**17 36 50.9 -1.4**
LIT	**Litokhoron**	**81.27 311**	*e*P		**P**	**17 36 51.4 -1.2**
FX1	**Attu Island--F**	**81.34 36**	*e*P		**P**	**17 36 53.4 +0.7**
VAY	**Valandovo**	**81.41 312**	⇓*i*P		**P**	**17 36 53.0 -0.4**
GRG	**Griva**	**81.48 312**	*e*P		**P**	**17 36 52.7 -1.0**
EVR	**Evrytania**	**81.60 310**	*e*P		**P**	**17 36 53.5 -0.9**
IDID	**Didziasalis**	**81.69 326**	*e*P		**P**	**17 36 54.9 +0.5**
IDID			AMPb		AMB	17 37 07.3
	comp=Z,80nm,1.2s,mb5.5					
JOF	**Joensuu**	**81.73 335**	*e*p		**P**	**17 36 54.6 0.0**
SMY	**Shemya**	**81.86 36**	PFAKE			17 37 10.0 +15
SMY			LR		LR	
	comp=Z,7μm,21.0s,MS6.0					
IIGN	**Ignalina**	**81.98 326**	*i* P		**P**	**17 36 56.5 +0.5**
IIGN			AMPb		AMB	17 37 08.8
	comp=Z,96nm,1.0s,mb5.7					
LVV	**L'vov**	**82.01 321**	*e*P		**P**	**17 36 56.6 +0.3**
LVV			*e*S		S	17 47 05.9 -1.1
LVV			MLR		MLR	
	comp=Z,2μm,19.0s,MS5.4					
TSUM	**Tsumeb**	**82.04 251**	P		**P**	**17 36 57.5 +0.4**
	comp=Z,57nm,1.0s,mb5.4,baz=104,slow=4.5,SNR=27					
IZAR	**Zarasai**	**82.07 327**	*i* P		**P**	**17 36 56.7 +0.3**
IZAR			AMPb		AMB	17 37 09.1
	comp=Z,59nm,1.0s,mb5.5					
ISAL	**Salakas**	**82.09 327**	*i* P		**P**	**17 36 57.0 +0.5**
ISAL			AMPb		AMB	17 37 09.3
	comp=Z,57nm,1.0s,mb5.5					
FNA	**Florina**	**82.22 311**	*e*P		**P**	**17 36 55.8 -1.7**
BOLS	**Boljevac**	**82.28 314**	⇑*i*P		**P**	**17 36 57.0 -0.8**
LVZ	**Lovozero**	**82.31 340**	*e*P		**P**	**17 36 57.8 +0.3**
LVZ			*e*S		S	17 47 05.9 -3.8
LVZ			pmax		pmax	
	comp=N,14nm,0.8s					
LVZ			pmax		pmax	
	comp=Z,54nm,0.8s,mb5.5					
LVZ			pmax		pmax	
	comp=E,29nm,1.0s					
LVZ			smax			
	comp=N,2μm,5.3s					
LVZ			smax			
	comp=Z,1μm,4.3s					
LVZ			smax			
	comp=E,5μm,6.8s					
LVZ	**Lovozero**	**82.31 340**	*i* P		**P**	**17 36 57.6 +0.1**
SKO	**Skopje**	**82.36 313**	*i* P		**P**	**17 36 57.5 -0.7**
SKO			*i*		pP	17 37 07.0 -1.0
	comp=Z,0.1nm,1.0s					
VNDA	**Vanda**	**82.61 169**	P		**P**	**17 36 58.8 -0.1**
VNDA			pmax		pmax	
	comp=Z,51nm,1.1s					
VNDA			MLR		MLR	
	comp=Z,7μm,21.2s					
VNDA	**Vanda**	**82.61 169**	P		**P**	**17 36 58.8 -0.1**
	comp=Z,51nm,1.1s,mb5.5,baz=309,slow=7.0,SNR=88					
VNDA			LR		LR	18 08 37.9
	comp=Z,7μm,21.2s,MS6.0,baz=307,slow=32					
APA	**Apatity**	**82.61 339**	⇑*e*P		**P**	**17 36 59.3 +0.3**
APA			*i*		pP	17 37 09.5 +0.7
APA			*i* S		S	17 47 12.0 -0.8
APA			*e*SS		SS	17 52 32.0 -6.2
APA			*i* SSS		SSS	17 55 57.0 -5.5
APA			pmax		pmax	
	comp=Z,150nm,1.6s,mb5.8					
APA			MLR		MLR	
	comp=Z,8μm,20.0s,MS6.1					
OHR	**Ohrid**	**82.70 312**	*i* P		**P**	**17 36 58.9 -1.1**
OHR			⇑*i*		pP	17 37 08.3 -1.5
KWP	**Kalwaria**	**82.81 320**	*e*P		**P**	**17 37 00.6 +0.2**
KWP			*e**PP		pP	17 37 09.2 -1.0
KWP			*e*S		S	17 47 16.0 +0.8
KWP			MLR		MLR	
	comp=Z,4μm,23.0s,MS5.7					
KWP	**Kalwaria**	**82.81 320**	*e*P		**P**	**17 37 00.6 +0.2**
KWP			*e*PcP		PcP	17 37 05.2 -0.5
KWP			*e*pP		pP	17 37 09.2 -1.0
KWP			*e*S		S	17 47 16.0 +0.8
KWP	**Kalwaria**	**82.81 320**	*e*P		**P**	**17 37 00.6 +0.2**
KWP			*e*PcP		PcP	17 37 05.2 -0.5
KWP			*e*pP		pP	17 37 09.2 -1.0
KWP			*e*S		S	17 47 15.9 +0.8
KWP			MLR		MLR	18 17 57.3
	comp=Z,4μm,23.0s,MS5.7					
IGT	**Igoumenitsa**	**82.83 310**	*e*P		**P**	**17 36 59.4 -1.3**
SVIS	**Svilajnac**	**82.88 315**	⇑*i*P		**P**	**17 36 58.6 -2.4**
BILL	**Bilibino**	**82.88 20**	*d i*P		**P**	**17 37 00.1 -0.3**
BILL			*i*			17 40 12.5
BILL			*i* S		S	17 47 12.0 -3.5
BILL			*i* SS		SS	17 52 44.3 +2.1
BILL			pmax		pmax	
	comp=Z,99nm,1.8s,mb5.5					
BILL			pmax		pmax	
	comp=Z,400nm,2.7s,mb6.0					
BILL	**Bilibino**	**82.88 20**	*e*P		**P**	**17 36 59.6 -0.8**
	comp=Z,286nm,1.8s,mb6.0					
BILL			LR		LR	
	comp=Z,20μm,19.0s,MS6.5					
UZH	**Uzhgorod**	**82.89 319**	*e*P		**P**	**17 37 00.0 -0.9**
UZH			*e*S		S	17 47 14.0 -2.0
UZH			MLR		MLR	
	comp=Z,2μm,18.0s,MS5.5					
KOLS	**Kolonicke sedl**	**82.96 320**	*i* P		**P**	**17 37 02.5 +1.3**
KOLS			*e*		pP	17 37 13.4 +2.4
KOLS			*e*S		S	17 47 17.3 +0.6
GRUS	**Gruza**	**83.18 314**	⇑*i*P		**P**	**17 37 02.1 -0.3**
SUW	**Suwalki**	**83.39 325**	*e*P		**P**	**17 37 03.0 -0.3**
SUW			*e*S		S	17 47 15.3 -5.6
SUW			MLR		MLR	
	comp=Z,4μm,22.2s,MS5.8					
SUW	**Suwalki**	**83.39 325**	*e*P		**P**	**17 37 03.0 -0.3**
SUW			*e*PcP		PcP	17 37 06.1 -2.0
SUW			*e*S		S	17 47 15.3 -5.6
SUW	**Suwalki**	**83.39 325**	*e*P		**P**	**17 37 03.0 -0.3**
SUW			*e*PcP		PcP	17 37 06.1 -1.9
SUW			*e*S		S	17 47 15.3 -5.6
SUW			MLR		MLR	18 17 57.4
	comp=Z,4μm,22.2s,MS5.8					
QSH	**Qafa e Shtames**	**83.42 312**	*i* p		pP	17 37 11.3 -2.2
CRVS	**Cervenica-Dubn**	**83.48 319**	*e*P		**P**	**17 37 02.7 -1.2**
CRVS			*e*			17 37 15.6
CRVS			*e*S		S	17 47 20.5 -1.4
PVY	**Plav**	**83.52 313**	⇑*i*P		**P**	**17 37 01.8 -2.5**
IVA	**Berane**	**83.62 313**	⇑*i*P		**P**	**17 37 03.5 -1.3**
FINES	**FINESS Array B**	**83.63 332**	P		**P**	**17 37 04.8 +0.5**
FINES			pmax		pmax	
	comp=Z,25nm,0.7s					
FINES			MLR		MLR	
	comp=Z,7μm,18.4s					
FINES	**FINESS Array B**	**83.63 332**	P		**P**	**17 37 04.8 +0.5**
	comp=Z,25nm,0.7s,mb5.5,baz=90,slow=5.7,SNR=97					
FINES			LR		LR	18 21 06.8
	comp=Z,7μm,18.4s,MS6.0,baz=104,slow=40					
FINES	**FINESS Array B**	**83.63 332**	P		**P**	**17 37 04.8 +0.5**
FINES			LR		LR	18 21 06.8
KAF	**Kangasniemi**	**83.70 333**	*e*p		**P**	**17 37 04.9 +0.2**
	comp=Z,138nm,0.9s,mb6.1,baz=100,slow=4.7					
KAF	**Kangasniemi**	**83.70 333**	*e*P		**P**	**17 37 04.9 +0.2**
KAF			pmax		pmax	
	comp=Z,138nm,0.9s,mb6.1					
SBA	**Scott Base**	**83.70 169**	*e*P		**P**	**17 37 05.8 +1.3**
	comp=Z,96nm,0.9s,mb5.9					
SBA			LR		LR	
	comp=Z,6μm,22.0s,MS6.0					
DIVS	**Divcibare**	**83.73 315**	⇑*i*P		**P**	**17 37 05.2 0.0**
ULC	**Ulcinj**	**83.97 312**	⇑*i*P		**P**	**17 37 06.0 -0.5**
TTG	**Podgorica**	**84.02 313**	⇑*i*P		**P**	**17 37 06.4 -0.5**
PLE	**Pljevlja**	**84.05 314**	⇑*i*P		**P**	**17 37 06.2 -0.7**
KECS	**Kecovo**	**84.05 319**	*e*P		**P**	**17 37 07.6 +0.8**
KECS			*e*pP		pP	17 37 16.2 -0.4
BBLS	**Bajina Basta -**	**84.11 314**	⇓*i*P		**P**	**17 37 06.9 -0.3**
NKY	**Niksic**	**84.27 313**	⇑*i*P		**P**	**17 37 06.8 -1.3**
BUM	**Brajici-Budva**	**84.27 313**	⇑*i*P		**P**	**17 37 06.5 -1.6**
NIE	**Niedzica**	**84.31 320**	*e*P		**P**	**17 37 07.1 -1.0**
WAR	**Warsaw**	**84.34 323**	*e*P		**P**	**17 37 08.3 +0.2**
WAR			*e*S		S	17 47 29.9 -0.4
WAR			MLR		MLR	
	comp=Z,6μm,22.1s,MS5.9					
WAR	**Warsaw**	**84.34 323**	*e*P		**P**	**17 37 08.3 +0.2**
WAR			*e*PcP		PcP	17 37 09.4 -2.8
WAR			*e*S		S	17 47 29.9 -0.4
WAR			LR		LR	
	comp=Z,6μm,22.1s,MS5.9					
WAR	**Warsaw**	**84.34 323**	*e*P		**P**	**17 37 08.3 +0.2**
WAR			*e*PcP		PcP	17 37 09.4 -2.7
WAR			*e*S		S	17 47 29.9 -0.4
WAR			MLR		MLR	18 18 35.3
	comp=Z,6μm,22.1s,MS5.9					
PSZ	**Piszkesteto**	**84.36 318**	P		**P**	**17 37 08.9 +0.6**
PSZ	**Piszkesteto**	**84.36 318**	*e*P		**P**	**17 37 08.1 -0.2**
	comp=Z,77nm,1.0s,mb5.8					
PSZ	**Piszkesteto**	**84.36 318**	⇑*e*P		**P**	**17 37 08.5 +0.2**
UPM	**Unac-Piva**	**84.38 314**	⇑*i*P		**P**	**17 37 06.6 -2.0**
MIDW	**Midway**	**84.51 62**	PFAKE			17 37 20.0 +10
MIDW			LR		LR	
	comp=Z,4μm,21.0s,MS5.8					
HCY	**Herceg Novi**	**84.58 313**	⇑*i*P		**P**	**17 37 07.3 -2.3**
BRY	**Bratogost**	**84.61 313**	⇑*i*P		**P**	**17 37 06.7 -3.0**
OJC	**Ojcow**	**84.77 321**	*e*P		**P**	**17 37 11.0 +0.7**
OJC			*e*PP		PP	17 40 26.5 -1.8
OJC			*i* S		S	17 47 32.0 -2.6
OJC			MLR		MLR	18 25 19.7
	comp=Z,6μm,18.4s,MS6.0					
PKSM	**Moragy**	**84.96 316**	⇑P		**P**	**17 37 11.5 +0.1**
LIKS	**Likavka**	**85.04 319**	*e*P		**P**	**17 37 13.1 +1.4**
LIKS			*e*		pP	17 37 21.8 +0.3
VYHS	**Vyhne**	**85.14 319**	*e*P		**P**	**17 37 12.5 +0.3**
VYHS			*e*		pP	17 37 23.0 +0.9
VYHS			*e*S		S	17 47 34.6 -3.7
STON	**Ston**	**85.22 313**	*i* P		**P**	**17 37 12.9 +0.1**
SRO2	**Moca**	**85.33 318**	*e*P		**P**	**17 37 14.4 +1.2**
SRO2			*e*		pP	17 37 25.0 +1.9
SRO	**Srobarova**	**85.39 318**	*e*P		**P**	**17 37 14.3 +0.8**
SRO			*e*pP		pP	17 37 24.9 +1.5
KOLL	**Kolacno**	**85.44 319**	*e*P		**P**	**17 37 13.9 +0.2**
KOLL			*e*pP		pP	17 37 24.9 +1.4
SRO1	**Iza**	**85.44 318**	*e*P		**P**	**17 37 14.8 +1.0**
SRO1			*e*pP		pP	17 37 25.4 +1.8
TIP	**Timpagrande**	**85.53 309**	*e*P		**P**	**17 37 14.8 +0.3**
KEV	**Kevo**	**85.56 341**	*e*p		**P**	**17 37 15.0 +1.2**
LTRZ	**Laterza**	**85.63 311**	*e*P		**P**	**17 37 15.2 +0.3**
GRI	**Girifalco**	**85.76 309**	*e*P		**P**	**17 37 12.4 -3.2**
OKC	**Ostrava-Krasne**	**85.77 320**	*e*P		**P**	**17 37 16.1 +0.8**
OKC			*e*pP		pP	17 37 26.7 +1.5
OKC			*e*SKS		SKS	17 47 39.1 -4.9
OKC			*e*S		S	17 47 44.4 0.0
OKC			AMS		AMS	18 25 40.0
	comp=Z,4μm,16.3s					
RAC	**Raciborz**	**85.77 320**	*e*P		**P**	**17 37 16.6 +1.3**
RAC			*e*S		S	17 47 45.7 +1.3
RAC			MLR		MLR	18 25 47.2
	comp=Z,5μm,18.6s,MS5.9					
TDS	**Terranova Siba**	**85.91 310**	*e*P		**P**	**17 37 19.2 +2.9**
ARCES	**ARCESS Array B**	**86.00 340**	P		**P**	**17 37 17.4 +1.3**
ARCES			pmax		pmax	
	comp=Z,84nm,0.8s					
ARCES			MLR		MLR	
	comp=Z,9μm,18.6s					
ARCES	**ARCESS Array B**	**86.00 340**	P		**P**	**17 37 17.4 +1.3**
	comp=Z,84nm,0.8s,mb6.0,baz=104,slow=5.0,SNR=98					
ARCES			LR		LR	18 23 43.2
	comp=Z,9μm,18.6s,MS6.2,baz=108,slow=41					
ARE0	**ARCESS Array S**	**86.00 340**	*e*P		**P**	**17 37 17.3 +1.2**
ARE0			*e*		pP	17 37 27.2 +1.3
SMOL	**Smolenice**	**86.07 319**	*e*P		**P**	**17 37 16.3 -0.6**
SMOL			*e*		pP	17 37 27.5 +0.8
MORC	**Moravsky Berou**	**86.15 320**	P		**P**	**17 37 18.6 +1.4**
MORC	**Moravsky Berou**	**86.15 320**	*e*P		**P**	**17 37 17.4 +0.1**
	comp=Z,87nm,1.0s,mb5.9					
ZST	**Bratislava**	**86.25 318**	*e*P		**P**	**17 37 18.5 +0.7**
ZST			*e*		pP	17 37 28.8 +1.2
ZST			*e*S		S	17 47 41.5 -7.6
SISC	**Sisak**	**86.45 316**	*i* P		**P**	**17 37 25.4 +6.6**
MGR	**Morigerati**	**86.55 310**	*e*P		**P**	**17 37 21.1 +1.7**
SOP	**Sopron**	**86.56 318**	*e*P		**P**	**17 37 18.3 -1.0**
KTK1	**Kautokeino**	**86.65 339**	*e*P		**P**	**17 37 19.9 +0.6**
KTK1			*e*pP		pP	17 37 30.2 +1.1
FG4	**Candela**	**86.66 311**	*e*P		**P**	**17 37 21.5 +1.5**
VRAC	**Vranov**	**86.71 319**	P		pP	17 37 31.0 +1.2
GKP	**Gorka Klasztor**	**86.76 323**	*e*P		**P**	**17 37 20.4 +0.2**
GKP			*e**PP		pP	17 37 28.5 -1.5
GKP			*e*S		S	17 47 54.8 +0.9
GKP			MLR		MLR	
	comp=Z,6μm,20.6s,MS6.0					
GKP	**Gorka Klasztor**	**86.76 323**	*e*P		**P**	**17 37 20.4 +0.2**
GKP			*e*PcP		PcP	17 37 23.4 +0.6
GKP			*e*pP		pP	17 37 28.5 -1.5
GKP			*e*S		S	17 47 54.8 +0.9
GKP			*e*SS			17 48 11.1
GKP			LR		LR	
	comp=Z,6μm,20.6s,MS6.0					
GKP	**Gorka Klasztor**	**86.76 323**	*e*P		**P**	**17 37 20.4 +0.2**
GKP			*e*PcP		PcP	17 37 23.4 +0.6
GKP			*e*pP		pP	17 37 28.4 -1.5
GKP			*e*S		S	17 47 54.8 +0.9
GKP			*e*sS			17 48 11.1
GKP			MLR		MLR	18 22 59.6
	comp=Z,6μm,20.6s,MS6.0					
SGO	**Sicignano**	**86.77 311**	*e*P		**P**	**17 37 21.8 +1.2**
FG5	**Orsara di Pugl**	**86.86 311**	*e*P		**P**	**17 37 25.2 +4.2**
DPC	**Dobruska-Polom**	**87.00 320**	*e*P		**P**	**17 37 22.4 +1.0**
DPC			*e*pP		pP	17 37 32.9 +1.7
DPC			*e*SKS		SKS	17 47 46.5 -5.6
DPC			*e*S		S	17 47 59.4 +3.2
DPC			AMS		AMS	18 23 20.0
	comp=Z,3μm,20.5s					
KIWB	**Kanaga Island**	**87.00 38**	*e*P		**P**	**17 37 21.6 +0.3**
KIWB			*e*		pP	17 37 31.2 0.0
CSSN	**Cassano Irpino**	**87.01 311**	*e*P		**P**	**17 37 22.6 +0.9**
KSP	**Ksiaz**	**87.07 321**	*e*P		**P**	**17 37 22.4 +0.7**
KSP			*e**PP		pP	17 37 31.1 -0.4
KSP			*e*			17 47 46.5
KSP			*e*S		S	17 47 57.0 +0.2
KSP			MLR		MLR	
	comp=Z,8μm,24.7s,MS6.1					
KSP	**Ksiaz**	**87.07 321**	*e*P		**P**	**17 37 22.1 +0.5**
KSP			*e*pP		pP	17 37 30.4 -1.1
KSP			*e*S		S	17 47 46.6 -10
KSP			MLR		MLR	18 19 10.2
	comp=Z,7μm,24.7s,MS6.0					
UPC	**Upice**	**87.21 321**	*e*P		**P**	**17 37 23.5 +1.1**
UPC			*e*pP		pP	17 37 33.6 +1.4
UPC			*e*SKS		SKS	17 47 47.3 -6.2
UPC			*e*S		S	17 48 03.3 +5.1
ARSA	**Arzberg**	**87.21 317**	⇑*i*P		**P**	**17 37 23.3 +0.8**
	comp=Z,72nm,1.2s,mb5.8					
VAE	**Valguarnera**	**87.23 307**	LR		LR	18 19 39.3
	comp=Z,3μm,20.4s,MS5.7,baz=7.5,slow=38					
BOJS	**Bojanci**	**87.24 316**	*e*P		**P**	**17 37 23.6 +0.9**
BOJS			*e*		pP	17 37 32.6 +0.2
GSTR	**Great Sitkin T**	**87.69 38**	*e*P		**P**	**17 37 24.0 -0.7**
LJU	**Ljubljana**	**87.79 316**	*e*P		**P**	**17 37 26.4 +1.1**
LJU			*e*		pP	17 37 35.5 +0.4
OBKA	**Obir**	**87.81 316**	⇑*i*P		**P**	**17 37 24.5 -0.9**
	comp=Z,55nm,1.2s,mb5.7					
MAIT	**Maitri**	**87.83 199**	⇑*i*P		**P**	**17 37 26.9 +2.0**
SDI	**San Donato**	**87.99 312**	*e*P		**P**	**17 37 29.2 +2.9**
PRU	**Pruhonice**	**88.10 320**	*e*P		**P**	**17 37 27.6 +0.9**
PRU			*e*pP		pP	17 37 38.1 +1.6
PRU			*e*SKS		SKS	17 47 53.0 -6.2
PRU			*e*S		S	17 48 08.4 +1.9
PRU			AMS		AMS	18 27 00.0
	comp=Z,3μm,16.2s					
MOA	**Molln**	**88.11 318**	⇑*i*P		**P**	**17 37 25.1 -1.7**
	comp=Z,35nm,1.0s,mb5.5					
PVCC	**Panska Ves**	**88.13 320**	*e*P		**P**	**17 37 28.0 +1.2**
PVCC			*e*pP		pP	17 37 38.1 +1.5
PVCC			*e*SKS		SKS	17 47 53.4 -5.9
PVCC			*e*S		S	17 48 09.9 +3.1
PVCC			AMS		AMS	18 24 30.0
	comp=Z,4μm,21.7s					
TRO	**Tromso**	**88.28 340**	*e*P		**P**	**17 37 26.7 -0.4**
TRO			LR		LR	
	comp=Z,7912μm,20.0s					
TRO	**Tromso**	**88.28 340**	*e*P		**P**	**17 37 26.7 -0.4**
TRO			*e*SKSa			17 47 47.6
TRO			*e*SS		SS	17 54 03.8 +2.9
TRO			AMS		AMS	18 21 00.2
	comp=Z,8μm,20.0s,MS6.1					
PTQR	**Pietraquaria**	**88.31 312**	*e*P		**P**	**17 37 28.6 +0.7**
BSD	**Bornholm Skovb**	**88.32 325**	*i* P		**P**	**17 37 28.2 +0.6**
BSD			*i*		pP	17 37 36.4 -1.0
BSD			*i* S		S	17 47 55.2 -13
BSD			MLR		MLR	
	comp=Z,5μm,19.0s,MS6.0					
BSD	**Bornholm Skovb**	**88.32 325**	*i* P		**P**	**17 37 28.2 +0.6**
BSD			*i*		pP	17 37 36.4 -1.0
BSD			*i* S		S	17 47 55.2 -13
BSD			*i*			18 00 55.4
BSD	**Bornholm Skovb**	**88.32 325**	*i* S		S	17 47 55.2 -13
BSD			*i*			18 00 55.4
	comp=Z,5μm,19.0s					
AQU	**L'Aquila**	**88.33 312**	P		**P**	**17 37 28.9 +0.9**
AQU			pmax		pmax	
	comp=Z,230nm,1.0s,mb6.4					
AQU	**L'Aquila**	**88.33 312**	*e*P		**P**	**17 37 29.1 +1.1**
QSPA	**South Pole Qui**	**88.36 180**	*e*P		**P**	**17 37 27.3 0.0**
	comp=Z,148nm,1.0s,mb6.2					
ROBS	**Robic**	**88.51 316**	*e*P		**P**	**17 37 28.8 0.0**
ROBS			*e*			17 37 40.8
BRG	**Berggiesshubel**	**88.55 321**	*i* P		**P**	**17 37 29.7 +0.9**
BRG			*i* *PP		pP	17 37 40.3 +1.7
BRG			*e*			17 40 53.9
BRG			pmax		pmax	
	comp=Z,98nm,1.1s,mb6.0					
BRG	**Berggiesshubel**	**88.55 321**	*i* P		**P**	**17 37 29.7 +0.9**
	comp=Z,98nm,1.1s,mb6.0					
BRG			*i* pP		pP	17 37 40.3 +1.7
BRG			*e*PP		PP	17 40 53.9 -5.7
GEC2	**GERESS Array S**	**88.56 319**	*e*P		**P**	**17 37 29.6 +0.7**
GEC2			*e**PP		pP	17 37 38.2 -0.5
GEC2			pmax		pmax	
	comp=Z,98nm,1.1s,mb6.0					
GEC2			pmax		pmax	
	comp=Z,101nm,1.2s,mb6.0					
GEC2	**GERESS Array S**	**88.56 319**	*e*P		**P**	**17 37 29.6 +0.7**
	comp=Z,98nm,1.1s,mb6.0					
GEC2			*e*pP		pP	17 37 38.2 -0.5
GERES	**GERESS Array B**	**88.56 319**	P		**P**	**17 37 29.8 +0.9**
GERES			pmax		pmax	
	comp=Z,7.0nm,0.6s					
GERES	**GERESS Array B**	**88.56 319**	P		**P**	**17 37 29.8 +0.9**
	comp=Z,7.0nm,0.6s,mb5.2,baz=90,slow=4.0,SNR=58					
NRCA	**Norcia**	**88.58 313**	*e*P		**P**	**17 37 28.6 -0.6**
PTCC	**Patocco-Chiusa**	**88.63 316**	*e*P		**P**	**17 37 29.9 +0.6**
KHC	**Kasperske Hory**	**88.66 319**	*e*P		**P**	**17 37 30.0 +0.6**
KHC			*e**PP		pP	17 37 40.5 +1.3
KHC			*e*			17 47 56.5
KHC			*e*S		S	17 48 14.2 +2.4
KHC			MLR		MLR	
	comp=Z,3μm,20.2s,MS5.7					
KHC	**Kasperske Hory**	**88.66 319**	*i* P		**P**	**17 37 30.2 +0.8**
KHC	**Kasperske Hory**	**88.66 319**	*e*P		**P**	**17 37 30.0 +0.6**
KHC			*e*pP		pP	17 37 40.5 +1.3
KHC			*e*			17 38 31.5
KHC			*x*		x	17 38 31.5
KHC			*e*SKS		SKS	17 47 56.5 -6.2
KHC			*e*S		S	17 48 14.2 +2.4
KHC			AMS		AMS	18 22 20.0
	comp=Z,3μm,20.2s					
KBA	**Koelnbreinsper**	**88.68 317**	⇓*i*P		**P**	**17 37 29.6 +0.1**
	comp=Z,57nm,1.1s,mb5.8					
GMNA	**Gemona**	**88.70 316**	*e*P		**P**	**17 37 33

comp=Z,175nm,1.6s,mb6.1
MOR8 Moi Rana 89.53 336 *e*P **P 17 37 33.6 +0.5**
MOR8 *ep*P pP 17 37 42.9 -0.1
MOR8 AMb AMB 17 38 00.5
comp=Z,175nm,1.6s,mb6.2
SFI Santa Sofia 89.56 314 *e*P **P 17 37 35.1 +1.3**
COP Copenhagen 89.77 326 *e*P pP 17 37 46.4 +2.1
COP *i* S S 17 48 05.8 -16
COP *i* 17 48 27.6
COP pmax pmax
comp=Z,61nm,0.9s,mb5.9
COP MLR MLR
comp=Z,2µm,19.0s,MS5.4
COP Copenhagen 89.77 326 *i* P pP 17 37 46.4 +2.1
comp=Z,61nm,0.9s
COP Copenhagen 89.77 326 *i* S S 17 48 05.8 -16
COP *i* 17 48 27.6
comp=Z,2µm,19.0s
VMG Vicchio 89.78 314 *e*P **P 17 37 36.4 +1.6**
CTI Castel Tesino 89.79 316 *e*P **P 17 37 36.1 +1.3**
WTTA Wattenberg 89.85 317⇑ *i*P **P 17 37 34.7 -0.4**
comp=Z,96nm,0.9s,mb6.1
MELSS Ber_school_2 89.88 337 *e*P **P 17 37 36.4 +1.7**
WATA Walderalm 89.90 317⇑ *i*P **P 17 37 34.9 -0.4**
comp=Z,45nm,1.2s,mb5.7
MOX Moxa 90.01 320 *e*P sP 17 37 48.0 -0.7
LOF Lofoten 90.04 338 *e*P sP 17 37 48.9 +0.5
LOF AMb AMB 17 38 05.0
comp=Z,234nm,1.4s,mb6.3
FUR Furstenfeldbru 90.13 318 *e*P **P 17 37 36.4 +0.1**
FUR pmax pmax
comp=Z,127nm,1.5s,mb6.0
FUR Furstenfeldbru 90.13 318 *e*P **P 17 37 36.4 +0.1**
comp=Z,127nm,1.5s,mb6.0
SQTA Sankt Quirin 90.14 317⇑ *i*P **P 17 37 36.5 +0.1**
comp=Z,48nm,1.1s,mb5.7
GRFL Gerfalco 90.16 313 *e*P **P 17 37 35.6 -0.9**
ZCCA Zocca 90.20 314 *e*P **P 17 37 38.5 +1.7**
GRA1 Grafenberg Arr 90.23 320 *e*P **P 17 37 37.7 +1.0**
comp=Z,123nm,1.1s,mb6.2
GRA1 *ep*P pP 17 37 46.0 -0.6
GRA1 *e*SKSac 17 48 05.3
GRA1 *e*S S 17 48 25.9 -0.2
GRA1 *e*SS SS 17 54 41.0 +11
GRA1 *e*SSS SSS 17 57 51.4 -14
GRA1 LR LR
comp=Z,4µm,18.8s,MS5.9
GRF Grafenberg Arr 90.23 320 *e*P **P 17 37 37.7 +1.0**
GRF *e**PP pP 17 37 46.0 -0.6
GRF *e* 17 48 05.3
GRF *e*S S 17 48 25.9 -0.2
GRF *e*SS SS 17 54 41.0 +11
GRF pmax pmax
comp=Z,123nm,1.1s,mb6.2
GRF MLR MLR
comp=Z,4µm,18.8s,MS5.9
GRF Grafenberg Arr 90.23 320 *e*P **P 17 37 37.7 +1.0**
comp=Z,123nm,1.1s,mb6.2
GRF *ep*P pP 17 37 46.0 -0.6
GRF *e*SKS SKS 17 48 05.3 -6.9
GRF *e*S S 17 48 25.9 -0.2
GRF *e*SS SS 17 54 41.0 +11
GRF *e*SSS SSS 17 57 51.4 -14
GRF *e*SKKS 18 01 38.5
GRF LR LR
comp=Z,4µm,18.8s,MS5.9
GRFO Grafenberg 90.23 320 *e*P **P 17 37 37.7 +1.0**
comp=Z,1µm,1.1s
NSS Namsos 90.46 334 *e*P **P 17 37 37.2 -0.2**
NSS *e*SKSa 17 48 05.4
NSS *e*SS SS 17 54 31.0 -1.4
NSS AMS AMS 18 25 37.7
comp=Z,6µm,20.2s,MS6.0
GSCL Gusciola 90.48 314 *e*P **P 17 37 39.7 +1.7**
SAL Salo 90.56 315 *e*P **P 17 37 39.9 +1.6**
NB2 NORSAR Subarra 90.66 331 P **P 17 37 38.5 +0.1**
comp=Z,30nm,1.0s,mb5.6,baz=93,slow=4.6
NB2 NORSAR Subarra 90.66 331 P **P 17 37 38.5 +0.1**
baz=93,slow=4.8
NOA NORSAR Array B 90.66 331 P **P 17 37 38.7 +0.3**
NOA pmax pmax
comp=Z,7.0nm,0.8s
NOA MLR MLR
comp=Z,4µm,18.4s
NOA NORSAR Array B 90.66 331 P **P 17 37 38.7 +0.3**
comp=Z,7.0nm,0.8s,mb5.1,baz=93,slow=4.7,SNR=26
NOA LR LR 18 26 02.4
comp=Z,4µm,18.4s,MS5.9,baz=95,slow=41
NOA NORSAR Array B 90.66 331 P **P 17 37 38.7 +0.3**
NOA LR LR 18 26 02.4
BRMO Bormio 90.69 316 *e*P **P 17 37 39.9 +0.9**
NAO01 NORSAR Array S 90.81 331 *e*P **P 17 37 39.5 +0.4**
comp=Z,7.5nm,0.8s,mb5.1
NAO01 *e* pP 17 37 50.0 +1.0
NAO01 LR LR
comp=Z,57µm,20.0s,MS7.0
CLZ Clausthal 90.84 322 *e*P **P 17 37 40.2 +0.7**
comp=Z,133nm,1.1s,mb6.2
CLZ *ep*P pP 17 37 48.8 -0.5
BSEG Bad Segeberg 90.92 324 *e*P **P 17 37 40.7 +0.9**
BSEG pmax pmax
comp=Z,112nm,1.8s,mb5.9
DAVOX Davos 91.04 317 LR LR 18 25 16.9
comp=Z,2µm,19.5s,MS5.6,baz=72,slow=40
DAVA Damuels 91.05 317⇑ *i*P **P 17 37 41.3 +0.7**
comp=Z,126nm,1.0s,mb6.2
VSL Villasalto 91.27 309 *e*P **P 17 37 42.6 +0.8**
comp=Z,96nm,1.0s,mb6.1
VSL *e* pP 17 37 52.0 +0.4
BOB Bobbio (Coli) 91.30 315 *e*P **P 17 37 38.1 -3.7**
KONO Kongsberg 91.43 329 P **P 17 37 43.0 +1.0**
KONO pmax pmax
comp=Z,37nm,0.8s,mb5.8
KONO Kongsberg 91.43 329 *e*P **P 17 37 42.5 +0.5**
KONO LR LR
comp=Z,814µm,16.9s
KONO Kongsberg 91.43 329 *e*P **P 17 37 42.5 +0.5**
KONO *e*SKSa 17 48 10.2
STU Stuttgart 91.53 319 P **P 17 37 43.5 +0.7**
STU pmax pmax
comp=Z,66nm,1.0s,mb5.9
STU Stuttgart 91.53 319 *e*P **P 17 37 43.3 +0.6**
comp=Z,66nm,1.0s,mb5.9
PGF Pioggiola 91.60 312 *e*P **P 17 37 43.6 +0.4**
comp=Z,300nm,1.5s,mb6.1
MUD Monsted U'grnd 91.62 326 *e*P pP 17 37 54.0 +1.2
MUD *i* S S 17 48 18.0 -20
MUD pmax pmax
comp=Z,37nm,0.9s,mb5.7
MUD MLR MLR
comp=Z,4µm,17.0s,MS5.9
MUD Monsted U'grnd 91.62 326 *i* P pP 17 37 54.0 +1.2
comp=Z,37nm,0.9s
MUD Monsted U'grnd 91.62 326 *i* S S 17 48 18.0 -20
comp=Z,4µm,17.0s
VAI Varese 91.80 316 *e*P **P 17 37 44.5 +0.4**
TOD Tromm 91.80 319 *e*P **P 17 37 46.4 +2.4**
SPAK Spaichingen 91.80 318 *e*P **P 17 37 44.9 +0.9**
TNS Taunus Mts 92.03 320 *e*P **P 17 37 45.8 +0.8**
TNS pmax pmax
comp=Z,92nm,1.1s,mb6.0
TNS Taunus Mts 92.03 320 *e*P **P 17 37 45.8 +0.8**
comp=Z,92nm,1.1s,mb6.0
BFO Black Forest 92.11 318 *e*P **P 17 37 45.5 +0.1**
BFO pmax pmax
comp=Z,54nm,1.3s,mb5.7
BFO Black Forest 92.11 318 *e*P **P 17 37 45.5 +0.1**
comp=Z,54nm,1.3s,mb5.7
FIN Finale Ligure 92.19 314 *e*P **P 17 37 46.5 +0.6**
FELD Feldberg 92.33 318 *e*P **P 17 37 47.1 +0.7**
MCGN Macugnaga 92.34 316 *e*P **P 17 37 47.5 +0.9**
MOL Molde 92.41 332 *e*P **P 17 37 49.5 +3.0**
comp=Z,106nm,1.7s,mb5.9
MOL Molde 92.41 332 *e*P **P 17 37 49.5 +3.0**
MOL AMb AMB 17 37 58.6
comp=Z,106nm,1.7s,mb5.9
SNAA Sanae 92.43 198 P **P 17 37 46.7 +0.3**
SNAA Sanae 92.43 198⇑ *i* **P 17 37 47.5 +1.1**
SNAA Sanae 92.43 198 *ip*P 17 37 56.5 +0.3
SNAA Sanae 92.43 198‖ *i* sP 17 37 59.2 -0.1
SNAA Sanae 92.43 198 P **P 17 37 48.1 +1.7**
SNAA pmax pmax
comp=Z,77nm,1.5s
SNAA Sanae 92.43 198⇑ *i*P **P 17 37 47.5 +1.1**
LANF Langenberg 92.45 319 *e*P **P 17 37 48.0 +1.0**

LIBD Limburg 92.59 318 *e*P **P 17 37 48.6 +1.0**
ABH Alteburg 92.61 320 *e*P **P 17 37 49.0 +1.3**
SBF Sospel 92.74 314 *e*P **P 17 37 48.7 +0.2**
comp=Z,238nm,1.1s,mb6.2
WLS Welschbruch 92.76 318 *e*P **P 17 37 49.0 +0.6**
CDF Champ du Feu 92.81 318 *e*P **P 17 37 48.7 +0.1**
comp=Z,60nm,1.2s,mb5.6
ECH Echery 92.89 318 *e*P **P 17 37 49.3 +0.3**
MOF Molkenrain 92.91 318 *e*P **P 17 37 47.5 -1.6**
RUP Ruppelstein 92.93 319 *e*P **P 17 37 49.9 +0.7**
BLS5 Blasjo 93.03 329 *e*P **P 17 37 52.1 +2.7**
comp=Z,47nm,1.0s,mb5.9
BLS5 Blasjo 93.03 329 *e*P **P 17 37 52.1 +2.7**
BLS5 AMb AMB 17 38 03.9
comp=Z,47nm,1.0s,mb5.9
WTSB Winterswijk 93.05 322 *e*P pP 17 38 01.2 +1.8
comp=Z,69nm,5.2s
HINF Hinteralfeld 93.10 318 *e*P **P 17 37 49.8 -0.2**
comp=Z,84nm,1.5s,mb5.7
LOMF Lomont 93.13 317 *e*P **P 17 37 48.6 -1.5**
MBDF Montbardon 93.21 315 *e*P **P 17 37 51.6 +1.0**
comp=Z,110nm,1.4s,mb5.8
LPG La Plagne 93.21 315 *e*P **P 17 37 51.2 +0.6**
comp=Z,88nm,1.0s,mb5.8
LPL La Plagne 93.22 315 *e*P **P 17 37 51.1 +0.5**
comp=Z,143nm,1.1s,mb6.0
BNI Bardonecchia 93.27 315 P **P 17 37 54.2 +3.4**
BNI pmax pmax
comp=Z,29nm,1.0s,mb5.7
BNI Bardonecchia 93.27 315 *e*P **P 17 37 51.3 +0.5**
comp=Z,29nm,0.9s,mb5.7
FRF La Foret Royal 93.32 313 *e*P **P 17 37 51.3 +0.2**
comp=Z,56nm,1.0s,mb5.7
LMR La Mourre 93.42 313 *e*P **P 17 37 51.8 +0.2**
HAU Haudompre 93.44 318 *e*P **P 17 37 51.5 0.0**
comp=Z,108nm,1.1s,mb5.9
HAU *e*R
comp=Z,3µm,22.0s
WLF Walferdange 93.52 319 P **P 17 37 55.3 +3.4**
WLF pmax pmax
comp=Z,21nm,1.1s,mb5.5
WLF Walferdange 93.52 319 *e*P **P 17 37 51.8 -0.1**
comp=Z,22nm,1.1s,mb5.5
BER Bergen 93.55 330 *e*P **P 17 37 54.5 +2.8**
BER AMS AMS 18 25 23.8
comp=Z,6µm,20.0s,MS6.0
HGN Heimansgroeve 93.63 321 *e*P pP 17 38 00.8 -1.4
comp=Z,28nm,1.7s
CABF La Chapelle 93.65 316 *e*P **P 17 37 53.0 +0.5**
comp=Z,84nm,1.1s,mb5.8
THEF They Montfort 93.67 318 *e*P **P 17 37 53.1 +0.5**
ORIF Oris-en-Rattie 93.84 315 *e*P **P 17 37 53.8 +0.3**
comp=Z,146nm,1.5s,mb5.9
ORIF *e*R
comp=Z,4µm,22.2s
VNA2 Neumayer--Watz 94.04 198⇑ *i*P **P 17 37 54.3 +0.5**
VNA2 Neumayer--Watz 94.04 198 **P 17 37 55.5 +1.7**
VNA2 Neumayer--Watz 94.04 198⇑ *i* pP 17 38 05.3 +1.7
VNA2 Neumayer--Watz 94.04 198⇑ *i* sP 17 38 07.4 +0.6
VNA2 Neumayer--Watz 94.04 198 17 42 38.6
VNA2 Neumayer--Watz 94.04 198 17 42 48.7
VNA2 Neumayer--Watz 94.04 198 17 42 52.8
SMRF Simiane la Rot 94.09 314 *e*P **P 17 37 55.4 +0.8**
comp=Z,136nm,1.4s,mb5.9
MEZF Maizieres J'vi 94.29 318 *e*P **P 17 37 55.6 +0.2**
comp=Z,90nm,1.3s,mb5.8
GIVF Givet 94.36 320 *e*P **P 17 37 55.9 +0.2**
comp=Z,49nm,1.1s,mb5.5
VIVF Saint-Julien-l 94.70 315 *e*P **P 17 37 57.6 +0.2**
comp=Z,39nm,1.1s,mb5.5
BAIF Baives 94.76 320 *e*P **P 17 37 58.0 +0.4**
comp=Z,96nm,1.1s,mb5.8
SMF Signal de Mont 95.19 317 *e*P **P 17 37 59.7 0.0**
comp=Z,79nm,1.0s,mb5.8
PLDF La Plantade 95.39 316 *e*P **P 17 38 06.5 +6.0**
SSF Saint Saulge 95.40 317 *e*P **P 17 38 00.7 +0.1**
comp=Z,41nm,1.1s,mb5.5
AVF Avril sur Loir 95.52 317 *e*P **P 17 38 01.1 -0.1**
comp=Z,51nm,1.1s,mb5.5
LBL Lubilhac 95.69 315 *e*P **P 17 38 07.4 +5.4**
BGF Bois d'Agland 95.89 316 *e*P **P 17 38 03.0 +0.2**
comp=Z,68nm,1.0s,mb5.7
HYF Humbligny 95.98 317 *e*P **P 17 38 03.7 +0.5**
TCF Toulx Ste Croi 96.34 316 *e*P **P 17 38 05.1 +0.2**
comp=Z,43nm,1.2s,mb5.5
CAF Calviac 96.55 315 *e*P **P 17 38 06.3 +0.4**
comp=Z,65nm,1.3s,mb5.6
RJF Les Rejaudoux 96.91 315 *e*P **P 17 38 07.8 +0.3**
comp=Z,50nm,1.2s,mb5.5
RJF *e*R
comp=Z,4µm,21.8s
JMIC Jan Mayen 97.39 342 *e*PP PP 17 42 00.9 -7.9
JMIC AMS AMS 18 29 11.8
comp=Z,5µm,19.8s,MS6.0
LFF La Frestale 97.48 315 *e*P **P 17 38 10.6 +0.5**
comp=Z,66nm,1.2s,mb5.7
LDF La Druitiere 97.71 319 *e*P **P 17 38 11.1 +0.1**
comp=Z,38nm,1.1s,mb5.5
LCP Cassop 97.76 325 *e*P pP 17 38 21.8 +0.9
LCP AMb AMB 17 38 23.5
comp=Z,151nm,1.1s,mb6.4
DAG Danmarks Havn 97.84 348⇑ *i*P **P 17 38 10.3 -0.7**
DAG pmax pmax
comp=Z,11nm,0.7s,mb5.5
DAG MLR MLR
comp=N,6µm,21.0s,MS6.4
DAG MLR MLR
comp=E,11µm,21.0s,MS6.4
DAG MLR MLR
comp=Z,12µm,21.0s,MS6.4
DAG Danmarks Havn 97.84 348⇑ *i*P **P 17 38 10.3 -0.7**
comp=Z,11nm,0.7s,mb5.5
comp=Z,12µm,21.0s
FLN La Foliniere 97.92 319 *e*P **P 17 38 11.7 -0.3**
comp=Z,91nm,1.3s,mb5.9
FLN *e*R
comp=Z,4µm,20.8s
MFF Saint Martin d 97.94 317 *e*P **P 17 38 11.9 -0.2**
comp=Z,47nm,1.2s,mb5.6
HPK Haverah Park 97.96 324 *e*P pP 17 38 22.4 +0.6
HPK AMb AMB 17 38 26.4
comp=Z,167nm,1.1s,mb6.5
KBI1 Birley Grange 98.00 323 *e*P pP 17 38 22.1 0.0
KBI1 AMb AMB 17 38 26.2
comp=Z,101nm,1.3s,mb6.2
IMA Indian Mountai 98.16 23 P **P 17 38 13.9 +1.3**
IMA pmax pmax
comp=Z,340nm,1.1s,mb6.8
IMA Indian Mountai 98.16 23 *e*P **P 17 38 14.5 +1.9**
comp=Z,28nm,1.1s,mb5.7
LHO Holmfirth 98.16 324 *e*P pP 17 38 23.0 +0.3
LHO AMb AMB 17 38 25.0
comp=Z,56nm,1.2s,mb6.0
GRR Gorron 98.22 319 *e*P **P 17 38 13.2 -0.1**
comp=Z,36nm,1.1s,mb5.5
KWE Weaver Farm 98.23 323 *e*P pP 17 38 23.7 +0.7
KWE AMb AMB 17 38 30.5
comp=Z,45nm,1.4s,mb5.8
ESK Eskdalemuir 98.66 326 PFAKE 17 38 30.0 +15
ESK LR LR
comp=Z,998nm,21.0s,MS5.3
ESK Eskdalemuir 98.66 326 *e*P pP 17 38 24.8 -0.2
ESK AMb AMB 17 38 28.9
comp=Z,38nm,1.8s,mb5.6
SPU Mount Spurr 100.12 28 *e*P P 17 38 21.4 -0.2
KDAK Kodiak Island 100.73 31 PFAKE 17 38 40.0 +16
KDAK LR LR
comp=Z,3µm,20.0s,MS5.7
COLA College 100.83 24 PFAKE 17 38 40.0 +15
COLA LR LR
comp=Z,6µm,20.0s,MS6.1
ILAR Eielson Array 101.26 24 P P 17 38 27.1 +0.4
ILAR pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 101.26 24 P P 17 38 27.1 +0.4
comp=Z,2.7nm,0.9s,baz=291,slow=4.4,SNR=16
ESDC Sonseca Array 101.54 310 P P 17 38 30.2 +1.6
comp=Z,0.3nm,0.6s,baz=59,slow=4.8,SNR=3.0
ESLA Sonseca Array 101.54 310 PFAKE 17 38 40.0 +11
ESLA LR LR
comp=Z,12µm,20.0s,MS6.4
KIP Kipapa 102.01 69 PFAKE 17 38 40.0 +9.0
KIP LR LR
comp=Z,2µm,20.0s,MS5.7
BORG Borgarnes 104.25 338 PFAKE 17 38 50.0 +10
BORG LR LR

comp=Z,2µm,19.0s,MS5.7
DBIC Dimbokro 104.65 276 Pdiff Pdif 17 38 45.7 +2.9
comp=Z,5.5nm,1.1s,baz=42,slow=5.1,SNR=2.8
DBIC Dimbokro 104.65 276 Pdif Pdif 17 38 45.7 +2.9
DBIC LR LR
comp=Z,6µm,20.0s,MS6.1
RES Resolute Bay 106.49 4 P Pdif 17 38 51.6 +2.1
RES pmax pmax
comp=Z,6.0nm,1.0s
RES Resolute Bay 106.49 4 *e*Pdif Pdif 17 38 50.9 +1.4
comp=Z,5.7nm,1.0s
RES PKiKP 17 42 59.0
TBI Tubuai 108.40 115 *e*SS SS 17 58 49.9 +6.6
TBI *e*LR LR 18 14 51.7
comp=Z,10µm,23.2s
PPT Papeete 109.20 109 *e*PP PP 17 43 35.5 -3.8
PPT *e*LR LR 18 15 15.3
comp=Z,10µm,23.2s
SIT Sitka 109.64 28 PFAKE 17 43 20.0
SIT LR LR
comp=Z,7µm,22.0s,MS6.2
PMSA Palmer Station 112.72 187 PFAKE 17 43 20.0 +3.9
PMSA LR LR
comp=Z,10µm,22.0s,MS6.3
YKW3 Yellowknife Ar 114.02 17 *e*PKPdf PKPdf 17 43 14.6 -4.2
YKA Yellowknife Ar 114.07 17 *i* PKIKP PKPdf 17 43 14.5 -4.4
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 114.07 17 PKiKP 17 43 14.5
comp=Z,2.2nm,0.6s,baz=356,slow=2.2,SNR=23
YKA Yellowknife Ar 114.07 17 PKPdf PKPdf 17 43 14.5 -4.4
FRB Frobisher Bay 117.39 354 PKIKP PKPdf 17 43 22.5 -2.7
FRB pmax pmax
comp=Z,4.0nm,0.6s
FRB Frobisher Bay 117.39 354 PKP PKPdf 17 43 22.5 -2.7
comp=Z,3.9nm,0.6s,baz=28,slow=1.5,SNR=6.2
FRB Frobisher Bay 117.39 354 PKP PKPdf 17 43 22.5 -2.7
CMW Cultus Mountai 121.12 31 P PKPdf 17 43 29.9 -3.0
RKT Rikitea 121.41 118 *e*PP PP 17 44 57.3 -7.4
RKT *e*SS SS 18 01 40.3 +6.0
RKT *e*LR LR 18 20 52.9
comp=Z,8µm,25.0s
EDM Edmonton 121.73 23 PKIKP PKPdf 17 43 30.4 -3.5
EDM Edmonton 121.73 23 *e*PKPdf PKPdf 17 43 29.8 -4.2
FCC Fort Churchill 121.98 8 PKIKP PKPdf 17 43 30.5 -3.8
FCC Fort Churchill 121.98 8 *e*PKPdf PKPdf 17 43 30.0 -4.2
COR Corvallis 122.80 35 PFAKE 17 43 40.0 +3.8
COR LR LR
comp=Z,1µm,21.0s,MS5.5
GBB Gable Butte 123.58 32 P PKPdf 17 43 34.5 -3.2
NEW Newport 123.72 29 PKIKP PKPdf 17 43 35.7 -2.2
NEW Newport 123.72 29 PKP PKPdf 17 43 34.7 -3.2
comp=Z,12nm,0.9s,baz=102,slow=1.5,SNR=19
NEW Newport 123.72 29 *e*PKPdf PKPdf 17 43 35.1 -2.8
NEW LR LR
comp=Z,5µm,20.0s,MS6.2
HAWA Hanford 123.77 32 *e*PKPdf PKPdf 17 43 34.7 -3.3
HAWA LR LR
comp=Z,403nm,22.0s
HUMO Hull Mountain 124.15 37 *e*PKPdf PKPdf 17 43 36.2 -2.7
HUMO LR LR
comp=Z,4µm,21.0s,MS6.0
WALA Waterton Lakes 124.64 26 *e*PKPdf PKPdf 17 43 36.3 -3.4
KHMM Horse Mountain 124.64 39 *e*PKPdf PKPdf 17 43 37.6 -2.4
YBH Yreka Blue Hor 124.80 38 PKP PKPdf 17 43 38.1 -2.1
comp=Z,4.6nm,0.9s,baz=129,slow=6.4,SNR=5.2
YBH Yreka Blue Hor 124.80 38 PKP PKPdf 17 43 38.1 -2.1
YBH LR LR
comp=Z,3µm,22.0s,MS5.9
PTCN Pitcairn Islan 124.98 122 PFAKE 17 43 50.0 +9.0
PTCN LR LR
comp=Z,12µm,22.0s,MS6.5
BSMT Bassoo Peak 125.12 28 P PKPdf 17 43 37.6 -3.1
WDC Whiskeytown Da 125.56 39 PKIKP PKPdf 17 43 38.8 -2.9
WDC Whiskeytown Da 125.56 39 *e*PKPdf PKPdf 17 43 37.9 -3.8
WDC LR LR
comp=Z,3µm,20.0s,MS6.0
SCHQ Schefferville 125.81 350 PKP PKPdf 17 43 38.1 -3.6
comp=Z,10nm,0.7s,baz=37,slow=4.2,SNR=16
SCHQ Schefferville 125.81 350 *e*PKPdf PKPdf 17 43 38.1 -3.6
SCHQ LR LR
comp=Z,11µm,22.0s,MS6.5
LTIM Timbered Crate 125.87 38 P PKPdf 17 43 39.4 -2.9
BMO Blue Mountains 125.96 32 PKIKP PKPdf 17 43 39.5 -2.8
BMO Blue Mountains 125.96 32 *e*PKPdf PKPdf 17 43 39.6 -2.7
BMO LR LR
comp=Z,5µm,21.0s,MS6.2
HOPS Hopland 126.09 41 PFAKE 17 43 50.0 +7.2
HOPS LR LR
comp=Z,4µm,20.0s,MS6.0
LBCM Butte Creek Ri 126.15 38 P PKPdf 17 43 39.8 -3.0
MOD Modoc 126.15 36 *e*PKPdf PKPdf 17 43 39.6 -3.2
MOD LR LR
comp=Z,3µm,20.0s,MS6.0
MSO Missoula 126.26 28 *e*PKPdf PKPdf 17 43 39.2 -3.7
MSO LR LR
comp=Z,5µm,19.0s,MS6.2
CHMT Chamberlain Mo 126.52 28 *e*PKPdf PKPdf 17 43 39.7 -3.6
WVOR Wild Horse Val 126.80 35 PKIKP PKPdf 17 43 41.6 -2.4
WVOR Wild Horse Val 126.80 35 *e*PKPdf PKPdf 17 43 41.2 -2.8
WVOR LR LR
comp=Z,4µm,19.0s,MS6.2
HRY Holter Researc 127.32 27 *e*PKPdf PKPdf 17 43 41.3 -3.7
PAHR Pah Rah Range 128.03 38 PKPdf PKPdf 17 43 43.8 -2.8
WCN Washoe City 128.04 39 PKIKP PKPdf 17 43 44.9 -1.7
WCN Washoe City 128.04 39 *e*PKPdf PKPdf 17 43 44.5 -2.0
BOZ Bozeman (W) 128.22 28 PKIKP PKPdf 17 43 43.8 -2.9
BOZ Bozeman (W) 128.22 28 *e*PKPdf PKPdf 17 43 43.6 -3.1
BOZ LR LR
comp=Z,5µm,20.0s,MS6.2
MCMT McKenzie Canyo 128.24 29 P PKPdf 17 43 44.4 -2.4
HLID Hailey 128.36 31 *e*PKPdf PKPdf 17 43 44.7 -2.3
HLID LR LR
comp=Z,7µm,21.0s,MS6.3
CMB Columbia Colle 128.37 40 *e*PKPdf PKPdf 17 43 45.1 -2.1
CMB LR LR
comp=Z,4µm,20.0s,MS6.1
SAO San Andreas Ge 128.38 42 PFAKE 17 44 00.0 +13
SAO LR LR
comp=Z,3µm,20.0s,MS6.0
QLMT Earthquake Lak 128.92 28 *e*PKPdf PKPdf 17 43 46.2 -1.8
GCMT Greycliff 129.00 26 *e*PKPdf PKPdf 17 43 45.6 -2.6
YMR Madison River 129.26 28 *e*PKPdf PKPdf 17 43 46.5 -2.2
YNR Norris Junctio 129.36 28 *e*PKPdf PKPdf 17 43 46.9 -2.1
NVAR Mina Array Bea 129.47 39 PKP PKPdf 17 43 46.7 -2.6
comp=Z,3.3nm,0.6s,baz=248,slow=3.2,SNR=8.1
NVAR Mina Array Bea 129.47 39 PKP PKPdf 17 43 46.7 -2.6
YFT Old Faithful 129.49 28 *e*PKPdf PKPdf 17 43 48.3 -0.8
MNV Mina 129.56 39 PKIKP PKPdf 17 43 47.3 -2.2
MNV Mina 129.56 39 *e*PKPdf PKPdf 17 43 47.0 -2.5
MNV LR LR
comp=Z,4µm,19.0s,MS6.1
LKWY Lake 129.60 28 PKIKP PKPdf 17 43 48.6 -0.8
LKWY Lake 129.60 28 *e*PKPdf PKPdf 17 43 48.1 -1.2
LKWY LR LR
comp=Z,10µm,19.0s,MS6.5
LAO LASA Array 129.71 23 PFAKE 17 44 00.0 +10
LAO LR LR
comp=Z,5µm,22.0s,MS6.2
ULM Lac du Bonnet 129.75 13 PKhKP 17 43 37.5
comp=Z,3.1nm,0.9s,baz=178,slow=2.1,SNR=3.0
ULM PKP PKPdf 17 43 45.8 -3.7
comp=Z,16nm,0.6s,baz=345,slow=2.1,SNR=18
ULM Lac du Bonnet 129.75 13 PKP 17 43 37.5
ULM *e*PKPdf PKPdf 17 43 45.5 -3.9
ULM LR LR
comp=Z,8µm,21.0s,MS6.4
ELK Elko 129.83 35 *e*PKPdf PKPdf 17 43 46.7 -3.2
ELK LR LR
comp=Z,4µm,22.0s,MS6.1
IMW Indian Meadow 129.85 29 *e*PKPdf PKPdf 17 43 47.8 -2.0
MTUM Tungsten Hills 129.95 40 *e*PKPdf PKPdf 17 43 47.9 -2.4
MTUM *e* 17 43 57.3
MOOW Moose Ponds 130.06 29 *e*PKPdf PKPdf 17 43 47.5 -2.8
RRI2 Red Ridge 130.08 29 *e*PKPdf PKPdf 17 43 47.7 -2.6
TPAW Teton Pass 130.15 29 *e*PKPdf PKPdf 17 43 48.2 -2.2
WUWY Wally Ulrich 130.22 29 *e*PKPdf PKPdf 17 43 47.0 -3.5
LOHW Long Hollow 130.23 29 *e*PKPdf PKPdf 17 43 47.0 -3.6
SNOW Snow King Moun 130.27 29 *e*PKPdf PKPdf 17 43 48.2 -2.5
REDW Red Top Meadow 130.29 29 *e*PKPdf PKPdf 17 43 47.3 -3.4
REDW *e*PP PP 17 46 02.1 -1.3
HVU Hansel Valley 130.47 32 PKIKP PKPdf 17 43 49.1 -2.0
HVU Hansel Valley 130.47 32 *e*PKPdf PKPdf 17 43 48.5 -2.6
AHID Auburn Hatcher 130.62 30 *e*PKPdf PKPdf 17 43 48.8 -2.6

AHID				LR	LR			
	comp=Z,7μm,20.0s,MS6.4							
TRCR	**Troy Canyon**	**131.19**	**37**	*e*PKPdf	PKPdf	17 43 50.7	-1.9	
TRCR				*e*SKPbc		17 47 11.3		
HWUT	**Hardware Ranch**	**131.23**	**31**	*e*PKPdf	PKPdf	17 43 49.5	-3.1	
HWUT				LR	LR			
	comp=Z,8μm,19.0s,MS6.4							
BW06	**Boulder Array**	**131.37**	**29**	PFAKE		17 44 00.0	+7.2	
BW06				LR	LR			
	comp=Z,5μm,19.0s,MS6.2							
PDAR	**Pinedale Array**	**131.37**	**29**	PKhKP		17 43 39.8		
	comp=Z,0.8nm,0.6s,baz=38,slow=2.8,SNR=4.6							
PDAR				PKP	PKPdf	17 43 50.0	-2.8	
	comp=Z,4.6nm,0.8s,baz=165,slow=0.3,SNR=17							
DUG	**Dugway**	**131.56**	**33**	PKIKP	PKPdf	17 43 51.8	-1.4	
DUG	**Dugway**	**131.56**	**33**	*e*PKPdf	PKPdf	17 43 51.4	-1.8	
DUG				*e*SKPbc		17 47 12.2		
DUG				LR	LR			
	comp=Z,5μm,19.0s,MS6.3							
NOQ	**North Oquirrh**	**131.62**	**32**	*e*PKPdf	PKPdf	17 43 49.9	-3.4	
TCUT	**Toone Canyon**	**131.66**	**32**	PKPdf	PKPdf	17 43 50.0	-3.4	
CTU	**Camp Tracy**	**131.78**	**32**	*e*PKPdf	PKPdf	17 43 50.2	-3.4	
NLU	**North Lily Min**	**132.13**	**33**	*e*PKPdf	PKPdf	17 43 51.9	-2.4	
MPU	**Maple Canyon**	**132.33**	**33**	PKPdf	PKPdf	17 43 50.9	-3.8	
RSSD	**Black Hills**	**132.70**	**23**	*e*PKPdf	PKPdf	17 43 52.5	-2.7	
RSSD				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
EYMN	**Ely**	**132.82**	**10**	*e*PKPdf	PKPdf	17 43 52.3	-3.1	
EYMN				LR	LR			
	comp=Z,8μm,19.0s,MS6.4							
TMUT	**Trail Mountain**	**133.07**	**33**	*e*PKPdf	PKPdf	17 43 53.7	-2.4	
MSU	**Marysvale**	**133.08**	**35**	PKIKP	PKPdf	17 43 54.3	-1.8	
MSU	**Marysvale**	**133.08**	**35**	*e*PKPdf	PKPdf	17 43 54.1	-2.0	
RWWY	**Rawlins**	**133.31**	**28**	*e*PKPdf	PKPdf	17 43 51.6	-4.8	
PFO	**Pinyon Flat Ob**	**133.53**	**43**	PFAKE		17 44 10.0	+13	
PFO				LR	LR			
	comp=Z,1μm,19.0s,MS5.6							
SRU	**San Rafael**	**133.57**	**33**	PKIKP	PKPdf	17 43 55.3	-1.7	
SRU	**San Rafael**	**133.57**	**33**	*e*PKPdf	PKPdf	17 43 54.1	-2.9	
PQI	**Presque Isle**	**133.85**	**348**	PFAKE		17 44 10.0	+13	
PQI				LR	LR			
	comp=Z,25μm,19.0s,MS6.9							
PHWY	**Pilot Hill**	**134.42**	**27**	*e*PKPdf	PKPdf	17 43 54.2	-4.3	
PV10	**Paradox Valley**	**134.91**	**32**	*e*PKPdf	PKPdf	17 43 56.4	-3.2	
RCBR	**Riachuelo**	**135.07**	**260**	PFAKE		17 44 10.0	+10	
RCBR				LR	LR			
	comp=Z,8μm,20.0s,MS6.4							
CAM3	**Guarapari**	**135.19**	**238**	*e*P	PKPdf	17 43 56.8	-3.7	
PV01	**Paradox Valley**	**135.33**	**32**	*e*PKPpre		17 43 44.6		
WUAZ	**Wupatki**	**135.59**	**37**	PKPpre		17 43 48.1		
WUAZ				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
EMMW	**East Machias**	**135.59**	**347**	PFAKE		17 44 10.0	+9.4	
EMMW				LR	LR			
	comp=Z,22μm,20.0s,MS6.9							
CAM4	**Nova Friburgo**	**136.18**	**235**	*e*P	PKPdf	17 43 59.0	-3.2	
CAM4				*i*		17 44 06.0		
CAM4				*i*		17 44 10.6		
CAM4				*i*		17 44 22.2		
WVL	**Waterville**	**136.19**	**349**	PFAKE		17 44 10.0	+8.3	
WVL				LR	LR			
	comp=Z,14μm,20.0s,MS6.7							
PLCA	**Paso Flores**	**136.94**	**191**	PKIKP	PKPdf	17 44 00.6	-2.5	
PLCA	**Paso Flores**	**136.94**	**191**	PKhKP		17 43 52.8		
	comp=Z,2.6nm,0.8s,baz=167,slow=2.7,SNR=5.2							
PLCA				PKP	PKPdf	17 44 01.1	-2.1	
	comp=Z,16nm,1.1s,baz=210,slow=12,SNR=8.6							
PLCA	**Paso Flores**	**136.94**	**191**	PKP		17 43 52.8		
PLCA				*e*PKPdf	PKPdf	17 43 59.9	-3.2	
PLCA				LR	LR			
	comp=Z,8μm,20.0s,MS6.4							
TRQA	**Tornquist**	**137.07**	**201**	PKPpre		17 43 43.4		
TRQA				LR	LR			
	comp=Z,8μm,20.0s,MS6.5							
SDCO	**Great Sand Dun**	**137.21**	**30**	PFAKE		17 44 10.0	+6.3	
SDCO				LR	LR			
	comp=Z,6μm,20.0s,MS6.3							
NCB	**Newcomb**	**137.47**	**354**	*e*PKPdf	PKPdf	17 44 01.3	-2.7	
NCB				LR	LR			
	comp=Z,6μm,22.0s,MS6.3							
HNH	**Hanover**	**137.47**	**351**	PKPdf	PKPdf	17 43 58.5	-5.5	
ACCN	**Adirondack Com**	**137.98**	**353**	PKPdf	PKPdf	17 44 01.0	-4.0	
LPA	**La Plata**	**138.07**	**208**	*e*PKP	PKPdf	17 43 59.0	-6.4	
LPA				*e*SKP		17 47 33.0		
LPA				*e*PKS	PKS	17 47 36.0	+0.7	
LPA				SKIKP		17 47 38.0		
LPA				*e*PKS	PKS	17 47 45.0	+10	
	comp=Z,11μm,18.0s							
TUC	**Tucson**	**138.08**	**40**	*e*PKPpre		17 43 54.7		
TUC				LR	LR			
	comp=Z,4μm,19.0s,MS6.2							
HRV	**Harvard--Oak R**	**138.53**	**350**	PFAKE		17 44 10.0	+4.0	
HRV				LR	LR			
	comp=Z,6μm,21.0s,MS6.3							
WES	**Weston**	**138.61**	**350**	PFAKE		17 44 10.0	+3.8	
WES				LR	LR			
	comp=Z,7μm,20.0s,MS6.4							
LAZ	**Ladron**	**138.85**	**35**	*e*PKPdf	PKPdf	17 44 05.7	-1.1	
CBKS	**Cedar Bluff**	**138.91**	**23**	PFAKE		17 44 20.0	+13	
CBKS				LR	LR			
	comp=Z,8μm,19.0s,MS6.5							
LENM	**Lemitar**	**139.12**	**35**	*e*PKPdf	PKPdf	17 44 04.4	-2.9	
BNM	**Barren Site**	**139.32**	**34**	*e*PKPpre		17 43 57.4		
AAM	**Ann Arbor**	**139.37**	**4**	PFAKE		17 44 20.0	+12	
AAM				LR	LR			
	comp=Z,11μm,21.0s,MS6.6							
BINY	**Binghamton**	**139.40**	**355**	PKPdf	PKPdf	17 44 05.7	-1.9	
BINY				LR	LR			
	comp=Z,8μm,20.0s,MS6.5							
ERPA	**Erie**	**139.66**	**360**	PKPdf	PKPdf	17 44 05.3	-2.7	
ERPA				LR	LR			
	comp=Z,5μm,21.0s,MS6.3							
KSU1	**Kansas State U**	**139.81**	**20**	*e*PKPpre		17 43 56.7		
KSU1				PKPdf	PKPdf	17 44 06.1	-2.4	
RPN	**Rapa Nui**	**140.02**	**138**	PFAKE		17 44 20.0	+11	
RPN				LR	LR			
	comp=Z,1μm,19.0s,MS5.6							
PAL	**Palisades**	**140.35**	**352**	PKIKP	PKPdf	17 44 07.2	-2.2	
PAL	**Palisades**	**140.35**	**352**	*e*PKPdf	PKPdf	17 44 05.3	-4.1	
SSPA	**Standing Stone**	**141.08**	**357**	*e*PKPpre		17 44 02.0		
SSPA				LR	LR			
	comp=Z,2μm,20.0s,MS5.8							
AMTX	**Amarillo**	**141.35**	**29**	PFAKE		17 44 20.0	+8.6	
AMTX				LR	LR			
	comp=Z,7μm,20.0s,MS6.4							
ACSO	**Alum Creek Sta**	**141.47**	**3**	*e*PKPpre		17 44 02.1		
ACSO				LR	LR			
	comp=Z,11μm,20.0s,MS6.6							
MVL	**Millersville**	**141.61**	**355**	*e*PKPpre		17 44 02.2		
CPRX	**Cap Rock**	**141.69**	**33**	*e*PKPpre		17 44 03.7		
MNTX	**Cornudas Mount**	**141.83**	**36**	*e*PKPdf	PKPdf	17 44 09.5	-2.8	
MNTX				LR	LR			
	comp=Z,6μm,20.0s,MS6.4							
GDL2	**Guadalupe Moun**	**142.04**	**34**	*e*PKPpre		17 44 05.5		
BLO	**Bloomington**	**142.17**	**8**	PKIKP		17 44 04.8		
BLO	**Bloomington**	**142.17**	**8**	*e*PKPpre		17 44 03.1		
CLNB	**Carlsbad**	**142.26**	**34**	*e*PKPpre		17 44 06.9		
CCM	**Cathedral Cave**	**142.35**	**14**	*e*PKPpre		17 44 03.4		
CCM				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
WMOK	**Wichita Mounta**	**142.79**	**26**	*e*PKPpre		17 44 06.1		
WMOK				LR	LR			
	comp=Z,9μm,22.0s,MS6.5							
WCI	**Wyandotte Cave**	**143.13**	**8**	*e*PKPpre		17 44 07.0		
WCI				LR	LR			
	comp=Z,2μm,19.0s,MS6.0							
BAO	**Brasilia Array**	**143.77**	**241**	P	PKPbc	17 44 10.0	+0.3	
BDFB	**Brasilia**	**143.79**	**241**	PKIKP	PKPdf	17 44 10.4	-5.6	
BDFB				pmax	pmax			
	comp=Z,40nm,1.0s							
BDFB	**Brasilia**	**143.79**	**241**	PKP	PKPdf	17 44 10.4	-5.6	
	comp=Z,40nm,1.0s,baz=79,slow=3.9,SNR=24							
FWV	**Forest Hill**	**144.19**	**1**	*e*PKPdf	PKPdf	17 44 09.9	-6.3	
GLAT	**Glass**	**144.51**	**13**	*e*PKPdf	PKPdf	17 44 12.3	-4.5	
GLAT				*e*		17 44 22.1		
UTMT	**University of**	**144.53**	**12**	*e*PKPdf	PKPdf	17 44 12.6	-4.2	
ELN	**Prospectdale**	**144.54**	**1**	*e*PKPdf	PKPdf	17 44 11.2	-5.6	
LTX	**Lajitas**	**144.56**	**37**	*e*PKPdf	PKPdf	17 44 13.3	-3.7	
LTX				LR	LR			
	comp=Z,4μm,21.0s,MS6.2							
TXAR	**Lajitas Array**	**144.56**	**37**	PKP	PKPdf	17 44 13.4	-3.7	
	comp=Z,74nm,0.5s,baz=219,slow=0.8,SNR=306							
BLA	**Blacksburg**	**144.56**	**0**	PKIKP	PKPdf	17 44 11.9	-4.9	
BLA	**Blacksburg**	**144.56**	**0**	*e*PKPdf	PKPdf	17 44 11.6	-5.2	
BLA				LR	LR			
	comp=Z,9μm,21.0s,MS6.5							
GNAR	**Gosnell**	**144.63**	**14**	*e*PKPdf	PKPdf	17 44 12.6	-4.4	
GNAR				*e*		17 44 22.1		
HALT	**Halls**	**144.84**	**13**	*e*PKPdf	PKPdf	17 44 12.8	-4.6	
HBAR	**Harrisburg**	**144.87**	**15**	*e*PKPdf	PKPdf	17 44 13.5	-3.9	
WVT	**Waverly**	**144.94**	**11**	*e*PKPdf	PKPdf	17 44 13.0	-4.5	
WVT				LR	LR			
	comp=Z,6μm,20.0s,MS6.3							
MIAR	**Mount Ida**	**144.96**	**19**	*e*PKPdf	PKPdf	17 44 13.5	-4.1	
MIAR				LR	LR			
	comp=Z,7μm,19.0s,MS6.4							
CFAA	**Coronel Fontan**	**145.05**	**198**	PKPbc	PKPbc	17 44 13.9	+1.0	
	comp=Z,28nm,0.8s,baz=169,slow=2.9,SNR=402							
TZTN	**Tazewell**	**145.10**	**5**	*e*PKPbc	PKPbc	17 44 13.7	+0.8	
UALR	**University of**	**145.13**	**18**	*e*PKPbc	PKPbc	17 44 13.9	+0.9	
JCT	**Junction City**	**145.83**	**31**	*e*PKP2	PKPdf	17 44 16.6	-2.6	
JCT	**Junction City**	**145.83**	**31**	*e*PKP	PKPdf	17 44 16.8	-2.5	
JCT				*e*		17 44 26.5		
JCT				LR	LR			
	comp=Z,6μm,19.0s,MS6.4							
PLAL	**Pickwick Lake**	**146.00**	**11**	*e*PKPdf	PKPdf	17 44 15.8	-3.5	
PLAL				LR	LR			
	comp=Z,6μm,20.0s,MS6.4							
BBSR	**BB Station**	**146.05**	**336**	*e*PKP	PKPdf	17 44 17.4	-2.2	
BBSR				LR	LR			
	comp=Z,3μm,20.0s,MS6.1							
CPCT	**Cooper Cave**	**146.09**	**6**	*e*PKPdf	PKPdf	17 44 16.6	-3.0	
SWET	**Sewanee**	**146.14**	**8**	*e*PKPdf	PKPdf	17 44 15.4	-4.2	
OXF	**Oxford**	**146.17**	**14**	PKP2	PKPdf	17 44 17.0	-2.7	
OXF	**Oxford**	**146.17**	**14**	*e*PKP	PKPdf	17 44 16.8	-2.9	
OXF				*e*		17 44 26.4		
OXF				LR	LR			
	comp=Z,5μm,22.0s,MS6.2							
NATX	**Nacogdoches**	**147.07**	**23**	*e*PKP	PKPdf	17 44 19.9	-1.4	
NATX				LR	LR			
	comp=Z,7μm,21.0s,MS6.5							
TLL	**Tololo Astrono**	**147.14**	**195**	⇑*i*P	PKPdf	17 44 20.3	-1.2	
JSC	**Jenkinsville**	**147.47**	**1**	PKP2	PKPdf	17 44 19.6	-2.3	
JSC	**Jenkinsville**	**147.47**	**1**	*e*PKPdf	PKPdf	17 44 18.8	-3.0	
JSC				*e*PKPbc	PKPdf	17 44 20.8	-1.1	
LRAL	**Lakeview Retre**	**148.10**	**11**	*e*PKPdf	PKPdf	17 44 19.8	-3.1	
LRAL				LR	LR			
	comp=Z,8μm,20.0s,MS6.5							
GOGA	**Godfrey**	**148.21**	**5**	*e*PKPdf	PKPdf	17 44 19.9	-3.1	
GOGA				LR	LR			
	comp=Z,6μm,19.0s,MS6.4							
COW	**Cow Castle Cre**	**148.38**	**1**	*e*PKPdf	PKPdf	17 44 21.5	-1.8	
TWB	**Tillmans-White**	**148.65**	**360**	*e*PKPab	PKPab	17 44 26.3	-1.8	
NHSC	**New Hope**	**148.66**	**360**	*e*PKPdf	PKPdf	17 44 22.2	-1.6	
NHSC				LR	LR			
	comp=Z,7μm,22.0s,MS6.4							
CSU	**Charleston Sou**	**148.78**	**360**	PKPbc	PKPdf	17 44 24.8	+0.8	
HBF	**Harts Bluff**	**148.83**	**0**	PKP2	PKPdf	17 44 25.7	+1.6	
HBF	**Harts Bluff**	**148.83**	**0**	*e*PKPbc	PKPdf	17 44 25.5	+1.5	
ZAIG	**Zacatecas**	**149.82**	**44**	*i* P	PKPdf	17 44 25.3	-0.6	
SFJM	**Santa Fe**	**150.91**	**48**	*e*P	PKPdf	17 44 22.0	-5.6	
LVC	**Limon Verde**	**153.50**	**204**	PKP	PKPdf	17 44 29.1	-2.2	
	comp=Z,6.4nm,0.9s,baz=160,slow=2.9,SNR=6.8							
LVC				PKPbc	PKPdf	17 44 37.0	+5.7	
	comp=Z,35nm,0.8s,baz=229,slow=1.2,SNR=39							
LVC	**Limon Verde**	**153.50**	**204**	PKP	PKPdf	17 44 29.1	-2.2	
LVC				PKPbc	PKPdf	17 44 37.0	+5.7	
DWPF	**Disney**	**153.62**	**2**	PFAKE		17 44 40.0	+8.7	
DWPF				LR	LR			
	comp=Z,3μm,20.0s,MS6.0							
SIV	**San Ignacio**	**154.19**	**227**	PKP	PKPdf	17 44 29.2	-3.2	
	comp=Z,7.1nm,1.0s,baz=114,slow=1.1,SNR=21							
SIV				PKPbc	PKPdf	17 44 37.3	+4.9	
	comp=Z,31nm,0.9s,baz=136,slow=3.5,SNR=37							
PPM	**Popocatepetl**	**155.02**	**45**	*i* P	PKPdf	17 44 30.9	-2.5	
OXX	**Oaxaca**	**157.68**	**45**	*e*P	PKPdf	17 44 36.0	-1.0	
SJG	**San Juan**	**158.51**	**321**	PFAKE		17 44 50.0	+12	
SJG				LR	LR			
	comp=Z,5μm,22.0s,MS6.3							
LPAZ	**La Paz**	**158.55**	**214**	PKP	PKPdf	17 44 35.8	-2.3	
	comp=Z,149nm,0.7s,baz=324,slow=12,SNR=59							
LPAZ	**La Paz**	**158.55**	**214**	PKP	PKPdf	17 44 35.8	-2.3	
LPAZ				LR	LR			
	comp=Z,8μm,19.0s,MS6.6							
CMIG	**Matias Romero**	**158.95**	**42**	*i* P	PKPdf	17 44 32.9	-5.7	
SAML	**Samuel**	**159.99**	**238**	PFAKE		17 44 50.0	+10	
SAML				LR	LR			
	comp=Z,9μm,19.0s,MS6.7							
CCIG	**Comitan**	**161.31**	**38**	*i* P	PKPdf	17 44 41.2	+0.2	
PCRV	**Puerto La Cruz**	**162.26**	**299**	PKP	PKPdf	17 44 37.7	-4.4	
	comp=Z,24nm,1.3s,baz=24,slow=16,SNR=3.4							
NNA	**Nana**	**166.08**	**194**	PFAKE		17 44 50.0	+4.2	
NNA				LR	LR			
	comp=Z,2μm,19.0s							
SDV	**Santo Domingo**	**167.97**	**307**	PKP	PKPdf	17 44 42.7	-4.3	
	comp=Z,5.2nm,0.8s,baz=245,slow=1.0,SNR=9.5							
PAYG	**Puerto Ayora**	**169.75**	**103**	PFAKE		17 45 00.0	+12	
PAYG				LR	LR			
	comp=Z,4μm,19.0s							
JTS	**JuntasAbangare**	**170.20**	**28**	PKP	PKPdf	17 44 43.2	-5.1	
	comp=Z,1.6nm,0.3s,baz=291,slow=8.6,SNR=2.4							
JTS	**JuntasAbangare**	**170.20**	**28**	PKP	PKPdf	17 44 43.2	-5.1	
JTS				LR	LR			
	comp=Z,2μm,22.0s							
ROSC	**El Rosal**	**173.23**	**299**	PKP	PKPdf	17 44 44.6	-5.5	
	comp=Z,81nm,0.8s,baz=225,slow=4.3,SNR=33							
OTAV	**Otavalo**	**177.72**	**234**	PFAKE		17 45 00.0	+8.8	
OTAV				LR	LR			
	comp=Z,9μm,19.0s							

*THR **10** 17:33:00.8±0.6, 34.47N×51.09E, h14km±6km, ML3.5*
*CSEM **10** 17:33:01.1±0.1, 34.47N×51.06E, h25km, ML4.6/2, Error ellipse: s-maj=3.5km s-min=3.2km az=130.0*
*TEH **10** 17:33:02.2, 34.56N×50.94E, h18km, Mn3.8*
ISC 10 17:33:02.9±0.9, 34.54N±0.05×51.01E±0.05, h19km±12km, n22, σ1°03/27, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVRN	**Varamin**	**0.74**	**52**	Lg		17 33 27.4	
IVRN	**Varamin**	**0.74**	**52**	Pg	**Pb**	**17 33 16.3**	**-0.7**
ASAO	**Ashtian**	**0.81**	**271**	*e*PG	**Pb**	**17 33 17.6**	**-0.6**
ASAO				*e*SG	**Sb**	**17 33 29.7**	**+0.9**
IMHD	**Mahdasht**	**1.17**	**346**	Pn	**Pn**	**17 33 23.5**	**-0.9**
IRAZ	**Razeghan**	**1.24**	**314**	Pn	**Pn**	**17 33 24.9**	**-0.4**
IKLH	**Kalahroud**	**1.31**	**159**	Pn	**Pn**	**17 33 24.2**	**-2.2**
IDMV	**Damavand**	**1.33**	**39**	Pn	**Pn**	**17 33 26.2**	**-0.4**
DAMV	**Damavand**	**1.34**	**36**	*e*PG	**Pn**	**17 33 26.2**	**-0.6**
DAMV				*e*SG	**Sb**	**17 33 44.8**	**+0.9**
DAMV				AML	AML	17 33 48.4	
	comp=E,1μm,0.2s						
DAMV				AML	AML	17 33 48.7	
	comp=N,1μm,0.2s						
DAMV	**Damavand**	**1.34**	**36**	*e*Pg	**Pn**	**17 33 26.2**	**-0.6**
	SNR=90						
DAMV				*e*Sg	**Sb**	**17 33 44.8**	**+0.9**
	comp=N,1μm,0.2s,SNR=90						
IFIR	**Firoozkooh**	**1.80**	**52**	Pn	**Pn**	**17 33 33.2**	**-0.2**
IFIR				Sn	**Sn**	**17 33 55.4**	**-0.4**
ILAS	**Lasjerd**	**1.80**	**62**	Pn	**Pn**	**17 33 34.4**	**+1.0**
IPRN	**Paran-Amol**	**1.97**	**30**	Pn	**Pn**	**17 33 38.4**	**+2.6**
IZEF	**Zefreh**	**1.98**	**146**	Pn	**Pn**	**17 33 35.7**	**-0.2**
NASN	**Na'in**	**2.29**	**139**	*e*PG	**Pn**	**17 33 40.6**	**+0.2**
NASN				*e*SG	**Sn**	**17 34 10.3**	**+1.9**
NASN				AML	AML	17 34 12.6	
	comp=N,200nm,0.3s						
NASN				AML	AML	17 34 12.8	
	comp=E,182nm,0.4s						
NASN	**Na'in**	**2.29**	**139**	*e*Pg	**Pn**	**17 33 40.6**	**+0.1**
	SNR=90						
NASN				*e*Sg	**Sn**	**17 34 10.3**	**+1.9**
	comp=E,182nm,0.4s,SNR=90						
IGAR	**Garneh**	**2.50**	**156**	Pn	**Pn**	**17 33 39.4**	**-4.0**
IANJ	**Anjiloo**	**2.55**	**68**	Pn	**Pn**	**17 33 43.5**	**-0.7**
IGLO	**Galoogah**	**2.68**	**48**	Pn	**Pn**	**17 33 55.4**	**+9.4**
IKOM	**Komasi**	**2.92**	**264**	Pn	**Pn**	**17 33 54.3**	**+5.0**
SNGE	**Sanandaj**	**3.06**	**281**	*e*PN	**Pn**	**17 33 52.3**	**+0.9**
IGHG	**Ghaleghazi**	**3.68**	**268**	Pn	**Pn**	**17 33 51.0**	**-9.2**
IDHR	**Dehrash**	**3.82**	**274**	Pn	**Pn**	**17 33 55.1**	**-7.0**

*NEIC **10** 17:34:25.8, 33.00S×68.93W, h9km, ML3.0(GUC), After GUC.*
GUC 10 17:34:25.8±0.6, 33.00S×68.93W, h9km, MD3.7, ML3.0, 4C-9D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**1.19**	**254**	⇓*i*P	Pb	17 34 46.5	-1.5
FCH				*i* S	Sb	17 35 02.5	-0.8
FCH				AMP		17 35 02.9	
	comp=N,325nm,0.3s						
FCH				AMP		17 35 03.2	
	comp=E,629nm,0.3s						
FCH	**Farellones**	**1.19**	**254**	⇓*i*P	Pb	17 34 46.5	-1.5
FCH				*i* S	Sb	17 35 02.5	-0.7
FCH				AMP		17 35 03.2	
	comp=E,629nm,0.3s						
LMEL	**Las Melosas**	**1.36**	**231**	⇑*i*P	Pb	17 34 49.4	-1.6
LMEL				*i* S	Sb	17 35 07.4	-0.9
LMEL				AMP		17 35 08.4	
	comp=N,615nm,0.1s						
LMEL				AMP		17 35 09.1	
	comp=E,257nm,0.1s						
LMEL	**Las Melosas**	**1.36**	**231**	⇑*i*P	Pb	17 34 49.3	-1.6
LMEL				*i* S	Sb	17 35 07.4	-0.9
LMEL				AMP		17 35 08.4	
	comp=N,615nm,0.1s						
CLCH	**Cerro Calan**	**1.40**	**253**	⇓*i*P	Pn	17 34 50.3	-1.3
CLCH				*e*S	Sb	17 35 08.5	-1.1
CLCH				AMP		17 35 11.0	
	comp=E,558nm,0.7s						
CLCH				AMP		17 35 11.1	
	comp=N,236nm,0.4s						
CLCH	**Cerro Calan**	**1.40**	**253**	⇓*i*P	Pn	17 34 50.3	-1.3
CLCH				*i* S	Sb	17 35 09.5	-0.1
CLCH				AMP		17 35 11.0	
	comp=E,558nm,0.7s						
DSCH	**Colegio Aleman**	**1.43**	**254**	*i* S	Sb	17 35 10.2	-0.1
DSCH				AMP		17 35 11.6	
	comp=N,471nm,0.5s						
DSCH				AMP		17 35 11.7	
	comp=E,660nm,0.6s						
DSCH	**Colegio Aleman**	**1.43**	**254**	*i* S	Sb	17 35 10.4	+0.1
DSCH				AMP		17 35 11.7	
	comp=E,660nm,0.6s						
JACH	**Jahuel**	**1.44**	**282**	⇓*i*P	Pn	17 34 51.3	-0.8
JACH				*i* S	Sb	17 35 10.7	+0.1
PCH	**Pirque**	**1.46**	**245**	⇓*i*P	Pn	17 34 51.6	-0.9
PCH				*i* S	Sb	17 35 11.5	+0.2
PEL	**Peldehue**	**1.48**	**264**	*i* S	Sb	17 35 11.4	-0.4
RCDM	**Rinconada Maip**	**1.64**	**252**	⇑*i*P	Pn	17 34 54.6	-0.5
RCDM				*i* S	Sn	17 35 16.9	+0.4
RCDM				AMP		17 35 17.3	
	comp=N,170nm,0.1s						
RCDM				AMP		17 35 17.6	
	comp=E,186nm,0.1s						
RCDM	**Rinconada Maip**	**1.64**	**252**	⇑*i*P	Pn	17 34 54.6	-0.5
RCDM				*i* S	Sn	17 35 16.9	+0.4
RCDM				AMP		17 35 17.6	
	comp=E,186nm,0.1s						
CHCH	**Chadas Angostu**	**1.71**	**237**	⇓*i*P	Pn	17 34 55.6	-0.5
CHCH				*i* S	Sn	17 35 18.2	0.0
CHCH	**Chadas Angostu**	**1.71**	**237**	⇓*i*P	Pn	17 34 55.6	-0.5
CHCH				*i* S	Sn	17 35 18.2	0.0
ROCH	**El Roble**	**1.75**	**270**	*i* S	Sn	17 35 20.1	+1.0
CACH	**El Canelo**	**1.78**	**231**	*e*P	Pn	17 34 56.7	-0.4
CACH				*i* S	Sn	17 35 21.0	+1.0
CACH	**El Canelo**	**1.78**	**231**	*e*P	Pn	17 34 56.6	-0.4
CACH				*i* S	Sn	17 35 21.0	+1.0
TACH	**Talagante**	**1.80**	**248**	*e*P	Pn	17 34 57.0	-0.3
TACH				*i* S	Sn	17 35 20.9	+0.4
CICH	**Cipreses**	**1.81**	**223**	*i* P	Pn	17 34 57.2	-0.2
CICH				*i* S	Sn	17 35 21.4	+0.8
CICH	**Cipreses**	**1.81**	**223**	⇓*i*P	Pn	17 34 57.3	-0.2
PACH	**Papudo**	**2.16**	**282**	*e*P	Pn	17 35 03.2	+0.7
PACH				*i* S	Sn	17 35 32.3	+2.6
PACH	**Papudo**	**2.16**	**282**	*e*P	Pn	17 35 02.8	+0.3
LNV	**Longovilo**	**2.28**	**245**	*e*P	Pn	17 35 03.2	-1.0
LNV				*i* S	Sn	17 35 34.4	+1.8

**IDC 10 17:38:17.1±3.6, 0.20S×101.18E, mb3.9/5, mb1 4.1/5, mb1mx3.7/18, mbtmp3.9/5, Error ell

comp=Z,0.8nm,0.6s,mb3.8,baz=137,slow=5.6,SNR=4.0
VRI Vrincioaia 79.48 317 ⇑P **P 17 51 25.9 +0.6**
MLR Muntele Rosu 79.93 317 P **P 17 51 27.9 +0.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=193,slow=5.1,SNR=6.4
MLR Muntele Rosu 79.93 317 ⇓P **P 17 51 28.2 +0.5**
MLR Muntele Rosu 79.93 317 ⇓P **P 17 51 28.3 +0.6**
BURAR Bucovina Array 80.89 319 ⇑P **P 17 51 33.8 +1.0**
BURAR Bucovina Array 80.89 319 ⇑P **P 17 51 33.8 +1.0**
FINES FINESS Array B 83.78 332 P **P 17 51 48.0 +0.7**
comp=Z,1.6nm,0.5s,mb4.4,baz=93,slow=6.8,SNR=15
KAF Kangasniemi 83.85 333 *ep* **P 17 51 47.8 +0.1**
comp=Z,1.2nm,0.5s,mb4.3,baz=100,slow=4.6
KAF Kangasniemi 83.85 333 *eP* **P 17 51 47.8 +0.1**
KAF pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
ARCES ARCESS Array B 86.17 340 P **P 17 51 59.5 +0.5**
comp=Z,1.7nm,0.7s,mb4.4,slow=1.2,SNR=6.9
ARCES ARCESS Array B 86.17 340 P **P 17 51 59.5 +0.5**
GERES GERESS Array B 88.68 319 P **P 17 52 12.9 +1.2**
comp=Z,0.3nm,0.6s,mb3.8,baz=90,slow=2.7,SNR=4.5
NOA NORSAR Array B 90.81 331 P **P 17 52 21.4 0.0**
comp=Z,1.5nm,0.9s,mb4.3,baz=104,slow=7.9,SNR=3.3
TXAR Lajitas Array 144.72 37 PKP PKPdf 17 58 56.2 +1.8
comp=Z,3.2nm,0.6s,baz=233,slow=0.6,SNR=22
TXAR Lajitas Array 144.72 37 PKP PKPdf 17 58 56.2 +1.8
CFAA Coronel Fontan 144.87 198 PKP PKPdf 17 58 56.7 +2.1
comp=Z,1.0nm,0.7s,baz=182,slow=3.3,SNR=11
WVT Waverly 145.13 11 *e*PKP PKPdf 17 58 55.8 +0.9
MIAR Mount Ida 145.14 19 *e*PKP PKPdf 17 58 56.1 +1.1
JCT Junction City 146.01 31 *e*PKP PKPdf 17 58 59.5 +2.8

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*IDC **10** 17:40:13.2±0.8, 1.71S×99.66E, mb4.3/9, mb1 4.4/9, mb1mx4.1/20, mbtmp4.3/9, Error ellipse: s-maj=29.2km s-min=17.6km az=64.0*
*NEIC **10** 17:40:18.0±0.4, 1.65S×99.77E, h30km, mb4.7/3, Error ellipse: s-maj=17.2km s-min=9.1km az=67.0*
ISC 10 17:40:16.3±0.7, 1.6S±0.1×99.8E±0.2, h33km, n19, σ0 98/13, mb4.5/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.97**	**358**	P	**P**	**17 44 47.8**	**-0.9**
	1.4nm,0.6s,baz=187,slow=9.9,SNR=2.6						
FITZ	**Fitzroy Crossi**	**30.23**	**124**	P	**P**	**17 46 25.0**	**-1.5**
	13nm,0.9s,mb4.7,baz=270,slow=20,SNR=4.3						
ENH	**Enshi**	**33.05**	**16**	*eP*	**P**	**17 46 49.6**	**-1.5**
	4.4nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**38.40**	**121**	P	**P**	**17 47 37.0**	**+0.4**
	6.5nm,0.8s,mb4.4,baz=298,slow=9.3,SNR=7.1						
WRAB	**Tennant Creek**	**38.41**	**121**	*eP*	**P**	**17 47 37.0**	**+0.3**
	8.1nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**39.68**	**126**	P	**P**	**17 47 48.5**	**+1.3**
	3.1nm,0.9s,mb4.1,baz=304,slow=7.8,SNR=2.8						
SONM	**Songino Array**	**49.60**	**6**	P	**P**	**17 49 07.2**	**+0.8**
	2.1nm,0.8s,mb4.2,baz=189,slow=9.9,SNR=2.8						
ULN	**Ulaanbaatar**	**49.70**	**6**	*eP*	**P**	**17 49 08.0**	**+0.8**
MKAR	**Makanchi Array**	**50.60**	**345**	P	**P**	**17 49 14.7**	**+0.6**
	4.9nm,0.7s,mb4.6,baz=144,slow=8.1,SNR=4.1						
KURK	**Kurchatov**	**55.18**	**344**	*eP*	**P**	**17 49 49.2**	**+1.1**
	8.6nm,0.8s,mb4.8						
BVAR	**Borovoye Array**	**59.75**	**340**	P	**P**	**17 50 19.5**	**-0.8**
	2.3nm,0.8s,mb4.3,baz=140,slow=8.8,SNR=2.0						
MAW	**Mawson**	**70.58**	**194**	P	**P**	**17 51 28.7**	**-1.2**
	3.2nm,0.8s,mb4.3,baz=315,slow=5.7,SNR=2.8						
MATP	**Matopo**	**71.87**	**249**	P	**P**	**17 51 38.8**	**+0.4**
	4.0nm,0.9s,mb4.3,baz=88,slow=6.6,SNR=5.2						
SCO	**Scoresbysund**	**101.72**	**343**	*i P*	P	17 54 04.7	-2.1
	24nm,1.0s						
TXAR	**Lajitas Array**	**144.56**	**37**	PKP	PKPdf	17 59 52.1	+2.0
	2.4nm,0.6s,baz=268,slow=0.9,SNR=6.0						
WVT	**Waverly**	**144.96**	**11**	*e*PKP	PKPdf	17 59 51.9	+1.3
MIAR	**Mount Ida**	**144.97**	**19**	*e*PKP	PKPdf	17 59 52.1	+1.4
CFAA	**Coronel Fontan**	**145.04**	**198**	PKP	PKPdf	17 59 53.1	+2.2
	1.6nm,0.7s,baz=179,slow=2.1,SNR=12						
JCT	**Junction City**	**145.84**	**31**	*e*PKP	PKPdf	17 59 55.4	+3.1
JCT				*e*		18 00 04.3	

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*BGS **10** 17:41:23.8, 10.86S×77.48W, h135km, mb5.7*
*BJI **10** 17:41:38.0, 7.60S×76.30W, h134km, mB6.2*
*IDC **10** 17:41:40.6±0.4, 7.49S×76.32W, h138km±3km, mb4.9/21, mb1 5.0/25, mb1mx5.0/27, mbtmp5.3/25, MS4.1/2, Ms1 4.2/2, ms1mx3.6/38, Error ellipse: s-maj=11.5km s-min=7.2km az=76.0*
*NEIC **10** 17:41:40.0±0.1, 7.57S×76.30W, mb5.4/145, Error ellipse: s-maj=4.2km s-min=2.6km az=225.0*
*MOS **10** 17:41:40.7±1.0, 7.45S×76.31W, h148km, mb5.6/27, Error ellipse: s-maj=12.4km s-min=6.5km az=104.4*
*HRVD **10** 17:41:40.0±0.4, 7.49S×76.28W, h131km±4km, MW5.3/63, Centroid moment Tensor Solution. LP body waves: s15,c18;Mantle waves: s63,c100; Half duration: 1±2 Moment tensor: Scale 10^17^Nm; M_{rr}-1.06±.05; $M_{\theta\theta}$-0.28±.05; $M_{\phi\phi}$ 1.35±.06; $M_{r\theta}$-0.07±.04; $M_{\theta\phi}$-0.07±.06; $M_{\phi r}$0.46±.06; Best double couple: $M_0$1.295×10^17^ NP1:ϕ_s1°, δ35°, λ-85°. NP2:ϕ_s174°, δ56°, λ-94°. Principal axes: T 1.44, Plg11°, Azm267°; N -.286, Plg3°, Azm177°; P -1.15, Plg79°, Azm71°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 17:41:38.6±0.2, 7.56S±0.04×76.38W±0.03, h135km, h135km±.5km:pP-P, n532, σ0 77/415, mb5.2/173, 16C-27D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.43**	**186**	Pn	**P**	**17 42 44.5**	**-0.6**
	6μm,0.4s						
NNA	**Nana**	**4.43**	**186**	*e*Pn	**P**	**17 42 44.4**	**-0.8**
NNA				*e*Sn	**S**	**17 43 26.1**	**-10**
OTAV	**Otavalo**	**8.02**	**345**	*eP*	**P**	**17 43 33.9**	**+0.5**
	144nm,0.8s						
ARE	**Arequipa**	**10.05**	**152**	*eP*	**P**	**17 44 03.0**	**+2.4**
LPAZ	**La Paz**	**11.84**	**138**	*eP*	**P**	**17 44 22.0**	**-2.2**
LPAZ				pmax	pmax		
comp=Z,6.0nm,0.9s							
LPAZ	**La Paz**	**11.84**	**138**	P	**P**	**17 44 21.5**	**-2.7**
comp=Z,2.3nm,0.3s,baz=331,slow=15,SNR=67							
LPAZ				LR	LR	17 49 59.5	
comp=Z,621nm,21.2s,baz=327,slow=42							
LPAZ	**La Paz**	**11.84**	**138**	*eP*	**P**	**17 44 22.0**	**-2.2**
comp=Z,6.1nm,0.9s							
ROSC	**El Rosal**	**12.50**	**9**	P	**P**	**17 44 34.3**	**+1.5**
comp=Z,2.2nm,0.3s,baz=96,slow=10,SNR=5.0							
SAML	**Samuel**	**13.13**	**97**	⇑*eP*	**P**	**17 44 35.0**	**-5.9**
comp=Z,1.3nm,0.7s							
PAYG	**Puerto Ayora**	**15.46**	**296**	⇑*eP*	**P**	**17 45 10.6**	**-0.1**
comp=Z,1μm,1.4s							
LVC	**Limon Verde**	**16.60**	**155**	P	**P**	**17 45 24.3**	**-0.6**
comp=Z,3.0nm,0.3s,baz=310,slow=12,SNR=8.1							
SIV	**San Ignacio**	**17.16**	**121**	P	**P**	**17 45 29.1**	**-2.5**
comp=Z,5.2nm,0.3s,baz=310,slow=10,SNR=29							
SDV	**Santo Domingo**	**17.31**	**19**	P	**P**	**17 45 33.2**	**-0.3**
comp=Z,8.8nm,0.3s,baz=236,slow=7.7,SNR=32							
SDV				S	**S**	**17 48 44.6**	**+4.9**
comp=Z,1.0nm,0.3s,baz=258,slow=21,SNR=3.3							
JTS	**JuntasAbangare**	**19.68**	**334**	⇑*iP*	**P**	**17 46 01.0**	**+1.5**
JTS				pmax	pmax		
comp=Z,100nm,1.1s							
JTS	**JuntasAbangare**	**19.68**	**334**	P	**P**	**17 46 00.0**	**+0.5**
comp=Z,0.5nm,0.3s,baz=143,slow=5.5,SNR=15							
JTS				S	**S**	**17 49 30.9**	**+1.9**
comp=Z,0.5nm,0.3s,baz=171,slow=15,SNR=2.0							
JTS	**JuntasAbangare**	**19.68**	**334**	⇑*iP*	**P**	**17 46 01.0**	**+1.5**
comp=Z,102nm,1.1s							
PCRV	**Puerto La Cruz**	**21.14**	**34**	P	**P**	**17 46 15.0**	**+0.7**
comp=Z,86nm,0.8s,mb5.2,baz=184,slow=4.7,SNR=32							
PCRV				S	**S**	**17 50 01.6**	**+5.3**
comp=Z,8.3nm,0.8s,baz=284,slow=22,SNR=6.3							
CFAA	**Coronel Fontan**	**25.10**	**163**	P	**P**	**17 46 52.6**	**+0.1**
comp=Z,6.6nm,0.7s,baz=335,slow=8.4,SNR=5.4							
CFAA				PcP	PcP	17 50 23.6	-0.4
comp=Z,1.5nm,0.8s,baz=290,slow=1.5,SNR=4.3							
SJG	**San Juan**	**27.43**	**21**	⇓*eP*	**P**	**17 47 12.6**	**-1.4**
SJG				pmax	pmax		
comp=Z,120nm,0.5s							
SJG	**San Juan**	**27.43**	**21**	P	**P**	**17 47 12.7**	**-1.4**
comp=Z,184nm,1.0s,mb5.7,baz=195,slow=3.7,SNR=17							
SJG	**San Juan**	**27.43**	**21**	⇓*eP*	**P**	**17 47 12.6**	**-1.4**
comp=Z,122nm,0.4s,mb5.9							
BDFB	**Brasilia**	**28.89**	**109**	P	**P**	**17 47 26.1**	**-1.1**
comp=Z,73nm,0.7s,mb5.5,baz=273,slow=11,SNR=19							
BAO	**Brasilia Array**	**28.91**	**109**	P	**P**	**17 47 26.0**	**-1.3**
PLCA	**Paso Flores**	**33.44**	**172**	*eP*	**P**	**17 48 06.0**	**-0.7**
PLCA				pmax	pmax		
comp=Z,46nm,1.0s							
PLCA	**Paso Flores**	**33.44**	**172**	P	**P**	**17 48 06.3**	**-0.4**
comp=Z,35nm,0.8s,mb5.1,baz=346,slow=11,SNR=25							
PLCA				PcP	PcP	17 50 44.8	-0.2
comp=Z,18nm,0.8s,baz=325,slow=4.1,SNR=5.9							
PLCA	**Paso Flores**	**33.44**	**172**	*eP*	**P**	**17 48 06.0**	**-0.7**
comp=Z,46nm,1.0s,mb5.2							
CAM4	**Nova Friburgo**	**35.71**	**118**	*eP*	**P**	**17 48 24.2**	**-1.9**
CAM4				*i*		17 48 26.9	
CAM4				*i*		17 48 32.5	
RPN	**Rapa Nui**	**36.81**	**234**	LR	LR	17 59 31.3	
comp=Z,516nm,20.5s,baz=28,slow=29							
CAM3	**Guarapari**	**37.05**	**114**	⇓*iP*	**P**	**17 48 35.7**	**-1.7**
CAM3				*i*		17 48 38.0	
CAM3				*i*		17 48 42.9	
CAM3				*i*		17 48 57.3	
CAM3				*i*	pP	17 49 00.9	-6.4
CS6B	**Jaguaretama**	**37.51**	**89**	*c iP*	**P**	**17 48 40.7**	**-0.6**
CS6B				*i*		17 48 47.5	
CS6B				*i*	pP	17 49 10.6	-0.7
CS6B				*e*		17 50 07.7	
CAUB	**Caruaru**	**39.98**	**94**	*eP*	**P**	**17 49 01.2**	**-0.6**
CAUB				*i*	pP	17 49 30.5	-1.6
NHSC	**New Hope**	**40.60**	**355**	*eP*	**P**	**17 49 07.4**	**+0.7**
COW	**Cow Castle Cre**	**40.92**	**354**	*eP*	**P**	**17 49 09.8**	**+0.5**
GOGA	**Godfrey**	**41.29**	**351**	*eP*	**P**	**17 49 12.2**	**-0.2**
GOGA				*e*PP	pP	17 49 41.3	-1.4
LRAL	**Lakeview Retre**	**41.61**	**347**	*eP*	**P**	**17 49 14.4**	**-0.7**
LRAL				*ep*P	pP	17 49 44.4	-1.1
NATX	**Nacogdoches**	**42.82**	**337**	*eP*	**P**	**17 49 26.1**	**+1.2**
SWET	**Sewanee**	**43.49**	**349**	*eP*	**P**	**17 49 29.1**	**-1.2**
SWET				*ep*P	pP	17 49 59.7	-1.1
SWET				*e*PcP	PcP	17 51 15.0	-1.4
PLAL	**Pickwick Lake**	**43.73**	**346**	*eP*	**P**	**17 49 30.9**	**-1.3**
PLAL				*e*PcP	PcP	17 51 15.5	-1.8
JCT	**Junction City**	**43.99**	**330**	*eP*	**P**	**17 49 35.7**	**+1.3**
JCT	**Junction City**	**43.99**	**330**	*eP*	**P**	**17 49 35.5**	**+1.0**
TZTN	**Tazewell**	**44.38**	**352**	*eP*	**P**	**17 49 36.9**	**-0.6**
TZTN				*ep*P	pP	17 50 06.5	-1.5
UALR	**University of**	**44.73**	**341**	*eP*	**P**	**17 49 39.5**	**-0.8**
UALR				*ep*P	pP	17 50 10.1	-0.8
ELN	**Prospectdale**	**44.74**	**355**	*eP*	**P**	**17 49 40.6**	**+0.3**
LTX	**Lajitas**	**45.12**	**326**	*eP*	**P**	**17 49 44.5**	**+1.1**
TXAR	**Lajitas Array**	**45.12**	**326**	P	**P**	**17 49 43.8**	**+0.4**
comp=Z,25nm,0.7s,mb5.0,baz=147,slow=7.9,SNR=46							
TXAR				PcP	PcP	17 51 22.2	+0.1
comp=Z,11nm,0.7s,baz=144,slow=5.6,SNR=6.6							
TXAR	**Lajitas Array**	**45.12**	**326**	P	**P**	**17 49 43.8**	**+0.4**
TXAR				PcP	PcP	17 51 22.2	+0.1
PARMO	**Parma**	**45.74**	**345**	*eP*	**P**	**17 49 47.3**	**-0.9**
WCI	**Wyandotte Cave**	**46.48**	**349**	*eP*	**P**	**17 49 52.1**	**-1.9**
WCI				*e*PP	pP	17 50 23.3	-1.5
WCI				*e*		17 51 25.3	
SDMD	**Soldier's Deli**	**46.73**	**360**	*eP*	**P**	**17 49 56.2**	**+0.2**
FVM	**French Village**	**47.16**	**345**	*eP*	**P**	**17 49 57.7**	**-1.7**
FVM	**French Village**	**47.16**	**345**	*eP*	**P**	**17 49 57.6**	**-1.8**
FVM				*ep*P	pP	17 50 28.9	-1.4
MVL	**Millersville**	**47.32**	**0**	*eP*	**P**	**17 50 00.8**	**+0.2**
BLO	**Bloomington**	**47.43**	**349**	*eP*	**P**	**17 50 00.2**	**-1.3**
BLO	**Bloomington**	**47.43**	**349**	*eP*	**P**	**17 49 59.9**	**-1.6**
BLO				*e*PcP	PcP	17 51 29.2	-1.0
CCM	**Cathedral Cave**	**47.45**	**344**	*eP*	**P**	**17 50 00.3**	**-1.3**
CCM	**Cathedral Cave**	**47.45**	**344**	*eP*	**P**	**17 50 00.0**	**-1.6**
CCM				*e*PcP	PcP	17 51 29.2	-1.1
CLNB	**Carlsbad**	**47.50**	**328**	*eP*	**P**	**17 50 03.2**	**+1.1**
CLNB				*ep*P	pP	17 50 34.3	+1.3
USHA	**Ushuaia**	**47.57**	**174**	P	**P**	**17 50 03.1**	**+0.8**
comp=Z,54nm,0.9s,mb5.2,baz=331,slow=4.7,SNR=16							
GDL2	**Guadalupe Moun**	**47.70**	**327**	*eP*	**P**	**17 50 05.0**	**+1.3**
GDL2				*ep*P	pP	17 50 35.7	+1.0
MNTX	**Cornudas Mount**	**47.87**	**326**	*eP*	**P**	**17 50 05.0**	**-0.1**
comp=Z,46nm,1.0s,mb5.1							
ACSO	**Alum Creek Sta**	**47.94**	**353**	*eP*	**P**	**17 50 03.6**	**-1.8**
comp=Z,52nm,1.0s,mb5.1							
ACSO				*ep*P	pP	17 50 34.8	-1.5
SSPA	**Standing Stone**	**47.97**	**358**	*eP*	**P**	**17 50 04.9**	**-0.8**
comp=Z,85nm,1.3s,mb5.2							
SSPA				*ep*P	pP	17 50 36.9	+0.2
CPRX	**Cap Rock**	**48.09**	**329**	*eP*	**P**	**17 50 07.6**	**+0.9**
CPRX				*ep*P	pP	17 50 38.2	+0.5
CPRX				*es*P	sP	17 50 50.8	-2.0
PAL	**Palisades**	**48.37**	**2**	*eP*	**P**	**17 50 08.6**	**-0.2**
PAL				pmax	pmax		
comp=Z,93nm,1.2s,mb5.3							
PAL	**Palisades**	**48.37**	**2**	*eP*	**P**	**17 50 08.6**	**-0.2**
comp=Z,94nm,1.2s,mb5.3							
BRYW	**Bryant College**	**49.43**	**5**	*eP*	**P**	**17 50 16.8**	**-0.1**
comp=Z,412nm,1.3s,mb5.9							
ERPA	**Erie**	**49.54**	**356**	*eP*	**P**	**17 50 16.4**	**-1.3**
comp=Z,80nm,0.9s,mb5.3							
QUA2	**Belchertown**	**49.73**	**4**	*eP*	**P**	**17 50 19.1**	**0.0**
comp=Z,194nm,1.2s,mb5.6							
WES	**Weston**	**49.91**	**5**	*eP*	**P**	**17 50 20.2**	**-0.3**
WES				pmax	pmax		
comp=Z,203nm,1.1s,mb5.7							
WES	**Weston**	**49.91**	**5**	*eP*	**P**	**17 50 20.2**	**-0.3**
comp=Z,203nm,1.1s,mb5.7							
HRV	**Harvard--Oak R**	**50.01**	**5**	*eP*	**P**	**17 50 21.4**	**+0.1**
HRV				*e*PP	pP	17 50 51.7	-0.8
HRV				pmax	pmax		
comp=Z,160nm,1.0s,mb5.6							
HRV	**Harvard--Oak R**	**50.01**	**5**	*eP*	**P**	**17 50 21.4**	**+0.1**
comp=Z,160nm,1.0s,mb5.6							
HRV				*ep*P	pP	17 50 51.7	-0.8
KSU1	**Kansas State U**	**50.08**	**339**	*eP*	**P**	**17 50 21.0**	**-0.8**
LPM	**Los Pinos Moun**	**50.54**	**327**	*eP*	**P**	**17 50 25.9**	**+0.5**
LENM	**Lemitar**	**50.61**	**327**	*eP*	**P**	**17 50 26.9**	**+1.0**
ACCN	**Adirondack Com**	**50.76**	**3**	*eP*	**P**	**17 50 26.8**	**-0.2**
LAZ	**Ladron**	**50.88**	**327**	*eP*	**P**	**17 50 28.7**	**+0.7**
ANMO	**Albuquerque**	**50.94**	**328**	P	**P**	**17 50 28.9**	**+0.4**
comp=Z,53nm,0.9s,mb5.2,baz=145,slow=8.3,SNR=36							
CBKS	**Cedar Bluff**	**50.99**	**337**	*eP*	**P**	**17 50 28.5**	**-0.2**
CBKS				*e*PP	pP	17 51 00.7	+0.7
CBKS				pmax	pmax		
comp=Z,165nm,1.3s,mb5.5							
CBKS	**Cedar Bluff**	**50.99**	**337**	*eP*	**P**	**17 50 28.5**	**-0.2**
comp=Z,165nm,1.3s,mb5.5							
CBKS				*ep*P	pP	17 51 00.7	+0.6
CBKS				*es*P	sP	17 51 13.4	-1.5
MIV	**Mineville/With**	**51.45**	**3**	*eP*	**P**	**17 50 31.7**	**-0.5**
MIV				*ep*P	pP	17 51 02.2	-1.3
TUC	**Tucson**	**51.45**	**322**	P	**P**	**17 50 32.8**	**+0.4**
TUC				pmax	pmax		
comp=Z,26nm,1.0s,mb4.8							
TUC	**Tucson**	**51.45**	**322**	*eP*	**P**	**17 50 32.6**	**+0.3**
comp=Z,26nm,0.9s,mb4.9							
WVL	**Waterville**	**52.23**	**6**	*eP*	**P**	**17 50 37.8**	**-0.2**
comp=Z,306nm,1.2s,mb5.8							
MSNY	**Massena**	**52.33**	**1**	*eP*	**P**	**17 50 37.6**	**-1.1**
SDCO	**Great Sand Dun**	**52.63**	**331**	*eP*	**P**	**17 50 41.4**	**+0.3**
WUAZ	**Wupatki**	**54.06**	**325**	*eP*	**P**	**17 50 52.2**	**+0.6**
comp=Z,92nm,1.0s,mb5.5							
PV10	**Paradox Valley**	**54.88**	**329**	*eP*	**P**	**17 50 56.9**	**-0.7**
PHWY	**Pilot Hill**	**55.47**	**334**	*eP*	**P**	**17 51 01.7**	**0.0**
PHWY				*e*PcP	PcP	17 51 59.7	-0.3
RWWY	**Rawlins**	**56.56**	**333**	*eP*	**P**	**17 51 09.7**	**+0.2**
comp=Z,119nm,1.1s,mb5.6							
RWWY				*ep*P	pP	17 51 41.7	+0.3
RWWY				*e*PcP	PcP	17 52 03.9	-0.3
MSU	**Marysvale**	**56.65**	**327**	P	**P**	**17 51 10.9**	**+0.7**
MSU	**Marysvale**	**56.65**	**327**	*eP*	**P**	**17 51 10.5**	**+0.3**
MSU				*ep*P	pP	17 51 42.8	+0.7
MSU				*e*PcP	PcP	17 52 04.3	-0.3
EYMN	**Ely**	**56.85**	**348**	*eP*	**P**	**17 51 09.6**	**-1.9**
comp=Z,100nm,1.1s,mb5.6							
EYMN				*ep*P	pP	17 51 40.8	-2.6
EYMN				*es*P	sP	17 51 57.0	-1.3
RSSD	**Black Hills**	**57.19**	**337**	*eP*	**P**	**17 51 13.5**	**-0.4**
comp=Z,63nm,1.0s,mb5.4							
MPU	**Maple Canyon**	**57.45**	**328**	*eP*	**P**	**17 51 15.7**	**-0.1**
DAU	**Daniels Canyon**	**57.55**	**329**	P	**P**	**17 51 16.7**	**+0.3**
DAU	**Daniels Canyon**	**57.55**	**329**	*eP*	**P**	**17 51 16.6**	**+0.1**
DAU				*ep*P	pP	17 51 49.3	+0.9
DAU				*e*PcP	PcP	17 52 08.0	-0.1
NLU	**North Lily Min**	**57.63**	**328**	*eP*	**P**	**17 51 17.2**	**+0.2**
PMSA	**Palmer Station**	**57.78**	**174**	*eP*	**P**	**17 51 17.9**	**+0.2**
comp=Z,89nm,1.0s,mb5.5							
CTU	**Camp Tracy**	**58.01**	**329**	*eP*	**P**	**17 51 19.5**	**-0.2**
CTU				*ep*P	pP	17 51 51.8	+0.1
TCUT	**Toone Canyon**	**58.15**	**329**	*eP*	**P**	**17 51 20.7**	**+0.1**
NOQ	**North Oquirrh**	**58.17**	**328**	*eP*	**P**	**17 51 20.8**	**0.0**
DUG	**Dugway**	**58.20**	**328**	*eP*	**P**	**17 51 21.3**	**+0.3**
DUG				pmax	pmax		
comp=Z,130nm,1.3s,mb5.6							
DUG	**Dugway**	**58.20**	**328**	*eP*	**P**	**17 51 20.9**	**-0.1**
comp=Z,127nm,1.3s,mb5.6							
PDAR	**Pinedale Array**	**58.49**	**332**	P	**P**	**17 51 22.1**	**-0.9**
comp=Z,17nm,1.0s,mb4.8,baz=137,slow=8.7,SNR=36							
PDAR				pP	pP	17 51 55.3	+0.2
comp=Z,11nm,0.9s,baz=149,slow=8.6,SNR=4.8							
PDAR				PcP	PcP	17 52 11.2	-0.6
comp=Z,18nm,0.9s,baz=127,slow=6.5,SNR=12							
HWUT	**Hardware Ranch**	**58.59**	**330**	*eP*	**P**	**17 51 22.9**	**-0.7**
comp=Z,94nm,0.8s,mb5.7							
HWUT				*ep*P	pP	17 51 55.5	-0.3
HWUT				*e*PcP	PcP	17 52 11.8	-0.3
AHID	**Auburn Hatcher**	**59.22**	**331**	*eP*	**P**	**17 51 27.4**	**-0.7**
comp=Z,47nm,0.9s,mb5.3							
HVU	**Hansel Valley**	**59.33**	**329**	P	**P**	**17 51 28.5**	**-0.3**
HVU	**Hansel Valley**	**59.33**	**329**	*eP*	**P**	**17 51 28.0**	**-0.8**
HVU				*ep*P	pP	17 52 00.8	-0.2
MTUM	**Tungsten Hills**	**59.57**	**322**	*eP*	**P**	**17 51 30.9**	**+0.3**
SNOW	**Snow King Moun**	**59.59**	**332**	*eP*	**P**	**17 51 29.7**	**-0.8**
comp=Z,36nm,1.1s,mb5.1							
LOHW	**Long Hollow**	**59.63**	**332**	*eP*	**P**	**17 51 30.1**	**-0.8**
comp=Z,24nm,0.9s,mb5.0							
WUWY	**Wally Ulrich**	**59.64**	**332**	*eP*	**P**	**17 51 30.5**	**-0.4**
WUWY				*ep*P	pP	17 52 02.8	-0.4
RRI2	**Red Ridge**	**59.77**	**331**	*eP*	**P**	**17 51 31.4**	**-0.4**
comp=Z,86nm,0.9s,mb5.6							
MOOW	**Moose Ponds**	**59.80**	**332**	*eP*	**P**	**17 51 31.4**	**-0.6**
comp=Z,26nm,0.8s,mb5.1							
MOOW				*ep*P	pP	17 52 04.2	0.0
MOOW				*e*PcP	PcP	17 52 16.4	-0.6
ELK	**Elko**	**59.89**	**327**	P	**P**	**17 51 32.5**	**-0.2**
ELK				pmax	pmax		
comp=Z,740nm,1.4s							
ELK	**Elko**	**59.89**	**327**	*eP*	**P**	**17 51 32.4**	**-0.3**
comp=Z,744nm,1.5s							
ELK				*ep*P	pP	17 52 05.7	+0.8
ELK				*es*P	sP	17 52 17.0	-2.8
IMW	**Indian Meadow**	**60.00**	**332**	*eP*	**P**	**17 51 33.0**	**-0.4**
comp=Z,64nm,0.8s,mb5.5							
IMW				*ep*P	pP	17 52 06.4	+0.7
IMW				*e*PcP	PcP	17 52 17.3	-0.4
OMM	**Old Mammoth Mi**	**60.00**	**322**	*eP*	**P**	**17 51 33.9**	**+0.4**
ULM	**Lac du Bonnet**	**60.01**	**346**	P	**P**	**17 51 31.4**	**-2.0**
comp=Z,96nm,0.8s,mb5.7,baz=157,slow=6.9,SNR=77							
ULM	**Lac du Bonnet**	**60.01**	**346**	*eP*	**P**	**17 51 31.2**	**-2.2**
comp=Z,143nm,0.9s,mb5.8							
ULM				*ep*P	pP	17 52 03.2	-2.4
ULM				*e*PcP	PcP	17 52 16.2	-1.5
MNV	**Mina**	**60.01**	**323**	*eP*	**P**	**17 51 34.3**	**+0.8**
MNV				pmax	pmax		
comp=Z,160nm,0.5s,mb6.1							
MNV	**Mina**	**60.01**	**323**	*eP*	**P**	**17 51 33.7**	**+0.2**
comp=Z,158nm,0.5s,mb6.1							
NVAR	**Mina Array Bea**	**60.10**	**323**	P	**P**	**17 51 34.6**	**+0.5**
comp=Z,14nm,0.8s,mb4.9,baz=141,slow=7.2,SNR=65							
NVAR				pP	pP	17 52 07.9	+1.4
comp=Z,6.3nm,0.7s,baz=139,slow=4.1,SNR=5.0							
LKWY	**Lake**	**60.27**	**333**	P	**P**	**17 51 36.3**	**+1.1**
LKWY				pmax	pmax		
comp=Z,18nm,0.7s,mb5.0							
LKWY	**Lake**	**60.27**	**333**	*eP*	**P**	**17 51 35.8**	**+0.7**
comp=Z,18nm,0.7s,mb5.0							
LKWY				*

DBIC Dimbokro 72.72 81 *eP* **P 17 52 53.3 -1.1**
comp=Z,87nm,1.0s,mb5.4
VNA3 Neumayer Olymp 75.50 162⇓*iP* **P 17 53 10.9 +1.6**
VNA3 Neumayer Olymp 75.50 162 PcP 17 53 21.3 -0.7
VNA3 Neumayer Olymp 75.50 162⇑*i* pP 17 53 43.8 +0.8
VNA3 Neumayer Olymp 75.50 162 sP 17 53 58.3 +0.6
VNA1 Neumayer--Stat 75.74 161⇓*iP* **P 17 53 13.3 +2.6**
VNA1 Neumayer--Stat 75.74 161 PcP 17 53 24.5 +1.4
YKA Yellowknife Ar 75.77 343 P **P 17 53 10.1 -0.8**
comp=Z,23nm,0.5s,mb5.0,baz=139,slow=6.1,SNR=561
YKA pP pP 17 53 45.4 +0.7
comp=Z,5.4nm,0.5s,baz=136,slow=6.3,SNR=3.3
YKW3 Yellowknife Ar 75.82 343 *eP* **P 17 53 10.5 -0.8**
VNA2 Neumayer--Watz 76.10 162⇓*iP* **P 17 53 13.8 +1.1**
VNA2 Neumayer--Watz 76.10 162 PcP 17 53 23.3 -1.3
VNA2 Neumayer--Watz 76.10 162 sP 17 53 58.5 -2.6
PTEO Sao Teotonio 77.27 49 *eP* **P 17 53 21.1 +1.2**
comp=Z,120nm,2.0s,mb5.2
PLOU Loures 77.42 48 *eP* **P 17 53 21.3 +0.6**
comp=Z,83nm,1.0s,mb5.3
SNAA Sanae 77.71 162⇓*iP* **P 17 53 21.7 0.0**
SNAA Sanae 77.71 162⇑*i* pP 17 53 56.1 +0.6
SNAA Sanae 77.71 162 *eP* **P 17 53 21.6 -0.1**
SNAA *e**PP pP 17 53 56.2 +0.7
SNAA pmax pmax
comp=Z,160nm,0.9s
SNAA Sanae 77.71 162 P P 17 53 21.8 +0.2
comp=Z,55nm,0.9s,mb5.2,baz=281,slow=4.9,SNR=138
SNAA pP pP 17 53 56.6 +1.1
comp=Z,12nm,0.8s,baz=299,slow=2.1,SNR=3.4
MOE Montemor 77.88 48 *eP* **P 17 53 23.8 +0.6**
PALC Alcoutim 78.18 49 *eP* **P 17 53 26.1 +1.2**
comp=Z,48nm,1.3s,mb5.0
PALC *epP* pP 17 54 00.1 +1.3
EGRO El Granado 78.19 49 P **P 17 53 25.8 +0.8**
comp=Z,16nm,0.8s,mb4.7
EGRO pP pP 17 53 57.6 -1.2
PTOM Tomar 78.21 47 *eP* **P 17 53 25.1 +0.1**
comp=Z,63nm,1.1s,mb5.2
PTOM *epP* pP 17 54 00.3 +1.4
DLBC Dease Lake 78.58 334 *eP* **P 17 53 26.7 +0.1**
EMIN Mina Concepcio 78.88 49 P **P 17 53 26.2 -2.5**
comp=Z,9.2nm,1.0s,mb4.4
EMIN pP pP 17 54 02.4 -0.1
EZAM Zamans 78.89 45 P **P 17 53 29.4 +0.7**
comp=Z,9.8nm,0.8s,mb4.5
EZAM pP pP 17 54 01.3 -1.2
EBAD Badajoz 78.94 48 P **P 17 53 29.1 +0.1**
comp=Z,10nm,0.7s,mb4.6
EBAD pP pP 17 54 03.6 +0.7
PCBR Castelo Branco 78.96 47 *eP* **P 17 53 28.8 -0.3**
comp=Z,45nm,1.3s,mb4.9
PCBR *epP* pP 17 54 03.1 +0.1
EMAZ Mazaricos 78.98 44 P **P 17 53 28.6 -0.5**
comp=Z,10.0nm,0.7s,mb4.5
EMAZ pP pP 17 54 00.4 -2.6
MTE Manteigas 79.10 46 *eP* **P 17 53 29.7 -0.1**
comp=Z,41nm,1.0s,mb5.0
MTE *epP* pP 17 54 04.2 +0.5
MTE Manteigas 79.10 46 *eP* **P 17 53 29.6 -0.3**
comp=Z,22nm,0.9s,mb4.8
MTE *epP* pP 17 54 03.2 -0.5
ESPR Espera 79.22 50 P **P 17 53 31.6 +1.1**
comp=Z,21nm,0.8s,mb4.8
ESPR pP pP 17 54 05.8 +1.4
ELOB Lobios 79.23 45 P **P 17 53 30.4 -0.1**
comp=Z,10nm,0.7s,mb4.6
STS Santiago 79.25 44 P **P 17 53 30.6 0.0**
comp=Z,8.8nm,0.7s,mb4.5
PVRL Vila Real 79.27 46 *eP* **P 17 53 30.9 +0.2**
comp=Z,52nm,1.2s,mb5.0
PVRL *epP* pP 17 54 04.5 -0.2
EJIF Jimena Fronter 79.39 51 P **P 17 53 32.6 +1.2**
comp=Z,15nm,0.9s,mb4.6
EJIF pP pP 17 54 07.2 +1.8
EMIJ Mijas 79.95 51 P **P 17 53 35.0 +0.5**
comp=Z,26nm,0.8s,mb4.9
EMIJ pP pP 17 54 09.3 +0.8
EINC Incio 80.00 44 P **P 17 53 33.7 -0.9**
comp=Z,16nm,0.8s,mb4.7
EINC pP pP 17 54 07.3 -1.3
ERUA La Rua 80.06 45 P **P 17 53 35.2 +0.2**
comp=Z,15nm,1.0s,mb4.6
ERUA pP pP 17 54 08.1 -0.8
PBRG Braganca 80.14 45 *eP* **P 17 53 35.6 +0.2**
comp=Z,79nm,1.7s,mb5.1
ECAL Calabor 80.19 45 P **P 17 53 36.1 +0.4**
comp=Z,21nm,1.0s,mb4.7
ECAL pP pP 17 54 08.4 -1.2
EPON Pontenova 80.37 44 P **P 17 53 36.9 +0.3**
comp=Z,24nm,0.9s,mb4.8
EPON pP pP 17 54 09.5 -1.1
EADA Adamuz 80.58 49 P **P 17 53 38.3 +0.5**
comp=Z,20nm,1.1s,mb4.7
EADA pP pP 17 54 09.3 -2.5
ELOJ Sierra Loja 80.60 50 P **P 17 53 39.8 +1.8**
comp=Z,56nm,1.0s,mb5.2
ELOJ pP pP 17 54 14.1 +2.2
ELUQ Luque 80.63 50 P **P 17 53 39.0 +0.9**
comp=Z,14nm,0.8s,mb4.6
ELUQ pP pP 17 54 13.8 +1.7
ERON Agron 80.83 51 P **P 17 53 40.6 +1.4**
comp=Z,27nm,0.6s,mb5.0
ERON pP pP 17 54 14.4 +1.2
ECOG Cogollos-Vega 81.08 50 P **P 17 53 41.9 +1.4**
comp=Z,18nm,0.5s,mb5.0
EALB Alboran 81.12 52 P **P 17 53 40.6 -0.1**
comp=Z,31nm,0.7s,mb5.0
ESDC Sonseca Array 81.48 48 P **P 17 53 42.6 +0.1**
comp=Z,18nm,0.9s,mb4.7,baz=262,slow=5.3,SNR=55
ESDC pP pP 17 54 16.8 +0.2
comp=Z,20nm,1.1s,baz=257,slow=5.7,SNR=5.7
ESDC Sonseca Array 81.48 48 P **P 17 53 42.9 +0.4**
comp=Z,16nm,1.0s,mb4.6
ESDC pP pP 17 54 16.0 -0.6
ESLA Sonseca Array 81.48 48 *eP* **P 17 53 43.1 +0.6**
comp=Z,5.5nm,1.0s,mb4.1
ESLA *epP* pP 17 54 15.8 -0.8
EBER Berja 81.50 51 P **P 17 53 43.6 +0.9**
comp=Z,28nm,0.6s,mb5.1
EARI Arriondas 81.70 44 P **P 17 53 44.2 +0.7**
comp=Z,26nm,0.8s,mb4.9
EARI pP pP 17 54 18.1 +0.5
ENIJ Nijar 82.05 51 P **P 17 53 45.5 0.0**
comp=Z,48nm,1.0s,mb5.1
EVIA Vianos 82.27 49 P **P 17 53 47.9 +1.3**
comp=Z,64nm,0.7s,mb5.4
MAIT Maitri 82.29 160 *eP* **P 17 53 46.7 +0.6**
NVL N'lazarevskaya 82.33 160⇓*iP* **P 17 53 42.1 -4.2**
NVL pmax pmax
comp=Z,115nm,1.0s,mb5.5
RES Resolute Bay 82.88 355 P **P 17 53 48.5 -0.5**
RES pmax pmax
comp=Z,24nm,1.0s,mb4.9
RES Resolute Bay 82.88 355 *eP* **P 17 53 48.4 -0.6**
comp=Z,24nm,1.0s,mb4.9
ELAN Lanestosa 82.91 45 P **P 17 53 49.6 -0.2**
comp=Z,26nm,0.9s,mb5.0
ELAN pP pP 17 54 24.4 +0.4
ETOB Tobarra 83.00 50 P **P 17 53 50.8 +0.5**
comp=Z,62nm,0.9s,mb5.3
EMUR La Murta 83.02 50 P **P 17 53 50.1 -0.3**
comp=Z,29nm,0.9s,mb5.0
ECRI Cripan 83.38 46 P **P 17 53 53.8 +1.6**
comp=Z,13nm,0.4s,mb5.0
SUMG Summit 83.62 11 *eP* **P 17 53 53.2 +0.5**
comp=Z,216nm,0.9s,mb5.9
SUMG *epP* pP 17 54 26.2 -0.8
ECHE Chera 83.68 49 P **P 17 53 55.5 +1.8**
comp=Z,34nm,1.1s,mb5.0
CPZ Penzance 83.70 38⇓*eP* **P 17 53 53.8 +0.2**
CPZ AMb AMB 17 53 55.3
comp=Z,172nm,1.1s,mb5.7
DCN Croghan 83.83 34⇓*iP* **P 17 53 54.1 0.0**
CGW Gweek 83.90 38⇓*eP* **P 17 53 54.9 +0.3**
CGH1 Goonhilly 83.92 38⇓*eP* **P 17 53 54.8 +0.1**
CCA1 Carnmenellis 83.92 38⇓*eP* **P 17 53 54.8 +0.1**
CMA1 Manaccan 83.95 38⇓*eP* **P 17 53 54.9 +0.1**
CRQ2 Rosemanowes 2 83.95 38⇓*eP* **P 17 53 55.0 +0.2**
CRQ2 AMb AMB 17 53 56.6
comp=Z,299nm,1.0s,mb6.0
EBEN Beniarda 84.01 50 P **P 17 53 56.6 +1.1**
comp=Z,55nm,0.8s,mb5.3
EBEN pP pP 17 54 29.9 +0.1
CSA1 St Austell 84.18 38 *eP* **P 17 53 56.0 +0.1**

DLF Lyons Farm 84.23 34 *eP* **P 17 53 55.4 -0.7**
EMOS Mosqueruela 84.25 48 P **P 17 53 58.4 +1.8**
comp=Z,52nm,0.8s,mb5.3
EALK Alkurruntz 84.26 45 P **P 17 53 57.0 +0.4**
comp=Z,50nm,0.8s,mb5.3
SJPF Ste Jean 84.43 45 *eP* **P 17 53 58.0 +0.6**
comp=Z,474nm,1.2s,mb5.8
SJPF *epP* pP 17 54 32.3 +0.6
OSSF Osses 84.44 45 *eP* **P 17 53 57.8 +0.3**
QUIF Quistinic 84.49 40 *eP* **P 17 53 57.3 -0.3**
comp=Z,167nm,1.3s,mb5.3
ROSF Rostrenen 84.55 40 *eP* **P 17 53 57.8 -0.1**
comp=Z,175nm,1.3s,mb5.3
ROSF *epP* pP 17 54 31.9 -0.3
LARF Larrau 84.57 45 *eP* **P 17 53 58.8 +0.7**
ESAC San Caprasio 84.60 47 P **P 17 53 59.2 +0.9**
comp=Z,74nm,1.1s,mb5.3
ETSF Etsaut 84.84 46 *eP* **P 17 54 00.1 +0.6**
comp=Z,126nm,1.1s,mb5.2
SGMF Saint Gilles 84.98 40 *eP* **P 17 53 59.6 -0.4**
comp=Z,231nm,1.3s,mb5.4
ERTA Horta de San J 84.99 48 P **P 17 54 00.8 +0.5**
comp=Z,50nm,1.4s,mb5.0
ERTA pP pP 17 54 35.3 +0.6
HEX Exmoor 85.07 37 *eP* **P 17 54 00.1 -0.3**
EBR Ebro Roquetas 85.07 48 *eP* **P 17 54 01.5 +0.8**
EBR *eTs* pP 17 54 40.0 +4.9
VIEF Viey 85.25 46 *eP* **P 17 54 02.3 +0.8**
EBIE Bielsa 85.28 46 P **P 17 54 03.0 +1.3**
comp=Z,34nm,0.8s,mb5.1
EBIE pP pP 17 54 35.0 -1.1
YRE Yr Eifl 85.31 35⇓*eP* **P 17 54 01.7 +0.1**
YRE AMb AMB 17 54 04.9
comp=Z,184nm,1.5s,mb5.6
YRC Rhoscolyn 85.32 35⇓*eP* **P 17 54 01.4 -0.1**
YRC AMb AMB 17 54 03.0
comp=Z,123nm,1.2s,mb5.5
YLL Llanberis 85.51 35⇓*eP* **P 17 54 02.0 -0.5**
YLL AMb AMB 17 54 03.9
comp=Z,116nm,1.3s,mb5.4
EPF Esparros 85.51 46 *eP* **P 17 54 03.2 +0.4**
comp=Z,298nm,1.5s,mb5.5
WIM Isle of Man 85.56 34 *eP* **P 17 54 03.1 +0.4**
WPM1 Penmaenmawr 85.70 35⇓*eP* **P 17 54 03.0 -0.5**
WPM1 AMb AMB 17 54 05.5
comp=Z,115nm,1.2s,mb5.5
EMIR Miracle 86.09 47 P **P 17 54 06.3 +0.6**
comp=Z,28nm,1.0s,mb4.9
EMIR pP pP 17 54 39.5 -0.6
MFF Saint Martin d 86.09 42 *eP* **P 17 54 05.2 -0.3**
comp=Z,42nm,0.9s,mb4.9
MFF *epP* pP 17 54 39.6 -0.4
GRR Gorron 86.11 40 *eP* **P 17 54 05.0 -0.5**
comp=Z,43nm,0.9s,mb4.9
GRR *epP* pP 17 54 39.4 -0.6
LFF La Frestale 86.27 44 *eP* **P 17 54 06.2 -0.2**
comp=Z,132nm,1.1s,mb5.3
LFF *epP* pP 17 54 40.7 -0.2
FLN La Foliniere 86.45 40 *eP* **P 17 54 06.8 -0.4**
comp=Z,38nm,0.7s,mb5.0
LDF La Druitiere 86.63 40 *eP* **P 17 54 07.6 -0.5**
comp=Z,64nm,0.8s,mb5.2
ESK Eskdalemuir 86.74 33 *eP* **P 17 54 08.2 -0.2**
ESK AMb AMB 17 54 09.8
comp=Z,74nm,1.4s,mb5.3
MDO Dochfour 86.81 31⇓*eP* **P 17 54 08.8 +0.1**
KWE Weaver Farm 86.81 36⇓*eP* **P 17 54 08.6 -0.2**
RJF Les Rejaudoux 86.89 44 *eP* **P 17 54 08.9 -0.5**
comp=Z,62nm,1.1s,mb5.1
MTLF Montolieu 86.92 46 *eP* **P 17 54 09.1 -0.5**
comp=Z,75nm,0.8s,mb5.2
EDI Edinburgh 86.94 33 *eP* **P 17 54 09.2 -0.2**
EDI AMb AMB 17 54 11.7
comp=Z,116nm,1.4s,mb5.5
LHO Holmfirth 86.96 35⇓*eP* **P 17 54 09.7 +0.2**
FILF Fillols 86.99 47 *eP* **P 17 54 10.2 +0.2**
MVH1 Achvaich 87.06 31⇓*eP* **P 17 54 10.0 +0.1**
KBI1 Birley Grange 87.06 36 *eP* **P 17 54 09.5 -0.5**
CAF Calviac 87.18 44 *eP* **P 17 54 10.4 -0.4**
comp=Z,29nm,0.6s,mb5.0
CAF *epP* pP 17 54 44.9 -0.5
HPK Haverah Park 87.21 35 *eP* **P 17 54 10.7 0.0**
MCD Coleburn Disti 87.42 31 *eP* **P 17 54 11.7 +0.1**
LCP Cassop 87.52 34 *eP* **P 17 54 12.3 +0.1**
MLA1 Latheron 87.59 30 *eP* **P 17 54 12.8 +0.3**
TCF Toulx Ste Croi 87.60 43 *eP* **P 17 54 12.1 -0.7**
comp=Z,28nm,0.9s,mb4.8
VERF Verneugheol 87.66 43 *eP* **P 17 54 13.0 -0.1**
LBL Lubilhac 88.06 44 *eP* **P 17 54 16.4 +1.3**
BGF Bois d'Agland 88.09 43 *eP* **P 17 54 14.5 -0.6**
comp=Z,153nm,1.2s,mb5.4
HYF Humbligny 88.11 42 *eP* **P 17 54 14.9 -0.3**
AGO Saint Agoulin 88.17 43 *eP* **P 17 54 16.7 +1.2**
LASF Ste Croix 88.24 45 *eP* **P 17 54 15.9 0.0**
comp=Z,96nm,0.9s,mb5.3
AVF Avril sur Loir 88.48 43 *eP* **P 17 54 16.0 -1.0**
comp=Z,71nm,1.0s,mb5.2
AVF *epP* pP 17 54 50.4 -1.2
PLDF La Plantade 88.48 43 *eP* **P 17 54 17.8 +0.8**
SSF Saint Saulge 88.64 42 *eP* **P 17 54 16.6 -1.1**
comp=Z,64nm,1.1s,mb5.2
SSF *epP* pP 17 54 51.1 -1.3
ILAR Eielson Array 88.64 336 P **P 17 54 17.2 -0.1**
comp=Z,37nm,0.9s,mb5.3,baz=138,slow=2.9,SNR=136
ILAR pP pP 17 54 52.1 +0.2
comp=Z,8.8nm,1.0s,baz=53,slow=3.6,SNR=2.7
ILAR sP sP 17 55 06.9 +0.2
comp=Z,8.8nm,0.9s,baz=133,slow=4.2,SNR=3.1
ILAR PP PP 17 57 44.1 -5.7
comp=Z,5.1nm,0.8s,baz=105,slow=7.2,SNR=11
ILAR PKKPbc 18 11 56.8
comp=Z,0.6nm,0.7s,baz=293,slow=3.3,SNR=6.8
SLKM Skilak Lake 88.68 332 P **P 17 54 18.3 +0.7**
SLKM Skilak Lake 88.68 332 *eP* **P 17 54 18.0 +0.4**
SMF Signal de Mont 88.77 43 *eP* **P 17 54 17.7 -0.7**
comp=Z,126nm,1.0s,mb5.5
PWA Palmer West 88.88 333 *eP* **P 17 54 18.6 +0.1**
comp=Z,162nm,1.5s,mb5.7
VIVF Saint-Julien-l 88.97 45 *eP* **P 17 54 19.4 +0.1**
comp=Z,127nm,1.0s,mb5.5
COLA College 89.06 336 P **P 17 54 18.7 -0.6**
COLA pmax pmax
comp=Z,130nm,1.0s,mb5.8
COLA College 89.06 336 *eP* **P 17 54 19.7 +0.4**
comp=Z,193nm,1.1s,mb5.9
SMRF Simiane la Rot 89.44 46 *eP* **P 17 54 21.8 +0.3**
comp=Z,129nm,1.0s,mb5.5
BAIF Baives 89.73 39 *eP* **P 17 54 22.2 -0.6**
comp=Z,75nm,1.2s,mb5.2
SPU Mount Spurr 89.74 332 *eP* **P 17 54 22.7 +0.1**
ORIF Oris-en-Rattie 89.83 45 *eP* **P 17 54 23.8 +0.4**
comp=Z,168nm,0.9s,mb5.7
MEZF Maizieres J'vi 89.96 41 *eP* **P 17 54 23.3 -0.6**
comp=Z,24nm,0.6s,mb5.0
LMR La Mourre 89.98 46 *eP* **P 17 54 23.8 -0.3**
comp=Z,219nm,1.1s,mb5.7
JMIC Jan Mayen 90.06 18 LR LR 18 29 04.5
comp=Z,5μm,20.0s,baz=40,slow=32
FRF La Foret Royal 90.12 46 *eP* **P 17 54 24.5 -0.3**
comp=Z,206nm,0.9s,mb5.7
FRF *epP* pP 17 54 59.0 -0.5
GIVF Givet 90.13 40 *eP* **P 17 54 24.4 -0.2**
comp=Z,238nm,1.0s,mb5.8
GIVF *epP* pP 17 54 58.9 -0.5
CABF La Chapelle 90.28 43 *eP* **P 17 54 25.1 -0.4**
comp=Z,145nm,1.2s,mb5.5
DAG Danmarks Havn 90.30 11⇑*iP* **P 17 54 24.3 -0.6**
DAG pmax pmax
comp=Z,29nm,0.7s,mb5.3
DAG Danmarks Havn 90.30 11⇑*iP* **P 17 54 24.3 -0.6**
comp=Z,29nm,0.7s,mb5.3
MBDF Montbardon 90.42 45 *eP* **P 17 54 26.2 +0.1**
comp=Z,30nm,0.9s,mb4.9
THEF They Montfort 90.52 42 *eP* **P 17 54 26.0 -0.5**
LPL La Plagne 90.53 44 *eP* **P 17 54 27.1 +0.5**
comp=Z,102nm,1.0s,mb5.5
LPL *epP* pP 17 55 01.6 +0.2
LPG La Plagne 90.54 44 *eP* **P 17 54 27.3 +0.6**
comp=Z,109nm,1.0s,mb5.5
MVIF Mont Vial 90.54 46 *eP* **P 17 54 27.2 +0.5**
PZZ Prazzo 90.61 45 P **P 17 54 27.6 +0.5**
TOUF Mont Tournerai 90.63 46 *eP* **P 17 54 27.4 +0.2**
FENE Fenestrelle 90.67 45 P **P 17 54 27.8 +0.5**
HAU Haudompre 90.71 42 *eP* **P 17 54 26.5 -0.9**
STV Sta Anna Valdi 90.72 46 P **P 17 54 27.6 0.0**

STV2 Anna di Valdie 90.72 46 P **P 17 54 27.5 -0.1**
SBF Sospel 90.74 46 *eP* **P 17 54 27.3 -0.4**
comp=Z,265nm,1.3s,mb5.8
AUTN L'Aution 90.75 46 *eP* **P 17 54 28.0 +0.3**
BHB Bricherasio 90.78 45 P **P 17 54 27.9 +0.1**
ENR Entracque 90.79 46 P **P 17 54 27.2 -0.7**
LSD Ceresole Reale 90.81 44 P **P 17 54 28.8 +0.8**
RSP Reno Superiore 90.83 45 P **P 17 54 28.8 +0.7**
SAOF Saorge 90.84 46 *eP* **P 17 54 28.0 -0.2**
WLF Walferdange 90.89 40 P **P 17 54 28.8 +0.6**
WLF pmax pmax
comp=Z,86nm,1.0s,mb5.7
WLF Walferdange 90.89 40 *eP* **P 17 54 28.2 0.0**
comp=Z,86nm,1.0s,mb5.7
WLF *epP* pP 17 55 03.2 +0.1
LOMF Lomont 90.92 42 *eP* **P 17 54 28.4 0.0**
NEGI Negi 90.93 46 P **P 17 54 28.1 -0.4**
HGN Heimansgroeve 90.95 39 *eP* **P 17 54 27.4 -1.1**
comp=Z,58nm,1.3s,mb5.5
HGN *epP* pP 17 55 03.4 +0.1
MONE Monesi 91.00 46 P **P 17 54 28.2 -0.7**
HINF Hinteralfeld 91.02 42 *eP* **P 17 54 27.9 -1.0**
comp=Z,71nm,1.4s,mb5.2
IMI Imperia 91.07 46 P **P 17 54 28.5 -0.7**
ROB Roburent 91.12 46 P **P 17 54 28.9 -0.6**
MOF Molkenrain 91.21 42 *eP* **P 17 54 29.3 -0.5**
ECH Echery 91.28 42 *eP* **P 17 54 29.7 -0.4**
FIN Finale Ligure 91.34 46 P **P 17 54 29.6 -0.9**
SVW2 Sparrevohn 91.37 331 *eP* **P 17 54 29.7 -0.5**
BBS Basel-Blauen 91.39 42 *eP* **P 17 54 30.4 -0.2**
CDF Champ du Feu 91.40 41 *eP* **P 17 54 29.9 -0.7**
comp=Z,78nm,1.2s,mb5.3
CDF *epP* pP 17 55 04.6 -0.8
ORX Oropa 91.41 44 P **P 17 54 30.1 -0.6**
WLS Welschbruch 91.45 41 *eP* **P 17 54 30.4 -0.4**
RUP Ruppelstein 91.48 40 *eP* **P 17 54 31.0 +0.1**
LIBD Limburg 91.57 42 *eP* **P 17 54 31.0 -0.4**
PCP Pian Castagno 91.64 45 P **P 17 54 30.6 -1.3**
WTSB Winterswijk 91.70 38 *eP* **P 17 54 32.1 +0.2**
comp=Z,58nm,1.1s,mb5.5
WTSB *epP* pP 17 55 06.6 -0.2
IMA Indian Mountai 91.74 337 *eP* **P 17 54 32.4 +0.6**
IMA pmax pmax
comp=Z,260nm,1.2s,mb6.1
IMA Indian Mountai 91.74 337 *eP* **P 17 54 32.5 +0.7**
comp=Z,37nm,1.0s,mb5.4
FELD Feldberg 91.79 42 *eP* **P 17 54 32.1 -0.3**
LANF Langenberg 91.84 41 *eP* **P 17 54 32.5 -0.1**
SYO Syowa Base 91.98 161⇑PcP PcP 17 54 32.8 -0.9
SYO Syowa Base 91.98 161⇑pP pP 17 55 06.7 -0.9
KTD Kalmit 92.07 41 *eP* **P 17 54 33.2 -0.5**
BFO Black Forest 92.08 42 *eP* **P 17 54 32.8 -0.9**
BFO *e**PP pP 17 55 07.6 -1.0
BFO pmax pmax
comp=Z,12nm,1.2s,mb4.8
BFO Black Forest 92.08 42 *eP* **P 17 54 32.8 -0.9**
comp=Z,12nm,1.2s,mb4.8
BFO *epP* pP 17 55 07.6 -1.0
SPAK Spaichingen 92.34 42 *eP* **P 17 54 34.5 -0.5**
TNS Taunus Mts 92.44 40 *eP* **P 17 54 35.4 0.0**
TNS pmax pmax
comp=Z,51nm,1.6s,mb5.3
TNS Taunus Mts 92.44 40 *eP* **P 17 54 35.4 0.0**
comp=Z,51nm,1.6s,mb5.3
STU Stuttgart 92.71 41 P **P 17 54 36.8 +0.2**
STU pmax pmax
comp=Z,13nm,0.9s,mb5.1
STU Stuttgart 92.71 41 P **P 17 54 36.6 -0.1**
comp=Z,13nm,0.8s,mb5.1
DAVA Damuels 92.96 43⇑*iP* **P 17 54 38.6 +0.8**
comp=Z,25nm,1.0s,mb5.3
SQTA Sankt Quirin 93.85 43⇓*iP* **P 17 54 42.0 +0.2**
comp=Z,56nm,1.6s,mb5.5
CLZ Clausthal 93.87 38 *eP* **P 17 54 42.4 +0.6**
comp=Z,22nm,1.2s,mb5.2
CLZ *epP* pP 17 55 17.2 +0.5
FUR Furstenfeldbru 94.00 42 *eP* **P 17 54 42.8 +0.3**
FUR pmax pmax
comp=Z,24nm,1.1s,mb5.2
FUR Furstenfeldbru 94.00 42 *eP* **P 17 54 42.8 +0.3**
comp=Z,24nm,1.1s,mb5.2
BSEG Bad Segeberg 94.10 36 *eP* **P 17 54 43.3 +0.5**
BSEG *e**PP pP 17 55 18.1 +0.4
BSEG pmax pmax
comp=Z,20nm,0.9s,mb5.2
WTTA Wattenberg 94.14 43⇑*iP* **P 17 54 44.1 +1.0**
comp=Z,34nm,1.4s,mb5.3
GRA1 Grafenberg Arr 94.15 41 *eP* **P 17 54 42.9 -0.2**
comp=Z,78nm,2.0s,mb5.5
GRA1 *epP* pP 17 55 18.4 +0.4
GRF Grafenberg Arr 94.15 41 *eP* **P 17 54 42.9 -0.2**
GRF *e**PP pP 17 55 18.4 +0.4
GRF pmax pmax
comp=Z,78nm,2.0s,mb5.5
GRF Grafenberg Arr 94.15 41 *eP* **P 17 54 42.9 -0.2**
comp=Z,78nm,2.0s,mb5.5
GRF *epP* pP 17 55 18.4 +0.4
NKC Novy Kostel 94.99 40 *eP* **P 17 54 47.6 +0.6**
WET Wettzell 95.17 41 *eP* **P 17 54 47.7 -0.1**
WET pmax pmax
comp=Z,42nm,2.0s,mb5.3
WET Wettzell 95.17 41 *eP* **P 17 54 47.7 -0.1**
comp=Z,42nm,2.0s,mb5.3
NB2 NORSAR Subarra 95.38 29 P **P 17 54 49.0 +0.5**
comp=Z,20nm,1.1s,mb5.3,baz=263,slow=4.6
NB2 NORSAR Subarra 95.38 29 P **P 17 54 49.0 +0.5**
comp=Z,20nm,1.1s,mb5.3
NB2 NORSAR Subarra 95.38 29 P **P 17 54 49.0 +0.5**
baz=263,slow=4.6
NOA NORSAR Array B 95.38 29 P **P 17 54 49.4 +0.9**
comp=Z,11nm,1.0s,mb5.0,baz=266,slow=4.8,SNR=9.2
NOA pP pP 17 55 23.6 +0.2
comp=Z,4.7nm,1.0s,baz=266,slow=4.8,SNR=3.4
CLL Collm 95.45 39 *eP* **P 17 54 46.0 -3.0**
CLL *i* *PP pP 17 55 24.0 +0.1
CLL pmax pmax
comp=Z,14nm,0.9s,mb5.2
CLL Collm 95.45 39 *eP* **P 17 54 46.0 -3.0**
comp=Z,14nm,0.9s,mb5.2
CLL *i* pP pP 17 55 24.0 +0.1
CLL Collm 95.45 39 P **P 17 54 49.3 +0.3**
comp=Z,logA/T=1.2,mb5.2
CLL *i* *PP pP 17 55 24.0 +0.1
KHC Kasperske Hory 95.62 41 *eP* **P 17 54 50.4 +0.5**
KHC *epP* pP 17 55 26.0 +1.3
GEC2 GERESS Array S 95.68 42 *eP* **P 17 54 50.0 -0.1**
GEC2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
GEC2 GERESS Array S 95.68 42 *eP* **P 17 54 50.0 -0.1**
comp=Z,6.0nm,1.1s,mb4.8
GERES GERESS Array B 95.68 42 P **P 17 54 50.4 +0.2**
comp=Z,5.0nm,1.0s,mb4.8,baz=225,slow=1.9,SNR=15
GERES pP pP 17 55 26.2 +1.2
comp=Z,2.1nm,0.9s,baz=252,slow=4.2,SNR=3.3
GERES PKKPbc 18 11 40.2
comp=Z,1.2nm,0.8s,baz=90,slow=1.3,SNR=8.3
BRG Berggiesshubel 96.00 40 *i* P **P 17 54 52.3 +0.8**
BRG *e* pP 17 55 27.2 +0.8
BRG pmax pmax
comp=Z,22nm,1.3s,mb5.3
BRG Berggiesshubel 96.00 40 *i* P **P 17 54 52.3 +0.8**
comp=Z,22nm,1.3s,mb5.3
BRG *e* pP 17 55 27.2 +0.8
LJU Ljubljana 96.00 44 *eP* **P 17 54 52.8 +1.1**
PRU Pruhonice 96.32 40 *eP* **P 17 54 53.6 +0.6**
PVCC Panska Ves 96.37 40 *eP* **P 17 54 54.1 +0.9**
PERS Pernice 96.46 44 *eP* **P 17 54 54.0 +0.3**
BOJS Bojanci 96.47 45 *eP* **P 17 54 54.5 +0.8**
BOSA Boshof 96.52 120 P **P 17 54 54.4 0.0**
comp=Z,6.2nm,0.7s,mb5.0,baz=314,slow=7.2,SNR=8.3
ARSA Arzberg 96.78 43⇑*iP* **P 17 54 55.6 +0.4**
comp=Z,22nm,1.3s,mb5.3
UPC Upice 97.29 40 *eP* **P 17 54 58.2 +0.8**
DPC Dobruska-Polom 97.48 40 *eP* **P 17 54 59.0 +0.7**
KSP Ksiaz 97.49 40 *eP* **P 17 54 58.5 +0.2**
KSP *e**PP pP 17 55 33.7 +0.5
ZST Bratislava 97.89 42 *eP* **P 17 55 00.4 +0.2**
SMOL Smolenice 98.12 42 *eP* **P 17 55 00.7 -0.5**
OKC Ostrava-Krasne 98.64 41 *eP* **P 17 55 05.1 +1.6**
SRO Srobarova 98.69 43 *eP* **P 17 55 03.8 -0.1**
VYHS Vyhne 99.06 42 *eP* **P 17 55 05.9 +0.4**
VYHS *e* pP 17 55 41.1 +0.7
LIKS Likavka 99.25 42 *eP* **P 17 55 05.8 -0.6**
MATP Matopo 101.15 112 P **P 17 55 16.5 +0.9**

comp=Z,12nm,0.9s,baz=250,slow=5.2,SNR=14
ARCES ARCESS Array B 101.19 21 P P 17 55 13.6 -1.0
comp=Z,4.6nm,0.7s,baz=269,slow=3.4,SNR=9.4
KOLS Kolonicke sedl 101.33 42 *e*P P 17 55 06.7 -9.0
FINES FINESS Array B 102.55 29 PKKPbc 18 11 20.9
comp=Z,1.6nm,0.6s,baz=91,slow=4.7,SNR=5.9
MLR Muntele Rosu 103.98 45 PKiKP 17 59 43.6
baz=280,slow=6.3
MLR PKKPbc 18 11 16.9
comp=Z,1.3nm,0.6s,baz=185,slow=9.9,SNR=3.9
AKASG Malin Array Be 105.69 40 PKiKP 17 59 46.4
comp=Z,0.5nm,0.4s,baz=276,slow=3.2,SNR=5.4
OBN Obninsk 109.21 34 *e* PP 18 00 20.8 -7.0
OBN MLR MLR
comp=Z,2μm,17.0s
BRTR Keskin Array B 110.17 51 PKiKP 17 59 55.6
comp=Z,1.4nm,0.8s,baz=180,slow=2.5,SNR=6.3
KMBO Kilima Mbogo 113.25 94 PKiKP 18 00 03.5
comp=Z,1.0nm,0.7s,baz=230,slow=23,SNR=3.6
ASF Jabal al Asfar 113.67 58 PKiKP 18 00 03.7
comp=Z,0.9nm,0.3s,baz=326,slow=2.7,SNR=7.7
TIXI Tiksi 114.08 351 *i* PKIKP PKPdf 18 00 01.8 +0.4
MSL Mosul 118.10 53 *e*PKP PKPdf 18 00 14.0 +4.1
MSL *e*PPP PPP 18 04 11.0 +8.3
OPO Ambohidratompo118.59 116 PKiKP 18 00 13.4
comp=Z,3.4nm,1.0s,baz=88,slow=7.7,SNR=3.6
BHD Baghdad 119.74 56 *e*PKP PKPdf 18 00 07.0 -6.2
BHD *e*PPP PPP 18 04 07.5 -8.4
ARU Arti 119.84 27 *e*PKIKP PKPdf 18 00 13.7 +0.9
ATD Arta Tunnel 120.02 81 PKP PKPdf 18 00 17.1 +3.0
comp=Z,17nm,0.9s,baz=234,slow=6.6,SNR=4.4
SVE Sverdlovsk 120.52 26 *e*PKIKP PKPdf 18 00 15.1 +0.9
SVE pmax pmax
comp=Z,19nm,1.7s
YAK Yakutsk 122.35 346 *i* PKIKP PKPdf 18 00 17.6 0.0
STKA Stephens Creek 126.61 221 *e*P PKPdf 18 00 27.8 +1.2
comp=Z,3.4nm,1.0s
STKA Stephens Creek 126.61 221⇑ *i*P PKPdf 18 00 27.9 +1.3
comp=Z,15nm,0.6s
STKA Stephens Creek 126.61 221 PKP PKPdf 18 00 28.1 +1.5
comp=Z,20nm,0.7s,baz=95,slow=1.8,SNR=43
STKA pPKP 18 01 04.5
comp=Z,3.8nm,0.7s,baz=32,slow=6.0,SNR=2.4
BVAR Borovoye Array 127.23 25 PKP PKPdf 18 00 28.8 +1.6
comp=Z,17nm,0.8s,baz=270,slow=1.5,SNR=66
BVAR pPKP 18 01 05.2
comp=Z,9.9nm,1.0s,baz=270,slow=1.5,SNR=4.9
YSS Yuzh-Sakhalins 128.46 326 *i* PKIKP PKPdf 18 00 30.8 +1.0
BOD Bodaibo 129.22 353 *e*PKIKP PKPdf 18 00 23.2 -7.7
BOD pmax pmax
comp=Z,8.0nm,1.1s
CTA Charters Tower 129.87 236 *e*P PKPdf 18 00 34.7 +1.5
comp=Z,2.0nm,0.9s
CTA Charters Tower 129.87 236 *e*P PKPdf 18 00 34.7 +1.5
comp=Z,18nm,0.9s
CTA Charters Tower 129.87 236 PKP PKPdf 18 00 34.7 +1.6
comp=Z,32nm,0.9s,baz=180,slow=1.7,SNR=18
ZAL Zalesovo 131.31 15 PKP PKPdf 18 00 36.7 +1.7
comp=Z,35nm,0.9s,baz=174,slow=1.7,SNR=90
ZAL Zalesovo 131.31 15 PKP PKPdf 18 00 36.7 +1.7
KLR Kul'dur 132.21 335 *e*PKIKP PKPdf 18 00 34.0 -2.8
FORT Forrest 135.26 210 *e*P PKPdf 18 00 34.9 -8.1
comp=Z,538nm,0.8s
MOY Mondy 135.97 2 *e*PKIKP PKPdf 18 00 43.3 -0.4
USP Ospenovka 136.21 31 P PKPdf 18 00 47.0 +2.6
SNR=11
EKS2 Erkin-Say 136.26 32 P PKPdf 18 00 47.6 +3.1
SNR=16
HIA Hailar 136.27 345 *e*PKIKP PKPdf 18 00 45.2 +0.9
CHMS Chumysh 136.53 31 P PKPdf 18 00 47.0 +2.0
SNR=7.5
FRU Bishkek 136.58 31⇓ *e*PKIKP PKPdf 18 00 48.0 +3.0
FRU pmax pmax
comp=Z,40nm,2.0s
AML Almayashu 136.59 33 P PKPdf 18 00 48.1 +3.0
SNR=8.4
AAK Ala-Archa 136.66 32 P PKPdf 18 00 48.0 +2.8
SNR=9.7
MDJ Mudanjiang 136.72 333 PKP PKPdf 18 00 45.2 0.0
MKAR Makanchi Array 136.84 21 PKhKP 18 00 35.2
comp=Z,0.5nm,0.5s,baz=318,slow=3.0,SNR=4.8
MKAR PKP PKPdf 18 00 46.3 +0.9
comp=Z,58nm,1.2s,baz=333,slow=2.7,SNR=50
MKAR pPKP 18 01 22.1
comp=Z,10.0nm,1.0s,slow=2.4,SNR=4.1
KBK Karagaybulak 136.88 31 P PKPdf 18 00 48.5 +2.9
SNR=9.8
UCH Uchtor 136.96 32 P PKPdf 18 00 49.5 +3.7
SNR=14
TKM2 Tokmak 2 137.01 30 P PKPdf 18 00 48.0 +2.2
SNR=11
ASAR Alice Springs 137.13 223 PKhKP 18 00 35.7
comp=Z,5.0nm,0.6s,baz=137,slow=2.2,SNR=50
ASAR PKP PKPdf 18 00 47.6 +1.0
comp=Z,27nm,1.0s,baz=129,slow=2.0,SNR=39
ASAR pPKP 18 01 23.9
comp=Z,12nm,0.9s,baz=144,slow=1.7,SNR=3.8
ASAR SKP 18 04 08.1
comp=Z,3.3nm,0.9s,baz=146,slow=3.9,SNR=4.2
ASPA Alice Springs 137.13 223 *e*P 18 00 39.0
ASPA *i* 18 00 47.7
ASPA *e* 18 01 24.1
ASPA *i* PCS 18 04 20.1
MJAR Matsushiro Arr 137.29 318 PKhKP 18 00 36.2
comp=Z,4.3nm,0.9s,baz=79,slow=2.4,SNR=8.0
MJAR PKP PKPdf 18 00 47.6 +1.1
comp=Z,9.0nm,0.7s,baz=91,slow=1.0,SNR=15
MJAR SKP 18 04 05.5
comp=Z,4.5nm,1.0s,baz=68,slow=1.8,SNR=4.8
MAT Matsushiro 137.29 318 PKP PKPdf 18 00 47.5 +0.9
ZAK Zakamensk 137.31 0 *e*PKHKP 18 00 36.3
ZAK *e* 18 00 47.8
ZAK pmax pmax
comp=Z,6.0nm,1.1s
KZA Kyzart 137.45 32 P PKPdf 18 00 48.9 +2.2
SNR=6.1
NWAO Narrogin (SRO) 137.71 197 PKhKP 18 00 38.0
comp=Z,7.2nm,0.8s,baz=146,slow=3.9,SNR=7.6
NWAO PKP PKPdf 18 00 48.7 +1.2
comp=Z,13nm,1.1s,baz=170,slow=5.5,SNR=6.2
NWAO Narrogin (SRO) 137.71 197 PKP 18 00 38.0
NWAO PKP PKPdf 18 00 48.7 +1.2
ULHL Ulahol 137.83 31 P PKPdf 18 00 50.6 +3.2
SNR=20
KLBR Kellerberrin 138.80 198 *e*P PKPdf 18 00 41.7 -7.8
comp=Z,397nm,1.4s
KLBR Kellerberrin 138.80 198 *e*P PKPdf 18 00 41.8 -7.7
comp=Z,405nm,0.9s
MUN Mundaring 138.89 196 *e*P PKPdf 18 00 43.3 -6.3
comp=Z,27nm,0.9s
MUN Mundaring 138.89 196 *e*P PKPdf 18 00 43.7 -5.9
comp=Z,111nm,1.0s
CN2 Changchun 139.16 336 *e*PKP PKPdf 18 00 50.2 +0.4
CN2 *e*PP PP 18 03 49.1 +1.4
WB2 Warramunga Arr 139.24 227 *e*P 18 00 44.7
WB2 *i* 18 00 51.9
WB2 *e* 18 01 28.3
WB2 Warramunga Arr 139.24 227 *e*P 18 00 42.8
WB2 *i* 18 00 51.9
WB2 *e* 18 01 28.3
WRAB Tennant Creek 139.25 227 *e*PKIKP PKPdf 18 00 51.9 +1.3
WRA Warramunga Arr 139.25 227 PKhKP 18 00 42.8
comp=Z,4.5nm,0.9s,baz=139,slow=1.9,SNR=32
WRA PKP PKPdf 18 00 52.1 +1.6
comp=Z,27nm,0.7s,baz=131,slow=1.6,SNR=69
WRA pPKP 18 01 28.4
comp=Z,9.9nm,0.7s,baz=140,slow=1.3,SNR=4.1
KSH Kashi 139.65 34 *e*PKP PKPdf 18 00 49.0 -1.8
KSH *e*PP PP 18 03 53.0 +2.2
KSH PP PP
comp=Z,6μm,12.4s
KSH LR LR
comp=N,2μm,11.2s
KSH LR LR
comp=E,2μm,14.0s
ULN Ulaanbaatar 139.73 356 *i* PKIKP PKPdf 18 00 53.0 +2.3
SONM Songino Array 139.79 357 PKhKP 18 00 42.7
comp=E,2.7nm,0.7s,baz=327,slow=2.8,SNR=19
SONM PKP PKPdf 18 00 50.9 +0.1
comp=E,14nm,1.0s,baz=18,slow=1.1,SNR=24
SONM pPKP 18 01 27.8
comp=E,3.6nm,0.8s,slow=2.5,SNR=2.3
SONM SKPab 18 04 19.1
comp=E,4.7nm,1.1s,baz=180,slow=1.4,SNR=3.9
WMQ Urumqi 141.28 19⇑PKP PKPdf 18 00 55.0 +1.4
WMQ XPKP 18 01 42.0
WMQ PP PP 18 04 02.0 +1.6
WMQ PKS PKS 18 04 29.5 +1.2
WMQ SKKS 18 10 37.0
WMQ PP PP
comp=Z,3μm,7.5s
WMQ LR LR
comp=N,565nm,20.8s
WMQ LR LR
comp=E,432nm,17.3s
WMQ LR LR
comp=Z,521nm,18.0s
KS15 Wonju Array Si 142.99 327 *e*PKPpre 18 00 54.1
BHJ Bhuj 143.85 61 *e*PKP PKPdf 18 00 59.1 +0.6
BHJ *e* 18 01 01.1
comp=Z,212nm,0.9s
THN Thein Dam 144.16 43 *e*PKP PKPdf 18 00 58.6 -0.3
PONG Pong 144.60 43 *e*PKP PKPdf 18 01 00.0 +0.3
DL2 Dalian 144.82 335 PKP PKPdf 18 00 59.6 -0.3
DL2 *e*APKP 18 01 40.2
DL2 *e*PP PP 18 04 20.6 -1.2
DL2 *e*SS SS 18 22 53.6 -3.7
DL2 PP PP
comp=Z,5μm,12.9s
SDNR Sundarnagar 145.57 43 *e*PKP PKPdf 18 01 03.4 +2.0
BJI Beijing 145.76 343 *e*PKP PKPdf 18 01 02.5 +1.0
FITZ Fitzroy Crossi 146.50 220 PKP PKPdf 18 01 05.2 +1.9
comp=Z,433nm,0.9s,baz=174,slow=4.8,SNR=128
FITZ PKPbc PKPbc 18 01 07.1 +2.3
comp=Z,433nm,0.9s,baz=178,slow=3.2,SNR=131
FITZ pPKPbc 18 01 41.5
comp=Z,198nm,0.9s,baz=179,slow=4.1,SNR=6.1
BTO Baotou 146.60 351 *e*PKP PKPdf 18 01 04.9 +2.1
AJM Ajmer 146.64 52 *e*PKP PKPdf 18 01 04.0 +0.7
DDI Dehra Dun 147.03 43 *e*PKP PKPdf 18 01 05.7 +1.9
MBWA Marble Bar 147.37 209 *e*PKPdf PKPdf 18 01 05.8 +1.2
MBWA *e*PKPbc PKPdf 18 01 08.4 +3.8
NDI New Delhi 147.41 47 *e* PKPdf 18 01 10.5 +6.0
GTA Gaotai 148.10 6 PKP PKPdf 18 01 07.2 +1.9
GTA APKP 18 01 38.5
GTA XPKP 18 01 55.0
GTA PP PP 18 04 42.5 +1.1
GTA PPP tx 18 07 02.4
GTA SS SS 18 23 37.1 +2.7
GTA PP PP
comp=Z,2μm,7.6s
GTA LR LR
comp=N,482nm,15.6s
GTA LR LR
comp=E,465nm,20.1s
GTA LR LR
comp=Z,595nm,19.0s
TIA Tai'an 148.93 339 *e*PKP PKPdf 18 01 08.0 +1.2
POO Poona 149.06 66 *e*PKPb PKPdf 18 01 13.8 +6.4
POO *e* 18 01 16.0
comp=Z,140nm,1.0s
KAD Karad 149.70 69 *e*PKPb PKPdf 18 01 14.6 +6.1
KAD *e* 18 01 16.3
comp=Z,210nm,1.2s
JOW Kunigami 149.75 312 PKPbc PKPdf 18 01 14.8 +6.5
comp=Z,111nm,0.8s,baz=50,slow=0.7,SNR=28
BHPL Bhopal 150.40 55 *e*PKPb PKPdf 18 01 16.2 +6.9
BHPL *e* 18 01 17.7
comp=Z,100nm,1.5s
LATR Latur 151.55 65 *e*PKP PKPdf 18 01 11.6 +0.4
LZH Lanzhou 151.60 360⇓PKP PKPdf 18 01 12.5 +1.7
LZH LR LR
comp=E,713nm,18.6s
LZH LR LR
comp=Z,963nm,20.4s
NJ2 Nanjing 151.80 332 *e*PKP PKPdf 18 01 12.9 +1.7
NJ2 APKP 18 01 50.3
NJ2 PKS PKS 18 04 46.0 +1.3
NJ2 PP PP 18 05 03.0 +0.9
NJ2 PP PP
comp=Z,2μm,10.2s
NJ2 LR LR
comp=N,2μm,24.4s
NJ2 LR LR
comp=E,3μm,23.1s
NJ2 LR LR
comp=Z,3μm,24.4s
KOLN Koldanda 152.37 41 *e*P PKPdf 18 01 12.6 +0.4
comp=Z,183nm,1.3s
GKN Gorkha 152.87 39 *e*P PKPdf 18 01 14.3 +1.4
comp=Z,232nm,0.9s
XAN Xi'an 153.20 350 PKP PKPdf 18 01 14.8 +1.7
KKN Kakani 153.42 39 *e*P PKPdf 18 01 14.8 +1.2
comp=Z,66nm,0.8s
DMN Daman 153.44 39 *e*P PKPdf 18 01 15.0 +1.3
comp=Z,88nm,1.1s
PKI Pulchoki 153.66 39 *e*P PKPdf 18 01 14.9 +0.9
comp=Z,75nm,1.2s
HYB Hyderabad 153.66 66 *e*PKIKP PKPdf 18 01 15.0 +0.8
HYB *e* 18 01 36.5
HYB Hyderabad 153.66 66 *i* PKP PKPdf 18 01 15.0 +0.8
comp=Z,70nm,1.0s
HYB *e*PKPAB PKPab 18 01 36.5 -1.4
HYB *es*PKP 18 02 35.0
GUN Gumba 153.70 38 *e*P PKPdf 18 01 15.9 +1.9
comp=Z,160nm,1.3s
JIRN Jiri 154.07 37 *e*P PKPdf 18 01 15.7 +1.2
comp=Z,23nm,0.7s
WHN Wuhan 155.02 338 PKP PKPdf 18 01 17.0 +1.3
LSA Lhasa 155.04 26 *e*PKP PKPdf 18 01 18.6 +2.8
CD2 Chengdu 156.77 360 PKP PKPdf 18 01 20.4 +2.4
VIS Vishakhapatnam 157.79 61 *e* PKPab 18 01 54.4 -1.1
VIS AMb AMb 18 01 55.9
comp=Z,45nm,1.4s
GYA Guiyang 160.98 352⇓ *i*PKP PKPdf 18 01 25.0 +1.9
GYA PP PP
comp=Z,3μm,11.2s
GYA LR LR
comp=N,740nm,18.9s
GYA LR LR
comp=E,970nm,20.0s
GYA LR LR
comp=Z,670nm,19.4s
KMI Kunming 162.51 3 PKP PKPdf 18 01 25.0 +0.4
KMI Kunming 162.51 3 PKP PKPdf 18 01 25.5 +0.9
KMI pPKP 18 02 03.2
KKM Kota Kinabalu 167.41 264 *e*PKPdf PKPdf 18 01 31.0 +1.8
KKM *e*PKPab PKPab 18 02 38.0 +0.7
CM31 Chiang Mai Arr 168.25 22 *e*PKPdf PKPdf 18 01 31.3 +1.7
CM31 *e*PKPab PKPab 18 02 40.0 -0.8
CMAR Chiang Mai Arr 168.25 22 PKP PKPdf 18 01 31.2 +1.6
comp=Z,20nm,0.9s,baz=294,slow=1.8,SNR=86
CMAR pPKP 18 02 08.2
comp=Z,5.5nm,0.9s,baz=297,slow=1.9,SNR=3.6
CMAR PKPab PKPab 18 02 39.7 -1.1
comp=Z,21nm,0.8s,baz=328,slow=5.8,SNR=37
KSM Kuching 171.01 228 *e*PKPdf PKPdf 18 01 32.9 +1.5

IDC ***10*** *17:41:39.8±0.8, 1.60S×99.64E, mb4.3/9, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, ML4.0/1, Error ellipse: s-maj=32.3km s-min=19.5km az=62.0*
NEIC ***10*** *17:41:44.3±0.4, 1.57S×99.73E, h30km, mb4.6/5, Error ellipse: s-maj=17.6km s-min=9.2km az=65.0*
ISC 10 17:41:42.7±0.7, 1.5S±0.1×99.7E±0.1, h33km, n25, σ0 96/19, mb4.3/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**19.87**	**358**	*e*P	**P**	**17 46 14.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**19.87**	**358**	P	**P**	**17 46 13.1**	**-1.0**
	0.2nm,0.3s,baz=188,slow=9.9,SNR=4.6						
ENH	**Enshi**	**32.96**	**16**	*e*P	**P**	**17 48 15.6**	**-1.2**
	3.3nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**38.47**	**121**	P	**P**	**17 49 03.3**	**-0.2**
	2.5nm,0.4s,mb4.3,baz=303,slow=9.2,SNR=4.7						
WRAB	**Tennant Creek**	**38.48**	**121**	*e*P	**P**	**17 49 03.1**	**-0.6**
	6.2nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**39.76**	**126**	P	**P**	**17 49 14.8**	**+0.6**
	1.5nm,0.9s,mb3.7,baz=304,slow=6.8,SNR=4.2						
SONM	**Songino Array**	**49.50**	**6**	P	**P**	**17 50 33.3**	**+1.2**
	1.9nm,0.8s,mb4.2,baz=190,slow=8.8,SNR=4.8						
ULN	**Ulaanbaatar**	**49.60**	**6**	*e*P	**P**	**17 50 33.8**	**+0.9**
	2.7nm,1.0s,mb4.2						
MKAR	**Makanchi Array**	**50.50**	**345**	P	**P**	**17 50 40.5**	**+0.8**
	5.4nm,0.7s,mb4.7,baz=156,slow=9.0,SNR=6.2						
KURK	**Kurchatov**	**55.08**	**344**	*e*P	**P**	**17 51 14.4**	**+0.7**
	8.9nm,1.0s,mb4.8						
ZAL	**Zalesovo**	**56.65**	**349**	P	**P**	**17 51 25.8**	**+0.8**
	5.0nm,0.4s,mb4.9,baz=323,slow=3.5,SNR=8.3						
ZAL	**Zalesovo**	**56.65**	**349**	P	**P**	**17 51 25.8**	**+0.8**
BVAR	**Borovoye Array**	**59.65**	**340**	P	**P**	**17 51 45.3**	**-0.7**
	2.0nm,0.6s,mb4.3,baz=140,slow=8.9,SNR=3.9						
CHKZ	**Chkalovo**	**60.11**	**341**	*e*P	**P**	**17 51 47.9**	**-1.2**
	5.0nm,0.8s,mb4.6						
MATP	**Matopo**	**71.88**	**249**	P	**P**	**17 53 05.2**	**+0.4**
	4.1nm,0.7s,mb4.4,baz=78,slow=6.1,SNR=6.3						
BRTR	**Keskin Array B**	**72.80**	**312**	P	**P**	**17 53 09.2**	**-0.8**
	1.0nm,0.7s,mb3.9,baz=137,slow=6.4,SNR=4.5						
FINES	**FINESS Array B**	**83.56**	**332**	P	**P**	**17 54 09.8**	**+1.2**
	0.4nm,0.4s,mb3.9,baz=108,slow=4.5,SNR=3.5						
FINES	**FINESS Array B**	**83.56**	**332**	P	**P**	**17 54 09.8**	**+1.2**
MOX	**Moxa**	**89.96**	**320**	*e*P	**P**	**17 54 37.0**	**-3.0**
TXAR	**Lajitas Array**	**144.50**	**37**	PKP	PKPdf	18 01 18.7	+2.3
	1.6nm,0.5s,baz=221,slow=0.9,SNR=8.0						
TXAR	**Lajitas Array**	**144.50**	**37**	PKP	PKPdf	18 01 18.7	+2.2
MIAR	**Mount Ida**	**144.88**	**19**	*e*PKP	PKPdf	18 01 19.0	+2.1
CFAA	**Coronel Fontan**	**145.12**	**198**	PKPbc	PKPbc	18 01 19.1	+1.3
	0.9nm,0.6s,baz=166,slow=2.7,SNR=7.8						
JCT	**Junction City**	**145.76**	**31**	*e*PKP	PKPdf	18 01 22.4	+3.8
CPCT	**Cooper Cave**	**146.02**	**6**	*e*PKP	PKPdf	18 01 21.8	+2.9

IDC ***10*** *17:42:36.9±0.7, 1.94S×99.57E, mb4.4/14, mb1 4.6/14, mb1mx4.5/20, mbtmp4.4/14, Error ellipse: s-maj=33.6km s-min=15.7km az=51.0*
BJI ***10*** *17:42:40.2, 1.80S×99.80E, h32km, mb5.0*
MOS ***10*** *17:42:40.7±1.2, 1.76S×99.77E, h33km, mb5.1/3, Error ellipse: s-maj=25.7km s-min=12.3km az=113.2*
NEIC ***10*** *17:42:42.3±0.4, 1.80S×99.77E, mb4.7/3, Error ellipse: s-maj=16.7km s-min=8.4km az=56.0*
ISC 10 17:42:40.8±0.5, 1.71S±0.09×99.8E±0.1, h33km, (h32km±.5km:pP-P), n46, σ0 98/39, mb4.5/17, 1C-5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**20.06**	**358**	P	**P**	**17 47 12.7**	**-1.5**
	7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.06**	**358**	P	**P**	**17 47 13.5**	**-0.6**
	2.4nm,0.6s,baz=188,slow=10,SNR=4.9						
FITZ	**Fitzroy Crossi**	**30.11**	**124**	P	**P**	**17 48 48.9**	**-0.9**
	11nm,0.7s,mb4.7,baz=275,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**38.27**	**121**	P	**P**	**17 50 00.2**	**+0.2**
	4.6nm,0.6s,mb4.4,baz=303,slow=9.0,SNR=8.3						
WRAB	**Tennant Creek**	**38.28**	**121**	*e*P	**P**	**17 49 59.9**	**-0.2**
WRAB				*e*	pP	17 50 09.4	-0.4
ASAR	**Alice Springs**	**39.55**	**126**	P	**P**	**17 50 10.9**	**+0.4**
	3.1nm,0.6s,mb4.2,baz=300,slow=7.5,SNR=4.5						
WMQ	**Urumqi**	**46.62**	**348**	P	**P**	**17 51 09.6**	**+1.9**
WMQ				AP	pP	17 51 19.6	+2.0
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**17 51 32.3**	**+0.9**
	3.0nm,0.7s,mb4.4,baz=188,slow=9.5,SNR=5.7						
ULN	**Ulaanbaatar**	**49.77**	**6**	*e*P	**P**	**17 51 32.6**	**+0.4**
ULN				*e*	pP	17 51 42.3	+0.2
MKAR	**Makanchi Array**	**50.71**	**344**	P	**P**	**17 51 39.8**	**+0.5**
	5.1nm,0.4s,mb4.8,baz=152,slow=8.2,SNR=8.0						
CN2	**Changchun**	**50.78**	**24**	*e*P	**P**	**17 51 40.2**	**+0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
KURK	**Kurchatov**	**55.28**	**344**	*e*P	**P**	**17 52 12.8**	**-0.5**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
KURK	**Kurchatov**	**55.28**	**344**	*e*P	**P**	**17 52 12.8**	**-0.5**
	comp=Z,6.6nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**56.85**	**349**	P	**P**	**17 52 24.7**	**+0.2**
	comp=Z,6.2nm,0.6s,mb4.8,baz=318,slow=5.1,SNR=5.6						
ZAL	**Zalesovo**	**56.85**	**349**	P	**P**	**17 52 24.7**	**+0.2**
KLR	**Kul'dur**	**57.73**	**24**	*e*P	**P**	**17 52 37.8**	**+7.0**
BVAR	**Borovoye Array**	**59.86**	**340**	P	**P**	**17 52 44.5**	**-1.0**
	comp=Z,3.5nm,0.6s,mb4.5,baz=137,slow=8.6,SNR=7.1						
CHKZ	**Chkalovo**	**60.32**	**340**	*e*P	**P**	**17 52 47.7**	**-1.0**
BOD	**Bodaibo**	**60.42**	**9**	*e*P	**P**	**17 52 54.0**	**+4.7**
YSS	**Yuzh-Sakhalins**	**61.32**	**32**	*e*P	**P**	**17 53 05.0**	**+9.5**
YAK	**Yakutsk**	**67.50**	**15**	*e*P	**P**	**17 53 34.3**	**-1.1**
YAK				*e*	pP	17 53 44.5	-1.2
YAK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.1						
YAK	**Yakutsk**	**67.50**	**15**	*e*P	**P**	**17 53 34.2**	**-1.2**
	comp=Z,15nm,0.8s,mb5.1						
YAK				*e*	pP	17 53 44.5	-1.3
KIV	**Kislovodsk**	**68.22**	**319**	*e*P	**P**	**17 53 39.4**	**-0.8**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
BRTR	**Keskin Array B**	**73.01**	**312**	P	**P**	**17 54 08.6**	**-0.8**
	comp=Z,2.2nm,0.7s,mb4.2,baz=129,slow=7.1,SNR=6.8						
BOSA	**Boshof**	**75.66**	**241**	P	**P**	**17 54 22.2**	**-2.7**
	comp=Z,3.0nm,1.0s,mb4.2,baz=74,slow=5.1,SNR=3.5						
SYO	**Syowa Base**	**78.09**	**199**⇑	P	**P**	**17 54 32.0**	**-5.7**
AKASG	**Malin Array Be**	**79.16**	**322**	P	**P**	**17 54 43.2**	**-0.7**
	comp=Z,0.3nm,0.3s,mb3.7,baz=88,slow=4.6,SNR=5.6						
AKASG	**Malin Array Be**	**79.16**	**322**	P	**P**	**17 54 43.2**	**-0.7**
VRI	**Vrincioaia**	**79.53**	**317**	⇓P	**P**	**17 54 46.8**	**+0.7**
MLR	**Muntele Rosu**	**79.98**	**317**	P	**P**	**17 54 48.7**	**+0.2**
	comp=Z,6.0nm,0.8s,mb4.5,baz=171,slow=4.4,SNR=8.4						
MLR	**Muntele Rosu**	**79.98**	**317**	⇓P	**P**	**17 54 49.3**	**+0.9**
MLR	**Muntele Rosu**	**79.98**	**317**	⇓P	**P**	**17 54 49.3**	**+0.8**
BURAR	**Bucovina Array**	**80.94**	**319**	⇓P	**P**	**17 54 55.1**	**+1.6**
BURAR	**Bucovina Array**	**80.94**	**319**	⇓P	**P**	**17 54 55.1**	**+1.6**
SKO	**Skopje**	**82.52**	**313**	*e*P	pP	17 55 14.3	+2.0
FINES	**FINESS Array B**	**83.78**	**332**	P	**P**	**17 55 08.6**	**+0.8**
	comp=Z,2.4nm,0.5s,mb4.6,baz=99,slow=5.3,SNR=11						
KAF	**Kangasniemi**	**83.85**	**333**	*e*p	**P**	**17 55 08.7**	**+0.5**
ARCES	**ARCESS Array B**	**86.15**	**340**	P	**P**	**17 55 20.6**	**+1.2**
	comp=Z,6.1nm,1.0s,mb4.8,baz=108,slow=5.7,SNR=4.7						
ARCES	**ARCESS Array B**	**86.15**	**340**	P	**P**	**17 55 20.6**	**+1.3**
NVL	**N'lazarevskaya**	**87.74**	**199**	*i* P	**P**	**17 55 28.2**	**+1.1**
TXAR	**Lajitas Array**	**144.57**	**37**	PKP	PKPdf	18 02 16.4	+1.8
	comp=Z,2.1nm,0.6s,baz=192,slow=0.8,SNR=5.3						
TXAR	**Lajitas Array**	**144.57**	**37**	PKP	PKPdf	18 02 16.4	+1.8
CFAA	**Coronel Fontan**	**144.99**	**198**	PKP	PKPdf	18 02 17.1	+1.8
	comp=Z,0.9nm,0.7s,baz=159,slow=3.8,SNR=7.7						
MIAR	**Mount Ida**	**145.01**	**20**	*e*PKP	PKPdf	18 02 16.7	+1.5
MIAR				*e*		18 02 23.5	
JCT	**Junction City**	**145.86**	**31**	*e*PKP	PKPdf	18 02 20.0	+3.2
CPCT	**Cooper Cave**	**146.19**	**6**	*e*PKP	PKPdf	18 02 19.5	+2.3

BJI ***10*** *17:43:51.3, 2.80S×99.97E, h30km, mB5.8, mb5.0, Ms5.3, Msz5.1*
IDC ***10*** *17:43:56.5±0.8, 1.90S×99.41E, mb4.6/17, mb1 4.8/17, mb1mx4.6/22, mbtmp4.6/17, MS4.9/1, Ms1 5.1/1, ms1mx3.8/36, Error ellipse: s-maj=43.1km s-min=13.0km az=51.0*
MOS ***10*** *17:44:00.1±0.7, 1.67S×99.72E, h33km, mb4.8/9, Error ellipse: s-maj=25.0km s-min=10.1km az=111.5*
NEIC ***10*** *17:44:01.0±0.3, 1.93S×99.40E, h30km, mb4.8/11, Error ellipse: s-maj=13.8km s-min=6.4km az=58.0*
ISC 10 17:44:00.2±0.5, 1.72S±0.08×99.7E±0.1, h33km, n60, σ0 85/54, mb4.7/35, MS5.0/4, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.03**	**8**	P	**P**	**17 45 45.5**	**+2.0**
CM31	**Chiang Mai Arr**	**20.06**	**358**	*e*P	**P**	**17 48 33.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**20.06**	**358**	P	**P**	**17 48 34.0**	**+0.3**
	5.7nm,0.6s,baz=188,slow=9.8,SNR=7.1						
CMAR				LR	LR	17 57 44.0	
	comp=Z,3μm,18.2s,MS4.7,baz=130,slow=41						
FITZ	**Fitzroy Crossi**	**30.25**	**124**	P	**P**	**17 50 10.2**	**-0.3**
	25nm,0.9s,mb4.9,baz=322,slow=3.6,SNR=4.7						
JIRN	**Jiri**	**31.96**	**337**	*e*P	**P**	**17 50 26.5**	**+1.0**
	56nm,1.0s,mb5.3						
PKI	**Pulchoki**	**32.19**	**336**	*e*P	**P**	**17 50 28.1**	**+0.5**
	17nm,1.2s,mb4.8						
PKI	**Pulchoki**	**32.19**	**336**	*e*P	**P**	**17 50 28.1**	**+0.5**
PKI				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.4						
LSA	**Lhasa**	**32.28**	**346**	P	**P**	**17 50 28.0**	**-0.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
LSA	**Lhasa**	**32.28**	**346**	P	**P**	**17 50 27.9**	**-0.4**
	comp=Z,5.8nm,0.5s,mb4.7						
GUN	**Gumba**	**32.30**	**337**	*e*P	**P**	**17 50 29.4**	**+0.9**
	comp=Z,22nm,0.5s,mb5.2						
DMN	**Daman**	**32.35**	**335**	*e*P

comp=Z,19nm,0.7s,mb5.1
XAN Xi'an 36.62 13 P **P 17 51 04.0 -1.4**
XAN AMB AMB
comp=Z,12nm,0.8s,mb4.8
WRA Warramunga Arr 38.42 121 P **P 17 51 20.5 -0.2**
comp=Z,12nm,0.7s,mb4.7,baz=296,slow=9.5,SNR=12
ASAR Alice Springs 39.69 126 P **P 17 51 31.8 +0.6**
comp=Z,4.7nm,0.6s,mb4.4,baz=298,slow=6.9,SNR=7.1
HHC Hu-ho-hao-te 43.73 13 *eP* **P 17 52 05.4 +1.1**
HHC XP sP 17 52 19.1 +0.8
HHC PP PP 17 53 49.2 +1.4
HHC S **S 17 58 35.2 +3.4**
HHC SCS ScS 18 02 00.8 +2.3
HHC AMB AMB
comp=Z,25nm,1.5s,mb4.7
HHC LR LR
comp=N,1μm,15.7s,MS5.3
HHC LR LR
comp=E,3μm,16.2s,MS5.3
HHC LR LR
comp=Z,3μm,17.2s,MS5.3
WMQ Urumqi 46.59 348 P **P 17 52 28.0 +1.0**
WMQ AP pP 17 52 38.0 +1.2
WMQ XP sP 17 52 42.1 +1.1
WMQ AMB AMB
comp=Z,21nm,0.9s,mb5.1
WMQ AMB AMB
comp=Z,935nm,6.6s
WMQ LR LR
comp=N,1μm,21.6s,MS5.0
WMQ LR LR
comp=E,1μm,20.6s,MS5.0
WMQ LR LR
comp=Z,1μm,19.4s,MS5.0
CTA Charters Tower 49.02 115 P **P 17 52 46.3 +0.1**
comp=Z,4.9nm,0.6s,mb4.7,baz=288,slow=15,SNR=3.0
STKA Stephens Creek 49.59 132 P **P 17 52 51.4 +0.9**
comp=Z,6.9nm,0.7s,mb4.8,baz=322,slow=8.3,SNR=3.9
SONM Songino Array 49.70 6 P **P 17 52 51.8 +0.6**
comp=Z,3.8nm,0.6s,mb4.6,baz=189,slow=10,SNR=9.0
MKAR Makanchi Array 50.67 345 P **P 17 52 58.9 +0.4**
comp=Z,7.4nm,0.6s,mb4.8,baz=146,slow=8.0,SNR=8.4
CN2 Changchun 50.87 24 *eP* **P 17 52 58.7 -1.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
ZAK Zakamensk 51.99 3 *eP* **P 17 53 07.6 -0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.7s,mb3.8
KURK Kurchatov 55.24 344 *eP* **P 17 53 31.8 -0.6**
KURK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
KURK Kurchatov 55.24 344 *eP* **P 17 53 31.8 -0.6**
comp=Z,7.1nm,0.8s,mb4.8
ZAL Zalesovo 56.82 350 P **P 17 53 43.8 +0.1**
comp=Z,17nm,0.4s,mb5.4,baz=322,slow=4.4,SNR=20
KLR Kul'dur 57.81 24 *eP* **P 17 53 47.2 -3.6**
BVAR Borovoye Array 59.80 340 P **P 17 54 03.8 -0.8**
comp=Z,5.0nm,0.6s,mb4.7,baz=146,slow=9.4,SNR=7.3
CHKZ Chkalovo 60.27 341 *eP* **P 17 54 06.9 -0.9**
CHKZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
CHKZ Chkalovo 60.27 341 *eP* **P 17 54 06.9 -0.9**
comp=Z,6.2nm,0.7s,mb4.8
BOD Bodaibo 60.45 9 *eP* **P 17 54 07.8 -1.2**
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
YSS Yuzh-Sakhalins 61.42 32 *eP* **P 17 54 15.0 -0.7**
SVE Sverdlovsk 66.30 338 *eP* **P 17 54 43.0 -4.4**
SVE MLR MLR
comp=E,1μm,16.0s
SVE MLR MLR
comp=Z,600nm,16.0s,MS4.9
YAK Yakutsk 67.56 15 *eP* **P 17 54 53.9 -1.3**
YAK pmax pmax
comp=Z,25nm,0.8s,mb5.3
YAK Yakutsk 67.56 15 *eP* **P 17 54 53.9 -1.3**
comp=Z,25nm,0.8s,mb5.3
KIV Kislovodsk 68.11 319 *eP* **P 17 54 59.2 +0.2**
KIV pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KIV Kislovodsk 68.11 319 *eP* **P 17 54 59.2 +0.2**
comp=Z,5.8nm,0.8s,mb4.7
MALT Malatya 68.90 312 *eP* **P 17 55 04.1 +0.1**
MALT pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
MALT Malatya 68.90 312 *eP* **P 17 55 04.1 +0.1**
comp=Z,1.7nm,0.7s,mb4.1
BRTR Keskin Array B 72.89 312 P **P 17 55 26.9 -1.1**
comp=Z,1.7nm,0.6s,mb4.2,baz=125,slow=6.2,SNR=5.3
RPZ Rata Peaks 75.42 135 P **P 17 55 43.1 +0.5**
comp=Z,5.1nm,0.5s,mb4.7,baz=292,slow=4.1,SNR=5.3
OBN Obninsk 76.38 328⇑ *eP* **P 17 55 47.4 -0.5**
OBN pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
AKASG Malin Array Be 79.06 322 P **P 17 56 01.8 -1.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=92,slow=4.5,SNR=4.7
AKASG Malin Array Be 79.06 322 P **P 17 56 01.8 -1.1**
MLR Muntele Rosu 79.87 317 P **P 17 56 07.1 -0.2**
comp=Z,3.4nm,1.0s,mb4.2,baz=181,slow=1.9,SNR=4.0
FINES FINESS Array B 83.71 332 P **P 17 56 27.6 +0.7**
comp=Z,3.3nm,0.5s,mb4.8,baz=106,slow=5.6,SNR=12
KAF Kangasniemi 83.78 333 *ep* **P 17 56 26.9 -0.3**
ARCES ARCESS Array B 86.10 340 P **P 17 56 39.8 +1.2**
comp=Z,4.9nm,0.9s,mb4.7,baz=99,slow=6.4,SNR=5.6
GERES GERESS Array B 88.62 319 P **P 17 56 52.3 +1.1**
comp=Z,1.4nm,0.8s,mb4.3,baz=108,slow=3.7,SNR=4.1
CLL Collm 89.23 321 P **P 17 56 55.0 +0.9**
YKA Yellowknife Ar 114.20 17 PKP PKPdf 18 02 36.7 +0.5
comp=Z,0.6nm,1.1s,baz=304,slow=2.5,SNR=3.7
YKA Yellowknife Ar 114.20 17 PKP PKPdf 18 02 36.7 +0.5
TXAR Lajitas Array 144.68 37 PKP PKPdf 18 03 36.1 +1.8
comp=Z,5.7nm,0.6s,baz=263,slow=0.6,SNR=15
CFAA Coronel Fontan 144.93 198 PKP PKPdf 18 03 36.4 +1.8
comp=Z,1.4nm,0.6s,baz=170,slow=3.0,SNR=11
MIAR Mount Ida 145.08 19 *e*PKP PKPdf 18 03 36.4 +1.6
TZTN Tazewell 145.22 5 *e*PKP PKPdf 18 03 36.0 +1.0
JCT Junction City 145.96 31 *e*PKP PKPdf 18 03 38.9 +2.4

BJI ***10*** *17:44:44.9,2.24S×100.20E,h37km,mb5.1,Ms4.8,Msz4.5*
IDC ***10*** *17:44:46.5±0.6,1.65S×99.72E,mb4.5/17,mb1 4.6/18, mb1mx4.5/22,mbtmp4.5/18,ML4.7/1,Error ellipse: s-maj=21.9km s-min=14.3km az=60.0*
MOS ***10*** *17:44:49.1±1.1,1.62S×99.97E,h33km,mb5.1/7,Error ellipse: s-maj=21.9km s-min=10.8km az=92.0*
NEIC ***10*** *17:44:52.0±1.6,1.60S×99.81E,h38km±14km,mb4.8/9, Error ellipse: s-maj=11.6km s-min=7.3km az=73.0*
ISC 10 17:44:49.2±5.1,1.56S±0.07×99.9E±0.1,h31km±36km,n53, σ1§10/47,mb4.7/28,MS4.6/1,1C,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.84**	**6**	P	**Pn**	**17 46 29.9**	**-0.2**
CM31	**Chiang Mai Arr**	**19.91**	**357**	*eP*	**P**	**17 49 21.4**	**-0.1**
	5.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.91**	**357**	P	**P**	**17 49 21.1**	**-0.3**
	0.9nm,0.3s,baz=188,slow=10,SNR=6.2						
FITZ	**Fitzroy Crossi**	**30.16**	**125**	P	**P**	**17 51 00.4**	**+1.4**
	13nm,0.9s,mb4.7,baz=198,slow=3.2,SNR=2.7						
LSA	**Lhasa**	**32.18**	**346**	*eP*	**P**	**17 51 18.8**	**+2.1**
LSA	**Lhasa**	**32.18**	**346**	*eP*	**P**	**17 51 19.1**	**+2.4**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
LSA	**Lhasa**	**32.18**	**346**	*eP*	**P**	**17 51 19.1**	**+2.4**
	comp=Z,11nm,0.6s,mb4.9						
ENH	**Enshi**	**32.95**	**15**	*eP*	**P**	**17 51 22.5**	**-0.9**
	comp=Z,8.8nm,0.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**35.21**	**154**	P	**P**	**17 51 41.6**	**-1.2**
	comp=Z,13nm,1.1s,mb4.8,baz=281,slow=9.6,SNR=3.1						
NWAO	**Narrogin (SRO)**	**35.21**	**154**	*eP*	**P**	**17 51 42.5**	**-0.3**
XAN	**Xi'an**	**36.41**	**13**	P	**P**	**17 51 52.1**	**-0.9**
XAN				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**38.33**	**121**	*eP*	**P**	**17 52 08.9**	**-0.3**
WB2				*e*SCP		17 56 57.1	
WB2				*e*S	**S**	**17 57 49.7**	**-11**
ASAR	**Alice Springs**	**39.60**	**126**	P	**P**	**17 52 22.1**	**+2.2**
	comp=Z,1.9nm,0.5s,mb4.0,baz=290,slow=8.8,SNR=3.3						
BJT	**Baijiatuau**	**43.98**	**18**	*eP*	**P**	**17 52 55.9**	**+0.4**
BJT				pmax	pmax		
	comp=Z,16nm,1.1s						
BJT	**Baijiatuau**	**43.98**	**18**	*eP*	**P**	**17 52 55.9**	**+0.4**
	comp=Z,16nm,1.1s,mb4.7						
BJI	**Beijing**	**44.00**	**18**	*eP*	**P**	**17 52 56.4**	**+0.7**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
BJI	**Beijing**	**44.00**	**18**	*eP*	**P**	**17 52 56.4**	**+0.7**
	comp=Z,11nm,0.8s,mb4.6						
WMQ	**Urumqi**	**46.48**	**348**	⇑P	**P**	**17 53 17.5**	**+2.1**
WMQ				AMB	AMB		
	comp=Z,52nm,0.7s,mb5.6						
WMQ				LR	LR		
	comp=N,565nm,20.8s,MS4.6						
WMQ				LR	LR		
	comp=E,432nm,17.3s,MS4.6						
WMQ				LR	LR		
	comp=Z,521nm,18.0s,MS4.5						
SONM	**Songino Array**	**49.52**	**6**	P	**P**	**17 53 40.0**	**+1.0**
	comp=Z,6.0nm,0.6s,mb4.8,baz=190,slow=9.6,SNR=8.9						
STKA	**Stephens Creek**	**49.53**	**132**	P	**P**	**17 53 38.7**	**-0.6**
	comp=Z,2.5nm,0.5s,mb4.5,baz=318,slow=9.0,SNR=3.0						
ULN	**Ulaanbaatar**	**49.62**	**6**	*eP*	**P**	**17 53 40.5**	**+0.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ULN	**Ulaanbaatar**	**49.62**	**6**	*eP*	**P**	**17 53 40.5**	**+0.7**
	comp=Z,3.5nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**50.57**	**344**	P	**P**	**17 53 48.0**	**+0.9**
	comp=Z,6.3nm,0.4s,mb4.9,baz=153,slow=8.1,SNR=9.8						
CN2	**Changchun**	**50.63**	**24**	*eP*	**P**	**17 53 46.7**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
MJAR	**Matsushiro Arr**	**52.01**	**39**	P	**P**	**17 53 57.9**	**-0.3**
	comp=Z,1.3nm,0.5s,mb4.2,baz=225,slow=8.2,SNR=7.5						
KURK	**Kurchatov**	**55.15**	**344**	*eP*	**P**	**17 54 21.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
KURK	**Kurchatov**	**55.15**	**344**	*eP*	**P**	**17 54 21.0**	**-0.1**
	comp=Z,9.8nm,0.8s,mb4.9						
ZAL	**Zalesovo**	**56.71**	**349**	P	**P**	**17 54 32.8**	**+0.5**
	comp=Z,16nm,0.4s,mb5.4,baz=316,slow=4.5,SNR=12						
KLR	**Kul'dur**	**57.58**	**24**	*eP*	**P**	**17 54 35.6**	**-2.9**
BVAR	**Borovoye Array**	**59.73**	**340**	P	**P**	**17 54 52.7**	**-0.7**
	comp=Z,4.7nm,0.5s,mb4.8,baz=143,slow=9.3,SNR=9.8						
CHKZ	**Chkalovo**	**60.19**	**340**	*eP*	**P**	**17 54 55.4**	**-1.1**
BOD	**Bodaibo**	**60.26**	**9**	*eP*	**P**	**17 54 55.8**	**-1.2**
YSS	**Yuzh-Sakhalins**	**61.17**	**32**	*eP*	**P**	**17 55 03.0**	**-0.3**
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**61.17**	**32**	*eP*	**P**	**17 55 02.8**	**-0.5**
	comp=Z,10nm,0.7s,mb5.1						
KMBO	**Kilima Mbogo**	**62.61**	**270**	P	**P**	**17 55 13.4**	**0.0**
	comp=Z,1.8nm,0.8s,mb4.3,baz=67,slow=12,SNR=4.9						
SVE	**Sverdlovsk**	**66.23**	**338**	*eP*	**P**	**17 55 33.3**	**-3.0**
YAK	**Yakutsk**	**67.34**	**15**	*eP*	**P**	**17 55 42.2**	**-1.1**
YAK				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
YAK	**Yakutsk**	**67.34**	**15**	*eP*	**P**	**17 55 42.2**	**-1.1**
	comp=Z,30nm,0.9s,mb5.3						
MATP	**Matopo**	**72.02**	**249**	P	**P**	**17 56 12.1**	**-0.5**
	comp=Z,5.5nm,0.8s,mb4.5,baz=52,slow=5.3,SNR=4.2						
BRTR	**Keskin Array B**	**72.94**	**312**	P	**P**	**17 56 16.9**	**-0.9**
	comp=Z,0.4nm,0.3s,mb3.8,baz=133,slow=6.4,SNR=2.5						
BOSA	**Boshof**	**75.77**	**241**	P	**P**	**17 56 32.9**	**-1.4**
	comp=Z,2.9nm,0.6s,mb4.4,baz=342,slow=6.4,SNR=3.8						
MLR	**Muntele Rosu**	**79.90**	**317**	P	**P**	**17 56 58.0**	**+1.3**
	comp=Z,2.2nm,0.9s,mb4.1,baz=318,slow=3.7,SNR=2.1						
FINES	**FINESS Array B**	**83.67**	**332**	P	**P**	**17 57 16.9**	**+0.9**
	comp=Z,1.8nm,0.5s,mb4.5,baz=108,slow=4.4,SNR=4.0						
ARCES	**ARCESS Array B**	**86.02**	**340**	P	**P**	**17 57 29.0**	**+1.4**
	comp=Z,2.2nm,0.6s,mb4.5,baz=102,slow=5.7,SNR=3.2						
ARCES	**ARCESS Array B**	**86.02**	**340**	P	**P**	**17 57 29.0**	**+1.4**
GERES	**GERESS Array B**	**88.64**	**319**	P	**P**	**17 57 41.8**	**+1.1**
	comp=Z,0.5nm,0.7s,mb4.0,baz=80,slow=6.0,SNR=2.6						
LTX	**Lajitas**	**144.42**	**37**	*e*PKP	PKPdf	18 04 25.4	-3.0
TXAR	**Lajitas Array**	**144.42**	**37**	PKP	PKPdf	18 04 24.2	-4.1
	comp=Z,1.4nm,0.6s,baz=311,slow=0.4,SNR=3.1						
MIAR	**Mount Ida**	**144.86**	**19**	*e*PKP	PKPdf	18 04 25.0	-3.9
WVT	**Waverly**	**144.87**	**11**	*e*PKP	PKPdf	18 04 24.4	-4.5
TZTN	**Tazewell**	**145.04**	**5**	*e*PKP	PKPdf	18 04 25.0	-4.2
CFAA	**Coronel Fontan**	**145.15**	**198**	PKPbc	PKPbc	18 04 25.2	+0.6
	comp=Z,1.0nm,0.6s,baz=148,slow=3.0,SNR=6.2						
JCT	**Junction City**	**145.71**	**31**	*e*PKP	PKPdf	18 04 27.9	-2.6

IDC ***10*** *17:44:59.4±1.2,24.33S×179.97W,h494km±11km, mb4.0/17,mb1 4.1/19,mb1mx4.0/23,mbtmp4.8/19,Error ellipse: s-maj=14.9km s-min=11.0km az=152.0*
NEIC ***10*** *17:45:00.3±0.8,24.31S×179.99E,h506km±9km,mb4.8/9, Error ellipse: s-maj=10.4km s-min=7.1km az=149.0*
ISC 10 17:44:59.1±1.3,24.35S±0.05×179.94E±0.09, h500km±15km,n75,σ1§01/41,mb4.4/23,2C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.62**	**278**	*eP*	**P**	**17 47 46.5**	**+1.4**
DZM	**Mont Dzumac**	**12.62**	**278**	P	**P**	**17 47 48.5**	**+3.3**
	2.4nm,0.3s,baz=85,slow=15,SNR=28						
AFI	**Afiamalu**	**12.99**	**38**	P	**P**	**17 47 47.7**	**-1.4**
	2.8nm,0.3s,baz=106,slow=19,SNR=3.9						
AFI				S	**S**	**17 50 00.7**	**-5.0**
	1.5nm,0.3s,baz=226,slow=23,SNR=4.2						
URZ	**Urewera**	**14.08**	**189**	P	**P**	**17 48 01.5**	**+1.4**
	1.6nm,0.3s,baz=306,slow=8.4,SNR=8.5						
URZ				S	**S**	**17 50 26.7**	**+0.6**
	0.7nm,0.3s,baz=241,slow=20,SNR=6.0						
URZ	**Urewera**	**14.08**	**189**	PN	**P**	**17 48 01.2**	**+1.1**
MWZ	**Matawai**	**14.10**	**188**	PN	**P**	**17 48 01.0**	**+0.7**
BKZ	**Black Stump Fm**	**15.06**	**190**	PN	**P**	**17 48 10.8**	**+0.7**
BKZ				SN	**S**	**17 50 44.4**	**0.0**
BFZ	**Birch Farm**	**16.58**	**190**	SN	**S**	**17 51 12.8**	**+0.8**
MRZ	**Mangatainoka R**	**16.68**	**192**	PN	**P**	**17 48 24.1**	**-2.0**
MRZ				SN	**S**	**17 51 11.5**	**-2.2**
THZ	**Tophouse**	**18.33**	**197**	PN	**P**	**17 48 43.1**	**+0.7**
LTZ	**Lake Taylor**	**19.45**	**197**	PN	**P**	**17 48 51.3**	**-1.8**
RPZ	**Rata Peaks**	**20.65**	**199**	P	**P**	**17 49 04.2**	**-0.1**
	6.5nm,0.5s,baz=354,slow=4.1,SNR=11						
CTA	**Charters Tower**	**31.43**	**271**	P	**P**	**17 50 41.1**	**+1.0**
	50nm,0.4s,mb5.2,baz=95,slow=11,SNR=190						
CTAO	**Charters Tower**	**31.43**	**271**	*eP*	**P**	**17 50 41.0**	**+0.9**
	49nm,0.5s,mb5.2						
STKA	**Stephens Creek**	**34.51**	**249**	P	**P**	**17 51 06.6**	**+0.7**
	9.8nm,0.5s,mb4.5,baz=91,slow=9.8,SNR=14						
PMG	**Port Moresby**	**34.59**	**290**	P	**P**	**17 51 07.3**	**+0.5**
	30nm,0.7s,mb4.9,baz=96,slow=3.5,SNR=16						
ASAR	**Alice Springs**	**41.91**	**261**	P	**P**	**17 52 06.6**	**+0.1**
	6.5nm,0.4s,mb4.4,baz=93,slow=6.2,SNR=20						
ASAR				ScP		17 56 53.9	
	4.0nm,0.9s,baz=100,slow=3.8,SNR=7.7						
WRAB	**Tennant Creek**	**42.32**	**267**	*eP*	**P**	**17 52 09.0**	**-0.8**
	18nm,0.6s,mb4.7						
WRAB				*e*		17 52 17.2	
WRA	**Warramunga Arr**	**42.33**	**267**	P	**P**	**17 52 09.2**	**-0.7**
	20nm,0.5s,mb4.8,baz=102,slow=8.1,SNR=44						
WRA				ScP		17 56 57.0	
	10.0nm,0.9s,baz=101,slow=4.1,SNR=23						
WRA	**Warramunga Arr**	**42.33**	**267**	P	**P**	**17 52 09.2**	**-0.7**
WRA				ScP		17 56 57.0	
FITZ	**Fitzroy Crossi**	**50.74**	**266**	P	**P**	**17 53 14.1**	**-0.1**
	39nm,0.6s,mb4.9,baz=173,slow=4.6,SNR=18						
KLBR	**Kellerberrin**	**54.77**	**248**	*eP*	**P**	**17 53 41.9**	**-1.1**
	128nm,0.5s,mb5.5						
NWAO	**Narrogin (SRO)**	**55.00**	**246**	P	**P**	**17 53 43.4**	**-1.3**
	7.2nm,1.1s,mb3.9,baz=130,slow=9.7,SNR=4.2						
MUN	**Mundaring**	**56.01**	**247**	*eP*	**P**	**17 53 50.9**	**-0.7**
	58nm,1.1s,mb4.8						
QSPA	**South Pole Qui**	**65.74**	**180**	P	**P**	**17 54 54.8**	**0.0**
	14nm,0.6s,mb4.8						
MAW	**Mawson**	**77.31**	**200**	P	**P**	**17 56 02.8**	**+0.7**
	3.7nm,0.5s,mb4.2,baz=122,slow=9.2,SNR=1.0						
SNAA	**Sanae**	**84.22**	**179**	P	**P**	**17 56 37.2**	**-0.4**
	1.9nm,0.8s,mb3.7,baz=184,slow=13,SNR=4.4						
YBH	**Yreka Blue Hor**	**84.46**	**39**	P	**P**	**17 56 40.1**	**+0.6**
	3.2nm,0.6s,mb4.0,baz=171,slow=0.7,SNR=4.7						
NVAR	**Mina Array Bea**	**85.11**	**44**	P	**P**	**17 56 43.1**	**+0.4**
	3.3nm,0.8s,mb4.0,baz=225,slow=7.7,SNR=9.1						
WVOR	**Wild Horse Val**	**87.28**	**41**	*eP*	**P**	**17 56 52.9**	**0.0**
	9.6nm,1.2s,mb4.4						
PLCA	**Paso Flores**	**87.99**	**134**	P	**P**	**17 56 57.1**	**+0.8**
	2.5nm,1.0s,mb3.9,baz=250,slow=3.9,SNR=2.8						
HAWA	**Hanford**	**89.16**	**37**	*eP*	**P**	**17 57 01.0**	**-0.6**
	0.9nm,1.1s,mb3.5						
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	**P**	**17 57 06.5**	**+2.1**
	1.5nm,1.0s,mb3.8,baz=112,slow=2.8,SNR=5.3						
TXAR	**Lajitas Array**	**90.71**	**58**	P	**P**	**17 57 10.1**	**+0.9**
	5.9nm,0.7s,mb4.6,baz=213,slow=6.5,SNR=27						
ANMO	**Albuquerque**	**91.27**	**52**	P	**P**	**17 57 12.2**	**+0.6**
	2.6nm,0.9s,mb4.2,baz=200,slow=5.5,SNR=3.9						
COLA	**College**	**92.36**	**13**	*eP*	**P**	**17 57 13.7**	**-2.2**
	2.0nm,0.4s,mb4.4						
PDAR	**Pinedale Array**	**93.05**	**44**	P	**P**	**17 57 19.9**	**+0.2**
	2.3nm,0.8s,mb4.3,baz=239,slow=2.7,SNR=4.7						
BVAR	**Borovoye Array**	**120.74**	**319**	PKP	PKPdf	18 02 53.6	+0.2
	1.5nm,0.3s,baz=108,slow=2.1,SNR=10						
ARU	**Arti**	**127.21**	**323**	*e*PKPdf	PKPdf	18 03 05.9	+0.2
MATP	**Matopo**	**127.53**	**214**	PKP	PKPdf	18 03 08.2	+0.9
	1.2nm,0.6s,baz=117,slow=4.5,SNR=4.7						
MATP				SKPbc		18 05 38.9	
	0.8nm,0.7s,baz=309,slow=16,SNR=4.4						
ARCES	**ARCESS Array B**	**132.31**	**348**	PKP	PKPdf	18 03 15.1	-0.1
	1.9nm,0.6s,baz=0.9,slow=0.5,SNR=15						
ARCES				SKPbc		18 05 55.6	
	4.2nm,0.9s,slow=3.6,SNR=6.8						
JOF	**Joensuu**	**136.13**	**340**	*ep*	PKPdf	18 03 23.5	+1.1
ATD	**Arta Tunnel**	**137.41**	**260**	PKhKP		18 03 21.3	
	3.8nm,0.6s,baz=302,slow=17,SNR=3.6						
ATD	**Arta Tunnel**	**137.41**	**260**	PKP	PKPdf	18 03 21.3	-4.7
KAF	**Kangasniemi**	**138.25**	**342**	*ep*	PKPdf	18 03 27.6	+1.4
FINES	**FINESS Array B**	**138.85**	**341**	PKhKP		18 03 18.4	
	0.8nm,0.5s,baz=56,slow=3.9,SNR=12						
FINES				PKP	PKPdf	18 03 28.5	+1.1
	1.1nm,0.4s,baz=67,slow=4.2,SNR=9.4						
FINES				SKPbc		18 06 15.3	
	3.5nm,0.5s,baz=47,slow=3.7,SNR=23						
FINES	**FINESS Array B**	**138.85**	**341**	PKP	PKPdf	18 03 18.4	-8.9
FINES				PKP	PKPdf	18 03 28.5	+1.1
FINES				SKPbc		18 06 15.3	
NB2	**NORSAR Subarra**	**142.51**	**351**	PKPabc	PKPdf	18 03 31.1	-2.6
	1.0nm,0.6s,baz=10.0,slow=2.9						
NB2	**NORSAR Subarra**	**142.51**	**351**	⇑PKPab	PKPdf	18 03 31.1	-2.6
NOA	**NORSAR Array B**	**142.51**	**351**	PKhKP		18 03 30.9	
	2.6nm,0.9s,baz=16,slow=4.7,SNR=5.8						
HFS	**Hagfors**	**142.97**	**349**	PKhKP		18 03 32.3	
	12nm,0.4s,baz=63,slow=3.3,SNR=108						
KONO	**Kongsberg**	**144.08**	**352**	*e*PKPdf	PKPdf	18 03 36.2	-0.2
MALT	**Malatya**	**144.56**	**302**	*e*PKP	PKPdf	18 03 40.0	+2.0
AKASG	**Malin Array Be**	**145.32**	**327**	PKPbc	PKPbc	18 03 40.1	+0.2
	3.2nm,0.5s,baz=44,slow=3.8,SNR=28						
AKASG				SKPbc		18 06 31.8	
	1.1nm,0.5s,baz=42,slow=2.6,SNR=8.6						
ASF	**Jabal al Asfar**	**146.65**	**292**	PKPbc	PKPbc	18 03 46.0	+2.3
	2.2nm,0.6s,baz=257,slow=6.1,SNR=5.6						
BRTR	**Keskin Array B**	**147.80**	**307**	PKPbc	PKPdf	18 03 48.0	+4.7
	2.0nm,0.6s,baz=137,slow=4.6,SNR=10						
EIL	**Elat**	**148.44**	**287**	PKPbc	PKPdf	18 03 50.2	+5.6
	5.0nm,0.7s,baz=3.3,slow=6.9,SNR=5.5						
EIL	**Elat**	**148.44**	**287**	*e*PKPdf	PKPdf	18 03 45.8	+1.2
EIL				PKPbc	PKPdf	18 03 50.2	+5.6
EIL				*e*PKPbc	PKPdf	18 03 50.6	+6.0
EKA	**Eskdalemuir Ar**	**148.97**	**3**	PKPbc	PKPdf	18 03 49.8	+5.1
	2.8nm,0.4s,baz=350,slow=3.0,SNR=20						
CSS	**Prodhromos**	**149.25**	**298**	*e*PKPbc	PKPdf	18 03 51.7	+5.9
KOLS	**Kolonicke sedl**	**149.83**	**330**	*e*PKP	PKPdf	18 03 53.6	+7.4
MLR	**Muntele Rosu**	**150.23**	**322**	PKPbc	PKPdf	18 03 53.4	+6.4
	2.5nm,0.5s,slow=6.1,SNR=14						
KSP	**Ksiaz**	**150.68**	**339⇑**	*i*PKP	PKPdf	18 03 55.1	+7.6
OKC	**Ostrava-Krasne**	**150.86**	**335**	*e*PKPbc	PKPdf	18 03 55.5	+7.7
KECS	**Kecovo**	**150.97**	**331**	*e*PKP	PKPdf	18 03 56.5	+8.5
UPC	**Upice**	**151.06**	**339**	*e*PKPbc	PKPdf	18 03 55.3	+7.3
DPC	**Dobruska-Polom**	**151.09**	**338**	*e*PKPbc	PKPdf	18 03 56.1	+8.0
CLL	**Collm**	**151.27**	**343⇓**	*i*PKP1	PKPdf	18 03 56.2	+7.9
CLL				*e**PPKP		18 05 59.0	
BRG	**Berggiesshubel**	**151.39**	**341**	*i* PKP	PKPdf	18 03 56.5	+8.0
BRG				*e*		18 06 00.3	
PVCC	**Panska Ves**	**151.51**	**340**	*e*PKPbc	PKPdf	18 03 57.0	+8.3
PRU	**Pruhonice**	**151.99**	**340**	*e*PKPbc	PKPdf	18 03 57.7	+8.4
KHC	**Kasperske Hory**	**153.04**	**340**	*e*P	PKPdf	18 04 00.0	+9.2
KHC				*e*		18 04 14.5	
GERES	**GERESS Array B**	**153.26**	**340**	PKPbc	PKPdf	18 04 00.1	+9.0
	1.0nm,0.7s,baz=27,slow=3.0,SNR=6.5						
DAVOX	**Davos**	**156.24**	**343**	PKPab	PKPab	18 04 28.3	-0.3
	1.9nm,0.5s,baz=338,slow=4.4,SNR=6.5						
ESDC	**Sonseca Array**	**164.37**	**11**	PKPab	PKPab	18 05 03.0	-1.0
	0.1nm,0.4s,baz=352,slow=4.9,SNR=5.2						

HLW ***10*** *17:45:55.5,25.00N×36.42E,h16km,Mb3.5*
SNSN ***10*** *17:45:56.0,24.95N×36.33E,h5km,Ml2.8*
CSEM ***10*** *17:45:57.4±0.1,24.95N×36.27E,h30km,ML2.8,Error ellipse: s-maj=2.4km s-min=1.8km az=1.0*
**ISC

3.2nm,0.6s,mb4.5,baz=309,slow=6.8,SNR=7.8
ZAL Zalesovo 56.75 350 P **P 18 06 47.7 0.0**
BVAR Borovoye Array 59.74 340 P **P 18 07 07.4 -1.2**
1.1nm,0.5s,mb4.1,baz=149,slow=12,SNR=6.9
CHKZ Chkalovo 60.21 341 *e*P **P 18 07 10.8 -1.1**
4.9nm,1.1s,mb4.5
FINES FINESS Array B 83.66 332 P **P 18 09 31.9 +0.8**
0.6nm,0.5s,mb4.0,baz=117,slow=8.5,SNR=6.5
ARCES ARCESS Array B 86.03 340 P **P 18 09 44.3 +1.6**
3.1nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=7.7
TXAR Lajitas Array 144.59 37 PKP PKPdf 18 16 40.2 +1.7
1.8nm,0.6s,baz=252,slow=0.9,SNR=21
TZTN Tazewell 145.13 5 *e*PKP PKPdf 18 16 40.2 +1.0
TZTN *e* 18 16 49.7
JCT Junction City 145.87 31 *e*PKP PKPdf 18 16 43.7 +3.0
CPCT Cooper Cave 146.13 6 *e*PKP PKPdf 18 16 43.6 +2.6

*IDC **10** 17:57:44.4±0.8, 1.68S×99.79E, mb4.2/11, mb1 4.4/11, mb1mx4.1/20, mbtmp4.2/11, Error ellipse: s-maj=35.4km s-min=17.3km az=52.0*
*NEIC **10** 17:57:49.0±0.5, 1.54S×99.97E, h30km, mb4.6/2, Error ellipse: s-maj=20.8km s-min=9.7km az=61.0*
ISC 10 17:57:47.9±0.7, 1.5S±0.1×100.0E±0.2, h33km, n20, σ0°98/14, mb4.3/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.74**	**5**	P	**P**	**17 59 25.0**	**-2.0**
CMAR	**Chiang Mai Arr**	**19.83**	**357**	P	**P**	**18 02 19.1**	**+0.4**
1.0nm,0.7s,baz=186,slow=10.0,SNR=2.4							
WRA	**Warramunga Arr**	**38.24**	**121**	P	**P**	**18 05 06.6**	**-0.2**
2.9nm,0.4s,mb4.3,baz=303,slow=9.1,SNR=7.5							
WRAB	**Tennant Creek**	**38.25**	**121**	*e*P	**P**	**18 05 06.8**	**-0.1**
9.9nm,0.9s,mb4.5							
ASAR	**Alice Springs**	**39.55**	**127**	P	**P**	**18 05 18.5**	**+0.9**
2.5nm,0.7s,mb4.1,baz=308,slow=8.2,SNR=6.7							
ASAR				PcP	PcP	18 07 25.8	+0.5
1.4nm,0.8s,baz=303,slow=2.6,SNR=4.1							
STKA	**Stephens Creek**	**49.48**	**132**	P	**P**	**18 06 36.6**	**-0.7**
3.1nm,0.8s,mb4.4,baz=286,slow=7.8,SNR=3.9							
MKAR	**Makanchi Array**	**50.53**	**344**	P	**P**	**18 06 45.9**	**+0.8**
2.5nm,0.6s,mb4.3,baz=152,slow=8.1,SNR=3.9							
KURK	**Kurchatov**	**55.11**	**344**	*e*P	**P**	**18 07 19.2**	**+0.2**
4.8nm,0.8s,mb4.6							
ZAL	**Zalesovo**	**56.65**	**349**	P	**P**	**18 07 30.9**	**+0.7**
2.9nm,0.6s,mb4.5,baz=305,slow=5.4,SNR=4.4							
BVAR	**Borovoye Array**	**59.70**	**340**	P	**P**	**18 07 50.1**	**-1.4**
1.2nm,0.6s,mb4.1,baz=143,slow=9.0,SNR=3.8							
MATP	**Matopo**	**72.18**	**249**	P	**P**	**18 09 10.1**	**-1.6**
1.9nm,0.8s,mb4.1,baz=90,slow=6.1,SNR=3.1							
MLR	**Muntele Rosu**	**79.93**	**317**	P	**P**	**18 09 55.8**	**+0.5**
1.6nm,0.6s,mb4.1,baz=153,slow=2.6,SNR=5.3							
FINES	**FINESS Array B**	**83.66**	**332**	P	**P**	**18 10 15.2**	**+0.9**
1.5nm,0.7s,mb4.2,baz=91,slow=4.5,SNR=5.5							
ARCES	**ARCESS Array B**	**85.98**	**340**	P	**P**	**18 10 26.9**	**+1.2**
4.2nm,0.9s,mb4.7,baz=90,slow=4.9,SNR=3.9							
TXAR	**Lajitas Array**	**144.27**	**37**	PKP	PKPdf	18 17 23.0	+1.9
2.5nm,0.7s,baz=258,slow=1.3,SNR=13							
TXAR	**Lajitas Array**	**144.27**	**37**	PKP	PKPdf	18 17 23.0	+1.8
MIAR	**Mount Ida**	**144.73**	**20**	*e*P	PKPbc	18 17 23.1	+1.3
MIAR				*e*		18 17 30.5	
WVT	**Waverly**	**144.75**	**11**	*e*P	PKPbc	18 17 22.6	+0.8
WVT				*e*		18 17 29.5	
JCT	**Junction City**	**145.56**	**31**	*e*PKP	PKPdf	18 17 26.1	+2.7
JCT				*e*		18 17 33.8	
CPCT	**Cooper Cave**	**145.93**	**7**	*e*PKP	PKPdf	18 17 26.3	+2.4

*IDC **10** 18:11:35.9±2.1, 1.77S×99.72E, h28km±6km, mb3.6/9, mb1 3.8/9, mb1mx3.6/19, mbtmp3.7/9, Error ellipse: s-maj=87.8km s-min=15.4km az=57.0*
*NEIC **10** 18:11:35.8±0.8, 1.80S×99.70E, mb4.2/3, Error ellipse: s-maj=29.7km s-min=7.8km az=61.0*
ISC 10 18:11:33.6±1.1, 1.8S±0.2×99.7E±0.3, h28km, h28km±.9km: pP-P, n14, σ0°60/13, mb3.9/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.07**	**8**	*e*P	**Pn**	**18 13 17.9**	**0.0**
CMAR	**Chiang Mai Arr**	**20.10**	**358**	P	**P**	**18 16 08.0**	**-0.1**
0.5nm,0.6s,baz=184,slow=11,SNR=5.6							
FITZ	**Fitzroy Crossi**	**30.21**	**124**	P	**P**	**18 17 43.9**	**-0.4**
2.8nm,0.7s,mb4.1,baz=173,slow=14,SNR=3.3							
WRA	**Warramunga Arr**	**38.39**	**121**	P	**P**	**18 18 54.0**	**-0.5**
1.1nm,0.4s,mb3.9,baz=303,slow=9.0,SNR=16							
WRAB	**Tennant Creek**	**38.40**	**120**	*e*P	**P**	**18 18 54.8**	**+0.2**
2.8nm,0.5s,mb4.2							
ASAR	**Alice Springs**	**39.65**	**126**	P	**P**	**18 19 05.2**	**+0.2**
0.9nm,0.8s,mb3.6,baz=300,slow=7.8,SNR=12							
STKA	**Stephens Creek**	**49.55**	**132**	P	**P**	**18 20 24.7**	**+0.4**
1.0nm,0.5s,mb4.2,baz=315,slow=9.3,SNR=4.1							
SONM	**Songino Array**	**49.73**	**6**	P	**P**	**18 20 26.0**	**+0.5**
0.2nm,0.4s,mb3.5,baz=188,slow=10,SNR=5.3							
SONM				pP	pP	18 20 34.2	+0.2
0.8nm,0.7s,baz=189,slow=10,SNR=5.5							
MKAR	**Makanchi Array**	**50.71**	**345**	P	**P**	**18 20 33.0**	**+0.1**
0.6nm,0.5s,mb3.8,baz=158,slow=8.9,SNR=9.5							
MKAR				pP	pP	18 20 42.3	+0.8
1.1nm,0.6s,baz=155,slow=8.3,SNR=8.7							
KURK	**Kurchatov**	**55.28**	**344**	*e*P	**P**	**18 21 05.8**	**-1.1**
3.3nm,1.3s,mb4.2							
ZAL	**Zalesovo**	**56.86**	**350**	P	**P**	**18 21 18.1**	**-0.1**
0.7nm,0.5s,mb4.0,baz=281,slow=3.2,SNR=3.8							
ZAL				pP	pP	18 21 26.5	-0.4
1.5nm,0.4s,baz=314,slow=7.0,SNR=4.3							
BVAR	**Borovoye Array**	**59.85**	**340**	P	**P**	**18 21 38.3**	**-0.7**
0.3nm,0.5s,mb3.6,baz=144,slow=13,SNR=3.5							
CHKZ	**Chkalovo**	**60.31**	**341**	P	**P**	**18 21 43.6**	**+1.4**
0.4nm,0.6s,mb3.6							
TXAR	**Lajitas Array**	**144.70**	**37**	PKP	PKPdf	18 31 10.4	-2.9
0.4nm,0.5s,baz=184,slow=2.3,SNR=5.9							

*NEIC **10** 18:13:17.0±0.7, 1.71S×99.73E, mb3.9/3, Error ellipse: s-maj=26.3km s-min=8.9km az=63.0*
*IDC **10** 18:13:17.9±1.4, 1.58S×99.96E, h25km±4km, mb3.9/9, mb1 4.0/10, mb1mx3.8/18, mbtmp4.0/10, ML4.2/1, Error ellipse: s-maj=70.3km s-min=13.5km az=54.0*
ISC 10 18:13:15.9±1.1, 1.6S±0.1×100.0E±0.3, h26km, h26km±1.3km: pP-P, n18, σ0°85/16, mb4.0/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.84**	**6**	*e*P	**Pn**	**18 14 59.1**	**+1.8**
CM31	**Chiang Mai Arr**	**19.92**	**357**	P	**P**	**18 17 46.8**	**-2.1**
4.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**19.92**	**357**	P	**P**	**18 17 48.1**	**-0.7**
0.3nm,0.3s,baz=187,slow=10,SNR=9.4							
FITZ	**Fitzroy Crossi**	**30.08**	**125**	P	**P**	**18 19 25.0**	**-0.7**
4.6nm,1.0s,mb4.2,baz=0.7,slow=15,SNR=2.6							
LSA	**Lhasa**	**32.21**	**345**	*e*P	**P**	**18 19 44.0**	**-0.3**
2.1nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**38.23**	**121**	P	**P**	**18 20 35.5**	**-0.4**
0.8nm,0.4s,mb3.8,baz=303,slow=8.9,SNR=12							
WRA				pP	pP	18 20 43.6	0.0
1.8nm,0.6s,baz=302,slow=9.1,SNR=9.0							
ASAR	**Alice Springs**	**39.53**	**126**	P	**P**	**18 20 46.5**	**-0.1**
0.4nm,0.6s,mb3.3,baz=302,slow=7.1,SNR=5.5							
ASAR				pP	pP	18 20 54.6	+0.3
2.1nm,0.6s,baz=303,slow=7.1,SNR=13							
STKA	**Stephens Creek**	**49.45**	**132**	P	**P**	**18 22 07.0**	**+0.9**
1.6nm,0.9s,mb4.0,baz=301,slow=11,SNR=3.5							
STKA				pP	pP	18 22 15.3	+1.2
1.1nm,0.6s,baz=325,slow=10,SNR=2.2							
STKA	**Stephens Creek**	**49.45**	**132**	P	**P**	**18 22 07.0**	**+0.9**
STKA				pP	pP	18 22 15.3	+1.2
SONM	**Songino Array**	**49.51**	**6**	P	**P**	**18 22 06.9**	**+0.5**
0.9nm,0.7s,mb3.9,baz=190,slow=9.7,SNR=8.6							
SONM				PcP	PcP	18 23 28.9	+0.5
0.3nm,0.7s,baz=179,slow=3.8,SNR=2.5							
SONM				pPcP		18 23 37.0	
0.7nm,0.7s,baz=204,slow=2.8,SNR=4.3							
ULN	**Ulaanbaatar**	**49.61**	**6**	*e*P	**P**	**18 22 07.3**	**+0.1**
0.5nm,0.6s,mb3.7							
MKAR	**Makanchi Array**	**50.60**	**344**	P	**P**	**18 22 14.8**	**0.0**
0.9nm,0.4s,mb4.1,baz=153,slow=9.7,SNR=11							
ZAL	**Zalesovo**	**56.73**	**349**	P	**P**	**18 22 59.4**	**-0.4**
2.0nm,0.5s,mb4.4,baz=315,slow=1.7,SNR=9.0							
FINES	**FINESS Array B**	**83.72**	**332**	P	**P**	**18 25 44.2**	**+0.5**
0.6nm,0.5s,mb4.0,baz=90,slow=5.7,SNR=4.3							
FINES				pP	pP	18 25 51.5	-0.5
0.7nm,0.5s,baz=123,slow=4.5,SNR=2.1							
FINES	**FINESS Array B**	**83.72**	**332**	P	**P**	**18 25 44.2**	**+0.5**
FINES				pP	pP	18 25 51.5	-0.5
ARCES	**ARCESS Array B**	**86.06**	**340**	P	**P**	**18 25 56.1**	**+0.8**
3.5nm,1.0s,mb4.5,baz=79,slow=6.2,SNR=4.0							
TXAR	**Lajitas Array**	**144.37**	**37**	PKP	PKPdf	18 32 52.3	-2.9
0.4nm,0.5s,baz=291,slow=0.9,SNR=7.1							
TXAR				pPKP		18 33 01.3	
2.5nm,0.6s,baz=272,slow=1.2,SNR=17							
MIAR	**Mount Ida**	**144.83**	**20**	*e*PKP	PKPdf	18 32 52.8	-3.1
MIAR				*e*		18 33 01.0	

*IDC **10** 18:18:07.9±1.2, 1.38S×100.29E, mb4.2/9, mb1 4.2/10, mb1mx4.0/18, mbtmp4.1/10, ML3.9/1, Error ellipse: s-maj=59.4km s-min=15.5km az=53.0*
*NEIC **10** 18:18:11.9±0.8, 1.50S×100.17E, h30km, mb4.1/3, Error ellipse: s-maj=28.9km s-min=8.7km az=62.0*
ISC 10 18:18:10.9±1.0, 1.4S±0.1×100.3E±0.2, h33km, n15, σ0°80/14, mb4.2/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.64**	**3**	*e*P	**P**	**18 19 50.8**	**+2.2**
CM31	**Chiang Mai Arr**	**19.76**	**356**	P	**P**	**18 22 40.6**	**-0.4**
7.1nm,1.1s							
CMAR	**Chiang Mai Arr**	**19.76**	**356**	P	**P**	**18 22 40.5**	**-0.5**
0.1nm,0.3s,baz=188,slow=10,SNR=13							
FITZ	**Fitzroy Crossi**	**29.92**	**125**	P	**P**	**18 24 17.7**	**-0.6**
6.3nm,0.8s,mb4.4,baz=309,slow=5.3,SNR=6.0							
WRA	**Warramunga Arr**	**38.05**	**121**	P	**P**	**18 25 28.5**	**+0.2**
2.8nm,0.5s,mb4.3,baz=303,slow=9.1,SNR=42							
WRAB	**Tennant Creek**	**38.06**	**121**	*e*P	**P**	**18 25 28.7**	**+0.3**
4.9nm,0.6s,mb4.4							
ASAR	**Alice Springs**	**39.38**	**127**	P	**P**	**18 25 39.6**	**+0.3**
2.3nm,0.9s,mb3.9,baz=305,slow=7.9,SNR=19							
SONM	**Songino Array**	**49.30**	**5**	P	**P**	**18 26 59.1**	**+0.4**
1.8nm,0.9s,mb4.1,baz=187,slow=10.0,SNR=3.6							
STKA	**Stephens Creek**	**49.34**	**132**	P	**P**	**18 26 59.4**	**+0.1**
3.0nm,0.8s,mb4.4,baz=304,slow=7.7,SNR=7.0							
ULN	**Ulaanbaatar**	**49.40**	**6**	*e*P	**P**	**18 26 58.4**	**-1.1**
1.5nm,0.8s,mb4.1							
MKAR	**Makanchi Array**	**50.52**	**344**	P	**P**	**18 27 07.5**	**-0.6**
2.0nm,0.6s,mb4.2,baz=156,slow=7.5,SNR=5.4							
ZAL	**Zalesovo**	**56.61**	**349**	P	**P**	**18 27 51.9**	**-1.1**
2.8nm,0.6s,mb4.5,baz=325,slow=9.7,SNR=3.7							
BRTR	**Keskin Array B**	**73.12**	**312**	P	**P**	**18 29 41.4**	**+1.2**
0.4nm,0.7s,mb3.5,baz=135,slow=8.2,SNR=3.2							
FINES	**FINESS Array B**	**83.70**	**332**	P	**P**	**18 30 37.8**	**+0.2**
0.7nm,0.5s,mb4.0,baz=90,slow=9.7,SNR=3.4							
TXAR	**Lajitas Array**	**144.03**	**37**	PKP	PKPdf	18 37 44.5	+0.7
1.0nm,0.5s,baz=298,slow=1.0,SNR=13							

*MOS **10** 18:19:15.1±1.2, 36.41N×71.40E, h128km, mb4.3/32, Error ellipse: s-maj=9.0km s-min=5.5km az=112.3*
*NEIC **10** 18:19:17.5±0.3, 36.35N×71.50E, mb4.7/25, Error ellipse: s-maj=8.6km s-min=5.2km az=218.0*
*IDC **10** 18:19:18.2±0.6, 36.37N×71.37E, h141km±5km, mb4.0/25, mb1 4.1/27, mb1mx4.1/30, mbtmp4.4/27, Error ellipse: s-maj=10.8km s-min=9.5km az=32.0*
*BJI **10** 18:19:18.1, 36.60N×71.48E, h128km, mb4.4*
ISC 10 18:19:16.2±0.2, 36.39N±0.02×71.46E±0.03, h141km, h141km±1.9km: pP-P, n192, σ1°22/210, mb4.2/50, 12C-11D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.58**	**172**	⇓P	**P**	**18 19 59.8**	**+1.2**
CHCP	**Chirah Chowk**	**3.10**	**151**	⇓P	**P**	**18 20 07.0**	**+1.7**
THW	**Thamme Wali**	**3.59**	**176**	⇓P	**P**	**18 20 12.1**	**+0.3**
SBDP	**Sheikh Budin**	**4.11**	**188**	⇑P	**P**	**18 20 18.1**	**-0.6**
SARP	**Sargodha**	**4.56**	**167**	P	**P**	**18 20 24.2**	**-0.5**
JMU	**Jammu**	**4.63**	**141**	⇑*i*P	**P**	**18 20 27.0**	**+1.4**
JMU				*i* S	**S**	**18 21 20.0**	**+1.1**
KSH	**Kashi**	**4.74**	**47**	P	**P**	**18 20 29.6**	**+2.6**
KSH				S	**S**	**18 21 23.3**	**+1.8**
KSH				Smax			
comp=N,1μm,1.0s							
KSH				Smax			
comp=E,720nm,0.6s							
DRP	**Derazinda**	**4.75**	**193**	P	**P**	**18 20 27.2**	**+0.1**
THN	**Thein Dam**	**5.28**	**137**	*e*P	**P**	**18 20 35.2**	**+1.0**
THN				*e*S	**S**	**18 21 35.3**	**+0.8**
DLH	**Dalhousie**	**5.34**	**135**	*e*P	**P**	**18 20 37.0**	**+2.0**
PONG	**Pong**	**5.78**	**139**	*e*P	**P**	**18 20 41.0**	**+0.2**
PONG				*e*S	**S**	**18 21 46.0**	**-0.4**
AML	**Almayashu**	**5.99**	**16**	P	**P**	**18 20 43.6**	**-0.1**
SNR=143							
UCH	**Uchtor**	**6.29**	**21**	P	**P**	**18 20 48.0**	**+0.2**
SNR=17							
KZA	**Kyzart**	**6.40**	**26**	P	**P**	**18 20 49.3**	**+0.1**
SNR=21							
BHK	**Bhakra**	**6.44**	**139**	*e*	**P**	**18 20 54.0**	**+4.2**
BHK				*e*		18 22 06.2	
EKS2	**Erkin-Say**	**6.52**	**15**	P	**P**	**18 20 50.5**	**-0.3**
SNR=20							
AAK	**Ala-Archa**	**6.66**	**20**	⇓P	**P**	**18 20 52.8**	**0.0**
comp=E,36nm,0.4s							
AAK				⇓S	**S**	**18 22 03.6**	**-4.2**
comp=E,475nm,1.1s							
AAK	**Ala-Archa**	**6.66**	**20**	PN	**P**	**18 20 53.0**	**+0.2**
AAK				pmax	pmax		
comp=Z,15nm,0.4s							
SDNR	**Sundarnagar**	**6.68**	**135**	*e*P	**P**	**18 20 52.4**	**-0.7**
SDNR				*e*		18 22 03.4	
KK31	**Karatay Array**	**6.75**	**354**	⇓P	**P**	**18 20 52.3**	**-1.6**
comp=Z,138nm,0.3s,baz=180,slow=13,SNR=1572							
KK31				⇑S	**S**	**18 22 03.2**	**-6.7**
comp=Z,321nm,0.5s							
KKAR	**Karatay Array**	**6.75**	**354**	*e*PN	**P**	**18 20 52.3**	**-1.6**
KKAR				pmax	pmax		
comp=Z,35nm,0.2s							
KBK	**Karagaybulak**	**6.81**	**22**	P	**P**	**18 20 55.1**	**+0.2**
SNR=12							
FRU	**Bishkek**	**6.88**	**20**	*e*PN	**P**	**18 20 56.5**	**+0.7**
FRU				*i* S	**S**	**18 22 13.0**	**-0.1**
FRU				pmax	pmax		
comp=Z,50nm,2.0s							
FRU				smax			
comp=E,630nm,1.6s							
ULHL	**Ulahol**	**6.92**	**31**	P	**P**	**18 20 56.5**	**+0.2**
SNR=18							
CHMS	**Chumysh**	**7.07**	**20**	P	**P**	**18 20 57.9**	**-0.4**
SNR=16							
SMLA	**Simla**	**7.07**	**136**	*i* S	**S**	**18 22 14.5**	**-3.2**
USP	**Ospenovka**	**7.26**	**18**	P	**P**	**18 21 00.5**	**-0.3**
SNR=10							
TKM2	**Tokmak 2**	**7.26**	**25**	P	**P**	**18 21 00.8**	**0.0**
SNR=8.7							
KLP	**Kalpa**	**7.43**	**129**	*e*P	**P**	**18 21 03.8**	**+0.7**
KKR	**Kurukshetra**	**7.82**	**143**	*e*P	**P**	**18 21 07.8**	**-0.6**
DDI	**Dehra Dun**	**8.18**	**136**	*e*P	**P**	**18 21 13.5**	**+0.3**
DDI				*e*S	**S**	**18 22 41.1**	**-3.3**
KHET	**Khetri**	**9.07**	**155**	*e*P	**P**	**18 21 22.5**	**-2.4**
KHET				*e*S	**S**	**18 22 58.6**	**-6.9**
KHET				*e*		18 23 05.2	
comp=N,241nm,0.3s							
KHET				*e*		18 23 05.4	
comp=E,137nm,0.3s							
NDI	**New Delhi**	**9.09**	**146**	*e*P	**P**	**18 21 21.5**	**-3.7**
NDI				*e*S	**S**	**18 22 59.5**	**-6.4**
AYAN	**Aya Nagar**	**9.22**	**147**	*e*P	**P**	**18 21 25.0**	**-1.9**
AYAN				*e*S	**S**	**18 23 05.3**	**-3.8**
SONA	**Sohna**	**9.40**	**148**	*e*P	**P**	**18 21 27.2**	**-2.1**
SONA				*e*S	**S**	**18 23 07.1**	**-6.3**
SONA				*e*		18 23 14.4	
comp=N,124nm,0.2s							
SONA				*e*		18 23 14.7	
comp=E,168nm,0.3s							
JASL	**Jaisalmer**	**9.45**	**183**	*e*	**P**	**18 21 28.7**	**-1.3**
PTH	**Pithoragarh**	**10.02**	**130**	*e*P	**P**	**18 21 36.4**	**-1.2**
PTH				*e*		18 22 27.0	
LGTI	**Lohaghat**	**10.11**	**131**	*e*P	**P**	**18 21 37.5**	**-1.2**
LGTI				*e*S	**S**	**18 23 26.0**	**-4.3**
AJM	**Ajmer**	**10.24**	**164**	⇑*i*P	**P**	**18 21 38.0**	**-2.5**
AJM				*i*		18 22 26.0	
AGRA	**Agra**	**10.66**	**147**	*e*P	**P**	**18 21 44.3**	**-1.7**
AGRA				*e*		18 23 38.3	
AGRA				*e*		18 23 41.5	
comp=E,229nm,0.5s							
AGRA				*e*		18 23 41.7	
comp=N,382nm,0.5s							
MKAR	**Makanchi Array**	**13.17**	**35**	P	**P**	**18 22 18.8**	**+0.1**
comp=N,0.4nm,0.3s,baz=207,slow=9.7,SNR=18							
MKAR	**Makanchi Array**	**13.17**	**35**	P	**P**	**18 22 18.8**	**+0.1**
KOLN	**Koldanda**	**13.39**	**126**	*e*P	**P**	**18 22 20.3**	**-1.3**
comp=N,162nm,0.4s							
GKN	**Gorkha**	**13.93**	**123**	*e*P	**P**	**18 22 27.0**	**-1.4**
comp=N,710nm,0.6s							
BHPL	**Bhopal**	**14.08**	**157**	*e*P	**P**	**18 22 30.1**	**-0.3**
BHPL				*e*		18 22 30.6	
comp=Z,29nm,0.4s							
BHPL				*e*		18 25 01.8	
DMN	**Daman**	**14.50**	**123**	*e*P	**P**	**18 22 34.1**	**-1.6**
comp=Z,520nm,0.9s							
KKN	**Kakani**	**14.50**	**122**	*e*P	**P**	**18 22 34.0**	**-1.7**
comp=Z,249nm,0.6s							
KKN	**Kakani**	**14.50**	**122**	*e*P	**P**	**18 22 34.0**	**-1.7**
KKN				pmax	pmax		
comp=Z,125nm,0.6s							
PKI	**Pulchoki**	**14.73**	**123**	*e*P	**P**	**18 22 37.1**	**-1.5**
comp=Z,240nm,0.6s							
PKI	**Pulchoki**	**14.73**	**123**	*e*P	**P**	**18 22 37.1**	**-1.5**
PKI				pmax	pmax		
comp=Z,120nm,0.6s							
GUN	**Gumba**	**14.84**	**121**	*e*P	**P**	**18 22 38.8**	**-1.2**
comp=Z,200nm,0.5s							
JIRN	**Jiri**	**15.21**	**121**	*e*P	**P**	**18 22 43.5**	**-1.1**
comp=Z,717nm,0.4s							
KURK	**Kurchatov**	**15.22**	**18**	⇑P	**P**	**18 22 41.7**	**-3.0**
comp=Z,4.1nm,1.0s,baz=95,slow=17,SNR=6.7							
KURK	**Kurchatov**	**15.22**	**18**	*e*P	**P**	**18 22 41.5**	**-3.1**
KURK				pmax	pmax		
comp=Z,5.0nm,0.7s							
KURK	**Kurchatov**	**15.22**	**18**	*e*P	**P**	**18 22 41.5**	**-3.2**
comp=Z,5.3nm,0.7s							
KURK				*e*		18 22 47.0	
NGP	**Nagpur**	**16.56**	**154**	*e*P	**P**	**18 23 02.3**	**+0.8**
NGP				*e*		18 23 03.5	
comp=Z,22nm,0.7s							
NGP				*e*		18 25 54.2	
BANOM	**Banah**	**16.63**	**235**	⇑P	**P**	**18 23 01.7**	**-0.6**
BVA0	**Borovoye Array**	**16.65**	**358**	⇑P	**P**	**18 23 00.6**	**-1.8**
comp=Z,1.5nm,0.9s,baz=159,slow=12,SNR=72							
BVA0				⇓S	**S**	**18 25 53.8**	**-7.9**
comp=Z,3.8nm,1.2s							
BVA0	**Borovoye Array**	**16.65**	**358**	*i* P	**P**	**18 23 00.5**	**-1.9**
BVA0				*i*		18 25 53.8	
BVA0				pmax	pmax		
comp=Z,2.0nm,1.2s							
BVA0				smax			
comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**16.65**	**358**	P	**P**	**18 23 00.4**	**-2.0**
comp=Z,2.0nm,0.3s,baz=164,slow=13,SNR=36							
BVAR				S	**S**	**18 26 01.5**	**-0.1**
comp=Z,0.6nm,0.3s,baz=169,slow=22,SNR=3.6							
BLSP	**Bilaspur**	**16.97**	**144**	*e*P	**P**	**18 23 08.3**	**+1.9**
BLSP				*e*		18 23 10.4	
comp=Z,16nm,0.4s							
BLSP				*e*		18 26 05.0	
CHKZ	**Chkalovo**	**17.30**	**358**	⇓P	**P**	**18 23 07.8**	**-2.5**
comp=Z,4.9nm,0.8s							
CHKZ				⇓S	**S**	**18 26 12.1**	**-4.1**
comp=Z,18nm,1.5s							
CHKZ	**Chkalovo**	**17.30**	**358**	P	**P**	**18 23 08.8**	**-1.5**
CHKZ						18 26 12.3	
CHKZ				pmax	pmax		
comp=Z,10.0nm,1.0s							
CHKZ				smax			
comp=Z,8.0nm,0.8s							
CHKZ	**Chkalovo**	**17.30**	**358**	*e*P	**P**	**18 23 07.8**	**-2.4**
comp=Z,8.6nm,0.7s							
WBK	**Wadi Bani Khal**	**17.49**	**222**	⇓P	**P**	**18 23 15.5**	**+2.8**
ASHO	**Ashiyiah**	**17.64**	**233**	⇑P	**P**	**18 23 14.4**	**-0.1**
LSA	**Lhasa**	**17.79**	**106**	P	**P**	**18 23 18.8**	**+2.6**
LSA				AMB	AMB		
comp=Z,60nm,1.3s							
LSA	**Lhasa**	**17.79**	**106**	*e*P	**P**	**18 23 18.7**	**+2.5**
LSA				pmax	pmax		
comp=Z,43nm,0.8s							
LSA	**Lhasa**	**17.79**	**106**	*e*P	**P**	**18 23 18.7**	**+2.5**
comp=Z,43nm,0.8s							
POO	**Poona**	**17.91**	**173**	⇑*i*	**P**	**18 23 08.0**	**-10**
POO				*i* S	**S**	**18 26 33.0**	**+3.1**
LATR	**Latur**	**18.46**	**165**	*e*	**P**	**18 23 27.4**	**+3.8**
KAD	**Karad**	**19.16**	**172**	*e*	**P**	**18 23 33.9**	**+2.8**
ZAL	**Zalesovo**	**19.85**	**24**	P	**P**	**18 23 38.2**	**+0.2**
ZAL				pmax	pmax		
comp=Z,7.0nm,0.3s							
ZAL	**Zalesovo**	**19.85**	**24**	P	**P**	**18 23 38.1**	**+0.2**
comp=Z,7.2nm,0.3s,baz=255,slow=5.9,SNR=30							
HYB	**Hyderabad**	**19.91**	**160**	*e*P	**P**	**18 23 40.5**	**+1.7**
HYB				*e*S	**S**	**18 27 13.0**	**+3.1**
HYB	**Hyderabad**	**19.91**	**160**	*i* P

BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 29.82 288 P P 18 25 11.6 -0.5
comp=Z,1.5nm,0.7s,mb3.8,baz=103,slow=8.4,SNR=12
BRTR pP pP 18 25 41.1 -1.0
comp=Z,1.9nm,0.7s,baz=98,slow=8.6,SNR=6.2
CMAR Chiang Mai Arr 30.07 119 P P 18 25 15.0 +0.5
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 30.07 119 P P 18 25 15.0 +0.5
comp=Z,1.2nm,0.7s,mb3.8,baz=296,slow=9.3,SNR=8.8
OBN Obninsk 30.27 319 ||*iP* **P 18 25 15.6 -0.2**
OBN *e**PP pP 18 25 54.0 +8.1
OBN *e*SS SS 18 31 58.3 +4.1
OBN pmax pmax
comp=Z,13nm,0.6s,mb4.8
AKASG Malin Array Be 33.31 309 P **P 18 25 41.2 -1.0**
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG Malin Array Be 33.31 309 P **P 18 25 41.1 -1.1**
comp=Z,8.3nm,0.6s,mb4.7,baz=79,slow=7.1,SNR=50
MLR Muntele Rosu 35.16 299 P **P 18 25 58.9 +0.8**
MLR pmax pmax
comp=Z,4.0nm,0.8s
MLR Muntele Rosu 35.16 299 P **P 18 25 58.9 +0.9**
comp=Z,4.0nm,0.8s,mb4.1,baz=83,slow=4.5,SNR=8.7
MLR Muntele Rosu 35.16 299 P **P 18 25 58.9 +0.9**
JOF Joensuu 36.15 330 *ep* **P 18 26 06.3 +0.1**
FINES FINESS Array B 37.79 326 P **P 18 26 20.4 +0.5**
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES FINESS Array B 37.79 326 P **P 18 26 20.4 +0.4**
comp=Z,4.0nm,0.4s,mb4.4,baz=116,slow=9.5,SNR=27
KAF Kangasniemi 37.92 327 *ep* **P 18 26 21.1 0.0**
comp=Z,1.4nm,0.4s,mb3.9,baz=111,slow=8.6
KAF Kangasniemi 37.92 327 *eP* **P 18 26 21.1 0.0**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
KEV Kevo 41.05 338 *ep* **P 18 26 47.1 +0.3**
ARCES ARCESS Array B 41.39 338 P **P 18 26 50.6 +1.0**
ARCES pmax pmax
comp=Z,11nm,0.6s
ARCES ARCESS Array B 41.39 338 P **P 18 26 50.5 +0.9**
comp=Z,10nm,0.6s,mb4.7,baz=115,slow=7.9,SNR=58
KTK1 Kautokeino 41.87 336 *eP* **P 18 26 53.8 +0.4**
KTK1 AMb AMB 18 27 12.6
comp=Z,51nm,1.7s,mb4.9
GERES GERESS Array B 43.30 305 P **P 18 27 06.2 +0.9**
GERES 18 28 48.2
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 43.30 305 P **P 18 27 06.2 +0.9**
comp=Z,0.3nm,0.5s,mb3.1,baz=90,slow=5.3,SNR=4.7
GERES PP PP 18 28 48.2 -1.6
comp=Z,0.9nm,0.8s,baz=80,slow=8.1,SNR=3.7
KHC Kasperske Hory 43.35 306 *e*PP PP 18 28 48.0 -2.3
HFS Hagfors 43.39 322 P **P 18 27 06.0 +0.2**
HFS *PP pP 18 27 37.1 -0.5
HFS pmax pmax
comp=Z,9.0nm,0.4s
HFS pmax pmax
comp=Z,4.0nm,0.5s
HFS Hagfors 43.39 322 P **P 18 27 06.0 +0.2**
comp=Z,9.0nm,0.4s,mb4.8,baz=94,slow=11,SNR=79
HFS pP pP 18 27 37.1 -0.4
comp=Z,3.9nm,0.5s,baz=98,slow=10,SNR=2.5
TRO Tromso 43.52 336 *eP* **P 18 27 06.1 -0.7**
CLL Collm 43.55 309 P **P 18 27 08.0 +0.7**
YAK Yakutsk 43.84 35 *i P* **P 18 27 00.1 -9.3**
YAK pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
MOR8 Moi Rana 44.10 331 *eP* **P 18 27 11.5 +0.1**
comp=Z,30nm,1.6s,mb4.7
MOR8 Moi Rana 44.10 331 *eP* **P 18 27 11.5 +0.1**
MOR8 AMb AMB 18 27 21.1
comp=Z,30nm,1.6s,mb4.7
NB2 NORSAR Subarra 44.70 323 P **P 18 27 16.0 -0.3**
comp=Z,32nm,1.0s,mb4.9,baz=97,slow=7.9
NB2 NORSAR Subarra 44.70 323 P **P 18 27 16.0 -0.3**
NB2 pmax pmax
comp=Z,32nm,1.0s,mb4.9
NB2 NORSAR Subarra 44.70 323 P **P 18 27 16.0 -0.3**
baz=96,slow=7.9
NOA NORSAR Array B 44.70 323 P **P 18 27 16.1 -0.2**
NOA pmax pmax
comp=Z,8.0nm,0.6s
NOA NORSAR Array B 44.70 323 P **P 18 27 16.1 -0.2**
comp=Z,8.3nm,0.6s,mb4.6,baz=96,slow=7.7,SNR=45
NSS Namsos 44.79 328 *eP* **P 18 27 16.6 -0.5**
comp=Z,59nm,1.6s,mb5.0
NSS Namsos 44.79 328 *eP* **P 18 27 16.6 -0.5**
NSS AMb AMB 18 27 26.0
comp=Z,59nm,1.6s,mb5.0
TIXI Tiksi 45.74 22 *i P* **P 18 27 18.9 -5.6**
TIXI pmax pmax
comp=Z,5.0nm,1.1s,mb4.1
MOL Molde 46.54 325 *eP* **P 18 27 33.1 +2.2**
comp=Z,73nm,2.1s,mb4.9
MOL Molde 46.54 325 *eP* **P 18 27 33.1 +2.2**
MOL AMb AMB 18 27 49.7
comp=Z,73nm,2.1s,mb4.9
CDF Champ du Feu 47.58 306 *eP* **P 18 27 39.7 +0.5**
HINF Hinteralfeld 47.97 305 *eP* **P 18 27 41.9 -0.3**
LPG La Plagne 48.52 302 *eP* **P 18 27 46.7 +0.2**
LPL La Plagne 48.53 302 *eP* **P 18 27 46.3 -0.3**
MBDF Montbardon 48.69 301 *eP* **P 18 27 47.4 -0.4**
comp=Z,12nm,0.7s,mb4.3
MBDF Montbardon 48.69 301 *eP* **P 18 27 47.4 -0.4**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
CABF La Chapelle 48.73 304 *eP* **P 18 27 48.2 +0.1**
comp=Z,22nm,1.1s,mb4.4
CABF La Chapelle 48.73 304 *eP* **P 18 27 48.2 +0.1**
CABF pmax pmax
comp=Z,11nm,1.1s,mb4.4
MEZF Maizieres J'vi 49.02 306 *eP* **P 18 27 49.7 -0.6**
comp=Z,12nm,0.7s,mb4.3
KMBO Kilima Mbogo 49.03 228 P **P 18 27 50.9 0.0**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 49.03 228 P **P 18 27 50.9 +0.1**
comp=Z,1.9nm,0.6s,mb3.9,baz=45,slow=14,SNR=9.4
KMBO Kilima Mbogo 49.03 228 P **P 18 27 50.9 +0.1**
SMF Signal de Mont 50.23 304 *eP* **P 18 27 59.0 -0.5**
comp=Z,16nm,1.0s,mb4.3
SMF Signal de Mont 50.23 304 *eP* **P 18 27 59.0 -0.5**
SMF pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
AVF Avril sur Loir 50.52 304 *eP* **P 18 28 00.4 -1.3**
comp=Z,8.3nm,0.7s,mb4.2
AVF Avril sur Loir 50.52 304 *eP* **P 18 28 00.4 -1.3**
AVF pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
TCF Toulx Ste Croi 51.41 304 *eP* **P 18 28 04.4 -4.1**
LDF La Druitiere 52.34 307 *eP* **P 18 28 13.6 -1.8**
EKA Eskdalemuir Ar 52.63 316 P **P 18 28 16.6 -0.8**
EKA pmax pmax
comp=Z,3.0nm,0.8s
EKA Eskdalemuir Ar 52.63 316 P **P 18 28 16.6 -0.9**
comp=Z,3.2nm,0.8s,mb4.1,baz=98,slow=7.1,SNR=6.4
MJAR Matsushiro Arr 52.65 69 P **P 18 28 18.5 +0.6**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MJAR Matsushiro Arr 52.65 69 P **P 18 28 18.5 +0.6**
comp=Z,2.5nm,0.7s,mb4.1,baz=294,slow=9.8,SNR=7.7
LFF La Frestale 52.77 303 *eP* **P 18 28 17.2 -1.5**
ETSF Etsaut 54.30 301 *eP* **P 18 28 29.0 -0.8**
comp=Z,4.9nm,0.6s,mb4.1
ETSF Etsaut 54.30 301 *eP* **P 18 28 29.0 -0.8**
ETSF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
ESDC Sonseca Array 57.84 298 P **P 18 28 54.3 -0.9**
comp=Z,0.9nm,0.5s,mb3.9,baz=55,slow=7.2,SNR=8.3
BILL Bilibino 58.55 26 *eP* **P 18 29 00.4 +0.7**
BILL pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
BILL Bilibino 58.55 26 *eP* **P 18 29 00.4 +0.7**
comp=Z,2.3nm,0.6s,mb4.2
OPO Ambohidratompo 59.28 207 P **P 18 29 05.7 +0.3**
comp=Z,2.7nm,0.6s,mb4.2,baz=39,slow=12,SNR=5.1
MATP Matopo 69.58 223 P **P 18 30 12.0 -0.1**
comp=Z,18nm,0.4s,mb5.1,baz=25,slow=6.0,SNR=109
IMA Indian Mountai 72.12 18 *eP* **P 18 30 26.6 +0.2**
IMA pmax pmax
comp=Z,15nm,0.8s,mb4.8
IMA Indian Mountai 72.12 18 *eP* **P 18 30 26.6 +0.1**
comp=Z,15nm,0.8s,mb4.8
INK Inuvik 73.96 9 P **P 18 30 38.4 +1.3**
INK *PP pP 18 31 11.9 -0.1
INK pmax pmax
comp=Z,3.0nm,0.5s
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 73.96 9 P **P 18 30 38.4 +1.3**
comp=Z,2.9nm,0.5s,mb4.3,baz=341,slow=5.7,SNR=42
INK pP pP 18 31 11.9 -0.1
comp=Z,2.9nm,0.6s,baz=3.7,slow=5.2,SNR=3.6
INK Inuvik 73.96 9 *eP* **P 18 30 37.9 +0.9**
comp=Z,3.7nm,0.6s,mb4.3
INK pP pP 18 31 11.9 -0.1
DBIC Dimbokro 75.06 267 P **P 18 30 42.6 -1.9**
DBIC pmax pmax
comp=Z,2.0nm,0.6s
DBIC Dimbokro 75.06 267 P **P 18 30 42.6 -1.8**
comp=Z,2.3nm,0.6s,mb4.0,baz=17,slow=9.3,SNR=7.7
DBIC Dimbokro 75.06 267 *eP* **P 18 30 42.5 -1.9**
comp=Z,2.4nm,0.6s,mb4.0
FRB Frobisher Bay 75.28 343 P **P 18 30 43.4 -1.3**
FRB *PP pP 18 31 19.5 -0.3
FRB pmax pmax
comp=Z,1.0nm,0.4s
FRB pmax pmax
comp=Z,3.0nm,0.9s
FRB Frobisher Bay 75.28 343 P **P 18 30 43.4 -1.3**
comp=Z,1.4nm,0.3s,mb4.0,baz=49,slow=9.7,SNR=3.7
FRB pP pP 18 31 19.4 -0.3
comp=Z,2.8nm,0.8s,baz=316,slow=2.3,SNR=2.4
FRB Frobisher Bay 75.28 343 P **P 18 30 43.4 -1.3**
FRB pP pP 18 31 19.4 -0.3
BOSA Boshof 77.90 220 P **P 18 31 00.2 +0.2**
BOSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
BOSA Boshof 77.90 220 P **P 18 31 00.2 +0.2**
comp=Z,7.0nm,0.6s,mb4.5,baz=340,slow=22,SNR=21
BOSA Boshof 77.90 220 P **P 18 31 00.2 +0.2**
YKA Yellowknife Ar 81.34 3 *i P* **P 18 31 18.7 +0.9**
YKA pmax pmax
comp=Z,3.0nm,0.4s
YKA Yellowknife Ar 81.34 3 P **P 18 31 18.5 +0.8**
comp=Z,2.6nm,0.4s,mb4.2,baz=351,slow=5.4,SNR=90
YKA pP pP 18 31 53.4 +0.1
comp=Z,1.1nm,0.7s,baz=348,slow=5.3,SNR=3.0
YKA PKKPbc 18 49 49.6
comp=Z,0.1nm,0.6s,baz=167,slow=2.5,SNR=5.1
WRA Warramunga Arr 81.61 122 P **P 18 31 20.3 +0.3**
WRA *PP pP 18 31 57.1 +1.5
WRA pmax pmax
comp=Z,1.0nm,0.5s
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 81.61 122 P **P 18 31 20.3 +0.3**
comp=Z,1.2nm,0.5s,mb3.8,baz=324,slow=4.9,SNR=12
WRA pP pP 18 31 57.1 +1.5
comp=Z,2.2nm,0.7s,baz=324,slow=5.2,SNR=5.4
SCHQ Schefferville 82.35 337 P **P 18 31 24.1 +1.0**
comp=Z,1.6nm,0.6s,mb3.8,baz=36,slow=8.8,SNR=7.0
ASAR Alice Springs 83.88 125 P **P 18 31 32.1 +0.6**
comp=Z,1.4nm,0.6s,mb3.9,baz=322,slow=5.4,SNR=8.6
ASAR pP pP 18 32 08.3 +1.1
comp=Z,1.3nm,0.8s,baz=333,slow=3.8,SNR=3.8
EDM Edmonton 90.66 3 *eP* **P 18 32 05.0 +1.6**
PLCA Paso Flores 150.14 250 PKIKP PKPdf 18 38 51.8 +7.2
PLCA pmax pmax
comp=Z,5.0nm,1.0s
PLCA Paso Flores 150.14 250 PKPbc PKPdf 18 38 51.8 +7.2
comp=Z,5.4nm,1.0s,baz=158,slow=3.3,SNR=6.9

*IDC **10** 18:20:14.7±3.1, 1.42S×100.23E, mb4.0/7, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, Error ellipse: s-maj=141.0km s-min=18.5km az=58.0*
*NEIC **10** 18:20:18.2±1.2, 1.56S×99.99E, h30km, mb4.3/1, Error ellipse: s-maj=60.5km s-min=10.5km az=55.0*
ISC 10 18:20:17.2±2.8, 1.5S±0.5×100.1E±0.7, h33km, n13, σ0°38/10, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**30.03**	**125**	P	**P**	**18 26 25.5**	**-0.1**
	4.0nm,0.9s,mb4.2,baz=6.1,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**38.18**	**121**	P	**P**	**18 27 35.0**	**-0.7**
	1.2nm,0.4s,mb4.0,baz=305,slow=8.8,SNR=10						
WRAB	**Tennant Creek**	**38.18**	**121**	*eP*	**P**	**18 27 36.3**	**+0.6**
	2.2nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**39.48**	**127**	P	**P**	**18 27 46.4**	**-0.1**
	1.0nm,0.6s,mb3.7,baz=297,slow=7.0,SNR=7.7						
SONM	**Songino Array**	**49.39**	**6**	P	**P**	**18 29 05.9**	**+0.1**
	0.5nm,0.8s,mb3.6,baz=180,slow=7.2,SNR=2.6						
SONM	**Songino Array**	**49.39**	**6**	P	**P**	**18 29 05.9**	**+0.1**
STKA	**Stephens Creek**	**49.43**	**132**	P	**P**	**18 29 06.6**	**+0.3**
	1.1nm,0.7s,mb4.0,baz=323,slow=5.1,SNR=3.6						
STKA	**Stephens Creek**	**49.43**	**132**	P	**P**	**18 29 06.6**	**+0.3**
MKAR	**Makanchi Array**	**50.54**	**344**	P	**P**	**18 29 14.2**	**-0.4**
	0.8nm,0.4s,mb4.0,baz=164,slow=8.5,SNR=4.7						
ZAL	**Zalesovo**	**56.65**	**349**	P	**P**	**18 29 59.8**	**+0.3**
	1.9nm,0.5s,mb4.4,baz=13,slow=14,SNR=4.8						
TXAR	**Lajitas Array**	**144.21**	**37**	PKP	PKPdf	18 39 52.1	+1.7
	0.9nm,0.6s,baz=296,slow=1.9,SNR=6.8						
MIAR	**Mount Ida**	**144.69**	**20**	*e*PKP	PKPdf	18 39 52.7	+1.6
WVT	**Waverly**	**144.72**	**11**	*e*PKP	PKPdf	18 39 52.2	+1.1

*IDC **10** 18:23:06.8±1.2, 1.54S×99.79E, mb3.9/8, mb1 4.0/9, mb1mx3.8/20, mbtmp3.9/9, ML4.1/1, Error ellipse: s-maj=57.6km s-min=15.6km az=59.0*
*NEIC **10** 18:23:11.2±0.7, 1.61S×99.76E, h30km, mb4.2/2, Error ellipse: s-maj=29.9km s-min=10.0km az=65.0*
ISC 10 18:23:09.8±1.2, 1.6S±0.2×99.8E±0.3, h33km, n16, σ1°00/13, mb4.0/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.87**	**7**	*eP*	**P**	**18 24 51.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**19.92**	**358**	P	**P**	**18 27 39.0**	**-2.8**
	0.2nm,0.3s,baz=189,slow=9.9,SNR=5.1						
FITZ	**Fitzroy Crossi**	**30.24**	**125**	P	**P**	**18 29 19.2**	**-0.8**
	5.1nm,0.9s,mb4.2,baz=264,slow=22,SNR=3.8						
LSA	**Lhasa**	**32.17**	**346**	*eP*	**P**	**18 29 37.9**	**+1.0**
	3.6nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**38.40**	**121**	P	**P**	**18 30 29.9**	**-0.2**
	0.8nm,0.6s,mb3.6,baz=304,slow=9.1,SNR=9.8						
ASAR	**Alice Springs**	**39.69**	**126**	P	**P**	**18 30 41.1**	**+0.4**
	0.8nm,0.5s,mb3.8,baz=303,slow=7.7,SNR=15						
SONM	**Songino Array**	**49.54**	**6**	P	**P**	**18 31 59.8**	**+0.2**
	0.4nm,0.4s,mb3.8,baz=192,slow=10,SNR=8.3						
STKA	**Stephens Creek**	**49.60**	**132**	P	**P**	**18 32 00.8**	**+0.6**
	0.5nm,0.4s,mb3.9,baz=302,slow=9.5,SNR=2.2						
STKA	**Stephens Creek**	**49.60**	**132**	*eP*	**P**	**18 32 01.0**	**+0.8**
MKAR	**Makanchi Array**	**50.56**	**344**	P	**P**	**18 32 06.8**	**-0.4**
	1.2nm,0.5s,mb4.0,baz=154,slow=9.0,SNR=11						
ZAL	**Zalesovo**	**56.70**	**349**	P	**P**	**18 32 52.0**	**-0.4**
	1.4nm,0.4s,mb4.4,baz=326,slow=5.0,SNR=5.7						
BVAR	**Borovoye Array**	**59.71**	**340**	P	**P**	**18 33 12.3**	**-1.2**
	1.1nm,0.7s,mb4.0,baz=117,slow=9.9,SNR=4.4						
CHKZ	**Chkalovo**	**60.17**	**340**	*eP*	**P**	**18 33 18.4**	**+1.7**
	1.3nm,0.7s,mb4.1						
TXAR	**Lajitas Array**	**144.50**	**37**	PKP	PKPdf	18 42 45.1	+1.6
	0.5nm,0.4s,baz=191,slow=1.1,SNR=12						
CFAA	**Coronel Fontan**	**145.10**	**198**	PKPbc	PKPbc	18 42 45.6	+0.8
	0.4nm,0.5s,baz=153,slow=4.3,SNR=6.8						
CPCT	**Cooper Cave**	**146.06**	**6**	*eP*	PKPdf	18 42 47.8	+1.7

*HLW **10** 18:31:08.5, 25.06N×36.53E, h19km, Mb3.2*
*CSEM **10** 18:31:10.9±0.1, 24.96N×36.30E, h30km, ML2.5, Error ellipse: s-maj=2.6km s-min=2.5km az=13.0*
*SNSN **10** 18:31:11.1, 25.01N×36.44E, h15km, Ml2.5*
ISC 10 18:31:09.7±1.3, 24.98N±0.06×36.32E±0.04, h20km±14km, n14, σ0°65/18, 1D, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJS	**Umm Lajj**	**0.94**	**74**	P	**Pb**	**18 31 27.6**	**+0.4**
UMJS				S	**Sb**	**18 31 38.1**	**-1.1**
EMRS	**Mersa Alam**	**1.34**	**272**	P	**Pn**	**18 31 33.6**	**+0.1**
HAGS	**Hagol**	**1.35**	**244**	||P	**Pn**	**18 31 34.1**	**+0.5**
HADB		**1.58**	**284**	P	**Pn**	**18 31 37.0**	**+0.1**
YNBS	**Yanbu' al Bahr**	**1.65**	**112**	P	**Pn**	**18 31 38.7**	**+0.7**
YNBS				S	**Sn**	**18 31 58.7**	**-0.1**
HQSR		**1.91**	**294**	P	**Pn**	**18 31 41.1**	**-0.5**
HSHL	**Bi'r Shalatayn**	**2.04**	**204**	P	**Pn**	**18 31 43.2**	**-0.3**
HSFG		**2.67**	**307**	P	**Pn**	**18 31 51.0**	**-1.6**
KBRS	**Khaybar**	**2.79**	**72**	P	**Pn**	**18 31 55.2**	**+0.9**
KBRS				S	**Sn**	**18 32 26.7**	**-0.9**
HEDF	**Idfu**	**2.84**	**273**	P	**Pn**	**18 31 55.2**	**+0.2**
HEDF				S	**Sn**	**18 32 28.5**	**-0.6**
TBKS	**Tabuk**	**3.24**	**4**	P	**Pn**	**18 32 01.1**	**+0.5**
BDAS	**Al Bad'**	**3.61**	**343**	P	**Pn**	**18 32 06.3**	**+0.4**
TAYS	**Tayyib Ism**	**3.79**	**340**	P	**Pn**	**18 32 08.8**	**+0.4**
HAQS	**Haql**	**4.25**	**343**	P	**Pn**	**18 32 15.7**	**+0.7**

IDC 10 18:34:50.1±4.0, 1.75S×99.17E, mb3.5/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, Error ellipse: s-maj=167.0km s-min=21.6km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.83**	**120**	P	P	18 42 18.7	-0.2
	0.4nm,0.8s,baz=292,slow=9.2,SNR=4.1						
ASAR	**Alice Springs**	**40.07**	**126**	P	P	18 42 26.1	-3.1
	0.3nm,0.9s,baz=300,slow=8.0,SNR=4.1						
SONM	**Songino Array**	**49.78**	**6**	P	P	18 43 44.1	-2.4
	0.2nm,0.9s,baz=202,slow=7.8,SNR=2.6						
MKAR	**Makanchi Array**	**50.57**	**345**	P	P	18 43 50.8	-1.8
	0.5nm,0.6s,baz=150,slow=8.3,SNR=8.3						
ZAL	**Zalesovo**	**56.76**	**350**	P	P	18 44 35.7	-2.6
	1.1nm,0.4s,baz=161,slow=2.7,SNR=5.1						

*IDC **10** 18:38:21.8±2.5, 1.74S×99.86E, h24km±6km, mb3.7/9, mb1 3.9/9, mb1mx3.7/20, mbtmp3.8/9, Error ellipse: s-maj=100.3km s-min=15.5km az=57.0*
*NEIC **10** 18:38:22.2±0.8, 1.69S×99.96E, mb3.9/2, Error ellipse: s-maj=32.6km s-min=8.5km az=61.0*
ISC 10 18:38:20.3±1.1, 1.6S±0.2×100.0E±0.3, h27km, h27km±1.0km: pP-P, n16, σ0°79/13, mb3.9/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.91**	**6**	*eP*	**Pn**	**18 40 01.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**19.99**	**357**	P	**P**	**18 42 55.2**	**+1.3**
	0.4nm,0.3s,baz=185,slow=10.0,SNR=2.9						
FITZ	**Fitzroy Crossi**	**30.04**	**125**	P	**P**	**18 44 28.8**	**-0.9**
	5.3nm,1.1s,mb4.2,baz=299,slow=11,SNR=2.7						
FITZ				pP	pP	18 44 36.9	-0.6
	4.1nm,0.9s,baz=267,slow=18,SNR=3.9						
WRA	**Warramunga Arr**	**38.20**	**121**	P	**P**	**18 45 39.6**	**-0.2**
	1.0nm,0.5s,mb3.8,baz=304,slow=9.0,SNR=20						
WRA				pP	pP	18 45 46.8	-1.1
	0.9nm,0.5s,baz=304,slow=9.0,SNR=5.6						
WRAB	**Tennant Creek**	**38.21**	**121**	*eP*	**P**	**18 45 39.0**	**-0.9**
WRAB				*e*	pP	18 45 47.8	-0.2
ASAR	**Alice Springs**	**39.49**	**126**	P	**P**	**18 45 51.2**	**+0.7**
	0.7nm,0.5s,mb3.6,baz=302,slow=8.0,SNR=24						
ASAR				pP	pP	18 45 59.3	+0.7
	0.5nm,0.6s,baz=301,slow=7.8,SNR=3.9						
STKA	**Stephens Creek**	**49.41**	**132**	P	**P**	**18 47 11.6**	**+1.4**
	0.7nm,0.3s,mb4.1,baz=295,slow=5.9,SNR=3.5						
SONM	**Songino Array**	**49.58**	**6**	P	**P**	**18 47 12.0**	**+0.8**
	0.6nm,0.6s,mb3.8,baz=186,slow=8.8,SNR=7.5						
MKAR	**Makanchi Array**	**50.67**	**344**	P	**P**	**18 47 19.8**	**+0.3**
	0.7nm,0.5s,mb3.9,baz=156,slow=8.4,SNR=6.4						
KURK	**Kurchatov**	**55.25**	**344**	*eP*	**P**	**18 47 53.7**	**+0.2**
	1.3nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**56.80**	**349**	P	**P**	**18 48 04.0**	**-0.5**
	1.6nm,0.4s,mb4.4,baz=325,slow=6.3,SNR=7.9						
BVAR	**Borovoye Array**	**59.83**	**340**	P	**P**	**18 48 25.0**	**-0.8**
	0.2nm,0.4s,mb3.5,baz=150,slow=9.2,SNR=3.6						
CHKZ	**Chkalovo**	**60.29**	**340**	P	**P**	**18 48 28.3**	**-0.6**
	0.4nm,0.6s,mb3.6						
TXAR	**Lajitas Array**	**144.43**	**37**	PKP	PKPdf	18 57 56.4	-3.3
	0.5nm,0.6s,baz=258,slow=0.8,SNR=6.7						
MIAR	**Mount Ida**	**144.90**	**20**	*e*PKP	PKPdf	18 57 56.9	-3.5
CPCT	**Cooper Cave**	**146.09**	**7**	*e*PKP	PKPdf	18 57 59.6	-2.8

*IDC **10** 18:40:00.3±1.2, 1.61S×99.74E, mb3.9/6, mb1 4.0/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=58.5km s-min=18.2km az=61.0*
*NEIC **10** 18:40:04.4±0.7, 1.63S×99.70E, h30km, mb4.0/2, Error ellipse: s-maj=30.3km s-min=9.6km az=59.0*
ISC 10 18:40:02.4±1.8, 1.7S±0.3×99.6E±0.4, h33km, n13, σ0°67/10, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.00**	**358**	P	**P**	**18 44 34.2**	**-0.9**
	baz=187,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**38.55**	**121**	P	**P**	**18 47 23.3**	**-0.6**
	1.0nm,0.5s,mb3.8,baz=302,slow=9.2,SNR=11						
WRA				PcP	PcP	18 49 37.5	+0.8
	0.6nm,1.2s,baz=317,slow=2.5,SNR=5.8						
WRAB	**Tennant Creek**	**38.56**	**121**	*eP*	**P**	**18 47 23.9**	**0.0**
	3.0nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**39.82**	**126**	P	**P**	**18 47 34.9**	**+0.5**
	0.4nm,0.5s,mb3.4,baz=300,slow=7.9,SNR=5.9						
ASAR				PcP	PcP	18 49 41.4	+0.7
	0.4nm,0.8s,baz=315,slow=2.2,SNR=3.7						
SONM	**Songino Array**	**49.65**	**6**	P	**P**	**18 48 54.0**	**+1.1**
	0.5nm,0.7s,mb3.7,baz=184,slow=7.6,SNR=4.9						
MKAR	**Makanchi Array**	**50.58**	**345**	P	**P**	**18 49 00.9**	**+0.9**
	1.0nm,0.6s,mb3.9,baz=150,slow=8.0,SNR=6.8						
ZAL	**Zalesovo**	**56.74**	**350**	P	**P**	**18 49 45.5**	**+0.1**
	2.6nm,0.4s,mb4.6,baz=306,slow=5.0,SNR=12						
ZAL	**Zalesovo**	**56.74**	**350**	P	**P**	**18 49 45.5**	**+0.1**
BVAR	**Borovoye Array**	**59.71**	**340**	P	**P**	**18 50 05.8**	**-0.3**
	0.8nm,0.6s,mb3.9,baz=141,slow=9.5,SNR=4.9						
CHKZ	**Chkalovo**	**60.17**	**341**	*eP*	**P**	**18 50 08.6**	**-0.7**
	0.5nm,0.5s,mb3.8						
TXAR	**Lajitas Array**	**144.70**	**37**	PKP	PKPdf	18 59 38.9	+2.4
	1.1nm,0.5s,baz=247,slow=1.1,SNR=13						
CFAA	**Coronel Fontan**	**144.94**	**198**	PKPbc	PKPbc	18 59 39.2	+2.3
	0.4nm,0.7s,baz=185,slow=2.2,SNR=6.8						
MIAR	**Mount Ida**	**145.06**	**19**	*e*PKP	PKPdf	18 59 38.7	+1.8

*IDC **10** 18:44:05.3±2.5, 1.64S×99.70E, mb3.9/7, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, ML3.8/1, Error ellipse: s-maj=108.7km s-min=16.8km az=56.0*
*NEIC **10** 18:44:10.1±1.2, 1.54S×99.93E, h30km, mb4.0/1, Error ellipse: s-maj=58.9km s-min=11.8km az=57.0*
ISC 10 18:44:08.6±2.1, 1.5S±0.3×99.9E±0.5, h33km, n14, σ1°14/10, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.84**	**357**	P	**P**	**18 48 38.8**	**-0.8**
	0.1nm,0.3s,baz=186,slow=9.9,SNR=4.5						
FITZ	**Fitzroy Crossi**	**30.16**	**125**	P	**P**	**18 50 17.2**	**-0.9**
	5.0nm,1.0s,mb4.2,baz=20,slow=16,SNR=2.6						
WRA	**Warramunga Arr**	**38.32**	**121**	P	**P**	**18 51 29.3**	**+1.1**
	0.6nm,0.4s,mb3.7,baz=303,slow=9.2,SNR=12						
WRAB	**Tennant Creek**	**38.32**	**121**	*eP*	**P**	**18 51 26.1**	**-2.1**
	1.5nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**39.62**	**127**	P	**P**	**18 51 40.4**	**+1.5**
	0.3nm,0.5s,mb3.3,baz=299,slow=7.9,SNR=11						
SONM	**Songino Array**	**49.44**	**6**	P	**P**	**18 52 58.5**	**+1.0**
	0.

ISC 10 18:44:16.4±0.3, 1.74S±0.06×99.93E±0.06, h29km, h29km±.8km: pP-P, n117, σ1§03/101, mb4.7/58, MS4.5/1, 1C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.02**	**6**	*eP*	**Pn**	**18 46 00.9**	**+0.9**
KSM	**Kuching**	**10.86**	**73**	P	**P**	**18 46 51.9**	**-1.3**
CM31	**Chiang Mai Arr**	**20.09**	**357**	*eP*	**P**	**18 48 47.0**	**-3.7**
	4.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.09**	**357**	P	**P**	**18 48 48.4**	**-2.4**
	2.8nm,0.5s,baz=186,slow=10,SNR=22						
QIZ	**Qiongzhong**	**22.82**	**25**	*eP*	**P**	**18 49 19.8**	**+1.4**
QIZ				*e*		18 49 28.5	
MBWA	**Marble Bar**	**27.30**	**136**	*eP*	**P**	**18 50 01.8**	**+1.0**
	4.1nm,0.6s,mb4.1						
SHL	**Shillong**	**28.24**	**345**	*eP*	**P**	**18 50 08.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.02**	**124**	P	**P**	**18 50 24.3**	**-1.0**
	11nm,0.7s,mb4.7,baz=258,slow=2.6,SNR=14						
FITZ				pP	pP	18 50 33.2	-0.6
	43nm,0.8s,baz=280,slow=2.2,SNR=16						
FITZ	**Fitzroy Crossi**	**30.02**	**124**	P	**P**	**18 50 24.3**	**-1.0**
FITZ				pP	pP	18 50 33.2	-0.6
JIRN	**Jiri**	**32.08**	**337**	*eP*	**P**	**18 50 44.1**	**+0.8**
	41nm,0.7s,mb5.4						
PKI	**Pulchoki**	**32.32**	**335**	*eP*	**P**	**18 50 45.6**	**+0.2**
LSA	**Lhasa**	**32.37**	**346**	P	**P**	**18 50 47.2**	**+1.4**
LSA	**Lhasa**	**32.37**	**346**	*eP*	**P**	**18 50 46.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**32.37**	**346**	*eP*	**P**	**18 50 46.4**	**+0.6**
	comp=Z,5.5nm,0.6s,mb4.6						
GUN	**Gumba**	**32.43**	**336**	*eP*	**P**	**18 50 47.1**	**+0.8**
	comp=Z,52nm,0.5s,mb5.6						
DMN	**Daman**	**32.48**	**335**	*eP*	**P**	**18 50 46.8**	**0.0**
	comp=Z,24nm,1.1s,mb4.9						
KKN	**Kakani**	**32.57**	**335**	*eP*	**P**	**18 50 47.2**	**-0.3**
	comp=Z,27nm,0.8s,mb5.2						
KKN	**Kakani**	**32.57**	**335**	*eP*	**P**	**18 50 47.2**	**-0.3**
KKN				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
GKN	**Gorkha**	**33.02**	**335**	*eP*	**P**	**18 50 51.6**	**+0.1**
	comp=Z,11nm,0.4s,mb5.2						
ENH	**Enshi**	**33.11**	**15**	*eP*	**P**	**18 50 50.5**	**-1.8**
KOLN	**Koldanda**	**33.28**	**333**	*eP*	**P**	**18 50 54.0**	**+0.2**
	comp=Z,19nm,0.7s,mb5.2						
XAN	**Xi'an**	**36.58**	**13**	P	**P**	**18 51 19.0**	**-2.9**
XAN				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
NJ2	**Nanjing**	**38.09**	**27**	*eP*	**P**	**18 51 37.2**	**+2.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,3μm,5.4s						
NJ2				LR	LR		
	comp=N,470nm,11.4s						
NJ2				LR	LR		
	comp=E,1μm,18.2s						
WRA	**Warramunga Arr**	**38.18**	**121**	P	**P**	**18 51 35.2**	**-0.3**
WRA				*PP	pP	18 51 44.3	+0.1
WRA						18 53 49.3	
WRA	**Warramunga Arr**	**38.18**	**121**	P	**P**	**18 51 35.2**	**-0.3**
	comp=E,4.9nm,0.6s,mb4.5,baz=303,slow=9.0,SNR=43						
WRA				pP	pP	18 51 44.3	+0.1
	comp=E,15nm,0.6s,baz=303,slow=8.9,SNR=30						
WRA				PcP	PcP	18 53 49.3	-0.9
	comp=E,0.5nm,0.8s,baz=297,slow=3.8,SNR=2.3						
WRA				pPcP		18 53 58.4	
	comp=E,1.3nm,0.7s,baz=313,slow=2.4,SNR=4.8						
WRA	**Warramunga Arr**	**38.18**	**121**	P	**P**	**18 51 35.2**	**-0.3**
WRA				pP	pP	18 51 44.3	+0.1
WRA				PcP	PcP	18 53 49.3	-0.9
WRA				pPcP		18 53 58.4	
WRAB	**Tennant Creek**	**38.19**	**121**	*eP*	**P**	**18 51 35.3**	**-0.2**
WRAB				*e*	pP	18 51 44.5	+0.3
WRAB				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**38.19**	**121**	*eP*	**P**	**18 51 35.3**	**-0.3**
	comp=Z,26nm,0.6s,mb5.1						
WRAB				*e*	pP	18 51 44.5	+0.3
WB2	**Warramunga Arr**	**38.19**	**121**	*eP*	**P**	**18 51 35.6**	**0.0**
WB2				*i*	pP	18 51 44.8	+0.5
SSE	**Sheshan**	**38.41**	**30**	*eP*	**P**	**18 51 37.3**	**0.0**
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,656nm,8.7s						
SSE	**Sheshan**	**38.41**	**30**	*eP*	**P**	**18 51 37.3**	**0.0**
	comp=Z,18nm,0.7s,mb4.9						
ASPA	**Alice Springs**	**39.46**	**126**	*eP*	**P**	**18 51 47.1**	**+1.0**
ASPA				*i*	pP	18 51 55.5	+0.7
ASAR	**Alice Springs**	**39.46**	**126**	P	**P**	**18 51 46.2**	**+0.1**
	comp=Z,2.1nm,0.6s,mb4.0,baz=302,slow=7.8,SNR=38						
ASAR				pP	pP	18 51 54.9	0.0
	comp=Z,11nm,0.6s,baz=301,slow=7.6,SNR=31						
ASAR				PcP	PcP	18 53 54.8	+0.6
	comp=Z,1.0nm,0.7s,baz=288,slow=2.9,SNR=2.9						
ASAR				pPcP		18 54 03.7	
	comp=Z,2.2nm,0.8s,baz=297,slow=2.2,SNR=5.0						
ASAR	**Alice Springs**	**39.46**	**126**	P	**P**	**18 51 46.2**	**+0.1**
ASAR				pP	pP	18 51 54.9	0.0
ASAR				PcP	PcP	18 53 54.8	+0.6
ASAR				pPcP		18 54 03.7	
BJT	**Baijiatuau**	**44.14**	**18**	*eP*	pP	18 52 31.7	-1.3
BJT				pmax	pmax		
	comp=Z,20nm,1.1s						
BJT	**Baijiatuau**	**44.14**	**18**	*ep*	pP	18 52 31.7	-1.3
	comp=Z,20nm,1.1s						
BJI	**Beijing**	**44.16**	**18**	*eP*	pP	18 52 31.9	-1.3
BJI				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.7						
BJI	**Beijing**	**44.16**	**18**	*eP*	pP	18 52 31.9	-1.3
	comp=Z,17nm,1.1s						
WMQ	**Urumqi**	**46.66**	**348**	⇓P	**P**	**18 52 46.0**	**+1.7**
WMQ				AP	pP	18 52 56.0	+2.9
WMQ				XP	sP	18 53 00.0	+3.3
WMQ				PP	PP	18 54 36.9	+3.1
CTA	**Charters Tower**	**48.77**	**115**	pP	pP	18 53 09.6	-0.4
	comp=Z,3.7nm,0.6s,baz=305,slow=15,SNR=2.3						
STKA	**Stephens Creek**	**49.37**	**132**	*eP*	**P**	**18 53 05.9**	**+0.3**
	comp=Z,2.7nm,0.5s,mb4.5						
STKA				*i*	pP	18 53 15.2	+0.7
STKA	**Stephens Creek**	**49.37**	**132**	P	**P**	**18 53 05.9**	**+0.3**
	comp=Z,3.8nm,0.7s,mb4.5,baz=308,slow=7.6,SNR=9.9						
STKA				pP	pP	18 53 13.0	-1.5
	comp=Z,12nm,0.7s,baz=310,slow=6.9,SNR=14						
UCH	**Uchtor**	**49.43**	**335**	P	**P**	**18 53 06.9**	**+1.0**
	SNR=5.6						
TKM2	**Tokmak 2**	**49.57**	**337**	P	**P**	**18 53 07.6**	**+0.7**
	SNR=7.2						
KBK	**Karagaybulak**	**49.61**	**336**	P	**P**	**18 53 08.8**	**+1.5**
	SNR=6.7						
SONM	**Songino Array**	**49.69**	**6**	P	**P**	**18 53 08.4**	**+0.6**
	comp=Z,2.9nm,0.6s,mb4.5,baz=190,slow=9.3,SNR=26						
SONM				pP	pP	18 53 16.5	-0.2
	comp=Z,7.3nm,0.8s,baz=190,slow=9.2,SNR=21						
SONM				PcP	PcP	18 54 27.9	-1.1
	comp=Z,1.9nm,0.7s,baz=188,slow=4.0,SNR=4.8						
SONM				pPcP		18 54 38.6	
	comp=Z,3.8nm,0.7s,baz=190,slow=4.8,SNR=7.6						
AML	**Almayashu**	**49.70**	**334**	P	**P**	**18 53 08.8**	**+0.9**
	SNR=10.0						
AAK	**Ala-Archa**	**49.77**	**335**	P	**P**	**18 53 09.2**	**+0.7**
AAK				pmax	pmax		
	comp=Z,27nm,2.0s,mb4.9						
ULN	**Ulaanbaatar**	**49.79**	**6**	*eP*	**P**	**18 53 08.7**	**+0.1**
ULN				*e*	pP	18 53 16.6	-0.9
ULN				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
ULN	**Ulaanbaatar**	**49.79**	**6**	*eP*	**P**	**18 53 08.7**	**+0.1**
	comp=Z,12nm,1.1s,mb4.9						
ULN				*e*	pP	18 53 16.6	-0.9
EKS2	**Erkin-Say**	**50.10**	**335**	P	**P**	**18 53 11.7**	**+0.7**
	SNR=14						
USP	**Ospenovka**	**50.30**	**336**	P	**P**	**18 53 13.0**	**+0.5**
	SNR=7.5						
MKAR	**Makanchi Array**	**50.76**	**344**	P	**P**	**18 53 16.1**	**+0.1**
	comp=Z,8.8nm,0.4s,mb5.0,baz=148,slow=8.1,SNR=85						
CN2	**Changchun**	**50.78**	**24**	*eP*	pP	18 53 22.5	-2.6
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
ZAK	**Zakamensk**	**52.00**	**3**	*eP*	**P**	**18 53 29.6**	**+4.3**
ZAK				*e*		18 54 36.7	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.6						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MDJ	**Mudanjiang**	**53.19**	**26**	P	pP	18 53 41.6	-1.6
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.5						
KURK	**Kurchatov**	**55.34**	**344**	*eP*	**P**	**18 53 49.3**	**-0.7**
KURK				*e*	pP	18 53 58.8	-0.1
KURK				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
KURK	**Kurchatov**	**55.34**	**344**	*eP*	**P**	**18 53 49.3**	**-0.7**
	comp=Z,31nm,1.1s,mb5.2						
KURK				*e*	pP	18 53 58.8	0.0
ZAL	**Zalesovo**	**56.89**	**349**	P	**P**	**18 54 00.8**	**-0.3**
ZAL				*PP	pP	18 54 09.5	-0.6
ZAL	**Zalesovo**	**56.89**	**349**	P	**P**	**18 54 00.8**	**-0.2**
	comp=Z,11nm,0.4s,mb5.2,baz=319,slow=5.2,SNR=42						
ZAL				pP	pP	18 54 09.5	-0.6
	comp=Z,13nm,0.5s,baz=294,slow=5.6,SNR=17						
ZAL	**Zalesovo**	**56.89**	**349**	P	**P**	**18 54 00.8**	**-0.3**
ZAL				pP	pP	18 54 09.5	-0.6
KLR	**Kul'dur**	**57.72**	**24**	*eP*	**P**	**18 54 09.8**	**+2.8**
BVA0	**Borovoye Array**	**59.92**	**340**	*i P*	**P**	**18 54 20.7**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	**Borovoye Array**	**59.92**	**340**	P	**P**	**18 54 20.8**	**-1.4**
	comp=Z,4.8nm,0.6s,mb4.7,baz=144,slow=9.1,SNR=30						
BVAR				pP	pP	18 54 30.9	-0.4
	comp=Z,4.5nm,0.5s,baz=149,slow=8.6,SNR=12						
CHKZ	**Chkalovo**	**60.38**	**340**	*eP*	**P**	**18 54 24.0**	**-1.3**
CHKZ				*e*	pP	18 54 33.7	-0.7
CHKZ				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.5						
CHKZ	**Chkalovo**	**60.38**	**340**	*eP*	**P**	**18 54 24.0**	**-1.3**
	comp=Z,29nm,0.6s,mb5.5						
CHKZ				*e*	pP	18 54 33.7	-0.7
BOD	**Bodaibo**	**60.44**	**9**	*eP*	**P**	**18 54 21.9**	**-3.7**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
YSS	**Yuzh-Sakhalins**	**61.30**	**32**	*eP*	**P**	**18 54 31.6**	**0.0**
YSS				*e*	pP	18 54 38.7	-2.0
YSS				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.4						
YSS	**Yuzh-Sakhalins**	**61.30**	**32**	*eP*	**P**	**18 54 31.6**	**0.0**
	comp=Z,35nm,1.1s,mb5.4						
YSS				*e*	pP	18 54 38.7	-2.0
KMBO	**Kilima Mbogo**	**62.66**	**270**	P	**P**	**18 54 41.2**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.3,baz=53,slow=6.6,SNR=7.9						
KMBO	**Kilima Mbogo**	**62.66**	**270**	P	**P**	**18 54 41.2**	**0.0**
GNI	**Garni**	**65.29**	**316**	P	**P**	**18 54 57.8**	**-0.3**
	comp=Z,1.5nm,0.4s,mb4.4,baz=5.3,slow=13,SNR=4.3						
SVE	**Sverdlovsk**	**66.42**	**338**	⇓*i P*	**P**	**18 55 04.4**	**-0.6**
SVE				pmax	pmax		
	comp=Z,6.0nm,0.2s,mb5.3						
ARU	**Arti**	**66.94**	**336**	⇓*i P*	**P**	**18 55 05.4**	**-2.9**
ARU				*e*		18 55 33.2	
ARU				*eS*	S	19 03 57.5	-0.5
ARU				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
ARU	**Arti**	**66.94**	**336**	*eP*	**P**	**18 55 06.7**	**-1.6**
	comp=Z,14nm,1.2s,mb4.9						
YAK	**Yakutsk**	**67.51**	**15**	*eP*	**P**	**18 55 10.1**	**-1.7**
YAK				*e*	pP	18 55 19.2	-1.7
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
YAK	**Yakutsk**	**67.51**	**15**	*eP*	**P**	**18 55 10.1**	**-1.7**
	comp=Z,9.1nm,0.8s,mb4.9						
YAK				*e*	pP	18 55 19.2	-1.7
KIV	**Kislovodsk**	**68.30**	**319**	*eP*	**P**	**18 55 15.9**	**-1.2**
KIV				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.9						
KIV	**Kislovodsk**	**68.30**	**319**	*eP*	**P**	**18 55 15.8**	**-1.2**
	comp=Z,16nm,1.2s,mb4.9						
MALT	**Malatya**	**69.11**	**312**	*eP*	**P**	**18 55 21.5**	**-0.7**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
MALT	**Malatya**	**69.11**	**312**	*eP*	**P**	**18 55 21.5**	**-0.7**
	comp=Z,8.8nm,1.4s,mb4.5						
SOC	**Sochi**	**70.12**	**318**	*eP*	**P**	**18 55 25.2**	**-3.0**
SOC				*e*		18 55 48.0	
SOC				*e*		18 58 03.3	
SOC				*e*PPP	PPP	18 59 42.2	-3.1
SOC				*e*S	S	19 04 34.3	-1.6
SOC				*e*		19 05 25.6	
SOC				*e*SS	SS	19 09 04.9	-2.5
SOC				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
SOC				pmax	pmax		
	comp=N,3.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.9s						
MATP	**Matopo**	**72.00**	**249**	P	**P**	**18 55 40.1**	**+0.1**
	comp=E,5.8nm,0.7s,mb4.6,baz=87,slow=4.6,SNR=15						
MATP				pP	pP	18 55 48.2	-0.9
	comp=E,4.3nm,0.9s,baz=100,slow=5.4,SNR=4.4						
BRTR	**Keskin Array B**	**73.10**	**312**	P	**P**	**18 55 44.5**	**-1.7**
	comp=E,2.4nm,0.7s,mb4.2,baz=133,slow=6.9,SNR=18						
PET	**Petropavlovsk**	**73.17**	**33**	*eP*	pP	18 55 56.4	+0.9
PET				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
PET				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.5						
RPZ	**Rata Peaks**	**75.21**	**135**	pP	pP	18 56 08.3	+0.8
	comp=Z,8.6nm,0.6s,baz=273,slow=3.2,SNR=3.1						
TIXI	**Tiksi**	**75.61**	**9**	*i P*	**P**	**18 55 59.3**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BOSA	**Boshof**	**75.72**	**241**	P	**P**	**18 56 01.2**	**-0.4**
	comp=Z,5.5nm,0.9s,mb4.5,baz=137,slow=19,SNR=6.0						
MOS	**Moscow**	**76.24**	**329**	*eP*	pP	18 56 14.5	+1.4
MOS				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
OBN	**Obninsk**	**76.54**	**328**	⇑*i P*	**P**	**18 56 04.9**	**-0.7**
OBN				*e*S	S	19 05 42.1	-6.1
OBN				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
IDI	**Anoyia**	**78.83**	**306**	P	**P**	**18 56 18.5**	**-0.1**
	comp=Z,9.6nm,0.8s,mb4.8,baz=73,slow=5.6,SNR=3.7						
AKASG	**Malin Array Be**	**79.24**	**322**	P	**P**	**18 56 19.1**	**-1.5**
	comp=Z,0.4nm,0.4s,mb3.8,baz=83,slow=5.0,SNR=6.0						
MLR	**Muntele Rosu**	**80.06**	**317**	P	**P**	**18 56 25.2**	**+0.2**
	comp=Z,7.8nm,0.9s,mb4.6,baz=120,slow=5.3						
JOF	**Joensuu**	**81.95**	**335**	*ep*	**P**	**18 56 33.4**	**-1.2**
VNDA	**Vanda**	**82.43**	**169**	pP	pP	18 56 46.4	+0.2
	comp=Z,0.7nm,0.9s,baz=317,slow=7.2,SNR=3.5						
BILL	**Biiibino**	**82.94**	**20**	*i P*	**P**	**18 56 40.8**	**+1.1**
BILL				pmax	pmax		
	comp=Z,9.0nm,2.5s,mb4.4						
KOLS	**Kolonicke sedl**	**83.21**	**320**	*eP*	**P**	**18 56 42.4**	**+1.0**
FINES	**FINESS Array B**	**83.85**	**332**	P	**P**	**18 56 45.0**	**+0.5**
	comp=Z,3.0nm,0.5s,mb4.7,baz=101,slow=5.7,SNR=38						
FINES				pP	pP	18 56 54.9	+1.2
	comp=Z,1.8nm,0.5s,baz=100,slow=4.8,SNR=5.0						
KAF	**Kangasniemi**	**83.92**	**333**	*ep*	**P**	**18 56 45.0**	**+0.2**
	comp=Z,4.0nm,0.5s,mb4.8,baz=100,slow=4.6						
KAF	**Kangasniemi**	**83.92**	**333**	*eP*	**P**	**18 56 45.0**	**+0.2**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.8						
KEV	**Kevo**	**85.76**	**341**	*ep*	**P**	**18 56 54.7**	**+0.9**
ARCES	**ARCESS Array B**	**86.21**	**340**	P	**P**	**18 56 56.6**	**+0.6**
	comp=Z,3.5nm,0.7s,mb4.7,baz=90,slow=5.5,SNR=16						
ARCES				pP	pP	18 57 06.2	+0.8
	comp=Z,6.7nm,0.8s,baz=102,slow=4.5,SNR=6.9						
GERES	**GERESS Array B**	**88.81**	**319**	P	**P**	**18 57 09.4**	**+0.4**
	comp=Z,1.8nm,0.7s,mb4.5,baz=90,slow=4.0,SNR=17						
KHC	**Kasperske Hory**	**88.91**	**319**	*eP*	**P**	**18 57 09.5**	**0.0**
HFS	**Hagfors**	**89.61**	**330**	P	**P**	**18 57 13.3**	**+0.8**
	comp=Z,2.8nm,0.8s,mb4.6,baz=153,slow=3.3,SNR=7.2						
GRA1	**Grafenberg Arr**	**90.48**	**320**	*eP*	**P**	**18 57 18.1**	**+1.3**
	comp=Z,2.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**90.48**	**320**	*eP*	**P**	**18 57 18.1**	**+1.3**
GRF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**90.48**	**320**	*eP*	**P**	**18 57 18.1**	**+1.3**
GRF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.5						
GRF	**Grafenberg Arr**	**90.48**	**320**	*eP*	**P**	**18 57 18.1**	**+1.3**
	comp=Z,2.0nm,0.8s,mb4.5						
NOA	**NORSAR Array B**	**90.89**	**331**	P	**P**	**18 57 18.5**	**+0.1**
	comp=Z,1.0nm,0.8s,mb4.2,baz=22,slow=4.8,SNR=3.5						
NOA	**NORSAR Array B**	**90.89**	**331**	P	**P**	**18 57 18.5**	**+0.1**
DAVOX	**Davos**	**91.29**	**317**	P	**P**	**18 57 21.8**	**+1.2**
	comp=Z,5.3nm,0.6s,mb5.0,baz=131,slow=5.4,SNR=11						
YKA	**Yellowknife Ar**	**114.14**	**17**	PKiKP		19 02 53.7	
	comp=Z,0.4nm,1.0s,baz=324,slow=2.1,SNR=4.8						
YKA	**Yellowknife Ar**	**114.14**	**17**	PKPdf	PKPdf	19 02 53.7	-4.1
TXAR	**Lajitas Array**	**144.54**	**37**	PKP	PKPdf	19 03 52.1	-3.8
	comp=Z,2.5nm,0.6s,baz=249,slow=1.1,SNR=21						
TXAR				pPKP		19 04 00.6	
	comp=Z,3.6nm,0.6s,baz=245,slow=0.6,SNR=18						
TXAR	**Lajitas Array**	**144.54**	**37**	PKP	PKPdf	19 03 52.1	-3.8
TXAR				pPKP		19 04 00.6	
WVT	**Waverly**	**145.03**	**11**	*e*PKP	PKPdf	19 03 52.0	-4.5
WVT				*e*		19 04 01.8	

*CNRM **10** 18:46:08.7, 35.10N×2.69W, h16km, MD3.2*
*CSEM **10** 18:46:09.3±0.3, 35.03N×2.92W, h15km, MD3.2, Error ellipse: s-maj=6.2km s-min=4.0km az=121.0*
*MDD **10** 18:46:10.6±0.5, 34.98N×2.83W, h12km±3km, mbLg2.1/18, Error ellipse: s-maj=5.8km s-min=4.9km az=124.0, PRXIMO*
*NEIC **10** 18:46:11.4, 35.01N×2.88W, h10km, MG3.3(MDD), After MDD.*

ISC 10 18:46:10.1±0.4, 35.06N±0.03×2.92W±0.03, h10km, n48, σ1§49/90, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.17**	**123**	P	**Pg**	**18 46 12.5**	**-1.4**
ZAI				S	**Sg**	**18 46 15.0**	**-1.5**
ZAI	**Zaio**	**0.17**	**123**	*i* P	**Pg**	**18 46 12.5**	**-1.4**
EMEL	**Melilla**	**0.24**	**352**	P	**Pg**	**18 46 17.2**	**+2.0**
	87nm,0.1s,SNR=4.0						
EMEL				S	**Sg**	**18 46 21.6**	**+3.0**
	639nm,0.2s						
EMLI	**Melilla**	**0.24**	**354**	P	**Pg**	**18 46 17.2**	**+2.0**
	87nm,0.1s,SNR=4.0						
EMLI				S	**Sg**	**18 46 21.6**	**+3.0**
	639nm,0.2s						
TAF	**Taforalt**	**0.48**	**121**	P	**Pg**	**18 46 21.0**	**+1.1**
TAF				S	**Sg**	**18 46 29.0**	**+2.6**
TOU	**Touzarine**	**0.69**	**262**	*i* P	**Pb**	**18 46 24.0**	**+0.2**
TOU				*i* S	**Sb**	**18 46 36.0**	**+2.8**
EALB	**Alboran**	**0.88**	**354**	P	**Pb**	**18 46 27.1**	**+0.1**
EALB				S	**Sb**	**18 46 41.8**	**+3.3**
EALB	**Alboran**	**0.88**	**354**	P	**Pb**	**18 46 28.7**	**+1.7**
	12nm,0.2s,SNR=4.0						
EALB				S	**Sb**	**18 46 41.8**	**+3.3**
	59nm,0.3s						
EALB	**Alboran**	**0.88**	**354**	P	**Pb**	**18 46 27.1**	**+0.1**
	12nm,0.2s,SNR=4.0						
EALB				S	**Sb**	**18 46 41.8**	**+3.2**
	59nm,0.3s						
TZK	**Tazeka**	**1.43**	**227**	*i* P	**Pn**	**18 46 35.0**	**-1.2**
TZK				*i* S	**Sb**	**18 46 54.0**	**-0.4**
EBER	**Berja**	**1.83**	**1**	P	**Pn**	**18 46 42.3**	**+0.4**
EBER				S	**Sn**	**18 47 06.8**	**+1.4**
EBER	**Berja**	**1.83**	**1**	P	**Pn**	**18 46 42.3**	**+0.4**
	0.3nm,0.1s,SNR=4.8						
EBER				S	**Sn**	**18 47 05.7**	**+0.3**
	9.6nm,0.3s,SNR=9.0						
EBER	**Berja**	**1.83**	**1**	P	**Pn**	**18 46 42.3**	**+0.4**
	0.3nm,0.1s,SNR=4.8						
EBER				S	**Sn**	**18 47 06.8**	**+1.4**
	9.6nm,0.3s,SNR=9.0						
ENIJ	**Nijar**	**1.99**	**17**	P	**Pn**	**18 46 44.2**	**-0.1**
	4.1nm,0.4s,SNR=7.9						
ENIJ				S	**Sn**	**18 47 08.6**	**-0.8**
	6.2nm,0.4s,SNR=7.9						
ERON	**Agron**	**2.08**	**340**	P	**Pn**	**18 46 45.1**	**-0.4**
	1.4nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**18 47 10.4**	**-1.3**
	4.6nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**2.12**	**315**	P	**Pn**	**18 46 45.4**	**-0.8**
EMIJ				S	**Sn**	**18 47 09.9**	**-2.9**
EMIJ	**Mijas**	**2.12**	**315**	P	**Pn**	**18 46 45.4**	**-0.8**
	1.2nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**18 47 11.2**	**-1.6**
	2.9nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.12**	**315**	P	**Pn**	**18 46 45.4**	**-0.8**
	1.2nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**18 47 09.9**	**-2.9**
	2.9nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.27**	**347**	S	**Sn**	**18 47 16.5**	**0.0**
	4.7nm,0.4s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.31**	**335**	P	**Pn**	**18 46 51.8**	**+3.0**
ELOJ				S	**Sn**	**18 47 16.4**	**-1.1**
ELOJ	**Sierra Loja**	**2.31**	**335**	P	**Pn**	**18 46 50.4**	**+1.7**
	1.4nm,0.2s,SNR=4.0						
ELOJ				S	**Sn**	**18 47 17.5**	**0.0**
	1.4nm,0.2s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.31**	**335**	S	**Sn**	**18 47 16.4**	**-1.1**
	1.4nm,0.2s,S

*IDC **10** 18:47:00.9±1.3, 1.48S×99.83E, h31km±6km, mb3.9/9, mb1 4.0/10, mb1mx3.8/18, mbtmp4.0/10, ML4.2/1, Error ellipse: s-maj=53.5km s-min=16.7km az=52.0*
*NEIC **10** 18:47:00.9±0.6, 1.41S×99.96E, mb4.4/7, Error ellipse: s-maj=27.6km s-min=10.2km az=57.0*
ISC 10 18:46:59.6±0.9, 1.3S±0.2×100.0E±0.2, h33km, (h32km±1.1km:pP-P), n23, σ0§95/18, mb4.2/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.66**	**357**	P	**P**	**18 51 29.1**	**+0.5**
	0.3nm,0.3s,baz=188,slow=10,SNR=5.3						
LSA	**Lhasa**	**31.96**	**345**	*e*P	**P**	**18 53 25.0**	**0.0**
	3.0nm,0.6s,mb4.3						
ENH	**Enshi**	**32.66**	**15**	*e*P	**P**	**18 53 31.2**	**+0.2**
	2.8nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**38.33**	**121**	P	**P**	**18 54 19.2**	**-0.1**
	1.8nm,0.5s,mb4.1,baz=303,slow=9.2,SNR=4.6						
WRA				pP	pP	18 54 29.3	+0.3
	1.5nm,0.5s,baz=301,slow=9.1,SNR=5.1						
WRAB	**Tennant Creek**	**38.33**	**121**	*e*P	**P**	**18 54 18.8**	**-0.5**
	4.3nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**39.65**	**127**	P	**P**	**18 54 30.6**	**+0.4**
	1.7nm,0.6s,mb4.0,baz=302,slow=7.8,SNR=4.9						
SONM	**Songino Array**	**49.24**	**6**	P	**P**	**18 55 49.0**	**+2.0**
	1.7nm,0.8s,mb4.1,baz=190,slow=11,SNR=5.3						
SONM				PcP	PcP	18 57 10.2	+0.2
	0.7nm,0.6s,baz=194,slow=4.5,SNR=4.8						
ULN	**Ulaanbaatar**	**49.34**	**6**	*e*P	**P**	**18 55 45.7**	**-2.0**
	2.1nm,1.0s,mb4.1						
MKAR	**Makanchi Array**	**50.36**	**344**	P	**P**	**18 55 56.1**	**+0.5**
	1.7nm,0.6s,mb4.3,baz=144,slow=7.5,SNR=4.6						
KURK	**Kurchatov**	**54.94**	**344**	*e*P	**P**	**18 56 29.0**	**-0.7**
	4.1nm,1.0s,mb4.4						
ZAL	**Zalesovo**	**56.48**	**349**	P	**P**	**18 56 40.5**	**-0.2**
	2.7nm,0.7s,mb4.4,baz=287,slow=7.3,SNR=4.6						
ZAL				pP	pP	18 56 50.1	-0.7
	3.3nm,0.7s,baz=315,slow=5.4,SNR=5.0						
ZAL	**Zalesovo**	**56.48**	**349**	P	**P**	**18 56 40.5**	**-0.2**
ZAL				pP	pP	18 56 50.1	-0.7
BVAR	**Borovoye Array**	**59.53**	**340**	P	**P**	**18 57 00.7**	**-1.4**
	1.8nm,0.8s,mb4.2,baz=169,slow=7.3,SNR=3.4						
CHKZ	**Chkalovo**	**59.99**	**340**	*e*P	**P**	**18 57 04.3**	**-1.0**
	3.2nm,0.8s,mb4.4						
YAK	**Yakutsk**	**67.05**	**15**	*e*P	**P**	**18 57 51.6**	**+0.1**
	8.5nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**72.87**	**312**	P	**P**	**18 58 27.8**	**+0.4**
	0.3nm,0.6s,mb3.4,baz=135,slow=47,SNR=2.2						
FINES	**FINESS Array B**	**83.50**	**332**	P	**P**	**18 59 25.4**	**+0.1**
	1.0nm,0.9s,mb4.0,baz=135,slow=5.4,SNR=3.3						
FINES				pP	pP	18 59 35.6	-0.1
	1.4nm,0.8s,baz=108,slow=6.0,SNR=2.5						
ARCES	**ARCESS Array B**	**85.82**	**340**	P	**P**	**18 59 38.6**	**+2.0**
	4.6nm,1.1s,mb4.6,baz=72,slow=3.8,SNR=4.1						
TXAR	**Lajitas Array**	**144.12**	**37**	PKP	PKPdf	19 06 34.1	+1.4
	1.5nm,0.4s,baz=197,slow=1.0,SNR=17						
MIAR	**Mount Ida**	**144.56**	**20**	*e*PKP	PKPdf	19 06 34.4	+1.0
MIAR				*e*		19 06 44.2	
WVT	**Waverly**	**144.58**	**11**	*e*PKP	PKPdf	19 06 33.6	+0.3
JCT	**Junction City**	**145.41**	**31**	*e*PKP	PKPdf	19 06 37.4	+2.5
JCT				*e*		19 06 47.7	
CPCT	**Cooper Cave**	**145.75**	**7**	*e*PKP	PKPdf	19 06 37.0	+1.6

IDC 10 18:49:25.4±1.8, 23.19N×142.08E, h259km±30km, mb3.2/4, mb1 3.2/5, mb1mx2.9/23, mbtmp3.8/5, Error ellipse: s-maj=104.2km s-min=18.9km az=81.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.89**	**1**	P	P	18 50 29.4	+0.6
	3.2nm,0.3s,baz=276,slow=18,SNR=8.8						
CBIJ				S	S	18 51 18.3	+0.1
	10nm,0.3s,baz=154,slow=23,SNR=9.2						
WRA	**Warramunga Arr**	**43.53**	**191**	P	P	18 57 03.6	-1.8
	0.2nm,0.3s,baz=6.6,slow=8.6,SNR=13						
MKAR	**Makanchi Array**	**52.94**	**312**	P	P	18 58 15.4	-1.5
	0.4nm,0.6s,baz=90,slow=8.6,SNR=2.6						
BVAR	**Borovoye Array**	**60.88**	**319**	P	P	18 59 10.7	-1.8
	0.7nm,0.3s,baz=102,slow=8.3,SNR=4.6						
FINES	**FINESS Array B**	**81.40**	**334**	P	P	19 01 13.0	-1.1
	1.9nm,1.1s,baz=56,slow=5.0,SNR=3.4						

*IDC **10** 19:00:26.0±3.1, 1.66S×99.84E, mb3.6/6, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, Error ellipse: s-maj=127.4km s-min=21.3km az=58.0*
ISC 10 19:00:29.9±2.9, 1.5S±0.4×100.0E±0.7, h33km, n7, σ1§10/6, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.83**	**357**	P	**P**	**19 05 00.5**	**-0.3**
	0.4nm,0.5s,baz=180,slow=9.0,SNR=3.2						
WRA	**Warramunga Arr**	**38.24**	**121**	P	**P**	**19 07 47.6**	**-1.2**
	0.3nm,0.4s,mb3.4,baz=307,slow=9.2,SNR=6.0						
ASAR	**Alice Springs**	**39.54**	**127**	P	**P**	**19 08 00.8**	**+1.1**
	0.3nm,0.7s,mb3.1,baz=304,slow=8.0,SNR=4.0						
SONM	**Songino Array**	**49.41**	**6**	P	**P**	**19 09 19.4**	**+0.8**
	0.6nm,0.7s,mb3.7,baz=184,slow=9.5,SNR=5.8						
MKAR	**Makanchi Array**	**50.53**	**344**	P	**P**	**19 09 27.2**	**+0.1**
	0.7nm,0.4s,mb3.9,baz=153,slow=8.1,SNR=6.2						
ZAL	**Zalesovo**	**56.65**	**349**	P	**P**	**19 10 11.7**	**-0.5**
	1.7nm,0.4s,mb4.4,baz=250,slow=1.7,SNR=8.4						
TXAR	**Lajitas Array**	**144.26**	**37**	PKP	PKPdf	19 20 04.0	+0.7
	0.1nm,0.3s,baz=222,slow=1.6,SNR=4.3						

IDC 10 19:05:10.4±3.2, 1.39N×97.22E, mb3.7/4, mb1 3.8/5, mb1mx3.5/19, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=116.2km s-min=28.0km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.04**	**6**	P	P	19 09 10.3	-1.6
	0.1nm,0.3s,baz=197,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**42.12**	**122**	P	P	19 13 04.6	-1.8
	0.4nm,0.7s,baz=300,slow=9.2,SNR=5.6						
SONM	**Songino Array**	**46.94**	**8**	P	P	19 13 43.3	-1.4
	0.8nm,0.7s,baz=190,slow=9.5,SNR=7.6						
MKAR	**Makanchi Array**	**47.06**	**346**	P	P	19 13 43.8	-1.9
	0.5nm,0.5s,baz=156,slow=8.8,SNR=7.1						
ZAL	**Zalesovo**	**53.37**	**351**	P	P	19 14 31.0	-2.8
	0.9nm,0.4s,baz=306,slow=12,SNR=4.2						

*IDC **10** 19:13:22.1±2.2, 1.56S×99.87E, mb3.9/8, mb1 4.0/9, mb1mx3.8/19, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=100.2km s-min=15.5km az=57.0*
*NEIC **10** 19:13:26.4±1.0, 1.59S×99.84E, h30km, mb4.0/1, Error ellipse: s-maj=40.9km s-min=10.5km az=63.0*
ISC 10 19:13:24.5±1.3, 1.6S±0.2×99.8E±0.3, h33km, n14, σ1§01/12, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.91**	**7**	*e*P	**P**	**19 15 06.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**19.95**	**358**	P	**P**	**19 17 53.9**	**-2.8**
	0.1nm,0.3s,baz=186,slow=10,SNR=3.0						
FITZ	**Fitzroy Crossi**	**30.23**	**124**	P	**P**	**19 19 32.9**	**-1.7**
	4.2nm,0.8s,mb4.2,baz=346,slow=8.3,SNR=3.1						
LSA	**Lhasa**	**32.20**	**346**	P	**P**	**19 19 51.8**	**-0.1**
	1.1nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**38.39**	**121**	P	**P**	**19 20 45.5**	**+0.8**
	0.9nm,0.4s,mb3.8,baz=302,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**39.67**	**126**	P	**P**	**19 20 56.5**	**+1.3**
	0.4nm,0.4s,mb3.5,baz=297,slow=7.8,SNR=14						
SONM	**Songino Array**	**49.58**	**6**	P	**P**	**19 22 15.2**	**+0.7**
	0.5nm,0.6s,mb3.7,baz=194,slow=9.4,SNR=6.0						
STKA	**Stephens Creek**	**49.58**	**132**	P	**P**	**19 22 14.2**	**-0.6**
	1.3nm,0.8s,mb4.0,baz=350,slow=6.7,SNR=3.4						
MKAR	**Makanchi Array**	**50.59**	**345**	P	**P**	**19 22 22.6**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=146,slow=8.6,SNR=9.8						
ZAL	**Zalesovo**	**56.73**	**349**	P	**P**	**19 23 08.0**	**+0.6**
	2.0nm,0.4s,mb4.5,baz=312,slow=3.8,SNR=10						
ZAL	**Zalesovo**	**56.73**	**349**	P	**P**	**19 23 08.0**	**+0.6**
BVAR	**Borovoye Array**	**59.74**	**340**	P	**P**	**19 23 28.1**	**-0.4**
	0.5nm,0.6s,mb3.7,baz=129,slow=9.2,SNR=2.4						
TXAR	**Lajitas Array**	**144.53**	**37**	PKP	PKPdf	19 33 00.7	+2.4
	0.5nm,0.3s,baz=229,slow=0.8,SNR=6.8						
JCT	**Junction City**	**145.81**	**31**	*e*PKP	PKPdf	19 33 04.0	+3.5

*BJI **10** 19:14:48.2, 1.87S×100.14E, h31km, mB5.4, mb4.8, Ms4.7, Msz4.4*
*IDC **10** 19:14:50.6±0.5, 1.69S×99.79E, h22km±2km, mb4.4/30, mb1 4.5/30, mb1mx4.5/30, mbtmp4.6/30, Error ellipse: s-maj=14.8km s-min=10.0km az=54.0*
*MOS **10** 19:14:50.4±0.9, 1.62S×99.89E, h33km, mb5.1/23, Error ellipse: s-maj=13.3km s-min=6.5km az=115.8*
*NEIC **10** 19:14:50.8±0.2, 1.70S×99.80E, mb4.9/27, Error ellipse: s-maj=6.3km s-min=4.3km az=50.0*
*HRVD **10** 19:14:50.8±1.1, 1.83S×99.89E, h35km±1km, MW5.0/25, Centroid moment Tensor Solution. LP body waves: s19,c21;Mantle waves: s25,c26; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}4.89±.79; $M_{\theta\theta}$-4.11±.47; $M_{\phi\phi}$-0.78±.53; $M_{r\theta}$0.79±.34; $M_{\theta\phi}$0.71±.40; $M_{\phi r}$0.13±.53; Best double couple: $M_0$4.641×10^16 NP1:φs284°, δ40°, λ94°. NP2:φs99°, δ50°, λ86°. Principal axes: T 4.964, Plg85°, Azm339°; N -.649, Plg3°, Azm101°; P -4.317, Plg5°, Azm191°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 19:14:49.1±0.2, 1.68S±0.04×99.85E±0.05, h24km, h24km±.9km:pP-P, n159, σ0§96/141, mb4.8/72, MS4.7/8, 11C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.97**	**7**	*e*P	**Pn**	**19 16 34.1**	**+1.7**
KSM	**Kuching**	**10.92**	**73**	P	**P**	**19 17 28.4**	**+1.1**
KKM	**Kota Kinabalu**	**18.06**	**65**	*e*P	**P**	**19 19 02.9**	**+2.5**
CM31	**Chiang Mai Arr**	**20.03**	**358**	P	**P**	**19 19 22.2**	**-1.2**
	8.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**20.03**	**358**	P	**P**	**19 19 20.6**	**-2.8**
	3.5nm,0.6s,baz=187,slow=10.0,SNR=17						
PALK	**Pallekele**	**21.07**	**295**	P	**P**	**19 19 34.0**	**-0.2**
	15nm,1.0s,mb4.3						
MBWA	**Marble Bar**	**27.40**	**136**	*e*P	**P**	**19 20 35.3**	**+0.2**
	10nm,0.9s,mb4.3						
SHL	**Shillong**	**28.16**	**345**	*e*P	**P**	**19 20 41.8**	**-0.1**
SHL				*e*		19 25 07.0	
SHL				*e*		19 29 48.5	
FITZ	**Fitzroy Crossi**	**30.12**	**124**	⇑*i*P	**P**	**19 20 58.8**	**-0.8**
	20nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**30.12**	**124**	P	**P**	**19 20 58.8**	**-0.7**
	38nm,0.9s,mb5.1,baz=317,slow=4.2,SNR=26						
FITZ				PcP	PcP	19 24 00.6	-0.2
	9.6nm,0.9s,baz=190,slow=3.8,SNR=3.8						
JIRN	**Jiri**	**31.99**	**337**	*e*P	**P**	**19 21 16.6**	**+0.7**
	43nm,0.8s,mb5.3						
PKI	**Pulchoki**	**32.23**	**335**	*e*P	**P**	**19 21 18.3**	**+0.3**
LSA	**Lhasa**	**32.29**	**346**	*e*P	**P**	**19 21 18.2**	**-0.3**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
LSA	**Lhasa**	**32.29**	**346**	*e*P	**P**	**19 21 18.2**	**-0.3**
	comp=Z,5.7nm,0.5s,mb4.7						
GUN	**Gumba**	**32.34**	**336**	*e*P	**P**	**19 21 19.5**	**+0.6**
	comp=Z,50nm,0.8s,mb5.4						
DMN	**Daman**	**32.39**	**335**	*e*P	**P**	**19 21 19.5**	**+0.1**
	comp=Z,19nm,0.9s,mb4.9						
KKN	**Kakani**	**32.47**	**335**	*e*P	**P**	**19 21 20.1**	**0.0**
	comp=Z,28nm,0.8s,mb5.1						
KKN	**Kakani**	**32.47**	**335**	*e*P	**P**	**19 21 20.1**	**0.0**
KKN				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.8						
GKN	**Gorkha**	**32.93**	**335**	*e*P	**P**	**19 21 24.3**	**+0.2**
	comp=Z,35nm,1.1s,mb5.2						
ENH	**Enshi**	**33.07**	**15**	*e*P	**P**	**19 21 23.4**	**-2.0**
	comp=Z,6.2nm,0.7s,mb4.7						
KOLN	**Koldanda**	**33.18**	**333**	*e*P	**P**	**19 21 26.7**	**+0.4**
	comp=Z,28nm,0.8s,mb5.2						
NWAO	**Narrogin (SRO)**	**35.12**	**154**	P	**P**	**19 21 42.6**	**-0.3**
	comp=Z,13nm,1.0s,mb4.8,baz=337,slow=9.2,SNR=4.3						
XAN	**Xi'an**	**36.54**	**13**	P	**P**	**19 21 53.5**	**-1.4**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.7						
NJ2	**Nanjing**	**38.08**	**27**	*e*P	**P**	**19 22 07.8**	**-0.1**
NJ2				AP	pP	19 22 17.6	+2.6
NJ2				XP	sP	19 22 21.5	+3.5
NJ2				PP	PP	19 23 38.9	+0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,920nm,6.1s						
NJ2				LR	LR		
	comp=N,530nm,18.8s,MS4.6						
NJ2				LR	LR		
	comp=E,630nm,18.2s,MS4.6						
NJ2				LR	LR		
	comp=Z,410nm,14.1s,MS4.4						
WRA	**Warramunga Arr**	**38.29**	**121**	P	**P**	**19 22 09.1**	**-0.7**
	comp=Z,10nm,0.4s,mb4.9,baz=303,slow=9.1,SNR=66						
WRA				PcP	PcP	19 24 24.3	+0.2
	comp=Z,1.2nm,0.7s,baz=311,slow=2.6,SNR=6.5						
WRAB	**Tennant Creek**	**38.30**	**121**	*i*P	**P**	**19 22 09.2**	**-0.6**
WRAB	**Tennant Creek**	**38.30**	**121**	*e*P	**P**	**19 22 08.8**	**-1.0**
	comp=Z,32nm,0.8s,mb5.1						
WB2	**Warramunga Arr**	**38.30**	**121**	⇓*i*P	**P**	**19 22 09.6**	**-0.3**
SSE	**Sheshan**	**38.40**	**30**	*e*P	**P**	**19 22 08.0**	**-2.6**
SSE				AP	pP	19 22 17.1	-0.6
SSE				XP	sP	19 22 20.8	+0.1
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,358nm,12.0s						
SSE				LR	LR		
	comp=N,242nm,20.8s,MS4.4						
SSE				LR	LR		
	comp=E,497nm,20.7s,MS4.4						
SSE				LR	LR		
	comp=Z,596nm,14.2s						
SSE	**Sheshan**	**38.40**	**30**	*e*P	**P**	**19 22 08.0**	**-2.6**
	comp=Z,37nm,0.7s,mb5.2						
SSE				pP	pP	19 22 17.1	-0.6
SSE				sP	sP	19 22 20.8	+0.1
SSE				S	**S**	**19 28 01.9**	**-1.7**
SSE				sS		19 28 17.6	
SSE				SS	SS	19 30 58.1	+14
SSE				LR	LR		
	comp=Z,600nm,14.2s,MS4.6						
FORT	**Forrest**	**39.39**	**140**	*e*P	**P**	**19 22 20.3**	**+1.4**
	comp=Z,264nm,0.6s						
ASPA	**Alice Springs**	**39.56**	**126**	⇑*i*P	**P**	**19 22 20.7**	**+0.3**
ASAR	**Alice Springs**	**39.57**	**126**	P	**P**	**19 22 20.7**	**+0.3**
	comp=Z,8.7nm,0.7s,mb4.6,baz=300,slow=7.9,SNR=55						
ASAR				PcP	PcP	19 24 28.4	+0.3
	comp=Z,4.8nm,0.7s,baz=307,slow=2.4,SNR=11						
GTA	**Gaotai**	**40.89**	**360**	*e*P	**P**	**19 22 31.6**	**+0.5**
GTA				AP	pP	19 22 40.9	+2.7
GTA				XP	sP	19 22 45.0	+3.8
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.9						
HHC	**Hu-ho-hao-te**	**43.65**	**13**	*e*P	**P**	**19 22 53.1**	**-0.6**
HHC				AP	pP	19 23 00.2	-0.7
HHC				XP	sP	19 23 04.9	+1.1
HHC				PP	PP	19 24 33.3	-3.9
HHC				PCP	PcP	19 24 40.9	-0.5
HHC				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,264nm,12.4s						
HHC				LR	LR		
	comp=N,567nm,17.8s,MS4.8						
HHC				LR	LR		
	comp=E,876nm,15.9s,MS4.8						
HHC				LR	LR		
	comp=Z,554nm,16.9s,MS4.5						
BJI	**Beijing**	**44.12**	**18**	*e*P	**P**	**19 22 57.9**	**+0.3**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
BJI	**Beijing**	**44.12**	**18**	*e*P	**P**	**19 22 57.9**	**+0.3**
	comp=Z,7.0nm,0.9s,mb4.4						
WMQ	**Urumqi**	**46.59**	**348**	P	**P**	**19 23 18.9**	**+1.8**
WMQ				AP	pP	19 23 28.9	+4.6
WMQ				XP	sP	19 23 32.7	+5.5
WMQ				PCP	PcP	19 24 53.5	+2.1
WMQ				PP	PP	19 25 07.9	+1.4
WMQ				AMB	AMB		
	comp=Z,38nm,1.2s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,40nm,3.0s						
WMQ				LR	LR		
	comp=N,304nm,23.2s,MS4.3						
WMQ				LR	LR		
	comp=E,267nm,21.6s,MS4.3						
WMQ				LR	LR		
	comp=Z,259nm,23.2s,MS4.1						
KS15	**Wonju Array Si**	**46.79**	**31**	*e*P	**P**	**19 23 18.7**	**-0.1**
CTA	**Charters Tower**	**48.87**	**115**	*e*P	**P**	**19 23 35.2**	**-0.1**
	comp=Z,10nm,0.8s,mb4.9						
CTA	**Charters Tower**	**48.87**	**115**	*e*P	**P**	**19 23 35.2**	**-0.1**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CTA	**Charters Tower**	**48.87**	**115**	P	**P**	**19 23 35.0**	**-0.3**
	comp=Z,15nm,0.9s,mb5.0,baz=274,slow=9.0,SNR=7.7						
UCH	**Uchtor**	**49.34**	**335**	P	**P**	**19 23 39.7**	**+1.1**
	SNR=5.4						
TKM2	**Tokmak 2**	**49.48**	**337**	P	**P**	**19 23 40.4**	**+0.7**
	SNR=11						
STKA	**Stephens Creek**	**49.48**	**132**	⇑*i*P	**P**	**19 23 40.3**	**+0.5**
	comp=Z,4.3nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**49.48**	**132**	P	**P**	**19 23 40.4**	**+0.6**
	comp=Z,6.0nm,0.5s,mb4.8,baz=312,slow=7.7,SNR=20						
KBK	**Karagaybulak**	**49.52**	**336**	P	**P**	**19 23 41.1**	**+1.2**
	SNR=9.6						
AML	**Almayashu**	**49.61**	**335**	P	**P**	**19 23 41.6**	**+1.0**
	SNR=8.1						
SONM	**Songino Array**	**49.64**	**6**	P	**P**	**19 23 41.0**	**+0.2**
	comp=Z,5.3nm,0.8s,mb4.6,baz=186,slow=8.5,SNR=34						
SONM				PcP	PcP	19 25 01.7	-0.6
	comp=Z,3.0nm,0.6s,baz=188,slow=4.9,SNR=6.6						
ULN	**Ulaanbaatar**	**49.74**	**6**	*e*P	**P**	**19 23 41.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**49.74**	**6**	*e*P	**P**	**19 23 41.5**	**-0.1**
	comp=Z,3.8nm,0.8s,mb4.5						
FRU	**Bishkek**	**49.80**	**336**	*e*P	**P**	**19 23 43.5**	**+1.4**
EKS2	**Erkin-Say**	**50.01**	**335**	P	**P**	**19 23 44.4**	**+0.7**
	SNR=14						
USP	**Ospenovka**	**50.20**	**336**	P	**P**	**19 23 45.5**	**+0.3**
	SNR=9.2						
MKAR	**Makanchi Array**	**50.68**	**344**	P	**P**	**19 23 48.9**	**+0.1**
	comp=Z,12nm,0.6s,mb5.0,baz=149,slow=8.0,SNR=67						
CN2	**Changchun**	**50.75**	**24**	*e*P	**P**	**19 23 48.4**	**-1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
ZAK	**Zakamensk**	**51.94**	**3**	*e*P	**P**	**19 23 57.8**	**-0.5**
ZAK				*e*		19 25 08.9	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
MJAR	**Matsushiro Arr**	**52.12**	**39**	P	**P**	**19 23 59.5**	**-0.4**
	comp=Z,1.7nm,0.6s,mb4.1,baz=218,slow=8.3,SNR=6.7						
KURK	**Kurchatov**	**55.25**	**344**	*i*P	**P**	**19 24 22.2**	**-0.6**
KURK	**Kurchatov**	**55.25**	**344**	*e*P	**P**	**19 24 21.5**	**-1.2**
ZAL	**Zalesovo**	**56.82**	**349**	P	**P**	**19 24 33.8**	**-0.1**
	comp=Z,14nm,0.5s,mb5.2,baz=318,slow=5.4,SNR=55						
KLR	**Kul'dur**	**57.70**	**24**	*e*P	**P**	**19 24 36.3**	**-3.9**
ASAJ	**Asahikawa**	**59.44**	**35**	P	**P**	**19 24 52.5**	**+0.1**
	comp=Z,5.7nm,0.5s,mb4.9,baz=225,slow=8.1,SNR=9.0						
BVAR	**Borovoye Array**	**59.83**	**340**	P	**P**	**19 24 53.7**	**-1.3**
	comp=Z,5.1nm,0.6s,mb4.7,baz=145,slow=8.8,SNR=33						
CHKZ	**Chkalovo**	**60.29**	**340**	*e*P	**P**	**19 24 56.9**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
CHKZ	**Chkalovo**	**60.29**	**340**	*e*P	**P**	**19 24 56.9**	**-1.2**
	comp=Z,16nm,1.1s,mb5.0						
BOD	**Bodaibo**	**60.39**	**9**	*e*P	**P**	**19 24 56.5**	**-2.2**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
YSS	**Yuzh-Sakhalins**	**61.29**	**32**	⇑*e*P	**P**	**19 25 04.8**	**-0.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.3						
YSS	**Yuzh-Sakhalins**	**61.29**	**32**	*e*P	**P**	**19 25 05.3**	**+0.3**
	comp=Z,12nm,0.7s,mb5.2						
KMBO	**Kilima Mbogo**	**62.57**	**270**	P	**P**	**19 25 14.0**	**-0.1**
	comp=Z,2.8nm,0.7s,mb4.5,baz=68,slow=9.9,SNR=10.0						
GNI	**Garni**	**65.19**	**316**	*e*P	**P**	**19 25 30.5**	**-0.3**
GNI				*e*	pP	19 25 37.6	-0.7
GNI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GNI	**Garni**	**65.19**	**316**	P	**P**	**19 25 30.8**	**0.0**
	comp=Z,0.8nm,0.3s,mb4.2,baz=323,slow=14,SNR=3.5						
GNI	**Garni**	**65.19**	**316**	*e*P	**P**	**19 25 30.4**	**-0.4**
	comp=Z,9.8nm,1.0s,mb4.8						
GNI				*e*	pP	19 25 37.6	-0.7
SVE	**Sverdlovsk**	**66.33**	**338**	⇓*i*P	**P**	**19 25 37.3**	**-0.5**
SVE				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.0						
ARU	**Arti**	**66.85**	**337**	⇑*i*P	**P**	**19 25 40.0**	**-1.2**
ARU				*e*		19 26 04.6	
ARU				*e*		19 28 05.3	
ARU				*e*PPP	PPP	19 29 39.5	-7.4
ARU				*e*S	S	19 34 30.9	+0.1
ARU				*e*SS	SS	19 38 54.2	+3.3
ARU				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
ARU	**Arti**	**66.85**	**337**	*e*P	**P**	**19 25 39.9**	**-1.3**
	comp=Z,15nm,1.1s,mb4.9						
ARU				*e*	pP	19 25 46.8	-1.9
YAK	**Yakutsk**	**67.47**	**15**	*e*P	**P**	**19 25 42.4**	**-2.6

SIM Simferopol' 74.26 318 *c iP* **P 19 26 25.0 -1.2**
SIM pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
LBTB Lobatse 75.02 245 P **P 19 26 30.8 -0.3**
comp=Z,3.1nm,0.8s,mb4.3,baz=114,slow=9.4,SNR=3.6
LBTB Lobatse 75.02 245 P **P 19 26 30.8 -0.3**
SEY Seymchan 75.39 22 *eP* **P 19 26 34.7 +2.3**
SEY *e* 19 26 48.7
SEY *e* 19 29 24.9
SEY *e* 19 36 48.9
SEY *e*SS SS 19 41 03.3 +1.0
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.2
SEY MLR MLR
comp=Z,3μm,22.0s,MS5.6
SEY MLR MLR
comp=N,1μm,18.0s,MS5.6
SEY MLR MLR
comp=E,2μm,21.0s,MS5.6
TIXI Tiksi 75.56 9 *i P* **P 19 26 32.3 -0.9**
TIXI pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
BOSA Boshof 75.68 241 P **P 19 26 33.9 -0.9**
comp=Z,3.5nm,0.9s,mb4.3,baz=99,slow=10,SNR=3.6
MOS Moscow 76.14 329 *eP* **P 19 26 36.6 -0.2**
MOS *e* pP 19 26 44.1 -0.2
MOS pmax pmax
comp=Z,59nm,1.1s,mb5.4
OBN Obninsk 76.44 328 *d iP* **P 19 26 38.4 -0.1**
OBN pmax pmax
comp=Z,18nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.8
TIRR Tirgusor 78.01 316 ⇓P **P 19 26 47.2 -0.2**
SYO Syowa Base 78.12 199 ⇓P **P 19 26 45.5 -2.0**
SYO Syowa Base 78.12 199 ⇑pP pP 19 26 54.0 -1.1
HARR Harsova 78.41 316 ⇓P **P 19 26 49.6 0.0**
HARR Harsova 78.41 316 ⇓P **P 19 26 49.5 -0.1**
AKASG Malin Array Be 79.13 322 P **P 19 26 52.4 -1.0**
comp=Z,1.8nm,0.7s,mb4.1,baz=82,slow=4.8,SNR=12
AKASG pP pP 19 26 59.3 -1.7
comp=Z,1.4nm,0.7s,baz=88,slow=4.7,SNR=5.0
AKASG Malin Array Be 79.13 322 P **P 19 26 52.4 -1.0**
AKASG pP pP 19 26 59.3 -1.7
VRI Vrincioaia 79.51 317 ⇑P **P 19 26 56.3 +0.7**
MLR Muntele Rosu 79.96 317 P **P 19 26 58.2 +0.2**
comp=Z,10nm,0.9s,mb4.8,baz=118,slow=1.9,SNR=27
MLR pP pP 19 27 05.1 -0.5
comp=Z,22nm,1.1s,baz=96,slow=4.9,SNR=17
MLR Muntele Rosu 79.96 317 ⇑P **P 19 26 58.6 +0.6**
MLR Muntele Rosu 79.96 317 ⇑P **P 19 26 58.6 +0.6**
BURAR Bucovina Array 80.92 319 ⇓P **P 19 27 04.1 +1.1**
BURAR Bucovina Array 80.92 319 ⇓P **P 19 27 04.1 +1.1**
JOF Joensuu 81.86 335 *ep* **P 19 27 07.3 -0.3**
VNDA Vanda 82.51 169 P **P 19 27 11.5 +0.8**
comp=Z,2.3nm,0.9s,mb4.2,baz=304,slow=6.9,SNR=11
VNDA Vanda 82.51 169 P **P 19 27 11.5 +0.8**
BILL Biibino 82.91 20 *i P* **P 19 27 13.2 +0.2**
BILL pmax pmax
comp=Z,3.0nm,1.7s,mb4.0
KWP Kalwaria 82.96 320 *eP* **P 19 27 06.3 -7.3**
KWP *e* pP 19 27 14.1 -7.1
KOLS Kolonicke sedl 83.11 320 *eP* **P 19 27 15.7 +1.3**
KOLS *ep*P pP 19 27 22.7 +0.7
SUW Suwalki 83.53 325 *eP* **P 19 27 16.7 +0.3**
SUW *e* pP 19 27 23.6 -0.5
FINES FINESS Array B 83.75 332 P **P 19 27 18.2 +0.8**
comp=Z,5.0nm,0.7s,mb4.8,baz=100,slow=5.8,SNR=38
FINES pP pP 19 27 25.1 0.0
comp=Z,5.2nm,0.8s,baz=104,slow=7.9,SNR=6.4
FINES FINESS Array B 83.75 332 P **P 19 27 18.2 +0.8**
FINES pP pP 19 27 25.1 0.0
KAF Kangasniemi 83.83 333 *ep* **P 19 27 17.9 +0.2**
comp=Z,6.3nm,0.6s,mb4.9,baz=100,slow=4.6
KAF Kangasniemi 83.83 333 *eP* **P 19 27 17.9 +0.2**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
KECS Kecovo 84.20 319 *eP* **P 19 27 20.9 +1.0**
OJC Ojcow 84.91 321 *eP* **P 19 27 24.0 +0.6**
ARCES ARCESS Array B 86.12 340 P **P 19 27 30.3 +1.3**
comp=Z,11nm,0.9s,mb5.1,baz=97,slow=5.6,SNR=27
ARCES pP pP 19 27 37.1 +0.4
comp=Z,12nm,0.9s,baz=45,slow=8.6,SNR=6.1
ZST Bratislava 86.39 318 *eP* **P 19 27 31.7 +0.8**
ZST *ep*P pP 19 27 38.9 +0.4
PRU Pruhonice 88.24 320 *eP* **P 19 27 39.5 -0.3**
PRU *e* pP 19 27 48.7 +1.3
PRU Pruhonice 88.24 320 *eP* **P 19 27 39.5 -0.3**
PRU pP pP 19 27 48.7 +1.3
BRG Berggiesshubel 88.69 321 *eP* **P 19 27 43.0 +1.1**
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
BRG Berggiesshubel 88.69 321 *eP* **P 19 27 43.0 +1.1**
comp=Z,2.7nm,0.7s,mb4.7
GERES GERESS Array B 88.70 319 P **P 19 27 42.9 +0.9**
comp=Z,1.7nm,0.8s,mb4.5,baz=82,slow=4.2,SNR=15
GERES pP pP 19 27 50.0 +0.3
comp=Z,1.6nm,0.7s,baz=90,slow=5.3,SNR=8.8
KHC Kasperske Hory 88.81 319 *eP* **P 19 27 42.5 0.0**
RUE Ruedersdorf 88.91 322 *eP* **P 19 27 43.8 +0.9**
comp=Z,33nm,1.1s,mb5.6
RUE *e* pP 19 27 51.1 +0.5
CLL Collm 89.31 321 *eP* pP 19 27 51.0 -1.5
CLL Collm 89.31 321 P **P 19 27 46.0 +1.2**
CLL *e*PP pP 19 27 51.0 -1.5
HFS Hagfors 89.52 330 P **P 19 27 46.2 +0.6**
comp=Z,1.7nm,0.7s,mb4.5,baz=194,slow=6.1,SNR=5.0
GRA1 Grafenberg Arr 90.37 320 P **P 19 27 51.4 +1.6**
GRF Grafenberg Arr 90.37 320 *eP* **P 19 27 51.4 +1.6**
NB2 NORSAR Subarra 90.79 331 P **P 19 27 51.7 +0.3**
comp=Z,0.2nm,0.7s,baz=91,slow=5.8
NOA NORSAR Array B 90.79 331 P **P 19 27 51.8 +0.3**
comp=Z,1.3nm,0.7s,mb4.4,baz=91,slow=4.9,SNR=4.5
ILAR Eielson Array 101.27 24 PKKPbc 19 44 48.2
comp=Z,0.2nm,0.6s,baz=147,slow=2.2,SNR=4.7
YKA Yellowknife Ar 114.11 17 PKP PKPdf 19 33 27.3 -3.5
comp=Z,0.2nm,0.6s,baz=318,slow=1.7,SNR=6.0
YKA PKKPbc 19 44 14.6
comp=Z,0.2nm,0.7s,baz=146,slow=4.4,SNR=5.6
NVAR Mina Array Bea 129.45 39 PKP PKPdf 19 33 57.4 -3.7
comp=Z,0.5nm,0.5s,baz=70,slow=1.6,SNR=4.2
PDAR Pinedale Array 131.37 29 PKP PKPdf 19 34 01.7 -2.9
comp=Z,0.2nm,0.5s,baz=333,slow=3.3,SNR=3.8
LTX Lajitas 144.54 37 *e*PKP PKPdf 19 34 26.0 -2.9
TXAR Lajitas Array 144.54 37 PKP PKPdf 19 34 26.0 -2.8
comp=Z,8.4nm,0.6s,baz=282,slow=1.2,SNR=58
TXAR Lajitas Array 144.54 37 PKP PKPdf 19 34 26.0 -2.8
MIAR Mount Ida 144.98 20 *e*PKP PKPdf 19 34 26.3 -3.2
WVT Waverly 144.99 11 *e*PKP PKPdf 19 34 25.6 -3.8
TZTN Tazewell 145.16 5 *e*PKP PKPdf 19 34 26.1 -3.6
UALR University of 145.16 18 *e*PKP PKPdf 19 34 26.6 -3.2
JCT Junction City 145.83 31 *e*PKP PKPdf 19 34 28.7 -2.4
CPCT Cooper Cave 146.15 6 *e*PKP PKPdf 19 34 29.1 -2.4
SWET Sewanee 146.20 9 *e*PKP PKPdf 19 34 28.8 -2.8
LRAL Lakeview Retre 148.15 11 *e*PKPbc PKPdf 19 34 35.1 +0.3
GOGA Godfrey 148.28 5 *e*PKPbc PKPdf 19 34 35.6 +0.7
LPAZ La Paz 158.56 213 PKP PKPdf 19 34 47.8 -2.1
comp=Z,1.0nm,0.8s,baz=188,slow=1.7,SNR=3.7
LPAZ PKPab PKPab 19 35 22.6 -0.2
comp=Z,0.8nm,0.6s,baz=153,slow=2.3,SNR=3.2

*IDC **10** 19:18:12.1±0.6, 1.71S×99.63E, mb4.2/15, mb1 4.3/15, mb1mx4.1/20, mbtmp4.2/15, Error ellipse: s-maj=27.0km s-min=14.5km az=58.0*
*NEIC **10** 19:18:17.3±6.7, 1.70S×99.68E, h34km±46km, mb4.3/4, Error ellipse: s-maj=20.6km s-min=8.9km az=62.0*
ISC 10 19:18:15.4±0.5, 1.66S±0.10×99.7E±0.1, h33km, n27, σ0.985/23, mb4.2/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.01**	**358**	P	**P**	**19 22 47.7**	**-0.5**
	1.6nm,0.7s,baz=188,slow=10.0,SNR=4.0						
FITZ	**Fitzroy Crossi**	**30.24**	**124**	P	**P**	**19 24 23.6**	**-2.0**
	8.9nm,0.9s,mb4.5,baz=335,slow=6.2,SNR=4.1						
LSA	**Lhasa**	**32.24**	**346**	*eP*	**P**	**19 24 44.3**	**+1.2**
	2.7nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**38.41**	**121**	P	**P**	**19 25 35.9**	**+0.2**
	3.1nm,0.5s,mb4.3,baz=302,slow=9.2,SNR=9.7						
ASAR	**Alice Springs**	**39.68**	**126**	P	**P**	**19 25 46.9**	**+0.6**
	1.7nm,0.6s,mb3.9,baz=298,slow=7.2,SNR=6.2						
STKA	**Stephens Creek**	**49.59**	**132**	P	**P**	**19 27 06.4**	**+0.7**
	2.9nm,0.7s,mb4.4,baz=331,slow=8.5,SNR=3.4						
STKA	**Stephens Creek**	**49.59**	**132**	*eP*	**P**	**19 27 06.2**	**+0.6**
SONM	**Songino Array**	**49.64**	**6**	P	**P**	**19 27 07.0**	**+1.2**
	1.1nm,0.6s,mb4.1,baz=188,slow=9.9,SNR=5.0						
ULN	**Ulaanbaatar**	**49.74**	**6**	*eP*	**P**	**19 27 06.6**	**0.0**
	0.9nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**50.63**	**345**	P	**P**	**19 27 14.0**	**+0.7**
	2.3nm,0.6s,mb4.3,baz=147,slow=8.0,SNR=6.8						
MKAR	**Makanchi Array**	**50.63**	**345**	P	**P**	**19 27 14.0**	**+0.6**
KURK	**Kurchatov**	**55.20**	**344**	*eP*	**P**	**19 27 47.6**	**+0.3**
	2.8nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**56.78**	**350**	P	**P**	**19 27 59.3**	**+0.7**
	5.1nm,0.5s,mb4.8,baz=322,slow=4.4,SNR=14						
BVAR	**Borovoye Array**	**59.77**	**340**	P	**P**	**19 28 18.1**	**-1.4**
	1.5nm,0.6s,mb4.2,baz=142,slow=8.8,SNR=5.0						
CHKZ	**Chkalovo**	**60.23**	**341**	*eP*	**P**	**19 28 21.5**	**-1.2**
	1.5nm,0.6s,mb4.2						
YAK	**Yakutsk**	**67.49**	**15**	*eP*	**P**	**19 29 09.5**	**-0.4**
MAW	**Mawson**	**70.54**	**194**	P	**P**	**19 29 29.1**	**+0.5**
	1.9nm,0.8s,mb4.1,baz=328,slow=9.5,SNR=2.4						
MATP	**Matopo**	**71.82**	**249**	P	**P**	**19 29 37.5**	**+0.4**
	2.4nm,0.9s,mb4.1,baz=90,slow=9.1,SNR=3.5						
BRTR	**Keskin Array B**	**72.88**	**312**	P	**P**	**19 29 42.0**	**-1.2**
	0.6nm,0.8s,mb3.6,baz=127,slow=4.0,SNR=3.8						
FINES	**FINESS Array B**	**83.68**	**332**	P	**P**	**19 30 41.7**	**-0.2**
	1.1nm,0.5s,mb4.2,baz=108,slow=6.0,SNR=7.3						
ARCES	**ARCESS Array B**	**86.06**	**340**	P	**P**	**19 30 54.2**	**+0.7**
	5.0nm,1.0s,mb4.7,baz=18,slow=3.8,SNR=3.7						
MOX	**Moxa**	**90.06**	**320**	*eP*	**P**	**19 31 18.0**	**+4.8**
NOA	**NORSAR Array B**	**90.71**	**331**	P	**P**	**19 31 15.6**	**-0.4**
	0.7nm,0.8s,mb4.0,baz=290,slow=8.3,SNR=2.4						
TXAR	**Lajitas Array**	**144.61**	**37**	PKP	PKPdf	19 37 51.3	+2.0
	2.0nm,0.6s,baz=282,slow=1.2,SNR=12						
WVT	**Waverly**	**145.00**	**11**	*e*PKP	PKPdf	19 37 50.8	+1.0
MIAR	**Mount Ida**	**145.02**	**19**	*e*PKP	PKPdf	19 37 51.5	+1.7
JCT	**Junction City**	**145.89**	**31**	*e*PKP	PKPdf	19 37 55.0	+3.6

*DJA **10** 19:18:39.2±2.9, 2.84S×96.59E, h2km, mb4.6/4, Error ellipse: s-maj=336.1km s-min=64.6km az=27.0*
*BJI **10** 19:19:14.9, 1.82S×99.99E, h38km, mB5.2, mb5.0, Ms5.1, Msz4.9*
*MOS **10** 19:19:15.0±1.2, 1.59S×99.98E, h33km, mb5.4/30, MS4.7/8, Error ellipse: s-maj=17.5km s-min=6.1km az=122.8*
*HRVD **10** 19:19:16.9±1.4, 1.64S×99.51E, h23km±2km, MW5.0/42, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s42,c66; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.10±.61; $M_{\theta\theta}$-2.95±.34; $M_{\phi\phi}$-0.14±.40; $M_{r\theta}$-0.04±.41; $M_{\theta\phi}$1.36±.16; $M_{\phi r}$2.97±.57; Best double couple: $M_0$4.341×10^{16} NP1:φ₀88°, δ41°, λ43°. NP2:φ₀323°, δ64°, λ122°. Principal axes: T 4.919, Plg58°, Azm279°; N -1.149, Plg29°, Azm128°; P -3.764, Plg13°, Azm31°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 19:19:16.9±0.1, 1.64S×99.80E, mb5.2/33, MS4.4/2 Error ellipse: s-maj=5.2km s-min=3.9km az=57.0*
*IDC **10** 19:19:18.7±1.5, 1.68S×99.82E, h44km±13km, mb4.6/32, mb1 4.7/32, mb1mx4.7/32, mbtmp4.9/32, MS4.5/5, Ms1 4.5/5, ms1mx4.2/34, Error ellipse: s-maj=11.8km s-min=7.4km az=51.0*
ISC 10 19:19:15.2±0.2, 1.66S±0.03×99.84E±0.03, h29km, h29km±1.4km: pP-P, n257, σ0.994/248, mb5.0/88, MS4.7/20, 19C-19D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.04**	**44**	P	**Pn**	**19 20 34.5**	**+3.5**
IPM	**Ipoh**	**6.31**	**11**	P	**Pn**	**19 20 50.6**	**+1.8**
PENI	**Pendagan**	**6.59**	**126**	*eP*	**Pn**	**19 20 52.4**	**-0.3**
KULM	**Kulim**	**6.95**	**7**	*eP*	**Pn**	**19 20 58.8**	**+1.0**
PULI	**Pulasari**	**7.69**	**127**	*eP*	**Pn**	**19 21 07.7**	**-0.5**
SRDI	**Scrawed**	**15.77**	**116**	*eP*	**P**	**19 22 55.0**	**-2.2**
	170nm,0.2s						
KELI	**Kelakatan**	**15.98**	**115**	*eP*	**P**	**19 23 00.9**	**+1.0**
	59nm,0.3s						
RATI	**Rata**	**17.13**	**115**	⇓*eP*	**P**	**19 23 11.8**	**-2.5**
	166nm,0.2s						
NST	**Nakhon Sawan**	**17.22**	**1**	P	**P**	**19 23 10.0**	**-5.5**
KEDI	**Kedomdong**	**17.57**	**113**	*eP*	**P**	**19 23 18.3**	**-1.5**
	98nm,0.2s						
KKM	**Kota Kinabalu**	**18.06**	**65**	*eP*	**P**	**19 23 27.5**	**+1.5**
KKM	**Kota Kinabalu**	**18.06**	**65**	P	**P**	**19 23 28.6**	**+2.6**
TSM	**Tawau**	**18.97**	**72**	P	**P**	**19 23 38.6**	**+1.6**
CM31	**Chiang Mai Arr**	**20.01**	**358**	*eP*	**P**	**19 23 44.6**	**-4.0**
	21nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.01**	**358**	P	**P**	**19 23 46.1**	**-2.5**
	11nm,0.5s,baz=186,slow=10,SNR=29						
CMAR				LR	LR	19 32 07.3	
	comp=Z,1μm,18.9s,MS4.3,baz=195,slow=38						
CHG	**Chiang Mai**	**20.36**	**358**	P	**P**	**19 23 53.0**	**+0.7**
PALK	**Pallekele**	**21.05**	**295**	*eP*	**P**	**19 23 59.0**	**-0.5**
	57nm,1.0s,mb4.9						
QIZ	**Qiongzhong**	**22.79**	**25**	P	**P**	**19 24 18.2**	**+1.3**
QIZ	**Qiongzhong**	**22.79**	**25**	*eP*	**P**	**19 24 17.3**	**+0.4**
	77nm,1.1s,mb5.0						
VIS	**Vishakhapatnam**	**25.21**	**321**	*eP*	**P**	**19 24 39.5**	**-0.7**
KMI	**Kunming**	**26.77**	**6**	P	**P**	**19 24 54.7**	**0.0**
KMI				AP	pP	19 25 02.9	-0.3
KMI				S	**S**	**19 29 26.1**	**-0.8**
KMI				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.4						
KMI				AMB	AMB		
	comp=Z,224nm,9.0s						
KMI				LR	LR		
	comp=N,1μm,16.5s						
KMI				LR	LR		
	comp=E,1μm,24.9s						
KMI				LR	LR		
	comp=Z,2μm,19.6s,MS4.6						
KMI	**Kunming**	**26.77**	**6**	P	**P**	**19 24 54.7**	**0.0**
KMI				*PP	pP	19 25 02.9	-0.3
KMI				*SP	sP	19 25 06.2	-0.8
KMI				S	**S**	**19 29 26.1**	**-0.8**
KMI				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.4						
KMI				MLR	MLR		
	comp=Z,2μm,19.6s,MS4.6						
KMI	**Kunming**	**26.77**	**6**	P	**P**	**19 24 54.7**	**0.0**
	comp=Z,15nm,1.3s,mb4.4						
KMI				pP	pP	19 25 02.9	-0.3
KMI				sP	sP	19 25 06.2	-0.8
KMI				S	**S**	**19 29 26.1**	**-0.8**
KMI				LR	LR		
	comp=Z,2μm,19.6s,MS4.6						
HYB	**Hyderabad**	**28.27**	**313**	*eP*	**P**	**19 25 08.0**	**-0.4**
HYB	**Hyderabad**	**28.27**	**313**	*i P*	**P**	**19 25 08.0**	**-0.4**
GYA	**Guiyang**	**28.72**	**13**	⇑*iP*	**P**	**19 25 11.8**	**-0.5**
GYA				AP	pP	19 25 21.3	+0.4
GYA				XP	sP	19 25 25.1	+0.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
GYA				AMB	AMB		
	comp=Z,100nm,4.1s						
GYA				LR	LR		
	comp=N,2μm,14.9s,MS4.9						
GYA				LR	LR		
	comp=E,850nm,12.8s,MS4.9						
GYA				LR	LR		
	comp=Z,2μm,12.8s,MS5.0						
FITZ	**Fitzroy Crossi**	**30.14**	**124**	*eP*	**P**	**19 25 24.4**	**-0.7**
	comp=Z,21nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**30.14**	**124**	P	**P**	**19 25 24.1**	**-1.0**
	comp=Z,19nm,0.7s,mb4.9,baz=323,slow=3.6,SNR=10						
JIRN	**Jiri**	**31.97**	**337**	*eP*	**P**	**19 25 41.6**	**+0.5**
	comp=Z,131nm,0.8s,mb5.8						
PKI	**Pulchoki**	**32.21**	**335**	*eP*	**P**	**19 25 43.2**	**0.0**
	comp=Z,36nm,1.0s,mb5.1						
PKI	**Pulchoki**	**32.21**	**335**	*eP*	**P**	**19 25 43.2**	**0.0**
PKI				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.9						
LSA	**Lhasa**	**32.27**	**346**	P	**P**	**19 25 44.6**	**+0.9**
LSA	**Lhasa**	**32.27**	**346**	*eP*	**P**	**19 25 43.1**	**-0.6**
LSA				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.2						
LSA	**Lhasa**	**32.27**	**346**	*eP*	**P**	**19 25 43.1**	**-0.6**
	comp=Z,35nm,0.9s,mb5.2						
GUN	**Gumba**	**32.32**	**336**	*eP*	**P**	**19 25 44.7**	**+0.6**
	comp=Z,52nm,0.4s,mb5.7						
DMN	**Daman**	**32.37**	**335**	*eP*	**P**	**19 25 44.6**	**0.0**
	comp=Z,36nm,0.9s,mb5.2						
KKN	**Kakani**	**32.45**	**335**	*eP*	**P**	**19 25 45.4**	**+0.1**
	comp=Z,67nm,0.8s,mb5.5						
KKN	**Kakani**	**32.45**	**335**	*eP*	**P**	**19 25 45.4**	**+0.1**
KKN				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.2						
CD2	**Chengdu**	**32.60**	**6**	*eP*	**P**	**19 25 45.0**	**-1.6**
GKN	**Gorkha**	**32.91**	**335**	*eP*	**P**	**19 25 49.0**	**-0.3**
	comp=Z,84nm,1.1s,mb5.6						
ENH	**Enshi**	**33.06**	**15**	*eP*	**P**	**19 25 48.5**	**-2.1**
	comp=Z,26nm,0.7s,mb5.3						
KOLN	**Koldanda**	**33.16**	**333**	*eP*	**P**	**19 25 51.7**	**+0.2**
	comp=Z,61nm,0.9s,mb5.5						
MUN	**Mundaring**	**33.88**	**155**	*eP*	**P**	**19 25 59.3**	**+1.6**
	comp=Z,86nm,1.0s,mb5.6						
MUN	**Mundaring**	**33.88**	**155**	*eP*	**P**	**19 25 59.3**	**+1.6**
MUN				pmax	pmax		
	comp=Z,86nm,1.0s,mb5.6						
NWAO	**Narrogin (SRO)**	**35.14**	**154**	P	**P**	**19 26 07.8**	**-0.6**
	comp=Z,17nm,1.0s,mb5.0,baz=311,slow=9.9,SNR=6.0						
XAN	**Xi'an**	**36.52**	**13**	P	**P**	**19 26 18.8**	**-1.4**
XAN				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.1						
XAN				LR	LR		
	comp=N,2μm,14.1s,MS5.1						
XAN				LR	LR		
	comp=E,1μm,17.6s,MS5.1						
XAN				LR	LR		
	comp=Z,2μm,14.1s,MS5.1						
LZH	**Lanzhou**	**37.74**	**5**	*eP*	**P**	**19 26 30.2**	**-0.2**
LZH				AP	pP	19 26 44.1	+5.1
LZH				PP	PP	19 27 58.2	-1.5
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,150nm,5.0s						
LZH				LR	LR		
	comp=N,2μm,14.2s						
LZH				LR	LR		
	comp=Z,3μm,15.8s,MS5.1						
LZH	**Lanzhou**	**37.74**	**5**	*eP*	**P**	**19 26 30.2**	**-0.2**
	comp=Z,40nm,1.2s,mb5.0						
LZH				pP	pP	19 26 44.1	+5.1
LZH				sP	sP	19 26 51.8	+9.1
LZH				PP	PP	19 27 58.2	-1.5
LZH				LR	LR		
	comp=Z,3μm,15.8s,MS5.1						
NJ2	**Nanjing**	**38.07**	**27**	*eP*	**P**	**19 26 34.1**	**+0.9**
NJ2				AP	pP	19 26 43.9	+2.0
NJ2				XP	sP	19 26 47.8	+2.3
NJ2				S	**S**	**19 32 25.0**	**+1.5**
NJ2				XS		19 32 40.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1μm,5.6s						
NJ2				LR	LR		
	comp=N,2μm,16.5s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,15.4s,MS5.1						
NJ2				LR	LR		
	comp=Z,950nm,12.9s,MS4.8						
WRA	**Warramunga Arr**	**38.31**	**121**	P	**P**	**19 26 35.2**	**-0.1**
	comp=Z,7.0nm,0.3s,mb4.8,baz=306,slow=9.1,SNR=27						
WRA				PcP	PcP	19 28 50.0	+0.6
	comp=Z,2.9nm,0.6s,baz=314,slow=2.5,SNR=5.0						
WRA				S	**S**	**19 32 23.8**	**-3.5**
	comp=Z,7.0nm,1.3s,baz=290,slow=17,SNR=4.2						
WRAB	**Tennant Creek**	**38.31**	**121**	*i P*	**P**	**19 26 35.4**	**0.0**
WRAB	**Tennant Creek**	**38.31**	**121**	*eP*	**P**	**19 26 35.1**	**-0.3**
	comp=Z,91nm,1.2s,mb5.4						
WB2	**Warramunga Arr**	**38.32**	**121**	*eP*	**P**	**19 26 35.1**	**-0.3**
WB2				*e*S	**S**	**19 32 24.1**	**-3.3**
SSE	**Sheshan**	**38.38**	**30**	*eP*	**P**	**19 26 34.4**	**-1.5**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,57nm,3.5s						
SSE	**Sheshan**	**38.38**	**30**	*eP*	**P**	**19 26 34.4**	**-1.5**
	comp=Z,41nm,0.7s,mb5.3						
FORT	**Forrest**	**39.41**	**140**	*eP*	**P**	**19 26 46.2**	**+1.8**
	comp=Z,451nm,0.6s						
JOW	**Kunigami**	**39.42**	**42**	P	**P**	**19 26 44.3**	**-0.3**
	comp=Z,20nm,0.8s,mb4.9,baz=222,slow=11,SNR=4.7						
JOW				LR	LR	19 42 25.9	
	comp=Z,396nm,19.8s,MS4.2,baz=142,slow=35						
ASPA	**Alice Springs**	**39.58**	**126**	*eP*	**P**	**19 26 46.2**	**+0.3**
ASPA				*e*S	**S**	**19 32 42.7**	**-3.8**
ASAR	**Alice Springs**	**39.59**	**126**	P	**P**	**19 26 46.5**	**+0.6**
	comp=Z,14nm,0.8s,mb4.7,baz=300,slow=7.4,SNR=26						
ASAR				PcP	PcP	19 28 54.0	+0.7
	comp=Z,5.8nm,0.7s,baz=306,slow=2.2,SNR=6.7						
ASAR				ScP		19 32 40.5	
	comp=Z,2.4nm,1.0s,baz=298,slow=3.1,SNR=6.5						
ASAR				S	**S**	**19 32 46.7**	**+0.1**
	comp=Z,4.8nm,0.9s,baz=296,slow=14,SNR=13						
ASAR				LR	LR	19 45 35.4	
	comp=Z,519nm,19.8s,MS4.4,baz=293,slow=40						
GTA	**Gaotai**	**40.87**	**360**	*eP*	**P**	**19 26 56.6**	**+0.3**
GTA				AP	pP	19 27 04.8	-0.3
GTA				XP	sP	19 27 09.2	+0.5
GTA				PP	PP	19 28 35.4	+1.8
GTA				PPP	PPP	19 29 00.8	-2.2
GTA				S	**S**	**19 33 05.7**	**+0.1**
GTA				XS		19 33 23.9	
GTA				SS	SS	19 36 03.3	+0.4
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.4						
GTA				AMB	AMB		
	comp=Z,149nm,7.6s						
GTA				LR	LR		
	comp=N,870nm,13.3s,MS4.9						
GTA				LR	LR		
	comp=E,738nm,12.9s,MS4.9						
GTA				LR	LR		
	comp=Z,1μm,14.1s,MS4.8						
HHC	**Hu-ho-hao-te**	**43.64**	**13**	⇓P	**P**	**19 27 19.7**	**+0.7**
HHC				AP	pP	19 27 34.3	+6.6
HHC				PP	PP	19 29 01.4	-0.9
HHC				PCP	PcP	19 29 10.1	+3.5
HHC				SCP		19 32 51.1	
HHC				PCS		19 32 58.7	
HHC				S	**S**	**19 33 46.3**	**+0.1**
HHC				XS		19 34 04.3	
HHC				SS	SS	19 36 54.2	-0.1
HHC				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,247nm,16.7s						
HHC				LR	LR		
	comp=N,1μm,14.2s,MS5.1						
HHC				LR	LR		
	comp=E,876nm,15.7s,MS5.1						
HHC				LR	LR		
	comp=Z,1μm,14.7s,MS5.0						
BJT	**Baijiatuau**	**44.09**	**18**	*eP*	**P**	**19 27 22.2**	**-0.5**
BJT				pmax	pmax		
	comp=Z,44nm,1.3s

WMQ AMB AMB
comp=Z,134nm,4.0s
WMQ LR LR
comp=N,260nm,16.6s,MS4.3
WMQ LR LR
comp=E,249nm,21.6s,MS4.3
WMQ LR LR
comp=Z,251nm,18.3s,MS4.2
KS15 Wonju Array Si 46.78 31 *e*P **P 19 27 43.8 -0.4**
SMDO Samad 47.52 304 ⇑P **P 19 27 50.4 +0.2**
BIDO Bidbid 47.66 304 ⇑P **P 19 27 51.4 +0.2**
HOQ Hoqain 48.36 304 ⇑P **P 19 27 57.0 +0.3**
ULHL Ulahol 48.63 337 P **P 19 27 59.4 +0.9**
SNR=8.8
CTA Charters Tower 48.89 115 P **P 19 28 01.3 +0.5**
comp=Z,6.2nm,0.8s,mb4.7,baz=279,slow=5.3,SNR=3.7
CTA Charters Tower 48.89 115 P **P 19 28 01.3 +0.5**
KZA Kyzart 48.89 336 P **P 19 28 01.5 +1.0**
SNR=8.2
QLP Quilpie 49.28 124 ⇓*i*P **P 19 28 04.5 +0.7**
UCH Uchtor 49.32 335 P **P 19 28 04.7 +0.8**
SNR=14
WHFO Wadi Hawf 49.34 295 P **P 19 28 03.6 -0.7**
SNR=6.2
TKM2 Tokmak 2 49.46 337 P **P 19 28 05.4 +0.6**
SNR=19
KBK Karagaybulak 49.49 336 P **P 19 28 06.1 +0.9**
SNR=14
STKA Stephens Creek 49.50 132 ⇑*i*P **P 19 28 06.1 +0.8**
comp=Z,14nm,0.9s,mb5.0
STKA Stephens Creek 49.50 132 P **P 19 28 06.0 +0.6**
comp=Z,5.3nm,0.4s,mb5.0,baz=297,slow=8.3,SNR=17
STKA LR LR 19 50 43.1
comp=Z,727nm,20.9s,MS4.7,baz=111,slow=38
AML Almayashu 49.59 335 P **P 19 28 06.7 +0.8**
SNR=30
ABTO Aybut 49.60 294 P **P 19 28 06.1 -0.2**
SNR=7.2
SONM Songino Array 49.62 6 P **P 19 28 06.2 +0.2**
comp=Z,14nm,0.8s,mb5.1,baz=187,slow=8.4,SNR=39
SONM PcP PcP 19 29 27.6 +0.1
comp=Z,3.1nm,0.5s,baz=189,slow=4.2,SNR=8.2
SONM LR LR 19 52 08.8
comp=Z,629nm,18.0s,MS4.7,baz=286,slow=40
AAK Ala-Archa 49.66 336 P **P 19 28 07.4 +1.0**
SNR=7.5
AAK Ala-Archa 49.66 336 P **P 19 28 07.0 +0.5**
AAK pmax pmax
comp=Z,60nm,1.7s,mb5.3
ULN Ulaanbaatar 49.72 6 *i*P **P 19 28 06.9 +0.1**
ULN Ulaanbaatar 49.72 6 *i*Pr **P 19 28 06.9 +0.1**
FRU Bishkek 49.78 336 *e*P **P 19 28 08.0 +0.7**
FRU pmax pmax
comp=Z,70nm,2.1s,mb5.3
CHMS Chumysh 49.86 336 P **P 19 28 07.9 0.0**
SNR=9.6
EKS2 Erkin-Say 49.99 335 P **P 19 28 09.7 +0.8**
SNR=31
USP Ospenovka 50.19 336 P **P 19 28 10.5 +0.1**
SNR=20
MKAR Makanchi Array 50.66 344 P **P 19 28 13.9 -0.1**
comp=Z,24nm,0.6s,mb5.3,baz=153,slow=8.1,SNR=45
MKAR S **S 19 35 27.4 +1.8**
comp=Z,2.2nm,1.0s,baz=151,slow=12,SNR=11
CN2 Changchun 50.74 24 ⇓P **P 19 28 13.6 -1.1**
CN2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
CN2 LR LR
comp=N,800nm,14.0s,MS5.0
CN2 LR LR
comp=E,500nm,14.0s,MS5.0
CN2 LR LR
comp=Z,900nm,15.0s,MS4.9
KKAR Karatay Array 51.78 333 *i*P **P 19 28 21.6 -0.9**
KKAR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZAK Zakamensk 51.92 3 *e*P **P 19 28 20.5 -3.0**
ZAK *e* 19 29 36.9
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb4.0
MJAR Matsushiro Arr 52.12 39 P **P 19 28 24.3 -0.9**
comp=Z,3.8nm,0.7s,mb4.5,baz=226,slow=8.0,SNR=10
MOY Mondy 53.13 1 *e*P **P 19 28 32.6 0.0**
MDJ Mudanjiang 53.16 26 P **P 19 28 31.7 -1.1**
MDJ AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,149nm,5.5s
MDJ Mudanjiang 53.16 26 *e*P **P 19 28 31.9 -1.0**
comp=Z,9.9nm,0.9s,mb4.7
TLY Talaya 53.24 3 *e*P **P 19 28 33.4 +0.1**
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,512nm,17.0s,MS4.6
OPO Ambohidratompo 54.24 248 P **P 19 28 41.0 -0.1**
comp=Z,11nm,0.9s,mb4.8,baz=85,slow=8.2,SNR=9.2
KURK Kurchatov 55.23 344 *e*P **P 19 28 47.2 -0.8**
KURK pmax pmax
comp=Z,35nm,0.9s,mb5.4
KURK Kurchatov 55.23 344 *e*P **P 19 28 47.2 -0.8**
comp=Z,35nm,0.9s,mb5.4
ZAL Zalesovo 56.80 349 P **P 19 28 58.6 -0.5**
comp=Z,32nm,0.5s,mb5.6,baz=314,slow=5.6,SNR=56
ZAL S **S 19 36 49.5 +1.1**
comp=Z,1.5nm,0.7s,baz=196,slow=21,SNR=20
KLR Kul'dur 57.69 24 *e*P **P 19 29 02.0 -3.5**
ASAJ Asahikawa 59.43 35 P **P 19 29 17.6 -0.1**
comp=Z,6.7nm,0.4s,mb5.0,baz=259,slow=20,SNR=13
BVA0 Borovoye Array 59.81 340 *i*P **P 19 29 18.6 -1.6**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BVAR Borovoye Array 59.81 340 P **P 19 29 18.7 -1.5**
comp=Z,12nm,0.6s,mb5.1,baz=146,slow=9.2,SNR=38
BVAR S **S 19 37 26.5 -1.3**
comp=Z,0.3nm,0.7s,baz=139,slow=13,SNR=3.0
CHKZ Chkalovo 60.27 340 *e*P **P 19 29 22.3 -1.0**
CHKZ pmax pmax
comp=Z,34nm,1.0s,mb5.3
CHKZ Chkalovo 60.27 340 *e*P **P 19 29 22.3 -1.0**
comp=Z,34nm,1.0s,mb5.3
BOD Bodaibo 60.37 9 *e*P **P 19 29 22.6 -1.4**
BOD pmax pmax
comp=Z,13nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 61.28 32 ⇓*e*P **P 19 29 30.0 -0.3**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 61.28 32 *i*Pr **P 19 29 30.3 0.0**
KMBO Kilima Mbogo 62.56 270 *i*P **P 19 29 39.4 0.0**
KMBO pmax pmax
comp=Z,11nm,0.9s
KMBO Kilima Mbogo 62.56 270 P **P 19 29 38.5 -0.8**
comp=Z,11nm,0.9s,mb5.0,baz=53,slow=8.7,SNR=31
GNI Garni 65.17 316 P **P 19 29 55.1 -1.0**
comp=Z,1.9nm,0.4s,mb4.5,baz=188,slow=21,SNR=8.2
DGRG David-gareji 65.30 318 P **P 19 29 57.0 +0.1**
SVE Sverdlovsk 66.31 338 ⇑*e*P **P 19 29 59.0 -4.0**
SVE *e* 19 30 06.0
SVE *e* 19 30 31.0
SVE MLR MLR
comp=N,200nm,20.0s,MS4.8
SVE MLR MLR
comp=E,500nm,20.0s,MS4.8
SVE MLR MLR
comp=Z,500nm,20.0s,MS4.7
ARU Arti 66.83 337 ⇑*i*P **P 19 30 05.2 -1.2**
ARU *e* 19 30 34.4
ARU *e*S S 19 38 56.8 +1.4
ARU pmax pmax
comp=Z,19nm,1.0s,mb5.1
ARU Arti 66.83 337 ⇑*i*P **P 19 30 05.3 -1.1**
ZEI Tsey 66.87 318 *e*P **P 19 30 03.0 -3.9**
ZEI *i* *PP pP 19 30 11.1 -4.9
ZEI pmax pmax
comp=Z,19nm,1.0s,mb5.1
YAK Yakutsk 67.45 15 *e*P **P 19 30 08.8 -1.5**
YAK *e*PP pP 19 30 17.6 -1.8
YAK *e* 19 30 33.9
YAK *e* 19 32 42.7
YAK *e*S S 19 39 03.6 +0.8
YAK *e* 19 40 00.8
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,44nm,1.0s,mb5.4
YAK smax
comp=N,2.0nm,0.9s
YAK MLR MLR
comp=Z,413nm,18.0s,MS4.7
YAK MLR MLR
comp=N,298nm,15.0s,MS4.7
YAK MLR MLR
comp=E,163nm,14.0s,MS4.7
YAK Yakutsk 67.45 15 *i*Pr **P 19 30 08.8 -1.5**
KIV Kislovodsk 68.18 319 *d*iP **P 19 30 13.7 -1.4**
KIV *e* 19 30 41.7
KIV pmax pmax
comp=Z,40nm,1.0s,mb5.4
KIV Kislovodsk 68.18 319 *i*Pr **P 19 30 14.9 -0.2**
ASF Jabal al Asfar 68.26 306 P **P 19 30 15.3 -0.5**
comp=Z,12nm,0.9s,mb4.9,baz=336,slow=3.1,SNR=14
GOF Gofitskoye 68.43 320 ⇓*i*P **P 19 30 14.6 -2.1**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.3
MALT Malatya 68.99 312 ⇑P **P 19 30 19.8 -0.4**
MBAR Mbarara 69.09 270 *e*P **P 19 30 20.0 -1.3**
MBAR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MBAR Mbarara 69.09 270 *e*P **P 19 30 20.0 -1.2**
comp=Z,5.8nm,0.8s,mb4.6
EIL Elat 69.20 303 P **P 19 30 21.1 -0.6**
comp=Z,18nm,0.8s,mb5.0,baz=6.2,slow=2.9,SNR=15
SOC Sochi 69.99 318 *e*P **P 19 30 24.1 -2.2**
SOC *e* 19 30 45.4
SOC *e* 19 32 58.1
SOC *e*S S 19 39 31.7 -1.6
SOC *e* 19 40 25.0
SOC *e*SS SS 19 43 57.2 -7.0
SOC pmax pmax
comp=N,4.0nm,0.7s
SOC pmax pmax
comp=Z,23nm,0.7s,mb5.2
SOC pmax pmax
comp=E,2.0nm,0.5s
MAW Mawson 70.57 194 *e*P **P 19 30 29.6 +0.2**
MAW pmax pmax
comp=Z,23nm,1.0s
MAW Mawson 70.57 194 P **P 19 30 29.8 +0.4**
comp=Z,17nm,0.9s,mb5.0,baz=19,slow=5.3,SNR=16
MAW Mawson 70.57 194 *e*P **P 19 30 29.6 +0.2**
comp=Z,23nm,1.0s,mb5.1
MATP Matopo 71.94 249 P **P 19 30 38.2 -0.2**
comp=Z,32nm,0.9s,mb5.2,baz=96,slow=5.8,SNR=40
MATP Matopo 71.94 249 P **P 19 30 38.2 -0.2**
ANN Anapa 71.97 318 *e*P **P 19 30 34.7 -3.5**
ANN *e*S S 19 39 47.5 -8.7
ANN pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
ANN MLR MLR
comp=Z,661nm,23.0s,MS4.8
ANN MLR MLR
comp=N,618nm,23.0s,MS4.9
ANN MLR MLR
comp=E,550nm,23.0s,MS4.9
MA2 Magadan 72.79 24 *d*iP **P 19 30 43.0 +0.3**
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
MA2 Magadan 72.79 24 *i*Pr **P 19 30 43.0 +0.3**
BRTR Keskin Array B 72.97 312 P **P 19 30 42.5 -1.7**
comp=Z,5.7nm,0.8s,mb4.6,baz=121,slow=7.2,SNR=32
PET Petropavlovsk 73.16 33 *e*P **P 19 30 44.9 -0.1**
PET pmax pmax
comp=Z,42nm,0.8s,mb5.4
PET MLR MLR
comp=Z,500nm,19.0s,MS4.8
VOR Voronezh 73.60 326 *e*P **P 19 30 46.8 -0.8**
VOR pmax pmax
comp=Z,60nm,1.4s,mb5.3
SIM Simferopol' 74.24 318 *c*iP **P 19 30 50.0 -1.5**
SIM pmax pmax
comp=Z,20nm,0.7s,mb5.2
ISP Isparta 74.82 310 *d*iP **P 19 30 54.1 -0.9**
ISP Isparta 74.82 310 *i*Pr **P 19 30 54.2 -0.8**
LBTB Lobatse 75.02 245 P **P 19 30 55.3 -1.1**
comp=Z,9.6nm,0.9s,mb4.7,baz=89,slow=4.7,SNR=8.6
BOSA Boshof 75.68 241 P **P 19 30 58.9 -1.2**
comp=Z,10nm,0.9s,mb4.7,baz=89,slow=5.6,SNR=8.5
MOS Moscow 76.12 329 *e*P **P 19 31 01.8 -0.2**
MOS *e* 19 31 07.2
MOS *e* 19 31 14.1
MOS *e* 19 33 53.6
MOS *e*S S 19 40 40.2 -2.2
MOS *e*SS SS 19 45 34.4 -4.5
MOS pmax pmax
comp=Z,57nm,1.0s,mb5.5
OBN Obninsk 76.42 328 *c*e*P **P 19 31 03.0 -0.7**
OBN *e* 19 33 51.3
OBN *e*S S 19 40 43.8 -1.9
OBN pmax pmax
comp=Z,61nm,1.7s,mb5.2
OBN Obninsk 76.42 328 *i*P **P 19 31 03.1 -0.6**
PSN Preselentsi 77.97 315 *e*P **P 19 31 12.5 0.0**
TIRR Tirgusor 78.00 316 P **P 19 31 12.4 -0.2**
TIRR Tirgusor 78.00 316 ⇑P **P 19 31 12.1 -0.5**
TIRR Tirgusor 78.00 316 ⇑P **P 19 31 12.1 -0.5**
SYO Syowa Base 78.14 199 ⇓P **P 19 31 13.4 +0.5**
SYO Syowa Base 78.14 199 ⇓PcP PcP 19 31 22.8 0.0
CFR Carcaliu 78.36 317 P **P 19 31 14.6 -0.1**
CFR Carcaliu 78.36 317 ⇓P **P 19 31 13.9 -0.7**
CFR Carcaliu 78.36 317 ⇓P **P 19 31 13.9 -0.8**
HARR Harsova 78.39 316 P **P 19 31 14.6 -0.2**
HARR Harsova 78.39 316 ⇓P **P 19 31 14.5 -0.3**
HARR Harsova 78.39 316 ⇓P **P 19 31 14.5 -0.3**
PRD Provadia 78.41 315 *e*P **P 19 31 15.0 +0.1**
JMB Yambol 78.83 314 *e*P **P 19 31 18.0 +0.7**
AKASG Malin Array Be 79.11 322 P **P 19 31 17.3 -1.3**
comp=Z,4.8nm,0.8s,mb4.5,baz=84,slow=5.0,SNR=18
AKASG S S 19 41 12.6 -2.1
comp=Z,0.1nm,0.3s,baz=106,slow=10,SNR=4.5
VRI Vrincioaia 79.49 317 ⇓P **P 19 31 21.4 +0.6**
DIM Dimitrovgrad 79.50 313 *e*P **P 19 31 21.0 +0.1**
KDZ Kurdzhali 79.50 313 *e*P **P 19 31 28.0 +7.0**
MLR Muntele Rosu 79.94 317 P **P 19 31 23.4 +0.2**
comp=Z,25nm,0.9s,mb5.2,baz=121,slow=1.8,SNR=40
MLR Muntele Rosu 79.94 317 ⇑P **P 19 31 23.5 +0.3**
MLR Muntele Rosu 79.94 317 ⇑P **P 19 31 23.5 +0.3**
RZN Rozhen 80.03 313 *i*P **P 19 31 24.0 +0.2**
MTUR Matau 80.49 316 P **P 19 31 26.1 -0.1**
PGB Panagyurishte 80.59 313 *e*P **P 19 31 27.0 +0.3**
MMB Musomiste 80.73 312 *i*P **P 19 31 27.0 -0.5**
BURAR Bucovina Array 80.90 319 ⇑P **P 19 31 29.2 +1.0**
BURAR Bucovina Array 80.90 319 ⇑P **P 19 31 29.2 +1.0**
MNK Minsk 80.98 326 *e*P **P 19 31 26.0 -2.5**
KKB Krupnik 81.26 313 *e*P **P 19 31 30.0 -0.3**
VTS Vitosha 81.30 313 ⇓P **P 19 31 30.4 -0.1**
VTS Vitosha 81.30 313 *i*P **P 19 31 30.5 +0.1**
JOF Joensuu 81.84 335 *e*p **P 19 31 33.1 +0.3**
TSUM Tsumeb 82.14 251 P **P 19 31 35.8 +0.6**
comp=Z,14nm,1.0s,mb4.9,baz=77,slow=5.7,SNR=11
TSUM Tsumeb 82.14 251 P **P 19 31 35.8 +0.6**
BILL Bilibino 82.90 20 *i*P **P 19 31 39.1 +0.9**
KWP Kalwaria 82.94 320 *e*P **P 19 31 39.3 +0.5**
KOLS Kolonicke sedl 83.09 320 *e*P **P 19 31 40.6 +1.0**
SUW Suwalki 83.51 325 *e*P **P 19 31 41.5 -0.1**
SBA Scott Base 83.62 169 *e*P **P 19 31 43.2 +1.4**
SBA pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
SBA Scott Base 83.62 169 *e*P **P 19 31 43.2 +1.5**
comp=Z,10nm,0.9s,mb5.0
FINES FINESS Array B 83.73 332 P **P 19 31 43.1 +0.5**
comp=Z,8.0nm,0.7s,mb5.0,baz=104,slow=5.8,SNR=37
KAF Kangasniemi 83.81 333 *e*p **P 19 31 42.7 -0.3**
comp=Z,9.7nm,0.6s,mb5.1,baz=100,slow=4.8
KAF Kangasniemi 83.81 333 *e*P **P 19 31 42.7 -0.3**
KAF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
DIVS Divcibare 83.85 314 *e*P **P 19 31 43.3 -0.3**
NIE Niedzica 84.44 320 *e*P **P 19 31 46.3 -0.1**
PSZ Piszkesteto 84.48 318 P **P 19 31 47.5 +0.8**
PSZ Piszkesteto 84.48 318 ⇑P **P 19 31 46.4 -0.3**
PSZ Piszkesteto 84.48 318 ⇓*i*P **P 19 31 47.4 +0.7**
OJC Ojcow 84.89 321 *e*P **P 19 31 49.3 +0.6**
PKSM Moragy 85.09 316 ⇑P **P 19 31 49.8 0.0**
VYHS Vyhne 85.26 319 *e*P **P 19 31 51.1 +0.5**
VYHS *e* 19 31 58.1
SRO2 Moca 85.46 318 *e*P **P 19 31 52.8 +1.2**
SRO Srobarova 85.52 318 *e*P **P 19 31 53.0 +1.1**
SRO *e* 19 31 59.4
KEV Kevo 85.66 341 *e*p **P 19 31 52.0 -0.1**
OKC Ostrava-Krasne 85.89 320 *e*P **P 19 31 54.6 +0.9**
OKC *e*pP pP 19 32 04.1 +1.1
ARCES ARCESS Array B 86.10 340 P **P 19 31 55.5 +1.2**
comp=Z,13nm,0.8s,mb5.2,baz=92,slow=6.0,SNR=21
MORC Moravsky Berou 86.27 320 ⇓P **P 19 31 56.6 +1.0**
ZST Bratislava 86.38 318 *e*P **P 19 31 56.7 +0.6**
ZST *e*pP pP 19 32 05.1 -0.4
DPC Dobruska-Polom 87.12 320 *e*P **P 19 32 00.7 +1.0**
DPC *e*pP pP 19 32 10.5 +1.5
UPC Upice 87.33 321 *e*P **P 19 32 02.0 +1.3**
UPC *e*pP pP 19 32 09.8 -0.3
PRU Pruhonice 88.22 320 *e*P **P 19 32 06.0 +1.0**
PRU *e*pP pP 19 32 15.0 +0.7
PVCC Panska Ves 88.25 320 *e*P **P 19 32 06.4 +1.3**
PVCC *e*pP pP 19 32 15.7 +1.2
QSPA South Pole Qui 88.30 180 *e*P **P 19 32 06.1 +1.4**
comp=Z,13nm,0.8s,mb5.2
BRG Berggiesshubel 88.67 321 *e*P **P 19 32 08.3 +1.2**
BRG *e* pP 19 32 17.4 +0.9
BRG pmax pmax
comp=Z,12nm,1.0s,mb5.2
BRG Berggiesshubel 88.67 321 *e*P **P 19 32 08.3 +1.2**
comp=Z,12nm,1.0s,mb5.2
GERES GERESS Array B 88.69 319 P **P 19 32 07.8 +0.6**
comp=Z,3.6nm,0.7s,mb4.8,baz=90,slow=4.0,SNR=29
KHC Kasperske Hory 88.79 319 *e*P **P 19 32 08.5 +0.8**
CLL Collm 89.30 321 *i* **P 19 32 10.4 +0.3**
CLL *e* pP 19 32 18.0 -1.4
CLL Collm 89.30 321 P **P 19 32 10.4 +0.3**
CLL *e*PP pP 19 32 18.0 -1.4
HFS Hagfors 89.50 330 P **P 19 32 11.6 +0.8**
comp=Z,2.8nm,0.5s,mb4.8,baz=180,slow=4.4,SNR=11
NKC Novy Kostel 89.59 320 *e*P **P 19 32 12.8 +1.3**
GRA1 Grafenberg Arr 90.35 320 *e*P **P 19 32 16.2 +1.2**
comp=Z,21nm,1.0s,mb5.4
GRF Grafenberg Arr 90.35 320 *e*P **P 19 32 16.2 +1.2**
GRF pmax pmax
comp=Z,21nm,1.0s,mb5.4
GRF Grafenberg Arr 90.35 320 *e*P **P 19 32 16.2 +1.2**
GRF pmax pmax
comp=Z,21nm,1.0s,mb5.4
GRF Grafenberg Arr 90.35 320 *e*P **P 19 32 16.2 +1.2**
comp=Z,21nm,1.0s,mb5.4
NB2 NORSAR Subarra 90.77 331 P **P 19 32 16.9 +0.2**
comp=Z,1.0nm,0.7s,mb4.2,baz=92,slow=4.8
NB2 NORSAR Subarra 90.77 331 P **P 19 32 16.9 +0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
NOA NORSAR Array B 90.77 331 P **P 19 32 17.2 +0.5**
comp=Z,1.6nm,0.7s,mb4.5,baz=92,slow=4.7,SNR=4.4
NOA NORSAR Array B 90.77 331 P **P 19 32 17.2 +0.5**
LPG La Plagne 93.34 315 *e*P **P 19 32 29.3 +0.4**
comp=Z,29nm,1.3s,mb5.2
IMA Indian Mountai 98.16 23 *e*P **P 19 32 51.9 +1.6**
comp=Z,21nm,1.1s,mb5.6
ILAR Eielson Array 101.26 24 PKKPbc 19 49 14.3
comp=Z,0.9nm,0.8s,baz=128,slow=1.9,SNR=8.8
YKA Yellowknife Ar 114.09 17 PKP PKPdf 19 37 52.5 -4.0
comp=Z,0.5nm,0.8s,baz=325,slow=1.8,SNR=9.6
YKA PKKPbc 19 48 33.5
comp=Z,0.2nm,0.8s,baz=146,slow=2.8,SNR=5.1
YKA Yellowknife Ar 114.09 17 PKP PKPdf 19 37 52.5 -4.0
YKA PKKPbc 19 48 33.5
SCHQ Schefferville 125.89 351 PKP PKPdf 19 38 16.1 -3.4
comp=Z,1.9nm,0.8s,baz=301,slow=11,SNR=6.0
ULM Lac du Bonnet 129.78 13 PKP PKPdf 19 38 23.6 -3.5
comp=Z,3.2nm,0.8s,baz=8.7,slow=1.8,SNR=3.6
PDAR Pinedale Array 131.36 29 PKP PKPdf 19 38 27.3 -3.1
comp=Z,0.4nm,0.4s,SNR=4.9
WMOK Wichita Mounta 142.79 26 *e*PKPpre 19 38 43.3
BAO Brasilia Array 143.85 240 PKPdf PKPdf 19 38 48.0 -5.7
BAO PKPdf PKPdf 19 38 52.0 -1.7
BDFB Brasilia 143.87 240 PKP PKPdf 19 38 48.4 -5.4
comp=Z,5.4nm,0.9s,baz=89,slow=4.1,SNR=6.0
LTX Lajitas 144.53 37 *e*PKP PKPdf 19 38 50.4 -4.2
TXAR Lajitas Array 144.53 37 PKP PKPdf 19 38 50.9 -3.7
comp=Z,7.8nm,0.5s,baz=239,slow=0.6,SNR=45
MIAR Mount Ida 144.97 19 *e*PKP PKPdf 19 38 51.5 -3.8
WVT Waverly 144.97 11 *e*PKP PKPdf 19 38 51.0 -4.2
TZTN Tazewell 145.15 5 *e*PKP PKPdf 19 38 51.5 -4.0
UALR University of 145.15 18 *e*PKP PKPdf 19 38 51.2 -4.3
JCT Junction City 145.82 31 *e*PKP PKPdf 19 38 54.1 -2.7
CPCT Cooper Cave 146.14 6 *e*PKP PKPdf 19 38 54.6 -2.6
SWET Sewanee 146.18 9 *e*PKP PKPdf 19 38 54.1 -3.2
JSC Jenkinsville 147.53 2 *e*PKPbc PKPdf 19 38 58.4 -1.1
LRAL Lakeview Retre 148.14 11 *e*PKPbc PKPdf 19 38 59.9 -0.6
GOGA Godfrey 148.26 5 *e*PKPbc PKPdf 19 39 00.8 +0.1
LPAZ La Paz 158.57 213 PKP PKPdf 19 39 14.0 -1.8
comp=Z,0.6nm,0.5s,baz=46,slow=2.5,SNR=5.8

IDC 10 19:28:05.7±2.3, 0.77S×136.84E, mb3.8/3, mb1 3.9/4, mb1mx3.5/15, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=113.9km s-min=26.9km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.21**	**187**	P	P	P	19 32 32.5	-1.5
	0.2nm,0.3s,baz=6.5,slow=11,SNR=8.2							
ASAR	**Alice Springs**	**22.94**	**187**	P	P	P	19 33 12.8	-0.1
	0.9nm,0.7s,baz=20,slow=12,SNR=13							
STKA	**Stephens Creek**	**31.26**	**172**	P	P	P	19 34 25.8	-3.8
	3.1nm,1.2s,baz=342,slow=13,SNR=2.2							
BVAR	**Borovoye Array**	**76.66**	**325**	P	P	P	19 39 58.8	-1.4
	0.8nm,0.7s,baz=117,slow=6.4,SNR=5.1							

IDC 10 19:32:20.8±7.4, 0.91S×99.74E, mb3.5/4, mb1 3.6/5, mb1mx3.4/18, mbtmp3.5/5, ML3.6/1, Error ellipse: s-maj=151.9km s-min=101.9km az=138.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.26**	**358**	P	P	P	19 36 47.5	-2.2
	0.1nm,0.3s,baz=188,slow=10,SNR=6.2							
SONM	**Songino Array**	**48.89**	**6**	P	P	P	19 41 08.6	-1.8
	0.2nm,0.4s,baz=180,slow=8.6,SNR=5.3							
MKAR	**Makanchi Array**	**49.92**	**344**	P	P	P	19 41 16.1	-2.1
	0.3nm,0.4s,baz=158,slow=8.8,SNR=6.4							
ZAL	**Zalesovo**	**56.05**	**349**	P	P	P	19 42 00.8	-3.0
	0.7nm,0.5s,baz=342,slow=3.2,SNR=3.3							
BVAR	**Borovoye Array**	**59.08**	**340**	P	P	P	19 42 23.1	-2.1
	0.3nm,0.8s,baz=129,slow=9.2,SNR=2.8							

IDC 10 19:34:19.8±9.4, 6.20S×131.23E, h67km±83km, mb3.6/1, mb1 3.6/4, mb1mx3.3/14, mbtmp3.7/4, ML3.4/3, Error ellipse: s-maj=67.6km s-min=48.5km az=55.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.03**	**204**	P	P	P	19 37 21.8	-1.9
	0.4nm,0.3s,baz=23,slow=14,SNR=10							
FITZ				S	S	S	19 39 43.9	-3.5
	0.2nm,0.3s,baz=357,slow=19,SNR=2.7							
WRA	**Warramunga Arr**	**13.99**	**168**	P	P	P	19 37 35.4	-1.0
	0.2nm,0.3s,baz=348,slow=14,SNR=17							
WRA				S	S	S	19 40 10.0	-0.4
	0.3nm,0.3s,baz=353,slow=24,SNR=8.0							
ASAR	**Alice Springs**	**17.56**	**172**	P	P	P	19 38 21.4	-0.3
	0.2nm,0.3s,baz=351,slow=10,SNR=16							
ASAR				S	S	S	19 41 35.8	+3.3
	0.1nm,0.3s,baz=358,slow=27,SNR=4.7							
STKA	**Stephens Creek**	**27.32**	**161**	P	P	P	19 39 58.1	-2.5
	0.7nm,0.4s,baz=326,slow=11,SNR=3.6							

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*IDC **10** 19:35:54.6±2.7, 2.03S×99.35E, mb3.6/7, mb1 3.8/7, mb1mx3.6/18, mbtmp3.6/7, Error ellipse: s-maj=112.6km s-min=20.6km az=56.0*

*NEIC **10** 19:35:59.8±0.9, 1.92S×99.48E, h30km, mb4.0/1, Error ellipse: s-maj=31.0km s-min=9.4km az=62.0*

ISC 10 19:35:57.6±1.3, 1.9S±0.2×99.4E±0.3, h30km, n13, σ0°60/10, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.22**	**10**	*e*P	**Pn**	**P**	**19 37 43.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**20.21**	**359**	P	**P**	**P**	**19 40 33.4**	**+0.3**

0.6nm,0.8s,baz=185,slow=9.5,SNR=3.6
WRA Warramunga Arr 38.53 120 P **P 19 43 18.1 -1.4**
1.4nm,0.8s,mb3.7,baz=296,slow=9.5,SNR=6.2
WRAB Tennant Creek 38.54 120 *eP* **P 19 43 20.3 +0.7**
ASAR Alice Springs 39.77 126 P **P 19 43 30.4 +0.6**
0.5nm,0.8s,mb3.3,baz=306,slow=7.3,SNR=4.8
SONM Songino Array 49.88 6 P **P 19 44 50.9 +0.5**
0.4nm,0.8s,mb3.5,baz=180,slow=8.6,SNR=4.5
MKAR Makanchi Array 50.76 345 P **P 19 44 57.3 +0.2**
0.6nm,0.5s,mb3.8,baz=149,slow=7.1,SNR=6.2
ZAL Zalesovo 56.94 350 P **P 19 45 42.5 -0.1**
1.2nm,0.4s,mb4.3,baz=320,slow=5.3,SNR=5.4
BVAR Borovoye Array 59.88 340 P **P 19 46 02.5 -0.5**
0.3nm,0.6s,mb3.5,baz=143,slow=7.4,SNR=3.7
CHKZ Chkalovo 60.34 341 P **P 19 46 06.0 -0.1**
1.2nm,1.0s,mb3.9
TXAR Lajitas Array 144.94 37 PKPbc PKPbc 19 55 34.5 +1.7
0.6nm,0.6s,baz=334,slow=2.5,SNR=6.0
TXAR Lajitas Array 144.94 37 PKPbc PKPbc 19 55 34.5 +1.7
MIAR Mount Ida 145.30 19 *e*PKP PKPdf 19 55 35.4 -2.8

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*IDC **10** 19:38:22.0±2.1, 0.75N×97.66E, mb3.9/8, mb1 4.0/9, mb1mx3.8/21, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=93.7km s-min=15.7km az=59.0*
*NEIC **10** 19:38:26.6±0.9, 0.85N×97.75E, h30km, mb3.8/3, Error ellipse: s-maj=27.5km s-min=10.9km az=68.0*
ISC 10 19:38:24.4±1.0, 0.8N±0.1×97.7E±0.2, h30km, n15, σ0s95/15, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**34**	*e*P	**Pn**	**19 39 44.7**	**+0.8**
CM31	**Chiang Mai Arr**	**17.55**	**4**	P	**P**	**19 42 27.1**	**-1.6**
2.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**17.55**	**4**	P	**P**	**19 42 27.8**	**-0.9**
0.1nm,0.3s,baz=192,slow=10,SNR=5.9							
FITZ	**Fitzroy Crossi**	**33.32**	**126**	P	**P**	**19 45 01.3**	**-0.7**
3.0nm,0.6s,mb4.4,baz=334,slow=5.6,SNR=6.5							
WRA	**Warramunga Arr**	**41.43**	**122**	P	**P**	**19 46 10.6**	**+0.5**
2.4nm,0.7s,mb3.9,baz=301,slow=9.1,SNR=17							
ASAR	**Alice Springs**	**42.78**	**127**	P	**P**	**19 46 22.3**	**+0.9**
1.3nm,0.6s,mb3.8,baz=296,slow=7.7,SNR=19							
SONM	**Songino Array**	**47.42**	**8**	P	**P**	**19 46 59.0**	**+0.8**
0.5nm,0.8s,mb3.5,baz=180,slow=5.8,SNR=2.9							
MKAR	**Makanchi Array**	**47.71**	**346**	P	**P**	**19 47 01.3**	**+0.8**
1.4nm,0.5s,mb4.2,baz=167,slow=6.9,SNR=8.6							
MKAR	**Makanchi Array**	**47.71**	**346**	P	**P**	**19 47 01.3**	**+0.8**
KURK	**Kurchatov**	**52.27**	**345**	P	**P**	**19 47 39.5**	**+4.3**
1.5nm,1.0s,mb3.9							
STKA	**Stephens Creek**	**52.75**	**132**	P	**P**	**19 47 37.7**	**-1.4**
0.9nm,0.6s,mb3.9,baz=329,slow=15,SNR=2.0							
STKA	**Stephens Creek**	**52.75**	**132**	P	**P**	**19 47 37.7**	**-1.4**
ZAL	**Zalesovo**	**53.99**	**351**	P	**P**	**19 47 49.0**	**+1.2**
1.0nm,0.5s,mb4.0,baz=318,slow=7.9,SNR=4.7							
BVAR	**Borovoye Array**	**56.75**	**341**	P	**P**	**19 48 07.4**	**-0.5**
0.7nm,0.5s,mb3.9,baz=143,slow=7.2,SNR=3.9							
CHKZ	**Chkalovo**	**57.23**	**341**	*e*P	**P**	**19 48 11.2**	**-0.1**
1.5nm,0.8s,mb4.1							

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*IDC **10** 19:39:12.1±2.5, 1.60S×99.76E, mb3.8/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=109.6km s-min=20.4km az=56.0*
*NEIC **10** 19:39:16.5±0.7, 1.60S×99.77E, h30km, mb4.2/2, Error ellipse: s-maj=29.9km s-min=9.6km az=62.0*
ISC 10 19:39:14.8±1.2, 1.6S±0.2×99.7E±0.3, h33km, n15, σ0s85/11, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.88**	**8**	*e*P	**P**	**19 40 56.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**19.92**	**358**	P	**P**	**19 43 44.9**	**-1.7**
0.1nm,0.3s,baz=190,slow=9.9,SNR=7.2							
WRA	**Warramunga Arr**	**38.46**	**121**	P	**P**	**19 46 34.7**	**-0.9**
0.4nm,0.5s,mb3.4,baz=309,slow=8.8,SNR=5.7							
WRAB	**Tennant Creek**	**38.47**	**121**	P	**P**	**19 46 35.5**	**-0.1**
ASAR	**Alice Springs**	**39.74**	**126**	P	**P**	**19 46 46.9**	**+0.7**
0.8nm,0.8s,mb3.5,baz=305,slow=9.0,SNR=5.7							
SONM	**Songino Array**	**49.55**	**6**	P	**P**	**19 48 05.5**	**+0.9**
0.6nm,0.8s,mb3.7,baz=187,slow=9.7,SNR=3.8							
MKAR	**Makanchi Array**	**50.54**	**345**	P	**P**	**19 48 13.0**	**+0.9**
1.3nm,0.7s,mb4.0,baz=153,slow=8.1,SNR=6.4							
KURK	**Kurchatov**	**55.12**	**344**	*e*P	**P**	**19 48 46.5**	**+0.4**
5.8nm,1.4s,mb4.4							
ZAL	**Zalesovo**	**56.69**	**350**	P	**P**	**19 48 58.2**	**+0.8**
1.4nm,0.4s,mb4.3,baz=329,slow=8.7,SNR=5.3							
BVAR	**Borovoye Array**	**59.68**	**340**	P	**P**	**19 49 17.5**	**-0.9**
0.6nm,0.6s,mb3.8,baz=143,slow=7.4,SNR=4.8							
CHKZ	**Chkalovo**	**60.15**	**341**	*e*P	**P**	**19 49 20.8**	**-0.7**
0.9nm,0.7s,mb3.9							
TXAR	**Lajitas Array**	**144.54**	**37**	PKP	PKPdf	19 58 50.9	+2.3
1.1nm,0.6s,baz=277,slow=1.2,SNR=12							
MIAR	**Mount Ida**	**144.93**	**19**	*e*PKP	PKPdf	19 58 50.4	+1.2
TZTN	**Tazewell**	**145.07**	**5**	*e*PKP	PKPdf	19 58 50.9	+1.6
CPCT	**Cooper Cave**	**146.07**	**6**	*e*PKP	PKPdf	19 58 54.0	+3.0

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*IDC **10** 19:41:34.9±1.6, 1.82S×99.62E, h32km±5km, mb3.6/9, mb1 3.8/9, mb1mx3.6/20, mbtmp3.8/9, Error ellipse: s-maj=73.2km s-min=13.7km az=55.0*
*NEIC **10** 19:41:34.9±0.8, 1.78S×99.65E, mb4.2/1, Error ellipse: s-maj=30.0km s-min=10.1km az=62.0*
ISC 10 19:41:32.7±1.1, 1.7S±0.1×99.7E±0.2, h31km, h31km±.4km: pP-P, n16, σ0s91/13, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.05**	**8**	*e*P	**Pn**	**19 43 16.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**20.08**	**358**	P	**P**	**19 46 05.4**	**-1.3**
0.7nm,0.6s,baz=186,slow=10,SNR=5.0							
FITZ	**Fitzroy Crossi**	**30.25**	**124**	P	**P**	**19 47 42.7**	**-0.6**
3.6nm,0.8s,mb4.1,baz=298,slow=3.4,SNR=3.8							
WRA	**Warramunga Arr**	**38.42**	**121**	P	**P**	**19 48 54.0**	**+0.4**
0.4nm,0.4s,mb3.5,baz=302,slow=9.2,SNR=4.9							
WRA				pP	pP	19 49 03.7	+0.9
0.7nm,0.5s,baz=307,slow=9.2,SNR=4.7							
ASAR	**Alice Springs**	**39.69**	**126**	P	**P**	**19 49 04.0**	**0.0**
0.5nm,0.7s,mb3.4,baz=305,slow=8.6,SNR=7.1							
ASAR				pP	pP	19 49 12.9	-0.4
1.2nm,0.8s,baz=299,slow=8.2,SNR=6.6							
SONM	**Songino Array**	**49.72**	**6**	P	**P**	**19 50 25.0**	**+0.9**
0.3nm,0.5s,mb3.6,baz=185,slow=10.0,SNR=4.6							
SONM				pP	pP	19 50 34.3	+0.9
0.6nm,0.5s,baz=191,slow=9.7,SNR=4.1							
MKAR	**Makanchi Array**	**50.68**	**345**	P	**P**	**19 50 32.4**	**+0.9**
0.8nm,0.4s,mb4.0,baz=146,slow=8.7,SNR=5.9							
MKAR				pP	pP	19 50 41.6	+0.8
1.6nm,0.6s,baz=147,slow=7.5,SNR=7.2							
MKAR	**Makanchi Array**	**50.68**	**345**	P	**P**	**19 50 32.4**	**+0.9**
MKAR				pP	pP	19 50 41.6	+0.8
ZAL	**Zalesovo**	**56.84**	**350**	P	**P**	**19 51 17.1**	**+0.3**
1.2nm,0.5s,mb4.2,baz=322,slow=7.9,SNR=5.7							
ZAL				pP	pP	19 51 26.6	+0.3
2.3nm,0.5s,baz=303,slow=3.8,SNR=6.2							
BVAR	**Borovoye Array**	**59.82**	**340**	P	**P**	**19 51 35.7**	**-1.9**
0.6nm,0.5s,mb3.9,baz=143,slow=7.4,SNR=4.9							
CHKZ	**Chkalovo**	**60.28**	**341**	*e*P	**P**	**19 51 40.2**	**-0.5**
1.8nm,0.8s,mb4.2							
FINES	**FINESS Array B**	**83.72**	**332**	P	**P**	**19 54 01.0**	**+1.2**
1.7nm,1.0s,mb4.1,baz=90,slow=3.8,SNR=6.0							
FINES	**FINESS Array B**	**83.72**	**332**	P	**P**	**19 54 01.0**	**+1.2**
TXAR	**Lajitas Array**	**144.70**	**37**	PKP	PKPdf	20 01 09.6	-2.8
0.5nm,0.6s,baz=234,slow=1.2,SNR=5.1							
TXAR				pPKP		20 01 19.4	
1.1nm,0.6s,baz=212,slow=1.0,SNR=7.2							
TXAR	**Lajitas Array**	**144.70**	**37**	PKP	PKPdf	20 01 09.6	-2.8
TXAR				pPKP		20 01 19.4	
CPCT	**Cooper Cave**	**146.23**	**6**	*e*PKP	PKPdf	20 01 12.8	-2.0

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*IDC **10** 19:43:04.8±1.1, 1.73S×99.53E, h19km±5km, mb3.8/10, mb1 3.9/10, mb1mx3.7/19, mbtmp3.9/10, Error ellipse: s-maj=56.5km s-min=15.2km az=53.0*
*NEIC **10** 19:43:04.4±0.6, 1.87S×99.33E, mb4.3/2, Error ellipse: s-maj=23.7km s-min=9.3km az=62.0*
ISC 10 19:43:02.6±0.8, 1.8S±0.1×99.4E±0.2, h20km, h20km±.4km: pP-P, n19, σ0s74/15, mb4.0/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.16**	**10**	P	**Pn**	**19 44 50.3**	**+1.4**
CMAR	**Chiang Mai Arr**	**20.14**	**359**	P	**P**	**19 47 37.4**	**-1.2**
1.1nm,0.6s,baz=187,slow=10,SNR=6.2							
LSA	**Lhasa**	**32.30**	**347**	*e*P	**P**	**19 49 33.2**	**+0.5**
WRA	**Warramunga Arr**	**38.63**	**120**	P	**P**	**19 50 26.0**	**-0.8**
0.6nm,0.5s,mb3.5,baz=305,slow=9.0,SNR=4.2							
WRA				pP	pP	19 50 31.7	-0.9
0.9nm,0.4s,baz=302,slow=9.2,SNR=8.3							
WRA				PcP	PcP	19 52 38.9	-0.4
0.1nm,0.4s,baz=310,slow=2.6,SNR=4.7							
ASAR	**Alice Springs**	**39.87**	**126**	P	**P**	**19 50 37.1**	**+0.1**
0.6nm,0.6s,mb3.5,baz=299,slow=7.9,SNR=4.6							
ASAR				pP	pP	19 50 42.9	0.0
0.9nm,0.6s,baz=302,slow=7.4,SNR=5.0							
STKA	**Stephens Creek**	**49.74**	**131**	P	**P**	**19 51 56.5**	**+0.5**
1.4nm,0.7s,mb4.1,baz=262,slow=12,SNR=3.4							
STKA	**Stephens Creek**	**49.74**	**131**	*e*P	**P**	**19 51 56.9**	**+0.9**
SONM	**Songino Array**	**49.81**	**6**	P	**P**	**19 51 55.5**	**-0.8**
0.5nm,0.7s,mb3.7,baz=170,slow=7.5,SNR=3.5							
SONM				PcP	PcP	19 53 16.9	-0.2
0.2nm,0.5s,baz=181,slow=3.4,SNR=4.1							
MKAR	**Makanchi Array**	**50.67**	**345**	P	**P**	**19 52 02.8**	**0.0**
1.9nm,0.6s,mb4.2,baz=153,slow=8.1,SNR=8.8							
KURK	**Kurchatov**	**55.24**	**344**	*e*P	**P**	**19 52 36.8**	**-0.1**
2.5nm,0.8s,mb4.3							
ZAL	**Zalesovo**	**56.85**	**350**	P	**P**	**19 52 48.2**	**-0.1**
2.9nm,0.5s,mb4.6,baz=308,slow=4.8,SNR=7.4							
BVAR	**Borovoye Array**	**59.78**	**340**	P	**P**	**19 53 08.1**	**-0.7**
1.3nm,0.6s,mb4.1,baz=135,slow=8.4,SNR=7.8							
CHKZ	**Chkalovo**	**60.25**	**341**	*e*P	**P**	**19 53 11.3**	**-0.6**
1.5nm,0.6s,mb4.2							
BRTR	**Keskin Array B**	**72.73**	**313**	P	**P**	**19 54 32.0**	**+0.4**
0.5nm,0.6s,mb3.6,baz=120,slow=7.0,SNR=5.1							
FINES	**FINESS Array B**	**83.65**	**332**	P	**P**	**19 55 32.2**	**+1.2**
0.5nm,0.5s,mb3.9,baz=63,slow=4.3,SNR=4.1							
FINES				pP	pP	19 55 38.8	+1.5
0.8nm,0.7s,baz=124,slow=5.0,SNR=2.0							
TXAR	**Lajitas Array**	**144.92**	**36**	PKP	PKPdf	20 02 41.2	-2.1
2.0nm,0.6s,baz=235,slow=0.8,SNR=11							
TXAR				pPKP		20 02 47.1	
0.9nm,0.4s,baz=320,slow=0.2,SNR=5.6							
WVT	**Waverly**	**145.19**	**10**	*e*PKP	PKPdf	20 02 39.8	-3.8
MIAR	**Mount Ida**	**145.25**	**19**	*e*PKP	PKPdf	20 02 41.2	-2.5
MIAR				*e*		20 02 46.9	
TZTN	**Tazewell**	**145.32**	**4**	*e*PKP	PKPdf	20 02 40.8	-3.0

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*IDC **10** 19:44:38.8±1.6, 1.37S×99.32E, mb4.1/10, mb1 4.2/11, mb1mx3.9/19, mbtmp4.0/11, ML3.7/1, Error ellipse: s-maj=79.4km s-min=15.8km az=56.0*
*NEIC **10** 19:44:42.5±0.8, 1.55S×99.15E, h30km, mb4.2/3, Error ellipse: s-maj=31.8km s-min=10.5km az=61.0*
ISC 10 19:44:41.5±0.9, 1.5S±0.1×99.2E±0.2, h33km, n17, σ0s88/16, mb4.1/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.85**	**12**	*e*P	**P**	**19 46 23.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**19.79**	**359**	P	**P**	**19 49 10.4**	**-1.6**
0.1nm,0.3s,baz=185,slow=11,SNR=3.9							
FITZ	**Fitzroy Crossi**	**30.75**	**124**	P	**P**	**19 50 54.7**	**-1.4**
5.7nm,0.8s,mb4.4,baz=208,slow=4.0,SNR=4.2							
LSA	**Lhasa**	**31.93**	**347**	*e*P	**P**	**19 51 07.8**	**+1.3**
1.4nm,0.5s,mb4.0							
WRA	**Warramunga Arr**	**38.92**	**121**	P	**P**	**19 52 05.8**	**-0.2**
0.8nm,0.4s,mb3.8,baz=306,slow=9.3,SNR=7.9							
ASAR	**Alice Springs**	**40.19**	**126**	P	**P**	**19 52 17.1**	**+0.6**
1.4nm,0.7s,mb3.8,baz=300,slow=8.0,SNR=6.2							
SONM	**Songino Array**	**49.49**	**6**	P	**P**	**19 53 29.8**	**-1.0**
0.6nm,0.6s,mb3.8,baz=188,slow=9.3,SNR=2.8							
STKA	**Stephens Creek**	**50.08**	**132**	P	**P**	**19 53 36.7**	**+1.2**
3.0nm,0.6s,mb4.5,baz=310,slow=7.8,SNR=9.1							
STKA	**Stephens Creek**	**50.08**	**132**	P	**P**	**19 53 36.7**	**+1.2**
MKAR	**Makanchi Array**	**50.31**	**345**	P	**P**	**19 53 37.5**	**+0.5**
1.9nm,0.6s,mb4.3,baz=148,slow=7.9,SNR=8.8							
KURK	**Kurchatov**	**54.88**	**344**	*e*P	**P**	**19 54 10.9**	**-0.1**
2.1nm,0.8s,mb4.2							
ZAL	**Zalesovo**	**56.49**	**350**	P	**P**	**19 54 22.7**	**+0.1**
1.6nm,0.5s,mb4.3,baz=319,slow=6.7,SNR=3.9							
BVAR	**Borovoye Array**	**59.42**	**340**	P	**P**	**19 54 42.4**	**-0.7**
0.6nm,0.6s,mb3.8,baz=135,slow=6.1,SNR=3.9							
CHKZ	**Chkalovo**	**59.88**	**341**	*e*P	**P**	**19 54 45.8**	**-0.6**
1.7nm,1.0s,mb4.0							
FINES	**FINESS Array B**	**83.28**	**332**	P	**P**	**19 57 06.3**	**+0.3**
1.3nm,0.9s,mb4.0,baz=104,slow=5.7,SNR=5.1							
ARCES	**ARCESS Array B**	**85.71**	**340**	P	**P**	**19 57 18.3**	**+0.4**
6.8nm,1.2s,mb4.8,baz=67,slow=6.9,SNR=3.4							
TZTN	**Tazewell**	**144.99**	**4**	*e*PKP	PKPdf	20 04 14.6	-1.2
TZTN				*e*		20 04 23.0	

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*ATH **10** 19:44:54.2, 35.15N×25.88E, h52km±3km, MD3.5/5*
*NEIC **10** 19:44:54.2, 35.15N×25.87E, h52km, MD3.5(ATH), After ATH.*
*CSEM **10** 19:44:54.9±0.1, 35.17N×25.89E, h30km, MD3.5, Error ellipse: s-maj=4.3km s-min=3.7km az=102.0*
ISC 10 19:44:55.8±1.4, 35.23N±0.10×25.9E±0.1, h39km±24km, n11, σ0s83/14, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.26**	**278**	*e*P	**P**	**19 45 03.5**	**0.0**
NPS				*e*S	**S**	**19 45 09.5**	**+0.6**
XRY	**Khrisi**	**0.40**	**208**	*e*P	**P**	**19 45 04.0**	**-1.2**
KARP	**Karpathos**	**1.06**	**72**	*e*P	**P**	**19 45 14.7**	**+0.3**
THR1	**Thera Island**	**1.20**	**342**	*e*P	**P**	**19 45 16.6**	**+0.3**
SANT	**Santorini**	**1.20**	**342**	*e*P	**P**	**19 45 16.4**	**0.0**
SANT				*e*S	**S**	**19 45 30.3**	**-1.4**
SANT	**Santorini**	**1.20**	**342**	*e*P	**P**	**19 45 16.4**	**+0.1**
SANT				*e*S	**S**	**19 45 30.3**	**-1.4**
THR3	**Thira Island,**	**1.25**	**340**	*e*P	**P**	**19 45 17.1**	**0.0**
THR5	**Thira Island,**	**1.27**	**339**	*e*P	**P**	**19 45 17.1**	**-0.3**
APE	**Apeiranthos**	**1.86**	**350**	*e*P	**P**	**19 45 26.0**	**+0.1**
ARG	**Arkhangelos**	**2.04**	**61**	*e*P	**P**	**19 45 28.5**	**0.0**
AGG	**Agios Georgios**	**4.75**	**324**	*e*P	**P**	**19 46 09.8**	**+2.8**

IDC 10 19:53:30.9±2.7, 49.11S×123.95E, mb3.6/4, mb1 3.9/4, mb1mx3.8/12, mbtmp3.7/4, Error ellipse: s-maj=114.3km s-min=27.4km az=97.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.74**	**44**	P	P	19 58 24.1	-1.6
1.9nm,0.9s,baz=216,slow=8.7,SNR=3.7							
ASAR	**Alice Springs**	**26.58**	**21**	P	P	19 59 10.4	-2.0
1.2nm,1.0s,baz=185,slow=9.5,SNR=6.3							
WRA	**Warramunga Arr**	**30.27**	**20**	P	P	19 59 43.7	-2.1
1.1nm,1.1s,baz=178,slow=9.9,SNR=3.2							
VNDA	**Vanda**	**31.95**	**165**	P	P	19 59 57.9	-2.1
0.5nm,0.9s,baz=308,slow=10,SNR=3.6							
YKA	**Yellowknife Ar**	**145.77**	**45**	PKPbc	PKPbc	20 13 09.7	-1.1
0.2nm,0.6s,baz=278,slow=2.5,SNR=4.8							

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*IDC **10** 19:56:43.2±0.4, 1.70S×99.64E, mb4.6/25, mb1 4.7/25, mb1mx4.7/26, mbtmp4.6/25, MS3.7/1, Ms1 3.9/1, ms1mx3.5/26, Error ellipse: s-maj=17.9km s-min=10.0km az=48.0*
*BJI **10** 19:56:44.2, 2.05S×99.74E, h37km, mB5.1, mb4.9, Ms4.7, Msz4.4*
*MOS **10** 19:56:46.9±0.7, 1.61S×99.69E, h33km, mb5.0/21, Error ellipse: s-maj=14.7km s-min=7.7km az=110.5*
*NEIC **10** 19:56:46.9±0.2, 1.66S×99.64E, mb4.9/23, MS4.4/1, Error ellipse: s-maj=7.9km s-min=5.2km az=58.0*
ISC 10 19:56:46.5±1.7, 1.71S±0.05×99.61E±0.05, h31km±11km, h23km±2.8km: pP-P, n132, σ0s94/123, mb4.8/62, MS4.2/7, 10C-7D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.24**	**45**	P	**Pn**	**19 58 05.9**	**+1.2**
IPM	**Ipoh**	**6.41**	**13**	P	**Pn**	**19 58 22.1**	**+0.8**
KULM	**Kulim**	**7.03**	**8**	*e*P	**Pn**	**19 58 29.6**	**-0.4**
KKM	**Kota Kinabalu**	**18.28**	**65**	*e*P	**P**	**20 01 00.8**	**+1.1**
KKM	**Kota Kinabalu**	**18.28**	**65**	P	**P**	**20 01 01.5**	**+1.7**
TSM	**Tawau**	**19.20**	**72**	P	**P**	**20 01 12.3**	**+1.6**
CM31	**Chiang Mai Arr**	**20.05**	**358**	P	**P**	**20 01 15.8**	**-4.3**
23nm,0.9s							
CMAR	**Chiang Mai Arr**	**20.05**	**358**	P	**P**	**20 01 16.3**	**-3.8**
13nm,0.9s,baz=187,slow=10,SNR=27							
CMAR				PcP	PcP	20 05 35.2	+0.6
1.0nm,0.8s,baz=203,slow=2.9,SNR=4.2							
CMAR				LR	LR	20 10 30.5	
comp=Z,198nm,18.9s,MS3.5,baz=320,slow=41							
CHG	**Chiang Mai**	**20.41**	**358**	⇓P	**P**	**20 01 26.1**	**+2.3**
16nm,1.2s							
NANT	**Nan**	**20.41**	**3**	P	**P**	**20 01 23.0**	**-0.9**
88nm,0.6s							
QIZ	**Qiongzhong**	**22.93**	**26**	P	**P**	**20 01 50.6**	**+1.3**
SHL	**Shillong**	**28.13**	**345**	*e*P	**P**	**20 02 38.0**	**0.0**
GYA	**Guiyang**	**28.82**	**13**	⇑P	**P**	**20 02 43.9**	**-0.3**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**30.29**	**124**	P	**P**	**20 02 56.6**	**-0.8**
comp=Z,25nm,0.9s,mb4.9,baz=289,slow=2.8,SNR=13							
JIRN	**Jiri**	**31.93**	**337**	*e*P	**P**	**20 03 12.4**	**+0.6**
comp=Z,44nm,0.8s,mb5.3							
PKI	**Pulchoki**	**32.16**	**336**	*e*P	**P**	**20 03 14.5**	**+0.7**
LSA	**Lhasa**	**32.27**	**346**	*e*P	**P**	**20 03 14.0**	**-0.7**
LSA	**Lhasa**	**32.27**	**346**	*e*P	**P**	**20 03 15.2**	**+0.5**
LSA				pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**32.27**	**346**	*e*P	**P**	**20 03 15.2**	**+0.5**
comp=Z,7.2nm,0.6s,mb4.7							
GUN	**Gumba**	**32.28**	**337**	*e*P	**P**	**20 03 15.4**	**+0.6**
comp=Z,30nm,0.5s,mb5.4							
DMN	**Daman**	**32.32**	**335**	*e*P	**P**	**20 03 15.4**	**+0.2**
comp=Z,23nm,1.1s,mb4.9							
KKN	**Kakani**	**32.41**	**336**	*e*P	**P**	**20 03 16.0**	**0.0**
comp=Z,29nm,0.8s,mb5.1							
KKN	**Kakani**	**32.41**	**336**	*e*P	**P**	**20 03 16.0**	**0.0**
KKN				pmax	pmax		
comp=Z,15nm,0.8s,mb4.9							
GKN	**Gorkha**	**32.86**	**335**	*e*P	**P**	**20 03 19.8**	**-0.1**
comp=Z,22nm,0.8s,mb5.1							
KOLN	**Koldanda**	**33.11**	**333**	*e*P	**P**	**20 03 22.3**	**+0.2**
comp=Z,29nm,0.8s,mb5.3							
ENH	**Enshi**	**33.17**	**16**	*e*P	**P**	**20 03 20.9**	**-1.7**
comp=Z,19nm,0.8s,mb5.1							
ENH				*e*		20 03 27.7	
NWAO	**Narrogin (SRO)**	**35.19**	**154**	P	**P**	**20 03 40.8**	**+0.9**
comp=Z,19nm,1.4s,mb4.8,baz=340,slow=6.1,SNR=3.6							
LGTI	**Lohaghat**	**36.10**	**331**	*e*P	**P**	**20 03 48.0**	**+0.3**
XAN	**Xi'an**	**36.62**	**13**	P	**P**	**20 03 50.2**	**-1.8**
XAN				AMB	AMB		
comp=Z,23nm,0.9s,mb5.0							
LZH	**Lanzhou**	**37.81**	**6**	*e*P	**P**	**20 03 59.5**	**-2.5**
LZH				AMB	AMB		
comp=Z,31nm,1.6s,mb4.8							
LZH	**Lanzhou**	**37.81**	**6**	*e*P	**P**	**20 03 59.5**	**-2.5**
comp=Z,31nm,1.6s,mb4.8							
LZH				sP	sP	20 04 23.0	+7.8
NJ2	**Nanjing**	**38.21**	**27**	*e*P	**P**	**20 04 05.2**	**-0.2**
NJ2				AP	pP	20 04 15.0	+0.3
NJ2				XP	sP	20 04 18.9	+0.2
NJ2				PP	PP	20 05 36.3	-0.1
NJ2				S	**S**	**20 09 58.0**	**+1.4**
NJ2				XS		20 10 13.0	
NJ2				AMB	AMB		
comp=Z,10.0nm,0.5s,mb4.8							
NJ2				LR	LR		
comp=N,900nm,24.4s							
NJ2				LR	LR		
comp=E,750nm,13.0s							
NJ2				LR	LR		
comp=Z,650nm,18.1s							
WRA	**Warramunga Arr**	**38.47**	**121**	P	**P**	**20 04 07.1**	**-0.6**
comp=Z,15nm,0.9s,mb4.7,baz=300,slow=9.2,SNR=63							
WRA				PcP	PcP	20 06 21.0	+0.1
comp=Z,2.6nm,0.8s,baz=312,slow=2.5,SNR=8.5							
WRA				S	**S**	**20 09 59.1**	**-1.4**
comp=Z,0.2nm,0.5s,baz=329,slow=13,SNR=4.9							
WRAB	**Tennant Creek**	**38.48**	**121**	*e*P	**P**	**20 04 07.5**	**-0.2**
WRAB				pmax	pmax		
comp=Z,20nm,0.8s,mb4.9							
WRAB	**Tennant Creek**	**38.48**	**121**	*e*P	**P**	**20 04 07.5**	**-0.3**
comp=Z,20nm,0.8s,mb4.9							
WB2	**Warramunga Arr**	**38.48**	**121**	*e*P	**P**	**20 04 07.3**	**-0.5**
SSE	**Sheshan**	**38.54**	**30**	*e*P	**P**	**20 04 06.5**	**-1.7**
SSE				AMB	AMB		
comp=Z,35nm,0.7s,mb5.2							
SSE				AMB	AMB		
comp=Z,52nm,3.5s							
SSE	**Sheshan**	**38.54

USP Ospenovka 50.14 336 P **P 20 05 41.4 +0.3**
SNR=8.1
MKAR Makanchi Array 50.65 345 *i* P **P 20 05 45.0 +0.1**
MKAR pmax pmax
comp=Z,10.0nm,0.6s
MKAR Makanchi Array 50.65 345 P **P 20 05 44.6 -0.3**
comp=Z,10nm,0.6s,mb4.9,baz=146,slow=8.0,SNR=75
CN2 Changchun 50.88 24 *e*P **P 20 05 45.8 -0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
ZAK Zakamensk 51.99 3⇑ *i*P **P 20 05 54.7 -0.3**
ZAK *e* 20 07 07.1
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
MJAR Matsushiro Arr 52.30 39 P **P 20 05 56.1 -1.4**
comp=Z,4.2nm,0.8s,mb4.4,baz=216,slow=7.9,SNR=12
MDJ Mudanjiang 53.30 26 P **P 20 06 04.0 -0.9**
MDJ AMB AMB
comp=Z,8.0nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,113nm,6.2s
KURK Kurchatov 55.22 344 *i* P **P 20 06 18.3 -0.6**
KURK Kurchatov 55.22 344 *e*P **P 20 06 18.2 -0.7**
comp=Z,13nm,0.8s,mb5.0
ZAL Zalesovo 56.81 350 P **P 20 06 30.1 -0.1**
comp=Z,13nm,0.4s,mb5.3,baz=323,slow=3.7,SNR=71
KLR Kul'dur 57.83 24 *e*P **P 20 06 33.6 -3.9**
BVAR Borovoye Array 59.78 340 P **P 20 06 49.6 -1.4**
comp=Z,4.9nm,0.7s,mb4.7,baz=143,slow=9.1,SNR=55
CHKZ Chkalovo 60.25 341 *e*P **P 20 06 52.8 -1.3**
CHKZ *e* 20 06 58.2
CHKZ pmax pmax
comp=Z,29nm,0.6s,mb5.5
CHKZ Chkalovo 60.25 341 *e*P **P 20 06 52.8 -1.4**
comp=Z,29nm,0.6s,mb5.5
CHKZ *e* 20 06 58.1
BOD Bodaibo 60.46 9 *e*P **P 20 06 53.8 -1.7**
BOD pmax pmax
comp=Z,13nm,1.1s,mb4.9
YSS Yuzh-Sakhalins 61.44 32⇓ *i*P **P 20 07 02.0 -0.4**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.4
YSS Yuzh-Sakhalins 61.44 32 *e*P **P 20 07 02.2 -0.2**
comp=Z,21nm,1.0s,mb5.2
KMBO Kilima Mbogo 62.34 270 *i* P **P 20 07 10.2 +1.3**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 62.34 270 P **P 20 07 09.0 +0.1**
comp=Z,2.3nm,0.8s,mb4.4,baz=60,slow=12,SNR=10
KMBO Kilima Mbogo 62.34 270 P **P 20 07 09.0 +0.1**
GNI Garni 65.05 316 *e*P **P 20 07 26.3 0.0**
GNI pmax pmax
comp=Z,8.0nm,1.0s
GNI Garni 65.05 316 P **P 20 07 26.2 -0.1**
comp=Z,1.1nm,0.5s,mb4.1,baz=325,slow=18,SNR=4.3
GNI Garni 65.05 316 *e*P **P 20 07 26.3 0.0**
comp=Z,7.8nm,1.0s,mb4.7
SVE Sverdlovsk 66.27 338⇑ *e*P **P 20 07 33.4 -0.4**
SVE pmax pmax
comp=Z,15nm,1.0s,mb5.0
ARU Arti 66.79 337⇑ *i*P **P 20 07 35.9 -1.2**
ARU *e* 20 08 04.4
ARU *i* 20 10 02.0
ARU *e*PPP PPP 20 11 39.3 -3.3
ARU *e*S S 20 16 27.2 +1.5
ARU *e* 20 17 31.8
ARU *e*SS SS 20 20 45.1 -0.4
ARU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ARU Arti 66.79 337 *e*P **P 20 07 35.9 -1.2**
comp=Z,9.1nm,1.1s,mb4.7
YAK Yakutsk 67.56 15 P **P 20 07 41.0 -0.9**
YAK pmax pmax
comp=Z,36nm,0.9s,mb5.4
YAK Yakutsk 67.56 15 *e*P **P 20 07 40.2 -1.8**
comp=Z,36nm,0.8s,mb5.5
KIV Kislovodsk 68.07 319 *i* P **P 20 07 44.9 -0.5**
KIV *e* 20 08 11.1
KIV pmax pmax
comp=Z,11nm,1.0s,mb4.8
KIV Kislovodsk 68.07 319 *e*P **P 20 07 45.1 -0.3**
comp=Z,7.3nm,0.8s,mb4.8
ASF Jabal al Asfar 68.11 306 P **P 20 07 44.5 -1.3**
comp=Z,4.6nm,0.8s,mb4.5,baz=51,slow=6.5,SNR=3.1
SOC Sochi 69.88 318 *e*P **P 20 07 54.4 -2.2**
SOC *e* 20 08 13.9
SOC *e*PPP PPP 20 12 15.8 +3.0
SOC *e*S S 20 17 06.9 +4.1
SOC *e* 20 17 43.8
SOC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SOC pmax pmax
comp=N,1.0nm,0.5s
SOC pmax pmax
comp=E,2.0nm,0.4s
SOC MLR MLR
comp=N,121nm,13.0s,MS4.4
SOC MLR MLR
comp=Z,139nm,13.0s,MS4.4
SOC MLR MLR
comp=E,123nm,16.0s,MS4.4
MAW Mawson 70.47 194 *e*P **P 20 08 00.8 +1.1**
MAW pmax pmax
comp=Z,7.0nm,0.8s
MAW Mawson 70.47 194 P **P 20 07 59.0 -0.7**
comp=Z,5.5nm,0.9s,mb4.5,baz=3.7,slow=5.7,SNR=6.9
MAW Mawson 70.47 194 *e*P **P 20 08 00.8 +1.1**
comp=Z,7.0nm,0.8s,mb4.6
MATP Matopo 71.72 249 P **P 20 08 08.3 +0.2**
comp=Z,6.7nm,0.8s,mb4.7,baz=92,slow=5.3,SNR=17
BRTR Keskin Array B 72.84 313 P **P 20 08 13.4 -1.0**
comp=Z,2.8nm,0.7s,mb4.3,baz=134,slow=7.3,SNR=5.2
MA2 Magadan 72.93 24 *i* P **P 20 08 14.7 +0.2**
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PET Petropavlovsk 73.32 33 *e*P **P 20 08 16.1 -0.9**
PET pmax pmax
comp=Z,29nm,0.9s,mb5.2
PET MLR MLR
comp=Z,100nm,18.0s,MS4.1
BOSA Boshof 75.46 241 P **P 20 08 29.6 -0.2**
comp=Z,5.5nm,1.0s,mb4.4,baz=142,slow=7.0,SNR=3.7
SEY Seymchan 75.50 22 *e*P **P 20 08 32.2 +2.8**
SEY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TIXI Tiksi 75.64 9⇓ *i*P **P 20 08 29.4 -0.6**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
OBN Obninsk 76.35 328⇓ *e*P **P 20 08 34.2 -0.1**
OBN pmax pmax
comp=Z,26nm,1.7s,mb4.9
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.2
TIRR Tirgusor 77.88 316 ⇑P **P 20 08 42.5 -0.5**
HARR Harsova 78.27 316 ⇑P **P 20 08 45.5 +0.4**
AKASG Malin Array Be 79.02 322 P **P 20 08 48.5 -0.6**
comp=Z,0.8nm,0.5s,mb3.9,baz=95,slow=4.5,SNR=8.5
VRI Vrincioaia 79.38 317 ⇑P **P 20 08 52.3 +1.1**
MLR Muntele Rosu 79.83 317 P **P 20 08 52.9 -0.7**
comp=Z,9.9nm,0.9s,mb4.8,baz=128,slow=4.7,SNR=8.7
MLR Muntele Rosu 79.83 317 ⇑P **P 20 08 53.8 +0.2**
MLR Muntele Rosu 79.83 317 ⇑P **P 20 08 53.8 +0.2**
BURAR Bucovina Array 80.79 319 ⇓P **P 20 08 60.0 +1.3**
BURAR Bucovina Array 80.79 319 ⇓P **P 20 09 00.0 +1.4**
KWP Kalwaria 82.84 320 *e*P **P 20 09 09.6 +0.4**
BILL Bilibino 83.02 20 *i* P **P 20 09 10.6 +0.8**
BILL pmax pmax
comp=Z,8.0nm,2.5s,mb4.3
SUW Suwalki 83.43 325 *e*P **P 20 09 12.6 +0.4**
FINES FINESS Array B 83.68 332 *i* P **P 20 09 14.0 +0.7**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 83.68 332 P **P 20 09 14.0 +0.7**
comp=Z,2.0nm,0.4s,mb4.6,baz=102,slow=5.6,SNR=33
KAF Kangasniemi 83.75 333 *e*p **P 20 09 14.1 +0.4**
comp=Z,2.5nm,0.5s,mb4.6,baz=100,slow=4.6
KAF Kangasniemi 83.75 333 *e*P **P 20 09 14.1 +0.4**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
ARCES ARCESS Array B 86.07 340 P **P 20 09 25.1 0.0**
comp=Z,5.9nm,0.9s,mb4.8,baz=80,slow=7.4,SNR=10.0
GERES GERESS Array B 88.58 319 P **P 20 09 38.0 +0.3**
comp=Z,1.1nm,0.7s,mb4.3,baz=90,slow=4.0,SNR=7.9
HFS Hagfors 89.43 330 P **P 20 09 42.3 +0.8**
comp=Z,4.3nm,1.1s,mb4.7,baz=207,slow=3.3,SNR=4.3
DAVOX Davos 91.05 317 P **P 20 09 50.4 +1.1**
comp=Z,3.7nm,0.8s,mb4.7,baz=108,slow=4.0,SNR=6.5
YKA Yellowknife Ar 114.21 17 PKP PKPdf 20 15 23.4 -4.5
comp=Z,0.3nm,0.7s,baz=320,slow=1.9,SNR=5.3
NVAR Mina Array Bea 129.62 39 PKP PKPdf 20 15 55.2 -3.2
comp=Z,1.4nm,0.9s,baz=238,slow=2.8,SNR=4.8
NVAR Mina Array Bea 129.62 39 PKP PKPdf 20 15 55.2 -3.2
PDAR Pinedale Array 131.51 29 PKP PKPdf 20 15 58.2 -3.6
comp=Z,0.5nm,0.7s,baz=180,slow=1.5,SNR=4.6
BDFB Brasilia 143.65 240 PKP PKPdf 20 16 21.8 -2.7
comp=Z,1.3nm,0.4s,baz=146,slow=5.6,SNR=3.5
LTX Lajitas 144.71 37 *e*PKP PKPdf 20 16 22.6 -3.4
TXAR Lajitas Array 144.71 37 PKP PKPdf 20 16 22.9 -3.2
comp=Z,8.6nm,0.5s,baz=262,slow=0.9,SNR=84
WVT Waverly 145.06 11 *e*PKP PKPdf 20 16 22.2 -4.3
MIAR Mount Ida 145.09 19 *e*PKP PKPdf 20 16 22.9 -3.7
TZTN Tazewell 145.22 4 *e*PKP PKPdf 20 16 22.4 -4.3
JCT Junction City 145.98 31 *e*PKP PKPdf 20 16 25.7 -2.5
CPCT Cooper Cave 146.21 6 *e*PKP PKPdf 20 16 25.7 -2.8
SWET Sewanee 146.27 8 *e*PKP PKPdf 20 16 25.6 -3.0
LRAL Lakeview Retre 148.23 11 *e*PKPbc PKPdf 20 16 31.5 -0.3

*ISK **10** 20:03:57.4, 37.58N×29.98E, h5km, ML3.8*
*CSEM **10** 20:03:57.4±0.4, 37.58N×29.98E, h1km±2km, ML3.7, Error ellipse: s-maj=2.3km s-min=1.2km az=21.0*
*IDC **10** 20:03:58.2±1.2, 37.48N×30.11E, mb3.7/3, mb1 3.9/9, mb1mx3.7/26, mbtmp3.7/9, ML3.6/5, MS3.4/1, Ms1 3.5/1, ms1mx2.9/37, Error ellipse: s-maj=20.7km s-min=18.4km az=39.0*
*NEIC **10** 20:03:59.7±0.3, 37.56N×30.02E, h10km, ML3.7(ISK), Error ellipse: s-maj=4.9km s-min=4.2km az=192.0*
*HLW **10** 20:04:30.8, 35.35N×29.71E, h28km, Mb3.8*
ISC 10 20:03:58.7±0.5,**37.54N**±0.02×**30.01E**±0.03,**h9**km±4km,
n108,σ1$**08**/129,**mb3.6**/3,**MS3.2**/1,**3C-5D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.46**	**99**	*i* PG	**Pg**	**20 04 07.9**	**-0.2**
BCK				*i* SG	**Sg**	**20 04 16.8**	**+2.4**
BCK	**Bucak**	**0.46**	**99**	Pg	**Pg**	**20 04 08.0**	**-0.2**
BCK				Sg	**Sg**	**20 04 17.0**	**+2.6**
BCK	**Bucak**	**0.46**	**99**	Pg	**Pg**	**20 04 08.0**	**-0.1**
BCK				*i* Sg	**Sg**	**20 04 16.8**	**+2.4**
GOLH	**Golhisar**	**0.47**	**231**	*i* P	**Pg**	**20 04 08.0**	**-0.2**
GOLH				*i* S	**Sg**	**20 04 16.6**	**+2.0**
ISP	**Isparta**	**0.50**	**52**	*i* PG	**Pg**	**20 04 07.3**	**-1.5**
ISP				*i* SG	**Sg**	**20 04 16.6**	**+1.0**
ISP	**Isparta**	**0.50**	**52**	Pg	**Pg**	**20 04 07.4**	**-1.5**
ISP				Sg	**Sg**	**20 04 16.4**	**+0.8**
ISP	**Isparta**	**0.50**	**52**	Pg	**Pg**	**20 04 07.4**	**-1.4**
ISP				Sg	**Sg**	**20 04 16.4**	**+0.8**
TKTP	**Tekketepe**	**0.56**	**26**	*i* P	**Pg**	**20 04 09.1**	**-0.9**
TKTP				*i* S	**Sg**	**20 04 20.5**	**+3.0**
DNZL	**Cakiroluk**	**0.78**	**282**	*i* P	**Pb**	**20 04 13.2**	**-0.9**
DNZL				*i* S	**Sb**	**20 04 26.1**	**+1.6**
ELL	**Elmali**	**0.79**	**186**	PG	**Pg**	**20 04 14.0**	**-0.6**
DENT	**Denizli**	**0.81**	**286**	*i* PG	**Pg**	**20 04 13.6**	**-1.3**
DENT	**Denizli**	**0.81**	**286**	Pg	**Pg**	**20 04 13.7**	**-1.3**
ANTB	**Antalya**	**0.81**	**141**	PG	**Pg**	**20 04 14.4**	**-0.7**
KHL	**Karahalli**	**0.88**	**334**	PG	**Pg**	**20 04 14.6**	**-1.7**
KHL	**Karahalli**	**0.88**	**334**	Pg	**Pg**	**20 04 15.0**	**-1.3**
FETY	**Fethiye**	**1.17**	**220**	PN	**Pn**	**20 04 20.6**	**-0.6**
AKAS	**Kas**	**1.34**	**194**	*i* P	**Pb**	**20 04 24.4**	**+1.0**
AKAS				*i* S	**Sb**	**20 04 47.4**	**+6.6**
DALT	**Dalyan (Mudla)**	**1.34**	**236**	PN	**Pn**	**20 04 24.3**	**+0.6**
DALT	**Dalyan (Mudla)**	**1.34**	**236**	Pn	**Pn**	**20 04 24.8**	**+1.1**
DALT	**Dalyan (Mudla)**	**1.34**	**236**	Pn	**Pn**	**20 04 24.8**	**+1.1**
KSL	**Kastellorizon**	**1.43**	**194**	*e*P	**Pn**	**20 04 29.0**	**+4.1**
YER	**Yerkesik**	**1.44**	**254**	PN	**Pn**	**20 04 26.1**	**+1.0**
YER	**Yerkesik**	**1.44**	**254**	Pn	**Pn**	**20 04 26.1**	**+1.1**
MANT	**Manisa**	**1.49**	**310**	*i* P	**Pn**	**20 04 25.6**	**-0.3**
MANT				*i* S	**Sb**	**20 04 48.1**	**+2.9**
ALT	**Altintas**	**1.52**	**3**	*e*PN	**Pn**	**20 04 26.4**	**+0.1**
AYDN	**Tasoluk**	**1.70**	**275**	*i* P	**Pn**	**20 04 29.1**	**+0.3**
AYDN				*i* S	**Sn**	**20 04 52.0**	**+1.1**
MLSB	**Milas**	**1.80**	**263**	*e*PN	**Pn**	**20 04 30.2**	**0.0**
MLSB	**Milas**	**1.80**	**263**	Pn	**Pn**	**20 04 30.2**	**0.0**
KONT	**Konya--Tatoy**	**1.91**	**77**	*e*PN	**Pn**	**20 04 33.1**	**+1.3**
KONT	**Konya--Tatoy**	**1.91**	**77**	Pn	**Pn**	**20 04 32.4**	**+0.6**
KONT	**Konya--Tatoy**	**1.91**	**77**	Pn	**Pn**	**20 04 32.4**	**+0.6**
KIZT	**Kizilcal**	**1.99**	**47**	*e*PN	**Pn**	**20 04 34.1**	**+1.1**
KIZT	**Kizilcal**	**1.99**	**47**	Pn	**Pn**	**20 04 34.2**	**+1.2**
ARG	**Arkhangelos**	**2.01**	**230**	*e*P	**Pn**	**20 04 35.2**	**+2.0**
HDMB	**Hadim**	**2.05**	**105**	*e*PN	**Pn**	**20 04 35.9**	**+2.0**
HDMB	**Hadim**	**2.05**	**105**	Pn	**Pn**	**20 04 36.7**	**+2.8**
ESKT	**Eskisehir**	**2.09**	**18**	*e*PN	**Pn**	**20 04 35.1**	**+0.7**
ESKT	**Eskisehir**	**2.09**	**18**	*i* P	**Pn**	**20 04 34.1**	**-0.3**
ESKT				*i* S	**Sn**	**20 05 08.5**	**+7.7**
BDRM	**Kayabasi**	**2.10**	**258**	*i* P	**Pn**	**20 04 45.5**	**+11**
BDRM				*i* S	**Sn**	**20 05 14.8**	**+14**
BODT	**Bodrum**	**2.21**	**258**	*e*PN	**Pn**	**20 04 37.3**	**+1.2**
DST	**Dursunbey**	**2.33**	**333**	*e*PN	**Pn**	**20 04 37.2**	**-0.7**
DST	**Dursunbey**	**2.33**	**333**	Pn	**Pn**	**20 04 37.3**	**-0.7**
DST	**Dursunbey**	**2.33**	**333**	Pn	**Pn**	**20 04 37.3**	**-0.6**
KDAG	**Bornova**	**2.34**	**293**	*i* P	**Pn**	**20 04 37.5**	**-0.4**
KDAG				*i* S	**Sn**	**20 05 15.4**	**+8.3**
IZM	**Izmir**	**2.34**	**292**	*e*PN	**Pn**	**20 04 37.7**	**-0.3**
IZM	**Izmir**	**2.34**	**292**	Pn	**Pn**	**20 04 37.8**	**-0.2**
SMG	**Samos**	**2.53**	**275**	*e*P	**Pn**	**20 04 40.4**	**-0.3**
ORLT	**Orhaneli**	**2.66**	**341**	*e*PN	**Pn**	**20 04 42.1**	**-0.4**
ORLT	**Orhaneli**	**2.66**	**341**	Pn	**Pn**	**20 04 42.2**	**-0.4**
ORLT	**Orhaneli**	**2.66**	**341**	Pn	**Pn**	**20 04 42.2**	**-0.3**
BALB	**Balikesir**	**2.69**	**322**	*e*PN	**Pn**	**20 04 43.7**	**+0.7**
BALB	**Balikesir**	**2.69**	**322**	Pn	**Pn**	**20 04 43.8**	**+0.8**
ULDT	**Uludag**	**2.69**	**346**	*i* P	**Pn**	**20 04 42.1**	**-0.9**
ULDT				*i* S	**Sn**	**20 05 27.3**	**+11**
KCT	**Karacabey**	**3.02**	**335**	*e*PN	**Pn**	**20 04 47.0**	**-0.7**
KARP	**Karpathos**	**3.04**	**230**	*e*P	**Pn**	**20 04 47.8**	**-0.1**
YLV	**Yalova**	**3.07**	**351**	*e*PN	**Pn**	**20 04 49.2**	**+0.8**
MDU	**Mudurnu**	**3.07**	**17**	*e*PN	**Pn**	**20 04 49.4**	**+0.9**
LOD	**Lodumlu**	**3.19**	**42**	*e*PN	**Pn**	**20 04 49.7**	**-0.4**
LOD	**Lodumlu**	**3.19**	**42**	Pn	**Pn**	**20 04 49.8**	**-0.3**
LOD	**Lodumlu**	**3.19**	**42**	Pn	**Pn**	**20 04 49.8**	**-0.3**
ANTO	**Ankara**	**3.19**	**42**	*e*PN	**Pn**	**20 04 50.3**	**+0.2**
ANTO	**Ankara**	**3.19**	**42**	Pn	**Pn**	**20 04 50.3**	**+0.2**
BNT	**Bandirma**	**3.26**	**331**	*e*PN	**Pn**	**20 04 50.1**	**-1.0**
BNT	**Bandirma**	**3.26**	**331**	Pn	**Pn**	**20 04 49.2**	**-1.8**
HRT	**Hereke**	**3.29**	**355**	*e*PN	**Pn**	**20 04 51.5**	**-0.1**
HRT	**Hereke**	**3.29**	**355**	Pn	**Pn**	**20 04 50.9**	**-0.7**
HENT	**Hendek**	**3.35**	**12**	*i* P	**Pn**	**20 04 52.4**	**-0.1**
HENT				*i* S	**Sn**	**20 05 52.7**	**+20**
CANB	**Canakkale**	**3.38**	**318**	*e*PN	**Pn**	**20 04 53.6**	**+0.7**
CANB	**Canakkale**	**3.38**	**318**	Pn	**Pn**	**20 04 53.6**	**+0.7**
PRK	**Paraskevi**	**3.40**	**301**	*e*P	**Pn**	**20 04 52.5**	**-0.6**
SGKT	**Sivrigoynuk**	**3.42**	**27**	*i* P	**Pn**	**20 04 54.0**	**+0.5**
SGKT				*i* S	**Sn**	**20 05 51.6**	**+17**
KAMT	**Kaman**	**3.43**	**57**	*e*PN	**Pn**	**20 04 54.3**	**+0.7**
BRTR	**Keskin Array B**	**3.58**	**51**	Pn	**Pn**	**20 04 56.0**	**+0.2**
	2.0nm,0.3s,baz=229,slow=17,SNR=50						
BRTR				Sn	**Sn**	**20 05 38.9**	**+0.2**
	0.9nm,0.3s,baz=232,slow=21,SNR=8.2						
MRMT	**Marmara Adasi**	**3.59**	**329**	*e*PN	**Pn**	**20 04 55.2**	**-0.7**
ISK	**Istanbul-Kandi**	**3.60**	**348**	*e*PN	**Pn**	**20 04 56.2**	**+0.2**
EZN	**Ezine**	**3.68**	**310**	*e*PN	**Pn**	**20 04 56.5**	**-0.6**
EZN	**Ezine**	**3.68**	**310**	Pn	**Pn**	**20 04 56.5**	**-0.6**
CSS	**Prodhromos**	**3.71**	**133**	*e*P	**Pn**	**20 04 58.3**	**+0.7**
CSS	**Prodhromos**	**3.71**	**133**	*e*P	**Pn**	**20 04 58.3**	**+0.8**
CTT	**Catalca**	**3.81**	**342**	*e*PN	**Pn**	**20 04 59.0**	**+0.1**
CANT	**Cankiri**	**4.16**	**41**	*e*PN	**Pn**	**20 05 03.9**	**0.0**
IDI	**Anoyia**	**4.70**	**243**	Pn	**Pn**	**20 05 11.8**	**+0.2**
	1.6nm,0.3s,baz=54,slow=14,SNR=10.0						
IDI				Sn	**Sn**	**20 06 06.3**	**-0.6**
	1.2nm,0.3s,baz=114,slow=19,SNR=2.2						
EDRB	**Edirne**	**4.99**	**331**	*e*PN	**Pn**	**20 05 15.3**	**-0.4**
MANS	**Anshas**	**6.68**	**169**	P	**Pn**	**20 05 46.5**	**+7.0**
TIRR	**Tirgusor**	**7.02**	**351**	⇑P	**Pn**	**20 05 41.6**	**-2.8**
TIRR	**Tirgusor**	**7.02**	**351**	⇑P	**Pn**	**20 05 41.6**	**-2.7**
AANS		**7.32**	**171**	P	**Pn**	**20 05 46.5**	**-1.9**
ASF	**Jabal al Asfar**	**7.79**	**131**	Pn	**Pn**	**20 05 51.1**	**-3.9**
	0.7nm,0.3s,baz=198,slow=6.9,SNR=3.2						
GLL	**Jalalah**	**8.06**	**169**	⇑P	**P**	**20 05 57.0**	**-1.9**
HNKL	**Nakhl**	**8.27**	**155**	P	**P**	**20 06 03.5**	**+1.7**
HNKL				S	Sn	20 07 13.1	-23
MLR	**Muntele Rosu**	**8.51**	**340**	Pn	**P**	**20 06 05.8**	**+0.6**
	baz=164,slow=18						
MLR	**Muntele Rosu**	**8.51**	**340**	⇓P	**P**	**20 06 06.1**	**+0.9**
MLR	**Muntele Rosu**	**8.51**	**340**	⇓P	**P**	**20 06 06.1**	**+0.9**
VRI	**Vrincioaia**	**8.68**	**345**	⇓P	**P**	**20 06 07.2**	**-0.3**
VRI	**Vrincioaia**	**8.68**	**345**	⇓P	**P**	**20 06 07.2**	**-0.3**
EIL	**Elat**	**8.86**	**151**	Pn	**P**	**20 06 08.1**	**-1.8**
	1.7nm,0.3s,baz=358,slow=8.4,SNR=18						
EIL				Sn	**Sn**	**20 07 46.9**	**-4.0**
	0.9nm,0.3s,baz=84,slow=33,SNR=4.6						
EIL	**Elat**	**8.86**	**151**	*e*P	**P**	**20 06 08.1**	**-1.8**
EIL				Sn	**Sn**	**20 07 46.9**	**-4.0**
SWA2		**9.10**	**206**	P	**P**	**20 06 11.6**	**-1.8**
HKAT	**Jabal Katrina**	**9.59**	**158**	P	**P**	**20 06 20.2**	**+0.2**
SHRM		**10.22**	**159**	P	**P**	**20 06 28.7**	**0.0**
HFRF	**Wahat Farafira**	**10.46**	**188**	⇓P	**P**	**20 06 27.3**	**-4.7**
TIP	**Timpagrande**	**10.54**	**283**	P	**P**	**20 06 33.1**	**+0.1**
TIP	**Timpagrande**	**10.54**	**283**	P	**P**	**20 06 33.1**	**0.0**
GERES	**GERESS Array B**	**16.37**	**319**	Pn	**P**	**20 07 53.1**	**+2.9**
	0.1nm,0.3s,baz=157,slow=10,SNR=5.3						
NOA	**NORSAR Array B**	**26.33**	**339**	LR	LR	20 19 46.3	
	comp=Z,73nm,19.7s,MS3.2,baz=70,slow=36						
MKAR	**Makanchi Array**	**39.20**	**59**	P	**P**	**20 11 27.4**	**-1.3**
	0.9nm,0.7s,mb3.6,baz=281,slow=6.2,SNR=6.3						
ZAL	**Zalesovo**	**40.51**	**48**	P	**P**	**20 11 38.0**	**-1.4**
	0.7nm,0.3s,mb3.7,baz=150,slow=11,SNR=2.7						
YKA	**Yellowknife Ar**	**76.33**	**344**	P	**P**	**20 15 47.9**	**-1.3**
	0.5nm,1.0s,mb3.4,baz=28,slow=5.3,SNR=4.7						

*MOS **10** 20:07:31.9±0.9, 1.65S×99.85E, h33km, mb5.1/26, Error ellipse: s-maj=14.9km s-min=6.6km az=117.4*
*IDC **10** 20:07:32.9±0.4, 1.71S×99.79E, h28km±2km, mb4.5/30, mb1 4.6/30, mb1mx4.6/30, mbtmp4.7/30, Error ellipse: s-maj=14.9km s-min=9.7km az=54.0*
*HRVD **10** 20:07:33.0±1.3, 1.82S×99.21E, h32km±1km, MW4.9/27, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s27,c37; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.50±.43; Mθθ-2.48±.27; Mφφ-1.02±.29; Mrθ-0.10±.27; Mθφ0.36±.20; Mφr-1.15±.32; Best double couple: Mo3.176×10^16 NP1:φs271°, δ45°, λ71°. NP2:φs117°, δ48°, λ108°. Principal axes: T 3.781, Plg76°, Azm97°; N -1.209, Plg14°, Azm285°; P -2.572, Plg2°, Azm195°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 20:07:33.0±0.2, 1.75S×99.79E, h30km, mb4.9/29 Error ellipse: s-maj=7.1km s-min=4.9km az=62.0*
*BJI **10** 20:07:33.0, 1.70S×99.80E, h30km, mB5.0, mb4.8, Ms4.7, Msz4.5*
ISC 10 20:07:31.4±0.3,**1.74S**±0.04×**99.78E**±0.05,**h29**km,
h29km±.8km:**pP-P**,**n169**,σ1**904**/151,**mb4.8**/75,**MS4.5**/4,
6C-8D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.14**	**44**	P	**Pn**	**20 08 50.7**	**+2.2**
IPM	**Ipoh**	**6.39**	**11**	P	**Pn**	**20 09 05.4**	**-0.7**
KULM	**Kulim**	**7.03**	**7**	*e*P	**Pn**	**20 09 15.1**	**-0.1**
KKM	**Kota Kinabalu**	**18.14**	**65**	*e*P	**P**	**20 11 45.0**	**+1.9**
CM31	**Chiang Mai Arr**	**20.08**	**358**	*e*P	**P**	**20 12 03.8**	**-1.8**
	16nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.08**	**358**	P	**P**	**20 12 03.9**	**-1.7**
	2.9nm,0.6s,baz=188,slow=10,SNR=25						
CMAR				PcP	PcP	20 16 20.6	+0.6
	1.5nm,0.7s,baz=214,slow=2.2,SNR=5.7						
CMAR				pPcP		20 16 29.9	
	1.9nm,0.9s,baz=223,slow=2.7,SNR=5.4						
NANT	**Nan**	**20.43**	**2**	P	**P**	**20 12 09.0**	**-0.2**
	75nm,0.6s						
CHG	**Chiang Mai**	**20.44**	**358**	⇓P	**P**	**20 12 21.1**	**+12**
	14nm,1.0s						
KMI	**Kunming**	**26.85**	**6**	P	**P**	**20 13 16.9**	**+5.3**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.0						
MBWA	**Marble Bar**	**27.40**	**136**	*e*P	**P**	**20 13 16.3**	**-0.3**
	comp=Z,3.3nm,0.6s,mb4.0						
SHL	**Shillong**	**28.20**	**345**	*e*P	**P**	**20 13 24.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**30.14**	**124**	P	**P**	**20 13 39.4**	**-1.8**
	comp=Z,9.4nm,0.6s,mb4.7,baz=316,slow=3.7,SNR=25						
FITZ				pP	pP	20 13 48.9	-1.0
	comp=Z,44nm,1.2s,baz=335,slow=4.9,SNR=9.0						
JIRN	**Jiri**	**32.02**	**337**	*e*P	**P**	**20 13 58.1**	**+0.4**
	comp=Z,71nm,0.7s,mb5.6						
PKI	**Pulchoki**	**32.26**	**336**	*e*P	**P**	**20 14 00.3**	**+0.5**
LSA	**Lhasa**	**32.33**	**346**	*e*P	**P**	**20 14 01.8**	**+1.4**
LSA	**Lhasa**	**32.33**	**346**	*e*P	**P**	**20 13 59.5**	**-0.9**
LSA				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.0						
LSA	**Lhasa**	**32.33**	**346**	*e*P	**P**	**20 13 59.5**	**-0.9**
	comp=Z,22nm,0.9s,mb5.0						
GUN	**Gumba**	**32.37**	**337**	*e*P	**P**	**20 14 01.1**	**+0.4**
	comp=Z,97nm,0.7s,mb5.8						
DMN	**Daman**	**32.41**	**335**	*e*P	**P**	**20 14 00.9**	**-0.3**
	comp=Z,16nm,0.8s,mb4.9						
KKN	**Kakani**	**32.50**	**336**	*e*P	**P**	**20 14 01.8**	**-0.1**
	comp=Z,26nm,0.7s,mb5.3						
KKN	**Kakani**	**32.50**	**336**	*e*P	**P**	**20 14 01.8**	**-0.1**
KKN				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
GKN	**Gorkha**	**32.96**	**335**	*e*P	**P**	**20 14 05.8**	**-0.1**
	comp=Z,15nm,0.5s,mb5.2						
ENH	**Enshi**	**33.15**	**15**	*e*P	**P**	**20 14 05.5**	**-2.0**
	comp=Z,9.8nm,0.6s,mb4.9						
KOLN	**Koldanda**	**33.21**	**333**	*e*P	**P**	**20 14 08.2**	**+0.1

HHC			AP	pP	20 15 44.2	-0.5
HHC			XP	sP	20 15 48.9	+0.6
HHC			PP	PP	20 17 19.8	+0.4
HHC			SCP		20 21 10.6	
HHC			PCS		20 21 14.6	
HHC			S	**S**	**20 22 06.9**	**+3.3**
HHC			XS		20 22 23.6	
HHC			SCS	ScS	20 25 31.5	+0.9
HHC			AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.4					
HHC			AMB	AMB		
	comp=Z,424nm,14.6s					
HHC			LR	LR		
	comp=N,273nm,13.3s,MS4.5					
HHC			LR	LR		
	comp=E,319nm,15.7s,MS4.5					
HHC			LR	LR		
	comp=Z,395nm,14.3s,MS4.5					
BJT	**Baijiatuau**	**44.18**	**18**	P	**P**	**20 15 40.8**	**+1.2**
BJT				pmax	pmax		
	comp=Z,36nm,1.3s						
BJT	**Baijiatuau**	**44.18**	**18**	P	**P**	**20 15 40.8**	**+1.2**
	comp=Z,36nm,1.3s,mb5.0						
BJI	**Beijing**	**44.20**	**18**	*e*P	**P**	**20 15 42.5**	**+2.7**
BJI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
BJI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
BJI	**Beijing**	**44.20**	**18**	*e*P	**P**	**20 15 42.5**	**+2.7**
	comp=Z,5.0nm,1.2s,mb4.1						
WMQ	**Urumqi**	**46.63**	**348**	P	**P**	**20 16 00.2**	**+1.2**
WMQ				AP	pP	20 16 10.2	+2.3
WMQ				XP	sP	20 16 13.7	+2.2
WMQ				PCP	PcP	20 17 35.0	+2.0
WMQ				PP	PP	20 17 49.5	+1.1
WMQ				S	**S**	**20 22 45.5**	**+0.1**
WMQ				XS		20 23 02.7	
WMQ				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,81nm,6.0s						
WMQ				LR	LR		
	comp=N,216nm,17.4s,MS4.3						
WMQ				LR	LR		
	comp=E,197nm,20.2s,MS4.3						
WMQ				LR	LR		
	comp=Z,197nm,17.5s,MS4.1						
UCH	**Uchtor**	**49.37**	**335**	P	**P**	**20 16 21.0**	**+0.6**
	SNR=6.9						
STKA	**Stephens Creek**	**49.49**	**132**	*e*P	**P**	**20 16 21.5**	**+0.1**
	comp=Z,5.6nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**49.49**	**132**	P	**P**	**20 16 21.6**	**+0.2**
	comp=Z,4.4nm,0.6s,mb4.7,baz=305,slow=7.2,SNR=16						
TKM2	**Tokmak 2**	**49.51**	**337**	P	**P**	**20 16 21.7**	**+0.3**
	SNR=8.5						
KBK	**Karagaybulak**	**49.54**	**336**	P	**P**	**20 16 22.9**	**+1.2**
	SNR=6.7						
AML	**Almayashu**	**49.63**	**335**	P	**P**	**20 16 23.1**	**+0.6**
	SNR=11						
SONM	**Songino Array**	**49.70**	**6**	P	**P**	**20 16 23.1**	**+0.3**
	comp=Z,5.0nm,0.8s,mb4.6,baz=190,slow=9.8,SNR=19						
SONM				pP	pP	20 16 31.2	-0.6
	comp=Z,10nm,0.9s,baz=190,slow=7.8,SNR=18						
SONM				PcP	PcP	20 17 43.8	-0.2
	comp=Z,2.4nm,0.4s,baz=187,slow=4.1,SNR=7.2						
SONM				pPcP		20 17 52.9	
	comp=Z,4.8nm,0.8s,baz=181,slow=4.1,SNR=5.3						
AAK	**Ala-Archa**	**49.71**	**336**	P	**P**	**20 16 23.3**	**+0.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**49.80**	**6**	*e*P	**P**	**20 16 23.3**	**-0.3**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**49.80**	**6**	*e*P	**P**	**20 16 23.3**	**-0.3**
	comp=Z,8.1nm,0.9s,mb4.8						
EKS2	**Erkin-Say**	**50.03**	**335**	P	**P**	**20 16 26.0**	**+0.5**
	SNR=18						
USP	**Ospenovka**	**50.23**	**336**	P	**P**	**20 16 26.9**	**-0.1**
	SNR=13						
MKAR	**Makanchi Array**	**50.72**	**345**	P	**P**	**20 16 30.4**	**-0.2**
	comp=Z,8.0nm,0.5s,mb4.9,baz=150,slow=7.9,SNR=63						
MKAR				pP	pP	20 16 39.2	-0.4
	comp=Z,12nm,0.6s,baz=152,slow=8.0,SNR=13						
MKAR	**Makanchi Array**	**50.72**	**345**	P	**P**	**20 16 30.4**	**-0.2**
MKAR				pP	pP	20 16 39.2	-0.4
KKAR	**Karatay Array**	**51.82**	**333**	*i* P	**P**	**20 16 37.8**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
ZAK	**Zakamensk**	**52.00**	**3**	*e*P	**P**	**20 16 42.8**	**+2.5**
ZAK				*e*		20 17 51.9	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
MJAR	**Matsushiro Arr**	**52.21**	**39**	pP	pP	20 16 49.6	-1.4
	comp=Z,2.7nm,0.7s,baz=233,slow=7.8,SNR=6.0						
OPO	**Ambohidratompo**	**54.16**	**248**	P	**P**	**20 16 57.2**	**+0.6**
	comp=Z,6.4nm,1.0s,mb4.5,baz=126,slow=3.6,SNR=4.9						
KURK	**Kurchatov**	**55.30**	**344**	*e*P	**P**	**20 17 03.7**	**-0.9**
KURK				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
KURK	**Kurchatov**	**55.30**	**344**	*e*P	**P**	**20 17 03.7**	**-0.9**
	comp=Z,18nm,0.8s,mb5.2						
ZAL	**Zalesovo**	**56.86**	**349**	P	**P**	**20 17 15.3**	**-0.4**
	comp=Z,13nm,0.4s,mb5.3,baz=320,slow=4.1,SNR=62						
ZAL				pP	pP	20 17 23.2	-1.7
	comp=Z,22nm,0.5s,baz=302,slow=7.3,SNR=20						
KLR	**Kul'dur**	**57.78**	**24**	*e*P	**P**	**20 17 17.5**	**-4.8**
BVA0	**Borovoye Array**	**59.86**	**340**	*i* P	**P**	**20 17 34.9**	**-1.8**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**59.86**	**340**	P	**P**	**20 17 35.0**	**-1.7**
	comp=Z,4.7nm,0.5s,mb4.7,baz=146,slow=9.4,SNR=52						
CHKZ	**Chkalovo**	**60.33**	**341**	*e*P	**P**	**20 17 38.5**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.4						
CHKZ	**Chkalovo**	**60.33**	**341**	*e*P	**P**	**20 17 38.5**	**-1.4**
	comp=Z,27nm,0.7s,mb5.4						
BOD	**Bodaibo**	**60.45**	**9**	*e*P	**P**	**20 17 40.2**	**-0.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
YSS	**Yuzh-Sakhalins**	**61.38**	**32**	*e*P	**P**	**20 17 46.0**	**-1.1**
YSS				*e*	pP	20 17 55.0	-1.3
KMBO	**Kilima Mbogo**	**62.51**	**270**	P	**P**	**20 17 55.3**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.7,baz=59,slow=9.6,SNR=15						
GNI	**Garni**	**65.19**	**316**	*i* P	**P**	**20 18 11.8**	**-0.5**
GNI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GNI	**Garni**	**65.19**	**316**	P	**P**	**20 18 11.5**	**-0.8**
	comp=Z,0.9nm,0.3s,mb4.3,baz=4.4,slow=10,SNR=5.8						
GNI	**Garni**	**65.19**	**316**	*e*P	**P**	**20 18 11.7**	**-0.7**
	comp=Z,5.1nm,0.9s,mb4.5						
SVE	**Sverdlovsk**	**66.36**	**338**⇑	*e*P	**P**	**20 18 14.5**	**-5.0**
SVE				*e*	pP	20 18 24.0	-4.7
SVE				*e*		20 18 53.0	
SVE				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.3						
ARU	**Arti**	**66.88**	**337**⇑	*i* P	**P**	**20 18 21.4**	**-1.5**
ARU				*e*		20 18 53.1	
ARU				*e*		20 20 51.4	
ARU				*e*S	S	20 27 12.7	+0.5
ARU				*e*SS	SS	20 31 27.7	-4.6
ARU				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ARU	**Arti**	**66.88**	**337**	*e*P	**P**	**20 18 20.5**	**-2.4**
	comp=Z,7.1nm,0.8s,mb4.8						
ARU				*e*	pP	20 18 29.7	-2.4
YAK	**Yakutsk**	**67.54**	**15**	*e*P	**P**	**20 18 25.3**	**-1.7**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
YAK	**Yakutsk**	**67.54**	**15**	*e*P	**P**	**20 18 25.3**	**-1.7**
	comp=Z,18nm,0.9s,mb5.1						
KIV	**Kislovodsk**	**68.20**	**319**	*i* P	**P**	**20 18 30.6**	**-0.8**
KIV				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**68.20**	**319**	*e*P	**P**	**20 18 29.7**	**-1.7**
	comp=Z,16nm,1.0s,mb5.0						
ASF	**Jabal al Asfar**	**68.26**	**306**	P	**P**	**20 18 31.5**	**-0.5**
	comp=Z,6.7nm,1.0s,mb4.6,baz=73,slow=0.7,SNR=7.8						
GOF	**Gofitskoye**	**68.45**	**320**⇑	*i* P	**P**	**20 18 31.2**	**-1.8**
GOF				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.9						
MALT	**Malatya**	**69.00**	**312**	*e*P	**P**	**20 18 36.2**	**-0.3**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
MALT	**Malatya**	**69.00**	**312**	*e*P	**P**	**20 18 36.2**	**-0.3**
	comp=Z,9.1nm,1.1s,mb4.6						
SOC	**Sochi**	**70.01**	**318**	*e*P	**P**	**20 18 36.1**	**-6.4**
SOC				*e*		20 18 54.3	
SOC				*e*PPP	PPP	20 22 52.1	-7.2
SOC				*e*S	S	20 27 39.1	-11
SOC				*e*SSS	SSS	20 35 25.5	-0.2
SOC				pmax	pmax		
	comp=N,6.0nm,1.2s						
SOC				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
SOC				pmax	pmax		
	comp=E,3.0nm,0.7s						
MAW	**Mawson**	**70.48**	**194**	P	**P**	**20 18 45.7**	**+0.7**
	comp=E,9.2nm,0.9s,mb4.7,baz=16,slow=6.3,SNR=9.4						
MATP	**Matopo**	**71.86**	**249**	P	**P**	**20 18 54.0**	**-0.1**
	comp=E,7.9nm,0.5s,mb4.9,baz=82,slow=5.1,SNR=25						
MATP	**Matopo**	**71.86**	**249**	P	**P**	**20 18 54.0**	**-0.1**
MA2	**Magadan**	**72.88**	**24**	*e*P	**P**	**20 18 53.3**	**-6.1**
MA2				*e*		20 19 09.4	
MA2				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
BRTR	**Keskin Array B**	**72.98**	**312**	P	**P**	**20 18 58.8**	**-1.7**
	comp=Z,3.0nm,0.7s,mb4.4,baz=128,slow=6.8,SNR=22						
PET	**Petropavlovsk**	**73.25**	**33**	*e*P	**P**	**20 19 00.0**	**-1.7**
PET				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
PET				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
SIM	**Simferopol'**	**74.26**	**318**	*e*P	**P**	**20 19 07.0**	**-0.7**
SIM				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
LBTB	**Lobatse**	**74.94**	**245**	P	**P**	**20 19 11.5**	**-0.6**
	comp=Z,4.3nm,0.9s,mb4.4,baz=286,slow=15,SNR=4.4						
RPZ	**Rata Peaks**	**75.32**	**135**	P	**P**	**20 19 13.3**	**-0.6**
	comp=Z,8.9nm,0.6s,mb4.9,baz=7.3,slow=3.6,SNR=4.2						
SEY	**Seymchan**	**75.47**	**22**	*e*P	**P**	**20 19 16.7**	**+2.4**
SEY				*e*	pP	20 19 26.1	+2.5
SEY				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.1						
BOSA	**Boshof**	**75.59**	**241**	P	**P**	**20 19 15.5**	**-0.2**
	comp=Z,7.4nm,0.9s,mb4.6,baz=186,slow=20,SNR=7.4						
BOSA	**Boshof**	**75.59**	**241**	P	**P**	**20 19 15.5**	**-0.3**
TIXI	**Tiksi**	**75.63**	**9**	*i* P	**P**	**20 19 14.3**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
OBN	**Obninsk**	**76.46**	**328**	*c i*P	**P**	**20 19 19.1**	**-1.0**
OBN				*e*		20 22 10.1	
OBN				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
TIRR	**Tirgusor**	**78.01**	**316** ⇓	P	**P**	**20 19 28.5**	**-0.4**
SYO	**Syowa Base**	**78.05**	**199** ⇑	P	**P**	**20 19 29.5**	**+0.9**
SYO	**Syowa Base**	**78.05**	**199** ⇑	PcP	PcP	20 19 38.5	-0.1
SYO	**Syowa Base**	**78.05**	**199** ⇓	sP	sP	20 19 42.5	+1.4
CFR	**Carcaliu**	**78.38**	**317**	P	**P**	**20 19 30.6**	**-0.3**
HARR	**Harsova**	**78.41**	**316**	P	**P**	**20 19 31.1**	**0.0**
AKASG	**Malin Array Be**	**79.14**	**322**	P	**P**	**20 19 33.8**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=84,slow=4.6,SNR=11						
AKASG				pP	pP	20 19 43.2	-1.1
	comp=Z,1.1nm,0.6s,baz=83,slow=4.7,SNR=3.7						
AKASG	**Malin Array Be**	**79.14**	**322**	P	**P**	**20 19 33.8**	**-1.2**
AKASG				pP	pP	20 19 43.2	-1.1
VRI	**Vrincioaia**	**79.51**	**317** ⇓	P	**P**	**20 19 37.6**	**+0.5**
SUR	**Sutherland**	**79.75**	**238**	P	**P**	**20 19 39.4**	**+0.8**
	comp=Z,10nm,0.8s,mb4.8,baz=133,slow=4.8,SNR=5.7						
SUR	**Sutherland**	**79.75**	**238**	P	**P**	**20 19 39.4**	**+0.8**
MLR	**Muntele Rosu**	**79.96**	**317**	P	**P**	**20 19 39.9**	**+0.4**
	comp=Z,11nm,0.8s,mb4.8,baz=118,slow=1.9,SNR=28						
MLR	**Muntele Rosu**	**79.96**	**317** ⇓	P	**P**	**20 19 40.1**	**+0.6**
MLR	**Muntele Rosu**	**79.96**	**317** ⇓	P	**P**	**20 19 40.1**	**+0.6**
BURAR	**Bucovina Array**	**80.92**	**319** ⇓	P	**P**	**20 19 45.7**	**+1.2**
BURAR	**Bucovina Array**	**80.92**	**319** ⇓	P	**P**	**20 19 45.7**	**+1.2**
JOF	**Joensuu**	**81.89**	**335**	*e*p	**P**	**20 19 48.8**	**-0.4**
TSUM	**Tsumeb**	**82.06**	**251**	P	**P**	**20 19 51.6**	**+0.5**
	comp=Z,5.2nm,0.9s,mb4.5,baz=52,slow=4.5,SNR=6.4						
KWP	**Kalwaria**	**82.96**	**320**	*e*P	**P**	**20 19 55.4**	**+0.3**
BILL	**Bilibino**	**82.99**	**20**	*i* P	**P**	**20 19 55.9**	**+1.0**
BILL				pmax	pmax		
	comp=Z,13nm,2.6s,mb4.5						
KOLS	**Kolonicke sedl**	**83.11**	**320**	*e*P	**P**	**20 19 56.7**	**+0.8**
KOLS				*e*pP	pP	20 20 06.5	+1.2
SUW	**Suwalki**	**83.55**	**325**	*e*P	**P**	**20 19 57.6**	**-0.4**
FINES	**FINESS Array B**	**83.78**	**332**	P	**P**	**20 19 59.2**	**+0.3**
	comp=Z,6.1nm,0.6s,mb4.9,baz=106,slow=5.6,SNR=84						
FINES				pP	pP	20 20 08.2	-0.2
	comp=Z,3.8nm,0.6s,baz=99,slow=6.4,SNR=6.5						
KAF	**Kangasniemi**	**83.85**	**333**	*e*p	**P**	**20 19 59.4**	**+0.1**
	comp=Z,6.0nm,0.5s,mb5.0,baz=100,slow=4.6						
KAF	**Kangasniemi**	**83.85**	**333**	*e*P	**P**	**20 19 59.4**	**+0.1**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb5.0						
ARCES	**ARCESS Array B**	**86.15**	**340**	P	**P**	**20 20 11.1**	**+0.4**
	comp=Z,7.0nm,0.8s,mb4.9,baz=85,slow=6.3,SNR=20						
ARE0	**ARCESS Array S**	**86.15**	**340**	*e*P	**P**	**20 20 11.4**	**+0.7**
DPC	**Dobruska-Polom**	**87.14**	**320**	*e*P	**P**	**20 20 16.9**	**+0.9**
DPC				*e*pP	pP	20 20 26.1	+0.7
PRU	**Pruhonice**	**88.25**	**320**	*e*P	**P**	**20 20 22.2**	**+0.9**
PRU				*e*pP	pP	20 20 30.6	-0.1
PVCC	**Panska Ves**	**88.28**	**320**	*e*P	**P**	**20 20 22.8**	**+1.4**
BRG	**Berggiesshubel**	**88.70**	**321**	*e*P	**P**	**20 20 24.3**	**+0.9**
BRG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
BRG	**Berggiesshubel**	**88.70**	**321**	*e*P	**P**	**20 20 24.3**	**+0.9**
	comp=Z,4.5nm,0.9s,mb4.8						
GERES	**GERESS Array B**	**88.71**	**319**	P	**P**	**20 20 23.6**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.5,baz=90,slow=4.0,SNR=17						
GERES				pP	pP	20 20 33.4	+0.4
	comp=Z,1.2nm,0.7s,baz=90,slow=4.0,SNR=5.7						
KHC	**Kasperske Hory**	**88.81**	**319**	*e*P	**P**	**20 20 23.8**	**-0.2**
KHC				*e*pP	pP	20 20 33.7	+0.3
CLL	**Collm**	**89.32**	**321**	*e*P	**P**	**20 20 27.0**	**+0.6**
CLL				*i*		20 20 30.5	
CLL	**Collm**	**89.32**	**321**	P	**P**	**20 20 27.0**	**+0.6**
CLL				*e**PP	pP	20 20 36.0	+0.2
HFS	**Hagfors**	**89.54**	**330**	P	**P**	**20 20 27.3**	**+0.1**
	comp=Z,1.7nm,0.4s,mb4.7,baz=135,slow=4.2,SNR=17						
NKC	**Novy Kostel**	**89.61**	**320**	*e*P	**P**	**20 20 29.3**	**+1.6**
GRA1	**Grafenberg Arr**	**90.38**	**320**	*e*P	**P**	**20 20 32.7**	**+1.4**
	comp=Z,6.0nm,0.9s,mb4.9						
GRA1				*e*pP	pP	20 20 42.0	+1.2
GRF	**Grafenberg Arr**	**90.38**	**320**	*e*P	**P**	**20 20 32.7**	**+1.4**
GRF				*e**PP	pP	20 20 42.0	+1.2
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
GRF	**Grafenberg Arr**	**90.38**	**320**	*e*P	**P**	**20 20 32.7**	**+1.4**
GRF				*e**PP	pP	20 20 42.0	+1.2
GRF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.9						
GRF	**Grafenberg Arr**	**90.38**	**320**	*e*P	**P**	**20 20 32.7**	**+1.4**
	comp=Z,6.0nm,0.9s,mb4.9						
GRF				*e*pP	pP	20 20 42.0	+1.2
NB2	**NORSAR Subarra**	**90.81**	**331**	P	**P**	**20 20 32.7**	**-0.3**
	comp=Z,4.3nm,1.1s,mb4.7,baz=91,slow=4.8						
NB2	**NORSAR Subarra**	**90.81**	**331**	P	**P**	**20 20 32.7**	**-0.3**
NB2				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
NOA	**NORSAR Array B**	**90.81**	**331**	P	**P**	**20 20 32.9**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.4,baz=94,slow=4.8,SNR=4.6						
NOA				pP	pP	20 20 42.4	-0.1
	comp=Z,2.0nm,0.8s,baz=93,slow=4.7,SNR=3.7						
DAVOX	**Davos**	**91.19**	**317**	P	**P**	**20 20 36.0**	**+0.9**
	comp=Z,5.9nm,0.6s,mb5.1,baz=133,slow=4.7,SNR=17						
DAVOX				pP	pP	20 20 45.5	+1.0
	comp=Z,5.5nm,0.6s,baz=137,slow=6.9,SNR=6.2						
LPG	**La Plagne**	**93.36**	**315**	*e*P	**P**	**20 20 53.6**	**+8.5**
	comp=Z,20nm,1.1s,mb5.2						
LPG	**La Plagne**	**93.36**	**315**	*e*P	**P**	**20 20 53.6**	**+8.5**
LPG				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.2						
YKA	**Yellowknife Ar**	**114.18**	**17**	PKP	PKPdf	20 26 07.5	-5.3
	comp=Z,0.5nm,0.8s,baz=325,slow=2.4,SNR=7.3						
YKA				pPKP		20 26 17.6	
	comp=Z,0.8nm,0.9s,baz=326,slow=2.1,SNR=8.2						
SCHQ	**Schefferville**	**125.95**	**350**	PKP	PKPdf	20 26 31.7	-4.1
	comp=Z,2.1nm,0.9s,baz=257,slow=18,SNR=5.8						
SCHQ				pPKP		20 26 41.4	
	comp=Z,2.7nm,0.9s,baz=245,slow=14,SNR=3.1						
SCHQ	**Schefferville**	**125.95**	**350**	PKP	PKPdf	20 26 31.7	-4.1
SCHQ				pPKP		20 26 41.4	
NVAR	**Mina Array Bea**	**129.53**	**39**	PKP	PKPdf	20 26 40.3	-2.9
	comp=Z,0.6nm,0.6s,baz=347,slow=1.5,SNR=4.7						
PDAR	**Pinedale Array**	**131.45**	**29**	PKP	PKPdf	20 26 43.7	-3.0
	comp=Z,0.6nm,0.6s,SNR=4.3						
ANMO	**Albuquerque**	**138.91**	**34**	PKP	PKPdf	20 26 57.1	-3.6
	comp=Z,0.7nm,0.3s,baz=46,slow=0.7,SNR=3.9						
BDFB	**Brasilia**	**143.78**	**240**	PKP	PKPdf	20 27 04.6	-5.2
	comp=Z,2.0nm,0.6s,baz=63,slow=3.9,SNR=3.8						
LTX	**Lajitas**	**144.62**	**37**	*e*PKP	PKPdf	20 27 07.0	-4.0
LTX				*e*		20 27 15.8	
TXAR	**Lajitas Array**	**144.62**	**37**	PKP	PKPdf	20 27 07.2	-3.7
	comp=Z,6.5nm,0.5s,baz=256,slow=0.9,SNR=58						
TXAR				pPKP		20 27 15.7	
	comp=Z,9.5nm,0.6s,baz=264,slow=1.1,SNR=21						
WVT	**Waverly**	**145.06**	**11**	*e*PKP	PKPdf	20 27 06.7	-4.9
WVT				*e*		20 27 16.3	
MIAR	**Mount Ida**	**145.06**	**19**	*e*PKP	PKPdf	20 27 07.3	-4.2
MIAR				*e*		20 27 16.8	
TZTN	**Tazewell**	**145.23**	**5**	*e*PKP	PKPdf	20 27 07.4	-4.4
TZTN				*e*		20 27 16.4	
JCT	**Junction City**	**145.91**	**31**	*e*PKP	PKPdf	20 27 10.5	-2.7
JCT				*e*		20 27 19.6	
CPCT	**Cooper Cave**	**146.22**	**6**	*e*PKP	PKPdf	20 27 10.6	-3.0
CPCT				*e*		20 27 19.2	
SWET	**Sewanee**	**146.27**	**8**	*e*PKPdf	PKPdf	20 27 09.9	-3.7
SWET				*e*		20 27 19.2	
JSC	**Jenkinsville**	**147.61**	**2**	*e*PKPbc	PKPdf	20 27 14.7	-1.1
JSC				*e*		20 27 23.4	
LRAL	**Lakeview Retre**	**148.22**	**11**	*e*PKPbc	PKPdf	20 27 15.8	-1.1
LPAZ	**La Paz**	**158.48**	**213**	PKP	PKPdf	20 27 30.1	-1.7
	comp=Z,0.9nm,0.7s,baz=115,slow=5.2,SNR=5.8						

*IDC **10** 20:08:22.9±0.8, 9.31N×125.89E, mb4.2/8, mb1 4.3/8, mb1mx4.1/22, mbtmp4.2/8, Error ellipse: s-maj=33.0km s-min=19.2km az=101.0*
*BJI **10** 20:08:24.7, 9.30N×125.70E, h15km, mb4.5, Ms4.3, Msz4.2*
*NEIC **10** 20:08:24.8±0.6, 9.29N×125.71E, h15km, mb4.5/5, Error ellipse: s-maj=16.3km s-min=12.4km az=80.0*
NEIC Felt [II PIVS] at Butuan and [I PIVS] at Mambajao.
*MAN **10** 20:08:25.4, 9.30N×125.50E, h3km, mb4.9, ML3.9, MS3.9*
MAN Butuan City Intensity II Mambajao Camiguin Intensity I.

ISC 10 20:08:25.9±1.1, 9.31N±0.03×125.66E±0.04, h28km±9km, n40, σ1§32/45, mb4.2/12, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.34**	**187**	*e*P	**Pb**	**20 08 32.4**	**-1.4**
MSLP	**Maasin**	**1.14**	**316**	*e*P	**Pn**	**20 08 46.1**	**-0.1**
CGP	**Cagayan de Oro**	**1.28**	**228**⇓	*e*P	**Pn**	**20 08 47.8**	**-0.4**
CGP				*e*S	**Sn**	**20 09 04.5**	**-0.1**
BIPH	**Bislig**	**1.32**	**148**⇑	*e*P	**Pn**	**20 08 48.9**	**+0.2**
BIPH				*e*S	**Sn**	**20 09 05.6**	**+0.1**
BUKP	**Musuan**	**1.54**	**203**	*e*P	**Pn**	**20 08 52.8**	**+0.8**
LLP	**Lapu-Lapu**	**1.95**	**301** ⇓	*i* P	**Pn**	**20 08 57.3**	**-0.5**
LLP				*i* S	**Sn**	**20 09 21.9**	**+0.4**
PLP	**Palo**	**1.96**	**340**	*e*P	**Pn**	**20 09 00.2**	**+2.2**
PLP				*e*S	**Sn**	**20 09 28.4**	**+6.6**
DAV	**Davao City (W)**	**2.23**	**182**	*e*P	**Pn**	**20 09 03.8**	**+2.0**
BESP	**Borongan**	**2.29**	**354**	*e*P	**Pn**	**20 09 04.5**	**+1.9**
KCP	**Kidapawan**	**2.36**	**194** ⇓	*i* P	**Pn**	**20 09 06.3**	**+2.7**
KCP				*i* S	**Sn**	**20 09 42.1**	**+10**
MATI	**Mati**	**2.42**	**166**	*e*P	**Pn**	**20 09 06.2**	**+1.6**
PAGZ	**Pagadian**	**2.69**	**237**	*e*P	**Pn**	**20 09 08.5**	**+0.1**
GUIM	**Jordan**	**3.30**	**294**	*e*P	**Pn**	**20 09 16.3**	**-0.7**
CNP	**Catarman**	**3.33**	**343**	*e*P	**Pn**	**20 09 19.2**	**+1.8**
IPIL	**Ipil**	**3.41**	**244**	*e*P	**Pn**	**20 09 19.4**	**+0.7**
RCP	**Roxas**	**3.64**	**308** ⇓	*e*P	**Pn**	**20 09 21.8**	**-0.1**
RCP				*e*S	**Sn**	**20 10 06.3**	**+2.0**
CUYO	**Cuyo Island**	**4.82**	**289**	*e*P	**Pn**	**20 09 37.7**	**-1.0**
SJMP	**San Jose**	**5.45**	**305**	*e*P	**Pn**	**20 09 47.1**	**-0.4**
BUSP	**Coron**	**6.00**	**297**	*e*P	**Pn**	**20 09 54.3**	**-1.0**
ENPP	**El Nido**	**6.42**	**288**	*e*P	**Pn**	**20 09 59.8**	**-1.4**
KSM	**Kuching**	**17.15**	**244**	*e*P	**P**	**20 12 24.4**	**-1.1**
GZH	**Guangzhou**	**18.08**	**321**	P	**P**	**20 12 40.5**	**+3.4**

2.1nm,0.8s,mb3.9,baz=300,slow=9.2,SNR=11
WRAB Tennant Creek 38.45 120 *eP* **P 20 33 11.8 +0.1**
ASAR Alice Springs 39.70 126 P **P 20 33 22.1 0.0**
0.6nm,0.6s,mb3.5,baz=303,slow=7.8,SNR=12
STKA Stephens Creek 49.59 132 P **P 20 34 42.2 +0.8**
1.3nm,0.6s,mb4.1,baz=293,slow=8.1,SNR=4.5
STKA Stephens Creek 49.59 132 *eP* **P 20 34 42.7 +1.3**
SONM Songino Array 49.74 6 P **P 20 34 42.2 -0.2**
0.6nm,0.8s,mb3.7,baz=182,slow=8.9,SNR=7.3
MKAR Makanchi Array 50.70 345 P **P 20 34 50.6 +1.0**
1.0nm,0.6s,mb3.9,baz=153,slow=8.1,SNR=6.3
KURK Kurchatov 55.27 344 *eP* **P 20 35 24.0 +0.5**
1.7nm,0.9s,mb4.1
ZAL Zalesovo 56.86 350 P **P 20 35 35.2 +0.3**
1.9nm,0.5s,mb4.4,baz=320,slow=6.1,SNR=8.9
CHKZ Chkalovo 60.29 341 *eP* **P 20 35 57.9 -0.9**
1.6nm,0.9s,mb4.0
TXAR Lajitas Array 144.74 37 PKP PKPdf 20 45 27.9 +2.6
0.9nm,0.6s,baz=319,slow=1.5,SNR=7.3
MIAR Mount Ida 145.14 19 *e*PKP PKPdf 20 45 28.0 +2.2
TZTN Tazewell 145.26 4 *e*PKP PKPdf 20 45 27.6 +1.7
JCT Junction City 146.01 31 *e*PKP PKPdf 20 45 31.1 +3.7
JCT *e* 20 45 37.1

IDC ***10*** *20:26:35.6±0.9, 1.64S×99.71E, h28km±4km, mb4.0/9, mb1 4.0/10, mb1mx3.8/18, mbtmp4.1/10, ML4.2/1, Error ellipse: s-maj=33.5km s-min=13.4km az=57.0*
BJI ***10*** *20:26:35.1, 1.70S×99.70E, h28km, mb4.8*
NEIC ***10*** *20:26:35.2±0.5, 1.66S×99.74E, mb4.5/4, Error ellipse: s-maj=19.0km s-min=8.6km az=66.0*
ISC 10 20:26:33.5±0.7, 1.59S±0.09×99.8E±0.1, h29km, h29km±1.3km:pP-P, n25, σ1º00/21, mb4.3/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.89**	**7**	*eP*	**Pn**	**20 28 17.2**	**+1.9**
CM31	**Chiang Mai Arr**	**19.94**	**358**	*eP*	**P**	**20 31 05.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**19.94**	**358**	P	**P**	**20 31 05.3**	**-1.0**
0.3nm,0.3s,baz=188,slow=10,SNR=7.7							
LSA	**Lhasa**	**32.19**	**346**	*eP*	**P**	**20 33 01.1**	**-0.3**
ENH	**Enshi**	**33.01**	**16**	*eP*	**P**	**20 33 06.9**	**-1.7**
3.9nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**38.39**	**121**	P	**P**	**20 33 54.6**	**+0.3**
1.1nm,0.4s,mb3.9,baz=304,slow=9.0,SNR=13							
WRA				pP	pP	20 34 03.9	+0.8
2.0nm,0.5s,baz=299,slow=9.4,SNR=8.1							
WRAB	**Tennant Creek**	**38.40**	**121**	*eP*	**P**	**20 33 53.4**	**-0.9**
3.7nm,0.5s,mb4.4							
ASAR	**Alice Springs**	**39.67**	**126**	P	**P**	**20 34 05.3**	**+0.3**
0.9nm,0.6s,mb3.7,baz=303,slow=8.0,SNR=13							
ASAR				pP	pP	20 34 14.3	+0.5
1.9nm,0.6s,baz=300,slow=7.7,SNR=6.6							
WMQ	**Urumqi**	**46.49**	**348**	P	**P**	**20 35 01.3**	**+1.2**
SONM	**Songino Array**	**49.56**	**6**	P	**P**	**20 35 25.0**	**+1.0**
1.4nm,0.6s,mb4.2,baz=189,slow=9.5,SNR=9.3							
SONM				pP	pP	20 35 32.7	-0.3
2.3nm,0.6s,baz=189,slow=8.9,SNR=8.7							
STKA	**Stephens Creek**	**49.58**	**132**	P	**P**	**20 35 25.1**	**+0.8**
1.1nm,0.6s,mb4.1,baz=284,slow=5.3,SNR=3.8							
STKA	**Stephens Creek**	**49.58**	**132**	*eP*	**P**	**20 35 24.2**	**-0.1**
STKA				*e*	pP	20 35 34.4	+1.1
MKAR	**Makanchi Array**	**50.58**	**344**	P	**P**	**20 35 32.4**	**+0.7**
4.4nm,0.6s,mb4.6,baz=146,slow=7.9,SNR=16							
KURK	**Kurchatov**	**55.16**	**344**	*eP*	**P**	**20 36 04.4**	**-1.4**
4.0nm,0.8s,mb4.5							
ZAL	**Zalesovo**	**56.72**	**349**	P	**P**	**20 36 17.1**	**+0.1**
3.9nm,0.4s,mb4.8,baz=304,slow=6.0,SNR=10							
ZAL				pP	pP	20 36 25.6	-0.4
5.7nm,0.4s,baz=327,slow=4.0,SNR=8.1							
CHKZ	**Chkalovo**	**60.19**	**340**	*eP*	**P**	**20 36 39.6**	**-1.5**
5.5nm,0.9s,mb4.6							
MATP	**Matopo**	**71.91**	**249**	P	**P**	**20 37 56.6**	**0.0**
2.4nm,0.8s,mb4.2,baz=67,slow=4.0,SNR=5.3							
FINES	**FINESS Array B**	**83.65**	**332**	P	**P**	**20 39 00.8**	**+0.3**
0.5nm,0.6s,mb3.8,baz=92,slow=6.0,SNR=11							
FINES	**FINESS Array B**	**83.65**	**332**	P	**P**	**20 39 00.8**	**+0.3**
ARCES	**ARCESS Array B**	**86.02**	**340**	P	**P**	**20 39 13.6**	**+1.4**
3.0nm,1.0s,mb4.5,slow=7.3,SNR=7.0							
ARCES	**ARCESS Array B**	**86.02**	**340**	P	**P**	**20 39 13.6**	**+1.4**
TXAR	**Lajitas Array**	**144.51**	**37**	PKP	PKPdf	20 46 09.6	-3.3
0.7nm,0.5s,baz=209,slow=0.9,SNR=7.1							
TXAR				pPKP		20 46 19.1	
2.0nm,0.6s,baz=298,slow=1.3,SNR=8.0							
MIAR	**Mount Ida**	**144.93**	**19**	*e*PKP	PKPdf	20 46 09.7	-3.8
TZTN	**Tazewell**	**145.09**	**5**	*e*PKP	PKPdf	20 46 09.6	-4.1
JCT	**Junction City**	**145.79**	**31**	*e*PKP	PKPdf	20 46 12.9	-2.3
JCT				*e*		20 46 22.3	

BJI ***10*** *20:36:09.4, 1.65S×99.57E, h32km, mB5.1, mb4.9, Ms4.5, Msz4.2*
MOS ***10*** *20:36:10.3±0.9, 1.43S×99.65E, h33km, mb5.2/30, Error ellipse: s-maj=13.9km s-min=6.3km az=116.6*
IDC ***10*** *20:36:11.2±0.5, 1.56S×99.64E, h29km±3km, mb4.5/17, mb1 4.6/18, mb1mx4.5/20, mbtmp4.7/18, ML4.5/1, MS4.1/10, Ms1 4.2/10, ms1mx3.9/29, Error ellipse: s-maj=16.3km s-min=8.0km az=48.0*
NEIC ***10*** *20:36:11.1±0.2, 1.54S×99.56E, mb5.1/32, Error ellipse: s-maj=6.3km s-min=4.4km az=225.0*
HRVD ***10*** *20:36:11.1±0.7, 1.47S×99.44E, h24km±1km, MW4.9/44, Centroid moment Tensor Solution. LP body waves: s20,c24;Mantle waves: s44,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.79±.26; $M_{\theta\theta}$-1.01±.15; $M_{\phi\phi}$-1.77±.18; $M_{r\theta}$-0.21±.41; $M_{\theta\phi}$0.71±.09; $M_{\phi r}$0.22±.36; Best double couple: $M_0$2.509×10^{16} NP1:ϕ_s150°,δ42°,λ92°. NP2:ϕ_s328°,δ48°,λ88°. Principal axes: T 2.809, Plg86°, Azm219°; N -.59, Plg1°, Azm329°; P -2.209, Plg3°, Azm59°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 10 20:36:09.5±0.3, 1.53S±0.04×99.59E±0.05, h29km, h29km±1.4km:pP-P, n180, σ0º97/165, mb4.9/64, MS4.2/15, 6C-11D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.86**	**9**	*eP*	**Pn**	**20 37 50.9**	**0.0**
KSM	**Kuching**	**11.12**	**74**	P	**P**	**20 38 50.7**	**+0.8**
KSM				*e*S	S	20 41 18.3	+24
KKM	**Kota Kinabalu**	**18.22**	**65**	*eP*	**P**	**20 40 23.8**	**+1.5**
CM31	**Chiang Mai Arr**	**19.87**	**358**	*eP*	**P**	**20 40 39.9**	**-1.7**
16nm,0.8s							
CMAR	**Chiang Mai Arr**	**19.87**	**358**	P	**P**	**20 40 38.9**	**-2.7**
0.6nm,0.3s,baz=186,slow=10,SNR=36							
CMAR				S	**S**	**20 44 33.2**	**+15**
0.1nm,0.3s,baz=205,slow=24,SNR=4.1							
CMAR				LR	LR	20 48 57.0	
comp=Z,531nm,19.0s,baz=195,slow=38							
CHG	**Chiang Mai**	**20.23**	**358**	⇑P	**P**	**20 40 56.7**	**+11**
19nm,1.0s							
NANT	**Nan**	**20.23**	**3**	P	**P**	**20 40 45.0**	**-0.3**
88nm,0.6s							
PALK	**Pallekele**	**20.78**	**295**	*eP*	**P**	**20 40 49.3**	**-1.7**
34nm,1.1s							
FITZ	**Fitzroy Crossi**	**30.41**	**124**	P	**P**	**20 42 21.4**	**-0.5**
23nm,0.9s,mb4.9,baz=309,slow=2.7,SNR=17							
JIRN	**Jiri**	**31.76**	**337**	*eP*	**P**	**20 42 34.1**	**+0.5**
81nm,0.8s,mb5.6							
PKI	**Pulchoki**	**31.99**	**336**	*eP*	**P**	**20 42 35.5**	**-0.2**
18nm,0.9s,mb4.9							
PKI	**Pulchoki**	**31.99**	**336**	*eP*	**P**	**20 42 35.5**	**-0.2**
PKI				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.6							
LSA	**Lhasa**	**32.09**	**346**	P	**P**	**20 42 37.4**	**+0.9**
LSA				AMB	AMB		
comp=Z,30nm,1.0s,mb5.1							
LSA	**Lhasa**	**32.09**	**346**	*eP*	**P**	**20 42 36.9**	**+0.4**
LSA				pmax	pmax		
comp=Z,21nm,0.8s,mb5.0							
LSA	**Lhasa**	**32.09**	**346**	*eP*	**P**	**20 42 36.9**	**+0.4**
comp=Z,21nm,0.8s,mb5.0							
GUN	**Gumba**	**32.10**	**337**	*eP*	**P**	**20 42 37.2**	**+0.6**
comp=Z,61nm,0.6s,mb5.6							
DMN	**Daman**	**32.15**	**335**	*eP*	**P**	**20 42 37.0**	**0.0**
comp=Z,40nm,1.1s,mb5.2							
KKN	**Kakani**	**32.24**	**336**	*eP*	**P**	**20 42 37.7**	**-0.1**
comp=Z,52nm,0.9s,mb5.4							
KKN	**Kakani**	**32.24**	**336**	*eP*	**P**	**20 42 37.7**	**-0.1**
KKN				pmax	pmax		
comp=Z,26nm,0.9s,mb5.1							
GKN	**Gorkha**	**32.69**	**335**	*eP*	**P**	**20 42 41.9**	**+0.1**
comp=Z,67nm,1.1s,mb5.5							
KOLN	**Koldanda**	**32.94**	**333**	*eP*	**P**	**20 42 44.1**	**+0.2**
comp=Z,52nm,0.8s,mb5.5							
ENH	**Enshi**	**33.00**	**16**	P	**P**	**20 42 42.7**	**-1.8**
comp=Z,6.8nm,0.6s,mb4.8							
LGTI	**Lohaghat**	**35.94**	**331**	⇓*iP*	**P**	**20 43 10.0**	**+0.4**
XAN	**Xi'an**	**36.45**	**13**	P	**P**	**20 43 12.6**	**-1.3**
XAN				AMB	AMB		
comp=Z,9.0nm,0.8s,mb4.8							
LZH	**Lanzhou**	**37.63**	**6**	*eP*	**P**	**20 43 26.0**	**+2.2**
LZH				AMB	AMB		
comp=Z,30nm,1.5s,mb4.8							
LZH	**Lanzhou**	**37.63**	**6**	*eP*	**P**	**20 43 26.0**	**+2.2**
LZH				*SP	sP	20 43 35.0	-1.1
LZH				pmax	pmax		
comp=Z,30nm,1.5s,mb4.8							
LZH	**Lanzhou**	**37.63**	**6**	*eP*	**P**	**20 43 26.0**	**+2.2**
comp=Z,30nm,1.5s,mb4.8							
LZH				pP	pP	20 43 32.0	-0.5
LZH				sP	sP	20 43 35.0	-1.1
NJ2	**Nanjing**	**38.06**	**27**	*eP*	**P**	**20 43 28.5**	**+1.0**
NJ2				AP	pP	20 43 38.4	+2.3
NJ2				PP	PP	20 44 58.9	+1.0
NJ2				S	**S**	**20 49 19.0**	**+1.2**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
NJ2				AMB	AMB		
comp=Z,910nm,3.7s							
NJ2				LR	LR		
comp=N,740nm,16.5s,MS4.7							
NJ2				LR	LR		
comp=E,710nm,15.6s,MS4.7							
NJ2				LR	LR		
comp=Z,300nm,19.4s,MS4.1							
SSE	**Sheshan**	**38.40**	**31**	*eP*	**P**	**20 43 28.5**	**-1.8**
SSE				S	**S**	**20 49 21.0**	**-1.9**
SSE				AMB	AMB		
comp=Z,28nm,0.7s,mb5.1							
SSE				AMB	AMB		
comp=Z,136nm,6.8s							
SSE				LR	LR		
comp=N,198nm,20.1s,MS4.1							
SSE				LR	LR		
comp=E,240nm,20.2s,MS4.1							
SSE				LR	LR		
comp=Z,186nm,16.8s,MS4.0							
SSE	**Sheshan**	**38.40**	**31**	*eP*	**P**	**20 43 28.5**	**-1.8**
comp=Z,28nm,0.7s,mb5.1							
SSE				pP	pP	20 43 38.1	-0.9
SSE				S	**S**	**20 49 21.0**	**-1.9**
SSE				sS		20 49 36.8	
SSE				SS	SS	20 52 11.6	+8.4
SSE				LR	LR		
comp=Z,190nm,16.8s,MS4.0							
WRA	**Warramunga Arr**	**38.58**	**121**	P	**P**	**20 43 31.8**	**-0.1**
WRA				*PP	pP	20 43 40.1	-0.5
WRA						20 45 44.7	
WRA				S	**S**	**20 49 23.4**	**-2.3**
WRA	**Warramunga Arr**	**38.58**	**121**	P	**P**	**20 43 31.8**	**-0.1**
comp=Z,11nm,0.8s,mb4.7,baz=301,slow=9.2,SNR=70							
WRA				pP	pP	20 43 40.1	-0.5
comp=Z,6.5nm,0.5s,baz=308,slow=8.9,SNR=14							
WRA				PcP	PcP	20 45 44.7	+0.1
comp=Z,1.3nm,0.6s,baz=313,slow=2.6,SNR=7.1							
WRA				pPcP		20 45 53.6	
comp=Z,2.6nm,0.5s,baz=314,slow=2.5,SNR=10.0							
WRA				S	**S**	**20 49 23.4**	**-2.3**
comp=Z,1.8nm,1.1s,baz=298,slow=16,SNR=3.8							
WRAB Tennant Creek 38.58 121 *iP* **P 20 43 31.5 -0.5**							
WRAB Tennant Creek 38.58 121 *eP* **P 20 43 31.3 -0.7**							
comp=Z,16nm,0.6s,mb4.9							
WRAB				*e*	pP	20 43 40.0	-0.7
WB2 Warramunga Arr 38.59 121 ⇓*iP* **P 20 43 31.7 -0.3**							
ASPA Alice Springs 39.85 126 *eP* **P 20 43 43.0 +0.5**							
ASPA				*e*S	**S**	**20 49 45.7**	**+0.8**
ASAR Alice Springs 39.85 126 P **P 20 43 42.8 +0.3**							
comp=Z,5.7nm,0.6s,mb4.5,baz=299,slow=7.9,SNR=47							
ASAR				pP	pP	20 43 51.2	+0.1
comp=Z,9.0nm,0.7s,baz=304,slow=8.7,SNR=18							
ASAR				PcP	PcP	20 45 49.0	+0.4
comp=Z,2.5nm,0.7s,baz=313,slow=2.6,SNR=6.4							
ASAR				pPcP		20 45 57.5	
comp=Z,5.7nm,0.8s,baz=304,slow=3.0,SNR=11							
ASAR				S	**S**	**20 49 43.6**	**-1.3**
comp=Z,2.7nm,1.1s,baz=299,slow=13,SNR=6.8							
ASAR				LR	LR	20 59 44.8	
comp=Z,272nm,21.8s,MS4.0,baz=270,slow=36							
ASAR Alice Springs 39.85 126 P **P 20 43 42.8 +0.3**							
ASAR				pP	pP	20 43 51.2	+0.1
ASAR				PcP	PcP	20 45 49.0	+0.4
ASAR				pPcP		20 45 57.5	
ASAR				S	**S**	**20 49 43.6**	**-1.3**
ASAR				LR	LR	20 59 44.8	
GTA Gaotai 40.74 0 P **P 20 43 50.0 +0.4**							
GTA				AP	pP	20 44 02.6	+4.3
GTA				PP	PP	20 45 28.1	+1.4
GTA				PPP	PPP	20 45 56.6	+1.1
GTA				S	**S**	**20 49 54.1**	**-3.9**
GTA				AMB	AMB		
comp=Z,141nm,6.5s							
GTA				LR	LR		
comp=N,235nm,15.6s,MS4.3							
GTA				LR	LR		
comp=E,242nm,16.3s,MS4.3							
GTA				LR	LR		
comp=Z,275nm,15.2s,MS4.2							
BJT Baijiatuau 44.05 18 *eP* **P 20 44 16.8 +0.2**							
BJT				pmax	pmax		
comp=Z,26nm,1.1s							
BJT Baijiatuau 44.05 18 *eP* **P 20 44 16.8 +0.1**							
comp=Z,26nm,1.1s,mb4.9							
BJI Beijing 44.07 18 *eP* **P 20 44 16.9 +0.1**							
BJI				AMB	AMB		
comp=Z,7.0nm,1.2s,mb4.3							
BJI Beijing 44.07 18 *eP* **P 20 44 16.9 +0.1**							
comp=Z,7.0nm,1.2s,mb4.3							
KSH Kashi 46.24 335 *eP* **P 20 44 34.1 0.0**							
KSH				AMB	AMB		
comp=Z,210nm,4.4s							
WMQ Urumqi 46.39 348 ⇑P **P 20 44 36.5 +1.2**							
WMQ				AP	pP	20 44 46.5	+2.5
WMQ				PCP	PcP	20 46 11.3	+0.9
WMQ				PP	PP	20 46 25.8	+1.6
WMQ				S	**S**	**20 51 21.8**	**+1.6**
WMQ				AMB	AMB		
comp=Z,28nm,1.1s,mb5.1							
WMQ				AMB	AMB		
comp=Z,281nm,5.8s							
WMQ				LR	LR		
comp=N,158nm,20.0s,MS4.1							
WMQ				LR	LR		
comp=E,136nm,21.0s,MS4.1							
WMQ				LR	LR		
comp=Z,123nm,21.8s,MS3.8							
KS15 Wonju Array Si 46.80 31 *eP* **P 20 44 38.2 -0.4**							
ULHL Ulahol 48.42 337 P **P 20 44 51.9 +0.7**							
SNR=5.4							
KZA Kyzart 48.68 336 P **P 20 44 54.1 +0.9**							
SNR=7.3							
UCH Uchtor 49.10 335 P **P 20 44 57.3 +0.8**							
SNR=11							
CTA Charters Tower 49.16 115 P **P 20 44 57.1 -0.1**							
comp=Z,6.5nm,0.8s,mb4.7,baz=273,slow=7.2,SNR=4.0							
TKM2 Tokmak 2 49.24 337 P **P 20 44 58.2 +0.6**							
SNR=15							
KBK Karagaybulak 49.28 336 P **P 20 44 58.9 +1.0**							
SNR=15							
AML Almayashu 49.37 335 P **P 20 44 59.3 +0.7**							
SNR=20							
AAK Ala-Archa 49.45 336 P **P 20 44 59.8 +0.6**							
SNR=6.1							
SONM Songino Array 49.52 6 P **P 20 45 00.1 +0.5**							
comp=Z,3.5nm,0.6s,mb4.5,baz=188,slow=9.4,SNR=38							
SONM				PcP	PcP	20 46 21.2	-0.3
comp=Z,5.3nm,0.6s,baz=188,slow=4.0,SNR=12							
SONM				pPcP		20 46 30.0	
comp=Z,5.9nm,0.8s,baz=188,slow=4.2,SNR=6.3							
SONM				LR	LR	21 08 48.6	
comp=Z,186nm,19.3s,MS4.1,baz=100,slow=40							
FRU Bishkek 49.56 336 *eP* **P 20 45 00.0 0.0**							
ULN Ulaanbaatar 49.62 7 *eP* **P 20 45 00.5 +0.1**							
ULN				*e*	pP	20 45 08.4	-0.9
ULN				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.8							
ULN Ulaanbaatar 49.62 7 *eP* **P 20 45 00.5 +0.1**							
comp=Z,9.7nm,1.0s,mb4.8							
ULN				*e*	pP	20 45 08.4	-0.9
CHMS Chumysh 49.65 336 P **P 20 45 00.7 +0.1**							
SNR=6.0							
STKA Stephens Creek 49.76 132 ⇓*iP* **P 20 45 02.5 +0.8**							
comp=Z,8.2nm,0.9s,mb4.8							
STKA Stephens Creek 49.76 132 P **P 20 45 02.2 +0.5**							
comp=Z,8.7nm,0.8s,mb4.8,baz=307,slow=7.8,SNR=20							
STKA Stephens Creek 49.76 132 ⇓*iP* **P 20 45 02.5 +0.8**							
STKA				*e*		20 45 09.1	
EKS2 Erkin-Say 49.77 335 P **P 20 45 02.3 +0.7**							
SNR=18							
USP Ospenovka 49.97 336 P **P 20 45 03.2 +0.1**							
SNR=20							
MKAR Makanchi Array 50.47 345 P **P 20 45 06.8 -0.2**							
comp=Z,11nm,0.8s,mb5.0,baz=153,slow=8.1,SNR=67							
MKAR				S	**S**	**20 52 20.9**	**+3.5**
comp=Z,0.4nm,0.5s,baz=151,slow=12,SNR=5.3							
CN2 Changchun 50.72 24 *eP* **P 20 45 13.6 +4.7**							
CN2				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.7							
ZAK Zakamensk 51.81 3 *eP* **P 20 45 16.6 -0.4**							
ZAK				*e*		20 46 28.8	
ZAK				pmax	pmax		
comp=Z,2.0nm,1.5s,mb3.8							
ZAK				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.2							
MOY Mondy 53.01 1 *eP* **P 20 45 26.3 +0.3**							
IRK Irkutsk 53.72 4 *eP* **P 20 45 31.3 +0.1**							
KURK Kurchatov 55.05 344 *eP* **P 20 45 40.1 -0.9**							
KURK				pmax	pmax		
comp=Z,22nm,1.0s,mb5.1							
KURK Kurchatov 55.05 344 *eP* **P 20 45 40.1 -0.8**							
comp=Z,22nm,1.0s,mb5.1							
ZAL Zalesovo 56.63 350 P **P 20 45 52.0 -0.3**							
comp=Z,9.4nm,0.4s,mb5.1,baz=315,slow=4.6,SNR=48							
ZAL				S	**S**	**20 53 42.8**	**+2.2**
comp=Z,4.3nm,1.0s,baz=177,slow=20,SNR=34							
KLR Kul'dur 57.67 24 *eP* **P 20 45 55.4 -4.3**							
ATD Arta Tunnel 57.86 285 LR LR 21 08 03.1							
comp=Z,131nm,19.0s,MS4.1,baz=144,slow=33							
CHKZ Chkalovo 60.07 341 *eP* **P 20 46 14.7 -1.6**							
CHKZ				*e*		20 46 26.8	
CHKZ				pmax	pmax		
comp=Z,30nm,0.6s,mb5.5							
CHKZ Chkalovo 60.07 341 *eP* **P 20 46 14.7 -1.6**							
comp=Z,30nm,0.6s,mb5.5							
CHKZ				*e*		20 46 26.8	
BOD Bodaibo 60.28 9 *eP* **P 20 46 16.3 -1.4**							
BOD				pmax	pmax		
comp=Z,8.0nm,1.5s,mb4.5							
YSS Yuzh-Sakhalins 61.30 32 *eP* **P 20 46 24.0 -0.8**							
YSS				*e*	pP	20 46 32.5	-1.3
YSS Yuzh-Sakhalins 61.30 32 P **P 20 46 24.0 -0.7**							
comp=Z,30nm,1.0s,mb5.4							
YSS				*e*	pP	20 46 31.3	-2.5
KMBO Kilima Mbogo 62.33 270 *iP* **P 20 46 32.7 +0.6**							
KMBO				pmax	pmax		
comp=Z,6.0nm,0.8s							
KMBO Kilima Mbogo 62.33 270 P **P 20 46 32.4 +0.2**							
comp=Z,5.7nm,0.8s,mb4.7,baz=67,slow=9.7,SNR=16							
KMBO				pP	pP	20 46 41.7	+0.5
comp=Z,4.7nm,0.9s,baz=55,slow=6.7,SNR=7.3							
KMBO				LR	LR	21 10 18.1	
comp=Z,152nm,18.2s,MS4.2,baz=92,slow=33							
KMBO Kilima Mbogo 62.33 270 P **P 20 46 32.4 +0.2**							
KMBO				pP	pP	20 46 41.7	+0.5
KMBO				LR	LR	21 10 18.1	
GNI Garni 64.91 316 *iP* **P 20 46 47.2 -1.5**							
GNI				pmax	pmax		
comp=Z,13nm,1.1s							
SVE Sverdlovsk 66.10 338 ⇑*eP* **P 20 46 51.6 -4.4**							
SVE				*e*		20 47 19.5	
SVE				pmax	pmax		
comp=Z,48nm,1.5s,mb5.3							
ARU Arti 66.62 337 ⇑*iP* **P 20 46 57.9 -1.5**							
ARU				*e*		20 47 22.8	
ARU				*e*S	S	20 55 48.8	+1.6
ARU				*e*SS	SS	21 00 04.6	-1.7
ARU				pmax	pmax		
comp=Z,18nm,1.2s,mb5.0							
ARU Arti 66.62 337 *eP* **P 20 46 57.8 -1.6**							
comp=Z,20nm,1.2s,mb5.0							
YAK Yakutsk 67.39 15 *eP* **P 20 47 02.5 -1.7**							
YAK				pmax	pmax		
comp=N,4.0nm,1.0s							
YAK				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.8							
YAK				pmax	pmax		
comp=E,3.0nm,1.2s							
YAK				MLR	MLR		
comp=Z,114nm,14.0s,MS4.2							
YAK				MLR	MLR		
comp=N,86nm,13.0s,MS4.3							
YAK				MLR	MLR		
comp=E,68nm,12.0s,MS4.3							
KIV Kislovodsk 67.92 319 *eP* **P 20 47 07.1 -0.8**							
KIV				pmax	pmax		
comp=Z,30nm,1.2s,mb5.2							
KIV Kislovodsk 67.92 319 *eP* **P 20 47 07.0 -0.8**							
comp=Z,30nm,1.2s,mb5.2							
ASF Jabal al Asfar 67.99 306 P **P 20 47 08.7 +0.2**							
comp=Z,7.1nm,0.8s,mb4.7,baz=342,slow=1.4,SNR=9.2							
DZM Mont Dzumac 68.01 113 LR LR 21 17 29.9							
comp=Z,203nm,20.4s,MS4.3,baz=221,slow=36							
GOF Gofitskoye 68.18 320 ⇓*iP* **P 20 47 07.4 -2.0**							
GOF				pmax	pmax		
comp=Z,30nm,1.3s,mb5.2							
MALT Malatya 68.72 312 *eP* **P 20 47 12.2 -0.7**							
MALT				pmax	pmax		
comp=Z,34nm,1.7s,mb5.0							
MALT Malatya 68.72 312 *eP* **P 20 47 12.2 -0.7**							
comp=Z,34nm,1.7s,mb5.0							
EIL Elat 68.93 303 *eP* **P 20 47 13.7 -0.7**							
comp=Z,39nm,1.4s,mb5.1							
SOC Sochi 69.74 318 *iP* **P 20 47 16.3 -2.7**							
SOC				*e*		20 47 39.3	
SOC				*e*		20 49 54.6	
SOC				*e*PPP	PPP	20 51 30.0	-4.7
SOC				*e*S	S	20 56 22.2	-2.4
S

comp=Z,46nm,1.0s,mb5.4
OBN Obninsk 76.19 328c *i*P **P 20 47 56.0 -0.7**
OBN *e*S S 20 57 39.3 +1.9
OBN pmax pmax
comp=Z,32nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
OBN Obninsk 76.19 328 *e*P **P 20 47 55.9 -0.9**
comp=Z,96nm,1.5s,mb5.5
OBN *e* pP 20 48 06.0 +0.1
TIRR Tirgusor 77.74 316 ||P **P 20 48 05.1 -0.5**
HARR Harsova 78.13 316 ||P **P 20 48 07.6 -0.1**
AKASG Malin Array Be 78.87 322 *i* P **P 20 48 10.8 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 78.87 322 P **P 20 48 10.3 -1.3**
comp=Z,2.4nm,0.7s,mb4.2,baz=85,slow=4.9,SNR=19
AKASG Malin Array Be 78.87 322 P **P 20 48 10.3 -1.3**
VRI Vrincioaia 79.23 317 ||P **P 20 48 14.3 +0.6**
MLR Muntele Rosu 79.68 317 ||P **P 20 48 16.7 +0.5**
MTUR Matau 80.23 316 P **P 20 48 19.3 +0.2**
BURAR Bucovina Array 80.64 319 ||P **P 20 48 22.6 +1.3**
BURAR Bucovina Array 80.64 319 ||P **P 20 48 22.5 +1.3**
JOF Joensuu 81.62 335 ep **P 20 48 25.7 -0.3**
KWP Kalwaria 82.69 320 *e*P **P 20 48 32.3 +0.5**
VNDA Vanda 82.70 169 P **P 20 48 31.8 +0.4**
baz=270,slow=4.0
KOLS Kolonicke sedl 82.83 320 *e*P **P 20 48 33.4 +0.8**
BILL Bilibino 82.86 20 *i* P **P 20 48 32.0 -0.4**
BILL pmax pmax
comp=Z,3.0nm,1.7s,mb4.0
SUW Suwalki 83.27 325 *e*P **P 20 48 34.4 -0.4**
FINES FINESS Array B 83.51 332 P **P 20 48 36.2 +0.4**
comp=Z,3.2nm,0.4s,mb4.8,baz=104,slow=5.9,SNR=53
KAF Kangasniemi 83.58 333 ep **P 20 48 36.3 +0.1**
comp=Z,7.9nm,0.6s,mb5.0,baz=100,slow=4.7
KAF Kangasniemi 83.58 333 *e*P **P 20 48 36.3 +0.1**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
DIVS Divcibare 83.59 315 *e*P **P 20 48 36.5 -0.2**
NIE Niedzica 84.19 320 *e*P **P 20 48 38.6 -0.9**
OJC Ojcow 84.64 321 *e*P **P 20 48 42.3 +0.5**
VYHS Vyhne 85.01 319 *e*P **P 20 48 44.0 +0.4**
VYHS *e* 20 49 06.2
SRO Srobarova 85.27 318 *e*P **P 20 48 46.0 +1.1**
OKC Ostrava-Krasne 85.64 320 *e*P **P 20 48 47.7 +0.9**
ARCES ARCESS Array B 85.90 340 P **P 20 48 48.5 +0.9**
comp=Z,12nm,1.0s,mb5.1,baz=63,slow=5.4,SNR=11
MORC Moravsky Berou 86.02 320 *e*P **P 20 48 49.0 +0.3**
MORC pmax pmax
comp=Z,25nm,1.7s,mb5.2
MORC Moravsky Berou 86.02 320 *e*P **P 20 48 49.0 +0.3**
comp=Z,25nm,1.7s,mb5.2
ZST Bratislava 86.12 318 *e*P **P 20 48 49.9 +0.7**
DPC Dobruska-Polom 86.87 320 *e*P **P 20 48 54.0 +1.2**
UPC Upice 87.08 321 *e*P **P 20 48 55.0 +1.2**
PRU Pruhonice 87.97 320 *e*P **P 20 48 58.9 +0.8**
PVCC Panska Ves 88.00 320 *e*P **P 20 48 59.3 +1.1**
BRG Berggiesshubel 88.42 321 *e*P **P 20 49 01.5 +1.2**
BRG pmax pmax
comp=Z,14nm,1.3s,mb5.0
BRG Berggiesshubel 88.42 321 *e*P **P 20 49 01.5 +1.2**
comp=Z,14nm,1.3s,mb5.0
GERES GERESS Array B 88.43 319 P **P 20 49 00.7 +0.3**
comp=Z,4.0nm,1.0s,mb4.6,baz=108,slow=4.2,SNR=23
KHC Kasperske Hory 88.53 319 *e*P **P 20 49 01.1 +0.3**
RUE Ruedersdorf 88.65 322 *e*P **P 20 49 01.9 +0.6**
comp=Z,21nm,0.8s,mb5.5
CLL Collm 89.05 321 *e*P **P 20 49 00.0 -3.2**
CLL pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
CLL Collm 89.05 321 *e*P **P 20 49 00.0 -3.2**
comp=Z,10.0nm,1.2s,mb5.0
CLL Collm 89.05 321 P **P 20 49 03.6 +0.4**
comp=Z,logA/T=0.9,mb5.0
NKC Novy Kostel 89.33 320 *e*P **P 20 49 05.6 +1.0**
GRA1 Grafenberg Arr 90.10 320 *e*P **P 20 49 09.5 +1.3**
comp=Z,22nm,1.3s,mb5.3
GRF Grafenberg Arr 90.10 320 *e*P **P 20 49 09.5 +1.3**
GRF pmax pmax
comp=Z,22nm,1.3s,mb5.3
GRF Grafenberg Arr 90.10 320 *e*P **P 20 49 09.5 +1.3**
GRF pmax pmax
comp=Z,22nm,1.3s,mb5.3
GRF Grafenberg Arr 90.10 320 *e*P **P 20 49 09.5 +1.3**
comp=Z,22nm,1.3s,mb5.3
NOA NORSAR Array B 90.54 331 LR LR 21 33 38.2
comp=Z,46nm,18.9s,MS3.9,baz=280,slow=38
ILAR Eielson Array 101.24 24 PKKPbc 21 06 08.6
comp=Z,0.5nm,0.6s,baz=143,slow=1.9,SNR=7.9
PMSA Palmer Station 112.77 188 *e*PKiKP 20 54 45.7
YKA Yellowknife Ar 114.04 17 PKP PKPdf 20 54 45.8 -4.9
comp=Z,0.3nm,0.6s,baz=322,slow=2.4,SNR=7.4
YKA PKKPbc 21 05 28.6
comp=Z,0.3nm,1.0s,baz=117,slow=1.4,SNR=3.2
YKA Yellowknife Ar 114.04 17 PKP PKPdf 20 54 45.9 -4.9
YKA PKKPbc 21 05 28.6
SCHQ Schefferville 125.72 350 PKP PKPdf 20 55 09.8 -3.7
comp=Z,3.5nm,0.9s,baz=125,slow=18,SNR=6.5
SCHQ Schefferville 125.72 350 PKP PKPdf 20 55 09.8 -3.7
MOD Modoc 126.17 36 *e*PKPdf PKPdf 20 55 12.5 -2.2
MOD *e* 20 55 20.5
NVAR Mina Array Bea 129.49 39 PKP PKPdf 20 55 19.2 -2.0
comp=Z,0.9nm,0.6s,baz=273,slow=2.8,SNR=7.3
ULM Lac du Bonnet 129.71 13 PKP PKPdf 20 55 17.8 -3.5
comp=Z,1.8nm,0.5s,baz=261,slow=2.3,SNR=2.8
ULM pPKP 20 55 26.6
comp=Z,2.7nm,0.6s,baz=350,slow=3.8,SNR=3.5
ULM Lac du Bonnet 129.71 13 PKP PKPdf 20 55 17.8 -3.5
ULM pPKP 20 55 26.6
PDAR Pinedale Array 131.37 29 PKP PKPdf 20 55 21.4 -3.3
comp=Z,0.7nm,0.6s,baz=201,slow=1.6,SNR=5.1
PDAR pPKP 20 55 30.5
comp=Z,0.6nm,0.5s,SNR=4.0
ANMO Albuquerque 138.84 33 PKP PKPdf 20 55 36.5 -2.2
comp=Z,1.4nm,0.7s,baz=258,slow=1.1,SNR=4.7
LTX Lajitas 144.57 37 *e*PKP PKPdf 20 55 45.4 -3.6
LTX *e* 20 55 53.6
TXAR Lajitas Array 144.57 37 PKP PKPdf 20 55 45.6 -3.4
comp=Z,8.6nm,0.5s,baz=250,slow=0.9,SNR=78
TXAR pPKP 20 55 53.9
comp=Z,8.6nm,0.5s,baz=346,slow=1.1,SNR=20
WVT Waverly 144.89 10 *e*PKP PKPdf 20 55 44.6 -4.8
WVT *e* 20 55 53.5
MIAR Mount Ida 144.93 19 *e*PKP PKPdf 20 55 45.6 -3.9
MIAR *e* 20 55 53.8
TZTN Tazewell 145.04 4 *e*PKP PKPdf 20 55 45.2 -4.4
TZTN *e* 20 55 53.8
UALR University of 145.10 17 *e*PKP PKPdf 20 55 45.6 -4.1
UALR *e* 20 55 54.1
JCT Junction City 145.83 31 *e*PKP PKPdf 20 55 48.7 -2.5
JCT *e* 20 55 57.3
CPCT Cooper Cave 146.04 6 *e*PKP PKPdf 20 55 48.2 -3.1
CPCT *e* 20 55 56.9
SWET Sewanee 146.09 8 *e*PKP PKPdf 20 55 48.1 -3.3
SWET *e* 20 55 56.9
JSC Jenkinsville 147.41 1 *e*PKP PKPdf 20 55 49.9 -3.8
LRAL Lakeview Retre 148.06 11 *e*PKP PKPdf 20 55 53.4 -1.4
LRAL *e* 20 56 02.6
GOGA Godfrey 148.16 5 *e*PKPbc PKPdf 20 55 54.8 -0.1

MAN 10 20:44:45.2, 13.73N×120.59E, h32km, mb3.7, ML2.5, MS2.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**270**	*e*P	Pb	20 44 54.8	+1.4
LUBP				*e*S	Sb	20 45 01.6	+2.7
SJMP	**San Jose**	**1.36**	**158**	*e*P	Pn	20 45 08.0	-0.4
SJMP				*e*S	Sn	20 45 23.8	-1.7
BUSP	**Coron**	**1.76**	**193**	*e*P	Pn	20 45 14.3	+0.2

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*IDC **10** 20:49:28.2±1.9, 1.54S×100.21E, h31km±6km, mb3.6/7, mb1 3.7/8, mb1mx3.5/17, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=88.2km s-min=14.9km az=57.0*
*NEIC **10** 20:49:28.3±1.0, 1.49S×100.31E, mb4.0/1, Error ellipse: s-maj=48.4km s-min=10.4km az=57.0*
ISC 10 20:49:26.8±1.5, 1.4S±0.3×100.4E±0.4, h31km, (h31km±4km:pP-P), n14, σ0°78/11, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.74**	**356**	P	**P**	**20 53 55.5**	**-1.6**
	0.1nm,0.3s,baz=186,slow=9.6,SNR=4.1						
WRA	**Warramunga Arr**	**37.94**	**121**	P	**P**	**20 56 43.7**	**+0.1**
	0.7nm,0.4s,mb3.7,baz=303,slow=9.1,SNR=13						
WRA				pP	pP	20 56 53.4	+0.5
	1.3nm,0.5s,baz=303,slow=9.0,SNR=8.4						
WRAB	**Tennant Creek**	**37.95**	**121**	*e*P	**P**	**20 56 43.3**	**-0.3**
WRAB				*e*	pP	20 56 53.0	0.0
ASAR	**Alice Springs**	**39.28**	**127**	P	**P**	**20 56 54.9**	**+0.1**
	0.6nm,0.6s,mb3.5,baz=302,slow=8.0,SNR=18						
ASAR				pP	pP	20 57 04.2	+0.1
	1.0nm,0.6s,baz=303,slow=7.8,SNR=8.5						
STKA	**Stephens Creek**	**49.25**	**132**	P	**P**	**20 58 14.6**	**-0.2**
	0.9nm,0.7s,mb3.9,baz=2.9,slow=7.7,SNR=3.7						
STKA				pP	pP	20 58 24.1	-0.3
	0.8nm,0.6s,baz=335,slow=12,SNR=2.0						
SONM	**Songino Array**	**49.26**	**5**	P	**P**	**20 58 16.3**	**+1.7**
	0.4nm,0.5s,mb3.7,baz=184,slow=9.3,SNR=6.1						
MKAR	**Makanchi Array**	**50.53**	**344**	P	**P**	**20 58 25.0**	**+0.7**
	0.7nm,0.3s,mb4.0,baz=148,slow=7.9,SNR=9.1						
MKAR	**Makanchi Array**	**50.53**	**344**	P	**P**	**20 58 25.0**	**+0.7**
KURK	**Kurchatov**	**55.11**	**343**	*e*P	**P**	**20 58 58.5**	**0.0**
	1.3nm,0.8s,mb4.0						
ZAL	**Zalesovo**	**56.61**	**349**	P	**P**	**20 59 09.1**	**0.0**
	1.5nm,0.5s,mb4.3,baz=334,slow=2.5,SNR=6.9						
ZAL				pP	pP	20 59 18.5	-0.3
	0.8nm,0.5s,baz=219,slow=2.4,SNR=2.6						
FINES	**FINESS Array B**	**83.75**	**332**	P	**P**	**21 01 53.5**	**-0.5**
	1.6nm,1.1s,mb4.1,baz=180,slow=4.2,SNR=3.5						
MIAR	**Mount Ida**	**144.47**	**20**	*e*PKP	PKPdf	21 09 01.1	-4.7
TZTN	**Tazewell**	**144.79**	**6**	*e*PKP	PKPdf	21 09 01.8	-4.6
CPCT	**Cooper Cave**	**145.76**	**7**	*e*PKP	PKPdf	21 09 05.1	-2.9

MAN 10 20:51:36.5, 10.61N×125.68E, h1km, mb4.8, ML3.7, MS3.7, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.88**	**309**	*e*P	Pg	20 51 52.9	-1.2
PLP				*e*S	Sg	20 52 03.1	-2.7
MSLP	**Maasin**	**0.93**	**240**	*e*P	Pg	20 51 54.9	-0.1
BESP	**Borongan**	**1.02**	**347**	*e*P	Pb	20 51 56.3	-0.2
BUTP	**Butuan**	**1.63**	**182**	*e*P	Pn	20 52 06.2	-0.2
CNP	**Catarman**	**2.14**	**332**	*e*P	Pn	20 52 14.0	+0.3
CNP				*e*S	Sn	20 52 41.6	+0.3

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*IDC **10** 20:55:01.9±0.7, 1.55S×99.61E, h27km±4km, mb4.0/13, mb1 4.1/14, mb1mx3.9/21, mbtmp4.1/14, ML3.8/1, Error ellipse: s-maj=26.4km s-min=12.4km az=49.0*
*NEIC **10** 20:55:01.9±0.4, 1.53S×99.60E, mb4.3/6, Error ellipse: s-maj=13.9km s-min=6.9km az=60.0*
ISC 10 20:54:59.6±7.1, 1.5S±0.1×99.6E±0.2, h26km±49km, h29km±1.0km:pP-P, n32, σ0°81/26, mb4.2/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.81**	**8**	*e*P	**Pn**	**20 56 41.5**	**+1.0**
CM31	**Chiang Mai Arr**	**19.83**	**358**	P	**P**	**20 59 30.0**	**-1.6**
	2.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.83**	**358**	P	**P**	**20 59 30.9**	**-0.7**
	0.1nm,0.3s,baz=185,slow=10,SNR=9.8						
FITZ	**Fitzroy Crossi**	**30.39**	**125**	P	**P**	**21 01 11.7**	**-0.5**
	5.5nm,0.9s,mb4.3,baz=287,slow=1.2,SNR=4.6						
LSA	**Lhasa**	**32.06**	**346**	*e*P	**P**	**21 01 27.0**	**+0.3**
	2.1nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**38.56**	**121**	P	**P**	**21 02 21.9**	**-0.3**
	1.9nm,0.5s,mb4.1,baz=302,slow=9.1,SNR=25						
WRA				pP	pP	21 02 30.2	+0.1
	2.0nm,0.5s,baz=302,slow=9.0,SNR=9.7						
WRAB	**Tennant Creek**	**38.56**	**121**	*e*P	**P**	**21 02 22.0**	**-0.3**
	6.1nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**38.57**	**121**	*e*P	**P**	**21 02 22.2**	**-0.1**
ASAR	**Alice Springs**	**39.84**	**126**	P	**P**	**21 02 33.7**	**+0.8**
	1.3nm,0.5s,mb3.9,baz=301,slow=7.7,SNR=23						
ASAR				pP	pP	21 02 42.0	+1.3
	2.8nm,0.6s,baz=303,slow=8.0,SNR=16						
ASAR				PcP	PcP	21 04 40.5	+1.3
	0.2nm,0.4s,baz=301,slow=3.2,SNR=2.6						
ASAR				pPcP		21 04 48.5	
	0.7nm,0.7s,baz=313,slow=2.3,SNR=5.2						
SONM	**Songino Array**	**49.48**	**6**	P	**P**	**21 03 50.7**	**+0.9**
	1.3nm,0.7s,mb4.1,baz=188,slow=9.5,SNR=14						
SONM				pPcP		21 05 21.2	
	0.2nm,0.4s,baz=184,slow=4.5,SNR=3.6						
STKA	**Stephens Creek**	**49.76**	**132**	P	**P**	**21 03 51.5**	**-0.6**
	1.2nm,0.5s,mb4.2,baz=254,slow=8.2,SNR=6.9						
STKA	**Stephens Creek**	**49.76**	**132**	*e*P	**P**	**21 03 53.0**	**+0.8**
MKAR	**Makanchi Array**	**50.44**	**345**	P	**P**	**21 03 57.9**	**+0.7**
	1.4nm,0.5s,mb4.3,baz=146,slow=7.9,SNR=9.2						
MKAR	**Makanchi Array**	**50.44**	**345**	P	**P**	**21 03 57.9**	**+0.7**
KURK	**Kurchatov**	**55.02**	**344**	*e*P	**P**	**21 04 31.3**	**+0.1**
	1.3nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**56.60**	**350**	P	**P**	**21 04 43.0**	**+0.4**
	2.2nm,0.4s,mb4.5,baz=312,slow=4.2,SNR=11						
BVAR	**Borovoye Array**	**59.58**	**340**	P	**P**	**21 05 02.5**	**-1.0**
	0.9nm,0.6s,mb4.0,baz=153,slow=9.9,SNR=7.5						
CHKZ	**Chkalovo**	**60.05**	**341**	*e*P	**P**	**21 05 03.9**	**-2.7**
	1.7nm,0.6s,mb4.2						
KMBO	**Kilima Mbogo**	**62.37**	**270**	P	**P**	**21 05 23.4**	**+0.4**
	1.1nm,0.5s,mb4.2,baz=40,slow=24,SNR=4.5						
KMBO	**Kilima Mbogo**	**62.37**	**270**	*e*P	**P**	**21 05 23.1**	**+0.2**
	3.8nm,1.1s,mb4.4						
MATP	**Matopo**	**71.82**	**249**	P	**P**	**21 06 22.4**	**-0.2**
	1.4nm,0.6s,mb4.1,baz=137,slow=4.0,SNR=5.2						
MLR	**Muntele Rosu**	**79.69**	**317**	P	**P**	**21 07 06.8**	**+0.1**
	1.9nm,0.8s,mb4.1,baz=148,slow=5.1,SNR=4.6						
MLR				pP	pP	21 07 16.5	+1.5
	1.5nm,0.7s,baz=225,slow=6.1,SNR=3.7						
MLR	**Muntele Rosu**	**79.69**	**317**	P	**P**	**21 07 06.8**	**+0.1**
MLR				pP	pP	21 07 16.5	+1.5
FINES	**FINESS Array B**	**83.50**	**332**	P	**P**	**21 07 26.9**	**+0.6**
	0.8nm,0.6s,mb4.0,baz=124,slow=6.9,SNR=7.4						
ARCES	**ARCESS Array B**	**85.87**	**340**	P	**P**	**21 07 38.7**	**+0.7**
	4.1nm,1.0s,mb4.6,baz=34,slow=4.4,SNR=3.8						
ARCES	**ARCESS Array B**	**85.87**	**340**	P	**P**	**21 07 38.7**	**+0.7**
TXAR	**Lajitas Array**	**144.51**	**37**	PKP	PKPdf	21 14 36.7	-2.5
	0.9nm,0.4s,baz=278,slow=0.5,SNR=9.5						
TXAR				pPKP		21 14 45.5	
	1.0nm,0.6s,baz=269,slow=2.0,SNR=5.4						
TXAR	**Lajitas Array**	**144.51**	**37**	PKP	PKPdf	21 14 36.7	-2.5
TXAR				pPKP		21 14 45.5	
MIAR	**Mount Ida**	**144.88**	**19**	*e*PKP	PKPdf	21 14 36.8	-2.9
TZTN	**Tazewell**	**145.00**	**4**	*e*PKP	PKPdf	21 14 36.0	-3.8
JCT	**Junction City**	**145.77**	**31**	PKP	PKPdf	21 14 39.8	-1.6
JCT				*e*		21 14 48.4	
CPCT	**Cooper Cave**	**145.99**	**6**	*e*PKP	PKPdf	21 14 39.7	-1.9

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*IDC **10** 20:58:54.0±2.4, 1.37S×100.25E, h28km±6km, mb3.3/6, mb1 3.5/6, mb1mx3.3/17, mbtmp3.5/6, Error ellipse: s-maj=120.4km s-min=17.1km az=55.0*
ISC 10 20:58:52.5±2.3, 1.4S±0.4×100.2E±0.6, h33km, n7, σ0°61/6, mb3.5/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.16**	**121**	P	**P**	**21 06 10.4**	**-0.4**
	0.3nm,0.4s,mb3.4,baz=303,slow=9.1,SNR=5.5						
WRA				pP	pP	21 06 19.3	-1.2
	0.5nm,0.4s,baz=303,slow=9.1,SNR=3.7						
ASAR	**Alice Springs**	**39.48**	**127**	P	**P**	**21 06 22.1**	**+0.5**
	0.6nm,0.6s,mb3.5,baz=303,slow=8.0,SNR=4.9						
SONM	**Songino Array**	**49.30**	**6**	P	**P**	**21 07 40.5**	**+0.2**
	0.2nm,0.5s,mb3.4,baz=180,slow=4.3,SNR=3.0						
STKA	**Stephens Creek**	**49.43**	**132**	P	**P**	**21 07 41.4**	**-0.1**
	0.9nm,0.8s,mb3.9,baz=294,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**50.47**	**344**	P	**P**	**21 07 48.6**	**-0.7**
	0.3nm,0.5s,mb3.6,baz=147,slow=7.7,SNR=3.9						
MKAR				pP	pP	21 07 58.6	-0.6
	0.7nm,0.7s,baz=149,slow=8.4,SNR=4.9						
BVAR	**Borovoye Array**	**59.66**	**340**	P	**P**	**21 08 56.3**	**+0.5**
	0.2nm,0.4s,mb3.5,baz=90,slow=4.3,SNR=3.3						
TXAR	**Lajitas Array**	**144.09**	**37**	PKP	PKPdf	21 18 25.9	+0.4
	0.3nm,0.6s,baz=259,slow=4.6,SNR=2.5						
TXAR				pPKP		21 18 35.6	
	0.2nm,0.4s,baz=315,slow=1.3,SNR=2.2						

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*WEL **10** 21:04:05.9±0.1, 42.98S×171.02E, h4km±1km, ML4.2/21, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0*

WEL Felt in the West Coast region, maximum reported intensity MM 5.
*IDC **10** 21:04:07.3±3.8, 43.09S×171.11E, h26km±30km, mb3.5/2, mb1 3.8/3, mb1mx3.6/10, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=36.1km s-min=31.4km az=138.0*
*NEIC **10** 21:04:07.8±1.8, 43.11S×171.10E, h30km±16km, mb4.0/1, Error ellipse: s-maj=24.7km s-min=9.9km az=144.0*
ISC 10 21:04:06.2±0.7, 42.98S±0.03×170.95E±0.05, h20km±7km, n35, σ0°85/38, mb3.7/3, 1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**0.75**	**174**	Pg	**Pb**	**21 04 20.0**	**-0.3**
	311nm,0.3s,baz=308,slow=5.7,SNR=245						
RPZ				Lg		21 04 28.0	
	231nm,0.3s,baz=308,slow=12,SNR=21						
RPZ	**Rata Peaks**	**0.75**	**174**	P*	**Pb**	**21 04 20.0**	**-0.3**
RPZ				SG	**Sb**	**21 04 30.3**	**+0.2**
LTZ	**Lake Taylor**	**0.99**	**79**	||P*	**Pb**	**21 04 23.9**	**-0.6**
LTZ				S*	**Sb**	**21 04 39.2**	**+2.1**
FOZ	**Fox Glacier**	**1.09**	**237**	P*	**Pb**	**21 04 25.4**	**-0.8**
FOZ				S*	**Sb**	**21 04 40.1**	**+0.1**
CRLZ	**Canterbury Las**	**1.36**	**117**	P*	**Pb**	**21 04 30.8**	**-0.1**
CRLZ				S*	**Sb**	**21 04 48.3**	**+0.3**
DSZ	**Denniston Nort**	**1.38**	**28**	PN	**Pn**	**21 04 30.6**	**-0.1**
DSZ				S*	**Sb**	**21 04 49.2**	**+0.8**
MQZ	**McQueen's Vall**	**1.45**	**121**	PN	**Pn**	**21 04 31.0**	**-0.6**
MQZ				S*	**Sb**	**21 04 49.2**	**-1.1**
LBZ	**Lake Benmore**	**1.52**	**201**	PN	**Pn**	**21 04 33.5**	**+0.9**
LBZ				SN	**Sn**	**21 04 54.0**	**+2.0**
THZ	**Tophouse**	**1.89**	**51**	PN	**Pn**	**21 04 38.1**	**+0.2**
JCZ	**Jackson Bay**	**1.93**	**235**	PN	**Pn**	**21 04 38.5**	**-0.1**
KHZ	**Kahutara**	**1.99**	**75**	PN	**Pn**	**21 04 39.3**	**-0.1**
ODZ	**Otahua Downs**	**2.08**	**186**	PN	**Pn**	**21 04 40.6**	**-0.2**
WKZ	**Wanaka**	**2.32**	**216**	PN	**Pn**	**21 04 44.3**	**+0.2**
QRZ	**Quartz Range**	**2.45**	**29**	PN	**Pn**	**21 04 45.6**	**-0.4**
BSWZ	**Blackbirch Sta**	**2.51**	**61**	PN	**Pn**	**21 04 47.6**	**+0.7**
NNZ	**Nelson**	**2.52**	**47**	PN	**Pn**	**21 04 47.6**	**+0.6**
EAZ	**Earnscleugh**	**2.55**	**207**	PN	**Pn**	**21 04 46.4**	**-0.9**
TUWZ	**Tuamarina**	**2.71**	**56**	PN	**Pn**	**21 04 50.4**	**+0.7**
MSZ	**Milford Sound**	**2.77**	**231**	PN	**Pn**	**21 04 51.8**	**+1.3**
MLZ	**Mavora Lakes**	**3.10**	**219**	PN	**Pn**	**21 04 55.3**	**+0.1**
DUWZ	**D'Urville Isla**	**3.10**	**47**	PN	**Pn**	**21 04 56.1**	**+0.8**
TUZ	**Tuapeka**	**3.13**	**197**	PN	**Pn**	**21 04 54.8**	**-0.8**
SNZO	**South Karori**	**3.25**	**61**	*e*P	**Pn**	**21 04 57.3**	**-0.1**
SNZO	**South Karori**	**3.25**	**61**	PN	**Pn**	**21 04 56.7**	**-0.7**
MRW	**Makara Radio**	**3.29**	**59**	PN	**Pn**	**21 04 57.7**	**-0.2**
MSWZ	**Moikau Station**	**3.56**	**65**	PN	**Pn**	**21 05 00.1**	**-1.6**
URZ	**Urewera**	**6.64**	**47**	Pn	**Pn**	**21 05 42.6**	**-2.8**
	0.7nm,0.3s,baz=99,slow=4.3,SNR=3.8						
URZ				Sn	**Sn**	**21 06 53.4**	**-8.0**
	2.6nm,0.3s,baz=84,slow=19,SNR=7.3						
ASAR	**Alice Springs**	**36.08**	**290**	P	**P**	**21 11 07.7**	**-0.9**
	0.5nm,0.5s,mb3.7,baz=135,slow=8.5,SNR=8.2						
WRAB	**Tennant Creek**	**38.32**	**295**	*e*P	**P**	**21 11 27.8**	**+0.4**
	1.6nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**38.32**	**295**	P	**P**	**21 11 27.3**	**-0.2**
	0.6nm,0.6s,mb3.5,baz=139,slow=7.4,SNR=11						
BRTR	**Keskin Array B**	**148.04**	**279**	PKPbc	PKPdf	21 23 50.6	-0.3
	0.7nm,0.5s,baz=153,slow=6.7,SNR=5.3						
ARCES	**ARCESS Array B**	**148.04**	**338**	PKPbc	PKPdf	21 23 49.6	-0.4
	2.1nm,0.4s,baz=52,slow=1.7,SNR=52						
FINES	**FINESS Array B**	**152.14**	**324**	PKPbc	PKPdf	21 23 59.2	+2.6
	1.4nm,0.7s,baz=59,slow=2.4,SNR=9.6						
FINES				PKPab	PKPab	21 24 07.8	-3.4
	0.6nm,0.6s,baz=67,slow=4.1,SNR=4.9						
FINES	**FINESS Array B**	**152.14**	**324**	PKPbc	PKPdf	21 23 59.2	+2.6
FINES				PKPab	PKPab	21 24 07.8	-3.4
AKASG	**Malin Array Be**	**152.94**	**300**	PKPbc	PKPdf	21 24 01.2	+3.2
	0.1nm,0.2s,baz=71,slow=2.8,SNR=4.2						

IDC 10 21:05:15.7±3.1, 1.43S×100.24E, mb3.5/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, Error ellipse: s-maj=130.2km s-min=26.4km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.08**	**121**	P	P	21 12 36.3	-1.9
	0.4nm,0.4s,baz=304,slow=9.1,SNR=5.9						
SONM	**Songino Array**	**49.35**	**5**	P	P	21 14 07.4	-1.4
	0.4nm,0.8s,baz=207,slow=3.2,SNR=3.1						
MKAR	**Makanchi Array**	**50.54**	**344**	P	P	21 14 16.5	-1.4
	0.5nm,0.5s,baz=153,slow=8.1,SNR=4.1						
ZAL	**Zalesovo**	**56.64**	**349**	P	P	21 15 01.1	-1.9
	0.7nm,0.3s,baz=288,slow=9.3,SNR=3.8						
BVAR	**Borovoye Array**	**59.73**	**340**	P	P	21 15 20.7	-3.8
	0.2nm,0.5s,baz=127,slow=7.2,SNR=3.1						

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*IDC **10** 21:06:01.6±2.9, 1.55S×99.83E, mb3.8/5, mb1 3.9/6, mb1mx3.6/18, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=138.3km s-min=20.5km az=55.0*
*NEIC **10** 21:06:06.4±1.5, 1.47S×99.94E, h30km, mb4.3/1, Error ellipse: s-maj=66.4km s-min=11.4km az=56.0*
ISC 10 21:06:05.3±2.3, 1.3S±0.4×100.0E±0.6, h33km, n8, σ0°51/7, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.70**	**357**	P	**P**	**21 10 34.5**	**-0.2**
	0.1nm,0.3s,baz=185,slow=10,SNR=5.1						
WRA	**Warramunga Arr**	**38.31**	**121**	P	**P**	**21 13 24.6**	**-0.3**
	1.4nm,0.6s,mb3.9,baz=301,slow=9.2,SNR=9.2						
WRAB	**Tennant Creek**	**38.32**	**121**	*e*P	**P**

ZAL	Zalesovo	52.73 351		P	P	21 45 26.9	-0.1
	1.1nm,0.3s,mb4.3,baz=303,slow=6.8,SNR=5.4						
BVAR	Borovoye Array	55.38 341		P	P	21 45 45.5	-0.9
	0.5nm,0.7s,mb3.6,baz=153,slow=6.6,SNR=3.7						
ARCES	ARCESS Array B	81.66 340		P	P	21 48 29.6	+0.2
	7.0nm,1.2s,mb4.5,baz=90,slow=6.3,SNR=4.0						
TZTN	Tazewell	141.71	0	*e*PKP	PKPdf	21 55 42.4	+0.4

*IDC **10** 21:38:15.0±1.2, 1.79S×99.65E, mb3.9/8, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, Error ellipse: s-maj=65.5km s-min=17.5km az=58.0*
*NEIC **10** 21:38:19.1±0.5, 1.83S×99.61E, h30km, mb4.2/4, Error ellipse: s-maj=22.1km s-min=8.3km az=65.0*

ISC 10 21:38:17.4±1.0, 1.8S±0.1×99.6E±0.2, h33km, n20, σ0§81/13, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	7.12	9	*e*P	P	21 40 02.9	+1.0
CM31	Chiang Mai Arr	20.14	358	*e*P	P	21 42 50.4	-1.2
	1.6nm,0.5s						
CMAR	Chiang Mai Arr	20.14	358	P	P	21 42 50.6	-1.0
	1.0nm,0.7s,baz=185,slow=10,SNR=7.2						
WRA	Warramunga Arr	38.46	120	P	P	21 45 37.8	-0.4
	1.1nm,0.4s,mb3.9,baz=303,slow=9.1,SNR=10						
WRA				PcP	PcP	21 47 52.6	+1.1
	0.5nm,0.5s,baz=314,slow=2.6,SNR=7.5						
WRAB	Tennant Creek	38.47	120	*e*P	P	21 45 38.0	-0.2
	3.1nm,0.7s,mb4.2						
ASAR	Alice Springs	39.72	126	P	P	21 45 48.9	+0.3
	0.5nm,0.5s,mb3.5,baz=300,slow=8.6,SNR=5.9						
ASAR				PcP	PcP	21 47 56.6	+1.2
	0.7nm,0.6s,baz=313,slow=2.3,SNR=5.8						
SONM	Songino Array	49.79	6	P	P	21 47 09.7	+0.8
	0.6nm,0.6s,mb3.8,baz=249,slow=7.6,SNR=4.8						
SONM				PcP	PcP	21 48 30.0	+0.3
	0.3nm,0.3s,baz=190,slow=4.0,SNR=4.5						
MKAR	Makanchi Array	50.72	345	P	P	21 47 17.0	+0.9
	2.4nm,0.6s,mb4.3,baz=141,slow=7.8,SNR=16						
KURK	Kurchatov	55.30	344	P	P	21 47 49.5	-0.5
	3.4nm,0.7s,mb4.5						
ZAL	Zalesovo	56.89	350	P	P	21 48 01.9	+0.5
	4.6nm,0.4s,mb4.8,baz=325,slow=4.6,SNR=23						
BVAR	Borovoye Array	59.85	340	P	P	21 48 21.5	-0.6
	1.5nm,0.7s,mb4.2,baz=142,slow=9.5,SNR=11						
CHKZ	Chkalovo	60.31	341	*e*P	P	21 48 24.4	-0.9
	1.3nm,0.9s,mb4.0						
FINES	FINESS Array B	83.74	332	P	P	21 50 45.6	+1.4
	0.7nm,0.5s,mb4.0,baz=108,slow=6.0,SNR=9.0						
TXAR	Lajitas Array	144.80	37	PKP	PKPdf	21 57 54.1	+2.4
	1.4nm,0.6s,baz=272,slow=1.0,SNR=14						
CFAA	Coronel Fontan	144.82	198	PKP	PKPdf	21 57 54.2	+2.6
	0.3nm,0.7s,baz=168,slow=2.4,SNR=6.2						
CFAA	Coronel Fontan	144.82	198	PKP	PKPdf	21 57 54.2	+2.6
MIAR	Mount Ida	145.19	19	*e*PKP	PKPdf	21 57 54.3	+2.1
TZTN	Tazewell	145.31	4	*e*PKP	PKPdf	21 57 53.9	+1.6
JCT	Junction City	146.07	31	*e*PKP	PKPdf	21 57 57.2	+3.4
CPCT	Cooper Cave	146.30	6	*e*PKP	PKPdf	21 57 57.0	+2.9

*NEIC **10** 21:42:53.0±0.9, 14.01N×92.94W, h10km, mb3.8/4, Error ellipse: s-maj=17.8km s-min=10.9km az=217.0*
*MEX **10** 21:42:57.1±0.5, 14.05N×93.16W, h80km, MD4.5*
*IDC **10** 21:43:03.5±4.5, 14.44N×92.48W, h85km±39km, mb3.4/7, mb1 3.7/9, mb1mx3.5/23, mbtmp3.7/9, MS3.6/1, Ms1 3.6/1, ms1mx2.8/19, Error ellipse: s-maj=78.5km s-min=17.6km az=46.0*

ISC 10 21:42:55.4±1.5, 14.07N±0.08×93.11W±0.08, h38km±13km, n25, σ1§31/27, mb3.8/9, MS3.6/1, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCIG	Comitan	2.39	23	*i* P	P	21 43 33.5	+0.5
CCIG				*i* S	S	21 44 04.1	+2.8
CCIG	Comitan	2.39	23	⇑*i* P	P	21 43 33.6	+0.6
CCIG				*i* S	S	21 44 02.7	+1.4
SCX	San Cristobal	2.69	10	*e*P	P	21 43 32.5	-4.8
SCX	San Cristobal	2.69	10	*e*P	P	21 43 38.0	+0.7
SCX				*i* S	S	21 44 08.0	-1.0
CMIG	Matias Romero	3.46	331	*e*P	P	21 43 48.1	-0.2
CMIG				*i* S	S	21 44 26.9	-1.6
OXX	Oaxaca	4.60	311	*e*P	P	21 44 04.0	-0.4
TEIG	Tepich	7.67	36	*e*Pn	P	21 44 43.4	-3.9
	8.6nm,0.5s						
JTS	JuntasAbangare	8.81	114	P	P	21 45 03.5	+0.3
	0.6nm,0.3s,baz=300,slow=20,SNR=2.7						
JTS	JuntasAbangare	8.81	114	P	P	21 45 05.3	+2.1
TXAR	Lajitas Array	18.07	329	P	P	21 47 09.5	+4.2
	0.1nm,0.3s,baz=150,slow=10,SNR=5.1						
MIAR	Mount Ida	20.39	359	*e*P	P	21 47 30.8	-1.0
	10nm,1.0s						
GDL2	Guadalupe Moun	20.78	332	*e*P	P	21 47 37.5	+1.7
WMOK	Wichita Mounta	21.21	347	*e*P	P	21 47 39.7	-0.4
	1.8nm,0.7s,mb3.5						
SDV	Santo Domingo	22.61	101	P	P	21 47 52.1	-2.2
	1.5nm,0.2s,mb4.0,baz=272,slow=6.0,SNR=3.7						
ANMO	Albuquerque	24.03	332	P	P	21 48 11.0	+3.1
	0.4nm,0.4s,mb3.2,baz=166,slow=11,SNR=3.9						
ANMO	Albuquerque	24.03	332	P	P	21 48 11.0	+3.1
	1.1nm,0.9s,mb3.3						
SDCO	Great Sand Dun	26.03	337	*e*P	P	21 48 27.8	+0.8
	8.8nm,1.2s,mb4.2						
PDAR	Pinedale Array	31.92	337	P	P	21 49 19.1	-0.7
	0.5nm,0.9s,mb3.4,baz=156,slow=8.9,SNR=3.1						
NVAR	Mina Array Bea	32.95	322	P	P	21 49 31.2	+2.5
	1.2nm,0.7s,mb4.0,baz=143,slow=7.3,SNR=8.3						
SIV	San Ignacio	43.53	132	P	P	21 50 56.9	-0.7
	0.9nm,0.6s,mb3.7,baz=15,slow=6.3,SNR=3.9						
SCHQ	Schefferville	45.53	21	LR	LR	22 11 58.7	
	comp=Z,72nm,18.9s,MS3.6,baz=114,slow=39						
YKA	Yellowknife Ar	50.72	347	P	P	21 51 52.7	-0.6
	3.2nm,0.9s,mb4.3,baz=150,slow=7.6,SNR=44						
YKA				PcP	PcP	21 53 11.3	+1.0
	0.4nm,1.0s,baz=145,slow=3.5,SNR=3.7						
YKA	Yellowknife Ar	50.72	347	P	P	21 51 52.7	-0.6
YKA				PcP	PcP	21 53 11.3	+1.0
ILAR	Eielson Array	62.35	337	P	P	21 53 15.9	-0.4
	0.7nm,1.0s,mb3.8,baz=99,slow=6.8,SNR=5.8						
CMAR	Chiang Mai Arr	145.57	339	PKPbc	PKPbc	22 02 31.5	+0.3
	1.3nm,0.8s,baz=355,slow=2.0,SNR=9.1						

IDC 10 21:48:28.2±4.7, 2.84S×98.32E, mb3.6/4, mb1 3.8/4, mb1mx3.4/17, mbtmp3.6/4, Error ellipse: s-maj=175.8km s-min=30.0km az=54.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	39.04	119	P	P	21 55 56.8	-2.0
	0.2nm,0.8s,baz=303,slow=9.0,SNR=4.9						
SONM	Songino Array	50.95	7	P	P	21 57 33.0	-0.6
	0.2nm,0.7s,baz=180,slow=7.2,SNR=2.1						
MKAR	Makanchi Array	51.40	346	P	P	21 57 34.5	-2.6
	0.5nm,0.6s,baz=149,slow=8.4,SNR=4.1						
ZAL	Zalesovo	57.69	351	P	P	21 58 19.4	-3.4
	1.1nm,0.5s,baz=304,slow=3.5,SNR=5.6						

*IDC **10** 21:49:24.4±0.7, 1.64S×99.52E, mb4.2/12, mb1 4.3/13, mb1mx4.1/20, mbtmp4.2/13, ML4.4/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/28, Error ellipse: s-maj=30.2km s-min=15.6km az=55.0*
*BJI **10** 21:49:27.0, 1.70S×100.08E, h35km, mb4.8*
*NEIC **10** 21:49:29.2±0.4, 1.57S×99.65E, h30km, mb4.5/9, Error ellipse: s-maj=15.0km s-min=7.4km az=64.0*
*MOS **10** 21:49:30.6±0.9, 1.41S×99.01E, h33km, mb4.6/6, Error ellipse: s-maj=60.5km s-min=14.2km az=109.7*

ISC 10 21:49:29.1±3.3, 1.5S±0.1×99.7E±0.1, h43km±27km, n49, σ0§96/41, mb4.4/23, MS3.5/1, 2C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	6.80	8	*e*P	P	21 51 09.8	+1.0
CM31	Chiang Mai Arr	19.84	358	*e*P	P	21 53 56.7	-2.5
	3.2nm,0.6s						
CMAR	Chiang Mai Arr	19.84	358	P	P	21 53 56.8	-2.5
	0.5nm,0.3s,baz=187,slow=10,SNR=23						
JIRN	Jiri	31.77	337	*e*P	P	21 55 52.6	+0.8
	16nm,0.6s,mb5.0						
PKI	Pulchoki	32.01	336	*e*P	P	21 55 54.3	+0.5
LSA	Lhasa	32.08	346	*e*P	P	21 55 55.4	+1.0
LSA	Lhasa	32.08	346	*e*P	P	21 55 54.8	+0.4
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
LSA	Lhasa	32.08	346	*e*P	P	21 55 54.8	+0.3
	comp=Z,8.6nm,0.8s,mb4.6						
DMN	Daman	32.17	335	*e*P	P	21 55 55.4	+0.2
KKN	Kakani	32.26	336	*e*P	P	21 55 56.1	+0.1
	comp=Z,10nm,0.9s,mb4.7						
KKN	Kakani	32.26	336	*e*P	P	21 55 56.1	+0.1
KKN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
GKN	Gorkha	32.71	335	*e*P	P	21 55 59.8	-0.2
	comp=Z,5.6nm,0.4s,mb4.8						
ENH	Enshi	32.93	16	*e*P	P	21 56 00.4	-1.4
	comp=Z,4.1nm,0.6s,mb4.5						
KOLN	Koldanda	32.97	333	*e*P	P	21 56 02.1	-0.1
	comp=Z,8.6nm,0.5s,mb4.9						
NWAO	Narrogin (SRO)	35.34	154	LR	LR	22 09 32.2	
	comp=Z,89nm,20.9s,MS3.5,baz=257,slow=34						
XAN	Xi'an	36.38	13	P	P	21 56 31.0	-0.3
XAN				AP	pP	21 56 38.7	-4.4
XAN				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
WRA	Warramunga Arr	38.49	121	P	P	21 56 48.9	-0.1
	comp=Z,2.9nm,0.8s,mb4.1,baz=302,slow=9.4,SNR=15						
WRAB	Tennant Creek	38.49	121	*e*P	P	21 56 48.9	-0.2
ASAR	Alice Springs	39.77	126	P	P	21 56 59.7	0.0
	comp=Z,0.9nm,0.5s,mb3.7,baz=297,slow=7.9,SNR=10						
SONM	Songino Array	49.47	6	P	P	21 58 18.6	+1.4
	comp=Z,2.1nm,0.4s,mb4.5,baz=189,slow=9.8,SNR=27						
ULN	Ulaanbaatar	49.57	6	*e*P	P	21 58 19.0	+1.1
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ULN	Ulaanbaatar	49.57	6	*e*P	P	21 58 19.0	+1.0
	comp=Z,3.8nm,1.1s,mb4.3						
STKA	Stephens Creek	49.69	132	P	P	21 58 19.4	+0.3
	comp=Z,1.8nm,0.6s,mb4.3,baz=311,slow=10.0,SNR=5.3						
MKAR	Makanchi Array	50.47	345	P	P	21 58 25.3	+0.5
	comp=Z,4.3nm,0.4s,mb4.8,baz=149,slow=7.9,SNR=23						
KURK	Kurchatov	55.04	344	*e*P	P	21 58 58.7	-0.1
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KURK	Kurchatov	55.04	344	*e*P	P	21 58 58.7	-0.1
	comp=Z,3.0nm,0.7s,mb4.4						
ZAL	Zalesovo	56.61	349	P	P	21 59 10.4	+0.3
	comp=Z,6.6nm,0.4s,mb5.0,baz=318,slow=4.0,SNR=35						
BVAR	Borovoye Array	59.61	340	P	P	21 59 30.0	-1.1
	comp=Z,1.7nm,0.7s,mb4.2,baz=108,slow=4.7,SNR=10						
CHKZ	Chkalovo	60.08	340	*e*P	P	21 59 33.3	-0.9
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	Chkalovo	60.08	340	*e*P	P	21 59 33.3	-0.9
	comp=Z,2.4nm,0.6s,mb4.4						
BOD	Bodaibo	60.22	9	*e*P	P	21 59 34.7	-0.4
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MATP	Matopo	71.90	249	P	P	22 00 49.2	-0.9
	comp=Z,1.0nm,0.7s,mb3.9,baz=92,slow=19,SNR=3.6						
MATP	Matopo	71.90	249	P	P	22 00 49.2	-0.9
BRTR	Keskin Array B	72.78	312	P	P	22 00 53.5	-1.7
	comp=Z,0.4nm,0.7s,mb3.5,baz=129,slow=7.9,SNR=4.0						
TIRR	Tirgusor	77.80	316	⇓P	P	22 01 23.5	-0.2
MLR	Muntele Rosu	79.74	317	P	P	22 01 34.1	-0.2
	comp=Z,1.4nm,0.7s,mb4.0,baz=208,slow=4.0,SNR=5.7						
MLR	Muntele Rosu	79.74	317	⇑P	P	22 01 35.4	+1.0
MLR	Muntele Rosu	79.74	317	⇑P	P	22 01 35.4	+1.1
BURAR	Bucovina Array	80.70	319	⇓P	P	22 01 40.7	+1.3
FINES	FINESS Array B	83.54	332	P	P	22 01 54.4	+0.7
	comp=Z,0.8nm,0.6s,mb4.1,baz=90,slow=5.7,SNR=8.3						
ARCES	ARCESS Array B	85.90	340	P	P	22 02 07.0	+1.7
	comp=Z,0.6nm,0.5s,mb4.1,baz=101,slow=6.2,SNR=5.9						
ARCES	ARCESS Array B	85.90	340	P	P	22 02 07.0	+1.7
TXAR	Lajitas Array	144.46	37	PKP	PKPdf	22 09 03.5	+2.0
	comp=Z,1.4nm,0.5s,baz=231,slow=0.4,SNR=12						
MIAR	Mount Ida	144.85	19	*e*PKP	PKPdf	22 09 03.5	+1.4
TZTN	Tazewell	144.99	5	*e*PKP	PKPdf	22 09 03.4	+1.2
CFAA	Coronel Fontan	145.16	198	PKP	PKPdf	22 09 04.0	+1.3
	comp=Z,0.5nm,0.6s,baz=172,slow=2.9,SNR=6.7						
CFAA	Coronel Fontan	145.16	198	PKP	PKPdf	22 09 04.0	+1.3
JCT	Junction City	145.73	31	*e*PKP	PKPdf	22 09 06.5	+2.8
CPCT	Cooper Cave	145.98	6	*e*PKP	PKPdf	22 09 06.4	+2.4

*IDC **10** 21:54:10.1±2.6, 1.74S×99.80E, mb3.6/7, mb1 3.8/7, mb1mx3.6/18, mbtmp3.6/7, Error ellipse: s-maj=111.7km s-min=20.3km az=57.0*
*NEIC **10** 21:54:14.7±0.9, 1.69S×99.87E, h30km, mb3.9/1, Error ellipse: s-maj=43.2km s-min=9.3km az=57.0*

ISC 10 21:54:13.2±1.9, 1.6S±0.3×99.9E±0.5, h33km, n14, σ0§64/9, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	19.98	357	P	P	21 58 44.8	-0.9
	0.6nm,0.7s,baz=188,slow=9.6,SNR=4.2						
WRA	Warramunga Arr	38.31	121	P	P	22 01 32.3	-0.3
	0.7nm,0.5s,mb3.6,baz=303,slow=9.0,SNR=8.1						
WRAB	Tennant Creek	38.31	121	*e*P	P	22 01 32.6	-0.1
WRAB				*e*		22 01 40.0	
ASAR	Alice Springs	39.59	126	P	P	22 01 43.5	+0.3
	0.5nm,0.5s,mb3.5,baz=302,slow=7.9,SNR=5.8						
SONM	Songino Array	49.59	6	P	P	22 03 04.2	+1.0
	0.2nm,0.5s,mb3.4,baz=188,slow=8.7,SNR=3.7						
MKAR	Makanchi Array	50.63	344	P	P	22 03 11.9	+0.7
	0.5nm,0.4s,mb3.8,baz=149,slow=7.1,SNR=4.5						
KURK	Kurchatov	55.21	344	*e*P	P	22 03 44.6	-0.6
	1.2nm,0.9s,mb3.9						
ZAL	Zalesovo	56.77	349	P	P	22 03 57.0	+0.7
	1.1nm,0.4s,mb4.3,baz=289,slow=7.0,SNR=3.4						
BVAR	Borovoye Array	59.79	340	P	P	22 04 16.8	-0.6
	0.4nm,0.5s,mb3.7,baz=153,slow=9.9,SNR=3.7						
TXAR	Lajitas Array	144.50	37	PKP	PKPdf	22 13 49.0	+2.1
	0.4nm,0.6s,SNR=3.5						
TXAR	Lajitas Array	144.50	37	PKP	PKPdf	22 13 49.0	+2.1
MIAR	Mount Ida	144.94	19	*e*P	PKPdf	22 13 48.9	+1.4
TZTN	Tazewell	145.12	5	*e*PKP	PKPdf	22 13 49.4	+1.6
CPCT	Cooper Cave	146.11	6	*e*PKP	PKPdf	22 13 51.6	+2.1

*IDC **10** 22:06:46.6±0.7, 1.79S×99.58E, mb4.1/13, mb1 4.3/13, mb1mx4.1/21, mbtmp4.1/13, MS3.2/1, Ms1 3.4/1, ms1mx2.9/37, Error ellipse: s-maj=31.7km s-min=14.1km az=52.0*
*BJI **10** 22:06:51.2, 1.70S×99.70E, h30km, mB4.7*
*NEIC **10** 22:06:51.3±0.4, 1.73S×99.67E, h30km, mb4.3/4, Error ellipse: s-maj=14.9km s-min=7.0km az=62.0*

ISC 10 22:06:51.1±3.6, 1.7S±0.1×99.8E±0.2, h43km±31km, n28, σ0§86/23, mb4.2/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	6.95	7	P	P	22 08 33.2	+0.2
CM31	Chiang Mai Arr	19.99	358	*e*P	P	22 11 21.6	-1.3
	2.4nm,0.6s						
CMAR	Chiang Mai Arr	19.99	358	P	P	22 11 22.8	-0.2
	2.1nm,0.7s,baz=186,slow=10,SNR=16						
CMAR				LR	LR	22 19 55.5	
	comp=Z,68nm,19.5s,baz=27,slow=39						
FITZ	Fitzroy Crossi	30.22	124	P	P	22 13 00.8	+0.7
	3.5nm,0.5s,mb4.4,baz=347,slow=1.3,SNR=7.3						
LSA	Lhasa	32.24	346	*e*P	P	22 13 19.1	+1.3
	1.5nm,0.5s,mb4.1						
ENH	Enshi	33.07	16	*e*P	P	22 13 23.6	-1.5
WRA	Warramunga Arr	38.39	121	P	P	22 14 09.5	-0.8
	2.9nm,0.4s,mb4.3,baz=302,slow=9.2,SNR=13						
WRA				PcP	PcP	22 16 23.3	-0.4
	0.5nm,0.6s,baz=314,slow=2.2,SNR=4.8						
WB2	Warramunga Arr	38.40	121	*e*P	P	22 14 10.7	+0.4
ASAR	Alice Springs	39.66	126	P	P	22 14 20.4	-0.4
	0.7nm,0.7s,mb3.5,baz=300,slow=7.5,SNR=5.7						
ASAR				PcP	PcP	22 16 28.2	+0.6
	1.0nm,0.8s,baz=292,slow=3.1,SNR=5.9						
WMQ	Urumqi	46.54	348	P	P	22 15 18.4	+2.0
WMQ				AP	pP	22 15 28.4	0.0
WMQ				XP	sP	22 15 32.4	-1.2
STKA	Stephens Creek	49.57	132	P	P	22 15 40.5	+0.3
	1.3nm,0.6s,mb4.2,baz=7.4,slow=2.7,SNR=4.6						
STKA	Stephens Creek	49.57	132	*e*P	P	22 15 40.3	+0.1
SONM	Songino Array	49.62	6	P	P	22 15 41.3	+1.0
	1.7nm,0.8s,mb4.2,baz=186,slow=9.0,SNR=9.2						
SONM				PcP	PcP	22 17 01.9	+0.3
	0.6nm,0.5s,baz=176,slow=3.5,SNR=4.4						
MKAR	Makanchi Array	50.62	345	P	P	22 15 48.5	+0.4
	3.9nm,0.6s,mb4.5,baz=147,slow=8.1,SNR=22						
KURK	Kurchatov	55.20	344	*e*P	P	22 16 21.7	-0.2
	3.4nm,0.8s,mb4.4						
ZAL	Zalesovo	56.77	349	P	P	22 16 33.2	0.0
	7.3nm,0.5s,mb5.0,baz=310,slow=5.4,SNR=24						
BVAR	Borovoye Array	59.77	340	P	P	22 16 53.3	-0.9
	1.5nm,0.5s,mb4.2,baz=145,slow=9.7,SNR=15						
CHKZ	Chkalovo	60.23	341	*e*P	P	22 16 56.4	-0.9
	3.0nm,1.0s,mb4.3						
MATP	Matopo	71.86	249	P	P	22 18 11.6	-0.4
	2.8nm,0.8s,mb4.2,baz=273,slow=21,SNR=5.4						
BRTR	Keskin Array B	72.90	312	P	P	22 18 16.8	-1.0
	0.4nm,0.5s,mb3.6,baz=117,slow=3.2,SNR=2.8						
MLR	Muntele Rosu	79.87	317	P	P	22 18 57.5	+0.5
	1.2nm,0.7s,mb4.0,baz=131,slow=4.8,SNR=5.6						
FINES	FINESS Array B	83.69	332	P	P	22 19 17.4	+1.0
	0.9nm,0.5s,mb4.2,baz=113,slow=6.1,SNR=14						
FINES	FINESS Array B	83.69	332	P	P	22 19 17.4	+1.0
TXAR	Lajitas Array	144.57	37	PKP	PKPdf	22 26 25.6	+2.0
	2.2nm,0.6s,baz=273,slow=1.3,SNR=21						
MIAR	Mount Ida	144.99	19	*e*PKP	PKPdf	22 26 25.7	+1.5
MIAR				*e*		22 26 31.5	
TZTN	Tazewell	145.14	5	*e*PKP	PKPdf	22 26 25.6	+1.2
JCT	Junction City	145.85	31	*e*PKP	PKPdf	22 26 28.8	+2.9
JCT				*e*		22 26 34.7	
CPCT	Cooper Cave	146.14	6	*e*PKP	PKPdf	22 26 28.9	+2.7

IDC 10 22:14:09.4±3.4, 3.66S×102.98E, mb3.6/4, mb1 3.7/4, mb1mx3.4/18, mbtmp3.6/4, Error ellipse: s-maj=152.1km s-min=27.7km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	22.34	350	P	P	22 19 08.8	-1.7
	1.2nm,0.7s,baz=196,slow=11,SNR=8.8						
WRA	Warramunga Arr	34.59	120	P	P	22 21 00.1	-2.2
	0.3nm,0.4s,baz=301,slow=9.2,SNR=4.6						
MKAR	Makanchi Array	53.46	342	P	P	22 23 32.5	-1.2
	2.2nm,0.6s,baz=158,slow=8.0,SNR=24						
BVAR	Borovoye Array	62.79	339	P	P	22 24 35.4	-3.5
	0.4nm,0.5s,baz=158,slow=7.8,SNR=4.7						

*IDC **10** 22:15:13.9±0.6, 1.73S×99.75E, mb4.2/16, mb1 4.4/16, mb1mx4.3/21, mbtmp4.2/16, Error ellipse: s-maj=26.5km s-min=13.5km az=50.0*
*BJI **10** 22:15:19.2, 1.70S×99.80E, h46km, mb4.7*
*NEIC **10** 22:15:20.3±1.9, 1.73S×99.78E, h46km±16km, mb4.4/11, Error ellipse: s-maj=17.6km s-min=6.6km az=52.0*

ISC 10 22:15:18.5±3.2, 1.7S±0.1×99.8E±0.1, h45km±28km, n43, σ0§89/38, mb4.4/26, 2C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	6.97	7	*e*P	P	22 17 01.2	+0.6
CM31	Chiang Mai Arr	20.03	358	*e*P	P	22 19 49.7	-0.7
	3.3nm,0.6s						
CMAR	Chiang Mai Arr	20.03	358	P	P	22 19 49.6	-0.8
	1.2nm,0.6s,baz=185,slow=10,SNR=8.6						
FITZ	Fitzroy Crossi	30.13	124	P	P	22 21 25.2	-1.3
	7.4nm,0.9s,mb4.4,baz=317,slow=3.5,SNR=4.1						
JIRN	Jiri	31.98	337	*e*P	P	22 21 43.1	+0.3
	23nm,0.7s,mb5.1						
LSA	Lhasa	32.28	346	*e*P	P	22 21 46.4	+1.0
	1.0nm,0.4s,mb4.0						
DMN	Daman	32.38	335	*e*P	P	22 21 45.8	-0.4
	8.1nm,0.8s,mb4.6						
KKN	Kakani	32.47	336	*e*P	P	22 21 46.9	-0.1
	7.9nm,0.7s,mb4.6						
GKN	Gorkha	32.92	335	*e*P	P	22 21 50.8	-0.2
	5.4nm,0.6s,mb4.7						
KOLN	Koldanda	33.18	333	*e*P	P	22 21 53.1	-0.1
	16nm,0.8s,mb5.0						
WRA	Warramunga Arr	38.30	121	P	P	22 22 36.9	+0.2
	2.7nm,0.5s,mb4.2,baz=304,slow=9.0,SNR=41						
WRA				PcP	PcP	22 24 51.8	+1.3
	0.6nm,0.5s,baz=312,slow=2.5,SNR=5.7						
WRAB	Tennant Creek	38.31	121	*e*P	P	22 22 36.8	+0.1
	3.9nm,0.5s,mb4.4						
WB2	Warramunga Arr	38.31	121	*e*P	P	22 22 37.7	+1.0
ASAR	Alice Springs	39.58	126	P	P	22 22 45.7	-1.5
	1.5nm,0.6s,mb3.9,baz=306,slow=8.3,SNR=15						
ASAR				PcP	PcP	22 24 55.9	+1.4
	1.1nm,0.6s,baz=288,slow=2.3,SN

comp=Z,6.3nm,0.6s,mb4.5
ASAR Alice Springs 39.66 126 P **P 22 22 56.4 +0.4**
comp=Z,3.3nm,0.8s,mb4.1,baz=297,slow=7.8,SNR=9.8
BJI Beijing 44.23 18 *e*P **P 22 23 32.1 -1.2**
BJI pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
BJI Beijing 44.23 18 *e*P **P 22 23 32.1 -1.2**
comp=Z,7.0nm,0.9s,mb4.4
SONM Songino Array 49.72 6 P **P 22 24 16.0 -0.2**
comp=Z,2.1nm,0.6s,mb4.3,baz=186,slow=9.6,SNR=12
SONM Songino Array 49.72 6 P **P 22 24 16.0 -0.2**
MKAR Makanchi Array 50.69 345 P **P 22 24 23.1 -0.6**
comp=Z,3.9nm,0.5s,mb4.6,baz=148,slow=7.9,SNR=13
MKAR Makanchi Array 50.69 345 P **P 22 24 23.1 -0.6**
KURK Kurchatov 55.27 344 *e*P **P 22 24 57.5 -0.2**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KURK Kurchatov 55.27 344 *e*P **P 22 24 57.5 -0.1**
comp=Z,4.7nm,0.8s,mb4.6
ZAL Zalesovo 56.85 350 P **P 22 25 08.7 -0.3**
comp=Z,5.0nm,0.5s,mb4.8,baz=316,slow=5.6,SNR=12
ZAL Zalesovo 56.85 350 P **P 22 25 08.7 -0.3**
BVAR Borovoye Array 59.83 340 P **P 22 25 28.0 -1.8**
comp=Z,2.2nm,0.6s,mb4.4,baz=144,slow=9.2,SNR=13
BVAR Borovoye Array 59.83 340 P **P 22 25 28.0 -1.8**
CHKZ Chkalovo 60.29 341 *e*P **P 22 25 31.8 -1.2**
CHKZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
CHKZ Chkalovo 60.29 341 *e*P **P 22 25 31.8 -1.2**
comp=Z,4.0nm,0.7s,mb4.6
KMBO Kilima Mbogo 62.41 270 P **P 22 25 48.6 +0.8**
comp=Z,1.1nm,0.6s,mb4.1,baz=40,slow=10,SNR=4.1
KMBO Kilima Mbogo 62.41 270 P **P 22 25 48.6 +0.8**
GNI Garni 65.12 316 P **P 22 26 05.5 +0.3**
comp=Z,0.8nm,0.4s,mb4.1,baz=246,slow=2.9,SNR=3.9
FINES FINESS Array B 83.73 332 P **P 22 27 52.6 +0.5**
comp=Z,1.0nm,0.5s,mb4.2,baz=109,slow=6.0,SNR=7.0
FINES FINESS Array B 83.73 332 P **P 22 27 52.6 +0.5**
WVT Waverly 145.08 11 *e*PKP PKPdf 22 35 00.8 +1.0
MIAR Mount Ida 145.09 19 *e*PKP PKPdf 22 35 01.2 +1.3
TZTN Tazewell 145.24 5 *e*PKP PKPdf 22 35 00.7 +0.6
JCT Junction City 145.96 31 *e*PKP PKPdf 22 35 03.7 +2.2

IDC 10 22:20:34.1±3.1, 1.63S×99.14E, mb3.7/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=129.3km s-min=27.8km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.96**	**359**	P	P	22 25 09.5	-1.3
	0.2nm,0.3s,baz=190,slow=10.0,SNR=4.8						
WRA	**Warramunga Arr**	**38.92**	**120**	P	P	22 28 01.8	-1.7
	0.7nm,0.5s,baz=303,slow=9.0,SNR=5.8						
MKAR	**Makanchi Array**	**50.45**	**345**	P	P	22 29 32.9	-2.7
	1.0nm,0.7s,baz=162,slow=8.2,SNR=8.5						
BVAR	**Borovoye Array**	**59.54**	**340**	P	P	22 30 39.2	-2.5
	0.6nm,0.8s,baz=117,slow=6.4,SNR=3.9						

KRSC 10 22:20:41.5±1.4, 55.29N×162.47E, h23km±5km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.85**	**210**	*e*P	Pb	22 20 57.0	-0.5
MKZ				*e*S	Sb	22 21 08.8	+0.3
KBTR	**Krutoberegovo**	**0.94**	**12**	*e*P	Pb	22 20 58.4	-0.6
KBTR				*e*S	Sb	22 21 12.8	+1.7
ZLN	**Zelenaya**	**1.19**	**308**	*e*P	Pn	22 21 03.4	+0.4
ZLN				*e*S	Sb	22 21 19.4	+1.1
CIRR	**Tsirk**	**1.28**	**311**	*e*P	Pn	22 21 05.3	+1.1
CIRR				*e*S	Sn	22 21 21.8	+1.1
LGNR	**Loginova**	**1.28**	**309**	*e*P	Pn	22 21 02.3	-2.0
TUMR	**Tumrok**	**1.33**	**271**	*e*P	Pn	22 21 04.9	0.0
TUMR				*e*S	Sn	22 21 21.9	-0.1
KMNR	**Kamenistaya**	**1.35**	**291**	*e*P	Pn	22 21 05.2	-0.1
KMNR				*e*S	Sn	22 21 23.5	+0.9
KRSR	**Krestovskiy**	**1.42**	**312**	*e*S	Sn	22 21 24.2	-0.2
KPT	**Kopyto**	**1.44**	**299**	*e*S	Sn	22 21 25.4	+0.5
KLY	**Klyuchi**	**1.45**	**316**	*e*P	Pn	22 21 05.3	-1.4
KLY				*e*S	Sn	22 21 22.8	-2.3
KOZ	**Kozyrevsk**	**1.66**	**299**	*e*S	Sn	22 21 30.5	+0.1
SRDR	**Sredinnyy**	**1.86**	**305**	*e*P	Pn	22 21 12.6	0.0
SRDR				*e*S	Sn	22 21 36.5	+0.9
BKI	**Bering**	**2.01**	**91**	*e*P	Pn	22 21 13.6	-1.0
BKI				*e*S	Sn	22 21 36.0	-3.3
ESO	**Esso**	**2.23**	**288**	*e*P	Pn	22 21 18.2	+0.3
ESO				*e*S	Sn	22 21 45.9	+0.9
ESO				Smax			
	40nm,0.7s						
SPN	**Mys Shipunski**	**2.62**	**214**	*e*P	Pn	22 21 23.1	-0.4
SPN				*e*S	Sn	22 21 52.7	-2.3
NLC	**Nalytchevo**	**2.81**	**222**	*e*P	Pn	22 21 25.9	-0.1
NLC				*e*S	Sn	22 21 58.3	-1.2
SMAR	**Somma**	**2.96**	**228**	*e*P	Pn	22 21 28.6	+0.4
SMAR				*e*S	Sn	22 22 04.2	+0.8
AVH	**Avacha**	**2.98**	**229**	*e*P	Pn	22 21 29.1	+0.5
AVH				*e*S	Sn	22 22 03.0	-1.1
UGLR	**Uglovaya**	**2.99**	**227**	*e*P	Pn	22 21 28.6	0.0
GNL	**Ganaly**	**3.09**	**241**	*e*P	Pn	22 21 29.9	-0.1
KRMR	**Karymshinskiy**	**3.55**	**228**	*e*S	Sn	22 22 18.7	+0.3
RUS	**Russkaya**	**3.70**	**221**	*e*P	Pn	22 21 39.9	+1.2
RUS				*e*S	Sn	22 22 22.8	+0.7
GRL	**Gorelyy**	**3.78**	**225**	*e*P	Pn	22 21 41.0	+1.1
APC	**Apacha**	**3.92**	**235**	*e*P	Pn	22 21 44.9	+3.0
APC				*e*S	Sn	22 22 28.6	+0.8
APC				Smax			
	10.0nm,1.0s						

NIED ***10*** *22:22:00, 35.70N×140.70E, h50km, Mw6.0 Best double couple: M₀9.65×10¹⁷ NP1:φs359°, δ74°, λ81°. NP2:φs210°, δ18°, λ120°.*
CRAAG ***10*** *22:22:11.1, 35.97N×140.37E, Mb6.2*
BJI ***10*** *22:22:13.3, 35.64N×140.53E, h55km, mB6.1, mb6.1, Ms5.8, Msz5.6*
MOS ***10*** *22:22:13.4±0.9, 35.62N×140.38E, h33km, mb6.3/102, MS5.6/54, Error ellipse: s-maj=6.6km s-min=4.1km az=108.6*
BGS ***10*** *22:22:14.2, 35.29N×140.18E, h40km, mb6.3*
HRVD ***10*** *22:22:15.7±0.1, 35.61N×140.81E, h50km, MW5.9/75, Centroid moment Tensor Solution. LP body waves: s72,c170;Mantle waves: s75,c231; Half duration: 2s2 Moment tensor: Scale 10¹⁸Nm; Mrr0.69±.01; Mθθ0.04±.01; Mφφ-0.73±.01; Mrθ-0.04±.01; Mθφ-0.10±.01; Mφr0.67±.01; Best double couple: M₀.988×10¹⁸ NP1:φs195°, δ24°, λ104°. NP2:φs360°, δ67°, λ84°. Principal axes: T.966, Plg68°, Azm258°; N.044, Plg6°, Azm2°; P-1.01, Plg21°, Azm95°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***10*** *22:22:15.7±0.1, 35.60N×140.40E, h43km, mb6.1/206, ME5.8, MS5.4/137, MW5.9, MW5.9(NIED) Error ellipse: s-maj=2.7km s-min=2.1km az=165.0 Broadband fault plane solution: P waves. NP1:φs10°, δ75°, λ90°. NP2: φs190°, δ15°, λ90°. Principal axes: T Plg60°, Azm280°; N Plg0°, Azm0°; P Plg30°, Azm100°; Moment Tensor Solution. s46 Moment tensor: Scale 10¹⁷ Nm; Mrr4.80; Mθθ-1.38; Mφφ-3.42; Mrθ1.13; Mθφ-0.67; Mφr8.42; Best double couple: M₀9.5×10¹⁷ NP1:φs198°, δ13°, λ99°. NP2: φs9°, δ77°, λ88°. Principal axes: T 10.1, Plg58°, Azm276°; N-1.2, Plg2°, Azm9°; P-8.9, Plg32°, Azm100°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Tokyo and Zama; [III] at Ayase, Yokohama and Yokosuka; [II] at Sagimihara and Utsunomiya. Felt in Hamura. High speed train and airport service interrupted in the Tokyo area. Recorded [5U JMA] in Chiba and Ibaraki; [4 JMA] in Saitama; [3 JMA] in Fukushima, Kanagawa, Miyagi, Shizuoka, Tochigi, Tokyo and Yamanashi; [2 JMA] in Gumma, Nagano, Niigata and Yamagata; [1 JMA] in Aichi, Akita, Aomori, Gifu, Hyogo and Iwate Prefectures. Also recorded [1 JMA] on Kozu-jima, Miyake-jima, Nii-jima and O-shima.
JMA ***10*** *22:22:15.6±0.1, 35.73N×140.62E, h52km±1km, M6.1 Broadband fault plane solution: P waves. NP1:φs179°, δ26°, λ86°. NP2:φs4°, δ64°, λ92°. Principal axes: T Plg71°, Azm278°; N Plg2°, Azm183°; P Plg19°, Azm92°;*
IDC ***10*** *22:22:18.8±0.9, 35.59N×140.47E, h68km±6km, mb5.6/29, mb1 5.7/32, mb1mx5.7/33, mbtmp5.9/32, MS5.3/29, Ms1 5.3/29, ms1mx5.3/33 Error ellipse: s-maj=9.4km s-min=5.8km az=86.0*
ISC 10 22:22:14.3±0.1, 35.57N±0.02×140.47E±0.02, h43km, h43km±1.7km; pP-P, n1237, c0§93/1199, mb6.1/286, MS5.5/192, 319C-37D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.27**	**235**	⇓P	P	22 22 26.9	+4.4
JCN				S	S	22 22 35.9	+7.7
CHOJ	**Chosi**	**0.34**	**67**	⇑P	P	22 22 24.0	+0.7
BSO4	**Boso 4**	**0.59**	**191**	⇓P	P	22 22 30.3	+3.9
TOK	**Tokyo**	**0.59**	**281**	P	P	22 22 30.6	+4.2
TOK				S	S	22 22 42.0	+6.9
JYT	**Yasato**	**0.69**	**341**	⇓P	P	22 22 28.5	+0.8
JYT				S	S	22 22 37.5	-0.1
BSO3	**Boso 3**	**0.77**	**178**	⇓P	P	22 22 31.9	+3.1
BSO1	**Boso 1**	**1.00**	**155**	P	P	22 22 34.1	+2.0
JHO	**Hitachi**	**1.04**	**4**	P	P	22 22 32.4	-0.2
JOD2	**Odawara 2**	**1.17**	**255**	⇓P	P	22 22 38.0	+3.5
JAG	**Ashikaga**	**1.19**	**316**	⇓P	P	22 22 36.0	+1.3
JIM2	**Oshima 3**	**1.21**	**225**	⇓P	P	22 22 37.9	+2.9
JRY	**Ryogami san**	**1.35**	**290**	⇓P	P	22 22 40.3	+3.1
ONAJ	**Iwakimizuishiy**	**1.55**	**10**	⇓P	P	22 22 39.7	-0.2
JFK	**Kawauchi**	**1.82**	**10**	⇓P	P	22 22 43.1	-0.7
JFY	**Yanaizu**	**1.93**	**342**	⇓P	P	22 22 46.4	+1.0
JFT	**Otama**	**1.95**	**357**	⇓P	P	22 22 46.1	+0.6
MJAR	**Matsushiro Arr**	**2.07**	**298**	P	P	22 22 49.0	+1.6
MJAR				pmax	pmax		
	comp=Z,985nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,177μm,18.5s						
MJAR	**Matsushiro Arr**	**2.07**	**298**	P	P	22 22 49.0	+1.7
	comp=Z,985nm,0.3s,baz=95,slow=12,SNR=4380						
MJAR				LR	LR	22 23 49.6	
	comp=Z,177μm,18.5s,baz=120,slow=45						
MAJO	**Matsushiro**	**2.08**	**298**	⇓*e*P	P	22 22 49.7	+2.3
MAT	**Matsushiro**	**2.08**	**298**	*e*P	P	22 22 51.0	+3.6
MAT				*e*S	S	22 23 15.0	+2.9
MAT	**Matsushiro**	**2.08**	**298**	P	P	22 22 49.5	+2.1
MAT				S	S	22 23 15.1	+3.0
JMM	**Marumori**	**2.30**	**6**	⇓P	P	22 22 50.6	-0.1
JNS	**Sasagawa**	**2.43**	**338**	S	S	22 23 27.0	+5.9
JHJ	**Hachijo jima 2**	**2.51**	**193**	P	P	22 22 55.7	+2.1
	comp=Z,1μm,0.3s,baz=80,slow=2.1,SNR=172						
JHJ				S	S	22 23 28.1	+4.8
	comp=Z,2μm,0.3s,baz=255,slow=22,SNR=9.8						
JHJ				LR	LR	22 23 31.7	
	comp=Z,15μm,20.3s,baz=7.7,slow=29						
JOU	**Okura**	**2.79**	**3**	P	P	22 22 57.9	+0.3
JIO	**Ouri**	**2.96**	**13**	⇓P	P	22 22 58.9	-1.1
JYA	**Atsumi**	**3.08**	**349**	P	P	22 23 03.2	+1.5
JYK	**Kaneyama**	**3.34**	**358**	P	P	22 23 05.9	+0.5
JEG	**Eigenji**	**3.37**	**264**	P	P	22 23 09.5	+3.8
OFUJ	**Ofunato**	**3.63**	**15**	P	P	22 23 07.8	-1.7
JRG	**Rokugo**	**3.82**	**2**	P	P	22 23 12.4	+0.2
JOM	**Ohasama**	**3.95**	**9**	⇑P	P	22 23 13.0	-1.0
JHE	**Heguri**	**4.03**	**258**	P	P	22 23 18.3	+3.2
JWT	**Wachi**	**4.15**	**267**	P	P	22 23 19.7	+2.8
JKY	**Yasaka**	**4.38**	**272**	P	P	22 23 22.7	+2.7
JKZ	**Kuzumaki**	**4.46**	**9**	P	P	22 23 20.1	-1.1
JWM	**Minabe**	**4.55**	**249**	P	P	22 23 25.7	+3.2
JAH	**Hinai**	**4.61**	**2**	P	P	22 23 23.0	-0.4
JKS	**Kasai**	**4.64**	**264**	⇓P	P	22 23 26.4	+2.6
JANG	**Nango**	**4.86**	**9**	⇓P	P	22 23 25.1	-1.8
JAD	**Aida**	**5.20**	**265**	P	P	22 23 34.0	+2.4
JKR	**Kurayoshi**	**5.43**	**270**	P	P	22 23 37.9	+3.0
JMN	**Monobe**	**5.74**	**253**	P	P	22 23 42.3	+3.2
JOT	**Ohata**	**5.82**	**4**	P	P	22 23 38.5	-1.8
JHS	**Saijyo**	**6.04**	**267**	P	P	22 23 46.2	+2.8
JNM	**Ikuma**	**6.07**	**271**	P	P	22 23 46.8	+3.0
JEM	**Erimo**	**6.77**	**17**	P	P	22 23 49.0	-4.6
JTO	**Tosashimizu**	**6.91**	**249**	P	P	22 23 58.5	+3.0
JNBK	**Urakawa-nobuka**	**6.93**	**14**	P	P	22 23 52.0	-3.9
JKIT	**Kitakata**	**8.04**	**251**	P	P	22 24 14.7	+3.5
JHR	**Hokuryu**	**8.22**	**6**	P	P	22 24 09.3	-4.4
JIU2	**Izumi 2**	**8.56**	**252**	P	P	22 24 21.7	+3.2
CBIJ	**Chichi jima**	**8.57**	**170**	P	P	22 24 15.8	-2.8
	comp=Z,428nm,0.3s,baz=330,slow=7.5,SNR=149						
CBIJ				S	S	22 25 45.2	-10
	comp=Z,225nm,0.3s,baz=111,slow=22,SNR=4.0						
JTA	**Tamana**	**8.63**	**255**	P	P	22 24 22.3	+2.9
JTZ	**Takazaki**	**8.63**	**248**	P	P	22 24 22.9	+3.5
JNAR	**Kushima--Naru**	**8.67**	**245**	P	P	22 24 24.1	+4.1
ASAJ	**Asahikawa**	**8.69**	**10**	P	P	22 24 14.9	-5.4
ASAJ				S	S	22 25 50.7	-7.3
ASAJ				pmax	pmax		
	comp=Z,28nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,19μm,21.1s						
ASAJ	**Asahikawa**	**8.69**	**10**	P	P	22 24 14.8	-5.4
	comp=Z,28nm,0.3s,baz=226,slow=13,SNR=87						
ASAJ				S	S	22 25 50.6	-7.4
	comp=Z,40nm,0.3s,baz=340,slow=20,SNR=4.4						
ASAJ				LR	LR	22 28 21.4	
	comp=Z,19μm,21.1s,baz=196,slow=42						
NEM2	**Nemuro 2**	**8.78**	**26**	P	P	22 24 14.6	-7.0
JSS	**Shosan**	**8.88**	**6**	P	P	22 24 18.4	-4.5
JZO	**Okuchi**	**8.89**	**250**	P	P	22 24 26.9	+3.8
JRA	**Rausu**	**9.09**	**22**	P	P	22 24 19.4	-6.4
JTSR	**Tashiro 2**	**9.11**	**244**	P	P	22 24 29.9	+3.8
JSU	**Suzuyama**	**9.29**	**247**	P	P	22 24 32.0	+3.4
JTN	**Tanegashima 3**	**9.35**	**241**	P	P	22 24 33.5	+4.1
YUK	**Yuzh-Kuril'sk**	**9.41**	**24**	*e*P	P	22 24 25.4	-4.8
YUK				pmax	pmax		
	comp=N,2μm,0.8s						
YUK				pmax	pmax		
	comp=E,2μm,0.8s						
YUK				pmax	pmax		
	comp=Z,3μm,0.8s						
YUK				pmax	pmax		
	comp=Z,7μm,1.2s						
YUK				pmax	pmax		
	comp=E,4μm,1.4s						
YUK				pmax	pmax		
	comp=N,5μm,1.8s						
YUK				MLR	MLR		
	comp=N,12μm,17.0s						
YUK				MLR	MLR		
	comp=E,9μm,18.0s						
YUK				MLR	MLR		
	comp=Z,19μm,18.0s						
JSJ	**Shimokoshiki**	**9.77**	**250**	P	P	22 24 37.6	+2.4
JKC	**Kuchinoerabu**	**10.02**	**242**	P	P	22 24 42.0	+3.4
JNN	**Nakanoshima**	**10.60**	**240**	P	P	22 24 50.4	+3.9
YSS	**Yuzh-Sakhalins**	**11.50**	**8**	⇑*i*P	P	22 24 53.2	-5.5
YSS				pmax	pmax		
	comp=Z,100nm,0.9s						
YSS				pmax	pmax		
	comp=Z,460nm,1.0s						
YSS				MLR	MLR		
	comp=N,23μm,15.0s						
YSS				MLR	MLR		
	comp=E,17μm,19.0s						
YSS				MLR	MLR		
	comp=Z,13μm,19.0s						
YSS	**Yuzh-Sakhalins**	**11.50**	**8**	*e*P	P	22 24 53.1	-5.5
	comp=Z,552nm,0.8s						
MDJ	**Mudanjiang**	**12.28**	**321**	P	P	22 25 08.2	-1.0
MDJ				S	S	22 27 26.7	+1.1
MDJ				PCP	PcP	22 30 48.4	-0.7
MDJ				SCP		22 34 16.4	
MDJ				PCS		22 34 21.7	
MDJ				SCS	ScS	22 37 52.3	+0.3
MDJ				AMB	AMB		
	comp=Z,409nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,3μm,5.0s						
MDJ				LR	LR		
	comp=N,6μm,12.8s						
MDJ				LR	LR		
	comp=E,16μm,12.8s						
MDJ				LR	LR		
	comp=Z,24μm,21.3s						
MDJ	**Mudanjiang**	**12.28**	**321**	⇑*i*P	P	22 25 09.0	-0.1
	comp=Z,2μm,1.3s						
UGL	**Uglegorsk**	**13.55**	**4**	*e*P	P	22 25 18.0	-7.9
UGL				pmax	pmax		
	comp=Z,110nm,0.9s						
UGL				pmax	pmax		
	comp=Z,700nm,2.0s						
UGL				MLR	MLR		
	comp=N,13μm,19.0s						
UGL				MLR	MLR		
	comp=E,31μm,18.0s						
UGL				MLR	MLR		
	comp=Z,16μm,18.0s						
JOW	**Kunigami**	**13.59**	**233**	P	P	22 25 28.5	+2.0
	comp=Z,5.9nm,0.3s,baz=58,slow=12,SNR=24						
JOW				S	S	22 27 49.2	-7.8
	comp=Z,1.7nm,0.3s,baz=60,slow=23,SNR=7.3						
JOW				LR	LR	22 30 32.0	
	comp=Z,24μm,21.1s,baz=53,slow=36						
CN2	**Changchun**	**14.18**	**310**	*e*P	P	22 25 33.1	-1.0
CN2				*e*S	S	22 28 08.3	-2.6
CN2				AMB	AMB		
	comp=Z,610nm,1.3s						
CN2				AMB	AMB		
	comp=Z,3μm,5.0s						
CN2				LR	LR		
	comp=N,17μm,18.0s						
CN2				LR	LR		
	comp=E,22μm,18.0s						
CN2				LR	LR		
	comp=Z,19μm,19.0s						
SNY	**Shenyang**	**14.59**	**300**	⇑P	P	22 25 40.7	+1.2
SNY				AP		22 25 52.6	
SNY				PP	PP	22 25 55.0	+3.8
SNY				S	S	22 28 26.3	+5.7
SNY				AMB	AMB		
	comp=Z,330nm,1.4s						
SNY				AMB	AMB		
	comp=Z,3μm,9.4s						
SNY				LR	LR		
	comp=N,12μm,15.5s						
SNY				LR	LR		
	comp=E,18μm,18.8s						
SNY				LR	LR		
	comp=Z,25μm,27.3s						
KLR	**Kul'dur**	**15.08**	**338**	*e*P	P	22 25 37.3	-8.6
KLR				*e*		22 28 33.0	
KLR				MLR	MLR		
	comp=E,8μm,13.0s						
KLR				MLR	MLR		
	comp=Z,18μm,13.0s						
TYV	**Tymovskoe**	**15.37**	**5**	*e*P	P	22 25 41.0	-8.6
TYV				*e*S	S	22 28 29.0	-10
TYV				pmax	pmax		
	comp=Z,1μm,1.1s						
TYV				pmax	pmax		
	comp=E,2μm,1.5s						
TYV				pmax	pmax		
	comp=Z,2μm,1.5s						
TYV				smax			
	comp=E,6μm,8.0s						
TYV				smax			
	comp=N,4μm,4.0s						
TYV				MLR	MLR		
	comp=N,10μm,16.0s						
TYV				MLR	MLR		
	comp=Z,18μm,16.0s						
TYV				MLR	MLR		
	comp=E,10μm,18.0s						
DL2	**Dalian**	**15.37**	**288**	⇑*i*P	P	22 25 52.5	+2.7
DL2				AMB	AMB		
	comp=Z,850nm,1.0s						
DL2				AMB	AMB		
	comp=Z,5μm,5.3s						
DL2				LR	LR		
	comp=N,6μm,21.6s						
DL2				LR	LR		
	comp=E,14μm,21.6s						
DL2				LR	LR		
	comp=Z,19μm,22.2s						
SSE	**Sheshan**	**16.72**	**260**	⇑P	P	22 26 08.0	+1.1
SSE				AP		22 26 21.2	
SSE				XP		22 26 26.2	
SSE				S	S	22 29 08.6	-1.7
SSE				AMB	AMB		
	comp=Z,311nm,1.7s						
SSE				AMB	AMB		
	comp=Z,6μm,8.5s						
SSE				LR	LR		
	comp=N,7μm,15.7s						
SSE				LR	LR		
	comp=E,24μm,15.7s						
SSE				LR	LR		
	comp=Z,28μm,17.7s						
SSE	**Sheshan**	**16.72**	**260**	⇑P	P	22 26 08.0	+1.1
	comp=Z,311nm,1.7s						
SSE				pP		22 26 21.2	
SSE				sP		22 26 26.2	
SSE				S	S	22 29 08.6	-1.7
SSE				sS		22 29 35.9	
OKH	**Okha**	**18.06**	**5**	*e*P	P	22 26 17.8	-5.7
OKH				*i* S	S	22 29 31.0	-9.4
OKH				pmax	pmax		
	comp=Z,3μm,6.0s						
OKH				smax			
	comp=E,6μm,9.0s						
OKH				smax			
	comp=Z,11μm,16.0s						
NJ2	**Nanjing**	**18.30**	**265**	*e*P	P	22 26 26.9	+0.2
NJ2				AP		22 26 34.8	
NJ2				XP		22 26 39.4	
NJ2				PP	PP	22 26 42.9	+0.8
NJ2				S	S	22 29 48.0	+1.9
NJ2				AMB	AMB		
	comp=Z,170nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,1μm,3.9s						
NJ2				LR	LR		
	comp=N,35μm,15.1s						
NJ2				LR	LR		
	comp=E,62μm,23.1s						
NJ2				LR	LR		
	comp=Z,30μm,22.3s						
SKR	**Severo-Kuril's**	**18.87**	**32α**	*i*P	P	22 26 29.0	-4.4
SKR				*i* S	S	22 29 57.0	-1.8
SKR				pmax	pmax		
	comp=N,3μm,6.0s						
SKR				pmax	pmax		
	comp=E,4μm,6.0s						
SKR				pmax	pmax		
	comp=Z,5μm,6.0s						
SKR				pmax	pmax		
	comp=E,220nm,1.0s						
SKR				pmax	pmax		
	comp=Z,630nm,1.0s						
SKR				pmax	pmax		
	comp=N,190nm,0.8s						
SKR				smax			
	comp=E,12μm,12.0s						
SKR				smax			
	comp=N,5μm,16.0s						
SKR				MLR	MLR		
	comp=N,3μm,14.0s						
SKR				MLR	MLR		
	comp=Z,8μm,14.0s						
SKR				MLR	MLR		
	comp=E,6μm,16.0s						
TIA	**Tai'an**	**18.92**	**279**	⇑P	P	22 26 31.5	-2.6
TIA				PP	PP	22 26 52.5	+1.7
TIA				AMB	AMB		
	comp=Z,437nm,1.2s						
TIA				AMB	AMB		
	comp=Z,2μm,4.0s						
TIA				LR	LR		
	comp=N,6μm,17.4s						
TIA				LR	LR		
	comp=E,7μm,21.9s						
SARN	**Sarigan**	**19.38**	**165**	*e*P	P	22 26 38.6	-0.7
TATO	**Taipei**	**19.47**	**242**	*e*P	P	22 26 39.2	-1.1
	comp=E,443nm,1.0s						
BJI	**Beijing**	**19.69**	**290**	*e*P	P	22 26 39.4	-3.2
BJI				AP		22 26 49.1	
BJI				XP		22 26 55.0	
BJI				S	S	22 30 21.0	+4.0
BJI				AMB	AMB		
	comp=Z,887nm,1.1s						
BJI				LR	LR		
	comp=N,13μm,24.4s						
BJI				LR	LR		
	comp=E,10μm,20.7s						

BJI LR LR
comp=Z,27μm,28.8s
BJI Beijing 19.69 290 *e*P **P 22 26 39.4 -3.2**
BJI S **S 22 30 21.0 +4.0**
BJI pmax pmax
comp=Z,887nm,1.1s
BJI Beijing 19.69 290 *e*P **P 22 26 39.4 -3.2**
comp=Z,887nm,1.1s
BJI pP 22 26 49.1
BJI sP 22 26 55.0
BJI S **S 22 30 21.0 +4.0**
BJI PcP PcP 22 30 47.4 -13
BJT Baijiatuau 19.69 290⇑ *i*P **P 22 26 39.2 -3.4**
BJT pmax pmax
comp=Z,2μm,1.3s
BJT Baijiatuau 19.69 290⇑ *i*P **P 22 26 39.2 -3.4**
comp=Z,2μm,1.3s
YHNB Yeheng 19.74 242 *e*P **P 22 26 41.3 -1.9**
NACB Ninganchiao 19.89 240 *e*P **P 22 26 42.2 -2.6**
HIA Hailar 20.44 318 *e*P **P 22 26 46.3 -4.2**
HIA pmax pmax
comp=Z,384nm,1.1s
HIA Hailar 20.44 318 *e*P **P 22 26 46.3 -4.2**
comp=Z,384nm,1.1s
QZH Quanzhou 21.62 247⇑ *i*P **P 22 26 59.9 -2.7**
QZH S **S 22 30 51.8 -2.7**
QZH AMB AMB
comp=Z,890nm,1.0s,mb6.2
QZH AMB AMB
comp=Z,3μm,5.6s
QZH LR LR
comp=N,14μm,15.8s,MS5.9
QZH LR LR
comp=E,35μm,17.6s,MS5.9
QZH LR LR
comp=Z,45μm,19.7s,MS5.9
PET Petropavlovsk 21.66 31*d i*P **P 22 27 02.2 -0.6**
PET *i* S **S 22 30 55.0 0.0**
PET *e* 22 31 03.1
PET *e* 22 38 22.4
PET pmax pmax
comp=Z,1μm,8.6s
PET pmax pmax
comp=N,459nm,1.2s
PET pmax pmax
comp=E,273nm,1.1s
PET pmax pmax
comp=Z,702nm,1.4s,mb5.9
PET smax
comp=E,89nm,3.3s
PET smax
comp=N,5μm,4.9s
PET smax
comp=N,105nm,3.0s
PET MLR MLR
comp=Z,12μm,22.0s,MS5.3
PET MLR MLR
comp=Z,9μm,19.0s
PET Petropavlovsk 21.66 31 *e*P **P 22 27 02.3 -0.5**
comp=Z,556nm,1.0s,mb5.9
PET LR LR
comp=Z,14μm,21.0s,MS5,3
BBP Basco 22.17 232 *e*P **P 22 27 05.9 -2.2**
GUMO Guam 22.24 169 *e*P **P 22 27 08.1 -0.7**
GUMO pmax pmax
comp=Z,4μm,1.5s,mb6.6
GUMO MLR MLR
comp=Z,8μm,19.0s,MS5.2
GUMO Guam 22.24 169 *e*P **P 22 27 08.1 -0.8**
comp=Z,4μm,1.5s,mb6.6
GUMO LR LR
comp=Z,8μm,19.0s,MS5.2
TIY Taiyuan 22.57 284⇓ P **P 22 27 10.0 -1.9**
TIY LR LR
comp=E,12μm,15.0s
TIY LR LR
comp=Z,4μm,10.0s,MS5.2
HHC Hu-ho-hao-te 23.26 292⇑ *i*P **P 22 27 15.7 -2.9**
HHC AP 22 27 27.0
HHC XP 22 27 33.1
HHC PP PP 22 27 51.0 +0.6
HHC PCP PcP 22 31 01.9 -5.1
HHC S **S 22 31 23.1 -0.9**
HHC XS 22 31 42.6
HHC AMB AMB
comp=Z,313nm,1.3s,mb5.6
HHC LR LR
comp=E,6μm,23.5s
HHC LR LR
comp=Z,11μm,23.8s,MS5.2
CLNS Chul'man 23.73 338 *e*P **P 22 27 20.7 -2.3**
CLNS *e**PP 22 27 27.5
CLNS *e* 22 31 05.3
CLNS *e*S **S 22 31 29.9 -2.2**
CLNS *e* 22 38 26.6
CLNS pmax pmax
comp=Z,1μm,1.4s,mb6.2
CLNS pmax pmax
comp=N,1μm,1.7s
CLNS pmax pmax
comp=E,256nm,0.8s
CLNS smax
comp=N,112nm,1.0s
CLNS smax
comp=Z,81nm,2.0s
CLNS smax
comp=E,80nm,1.3s
CLNS MLR MLR
comp=Z,9μm,19.0s,MS5.3
CLNS MLR MLR
comp=N,5μm,13.0s
CLNS MLR MLR
comp=E,2μm,13.0s
CVP Callao Caves 24.31 228⇓ *e*P **P 22 27 26.0 -3.0**
BTO Baotou 24.42 291 *e*P **P 22 27 26.7 -3.2**
BTO S **S 22 31 34.0 -10**
BTO AMB AMB
comp=Z,297nm,1.5s,mb5.5
BTO LR LR
comp=N,4μm,9.1s
BTO LR LR
comp=E,9μm,19.6s
CAUP Cauayan 24.90 227 *e*P **P 22 27 32.8 -1.9**
MA2 Magadan 24.94 12*c i*P **P 22 27 34.0 -0.7**
MA2 *e* 22 27 44.6
MA2 *i* S **S 22 31 51.9 -0.7**
MA2 pmax pmax
comp=Z,500nm,0.9s,mb6.0
MA2 pmax pmax
comp=N,200nm,1.2s
MA2 MLR MLR
comp=Z,16μm,22.0s,MS5.5
MA2 Magadan 24.94 12⇑ *e*P **P 22 27 33.9 -0.8**
comp=Z,939nm,1.0s,mb6.3
MA2 LR LR
comp=Z,6μm,20.0s,MS5.1
ABRA Dolores 25.03 230 *e*P **P 22 27 33.6 -2.4**
XAN Xi'an 25.90 276 P **P 22 27 42.6 -1.4**
XAN AP pP 22 27 55.7 +0.5
XAN S **S 22 32 02.0 -6.7**
XAN AMB AMB
comp=Z,467nm,1.3s,mb5.9
XAN LR LR
comp=N,12μm,18.4s
XAN LR LR
comp=E,11μm,23.8s
XAN LR LR
comp=Z,18μm,21.1s,MS5.6
BALP Baler 25.99 225 *e*P **P 22 27 41.7 -3.3**
BCPH Baguio City Da 26.08 228⇑ *e*P **P 22 27 41.7 -4.1**
PVCP Virac 26.36 218 *e*P **P 22 27 45.8 -2.7**
HKC Hong Kong 26.45 247⇑ *i*P **P 22 27 48.0 -1.2**
HKC S **S 22 32 18.0 +0.2**
ENH Enshi 26.48 267⇑ *i*P **P 22 27 47.9 -1.5**
comp=Z,4μm,1.3s,mb6.8
SCZP Santa Cruz 26.95 228 *e*P **P 22 27 50.3 -3.5**
YAK Yakutsk 27.34 349*c i*P **P 22 27 55.0 -2.0**
YAK *e**PP pP 22 28 02.2 -6.2
YAK *e*PPP PPP 22 28 43.3 -14
YAK *e* 22 31 21.1
YAK *e*S **S 22 32 27.0 -5.0**
YAK *e*SSS SSS 22 33 48.7 -21
YAK *e* 22 38 38.7
YAK pmax pmax
comp=Z,341nm,1.3s,mb5.7
YAK pmax pmax
comp=N,268nm,1.4s
YAK pmax pmax
comp=E,97nm,1.2s
YAK smax
comp=Z,17nm,0.9s
YAK smax
comp=N,35nm,1.1s
YAK smax
comp=E,23nm,1.1s
YAK MLR MLR
comp=Z,6μm,22.0s,MS5.2
YAK MLR MLR
comp=N,4μm,18.0s,MS5.2
YAK MLR MLR
comp=E,3μm,16.0s,MS5.2
YAK Yakutsk 27.34 349 *e*P **P 22 27 54.7 -2.3**
comp=E,469nm,0.6s,mb6.2
YAK LR LR
comp=Z,11μm,21.0s,MS5.4
ULN Ulaanbaatar 27.58 307 *e*P **P 22 27 57.6 -1.7**
ULN pmax pmax
comp=Z,540nm,1.2s,mb6.0
ULN MLR MLR
comp=Z,13μm,21.0s,MS5.5
ULN Ulaanbaatar 27.58 307 *e*P **P 22 27 57.6 -1.7**
comp=Z,544nm,1.2s,mb6.1
ULN LR LR
comp=Z,13μm,21.0s,MS5.5
BOAC Boac 27.68 222 *e*P **P 22 27 57.5 -3.1**
SONM Songino Array 28.01 306 P **P 22 28 02.1 -1.1**
comp=Z,142nm,0.8s,mb5.7,baz=105,slow=8.5,SNR=391
SONM PcP PcP 22 31 17.2 -0.3
comp=Z,32nm,1.0s,baz=166,slow=5.1,SNR=4.4
SONM ScP 22 34 53.8
comp=Z,19nm,1.0s,baz=90,slow=2.5,SNR=9.0
SONM LR LR 22 39 31.1
comp=Z,14μm,19.0s,MS5.6,baz=106,slow=37
LUBP Lubang 28.36 225 *e*P **P 22 28 01.8 -4.8**
SEY Seymchan 28.37 11 *i* P **P 22 28 06.6 +0.4**
SEY *e*PPP PPP 22 29 09.0 -1.8
SEY *e* 22 31 20.1
SEY *e*S **S 22 32 48.4 -0.1**
SEY *e*SS SS 22 34 07.6 -7.2
SEY pmax pmax
comp=N,200nm,0.8s
SEY pmax pmax
comp=E,130nm,0.8s
SEY pmax pmax
comp=Z,60nm,0.8s,mb5.3
BOD Bodaibo 28.39 330⇓ *i*P **P 22 28 04.7 -1.7**
BOD pmax pmax
comp=Z,333nm,0.8s,mb6.0
FX1 Attu Island--F 28.78 43 P **P 22 28 11.3 +1.3**
comp=Z,42nm,0.6s,mb5.4,baz=231,slow=5.1,SNR=10
FX1 LR LR 22 37 49.4
comp=Z,272nm,19.9s,baz=262,slow=32
FX1 Attu Island--F 28.78 43 *e*P **P 22 28 10.8 +0.8**
LZH Lanzhou 29.59 282⇑ P **P 22 28 16.4 -1.0**
LZH AP pP 22 28 29.3 +0.4
LZH XP sP 22 28 34.7 +0.4
LZH PP PP 22 29 15.0 +0.5
LZH S **S 22 33 10.3 +2.0**
LZH XS 22 33 27.3
LZH AMB AMB
comp=Z,1μm,1.3s,mb6.4
LZH AMB AMB
comp=Z,4μm,5.0s
LZH LR LR
comp=E,24μm,14.6s
LZH LR LR
comp=Z,43μm,16.1s,MS6.2
LZH Lanzhou 29.59 282⇑ P **P 22 28 16.4 -1.0**
LZH *PP pP 22 28 29.3 +0.4
LZH 22 29 15.0
LZH PPP PPP 22 29 30.1 +2.0
LZH S **S 22 33 10.3 +2.0**
LZH *SS 22 33 27.3
LZH pmax pmax
comp=Z,1μm,1.3s,mb6.4
LZH MLR MLR
comp=Z,43μm,16.1s,MS6.2
LZH Lanzhou 29.59 282⇑ P **P 22 28 16.4 -1.0**
comp=Z,1μm,1.3s,mb6.4
LZH pP pP 22 28 29.3 +0.4
LZH sP sP 22 28 34.7 +0.4
LZH PP PP 22 29 15.0 +0.5
LZH PPP PPP 22 29 30.1 +2.0
LZH S **S 22 33 10.3 +2.0**
LZH sS 22 33 27.3
LZH SS SS 22 34 50.2 +6.4
LZH LR LR
comp=Z,43μm,16.1s,MS6.2
BUSP Coron 29.79 223 *e*P **P 22 28 16.1 -3.2**
GYA Guiyang 30.25 262⇑ *i*P **P 22 28 21.5 -1.8**
GYA AP pP 22 28 35.7 +0.8
GYA XP sP 22 28 40.3 0.0
GYA PP PP 22 29 21.5 -1.6
GYA S **S 22 33 19.9 +1.2**
GYA SS SS 22 34 56.3 -2.9
GYA AMB AMB
comp=Z,1μm,1.2s,mb6.5
GYA AMB AMB
comp=Z,1μm,4.2s
GYA LR LR
comp=N,11μm,19.3s,MS5.7
GYA LR LR
comp=E,12μm,17.4s,MS5.7
GYA LR LR
comp=Z,12μm,16.2s,MS5.6
IRK Irkutsk 30.55 314 *e*P **P 22 28 23.7 -2.0**
IRK *e* 22 31 23.8
IRK pmax pmax
comp=Z,246nm,1.0s,mb6.0
ZAK Zakamensk 30.61 311⇓ *i*P **P 22 28 24.4 -1.9**
ZAK *e* 22 31 22.6
ZAK pmax pmax
comp=Z,74nm,0.9s,mb5.5
TLY Talaya 30.74 313 *e*P **P 22 28 25.7 -1.8**
TLY *e* 22 29 28.5
TLY *e*S **S 22 33 25.8 -0.4**
TLY *e*SS SS 22 35 13.8 +3.4
TLY pmax pmax
comp=Z,139nm,1.0s,mb5.7
TLY MLR MLR
comp=Z,8μm,17.0s,MS5.5
CD2 Chengdu 30.94 272 P **P 22 28 27.4 -2.0**
CD2 AMB AMB
comp=Z,630nm,1.2s,mb6.3
CD2 AMB AMB
comp=Z,2μm,12.0s
CD2 LR LR
comp=E,33μm,20.4s
CD2 LR LR
comp=Z,33μm,20.4s,MS6.0
DAV Davao City (W) 31.49 209 *e*P **P 22 28 31.5 -2.9**
QIZ Qiongzhong 31.64 247⇓ *i*P **P 22 28 35.3 -0.4**
QIZ AP pP 22 28 44.6 -2.7
QIZ PP PP 22 29 41.8 +0.6
QIZ S **S 22 33 40.5 -0.2**
QIZ AMB AMB
comp=Z,74nm,1.4s,mb5.3
QIZ AMB AMB
comp=Z,909nm,7.7s
QIZ LR LR
comp=E,11μm,19.0s
QIZ LR LR
comp=Z,13μm,22.4s,MS5.5
QIZ Qiongzhong 31.64 247 *e*P **P 22 28 35.5 -0.2**
comp=Z,87nm,1.1s,mb5.5
GTA Gaotai 32.30 289⇑ *i*P **P 22 28 39.8 -1.4**
GTA AP pP 22 28 51.9 -1.0
GTA XP sP 22 28 56.7 -1.6
GTA PP PP 22 29 48.6 -0.9
GTA PPP PPP 22 30 02.7 -2.2
GTA PCP PcP 22 31 28.5 -0.2
GTA S **S 22 33 51.2 +0.5**
GTA XS 22 34 07.9
GTA SCP 22 35 06.9
GTA PCS 22 35 12.8
GTA SS SS 22 35 47.5 +0.4
GTA SCS ScS 22 39 04.8 -0.5
GTA AMB AMB
comp=Z,270nm,1.4s,mb5.9
GTA AMB AMB
comp=Z,2μm,6.9s
GTA LR LR
comp=N,7μm,19.8s,MS5.5
GTA LR LR
comp=E,8μm,21.7s,MS5.5
GTA LR LR
comp=Z,14μm,30.8s
MOY Mondy 32.33 312 *e*P **P 22 28 39.8 -1.6**
MOY pmax pmax
comp=Z,115nm,1.2s,mb5.6
KMI Kunming 34.01 263⇑ P **P 22 28 54.9 -1.2**
KMI AP pP 22 29 05.9 -1.9
KMI XP sP 22 29 09.3 -4.0
KMI PP PP 22 30 07.2 -3.6
KMI S **S 22 34 13.9 -3.5**
KMI SS SS 22 36 22.1 -4.5
KMI AMB AMB
comp=Z,489nm,1.4s,mb6.2
KMI AMB AMB
comp=Z,1μm,3.1s
KMI LR LR
comp=N,10μm,22.9s
KMI LR LR
comp=E,9μm,14.7s
KMI LR LR
comp=Z,14μm,25.4s,MS5.6
KMI Kunming 34.01 263⇑ P **P 22 28 54.9 -1.2**
KMI *PP pP 22 29 05.9 -1.9
KMI *SP sP 22 29 09.3 -4.0
KMI 22 30 07.2
KMI PPP PPP 22 30 26.1 -2.8
KMI S **S 22 34 13.9 -3.5**
KMI *SS 22 34 32.4
KMI SS SS 22 36 22.1 -4.5
KMI pmax pmax
comp=Z,489nm,1.4s,mb6.2
KMI MLR MLR
comp=Z,14μm,25.4s,MS5.6
KMI Kunming 34.01 263⇑ P **P 22 28 54.9 -1.2**
comp=Z,489nm,1.4s,mb6.2
KMI pP pP 22 29 05.9 -1.9
KMI sP sP 22 29 09.3 -4.0
KMI PP PP 22 30 07.2 -3.6
KMI PPP PPP 22 30 26.1 -2.8
KMI S **S 22 34 13.9 -3.5**
KMI sS 22 34 32.4
KMI SS SS 22 36 22.1 -4.5
KMI LR LR
comp=Z,14μm,25.4s,MS5.6
KIWB Kanaga Island 34.13 48 *e*P **P 22 28 55.4 -1.5**
BILL Bilibino 35.64 16*c i*P **P 22 29 08.0 -1.7**
BILL *i* 22 31 36.6
BILL *i* S **S 22 34 37.2 -5.1**
BILL *e*SS SS 22 37 25.9 +22
BILL pmax pmax
comp=Z,372nm,1.2s,mb6.2
BILL MLR MLR
comp=Z,5μm,18.0s,MS5.3
BILL Bilibino 35.64 16 *e*P **P 22 29 07.6 -2.1**
comp=Z,313nm,1.1s,mb6.2
BILL LR LR
comp=Z,5μm,19.0s,MS5.3
MIDW Midway 36.32 90 PFAKE 22 29 30.0 +14
MIDW LR LR
comp=Z,6μm,20.0s,MS5.4
KWAJ Kwajalein Atol 36.38 131 PFAKE 22 29 30.0 +13
KWAJ LR LR
comp=Z,2μm,20.0s,MS4.8
TIXI Tiksi 36.65 354 *i* P **P 22 29 16.6 -1.6**
TIXI pmax pmax
comp=Z,203nm,1.0s,mb5.9
TIXI Tiksi 36.65 354 *i* P **P 22 29 16.7 -1.5**
KKM Kota Kinabalu 36.89 223 *e*P **P 22 29 18.9 -1.9**
KKM Kota Kinabalu 36.89 223 P **P 22 29 19.3 -1.5**
TSM Tawau 37.48 219 P **P 22 29 24.2 -1.4**
UBT Ubonrachathani 37.59 247 P **P 22 29 27.0 +0.3**
YOMI Yo Moklole 38.01 180⇑ *e*Pn **P 22 29 28.8 -1.4**
LKP Lekhapani 38.50 270 *e*P **P 22 29 36.5 +2.4**
LKP *e* pP 22 29 50.0 +4.1
KKTK Khon Kaen 38.59 250⇑ P **P 22 29 34.0 -0.9**
comp=Z,2μm,1.0s,mb6.8
NANT Nan 38.82 255⇑ P **P 22 29 37.0 +0.2**
comp=Z,125nm,0.5s,mb5.9
NIKO Nikolski 39.32 48 *e*P **P 22 29 39.6 -1.0**
CHG Chiang Mai 40.20 257⇑ P **P 22 29 48.0 -0.3**
comp=Z,150nm,1.2s,mb5.6
CM31 Chiang Mai Arr 40.40 256 *e*P **P 22 29 48.8 -1.1**
comp=Z,24nm,0.5s,mb5.2
CM31 LR LR
comp=Z,11μm,21.0s,MS5.7
CMAR Chiang Mai Arr 40.40 256 P **P 22 29 50.1 +0.2**
CMAR 22 31 53.7
CMAR pmax pmax
comp=Z,38nm,0.9s
CMAR MLR MLR
comp=Z,9μm,18.0s
CMAR Chiang Mai Arr 40.40 256 P **P 22 29 50.1 +0.2**
comp=Z,38nm,0.9s,mb5.1,baz=46,slow=7.5,SNR=117
CMAR PcP PcP 22 31 53.7 +0.6
comp=Z,45nm,0.9s,baz=20,slow=2.1,SNR=10.0
CMAR LR LR 22 48 17.1
comp=Z,9μm,18.0s,MS5.7,baz=50,slow=39
UNV Unalaska Valle 40.80 46 *e*P **P 22 29 53.5 +0.7**
comp=Z,239nm,1.2s,mb5.7
UNV LR LR
comp=Z,13μm,22.0s,MS5.7
WMQ Urumqi 40.84 298⇑ P **P 22 29 54.2 +0.9**
WMQ AP pP 22 30 06.2 +1.0
WMQ XP sP 22 30 11.7 +1.2
WMQ PP PP 22 31 32.2 +1.4
WMQ PCP PcP 22 31 55.4 +1.1
WMQ PPP PPP 22 32 01.2 +0.9
WMQ SCP 22 35 39.8
WMQ PCS 22 35 44.9
WMQ S **S 22 36 01.7 +0.4**
WMQ XS 22 36 22.4
WMQ SS SS 22 38 59.2 +0.2
WMQ SCS ScS 22 39 53.2 +0.7
WMQ AMB AMB
comp=Z,910nm,1.2s,mb6.3
WMQ AMB AMB
comp=Z,2μm,2.6s,mb6.3
WMQ LR LR
comp=N,7μm,17.8s
WMQ LR LR
comp=E,5μm,23.6s
WMQ LR LR
comp=Z,8μm,22.5s,MS5.5
NST Nakhon Sawan 41.06 252⇓ P **P 22 29 55.0 -0.4**
comp=Z,212nm,1.3s,mb5.6
LSA Lhasa 41.60 276 P **P 22 30 01.1 +1.4**
LSA AP pP 22 30 10.2 -1.4
LSA XP sP 22 30 14.6 -2.3
LSA AMB AMB
comp=Z,760nm,1.2s,mb6.2
LSA AMB AMB
comp=Z,2μm,6.7s
LSA LR LR
comp=N,3μm,20.3s,MS5.6
LSA LR LR
comp=E,9μm,23.3s,MS5.6
LSA LR LR
comp=Z,11μm,23.3s,MS5.7
LSA Lhasa 41.60 276 *e*P **P 22 30 00.9 +1.2**
LSA pmax pmax
comp=Z,2μm,1.3s,mb6.5
LSA Lhasa 41.60 276 *e*P **P 22 30 00.9 +1.2**
comp=Z,2μm,1.3s,mb6.5
ZAL Zalesovo 42.37 314 P **P 22 30 06.0 +0.3**
ZAL pmax pmax
comp=Z,189nm,0.9s
ZAL MLR MLR
comp=Z,3μm,19.7s
ZAL Zalesovo 42.37 314 P **P 22 30 06.0 +0.3**
comp=Z,189nm,0.9s,mb5.7,baz=9.2,slow=8.6,SNR=632
ZAL LR LR 22 48 49.7
comp=Z,3μm,19.7s,MS5.2,baz=252,slow=38
ZAL Zalesovo 42.37 314 P **P 22 30 06.0 +0.3**
ZAL LR LR 22 48 49.6
TNA Tin City 42.50 29 *e*P **P 22 30 07.0 +0.4**
comp=Z,260nm,1.3s,mb5.7
TNA LR LR
comp=Z,1μm,19.0s,MS4.8
SHL Shillong 42.64 270 *e*P **P 22 30 08.0 -0.3**
comp=Z,330nm,1.0s,mb6.0

SHL e 22 36 24.0
NNT Nongplab 43.24 248 P **P** **22 30 13.0 -0.4**
AGT Agartala 43.90 269⇓ *i*P **P** **22 30 19.0 +0.4**
AGT *i* 22 31 08.0
KSM Kuching 43.99 226 *e*P **P** **22 30 18.7 -0.8**
MKAR Makanchi Array 44.27 303 P **P** **22 30 21.6 +0.4**
MKAR S **S** **22 36 51.5 +0.1**
MKAR pmax pmax
comp=Z,299nm,0.8s
MKAR MLR MLR
comp=Z,9μm,19.1s
MKAR Makanchi Array 44.27 303 P **P** **22 30 21.6 +0.4**
comp=Z,299nm,0.8s,mb6.1,baz=90,slow=9.7,SNR=1029
MKAR S **S** **22 36 51.5 +0.1**
comp=Z,6.7nm,1.1s,baz=324,slow=27,SNR=2.5
MKAR LR LR 22 49 25.8
comp=Z,9μm,19.1s,MS5.7,baz=88,slow=37
PMG Port Moresby 45.18 171 *e*P **P** **22 30 28.0 -0.9**
PMG pmax pmax
comp=Z,147nm,1.0s
PMG MLR MLR
comp=Z,2μm,20.0s
PMG Port Moresby 45.18 171 P **P** **22 30 29.0 +0.1**
comp=Z,154nm,1.3s,mb5.7,baz=329,slow=6.4,SNR=5.6
PMG S **S** **22 37 02.7 -2.2**
comp=Z,9.0nm,0.8s,baz=300,slow=23,SNR=1.9
PMG Port Moresby 45.18 171 *e*P **P** **22 30 28.0 -0.9**
comp=Z,147nm,1.0s,mb5.8
PMG LR LR
comp=Z,2μm,20.0s,MS5.0
SNG Songkhla 46.14 242 P **P** **22 30 36.0 -0.6**
KURK Kurchatov 46.25 309 *e*P **P** **22 30 36.2 -0.7**
comp=Z,2μm,1.0s,mb6.9
KURK LR LR
comp=Z,2μm,21.0s,MS5.0
JIRN Jiri 46.40 276 *e*P **P** **22 30 39.4 +0.9**
comp=Z,6μm,1.6s
CAL Calcutta 46.90 269 *e*P **P** **22 30 43.5 +1.1**
PKI Pulchoki 47.07 276 *e*P **P** **22 30 43.6 -0.1**
comp=Z,2μm,1.5s,mb6.9
PKI Pulchoki 47.07 276 *e*P **P** **22 30 43.6 -0.1**
PKI pmax pmax
comp=Z,1μm,1.5s,mb6.6
KKN Kakani 47.09 277 *e*P **P** **22 30 43.0 -0.9**
comp=Z,3μm,1.5s,mb7.0
KKN Kakani 47.09 277 *e*P **P** **22 30 43.0 -0.9**
KKN pmax pmax
comp=Z,2μm,1.5s,mb6.7
SVW2 Sparrevohn 47.15 37 *e*P **P** **22 30 44.1 +0.2**
DMN Daman 47.30 277 *e*P **P** **22 30 45.6 0.0**
comp=Z,821nm,1.0s,mb6.6
KULM Kulim 47.43 240 *e*P **P** **22 30 45.4 -1.3**
GKN Gorkha 47.52 277 *e*P **P** **22 30 47.5 +0.2**
comp=Z,3μm,1.1s
IPM Ipoh 47.66 239 P **P** **22 30 47.5 -1.1**
KGM Kluang 47.96 234 P **P** **22 30 50.4 -0.6**
IMA Indian Mountai 48.33 30 *e*P **P** **22 30 53.5 +0.4**
IMA pmax pmax
comp=Z,90nm,1.2s,mb5.7
IMA Indian Mountai 48.33 30 *e*P **P** **22 30 53.5 +0.4**
comp=Z,90nm,1.2s,mb5.7
HNR Honiara 48.39 154 P **P** **22 30 57.9 +3.7**
HNR pmax pmax
comp=Z,610nm,1.3s,mb6.5
HNR Honiara 48.39 154 *e*P **P** **22 30 54.7 +0.5**
comp=Z,610nm,1.3s,mb6.5
HNR LR LR
comp=Z,3μm,20.0s,MS5.3
VLK Valmikinagar 48.43 277 *i*P **P** **22 30 53.0 -1.3**
VLK *i* pP 22 31 06.0 -0.3
KOLN Koldanda 48.46 277 *e*P **P** **22 30 54.3 -0.2**
comp=Z,3μm,1.6s,mb7.1
AAA Alma-Ata 48.62 299 *e*P **P** **22 30 56.0 +0.4**
AAA *e*S **S** **22 37 58.0 +4.6**
AAA pmax pmax
comp=Z,3μm,6.0s
AAA smax
comp=N,2μm,10.0s
AAA MLR MLR
comp=Z,5μm,16.0s,MS5.6
KDAK Kodiak Island 48.70 41 *e*P **P** **22 30 55.4 -0.6**
SPU Mount Spurr 48.86 36 P **P** **22 30 57.1 -0.1**
PBA Port Blair 49.20 253 *e*P **P** **22 30 59.5 -0.9**
PBA *e* 22 34 12.8
ULHL Ulahol 49.38 298 P **P** **22 31 01.9 +0.4**
SNR=32
KEDI Kedomdong 49.48 212⇑ *e*P **P** **22 31 00.6 -2.0**
KEDI pmax pmax
comp=Z,651nm,1.2s,mb6.5
KEDI Kedomdong 49.48 212⇑ *e*P **P** **22 31 00.6 -2.0**
comp=Z,650nm,1.2s,mb6.5
TKM2 Tokmak 2 49.67 299 P **P** **22 31 04.3 +0.7**
SNR=379
FIB Fire Island 49.77 36 P **P** **22 31 04.3 +0.1**
FIB Fire Island 49.77 36 *e*P **P** **22 31 03.8 -0.4**
FIB LR LR
comp=Z,2μm,22.0s,MS5.0
SLKM Skilak Lake 49.77 37 P **P** **22 31 03.4 -0.9**
SLKM Skilak Lake 49.77 37 *e*P **P** **22 31 02.7 -1.6**
RATI Rata 49.95 213⇑ *e*P **P** **22 31 03.8 -2.4**
KELI Kelakatan 49.97 214⇑ *e*P **P** **22 31 04.5 -1.9**
comp=Z,246nm,1.1s,mb6.2
KZA Kyzart 50.13 298 P **P** **22 31 08.6 +1.3**
SNR=269
KBK Karagaybulak 50.20 299 P **P** **22 31 08.2 +0.4**
SNR=489
CHMS Chumysh 50.25 300 P **P** **22 31 08.1 0.0**
SNR=128
PMR Palmer 50.25 36 *e*P **P** **22 31 06.4 -1.5**
MCK McKinley 50.27 33 *e*P **P** **22 31 07.1 -0.9**
MCK pmax pmax
comp=Z,105nm,1.1s,mb5.8
MCK MLR MLR
comp=Z,2μm,21.0s,MS5.0
MCK McKinley 50.27 33 *e*P **P** **22 31 07.1 -0.9**
comp=Z,105nm,1.1s,mb5.8
MCK LR LR
comp=Z,2μm,21.0s,MS5.0
KSH Kashi 50.32 295⇑ *i*P **P** **22 31 09.6 +0.9**
KSH *e*AP pP 22 31 19.0 -1.8
KSH *e*XP sP 22 31 23.2 -2.6
KSH *e*PCP PcP 22 32 28.5 +1.3
KSH PP PP 22 33 05.6 +0.4
KSH PCS 22 36 24.0
KSH *e*S **S** **22 38 17.6 +0.5**
KSH *e*PS PS 22 38 30.6 -1.1
KSH XS 22 38 34.6
KSH *e*SCS ScS 22 40 54.6 +1.7
KSH SS SS 22 41 48.0 +0.1
KSH AMB AMB
comp=Z,2μm,2.4s,mb6.7
KSH LR LR
comp=N,6μm,12.9s,MS5.9
KSH LR LR
comp=E,3μm,10.0s,MS5.9
USP Ospenovka 50.36 300 P **P** **22 31 08.9 -0.1**
SNR=248
FRU Bishkek 50.39 299α *i*P **P** **22 31 09.2 0.0**
FRU *e*S **S** **22 38 21.0 +3.1**
FRU pmax pmax
comp=Z,780nm,1.8s,mb6.4
FRU pmax pmax
comp=Z,3μm,6.0s
FRU MLR MLR
comp=Z,22μm,21.0s,MS6.2
PTH Pithoragarh 50.46 281 *e*P **P** **22 31 09.0 -1.0**
LGTI Lohaghat 50.48 281⇑ *i*P **P** **22 31 11.0 +0.9**
LGTI *e* 22 32 13.0
AAK Ala-Archa 50.53 299 P **P** **22 31 10.3 0.0**
SNR=8.4
AAK Ala-Archa 50.53 299 P **P** **22 31 10.5 +0.2**
AAK pmax pmax
comp=Z,220nm,1.1s,mb6.0
SML Sawmill 50.62 36 *e*P **P** **22 31 10.1 -0.6**
UCH Uchtor 50.62 299 P **P** **22 31 11.9 +0.9**
SNR=179
COLA College 50.72 32 *e*P **P** **22 31 11.1 -0.3**
COLA pmax pmax
comp=Z,169nm,0.9s,mb6.0
COLA College 50.72 32 *e*P **P** **22 31 11.1 -0.3**
comp=Z,169nm,0.9s,mb6.0
CHKZ Chkalovo 50.77 314 *e*P **P** **22 31 10.7 -1.2**
CHKZ pmax pmax
comp=Z,1μm,1.2s,mb6.7
CHKZ Chkalovo 50.77 314 *e*P **P** **22 31 10.7 -1.2**
comp=Z,1μm,1.2s,mb6.7
BVA0 Borovoye Array 51.00 313 *i*P **P** **22 31 13.0 -0.7**
BVA0 pmax pmax
comp=Z,84nm,1.1s,mb5.6
BVAR Borovoye Array 51.00 313 P **P** **22 31 13.5 -0.2**
comp=Z,316nm,1.0s,mb6.2,baz=90,slow=7.4,SNR=467
BVAR PcP PcP 22 32 29.2 -0.3
comp=Z,100nm,1.0s,baz=45,slow=8.4,SNR=3.7
BVAR S **S** **22 38 24.7 -1.6**
comp=Z,2.5nm,0.8s,baz=153,slow=13,SNR=2.6
BVAR P4KPbc 23 08 43.4
comp=Z,2.7nm,0.8s,baz=90,slow=5.9,SNR=18
EKS2 Erkin-Say 51.03 299 P **P** **22 31 14.2 +0.1**
SNR=9.5
ILAR Eielson Array 51.13 32 P **P** **22 31 13.9 -0.7**
ILAR S **S** **22 38 23.1 -4.9**
ILAR pmax pmax
comp=Z,106nm,0.8s
ILAR MLR MLR
comp=Z,2μm,21.3s
ILAR Eielson Array 51.13 32 P **P** **22 31 13.9 -0.6**
comp=Z,106nm,0.8s,mb5.8,baz=270,slow=6.1,SNR=743
ILAR S **S** **22 38 23.1 -4.8**
comp=Z,1.0nm,0.9s,baz=282,slow=4.0,SNR=2.8
ILAR LR LR 22 52 36.3
comp=Z,2μm,21.3s,MS5.2,baz=282,slow=36
ILAR Eielson Array 51.13 32 P **P** **22 31 13.9 -0.6**
ILAR S **S** **22 38 23.1 -4.8**
ILAR LR LR 22 52 36.3
AML Almayashu 51.23 299 P **P** **22 31 16.6 +0.9**
SNR=776
THY Trims Highway 51.71 33 *e*P **P** **22 31 18.1 -0.8**
DDI Dehra Dun 51.88 283⇑ *i*P **P** **22 31 20.4 -0.2**
DDI *e*S **S** **22 38 39.7 +1.0**
DIV Divide 51.90 36 *e*P **P** **22 31 19.7 -0.6**
comp=Z,495nm,1.0s,mb6.4
DIV LR LR
comp=Z,7μm,21.0s,MS5.7
EYAK Cordova Ski Ar 51.98 37 *e*P **P** **22 31 20.6 -0.3**
BLSP Bilaspur 52.15 272 *e*P **P** **22 31 22.5 -0.2**
BLSP *e* 22 31 24.9
comp=Z,844nm,1.5s
SMLA Simla 52.27 284 *i*S **S** **22 38 44.5 +0.5**
SDNR Sundarnagar 52.28 285 *e*P **P** **22 31 23.4 -0.2**
PENI Pendagan 52.67 226⇑ *e*P **P** **22 31 22.0 -4.7**
MENT Mentasta 52.67 34 *e*P **P** **22 31 25.9 -0.2**
DLH Dalhousie 52.67 287 *e*P **P** **22 31 27.0 +0.5**
BHK Bhakra 52.75 285 *e* **P** **22 31 29.4 +2.3**
THN Thein Dam 52.91 286 *e*P **P** **22 31 27.4 -0.9**
PONG Pong 52.91 286 *e*P **P** **22 31 27.0 -1.3**
KKAR Karatay Array 53.21 301 *i*P **P** **22 31 29.7 -0.7**
KKAR pmax pmax
comp=Z,426nm,1.0s,mb6.3
NDI New Delhi 53.21 282⇑ *i*P **P** **22 31 28.0 -2.6**
NDI *e*S **S** **22 38 56.0 -0.8**
VIS Vishakhapatnam 53.36 266 *e*P **P** **22 31 32.5 +0.6**
VIS *e* 22 31 34.9
comp=Z,897nm,1.3s
JHNI Jhansi 53.53 277⇑ *i*P **P** **22 31 29.0 -4.0**
JHNI *e* pP 22 31 41.0 -4.2
DAWY Dawson 54.44 32 *e*P **P** **22 31 38.7 -0.5**
KIP Kipapa 55.07 87 *e*P **P** **22 31 44.6 +0.3**
KIP pmax pmax
comp=Z,115nm,1.0s,mb5.9
KIP MLR MLR
comp=Z,6μm,20.0s,MS5.6
KIP Kipapa 55.07 87 *e*P **P** **22 31 44.6 +0.2**
comp=Z,115nm,1.0s,mb5.9
KIP LR LR
comp=Z,6μm,20.0s,MS5.6
FITZ Fitzroy Crossi 55.20 197⇑ *i*P **P** **22 31 45.0 -0.3**
comp=Z,563nm,1.0s,mb6.5
FITZ *e*S **S** **22 39 23.5 -0.3**
FITZ Fitzroy Crossi 55.20 197 P **P** **22 31 45.2 -0.1**
comp=Z,829nm,1.1s,mb6.7,baz=9.7,slow=7.7,SNR=144
FITZ S **S** **22 39 20.8 -2.9**
comp=Z,7.0nm,0.9s,baz=174,slow=18,SNR=1.5
FITZ LR LR 22 54 23.1
comp=Z,1μm,20.4s,MS5.1,baz=66,slow=35
BHPL Bhopal 55.45 275 *e*P **P** **22 31 46.0 -1.0**
BHPL *e* 22 31 48.5
comp=Z,464nm,1.5s
BHPL *e* 22 39 24.8
WRAB Tennant Creek 55.50 187 *e*P **P** **22 31 46.0 -1.5**
comp=Z,1μm,1.3s,mb6.8
WRAB LR LR
comp=Z,1μm,21.0s,MS4.9
WB2 Warramunga Arr 55.51 187⇑ *i*P **P** **22 31 46.3 -1.2**
WB2 *e*S **S** **22 39 26.0 -1.9**
WRA Warramunga Arr 55.51 187 P **P** **22 31 46.7 -0.8**
comp=Z,298nm,1.0s,mb6.3,baz=3.7,slow=7.4,SNR=294
WRA S **S** **22 39 26.2 -1.7**
comp=Z,24nm,1.3s,baz=6.8,slow=12,SNR=8.0
WRA PKPPKP 23 01 44.9
comp=Z,1.7nm,1.1s,baz=181,slow=1.7,SNR=4.6
WRA P4KPbc 23 09 04.4
comp=Z,3.0nm,0.9s,baz=4.5,slow=4.9,SNR=12
CTA Charters Tower 55.62 173⇑ *i*P **P** **22 31 47.3 -1.0**
comp=Z,59nm,1.4s,mb5.4
CTA *e*S **S** **22 39 28.7 -0.7**
CTA Charters Tower 55.62 173⇑ *i*P **P** **22 31 47.3 -1.0**
CTA *e*S **S** **22 39 28.7 -0.7**
CTA pmax pmax
comp=Z,59nm,1.4s
CTA Charters Tower 55.62 173 S **S** **22 39 29.5 +0.1**
comp=Z,6.3nm,1.0s,baz=287,slow=19,SNR=1.8
CTAO Charters Tower 55.62 173 *e*P **P** **22 31 47.2 -1.1**
CTAO pmax pmax
comp=Z,140nm,1.3s,mb5.8
CTAO MLR MLR
comp=Z,1μm,21.0s,MS5.0
CTAO Charters Tower 55.62 173 *e*P **P** **22 31 47.2 -1.1**
comp=Z,140nm,1.3s,mb5.8
CTAO LR LR
comp=Z,1μm,21.0s,MS5.0
SVE Sverdlovsk 55.75 319 *d*P **P** **22 31 48.2 -0.5**
SVE *i* 22 33 54.4
SVE *i*S **S** **22 39 30.5 0.0**
SVE *i* 22 41 29.2
SVE *i*SSS SSS 22 45 28.2 +4.9
SVE pmax pmax
comp=Z,1μm,1.0s,mb6.9
SVE MLR MLR
comp=Z,7μm,17.0s,MS5.8
INK Inuvik 56.03 27 P **P** **22 31 49.6 -1.0**
INK pmax pmax
comp=Z,130nm,0.9s
INK Inuvik 56.03 27 LR LR 23 01 50.5
comp=Z,2μm,18.3s,MS5.2,baz=278,slow=42
INK Inuvik 56.03 27 *e*P **P** **22 31 49.6 -1.1**
comp=Z,132nm,0.9s,mb6.0
AJM Ajmer 56.22 280⇑ *i*P **P** **22 31 51.0 -1.5**
ARU Arti 56.96 319⇑ *i*P **P** **22 31 56.1 -1.3**
ARU *i* 22 32 48.8
ARU *e* 22 33 59.2
ARU *i*S **S** **22 39 47.8 +1.2**
ARU *i* 22 41 36.2
ARU *e*SS SS 22 43 36.1 -0.4
ARU *e*SSS SSS 22 45 54.5 +3.6
ARU pmax pmax
comp=Z,1μm,0.9s,mb6.9
ARU MLR MLR
comp=Z,5μm,16.5s,MS5.7
ARU MLR MLR
comp=N,2μm,16.0s,MS5.6
ARU MLR MLR
comp=E,4μm,16.0s,MS5.6
ARU Arti 56.96 319 *e*P **P** **22 31 56.1 -1.3**
comp=E,835nm,0.8s,mb6.8
ARU LR LR
comp=Z,1μm,19.0s,MS5.0
AKL Akola 57.00 273⇑ *i*P **P** **22 31 57.0 -1.2**
HYB Hyderabad 57.41 269 *e*P **P** **22 32 00.5 -0.6**
HYB *e*S **S** **22 39 54.0 +1.0**
HYB pmax pmax
comp=Z,720nm,1.0s,mb6.7
HYB Hyderabad 57.41 269 *e*P **P** **22 32 00.5 -0.6**
comp=Z,720nm,1.0s,mb6.7
HYB *e*S **S** **22 39 54.0 +1.0**
HYB Hyderabad 57.41 269 *i*P **P** **22 32 00.5 -0.6**
comp=Z,720nm,1.0s,mb6.7
HYB *e*pP pP 22 32 13.5 +0.1
HYB *e*sP sP 22 32 20.0 +1.6
HYB *e*PP PP 22 34 06.5 -3.7
HYB *e*S **S** **22 39 54.0 +1.0**
SIT Sitka 57.99 40 PFAKE 22 32 20.0 +15
SIT LR LR
comp=Z,3μm,21.0s,MS5.4
MDRS Chennai 58.36 263 *e* **P** **22 32 07.0 -0.8**
MDRS *e* 22 34 18.0
MDRS *e* 22 35 49.0
MDRS *e* 22 40 23.0
LATR Latur 58.52 271 *e*P **P** **22 32 08.0 -0.8**
ASAR Alice Springs 59.24 187 P **P** **22 32 13.2 -0.7**
comp=Z,97nm,0.9s,mb5.8,baz=8.7,slow=5.7,SNR=363
ASAR S **S** **22 40 18.5 +1.6**
comp=Z,12nm,1.1s,baz=6.5,slow=12,SNR=9.9
ASAR LR LR 22 55 30.2
comp=Z,2μm,21.4s,MS5.2,baz=7.2,slow=34
ASAR PKPPKP 23 01 34.2
comp=Z,5.0nm,1.1s,baz=180,slow=2.7,SNR=7.5
ASAR PKP2bc 23 01 56.5
comp=Z,26nm,1.1s,baz=175,slow=2.4,SNR=19
ASAR P4KPbc 23 09 21.6
comp=Z,3.8nm,0.9s,baz=11,slow=4.5,SNR=18
ASAR Alice Springs 59.24 187 P **P** **22 32 13.2 -0.7**
ASAR S **S** **22 40 18.5 +1.6**
ASAR LR LR 22 55 30.2
ASAR P'P' 23 01 34.2
ASAR ⇑ *e* 23 01 56.5
ASPA Alice Springs 59.24 187⇑ *i*P **P** **22 32 12.7 -1.1**
ASPA *e*S **S** **22 40 16.6 -0.3**
MBWA Marble Bar 59.75 202 *e*P **P** **22 32 16.4 -0.9**
comp=Z,475nm,1.1s,mb6.4
MBWA LR LR
comp=Z,2μm,21.0s,MS5.2
BHV Bhavnagar 60.45 277 *e*P **P** **22 32 21.0 -1.1**
POO Poona 60.67 273 *e*P **P** **22 32 23.2 -0.5**
POO *e* 22 32 24.9
comp=Z,575nm,1.7s
KAD Karad 61.03 271 *e*P **P** **22 32 25.4 -0.7**
KAD *e* 22 32 27.2
comp=Z,662nm,1.4s
KAD *e*S **S** **22 40 40.5 +0.6**
PALK Pallekele 61.31 258 *e*P **P** **22 32 27.9 -0.1**
comp=Z,503nm,1.4s,mb6.5
PALK LR LR
comp=Z,1μm,22.0s,MS4.9
BOM Bombay 61.33 274 *e*P **P** **22 32 27.5 -0.6**
comp=Z,2μm,1.3s
BOM *e* 22 40 41.7
KOD Kodaikanal 62.20 263 *e*P **P** **22 32 36.0 +2.0**
GOA Goa 62.27 270⇑ *i*P **P** **22 32 32.5 -2.0**
GOA *e*S **S** **22 40 55.1 -0.6**
NOUC Port Laguerre 62.36 153 *e*P **P** **22 32 35.6 +0.6**
NOUC Port Laguerre 62.36 153 *e*P **P** **22 32 35.6 +0.6**
HSP Hornsund 62.71 348 *e*P **P** **22 32 35.9 -0.7**
LVZ Lovozero 63.13 336 *e*P **P** **22 32 38.0 -1.5**
LVZ *e*S **S** **22 41 03.2 -2.5**
LVZ pmax pmax
comp=Z,221nm,1.0s,mb6.2
LVZ pmax pmax
comp=N,43nm,0.8s
LVZ pmax pmax
comp=E,57nm,1.2s
LVZ pmax pmax
comp=E,83nm,1.3s
LVZ pmax pmax
comp=Z,495nm,1.3s,mb6.5
LVZ pmax pmax
comp=N,155nm,1.5s
LVZ smax
comp=N,1μm,3.7s
LVZ smax
comp=Z,736nm,4.6s
LVZ smax
comp=E,505nm,4.0s
LVZ MLR MLR
comp=Z,6μm,20.0s,MS5.8
LVZ MLR MLR
comp=N,1μm,18.0s,MS5.6
LVZ MLR MLR
comp=E,3μm,18.0s,MS5.6
LVZ Lovozero 63.13 336 *i*P **P** **22 32 37.8 -1.7**
TRD Trivandrum 63.59 261⇑ *e*P **P** **22 32 41.2 -2.1**
TRD *e* 22 41 03.2
APA Apatity 63.71 336⇓ *i*P **P** **22 32 41.0 -2.2**
APA *i* pP 22 32 51.0 -4.6
APA *i*S **S** **22 41 11.0 -1.8**
APA *i*PS PS 22 41 30.0 -7.9
APA *i* 22 42 29.0
APA pmax pmax
comp=Z,320nm,1.0s,mb6.3
APA MLR MLR
comp=Z,6μm,19.0s,MS5.8
RES Resolute Bay 64.20 14 P **P** **22 32 44.9 -1.4**
RES Resolute Bay 64.20 14 *e*P **P** **22 32 44.8 -1.5**
comp=Z,3.5nm,0.5s
PECR Pechory 64.51 322⇑ *i*P **P** **22 32 48.0 -0.5**
PECR *e* 22 33 05.0
PECR *e* 22 35 08.0
PECR *e*S **S** **22 41 22.0 -0.9**
PECR *e* 22 41 36.0
PECR *e* 22 41 53.0
PECR pmax pmax
comp=Z,2μm,2.0s,mb6.7
PECR pmax pmax
comp=Z,3μm,6.5s
PECR MLR MLR
comp=Z,10μm,19.0s,MS6.0
KEV Kevo 64.54 339 *e*p **P** **22 32 47.3 -1.2**
ARCES ARCESS Array B 65.10 339 P **P** **22 32 51.7 -0.4**
ARCES pmax pmax
comp=Z,190nm,0.8s
ARCES MLR MLR
comp=Z,5μm,21.2s
ARCES ARCESS Array B 65.10 339 P **P** **22 32 51.7 -0.5**
comp=Z,190nm,0.8s,mb6.2,baz=63,slow=8.1,SNR=221
ARCES LR LR 23 04 16.7
comp=Z,5μm,21.2s,MS5.7,baz=54,slow=39
ARE0 ARCESS Array S 65.10 339 *e*P **P** **22 32 51.2 -1.0**
YKW3 Yellowknife Ar 65.42 29 *e*P **P** **22 32 52.7 -1.6**
YKA Yellowknife Ar 65.45 30 P **P** **22 32 53.8 -0.7**
comp=Z,53nm,0.8s,mb5.6,baz=301,slow=6.6,SNR=579
YKA LR LR 23 00 46.1
comp=Z,1μm,21.6s,MS5.2,baz=290,slow=35
YKA PKP2bc 23 01 34.1
comp=Z,7.8nm,1.1s,baz=114,slow=2.9,SNR=15
YKA P4KPbc 23 09 46.7
comp=Z,1.0nm,0.9s,baz=299,slow=4.4,SNR=8.5
YKA Yellowknife Ar 65.45 30 P **P** **22 32 53.8 -0.7**
YKA LR LR 23 00 46.1
YKA ⇑ *e* 23 01 34.1
KTK1 Kautokeino 66.06 339⇑ *i*P **P** **22 32 57.4 -0.9**
comp=Z,475nm,1.3s,mb6.4
KTK1 Kautokeino 66.06 339⇑ *i*P **P** **22 32 57.4 -0.9**
KTK1 AMb AMB 22 32 59.6
comp=Z,475nm,1.3s,mb6.4
KTK1 *e*pP pP 22 33 10.2 -0.7
AFI Afiamalu 66.80 129 LR LR 22 56 09.7
comp=Z,3μm,21.1s,MS5.5,baz=316,slow=30
AFI Afiamalu 66.80 129 PFAKE 22 33 20.0 +16
AFI LR LR
comp=Z,4μm,22.0s,MS5.6
TRO Tromso 66.85 341 *e*P **P** **22 33 00.8 -2.5**
TRO LR LR
comp=Z,3017μm,22.1s
TRO Tromso 66.85 341 *e*P **P** **22 33 00.8 -2.5**
TRO *e*S S 22 41 48.6 -2.6
TRO *e*SS SS 22 46 06.5 -5.1
TRO AMS AMS 23 06 21.8
comp=Z,3μm,22.1s,MS5.5
JOF Joensuu 66.89 332 *e*p **P** **22 33 02.2 -1.4**
FORT Forrest 67.02 192⇑ *i*P **P** **22 33 04.5 -0.5**
comp=Z,6μm,0.7s
STKA Stephens Creek 67.10 179⇑ *i*P **P** **22 33 04.9 -0.6**
comp=Z,57nm,1.0s,mb5.5
STKA *e*S S 22 41 47.8 -7.1
STKA Stephens Creek 67.10 179 P **P** **22 33 05.0 -0.5**
comp=Z,70nm,0.9s,mb5.7,baz=351,slow=7.2,SNR=87
STKA PKP2bc 23 01 29.9
comp=Z,6.5nm,1.0s,baz=305,slow=5.3,SNR=4.6
STKA LR LR 23 03 07.9
comp=Z,2μm,21.1s,MS5.4,baz=355,slow=36
PGC Sidney 67.90 45 *e*P **P** **22 33 10.4 +0.2**
comp=Z,110nm,0.9s,mb5.9
MOS Moscow 67.97 323 *i*P **P** **22 33 10.0 -0.5**
MOS *e* 22 33 16.8
MOS *e* 22 33 35.8
MOS *e* 22 35 46.0

MOS ePPP PPP 22 37 17.6 -2.2
MOS eS S 22 42 03.9 -1.0
MOS i 22 43 03.5
MOS eSS SS 22 46 25.9 -2.9
MOS pmax pmax
comp=Z,1μm,1.5s,mb6.6
MOS smax
comp=N,3.0nm,3.5s
MOS MLR MLR
comp=Z,6μm,15.0s,MS5.9
MAK Makhachkala 68.76 308 d iP **P 22 33 15.0 -0.7**
MAK i 22 33 42.0
MAK i 22 35 50.0
MAK eS S 22 42 13.0 -1.6
MAK ePS PS 22 42 46.0 +0.3
MAK pmax pmax
comp=Z,3μm,6.5s
MAK pmax pmax
comp=Z,1μm,6.0s
MAK smax
comp=N,2μm,8.0s
MAK smax
comp=E,1μm,8.0s
MAK MLR MLR
comp=N,6μm,15.0s,MS6.0
MAK MLR MLR
comp=E,1μm,15.0s,MS6.0
MAK MLR MLR
comp=Z,5μm,15.0s,MS5.9
OBN Obninsk 68.81 323 c iP **P 22 33 14.6 -1.2**
OBN i 22 35 47.2
OBN i S S 22 42 14.0 -0.9
OBN i SS SS 22 46 35.9 -6.3
OBN pmax pmax
comp=Z,905nm,1.7s,mb6.4
OBN MLR MLR
comp=Z,6μm,17.0s,MS5.9
OBN Obninsk 68.81 323 eP **P 22 33 14.7 -1.1**
comp=Z,764nm,1.3s,mb6.5
OBN LR LR
comp=Z,997nm,21.0s,MS5.0
JCW Jim Creek 69.01 45 P **P 22 33 17.3 +0.2**
PUL Pulkovo 69.06 329 eP **P 22 33 15.5 -1.7**
PUL eS S 22 42 14.1 -3.8
PUL pmax pmax
comp=Z,355nm,0.7s,mb6.4
PUL pmax pmax
comp=N,215nm,0.8s
PUL pmax pmax
comp=E,327nm,1.0s
PUL pmax pmax
comp=Z,414nm,0.7s,mb6.5
PUL pmax pmax
comp=N,402nm,1.4s
PUL pmax pmax
comp=E,458nm,1.6s
PUL MLR MLR
comp=Z,2μm,14.0s,MS5.5
PUL MLR MLR
comp=N,1μm,15.0s,MS5.6
PUL MLR MLR
comp=E,2μm,17.0s,MS5.6
PUL Pulkovo 69.06 329⇑ iP **P 22 33 16.5 -0.7**
RPW Rockport 69.12 45 P **P 22 33 17.5 -0.3**
VOR Voronezh 69.24 319⇑ iP **P 22 33 17.4 -1.1**
VOR S S 22 42 17.5 -2.6
VOR pmax pmax
comp=N,210nm,1.3s
VOR pmax pmax
comp=Z,800nm,1.3s,mb6.5
VOR smax
comp=N,210nm,2.0s
VOR smax
comp=Z,60nm,2.0s
KAF Kangasniemi 69.26 333 ep **P 22 33 16.6 -1.8**
comp=Z,151nm,0.8s,mb6.0,baz=50,slow=5.8
KAF Kangasniemi 69.26 333 eP **P 22 33 16.6 -1.8**
KAF pmax pmax
comp=Z,151nm,0.8s,mb6.0
LOF Lofoten 69.30 341 eP **P 22 33 19.4 +0.8**
comp=Z,149nm,1.3s,mb5.8
LOF Lofoten 69.30 341 eP **P 22 33 19.4 +0.8**
LOF AMb AMB 22 33 23.8
comp=Z,149nm,1.3s,mb5.8
FINES FINESS Array B 69.75 332 P **P 22 33 20.6 -0.8**
FINES S S 22 42 24.2 -1.7
FINES pmax pmax
comp=Z,171nm,0.8s
FINES FINESS Array B 69.75 332 P **P 22 33 20.6 -0.8**
comp=Z,171nm,0.8s,mb6.0,baz=63,slow=8.5,SNR=485
FINES S S 22 42 24.2 -1.7
comp=Z,3.9nm,1.1s,baz=45,slow=8.1,SNR=3.0
RIV Riverview 69.76 171⇑ iP **P 22 33 22.7 +0.7**
WPW White Pass 69.99 47 P **P 22 33 23.8 +0.7**
COR Corvallis 70.00 49 P **P 22 33 24.7 +1.5**
COR pmax pmax
comp=Z,150nm,1.1s,mb5.8
COR Corvallis 70.00 49 eP **P 22 33 24.3 +1.0**
comp=Z,154nm,1.1s,mb5.8
COR LR LR
comp=Z,346nm,20.0s,MS4.6
KLBR Kellerberrin 70.13 201⇑ iP **P 22 33 23.2 -1.1**
comp=Z,6μm,1.4s
MELSS Ber_school_2 70.17 340⇑ iP **P 22 33 23.1 -0.8**
MELSS epP pP 22 33 36.6 +0.1
ADE Adelaide 70.19 182 eP **P 22 33 24.9 +0.3**
KEBM Edson Butte 70.22 51 eP **P 22 33 25.6 +1.0**
VLMM Larch Mountain 70.29 48 P **P 22 33 25.8 +0.8**
TBM Table Mountain 70.30 46 P **P 22 33 25.2 +0.1**
NAC Naches 70.39 46 P **P 22 33 26.3 +0.7**
MOR8 Moi Rana 70.47 340⇑ iP **P 22 33 23.6 -2.1**
comp=Z,702nm,1.1s,mb6.5
MOR8 Moi Rana 70.47 340⇑ iP **P 22 33 23.6 -2.1**
MOR8 AMb AMB 22 33 25.8
comp=Z,702nm,1.1s,mb6.5
GOF Gofitskoye 70.50 312⇑ iP **P 22 33 20.3 -6.0**
GOF i S S 22 42 38.9 +3.9
GOF pmax pmax
comp=Z,3μm,5.0s
GOF smax
comp=E,360nm,2.4s
WBK Wadi Bani Khal 70.57 284 P **P 22 33 27.5 +0.5**
SNR=104
KBO Bosley Butte 70.63 52 eP **P 22 33 27.4 +0.3**
STOK Stokkvaagen 70.75 340⇑ iP **P 22 33 26.0 -1.4**
BIDO Bidbid 70.76 286 P **P 22 33 28.9 +0.7**
SNR=34
EPH Ephrata 70.79 45 P **P 22 33 27.7 -0.3**
MXC Moxie City 70.79 46 P **P 22 33 28.6 +0.6**
DGRG David-gareji 70.89 308 P **P 22 33 28.6 0.0**
DGRG S S 22 42 52.0 +13
MUN Mundaring 70.95 202⇑ iP **P 22 33 28.4 -0.8**
comp=E,421nm,1.4s,mb6.2
MUN eS S 22 42 40.4 0.0
EDM Edmonton 70.97 38 P **P 22 33 28.3 -0.6**
EDM Edmonton 70.97 38 eP **P 22 33 28.1 -0.8**
CNB Canberra Magne 71.01 172⇑ iP **P 22 33 29.7 +0.2**
comp=E,3μm,1.4s,mb7.0
SMDO Samad 71.06 285 P **P 22 33 30.2 +0.2**
SNR=84
TI2 Plekhanov 71.14 308⇑ iP **P 22 33 31.6 +1.4**
TI2 i S S 22 42 42.0 -0.4
TI2 pmax pmax
comp=Z,130nm,1.0s,mb5.8
TI2 MLR MLR
comp=N,2μm,16.0s,MS5.5
TI2 MLR MLR
comp=E,2μm,16.0s,MS5.5
TI2 MLR MLR
comp=Z,4μm,16.0s,MS5.8
ZEI Tsey 71.15 309 i P **P 22 33 28.9 -1.3**
ZEI eS S 22 42 38.3 -4.2
ZEI pmax pmax
comp=Z,319nm,1.2s,mb6.1
TBLG Delisi 71.15 308 P **P 22 33 30.5 +0.3**
KRMB Red Mountain 71.19 52 eP **P 22 33 31.0 +0.6**
HUMO Hull Mountain 71.23 51 eP **P 22 33 31.1 +0.3**
comp=Z,44nm,1.1s,mb5.3
HUMO LR LR
comp=Z,1μm,21.0s,MS5.2
OD2 Odessa Site #2 71.28 45 P **P 22 33 30.6 -0.3**
KIV Kislovodsk 71.29 311 c iP **P 22 33 30.9 -0.1**
KIV i S S 22 42 42.6 -1.5
KIV pmax pmax
comp=Z,2μm,1.2s,mb6.8
KIV MLR MLR
comp=Z,3μm,21.0s,MS5.6
KIV Kislovodsk 71.29 311 eP **P 22 33 31.1 +0.1**
comp=Z,1μm,1.1s,mb6.8
KIV LR LR
comp=Z,934nm,20.0s,MS5.0
HAWA Hanford 71.33 46 eP **P 22 33 31.2 -0.1**
comp=Z,5.2nm,1.0s
HAWA LR LR
comp=Z,146nm,22.0s
PRW Prosser 71.34 46 P **P 22 33 32.1 +0.8**
WRD Warden 71.34 45 P **P 22 33 31.1 -0.2**
HOQ Hoqain 71.37 286 P **P 22 33 32.0 +0.1**
SNR=86
JMDO Jabal Madar 71.38 285 P **P 22 33 31.7 -0.2**
SNR=108
JNW Jan Mayen West 71.40 350 eP **P 22 33 32.0 +0.8**
JMIC Jan Mayen 71.45 350 LR LR 23 08 26.1
comp=Z,544nm,18.5s,MS4.8,baz=198,slow=39
JMIC Jan Mayen 71.45 350 eP **P 22 33 32.1 +0.6**
JMIC eS S 22 42 51.7 +6.2
JMIC AMS AMS 23 02 08.1
comp=Z,508nm,23.8s,MS4.7
NWAO Narrogin (SRO) 71.53 200 P **P 22 33 32.2 -0.5**
comp=Z,86nm,0.8s,mb5.7,baz=26,slow=6.1,SNR=44
NWAO Narrogin (SRO) 71.53 200 eP **P 22 33 32.2 -0.5**
comp=Z,360nm,1.4s,mb6.1
NWAO LR LR
comp=Z,901nm,19.0s,MS5.0
KHMM Horse Mountain 71.63 53 eP **P 22 33 34.4 +1.3**
VIPM Ingram Point 71.69 48 P **P 22 33 33.8 +0.4**
NEW Newport 71.71 43 P **P 22 33 33.4 0.0**
NEW pmax pmax
comp=Z,100nm,1.0s
NEW Newport 71.71 43 LR LR 22 59 43.5
comp=Z,2μm,21.3s,MS5.2,baz=305,slow=31
NEW Newport 71.71 43 eP **P 22 33 33.2 -0.2**
comp=Z,100nm,1.0s,mb5.7
NEW LR LR
comp=Z,2μm,22.0s,MS5.2
ASHO Ashiyiah 71.78 288 P **P 22 33 34.3 0.0**
SNR=12
YBH Yreka Blue Hor 71.84 51 P **P 22 33 35.3 +0.9**
YBH pmax pmax
comp=Z,73nm,1.0s
YBH Yreka Blue Hor 71.84 51 LR LR 23 00 57.6
comp=Z,640nm,18.8s,MS4.9,baz=289,slow=32
YBH Yreka Blue Hor 71.84 51 eP **P 22 33 35.1 +0.7**
comp=Z,73nm,1.1s,mb5.5
YBH LR LR
comp=Z,1μm,22.0s,MS5.1
BSY Bisya 71.89 285 P **P 22 33 35.2 +0.2**
SNR=159
GNI Garni 71.97 307 P **P 22 33 35.3 +0.2**
GNI Garni 71.97 307 LR LR 23 07 50.7
comp=Z,5μm,18.9s,MS5.8,baz=57,slow=38
GNI Garni 71.97 307 eP **P 22 33 36.0 +0.9**
comp=Z,606nm,1.1s,mb6.4
GNI LR LR
comp=Z,5μm,19.0s,MS5.8
ARQ Araqi 72.12 286 P **P 22 33 36.5 +0.3**
SNR=153
SUMG Summit 72.14 360 eP **P 22 33 35.5 -0.2**
comp=Z,222nm,1.1s,mb6.0
RORSS Ber_school_1 72.33 340 eP **P 22 33 36.4 -0.5**
RORSS epP pP 22 33 49.9 +0.4
NSS Namsos 72.38 339 eP **P 22 33 34.9 -2.3**
NSS eS S 22 42 57.2 +0.9
NSS AMS AMS 23 08 56.6
comp=Z,4μm,22.3s,MS5.7
WDC Whiskeytown Da 72.56 52 P **P 22 33 39.0 +0.4**
WDC pmax pmax
comp=Z,86nm,1.0s,mb5.6
WDC Whiskeytown Da 72.56 52 eP **P 22 33 38.9 +0.3**
comp=Z,86nm,1.0s,mb5.6
WDC LR LR
comp=Z,1μm,21.0s,MS5.2
KARS Kars 72.80 308 P **P 22 33 40.5 +0.5**
TOO Toolangi 72.92 176⇑ iP **P 22 33 41.4 +0.6**
comp=Z,113nm,1.0s,mb5.8
WALA Waterton Lakes 73.03 41 eP **P 22 33 41.1 -0.1**
comp=Z,124nm,1.1s,mb5.8
CLDR Caldiran 73.04 306 P **P 22 33 42.8 +1.3**
HOPS Hopland 73.05 54 eP **P 22 33 41.5 -0.1**
comp=Z,56nm,1.1s,mb5.4
HOPS LR LR
comp=Z,4μm,22.0s,MS5.6
LBCM Butte Creek Ri 73.19 52 P **P 22 33 42.8 +0.5**
IZAR Zarasai 73.23 327 i P **P 22 33 41.9 -0.4**
IZAR AMPb AMB 22 33 44.0
comp=Z,99nm,1.3s,mb5.6
MOD Modoc 73.28 50 PFAKE 22 33 50.0 +7.2
MOD LR LR
comp=Z,1μm,21.0s,MS5.2
IDID Didziasalis 73.29 327 i P **P 22 33 42.3 -0.2**
IDID AMPb AMB 22 33 44.4
comp=Z,93nm,1.4s,mb5.5
BCA Borcka 73.29 309 P **P 22 33 43.2 +0.3**
MNK Minsk 73.30 326⇑ iP **P 22 33 39.0 -3.7**
SOC Sochi 73.31 312 i P **P 22 33 42.1 -0.8**
SOC e 22 34 00.3
SOC e 22 36 23.8
SOC ePPP PPP 22 38 07.3 -4.9
SOC i S S 22 43 04.8 -2.3
SOC e 22 43 48.1
SOC pmax pmax
comp=N,34nm,1.0s
SOC pmax pmax
comp=E,60nm,1.0s
SOC pmax pmax
comp=Z,356nm,1.0s,mb6.2
SOC MLR MLR
comp=N,3μm,20.0s,MS5.7
SOC MLR MLR
comp=E,3μm,20.0s,MS5.7
SOC MLR MLR
comp=Z,4μm,20.0s,MS5.8
ISAL Salakas 73.40 327 i P **P 22 33 43.1 -0.2**
ISAL AMPb AMB 22 33 45.1
comp=Z,161nm,1.3s,mb5.8
BMO Blue Mountains 73.48 46 eP **P 22 33 44.0 0.0**
comp=Z,69nm,0.9s,mb5.6
BMO LR LR
comp=Z,2μm,22.0s,MS5.2
SCO Scoresbysund 73.49 354 i P **P 22 33 44.0 +0.5**
comp=Z,62nm,0.9s,mb5.5
IIGN Ignalina 73.49 327 i P **P 22 33 43.6 -0.2**
IIGN AMPb AMB 22 33 45.6
comp=Z,111nm,1.2s,mb5.7
TRON Trondheim 73.64 339⇑ iP **P 22 33 44.0 -0.5**
TRON epP pP 22 33 57.3 +0.2
VANB Van 73.68 306 P **P 22 33 46.2 +1.0**
TVAN Van 73.70 306 i P **P 22 33 45.9 +0.5**
VANT Van 73.76 306 eP **P 22 33 45.7 -0.1**
HKR Hakkari 73.99 305 P **P 22 33 45.5 -1.6**
ANN Anapa 73.99 314 eP **P 22 33 43.4 -3.5**
ANN e 22 36 31.9
ANN eS S 22 43 10.9 -3.9
ANN pmax pmax
comp=Z,732nm,1.3s,mb6.5
ANN MLR MLR
comp=N,4μm,23.0s,MS5.8
ANN MLR MLR
comp=E,3μm,23.0s,MS5.8
ANN MLR MLR
comp=Z,3μm,23.0s,MS5.6
WVOR Wild Horse Val 74.02 49 eP **P 22 33 47.8 +0.7**
WVOR Wild Horse Val 74.02 49 eP **P 22 33 47.4 +0.3**
WVOR LR LR
comp=Z,2μm,21.0s,MS5.4
MSO Missoula 74.30 43 eP **P 22 33 48.0 -0.6**
comp=Z,71nm,1.0s,mb5.5
MSO LR LR
comp=Z,1μm,22.0s,MS5.1
CHMT Chamberlain Mo 74.63 43 eP **P 22 33 50.1 -0.5**
AKASG Malin Array Be 74.99 322 P **P 22 33 52.0 -0.5**
comp=Z,236nm,0.8s,mb6.2,baz=46,slow=5.9,SNR=1025
AKASG S S 22 43 23.0 -2.7
comp=Z,0.1nm,0.3s,baz=46,slow=11,SNR=4.4
AKASG PKKPbc 22 53 14.7
comp=Z,0.4nm,0.6s,baz=241,slow=2.7,SNR=4.5
AKASG Malin Array Be 74.99 322 P **P 22 33 52.0 -0.5**
AKASG S S 22 43 23.0 -2.7
AKASG PKKPbc 22 53 14.7
WCN Washoe City 75.05 52 P **P 22 33 54.3 +1.2**
WCN pmax pmax
comp=Z,72nm,1.0s,mb5.6
WCN Washoe City 75.05 52 eP **P 22 33 53.8 +0.6**
comp=Z,72nm,1.0s,mb5.5
PAHR Pah Rah Range 75.06 52 eP **P 22 33 54.0 +0.8**
comp=Z,59nm,1.0s,mb5.5
DOMB Dombas 75.13 339⇑ iP **P 22 33 52.9 -0.2**
comp=Z,399nm,1.4s,mb6.2
DOMB Dombas 75.13 339⇑ iP **P 22 33 52.9 -0.2**
DOMB AMb AMB 22 33 55.0
comp=Z,399nm,1.4s,mb6.2
MSL Mosul 75.13 304 i P **P 22 33 54.5 +0.8**
MSL eS S 22 43 43.5 +16
MSL ePS PS 22 43 53.0 -16
BTMT Batman 75.15 306 P **P 22 33 54.7 +0.9**
MOL Molde 75.16 339⇑ iP **P 22 33 53.3 0.0**
comp=Z,394nm,1.5s,mb6.1
MOL Molde 75.16 339⇑ iP **P 22 33 53.3 0.0**
MOL AMb AMB 22 33 55.5
comp=Z,394nm,1.5s,mb6.1
GUMT Gumushane 75.18 309 P **P 22 33 54.8 +1.0**
NB2 NORSAR Subarra 75.24 337 P **P 22 33 53.5 -0.3**
comp=Z,421nm,0.9s,mb6.4,baz=40,slow=5.8
NB2 NORSAR Subarra 75.24 337 P **P 22 33 53.5 -0.3**
baz=40,slow=5.9
NOA NORSAR Array B 75.24 337 P **P 22 33 53.8 0.0**
NOA 22 36 41.2
NOA pmax pmax
comp=Z,279nm,0.9s
NOA pmax pmax
comp=Z,40nm,1.0s
NOA NORSAR Array B 75.24 337 P **P 22 33 53.8 +0.1**
comp=Z,279nm,0.8s,mb6.2,baz=39,slow=5.8,SNR=535
NOA PP PP 22 36 41.2 -3.5
comp=Z,40nm,1.0s,baz=43,slow=8.6,SNR=5.0
NOA NORSAR Array B 75.24 337 P **P 22 33 53.9 +0.1**
NOA PP PP 22 36 41.2 -3.5
SAO San Andreas Ge 75.34 55 P **P 22 33 55.8 +0.9**
SAO pmax pmax
comp=Z,38nm,0.9s,mb5.3
SAO San Andreas Ge 75.34 55 eP **P 22 33 54.9 0.0**
comp=Z,38nm,0.8s,mb5.4
SAO LR LR
comp=Z,2μm,20.0s,MS5.4
CMB Columbia Colle 75.34 54 P **P 22 33 54.2 -0.6**
CMB pmax pmax
comp=Z,69nm,0.9s,mb5.6
CMB Columbia Colle 75.34 54 eP **P 22 33 54.5 -0.3**
comp=Z,69nm,0.8s,mb5.6
CMB LR LR
comp=Z,4μm,22.0s,MS5.6
EZC Erzincan 75.37 308 P **P 22 33 57.2 +2.2**
BINT Bingol 75.42 307 P **P 22 33 56.6 +1.3**
RAO Raoul Island 75.45 143 PFAKE 22 34 10.0 +14
RAO LR LR
comp=Z,2μm,20.0s,MS5.5
BEST Besiri 75.46 306 i P **P 22 33 55.7 +0.2**
NAO01 NORSAR Array S 75.49 337 eP **P 22 33 54.3 -0.9**
comp=Z,204nm,0.9s,mb6.1
NAO01 LR LR
comp=Z,7μm,20.0s,MS5.9
KELT Kelkit 75.50 309 i P **P 22 33 56.6 +0.9**
HRY Holter Researc 75.54 43 eP **P 22 33 55.9 +0.1**
FCC Fort Churchill 75.65 26 P **P 22 33 55.4 -0.7**
FCC pmax pmax
comp=Z,350nm,1.1s,mb6.2
FCC Fort Churchill 75.65 26 eP **P 22 33 55.1 -1.0**
comp=Z,355nm,1.2s,mb6.2
SHAO Shalim 75.66 282 P **P 22 33 57.2 +0.2**
SNR=11
SUW Suwalki 75.71 327 eP **P 22 33 55.9 -0.7**
SUW epP pP 22 34 01.9 -7.4
SUW ePP PP 22 36 42.1 -6.4
SUW eS S 22 43 31.2 -2.4
SUW MLR MLR 23 09 34.9
comp=Z,4μm,19.6s,MS5.7
SIM Simferopol' 75.83 315 i P **P 22 33 57.0 -0.5**
SIM i S S 22 43 33.0 -2.2
SIM pmax pmax
comp=Z,334nm,0.7s,mb6.4
SIM MLR MLR
comp=Z,3μm,16.9s,MS5.7
BHD Baghdad 75.89 301 i P **P 22 33 52.0 -6.1**
BHD i PcP PcP 22 34 06.0 -4.8
BHD i PP PP 22 36 43.0 -7.5
BHD i S S 22 43 29.0 -7.1
BHD i PS PS 22 43 54.0 -25
BHD ePPS PPS 22 44 08.0 -28
BHD eScS ScS 22 44 38.0 +33
HLID Hailey 75.93 46 eP **P 22 33 58.5 +0.5**
comp=Z,48nm,1.0s,mb5.4
HLID LR LR
comp=Z,2μm,21.0s,MS5.4
BMN Battle Mountai 76.03 50 P **P 22 33 59.8 +1.1**
BMN pmax pmax
comp=Z,130nm,1.0s,mb5.8
BMN Battle Mountai 76.03 50 eP **P 22 33 59.3 +0.6**
comp=Z,128nm,1.0s,mb5.8
BMN LR LR
comp=Z,1μm,22.0s,MS5.2
MCMT McKenzie Canyo 76.09 45 eP **P 22 33 59.7 +0.7**
PTK Pertek 76.12 308 P **P 22 34 00.7 +1.4**
DIY Diyarbakir 76.14 307 P **P 22 34 00.5 +1.1**
OSL Oslo 76.24 337 eP **P 22 33 58.8 -0.7**
comp=Z,362nm,1.2s,mb6.2
OSL Oslo 76.24 337 eP **P 22 33 58.8 -0.7**
OSL AMb AMB 22 34 01.0
comp=Z,362nm,1.2s,mb6.2
BOZ Bozeman (W) 76.29 43 P **P 22 34 00.4 +0.3**
BOZ pmax pmax
comp=Z,130nm,0.9s,mb5.9
BOZ Bozeman (W) 76.29 43 eP **P 22 34 00.3 +0.2**
comp=Z,127nm,0.9s,mb5.8
BOZ LR LR
comp=Z,1μm,21.0s,MS5.1
NVAR Mina Array Bea 76.48 52 P **P 22 34 02.5 +1.2**
comp=Z,67nm,0.8s,mb5.6,baz=286,slow=5.2,SNR=245
NVAR LR LR 23 03 21.2
comp=Z,2μm,21.5s,MS5.3,baz=290,slow=32
OMM Old Mammoth Mi 76.49 53 eP **P 22 34 01.8 +0.4**
MNV Mina 76.57 52 P **P 22 34 02.4 +0.6**
MNV pmax pmax
comp=Z,72nm,1.2s,mb5.5
MNV Mina 76.57 52 eP **P 22 34 02.1 +0.3**
comp=Z,72nm,1.2s,mb5.5
MNV LR LR
comp=Z,2μm,21.0s,MS5.5
ELZG Elazig 76.61 308 i P **P 22 34 02.9 +0.8**
KONO Kongsberg 76.82 337 P **P 22 34 02.3 -0.5**
KONO pmax pmax
comp=Z,170nm,1.1s,mb5.9
KONO Kongsberg 76.82 337 eP **P 22 34 02.7 -0.1**
KONO LR LR
comp=Z,429μm,21.7s
KONO Kongsberg 76.82 337 eP **P 22 34 02.7 -0.1**
KONO eS S 22 43 45.6 -0.1
KONO eSS SS 22 48 46.2 +0.9
QLMT Earthquake Lak 76.90 44 eP **P 22 34 04.0 +0.4**
MTUM Tungsten Hills 76.92 53 eP **P 22 34 04.7 +0.8**
KVT Kavak 76.96 311 P **P 22 34 05.1 +1.1**
MYA Malataya 77.07 308 P **P 22 34 06.3 +1.7**
RBK Rabkut 77.07 282 P **P 22 34 04.6 -0.4**
SNR=76
MALT Malatya 77.07 308 P **P 22 34 04.7 0.0**
MALT Malatya 77.07 308 P **P 22 34 05.5 +0.8**
MALT pmax pmax
comp=Z,440nm,1.2s,mb6.3
MALT Malatya 77.07 308 eP **P 22 34 05.5 +0.9**
comp=Z,439nm,1.3s,mb6.2
ELK Elko 77.08 49 P **P 22 34 05.6 +1.0**
ELK pmax pmax
comp=Z,86nm,0.9s
ELK Elko 77.08 49 eP **P 22 34 05.3 +0.7**
comp=Z,86nm,0.9s,mb5.7
ELK LR LR
comp=Z,2μm,20.0s,MS5.3
TOKT Tokat 77.10 310 P **P 22 34 05.6 +0.9**
SVST Sivas 77.17 310 i P **P 22 34 06.0 +0.9**
WHFO Wadi Hawf 77.19 283 P **P 22 34 05.0 -0.7**
SNR=31
YMR Madison River 77.26 44 eP **P 22 34 06.3 +0.8**
GCMT Greycliff 77.29 42 eP **P 22 34 06.1 +0.4**
URFA Urfa 77.32 307 P **P 22 34 07.3 +1.3**
TPH Tonopah 77.38 52 P **P 22 34 07.4 +1.0**
TPH pmax pmax
comp=Z,110nm,1.0s,mb5.7

TPH	**Tonopah**	**77.38**	**52**	*e*P	**P**	**22 34 06.9**	**+0.5**
	comp=Z,111nm,1.0s,mb5.7						
TPH				LR	LR		
	comp=Z,2μm,22.0s,MS5.4						
YNR	**Norris Junctio**	**77.39**	**44**	*e*P	**P**	**22 34 07.6**	**+1.3**
SFJD	**Kangerlussuaq**	**77.40**	**4**	P	**P**	**22 34 05.6**	**-0.3**
BOYT	**Boyabat**	**77.46**	**312**	*i* P	**P**	**22 34 07.5**	**+0.7**
YFT	**Old Faithful**	**77.47**	**44**	*e*P	**P**	**22 34 08.9**	**+2.2**
ASK	**Askoy**	**77.51**	**339**	*e*P	**P**	**22 34 06.8**	**+0.2**
KIS	**Kishinev**	**77.51**	**319**	*α i*P	**P**	**22 34 05.0**	**-1.9**
KIS				*i*		22 34 12.0	
KIS				*e*PPP	PPP	22 38 54.0	+1.8
KIS				*e*S	S	22 43 50.0	-3.4
KIS				*e*		22 44 06.0	
KIS				*e*PS	PS	22 44 18.0	-21
KIS				*e*		22 44 46.0	
KIS				pmax	pmax		
	comp=Z,540nm,1.4s,mb6.3						
KIS				pmax	pmax		
	comp=N,220nm,1.6s						
KIS				pmax	pmax		
	comp=E,220nm,1.0s						
KIS				pmax	pmax		
	comp=Z,1μm,9.0s						
KIS				pmax	pmax		
	comp=Z,1μm,11.0s						
KIS				MLR	MLR		
	comp=Z,6μm,16.0s,MS6.0						
KIS				MLR	MLR		
	comp=N,4μm,15.0s,MS6.0						
KIS				MLR	MLR		
	comp=E,4μm,17.0s,MS6.0						
KIS				MLR	MLR		
	comp=Z,6μm,16.0s						
BYBT	**Boyabat**	**77.51**	**312**	P	**P**	**22 34 07.8**	**+0.8**
RUND	**Rundenannen**	**77.52**	**339**	⇑*i*P	**P**	**22 34 06.9**	**+0.3**
RUND				AMb	AMB	22 34 08.9	
	comp=Z,303nm,1.1s,mb6.1						
BER	**Bergen**	**77.55**	**339**	*e*P	**P**	**22 34 06.7**	**-0.2**
BER				*e*P		22 34 06.9	
BER				LR	LR		
	comp=Z,3507μm,18.3s						
BER	**Bergen**	**77.55**	**339**	*e*P	**P**	**22 34 06.7**	**-0.2**
BER				⇑*i*P		22 34 06.9	
BER				*e*S	S	22 43 53.4	-0.1
BER				*e*SS	SS	22 48 54.0	-2.2
BER				AMS	AMS	23 11 35.0	
	comp=Z,4μm,18.3s,MS5.7						
LKWY	**Lake**	**77.64**	**44**	P	**P**	**22 34 10.1**	**+2.4**
LKWY				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.9						
LKWY	**Lake**	**77.64**	**44**	*e*P	**P**	**22 34 09.8**	**+2.1**
	comp=Z,139nm,0.9s,mb5.9						
LKWY				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
EGD	**Espegrend**	**77.67**	**339**	*e*P	**P**	**22 34 07.9**	**+0.4**
BZK	**Bozkurt**	**77.68**	**313**	P	**P**	**22 34 08.4**	**+0.4**
IMW	**Indian Meadow**	**77.75**	**45**	*e*P	**P**	**22 34 09.5**	**+1.2**
	comp=Z,152nm,0.9s,mb5.9						
RRI2	**Red Ridge**	**77.86**	**45**	*e*P	**P**	**22 34 09.9**	**+1.0**
	comp=Z,197nm,1.2s,mb5.9						
WAR	**Warsaw**	**77.86**	**327**	*e*P	**P**	**22 34 08.9**	**+0.2**
WAR				*e*pP	pP	22 34 15.0	-6.5
WAR				*e*S	S	22 43 56.1	-1.0
WAR				MLR	MLR	23 07 41.9	
	comp=Z,2μm,25.7s,MS5.4						
ABTO	**Aybut**	**77.88**	**283**	P	**P**	**22 34 09.2**	**-0.3**
	SNR=72						
MOOW	**Moose Ponds**	**77.95**	**45**	*e*P	**P**	**22 34 10.2**	**+0.9**
	comp=Z,83nm,1.1s,mb5.6						
HVU	**Hansel Valley**	**77.96**	**47**	P	**P**	**22 34 10.5**	**+1.0**
HVU	**Hansel Valley**	**77.96**	**47**	*e*P	**P**	**22 34 10.2**	**+0.8**
TPAW	**Teton Pass**	**77.99**	**45**	*e*P	**P**	**22 34 10.6**	**+1.0**
	comp=Z,76nm,0.8s,mb5.7						
TPAW				*e*pP	pP	22 34 23.9	+1.6
BLS5	**Blasjo**	**77.99**	**338**	⇑*i*P	**P**	**22 34 10.5**	**+1.2**
	comp=Z,249nm,1.0s,mb6.1						
BLS5	**Blasjo**	**77.99**	**338**	⇑*i*P	**P**	**22 34 10.5**	**+1.2**
BLS5				AMb	AMB	22 34 12.5	
	comp=Z,249nm,1.0s,mb6.1						
CTKT	**Corum**	**78.00**	**311**	*i* P	**P**	**22 34 10.1**	**+0.4**
IAS	**Iasi**	**78.05**	**320**	P	**P**	**22 34 09.5**	**-0.3**
WUWY	**Wally Ulrich**	**78.08**	**45**	*e*P	**P**	**22 34 11.1**	**+1.0**
LVV	**L'vov**	**78.11**	**324**	*e*P	**P**	**22 34 10.0**	**-0.1**
LVV				*e*PPP	PPP	22 38 50.1	-7.9
LVV				*e*S	S	22 43 59.3	-0.4
LVV				*e*PS	PS	22 44 41.9	-4.9
LVV				*e*SS	SS	22 49 09.3	+4.5
LVV				*e*SSS	SSS	22 52 21.1	-1.9
LVV				MLR	MLR		
	comp=N,2μm,18.0s,MS5.7						
LVV				MLR	MLR		
	comp=E,3μm,18.0s,MS5.7						
LVV				MLR	MLR		
	comp=Z,4μm,18.0s,MS5.8						
LOHW	**Long Hollow**	**78.11**	**45**	*e*P	**P**	**22 34 11.0**	**+0.7**
	comp=Z,57nm,1.0s,mb5.5						
SNOW	**Snow King Moun**	**78.12**	**45**	*e*P	**P**	**22 34 11.3**	**+1.0**
	comp=Z,72nm,0.8s,mb5.7						
REDW	**Red Top Meadow**	**78.12**	**45**	*e*P	**P**	**22 34 11.1**	**+0.8**
	comp=Z,126nm,1.1s,mb5.8						
DAC	**Darwin (Calif)**	**78.17**	**54**	P	**P**	**22 34 11.7**	**+0.9**
DAC				*e*		22 34 21.3	
DAC				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.4						
DAC	**Darwin (Calif)**	**78.17**	**54**	*e*P	**P**	**22 34 11.0**	**+0.2**
	comp=Z,51nm,1.1s,mb5.4						
DAC				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
GZT	**Gaziantep**	**78.18**	**307**	*i* P	**P**	**22 34 11.9**	**+1.1**
TOS	**Tosya**	**78.22**	**312**	P	**P**	**22 34 12.3**	**+1.3**
TRCR	**Troy Canyon**	**78.27**	**51**	*e*P	**P**	**22 34 11.7**	**+0.4**
BALT	**Daday**	**78.30**	**313**	*i* P	**P**	**22 34 12.1**	**+0.7**
AHID	**Auburn Hatcher**	**78.34**	**46**	*e*P	**P**	**22 34 11.9**	**+0.3**
	comp=Z,52nm,0.8s,mb5.5						
AHID				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
TAU	**Tasmania Unive**	**78.36**	**175**	P	**P**	**22 34 12.4**	**+0.8**
TAU				pmax	pmax		
	comp=Z,75nm,1.0s,mb5.6						
TAU	**Tasmania Unive**	**78.36**	**175**	*e*P	**P**	**22 34 11.4**	**-0.2**
	comp=Z,75nm,1.0s,mb5.6						
TAU				LR	LR		
	comp=Z,707nm,21.0s,MS5.0						
CORM	**Corum**	**78.37**	**311**	P	**P**	**22 34 13.0**	**+1.3**
BSD	**Bornholm Skovb**	**78.37**	**331**	⇑*i*P	**P**	**22 34 10.8**	**-0.6**
BSD				*i* S	S	22 43 59.6	-2.8
BSD				pmax	pmax		
	comp=Z,400nm,0.9s,mb6.3						
BSD				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.7						
BSD	**Bornholm Skovb**	**78.37**	**331**	⇑*i*P	**P**	**22 34 10.8**	**-0.6**
	comp=Z,396nm,0.9s,mb6.3						
BSD				*i* S	S	22 43 59.6	-2.8
	comp=Z,3μm,18.0s						
BNN	**Bunyan**	**78.40**	**310**	P	**P**	**22 34 12.9**	**+1.0**
SPUT	**South Promonto**	**78.44**	**47**	*e*P	**P**	**22 34 13.2**	**+1.1**
KAHT	**Ahir Dag**	**78.47**	**308**	*i* P	**P**	**22 34 13.3**	**+1.0**
GAZ	**Gaziantep**	**78.52**	**308**	P	**P**	**22 34 14.0**	**+1.4**
LAO	**LASA Array**	**78.58**	**40**	*e*P	**P**	**22 34 13.1**	**+0.3**
	comp=Z,212nm,1.0s,mb6.0						
LAO				LR	LR		
	comp=Z,2μm,22.0s,MS5.4						
TLCR		**78.66**	**318**	⇓P	**P**	**22 34 12.9**	**-0.3**
CANT	**Cankiri**	**78.72**	**312**	P	**P**	**22 34 14.5**	**+0.8**
GKP	**Gorka Klasztor**	**78.78**	**329**	*e*P	**P**	**22 34 13.6**	**-0.1**
GKP				*e*pP	pP	22 34 20.4	-6.0
GKP				*e*PP	PP	22 37 11.3	-2.7
GKP				*e*S	S	22 44 03.8	-3.0
GKP				MLR	MLR	23 11 59.0	
	comp=Z,5μm,18.9s,MS5.9						
HWUT	**Hardware Ranch**	**78.78**	**47**	*e*P	**P**	**22 34 14.6**	**+0.6**
	comp=Z,185nm,1.1s,mb5.9						
HWUT				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
CDAG	**Cicekdag**	**78.86**	**311**	*i* P	**P**	**22 34 14.9**	**+0.4**
KWP	**Kalwaria**	**78.87**	**324**	*e*P	**P**	**22 34 14.7**	**+0.4**
KWP				*e**PP	pP	22 34 22.0	-5.0
KWP				*e*		22 37 13.4	
KWP				*e*S	S	22 44 07.6	-0.2
KWP				MLR	MLR		
	comp=Z,3μm,23.8s,MS5.5						
KWP	**Kalwaria**	**78.87**	**324**	*e*P	**P**	**22 34 14.8**	**+0.4**
KWP				*e*pP	pP	22 34 22.0	-5.0
KWP				*e*PP	PP	22 37 13.4	-1.5
KWP				*e*S	S	22 44 07.6	-0.3
KWP				MLR	MLR	23 10 09.0	
	comp=Z,3μm,23.8s,MS5.5						
COP	**Copenhagen**	**78.88**	**333**	⇑*i*P	**P**	**22 34 14.1**	**-0.2**
COP				*i*		22 37 12.0	
COP				*i* S	S	22 44 08.7	+0.8
COP				pmax	pmax		
	comp=Z,350nm,0.9s,mb6.3						
COP				MLR	MLR		
	comp=Z,930nm,18.0s,MS5.2						
COP	**Copenhagen**	**78.88**	**333**	⇑*i*P	**P**	**22 34 14.1**	**-0.2**
	comp=Z,351nm,0.9s,mb6.3						
COP				*i*		22 37 12.0	
COP				*i* S	S	22 44 08.7	+0.8
	comp=Z,930nm,18.0s						
SAFT	**Safranbolu**	**78.90**	**313**	P	**P**	**22 34 15.4**	**+0.8**
ELDT	**Eldivan**	**78.91**	**312**	*i* P	**P**	**22 34 15.3**	**+0.5**
BURAR	**Bucovina Array**	**78.98**	**321**	⇑P	**P**	**22 34 15.0**	**+0.1**
BURAR	**Bucovina Array**	**78.98**	**321**	⇑P	**P**	**22 34 15.0**	**0.0**
BORG	**Borgarnes**	**78.99**	**352**	LR	LR	23 10 14.4	
	comp=Z,1μm,20.8s,MS5.2,baz=6.6,slow=36						
CFR	**Carcaliu**	**79.03**	**318**	⇑P	**P**	**22 34 14.8**	**-0.5**
NOQ	**North Oquirrh**	**79.03**	**48**	*e*P	**P**	**22 34 16.0**	**+0.6**
MWC	**Mount Wilson**	**79.05**	**56**	P	**P**	**22 34 15.9**	**+0.2**
MWC	**Mount Wilson**	**79.05**	**56**	*e*P	**P**	**22 34 15.8**	**+0.2**
TCUT	**Toone Canyon**	**79.17**	**47**	*e*P	**P**	**22 34 15.5**	**-0.7**
CTU	**Camp Tracy**	**79.23**	**47**	*e*P	**P**	**22 34 17.1**	**+0.6**
BW06	**Boulder Array**	**79.24**	**45**	PFAKE		22 34 30.0	+14
BW06				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
PDAR	**Pinedale Array**	**79.24**	**45**	P	**P**	**22 34 17.0**	**+0.5**
	comp=Z,52nm,0.7s,mb5.6,baz=272,slow=2.2,SNR=364						
PDAR				S	S	22 44 10.0	-1.9
	comp=Z,0.2nm,0.5s,baz=142,slow=24,SNR=2.4						
PDAR				PKKPbc		22 53 06.5	
	comp=Z,1.7nm,0.9s,baz=103,slow=3.9,SNR=9.1						
BR131	**Keskin Array S**	**79.25**	**311**	PFAKE		22 34 30.0	+13
BR131				LR	LR		
	comp=Z,488nm,20.0s,MS4.8						
BRTR	**Keskin Array B**	**79.25**	**311**	P	**P**	**22 34 17.1**	**+0.6**
	comp=Z,135nm,0.9s,mb5.9,baz=108,slow=3.9,SNR=503						
BRTR				PP	PP	22 37 15.8	-2.4
	comp=Z,30nm,1.0s,baz=78,slow=5.7,SNR=5.0						
BRTR				PKKPbc		22 53 06.9	
	comp=Z,2.3nm,0.8s,baz=201,slow=3.6,SNR=13						
TIRR	**Tirgusor**	**79.34**	**318**	⇑P	**P**	**22 34 16.9**	**-0.1**
VRI	**Vrincioaia**	**79.34**	**319**	P	**P**	**22 34 17.3**	**+0.3**
VRI	**Vrincioaia**	**79.34**	**319**	⇑P	**P**	**22 34 17.4**	**+0.4**
RGN	**Rugen**	**79.41**	**332**	*e*P	**P**	**22 34 17.2**	**+0.1**
	comp=Z,538nm,1.1s,mb6.4						
KAMT	**Kaman**	**79.42**	**311**	P	**P**	**22 34 17.7**	**+0.2**
HARR	**Harsova**	**79.46**	**318**	⇑P	**P**	**22 34 17.7**	**+0.1**
MUD	**Monsted U'grnd**	**79.46**	**335**	⇑*i*P	**P**	**22 34 17.1**	**-0.3**
MUD				*i*		22 37 20.8	
MUD				*i* S	S	22 44 16.0	+2.1
MUD				pmax	pmax		
	comp=Z,250nm,1.0s,mb6.1						
MUD				MLR	MLR		
	comp=Z,3μm,21.0s,MS5.6						
MUD	**Monsted U'grnd**	**79.46**	**335**	⇑*i*P	**P**	**22 34 17.1**	**-0.3**
	comp=Z,249nm,1.0s,mb6.1						
MUD				*i*		22 37 20.8	
MUD				*i* S	S	22 44 16.0	+2.1
MUD				*i*		22 49 19.3	
	comp=Z,3μm,21.0s						
NLU	**North Lily Min**	**79.49**	**48**	*e*P	**P**	**22 34 18.4**	**+0.6**
COBT	**Iskenderun**	**79.52**	**307**	*i* P	**P**	**22 34 18.8**	**+0.7**
LRW	**Lerwick**	**79.55**	**342**	*e*P	**P**	**22 34 17.8**	**0.0**
KOLS	**Kolonicke sedl**	**79.55**	**324**	*i* P	**P**	**22 34 18.2**	**+0.2**
KOLS				*e*	pP	22 34 32.6	+1.8
KOLS				*e*S	S	22 44 13.9	-1.2
KOLS	**Kolonicke sedl**	**79.55**	**324**	*i* P	**P**	**22 34 18.2**	**+0.2**
KOLS				*e*	pP	22 34 32.6	+1.8
KOLS				*e*		22 37 09.5	
KOLS				*e*S	S	22 44 13.9	-1.2
CEYT	**Ceyhan**	**79.56**	**308**	P	**P**	**22 34 19.6**	**+1.3**
ANTO	**Ankara**	**79.68**	**312**	P	**P**	**22 34 18.7**	**-0.2**
ANTO	**Ankara**	**79.68**	**312**	⇑P	**P**	**22 34 19.5**	**+0.6**
LOD	**Lodumlu**	**79.68**	**312**	P	**P**	**22 34 19.7**	**+0.7**
SGKT	**Sivrigoynuk**	**79.69**	**313**	*i* P	**P**	**22 34 19.5**	**+0.6**
DAU	**Daniels Canyon**	**79.70**	**47**	*e*P	**P**	**22 34 20.1**	**+1.1**
MPU	**Maple Canyon**	**79.72**	**48**	*e*P	**P**	**22 34 19.6**	**+0.5**
UZH	**Uzhgorod**	**79.75**	**324**	*d i*P	**P**	**22 34 19.0**	**-0.1**
UZH				*e*S	S	22 44 12.0	-5.1
UZH				MLR	MLR		
	comp=Z,3μm,16.0s,MS5.8						
OJC	**Ojcow**	**79.83**	**326**	⇑*i*P	**P**	**22 34 19.7**	**+0.2**
OJC				*e*		22 37 19.6	
OJC				MLR	MLR		
	comp=Z,7μm,17.0s,MS6.1						
OJC	**Ojcow**	**79.83**	**326**	⇑*i*P	**P**	**22 34 19.7**	**+0.2**
OJC				*e*PP	PP	22 37 19.6	-2.9
OJC				*e*S	S	22 44 05.3	-13
OJC				MLR	MLR	23 13 21.3	
	comp=Z,7μm,17.0s,MS6.1						
HTY	**Hatay**	**79.84**	**307**	P	**P**	**22 34 21.1**	**+1.2**
ISR	**Istrita**	**79.93**	**319**	⇑P	**P**	**22 34 21.0**	**+0.9**
RAR	**Rarotonga**	**79.93**	**125**	LR	LR	23 03 33.0	
	comp=Z,3μm,21.5s,MS5.6,baz=294,slow=31						
RAR	**Rarotonga**	**79.93**	**125**	PFAKE		22 34 30.0	+9.4
RAR				LR	LR		
	comp=Z,6μm,20.0s,MS5.9						
ARUT	**Antelope Range**	**79.96**	**51**	P	**P**	**22 34 22.2**	**+1.7**
ARUT	**Antelope Range**	**79.96**	**51**	*e*P	**P**	**22 34 21.5**	**+1.0**
CRVS	**Cervenica-Dubn**	**79.97**	**324**	*e*P	**P**	**22 34 20.8**	**+0.6**
CRVS				*e*S	S	22 44 18.2	-1.2
PSN	**Preselentsi**	**79.97**	**317**	*i* P	**P**	**22 34 21.0**	**+0.6**
MLR	**Muntele Rosu**	**80.00**	**319**	P	**P**	**22 34 20.5**	**0.0**
MLR						22 37 20.5	
MLR				S	S	22 44 20.8	+0.9
MLR				pmax	pmax		
	comp=Z,56nm,1.0s						
MLR	**Muntele Rosu**	**80.00**	**319**	P	**P**	**22 34 20.5**	**-0.1**
	comp=Z,56nm,1.0s,mb5.5,baz=353,slow=3.8,SNR=73						
MLR				PP	PP	22 37 20.5	-3.6
	baz=111,slow=14						
MLR				S	S	22 44 20.8	+0.9
	comp=Z,2.9nm,1.1s,baz=112,slow=19,SNR=3.4						
MLR	**Muntele Rosu**	**80.00**	**319**	⇑P	**P**	**22 34 20.6**	**+0.1**
NIE	**Niedzica**	**80.15**	**325**	⇑*e*P	**P**	**22 34 20.0**	**-1.2**
HENT	**Hendek**	**80.22**	**313**	*i* P	**P**	**22 34 20.7**	**-1.1**
MDU	**Mudurnu**	**80.26**	**313**	P	**P**	**22 34 22.4**	**+0.4**
MVU	**Marysvale**	**80.29**	**49**	*e*P	**P**	**22 34 23.1**	**+0.9**
	comp=Z,93nm,1.1s,mb5.6						
MVU				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
MSU	**Marysvale**	**80.31**	**49**	P	**P**	**22 34 23.6**	**+1.3**
MSU	**Marysvale**	**80.31**	**49**	*e*P	**P**	**22 34 23.5**	**+1.2**
SNX	**Sinaia**	**80.32**	**320**	P	**P**	**22 34 22.6**	**+0.4**
SNX	**Sinaia**	**80.32**	**320**	⇑P	**P**	**22 34 22.7**	**+0.4**
TMUT	**Trail Mountain**	**80.42**	**48**	*e*P	**P**	**22 34 23.1**	**+0.2**
PFO	**Pinyon Flat Ob**	**80.49**	**56**	P	**P**	**22 34 24.2**	**+0.8**
PFO				pmax	pmax		
	comp=Z,120nm,1.1s,mb5.7						
PFO	**Pinyon Flat Ob**	**80.49**	**56**	*e*P	**P**	**22 34 23.6**	**+0.2**
	comp=Z,119nm,1.1s,mb5.7						
PFO				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
LDFC	**Landfair**	**80.51**	**54**	*e*P	**P**	**22 34 23.9**	**+0.5**
MTUR	**Matau**	**80.65**	**320**	P	**P**	**22 34 23.9**	**-0.1**
RAC	**Raciborz**	**80.65**	**326**	*e*P	**P**	**22 34 24.4**	**+0.5**
RAC				*e*S	S	22 44 27.4	+0.9
RAC				MLR	MLR	23 13 50.5	
	comp=Z,6μm,17.4s,MS6.0						
BUC1	**Bucharest**	**80.71**	**319**	P	**P**	**22 34 24.5**	**+0.2**
PRD	**Provadia**	**80.71**	**317**	*i* P	**P**	**22 34 25.0**	**+0.6**
KECS	**Kecovo**	**80.72**	**324**	*i* P	**P**	**22 34 24.7**	**+0.4**
KECS				*e*PP	PP	22 37 28.3	-2.1
RUE	**Ruedersdorf**	**80.78**	**330**	*e*P	**P**	**22 34 24.1**	**-0.4**
	comp=Z,461nm,1.2s,mb6.3						
FKH	**Fakeheh**	**80.79**	**305**	*e*P	**P**	**22 34 25.6**	**+0.6**
MEST	**Erdemli**	**80.84**	**309**	*i* P	**P**	**22 34 25.1**	**-0.1**
KIZT	**Kizilcal**	**80.84**	**311**	P	**P**	**22 34 25.4**	**+0.2**
OKC	**Ostrava-Krasne**	**80.85**	**326**	⇑*i*P	**P**	**22 34 25.1**	**+0.2**
OKC				*e*PP	PP	22 37 29.7	-1.8
OKC				*e*S	S	22 44 28.2	-0.3
OKC				*e*SS	SS	22 49 44.5	-1.3
OKC				AMS	AMS	23 14 00.0	
	comp=Z,5μm,15.3s						
BAR	**Barrett**	**80.90**	**56**	*e*P	**P**	**22 34 25.4**	**-0.1**
KSP	**Ksiaz**	**80.94**	**328**	⇑*i*P	**P**	**22 34 25.5**	**+0.1**
KSP				*e*		22 34 31.9	
KSP				*e*		22 37 26.5	
KSP				*e*S	S	22 44 28.6	-0.9
KSP				MLR	MLR		
	comp=Z,9μm,20.7s,MS6.1						
KSP	**Ksiaz**	**80.94**	**328**	⇑*i*P	**P**	**22 34 25.5**	**+0.1**
KSP				*e*PcP	PcP	22 34 31.9	-0.2
KSP				*e*PP	PP	22 37 26.5	-5.8
KSP				*e*S	S	22 44 28.6	-0.9
KSP				*e*SS	SS	22 49 37.5	-10
KSP				LR	LR		
	comp=Z,9μm,20.7s,MS6.1						
KSP	**Ksiaz**	**80.94**	**328**	*e*P	**P**	**22 34 25.6**	**+0.2**
KSP				*e*PP	PP	22 37 30.3	-2.0
KSP				*e*S	S	22 44 29.0	-0.4
KSP				MLR	MLR	23 13 08.9	
	comp=Z,8μm,20.7s,MS6.0						
HRT	**Hereke**	**80.95**	**314**	P	**P**	**22 34 24.9**	**-0.8**
SRU	**San Rafael**	**80.95**	**48**	P	**P**	**22 34 26.4**	**+0.7**
SRU	**San Rafael**	**80.95**	**48**	*e*P	**P**	**22 34 26.2**	**+0.5**
LIKS	**Likavka**	**80.97**	**325**	*e*P	**P**	**22 34 26.3**	**+0.7**
BSEG	**Bad Segeberg**	**81.02**	**333**	*e*P	**P**	**22 34 25.6**	**-0.1**
BSEG				pmax	pmax		
	comp=Z,503nm,1.1s,mb6.4						
HWQ	**Hawqa**	**81.06**	**306**	*e*P	**P**	**22 34 26.6**	**+0.2**
ESKT	**Eskisehir**	**81.07**	**312**	P	**P**	**22 34 26.0**	**-0.3**
ESKT	**Eskisehir**	**81.07**	**312**	*i* P	**P**	**22 34 25.9**	**-0.4**
KONT	**Konya--Tatoy**	**81.13**	**310**	P	**P**	**22 34 27.5**	**+0.8**
ULM	**Lac du Bonnet**	**81.14**	**33**	P	**P**	**22 34 25.7**	**-0.8**
	comp=Z,66nm,0.8s,mb5.6,baz=309,slow=6.2,SNR=76						
ULM				S	S	22 44 24.9	-6.7
	comp=Z,1.4nm,0.6s,baz=82,slow=19,SNR=1.9						
ULM				PKKPbc		22 53 00.7	
	comp=Z,2.0nm,0.7s,baz=110,slow=3.9,SNR=3.8						
ULM				LR	LR	23 12 37.6	
	comp=Z,994nm,21.1s,MS5.1,baz=331,slow=37						
ULM	**Lac du Bonnet**	**81.14**	**33**	*e*P	**P**	**22 34 25.5**	**-1.0**
	comp=Z,115nm,0.9s,mb5.8						
ULM				LR	LR		
	comp=Z,3μm,22.0s,MS5.5						
ISK	**Istanbul-Kandi**	**81.15**	**315**	P	**P**	**22 34 26.8**	**+0.1**
MORC	**Moravsky Berou**	**81.16**	**327**	P	**P**	**22 34 26.6**	**0.0**
MORC				pmax	pmax		
	comp=Z,240nm,1.1s,mb6.0						
MORC	**Moravsky Berou**	**81.16**	**327**	*e*P	**P**	**22 34 26.5**	**-0.1**
	comp=Z,244nm,1.1s,mb6.0						
RWWY	**Rawlins**	**81.27**	**45**	*e*P	**P**	**22 34 26.6**	**-0.7**
	comp=Z,169nm,1.0s,mb5.9						
YLV	**Yalova**	**81.28**	**314**	P	**P**	**22 34 26.5**	**-0.9**
DPC	**Dobruska-Polom**	**81.29**	**328**	⇑*i*P	**P**	**22 34 27.8**	**+0.6**
DPC				*e*PP	PP	22 37 31.6	-3.6
DPC				*e*S	S	22 44 34.5	+1.4
DPC				*e*SS	SS	22 49 55.2	+2.8
DPC				AMS	AMS	23 14 10.0	
	comp=Z,4μm,20.7s						
UPC	**Upice**	**81.31**	**328**	⇑*i*P	**P**	**22 34 27.7**	**+0.4**
UPC				*e*PP	PP	22 37 33.2	-2.1
IZI	**Iznik**	**81.37**	**314**	P	**P**	**22 34 28.8**	**+1.0**
PSZ	**Piszkesteto**	**81.40**	**324**	P	**P**	**22 34 27.7**	**-0.1**
PSZ				pmax	pmax		
	comp=Z,380nm,1.1s,mb6.2						
PSZ	**Piszkesteto**	**81.40**	**324**	*e*P	**P**	**22 34 27.9**	**0.0**
	comp=Z,376nm,1.1s,mb6.2						
PSZ	**Piszkesteto**	**81.40**	**324**	⇑*e*P	**P**	**22 34 28.5**	**+0.7**
RSSD	**Black Hills**	**81.43**	**41**	P	**P**	**22 34 27.8**	**-0.3**
RSSD				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.5						
RSSD	**Black Hills**	**81.43**	**41**	*e*P	**P**	**22 34 27.7**	**-0.3**
	comp=Z,51nm,0.9s,mb5.5						
RSSD				LR	LR		
	comp=Z,460nm,20.0s,MS4.8						
CTT	**Catalca**	**81.46**	**315**	P	**P**	**22 34 28.5**	**+0.2**
SZH	**Strazhica**	**81.48**	**318**	*i* P	**P**	**22 34 28.5**	**+0.1**
BHL	**Bhannes**	**81.48**	**306**	*e*P	**P**	**22 34 28.6**	**0.0**
VYHS	**Vyhne**	**81.49**	**325**	*i* P	**P**	**22 34 28.9**	**+0.6**
VYHS				*e*S	S	22 44 34.1	-1.1
VYHS	**Vyhne**	**81.49**	**325**	*i* P	**P**	**22 34 28.9**	**+0.6**
VYHS				*e*		22 37 22.1	
VYHS				*e*S	S	22 44 34.1	-1.1
ZIMR		**81.53**	**318**	⇑P	**P**	**22 34 28.4**	**-0.2**
KOLL	**Kolacno**	**81.63**	**325**	*i* P	**P**	**22 34 29.6**	**+0.6**
JMB	**Yambol**	**81.65**	**317**	*i* P	**P**	**22 34 30.0**	**+0.7**
HDMB	**Hadim**	**81.66**	**310**	P	**P**	**22 34 29.6**	**+0.2**
ASF	**Jabal al Asfar**	**81.69**	**304**	P	**P**	**22 34 30.6**	**+1.0**
	comp=Z,187nm,0.9s,mb6.0,baz=278,slow=2.2,SNR=250						
ASF				S	S	22 44 39.4	+1.8
	comp=Z,0.8nm,0.4s,baz=97,slow=21,SNR=5.6				

PRU LR LR
comp=Z,4µm,14.0s,MS5.9
PRU Pruhonice 82.33 328⇑ *i*P P 22 34 32.8 +0.2
PRU *e*PP PP 22 37 38.5 -5.0
PRU *e*S S 22 44 45.2 +1.5
PRU *e*SS SS 22 50 00.4 -7.6
PRU AMS AMS 23 15 30.0
comp=Z,4µm,14.0s
ISP Isparta 82.33 311 P P **22 34 27.7 -5.2**
ISP Isparta 82.33 311 P P **22 34 32.0 -0.9**
ISP pmax pmax
comp=Z,130nm,1.1s,mb5.8
ISP Isparta 82.33 311 *e*P P **22 34 32.3 -0.6**
comp=Z,134nm,1.1s,mb5.8
DST Dursunbey 82.34 314 P P **22 34 33.1 +0.2**
CSS Prodhromos 82.36 308 ⇑P P **22 34 33.1 0.0**
comp=Z,1.7nm,0.9s
CSS Prodhromos 82.36 308 P P **22 34 33.0 -0.1**
CSS Prodhromos 82.36 308⇑ *i*P P **22 34 33.1 0.0**
comp=Z,1.7nm,0.9s
MME1 Meikle Cairn 82.46 341⇑ *e*P P **22 34 32.9 -0.2**
SART Tekirdag 82.47 315 *i*P P **22 34 34.6 +1.0**
DIM Dimitrovgrad 82.51 317 *i*P P **22 34 34.5 +0.8**
ZST Bratislava 82.51 326 *i*P P **22 34 34.1 +0.5**
ZST *e*PP PP 22 37 50.5 +5.5
ZST *e*S S 22 44 41.9 -3.7
PHWY Pilot Hill 82.52 44 *e*P P **22 34 34.2 +0.5**
BTOK Tokmak 82.59 314 *i*P P **22 34 33.9 -0.2**
CLZ Clausthal 82.62 331 *e*P P **22 34 34.2 +0.1**
comp=Z,459nm,1.1s,mb6.4
KHL Karahalli 82.62 312 P P **22 34 35.2 +0.8**
WUAZ Wupatki 82.66 51 *e*P P **22 34 34.6 -0.1**
comp=Z,138nm,1.1s,mb5.9
WUAZ LR LR
comp=Z,3µm,22.0s,MS5.6
ALFC Alevga 82.71 308 ⇑P P **22 34 34.4 -0.5**
comp=Z,2.8nm,0.9s
ALFC Alevga 82.71 308⇑ *e*P P **22 34 34.4 -0.5**
SNZO South Karori 82.71 155 PFAKE 22 34 50.0 +15
SNZO LR LR
comp=Z,2µm,22.0s,MS5.4
MDO Dochfour 82.72 342⇑ *i*P P **22 34 34.0 -0.4**
PV01 Paradox Valley 82.75 48 *e*P P **22 34 35.6 +0.6**
BALB Balikesir 82.75 314 P P **22 34 35.4 +0.4**
SZAC Souni-Zanaja 82.77 308 ⇑P P **22 34 35.3 +0.1**
SZAC Souni-Zanaja 82.77 308⇑ *e*P P **22 34 35.3 +0.1**
VKA Vienna 82.82 326⇑ *i*P P **22 34 34.6 -0.5**
comp=Z,840nm,2.5s,mb6.3
KDZ Kurdzhali 82.84 317 *i*P P **22 34 37.0 +1.6**
ANTB Antalya 82.84 311 P P **22 34 35.5 0.0**
MUKL Al Mukalla 82.87 283⇑ *e*P P **22 34 35.9 -0.1**
MUKL AMb AMB 22 34 37.0
comp=Z,60nm,0.7s,mb5.7
PGB Panagyurishte 82.92 318 *i*P P **22 34 37.0 +1.2**
PLD Plovdiv 82.93 318 *e*P P **22 34 37.0 +1.2**
CANB Canakkale 82.98 315 P P **22 34 37.1 +0.9**
ALN Alexandroupoli 82.98 316 *e*P P **22 34 36.3 +0.2**
NKC Novy Kostel 83.03 329⇑ *i*P P **22 34 36.4 +0.3**
NKC *e*PP PP 22 37 46.8 -2.3
NKC *e*S S 22 44 56.6 +5.8
NKC *e*SS SS 22 50 11.5 -7.0
NKC AMS AMS 23 15 10.0
comp=Z,4µm,16.9s
PPCY Paphos 83.04 308 ⇑P P **22 34 36.3 -0.2**
PPCY Paphos 83.04 308⇑ *i*P P **22 34 36.3 -0.2**
MOX Moxa 83.05 330 *e*P P **22 34 48.0 +12**
MANT Manisa 83.10 313 *i*P P **22 34 36.5 -0.2**
RDO Rodhopi 83.11 316 *e*P P **22 34 37.1 +0.3**
SOP Sopron 83.13 326⇑ *i*P P **22 34 37.5 +0.8**
SOP *e*PP PP 22 37 49.1 -0.9
RZN Rozhen 83.20 317 *i*P P **22 34 38.0 +0.8**
PKSM Moragy 83.22 324 ⇑P P **22 34 37.1 -0.1**
BOLS Boljevac 83.22 320⇑ *i*P P **22 34 37.0 -0.3**
WIT Witteveen 83.24 334⇑ *i*P P **22 34 38.0 +0.8**
SVIS Svilajnac 83.28 321 ⇓ *i*P P **22 34 37.7 +0.1**
DENT Denizli 83.29 312 P P **22 34 38.9 +1.1**
GOLH Golhisar 83.30 311 *i*P P **22 34 37.4 -0.4**
DNZL Cakiroluk 83.32 312 *i*P P **22 34 38.2 +0.3**
KHC Kasperske Hory 83.39 328⇑ *i*P P **22 34 38.3 +0.3**
KHC *e* pP 22 34 50.0 -0.8
KHC *e*PP PP 22 37 50.9 -1.1
KHC *e*S S 22 44 56.2 +1.8
KHC *e*SS SS 22 50 22.1 -1.4
KHC LR LR
comp=Z,4µm,17.8s,MS5.9
KHC Kasperske Hory 83.39 328⇑ *i*P P **22 34 38.3 +0.3**
KHC *e*pP pP 22 34 50.0 -0.8
KHC *e*PP PP 22 37 50.9 -1.1
KHC *e*S S 22 44 56.2 +1.8
KHC *e*SS SS 22 50 22.1 -1.4
KHC AMS AMS 23 15 40.0
comp=Z,4µm,17.8s
ELL Elmali 83.40 311 P P **22 34 39.2 +0.9**
VTS Vitosha 83.41 319 ⇑P P **22 34 39.2 +1.0**
VTS Vitosha 83.41 319 *i*P P **22 34 39.0 +0.7**
EZN Ezine 83.53 315 P P **22 34 39.5 +0.5**
GEC2 GERESS Array S 83.55 328 *e*P P **22 34 38.8 0.0**
GEC2 pmax pmax
comp=Z,176nm,1.2s,mb6.1
GEC2 GERESS Array S 83.55 328 *e*P P **22 34 38.8 0.0**
comp=Z,176nm,1.2s,mb6.1
GERES GERESS Array B 83.55 328 P P **22 34 39.0 +0.2**
comp=Z,64nm,0.9s,mb5.7,baz=34,slow=4.8,SNR=306
GERES PP PP 22 37 50.5 -2.8
comp=Z,15nm,1.0s,baz=31,slow=7.8,SNR=4.9
GERES PKKP PKKP 22 52 46.0 +6.9
comp=Z,1.0nm,0.9s,baz=207,slow=2.2,SNR=4.2
GERES PKKPbc 22 52 56.8
comp=Z,2.6nm,0.9s,baz=243,slow=2.2,SNR=14
GERES PKPPKP 23 01 01.0
comp=Z,0.2nm,0.4s,baz=180,slow=3.9,SNR=4.0
GERES LR LR 23 16 08.5
comp=Z,4µm,18.1s,MS5.9,baz=40,slow=39
AYVA Ayvalik 83.67 314 *i*P P **22 34 39.2 -0.4**
WET Wettzell 83.68 328 *e*P P **22 34 39.9 +0.5**
WET pmax pmax
comp=Z,243nm,1.3s,mb6.2
WET Wettzell 83.68 328 *e*P P **22 34 39.9 +0.5**
comp=Z,243nm,1.3s,mb6.2
BOZC Bozcaada 83.68 315 *i*P P **22 34 38.8 -0.9**
MMB Musomiste 83.81 318 *i*P P **22 34 41.0 +0.7**
GRUS Gruza 83.83 321 ⇓ *i*P P **22 34 40.7 +0.4**
WTSB Winterswijk 83.88 333⇑ *i*P P **22 34 40.0 -0.3**
comp=Z,176nm,1.2s,mb6.1
NVR Nevrokopi 83.90 317 *e*P P **22 34 40.9 +0.1**
AKAS Kas 83.91 311 *i*P P **22 34 39.7 -1.2**
KDAG Bornova 83.92 313 *i*P P **22 34 41.0 +0.1**
ARSA Arzberg 83.93 326⇑ *i*P P **22 34 41.2 +0.5**
comp=Z,545nm,1.8s,mb6.4
IZM Izmir 83.93 313 P P **22 34 41.3 +0.3**
GRA1 Grafenberg Arr 83.95 330 *e*P P **22 34 41.4 +0.6**
comp=Z,737nm,1.1s,mb6.7
GRA1 *e*PP PP 22 37 52.0 -4.4
GRA1 *e*S S 22 44 56.6 -3.4
GRA1 LR LR
comp=Z,3µm,20.1s,MS5.7
GRF Grafenberg Arr 83.95 330 *e*P P **22 34 41.4 +0.6**
GRF *e* 22 37 52.0
GRF *e*S S 22 44 56.6 -3.4
GRF pmax pmax
comp=Z,737nm,1.1s,mb6.7
GRF MLR MLR
comp=Z,3µm,20.1s,MS5.7
GRF Grafenberg Arr 83.95 330 *e*P P **22 34 41.4 +0.6**
comp=Z,737nm,1.1s,mb6.7
GRF *e*PP PP 22 37 52.0 -4.4
GRF *e*S S 22 44 56.6 -3.4
GRF LR LR
comp=Z,3µm,20.1s,MS5.7
PRK Paraskevi 83.95 315 *e*P P **22 34 41.2 +0.1**
FETY Fethiye 83.98 311 P P **22 34 41.2 -0.1**
KKB Krupnik 83.98 318 *i*P P **22 34 42.0 +0.9**
KSL Kastellorizon 83.98 311 *e*P P **22 34 41.0 -0.3**
AYDN Tasoluk 84.04 313 *i*P P **22 34 42.5 +0.9**
MOA Molln 84.05 327⇑ *i*P P **22 34 41.6 +0.3**
comp=Z,396nm,1.4s,mb6.3
DIVS Divcibare 84.05 321 ⇓ *i*P P **22 34 41.6 +0.2**
LIA Limnos Island 84.14 316 *e*P P **22 34 41.6 -0.4**
YER Yerkesik 84.14 312 P P **22 34 43.2 +1.1**
DALT Dalyan (Mudla) 84.16 311 P P **22 34 42.9 +0.6**
LOS Limnos 84.17 316 *e*P P **22 34 42.2 0.0**
KOGS Kog 84.18 325 *e*P P **22 34 41.9 -0.2**
SRS Serrai 84.21 317 *e*P P **22 34 42.1 -0.2**

ESK Eskdalemuir 84.28 340 P P **22 34 41.6 -0.7**
ESK pmax pmax
comp=Z,250nm,1.5s,mb6.1
ESK Eskdalemuir 84.28 340 *e*P P **22 34 42.5 +0.2**
comp=Z,252nm,1.5s,mb6.1
ESK LR LR
comp=Z,759nm,20.0s,MS5.1
ESK Eskdalemuir 84.28 340⇑ *i*P P **22 34 42.4 +0.1**
LCP Cassop 84.29 339⇑ *i*P P **22 34 42.0 -0.3**
PMOR Pomarico Ree 84.30 113 *e*P P **22 34 44.1 +0.8**
comp=Z,115nm,1.1s,mb5.9
MLSB Milas 84.34 312 P P **22 34 44.0 +0.9**
BBH Bruntsheil 84.36 340⇑ *i*P P **22 34 42.9 +0.2**
LWH Whinny Nab 84.40 338⇑ *i*P P **22 34 43.1 +0.2**
BHH Howats Hill 84.48 340⇑ *i*P P **22 34 43.3 0.0**
BTA Talkin 84.49 340⇑ *i*P P **22 34 43.7 +0.4**
BBLS Bajina Basta - 84.51 322 ⇓ *i*P P **22 34 44.4 +0.6**
BWH Wardlaw 84.53 340⇑ *i*P P **22 34 43.6 0.0**
OUR Ouranopolis 84.53 317 *e*P P **22 34 43.8 -0.2**
EIL Elat 84.53 303 *e*P P **22 34 44.6 +0.4**
comp=Z,566nm,1.0s,mb6.7
SOH Sokhos 84.54 317 *e*P P **22 34 43.7 -0.3**
BCC1 Chapelcross 84.55 340⇑ *e*P P **22 34 43.9 +0.2**
NVSS Nova Varos 2 84.62 321⇑ *i*P P **22 34 45.0 +0.7**
VAY Valandovo 84.63 318⇑ *i*P P **22 34 44.8 +0.4**
VAY *i* PP PP 22 38 01.4 -0.7
SMG Samos 84.64 313 *e*P P **22 34 44.2 -0.3**
TNS Taunus Mts 84.65 331 *e*P P **22 34 44.5 +0.2**
TNS pmax pmax
comp=Z,252nm,1.2s,mb6.2
TNS Taunus Mts 84.65 331 *e*P P **22 34 44.5 +0.2**
comp=Z,252nm,1.2s,mb6.2
BDL Dobcross Hall 84.65 340⇑ *e*P P **22 34 44.6 +0.5**
PPT Papeete 84.67 116 LR LR 23 06 02.8
comp=Z,4µm,19.3s,MS5.8,baz=301,slow=31
BDRM Kayabasi 84.69 312 *i*P P **22 34 55.1 +10**
EYMN Ely 84.78 32 *e*P P **22 34 44.5 -0.5**
comp=Z,96nm,1.0s,mb5.9
EYMN LR LR
comp=Z,2µm,22.0s,MS5.5
SKO Skopje 84.79 319⇑ *i*P P **22 34 46.2 +1.0**
comp=Z,0.5nm,1.0s
BBO1 Bothel 84.80 340⇑ *i*P P **22 34 45.5 +0.5**
PLG Polygyros 84.80 317 *e*P P **22 34 44.3 -1.0**
TIAR Tiarei 84.83 116 *e*P P **22 34 47.8 +1.8**
comp=Z,180nm,1.0s,mb6.2
ARG Arkhangelos 84.84 311 *e*P P **22 34 45.7 +0.1**
SDCO Great Sand Dun 84.84 47 *e*P P **22 34 46.6 +1.0**
comp=Z,261nm,1.3s,mb6.2
SDCO LR LR
comp=Z,2µm,20.0s,MS5.4
SISC Sisak 84.84 324⇑ *i*P P **22 34 46.0 +0.6**
SIND Sindeldorf 84.88 330⇑ *e*P P **22 34 45.4 0.0**
THE Thessaloniki 84.89 317 *e*P P **22 34 45.1 -0.6**
THE Thessaloniki 84.89 317 *e*P P **22 34 45.1 -0.6**
GMK Mull of Kintyr 84.89 341⇑ *e*P P **22 34 45.8 +0.4**
PLE Pljevlja 84.90 321⇑ *i*P P **22 34 46.8 +1.1**
OBKA Obir 84.93 326⇑ *i*P P **22 34 45.8 0.0**
comp=Z,443nm,2.5s,mb6.2
PAIG Paliouri 84.97 316 *e*P P **22 34 45.8 -0.3**
GRG Griva 84.97 318 *e*P P **22 34 45.7 -0.4**
TOD Tromm 85.00 331⇑ *e*P P **22 34 46.2 +0.2**
TOD Tromm 85.00 331⇑ *e*P P **22 34 46.4 +0.4**
HPK Haverah Park 85.01 339⇑ *i*P P **22 34 46.4 +0.4**
KBA Koelnbreinsper 85.04 327⇑ *i*P P **22 34 46.2 -0.1**
comp=Z,561nm,2.0s,mb6.3
LMK Market Rasen 85.05 338⇑ *e*P P **22 34 45.9 -0.3**
TUC Tucson 85.05 54 P P **22 34 47.5 +0.7**
TUC pmax pmax
comp=Z,73nm,1.0s,mb5.8
TUC Tucson 85.05 54 *e*P P **22 34 47.3 +0.5**
comp=Z,73nm,1.0s,mb5.8
TUC LR LR
comp=Z,3µm,21.0s,MS5.7
GAL1 Galloway 85.09 341⇑ *e*P P **22 34 46.3 0.0**
FUR Furstenfeldbru 85.11 329 *e*P P **22 34 46.9 +0.3**
FUR pmax pmax
comp=Z,404nm,0.9s,mb6.5
FUR Furstenfeldbru 85.11 329 *e*P P **22 34 46.9 +0.3**
comp=Z,404nm,0.9s,mb6.5
LDU Leeds Universi 85.12 339⇑ *e*P P **22 34 46.8 +0.2**
PVY Plav 85.12 320⇑ *i*P P **22 34 46.2 -0.7**
SWS Schriesheim 85.13 331⇑ *e*P P **22 34 46.7 0.0**
HGN Heimansgroeve 85.17 333⇑ *i*P P **22 34 46.6 -0.2**
comp=Z,288nm,1.2s,mb6.3
HGN Heimansgroeve 85.17 333 *e*S S 22 45 13.0 +1.0
HDH Heidenheim 85.23 329⇑ *e*P P **22 34 47.1 -0.1**
UPM Unac-Piva 85.24 321⇑ *i*P P **22 34 47.6 +0.2**
ABH Alteburg 85.27 332⇑ *e*P P **22 34 47.5 +0.1**
GCL Cushendall 85.28 341⇑ *e*P P **22 34 47.1 -0.2**
LJU Ljubljana 85.28 326 *i*P P **22 34 47.3 -0.2**
BOJS Bojanci 85.35 325 *e*P P **22 34 47.9 0.0**
AOS Alonnisos 85.38 316 *e*P P **22 34 48.5 +0.3**
LHO Holmfirth 85.43 339⇑ *i*P P **22 34 48.1 0.0**
NKY Niksic 85.47 321⇑ *i*P P **22 34 47.2 -1.4**
STU Stuttgart 85.50 330 P P **22 34 48.8 +0.3**
STU pmax pmax
comp=Z,440nm,1.0s,mb6.5
STU Stuttgart 85.50 330 *e*P P **22 34 48.5 0.0**
comp=Z,440nm,1.0s,mb6.5
KTD Kalmit 85.51 331⇑ *e*P P **22 34 48.8 +0.2**
LIT Litokhoron 85.52 317 *e*P P **22 34 48.2 -0.6**
PTCC Patocco-Chiusa 85.55 326 *e*P P **22 34 47.8 -1.0**
KBI1 Birley Grange 85.59 338⇑ *i*P P **22 34 48.9 0.0**
ROBS Robic 85.60 326 *e*P P **22 34 47.7 -1.3**
RUP Ruppelstein 85.60 332⇑ *e*P P **22 34 49.2 +0.2**
TTG Podgorica 85.61 321⇑ *i*P P **22 34 48.9 -0.3**
WATA Walderalm 85.62 328⇑ *i*P P **22 34 49.2 0.0**
comp=Z,370nm,2.2s,mb6.2
BRY Bratogost 85.64 321⇑ *i*P P **22 34 48.5 -0.9**
WTTA Wattenberg 85.65 328⇑ *i*P P **22 34 49.3 0.0**
comp=Z,445nm,2.3s,mb6.3
FNA Florina 85.65 318 *e*P P **22 34 48.7 -0.8**
NEO Neokhori 85.65 316 *e*P P **22 34 48.4 -1.1**
BUCH Bad Urach 85.69 330⇑ *e*P P **22 34 49.9 +0.4**
GMNA Gemona 85.70 326 *e*P P **22 34 48.7 -0.9**
WIM Isle of Man 85.71 340⇑ *i*P P **22 34 49.4 0.0**
WIM AMb AMB 22 34 51.3
comp=Z,526nm,1.2s,mb6.6
OHR Ohrid 85.73 319⇑ *i*P P **22 34 50.0 +0.1**
LBG Lerchenberg 85.75 330⇑ *e*P P **22 34 50.0 +0.3**
KZN Kozani 85.77 318 *e*P P **22 34 49.2 -0.9**
MOTA Moosalm 85.82 328⇑ *i*P P **22 34 50.1 0.0**
APE Apeiranthos 85.84 313 *e*P P **22 34 48.1 -2.0**
APE Apeiranthos 85.84 313 ⇓ P P **22 34 49.6 -0.8**
APE Apeiranthos 85.84 313 *e*P P **22 34 48.6 -1.9**
KARP Karpathos 85.86 311 *e*P P **22 34 48.6 -2.1**
SQTA Sankt Quirin 85.87 328⇑ *i*P P **22 34 50.5 +0.1**
comp=Z,209nm,1.7s,mb6.1
KWE Weaver Farm 85.89 338⇑ *i*P P **22 34 50.3 0.0**
BUM Brajici-Budva 85.89 321⇑ *i*P P **22 34 50.5 -0.1**
LANF Langenberg 85.89 331⇑ *e*P P **22 34 50.8 +0.4**
QSH Qafa e Shtames 85.92 320 *i* p P **22 34 52.4 +1.6**
ULC Ulcinj 85.95 320⇑ *i*P P **22 34 50.7 -0.2**
GMM Mts of Mourne 85.98 341⇑ *e*P P **22 34 50.6 -0.1**
UBR Uberruh 85.98 329⇑ *e*P P **22 34 50.8 -0.1**
WLF Walferdange 85.98 332 P P **22 34 51.2 +0.3**
WLF pmax pmax
comp=Z,480nm,1.4s,mb6.5
WLF Walferdange 85.98 332 *e*P P **22 34 50.9 +0.1**
comp=Z,478nm,1.4s,mb6.5
HCY Herceg Novi 85.99 321⇑ *i*P P **22 34 50.4 -0.7**
KTG1 Tilbrook Grang 86.04 337⇑ *i*P P **22 34 50.7 -0.4**
LAZ Ladron 86.05 50 *e*P P **22 34 52.4 +0.9**
GUT Gutenstein 86.09 330⇑ *e*P P **22 34 51.3 -0.1**
STON Ston 86.09 322 *i*P P **22 34 50.3 -1.3**
ANMO Albuquerque 86.11 49 P P **22 34 53.0 +1.1**
ANMO pmax pmax
comp=Z,120nm,1.1s
ANMO Albuquerque 86.11 49 *e*P P **22 34 52.9 +1.0**
comp=Z,119nm,1.1s,mb6.0
ANMO *e*pP pP 22 35 06.5 +1.8
ANMO LR LR
comp=Z,1µm,22.0s,MS5.3
GIVF Givet 86.12 333⇑ *i*P P **22 34 51.3 -0.2**
comp=Z,719nm,1.5s,mb6.4
SPAK Spaichingen 86.20 330⇑ *e*P P **22 34 51.8 -0.1**
SPAK Spaichingen 86.20 330⇑ *e*P P **22 34 52.0 +0.1**
BFO Black Forest 86.20 330 P P **22 34 52.9 +0.9**
comp=Z,2µm,1.0s
BFO Black Forest 86.20 330 *e*P P **22 34 51.9 -0.1**
BFO pmax pmax
comp=Z,458nm,1.1s,mb6.6

BFO Black Forest 86.20 330 *e*P P **22 34 51.9 -0.1**
comp=Z,458nm,1.1s,mb6.6
LBOS 86.22 284⇑ *e*P P **22 34 53.2 +0.4**
LBOS AMb AMB 22 34 53.7
comp=Z,410nm,1.1s,mb6.5
STR Strasbourg 86.22 331⇑ *e*P P **22 34 52.5 +0.4**
LKR Lokris 86.23 316 *e*P P **22 34 50.8 -1.6**
WME Myndd Eilian 86.28 340⇑ *i*P P **22 34 52.4 +0.2**
WME AMb AMB 22 34 54.6
comp=Z,452nm,1.7s,mb6.4
WPM1 Penmaenmawr 86.28 339⇑ *i*P P **22 34 52.4 +0.2**
WPM1 AMb AMB 22 34 54.9
comp=Z,592nm,1.5s,mb6.6
ATH Athens Observa 86.29 315 *e*P P **22 34 50.6 -2.1**
LENM Lemitar 86.31 50 *e*P P **22 34 53.0 +0.2**
SANT Santorini 86.35 313 *e*P P **22 34 52.2 -0.8**
comp=Z,72nm,0.9s,mb5.9
AGG Agios Georgios 86.35 317 *e*P P **22 34 51.3 -1.7**
WCB1 Church Bay 86.36 340⇑ *i*P P **22 34 52.3 -0.3**
WCB1 AMb AMB 22 34 54.3
comp=Z,291nm,1.4s,mb6.3
BAIF Baives 86.38 333⇑ *i*P P **22 34 52.7 -0.1**
comp=Z,382nm,1.1s,mb6.2
DAVA Damuels 86.38 329⇑ *i*P P **22 34 53.0 +0.1**
comp=Z,512nm,1.4s,mb6.6
WLF1 Llynfaes 86.40 340⇑ *e*P P **22 34 52.8 0.0**
SBD1 Bryn Du 86.41 339⇑ *i*P P **22 34 53.4 +0.6**
SBD1 AMb AMB 22 34 54.9
comp=Z,654nm,1.1s,mb6.8
LPM Los Pinos Moun 86.42 50 *e*P P **22 34 54.2 +0.8**
LPM *e*pP pP 22 35 07.5 +1.2
YLL Llanberis 86.46 340⇑ *e*P P **22 34 53.5 +0.3**
YRC Rhoscolyn 86.48 340⇑ *i*P P **22 34 53.2 0.0**
YRC AMb AMB 22 34 54.9
comp=Z,269nm,1.1s,mb6.4
DHBB Dhamar BB 86.50 285⇑ *e*P P **22 34 54.6 +0.5**
DHBB AMb AMB 22 34 55.6
comp=Z,270nm,1.5s,mb6.2
WLS Welschbruch 86.53 331⇑ *e*P P **22 34 53.8 +0.2**
BNM Barren Site 86.53 50 *e*P P **22 34 54.8 +0.9**
DMUB Kingscourt 86.53 341⇑ *i*P P **22 34 53.6 +0.1**
CDF Champ du Feu 86.56 331⇑ *i*P P **22 34 53.8 +0.1**
comp=Z,713nm,1.0s,mb6.5
CTI Castel Tesino 86.58 327 *e*P P **22 34 53.1 -0.8**
HLM1 Long Mynd 86.64 339⇑ *i*P P **22 34 53.9 -0.1**
LIBD Limburg 86.64 331⇑ *e*P P **22 34 54.4 +0.3**
LIBD Limburg 86.64 331⇑ *e*P P **22 34 54.5 +0.4**
KIZ Kirchzarten 86.67 330⇑ *e*P P **22 34 54.0 -0.3**
YRE Yr Eifl 86.68 340⇑ *i*P P **22 34 54.5 +0.4**
YRE AMb AMB 22 34 56.9
comp=Z,412nm,1.5s,mb6.4
SKP1 Kophill 86.69 337⇑ *e*P P **22 34 53.9 -0.3**
FELD Feldberg 86.69 330⇑ *e*P P **22 34 54.3 -0.1**
MENF Mencas 86.69 335⇑ *e*P P **22 34 54.2 -0.1**
EVR Evrytania 86.72 317 *e*P P **22 34 52.0 -2.7**
ECH Echery 86.76 331⇑ *e*P P **22 34 54.6 -0.1**
DAVOX Davos 86.78 328 PKKPbc 22 52 49.7
comp=Z,5.2nm,0.9s,baz=81,slow=2.2,SNR=5.6
SSP1 Stoney Pound 86.79 339⇑ *i*P P **22 34 54.9 +0.1**
BRMO Bormio 86.81 328 *e*P P **22 34 55.3 +0.3**
SCHQ Schefferville 86.95 15 P P **22 34 56.1 +0.7**
comp=Z,94nm,0.8s,mb6.0,baz=349,slow=5.5,SNR=119
SCHQ PKKPbc 22 52 47.2
comp=Z,3.1nm,0.9s,baz=197,slow=3.8,SNR=4.2
SCHQ LR LR 23 15 18.9
comp=Z,2µm,21.4s,MS5.4,baz=339,slow=37
SCHQ Schefferville 86.95 15 *e*P P **22 34 55.5 +0.1**
comp=Z,134nm,0.9s,mb6.2
SCHQ LR LR
comp=Z,3µm,20.0s,MS5.6
HAE Alders End 86.95 338⇑ *i*P P **22 34 55.8 +0.2**
HAE AMb AMB 22 34 57.4
comp=Z,724nm,1.2s,mb6.8
DLF Lyons Farm 86.98 341⇑ *i*P P **22 34 55.7 +0.1**
DSB Dublin 86.98 341 *e*P P **22 34 55.5 -0.2**
comp=Z,106nm,1.0s,mb6.0
NPS Neapolis 87.00 312 *e*P P **22 34 55.2 -1.0**
NPS Neapolis 87.00 312 *e*P P **22 34 58.5 +2.3**
MOF Molkenrain 87.06 331⇑ *e*P P **22 34 55.9 -0.3**
IGT Igoumenitsa 87.10 318 *e*P P **22 34 55.7 -0.9**
MCH1 Michaelchurch 87.13 338⇑ *i*P P **22 34 56.5 +0.1**
MCH1 AMb AMB 22 34 58.1
comp=Z,422nm,1.0s,mb6.6
DCN Croghan 87.13 341⇑ *i*P P **22 34 56.7 +0.3**
HTR Trewern Hill 87.14 339⇑ *i*P P **22 34 56.7 +0.2**
HTR AMb AMB 22 34 59.0
comp=Z,508nm,1.4s,mb6.6
SWN1 Swindon 87.18 337⇑ *e*P P **22 34 56.8 +0.2**
HINF Hinteralfeld 87.20 331⇑ *i*P P **22 34 56.4 -0.5**
comp=Z,170nm,1.0s,mb5.9
XRY Khrisi 87.21 312 *e*P P **22 34 56.0 -1.2**
THEF They Montfort 87.21 331⇑ *e*P P **22 34 56.8 -0.1**
BBS Basel-Blauen 87.22 330⇑ *e*P P **22 34 56.8 -0.2**
BBS Basel-Blauen 87.22 330⇑ *e*P P **22 34 56.9 -0.1**
HAU Haudompre 87.25 331⇑ *i*P P **22 34 56.8 -0.3**
comp=Z,208nm,0.9s,mb6.0
HAU *e*R
comp=Z,3µm,20.0s
MEZF Maizieres J'vi 87.35 332⇑ *i*P P **22 34 57.8 +0.2**
comp=Z,775nm,1.3s,mb6.5
HGH Gray Hill 87.38 338⇑ *i*P P **22 34 57.6 0.0**
HGH AMb AMB 22 34 59.2
comp=Z,500nm,1.0s,mb6.7
CBKS Cedar Bluff 87.42 43 P P **22 34 58.2 +0.1**
CBKS pmax pmax
comp=Z,260nm,1.2s,mb6.3
CBKS Cedar Bluff 87.42 43 *e*P P **22 34 57.8 -0.4**
comp=Z,264nm,1.2s,mb6.3
CBKS LR LR
comp=Z,2µm,22.0s,MS5.4
SAL Salo 87.42 327 *e*P P **22 34 58.0 0.0**
RLS Riolos of Patr 87.51 316 *e*P P **22 34 58.0 -0.6**
LOMF Lomont 87.59 330⇑ *e*P P **22 34 58.5 -0.3**
VLI Veliai 87.60 315 *e*P P **22 34 57.0 -2.1**
SWK Warminster 87.64 338⇑ *e*P P **22 34 59.2 +0.3**
SMD Mendips 87.64 338⇑ *e*P P **22 34 58.8 -0.1**
HSA Swansea 87.69 339⇑ *i*P P **22 34 59.2 +0.1**
VAM Vamos 87.75 313 *e*P P **22 34 58.5 -1.3**
KYTH Kithira 87.84 314 *e*P P **22 35 00.0 -0.2**
ITM Ithomi 87.86 315 *e*P P **22 34 59.1 -1.2**
FSSB Fossombrone 87.88 325 *e*P P **22 35 00.5 +0.3**
ARV Arcevia 87.95 325 *e*P P **22 35 00.8 +0.2**
VAI Varese 87.98 329 *e*P P **22 34 60.0 -0.7**
RGNG Rignano Grg 88.03 322 *e*P P **22 35 00.9 -0.1**
SNTG Esanatoglia 88.13 325 *e*P P **22 35 01.8 +0.3**
SFI Santa Sofia 88.15 326 *e*P P **22 35 02.5 +1.0**
HEX Exmoor 88.18 338⇑ *i*P P **22 35 01.2 -0.3**
ZCCA Zocca 88.20 326 *e*P P **22 35 03.5 +1.8**
PGD Poggio Sodo 88.23 326 *e*P P **22 35 03.3 +1.4**
MCGN Macugnaga 88.23 329 *e*P P **22 35 01.9 0.0**
VMG Vicchio 88.24 326 *e*P P **22 35 03.5 +1.6**
SEI Scarperia 88.25 326 *e*P P **22 35 03.1 +1.1**
NRCA Norcia 88.37 324 *e*P P **22 35 03.0 +0.4**
GSCL Gusciola 88.37 327 *e*P P **22 35 03.3 +0.7**
ERBM Eremo 88.40 327 *e*P P **22 35 03.6 +0.9**
ASS Assisi 88.42 325 *e*P P **22 35 02.8 -0.1**
TBI Tubuai 88.44 120 *e*SS SS 22 51 31.0 -6.9
TBI *e*LQ 22 58 42.7
TBI *e*LR LR 23 01 57.0
comp=Z,8µm,27.0s,baz=307
HTL Hartland 88.45 339⇑ *e*P P **22 35 03.0 +0.2**
FG4 Candela 88.47 322 *e*P P **22 35 03.4 +0.2**
OG01 Vacheresse 88.47 330 *e*P P **22 35 03.0 0.0**
FG5 Orsara di Pugl 88.49 322 *e*P P **22 35 03.6 +0.4**
CABF La Chapelle 88.49 330⇑ *i*P P **22 35 02.9 -0.2**
comp=Z,152nm,1.1s,mb5.8
GRAM 88.50 327 P P **22 35 03.2 0.0**
ORX Oropa 88.50 329 P P **22 35 02.2 -0.9**
ORO Oropa 88.50 329 *e*P P **22 35 02.0 -1.1**
BOB Bobbio (Coli) 88.55 327 *e*P P **22 35 04.0 +0.6**
SARO Sassorosso 88.59 327 P P **22 35 03.2 -0.4**
AQU L'Aquila 88.60 324 P P **22 35 04.5 +0.8**
AQU pmax pmax
comp=Z,420nm,1.0s,mb6.7
AQU L'Aquila 88.60 324 *e*P P **22 35 04.6 +0.9**
CII Carovilli 88.64 323 *e*P P **22 35 04.2 +0.3**
TRAV 88.69 329 P P **22 35 02.3 -1.7**
MRLC Muro Lucano 88.77 321 *e*P P **22 35 04.8 +0.2**
ORI Oriolo Calabro 88.79 320 *e*P P **22 35 05.1 +0.5**
PTQR Pietraquaria 88.85 324 *e*P P **22 35 05.0 +0.1**
SDI San Donato 88.89 323 *e*P P **22 35 04.8 -0.3**
PII Pisa 88.89 326 *e*P P **22 35 04.0 -1.1**
KSU1 Kansas State U 88.91 41 *e*P P **22 35 04.9 -0.4**

MNS Montasola 88.92 324 *e*P **P 22 35 04.6 -0.6**
CSSN Cassano Irpino 88.92 322 *e*P **P 22 35 04.5 -0.8**
MNTX Cornudas Mount 88.94 51 *e*P **P 22 35 05.9 +0.3**
comp=Z,33nm,1.1s,mb5.6
MNTX *e*pP pP 22 35 19.1 +0.5
MNTX LR LR
comp=Z,1µm,21.0s,MS5.4
LSD Ceresole Reale 88.98 329 P **P 22 35 05.9 +0.5**
CPRX Cap Rock 88.99 49 *e*P **P 22 35 05.7 -0.1**
SGO Sicignano 89.00 321 *e*P **P 22 35 05.3 -0.4**
RSL Roselend 89.02 330⇑ *e*P **P 22 35 05.5 -0.1**
AMTX Amarillo 89.05 47 *e*P **P 22 35 06.7 +0.7**
comp=Z,202nm,0.9s,mb6.5
AMTX *e*pP pP 22 35 20.2 +1.1
AMTX LR LR
comp=Z,2µm,21.0s,MS5.5
LPL La Plagne 89.11 329⇑ *i*P **P 22 35 06.2 +0.1**
comp=Z,175nm,1.0s,mb6.0
LPG La Plagne 89.12 329⇑ *i*P **P 22 35 06.4 +0.3**
comp=Z,220nm,1.0s,mb6.1
PCP Plan Castagno 89.12 328 P **P 22 35 05.5 -0.7**
FLN La Foliniere 89.13 335⇑ *i*P **P 22 35 05.8 -0.2**
comp=Z,444nm,1.4s,mb6.3
FLN *e*R
comp=Z,4µm,20.0s
SSF Saint Saulge 89.13 332⇑ *i*P **P 22 35 05.9 -0.2**
comp=Z,337nm,1.3s,mb6.2
LDF La Druitiere 89.15 335⇑ *i*P **P 22 35 05.8 -0.4**
comp=Z,502nm,1.6s,mb6.3
RSP Reno Superiore 89.19 329 P **P 22 35 05.5 -1.0**
GDL2 Guadalupe Moun 89.24 50 *e*P **P 22 35 07.5 +0.4**
TIP Timpagrande 89.27 320 *e*P **P 22 35 06.7 -0.3**
HYF Humbligny 89.28 333⇑ *i*P **P 22 35 07.1 +0.3**
SMF Signal de Mont 89.34 332⇑ *i*P **P 22 35 06.9 -0.2**
comp=Z,681nm,1.5s,mb6.5
FENE Fenestrelle 89.37 329 P **P 22 35 06.1 -1.2**
MA9 Marino 89.40 324 *e*P **P 22 35 07.2 -0.3**
AVF Avril sur Loir 89.41 332⇑ *i*P **P 22 35 07.3 -0.1**
comp=Z,952nm,1.3s,mb6.7
BHB Bricherasio 89.43 329 P **P 22 35 05.7 -2.0**
ATD Arta Tunnel 89.48 284 P **P 22 35 09.2 +0.7**
comp=Z,65nm,1.1s,mb5.9,baz=358,slow=4.7,SNR=17
ATD PP PP 22 38 45.0 +2.5
comp=Z,26nm,1.0s,baz=27,slow=2.8,SNR=5.3
ATD LR LR 23 22 21.9
comp=Z,2µm,19.4s,MS5.5,baz=48,slow=40
CLNB Carlsbad 89.50 50 *e*P **P 22 35 08.3 +0.1**
BNI Bardonecchia 89.51 329 P **P 22 35 08.1 +0.1**
BNI pmax pmax
comp=Z,73nm,1.0s,mb6.0
BNI Bardonecchia 89.51 329 *e*P **P 22 35 07.7 -0.2**
comp=Z,73nm,1.0s,mb6.0
FIN Finale Ligure 89.53 328 *e*P **P 22 35 07.0 -1.1**
RRL Cesana Torines 89.57 329 P **P 22 35 08.0 -0.3**
GRR Gorron 89.58 335⇑ *i*P **P 22 35 08.2 0.0**
comp=Z,345nm,1.0s,mb6.3
OG22 Abries 89.58 329 *e*P **P 22 35 08.0 -0.3**
ROB Roburent 89.61 328 P **P 22 35 06.8 -1.6**
GDM Grand'Maison 89.62 330 *e*P **P 22 35 08.8 +0.3**
MBDF Montbardon 89.73 329⇑ *i*P **P 22 35 08.4 -0.6**
comp=Z,193nm,1.1s,mb6.0
GRN Grenoble 89.74 330 *e*P **P 22 35 09.2 +0.2**
PZZ Prazzo 89.77 329 P **P 22 35 06.9 -2.3**
BGF Bois d'Agland 89.80 332⇑ *i*P **P 22 35 09.2 -0.1**
comp=Z,359nm,1.3s,mb6.2
MONE Monesi 89.83 328 P **P 22 35 08.4 -1.1**
ENR Entracque 89.86 328 P **P 22 35 06.8 -2.8**
STV2 Anna di Valdie 89.89 328 P **P 22 35 07.0 -2.7**
STV Sta Anna Valdi 89.89 328 P **P 22 35 06.8 -2.9**
IMI Imperia 89.91 328 P **P 22 35 08.3 -1.6**
SURF Saint Ours 89.92 329 *e*P **P 22 35 09.2 -0.7**
ORIF Oris-en-Rattie 89.95 330⇑ *i*P **P 22 35 09.9 -0.1**
comp=Z,170nm,1.1s,mb6.0
ORIF *e*R
comp=Z,4µm,21.2s
PLDF La Plantade 89.99 332⇑ *e*P **P 22 35 11.6 +1.4**
SAOF Saorge 90.00 328⇑ *e*P **P 22 35 09.5 -0.8**
NEGI Negi 90.04 328 P **P 22 35 08.2 -2.3**
AUTN L'Aution 90.04 328⇑ *e*P **P 22 35 09.8 -0.7**
TOUF Mont Tournerai 90.11 328⇑ *e*P **P 22 35 10.3 -0.5**
SBF Sospel 90.15 328⇑ *i*P **P 22 35 10.3 -0.7**
comp=Z,611nm,1.0s,mb6.6
MVIF Mont Vial 90.24 328⇑ *e*P **P 22 35 10.8 -0.6**
SGMF Saint Gilles 90.26 336⇑ *i*P **P 22 35 11.6 +0.2**
comp=Z,616nm,1.1s,mb6.5
TCF Toulx Ste Croi 90.26 333⇑ *i*P **P 22 35 11.6 +0.1**
comp=Z,467nm,1.3s,mb6.3
REVF Revere 90.28 328⇑ *e*P **P 22 35 11.0 -0.6**
ROSF Rostrenen 90.42 337⇑ *i*P **P 22 35 12.4 +0.3**
comp=Z,606nm,1.2s,mb6.5
SOI Samo 90.46 319 *e*P **P 22 35 13.0 +0.4**
VIVF Saint-Julien-l 90.49 330⇑ *i*P **P 22 35 12.5 -0.1**
comp=Z,267nm,1.0s,mb6.2
PGF Pioggiola 90.50 326⇑ *i*P **P 22 35 12.2 -0.5**
comp=Z,395nm,1.2s,mb6.3
FRF La Foret Royal 90.73 328⇑ *i*P **P 22 35 12.9 -0.8**
comp=Z,586nm,1.2s,mb6.5
LBL Lubilhac 90.75 331⇑ *e*P **P 22 35 15.3 +1.5**
QUIF Quistinic 90.75 336⇑ *i*P **P 22 35 13.6 -0.1**
comp=Z,382nm,1.3s,mb6.3
SMRF Simiane la Rot 90.84 329⇑ *i*P **P 22 35 14.1 -0.1**
comp=Z,380nm,1.3s,mb6.3
WMOK Wichita Mounta 90.84 45 P **P 22 35 14.6 +0.1**
WMOK pmax pmax
comp=Z,230nm,1.4s,mb6.3
WMOK Wichita Mounta 90.84 45 *e*P **P 22 35 14.4 -0.1**
comp=Z,229nm,1.4s,mb6.3
WMOK LR LR
comp=Z,1µm,20.0s,MS5.3
MFF Saint Martin d 90.86 334⇑ *i*P **P 22 35 14.6 +0.3**
comp=Z,643nm,1.0s,mb6.6
FRNF Fournols 90.89 332 *e*P **P 22 35 14.8 +0.4**
LMR La Mourre 90.97 328⇑ *i*P **P 22 35 14.3 -0.6**
comp=Z,750nm,1.1s,mb6.6
LCHF La Chataignera 91.01 334 *e*P **P 22 35 15.6 +0.6**
RJF Les Rejaudoux 91.35 332⇑ *i*P **P 22 35 16.9 +0.3**
comp=Z,551nm,1.1s,mb6.5
RJF *e*R
comp=Z,3µm,19.0s
LRYF La Roche-sur-Y 91.37 335 *e*P **P 22 35 16.8 +0.2**
CAF Calviac 91.46 332⇑ *i*P **P 22 35 17.8 +0.7**
comp=Z,539nm,1.1s,mb6.5
LASF Ste Croix 91.47 330⇑ *i*P **P 22 35 17.3 +0.2**
comp=Z,514nm,1.2s,mb6.4
MATF Mathat 91.57 334 *e*P **P 22 35 17.6 0.0**
LTX Lajitas 91.62 52 P **P 22 35 19.0 +0.8**
LTX pmax pmax
comp=Z,97nm,1.0s,mb6.1
LTX Lajitas 91.62 52 *e*P **P 22 35 18.8 +0.6**
comp=Z,97nm,1.0s,mb6.1
LTX LR LR
comp=Z,3µm,21.0s,MS5.6
TXAR Lajitas Array 91.62 52 P **P 22 35 19.0 +0.8**
comp=Z,42nm,0.9s,mb5.8,baz=288,slow=4.0,SNR=102
TXAR PKiKP 22 40 10.4
comp=Z,1.0nm,0.8s,baz=315,slow=1.3,SNR=3.8
TXAR PKKPbc 22 52 39.5
comp=Z,0.5nm,0.6s,baz=147,slow=6.0,SNR=6.6
TXAR LR LR 23 11 34.3
comp=Z,2µm,20.9s,MS5.6,baz=305,slow=32
LFF La Frestale 91.95 333⇑ *i*P **P 22 35 19.9 +0.6**
comp=Z,658nm,1.1s,mb6.6
CCM Cathedral Cave 92.48 38 P **P 22 35 21.6 -0.3**
CCM pmax pmax
comp=Z,82nm,1.0s,mb6.0
CCM Cathedral Cave 92.48 38 *e*P **P 22 35 21.4 -0.6**
comp=Z,82nm,1.0s,mb6.0
CCM LR LR
comp=Z,418nm,22.0s,MS4.8
SLM Saint Louis 92.53 37 P **P 22 35 20.4 -1.8**
SLM pmax pmax
comp=Z,110nm,1.0s,mb6.2
SLM Saint Louis 92.53 37 *e*P **P 22 35 21.8 -0.4**
comp=Z,111nm,1.0s,mb6.2
AAM Ann Arbor 92.62 31 P **P 22 35 23.3 +0.8**
AAM pmax pmax
comp=Z,160nm,1.4s,mb6.3
AAM Ann Arbor 92.62 31 *e*P **P 22 35 22.3 -0.2**
comp=Z,164nm,1.4s,mb6.3
AAM LR LR
comp=Z,2µm,22.0s,MS5.5
MTLF Montolieu 92.73 331⇑ *i*P **P 22 35 23.3 +0.3**
comp=Z,522nm,1.1s,mb6.6
FVM French Village 92.94 38 P **P 22 35 23.9 -0.2**
FVM pmax pmax
comp=Z,100nm,1.4s,mb6.0
FVM French Village 92.94 38 *e*P **P 22 35 23.7 -0.4**
comp=Z,100nm,1.4s,mb6.0
LRDF Laroque-de-Fa 92.94 330⇑ *e*P **P 22 35 24.5 +0.5**
SJAF Saint Jean de 93.19 330⇑ *e*P **P 22 35 24.8 -0.3**
LPEF Le Peyrat 93.19 331⇑ *e*P **P 22 35 25.5 +0.4**
JCT Junction City 93.25 49 *e*P **P 22 35 26.3 +0.6**
JCT pmax pmax
comp=Z,80nm,0.8s,mb6.2
JCT Junction City 93.25 49 *e*P **P 22 35 25.6 -0.1**
comp=Z,80nm,0.8s,mb6.2
JCT LR LR
comp=Z,3µm,22.0s,MS5.6
FILF Fillols 93.25 330⇑ *e*P **P 22 35 25.6 +0.2**
MLS Moulis 93.50 331⇑ *e*P **P 22 35 26.8 +0.3**
VALF Valcebollere 93.60 331⇑ *e*P **P 22 35 27.7 +0.8**
MELF Melles 93.70 332⇑ *e*P **P 22 35 27.3 -0.1**
EPF Esparros 93.73 332⇑ *i*P **P 22 35 27.3 -0.2**
comp=Z,184nm,1.1s,mb6.1
BLO Bloomington 93.89 35 P **P 22 35 28.6 +0.3**
BLO pmax pmax
comp=Z,210nm,1.7s,mb6.3
BLO Bloomington 93.89 35 *e*P **P 22 35 28.3 0.0**
comp=Z,210nm,1.7s,mb6.3
MIAR Mount Ida 93.91 42 *e*P **P 22 35 31.8 +3.3**
MIAR pmax pmax
comp=Z,180nm,1.2s,mb6.4
MIAR Mount Ida 93.91 42 *e*P **P 22 35 28.5 -0.1**
comp=Z,159nm,1.1s,mb6.4
MIAR LR LR
comp=Z,2µm,22.0s,MS5.4
RESF Ens 93.92 332⇑ *e*P **P 22 35 29.6 +1.2**
VIEF Viey 93.98 332⇑ *e*P **P 22 35 29.5 +0.9**
ETSF Etsaut 94.19 332⇑ *i*P **P 22 35 30.3 +0.7**
comp=Z,140nm,0.9s,mb6.1
PQI Presque Isle 94.22 19 PFAKE
PQI LR LR 22 35 40.0 +10
comp=Z,8µm,22.0s,MS6.1
LARF Larrau 94.23 333⇑ *e*P **P 22 35 30.8 +1.1**
SJPF Ste Jean 94.25 333⇑ *i*P **P 22 35 30.4 +0.6**
comp=Z,85nm,1.1s,mb5.8
ERPA Erie 94.28 29 *e*P **P 22 35 29.9 0.0**
comp=Z,169nm,1.4s,mb6.3
ERPA LR LR
comp=Z,2µm,21.0s,MS5.4
PARMO Parma 94.31 38 *e*P **P 22 35 30.1 -0.1**
GENY Geneseo 94.55 27 *e*P **P 22 35 31.0 -0.3**
ALLY Alegheny Colle 94.61 29 *e*P **P 22 35 31.8 +0.3**
ACSO Alum Creek Sta 94.62 32 *e*P **P 22 35 31.6 0.0**
comp=Z,97nm,0.9s,mb6.2
ACSO LR LR
comp=Z,2µm,21.0s,MS5.5
HBAR Harrisburg 94.70 40 *e*P **P 22 35 32.5 +0.4**
GNAR Gosnell 94.71 39 P **P 22 35 33.0 +0.8**
WCI Wyandotte Cave 94.76 35 P **P 22 35 32.4 +0.1**
WCI pmax pmax
comp=Z,47nm,0.9s,mb5.9
WCI Wyandotte Cave 94.76 35 *e*P **P 22 35 32.2 -0.1**
comp=Z,47nm,0.9s,mb5.9
WCI LR LR
comp=Z,419nm,22.0s,MS4.9
NCB Newcomb 94.78 24 *e*P **P 22 35 32.1 -0.2**
comp=Z,46nm,1.0s,mb5.9
NCB LR LR
comp=Z,2µm,19.0s,MS5.5
MIV Mineville/With 94.92 24 *e*P **P 22 35 32.2 -0.7**
NATX Nacogdoches 95.37 45 *e*P **P 22 35 35.2 0.0**
comp=Z,53nm,1.1s,mb5.9
NATX LR LR
comp=Z,2µm,22.0s,MS5.5
ACCN Adirondack Com 95.48 24 *e*P **P 22 35 35.5 0.0**
EBR Ebro Roquetas 95.55 331 *e*P **P 22 35 36.0 +0.2**
HNH Hanover 95.65 23 *e*P **P 22 35 37.1 +0.9**
comp=Z,2.3nm,0.9s
WVL Waterville 95.68 21 *e*P **P 22 35 36.9 +0.5**
comp=Z,475nm,1.4s,mb6.7
WVL LR LR
comp=Z,4µm,21.0s,MS5.9
WVT Waverly 95.69 37 *e*P **P 22 35 36.4 -0.2**
WVT pmax pmax
comp=Z,64nm,1.5s,mb5.8
WVT Waverly 95.69 37 *e*P **P 22 35 36.1 -0.5**
comp=Z,64nm,1.5s,mb5.8
WVT LR LR
comp=Z,1µm,21.0s,MS5.4
OXF Oxford 96.15 39 PFAKE 22 35 50.0 +11
OXF LR LR
comp=Z,863nm,20.0s,MS5.2
EMMW East Machias 96.17 20 *e*P **P 22 35 39.0 +0.4**
comp=Z,488nm,1.4s,mb6.7
EMMW LR LR
comp=Z,6µm,19.0s,MS6.1
SSPA Standing Stone 96.36 28 *e*P **P 22 35 39.4 -0.1**
comp=Z,61nm,1.4s,mb5.8
SSPA LR LR
comp=Z,353nm,20.0s,MS4.8
PLAL Pickwick Lake 96.47 38 PFAKE 22 35 50.0 +10
PLAL LR LR
comp=Z,1µm,21.0s,MS5.4
ZAIG Zacatecas 96.79 56 *i* P **P 22 35 43.5 +1.6**
HRV Harvard--Oak R 96.96 23 P **P 22 35 43.1 +0.9**
HRV pmax pmax
comp=Z,24nm,1.0s,mb5.6
HRV Harvard--Oak R 96.96 23 *e*P **P 22 35 42.6 +0.4**
comp=Z,24nm,0.9s,mb5.6
HRV LR LR
comp=Z,2µm,22.0s,MS5.6
WES Weston 97.15 23 P **P 22 35 43.9 +0.8**
WES pmax pmax
comp=Z,34nm,0.9s,mb5.8
WES Weston 97.15 23 *e*P **P 22 35 43.6 +0.5**
comp=Z,34nm,0.9s,mb5.8
WES LR LR
comp=Z,2µm,20.0s,MS5.5
PBRG Braganca 97.34 336 *e*P **P 22 35 43.7 -0.3**
comp=Z,86nm,1.3s,mb6.0
SWET Sewanee 97.34 37 *e*P **P 22 35 43.4 -0.7**
TZTN Tazewell 97.40 34 *e*P **P 22 35 44.0 -0.3**
MVL Millersville 97.50 28 *e*P **P 22 35 44.3 -0.4**
FWV Forest Hill 97.76 32 *e*P **P 22 35 45.7 -0.3**
CPCT Cooper Cave 97.84 36 *e*P **P 22 35 45.7 -0.7**
ELN Prospectdale 98.08 32 *e*P **P 22 35 46.9 -0.5**
PVRL Vila Real 98.14 336 *e*P **P 22 35 47.4 -0.2**
comp=Z,104nm,1.5s,mb6.1
PVRL *e*PP PP 22 39 49.1 -0.9
BLA Blacksburg 98.24 32 P **P 22 35 48.1 0.0**
BLA pmax pmax
comp=Z,30nm,0.9s,mb5.8
BLA Blacksburg 98.24 32 *e*P **P 22 35 47.9 -0.3**
comp=Z,30nm,0.9s,mb5.8
BLA LR LR
comp=Z,2µm,22.0s,MS5.6
ESDC Sonseca Array 98.25 333 P **P 22 35 48.0 -0.2**
comp=Z,12nm,0.9s,mb5.4,baz=22,slow=4.1,SNR=34
ESDC PP PP 22 39 47.9 -3.0
comp=Z,22nm,0.9s,baz=26,slow=7.4,SNR=9.6
ESLA Sonseca Array 98.25 333 PFAKE 22 36 00.0 +12
ESLA LR LR
comp=Z,12µm,19.0s,MS6.4
EMHD Djebel Mahouad 98.38 326 P PP 22 39 43.0 -8.9
LRAL Lakeview Retre 98.55 39 PFAKE 22 36 00.0 +10
LRAL LR LR
comp=Z,2µm,20.0s,MS5.5
MTE Manteigas 98.87 336 *e*P **P 22 35 50.9 0.0**
comp=Z,66nm,1.7s,mb5.9
MTE *e*LR LR 23 10 08.2
comp=Z,2µm,18.0s
RKT Rikitea 98.91 112 *e*PP PP 22 40 00.9 +5.1
RKT *e*SKSac 22 46 26.5
RKT *e*SP SP 22 48 44.6 -0.9
RKT *e*SS SS 22 54 02.9 -3.5
RKT *e*LQ 23 03 24.4
RKT *e*LR LR 23 07 15.0
comp=Z,9µm,27.8s,baz=307
EBNR Beni Rached 98.94 328 P PP 22 39 53.0 -2.8
ECHA Ech Chlef 99.13 328 P PP 22 39 54.0 -3.2
PCBR Castelo Branco 99.35 336 *e*P **P 22 35 52.8 -0.3**
PCBR *e*PP PP 22 39 58.0 -0.9
EANR 'Ain N'Sour 99.41 328 P PP 22 39 56.0 -3.5
ETRT Tiaret 99.80 327 P PP 22 39 54.5 -8.1
PTOM Tomar 99.86 336 *e*P **P 22 35 55.5 0.0**
PTOM *e*PP PP 22 40 02.0 -1.0
GOGA Godfrey 100.00 36 PFAKE 22 36 10.0 +14
GOGA LR LR
comp=Z,2µm,22.0s,MS5.5
PBEJ Beja 101.11 335 *e*P P 22 36 00.9 -0.2
PBEJ *e*PP PP 22 40 11.1 -1.8
KMBO Kilima Mbogo 101.40 277 P P 22 36 03.1 +0.1
KMBO 22 40 09.5
KMBO pmax pmax
comp=Z,12nm,1.2s
KMBO pmax pmax
comp=Z,9.0nm,1.2s
KMBO Kilima Mbogo 101.40 277 P P 22 36 03.1 +0.1
comp=Z,12nm,1.2s,baz=44,slow=6.9,SNR=12
KMBO PP PP 22 40 09.4 -6.1
comp=Z,9.3nm,1.2s,baz=18,slow=7.2,SNR=6.3
KMBO Kilima Mbogo 101.40 277 *e*P P 22 36 02.8 -0.3
comp=Z,11nm,1.1s
KMBO LR LR
comp=Z,2µm,20.0s,MS5.7
PALC Alcoutim 101.48 334 *e*P P 22 36 02.6 -0.2
NHSC New Hope 101.79 34 PFAKE 22 36 20.0 +16
NHSC LR LR
comp=Z,3µm,22.0s,MS5.8
PTEO Sao Teotonio 101.84 335 *e*P P 22 36 05.0 +0.6
OPO Ambohidratompo 103.16 257 Pdiff Pdif 22 36 10.6 -0.1
comp=Z,1.9nm,0.6s,baz=321,slow=0.4,SNR=3.9
OPO PP PP 22 40 24.6 -4.0
comp=Z,5.7nm,1.0s,baz=94,slow=6.4,SNR=4.9
PTCN Pitcairn Islan 103.69 111 PFAKE 22 36 20.0 +7.1
PTCN LR LR
comp=Z,8µm,21.0s,MS6.2
CASY Casey 104.11 192 PFAKE 22 36 30.0 +16
CASY LR LR
comp=Z,1µm,22.0s,MS5.3
DWPF Disney 105.34 38 PFAKE 22 40 50.0
DWPF LR LR
comp=Z,408nm,21.0s,MS5.0
MBAR Mbarara 106.34 281 P Pdif 22 36 24.2 -0.6
MBAR pmax pmax
comp=Z,18nm,1.5s
MBAR Mbarara 106.34 281 *e*Pdif Pdif 22 36 23.9 -0.9
comp=Z,18nm,1.5s
MBAR LR LR
comp=Z,299nm,19.0s,MS4.9
TEIG Tepich 107.80 48 PFAKE 22 40 50.0
TEIG LR LR
comp=Z,574nm,21.0s,MS5.1
BBSR BB Station 108.41 22 PFAKE 22 40 50.0
BBSR LR LR
comp=Z,2µm,20.0s,MS5.6
SBA Scott Base 114.28 174 PFAKE 22 41 00.0 +12
SBA LR LR
comp=Z,1µm,21.0s,MS5.5
LSZ Lusaka 116.74 270 PKIKP PKPdf 22 40 56.3 +1.9
LSZ Lusaka 116.74 270 *e*PKPdf PKPdf 22 40 55.9 +1.4
LSZ LR LR
comp=Z,2µm,19.0s,MS5.8
JTS JuntasAbangare 117.41 52 PKIKP PKPdf 22 40 56.4 +0.6
JTS pmax pmax
comp=Z,5.0nm,0.9s
JTS JuntasAbangare 117.41 52 PKP PKPdf 22 40 56.4 +0.7
comp=Z,4.8nm,0.9s,baz=258,slow=8.6,SNR=2.9
MAW Mawson 117.89 205 PKP PKPdf 22 40 57.1 +1.7
comp=Z,16nm,0.9s,baz=348,slow=3.6,SNR=16
MAW PP PP 22 42 12.0 -2.7
comp=Z,16nm,1.1s,baz=72,slow=11,SNR=4.8
MAW PKKPbc 22 51 17.6
comp=Z,8.3nm,0.8s,baz=247,slow=5.5,SNR=10
MAW Mawson 117.89 205 *e*PKPdf PKPdf 22 40 56.8 +1.3
MAW LR LR
comp=Z,1µm,20.0s,MS5.6
MATP Matopo 119.14 265 PKP PKPdf 22 41 00.3 +1.3
baz=145,slow=1.4
MATP PKKPbc 22 51 14.7
comp=Z,2.8nm,0.8s,baz=176,slow=2.8,SNR=6.2
RPN Rapa Nui 120.89 103 PFAKE 22 41 20.0 +18
RPN LR LR
comp=Z,981nm,19.0s,MS5.5
SJG San Juan 120.94 30 PKP PKPdf 22 41 02.9 +0.3
comp=Z,10nm,0.7s,baz=325,slow=11,SNR=4.0
SJG San Juan 120.94 30 PKP PKPdf 22 41 02.9 +0.3
SJG LR LR
comp=Z,1µm,22.0s,MS5.5
PAYG Puerto Ayora 121.50 65 PFAKE 22 41 20.0 +16
PAYG LR LR
comp=Z,2µm,21.0s,MS5.7
LBTB Lobatse 123.69 262 PKIKP PKPdf 22 41 09.6 +1.8
LBTB Lobatse 123.69 262 *e*PKPdf PKPdf 22 41 09.3 +1.5
LBTB LR LR
comp=Z,2µm,20.0s,MS5.8
QSPA South Pole Qui 125.32 180 *e*P PKPdf 22 41 10.6 +1.1
BOSA Boshof 125.54 258 PKIKP PKPdf 22 41 12.4 +1.2
BOSA pmax pmax
comp=Z,28nm,0.9s
BOSA Boshof 125.54 258 PKP PKPdf 22 41 12.4 +1.2
comp=Z,28nm,0.9s,baz=58,slow=2.5,SNR=22
BOSA Boshof 125.54 258 *e*PKPdf PKPdf 22 41 12.1 +0.9
BOSA LR LR
comp=Z,2µm,20.0s,MS5.8
SYO Syowa Base 126.56 206 ⇓P PKPdf 22 41 13.0 +0.9
SYO Syowa Base 126.56 206 ⇑pPKPdf 22 41 27.5
DBIC Dimbokro 126.81 315 PKIKP PKPdf 22 41 14.8 +0.7
DBIC 22 43 07.3
DBIC pmax pmax
comp=Z,54nm,1.0s
DBIC pmax pmax
comp=Z,27nm,0.9s
DBIC Dimbokro 126.81 315 PKP PKPdf 22 41 14.8 +0.7
comp=Z,54nm,0.9s,baz=5.7,slow=2.9,SNR=31
DBIC PP PP 22 43 07.2 -8.4
comp=Z,27nm,0.9s,baz=1.8,slow=5.8,SNR=7.1
DBIC Dimbokro 126.81 315 *e*PKPdf PKPdf 22 41 14.4 +0.3
DBIC LR LR
comp=Z,1µm,20.0s,MS5.6
SDV Santo Domingo 126.93 40 PKP PKPdf 22 41 15.4 +1.1
comp=Z,123nm,0.9s,baz=356,slow=0.9,SNR=137
SDV Santo Domingo 126.93 40 *e*PKPdf PKPdf 22 41 15.2 +0.9
SDV LR LR
comp=Z,783nm,20.0s,MS5.4
TSUM Tsumeb 127.42 272 *e*PKPdf PKPdf 22 41 16.5 +1.4
TSUM LR LR
comp=Z,2µm,22.0s,MS5.7
ROSC El Rosal 128.19 46 PKP PKPdf 22 41 18.9 +2.1
comp=Z,31nm,0.9s,baz=118,slow=2.0,SNR=34
PCRV Puerto La Cruz 128.69 32 PKP PKPdf 22 41 17.4 -0.3
comp=Z,37nm,0.9s,baz=318,slow=1.2,SNR=10
OTAV Otavalo 129.19 54 PFAKE 22 41 30.0 +11
OTAV LR LR
comp=Z,1µm,22.0s,MS5.6
SUR Sutherland 130.54 255 PFAKE 22 41 30.0 +9.3
SUR LR LR
comp=Z,756nm,21.0s,MS5.4
NVL N'lazarevskaya 135.65 202 ⇓*i*PKHKP 22 41 17.3
NVL *e* 22 41 30.0
NVL pmax pmax
comp=Z,18nm,0.9s
NNA Nana 138.93 65 *e*PKPpre 22 41 28.9
NNA LR LR
comp=Z,652nm,22.0s,MS5.3
SNAA Sanae 139.13 197 PKPdf 22 41 33.0 -2.6
SNAA Sanae 139.13 197 PKPdf PKPdf 22 41 26.6 -9.0
SNAA P 22 41 33.0
VNA2 Neumayer--Watz 140.71 196 ⇑*i* PKPdf 22 41 38.5 +0.2
VNA2 Neumayer--Watz 140.71 196 ⇑*i* PKPdf 22 41 44.3 +6.0
VNA2 Neumayer--Watz 140.71 196 ⇑*i* PKPdf 22 41 52.6 +14
VNA2 Neumayer--Watz 140.71 196 ⇑*i* PKPdf 22 41 58.4 +20
VNA2 Neumayer--Watz 140.71 196 ⇑*i*PKPdf PKPdf 22 41 33.6 -4.7
VNA2 ⇑*i*P 22 41 38.5
VNA3 Neumayer Olymp 140.96 195 ⇑*i* PKPdf 22 41 43.4 +4.6
VNA3 Neumayer Olymp 140.96 195 PKPdf PKPdf 22 41 35.1 -3.7
VNA3 ⇑*i*P 22 41 43.4
ARE Arequipa 145.76 65 *e*P PKPdf 22 41 51.0 +2.4
ARE *e* 22 42 04.0
SAML Samuel 145.82 45 *e*PKPdf PKPdf 22 41 49.9 +1.1
SAML LR LR
comp=Z,954nm,22.0s,MS5.5
PMSA Palmer Station 147.26 161 *e*PKPdf PKPdf 22 41 50.7 +1.0
PMSA LR LR
comp=Z,2µm,22.0s,MS5.9
LPAZ La Paz 148.08 60 PKIKP PKPdf 22 41 55.9 +3.4
LPAZ pmax pmax
comp=Z,123nm,0.9s
LPAZ La Paz 148.08 60 PKPbc PKPdf 22 41 55.9 +3.4
comp=Z,122nm,0.9s,baz=353,slow=5.3,SNR=119
LPAZ La Paz 148.08 60 *e*PKPdf PKPdf 22 41 55.2 +2.7
LPAZ LR LR
comp=Z,2µm,20.0s,MS5.8
CS6B Jaguaretama 150.06 358 *e*P PKPdf 22 41 58.3 +2.5
CS6B *i* 22 42 02.4

CS6B				*e*			22 42 10.1
CS6B				*e*			22 42 35.0
CS6B				*i*			22 42 56.4
RCBR	**Riachuelo**	**150.21**	**353**	*e*PKPdf	PKPdf		22 41 57.9 +1.9
RCBR				*e*PKPbc	PKPdf		22 42 02.5 +6.5
RCBR				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
LVC	**Limon Verde**	**151.38**	**71**	PKP	PKPdf		22 42 00.9 +3.5
	comp=Z,14nm,0.8s,baz=285,slow=2.3,SNR=18						
LVC				PKPbc	PKPdf		22 42 06.5 +9.0
	comp=Z,124nm,0.9s,baz=278,slow=3.4,SNR=73						
LVC	**Limon Verde**	**151.38**	**71**	*e*PKPdf	PKPdf		22 42 00.1 +2.6
LVC				*e*PKPbc	PKPdf		22 42 06.1 +8.7
LVC				LR	LR		
	comp=Z,2μm,22.0s,MS5.9						
CAUB	**Caruaru**	**152.54**	**352**	*e*P	PKPdf		22 42 01.2 +1.8
CAUB				*i*			22 42 07.8
CAUB				*e*			22 42 15.4
CAUB				*e*			22 42 17.4
SIV	**San Ignacio**	**152.61**	**50**	PKP	PKPdf		22 42 01.6 +2.2
	comp=Z,23nm,0.8s,baz=26,slow=0.4,SNR=113						
SIV				PKPbc	PKPdf		22 42 08.2 +8.8
	comp=Z,78nm,0.9s,baz=308,slow=1.8,SNR=46						
TLL	**Tololo Astrono**	**153.25**	**87**	*e*P	PKPdf		22 42 02.2 +2.2
FCH	**Farellones**	**154.58**	**94**	*e*P	PKPdf		22 42 02.5 +0.9
PLCA	**Paso Flores**	**155.14**	**111**	PKIKP	PKPdf		22 42 03.5 +1.3
PLCA							22 42 13.4
PLCA				pmax	pmax		
	comp=Z,15nm,1.1s						
PLCA	**Paso Flores**	**155.14**	**111**	PKP	PKPdf		22 42 03.5 +1.3
	comp=Z,15nm,1.1s,baz=218,slow=3.8,SNR=13						
PLCA				PKPbc	PKPdf		22 42 13.4 +11
	comp=Z,9.7nm,0.9s,baz=237,slow=4.0,SNR=8.8						
PLCA	**Paso Flores**	**155.14**	**111**	*e*PKPdf	PKPdf		22 42 03.0 +0.9
PLCA				LR	LR		
	comp=Z,2μm,22.0s,MS5.8						
BDFB	**Brasilia**	**158.75**	**23**	PKIKP	PKPdf		22 42 09.5 +2.0
BDFB							22 42 45.3
BDFB				pmax	pmax		
	comp=Z,17nm,1.1s						
BDFB				pmax	pmax		
	comp=Z,69nm,0.9s						
BDFB	**Brasilia**	**158.75**	**23**	PKP	PKPdf		22 42 09.5 +2.0
	comp=Z,17nm,1.1s,baz=48,slow=2.7,SNR=18						
BDFB				PKPab	PKPab		22 42 45.3 -0.3
	comp=Z,69nm,0.9s,baz=352,slow=3.8,SNR=22						
BAO	**Brasilia Array**	**158.75**	**23**	PKPdf	PKPdf		22 42 10.0 +2.5
TRQA	**Tornquist**	**161.86**	**104**	*e*PKPdf	PKPdf		22 42 10.9 +0.8
TRQA				LR	LR		
	comp=Z,4μm,21.0s						
CAM3	**Guarapari**	**165.19**	**4⇑**	*i*P	PKPdf		22 42 16.1 +2.1
CAM3				*i*			22 42 33.2
CAM4	**Nova Friburgo**	**166.57**	**12**	*e*P	PKPdf		22 42 17.1 +2.0
CAM4				*i*			22 42 19.3
CAM4				*i*			22 43 19.1
CAM4				*i*			22 43 33.1

IDC 10 22:33:23.6±3.6, 0.98S×100.64E, mb3.9/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, Error ellipse: s-maj=157.7km s-min=23.0km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.97**	**122**	P	P	22 40 43.3	-1.8
	1.0nm,0.9s,baz=304,slow=9.1,SNR=5.9						
ASAR	**Alice Springs**	**39.35**	**128**	P	P	22 40 54.9	-1.8
	2.1nm,0.8s,baz=297,slow=7.4,SNR=3.9						
SONM	**Songino Array**	**48.88**	**5**	P	P	22 42 12.3	-0.7
	0.4nm,0.4s,baz=207,slow=6.4,SNR=4.1						
MKAR	**Makanchi Array**	**50.23**	**344**	P	P	22 42 20.7	-2.8
	1.4nm,0.7s,baz=153,slow=8.7,SNR=6.4						
ZAL	**Zalesovo**	**56.29**	**349**	P	P	22 43 05.7	-2.6
	1.3nm,0.4s,baz=262,slow=7.9,SNR=3.6						

*IDC **10** 22:37:55.8±2.3, 2.91N×96.55E, mb4.0/6, mb1 4.2/6, mb1mx3.8/19, mbtmp4.0/6, Error ellipse: s-maj=98.1km s-min=25.0km az=55.0*
*NEIC **10** 22:37:59.6±0.8, 2.79N×96.39E, h30km, mb4.1/3, Error ellipse: s-maj=19.7km s-min=11.4km az=224.0*
ISC 10 22:37:57.7±1.1, 2.8N±0.2×96.4E±0.2, h30km, n10, σ0§44/10, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.92**	**60**	*e*P	**Pn**	**22 39 11.9**	**+0.2**
WRA	**Warramunga Arr**	**43.59**	**123**	P	**P**	**22 46 01.1**	**-0.2**
	2.1nm,0.6s,mb4.0,baz=302,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**43.60**	**123**	*e*P	**P**	**22 46 01.4**	**0.0**
	2.2nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**45.49**	**346**	P	**P**	**22 46 16.5**	**+0.4**
	1.2nm,0.5s,mb4.0,baz=160,slow=8.4,SNR=14						
SONM	**Songino Array**	**45.67**	**9**	P	**P**	**22 46 17.4**	**-0.2**
	0.8nm,0.4s,mb4.0,baz=190,slow=9.4,SNR=12						
SONM				PcP	PcP	22 47 56.4	+0.6
	0.7nm,0.6s,baz=198,slow=3.5,SNR=5.4						
ULN	**Ulaanbaatar**	**45.81**	**10**	*e*P	**P**	**22 46 18.4**	**-0.4**
	0.7nm,0.5s,mb3.9						
ZAL	**Zalesovo**	**51.84**	**351**	P	**P**	**22 47 05.3**	**+0.1**
	1.6nm,0.4s,mb4.3,baz=316,slow=6.3,SNR=7.8						
BVAR	**Borovoye Array**	**54.46**	**341**	P	**P**	**22 47 24.2**	**-0.4**
	0.8nm,0.6s,mb3.8,baz=143,slow=8.7,SNR=4.9						
CHKZ	**Chkalovo**	**54.94**	**342**	*e*P	**P**	**22 47 27.7**	**-0.5**
	1.5nm,0.7s,mb4.1						
ARCES	**ARCESS Array B**	**80.75**	**340**	P	**P**	**22 50 10.4**	**+1.1**
	3.8nm,1.0s,mb4.3,baz=90,slow=6.3,SNR=5.2						

*NEIC **10** 22:39:52.6±1.4, 35.94N×141.37E, h10km, mb4.0/1, Error ellipse: s-maj=36.7km s-min=11.0km az=225.0*
*IDC **10** 22:39:59.3±5.8, 35.68N×140.81E, h43km±40km, mb3.3/4, mb1 3.5/6, mb1mx3.3/24, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=71.7km s-min=14.4km az=75.0*
*JMA **10** 22:40:00.3±0.2, 35.72N×140.62E, h50km±2km, M2.9*
ISC 10 22:39:59.1±0.8, 35.67N±0.05×140.7E±0.1, h60km±6km, n16, σ0§82/20, mb3.6/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.12**	**76**	P	**P**	**22 40 08.4**	**+0.2**
JCN	**Nagara**	**0.48**	**239**	P	**P**	**22 40 11.5**	**+0.5**
JYT	**Yasato**	**0.69**	**323**	P	**P**	**22 40 13.1**	**-0.3**
JYT				S	**S**	**22 40 22.1**	**-1.9**
BSO4	**Boso 4**	**0.74**	**204**	P	**P**	**22 40 14.7**	**+0.7**
JHO	**Hitachi**	**0.94**	**353**	P	**P**	**22 40 17.0**	**+0.4**
JOD2	**Odawara 2**	**1.39**	**253**	P	**P**	**22 40 22.5**	**-0.3**
MJAR	**Matsushiro Arr**	**2.20**	**294**	P	**P**	**22 40 35.0**	**+0.9**
	5.7nm,0.3s,baz=102,slow=14,SNR=28						
MAJO	**Matsushiro**	**2.21**	**294**	*e*P	**P**	**22 40 35.4**	**+1.2**
MAT	**Matsushiro**	**2.21**	**294**	*e*P	**P**	**22 40 35.0**	**+0.8**
MAT				*e*S	**S**	**22 41 05.0**	**+4.8**
MAT	**Matsushiro**	**2.21**	**294**	P	**P**	**22 40 35.3**	**+1.1**
MAT				S	**S**	**22 40 59.0**	**-1.2**
JHJ	**Hachijo jima 2**	**2.66**	**197**	P	**P**	**22 40 39.5**	**-1.1**
	48nm,0.3s,baz=96,slow=23,SNR=14						
JHJ				S	**S**	**22 41 11.6**	**-0.1**
	31nm,0.3s,baz=240,slow=20,SNR=4.7						
SONM	**Songino Array**	**28.10**	**306**	P	**P**	**22 45 46.5**	**-0.8**
	0.4nm,0.6s,mb3.2,baz=95,slow=8.6,SNR=2.6						
MKAR	**Makanchi Array**	**44.37**	**303**	P	**P**	**22 48 06.1**	**+0.9**
	0.3nm,0.5s,mb3.2,baz=88,slow=10.0,SNR=2.6						
WRAB	**Tennant Creek**	**55.63**	**187**	*e*P	**P**	**22 49 30.8**	**-0.6**
	0.7nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**55.64**	**187**	P	**P**	**22 49 30.8**	**-0.7**
	0.6nm,0.5s,mb3.9,baz=4.9,slow=7.6,SNR=17						
ASAR	**Alice Springs**	**59.36**	**187**	P	**P**	**22 49 58.0**	**+0.4**
	0.5nm,0.8s,mb3.6,baz=17,slow=9.4,SNR=3.6						

*IDC **10** 22:46:32.4±2.0, 44.71S×170.68E, mb3.5/2, mb1 3.8/2, mb1mx3.6/9, mbtmp3.5/2, Error ellipse: s-maj=49.2km s-min=13.2km az=117.0*
*WEL **10** 22:46:38.4±0.1, 43.00S×171.03E, h5km, ML4.0/13, Error ellipse: s-maj=1.2km s-min=1.1km az=90.0*
WEL Felt in the West Coast region, maximum reported intensity MM 4.
ISC 10 22:46:37.3±1.3, 42.95S±0.03×170.95E±0.05, h10km±9km, n24, σ0§86/28, mb3.5/2, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**0.77**	**174**	Pg	**Pg**	**22 46 52.5**	**-0.3**
	247nm,0.3s,baz=308,slow=6.0,SNR=322						
RPZ				Lg		22 47 06.2	
	248nm,0.3s,baz=148,slow=19,SNR=17						
RPZ	**Rata Peaks**	**0.77**	**174**	P*	**Pb**	**22 46 52.5**	**+0.1**
RPZ				S*	**Sb**	**22 47 01.6**	**-1.0**
FOZ	**Fox Glacier**	**1.11**	**236**	P*	**Pb**	**22 46 57.9**	**-0.2**
FOZ				S*	**Sb**	**22 47 11.5**	**-0.9**
CRLZ	**Canterbury Las**	**1.37**	**118**	P*	**Pb**	**22 47 03.2**	**+0.5**
CRLZ				S*	**Sb**	**22 47 19.8**	**-0.4**
MQZ	**McQueen's Vall**	**1.46**	**122**	PN	**Pn**	**22 47 03.1**	**-0.8**
LBZ	**Lake Benmore**	**1.54**	**201**	PN	**Pn**	**22 47 06.0**	**+1.0**
LBZ				SN	**Sn**	**22 47 26.9**	**+1.7**
THZ	**Tophouse**	**1.87**	**51**	PN	**Pn**	**22 47 10.9**	**+1.1**
JCZ	**Jackson Bay**	**1.95**	**234**	PN	**Pn**	**22 47 11.0**	**+0.1**
KHZ	**Kahutara**	**1.98**	**75**	PN	**Pn**	**22 47 11.9**	**+0.5**
ODZ	**Otahua Downs**	**2.11**	**186**	PN	**Pn**	**22 47 13.1**	**0.0**
ODZ				SN	**Sn**	**22 47 39.8**	**+0.2**
WKZ	**Wanaka**	**2.34**	**216**	PN	**Pn**	**22 47 16.8**	**+0.3**
QRZ	**Quartz Range**	**2.43**	**30**	PN	**Pn**	**22 47 18.3**	**+0.6**
QRZ				SN	**Sn**	**22 47 47.1**	**-0.6**
BSWZ	**Blackbirch Sta**	**2.50**	**61**	PN	**Pn**	**22 47 20.1**	**+1.4**
DUWZ	**D'Urville Isla**	**3.09**	**47**	PN	**Pn**	**22 47 28.8**	**+1.7**
SNZO	**South Karori**	**3.24**	**61**	PN	**Pn**	**22 47 29.2**	**0.0**
MRW	**Makara Radio**	**3.28**	**60**	PN	**Pn**	**22 47 30.3**	**+0.4**
CAW	**Cannon Point**	**3.58**	**60**	PN	**Pn**	**22 47 33.5**	**-0.6**
KIW	**Kapiti Island**	**3.62**	**56**	PN	**Pn**	**22 47 34.3**	**-0.3**
MTW	**Mount Morrison**	**3.83**	**64**	PN	**Pn**	**22 47 36.2**	**-1.5**
MRZ	**Mangatainoka R**	**4.15**	**58**	PN	**Pn**	**22 47 40.4**	**-1.8**
ASAR	**Alice Springs**	**36.07**	**290**	P	**P**	**22 53 40.0**	**-1.0**
	0.5nm,0.4s,mb3.8,baz=130,slow=8.4,SNR=8.4						
WRA	**Warramunga Arr**	**38.31**	**295**	P	**P**	**22 53 59.8**	**-0.1**
	0.3nm,0.5s,mb3.3,baz=137,slow=7.6,SNR=11						
ARCES	**ARCESS Array B**	**148.01**	**338**	PKPbc	PKPdf	23 06 22.3	+0.7
	1.7nm,0.4s,baz=111,slow=1.3,SNR=39						
FINES	**FINESS Array B**	**152.12**	**324**	PKPbc	PKPdf	23 06 31.8	+3.7
	0.4nm,0.4s,baz=62,slow=3.7,SNR=7.4						
FINES				PKPab	PKPab	23 06 41.6	-2.1
	1.1nm,0.9s,baz=75,slow=4.9,SNR=4.5						

*IDC **10** 22:48:30.6±0.4, 0.38S×96.84E, mb4.8/29, mb1 4.8/30, mb1mx4.8/31, mbtmp4.8/30, ML5.0/1, MS4.1/1, Ms1 4.3/1, ms1mx3.4/25, Error ellipse: s-maj=14.4km s-min=10.1km az=45.0*
*BJI **10** 22:48:33.4, 0.74S×96.98E, h47km, mB5.4, mb5.0, Ms4.8, Msz4.7*
*MOS **10** 22:48:33.9±0.9, 0.39S×96.90E, h33km, mb5.2/17, Error ellipse: s-maj=12.9km s-min=7.3km az=110.3*
*NEIC **10** 22:48:35.4±0.2, 0.39S×96.89E, h30km, mb5.0/25, Error ellipse: s-maj=5.5km s-min=4.1km az=54.0*
ISC 10 22:48:34.1±0.3, 0.37S±0.04×96.95E±0.04, h33km, (h33km±2.3km:pP-P), n125, σ0§94/114, mb4.8/58, MS5.8/1, 6C-7D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**6.38**	**40**	P	**P**	**22 50 06.8**	**-1.4**
KULM	**Kulim**	**6.73**	**33⇑**	*i*P	**P**	**22 50 11.0**	**-2.1**
KGM	**Kluang**	**6.79**	**70**	P	**P**	**22 50 13.4**	**-0.7**
KSM	**Kuching**	**13.48**	**82**	*e*P	**P**	**22 51 45.5**	**-0.1**
PALK	**Pallekele**	**17.89**	**295**	*e*P	**P**	**22 52 37.9**	**-4.4**
	43nm,1.2s						
PALK				*e*		22 52 47.3	
CM31	**Chiang Mai Arr**	**18.81**	**6**	*e*P	**P**	**22 52 52.6**	**-1.0**
	69nm,0.8s						
CM31				*e*		22 53 03.8	
CMAR	**Chiang Mai Arr**	**18.81**	**6**	P	**P**	**22 52 53.5**	**-0.1**
	1.8nm,0.3s,baz=196,slow=11,SNR=166						
CMAR				PcP	PcP	22 57 18.9	-1.0
	0.5nm,0.3s,baz=224,slow=4.0,SNR=4.8						
CMAR				LR	LR	23 01 26.5	
	comp=Z,476nm,18.4s,baz=245,slow=41						
KKM	**Kota Kinabalu**	**20.26**	**71**	*e*P	**P**	**22 53 09.6**	**0.0**
KKM				*e*		22 53 20.1	
KKM	**Kota Kinabalu**	**20.26**	**71**	P	**P**	**22 53 09.6**	**-0.1**
TSM	**Tawau**	**21.41**	**77**	P	**P**	**22 53 23.2**	**+1.8**
KMI	**Kunming**	**25.95**	**12**	⇑P	**P**	**22 54 07.7**	**+2.1**
KMI				AMB	AMB		
	comp=Z,52nm,1.2s,mb4.9						
KMI	**Kunming**	**25.95**	**12**	⇑P	**P**	**22 54 07.7**	**+2.1**
	comp=Z,52nm,1.2s,mb4.9						
SHL	**Shillong**	**26.24**	**350**	*e*P	**P**	**22 54 08.5**	**+0.2**
SHL				*e*S	**S**	**22 58 55.0**	**+19**
GYA	**Guiyang**	**28.27**	**19⇑**	*i*P	**P**	**22 54 27.0**	**+0.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
JIRN	**Jiri**	**29.72**	**340**	*e*P	**P**	**22 54 40.4**	**+0.7**
	comp=Z,56nm,0.9s,mb5.3						
PKI	**Pulchoki**	**29.91**	**339**	*e*P	**P**	**22 54 41.1**	**-0.2**
	comp=Z,11nm,0.6s,mb4.8						
PKI	**Pulchoki**	**29.91**	**339**	*e*P	**P**	**22 54 41.1**	**-0.2**
PKI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
DMN	**Daman**	**30.05**	**339**	*e*P	**P**	**22 54 42.8**	**+0.2**
	comp=Z,13nm,0.6s,mb4.8						
KKN	**Kakani**	**30.16**	**339**	*e*P	**P**	**22 54 43.6**	**+0.1**
	comp=Z,41nm,0.8s,mb5.2						
KKN	**Kakani**	**30.16**	**339**	*e*P	**P**	**22 54 43.6**	**+0.1**
KKN				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.9						
LSA	**Lhasa**	**30.41**	**350**	P	**P**	**22 54 47.2**	**+1.5**
LSA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LSA	**Lhasa**	**30.41**	**350**	*e*P	**P**	**22 54 46.4**	**+0.7**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.7						
LSA	**Lhasa**	**30.41**	**350**	*e*P	**P**	**22 54 46.4**	**+0.6**
	comp=Z,6.7nm,0.4s,mb4.7						
GKN	**Gorkha**	**30.58**	**338**	*e*P	**P**	**22 54 47.6**	**+0.3**
	comp=Z,43nm,0.9s,mb5.3						
KOLN	**Koldanda**	**30.77**	**336**	*e*P	**P**	**22 54 49.4**	**+0.4**
	comp=Z,57nm,0.9s,mb5.4						
ENH	**Enshi**	**32.73**	**20**	*e*P	**P**	**22 55 05.4**	**-0.7**
	comp=Z,35nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**33.25**	**124⇓**	*i*P	**P**	**22 55 10.1**	**-0.6**
	comp=Z,24nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.25**	**124**	P	**P**	**22 55 10.2**	**-0.6**
	comp=Z,36nm,0.9s,mb5.3,baz=310,slow=3.3,SNR=18						
XAN	**Xi'an**	**36.02**	**17**	P	**P**	**22 55 33.8**	**-0.6**
XAN				AMB	AMB		
	comp=Z,35nm,1.1s,mb5.2						
MUN	**Mundaring**	**36.33**	**152**	*e*P	**P**	**22 55 37.5**	**+0.5**
	comp=Z,40nm,0.6s,mb5.5						
MUN	**Mundaring**	**36.33**	**152**	*e*P	**P**	**22 55 37.5**	**+0.5**
MUN				pmax	pmax		
	comp=Z,40nm,0.6s,mb5.5						
LZH	**Lanzhou**	**36.83**	**9**	⇑P	**P**	**22 55 41.5**	**+0.4**
LZH				AP	pP	22 55 52.0	+1.1
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
NWAO	**Narrogin (SRO)**	**37.60**	**151**	P	**P**	**22 55 48.0**	**+0.3**
	comp=Z,9.6nm,0.7s,mb4.6,baz=292,slow=8.7,SNR=10						
NWAO	**Narrogin (SRO)**	**37.60**	**151**	P	**P**	**22 55 48.0**	**+0.3**
GTA	**Gaotai**	**39.67**	**3**	*e*P	**P**	**22 56 05.6**	**+0.8**
GTA				AP	pP	22 56 14.3	-0.3
GTA				XP	sP	22 56 18.8	0.0
GTA				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
WRA	**Warramunga Arr**	**41.44**	**120**	P	**P**	**22 56 19.6**	**0.0**
	comp=Z,16nm,0.8s,mb4.7,baz=297,slow=9.2,SNR=63						
WRA				PcP	PcP	22 58 17.4	-0.4
	comp=Z,1.8nm,1.0s,baz=297,slow=3.2,SNR=4.8						
WRAB	**Tennant Creek**	**41.45**	**120**	*e*P	**P**	**22 56 19.7**	**0.0**
WRAB				pmax	pmax		
	comp=Z,31nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**41.45**	**120**	*e*P	**P**	**22 56 19.7**	**+0.1**
	comp=Z,31nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**41.45**	**120⇓**	*i*P	**P**	**22 56 19.7**	**0.0**
FORT	**Forrest**	**42.26**	**139⇑**	*i*P	**P**	**22 56 27.4**	**+1.1**
	comp=Z,624nm,0.8s						
ASPA	**Alice Springs**	**42.67**	**126⇓**	*i*P	**P**	**22 56 30.1**	**+0.3**
ASAR	**Alice Springs**	**42.67**	**126**	P	**P**	**22 56 30.2**	**+0.4**
	comp=Z,21nm,0.7s,mb5.0,baz=298,slow=7.8,SNR=126						
ASAR				PcP	PcP	22 58 21.6	-0.3
	comp=Z,3.0nm,0.8s,baz=302,slow=3.7,SNR=5.7						
BJI	**Beijing**	**43.88**	**21**	*e*P	**P**	**22 56 40.3**	**+0.9**
BJI				AMB	AMB		
	comp=Z,34nm,0.9s,mb5.1						
BJI	**Beijing**	**43.88**	**21**	*e*P	**P**	**22 56 40.3**	**+0.9**
	comp=Z,34nm,0.9s,mb5.1						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**44.09**	**337**	*e*P	**P**	**22 56 40.0**	**-1.1**
KSH				*e*XP	sP	22 56 56.6	+1.5
KSH				AMB	AMB		
	comp=Z,1μm,11.1s						
WMQ	**Urumqi**	**44.77**	**350**	P	**P**	**22 56 48.1**	**+1.7**
WMQ				AP	pP	22 56 58.1	+1.8
WMQ				XP	sP	22 57 02.1	+1.7
KZA	**Kyzart**	**46.57**	**338**	P	**P**	**22 57 01.9**	**+1.2**
	SNR=11						
UCH	**Uchtor**	**46.98**	**337**	P	**P**	**22 57 05.0**	**+1.0**
	SNR=20						
TKM2	**Tokmak 2**	**47.17**	**339**	P	**P**	**22 57 06.4**	**+0.9**
	SNR=11						
KBK	**Karagaybulak**	**47.18**	**338**	P	**P**	**22 57 07.3**	**+1.7**
	SNR=19						
AML	**Almayashu**	**47.22**	**336**	P	**P**	**22 57 07.0**	**+1.1**
	SNR=12						
FRU	**Bishkek**	**47.46**	**338**	*e*P	**P**	**22 57 09.0**	**+1.2**
EKS2	**Erkin-Say**	**47.64**	**337**	P	**P**	**22 57 10.3**	**+1.1**
	SNR=12						
USP	**Ospenovka**	**47.88**	**338**	P	**P**	**22 57 11.5**	**+0.5**
	SNR=15						
MKAR	**Makanchi Array**	**48.70**	**347**	P	**P**	**22 57 17.6**	**+0.3**
	comp=Z,20nm,0.6s,mb5.4,baz=159,slow=8.4,SNR=152						
SONM	**Songino Array**	**48.71**	**8**	P	**P**	**22 57 18.1**	**+0.7**
	comp=Z,2.6nm,0.5s,mb4.5,baz=188,slow=9.5,SNR=29						
ULN	**Ulaanbaatar**	**48.84**	**9**	*e*P	**P**	**22 57 18.8**	**+0.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ULN	**Ulaanbaatar**	**48.84**	**9**	*e*P	**P**	**22 57 18.8**	**+0.4**
	comp=Z,3.0nm,0.6s,mb4.5						
PMG	**Port Moresby**	**50.77**	**102**	P	**P**	**22 57 33.1**	**-0.5**
	comp=Z,31nm,1.1s,mb5.2,baz=271,slow=11,SNR=3.7						
CN2	**Changchun**	**50.81**	**26**	*e*P	**P**	**22 57 33.3**	**-0.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
ZAK	**Zakamensk**	**50.85**	**5**	*e*P	**P**	**22 57 34.1**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
MOY	**Mondy**	**51.96**	**3**	*e*P	**P**	**22 57 42.2**	**+0.1**
CTA	**Charters Tower**	**52.05**	**115⇓**	*i*P	**P**	**22 57 43.3**	**+0.1**
	comp=Z,17nm,0.8s,mb5.0						
CTA	**Charters Tower**	**52.05**	**115⇓**	*i*P	**P**	**22 57 43.3**	**+0.1**
CTA				pmax	pmax		
	comp=Z,17nm,0.8s						
CTA	**Charters Tower**	**52.05**	**115**	P	**P**	**22 57 43.7**	**+0.6**
	comp=Z,23nm,0.8s,mb5.2,baz=288,slow=10,SNR=14						
OPO	**Ambohidratompo**	**52.06**	**247**	P	**P**	**22 57 43.1**	**-0.2**
	comp=Z,5.2nm,0.9s,mb4.5,baz=51,slow=7.6,SNR=4.0						
STKA	**Stephens Creek**	**52.51**	**131⇓**	*i*P	**P**	**22 57 46.7**	**+0.2**
	comp=Z,16nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**52.51**	**131**	P	**P**	**22 57 46.7**	**+0.2**
	comp=Z,18nm,0.7s,mb5.2,baz=306,slow=7.0,SNR=47						
MJAR	**Matsushiro Arr**	**53.02**	**42**	P	**P**	**22 57 49.1**	**-1.2**
	comp=Z,4.4nm,1.0s,mb4.4,baz=218,slow=7.1,SNR=7.5						
KURK	**Kurchatov**	**53.23**	**346**	*e*P	**P**	**22 57 51.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**53.23**	**346**	*e*P	**P**	**22 57 51.0**	**-0.7**
	comp=Z,10.0nm,1.0s,mb4.7						
ATD	**Arta Tunnel**	**55.01**	**284**	P	**P**	**22 58 02.7**	**-2.4**
	comp=Z,13nm,1.1s,mb4.8,baz=228,slow=22,SNR=3.6						
ATD	**Arta Tunnel**	**55.01**	**284**	P	**P**	**22 58 02.7**	**-2.5**
ZAL	**Zalesovo**	**55.05**	**351**	P	**P**	**22 58 05.2**	**+0.3**
	comp=Z,8.5nm,0.5s,mb5.0,baz=308,slow=5.9,SNR=33						
BVAR	**Borovoye Array**	**57.64**	**341**	P	**P**	**22 58 21.5**	**-1.9**
	comp=Z,3.8nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=18						
KLR	**Kul'dur**	**57.76**	**26**	*e*P	**P**	**22 58 20.2**	**-4.2**
BOD	**Bodaibo**	**59.59**	**10**	*e*P	**P**	**22 58 35.8**	**-1.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.5						
KMBO	**Kilima Mbogo**	**59.70**	**269**	*e*P	**P**	**22 58 37.7**	**-0.6**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMBO	**Kilima Mbogo**	**59.70**	**269**	P	**P**	**22 58 38.2**	**-0.1**
	comp=Z,3.2nm,0.8s,mb4.4,baz=52,slow=9.5,SNR=7.3						
KMBO	**Kilima Mbogo**	**59.70**	**269**	*e*P	**P**	**22 58 37.7**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.3						
YSS	**Yuzh-Sakhalins**	**61.78**	**34**	*e*P	pP	22 59 01.3	-0.8
GNI	**Garni**	**62.25**	**317**	P	**P**	**22 58 53.3**	**-1.9**
	comp=Z,3.4nm,0.9s,mb4.5,baz=204,slow=20,SNR=1

comp=Z,2.0nm,0.7s,baz=201,slow=2.8,SNR=3.1
NVAR Mina Array Bea 130.19 36 PKP PKPdf 23 07 43.1 +1.5
comp=Z,0.5nm,0.6s,baz=71,slow=4.0,SNR=4.1
MIAR Mount Ida 144.60 15 *e*PKP PKPdf 23 08 08.4 +0.5
CPCT Cooper Cave 145.07 2 *e*PKP PKPdf 23 08 09.7 +1.0
LTX Lajitas 145.12 33 *e*PKP PKPdf 23 08 11.0 +2.0
TXAR Lajitas Array 145.12 33 PKPbc PKPbc 23 08 11.1 +1.9
comp=Z,2.0nm,0.4s,baz=246,slow=0.6,SNR=27
JCT Junction City 146.09 26 *e*PKP PKPdf 23 08 12.6 +2.0
SIV San Ignacio 152.89 232 PKP PKPdf 23 08 23.3 +1.7
comp=Z,1.2nm,0.7s,baz=170,slow=2.2,SNR=3.5
SIV PKPbc PKPbc 23 08 29.9 +8.3
comp=Z,3.6nm,0.8s,baz=146,slow=3.3,SNR=11
SIV PKPab PKPab 23 08 40.8 -1.5
comp=Z,4.1nm,0.8s,baz=163,slow=3.2,SNR=7.8
LPAZ La Paz 157.85 221 PKP PKPdf 23 08 30.4 +2.2
comp=Z,1.5nm,0.8s,baz=360,slow=2.4,SNR=7.0
LPAZ PKPab PKPab 23 09 04.5 +1.0
comp=Z,0.8nm,0.4s,baz=108,slow=9.0,SNR=4.5
LPAZ La Paz 157.85 221 PKP PKPdf 23 08 30.4 +2.2
LPAZ PKPab PKPab 23 09 04.5 +1.0

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*BER **10** 22:55:15.2±4.4, 78.44N×7.08E, MD2.7, ML3.0, ML2.6(NAO)*
*CSEM **10** 22:55:15.2±0.9, 78.56N×6.95E, h2km, ML3.0, Error ellipse: s-maj=22.5km s-min=8.6km az=109.0*
*NAO **10** 22:55:18.4±6.1, 78.43N×8.34E, h3km±135km, ML2.6*
ISC 10 22:55:15.2±2.3, 78.36N±0.10×7.8E±0.7, h10km, n5, σ1º48/9, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.00**	**53**	Pg	**Pg**	**22 55 34.5**	**-0.8**
KBS				Lg		22 55 47.8	
SPA0	**Spitsbergen Ar**	**1.77**	**92**	Pn	**Pn**	**22 55 47.9**	**+1.8**
baz=282,slow=14							
SPA0				Sn	**Sn**	**22 56 11.3**	**+2.6**
baz=259,slow=18							
HSP	**Hornsund**	**2.15**	**125**	*e*P	**Pn**	**22 55 52.4**	**+0.9**
HSP				*e*S	**Sn**	**22 56 18.6**	**+0.2**
HOPEN	**Hopen**	**4.18**	**108**	*e*P	**Pn**	**22 56 18.1**	**-2.5**
HOPEN				*e*S	**Sn**	**22 57 08.2**	**-1.8**
HOPEN				AML	AML	22 57 11.1	
comp=Z,62nm,0.2s							
ARA0	**ARCESS Array S**	**10.05**	**142**	Pn	**P**	**22 57 42.5**	**0.0**
baz=344,slow=10							
ARA0				Sn	**S**	**22 59 29.9**	**-6.4**
baz=341,slow=22							

WEL 10 22:56:36.2±0.5, 39.72S×179.92W, h33km, ML4.2/17, Error ellipse: s-maj=4.7km s-min=2.3km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**2.00**	**290**	PN	Pn	22 57 07.0	-1.4
KNZ				*e*SN	Sn	22 57 30.6	-1.8
KNZ				*e*SN	Sn	22 57 30.6	-1.8
PUZ	**Puketiti**	**2.18**	**319**	PN	Pn	22 57 08.9	-2.1
PUZ				*e*SN	Sn	22 57 32.2	-4.9
MWZ	**Matawai**	**2.42**	**304**	PN	Pn	22 57 12.9	-1.6
MWZ				*e*SN	Sn	22 57 39.8	-3.6
PWZ	**Pawanui**	**2.50**	**262**	PN	Pn	22 57 14.1	-1.5
PWZ				SN	Sn	22 57 43.2	-2.0
MXZ	**Matakaoa Point**	**2.57**	**327**	PN	Pn	22 57 14.7	-1.8
MXZ				*e*SN	Sn	22 57 42.6	-4.3
URZ	**Urewera**	**2.74**	**301**	PN	Pn	22 57 18.0	-1.0
URZ				*e*SN	Sn	22 57 48.2	-3.1
BKZ	**Black Stump Fm**	**2.83**	**280**	PN	Pn	22 57 19.0	-1.3
BKZ				SN	Sn	22 57 49.6	-4.1
BFZ	**Birch Farm**	**3.09**	**251**	PN	Pn	22 57 21.3	-2.6
BFZ				SN	Sn	22 57 56.5	-3.6
TSZ	**Takapari Road**	**3.19**	**263**	PN	Pn	22 57 23.4	-2.0
TSZ				SN	Sn	22 57 59.2	-3.4
RITZ	**Rihia Road**	**3.36**	**281**	PN	Pn	22 57 27.2	-0.6
TUVZ	**Tukino**	**3.46**	**276**	PN	Pn	22 57 28.8	-0.4
OTVZ	**Oturere**	**3.47**	**278**	PN	Pn	22 57 28.3	-1.0
WNVZ	**Wahianoa**	**3.49**	**275**	PN	Pn	22 57 29.3	-0.3
NGZ	**Ngauruhoe**	**3.51**	**278**	PN	Pn	22 57 29.1	-0.8
WTVZ	**West Tongariro**	**3.53**	**278**	PN	Pn	22 57 29.6	-0.6
FWVZ	**Far West T-bar**	**3.54**	**276**	PN	Pn	22 57 29.5	-0.8
CNZ	**Chateau**	**3.55**	**277**	PN	Pn	22 57 29.5	-1.0
WPVZ	**Whakapapa**	**3.55**	**277**	PN	Pn	22 57 29.7	-0.7
MRZ	**Mangatainoka R**	**3.57**	**253**	PN	Pn	22 57 27.8	-3.0
MRZ				SN	Sn	22 58 05.9	-6.5
MTVZ	**Mangateitei**	**3.58**	**274**	PN	Pn	22 57 30.5	-0.4
MGZ	**Maungaku**	**3.59**	**280**	PN	Pn	22 57 30.3	-0.8
MTW	**Mount Morrison**	**3.78**	**246**	PN	Pn	22 57 29.7	-4.0
MTW				SN	Sn	22 58 12.1	-5.5
PAWZ	**Paruwai Farm**	**3.92**	**243**	PN	Pn	22 57 31.2	-4.5
PAWZ				SN	Sn	22 58 15.3	-5.8
MSWZ	**Moikau Station**	**4.05**	**244**	PN	Pn	22 57 33.4	-4.2
MSWZ				SN	Sn	22 58 18.2	-6.3
CAW	**Cannon Point**	**4.07**	**249**	PN	Pn	22 57 34.1	-3.8
CAW				SN	Sn	22 58 19.4	-5.6
KIW	**Kapiti Island**	**4.12**	**252**	PN	Pn	22 57 36.1	-2.4
BHW	**Baring Head**	**4.31**	**245**	PN	Pn	22 57 37.0	-4.3
MRW	**Makara Radio**	**4.37**	**248**	PN	Pn	22 57 38.7	-3.5
PKE	**Pukeiti**	**4.75**	**274**	PN	Pn	22 57 47.4	-0.1
DUWZ	**D'Urville Isla**	**4.83**	**255**	PN	Pn	22 57 46.4	-2.4

IDC 10 22:57:15.3±7.0, 9.85N×92.29E, mb3.4/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=357.9km s-min=28.5km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.79**	**349**	P	P	23 04 33.1	-1.9
0.2nm,0.3s,baz=158,slow=9.1,SNR=6.2							
WRA	**Warramunga Arr**	**50.89**	**126**	P	P	23 06 19.6	-1.0
2.5nm,0.4s,baz=306,slow=9.1,SNR=7.5							
ASAR	**Alice Springs**	**52.58**	**130**	P	P	23 06 29.9	-3.3
0.5nm,0.6s,baz=303,slow=7.6,SNR=5.7							

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*IDC **10** 22:59:00.1±1.5, 1.32S×99.36E, mb4.3/10, mb1 4.4/11, mb1mx4.2/18, mbtmp4.2/11, ML4.6/1, Error ellipse: s-maj=74.7km s-min=14.7km az=55.0*
*NEIC **10** 22:59:03.5±0.8, 1.46S×99.21E, h30km, mb4.5/4, Error ellipse: s-maj=33.4km s-min=11.5km az=61.0*
ISC 10 22:59:03.0±0.9, 1.3S±0.1×99.4E±0.2, h33km, n25, σ0º68/19, mb4.4/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.70**	**11**	*e*P	**P**	**23 00 42.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**19.66**	**359**	P	**P**	**23 03 32.0**	**0.0**
0.8nm,0.3s,baz=184,slow=11,SNR=5.0							
FITZ	**Fitzroy Crossi**	**30.71**	**124**	P	**P**	**23 05 16.1**	**-1.3**
5.3nm,0.6s,mb4.5,baz=221,slow=4.8,SNR=7.8							
LSA	**Lhasa**	**31.84**	**346**	*e*P	**P**	**23 05 27.0**	**-0.2**
2.3nm,0.5s,mb4.3							
WRA	**Warramunga Arr**	**38.88**	**121**	P	**P**	**23 06 27.5**	**+0.2**
2.7nm,0.4s,mb4.3,baz=303,slow=9.0,SNR=22							
WRA	**Warramunga Arr**	**38.88**	**121**	P	**P**	**23 06 27.5**	**+0.2**
WRAB	**Tennant Creek**	**38.88**	**121**	*e*P	**P**	**23 06 26.7**	**-0.6**
6.1nm,0.5s,mb4.6							
ASAR	**Alice Springs**	**40.16**	**126**	P	**P**	**23 06 38.2**	**+0.4**
2.2nm,0.6s,mb4.1,baz=304,slow=7.3,SNR=29							
ASAR	**Alice Springs**	**40.16**	**126**	P	**P**	**23 06 38.2**	**+0.4**
SONM	**Songino Array**	**49.34**	**6**	P	**P**	**23 07 50.0**	**-1.1**
1.1nm,0.7s,mb4.0,baz=188,slow=9.1,SNR=11							
STKA	**Stephens Creek**	**50.07**	**132**	P	**P**	**23 07 58.2**	**+1.3**
3.5nm,0.6s,mb4.5,baz=300,slow=6.4,SNR=12							
MKAR	**Makanchi Array**	**50.22**	**345**	P	**P**	**23 07 58.6**	**+0.8**
3.2nm,0.3s,mb4.8,baz=157,slow=8.9,SNR=47							
KURK	**Kurchatov**	**54.79**	**344**	*e*P	**P**	**23 08 31.8**	**0.0**
3.8nm,0.8s,mb4.5							
ZAL	**Zalesovo**	**56.39**	**350**	P	**P**	**23 08 43.4**	**0.0**
3.8nm,0.5s,mb4.7,baz=322,slow=5.5,SNR=15							
BVAR	**Borovoye Array**	**59.34**	**340**	P	**P**	**23 09 03.4**	**-0.8**
1.0nm,0.6s,mb4.0,baz=141,slow=10.0,SNR=4.5							
CHKZ	**Chkalovo**	**59.80**	**341**	*e*P	**P**	**23 09 06.9**	**-0.4**
4.6nm,1.2s,mb4.4							
FINES	**FINESS Array B**	**83.22**	**332**	P	**P**	**23 11 27.5**	**+0.3**
0.3nm,0.4s,mb3.7,baz=110,slow=4.4,SNR=9.6							
ARCES	**ARCESS Array B**	**85.63**	**340**	P	**P**	**23 11 39.5**	**+0.5**
4.2nm,0.9s,mb4.7,baz=37,slow=6.1,SNR=5.9							
ARCES	**ARCESS Array B**	**85.63**	**340**	P	**P**	**23 11 39.5**	**+0.5**

TXAR	**Lajitas Array**	**144.55**	**36**	PKhKP		23 18 33.0	
0.5nm,0.6s,baz=191,slow=0.8,SNR=5.3							
TXAR	**Lajitas Array**	**144.55**	**36**	PKP	PKPdf	23 18 33.0	-3.8
MIAR	**Mount Ida**	**144.81**	**19**	*e*PKP	PKPdf	23 18 35.6	-1.5
TZTN	**Tazewell**	**144.86**	**4**	*e*PKP	PKPdf	23 18 35.3	-1.8
JCT	**Junction City**	**145.78**	**30**	*e*PKP	PKPdf	23 18 38.8	-0.1
JCT				*e*		23 18 48.1	
CPCT	**Cooper Cave**	**145.86**	**6**	*e*PKP	PKPdf	23 18 39.3	+0.4

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*IDC **10** 23:00:25.7±2.6, 0.81S×98.37E, mb4.0/6, mb1 4.1/7, mb1mx3.8/18, mbtmp3.9/7, ML4.1/1, Error ellipse: s-maj=105.0km s-min=20.3km az=57.0*
*NEIC **10** 23:00:30.1±1.0, 0.80S×98.38E, h30km, mb4.2/1, Error ellipse: s-maj=44.6km s-min=9.7km az=59.0*
ISC 10 23:00:28.4±1.5, 0.8S±0.2×98.3E±0.4, h33km, n12, σ0º53/11, mb4.1/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.11**	**2**	P	**P**	**23 04 50.9**	**-0.5**
0.3nm,0.3s,baz=191,slow=9.2,SNR=3.0							
WRA	**Warramunga Arr**	**40.05**	**121**	P	**P**	**23 08 01.8**	**-0.5**
1.4nm,0.7s,mb3.8,baz=300,slow=9.0,SNR=5.5							
ASAR	**Alice Springs**	**41.32**	**126**	P	**P**	**23 08 13.6**	**+0.7**
1.6nm,0.9s,mb3.6,baz=315,slow=7.7,SNR=6.8							
SONM	**Songino Array**	**48.91**	**7**	P	**P**	**23 09 13.6**	**+0.4**
1.5nm,0.7s,mb4.1,baz=182,slow=7.0,SNR=7.3							
MKAR	**Makanchi Array**	**49.41**	**346**	P	**P**	**23 09 17.9**	**+0.9**
2.3nm,0.6s,mb4.4,baz=155,slow=7.9,SNR=8.6							
MKAR	**Makanchi Array**	**49.41**	**346**	P	**P**	**23 09 17.9**	**+0.9**
STKA	**Stephens Creek**	**51.21**	**132**	*e*P	**P**	**23 09 30.8**	**-0.2**
KURK	**Kurchatov**	**53.97**	**345**	*e*P	**P**	**23 09 51.2**	**-0.1**
2.4nm,1.0s,mb4.1							
ZAL	**Zalesovo**	**55.66**	**350**	P	**P**	**23 10 04.0**	**+0.4**
1.4nm,0.4s,mb4.3,baz=284,slow=4.5,SNR=3.6							
BVAR	**Borovoye Array**	**58.47**	**341**	P	**P**	**23 10 23.1**	**-0.3**
1.2nm,0.7s,mb4.1,baz=143,slow=7.4,SNR=4.4							
CHKZ	**Chkalovo**	**58.94**	**341**	*e*P	**P**	**23 10 26.1**	**-0.7**
CPCT	**Cooper Cave**	**145.39**	**4**	*e*PKP	PKPdf	23 20 05.5	+2.1

IDC 10 23:05:49.9±5.2, 1.06S×100.53E, mb3.7/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=273.4km s-min=24.0km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.02**	**122**	P	P	23 13 10.5	-1.4
0.7nm,0.5s,baz=301,slow=9.2,SNR=5.5							
ASAR	**Alice Springs**	**39.38**	**127**	P	P	23 13 21.4	-1.8
0.5nm,0.5s,baz=303,slow=8.1,SNR=5.1							
MKAR	**Makanchi Array**	**50.28**	**344**	P	P	23 14 47.8	-2.3
0.3nm,0.3s,baz=154,slow=8.9,SNR=8.2							
ZAL	**Zalesovo**	**56.35**	**349**	P	P	23 15 33.2	-1.8
0.7nm,0.4s,baz=311,slow=3.7,SNR=3.6							
TXAR	**Lajitas Array**	**143.64**	**37**	PKP	PKPdf	23 25 25.5	-3.8
0.4nm,0.5s,baz=241,slow=1.7,SNR=6.4							

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*IDC **10** 23:11:45.8±2.3, 1.71S×99.61E, mb3.7/8, mb1 3.9/8, mb1mx3.7/18, mbtmp3.8/8, Error ellipse: s-maj=104.2km s-min=18.0km az=57.0*
*NEIC **10** 23:11:50.5±0.8, 1.65S×99.68E, h30km, mb4.1/2, Error ellipse: s-maj=33.3km s-min=10.6km az=64.0*
ISC 10 23:11:48.3±1.1, 1.7S±0.2×99.6E±0.3, h33km, n17, σ0º99/12, mb3.9/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.99**	**9**	*e*P	**P**	**23 13 31.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**20.00**	**358**	P	**P**	**23 16 18.8**	**-2.4**
0.6nm,0.4s,baz=191,slow=14,SNR=4.3							
WRA	**Warramunga Arr**	**38.53**	**121**	P	**P**	**23 19 10.3**	**+0.7**
1.0nm,0.6s,mb3.7,baz=302,slow=9.1,SNR=9.1							
ASAR	**Alice Springs**	**39.79**	**126**	P	**P**	**23 19 20.4**	**+0.3**
0.4nm,0.4s,mb3.5,baz=309,slow=8.1,SNR=5.6							
SONM	**Songino Array**	**49.65**	**6**	P	**P**	**23 20 40.3**	**+1.4**
0.5nm,0.7s,mb3.7,baz=202,slow=7.8,SNR=4.5							
STKA	**Stephens Creek**	**49.69**	**132**	P	**P**	**23 20 38.1**	**-1.3**
0.8nm,0.6s,mb4.0,baz=331,slow=14,SNR=2.9							
MKAR	**Makanchi Array**	**50.59**	**345**	P	**P**	**23 20 47.4**	**+1.3**
0.8nm,0.6s,mb3.9,baz=153,slow=8.1,SNR=8.6							
KURK	**Kurchatov**	**55.17**	**344**	P	**P**	**23 21 19.2**	**-0.8**
2.4nm,1.0s,mb4.2							
ZAL	**Zalesovo**	**56.75**	**350**	P	**P**	**23 21 31.7**	**+0.3**
1.3nm,0.4s,mb4.3,baz=322,slow=5.7,SNR=6.4							
ZAL	**Zalesovo**	**56.75**	**350**	P	**P**	**23 21 31.7**	**+0.3**
BVAR	**Borovoye Array**	**59.72**	**340**	P	**P**	**23 21 52.1**	**-0.1**
0.4nm,0.6s,mb3.6,baz=135,slow=6.3,SNR=4.9							
CHKZ	**Chkalovo**	**60.19**	**341**	*e*P	**P**	**23 21 55.3**	**-0.1**
1.1nm,0.7s,mb4.0							
TXAR	**Lajitas Array**	**144.69**	**37**	PKP	PKPdf	23 31 25.2	+2.8
0.9nm,0.6s,baz=276,slow=1.8,SNR=11							
MIAR	**Mount Ida**	**145.06**	**19**	*e*PKP	PKPdf	23 31 25.4	+2.5
TZTN	**Tazewell**	**145.17**	**4**	*e*PKP	PKPdf	23 31 25.2	+2.2
JCT	**Junction City**	**145.96**	**31**	*e*PKP	PKPdf	23 31 28.5	+4.0
JCT				*e*		23 31 33.9	
CPCT	**Cooper Cave**	**146.17**	**6**	*e*PKP	PKPdf	23 31 27.3	+2.5

IDC 10 23:12:43.5±2.6, 1.84S×99.33E, mb3.7/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, Error ellipse: s-maj=104.9km s-min=25.4km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.17**	**359**	P	P	23 17 19.8	-2.8
0.6nm,0.5s,baz=180,slow=9.6,SNR=2.5							
WRA	**Warramunga Arr**	**38.65**	**120**	P	P	23 20 08.9	-1.8
1.0nm,0.6s,baz=302,slow=9.2,SNR=3.8							
SONM	**Songino Array**	**49.85**	**6**	P	P	23 21 38.3	-2.2
0.7nm,0.7s,baz=183,slow=8.3,SNR=4.6							
MKAR	**Makanchi Array**	**50.70**	**345**	P	P	23 21 45.3	-1.7
1.2nm,0.7s,baz=153,slow=8.1,SNR=5.9							
ZAL	**Zalesovo**	**56.88**	**350**	P	P	23 22 30.4	-2.1
1.3nm,0.5s,baz=312,slow=3.5,SNR=4.6							
BVAR	**Borovoye Array**	**59.81**	**340**	P	P	23 22 49.6	-3.4
0.7nm,0.7s,baz=166,slow=6.1,SNR=4.4							
TXAR	**Lajitas Array**	**144.98**	**36**	PKP	PKPdf	23 32 23.8	-1.5
0.8nm,0.6s,baz=198,slow=1.2,SNR=5.4							

IDC 10 23:15:05.3±4.5, 1.79S×99.53E, mb3.7/3, mb1 3.9/3, mb1mx3.4/17, mbtmp3.7/3, Error ellipse: s-maj=167.2km s-min=87.9km az=70.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**49.78**	**6**	P	P	23 23 59.7	-2.0
0.1nm,0.4s,baz=197,slow=5.3,SNR=2.3							
MKAR	**Makanchi Array**	**50.70**	**345**	P	P	23 24 06.6	-2.1
0.7nm,0.6s,baz=153,slow=7.5,SNR=5.0							
ZAL	**Zalesovo**	**56.87**	**350**	P	P	23 24 51.6	-2.5
1.2nm,0.4s,baz=345,slow=6.3,SNR=5.6							
TXAR	**Lajitas Array**	**144.82**	**37**	PKP	PKPdf	23 34 44.6	-2.2
0.3nm,0.4s,baz=299,slow=1.5,SNR=3.8							

IDC 10 23:19:30.6±2.9, 6.83N×93.40E, mb3.6/2, mb1 3.9/3, mb1mx3.4/20, mbtmp3.6/3, ML3.6/1, MS4.1/1, Ms1 4.1/1, ms1mx3.0/34, Error ellipse: s-maj=93.8km s-min=30.7km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.76**	**25**	Pn	P	23 22 33.4	-2.9
0.1nm,0.3s,baz=230,slow=13,SNR=13							
MKAR	**Makanchi Array**	**40.94**	**348**	P	P	23 27 14.9	-1.7
0.7nm,0.7s,baz=170,slow=7.4,SNR=6.7							
WRA	**Warramunga Arr**	**48.27**	**124**	P	P	23 28 13.8	-2.0
0.5nm,0.5s,baz=303,slow=8.7,SNR=8.9							
ATD	**Arta Tunnel**	**50.07**	**279**	LR	LR	23 44 24.9	
comp=Z,220nm,20.7s,baz=328,slow=30							

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*IDC **10** 23:27:30.1±1.1, 1.47S×99.86E, mb4.0/10, mb1 4.1/11, mb1mx3.9/18, mbtmp3.9/11, ML4.1/1, Error ellipse: s-maj=55.5km s-min=16.6km az=53.0*
*NEIC **10** 23:27:34.5±0.6, 1.52S×99.83E, h30km, mb4.4/5, Error ellipse: s-maj=24.0km s-min=9.0km az=61.0*

ISC 10 23:27:33.3±0.8, 1.4S±0.1×99.9E±0.2, h33km, n21, σ1º02/17, mb4.2/15, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.73**	**7**	*e*P	**P**	**23 29 14.3**	**+2.0**
CMAR	**Chiang Mai Arr**	**19.80**	**357**	P	**P**	**23 32 02.2**	**-1.7**
0.2nm,0.3s,baz=189,slow=10,SNR=10							
LSA	**Lhasa**	**32.07**	**346**	*e*P	**P**	**23 34 01.1**	**+1.5**
4.0nm,0.6s,mb4.4							
ENH	**Enshi**	**32.84**	**15**	P	**P**	**23 34 04.8**	**-1.5**
3.1nm,0.5s,mb4.5							
WRA	**Warramunga Arr**	**38.37**	**121**	P	**P**	**23 34 53.6**	**+0.3**
0.6nm,0.4s,mb3.7,baz=303,slow=9.1,SNR=7.5							
WRAB	**Tennant Creek**	**38.38**	**121**	*e*P	**P**	**23 34 53.5**	**+0.1**
3.5nm,0.5s,mb4.3							
ASAR	**Alice Springs**	**39.67**	**127**	P	**P**	**23 35 03.8**	**-0.3**
0.8nm,0.6s,mb3.6,baz=304,slow=7.5,SNR=9.6							
SONM	**Songino Array**	**49.41**	**6**	P	**P**	**23 36 22.8**	**+0.8**
0.6nm,0.4s,mb4.0,baz=190,slow=9.7,SNR=11							
STKA	**Stephens Creek**	**49.60**	**132**	P	**P**	**23 36 23.8**	**+0.1**
0.6nm,0.4s,mb4.0,baz=312,slow=17,SNR=3.2							
MKAR	**Makanchi Array**	**50.47**	**344**	P	**P**	**23 36 29.9**	**-0.2**
2.0nm,0.6s,mb4.3,baz=155,slow=8.8,SNR=16							
KURK	**Kurchatov**	**55.05**	**344**	P	**P**	**23 37 04.1**	**0.0**
2.7nm,0.8s,mb4.3							
ZAL	**Zalesovo**	**56.60**	**349**	P	**P**	**23 37 15.0**	**-0.2**
2.4nm,0.5s,mb4.5,baz=309,slow=2.0,SNR=7.9							
BVAR	**Borovoye Array**	**59.62**	**340**	P	**P**	**23 37 35.0**	**-1.5**
0.9nm,0.5s,mb4.1,baz=134,slow=8.8,SNR=8.0							
CHKZ	**Chkalovo**	**60.09**	**340**	*e*P	**P**	**23 37 38.2**	**-1.4**
2.1nm,0.6s,mb4.3							
BRTR	**Keskin Array B**	**72.86**	**312**	P	**P**	**23 39 02.5**	**+1.4**
0.2nm,0.4s,mb3.4,baz=170,slow=7.5,SNR=2.4							
FINES	**FINESS Array B**	**83.57**	**332**	P	**P**	**23 39 59.2**	**0.0**
1.0nm,0.7s,mb4.1,baz=117,slow=6.2,SNR=6.5							
ARCES	**ARCESS Array B**	**85.91**	**340**	P	**P**	**23 40 11.2**	**+0.4**
5.4nm,1.0s,mb4.7,baz=79,slow=6.2,SNR=5.0							
TXAR	**Lajitas Array**	**144.33**	**37**	PKP	PKPdf	23 47 08.1	+1.3
1.0nm,0.5s,baz=273,slow=0.4,SNR=16							
TZTN	**Tazewell**	**144.93**	**5**	*e*PKP	PKPdf	23 47 08.1	+0.5
JCT	**Junction City**	**145.61**	**31**	*e*PKP	PKPdf	23 47 11.3	+2.4
CPCT	**Cooper Cave**	**145.92**	**6**	*e*PKP	PKPdf	23 47 11.5	+2.2

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*IDC **10** 23:28:15.1±1.8, 1.63S×99.72E, mb4.3/9, mb1 4.4/10, mb1mx4.1/19, mbtmp4.2/10, ML4.0/1, Error ellipse: s-maj=86.3km s-min=15.4km az=56.0*
*NEIC **10** 23:28:20.0±1.2, 1.55S×99.92E, h30km, mb4.6/2, Error ellipse: s-maj=60.3km s-min=11.7km az=56.0*
ISC 10 23:28:20.2±1.5, 1.3S±0.3×100.3E±0.4, h33km, n15, σ1º00/12, mb4.3/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.67**	**356**	P	**P**	**23 32 48.7**	**-0.6**
0.2nm,0.3s,baz=186,slow=10,SNR=3.2							
FITZ	**Fitzroy Crossi**	**29.98**	**125**	P	**P**	**23 34 27.6**	**-0.4**
8.7nm,0.7s,mb4.6,baz=316,slow=3.8,SNR=6.0							
WRA	**Warramunga Arr**	**38.11**	**121**	P	**P**	**23 35 38.2**	**+0.2**
3.8nm,0.4s,mb4.5,baz=302,slow=9.2,SNR=16							
WRAB	**Tennant Creek**	**38.11**	**121**	*e*P	**P**	**23 35 37.6**	**-0.4**
8.0nm,0.6s,mb4.6							
ASAR	**Alice Springs**	**39.44**	**127**	P	**P**	**23 35 49.5**	**+0.4**
2.0nm,0.5s,mb4.2,baz=302,slow=7.9,SNR=10							
SONM	**Songino Array**	**49.21**	**5**	P	**P**	**23 37 09.0**	**+1.7**
0.4nm,0.3s,mb3.9,baz=197,slow=7.2,SNR=3.2							
STKA	**Stephens Creek**	**49.41**	**132**	P	**P**	**23 37 08.8**	**-0.2**
3.0nm,0.7s,mb4.5,baz=310,slow=7.3,SNR=6.3							
MKAR	**Makanchi Array**	**50.43**	**344**	P	**P**	**23 37 15.7**	**-1.0**
1.4nm,0.4s,mb4.3,baz=153,slow=8.7,SNR=6.9							
ZAL	**Zalesovo**	**56.52**	**349**	P	**P**	**23 38 00.6**	**-0.9**
2.3nm,0.4s,mb4.6,baz=312,slow=4.1,SNR=4.6							
BVAR	**Borovoye Array**	**59.62**	**340**	P	**P**	**23 38 20.0**	**-3.3**
0.4nm,0.4s,mb3.8,baz=141,slow=9.2,SNR=2.3							
CHKZ	**Chkalovo**	**60.08**	**340**	*e*P	**P**	**23 38 27.6**	**+1.2**
2.6nm,0.9s,mb4.3							
ARCES	**ARCESS Array B**	**85.91**	**340**	P	**P**	**23 40 58.7**	**+1.1**
4.9nm,1.1s,mb4.7,baz=106,slow=6.6,SNR=2.7							
TXAR	**Lajitas Array**	**143.96**	**37**	PKP	PKPdf	23 47 53.3	+0.4
1.4nm,0.5s,baz=200,slow=0.7,SNR=12							
MIAR	**Mount Ida**	**144.47**	**20**	*e*PKP	PKPdf	23 47 53.6	-0

BSO3 S **S** **23 43 20.1 -2.5**
JHO Hitachi 0.95 355 P **P** **23 43 11.3 +0.1**
BSO1 Boso 1 1.04 166 P **P** **23 43 13.5 +0.9**
JAG Ashikaga 1.24 308 P **P** **23 43 15.2 -0.1**
JOD2 Odawara 2 1.35 253 P **P** **23 43 16.9 -0.1**
JIM2 Oshima 3 1.39 227 P **P** **23 43 16.7 -0.7**
MJAR Matsushiro Arr 2.18 294 Pn **P** **23 43 29.1 +0.7**
6.4nm,0.3s,baz=101,slow=15,SNR=29
MJAR Sn **S** **23 44 04.1 +10**
3.2nm,0.3s,baz=89,slow=32,SNR=6.2
MJAR LR LR 23 44 27.4
comp=Z,365nm,18.4s,baz=15,slow=39
MAT Matsushiro 2.18 294 P **P** **23 43 29.7 +1.3**
MAT S **S** **23 43 54.2 +0.1**
SONM Songino Array 28.08 306 P **P** **23 48 41.3 -0.3**
0.2nm,0.5s,mb3.0,baz=106,slow=9.6,SNR=3.1
MKAR Makanchi Array 44.35 303 P **P** **23 51 00.3 +0.8**
0.3nm,0.5s,mb3.3,baz=82,slow=10,SNR=4.6
FITZ Fitzroy Crossi 55.34 197 P **P** **23 52 23.2 -0.8**
15nm,1.2s,mb4.9,baz=24,slow=10,SNR=3.1
WRA Warramunga Arr 55.63 187 P **P** **23 52 25.0 -0.9**
0.2nm,0.4s,mb3.5,baz=3.7,slow=7.7,SNR=6.7

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*IDC **10** 23:54:59.6±1.6, 1.70S×99.68E, mb3.8/10, mb1 4.0/10, mb1mx3.8/18, mbtmp3.8/10, Error ellipse: s-maj=77.5km s-min=16.6km az=56.0*
*NEIC **10** 23:55:03.9±0.7, 1.72S×99.66E, h30km, mb4.1/1, Error ellipse: s-maj=27.0km s-min=9.0km az=63.0*
ISC 10 23:55:02.8±1.0, 1.6S±0.1×99.7E±0.2, h33km, n14, σ0 77/12, mb3.9/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.93**	**8**	P	**P**	**23 56 45.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**19.98**	**358**	P	**P**	**23 59 35.0**	**-0.4**
0.7nm,0.4s,baz=180,slow=11,SNR=2.6							
WRA	**Warramunga Arr**	**38.41**	**121**	P	**P**	**00 02 23.0**	**-0.2**
0.7nm,0.6s,mb3.6,baz=302,slow=9.1,SNR=8.3							
ASAR	**Alice Springs**	**39.69**	**126**	P	**P**	**00 02 33.5**	**-0.3**
0.4nm,0.5s,mb3.4,baz=297,slow=8.0,SNR=2.9							
STKA	**Stephens Creek**	**49.59**	**132**	P	**P**	**00 03 53.5**	**+0.3**
1.0nm,0.8s,mb3.9,baz=339,slow=17,SNR=2.6							
SONM	**Songino Array**	**49.60**	**6**	P	**P**	**00 03 53.1**	**+0.1**
0.2nm,0.3s,mb3.6,baz=214,slow=10,SNR=3.0							
MKAR	**Makanchi Array**	**50.60**	**345**	P	**P**	**00 04 00.9**	**+0.3**
1.0nm,0.6s,mb4.0,baz=170,slow=7.4,SNR=9.2							
KURK	**Kurchatov**	**55.18**	**344**	*eP*	**P**	**00 04 33.3**	**-1.3**
1.4nm,0.8s,mb4.0							
ZAL	**Zalesovo**	**56.75**	**350**	P	**P**	**00 04 45.6**	**-0.2**
1.3nm,0.5s,mb4.2,baz=320,slow=9.3,SNR=7.2							
BVAR	**Borovoye Array**	**59.75**	**340**	P	**P**	**00 05 05.5**	**-1.3**
0.3nm,0.5s,mb3.6,baz=146,slow=9.0,SNR=4.8							
FINES	**FINESS Array B**	**83.66**	**332**	P	**P**	**00 07 30.3**	**+1.1**
0.6nm,0.6s,mb3.9,baz=104,slow=7.9,SNR=4.7							
ARCES	**ARCESS Array B**	**86.04**	**340**	P	**P**	**00 07 42.3**	**+1.4**
4.1nm,1.0s,mb4.6,baz=6.3,slow=11,SNR=2.8							
TXAR	**Lajitas Array**	**144.57**	**37**	PKP	PKPdf	00 14 38.0	+1.4
0.3nm,0.4s,baz=115,slow=0.6,SNR=6.0							
MIAR	**Mount Ida**	**144.98**	**19**	*e*PKP	PKPdf	00 14 38.1	+0.8
MIAR				*e*		00 14 45.2	

IDC 10 23:59:36.7±3.5, 3.23S×97.55E, mb3.8/3, mb1 4.1/3, mb1mx3.5/17, mbtmp3.9/3, Error ellipse: s-maj=151.8km s-min=64.3km az=73.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.60**	**4**	P	P	00 04 28.9	-1.5
0.6nm,0.4s,baz=176,slow=12,SNR=2.5							
MKAR	**Makanchi Array**	**51.60**	**347**	P	P	00 08 45.0	-1.9
0.6nm,0.6s,baz=141,slow=7.8,SNR=6.7							
ZAL	**Zalesovo**	**57.95**	**351**	P	P	00 09 29.9	-3.3
1.5nm,0.4s,baz=337,slow=6.7,SNR=6.1							
TXAR	**Lajitas Array**	**147.15**	**36**	PKPbc	PKPdf	00 19 22.1	0.0
0.3nm,0.4s,baz=232,slow=0.6,SNR=5.6							

IDC 11 00:04:53.1±50.0, 17.09S×179.48W, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, Error ellipse: s-maj=902.3km s-min=154.7km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.14**	**240**	P	P	00 12 14.4	-1.6
0.5nm,0.3s,baz=94,slow=14,SNR=3.3							
WRA	**Warramunga Arr**	**43.78**	**259**	P	P	00 13 01.1	-1.5
0.8nm,0.5s,baz=94,slow=7.4,SNR=13							
ASAR	**Alice Springs**	**44.04**	**253**	P	P	00 13 02.5	-2.1
3.5nm,0.6s,baz=87,slow=8.9,SNR=28							

IDC 11 00:07:37.3±3.7, 1.50S×100.05E, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=163.9km s-min=22.2km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.20**	**121**	P	P	00 14 58.7	-2.1
0.5nm,0.6s,baz=296,slow=9.5,SNR=6.1							
ASAR	**Alice Springs**	**39.51**	**127**	P	P	00 15 10.6	-1.1
0.6nm,0.5s,baz=308,slow=8.1,SNR=6.2							
SONM	**Songino Array**	**49.44**	**6**	P	P	00 16 29.1	-2.1
0.3nm,0.6s,baz=187,slow=8.1,SNR=4.4							
MKAR	**Makanchi Array**	**50.56**	**344**	P	P	00 16 37.5	-2.2
0.8nm,0.6s,baz=135,slow=6.1,SNR=8.9							
ZAL	**Zalesovo**	**56.68**	**349**	P	P	00 17 22.8	-2.1
1.1nm,0.4s,baz=321,slow=6.7,SNR=5.0							
TXAR	**Lajitas Array**	**144.28**	**37**	PKP	PKPdf	00 27 14.6	-3.3
0.2nm,0.4s,baz=315,slow=1.8,SNR=3.5							

IDC 11 00:10:18.6±94.0, 46.49S×96.60E, mb3.9/3, mb1 4.1/3, mb1mx3.9/13, mbtmp3.9/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/26, Error ellipse: s-maj=1646.0km s-min=152.6km az=70.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**20.79**	**57**	LR	LR	00 21 26.4	
comp=Z,153nm,21.4s,baz=100,slow=32							
STKA	**Stephens Creek**	**37.29**	**83**	P	P	00 17 32.2	-1.8
0.6nm,0.3s,baz=233,slow=14,SNR=4.1							
ASAR	**Alice Springs**	**37.59**	**66**	P	P	00 17 34.8	-1.8
1.0nm,0.8s,baz=217,slow=8.5,SNR=7.5							
WRA	**Warramunga Arr**	**40.62**	**62**	P	P	00 18 00.1	-1.7
2.9nm,0.9s,baz=222,slow=8.1,SNR=15							

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*BJI **11** 00:14:35.2, 2.58S×99.66E, h30km, mB5.0, mb4.7, Ms4.5, Msz4.1*
*IDC **11** 00:14:38.1±0.6, 1.72S×99.59E, mb4.3/15, mb1 4.4/15, mb1mx4.3/20, mbtmp4.3/15, MS3.8/1, Ms1 3.8/1, ms1mx3.1/29, Error ellipse: s-maj=24.1km s-min=13.5km az=51.0*
*NEIC **11** 00:14:42.5±0.4, 1.65S×99.64E, h30km, mb4.6/8, Error ellipse: s-maj=17.4km s-min=9.4km az=61.0*
ISC 11 00:14:41.3±0.4, 1.68S±0.07×99.64E±0.09, h33km, (h27km±7.9km:pP-P), n44, σ1 8.24/40, mb4.5/26, MS4.1/3, 3C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.00**	**8**	*eP*	**P**	**00 16 23.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**20.02**	**358**	P	**P**	**00 19 08.4**	**-5.9**
2.4nm,0.4s,baz=194,slow=11,SNR=10							
FITZ	**Fitzroy Crossi**	**30.29**	**124**	P	**P**	**00 20 50.9**	**-1.0**
4.6nm,0.7s,mb4.3,baz=303,slow=2.5,SNR=8.1							
JIRN	**Jiri**	**31.91**	**337**	*eP*	**P**	**00 21 03.0**	**-3.2**
26nm,0.9s,mb5.1							
LSA	**Lhasa**	**32.24**	**346**	P	**P**	**00 21 07.2**	**-1.8**
6.1nm,0.5s,mb4.7							
DMN	**Daman**	**32.30**	**335**	*eP*	**P**	**00 21 07.3**	**-2.3**
KKN	**Kakani**	**32.39**	**336**	*eP*	**P**	**00 21 06.9**	**-3.5**
12nm,0.7s,mb4.8							
GKN	**Gorkha**	**32.84**	**335**	*eP*	**P**	**00 21 10.7**	**-3.6**
20nm,0.8s,mb5.1							
KOLN	**Koldanda**	**33.09**	**333**	*eP*	**P**	**00 21 12.9**	**-3.6**
10nm,0.7s,mb4.9							
WRA	**Warramunga Arr**	**38.47**	**121**	P	**P**	**00 22 01.6**	**-0.5**
3.3nm,0.6s,mb4.3,baz=302,slow=9.2,SNR=32							
WRAB	**Tennant Creek**	**38.47**	**121**	*eP*	**P**	**00 22 01.2**	**-1.0**
6.5nm,0.6s,mb4.5							
ASAR	**Alice Springs**	**39.73**	**126**	P	**P**	**00 22 12.7**	**0.0**
1.5nm,0.6s,mb3.9,baz=299,slow=7.7,SNR=24							
ASAR				PcP	PcP	00 24 19.8	+0.4
1.1nm,0.8s,baz=314,slow=3.1,SNR=5.8							
ASAR				S	**S**	**00 28 14.5**	**+0.5**
0.7nm,1.0s,baz=295,slow=14,SNR=4.2							
GTA	**Gaotai**	**40.89**	**0**	*eP*	**P**	**00 22 25.8**	**+3.7**
GTA				AP	pP	00 22 29.9	-2.0
GTA				XP	sP	00 22 32.6	-3.5
GTA				AMB	AMB		
comp=Z,4.0nm,0.6s,mb4.2							
HHC	**Hu-ho-hao-te**	**43.70**	**13**	*eP*	**P**	**00 22 46.4**	**+1.3**
HHC				AP	pP	00 22 56.3	+1.3
HHC				XP	sP	00 23 00.8	+1.7
HHC				PP	PP	00 24 31.1	+2.6
HHC				SCP		00 28 20.8	
HHC				PCS		00 28 26.1	
HHC				S	**S**	**00 29 15.0**	**+2.5**
HHC				XS		00 29 31.7	
HHC				SCS	ScS	00 32 39.7	+0.3
HHC				AMB	AMB		
comp=Z,8.0nm,1.1s,mb4.4							
HHC				AMB	AMB		
comp=Z,98nm,9.2s							
HHC				LR	LR		
comp=N,195nm,12.9s,MS4.3							
HHC				LR	LR		
comp=E,136nm,13.3s,MS4.3							
HHC				LR	LR		
comp=Z,159nm,12.9s,MS4.1							
WMQ	**Urumqi**	**46.55**	**348**	P	**P**	**00 23 09.6**	**+1.9**
WMQ				AP	pP	00 23 19.6	+2.0
WMQ				XP	sP	00 23 23.6	+1.9
WMQ				PCP	PcP	00 24 43.7	+1.6
WMQ				PP	PP	00 24 58.8	+1.9
WMQ				S	**S**	**00 29 55.2**	**+2.0**
WMQ				XS		00 30 12.1	
WMQ				AMB	AMB		
comp=Z,8.0nm,0.6s,mb4.8							
WMQ				AMB	AMB		
comp=Z,97nm,3.5s							
WMQ				LR	LR		
comp=N,287nm,19.4s,MS4.3							
WMQ				LR	LR		
comp=E,194nm,20.5s,MS4.3							
WMQ				LR	LR		
comp=Z,276nm,22.1s,MS4.2							
STKA	**Stephens Creek**	**49.63**	**132**	P	**P**	**00 23 32.1**	**+0.2**
comp=Z,3.5nm,0.7s,mb4.5,baz=312,slow=8.3,SNR=13							
STKA	**Stephens Creek**	**49.63**	**132**	*eP*	**P**	**00 23 31.7**	**-0.2**
SONM	**Songino Array**	**49.66**	**6**	P	**P**	**00 23 32.3**	**+0.4**
comp=Z,1.1nm,0.4s,mb4.3,baz=188,slow=9.2,SNR=18							
SONM				LR	LR	00 47 57.3	
comp=Z,93nm,19.3s,MS3.8,baz=123,slow=40							
ULN	**Ulaanbaatar**	**49.77**	**7**	*eP*	**P**	**00 23 32.9**	**+0.2**
comp=Z,1.6nm,0.6s,mb4.2							
MKAR	**Makanchi Array**	**50.62**	**345**	P	**P**	**00 23 39.6**	**+0.4**
comp=Z,3.2nm,0.4s,mb4.6,baz=156,slow=8.7,SNR=62							
KURK	**Kurchatov**	**55.20**	**344**	*eP*	**P**	**00 24 13.3**	**+0.1**
comp=Z,3.7nm,0.6s,mb4.6							
ZAL	**Zalesovo**	**56.78**	**350**	P	**P**	**00 24 24.9**	**+0.4**
comp=Z,4.8nm,0.4s,mb4.8,baz=305,slow=7.5,SNR=15							
BVAR	**Borovoye Array**	**59.76**	**340**	P	**P**	**00 24 44.4**	**-1.0**
comp=Z,2.4nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=9.7							
KMBO	**Kilima Mbogo**	**62.37**	**270**	P	**P**	**00 25 04.0**	**+0.5**
comp=Z,0.9nm,0.4s,mb4.2,baz=54,slow=17,SNR=4.8							
MAW	**Mawson**	**70.50**	**194**	P	**P**	**00 25 55.3**	**+0.9**
comp=Z,3.0nm,0.9s,mb4.2,baz=350,slow=8.0,SNR=3.7							
MATP	**Matopo**	**71.75**	**249**	P	**P**	**00 26 02.3**	**-0.3**
comp=Z,4.6nm,0.7s,mb4.5,baz=92,slow=5.8,SNR=14							
BRTR	**Keskin Array B**	**72.84**	**312**	P	**P**	**00 26 07.2**	**-1.7**
comp=Z,0.5nm,0.6s,mb3.6,baz=131,slow=6.5,SNR=4.7							
SYO	**Syowa Base**	**78.05**	**199**	⇑P	**P**	**00 26 39.0**	**+1.0**
VRI	**Vrincioaia**	**79.37**	**317**	⇓P	**P**	**00 26 36.7**	**-9.0**
VRI	**Vrincioaia**	**79.37**	**317**	⇓P	**P**	**00 26 36.7**	**-9.0**
MLR	**Muntele Rosu**	**79.82**	**317**	P	**P**	**00 26 48.3**	**+0.1**
comp=Z,1.7nm,0.7s,mb4.1,baz=98,slow=4.3,SNR=6.4							
MLR	**Muntele Rosu**	**79.82**	**317**	⇑P	**P**	**00 26 48.4**	**+0.3**
MLR	**Muntele Rosu**	**79.82**	**317**	⇑P	**P**	**00 26 48.4**	**+0.3**
BURAR	**Bucovina Array**	**80.78**	**319**	⇓P	**P**	**00 26 54.7**	**+1.5**
BURAR	**Bucovina Array**	**80.78**	**319**	⇓P	**P**	**00 26 54.7**	**+1.5**
FINES	**FINESS Array B**	**83.66**	**332**	P	**P**	**00 27 08.3**	**+0.6**
comp=Z,0.8nm,0.5s,mb4.1,baz=135,slow=2.0,SNR=7.5							
ARCES	**ARCESS Array B**	**86.05**	**340**	P	**P**	**00 27 20.8**	**+1.4**
comp=Z,3.4nm,0.9s,mb4.6,baz=90,slow=6.1,SNR=6.3							
TXAR	**Lajitas Array**	**144.67**	**37**	PKP	PKPdf	00 34 17.2	+1.9
comp=Z,2.2nm,0.5s,baz=238,slow=1.0,SNR=27							
CFAA	**Coronel Fontan**	**144.95**	**198**	PKP	PKPdf	00 34 17.3	+1.5
comp=Z,1.4nm,0.6s,baz=160,slow=3.0,SNR=27							
CFAA	**Coronel Fontan**	**144.95**	**198**	PKP	PKPdf	00 34 17.3	+1.5
WVT	**Waverly**	**145.03**	**11**	*e*PKP	PKPdf	00 34 16.5	+0.8
MIAR	**Mount Ida**	**145.06**	**19**	*e*PKP	PKPdf	00 34 16.3	+0.4
JCT	**Junction City**	**145.94**	**31**	*e*PKP	PKPdf	00 34 20.3	+2.9
CPCT	**Cooper Cave**	**146.18**	**6**	*e*PKP	PKPdf	00 34 20.1	+2.4

IDC 11 00:24:35.0±7.4, 0.95S×100.85E, mb3.7/3, mb1 3.9/3, mb1mx3.4/17, mbtmp3.7/3, Error ellipse: s-maj=368.8km s-min=29.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.81**	**122**	P	P	00 31 53.5	-1.6
0.5nm,0.5s,baz=302,slow=9.1,SNR=5.4							
MKAR	**Makanchi Array**	**50.27**	**343**	P	P	00 33 33.1	-2.0
0.3nm,0.4s,baz=143,slow=7.9,SNR=6.6							
ZAL	**Zalesovo**	**56.30**	**349**	P	P	00 34 17.4	-2.4
0.8nm,0.4s,baz=315,slow=11,SNR=3.5							
TXAR	**Lajitas Array**	**143.36**	**37**	PKP	PKPdf	00 44 10.0	-3.9
0.3nm,0.5s,baz=278,slow=0.8,SNR=5.1							

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*IDC **11** 00:27:30.3±0.5, 1.55S×99.56E, mb4.2/14, mb1 4.3/15, mb1mx4.2/20, mbtmp4.2/15, ML4.6/1, Error ellipse: s-maj=24.3km s-min=13.6km az=52.0*
*BJI **11** 00:27:34.8, 1.60S×99.60E, h30km, mB4.9, mb4.6, Ms4.1, Msz3.7*
*NEIC **11** 00:27:34.8±0.3, 1.58S×99.60E, h30km, mb4.4/5, Error ellipse: s-maj=11.2km s-min=6.4km az=58.0*
ISC 11 00:27:29.9±2.6, 1.59S±0.07×99.6E±0.1, h8km±16km, n39, σ0 79/35, mb4.3/21, MS3.8/2, 2C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.92**	**9**	*eP*	**Pn**	**00 29 15.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**19.93**	**358**	P	**P**	**00 32 04.2**	**-0.9**
0.8nm,0.3s,baz=188,slow=10,SNR=8.8							
KMI	**Kunming**	**26.73**	**6**	P	**P**	**00 33 16.2**	**+4.4**
KMI				AMB	AMB		
comp=Z,7.0nm,0.7s,mb4.3							
KMI	**Kunming**	**26.73**	**6**	P	**P**	**00 33 16.2**	**+4.4**
comp=Z,7.0nm,0.7s,mb4.3							
FITZ	**Fitzroy Crossi**	**30.39**	**124**	P	**P**	**00 33 44.1**	**-0.8**
comp=Z,5.8nm,0.8s,mb4.4,baz=346,slow=7.8,SNR=6.0							
WRA	**Warramunga Arr**	**38.56**	**121**	P	**P**	**00 34 54.2**	**-0.9**
comp=Z,4.3nm,0.5s,mb4.4,baz=303,slow=9.1,SNR=50							
WRA				PcP	PcP	00 37 09.2	+1.0
comp=Z,0.4nm,0.5s,baz=317,slow=2.4,SNR=4.8							
WRA	**Warramunga Arr**	**38.56**	**121**	P	**P**	**00 34 54.1**	**-0.9**
WRA				PcP	PcP	00 37 09.2	+1.0
WRAB	**Tennant Creek**	**38.57**	**121**	*eP*	**P**	**00 34 54.5**	**-0.6**
comp=Z,7.7nm,0.6s,mb4.6							
ASAR	**Alice Springs**	**39.83**	**126**	P	**P**	**00 35 06.2**	**+0.6**
comp=Z,2.5nm,0.5s,mb4.2,baz=301,slow=8.0,SNR=33							
ASAR				PcP	PcP	00 37 12.4	+0.2
comp=Z,0.4nm,0.6s,baz=314,slow=2.5,SNR=3.4							
HHC	**Hu-ho-hao-te**	**43.63**	**13**	*eP*	**P**	**00 35 37.6**	**+1.0**
HHC				AP	pP	00 35 48.4	+9.3
HHC				XP	sP	00 35 51.2	+11
HHC				PP	PP	00 37 17.6	-2.5
HHC				PCP	PcP	00 37 24.4	-0.2
HHC				SCP		00 41 12.3	
HHC				PCS		00 41 16.6	
HHC				S	**S**	**00 42 06.4**	**+0.6**
HHC				XS		00 42 23.4	
HHC				SS	SS	00 45 16.1	+2.7
HHC				SCS	ScS	00 45 31.8	-2.4
HHC				AMB	AMB		
comp=Z,7.0nm,1.2s,mb4.3							
HHC				AMB	AMB		
comp=Z,137nm,5.9s							
HHC				LR	LR		
comp=N,161nm,13.5s,MS4.2							
HHC				LR	LR		
comp=E,116nm,15.5s,MS4.2							
HHC				LR	LR		
comp=Z,89nm,13.7s,MS3.8							
WMQ	**Urumqi**	**46.45**	**348**	P	**P**	**00 36 00.4**	**+1.4**
WMQ				AP	pP	00 36 10.4	+8.8
WMQ				XP	sP	00 36 14.4	+12
WMQ				PCP	PcP	00 37 34.5	+0.3
WMQ				PP	PP	00 37 49.6	+1.4
WMQ				S	**S**	**00 42 46.0**	**-0.4**
WMQ				XS		00 43 02.9	
WMQ				AMB	AMB		
comp=Z,4.0nm,0.4s,mb4.7							
WMQ				AMB	AMB		
comp=Z,76nm,4.3s							
WMQ				LR	LR		
comp=N,78nm,19.2s,MS3.8							
WMQ				LR	LR		
comp=E,83nm,20.6s,MS3.8							
WMQ				LR	LR		
comp=Z,65nm,22.0s,MS3.5							
SONM	**Songino Array**	**49.58**	**6**	P	**P**	**00 36 23.3**	**-0.2**
comp=Z,0.9nm,0.5s,mb4.0,baz=188,slow=10,SNR=8.6							
SONM				PcP	PcP	00 37 44.6	-0.8
comp=Z,0.5nm,0.4s,baz=192,slow=4.4,SNR=5.5							
STKA	**Stephens Creek**	**49.73**	**132**	P	**P**	**00 36 25.5**	**+0.6**
comp=Z,2.5nm,0.7s,mb4.4,baz=300,slow=9.1,SNR=7.3							
MKAR	**Makanchi Array**	**50.52**	**345**	P	**P**	**00 36 30.3**	**-0.3**
comp=Z,1.6nm,0.3s,mb4.4,baz=155,slow=8.2,SNR=26							
KURK	**Kurchatov**	**55.10**	**344**	P	**P**	**00 37 03.2**	**-1.5**
comp=Z,2.9nm,0.7s,mb4.4							
ZAL	**Zalesovo**	**56.68**	**350**	P	**P**	**00 37 15.4**	**-0.7**
comp=Z,2.4nm,0.4s,mb4.6,baz=306,slow=3.8,SNR=11							
KMBO	**Kilima Mbogo**	**62.31**	**270**	P	**P**	**00 37 56.1**	**+0.7**
comp=Z,2.1nm,0.8s,mb4.3,baz=52,slow=8.7,SNR=7.0							
MALT	**Malatya**	**68.75**	**312**	*eP*	**P**	**00 38 36.1**	**-0.5**
comp=Z,2.8nm,1.0s,mb4.2							
MALT				*e*		00 38 42.9	
MATP	**Matopo**	**71.73**	**249**	P	**P**	**00 38 55.0**	**+0.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=68,slow=6.0,SNR=9.3							
BRTR	**Keskin Array B**	**72.74**	**312**	P	**P**	**00 38 59.0**	**-1.7**
comp=Z,0.8nm,0.6s,mb3.8,baz=127,slow=6.5,SNR=8.1							
VRI	**Vrincioaia**	**79.27**	**317**	⇓P	**P**	**00 39 37.5**	**+0.1**
VRI	**Vrincioaia**	**79.27**	**317**	⇓P	**P**	**00 39 37.5**	**0.0**
MLR	**Muntele Rosu**	**79.72**	**317**	⇑P	**P**	**00 39 40.2**	**+0.4**
MLR	**Muntele Rosu**	**79.72**	**317**	⇑P	**P**	**00 39 40.2**	**+0.3**
BURAR	**Bucovina Array**	**80.68**	**319**	⇓P	**P**	**00 39 46.0**	**+1.0**
BURAR	**Bucovina Array**	**80.68**	**319**	⇓P	**P**	**00 39 46.0**	**+1.0**
JOF	**Joensuu**	**81.67**	**335**	*ep*	**P**	**00 40 04.0**	**+14**
VNDA	**Vanda**	**82.64**	**169**	P	**P**	**00 39 55.9**	**+1.2**
comp=Z,0.4nm,0.5s,mb3.7,baz=292,slow=5.4,SNR=3.7							
FINES	**FINESS Array B**	**83.56**	**332**	P	**P**	**00 39 59.4**	**-0.2**
comp=Z,0.8nm,0.4s,mb4.2,baz=107,slow=6.7,SNR=13							
FINES	**FINESS Array B**	**83.56**	**332**	P	**P**	**00 39 59.4**	**-0.2**
KAF	**Kangasniemi**	**83.63**	**333**	*ep*	**P**	**00 39 59.6**	**-0.3**
comp=Z,1.2nm,0.4s,mb4.4,baz=110,slow=4.7							
ARCES	**ARCESS Array B**	**85.95**	**340**	P	**P**	**00 40 11.6**	**+0.2**
comp=Z,4.9nm,1.1s,mb4.7,baz=96,slow=5.5,SNR=5.4							
GERES	**GERESS Array B**	**88.47**	**319**	P	**P**	**00 40 24.2**	**+0.1**
comp=Z,0.4nm,0.6s,mb3.8,baz=90,slow=2.7,SNR=4.3							
TXAR	**Lajitas Array**	**144.63**	**37**	PKP	PKPdf	00 47 09.0	-1.6
comp=Z,1.3nm,0.4s,baz=266,slow=0.4,SNR=30							
TXAR	**Lajitas Array**	**144.63**	**37**	PKP	PKPdf	00 47 09.0	-1.6
MIAR	**Mount Ida**	**144.99**	**19**	*e*PKP	PKPdf	00 47 08.9	-2.2
MIAR				*e*		00 47 16.9	
JCT	**Junction City**	**145.89**	**31**	*e*PKP	PKPdf	00 47 12.4	-0.3
JCT				*e*		00 47 20.2	
CPCT	**Cooper Cave**	**146.09**	**6**	*e*PKP	PKPdf	00 47 11.8	-1.1
SIV	**San Ignacio**	**154.11**	**227**	PKPbc	PKPdf	00 47 32.6	+6.9
comp=Z,0.7nm,0.9s,baz=85,slow=4.4,SNR=5.0							

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*IDC **11** 00:39:10.7±0.6, 1.76S×99.80E, mb4.2/17, mb1 4.4/17, mb1mx4.3/23, mbtmp4.3/17, Error ellipse: s-maj=31.2km s-min=13.9km az=51.0*
*NEIC **11** 00:39:15.4±0.3, 1.71S×99.92E, h30km, mb4.5/13, Error ellipse: s-maj=13.2km s-min=6.1km az=55.0*
ISC 11 00:39:14.3±0.5, 1.64S±0.09×100.0E±0.1, h33km, n42, σ0 88/37, mb4.5/28, 1C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**19.99**	**357**	*eP*	**P**	**00 43 47.1**	**+0.1**
3.7nm,0.4s							
CMAR	**Chiang Mai Arr**	**19.99**	**357**	P	**P**	**00 43 44.8**	**-2.1**
3.3nm,0.6s,baz=186,slow=10,SNR=14							
FITZ	**Fitzroy Crossi**	**30.02**	**125**	P	**P**	**00 45 21.7**	**-0.8**
4.4nm,0.9s,mb4.2,baz=300,slow=2.0,SNR=3.2							
JIRN	**Jiri**	**32.01**	**336**	*eP*	**P**	**00 45 40.4**	**+0.3**
LSA	**Lhasa**	**32.29**	**345**	*eP*	**P**	**00 45 43.0**	**+0.6**
5.6nm,0.7s,mb4.5							
DMN	**Daman**	**32.41**	**335**	*eP*	**P**	**00 45 43.5**	**-0.1**
13nm,1.1s,mb4.7							
KKN	**Kakani**	**32.50**	**335**	*eP*	**P**	**00

mb1mx3.6/21,**mbtmp3.6**/5,**Error ellipse: s-maj=133.7km s-min=28.7km az=57.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.05**	**16**	Pn	P	00 49 02.3	+5.9
	0.2nm,0.3s,baz=211,slow=11,SNR=10.0						
MKAR	**Makanchi Array**	**43.13**	**347**	P	P	00 53 35.9	-1.6
	0.7nm,0.7s,baz=175,slow=8.2,SNR=6.8						
SONM	**Songino Array**	**43.91**	**11**	P	P	00 53 41.6	-2.1
	0.3nm,0.6s,baz=198,slow=6.7,SNR=3.7						
WRA	**Warramunga Arr**	**45.98**	**124**	P	P	00 53 58.9	-1.8
	1.0nm,0.7s,baz=300,slow=9.4,SNR=4.9						
ZAL	**Zalesovo**		**49.58**	**352** P	P	00 54 26.8	-1.5
	0.9nm,0.3s,baz=313,slow=10,SNR=3.2						
BVAR	**Borovoye Array**	**52.02**	**341**	P	P	00 54 44.2	-2.7
	0.5nm,0.8s,baz=149,slow=8.6,SNR=4.3						

ATH ***11*** *00:46:07.7, 40.67N×22.47E, h36km±2km, MD3.1/4*
NEIC ***11*** *00:46:07.7, 40.67N×22.47E, h36km, MD3.1(ATH), After ATH.*
THE ***11*** *00:46:08.6, 40.68N×22.54E, h10km, ML3.1*
CSEM ***11*** *00:46:08.4±0.1, 40.69N×22.52E, h14km±1km, ML3.1, Error ellipse: s-maj=2.6km s-min=2.4km az=9.0*
ISC 11 00:46:08.3±0.5,**40.68N**±0.03×**22.50E**±0.04,**h22**km±6km, **n20**,σ1§**13**/32,**2C,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRG	**Griva**	**0.28**	**345**	*e*Pg	**Pb**	**00 46 14.3**	**-0.5**
GRG				*e*Sg	**Sb**	**00 46 19.1**	**-0.2**
THE	**Thessaloniki**	**0.36**	**98**	*e*Pg	**Pb**	**00 46 15.0**	**-1.1**
THE	**Thessaloniki**	**0.36**	**98**	*e*Pg	**Pb**	**00 46 15.0**	**-1.1**
THE				*e*Sg	**Sb**	**00 46 19.7**	**-1.7**
KNT	**Kendrikon**	**0.57**	**32**	*e*Pg	**Pb**	**00 46 19.1**	**-0.3**
KNT				*e*Sg	**Sb**	**00 46 26.9**	**-0.2**
KNT	**Kendrikon**	**0.57**	**32**	*e*Pg	**Pb**	**00 46 19.1**	**-0.4**
KNT				*e*Sg	**Sb**	**00 46 26.9**	**-0.2**
LIT	**Litokhoron**	**0.58**	**180**	*e*Pg	**Pb**	**00 46 19.4**	**-0.3**
LIT				*e*Sg	**Sb**	**00 46 28.4**	**+0.9**
VAY	**Valandovo**	**0.64**	**5**⇑	*i*Pg	**Pb**	**00 46 20.3**	**-0.4**
VAY				*i*		00 46 23.2	
VAY				*i* Sg	**Sb**	**00 46 30.5**	**+1.3**
SOH	**Sokhos**	**0.67**	**78**	*e*Pg	**Pb**	**00 46 20.3**	**-0.8**
SOH				*e*Sg	**Sb**	**00 46 30.3**	**+0.4**
KZN	**Kozani**	**0.67**	**236**	*e*PN	**Pn**	**00 46 21.2**	**-1.1**
PLG	**Polygyros**	**0.79**	**113**⇑	*i*PN	**Pn**	**00 46 22.8**	**-1.2**
PLG				*e*SN	**Sn**	**00 46 34.5**	**-0.6**
FNA	**Florina**	**0.86**	**277**	*e*Pg	**Pb**	**00 46 25.1**	**+0.7**
SRS	**Serrai**	**0.94**	**62**	*e*Pg	**Pb**	**00 46 24.8**	**-0.9**
SRS				*e*Sg	**Sb**	**00 46 39.5**	**+1.7**
PAIG	**Paliouri**	**1.18**	**129**	*e*Pg	**Pn**	**00 46 29.7**	**+0.1**
PAIG				*e*Sg	**Sb**	**00 46 46.8**	**+2.0**
OUR	**Ouranopolis**	**1.19**	**107**	*e*Pg	**Pn**	**00 46 30.5**	**+0.8**
OUR				*e*Sg	**Sb**	**00 46 46.9**	**+2.0**
NVR	**Nevrokopi**	**1.23**	**57**	*e*PN	**Pn**	**00 46 30.5**	**+0.1**
NEO	**Neokhori**	**1.48**	**158**	*e*Pn	**Pn**	**00 46 33.7**	**-0.3**
SKO	**Skopje**	**1.51**	**329**	*e*Pn	**Pn**	**00 46 37.5**	**+3.1**
AGG	**Agios Georgios**	**1.67**	**184**	*e*Pb	**Pb**	**00 46 37.1**	**-1.0**
AGG				*e*Sb	**Sb**	**00 47 01.1**	**+2.4**
AOS	**Alonnisos**	**1.85**	**144**	*e*Pb	**Pb**	**00 46 39.2**	**-2.0**
ALN	**Alexandroupoli**	**2.70**	**84**	*e*Pn	**Pn**	**00 46 51.5**	**+0.1**

IDC ***11*** *00:46:49.0±2.1, 1.89S×99.51E, mb3.7/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, Error ellipse: s-maj=102.3km s-min=20.9km az=53.0*
NEIC ***11*** *00:46:53.6±1.6, 1.89S×99.56E, h30km, mb4.0/1, Error ellipse: s-maj=79.4km s-min=15.6km az=53.0*
ISC 11 00:46:52.9±1.9,**1.7S**±0.4×**99.7E**±0.5,**h33**km,**n9**,σ0§**87**/8, **mb3.8**/8,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.40**	**121**	P	**P**	**00 54 11.9**	**-1.3**
	0.8nm,0.6s,mb3.6,baz=300,slow=9.2,SNR=5.1						
ASAR	**Alice Springs**	**39.67**	**126**	P	**P**	**00 54 24.8**	**+1.2**
	0.3nm,0.5s,mb3.2,baz=306,slow=9.0,SNR=5.1						
SONM	**Songino Array**	**49.69**	**6**	P	**P**	**00 55 43.9**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=190,slow=7.9,SNR=3.6						
MKAR	**Makanchi Array**	**50.67**	**345**	P	**P**	**00 55 51.6**	**+0.4**
	1.0nm,0.6s,mb3.9,baz=158,slow=6.5,SNR=11						
KURK	**Kurchatov**	**55.25**	**344**	*e*P	**P**	**00 56 24.9**	**-0.2**
	1.2nm,0.7s,mb4.0						
ZAL	**Zalesovo**	**56.82**	**350**	P	**P**	**00 56 37.1**	**+0.7**
	1.2nm,0.4s,mb4.3,baz=338,slow=4.8,SNR=5.8						
BVAR	**Borovoye Array**	**59.81**	**340**	P	**P**	**00 56 55.8**	**-1.5**
	0.6nm,0.9s,mb3.6,baz=149,slow=8.4,SNR=3.2						
FINES	**FINESS Array B**	**83.72**	**332**	P	**P**	**00 59 20.1**	**+0.5**
	1.1nm,0.8s,mb4.0,baz=315,slow=2.7,SNR=3.5						
TXAR	**Lajitas Array**	**144.66**	**37**	PKP	PKPdf	01 06 27.4	+0.5
	0.1nm,0.4s,baz=333,slow=2.0,SNR=2.8						

BJI ***11*** *00:55:57.8, 7.11S×103.98E, h33km, mB5.1, mb5.1, Ms4.7, Msz4.4*
IDC ***11*** *00:56:01.7±0.4, 6.19S×103.80E, mb4.7/22, mb1 4.8/22, mb1mx4.7/25, mbtmp4.7/22, MS4.3/11, Ms1 4.3/11, ms1mx4.0/28, Error ellipse: s-maj=18.6km s-min=12.3km az=55.0*
CSEM ***11*** *00:56:05.4, 6.05S×103.86E, h33km, mb5.5*
MOS ***11*** *00:56:05.1±1.2, 6.16S×103.82E, h33km, mb5.1/30, Error ellipse: s-maj=9.3km s-min=6.5km az=120.5*
DJA ***11*** *00:56:06.1±21.0, 5.96S×103.83E, h100km, mb6.0/3, MD4.9/1, Error ellipse: s-maj=582.1km s-min=29.0km az=89.0*
HRVD ***11*** *00:56:06.6±0.9, 6.83S×103.73E, h39km±3km, MW4.9/31, Centroid moment Tensor Solution. LP body waves: s17,c23;Mantle waves: s31,c44; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.52±.35; Mθθ-2.41±.20; Mφφ0.88±.34; Mrθ1.69±.21; Mθφ1.48±.13; Mφr-0.47±.42; Best double couple: M0 2.865×10^16 NP1:φs309°, δ28°, λ115°. NP2:φs101°, δ65°, λ77°. Principal axes: T2.153, Plg68°, Azm346°; N 1.418, Plg12°, Azm106°; P -3.577, Plg19°, Azm200°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***11*** *00:56:06.6±0.2, 6.23S×103.79E, mb5.1/37 Error ellipse: s-maj=6.1km s-min=4.0km az=214.0*
ISC 11 00:56:05.7±0.9,**6.19S**±0.04×**103.86E**±0.05,**h40**km±8km, **h39**km±2.7km:**pP-P,n204**,σ1§**04**/177,**mb4.9**/82,**MS4.4**/23, **10C-14D,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**1.45**	**65**⇓	*e*P	**P**	**00 56 31.8**	**+1.9**
PENI	**Pendagan**	**1.45**	**65**	*e*P	**P**	**00 56 31.9**	**+2.0**
PULI	**Pulasari**	**2.11**	**94**⇑	*e*Pn	**P**	**00 56 40.9**	**+1.6**
PULI	**Pulasari**	**2.11**	**94**	*e*P	**P**	**00 56 40.9**	**+1.6**
KSM	**Kuching**	**9.97**	**40**	*e*P	**P**	**00 58 29.4**	**-0.1**
SRDI	**Scrawed**	**10.45**	**103**⇓	*e*P	**P**	**00 58 36.2**	**0.0**
KELI	**Kelakatan**	**10.74**	**101**⇓	*e*P	**P**	**00 58 40.0**	**-0.1**
	431nm,0.3s						
KELI	**Kelakatan**	**10.74**	**101**⇓	*e*P	**P**	**00 58 40.6**	**+0.5**
	431nm,0.3s						
KULM	**Kulim**	**11.84**	**344**	P	**P**	**00 58 53.2**	**-1.8**
RATI	**Rata**	**11.85**	**103**⇓	*e*P	**P**	**00 58 53.0**	**-2.1**
	3μm,0.3s						
KEDI	**Kedomdong**	**12.37**	**101**⇓	*e*P	**P**	**00 58 59.6**	**-2.5**
KEDI				pmax	pmax		
	comp=Z,296nm,0.4s						
KEDI	**Kedomdong**	**12.37**	**101**⇓	*e*P	**P**	**00 58 59.6**	**-2.5**
	comp=Z,296nm,0.4s						
KEDI	**Kedomdong**	**12.37**	**101**⇓	*e*P	**P**	**00 59 00.3**	**-1.8**
	comp=Z,592nm,0.4s						
KKM	**Kota Kinabalu**	**17.32**	**46**	*e*P	**P**	**01 00 08.2**	**+2.0**
MBWA	**Marble Bar**	**21.40**	**136**	*e*P	**P**	**01 00 51.4**	**-0.7**
	comp=Z,12nm,0.7s,mb4.3						
KKTK	**Khon Kaen**	**22.40**	**357**	P	**P**	**01 01 03.0**	**+0.8**
	comp=Z,370nm,0.4s						
FITZ	**Fitzroy Crossi**	**24.33**	**121**	*e*P	**P**	**01 01 21.5**	**+0.4**
	comp=Z,22nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**24.33**	**121**	P	**P**	**01 01 21.6**	**+0.5**
	comp=Z,29nm,0.7s,mb4.8,baz=295,slow=3.9,SNR=28						
SNPH	**Sibulan**	**24.72**	**52**	*e*P	**P**	**01 01 28.5**	**+3.6**
CM31	**Chiang Mai Arr**	**24.96**	**349**	*e*P	**P**	**01 01 26.9**	**-0.3**
	comp=Z,58nm,0.8s,mb5.2						
CMAR	**Chiang Mai Arr**	**24.96**	**349**	P	**P**	**01 01 26.7**	**-0.5**
	comp=Z,51nm,0.7s,mb5.1,baz=181,slow=9.1,SNR=150						
CMAR				PcP	PcP	01 05 03.7	+1.0
	comp=Z,2.5nm,0.7s,baz=200,slow=2.7,SNR=7.1						
CMAR				LR	LR	01 12 52.9	
	comp=Z,550nm,18.1s,MS4.1,baz=170,slow=40						
CHG	**Chiang Mai**	**25.31**	**349**	⇑P	**P**	**01 01 29.5**	**-1.0**
	comp=Z,33nm,0.8s,mb4.9						
QIZ	**Qiongzhong**	**25.74**	**13**	*e*P	**P**	**01 01 35.4**	**+0.8**
QIZ				LR	LR		
	comp=N,719nm,16.6s						
QIZ				LR	LR		
	comp=Z,979nm,18.4s,MS4.4						
NWAO	**Narrogin (SRO)**	**29.38**	**157**	LR	LR	01 12 32.0	
	comp=Z,775nm,19.6s,MS4.3,baz=147,slow=34						
BWNR	**Bhubaneshwar**	**31.74**	**326**	*e*P	**P**	**01 02 27.3**	**-1.1**
BWNR				AMb	AMB	01 02 32.2	
	comp=Z,28nm,0.3s,mb5.5						
GYA	**Guiyang**	**32.57**	**5**⇑	*i*P	**P**	**01 02 36.6**	**+1.0**
GYA				AP	pP	01 02 45.8	-0.9
GYA				XP	sP	01 02 49.4	-2.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GYA				LR	LR		
	comp=N,340nm,15.9s,MS4.4						
GYA				LR	LR		
	comp=E,550nm,18.9s,MS4.4						
GYA				LR	LR		
	comp=Z,440nm,16.2s,MS4.2						
WRA	**Warramunga Arr**	**32.61**	**118**	P	**P**	**01 02 35.6**	**-0.4**
	comp=Z,19nm,0.6s,mb5.2,baz=289,slow=11,SNR=82						
WRAB	**Tennant Creek**	**32.62**	**118**	*i* P	**P**	**01 02 36.5**	**+0.4**
WRAB	**Tennant Creek**	**32.62**	**118**	*e*P	**P**	**01 02 35.7**	**-0.4**
	comp=Z,37nm,0.6s,mb5.5						
ASPA	**Alice Springs**	**33.71**	**124**	*e*P	**P**	**01 02 45.3**	**-0.2**
ASAR	**Alice Springs**	**33.71**	**124**	P	**P**	**01 02 45.5**	**-0.1**
	comp=Z,10nm,0.7s,mb4.9,baz=302,slow=7.8,SNR=78						
ASAR				LR	LR	01 15 48.2	
	comp=Z,340nm,21.6s,MS4.0,baz=281,slow=35						
BLSP	**Bilaspur**	**35.28**	**324**	*e*P	**P**	**01 02 58.9**	**-0.1**
BLSP				*e*		01 03 01.2	
	comp=Z,10nm,0.7s						
BLSP				*e*		01 06 14.3	
ENH	**Enshi**	**36.65**	**8**	*e*P	**P**	**01 03 09.8**	**-0.7**
	comp=Z,36nm,0.7s,mb5.3						
CD2	**Chengdu**	**36.89**	**360**	P	**P**	**01 03 12.2**	**-0.3**
CD2				PP	PP	01 04 37.1	-1.8
CD2				S	**S**	**01 08 53.2**	**-0.7**
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
CD2				LR	LR		
	comp=E,760nm,20.4s						
CD2				LR	LR		
	comp=Z,810nm,15.6s,MS4.6						
LSA	**Lhasa**	**37.71**	**342**	P	**P**	**01 03 20.4**	**+1.0**
LSA	**Lhasa**	**37.71**	**342**	*e*P	**P**	**01 03 20.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.1						
LSA	**Lhasa**	**37.71**	**342**	*e*P	**P**	**01 03 20.5**	**+1.1**
	comp=Z,31nm,0.8s,mb5.1						
JIRN	**Jiri**	**37.73**	**334**	*e*P	**P**	**01 03 20.4**	**+0.8**
	comp=Z,113nm,0.8s,mb5.7						
WHN	**Wuhan**	**37.88**	**15**	*e*P	**P**	**01 03 22.0**	**+1.2**
PKI	**Pulchoki**	**38.00**	**333**	*e*P	**P**	**01 03 22.2**	**+0.3**
DMN	**Daman**	**38.17**	**333**	*e*P	**P**	**01 03 23.6**	**+0.3**
	comp=Z,51nm,0.9s,mb5.3						
KKN	**Kakani**	**38.25**	**333**	*e*P	**P**	**01 03 24.3**	**+0.4**
	comp=Z,58nm,0.8s,mb5.4						
KKN	**Kakani**	**38.25**	**333**	*e*P	**P**	**01 03 24.3**	**+0.4**
KKN				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1						
GKN	**Gorkha**	**38.73**	**332**	*e*P	**P**	**01 03 28.2**	**+0.4**
	comp=Z,78nm,0.9s,mb5.5						
BHPL	**Bhopal**	**39.02**	**319**	*e*P	**P**	**01 03 32.0**	**+1.7**
BHPL				*e*		01 03 34.5	
	comp=Z,13nm,0.6s						
KOLN	**Koldanda**	**39.02**	**331**	*e*P	**P**	**01 03 30.9**	**+0.6**
	comp=Z,61nm,0.7s,mb5.4						
XAN	**Xi'an**	**40.29**	**7**	P	**P**	**01 03 40.3**	**-0.5**
XAN				AMB	AMB		
	comp=Z,23nm,0.6s,mb5.1						
JOW	**Kunigami**	**40.46**	**35**	P	**P**	**01 03 43.2**	**+1.0**
	comp=Z,27nm,0.8s,mb5.0,baz=264,slow=14,SNR=5.2						
SSE	**Sheshan**	**40.61**	**23**	P	**P**	**01 03 39.5**	**-4.0**
SSE				XP	sP	01 03 52.0	-7.8
SSE				S	**S**	**01 09 45.9**	**-4.2**
SSE				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,108nm,4.0s						
SSE				LR	LR		
	comp=N,182nm,21.1s,MS4.0						
SSE				LR	LR		
	comp=E,117nm,21.1s,MS4.0						
SSE				LR	LR		
	comp=Z,226nm,20.6s,MS4.0						
SSE	**Sheshan**	**40.61**	**23**	P	**P**	**01 03 39.5**	**-4.0**
	comp=Z,17nm,0.7s,mb4.8						
SSE				sP	sP	01 03 52.0	-7.8
SSE				S	**S**	**01 09 45.9**	**-4.2**
SSE				sS		01 10 01.5	
SSE				LR	LR		
	comp=Z,230nm,20.6s,MS4.0						
NJ2	**Nanjing**	**40.63**	**20**	*e*P	**P**	**01 03 41.6**	**-2.0**
NJ2				AP	pP	01 03 51.5	-3.4
NJ2				XP	sP	01 03 55.4	-4.5
NJ2				PP	PP	01 05 21.1	+0.5
NJ2				S	**S**	**01 09 52.0**	**+1.7**
NJ2				XS		01 10 08.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,140nm,10.6s						
NJ2				LR	LR		
	comp=N,520nm,16.1s,MS4.6						
NJ2				LR	LR		
	comp=E,510nm,18.4s,MS4.6						
NJ2				LR	LR		
	comp=Z,370nm,22.7s,MS4.2						
AGRA	**Agra**	**41.62**	**324**	*e*	**P**	**01 04 05.8**	**+14**
LZH	**Lanzhou**	**42.05**	**360**	*e*P	**P**	**01 03 57.0**	**+1.7**
LZH				AP	pP	01 04 10.5	+3.8
LZH				XP	sP	01 04 14.3	+2.7
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,86nm,4.5s						
LZH				LR	LR		
	comp=N,542nm,12.2s						
LZH				LR	LR		
	comp=Z,865nm,13.5s,MS4.8						
LZH	**Lanzhou**	**42.05**	**360**	*e*P	**P**	**01 03 57.0**	**+1.7**
LZH				*PP	pP	01 04 10.5	+3.8
LZH				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.8						
LZH				MLR	MLR		
	comp=Z,870nm,13.5s,MS4.8						
LZH	**Lanzhou**	**42.05**	**360**	*e*P	**P**	**01 03 57.0**	**+1.7**
	comp=Z,25nm,1.0s,mb4.8						
LZH				pP	pP	01 04 10.5	+3.8
LZH				sP	sP	01 04 14.3	+2.7
LZH				LR	LR		
	comp=Z,870nm,13.5s,MS4.8						
SONA	**Sohna**	**42.89**	**324**	*e*P	**P**	**01 04 02.5**	**+0.3**
SONA				AMb	AMB	01 04 04.4	
PMG	**Port Moresby**	**43.00**	**97**	*e*P	**P**	**01 04 03.7**	**+0.3**
PMG				pmax	pmax		
	comp=Z,76nm,0.6s						
PMG	**Port Moresby**	**43.00**	**97**	*e*P	**P**	**01 04 03.6**	**+0.3**
	comp=Z,76nm,0.6s,mb5.6						
AYAN	**Aya Nagar**	**43.04**	**325**	*e*P	**P**	**01 04 03.7**	**+0.2**
AYAN				AMb	AMB	01 04 06.2	
	comp=Z,4.6nm,0.9s,mb4.2						
NDI	**New Delhi**	**43.14**	**325**	*e*P	**P**	**01 04 05.5**	**+1.2**
NDI				*e*S	**S**	**01 10 27.0**	**-0.4**
CTAO	**Charters Tower**	**43.39**	**113**	*e*P	**P**	**01 04 08.7**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
CTAO	**Charters Tower**	**43.39**	**113**	*e*P	**P**	**01 04 08.7**	**+2.2**
	comp=Z,12nm,0.7s,mb4.7						
KHET	**Khetri**	**43.51**	**323**	*e*P	**P**	**01 04 07.4**	**0.0**
KHET				AMb	AMB	01 04 09.7	
	comp=Z,18nm,0.2s,mb5.4						
STKA	**Stephens Creek**	**43.52**	**131**⇑	*i*P	**P**	**01 04 07.7**	**+0.4**
	comp=Z,34nm,0.7s,mb5.2						
STKA	**Stephens Creek**	**43.52**	**131**	P	**P**	**01 04 07.7**	**+0.4**
	comp=Z,26nm,0.5s,mb5.2,baz=305,slow=7.5,SNR=122						
STKA				LR	LR	01 23 54.6	
	comp=Z,323nm,19.4s,MS4.2,baz=125,slow=38						
KKR	**Kurukshetra**	**44.33**	**326**	*e*P	**P**	**01 04 13.1**	**-0.9**
KLP	**Kalpa**	**44.77**	**328**	*e*P	**P**	**01 04 17.3**	**-0.1**
SDNR	**Sundarnagar**	**45.43**	**327**	*e*P	**P**	**01 04 23.0**	**+0.3**
GTA	**Gaotai**	**45.52**	**356**	*e*P	**P**	**01 04 24.2**	**+0.9**
GTA				AP	pP	01 04 31.4	-3.4
GTA				XP	sP	01 04 34.8	-4.9
GTA				AMB	AMB		
	comp=Z,17nm,0.8s,mb5.0						
GTA				AMB	AMB		
	comp=Z,117nm,4.8s						
GTA				LR	LR		
	comp=N,314nm,20.7s,MS4.4						
GTA				LR	LR		
	comp=E,330nm,22.5s,MS4.4						
GTA				LR	LR		
	comp=Z,556nm,21.3s,MS4.5						
THN	**Thein Dam**	**46.82**	**327**	*e*P	**P**	**01 04 33.4**	**-0.3**
HHC	**Hu-ho-hao-te**	**47.34**	**8**	*e*P	**P**	**01 04 38.5**	**+0.9**
HHC				AP	pP	01 04 48.4	-0.7
HHC				XP	sP	01 04 52.5	-1.4
HHC				PCP	PcP	01 06 08.5	+0.1
HHC				PP	PP	01 06 32.1	+3.8
HHC				SCP		01 10 00.3	
HHC				PCS		01 10 03.5	
HHC				S	**S**	**01 11 31.2**	**+3.7**
HHC				SCS	ScS	01 14 27.3	+1.9
HHC				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,104nm,6.1s						
HHC				LR	LR		
	comp=N,361nm,15.3s,MS4.5						
HHC				LR	LR		
	comp=E,242nm,16.7s,MS4.5						
HHC				LR	LR		
	comp=Z,347nm,16.7s,MS4.4						
BJT	**Baijiatuau**	**47.36**	**13**	*e*P	**P**	**01 04 38.2**	**+0.4**
BJT				pmax	pmax		
	comp=Z,34nm,0.8s						
BJT	**Baijiatuau**	**47.36**	**13**	*e*P	**P**	**01 04 38.2**	**+0.4**
	comp=Z,34nm,0.8s,mb5.3						
BJI	**Beijing**	**47.38**	**13**	P	**P**	**01 04 38.3**	**+0.3**
BJI				AP	pP	01 04 47.2	-2.2
BJI				XP	sP	01 04 51.4	-2.9
BJI				PCP	PcP	01 06 05.4	-3.2
BJI				S	**S**	**01 11 31.8**	**+3.6**
BJI				AMB	AMB		
	comp=Z,46nm,0.7s,mb5.5						
BJI				LR	LR		
	comp=N,342nm,18.2s,MS4.4						
BJI				LR	LR		
	comp=E,302nm,22.5s,MS4.4						
BJI				LR	LR		
	comp=Z,464nm,23.7s,MS4.4						
BJI	**Beijing**	**47.38**	**13**	P	**P**	**01 04 38.3**	**+0.3**
	comp=Z,46nm,0.7s,mb5.5						
BJI				pP	pP	01 04 47.2	-2.2
BJI				sP	sP	01 04 51.4	-2.9
BJI				PcP	PcP	01 06 05.4	-3.2
BJI				S	**S**	**01 11 31.8**	**+3.6**
BJI				SS	SS	01 15 07.7	+18
BJI				LR	LR		
	comp=Z,460nm,23.7s,MS4.4						
SNY	**Shenyang**	**51.07**	**19**	⇑P	**P**	**01 05 07.3**	**+0.9**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ	**Urumqi**	**51.88**	**345**	P	**P**	**01 05 12.7**	**+0.3**
WMQ				AP	pP	01 05 22.9	-1.0
WMQ				XP	sP	01 05 27.2	-1.5
WMQ				PCP	PcP	01 06 25.2	+0.3
WMQ				PP	PP	01 07 11.3	+0.2
WMQ				S	**S**	**01 12 31.5**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,29nm,0.9s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,140nm,2.9s,mb5.4						
WMQ				LR	LR		
	comp=N,213nm,19.5s,MS4.2						
WMQ				LR	LR		
	comp=E,82nm,20.8s,MS4.2						
WMQ				LR	LR		
	comp=Z,154nm,19.5s,MS4.0						
MAJO	**Matsushiro**	**53.30**	**35**	*e*P	**P**	**01 05 21.1**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
MAJO	**Matsushiro**	**53.30**	**35**	*e*P	**P**	**01 05 21.1**	**-2.0**
	comp=Z,11nm,0.8s,mb4.8						
MAT	**Matsushiro**	**53.30**	**35**	*e*P	**P**	**01 05 19.0**	**-4.2**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
MAT	**Matsushiro**	**53.30**	**35**	*e*P	**P**	**01 05 19.0**	**-4.2**
	comp=Z,10nm,0.8s,mb4.8						
MAT	**Matsushiro**	**53.30**	**35**	P	**P**	**01 05 19.5**	**-3.7**
MJAR	**Matsushiro Arr**	**53.30**	**35**	P	**P**	**01 05 21.6**	**-1.6**
	comp=Z,11nm,0.7s,mb4.9,baz=216,slow=7.1,SNR=25						
CN2	**Changchun**	**53.45**	**19**	*e*P	**P**	**01 05 22.3**	**-1.8**
CN2				*e*AP	pP	01 05 33.3	-2.4
CN2				*e*S	**S**	**01 12 52.3**	**+0.2**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=E,300nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=Z,500nm,18.0s,MS4.6						
SONM	**Songino Array**	**53.84**	**2**	P	**P**	**01 05 27.4**	**+0.4**
	comp=Z,38nm,0.8s,mb5.4,baz=179,slow=8.0,SNR=304						
ULN	**Ulaanbaatar**	**53.89**	**3**	*i* P	**P**	**01 05 27.6**	**+0.3**
ULN	**Ulaanbaatar**	**53.89**	**3**	*e*P	**P**	**01 05 27.1**	**-0.2**
	comp=Z,17nm,0.8s,mb5.0						
KZA	**Kyzart**	**54.66**	**334**	P	**P**	**01 05 33.4**	**+0.4**
	SNR=29						
UCH	**Uchtor**	**55.11**	**334**	P	**P**	**01 05 36.6**	**+0.3**
	SNR=12						
TKM2	**Tokmak 2**	**55.20**	**335**	P	**P**	**01 05 36.3**	**-0.7**
	SNR=18						
KBK	**Kar

ZAL LR LR 01 36 52.9
comp=Z,442nm,19.4s,MS4.6,baz=310,slow=40
ZAL Zalesovo 62.01 347 P **P** **01 06 23.0 -1.1**
ZAL LR LR 01 36 52.9
YSS Yuzh-Sakhalins 63.12 29 *e*P **P** **01 06 30.6 -1.1**
YSS *e* pP 01 06 44.8 +1.2
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.4
YSS Yuzh-Sakhalins 63.12 29 *e*P **P** **01 06 30.8 -0.9**
comp=Z,22nm,0.8s,mb5.3
NVS Novosibirsk 63.20 347 *e*P **P** **01 06 29.0 -3.1**
NVS *e* pP 01 06 41.3 -2.6
NVS pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
NVS pmax pmax
comp=N,6.0nm,0.8s
BOD Bodaibo 64.32 6 *e*P **P** **01 06 37.0 -2.3**
BOD pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BVA0 Borovoye Array 65.44 339 *i* P **P** **01 06 45.6 -1.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
BVAR Borovoye Array 65.44 339 P **P** **01 06 45.6 -1.0**
comp=Z,12nm,0.6s,mb5.1,baz=142,slow=8.6,SNR=126
CHKZ Chkalovo 65.88 339 *e*P **P** **01 06 48.6 -0.8**
CHKZ *e* pP 01 06 59.0 -2.4
CHKZ pmax pmax
comp=Z,15nm,0.7s,mb5.1
CHKZ Chkalovo 65.88 339 *e*P **P** **01 06 48.6 -0.8**
comp=Z,15nm,0.7s,mb5.1
CHKZ *e* pP 01 06 59.0 -2.4
KMBO Kilima Mbogo 66.62 271 LR LR 01 31 13.8
comp=Z,281nm,18.6s,MS4.5,baz=94,slow=32
MAW Mawson 67.26 196 *e*P **P** **01 06 57.3 -0.6**
MAW pmax pmax
comp=Z,7.0nm,0.8s
MAW Mawson 67.26 196 P **P** **01 06 57.6 -0.4**
comp=Z,3.6nm,0.6s,mb4.6,baz=338,slow=9.0,SNR=6.1
MAW LR LR 01 32 49.3
comp=Z,422nm,19.3s,MS4.7,baz=64,slow=33
MAW Mawson 67.26 196 *e*P **P** **01 06 57.3 -0.6**
comp=Z,6.6nm,0.8s,mb4.7
YAK Yakutsk 70.88 13 *i* P **P** **01 07 19.1 -1.2**
YAK *i* *PP pP 01 07 32.8 +0.5
YAK pmax pmax
comp=Z,29nm,0.7s,mb5.3
YAK Yakutsk 70.88 13 *e*P **P** **01 07 17.9 -2.4**
comp=Z,43nm,0.6s,mb5.5
GNI Garni 71.19 316 *i* P **P** **01 07 23.2 +0.6**
GNI pmax pmax
comp=Z,4.0nm,1.0s
GNI Garni 71.19 316 P **P** **01 07 23.1 +0.6**
comp=Z,2.9nm,0.6s,mb4.4,baz=348,slow=8.3,SNR=5.8
GNI LR LR 01 41 06.9
comp=Z,69nm,19.6s,MS3.9,baz=232,slow=38
GNI Garni 71.19 316 *e*P **P** **01 07 22.9 +0.4**
comp=Z,5.7nm,0.7s,mb4.6
SVE Sverdlovsk 72.01 337 *e*P **P** **01 07 23.8 -3.3**
SVE *e* 01 07 39.0
SVE pmax pmax
comp=Z,20nm,0.9s,mb5.0
ARU Arti 72.57 336⇑ *i*P **P** **01 07 30.3 -0.1**
ARU *e* pP 01 07 44.0 +1.5
ARU *e* 01 10 07.9
ARU *e*S S 01 16 54.2 +3.3
ARU *e*SS SS 01 21 38.2 +5.7
ARU pmax pmax
comp=Z,12nm,0.9s,mb4.8
ARU Arti 72.57 336 *e*P **P** **01 07 30.0 -0.4**
comp=Z,14nm,0.8s,mb5.0
ASF Jabal al Asfar 74.14 306 P **P** **01 07 41.1 +0.9**
comp=Z,0.8nm,0.3s,mb4.1,baz=350,slow=6.1,SNR=4.2
KIV Kislovodsk 74.20 319 *i* P **P** **01 07 40.4 +0.1**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KIV Kislovodsk 74.20 319 *e*P **P** **01 07 40.8 +0.5**
comp=Z,3.3nm,0.6s,mb4.4
LSZ Lusaka 74.60 256 *e*P **P** **01 07 42.2 -0.9**
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LSZ Lusaka 74.60 256 *e*P **P** **01 07 42.2 -0.9**
comp=Z,1.7nm,0.6s,mb4.2
MALT Malatya 74.98 312 *e*P **P** **01 07 44.7 -0.2**
MALT pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MALT Malatya 74.98 312 *e*P **P** **01 07 44.7 -0.2**
comp=Z,3.4nm,0.8s,mb4.3
EIL Elat 75.01 303 P **P** **01 07 46.8 +1.6**
comp=Z,1.8nm,0.5s,mb4.3,baz=90,slow=2.0,SNR=3.0
SYO Syowa Base 75.20 200⇑P **P** **01 07 47.5 +2.0**
SYO Syowa Base 75.20 200⇑pP pP 01 07 55.4 -2.2
SOKR Solikamsk 75.37 337⇑ *i*P **P** **01 07 47.9 +1.2**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOC Sochi 76.02 318 *e*P **P** **01 07 49.3 -1.4**
SOC *e* 01 08 06.1
SOC *e*PPP PPP 01 12 25.3 -5.1
SOC *e*S S 01 17 28.1 -1.5
SOC *e* 01 17 57.5
SOC *e*SS SS 01 22 18.8 -7.1
SOC *e*SSS SSS 01 25 43.6 +2.6
SOC pmax pmax
comp=Z,11nm,0.9s,mb4.8
SOC pmax pmax
comp=N,5.0nm,0.8s
SOC pmax pmax
comp=E,3.0nm,0.9s
LBTB Lobatse 76.78 246 *e*P **P** **01 07 54.1 -1.3**
BOSA Boshof 77.07 242 P **P** **01 07 56.9 -0.1**
comp=E,1.8nm,0.7s,mb4.1,baz=79,slow=5.9,SNR=6.6
BOSA LR LR 01 35 33.7
comp=E,323nm,18.2s,MS4.7,baz=266,slow=31
CSS Prodhromos 77.81 308 *e*P **P** **01 08 01.3 +0.4**
comp=E,7.5nm,0.7s,mb4.7
ANN Anapa 78.00 318 *e*P **P** **01 07 55.9 -5.8**
ANN pmax pmax
comp=Z,16nm,3.1s
BRTR Keskin Array B 78.97 312 P **P** **01 08 06.9 -0.3**
comp=Z,2.2nm,0.8s,mb4.1,baz=138,slow=6.7,SNR=13
TIXI Tiksi 79.41 8 *i* P **P** **01 08 07.6 -1.3**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SIM Simferopol' 80.26 317⇓ *e*P **P** **01 08 14.7 +0.6**
SIM pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
OBN Obninsk 82.36 328⇓ *i*P **P** **01 08 25.5 +0.7**
OBN *i* 01 08 41.0
OBN pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TSUM Tsumeb 84.48 251 P **P** **01 08 36.3 0.0**
AKASG Malin Array Be 85.13 322 P **P** **01 08 38.9 +0.1**
comp=Z,3.1nm,0.6s,mb4.6,baz=85,slow=4.6,SNR=27
AKASG PP PP 01 11 58.4 +0.3
comp=Z,0.2nm,0.3s,baz=89,slow=5.8,SNR=4.2
AKASG Malin Array Be 85.13 322 P **P** **01 08 38.9 +0.1**
AKASG PP PP 01 11 58.4 +0.3
VRI Vrincioaia 85.52 317⇓P **P** **01 08 42.7 +1.8**
BILL Bilibino 85.76 20 *i* P **P** **01 08 41.8 +0.2**
BILL pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
BILL Bilibino 85.76 20 *e*P **P** **01 08 41.3 -0.2**
comp=Z,4.5nm,0.6s,mb4.9
MLR Muntele Rosu 85.97 316 P **P** **01 08 44.4 +1.3**
comp=Z,3.1nm,0.9s,mb4.5,baz=112,slow=2.6,SNR=6.0
MLR Muntele Rosu 85.97 316⇓P **P** **01 08 44.7 +1.6**
MLR Muntele Rosu 85.97 316⇓P **P** **01 08 44.7 +1.6**
BURAR Bucovina Array 86.92 318⇓P **P** **01 08 50.3 +2.6**
JOF Joensuu 87.63 334 *e*p **P** **01 08 51.0 +0.2**
comp=Z,4.8nm,0.8s,mb4.8
KWP Kalwaria 88.96 320 *e*P **P** **01 08 58.8 +1.3**
SUW Suwalki 89.50 324 *e*P **P** **01 09 00.5 +0.6**
FINES FINESS Array B 89.59 332 P **P** **01 09 00.7 +0.5**
comp=Z,3.8nm,0.9s,mb4.7,baz=108,slow=6.0,SNR=12
KAF Kangasniemi 89.64 333 *e*p **P** **01 09 00.6 +0.2**
comp=Z,5.6nm,0.7s,mb5.0,baz=98,slow=4.2
KAF Kangasniemi 89.64 333 *e*P **P** **01 09 00.6 +0.2**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
KEV Kevo 91.24 340 *e*p **P** **01 09 06.4 -1.3**
comp=Z,4.6nm,0.8s,mb4.9
KEV Kevo 91.24 340 *e*P **P** **01 09 06.4 -1.3**
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
ARCES ARCESS Array B 91.70 340 P **P** **01 09 08.8 -1.0**
comp=Z,2.8nm,0.9s,mb4.6,baz=117,slow=2.7,SNR=6.3
ARCES LR LR 01 55 09.0
comp=Z,163nm,19.8s,MS4.5,baz=309,slow=39
ARCES ARCESS Array B 91.70 340 P **P** **01 09 08.8 -1.0**
ARCES LR LR 01 55 09.0
GERES GERESS Array B 94.71 318 P **P** **01 09 24.8 +0.8**
comp=Z,0.3nm,0.6s,mb3.9,baz=108,slow=6.2,SNR=3.1
ILAR Eielson Array 103.73 25 PP PP 01 14 29.8 +6.0
comp=Z,0.4nm,0.8s,baz=281,slow=8.2,SNR=4.2
YKA Yellowknife Ar 117.15 19 PKP PKPdf 01 14 47.5 +1.1
comp=Z,0.7nm,0.8s,baz=312,slow=1.7,SNR=16
YKA Yellowknife Ar 117.15 19 PKP PKPdf 01 14 47.5 +1.1
MCMT McKenzie Canyo 129.98 34 *e*PKPdf PKPdf 01 15 14.4 +2.8
NVAR Mina Array Bea 130.18 44 PKP PKPdf 01 15 15.7 +3.5
comp=Z,1.0nm,0.6s,baz=268,slow=4.3,SNR=7.8
NVAR SKPbc 01 18 35.7
comp=Z,0.5nm,0.6s,baz=268,slow=5.4,SNR=3.9
NVAR Mina Array Bea 130.18 44 PKP PKPdf 01 15 15.7 +3.5
NVAR SKPbc 01 18 35.7
SCHQ Schefferville 130.92 353 PKP PKPdf 01 15 14.4 +1.3
comp=Z,1.3nm,0.6s,baz=48,slow=6.0,SNR=5.6
SCHQ SKPbc 01 18 37.0
comp=Z,2.5nm,0.8s,baz=293,slow=5.2,SNR=3.7
RRI2 Red Ridge 131.77 34 *e*PKPdf PKPdf 01 15 18.6 +3.5
HWUT Hardware Ranch 132.72 36 *e*PKPdf PKPdf 01 15 20.2 +3.3
ULM Lac du Bonnet 133.07 17 PKP PKPdf 01 15 18.7 +1.4
comp=Z,2.0nm,0.5s,baz=299,slow=3.4,SNR=3.8
PDAR Pinedale Array 133.13 34 PKP PKPdf 01 15 20.8 +3.1
comp=Z,0.8nm,0.6s,baz=104,slow=0.4,SNR=7.8
PDAR SKPbc 01 18 51.6
comp=Z,0.7nm,0.9s,baz=45,slow=2.1,SNR=4.3
ALLY Alegheny Colle 144.51 5 PKPdf PKPdf 01 15 40.2 +2.1
BDFB Brasilia 144.69 232 PKP PKPdf 01 15 40.1 +1.0
comp=Z,3.0nm,0.6s,baz=85,slow=3.5,SNR=8.3
WMOK Wichita Mounta 144.74 33 *e*PKIKP PKPdf 01 15 39.0 +0.2
LTX Lajitas 145.30 45 *e*PKIKP PKPdf 01 15 42.6 +2.7
LTX *e* 01 15 56.3
TXAR Lajitas Array 145.30 45 PKPbc PKPbc 01 15 42.6 +2.3
comp=Z,18nm,0.7s,baz=290,slow=1.4,SNR=218
CCM Cathedral Cave 145.44 21 *e*PKIKP PKPdf 01 15 40.8 +0.9
ACSO Alum Creek Sta 145.55 9 *e*PKP PKPdf 01 15 41.5 +1.5
SSPA Standing Stone 145.67 2 *e*PKP PKPdf 01 15 41.8 +1.6
BLO Bloomington 145.85 14 *e*PKP PKPdf 01 15 42.4 +1.9
BLO *e*pPKP 01 15 57.2
MVL Millersville 146.34 0 *e*PKPbc PKPbc 01 15 44.0 +1.4
WCI Wyandotte Cave 146.80 15 *e*PKP2 PKPab 01 15 45.3 -2.1
SDMD Soldier's Deli 146.92 1 PKPdf PKPdf 01 15 43.7 +1.4
JCT Junction City 147.17 40 *e*PKIKP PKPdf 01 15 45.1 +2.1
JCT *e* 01 15 47.4
MIAR Mount Ida 147.51 27 *e*PKP2 PKPab 01 15 47.7 -2.6
WVT Waverly 148.33 18 *e*PKP2 PKPab 01 15 49.8 -3.7
ELN Prospectdale 148.82 7 PKPbc PKPdf 01 15 50.6 +5.1
TZTN Tazewell 149.04 12 *e*PKPbc PKPdf 01 15 51.1 +5.3
PLAL Pickwick Lake 149.31 19 *e*PKPbc PKPdf 01 15 51.2 +4.9
SWET Sewanee 149.74 16 *e*PKPbc PKPdf 01 15 52.6 +5.6
CPCT Cooper Cave 149.88 14 *e*PKPbc PKPdf 01 15 53.8 +6.6
JSC Jenkinsville 151.65 9 *e*PKIKP PKPdf 01 15 58.1 +8.2
SIV San Ignacio 153.39 214 PKPbc PKPdf 01 16 01.3 +8.5
comp=Z,0.7nm,0.6s,baz=132,slow=8.8,SNR=3.3
SIV PKPab PKPab 01 16 14.3 -0.8
comp=Z,1.1nm,0.6s,baz=124,slow=11,SNR=5.0
LPAZ La Paz 156.30 199 PKPab PKPab 01 16 28.0 +0.6
comp=Z,0.7nm,0.7s,baz=163,slow=6.6,SNR=3.7

*TAP **11** 00:56:48.9,24.65N×122.49E,h86km±1km,ML3.1*
JMA 11 00:56:48.6±0.2,24.80N×122.52E,h91km±2km,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.56**	**127**	P	P	00 57 04.0	-0.1
YOJ				*e*S	S	00 57 15.6	0.0
HATJ	**Hateruma jima**	**1.39**	**122**	P	P	00 57 13.3	-0.1
HATJ				*e*S	S	00 57 31.1	-0.7
JKRS	**Kuro-shima**	**1.47**	**112**	P	P	00 57 14.4	0.0
JKRS				S	S	00 57 33.6	0.0
JIJ	**Ishigaki jima**	**1.54**	**106**	P	P	00 57 15.1	-0.3
JIJ				S	S	00 57 34.5	-0.6
JTJ	**Tarama**	**1.99**	**94**	P	P	00 57 21.8	+0.6
JTJ				*e*S	S	00 57 46.0	+0.7

*CSEM **11** 01:06:24.5±0.3,35.04N×3.89W,h10km,MD2.6,Error ellipse: s-maj=11.3km s-min=7.8km az=61.0*
*CNRM **11** 01:06:25.8,35.06N×3.72W,h9km,MD2.6*
*MDD **11** 01:06:26.0±0.4,35.03N×3.84W,h11km±3km,mbLg1.9/8, Error ellipse: s-maj=4.0km s-min=3.0km az=88.0,PRXIMO*
ISC 11 01:06:25.5±0.6,35.05N±0.03×3.89W±0.04,h11km±4km, n18,σ0°90/30,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.14**	**127**	P	**Pg**	**01 06 28.0**	**-1.0**
TOU				S	**Sg**	**01 06 30.0**	**-1.3**
TOU	**Touzarine**	**0.14**	**127**	*i* P	**Pg**	**01 06 28.0**	**-1.0**
MPAL	**Palemas**	**0.18**	**347**	P	**Pg**	**01 06 30.0**	**+0.4**
MPAL				S	**Sg**	**01 06 34.0**	**+1.6**
MPAL	**Palemas**	**0.18**	**347**	*i* P	**Pg**	**01 06 30.0**	**+0.4**
EMEL	**Melilla**	**0.81**	**72**	P	**Pb**	**01 06 40.9**	**-0.1**
EMEL	28nm,0.2s,SNR=4.0			S	**Sb**	**01 06 51.6**	**0.0**
	73nm,0.3s,SNR=4.0						
EMLI	**Melilla**	**0.81**	**72**	P	**Pb**	**01 06 42.2**	**+1.1**
EMLI	28nm,0.2s,SNR=4.0			S	**Sb**	**01 06 52.7**	**+0.9**
	73nm,0.3s,SNR=4.0						
TZK	**Tazeka**	**0.99**	**194**	*i* P	**Pb**	**01 06 45.0**	**+0.9**
TZK				*i* S	**Sb**	**01 06 58.0**	**+1.1**
EALB	**Alboran**	**1.13**	**38**	S	**Sb**	**01 07 02.2**	**+1.1**
	69nm,1.2s,SNR=7.9						
EMIJ	**Mijas**	**1.67**	**335**	P	**Pn**	**01 06 54.7**	**-0.3**
EMIJ	0.3nm,0.1s,SNR=7.9			S	**Sn**	**01 07 17.6**	**+1.0**
	1.9nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.67**	**335**	P	**Pn**	**01 06 54.7**	**-0.3**
EMIJ	0.3nm,0.1s,SNR=7.9			S	**Sn**	**01 07 15.4**	**-1.1**
	1.9nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.90**	**318**	P	**Pn**	**01 06 58.6**	**+0.4**
EJIF	0.9nm,0.2s,SNR=4.0			S	**Sn**	**01 07 23.8**	**+1.5**
	0.4nm,0.1s,SNR=4.0						
ENIJ	**Nijar**	**2.36**	**35**	S	**Sn**	**01 07 33.5**	**-0.4**
	21nm,1.4s,SNR=7.9						
EADA	**Adamuz**	**3.16**	**350**	P	**Pn**	**01 07 15.5**	**-0.7**
	1.2nm,0.8s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.52**	**321**	P	**Pn**	**01 07 20.3**	**-1.0**
EMIN	0.4nm,0.1s,SNR=4.0			S	**Sn**	**01 08 02.6**	**-0.8**
	0.3nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.52**	**321**	P	**Pn**	**01 07 21.0**	**-0.3**
EMIN	0.4nm,0.1s,SNR=4.0			S	**Sn**	**01 08 01.0**	**-2.4**
	0.3nm,0.1s,SNR=4.0						
EGRO	**El Granado**	**3.82**	**312**	P	**Pn**	**01 07 25.0**	**-0.5**
EGRO	0.2nm,0.1s,SNR=4.0			S	**Sn**	**01 08 10.1**	**-0.8**
	0.5nm,0.1s,SNR=4.0						
ETOB	**Tobarra**	**4.05**	**27**	P	**Pn**	**01 07 28.1**	**-0.8**
ETOB	99nm,1.7s,SNR=7.9			S	**Sn**	**01 08 16.1**	**-0.7**
	61nm,1.5s,SNR=7.9						
EBAD	**Badajoz**	**4.47**	**327**	P	**Pn**	**01 07 34.5**	**-0.2**
EBAD	0.3nm,0.1s,SNR=4.0						

*IDC **11** 01:06:54.4±8.6,35.63N×140.77E,h47km±62km,mb3.5/4, mb1 3.6/5,mb1mx3.2/23,mbtmp3.6/5,ML3.3/1,Error ellipse: s-maj=122.2km s-min=26.7km az=73.0*
*JMA **11** 01:06:55.0±0.1,35.76N×140.65E,h49km±1km,M3.1*
JMA Felt I J1.
*NIED **11** 01:07:00,35.80N×140.70E,h50km,Mw3.9 Best double couple: M0:6.74×10^14 NP1:φs0°,δ74°,λ70°. NP2:φs234°, δ26°,λ141°.*
ISC 11 01:06:53.8±0.8,35.74N±0.06×140.79E±0.09,h56km±6km, n14,σ0°89/18,mb3.6/4,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.06**	**123**	P	**P**	**01 07 02.9**	**+0.6**
JCN	**Nagara**	**0.58**	**237**	P	**P**	**01 07 06.7**	**+0.3**
JCN				S	**S**	**01 07 15.7**	**0.0**
JYT	**Yasato**	**0.69**	**315**	P	**P**	**01 07 07.5**	**-0.3**
JYT				*e*S	**S**	**01 07 16.0**	**-2.2**
BSO4	**Boso 4**	**0.83**	**207**	P	**P**	**01 07 10.0**	**+0.3**
JHO	**Hitachi**	**0.89**	**348**	P	**P**	**01 07 11.3**	**+0.9**
BSO3	**Boso 3**	**0.96**	**194**	P	**P**	**01 07 11.8**	**+0.4**
JAG	**Ashikaga**	**1.28**	**303**	P	**P**	**01 07 15.3**	**-0.6**
JOD2	**Odawara 2**	**1.47**	**252**	P	**P**	**01 07 17.8**	**-0.8**
JOD2				*e*S	**S**	**01 07 36.7**	**-0.2**
MJAR	**Matsushiro Arr**	**2.24**	**292**	P	**P**	**01 07 28.9**	**-0.5**
	8.1nm,0.3s,baz=99,slow=15,SNR=30						
MAT	**Matsushiro**	**2.24**	**292**	P	**P**	**01 07 30.0**	**+0.6**
MAT				S	**S**	**01 07 57.9**	**+2.0**
ZAL	**Zalesovo**	**42.44**	**313**	P	**P**	**01 14 45.1**	**+0.7**
	0.5nm,0.3s,mb3.6,baz=140,slow=24,SNR=8.8						
MKAR	**Makanchi Array**	**44.40**	**303**	P	**P**	**01 15 00.7**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=91,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**55.71**	**187**	P	**P**	**01 16 25.3**	**-1.8**
	0.2nm,0.3s,mb3.6,baz=2.4,slow=7.5,SNR=3.1						
FINES	**FINESS Array B**	**69.73**	**332**	P	**P**	**01 17 59.3**	**-0.1**
	1.1nm,0.9s,mb3.8,baz=51,slow=8.9,SNR=2.8						

*IDC **11** 01:09:23.6±0.6,1.76S×99.53E,mb4.2/14,mb1 4.3/14, mb1mx4.2/21,mbtmp4.2/14,MS4.1/1,Ms1 4.1/1, ms1mx3.0/35,Error ellipse: s-maj=30.8km s-min=13.6km az=53.0*
*NEIC **11** 01:09:28.5±4.6,1.75S×99.60E,h33km±31km,mb4.5/4, Error ellipse: s-maj=20.9km s-min=7.4km az=57.0*
ISC 11 01:09:26.7±0.6,1.69S±0.09×99.6E±0.1,h33km,n28, σ0°94/21,mb4.3/18,MS4.1/1,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.01**	**8**	*e*P	**P**	**01 11 09.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**20.03**	**358**	P	**P**	**01 13 59.0**	**-0.8**
	1.5nm,0.5s,baz=188,slow=9.4,SNR=7.1						
FITZ	**Fitzroy Crossi**	**30.29**	**124**	P	**P**	**01 15 36.3**	**-1.1**
	5.2nm,0.7s,mb4.4,baz=283,slow=3.2,SNR=8.9						
LSA	**Lhasa**	**32.25**	**346**	P	**P**	**01 15 55.5**	**+0.9**
	4.0nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**38.46**	**121**	P	**P**	**01 16 47.3**	**-0.2**
	6.6nm,0.7s,mb4.5,baz=297,slow=9.3,SNR=25						
WRA				PcP	PcP	01 19 01.4	+0.6
	1.0nm,0.7s,baz=308,slow=2.2,SNR=5.1						
WRAB	**Tennant Creek**	**38.47**	**121**	*e*P	**P**	**01 16 47.4**	**-0.2**
	9.8nm,0.6s,mb4.7						
WRAB				*e*	pP	01 16 56.9	-0.4
ASAR	**Alice Springs**	**39.73**	**126**	P	**P**	**01 16 58.4**	**+0.4**
	4.0nm,0.8s,mb4.2,baz=304,slow=8.0,SNR=29						
ASAR				PcP	PcP	01 19 05.7	+0.9
	1.6nm,0.8s,baz=298,slow=2.6,SNR=7.0						
STKA	**Stephens Creek**	**49.63**	**132**	P	**P**	**01 18 18.1**	**+0.8**
	4.6nm,0.7s,mb4.6,baz=301,slow=6.6,SNR=12						
STKA	**Stephens Creek**	**49.63**	**132**	*e*P	**P**	**01 18 17.6**	**+0.3**
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**01 18 18.1**	**+0.7**
	0.7nm,0.4s,mb4.1,baz=187,slow=8.2,SNR=11						
SONM				PcP	PcP	01 19 38.7	+0.1
	1.3nm,0.8s,baz=180,slow=4.4,SNR=4.2						
ULN	**Ulaanbaatar**	**49.78**	**7**	*e*P	**P**	**01 18 19.3**	**+1.1**
	2.1nm,0.8s,mb4.2						
CBIJ	**Chichi jima**	**49.97**	**52**	LR	LR	01 37 20.8	
	comp=Z,214nm,21.0s,MS4.1,baz=44,slow=34						
MKAR	**Makanchi Array**	**50.63**	**345**	P	**P**	**01 18 24.9**	**+0.1**
	1.5nm,0.4s,mb4.3,baz=152,slow=7.8,SNR=18						
KURK	**Kurchatov**	**55.21**	**344**	*e*P	**P**	**01 18 57.3**	**-1.4**
	4.4nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**56.79**	**350**	P	**P**	**01 19 10.0**	**0.0**
	3.0nm,0.5s,mb4.6,baz=305,slow=5.4,SNR=10						
BVAR	**Borovoye Array**	**59.77**	**340**	P	**P**	**01 19 29.5**	**-1.3**
	1.1nm,0.6s,mb4.1,baz=135,slow=8.4,SNR=7.6						
CHKZ	**Chkalovo**	**60.23**	**341**	*e*P	**P**	**01 19 32.5**	**-1.5**
	34nm,0.6s,mb5.5						
MATP	**Matopo**	**71.74**	**249**	P	**P**	**01 20 48.4**	**+0.3**
	1.7nm,0.8s,mb4.0,baz=115,slow=6.2,SNR=5.0						
BRTR	**Keskin Array B**	**72.85**	**312**	P	**P**	**01 20 53.3**	**-1.1**
	0.5nm,0.6s,mb3.6,baz=121,slow=8.4,SNR=3.1						
FINES	**FINESS Array B**	**83.67**	**332**	P	**P**	**01 21 53.8**	**+0.6**
	1.0nm,0.8s,mb4.0,baz=90,slow=3.8,SNR=4.3						
ARCES	**ARCESS Array B**	**86.06**	**340**	P	**P**	**01 22 07.6**	**+2.7**
	1.7nm,0.8s,mb4.3,baz=63,slow=5.4,SNR=4.7						
GERES	**GERESS Array B**	**88.58**	**319**	P	**P**	**01 22 18.6**	**+1.0**
	0.2nm,0.3s,mb4.0,baz=170,slow=8.1,SNR=4.1						
TXAR	**Lajitas Array**	**144.68**	**37**	PKP	PKPdf	01 29 02.3	+1.5
	3.2nm,0.6s,baz=276,slow=1.3,SNR=44						
WVT	**Waverly**	**145.04**	**11**	*e*PKP	PKPdf	01 29 02.0	+0.7
MIAR	**Mount Ida**	**145.07**	**19**	*e*PKP	PKPdf	01 29 02.5	+1.2
MIAR				*e*		01 29 10.5	
TZTN	**Tazewell**	**145.20**	**4**	*e*PKP	PKPdf	01 29 02.1	+0.7
TZTN				*e*		01 29 10.3	
JCT	**Junction City**	**145.95**	**31**	*e*PKP	PKPdf	01 29 05.9	+3.0
JCT				*e*		01 29 13.2	
SIV	**San Ignacio**	**154.07**	**227**	PKPbc	PKPdf	01 29 25.7	+10
	0.5nm,0.7s,baz=112,slow=2.5,SNR=4.5						

*IDC **11** 01:25:24.1±1.6,1.59S×99.60E,mb4.0/8,mb1 4.1/9, mb1mx3.9/19,mbtmp4.0/9,Error ellipse: s-maj=79.3km s-min=16.9km az=55.0*
*NEIC **11** 01:25:28.5±0.6,1.56S×99.64E,h30km,mb4.2/2,Error ellipse: s-maj=25.8km s-min=8.6km az=62.0*
ISC 11 01:25:27.4±1.0,1.5S±0.1×99.7E±0.2,h33km,n19, σ0°76/15,mb4.1/10,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.79**	**8**	*e*P	**P**	**01 27 07.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**19.82**	**358**	P	**P**	**01 29 57.3**	**-0.9**
	baz=185,slow=10,SNR=0.6						
WRA	**Warramunga Arr**	**38.51**	**121**	P	**P**	**01 32 48.0**	**-0.5**
	1.9nm,0.5s,mb4.1,baz=302,slow=9.1,SNR=20						
WRA	**Warramunga Arr**	**38.51**	**121**	P	**P**	**01 32 48.0**	**-0.5**
WRAB	**Tennant Creek**	**38.51**	**121**	*e*P	**P**	**01 32 48.1**	**-0.5**
	5.1nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**39.79**	**126**	P	**P**	**01 32 59.7**	**+0.5**
	1.0nm,0.5s,mb3.8,baz=301,slow=8.1,SNR=12						
SONM	**Songino Array**	**49.46**	**6**	P	**P**	**01 34 17.2**	**+0.8**
	0.6nm,0.4s,mb3.9,baz=184,slow=9.2,SNR=4.5						
STKA	**Stephens Creek**	**49.71**	**132**	P	**P**	**01 34 19.0**	**+0.4**
	1.1nm,0.5s,mb4.2,baz=319,slow=16,SNR=4.3						
STKA	**Stephens Creek**	**49.71**	**132**	*e*P	**P**	**01 34 19.0**	**+0.3**
MKAR	**Makanchi Array**	**50.45**	**345**	P	**P**	**01 34 24.0**	**-0.1**
	1.3nm,0.4s,mb4.3,baz=150,slow=9.2,SNR=18						
BVAR	**Borovoye Array**	**59.60**	**340**	P	**P**	**01 35 31.3**	**+0.9**
	0.5nm,0.4s,mb3.9,baz=144,slow=9.9,SNR=7.5						
CHKZ	**Chkalovo**	**60.06**	**340**	*e*P	**P**	**01 35 31.8**	**-1.7**
	0.7nm,0.6s,mb3.9						
FINES	**FINESS Array B**	**83.52**	**332**	P	**P**	**01 37 52.9**	**-0.2**
	0.7nm,0.7s,mb3.9,baz=63,slow=3.1,SNR=5.6						
FINES	**FINESS Array B**	**83.52**	**332**	P	**P**	**01 37 52.9**	**-0.2**
ARCES	**ARCESS Array B**	**85.89**	**340**	P	**P**	**01 38 05.7**	**+1.0**
	2.7nm,1.0s,mb4.5,baz=90,slow=3.6,SNR=5.5						
TXAR	**Lajitas Array**	**144.46**	**37**	PKP	PKPdf	01 45 02.6	+1.5
	1.1nm,0.5s,baz=202,slow=1.0,SNR=24						
TZTN	**Tazewell**	**144.98**	**5**	*e*PKP	PKPdf	01 45 02.2	+0.4
TZTN				*e*		01 45 09.4	
JCT	**Junction City**	**145.73**

YOJ	Yonaguni jima	0.81	31	P	P	01 27 34.3	-0.3
YOJ				S	S	01 27 44.1	-1.5
HWA	Hwalien	0.89	284	eP	P	01 27 34.2	-1.7
HWA				S	S	01 27 46.3	-1.5
NACB	Ninganchiao	0.97	295	⇑iPn	P	01 27 35.4	-1.5
ENA	Nanau	0.99	312	⇑iP	P	01 27 36.7	-0.5
ENA				S	S	01 27 50.0	-0.4
ESL	Shilin	1.03	273	⇓iP	P	01 27 36.1	-1.6
TWC	Suao	1.06	323	⇓iP	P	01 27 37.4	-0.8
TWC				S	S	01 27 51.6	-0.3
EHY	Hungye	1.16	257	⇓iP	P	01 27 38.7	-0.8
EHY				S	S	01 27 52.9	-1.6
HATJ	Hateruma jima	1.18	76	P	P	01 27 40.9	+1.0
HATJ				S	S	01 27 56.5	+1.5
IRIF	Iriomote-Funau	1.21	62	P	P	01 27 41.4	+1.0
IRIF				S	S	01 27 57.4	+1.5
EGS		1.22	332	P	P	01 27 40.2	-0.2
EGS				S	S	01 27 57.9	+1.9
TWF1	Yuli	1.23	251	P	P	01 27 39.7	-0.8
TWF1				S	S	01 27 54.6	-1.6
ILA	Ilan	1.24	324	eP	P	01 27 41.7	+1.0
TWE	Neicheng	1.25	320	⇓iP	P	01 27 40.9	0.0
TWE				S	S	01 27 56.8	0.0
ENTT	Nioudou	1.25	314	⇓iP	P	01 27 40.8	-0.2
ENTT				S	S	01 27 57.8	+0.9
NNS	Nan Shan	1.27	302	⇓iP	P	01 27 40.7	-0.5
CHKT	Chengkung	1.28	239	⇑iP	P	01 27 39.9	-1.4
CHKT				S	S	01 27 54.8	-2.8
TWB1	Santiao Chiao	1.34	337	P	P	01 27 41.7	-0.6
TWT	Tachien	1.35	291	⇓iP	P	01 27 42.3	-0.1
YHNB	Yeheng	1.40	310	⇑ePn	P	01 27 42.8	-0.4
JKRS	Kuro-shima	1.41	70	P	P	01 27 44.2	+0.9
JKRS				S	S	01 28 02.5	+1.6
NSK	Sanguang	1.42	310	⇓iP	P	01 27 43.2	-0.2
NWF	Wu-fen Shan	1.48	332	⇓iP	P	01 27 44.1	-0.1
NWF				S	S	01 28 04.5	+2.0
YUS	Yu-Shan	1.50	260	⇓iP	P	01 27 44.5	0.0
YUS				S	S	01 28 01.9	-1.0
TWA	Mucha	1.50	324	eP	P	01 27 44.6	+0.1
SMLT	Sun Moon Lake	1.52	275	P	P	01 27 44.5	-0.3
SMLT				S	S	01 28 00.9	-2.7
ELDTW	Lidau	1.52	248	eP	P	01 27 43.8	-1.1
TATO	Taipei	1.55	321	eP	P	01 27 45.1	-0.1
TYC	Yuchr	1.56	275	⇓iP	P	01 27 45.1	-0.3
TYC				S	S	01 28 03.0	-1.6
JIJ	Ishigaki jima	1.57	67	P	P	01 27 46.0	+0.5
JIJ				eS	S	01 28 04.9	+0.1
TAP1	Taipei	1.58	324	eP	P	01 27 45.4	-0.2
TAP1				S	S	01 28 08.1	+3.1
TAP	Taipei	1.59	323	eP	P	01 27 45.5	-0.2
TAP				S	S	01 28 07.3	+2.0
ALS	Alishan	1.62	261	⇓iP	P	01 27 46.8	+0.5
ALS				S	S	01 28 05.7	-0.5
TTN	Taitung	1.64	232	eP	P	01 27 46.7	+0.2
TWG	Pinlang	1.66	236	⇑P	P	01 27 45.8	-0.9
NSTT	Nanjuang	1.66	302	eP	P	01 27 47.1	+0.4
NSTT				S	S	01 28 06.0	-1.1
TWS1	Kuangyinshan	1.69	322	eP	P	01 27 47.3	+0.2
WNT	Mingjian	1.72	274	eP	P	01 27 48.4	+0.8
WNT				S	S	01 28 09.5	+1.0
CHN5	Tsauling	1.73	265	⇓iP	P	01 27 48.4	+0.7
CHN5				S	S	01 28 08.6	-0.2
NCU	National Centr	1.73	314	eP	P	01 27 46.0	-1.8
TWQ1	Liyutan	1.73	290	⇓iP	P	01 27 49.0	+1.2
TWQ1				S	S	01 28 10.4	+1.6
TWY	Chenhua	1.74	330	eP	P	01 27 47.6	-0.3
STYT	Tauyuan	1.76	250	eP	P	01 27 48.1	0.0
STYT				S	S	01 28 08.2	-1.2
TCU	Taichung	1.76	283	eP	P	01 27 49.2	+1.0
TCU				S	S	01 28 11.2	+1.6
NSY	Sanyi	1.76	292	eP	P	01 27 49.6	+1.3
NSY				S	S	01 28 11.1	+1.5
HSN	Hsinchu	1.78	306	eP	P	01 27 49.0	+0.5
WGK	Gukeng	1.83	268	eP	P	01 27 50.2	+1.0
WGK				S	S	01 28 12.1	+0.9
CHN4	Tsaushan	1.85	257	eP	P	01 27 50.1	+0.7
CHN4				S	S	01 28 11.6	-0.1
WTP	Ta-pu	1.85	254	eP	P	01 27 50.5	+1.0
WTP				S	S	01 28 12.8	+0.9
ECL	Taimali	1.88	232	eP	P	01 27 48.5	-1.3
SGST	Jiashian	1.94	250	eP	P	01 27 51.8	+1.2
SGST				S	S	01 28 14.9	+1.0
CHN1	Nanshi	1.95	253	eP	P	01 27 52.3	+1.4
CHN1				S	S	01 28 16.2	+2.0
LAY	Lan-yu	1.95	208	eP	P	01 27 49.2	-1.7
TWK	Hsinying	1.96	256	eP	P	01 27 52.1	+1.0
TWK				S	S	01 28 16.3	+1.7
CHY	Chiayi	1.97	263	eP	P	01 27 52.1	+0.9
SSD	Sandimen	2.04	240	eP	P	01 27 52.1	0.0
WTCT	Ta-ch'eng	2.08	273	eP	P	01 27 53.8	+1.0
WTCT				S	S	01 28 19.9	+2.2
EAST	Anshuo	2.09	229	eP	P	01 27 52.0	-0.9
CHN3	Shinhua	2.13	252	eP	P	01 27 55.1	+1.8
JTJ	Tarama	2.15	66	P	P	01 27 54.0	+0.3
TWM1	Shoushan	2.17	245	eP	P	01 27 56.4	+2.3
SCZT	Fangliau	2.26	232	eP	P	01 27 56.7	+1.4
TSEB	Hengchuen, Pin	2.41	220	eP	P	01 27 58.1	+0.7
HEN	Hengchun	2.42	224	eP	P	01 27 57.3	-0.3
HEN				S	S	01 28 25.5	-0.8
TWK1	Hengchun	2.43	222	eP	P	01 27 57.2	-0.5
TWK1				S	S	01 28 25.5	-0.9
TWP	Hsiaoliuchiu	2.46	235	eP	P	01 28 01.5	+3.2
WDGT	Dungji	2.71	260	eP	P	01 28 01.4	-0.3
WDGT				S	S	01 28 31.2	-2.2
JMJ	Miyako jima 2	2.71	67	eS	S	01 28 35.1	+1.6
PNG	Penghu	2.76	266	eP	P	01 28 02.1	-0.4
PNG				S	S	01 28 34.6	-0.2
JOGS	Gusukube	2.78	69	P	P	01 28 04.4	+1.6
QZH	Quanzhou	3.80	289	⇑iP	P	01 28 15.4	-1.8
QZH				S	S	01 28 56.5	-4.7
QZH				Smax			
	comp=N,410nm,0.3s						
QZH				Smax			
	comp=E,300nm,0.4s						
KNM	Kinmen	3.82	281	eP	P	01 28 16.8	-0.7
JKE	Kume jima 2	4.61	56	P	P	01 28 28.7	+0.1
JIH	Iheya	5.88	55	P	P	01 28 44.3	-2.1
JIH				S	S	01 29 51.9	-1.5
APYP	Conner	6.00	192	eP	P	01 28 48.1	0.0
JOW	Kunigami	6.01	58	Pn	P	01 28 45.5	-2.7
	comp=E,10nm,0.3s,baz=196,slow=11,SNR=12						
JOW				Sn	S	01 29 53.5	-3.2
	comp=E,3.8nm,0.3s,baz=162,slow=20,SNR=2.2						
JOW	Kunigami	6.01	58	P	P	01 28 46.8	-1.4
JOW				eS	S	01 29 55.9	-0.8
CVP	Callao Caves	6.07	187	eP	P	01 28 48.0	-1.1
CAUP	Cauayan	6.82	186	eP	P	01 29 11.5	+12
JTK	Tokunoshima	7.02	54	P	P	01 28 59.2	-3.2
JTK				eS	S	01 30 17.6	-4.1
SSE	Sheshan	7.40	351	Pn	P	01 29 01.5	-6.2
	comp=E,48nm,0.8s						
SSE				Sn	S	01 30 23.7	-7.6
JAM	Amami Oshima	7.84	52	P	P	01 29 09.8	-4.1
NJ2	Nanjing	8.88	339	eP	P	01 29 26.4	-1.8
NJ2				AP		01 29 33.5	
NJ2				XP		01 29 38.3	
NJ2				S	S	01 31 05.8	-2.2
NJ2				XS		01 31 16.7	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				Smax			
	comp=N,190nm,0.9s						
NJ2				Smax			
	comp=E,260nm,1.1s						
NJ2				LR	LR		
	comp=N,3μm,13.2s						
NJ2				LR	LR		
	comp=E,2μm,10.8s						
NJ2				LR	LR		
	comp=Z,2μm,12.2s						
GYA	Guiyang	14.64	284	P	P	01 30 46.8	+1.0
GYA				AMB	AMB		
	comp=Z,20nm,0.6s						
GYA				AMB	AMB		
	comp=Z,120nm,3.0s						
GYA				LR	LR		
	comp=N,970nm,13.2s						
GYA				LR	LR		
	comp=E,560nm,15.9s						
GYA				LR	LR		
	comp=Z,740nm,11.4s						

XAN	Xi'an	15.71	314	P	P	01 31 03.4	+3.9
XAN				AP		01 31 08.5	
XAN				AMB	AMB		
	comp=Z,15nm,1.1s						
CD2	Chengdu	18.14	297	eP	P	01 31 29.6	-0.5
CD2				AMB	AMB		
	comp=Z,27nm,1.2s						
MJAR	Matsushiro Arr	18.55	43	LR	LR	01 38 59.9	
	comp=Z,131nm,22.0s,baz=260,slow=38						
HHC	Hu-ho-hao-te	19.37	334	eP	P	01 31 44.9	+0.4
HHC				AP		01 31 53.5	
HHC				XP		01 31 58.4	
HHC				PP	PP	01 32 04.9	+2.5
HHC				S	S	01 35 20.8	+5.3
HHC				XS		01 35 31.1	
HHC				PCP	PcP	01 36 01.3	-3.6
HHC				AMB	AMB		
	comp=Z,20nm,1.3s						
HHC				LR	LR		
	comp=N,786nm,13.7s						
HHC				LR	LR		
	comp=E,453nm,14.2s						
HHC				LR	LR		
	comp=Z,826nm,14.7s						
BTO	Baotou	19.82	331	eP	P	01 31 48.3	-1.1
LZH	Lanzhou	20.30	311	eP	P	01 31 55.0	+0.5
LZH				AP		01 32 03.0	
LZH				XP		01 32 08.5	
LZH				AMB	AMB		
	comp=Z,35nm,1.4s						
LZH				AMB	AMB		
	comp=Z,135nm,4.0s						
LZH				LR	LR		
	comp=E,685nm,15.8s						
LZH				LR	LR		
	comp=Z,2μm,16.2s,MS4.4						
LZH	Lanzhou	20.30	311	eP	P	01 31 55.0	+0.5
	comp=Z,35nm,1.4s						
LZH				pP		01 32 03.0	
LZH				sP		01 32 08.5	
LZH				PP	PP	01 32 25.0	+10
LZH				LR	LR		
	comp=Z,2μm,16.2s,MS4.4						
NANT	Nan	20.95	261	P	P	01 32 13.0	+12
GTA	Gaotai	24.77	314	eP	P	01 32 39.0	+0.3
GTA				AP		01 32 46.3	
GTA				XP		01 32 50.1	
GTA				PP	PP	01 33 20.6	+4.4
GTA				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,150nm,5.7s						
GTA				LR	LR		
	comp=N,198nm,14.7s,MS4.0						
GTA				LR	LR		
	comp=E,352nm,14.7s,MS4.0						
GTA				LR	LR		
	comp=Z,516nm,15.6s,MS4.1						
ASAJ	Asahikawa	26.11	34	LR	LR	01 42 54.1	
	comp=Z,291nm,21.8s,MS3.8,baz=24,slow=36						
ULN	Ulaanbaatar	27.03	337	iP	P	01 32 58.5	-1.2
ULN	Ulaanbaatar	27.03	337	eP	P	01 32 58.6	-1.1
	comp=Z,12nm,1.1s,mb4.3						
ULN				epP	pP	01 33 09.2	-1.9
SONM	Songino Array	27.25	336	P	P	01 33 00.6	-1.1
	comp=Z,11nm,1.0s,mb4.3,baz=151,slow=9.8,SNR=61						
SONM				pP	pP	01 33 10.8	-2.2
	comp=Z,15nm,1.0s,baz=148,slow=6.3,SNR=18						
SONM				LR	LR	01 45 24.7	
	comp=Z,461nm,18.1s,MS4.1,baz=58,slow=40						
SONM	Songino Array	27.25	336	P	P	01 33 00.6	-1.1
SONM				pP	pP	01 33 10.8	-2.2
SONM				LR	LR	01 45 24.7	
ZAK	Zakamensk	30.51	335	eP	P	01 33 28.2	-2.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
TLY	Talaya	31.43	337	eP	P	01 33 37.6	-1.4
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
TLY				MLR	MLR		
	comp=Z,416nm,15.0s,MS4.2						
MOY	Mondy	32.41	335	eP	P	01 33 46.2	-1.3
WMQ	Urumqi	34.85	314	eP	P	01 34 09.2	+0.6
MKAR	Makanchi Array	39.51	316	iP	P	01 34 47.7	0.0
MKAR				pmax	pmax		
	comp=Z,13nm,0.7s						
MKAR	Makanchi Array	39.51	316	P	P	01 34 48.0	+0.3
	comp=Z,15nm,0.8s,mb4.8,baz=111,slow=10,SNR=48						
MKAR				pP	pP	01 34 59.1	-0.4
	comp=Z,9.0nm,0.8s,baz=102,slow=11,SNR=7.4						
ZAL	Zalesovo	41.28	327	P	P	01 35 01.4	-0.9
	comp=Z,4.2nm,0.9s,mb4.1,baz=7.3,slow=8.5,SNR=26						
ZAL				pP	pP	01 35 11.3	-2.8
	comp=Z,6.0nm,0.8s,baz=349,slow=11,SNR=12						
NVS	Novosibirsk	42.53	327	eP	P	01 35 10.1	-2.4
NVS				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
NVS				pmax	pmax		
	comp=E,8.0nm,1.4s						
TKM2	Tokmak 2	43.01	308	P	P	01 35 18.2	+1.6
SNR=13							
KZA	Kyzart	43.11	307	P	P	01 35 19.6	+2.3
SNR=9.3							
KURK	Kurchatov	43.22	320	iP	P	01 35 17.2	-1.0
KURK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
KURK	Kurchatov	43.22	320	eP	P	01 35 16.9	-1.2
	comp=Z,9.3nm,0.9s,mb4.5						
KURK				epP	pP	01 35 28.3	-1.7
KBK	Karagaybulak	43.43	308	P	P	01 35 21.7	+1.7
SNR=15							
CHMS	Chumysh	43.63	308	P	P	01 35 21.9	+0.3
SNR=8.8							
UCH	Uchtor	43.67	307	P	P	01 35 24.4	+2.4
SNR=24							
AAK	Ala-Archa	43.75	307	P	P	01 35 24.0	+1.4
SNR=10.0							
AAK	Ala-Archa	43.75	307	iP	P	01 35 23.9	+1.3
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
USP	Ospenovka	43.86	308	P	P	01 35 24.3	+0.8
SNR=6.8							
AML	Almayashu	44.26	307	P	P	01 35 28.8	+2.1
SNR=24							
EKS2	Erkin-Say	44.28	307	P	P	01 35 28.2	+1.3
SNR=9.6							
WRAB	Tennant Creek	44.93	164	iP	P	01 35 33.6	+1.2
WRAB	Tennant Creek	44.93	164	eP	P	01 35 32.5	+0.2
	comp=Z,6.6nm,0.8s,mb4.5						
WRA	Warramunga Arr	44.94	164	P	P	01 35 32.5	+0.1
	comp=Z,5.2nm,0.8s,mb4.4,baz=347,slow=8.5,SNR=20						
KKAR	Karatay Array	46.72	308	iP	P	01 35 46.5	+0.3
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
TIXI	Tiksi	48.04	3	iP	P	01 35 54.1	-2.2
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ASAR	Alice Springs	48.42	166	P	P	01 36 00.9	+1.2
	comp=Z,5.0nm,0.8s,mb4.6,baz=347,slow=7.6,SNR=26						
BVA0	Borovoye Array	48.79	321	iP	P	01 36 01.3	-0.9
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	Borovoye Array	48.79	321	P	P	01 36 01.7	-0.6
	comp=Z,2.1nm,0.5s,mb4.4,baz=102,slow=7.8,SNR=15						
BVAR				pP	pP	01 36 12.2	-2.0
	comp=Z,2.1nm,0.6s,baz=90,slow=5.9,SNR=6.7						
CHKZ	Chkalovo	48.84	322	iP	P	01 36 00.7	-1.9
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CHKZ	Chkalovo	48.84	322	eP	P	01 36 00.8	-1.8
	comp=Z,4.3nm,0.7s,mb4.6						
CHKZ				epP	pP	01 36 11.8	-2.8
HNR	Honiara	49.23	128	LR	LR	01 53 09.3	
	comp=Z,120nm,18.1s,MS3.9,baz=320,slow=31						
BILL	Bilibino	51.66	19	iP	P	01 36 22.0	-1.9
BILL				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.8						
ARU	Arti	56.19	323	⇑iP	P	01 36 55.7	-1.7
ARU				e		01 37 52.4	
ARU				e		01 38 58.2	
ARU				eS	S	01 44 44.0	+2.0
ARU				eSS	SS	01 48 28.9	-0.1
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ARU	Arti	56.19	323	eP	P	01 36 55.7	-1.7
	comp=Z,4.6nm,0.7s,mb4.6						

STKA	Stephens Creek	58.25	161	P	P	01 37 13.6	+1.3
	comp=Z,7.8nm,0.7s,mb4.9,baz=341,slow=7.7,SNR=23						
STKA	Stephens Creek	58.25	161	eP	P	01 37 12.8	+0.6
GNI	Garni	66.07	305	iP	P	01 38 05.5	+1.1
GNI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GNI	Garni	66.07	305	P	P	01 38 04.7	+0.4
	comp=Z,0.7nm,0.3s,mb4.1,baz=156,slow=22,SNR=5.4						
GOF	Gofitskoye	66.37	310	⇑iP	P	01 38 06.5	+0.3
GOF				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
KIV	Kislovodsk	66.82	309	c iP	P	01 38 09.4	+0.4
KIV				i	pP	01 38 20.7	-0.9
KIV				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.0						
KIV	Kislovodsk	66.82	309	eP	P	01 38 09.5	+0.5
	comp=Z,18nm,0.9s,mb5.1						
KIV				epP	pP	01 38 20.7	-0.8
OBN	Obninsk	68.60	322	eP	P	01 38 19.2	-0.8
OBN				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.7						
SOC	Sochi	69.00	309	eP	P	01 38 21.2	-1.5
SOC				e		01 38 44.7	
SOC				e		01 40 55.6	
SOC				ePPP	PPP	01 42 37.2	+1.4
SOC				eS	S	01 47 23.0	0.0
SOC				e		01 48 18.7	
SOC				eSS	SS	01 51 54.1	+3.1
SOC				pmax	pmax		
	comp=N,3.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.6s						
SOC				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
ILAR	Eielson Array	69.01	27	P	P	01 38 21.1	-1.3
	comp=Z,0.5nm,0.5s,mb3.7,baz=257,slow=4.8,SNR=18						
ANN	Anapa	70.31	311	eP	P	01 38 29.3	-1.3
ANN				e*PP	pP	01 38 40.3	-2.9
ANN				eS	S	01 47 34.8	-3.5
ANN				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
ARCES	ARCESS Array B	70.39	338	P	P	01 38 29.6	-1.1
	comp=Z,2.6nm,0.8s,mb4.2,baz=79,slow=6.2,SNR=4.5						
MALT	Malatya	71.27	304	eP	P	01 38 37.6	+1.0
	comp=Z,7.9nm,0.7s,mb4.8						
MALT				epP	pP	01 38 49.0	-0.1
GZT	Gaziantep	72.19	304	iP	P	01 38 41.9	-0.1
FINES	FINESS Array B	72.44	330	iP	P	01 38 43.0	0.0
FINES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FINES	FINESS Array B	72.44	330	P	P	01 38 43.0	0.0
	comp=Z,3.6nm,0.9s,mb4.3,baz=76,slow=7.9,SNR=8.9						
FINES				LR	LR	02 14 18.5	
	comp=Z,164nm,19.1s,MS4.3,baz=21,slow=39						
FINES	FINESS Array B	72.44	330	P	P	01 38 43.0	0.0
FINES				LR	LR	02 14 18.6	
SIM	Simferopol'	72.55	312	⇓eP	P	01 38 44.4	+0.4
SIM				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
BOYT	Boyabat	73.00	308	iP	P	01 38 45.5	-1.2
INK	Inuvik	73.14	22	LR	LR	02 13 23.1	
	comp=Z,99nm,19.8s,MS4.1,baz=208,slow=38						
INK	Inuvik	73.14	22	eP	P	01 38 46.5	-0.5
	comp=Z,6.0nm,1.2s,mb4.4						
AKASG	Malin Array Be	74.01	319	P	P	01 38 51.8	-0.7
	comp=Z,1.9nm,0.7s,mb4.2,baz=56,slow=6.4,SNR=12						
ASF	Jabal al Asfar	74.27	299	P	P	01 38 56.2	+1.8
	comp=Z,4.8nm,0.9s,mb4.5,baz=324,slow=4.1,SNR=9.7						
ELDT	Eldivan	74.35	308	iP	P	01 38 54.5	-0.1
BRTR	Keskin Array B	74.43	307	P	P	01 38 56.0	+0.9
	comp=Z,5.7nm,0.8s,mb4.5,baz=101,slow=6.3,SNR=40						
BRTR				pP	pP	01 39 06.6	-1.1
	comp=Z,5.1nm,0.8s,baz=112,slow=4.6,SNR=14						
CSS	Prodhromos	76.19	302	eP	P	01 39 05.2	-0.1
	comp=Z,7.2nm,0.6s,mb4.8						
CSS				epP	pP	01 39 16.1	-1.8
SUW	Suwalki	76.38	323	epP	pP	01 39 17.0	-1.6
	comp=Z,24nm,1.1s						
VRI	Vrincioaia	77.19	315	⇓P	P	01 39 11.6	+0.9
BURAR	Bucovina Array	77.53	317	⇓P	P	01 39 13.1	+0.6
BURAR	Bucovina Array	77.53	317	⇓P	P	01 39 13.1	+0.6
ULDT	Uludag	77.56	308	iP	P	01 39 12.4	-0.4
MLR	Muntele Rosu	77.84	314	⇓P	P	01 39 15.1	+0.8
KWP	Kalwaria	78.31	319	eP	P	01 39 16.9	+0.1
	comp=Z,13nm,1.1s,mb4.8						
KWP				epP	pP	01 39 27.8	-1.7
HFS	Hagfors	78.54	331	LR	LR	02 14 40.1	
	comp=Z,81nm,21.5s,MS4.0,baz=111,slow=36						
NB2	NORSAR Subarra	79.17	333	P	P	01 39 21.0	-0.3
	comp=Z,1.4nm,0.6s,mb4.1,baz=56,slow=5.6						
NOA	NORSAR Array B	79.17	333	P	P	01 39 20.9	-0.4
	comp=Z,2.4nm,0.7s,mb4.2,baz=57,slow=5.6,SNR=6.0						
NOA				pP	pP	01 39 32.2	-1.8
	comp=Z,2.0nm,0.8s,baz=58,slow=5.8,SNR=4.1						
JMIC	Jan Mayen	79.55	345	LR	LR	02 18 21.5	
	comp=Z,96nm,20.7s,MS4.1,baz=271,slow=38						
OJC	Ojcow	79.80	320	eP	P	01 39 25.7	+0.8
YKW3	Yellowknife Ar	82.82	23	eP	P	01 39 40.4	+0.1
YKW3				epP	pP	01 39 51.3	-1.8
BRG	Berggiesshubel	82.83	323	eP	P	01 39 31.8	-8.9
BRG				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.5						
BRG	Berggiesshubel	82.83	323	P	P	01 39 31.8	-8.9
	comp=Z,8.3nm,1.7s,mb4.5						
YKA	Yellowknife Ar	82.86	23	P	P	01 39 41.1	+0.5
	comp=Z,4.1nm,0.8s,mb4.5,baz=312,slow=4.9,SNR=78						
YKA				pP	pP	01 39 52.0	-1.4
	comp=Z,2.5nm,0.7s,baz=313,slow=5.0,SNR=10						
YKA	Yellowknife Ar	82.86	23	P	P	01 39 41.1	+0.5
YKA				pP	pP	01 39 52.0	-1.4
CLL	Collm	83.14	323	P	P	01 39 45.0	+2.8
GERES	GERESS Array B	83.96	321	P	P	01 39 47.5	+1.1
	comp=Z,2.7nm,0.9s,mb4.4,baz=56,slow=4.8,SNR=18						
GERES				pP	pP	01 39 58.4	-0.9
	comp=Z,2.7nm,0.8s,baz=56,slow=4.8,SNR=10						
GRA1	Grafenberg Arr	84.94	323	eP	P	01 39 52.5	+1.2
	comp=Z,6.0nm,1.1s,mb4.6						
GRA1				epP	pP	01 40 03.4	-0.7
GRF	Grafenberg Arr	84.94	323	eP	P	01 39 52.5	+1.2
GRF				e*PP	pP	01 40 03.4	-0.7
GRF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
GRF	Grafenberg Arr	84.94	323	eP	P	01 39 52.5	+1.2
	comp=Z,6.0nm,1.1s,mb4.6						
GRF				epP	pP	01 40 03.4	-0.7
BAIF	Baives	88.51	325	eP	P	01 40 05.2	-3.5
	comp=

ASAR	**Alice Springs**	**39.81**	**126**	P	**P**	**01 54 20.0**	**+0.7**
	0.4nm,0.5s,mb3.5,baz=301,slow=7.9,SNR=7.6						
SONM	**Songino Array**	**49.64**	**6**	P	**P**	**01 55 38.2**	**+0.5**
	0.3nm,0.3s,mb3.8,baz=188,slow=8.7,SNR=4.4						
KURK	**Kurchatov**	**55.15**	**344**	P	**P**	**01 56 17.1**	**-1.7**
	7.4nm,1.3s,mb4.6						
ZAL	**Zalesovo**	**56.74**	**350**	P	**P**	**01 56 30.9**	**+0.7**
	2.3nm,0.4s,mb4.5,baz=326,slow=5.0,SNR=7.6						
BVAR	**Borovoye Array**	**59.71**	**340**	P	**P**	**01 56 50.5**	**-0.4**
	0.6nm,0.6s,mb3.8,baz=144,slow=10,SNR=5.7						
CHKZ	**Chkalovo**	**60.17**	**341**	*eP*	**P**	**01 56 53.7**	**-0.4**
	1.0nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**72.76**	**313**	P	**P**	**01 58 14.3**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=143,slow=7.1,SNR=4.5						
FINES	**FINESS Array B**	**83.60**	**332**	P	**P**	**01 59 14.5**	**+1.2**
	0.7nm,0.6s,mb4.0,baz=180,slow=1.9,SNR=4.7						
TXAR	**Lajitas Array**	**144.69**	**37**	PKP	PKPdf	02 06 23.4	+2.3
	1.2nm,0.4s,baz=198,slow=0.7,SNR=26						
TXAR	**Lajitas Array**	**144.69**	**37**	PKP	PKPdf	02 06 23.4	+2.3
TZTN	**Tazewell**	**145.16**	**4**	*ePKP*	PKPdf	02 06 23.6	+1.9
JCT	**Junction City**	**145.96**	**31**	*ePKP*	PKPdf	02 06 27.1	+3.8
JCT				*e*		02 06 35.4	
CPCT	**Cooper Cave**	**146.16**	**6**	*ePKP*	PKPdf	02 06 26.9	+3.4
CPCT				*e*		02 06 31.9	

*IDC **11** 01:48:27.0±1.9, 1.80S×99.68E, mb3.9/8, mb1 4.1/8, mb1mx3.8/18, mbtmp4.0/8, MS3.4/1, Ms1 3.6/1, ms1mx3.1/25, Error ellipse: s-maj=87.4km s-min=20.6km az=55.0*

*NEIC **11** 01:48:31.5±0.6, 1.80S×99.71E, h30km, mb4.4/2, Error ellipse: s-maj=25.3km s-min=8.5km az=61.0*

ISC 11 01:48:30.4±1.1, 1.7S±0.2×99.7E±0.2, h33km, n15, σ0§58/12, mb4.1/9, MS3.2/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.01**	**7**	*eP*	**P**	**01 50 13.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**20.05**	**358**	P	**P**	**01 53 03.5**	**-0.2**
	1.9nm,0.6s,baz=190,slow=8.9,SNR=4.2						
CMAR				LR	LR	02 01 09.9	
	comp=Z,99nm,18.0s,MS3.2,baz=180,slow=38						
WRA	**Warramunga Arr**	**38.36**	**121**	P	**P**	**01 55 50.2**	**-0.1**
	1.2nm,0.6s,mb3.8,baz=298,slow=9.3,SNR=4.6						
WRAB	**Tennant Creek**	**38.37**	**121**	*eP*	**P**	**01 55 50.3**	**-0.1**
ASAR	**Alice Springs**	**39.63**	**126**	P	**P**	**01 56 00.9**	**+0.1**
	0.9nm,0.8s,mb3.5,baz=319,slow=7.6,SNR=4.2						
SONM	**Songino Array**	**49.68**	**6**	P	**P**	**01 57 20.8**	**-0.3**
	0.7nm,0.3s,mb4.1,baz=189,slow=8.9,SNR=6.7						
MKAR	**Makanchi Array**	**50.68**	**345**	P	**P**	**01 57 29.2**	**+0.4**
	2.7nm,0.7s,mb4.3,baz=153,slow=8.1,SNR=10						
KURK	**Kurchatov**	**55.26**	**344**	*eP*	**P**	**01 58 02.9**	**+0.2**
	3.6nm,0.9s,mb4.4						
ZAL	**Zalesovo**	**56.83**	**350**	P	**P**	**01 58 13.9**	**0.0**
	2.7nm,0.6s,mb4.4,baz=311,slow=5.7,SNR=8.6						
BVAR	**Borovoye Array**	**59.82**	**340**	P	**P**	**01 58 33.6**	**-1.3**
	1.3nm,0.6s,mb4.2,baz=158,slow=8.0,SNR=7.8						
CHKZ	**Chkalovo**	**60.29**	**341**	*eP*	**P**	**01 58 37.5**	**-0.5**
	1.7nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**83.74**	**332**	P	**P**	**02 00 58.5**	**+1.3**
	1.0nm,0.8s,mb4.0,baz=135,slow=5.4,SNR=3.4						
TXAR	**Lajitas Array**	**144.62**	**37**	PKP	PKPdf	02 08 05.4	+1.1
	0.4nm,0.5s,baz=315,slow=1.3,SNR=4.3						
MIAR	**Mount Ida**	**145.05**	**19**	PKP	PKPdf	02 08 06.7	+1.8
TZTN	**Tazewell**	**145.20**	**5**	*ePKP*	PKPdf	02 08 06.3	+1.2

*IDC **11** 01:49:42.0±1.1, 1.78S×99.40E, mb4.0/9, mb1 4.2/9, mb1mx3.9/19, mbtmp4.0/9, Error ellipse: s-maj=63.1km s-min=16.7km az=53.0*

*NEIC **11** 01:49:46.6±0.7, 1.75S×99.49E, h30km, mb4.2/3, Error ellipse: s-maj=38.5km s-min=8.8km az=52.0*

ISC 11 01:49:45.1±1.1, 1.7S±0.2×99.5E±0.3, h33km, n19, σ0§63/14, mb4.1/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.58**	**120**	P	**P**	**01 57 06.1**	**-0.8**
	1.8nm,0.4s,mb4.1,baz=302,slow=9.2,SNR=12						
WRA				PcP	PcP	01 59 20.1	+0.5
	0.4nm,0.6s,baz=310,slow=2.5,SNR=5.8						
WRAB	**Tennant Creek**	**38.58**	**120**	*eP*	**P**	**01 57 06.4**	**-0.5**
	3.8nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**39.83**	**126**	P	**P**	**01 57 17.8**	**+0.5**
	0.8nm,0.4s,mb3.8,baz=300,slow=7.6,SNR=6.2						
ASAR				PcP	PcP	01 59 24.8	+1.3
	0.9nm,0.7s,baz=296,slow=3.0,SNR=4.4						
SONM	**Songino Array**	**49.70**	**6**	P	**P**	**01 58 36.4**	**+0.4**
	0.8nm,0.8s,mb3.8,baz=189,slow=8.7,SNR=2.6						
STKA	**Stephens Creek**	**49.72**	**132**	P	**P**	**01 58 36.8**	**+0.4**
	0.9nm,0.5s,mb4.1,baz=289,slow=4.6,SNR=3.9						
STKA	**Stephens Creek**	**49.72**	**132**	*eP*	**P**	**01 58 37.1**	**+0.7**
MKAR	**Makanchi Array**	**50.61**	**345**	P	**P**	**01 58 43.5**	**+0.5**
	1.2nm,0.4s,mb4.2,baz=154,slow=9.4,SNR=7.1						
MKAR	**Makanchi Array**	**50.61**	**345**	P	**P**	**01 58 43.5**	**+0.5**
KURK	**Kurchatov**	**55.19**	**344**	*eP*	**P**	**01 59 16.7**	**-0.2**
	1.6nm,0.7s,mb4.2						
ZAL	**Zalesovo**	**56.78**	**350**	P	**P**	**01 59 28.5**	**+0.2**
	3.4nm,0.4s,mb4.7,baz=310,slow=6.0,SNR=10						
BVAR	**Borovoye Array**	**59.74**	**340**	P	**P**	**01 59 48.1**	**-0.8**
	1.1nm,0.5s,mb4.1,baz=159,slow=13,SNR=5.0						
CHKZ	**Chkalovo**	**60.20**	**341**	*eP*	**P**	**01 59 51.3**	**-0.8**
	1.2nm,0.6s,mb4.1						
BRTR	**Keskin Array B**	**72.75**	**313**	P	**P**	**02 01 11.8**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=137,slow=6.2,SNR=5.7						
FINES	**FINESS Array B**	**83.62**	**332**	P	**P**	**02 02 12.4**	**+1.1**
	0.9nm,0.6s,mb4.1,baz=90,slow=1.9,SNR=5.9						
TXAR	**Lajitas Array**	**144.77**	**37**	PKP	PKPdf	02 09 21.4	+2.1
	1.9nm,0.4s,baz=218,slow=0.6,SNR=32						
MIAR	**Mount Ida**	**145.13**	**19**	*ePKP*	PKPdf	02 09 21.3	+1.6
MIAR				*e*		02 09 28.4	
TZTN	**Tazewell**	**145.22**	**4**	*ePKP*	PKPdf	02 09 21.1	+1.3
JCT	**Junction City**	**146.03**	**31**	*ePKP*	PKPdf	02 09 24.7	+3.3
JCT				*e*		02 09 32.7	
CPCT	**Cooper Cave**	**146.22**	**6**	*ePKP*	PKPdf	02 09 24.2	+2.6

*JMA **11** 01:53:51.6±0.4, 23.97N×122.30E, h18km, M2.8*

TAP 11 01:53:53.2, 23.75N×122.48E, h23km±1km, ML3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.86**	**34**	P	Pb	01 54 06.9	-2.4
YOJ				*eS*	Sb	01 54 18.2	-2.2
HATJ	**Hateruma jima**	**1.25**	**76**	P	Pn	01 54 16.0	+0.5
HATJ				*eS*	Sb	01 54 32.8	+1.1
IRIF	**Iriomote-Funau**	**1.28**	**63**	P	Pn	01 54 16.3	+0.3
IRIF				S	Sn	01 54 32.5	0.0
JKRS	**Kuro-shima**	**1.48**	**71**	P	Pn	01 54 19.7	+0.9
JKRS				*eS*	Sn	01 54 39.3	+1.7
JIJ	**Ishigaki jima**	**1.64**	**68**	P	Pn	01 54 21.2	+0.2
JIJ				*eS*	Sn	01 54 39.7	-1.9
JTJ	**Tarama**	**2.21**	**66**	*eS*	Sn	01 54 56.5	+0.3

*NIED **11** 01:55:00, 43.00N×145.30E, h50km, Mw3.8 Best double couple: M0=5.81×10^14 NP1:φs=42°, δ70°, λ101°. NP2:φs=193°, δ23°, λ63°.*

*JMA **11** 01:55:20.7±0.1, 42.99N×145.34E, h50km±1km, M4.2*

JMA Felt II J1.

*IDC **11** 01:55:22.4±5.9, 42.80N×145.29E, h72km±35km, mb3.6/9, mb1 3.7/10, mb1mx3.5/25, mbtmp3.9/10, ML4.1/1, Error ellipse: s-maj=65.7km s-min=21.6km az=175.0*

*MOS **11** 01:55:26.4±1.8, 44.63N×145.00E, h33km, mb4.2/4, Error ellipse: s-maj=28.3km s-min=21.8km az=107.5*

ISC 11 01:55:20.0±0.8, 42.98N±0.08×145.33E±0.07, h56km±5km, n24, σ0§73/32, mb3.7/9, 1C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.46**	**272**	⇓P	**P**	**01 55 31.6**	**+0.3**
JAK				*eS*	**S**	01 55 39.3	-0.2
NEM2	**Nemuro 2**	**0.49**	**38**	⇑P	**P**	**01 55 31.4**	**-0.2**
NEM2				S	**S**	01 55 38.7	-1.3
JNK	**Nakash**	**0.75**	**324**	⇓P	**P**	**01 55 34.9**	**+0.2**
JNK				*eS*	**S**	01 55 44.7	-0.9
JRA	**Rausu**	**0.97**	**351**	⇓P	**P**	**01 55 38.0**	**+0.4**
JRA				*eS*	**S**	01 55 50.3	-0.5
JOB	**Onbets**	**1.10**	**267**	⇓P	**P**	**01 55 39.9**	**+0.4**
JOB				*eS*	**S**	01 55 53.4	-0.5
YUK	**Yuzh-Kuril'sk**	**1.12**	**20**	*ePN*	**P**	**01 55 41.5**	**+1.7**
YUK				*i* *SP		01 55 53.0	
YUK				pmax	pmax		
	comp=Z,530nm,0.4s						
YUK				smax			
	comp=N,4μm,0.4s						
YUK				smax			
	comp=E,4μm,0.5s						
YUK				smax			
	comp=N,10μm,1.0s						
YUK				smax			
	comp=E,6μm,1.0s						
JAR	**Ashorobuto**	**1.18**	**286**	⇓P	**P**	**01 55 41.3**	**+0.7**
JAR				*eS*	**S**	01 55 56.4	+0.5
JTKR	**Abashiri--Toko**	**1.43**	**314**	⇓P	**P**	**01 55 45.0**	**+0.8**
JCH	**Churui**	**1.49**	**257**	⇓P	**P**	**01 55 44.8**	**-0.2**
JCH				*eS*	**S**	01 56 02.6	-0.9
ASAJ	**Asahikawa**	**2.29**	**301**	P	**P**	**01 55 57.7**	**+1.6**
	comp=E,32nm,0.3s,baz=124,slow=9.1,SNR=51						
ASAJ				S	**S**	**01 56 27.9**	**+4.7**
	comp=E,8.2nm,0.3s,baz=323,slow=27,SNR=4.8						
SONM	**Songino Array**	**27.55**	**294**	P	**P**	**02 01 03.5**	**+0.2**
	comp=E,1.5nm,0.5s,mb3.8,baz=87,slow=8.3,SNR=11						
ILAR	**Eielson Array**	**42.89**	**36**	P	**P**	**02 03 14.5**	**+0.5**
	comp=E,0.2nm,0.3s,mb3.3,baz=258,slow=5.3,SNR=7.2						
MKAR	**Makanchi Array**	**43.77**	**298**	P	**P**	**02 03 20.9**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**43.77**	**298**	P	**P**	**02 03 20.9**	**-0.5**
	comp=Z,1.0nm,0.5s,mb3.8,baz=82,slow=11,SNR=13						
INK	**Inuvik**	**47.74**	**30**	P	**P**	**02 03 52.8**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=301,slow=4.6,SNR=5.8						
FINES	**FINESS Array B**	**64.95**	**332**	P	**P**	**02 05 54.6**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**64.95**	**332**	P	**P**	**02 05 54.6**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.8,baz=34,slow=6.9,SNR=6.7						
NB2	**NORSAR Subarra**	**69.83**	**338**	P	**P**	**02 06 25.3**	**-0.7**
	comp=Z,0.1nm,0.6s,mb2.9,baz=37,slow=6.5						
NOA	**NORSAR Array B**	**69.83**	**338**	P	**P**	**02 06 25.6**	**-0.4**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**69.83**	**338**	P	**P**	**02 06 25.6**	**-0.4**
	comp=Z,1.6nm,0.9s,mb4.0,baz=36,slow=6.3,SNR=4.2						
HFS	**Hagfors**	**69.88**	**337**	P	**P**	**02 06 25.4**	**-0.9**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	**Hagfors**	**69.88**	**337**	P	**P**	**02 06 25.4**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.1,baz=68,slow=8.0,SNR=6.0						
AKASG	**Malin Array Be**	**71.41**	**323**	P	**P**	**02 06 35.0**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.5,baz=45,slow=8.1,SNR=6.0						
PDAR	**Pinedale Array**	**71.42**	**49**	P	**P**	**02 06 36.5**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=261,slow=0.4,SNR=6.3						

*IDC **11** 01:56:52.5±1.0, 1.70S×99.55E, mb3.8/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=40.0km s-min=19.8km az=55.0*

ISC 11 01:56:55.7±0.9, 1.6S±0.2×99.6E±0.2, h33km, n8, σ0§49/7, mb3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.52**	**121**	P	**P**	**02 04 16.3**	**-0.7**
	0.8nm,0.4s,mb3.8,baz=302,slow=9.3,SNR=5.6						
ASAR	**Alice Springs**	**39.79**	**126**	P	**P**	**02 04 27.6**	**+0.1**
	1.1nm,0.7s,mb3.7,baz=303,slow=8.3,SNR=6.1						
SONM	**Songino Array**	**49.63**	**6**	P	**P**	**02 05 46.8**	**+0.7**
	0.3nm,0.6s,mb3.5,baz=184,slow=8.4,SNR=3.8						
STKA	**Stephens Creek**	**49.69**	**132**	P	**P**	**02 05 47.3**	**+0.6**
	2.1nm,1.0s,mb4.1,baz=315,slow=8.6,SNR=2.4						
MKAR	**Makanchi Array**	**50.58**	**345**	P	**P**	**02 05 53.2**	**-0.1**
	0.8nm,0.7s,mb3.8,baz=153,slow=8.1,SNR=9.3						
ZAL	**Zalesovo**	**56.74**	**350**	P	**P**	**02 06 38.0**	**-0.6**
	1.6nm,0.4s,mb4.4,baz=294,slow=7.4,SNR=5.5						
MATP	**Matopo**	**71.72**	**249**	P	**P**	**02 08 16.9**	**+0.1**
	0.8nm,0.7s,mb3.8,baz=93,slow=9.7,SNR=4.1						
TXAR	**Lajitas Array**	**144.66**	**37**	PKP	PKPdf	02 16 31.3	+1.6
	0.8nm,0.5s,baz=185,slow=1.5,SNR=14						

*IDC **11** 02:10:57.0±18.0, 12.02N×91.10E, mb3.7/3, mb1 3.8/4, mb1mx3.5/20, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=329.2km s-min=59.6km az=179.0*

ISC 11 02:10:53.4±4.1, 11.2N±0.4×91.3E±0.1, h33km, n5, σ0§47/6, mb3.8/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.02**	**311**	*eP*	**P**	**02 13 17.9**	**-0.4**
VIS				*eS*	**S**	02 15 10.8	+0.1
CMAR	**Chiang Mai Arr**	**10.33**	**45**	Pn	**P**	**02 13 22.3**	**-0.2**
	0.2nm,0.3s,baz=238,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**36.24**	**350**	P	**P**	**02 17 55.6**	**+0.2**
	1.0nm,0.6s,mb3.9,baz=169,slow=8.7,SNR=11						
SONM	**Songino Array**	**38.64**	**16**	P	**P**	**02 18 15.1**	**-0.3**
	0.6nm,0.6s,mb3.5,baz=208,slow=8.0,SNR=7.5						
ZAL	**Zalesovo**	**42.90**	**354**	P	**P**	**02 18 51.1**	**+0.6**
	0.7nm,0.3s,mb3.9,baz=15,slow=21,SNR=3.8						

IDC 11 02:12:23.8±6.7, 0.10S×100.37E, mb3.7/3, mb1 3.9/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=240.1km s-min=33.6km az=66.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.50**	**356**	P	P	02 16 42.0	-1.5
	baz=220,slow=15,SNR=2.8						
WRA	**Warramunga Arr**	**38.67**	**123**	P	P	02 19 50.3	-0.9
	0.4nm,0.4s,baz=304,slow=8.2,SNR=6.0						
ASAR	**Alice Springs**	**40.09**	**128**	P	P	02 20 01.4	-1.7
	0.8nm,0.5s,baz=308,slow=7.2,SNR=6.2						
STKA	**Stephens Creek**	**50.15**	**133**	P	P	02 21 20.1	-3.2
	1.4nm,0.5s,baz=312,slow=11,SNR=4.3						

IDC 11 02:16:00.1±2.3, 1.79S×99.10E, mb3.6/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, Error ellipse: s-maj=105.4km s-min=28.6km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**40.10**	**126**	P	P	02 23 38.0	-1.4
	0.4nm,0.6s,baz=298,slow=8.0,SNR=4.4						
SONM	**Songino Array**	**49.83**	**6**	P	P	02 24 55.3	-1.6
	0.2nm,0.4s,baz=207,slow=6.4,SNR=3.1						
MKAR	**Makanchi Array**	**50.59**	**345**	P	P	02 25 01.8	-1.0
	0.5nm,0.5s,baz=154,slow=8.1,SNR=4.8						
BVAR	**Borovoye Array**	**59.68**	**340**	P	P	02 26 04.9	-3.8
	0.1nm,0.4s,baz=135,slow=16,SNR=2.2						
FINES	**FINESS Array B**	**83.51**	**332**	P	P	02 28 30.6	-0.4
	0.8nm,0.6s,baz=90,slow=7.6,SNR=3.7						
TXAR	**Lajitas Array**	**145.07**	**36**	PKPbc	PKPbc	02 35 38.1	-2.4
	0.1nm,0.4s,baz=132,slow=0.6,SNR=4.0						

*IDC **11** 02:17:02.6±1.0, 1.76S×99.69E, mb4.3/13, mb1 4.5/13, mb1mx4.2/21, mbtmp4.3/13, MS4.4/1, Ms1 4.3/1, ms1mx3.4/16, Error ellipse: s-maj=50.4km s-min=14.9km az=52.0*

*BJI **11** 02:17:04.8, 2.03S×99.85E, h43km, mB5.2, mb4.9, Ms4.3, Msz4.5*

*NEIC **11** 02:17:07.5±0.5, 1.62S×99.88E, h30km, mb4.7/6, Error ellipse: s-maj=18.5km s-min=7.1km az=61.0*

ISC 11 02:17:05.7±8.8, 1.6S±0.2×100.0E±0.3, h28km±58km, n32, σ0§88/24, mb4.5/18, MS4.5/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.83**	**6**	*eP*	**Pn**	**02 18 47.6**	**+0.9**
CM31	**Chiang Mai Arr**	**19.91**	**357**	*eP*	**P**	**02 21 35.8**	**-2.5**
CMAR	**Chiang Mai Arr**	**19.91**	**357**	P	**P**	**02 21 38.5**	**+0.2**
	3.2nm,0.6s,baz=186,slow=9.6,SNR=14						
SHL	**Shillong**	**28.07**	**344**	*eP*	**P**	**02 22 57.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**30.11**	**125**	P	**P**	**02 23 14.6**	**-0.8**
	5.2nm,0.9s,mb4.3,baz=339,slow=8.1,SNR=3.8						
ENH	**Enshi**	**32.93**	**15**	*eP*	**P**	**02 23 38.5**	**-1.5**
	7.7nm,0.5s,mb4.9						
WRA	**Warramunga Arr**	**38.26**	**121**	P	**P**	**02 24 25.6**	**0.0**
	1.5nm,0.4s,mb4.1,baz=303,slow=9.0,SNR=9.4						
WRAB	**Tennant Creek**	**38.27**	**121**	*eP*	**P**	**02 24 25.8**	**+0.2**
	7.1nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**39.55**	**126**	P	**P**	**02 24 36.3**	**0.0**
	1.0nm,0.6s,mb3.7,baz=301,slow=7.8,SNR=7.2						
WMQ	**Urumqi**	**46.49**	**348**	*eP*	**P**	**02 25 33.5**	**+1.2**
STKA	**Stephens Creek**	**49.48**	**132**	P	**P**	**02 25 56.4**	**+0.5**
	1.8nm,0.7s,mb4.2,baz=219,slow=1.9,SNR=3.5						
SONM	**Songino Array**	**49.51**	**6**	P	**P**	**02 25 56.4**	**+0.6**
	3.7nm,0.6s,mb4.6,baz=185,slow=8.8,SNR=30						
SONM				PcP	PcP	02 27 17.8	+0.1
	1.0nm,0.5s,baz=194,slow=4.3,SNR=4.6						
ULN	**Ulaanbaatar**	**49.60**	**6**	*eP*	**P**	**02 25 56.8**	**+0.3**
	1.9nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**50.59**	**344**	P	**P**	**02 26 04.4**	**+0.4**
	6.5nm,0.5s,mb4.8,baz=157,slow=8.0,SNR=43						
KURK	**Kurchatov**	**55.17**	**344**	*eP*	**P**	**02 26 37.5**	**-0.6**
	8.6nm,0.8s,mb4.8						
ZAL	**Zalesovo**	**56.71**	**349**	P	**P**	**02 26 49.3**	**+0.1**
	12nm,0.4s,mb5.3,baz=322,slow=4.8,SNR=35						
BVAR	**Borovoye Array**	**59.75**	**340**	P	**P**	**02 27 09.1**	**-1.3**
	2.6nm,0.5s,mb4.5,baz=144,slow=10,SNR=17						
CHKZ	**Chkalovo**	**60.21**	**340**	*eP*	**P**	**02 27 12.7**	**-0.9**
	2.5nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**72.98**	**312**	P	**P**	**02 28 33.6**	**-1.3**
	0.3nm,0.4s,mb3.5,baz=148,slow=12,SNR=3.6						
BOSA	**Boshof**	**75.83**	**241**	LR	LR	02 59 42.7	
	comp=Z,222nm,18.7s,MS4.5,baz=12,slow=34						
MLR	**Muntele Rosu**	**79.94**	**317**	P	**P**	**02 29 14.1**	**+0.3**
	2.7nm,0.9s,mb4.2,baz=142,slow=4.8,SNR=6.4						
FINES	**FINESS Array B**	**83.69**	**332**	P	**P**	**02 29 33.5**	**+0.5**
	1.2nm,0.6s,mb4.2,baz=95,slow=5.8,SNR=10						
FINES	**FINESS Array B**	**83.69**	**332**	P	**P**	**02 29 33.5**	**+0.5**
KAF	**Kangasniemi**	**83.76**	**333**	*ep*	pP	02 29 41.2	-1.2
KEV	**Kevo**	**85.59**	**341**	*ep*	**P**	**02 29 43.3**	**+0.9**
	16nm,1.1s,mb5.2						
ARCES	**ARCESS Array B**	**86.04**	**340**	P	**P**	**02 29 45.7**	**+1.2**
	1.5nm,0.5s,mb4.5,baz=100,slow=5.9,SNR=12						
TXAR	**Lajitas Array**	**144.38**	**37**	PKP	PKPdf	02 36 41.2	-3.7
	1.9nm,0.6s,baz=259,slow=0.8,SNR=20						
TXAR	**Lajitas Array**	**144.38**	**37**	PKP	PKPdf	02 36 41.2	-3.7
MIAR	**Mount Ida**	**144.83**	**20**	*ePKP*	PKPdf	02 36 41.7	-3.8
MIAR				*e*		02 36 51.2	
TZTN	**Tazewell**	**145.03**	**5**	*ePKP*	PKPdf	02 36 41.5	-4.4
TZTN				*e*		02 36 51.2	
JCT	**Junction City**	**145.67**	**31**	*ePKP*	PKPdf	02 36 44.9	-2.2
JCT				*e*		02 36 52.2	
CPCT	**Cooper Cave**	**146.02**	**7**	*ePKP*	PKPdf	02 36 44.5	-3.0
CPCT				*e*		02 36 54.0	

*IDC **11** 02:19:12.8±0.5, 1.70S×99.61E, mb4.5/22, mb1 4.6/22, mb1mx4.5/26, mbtmp4.5/22, MS4.0/6, Ms1 4.1/6, ms1mx3.9/14, Error ellipse: s-maj=21.3km s-min=12.4km az=48.0*

*HRVD **11** 02:19:18.3±0.8, 1.70S×99.48E, h22km±1km, MW4.9/39, Centroid moment Tensor Solution. LP body waves: s17,c21;Mantle waves: s39,c55; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.78±.23; Mθθ-0.73±.12; Mφφ-1.05±.17; Mrθ0.96±.20; Mθφ1.45±.08; Mφr0.69±.22; Best double couple: M0=2.427×10^16 NP1:φs=346°, δ51°, λ132°. NP2:φs=111°, δ55°, λ50°. Principal axes: T 2.503, Plg59°, Azm321°; N -.148, Plg31°, Azm136°; P -2.352, Plg2°, Azm227°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **11** 02:19:18.3, 1.70S×99.70E, h37km, mB5.2, mb4.7, Ms4.6, Msz4.5*

*NEIC **11** 02:19:18.3±1.4, 1.69S×99.66E, h38km±12km, mb5.0/31, Error ellipse: s-maj=9.5km s-min=4.8km az=49.0*

ISC 11 02:19:16.1±0.3, 1.69S±0.06×99.69E±0.06, h33km, (h29km±2.9km: pP-P), n87, σ1§01/79, mb4.8/49, MS4.0/7, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.00**	**8**	*eP*	**P**	**02 20 48.9**	**-10**
SNG	**Songkhla**	**8.85**	**6**	P	**P**	**02 21 27.0**	**+2.3**
	170nm,1.0s						
KSM	**Kuching**	**11.07**	**74**	P	**P**	**02 21 54.0**	**-1.4**
KKM	**Kota Kinabalu**	**18.20**	**65**	*eP*	**P**	**02 23 28.9**	**+0.7**
CM31	**Chiang Mai Arr**	**20.03**	**358**	*eP*	**P**	**02 23 47.4**	**-1.7**
	10nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.03**	**358**	P	**P**	**02 23 47.6**	**-1.6**
	4.1nm,0.6s,baz=187,slow=10,SNR=12						
CMAR				LR	LR	02 32 21.7	
	comp=Z,656nm,18.3s,MS4.0,baz=180,slow=39						
NANT	**Nan**	**20.38**	**3**	P	**P**	**02 23 50.0**	**-2.9**
CHG	**Chiang Mai**	**20.

ULN	Ulaanbaatar	49.77	6	*e*P	P	02 28 07.4	-0.1
	comp=Z,4.1nm,0.7s,mb4.6						
EKS2	Erkin-Say	49.95	335	P	P	02 28 09.8	+0.8
	SNR=15						
USP	Ospenovka	50.15	336	P	P	02 28 10.7	+0.1
	SNR=19						
MKAR	Makanchi Array	50.65	345	P	P	02 28 14.2	0.0
	comp=Z,9.7nm,0.6s,mb4.9,baz=153,slow=8.1,SNR=29						
MKAR				LR	LR	02 54 45.4	
	comp=Z,91nm,19.0s,MS3.8,baz=178,slow=42						
MJAR	Matsushiro Arr	52.23	39	P	P	02 28 26.5	+0.2
	comp=Z,1.4nm,0.4s,mb4.2,baz=215,slow=7.9,SNR=4.3						
KURK	Kurchatov	55.22	344	*e*P	P	02 28 47.3	-0.9
	comp=Z,22nm,0.9s,mb5.2						
ZAL	Zalesovo	56.80	350	P	P	02 28 59.3	-0.2
	comp=Z,13nm,0.5s,mb5.3,baz=310,slow=4.3,SNR=30						
ZAL				LR	LR	02 58 19.4	
	comp=Z,94nm,19.2s,MS3.9,baz=118,slow=41						
ATD	Arta Tunnel	57.99	285	LR	LR	02 49 38.2	
	comp=Z,167nm,18.9s,MS4.2,baz=96,slow=32						
BVAR	Borovoye Array	59.78	340	P	P	02 29 18.8	-1.5
	comp=Z,5.9nm,0.7s,mb4.8,baz=143,slow=7.4,SNR=24						
CHKZ	Chkalovo	60.25	341	*e*P	P	02 29 22.1	-1.4
	comp=Z,29nm,0.6s,mb5.5						
CHKZ				*e*	pP	02 29 31.8	-1.8
HNR	Honiara	60.40	100	LR	LR	02 55 45.2	
	comp=Z,125nm,19.1s,MS4.1,baz=118,slow=36						
KMBO	Kilima Mbogo	62.42	270	P	P	02 29 39.0	+0.3
	comp=Z,4.6nm,1.0s,mb4.6,baz=49,slow=9.2,SNR=8.0						
KMBO	Kilima Mbogo	62.42	270	*e*P	P	02 29 38.0	-0.6
	comp=Z,9.3nm,1.2s,mb4.8						
GNI	Garni	65.08	316	P	P	02 29 55.9	+0.1
	comp=Z,1.1nm,0.3s,mb4.3,baz=195,slow=20,SNR=5.8						
ARU	Arti	66.80	337	*e*P	P	02 30 04.7	-1.7
	comp=Z,38nm,1.5s,mb5.2						
YAK	Yakutsk	67.52	15	*e*P	P	02 30 09.7	-1.2
	comp=Z,33nm,0.5s,mb5.6						
KIV	Kislovodsk	68.10	319	*e*P	P	02 30 13.9	-1.0
	comp=Z,38nm,1.4s,mb5.2						
ASF	Jabal al Asfar	68.15	306	P	P	02 30 15.7	+0.3
	comp=Z,3.9nm,0.7s,mb4.5,baz=330,slow=3.4,SNR=6.6						
MALT	Malatya	68.90	312	*e*P	P	02 30 19.6	-0.3
	comp=Z,3.4nm,0.8s,mb4.3						
EIL	Elat	69.09	303	*e*P	P	02 30 19.2	-2.0
	comp=Z,33nm,1.7s,mb5.0						
EIL				*e*		02 30 25.6	
MATP	Matopo	71.79	249	P	P	02 30 37.7	0.0
	comp=Z,11nm,1.0s,mb4.7,baz=82,slow=4.2,SNR=13						
BRTR	Keskin Array B	72.88	312	P	P	02 30 42.5	-1.5
	comp=Z,2.3nm,0.7s,mb4.2,baz=135,slow=7.0,SNR=16						
IDI	Anoyia	78.60	306	P	P	02 31 15.4	-1.1
	comp=Z,4.7nm,0.4s,mb4.7,baz=124,slow=5.7,SNR=4.0						
AKASG	Malin Array Be	79.05	322	P	P	02 31 17.3	-1.4
	comp=Z,1.5nm,0.7s,mb4.1,baz=82,slow=4.8,SNR=14						
MLR	Muntele Rosu	79.86	317	P	P	02 31 23.4	+0.2
	comp=Z,14nm,1.0s,mb4.8,baz=111,slow=1.4,SNR=17						
JOF	Joensuu	81.80	335	*e*p	P	02 31 31.9	-1.1
	comp=Z,5.4nm,0.9s,mb4.5						
KOLS	Kolonicke sedl	83.01	320	*e*P	P	02 31 40.1	+0.6
KOLS				*e*		02 31 45.6	
SUW	Suwalki	83.45	325	*e*P	P	02 31 41.5	-0.2
	comp=Z,38nm,1.1s,mb5.3						
FINES	FINESS Array B	83.69	332	P	P	02 31 43.0	+0.4
	comp=Z,2.3nm,0.5s,mb4.5,baz=108,slow=5.1,SNR=17						
KAF	Kangasniemi	83.76	333	*e*p	P	02 31 42.9	-0.1
	comp=Z,7.4nm,0.6s,mb5.0,baz=102,slow=4.7						
VYHS	Vyhne	85.19	319	*e*P	P	02 31 51.2	+0.7
ARCES	ARCESS Array B	86.07	340	P	P	02 31 56.1	+1.7
	comp=Z,6.7nm,0.9s,mb4.9,baz=135,slow=3.4,SNR=9.7						
BRG	Berggiesshubel	88.60	321	*e*P	P	02 32 07.9	+0.9
	comp=Z,22nm,1.7s,mb5.2						
BRG				*e*		02 32 20.8	
GEC2	GERESS Array S	88.61	319	*e*P	P	02 32 07.7	+0.6
	comp=Z,17nm,1.6s,mb5.1						
GERES	GERESS Array B	88.61	319	P	P	02 32 08.1	+1.0
	comp=Z,1.5nm,0.8s,mb4.4,baz=90,slow=4.0,SNR=12						
WET	Wettzell	89.17	319	*e*P	P	02 32 10.4	+0.6
	comp=Z,12nm,1.3s,mb5.1						
CLL	Collm	89.22	321	P	P	02 32 11.0	+1.0
GRA1	Grafenberg Arr	90.28	320	*e*P	P	02 32 15.1	+0.1
	comp=Z,39nm,1.9s,mb5.4						
GRF	Grafenberg Arr	90.28	320	*e*P	P	02 32 15.1	+0.1
	comp=Z,39nm,1.9s,mb5.4						
CLZ	Clausthal	90.89	322	*e*P	P	02 32 18.8	+1.0
	comp=Z,13nm,1.4s,mb5.1						
YKA	Yellowknife Ar	114.16	17	PKP	PKPdf	02 37 52.4	+0.5
	comp=Z,0.4nm,1.0s,baz=310,slow=2.1,SNR=4.9						
YKA	Yellowknife Ar	114.16	17	PKP	PKPdf	02 37 52.4	+0.5
TXAR	Lajitas Array	144.64	37	PKP	PKPdf	02 38 51.4	+1.3
	comp=Z,2.7nm,0.5s,baz=239,slow=0.6,SNR=23						
MIAR	Mount Ida	145.04	19	*e*PKP	PKPdf	02 38 51.2	+0.5
MIAR				*e*		02 38 59.0	
TZTN	Tazewell	145.19	5	*e*PKP	PKPdf	02 38 51.4	+0.5
JCT	Junction City	145.92	31	*e*PKP	PKPdf	02 38 54.6	+2.3
CPCT	Cooper Cave	146.18	6	*e*PKP	PKPdf	02 38 54.5	+1.9

*ATH **11** 02:24:39.8,39.05N×20.59E,h10km,MD3.2/3*
*THE **11** 02:24:42.4,39.15N×20.45E,h10km*
ISC 11 02:24:41.1±1.1,39.11N±0.06×20.54E±0.10,h10km,n6,
σ1°14/7,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	Levkas	0.41	168	*e*Pg	Pg	02 24 51.0	+1.5
IGT	Igoumenitsa	0.45	339	*e*Pg	Pg	02 24 50.0	-0.2
JAN	Janina	0.59	24	*e*PB	Pb	02 24 52.0	-1.0
KEK	Kerkira	0.83	316	*e*PB	Pb	02 24 57.0	-0.1
MEV	Metsovon	0.86	38	*e*Pg	Pg	02 24 58.8	+0.5
MEV				*e*Sg	Sg	02 25 10.9	+1.2
EVR	Evrytania	1.01	101	*e*PB	Pb	02 24 58.0	-2.1

IDC 11 02:32:25.4±3.1,1.60S×99.33E,mb3.8/4,mb1 3.8/5,
mb1mx3.6/18,mbtmp3.7/5,ML3.4/1,Error ellipse:
s-maj=100.4km s-min=63.2km az=91.0,Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.93	359	P	P	02 36 59.4	-2.5
	0.1nm,0.3s,baz=193,slow=9.3,SNR=3.3						
SONM	Songino Array	49.62	6	P	P	02 41 18.4	-2.2
	0.2nm,0.5s,baz=192,slow=12,SNR=2.6						
MKAR	Makanchi Array	50.46	345	P	P	02 41 26.1	-0.9
	1.4nm,0.6s,baz=153,slow=7.8,SNR=11						
BVAR	Borovoye Array	59.58	340	P	P	02 42 28.9	-4.3
	0.4nm,0.6s,baz=129,slow=9.2,SNR=3.3						
FINES	FINESS Array B	83.44	332	P	P	02 44 55.7	-0.3
	1.7nm,0.9s,baz=233,slow=29,SNR=3.2						
TXAR	Lajitas Array	144.78	36	PKP	PKPdf	02 52 04.3	-2.5
	0.3nm,0.4s,baz=270,slow=0.9,SNR=11						

*SNSN **11** 02:32:33.7,25.04N×36.42E,h20km,Ml2.3*
*HLW **11** 02:32:33.6,24.98N×36.26E,h16km,Mb3.0*
*CSEM **11** 02:32:33.3±0.1,24.99N×36.28E,h35km,ML2.3,Error ellipse: s-maj=2.4km s-min=2.1km az=161.0*
ISC 11 02:32:31.8±1.2,24.99N±0.05×36.31E±0.04,h22km±12km,
n13,σ0°72/19,3C-2D,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJS	Umm Lajj	0.94	75	P	Pb	02 32 49.6	+0.2
UMJS				S	Sb	02 33 00.4	-1.1
EMRS	Mersa Alam	1.33	271	↑P	Pn	02 32 55.6	+0.2
HAGS	Hagol	1.34	244	↑P	Pn	02 32 55.9	+0.3
HADB		1.57	284	↑P	Pn	02 32 59.0	+0.3
HADB		1.57	284	P	Pn	02 32 59.0	+0.2
YNBS	Yanbu' al Bahr	1.66	112	P	Pn	02 33 00.8	+0.6
YNBS				S	Sn	02 33 20.9	-0.1
HQSR		1.90	294	↓P	Pn	02 33 03.6	+0.1
HSHL	Bi'r Shalatayn	2.05	204	↓P	Pn	02 33 05.9	+0.3
DBAS	Duba	2.23	352	P	Pn	02 33 08.2	-0.1
KBRS	Khaybar	2.79	73	P	Pn	02 33 17.2	+0.9
KBRS				S	Sn	02 33 48.7	-1.0
HEDF	Idfu	2.84	273	P	Pn	02 33 16.6	-0.3
HEDF				S	Sn	02 33 48.1	-2.7
TBKS	Tabuk	3.23	4	P	Pn	02 33 23.3	+0.7
TBKS				S	Sn	02 34 01.4	+0.6
JMQS	Jabal Moqyreh	3.90	354	P	Pn	02 33 32.4	+0.3
JMQS				S	Sn	02 34 17.4	-0.4

*NIED **11** 03:03:00,35.70N×140.70E,h50km,Mw3.8 Best double couple: M₀6.26×10¹⁴ NP1:φs1°,δ73°,λ85°. NP2:φs197°,δ18°,λ105°.*
*JMA **11** 03:03:46.3±0.1,35.74N×140.69E,h48km±1km,M3.4*
JMA Felt I J1.
*IDC **11** 03:03:47.2±1.8,35.62N×140.81E,h50km±19km,mb3.2/5,mb1 3.6/9,mb1mx3.4/26,mbtmp3.7/9,ML3.8/4,MS3.1/3,Ms1 3.1/3,ms1mx2.9/13,Error ellipse: s-maj=21.0km s-min=8.7km az=68.0*
*NEIC **11** 03:03:47.6±2.2,35.61N×140.65E,h56km±17km,mb4.2/2,Error ellipse: s-maj=23.7km s-min=22.4km az=74.0*
ISC 11 03:03:45.3±0.6,35.69N±0.04×140.82E±0.07,h54km±6km,
n25,σ1°91/28,mb3.6/7,MS2.9/1,1C-4D,Near east coast
of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.03	67	↑P	P	03 03 53.9	+0.5
JCN	Nagara	0.57	242	↓P	P	03 03 58.1	+0.4
JYT	Yasato	0.74	317	↓P	P	03 03 59.1	-0.7
JYT				S	S	03 04 08.1	-2.4
BSO4	Boso 4	0.80	210	↓P	P	03 04 01.2	+0.6
BSO3	Boso 3	0.92	196	P	P	03 04 02.8	+0.6
JHO	Hitachi	0.94	348	↓P	P	03 04 02.8	+0.3
BSO1	Boso 1	1.04	173	P	P	03 04 05.0	+1.0
JAG	Ashikaga	1.33	304	P	P	03 04 06.8	-1.3
MJAR	Matsushiro Arr	2.28	293	P	P	03 04 21.2	-0.2
	12nm,0.3s,baz=94,slow=13,SNR=57						
MJAR				S	S	03 04 49.9	+1.6
	9.8nm,0.3s,baz=230,slow=44,SNR=8.1						
MAJO	Matsushiro	2.28	293	*e*P	P	03 04 21.5	+0.1
MAT	Matsushiro	2.28	293	*e*P	P	03 04 22.0	+0.6
MAT				*e*S	S	03 04 49.0	+0.7
MAT	Matsushiro	2.28	293	P	P	03 04 21.6	+0.2
MAT				S	S	03 04 48.7	+0.4
JHJ	Hachijo jima 2	2.70	199	P	P	03 04 27.2	-0.2
	68nm,0.3s,baz=267,slow=15,SNR=13						
JHJ				S	S	03 04 58.6	-0.4
	51nm,0.3s,baz=271,slow=23,SNR=7.2						
ASAJ	Asahikawa	8.53	9	P	P	03 05 48.6	0.0
	0.9nm,0.3s,baz=225,slow=10,SNR=4.4						
ASAJ				LR	LR	03 10 00.6	
	comp=Z,34nm,21.2s,baz=352,slow=43						
CBIJ	Chichi jima	8.65	172	P	P	03 05 47.6	-2.7
	6.4nm,0.3s,baz=147,slow=22,SNR=6.4						
JOW	Kunigami	13.89	234	LR	LR	03 11 36.9	
	comp=Z,323nm,20.9s,baz=312,slow=34						
SONM	Songino Array	28.16	306	P	P	03 09 35.8	+1.3
	0.4nm,0.7s,mb3.2,baz=120,slow=12,SNR=3.1						
FX1	Attu Island--F	28.50	43	LR	LR	03 18 14.4	
	comp=Z,34nm,21.0s,MS2.9,baz=6.3,slow=30						
MKAR	Makanchi Array	44.44	303	P	P	03 11 52.6	+0.2
	0.6nm,0.7s,mb3.5,baz=90,slow=11,SNR=6.5						
KURK	Kurchatov	46.40	309	*e*P	P	03 12 06.5	-1.4
	1.3nm,0.5s,mb4.1						
ILAR	Eielson Array	50.89	32	P	P	03 12 43.8	+1.3
	0.4nm,0.7s,mb3.5,baz=273,slow=5.8,SNR=5.4						
CHKZ	Chkalovo	50.89	314	*e*P	P	03 12 41.5	-1.2
	3.8nm,1.3s,mb4.2						
WRA	Warramunga Arr	55.67	187	P	P	03 13 17.4	-1.0
	0.5nm,0.4s,mb3.9,baz=0.8,slow=7.7,SNR=8.8						
YKA	Yellowknife Ar	65.21	30	P	P	03 14 23.7	+1.0
	0.1nm,0.5s,mb3.1,baz=302,slow=6.9,SNR=5.4						
YKA	Yellowknife Ar	65.21	30	P	P	03 14 23.7	+1.0

IDC 11 03:04:22.8±3.6,1.41S×100.28E,mb3.7/5,mb1 3.9/5,
mb1mx3.6/17,mbtmp3.7/5,Error ellipse:
s-maj=160.9km s-min=23.0km az=56.0,Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.05	121	P	P	03 11 41.7	-3.3
	0.5nm,0.6s,baz=299,slow=9.8,SNR=4.8						
ASAR	Alice Springs	39.37	127	P	P	03 11 56.3	+0.3
	0.3nm,0.5s,baz=300,slow=7.9,SNR=4.0						
SONM	Songino Array	49.33	5	P	P	03 13 14.3	-1.4
	0.5nm,0.5s,baz=185,slow=11,SNR=5.4						
MKAR	Makanchi Array	50.54	344	P	P	03 13 23.7	-1.3
	0.9nm,0.5s,baz=151,slow=8.1,SNR=10						
ZAL	Zalesovo	56.64	349	P	P	03 14 06.1	-3.8
	1.7nm,0.3s,baz=327,slow=4.2,SNR=3.3						
TXAR	Lajitas Array	144.06	37	PKP	PKPdf	03 23 59.3	-3.6
	0.2nm,0.5s,baz=271,slow=1.1,SNR=5.1						

*IDC **11** 03:12:10.3±2.0,1.71S×99.53E,mb4.0/7,mb1 4.2/7,mb1mx3.9/18,mbtmp4.0/7,MS3.0/1,Ms1 3.2/1,ms1mx2.8/26,Error ellipse: s-maj=88.2km s-min=20.0km az=56.0*
*NEIC **11** 03:12:14.9±0.6,1.64S×99.63E,h30km,mb4.2/3,Error ellipse: s-maj=23.7km s-min=8.2km az=63.0*
ISC 11 03:12:13.6±1.1,1.6S±0.1×99.6E±0.2,h33km,n17,
σ0°57/12,mb4.1/9,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.89	8	*e*P	P	03 13 55.0	+0.1
CMAR	Chiang Mai Arr	19.91	358	P	P	03 16 44.9	-0.5
	0.7nm,0.4s,baz=185,slow=10.0,SNR=3.0						
CMAR				LR	LR	03 24 45.4	
	comp=Z,50nm,21.1s,baz=91,slow=38						
WRA	Warramunga Arr	38.52	121	P	P	03 19 34.4	-0.4
	1.0nm,0.4s,mb3.9,baz=301,slow=9.3,SNR=5.4						
WRAB	Tennant Creek	38.52	121	*e*P	P	03 19 34.5	-0.4
	2.5nm,0.6s,mb4.1						
ASAR	Alice Springs	39.79	126	P	P	03 19 46.0	+0.6
	0.7nm,0.5s,mb3.6,baz=303,slow=7.9,SNR=9.3						
SONM	Songino Array	49.56	6	P	P	03 21 04.1	+0.8
	0.8nm,0.7s,mb3.9,baz=192,slow=9.3,SNR=5.1						
MKAR	Makanchi Array	50.52	345	P	P	03 21 11.2	+0.5
	1.7nm,0.6s,mb4.2,baz=151,slow=8.2,SNR=20						
KURK	Kurchatov	55.10	344	*e*P	P	03 21 44.1	-0.6
	1.6nm,0.8s,mb4.1						
ZAL	Zalesovo	56.68	350	P	P	03 21 56.2	+0.1
	4.2nm,0.4s,mb4.8,baz=343,slow=3.6,SNR=7.4						
ZAL	Zalesovo	56.68	350	P	P	03 21 56.2	+0.1
CHKZ	Chkalovo	60.12	341	*e*P	P	03 22 19.2	-1.0
	1.2nm,0.6s,mb4.1						
FINES	FINESS Array B	83.57	332	P	P	03 24 40.3	+0.8
	0.9nm,0.7s,mb4.0,baz=108,slow=6.0,SNR=5.7						
TXAR	Lajitas Array	144.58	37	PKP	PKPdf	03 31 49.1	+1.6
	0.9nm,0.4s,baz=254,slow=0.9,SNR=22						
MIAR	Mount Ida	144.95	19	*e*PKP	PKPdf	03 31 49.1	+1.1
TZTN	Tazewell	145.08	4	*e*PKP	PKPdf	03 31 48.9	+0.7
JCT	Junction City	145.84	31	*e*PKP	PKPdf	03 31 52.6	+3.0
CPCT	Cooper Cave	146.07	6	*e*PKP	PKPdf	03 31 51.9	+2.1

IDC 11 03:19:02.6±5.4,0.33S×101.58E,mb3.4/3,mb1 3.6/3,
mb1mx3.4/18,mbtmp3.4/3,Error ellipse:
s-maj=301.1km s-min=29.9km az=53.0,Southern
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	37.52	123	P	P	03 26 19.4	-0.9
	0.4nm,0.5s,baz=304,slow=9.0,SNR=4.2						
ASAR	Alice Springs	39.00	129	P	P	03 26 30.1	-2.7
	0.2nm,0.4s,baz=302,slow=7.3,SNR=4.6						
MKAR	Makanchi Array	49.88	343	P	P	03 27 58.0	-1.8
	0.1nm,0.3s,baz=143,slow=7.2,SNR=3.6						
TXAR	Lajitas Array	142.43	38	PKP	PKPdf	03 38 36.2	-3.7
	0.4nm,0.7s,baz=228,slow=0.4,SNR=5.7						

*IDC **11** 03:23:44.6±2.2,1.41S×100.08E,mb3.9/7,mb1 4.0/8,mb1mx3.8/19,mbtmp3.8/8,ML3.9/1,Error ellipse: s-maj=104.2km s-min=17.2km az=57.0*
*NEIC **11** 03:23:47.7±1.1,1.61S×99.78E,h30km,mb4.2/1,Error ellipse: s-maj=42.9km s-min=12.0km az=63.0*
ISC 11 03:23:45.5±1.3,1.6S±0.2×99.6E±0.3,h33km,n13,
σ0°90/11,mb3.9/8,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.92	8	*e*P	P	03 25 27.5	+0.2
CMAR	Chiang Mai Arr	19.95	358	P	P	03 28 17.6	-0.2
	0.1nm,0.3s,baz=186,slow=9.1,SNR=3.5						
WRA	Warramunga Arr	38.50	121	P	P	03 31 06.1	-0.6
	0.9nm,0.5s,mb3.8,baz=304,slow=9.2,SNR=6.9						
WRAB	Tennant Creek	38.51	121	*e*P	P	03 31 05.7	-1.0
	2.4nm,0.5s,mb4.2						
ASAR	Alice Springs	39.78	126	P	P	03 31 17.7	+0.5
	1.2nm,0.6s,mb3.8,baz=303,slow=7.8,SNR=17						
SONM	Songino Array	49.59	6	P	P	03 32 36.1	+0.5
	0.2nm,0.5s,mb3.4,baz=190,slow=7.5,SNR=4.7						
STKA	Stephens Creek	49.68	132	P	P	03 32 37.6	+1.1
	0.6nm,0.5s,mb3.9,baz=308,slow=7.9,SNR=4.0						
MKAR	Makanchi Array	50.55	345	P	P	03 32 42.9	-0.1
	0.9nm,0.5s,mb3.9,baz=151,slow=8.2,SNR=11						
ZAL	Zalesovo	56.71	350	P	P	03 33 28.1	-0.1
	1.5nm,0.4s,mb4.3,baz=297,slow=6.7,SNR=6.2						
BVAR	Borovoye Array	59.69	340	P	P	03 33 52.3	+3.2
	0.9nm,0.6s,mb4.0,baz=149,slow=8.4,SNR=3.9						
CHKZ	Chkalovo	60.15	341	*e*P	P	03 33 50.9	-1.4
TXAR	Lajitas Array	144.61	37	PKP	PKPdf	03 43 20.9	+1.5
	0.5nm,0.6s,baz=230,slow=1.7,SNR=17						
JCT	Junction City	145.88	31	*e*PKP	PKPdf	03 43 24.9	+3.3

IDC 11 03:28:58.3±4.6,3.34S×97.13E,mb3.6/2,mb1 3.6/2,
mb1mx3.3/18,mbtmp3.6/2,Error ellipse:
s-maj=187.9km s-min=76.6km az=66.0,Southwest of
Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	51.61	8	P	P	03 38 06.5	-2.1
	1.7nm,1.0s,baz=169,slow=7.3,SNR=8.0						
MKAR	Makanchi Array	51.62	347	P	P	03 38 06.5	-2.2
	0.5nm,0.6s,baz=145,slow=9.1,SNR=5.3						
TXAR	Lajitas Array	147.47	35	PKPbc	PKPdf	03 48 44.4	+0.2
	0.3nm,0.4s,baz=209,slow=0.7,SNR=8.8						

*IDC **11** 03:30:21.1±0.7,27.20N×44.47W,mb3.8/12,mb1 4.0/12,mb1mx3.8/26,mbtmp3.8/12,MS3.8/4,Ms1 3.8/4,ms1mx3.4/19,Error ellipse: s-maj=24.0km s-min=17.3km az=110.0*
*NEIC **11** 03:30:22.4±0.4,27.15N×44.41W,h10km,mb4.1/4,Error ellipse: s-maj=13.1km s-min=8.8km az=103.0*
ISC 11 03:30:20.4±0.5,27.18N±0.08×44.4W±0.1,h10km,n22,
σ0°87/19,mb3.9/15,MS3.8/4,Northern Mid-Atlantic
Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	33.82	165	P	P	03 37 03.5	-1.7
SAML	Samuel	40.28	210	*e*P	P	03 37 58.9	-0.6
	3.9nm,1.3s,mb4.0						
OTAV	Otavalo	42.29	236	*e*P	P	03 38 17.5	+1.3
	4.5nm,1.3s,mb3.9						
DBIC	Dimbokro	42.70	111	LR	LR	03 53 01.2	
	comp=Z,145nm,22.0s,MS3.8,baz=207,slow=32						
BDFB	Brasilia	42.71	185	P	P	03 38 20.3	+0.7
	1.6nm,0.8s,mb3.8,baz=17,slow=7.2,SNR=2.7						
SIV	San Ignacio	45.87	203	P	P	03 38 44.6	-0.4
	0.8nm,0.8s,mb3.7,baz=44,slow=9.2,SNR=5.0						
LPAZ	La Paz	48.97	211	P	P	03 39 09.9	+0.7
	0.8nm,0.6s,mb3.9,baz=49,slow=8.0,SNR=2.8						
GERES	GERESS Array B	49.29	48	P	P	03 39 12.0	+0.7
	0.9nm,0.9s,mb3.8,baz=315,slow=5.7,SNR=5.8						
BW06	Boulder Array	54.35	305	*e*P	P	03 39 49.9	+0.5
	2.3nm,1.0s,mb4.1						
PDAR	Pinedale Array	54.35	305	P	P	03 39 50.0	+0.5
	0.8nm,0.7s,mb3.8,baz=80,slow=9.0,SNR=7.5						
YKA	Yellowknife Ar	57.15	329	P	P	03 40 08.5	-1.0
	0.6nm,0.9s,mb3.6,baz=89,slow=7.5,SNR=10						
YKA	Yellowknife Ar	57.15	329	P	P	03 40 08.5	-1.0
ARCES	ARCESS Array B	57.79	23	P	P	03 40 14.0	+0.2
	5.9nm,1.1s,mb4.5,baz=259,slow=6.2,SNR=8.1						
NEW	Newport	59.02	312	P	P	03 40 21.5	-1.2
	1.9nm,0.9s,mb4.1,baz=123,slow=6.6,SNR=3.6						
NEW	Newport	59.02	312	P	P	03 40 21.5	-1.2
AKASG	Malin Array Be	59.30	45	P	P	03 40 24.0	-0.6
	1.3nm,0.8s,mb4.0,baz=272,slow=6.3,SNR=6.7						
NVAR	Mina Array Bea	61.64	301	LR	LR	04 05 37.8	
	comp=Z,39nm,19.1s,MS3.6,baz=80,slow=34						
BRTR	Keskin Array B	64.42	57	P	P	03 41 00.2	+1.1
	0.3nm,0.7s,mb3.4,baz=284,slow=5.9,SNR=3.4						
INK	Inuvik	64.74	336	P	P	03 40 59.8	-0.9
	0.6nm,0.7s,mb3.8,baz=98,slow=14,SNR=4.1						
INK	Inuvik	64.74	336	*e*P	P	03 40 59.8	-0.9
	1.5nm,1.0s,mb4.0						
ILAR	Eielson Array	70.86	334	P	P	03 41 39.6	+0.6
	1.2nm,0.9s,mb3.8,baz=61,slow=4.1,SNR=10						
ILAR				LR	LR	04 10 06.4	
	comp=Z,50nm,18.4s,MS3.8,baz=175,slow=34						
KMBO	Kilima Mbogo	83.07	95	LR	LR	04 17 28.6	
	comp=Z,92nm,19.3s,MS4.2,baz=92,slow=34						

*IDC **11** 03:33:17.0±0.7,0.79N×97.49E,mb4.1/13,mb1 4.3/14,mb1mx4.1/23,mbtmp4.1/14,ML4.2/1,Error ellipse: s-maj=30.8km s-min=14.5km az=52.0*
*NEIC **11** 03:33:21.5±0.5,0.77N×97.51E,h30km,mb4.3/5,Error ellipse: s-maj=14.2km s-min=8.4km az=64.0*
ISC 11 03:33:20.2±0.6,0.79N±0.08×97.5E±0.1,h33km,n23,
**σ0°84/22,mb4.2/17,Northern Sumatera

1.5nm,0.4s,mb3.8,baz=341,slow=6.6,SNR=29
ASPA Alice Springs 26.33 159 eP P 03 47 18.1 0.0
CMAR Chiang Mai Arr 29.97 307 P P 03 47 51.1 +0.6
0.9nm,0.4s,mb3.6,baz=138,slow=8.0,SNR=6.0
CBIJ Chichi jima 31.49 33 P P 03 48 02.9 -0.7
42nm,0.5s,mb5.2,baz=292,slow=22,SNR=5.6
FORT Forrest 31.76 173 eP P 03 48 06.1 +0.2
376nm,0.4s
KLBR Kellerberrin 32.81 189 eP P 03 48 14.4 -0.4
31nm,0.3s
STKA Stephens Creek 36.71 154 P P 03 48 48.8 +1.1
4.4nm,0.5s,mb4.1,baz=327,slow=9.2,SNR=24
STKA Stephens Creek 36.71 154 eP P 03 48 48.5 +0.7
MJAR Matsushiro Arr 37.91 19 P P 03 48 57.4 -0.3
0.7nm,0.6s,mb3.3,baz=193,slow=8.7,SNR=4.3
JIRN Jiri 44.76 310 eP P 03 49 53.6 +0.3
5.2nm,0.3s,mb4.2
GUN Gumba 45.12 310 eP P 03 49 56.7 +0.6
16nm,0.6s,mb4.4
PKI Pulchoki 45.32 309 eP P 03 49 57.1 -0.6
9.4nm,0.6s,mb4.2
KKN Kakani 45.52 309 eP P 03 49 59.1 -0.2
5.4nm,0.5s,mb4.2
DMN Daman 45.57 309 eP P 03 49 59.9 +0.3
5.1nm,0.6s,mb4.1
GKN Gorkha 46.12 309 eP P 03 50 04.1 +0.1
8.0nm,0.5s,mb4.3
KOLN Koldanda 46.82 308 eP P 03 50 09.4 0.0
16nm,0.7s,mb4.5
HIA Hailar 48.31 356 eP P 03 50 22.2 +1.7
3.6nm,0.6s,mb3.9
ULN Ulaanbaatar 48.98 345 eP P 03 50 26.6 +1.0
2.3nm,0.7s,mb3.6
SONM Songino Array 49.12 345 P P 03 50 26.5 -0.2
3.1nm,0.7s,mb3.7,baz=159,slow=8.0,SNR=26
MKAR Makanchi Array 58.26 328 P P 03 51 32.1 -0.6
3.5nm,0.5s,mb4.1,baz=121,slow=8.3,SNR=23
MKAR PcP PcP 03 52 20.1 -0.4
1.2nm,0.4s,baz=124,slow=3.8,SNR=6.2
ZAL Zalesovo 61.82 335 P P 03 51 56.2 -0.3
1.1nm,0.3s,mb3.9,baz=334,slow=9.6,SNR=4.9
ZAL Zalesovo 61.82 335 P P 03 51 56.2 -0.3
KURK Kurchatov 62.59 329 eP P 03 52 00.6 -1.0
8.6nm,0.8s,mb4.4
BVAR Borovoye Array 68.12 329 P P 03 52 36.0 -0.6
1.0nm,0.4s,mb3.9,baz=135,slow=8.4,SNR=9.0
CHKZ Chkalovo 68.33 329 eP P 03 52 36.9 -1.0
1.8nm,0.7s,mb3.9
ILAR Eielson Array 88.92 25 P P 03 54 28.9 +0.3
0.2nm,0.5s,mb3.2,baz=260,slow=4.9,SNR=5.8
BRTR Keskin Array B 89.53 310 P P 03 54 33.9 +1.8
0.5nm,0.6s,mb3.5,baz=142,slow=6.7,SNR=4.1
ARCES ARCESS Array B 92.06 340 P P 03 54 42.2 -1.0
1.5nm,0.7s,mb4.0,baz=90,slow=7.3,SNR=4.7
ARCES ARCESS Array B 92.06 340 P P 03 54 42.2 -1.0

IDC 11 03:54:27.8±4.5, 1.72S×98.63E, mb3.3/2, mb1 3.7/2, mb1mx3.3/18, mbtmp3.4/2, Error ellipse: s-maj=173.4km s-min=35.7km az=65.0, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CMAR Chiang Mai Arr 20.06 1 P P 03 59 03.0 -2.6
0.8nm,0.5s,baz=189,slow=11,SNR=5.5
ASAR Alice Springs 40.52 125 P P 04 02 09.1 -1.5
0.4nm,0.7s,baz=302,slow=7.6,SNR=6.0
TXAR Lajitas Array 145.29 36 PKP PKPdf 04 14 07.6 -2.5
0.4nm,0.6s,baz=190,slow=0.9,SNR=6.3

IDC 11 03:57:29.8±1.2, 1.84S×99.38E, mb3.8/10, mb1 4.0/10, mb1mx3.9/18, mbtmp3.9/10, Error ellipse: s-maj=58.0km s-min=16.9km az=54.0
NEIC 11 03:57:34.7±0.6, 1.76S×99.52E, h30km, mb4.4/3, Error ellipse: s-maj=31.7km s-min=8.9km az=55.0
ISC 11 03:57:33.5±1.0, 1.7S±0.2×99.6E±0.3, h33km, n21, σ0983/16, mb4.0/12, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KULM Kulim 6.99 9 eP P 03 59 09.0 -7.1
CMAR Chiang Mai Arr 20.00 358 P P 04 02 05.5 -0.8
1.0nm,0.6s,baz=189,slow=11,SNR=4.2
WRA Warramunga Arr 38.51 121 P P 04 04 54.1 -0.6
0.5nm,0.5s,mb3.5,baz=303,slow=9.2,SNR=4.0
WRAB Tennant Creek 38.52 121 eP P 04 04 54.5 -0.3
5.6nm,0.7s,mb4.4
ASAR Alice Springs 39.77 126 P P 04 05 05.2 0.0
0.5nm,0.7s,mb3.4,baz=304,slow=7.5,SNR=6.8
SONM Songino Array 49.65 6 P P 04 06 25.0 +1.0
0.7nm,0.5s,mb4.0,baz=189,slow=11,SNR=5.7
STKA Stephens Creek 49.67 132 P P 04 06 24.9 +0.5
0.7nm,0.5s,mb4.0,baz=330,slow=14,SNR=2.1
STKA Stephens Creek 49.67 132 eP P 04 06 24.9 +0.5
MKAR Makanchi Array 50.60 345 P P 04 06 32.2 +0.9
0.9nm,0.3s,mb4.1,baz=162,slow=7.8,SNR=12
MKAR Makanchi Array 50.60 345 P P 04 06 32.2 +0.9
KURK Kurchatov 55.17 344 eP P 04 07 05.1 -0.1
2.2nm,0.8s,mb4.2
ZAL Zalesovo 56.76 350 P P 04 07 15.5 -1.1
1.1nm,0.4s,mb4.3,baz=333,slow=0.3,SNR=4.3
CHKZ Chkalovo 60.19 341 eP P 04 07 40.0 -0.5
2.4nm,0.7s,mb4.3
BRTR Keskin Array B 72.80 312 P P 04 08 59.5 -1.3
0.7nm,0.7s,mb3.7,baz=117,slow=5.5,SNR=4.9
FINES FINESS Array B 83.63 332 P P 04 10 00.6 +0.9
1.2nm,0.8s,mb4.1,baz=153,slow=4.3,SNR=5.8
ARCES ARCESS Array B 86.02 340 P P 04 10 12.9 +1.4
1.9nm,0.9s,mb4.3,baz=104,slow=7.4,SNR=3.1
TXAR Lajitas Array 144.68 37 PKP PKPdf 04 17 09.4 +1.8
0.4nm,0.5s,baz=279,slow=0.5,SNR=10
MIAR Mount Ida 145.05 19 ePKP PKPdf 04 17 10.0 +1.9
TZTN Tazewell 145.17 4 ePKP PKPdf 04 17 09.6 +1.4
JCT Junction City 145.94 31 ePKP PKPdf 04 17 12.8 +3.1
JCT e 04 17 21.4
CPCT Cooper Cave 146.17 6 ePKP PKPdf 04 17 11.9 +2.0

CASC 11 03:57:51.1±2.1, 12.71N×86.88W, MD4.1, 3C-8D, Nicaragua

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
TELN Telica 0.11 155⇓eP Pg 03 57 54.5 +1.2
TELN eS Sg 03 57 57.3 +2.4
TEL3 Telica 3 0.14 166⇓iP Pg 03 57 55.0 +1.2
CRIN San Cristobal 0.17 268⇑eP Pg 03 57 53.8 -0.6
CNGN Cerro Negro 0.27 139⇓eP Pg 03 57 57.8 +1.3
LEON Leon 0.29 182⇓eP Pg 03 57 57.2 +0.3
MOMJ Momotombo 0.45 132 eP Pg 03 58 01.0 +1.0
APYN Apoyeque 0.70 132⇓eP Pg 03 58 05.7 +0.6
XAVN Gruta Xavier 0.77 136⇓eP Pg 03 58 07.0 +0.4
PYTN Playitas 0.82 102⇑eP Pg 03 58 07.5 +0.1
PYTN eS Sg 03 58 21.3 +2.9
MGAN Managua 0.83 132 eP Pg 03 58 06.5 -1.2
MGAN eS Sg 03 58 18.9 +0.2
WILN Americas 2 0.87 129⇓eP Pg 03 58 08.8 +0.4
WILN eS Sg 03 58 22.9 +3.0
TICN Ticuantepe 0.92 136⇑eP Pg 03 58 09.4 0.0
CNCH Conchagua 1.09 301 eP Pb 03 58 11.6 -0.9
CNCH eS Sb 03 58 29.6 +2.5
APON Apoyo 1.12 135⇓eP Pb 03 58 12.8 -0.2
BLLM Bellamira 1.51 299 eP Pn 03 58 18.4 -1.2
CAHU Cacacuatique 1.67 309 eP Pn 03 58 20.3 -1.5
CAHU eS Sb 03 58 46.6 +2.5
SNVI San Vicente 2.11 295 eP Pn 03 58 27.4 -0.7
SNVI eS Sn 03 58 57.6 +2.2
LCBS La Ceiba 2.25 295 eP Pn 03 58 29.9 -0.2
LCBS eS Sn 03 59 00.4 +1.4
LFRS El Faro 2.31 293 eP Pn 03 58 30.9 -0.1

IDC 11 04:12:05.2±5.1, 2.17S×99.37E, mb3.6/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.6/3, Error ellipse: s-maj=179.1km s-min=74.0km az=56.0, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
SONM Songino Array 50.18 6 P P 04 21 02.8 -1.9
0.2nm,0.5s,baz=150,slow=11,SNR=3.2
MKAR Makanchi Array 51.03 345 P P 04 21 09.2 -2.0
0.5nm,0.6s,baz=146,slow=8.7,SNR=6.6

ZAL Zalesovo 57.22 350 P P 04 21 53.9 -2.7
0.7nm,0.5s,baz=306,slow=4.3,SNR=3.6
TXAR Lajitas Array 145.22 37 PKPbc PKPbc 04 31 46.4 +0.5
0.5nm,0.7s,baz=276,slow=1.3,SNR=8.2

IDC 11 04:29:07.3±2.2, 2.07S×99.31E, mb3.8/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, MS3.1/1, Ms1 3.3/1, ms1mx2.8/29, Error ellipse: s-maj=91.4km s-min=26.2km az=54.0
NEIC 11 04:29:12.2±0.6, 1.97S×99.41E, h30km, mb4.1/3, Error ellipse: s-maj=24.4km s-min=10.0km az=64.0
ISC 11 04:29:11.5±0.8, 1.8S±0.1×99.6E±0.2, h33km, n18, σ0996/12, mb3.9/9, MS2.9/1, 1C, Southern Sumatera

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KULM Kulim 7.12 9 eP P 04 30 57.1 +1.2
CMAR Chiang Mai Arr 20.13 358 P P 04 33 45.8 +0.2
1.3nm,0.3s,baz=185,slow=10,SNR=4.5
CMAR LR LR 04 43 18.5
comp=Z,54nm,19.4s,MS2.9,baz=195,slow=42
WRA Warramunga Arr 38.47 120 P P 04 36 31.4 -0.9
0.9nm,0.4s,mb3.8,baz=303,slow=9.3,SNR=5.4
WRAB Tennant Creek 38.47 120 eP P 04 36 32.4 0.0
2.1nm,0.5s,mb4.1
SONM Songino Array 49.78 6 P P 04 38 03.7 +0.7
0.5nm,0.8s,mb3.6,baz=192,slow=8.1,SNR=4.3
MKAR Makanchi Array 50.72 345 P P 04 38 10.7 +0.5
0.7nm,0.4s,mb3.9,baz=154,slow=7.4,SNR=10
KURK Kurchatov 55.29 344 eP P 04 38 43.3 -0.8
1.2nm,0.7s,mb4.0
ZAL Zalesovo 56.88 350 P P 04 38 55.6 +0.1
1.4nm,0.4s,mb4.3,baz=13,slow=6.2,SNR=5.6
BVAR Borovoye Array 59.84 340 P P 04 39 14.9 -1.2
0.3nm,0.4s,mb3.6,baz=146,slow=11,SNR=3.7
CHKZ Chkalovo 60.31 341 eP P 04 39 17.6 -1.7
1.4nm,1.0s,mb4.0
SYO Syowa Base 77.93 199 ⇑P P 04 41 09.5 +1.9
FINES FINESS Array B 83.73 332 P P 04 41 38.3 +0.1
0.4nm,0.4s,mb3.9,baz=184,slow=29,SNR=3.4
TXAR Lajitas Array 144.79 37 PKPbc PKPbc 04 48 47.9 +2.1
1.3nm,0.6s,baz=204,slow=1.1,SNR=23
WVT Waverly 145.15 11 ePKP PKPdf 04 48 47.6 +1.4
MIAR Mount Ida 145.18 19 ePKP PKPdf 04 48 47.6 +1.3
TZTN Tazewell 145.30 4 ePKP PKPdf 04 48 48.0 +1.5
JCT Junction City 146.07 31 ePKP PKPdf 04 48 51.0 +3.0
CPCT Cooper Cave 146.30 6 ePKP PKPdf 04 48 49.8 +1.6

BJI 11 04:29:19.2, 19.30S×177.60W, h549km, mB4.9, mb4.4
NEIC 11 04:29:19.2±0.1, 19.26S×177.60W, mb4.7/39, Error ellipse: s-maj=7.9km s-min=4.6km az=141.0
IDC 11 04:29:20.7±1.0, 19.19S×177.61W, h566km±11km, mb3.9/19, mb1 4.2/23, mb1mx4.1/27, mbtmp4.9/23, Error ellipse: s-maj=13.5km s-min=7.8km az=151.0
ISC 11 04:29:18.4±0.8, 19.25S±0.06×177.68W±0.06, h547km±9km, h543km±4.3km: pP-P, n194, σ0888/99, mb4.5/51, 26C-10D, Fiji Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
AFI Afiamalu 7.76 48 P P 04 31 14.3 -0.1
48nm,0.3s,baz=54,slow=2.0,SNR=69
AFI S S 04 32 45.0 -1.9
13nm,0.3s,baz=188,slow=22,SNR=7.6
AFI Afiamalu 7.76 48⇓iP P 04 31 14.2 -0.2
216nm,0.6s
AFI eS S 04 32 44.0 -2.9
RAO Raoul Island 9.96 181 P P 04 31 39.2 +2.6
311nm,0.3s,baz=47,slow=22,SNR=4.8
RAO Raoul Island 9.96 181 P P 04 31 37.0 +0.4
DZM Mont Dzumac 15.13 257 P P 04 32 32.2 +3.4
2.8nm,0.3s,baz=75,slow=19,SNR=19
RAR Rarotonga 16.91 100 P P 04 32 45.7 -0.5
2.0nm,0.3s,baz=234,slow=6.3,SNR=3.9
RAR Rarotonga 16.91 100 P P 04 32 46.5 +0.3
52nm,0.8s
URZ Urewera 19.47 192 P P 04 33 08.7 -1.8
15nm,0.3s,baz=334,slow=2.6,SNR=69
RPZ Rata Peaks 26.16 199 P P 04 34 11.0 +0.2
4.6nm,0.3s,mb4.5,baz=234,slow=7.2,SNR=5.4
CTA Charters Tower 33.94 262 eP P 04 35 19.1 +1.4
34nm,0.9s,mb4.9
CTA Charters Tower 33.94 262 P P 04 35 19.3 +1.6
13nm,0.3s,mb4.9,baz=84,slow=8.7,SNR=23
CTAO Charters Tower 33.94 262 eP P 04 35 18.9 +1.2
46nm,1.0s,mb5.0
PMG Port Moresby 35.38 281 P P 04 35 31.6 +1.9
50nm,0.9s,mb5.1,baz=79,slow=4.0,SNR=11
PMG Port Moresby 35.38 281 eP P 04 35 31.4 +1.6
68nm,1.0s,mb5.1
STKA Stephens Creek 38.62 243 eP P 04 35 57.3 +1.3
9.2nm,0.6s,mb4.5
STKA Stephens Creek 38.62 243 P P 04 35 57.4 +1.3
8.3nm,0.5s,mb4.5,baz=91,slow=8.9,SNR=38
WRAB Tennant Creek 45.08 261 eP P 04 36 47.4 -0.1
17nm,0.8s,mb4.6
WRA Warramunga Arr 45.09 261 P P 04 36 47.6 +0.1
7.8nm,0.4s,mb4.6,baz=98,slow=8.3,SNR=81
WRA PcP PcP 04 38 15.9 -1.0
2.4nm,0.4s,baz=96,slow=3.4,SNR=5.8
WRA S S 04 42 44.3 -2.9
2.8nm,1.0s,baz=94,slow=14,SNR=6.6
ASAR Alice Springs 45.11 255 P P 04 36 47.6 -0.1
13nm,0.4s,mb4.8,baz=89,slow=7.6,SNR=44
ASAR PcP PcP 04 38 15.8 -1.2
5.8nm,0.7s,baz=100,slow=4.4,SNR=11
ASAR S S 04 42 45.5 -2.0
5.3nm,0.8s,baz=90,slow=16,SNR=18
ASPA Alice Springs 45.12 255 eP P 04 36 47.9 +0.2
ASPA eS S 04 42 45.1 -2.5
FORT Forrest 50.08 246 eP P 04 37 24.1 -1.0
1μm,0.6s
FITZ Fitzroy Crossi 53.51 261 eP P 04 37 49.7 -0.2
18nm,0.5s,mb4.6
FITZ Fitzroy Crossi 53.51 261 P P 04 37 50.0 +0.1
20nm,0.5s,mb4.7,baz=154,slow=2.6,SNR=54
MBWA Marble Bar 58.43 257⇓iP P 04 38 23.0 -0.9
13nm,0.5s,mb4.4
KLBR Kellerberrin 58.86 244 eP P 04 38 25.7 -1.0
265nm,0.5s
SBA Scott Base 59.13 184 eP P 04 38 28.8 +0.9
43nm,1.4s,mb4.5
VNDA Vanda 59.17 185 P P 04 38 28.3 +0.2
6.9nm,1.0s,mb3.8,baz=360,slow=7.0,SNR=19
NWAO Narrogin (SRO) 59.20 243 P P 04 38 28.4 -0.6
6.9nm,0.6s,mb4.0,baz=127,slow=7.3,SNR=7.5
MUN Mundaring 60.14 244 eP P 04 38 34.9 -0.2
84nm,0.5s,mb5.3
CASY Casey 65.22 205 P P 04 39 05.5 -1.7
8.4nm,0.5s,mb4.4
MJAR Matsushiro Arr 69.39 323 P P 04 39 33.2 0.0
6.5nm,0.7s,mb4.3,baz=155,slow=6.2,SNR=11
MJAR Matsushiro Arr 69.39 323 P P 04 39 33.2 0.0
QSPA South Pole Qui 70.81 180⇓iP P 04 39 41.0 +0.2
111nm,1.6s,mb5.1
SSE Sheshan 77.13 310 P P 04 40 17.4 +0.3
SSE eAP pP 04 42 13.4 -0.5
SSE eXP sP 04 43 10.0 +1.0
SSE S S 04 49 23.9 +2.2
SSE eSCS ScS 04 49 46.0 +4.1
SSE eXS 04 52 51.9
SSE AMB AMB
comp=Z,14nm,0.7s,mb4.5
SSE AMB AMB
comp=Z,48nm,3.8s
SSE Sheshan 77.13 310 P P 04 40 17.4 +0.3
comp=Z,14nm,0.7s,mb4.5
SSE epP pP 04 42 13.4 -0.5
SSE esP sP 04 43 10.0 +1.0
SSE S S 04 49 23.9 +2.2
SSE eS 04 52 51.9
SSE LR LR
comp=Z,60nm,13.1s
CMB Columbia Colle 78.34 43 eP P 04 40 23.2 -0.2
comp=Z,26nm,1.4s,mb4.4
YBH Yreka Blue Hor 79.13 39 eP P 04 40 28.0 +0.5
comp=Z,12nm,1.1s,mb4.1
NJ2 Nanjing 79.33 309 eP P 04 40 30.8 +2.1
NJ2 AP pP 04 42 27.2 +0.8
NJ2 XP sP 04 43 20.8 -0.5
NJ2 PP PP 04 43 41.8 +2.9
NJ2 S S 04 49 47.0 +2.6
NJ2 AMB AMB
comp=Z,424nm,5.2s
WCN Washoe City 79.48 42 eP P 04 40 29.4 0.0
comp=Z,14nm,1.1s,mb4.2
NVAR Mina Array Bea 79.91 43 P P 04 40 31.9 +0.2
comp=Z,6.5nm,0.9s,mb4.0,baz=214,slow=7.0,SNR=36
LDFC Landfair 80.24 48 eP P 04 40 34.0 +0.6
MOD Modoc 80.67 40 eP P 04 40 35.7 +0.2
comp=Z,18nm,1.2s,mb4.4
CN2 Changchun 81.50 322 ⇓P P 04 40 40.2 +0.5
CN2 eAP pP 04 42 38.0 -0.1
CN2 eS S 04 50 08.0 +1.9
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
CN2 AMB AMB
comp=Z,400nm,6.0s
TUC Tucson 81.97 52 eP P 04 40 43.1 +0.8
comp=Z,23nm,1.2s,mb4.5
WVOR Wild Horse Val 81.98 40 eP P 04 40 42.3 +0.2
comp=Z,16nm,1.0s,mb4.4
MAW Mawson 82.83 200 P P 04 40 45.7 -0.2
comp=Z,4.9nm,0.6s,mb4.2,baz=114,slow=4.7,SNR=17
WUAZ Wupatki 83.10 49 eP P 04 40 48.4 +0.5
comp=Z,13nm,1.1s,mb4.4
ELK Elko 83.16 43 eP P 04 40 48.4 +0.3
comp=Z,11nm,1.0s,mb4.3
MSU Marysvale 84.02 46 eP P 04 40 52.8 +0.4
DIV Divide 84.11 15 eP P 04 40 51.6 -0.7
comp=Z,45nm,1.1s,mb4.9
TMUT Trail Mountain 85.07 46 eP P 04 40 58.1 +0.6
SRU San Rafael 85.44 46 eP P 04 40 59.3 -0.1
ENH Enshi 85.60 304 eP P 04 41 01.5 +1.2
comp=Z,28nm,1.1s,mb4.8
MCK McKinley 85.70 12 eP P 04 40 59.1 -0.9
comp=Z,11nm,1.0s,mb4.4
MNTX Cornudas Mount 85.78 55 eP P 04 41 01.4 +0.2
comp=Z,28nm,1.5s,mb4.7
BNM Barren Site 85.91 52 eP P 04 41 01.9 +0.2
PV10 Paradox Valley 86.11 47 eP P 04 41 02.3 -0.2
TXAR Lajitas Array 86.13 57 P P 04 41 03.5 +0.7
comp=Z,7.5nm,0.8s,mb4.3,baz=218,slow=6.3,SNR=64
LTX Lajitas 86.13 57 eP P 04 41 03.5 +0.6
comp=Z,31nm,1.4s,mb4.8
ANMO Albuquerque 86.39 51 P P 04 41 04.1 +0.2
comp=Z,6.4nm,0.9s,mb4.3,baz=227,slow=4.0,SNR=25
ANMO Albuquerque 86.39 51 eP P 04 41 03.9 0.0
comp=Z,7.1nm,0.9s,mb4.3
GDL2 Guadalupe Moun 86.78 54 eP P 04 41 06.4 +0.6
MCMT McKenzie Canyo 86.81 40 eP P 04 41 06.1 +0.4
RRI2 Red Ridge 87.01 42 eP P 04 41 06.7 +0.1
comp=Z,42nm,1.4s,mb4.9
ILAR Eielson Array 87.04 13 P P 04 41 04.9 -1.3
comp=Z,3.9nm,0.9s,mb4.1,baz=236,slow=5.1,SNR=37
CLNB Carlsbad 87.18 55 eP P 04 41 07.8 +0.1
REDW Red Top Meadow 87.31 42 eP P 04 41 08.3 +0.2
comp=Z,24nm,1.3s,mb4.7
SNOW Snow King Moun 87.42 42 eP P 04 41 09.1 +0.5
comp=Z,17nm,1.0s,mb4.6
CPRX Cap Rock 87.51 54 eP P 04 41 07.9 -1.4
IMW Indian Meadow 87.52 42 eP P 04 41 09.6 +0.6
comp=Z,27nm,1.3s,mb4.8
MOOW Moose Ponds 87.57 42 eP P 04 41 09.5 +0.3
comp=Z,12nm,1.4s,mb4.4
QLMT Earthquake Lak 87.68 41 eP P 04 41 10.7 +1.0
BILL Bilibino 87.83 354 eP P 04 41 09.2 -0.8
comp=Z,4.9nm,1.0s,mb4.2
PDAR Pinedale Array 87.85 43 P P 04 41 10.2 -0.4
comp=Z,4.4nm,0.9s,mb4.2,baz=220,slow=2.3,SNR=21
YMR Madison River 87.89 41 eP P 04 41 11.9 +1.2
BOZ Bozeman (W) 87.97 40 eP P 04 41 10.7 -0.4
comp=Z,27nm,1.3s,mb4.8
SYO Syowa Base 88.00 193 ⇑PP PP 04 44 51.0 +2.3
HRY Holter Researc 88.38 39 eP P 04 41 13.0 0.0
HHC Hu-ho-hao-te 88.71 314 eP P 04 41 13.4 -1.3
HHC AP pP 04 43 12.1 -3.1
HHC XP sP 04 44 10.1 +0.7
HHC SKS SKS 04 50 50.2 -1.0
HHC AMB AMB
comp=Z,11nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,146nm,5.4s
RWWY Rawlins 88.89 45 eP P 04 41 14.0 -1.5
comp=Z,21nm,1.3s,mb4.8
GCMT Greycliff 89.23 40 eP P 04 41 17.6 +0.6
SNAA Sanae 89.24 178 e P 04 41 16.7 +0.2
SNAA Sanae 89.24 178⇑iP P 04 41 15.7 -0.8
SNAA e 04 41 16.7
VNA3 Neumayer Olymp 89.36 176 e P 04 41 17.5 +0.5
VNA3 Neumayer Olymp 89.36 176⇑iP P 04 41 16.6 -0.4
VNA3 e 04 41 17.5
VNA2 Neumayer--Watz 89.81 177 e P 04 41 20.0 +0.9
VNA2 Neumayer--Watz 89.81 177⇑iP P 04 41 18.9 -0.2
VNA2 e 04 41 20.0
PLCA Paso Flores 89.91 133 P P 04 41 20.2 0.0
comp=Z,2.8nm,1.0s,mb4.0,baz=202,slow=8.3,SNR=3.7
EDM Edmonton 90.90 33 eP P 04 41 23.8 -0.7
RSSD Black Hills 92.05 44 eP P 04 41 28.5 -1.4
comp=Z,18nm,1.2s,mb5.0
LZH Lanzhou 92.26 307 eP P 04 41 32.5 +1.4
LZH AP pP 04 43 35.4 +3.0
LZH XP sP 04 44 30.4 +4.2
LZH PP PP 04 45 25.5 +2.7
LZH AMB AMB
comp=Z,14nm,1.4s,mb4.8
LZH AMB AMB
comp=Z,80nm,4.5s
LZH Lanzhou 92.26 307 eP P 04 41 32.5 +1.4
comp=Z,14nm,1.4s,mb4.8
LZH pP pP 04 43 35.4 +3.0
LZH sP sP 04 44 30.4 +4.2
LZH PP PP 04 45 25.5 +2.7
INK Inuvik 93.00 15 P P 04 41 32.5 -1.2
comp=Z,5.7nm,1.0s,mb4.6,baz=211,slow=6.7,SNR=10
INK Inuvik 93.00 15 eP P 04 41 32.5 -1.2
comp=Z,6.5nm,1.0s,mb4.6
YKA Yellowknife Ar 95.26 25 P P 04 41 43.1 -1.0
comp=Z,1.7nm,1.0s,mb4.1,baz=239,slow=4.4,SNR=17
YKA PKKPbc 04 58 32.4
comp=Z,0.1nm,0.5s,baz=40,slow=2.3,SNR=9.6
MKAR Makanchi Array 110.56 314 PKiKP 04 46 48.1
comp=Z,1.5nm,0.6s,baz=179,slow=0.5,SNR=10
MKAR PKKPbc 04 57 49.5
comp=Z,0.7nm,0.9s,baz=270,slow=5.8,SNR=4.4
MKAR Makanchi Array 110.56 314 PKPdf PKPdf 04 46 48.1 -0.2
MKAR PKKPbc 04 57 49.5
BVAR Borovoye Array 118.32 320 PKP PKPdf 04 47 03.1 -0.2
comp=Z,3.1nm,0.4s,baz=103,slow=2.6,SNR=24
ARU Arti 124.35 326 ePKPdf PKPdf 04 47 14.7 -0.1
BOSA Boshof 127.51 206 PKP PKPdf 04 47 22.6 +0.9
comp=Z,5.2nm,1.0s,baz=96,slow=3.7,SNR=5.4
ARCES ARCESS Array B 127.76 350 PKP PKPdf 04 47 21.3 +0.2
comp=Z,3.1nm,0.5s,baz=20,slow=1.3,SNR=30
ARCES ARCESS Array B 127.76 350 PKP PKPdf 04 47 21.3 +0.2
LBTB Lobatse 130.51 208 ePKPdf PKPdf 04 47 28.1 +0.5
MATP Matopo 132.96 214 PKP PKPdf 04 47 32.4 +0.2
comp=Z,2.3nm,0.4s,baz=147,slow=2.8,SNR=5.9
FINES FINESS Array B 134.67 344 PKhKP 04 47 29.6
comp=Z,1.5nm,0.6s,baz=90,slow=1.9,SNR=5.6
FINES SKPbc 04 50 12.0
comp=Z,1.9nm,0.8s,baz=104,slow=7.9,SNR=3.8
FINES FINESS Array B 134.67 344 PKP PKPdf 04 47 29.6 -4.7
FINES SKPbc 04 50 12.0
NB2 NORSAR Subarra 137.78 354 PKPabc PKPdf 04 47 41.8 +1.8
comp=Z,0.2nm,0.8s,baz=31,slow=2.9
NOA NORSAR Array B 137.78 354 PKP PKPdf 04 47 40.3 +0.3
comp=Z,0.9nm,0.8s,baz=15,slow=4.1,SNR=3.7
SUW Suwalki 141.78 340 ePKP PKPdf 04 47 45.1 -2.1
SUW Suwalki 141.78 340 ePKP PKPdf 04 47 45.1 -2.1
AKASG Malin Array Be 142.07 332 PKhKP 04 47 44.1
comp=Z,1.8nm,0.3s,baz=38,slow=4.1,SNR=25
MALT Malatya 143.40 309 ePKPdf PKPdf 04 47 50.7 +0.2
MALT eSKPbc 04 50 39.0
EKA Eskdalemuir Ar 143.74 5 PKP PKPdf 04 47 49.8 -0.8
comp=Z,14nm,0.9s,baz=336,slow=3.1,SNR=16
GKP Gorka Klasztor 144.14 345 ePKP PKPdf 04 47 51.8 +0.5
GKP Gorka Klasztor 144.14 345 ePKP PKPdf 04 47 51.8 +0.5
DCN Croghan 145.17 10⇑iP PKPdf 04 47 54.5 +1.4
DCN Croghan 145.17 10 eP PKPdf 04 47 52.8 -0.3
DCN ⇑iP 04 47 54.5
DLF Lyons Farm 145.34 9⇑iP PKPdf 04 47 55.0 +1.6
DLF Lyons Farm 145.34 9 eP PKPdf 04 47 53.3 -0.1
DLF ⇑iP 04 47 55.0
KWP Kalwaria 145.58 336 ePKP PKPdf 04 47 56.2 +2.3
MBAR Mbarara 145.84 238 ePKP PKPdf 04 47 57.9 +2.5
OJC Ojcow 146.11 340 ePKP PKPdf 04 47 57.2 +2.4
BURAR Bucovina Array 146.12 332 ⇑P PKPdf 04 47 58.7 +3.8

BURAR **Bucovina Array** **146.12 332** ⇑P PKPdf 04 47 58.7 +3.8
BRTR **Keskin Array B** **146.22 314** PKPbc PKPbc 04 47 58.1 +1.1
comp=Z,6.3nm,0.7s,baz=117,slow=2.8,SNR=32
BRTR **Keskin Array B** **146.22 314** PKPbc PKPbc 04 47 58.1 +1.1
KOLS **Kolonicke sedl** **146.31 336** *e*PKP PKPdf 04 47 56.2 +1.1
ASF **Jabal al Asfar** **146.45 299** PKPbc PKPbc 04 47 59.2 +1.4
comp=Z,8.1nm,0.8s,baz=6.2,slow=2.9,SNR=9.4
KSP **Ksiaz** **146.59 344** *e*PKP PKPdf 04 47 59.3 +3.8
KSP **Ksiaz** **146.59 344** *e*PKP PKPdf 04 47 59.9 +4.3
CRVS **Cervenica-Dubn** **146.64 337** *e*PKP PKPdf 04 48 02.0 +6.3
TIRR **Tirgusor** **146.76 325** ⇓P PKPdf 04 47 59.6 +3.6
HARR **Harsova** **146.87 326** ⇑P PKPdf 04 48 00.3 +4.1
HARR **Harsova** **146.87 326** ⇑P PKPdf 04 48 00.3 +4.1
CLL **Collm** **146.92 348** *e*PKIKP PKPdf 04 47 56.0 -0.1
CLL *i* PKP1 PKPbc 04 47 59.7 +1.4
CLL *i* PKP2 PKPab 04 48 02.8 -1.8
CLL *e* 04 51 03.0
OKC **Ostrava-Krasne** **146.97 341**⇑*e*PKPB 04 48 00.4
OKC *e*PKPAB PKPab 04 48 04.1 -0.8
UPC **Upice** **146.97 344**⇑*e*PKPB 04 48 00.5
DPC **Dobruska-Polom** **147.03 343** *e*PKPDF PKPdf 04 47 57.1 +0.8
DPC ⇑*e*PKPB 04 48 00.7
DPC *e*PKPAB PKPab 04 48 04.5 -0.6
BRG **Berggiesshubel** **147.13 346** *e*PKP PKPdf 04 47 57.3 +0.9
BRG *i* 04 48 00.6
WTSB **Winterswijk** **147.17 355** *e*P PKPdf 04 47 59.6 +3.2
MORC **Moravsky Berou** **147.20 342** *e*PKPbc PKPdf 04 48 00.7 +4.1
PVCC **Panska Ves** **147.31 345**⇑*e*PKPB 04 48 01.6
PVCC *e*PKPAB PKPab 04 48 06.8 +0.6
MLR **Muntele Rosu** **147.34 329** ⇓P PKPdf 04 48 01.7 +4.8
MLR **Muntele Rosu** **147.34 329** ⇓P PKPdf 04 48 01.7 +4.8
PRU **Pruhonice** **147.82 345**⇑*e*PKPB 04 48 02.2
PRU *e*PKPAB PKPab 04 48 07.2 -1.0
VYHS **Vyhne** **147.92 339** *e*PKP PKPdf 04 48 02.7 +5.0
KOLL **Kolacno** **147.99 340** *e*PKP PKPdf 04 48 03.0 +5.1
PSZ **Piszkesteto** **148.04 337** *e*PKPbc PKPdf 04 48 02.8 +4.8
PSZ **Piszkesteto** **148.04 337**⇓*e* PKPdf 04 48 03.0 +4.8
NKC **Novy Kostel** **148.05 348**⇑*e*PKPB 04 48 02.9
NKC *e*PKPAB PKPab 04 48 08.3 -0.8
SMOL **Smolenice** **148.36 341** *e*PKP PKPdf 04 48 04.7 +6.3
HGN **Heimansgroeve** **148.43 356** *e*P PKPdf 04 48 03.0 +4.5
CSS **Prodhromos** **148.44 306** *e*PKPbc PKPdf 04 48 04.0 +5.0
ZST **Bratislava** **148.74 341** *e*PKP PKPdf 04 48 05.1 +6.0
KHC **Kasperske Hory** **148.85 346** *e*PKPDF PKPdf 04 48 00.4 +1.2
KHC ⇑*e*PKPB 04 48 05.0
KHC PKPAB PKPab 04 48 11.5 -0.9
KHC *ex* x 04 50 22.0
GERES **GERESS Array B** **149.09 345** PKP PKPdf 04 48 01.0 +1.5
comp=Z,13nm,0.9s,baz=27,slow=3.0,SNR=43
GERES PKPbc PKPdf 04 48 05.5 +5.9
comp=Z,13nm,0.9s,baz=27,slow=2.2,SNR=45
GIVF **Givet** **149.16 357** *e*PKP1 PKPdf 04 48 05.0 +5.3
comp=Z,99nm,1.2s
BAIF **Baives** **149.23 358** *e*PKP1 PKPdf 04 48 05.3 +5.5
comp=Z,69nm,1.0s
ISP **Isparta** **149.26 313** *e*PKPbc PKPdf 04 48 05.3 +5.0
WLF **Walferdange** **149.51 355** *e*PKPbc PKPdf 04 48 06.9 +6.7
MOA **Molln** **149.87 344** ⇓*i*P PKPdf 04 48 07.1 +6.2
ARSA **Arzberg** **150.06 342**⇑*i*P PKPdf 04 48 07.6 +6.4
FLN **La Foliniere** **150.48 4** *e*PKP1 PKPdf 04 48 07.7 +5.9
comp=Z,45nm,0.8s
ROSF **Rostrenen** **150.64 8** *e*PKP1 PKPdf 04 48 07.7 +5.7
comp=Z,161nm,1.5s
CDF **Champ du Feu** **150.64 353** *e*PKP1 PKPdf 04 48 08.5 +6.5
comp=Z,46nm,1.0s
LDF **La Druitiere** **150.67 3** *e*PKP1 PKPdf 04 48 08.0 +5.9
comp=Z,32nm,0.7s
PERS **Pernice** **150.74 342** *e*PKPbc PKPdf 04 48 08.6 +6.4
MEZF **Maizieres J'vi** **150.74 356** *e*PKP1 PKPdf 04 48 09.0 +6.8
comp=Z,122nm,1.2s
VTS **Vitosha** **150.79 327** ⇑P PKPdf 04 48 08.2 +5.8
SGMF **Saint Gilles** **150.80 7** *e*PKP1 PKPdf 04 48 08.3 +6.0
comp=Z,121nm,1.2s
KBA **Koelnbreinsper** **150.82 344**⇑*i*P PKPdf 04 48 08.9 +6.6
GRR **Gorron** **150.82 4** *e*PKP1 PKPdf 04 48 08.6 +6.3
comp=Z,30nm,0.7s
WATA **Walderalm** **150.99 347**⇑*i*P PKPdf 04 48 09.3 +6.7
WTTA **Wattenberg** **151.04 347**⇓*i*P PKPdf 04 48 09.9 +7.2
QUIF **Quistinic** **151.06 8** *e*PKP1 PKPdf 04 48 08.8 +6.1
comp=Z,57nm,1.4s
MOTA **Moosalm** **151.08 348**⇑*i*P PKPdf 04 48 10.0 +7.3
HAU **Haudompre** **151.13 354** *e*PKP1 PKPdf 04 48 09.5 +6.7
comp=Z,27nm,0.8s
SQTA **Sankt Quirin** **151.18 347**⇑*i*P PKPdf 04 48 10.1 +7.2
HINF **Hinteralfeld** **151.27 354** *e*PKP1 PKPdf 04 48 09.6 +6.6
comp=Z,17nm,0.8s
DAVA **Damuels** **151.37 349**⇑*i*P PKPdf 04 48 09.6 +6.5
LJU **Ljubljana** **151.45 342** *e*PKPbc PKPdf 04 48 10.5 +7.2
DAVOX **Davos** **151.85 349** PKPbc PKPdf 04 48 12.1 +8.2
comp=Z,11nm,0.5s,baz=278,slow=3.4,SNR=22
HYF **Humbligny** **152.06 360** *e*PKP1 PKPdf 04 48 11.9 +7.8
SSF **Saint Saulge** **152.25 358** *e*PKP1 PKPdf 04 48 12.1 +7.7
comp=Z,31nm,1.0s
AVF **Avril sur Loir** **152.52 358** *e*PKP1 PKPdf 04 48 12.3 +7.5
comp=Z,26nm,1.3s
CABF **La Chapelle** **152.54 354** *e*PKP1 PKPdf 04 48 13.2 +8.4
MFF **Saint Martin d** **152.65 4** *e*PKP1 PKPdf 04 48 12.7 +7.8
comp=Z,32nm,1.0s
SMF **Signal de Mont** **152.65 358** *e*PKP1 PKPdf 04 48 12.7 +7.8
comp=Z,21nm,1.1s
BGF **Bois d'Agland** **152.77 359** *e*PKP1 PKPdf 04 48 13.0 +7.9
comp=Z,28nm,1.0s
TCF **Toulx Ste Croi** **153.04 0** *e*PKP1 PKPdf 04 48 13.5 +8.0
comp=Z,37nm,1.2s
LPG **La Plagne** **153.57 353** *e*PKP1 PKPdf 04 48 15.8 +10
MBDF **Montbardon** **154.33 353** *e*PKP1 PKPdf 04 48 16.8 +10
ESDC **Sonseca Array** **158.94 14** PKPab PKPab 04 48 52.5 -2.8
comp=Z,0.7nm,0.6s,baz=353,slow=3.1,SNR=4.7
DBIC **Dimbokro** **165.67 150** PKP PKPdf 04 48 19.6 -1.1
comp=Z,6.6nm,1.0s,baz=154,slow=7.5,SNR=3.8

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*IDC **11** 04:30:22.6±0.8, 27.13N×44.40W, mb3.8/11, mb1 4.1/11, mb1mx3.9/24, mbtmp3.8/11, MS3.6/7, Ms1 3.5/7, ms1mx3.2/33, Error ellipse: s-maj=24.8km s-min=18.4km az=120.0*
*NEIC **11** 04:30:23.9±0.4, 27.12N×44.44W, h10km, mb4.4/5, Error ellipse: s-maj=11.5km s-min=8.6km az=107.0*
ISC 11 04:30:22.1±0.6, 27.16N±0.09×44.4W±0.1, h10km, n25, σ0°56/18, mb3.9/15, MS3.5/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**21.95**	**250**	LR	LR	04 41 32.8	
	comp=Z,71nm,20.0s,MS3.1,baz=101,slow=30						
SDV	**Santo Domingo**	**30.73**	**239**	LR	LR	04 46 42.2	
	comp=Z,59nm,19.2s,MS3.8,baz=309,slow=32						
SADO	**Sadowa**	**32.82**	**312**	LR	LR	04 48 03.9	
	comp=Z,85nm,19.3s,MS3.5,baz=119,slow=32						
SAML	**Samuel**	**40.24**	**209**	P	**P**	**04 38 00.5**	**-0.4**
	0.9nm,0.8s,mb3.5						
BDFB	**Brasilia**	**42.69**	**185**	P	**P**	**04 38 20.5**	**-0.5**
	1.8nm,0.9s,mb3.8,baz=33,slow=8.4,SNR=3.4						
DBIC	**Dimbokro**	**42.72**	**111**	LR	LR	04 55 39.9	
	comp=Z,60nm,18.2s,MS3.5,baz=281,slow=36						
ULM	**Lac du Bonnet**	**45.20**	**315**	P	**P**	**04 38 40.0**	**-0.9**
	2.2nm,0.5s,mb4.2						
SIV	**San Ignacio**	**45.84**	**203**	P	**P**	**04 38 46.3**	**-0.1**
	0.5nm,0.7s,mb3.6,baz=275,slow=15,SNR=4.5						
LPAZ	**La Paz**	**48.93**	**211**	P	**P**	**04 39 11.7**	**+1.1**
	1.8nm,1.0s,mb4.1,baz=1.0,slow=11,SNR=5.1						
LPAZ	**La Paz**	**48.93**	**211**	*e*P	**P**	**04 39 11.2**	**+0.6**
	3.0nm,1.1s,mb4.2						
GERES	**GERESS Array B**	**49.33**	**48**	P	**P**	**04 39 13.9**	**+0.6**
	0.3nm,0.3s,mb3.8,baz=256,slow=5.5,SNR=5.1						
TXAR	**Lajitas Array**	**51.74**	**287**	P	**P**	**04 39 32.4**	**+0.4**
	0.6nm,1.1s,mb3.5,baz=90,slow=8.8,SNR=3.8						
ANMO	**Albuquerque**	**52.98**	**295**	LR	LR	04 59 46.1	
	comp=Z,69nm,19.9s,MS3.7,slow=33						
PDAR	**Pinedale Array**	**54.33**	**305**	P	**P**	**04 39 51.5**	**+0.5**
	1.5nm,0.8s,mb4.0,baz=81,slow=7.4,SNR=12						
BW06	**Boulder Array**	**54.33**	**305**	*e*P	**P**	**04 39 51.6**	**+0.6**
	6.2nm,1.1s,mb4.5						
IMW	**Indian Meadow**	**55.22**	**306**	*e*P	**P**	**04 39 57.1**	**-0.4**
YKA	**Yellowknife Ar**	**57.15**	**329**	P	**P**	**04 40 10.4**	**-0.7**
	1.0nm,0.9s,mb3.8,baz=94,slow=7.6,SNR=13						
YKA	**Yellowknife Ar**	**57.15**	**329**	P	**P**	**04 40 10.4**	**-0.7**
ARCES	**ARCESS Array B**	**57.82**	**23**	P	**P**	**04 40 16.0**	**+0.3**
	2.4nm,0.9s,mb4.2,baz=256,slow=5.0,SNR=9.2						
NEW	**Newport**	**59.01**	**312**	LR	LR	05 03 21.4	
	comp=Z,72nm,19.2s,MS3.8,baz=233,slow=34						
AKASG	**Malin Array Be**	**59.34**	**45**	P	**P**	**04 40 25.9**	**-0.7**
	0.4nm,0.5s,mb3.8,baz=269,slow=6.1,SNR=6.0						

BRTR	**Keskin Array B**	**64.46**	**57**	P	**P**	**04 41 01.2**	**+0.2**
	0.3nm,0.4s,mb3.6,baz=304,slow=4.5,SNR=4.9						
INK	**Inuvik**	**64.74**	**336**	LR	LR	05 08 21.4	
	comp=Z,57nm,19.1s,MS3.8,baz=112,slow=35						
INK	**Inuvik**	**64.74**	**336**	*e*P	**P**	**04 41 02.0**	**-0.4**
	6.9nm,1.5s,mb4.5						
ILAR	**Eielson Array**	**70.86**	**334**	P	**P**	**04 41 41.4**	**+0.6**
	2.1nm,1.0s,mb4.0,baz=72,slow=4.3,SNR=11						

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*IDC **11** 04:36:20.5±0.7, 1.64S×99.55E, mb4.3/12, mb1 4.3/13, mb1mx4.2/21, mbtmp4.2/13, Error ellipse: s-maj=27.0km s-min=14.5km az=51.0*
*NEIC **11** 04:36:25.9±1.6, 1.65S×99.61E, h38km±13km, mb4.6/10, Error ellipse: s-maj=14.3km s-min=5.8km az=53.0*
ISC 11 04:36:24.1±3.3, 1.6S±0.1×99.6E±0.1, h40km±29km, n49, σ0°72/43, mb4.5/21, 1C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.92**	**8**	*e*P	**P**	**04 38 05.6**	**0.0**
CM31	**Chiang Mai Arr**	**19.94**	**358**	*e*P	**P**	**04 40 55.3**	**-0.4**
	9.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**19.94**	**358**	P	**P**	**04 40 55.3**	**-0.4**
	baz=188,slow=9.9,SNR=7.2						
SHL	**Shillong**	**28.03**	**345**	*e*P	**P**	**04 42 13.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**30.34**	**124**	P	**P**	**04 42 34.1**	**-0.5**
	7.5nm,0.9s,mb4.4,baz=273,slow=2.9,SNR=4.0						
JIRN	**Jiri**	**31.84**	**337**	*e*P	**P**	**04 42 48.5**	**+0.8**
	26nm,0.9s,mb5.1						
PKI	**Pulchoki**	**32.07**	**336**	*e*P	**P**	**04 42 49.3**	**-0.4**
LSA	**Lhasa**	**32.16**	**346**	*e*P	**P**	**04 42 51.6**	**+1.1**
	9.4nm,1.0s,mb4.6						
GUN	**Gumba**	**32.18**	**337**	*e*P	**P**	**04 42 51.5**	**+0.8**
	24nm,0.7s,mb5.1						
DMN	**Daman**	**32.23**	**335**	*e*P	**P**	**04 42 51.4**	**+0.3**
KKN	**Kakani**	**32.32**	**336**	*e*P	**P**	**04 42 52.1**	**+0.2**
GKN	**Gorkha**	**32.77**	**335**	*e*P	**P**	**04 42 55.3**	**-0.5**
	26nm,1.2s,mb5.0						
KOLN	**Koldanda**	**33.02**	**333**	*e*P	**P**	**04 42 58.0**	**0.0**
	15nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**38.51**	**121**	P	**P**	**04 43 44.5**	**-0.1**
	3.0nm,0.7s,mb4.2,baz=299,slow=9.2,SNR=9.5						
WRAB	**Tennant Creek**	**38.52**	**121**	*e*P	**P**	**04 43 43.8**	**-0.9**
	6.1nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**39.78**	**126**	P	**P**	**04 43 55.5**	**+0.4**
	2.5nm,0.9s,mb3.9,baz=302,slow=7.8,SNR=11						
ASAR				PcP	PcP	04 46 02.6	+1.1
	1.1nm,0.8s,baz=291,slow=2.4,SNR=6.2						
SONM	**Songino Array**	**49.59**	**6**	P	**P**	**04 45 14.2**	**+0.8**
	1.9nm,0.8s,mb4.2,baz=188,slow=8.9,SNR=12						
ULN	**Ulaanbaatar**	**49.69**	**7**	P	**P**	**04 45 14.9**	**+0.7**
	1.2nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**49.69**	**132**	P	**P**	**04 45 15.7**	**+1.2**
	2.5nm,0.7s,mb4.4,baz=285,slow=8.5,SNR=6.2						
STKA	**Stephens Creek**	**49.69**	**132**	*e*P	**P**	**04 45 15.3**	**+0.8**
MKAR	**Makanchi Array**	**50.55**	**345**	P	**P**	**04 45 21.1**	**+0.4**
	4.7nm,0.7s,mb4.5,baz=150,slow=8.1,SNR=34						
KURK	**Kurchatov**	**55.12**	**344**	*e*P	**P**	**04 45 54.1**	**-0.6**
	3.1nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**56.70**	**350**	P	**P**	**04 46 06.3**	**+0.3**
	4.4nm,0.6s,mb4.7,baz=310,slow=6.4,SNR=22						
ZAL	**Zalesovo**	**56.70**	**350**	P	**P**	**04 46 06.3**	**+0.3**
BVAR	**Borovoye Array**	**59.68**	**340**	P	**P**	**04 46 25.8**	**-1.1**
	2.6nm,0.8s,mb4.3,baz=149,slow=8.6,SNR=13						
CHKZ	**Chkalovo**	**60.15**	**341**	*e*P	**P**	**04 46 29.0**	**-1.1**
	2.9nm,0.7s,mb4.4						
KMBO	**Kilima Mbogo**	**62.36**	**270**	P	**P**	**04 46 46.2**	**+0.6**
	0.7nm,0.4s,mb4.2,baz=54,slow=14,SNR=5.0						
KMBO	**Kilima Mbogo**	**62.36**	**270**	P	**P**	**04 46 46.2**	**+0.6**
MATP	**Matopo**	**71.77**	**249**	P	**P**	**04 47 45.1**	**+0.3**
	5.9nm,0.9s,mb4.5,baz=95,slow=9.3,SNR=5.9						
CTKT	**Corum**	**72.21**	**314**	*i* P	**P**	**04 47 55.5**	**+8.4**
BOYT	**Boyabat**	**72.38**	**314**	*i* P	**P**	**04 47 53.8**	**+5.7**
BRTR	**Keskin Array B**	**72.78**	**312**	P	**P**	**04 47 49.5**	**-1.0**
	1.0nm,0.7s,mb3.9,baz=113,slow=6.5,SNR=6.3						
BRTR	**Keskin Array B**	**72.78**	**312**	P	**P**	**04 47 49.5**	**-1.0**
ELDT	**Eldivan**	**73.16**	**313**	*i* P	**P**	**04 47 58.1**	**+5.3**
ANTO	**Ankara**	**73.45**	**312**	⇑P	**P**	**04 47 59.6**	**+5.1**
BALT	**Daday**	**73.50**	**314**	*i* P	**P**	**04 47 54.9**	**+0.2**
SGKT	**Sivrigoynuk**	**74.19**	**313**	*i* P	**P**	**04 47 56.7**	**-2.0**
ESKT	**Eskisehir**	**74.80**	**312**	*i* P	**P**	**04 48 02.5**	**+0.2**
AKAS	**Kas**	**74.94**	**308**	*i* P	**P**	**04 48 07.9**	**+4.7**
AKAS	**Kas**	**74.94**	**308**	*i* P	**P**	**04 48 09.0**	**+5.8**
ULDT	**Uludag**	**76.23**	**312**	*i* P	**P**	**04 48 04.5**	**-6.0**
BTOK	**Tokmak**	**76.97**	**311**	*i* P	**P**	**04 48 07.0**	**-7.6**
FINES	**FINESS Array B**	**83.59**	**332**	P	**P**	**04 48 50.3**	**+1.0**
	1.8nm,0.7s,mb4.3,baz=135,slow=5.9,SNR=3.6						
TXAR	**Lajitas Array**	**144.61**	**37**	PKP	PKPdf	04 55 59.2	+2.0
	3.4nm,0.7s,baz=278,slow=1.4,SNR=42						
TXAR	**Lajitas Array**	**144.61**	**37**	PKP	PKPdf	04 55 59.2	+2.0
WVT	**Waverly**	**144.95**	**11**	*e*PKP	PKPdf	04 55 58.7	+1.1
MIAR	**Mount Ida**	**144.98**	**19**	*e*PKP	PKPdf	04 55 59.0	+1.3
JCT	**Junction City**	**145.88**	**31**	*e*PKP	PKPdf	04 56 02.6	+3.2
CPCT	**Cooper Cave**	**146.10**	**6**	*e*PKP	PKPdf	04 56 01.9	+2.3

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*NEIC **11** 04:43:04.3, 51.19N×179.09W, h7km, ML3.7(AEIC), After AEIC.*
*IDC **11** 04:43:51.9±19.0, 53.92N×169.46W, mb3.5/3, mb1 3.9/3, mb1mx3.4/23, mbtmp3.5/3, Error ellipse: s-maj=352.0km s-min=83.0km az=78.0*
ISC 11 04:43:02.6±1.9, 50.9N±0.3×179.1W±0.3, h33km, n15, σ0°80/17, mb3.6/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.44**	**54**	P	**P**	**04 43 26.0**	**-0.6**
KIWB	**Kanaga Island**	**1.54**	**53**	P	**P**	**04 43 27.6**	**-0.3**
KIWB				S	**S**	**04 43 46.9**	**-0.1**
KIKV	**Kanaga Island**	**1.54**	**52**	P	**P**	**04 43 27.6**	**-0.4**
KIRH	**Kanaga Island**	**1.59**	**52**	P	**P**	**04 43 28.5**	**-0.2**
ADAG	**Mount Adagdak**	**1.89**	**56**	P	**P**	**04 43 33.6**	**+0.6**
GSTD	**Great Sitkin T**	**2.17**	**58**	P	**P**	**04 43 38.1**	**+1.1**
GSMY	**Great Sitkin M**	**2.21**	**59**	P	**P**	**04 43 37.8**	**+0.2**
GSTR	**Great Sitkin T**	**2.24**	**58**	P	**P**	**04 43 39.4**	**+1.4**
GSIG	**Igitkin Island**	**2.26**	**61**	P	**P**	**04 43 39.2**	**+0.9**
ATKA	**Atka Island**	**3.32**	**66**	P	**P**	**04 43 53.7**	**+0.2**
ATKA				S	**S**	**04 44 31.5**	**-0.9**
NIKO	**Nikolski**	**6.67**	**68**	P	**P**	**04 44 40.6**	**-0.1**
YKA	**Yellowknife Ar**	**35.68**	**46**	P	**P**	**04 49 56.0**	**-3.2**
	0.2nm,0.7s,mb3.1,baz=282,slow=8.1,SNR=6.9						
YKA	**Yellowknife Ar**	**35.68**	**46**	P	**P**	**04 49 56.0**	**-3.2**
PDAR	**Pinedale Array**	**46.64**	**72**	P	**P**	**04 51 28.6**	**-0.6**
	1.3nm,0.6s,mb4.1,baz=306,slow=4.1,SNR=15						
TXAR	**Lajitas Array**	**58.92**	**81**	P	**P**	**04 53 09.7**	**+9.0**
	0.3nm,0.6s,mb3.5,baz=315,slow=5.1,SNR=3.8						

WEL 11 04:46:31.4±0.8, 38.30S×179.17E, h12km, ML3.6/5, 1C-1D, Error ellipse: s-maj=6.1km s-min=3.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.75**	**288**	⇓P*	Pb	04 46 45.5	-0.5
PUZ				S*	Sb	04 46 55.8	-0.2
MXZ	**Matakaoa Point**	**1.00**	**317**	P*	Pb	04 46 49.6	-0.7
MXZ				S*	Sb	04 47 04.2	+1.0
MWZ	**Matawai**	**1.29**	**268**	⇑PN	Pn	04 46 54.1	-1.2
MWZ				S*	Sb	04 47 11.2	-0.3
KNZ	**Kokohu**	**1.37**	**238**	*e*PN	Pn	04 46 56.1	-0.4
KNZ				SN	Sn	04 47 15.5	+0.9
BKZ	**Black Stump Fm**	**2.26**	**247**	*e*PN	Pn	04 47 08.4	-0.9
WNVZ	**Wahianoa**	**2.97**	**249**	*e*PN	Pn	04 47 18.0	-1.4
WNVZ				*e*SN	Sn	04 47 52.3	-2.9
BFZ	**Birch Farm**	**3.28**	**223**	*e*PN	Pn	04 47 20.2	-3.6

IDC 11 04:57:28.4±5.2, 0.35S×101.66E, mb3.5/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=295.4km s-min=28.9km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.45**	**123**	P	P	05 04 44.8	-0.8
	0.3nm,0.4s,baz=302,slow=9.2,SNR=6.1						
ASAR	**Alice Springs**	**38.93**	**129**	P	P	05 04 55.4	-2.6
	0.6nm,0.9s,baz=308,slow=8.9,SNR=4.7						
MKAR	**Makanchi Array**	**49.93**	**343**	P	P	05 06 24.2	-1.9
	0.2nm,0.5s,baz=141,slow=7.8,SNR=4.9						
TXAR	**Lajitas Array**	**142.40**	**38**	PKP	PKPdf	05 17 01.5	-4.2
	0.3nm,0.6s,baz=178,slow=2.4,SNR=5.8						

IDC 11 05:04:44.7±4.3, 27.01N×44.28W, mb3.7/6, mb1 4.0/6, mb1mx3.7/23, mbtmp3.7/6, MS3.2/3, Ms1 3.3/3, ms1mx2.9/33, Error ellipse: s-maj=115.8km s-min=29.8km az=169.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**22.03**	**251**	LR	LR	05 15 30.3	
	comp=Z,34nm,20.9s,baz=71,slow=29						
SCHQ	**Schefferville**	**32.31**	**335**	LR	LR	05 22 41.0	
	comp=Z,47nm,18.5s,baz=358,slow=33						
TXAR	**Lajitas Array**	**51.91**	**287**	P	P	05 13 55.6	-1.9
	0.1nm,0.5s,baz=90,slow=9.0,SNR=2.6						
PDAR	**Pinedale Array**	**54.52**	**305**	P	P	05 14 14.6	-2.0
	1.0nm,0.7s,baz=83,slow=7.3,SNR=12						
YKA	**Yellowknife Ar**	**57.35**	**329**	P	P	05 14 33.7	-3.0
	0.4nm,0.8s,baz=96,slow=7.7,SNR=11						
ARCES	**ARCESS Array B**	**57.91**	**23**	P	P	05 14 38.6	-1.9
	2.0nm,0.7s,baz=270,slow=6.3,SNR=4.6						
AKASG	**Malin Array Be**	**59.35**	**45**	P	P	05 14 48.1	-2.7
	0.1nm,0.3s,baz=274,slow=6.2,SNR=6.1						
ILAR	**Eielson Array**	**71.06**	**334**	P	P	05 16 04.8	-1.4
	1.1nm,0.7s,baz=76,slow=4.4,SNR=13						
ILAR				LR	LR	05 45 46.8	
	comp=Z,30nm,18.4s,baz=1.2,slow=35						

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*NIED **11** 05:11:00, 36.90N×137.60E, h220km, Mw3.6 Best double couple: M0 2.98×10^14 NP1:φs326°, δ76°, λ-51°. NP2:φs72°, δ41°, λ-159°.*
*IDC **11** 05:11:13.6±2.2, 36.95N×137.18E, h225km±13km, mb2.8/4, mb1 3.2/5, mb1mx2.9/24, mbtmp3.5/5, Error ellipse: s-maj=76.2km s-min=15.4km az=106.0*
*JMA **11** 05:11:14.2±0.2, 36.90N×137.56E, h234km±2km, M3.5*
ISC 11 05:11:13.4±0.6, 36.93N±0.05×137.5E±0.1, h236km±4km, n21, σ0°62/28, mb3.1/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**0.53**	**348**	P	**P**	**05 11 45.2**	**+0.2**
JSZ				S	**S**	**05 12 09.1**	**-0.5**
MAT	**Matsushiro**	**0.69**	**124**	P	**P**	**05 11 45.7**	**+0.1**
MAT				S	**S**	**05 12 10.4**	**-0.2**
MJAR	**Matsushiro Arr**	**0.69**	**124**	P	**P**	**05 11 46.0**	**+0.4**
	26nm,0.3s,baz=296,slow=5.5,SNR=110						
MJAR				S	**S**	**05 12 11.0**	**+0.4**
	0.5nm,0.3s,baz=333,slow=19,SNR=7.6						
JHG	**Hegura jima**	**1.03**	**334**	P	**P**	**05 11 47.9**	**+0.6**
JSD	**Sado**	**1.26**	**28**	P	**P**	**05 11 49.4**	**+0.5**
JSD				S	**S**	**05 12 15.5**	**-1.0**
JGM	**Miyama**	**1.38**	**207**	P	**P**	**05 11 50.0**	**+0.2**
JGM				*e*S	**S**	**05 12 17.7**	**-0.3**
JRY	**Ryogami san**	**1.45**	**128**	P	**P**	**05 11 49.6**	**-0.7**
JAG	**Ashikaga**	**1.65**	**107**	P	**P**	**05 11 51.4**	**-0.5**
JYN	**Shimob**	**1.66**	**149**	P	**P**	**05 11 52.1**	**+0.1**
JYN				*e*S	**S**	**05 12 21.5**	**-0.4**
JNS	**Sasagawa**	**1.70**	**58**	P	**P**	**05 11 52.8**	**+0.4**
JAW	**Awa shima**	**2.06**	**42**	P	**P**	**05 11 56.1**	**+0.5**
JOD2	**Odawara 2**	**2.10**	**142**	P	**P**	**05 11 56.1**	**+0.1**
JOD2				S	**S**	**05 12 28.8**	**-0.2**
JWT	**Wachi**	**2.36**	**227**	P	**P**	**05 11 58.8**	**+0.2**
JIE	**Ise**	**2.61**	**195**	P	**P**	**05 12 01.5**	**+0.3**
JIM2	**Oshima 3**	**2.71**	**144**	P	**P**	**05 12 03.8**	**+1.5**
JMM	**Marumori**	**2.79**	**69**	P	**P**	**05 12 03.5**	**+0.4**
ASAJ	**Asahikawa**	**8.16**	**27**	P	**P**	**05 13 08.1**	**-1.4**
	2.5nm,0.3s,baz=246,slow=12,SNR=7.8						
ILAR	**Eielson Array**	**51.26**	**32**	P	**P**	**05 19 55.5**	**+1.0**
	0.5nm,0.8s,mb3.0,baz=262,slow=4.8,SNR=6.8						
WRA	**Warramunga Arr**	**56.64**	**184**	P	**P**	**05 20 33.4**	**-0.7**
	0.5nm,0.5s,mb3.4,baz=357,slow=7.6,SNR=7.2						
ASAR	**Alice Springs**	**60.36**	**184**	P	**P**	**05 20 58.7**	**-1.0**
	0.2nm,0.3s,mb3.2,baz=1.4,slow=7.5,SNR=4.3						
YKA	**Yellowknife Ar**	**65.45**	**29**	P	**P**	**05 21 32.5**	**+0.2**
	0.1nm,0.5s,mb2.8,baz=298,slow=6.7,SNR=7.0						

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*NIED **11** 05:30:00, 42.90N×145.50E, h41km, Mw4.2 Best double couple: M0 2×10^15 NP1:φs25°, δ67°, λ68°. NP2:φs250°, δ31°, λ131°.*
*MOS **11** 05:30:56.3±1.4, 42.72N×145.57E, h33km, mb4.5/4, Error ellipse: s-maj=18.2km s-min=12.0km az=89.4*
*NEIC **11** 05:30:59.9±1.9, 42.99N×145.35E, h36km±21km, mb4.2/4, Error ellipse: s-maj=18.7km s-min=9.1km az=171.0*
*JMA **11** 05:30:59.6±0.1, 42.89N×145.49E, h45km±1km, M3.9*
JMA Felt I J1.
*IDC

comp=Z,1.0nm,0.4s,mb3.9,baz=79,slow=8.5,SNR=19
KURK Kurchatov 45.01 304 *eP* **P 05 39 10.6 -0.3**
KURK pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
KURK Kurchatov 45.01 304 *eP* **P 05 39 10.6 -0.3**
comp=Z,1.4nm,0.8s,mb3.8
CMAR Chiang Mai Arr 46.08 253 P **P 05 39 21.1 +1.3**
comp=Z,0.6nm,0.5s,mb3.8,baz=39,slow=8.0,SNR=4.1
INK Inuvik 47.80 30 *eP* **P 05 39 32.6 -0.1**
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 47.80 30 P **P 05 39 32.8 +0.1**
comp=Z,0.8nm,0.4s,mb4.1,baz=262,slow=6.3,SNR=13
INK Inuvik 47.80 30 *eP* **P 05 39 32.6 -0.1**
comp=Z,2.7nm,1.0s,mb4.2
HNR Honiara 53.69 162 LR LR 05 58 41.8
comp=Z,71nm,20.6s,MS3.7,baz=303,slow=31
YKA Yellowknife Ar 57.23 33 P **P 05 40 42.3 -0.7**
comp=Z,0.3nm,0.7s,mb3.4,baz=301,slow=6.6,SNR=6.4
JOF Joensuu 62.30 332 *ep* **P 05 41 16.5 -1.3**
KAF Kangasniemi 64.56 333 *ep* **P 05 41 30.8 -1.7**
FINES FINESS Array B 65.11 333 P **P 05 41 35.4 -0.7**
comp=Z,2.4nm,0.5s,mb4.5,baz=51,slow=9.0,SNR=19
NVAR Mina Array Bea 69.11 57 P **P 05 42 02.7 +1.1**
comp=Z,0.5nm,0.7s,mb3.5,baz=283,slow=7.3,SNR=5.3
NVAR Mina Array Bea 69.11 57 P **P 05 42 02.7 +1.1**
NB2 NORSAR Subarra 69.99 338 P **P 05 42 06.5 0.0**
comp=Z,1.6nm,0.8s,mb4.0,baz=33,slow=6.2
NOA NORSAR Array B 69.99 338 P **P 05 42 06.1 -0.4**
comp=Z,1.9nm,0.8s,mb4.1,baz=37,slow=6.0,SNR=4.3
HFS Hagfors 70.03 337 P **P 05 42 06.6 -0.2**
comp=Z,4.6nm,0.8s,mb4.5,baz=45,slow=6.3,SNR=11
AKASG Malin Array Be 71.56 323 P **P 05 42 15.2 -1.1**
comp=Z,1.2nm,0.4s,mb4.2,baz=41,slow=6.1,SNR=12
PV10 Paradox Valley 74.67 52 *eP* **P 05 42 36.1 +1.5**
TXAR Lajitas Array 84.18 55 P **P 05 43 27.3 +1.2**
comp=Z,0.3nm,0.7s,mb3.5,baz=284,slow=2.8,SNR=5.6
BDFB Brasilia 150.53 27 PKPbc PKPdf 05 50 47.4 +7.5
comp=Z,1.1nm,0.6s,baz=101,slow=2.2,SNR=3.1

*IDC **11** 05:35:58.4±2.8,2.57N×95.88E,mb4.0/5,mb1 4.1/6, mb1mx3.8/20,mbtmp4.0/6,ML4.1/1,Error ellipse: s-maj=108.8km s-min=21.1km az=61.0*
*NEIC **11** 05:36:03.0±0.5,2.56N×95.97E,h30km,mb4.5/10,Error ellipse: s-maj=13.7km s-min=6.9km az=48.0*
ISC 11 05:36:01.1±0.9,2.6N±0.1×96.0E±0.1,h30km,n20, σ0§63/20,mb4.4/15,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**60**	*eP*	**Pn**	**05 37 22.1**	**+0.4**
KULM				*e*		05 37 29.0	
CMAR	**Chiang Mai Arr**	**16.06**	**10**	Pn	**P**	**05 39 47.0**	**+0.3**
	0.3nm,0.3s,baz=197,slow=11,SNR=9.4						
JIRN	**Jiri**	**26.65**	**340**	*eP*	**P**	**05 41 40.3**	**+0.9**
	36nm,0.8s,mb5.0						
PKI	**Pulchoki**	**26.84**	**339**	*eP*	**P**	**05 41 41.4**	**+0.3**
DMN	**Daman**	**26.98**	**338**	*eP*	**P**	**05 41 42.7**	**+0.2**
	5.1nm,0.5s,mb4.3						
GUN	**Gumba**	**26.98**	**340**	*eP*	**P**	**05 41 43.0**	**+0.5**
	25nm,0.7s,mb4.8						
KKN	**Kakani**	**27.08**	**339**	*eP*	**P**	**05 41 43.4**	**0.0**
	24nm,0.9s,mb4.8						
LSA	**Lhasa**	**27.37**	**351**	*eP*	**P**	**05 41 46.8**	**+0.9**
	8.2nm,0.8s,mb4.3						
GKN	**Gorkha**	**27.51**	**338**	*eP*	**P**	**05 41 47.5**	**+0.2**
	33nm,0.9s,mb5.0						
KOLN	**Koldanda**	**27.71**	**336**	*eP*	**P**	**05 41 49.4**	**+0.3**
	16nm,0.7s,mb4.8						
ENH	**Enshi**	**30.38**	**24**	*eP*	**P**	**05 42 11.7**	**-1.3**
	6.3nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**43.79**	**122**	P	**P**	**05 44 06.7**	**+0.4**
	1.4nm,0.8s,mb3.8,baz=305,slow=8.6,SNR=4.3						
WRAB	**Tennant Creek**	**43.80**	**122**	P	**P**	**05 44 05.9**	**-0.5**
ASAR	**Alice Springs**	**45.19**	**127**	P	**P**	**05 44 18.1**	**+0.5**
	0.5nm,0.6s,mb3.5,baz=302,slow=8.0,SNR=5.5						
MKAR	**Makanchi Array**	**45.63**	**347**	P	**P**	**05 44 20.5**	**-0.3**
	1.9nm,0.6s,mb4.2,baz=162,slow=8.0,SNR=30						
SONM	**Songino Array**	**45.98**	**10**	P	**P**	**05 44 23.2**	**-0.3**
	2.4nm,0.7s,mb4.2,baz=190,slow=8.6,SNR=21						
KURK	**Kurchatov**	**50.17**	**346**	*eP*	**P**	**05 44 55.4**	**-0.7**
	1.7nm,0.8s,mb4.1						
ZAL	**Zalesovo**	**52.02**	**352**	P	**P**	**05 45 09.3**	**-0.7**
	1.7nm,0.5s,mb4.2,baz=296,slow=4.7,SNR=10						
ZAL	**Zalesovo**	**52.02**	**352**	P	**P**	**05 45 09.3**	**-0.7**
CHKZ	**Chkalovo**	**55.05**	**342**	*eP*	**P**	**05 45 31.1**	**-1.3**
	2.5nm,0.8s,mb4.3						

*IDC **11** 05:37:41.9±0.6,1.73S×99.63E,mb4.3/14,mb1 4.5/14, mb1mx4.4/20,mbtmp4.3/14,Error ellipse: s-maj=24.0km s-min=13.8km az=52.0*
*NEIC **11** 05:37:46.2±0.3,1.75S×99.66E,h30km,mb4.6/3,Error ellipse: s-maj=12.8km s-min=7.5km az=64.0*
ISC 11 05:37:44.9±0.5,1.71S±0.08×99.7E±0.1,h33km,n30, σ0§80/21,mb4.4/16,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.02**	**8**	*eP*	**P**	**05 39 29.9**	**+2.0**
CMAR	**Chiang Mai Arr**	**20.05**	**358**	P	**P**	**05 42 16.9**	**-1.2**
	2.6nm,0.6s,baz=187,slow=9.8,SNR=12						
SHL	**Shillong**	**28.14**	**345**	*eP*	**P**	**05 43 42.7**	**+6.4**
FITZ	**Fitzroy Crossi**	**30.24**	**124**	P	**P**	**05 43 53.8**	**-1.3**
	13nm,0.9s,mb4.7,baz=281,slow=6.3,SNR=8.4						
WRA	**Warramunga Arr**	**38.42**	**121**	P	**P**	**05 45 05.4**	**+0.1**
	5.1nm,0.4s,mb4.6,baz=302,slow=9.2,SNR=17						
WRA				PcP	PcP	05 47 19.5	+0.7
	0.4nm,0.4s,baz=315,slow=2.3,SNR=4.8						
WRAB	**Tennant Creek**	**38.42**	**121**	*eP*	**P**	**05 45 05.2**	**-0.2**
	12nm,0.5s,mb4.9						
ASAR	**Alice Springs**	**39.69**	**126**	P	**P**	**05 45 16.2**	**+0.5**
	3.0nm,0.6s,mb4.2,baz=300,slow=7.5,SNR=24						
ASAR				PcP	PcP	05 47 23.7	+0.9
	1.5nm,0.8s,baz=307,slow=3.4,SNR=6.7						
STKA	**Stephens Creek**	**49.59**	**132**	P	**P**	**05 46 35.8**	**+0.6**
	4.2nm,0.6s,mb4.6,baz=316,slow=8.7,SNR=11						
STKA	**Stephens Creek**	**49.59**	**132**	*eP*	**P**	**05 46 35.6**	**+0.5**
SONM	**Songino Array**	**49.69**	**6**	P	**P**	**05 46 36.4**	**+0.8**
	1.4nm,0.6s,mb4.1,baz=190,slow=9.4,SNR=7.9						
SONM				PcP	PcP	05 47 56.9	+0.1
	1.2nm,0.5s,baz=187,slow=4.9,SNR=7.6						
ULN	**Ulaanbaatar**	**49.79**	**7**	P	**P**	**05 46 36.0**	**-0.4**
MKAR	**Makanchi Array**	**50.66**	**345**	P	**P**	**05 46 43.5**	**+0.4**
	3.5nm,0.7s,mb4.4,baz=148,slow=7.9,SNR=18						
KURK	**Kurchatov**	**55.24**	**344**	*eP*	**P**	**05 47 16.0**	**-1.0**
	4.4nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**56.82**	**350**	P	**P**	**05 47 28.4**	**+0.1**
	5.1nm,0.5s,mb4.8,baz=313,slow=5.4,SNR=20						
CHKZ	**Chkalovo**	**60.26**	**341**	*eP*	**P**	**05 47 51.4**	**-1.0**
	2.3nm,0.8s,mb4.3						
KMBO	**Kilima Mbogo**	**62.40**	**270**	P	**P**	**05 48 08.1**	**+0.7**
	1.5nm,0.8s,mb4.2,baz=49,slow=6.4,SNR=4.3						
MAW	**Mawson**	**70.49**	**194**	P	**P**	**05 48 58.2**	**+0.4**
	2.3nm,0.8s,mb4.1,baz=50,slow=17,SNR=3.5						
MATP	**Matopo**	**71.77**	**249**	P	**P**	**05 49 06.6**	**+0.3**
	4.4nm,0.7s,mb4.5,baz=72,slow=4.7,SNR=9.5						
BRTR	**Keskin Array B**	**72.89**	**312**	P	**P**	**05 49 11.7**	**-1.0**
	0.7nm,0.6s,mb3.7,baz=125,slow=5.9,SNR=5.2						
AKASG	**Malin Array Be**	**79.06**	**322**	P	**P**	**05 49 47.6**	**+0.2**
	1.0nm,0.5s,mb4.0,baz=95,slow=4.6,SNR=4.6						
FINES	**FINESS Array B**	**83.70**	**332**	P	**P**	**05 50 11.9**	**+0.4**
	2.6nm,0.9s,mb4.3,baz=90,slow=7.6,SNR=6.8						
YKA	**Yellowknife Ar**	**114.19**	**17**	PKP	PKPdf	05 56 21.7	+1.0
	0.3nm,1.0s,baz=347,slow=1.4,SNR=5.2						
BDFB	**Brasilia**	**143.70**	**240**	PKP	PKPdf	05 57 20.0	+2.5
	1.9nm,0.7s,baz=73,slow=7.6,SNR=3.3						
TXAR	**Lajitas Array**	**144.67**	**37**	PKP	PKPdf	05 57 20.9	+2.0
	3.7nm,0.5s,baz=195,slow=1.2,SNR=84						
WVT	**Waverly**	**145.05**	**11**	*e*PKP	PKPdf	05 57 19.5	+0.1
MIAR	**Mount Ida**	**145.07**	**19**	*e*PKP	PKPdf	05 57 20.8	+1.4
TZTN	**Tazewell**	**145.21**	**5**	*e*PKP	PKPdf	05 57 20.9	+1.2
JCT	**Junction City**	**145.94**	**31**	*e*PKP	PKPdf	05 57 23.8	+2.8
CPCT	**Cooper Cave**	**146.20**	**6**	*e*PKP	PKPdf	05 57 23.7	+2.3
LRAL	**Lakeview Retre**	**148.21**	**11**	*e*PKPbc	PKPdf	05 57 29.3	+4.6

MAN 11 05:37:56.8,7.96N×124.70E,h31km,mb4.4,ML3.2,MS3.0, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.37**	**102**	*eP*	Pb	05 38 06.5	+1.3
CGP	**Cagayan de Oro**	**0.49**	**359**	⇑*iP*	Pb	05 38 08.5	+1.3
CGP				*i* S	Sb	05 38 14.2	0.0
PAGZ	**Pagadian**	**1.31**	**265**	*eP*	Pn	05 38 18.7	-0.6

*IDC **11** 05:44:42.8±1.3,14.99S×173.79W,mb3.7/5,mb1 4.1/5, mb1mx3.8/16,mbtmp3.7/5,MS3.4/1,Ms1 3.4/1, ms1mx2.9/26,Error ellipse: s-maj=68.6km s-min=28.6km az=150.0*
*NEIC **11** 05:44:46.2±1.4,14.63S×173.24W,h10km,mb4.4/1,Error ellipse: s-maj=50.1km s-min=25.9km az=170.0*
ISC 11 05:44:48.8±1.2,14.6S±0.3×173.3W±0.1,h33km,n15, σ1§02/14,mb3.9/7,MS3.3/1,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.58**	**66**	Pn	**Pn**	**05 45 14.0**	**-1.0**
	30nm,0.3s,baz=95,slow=3.0,SNR=22						
AFI				Sn	**Sn**	**05 45 35.5**	**+1.0**
	86nm,0.3s,baz=231,slow=23,SNR=12						
AFI	**Afiamalu**	**1.58**	**66**	*eP*	**P**	**05 45 13.2**	**-1.7**
AFI				Sn	**Sn**	**05 45 35.5**	**+1.0**
PPT	**Papeete**	**22.95**	**101**	LR	LR	05 57 44.4	
	comp=Z,99nm,19.2s,MS3.3,baz=290,slow=33						
ASAR	**Alice Springs**	**50.50**	**251**	P	**P**	**05 53 37.8**	**-8.3**
	2.8nm,0.8s,mb4.3,baz=86,slow=7.8,SNR=26						
NVAR	**Mina Array Bea**	**73.62**	**42**	P	**P**	**05 56 22.0**	**+1.1**
	0.7nm,0.8s,mb3.6,baz=221,slow=6.9,SNR=4.2						
TXAR	**Lajitas Array**	**80.04**	**56**	P	**P**	**05 56 58.9**	**+1.8**
	0.3nm,0.8s,mb3.3,baz=225,slow=5.3,SNR=3.7						
TXAR	**Lajitas Array**	**80.04**	**56**	P	**P**	**05 56 58.9**	**+1.8**
COLA	**College**	**81.52**	**11**	*eP*	**P**	**05 57 03.5**	**-0.7**
	3.0nm,0.7s,mb4.3						
ILAR	**Eielson Array**	**81.61**	**11**	P	**P**	**05 57 04.3**	**-0.2**
	0.4nm,0.8s,mb3.4,baz=217,slow=5.7,SNR=9.4						
YKA	**Yellowknife Ar**	**89.29**	**23**	P	**P**	**05 57 42.4**	**-0.1**
	0.1nm,0.7s,mb3.3,baz=242,slow=4.4,SNR=6.0						
YKA	**Yellowknife Ar**	**89.29**	**23**	P	**P**	**05 57 42.4**	**-0.1**
LPAZ	**La Paz**	**99.97**	**110**	P	**P**	**05 58 32.4**	**-0.1**
	1.1nm,0.3s,mb4.7,baz=351,slow=8.4,SNR=6.5						
LPAZ	**La Paz**	**99.97**	**110**	P	**P**	**05 58 32.4**	**-0.1**
GERES	**GERESS Array B**	**145.34**	**352**	PKPbc	PKPbc	06 04 23.8	0.0
	0.2nm,0.4s,slow=1.3,SNR=3.6						
BRTR	**Keskin Array B**	**145.59**	**322**	PKPbc	PKPbc	06 04 24.6	0.0
	0.9nm,0.7s,baz=134,slow=1.9,SNR=5.7						

IDC 11 05:52:49.5±14.0,26.41N×44.72W,mb3.6/4,mb1 3.9/4, mb1mx3.5/23,mbtmp3.6/4,Error ellipse: s-maj=350.6km s-min=52.9km az=167.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	**Pinedale Array**	**54.55**	**305**	P	P	06 02 19.2	-2.4
	0.6nm,0.7s,baz=90,slow=10,SNR=5.0						
YKA	**Yellowknife Ar**	**57.66**	**329**	P	P	06 02 41.7	-2.0
	0.2nm,0.9s,baz=89,slow=8.0,SNR=4.1						
ARCES	**ARCESS Array B**	**58.61**	**23**	P	P	06 02 47.7	-2.6
	1.8nm,0.7s,baz=270,slow=7.2,SNR=4.9						
ILAR	**Eielson Array**	**71.42**	**334**	P	P	06 04 11.6	-1.6
	0.5nm,0.8s,baz=78,slow=4.7,SNR=5.9						

KRSC 11 06:03:40.9±0.7,53.67N×160.89E,h40km±5km,ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.77**	**223**	*eP*	P	06 03 54.9	-0.5
SPN				*i* S	S	06 04 05.1	-0.9
KII	**Karymskiy**	**0.93**	**294**	*i* P	P	06 03 57.7	+0.1
KII				*i* S	S	06 04 10.0	+0.1
MKZ	**Mys Kozlova**	**1.02**	**29**	*i* P	P	06 03 58.2	-0.6
MKZ				*i* S	S	06 04 11.1	-1.1
NLC	**Nalytchevo**	**1.05**	**242**	*i* P	P	06 03 59.1	-0.2
NLC				*i* S	S	06 04 12.2	-0.8
SDLR	**Sedlovina**	**1.26**	**253**	*eP*	P	06 04 02.6	+0.3
SDLR				*e*S	S	06 04 17.4	-1.0
SMAR	**Somma**	**1.31**	**253**	*eP*	P	06 04 03.4	+0.2
SMAR				*e*S	S	06 04 20.1	+0.4
UGLR	**Uglovaya**	**1.32**	**250**	*eP*	P	06 04 03.5	+0.2
UGLR				*e*S	S	06 04 20.7	+0.8
AVH	**Avacha**	**1.35**	**253**	*eP*	P	06 04 04.0	+0.3
AVH				*e*S	S	06 04 20.2	-0.4
KOK	**Koryaka**	**1.40**	**255**	*eP*	P	06 04 04.5	+0.1
KOK				*e*S	S	06 04 21.6	-0.3
PET	**Petropavlovsk**	**1.49**	**245**	*eP*	P	06 04 06.7	+1.0
PET				*e*S	S	06 04 24.6	+0.5
TUMR	**Tumrok**	**1.67**	**345**	*i* P	P	06 04 08.8	+0.5
TUMR				*e*S	S	06 04 28.6	-0.1
GNL	**Ganaly**	**1.75**	**272**	*eP*	P	06 04 10.1	+0.7
GNL				*e*S	S	06 04 31.8	+1.1
KRMR	**Karymshinskiy**	**1.86**	**244**	*eP*	P	06 04 11.5	+0.6
KRMR				*i* S	S	06 04 34.6	+1.3
RUS	**Russkaya**	**1.90**	**230**	*eP*	P	06 04 11.3	-0.1
RUS				*e*S	S	06 04 33.0	-1.2
GRL	**Gorelyy**	**2.03**	**238**	*eP*	P	06 04 14.3	+0.9
GRL				*e*S	S	06 04 38.5	+0.8
KMNR	**Kamenistaya**	**2.12**	**350**	*eP*	P	06 04 15.9	+1.2
KMNR				*e*S	S	06 04 41.1	+1.1
KPT	**Kopyto**	**2.33**	**351**	*eP*	P	06 04 18.4	+0.7
KPT				*e*S	S	06 04 45.9	+0.6
ZLN	**Zelenaya**	**2.35**	**359**	*eP*	P	06 04 18.8	+0.9
ZLN				*e*S	S	06 04 47.2	+1.4
APC	**Apacha**	**2.36**	**253**	*eP*	P	06 04 20.5	+2.4
APC				*e*S	S	06 04 48.8	+2.8
APC				Smax			
	40nm,0.8s						
LGNR	**Loginova**	**2.42**	**357**	*eP*	P	06 04 21.0	+2.1
LGNR				*e*S	S	06 04 49.7	+2.1
CIRR	**Tsirk**	**2.45**	**358**	*eP*	P	06 04 20.5	+1.1
CIRR				*e*S	S	06 04 49.6	+1.2
KOZ	**Kozyrevsk**	**2.46**	**347**	*eP*	P	06 04 20.0	+0.5
KOZ				*e*S	S	06 04 49.2	+0.5
KRSR	**Krestovskiy**	**2.56**	**356**	*eP*	P	06 04 21.1	+0.2
KRSR				*e*S	S	06 04 51.1	0.0
ESO	**Esso**	**2.59**	**332**	*eP*	P	06 04 21.5	+0.1
ESO				*e*S	S	06 04 51.1	-0.8
ESO				Smax			
	30nm,0.3s						
KLY	**Klyuchi**	**2.65**	**357**	*eP*	P	06 04 23.0	+0.8
KLY				*e*S	S	06 04 53.3	-0.1
SRDR	**Sredinnyy**	**2.74**	**346**	*eP*	P	06 04 23.4	0.0
SRDR				*e*S	S	06 04 54.4	-1.2
KBTR	**Krutoberegovo**	**2.78**	**23**	*eP*	P	06 04 23.6	-0.4
KBTR				*e*S	S	06 04 56.2	-0.4
KBG	**Krutoberegovo**	**2.79**	**21**	*eP*	P	06 04 23.8	-0.4
KBG				*e*S	S	06 04 54.1	-2.9
PAU	**Pauzhetka**	**3.33**	**230**	*eP*	P	06 04 33.4	+1.6
PAU				*e*S	S	06 05 12.1	+1.5
PAU	**Pauzhetka**	**3.33**	**230**	*eP*	P	06 04 34.2	+2.4
PAU				*e*S	S	06 05 12.2	+1.6
BKI	**Bering**	**3.34**	**61**	*eP*	P	06 04 30.0	-2.0
BKI				*e*S	S	06 05 05.5	-5.5
BKI				Smax			
	30nm,0.2s						

*IDC **11** 06:06:11.6±0.6,1.79S×99.74E,mb4.2/16,mb1 4.4/16, mb1mx4.2/22,mbtmp4.3/16,Error ellipse: s-maj=26.9km s-min=13.1km az=51.0*
*BJI **11** 06:06:13.5,2.33S×99.83E,h50km,mB4.9,mb4.7,Ms5.2, Msz5.0*
*NEIC **11** 06:06:16.1±0.3,1.82S×99.77E,h30km,mb4.7/7,Error ellipse: s-maj=14.3km s-min=6.0km az=55.0*
ISC 11 06:06:15.7±6.4,1.8S±0.1×99.8E±0.1,h40km±58km,n40, σ0§75/32,mb4.5/25,MS5.0/1,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.12**	**358**	P	**P**	**06 10 47.8**	**-1.3**
	1.6nm,0.5s,baz=188,slow=9.6,SNR=6.0						
KMI	**Kunming**	**26.89**	**6**	P	**P**	**06 11 55.6**	**+0.5**
KMI				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.7						
KMI	**Kunming**	**26.89**	**6**	P	**P**	**06 11 55.6**	**+0.5**
	comp=Z,18nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.11**	**124**	P	**P**	**06 12 23.7**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.2,baz=146,slow=23,SNR=5.9						
JIRN	**Jiri**	**32.06**	**337**	*eP*	**P**	**06 12 41.7**	**+0.5**
	comp=Z,22nm,0.8s,mb5.1						
PKI	**Pulchoki**	**32.29**	**336**	*eP*	**P**	**06 12 43.0**	**-0.2**
GUN	**Gumba**	**32.40**	**337**	*eP*	**P**	**06 12 44.5**	**+0.3**
	comp=Z,22nm,0.7s,mb5.1						
DMN	**Daman**	**32.45**	**335**	*eP*	**P**	**06 12 45.5**	**+0.9**
	comp=Z,8.6nm,0.4s,mb4.9						
KKN	**Kakani**	**32.54**	**336**	*eP*	**P**	**06 12 45.1**	**-0.3**
GKN	**Gorkha**	**32.99**	**335**	*eP*	**P**	**06 12 49.3**	**0.0**
KOLN	**Koldanda**	**33.25**	**333**	*eP*	**P**	**06 12 51.6**	**+0.1**
	comp=Z,11nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**38.28**	**121**	P	**P**	**06 13 34.6**	**+0.3**
	comp=Z,2.2nm,0.4s,mb4.2,baz=302,slow=9.1,SNR=17						
WRA				PcP	PcP	06 15 49.0	+0.6
	comp=Z,1.0nm,0.5s,baz=313,slow=2.5,SNR=6.8						
WRAB	**Tennant Creek**	**38.29**	**121**	*eP*	**P**	**06 13 34.3**	**0.0**
	comp=Z,5.2nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**39.55**	**126**	P	**P**	**06 13 45.5**	**+0.8**
	comp=Z,0.9nm,0.5s,mb3.8,baz=292,slow=7.7,SNR=10						
ASAR				PcP	PcP	06 15 53.4	+1.0
	comp=Z,1.7nm,0.6s,baz=303,slow=3.1,SNR=9.1						
HHC	**Hu-ho-hao-te**	**43.75**	**13**	*eP*	**P**	**06 14 20.3**	**+1.1**
HHC				AP	pP	06 14 30.1	-0.4
HHC				PP	PP	06 16 03.2	+0.3
HHC				PCP	PcP	06 16 07.7	+1.7
HHC				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
HHC				AMB	AMB		
	comp=Z,116nm,6.1s						
HHC				LR	LR		
	comp=N,925nm,14.2s,MS5.1						
HHC				LR	LR		
	comp=E,1μm,16.7s,MS5.1						
HHC				LR	LR		
	comp=Z,1μm,15.2s,MS5.0						
WMQ	**Urumqi**	**46.67**	**348**	P	**P**	**06 14 43.4**	**+1.1**
WMQ				AP	pP	06 14 53.4	-0.2
WMQ				XP	sP	06 14 57.4	-1.0
WMQ				PCP	PcP	06 16 17.5	+1.5
WMQ				PP	PP	06 16 32.6	+0.7
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,56nm,4.0s						
STKA	**Stephens Creek**	**49.45**	**132**	P	**P**	**06 15 04.0**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.2,baz=321,slow=10,SNR=4.9						
SONM	**Songino Array**	**49.74**	**6**	P	**P**	**06 15 06.3**	**+0.2**
	comp=Z,1.1nm,0.6s,mb4.1,baz=188,slow=10.0,SNR=7.6						
SONM				PcP	PcP	06 16 27.0	0.0
	comp=Z,1.3nm,0.6s,baz=194,slow=3.9,SNR=3.8						
MKAR	**Makanchi Array**	**50.75**	**345**	P	**P**	**06 15 13.8**	**-0.2**
	comp=Z,4.0nm,0.5s,mb4.6,baz=148,slow=8.1,SNR=63						
KURK	**Kurchatov**	**55.33**	**344**	*eP*	**P**	**06 15 47.0**	**-0.8**
	comp=Z,6.0nm,0.9s,mb4.6						
ZAL	**Zalesovo**	**56.90**	**349**	P	**P**	**06 15 58.8**	**-0.2**
	comp=Z,5.1nm,0.4s,mb4.9,baz=323,slow=4.6,SNR=22						
BVAR	**Borovoye Array**	**59.90**	**340**	P	**P**	**06 16 18.6**	**-1.4**
	comp=Z,2.7nm,0.7s,mb4.4,baz=141,slow=9.4,SNR=15						
CHKZ	**Chkalovo**	**60.36**	**341**	*eP*	**P**	**06 16 21.8**	**-1.3**
	comp=Z,6.0nm,1.1s,mb4.5						
KMBO	**Kilima Mbogo**	**62.53**	**270**	P	**P**	**06 16 38.6**	**+0.4**
	comp=Z,0.7nm,0.3s,mb4.3,baz=225,slow=23,SNR=4.9						
MATP	**Matopo**	**71.87**	**249**	P	**P**	**06 17 37.4**	**+0.5**
	comp=Z,5.7nm,1.2s,mb4.4,baz=93,slow=8.7,SNR=5.9						
MATP	**Matopo**	**71.87**	**249**	P	**P**	**06 17 37.4**	**+0.5**
BRTR	**Keskin Array B**	**73.02**	**312**	P	**P**	**06 17 42.0**	**-1.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=125,slow=4.5,SNR=5.7						
RPZ	**Rata Peaks**	**75.28**	**135**	P	**P**	**06 17 55.2**	**-1.4**
	comp=Z,3.8nm,0.4s,mb4.7,baz=284,slow=7.1,SNR=3.1						
FINES	**FINESS Array B**	**83.82**	**332**	P	**P**	**06 18 42.5**	**+0.5**
	comp=Z,1.3nm,0.5s,mb4.4,baz=110,slow=6.4,SNR=15						
ARCES	**ARCESS Array B**	**86.19**	**340**	P	**P**	**06 18 54.4**	**+0.8**
	comp=Z,4.2nm,1.0s,mb4.6,baz=76,slow=5.0,SNR=4.6						
ARCES	**ARCESS Array B**	**86.19**	**340**	P	**P**	**06 18 54.4**	**+0.7**
GERES	**GERESS Array B**	**88.74**	**319**	P	**P**	**06 19 07.3**	**+0.8**
	comp=Z,0.5nm,0.6s,mb4.0,baz=90,slow=2.9,SNR=4.0						
YKA	**Yellowknife Ar**	**114.21**	**17**	PKP	PKPdf	06 24 51.7	+1.0
	comp=Z,0.1nm,0.8s,baz=351,slow=1.9,SNR=4.6						
YKA	**Yellowknife Ar**	**114.21**	**17**	PKP	PKPdf	06 24 51.7	+1.0
RPN	**Rapa Nui**	**139.84**	**138**	PKP	PKPdf	06 25 39.7	-0.7
	comp=Z,97nm,0.9s,baz=254,slow=2.9,SNR=4.1						
TXAR	**Lajitas Array**	**144.64**	**37**	PKP	PKPdf	06 25 50.6	+1.9
	comp=Z,2.3nm,0.5s,baz=215,slow=0.6,SNR=71						
**MI

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.52**	**204**	⇓*i*P	**P**		**06 11 16.6**	**+0.5**
LVC				*i*S	**S**		**06 11 37.4**	**-0.9**
LVC				AMP			06 11 38.9	
	comp=E,340nm,0.6s							
SPCH	**San Pedro de A**	**1.68**	**179**	⇓*i*P	**P**		**06 11 20.7**	**+2.8**
SPCH				*i*S	**S**		**06 11 44.8**	**+3.4**
SPCH				AMP			06 11 56.0	
	comp=N,129nm,0.7s							
ANCH	**Antofagasta**	**3.17**	**219**	*i*P	**P**		**06 11 34.8**	**-2.2**
ANCH				*i*S	**S**		**06 12 07.6**	**-7.3**
CPN1	**Cerro Paranal**	**3.93**	**210**	*i*S	**S**		**06 12 28.2**	**-4.8**
LPAZ	**La Paz**	**4.91**	**1**	P	**P**		**06 12 01.1**	**+1.0**
	comp=N,1.0nm,0.3s,baz=191,slow=8.3,SNR=15							
LPAZ				S	**S**		**06 12 56.7**	**+0.4**
	baz=215,slow=12,SNR=1.9							
LPAZ	**La Paz**	**4.91**	**1**	*e*P	**P**		**06 12 00.6**	**+0.5**
LPAZ				S	**S**		**06 12 56.7**	**+0.4**
SIV	**San Ignacio**	**8.55**	**54**	P	**P**		**06 12 48.0**	**-1.1**
	comp=N,1.8nm,0.3s,baz=248,slow=14,SNR=55							
SIV				S	**S**		**06 14 22.6**	**-1.7**
	comp=N,0.1nm,0.3s,baz=122,slow=19,SNR=2.2							
BDFB	**Brasilia**	**19.96**	**77**	P	**P**		**06 15 12.0**	**+1.0**
	comp=N,0.5nm,0.3s,baz=261,slow=8.8,SNR=9.9							
YKA	**Yellowknife Ar**	**91.14**	**340**	P	**P**		**06 23 37.8**	**+0.3**
	comp=N,0.2nm,0.7s,mb3.3,baz=130,slow=4.6,SNR=6.5							
YKA	**Yellowknife Ar**	**91.14**	**340**	P	**P**		**06 23 37.8**	**+0.3**

DJA ***11*** *06:11:04.9±0.5, 1.44N×96.23E, h15km, mb6.1/1, Error ellipse: s-maj=17.7km s-min=6.5km az=63.0*
BJI ***11*** *06:11:09.7, 2.10N×96.74E, h30km, mB6.3, mb5.9, Ms6.4, Msz6.3*
IDC ***11*** *06:11:11.5±0.2, 2.14N×96.74E, h24km±1km, mb5.3/37, mb1 5.4/38, mb1mx5.4/38, mbtmp5.5/38, ML5.6/1, MS5.9/27, Ms1 5.9/27, ms1mx5.8/33, Error ellipse: s-maj=9.3km s-min=7.2km az=45.0*
HRVD ***11*** *06:11:11.8±0.1, 1.92N×96.48E, h24km, MW6.0/73, Centroid moment Tensor Solution. LP body waves: s73,c167;Mantle waves: s72,c222; Half duration: 2&6 Moment tensor: Scale 10^18^Nm; Mrr0.73±.01; Mθθ-0.40±.01; Mφφ-0.33±.01; Mrθ0.75±.02; Mθφ0.49±.01; Mφr-0.83±.02; Best double couple: M0 1.371×10^18^ NP1: φs308°, δ18°, λ81°. NP2:φs137°, δ72°, λ93°. Principal axes: T 1.307, Plg63°, Azm52°; N .127, Plg3°, Azm316°; P -1.435, Plg27°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***11*** *06:11:11.8±0.1, 2.17N×96.76E, h24km, mb5.9/131, ME5.6, MS6.0/141, MW6.1 Error ellipse: s-maj=5.1km s-min=3.3km az=214.0 Broadband fault plane solution: P waves. NP1:φs130°, δ80°, λ90°. NP2:φs310°, δ10°, λ90°. Principal axes: T Plg55°, Azm40°; N Plg0°, Azm0°; P Plg35°, Azm220°; Moment Tensor Solution. s38 Moment tensor: Scale 10^18^ Nm; Mrr0.52; Mθθ-0.34; Mφφ-0.18; Mrθ1.10; Mθφ0.11; Mφr-0.95; Best double couple: M0 1.5×10^18^ NP1:φs294°, δ9°, λ74°. NP2:φs130°, δ81°, λ92°. Principal axes: T 1.59, Plg54°, Azm43°; N -.14, Plg2°, Azm310°; P -1.46, Plg36°, Azm218°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [III] at Sinabang. Also felt at Petaling Jaya, Malaysia.
BGS ***11*** *06:11:12.3, 2.17N×96.76E, h25km, mb6.0*
MOS ***11*** *06:11:12.0±1.2, 2.27N×96.79E, h33km, mb6.1/108, MS5.9/77, Error ellipse: s-maj=7.0km s-min=3.6km az=122.6*

ISC 11 06:11:10.9±0.1, 2.19N±0.02×96.73E±0.02, h29km, h29km±.6km: pP-P, n902, σ1°18/753, mb5.8/206, MS6.0/199, 116C-27D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.25**	**77**	*e*Pn	**Pn**		**06 11 49.1**	**+2.1**
BSI	**Banda Aceh**	**3.59**	**337**	*e*Pn	**Pn**		**06 12 06.0**	**-0.1**
IPM	**Ipoh**	**4.90**	**61**	P	**Pn**		**06 12 25.6**	**+0.8**
KULM	**Kulim**	**4.98**	**52**	⇑*e*P	**Pn**		**06 12 26.4**	**+0.6**
SNG	**Songkhla**	**6.29**	**38**	P	**Pn**		**06 12 43.5**	**-0.8**
	2μm,1.0s							
KGM	**Kluang**	**6.59**	**91**	P	**Pn**		**06 12 48.7**	**+0.3**
NNT	**Nongplab**	**10.76**	**16**	P	**P**		**06 13 47.0**	**+0.6**
PENI	**Pendagan**	**11.42**	**132**	⇑*e*P	**P**		**06 13 47.9**	**-7.5**
PASI	**Pasiripis**	**12.49**	**135**	*e*P	**P**		**06 14 02.4**	**-7.4**
PULI	**Pulasari**	**12.53**	**133**	⇑*e*P	**P**		**06 14 04.2**	**-6.1**
KSM	**Kuching**	**13.59**	**93**	⇑*e*P	**P**		**06 14 23.9**	**-0.6**
NST	**Nakhon Sawan**	**13.82**	**14**	P	**P**		**06 14 26.8**	**-0.6**
BDT	**Bhumibol Dam**	**15.13**	**8**	P	**P**		**06 14 45.0**	**+0.3**
	49nm,0.8s							
KKTK	**Khon Kaen**	**15.29**	**23**	PN	**P**		**06 14 48.0**	**+1.3**
KKTK				PG	**P**		**06 14 52.0**	**+5.3**
UBT	**Ubonrachathani**	**15.34**	**32**	P	**P**		**06 14 49.0**	**+1.6**
CM31	**Chiang Mai Arr**	**16.32**	**7**	⇑*e*P	**P**		**06 14 59.2**	**-0.7**
	672nm,0.8s							
CMAR	**Chiang Mai Arr**	**16.32**	**7**	Pn	**P**		**06 15 00.1**	**+0.3**
	7.9nm,0.3s,baz=198,slow=12,SNR=118							
CMAR				Lg			06 19 50.1	
	0.3nm,0.3s,baz=177,slow=30,SNR=4.2							
CMAR				LR	LR		06 21 33.8	
	comp=Z,52μm,20.8s,baz=185,slow=38							
CMAR	**Chiang Mai Arr**	**16.32**	**7**	Pn	**P**		**06 15 00.1**	**+0.3**
CMAR				Lg			06 19 50.1	
CMAR				LR	LR		06 21 33.8	
CHG	**Chiang Mai**	**16.67**	**7**	⇑P	**P**		**06 15 03.7**	**-0.6**
	150nm,0.9s							
CHG				S	**S**		**06 18 14.0**	**+6.4**
NANT	**Nan**	**16.96**	**13**	⇑P	**P**		**06 15 09.0**	**+0.9**
	2μm,0.5s							
MDRS	**Chennai**	**19.57**	**304**	*e*	**P**		**06 15 44.0**	**+4.2**
MDRS				*e*S	**S**		**06 19 21.0**	**+7.7**
MDRS				*e*			06 20 50.0	
MDRS				*e*			06 23 56.0	
KKM	**Kota Kinabalu**	**19.80**	**78**	⇑*e*P	**P**		**06 15 40.9**	**-1.5**
KKM	**Kota Kinabalu**	**19.80**	**78**	P	**P**		**06 15 41.4**	**-0.9**
KKM	**Kota Kinabalu**	**19.80**	**78**	P	**P**		**06 15 41.4**	**-0.9**
VIS	**Vishakhapatnam**	**20.29**	**320**	*e*P	**P**		**06 15 46.3**	**-1.1**
VIS				*e*			06 15 54.2	
	comp=Z,686nm,0.9s							
VIS				*e*			06 19 39.3	
SRDI	**Scrawed**	**20.34**	**122**	⇑*e*P	**P**		**06 15 49.4**	**+1.5**
SRDI				pmax	pmax			
	comp=Z,128nm,1.1s							
SRDI	**Scrawed**	**20.34**	**122**	⇑*e*P	**P**		**06 15 49.4**	**+1.5**
	comp=Z,128nm,1.1s							
KELI	**Kelakatan**	**20.50**	**120**	⇓*e*P	**P**		**06 15 50.5**	**+0.8**
	comp=Z,251nm,1.1s							
TRD	**Trivandrum**	**20.66**	**288**	⇓*e*P	**P**		**06 15 51.2**	**0.0**
TRD				*e*			06 19 37.2	
BWNR	**Bhubaneshwar**	**20.92**	**330**	*e*P	**P**		**06 15 53.0**	**-0.9**
BWNR				*e*			06 16 00.1	
	comp=Z,1μm,0.9s							
BWNR				*e*S	**S**		**06 19 48.1**	**+7.3**
QIZ	**Qiongzhong**	**21.10**	**37**	⇑*i*P	**P**		**06 15 54.5**	**-1.2**
QIZ				PP	PP		06 16 21.0	+2.0
QIZ				*e*S	**S**		**06 19 43.8**	**-0.2**
QIZ				XS			06 19 52.8	
QIZ				AMB	AMB			
	comp=Z,113nm,0.9s,mb5.2							
QIZ				AMB	AMB			
	comp=Z,7μm,14.6s							
QIZ				LR	LR			
	comp=N,56μm,18.7s,MS6.2							
QIZ				LR	LR			
	comp=E,63μm,17.8s,MS6.2							
QIZ				LR	LR			
	comp=Z,73μm,15.6s,MS6.2							
QIZ	**Qiongzhong**	**21.10**	**37**	⇑*e*P	**P**		**06 15 54.1**	**-1.6**
	comp=Z,360nm,1.4s,mb5.5							
TSM	**Tawau**	**21.21**	**84**	P	**P**		**06 15 56.2**	**-0.7**
RATI	**Rata**	**21.65**	**120**	⇑*e*P	**P**		**06 16 01.5**	**+0.2**
	comp=Z,298nm,0.5s,mb6.0							
CAL	**Calcutta**	**21.82**	**339**	*e*	**P**		**06 16 02.0**	**-0.9**
CAL				*e*			06 20 09.3	
	comp=Z,560nm,0.3s							
BATP	**Bataraza**	**21.97**	**72**	*e*P	**P**		**06 16 04.2**	**-0.2**
KEDI	**Kedomdong**	**22.04**	**119**	⇑*e*P	**P**		**06 16 02.2**	**-3.0**
KEDI				pmax	pmax			
	comp=Z,157nm,0.9s,mb5.4							
KEDI	**Kedomdong**	**22.04**	**119**	⇑*e*P	**P**		**06 16 02.2**	**-3.0**
	comp=Z,157nm,0.9s,mb5.4							
AGT	**Agartala**	**22.21**	**347**	⇑*i*	**P**		**06 16 03.0**	**-3.9**
AGT				*i*			06 17 32.0	
PPR	**Puerto Princes**	**23.13**	**70**	⇑*e*P	**P**		**06 16 16.8**	**+0.7**
TANI	**Tanete Lipujan**	**23.32**	**104**	*e*P	**P**		**06 16 18.1**	**+0.2**
HYB	**Hyderabad**	**23.41**	**311**	*e*P	**P**		**06 16 21.0**	**+2.3**
HYB				*e*S	**S**		**06 20 32.0**	**+5.8**
HYB				pmax	pmax			
	comp=Z,310nm,1.0s,mb5.7							
HYB	**Hyderabad**	**23.41**	**311**	*e*P	**P**		**06 16 21.0**	**+2.3**
	comp=Z,310nm,1.0s,mb5.7							
HYB				*e*S	**S**		**06 20 32.0**	**+5.8**
HYB	**Hyderabad**	**23.41**	**311**	*i*P	**P**		**06 16 21.0**	**+2.3**
	comp=Z,310nm,1.0s,mb5.7							
HYB				*e*sP			06 16 29.5	
HYB				*e*PP	PP		06 16 52.0	+1.5
HYB				*e*PcP	PcP		06 20 07.0	+0.7
HYB				*e*S	**S**		**06 20 32.0**	**+5.8**
HYB				LR	LR			
	comp=Z,51nm,20.0s							
KMI	**Kunming**	**23.53**	**14**	P	**P**		**06 16 21.1**	**+1.3**
KMI				AP			06 16 27.8	
KMI				XP			06 16 30.7	
KMI				PP	PP		06 16 55.6	+3.4
KMI				S	**S**		**06 20 34.5**	**+6.2**
KMI				XS			06 20 45.9	
KMI				AMB	AMB			
	comp=Z,426nm,1.3s,mb5.7							
KMI				AMB	AMB			
	comp=Z,7μm,6.6s							
KMI				LR	LR			
	comp=N,32μm,14.8s,MS6.1							
KMI				LR	LR			
	comp=E,41μm,15.6s,MS6.1							
KMI				LR	LR			
	comp=Z,45μm,16.4s,MS6.0							
KMI	**Kunming**	**23.53**	**14**	P	**P**		**06 16 21.1**	**+1.3**
KMI				*SP			06 16 30.7	
KMI							06 16 55.6	
KMI				PPP	PPP		06 17 06.1	+3.9
KMI				S	**S**		**06 20 34.5**	**+6.2**
KMI				*SS			06 20 45.9	
KMI				SS	SS		06 21 26.9	+10
KMI				pmax	pmax			
	comp=Z,426nm,1.3s,mb5.7							
KMI				MLR	MLR			
	comp=Z,45μm,16.4s,MS6.0							
KMI	**Kunming**	**23.53**	**14**	P	**P**		**06 16 21.1**	**+1.3**
	comp=Z,426nm,1.3s,mb5.7							
KMI				pP			06 16 27.8	
KMI				sP			06 16 30.7	
KMI				PP	PP		06 16 55.6	+3.4
KMI				PPP	PPP		06 17 06.1	+3.9
KMI				S	**S**		**06 20 34.5**	**+6.2**
KMI				sS			06 20 45.9	
KMI				SS	SS		06 21 26.9	+10
KMI				SSS	SSS		06 21 42.8	+10
KMI				LR	LR			
	comp=Z,45μm,16.4s,MS6.0							
SHL	**Shillong**	**23.71**	**349**	*e*P	**P**		**06 16 19.7**	**-1.9**
SHL				*e*S	**S**		**06 20 34.7**	**+3.3**
BOK	**Bokaro**	**23.91**	**335**	*e*P	**P**		**06 16 21.8**	**-1.8**
BOK				*e*S	**S**		**06 20 39.1**	**+4.3**
NINI	**Niniconang**	**23.93**	**106**	*e*P	**P**		**06 16 23.9**	**+0.1**
ENPP	**El Nido**	**24.23**	**67**	*e*P	**P**		**06 16 29.0**	**+2.2**
BUNI	**Buntu Taipa**	**24.28**	**104**	*e*P	**P**		**06 16 29.6**	**+2.3**
BLSP	**Bilaspur**	**24.38**	**326**	*e*P	**P**		**06 16 28.4**	**+0.2**
BLSP				*e*			06 16 35.5	
	comp=Z,453nm,1.1s							
BLSP				*e*S	**S**		**06 20 51.0**	**+8.1**
LKP	**Lekhapani**	**25.01**	**359**	*e*P	**P**		**06 16 34.5**	**+0.3**
LKP				*e*			06 16 51.0	
BUSP	**Coron**	**25.22**	**66**	*e*P	**P**		**06 16 37.4**	**+1.1**
LATR	**Latur**	**25.52**	**311**	*e*P	**P**		**06 16 39.5**	**+0.5**
LATR				*e*			06 21 27.0	
CUYO	**Cuyo Island**	**25.60**	**69**	*e*P	**P**		**06 16 40.7**	**+1.0**
LUBP	**Lubang**	**25.93**	**62**	*e*P	**P**		**06 16 43.3**	**+0.5**
LUBP	**Lubang**	**25.93**	**62**	*e*P	**P**		**06 16 43.4**	**+0.6**
GYA	**Guiyang**	**25.95**	**21**	⇑*i*P	**P**		**06 16 42.0**	**-1.0**
GYA				AP	pP		06 16 52.6	+1.3
GYA				XP	sP		06 16 56.3	+1.2
GYA				AMB	AMB			
	comp=Z,310nm,1.0s,mb5.8							
GYA				AMB	AMB			
	comp=Z,4μm,8.7s							
GYA				LR	LR			
	comp=N,50μm,14.6s,MS6.3							
GYA				LR	LR			
	comp=E,41μm,13.4s,MS6.3							
GYA				LR	LR			
	comp=Z,80μm,14.6s,MS6.4							
GOA	**Goa**	**26.17**	**302**	*e*P	**P**		**06 16 43.5**	**-1.5**
GOA				⇓*e*P			06 16 43.5	
GOA				*e*S	**S**		**06 21 14.8**	**+2.0**
GOA				*e*S	**S**		**06 21 14.8**	**+2.0**
HKC	**Hong Kong**	**26.21**	**39**	⇑*i*P	**P**		**06 16 44.0**	**-1.4**
HKC				*i*S	**S**		**06 21 16.0**	**+2.4**
SJMP	**San Jose**	**26.22**	**66**	*e*P	**P**		**06 16 46.5**	**+0.9**
GZH	**Guangzhou**	**26.29**	**36**	P	**P**		**06 16 49.9**	**+3.8**
GZH				LR	LR			
	comp=N,72μm,14.6s,MS6.5							
GZH				LR	LR			
	comp=E,66μm,16.5s,MS6.5							
GZH				LR	LR			
	comp=Z,114μm,15.2s,MS6.5							
IPIL	**Ipil**	**26.33**	**77**	*e*P	**P**		**06 16 47.4**	**+0.9**
SCZP	**Santa Cruz**	**26.53**	**58**	*e*P	**P**		**06 16 48.8**	**+0.4**
AKL	**Akola**	**26.62**	**315**	⇑*i*P	**P**		**06 16 49.0**	**-0.1**
TGY	**Tagaytay City**	**26.69**	**62**	*e*P	**P**		**06 16 52.0**	**+2.2**
KAD	**Karad**	**26.77**	**306**	*e*P	**P**		**06 16 52.2**	**+1.7**
BOLP	**Bolinao**	**26.82**	**57**	*e*P	**P**		**06 16 52.2**	**+1.2**
GUIM	**Jordan**	**27.01**	**71**	*e*P	**P**		**06 16 54.6**	**+1.9**
OTRP	**Odiongan**	**27.02**	**67**	*e*P	**P**		**06 16 53.4**	**+0.6**
ALBI	**Allahabad**	**27.12**	**329**	*e*P	**P**		**06 16 53.5**	**-0.2**
PAGZ	**Pagadian**	**27.13**	**77**	*e*P	**P**		**06 16 55.1**	**+1.3**
DCPH	**Dipolog City**	**27.24**	**75**	*e*P	**P**		**06 16 56.3**	**+1.4**
BOAC	**Boac**	**27.25**	**64**	*e*P	**P**		**06 16 55.3**	**+0.4**
JIRN	**Jiri**	**27.27**	**339**	*e*P	**P**		**06 16 54.5**	**-0.5**
	comp=Z,2μm,0.9s,mb6.6							
SNPH	**Sibulan**	**27.30**	**74**	⇓*e*P	**P**		**06 16 57.0**	**+1.6**
RCP	**Roxas**	**27.43**	**69**	⇑*e*P	**P**		**06 16 57.9**	**+1.3**
PKI	**Pulchoki**	**27.47**	**338**	*e*P	**P**		**06 16 56.9**	**0.0**
	comp=Z,697nm,1.1s,mb6.1							
PKI	**Pulchoki**	**27.47**	**338**	*e*P	**P**		**06 16 56.9**	**0.0**
PKI				pmax	pmax			
	comp=Z,349nm,1.1s,mb5.8							
GUN	**Gumba**	**27.61**	**339**	*e*P	**P**		**06 16 57.6**	**-0.5**
	comp=Z,1μm,0.7s,mb6.6							
DMN	**Daman**	**27.62**	**337**	*e*P	**P**		**06 16 57.5**	**-0.7**
	comp=Z,701nm,1.2s,mb6.2							
POO	**Poona**	**27.69**	**307**	⇑*i*P	**P**		**06 17 01.5**	**+2.6**
	comp=Z,100nm,1.0s,mb5.4							
POO				*i*S	**S**		**06 21 40.0**	**+2.4**
KKN	**Kakani**	**27.72**	**338**	*e*P	**P**		**06 16 58.3**	**-0.8**
	comp=Z,930nm,1.0s,mb6.4							
KKN	**Kakani**	**27.72**	**338**	*e*P	**P**		**06 16 58.3**	**-0.8**
KKN				pmax	pmax			
	comp=Z,465nm,1.0s,mb6.1							
POLP	**Polillo Island**	**27.83**	**62**	*e*P	**P**		**06 17 04.4**	**+4.2**
LSA	**Lhasa**	**27.87**	**350**	P	**P**		**06 17 00.2**	**-0.3**
LSA				PCP	PcP		06 20 11.0	-5.2
LSA				S	**S**		**06 21 42.0**	**+1.6**
LSA				XS			06 22 01.7	
LSA				SCP			06 23 49.8	
LSA				PCS			06 23 53.5	
LSA				SCS	ScS		06 27 42.9	-1.5
LSA				AMB	AMB			
	comp=Z,440nm,1.0s,mb6.0							
LSA				AMB	AMB			
	comp=Z,5μm,15.0s							
LSA				LR	LR			
	comp=N,13μm,24.8s,MS5.7							
LSA				LR	LR			
	comp=E,24μm,24.8s,MS5.7							
LSA				LR	LR			
	comp=Z,31μm,27.0s,MS5.8							
LSA	**Lhasa**	**27.87**	**350**	⇑*e*P	**P**		**06 17 00.2**	**-0.3**
LSA				pmax	pmax			
	comp=Z,371nm,0.9s,mb6.0							
LSA	**Lhasa**	**27.87**	**350**	⇑*e*P	**P**		**06 17 00.2**	**-0.3**
	comp=Z,371nm,0.9s,mb6.0							
BALP	**Baler**	**27.94**	**60**	*e*P	**P**		**06 17 01.4**	**+0.2**
AUQP	**San Andres**	**27.95**	**65**	*e*P	**P**		**06 17 02.5**	**+1.2**
BHPL	**Bhopal**	**28.08**	**320**	*e*P	**P**		**06 17 02.0**	**-0.3**
BHPL				*e*			06 17 19.6	
	comp=Z,209nm,1.2s							
ABRA	**Dolores**	**28.12**	**55**	*e*P	**P**		**06 17 03.2**	**+0.4**
GKN	**Gorkha**	**28.16**	**337**	*e*P	**P**		**06 17 02.3**	**-0.8**
	comp=Z,556nm,0.8s,mb6.2							
KOLN	**Koldanda**	**28.37**	**335**	*e*P	**P**		**06 17 04.3**	**-0.7**
	comp=Z,609nm,0.7s,mb6.3							
CGP	**Cagayan de Oro**	**28.52**	**76**	*e*P	**P**		**06 17 04.1**	**-2.4**
APYP	**Conner**	**28.66**	**55**	*e*P	**P**		**06 17 08.0**	**+0.3**
CAUP	**Cauayan**	**28.70**	**58**	*e*P	**P**		**06 17 08.9**	**+0.8**
BOM	**Bombay**	**28.71**	**307**	*e*	**P**		**06 17 13.2**	**+5.0**
BOM				*e*S	**S**		**06 21 58.9**	**+4.8**
BUKP	**Musuan**	**28.77**	**78**	*e*P	**P**		**06 17 08.2**	**-0.5**
JHNI	**Jhansi**	**29.03**	**324**	⇓*i*P	**P**		**06 17 09.0**	**-2.0**
JHNI				*e*			06 17 35.0	
MSLP	**Maasin**	**29.04**	**73**	*e*P	**P**		**06 17 11.1**	**0.0**
CVP	**Callao Caves**	**29.06**	**56**	⇓*e*P	**P**		**06 17 10.0**	**-1.3**
	comp=Z,18μm,0.5s							
DAV	**Davao City (W)**	**29.15**	**79**	*e*P	**P**		**06 17 13.0**	**+0.8**
CD2	**Chengdu**	**29.33**	**12**	P	**P**		**06 17 11.5**	**-2.2**
CD2				PP	PP		06 18 06.3	-2.7
CD2				S	**S**		**06 22 02.4**	**-1.4**
CD2				SS	SS		06 23 39.6	+3.6
CD2				AMB	AMB			
	comp=Z,230nm,0.6s,mb6.1							
CD2				AMB	AMB			
	comp=Z,4μm,14.4s							
CD2				LR	LR			
	comp=E,79μm,15.6s							
CD2				LR	LR			
	comp=Z,34μm,16.8s,MS6.0							
PVCP	**Virac**	**29.39**	**66**	*e*P	**P**		**06 17 13.6**	**-0.7**
CNP	**Catarman**	**29.50**	**68**	*e*P	**P**		**06 17 15.6**	**+0.3**
BUTP	**Butuan**	**29.52**	**76**	*e*P	**P**		**06 17 15.4**	**-0.1**
MATI	**Mati**	**29.80**	**80**	*e*P	**P**		**06 17 19.3**	**+1.3**
ENH	**Enshi**	**30.44**	**22**	⇑*e*P	**P**		**06 17 20.3**	**-3.2**
	comp=Z,117nm,0.7s,mb5.7							
BBP	**Basco**	**30.59**	**52**	*e*P	**P**		**06 17 24.5**	**-0.4**
QZH	**Quanzhou**	**30.93**	**41**	⇑*i*P	**P**		**06 17 26.8**	**-1.0**
QZH				S	**S**		**06 22 30.5**	**+1.4**
QZH				AMB	AMB			
	comp=Z,290nm,0.9s,mb6.1							
QZH				AMB	AMB			
	comp=Z,5μm,4.5s							
QZH				LR	LR			
	comp=N,115μm,16.6s,MS6.7							
QZH				LR	LR			
	comp=E,26μm,12.8s,MS6.7							
QZH				LR	LR			
	comp=Z,103μm,16.2s,MS6.6							
LGTI	**Lohaghat**	**31.32**	**332**	⇑*i*P	**P**		**06 17 32.0**	**+0.8**
PTH	**Pithoragarh**	**31.42**	**332**	*e*P	**P**		**06 17 34.0**	**+1.9**
AJM	**Ajmer**	**32.15**	**321**	⇑*i*P	**P**		**06 17 38.0**	**-0.5**
NDI	**New Delhi**	**32.26**	**327**	*e*P	**P**		**06 17 37.0**	**-2.4**
NDI				*e*			06 22 47.0	
MBWA	**Marble Bar**	**32.33**	**137**	⇑*e*P	**P**		**06 17 38.2**	**-1.9**
	comp=Z,159nm,0.9s,mb5.8							
MBWA				LR	LR			
	comp=Z,23μm,21.0s,MS5.8							
NACB	**Ninganchiao**	**32.49**	**46**	⇑*e*P	**P**		**06 17 40.3**	**-1.2**
YHNB	**Yeheng**	**32.64**	**45**	*e*P	**P**		**06 17 43.4**	**+0.6**
WHN	**Wuhan**	**32.77**	**29**	⇓P	**P**		**06 17 43.1**	**-0.8**
WHN				S	**S**		**06 22 59.2**	**+1.3**
WHN				AMB	AMB			
	comp=Z,157nm,1.2s,mb5.8							
WHN				LR	LR			
	comp=Z,73μm,14.3s,MS6.5							
TATO	**Taipei**	**32.92**	**44**	⇑*e*P	**P**		**06 17 45.1**	**-0.1**
	comp=Z,194nm,1.3s,mb5.9							
TATO				LR	LR			
	comp=Z,21μm,20.0s,MS5.8							
DDI	**Dehra Dun**	**33.11**	**330**	*e*P	**P**		**06 17 45.5**	**-1.4**
DDI				*e*			06 23 11.5	
BHJ	**Bhuj**	**33.57**	**311**	*e*S	**S**		**06 23 14.6**	**+4.3**
XAN	**Xi'an**	**33.68**	**18**	P	**P**		**06 17 49.6**	**-2.1**
XAN				AP	pP		06 17 56.3	-3.9
XAN				S	**S**		**06 23 09.6**	**-2.2**
XAN				AMB	AMB			
	comp=Z,197nm,1.1s,mb6.0							
XAN				AMB	AMB			
	comp=Z,3μm,14.5s							
XAN				LR	LR			
	comp=N,11μm,13.5s,MS6.3							
XAN				LR	LR			
	comp=E,46μm,15.8s,MS6.3							
XAN				LR	LR			
	comp=Z,42μm,16.2s,MS6.2							
SMLA	**Simla**	**34.21**	**329**	⇑*i*P	**P**		**06 17 53.7**	**-2.7**
	comp=Z,29nm,0.2s,mb5.9							
SMLA				*i*			06 23 13.9	
LZH	**Lanzhou**	**34.37**	**10**	⇑*i*P	**P**		**06 17 56.8**	**-0.9**
LZH				AP	pP		06 18 05.3	-0.9
LZH				XP	sP		06 18 09.6	-0.2
LZH				PP	PP		06 19 14.0	+0.5
LZH				PCP	PcP		06 20 31.4	-1.9
LZH				S	**S**		**06 23 21.0**	**-1.6**
LZH				XS			06 23 36.0	
LZH				SCP			06 24 15.0	
LZH				PCS			06 24 18.7	
LZH				SS	SS		06 25 32.0	-1.4
LZH				SCS	ScS		06 28 18.0	+1.7
LZH				AMB	AMB			
	comp=Z,542nm,1.5s,mb6.3							
LZH				AMB	AMB			
	comp=Z,2μm,4.8s							
LZH				LR	LR			
	comp=E,46μm,16.3s							
LZH				LR	LR			
	comp=Z,50μm,19.3s,MS6.3							
LZH	**Lanzhou**	**34.37**	**10**	⇑*i*P	**P**		**06 17 56.8**	**-0.9**
	comp=Z,542nm,1.5s,mb6.3							

NJ2 LR LR
comp=Z,40μm,14.3s
SSE Sheshan 36.89 36 P **P** **06 18 19.6 +0.5**
SSE XP sP 06 18 32.2 +0.9
SSE S **S** **06 24 03.9 +2.4**
SSE XS 06 24 18.8
SSE AMB AMB
comp=Z,124nm,1.2s,mb5.6
SSE AMB AMB
comp=Z,2μm,7.8s
SSE LR LR
comp=N,35μm,20.9s,MS6.2
SSE LR LR
comp=E,25μm,20.7s,MS6.2
SSE LR LR
comp=Z,33μm,17.6s,MS6.2
SSE Sheshan 36.89 36 P **P** **06 18 19.6 +0.5**
comp=Z,124nm,1.2s,mb5.6
SSE sP sP 06 18 32.2 +0.9
SSE S **S** **06 24 03.9 +2.4**
SSE sS 06 24 18.8
SSE LR LR
comp=Z,33μm,17.6s,MS6.2
GTA Gaotai 37.16 4⇑*i*P **P** **06 18 20.9 -0.4**
GTA AP pP 06 18 30.0 +0.2
GTA XP sP 06 18 34.2 +0.8
GTA PP PP 06 19 49.8 +1.3
GTA PCP PcP 06 20 43.7 +2.2
GTA S **S** **06 24 04.2 -1.3**
GTA XS 06 24 19.4
GTA SCP 06 24 28.9
GTA SS SS 06 26 32.8 -3.7
GTA SCS ScS 06 28 32.7 +1.2
GTA AMB AMB
comp=Z,504nm,0.9s,mb6.3
GTA AMB AMB
comp=Z,4μm,4.6s
GTA LR LR
comp=N,9μm,23.6s,MS5.8
GTA LR LR
comp=E,13μm,20.5s,MS5.8
GTA LR LR
comp=Z,16μm,14.1s
TIY Taiyuan 38.19 20⇑P **P** **06 18 30.0 0.0**
TIY PP PP 06 20 00.0 -0.8
TIY S **S** **06 24 24.0 +2.8**
TIY LR LR
comp=N,78μm,14.0s
KAKA Kakadu 38.42 114⇑*i*P **P** **06 18 29.4 -2.7**
comp=N,372nm,0.8s,mb6.2
MUN Mundaring 38.68 153 *e*P **P** **06 18 36.6 +2.5**
comp=N,408nm,0.9s,mb6.2
MUN Mundaring 38.68 153 *e*P **P** **06 18 36.6 +2.5**
MUN pmax pmax
comp=Z,408nm,0.9s,mb6.2
TIA Tai'an 38.76 27 P **P** **06 18 33.6 -1.2**
TIA XP sP 06 18 45.0 -1.9
TIA AMB AMB
comp=Z,58nm,1.0s,mb5.3
TIA LR LR
comp=N,20μm,15.0s,MS6.2
TIA LR LR
comp=E,24μm,15.0s,MS6.2
JOW Kunigami 38.92 48 P **P** **06 18 35.7 -0.5**
comp=E,181nm,1.0s,mb5.8,baz=261,slow=7.9,SNR=24
KLBR Kellerberrin 39.08 151 *e*P **P** **06 18 38.9 +1.4**
comp=E,2μm,1.1s,mb6.8
NWAO Narrogin (SRO) 39.94 153 *e*P **P** **06 18 45.4 +0.8**
NWAO pmax pmax
comp=Z,233nm,1.3s
NWAO MLR MLR
comp=Z,20μm,21.0s
NWAO Narrogin (SRO) 39.94 153 P **P** **06 18 46.1 +1.5**
comp=Z,38nm,0.9s,mb5.1,baz=319,slow=8.9,SNR=18
NWAO LR LR 06 34 37.3
comp=Z,26μm,21.4s,MS6.0,baz=328,slow=35
NWAO Narrogin (SRO) 39.94 153 *e*P **P** **06 18 45.4 +0.8**
comp=Z,233nm,1.3s,mb5.8
NWAO LR LR
comp=Z,20μm,21.0s,MS5.9
BTO Baotou 40.09 16 *e*P **P** **06 18 45.5 -0.3**
BTO PP PP 06 20 24.8 +3.1
BTO AMB AMB
comp=Z,178nm,1.4s,mb5.6
BTO LR LR
comp=N,12μm,12.2s
BTO LR LR
comp=E,26μm,20.0s
HHC Hu-ho-hao-te 40.76 17⇑P **P** **06 18 51.6 +0.4**
HHC AP pP 06 18 58.8 -1.0
HHC XP sP 06 19 02.5 -0.9
HHC PP PP 06 20 31.9 +3.6
HHC PCP PcP 06 20 48.7 -4.1
HHC SCP 06 24 38.8
HHC PCS 06 24 43.0
HHC S **S** **06 25 01.8 +2.0**
HHC XS 06 25 14.5
HHC SCS ScS 06 28 50.4 -1.9
HHC AMB AMB
comp=Z,212nm,1.4s,mb5.6
HHC LR LR
comp=N,23μm,15.7s,MS6.2
HHC LR LR
comp=E,18μm,15.7s,MS6.2
HHC LR LR
comp=Z,20μm,15.9s,MS6.1
BJT Baijiatuau 41.59 23⇑*e*P **P** **06 18 58.2 +0.1**
BJT pmax pmax
comp=Z,567nm,1.1s
BJT Baijiatuau 41.59 23⇑*e*P **P** **06 18 58.2 +0.1**
comp=Z,567nm,1.1s,mb6.1
BJI Beijing 41.61 23 P **P** **06 18 58.4 +0.1**
BJI AP pP 06 19 07.3 +0.4
BJI XP sP 06 19 11.2 +0.8
BJI AMB AMB
comp=Z,409nm,1.3s,mb5.9
BJI AMB AMB
comp=Z,6μm,5.4s
BJI LR LR
comp=N,19μm,17.7s,MS6.3
BJI LR LR
comp=E,31μm,16.7s,MS6.3
BJI LR LR
comp=Z,16μm,18.5s,MS5.9
BJI Beijing 41.61 23 P **P** **06 18 58.4 +0.1**
comp=Z,409nm,1.3s,mb5.9
BJI pP pP 06 19 07.3 +0.4
BJI sP sP 06 19 11.2 +0.8
BJI PcP PP 06 20 41.7 +4.2
BJI S 06 25 28.2
BJI sS 06 25 46.9
BJI SS ScS 06 28 52.3 -5.1
BJI LR LR
comp=Z,16μm,18.5s,MS5.9
KSH Kashi 41.69 336⇑*i*P **P** **06 18 59.3 +0.4**
KSH *e*AP pP 06 19 09.1 +1.6
KSH *e*XP sP 06 19 13.3 +2.3
KSH *e*PP PP 06 20 40.0 +1.7
KSH *e*PCP PcP 06 20 56.1 +0.2
KSH *e*SCP 06 24 42.2
KSH *e*PCS 06 24 46.0
KSH S **S** **06 25 12.0 -1.6**
KSH *e*XS 06 25 31.1
KSH *e*SS SS 06 28 16.0 +1.6
KSH *e*SCS ScS 06 28 58.0 +0.1
KSH AMB AMB
comp=Z,4μm,5.4s
KSH LR LR
comp=N,39μm,18.2s,MS6.5
KSH LR LR
comp=E,33μm,17.5s,MS6.5
WMQ Urumqi 42.23 350⇑P **P** **06 19 06.0 +2.7**
WMQ AP pP 06 19 13.5 +1.6
WMQ XP sP 06 19 17.0 +1.6
WMQ PP PP 06 20 47.1 +3.1
WMQ PCP PcP 06 21 00.5 +2.9
WMQ SCP 06 24 48.1
WMQ PCS 06 24 51.2
WMQ S **S** **06 25 24.5 +3.0**
WMQ XS 06 25 36.8
WMQ SS SS 06 28 27.1 +2.6
WMQ SCS ScS 06 29 04.3 +3.2
WMQ AMB AMB
comp=Z,26nm,1.2s
WMQ AMB AMB
comp=Z,412nm,3.5s
WMQ LR LR
comp=N,5μm,22.5s
WMQ LR LR
comp=E,20μm,24.4s
WMQ LR LR
comp=Z,8μm,20.5s
SMDO Samad 42.84 302 P **P** **06 19 09.8 +1.2**
SNR=21
WRA Warramunga Arr 42.95 123 P **P** **06 19 07.7 -1.9**
comp=Z,162nm,0.7s,mb5.9,baz=301,slow=9.1,SNR=137
WRA pP pP 06 19 16.7 -1.5
comp=Z,187nm,0.7s,baz=301,slow=9.0,SNR=13
WRAB Tennant Creek 42.96 123⇑*e*P **P** **06 19 07.4 -2.2**
WRAB pmax pmax
comp=Z,878nm,1.3s,mb6.3
WRAB MLR MLR
comp=Z,6μm,22.0s,MS5.5
WRAB Tennant Creek 42.96 123⇑*e*P **P** **06 19 07.4 -2.2**
comp=Z,878nm,1.3s,mb6.3
WRAB LR LR
comp=Z,6μm,22.0s,MS5.5
BIDO Bidbid 42.96 303 P **P** **06 19 11.3 +1.7**
SNR=8.7
DL2 Dalian 43.04 29⇑*i*P **P** **06 19 09.7 -0.3**
DL2 S **S** **06 25 33.8 +0.4**
DL2 AMB AMB
comp=Z,300nm,0.9s,mb6.0
DL2 AMB AMB
comp=Z,2μm,6.5s
DL2 LR LR
comp=N,9μm,16.6s,MS6.0
DL2 LR LR
comp=E,14μm,16.2s,MS6.0
DL2 LR LR
comp=Z,14μm,18.6s,MS5.9
BSY Bisya 43.44 301 P **P** **06 19 15.8 +2.4**
SNR=25
ULHL Ulahol 43.91 338 P **P** **06 19 17.2 +0.2**
SNR=166
MENI Mendum Tagoi 43.92 96⇓*e*P **P** **06 19 13.5 -4.0**
MENI pmax pmax
comp=Z,136nm,0.9s,mb5.7
MENI Mendum Tagoi 43.92 96⇓*e*P **P** **06 19 13.5 -4.0**
comp=Z,136nm,0.9s,mb5.7
YOMI Yo Mokiole 44.08 96⇑*e*P **P** **06 19 13.8 -5.0**
comp=Z,683nm,0.8s,mb6.1
KZA Kyzart 44.15 337 P **P** **06 19 19.4 +0.5**
SNR=122
FORT Forrest 44.33 140 *e*P **P** **06 19 20.0 -0.6**
comp=Z,8μm,0.7s
ASPA Alice Springs 44.36 128⇓*i*P **P** **06 19 19.5 -1.4**
ASPA *e* 06 29 15.3
ASAR Alice Springs 44.36 128 P **P** **06 19 19.1 -1.8**
comp=Z,120nm,0.8s,mb5.7,baz=298,slow=6.9,SNR=131
ASAR pP pP 06 19 27.5 -2.0
comp=Z,130nm,0.9s,baz=299,slow=7.5,SNR=14
AAA Alma-Ata 44.55 339 *i*P **P** **06 19 23.0 +0.8**
AAA *i*S **S** **06 25 58.0 +2.7**
AAA pmax pmax
comp=Z,4μm,5.0s
AAA MLR MLR
comp=Z,10μm,17.0s,MS5.8
UCH Uchtor 44.56 336 P **P** **06 19 22.9 +0.6**
SNR=367
TKM2 Tokmak 2 44.73 338 P **P** **06 19 23.8 +0.1**
SNR=205
KBK Karagaybulak 44.76 337 P **P** **06 19 23.6 -0.2**
SNR=68
AML Almayashu 44.82 336 P **P** **06 19 24.9 +0.5**
SNR=202
AAK Ala-Archa 44.91 337 P **P** **06 19 25.6 +0.5**
AAK pmax pmax
comp=Z,304nm,1.3s,mb6.0
WHFO Wadi Hawf 44.94 293 P **P** **06 19 26.1 +0.4**
SNR=28
FRU Bishkek 45.04 337 *e*P **P** **06 19 26.0 -0.1**
FRU *e* 06 21 15.0
FRU *i*S **S** **06 26 05.0 +2.7**
FRU *i* 06 26 19.0
FRU *i*SS SS 06 29 22.0 +6.2
FRU pmax pmax
comp=Z,4μm,6.0s
FRU pmax pmax
comp=Z,500nm,2.0s,mb6.0
FRU smax
comp=E,6μm,8.0s
FRU MLR MLR
comp=Z,24μm,18.0s,MS6.2
CHMS Chumysh 45.12 337 P **P** **06 19 28.3 +1.6**
SNR=65
ASHO Ashiyiah 45.16 303 P **P** **06 19 37.0 +10**
SNR=11
EKS2 Erkin-Say 45.23 336 P **P** **06 19 27.6 +0.1**
SNR=215
ABTO Aybut 45.23 292 P **P** **06 19 30.0 +2.0**
SNR=9.0
KS15 Wonju Array Si 45.28 35 *e*P **P** **06 19 27.0 -1.1**
USP Ospenovka 45.45 337 P **P** **06 19 29.0 -0.3**
SNR=492
MKAR Makanchi Array 46.18 346 *i*P **P** **06 19 34.5 -0.5**
MKAR pmax pmax
comp=Z,488nm,0.9s
MKAR Makanchi Array 46.18 346 P **P** **06 19 35.0 0.0**
comp=Z,395nm,0.8s,mb6.4,baz=162,slow=6.9,SNR=420
MKAR LR LR 06 42 52.9
comp=Z,18μm,20.6s,MS6.0,baz=165,slow=41
MKAR PKPPKP 06 50 52.4
comp=Z,0.8nm,0.8s,baz=315,slow=3.4,SNR=4.3
SONM Songino Array 46.23 9 P **P** **06 19 35.2 -0.3**
comp=Z,224nm,0.8s,mb6.2,baz=191,slow=9.6,SNR=153
SONM LR LR 06 42 03.1
comp=Z,21μm,19.5s,MS6.1,baz=188,slow=40
SONM PKPPKP 06 50 53.9
comp=Z,0.9nm,0.8s,baz=315,slow=1.7,SNR=5.6
SNY Shenyang 46.25 28⇑P **P** **06 19 34.4 -1.3**
SNY AP pP 06 19 43.5 -0.8
SNY XP sP 06 19 48.3 +0.5
SNY PP PP 06 21 24.2 -0.1
SNY S **S** **06 26 17.8 -1.9**
SNY XS 06 26 32.1
SNY AMB AMB
comp=Z,110nm,0.9s,mb5.8
SNY AMB AMB
comp=Z,3μm,7.5s
SNY LR LR
comp=N,30μm,18.6s
SNY LR LR
comp=Z,27μm,18.2s,MS6.2
ULN Ulaanbaatar 46.37 10⇑*e*P **P** **06 19 35.7 -0.8**
ULN pmax pmax
comp=Z,131nm,0.9s,mb5.9
ULN MLR MLR
comp=Z,16μm,20.0s,MS6.0
ULN Ulaanbaatar 46.37 10⇑*e*P **P** **06 19 35.6 -0.9**
comp=Z,131nm,0.9s,mb5.9
ULN LR LR
comp=Z,16μm,20.0s,MS6.0
KKAR Karatay Array 46.97 334 *i*P **P** **06 19 41.0 -0.4**
KKAR pmax pmax
comp=Z,112nm,0.9s,mb5.8
ZAK Zakamensk 48.34 6 *e*P **P** **06 19 51.8 -0.2**
ZAK pmax pmax
comp=Z,86nm,1.3s,mb5.6
CN2 Changchun 48.65 28⇑P **P** **06 19 53.8 -0.6**
CN2 *e*XP sP 06 20 05.0 -1.6
CN2 *e*PP PP 06 21 47.0 -0.2
CN2 *e*S **S** **06 26 53.5 -0.1**
CN2 *e*SS SS 06 30 19.5 +0.3
CN2 AMB AMB
comp=Z,300nm,1.0s,mb6.3
CN2 AMB AMB
comp=Z,3μm,6.0s
CN2 LR LR
comp=N,36μm,15.0s,MS6.5
CN2 LR LR
comp=E,17μm,15.0s,MS6.5
CN2 LR LR
comp=Z,30μm,17.0s,MS6.3
GUMO Guam 48.91 74 PFAKE 06 20 10.0 +13
GUMO LR LR
comp=Z,10μm,20.0s,MS5.8
MOY Mondy 49.44 3 *e*P **P** **06 19 59.6 -0.8**
MOY pmax pmax
comp=Z,350nm,3.8s
TLY Talaya 49.66 6*c i*P **P** **06 20 01.5 -0.6**
TLY *e* 06 21 22.7
TLY *e* 06 21 57.5
TLY *e*S **S** **06 27 07.2 -0.5**
TLY *e* 06 29 49.7
TLY *e*SS SS 06 30 34.2 -2.1
TLY pmax pmax
comp=Z,170nm,1.4s,mb5.9
TLY MLR MLR
comp=Z,27μm,17.0s,MS6.3
CBIJ Chichi jima 50.05 56 LR LR 06 40 12.2
comp=Z,7μm,20.4s,MS5.7,baz=278,slow=35
IRK Irkutsk 50.28 6 *e*P **P** **06 20 07.1 +0.2**
IRK *e*S **S** **06 27 21.6 +5.4**
IRK pmax pmax
comp=Z,354nm,2.2s,mb6.0
JHJ Hachijo jima 2 50.70 48 LR LR 06 39 26.7
comp=Z,8μm,21.8s,MS5.7,baz=183,slow=33
KURK Kurchatov 50.73 345*c i*P **P** **06 20 09.5 -0.8**
KURK pmax pmax
comp=Z,208nm,1.1s,mb6.0
KURK Kurchatov 50.73 345⇑*i*P **P** **06 20 09.3 -0.9**
comp=Z,436nm,1.1s,mb6.3
HIA Hailar 50.87 19⇑*e*P **P** **06 20 10.2 -1.1**
HIA pmax pmax
comp=Z,315nm,1.0s
HIA Hailar 50.87 19⇑*e*P **P** **06 20 10.2 -1.1**
comp=Z,315nm,1.0s,mb6.2
MDJ Mudanjiang 51.25 30 P **P** **06 20 14.7 +0.4**
MDJ AP pP 06 20 23.8 +0.8
MDJ XP sP 06 20 27.6 +1.2
MDJ PP PP 06 22 09.7 -2.2
MDJ PCS 06 25 23.8
MDJ S **S** **06 27 31.6 +2.0**
MDJ SCS ScS 06 29 59.1 -0.4
MDJ AMB AMB
comp=Z,216nm,1.0s,mb6.0
MDJ AMB AMB
comp=Z,3μm,7.1s
MDJ LR LR
comp=N,25μm,18.1s,MS6.5
MDJ LR LR
comp=E,31μm,18.1s,MS6.5
MDJ LR LR
comp=Z,34μm,16.9s,MS6.4
MDJ Mudanjiang 51.25 30⇑*e*P **P** **06 20 13.4 -0.9**
comp=Z,242nm,1.0s,mb6.1
MAJO Matsushiro 51.29 43⇑*e*P **P** **06 20 13.2 -1.5**
MAJO pmax pmax
comp=Z,111nm,0.8s,mb5.8
MAJO MLR MLR
comp=Z,15μm,20.0s,MS6.0
MAJO Matsushiro 51.29 43⇑*e*P **P** **06 20 13.2 -1.6**
comp=Z,111nm,0.8s,mb5.8
MAJO LR LR
comp=Z,15μm,20.0s,MS6.0
MAT Matsushiro 51.29 43 *e*P **P** **06 20 13.0 -1.7**
MAT *e*S 06 27 43.0
MAT pmax pmax
comp=Z,236nm,1.2s,mb6.0
MAT MLR MLR
comp=Z,15μm,20.0s,MS6.0
MAT Matsushiro 51.29 43 *e*P **P** **06 20 13.0 -1.7**
comp=Z,236nm,1.2s,mb6.0
MAT *e*S 06 27 43.0
MAT LR LR
comp=Z,15μm,20.0s,MS6.0
MAT Matsushiro 51.29 43 P **P** **06 20 13.1 -1.6**
MAT S **S** **06 27 38.0 +7.7**
MJAR Matsushiro Arr 51.29 43 P **P** **06 20 14.7 0.0**
comp=Z,75nm,0.8s,mb5.7,baz=224,slow=6.6,SNR=91
MJAR PcP PcP 06 21 30.0 +0.3
comp=Z,37nm,0.9s,baz=233,slow=3.2,SNR=8.0
MJAR LR LR 06 42 56.6
comp=Z,13μm,20.0s,MS6.0,baz=230,slow=37
PMG Port Moresby 51.54 104 *e*P **P** **06 20 15.1 -1.8**
PMG pmax pmax
comp=Z,427nm,0.8s
PMG MLR MLR
comp=Z,10μm,21.0s
PMG Port Moresby 51.54 104 *e*P **P** **06 20 15.1 -1.8**
comp=Z,427nm,0.8s,mb6.4
PMG LR LR
comp=Z,10μm,21.0s,MS5.8
LBOS 52.16 286 *e*P **P** **06 20 24.8 +3.2**
ZAL Zalesovo 52.51 351 P **P** **06 20 23.0 -0.7**
comp=Z,185nm,0.6s,mb6.2,baz=303,slow=6.0,SNR=329
ZAL S **S** **06 27 49.3 +2.4**
comp=Z,11nm,1.1s,baz=182,slow=20,SNR=11
ZAL LR LR 06 49 05.4
comp=Z,14μm,18.1s,MS6.0,baz=294,slow=43
ZAL Zalesovo 52.51 351 P **P** **06 20 23.0 -0.7**
ZAL S **S** **06 27 49.3 +2.5**
ZAL LR LR 06 49 05.4
OPO Ambohidratompo 52.91 245 P **P** **06 20 26.2 -1.0**
comp=Z,36nm,1.0s,mb5.2,baz=58,slow=7.0,SNR=14
OPO sP sP 06 20 36.4 -2.9
comp=Z,65nm,1.1s,baz=68,slow=10,SNR=16
DHBB Dhamar BB 53.09 287 *e*P **P** **06 20 31.6 +3.1**
CTA Charters Tower 53.36 117⇑*i*P **P** **06 20 28.6 -1.9**
comp=Z,158nm,0.9s,mb5.9
CTA *e*S **S** **06 27 54.4 -4.4**
CTA Charters Tower 53.36 117⇑*i*P **P** **06 20 28.6 -1.9**
CTA *e*S **S** **06 27 54.4 -4.4**
CTA pmax pmax
comp=Z,158nm,0.9s
CTA Charters Tower 53.36 117 LR LR 06 46 59.7
comp=Z,16μm,19.0s,MS6.1,baz=282,slow=40
CTAO Charters Tower 53.36 117⇑*e*P **P** **06 20 28.8 -1.7**
CTAO pmax pmax
comp=Z,343nm,1.1s,mb6.2
CTAO MLR MLR
comp=Z,15μm,20.0s,MS6.0
CTAO Charters Tower 53.36 117⇑*e*P **P** **06 20 28.8 -1.7**
comp=Z,343nm,1.1s,mb6.2
CTAO LR LR
comp=Z,15μm,20.0s,MS6.0
NVS Novosibirsk 53.63 350⇑*i*P **P** **06 20 29.8 -2.2**
NVS *e* 06 20 47.9
NVS *i*S **S** **06 28 01.8 -0.3**
NVS pmax pmax
comp=Z,329nm,1.1s,mb6.2
NVS pmax pmax
comp=N,289nm,1.2s
NVS pmax pmax
comp=E,272nm,1.3s
NVS smax
comp=E,2μm,3.7s
ADE Adelaide 53.95 137 P **P** **06 20 33.5 -1.1**
ATD Arta Tunnel 54.21 283 P **P** **06 20 37.4 +0.7**
comp=E,52nm,1.2s,mb5.3,baz=93,slow=13,SNR=8.4
ATD LR LR 06 41 38.1
comp=E,8μm,18.1s,MS5.8,baz=77,slow=34
ATD Arta Tunnel 54.21 283 P **P** **06 20 37.4 +0.7**
ATD LR LR 06 41 38.1
STKA Stephens Creek 54.36 132⇑*i*P **P** **06 20 35.8 -1.8**
comp=E,117nm,0.9s,mb5.8
STKA *e*S **S** **06 28 09.4 -2.8**
STKA Stephens Creek 54.36 132 P **P** **06 20 35.9 -1.8**
comp=E,72nm,0.9s,mb5.6,baz=307,slow=7.6,SNR=54
STKA sP sP 06 20 46.1 -3.7
comp=E,159nm,0.9s,baz=293,slow=6.2,SNR=24
STKA LR LR 06 46 18.4
comp=E,16μm,21.5s,MS6.1,baz=298,slow=39
BVA0 Borovoye Array 55.17 341 *i*P **P** **06 20 41.6 -1.7**
BVA0 pmax pmax
comp=Z,18nm,0.8s,mb5.2
BVAR Borovoye Array 55.17 341 P **P** **06 20 41.5 -1.8**
comp=Z,131nm,0.7s,mb6.1,baz=145,slow=7.1,SNR=241
BVAR S **S** **06 28 25.5 +2.7**
comp=Z,4.4nm,1.1s,baz=112,slow=8.0,SNR=3.3
KLR Kul'dur 55.59 27⇓*i*P **P** **06 20 42.0 -4.4**
KLR *e* 06 20 57.5
KLR *e*S **S** **06 28 29.5 +1.1**
KLR pmax pmax
comp=N,2μm,7.0s
KLR pmax pmax
comp=E,2μm,7.0s
KLR pmax pmax
comp=Z,5μm,7.0s
KLR pmax pmax
comp=N,90nm,1.4s
KLR pmax pmax
comp=E,150nm,1.4s
KLR pmax pmax
comp=Z,230nm,1.4s,mb6.0
KLR MLR MLR

comp=E,14μm,15.0s
KLR MLR MLR
comp=Z,55μm,15.0s,MS6.8
CHKZ Chkalovo 55.65 342 *i* P **P 06 20 45.1 -1.6**
CHKZ pmax pmax
comp=Z,219nm,0.8s,mb6.2
BOD Bodaibo 57.13 11 *e*P **P 06 20 55.4 -1.9**
BOD pmax pmax
comp=Z,142nm,1.3s,mb5.8
ERM Erimo 57.41 40 PFAKE 06 21 10.0 +10
ERM LR LR
comp=Z,6.0nm,22.0s
BHD Baghdad 57.86 308 *e*P **P 06 20 56.0 -6.7**
BHD *i* pP pP 06 21 13.5 +1.9
BHD *i* PcP PcP 06 21 47.0 -7.8
BHD *e*S **S 06 28 48.0 -11**
ASAJ Asahikawa 58.17 37 LR LR 06 48 60.0
comp=Z,11μm,18.4s,MS6.0,baz=241,slow=39
CLNS Chul'man 58.95 18*c i*P **P 06 21 09.6 -0.4**
CLNS *e**PP pP 06 21 16.4 -2.5
CLNS *e* 06 21 57.0
CLNS *e* 06 23 17.9
CLNS *i* S **S 06 29 17.1 +4.5**
CLNS *e*PS PS 06 29 29.9 -0.6
CLNS *e*SS SS 06 33 08.7 +0.6
CLNS pmax pmax
comp=Z,234nm,0.7s,mb6.3
CLNS pmax pmax
comp=N,112nm,0.8s
CLNS pmax pmax
comp=E,75nm,0.7s
CLNS pmax pmax
comp=Z,37nm,1.4s,mb5.2
CLNS pmax pmax
comp=N,14nm,0.7s
CLNS pmax pmax
comp=E,21nm,1.0s
CLNS smax
comp=N,26nm,1.5s
CLNS smax
comp=Z,8.0nm,1.2s
CLNS smax
comp=E,31nm,1.3s
CLNS MLR MLR
comp=N,22μm,15.0s,MS6.4
CLNS MLR MLR
comp=Z,39μm,15.0s,MS6.7
CLNS MLR MLR
comp=E,6μm,14.0s,MS6.4
KMBO Kilima Mbogo 59.56 267 P **P 06 21 14.5 -0.3**
KMBO *SP sP 06 21 23.8 -3.2
KMBO pmax pmax
comp=Z,17nm,1.0s
KMBO pmax pmax
comp=Z,30nm,1.0s
KMBO Kilima Mbogo 59.56 267 P **P 06 21 14.5 -0.3**
comp=Z,17nm,1.0s,mb5.0,baz=60,slow=9.3,SNR=16
KMBO sP sP 06 21 23.8 -3.1
comp=Z,30nm,1.0s,baz=63,slow=9.3,SNR=15
KMBO LR LR 06 42 32.4
comp=Z,16μm,20.8s,MS6.1,baz=86,slow=32
KMBO Kilima Mbogo 59.56 267 *e*P **P 06 21 13.8 -1.0**
comp=Z,43nm,1.1s,mb5.4
KMBO LR LR
comp=Z,16μm,21.0s,MS6.1
MAK Makhachkala 59.68 320*d i*P **P 06 21 14.0 -1.3**
MAK *i* 06 22 04.0
MAK *i* S **S 06 29 20.0 -2.3**
MAK *i* PS PS 06 29 34.0 -7.0
MAK *i* 06 30 58.0
MAK pmax pmax
comp=Z,2μm,8.0s
MAK smax
comp=N,4μm,8.0s
MAK smax
comp=Z,1μm,6.0s
MAK smax
comp=E,2μm,8.0s
YSS Yuzh-Sakhalins 59.81 35*αe*P **P 06 21 15.2 -0.9**
YSS *e**SP sP 06 21 27.9 -0.3
YSS *e* 06 23 28.0
YSS *e*PPP PPP 06 24 53.0 -2.7
YSS *e*S **S 06 29 24.0 +0.2**
YSS *e*PS PS 06 29 42.0 -0.7
YSS *e*SSS SSS 06 35 50.0 -1.8
YSS pmax pmax
comp=Z,220nm,1.0s,mb6.1
YSS pmax pmax
comp=N,80nm,0.9s
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=N,100nm,1.0s
YSS pmax pmax
comp=Z,190nm,1.0s,mb6.1
YSS MLR MLR
comp=Z,8μm,19.0s,MS5.8
YSS MLR MLR
comp=N,6μm,21.0s,MS6.0
YSS MLR MLR
comp=E,10μm,19.0s,MS6.0
YSS Yuzh-Sakhalins 59.81 35⇑*i*P **P 06 21 15.1 -1.0**
comp=E,159nm,0.8s,mb6.1
YSS LR LR
comp=Z,11μm,22.0s,MS5.9
MSL Mosul 59.94 311 *e*P **P 06 21 19.5 +2.4**
MSL *e*pP pP 06 21 26.5 +0.4
MSL *e*S **S 06 29 23.5 -2.1**
MSL *e*sS 06 29 37.5
MSL *e*ScS ScS 06 31 01.5 -0.2
YUK Yuzh-Kuril'sk 60.14 39⇑*i*P **P 06 21 19.0 +0.6**
YUK *e* 06 23 31.5
YUK S **S 06 29 28.0 -0.2**
YUK *e*PS PS 06 29 48.0 +0.7
YUK pmax pmax
comp=Z,5μm,4.2s
YUK smax
comp=E,4μm,3.0s
YUK MLR MLR
comp=N,7μm,16.0s,MS6.3
YUK MLR MLR
comp=Z,22μm,16.0s,MS6.4
YUK MLR MLR
comp=E,17μm,17.0s,MS6.3
GNI Garni 60.26 316 *e*P **P 06 21 17.4 -1.9**
GNI Garni 60.26 316*c i*P **P 06 21 18.1 -1.2**
GNI pmax pmax
comp=Z,65nm,1.7s
CLDR Caldiran 60.43 315 *e*P **P 06 21 21.5 +1.1**
VANB Van 60.59 314 *e*P **P 06 21 18.6 -3.0**
MTA Mtatsminda 60.89 318 P **P 06 21 20.4 -3.2**
TI2 Plekhanov 60.94 318⇑*i*P **P 06 21 23.2 -0.6**
TI2 *i* S **S 06 29 39.2 +0.9**
TI2 *e*S **S 06 29 40.6 +2.3**
TI2 MLR MLR
comp=N,3μm,18.0s,MS5.6
TI2 MLR MLR
comp=E,2μm,18.0s,MS5.6
TI2 MLR MLR
comp=Z,2μm,18.0s,MS5.3
TBLG Delisi 60.94 318 P **P 06 21 24.9 +1.0**
SVE Sverdlovsk 61.60 338*α i*P **P 06 21 23.5 -4.7**
SVE *e* 06 22 04.0
SVE *e* 06 23 42.0
SVE *e* 06 25 20.0
SVE *i* S **S 06 29 40.0 -6.6**
SVE *e* 06 31 16.0
SVE pmax pmax
comp=Z,320nm,1.6s,mb6.2
SVE pmax pmax
comp=N,700nm,8.0s
SVE pmax pmax
comp=E,900nm,8.0s
SVE pmax pmax
comp=Z,2μm,8.0s
SVE smax
comp=N,4μm,15.0s
SVE smax
comp=E,4μm,15.0s
SVE MLR MLR
comp=N,9μm,20.0s,MS6.0
SVE MLR MLR
comp=E,5μm,20.0s,MS6.0
SVE MLR MLR
comp=Z,12μm,20.0s,MS6.0

BTMT Batman 61.82 313 *e*P **P 06 21 30.4 +0.5**
BEST Besiri 61.87 312 *i* P **P 06 21 30.1 -0.2**
ZEI Tsey 61.95 318 *e*P **P 06 21 28.6 -2.2**
ZEI *i* *PP pP 06 21 33.8 -5.9
ZEI *e*S **S 06 29 46.3 -4.9**
ZEI *i* S **S 06 29 46.4 -4.8**
ZEI pmax pmax
comp=Z,69nm,0.8s,mb5.8
ARU Arti 62.10 337⇑*i*P **P 06 21 29.5 -2.0**
ARU *e* 06 22 07.9
ARU *i* 06 23 42.9
ARU *e*PPP PPP 06 25 16.2 -3.4
ARU *i* S **S 06 29 54.0 +1.1**
ARU *i* 06 31 19.0
ARU *i* SS SS 06 33 56.0 -1.6
ARU *e*SSS SSS 06 36 45.4 +5.7
ARU pmax pmax
comp=Z,102nm,0.9s,mb6.0
ARU MLR MLR
comp=Z,12μm,21.0s,MS6.0
ARU MLR MLR
comp=N,9μm,20.0s,MS6.0
ARU MLR MLR
comp=E,4μm,20.0s,MS6.0
ARU Arti 62.10 337⇑*i*P **P 06 21 29.4 -2.1**
comp=E,130nm,0.9s,mb6.1
ARU LR LR
comp=Z,3μm,22.0s,MS5.5
BINT Bingol 62.80 313 *e*P **P 06 21 37.3 +0.9**
BCA Borcka 62.95 316 *e*P **P 06 21 40.7 +3.4**
KIV Kislovodsk 63.26 319*c i*P **P 06 21 37.7 -1.6**
KIV *i* pP 06 21 46.5 -1.8
KIV *i* 06 22 15.8
KIV *i* 06 24 03.4
KIV *i* S **S 06 30 05.9 -1.7**
KIV *i* SS SS 06 34 18.3 +2.3
KIV pmax pmax
comp=Z,44nm,0.8s,mb5.6
KIV Kislovodsk 63.26 319⇑*e*P **P 06 21 37.6 -1.7**
comp=Z,272nm,1.1s,mb6.3
KIV LR LR
comp=Z,1μm,21.0s,MS5.0
GOF Gofitskoye 63.51 320⇑*i*P **P 06 21 39.1 -1.9**
GOF *i* S **S 06 30 16.1 +5.3**
GOF pmax pmax
comp=Z,80nm,1.7s,mb5.5
GOF pmax pmax
comp=Z,1μm,6.0s
GOF pmax pmax
comp=Z,190nm,1.3s,mb6.0
GOF smax
comp=E,290nm,2.5s
GOF smax
comp=E,6μm,18.0s
ASF Jabal al Asfar 63.52 305 P **P 06 21 40.3 -1.0**
comp=E,15nm,1.0s,mb5.0,baz=349,slow=3.7,SNR=14
ASF sP sP 06 21 50.7 -2.7
comp=E,32nm,1.1s,baz=9.4,slow=2.5,SNR=11
URFA Urfa 63.55 311 *e*P **P 06 21 38.5 -2.9**
PTK Pertek 63.61 313 *e*P **P 06 21 39.7 -2.1**
ELZG Elazig 63.77 312 *i* P **P 06 21 42.3 -0.6**
TAU Tasmania Unive 63.87 141 PFAKE 06 21 50.0 +6.6
TAU LR LR
comp=Z,2μm,22.0s,MS5.3
HNR Honiara 64.02 102 P **P 06 21 43.2 -1.6**
HNR *SP sP 06 21 54.2 -2.8
HNR pmax pmax
comp=Z,304nm,0.9s,mb6.3
HNR pmax pmax
comp=Z,387nm,0.8s,mb6.5
HNR Honiara 64.02 102 P **P 06 21 43.2 -1.7**
comp=Z,304nm,0.8s,mb6.3,baz=206,slow=4.6,SNR=9.3
HNR sP sP 06 21 54.2 -2.7
comp=Z,387nm,0.8s,baz=221,slow=3.2,SNR=7.2
HNR Honiara 64.02 102 *e*P **P 06 21 43.7 -1.2**
comp=Z,308nm,0.8s,mb6.4
HNR LR LR
comp=Z,4μm,22.0s,MS5.6
GUMT Gumushane 64.09 314 *e*P **P 06 21 45.5 +0.6**
MALT Malatya 64.12 312 *e*P **P 06 21 43.8 -1.4**
MALT Malatya 64.12 312 ⇑P **P 06 21 45.9 +0.7**
MYA Malataya 64.13 312 *e*P **P 06 21 46.6 +1.4**
KELT Kelkit 64.14 314 *i* P **P 06 21 46.0 +0.8**
GZT Gaziantep 64.47 311 *i* P **P 06 21 46.9 -0.5**
EIL Elat 64.54 302 P **P 06 21 47.4 -0.6**
comp=Z,27nm,0.7s,mb5.4,baz=109,slow=6.8,SNR=31
EIL LR LR 06 50 00.6
comp=Z,11μm,18.3s,MS6.1,baz=303,slow=36
EIL Elat 64.54 302 *e*P **P 06 21 46.9 -1.2**
comp=Z,84nm,1.0s,mb5.7
YAK Yakutsk 64.61 16⇑*i*P **P 06 21 46.2 -1.7**
YAK pmax pmax
comp=Z,942nm,0.9s,mb6.8
YAK MLR MLR
comp=Z,14μm,21.0s,MS6.1
YAK Yakutsk 64.61 16⇑*i*P **P 06 21 46.1 -1.8**
comp=Z,942nm,0.9s,mb6.8
YAK LR LR
comp=Z,14μm,21.0s,MS6.1
GAZ Gaziantep 64.68 310 *e*P **P 06 21 49.5 +0.7**
SOKR Solikamsk 65.00 339*c i*P **P 06 21 49.0 -1.5**
SOKR S S 06 30 27.5 -1.4
SOKR pmax pmax
comp=Z,140nm,0.8s,mb6.0
SOKR MLR MLR
comp=Z,15μm,22.0s,MS6.2
KAHT Ahir Dag 65.08 311 *i* P **P 06 21 50.7 -0.6**
SOC Sochi 65.08 318 *i* P **P 06 21 49.3 -2.0**
SOC *e* 06 22 28.5
SOC *e* 06 24 14.7
SOC *e*PPP PPP 06 25 48.6 -2.0
SOC *i* S S 06 30 27.3 -2.9
SOC *e* 06 31 41.1
SOC *e*SS SS 06 34 44.9 +0.5
SOC pmax pmax
comp=Z,148nm,0.8s,mb6.1
SOC pmax pmax
comp=N,39nm,1.0s
SOC pmax pmax
comp=E,28nm,0.9s
SOC pmax pmax
comp=Z,260nm,1.1s,mb6.2
SOC MLR MLR
comp=N,5μm,21.0s,MS5.8
SOC MLR MLR
comp=E,4μm,21.0s,MS5.8
SOC MLR MLR
comp=Z,3μm,21.0s,MS5.5
SOC Sochi 65.08 318⇑*i*P **P 06 21 48.6 -2.7**
HTY Hatay 65.20 309 *e*P **P 06 21 52.7 +0.5**
COBT Iskenderun 65.22 309 *i* P **P 06 21 51.8 -0.5**
SVST Sivas 65.68 313 *i* P **P 06 22 03.9 +8.7**
CEYT Ceyhan 65.75 310 *e*P **P 06 21 56.5 +0.8**
MBAR Mbarara 66.04 268 *e*P **P 06 21 56.5 -1.4**
MBAR pmax pmax
comp=Z,41nm,1.0s,mb5.4
MBAR MLR MLR
comp=Z,2μm,21.0s,MS5.3
MBAR Mbarara 66.04 268 *e*P **P 06 21 56.5 -1.4**
comp=Z,41nm,1.0s,mb5.4
MBAR LR LR
comp=Z,2μm,21.0s,MS5.3
TOKT Tokat 66.15 314 *e*P **P 06 21 58.9 +0.7**
BNN Bunyan 66.22 312 *e*P **P 06 21 58.4 -0.2**
MEST Erdemli 66.87 309 *i* P **P 06 22 02.4 -0.4**
ANN Anapa 67.06 318 *e*P **P 06 22 00.3 -3.6**
ANN *i* *PP pP 06 22 12.1 -0.7
ANN *i* 06 22 26.9
ANN *e*S S 06 30 48.8 -5.4
ANN pmax pmax
comp=Z,11nm,0.7s,mb5.0
ANN pmax pmax
comp=N,120nm,4.9s
ANN pmax pmax
comp=E,160nm,4.9s
ANN pmax pmax
comp=Z,440nm,4.9s
CSS Prodhromos 67.10 307 *e*P **P 06 22 02.1 -2.2**
comp=Z,92nm,1.2s,mb5.7
LEF Lefka 67.49 307 *e*P **P 06 22 06.8 0.0**
CORM Corum 67.51 313 *e*P **P 06 22 07.2 +0.4**
CTKT Corum 67.52 313 *i* P **P 06 22 06.5 -0.4**
CDAG Cicekdag 67.53 312 *i* P **P 06 22 05.0 -2.0**
BOYT Boyabat 67.68 314 *i* P **P 06 22 07.1 -0.7**
BYBT Boyabat 67.79 314 *e*P **P 06 22 17.3 +8.7**

KAMT Kaman 67.95 312 *e*P **P 06 22 09.2 -0.4**
BR131 Keskin Array S 68.11 312 PFAKE 06 22 20.0 +9.4
BR131 LR LR
comp=Z,3μm,22.0s,MS5.5
BRTR Keskin Array B 68.11 312 P **P 06 22 08.7 -1.9**
comp=Z,17nm,0.8s,mb5.2,baz=127,slow=6.7,SNR=53
BRTR pP pP 06 22 17.4 -2.1
comp=Z,20nm,0.7s,baz=123,slow=6.9,SNR=12
BRTR PKP2bc 06 50 35.0
comp=Z,0.8nm,0.5s,baz=333,slow=2.8,SNR=5.4
BRTR Keskin Array B 68.11 312 P **P 06 22 08.7 -1.9**
BRTR pP pP 06 22 17.4 -2.1
BRTR ⇑*e* 06 50 35.0
TOS Tosya 68.20 314 *e*P **P 06 22 10.9 -0.2**
HDMB Hadim 68.26 309 *e*P **P 06 22 09.6 -2.0**
PECR Pechory 68.33 332 *e*P **P 06 22 10.0 -1.7**
PECR *e*S S 06 31 09.0 -0.3
PECR pmax pmax
comp=Z,2μm,1.0s
PECR pmax pmax
comp=Z,2μm,8.0s
PECR MLR MLR
comp=Z,10μm,20.0s
CANT Cankiri 68.37 313 *e*P **P 06 22 12.4 +0.2**
ELDT Eldivan 68.48 313 *i* P **P 06 22 12.0 -0.9**
BZK Bozkurt 68.48 315 *e*P **P 06 22 13.1 +0.2**
MIR Mirnyy 68.63 182 *e*P **P 06 22 19.0 +5.6**
MIR pmax pmax
comp=Z,1μm,1.4s,mb6.6
MIR pmax pmax
comp=Z,1μm,7.0s
VOR Voronezh 68.70 326 *e*P **P 06 22 13.5 -0.5**
VOR *e**PP pP 06 22 21.0 -1.9
VOR pmax pmax
comp=E,150nm,1.4s
VOR pmax pmax
comp=Z,220nm,1.4s,mb5.9
VOR pmax pmax
comp=N,150nm,1.5s
VOR pmax pmax
comp=Z,160nm,1.5s,mb5.7
VOR pmax pmax
comp=E,340nm,1.4s
ANTO Ankara 68.77 312 *e*P **P 06 22 13.5 -1.2**
ANTO Ankara 68.77 312 ⇓P **P 06 22 14.8 +0.1**
BALT Daday 68.80 314 *i* P **P 06 22 13.7 -1.1**
CASY Casey 69.03 174 *e*P **P 06 22 15.7 -0.1**
KIZT Kizilcal 69.20 311 *e*P **P 06 22 15.0 -2.4**
SAFT Safranbolu 69.22 314 *e*P **P 06 22 17.2 -0.3**
SIM Simferopol' 69.33 318 *e*P **P 06 22 17.3 -0.7**
SIM *e*S S 06 31 19.0 -2.3
SIM pmax pmax
comp=Z,96nm,0.7s,mb5.8
SIM Simferopol' 69.33 318 *e*P **P 06 22 18.0 0.0**
SKR Severo-Kuril's 69.33 36 *e*P **P 06 22 16.0 -1.9**
SKR *e* 06 22 30.0
SKR *e* 06 22 37.0
SKR *e* 06 24 47.0
SKR *e*S S 06 31 26.0 +4.8
SKR *e* 06 31 48.0
SKR *e* 06 32 03.0
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,450nm,1.0s,mb6.3
SKR pmax pmax
comp=Z,5μm,4.0s
SKR smax
comp=N,6μm,18.0s
SKR smax
comp=E,9μm,18.0s
SKR smax
comp=Z,5μm,18.0s
SGKT Sivrigoynuk 69.50 313 *i* P **P 06 22 17.7 -1.4**
LSZ Lusaka 69.95 253 *e*P **P 06 22 21.1 -1.1**
LSZ pmax pmax
comp=Z,142nm,1.5s,mb5.7
LSZ MLR MLR
comp=Z,18μm,21.0s,MS6.3
LSZ Lusaka 69.95 253 *e*P **P 06 22 21.1 -1.1**
comp=Z,142nm,1.5s,mb5.7
LSZ LR LR
comp=Z,18μm,21.0s,MS6.3
ISP Isparta 69.99 310 *e*P **P 06 22 17.8 -4.4**
ISP Isparta 69.99 310 P **P 06 22 22.0 -0.2**
ISP pmax pmax
comp=Z,117nm,1.4s,mb5.6
ISP Isparta 69.99 310 P **P 06 22 21.9 -0.2**
comp=Z,117nm,1.4s,mb5.6
MDU Mudurnu 70.10 312 *e*P **P 06 22 21.8 -0.9**
ESKT Eskisehir 70.13 311 *e*P **P 06 22 24.0 +1.0**
ESKT Eskisehir 70.13 311 *i* P **P 06 22 22.4 -0.6**
ELL Elmali 70.22 308 *e*P **P 06 22 24.1 +0.5**
WAKE Wake Island 70.34 70 PFAKE 06 22 40.0 +15
WAKE LR LR
comp=Z,199μm,19.0s
AKAS Kas 70.35 308 *i* P **P 06 22 21.1 -3.3**
HENT Hendek 70.42 313 *i* P **P 06 22 23.4 -1.3**
MATP Matopo 70.46 248 P **P 06 22 23.7 -1.6**
comp=Z,47nm,1.1s,mb5.3,baz=95,slow=6.0,SNR=16
MATP sP sP 06 22 34.7 -2.7
comp=Z,96nm,1.0s,baz=82,slow=6.6,SNR=20
MATP Matopo 70.46 248 P **P 06 22 23.7 -1.6**
MATP sP sP 06 22 34.7 -2.7
ALT Altintas 70.58 311 *e*P **P 06 22 25.3 -0.4**
GOLH Golhisar 70.59 309 *i* P **P 06 22 24.1 -1.8**
MA2 Magadan 70.65 26*c i*P **P 06 22 25.0 -0.8**
MA2 *e* 06 25 02.9
MA2 *e*PPP PPP 06 26 42.8 -2.2
MA2 *e*S S 06 31 35.5 -1.1
MA2 pmax pmax
comp=Z,200nm,0.8s,mb6.1
MA2 pmax pmax
comp=E,60nm,1.2s
MA2 pmax pmax
comp=N,30nm,0.8s
MA2 MLR MLR
comp=Z,23μm,18.0s,MS6.5
MA2 Magadan 70.65 26⇑*e*P **P 06 22 24.6 -1.2**
comp=Z,237nm,0.8s,mb6.2
MA2 LR LR
comp=Z,16μm,19.0s,MS6.3
KWAJ Kwajalein Atol 70.78 81 PFAKE 06 22 40.0 +13
KWAJ LR LR
comp=Z,834nm,20.0s,MS5.0
FETY Fethiye 70.84 308 *e*P **P 06 22 26.3 -1.1**
DALT Dalyan (Mudla) 71.22 308 *e*P **P 06 22 28.7 -0.9**
MOS Moscow 71.25 329 *e*P **P 06 22 28.0 -1.5**
MOS *i* 06 22 47.3
MOS *e* 06 25 06.6
MOS *e*S S 06 31 40.8 -2.8
MOS *e* 06 32 30.0
MOS *e*SS SS 06 36 20.7 +1.0
MOS *e*SSS SSS 06 39 28.7 +2.2
MOS pmax pmax
comp=Z,282nm,1.1s,mb6.1
MOS smax
comp=N,3μm,5.8s
MOS MLR MLR
comp=N,15μm,21.8s
MOS MLR MLR
comp=Z,16μm,21.8s,MS6.2
MOS Moscow 71.25 329 *e*P **P 06 22 28.1 -1.4**
HRT Hereke 71.32 312 *e*P **P 06 22 29.4 -0.9**
HRT Hereke 71.32 312 P **P 06 22 30.5 +0.2**
YLV Yalova 71.48 312 *e*P **P 06 22 30.5 -0.7**
OBN Obninsk 71.54 328 *e*P **P 06 22 30.4 -0.8**
OBN *i* pP 06 22 38.3 -1.9
OBN *i* 06 22 43.8
OBN *i* 06 22 51.2
OBN *i* 06 25 10.7
OBN *i* PPP PPP 06 26 56.8 +3.4
OBN *i* S S 06 31 43.2 -3.7
OBN *i* PS PS 06 32 15.1 -4.9
OBN *i* PPS PPS 06 32 28.1 -4.9
OBN *i* 06 32 28.1
OBN *i* SS SS 06 36 22.4 -1.7
OBN pmax pmax
comp=Z,172nm,1.0s,mb5.9
OBN Obninsk 71.54 328 *e*P **P 06 22 29.6 -1.6**
comp=Z,172nm,0.9s,mb6.0
OBN LR LR

comp=Z,2μm,20.0s,MS5.4
ULDT Uludag 71.56 312 *i* P **P 06 22 30.0 -1.6**
MANT Manisa 71.64 310 *i* P **P 06 22 31.0 -1.1**
PET Petropavlovsk 71.68 34*c i* P **P 06 22 31.4 -0.7**
PET *e*PPP PPP 06 26 53.1 -1.7
PET *e*S S 06 31 51.5 +2.9
PET pmax pmax
comp=Z,205nm,1.1s,mb6.0
PET pmax pmax
comp=N,66nm,0.8s
PET pmax pmax
comp=Z,3μm,5.9s
PET pmax pmax
comp=Z,3μm,18.8s
PET pmax pmax
comp=Z,1μm,18.3s
PET pmax pmax
comp=Z,1μm,17.1s
PET smax
comp=N,3μm,26.2s
PET MLR MLR
comp=Z,13μm,17.0s,MS6.3
PET MLR MLR
comp=Z,12μm,17.0s
PET Petropavlovsk 71.68 34 *e*P **P 06 22 31.0 -1.1**
comp=Z,184nm,0.9s,mb6.0
PET LR LR
comp=Z,8μm,19.0s,MS6.0
ISK Istanbul-Kandi 71.83 313 *e*P **P 06 22 32.6 -0.6**
DZM Mont Dzumac 72.11 114 P **P 06 22 35.8 +0.6**
comp=Z,30nm,1.0s,mb5.2,baz=134,slow=5.7,SNR=5.9
DZM sP sP 06 22 45.1 -2.2
comp=Z,70nm,1.1s,baz=282,slow=7.8,SNR=8.8
DZM LR LR 06 55 43.4
comp=Z,4μm,20.6s,MS5.6,baz=281,slow=37
TIXI Tiksi 72.31 10*c i* P **P 06 22 33.7 -1.9**
TIXI pmax pmax
comp=Z,161nm,0.8s,mb6.0
TIXI Tiksi 72.31 10⇑*i* P **P 06 22 33.8 -1.8**
TIXI LR LR
comp=Z,10μm,20.0s,MS6.1
BTOK Tokmak 72.31 311 *i* P **P 06 22 34.2 -1.9**
CTT Catalca 72.31 313 *e*P **P 06 22 35.8 -0.3**
BODT Bodrum 72.32 308 *e*P **P 06 22 36.5 +0.3**
BALB Balikesir 72.39 311 *e*P **P 06 22 36.9 +0.3**
BNT Bandirma 72.52 312 *e*P **P 06 22 37.0 -0.4**
KDAG Bornova 72.61 310 *i* P **P 06 22 36.9 -1.1**
IZM Izmir 72.61 310 *e*P **P 06 22 36.8 -1.2**
SEY Seymchan 73.05 23 *i* P **P 06 22 41.3 +1.3**
SEY 06 23 02.5
SEY *e* 06 25 26.7
SEY *e*PPP PPP 06 27 08.7 +0.8
SEY *e*S S 06 32 07.9 +4.0
SEY 06 32 57.1
SEY *e*SS SS 06 36 52.5 +5.0
SEY pmax pmax
comp=Z,300nm,0.9s,mb6.2
SEY pmax pmax
comp=N,140nm,0.8s
SEY pmax pmax
comp=E,90nm,0.8s
SEY smax
comp=N,15μm,23.7s
SEY smax
comp=E,8μm,19.9s
SEY MLR MLR
comp=Z,70μm,22.0s,MS6.9
SEY MLR MLR
comp=N,58μm,24.0s,MS6.9
SEY MLR MLR
comp=E,36μm,21.0s,MS6.9
PSN Preselentsi 73.07 315 *e*P **P 06 22 40.0 -0.5**
TIRR Tirgusor 73.09 316⇑P **P 06 22 39.0 -1.7**
AYVA Ayvalik 73.23 310 *i* P **P 06 22 39.9 -1.7**
KIS Kishinev 73.45 319 *e*P **P 06 22 39.0 -3.7**
KIS *i* 06 22 50.0
KIS *e* 06 25 27.0
KIS *e*PPP PPP 06 27 14.0 +1.7
KIS *e*S S 06 32 04.0 -4.9
KIS pmax pmax
comp=Z,900nm,8.0s
KIS pmax pmax
comp=Z,1μm,14.0s
KIS smax
comp=N,4μm,17.0s
KIS smax
comp=E,1μm,10.0s
KIS MLR MLR
comp=N,2μm,20.0s,MS5.6
KIS MLR MLR
comp=E,2μm,20.0s,MS5.6
KIS MLR MLR
comp=Z,4μm,20.0s,MS5.7
KIS MLR MLR
comp=Z,4μm,20.0s
CFR Carcaliu 73.46 317⇓P **P 06 22 43.0 +0.2**
HARR Harsova 73.48 316⇓P **P 06 22 43.4 +0.5**
PRD Provadia 73.52 314 *e*P **P 06 22 42.0 -1.1**
MAW Mawson 73.56 193 P **P 06 22 43.7 +0.8**
comp=Z,14nm,0.9s,mb4.9,baz=325,slow=7.4,SNR=11
MAW sP sP 06 22 52.4 -2.7
comp=Z,26nm,0.8s,baz=11,slow=6.2,SNR=14
MAW LR LR 06 48 27.4
comp=Z,6μm,21.4s,MS5.9,baz=37,slow=30
EDRB Edirne 73.70 313 *e*P **P 06 22 41.8 -2.4**
APE Apeiranthos 73.72 308⇓*i* P **P 06 22 43.5 -1.0**
LBTB Lobatse 73.90 243 P **P 06 22 44.7 -1.1**
LBTB *PP pP 06 22 52.9 -1.9
LBTB pmax pmax
comp=Z,28nm,0.9s,mb5.2
LBTB pmax pmax
comp=Z,38nm,1.0s,mb5.3
LBTB Lobatse 73.90 243 P **P 06 22 44.7 -1.0**
comp=Z,28nm,0.9s,mb5.2,baz=113,slow=4.8,SNR=13
LBTB pP pP 06 22 52.9 -1.9
comp=Z,38nm,1.0s,baz=115,slow=5.3,SNR=11
LBTB LR LR 06 50 29.2
comp=Z,18μm,20.5s,MS6.3,baz=92,slow=32
LBTB Lobatse 73.90 243 *e*P **P 06 22 44.9 -0.9**
comp=Z,198nm,1.4s,mb5.8
LBTB LR LR
comp=Z,17μm,20.0s,MS6.3
IDI Anoyia 73.94 306 P **P 06 22 45.8 0.0**
comp=Z,33nm,0.9s,mb5.3,baz=95,slow=8.0,SNR=12
ALN Alexandroupoli 74.02 312 *e*P **P 06 22 45.2 -1.0**
AKASG Malin Array Be 74.20 322 P **P 06 22 44.9 -2.1**
comp=Z,28nm,0.8s,mb5.3,baz=89,slow=4.7,SNR=82
GVD Gavdhos 74.53 305 P **P 06 22 48.5 -0.7**
comp=Z,105nm,1.1s,mb5.7
VRI Vrincioaia 74.58 317⇑P **P 06 22 50.3 +1.0**
BOSA Boshof 74.86 240 P **P 06 22 49.3 -2.0**
BOSA *PP pP 06 22 59.6 -0.7
BOSA pmax pmax
comp=Z,26nm,1.0s,mb5.1
BOSA pmax pmax
comp=Z,38nm,0.9s,mb5.3
BOSA Boshof 74.86 240 P **P 06 22 49.3 -2.0**
comp=Z,26nm,1.0s,mb5.1,baz=91,slow=6.8,SNR=13
BOSA pP pP 06 22 59.6 -0.7
comp=Z,38nm,0.9s,baz=87,slow=6.1,SNR=15
BOSA LR LR 06 52 41.5
comp=Z,10μm,19.0s,MS6.2,baz=59,slow=33
BOSA Boshof 74.86 240 *e*P **P 06 22 49.9 -1.4**
comp=Z,312nm,1.6s,mb6.0
BOSA LR LR
comp=Z,11μm,19.0s,MS6.2
MLR Muntele Rosu 75.03 317⇑P **P 06 22 51.1 -0.8**
MLR Muntele Rosu 75.03 317 LR LR 07 00 32.5
comp=Z,5μm,20.5s,MS5.8,baz=300,slow=39
DRV Dumont d'Urvil 75.22 164 P **P 06 22 57.0 +4.5**
DRV S S 06 32 29.0 +0.8
DRV SS SS 06 37 18.0 -2.3
DRV L 06 42 00.0
SNX Sinaia 75.30 316⇑P **P 06 22 57.4 +4.0**
OUR Ouranopolis 75.47 311 *e*P **P 06 22 53.9 -0.5**
MTUR Matau 75.59 316 P **P 06 22 54.5 -0.5**
MMB Musomiste 75.87 312 *e*P **P 06 22 55.0 -1.7**
SRS Serrai 75.89 312 *e*P **P 06 22 55.3 -1.6**
BURAR Bucovina Array 75.98 319⇓P **P 06 22 57.9 +0.6**
MNK Minsk 76.08 326⇓*e*P **P 06 22 54.0 -3.6**
KKB Krupnik 76.39 312 *e*P **P 06 22 59.0 -0.7**
PUL Pulkovo 76.41 332 *e*P **P 06 22 59.7 +0.3**
PUL *e*S S 06 32 37.7 -3.6
PUL pmax pmax
comp=Z,174nm,0.9s,mb6.0
PUL pmax pmax
comp=N,20nm,0.5s
PUL pmax pmax
comp=E,167nm,0.8s
PUL MLR MLR
comp=Z,9μm,20.0s,MS6.1
PUL MLR MLR
comp=N,5μm,18.0s,MS6.1
PUL MLR MLR
comp=E,8μm,19.0s,MS6.1
PUL Pulkovo 76.41 332 *e*P **P 06 22 59.4 0.0**
VTS Vitosha 76.42 313 P **P 06 22 59.6 -0.2**
VTS Vitosha 76.42 313⇑P **P 06 22 59.0 -0.8**
LIT Litokhoron 76.56 311 *e*P **P 06 22 58.5 -2.2**
GRG Griva 76.75 311 *e*P **P 06 22 59.6 -2.1**
IDID Didziasalis 76.91 327 *e*P **P 06 23 02.1 -0.1**
IDID AMPb AMB 06 23 14.2
comp=Z,54nm,1.2s,mb5.3
JOF Joensuu 77.06 335 *e*p **P 06 23 01.3 -1.6**
comp=Z,38nm,0.7s,mb5.4
IIGN Ignalina 77.20 326 *e*P **P 06 23 04.1 +0.2**
IIGN AMPb AMB 06 23 15.9
comp=Z,71nm,1.3s,mb5.4
LVV L'vov 77.21 321 *e*P **P 06 23 02.9 -1.2**
LVV *e* 06 23 21.9
LVV *e* 06 27 53.3
LVV *i* S S 06 32 48.3 -2.0
LVV *i* 06 33 52.3
LVV L'vov 77.21 321 *e*P **P 06 23 04.0 -0.1**
IZAR Zarasai 77.29 327 *e*P **P 06 23 04.2 -0.2**
IZAR AMPb AMB 06 23 16.4
comp=Z,54nm,1.5s,mb5.3
ISAL Salakas 77.31 327 *e*P **P 06 23 04.3 -0.2**
ISAL AMPb AMB 06 23 17.0
comp=Z,50nm,1.1s,mb5.4
BOLS Boljevac 77.52 314⇓*i*P 06 23 14.1 -0.8
LVZ Lovozero 77.75 340 *e*P **P 06 23 05.8 -0.9**
LVZ *i* 06 27 50.7
LVZ *e*S S 06 32 50.0 -5.7
LVZ pmax pmax
comp=Z,75nm,0.8s,mb5.7
LVZ pmax pmax
comp=N,18nm,1.8s
LVZ pmax pmax
comp=E,17nm,0.9s
LVZ smax
comp=N,2μm,5.0s
LVZ smax
comp=Z,715nm,5.1s
LVZ smax
comp=E,1μm,6.5s
LVZ MLR MLR
comp=N,8μm,21.0s,MS6.1
LVZ MLR MLR
comp=Z,11μm,21.0s,MS6.2
LVZ MLR MLR
comp=E,6μm,22.0s,MS6.1
LVZ Lovozero 77.75 340 *i* Pr 06 23 06.9
KWP Kalwaria 78.02 320 *e*P **P 06 23 09.0 +0.6**
KWP *e*pP pP 06 23 16.7 -0.8
KWP *e*S S 06 32 59.8 +0.9
KWP *e*sS 06 33 15.2
KWP MLR MLR 07 00 28.3
comp=E,4μm,24.4s,MS5.7
APA Apatity 78.05 339⇑*i*P **P 06 23 08.0 -0.3**
APA *i* 06 23 25.0
APA *i* S S 06 32 58.0 -0.9
APA pmax pmax
comp=Z,81nm,1.0s,mb5.6
APA pmax pmax
comp=Z,2μm,16.0s
APA smax
comp=N,3μm,8.0s
APA smax
comp=E,2μm,8.0s
UZH Uzhgorod 78.10 319 *e*P **P 06 23 10.0 +1.0**
KOLS Kolonicke sedl 78.17 320 *e*P **P 06 23 09.9 +0.6**
KOLS *e* pP 06 23 19.5 +1.1
KOLS *e* pP 06 23 19.7 +1.3
KOLS *e*S S 06 33 02.7 +2.1
KOLS Kolonicke sedl 78.17 320 *e*P **P 06 23 09.9 +0.6**
KOLS *e* pP 06 23 19.7 +1.3
KOLS Kolonicke sedl 78.17 320 *e*P **P 06 23 10.0 +0.7**
KOLS *e* pP 06 23 19.5 +1.1
KOLS *e*S S 06 33 02.7 +2.1
GRUS Gruza 78.42 314⇓*i*P **P 06 23 10.1 -0.7**
SUW Suwalki 78.61 325 *e*P **P 06 23 10.9 -0.7**
SUW *e*pP pP 06 23 20.7 0.0
SUW *e*S S 06 33 06.1 +1.0
SUW MLR MLR 07 05 19.1
comp=E,6μm,20.5s,MS5.9
CRVS Cervenica-Dubn 78.69 319 *e*P **P 06 23 13.8 +1.6**
CRVS *e* 06 23 25.0
CRVS *e* 06 23 26.6
CRVS *e*S S 06 33 02.0 -4.2
CRVS *e*S S 06 33 05.2 -1.0
CRVS Cervenica-Dubn 78.69 319 *e*P **P 06 23 14.0 +1.8**
CRVS *e* 06 23 26.6
CRVS *e*S S 06 33 02.0 -4.2
CRVS Cervenica-Dubn 78.69 319 *e*P **P 06 23 13.8 +1.6**
CRVS *e* 06 23 25.0
CRVS *e*S S 06 33 05.2 -1.0
FINES FINESS Array B 78.91 332 P **P 06 23 12.4 -0.8**
comp=E,39nm,0.8s,mb5.4,baz=90,slow=5.7,SNR=78
FINES pP pP 06 23 20.3 -1.9
comp=E,19nm,0.7s,baz=95,slow=4.4,SNR=9.0
FINES LR LR 07 02 54.0
comp=E,9μm,21.3s,MS6.1,baz=300,slow=39
DIVS Divcibare 78.97 314⇑*i*P **P 06 23 13.9 +0.1**
KAF Kangasniemi 79.00 333 *e*p **P 06 23 12.6 -1.0**
comp=E,48nm,0.7s,mb5.5,baz=104,slow=5.1
KAF Kangasniemi 79.00 333 *e*P **P 06 23 12.6 -1.0**
KAF pmax pmax
comp=Z,48nm,0.7s,mb5.5
KECS Kecovo 79.26 319 *e*P **P 06 23 15.4 +0.1**
KECS *e* pP 06 23 23.9 -0.5
KECS Kecovo 79.26 319 *e*P **P 06 23 16.0 +0.7**
KECS *e* pP 06 23 23.9 -0.5
KECS Kecovo 79.26 319 *e*P **P 06 23 15.4 +0.1**
KECS *e*pP pP 06 23 24.5 +0.1
SUR Sutherland 79.31 237 P **P 06 23 16.5 +0.6**
comp=Z,52nm,0.8s,mb5.5,baz=97,slow=4.9,SNR=11
SUR sP sP 06 23 27.1 -1.0
comp=Z,73nm,1.1s,baz=88,slow=5.0,SNR=7.1
SUR Sutherland 79.31 237 *e*P **P 06 23 17.2 +1.3**
comp=Z,159nm,1.4s,mb5.8
SUR LR LR
comp=Z,3μm,20.0s,MS5.7
NIE Niedzica 79.52 320 *e*P **P 06 23 16.7 0.0**
WAR Warsaw 79.54 323 *e*P **P 06 23 17.5 +0.8**
WAR *e*S S 06 33 16.0 +0.9
WAR MLR MLR 07 02 55.0
comp=Z,6μm,21.9s,MS5.9
PSZ Piszkesteto 79.57 318 P **P 06 23 16.7 -0.3**
PSZ pmax pmax
comp=Z,240nm,1.5s,mb5.9
PSZ Piszkesteto 79.57 318⇑P **P 06 23 18.0 +1.1**
PSZ Piszkesteto 79.57 318⇑*i*P **P 06 23 18.0 +1.0**
OJC Ojcow 79.97 321⇑*i*P **P 06 23 18.3 -0.8**
OJC *e*PcP PcP 06 23 26.9 0.0
OJC *i* S S 06 33 18.6 -1.0
OJC MLR MLR 07 03 47.5
comp=Z,6μm,20.5s,MS5.9
FX1 Attu Island--F 80.08 37 P **P 06 23 20.0 +0.4**
FX1 pmax pmax
comp=Z,72nm,0.6s
FX1 MLR MLR
comp=Z,184nm,19.8s
FX1 Attu Island--F 80.08 37 P **P 06 23 20.0 +0.4**
comp=Z,72nm,0.6s,mb5.8,baz=253,slow=0.4,SNR=16
FX1 LR LR 07 00 51.2
comp=Z,184nm,19.8s,baz=274,slow=37
FX1 Attu Island--F 80.08 37 *e*P **P 06 23 19.6 0.0**
PKSM Moragy 80.19 316⇑P **P 06 23 19.8 -0.5**
RPZ Rata Peaks 80.23 135 P **P 06 23 20.3 -0.3**
comp=Z,41nm,0.9s,mb5.4,baz=255,slow=2.8,SNR=13
RPZ pP pP 06 23 28.8 -1.0
comp=Z,46nm,0.8s,baz=263,slow=1.7,SNR=8.3
VYHS Vyhne 80.35 319 *e*P **P 06 23 21.4 +0.3**
VYHS *e* pP 06 23 29.9 -0.3
VYHS *e*S S 06 33 17.1 -6.5
VYHS *e*S S 06 33 21.8 -1.8
VYHS Vyhne 80.35 319 *e*P **P 06 23 21.4 +0.3**
VYHS *e*pP pP 06 23 29.7 -0.5
VYHS *e*S S 06 33 21.8 -1.8
BILL Bilibino 80.42 21*c i*P **P 06 23 20.2 -0.9**
BILL pmax pmax
comp=Z,82nm,1.7s,mb5.4
BILL Bilibino 80.42 21 *e*P **P 06 23 20.4 -0.7**
comp=Z,34nm,0.8s,mb5.3
BILL LR LR
comp=Z,12μm,19.0s,MS6.3
TSUM Tsumeb 80.48 250 P **P 06 23 22.8 +0.4**
comp=Z,17nm,1.0s,mb4.9,baz=85,slow=4.3,SNR=9.8
TSUM pP pP 06 23 30.9 -0.7
comp=Z,19nm,0.9s,baz=105,slow=3.0,SNR=8.0
TSUM Tsumeb 80.48 250 *e*P **P 06 23 22.1 -0.3**
comp=Z,40nm,1.0s,mb5.3
TSUM LR LR
comp=Z,7μm,19.0s,MS6.0
SRO Srobarova 80.61 318 *e*sP sP 06 23 31.9 -2.8
SRO *e*pP pP 06 23 31.9 +0.3
SMY Shemya 80.62 37 PFAKE 06 23 30.0 +7.5
SMY LR LR
comp=Z,12μm,21.0s,MS6.2
KOLL Kolacno 80.64 319 *e*P **P 06 23 23.3 +0.6**
KOLL *e* pP 06 23 32.2 +0.4
KOLL Kolacno 80.64 319 *e*P **P 06 23 23.3 +0.6**
KOLL *e* pP 06 23 32.0 +0.2
KOLL *e* pP 06 23 32.2 +0.4
KOLL Kolacno 80.64 319 *e*P **P 06 23 23.4 +0.7**
KOLL *e* pP 06 23 32.2 +0.4
SRO1 Iza 80.66 318 *e* pP 06 23 33.2 +1.3
SRO1 *e*sP sP 06 23 34.0 -0.9
SYO Syowa Base 80.79 198⇓P **P 06 23 22.8 -0.3**
SYO Syowa Base 80.79 198⇑pP pP 06 23 31.2 -1.0
SYO Syowa Base 80.79 198⇑sP sP 06 23 34.5 -0.7
TIP Timpagrande 80.85 309 *e*P **P 06 23 24.4 +0.4**
OKC Ostrava-Krasne 80.97 320 *e*P **P 06 23 25.7 +1.3**
OKC *e**PP pP 06 23 34.2 +0.7
OKC *e*S S 06 33 30.8 +0.8
OKC Ostrava-Krasne 80.97 320 *e*P **P 06 23 25.7 +1.3**
OKC *e*pP pP 06 23 34.2 +0.7
OKC *e*x x 06 26 18.0
OKC *e*S S 06 33 30.8 +0.8
OKC *e*x x 06 39 11.3
OKC AMS AMS 07 04 20.0
comp=Z,4μm,19.4s
KEV Kevo 81.02 341 *e*p **P 06 23 23.4 -0.9**
comp=Z,61nm,0.9s,mb5.5
KEV Kevo 81.02 341 *e*P **P 06 23 23.4 -0.9**
KEV pmax pmax
comp=Z,61nm,0.9s,mb5.5
MORC Moravsky Berou 81.35 320⇑P **P 06 23 26.7 +0.3**
ARCES ARCESS Array B 81.46 340 P **P 06 23 26.3 -0.3**
comp=Z,46nm,0.8s,mb5.5,baz=98,slow=5.6,SNR=70
ARCES sP sP 06 23 37.8 -0.9
comp=Z,69nm,0.9s,baz=90,slow=3.6,SNR=10.0
ARCES PP PP 06 26 34.1 -0.8
comp=Z,21nm,0.8s,baz=83,slow=9.8,SNR=4.0
ARCES LR LR 07 02 44.4
comp=Z,11μm,20.2s,MS6.2,baz=119,slow=38
ARE0 ARCESS Array S 81.46 340 *e*P **P 06 23 26.1 -0.5**
ZST Bratislava 81.46 318 *e*P **P 06 23 27.0 0.0**
ZST *e* pP 06 23 35.9 -0.2
ZST *e*S S 06 33 39.1 +4.0
ZST Bratislava 81.46 318 *e*P **P 06 23 26.9 -0.1**
ZST *e* pP 06 23 35.9 -0.2
ZST *e*S S 06 33 39.1 +4.0
ZST *e*S S 06 33 40.3 +5.2
ZST Bratislava 81.46 318 *e*P **P 06 23 27.0 0.0**
ZST *e* pP 06 23 35.9 -0.2
ZST Bratislava 81.46 318 *e*S S 06 33 39.1 +4.0
ZST Bratislava 81.46 318 *e*S S 06 33 40.3 +5.2
KOGS Kog 81.86 316 *e*P **P 06 23 30.0 +0.9**
GKP Gorka Klasztor 81.97 323 *e*P **P 06 23 29.5 0.0**
GKP *e**PP pP 06 23 39.0 +0.4
GKP *e*S S 06 33 42.2 +2.0
GKP MLR MLR
comp=Z,4μm,23.7s,MS5.7
GKP Gorka Klasztor 81.97 323 *e*P **P 06 23 29.5 0.0**
GKP *e*PcP PcP 06 23 32.0 -3.5
GKP *e*pP pP 06 23 39.0 +0.4
GKP *e*S S 06 33 42.2 +2.0
GKP *e*SS ScS 06 33 56.6 +1.8
GKP LR LR
comp=Z,4μm,23.7s,MS5.7
GKP Gorka Klasztor 81.97 323 *e*P **P 06 23 29.5 0.0**
GKP *e*PcP PcP 06 23 32.0 -3.5
GKP *e*pP pP 06 23 39.0 +0.4
GKP *e*S S 06 33 42.2 +2.0
GKP *e*SS 06 33 56.6
GKP MLR MLR 07 02 33.1
comp=Z,4μm,23.7s,MS5.7
SGO Sicignano 82.06 310 *e*P **P 06 23 31.3 +1.0**
KTK1 Kautokeino 82.09 340 *e*P **P 06 23 29.4 -0.5**
comp=Z,220nm,1.5s,mb5.9
KTK1 Kautokeino 82.09 340⇑*i*P **P 06 23 29.4 -0.5**
KTK1 *e*pP pP 06 23 38.2 -0.8
KTK1 AMb AMB 06 23 42.6
comp=Z,220nm,1.5s,mb5.9
DPC Dobruska-Polom 82.20 320 *e*P **P 06 23 31.2 +0.4**
DPC *e**PP pP 06 23 40.9 +1.0
DPC *e* 06 26 42.2
DPC *e*S S 06 33 43.2 +0.6
DPC MLR MLR
comp=Z,3μm,19.2s,MS5.7
DPC Dobruska-Polom 82.20 320 *e*P **P 06 23 31.2 +0.4**
DPC *e*pP pP 06 23 40.9 +1.0
DPC *e*PP PP 06 26 42.2 +0.9
DPC *e*S S 06 33 43.2 +0.6
DPC *e*x x 06 39 21.6
DPC AMS AMS 07 06 40.0
comp=Z,3μm,19.2s
KSP Ksiaz 82.27 321 *e*P **P 06 23 32.4 +1.3**
KSP *e*pP pP 06 23 41.0 +0.7
KSP *e*PP PP 06 26 45.8 +4.0
KSP *e*S S 06 33 43.5 +0.2
KSP *e*SS SS 06 39 10.0 +2.9
KSP LR LR
comp=Z,8μm,22.1s,MS6.1
KSP Ksiaz 82.27 321 *e*P **P 06 23 32.0 +0.8**
KSP *e*PcP PcP 06 23 34.2 -2.6
KSP *e*pP pP 06 23 41.4 +1.1
KSP *e*S S 06 33 43.9 +0.6
KSP MLR MLR 07 04 54.0
comp=Z,7μm,22.2s,MS6.0
UPC Upice 82.41 321 *e*P **P 06 23 33.1 +1.2**
UPC *e*pP pP 06 23 42.3 +1.3
UPC *e*S S 06 33 46.7 +1.9
SNZO South Karori 82.42 132 PFAKE 06 23 40.0 +7.9
SNZO LR LR
comp=Z,13μm,22.0s,MS6.2
ARSA Arzberg 82.43 317⇑*i*P **P 06 23 32.6 +0.6**
comp=Z,70nm,0.9s,mb5.6
VAE Valguarnera 82.58 307 P **P 06 23 34.1 +1.1**
comp=Z,16nm,0.5s,mb5.3,baz=60,slow=12,SNR=4.5
LJU Ljubljana 83.02 316 *e*P **P 06 23 36.7 +1.6**
LJU *e* 06 33 49.6
LJU Ljubljana 83.02 316 *e*P **P 06 23 36.7 +1.6**
LJU *e* 06 33 19.6
LJU *e* 06 33 49.6
SDI San Donato 83.26 312 *e*P **P 06 23 36.3 -0.2**
PRU Pruhonice 83.31 320 *e*P **P 06 23 37.7 +1.2**
PRU *e**PP pP 06 23 46.8 +1.1
PRU *e* 06 26 48.5
PRU *e*S S 06 33 54.5 +0.7
PRU MLR MLR
comp=Z,4μm,20.9s,MS5.7
PRU Pruhonice 83.31 320 *e*P **P 06 23 37.7 +1.2**
PRU *e*pP pP 06 23 46.8 +1.1
PRU *e*PP PP 06 26 48.5 -1.6
PRU *e*S S 06 33 54.5 +0.7
PRU *e*SS SS 06 39 35.3 +13
PRU AMS AMS 07 06 20.0
comp=Z,4μm,20.9s
MOA Molln 83.32 318⇑*i*P **P 06 23 37.4 +0.8**
comp=Z,44nm,0.9s,mb5.5
PVCC Panska Ves 83.33 320 *e*P **P 06 23 38.2 +1.6**
PVCC *e*pP pP 06 23 47.2 +1.4
PVCC *e*PP PP 06 26 52.6 +2.3
PVCC *e*S S 06 33 53.2 -0.9
PVCC *e*SS SS 06 39 27.5 +4.8

PVCC AMS AMS 07 06 30.0
comp=Z,3µm,21.8s
BSD Bornholm Skovb 83.53 325 *i* P **P 06 23 37.8 +0.3**
BSD *i* 06 23 44.9
BSD *i* S S 06 33 49.2 -6.8
BSD *i* 06 33 56.0
BSD pmax pmax
comp=Z,26nm,0.7s,mb5.5
BSD Bornholm Skovb 83.53 325 *i* P **P 06 23 37.8 +0.3**
comp=Z,26nm,0.7s,mb5.5
BSD *i* 06 23 44.9
BSD *i* S S 06 33 49.2 -6.8
BSD *i* 06 33 56.0
BSD Bornholm Skovb 83.53 325 *i* P **P 06 23 37.8 +0.3**
comp=Z,26nm,0.7s,mb5.5
BSD *i* 06 23 44.9
BSD Bornholm Skovb 83.53 325 *i* S S 06 33 49.2 -6.8
BSD *i* 06 33 56.0
comp=Z,4µm,19.0s
PTQR Pietraquaria 83.58 312 *e*P **P 06 23 38.8 +0.7**
AQU L'Aquila 83.60 312 *e*P **P 06 23 37.8 -0.4**
AQU pmax pmax
comp=Z,201nm,1.1s,mb6.2
AQU L'Aquila 83.60 312 *e*P **P 06 23 37.8 -0.4**
comp=Z,201nm,1.1s,mb6.2
TRO Tromso 83.72 340 *e*P **P 06 23 36.9 -1.3**
TRO *i* 06 33 53.5
TRO MLR MLR
comp=Z,7570µm,21.6s
TRO Tromso 83.72 340 *e*P **P 06 23 36.9 -1.3**
TRO *e*SKSa 06 33 55.2
TRO AMS AMS 07 04 16.3
comp=Z,8µm,21.6s,MS6.0
BRG Berggiesshubel 83.75 321 *i* P **P 06 23 40.1 +1.3**
BRG *i* pP 06 23 48.4 +0.4
BRG *i* S S 06 33 58.0 -0.3
BRG *i* SS SS 06 39 29.0 +0.3
BRG pmax pmax
comp=Z,51nm,1.1s,mb5.6
BRG MLR MLR
comp=N,4µm,18.2s,MS6.0
BRG MLR MLR
comp=E,4µm,18.2s,MS6.0
BRG MLR MLR
comp=Z,5µm,18.2s,MS5.9
BRG Berggiesshubel 83.75 321 *i* P **P 06 23 40.1 +1.3**
comp=Z,51nm,1.0s,mb5.6
BRG *i* pP 06 23 48.4 +0.4
BRG *i* 06 24 26.1
BRG *i* S S 06 33 58.0 -0.3
BRG *i* SS SS 06 39 29.0 +0.3
BRG LR LR
comp=Z,5µm,18.2s,MS5.9
GEC2 GERESS Array S 83.77 319 *e*P **P 06 23 38.5 -0.4**
GEC2 *e**PP pP 06 23 49.2 +1.1
GEC2 pmax pmax
comp=Z,118nm,1.1s,mb5.9
GEC2 GERESS Array S 83.77 319 *e*P **P 06 23 38.5 -0.4**
comp=Z,118nm,1.1s,mb5.9
GEC2 *e*pP pP 06 23 49.2 +1.1
GERES GERESS Array B 83.77 319 P **P 06 23 38.3 -0.6**
comp=Z,19nm,0.8s,mb5.3,baz=102,slow=3.5,SNR=71
GERES pP pP 06 23 48.4 +0.3
comp=Z,45nm,0.8s,baz=99,slow=5.4,SNR=19
GERES LR LR 07 07 31.3
comp=Z,3µm,19.7s,MS5.6,baz=90,slow=40
URZ Urewera 83.79 129 P **P 06 23 38.5 -0.8**
comp=Z,29nm,0.9s,mb5.4,baz=44,slow=1.8,SNR=9.3
URZ pP pP 06 23 47.1 -1.3
comp=Z,34nm,0.9s,baz=280,slow=10,SNR=5.3
PTCC Patocco-Chiusa 83.85 316 *e*P **P 06 23 38.5 -0.9**
KHC Kasperske Hory 83.87 319 *e*P **P 06 23 40.4 +1.0**
KHC *e**PP pP 06 23 50.8 +2.2
KHC *e* 06 27 00.6
KHC *e*S S 06 34 00.6 +1.1
KHC MLR MLR
comp=Z,4µm,19.8s,MS5.8
KHC Kasperske Hory 83.87 319 *e*P **P 06 23 40.4 +1.0**
KHC *e*pP pP 06 23 50.8 +2.2
KHC *e*PP PP 06 27 00.6 +5.9
KHC *e*S S 06 34 00.6 +1.1
KHC *e*x x 06 39 40.7
KHC AMS AMS 07 08 00.0
comp=Z,4µm,19.8s
RUE Ruedersdorf 83.97 322 *e*P **P 06 23 39.0 -0.8**
comp=Z,134nm,1.0s,mb6.0
ARV Arcevia 83.99 313 *e*P **P 06 23 41.8 +1.6**
MNS Montasola 84.14 312 *e*P **P 06 23 40.9 0.0**
WET Wettzell 84.33 319 *e*P **P 06 23 41.1 -0.6**
WET pmax pmax
comp=Z,68nm,1.0s,mb5.7
WET Wettzell 84.33 319 *e*P **P 06 23 41.1 -0.6**
comp=Z,68nm,1.0s,mb5.7
CLL Collm 84.38 321 *i* P **P 06 23 42.0 +0.1**
CLL *i* pP 06 23 49.9 -1.2
CLL *e*S S 06 34 03.0 -1.5
CLL pmax pmax
comp=Z,26nm,1.2s,mb5.2
CLL MLR MLR
comp=Z,4µm,18.0s,MS5.8
CLL Collm 84.38 321 *i* P **P 06 23 42.0 +0.1**
comp=Z,26nm,1.2s,mb5.2
CLL *i* pP 06 23 49.9 -1.2
CLL *e*S S 06 34 03.0 -1.5
CLL LR LR
comp=Z,4µm,18.0s,MS5.8
CLL Collm 84.38 321 P **P 06 23 42.0 +0.1**
comp=Z,logA/T=1.3,mb5.2
CLL *i* *PP pP 06 23 49.9 -1.2
CLL *i* 06 23 56.9
CLL *i* 06 24 29.1
CLL *e* 06 25 02.0
CLL *e*PP PP 06 27 09.0 +10
CLL *e*S S 06 34 03.0 -1.5
CLL *e*PS PS 06 34 54.0 -9.0
CLL *e*SS SS 06 39 54.0 +16
NKC Novy Kostel 84.67 320 *e*P **P 06 23 44.0 +0.6**
NKC *e*pP pP 06 23 54.8 +2.2
NKC *e*S S 06 34 11.4 +4.0
NKC *e*SS SS 06 39 51.5 +9.4
NKC AMS AMS 07 08 10.0
comp=Z,3µm,21.1s
SFI Santa Sofia 84.80 314 *e*P **P 06 23 46.8 +2.6**
MOR8 Moi Rana 84.89 336 *e*P **P 06 23 44.5 +0.4**
comp=Z,158nm,1.8s,mb5.8
MOR8 Moi Rana 84.89 336 *e*P **P 06 23 44.5 +0.4**
MOR8 AMb AMB 06 23 56.6
comp=Z,158nm,1.8s,mb5.8
COP Copenhagen 84.98 326 *i* P **P 06 23 45.3 +0.5**
COP *i* S S 06 34 11.4 +1.0
COP MLR MLR
comp=Z,2µm,19.0s,MS5.6
COP Copenhagen 84.98 326 *i* S S 06 34 11.4 +1.0
comp=Z,2µm,19.0s
CTI Castel Tesino 85.02 316 *e*P **P 06 23 46.7 +1.5**
VMG Vicchio 85.02 314 *e*P **P 06 23 47.2 +1.9**
WTTA Wattenberg 85.07 317 ⇓ *i*P **P 06 23 46.1 +0.6**
WATA Walderalm 85.11 317 ⇑ *i*P **P 06 23 45.9 +0.2**
comp=Z,38nm,1.0s,mb5.5
WATA Walderalm 85.11 317 ⇑ *i*P **P 06 23 45.9 +0.2**
WATA pmax pmax
comp=Z,38nm,1.0s,mb5.5
MOX Moxa 85.22 320 *e*P **P 06 23 47.3 +1.2**
MOX *e* pP 06 23 56.3 +1.0
MOX pmax pmax
comp=Z,73nm,1.6s,mb5.6
MOX MLR MLR
comp=Z,2µm,21.0s,MS5.5
MOX Moxa 85.22 320 *e*P **P 06 23 47.3 +1.2**
comp=Z,73nm,1.6s,mb5.6
MOX *e* pP 06 23 56.3 +1.0
MOX LR LR
comp=Z,2µm,21.0s,MS5.5
MOX Moxa 85.22 320 *i* P **P 06 23 47.3 +1.2**
MOX pP pP 06 23 56.0 +0.7
MOX S S 06 34 15.0 +2.2
MOX L 07 06 37.0
MELSS Ber_school_2 85.25 337 *e*P **P 06 23 46.9 +1.0**
FUR Furstenfeldbru 85.35 318 *e*P **P 06 23 45.7 -1.1**
FUR pmax pmax
comp=Z,62nm,0.9s,mb5.7
FUR Furstenfeldbru 85.35 318 *e*P **P 06 23 45.7 -1.1**
comp=Z,62nm,0.9s,mb5.7
SQTA Sankt Quirin 85.36 317 ⇓ *i*P **P 06 23 46.3 -0.6**
comp=Z,38nm,0.9s,mb5.5
SQTA Sankt Quirin 85.36 317 ⇓ *i*P **P 06 23 46.3 -0.6**
SQTA pmax pmax
comp=Z,38nm,0.9s,mb5.5
GRA1 Grafenberg Arr 85.43 319 *e*P **P 06 23 47.0 -0.2**
comp=Z,95nm,0.9s,mb5.9
GRA1 *e*S S 06 34 16.4 +1.5
GRA1 *e*SS SS 06 39 47.8 -5.8
GRA1 LR LR
comp=Z,3µm,18.4s,MS5.7
GRF Grafenberg Arr 85.43 319 *e*P **P 06 23 47.0 -0.2**
GRF *e*S S 06 34 16.4 +1.5
GRF *e*SS SS 06 39 47.8 -5.8
GRF pmax pmax
comp=Z,95nm,0.9s,mb5.9
GRF MLR MLR
comp=Z,3µm,18.4s,MS5.7
GRF Grafenberg Arr 85.43 319 *e*P **P 06 23 47.0 -0.2**
GRF *e*S S 06 34 16.4 +1.5
GRF *e*SS SS 06 39 47.8 -5.8
GRF pmax pmax
comp=Z,95nm,0.9s,mb5.9
GRF MLR MLR
comp=Z,3µm,18.4s,MS5.7
GRF Grafenberg Arr 85.43 319 *e*P **P 06 23 47.0 -0.2**
comp=Z,95nm,0.9s,mb5.9
GRF *e*S S 06 34 16.4 +1.5
GRF *e*SS SS 06 39 47.8 -5.8
GRF LR LR
comp=Z,3µm,18.4s,MS5.7
MOTA Moosalm 85.44 317 ⇓ *i*P **P 06 23 46.6 -0.7**
LOF Lofoten 85.44 338 *e*P **P 06 23 50.0 +3.2**
comp=Z,120nm,1.5s,mb5.8
LOF Lofoten 85.44 338 ⇑ *i*P **P 06 23 49.8 +3.0**
LOF AMb AMB 06 23 58.6
comp=Z,120nm,1.5s,mb5.8
GSCL Gusciola 85.72 314 *e*P **P 06 23 50.8 +1.9**
NSS Namsos 85.78 334 *e*P **P 06 23 48.1 -0.5**
NSS *e*S S 06 34 19.4 +1.5
NSS AMS AMS 07 06 17.7
comp=Z,5µm,22.8s,MS5.9
KIWB Kanaga Island 85.89 38 *e*P **P 06 23 50.3 +0.8**
HSP Hornsund 85.90 347 *e*P **P 06 23 48.9 -0.1**
BRMO Bormio 85.92 316 *e*P **P 06 23 50.9 +1.2**
NB2 NORSAR Subarra 85.92 331 P **P 06 23 48.9 -0.5**
comp=Z,42nm,1.0s,mb5.6,baz=96,slow=4.8
NB2 NORSAR Subarra 85.92 331 P **P 06 23 48.9 -0.5**
NB2 pmax pmax
comp=Z,42nm,1.0s,mb5.6
NB2 NORSAR Subarra 85.92 331 P **P 06 23 48.9 -0.5**
baz=96,slow=5.1
NOA NORSAR Array B 85.92 331 P **P 06 23 48.5 -0.8**
comp=Z,24nm,0.9s,mb5.4,baz=94,slow=5.0,SNR=36
NOA pP pP 06 23 57.5 -1.1
comp=Z,38nm,0.9s,baz=94,slow=5.0,SNR=15
NOA PP PP 06 27 10.4 -0.4
comp=Z,12nm,1.0s,baz=93,slow=8.6,SNR=3.6
NOA LR LR 07 06 53.6
comp=Z,8µm,20.4s,MS6.1,baz=70,slow=39
CLZ Clausthal 86.04 322 *e*P **P 06 23 49.6 -0.6**
comp=Z,61nm,1.0s,mb5.8
CLZ *e*pP pP 06 24 00.2 +0.8
NAO01 NORSAR Array S 86.07 331 *e*P **P 06 23 50.6 +0.5**
comp=Z,55nm,0.9s,mb5.8
NAO01 LR LR
comp=Z,10µm,20.0s,MS6.2
BSEG Bad Segeberg 86.13 324 *e*P **P 06 23 50.3 -0.3**
BSEG *e**PP pP 06 24 00.6 +0.8
DAVOX Davos 86.26 317 LR LR 07 03 15.0
comp=Z,965nm,19.8s,MS5.2,baz=85,slow=36
DAVA Damuels 86.27 317 ⇑ *i*P **P 06 23 50.4 -1.0**
comp=Z,87nm,1.1s,mb5.9
GSTR Great Sitkin T 86.57 38 *e*P **P 06 23 52.9 +0.1**
KONO Kongsberg 86.67 329 *e*P **P 06 23 53.9 +0.8**
KONO *i* 06 34 27.2
KONO MLR MLR
comp=Z,778µm,18.3s
KONO Kongsberg 86.67 329 *e*P **P 06 23 53.9 +0.8**
KONO *e*SKSa 06 34 17.4
STU Stuttgart 86.74 319 *e*P **P 06 23 54.8 +1.1**
STU pmax pmax
comp=Z,30nm,0.6s,mb5.7
STU Stuttgart 86.74 319 *e*P **P 06 23 54.8 +1.0**
comp=Z,30nm,0.6s,mb5.7
MUD Monsted U'grnd 86.84 326 *i* P **P 06 23 55.9 +1.9**
MUD *i* S S 06 34 30.3 +2.0
MUD pmax pmax
comp=Z,25nm,0.7s,mb5.5
MUD MLR MLR
comp=Z,5µm,18.0s,MS6.0
MUD Monsted U'grnd 86.84 326 *i* P **P 06 23 55.9 +1.9**
comp=Z,25nm,0.7s,mb5.6
MUD *i* S S 06 34 30.3 +2.0
MUD *i* 06 34 47.3
MUD Monsted U'grnd 86.84 326 *i* P **P 06 23 55.9 +1.9**
comp=Z,25nm,0.7s,mb5.6
MUD Monsted U'grnd 86.84 326 *i* S S 06 34 30.3 +2.0
MUD *i* 06 34 47.3
comp=Z,5µm,18.0s
PGF Pioggiola 86.86 312 *e*P **P 06 23 55.2 +0.7**
comp=Z,538nm,1.6s,mb6.2
PGF Pioggiola 86.86 312 *e*P **P 06 23 55.2 +0.7**
PGF pmax pmax
comp=Z,269nm,1.6s,mb6.2
VNDA Vanda 86.88 169 *e*P **P 06 23 53.1 -0.7**
VNDA pmax pmax
comp=Z,134nm,1.8s
VNDA Vanda 86.88 169 P **P 06 23 53.1 -0.7**
comp=Z,4.5nm,1.0s,baz=318,slow=4.5,SNR=15
VNDA pP pP 06 24 02.5 -0.5
comp=Z,15nm,1.0s,baz=288,slow=7.0,SNR=18
VNDA LR LR 06 59 56.4
comp=Z,7µm,19.0s,baz=306,slow=34
VNDA Vanda 86.88 169 *e*P **P 06 23 53.1 -0.6**
comp=Z,134nm,1.8s,mb5.9
DOMB Dombas 86.99 332 *e*P **P 06 23 55.5 +0.9**
comp=Z,98nm,1.2s,mb5.9
DOMB Dombas 86.99 332 *e*P **P 06 23 55.5 +0.9**
DOMB AMb AMB 06 24 07.6
comp=Z,98nm,1.2s,mb5.9
RAO Raoul Island 87.00 119 PFAKE
RAO LR LR 06 24 10.0 +15
comp=Z,7µm,19.0s,MS6.1
TOD Tromm 87.00 319 *e*P **P 06 23 55.4 +0.4**
SPAK Spaichingen 87.01 318 *e*P **P 06 23 55.9 +0.9**
TNS Taunus Mts 87.23 320 *e*P **P 06 23 55.7 -0.4**
TNS pmax pmax
comp=Z,45nm,0.9s,mb5.7
TNS Taunus Mts 87.23 320 *e*P **P 06 23 55.7 -0.4**
comp=Z,45nm,0.9s,mb5.7
BFO Black Forest 87.32 318 P **P 06 23 57.5 +1.0**
comp=Z,309nm,0.8s,mb6.6,SNR=9.1
BFO Black Forest 87.32 318 *e*P **P 06 23 55.4 -1.1**
BFO *e**PP pP 06 24 07.3 +1.6
BFO pmax pmax
comp=Z,45nm,0.9s,mb5.7
BFO Black Forest 87.32 318 *e*P **P 06 23 55.4 -1.1**
comp=Z,45nm,0.9s,mb5.7
BFO *e*pP pP 06 24 07.3 +1.6
FIN Finale Ligure 87.43 314 *e*P **P 06 23 58.0 +0.8**
MCGN Macugnaga 87.57 316 *e*P **P 06 23 59.5 +1.7**
LANF Langenberg 87.66 319 *e*P **P 06 23 59.3 +1.2**
MOL Molde 87.70 332 *e*P **P 06 24 01.0 +3.0**
MOL Molde 87.70 332 ⇑ *i*P **P 06 24 01.0 +3.0**
LIBD Limburg 87.81 318 *e*P **P 06 24 01.5 +2.7**
ABH Alteburg 87.82 320 *e*P **P 06 24 00.4 +1.5**
SBA Scott Base 87.98 169 *e*P **P 06 24 00.4 +1.3**
SBA pmax pmax
comp=Z,59nm,1.0s,mb5.8
SBA MLR MLR
comp=Z,6µm,19.0s,MS6.0
SBA Scott Base 87.98 169 *e*P **P 06 24 00.4 +1.4**
comp=Z,59nm,1.0s,mb5.8
SBA LR LR
comp=Z,6µm,19.0s,MS6.0
SBF Sospel 87.99 314 *e*P **P 06 24 00.5 +0.6**
comp=Z,125nm,0.9s,mb5.9
SBF Sospel 87.99 314 *e*P **P 06 24 00.5 +0.6**
SBF pmax pmax
comp=Z,63nm,0.9s,mb5.8
CDF Champ du Feu 88.02 318 *e*P **P 06 24 00.3 +0.4**
comp=Z,43nm,0.9s,mb5.4
CDF Champ du Feu 88.02 318 *e*P **P 06 24 00.3 +0.4**
CDF pmax pmax
comp=Z,22nm,0.9s,mb5.4
ECH Echery 88.10 318 *e*P **P 06 24 01.5 +1.2**
MOF Molkenrain 88.12 318 *e*P **P 06 24 02.9 +2.5**
RUP Ruppelstein 88.14 319 *e*P **P 06 24 01.5 +1.1**
WTSB Winterswijk 88.25 322 *e*P **P 06 24 00.7 -0.2**
comp=Z,9.8nm,1.3s,mb4.9
HINF Hinteralfeld 88.31 318 *e*P **P 06 24 01.4 +0.1**
comp=Z,22nm,0.9s,mb5.1
HINF Hinteralfeld 88.31 318 *e*P **P 06 24 01.4 +0.1**
HINF pmax pmax
comp=Z,11nm,0.9s,mb5.1
LOMF Lomont 88.34 317 *e*P **P 06 24 02.4 +1.0**
HYA Hoyanger 88.37 331 *e*P **P 06 24 04.5 +3.3**
LPG La Plagne 88.44 315 *e*P **P 06 24 03.0 +1.0**
comp=Z,29nm,0.8s,mb5.2
LPG La Plagne 88.44 315 *e*P **P 06 24 03.0 +1.0**
LPG pmax pmax
comp=Z,15nm,0.8s,mb5.3
MBDF Montbardon 88.45 315 *e*P **P 06 24 02.3 +0.3**
comp=Z,41nm,1.1s,mb5.3
MBDF Montbardon 88.45 315 *e*P **P 06 24 02.3 +0.3**
MBDF pmax pmax
comp=Z,20nm,1.1s,mb5.3
LPL La Plagne 88.46 315 *e*P **P 06 24 03.0 +1.0**
comp=Z,134nm,1.0s,mb5.8
LPL La Plagne 88.46 315 *e*P **P 06 24 03.0 +1.0**
LPL pmax pmax
comp=Z,67nm,1.0s,mb5.8
BNI Bardonecchia 88.51 315 *e*P **P 06 24 02.6 +0.3**
BNI pmax pmax
comp=Z,37nm,0.9s,mb5.7
BNI Bardonecchia 88.51 315 *e*P **P 06 24 02.6 +0.3**
comp=Z,37nm,0.9s,mb5.7
FRF La Foret Royal 88.57 313 *e*P **P 06 24 03.7 +1.1**
HAU Haudompre 88.65 318 *e*P **P 06 24 03.4 +0.5**
comp=Z,45nm,0.8s,mb5.5
HAU *e*R
comp=Z,4µm,21.5s
HAU Haudompre 88.65 318 *e*P **P 06 24 03.4 +0.5**
HAU pmax pmax
comp=Z,22nm,0.8s,mb5.5
HAU MLR MLR
comp=Z,4µm,21.5s,MS5.8
LMR La Mourre 88.68 313 *e*P **P 06 24 04.0 +0.8**
comp=Z,265nm,1.7s,mb6.0
LMR La Mourre 88.68 313 *e*P **P 06 24 04.0 +0.8**
LMR pmax pmax
comp=Z,133nm,1.7s,mb6.0
WLF Walferdange 88.73 319 *e*P **P 06 24 04.1 +0.9**
WLF pmax pmax
comp=Z,75nm,1.3s,mb5.9
WLF Walferdange 88.73 319 *e*P **P 06 24 04.1 +0.8**
comp=Z,75nm,1.3s,mb5.9
BER Bergen 88.81 330 *e*P **P 06 24 04.9 +1.5**
BER *i* 06 34 50.8
BER MLR MLR
comp=Z,6389µm,20.5s
BER Bergen 88.81 330 *e*P **P 06 24 04.9 +1.5**
BER *e* 06 34 48.7
BER *e*SS SS 06 40 41.5 -0.7
BER AMS AMS 07 08 38.2
comp=Z,6µm,20.5s,MS6.0
HGN Heimansgroeve 88.83 321 *e*P **P 06 24 05.1 +1.4**
comp=Z,15nm,0.5s,mb5.5
HGN *e*PP PP 06 27 32.7 -2.6
HGN *i* S S 06 34 51.8 +4.8
HGN *e*SS SS 06 39 54.3 -48
CABF La Chapelle 88.87 316 *e*P **P 06 24 05.0 +1.0**
comp=Z,142nm,1.2s,mb5.9
CABF La Chapelle 88.87 316 *e*P **P 06 24 05.0 +1.0**
CABF pmax pmax
comp=Z,71nm,1.2s,mb5.9
THEF They Montfort 88.88 318 *e*P **P 06 24 05.0 +1.0**
ORIF Oris-en-Rattie 89.08 315 *e*P **P 06 24 06.1 +1.1**
comp=Z,130nm,1.3s,mb5.8
ORIF *e*R
comp=Z,3µm,22.0s
MEZF Maizieres J'vi 89.50 318 *e*P **P 06 24 07.8 +0.9**
GIVF Givet 89.57 320 *e*P **P 06 24 08.3 +1.1**
comp=Z,81nm,1.0s,mb5.7
GIVF Givet 89.57 320 *e*P **P 06 24 08.3 +1.1**
GIVF pmax pmax
comp=Z,41nm,1.0s,mb5.7
VIVF Saint-Julien-l 89.94 315 *e*P **P 06 24 09.9 +0.8**
comp=Z,131nm,1.3s,mb5.8
VIVF Saint-Julien-l 89.94 315 *e*P **P 06 24 09.9 +0.8**
VIVF pmax pmax
comp=Z,66nm,1.3s,mb5.8
BAIF Baives 89.97 320 *e*P **P 06 24 10.4 +1.3**
comp=Z,172nm,0.9s,mb6.1
BAIF Baives 89.97 320 *e*P **P 06 24 10.4 +1.3**
BAIF pmax pmax
comp=Z,86nm,0.9s,mb6.1
TNA Tin City 90.25 24 *e*P **P 06 24 09.5 -0.5**
comp=Z,13nm,0.8s,mb5.3
TNA LR LR
comp=Z,6µm,20.0s,MS6.0
NVL N'lazarevskaya 90.36 199 ⇓ *i*P **P 06 24 12.1 +1.7**
NVL *i* pP 06 24 20.0 +0.4
NVL *e* 06 35 03.0
NVL MLR MLR
comp=Z,6µm,18.2s,MS6.1
MAIT Maitri 90.39 199 *e*P **P 06 24 13.6 +3.0**
SMF Signal de Mont 90.42 317 *e*P **P 06 24 11.9 +0.7**
comp=Z,162nm,1.2s,mb5.9
SMF Signal de Mont 90.42 317 *e*P **P 06 24 11.9 +0.7**
SMF pmax pmax
comp=Z,81nm,1.2s,mb5.9
LASF Ste Croix 90.56 314 *e*P **P 06 24 13.3 +1.3**
comp=Z,143nm,1.4s,mb5.8
PLDF La Plantade 90.61 316 *e*P **P 06 24 14.8 +2.7**
SSF Saint Saulge 90.62 317 *e*P **P 06 24 13.2 +1.1**
SSF pmax pmax
comp=Z,80nm,1.3s,mb5.9
SSF Saint Saulge 90.62 317 *e*P **P 06 24 13.2 +1.1**
comp=Z,80nm,1.3s,mb5.9
AVF Avril sur Loir 90.74 317 *e*P **P 06 24 13.6 +0.9**
comp=Z,155nm,1.2s,mb5.9
AVF Avril sur Loir 90.74 317 *e*P **P 06 24 13.6 +0.9**
AVF pmax pmax
comp=Z,77nm,1.2s,mb5.9
LBL Lubilhac 90.92 315 *e*P **P 06 24 16.0 +2.4**
NIKO Nikolski 90.94 37 *e*P **P 06 24 13.0 -0.4**
AGO Saint Agoulin 90.95 316 *e*P **P 06 24 15.1 +1.4**
BGF Bois d'Agland 91.11 316 *e*P **P 06 24 15.7 +1.3**
comp=Z,315nm,1.2s,mb6.2
BGF Bois d'Agland 91.11 316 *e*P **P 06 24 15.7 +1.3**
BGF pmax pmax
comp=Z,157nm,1.2s,mb6.2
HYF Humbligny 91.19 317 *e*P **P 06 24 16.3 +1.5**
VERF Verneugheol 91.42 316 *e*P **P 06 24 17.8 +1.9**
TCF Toulx Ste Croi 91.57 316 *e*P **P 06 24 17.9 +1.4**
comp=Z,126nm,1.2s,mb5.8
TCF Toulx Ste Croi 91.57 316 *e*P **P 06 24 17.9 +1.4**
TCF pmax pmax
comp=Z,63nm,1.2s,mb5.8
CAF Calviac 91.78 315 *e*P **P 06 24 19.1 +1.6**
comp=Z,198nm,1.4s,mb5.9
CAF Calviac 91.78 315 *e*P **P 06 24 19.1 +1.6**
CAF pmax pmax
comp=Z,99nm,1.4s,mb6.0
MTLF Montolieu 91.80 313 *e*P **P 06 24 19.0 +1.3**
comp=Z,90nm,1.1s,mb5.7
MTLF Montolieu 91.80 313 *e*P **P 06 24 19.0 +1.3**
MTLF pmax pmax
comp=Z,45nm,1.1s,mb5.7
AFI Afiamalu 91.97 104 P **P 06 24 21.5 +2.5**
comp=Z,42nm,0.8s,mb5.8,baz=233,slow=4.4,SNR=3.4
AFI Afiamalu 91.97 104 P **P 06 24 21.5 +2.5**
AFI LR LR
comp=Z,2µm,22.0s,MS5.6
QSPA South Pole Qui 92.12 180 *e*P **P 06 24 18.0 -0.3**
comp=Z,69nm,1.4s,mb5.8
QSPA LR LR
comp=Z,9µm,19.0s,MS6.2
RJF Les Rejaudoux 92.14 315 *e*P **P 06 24 20.8 +1.6**
comp=Z,134nm,1.2s,mb5.9
RJF *e*R
comp=Z,3µm,21.5s
RJF Les Rejaudoux 92.14 315 *e*P **P 06 24 20.8 +1.6**
RJF pmax pmax
comp=Z,67nm,1.2s,mb5.8
RJF MLR MLR
comp=Z,3µm,21.5s,MS5.7
UNV Unalaska Valle 92.25 36 PFAKE 06 24 30.0 +11
UNV LR LR
comp=Z,10µm,20.0s,MS6.2

LFF **La Frestale 92.72 315** *e*P **P** **06 24 23.5 +1.6**
comp=Z,142nm,1.2s,mb6.0
LFF **La Frestale 92.72 315** *e*P **P** **06 24 23.5 +1.6**
LFF pmax pmax
comp=Z,71nm,1.2s,mb6.0
JMIC **Jan Mayen 92.89 342** P **P** **06 24 24.8 +2.8**
comp=Z,78nm,0.9s,mb6.2,baz=242,slow=5.1,SNR=3.3
JMIC **Jan Mayen 92.89 342** *e*P **P** **06 24 24.0 +1.9**
JMIC LR LR
comp=Z,4578μm,17.7s
JMIC **Jan Mayen 92.89 342** *e*P **P** **06 24 24.0 +1.9**
JMIC *e*PP PP 06 28 03.1 -4.2
JMIC *e* 06 35 25.2
JMIC *e*SS SS 06 41 43.9 +3.0
JMIC AMS AMS 07 12 00.0
comp=Z,5μm,17.7s,MS6.0
LDF **La Druitiere 92.91 319** *e*P **P** **06 24 23.7 +1.0**
comp=Z,113nm,1.0s,mb6.0
LDF **La Druitiere 92.91 319** *e*P **P** **06 24 23.7 +1.0**
LDF pmax pmax
comp=Z,56nm,1.0s,mb6.0
FLN **La Foliniere 93.13 319** *e*P **P** **06 24 24.6 +0.9**
comp=Z,131nm,1.0s,mb6.0
FLN *e*R
comp=Z,4μm,21.2s
FLN **La Foliniere 93.13 319** *e*P **P** **06 24 24.6 +0.9**
FLN pmax pmax
comp=Z,66nm,1.0s,mb6.0
FLN MLR MLR
comp=Z,4μm,21.3s,MS5.8
MFF **Saint Martin d 93.16 317** *e*P **P** **06 24 24.9 +1.1**
comp=Z,204nm,1.1s,mb6.2
MFF **Saint Martin d 93.16 317** *e*P **P** **06 24 24.9 +1.1**
MFF pmax pmax
comp=Z,102nm,1.1s,mb6.2
HPK **Haverah Park 93.17 324** *e*P **P** **06 24 24.1 +0.4**
HPK AMb AMB 06 24 36.2
comp=Z,274nm,1.0s,mb6.6
KBI1 **Birley Grange 93.21 323** *e*P **P** **06 24 24.3 +0.4**
KBI1 AMb AMB 06 24 36.7
comp=Z,98nm,1.1s,mb6.2
EBR **Ebro Roquetas 93.31 311** *e*Ts 06 24 40.5
LHO **Holmfirth 93.36 324** *e*P **P** **06 24 25.8 +1.2**
LHO AMb AMB 06 24 37.5
comp=Z,91nm,1.5s,mb6.0
GRR **Gorron 93.42 319** *e*P **P** **06 24 26.1 +1.1**
comp=Z,134nm,1.1s,mb6.0
GRR **Gorron 93.42 319** *e*P **P** **06 24 26.1 +1.1**
GRR pmax pmax
comp=Z,67nm,1.1s,mb6.0
KWE **Weaver Farm 93.43 323** *e*P **P** **06 24 26.2 +1.2**
KWE AMb AMB 06 24 38.0
comp=Z,102nm,1.6s,mb6.0
DAG **Danmarks Havn 93.54 348**⇑ *i*P **P** **06 24 25.3 +0.3**
DAG pmax pmax
comp=Z,23nm,0.5s,mb5.9
DAG MLR MLR
comp=Z,9μm,20.0s,MS6.2
DAG **Danmarks Havn 93.54 348**⇑ *i*P **P** **06 24 25.3 +0.3**
comp=Z,23nm,0.5s,mb5.9
DAG *i* 06 27 09.7
comp=Z,9μm,20.0s
ESK **Eskdalemuir 93.87 326** *e*P **P** **06 24 28.2 +1.3**
ESK pmax pmax
comp=Z,34nm,0.8s,mb5.8
ESK MLR MLR
comp=Z,1μm,22.0s,MS5.3
ESK **Eskdalemuir 93.87 326** *e*P **P** **06 24 28.2 +1.3**
comp=Z,34nm,0.8s,mb5.8
ESK LR LR
comp=Z,1μm,22.0s,MS5.3
ESK **Eskdalemuir 93.87 326** *e*P **P** **06 24 28.1 +1.2**
ESK AMb AMB 06 24 39.2
comp=Z,56nm,1.0s,mb6.0
ETSF **Etsaut 93.87 313** *e*P **P** **06 24 28.7 +1.5**
comp=Z,121nm,1.5s,mb5.8
ETSF **Etsaut 93.87 313** *e*P **P** **06 24 28.7 +1.5**
ETSF pmax pmax
comp=Z,60nm,1.5s,mb5.8
SJPF **Ste Jean 94.33 313** *e*P **P** **06 24 30.9 +1.6**
comp=Z,161nm,1.5s,mb5.9
SJPF **Ste Jean 94.33 313** *e*P **P** **06 24 30.9 +1.6**
SJPF pmax pmax
comp=Z,81nm,1.5s,mb5.9
HSA **Swansea 95.03 322** *e*P **P** **06 24 33.4 +1.1**
SNAA **Sanae 95.08 198**⇑ *i*P **P** **06 24 29.3 -2.8**
SNAA *e* pP 06 24 39.3 -2.0
SNAA *e* 06 24 44.3
SDPT **Sand Point 95.47 34** *e*P **P** **06 24 34.6 +0.4**
comp=Z,260nm,1.1s,mb6.6
IMA **Indian Mountai 95.86 23** *e*P **P** **06 24 36.7 +0.9**
IMA pmax pmax
comp=Z,29nm,0.9s,mb5.7
IMA **Indian Mountai 95.86 23** *e*P **P** **06 24 36.7 +0.9**
comp=Z,29nm,0.9s,mb5.7
VNA2 **Neumayer--Watz 96.66 199**⇑ *i*P **P** **06 24 39.1 -0.2**
VNA2 *e* 06 24 50.4
VNA2 *e* 06 24 54.9
ESDC **Sonseca Array 96.84 310** P **P** **06 24 41.5 +0.7**
comp=Z,0.6nm,0.4s,baz=69,slow=4.3,SNR=4.8
ESDC pP pP 06 24 50.2 +0.1
comp=Z,2.5nm,0.7s,baz=63,slow=4.4,SNR=4.9
ESLA **Sonseca Array 96.84 310** PFAKE 06 24 50.0 +9.2
ESLA LR LR
comp=Z,24μm,20.0s,MS6.7
VNA3 **Neumayer Olymp 97.30 198**⇑ *i*P **P** **06 24 40.5 -1.7**
VNA3 *e* pP 06 24 51.2 -0.2
VNA3 *e* 06 24 56.5
COLA **College 98.56 23** *i*P **P** **06 24 48.0 0.0**
COLA **College 98.56 23** PFAKE 06 25 00.0 +12
COLA LR LR
comp=Z,4μm,20.0s,MS5.9
MCK **McKinley 98.59 24** *e*P **P** **06 24 48.7 +0.6**
MCK pmax pmax
comp=Z,13nm,1.0s,mb5.4
MCK MLR MLR
comp=Z,3μm,19.0s,MS5.9
MCK **McKinley 98.59 24** *e*P **P** **06 24 48.7 +0.6**
comp=Z,13nm,1.0s,mb5.4
MCK LR LR
comp=Z,3μm,19.0s,MS5.9
ILAR **Eielson Array 98.98 23** P **P** **06 24 48.7 -1.2**
comp=Z,1.9nm,0.8s,baz=291,slow=3.6,SNR=18
ILAR PP PP 06 28 49.1 -5.1
comp=Z,4.0nm,0.8s,baz=298,slow=9.4,SNR=4.1
ILAR PKKPbc 06 41 16.9
comp=Z,1.9nm,0.9s,baz=153,slow=1.9,SNR=9.8
ILAR LR LR 07 15 35.9
comp=Z,5μm,19.2s,MS6.0,baz=162,slow=39
FIB **Fire Island 99.03 27** PFAKE 06 25 00.0 +10
FIB LR LR
comp=Z,4μm,21.0s,MS5.8
KDAK **Kodiak Island 99.04 30** PFAKE 06 25 00.0 +10
KDAK LR LR
comp=Z,2μm,19.0s,MS5.6
SML **Sawmill 99.60 26** *e*P **P** **06 24 52.7 -0.1**
BORG **Borgarnes 99.64 337** PFAKE 06 25 00.0 +7.1
BORG LR LR
comp=Z,2μm,20.0s,MS5.7
SUMG **Summit 100.22 348** *e*Pdif P 06 24 56.4 +1.0
comp=Z,29nm,1.3s
DIV **Divide 101.00 26** PFAKE 06 25 10.0 +11
DIV LR LR
comp=Z,20μm,20.0s,MS6.6
DBIC **Dimbokro 101.25 277** sP 06 25 13.3
comp=Z,5.0nm,0.9s,baz=154,slow=6.0,SNR=3.1
DBIC **Dimbokro 101.25 277** PFAKE 06 25 10.0 +8.6
DBIC LR LR
comp=Z,4μm,20.0s,MS5.9
INK **Inuvik 101.68 17** P P 06 25 00.9 -1.1
INK pmax pmax
comp=Z,5.0nm,0.9s
INK pmax pmax
comp=Z,2.0nm,0.9s
INK **Inuvik 101.68 17** P P 06 25 00.8 -1.2
comp=Z,4.6nm,0.9s,baz=308,slow=5.3,SNR=16
INK PKKPbc 06 41 08.9
comp=Z,2.0nm,0.9s,baz=125,slow=6.2,SNR=6.2
INK **Inuvik 101.68 17** *e*Pdif P 06 25 02.6 +0.5
comp=Z,8.8nm,1.0s
DAWY **Dawson 102.18 22** *e*Pdif Pdif 06 25 05.0 +0.7
KIP **Kipapa 103.37 68** PFAKE 06 25 20.0 +9.4
KIP LR LR
comp=Z,5μm,21.0s,MS6.0
SIT **Sitka 107.70 27** PFAKE 06 29 50.0
SIT LR LR
comp=Z,6μm,20.0s,MS6.2
YKA **Yellowknife Ar 111.27 15** Pdiff Pdif 06 25 45.9 +1.6
comp=Z,1.3nm,0.8s,baz=327,slow=4.2,SNR=26
YKA PKiKP 06 29 43.3
comp=Z,0.6nm,0.8s,baz=345,slow=2.1,SNR=7.4
YKA PP PP 06 30 27.3 +1.1
comp=Z,12nm,1.2s,baz=327,slow=7.1,SNR=4.4
YKA PKKPbc 06 40 38.0
comp=Z,1.2nm,0.9s,baz=143,slow=3.3,SNR=13
YKA PKKPab 06 40 49.3
comp=Z,2.7nm,0.9s,baz=144,slow=3.1,SNR=15
YKA **Yellowknife Ar 111.27 15** Pdif Pdif 06 25 45.9 +1.6
YKA PKPdf PKPdf 06 29 43.3 -3.4
YKA PP PP 06 30 27.3 +1.0
YKA PKKPbc 06 40 38.0
YKA PKKPab 06 40 49.3
TBI **Tubuai 112.69 114** *e*PP PP 06 30 29.5 -8.3
TBI *e*PS PS 06 40 06.6 -0.6
TBI *e*SS SS 06 46 07.9 -6.4
TBI *e*LR LR 07 03 14.8
comp=Z,6μm,24.0s
PPT **Papeete 113.23 108** *e*PP PP 06 30 30.0 -12
PPT *e*PS PS 06 40 14.2 +1.7
PPT *e*LR LR 07 03 32.6
comp=Z,5μm,23.2s
PDA **Ponta Delgada 113.66 313** *e* 07 18 54.0
PMSA **Palmer Station 116.01 189** PFAKE 06 30 00.0 +4.0
PMSA LR LR
comp=Z,6μm,21.0s,MS6.2
EDM **Edmonton 119.32 20** *e*PKIKP PKPdf 06 29 58.0 -4.6
GSM **Grass Mountain 120.36 29** PKIKP PKPdf 06 30 02.6 -2.2
COR **Corvallis 121.35 33** PFAKE 06 30 10.0 +3.2
COR LR LR
comp=Z,839nm,21.0s,MS5.4
SCHQ **Schefferville 121.58 349** PKP PKPdf 06 30 03.0 -4.0
comp=Z,6.7nm,0.8s,baz=36,slow=2.2,SNR=8.6
SCHQ **Schefferville 121.58 349** *e*PKPdf PKPdf 06 30 03.2 -3.8
SCHQ LR LR
comp=Z,7μm,22.0s,MS6.2
NEW **Newport 121.76 26** *e*PKIKP PKPdf 06 30 03.5 -4.0
NEW MLR MLR
comp=Z,5μm,21.0s
GBL **Gable Mountain 121.92 29** PKIKP PKPdf 06 30 05.2 -2.6
HAWA **Hanford 122.03 29** *e*PKPdf PKPdf 06 30 03.7 -4.4
HAWA LR LR
comp=Z,268nm,22.0s
REDWA **Red Mountain 122.14 29** P PKPdf 06 30 05.8 -2.5
WALA **Waterton Lakes 122.48 23** *e*PKPdf PKPdf 06 30 05.4 -3.5
HUMO **Hull Mountain 122.83 34** *e*PKPdf PKPdf 06 30 07.4 -2.3
HUMO LR LR
comp=Z,2μm,20.0s,MS5.8
TAOE **Nuku Hiva Isla 123.05 99** *e*PP PP 06 31 37.0 -13
TAOE *e*SS SS 06 48 24.8 -4.8
TAOE *e*LR LR 07 08 07.7
BSMT **Bassoo Peak 123.08 25** P PKPdf 06 30 05.9 -4.2
KHMM **Horse Mountain 123.50 36** *e*PKPdf PKPdf 06 30 07.5 -3.6
YBH **Yreka Blue Hor 123.54 35** *e*PKIKP PKPdf 06 30 09.2 -1.9
YBH MLR MLR
comp=Z,3μm,22.0s
BMO **Blue Mountains 124.22 29** *e*PKIKP PKPdf 06 30 09.1 -3.3
BMO MLR MLR
comp=Z,4μm,22.0s,MS6.0
MSO **Missoula 124.24 25** *e*PKPdf PKPdf 06 30 07.5 -4.9
MSO LR LR
comp=Z,4μm,21.0s,MS6.0
LASM **Arnica Sink 124.27 34** P PKPdf 06 30 10.1 -2.4
WDC **Whiskeytown Da 124.38 36** *e*PKIKP PKPdf 06 30 07.8 -5.0
WDC MLR MLR
comp=Z,3μm,22.0s,MS5.9
CHMT **Chamberlain Mo 124.46 25** *e*PKPdf PKPdf 06 30 07.5 -5.3
MOD **Modoc 124.77 33** *e*PKPdf PKPdf 06 30 11.1 -2.5
MOD LR LR
comp=Z,4μm,21.0s,MS6.0
LBCM **Butte Creek Ri 124.90 35** P PKPdf 06 30 10.2 -3.6
HOPS **Hopland 125.07 38** *e*PKPdf PKPdf 06 30 11.5 -2.6
HOPS LR LR
comp=Z,3μm,19.0s,MS5.9
HRY **Holter Researc 125.20 24** *e*PKPdf PKPdf 06 30 10.9 -3.4
WVOR **Wild Horse Val 125.30 32** *e*PKIKP PKPdf 06 30 10.1 -4.4
WVOR MLR MLR
comp=Z,4μm,21.0s,MS6.1
NSHM **Saint Helena R 125.65 38** PKPdf PKPdf 06 30 12.5 -2.8
RKT **Rikitea 125.80 117** *e*PP PP 06 32 01.0 -7.0
RKT *e*PS PS 06 42 06.2 +0.6
RKT *e*SS SS 06 49 08.5 +5.1
RKT *e*LR LR 07 09 18.1
comp=Z,5μm,25.0s
BOZ **Bozeman (W) 126.15 24** *e*PKIKP PKPdf 06 30 11.5 -4.5
BOZ MLR MLR
comp=Z,6μm,21.0s,MS6.3
MCMT **McKenzie Canyo 126.29 26** *e*PKPdf PKPdf 06 30 12.7 -3.6
HLID **Hailey 126.56 28** *e*PKPdf PKPdf 06 30 13.6 -3.2
HLID LR LR
comp=Z,4μm,19.0s,MS6.2
ULM **Lac du Bonnet 126.66 10** PKP PKPdf 06 30 12.6 -4.3
comp=Z,23nm,0.8s,baz=345,slow=2.9,SNR=21
ULM pPKP 06 30 20.2
comp=Z,14nm,0.8s,baz=322,slow=2.9,SNR=4.7
ULM **Lac du Bonnet 126.66 10** *e*PKPdf PKPdf 06 30 11.7 -5.1
ULM LR LR
comp=Z,10μm,20.0s,MS6.5
WCN **Washoe City 126.83 35** *e*PKIKP PKPdf 06 30 12.2 -5.3
QLMT **Earthquake Lak 126.89 25** *e*PKPdf PKPdf 06 30 15.1 -2.4
YMR **Madison River 127.22 25** *e*PKPdf PKPdf 06 30 15.3 -2.8
YNR **Norris Junctio 127.30 24** PKPdf PKPdf 06 30 17.4 -0.9
CMB **Columbia Colle 127.30 37** *e*PKIKP PKPdf 06 30 15.5 -3.0
CMB MLR MLR
comp=Z,3μm,20.0s,MS6.0
LAO **LASA Array 127.30 20** *e*PKPdf PKPdf 06 30 14.7 -3.6
LAO LR LR
comp=Z,4μm,19.0s,MS6.1
YFT **Old Faithful 127.45 25** *e*PKPdf PKPdf 06 30 16.9 -1.7
SAO **San Andreas Ge 127.46 39** PFAKE 06 30 30.0 +11
SAO LR LR
comp=Z,2μm,21.0s,MS5.8
BMN **Battle Mountai 127.47 32** *e*PKIKP PKPdf 06 30 17.0 -1.8
BMN MLR MLR
comp=Z,2μm,19.0s,MS5.8
LKWY **Lake 127.53 24** *e*PKIKP PKPdf 06 30 17.7 -1.1
LKWY MLR MLR
comp=Z,10μm,20.0s,MS6.5
IMW **Indian Meadow 127.85 25** *e*PKPdf PKPdf 06 30 16.9 -2.6
MOOW **Moose Ponds 128.06 25** *e*PKPdf PKPdf 06 30 15.9 -3.9
RRI2 **Red Ridge 128.13 26** *e*PKPdf PKPdf 06 30 16.6 -3.4
TPAW **Teton Pass 128.18 25** *e*PKPdf PKPdf 06 30 16.9 -3.2
LOHW **Long Hollow 128.22 25** *e*PKPdf PKPdf 06 30 16.6 -3.6
WUWY **Wally Ulrich 128.22 25** *e*PKPdf PKPdf 06 30 16.9 -3.2
NVAR **Mina Array Bea 128.26 35** PKP PKPdf 06 30 17.2 -3.2
comp=Z,14nm,0.9s,baz=300,slow=0.8,SNR=25
ELK **Elko 128.28 31** *e*PKIKP PKPdf 06 30 18.5 -1.8
ELK MLR MLR
comp=Z,4μm,22.0s
SNOW **Snow King Moun 128.28 25** *e*PKPdf PKPdf 06 30 16.5 -3.8
REDW **Red Top Meadow 128.32 25** *e*PKPdf PKPdf 06 30 15.9 -4.5
MNV **Mina 128.34 35** *e*PKIKP PKPdf 06 30 17.1 -3.4
MNV MLR MLR
comp=Z,3μm,22.0s,MS6.0
AHID **Auburn Hatcher 128.69 26** PFAKE 06 30 30.0 +8.9
AHID LR LR
comp=Z,4μm,20.0s,MS6.1
HVU **Hansel Valley 128.71 28** *e*PKIKP PKPdf 06 30 18.8 -2.3
MTUM **Tungsten Hills 128.83 36** *e*PKPdf PKPdf 06 30 18.8 -2.7
TPH **Tonopah 129.12 35** *e*PKIKP PKPdf 06 30 20.1 -1.9
TPH MLR MLR
comp=Z,2μm,19.0s,MS5.9
BW06 **Boulder Array 129.36 25** PFAKE 06 30 30.0 +7.7
BW06 LR LR
comp=Z,4μm,20.0s,MS6.1
PDAR **Pinedale Array 129.36 25** PKP PKPdf 06 30 18.1 -4.3
comp=Z,4.3nm,0.7s,baz=146,slow=1.1,SNR=30
HWUT **Hardware Ranch 129.41 27** *e*PKPdf PKPdf 06 30 19.6 -2.9
HWUT LR LR
comp=Z,6μm,19.0s,MS6.3
PTCN **Pitcairn Islan 129.50 121** PFAKE 06 30 30.0 +6.9
PTCN LR LR
comp=Z,5μm,20.0s,MS6.2
PQI **Presque Isle 129.53 346** PFAKE 06 30 30.0 +7.5
PQI LR LR
comp=Z,18μm,20.0s,MS6.8
EYMN **Ely 129.56 7** *e*PKPdf PKPdf 06 30 18.1 -4.5
EYMN LR LR
comp=Z,10μm,20.0s,MS6.5
TRCR **Troy Canyon 129.84 33** *e*PKPdf PKPdf 06 30 20.3 -3.1
TCUT **Toone Canyon 129.86 28** *e*PKPdf PKPdf 06 30 20.6 -2.7
NOQ **North Oquirrh 129.89 29** *e*PKPdf PKPdf 06 30 21.6 -1.8
CTU **Camp Tracy 130.04 28** *e*PKPdf PKPdf 06 30 21.6 -2.1
DAC **Darwin (Calif) 130.13 37** PFAKE 06 30 30.0 +6.0
DAC LR LR
comp=Z,3μm,22.0s,MS5.9
JLU **Jordanelle 130.25 28** *e*PKPdf PKPdf 06 30 21.9 -2.2
RSSD **Black Hills 130.29 20** *e*PKIKP PKPdf 06 30 21.4 -2.7
RSSD MLR MLR
comp=Z,1μm,20.0s,MS5.6
NLU **North Lily Min 130.46 29** *e*PKPdf PKPdf 06 30 22.6 -1.9
DAU **Daniels Canyon 130.49 28** *e*PKIKP PKPdf 06 30 22.7 -1.9
MPU **Maple Canyon 130.62 29** PKPdf PKPdf 06 30 21.3 -3.5
RWWY **Rawlins 131.22 24** *e*PKPdf PKPdf 06 30 22.9 -3.0
EMMW **East Machias 131.23 345** PFAKE 06 30 30.0 +4.2
EMMW LR LR
comp=Z,29μm,19.0s,MS7.0
TMUT **Trail Mountain 131.39 29** *e*PKPdf PKPdf 06 30 23.4 -2.9
MVU **Marysvale 131.50 30** *e*PKPdf PKPdf 06 30 23.7 -2.8
MVU LR LR
comp=Z,3μm,19.0s,MS5.9
MSU **Marysvale 131.51 30** *e*PKIKP PKPdf 06 30 23.8 -2.8
SRU **San Rafael 131.86 29** *e*PKIKP PKPdf 06 30 24.0 -3.2
WVL **Waterville 131.90 347** PFAKE 06 30 40.0 +13
WVL LR LR
comp=Z,19μm,20.0s,MS6.8
PHWY **Pilot Hill 132.24 23** *e*PKPdf PKPdf 06 30 23.8 -4.0
MSNY **Massena 132.43 352** *e*PKPdf PKPdf 06 30 26.2 -1.9
PFO **Pinyon Flat Ob 132.62 38** PFAKE 06 30 40.0 +11
PFO LR LR
comp=Z,698nm,21.0s,MS5.3
RCBR **Riachuelo 132.62 264** PFAKE 06 30 40.0 +11
RCBR LR LR
comp=Z,2μm,19.0s,MS5.9
BAR **Barrett 133.09 39** *e*PKPdf PKPdf 06 30 27.8 -1.9
PV10 **Paradox Valley 133.15 28** *e*PKPdf PKPdf 06 30 26.4 -3.2
NCB **Newcomb 133.34 351** PKPdf PKPdf 06 30 26.9 -2.9
NCB LR LR
comp=Z,4μm,22.0s,MS6.0
PV01 **Paradox Valley 133.56 28** *e*PKPdf PKPdf 06 30 26.5 -3.9
WUAZ **Wupatki 134.20 32** *e*PKPdf PKPdf 06 30 28.9 -2.7
WUAZ LR LR
comp=Z,4μm,21.0s,MS6.1
HRV **Harvard--Oak R 134.27 348** PFAKE 06 30 40.0 +8.4
HRV LR LR
comp=Z,4μm,19.0s,MS6.1
WES **Weston 134.34 348** PFAKE 06 30 40.0 +8.3
WES LR LR
comp=Z,4μm,19.0s,MS6.2
SDCO **Great Sand Dun 135.25 25** *e*PKPpre 06 30 18.7
SDCO LR LR
comp=Z,6μm,22.0s,MS6.3
AAM **Ann Arbor 135.72 0** PFAKE 06 30 40.0 +5.7
AAM LR LR
comp=Z,10μm,19.0s,MS6.6
ERPA **Erie 135.80 356** PFAKE 06 30 40.0 +5.6
ERPA LR LR
comp=Z,6μm,20.0s,MS6.3
CBKS **Cedar Bluff 136.47 19** PFAKE 06 30 40.0 +4.3
CBKS LR LR
comp=Z,4μm,20.0s,MS6.2
TUC **Tucson 136.91 35** PFAKE 06 30 50.0 +13
TUC LR LR
comp=Z,3μm,22.0s,MS5.9
SSPA **Standing Stone 137.10 354** *e*PKPdf PKPdf 06 30 33.6 -3.2
SSPA LR LR
comp=Z,1μm,20.0s,MS5.5
ANMO **Albuquerque 137.13 28** *e*PKIKP PKPdf 06 30 34.9 -2.1
ANMO MLR MLR
comp=Z,5μm,21.0s
LAZ **Ladron 137.25 30** *e*PKPdf PKPdf 06 30 35.0 -2.3
LENM **Lemitar 137.52 30** *e*PKPdf PKPdf 06 30 35.4 -2.4
MVL **Millersville 137.54 352** *e*PKPdf PKPdf 06 30 35.4 -2.3
LPM **Los Pinos Moun 137.57 29** *e*PKPdf PKPdf 06 30 35.1 -2.8
ACSO **Alum Creek Sta 137.79 360** *e*PKPdf PKPdf 06 30 33.7 -4.5
ACSO LR LR
comp=Z,6μm,19.0s,MS6.4
AMTX **Amarillo 139.28 23** PFAKE 06 30 50.0 +9.0
AMTX LR LR
comp=Z,5μm,21.0s,MS6.2
CCM **Cathedral Cave 139.29 10** *e*PKIKP PKPdf 06 30 35.2 -5.7
CCM MLR MLR
comp=Z,1μm,19.0s,MS5.7
TRQA **Tornquist 139.31 206** *e*PKPpre 06 30 29.5
TRQA LR LR
comp=Z,4μm,19.0s,MS6.1
FVM **French Village 139.49 9** PKHKP 06 30 31.4
WCI **Wyandotte Cave 139.69 4** *e*PKIKP PKPdf 06 30 37.5 -4.1
WCI MLR MLR
comp=Z,1μm,20.0s,MS5.6
LPA **La Plata 139.80 213** *ce*PKP PKPdf 06 30 37.0 -4.9
LPA *e*SKP 06 34 10.0
LPA *e*PKS PKS 06 34 13.0 +1.2
LPA *e*PKS PKS 06 34 24.0 +12
comp=Z,6μm,18.0s
CPRX **Cap Rock 139.93 27** *e*PKPpre 06 30 28.4
PLCA **Paso Flores 139.94 195** *e*PKIKP PKPdf 06 30 33.5 -8.5
PLCA MLR MLR
comp=Z,6μm,20.0s
PLCA **Paso Flores 139.94 195** PKP PKPdf 06 30 36.5 -5.6
comp=Z,3.1nm,0.8s,baz=186,slow=2.8,SNR=8.6
MNTX **Cornudas Mount 140.29 30** *e*PKPpre 06 30 30.7
MNTX LR LR
comp=Z,5μm,20.0s,MS6.3
GDL2 **Guadalupe Moun 140.38 29** *e*PKPpre 06 30 31.8
WMOK **Wichita Mounta 140.49 20** *e*PKHKP 06 30 31.0
WMOK MLR MLR
comp=Z,4μm,20.0s,MS6.2
BLA **Blacksburg 140.72 356** PFAKE 06 30 50.0 +6.4
BLA LR LR
comp=Z,9μm,21.0s,MS6.5
BBSR **BB Station 141.39 334** PFAKE 06 30 50.0 +5.1
BBSR LR LR
comp=Z,3μm,21.0s,MS6.0
TZTN **Tazewell 141.47 0** PKPdf PKPdf 06 30 41.1 -3.8
WVT **Waverly 141.65 6** *e*PKIKP PKPdf 06 30 42.3 -2.9
WVT MLR MLR
comp=Z,8μm,22.0s,MS6.4
MIAR **Mount Ida 142.20 14** *e*PKHKP 06 30 37.6
MIAR MLR MLR
comp=Z,6μm,20.0s,MS6.4
UALR **University of 142.26 12** *e*PKPdf PKPdf 06 30 40.9 -5.4
CPCT **Cooper Cave 142.54 2** *e*PKPdf PKPdf 06 30 43.4 -3.3
SWET **Sewanee 142.71 4** *e*PKPpre 06 30 39.9
PLAL **Pickwick Lake 142.75 7** *e*PKPpre 06 30 41.2
PLAL LR LR
comp=Z,6μm,20.0s,MS6.3
BAO **Brasilia Array 142.76 247** PKPdf PKPdf 06 30 45.0 -2.6
BDFB **Brasilia 142.78 247** PKP PKPdf 06 30 43.7 -4.0
comp=Z,3.7nm,0.8s,baz=54,slow=3.9,SNR=7.3
OXF **Oxford 143.04 8** *e*PKHKP 06 30 39.6
OXF MLR MLR
comp=Z,5μm,21.0s,MS6.3
LTX **Lajitas 143.07 30** *e*PKHKP 06 30 39.6
LTX MLR MLR
comp=Z,5μm,19.0s,MS6.3
TXAR **Lajitas Array 143.07 30** PKP PKPdf 06 30 42.0 -5.9
comp=Z,14nm,0.9s,baz=288,slow=4.0,SNR=37
JSC **Jenkinsville 143.68 357** *e*PKIKP PKPdf 06 30 44.9 -3.8
JCT **Junction City 143.89 25** *e*PKIKP PKPdf 06 30 43.0 -6.2
JCT MLR MLR
comp=Z,5μm,20.0s,MS6.3
CCHI **Chillan 144.22 195** *i*P PKPbc 06 30 51.4 +7.4
COW **Cow Castle Cre 144.54 356** PKP PKPdf 06 30 45.2 -5.1
NATX **Nacogdoches 144.55 17** *e*PKPdf PKPdf 06 30 46.1 -4.2
NATX LR LR
comp=Z,5μm,20.0s,MS6.3
GOGA **Godfrey 144.60 0** *e*PKIKP PKPdf 06 30 46.7 -3.7
GOGA MLR MLR
comp=Z,5μm,22.0s,MS6.2
TWB **Tillmans-White 144.76 355** PKPdf PKPdf 06 30 47.7 -3.0
NHSC **New Hope 144.78 355** *e*PKPdf PKPdf 06 30 47.4 -3.3
NHSC LR LR
comp=Z,6μm,22.0s,MS6.3
LRAL **Lakeview Retre 144.79 5** *e*PKPpre 06 30 44.7
LRAL LR LR
comp=Z,5μm,22.0s,MS6.2
RPN **Rapa Nui 144.81 137** PKP PKPdf 06 30 47.3 -3.6
comp=Z,144nm,1.0s,baz=18,slow=4.2,SNR=4.7
RPN **Rapa Nui 144.81 137** PKP PKPdf 06 30 47.3 -3.6
RPN LR LR
comp=Z,670nm,19.0s,MS5.4
LMEL **Las Melosas 146.21 200** *e*P PKPbc 06 30 52.3 +3.0
FCH **Farellones 146.72 200** *e*P PKPbc 06 30 53.9 +3.4
CLCH **Cerro Calan 146.74 200** *e*P PKPbc 06 30 51.9 +1.4

DSCH Colegio Aleman 146.75 200 *e*P PKPbc 06 30 52.3 +1.8
CFAA Coronel Fontan 147.48 204 PKPbc PKPdf 06 30 53.2 -2.1
comp=Z,10nm,0.9s,baz=156,slow=2.7,SNR=31
CJM Chamela 149.64 44 *i*P PKPdf 06 31 00.2 +1.1
TLL Tololo Astrono 149.76 202 *e*P PKPdf 06 30 59.3 +0.3
DWPF Disney 149.83 357 PFAKE 06 31 10.0 +11
DWPF LR LR
comp=Z,1μm,20.0s,MS5.7
SFJM Santa Fe 150.28 40 *i*P PKPdf 06 30 59.5 -0.6
MOIG Morelia 152.04 38 *i*P PKPdf 06 31 01.8 -0.9
SJG San Juan 153.71 321 PFAKE 06 31 10.0 +4.9
SJG LR LR
comp=Z,6μm,21.0s,MS6.4
PPM Popocatepetl 154.04 35 *e*PKIKP PKPdf 06 31 02.0 -3.5
SIV San Ignacio 154.19 237 PKP PKPdf 06 31 01.7 -4.1
comp=Z,3.0nm,0.9s,baz=120,slow=3.5,SNR=13
SIV PKPbc PKPdf 06 31 09.5 +3.7
comp=Z,7.2nm,0.9s,baz=84,slow=2.0,SNR=12
SIV pPKPbc 06 31 19.9
comp=Z,11nm,0.9s,baz=119,slow=5.3,SNR=11
SIV pPKPab 06 31 33.2
comp=Z,17nm,1.1s,baz=105,slow=5.7,SNR=7.5
CAIG El Cayaco 154.57 41 *i*P PKPdf 06 31 06.5 +0.3
LVC Limon Verde 155.37 213 PKP PKPdf 06 31 04.6 -2.5
comp=Z,4.5nm,0.9s,baz=351,slow=4.1,SNR=4.4
LVC PKPbc PKPdf 06 31 14.8 +7.7
comp=Z,9.0nm,0.7s,baz=96,slow=1.2,SNR=11
LVC pPKPbc 06 31 22.1
comp=Z,17nm,0.8s,baz=359,slow=0.2,SNR=8.9
LVC PKPab PKPab 06 31 28.2 -1.9
comp=Z,11nm,0.7s,baz=346,slow=1.7,SNR=7.9
LVC pPKPab 06 31 35.7
comp=Z,18nm,0.8s,baz=279,slow=0.6,SNR=4.3
LVC Limon Verde 155.37 213 *e*PKPdf PKPdf 06 31 05.6 -1.6
LVC LR LR
comp=Z,3μm,19.0s,MS6.2
TEIG Tepich 157.19 12 *e*PKPab PKPab 06 31 36.9 -1.1
TEIG LR LR
comp=Z,2μm,22.0s,MS6.0
SAML Samuel 158.92 251 *e*PKPdf PKPdf 06 31 06.5 -5.5
SAML LR LR
comp=Z,5μm,20.0s,MS6.4
LPAZ La Paz 159.54 226 PKIKP PKPdf 06 31 09.2 -3.4
LPAZ 06 31 48.2
LPAZ pmax pmax
comp=Z,4.0nm,1.0s
LPAZ pmax pmax
comp=Z,12nm,1.1s
LPAZ La Paz 159.54 226 PKP PKPdf 06 31 09.2 -3.4
comp=Z,4.1nm,1.0s,baz=106,slow=2.8,SNR=7.7
LPAZ PKPab PKPab 06 31 48.2 0.0
comp=Z,12nm,1.1s,baz=104,slow=4.2,SNR=4.2
LPAZ La Paz 159.54 226 *e*PKPdf PKPdf 06 31 08.5 -4.1
LPAZ LR LR
comp=Z,4μm,20.0s,MS6.3
ARE Arequipa 161.68 219 P PKPdf 06 31 21.0 +6.2
SDV Santo Domingo 163.28 311 *e*PKPdf PKPdf 06 31 11.3 -5.2
SDV PKPab PKPab 06 32 04.7 +0.2
SDV LR LR
comp=Z,6μm,21.0s
JTS JuntasAbangare 167.49 8 PFAKE 06 31 30.0 +10
JTS LR LR
comp=Z,805nm,19.0s
NNA Nana 168.36 213 PFAKE 06 31 30.0 +9.4
NNA LR LR
comp=Z,1μm,19.0s
ROSC El Rosal 168.66 308 PKP PKPdf 06 31 16.7 -4.2
comp=Z,5.8nm,0.9s,baz=42,slow=7.9,SNR=6.6
PAYG Puerto Ayora 172.83 78 PFAKE 06 31 30.0 +6.7
PAYG LR LR
comp=Z,4μm,20.0s
OTAV Otavalo 174.62 296 *e*PKPdf PKPdf 06 31 19.9 -4.0
OTAV LR LR
comp=Z,7μm,22.0s

IDC ***11*** *06:30:56.7±2.5, 0.22S×97.20E, mb3.9/6, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, ML4.4/1, Error ellipse: s-maj=105.1km s-min=19.1km az=103.8*
NEIC ***11*** *06:31:00.7±0.9, 0.24S×97.12E, h30km, mb3.8/1, Error ellipse: s-maj=25.7km s-min=9.6km az=70.0*
ISC 11 06:30:59.3±1.3, 0.2S±0.1×97.1E±0.2, h33km, n11, σ0§63/10, mb3.9/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.47**	**33**	*e*P	**P**	**06 32 35.5**	**+0.8**
CM31	**Chiang Mai Arr**	**18.61**	**5**	P	**P**	**06 35 15.1**	**-1.4**
5.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**18.61**	**5**	P	**P**	**06 35 15.8**	**-0.6**
0.5nm,0.3s,baz=197,slow=11,SNR=11							
WRA	**Warramunga Arr**	**41.37**	**121**	P	**P**	**06 38 44.0**	**-0.2**
0.5nm,0.6s,mb3.3,baz=306,slow=8.2,SNR=5.1							
WRAB	**Tennant Creek**	**41.38**	**121**	P	**P**	**06 38 44.4**	**+0.1**
ASAR	**Alice Springs**	**42.63**	**126**	P	**P**	**06 38 54.6**	**0.0**
1.3nm,0.6s,mb3.9,baz=299,slow=7.8,SNR=16							
SONM	**Songino Array**	**48.50**	**8**	P	**P**	**06 39 41.6**	**+0.6**
0.3nm,0.8s,mb3.4,baz=180,slow=2.9,SNR=3.7							
MKAR	**Makanchi Array**	**48.56**	**346**	P	**P**	**06 39 42.2**	**+0.7**
2.6nm,0.5s,mb4.5,baz=158,slow=8.5,SNR=27							
STKA	**Stephens Creek**	**52.49**	**131**	P	**P**	**06 40 11.2**	**-0.3**
1.0nm,0.6s,mb3.9,baz=315,slow=8.6,SNR=3.2							
ZAL	**Zalesovo**	**54.90**	**351**	P	**P**	**06 40 29.2**	**+0.2**
1.1nm,0.5s,mb4.2,baz=324,slow=12,SNR=4.5							
TXAR	**Lajitas Array**	**144.87**	**33**	PKP	PKPdf	06 50 35.5	+1.8
0.5nm,0.8s,baz=210,slow=0.5,SNR=6.2							

MOS ***11*** *06:34:50.1±0.8, 35.54N×140.06E, h33km, mb4.8/11, Error ellipse: s-maj=12.7km s-min=8.1km az=103.8*
BJI ***11*** *06:34:54.0, 35.42N×140.30E, h90km, mB5.7, mb4.7*
JMA ***11*** *06:34:54.4±0.2, 35.57N×140.18E, h73km±2km, M4.4 Broadband fault plane solution: P waves. NP1:φs181°, δ36°, λ45°. NP2:φs52°, δ65°, λ118°. Principal axes: T Plg60°, Azm3°; N Plg25°, Azm220°; P Plg16°, Azm122°;*
JMA Felt III J1.
IDC ***11*** *06:34:55.8±1.2, 35.53N×140.11E, h66km±11km, mb4.0/25, mb1 4.1/26, mb1mx4.1/31, mbtmp4.3/26 Error ellipse: s-maj=14.3km s-min=6.2km az=69.0*
NEIC ***11*** *06:34:55.6±0.3, 35.54N×140.08E, mb4.5/15, Error ellipse: s-maj=7.0km s-min=5.6km az=203.0*
NEIC Felt at Hamura, Musashi-murayama, Narita, Tokyo, Yokosuka and Zama. Recorded [3 JMA] in Kanagawa and Tokyo; [2 JMA] in Chiba, Ibaraki, Saitama, Shizuoka, Tochigi and Yamanashi; [1 JMA] in Fukushima, Gumma and Nagano Prefectures. Also recorded [1 JMA] on O-shima.
ISC 11 06:34:54.9±0.3, 35.51N±0.03×140.11E±0.04, h74km±2km, h63km±.9km: pP-P, n100, σ0§91/115, mb4.3/48, 4C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.12**	**139**	⇑P	**P**	**06 35 05.6**	**-0.1**
JCN				S	**S**	**06 35 14.2**	**+0.6**
TOK	**Tokyo**	**0.34**	**302**	P	**P**	**06 35 06.8**	**0.0**
TOK				S	**S**	**06 35 15.9**	**+0.2**
KTR	**Katsuura**	**0.40**	**154**	⇑P	**P**	**06 35 07.1**	**-0.1**
KTR				S	**S**	**06 35 16.4**	**-0.1**
BSO3	**Boso 3**	**0.78**	**155**	⇓P	**P**	**06 35 10.8**	**-0.4**
JOD2	**Odawara 2**	**0.87**	**254**	⇓P	**P**	**06 35 12.3**	**+0.2**
JOD2				S	**S**	**06 35 24.8**	**-0.2**
JIM2	**Oshima 3**	**0.96**	**215**	⇑P	**P**	**06 35 13.1**	**-0.2**
JIM2				S	**S**	**06 35 27.1**	**-0.1**
JAG	**Ashikaga**	**1.06**	**330**	⇓P	**P**	**06 35 13.8**	**-0.7**
JRY	**Ryogami san**	**1.10**	**298**	⇓P	**P**	**06 35 15.5**	**+0.4**
JRY				S	**S**	**06 35 31.3**	**+1.1**
BSO1	**Boso 1**	**1.11**	**140**	⇓P	**P**	**06 35 13.8**	**-1.4**
JYN	**Shimob**	**1.27**	**270**	⇓P	**P**	**06 35 17.7**	**+0.3**
JYN				S	**S**	**06 35 34.5**	**+0.3**
JIZS	**Izushimoda**	**1.28**	**232**	⇑P	**P**	**06 35 17.8**	**+0.3**
JIZS				S	**S**	**06 35 34.3**	**0.0**
JKT	**Katashina**	**1.44**	**331**	⇓P	**P**	**06 35 18.8**	**-0.8**
MJAR	**Matsushiro Arr**	**1.85**	**304**	P	**P**	**06 35 25.5**	**+0.3**
119nm,0.3s,baz=140,slow=15,SNR=550							
MJAR				S	**S**	**06 35 47.2**	**-0.3**
148nm,0.3s,baz=150,slow=16,SNR=9.8							
MAJO	**Matsushiro**	**1.85**	**304**	⇓*i*P	**P**	**06 35 25.6**	**+0.4**
MAT	**Matsushiro**	**1.85**	**304**	*e*P	**P**	**06 35 25.0**	**-0.2**
MAT				*e*S	**S**	**06 35 49.0**	**+1.4**
MAT	**Matsushiro**	**1.85**	**304**	P	**P**	**06 35 25.3**	**+0.1**
MAT				S	**S**	**06 35 49.3**	**+1.7**
JHJ	**Hachijo jima 2**	**2.40**	**186**	P	**P**	**06 35 32.8**	**-0.1**
368nm,0.3s,baz=250,slow=15,SNR=17							
JHJ				S	**S**	**06 36 01.8**	**+0.7**
475nm,0.3s,baz=82,slow=21,SNR=11							
CBIJ	**Chichi jima**	**8.57**	**167**	P	**P**	**06 36 54.1**	**-4.2**
61nm,0.3s,baz=188,slow=19,SNR=41							
CBIJ				S	**S**	**06 38 25.2**	**-9.1**
14nm,0.3s,baz=233,slow=20,SNR=3.6							
ASAJ	**Asahikawa**	**8.81**	**12**	P	**P**	**06 36 56.0**	**-5.6**
ASAJ				S	**S**	**06 38 31.6**	**-8.6**
ASAJ				pmax	pmax		
comp=Z,4.0nm,0.3s							
ASAJ	**Asahikawa**	**8.81**	**12**	P	**P**	**06 36 56.0**	**-5.6**
comp=Z,3.7nm,0.3s,baz=232,slow=8.4,SNR=12							
ASAJ				S	**S**	**06 38 31.6**	**-8.6**
comp=Z,3.1nm,0.3s,baz=50,slow=18,SNR=2.9							
YUK	**Yuzh-Kuril'sk**	**9.60**	**26**	P	**P**	**06 37 09.5**	**-2.8**
KS15	**Wonju Array Si**	**10.03**	**285**	P	**P**	**06 37 19.0**	**+0.8**
MDJ	**Mudanjiang**	**12.14**	**322**	P	**P**	**06 37 49.8**	**+3.3**
MDJ				AMB	AMB		
comp=Z,37nm,1.1s							
MDJ	**Mudanjiang**	**12.14**	**322**	*e*P	**P**	**06 37 46.4**	**-0.1**
comp=Z,40nm,1.0s							
CN2	**Changchun**	**13.99**	**311**	*e*P	**P**	**06 38 14.3**	**+3.6**
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s							
BJT	**Baijiatuau**	**19.43**	**291**	*e*P	**P**	**06 39 15.5**	**-2.3**
BJT				pmax	pmax		
comp=Z,15nm,1.0s							
BJT	**Baijiatuau**	**19.43**	**291**	*e*P	**P**	**06 39 15.5**	**-2.3**
comp=Z,15nm,1.0s							
HIA	**Hailar**	**20.29**	**319**	*e*P	**P**	**06 39 23.6**	**-3.2**
HIA				pmax	pmax		
comp=Z,4.0nm,0.6s							
HIA	**Hailar**	**20.29**	**319**	*e*P	**P**	**06 39 23.6**	**-3.2**
comp=Z,3.5nm,0.6s							
CLNS	**Chul'man**	**23.69**	**339**	*e*P	**P**	**06 39 56.2**	**-4.0**
CLNS				pmax	pmax		
comp=Z,17nm,0.7s,mb4.5							
CLNS				pmax	pmax		
comp=N,13nm,0.9s							
CLNS				pmax	pmax		
comp=E,8.0nm,0.9s							
MA2	**Magadan**	**25.07**	**13**	*e*P	**P**	**06 40 13.8**	**+0.2**
MA2				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.1							
ENH	**Enshi**	**26.18**	**267**	*e*P	**P**	**06 40 23.2**	**-0.9**
comp=Z,13nm,0.6s,mb4.5							
ULN	**Ulaanbaatar**	**27.38**	**307**	*e*P	**P**	**06 40 33.8**	**-1.3**
ULN				pmax	pmax		
comp=Z,913nm,4.0s							
ULN	**Ulaanbaatar**	**27.38**	**307**	*e*P	**P**	**06 40 33.8**	**-1.3**
comp=Z,913nm,4.0s							
SONM	**Songino Array**	**27.80**	**307**	P	**P**	**06 40 37.7**	**-1.2**
comp=Z,2.8nm,0.6s,mb4.0,baz=108,slow=8.8,SNR=17							
BOD	**Bodaibo**	**28.29**	**330**	*e*P	**P**	**06 40 33.2**	**-10**
BOD				*e*		06 40 41.6	
BOD				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.3							
GYA	**Guiyang**	**29.94**	**262**	P	**P**	**06 40 57.3**	**-0.9**
GYA				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.6							
ZAK	**Zakamensk**	**30.42**	**311**	*e*P	**P**	**06 41 00.3**	**-1.9**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.8s,mb3.5							
WMQ	**Urumqi**	**40.61**	**298**	⇓P	**P**	**06 42 29.8**	**+1.1**
WMQ				AP	pP	06 42 45.3	-1.6
WMQ				PP	PP	06 44 07.8	+1.2
WMQ				PCP	PcP	06 44 31.8	+1.6
WMQ				S	**S**	**06 48 34.8**	**+2.2**
WMQ				AMB	AMB		
comp=Z,19nm,0.5s,mb5.2							
WMQ				LR	LR		
comp=N,708nm,20.0s							
WMQ				LR	LR		
comp=E,244nm,21.4s							
WMQ				LR	LR		
comp=Z,224nm,19.2s							
ZAL	**Zalesovo**	**42.19**	**314**	P	**P**	**06 42 41.8**	**+0.2**
comp=Z,3.1nm,0.3s,mb4.5,baz=10,slow=7.5,SNR=17							
NVS	**Novosibirsk**	**43.15**	**315**	*e*P	**P**	**06 42 48.3**	**-1.1**
NVS				pmax	pmax		
comp=Z,12nm,1.2s,mb4.5							
MKAR	**Makanchi Array**	**44.05**	**303**	P	**P**	**06 42 57.1**	**+0.3**
comp=Z,5.8nm,0.6s,mb4.5,baz=89,slow=9.7,SNR=47							
JIRN	**Jiri**	**46.11**	**276**	*e*P	**P**	**06 43 14.2**	**+0.7**
comp=Z,22nm,0.6s,mb5.0							
GUN	**Gumba**	**46.27**	**276**	*e*P	**P**	**06 43 15.1**	**+0.4**
comp=Z,15nm,0.4s,mb5.0							
PKI	**Pulchoki**	**46.78**	**276**	*e*P	**P**	**06 43 18.4**	**-0.4**
comp=Z,16nm,0.7s,mb4.8							
PKI	**Pulchoki**	**46.78**	**276**	*e*P	**P**	**06 43 18.4**	**-0.4**
PKI				pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.6							
KKN	**Kakani**	**46.80**	**277**	*e*P	**P**	**06 43 18.9**	**0.0**
comp=Z,19nm,0.8s,mb4.9							
KKN	**Kakani**	**46.80**	**277**	*e*P	**P**	**06 43 18.9**	**0.0**
KKN				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.6							
DMN	**Daman**	**47.01**	**276**	*e*P	**P**	**06 43 20.6**	**0.0**
comp=Z,13nm,0.7s,mb4.8							
GKN	**Gorkha**	**47.23**	**277**	*e*P	**P**	**06 43 22.3**	**0.0**
comp=Z,35nm,0.8s,mb5.1							
CHKZ	**Chkalovo**	**50.59**	**314**	P	**P**	**06 43 46.8**	**-1.1**
CHKZ				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
BVA0	**Borovoye Array**	**50.83**	**313**	*i*P	**P**	**06 43 51.0**	**+1.3**
BVAR	**Borovoye Array**	**50.83**	**313**	P	**P**	**06 43 48.9**	**-0.8**
comp=Z,2.4nm,0.5s,mb4.5,baz=94,slow=7.6,SNR=12							
ILAR	**Eielson Array**	**51.35**	**32**	P	**P**	**06 43 52.8**	**-0.7**
comp=Z,2.4nm,0.7s,mb4.3,baz=267,slow=6.0,SNR=27							
KKAR	**Karatay Array**	**52.98**	**301**	P	**P**	**06 44 05.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**55.05**	**197**	P	**P**	**06 44 20.9**	**-0.5**
comp=Z,4.8nm,0.6s,mb4.7,baz=30,slow=7.7,SNR=7.6							
WRAB	**Tennant Creek**	**55.40**	**187**	*e*P	**P**	**06 44 23.4**	**-0.6**
WRAB				pmax	pmax		
comp=Z,7.0nm,0.6s,mb4.9							
WRAB	**Tennant Creek**	**55.40**	**187**	*e*P	**P**	**06 44 23.4**	**-0.6**
comp=Z,7.1nm,0.6s,mb4.9							
WRA	**Warramunga Arr**	**55.41**	**187**	P	**P**	**06 44 22.7**	**-1.3**
comp=Z,2.3nm,0.4s,mb4.6,baz=2.4,slow=7.5,SNR=29							
INK	**Inuvik**	**56.22**	**27**	*e*P	**P**	**06 44 28.7**	**-0.5**
INK				pmax	pmax		
comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**56.22**	**27**	P	**P**	**06 44 28.6**	**-0.6**
comp=Z,1.4nm,0.6s,mb4.1,baz=289,slow=7.9,SNR=9.9							
INK	**Inuvik**	**56.22**	**27**	*e*P	**P**	**06 44 28.7**	**-0.5**
comp=Z,1.2nm,0.5s,mb4.2							
ARU	**Arti**	**56.81**	**319**	*e*P	**P**	**06 44 32.6**	**-0.9**
HYB	**Hyderabad**	**57.11**	**269**	*e*P	**P**	**06 44 35.0**	**-1.2**
HYB	**Hyderabad**	**57.11**	**269**	*i*P	**P**	**06 44 35.0**	**-1.2**
ASAR	**Alice Springs**	**59.14**	**187**	P	**P**	**06 44 50.5**	**+0.3**
comp=Z,1.5nm,0.5s,mb4.2,baz=17,slow=13,SNR=19							
RES	**Resolute Bay**	**64.34**	**14**	*e*P	**P**	**06 45 23.4**	**-0.9**
RES				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.1							
RES	**Resolute Bay**	**64.34**	**14**	*e*P	**P**	**06 45 23.4**	**-0.8**
comp=Z,1.6nm,0.7s,mb4.0							
ARCES	**ARCESS Array B**	**65.05**	**339**	P	**P**	**06 45 28.6**	**-0.3**
comp=Z,2.8nm,0.7s,mb4.2,baz=46,slow=7.0,SNR=10							
YKA	**Yellowknife Ar**	**65.66**	**29**	P	**P**	**06 45 32.2**	**-0.8**
comp=Z,0.6nm,0.6s,mb3.6,baz=304,slow=7.2,SNR=18							
YKA	**Yellowknife Ar**	**65.66**	**29**	P	**P**	**06 45 32.2**	**-0.8**
JOF	**Joensuu**	**66.81**	**332**	*e*p	**P**	**06 45 38.7**	**-1.5**
comp=Z,2.0nm,0.3s,mb4.4							
STKA	**Stephens Creek**	**67.04**	**179**	P	**P**	**06 45 43.2**	**+0.9**
comp=Z,1.1nm,0.6s,mb3.9,baz=342,slow=9.4,SNR=4.8							
KAF	**Kangasniemi**	**69.18**	**333**	*e*p	**P**	**06 45 48.6**	**-6.4**
comp=Z,7.5nm,1.0s,mb4.5							
KAF	**Kangasniemi**	**69.18**	**333**	*e*P	**P**	**06 45 48.6**	**-6.4**
KAF				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.5							
FINES	**FINESS Array B**	**69.67**	**332**	P	**P**	**06 45 57.6**	**-0.4**
comp=Z,1.8nm,0.5s,mb4.1,baz=72,slow=6.0,SNR=12							
KIV	**Kislovodsk**	**71.11**	**311**	*e*P	**P**	**06 46 07.8**	**+0.8**
KIV				pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.7							
NWAO	**Narrogin (SRO)**	**71.37**	**200**	P	**P**	**06 46 09.2**	**+0.4**
comp=Z,3.7nm,0.2s,mb4.8,baz=30,slow=6.1,SNR=6.2							
NEW	**Newport**	**71.96**	**43**	P	**P**	**06 46 11.7**	**-0.3**
comp=Z,1.0nm,0.4s,mb4.0,baz=291,slow=8.6,SNR=3.5							
YBH	**Yreka Blue Hor**	**72.12**	**51**	P	**P**	**06 46 13.0**	**-0.1**
comp=Z,1.7nm,0.8s,mb3.9,baz=254,slow=7.4,SNR=3.2							
AKASG	**Malin Array Be**	**74.85**	**322**	P	**P**	**06 46 28.6**	**-0.1**
comp=Z,2.2nm,0.5s,mb4.2,baz=47,slow=5.8,SNR=27							
HFS	**Hagfors**	**75.04**	**335**	P	**P**	**06 46 29.8**	**+0.2**
comp=Z,1.0nm,0.4s,mb3.9,baz=63,slow=3.3,SNR=5.1							
NB2	**NORSAR Subarra**	**75.18**	**337**	P	**P**	**06 46 30.3**	**-0.1**
comp=Z,1.9nm,0.8s,mb3.9,baz=42,slow=5.6							
NOA	**NORSAR Array B**	**75.18**	**337**	P	**P**	**06 46 30.7**	**+0.3**
comp=Z,1.0nm,0.4s,mb3.9,baz=41,slow=5.8,SNR=4.8							
NOA	**NORSAR Array B**	**75.18**	**337**	P	**P**	**06 46 30.7**	**+0.3**
HRY	**Holter Researc**	**75.79**	**42**	*e*P	**P**	**06 46 35.1**	**+1.0**
HLID	**Hailey**	**76.19**	**46**	*e*P	**P**	**06 46 37.9**	**+1.4**
comp=Z,1.2nm,1.0s,mb3.6							
BOZ	**Bozeman (W)**	**76.54**	**43**	*e*P	**P**	**06 46 39.3**	**+0.8**
BOZ				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.2							
BOZ	**Bozeman (W)**	**76.54**	**43**	*e*P	**P**	**06 46 39.3**	**+0.9**
comp=Z,3.6nm,0.9s,mb4.1							
NVAR	**Mina Array Bea**	**76.75**	**52**	P	**P**	**06 46 41.3**	**+1.5**
comp=Z,1.7nm,0.8s,mb3.9,baz=283,slow=6.2,SNR=14							
BRTR	**Keskin Array B**	**79.06**	**311**	P	**P**	**06 46 53.5**	**+1.0**
comp=Z,1.1nm,0.7s,mb3.8,baz=63,slow=5.5,SNR=5.7							
BW06	**Boulder Array**	**79.49**	**45**	*e*P	**P**	**06 46 55.5**	**+0.8**
comp=Z,1.5nm,0.6s,mb4.0							
PDAR	**Pinedale Array**	**79.49**	**45**	P	**P**	**06 46 55.5**	**+0.8**
comp=Z,1.3nm,0.6s,mb4.0,baz=293,slow=1.3,SNR=14							
SRU	**San Rafael**	**81.22**	**48**	*e*P	**P**	**06 47 05.2**	**+1.2**
SRU				*e**PP	pP	06 47 22.6	-1.6
PV10	**Paradox Valley**	**82.58**	**48**	*e*P	**P**	**06 47 13.1**	**+2.0**
PV10				*e*pP	pP	06 47 31.0	-0.2
PV01	**Paradox Valley**	**83.02**	**48**	*e*P	**P**	**06 47 14.6**	**+1.3**
GERES	**GERESS Array B**	**83.44**	**328**	P	**P**	**06 47 15.7**	**+0.5**
comp=Z,0.2nm,0.3s,mb3.5,baz=45,slow=6.9,SNR=3.3							
EIL	**Elat**	**84.31**	**302**	P	**P**	**06 47 20.5**	**+0.5**
comp=Z,2.8nm,0.7s,mb4.2,baz=40,slow=9.6,SNR=4.2							
TXAR	**Lajitas Array**	**91.89**	**52**	P	**P**	**06 47 57.6**	**+1.3**
comp=Z,0.2nm,0.5s,mb3.6,baz=318,slow=2.3,SNR=5.8							
LPAZ	**La Paz**	**148.37**	**60**	PKPbc	PKPdf	06 54 35.3	+5.8
comp=Z,0.3nm,0.4s,baz=7.6,slow=0.5,SNR=4.8							

CASC 11 06:39:20.4±1.7, 14.33N×90.61W, h110km±9km, MD3.7, ML3.1, 4C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.21**	**136**	⇓*e*P	P	06 39 36.0	0.0
IXG				*e*S	S	06 39 48.2	+0.4
IXG				AML	AML	06 39 53.8	
comp=N,1μm,0.4s							
RBDL	**Robledal**	**0.92**	**103**	⇑*e*P	P	06 39 41.9	+0.8
RBDL				*e*S	S	06 39 58.0	+1.4
JAT	**Jato**	**1.00**	**270**	⇑*i*P	P	06 39 42.1	+0.2
JAT				*e*S	S	06 39 58.5	+0.5
JAT				AML	AML	06 39 60.0	
comp=E,363nm,0.4s							
RTR	**El Retiro**	**1.02**	**115**	⇑*e*P	P	06 39 42.6	+0.4
SBLS	**San Blas**	**1.07**	**117**	⇓*e*P	P	06 39 42.9	+0.2
SBLS				*e*S	S	06 40 02.4	+3.0
SNJE	**San Jose**	**1.07**	**115**	⇓*e*P	P	06 39 42.7	0.0
SNJE				*e*S	S	06 40 00.1	+0.6
BOQS	**Boqueron**	**1.42**	**114**	⇓*e*P	P	06 39 46.5	-0.2
LFRS	**El Faro**	**1.65**	**115**	⇑*e*P	P	06 39 49.4	-0.1
LFRS				*e*S	S	06 40 11.6	+0.2
SNVI	**San Vicente**	**1.86**	**112**	*e*P	P	06 39 51.8	-0.3
SNVI				*e*S	S	06 40 17.4	+1.6

IDC 11 06:55:51.5±7.5, 6.03N×92.79E, h44km±73km, mb3.8/6, mb1 4.0/7, mb1mx3.6/22, mbtmp4.0/7, ML4.5/1, Error ellipse: s-maj=50.2km s-min=20.8km az=55.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.73**	**25**	P	P	06 59 03.9	-1.9
0.7nm,0.3s,baz=228,slow=15,SNR=3.9							
FITZ	**Fitzroy Crossi**	**40.32**	**127**	P	P	07 03 23.9	-2.6
7.5nm,1.0s,baz=68,slow=9.1,SNR=3.5							
MKAR	**Makanchi Array**	**41.61**	**349**	P	P	07 03 34.6	-2.3
0.4nm,0.8s,baz=166,slow=7.7,SNR=5.5							
ZAL	**Zalesovo**	**48.20**	**354**	P	P	07 04 27.7	-1.8
1.3nm,0.4s,baz=306,slow=5.3,SNR=5.3							
WRA	**Warramunga Arr**	**48.33**	**123**	P	P	07 04 29.0	-2.0
1.3nm,0.9s,baz=307,slow=9.5,SNR=6.0							
ASAR	**Alice Springs**	**49.81**	**128**	P	P	07 04 40.7	-1.7
1.1nm,0.7s,baz=303,slow=7.3,SNR=11							
BOSA	**Boshof**	**73.48**	**238**	P	P	07 07 20.1	-1.6
8.0nm,1.2s,baz=53,slow=5.1,SNR=3.1							

IDC 11 07:05:25.1±5.1, 1.06S×100.85E, mb3.7/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=252.3km s-min=29.6km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.75**	**122**	P	P	07 12 43.0	-1.7
0.4nm,0.5s,baz=299,slow=8.5,SNR=5.4							
MKAR	**Makanchi Array**	**50.37**	**344**	P	P	07 14 23.7	-2.3
0.5nm,0.5s,baz=149,slow=8.4,SNR=7.9							
ZAL	**Zalesovo**	**56.41**	**349**	P	P	07 15 08.8	-1.9
0.7nm,0.5s,baz=333,slow=5.9,SNR=3.6							
TXAR	**Lajitas Array**	**143.45**	**37**	PKP	PKPdf	07 25 00.6	-3.5
0.3nm,0.6s,baz=276,slow=0.9,SNR=6.0				

0.1nm,0.3s,baz=185,slow=11,SNR=16
CMAR Chiang Mai Arr 17.98 128 P P 07 27 10.6 -0.2
0.2nm,0.3s,baz=324,slow=17,SNR=3.3
ZAL Zalesovo 23.54 1 P P 07 28 09.5 -0.1
1.0nm,0.3s,mb3.8,baz=341,slow=13,SNR=4.5
SONM Songino Array 24.42 38 P P 07 28 20.3 +2.0
0.1nm,0.3s,mb2.8,baz=238,slow=14,SNR=2.2
BVAR Borovoye Array 24.74 340 P P 07 28 19.1 -2.2
0.3nm,0.4s,mb3.2,baz=121,slow=8.4,SNR=2.6
YKA Yellowknife Ar 86.24 9 P P 07 35 38.5 -2.0
0.3nm,0.6s,mb3.7,baz=338,slow=5.4,SNR=8.7

*ISK **11** 07:40:36.7, 39.60N×27.83E, h15km, MD3.4*
*NEIC **11** 07:40:36.9, 39.62N×27.83E, h15km, MD3.5(ATH), ML3.4(ISK), After ISK.*
*CSEM **11** 07:40:36.6±0.1, 39.60N×27.83E, h15km, MD3.5, Error ellipse: s-maj=1.2km s-min=1.1km az=78.0*
*ATH **11** 07:40:38.5, 39.70N×27.70E, h17km, MD3.5/3*
ISC 11 07:40:37.2±0.3, 39.61N±0.02×27.84E±0.02, h15km, n78, σ0°88/96, 6C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	Balikesir	0.04	44	*i* PG	Pg	07 40 39.8	-0.3
BALB				*i* SG	Sg	07 40 41.6	-0.3
BALB	Balikesir	0.04	44	Pg	Pg	07 40 39.8	-0.2
BALB				Sg	Sg	07 40 41.8	-0.1
BALB	Balikesir	0.04	44	*i* Pg	Pg	07 40 39.8	-0.3
BALB				Sg	Sg	07 40 41.8	-0.1
BTOK	Tokmak	0.21	44	*i* P	Pb	07 40 42.0	-0.2
BTOK				*i* S	Sb	07 40 46.1	+0.6
DST	Dursunbey	0.61	90	*i* PG	Pg	07 40 49.2	-0.5
DST				*i* SG	Sg	07 40 58.1	+0.2
DST	Dursunbey	0.61	90	Pg	Pg	07 40 49.4	-0.3
DST				Sg	Sg	07 40 58.4	+0.5
CANB	Canakkale	0.72	304	*i* PG	Pg	07 40 50.9	-1.1
CANB	Canakkale	0.72	304	Pg	Pg	07 40 51.0	-1.0
CANB				Sg	Sg	07 41 02.0	+0.2
CANB	Canakkale	0.72	304	Pg	Pg	07 40 51.0	-1.0
CANB				Sg	Sg	07 41 02.0	+0.2
EDC	Edincik	0.74	1	*i* PG	Pg	07 40 51.8	-0.4
EDC	Edincik	0.74	1	Pg	Pg	07 40 51.8	-0.3
BNT	Bandirma	0.75	5	Pg	Pg	07 40 51.9	-0.5
BNT				Sg	Sg	07 41 01.9	-0.6
BNT	Bandirma	0.75	5	*i* Pg	Pg	07 40 51.9	-0.5
BNT				Sg	Sg	07 41 01.9	-0.6
KCT	Karacabey	0.77	31	*i* PG	Pg	07 40 52.2	-0.6
KCT	Karacabey	0.77	31	Pg	Pg	07 40 52.3	-0.5
ORLT	Orhaneli	0.92	61	*i* PG	Pg	07 40 55.6	-0.2
ORLT	Orhaneli	0.92	61	Pg	Pg	07 40 55.6	-0.2
AYVA	Ayvalik	0.94	252	*i* P	Pb	07 40 54.6	-0.2
AYVA				*i* S	Sb	07 41 07.0	+0.2
ULDT	Uludag	1.13	61	*i* P	Pb	07 40 59.0	+1.1
ULDT				*i* S	Sb	07 41 14.6	+2.4
EZN	Ezine	1.19	281	PN	Pn	07 40 59.2	-0.2
EZN	Ezine	1.19	281	Pn	Pn	07 40 59.0	-0.3
SART	Tekirdag	1.19	335	*i* P	Pb	07 41 00.2	+1.2
SART				*i* S	Sb	07 41 15.5	+1.5
MANT	Manisa	1.25	153	*i* P	Pb	07 41 00.7	+0.6
MANT				*i* S	Sb	07 41 16.6	+0.9
PRK	Paraskevi	1.27	254	*e*PN	Pn	07 41 01.1	+0.6
KDAG	Bornova	1.29	201	*i* P	Pb	07 41 00.1	-0.6
KDAG				*i* S	Sb	07 41 17.4	+0.6
IZM	Izmir	1.29	201	PN	Pn	07 41 00.9	+0.1
IZM	Izmir	1.29	201	Pn	Pn	07 41 01.0	+0.2
BLCB	Balcova	1.37	207	PN	Pn	07 41 02.1	+0.1
BLCB	Balcova	1.37	207	Pn	Pn	07 41 02.9	+0.9
BOZC	Bozcaada	1.40	280	*i* P	Pn	07 41 02.1	-0.2
BOZC				*i* S	Sb	07 41 21.2	+1.1
IZI	Iznik	1.45	59	PN	Pn	07 41 03.1	0.0
IZI	Iznik	1.45	59	Pn	Pn	07 41 03.8	+0.7
BADT	Buyukada	1.58	38	PN	Pn	07 41 05.0	+0.1
BADT	Buyukada	1.58	38	Pn	Pn	07 41 04.5	-0.4
CTT	Catalca	1.60	16	PN	Pn	07 41 05.2	0.0
CTT	Catalca	1.60	16	Pn	Pn	07 41 05.4	+0.2
CTT	Catalca	1.60	16	Pn	Pn	07 41 05.4	+0.2
ISK	Istanbul-Kandi	1.73	32	PN	Pn	07 41 07.0	0.0
KHL	Karahalli	1.83	134	*e*PN	Pn	07 41 08.5	-0.1
KHL	Karahalli	1.83	134	Pn	Pn	07 41 08.6	0.0
KHL	Karahalli	1.83	134	Pn	Pn	07 41 08.6	0.0
ALT	Altintas	1.84	107	*e*PN	Pn	07 41 09.2	+0.5
ALT	Altintas	1.84	107	Pn	Pn	07 41 09.5	+0.8
HRT	Hereke	1.85	49	PN	Pn	07 41 08.7	-0.1
HRT	Hereke	1.85	49	Pn	Pn	07 41 08.6	-0.2
GPA	Golpazari	2.01	70	*e*PN	Pn	07 41 11.3	+0.1
SMG	Samos	2.06	203	*e*PN	Pg	07 41 15.1	-3.3
SMG				*e*SN	Sg	07 41 41.9	-3.9
DENT	Denizli	2.07	153	*e*PN	Pn	07 41 11.7	-0.3
DENT	Denizli	2.07	153	Pn	Pn	07 41 11.8	-0.3
DENT	Denizli	2.07	153	Pn	Pn	07 41 11.8	-0.2
ESKT	Eskisehir	2.33	91	*e*PN	Pn	07 41 15.8	+0.2
ESKT	Eskisehir	2.33	91	Pn	Pn	07 41 15.8	+0.2
ESKT	Eskisehir	2.33	91	Pn	Pn	07 41 15.9	+0.3
RDO	Rodhopi	2.33	312	*e*PN	Pn	07 41 16.5	+0.7
EDRB	Edirne	2.38	340	*e*PN	Pn	07 41 16.7	+0.2
EDRB	Edirne	2.38	340	Pn	Pn	07 41 16.8	+0.3
BODT	Bodrum	2.58	190	*e*PN	Pn	07 41 18.5	-0.7
BODT	Bodrum	2.58	190	Pn	Pn	07 41 18.6	-0.7
BODT	Bodrum	2.58	190	Pn	Pn	07 41 18.6	-0.6
HENT	Hendek	2.63	62	*i* P	Pg	07 41 26.7	-3.2
HENT				*i* S	Sg	07 42 03.1	-2.0
MDU	Mudurnu	2.73	71	*e*PN	Pn	07 41 21.7	+0.4
MDU	Mudurnu	2.73	71	Pn	Pn	07 41 21.8	+0.4
KDZ	Kurdzhali	2.75	319	*i* P	Pn	07 41 21.5	-0.2
DALT	Dalyan (Mudla)	2.91	167	*e*PN	Pn	07 41 24.0	+0.1
FETY	Fethiye	3.13	161	*e*PN	Pn	07 41 26.3	-0.7
RZN	Rozhen	3.16	312	*i* P	Pn	07 41 27.0	-0.5
KIZT	Kizilcal	3.22	102	*e*PN	Pn	07 41 28.1	-0.2
KIZT	Kizilcal	3.22	102	Pn	Pn	07 41 28.1	-0.2
MMB	Musomiste	3.70	304	*i* P	Pn	07 41 34.0	-1.2
KKB	Krupnik	4.26	303	*e*P	Pn	07 41 41.0	-2.2
TIRR	Tirgusor	4.86	5	⇑P	Pn	07 41 50.8	-0.9
TIRR	Tirgusor	4.86	5	⇑P	Pn	07 41 50.8	-0.9
CFR	Carcaliu	5.57	2	⇓P	Pn	07 42 00.4	-1.3
CFR	Carcaliu	5.57	2	⇓P	Pn	07 42 00.4	-1.2
MLR	Muntele Rosu	6.04	347	⇑P	Pn	07 42 09.9	+1.6
MLR	Muntele Rosu	6.04	347	⇑P	Pn	07 42 09.9	+1.6
BURAR	Bucovina Array	8.22	347	⇑P	P	07 42 41.0	+2.1
BURAR	Bucovina Array	8.22	347	⇑P	P	07 42 41.0	+2.1

IDC 11 07:49:37.7±4.2, 1.09S×100.35E, mb3.6/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=239.4km s-min=26.2km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.16	122	P	P	07 56 59.3	-1.4
0.5nm,0.4s,baz=301,slow=9.8,SNR=6.6							
ASAR	Alice Springs	39.51	127	P	P	07 57 10.7	-1.4
0.5nm,0.8s,baz=290,slow=8.4,SNR=5.1							
STKA	Stephens Creek	49.49	132	P	P	07 58 29.4	-2.7
0.7nm,0.5s,baz=303,slow=15,SNR=2.8							
MKAR	Makanchi Array	50.26	344	P	P	07 58 35.8	-2.0
0.2nm,0.4s,baz=141,slow=9.2,SNR=3.2							
TXAR	Lajitas Array	143.77	37	PKP	PKPdf	08 09 14.3	-2.9
0.4nm,0.5s,baz=223,slow=0.9,SNR=9.8							

IDC 11 07:51:04.6±2.9, 1.83S×99.56E, mb3.7/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=120.2km s-min=21.1km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.17	358	P	P	07 55 41.6	-2.0
0.7nm,0.4s,baz=191,slow=9.2,SNR=3.3							
WRA	Warramunga Arr	38.45	120	P	P	07 58 28.0	-2.2
1.1nm,0.8s,baz=301,slow=9.4,SNR=3.1							
ASAR	Alice Springs	39.70	126	P	P	07 58 39.7	-0.8
0.3nm,0.6s,baz=300,slow=8.2,SNR=3.8							
SONM	Songino Array	49.82	6	P	P	07 59 58.7	-2.6
0.5nm,0.8s,baz=180,slow=4.3,SNR=3.5							
MKAR	Makanchi Array	50.75	345	P	P	08 00 05.5	-2.9
0.4nm,0.4s,baz=159,slow=7.6,SNR=5.4							
ZAL	Zalesovo	56.92	350	P	P	08 00 52.2	-1.6
1.0nm,0.4s,baz=323,slow=3.2,SNR=2.8							
TXAR	Lajitas Array	144.83	37	PKP	PKPdf	08 10 43.5	-2.6
0.7nm,0.6s,baz=197,slow=0.9,SNR=13							

*IDC **11** 07:51:35.5±7.3, 41.75S×174.54E, h28km±46km, mb4.4/4, mb1 4.8/7, mb1mx4.4/14, mbtmp4.9/7, ML5.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/23, Error ellipse: s-maj=46.1km s-min=20.7km az=148.0*
*NEIC **11** 07:51:36.1±1.1, 41.72S×174.56E, h34km±7km, mb4.9/2, Error ellipse: s-maj=14.6km s-min=8.0km az=136.0*
NEIC Felt at Wellington and in northern parts of the South Island.
*WEL **11** 07:51:37.5±0.1, 41.65S×174.55E, h35km, ML4.8/18, Error ellipse: s-maj=0.7km s-min=0.6km az=0.0, reported intensity MM 5.*
WEL Felt from Wanganui to Marlborough, and from Nelson to Wellington, maximum.
ISC 11 07:51:35.3±0.3, 41.78S±0.02×174.58E±0.03, h49km±3km, n92, σ1°11/132, mb4.5/5, 9C-26D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.28	276	⇓P*	P	07 51 45.2	+1.0
CMWZ				S*	S	07 51 51.9	+1.5
BHW	Baring Head	0.43	30	⇓P*	P	07 51 45.9	+0.3
BHW				S*	S	07 51 52.0	-1.0
SNZO	South Karori	0.47	11	*e*P	P	07 51 45.4	-0.8
SNZO				*e*S	S	07 51 52.3	-1.6
SNZO	South Karori	0.47	11	⇑P*	P	07 51 46.0	-0.2
SNZO				⇑P*	P	07 51 46.0	-0.2
SNZO				S*	S	07 51 52.2	-1.8
SNZO				S*	S	07 51 52.2	-1.7
WEL	Wellington	0.51	16	⇓P*	P	07 51 46.7	+0.1
WEL				S*	S	07 51 53.7	-1.0
BSWZ	Blackbirch Sta	0.53	276	⇓P*	P	07 51 48.2	+1.3
BSWZ				S*	S	07 51 56.4	+1.1
MRW	Makara Radio	0.55	9	⇓P*	P	07 51 47.0	-0.1
MRW				S*	S	07 51 53.8	-1.9
TUWZ	Tuamarina	0.59	306	⇑P*	P	07 51 47.7	0.0
TUWZ				S*	S	07 51 55.0	-1.6
MSWZ	Moikau Station	0.62	54	⇓P*	P	07 51 49.2	+1.3
MSWZ				S*	S	07 51 57.9	+0.7
PAWZ	Paruwai Farm	0.74	58	⇓P*	P	07 51 50.9	+1.2
PAWZ				S*	S	07 52 01.2	+1.0
CAW	Cannon Point	0.76	29	⇓P*	P	07 51 50.5	+0.7
CAW				S*	S	07 52 00.1	-0.4
MTW	Mount Morrison	0.93	48	⇓P*	P	07 51 52.9	+0.8
MTW				S*	S	07 52 04.9	+0.3
KIW	Kapiti Island	0.95	15	⇓P*	P	07 51 52.9	+0.5
KIW				S*	S	07 52 03.6	-1.5
KHZ	Kahutara	1.01	230	⇓P*	P	07 51 55.7	+2.4
KHZ				S*	S	07 52 08.9	+2.3
NNZ	Nelson	1.06	301	⇑PN	P	07 51 54.6	+0.5
NNZ				SN	S	07 52 07.2	-0.8
DUWZ	D'Urville Isla	1.09	333	⇑P*	P	07 51 54.7	+0.2
DUWZ				S*	S	07 52 07.6	-1.2
THZ	Tophouse	1.26	270	⇓P*	P	07 51 58.0	+1.2
THZ				S*	S	07 52 12.2	-0.7
MRZ	Mangatainoka R	1.34	34	⇓P*	P	07 51 58.5	+0.3
MRZ				S*	S	07 52 14.4	-0.6
BFZ	Birch Farm	1.66	49	⇓PN	P	07 52 02.2	-0.4
BFZ				S*	S	07 52 20.2	-2.7
QRZ	Quartz Range	1.82	301	⇑PN	P	07 52 05.7	+1.0
QRZ				SN	S	07 52 27.2	+0.6
LTZ	Lake Taylor	1.99	239	⇓PN	P	07 52 08.5	+1.4
LTZ				SN	S	07 52 30.9	0.0
TSZ	Takapari Road	2.01	32	⇓PN	P	07 52 07.2	-0.2
WAZ	Wanganui	2.04	9	⇑PN	P	07 52 09.6	+1.7
DSZ	Denniston Nort	2.08	270	⇑PN	P	07 52 09.7	+1.2
CRLZ	Canterbury Las	2.31	218	PN	P	07 52 12.1	+0.4
CRLZ				SN	S	07 52 39.0	0.0
MQZ	McQueen's Vall	2.40	216	⇓PN	P	07 52 13.1	+0.2
MQZ				SN	S	07 52 40.0	-1.2
PWZ	Pawanui	2.46	45	⇓PN	P	07 52 12.0	-1.8
MTVZ	Mangateitei	2.48	16	PN	P	07 52 14.7	+0.5
NRZ	Ngariki Road	2.49	348	*e*PN	P	07 52 16.2	+2.0
RAEZ	Rainy Point	2.49	357	*e*PN	P	07 52 15.1	+0.8
MOVZ	Moawhango	2.53	21	PN	P	07 52 14.6	-0.3
NEZ	North Egmont	2.53	351	*e*PN	P	07 52 17.1	+2.2
NWEZ	Newall Road	2.56	347	*e*PN	P	07 52 17.5	+2.2
WNVZ	Wahianoa	2.56	18	⇓PN	P	07 52 15.7	+0.3
DRZ	Dome Shelter	2.61	17	PN	P	07 52 16.8	+0.8
PKE	Pukeiti	2.62	350	*e*PN	P	07 52 17.5	+1.4
PKE				SN	S	07 52 45.8	-1.1
FWVZ	Far West T-bar	2.62	17	PN	P	07 52 16.6	+0.4
TUVZ	Tukino	2.63	18	⇓PN	P	07 52 16.8	+0.4
VRZ	Vera Road	2.65	3	PN	P	07 52 17.7	+1.1
VRZ				SN	S	07 52 47.1	-0.6
WPVZ	Whakapapa	2.67	16	PN	P	07 52 17.5	+0.6
CNZ	Chateau	2.68	16	PN	P	07 52 17.4	+0.5
NGZ	Ngauruhoe	2.71	17	PN	P	07 52 18.0	+0.5
NGZ				SN	S	07 52 42.4	-6.8
OTVZ	Oturere	2.74	18	PN	P	07 52 18.2	+0.3
WTVZ	West Tongariro	2.77	16	⇓PN	P	07 52 18.6	+0.3
TWVZ	Taurewa	2.78	14	⇓PN	P	07 52 18.6	+0.2
MGZ	Maungaku	2.87	15	PN	P	07 52 19.7	+0.1
KATZ	Kakaramea	2.92	17	PN	P	07 52 20.6	+0.1
RITZ	Rihia Road	2.96	20	PN	P	07 52 20.6	-0.4
BKZ	Black Stump Fm	2.99	30	⇓PN	P	07 52 19.7	-1.7
RATZ	Rangitukua	3.04	18	*e*PN	P	07 52 21.8	-0.4
HATZ	Hinemaiaia	3.10	22	*e*PN	P	07 52 24.7	+1.7
WATZ	Wairara	3.19	16	*e*PN	P	07 52 23.5	-0.7
RPZ	Rata Peaks	3.24	232	Pn	P	07 52 25.0	0.0
69nm,0.3s,baz=76,slow=8.3,SNR=203							
RPZ				Sn	S	07 53 01.0	-1.7
118nm,0.3s,baz=316,slow=18,SNR=20							
RPZ				LR	LR	07 53 15.0	
comp=Z,396nm,18.8s,baz=293,slow=31							
RPZ	Rata Peaks	3.24	232	PN	P	07 52 24.6	-0.4
RPZ				SN	S	07 53 00.1	-2.6
HIZ	Hauiti	3.27	4	⇑PN	P	07 52 26.0	+0.7
HIZ				SN	S	07 53 01.3	-1.9
WHTZ	Whakaora	3.28	19	*e*PN	P	07 52 27.5	+2.0
KNZ	Kokohu	3.62	42	PN	P	07 52 27.3	-3.1
KNZ				SN	S	07 53 08.7	-3.6
URZ	Urewera	4.01	30	Pn	P	07 52 33.8	-2.1
12nm,0.3s,baz=242,slow=5.8,SNR=32							
URZ	Urewera	4.01	30	*e*PN	P	07 52 32.2	-3.6
FOZ	Fox Glacier	4.03	242	PN	P	07 52 34.5	-1.6
FOZ				SN	S	07 53 14.7	-7.8
MWZ	Matawai	4.11	34	⇓PN	P	07 52 33.5	-3.8
MWZ				SN	S	07 53 20.0	-4.6
LBZ	Lake Benmore	4.15	230	PN	P	07 52 37.5	-0.2
LBZ				SN	S	07 53 22.1	-3.4
ODZ	Otahua Downs	4.35	220	PN	P	07 52 39.8	-0.8
ODZ				*e*SN	S	07 53 24.7	-5.9
MKAZ	Moumakai	4.68	6	PN	P	07 52 44.7	-0.6
OTAZ	Otara	4.83	3	*e*PN	P	07 52 47.1	-0.2
JCZ	Jackson Bay	4.86	240	*e*PN	P	07 52 45.9	-1.8
JCZ				SN	S	07 53 36.2	-7.8
MTAZ	Motutapu	4.99	3	*e*PN	P	07 52 49.6	0.0
WKZ	Wanaka	5.08	231	PN	P	07 52 49.1	-1.7
WKZ				SN	S	07 53 44.7	-4.3
KUZ	Kuaotunu	5.10	10	*e*PN	P	07 52 49.1	-2.0
KUZ				SN	S	07 53 42.5	-6.9
EAZ	Earnscleugh	5.16	226	PN	P	07 52 51.2	-0.8
EAZ				SN	S	07 53 46.1	-5.0
TUZ	Tuapeka	5.50	219	PN	P	07 52 55.8	-0.9
TUZ				SN	S	07 53 53.7	-5.8
MSZ	Milford Sound	5.66	237	*e*PN	P	07 52 57.5	-1.4
MSZ				SN	S	07 53 57.9	-5.6
WCZ	Waipu Caves	5.83	358	*e*PN	P	07 53 00.7	-0.6
WCZ				SN	S	07 53 57.9	-10
MLZ	Mavora Lakes	5.87	230	*e*PN	P	07 53 01.5	-0.3
MLZ				SN	S	07 54 03.9	-4.8
WHZ	Wether Hill Ro	6.32	227	*e*PN	P	07 53 06.8	-1.4
WHZ				SN	S	07 54 14.1	-5.9
RAO	Raoul Island	13.90	28	Pn	P	07 54 51.2	0.0
273nm,0.3s,baz=299,slow=23,SNR=5.0							
RAO	Raoul Island	13.90	28	*e*P	P	07 54 51.2	0.0
DZM	Mont Dzumac	20.81	338	P	P	07 56 17.9	+3.1
6.5nm,0.8s,baz=156,slow=18,SNR=3.6							
STKA	Stephens Creek	28.05	280	P	P	07 57 25.0	+1.0
1.4nm,1.0s,mb3.5,baz=344,slow=9.1,SNR=2.8							
STKA	Stephens Creek	28.05	280	P	P	07 57 25.0	+1.0
SBA	Scott Base	36.33	183	*e*P	P	07 58 36.4	+0.6
ASAR	Alice Springs	38.28	285	P	P	07 58 52.5	-0.1
4.6nm,0.6s,mb4.4,baz=125,slow=7.3,SNR=69							
ASPA	Alice Springs	38.28	285	⇓*i*P	P	07 58 53.1	+0.5
WRAB	Tennant Creek	40.35	290	*e*P	P	07 59 09.6	-0.2
16nm,0.7s,mb4.9							
WRA	Warramunga Arr	40.35	290	P	P	07 59 10.0	+0.2
8.9nm,0.4s,mb4.9,baz=127,slow=8.2,SNR=80							
FITZ	Fitzroy Crossi	47.76	284	⇓*i*P	P	08 00 09.7	+0.1
5.0nm,0.4s,mb4.9							
FITZ	Fitzroy Crossi	47.76	284	P	P	08 00 09.8	+0.2
11nm,0.7s,mb5.0,baz=155,slow=9.6,SNR=17							
YKA	Yellowknife Ar	118.28	30	PKP	PKPdf	08 10 18.9	+2.5
0.2nm,0.7s,baz=266,slow=1.8,SNR=7.9							
MKAR	Makanchi Array	120.19	307	PKP	PKPdf	08 10 22.1	+1.5
0.8nm,0.8s,baz=90,slow=1.4,SNR=6.7							
ARCES	ARCESS Array B	147.89	340	PKPbc	PKPdf	08 11 16.1	+5.4
2.5nm,0.6s,baz=68,slow=1.8,SNR=10							
BRTR	Keskin Array B	150.51	279	PKPbc	PKPdf	08 11 24.2	+8.5
1.1nm,0.8s,baz=162,slow=3.9,SNR=5.0							
BRTR				PKPab	PKPab	08 11 30.4	+0.2
1.3nm,0.9s,baz=153,slow=2.8,SNR=5.2							
FINES	FINESS Array B	152.69	327	PKPbc	PKPdf	08 11 27.7	+9.5
1.0nm,0.6s,baz=45,slow=2.7,SNR=7.3							
FINES				PKPab	PKPab	08 11 41.1	+2.5
1.4nm,0.6s,baz=63,slow=4.3,SNR=4.4							

IDC 11 08:09:19.5±1.5, 54.07N×87.46E, mb2.8/1, mb1 3.2/3, mb1mx3.1/24, mbtmp3.1/3, ML3.2/2, Error ellipse: s-maj=15.7km s-min=13.8km az=179.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	Zalesovo	1.58	266	Pg	Pg	08 09 48.3	-2.7
13nm,0.3s,baz=28,slow=16,SNR=42							
ZAL				Lg		08 10 11.3	
5.8nm,0.3s,baz=292,slow=23,SNR=20							
MKAR	Makanchi Array	8.00	206	Pn	Pn	08 11 18.9	-0.8
0.2nm,0.3s,baz=27,slow=11,SNR=9.2							
MKAR				Sn	Sn	08 12 45.6	-6.4
0.1nm,0.3s,baz=29,slow=15,SNR=4.2							
MKAR				Lg		08 13 26.4	
baz=23,slow=19,SNR=3.7							
BVAR	Borovoye Array	10.22	271	Pn	P	08 11 47.4	-2.9
0.3nm,0.3s,baz=68,slow=13,SNR=4.8							
BVAR				Sn	S	08 13 36.2	-11
0.1nm,0.3s,baz=73,slow=25,SNR=10.0							
YKA	Yellowknife Ar	62.49	11	P	P	08 19 43.5	-2.8
0.1nm,0.8s,baz=345,slow=7.7,SNR=2.6							

WEL 11 08:16:13.1±0.1, 41.65S×174.54E, h34km, ML4.1/14, 6C-15D, Error ellipse: s-maj=0.6km s-min=0.5km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.26	247	⇓P*	P	08 16 20.7	+0.2
CMWZ				S*	S	08 16 26.8	+1.1
BHW	Baring Head	0.35	47	⇓P*	P	08 16 21.5	0.0
BHW				S*	S	08 16 27.6	+0.1
SNZO	South Karori	0.36	21	⇑P*	P	08 16 21.6	-0.1
SNZO				⇓P*	P	08 16 21.6	-0.1
SNZO				S*	S	08 16 27.7	-0.1
SNZO				S*	S	08 16 27.7	0.0
SNZO				S*	S	08 16 27.8	+0.1
WEL	Wellington	0.40	26	⇓P*	P	08 16 22.3	0.0
WEL				S*	S	08 16 29.0	+0.3
MRW	Makara Radio	0.43	17	⇓P*	P	08 16 22.6	-0.1
MRW				S*	S	08 16 29.4	-0.1
TUWZ	Tuamarina	0.49	296	⇑P*	P	08 16 23.2	-0.3
TUWZ				S*	S	08 16 30.6	-0.4
BSWZ	Blackbirch Sta	0.50	262	⇑P*	P	08 16 23.8	+0.2
BSWZ				S*	S	08 16 31.8	+0.7
MSWZ	Moikau Station	0.58	67	⇓P*	P	08 16 24.8	0.0
MSWZ				S*	S	08 16 33.6	+0.3
CAW	Cannon Point	0.67	37	⇓P*	P	08 16 26.2	+0.1
CAW				S*	S	08 16 36.0	+0.5
PAWZ	Paruwai Farm	0.72	69	⇓P*	P	08 16 26.5	-0.3
PAWZ				S*	S	08 16 36.8	+0.1
KIW	Kapiti Island	0.83	20	⇓P*	P	08 16 28.5	+0.2
MTW	Mount Morrison	0.88	56	⇓P*	P	08 16 28.6	-0.4
DUWZ	D'Urville Isla	0.96	331	P*	P	08 16 30.3	+0.1
NNZ	Nelson	0.97	296	⇑PN	P	08 16 30.2	-0.1
KHZ	Kahutara	1.07	224	⇓P*	P	08 16 31.3	-0.5
KHZ				S*	S	08 16 44.8	-0.9
THZ	Tophouse	1.23	264	⇓P*	P	08 16 33.6	-0.4
MRZ	Mangatainoka R	1.26	39	⇓P*	P	08 16 34.1	-0.4
BFZ	Birch Farm	1.61	54	⇓PN	P	08 16 37.8	-1.7
QRZ	Quartz Range	1.72	298	PN	P	08 16 41.3	+0.2
TSZ	Takapari Road	1.92	35	PN	P	08 16 42.8	-1.1
WAZ	Wanganui	1.92	10	⇑PN	P	08 16 45.3	+1.3

1.1nm,0.7s,baz=180,slow=3.8,SNR=1.3
ARCES ARCESS Array B 82.11 340 P **P 08 31 22.2 +0.8**
3.9nm,1.1s,mb4.3,baz=80,slow=5.5,SNR=3.6
ARCES pP pP 08 31 29.4 +0.1
3.0nm,0.9s,baz=104,slow=5.0,SNR=1.8

NIED ***11*** *08:28:00, 22.70N×121.50E, h35km, Mw4.3 Best double couple: M0 3.53×10^15 NP1:φs194°, δ47°, λ102°. NP2: φs358°, δ45°, λ78°.*
JMA ***11*** *08:28:11.1±0.4, 22.71N×121.53E, M4.6*
BJI ***11*** *08:28:12.5, 22.81N×121.31E, h19km, mB4.6, mb4.5, ML4.4, Ms4.3, Msz4.0*
TAP ***11*** *08:28:13.8, 22.87N×121.29E, h20km, ML4.7*
TAP Felt II J at Taitung, II J at Pinlang, III J at Chenggung, I J at Lidau, II J at Taimali, I J at Tauyuan, I J at Sandimen, I J at Lanyu.
NEIC ***11*** *08:28:13.5, 22.89N×121.27E, h16km, mb4.3/9, ML4.7(TAP), After TAP.*
NEIC Recorded [3 TAP] in T'ai-tung and [1 TAP] in Kao-hsiung and P'ing-tung Counties.
IDC ***11*** *08:28:14.8±4.8, 22.79N×121.48E, h35km±39km, mb3.9/18, mb1 4.1/20, mb1mx4.0/28, mbtmp4.2/20, ML4.0/1, Error ellipse: s-maj=19.5km s-min=12.1km az=62.0*
ISC 11 08:28:13.0±0.3, 22.79N±0.02×121.37E±0.02, h25km±2km, n118, σ1$23/166, mb4.2/26, MS4.3/1, 12C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.20**	**261**	*i*P	**Pb**	**08 28 18.8**	**+0.1**
TTN				S	**Sb**	**08 28 22.6**	**+0.1**
TWG	**Pinlang**	**0.27**	**277**	⇓*i*P	**Pb**	**08 28 18.8**	**-0.8**
TWG				S	**Sb**	**08 28 23.0**	**-1.0**
CHKT	**Chengkung**	**0.31**	**0**	⇓*i*P	**Pb**	**08 28 19.7**	**-0.4**
CHKT				S	**Sb**	**08 28 24.1**	**-0.9**
ECL	**Taimali**	**0.42**	**244**	⇓*i*P	**Pb**	**08 28 21.8**	**-0.1**
ECL				S	**Sb**	**08 28 27.4**	**-0.6**
ELDTW	**Lidau**	**0.51**	**321**	*i*P	**Pb**	**08 28 21.9**	**-1.4**
ELDTW				S	**Sb**	**08 28 27.4**	**-3.0**
TWF1	**Yuli**	**0.56**	**354**	⇑*i*P	**Pb**	**08 28 23.3**	**-1.0**
TWF1				S	**Sb**	**08 28 30.1**	**-1.7**
TAW	**Tawu**	**0.61**	**225**	⇓*i*P	**Pb**	**08 28 25.3**	**+0.3**
TAW				S	**Sb**	**08 28 33.8**	**+0.7**
EAST	**Anshuo**	**0.62**	**230**	⇓*i*P	**Pb**	**08 28 25.6**	**+0.4**
EAST				S	**Sb**	**08 28 32.8**	**-0.7**
STYT	**Tauyuan**	**0.67**	**304**	⇑*i*P	**Pb**	**08 28 25.0**	**-1.0**
STYT				S	**Sb**	**08 28 33.0**	**-2.0**
SSD	**Sandimen**	**0.68**	**267**	⇑*i*P	**Pb**	**08 28 25.4**	**-0.7**
SSD				S	**Sb**	**08 28 32.7**	**-2.4**
EHY	**Hungye**	**0.72**	**357**	*e*P	**Pb**	**08 28 25.7**	**-1.1**
EHY				S	**Sb**	**08 28 37.3**	**+1.2**
LAY	**Lan-yu**	**0.77**	**167**	P	**Pb**	**08 28 28.7**	**+1.2**
LAY				S	**Sb**	**08 28 40.6**	**+3.0**
SGST	**Jiashian**	**0.78**	**292**	⇑*i*P	**Pb**	**08 28 27.6**	**-0.2**
SGST				S	**Sb**	**08 28 37.0**	**-0.9**
YUS	**Yu-Shan**	**0.80**	**332**	⇑*i*P	**Pb**	**08 28 27.2**	**-0.9**
YUS				S	**Sb**	**08 28 35.9**	**-2.5**
SCZT	**Fangliau**	**0.80**	**239**	*e*P	**Pb**	**08 28 28.4**	**+0.3**
SGLT	**Jiouru**	**0.81**	**266**	*e*P	**Pb**	**08 28 29.1**	**+0.8**
WTP	**Ta-pu**	**0.83**	**304**	⇑*i*P	**Pb**	**08 28 28.3**	**-0.3**
WTP				S	**Sb**	**08 28 38.9**	**-0.5**
CHN1	**Nanshi**	**0.87**	**297**	⇑P	**Pb**	**08 28 29.2**	**0.0**
CHN1				S	**Sb**	**08 28 41.1**	**+0.7**
TWM1	**Shoushan**	**0.87**	**273**	*e*P	**Pb**	**08 28 30.3**	**+1.0**
ALS	**Alishan**	**0.89**	**324**	⇑*i*P	**Pb**	**08 28 29.1**	**-0.5**
ALS				S	**Sb**	**08 28 38.8**	**-2.1**
CHN4	**Tsaushan**	**0.91**	**308**	⇑*i*P	**Pb**	**08 28 29.7**	**-0.2**
CHN4				S	**Sb**	**08 28 41.7**	**+0.1**
TWK	**Hsinying**	**0.94**	**301**	*e*P	**Pb**	**08 28 30.3**	**-0.2**
TWK				S	**Sb**	**08 28 43.5**	**+1.0**
CHN3	**Shinhua**	**0.96**	**287**	*e*P	**Pb**	**08 28 32.3**	**+1.4**
CHN3				S	**Sb**	**08 28 47.1**	**+3.8**
HEN	**Hengchun**	**0.97**	**217**	*e*P	**Pb**	**08 28 30.9**	**-0.1**
TSEB	**Hengchuen, Pin**	**0.98**	**206**	*e*P	**Pb**	**08 28 32.1**	**+0.9**
TSEB				S	**Sb**	**08 28 46.7**	**+2.9**
TWK1	**Hengchun**	**0.99**	**212**	*e*P	**Pb**	**08 28 31.6**	**+0.3**
KAU	**Kaohsiung**	**1.00**	**258**	*e*P	**Pn**	**08 28 33.8**	**+2.2**
ESL	**Shilin**	**1.02**	**3**	*e*P	**Pn**	**08 28 32.1**	**+0.2**
ESL				S	**Sb**	**08 28 46.4**	**+1.4**
CHN5	**Tsauling**	**1.02**	**322**	⇑*i*P	**Pn**	**08 28 31.7**	**-0.2**
TWP	**Hsiaoliuchiu**	**1.03**	**245**	*e*P	**Pn**	**08 28 35.3**	**+3.4**
TAI1	**Yung-k'ang**	**1.08**	**284**	*e*P	**Pn**	**08 28 33.8**	**+1.1**
TAI1				S	**Sb**	**08 28 48.5**	**+1.9**
CHN2	**Minshiung**	**1.10**	**312**	*e*P	**Pn**	**08 28 33.6**	**+0.5**
CHN2				S	**Sb**	**08 28 49.0**	**+1.7**
SCLT	**Jiali**	**1.15**	**290**	*e*P	**Pn**	**08 28 34.0**	**+0.3**
SCLT				S	**Sb**	**08 28 50.5**	**+2.0**
WGK	**Gukeng**	**1.16**	**321**	*e*P	**Pn**	**08 28 33.9**	**+0.1**
SMLT	**Sun Moon Lake**	**1.17**	**339**	*e*P	**Pn**	**08 28 34.1**	**+0.1**
SMLT				S	**Sn**	**08 28 49.9**	**+0.7**
CHN8	**Yiju**	**1.20**	**298**	*e*P	**Pn**	**08 28 34.7**	**+0.3**
CHN8				S	**Sn**	**08 28 51.3**	**+1.3**
HWA	**Hwalien**	**1.20**	**11**	*e*P	**Pn**	**08 28 34.1**	**-0.4**
TYC	**Yuchr**	**1.21**	**337**	*e*P	**Pn**	**08 28 35.0**	**+0.5**
TYC				S	**Sn**	**08 28 51.2**	**+1.1**
WNT	**Mingjian**	**1.25**	**330**	*e*P	**Pn**	**08 28 36.3**	**+1.1**
WNT				S	**Sn**	**08 28 52.4**	**+1.1**
NACB	**Ninganchiao**	**1.40**	**9**	*e*P	**Pn**	**08 28 35.4**	**-1.8**
WTCT	**Ta-ch'eng**	**1.46**	**317**	*e*P	**Pn**	**08 28 41.6**	**+3.4**
TWT	**Tachien**	**1.47**	**353**	*e*P	**Pn**	**08 28 37.8**	**-0.4**
TCU	**Taichung**	**1.49**	**335**	*e*P	**Pn**	**08 28 40.2**	**+1.5**
TCU				S	**Sn**	**08 28 59.6**	**+2.2**
WDGT	**Dungji**	**1.64**	**287**	*e*P	**Pn**	**08 28 40.4**	**-0.3**
WDGT				S	**Sn**	**08 28 59.6**	**-1.6**
NNS	**Nan Shan**	**1.65**	**0**	*e*P	**Pn**	**08 28 40.7**	**-0.1**
TWQ1	**Liyutan**	**1.65**	**341**	*e*P	**Pn**	**08 28 42.4**	**+1.6**
TWQ1				S	**Sn**	**08 29 03.5**	**+2.1**
ENA	**Nanau**	**1.67**	**12**	*e*P	**Pn**	**08 28 41.8**	**+0.6**
NSY	**Sanyi**	**1.71**	**341**	*e*P	**Pn**	**08 28 43.2**	**+1.5**
NSY				S	**Sn**	**08 29 06.2**	**+3.1**
PNG	**Penghu**	**1.84**	**295**	*e*P	**Pn**	**08 28 42.6**	**-0.9**
PNG				S	**Sn**	**08 29 04.5**	**-1.7**
ENTT	**Nioudou**	**1.85**	**6**	*e*P	**Pn**	**08 28 44.2**	**+0.4**
NSTT	**Nanjuang**	**1.86**	**350**	*e*P	**Pn**	**08 28 44.6**	**+0.7**
TWC	**Suao**	**1.87**	**14**	*e*P	**Pn**	**08 28 44.6**	**+0.6**
YHNB	**Yeheng**	**1.87**	**0**	*e*Pn	**Pn**	**08 28 44.4**	**+0.3**
YHNB				*e*Pg	**Pn**	**08 28 50.8**	**+6.7**
YHNB				*e*Sg	**Sn**	**08 29 11.7**	**+4.6**
TWE	**Neicheng**	**1.94**	**8**	*e*P	**Pn**	**08 28 44.3**	**-0.8**
EGS		**2.11**	**14**	*e*P	**Pn**	**08 28 49.2**	**+1.7**
TATO	**Taipei**	**2.18**	**3**	*e*P	**Pn**	**08 28 48.7**	**+0.3**
TWA	**Mucha**	**2.19**	**5**	*e*P	**Pn**	**08 28 48.7**	**+0.1**
TAP1	**Taipei**	**2.25**	**4**	*e*P	**Pn**	**08 28 50.9**	**+1.5**
YOJ	**Yonaguni jima**	**2.25**	**42**	P	**Pn**	**08 28 50.0**	**+0.6**
YOJ				S	**Sn**	**08 29 18.1**	**+1.4**
TWB1	**Santiao Chiao**	**2.28**	**14**	*e*P	**Pn**	**08 28 50.1**	**+0.2**
TWS1	**Kuangyinshan**	**2.30**	**1**	*e*P	**Pn**	**08 28 52.7**	**+2.5**
NWF	**Wu-fen Shan**	**2.31**	**9**	*e*P	**Pn**	**08 28 50.1**	**-0.1**
TWY	**Chenhua**	**2.49**	**5**	*e*P	**Pn**	**08 28 54.6**	**+1.8**
HATJ	**Hateruma jima**	**2.57**	**60**	P	**Pn**	**08 28 53.8**	**-0.3**
HATJ				*e*S	**Sn**	**08 29 25.8**	**+0.9**
IRIF	**Iriomote-Funau**	**2.66**	**54**	P	**Pn**	**08 28 55.6**	**+0.3**
IRIF				*e*S	**Sn**	**08 29 28.6**	**+1.5**
JKRS	**Kuro-shima**	**2.82**	**59**	P	**Pn**	**08 28 57.4**	**-0.2**
JKRS				S	**Sn**	**08 29 32.0**	**+0.7**
JIJ	**Ishigaki jima**	**2.99**	**58**	P	**Pn**	**08 28 59.9**	**-0.1**
JIJ				S	**Sn**	**08 29 35.7**	**+0.2**
KNM	**Kinmen**	**3.14**	**302**	*e*P	**Pn**	**08 29 02.1**	**0.0**
QZH	**Quanzhou**	**3.32**	**311**	⇑*i*P	**Pn**	**08 29 03.4**	**-1.3**
QZH				S	**Sn**	**08 29 38.2**	**-5.7**
QZH				Smax			
	comp=N,590nm,0.6s						
QZH				Smax			
	comp=E,1μm,0.9s						
JTJ	**Tarama**	**3.57**	**58**	P	**Pn**	**08 29 07.6**	**-0.6**
JTJ				S	**Sn**	**08 29 48.2**	**-2.0**
JMJ	**Miyako jima 2**	**4.12**	**60**	P	**Pn**	**08 29 15.5**	**-0.6**
JMJ				*e*S	**Sn**	**08 30 04.0**	**-0.2**
JOGS	**Gusukube**	**4.19**	**61**	P	**Pn**	**08 29 17.6**	**+0.5**
JOGS				S	**Sn**	**08 30 05.5**	**-0.4**
CVP	**Callao Caves**	**5.08**	**175**	⇓*e*P	**Pn**	**08 29 31.0**	**+1.4**
JOW	**Kunigami**	**7.46**	**56**	Pn	**Pn**	**08 29 59.7**	**-3.4**
	baz=216,slow=9.4						
JOW				Sn	**Sn**	**08 31 22.6**	**-5.1**
	comp=E,2.9nm,0.3s,baz=141,slow=28,SNR=3.4						
NJ2	**Nanjing**	**9.49**	**347**	*e*P	**P**	**08 30 31.7**	**+0.4**
NJ2				AP		08 30 34.1	
NJ2				XP		08 30 37.8	
NJ2				S	**Sn**	**08 32 18.3**	**0.0**
NJ2				XS		08 32 23.3	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s						
NJ2				Smax			
	comp=N,180nm,0.9s						
NJ2				Smax			
	comp=E,310nm,1.2s						
NJ2				LR	LR		
	comp=N,2μm,11.8s						
NJ2				LR	LR		
	comp=E,1μm,15.0s						
NJ2				LR	LR		
	comp=Z,850nm,9.6s						
QIZ	**Qiongzhong**	**11.40**	**253**	*e*P	**P**	**08 30 57.0**	**-0.5**
QIZ				S	**S**	**08 33 10.9**	**+5.8**
QIZ				LR	LR		
	comp=N,533nm,13.9s						
QIZ				LR	LR		
	comp=E,426nm,13.9s						
QIZ				LR	LR		
	comp=Z,624nm,15.5s						
QIZ	**Qiongzhong**	**11.40**	**253**	P	**P**	**08 30 54.9**	**-2.6**
GYA	**Guiyang**	**13.86**	**288**	⇑*i*P	**P**	**08 31 32.4**	**+2.0**
GYA				AP		08 31 39.7	
GYA				XP		08 31 42.8	
GYA				AMB	AMB		
	comp=Z,20nm,0.6s						
GYA				AMB	AMB		
	comp=Z,80nm,3.8s						
GYA				LR	LR		
	comp=N,290nm,9.3s						
GYA				LR	LR		
	comp=E,650nm,11.1s						
GYA				LR	LR		
	comp=Z,880nm,12.0s						
KMI	**Kunming**	**17.18**	**281**	P	**P**	**08 32 12.4**	**-0.8**
KMI				AMB	AMB		
	comp=Z,13nm,0.7s						
KMI				LR	LR		
	comp=Z,171nm,21.4s						
KMI	**Kunming**	**17.18**	**281**	P	**P**	**08 32 12.4**	**-0.8**
	comp=Z,13nm,0.7s						
KKM	**Kota Kinabalu**	**17.37**	**197**	P	**P**	**08 32 16.9**	**+1.3**
HHC	**Hu-ho-hao-te**	**19.82**	**338**	*e*P	**P**	**08 32 44.0**	**-0.7**
HHC				AP		08 32 47.8	
HHC				XP		08 32 50.6	
HHC				S	**S**	**08 36 27.6**	**+6.6**
HHC				AMB	AMB		
	comp=Z,15nm,1.2s						
HHC				AMB	AMB		
	comp=Z,210nm,6.9s						
HHC				LR	LR		
	comp=N,495nm,12.3s						
HHC				LR	LR		
	comp=E,353nm,14.2s						
HHC				LR	LR		
	comp=Z,436nm,16.1s						
MJAR	**Matsushiro Arr**	**20.01**	**43**	P	**P**	**08 32 44.9**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=234,slow=8.5,SNR=9.4						
LZH	**Lanzhou**	**20.17**	**315**	*e*P	**P**	**08 32 49.4**	**+0.9**
LZH				AP		08 32 56.7	
LZH				XP		08 33 01.6	
LZH				AMB	AMB		
	comp=Z,31nm,1.5s						
LZH				AMB	AMB		
	comp=Z,111nm,4.0s						
LZH				LR	LR		
	comp=E,756nm,12.0s						
LZH				LR	LR		
	comp=Z,990nm,13.4s,MS4.3						
LZH	**Lanzhou**	**20.17**	**315**	*e*P	**P**	**08 32 49.4**	**+0.9**
	comp=Z,31nm,1.5s						
LZH				pP		08 32 56.7	
LZH				sP		08 33 01.6	
LZH				LR	LR		
	comp=Z,990nm,13.4s,MS4.3						
BTO	**Baotou**	**20.18**	**334**	*e*P	**P**	**08 32 51.7**	**+3.1**
CHG	**Chiang Mai**	**21.32**	**263**	P	**P**	**08 33 03.6**	**+3.1**
CM31	**Chiang Mai Arr**	**21.42**	**263**	*e*P	**P**	**08 33 00.7**	**-0.7**
	comp=Z,9.3nm,1.0s,mb4.1						
CMAR	**Chiang Mai Arr**	**21.42**	**263**	P	**P**	**08 33 02.1**	**+0.7**
	comp=Z,4.5nm,0.8s,mb3.8,baz=69,slow=9.1,SNR=14						
CMAR				PcP	PcP	08 37 04.3	-0.5
	comp=Z,1.3nm,0.6s,baz=62,slow=1.2,SNR=5.8						
GUMO	**Guam**	**24.10**	**108**	*e*P	**P**	**08 33 30.0**	**+2.1**
GTA	**Gaotai**	**24.70**	**317**	*e*P	**P**	**08 33 35.1**	**+1.6**
GTA				AP		08 33 46.4	
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.1						
SHL	**Shillong**	**27.01**	**282**	*e*P	**P**	**08 33 54.5**	**-0.7**
ULN	**Ulaanbaatar**	**27.52**	**339**	*e*P	**P**	**08 33 57.9**	**-1.7**
	comp=Z,3.8nm,0.7s,mb4.1						
ASAJ	**Asahikawa**	**27.53**	**34**	P	**P**	**08 33 57.9**	**-1.9**
	comp=Z,5.2nm,0.8s,mb4.2,baz=254,slow=20,SNR=2.4						
SONM	**Songino Array**	**27.72**	**338**	P	**P**	**08 34 00.1**	**-1.2**
	comp=Z,3.5nm,0.7s,mb4.1,baz=159,slow=9.9,SNR=13						
LSA	**Lhasa**	**27.91**	**291**	P	**P**	**08 34 03.2**	**-0.1**
LSA	**Lhasa**	**27.91**	**291**	*e*P	**P**	**08 34 03.8**	**+0.6**
	comp=Z,13nm,0.6s,mb4.7						
MKAR	**Makanchi Array**	**39.46**	**317**	P	**P**	**08 35 43.0**	**0.0**
	comp=Z,5.5nm,0.7s,mb4.4,baz=110,slow=10.0,SNR=48						
MKAR				PcP	PcP	08 37 49.5	-1.6
	comp=Z,0.8nm,0.8s,baz=135,slow=2.0,SNR=3.9						
FITZ	**Fitzroy Crossi**	**40.85**	**174**	P	**P**	**08 35 52.3**	**-2.4**
	comp=Z,3.3nm,0.7s,mb4.1,baz=337,slow=9.9,SNR=4.8						
ZAL	**Zalesovo**	**41.51**	**328**	P	**P**	**08 35 59.0**	**-0.7**
	comp=Z,5.0nm,0.9s,mb4.1,baz=0.4,slow=8.8,SNR=11						
WRAB	**Tennant Creek**	**44.31**	**162**	*e*P	**P**	**08 36 20.9**	**-2.1**
	comp=Z,12nm,1.3s,mb4.5						
WRA	**Warramunga Arr**	**44.32**	**162**	P	**P**	**08 36 20.1**	**-2.9**
	comp=Z,0.8nm,0.5s,mb3.7,baz=344,slow=8.6,SNR=9.6						
WRA				PcP	PcP	08 38 04.9	-2.6
	comp=Z,0.7nm,0.7s,baz=344,slow=3.8,SNR=4.8						
ASAR	**Alice Springs**	**47.76**	**164**	P	**P**	**08 36 48.7**	**-1.6**
	comp=Z,0.4nm,0.6s,mb3.6,baz=308,slow=7.2,SNR=4.7						
ASAR				PcP	PcP	08 38 17.4	-2.2
	comp=Z,1.5nm,1.0s,baz=346,slow=4.0,SNR=5.0						
BVAR	**Borovoye Array**	**48.86**	**321**	P	**P**	**08 36 56.6**	**-1.8**
	comp=Z,0.8nm,0.5s,mb4.0,baz=98,slow=10,SNR=5.8						
CHKZ	**Chkalovo**	**48.93**	**322**	*e*P	**P**	**08 36 57.8**	**-1.2**
	comp=Z,30nm,0.6s,mb5.5						
CTAO	**Charters Tower**	**49.05**	**148**	P	**P**	**08 37 01.2**	**+0.9**
	comp=Z,37nm,1.4s,mb5.2						
STKA	**Stephens Creek**	**57.70**	**160**	P	**P**	**08 38 00.9**	**-3.2**
	comp=Z,0.8nm,0.5s,mb4.0,baz=316,slow=3.9,SNR=4.2						
DZM	**Mont Dzumac**	**62.57**	**132**	P	**P**	**08 38 36.4**	**-1.2**
	comp=Z,6.6nm,0.8s,mb4.8,baz=194,slow=23,SNR=2.4						
FINES	**FINESS Array B**	**72.73**	**330**	P	**P**	**08 39 38.6**	**-2.0**
	comp=Z,1.8nm,0.8s,mb4.1,baz=76,slow=7.9,SNR=5.2						
ASF	**Jabal al Asfar**	**73.77**	**298**	P	**P**	**08 39 46.6**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=322,slow=12,SNR=2.5						
AKASG	**Malin Array Be**	**74.02**	**319**	P	**P**	**08 39 46.4**	**-1.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=60,slow=6.2,SNR=4.4						
BRTR	**Keskin Array B**	**74.14**	**307**	P	**P**	**08 39 48.4**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.5,baz=68,slow=6.7,SNR=4.2						
INK	**Inuvik**	**74.45**	**22**	*e*P	**P**	**08 39 48.6**	**-1.9**
	comp=Z,1.4nm,0.8s,mb3.9						
NB2	**NORSAR Subarra**	**79.53**	**332**	P	**P**	**08 40 17.2**	**-1.8**
	comp=Z,2.7nm,0.8s,mb4.2,baz=92,slow=5.3						
NOA	**NORSAR Array B**	**79.53**	**332**	P	**P**	**08 40 17.4**	**-1.6**
	comp=Z,1.9nm,0.7s,mb4.1,baz=61,slow=5.5,SNR=5.2						
GERES	**GERESS Array B**	**84.02**	**321**	P	**P**	**08 40 42.8**	**+0.2**
	comp=Z,0.9nm,0.6s,mb4.1,baz=63,slow=6.6,SNR=4.0						
YKA	**Yellowknife Ar**	**84.19**	**23**	P	**P**	**08 40 41.8**	**-1.3**
	comp=Z,0.6nm,0.8s,mb3.8,baz=313,slow=4.7,SNR=15						
SDV	**Santo Domingo**	**146.40**	**22**	*e*PKPdf	PKPdf	08 47 51.7	-4.3

IDC 11 08:38:28.1±2.2, 25.34N×141.36E, h136km±22km, mb2.9/2, mb1 3.3/3, mb1mx2.9/22, mbtmp3.4/3, Error ellipse: s-maj=73.0km s-min=26.1km az=103.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.90**	**23**	P	P	08 39 02.0	+0.4
	4.4nm,0.3s,baz=300,slow=22,SNR=17						
CBIJ				S	S	08 39 26.9	-0.3
	27nm,0.3s,baz=257,slow=22,SNR=19						
MJAR	**Matsushiro Arr**	**11.49**	**347**	P	P	08 41 07.7	-1.2
	0.3nm,0.3s,baz=165,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**45.52**	**189**	P	P	08 46 33.9	-2.1
	0.3nm,0.3s,baz=7.5,slow=7.6,SNR=6.7						
YKA	**Yellowknife Ar**	**74.03**	**28**	P	P	08 49 48.8	-1.4
	0.1nm,0.4s,baz=296,slow=6.1,SNR=4.1						

IDC 11 08:47:01.5±2.0, 16.87S×173.66W, mb3.8/4, mb1 3.9/5, mb1mx3.7/19, mbtmp3.8/5, ML1.8/1, Error ellipse: s-maj=57.7km s-min=29.1km az=124.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.46**	**32**	Pn	Pn	08 47 56.6	-1.1
	5.6nm,0.3s,baz=142,slow=23,SNR=10						
AFI				Sn	Sn	08 48 34.7	-5.2
	12nm,0.3s,baz=217,slow=23,SNR=6.6						
URZ	**Urewera**	**22.80**	**199**	P	P	08 52 05.9	-1.1
	4.8nm,0.7s,baz=271,slow=17,SNR=4.7						
STKA	**Stephens Creek**	**43.10**	**241**	P	P	08 55 03.8	-1.4
	0.5nm,0.7s,baz=81,slow=15,SNR=2.8						
WRA	**Warramunga Arr**	**49.28**	**258**	P	P	08 55 52.1	-2.2
	0.4nm,0.5s,baz=96,slow=7.1,SNR=9.6						
ASAR	**Alice Springs**	**49.43**	**253**	P	P	08 55 53.5	-1.9
	1.5nm,0.5s,baz=90,slow=8.5,SNR=35						

IDC 11 08:50:37.1±3.6, 2.23S×99.13E, mb3.6/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=157.8km s-min=22.2km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.56**	**360**	P	P	08 55 17.8	-2.4
	0.5nm,0.4s,baz=180,slow=9.9,SNR=4.5						
WRA	**Warramunga Arr**	**38.64**	**120**	P	P	08 58 02.0	-2.2
	0.3nm,0.4s,baz=303,slow=9.1,SNR=4.9						
ASAR	**Alice Springs**	**39.83**	**125**	P	P	08 58 13.0	-1.1
	0.2nm,0.7s,baz=302,slow=8.5,SNR=4.6						
MKAR	**Makanchi Array**	**51.02**	**345**	P	P	08 59 41.0	-2.0
	0.2nm,0.3s,baz=151,slow=8.6,SNR=9.8						
ZAL	**Zalesovo**	**57.23**	**350**	P	P	09 00 25.6	-2.9
	1.3nm,0.4s,baz=242,slow=3.2,SNR=2.9						
TXAR	**Lajitas Array**	**145.41**	**37**	PKPbc	PKPbc	09 10 17.1	-1.1
	0.3nm,0.4s,baz=270,slow=0.9,SNR=12						

IDC 11 08:56:47.0±5.5, 0.64S×101.39E, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=291.2km s-min=25.4km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.52**	**123**	P	P	09 04 03.2	-1.6
	0.4nm,0.4s,baz=304,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**38.97**	**128**	P	P	09 04 15.2	-1.8
	0.3nm,0.6s,baz=297,slow=7.8,SNR=2.7						
MKAR	**Makanchi Array**	**50.12**	**343**	P	P	09 05 43.8	-2.2
	0.2nm,0.4s,baz=157,slow=8.1,SNR=3.7						
ZAL	**Zalesovo**	**56.10**	**348**	P	P	09 06 28.4	-2.0
	0.7nm,0.4s,baz=333,slow=6.0,SNR=3.5						
TXAR	**Lajitas Array**	**142.78**	**38**	PKP	PKPdf	09 16 20.7	-4.3
	0.1nm,0.4s,baz=236,slow=0.4,SNR=4.9						

IDC ***11*** *08:57:54.3±0.7, 1.83S×99.79E, mb4.0/15, mb1 4.2/15, mb1mx4.1/19, mbtmp4.0/15, Error ellipse: s-maj=30.3km s-min=14.5km az=54.0*
NEIC ***11*** *08:57:58.8±0.4, 1.81S×99.87E, h30km, mb4.3/3, Error ellipse: s-maj=15.5km s-min=7.7km az=61.0*
ISC 11 08:57:57.4±0.5, 1.76S±0.09×99.9E±0.1, h33km, n25, σ1$04/20, mb4.1/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.04**	**6**	P	**P**	**08 59 40.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**20.11**	**357**	P	**P**	**09 02 30.0**	**-1.3**
	0.7nm,0.4s,baz=183,slow=10.0,SNR=4.7						
FITZ	**Fitzroy Crossi**	**30.04**	**124**	P	**P**	**09 04 05.3**	**-0.5**
	5.2nm,1.0s,mb4.2,baz=315,slow=10.0,SNR=2.8						
WRA	**Warramunga Arr**	**38.21**	**121**	P	**P**	**09 05 15.9**	**-0.2**
	1.6nm,0.4s,mb4.1,baz=303,slow=9.0,SNR=13						
WRAB	**Tennant Creek**	**38.22**	**121**	*e*P	**P**	**09 05 16.4**	**+0.2**
	3.2nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**39.48**	**126**	P	**P**	**09 05 27.1**	**+0.4**
	1.0nm,0.6s,mb3.7,baz=300,slow=7.8,SNR=9.3						
ASAR				PcP	PcP	09 07 35.2	+0.6
	1.0nm,0.7s,baz=295,slow=2.1,SNR=6.4						
STKA	**Stephens Creek**	**49.39**	**132**	P	**P**	**09 06 47.6**	**+1.4**
	0.6nm,0.3s,mb4.0,baz=276,slow=6.9,SNR=3.8						
STKA	**Stephens Creek**	**49.39**	**132**	P	**P**	**09 06 45.5**	**-0.7**

TZTN	**Tazewell**	**145.29**	**5**	*e*PKP	PKPdf	09 20 25.8 +1.3
JCT	**Junction City**	**145.97**	**31**	*e*PKP	PKPdf	09 20 28.8 +2.9
CPCT	**Cooper Cave**	**146.28**	**6**	*e*PKP	PKPdf	09 20 29.2 +3.0

BJI ***11*** *09:04:28.4, 1.98N×96.71E, h33km, mB5.7, mb5.3, Ms5.6, Msz5.3*
IDC ***11*** *09:04:30.4±0.3, 2.11N×96.80E, h26km±1km, mb4.8/35, mb1 4.9/36, mb1mx4.9/37, mbtmp5.0/36, ML5.3/1, MS5.1/17, Ms1 5.1/17, ms1mx4.8/28, Error ellipse: s-maj=9.6km s-min=7.3km az=56.0*
MOS ***11*** *09:04:30.2±1.0, 2.14N×96.86E, h33km, mb5.7/73, MS5.0/31, Error ellipse: s-maj=8.0km s-min=4.6km az=115.7*
NEIC ***11*** *09:04:30.6±0.1, 2.08N×96.83E, mb5.5/81, MS5.1/23, MW5.5, Error ellipse: s-maj=4.7km s-min=3.3km az=214.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^17 Nm; Mrr1.68; Mθθ-2.16; Mφφ0.48; Mrθ0.58; Mrφ0.87; Mθφ-1.36; Best double couple: M0 2.6×10^17 NP1:φs258°, δ41°, λ41°. NP2:φs135°, δ65°, λ123°. Principal axes: T 2.57, Plg57°, Azm90°; N .08, Plg30°, Azm299°; P -2.65, Plg13°, Azm201°;*
HRVD ***11*** *09:04:30.6±0.3, 1.87N×96.50E, h24km, MW5.4/58, Centroid moment Tensor Solution. LP body waves: s50,c95;Mantle waves: s58,c97; Half duration: 1±2 Moment tensor: Scale 10^17Nm; Mrr0.95±.04; Mθθ-0.55±.02; Mφφ-0.40±.03; Mrθ0.89±.04; Mθφ0.53±.02; Mθr-0.80±.04; Best double couple: M0 1.545×10^17 NP1: φs310°, δ20°, λ89°. NP2:φs132°, δ70°, λ90°. Principal axes: T 1.516, Plg65°, Azm43°; N .059, Plg0°, Azm312°; P -1.575, Plg25°, Azm221°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 11 09:04:28.9±0.2, 2.07N±0.03×96.83E±0.03, h26km, h26km±.4km:pP-P, n419, σ1.902/397, mb5.4/142, MS5.2/72, 54C-17D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.88**	**59**	P	**Pn**	**09 05 44.1**	**+1.5**
SNG	**Songkhla**	**6.32**	**37**	P	**Pn**	**09 06 03.0**	**0.0**
	880nm,1.0s						
KGM	**Kluang**	**6.49**	**90**	P	**Pn**	**09 06 06.9**	**+1.5**
NNT	**Nongplab**	**10.84**	**15**	P	**P**	**09 07 06.0**	**+0.3**
PENI	**Pendagan**	**11.27**	**132**	⇑*i*P	**P**	**09 07 07.3**	**-4.4**
PENI				pmax	pmax		
	comp=Z,180nm,0.4s						
PENI	**Pendagan**	**11.27**	**132**	⇑*i*P	**P**	**09 07 07.3**	**-4.4**
	comp=Z,180nm,0.4s						
KSM	**Kuching**	**13.49**	**92**	⇑*e*P	**P**	**09 07 42.8**	**+1.5**
KKTK	**Khon Kaen**	**15.35**	**22**	P	**P**	**09 08 09.0**	**+3.2**
CM31	**Chiang Mai Arr**	**16.41**	**7**	*e*P	**P**	**09 08 18.6**	**-0.7**
	comp=Z,104nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.41**	**7**	Pn	**P**	**09 08 19.1**	**-0.2**
	comp=Z,3.7nm,0.3s,baz=197,slow=12,SNR=74						
CMAR				Sn	**S**	**09 11 28.2**	**+8.0**
	comp=Z,0.3nm,0.3s,baz=199,slow=16,SNR=2.6						
CMAR				Lg		09 13 18.4	
	comp=Z,0.2nm,0.3s,baz=190,slow=26,SNR=4.7						
CMAR				LR	LR	09 14 53.7	
	comp=Z,5μm,21.0s,baz=190,slow=38						
CMAR				ScP		09 16 45.0	
	baz=223,slow=3.5,SNR=5.7						
CHG	**Chiang Mai**	**16.77**	**7**	P	**P**	**09 08 23.1**	**-0.7**
	comp=Z,78nm,1.1s						
PALK	**Pallekele**	**16.87**	**288**	*e*P	**P**	**09 08 25.6**	**+0.4**
	comp=Z,224nm,1.5s						
MDRS	**Chennai**	**19.71**	**304**	*e*P	**P**	**09 09 00.5**	**+0.9**
MDRS				*e*S	**S**	**09 12 41.7**	**+6.9**
KKM	**Kota Kinabalu**	**19.74**	**78**	*e*P	**P**	**09 09 00.0**	**+0.1**
KKM	**Kota Kinabalu**	**19.74**	**78**	P	**P**	**09 08 59.7**	**-0.2**
VIS	**Vishakhapatnam**	**20.43**	**320**	*e*P	**P**	**09 09 06.2**	**-1.0**
VIS				*e*		09 09 27.4	
	comp=Z,365nm,1.2s						
VIS				*e*S	**S**	**09 12 53.1**	**+3.6**
TRD	**Trivandrum**	**20.78**	**289**	*i* S	**S**	**09 13 03.2**	**+6.7**
BWNR	**Bhubaneshwar**	**21.07**	**330**	*e*P	**P**	**09 09 15.8**	**+2.2**
BWNR				*e*		09 09 18.0	
	comp=Z,272nm,1.2s						
BWNR				*e*S	**S**	**09 13 07.4**	**+5.4**
TSM	**Tawau**	**21.13**	**83**	P	**P**	**09 09 14.1**	**-0.2**
QIZ	**Qiongzhong**	**21.13**	**36**	P	**P**	**09 09 15.2**	**+0.9**
QIZ				PP	PP	09 09 38.9	+1.2
QIZ				S	**S**	**09 13 03.9**	**+0.7**
QIZ				XS		09 13 14.7	
QIZ				AMB	AMB		
	comp=Z,50nm,0.9s,mb4.8						
QIZ				LR	LR		
	comp=N,8μm,20.3s,MS5.2						
QIZ				LR	LR		
	comp=E,6μm,20.4s,MS5.2						
QIZ				LR	LR		
	comp=Z,7μm,16.1s,MS5.1						
QIZ	**Qiongzhong**	**21.13**	**36**	*e*P	**P**	**09 09 14.7**	**+0.3**
	comp=Z,75nm,1.1s,mb4.9						
AGT	**Agartala**	**22.34**	**346**	⇑*i*	**P**	**09 09 23.0**	**-3.5**
AGT				*i*		09 10 08.0	
HYB	**Hyderabad**	**23.55**	**311**	*e*P	**P**	**09 09 40.5**	**+2.1**
HYB				*e*S	**S**	**09 13 52.0**	**+4.7**
HYB				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.0						
HYB	**Hyderabad**	**23.55**	**311**	*e*P	**P**	**09 09 40.5**	**+2.1**
	comp=Z,70nm,1.0s,mb5.0						
HYB				*e*S	**S**	**09 13 52.0**	**+4.7**
HYB	**Hyderabad**	**23.55**	**311**	*i* P	**P**	**09 09 40.5**	**+2.1**
	comp=Z,70nm,1.0s,mb5.0						
HYB				*e*S	**S**	**09 13 52.0**	**+4.7**
HYB				LR	LR		
	comp=Z,6.0nm,20.0s						
KMI	**Kunming**	**23.61**	**13**	P	**P**	**09 09 40.0**	**+1.0**
KMI				AP		09 09 47.1	
KMI				XP		09 09 50.0	
KMI				PP	PP	09 10 13.4	+1.7
KMI				S	**S**	**09 13 51.1**	**+2.8**
KMI				XS		09 14 03.0	
KMI				SS	SS	09 14 41.5	+4.2
KMI				AMB	AMB		
	comp=Z,81nm,1.4s,mb5.0						
KMI				AMB	AMB		
	comp=Z,1μm,5.1s						
KMI				LR	LR		
	comp=N,5μm,13.7s,MS5.3						
KMI				LR	LR		
	comp=E,5μm,15.0s,MS5.3						
KMI				LR	LR		
	comp=Z,6μm,15.0s,MS5.2						
KMI	**Kunming**	**23.61**	**13**	P	**P**	**09 09 40.0**	**+1.0**
KMI				*SP		09 09 50.0	
KMI						09 10 13.4	
KMI				PPP	PPP	09 10 23.8	+2.1
KMI				S	**S**	**09 13 51.1**	**+2.8**
KMI				*SS		09 14 03.0	
KMI				SS	SS	09 14 41.5	+4.2
KMI				SSS	SSS	09 14 57.2	+3.8
KMI				pmax	pmax		
	comp=Z,81nm,1.4s,mb5.0						
KMI				MLR	MLR		
	comp=Z,6μm,15.0s,MS5.2						
KMI	**Kunming**	**23.61**	**13**	P	**P**	**09 09 40.0**	**+1.0**
	comp=Z,81nm,1.4s,mb5.0						
KMI				pP		09 09 47.1	
KMI				sP		09 09 50.0	
KMI				PP	PP	09 10 13.4	+1.7
KMI				PPP	PPP	09 10 23.8	+2.1
KMI				S	**S**	**09 13 51.1**	**+2.8**
KMI				sS		09 14 03.0	
KMI				SS	SS	09 14 41.5	+4.2
KMI				SSS	SSS	09 14 57.2	+3.8
KMI				LR	LR		
	comp=Z,6μm,15.0s,MS5.2						
NINI	**Niniconang**	**23.80**	**106**	*e*P	**P**	**09 09 42.3**	**+1.4**
SHL	**Shillong**	**23.84**	**349**	*e*P	**P**	**09 09 39.5**	**-1.6**
SHL				*e*		09 13 53.5	
BOK	**Bokaro**	**24.05**	**335**	*e*P	**P**	**09 09 42.9**	**-0.3**
BOK				*e*		09 09 47.3	
	comp=Z,314nm,1.1s						
BOK				*e*		09 13 56.0	
BUNI	**Buntu Taipa**	**24.17**	**104**	*e*P	**P**	**09 09 46.0**	**+1.5**
BLSP	**Bilaspur**	**24.52**	**325**	*e*P	**P**	**09 09 49.0**	**+1.1**
BLSP				*e*		09 10 00.8	
	comp=Z,167nm,1.3s						
BLSP				*e*S	**S**	**09 14 04.8**	**+0.8**
GYA	**Guiyang**	**26.02**	**20**	⇑*i*P	**P**	**09 10 01.4**	**-0.5**
GYA				AP	pP	09 10 08.2	-1.3
GYA				XP	sP	09 10 11.5	-1.4
GYA				PP	PP	09 10 48.3	+4.9
GYA				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.2						
GYA				AMB	AMB		
	comp=Z,630nm,8.1s						
GYA				LR	LR		
	comp=N,9μm,17.9s,MS5.4						
GYA				LR	LR		
	comp=E,5μm,16.2s,MS5.4						
GYA				LR	LR		
	comp=Z,4μm,19.1s,MS4.9						
GZH	**Guangzhou**	**26.32**	**36**	P	**P**	**09 10 09.2**	**+4.4**
GZH				S	**S**	**09 14 33.5**	**-0.5**
GZH				LR	LR		
	comp=N,10μm,19.3s,MS5.5						
GZH				LR	LR		
	comp=E,6μm,18.3s,MS5.5						
GZH				LR	LR		
	comp=Z,10μm,17.4s,MS5.4						
AKL	**Akola**	**26.76**	**315**	*e*	**P**	**09 10 12.0**	**+3.2**
KAD	**Karad**	**26.91**	**306**	*e*	**P**	**09 10 19.0**	**+8.8**
SNPH	**Sibulan**	**27.24**	**74**	⇑*e*P	**P**	**09 10 15.0**	**+1.8**
JIRN	**Jiri**	**27.40**	**339**	*e*P	**P**	**09 10 14.8**	**+0.2**
	comp=Z,346nm,1.1s,mb5.8						
PKI	**Pulchoki**	**27.61**	**338**	*e*P	**P**	**09 10 16.0**	**-0.4**
	comp=Z,148nm,1.2s,mb5.5						
PKI	**Pulchoki**	**27.61**	**338**	*e*P	**P**	**09 10 16.0**	**-0.4**
PKI				pmax	pmax		
	comp=Z,74nm,1.2s,mb5.2						
GUN	**Gumba**	**27.74**	**339**	*e*P	**P**	**09 10 17.6**	**-0.1**
	comp=Z,254nm,0.8s,mb5.9						
DMN	**Daman**	**27.76**	**337**	*e*P	**P**	**09 10 17.6**	**-0.2**
	comp=Z,117nm,0.9s,mb5.5						
POO	**Poona**	**27.83**	**308**	⇓*i*	**P**	**09 10 26.0**	**+7.5**
	comp=Z,107nm,1.5s,mb5.2						
KKN	**Kakani**	**27.85**	**338**	*e*P	**P**	**09 10 18.5**	**-0.2**
	comp=Z,233nm,1.2s,mb5.7						
KKN	**Kakani**	**27.85**	**338**	*e*P	**P**	**09 10 18.5**	**-0.2**
KKN				pmax	pmax		
	comp=Z,116nm,1.2s,mb5.4						
LSA	**Lhasa**	**28.00**	**349**	P	**P**	**09 10 19.3**	**-0.7**
LSA				AP	pP	09 10 28.3	+0.8
LSA				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.3						
LSA				LR	LR		
	comp=N,2μm,26.6s,MS4.8						
LSA				LR	LR		
	comp=E,2μm,25.8s,MS4.8						
LSA				LR	LR		
	comp=Z,4μm,24.1s,MS5.0						
LSA	**Lhasa**	**28.00**	**349**	⇑*e*P	**P**	**09 10 19.9**	**-0.1**
LSA				pmax	pmax		
	comp=Z,68nm,0.9s,mb5.3						
LSA	**Lhasa**	**28.00**	**349**	⇑*e*P	**P**	**09 10 19.9**	**0.0**
	comp=Z,68nm,0.9s,mb5.3						
BHPL	**Bhopal**	**28.22**	**320**	*e*P	**P**	**09 10 20.2**	**-1.9**
BHPL				*e*		09 10 33.0	
	comp=Z,65nm,1.8s						
BHPL				*e*S	**S**	**09 15 04.0**	**-0.7**
GKN	**Gorkha**	**28.29**	**337**	*e*P	**P**	**09 10 22.3**	**-0.3**
	comp=Z,246nm,1.0s,mb5.8						
KOLN	**Koldanda**	**28.51**	**335**	*e*P	**P**	**09 10 24.8**	**+0.2**
	comp=Z,134nm,0.9s,mb5.7						
CD2	**Chengdu**	**29.42**	**12**	P	**P**	**09 10 31.6**	**-1.2**
CD2				PP	PP	09 11 30.9	+2.4
CD2				S	**S**	**09 15 21.1**	**-2.7**
CD2				SS	SS	09 16 52.2	-4.4
CD2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.5						
CD2				AMB	AMB		
	comp=Z,450nm,13.2s						
CD2				LR	LR		
	comp=E,10μm,18.0s						
CD2				LR	LR		
	comp=Z,4μm,21.6s,MS5.0						
ENH	**Enshi**	**30.51**	**22**	⇑*e*P	**P**	**09 10 40.1**	**-2.3**
	comp=Z,38nm,0.6s,mb5.4						
AGRA	**Agra**	**30.87**	**326**	*e*P	**P**	**09 10 44.8**	**-0.8**
QZH	**Quanzhou**	**30.95**	**41**	⇑*i*P	**P**	**09 10 45.8**	**-0.6**
QZH				S	**S**	**09 15 50.2**	**+2.1**
QZH				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.5						
QZH				AMB	AMB		
	comp=Z,1μm,4.1s						
QZH				LR	LR		
	comp=N,12μm,15.9s,MS5.8						
QZH				LR	LR		
	comp=E,8μm,14.4s,MS5.8						
QZH				LR	LR		
	comp=Z,15μm,15.8s,MS5.8						
LGTI	**Lohaghat**	**31.46**	**332**	*e*P	**P**	**09 10 52.0**	**+1.2**
SONA	**Sohna**	**32.14**	**326**	*e*P	**P**	**09 10 56.0**	**-0.8**
SONA				*e*		09 11 00.3	
	comp=Z,105nm,1.1s						
MBWA	**Marble Bar**	**32.18**	**137**	*e*P	**P**	**09 10 57.1**	**-0.1**
	comp=Z,61nm,1.1s,mb5.3						
MBWA				*e*pP	pP	09 11 04.8	-0.1
AJM	**Ajmer**	**32.29**	**321**	*e*P	**P**	**09 10 58.3**	**+0.2**
AJM				*e*		09 11 10.7	
	comp=Z,108nm,1.2s						
AJM				*e*S	**S**	**09 16 08.6**	**-0.4**
AYAN	**Aya Nagar**	**32.30**	**326**	*e*P	**P**	**09 10 57.1**	**-1.0**
AYAN				*e*		09 11 02.1	
	comp=Z,30nm,0.7s						
NDI	**New Delhi**	**32.40**	**327**	*e*P	**P**	**09 10 57.0**	**-2.0**
NDI				*e*		09 16 09.0	
BHGR	**Bahadurgarh**	**32.56**	**326**	*e*P	**P**	**09 10 59.2**	**-1.2**
KHET	**Khetri**	**32.74**	**324**	*e*P	**P**	**09 11 01.6**	**-0.4**
KHET				*e*		09 11 13.3	
	comp=Z,87nm,0.9s						
WHN	**Wuhan**	**32.82**	**29**	⇓P	**P**	**09 11 02.5**	**-0.2**
WHN				S	**S**	**09 16 26.0**	**+8.8**
WHN				LR	LR		
	comp=Z,8μm,13.0s,MS5.6						
DDI	**Dehra Dun**	**33.26**	**330**	*e*P	**P**	**09 11 06.4**	**-0.1**
DDI				*e*		09 16 22.5	
KKR	**Kurukshetra**	**33.61**	**328**	*e*P	**P**	**09 11 09.5**	**0.0**
KLP	**Kalpa**	**34.15**	**331**	*e*P	**P**	**09 11 13.7**	**-0.5**
KLP				*e*		09 11 40.8	
	comp=Z,113nm,1.6s						
SMLA	**Simla**	**34.36**	**329**	⇓*i*	**P**	**09 11 12.0**	**-4.0**
	comp=Z,37nm,0.3s,mb5.8						
SMLA				*i* S	**S**	**09 16 39.1**	**-1.9**
LZH	**Lanzhou**	**34.46**	**10**	⇑P	**P**	**09 11 16.0**	**-0.8**
LZH				AP	pP	09 11 23.5	-1.0
LZH				XP	sP	09 11 27.5	-0.3
LZH				PP	PP	09 12 32.5	-0.5
LZH				S	**S**	**09 16 41.5**	**-1.1**
LZH				XS		09 16 55.0	
LZH				SS	SS	09 18 54.0	0.0
LZH				AMB	AMB		
	comp=Z,211nm,1.7s,mb5.8						
LZH				AMB	AMB		
	comp=Z,570nm,4.0s						
LZH				LR	LR		
	comp=E,8μm,14.8s						
LZH				LR	LR		
	comp=Z,9μm,16.0s,MS5.6						
LZH	**Lanzhou**	**34.46**	**10**	⇑P	**P**	**09 11 16.0**	**-0.8**
LZH				*SP	sP	09 11 27.5	-0.3
LZH						09 12 32.5	
LZH				S	**S**	**09 16 41.5**	**-1.1**
LZH				*SS		09 16 55.0	
LZH				SS	SS	09 18 54.0	0.0
LZH				pmax	pmax		
	comp=Z,211nm,1.7s,mb5.8						
LZH				MLR	MLR		
	comp=Z,9μm,16.0s,MS5.6						
LZH	**Lanzhou**	**34.46**	**10**	⇑P	**P**	**09 11 16.0**	**-0.8**
	comp=Z,211nm,1.7s,mb5.8						
LZH				pP	pP	09 11 23.5	-1.0
LZH				sP	sP	09 11 27.5	-0.3
LZH				PP	PP	09 12 32.5	-0.5
LZH				S	**S**	**09 16 41.5**	**-1.1**
LZH				sS		09 16 55.0	
LZH				SS	SS	09 18 54.0	0.0
LZH				LR	LR		
	comp=Z,9μm,16.0s,MS5.6						
FITZ	**Fitzroy Crossi**	**34.74**	**126**	*e*P	**P**	**09 11 18.4**	**-1.0**
	comp=Z,36nm,0.8s,mb5.4						
FITZ	**Fitzroy Crossi**	**34.74**	**126**	P	**P**	**09 11 18.2**	**-1.2**
	comp=Z,44nm,0.9s,mb5.4,baz=314,slow=7.4,SNR=36						
FITZ				LR	LR	09 27 16.3	
	comp=Z,2μm,18.4s,MS4.8,baz=310,slow=39						
SDNR	**Sundarnagar**	**34.76**	**329**	*e*P	**P**	**09 11 19.8**	**+0.4**
BHK	**Bhakra**	**34.97**	**329**	*e*	**P**	**09 11 23.0**	**+1.7**
PONG	**Pong**	**35.64**	**329**	*e*	**P**	**09 11 22.0**	**-4.9**
PONG				*e*		09 13 53.0	
THN	**Thein Dam**	**36.14**	**329**	*e*P	**P**	**09 11 30.2**	**-0.9**
NJ2	**Nanjing**	**36.33**	**33**	*e*P	**P**	**09 11 32.8**	**+0.1**
NJ2				AP	pP	09 11 40.5	+0.1
NJ2				XP	sP	09 11 44.1	+0.4
NJ2				PP	PP	09 12 56.5	+0.2
NJ2				S	**S**	**09 17 15.0**	**+3.6**
NJ2				XS		09 17 28.0	
NJ2				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,510nm,5.3s						
NJ2				LR	LR		
	comp=N,9μm,21.5s,MS5.7						
NJ2				LR	LR		
	comp=E,10μm,21.6s,MS5.7						
NJ2				LR	LR		
	comp=Z,5μm,14.4s						
SSE	**Sheshan**	**36.92**	**36**	*e*P	**P**	**09 11 38.2**	**+0.5**
SSE				*e*AP	pP	09 11 46.8	+1.3
SSE				S	**S**	**09 17 22.7**	**+2.1**
SSE				*e*XS		09 17 36.1	
SSE				AMB	AMB		
	comp=Z,46nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,319nm,7.9s						
SSE				LR	LR		
	comp=N,4μm,20.9s,MS5.3						
SSE				LR	LR		
	comp=E,3μm,20.8s,MS5.3						
SSE				LR	LR		
	comp=Z,5μm,17.1s,MS5.3						
SSE	**Sheshan**	**36.92**	**36**	*e*P	**P**	**09 11 38.2**	**+0.5**
	comp=Z,46nm,0.8s,mb5.4						
SSE				*e*pP	pP	09 11 46.8	+1.3
SSE				S	**S**	**09 17 22.7**	**+2.1**
SSE				*e*sS		09 17 36.1	
SSE				LR	LR		
	comp=Z,5μm,17.1s,MS5.3						
GTA	**Gaotai**	**37.26**	**4**	*e*P	**P**	**09 11 39.9**	**-0.6**
GTA				AP	pP	09 11 47.7	-0.5
GTA				XP	sP	09 11 51.1	-0.4
GTA				SCP		09 17 46.6	
GTA				SCS	ScS	09 21 51.7	+0.9
GTA				AMB	AMB		
	comp=Z,143nm,1.1s,mb5.7						
GTA				AMB	AMB		
	comp=Z,839nm,7.2s						
GTA				LR	LR		
	comp=N,1μm,22.1s						
GTA				LR	LR		
	comp=E,2μm,15.2s						
GTA				LR	LR		
	comp=Z,1μm,20.9s,MS4.8						
TIY	**Taiyuan**	**38.26**	**20**	⇑P	**P**	**09 11 48.0**	**-0.9**
TIY				LR	LR		
	comp=N,7μm,15.0s						
TIY				LR	LR		
	comp=Z,2μm,14.0s,MS5.0						
KAKA	**Kakadu**	**38.29**	**113**	⇓*i*P	**P**	**09 11 48.3**	**-1.0**
	comp=Z,47nm,0.6s,mb5.4						
MUN	**Mundaring**	**38.54**	**153**	*e*P	pP	09 12 01.6	+2.6
	comp=Z,106nm,0.9s						
TIA	**Tai'an**	**38.82**	**27**	*e*P	**P**	**09 11 53.0**	**-0.6**
JOW	**Kunigami**	**38.93**	**48**	P	**P**	**09 11 55.2**	**+0.6**
	comp=Z,48nm,0.6s,mb5.4,baz=229,slow=8.3,SNR=24						
JOW				pP	pP	09 12 01.4	-1.0
	comp=Z,26nm,0.6s,baz=98,slow=26,SNR=4.9						
JOW				LR	LR	09 29 01.9	
	comp=Z,2μm,20.4s,MS4.9,baz=163,slow=38						
NWAO	**Narrogin (SRO)**	**39.80**	**153**	pP	pP	09 12 10.4	+0.9
	comp=Z,15nm,0.8s,baz=323,slow=11,SNR=6.3						
NWAO				LR	LR	09 27 51.9	
	comp=Z,3μm,21.3s,MS5.2,baz=331,slow=35						
BTO	**Baotou**	**40.17**	**16**	*e*P	**P**	**09 12 04.2**	**-0.6**
BTO				S	**S**	**09 18 01.5**	**-8.2**
BTO				AMB	AMB		
	comp=Z,57nm,2.5s,mb4.9						
BTO				LR	LR		
	comp=N,1μm,11.6s						
BTO				LR	LR		
	comp=E,4μm,20.8s						
HHC	**Hu-ho-hao-te**	**40.84**	**17**	⇑P	**P**	**09 12 10.9**	**+0.7**
HHC				AP	pP	09 12 18.0	0.0
HHC				XP	sP	09 12 21.0	-0.2
HHC				PP	PP	09 13 44.2	-3.3
HHC				PCP	PcP	09 14 12.9	+1.4
HHC				SCP		09 17 59.4	
HHC				PCS		09 18 05.1	
HHC				S	**S**	**09 18 20.7**	**+1.2**
HHC				XS		09 18 31.4	
HHC				AMB	AMB		
	comp=Z,60nm,1.5s,mb5.0						
HHC				LR	LR		
	comp=N,3μm,15.7s,MS5.4						
HHC				LR	LR		
	comp=E,2μm,14.7s,MS5.4						
HHC				LR	LR		
	comp=Z,3μm,15.4s,MS5.2						
BJT	**Baijiatuau**	**41.65**	**23**	⇑*i*P	**P**	**09 12 17.6**	**+0.6**
BJT				pmax	pmax		
	comp=Z,47nm,0.6s						
BJT	**Baijiatuau**	**41.65**	**23**	⇑*i*P	**P**	**09 12 17.6**	**+0.6**
	comp=Z,47nm,0.6s,mb5.3						
BJI	**Beijing**	**41.68**	**22**	P	**P**	**09 12 17.7**	**+0.5**
BJI				AP	pP	09 12 26.2	+1.3
BJI				XP	sP	09 12 29.9	+1.8
BJI				S	**S**	**09 18 40.4**	**+8.4**
BJI				SCS	ScS	09 22 15.5	-1.0
BJI				AMB	AMB		
	comp=Z,97nm,1.0s,mb5.4						
BJI				AMB	AMB		
	comp=Z,1μm,3.7s						
BJI				LR	LR		
	comp=N,2μm,22.8s						
BJI				LR	LR		
	comp=E,5μm,17.4s						
BJI				LR	LR		
	comp=Z,3μm,16.7s						
KSH	**Kashi**	**41.83**	**336**	*e*P	**P**	**09 12 18.6**	**+0.2**
KSH				AP	pP	09 12 25.6	-0.5
KSH				XP	sP	09 12 28.8	-0.6
KSH				*e*PP	PP	09 13 57.6	-0.7
KSH				*e*PCP	PcP	09 14 16.5	+1.7
KSH				*e*SCP		09 18 02.9	
KSH				*e*PCS		09 18 05.7	
KSH				*e*S	**S**	**09 18 32.5**	**-1.7**
KSH				*e*SCS	ScS	09 22 18.5	+1.1
KSH				AMB	AMB		
	comp=Z,790nm,4.4s						
KSH				LR	LR		
	comp=N,4μm,17.0s,MS5.5						
KSH				LR	LR		
	comp=E,4μm,18.0s,MS5.5						
WMQ	**Urumqi**	**42.35**	**350**	P	**P**	**09 12 23.0**	**+0.3**
WMQ				AP	pP	09 12 30.5	+0.1
WMQ				XP	sP	09 12 34.0	+0.4
WMQ				PP	PP	09 14 04.5	+0.8
WMQ				PCP	PcP	09 14 16.5	0.0
WMQ				SCP		09 18 04.2	
WMQ				S	**S**	**09 18 42.8**	**+0.8**
WMQ				XS		09 18 55.0	
WMQ				AMB	AMB		
	comp=Z,41nm,1.3s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,854nm,4.5s						
WMQ				LR	LR		
	comp=N,2μm,18.3s,MS5.1						
WMQ				LR	LR		
	comp=E,1μm,20.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,1μm,19.5s,MS4.7						
WRA	**Warramunga Arr**	**42.81**	**123**	P	**P**	**09 12 26.3**	**-0.4**
	comp=Z,48nm,0.8s,mb5.3,baz=301,slow=9.1,SNR=211						
WRA				S	**S**	**09 18 43.1**	**-6.0**
	comp=Z,1.8nm,1.1s,baz=293,slow=17,SNR=4.7						
WRAB	**Tennant Creek**	**42.82**	**123**	⇑*e*P	**P**	**09 12 25.9**	**-0.9**
WRAB			

WRAB MLR MLR
comp=Z,862nm,19.0s,MS4.7
WRAB Tennant Creek 42.82 123⇑ eP P 09 12 25.9 -0.9
comp=Z,100nm,1.0s,mb5.5
WRAB LR LR
comp=Z,862nm,19.0s,MS4.7
DL2 Dalian 43.09 29 P P 09 12 29.2 +0.5
DL2 S S 09 18 54.8 +2.0
DL2 AMB AMB
comp=Z,100nm,0.7s,mb5.7
DL2 AMB AMB
comp=Z,430nm,7.2s
DL2 LR LR
comp=E,2μm,18.7s
DL2 LR LR
comp=Z,2μm,20.5s,MS5.0
MENI Mendum Tagoi 43.82 96⇑ iP P 09 12 32.6 -2.4
MENI pmax pmax
comp=Z,57nm,0.9s,mb5.3
MENI Mendum Tagoi 43.82 96⇑ iP P 09 12 32.6 -2.4
comp=Z,57nm,0.9s,mb5.3
YOMI Yo Moklole 43.97 96⇓ iP P 09 12 33.2 -3.0
comp=Z,144nm,0.8s,mb5.8
ULHL Ulahol 44.05 338 P P 09 12 37.6 +1.1
SNR=29
FORT Forrest 44.18 140⇓ iP P 09 12 39.0 +1.3
comp=Z,1μm,0.7s
ASPA Alice Springs 44.22 128⇓ iP P 09 12 38.4 +0.3
ASAR Alice Springs 44.22 128 P P 09 12 37.6 -0.5
comp=Z,29nm,0.8s,mb5.0,baz=304,slow=7.6,SNR=163
ASAR pP pP 09 12 46.5 +0.7
comp=Z,21nm,0.9s,baz=301,slow=7.7,SNR=13
ASAR PcP PcP 09 14 23.2 +0.2
comp=Z,5.2nm,0.7s,baz=295,slow=3.1,SNR=5.6
ASAR pPcP 09 14 31.2
comp=Z,5.2nm,0.7s,baz=306,slow=3.5,SNR=5.2
ASAR S S 09 19 07.2 -2.2
comp=Z,0.9nm,1.1s,baz=284,slow=19,SNR=2.9
KZA Kyzart 44.29 337 P P 09 12 39.9 +1.5
SNR=32
AAA Alma-Ata 44.68 339 eP P 09 12 42.0 +0.4
AAA i S S 09 19 18.0 +2.1
AAA pmax pmax
comp=Z,1μm,4.0s
AAA smax
comp=E,1μm,5.0s
AAA MLR MLR
comp=Z,1μm,16.0s,MS4.8
UCH Uchtor 44.70 336 P P 09 12 43.0 +1.2
SNR=81
TKM2 Tokmak 2 44.87 338 P P 09 12 44.2 +1.1
SNR=60
KBK Karagaybulak 44.90 337 P P 09 12 45.3 +2.0
SNR=15
AML Almayashu 44.96 336 P P 09 12 45.5 +1.7
SNR=87
AAK Ala-Archa 45.05 337 P P 09 12 46.1 +1.6
SNR=40
AAK Ala-Archa 45.05 337 P P 09 12 44.8 +0.2
AAK pmax pmax
comp=Z,155nm,1.6s,mb5.6
FRU Bishkek 45.17 337⇑ eP P 09 12 46.0 +0.5
FRU eS S 09 19 24.0 +1.1
FRU e 09 19 40.0
FRU pmax pmax
comp=Z,220nm,2.1s,mb5.6
FRU MLR MLR
comp=Z,2μm,18.0s,MS5.2
CHMS Chumysh 45.26 337 P P 09 12 47.1 +0.9
SNR=17
EKS2 Erkin-Say 45.36 336 P P 09 12 47.8 +0.8
SNR=24
USP Ospenovka 45.59 337 P P 09 12 49.9 +1.2
SNR=33
SNY Shenyang 46.30 28 ⇑P P 09 12 53.3 -1.2
SNY AMB AMB
comp=Z,90nm,0.9s,mb5.7
SNY AMB AMB
comp=Z,380nm,6.7s
SNY LR LR
comp=N,4μm,18.0s,MS5.5
SNY LR LR
comp=E,2μm,15.7s,MS5.5
SNY LR LR
comp=Z,3μm,17.8s,MS5.3
MKAR Makanchi Array 46.31 346 P P 09 12 53.7 -0.7
comp=Z,62nm,0.9s,mb5.5,baz=162,slow=7.7,SNR=195
MKAR pP pP 09 13 02.7 +0.5
comp=Z,32nm,0.6s,baz=165,slow=6.7,SNR=16
MKAR S S 09 19 39.3 +0.2
comp=Z,0.4nm,0.6s,baz=146,slow=10,SNR=2.5
SONM Songino Array 46.33 9 P P 09 12 54.1 -0.4
comp=Z,33nm,0.7s,mb5.4,baz=192,slow=7.5,SNR=213
SONM PcP PcP 09 14 29.7 -0.3
comp=Z,7.2nm,0.6s,baz=194,slow=3.7,SNR=8.7
SONM pPcP 09 14 38.7
comp=Z,8.5nm,0.6s,baz=196,slow=3.3,SNR=8.8
ULN Ulaanbaatar 46.46 9c iP P 09 12 55.3 -0.3
ULN Ulaanbaatar 46.46 9⇑ eP P 09 12 55.1 -0.6
comp=Z,46nm,1.2s,mb5.3
ULN LR LR
comp=Z,2μm,20.0s,MS5.0
KKAR Karatay Array 47.11 334 i P P 09 13 00.3 -0.5
KKAR pmax pmax
comp=Z,134nm,1.6s,mb5.6
ZAK Zakamensk 48.44 6⇑ iP P 09 13 11.1 0.0
ZAK pmax pmax
comp=Z,26nm,1.8s,mb5.0
CN2 Changchun 48.70 27 ⇓P P 09 13 13.2 0.0
CN2 eXP sP 09 13 24.3 +0.1
CN2 eS S 09 20 14.1 +1.1
CN2 AMB AMB
comp=Z,90nm,1.1s,mb5.7
CN2 AMB AMB
comp=Z,500nm,5.0s
CN2 LR LR
comp=N,4μm,15.0s,MS5.6
CN2 LR LR
comp=E,2μm,15.0s,MS5.6
CN2 LR LR
comp=Z,5μm,17.0s,MS5.6
MOY Mondy 49.54 3 eP P 09 13 19.4 -0.2
MOY pmax pmax
comp=Z,139nm,2.6s,mb5.5
TLY Talaya 49.76 6c iP P 09 13 21.0 -0.3
TLY e 09 15 15.3
TLY eS S 09 20 29.4 +1.7
TLY e 09 23 08.0
TLY pmax pmax
comp=Z,42nm,1.0s,mb5.4
TLY MLR MLR
comp=Z,3μm,17.0s,MS5.3
CBIJ Chichi jima 50.04 56 P P 09 13 22.1 -1.6
comp=Z,105nm,0.7s,mb6.0,baz=289,slow=22,SNR=6.5
CBIJ LR LR 09 33 29.3
comp=Z,829nm,19.9s,MS4.7,baz=138,slow=35
IRK Irkutsk 50.38 6 eP P 09 13 26.2 +0.2
IRK e 09 14 51.3
IRK pmax pmax
comp=Z,168nm,2.3s,mb5.7
HIA Hailar 50.94 19⇑ eP P 09 13 29.2 -1.1
HIA pmax pmax
comp=Z,70nm,0.8s
HIA Hailar 50.94 19⇑ eP P 09 13 29.2 -1.0
comp=Z,70nm,0.8s,mb5.6
MDJ Mudanjiang 51.29 30 P P 09 13 32.8 -0.2
MDJ AP pP 09 13 39.1 -1.8
MDJ XP sP 09 13 41.7 -2.3
MDJ PP PP 09 15 27.9 -2.9
MDJ SCP 09 18 42.2
MDJ S S 09 20 50.2 +1.3
MDJ SS SS 09 24 25.8 +3.3
MDJ AMB AMB
comp=Z,28nm,0.8s,mb5.2
MDJ AMB AMB
comp=Z,575nm,6.6s
MDJ LR LR
comp=N,4μm,16.3s,MS5.5
MDJ LR LR
comp=E,1μm,15.5s,MS5.5
MDJ LR LR
comp=Z,5μm,15.7s,MS5.6
MDJ Mudanjiang 51.29 30⇑ iP P 09 13 32.8 -0.3
comp=Z,23nm,0.7s,mb5.2
MAJO Matsushiro 51.30 43 eP P 09 13 31.7 -1.5
MAJO pmax pmax
comp=Z,43nm,0.8s,mb5.4
MAJO MLR MLR
comp=Z,2μm,20.0s,MS5.1
MAJO Matsushiro 51.30 43 eP P 09 13 31.7 -1.5
comp=Z,43nm,0.8s,mb5.4
MAJO LR LR
comp=Z,2μm,20.0s,MS5.1
MAT Matsushiro 51.30 43 eP P 09 13 32.0 -1.2
MAT pmax pmax
comp=Z,40nm,0.8s,mb5.4
MAT Matsushiro 51.30 43 eP P 09 13 32.0 -1.2
comp=Z,40nm,0.8s,mb5.4
MAT Matsushiro 51.30 43 P P 09 13 31.7 -1.5
MJAR Matsushiro Arr 51.31 43 P P 09 13 32.2 -1.0
comp=Z,31nm,0.9s,mb5.2,baz=203,slow=6.4,SNR=46
MJAR pP pP 09 13 42.2 +1.1
comp=Z,22nm,0.7s,baz=207,slow=6.7,SNR=7.5
MJAR LR LR 09 36 15.7
comp=Z,2μm,20.0s,MS5.0,baz=230,slow=37
MJAR Matsushiro Arr 51.31 43 P P 09 13 32.2 -1.0
MJAR pP pP 09 13 42.2 +1.1
MJAR LR LR 09 36 15.7
PMG Port Moresby 51.42 104 eP P 09 13 34.0 -0.4
PMG pmax pmax
comp=Z,185nm,0.8s
PMG MLR MLR
comp=Z,1μm,20.0s
PMG Port Moresby 51.42 104 P P 09 13 34.2 -0.2
comp=Z,196nm,0.7s,mb6.1,baz=303,slow=3.2,SNR=54
PMG Port Moresby 51.42 104 eP P 09 13 34.0 -0.3
comp=Z,185nm,0.8s,mb6.1
PMG LR LR
comp=Z,1μm,20.0s,MS4.9
ZAL Zalesovo 52.63 351 P P 09 13 42.2 -0.8
comp=Z,35nm,0.8s,mb5.3,baz=310,slow=6.0,SNR=142
ZAL pP pP 09 13 51.3 +0.4
comp=Z,34nm,0.6s,baz=296,slow=6.4,SNR=18
ZAL S S 09 21 08.1 +0.9
comp=Z,1.5nm,0.3s,baz=200,slow=23,SNR=16
ZAL LR LR 09 40 23.4
comp=Z,1μm,20.9s,MS5.0,baz=295,slow=41
ZAL Zalesovo 52.63 351 P P 09 13 42.2 -0.8
ZAL pP pP 09 13 51.3 +0.4
ZAL S S 09 21 08.1 +0.9
ZAL LR LR 09 40 23.4
OPO Ambohidratompo 52.95 245 P P 09 13 44.7 -1.1
comp=Z,4.6nm,0.7s,mb4.5,baz=57,slow=6.2,SNR=10
OPO pP pP 09 13 52.6 -1.2
comp=Z,10nm,0.9s,baz=60,slow=10,SNR=7.2
CTA Charters Tower 53.23 117⇓ iP P 09 13 48.3 +0.4
comp=Z,42nm,0.9s,mb5.4
CTA i pP 09 13 57.0 +1.2
CTA Charters Tower 53.23 117⇓ iP P 09 13 48.3 +0.4
CTA i pP 09 13 57.0 +1.2
CTA pmax pmax
comp=Z,42nm,0.9s
CTA Charters Tower 53.23 117 P P 09 13 47.6 -0.3
comp=Z,53nm,0.9s,mb5.5,baz=290,slow=8.9,SNR=24
CTA pP pP 09 13 55.8 0.0
comp=Z,46nm,0.9s,baz=270,slow=10,SNR=11
CTA LR LR 09 40 34.1
comp=Z,2μm,18.8s,MS5.2,baz=14,slow=41
CTAO Charters Tower 53.23 117⇑ eP P 09 13 47.3 -0.6
CTAO e pP 09 13 55.8 0.0
CTAO pmax pmax
comp=Z,87nm,1.0s,mb5.6
CTAO MLR MLR
comp=Z,2μm,19.0s,MS5.2
CTAO Charters Tower 53.23 117⇑ eP P 09 13 47.3 -0.6
comp=Z,87nm,1.0s,mb5.6
CTAO e pP 09 13 55.8 0.0
CTAO LR LR
comp=Z,2μm,19.0s,MS5.2
NVS Novosibirsk 53.76 350⇑ iP P 09 13 49.1 -2.1
NVS i S S 09 21 16.4 -6.0
NVS pmax pmax
comp=Z,105nm,1.1s,mb5.7
NVS pmax pmax
comp=N,179nm,2.0s
NVS pmax pmax
comp=E,43nm,1.3s
NVS smax
comp=E,81nm,1.6s
STKA Stephens Creek 54.22 132⇓ iP P 09 13 55.0 +0.1
comp=E,25nm,0.9s,mb5.2
STKA Stephens Creek 54.22 132 P P 09 13 54.7 -0.3
comp=E,22nm,1.0s,mb5.0,baz=300,slow=8.1,SNR=31
STKA LR LR 09 38 49.4
comp=E,2μm,21.1s,MS5.1,baz=298,slow=38
ATD Arta Tunnel 54.33 283 pP pP 09 14 03.6 -0.3
comp=E,30nm,1.1s,baz=222,slow=2.0,SNR=5.7
ATD LR LR 09 34 39.6
comp=E,964nm,18.3s,MS4.9,baz=55,slow=33
BVA0 Borovoye Array 55.31 341 i P P 09 14 00.8 -1.8
BVA0 pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
BVAR Borovoye Array 55.31 341 P P 09 14 01.3 -1.3
comp=Z,14nm,0.7s,mb5.1,baz=149,slow=8.6,SNR=71
BVAR S S 09 21 42.8 -0.4
comp=Z,0.3nm,0.6s,baz=242,slow=35,SNR=2.3
KLR Kul'dur 55.65 27deP P 09 14 01.8 -3.4
KLR eS S 09 21 47.5 -0.3
KLR pmax pmax
comp=N,90nm,2.0s
KLR pmax pmax
comp=E,90nm,2.0s
KLR pmax pmax
comp=Z,140nm,2.0s,mb5.7
KLR MLR MLR
comp=E,3μm,14.0s
KLR MLR MLR
comp=Z,7μm,14.0s,MS5.9
CHKZ Chkalovo 55.78 341 i P P 09 14 04.1 -2.0
CHKZ pmax pmax
comp=Z,80nm,1.3s,mb5.6
BOD Bodaibo 57.23 11⇑ iP P 09 14 15.5 -0.8
BOD pmax pmax
comp=Z,44nm,1.1s,mb5.4
BHD Baghdad 58.00 308 eP P 09 14 23.0 +0.9
BHD epP pP 09 14 41.0 +11
BHD eS S 09 22 13.0 -6.1
BHD esS 09 22 28.0
ASAJ Asahikawa 58.20 37 P P 09 14 23.4 +0.1
comp=Z,14nm,0.6s,mb5.2,baz=244,slow=8.6,SNR=14
CLNS Chul'man 59.02 18c iP P 09 14 29.1 +0.2
CLNS e*PP pP 09 14 35.6 -1.3
CLNS pmax pmax
comp=N,18nm,0.7s
CLNS pmax pmax
comp=E,18nm,0.7s
CLNS pmax pmax
comp=Z,46nm,0.7s,mb5.6
CLNS pmax pmax
comp=Z,11nm,1.1s,mb4.8
CLNS pmax pmax
comp=N,8.0nm,0.6s
CLNS pmax pmax
comp=E,6.0nm,0.8s
KMBO Kilima Mbogo 59.65 267 eP P 09 14 33.0 -0.8
KMBO e*PP pP 09 14 41.9 0.0
KMBO pmax pmax
comp=Z,57nm,1.8s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 59.65 267 P P 09 14 33.9 +0.1
comp=Z,2.6nm,0.9s,mb4.3,baz=46,slow=6.1,SNR=7.1
KMBO LR LR 09 35 51.2
comp=Z,2μm,20.9s,MS5.2,baz=96,slow=32
KMBO Kilima Mbogo 59.65 267 eP P 09 14 33.0 -0.8
comp=Z,57nm,1.8s,mb5.3
KMBO epP pP 09 14 41.9 0.0
KMBO LR LR
comp=Z,2μm,20.0s,MS5.3
YSS Yuzh-Sakhalins 59.84 35⇓ eP P 09 14 35.0 +0.3
YSS e pP 09 14 42.4 -0.4
YSS e 09 14 50.0
YSS pmax pmax
comp=Z,50nm,0.8s,mb5.6
YSS pmax pmax
comp=N,40nm,0.7s
YSS pmax pmax
comp=E,30nm,0.8s
YSS Yuzh-Sakhalins 59.84 35 eP P 09 14 34.7 0.0
comp=E,42nm,0.6s,mb5.6
YSS epP pP 09 14 42.6 -0.1
YSS LR LR
comp=Z,1μm,22.0s,MS5.0
MSL Mosul 60.08 311 eP P 09 14 43.5 +7.0
MSL eS S 09 22 45.0 -1.1
GNI Garni 60.41 316 P P 09 14 38.1 -0.5
comp=Z,2.3nm,0.3s,mb4.6,baz=7.9,slow=19,SNR=6.1
DGRG David-gareji 60.54 318 P P 09 14 46.8 +7.3
UGL Uglegorsk 60.67 32 P P 09 14 36.0 -4.3
UGL pmax pmax
comp=Z,1μm,2.5s
TI2 Plekhanov 61.08 318 eP P 09 14 44.0 +0.8
SVE Sverdlovsk 61.74 338⇑ iP P 09 14 42.6 -4.9
SVE e 10 15 24.0
SVE pmax pmax
comp=Z,205nm,2.5s,mb5.8
SVE MLR MLR
comp=N,1μm,20.0s,MS5.0
SVE MLR MLR
comp=E,500nm,20.0s,MS5.0
SVE MLR MLR
comp=Z,2μm,20.0s,MS5.2
ZEI Tsey 62.10 318 eP P 09 14 47.0 -3.1
ZEI i *PP pP 09 15 03.3 +5.1
ZEI pmax pmax
comp=Z,12nm,0.8s,mb5.1
ARU Arti 62.24 337⇑ iP P 09 14 49.2 -1.6
ARU e 09 17 05.1
ARU eS S 09 23 13.2 0.0
ARU e 09 24 36.4
ARU eSS SS 09 27 19.7 +1.3
ARU pmax pmax
comp=Z,35nm,1.4s,mb5.3
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.1
ARU MLR MLR
comp=N,1μm,20.0s,MS5.2
ARU MLR MLR
comp=E,900nm,20.0s,MS5.2
ARU Arti 62.24 337⇑ eP P 09 14 49.0 -1.8
comp=E,34nm,1.0s,mb5.4
KIV Kislovodsk 63.41 319c iP P 09 14 57.5 -1.2
KIV i pP 09 15 05.0 -1.7
KIV e 09 17 17.8
KIV i S S 09 23 30.4 +2.3
KIV pmax pmax
comp=Z,28nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,400nm,16.0s,MS4.7
KIV Kislovodsk 63.41 319 eP P 09 14 56.7 -2.0
comp=Z,68nm,1.1s,mb5.7
GOF Gofitskoye 63.66 320⇓ iP P 09 14 57.3 -3.0
GOF pmax pmax
comp=Z,140nm,1.7s,mb5.7
HNR Honiara 63.90 101 P P 09 15 01.9 -0.6
comp=Z,165nm,0.8s,mb6.1,baz=254,slow=7.2,SNR=5.3
MALT Malatya 64.27 312 eP P 09 15 04.0 -0.5
MALT e*PP pP 09 15 12.4 -0.2
MALT pmax pmax
comp=Z,69nm,1.5s,mb5.5
MALT Malatya 64.27 312 eP P 09 15 04.0 -0.5
comp=Z,69nm,1.5s,mb5.5
MALT epP pP 09 15 12.4 -0.2
EIL Elat 64.68 302 eP P 09 15 06.8 -0.5
comp=Z,109nm,1.6s,mb5.6
YAK Yakutsk 64.69 16c iP P 09 15 05.5 -1.3
YAK e*PP pP 09 15 13.5 -1.4
YAK eS S 09 23 50.5 +6.8
YAK pmax pmax
comp=Z,91nm,0.9s,mb5.8
YAK pmax pmax
comp=N,37nm,1.2s
YAK pmax pmax
comp=E,23nm,1.1s
YAK smax
comp=N,239nm,18.9s
YAK smax
comp=E,131nm,19.1s
YAK MLR MLR
comp=Z,2μm,16.0s,MS5.3
YAK MLR MLR
comp=N,1μm,15.0s,MS5.3
YAK MLR MLR
comp=E,1μm,17.0s,MS5.3
YAK Yakutsk 64.69 16⇑ eP P 09 15 05.3 -1.5
comp=E,200nm,0.9s,mb6.2
YAK e pP 09 15 13.8 -1.0
SOKR Solikamsk 65.14 339c iP P 09 15 08.5 -1.2
SOKR S S 09 23 52.5 +3.3
SOKR SS SS 09 28 09.7 +6.1
SOKR pmax pmax
comp=Z,40nm,0.8s,mb5.5
SOKR MLR MLR
comp=Z,2μm,21.0s,MS5.2
SOC Sochi 65.22 318 i P P 09 15 08.1 -2.5
SOC e 09 15 37.9
SOC e 09 17 35.6
SOC ePPP PPP 09 19 05.4 -5.0
SOC i S S 09 23 46.0 -4.6
SOC e 09 24 57.8
SOC eSS SS 09 28 00.0 -5.2
SOC pmax pmax
comp=Z,55nm,1.1s,mb5.5
SOC pmax pmax
comp=N,11nm,0.7s
SOC pmax pmax
comp=E,14nm,0.8s
MBAR Mbarara 66.13 268 eP P 09 15 16.0 -0.8
MBAR pmax pmax
comp=Z,38nm,1.5s,mb5.2
MBAR Mbarara 66.13 268 eP P 09 15 16.0 -0.8
comp=Z,38nm,1.5s,mb5.2
ANN Anapa 67.20 318 eP P 09 15 27.4 +4.2
ANN eS S 09 24 22.7 +8.1
ANN pmax pmax
comp=Z,40nm,1.3s,mb5.3
CSS Prodhromos 67.24 307 eP P 09 15 22.5 -1.1
comp=Z,76nm,1.4s,mb5.5
CSS e pP 09 15 30.6 -1.1
BRTR Keskin Array B 68.25 312 P P 09 15 28.1 -1.7
comp=Z,2.7nm,0.7s,mb4.4,baz=133,slow=5.6,SNR=12
BRTR pP pP 09 15 36.2 -1.7
comp=Z,11nm,0.9s,baz=123,slow=6.2,SNR=14
VOR Voronezh 68.84 326 eP P 09 15 32.0 -1.3
VOR e*PP pP 09 15 40.0 -1.3
VOR pmax pmax
comp=Z,80nm,1.3s,mb5.5
CASY Casey 68.91 174 PFAKE 09 15 40.0 +6.6
CASY LR LR
comp=Z,2μm,20.0s,MS5.3
SIM Simferopol' 69.47 318 P P 09 15 44.3 +7.1
SIM S S 09 24 39.9 -1.7
SIM pmax pmax
comp=Z,42nm,1.1s,mb5.3
SIM MLR MLR
comp=Z,660nm,19.0s,MS4.9
LSZ Lusaka 70.00 253 eP P 09 15 39.9 -1.1
LSZ pmax pmax
comp=Z,51nm,1.7s,mb5.2
LSZ Lusaka 70.00 253 eP P 09 15 39.9 -1.1
comp=Z,52nm,1.7s,mb5.2
ISP Isparta 70.14 310 eP P 09 15 45.4 +4.0
MATP Matopo 70.51 248 P P 09 15 44.0 0.0
comp=Z,29nm,1.2s,mb5.1,baz=82,slow=8.1
MATP LR LR 09 44 01.1
comp=Z,2μm,18.1s,MS5.3,baz=90,slow=34
MATP Matopo 70.51 248 P P 09 15 44.0 0.0
MATP LR LR 09 44 01.1
MA2 Magadan 70.71 26 eP P 09 15 44.5 -0.1
MA2 e pP 09 15 52.8 +0.2
MA2 pmax pmax
comp=Z,28nm,0.8s,mb5.2
MA2 Magadan 70.71 26 eP P 09 15 44.5 -0.1
comp=Z,28nm,0.8s,mb5.2
MA2 e pP 09 15 52.8 +0.2
MOS Moscow 71.39 329 eP P 09 15 48.1 -0.6
MOS e pP 09 15 56.2 -0.6
MOS e 09 18 24.5
MOS ePPP PPP 09 20 06.5 -4.0
MOS eS S 09 25 00.3 -3.6
MOS ePS ScS 09 25 50.8 +2.8
MOS pmax pmax
comp=Z,400nm,2.0s,mb6.0
MOS pmax pmax
comp=Z,61nm,0.7s,mb5.6
MOS MLR MLR
comp=Z,2μm,21.2s,MS5.2
OBN Obninsk 71.68 328c iP P 09 15 49.8 -0.7

OBN *i* pP 09 15 58.3 -0.3
OBN *i* S S 09 25 04.2 -3.0
OBN *e*SS SS 09 29 44.4 -0.5
OBN pmax pmax
comp=Z,92nm,1.5s,mb5.5
OBN MLR MLR
comp=Z,900nm,19.0s,MS5.1
OBN Obninsk 71.68 328 *e*P **P 09 15 49.0 -1.5**
comp=Z,158nm,1.3s,mb5.8
PET Petropavlovsk 71.72 34 *e*P **P 09 15 51.0 +0.3**
PET pmax pmax
comp=Z,74nm,0.7s,mb5.7
PET MLR MLR
comp=Z,1μm,18.0s,MS5.2
PET Petropavlovsk 71.72 34 *e*P **P 09 15 50.6 -0.1**
DZM Mont Dzumac 71.98 114 P **P 09 15 51.8 -1.0**
comp=Z,8.4nm,1.1s,mb4.6,baz=304,slow=20,SNR=3.3
TIXI Tiksi 72.40 10⇑*i*P **P 09 15 52.9 -1.6**
SEY Seymchan 73.11 23 *i* P **P 09 16 00.5 +1.8**
SEY 09 16 19.3
SEY *e* 09 18 43.9
SEY *e*S S 09 25 24.1 +0.8
SEY *e*SS SS 09 29 58.7 -8.4
SEY pmax pmax
comp=Z,170nm,1.1s,mb5.9
SEY pmax pmax
comp=E,40nm,0.9s
SEY smax
comp=N,1μm,19.9s
SEY smax
comp=E,2μm,25.4s
SEY MLR MLR
comp=Z,9μm,22.0s,MS6.0
SEY MLR MLR
comp=N,8μm,21.0s,MS6.0
SEY MLR MLR
comp=E,2μm,18.0s,MS6.0
TIRR Tirgusor 73.24 316⇑P **P 09 15 59.3 -0.6**
MAW Mawson 73.47 193 P **P 09 16 00.9 +0.1**
comp=E,2.6nm,0.6s,mb4.4,baz=115,slow=16,SNR=10
MAW pP pP 09 16 09.4 +0.5
comp=E,7.1nm,0.7s,baz=10,slow=5.8,SNR=7.4
MAW LR LR 09 41 43.0
comp=E,1μm,21.4s,MS5.1,baz=36,slow=30
KIS Kishinev 73.60 319 *e*P **P 09 16 08.0 +6.1**
KIS MLR MLR
comp=Z,600nm,20.0s,MS4.9
KIS MLR MLR
comp=Z,600nm,20.0s
CFR Carcaliu 73.60 317 P pP 09 16 10.5 +0.4
LBTB Lobatse 73.94 243 P **P 09 16 04.5 +0.2**
comp=Z,5.8nm,0.7s,mb4.6,baz=85,slow=13,SNR=3.0
LBTB LR LR 09 43 56.9
comp=Z,2μm,20.2s,MS5.5,baz=93,slow=32
IDI Anoyia 74.09 306 P **P 09 16 04.7 -0.3**
comp=Z,7.1nm,0.8s,mb4.7,baz=73,slow=14,SNR=3.7
IDI pP pP 09 16 12.2 -0.9
comp=Z,14nm,0.9s,baz=53,slow=6.3,SNR=3.3
AKASG Malin Array Be 74.34 322 P **P 09 16 04.2 -1.9**
comp=Z,3.6nm,0.6s,mb4.5,baz=90,slow=4.7,SNR=23
AKASG pP pP 09 16 12.8 -1.5
comp=Z,6.4nm,0.6s,baz=85,slow=5.0,SNR=7.6
AKASG Malin Array Be 74.34 322 P **P 09 16 04.2 -1.9**
AKASG pP pP 09 16 12.8 -1.5
VRI Vrincioaia 74.73 317 P **P 09 16 09.0 +0.6**
VRI Vrincioaia 74.73 317⇑P **P 09 16 09.2 +0.7**
BOSA Boshof 74.89 240 P **P 09 16 09.4 -0.4**
comp=Z,5.3nm,0.8s,mb4.5,baz=59,slow=3.1,SNR=7.7
BOSA LR LR 09 45 40.0
comp=Z,1μm,18.3s,MS5.3,baz=60,slow=33
MLR Muntele Rosu 75.18 317 P **P 09 16 11.9 +0.8**
MLR Muntele Rosu 75.18 317⇑P **P 09 16 10.9 -0.2**
MTUR Matau 75.73 316 P pP 09 16 22.8 +0.4
BURAR Bucovina Array 76.12 319 P **P 09 16 17.6 +1.2**
BURAR Bucovina Array 76.12 319⇑P **P 09 16 17.2 +0.8**
MNK Minsk 76.22 326 *e*P **P 09 16 14.0 -2.8**
JOF Joensuu 77.20 335 *e*p **P 09 16 21.1 -1.0**
comp=Z,23nm,0.8s,mb5.2
LVV L'vov 77.36 321 *e*P **P 09 16 21.3 -1.9**
BOLS Boljevac 77.67 314⇓*i*P **P 09 16 23.4 -1.6**
SKO Skopje 77.76 312 *e*P **P 09 16 32.4 +6.8**
LVZ Lovozero 77.89 340 *e*P **P 09 16 25.5 -0.3**
LVZ pmax pmax
comp=Z,13nm,0.6s,mb5.0
LVZ pmax pmax
comp=N,18nm,1.1s
LVZ pmax pmax
comp=E,6.0nm,0.7s
LVZ MLR MLR
comp=Z,1μm,20.0s,MS5.2
LVZ MLR MLR
comp=N,892nm,23.0s,MS5.2
LVZ MLR MLR
comp=E,788nm,21.0s,MS5.2
KWP Kalwaria 78.16 320 *e*P **P 09 16 27.9 +0.3**
APA Apatity 78.18 339⇑*i*P **P 09 16 27.7 +0.3**
APA *i* 09 16 33.2
APA *i* S S 09 26 20.0 +1.0
APA pmax pmax
comp=Z,93nm,1.7s,mb5.4
APA MLR MLR
comp=Z,1μm,18.0s,MS5.3
KOLS Kolonicke sedl 78.31 320 *e*P **P 09 16 29.5 +1.0**
KOLS *e* pP 09 16 38.6 +1.9
KOLS *e* pP 09 16 39.0 +2.3
KOLS Kolonicke sedl 78.31 320 *e*P **P 09 16 29.5 +1.0**
KOLS *e* pP 09 16 39.0 +2.3
KOLS Kolonicke sedl 78.31 320 *e*P **P 09 16 29.7 +1.2**
KOLS *e* pP 09 16 38.6 +1.9
SUW Suwalki 78.75 325 *e*P **P 09 16 30.8 0.0**
CRVS Cervenica-Dubn 78.83 319 *e* **P 09 16 47.9 +17**
CRVS *e* 09 16 47.0
FINES FINESS Array B 79.06 332 P **P 09 16 31.5 -0.8**
comp=Z,6.3nm,0.6s,mb4.7,baz=94,slow=5.6,SNR=37
FINES pP pP 09 16 38.9 -1.7
comp=Z,12nm,0.7s,baz=104,slow=7.9,SNR=12
FINES FINESS Array B 79.06 332 P **P 09 16 31.5 -0.8**
FINES pP pP 09 16 38.9 -1.7
DIVS Divcibare 79.11 314 *e*P pP 09 16 41.9 +0.7
KAF Kangasniemi 79.14 333 *e*p **P 09 16 32.4 -0.3**
comp=Z,29nm,0.8s,mb5.2,baz=103,slow=5.0
KAF Kangasniemi 79.14 333 *e*P **P 09 16 32.4 -0.3**
KAF pmax pmax
comp=Z,29nm,0.8s,mb5.3
SUR Sutherland 79.33 237 P **P 09 16 35.7 +1.3**
comp=Z,16nm,1.0s,mb4.9,baz=135,slow=5.5,SNR=2.9
KECS Kecovo 79.41 319 *e*P pP 09 16 42.6 -0.1
KECS Kecovo 79.41 319 *e*pP pP 09 16 42.6 -0.1
PSZ Piszkesteto 79.71 318 *e*P **P 09 16 35.6 -0.5**
PSZ pmax pmax
comp=Z,88nm,1.5s,mb5.5
PSZ Piszkesteto 79.71 318 *e*P **P 09 16 35.6 -0.6**
comp=Z,88nm,1.5s,mb5.5
PSZ Piszkesteto 79.71 318 *e*P **P 09 16 36.5 +0.4**
OJC Ojcow 80.11 321 *e*P pP 09 16 46.3 -0.2
FX1 Attu Island--F 80.12 37 P **P 09 16 38.8 +0.7**
comp=Z,39nm,0.5s,mb5.6,baz=162,slow=1.2,SNR=4.4
FX1 Attu Island--F 80.12 37 *e*P **P 09 16 39.0 +0.8**
BILL Bilibino 80.49 21*c i*P **P 09 16 38.9 -1.0**
BILL pmax pmax
comp=Z,29nm,1.6s,mb5.0
BILL Bilibino 80.49 21⇑*e*P **P 09 16 38.8 -1.0**
comp=Z,12nm,0.9s,mb4.8
BILL LR LR
comp=Z,2μm,19.0s,MS5.5
VYHS Vyhne 80.49 319 *e*P **P 09 16 40.5 +0.2**
VYHS *e* pP 09 16 49.2 +0.7
VYHS Vyhne 80.49 319 *e*P **P 09 16 39.2 -1.1**
VYHS *e* pP 09 16 49.2 +0.7
VYHS Vyhne 80.49 319 *e*P **P 09 16 40.5 +0.2**
VYHS *e*pP pP 09 16 48.4 -0.1
TSUM Tsumeb 80.53 250 P **P 09 16 41.9 +0.8**
comp=Z,8.7nm,1.0s,mb4.6,baz=9.7,slow=4.5
TSUM pP pP 09 16 49.7 +0.4
baz=48,slow=7.0
TSUM Tsumeb 80.53 250 *e*P **P 09 16 42.1 +1.0**
comp=Z,10nm,1.2s,mb4.6
TSUM *e*pP pP 09 16 49.0 -0.3
TSUM LR LR
comp=Z,949nm,19.0s,MS5.2
QRZ Quartz Range 80.57 132 *e*PN **P 09 16 41.5 +0.6**
SYO Syowa Base 80.71 198⇑P **P 09 16 42.0 +0.9**
SYO Syowa Base 80.71 198⇑pP pP 09 16 50.0 +0.7
KOLL Kolacno 80.79 319 *e*P pP 09 16 50.9 +0.8
KOLL Kolacno 80.79 319 *e*pP pP 09 16 50.9 +0.8

OKC Ostrava-Krasne 81.12 320 *e*P **P 09 16 44.3 +0.8**
OKC *e*pP pP 09 16 53.4 +1.6
OKC *e*S S 09 26 51.2 +1.0
OKC AMS AMS 09 57 40.0
comp=Z,500nm,19.7s
KEV Kevo 81.16 341 *e*p **P 09 16 43.4 0.0**
comp=Z,27nm,0.9s,mb5.2
KEV Kevo 81.16 341 *e*P **P 09 16 43.4 0.0**
KEV pmax pmax
comp=Z,27nm,0.9s,mb5.2
MORC Moravsky Berou 81.50 320 *e*P **P 09 16 45.6 +0.1**
MORC pmax pmax
comp=Z,70nm,1.5s,mb5.4
MORC Moravsky Berou 81.50 320 *e*P **P 09 16 45.6 +0.1**
comp=Z,70nm,1.5s,mb5.4
ARCES ARCESS Array B 81.59 340 P **P 09 16 45.4 -0.2**
comp=Z,5.8nm,0.5s,mb4.8,baz=94,slow=5.3,SNR=43
ARCES pP pP 09 16 52.8 -1.1
comp=Z,11nm,0.5s,baz=90,slow=2.4,SNR=9.8
ARCES ARCESS Array B 81.59 340 P **P 09 16 45.4 -0.2**
ARCES pP pP 09 16 52.8 -1.1
ARE0 ARCESS Array S 81.59 340 *e*P **P 09 16 46.3 +0.6**
ZST Bratislava 81.60 318 *e*P **P 09 16 46.1 0.0**
ZST *e* pP 09 16 53.9 -0.5
ZST Bratislava 81.60 318 *e*P **P 09 16 46.2 +0.1**
ZST *e*pP pP 09 16 53.9 -0.5
KOGS Kog 82.00 316 *e*P pP 09 16 56.7 +0.2
DPC Dobruska-Polom 82.34 320 *e*P **P 09 16 51.0 +1.1**
DPC *e*pP pP 09 16 59.5 +1.3
DPC *e*S S 09 27 04.1 +1.4
DPC AMS AMS 10 06 10.0
comp=Z,500nm,16.3s
KSP Ksiaz 82.41 321 *e*P **P 09 16 51.2 +0.9**
KSP *e**PP pP 09 16 59.1 +0.6
KSP *e*S S 09 27 04.0 +0.6
UPC Upice 82.56 321 *e*P **P 09 16 52.1 +1.1**
UPC *e*pP pP 09 17 01.2 +1.9
ARSA Arzberg 82.57 317⇓*i*P **P 09 16 51.9 +0.7**
comp=Z,48nm,1.5s,mb5.3
LJU Ljubljana 83.16 316 *e*P pP 09 17 03.3 +0.8
PRU Pruhonice 83.45 320 *e*P **P 09 16 56.5 +0.9**
PRU *e*pP pP 09 17 04.7 +0.8
PRU *e*S S 09 27 16.0 +2.1
PRU AMS AMS 09 59 40.0
comp=Z,600nm,21.2s
PVCC Panska Ves 83.48 320 *e*x x 09 17 02.5
PVCC *e*pP pP 09 17 05.9 +1.9
PVCC *e*S S 09 27 16.3 +2.1
PVCC AMS AMS 10 02 30.0
comp=Z,400nm,17.8s
BRG Berggiesshubel 83.90 321 *e*P **P 09 17 00.1 +2.2**
BRG *i* pP 09 17 07.6 +1.4
BRG *e*S S 09 27 16.0 -2.4
BRG pmax pmax
comp=Z,69nm,1.8s,mb5.5
BRG MLR MLR
comp=N,600nm,20.6s,MS5.1
BRG MLR MLR
comp=E,500nm,20.6s,MS5.1
BRG MLR MLR
comp=Z,590nm,20.6s,MS5.0
BRG Berggiesshubel 83.90 321 *e*P **P 09 17 00.1 +2.2**
comp=Z,69nm,1.8s,mb5.5
BRG *i* pP 09 17 07.6 +1.4
BRG *e*S S 09 27 16.0 -2.4
BRG LR LR
comp=Z,590nm,20.6s,MS5.0
GEC2 GERESS Array S 83.91 319 *e*P **P 09 16 58.1 +0.1**
GEC2 pmax pmax
comp=Z,90nm,1.5s,mb5.7
GEC2 GERESS Array S 83.91 319 *e*P **P 09 16 58.1 +0.1**
comp=Z,90nm,1.5s,mb5.7
GERES GERESS Array B 83.91 319 P **P 09 16 58.0 0.0**
comp=Z,5.1nm,0.9s,mb4.7,baz=104,slow=5.5,SNR=22
GERES pP pP 09 17 06.8 +0.5
comp=Z,12nm,1.0s,baz=90,slow=4.0,SNR=14
KHC Kasperske Hory 84.01 319 *e*P **P 09 16 59.3 +0.8**
KHC *e*pP pP 09 17 08.0 +1.2
KHC *e*S S 09 27 20.4 +0.8
KHC AMS AMS 10 00 10.0
comp=Z,700nm,21.0s
WET Wettzell 84.47 319 *e*P **P 09 17 00.8 0.0**
WET pmax pmax
comp=Z,34nm,1.3s,mb5.3
WET Wettzell 84.47 319 *e*P **P 09 17 00.8 0.0**
comp=Z,34nm,1.3s,mb5.3
CLL Collm 84.52 321 *e*P **P 09 17 01.0 0.0**
CLL *e* pP 09 17 08.0 -1.3
CLL LR LR
comp=Z,700nm,21.9s,MS5.0
CLL Collm 84.52 321 P **P 09 17 01.0 0.0**
CLL *e**PP pP 09 17 08.0 -1.3
NKC Novy Kostel 84.81 320 *e*P **P 09 17 03.4 +0.9**
NKC *e*pP pP 09 17 12.2 +1.4
NKC *e*x x 09 27 15.3
NKC AMS AMS 10 05 50.0
comp=Z,500nm,17.4s
WTTA Wattenberg 85.22 317⇑*i*P **P 09 17 04.6 0.0**
comp=Z,29nm,1.1s,mb5.3
WTTA Wattenberg 85.22 317⇑*i*P **P 09 17 04.6 0.0**
WTTA pmax pmax
comp=Z,29nm,1.1s,mb5.3
MOX Moxa 85.36 320 *i* P pP 09 17 15.1 +1.6
comp=Z,logA/T=1.2
GRA1 Grafenberg Arr 85.58 320 *e*P **P 09 17 06.6 +0.3**
comp=Z,40nm,1.3s,mb5.5
GRA1 *e*pP pP 09 17 14.0 -0.6
GRA1 *e*S S 09 27 37.8 +2.8
GRA1 LR LR
comp=Z,500nm,21.7s,MS4.9
GRF Grafenberg Arr 85.58 320 *e*P **P 09 17 06.6 +0.3**
GRF *e**PP pP 09 17 14.0 -0.6
GRF *e*S S 09 27 37.8 +2.8
GRF pmax pmax
comp=Z,40nm,1.3s,mb5.5
GRF MLR MLR
comp=Z,500nm,21.7s,MS4.9
GRF Grafenberg Arr 85.58 320 *e*P **P 09 17 06.6 +0.3**
GRF *e**PP pP 09 17 14.0 -0.6
GRF *e*S S 09 27 37.8 +2.8
GRF pmax pmax
comp=Z,40nm,1.3s,mb5.5
GRF MLR MLR
comp=Z,500nm,21.7s,MS4.9
GRF Grafenberg Arr 85.58 320 *e*P **P 09 17 06.6 +0.3**
comp=Z,40nm,1.3s,mb5.5
GRF *e*pP pP 09 17 14.0 -0.6
GRF *e*S S 09 27 37.8 +2.8
GRF LR LR
comp=Z,500nm,21.7s,MS4.9
KIWB Kanaga Island 85.92 38 *e*P **P 09 17 08.1 +0.2**
NB2 NORSAR Subarra 86.06 331 P **P 09 17 08.3 -0.2**
comp=Z,31nm,1.1s,mb5.4,baz=92,slow=4.8
NB2 NORSAR Subarra 86.06 331 P **P 09 17 08.3 -0.2**
NB2 pmax pmax
comp=Z,31nm,1.1s,mb5.5
NB2 NORSAR Subarra 86.06 331 P **P 09 17 08.3 -0.2**
baz=92,slow=4.8
NOA NORSAR Array B 86.06 331 P **P 09 17 08.5 +0.1**
comp=Z,3.7nm,1.0s,mb4.6,baz=97,slow=5.2,SNR=3.9
NOA pP pP 09 17 16.9 +0.1
comp=Z,8.4nm,0.9s,baz=93,slow=4.9,SNR=10
CLZ Clausthal 86.18 322 *e*P **P 09 17 09.4 +0.1**
comp=Z,26nm,1.4s,mb5.3
BSEG Bad Segeberg 86.27 324 *e*P **P 09 17 10.0 +0.3**
DAVA Damuels 86.41 317⇑*i*P **P 09 17 09.5 -1.0**
comp=Z,35nm,1.1s,mb5.5
VNDA Vanda 86.75 169 P **P 09 17 11.9 +0.4**
comp=Z,1.5nm,1.1s,baz=241,slow=4.1,SNR=3.4
VNDA pP pP 09 17 20.3 +0.4
comp=Z,3.6nm,0.9s,baz=292,slow=4.7,SNR=13
VNDA LR LR 09 53 11.5
comp=Z,1μm,18.4s,MS5.4,baz=306,slow=34
VNDA Vanda 86.75 169 P **P 09 17 11.9 +0.4**
VNDA pP pP 09 17 20.3 +0.4
VNDA LR LR 09 53 11.5
TNS Taunus Mts 87.38 320 *e*P **P 09 17 15.7 +0.6**
TNS pmax pmax
comp=Z,17nm,1.3s,mb5.1
TNS Taunus Mts 87.38 320 *e*P **P 09 17 15.7 +0.6**
comp=Z,17nm,1.3s,mb5.1
BFO Black Forest 87.46 318 *e*P **P 09 17 17.2 +1.6**
BFO pmax pmax
comp=Z,11nm,0.9s,mb5.1
BFO Black Forest 87.46 318 *e*P **P 09 17 17.2 +1.6**
comp=Z,11nm,0.9s,mb5.1
SBA Scott Base 87.85 169 PFAKE 09 17 30.0 +13
SBA LR LR
comp=Z,1μm,19.0s,MS5.4
SBF Sospel 88.14 314 *e*P **P 09 17 19.3 +0.4**
CDF Champ du Feu 88.16 318 *e*P **P 09 17 19.1 +0.2**
HINF Hinteralfeld 88.46 318 *e*P **P 09 17 20.6 +0.2**
LPG La Plagne 88.59 315 *e*P **P 09 17 21.7 +0.7**
LPL La Plagne 88.60 315 *e*P **P 09 17 21.5 +0.4**
FRF La Foret Royal 88.72 313 *e*P **P 09 17 22.2 +0.5**
comp=Z,298nm,1.5s,mb6.1
FRF La Foret Royal 88.72 313 *e*P **P 09 17 22.2 +0.5**
FRF pmax pmax
comp=Z,149nm,1.5s,mb6.1
HAU Haudompre 88.79 318 *e*P **P 09 17 22.1 +0.1**
comp=Z,55nm,1.2s,mb5.5
HAU *e*R
comp=Z,542nm,20.2s
HAU Haudompre 88.79 318 *e*P **P 09 17 22.1 +0.1**
HAU pmax pmax
comp=Z,27nm,1.2s,mb5.5
HAU MLR MLR
comp=Z,540nm,20.3s,MS5.0
LMR La Mourre 88.82 313 *e*P **P 09 17 22.4 +0.2**
WLF Walferdange 88.87 319 P **P 09 17 21.3 -1.0**
WLF *e* 09 17 32.1
WLF pmax pmax
comp=Z,74nm,1.6s,mb5.8
WLF Walferdange 88.87 319 P **P 09 17 21.3 -1.0**
comp=Z,74nm,1.6s,mb5.8
WLF *e* 09 17 32.1
CABF La Chapelle 89.02 316 *e*P **P 09 17 23.6 +0.5**
comp=Z,80nm,1.4s,mb5.5
CABF La Chapelle 89.02 316 *e*P **P 09 17 23.6 +0.5**
CABF pmax pmax
comp=Z,40nm,1.4s,mb5.6
ORIF Oris-en-Rattie 89.22 315 *e*P **P 09 17 24.9 +0.8**
ORIF *e*R
comp=Z,543nm,19.2s
GIVF Givet 89.71 320 *e*P **P 09 17 26.6 +0.3**
comp=Z,49nm,1.3s,mb5.4
GIVF Givet 89.71 320 *e*P **P 09 17 26.6 +0.3**
GIVF pmax pmax
comp=Z,25nm,1.3s,mb5.4
VIVF Saint-Julien-l 90.08 315 *e*P **P 09 17 28.6 +0.5**
BAIF Baives 90.11 320 *e*P **P 09 17 28.8 +0.7**
comp=Z,95nm,1.2s,mb5.7
BAIF Baives 90.11 320 *e*P **P 09 17 28.8 +0.7**
BAIF pmax pmax
comp=Z,48nm,1.2s,mb5.7
NVL N'lazarevskaya 90.29 199⇓*i*P **P 09 17 29.6 +1.1**
NVL *i* pP 09 17 36.5 -0.3
TNA Tin City 90.31 24 *e*P **P 09 17 28.5 -0.2**
comp=Z,4.1nm,1.0s,mb4.7
SMF Signal de Mont 90.56 317 *e*P **P 09 17 30.6 +0.3**
comp=Z,133nm,1.6s,mb5.7
SMF Signal de Mont 90.56 317 *e*P **P 09 17 30.6 +0.3**
SMF pmax pmax
comp=Z,67nm,1.6s,mb5.7
SSF Saint Saulge 90.76 317 *e*P **P 09 17 31.8 +0.6**
SSF pmax pmax
comp=Z,73nm,1.7s,mb5.7
SSF Saint Saulge 90.76 317 *e*P **P 09 17 31.8 +0.6**
comp=Z,73nm,1.7s,mb5.7
AVF Avril sur Loir 90.89 317 *e*P **P 09 17 32.2 +0.4**
comp=Z,118nm,1.5s,mb5.7
AVF Avril sur Loir 90.89 317 *e*P **P 09 17 32.2 +0.4**
AVF pmax pmax
comp=Z,59nm,1.5s,mb5.7
BGF Bois d'Agland 91.25 316 *e*P **P 09 17 34.3 +0.9**
comp=Z,150nm,1.4s,mb5.8
BGF Bois d'Agland 91.25 316 *e*P **P 09 17 34.3 +0.9**
BGF pmax pmax
comp=Z,75nm,1.4s,mb5.8
TCF Toulx Ste Croi 91.71 316 *e*P **P 09 17 36.5 +0.9**
comp=Z,121nm,1.7s,mb5.7
TCF Toulx Ste Croi 91.71 316 *e*P **P 09 17 36.5 +0.9**
TCF pmax pmax
comp=Z,61nm,1.7s,mb5.7
CAF Calviac 91.93 315 *e*P **P 09 17 37.6 +1.0**
MTLF Montolieu 91.95 313 *e*P **P 09 17 37.4 +0.7**
comp=Z,253nm,1.8s,mb6.0
MTLF Montolieu 91.95 313 *e*P **P 09 17 37.4 +0.7**
MTLF pmax pmax
comp=Z,126nm,1.8s,mb6.0
RJF Les Rejaudoux 92.28 315 *e*P **P 09 17 39.3 +1.1**
comp=Z,179nm,1.6s,mb5.8
RJF *e*R
comp=Z,522nm,23.0s
RJF Les Rejaudoux 92.28 315 *e*P **P 09 17 39.3 +1.1**
RJF pmax pmax
comp=Z,90nm,1.6s,mb5.8
RJF MLR MLR
comp=Z,520nm,23.0s,MS4.9
LDF La Druitiere 93.06 319 *e*P **P 09 17 42.5 +0.8**
comp=Z,132nm,1.5s,mb5.8
LDF La Druitiere 93.06 319 *e*P **P 09 17 42.5 +0.8**
LDF pmax pmax
comp=Z,66nm,1.5s,mb5.8
FLN La Foliniere 93.28 319 *e*P **P 09 17 43.0 +0.3**
FLN *e*R
comp=Z,543nm,22.8s
MFF Saint Martin d 93.30 317 *e*P **P 09 17 43.5 +0.6**
comp=Z,128nm,1.5s,mb5.8
MFF Saint Martin d 93.30 317 *e*P **P 09 17 43.5 +0.6**
MFF pmax pmax
comp=Z,64nm,1.5s,mb5.8
GRR Gorron 93.57 319 *e*P **P 09 17 44.7 +0.6**
comp=Z,92nm,1.5s,mb5.7
GRR Gorron 93.57 319 *e*P **P 09 17 44.7 +0.6**
GRR pmax pmax
comp=Z,46nm,1.5s,mb5.7
SGMF Saint Gilles 94.71 319 *e*P **P 09 17 49.8 +0.5**
IMA Indian Mountai 95.93 23 *e*P **P 09 17 56.6 +2.1**
IMA pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
IMA Indian Mountai 95.93 23 *e*P **P 09 17 56.6 +2.1**
comp=Z,6.8nm,0.7s,mb5.2
MCK McKinley 98.65 24 PFAKE 09 18 20.0 +13
MCK LR LR
comp=Z,411nm,20.0s,MS4.9
ILAR Eielson Array 99.05 23 P **P 09 18 07.7 -0.9**
comp=Z,0.5nm,0.6s,baz=297,slow=4.1,SNR=8.2
ILAR PKKPbc 09 34 41.0
comp=Z,0.5nm,0.7s,baz=115,slow=2.0,SNR=4.6
ILAR LR LR 10 11 57.2
comp=Z,567nm,18.9s,MS5.1,baz=169,slow=41
INK Inuvik 101.76 17 P P 09 18 20.1 -0.6
comp=Z,1.0nm,0.7s,baz=301,slow=7.8,SNR=7.9
YKA Yellowknife Ar 111.35 15 PKiKP 09 23 00.1
comp=Z,0.1nm,0.8s,baz=337,slow=5.3,SNR=3.6
YKA PP PP 09 23 33.7 -12
comp=Z,1.1nm,1.0s,baz=325,slow=7.3,SNR=7.9
YKA PKKPbc 09 34 01.7
comp=Z,0.6nm,0.8s,baz=147,slow=3.3,SNR=14
YKA Yellowknife Ar 111.35 15 PKPdf PKPdf 09 23 00.1 -4.9
YKA PP PP 09 23 33.7 -12
YKA PKKPbc 09 34 01.8
TBI Tubuai 112.55 114 *e*LR LR 09 56 33.9
comp=Z,1μm,27.8s
PPT Papeete 113.11 108 *e*PP PP 09 24 04.0 +4.4
PPT *e*PS PS 09 33 30.5 +0.7
PPT *e*LR LR 09 56 47.6
comp=Z,659nm,22.5s
SCHQ Schefferville 121.70 349 PKP PKPdf 09 23 22.1 -3.2
comp=Z,1.9nm,0.9s,baz=78,slow=12,SNR=5.2
NEW Newport 121.82 26 PKP PKPdf 09 23 23.0 -2.8
comp=Z,0.7nm,0.5s,baz=280,slow=14,SNR=3.9
MSO Missoula 124.30 25 *e*PKPdf PKPdf 09 23 26.9 -3.7
MSO *e* 09 23 35.6
CHMT Chamberlain Mo 124.52 25 *e*PKPdf PKPdf 09 23 27.9 -3.2
RKT Rikitea 125.66 117 *e*SS SS 09 42 20.0 -0.5
RKT *e*LR LR 10 02 40.7
comp=Z,610nm,25.5s
ULM Lac du Bonnet 126.75 10 PKP PKPdf 09 23 31.8 -3.4
comp=Z,4.4nm,0.7s,baz=5.6,slow=1.9,SNR=6.0
ULM pPKP 09 23 40.2
comp=Z,5.2nm,1.0s,baz=354,slow=4.8,SNR=3.8
ULM Lac du Bonnet 126.75 10 PKP PKPdf 09 23 31.8 -3.4
ULM pPKP 09 23 40.2
QLMT Earthquake Lak 126.95 25 *e*PKPdf PKPdf 09 23 33.7 -2.0
YMR Madison River 127.28 25 *e*PKPdf PKPdf 09 23 34.4 -2.0
YMR *e* 09 23 42.5
LAO LASA Array 127.37 20 *e*PKPdf PKPdf 09 23 33.2 -3.3
LAO *e* 09 23 42.5
LKWY Lake 127.59 24 *e*PKIKP PKPdf 09 23 37.0 0.0

RRI2	**Red Ridge**	**128.19**	**26**	*e*PKPdf	PKPdf	09 23 35.6	-2.6
WUWY	**Wally Ulrich**	**128.28**	**25**	*e*PKPdf	PKPdf	09 23 35.7	-2.7
WUWY				*e*		09 23 44.6	
NVAR	**Mina Array Bea**	**128.29**	**35**	PKP	PKPdf	09 23 36.4	-2.2
	comp=Z,2.7nm,1.0s,baz=270,slow=1.3,SNR=12						
NVAR				pPKP		09 23 44.9	
	comp=Z,2.5nm,0.8s,baz=304,slow=1.3,SNR=9.1						
ELK	**Elko**	**128.32**	**31**	PFAKE		09 23 50.0	+11
ELK				LR	LR		
	comp=Z,609nm,21.0s,MS5.3						
SNOW	**Snow King Moun**	**128.34**	**25**	*e*PKPdf	PKPdf	09 23 35.9	-2.6
SNOW				*e*		09 23 45.0	
REDW	**Red Top Meadow**	**128.38**	**26**	*e*PKPdf	PKPdf	09 23 35.8	-2.8
HVU	**Hansel Valley**	**128.76**	**28**	*e*PKIKP	PKPdf	09 23 36.7	-2.7
HVU				*e*		09 23 45.3	
PDAR	**Pinedale Array**	**129.42**	**25**	PKP	PKPdf	09 23 37.3	-3.3
	comp=Z,1.3nm,0.8s,slow=1.5,SNR=11						
PDAR				pPKP		09 23 46.2	
	comp=Z,1.1nm,0.5s,baz=113,slow=3.1,SNR=8.4						
DUG	**Dugway**	**129.96**	**30**	*e*PKIKP	PKPdf	09 23 39.2	-2.5
RSSD	**Black Hills**	**130.36**	**20**	PKIKP	PKPdf	09 23 38.3	-4.0
RSSD				*e*		09 23 48.2	
MPU	**Maple Canyon**	**130.67**	**29**	PKPdf	PKPdf	09 23 40.7	-2.4
RWWY	**Rawlins**	**131.28**	**24**	*e*PKPdf	PKPdf	09 23 41.2	-3.0
MSU	**Marysvale**	**131.56**	**31**	PKIKP	PKPdf	09 23 43.5	-1.3
SRU	**San Rafael**	**131.91**	**29**	*e*PKIKP	PKPdf	09 23 43.5	-1.9
PV10	**Paradox Valley**	**133.20**	**28**	*e*PKPdf	PKPdf	09 23 45.8	-2.1
LPM	**Los Pinos Moun**	**137.62**	**29**	PKPdf	PKPdf	09 23 53.3	-2.8
PLCA	**Paso Flores**	**139.86**	**195**	PKP	PKPdf	09 23 57.2	-2.8
	comp=Z,3.0nm,0.8s,baz=82,slow=1.6,SNR=6.6						
GDL2	**Guadalupe Moun**	**140.44**	**29**	*e*PKPpre		09 23 50.5	
WMOK	**Wichita Mounta**	**140.56**	**20**	*e*PKHKP		09 23 49.0	
WVT	**Waverly**	**141.75**	**6**	PKIKP	PKPdf	09 23 58.8	-4.7
WVT	**Waverly**	**141.75**	**6**	*e*PKPpre		09 23 54.7	
WVT				LR	LR		
	comp=Z,707nm,22.0s,MS5.4						
MIAR	**Mount Ida**	**142.29**	**14**	*e*PKHKP		09 23 54.4	
BDFB	**Brasília**	**142.82**	**247**	PKP	PKPdf	09 24 02.7	-3.2
	comp=Z,1.2nm,0.4s,baz=161,slow=8.5,SNR=2.4						
LTX	**Lajitas**	**143.12**	**31**	PKIKP	PKPdf	09 24 10.0	+3.9
LTX				MLR	MLR		
	comp=Z,790nm,21.0s,MS5.5						
LTX	**Lajitas**	**143.12**	**31**	PFAKE		09 24 10.0	+11
LTX				LR	LR		
	comp=Z,790nm,21.0s,MS5.5						
TXAR	**Lajitas Array**	**143.12**	**31**	PKP	PKPdf	09 24 00.0	-6.0
	comp=Z,2.0nm,0.6s,baz=299,slow=2.5,SNR=26						
TXAR				pPKP		09 24 09.4	
	comp=Z,2.5nm,0.6s,baz=288,slow=1.3,SNR=9.6						
JCT	**Junction City**	**143.95**	**25**	*e*PKIKP	PKPdf	09 24 01.8	-5.6
JCT				MLR	MLR		
	comp=Z,557nm,20.0s,MS5.3						
NATX	**Nacogdoches**	**144.63**	**17**	*e*PKPdf	PKPdf	09 24 04.2	-4.4
GOGA	**Godfrey**	**144.71**	**0**	PKIKP	PKPdf	09 24 05.2	-3.5
GOGA				*e*		09 24 15.2	
GOGA	**Godfrey**	**144.71**	**0**	*e*PKPdf	PKPdf	09 24 04.9	-3.8
LRAL	**Lakeview Retre**	**144.90**	**6**	*e*PKPdf	PKPdf	09 24 03.0	-6.1
FCH	**Farellones**	**146.65**	**200**	*i* P	PKPbc	09 24 12.2	+3.4
ZAIG	**Zacatecas**	**148.90**	**36**	*i* P	PKPdf	09 24 17.8	+1.8
LPAZ	**La Paz**	**159.53**	**225**	PKP	PKPdf	09 24 28.2	-2.5
	comp=Z,0.4nm,0.6s,baz=248,slow=12,SNR=3.0						
LPAZ				PKPab	PKPab	09 25 05.0	-1.5
	comp=Z,1.3nm,0.7s,baz=65,slow=6.4,SNR=4.1						
ROSC	**El Rosal**	**168.80**	**308**	PKP	PKPdf	09 24 37.0	-2.1
	comp=Z,3.4nm,0.4s,baz=104,slow=24,SNR=3.6						
OTAV	**Otavalo**	**174.75**	**296**	*e*PKPdf	PKPdf	09 24 39.4	-2.7

NEIC ***11*** *09:15:00.0±0.4,2.26N×96.24E,h30km,mb4.6/11,Error ellipse: s-maj=12.6km s-min=5.4km az=59.0*
IDC ***11*** *09:15:06.1±13.0,2.43N×96.45E,h83km±115km,mb4.0/8, mb1 4.1/9,mb1mx3.8/21,mbtmp4.3/9,ML4.2/1,Error ellipse: s-maj=119.1km s-min=14.7km az=60.0*
ISC 11 09:14:58.5±0.7,2.26N±0.09×96.3E±0.1,h33km,n24, σ0§57/23,mb4.5/17,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**55**	*e*P	**P**	**09 16 17.0**	**-0.7**
CM31	**Chiang Mai Arr**	**16.31**	**9**	*e*P	**P**	**09 18 47.9**	**+1.1**
	9.2nm,1.1s						
CMAR	**Chiang Mai Arr**	**16.31**	**9**	P	**P**	**09 18 47.9**	**+1.0**
	0.3nm,0.3s,baz=196,slow=11,SNR=13						
JIRN	**Jiri**	**27.03**	**340**	*e*P	**P**	**09 20 40.2**	**+0.3**
	33nm,0.9s,mb4.9						
PKI	**Pulchoki**	**27.23**	**339**	*e*P	**P**	**09 20 41.7**	**0.0**
	14nm,0.7s,mb4.6						
GUN	**Gumba**	**27.37**	**340**	*e*P	**P**	**09 20 43.3**	**+0.3**
	29nm,0.7s,mb4.9						
DMN	**Daman**	**27.37**	**338**	*e*P	**P**	**09 20 42.6**	**-0.4**
	47nm,1.3s,mb4.8						
KKN	**Kakani**	**27.47**	**339**	*e*P	**P**	**09 20 43.9**	**0.0**
	22nm,0.9s,mb4.7						
LSA	**Lhasa**	**27.72**	**350**	*e*P	**P**	**09 20 46.2**	**0.0**
	16nm,1.1s,mb4.5						
GKN	**Gorkha**	**27.90**	**338**	*e*P	**P**	**09 20 47.8**	**-0.1**
	28nm,1.0s,mb4.9						
KOLN	**Koldanda**	**28.11**	**336**	*e*P	**P**	**09 20 50.2**	**+0.5**
	21nm,1.0s,mb4.7						
MBWA	**Marble Bar**	**32.71**	**137**	P	**P**	**09 21 31.0**	**+0.5**
MBWA				*e*	pP	09 21 39.4	-0.8
FITZ	**Fitzroy Crossi**	**35.31**	**126**	P	**P**	**09 21 52.4**	**-0.5**
	6.9nm,0.9s,mb4.6,baz=275,slow=6.4,SNR=4.7						
WRA	**Warramunga Arr**	**43.40**	**122**	P	**P**	**09 23 00.3**	**+0.1**
	1.8nm,0.8s,mb3.9,baz=302,slow=9.0,SNR=13						
WRAB	**Tennant Creek**	**43.40**	**122**	*e*P	**P**	**09 23 00.7**	**+0.5**
	2.3nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**44.79**	**127**	P	**P**	**09 23 11.7**	**+0.4**
	0.8nm,0.5s,mb3.8,baz=298,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**46.00**	**347**	P	**P**	**09 23 19.8**	**-0.9**
	5.9nm,0.7s,mb4.6,baz=143,slow=7.2,SNR=44						
MKAR	**Makanchi Array**	**46.00**	**347**	P	**P**	**09 23 19.8**	**-0.9**
SONM	**Songino Array**	**46.24**	**9**	P	**P**	**09 23 21.4**	**-1.2**
	2.6nm,0.4s,mb4.5,baz=191,slow=9.4,SNR=12						
ZAL	**Zalesovo**	**52.37**	**351**	P	**P**	**09 24 08.8**	**-0.7**
	4.7nm,0.4s,mb4.7,baz=299,slow=4.1,SNR=4.3						
STKA	**Stephens Creek**	**54.77**	**132**	P	**P**	**09 24 27.3**	**-0.3**
	0.7nm,0.7s,mb3.8,baz=307,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**54.77**	**132**	P	**P**	**09 24 27.3**	**-0.3**
ARCES	**ARCESS Array B**	**81.23**	**340**	P	**P**	**09 27 12.2**	**-0.1**
	3.2nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=5.2						
TXAR	**Lajitas Array**	**143.25**	**30**	PKP	PKPdf	09 34 29.6	-0.5
	0.1nm,0.4s,baz=349,slow=4.6,SNR=3.4						

NIED ***11*** *09:15:00,42.30N×144.60E,h23km,Mw4.7 Best double couple: M0:1.35×10^16 NP1:φs=34°,δ=63°,λ=73°. NP2:φs=248°, δ=31°,λ=120°.*
MOS ***11*** *09:15:18.5±1.3,42.31N×144.49E,h33km,mb5.0/18,Error ellipse: s-maj=9.3km s-min=6.4km az=89.3*
BJI ***11*** *09:15:19.9,42.29N×144.54E,h43km,mB5.2,mb4.8, Ms4.8,Msz4.4*
JMA ***11*** *09:15:20.5,42.35N×144.62E,h37km±1km,M4.7*
JMA Felt I J1.
IDC ***11*** *09:15:21.1±0.5,42.31N×144.44E,h39km±4km,mb4.1/26, mb1 4.3/29,mb1mx4.3/32,mbtmp4.4/29,ML4.6/3,MS4.0/2, Ms1 4.0/2,ms1mx3.2/29,Error ellipse: s-maj=13.6km s-min=9.8km az=119.0*
NEIC ***11*** *09:15:21.2±0.2,42.32N×144.47E,mb4.8/24, MW4.7(NIED),Error ellipse: s-maj=7.7km s-min=5.0km az=138.0*
NEIC Recorded [1 JMA] in eastern and south-central Hokkaido.
SKHL ***11*** *09:15:21.7±3.6,42.43N×144.63E,h64km±32km,mb5.4/1, Ms4.5/4*
ISC 11 09:15:19.0±0.5,42.25N±0.03×144.60E±0.04,h38km±4km, h37km±1.8km:pP-P,n142,σ1§25/149,mb4.6/60,MS4.7/3, 4C-9D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.75**	**6**	⇓P	**P**	**09 15 33.3**	**+0.1**
JAK				*e*S	**S**	**09 15 42.9**	**-0.7**
JOB	**Onbets**	**0.86**	**320**	⇓P	**P**	**09 15 35.8**	**+1.0**
JCH	**Churui**	**0.98**	**292**	⇓P	**P**	**09 15 38.2**	**+1.7**
JCH				*e*S	**S**	**09 15 51.0**	**+1.6**
JEM	**Erimo**	**1.09**	**258**	P	**P**	**09 15 40.5**	**+2.5**
JAR	**Ashorobuto**	**1.21**	**330**	⇓P	**P**	**09 15 40.1**	**+0.4**
JNK	**Nakash**	**1.34**	**4**	⇓P	**P**	**09 15 41.2**	**-0.5**
JNK				*e*S	**S**	**09 15 57.0**	**-1.5**
JNBK	**Urakawa-nobuka**	**1.37**	**272**	P	**P**	**09 15 43.2**	**+1.2**
NEM2	**Nemuro 2**	**1.40**	**37**	P	**P**	**09 15 42.5**	**0.0**
NEM2				*e*S	**S**	**09 15 59.0**	**-1.0**
JRA	**Rausu**	**1.73**	**13**	⇓P	**P**	**09 15 47.3**	**+0.1**
JRA				*e*S	**S**	**09 16 07.8**	**-0.5**
JFR	**Furan**	**1.74**	**303**	⇓P	**P**	**09 15 48.0**	**+0.7**
JTKR	**Abashiri--Toko**	**1.80**	**344**	⇓P	**P**	**09 15 48.8**	**+0.7**
JTKR				*e*S	**S**	**09 16 10.1**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**2.01**	**27**	*e*PN	**P**	**09 15 52.5**	**+1.3**
YUK				*e*S	**S**	**09 16 15.6**	**+0.2**
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,260nm,0.4s						
YUK				pmax	pmax		
	comp=E,460nm,0.4s						
YUK				smax			
	comp=E,7μm,0.7s						
YUK				smax			
	comp=N,4μm,0.5s						
YUK				smax			
	comp=N,8μm,1.2s						
YUK				smax			
	comp=E,20μm,2.5s						
YUK	**Yuzh-Kuril'sk**	**2.01**	**27**	*e*P	**P**	**09 15 52.5**	**+1.3**
YUK				AMB	AMB	09 15 56.5	
	comp=E,260nm,0.4s						
YUK				AMB	AMB	09 15 56.5	
	comp=E,460nm,0.4s						
YUK				AMB	AMB	09 15 56.5	
	comp=E,1μm,0.4s						
YUK				*e*S	**S**	**09 16 15.6**	**+0.2**
YUK				A		09 16 18.5	
	comp=E,8μm,1.2s						
YUK				A		09 16 18.5	
	comp=E,20μm,2.5s						
YUK				A		09 16 18.5	
	comp=E,7μm,0.7s						
YUK				A		09 16 18.5	
	comp=E,4μm,0.5s						
YUK				AMS	AMS	09 16 39.0	
	comp=E,6μm,15.0s						
ASAJ	**Asahikawa**	**2.37**	**323**	PN	**P**	**09 15 57.6**	**+1.2**
ASAJ						09 16 26.2	
ASAJ				pmax	pmax		
	comp=Z,144nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,3μm,18.6s						
ASAJ	**Asahikawa**	**2.37**	**323**	Pn	**P**	**09 15 57.6**	**+1.2**
	comp=Z,144nm,0.3s,baz=188,slow=9.0,SNR=152						
ASAJ				Sn	**S**	**09 16 26.2**	**+1.7**
	comp=Z,181nm,0.3s,baz=325,slow=30,SNR=7.9						
ASAJ				LR	LR	09 16 59.3	
	comp=Z,3μm,18.6s,baz=228,slow=44						
KUR	**Kuril'sk**	**3.81**	**37**	*i* PN	**P**	**09 16 15.0**	**-1.8**
KUR				*i* S	**S**	**09 17 05.0**	**+4.0**
KUR				pmax	pmax		
	comp=N,140nm,0.9s						
KUR				pmax	pmax		
	comp=E,250nm,0.9s						
KUR				pmax	pmax		
	comp=Z,280nm,0.9s						
KUR				smax			
	comp=N,280nm,0.9s						
KUR				smax			
	comp=E,590nm,0.9s						
KUR	**Kuril'sk**	**3.81**	**37**	⇓*i* P	**P**	**09 16 15.0**	**-1.8**
KUR				AMB	AMB	09 16 29.5	
	comp=E,140nm,0.9s						
KUR				AMB	AMB	09 16 29.5	
	comp=E,250nm,0.9s						
KUR				AMB	AMB	09 16 29.5	
	comp=E,280nm,0.9s						
KUR				A		09 17 07.0	
	comp=E,280nm,0.9s						
KUR				A		09 17 07.0	
	comp=E,590nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.89**	**345**	*e*PN	**P**	**09 16 31.0**	**-1.1**
YSS				pmax	pmax		
	comp=E,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				MLR	MLR		
	comp=Z,2μm,16.0s						
YSS				MLR	MLR		
	comp=N,2μm,15.0s						
YSS				MLR	MLR		
	comp=E,3μm,15.0s						
YSS	**Yuzh-Sakhalins**	**4.89**	**345**	*e*P	**P**	**09 16 31.1**	**-0.9**
YSS	**Yuzh-Sakhalins**	**4.89**	**345**	*e*P	**P**	**09 16 31.0**	**-1.1**
YSS				AMB	AMB	09 16 35.0	
	comp=E,50nm,0.8s						
YSS				*e*S	**S**	**09 17 22.0**	**-6.1**
YSS				A		09 17 24.0	
	comp=E,120nm,1.0s						
YSS				AMS	AMS	09 18 44.0	
	comp=E,2μm,16.0s						
YSS				AMS	AMS	09 18 44.0	
	comp=E,2μm,15.0s						
YSS				AMS	AMS	09 18 44.0	
	comp=E,3μm,15.0s						
UGL	**Uglegorsk**	**7.06**	**346**	*e*rx	rx	09 18 28.0	
UGL				*e*L		09 18 57.0	
UGL				AMS	AMS	09 20 09.0	
	comp=E,3μm,16.0s						
UGL				AMS	AMS	09 20 09.0	
	comp=E,2μm,16.0s						
UGL				AMS	AMS	09 20 09.0	
	comp=E,3μm,16.0s						
MAJO	**Matsushiro**	**7.54**	**223**	*e*PN	**P**	**09 17 07.8**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,56nm,0.8s						
MAJO	**Matsushiro**	**7.54**	**223**	*e*P	**P**	**09 17 07.8**	**-1.5**
	comp=Z,56nm,0.8s						
MAT	**Matsushiro**	**7.54**	**223**	*e*PN	**P**	**09 17 09.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,49nm,0.8s						
MAT	**Matsushiro**	**7.54**	**223**	*e*P	**P**	**09 17 09.0**	**-0.2**
	comp=Z,48nm,0.8s						
MAT				*e*S	**S**	**09 18 34.0**	**-0.4**
MAT	**Matsushiro**	**7.54**	**223**	P	**P**	**09 17 08.5**	**-0.7**
MAT				S	**S**	**09 18 34.3**	**-0.1**
MJAR	**Matsushiro Arr**	**7.54**	**223**	Pn	**P**	**09 17 07.4**	**-1.8**
	comp=Z,5.3nm,0.3s,baz=30,slow=15,SNR=31						
MJAR				Sn	**S**	**09 18 35.7**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=318,slow=19,SNR=4.3						
MJAR				LR	LR	09 20 51.0	
	comp=Z,1μm,19.3s,baz=35,slow=44						
TYV	**Tymovskoe**	**8.72**	**352**	*e*P	**P**	**09 17 22.5**	**-3.1**
TYV				AMB	AMB	09 17 33.5	
	comp=Z,500nm,4.0s						
TYV				AMB	AMB	09 17 47.6	
	comp=Z,121nm,1.4s						
TYV				AMS	AMS	09 21 19.0	
	comp=Z,1μm,15.0s						
TYV				AMS	AMS	09 21 19.0	
	comp=Z,1μm,15.0s						
JHJ	**Hachijo jima 2**	**9.87**	**204**	Pn	**P**	**09 17 38.9**	**-2.6**
	comp=Z,20nm,0.3s,baz=77,slow=17,SNR=5.5						
JHJ				Sn	**S**	**09 19 21.2**	**-11**
	comp=Z,60nm,0.3s,baz=279,slow=23,SNR=10						
MDJ	**Mudanjiang**	**11.17**	**287**	*e*P	**P**	**09 17 57.5**	**-1.6**
	comp=Z,44nm,1.4s						
KLR	**Kul'dur**	**11.36**	**312**	*e*PN	**P**	**09 18 00.0**	**-1.7**
OKH	**Okha**	**11.37**	**355**	*e*L		09 20 52.2	
OKH				AMS	AMS	09 24 00.0	
	comp=Z,2μm,15.0s						
OKH				AMS	AMS	09 24 00.0	
	comp=Z,1μm,15.0s						
OKH				AMS	AMS	09 24 00.0	
	comp=Z,1μm,12.0s						
CBIJ	**Chichi jima**	**15.24**	**188**	Pn	**P**	**09 18 50.0**	**-3.1**
	comp=Z,2.5nm,0.3s,baz=307,slow=20,SNR=5.1						
CBIJ				Sn	**S**	**09 21 27.7**	**-13**
	comp=Z,8.3nm,0.3s,baz=287,slow=22,SNR=6.4						
ZEA	**Zeya**	**16.29**	**321**	*e*P	**P**	**09 19 05.5**	**-0.8**
ZEA				AMB	AMB	09 19 07.9	
	comp=Z,29nm,0.6s						
MA2	**Magadan**	**17.77**	**10**	*e*P	**P**	**09 19 27.4**	**+2.6**
HIA	**Hailar**	**18.66**	**301**	*e*P	**P**	**09 19 33.7**	**-2.2**
HIA				pmax	pmax		
	comp=Z,15nm,0.6s						
HIA	**Hailar**	**18.66**	**301**	*e*P	**P**	**09 19 33.6**	**-2.3**
	comp=Z,15nm,0.6s						
CLNS	**Chul'man**	**19.30**	**326**	*e*P	**P**	**09 19 40.9**	**-2.4**
CLNS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,11nm,1.1s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,1.2s						
CLNS				pmax	pmax		
	comp=N,14nm,1.1s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.9s						
JOW	**Kunigami**	**20.37**	**226**	P	**P**	**09 19 54.9**	**-0.1**
	comp=E,6.5nm,0.5s,baz=27,slow=9.0,SNR=3.3						
BJT	**Baijiatuau**	**21.49**	**274**	P	**P**	**09 20 04.8**	**-1.5**
BJT				pmax	pmax		
	comp=Z,13nm,0.7s						
BJT	**Baijiatuau**	**21.49**	**274**	P	**P**	**09 20 04.8**	**-1.5**
	comp=Z,13nm,0.7s,mb4.4						
FX1	**Attu Island--F**	**21.87**	**51**	P	**P**	**09 20 11.9**	**+1.9**
FX1				pmax	pmax		
	comp=Z,15nm,0.7s						
FX1	**Attu Island--F**	**21.87**	**51**	P	**P**	**09 20 11.9**	**+1.9**
	comp=Z,15nm,0.7s,mb4.6,baz=246,slow=20,SNR=2.1						
TIA	**Tai'an**	**22.07**	**263**	*e*P	**P**	**09 20 10.2**	**-1.8**
HHC	**Hu-ho-hao-te**	**24.68**	**278**	*e*P	**P**	**09 20 39.4**	**+1.9**
HHC				AP		09 20 50.0	
HHC				XP		09 20 56.3	
HHC				PCP	PcP	09 24 17.2	+2.0
HHC				S	**S**	**09 24 58.6**	**+4.7**
HHC				XS		09 25 10.7	
HHC				SS	SS	09 25 50.1	-1.4
HHC				PCS		09 27 56.8	
HHC				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,240nm,8.1s						
HHC				LR	LR		
	comp=N,2μm,16.3s,MS4.9						
HHC				LR	LR		
	comp=E,2μm,14.7s,MS4.9						
HHC				LR	LR		
	comp=Z,2μm,15.1s,MS4.7						
BOD	**Bodaibo**	**24.78**	**319**	*e*P	**P**	**09 20 34.8**	**-3.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.8						
BTO	**Baotou**	**25.88**	**278**	*e*P	**P**	**09 20 48.5**	**-0.3**
BTO				AMB	AMB		
	comp=Z,25nm,0.7s,mb4.8						
WHN	**Wuhan**	**26.86**	**254**	⇑P	**P**	**09 20 59.0**	**+1.0**
ULN	**Ulaanbaatar**	**26.92**	**295**	*e*P	**P**	**09 20 58.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,964nm,3.1s						
ULN	**Ulaanbaatar**	**26.92**	**295**	*e*P	**P**	**09 20 58.7**	**+0.3**
	comp=Z,964nm,3.1s						
SONM	**Songino Array**	**27.36**	**295**	P	**P**	**09 21 02.4**	**-0.1**
	comp=Z,16nm,0.6s,mb4.7,baz=93,slow=7.8,SNR=41						
ZAK	**Zakamensk**	**29.36**	**300**	⇑*i*P	**P**	**09 21 20.1**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.4						
ENH	**Enshi**	**30.52**	**258**	*e*P	**P**	**09 21 30.4**	**-0.4**
	comp=Z,19nm,0.8s,mb5.0						
MOY	**Mondy**	**30.80**	**303**	*e*P	**P**	**09 21 33.4**	**+0.3**
MOY				pmax	pmax		
	comp=Z,47nm,1.9s,mb5.0						
LZH	**Lanzhou**	**31.96**	**273**	⇑P	**P**	**09 21 44.9**	**+1.4**
LZH				AP	pP	09 21 53.0	-1.1
LZH				XP	sP	09 21 57.0	-2.0
LZH				AMB	AMB		
	comp=Z,62nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,220nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,13.3s						
LZH				LR	LR		
	comp=Z,2μm,14.7s,MS4.8						
GTA	**Gaotai**	**33.71**	**281**	*e*P	**P**	**09 21 59.6**	**+1.0**
GTA				AP	pP	09 22 07.9	-1.4
GTA				XP	sP	09 22 11.7	-2.5
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
KMI	**Kunming**	**38.36**	**257**	P	**P**	**09 22 39.9**	**+1.8**
KMI				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.9						
KMI	**Kunming**	**38.36**	**257**	P	**P**	**09 22 39.9**	**+1.8**
	comp=Z,27nm,1.0s,mb4.9						
ZAL	**Zalesovo**	**40.44**	**308**	P	**P**	**09 22 55.0**	**-0.1**
	comp=Z,7.8nm,0.4s,mb4.8,baz=28,slow=9.1,SNR=18						
WMQ	**Urumqi**	**40.92**	**292**	P	**P**	**09 22 59.6**	**+0.5**
WMQ				AP	pP	09 23 12.1	+2.1
WMQ				XP	sP	09 23 17.6	+2.9
WMQ				PP	PP	09 24 37.6	+1.0
WMQ				PCP	PcP	09 25 01.6	+1.8
WMQ				S	**S**	**09 29 06.1**	**-1.9**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,463nm,3.2s						
WMQ				LR	LR		
	comp=N,339nm,17.8s,MS4.6						
WMQ				LR	LR		
	comp=E,788nm,19.4s,MS4.6						
WMQ				LR	LR		
	comp=Z,363nm,17.0s,MS4.3						
IMA	**Indian Mountai**	**40.97**	**33**	*e*P	**P**	**09 22 59.7**	**+0.4**
IMA				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.1						
IMA	**Indian Mountai**	**40.97**	**33**	*e*P	**P**	**09 22 59.7**	**+0.4**
	comp=Z,35nm,0.7s,mb5.1						
MCK	**McKinley**	**42.97**	**37**	*e*P	**P**	**09 23 16.5**	**+0.9**
MCK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
MCK	**McKinley**	**42.97**	**37**	*e*P	**P**	**09 23 16.5**	**+0.9**
	comp=Z,6.9nm,1.1s,mb4.3						
SML	**Sawmill**	**43.38**	**40**	*e*P	**P**	**09 23 17.0**	**-2.0**
COLA	**College**	**43.39**	**35**	*e*P	**P**	**09 23 19.9**	**+0.9**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
COLA	**College**	**43.39**	**35**	*e*P	**P**	**09 23 19.9**	**+0.9**
	comp=Z,9.4nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**43.80**	**35**	P	**P**	**09 23 22.4**	**+0.1**
	comp=Z,6.1nm,1.1s,mb4.2,baz=267,slow=6.8,SNR=15						
NANT	**Nan**	**43.83**	**252**	P	**P**	**09 23 25.0**	**+1.8**
	comp=Z,325nm,0.5s						
CMAR	**Chiang Mai Arr**	**45.30**	**253**	P	**P**	**09 23 34.6**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.1,baz=48,slow=7.7,SNR=11						
INK	**Inuvik**	**48.64**	**29**	P	**P**	**09 24 00.4**	**-0.2**
INK				pmax	pmax		
	comp=Z,1

comp=Z,24nm,1.1s,mb5.0
RES Resolute Bay 56.94 16 *e*P **P 09 25 00.4 -1.8**
RES pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
RES Resolute Bay 56.94 16 *e*P **P 09 25 00.3 -1.8**
comp=Z,9.2nm,0.7s,mb4.9
YKA Yellowknife Ar 58.09 32 P **P 09 25 09.6 -0.7**
comp=Z,1.1nm,0.6s,mb4.0,baz=304,slow=6.7,SNR=12
ARCES ARCESS Array B 60.00 339 P **P 09 25 21.3 -2.3**
comp=Z,1.4nm,0.6s,mb4.2,baz=45,slow=8.6,SNR=7.1
ARCES ARCESS Array B 60.00 339 P **P 09 25 21.3 -2.3**
JOF Joensuu 62.53 332 *e*p **P 09 25 37.2 -3.5**
comp=Z,2.5nm,0.5s,mb4.6
FITZ Fitzroy Crossi 62.54 200 P **P 09 25 39.8 -1.6**
comp=Z,5.3nm,0.8s,mb4.7,baz=198,slow=4.4,SNR=3.5
WRA Warramunga Arr 62.59 191 P **P 09 25 40.9 -0.8**
comp=Z,1.8nm,0.9s,mb4.2,baz=8.9,slow=6.8,SNR=12
WRA pP pP 09 25 51.7 -1.4
comp=Z,2.3nm,0.8s,baz=7.7,slow=6.9,SNR=8.0
NEW Newport 64.73 47 P **P 09 25 55.2 0.0**
comp=Z,4.4nm,1.0s,mb4.4,baz=304,slow=11,SNR=3.3
NEW Newport 64.73 47 P **P 09 25 55.2 0.0**
KAF Kangasniemi 64.81 333 *e*p **P 09 25 52.6 -2.9**
comp=Z,2.8nm,0.5s,mb4.5,baz=44,slow=6.2
KAF Kangasniemi 64.81 333 *e*P **P 09 25 52.6 -2.9**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
YBH Yreka Blue Hor 65.29 55 P **P 09 25 59.0 0.0**
comp=Z,1.1nm,0.6s,mb4.1,baz=115,slow=18,SNR=5.4
FINES FINESS Array B 65.35 332 P **P 09 25 57.5 -1.5**
comp=Z,9.1nm,0.6s,mb5.0,baz=50,slow=7.7,SNR=48
FINES pP pP 09 26 08.7 -1.8
comp=Z,5.4nm,0.7s,baz=45,slow=8.1,SNR=4.1
OBN Obninsk 65.41 323 *e*P pP 09 26 08.9 -2.0
OBN pmax pmax
comp=Z,26nm,1.2s,mb5.1
SUMG Summit 65.46 1 *e*P **P 09 25 59.5 -0.1**
comp=Z,5.0nm,0.7s,mb4.7
ASAR Alice Springs 66.32 191 P **P 09 26 05.7 -0.2**
comp=Z,1.6nm,0.9s,mb4.0,baz=21,slow=4.6,SNR=8.0
ASAR pP pP 09 26 17.5 +0.2
comp=Z,1.5nm,0.9s,baz=11,slow=6.1,SNR=5.4
HLID Hailey 69.08 50 *e*P **P 09 26 24.3 +1.5**
comp=Z,4.0nm,1.2s,mb4.2
BOZ Bozeman (W) 69.31 47 *e*P **P 09 26 24.9 +0.8**
BOZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BOZ Bozeman (W) 69.31 47 *e*P **P 09 26 24.9 +0.8**
comp=Z,5.6nm,0.6s,mb4.7
KIV Kislovodsk 69.35 311 *e*P **P 09 26 25.1 +0.7**
KIV pmax pmax
comp=Z,20nm,1.0s,mb5.0
KIV Kislovodsk 69.35 311 *e*P **P 09 26 25.1 +0.6**
comp=Z,20nm,1.0s,mb5.0
NVAR Mina Array Bea 69.97 56 P **P 09 26 29.8 +1.5**
comp=Z,1.5nm,0.7s,mb4.1,baz=292,slow=7.4,SNR=7.9
NVAR pP pP 09 26 41.9 +2.2
comp=Z,2.9nm,0.8s,baz=295,slow=4.9,SNR=5.9
NVAR Mina Array Bea 69.97 56 P **P 09 26 29.8 +1.5**
NVAR pP pP 09 26 41.9 +2.2
NB2 NORSAR Subarra 70.31 338 P **P 09 26 29.0 -1.0**
comp=Z,9.9nm,1.1s,mb4.7,baz=37,slow=6.2
NB2 NORSAR Subarra 70.31 338 P **P 09 26 29.0 -1.0**
NB2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
NOA NORSAR Array B 70.31 338 P **P 09 26 28.4 -1.5**
comp=Z,3.2nm,0.7s,mb4.3,baz=36,slow=6.2,SNR=11
NOA NORSAR Array B 70.31 338 P **P 09 26 28.4 -1.5**
IMW Indian Meadow 70.81 48 *e*P **P 09 26 35.3 +2.0**
comp=Z,9.5nm,1.0s,mb4.7
RRI2 Red Ridge 70.95 48 *e*P **P 09 26 36.2 +2.0**
comp=Z,10.0nm,1.2s,mb4.6
AKASG Malin Array Be 71.66 323 P **P 09 26 37.2 -1.1**
comp=Z,2.3nm,0.4s,mb4.4,baz=43,slow=6.3,SNR=17
PDAR Pinedale Array 72.31 48 P **P 09 26 43.2 +1.0**
comp=Z,1.8nm,0.8s,mb4.1,baz=297,slow=1.1,SNR=10
PDAR pP pP 09 26 55.2 +1.5
comp=Z,1.9nm,0.6s,baz=265,slow=1.4,SNR=6.0
STKA Stephens Creek 73.81 183 P **P 09 26 50.8 -0.5**
comp=Z,0.7nm,0.6s,mb3.8,baz=324,slow=14,SNR=2.5
ULM Lac du Bonnet 73.82 36 P **P 09 26 50.4 -0.5**
comp=Z,2.1nm,0.5s,mb4.3,baz=313,slow=5.5,SNR=4.1
ULM Lac du Bonnet 73.82 36 P **P 09 26 50.4 -0.5**
PV10 Paradox Valley 75.54 51 *e*P **P 09 27 03.3 +2.2**
BRTR Keskin Array B 77.20 312 P **P 09 27 10.4 0.0**
comp=Z,0.7nm,0.7s,mb3.7,baz=74,slow=5.3,SNR=4.4
BRTR pP pP 09 30 04.0 -2.1
comp=Z,0.2nm,0.4s,baz=76,slow=5.1,SNR=3.6
MORC Moravsky Berou 77.30 328 *e*P **P 09 27 11.4 +0.6**
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MORC Moravsky Berou 77.30 328 *e*P **P 09 27 11.4 +0.6**
comp=Z,4.7nm,1.0s,mb4.4
CLL Collm 77.76 331 P **P 09 27 13.0 -0.3**
NWAO Narrogin (SRO) 78.92 203 P **P 09 27 21.5 +1.4**
comp=Z,2.8nm,0.7s,mb4.3,baz=132,slow=18,SNR=2.8
LAZ Ladron 79.38 53 *e*P **P 09 27 25.0 +2.4**
GERES GERESS Array B 79.53 329 P **P 09 27 23.2 +0.2**
comp=Z,0.6nm,0.6s,mb3.7,baz=52,slow=15,SNR=4.0
SCHQ Schefferville 79.64 18 P **P 09 27 23.3 -0.2**
comp=Z,1.8nm,0.7s,mb4.1,baz=338,slow=9.4,SNR=4.0
TXAR Lajitas Array 85.05 55 P **P 09 27 53.6 +1.7**
comp=Z,1.4nm,0.7s,mb4.2,baz=305,slow=3.7,SNR=11
TXAR pP pP 09 28 05.7 +2.1
comp=Z,1.2nm,0.5s,baz=299,slow=3.7,SNR=4.8
TXAR Lajitas Array 85.05 55 P **P 09 27 53.6 +1.7**
TXAR pP pP 09 28 05.7 +2.1
VNDA Vanda 119.97 176 PKP PKPdf 09 34 06.7 +2.1
comp=Z,0.4nm,0.7s,baz=322,slow=3.0,SNR=3.8
VNDA Vanda 119.97 176 PKP PKPdf 09 34 06.7 +2.1
MATP Matopo 122.60 271 PKP PKPdf 09 34 13.2 +2.3
comp=Z,0.5nm,0.3s,baz=267,slow=23,SNR=2.8
DBIC Dimbokro 123.91 323 PKP PKPdf 09 34 15.2 +1.6
comp=Z,1.8nm,0.7s,baz=45,slow=10.0,SNR=3.4
SNAA Sanae 146.45 198 PKPbc PKPbc 09 34 58.1 +3.5
comp=Z,3.2nm,1.1s,baz=104,slow=12,SNR=3.2
BDFB Brasilia 151.35 26 PKPbc PKPdf 09 35 10.4 +7.7
comp=Z,3.6nm,0.6s,baz=308,slow=3.0,SNR=6.3
CFAA Coronel Fontan 151.84 79 PKPbc PKPdf 09 35 11.5 +8.4
comp=Z,0.3nm,0.5s,baz=251,slow=2.6,SNR=4.4
PLCA Paso Flores 153.74 99 PKPbc PKPdf 09 35 16.4 +11
comp=Z,1.5nm,0.9s,baz=258,slow=16,SNR=2.9

*IDC **11** 09:20:15.6±1.3, 1.47S×99.70E, h22km±5km, mb3.6/9, mb1 3.7/10, mb1mx3.6/19, mbtmp3.7/10, ML3.6/1, Error ellipse: s-maj=56.6km s-min=14.5km az=54.0*
*NEIC **11** 09:20:16.0±0.7, 1.45S×99.75E, mb4.1/1, Error ellipse: s-maj=34.4km s-min=9.2km az=55.0*
ISC 11 09:20:15.5±1.0, 1.3S±0.2×99.8E±0.3, h33km, n17, σ0.67/14, mb3.8/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.69**	**358**	P	**P**	**09 24 44.4**	**-0.5**
	0.1nm,0.3s,baz=180,slow=9.9,SNR=2.8						
WRA	**Warramunga Arr**	**38.48**	**121**	P	**P**	**09 27 36.8**	**+0.3**
	0.4nm,0.5s,mb3.4,baz=302,slow=9.1,SNR=3.1						
WRA				PcP	PcP	09 29 50.0	+0.3
	0.2nm,0.5s,baz=311,slow=2.4,SNR=4.9						
WRA				pPcP		09 29 56.7	
	0.2nm,0.6s,baz=314,slow=2.6,SNR=5.0						
WRAB	**Tennant Creek**	**38.48**	**121**	P	**P**	**09 27 36.6**	**+0.1**
ASAR	**Alice Springs**	**39.78**	**127**	P	**P**	**09 27 46.0**	**-1.2**
	0.4nm,0.8s,mb3.2,baz=300,slow=7.5,SNR=2.9						
ASAR				pP	pP	09 27 54.2	-2.8
	0.5nm,0.6s,baz=305,slow=7.8,SNR=2.9						
SONM	**Songino Array**	**49.30**	**6**	P	**P**	**09 29 03.4**	**+0.1**
	0.3nm,0.5s,mb3.6,baz=180,slow=9.9,SNR=3.6						
STKA	**Stephens Creek**	**49.72**	**132**	P	**P**	**09 29 07.4**	**+0.6**
	0.6nm,0.5s,mb3.9,baz=315,slow=10.0,SNR=2.5						
STKA	**Stephens Creek**	**49.72**	**132**	*e*P	**P**	**09 29 07.3**	**+0.6**
MKAR	**Makanchi Array**	**50.35**	**344**	P	**P**	**09 29 12.1**	**+0.7**
	0.9nm,0.5s,mb4.0,baz=148,slow=8.2,SNR=7.5						
MKAR				pP	pP	09 29 18.9	-2.4
	0.7nm,0.6s,baz=157,slow=7.5,SNR=4.2						
MKAR	**Makanchi Array**	**50.35**	**344**	P	**P**	**09 29 12.1**	**+0.7**
MKAR				pP	pP	09 29 18.9	-2.4
ZAL	**Zalesovo**	**56.48**	**349**	P	**P**	**09 29 57.3**	**+0.7**
	1.4nm,0.5s,mb4.2,baz=301,slow=7.4,SNR=4.0						
BVAR	**Borovoye Array**	**59.51**	**340**	P	**P**	**09 30 17.1**	**-0.7**
	0.3nm,0.5s,mb3.6,baz=112,slow=7.8,SNR=3.4						
CHKZ	**Chkalovo**	**59.97**	**340**	*e*P	**P**	**09 30 20.5**	**-0.5**
	0.8nm,0.5s,mb4.0						
BRTR	**Keskin Array B**	**72.75**	**312**	P	**P**	**09 31 41.9**	**-0.6**
	1.0nm,0.6s,mb3.9,baz=266,slow=16,SNR=7.2						
FINES	**FINESS Array B**	**83.45**	**332**	P	**P**	**09 32 41.8**	**+1.0**
	2.3nm,0.9s,mb4.2,baz=135,slow=5.4,SNR=4.4						
TXAR	**Lajitas Array**	**144.28**	**37**	PKP	PKPdf	09 39 50.8	+1.9
	0.4nm,0.4s,baz=196,slow=0.5,SNR=11						
TXAR				pPKP		09 39 57.5	
	0.4nm,0.4s,baz=266,slow=1.2,SNR=6.1						
TXAR	**Lajitas Array**	**144.28**	**37**	PKP	PKPdf	09 39 50.8	+1.9
TXAR				pPKP		09 39 57.5	
TZTN	**Tazewell**	**144.83**	**5**	*e*PKP	PKPdf	09 39 50.9	+1.3
TZTN				*e*		09 39 57.6	

*IDC **11** 09:25:10.0±1.6, 11.26N×90.92E, mb3.9/7, mb1 4.1/8, mb1mx3.8/22, mbtmp3.9/8, ML4.2/1, Error ellipse: s-maj=56.6km s-min=18.3km az=66.0*
*BJI **11** 09:25:13.4, 11.23N×91.01E, h33km, mb4.4*
*NEIC **11** 09:25:14.7±0.5, 11.30N×90.99E, h30km, mb4.2/11, Error ellipse: s-maj=11.2km s-min=5.8km az=59.0*
ISC 11 09:25:13.2±0.8, 11.30N±0.09×91.0E±0.1, h33km, n26, σ0.89/27, mb4.1/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**9.83**	**311**	*e*P	**P**	**09 27 31.0**	**-4.3**
VIS				*e*S	**S**	**09 29 11.8**	**-14**
CM31	**Chiang Mai Arr**	**10.44**	**46**	*e*P	**P**	**09 27 42.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**10.44**	**46**	Pn	**P**	**09 27 42.5**	**-1.2**
	0.5nm,0.3s,baz=239,slow=15,SNR=19						
IPM	**Ipoh**	**11.92**	**123**	P	**P**	**09 28 04.5**	**+0.6**
HYB	**Hyderabad**	**13.54**	**298**	*e*P	**P**	**09 28 16.0**	**-9.5**
JIRN	**Jiri**	**16.91**	**345**	*e*P	**P**	**09 29 09.0**	**+0.1**
	11nm,0.4s						
PKI	**Pulchoki**	**17.03**	**343**	*e*P	**P**	**09 29 10.6**	**+0.1**
	14nm,0.5s						
DMN	**Daman**	**17.16**	**342**	*e*P	**P**	**09 29 11.9**	**-0.2**
	21nm,0.5s						
GUN	**Gumba**	**17.23**	**344**	*e*P	**P**	**09 29 13.5**	**+0.6**
KKN	**Kakani**	**17.28**	**343**	*e*P	**P**	**09 29 13.4**	**-0.2**
	11nm,0.5s						
GKN	**Gorkha**	**17.67**	**341**	*e*P	**P**	**09 29 18.1**	**-0.4**
	18nm,0.3s						
KOLN	**Koldanda**	**17.82**	**338**	*e*P	**P**	**09 29 21.0**	**+0.7**
	17nm,0.5s						
ENH	**Enshi**	**25.50**	**39**	*e*P	**P**	**09 30 40.1**	**-0.2**
	9.6nm,0.8s,mb4.4						
LZH	**Lanzhou**	**27.27**	**23**	*e*P	**P**	**09 30 58.0**	**+1.4**
LZH				AP	pP	09 31 06.5	+0.4
LZH				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.6						
LZH	**Lanzhou**	**27.27**	**23**	*e*P	**P**	**09 30 58.0**	**+1.4**
	comp=Z,25nm,1.2s,mb4.6						
LZH				pP	pP	09 31 06.5	+0.4
MKAR	**Makanchi Array**	**36.15**	**350**	P	**P**	**09 32 14.2**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=164,slow=8.4,SNR=10						
SONM	**Songino Array**	**38.64**	**17**	P	**P**	**09 32 36.0**	**+0.8**
	comp=Z,1.8nm,0.6s,mb4.0,baz=202,slow=8.9,SNR=18						
ULN	**Ulaanbaatar**	**38.85**	**17**	*e*P	**P**	**09 32 37.4**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.7						
ZAL	**Zalesovo**	**42.82**	**355**	P	**P**	**09 33 09.9**	**+0.3**
	comp=Z,1.1nm,0.5s,mb3.9,baz=35,slow=6.4,SNR=3.1						
MBWA	**Marble Bar**	**42.83**	**139**	*e*P	**P**	**09 33 05.7**	**-4.5**
	comp=Z,5.5nm,0.7s,mb4.4						
BVAR	**Borovoye Array**	**44.80**	**342**	P	**P**	**09 33 25.0**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.4,baz=153,slow=6.6,SNR=3.6						
FITZ	**Fitzroy Crossi**	**44.94**	**130**	*e*P	**P**	**09 33 26.2**	**-0.9**
	comp=Z,22nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**45.31**	**343**	*e*P	**P**	**09 33 29.7**	**0.0**
	comp=Z,4.3nm,1.4s,mb4.1						
WRA	**Warramunga Arr**	**52.73**	**126**	P	**P**	**09 34 26.7**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=307,slow=8.1,SNR=9.7						
ASAR	**Alice Springs**	**54.44**	**130**	P	**P**	**09 34 40.1**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=306,slow=6.7,SNR=16						
STKA	**Stephens Creek**	**64.66**	**133**	P	**P**	**09 35 51.0**	**+0.8**
	comp=Z,1.3nm,0.7s,mb4.0,baz=288,slow=17,SNR=3.5						

*IDC **11** 09:26:44.6±0.5, 1.02N×97.44E, mb4.7/25, mb1 4.8/26, mb1mx4.7/30, mbtmp4.7/26, ML5.1/1, MS4.1/1, Ms1 4.3/1, ms1mx3.4/26, Error ellipse: s-maj=16.7km s-min=11.4km az=46.0*
*BJI **11** 09:26:47.9, 0.87N×97.53E, h40km, mB5.5, mb5.1, Ms4.9, Msz4.6*
*MOS **11** 09:26:48.0±0.9, 1.04N×97.52E, h33km, mb5.2/32, Error ellipse: s-maj=11.3km s-min=6.2km az=108.8*
*NEIC **11** 09:26:49.7±2.7, 1.01N×97.49E, h33km±18km, mb5.0/24, Error ellipse: s-maj=8.2km s-min=5.0km az=53.0*
ISC 11 09:26:46.9±1.5, 0.98N±0.04×97.50E±0.04, h26km±10km, h27km±1.6km: pP-P, n172, σ0.99/170, mb4.9/67, MS4.6/6, 23C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.31**	**36**	⇑*i*P	**Pn**	**09 28 07.6**	**+0.9**
KGM	**Kluang**	**5.91**	**80**	P	**Pn**	**09 28 17.9**	**+2.8**
SNG	**Songkhla**	**6.90**	**27**	P	**Pn**	**09 28 28.0**	**-1.0**
	580nm,0.9s						
KSM	**Kuching**	**12.81**	**88**	P	**P**	**09 29 48.9**	**-1.3**
NST	**Nakhon Sawan**	**14.83**	**10**	P	**P**	**09 30 06.5**	**-10**
KKTK	**Khon Kaen**	**16.14**	**19**	P	**P**	**09 30 36.0**	**+2.2**
CM31	**Chiang Mai Arr**	**17.43**	**5**	*e*P	**P**	**09 30 49.2**	**-0.8**
	33nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.43**	**5**	P	**P**	**09 30 48.7**	**-1.4**
	2.2nm,0.3s,baz=194,slow=12,SNR=38						
CMAR				LR	LR	09 38 02.2	
	comp=Z,618nm,19.2s,baz=190,slow=39						
CHG	**Chiang Mai**	**17.78**	**4**	⇑P	**P**	**09 30 53.2**	**-1.3**
	28nm,0.9s						
NANT	**Nan**	**17.99**	**10**	P	**P**	**09 30 58.0**	**+1.0**
	375nm,0.5s						
KKM	**Kota Kinabalu**	**19.34**	**74**	P	**P**	**09 31 13.4**	**0.0**
KKM	**Kota Kinabalu**	**19.34**	**74**	P	**P**	**09 31 14.3**	**+0.9**
TSM	**Tawau**	**20.61**	**80**	P	**P**	**09 31 27.8**	**+0.8**
QIZ	**Qiongzhong**	**21.64**	**33**	P	**P**	**09 31 38.0**	**+0.6**
KMI	**Kunming**	**24.53**	**11**	P	**P**	**09 32 07.3**	**+1.5**
KMI				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.1						
KMI	**Kunming**	**24.53**	**11**	P	**P**	**09 32 07.3**	**+1.5**
	comp=Z,70nm,1.2s,mb5.1						
SHL	**Shillong**	**25.04**	**348**	*e*P	**P**	**09 32 10.5**	**-0.2**
	comp=Z,19nm,0.7s,mb4.7						
SHL				*e*S	**S**	**09 36 39.5**	**+9.0**
GYA	**Guiyang**	**26.83**	**18**	⇑*i*P	**P**	**09 32 27.0**	**-0.2**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
LSA	**Lhasa**	**29.20**	**349**	P	**P**	**09 32 49.0**	**+0.3**
LSA	**Lhasa**	**29.20**	**349**	*e*P	**P**	**09 32 48.5**	**-0.2**
LSA				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.2						
LSA	**Lhasa**	**29.20**	**349**	*e*P	**P**	**09 32 48.5**	**-0.1**
	comp=Z,38nm,0.8s,mb5.2						
ENH	**Enshi**	**31.28**	**20**	*e*P	**P**	**09 33 05.5**	**-1.7**
	comp=Z,52nm,0.8s,mb5.4						
LGTI	**Lohaghat**	**32.74**	**331**	*e*P	**P**	**09 33 20.5**	**+0.6**
WHN	**Wuhan**	**33.47**	**27**	⇓P	**P**	**09 33 26.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**33.55**	**126**	P	**P**	**09 33 26.3**	**-0.7**
	comp=Z,6.7nm,0.6s,mb4.7,baz=261,slow=8.0,SNR=6.3						
XAN	**Xi'an**	**34.59**	**17**	P	**P**	**09 33 34.4**	**-1.4**
XAN				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.5						
LZH	**Lanzhou**	**35.43**	**9**	⇑P	**P**	**09 33 42.5**	**-0.5**
LZH				AP	pP	09 33 49.5	-1.3
LZH				AMB	AMB		
	comp=Z,38nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,140nm,4.5s						
LZH				LR	LR		
	comp=N,1μm,13.0s						
LZH				LR	LR		
	comp=Z,2μm,14.8s,MS4.9						
LZH	**Lanzhou**	**35.43**	**9**	⇑P	**P**	**09 33 42.5**	**-0.5**
	comp=Z,38nm,1.4s,mb5.1						
LZH				pP	pP	09 33 49.5	-1.3
LZH				sP	sP	09 33 52.6	-1.5
LZH				LR	LR		
	comp=Z,2μm,14.8s,MS4.9						
NJ2	**Nanjing**	**36.90**	**31**	*e*P	**P**	**09 33 56.2**	**+0.8**
NJ2				AP	pP	09 34 06.1	+2.9
NJ2				XP	sP	09 34 10.1	+3.5
NJ2				PP	PP	09 35 22.0	+0.4
NJ2				S	**S**	**09 39 36.0**	**-2.0**
NJ2				XS		09 39 52.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,460nm,5.5s						
NJ2				LR	LR		
	comp=N,870nm,14.1s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,13.7s,MS4.9						
NJ2				LR	LR		
	comp=Z,560nm,15.9s,MS4.5						
KAKA	**Kakadu**	**37.24**	**113**	*e*P	**P**	**09 33 57.1**	**-1.3**
	comp=Z,13nm,1.0s,mb4.7						
THN	**Thein Dam**	**37.42**	**329**	*e*P	**P**	**09 34 00.0**	**+0.2**
GTA	**Gaotai**	**38.31**	**3**	⇑P	**P**	**09 34 07.3**	**+0.1**
GTA				AP	pP	09 34 15.8	+0.7
GTA				XP	sP	09 34 19.9	+1.5
GTA				PCP	PcP	09 36 22.2	+0.8
GTA				S	**S**	**09 40 00.8**	**+1.3**
GTA				XS		09 40 14.8	
GTA				SS	SS	09 42 35.5	-3.6
GTA				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.1						
GTA				AMB	AMB		
	comp=Z,120nm,6.0s						
GTA				LR	LR		
	comp=N,475nm,15.2s,MS4.7						
GTA				LR	LR		
	comp=E,720nm,17.9s,MS4.7						
GTA				LR	LR		
	comp=Z,433nm,16.4s,MS4.3						
NWAO	**Narrogin (SRO)**	**38.52**	**153**	P	**P**	**09 34 10.4**	**+1.4**
	comp=Z,2.0nm,0.6s,mb4.0,baz=5.2,slow=11,SNR=2.6						
JOW	**Kunigami**	**39.17**	**46**	P	**P**	**09 34 15.2**	**+0.6**
	comp=Z,67nm,0.7s,mb5.5,baz=244,slow=8.4,SNR=15						
WRA	**Warramunga Arr**	**41.66**	**122**	P	**P**	**09 34 35.2**	**0.0**
WRA				S	**S**	**09 40 45.4**	**-4.5**
WRA	**Warramunga Arr**	**41.66**	**122**	P	**P**	**09 34 35.2**	**0.0**
	comp=Z,6.8nm,0.5s,mb4.5,baz=301,slow=9.1,SNR=76						
WRA				S	**S**	**09 40 45.4**	**-4.6**
	comp=Z,1.5nm,1.1s,baz=293,slow=14,SNR=2.6						
WRA	**Warramunga Arr**	**41.66**	**122**	P	**P**	**09 34 35.2**	**0.0**
WRA				S	**S**	**09 40 45.4**	**-4.6**
WRAB	**Tennant Creek**	**41.67**	**122**	*d*iP	**P**	**09 34 35.5**	**+0.3**
WRAB	**Tennant Creek**	**41.67**	**122**	*e*P	**P**	**09 34 35.6**	**+0.4**
	comp=Z,22nm,0.8s,mb4.8						
HHC	**Hu-ho-hao-te**	**41.69**	**16**	*e*P	**P**	**09 34 36.4**	**+1.3**
HHC				XP	sP	09 34 49.5	+3.2
HHC				PP	PP	09 36 15.9	+1.3
HHC				PCP	PcP	09 36 32.2	0.0
HHC				SCP		09 40 21.0	
HHC				PCS		09 40 23.2	
HHC				S	**S**	**09 40 53.1**	**+3.0**
HHC				XS		09 41 10.2	
HHC				SCS	ScS	09 44 31.6	-2.8
HHC				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,1μm,14.7s						
HHC				LR	LR		
	comp=N,946nm,15.7s,MS4.9						
HHC				LR	LR		
	comp=E,1μm,17.2s,MS4.9						
HHC				LR	LR		
	comp=Z,817nm,17.1s,MS4.7						
BJT	**Baijiatuau**	**42.41**	**21**	*e*P	**P**	**09 34 42.4**	**+1.3**
BJT				pmax	pmax		
	comp=Z,58nm,0.8s						
BJT	**Baijiatuau**	**42.41**	**21**	*e*P	**P**	**09 34 42.4**	**+1.2**
	comp=Z,58nm,0.8s,mb5.3						
BJI	**Beijing**	**42.44**	**21**	P	**P**	**09 34 42.4**	**+1.1**
BJI				AMB	AMB		
	comp=Z,90nm,0.7s,mb5.5						
BJI	**Beijing**	**42.44**	**21**	P	**P**	**09 34 42.4**	**+1.1**
	comp=Z,90nm,0.7s,mb5.5						
FORT	**Forrest**	**42.91**	**140**	⇓*i*P	**P**	**09 34 48.1**	**+2.8**
	comp=Z,747nm,0.6s						
ASPA	**Alice Springs**	**43.02**	**127**	*e*P	**P**	**09 34 46.9**	**+0.6**
ASAR	**Alice Springs**	**43.02**	**127**	P	**P**	**09 34 46.8**	**+0.5**
ASAR				S	**S**	**09 41 08.4**	**-1.5**
ASAR	**Alice Springs**	**43.02**	**127**	P	**P**	**09 34 46.8**	**+0.5**
	comp=Z,6.5nm,0.7s,mb4.5,baz=299,slow=7.6,SNR=54						
ASAR				S	**S**	**09 41 08.3**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=291,slow=14,SNR=5.2						
ASAR	**Alice Springs**	**43.02**	**127**	P	**P**	**09 34 46.8**	**+0.5**
ASAR				S	**S**	**09 41 08.3**	**-1.5**
WMQ	**Urumqi**	**43.55**	**350**	⇑P	**P**	**09 34 51.4**	**+1.1**
WMQ				AP	pP	09 35 01.1	+2.9
WMQ				XP	sP	09 35 05.0	+3.6
WMQ				PP	PP	09 36 34.7	+1.2
WMQ				PCP	PcP	09 36 39.4	+1.0
WMQ				S	**S**	**09 41 17.6**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,45nm,1.1s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,413nm,4.2s						
WMQ				LR	LR		
	comp=N,305nm,18.8s,MS4.4						
WMQ				LR	LR		
	comp=E,293nm,20.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,292nm,17.5s,MS4.2						
ULHL	**Ulahol**	**45.31**	**338**	P	**P**	**09 35 05.2**	**+0.6**
	SNR=14						
KZA	**Kyzart**	**45.55**	**337**	P	**P**	**09 35 07.4**	**+1.0**
	SNR=7.2						
UCH	**Uchtor**	**45.98**	**336**	P	**P**	**09 35 10.8**	**+1.0**
	SNR=26						
TKM2	**Tokmak 2**	**46.14**	**338**	P	**P**	**09 35 11.7**	**+0.7**
	SNR=21						
AML	**Almayashu**	**46.23**	**335**	P	**P**	**09 35 12.8**	**+1.0**
	SNR=22						
AAK	**Ala-Archa**	**46.32**	**336**	P	**P**	**09 35 13.4**	**+0.9**
	SNR=8.6						
AAK	**Ala-Archa**	**46.32**	**336**	P	**P**	**09 35 13.0**	**+0.5**
AAK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
FRU	**Bishkek**	**46.44**	**337**	*e*P	**P**	**09 35 14.0**	**+0.5**
FRU				*e*		09 35 31.0	
CHMS	**Chumysh**	**46.53**	**337**	P	**P**	**09

MDJ Mudanjiang 51.91 29 P **P** **09 35 54.3 -1.3**
MDJ AMB AMB
comp=Z,11nm,0.8s,mb4.8
MDJ Mudanjiang 51.91 29 *e*P **P** **09 35 56.2 +0.6**
comp=Z,14nm,0.9s,mb4.9
CTA Charters Tower 52.13 116 P **P** **09 35 57.0 -0.6**
comp=Z,5.3nm,0.9s,mb4.5,baz=329,slow=7.2,SNR=2.7
STKA Stephens Creek 52.98 132⇑ *i*P **P** **09 36 04.8 +1.0**
comp=Z,11nm,1.0s,mb4.7
STKA Stephens Creek 52.98 132 P **P** **09 36 04.4 +0.6**
comp=Z,13nm,0.9s,mb4.8,baz=303,slow=6.8,SNR=23
OPO Ambohidratompo 53.11 246 P **P** **09 36 04.6 -0.3**
comp=Z,2.0nm,0.7s,mb4.2,baz=61,slow=10,SNR=3.2
ZAL Zalesovo 53.82 351 *i*P **P** **09 36 09.4 -0.2**
ZAL pmax pmax
comp=Z,27nm,0.7s
ZAL Zalesovo 53.82 351 P **P** **09 36 09.2 -0.4**
comp=Z,27nm,0.7s,mb5.3,baz=310,slow=5.0,SNR=85
NVS Novosibirsk 54.95 350 *i*P **P** **09 36 16.1 -1.8**
NVS *e* 09 44 08.7
NVS pmax pmax
comp=Z,28nm,1.0s,mb5.2
NVS pmax pmax
comp=N,18nm,0.9s
KLR Kul'dur 56.32 26 *e*P **P** **09 36 25.0 -2.9**
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,26nm,1.0s,mb5.2
BVA0 Borovoye Array 56.56 341 *i*P **P** **09 36 28.0 -1.5**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BVAR Borovoye Array 56.56 341 P **P** **09 36 28.1 -1.5**
comp=Z,18nm,0.8s,mb5.2,baz=143,slow=7.4,SNR=88
CHKZ Chkalovo 57.03 341 *e*P **P** **09 36 31.6 -1.3**
CHKZ pmax pmax
comp=Z,33nm,0.8s,mb5.4
CHKZ Chkalovo 57.03 341 *e*P **P** **09 36 31.6 -1.3**
comp=Z,33nm,0.8s,mb5.4
BOD Bodaibo 58.17 10⇓ *i*P **P** **09 36 40.2 -0.7**
BOD pmax pmax
comp=Z,32nm,1.0s,mb5.3
KMBO Kilima Mbogo 60.28 268 P **P** **09 36 56.0 -0.1**
comp=Z,0.5nm,0.3s,mb4.0,baz=67,slow=15,SNR=3.1
KMBO Kilima Mbogo 60.28 268 P **P** **09 36 56.0 -0.1**
YSS Yuzh-Sakhalins 60.36 34⇑ *e*P **P** **09 36 56.2 +0.1**
YSS *e* pP 09 37 05.1 +0.8
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 60.36 34⇑ *i*P **P** **09 36 55.0 -1.1**
GNI Garni 61.66 316 P **P** **09 37 04.2 -0.8**
comp=Z,2.5nm,0.3s,mb4.8,baz=42,slow=9.4,SNR=3.2
SVE Sverdlovsk 63.01 338⇑ *e*P **P** **09 37 09.0 -4.7**
SVE *e* 09 37 21.5
SVE pmax pmax
comp=Z,48nm,1.2s,mb5.5
SVE MLR MLR
comp=N,100nm,15.0s,MS4.6
SVE MLR MLR
comp=E,300nm,15.0s,MS4.6
SVE MLR MLR
comp=Z,400nm,15.0s,MS4.7
ARU Arti 63.51 337⇓ *i*P **P** **09 37 15.7 -1.3**
ARU *e* 09 39 32.9
ARU *e*S **S** **09 45 48.5 +1.5**
ARU pmax pmax
comp=Z,14nm,1.0s,mb5.0
ARU Arti 63.51 337⇑ *i*P **P** **09 37 15.4 -1.6**
KIV Kislovodsk 64.67 319⇑ *i*P **P** **09 37 24.1 -0.8**
ASF Jabal al Asfar 64.84 305 P **P** **09 37 27.0 +0.8**
comp=Z,1.9nm,0.6s,mb4.3,baz=308,slow=9.2,SNR=2.1
GOF Gofitskoye 64.93 320 *e*P **P** **09 37 22.3 -4.2**
YAK Yakutsk 65.55 16⇑ *i*P **P** **09 37 28.4 -1.8**
YAK pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
YAK Yakutsk 65.55 16⇑ *i*P **P** **09 37 28.4 -1.8**
comp=Z,3.8nm,0.5s,mb4.7
SOC Sochi 66.49 318 *e*P **P** **09 37 34.1 -2.4**
SOC *e* 09 38 02.6
SOC *e* 09 39 59.0
SOC *e*PPP PPP 09 41 40.4 -0.6
SOC *e*S S 09 46 25.3 +1.4
SOC *e* 09 47 25.5
SOC *e*SS SS 09 50 40.0 -2.5
SOC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SOC pmax pmax
comp=N,6.0nm,0.5s
SOC pmax pmax
comp=E,3.0nm,0.4s
ANN Anapa 68.47 318 *e*P **P** **09 37 48.8 -0.2**
BRTR Keskin Array B 69.48 312 P **P** **09 37 54.1 -1.2**
comp=E,3.2nm,0.8s,mb4.3,baz=134,slow=7.2,SNR=19
MATP Matopo 70.72 248 P **P** **09 38 02.7 -0.5**
comp=E,3.9nm,1.0s,mb4.3,baz=127,slow=5.1,SNR=5.7
MATP Matopo 70.72 248 P **P** **09 38 02.7 -0.5**
MA2 Magadan 71.40 25 *e*P **P** **09 38 06.8 +0.2**
MA2 *e* 09 38 24.9
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
MA2 Magadan 71.40 25 *i* Pr 09 38 05.3
OBN Obninsk 72.97 328*c* *i*P **P** **09 38 14.8 -1.2**
OBN pmax pmax
comp=Z,24nm,1.2s,mb5.0
OBN Obninsk 72.97 328⇑ *i*P **P** **09 38 14.8 -1.2**
TIXI Tiksi 73.35 10⇑ *i*P **P** **09 38 16.9 -1.0**
SEY Seymchan 73.85 23 *e*P **P** **09 38 23.4 +2.5**
SEY *e* 09 38 41.8
SEY pmax pmax
comp=Z,20nm,0.8s,mb5.1
BOSA Boshof 74.93 240 P **P** **09 38 27.8 -0.2**
comp=Z,1.9nm,0.9s,mb4.0,baz=96,slow=10,SNR=3.3
AKASG Malin Array Be 75.62 322 *i* P **P** **09 38 30.4 -1.0**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 75.62 322 P **P** **09 38 29.8 -1.6**
comp=Z,4.7nm,0.6s,mb4.6,baz=89,slow=4.5,SNR=27
JOF Joensuu 78.47 335 *e*p **P** **09 38 45.9 -1.1**
comp=Z,7.9nm,0.9s,mb4.6
KOLS Kolonicke sedl 79.58 320 *e*P **P** **09 38 53.9 +0.6**
KOLS *e*pP pP 09 39 02.3 +0.6
SYO Syowa Base 79.89 198 ⇓P **P** **09 38 54.0 -0.6**
SYO Syowa Base 79.89 198 ⇓PcP PcP 09 39 03.0 +0.5
SYO Syowa Base 79.89 198 ⇓pP pP 09 39 05.2 +2.3
FINES FINESS Array B 80.34 332 *i* P **P** **09 38 57.0 -0.1**
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 80.34 332 P **P** **09 38 56.3 -0.8**
comp=Z,5.7nm,0.8s,mb4.6,baz=117,slow=8.5,SNR=13
KAF Kangasniemi 80.42 333 *e*p **P** **09 38 56.7 -0.8**
comp=Z,11nm,0.8s,mb4.8,baz=103,slow=5.0
KAF Kangasniemi 80.42 333 *e*P **P** **09 38 56.7 -0.8**
KAF pmax pmax
comp=Z,11nm,0.8s,mb4.8
BILL Bilibino 81.27 21 *e*P **P** **09 39 01.2 -0.7**
OJC Ojcow 81.39 321 *e*P **P** **09 39 02.8 -0.1**
VYHS Vyhne 81.76 319 *e*P **P** **09 39 05.2 +0.4**
VYHS *e* pP 09 39 12.2 -1.0
VYHS *e* 10 05 23.1
OKC Ostrava-Krasne 82.39 320 *e*P **P** **09 39 08.2 +0.2**
MORC Moravsky Berou 82.77 320 *e*P **P** **09 39 10.3 +0.3**
MORC pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MORC Moravsky Berou 82.77 320 *e*P **P** **09 39 10.3 +0.2**
comp=Z,8.3nm,0.9s,mb4.8
ARCES ARCESS Array B 82.85 340 P **P** **09 39 09.6 -0.4**
comp=Z,7.3nm,0.8s,mb4.8,baz=101,slow=6.2,SNR=11
ZST Bratislava 82.87 318 *e*P **P** **09 39 11.6 +1.0**
ZST *e* pP 09 39 18.6 -0.4
DPC Dobruska-Polom 83.61 320 *e*P **P** **09 39 15.6 +1.2**
PRU Pruhonice 84.72 320 *e*P **P** **09 39 20.6 +0.7**
PVCC Panska Ves 84.75 320 *e*P **P** **09 39 21.1 +1.0**
GEC2 GERESS Array S 85.18 319 *e*P **P** **09 39 22.7 +0.4**
GEC2 pmax pmax
comp=Z,15nm,1.1s,mb5.0
GEC2 GERESS Array S 85.18 319 *e*P **P** **09 39 22.7 +0.4**
comp=Z,15nm,1.1s,mb5.0
GERES GERESS Array B 85.18 319 P **P** **09 39 22.5 +0.2**
comp=Z,5.2nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=25
KHC Kasperske Hory 85.28 319 *e*P **P** **09 39 23.0 +0.2**
KHC Kasperske Hory 85.28 319 *e*P **P** **09 39 23.3 +0.5**
WET Wettzell 85.74 319 *e*P **P** **09 39 25.5 +0.4**
WET pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
WET Wettzell 85.74 319 *e*P **P** **09 39 25.5 +0.4**
comp=Z,7.0nm,0.8s,mb4.9
CLL Collm 85.80 321 P **P** **09 39 25.0 -0.3**
GRA1 Grafenberg Arr 86.85 320 *e*P **P** **09 39 31.7 +1.2**
comp=Z,13nm,0.9s,mb5.2
GRF Grafenberg Arr 86.85 320 *e*P **P** **09 39 31.7 +1.2**
GRF pmax pmax
comp=Z,13nm,0.9s,mb5.2
GRF Grafenberg Arr 86.85 320 *e*P **P** **09 39 31.7 +1.2**
GRF pmax pmax
comp=Z,13nm,0.9s,mb5.2
GRF Grafenberg Arr 86.85 320 *e*P **P** **09 39 31.7 +1.2**
comp=Z,13nm,0.9s,mb5.2
NB2 NORSAR Subarra 87.35 331 P **P** **09 39 32.4 -0.2**
comp=Z,6.1nm,0.7s,mb4.9,baz=97,slow=4.6
NB2 NORSAR Subarra 87.35 331 P **P** **09 39 32.4 -0.2**
NB2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
NB2 NORSAR Subarra 87.35 331 P **P** **09 39 32.4 -0.2**
baz=97,slow=4.6
NOA NORSAR Array B 87.35 331 P **P** **09 39 32.7 0.0**
comp=Z,5.6nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=12
CLZ Clausthal 87.46 322 *e*P **P** **09 39 34.2 +0.8**
CLZ pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
CLZ Clausthal 87.46 322 *e*P **P** **09 39 34.2 +0.8**
comp=Z,10.0nm,0.9s,mb5.0
BSEG Bad Segeberg 87.55 324 *e*P **P** **09 39 34.9 +1.1**
MAIT Maitri 89.51 199 *e*P pP 09 39 53.1 +1.9
LPG La Plagne 89.84 315 *e*P **P** **09 39 45.5 +0.6**
comp=Z,13nm,0.8s,mb5.0
LPG La Plagne 89.84 315 *e*P **P** **09 39 45.5 +0.6**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
YKA Yellowknife Ar 112.23 15 PKiKP 09 45 22.4
comp=Z,0.1nm,0.6s,baz=318,slow=2.6,SNR=3.4
YKA PP PP 09 46 07.2 -2.3
comp=Z,0.5nm,0.8s,baz=332,slow=7.6,SNR=5.6
YKA PKKPbc 09 56 20.5
comp=Z,0.1nm,0.8s,baz=145,slow=3.9,SNR=3.8
YKA Yellowknife Ar 112.23 15 PKPdf PKPdf 09 45 22.4 -2.2
YKA PP PP 09 46 07.2 -2.3
YKA PKKPbc 09 56 20.6
NVAR Mina Array Bea 128.79 36 PKP PKPdf 09 45 55.6 -1.9
comp=Z,1.1nm,0.8s,baz=255,slow=1.1,SNR=8.0
PDAR Pinedale Array 130.11 26 PKhKP 09 45 48.2
comp=Z,0.1nm,0.4s,baz=344,slow=6.6,SNR=2.2
PDAR PKP PKPdf 09 45 57.1 -2.8
comp=Z,0.5nm,0.7s,baz=180,slow=1.5,SNR=4.2
TXAR Lajitas Array 143.70 32 PKP PKPdf 09 46 20.2 -4.8
comp=Z,1.5nm,0.8s,baz=296,slow=2.2,SNR=16
JCT Junction City 144.64 26 *e*PKIKP PKPdf 09 46 22.1 -4.5
COW Cow Castle Cre 145.78 357 *e*PKP PKPdf 09 46 25.8 -2.8
GOGA Godfrey 145.78 1 *e*PKP PKPdf 09 46 26.0 -2.5
GOGA *e*pPKP 09 46 35.2
LRAL Lakeview Retre 145.91 7 *e*PKP PKPdf 09 46 25.9 -2.9
CFAA Coronel Fontan 146.69 202 PKPbc PKPbc 09 46 28.8 +2.0
comp=Z,0.2nm,0.4s,baz=151,slow=4.1,SNR=6.0

*IDC **11** 09:37:07.6±2.2, 1.46S×99.92E, mb3.9/8, mb1 4.1/9, mb1mx3.9/20, mbtmp3.9/9, ML4.4/1, Error ellipse: s-maj=101.0km s-min=15.6km az=57.0*
*NEIC **11** 09:37:12.1±0.9, 1.38S×99.99E, h30km, mb4.2/2, Error ellipse: s-maj=37.0km s-min=9.1km az=62.0*
ISC 11 09:37:10.5±1.2, 1.3S±0.2×100.0E±0.3, h33km, n14, σ0 93/13, mb4.0/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.61**	**6**	*e*P	**P**	**09 38 47.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.69**	**357**	P	**P**	**09 41 40.1**	**+0.2**
0.4nm,0.3s,baz=186,slow=11,SNR=5.9							
FITZ	**Fitzroy Crossi**	**30.21**	**125**	P	**P**	**09 43 18.6**	**-1.8**
5.2nm,0.9s,mb4.3,baz=283,slow=14,SNR=3.6							
WRA	**Warramunga Arr**	**38.36**	**121**	P	**P**	**09 44 30.4**	**0.0**
1.0nm,0.5s,mb3.8,baz=302,slow=9.2,SNR=12							
WRAB	**Tennant Creek**	**38.36**	**121**	*e*P	**P**	**09 44 31.1**	**+0.6**
3.1nm,0.6s,mb4.2							
ASAR	**Alice Springs**	**39.67**	**127**	P	**P**	**09 44 41.8**	**+0.5**
0.5nm,0.5s,mb3.5,baz=300,slow=7.8,SNR=12							
SONM	**Songino Array**	**49.29**	**6**	P	**P**	**09 45 59.9**	**+1.6**
0.8nm,0.7s,mb3.8,baz=191,slow=9.6,SNR=6.2							
STKA	**Stephens Creek**	**49.61**	**132**	P	**P**	**09 46 01.4**	**+0.5**
2.6nm,1.1s,mb4.2,baz=159,slow=9.5,SNR=4.2							
STKA	**Stephens Creek**	**49.61**	**132**	*e*P	**P**	**09 46 01.3**	**+0.3**
MKAR	**Makanchi Array**	**50.38**	**344**	P	**P**	**09 46 06.5**	**-0.1**
1.3nm,0.6s,mb4.2,baz=149,slow=8.0,SNR=12							
ZAL	**Zalesovo**	**56.51**	**349**	P	**P**	**09 46 51.8**	**0.0**
1.1nm,0.4s,mb4.3,baz=313,slow=4.2,SNR=4.5							
BVAR	**Borovoye Array**	**59.55**	**340**	P	**P**	**09 47 14.0**	**+0.8**
0.3nm,0.4s,mb3.6,baz=124,slow=10,SNR=2.6							
CHKZ	**Chkalovo**	**60.01**	**340**	P	**P**	**09 47 14.5**	**-1.8**
1.0nm,0.6s,mb4.0							
TXAR	**Lajitas Array**	**144.19**	**37**	PKP	PKPdf	09 56 45.8	+2.1
0.3nm,0.6s,baz=268,slow=1.0,SNR=7.3							

*CSEM **11** 09:50:03.3±0.7, 38.63N×29.27W, ML2.0, Error ellipse: s-maj=32.5km s-min=10.8km az=158.0, After PDA*
*PDA **11** 09:50:03.3±0.7, 38.63N×29.27W, MD2.9, ML2.0, Error ellipse: s-maj=32.5km s-min=10.8km az=158.0*
SVSA 11 09:50:03.3±0.7, 38.63N×29.27W, MD2.9, ML2.0, Error ellipse: s-maj=32.5km s-min=10.8km az=158.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.44**	**90**	*e*P	Pg	09 50 11.7	-0.5
PCED				*e*S	Sg	09 50 17.7	-0.4
24nm,0.2s							
PCED	**Cedros**	**0.44**	**90**	*e*P	Pg	09 50 11.7	-0.5
PCED				*e*S	Sg	09 50 17.7	-0.4
24nm,0.2s							
CALA	**Caldeira**	**0.45**	**96**	*e*P	Pg	09 50 11.4	-0.8
CALA				*e*S	Sg	09 50 17.6	-0.6
PICO	**Pico**	**0.67**	**101**	*e*P	Pg	09 50 15.2	-1.6
PICO				*e*S	Sg	09 50 24.3	-1.4

*BJI **11** 09:53:34.3, 1.91N×96.87E, h36km, mB5.1, mb4.9, Ms4.6, Msz4.4*
*MOS **11** 09:53:35.2±1.1, 2.09N×96.86E, h33km, mb5.1/23, Error ellipse: s-maj=11.9km s-min=7.3km az=99.2*
*IDC **11** 09:53:36.4±0.5, 2.09N×96.82E, h27km±3km, mb4.3/21, mb1 4.4/22, mb1mx4.4/26, mbtmp4.5/22, ML4.1/1, MS4.3/8, Ms1 4.3/8, ms1mx3.9/34, Error ellipse: s-maj=18.1km s-min=10.4km az=49.0*
*NEIC **11** 09:53:36.7±0.3, 2.10N×96.85E, mb4.9/22, Error ellipse: s-maj=7.5km s-min=5.3km az=57.0*
*HRVD **11** 09:53:36.7±0.9, 1.93N×96.39E, h50km±4km, MW5.0/22, Centroid moment Tensor Solution. LP body waves: s15,c18; Mantle waves: s22,c25; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.61±.36; $M_{\theta\theta}$-2.36±.23; $M_{\phi\phi}$1.75±.36; $M_{r\theta}$0.07±.24; $M_{\theta\phi}$1.59±.36; $M_{\phi r}$-2.16±.35; Best double couple: $M_0$3.385×10^{16} NP1:ϕ_s250°, δ55°, λ16°. NP2:ϕ_s151°, δ77°, λ144°. Principal axes: T 3.669, Plg34°, Azm104°; N -.569, Plg52°, Azm314°; P -3.101, Plg14°, Azm204°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 11 09:53:34.9±0.3, 2.10N±0.04×96.86E±0.05, h29km, h29km±1.6km: pP-P, n134, σ1 9 18/126, mb4.7/59, MS4.4/15, 8C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.83**	**59**	P	**Pn**	**09 54 49.5**	**+1.8**
KULM	**Kulim**	**4.93**	**50⇑**	*i*P	**Pn**	**09 54 50.6**	**+1.5**
KULM				*e*		09 54 55.1	
SNG	**Songkhla**	**6.28**	**36**	P	**Pn**	**09 55 08.0**	**-0.1**
488nm,0.9s							
KGM	**Kluang**	**6.45**	**91**	P	**Pn**	**09 55 12.7**	**+2.2**
KSM	**Kuching**	**13.45**	**92**	P	**P**	**09 56 45.2**	**-1.3**
NST	**Nakhon Sawan**	**13.87**	**13**	P	**P**	**09 57 03.5**	**+11**
KKTK	**Khon Kaen**	**15.32**	**22**	P	**P**	**09 57 09.0**	**-2.1**
CM31	**Chiang Mai Arr**	**16.39**	**7**	*e*P	**P**	**09 57 24.5**	**-0.3**
49nm,0.9s							
CMAR	**Chiang Mai Arr**	**16.39**	**7**	Pn	**P**	**09 57 24.4**	**-0.3**
0.2nm,0.3s,baz=206,slow=14,SNR=7.6							
CMAR				Lg		10 02 12.4	
baz=195,slow=32,SNR=5.3							
CMAR				LR	LR	10 03 58.0	
comp=Z,491nm,20.6s,baz=190,slow=38							
CHG	**Chiang Mai**	**16.74**	**7**	⇑P	**P**	**09 57 28.5**	**-0.7**
18nm,1.0s							
NANT	**Nan**	**17.02**	**13**	P	**P**	**09 57 35.0**	**+2.3**
88nm,0.9s							
KKM	**Kota Kinabalu**	**19.69**	**78**	*e*P	**P**	**09 58 05.0**	**-0.1**
KKM	**Kota Kinabalu**	**19.69**	**78**	P	**P**	**09 58 05.4**	**+0.3**
TSM	**Tawau**	**21.09**	**84**	P	**P**	**09 58 20.3**	**+0.8**
HYB	**Hyderabad**	**23.57**	**311**	*e*P	**P**	**09 58 51.0**	**+6.8**
HYB	**Hyderabad**	**23.57**	**311**	*i* P	**P**	**09 58 51.0**	**+6.8**
KMI	**Kunming**	**23.59**	**13**	P	**P**	**09 58 45.6**	**+1.3**
KMI				AMB	AMB		
comp=Z,24nm,1.2s,mb4.5							
KMI	**Kunming**	**23.59**	**13**	P	**P**	**09 58 45.6**	**+1.3**
comp=Z,24nm,1.2s,mb4.5							
SHL	**Shillong**	**23.82**	**349**	*e*P	**P**	**09 58 45.0**	**-1.6**
LSA	**Lhasa**	**27.98**	**349**	P	**P**	**09 59 25.6**	**+0.2**
LSA	**Lhasa**	**27.98**	**349**	*e*P	**P**	**09 59 26.1**	**+0.7**
LSA				pmax	pmax		
comp=Z,8.0nm,0.5s,mb4.6							
LSA	**Lhasa**	**27.98**	**349**	*e*P	**P**	**09 59 26.1**	**+0.7**
comp=Z,7.8nm,0.5s,mb4.6							
ENH	**Enshi**	**30.47**	**22**	*e*P	**P**	**09 59 46.1**	**-1.6**
comp=Z,5.2nm,0.5s,mb4.5							
MBWA	**Marble Bar**	**32.17**	**137**	*e*P	**P**	**10 00 03.0**	**+0.4**
comp=Z,18nm,1.2s,mb4.8							
MBWA				*e*	pP	10 00 10.6	-0.7
WHN	**Wuhan**	**32.79**	**29**	*e*P	**P**	**10 00 08.5**	**+0.5**
XAN	**Xi'an**	**33.72**	**18**	P	**P**	**10 00 14.1**	**-1.9**
XAN				AMB	AMB		
comp=Z,12nm,1.1s,mb4.7							
LZH	**Lanzhou**	**34.44**	**10**	*e*P	**P**	**10 00 21.2**	**-1.0**
LZH				AP	pP	10 00 34.0	+3.2
LZH				XP	sP	10 00 38.5	+4.0
LZH				AMB	AMB		
comp=Z,42nm,1.5s,mb5.2							
LZH				AMB	AMB		
comp=Z,112nm,4.0s							
LZH				LR	LR		
comp=E,949nm,15.4s							
LZH				LR	LR		
comp=Z,1μm,17.0s,MS4.8							
LZH	**Lanzhou**	**34.44**	**10**	*e*P	**P**	**10 00 21.2**	**-1.0**
LZH				*PP	pP	10 00 34.0	+3.2
LZH				pmax	pmax		
comp=Z,42nm,1.5s,mb5.2							
LZH				MLR	MLR		
comp=Z,1μm,17.0s,MS4.7							
LZH	**Lanzhou**	**34.44**	**10**	*e*P	**P**	**10 00 21.2**	**-1.0**
comp=Z,42nm,1.5s,mb5.2							
LZH				pP	pP	10 00 34.0	+3.2
LZH				sP	sP	10 00 38.5	+4.0
LZH				LR	LR		
comp=Z,1μm,17.0s,MS4.7							
FITZ	**Fitzroy Crossi**	**34.72**	**127**	*e*P	**P**	**10 00 23.9**	**-0.9**
comp=Z,8.3nm,0.7s,mb4.8							
FITZ	**Fitzroy Crossi**	**34.72**	**127**	P	**P**	**10 00 24.0**	**-0.8**
comp=Z,6.5nm,0.6s,mb4.8,baz=258,slow=7.2,SNR=11							
NJ2	**Nanjing**	**36.29**	**32**	*e*P	**P**	**10 00 41.2**	**+3.2**
NJ2				AP	pP	10 00 49.2	+2.6
NJ2				XP	sP	10 00 53.1	+2.9
NJ2				PP	PP	10 02 06.5	+5.1
NJ2				S	**S**	**10 06 24.0**	**+7.9**
NJ2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.7							
NJ2				AMB	AMB		
comp=Z,190nm,6.6s							
NJ2				LR	LR		
comp=N,920nm,15.3s,MS4.8							
NJ2				LR	LR		
comp=E,1μm,16.1s,MS4.8							
NJ2				LR	LR		
comp=Z,450nm,14.6s,MS4.4							
SSE	**Sheshan**	**36.88**	**36**	P	**P**	**10 00 41.5**	**-1.5**
SSE				AP	pP	10 00 49.5	-2.1
SSE				S	**S**	**10 06 29.6**	**+4.3**
SSE				XS		10 06 44.9	
SSE				AMB	AMB		
comp=Z,26nm,0.7s,mb5.2							
SSE				AMB	AMB		
comp=Z,199nm,5.1s							
SSE				LR	LR		
comp=N,356nm,21.3s,MS4.2							
SSE				LR	LR		
comp=E,266nm,21.3s,MS4.2							
SSE				LR	LR		
comp=Z,420nm,16.8s,MS4.3							
SSE	**Sheshan**	**36.88**	**36**	P	**P**	**10 00 41.5**	**-1.5**
comp=Z,26nm,0.7s,mb5.2							
SSE				pP	pP	10 00 49.5	-2.1
SSE				S	**S**	**10 06 29.6**	**+4.3**
SSE				sS		10 06 44.9	
SSE				LR	LR		
comp=Z,420nm,16.8s,MS4.3							
GTA	**Gaotai**	**37.24**	**4**	*e*P	**P**	**10 00 46.0**	**+0.1**
GTA				AP	pP	10 00 53.9	-0.6
GTA				XP	sP	10 00 57.5	-0.6
GTA				PP	PP	10 02 14.6	+1.2
GTA				S	**S**	**10 06 32.0**	**+1.4**
GTA				XS		10 06 46.1	
GTA				SS	SS	10 09 09.8	+7.5
GTA				AMB	AMB		
comp=Z,37nm,0.9s,mb5.2							
GTA				AMB	AMB		
comp=Z,150nm,6.8s							
GTA				LR	LR		
comp=N,410nm,15.2s,MS4.4							
GTA				LR	LR		
comp=E,433nm,19.8s,MS4.4							
GTA				LR	LR		
comp=Z,224nm,15.2s,MS4.1							
KAKA	**Kakadu**	**38.26**	**114⇓**	*i*P	**P**	**10 00 53.9**	**-0.8**
comp=Z,9.3nm,0.5s,mb4.8							
JOW	**Kunigami**	**38.89**	**48**	P	**P**	**10 01 00.0**	**+0.2**
comp=Z,12nm,0.6s,mb4.8,baz=206,slow=8.5,SNR=5.1							
NWAO	**Narrogin (SRO)**	**39.80**	**153**	LR	LR	10 16 58.2	
comp=Z,354nm,20.1s,MS4.2,baz=123,slow=35							
HHC	**Hu-ho-hao-te**	**40.80**	**17**	*e*P	**P**	**10 01 11.7**	**-3.8**
HHC				AP	pP	10 01 22.2	-2.0
HHC				XP	sP	10 01 25.9	-1.9
HHC				PP	PP	10 02 49.7	-3.0
HHC				PCP	PcP	10 03 11.6	-5.3
HHC				PCS		10 07 02.3	
HHC				S	**S**	**10 07 20.0**	**-4.4**
HHC				SCS	ScS	10 11 13.8	-2.6
HHC				AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.4							
HHC				AMB	AMB		
comp=Z,343nm,11.0s							
HHC				LR	LR		
comp=N,359nm,13.9s,MS4.5							
HHC				LR	LR		
comp=E,275nm,14.9s,MS4.5							
HHC				LR	LR		
comp=Z,371nm,15.9s,MS4.3							
BJT	**Baijiatuau**	**41.62**	**22**	*e*P	**P**	**10 01 23.2**	**+0.9**
BJT				pmax	pmax		
comp=Z,12nm,0.6s							
BJT	**Baijiatuau**	**41.62**	**22**	*e*P	**P**	**10 01 23.2**	**+0.9**
comp=Z,12nm,0.6s,mb4.7							
BJI	**Beijing**	**41.64**	**22**	P	**P**	**10 01 23.2**	**+0.7**
BJI				AMB	AMB		
comp=Z,29nm,1.2s,mb4.8							
BJI				AMB	AMB		
comp=Z,295nm,4.0s							
BJI	**Beijing**	**41.64**	**22**	P	**P**	**10 01 23.2**	**+0.7**
comp=Z,29nm,1.2s,mb4.8							
WMQ	**Urumqi**	**42.34**	**350**	*e*P	**P**	**10 01 28.5**	**+0.4**
WRA	**Warramunga Arr**	**42.79**	**123**	P	**P**	**10 01 31.5**	**-0.7**
comp=Z,8.2nm,0.5s,mb4.7,baz=302,slow=9.0,SNR=92							
WRAB	**Tennant Creek**	**42.80**	**123**	*e*P	**P**	**10 01 31.7**	**-0.5**
WRAB				*e*	pP	10 01 39.6	-1.3
WRAB				pmax	pmax		
comp=Z,34nm,1.0s,mb5.0							
WRAB	**Tennant Creek**	**42.80**	**123**	*e*P	**P**	**10 01 31.7**	**-0.5**
comp=Z,34nm,1.0s,mb5.0							
WRAB				*e*	pP	10 01 39.6	-1.2
DL2	**Dalian**	**43.05**	**29**	P	**P**	**10 01 34.7**	**+0.7**
DL2				*e*S	**S**	**10 07 55.1**	**-2.5**
DL2				AMB	AMB		
comp=Z,30nm,0.8s,mb5.1							
DL2				LR	LR		
comp=N,170nm,15.1s,MS4.2							
DL2				LR	LR		
comp=E,190nm,14.1s,MS4.2							
DL2				LR	LR		

comp=Z,280nm,18.2s,MS4.2
ULHL Ulahol 44.04 338 P **P** **10 01 41.7 -0.3**
SNR=11
FORT Forrest 44.17 140 *e*P **P** **10 01 45.0 +1.8**
comp=Z,608nm,0.8s
ASPA Alice Springs 44.20 128 *e*P **P** **10 01 43.9 +0.4**
ASAR Alice Springs 44.20 128 P **P** **10 01 43.5 0.0**
comp=Z,9.8nm,0.8s,mb4.6,baz=299,slow=7.9,SNR=87
ASAR pP pP 10 01 51.5 -0.7
comp=Z,7.4nm,0.8s,baz=301,slow=7.7,SNR=13
KZA Kyzart 44.28 337 P **P** **10 01 46.4 +2.5**
SNR=7.0
UCH Uchtor 44.70 336 P **P** **10 01 49.1 +1.8**
SNR=13
TKM2 Tokmak 2 44.87 338 P **P** **10 01 50.0 +1.4**
SNR=16
AML Almayashu 44.95 336 P **P** **10 01 51.1 +1.8**
SNR=15
AAK Ala-Archa 45.05 337 P **P** **10 01 51.9 +1.8**
SNR=9.2
AAK Ala-Archa 45.05 337 P **P** **10 01 50.8 +0.7**
AAK pmax pmax
comp=Z,24nm,1.4s,mb4.8
FRU Bishkek 45.17 337 *e*P **P** **10 01 52.5 +1.4**
FRU *e* 10 02 04.0
USP Ospenovka 45.58 337 P **P** **10 01 54.9 +0.6**
SNR=9.8
MKAR Makanchi Array 46.30 346 *i* P **P** **10 01 59.6 -0.3**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 46.30 346 P **P** **10 01 59.9 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=164,slow=8.8,SNR=51
MKAR LR LR 10 25 28.3
comp=Z,240nm,19.1s,MS4.2,baz=175,slow=41
MK31 Makanchi Array 46.30 346 Pn PcP 10 03 36.7 +1.3
comp=Z,0.4nm,0.3s,baz=47,slow=13,SNR=32
MK31 ⇑Lg 10 04 16.0
comp=Z,1.3nm,0.2s,baz=63,slow=29,SNR=4.2
SONM Songino Array 46.30 9 P **P** **10 01 60.0 +0.1**
comp=Z,5.7nm,0.5s,mb4.8,baz=191,slow=8.2,SNR=65
SONM PcP PcP 10 03 35.6 +0.2
comp=Z,1.2nm,0.5s,baz=184,slow=3.3,SNR=3.8
ULN Ulaanbaatar 46.44 9 *e*P **P** **10 02 01.2 +0.2**
ULN *e* 10 02 12.9
ULN pmax pmax
comp=Z,11nm,1.0s,mb4.7
ULN Ulaanbaatar 46.44 9 *e*P **P** **10 02 01.2 +0.2**
comp=Z,11nm,1.0s,mb4.7
ULN *e* 10 02 12.9
KKAR Karatay Array 47.11 334 *i* P **P** **10 02 06.8 +0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
ZAK Zakamensk 48.42 5⇑*e*P **P** **10 02 16.3 -0.2**
ZAK *e* 10 04 07.8
ZAK pmax pmax
comp=Z,6.0nm,1.7s,mb4.3
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
CN2 Changchun 48.67 27 ⇓P **P** **10 02 18.3 -0.2**
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
TLY Talaya 49.74 6⇑*i*P **P** **10 02 26.7 0.0**
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,326nm,17.0s,MS4.4
HIA Hailar 50.91 19 *e*P **P** **10 02 35.2 -0.4**
HIA pmax pmax
comp=Z,21nm,0.9s
HIA Hailar 50.91 19 *e*P **P** **10 02 35.2 -0.4**
comp=Z,21nm,0.9s,mb5.1
MDJ Mudanjiang 51.26 30 P **P** **10 02 38.5 +0.2**
MDJ AMB AMB
comp=Z,12nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,192nm,11.5s
MDJ Mudanjiang 51.26 30 *e*P **P** **10 02 38.9 +0.6**
comp=Z,9.8nm,0.8s,mb4.8
MAT Matsushiro 51.26 43 *e*P **P** **10 02 38.0 -0.5**
MAT pmax pmax
comp=Z,16nm,1.0s,mb4.9
MAT Matsushiro 51.26 43 *e*P **P** **10 02 38.0 -0.5**
comp=Z,16nm,1.0s,mb4.9
MAT Matsushiro 51.26 43 P **P** **10 02 37.7 -0.8**
MJAR Matsushiro Arr 51.27 43 P **P** **10 02 38.1 -0.4**
comp=Z,7.2nm,0.9s,mb4.6,baz=209,slow=5.8,SNR=13
PMG Port Moresby 51.39 104 P **P** **10 02 39.5 -0.2**
comp=Z,40nm,0.7s,mb5.4,baz=297,slow=2.3,SNR=13
ZAL Zalesovo 52.62 351 P **P** **10 02 47.7 -0.8**
comp=Z,9.6nm,0.6s,mb4.9,baz=303,slow=5.7,SNR=40
ZAL Zalesovo 52.62 351 P **P** **10 02 47.7 -0.8**
CTA Charters Tower 53.20 117 *e*P **P** **10 02 53.9 +0.7**
comp=Z,11nm,0.9s,mb4.8
CTA Charters Tower 53.20 117 *e*P **P** **10 02 53.9 +0.7**
CTA pmax pmax
comp=Z,11nm,0.9s
CTAO Charters Tower 53.20 117 *e*P **P** **10 02 53.3 +0.1**
CTAO pmax pmax
comp=Z,15nm,0.8s,mb5.0
CTAO Charters Tower 53.20 117 *e*P **P** **10 02 53.3 +0.1**
comp=Z,15nm,0.8s,mb5.0
NVS Novosibirsk 53.74 350 *e*P **P** **10 02 54.4 -2.3**
NVS *e*S **S** **10 10 21.3 -6.1**
NVS pmax pmax
comp=Z,16nm,1.0s,mb4.9
NVS pmax pmax
comp=N,11nm,1.1s
NVS smax
comp=N,11nm,1.4s
STKA Stephens Creek 54.20 132⇓*i*P **P** **10 03 00.8 +0.4**
comp=N,7.5nm,0.9s,mb4.6
STKA Stephens Creek 54.20 132 P **P** **10 03 00.6 +0.2**
comp=N,8.7nm,0.9s,mb4.7,baz=314,slow=7.3,SNR=18
STKA pP pP 10 03 09.7 +0.5
comp=N,6.4nm,0.9s,baz=304,slow=8.4,SNR=7.2
STKA LR LR 10 27 14.8
comp=N,205nm,19.3s,MS4.2,baz=306,slow=37
BVA0 Borovoye Array 55.30 341 *i* P **P** **10 03 06.9 -1.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
BVAR Borovoye Array 55.30 341 P **P** **10 03 07.4 -0.7**
comp=Z,4.8nm,0.8s,mb4.6,baz=153,slow=6.6,SNR=12
BVAR pP pP 10 03 15.9 -1.1
comp=Z,2.4nm,0.6s,baz=149,slow=8.6,SNR=6.0
KLR Kul'dur 55.61 27 *e*P **P** **10 03 07.2 -3.3**
KLR MLR MLR
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,1μm,14.0s,MS5.0
CHKZ Chkalovo 55.78 341 *i* P **P** **10 03 10.5 -1.1**
CHKZ pmax pmax
comp=Z,17nm,1.2s,mb5.0
CHKZ Chkalovo 55.78 341 *e*P **P** **10 03 10.1 -1.4**
comp=Z,23nm,1.2s,mb5.1
BOD Bodaibo 57.20 11 *e*P **P** **10 03 19.3 -2.4**
BOD pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
ASAJ Asahikawa 58.16 37 P **P** **10 03 28.4 -0.1**
comp=Z,3.4nm,0.5s,mb4.7,baz=250,slow=5.4,SNR=5.6
KMBO Kilima Mbogo 59.69 267 P **P** **10 03 40.9 +1.3**
comp=Z,0.3nm,0.3s,mb3.7,baz=57,slow=21,SNR=2.7
KMBO LR LR 10 25 36.8
comp=Z,274nm,18.1s,MS4.4,baz=95,slow=32
YSS Yuzh-Sakhalins 59.81 35*e* *i*P **P** **10 03 40.0 0.0**
YSS pmax pmax
comp=Z,40nm,1.7s,mb5.2
SVE Sverdlovsk 61.74 338 *e*P **P** **10 03 48.3 -4.7**
KIV Kislovodsk 63.41 319 *i* P **P** **10 03 56.8 -7.5**
YAK Yakutsk 64.66 16 *e*P **P** **10 04 11.0 -1.2**
YAK pmax pmax
comp=Z,49nm,0.9s,mb5.5
YAK Yakutsk 64.66 16 *e*P **P** **10 04 11.0 -1.1**
comp=Z,49nm,0.9s,mb5.5
SOC Sochi 65.23 318 *i* P **P** **10 04 09.3 -6.9**
SOC *e* 10 04 46.9
SOC *e* 10 06 33.7
SOC *e*S S 10 12 50.2 -5.8
SOC *e* 10 14 02.4
SOC *e*SS SS 10 17 03.6 -7.0
SOC *e*SSS SSS 10 20 06.3 +3.4
SOC pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SOC pmax pmax
comp=N,5.0nm,0.5s
SOC pmax pmax
comp=E,2.0nm,0.5s

ANN Anapa 67.21 318 *e*P **P** **10 04 36.7 +7.9**
ANN pmax pmax
comp=Z,12nm,0.6s,mb5.1
BRTR Keskin Array B 68.27 312 P **P** **10 04 33.8 -1.7**
comp=Z,0.4nm,0.3s,mb3.9,baz=108,slow=4.6,SNR=3.1
BRTR pP pP 10 04 42.9 -1.7
comp=Z,1.4nm,0.6s,baz=132,slow=7.3,SNR=7.1
MATP Matopo 70.55 248 LR LR 10 32 03.8
comp=Z,224nm,19.0s,MS4.4,baz=234,slow=33
OBN Obninsk 71.69 328 *e*P **P** **10 04 49.9 -6.1**
OBN pmax pmax
comp=Z,33nm,1.7s,mb5.0
TIXI Tiksi 72.37 10⇑*i*P **P** **10 04 57.9 -2.0**
TIXI pmax pmax
comp=Z,18nm,1.7s,mb4.7
SEY Seymchan 73.08 23 *e*P **P** **10 05 06.9 +2.8**
SEY *e* 10 05 27.3
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.0
SEY pmax pmax
comp=N,10.0nm,1.0s
SEY pmax pmax
comp=E,10.0nm,1.0s
TIRR Tirgusor 73.25 316 ⇓P **P** **10 05 06.7 +1.2**
MAW Mawson 73.50 193 P **P** **10 05 04.8 -1.7**
comp=E,2.6nm,0.9s,mb4.2,baz=80,slow=11,SNR=2.8
AKASG Malin Array Be 74.35 322 P **P** **10 05 10.4 -1.3**
comp=E,0.3nm,0.2s,mb3.8,baz=91,slow=4.5,SNR=6.4
VRI Vrincioaia 74.74 317 ⇓P pP 10 05 24.6 +1.4
BOSA Boshof 74.93 240 P **P** **10 05 15.1 -0.5**
comp=E,7.6nm,1.2s,mb4.5,baz=119,slow=10,SNR=2.2
BOSA LR LR 10 36 36.6
comp=E,272nm,18.3s,MS4.6,baz=263,slow=34
BOSA Boshof 74.93 240 P **P** **10 05 15.1 -0.5**
BOSA LR LR 10 36 36.6
MLR Muntele Rosu 75.19 317 ⇓P **P** **10 05 18.3 +1.6**
BURAR Bucovina Array 76.14 319 ⇓P pP 10 05 32.9 +1.7
BURAR Bucovina Array 76.14 319 ⇓P pP 10 05 32.9 +1.8
KOLS Kolonicke sedl 78.32 320 *e*P pP 10 05 48.3 +5.0
CRVS Cervenica-Dubn 78.84 319 *e*P **P** **10 05 37.4 +0.5**
FINES FINESS Array B 79.06 332 P **P** **10 05 37.6 -0.2**
comp=E,1.4nm,0.4s,mb4.2,baz=95,slow=5.0,SNR=13
FINES pP pP 10 05 46.6 -0.4
comp=E,0.9nm,0.5s,baz=230,slow=30,SNR=1.7
BILL Bilibino 80.45 21⇑*i*P **P** **10 05 43.3 -1.9**
BILL pmax pmax
comp=Z,7.0nm,2.5s,mb4.2
ARCES ARCESS Array B 81.58 340 P **P** **10 05 51.1 -0.1**
comp=Z,4.1nm,0.8s,mb4.4,baz=99,slow=5.1,SNR=20
ARCES pP pP 10 06 00.0 -0.3
comp=Z,2.8nm,0.5s,baz=96,slow=4.4,SNR=3.7
URZ Urewera 83.63 129 LR LR 10 44 25.4
comp=Z,222nm,19.5s,MS4.5,baz=302,slow=36
GERES GERESS Array B 83.92 319 P **P** **10 06 02.8 -0.8**
comp=Z,0.3nm,0.4s,mb3.8,baz=108,slow=8.4,SNR=4.9
GERES pP pP 10 06 12.8 -0.1
comp=Z,1.3nm,0.9s,baz=90,slow=5.3,SNR=4.4
DAVOX Davos 86.42 317 P **P** **10 06 17.9 +1.8**
comp=Z,2.5nm,0.6s,mb4.7,baz=137,slow=16,SNR=3.5
IMA Indian Mountai 95.89 23 *e*P **P** **10 07 01.2 +1.3**
IMA pmax pmax
comp=Z,16nm,1.3s,mb5.3
IMA Indian Mountai 95.89 23 *e*P **P** **10 07 01.2 +1.3**
comp=Z,16nm,1.3s,mb5.3
SCHQ Schefferville 121.69 349 PKP PKPdf 10 12 29.1 -2.0
comp=Z,2.1nm,0.8s,baz=348,slow=9.3,SNR=1.9
ULM Lac du Bonnet 126.72 10 PKP PKPdf 10 12 37.0 -3.9
comp=Z,2.1nm,0.7s,baz=156,slow=2.8,SNR=2.5
NVAR Mina Array Bea 128.25 35 PKP PKPdf 10 12 41.8 -2.5
comp=Z,0.9nm,0.8s,baz=349,slow=4.6,SNR=6.8
PDAR Pinedale Array 129.38 25 PKP PKPdf 10 12 43.5 -2.8
comp=Z,0.3nm,0.6s,baz=45,slow=1.3,SNR=3.5
BDFB Brasilia 142.87 247 PKhKP 10 13 05.5
comp=Z,1.4nm,0.5s,baz=112,slow=11,SNR=2.7
TXAR Lajitas Array 143.08 31 PKhKP 10 13 05.3
comp=Z,0.9nm,0.8s,baz=295,slow=0.4,SNR=10
JCT Junction City 143.92 25 *e*PKIKP PKPdf 10 13 07.7 -5.5

IDC 11 10:02:53.6±3.0, 1.77S×99.74E, mb3.6/6, mb1 3.8/6, mb1mx3.7/18, mbtmp3.6/6, Error ellipse: s-maj=123.4km s-min=20.6km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.11**	**358**	P	P	10 07 28.8	-3.2
0.5nm,0.3s,baz=122,slow=12,SNR=3.0							
WRA	**Warramunga Arr**	**38.34**	**121**	P	P	10 10 16.3	-1.9
0.8nm,0.8s,baz=304,slow=9.1,SNR=6.2							
ASAR	**Alice Springs**	**39.60**	**126**	P	P	10 10 27.3	-1.4
0.2nm,0.7s,baz=308,slow=7.2,SNR=3.2							
SONM	**Songino Array**	**49.74**	**6**	P	P	10 11 47.8	-1.9
0.6nm,0.8s,baz=191,slow=7.3,SNR=4.2							
MKAR	**Makanchi Array**	**50.73**	**345**	P	P	10 11 55.5	-1.8
0.8nm,0.6s,baz=150,slow=7.8,SNR=8.4							
ZAL	**Zalesovo**	**56.88**	**350**	P	P	10 12 39.9	-2.6
1.5nm,0.3s,baz=203,slow=1.5,SNR=3.8							
TXAR	**Lajitas Array**	**144.68**	**37**	PKP	PKPdf	10 22 31.8	-3.0
0.4nm,0.6s,baz=276,slow=0.7,SNR=6.8							

*IDC **11** 10:07:17.0±3.8, 0.53S×97.47E, mb4.1/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=129.4km s-min=74.8km az=66.0*
ISC 11 10:07:15.2±2.0, 0.6S±0.3×99.7E±0.5, h33km, n9, σ0§91/7, mb4.0/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.90**	**358**	P	**P**	**10 11 35.4**	**-0.4**
0.5nm,0.3s,baz=197,slow=12,SNR=6.0							
WRA	**Warramunga Arr**	**38.99**	**122**	P	**P**	**10 14 40.4**	**0.0**
1.3nm,0.5s,mb3.9,baz=302,slow=9.2,SNR=20							
ASAR	**Alice Springs**	**40.35**	**127**	P	**P**	**10 14 51.5**	**-0.1**
0.4nm,0.4s,mb3.5,baz=294,slow=7.9,SNR=7.9							
ASAR				PcP	PcP	10 16 59.5	+4.2
0.5nm,0.7s,baz=297,slow=2.3,SNR=5.1							
SONM	**Songino Array**	**48.54**	**6**	P	**P**	**10 16 03.6**	**+6.5**
0.6nm,0.4s,mb3.9,baz=192,slow=10,SNR=6.3							
MKAR	**Makanchi Array**	**49.56**	**344**	P	**P**	**10 16 04.9**	**-0.1**
1.6nm,0.5s,mb4.3,baz=161,slow=8.7,SNR=26							
ZAL	**Zalesovo**	**55.69**	**349**	P	**P**	**10 16 52.6**	**+2.0**
2.3nm,0.4s,mb4.5,baz=17,slow=3.9,SNR=5.9							
BVAR	**Borovoye Array**	**58.73**	**340**	P	**P**	**10 17 11.0**	**-1.1**
0.6nm,0.5s,mb3.9,baz=162,slow=9.1,SNR=3.9							
FINES	**FINESS Array B**	**82.70**	**332**	pP	pP	10 19 48.1	+0.9
1.3nm,0.7s,baz=146,slow=6.9,SNR=1.8							
TXAR	**Lajitas Array**	**143.72**	**36**	PKP	PKPdf	10 26 56.5	+9.0
0.8nm,0.5s,baz=197,slow=0.7,SNR=18							

IDC 11 10:10:16.4±7.2, 1.96S×99.58E, mb3.5/2, mb1 3.7/2, mb1mx3.4/18, mbtmp3.5/2, Error ellipse: s-maj=376.2km s-min=32.3km az=51.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.38**	**120**	P	P	10 17 39.6	-1.7
0.5nm,0.4s,baz=291,slow=8.0,SNR=6.9							
MKAR	**Makanchi Array**	**50.88**	**345**	P	P	10 19 19.1	-2.1
0.2nm,0.4s,baz=151,slow=8.3,SNR=4.4							
TXAR	**Lajitas Array**	**144.93**	**37**	PKP	PKPdf	10 29 56.0	-2.1
0.2nm,0.5s,baz=258,slow=0.9,SNR=5.8							

IDC 11 10:11:45.2±3.6, 1.75S×99.86E, mb3.6/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=157.4km s-min=25.5km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.24**	**121**	P	P	10 19 06.9	-2.0
0.4nm,0.4s,baz=303,slow=9.0,SNR=4.7							
ASAR	**Alice Springs**	**39.51**	**126**	P	P	10 19 18.3	-1.3
0.3nm,0.6s,baz=296,slow=7.6,SNR=4.2							
SONM	**Songino Array**	**49.71**	**6**	P	P	10 20 39.5	-1.6
0.4nm,0.6s,baz=190,slow=7.5,SNR=3.6							
MKAR	**Makanchi Array**	**50.75**	**344**	P	P	10 20 46.9	-2.2
0.5nm,0.4s,baz=156,slow=8.9,SNR=6.9							
TXAR	**Lajitas Array**	**144.59**	**37**	PKP	PKPdf	10 31 23.4	-2.9
0.3nm,0.4s,baz=228,slow=0.5,SNR=7.9							

IDC 11 10:18:51.4±3.5, 1.36S×100.38E, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=148.8km s-min=24.4km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.00**	**121**	P	P	10 26 11.4	-1.7
0.3nm,0.4s,baz=304,slow=9.1,SNR=7.0							
ASAR	**Alice Springs**	**39.33**	**127**	P	P	10 26 22.5	-1.7
0.3nm,0.6s,baz=296,slow=7.9,SNR=4.8							
SONM	**Songino Array**	**49.27**	**5**	P	P	10 27 43.2	-0.7
0.4nm,0.6s,baz=233,slow=6.2,SNR=4.7							
MKAR	**Makanchi Array**	**50.52**	**344**	P	P	10 27 50.7	-2.8
0.7nm,0.5s,baz=133,slow=9.0,SNR=7.2							
TXAR	**Lajitas Array**	**143.97**	**37**	PKP	PKPdf	10 38 28.4	-2.9
0.5nm,0.6s,baz=281,slow=1.3,SNR=9.1							

MEX 11 10:29:58.5±1.1, 15.45N×93.44W, h40km±871km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.50**	**31**	*e*P	P	10 30 22.0	-1.4
SCX				*i* S	S	10 30 40.0	-1.9
CCIG	**Comitan**	**1.50**	**56**	*i* P	P	10 30 20.9	-2.6
CCIG				*i* S	S	10 30 39.1	-2.9
CMIG	**Matias Romero**	**2.14**	**320**	*i* P	P	10 30 30.9	-1.6
CMIG				*i* S	S	10 30 53.7	-4.4

*IDC **11** 10:44:27.4±2.6, 8.11N×104.52W, mb3.7/7, mb1 4.1/7, mb1mx3.9/20, mbtmp3.8/7, MS4.2/5, Ms1 4.2/5, ms1mx3.8/35, Error ellipse: s-maj=66.9km s-min=32.3km az=42.0*
*NEIC **11** 10:44:28.8±0.9, 8.08N×104.56W, h10km, mb4.2/10, Error ellipse: s-maj=25.2km s-min=9.1km az=53.0*
ISC 11 10:44:26.8±1.9, 8.0N±0.2×104.6W±0.3, h10km, n23, σ0§84/19, mb4.0/17, MS4.2/4, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**19.53**	**82**	LR	LR	10 54 08.5	
comp=Z,603nm,18.3s,baz=275,slow=30							
LTX	**Lajitas**	**21.21**	**2**	*e*P	**P**	**10 49 14.3**	**-0.8**
9.5nm,1.2s,mb4.0							
TXAR	**Lajitas Array**	**21.21**	**2**	P	**P**	**10 49 14.5**	**-0.5**
2.5nm,0.8s,mb3.6,baz=182,slow=11,SNR=35							
JCT	**Junction City**	**22.78**	**11**	*e*P	**P**	**10 49 30.7**	**-0.1**
28nm,1.6s,mb4.4							
MNTX	**Cornudas Mount**	**23.56**	**358**	*e*P	**P**	**10 49 38.7**	**+0.3**
39nm,1.8s,mb4.5							
GDL2	**Guadalupe Moun**	**24.05**	**0**	*e*P	**P**	**10 49 44.4**	**+1.2**
TUC	**Tucson**	**24.83**	**347**	*e*P	**P**	**10 49 52.2**	**+1.5**
6.6nm,0.9s,mb4.2							
CPRX	**Cap Rock**	**24.88**	**1**	*e*P	**P**	**10 49 51.0**	**-0.3**
ANMO	**Albuquerque**	**26.84**	**357**	P	**P**	**10 50 09.1**	**-0.4**
0.7nm,0.8s,mb3.2,baz=128,slow=12,SNR=2.1							
ANMO				LR	LR	10 59 48.6	
comp=Z,350nm,18.6s,MS4.0,baz=124,slow=34							
OTAV	**Otavalo**	**27.19**	**105**	*e*P	**P**	**10 50 14.2**	**+1.4**
5.7nm,1.3s,mb3.9							
NVAR	**Mina Array Bea**	**32.69**	**340**	LR	LR	11 02 03.2	
comp=Z,310nm,20.7s,MS4.0,baz=90,slow=32							
SDV	**Santo Domingo**	**33.60**	**86**	P	**P**	**10 51 09.5**	**-0.3**
6.0nm,1.0s,mb4.5,baz=288,slow=8.3,SNR=5.0							
BW06	**Boulder Array**	**34.87**	**354**	*e*P	**P**	**10 51 20.6**	**+0.2**
21nm,2.0s,mb4.7							
PDAR	**Pinedale Array**	**34.87**	**354**	P	**P**	**10 51 20.6**	**+0.3**
0.7nm,0.7s,mb3.7,baz=164,slow=6.5,SNR=8.0							
SNOW	**Snow King Moun**	**35.70**	**352**	*e*P	**P**	**10 51 26.9**	**-0.6**
1.2nm,0.4s,mb4.2							
TPAW	**Teton Pass**	**35.75**	**352**	P	**P**	**10 51 27.9**	**-0.1**
1.4nm,0.7s,mb4.0							
LOHW	**Long Hollow**	**35.83**	**353**	*e*P	**P**	**10 51 28.9**	**+0.4**
1.0nm,0.6s,mb3.9							
NEW	**Newport**	**41.47**	**347**	P	**P**	**10 52 16.6**	**+1.1**
1.8nm,0.8s,mb3.8,baz=171,slow=8.4,SNR=4.8							
SAML	**Samuel**	**44.58**	**111**	*e*P	**P**	**10 52 40.6**	**-0.8**
3.0nm,1.0s,mb4.1							
YKA	**Yellowknife Ar**	**54.84**	**354**	P	**P**	**10 53 57.1**	**-2.3**
0.2nm,0.6s,mb3.4,baz=165,slow=7.6,SNR=6.3							
YKA				LR	LR	11 16 50.8	
comp=Z,307nm,19.2s,MS4.4,baz=85,slow=36							
RAR	**Rarotonga**	**61.46**	**241**	LR	LR	11 13 32.4	
comp=Z,362nm,21.1s,MS4.5,baz=108,slow=28							
ILAR	**Eielson Array**	**63.93**	**341**	P	**P**	**10 55 01.6**	**-0.5**
0.8nm,0.8s,mb3.8,baz=152,slow=4.2,SNR=8.2							
CMAR	**Chiang Mai Arr**	**144.89**	**319**	PKP	PKPdf	11 04 07.0	-1.3
0.9nm,0.7s,baz=8.2,slow=0.9,SNR=5.6							

*BJI **11** 10:46:25.9, 2.10N×96.50E, h26km, mB5.0, mb4.7, Ms4.6, Msz4.4*
*NEIC **11** 10:46:25.9±0.6, 2.14N×96.50E, mb4.5/14, Error ellipse: s-maj=15.4km s-min=7.8km az=48.0*
*IDC **11** 10:46:27.8±0.9, 2.69N×97.26E, h24km±4km, mb4.1/12, mb1 4.2/12, mb1mx4.0/22, mbtmp4.2/12, MS4.0/6, Ms1 4.0/6, ms1mx3.7/35, Error ellipse: s-maj=32.8km s-min=14.1km az=53.0*
ISC 11 10:46:24.4±0.6, 2.23N±0.08×96.60E±0.09, h26km, h26km±.6km: pP-P, n43, σ1§13/37, mb4.4/27, MS4.2/10, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.05**	**53**	*e*Pn	**Pn**	**10 47 43.3**	**+2.7**
KULM				*e*pPn		10 47 50.3	
KSM	**Kuching**	**13.72**	**93**	*e*Pn	**P**	**10 49 40.0**	**0.0**
CM31	**Chiang Mai Arr**	**16.29**	**8**	*e*Pn	**P**	**10 50 16.1**	**+2.7**
4.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**16.29**	**8**	Pn	**P**	**10 50 12.3**	**-1.0**
0.5nm,0.3s,baz=202,slow=12,SNR=13							
CMAR				LR	LR	10 57 07.8	
comp=Z,820nm,19.9s,baz=200,slow=41							
KKM	**Kota Kinabalu**	**19.92**	**78**	*e*P	**P**	**10 50 58.9**	**+1.5**
KMI	**Kunming**	**23.52**	**14**	P		10 51 42.6	
18nm,1.6s							
KMI				S	**S**	**10 55 40.3**	**-1.8**
KMI				LR	LR		
comp=Z,630nm,15.5s,MS4.2							
SHL	**Shillong**	**23.64**	**349**	*e*P	**P**	**10 51 33.5**	**-1.2**
GYA	**Guiyang**	**25.96**	**21**⇑*i*P		**P**	**10 51 56.9**	**+0.1**
GYA				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.5							
JIRN	**Jiri**	**27.18**	**339**	*e*P	**P**	**10 52 08.3**	**+0.3**
comp=Z,22nm,0.8s,mb4.8							
PKI	**Pulchoki**	**27.38**	**338**	*e*P	**P**	**10 52 11.3**	**+1.4**
comp=Z,14nm,0.6s,mb4.7							
GUN	**Gumba**	**27.52**	**339**	*e*P	**P**	**10 52 11.6**	**+0.5**
comp=Z,66nm,1.1s,mb5.2							
DMN	**Daman**	**27.53**	**338**	*e*P	**P**	**10 52 12.4**	**+1.2**
comp=Z,46nm,1.4s,mb4.9							
KKN	**Kakani**	**27.63**	**338**	*e*P	**P**	**10 52 13.0**	**+0.9**
comp=Z,20nm,0.7s,mb4.8							
GKN	**Gorkha**	**28.06**	**337**	*e*P	**P**	**10 52 16.0**	**-0.1**
comp=Z,20nm,0.7s,mb4.9							
KOLN	**Koldanda**	**28.28**	**335**	*e*P	**P**	**10 52 19.3**	**+1.3**
comp=Z,13nm,0.7s,mb4.7							
CD2	**Chengdu**	**29.32**	**13**	*e*P	**P**	**10 52 27.0**	**-0.3**
ENH	**Enshi**	**30.45**	**22**	*e*P	**P**	**10 52 36.6**	**-0.8**
comp=Z,3.1nm,0.5s,mb4.3							
LZH	**Lanzhou**	**34.35**	**10**	*e*P	**P**	**10 53 11.0**	**-0.4**
LZH				AP	pP	10 53 18.5	-0.6
LZH				XP	sP	10 53 22.0	-0.4
LZH				AMB	AMB		
comp=Z,28nm,1.5s,mb5.0							
LZH				AMB	AMB		
comp=Z,112nm,4.0s							
LZH				LR	LR		
comp=E,632nm,12.0s							
LZH				LR	LR		
comp=Z,926nm,14.0s,MS4.7							
LZH	**Lanzhou**	**34.35**	**10**	*e*P	**P**	**10 53 11.0**	**-0.4**
comp=Z,28nm,1.5s,mb5.0							
LZH				pP	pP	10 53 18.5	-0.6
LZH				sP	sP	10 53 22.0	-0.4
LZH				LR	LR		
comp=Z,930nm,14.0s,MS4.7							
FITZ	**Fitzroy Crossi**	**35.01**	**126**	P	**P**	**10 53 16.2**	**-1.1**
comp=Z,12nm,1.0s,mb4.8,baz=312,slow=5.7,SNR=8.9							
FITZ				LR	LR	11 07 10.5	
comp=Z,260nm,21.4s,MS4.0,baz=309,slow=36							
GTA	**Gaotai**	**37.12**	**4**	*e*P	pP	10 53 41.3	-1.3

GTA AP sP 10 53 50.3 +4.5
GTA AMB AMB
comp=Z,14nm,1.4s,mb4.6
GTA AMB AMB
comp=Z,131nm,4.6s
GTA LR LR
comp=N,479nm,15.2s,MS4.5
GTA LR LR
comp=E,305nm,17.5s,MS4.5
GTA LR LR
comp=Z,423nm,14.4s,MS4.4
NWAO Narrogin (SRO) 40.04 153 LR LR 11 08 04.0
comp=Z,289nm,19.9s,MS4.1,baz=346,slow=32
HHC Hu-ho-hao-te 40.75 17 *e*P pP 10 54 12.9 +0.1
HHC PP PP 10 55 49.3 +7.1
HHC S **S** **11 00 11.3 -2.5**
HHC AMB AMB
comp=Z,13nm,1.6s,mb4.3
HHC AMB AMB
comp=Z,153nm,6.3s
HHC LR LR
comp=N,325nm,14.3s,MS4.5
HHC LR LR
comp=E,351nm,13.3s,MS4.5
HHC LR LR
comp=Z,371nm,14.3s,MS4.4
BJI Beijing 41.62 23 P **P** **10 54 13.2 +1.0**
BJI AMB AMB
comp=Z,11nm,0.8s,mb4.5
BJI AMB AMB
comp=Z,38nm,5.9s
BJI LR LR
comp=N,409nm,16.3s,MS4.5
BJI LR LR
comp=E,339nm,15.7s,MS4.5
BJI LR LR
comp=Z,253nm,36.9s
WRA Warramunga Arr 43.09 123 P **P** **10 54 24.2 -0.2**
comp=Z,2.2nm,0.7s,mb4.0,baz=301,slow=9.2,SNR=22
WRAB Tennant Creek 43.09 123 *e*P **P** **10 54 24.6 +0.1**
comp=Z,2.8nm,0.5s,mb4.2
ASAR Alice Springs 44.49 128 P **P** **10 54 35.6 -0.2**
comp=Z,1.5nm,0.7s,mb3.9,baz=300,slow=7.9,SNR=19
MKAR Makanchi Array 46.10 346 P **P** **10 54 47.8 -0.5**
comp=Z,4.0nm,0.6s,mb4.5,baz=160,slow=8.9,SNR=50
MKAR LR LR 11 19 07.3
comp=Z,68nm,19.4s,MS3.6,baz=173,slow=43
SONM Songino Array 46.21 9 P **P** **10 54 47.3 -1.8**
comp=Z,0.8nm,0.4s,mb4.0,baz=188,slow=10.0,SNR=6.7
SONM sP sP 10 54 57.9 -2.2
comp=Z,3.4nm,0.5s,baz=191,slow=9.2,SNR=14
ULN Ulaanbaatar 46.35 10 *e*P **P** **10 54 50.6 +0.4**
comp=Z,2.0nm,0.6s,mb4.2
ULN *e*pP pP 10 54 58.3 +0.3
ZAL Zalesovo 52.45 351 P **P** **10 55 36.4 -0.7**
comp=Z,4.5nm,0.5s,mb4.7,baz=311,slow=6.5,SNR=23
ZAL LR LR 11 23 48.2
comp=Z,217nm,18.5s,MS4.2,baz=181,slow=43
STKA Stephens Creek 54.49 132 P **P** **10 55 52.2 -0.2**
comp=Z,1.4nm,0.6s,mb4.1,baz=340,slow=7.1,SNR=4.1
STKA Stephens Creek 54.49 132 *e*P **P** **10 55 52.2 -0.2**
STKA *e*pP pP 10 56 00.6 +0.2
BVAR Borovoye Array 55.09 341 P **P** **10 55 54.6 -1.9**
comp=Z,1.7nm,0.7s,mb4.2,baz=149,slow=8.6,SNR=9.4
BVAR pP pP 10 56 03.0 -1.5
comp=Z,3.1nm,0.6s,baz=138,slow=8.7,SNR=14
CHKZ Chkalovo 55.57 342 *e*P **P** **10 55 58.4 -1.7**
comp=Z,2.7nm,0.6s,mb4.5
CHKZ *e*pP pP 10 56 06.9 -1.1
GNI Garni 60.14 316 LR LR 11 22 05.1
comp=Z,73nm,20.5s,MS3.8,baz=352,slow=36
BRTR Keskin Array B 67.98 312 P **P** **10 57 27.6 +3.9**
comp=Z,0.7nm,0.8s,mb3.7,baz=117,slow=8.3,SNR=4.0
MATP Matopo 70.36 248 P pP 10 57 46.0 -0.7
comp=Z,1.2nm,0.7s,baz=64,slow=13,SNR=4.5
JOF Joensuu 76.97 335 *e*p pP 10 58 22.9 -1.6
comp=Z,3.0nm,0.9s
FINES FINESS Array B 78.81 332 P **P** **10 58 26.7 +0.2**
comp=Z,1.9nm,0.8s,mb4.0,baz=225,slow=14,SNR=3.4
FINES pP pP 10 58 34.7 0.0
comp=Z,2.0nm,0.6s,baz=76,slow=7.9,SNR=3.2
FINES FINESS Array B 78.81 332 P **P** **10 58 26.7 +0.2**
FINES pP pP 10 58 34.7 0.0
KAF Kangasniemi 78.90 333 *e*p pP 10 58 34.8 -0.4
comp=Z,6.1nm,1.1s,baz=101,slow=5.1
ARCES ARCESS Array B 81.37 340 P **P** **10 58 41.7 +1.7**
comp=Z,0.9nm,0.6s,mb3.9,baz=90,slow=4.9,SNR=4.0
ARCES pP pP 10 58 49.1 +0.8
comp=Z,2.2nm,0.6s,baz=91,slow=4.5,SNR=2.8

*IDC **11** 10:47:51.3±7.3,29.88N×84.05E,mb3.7/3,mb1 3.9/4, mb1mx3.6/22,mbtmp3.7/4,Error ellipse: s-maj=330.4km s-min=105.5km az=73.0*
ISC 11 10:47:58.4±2.0,30.4N±0.3×84.6E±0.2,h33km,n5,σ0§80/6, mb3.6/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.87**	**256**	*e*P	**P**	**10 48 56.0**	**-1.1**
LGTI				*e*S	**S**	**10 49 42.7**	**+0.7**
MKAR	**Makanchi Array**	**16.43**	**354**	Pn	**P**	**10 51 47.7**	**-0.3**
	baz=180,slow=12,SNR=4.2						
ILAR	**Eielson Array**	**77.02**	**20**	P	**P**	**10 59 49.5**	**+0.3**
	0.6nm,0.9s,mb3.5,baz=297,slow=5.4,SNR=4.9						
INK	**Inuvik**	**77.58**	**14**	P	**P**	**10 59 52.7**	**+0.4**
	0.7nm,0.9s,mb3.6,baz=330,slow=5.1,SNR=4.9						
YKA	**Yellowknife Ar**	**86.13**	**9**	P	**P**	**11 00 36.6**	**0.0**
	0.4nm,0.6s,mb3.8,baz=339,slow=4.9,SNR=5.8						

*IDC **11** 10:48:27.0±3.3,0.82N×97.51E,mb4.0/5,mb1 4.1/6, mb1mx3.9/20,mbtmp4.0/6,ML4.1/1, Error ellipse: s-maj=125.9km s-min=22.3km az=61.0*
*NEIC **11** 10:48:32.0±1.6,0.91N×97.70E,h30km,mb4.2/1,Error ellipse: s-maj=58.4km s-min=11.1km az=63.0*
ISC 11 10:48:27.7±1.0,0.7N±0.1×97.1E±0.2,h30km,n8,σ0§75/8, mb4.0/6,1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.78**	**6**	P	**P**	**10 52 33.6**	**-1.3**
	0.3nm,0.3s,baz=196,slow=10,SNR=5.5						
TRD	**Trivandrum**	**21.55**	**292**	∥*e*	**P**	**10 53 16.2**	**-0.7**
WRA	**Warramunga Arr**	**41.81**	**121**	P	**P**	**10 56 16.5**	**-0.3**
	1.1nm,0.5s,mb3.8,baz=303,slow=8.8,SNR=5.4						
WRAB	**Tennant Creek**	**41.82**	**121**	*e*P	**P**	**10 56 16.3**	**-0.5**
	2.1nm,0.4s,mb4.1						
ASAR	**Alice Springs**	**43.13**	**127**	P	**P**	**10 56 27.9**	**+0.5**
	1.2nm,0.6s,mb3.8,baz=298,slow=7.6,SNR=5.0						
SONM	**Songino Array**	**47.67**	**8**	P	**P**	**10 57 03.8**	**+0.3**
	1.7nm,0.8s,mb4.1,baz=186,slow=8.0,SNR=4.2						
MKAR	**Makanchi Array**	**47.75**	**346**	P	**P**	**10 57 05.0**	**+1.0**
	1.9nm,0.7s,mb4.3,baz=153,slow=7.6,SNR=4.4						
ZAL	**Zalesovo**	**54.07**	**351**	P	**P**	**10 57 52.6**	**+0.9**
	1.3nm,0.6s,mb4.0,baz=338,slow=7.1,SNR=3.4						

*NEIC **11** 10:50:27.2±3.8,30.38S×174.61W,h35km,mb4.8/3,Error ellipse: s-maj=64.8km s-min=18.7km az=81.0*
*IDC **11** 10:50:51.1±2.0,30.57S×178.00W,h43km±15km,mb4.4/6, mb1 4.5/8,mb1mx4.1/18,mbtmp4.5/8,ML3.8/2,MS3.6/3, Ms1 3.6/3,ms1mx3.2/29,Error ellipse: s-maj=28.0km s-min=10.2km az=114.0*
ISC 11 10:50:48.9±1.3,30.90S±0.07×178.1W±0.2,h35km±16km, n34,σ1§67/32,mb4.6/7,MS3.2/1,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.66**	**7**	P	**P**	**10 51 13.8**	**-2.2**
	746nm,0.3s,baz=67,slow=22,SNR=18						
RAO				S	**S**	**10 51 29.0**	**-7.3**
	3μm,0.3s,baz=111,slow=20,SNR=12						
MWZ	**Matawai**	**8.23**	**205**	PN	**P**	**10 52 51.0**	**+2.2**
MWZ				*e*SN	**S**	**10 54 26.9**	**+5.3**
URZ	**Urewera**	**8.32**	**207**	P	**P**	**10 52 52.2**	**+2.2**
	0.8nm,0.3s,baz=266,slow=7.1,SNR=11						
URZ				S	**S**	**10 54 30.0**	**+6.2**
	5.1nm,0.3s,baz=217,slow=18,SNR=12						
URZ	**Urewera**	**8.32**	**207**	PN	**P**	**10 52 52.0**	**+2.0**
URZ				*e*SN	**S**	**10 54 29.5**	**+5.7**
KNZ	**Kokohu**	**8.80**	**202**	*e*PN	**P**	**10 52 58.8**	**+2.1**
KNZ				SN	**S**	**10 54 40.4**	**+4.7**
BKZ	**Black Stump Fm**	**9.35**	**207**	*e*PN	**P**	**10 53 05.2**	**+1.0**
BKZ				*e*SN	**S**	**10 54 52.9**	**+3.6**
BFZ	**Birch Farm**	**10.77**	**203**	*e*SN	**S**	**10 55 22.7**	**-1.4**
MRZ	**Mangatainoka R**	**10.99**	**206**	PN	**P**	**10 53 24.7**	**-2.1**
MRZ				*e*SN	**S**	**10 55 28.6**	**-1.0**
KIW	**Kapiti Island**	**11.42**	**208**	*e*SN	**S**	**10 55 39.6**	**-0.5**
MRW	**Makara Radio**	**11.82**	**207**	*e*SN	**S**	**10 55 47.4**	**-2.3**
THZ	**Tophouse**	**13.02**	**211**	*e*PN	**P**	**10 53 52.2**	**-1.8**
THZ				*e*SN	**S**	**10 56 16.0**	**-2.6**
KHZ	**Kahutara**	**13.28**	**208**	*e*SN	**S**	**10 56 21.2**	**-3.8**
MQZ	**McQueen's Vall**	**14.72**	**207**	*e*SN	**S**	**10 56 51.2**	**-7.9**
RPZ	**Rata Peaks**	**15.39**	**211**	P	**P**	**10 54 30.7**	**+5.6**
	0.6nm,0.3s,baz=45,slow=7.1,SNR=3.4						
RPZ				S	**S**	**10 57 08.7**	**-6.1**
	0.4nm,0.3s,baz=135,slow=18,SNR=4.5						
DZM	**Mont Dzumac**	**16.36**	**299**	LR	LR	10 59 05.1	
	comp=Z,330nm,21.7s,baz=27,slow=30						
RAR	**Rarotonga**	**19.09**	**64**	LR	LR	11 00 32.5	
	comp=Z,245nm,18.7s,baz=209,slow=31						
HNR	**Honiara**	**29.54**	**312**	LR	LR	11 06 50.5	
	comp=Z,67nm,21.4s,MS3.2,baz=86,slow=33						
CTA	**Charters Tower**	**33.77**	**280**	P	**P**	**10 57 31.2**	**+1.6**
	11nm,0.7s,mb4.9,baz=106,slow=12,SNR=9.2						
CTAO	**Charters Tower**	**33.77**	**280**	*e*P	**P**	**10 57 31.1**	**+1.4**
	11nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**34.25**	**258**	P	**P**	**10 57 36.0**	**+2.3**
	20nm,0.8s,mb5.1,baz=91,slow=8.9,SNR=22						
STKA	**Stephens Creek**	**34.25**	**258**	*e*P	**P**	**10 57 36.4**	**+2.7**
	14nm,0.6s,mb5.1						
ASAR	**Alice Springs**	**42.97**	**268**	P	**P**	**10 58 47.0**	**+0.5**
	2.6nm,0.7s,mb4.1,baz=105,slow=7.4,SNR=17						
ASAR				PcP	PcP	11 00 35.9	-1.4
	1.5nm,0.7s,baz=123,slow=3.9,SNR=6.7						
WRAB	**Tennant Creek**	**44.00**	**273**	*e*P	**P**	**10 58 54.7**	**-0.2**
	4.8nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**44.00**	**273**	P	**P**	**10 58 54.8**	**-0.2**
	3.4nm,0.3s,mb4.6,baz=111,slow=8.1,SNR=162						
FITZ	**Fitzroy Crossi**	**52.24**	**270**	P	**P**	**10 59 57.9**	**-1.1**
	8.4nm,0.7s,mb4.8,baz=148,slow=5.7,SNR=8.3						
NVAR	**Mina Array Bea**	**88.69**	**43**	P	**P**	**11 03 40.0**	**+0.1**
	1.3nm,0.7s,mb4.3,baz=213,slow=6.6,SNR=13						
BVAR	**Borovoye Array**	**126.68**	**315**	PKP	PKPdf	11 09 48.3	-0.3
	1.2nm,0.8s,baz=90,slow=1.5,SNR=6.2						
KEV	**Kevo**	**138.59**	**347**	*e*pkp	PKPdf	11 10 13.7	+3.3
JOF	**Joensuu**	**142.84**	**338**	*e*pkp	PKPdf	11 10 15.6	-2.4
KAF	**Kangasniemi**	**144.98**	**340**	*e*pkp	PKPdf	11 10 19.4	-2.3
	baz=40,slow=3.3						
FINES	**FINESS Array B**	**145.57**	**340**	PKPbc	PKPbc	11 10 22.3	-1.2
	4.5nm,0.4s,baz=46,slow=4.4,SNR=56						
NOA	**NORSAR Array B**	**149.23**	**351**	PKPbc	PKPdf	11 10 33.1	+4.4
	1.6nm,0.6s,baz=16,slow=4.2,SNR=6.3						
AKASG	**Malin Array Be**	**151.63**	**322**	PKPbc	PKPdf	11 10 38.5	+5.8
	3.6nm,0.7s,baz=46,slow=2.7,SNR=16						
BRTR	**Keskin Array B**	**152.73**	**298**	PKPbc	PKPdf	11 10 42.2	+7.5
	1.5nm,0.8s,baz=117,slow=2.8,SNR=7.7						

*IDC **11** 10:50:56.3±7.8,7.52N×103.61W,mb3.7/6,mb1 4.1/6, mb1mx3.9/19,mbtmp3.7/6,MS4.0/2,Ms1 4.1/2, ms1mx3.4/34,Error ellipse: s-maj=206.4km s-min=95.0km az=113.0*
*NEIC **11** 10:50:58.5±1.5,7.58N×103.84W,h10km,mb4.1/5,Error ellipse: s-maj=45.0km s-min=23.2km az=99.0*
ISC 11 10:50:56.5±5.3,7.5N±0.6×104.0W±0.6,h10km,n15, σ0§60/15,mb3.8/11,MS3.9/2,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**21.71**	**1**	P	**P**	**10 55 49.0**	**-0.9**
	2.6nm,0.8s,mb3.7,baz=181,slow=13,SNR=32						
TXAR				LR	LR	11 03 20.9	
	comp=Z,769nm,18.3s,MS4.1,baz=295,slow=34						
TXAR	**Lajitas Array**	**21.71**	**1**	P	**P**	**10 55 49.0**	**-0.9**
TXAR				LR	LR	11 03 20.9	
LTX	**Lajitas**	**21.71**	**1**	*e*P	**P**	**10 55 48.8**	**-1.0**
	6.3nm,0.9s,mb4.0						
JCT	**Junction City**	**23.19**	**9**	*e*P	**P**	**10 56 05.6**	**+1.1**
	3.5nm,0.3s,mb4.3						
MNTX	**Cornudas Mount**	**24.11**	**357**	*e*P	**P**	**10 56 13.3**	**-0.1**
	22nm,1.7s,mb4.3						
GDL2	**Guadalupe Moun**	**24.57**	**359**	*e*P	**P**	**10 56 18.6**	**+0.7**
TUC	**Tucson**	**25.48**	**347**	*e*P	**P**	**10 56 26.5**	**0.0**
	2.7nm,0.8s,mb3.8						
NVAR	**Mina Array Bea**	**33.39**	**339**	P	**P**	**10 57 38.0**	**+0.6**
	0.3nm,0.7s,mb3.3,baz=166,slow=10,SNR=4.1						
NVAR				LR	LR	11 10 45.7	
	comp=Z,139nm,19.2s,MS3.7,baz=90,slow=36						
NVAR	**Mina Array Bea**	**33.39**	**339**	P	**P**	**10 57 38.0**	**+0.6**
NVAR				LR	LR	11 10 45.7	
BW06	**Boulder Array**	**35.46**	**353**	*e*P	**P**	**10 57 55.0**	**-0.1**
	1.0nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**35.46**	**353**	P	**P**	**10 57 55.1**	**+0.1**
	1.1nm,0.8s,mb3.8,baz=161,slow=9.2,SNR=9.5						
NEW	**Newport**	**42.12**	**347**	P	**P**	**10 58 50.7**	**+0.2**
	0.5nm,0.4s,mb3.5,baz=134,slow=10,SNR=4.2						
NEW	**Newport**	**42.12**	**347**	P	**P**	**10 58 50.7**	**+0.2**
INK	**Inuvik**	**63.82**	**348**	P	**P**	**11 01 30.4**	**-0.6**
	0.9nm,0.9s,mb3.8,baz=192,slow=3.0,SNR=4.3						
ILAR	**Eielson Array**	**64.62**	**341**	P	**P**	**11 01 36.1**	**-0.1**
	0.9nm,0.8s,mb3.8,baz=146,slow=4.9,SNR=7.1						

*DJA **11** 10:58:13.8±0.9,7.28S×130.19E,h240km,MD5.1/4, ML6.0/4,Error ellipse: s-maj=342.8km s-min=19.0km az=174.0*
*BJI **11** 10:58:18.5,7.71S×130.03E,h132km,mB5.0,mb4.9*
*IDC **11** 10:58:22.2±3.1,7.07S×129.63E,h106km±28km,mb4.2/12, mb1 4.3/15,mb1mx4.3/20,mbtmp4.6/15,Error ellipse: s-maj=21.9km s-min=11.9km az=68.0*
*NEIC **11** 10:58:24.9±1.1,7.10S×129.68E,h132km±10km,mb4.9/18, Error ellipse: s-maj=9.3km s-min=5.3km az=223.0*
ISC 11 10:58:22.5±1.2,7.21S±0.05×129.56E±0.04,h124km±12km, n75,σ1§13/77,mb4.8/26,10C-6D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.16**	**153**	∥*i*P	**P**	**10 59 53.7**	**+1.4**
	162nm,0.3s						
KAKA				*i* S	**S**	**11 01 01.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**11.48**	**199**	*e*P	**P**	**11 01 04.3**	**+0.6**
	31nm,0.3s						
FITZ				*e*S	**S**	**11 03 03.9**	**-6.0**
FITZ	**Fitzroy Crossi**	**11.48**	**199**	P	**P**	**11 01 03.5**	**-0.2**
	7.0nm,0.3s,baz=31,slow=12,SNR=45						
FITZ				S	**S**	**11 03 04.3**	**-5.6**
	14nm,0.3s,baz=68,slow=16,SNR=7.4						
KEDI	**Kedomdong**	**13.38**	**264**	∥*i*Pn	**P**	**11 01 32.3**	**+3.8**
KEDI				*i* Sn	**S**	**11 03 54.6**	**0.0**
KEDI	**Kedomdong**	**13.38**	**264**	∥*i*Pn	**P**	**11 01 30.2**	**+1.7**
	81nm,0.2s						
KEDI				⇑*i*Sn	**S**	**11 03 54.8**	**+0.2**
WRAB	**Tennant Creek**	**13.48**	**160**	*e*P	**P**	**11 01 27.8**	**-2.0**
	146nm,1.3s						
WRA	**Warramunga Arr**	**13.48**	**160**	P	**P**	**11 01 27.8**	**-2.0**
	3.0nm,0.3s,baz=345,slow=13,SNR=30						
WRA				S	**S**	**11 03 52.2**	**-4.7**
	11nm,0.3s,baz=339,slow=24,SNR=8.4						
RATI	**Rata**	**13.97**	**263**	∥*i*Pn	**P**	**11 01 42.1**	**+5.9**
RATI				*i* Sn	**S**	**11 04 07.9**	**-0.6**
RATI	**Rata**	**13.97**	**263**	∥*i*Pn	**P**	**11 01 39.0**	**+2.8**
	257nm,0.2s						
RATI				⇑*i*Sn	**S**	**11 04 07.9**	**-0.6**
KELI	**Kelakatan**	**14.97**	**265**	⇑*i*Pn	**P**	**11 01 53.1**	**+4.2**
	76nm,0.3s						
KELI				⇑*i*Sn	**S**	**11 04 29.0**	**-2.5**
SRDI	**Scrawed**	**15.32**	**264**	⇑*i*Pn	**P**	**11 01 57.1**	**+3.7**
SRDI				*i* Sn	**S**	**11 04 38.2**	**-1.5**
SRDI	**Scrawed**	**15.32**	**264**	⇑*i*Pn	**P**	**11 01 53.0**	**-0.4**
	165nm,0.2s						
SRDI				⇑*i*Sn	**S**	**11 04 38.2**	**-1.5**
MBWA	**Marble Bar**	**16.82**	**213**	P	**P**	**11 02 12.9**	**+1.0**
	12nm,0.7s						
ASPA	**Alice Springs**	**16.89**	**166**	*e*P	**P**	**11 02 14.2**	**+1.4**
ASPA				*e*S	**S**	**11 05 07.5**	**-7.6**
ASAR	**Alice Springs**	**16.89**	**166**	P	**P**	**11 02 13.2**	**+0.4**
	3.0nm,0.3s,baz=336,slow=8.4,SNR=75						
ASAR				S	**S**	**11 05 13.9**	**-1.1**
	2.5nm,0.3s,baz=341,slow=14,SNR=6.6						
PMG	**Port Moresby**	**17.55**	**98**	P	**P**	**11 02 20.9**	**-0.1**
	1.8nm,0.3s,baz=246,slow=7.6,SNR=6.2						
CTA	**Charters Tower**	**20.64**	**130**	P	**P**	**11 02 55.2**	**+1.1**
	6.6nm,0.8s,baz=312,slow=14,SNR=3.3						
CTA	**Charters Tower**	**20.64**	**130**	P	**P**	**11 02 55.2**	**+1.1**
CTAO	**Charters Tower**	**20.64**	**130**	P	**P**	**11 02 53.7**	**-0.4**
KSM	**Kuching**	**21.05**	**293**	*e*P	**P**	**11 02 59.5**	**+1.3**
FORT	**Forrest**	**23.49**	**183**	*e*P	**P**	**11 03 24.8**	**+2.8**
	848nm,0.7s						
FORT				*e*S	S	11 07 45.0	+22
KLBR	**Kellerberrin**	**26.65**	**203**	*e*P	**P**	**11 03 53.0**	**+1.4**
	97nm,0.5s,mb5.6						
STKA	**Stephens Creek**	**26.99**	**157**	⇑*i*P	**P**	**11 03 55.0**	**+0.2**
	3.6nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**26.99**	**157**	P	**P**	**11 03 54.7**	**-0.1**
	6.3nm,0.8s,mb4.2,baz=329,slow=9.0,SNR=15						
NWAO	**Narrogin (SRO)**	**28.04**	**202**	P	**P**	**11 04 04.9**	**+0.6**
	2.7nm,0.5s,mb4.0,baz=6.3,slow=5.5,SNR=6.4						
KULM	**Kulim**	**31.41**	**293**	P	**P**	**11 04 34.6**	**+0.3**
CM31	**Chiang Mai Arr**	**39.53**	**311**	P	**P**	**11 05 43.4**	**+0.4**
	4.2nm,0.6s,mb4.5						
CMAR	**Chiang Mai Arr**	**39.53**	**311**	P	**P**	**11 05 43.1**	**+0.1**
	6.8nm,0.7s,mb4.6,baz=139,slow=7.3,SNR=44						
CMAR				PcP	PcP	11 07 49.6	+0.9
	1.2nm,0.6s,baz=173,slow=2.8,SNR=5.6						
NJ2	**Nanjing**	**40.35**	**346**	*e*P	**P**	**11 05 50.4**	**+0.8**
NJ2				PP	PP	11 07 28.4	+0.7
NJ2				S	**S**	**11 11 50.0**	**+2.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,284nm,4.0s						
NJ2				LR	LR		
	comp=N,2μm,24.0s						
NJ2				LR	LR		
	comp=E,1μm,21.0s						
NJ2				LR	LR		
	comp=Z,3μm,22.8s						
MJAR	**Matsushiro Arr**	**44.27**	**10**	P	**P**	**11 06 19.2**	**-2.3**
	comp=Z,2.0nm,0.8s,mb3.9,baz=181,slow=7.7,SNR=5.1						
BJI	**Beijing**	**48.61**	**346**	P	**P**	**11 06 54.5**	**-1.1**
BJI				S	**S**	**11 13 50.2**	**+3.6**
BJI				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
BJI				AMB	AMB		
	comp=Z,135nm,4.2s						
CN2	**Changchun**	**50.90**	**356**	*e*P	**P**	**11 07 15.7**	**+2.7**
MDJ	**Mudanjiang**	**51.58**	**0**	P	**P**	**11 07 19.1**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,52nm,7.5s						
LSA	**Lhasa**	**52.04**	**317**	*e*P	**P**	**11 07 22.2**	**+0.4**
	comp=Z,4.8nm,0.4s,mb4.9						
ASAJ	**Asahikawa**	**52.42**	**12**	P	**P**	**11 07 23.0**	**-1.5**
	baz=297,slow=4.5						
JIRN	**Jiri**	**54.39**	**311**	*e*P	**P**	**11 07 38.7**	**-0.4**
	comp=Z,21nm,0.6s,mb5.3						
GUN	**Gumba**	**54.76**	**312**	*e*P	**P**	**11 07 41.3**	**-0.5**
	comp=Z,53nm,0.7s,mb5.7						
PKI	**Pulchoki**	**54.93**	**311**	*e*P	**P**	**11 07 42.7**	**-0.3**
	comp=Z,9.4nm,0.3s,mb5.3						
KKN	**Kakani**	**55.14**	**311**	*e*P	**P**	**11 07 43.8**	**-0.8**
	comp=Z,12nm,0.6s,mb5.1						
DMN	**Daman**	**55.17**	**311**	*e*P	**P**	**11 07 44.2**	**-0.6**
	comp=Z,26nm,0.8s,mb5.3						
GKN	**Gorkha**	**55.73**	**311**	*e*P	**P**	**11 07 48.1**	**-0.8**
	comp=Z,21nm,0.4s,mb5.5						
KOLN	**Koldanda**	**56.40**	**310**	*e*P	**P**	**11 07 53.0**	**-0.6**
	comp=Z,26nm,0.8s,mb5.3						
ULN	**Ulaanbaatar**	**58.32**	**342**	*e*P	**P**	**11 08 06.3**	**-0.5**
	comp=Z,11nm,0.6s,mb5.1						
SONM	**Songino Array**	**58.50**	**342**	P	**P**	**11 08 07.7**	**-0.3**
	comp=Z,4.2nm,0.6s,mb4.7,baz=155,slow=6.4,SNR=46						
WMQ	**Urumqi**	**63.33**	**327**	∥P	**P**	**11 08 40.9**	**+0.2**
WMQ				AP	pP	11 09 12.1	+1.2
WMQ				PCP	PcP	11 09 16.4	0.0
WMQ				XP	sP	11 09 27.2	+2.6
WMQ				PP	PP	11 11 03.4	+0.5
WMQ				S	**S**	**11 17 01.4**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,69nm,3.5s						
WMQ				LR	LR		
	comp=N,82nm,20.0s						
WMQ				LR	LR		
	comp=E,68nm,18.2s						
WMQ				LR	LR		
	comp=Z,69nm,20.0s						
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**11 09 11.5**	**+0.1**
	comp=Z,32nm,0.6s,mb5.3,baz=115,slow=8.5,SNR=232						
KZA	**Kyzart**	**69.65**	**320**	P	**P**	**11 09 21.2**	**+0.6**
	SNR=8.7						
TKM2	**Tokmak 2**	**69.86**	**321**	P	**P**	**11 09 22.3**	**+0.4**
	SNR=10						
UCH	**Uchtor**	**70.20**	**320**	P	**P**	**11 09 25.4**	**+1.4**
	SNR=9.7						
AAK	**Ala-Archa**	**70.41**	**320**	P	**P**	**11 09 26.3**	**+1.1**
	SNR=8.1						
AML	**Almayashu**	**70.68**	**319**	P	**P**	**11 09 27.4**	**+0.5**
	SNR=15						
USP	**Ospenovka**	**70.73**	**321**	P	**P**	**11 09 27.8**	**+0.6**
	SNR=12						
EKS2	**Erkin-Say**	**70.89**	**320**	P	**P**	**11 09 29.3**	**+1.2**
	SNR=10						
ZAL	**Zalesovo**	**71.57**	**334**	P	**P**	**11 09 30.8**	**-1.2**
	comp=Z,6.4nm,0.6s,mb4.7,baz=348,slow=6.0,SNR=29						
ZAL	**Zalesovo**	**71.57**	**334**	P	**P**	**11 09 30.8**	**-1.2**
VNDA	**Vanda**	**72.30**	**173**	P	**P**	**11 09 36.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=344,slow=5.6,SNR=6.0						
BVAR	**Borovoye Array**	**78.00**	**328**	P	**P**	**11 10 07.8**	**-0.9**
	comp=Z,8.3nm,0.7s,mb4.5,baz=124,slow=5.3,SNR=36						
CHKZ	**Chkalovo**	**78.21**	**329**	*e*P	**P**	**11 10 09.0**	**-0.8**
	comp=Z,12nm,0.9s,mb4.6						
TBI	**Tubuai**	**78.93**	**112**	*e*LR	LR	11 09 12.6	
	comp=Z,224nm,29.8s						
SYO	**Syowa Base**	**83.31**	**201**	⇑P	**P**	**11 10 37.8**	**+1.4**
SYO	**Syowa Base**	**83.31**	**201**	⇑PcP	PcP	11 10 41.5	+0.6
ILAR	**Eielson Array**

*NEIC **11** 11:07:24.7±0.6, 1.85S×99.73E, mb4.5/2, Error ellipse: s-maj=23.2km s-min=7.4km az=62.0*
*IDC **11** 11:07:25.3±1.3, 1.74S×99.88E, h29km±4km, mb3.8/10, mb1 4.0/10, mb1mx3.8/20, mbtmp4.0/10, Error ellipse: s-maj=60.0km s-min=11.2km az=56.0*
ISC 11 11:07:22.8±1.0, 1.8S±0.1×99.8E±0.2, h29km, h29km±.6km:pP-P, n17, σ0§56/15, mb4.2/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.09**	**7**	*e*Pn	**Pn**	**11 09 08.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**20.14**	**358**	P	**P**	**11 11 56.2**	**-1.4**
	1.0nm,0.6s,baz=189,slow=1.1,SNR=4.5						
FITZ	**Fitzroy Crossi**	**30.12**	**124**	P	**P**	**11 13 32.9**	**+0.2**
	4.8nm,0.8s,mb4.2,baz=285,slow=13,SNR=5.1						
FITZ				pP	pP	11 13 40.3	-0.8
	8.0nm,0.6s,baz=308,slow=5.2,SNR=3.6						
WRA	**Warramunga Arr**	**38.30**	**121**	P	**P**	**11 14 42.3**	**-0.6**
	1.6nm,0.5s,mb4.0,baz=305,slow=9.1,SNR=11						
WRA				pP	pP	11 14 51.3	-0.2
	4.3nm,0.5s,baz=304,slow=9.0,SNR=16						
WRAB	**Tennant Creek**	**38.31**	**121**	*e*P	**P**	**11 14 43.0**	**0.0**
	3.2nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**39.57**	**126**	P	**P**	**11 14 53.8**	**+0.3**
	1.3nm,0.5s,mb3.9,baz=299,slow=7.5,SNR=8.1						
ASAR				pP	pP	11 15 02.2	+0.1
	5.7nm,0.6s,baz=300,slow=7.8,SNR=27						
STKA	**Stephens Creek**	**49.47**	**132**	P	**P**	**11 16 12.8**	**0.0**
	1.2nm,0.7s,mb4.0,baz=324,slow=11,SNR=2.7						
STKA				pP	pP	11 16 22.1	+0.5
	6.3nm,0.6s,baz=308,slow=6.7,SNR=9.6						
STKA	**Stephens Creek**	**49.47**	**132**	P	**P**	**11 16 12.8**	**0.0**
STKA				pP	pP	11 16 22.1	+0.5
SONM	**Songino Array**	**49.76**	**6**	P	**P**	**11 16 14.8**	**0.0**
	0.7nm,0.6s,mb3.9,baz=182,slow=9.7,SNR=3.6						
SONM				pP	pP	11 16 23.7	+0.1
	2.3nm,0.8s,baz=185,slow=8.2,SNR=9.8						
MKAR	**Makanchi Array**	**50.77**	**345**	P	**P**	**11 16 22.9**	**+0.5**
	1.7nm,0.4s,mb4.3,baz=162,slow=8.4,SNR=18						
MKAR				pP	pP	11 16 31.6	+0.4
	2.1nm,0.6s,baz=149,slow=7.1,SNR=7.5						
MKAR	**Makanchi Array**	**50.77**	**345**	P	**P**	**11 16 22.9**	**+0.5**
MKAR				pP	pP	11 16 31.6	+0.4
ZAL	**Zalesovo**	**56.91**	**350**	P	**P**	**11 17 07.6**	**-0.1**
	1.8nm,0.4s,mb4.4,baz=278,slow=3.3,SNR=4.9						
ZAL				pP	pP	11 17 16.5	0.0
	2.8nm,0.5s,baz=297,slow=4.8,SNR=6.3						
BVAR	**Borovoye Array**	**59.91**	**340**	P	**P**	**11 17 28.1**	**-0.4**
	1.1nm,0.6s,mb4.1,baz=135,slow=8.4,SNR=5.7						
BVAR				pP	pP	11 17 37.3	-0.2
	1.3nm,0.6s,baz=153,slow=9.9,SNR=5.5						
CHKZ	**Chkalovo**	**60.37**	**341**	*e*P	**P**	**11 17 31.6**	**-0.1**
	3.0nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**83.82**	**332**	P	**P**	**11 19 51.5**	**+0.7**
	0.9nm,0.6s,mb4.1,baz=90,slow=5.7,SNR=5.7						
TXAR	**Lajitas Array**	**144.68**	**37**	PKP	PKPdf	11 26 58.8	-3.7
	0.3nm,0.5s,baz=204,slow=1.3,SNR=7.6						
CFAA	**Coronel Fontan**	**144.89**	**198**	PKP	PKPdf	11 26 59.8	-3.0
	0.2nm,0.4s,baz=224,slow=3.1,SNR=3.6						

*IDC **11** 11:09:01.5±0.6, 1.68S×99.75E, mb4.2/15, mb1 4.3/15, mb1mx4.2/22, mbtmp4.2/15, Error ellipse: s-maj=27.0km s-min=13.7km az=51.0*
*NEIC **11** 11:09:06.0±0.3, 1.68S×99.80E, h30km, mb4.6/3, Error ellipse: s-maj=12.1km s-min=6.4km az=60.0*
ISC 11 11:09:04.6±0.5, 1.62S±0.09×99.8E±0.1, h33km, n23, σ0§66/21, mb4.3/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.91**	**7**	Pn	**Pn**	**11 10 46.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	**P**	**11 13 36.5**	**-0.4**
	0.9nm,0.6s,baz=190,slow=11,SNR=3.5						
SHL	**Shillong**	**28.09**	**345**	*e*P	**P**	**11 15 00.0**	**+4.4**
FITZ	**Fitzroy Crossi**	**30.17**	**125**	P	**P**	**11 15 13.5**	**-0.7**
	5.8nm,0.8s,mb4.3,baz=323,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**38.33**	**121**	P	**P**	**11 16 24.3**	**0.0**
	2.4nm,0.5s,mb4.2,baz=303,slow=9.0,SNR=11						
WRA				PcP	PcP	11 18 38.6	+0.4
	0.5nm,0.5s,baz=319,slow=2.2,SNR=4.9						
WRAB	**Tennant Creek**	**38.34**	**121**	*e*P	**P**	**11 16 24.0**	**-0.3**
	8.3nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**39.61**	**126**	P	**P**	**11 16 35.0**	**+0.1**
	1.5nm,0.7s,mb3.8,baz=311,slow=8.6,SNR=5.7						
ASAR				PcP	PcP	11 18 43.0	+0.7
	1.5nm,0.7s,baz=296,slow=2.5,SNR=7.0						
STKA	**Stephens Creek**	**49.53**	**132**	P	**P**	**11 17 54.5**	**+0.1**
	1.1nm,0.5s,mb4.2,baz=320,slow=7.9,SNR=3.0						
STKA	**Stephens Creek**	**49.53**	**132**	P	**P**	**11 17 54.5**	**+0.1**
SONM	**Songino Array**	**49.58**	**6**	P	**P**	**11 17 55.6**	**+1.0**
	0.6nm,0.5s,mb3.9,baz=196,slow=8.2,SNR=3.9						
MKAR	**Makanchi Array**	**50.61**	**344**	P	**P**	**11 18 02.4**	**-0.1**
	2.3nm,0.6s,mb4.3,baz=160,slow=8.5,SNR=7.7						
ZAL	**Zalesovo**	**56.75**	**349**	P	**P**	**11 18 48.0**	**+0.3**
	2.8nm,0.3s,mb4.7,baz=309,slow=2.3,SNR=5.2						
BVAR	**Borovoye Array**	**59.77**	**340**	P	**P**	**11 19 07.7**	**-1.0**
	1.2nm,0.6s,mb4.1,baz=149,slow=8.6,SNR=4.9						
CHKZ	**Chkalovo**	**60.23**	**340**	*e*P	**P**	**11 19 11.1**	**-0.8**
	4.1nm,0.6s,mb4.6						
KMBO	**Kilima Mbogo**	**62.56**	**270**	P	**P**	**11 19 28.3**	**+0.2**
	0.6nm,0.4s,mb4.1,baz=82,slow=13,SNR=5.8						
KMBO	**Kilima Mbogo**	**62.56**	**270**	P	**P**	**11 19 28.2**	**+0.1**
	1.9nm,0.8s,mb4.3						
MATP	**Matopo**	**71.95**	**249**	P	**P**	**11 20 27.4**	**+0.3**
	4.0nm,0.8s,mb4.4,baz=98,slow=5.9,SNR=5.7						
BRTR	**Keskin Array B**	**72.94**	**312**	P	**P**	**11 20 31.4**	**-1.4**
	0.9nm,0.5s,mb3.9,baz=135,slow=5.2,SNR=4.4						
RPZ	**Rata Peaks**	**75.37**	**135**	P	**P**	**11 20 47.3**	**+0.6**
	3.7nm,0.4s,mb4.7,baz=251,slow=8.3,SNR=3.0						
FINES	**FINESS Array B**	**83.69**	**332**	P	**P**	**11 21 32.0**	**+0.9**
	1.6nm,0.6s,mb4.3,baz=124,slow=6.9,SNR=6.3						
ARCES	**ARCESS Array B**	**86.06**	**340**	P	**P**	**11 21 43.9**	**+1.1**
	2.2nm,0.8s,mb4.4,baz=101,slow=6.2,SNR=5.0						
TXAR	**Lajitas Array**	**144.50**	**37**	PKP	PKPdf	11 28 40.3	+2.0
	1.7nm,0.6s,baz=278,slow=1.3,SNR=13						
CFAA	**Coronel Fontan**	**145.07**	**198**	PKP	PKPdf	11 28 40.8	+1.5
	0.7nm,0.4s,baz=154,slow=4.7,SNR=13						

*IDC **11** 11:10:59.4±0.9, 8.68N×104.12W, mb4.0/12, mb1 4.3/12, mb1mx4.2/19, mbtmp4.0/12, MS5.0/14, Ms1 5.0/14, ms1mx4.7/28, Error ellipse: s-maj=34.4km s-min=15.5km az=58.0*
*HRVD **11** 11:11:01.1±0.2, 8.51N×104.02W, h12km, MW5.5/69, Centroid moment Tensor Solution. LP body waves: s61,c107;Mantle waves: s69,c143; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19±.04; $M_{\theta\theta}$0.33±.04; $M_{\phi\phi}$-0.14±.05; $M_{r\theta}$-0.49±.09; $M_{r\phi}$-1.79±.03; $M_{\theta\phi}$-0.50±.10; Best double couple: $M_0$1.941×10^{17} NP1: ϕ_s354°,δ74°,λ-15°; NP2:ϕ_s88°,δ76°,λ-164°. Principal axes: T 1.901, Plg1°, Azm221°; N .079, Plg69°, Azm128°; P -1.981, Plg21°, Azm311°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **11** 11:11:01.1, 8.70N×103.60W, h10km, mB5.7, Ms5.5, Msz5.2*
*NEIC **11** 11:11:01.1±0.5, 8.66N×103.56W, h10km, mb5.0/51, MS4.9/10, Error ellipse: s-maj=15.5km s-min=6.9km az=55.0*
ISC 11 11:10:58.5±0.4, 8.52N±0.05×103.80W±0.07, h10km, n136, σ1§26/123, mb4.8/53, MS5.0/27, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**9.32**	**14**	*i* P	**P**	**11 13 22.4**	**+6.4**
PLIG	**Platanillo**	**10.67**	**23**	*i* P	**P**	**11 13 41.4**	**+6.7**
VHO	**Vista Hermosa**	**10.94**	**38**	*i* P	**P**	**11 13 46.5**	**+8.2**
OXX	**Oaxaca**	**10.96**	**38**	*e*P	**P**	**11 13 46.0**	**+7.4**
MOIG	**Morelia**	**11.38**	**13**	*i* P	**P**	**11 13 53.3**	**+8.9**
PPM	**Popocatepetl**	**11.63**	**25**	*i* P	**P**	**11 13 55.5**	**+7.7**
CMIG	**Matias Romero**	**12.17**	**45**	*e*P	**P**	**11 13 50.4**	**-4.7**
CCIG	**Comitan**	**13.75**	**55**	*i* P	**P**	**11 14 24.6**	**+8.4**
ZAIG	**Zacatecas**	**14.22**	**5**	*i* P	**P**	**11 14 29.7**	**+7.3**
PAYG	**Puerto Ayora**	**16.27**	**123**	P	**P**	**11 14 49.7**	**+0.8**
	93nm,1.5s						
JTS	**JuntasAbangare**	**18.68**	**83**	P	**P**	**11 15 26.8**	**+7.7**
	0.1nm,0.3s,baz=328,slow=3.7,SNR=11						
JTS	**JuntasAbangare**	**18.68**	**83**	*e*P	**P**	**11 15 14.7**	**-4.4**
	95nm,1.6s						
TEIG	**Tepich**	**18.99**	**51**	P	**P**	**11 15 18.6**	**-4.3**
LTX	**Lajitas**	**20.71**	**0**	*e*P	**P**	**11 15 42.8**	**+1.1**
	85nm,1.4s						
TXAR	**Lajitas Array**	**20.71**	**0**	P	**P**	**11 15 41.5**	**-0.3**
	9.4nm,1.1s,baz=184,slow=12,SNR=40						
TXAR				PcP	PcP	11 19 52.9	+1.4
	0.3nm,0.8s,baz=157,slow=6.9,SNR=2.3						
TXAR				LR	LR	11 23 18.0	
	comp=Z,5μm,20.7s,MS4.9,baz=205,slow=36						
JCT	**Junction City**	**22.17**	**9**	*e*P	**P**	**11 15 58.2**	**+1.8**
	125nm,1.5s,mb5.1						
MNTX	**Cornudas Mount**	**23.11**	**357**	*e*P	**P**	**11 16 06.6**	**+0.7**
	206nm,1.8s,mb5.3						
GDL2	**Guadalupe Moun**	**23.57**	**359**	*e*P	**P**	**11 16 11.7**	**+1.4**
CLNB	**Carlsbad**	**23.63**	**360**	P	**P**	**11 16 11.0**	**+0.2**
CPRX	**Cap Rock**	**24.40**	**360**	*e*P	**P**	**11 16 19.0**	**+0.7**
TUC	**Tucson**	**24.55**	**346**	*e*P	**P**	**11 16 20.3**	**+0.6**
	39nm,1.1s,mb4.8						
NATX	**Nacogdoches**	**24.64**	**19**	*e*P	**P**	**11 16 20.2**	**-0.5**
	58nm,1.3s,mb5.0						
LENM	**Lemitar**	**25.70**	**354**	*e*P	**P**	**11 16 31.5**	**+0.8**
LPM	**Los Pinos Moun**	**25.81**	**355**	*e*P	**P**	**11 16 32.1**	**+0.5**
LAZ	**Ladron**	**25.95**	**354**	*e*P	**P**	**11 16 33.8**	**+0.8**
AMTX	**Amarillo**	**26.32**	**4**	*e*P	**P**	**11 16 35.7**	**-0.7**
	89nm,1.3s,mb5.1						
ANMO	**Albuquerque**	**26.42**	**355**	P	**P**	**11 16 38.9**	**+1.5**
	0.9nm,0.7s,mb3.4,baz=172,slow=13,SNR=3.9						
ANMO				LR	LR	11 27 20.8	
	comp=Z,3μm,18.1s,MS4.8,baz=188,slow=37						
ANMO	**Albuquerque**	**26.42**	**355**	*e*P	**P**	**11 16 36.5**	**-0.9**
	30nm,1.8s,mb4.5						
WMOK	**Wichita Mounta**	**26.50**	**9**	*e*P	**P**	**11 16 37.0**	**-1.0**
	10nm,1.2s,mb4.2						
OTAV	**Otavalo**	**26.55**	**107**	*e*P	**P**	**11 16 39.2**	**+0.5**
	42nm,1.3s,mb4.8						
BAR	**Barrett**	**26.84**	**335**	*e*P	**P**	**11 16 42.7**	**+1.4**
MIAR	**Mount Ida**	**27.56**	**18**	*e*P	**P**	**11 16 46.0**	**-1.8**
	20nm,1.0s,mb4.7						
PFO	**Pinyon Flat Ob**	**27.57**	**337**	*e*P	**P**	**11 16 47.1**	**-0.8**
	38nm,1.3s,mb4.9						
WUAZ	**Wupatki**	**27.76**	**347**	*e*P	**P**	**11 16 49.4**	**-0.1**
	46nm,1.3s,mb5.0						
LDFC	**Landfair**	**28.40**	**340**	P	**P**	**11 16 54.5**	**-0.8**
SDCO	**Great Sand Dun**	**29.14**	**357**	*e*P	**P**	**11 17 02.6**	**+0.6**
	51nm,1.8s,mb5.0						
ROSC	**El Rosal**	**29.48**	**95**	P	**P**	**11 17 12.8**	**+7.4**
	4.1nm,0.3s,mb4.6,baz=275,slow=24,SNR=7.9						
ROSC				LR	LR	11 26 12.9	
	comp=Z,3μm,20.5s,MS4.8,baz=307,slow=31						
PV01	**Paradox Valley**	**29.80**	**352**	P	**P**	**11 17 07.1**	**-0.8**
PV10	**Paradox Valley**	**30.10**	**352**	P	**P**	**11 17 09.9**	**-0.7**
DAC	**Darwin (Calif)**	**30.36**	**338**	P	**P**	**11 17 14.2**	**+1.3**
ARUT	**Antelope Range**	**30.42**	**345**	P	**P**	**11 17 12.5**	**-0.9**
MSU	**Marysvale**	**30.81**	**347**	*e*P	**P**	**11 17 15.8**	**-0.9**
SRU	**San Rafael**	**31.06**	**350**	*e*P	**P**	**11 17 20.9**	**+1.9**
KSU1	**Kansas State U**	**31.13**	**11**	*e*P	**P**	**11 17 16.0**	**-3.6**
CCM	**Cathedral Cave**	**31.52**	**19**	*e*P	**P**	**11 17 21.0**	**-2.1**
	5.8nm,0.8s,mb4.5						
MTUM	**Tungsten Hills**	**31.68**	**337**	*e*P	**P**	**11 17 26.9**	**+2.4**
FVM	**French Village**	**31.73**	**20**	*e*P	**P**	**11 17 23.1**	**-1.8**
	38nm,1.5s,mb5.0						
LRV	**Little Rabbit**	**31.90**	**333**	P	**P**	**11 17 28.5**	**+2.0**
OMM	**Old Mammoth Mi**	**32.07**	**337**	P	**P**	**11 17 29.4**	**+1.4**
MPU	**Maple Canyon**	**32.14**	**349**	*e*P	**P**	**11 17 28.2**	**-0.2**
NLU	**North Lily Min**	**32.17**	**348**	*e*P	**P**	**11 17 30.4**	**+1.7**
DAU	**Daniels Canyon**	**32.45**	**349**	*e*P	**P**	**11 17 31.4**	**+0.1**
MNV	**Mina**	**32.48**	**339**	*e*P	**P**	**11 17 32.7**	**+1.2**
	13nm,1.2s,mb4.6						
NVAR	**Mina Array Bea**	**32.53**	**339**	P	**P**	**11 17 32.0**	**+0.1**
	0.3nm,0.5s,baz=186,slow=9.1,SNR=3.1						
NVAR				PcP	PcP	11 20 18.7	0.0
	0.6nm,0.9s,baz=153,slow=4.0,SNR=2.8						
NVAR				LR	LR	11 28 34.2	
	comp=Z,3μm,21.7s,MS4.9,baz=155,slow=33						
DUG	**Dugway**	**32.56**	**347**	*e*P	**P**	**11 17 32.5**	**+0.4**
	28nm,1.4s,mb5.0						
DUG				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
JLU	**Jordanelle**	**32.67**	**349**	*e*P	**P**	**11 17 31.7**	**-1.4**
PHWY	**Pilot Hill**	**32.69**	**358**	P	**P**	**11 17 33.1**	**-0.2**
SDV	**Santo Domingo**	**32.78**	**87**	P	**P**	**11 17 38.9**	**+4.7**
	comp=Z,14nm,0.9s,mb4.9,baz=280,slow=4.9,SNR=14						
SDV	**Santo Domingo**	**32.78**	**87**	*e*P	**P**	**11 17 33.5**	**-0.8**
	comp=Z,20nm,0.9s,mb5.0						
SDV				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
CTU	**Camp Tracy**	**32.82**	**349**	*e*P	**P**	**11 17 34.3**	**0.0**
NOQ	**North Oquirrh**	**32.85**	**348**	P	**P**	**11 17 34.6**	**-0.1**
CMB	**Columbia Colle**	**32.99**	**336**	P	**P**	**11 17 37.4**	**+1.5**
	comp=Z,28nm,1.7s,mb4.9						
TCUT	**Toone Canyon**	**33.16**	**349**	*e*P	**P**	**11 17 39.0**	**+1.6**
RWWY	**Rawlins**	**33.18**	**355**	*e*P	**P**	**11 17 38.4**	**+0.9**
	comp=Z,26nm,1.4s,mb5.0						
SPUT	**South Promonto**	**33.55**	**348**	*e*P	**P**	**11 17 39.2**	**-1.5**
HWUT	**Hardware Ranch**	**33.67**	**349**	*e*P	**P**	**11 17 43.3**	**+1.6**
	comp=Z,42nm,1.5s,mb5.2						
ELK	**Elko**	**33.67**	**344**	*e*P	**P**	**11 17 42.6**	**+0.8**
	comp=Z,22nm,1.5s,mb4.9						
WCN	**Washoe City**	**33.83**	**337**	*e*P	**P**	**11 17 46.0**	**+2.8**
	comp=Z,21nm,1.3s,mb4.9						
BMN	**Battle Mountai**	**33.96**	**342**	*e*P	**P**	**11 17 45.9**	**+1.6**
	comp=Z,28nm,1.5s,mb5.0						
HVU	**Hansel Valley**	**34.07**	**348**	*e*P	**P**	**11 17 45.2**	**-0.1**
BW06	**Boulder Array**	**34.49**	**352**	*e*P	**P**	**11 17 48.3**	**-0.5**
	comp=Z,34nm,1.2s,mb5.2						
PDAR	**Pinedale Array**	**34.49**	**352**	P	**P**	**11 17 48.5**	**-0.3**
	comp=Z,6.6nm,1.0s,mb4.5,baz=166,slow=6.1,SNR=15						
AHID	**Auburn Hatcher**	**34.71**	**351**	*e*P	**P**	**11 17 52.0**	**+1.2**
	comp=Z,14nm,1.0s,mb4.8						
REDW	**Red Top Meadow**	**35.26**	**351**	*e*P	**P**	**11 17 55.2**	**-0.2**
	comp=Z,24nm,1.2s,mb5.0						
RRI2	**Red Ridge**	**35.32**	**350**	*e*P	**P**	**11 17 54.8**	**-1.2**
	comp=Z,17nm,1.0s,mb4.9						
TPAW	**Teton Pass**	**35.40**	**351**	*e*P	**P**	**11 17 56.8**	**+0.2**
	comp=Z,30nm,1.3s,mb5.1						
WUWY	**Wally Ulrich**	**35.41**	**351**	P	**P**	**11 17 57.1**	**+0.3**
LOHW	**Long Hollow**	**35.46**	**351**	*e*P	**P**	**11 17 57.0**	**-0.2**
	comp=Z,47nm,1.5s,mb5.2						
RSSD	**Black Hills**	**35.47**	**360**	*e*P	**P**	**11 17 57.9**	**+0.7**
	comp=Z,34nm,1.5s,mb5.0						
MOOW	**Moose Ponds**	**35.62**	**351**	*e*P	**P**	**11 18 00.5**	**+2.0**
	comp=Z,7.3nm,0.4s,mb5.0						
IMW	**Indian Meadow**	**35.79**	**351**	P	**P**	**11 17 57.4**	**-2.6**
	comp=Z,7.7nm,0.3s,mb5.1						
HLID	**Hailey**	**36.12**	**347**	*e*P	**P**	**11 18 03.8**	**+1.1**
	comp=Z,47nm,1.8s,mb5.1						
HLID				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
WVOR	**Wild Horse Val**	**36.22**	**341**	*e*P	**P**	**11 18 04.7**	**+1.0**
	comp=Z,58nm,1.8s,mb5.2						
YFT	**Old Faithful**	**36.32**	**351**	*e*P	**P**	**11 18 04.4**	**0.0**
LKWY	**Lake**	**36.37**	**352**	*e*P	**P**	**11 18 05.8**	**+1.0**
	comp=Z,48nm,1.7s,mb5.2						
YMR	**Madison River**	**36.55**	**351**	*e*P	**P**	**11 18 05.8**	**-0.6**
QLMT	**Earthquake Lak**	**36.78**	**351**	*e*P	**P**	**11 18 08.4**	**+0.1**
MCMT	**McKenzie Canyo**	**37.02**	**349**	*e*P	**P**	**11 18 10.7**	**+0.4**
BOZ	**Bozeman (W)**	**37.61**	**351**	*e*P	**P**	**11 18 15.8**	**+0.6**
	comp=Z,39nm,1.6s,mb4.9						
BOZ				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
HRY	**Holter Researc**	**38.68**	**351**	*e*P	**P**	**11 18 23.3**	**-0.9**
CHMT	**Chamberlain Mo**	**39.11**	**350**	*e*P	**P**	**11 18 28.7**	**+0.9**
NEW	**Newport**	**41.19**	**346**	P	**P**	**11 18 43.7**	**-1.2**
	comp=Z,4.0nm,0.8s,mb4.1,baz=173,slow=13,SNR=5.6						
NEW	**Newport**	**41.19**	**346**	*e*P	**P**	**11 18 44.0**	**-0.9**
	comp=Z,20nm,1.1s,mb4.7						
WALA	**Waterton Lakes**	**41.30**	**350**	P	**P**	**11 18 45.8**	**+0.1**
	comp=Z,18nm,1.1s,mb4.6						
ULM	**Lac du Bonnet**	**42.12**	**8**	P	**P**	**11 18 51.8**	**-0.8**
	comp=Z,8.3nm,1.0s,mb4.3,baz=199,slow=6.5,SNR=9.1						
ULM				LR	LR	11 36 02.2	
	comp=Z,2μm,20.6s,MS5.0,baz=198,slow=36						
ULM	**Lac du Bonnet**	**42.12**	**8**	*e*P	**P**	**11 18 51.3**	**-1.3**
	comp=Z,42nm,1.2s,mb5.0						
LPAZ	**La Paz**	**43.05**	**125**	P	**P**	**11 19 04.9**	**+4.3**
	comp=Z,11nm,0.9s,mb4.6,baz=321,slow=9.2,SNR=16						
LPAZ	**La Paz**	**43.05**	**125**	*e*P	**P**	**11 19 02.2**	**+1.6**
	comp=Z,24nm,1.2s,mb4.8						
RKT	**Rikitea**	**43.81**	**224**	*e*S	**S**	**11 25 35.9**	**-1.0**
RKT				eLQ		11 29 00.3	
RKT				eLR	LR	11 31 10.5	
	comp=Z,5μm,27.0s,baz=42						
SAML	**Samuel**	**44.02**	**112**	*e*P	**P**	**11 19 07.6**	**-0.9**
	comp=Z,42nm,1.7s,mb4.9						
SAML				LR	LR		
	comp=Z,5μm,21.0s,MS5.4						
EDM	**Edmonton**	**45.25**	**352**	*e*P	**P**	**11 19 16.4**	**-1.4**
LVC	**Limon Verde**	**46.09**	**133**	P	**P**	**11 19 25.4**	**+0.4**
LVC				LR	LR		
	comp=Z,3μm,22.0s,MS5.1						
FFC	**Flin Flon**	**46.11**	**1**	*e*P	**P**	**11 19 22.6**	**-2.1**
	comp=Z,32nm,1.4s,mb5.0						
FFC				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
FCC	**Fort Churchill**	**50.68**	**7**	*e*P	**P**	**11 19 58.0**	**-2.1**
	comp=Z,39nm,1.2s,mb5.2						
PPT	**Papeete**	**52.13**	**240**	*e*S	**S**	**11 27 32.8**	**-1.4**
PPT				eLQ		11 33 23.7	
PPT				eLR	LR	11 34 36.2	
	comp=Z,4μm,25.8s,baz=60						
PPT	**Papeete**	**52.13**	**240**	LR	LR	11 36 01.1	
	comp=Z,1μm,19.9s,MS5.0,baz=63,slow=29						
CFAA	**Coronel Fontan**	**52.42**	**141**	P	**P**	**11 20 15.2**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=326,slow=3.6,SNR=2.9						
YKA	**Yellowknife Ar**	**54.45**	**354**	P	**P**	**11 20 25.4**	**-2.7**
	comp=Z,0.3nm,0.6s,baz=166,slow=7.1,SNR=6.0						
YKA				PcP	PcP	11 21 31.5	-0.2
	comp=Z,0.9nm,0.9s,baz=159,slow=4.6,SNR=4.3						
YKA				LR	LR	11 42 05.3	
	comp=Z,2μm,21.2s,MS5.2,baz=155,slow=34						
YKA	**Yellowknife Ar**	**54.45**	**354**	P	**P**	**11 20 25.4**	**-2.7**
YKA				PcP	PcP	11 21 31.6	-0.2
YKA				LR	LR	11 42 05.3	
YKW3	**Yellowknife Ar**	**54.52**	**354**	*e*P	**P**	**11 20 26.1**	**-2.5**
TBI	**Tubuai**	**54.73**	**234**	*e*S	**S**	**11 28 07.7**	**-1.8**
TBI				eLR	LR	11 35 59.9	
	comp=Z,3μm,27.2s,baz=59						
SCHQ	**Schefferville**	**54.74**	**25**	P	**P**	**11 20 29.3**	**-1.2**
	comp=Z,5.5nm,1.1s,mb4.5,baz=292,slow=4.6,SNR=4.2						
SCHQ				LR	LR	11 45 17.8	
	comp=Z,1μm,19.6s,MS5.1,baz=213,slow=38						
SCHQ	**Schefferville**	**54.74**	**25**	P	**P**	**11 20 29.3**	**-1.2**
SCHQ				LR	LR	11 45 17.8	
PLCA	**Paso Flores**	**57.79**	**151**	LR	LR	11 40 36.2	
	comp=Z,1μm,18.2s,MS5.1,baz=315,slow=31						
PLCA	**Paso Flores**	**57.79**	**151**	P	**P**	**11 20 53.5**	**+1.0**
BDFB	**Brasilia**	**60.23**	**113**	P	**P**	**11 21 11.4**	**+1.7**
	comp=Z,2.1nm,0.5s,mb4.4,baz=320,slow=9.1,SNR=3.9						
BDFB				LR	LR	11 46 23.6	
	comp=Z,2μm,18.5s,MS5.2,baz=140,slow=35						
DAWY	**Dawson**	**60.94**	**343**	P	**P**	**11 21 10.9**	**-3.0**
SML	**Sawmill**	**62.34**	**338**	*e*P	**P**	**11 21 20.7**	**-2.7**
INK	**Inuvik**	**62.88**	**348**	P	**P**	**11 21 24.4**	**-2.4**
	comp=Z,4.9nm,1.1s,mb4.5,baz=145,slow=7.7,SNR=5.4						
INK				LR	LR	11 46 54.6	
	comp=Z,918nm,21.6s,MS4.9,baz=149,slow=34						
INK	**Inuvik**	**62.88**	**348**	*e*P	**P**	**11 21 23.8**	**-3.1**
	comp=Z,14nm,1.2s,mb5.0						
ILAR	**Eielson Array**	**63.74**	**341**	P	**P**	**11 21 29.6**	**-2.9**
	comp=Z,1.0nm,0.8s,mb3.9,baz=157,slow=5.5,SNR=9.2						
ILAR				LR	LR	11 50 34.2	
	comp=Z,471nm,20.0s,MS4.7,baz=151,sl

baz=17,slow=22,SNR=2.3
PMG LR LR 11 22 02.1
comp=Z,2μm,21.5s,baz=355,slow=36
PMG Port Moresby 5.93 168 *e*Pn **P 11 19 52.2 -0.3**
101nm,0.6s
HNR Honiara 15.10 113 Pn **P 11 21 54.9 -2.4**
2.5nm,0.3s,baz=162,slow=7.2,SNR=7.8
HNR LR LR 11 26 57.8
comp=Z,1μm,19.5s,baz=122,slow=34
HNR Honiara 15.10 113 *e*Pn **P 11 21 59.2 +1.8**
193nm,0.8s
HNR LR LR 11 26 57.8
KAKA Kakadu 16.13 235 *e*P **P 11 22 09.2 -1.3**
44nm,0.4s
CTA Charters Tower 16.42 179 *e*P **P 11 22 19.1 +4.9**
27nm,1.2s
CTA Charters Tower 16.42 179 Pn **P 11 22 18.9 +4.7**
1.2nm,0.3s,baz=354,slow=13,SNR=9.8
CTAO Charters Tower 16.42 179 *e*Pn **P 11 22 14.9 +0.7**
120nm,1.5s
WRAB Tennant Creek 19.80 214 *e*P **P 11 22 54.6 -0.3**
389nm,1.4s
WRA Warramunga Arr 19.81 214 P **P 11 22 53.5 -1.5**
4.2nm,0.3s,baz=44,slow=11,SNR=100
ASAR Alice Springs 23.11 209 P **P 11 23 29.4 +1.0**
14nm,0.8s,mb4.4,baz=31,slow=11,SNR=53
ASAR LR LR 11 33 47.6
comp=Z,1μm,19.1s,MS4.4,baz=32,slow=40
ASPA Alice Springs 23.11 209 *e*P **P 11 23 29.9 +1.4**
FITZ Fitzroy Crossi 24.55 232 *e*P **P 11 23 42.5 -0.1**
38nm,0.4s,mb5.3
FITZ Fitzroy Crossi 24.55 232 P **P 11 23 42.3 -0.3**
64nm,0.5s,mb5.4,baz=46,slow=8.8,SNR=178
FITZ LR LR 11 34 04.7
comp=Z,3μm,18.6s,MS4.8,baz=52,slow=38
DZM Mont Dzumac 27.11 134 P **P 11 24 07.1 +0.6**
14nm,0.9s,mb4.5,baz=333,slow=15,SNR=7.1
DZM LR LR 11 33 34.1
comp=Z,2μm,18.7s,MS4.7,baz=333,slow=34
STKA Stephens Creek 28.45 188 *e*P **P 11 24 23.0 +4.5**
9.1nm,0.9s,mb4.4
STKA Stephens Creek 28.45 188 P **P 11 24 19.1 +0.6**
5.0nm,0.4s,mb4.5,baz=356,slow=8.5,SNR=26
STKA LR LR 11 36 41.9
comp=Z,2μm,18.1s,MS4.7,baz=6.6,slow=38
CBIJ Chichi jima 30.70 353 LR LR 11 33 41.0
comp=Z,440nm,20.4s,MS4.1,baz=158,slow=30
MBWA Marble Bar 30.89 233 *e*P **P 11 24 38.9 -1.4**
4.3nm,0.6s,mb4.5
KKM Kota Kinabalu 31.16 288 P **P 11 24 43.2 +0.5**
FORT Forrest 31.89 210 *e*P **P 11 24 48.5 -0.4**
394nm,0.6s
JOW Kunigami 34.70 332 LR LR 11 36 31.1
comp=Z,1μm,19.6s,MS4.7,baz=264,slow=32
NWAO Narrogin (SRO) 39.66 219 LR LR 11 43 32.2
comp=Z,2μm,18.8s,MS4.9,baz=42,slow=38
MJAR Matsushiro Arr 40.55 350 P **P 11 25 59.3 -2.9**
4.4nm,0.9s,mb4.1,baz=176,slow=9.8,SNR=7.2
MJAR LR LR 11 42 16.1
comp=Z,224nm,18.9s,MS4.0,baz=175,slow=36
NST Nakhon Sawan 49.16 294 P **P 11 27 12.8 +1.4**
NANT Nan 49.74 298 P **P 11 27 17.0 +1.1**
KMI Kunming 50.68 307 P **P 11 27 23.6 +0.7**
KMI S **S 11 34 25.7 -8.2**
KMI AMB AMB
comp=Z,23nm,1.2s,mb5.0
KMI LR LR
comp=N,366nm,20.5s
KMI LR LR
comp=E,305nm,25.9s
KMI LR LR
comp=Z,542nm,30.0s
KMI Kunming 50.68 307 P **P 11 27 23.6 +0.7**
comp=Z,23nm,1.2s,mb5.0
KMI S **S 11 34 25.7 -8.2**
KMI LR LR
comp=Z,540nm,30.0s,MS4.4
XAN Xi'an 51.13 320 P **P 11 27 26.8 +0.5**
XAN AMB AMB
comp=Z,10.0nm,2.0s,mb4.4
CMAR Chiang Mai Arr 51.17 297 P **P 11 27 25.8 -1.0**
comp=Z,2.5nm,0.8s,mb4.2,baz=126,slow=5.4,SNR=18
CMAR LR LR 11 48 09.0
comp=Z,187nm,20.6s,MS4.1,baz=100,slow=35
CHG Chiang Mai 51.30 297 P **P 11 27 30.0 +2.3**
CD2 Chengdu 52.82 314 *e*P **P 11 27 38.0 -1.0**
HHC Hu-ho-hao-te 54.21 328 *e*P **P 11 27 53.9 +4.8**
HHC AP pP 11 28 04.2 +3.9
HHC XP sP 11 28 07.8 +2.9
HHC PCP PcP 11 28 57.4 +4.3
HHC AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,179nm,5.7s
HHC LR LR
comp=N,486nm,18.8s,MS4.9
HHC LR LR
comp=E,819nm,20.2s,MS4.9
HHC LR LR
comp=Z,701nm,19.2s,MS4.7
LZH Lanzhou 55.68 319 *e*P **P 11 28 02.1 +2.3**
LZH AP pP 11 28 10.0 -1.1
LZH XP sP 11 28 14.2 -1.4
LZH AMB AMB
comp=Z,44nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,124nm,4.5s
LZH LR LR
comp=E,785nm,14.0s
LZH LR LR
comp=Z,986nm,15.5s,MS5.0
LZH Lanzhou 55.68 319 *e*P **P 11 28 02.1 +2.3**
comp=Z,44nm,1.5s,mb5.3
LZH pP pP 11 28 10.0 -1.1
LZH sP sP 11 28 14.2 -1.4
LZH LR LR
comp=Z,990nm,15.5s,MS5.0
SHL Shillong 59.81 302 *e*P **P 11 28 30.0 +1.0**
GTA Gaotai 60.20 320 *e*P **P 11 28 33.2 +1.7**
GTA AP pP 11 28 42.0 -0.8
GTA XP sP 11 28 44.7 -2.6
GTA AMB AMB
comp=Z,7.0nm,0.9s,mb4.7
SONM Songino Array 61.77 331 P **P 11 28 40.2 -1.8**
comp=Z,2.3nm,0.8s,mb4.4,baz=153,slow=5.5,SNR=15
SONM LR LR 11 54 31.2
comp=Z,812nm,19.5s,MS4.9,baz=295,slow=35
JIRN Jiri 65.31 303 *e*P **P 11 29 06.0 +0.4**
comp=Z,26nm,1.1s,mb5.2
GUN Gumba 65.65 303 *e*P **P 11 29 08.4 +0.6**
comp=Z,60nm,1.0s,mb5.6
PKI Pulchoki 65.94 302 *e*P **P 11 29 09.1 -0.5**
comp=Z,19nm,0.8s,mb5.2
KKN Kakani 66.11 302 *e*P **P 11 29 11.1 +0.4**
comp=Z,30nm,0.8s,mb5.4
DMN Daman 66.20 302 *e*P **P 11 29 10.2 -1.1**
comp=Z,43nm,0.9s,mb5.5
GKN Gorkha 66.72 302 *e*P **P 11 29 15.0 +0.4**
comp=Z,43nm,1.0s,mb5.5
KOLN Koldanda 67.53 302 *e*P **P 11 29 18.8 -0.8**
comp=Z,39nm,0.9s,mb5.4
WMQ Urumqi 70.26 319 P **P 11 29 37.6 +1.4**
WMQ AP pP 11 29 48.1 +0.3
WMQ XP sP 11 29 52.1 +0.1
WMQ PCP PcP 11 29 59.6 +1.6
WMQ AMB AMB
comp=Z,283nm,4.6s
WMQ LR LR
comp=N,283nm,23.6s,MS4.5
WMQ LR LR
comp=E,166nm,22.0s,MS4.5
WMQ LR LR
comp=Z,211nm,19.0s,MS4.4
BILL Bilibino 72.86 8 *e*P **P 11 29 51.0 -0.3**
comp=Z,3.3nm,0.9s,mb4.3
VNDA Vanda 74.39 176 P **P 11 29 59.5 -0.6**
comp=Z,1.1nm,0.7s,mb3.9,baz=323,slow=6.3,SNR=7.0
MKAR Makanchi Array 74.95 320 P **P 11 30 01.5 -2.4**
comp=Z,3.8nm,0.9s,mb4.3,baz=60,slow=4.3,SNR=18
ZAL Zalesovo 76.40 328 P **P 11 30 09.9 -2.1**
comp=Z,1.4nm,0.7s,mb4.0,baz=14,slow=6.7,SNR=8.3
ZAL LR LR 12 02 58.0
comp=Z,832nm,21.2s,MS5.0,baz=83,slow=35
TNA Tin City 76.62 18 *e*P **P 11 30 15.3 +2.3**
comp=Z,2.3nm,0.8s,mb4.2
MCK McKinley 82.46 24 *e*P **P 11 30 48.2 +3.7**
comp=Z,11nm,1.3s,mb4.6
ILAR Eielson Array 83.69 23 P **P 11 30 48.5 -2.2**
comp=Z,0.7nm,0.7s,mb3.9,baz=246,slow=4.9,SNR=7.0
BVAR Borovoye Array 84.18 324 P **P 11 30 52.1 -1.3**
comp=Z,1.1nm,0.6s,mb4.2,baz=135,slow=6.1,SNR=5.0
CHKZ Chkalovo 84.20 325 *e*P **P 11 30 54.6 +1.1**
comp=Z,2.9nm,0.6s,mb4.6
DAWY Dawson 86.54 25 *e*P **P 11 31 08.6 +3.8**
INK Inuvik 89.80 22 P **P 11 31 19.4 -0.9**
comp=Z,2.1nm,1.1s,mb4.4,baz=330,slow=2.8
INK Inuvik 89.80 22 *e*P **P 11 31 20.5 +0.1**
comp=Z,3.0nm,1.0s,mb4.6
SYO Syowa Base 92.49 200 ⇑pP pP 11 31 43.0 -1.8
YKA Yellowknife Ar 97.53 28 P **P 11 31 54.8 -1.1**
comp=Z,0.4nm,0.9s,mb4.0,baz=280,slow=4.4,SNR=5.8
DBIC Dimbokro 150.73 277 PKPbc PKPdf 11 38 14.9 +6.4
comp=Z,2.0nm,0.5s,baz=33,slow=1.3,SNR=4.9

IDC 11 11:19:15.3±72.0, 2.88N×97.40E, mb3.7/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=1379.0km s-min=152.8km az=175.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**45.45**	**9**	P	P	11 27 36.1	-1.8
0.5nm,0.5s,baz=196,slow=9.7,SNR=5.7							
MKAR	**Makanchi Array**	**45.67**	**346**	P	P	11 27 37.8	-1.9
0.5nm,0.6s,baz=166,slow=7.5,SNR=5.5							
ZAL	**Zalesovo**	**51.93**	**351**	P	P	11 28 25.7	-2.3
0.8nm,0.4s,baz=330,slow=8.3,SNR=3.4							

IDC 11 11:21:38.0±3.8, 0.28S×101.21E, mb3.9/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.9/3, Error ellipse: s-maj=339.5km s-min=31.9km az=46.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.87**	**123**	P	P	11 28 57.4	-1.2
1.0nm,0.4s,baz=302,slow=9.1,SNR=7.0							
ASAR	**Alice Springs**	**39.33**	**129**	P	P	11 29 08.6	-2.3
0.5nm,0.7s,baz=304,slow=7.9,SNR=5.5							
FINES	**FINESS Array B**	**83.16**	**332**	P	P	11 34 05.7	-1.3
1.0nm,0.6s,baz=124,slow=5.0,SNR=4.4							
TXAR	**Lajitas Array**	**142.61**	**37**	PKP	PKPdf	11 41 14.2	-1.4
0.5nm,0.4s,baz=192,slow=0.7,SNR=11							

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*IDC **11** 11:27:26.2±2.5, 0.97N×97.42E, mb3.8/6, mb1 4.0/7, mb1mx3.7/21, mbtmp3.8/7, ML4.0/1, MS4.4/1, Ms1 4.4/1, ms1mx3.3/33, Error ellipse: s-maj=100.2km s-min=20.8km az=58.0*
*NEIC **11** 11:27:30.7±0.9, 0.99N×97.42E, h30km, mb4.2/1, Error ellipse: s-maj=22.0km s-min=12.1km az=64.0*
ISC 11 11:27:28.6±1.1, 1.0N±0.1×97.4E±0.2, h30km, n10, σ0s40/9, mb3.8/7, MS4.5/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.38**	**37**	*e*Pn	**Pn**	**11 28 49.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**17.42**	**5**	P	**P**	**11 31 30.6**	**-0.7**
0.2nm,0.3s,baz=198,slow=11,SNR=10							
WRA	**Warramunga Arr**	**41.78**	**122**	P	**P**	**11 35 17.4**	**0.0**
0.2nm,0.4s,mb3.1,baz=303,slow=8.9,SNR=5.8							
ASAR	**Alice Springs**	**43.14**	**127**	P	**P**	**11 35 28.2**	**-0.2**
0.3nm,0.6s,mb3.2,baz=299,slow=8.0,SNR=5.0							
SONM	**Songino Array**	**47.31**	**8**	P	**P**	**11 36 02.0**	**+0.6**
0.7nm,0.6s,mb3.8,baz=193,slow=9.9,SNR=6.8							
MKAR	**Makanchi Array**	**47.48**	**346**	P	**P**	**11 36 03.3**	**+0.5**
1.7nm,0.5s,mb4.2,baz=161,slow=8.7,SNR=25							
ZAL	**Zalesovo**	**53.78**	**351**	P	**P**	**11 36 50.8**	**+0.3**
1.6nm,0.4s,mb4.3,baz=307,slow=1.7,SNR=5.8							
BVAR	**Borovoye Array**	**56.50**	**341**	P	**P**	**11 37 09.9**	**-0.4**
0.8nm,0.7s,mb3.9,baz=162,slow=9.4,SNR=4.4							
CHKZ	**Chkalovo**	**56.97**	**341**	*e*P	**P**	**11 37 13.5**	**-0.2**
1.8nm,0.7s,mb4.2							
CHKZ				*e*pP	pP	11 37 20.2	-2.7
ASAJ	**Asahikawa**	**58.72**	**37**	LR	LR	12 04 02.0	
comp=Z,340nm,19.3s,MS4.5,baz=255,slow=37							

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*IDC **11** 11:32:00.4±2.9, 1.82N×92.25E, mb3.5/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, ML3.8/1, MS4.1/1, Ms1 4.1/1, ms1mx3.2/22, Error ellipse: s-maj=92.9km s-min=29.6km az=64.0*
*NEIC **11** 11:32:04.4±1.0, 1.84N×92.22E, h30km, mb4.1/2, Error ellipse: s-maj=21.5km s-min=14.1km az=55.0*
ISC 11 11:32:02.6±1.4, 1.9N±0.2×92.3E±0.2, h30km, n8, σ0s74/7, mb3.8/5, MS4.0/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.04**	**68**	*e*Pn	**P**	**11 34 13.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**17.74**	**21**	P	**P**	**11 36 09.4**	**+0.2**
0.1nm,0.3s,baz=218,slow=13,SNR=5.4							
MKAR	**Makanchi Array**	**45.58**	**350**	P	**P**	**11 40 21.8**	**0.0**
0.2nm,0.6s,mb3.2,baz=175,slow=8.4,SNR=3.5							
MKAR				LR	LR	12 00 59.6	
comp=Z,212nm,21.6s,MS4.0,baz=76,slow=38							
WRA	**Warramunga Arr**	**46.62**	**120**	P	**P**	**11 40 30.3**	**0.0**
0.7nm,0.5s,mb3.8,baz=298,slow=8.7,SNR=12							
WRAB	**Tennant Creek**	**46.62**	**120**	P	**P**	**11 40 30.6**	**+0.3**
2.2nm,0.7s,mb4.2							
SONM	**Songino Array**	**47.40**	**13**	P	**P**	**11 40 37.5**	**+1.4**
0.4nm,0.5s,mb3.6,baz=191,slow=8.3,SNR=5.4							
CHKZ	**Chkalovo**	**54.64**	**344**	P	**P**	**11 41 29.6**	**-1.2**
0.5nm,0.4s,mb3.9							
TXAR	**Lajitas Array**	**145.43**	**25**	PKPbc	PKPbc	11 51 40.6	+1.7
0.1nm,0.5s,baz=3.4,slow=3.7,SNR=4.3							

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*IDC **11** 11:32:48.6±10.0, 7.20N×103.01W, mb3.6/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.6/5, MS3.5/5, Ms1 3.5/5, ms1mx3.4/22, Error ellipse: s-maj=369.3km s-min=101.7km az=110.0*
*NEIC **11** 11:32:53.6±4.5, 7.54N×103.84W, h10km, mb4.0/6, Error ellipse: s-maj=105.0km s-min=40.0km az=125.0*
ISC 11 11:32:49.5±5.8, 7.2N±0.6×103.8W±0.7, h10km, n16, σ0s87/13, mb3.8/11, MS3.5/4, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**18.90**	**79**	LR	LR	11 42 11.4	
comp=Z,134nm,19.4s,baz=110,slow=31							
LTX	**Lajitas**	**21.98**	**0**	*e*P	**P**	**11 37 44.8**	**-0.8**
2.6nm,0.5s,mb3.9							
TXAR	**Lajitas Array**	**21.98**	**0**	P	**P**	**11 37 44.1**	**-1.4**
2.9nm,0.9s,mb3.7,baz=183,slow=13,SNR=24							
TXAR				LR	LR	11 46 31.3	
comp=Z,15nm,19.0s,MS2.4,baz=185,slow=37							
JCT	**Junction City**	**23.43**	**9**	*e*P	**P**	**11 38 00.5**	**+0.7**
31nm,1.5s,mb4.5							
MNTX	**Cornudas Mount**	**24.38**	**357**	*e*P	**P**	**11 38 08.4**	**-0.7**
17nm,1.5s,mb4.2							
GDL2	**Guadalupe Moun**	**24.84**	**359**	*e*P	**P**	**11 38 14.7**	**+1.2**
TUC	**Tucson**	**25.77**	**346**	*e*P	**P**	**11 38 22.2**	**-0.1**
2.4nm,0.8s,mb3.8							
LAZ	**Ladron**	**27.20**	**354**	*e*P	**P**	**11 38 35.7**	**+0.2**
ANMO	**Albuquerque**	**27.68**	**355**	P	**P**	**11 38 41.8**	**+1.9**
1.1nm,0.9s,mb3.5,baz=146,slow=7.3,SNR=4.4							
ANMO				LR	LR	11 48 27.0	
comp=Z,300nm,19.3s,MS3.9,baz=104,slow=34							
BW06	**Boulder Array**	**35.74**	**353**	*e*P	**P**	**11 39 50.5**	**0.0**
0.9nm,0.7s,mb3.8							
PDAR	**Pinedale Array**	**35.74**	**353**	P	**P**	**11 39 50.5**	**0.0**
1.1nm,0.9s,mb3.8,baz=158,slow=9.0,SNR=7.3							
RRI2	**Red Ridge**	**36.56**	**351**	*e*P	**P**	**11 39 57.6**	**+0.2**
1.6nm,0.6s,mb4.0							
YBH	**Yreka Blue Hor**	**38.22**	**337**	LR	LR	11 52 39.2	
comp=Z,329nm,19.6s,MS4.2,baz=305,slow=31							
CFAA	**Coronel Fontan**	**51.46**	**141**	LR	LR	11 59 37.1	
comp=Z,37nm,18.2s,MS3.5,baz=354,slow=32							
YKA	**Yellowknife Ar**	**55.71**	**354**	P	**P**	**11 42 27.0**	**-1.3**
0.1nm,0.6s,mb3.0,baz=164,slow=7.7,SNR=4.5							
ILAR	**Eielson Array**	**64.92**	**341**	P	**P**	**11 43 31.6**	**+0.3**
0.5nm,0.8s,mb3.6,baz=158,slow=4.9,SNR=4.1							

IDC 11 11:33:52.6±6.9, 1.90S×99.50E, mb3.6/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.6/3, MS4.5/1, Ms1 4.5/1, ms1mx3.3/30, Error ellipse: s-maj=335.0km s-min=28.5km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.48**	**120**	P	P	11 41 16.6	-1.7
0.4nm,0.7s,baz=292,slow=8.4,SNR=3.2							
CBIJ	**Chichi jima**	**50.21**	**52**	LR	LR	12 02 56.0	
comp=Z,541nm,20.8s,baz=94,slow=35							
MKAR	**Makanchi Array**	**50.80**	**345**	P	P	11 42 54.5	-2.3
0.4nm,0.6s,baz=149,slow=7.7,SNR=5.2							
ZAL	**Zalesovo**	**56.97**	**350**	P	P	11 43 39.8	-2.4
0.6nm,0.4s,baz=336,slow=12,SNR=3.1							
TXAR	**Lajitas Array**	**144.93**	**37**	PKP	PKPdf	11 53 32.2	-2.1
0.2nm,0.6s,baz=271,slow=1.3,SNR=3.9							

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*IDC **11** 11:42:33.6±1.3, 2.18N×99.85E, mb3.8/9, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, Error ellipse: s-maj=74.8km s-min=16.7km az=55.0*
*NEIC **11** 11:42:35.6±0.7, 1.71N×99.07E, h30km, mb4.5/2, Error ellipse: s-maj=23.9km s-min=8.6km az=66.0*
ISC 11 11:42:33.4±0.8, 1.69N±0.09×99.0E±0.1, h30km, n16, σ0s77/17, mb3.9/12, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**3.51**	**35**	P	**Pn**	**11 43 27.6**	**+0.2**
KULM	**Kulim**	**3.94**	**25**	*e*Pn	**Pn**	**11 43 32.8**	**-0.7**
KULM				*e*Sn	**Sn**	**11 44 28.3**	**+9.0**
KGM	**Kluang**	**4.33**	**86**	P	**Pn**	**11 43 39.0**	**0.0**
CMAR	**Chiang Mai Arr**	**16.66**	**360**	Pn	**P**	**11 46 27.9**	**+1.2**
0.1nm,0.3s,baz=191,slow=12,SNR=13							
WRA	**Warramunga Arr**	**40.78**	**124**	P	**P**	**11 50 14.5**	**+0.5**
3.9nm,0.8s,mb4.1,baz=302,slow=9.2,SNR=14							
WRAB	**Tennant Creek**	**40.79**	**124**	P	**P**	**11 50 14.6**	**+0.6**
11nm,0.9s,mb4.5							
ASAR	**Alice Springs**	**42.27**	**129**	P	**P**	**11 50 25.9**	**-0.4**
0.2nm,0.6s,mb3.0,baz=309,slow=8.0,SNR=4.4							
ASAR				PcP	PcP	11 52 20.8	+0.4
0.5nm,0.8s,baz=304,slow=2.6,SNR=4.9							
SONM	**Songino Array**	**46.41**	**7**	P	**P**	**11 50 58.8**	**-0.4**
1.0nm,1.0s,mb3.7,baz=182,slow=8.2,SNR=5.0							
MKAR	**Makanchi Array**	**47.23**	**344**	P	**P**	**11 51 05.3**	**-0.4**
1.0nm,0.8s,mb3.8,baz=162,slow=7.7,SNR=11							
KK31	**Karatay Array**	**48.44**	**332**	⇑Pn	**P**	**11 51 18.6**	**+3.4**
0.3nm,0.3s,mb3.7,baz=189,slow=18,SNR=4.1							
KK31				⇑Lg		11 51 56.3	
0.2nm,0.3s,baz=165,slow=27,SNR=6.0							
STKA	**Stephens Creek**	**52.36**	**133**	P	**P**	**11 51 44.8**	**-0.4**
1.2nm,0.6s,mb4.0,baz=275,slow=7.3,SNR=4.0							
ZAL	**Zalesovo**	**53.38**	**350**	P	**P**	**11 51 52.3**	**-0.1**
0.8nm,0.4s,mb4.0,baz=306,slow=9.5,SNR=6.8							
BVAR	**Borovoye Array**	**56.40**	**340**	P	**P**	**11 52 13.9**	**-0.5**
0.4nm,0.4s,mb3.8,baz=162,slow=9.1,SNR=3.0							
CHKZ	**Chkalovo**	**56.86**	**340**	*e*P	**P**	**11 52 17.1**	**-0.6**
5.0nm,1.2s,mb4.4							
AKASG	**Malin Array Be**	**75.98**	**322**	P	**P**	**11 54 25.1**	**+5.7**
0.5nm,0.4s,mb3.8,baz=91,slow=4.3,SNR=5.1							
FINES	**FINESS Array B**	**80.40**	**332**	P	**P**	**11 54 47.5**	**+4.0**
2.3nm,0.9s,mb4.1,baz=270,slow=5.7,SNR=3.0							

IDC 11 11:47:45.4±4.9, 0.96S×100.64E, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, MS4.2/1, Ms1 4.2/1, ms1mx3.2/41, Error ellipse: s-maj=277.0km s-min=21.4km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.98**	**122**	P	P	11 55 05.5	-1.5
0.3nm,0.4s,baz=303,slow=9.2,SNR=5.1							
JOW	**Kunigami**	**38.37**	**42**	LR	LR	12 11 08.4	
comp=Z,325nm,21.1s,baz=107,slow=37							
ASAR	**Alice Springs**	**39.36**	**128**	P	P	11 55 16.2	-2.3
0.4nm,0.6s,baz=302,slow=7.5,SNR=8.1							
STKA	**Stephens Creek**	**49.37**	**133**	P	P	11 56 37.7	-1.2
2.3nm,0.9s,baz=325,slow=19,SNR=4.0							
MKAR	**Makanchi Array**	**50.21**	**344**	P	P	11 56 42.9	-2.2
0.7nm,0.6s,baz=150,slow=7.6,SNR=9.0							
ZAL	**Zalesovo**	**56.27**	**349**	P	P	11 57 27.8	-2.1
1.1nm,0.5s,baz=344,slow=3.9,SNR=5.0							
TXAR	**Lajitas Array**	**143.50**	**37**	PKP	PKPdf	12 07 20.8	-3.7
0.6nm,0.5s,baz=217,slow=0.7,SNR=13							

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*JMA **11** 11:50:20.6±0.4, 22.66N×121.42E, h95km, M3.3*
*TAP **11** 11:50:21.2, 22.87N×121.29E, h19km, ML4.1*
TAP Felt I J at Taitung, I J at Pinlang, I J at Chenggung, I J at Lidau, I J at Taimali.
ISC 11 11:50:20.1±0.5, 22.81N±0.02×121.41E±0.02, h13km±3km, n62, σ0s98/99, 12C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.25**	**256**	⇑*i*P	**Pg**	**11 50 26.2**	**+0.6**
TTN				S	**Sg**	**11 50 29.8**	**+0.5**
CHKT	**Chengkung**	**0.29**	**352**	*i* P	**Pg**	**11 50 27.0**	**+0.7**
CHKT				S	**Sg**	**11 50 31.5**	**+1.1**
TWG	**Pinlang**	**0.31**	**271**	⇓*i*P	**Pg**	**11 50 26.2**	**-0.5**
TWG				S	**Sg**	**11 50 31.0**	**-0.2**
ECL	**Taimali**	**0.47**	**243**	⇑*i*P	**Pb**	**11 50 29.1**	**-0.7**
ECL				S	**Sb**	**11 50 35.2**	**-1.0**
ELDTW	**Lidau**	**0.52**	**316**	P	**Pb**	**11 50 29.3**	**-1.3**
ELDTW				S	**Sb**	**11 50 36.0**	**-1.7**
TWF1	**Yuli**	**0.55**	**349**	P	**Pb**	**11 50 30.7**	**-0.4**
TWF1				S	**Sb**	**11 50 37.4**	**-1.1**
TAW	**Tawu**	**0.66**	**226**	P	**Pb**	**11 50 32.8**	**-0.1**
TAW				S	**Sb**	**11 50 41.2**	**-0.5**
EAST	**Anshuo**	**0.67**	**230**	⇑*i*P	**Pb**	**11 50 32.9**	**-0.3**
EAST				S	**Sb**	**11 50 41.5**	**-0.6**
EHY	**Hungye**	**0.69**	**354**	P	**Pb**	**11 50 32.9**	**-0.7**
EHY				S	**Sb**	**11 50 40.1**	**-2.6**
STYT	**Tauyuan**	**0.69**	**300**	⇑*i*P	**Pb**	**11 50 32.4**	**-1.2**
STYT				S	**Sb**	**11 50 40.5**	**-2.2**
SSD	**Sandimen**	**0.72**	**265**	⇑*i*P	**Pb**	**11 50 32.6**	**-1.4**
SSD				S	**Sb**	**11 50 39.7**	**-3.8**
LAY	**Lan-yu**	**0.78**	**170**	P	**Pb**	**11 50 35.8**	**+0.7**
LAY				S	**Sb**	**11 50 47.5**	**+2.1**
YUS	**Yu-Shan**	**0.79**	**328**	⇑*i*P	**Pb**	**11 50 34.8**	**-0.5**
YUS				S	**Sb**	**11 50 43.8**	**-1.8**
SGST	**Jiashian**	**0.81**	**289**	⇑*i*P	**Pb**	**11 50 34.9**	**-0.6**
SGST				S	**Sb**	**11 50 45.8**	**-0.2**
WTP	**Ta-pu**	**0.85**	**301**	⇑*i*P	**Pb**	**11 50 35.5**	**-0.7**
WTP				S	**Sb**	**11 50 46.8**	**-0.4**
SCZT	**Fangliau**	**0.85**	**239**	*e*P	**Pb**	**11 50 36.0**	**-0.3**
SGLT	**Jiouru**	**0.85**	**264**	*e*P	**Pb**	**11 50 35.9**	**-0.3**
ALS	**Alishan**	**0.89**	**321**	⇑*i*P	**Pb**	**11 50 36.5**	**-0.3**
CHN1	**Nanshi**	**0.89**	**295**	⇑*i*P	**Pb**	**11 50 36.6**	**-0.3**
TWM1	**Shoushan**	**0.91**	**271**	*e*P	**Pb**	**11 50 37.4**	**+0.2**
CHN4	**Tsaushan**	**0.92**	**306**	⇑*i*P	**Pb**	**11 50 37.1**	**-0.3**
CHN4				S	**Sb**	**11 50 50.3**	**+0.9**
TWK	**Hsinying**	**0.96**	**298**	P	**Pb**	**11 50 37.6**	**-0.5**
TWK				S	**Sb**	**11 50 51.6**	**+1.2**
CHN3	**Shinhua**	**1.00**	**285**	*e*P	**Pb**	**11 50 39.4**	**+0.7**
CHN3				S	**Sb**	**11 50 55.2**	**+3.7**
ESL	**Shilin**	**1.00**	**1**	*e*P	**Pb**	**11 50 37.7**	**-1.0**
HEN	**Hengchun**	**1.02**	**218**	*e*P	**Pb**	**11 50 41.2**	**+2.2**
TSEB	**Hengchuen, Pin**	**1.02**	**207**	*e*P	**Pb**	**11 50 39.3**	**+0.1**
CHN5	**Tsauling**	**1.03**	**319**	⇑*i*P	**Pb**	**11 50 39.0**	**-0.3**
CHN5				S	**Sb**	**11 50 51.8**	**-0.7**
TWK1	**Hengchun**	**1.03**	**213**	*e*P	**Pb**	**11 50 39.0**	**-0.3**
KAU	**Kaohsiung**	**1.04**	**257**	*e*P	**Pb**	**11 50 40.7**	**+1.1**
K

NNS	Nan Shan	1.62	359	*e*P	Pn	11 50 48.4 -0.2
TWQ1	Liyutan	1.63	339	*e*P	Pn	11 50 49.8 +1.0
TWQ1				S	Sn	11 51 10.9 +1.1
WDGT	Dungji	1.67	286	*e*P	Pn	11 50 47.6 -1.7
NSY	Sanyi	1.70	340	*e*P	Pn	11 50 51.0 +1.2
NSY				S	Sn	11 51 13.5 +2.0
ENTT	Nioudou	1.82	5	*e*P	Pn	11 50 50.4 -1.2
TWC	Suao	1.83	13	*e*P	Pn	11 50 52.2 +0.5
NSTT	Nanjuang	1.85	348	*e*P	Pn	11 50 52.0 +0.2
TWE	Neicheng	1.91	7	*e*P	Pn	11 50 54.4 +1.6
EGS		2.08	13	*e*P	Pn	11 50 54.5 -0.7
TWA	Mucha	2.16	4	*e*P	Pn	11 50 57.2 +0.8
YOJ	Yonaguni jima	2.20	42	P	Pn	11 50 57.8 +0.8
YOJ				S	Sn	11 51 25.4 +1.2
TWB1	Santiao Chiao	2.25	14	*e*P	Pn	11 50 57.8 +0.2
NWF	Wu-fen Shan	2.27	9	*e*P	Pn	11 50 57.3 -0.7
HATJ	Hateruma jima	2.53	60	P	Pn	11 51 01.3 -0.3
HATJ				*e*S	Sn	11 51 33.3 +0.9
IRIF	Iriomote-Funau	2.61	54	P	Pn	11 51 02.9 +0.1
IRIF				S	Sn	11 51 35.8 +1.1
JKRS	Kuro-shima	2.78	59	P	Pn	11 51 05.2 0.0
JKRS				*e*S	Sn	11 51 39.7 +0.9
JIJ	Ishigaki jima	2.94	58	P	Pn	11 51 07.4 -0.2
JIJ				S	Sn	11 51 41.3 -1.8
JTJ	Tarama	3.52	58	P	Pn	11 51 15.2 -0.6
JTJ				*e*S	Sn	11 51 55.9 -1.8
JOGS	Gusukube	4.14	61	P	Pn	11 51 24.3 -0.3
JKE	Kume jima 2	6.02	53	P	Pn	11 51 48.6 -2.5

IDC 11 11:57:58.8±0.8, 6.76N×73.01W, h161km±16km, mb3.0/1, mb1 3.4/3, mb1mx3.1/21, mbtmp3.7/3, Error ellipse: s-maj=64.4km s-min=8.1km az=132.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.31**	**215**	P	P	11 58 40.2	+1.7
	17nm,0.3s,baz=264,slow=4.4,SNR=55						
ROSC				S	S	11 59 09.2	+0.1
	8.9nm,0.3s,baz=93,slow=22,SNR=6.3						
SDV	**Santo Domingo**	**3.16**	**48**	P	P	11 58 49.8	+0.6
	9.7nm,0.3s,baz=252,slow=1.8,SNR=55						
SDV				S	S	11 59 27.6	-0.4
	7.6nm,0.3s,baz=57,slow=23,SNR=25						
YKA	**Yellowknife Ar**	**63.35**	**340**	P	P	12 08 10.5	-2.4
	0.3nm,0.6s,baz=134,slow=6.7,SNR=12						
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	PKPdf	12 17 31.6	+5.2
	0.1nm,0.4s,baz=107,slow=2.5,SNR=6.2						

IDC 11 11:58:36.8±1.8, 7.40S×123.85E, mb3.6/1, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=121.4km s-min=27.4km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.78**	**171**	Pn	P	12 01 10.7	-4.9
	0.5nm,0.3s,baz=3.9,slow=11,SNR=8.3						
FITZ				Sn	S	12 03 06.4	-12
	0.2nm,0.3s,baz=114,slow=8.6,SNR=2.9						
WRA	**Warramunga Arr**	**16.09**	**142**	Pn	P	12 02 23.5	-2.6
	0.1nm,0.3s,baz=317,slow=13,SNR=6.4						
ASAR	**Alice Springs**	**18.83**	**150**	P	P	12 03 00.1	-0.4
	0.1nm,0.3s,baz=329,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**65.36**	**330**	P	P	12 09 21.0	-2.2
	0.5nm,0.7s,baz=129,slow=7.5,SNR=3.7						

IDC 11 11:59:19.2±4.0, 0.44S×101.83E, h34km±8km, mb3.3/4, mb1 3.5/4, mb1mx3.3/18, mbtmp3.5/4, Error ellipse: s-maj=206.6km s-min=18.8km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.26**	**123**	P	P	12 06 28.9	-1.0
	0.2nm,0.4s,baz=304,slow=9.0,SNR=5.7						
WRA				pP	pP	12 06 38.2	-1.5
	0.6nm,0.5s,baz=303,slow=9.1,SNR=5.4						
ASAR	**Alice Springs**	**38.74**	**129**	P	P	12 06 40.2	-2.0
	0.3nm,0.9s,baz=298,slow=7.4,SNR=4.8						
ASAR				pP	pP	12 06 49.2	-2.9
	0.5nm,0.6s,baz=298,slow=7.6,SNR=4.5						
MKAR	**Makanchi Array**	**50.06**	**343**	P	P	12 08 09.8	-3.0
	0.4nm,0.5s,baz=153,slow=8.4,SNR=6.5						
ZAL	**Zalesovo**	**56.00**	**348**	P	P	12 08 54.6	-2.1
	0.6nm,0.3s,baz=329,slow=5.9,SNR=2.5						
ZAL				pP	pP	12 09 05.3	-1.6
	0.6nm,0.4s,baz=261,slow=3.0,SNR=2.7						

*IDC **11** 12:03:48.0±2.2, 1.59S×100.13E, h29km±6km, mb4.0/7, mb1 4.0/8, mb1mx3.8/19, mbtmp4.0/8, ML3.8/1, Error ellipse: s-maj=100.3km s-min=13.9km az=58.0*
*NEIC **11** 12:03:47.6±1.2, 1.63S×100.08E, mb4.3/2, Error ellipse: s-maj=54.9km s-min=9.1km az=58.0*
ISC 11 12:03:46.1±1.9, 1.6S±0.3×100.1E±0.5, h33km, (h29km±1.6km:pP-P), n12, σ0°63/11, mb4.2/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.94**	**357**	P	P	12 08 17.4	-0.7
	0.1nm,0.3s,baz=187,slow=9.3,SNR=4.7						
FITZ	**Fitzroy Crossi**	**29.98**	**125**	P	P	12 09 53.3	-0.6
	5.2nm,0.9s,mb4.3,baz=287,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**38.13**	**121**	P	P	12 11 04.0	-0.1
	1.7nm,0.5s,mb4.0,baz=303,slow=9.0,SNR=32						
WRA				pP	pP	12 11 13.3	-0.5
	0.9nm,0.5s,baz=305,slow=9.4,SNR=5.4						
WRAB	**Tennant Creek**	**38.13**	**121**	*e*P	P	12 11 03.8	-0.4
	3.8nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**39.43**	**127**	P	P	12 11 15.2	+0.3
	1.2nm,0.6s,mb3.8,baz=301,slow=8.0,SNR=39						
STKA	**Stephens Creek**	**49.36**	**132**	P	P	12 12 35.2	+0.7
	1.2nm,0.6s,mb4.1,baz=321,slow=7.1,SNR=4.6						
STKA				pP	pP	12 12 44.6	+0.2
	1.1nm,0.7s,baz=322,slow=12,SNR=2.0						
SONM	**Songino Array**	**49.51**	**6**	P	P	12 12 36.7	+1.2
	1.1nm,0.7s,mb4.0,baz=190,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**50.65**	**344**	P	P	12 12 44.7	+0.5
	1.4nm,0.4s,mb4.3,baz=151,slow=8.0,SNR=34						
MKAR	**Makanchi Array**	**50.65**	**344**	P	P	12 12 44.7	+0.5
ZAL	**Zalesovo**	**56.76**	**349**	P	P	12 13 29.3	+0.2
	2.5nm,0.5s,mb4.5,baz=291,slow=6.1,SNR=13						
ZAL				pP	pP	12 13 37.9	-1.4
	1.1nm,0.4s,baz=305,slow=6.1,SNR=3.3						
CHKZ	**Chkalovo**	**60.28**	**340**	*e*P	P	12 13 52.8	-0.9
	1.0nm,0.7s,mb4.0						
TXAR	**Lajitas Array**	**144.31**	**37**	PKP	PKPdf	12 23 21.1	+1.6
	0.6nm,0.5s,baz=221,slow=1.2,SNR=8.0						
TXAR				pPKP		12 23 30.1	
	0.4nm,0.7s,baz=342,slow=4.0,SNR=2.7						

CASC 11 12:06:12.5±2.2, 14.40N×91.58W, h69km±12km, MD4.0, ML3.9, 3C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.10**	**212**	⇓*i*P	P	12 06 21.6	-1.0
JAT				*e*S	S	12 06 31.1	+1.1
JAT				AML	AML	12 06 31.4	
	comp=E,4μm,0.2s						
FUG	**Fuego 3**	**0.72**	**86**	⇓*e*P	P	12 06 27.8	+0.2
IXG	**Ixpaco**	**1.12**	**101**	⇑*e*P	P	12 06 32.1	-0.6
IXG				*e*S	S	12 06 48.8	+1.0
IXG				AML	AML	12 06 55.7	
	comp=E,7μm,0.4s						
RBDL	**Robledal**	**1.86**	**99**	⇑*e*P	P	12 06 42.8	0.0
RTR	**El Retiro**	**1.95**	**105**	*e*P	P	12 06 44.7	+0.7
SBLS	**San Blas**	**1.98**	**106**	⇑*e*P	P	12 06 44.2	-0.3
SBLS				*e*S	S	12 07 09.4	+1.3
SNJE	**San Jose**	**1.99**	**105**	*e*P	P	12 06 45.1	+0.5
SNJE				*e*S	S	12 07 09.8	+1.4
BOQS	**Boqueron**	**2.33**	**106**	*e*P	P	12 06 49.4	0.0
LFRS	**El Faro**	**2.57**	**107**	*e*P	P	12 06 52.3	-0.4
LFRS				*e*S	S	12 07 23.0	+0.1
LCBS	**La Ceiba**	**2.63**	**106**	*e*P	P	12 06 53.6	-0.1
LCBS				*e*S	S	12 07 26.8	+2.2
SNVI	**San Vicente**	**2.78**	**106**	*e*S	S	12 07 29.0	+0.9

IDC 11 12:07:43.5±3.6, 1.74S×99.56E, mb3.4/5, mb1 3.6/5, mb1mx3.5/18, mbtmp3.4/5, Error ellipse: s-maj=153.6km s-min=22.6km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.50**	**120**	P	P	12 15 07.3	-2.2
	0.4nm,0.4s,baz=305,slow=9.4,SNR=8.7						
ASAR	**Alice Srpings**	**39.76**	**126**	P	P	12 15 18.8	-1.1
	0.3nm,0.5s,baz=302,slow=7.6,SNR=6.0						
SONM	**Songino Array**	**49.73**	**6**	P	P	12 16 37.7	-1.9
	0.3nm,0.8s,baz=149,slow=8.4,SNR=2.5						
MKAR	**Makanchi Array**	**50.67**	**345**	P	P	12 16 44.2	-2.4
	0.2nm,0.3s,baz=146,slow=8.3,SNR=3.7						
ZAL	**Zalesovo**	**56.83**	**350**	P	P	12 17 29.8	-2.2
	0.7nm,0.4s,baz=228,slow=5.5,SNR=3.1						
TXAR	**Lajitas Array**	**144.76**	**37**	PKP	PKPdf	12 27 22.5	-2.3
	0.1nm,0.3s,baz=263,slow=1.1,SNR=3.6						

*STR **11** 12:11:54.4±0.1, 43.06N×0.60W, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **11** 12:11:54.1±0.1, 43.06N×0.59W, h15km, Md1.8/2, Ml2.2/2, Error ellipse: s-maj=1.7km s-min=0.9km az=4.0*
*CSEM **11** 12:11:54.4±0.1, 43.06N×0.59W, h13km±1km, ML2.5/1, Error ellipse: s-maj=2.0km s-min=1.0km az=5.0*
MDD 11 12:11:54.5±0.5, 43.07N×0.60W, h4km±4km, mbLg1.4/9, Error ellipse: s-maj=4.5km s-min=2.3km az=17.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.07**	**285**	Pg	Pg	12 11 56.4	+0.3
ATE				Lg		12 11 57.8	
REYF	**Montagne du Re**	**0.15**	**89**	Pg	Pg	12 11 58.0	+0.4
REYF				Sg	Sg	12 12 00.6	+0.9
REYF	**Montagne du Re**	**0.15**	**89**	Pg	Pg	12 11 58.0	+0.4
REYF				Lg		12 12 00.6	
ETSF	**Etsaut**	**0.17**	**170**	*e*Pg	Pg	12 11 58.4	+0.4
ETSF				*e*Sg	Sg	12 12 00.4	+0.1
	22nm,0.2s						
LARF	**Larrau**	**0.28**	**264**	Pg	Pg	12 12 00.1	-0.1
LARF				Sg	Sg	12 12 04.5	+0.5
LARF	**Larrau**	**0.28**	**264**	Pg	Pg	12 12 00.1	-0.1
LARF				Lg		12 12 04.5	
ORDF	**Ordiarp**	**0.28**	**301**	Pg	Pg	12 12 00.5	+0.3
ORDF				Sg	Sg	12 12 04.5	+0.4
ORDF	**Ordiarp**	**0.28**	**301**	Pg	Pg	12 11 60.0	-0.2
ORDF				Lg		12 12 04.3	
SJPF	**Ste Jean**	**0.46**	**276**	*e*Pg	Pg	12 12 03.3	-0.4
SJPF				*e*Sg	Sg	12 12 09.5	-0.3
	20nm,0.4s						
EBIE	**Bielsa**	**0.67**	**125**	Pg	Pg	12 12 07.3	-0.5
	8.3nm,0.6s,SNR=7.9						
EBIE				Lg		12 12 16.1	
	3.8nm,0.4s,SNR=9.4						
EALK	**Alkurruntz**	**0.68**	**283**	Pg	Pg	12 12 07.7	-0.4
	0.6nm,0.2s,SNR=7.9						
EALK				Lg		12 12 16.6	
	14nm,0.8s,SNR=7.9						
EPF	**Esparros**	**0.69**	**93**	*e*Pg	Pg	12 12 07.1	-1.2
EPF				*e*Sg	Sg	12 12 16.4	-1.1
	5.0nm,0.3s						
ESAC	**San Caprasio**	**1.35**	**176**	Pg	Pg	12 12 20.9	-0.5
	16nm,0.5s,SNR=7.9						
ESAC				Lg		12 12 37.9	
	42nm,1.1s,SNR=7.9						
ECRI	**Cripan**	**1.48**	**253**	Pg	Pg	12 12 22.1	-1.9
	2.1nm,0.3s,SNR=7.9						
ECRI				Lg		12 12 41.6	
	28nm,0.5s,SNR=7.9						
MTLF	**Montolieu**	**2.08**	**81**	*e*Sg	Sg	12 12 59.3	-4.4
	4.3nm,0.4s						
LFF	**La Frestale**	**2.11**	**27**	*e*Sg	Sg	12 13 00.7	-4.0
	2.3nm,0.2s						

*BJI **11** 12:12:56.4, 71.75N×1.71W, h19km, mB5.3, mb4.3, Ms5.1, Msz4.7*
*CSEM **11** 12:12:56.9±0.1, 71.89N×1.99W, h15km, mb4.5/16, Error ellipse: s-maj=3.0km s-min=2.5km az=36.0*
*IDC **11** 12:12:57.0±0.6, 71.88N×1.38W, mb3.8/14, mb1 4.1/19, mb1mx4.0/28, mbtmp3.9/19, ML3.9/5, MS3.4/3, Ms1 3.5/3, ms1mx3.3/41, Error ellipse: s-maj=19.0km s-min=11.6km az=41.0*
*NEIC **11** 12:12:57.8±0.4, 71.89N×1.62W, h10km, mb4.6/12, Error ellipse: s-maj=7.3km s-min=6.3km az=44.0*
*ZUR_RM **11** 12:12:57, 71.89N×1.62W, h12km, Mw4.5/6, Moment Tensor Solution. s6 Moment tensor: Scale 10^{15}Nm; M_{rr}=3.98; $M_{\theta\theta}$2.09; $M_{\phi\phi}$1.89; $M_{r\theta}$-1.32; $M_{\phi\phi}$1.89; $M_{\theta\gamma}$-3.56; Best double couple: $M_0$5.45×10^{15} NP1:ϕ_s29°, δ67°, λ-103°. NP2:ϕ_s240°, δ26°, λ-62°. Principal axes: T 5.223, Plg21°, Azm129°; N .453, Plg12°, Azm34°; P -5.676, Plg65°, Azm277°;*
*MOS **11** 12:13:00.7±1.4, 71.79N×0.85W, h10km, mb4.6/17 Error ellipse: s-maj=27.2km s-min=5.8km az=96.0*
*NAO **11** 12:13:01.6±3.7, 71.91N×0.73W, ML3.2*
*BER **11** 12:13:04.0±4.3, 72.05N×0.24W, ML2.9, ML3.2(NAO)*
ISC 11 12:12:56.2±2.1, 71.86N±0.04×1.0W±0.2, h3km±13km, n102, σ1°21/110, mb4.1/34, MS4.4/3, 4D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**2.56**	**254**	LR	LR	12 14 27.6	
	comp=Z,414nm,19.8s,baz=60,slow=37						
LOF	**Lofoten**	**6.22**	**120**	*e*P	Pn	12 14 34.7	+3.5
LOF				*e*S	Sn	12 15 39.3	-4.4
LOF				AML	AML	12 15 44.5	
	comp=Z,16nm,0.5s						
HSP	**Hornsund**	**6.79**	**33**	*e*P	Pn	12 14 39.3	+0.1
DAG	**Danmarks Havn**	**6.84**	**324**	⇓*e*P	Pn	12 14 33.8	-6.1
DAG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DAG				MLR	MLR		
	comp=Z,10μm,23.0s						
DAG	**Danmarks Havn**	**6.84**	**324**	⇓*e*P	Pn	12 14 33.8	-6.1
	comp=Z,9.2nm,0.9s						
DAG				*i*		12 15 38.7	
DAG	**Danmarks Havn**	**6.84**	**324**	⇓*i*P	Pn	12 14 33.8	-6.1
	comp=Z,9.2nm,0.9s						
DAG				*i*		12 15 38.7	
	comp=Z,10μm,23.0s						
SCO	**Scoresbysund**	**6.91**	**269**	*i* P	Pn	12 14 33.4	-7.5
TRO	**Tromso**	**6.94**	**99**	*e*P	Pn	12 14 39.5	-1.8
TRO				*e*S	Sn	12 15 54.7	-6.9
MELSS	**Ber_school_2**	**7.20**	**127**	*e*P	Pn	12 14 44.6	-0.4
MELSS				*e*S	Sn	12 15 59.7	-8.6
SPA0	**Spitsbergen Ar**	**7.73**	**27**	Pn	Pn	12 14 52.5	+0.1
	baz=215,slow=14						
MOR8	**Moi Rana**	**7.93**	**128**	*e*P	Pn	12 14 55.4	+0.2
MOR8				*e*S	Sn	12 16 19.5	-6.9
MOR8				AML	AML	12 16 26.0	
	comp=Z,15nm,0.3s						
KTK1	**Kautokeino**	**8.58**	**98**	*e*P	P	12 15 04.4	+0.2
KTK1				*e*S	Sn	12 16 36.8	-5.8
NSS	**Namsos**	**8.77**	**141**	*e*S	Sn	12 16 36.8	-11
NSS				AML	AML	12 16 45.1	
	comp=Z,12nm,0.7s						
ARCES	**ARCESS Array B**	**9.03**	**92**	Pn	P	12 15 10.3	-0.2
	comp=Z,1.8nm,0.3s,baz=296,slow=11,SNR=45						
ARCES				Sn	Sn	12 16 49.7	-4.1
	baz=311,slow=20,SNR=1.9						
ARCES	**ARCESS Array B**	**9.03**	**92**	Pn	P	12 15 10.3	-0.2
ARCES				Sn	Sn	12 16 49.7	-4.1
ARE0	**ARCESS Array S**	**9.03**	**92**	*e*Pn	P	12 15 10.1	-0.4
ARE0	**ARCESS Array S**	**9.03**	**92**	*e*Pn	P	12 15 10.1	-0.4
ARA0	**ARCESS Array S**	**9.03**	**92**	Pn	P	12 15 10.3	-0.2
	baz=288,slow=10						
MOL	**Molde**	**9.88**	**156**	*e*P	P	12 15 24.3	+2.2
MOL				*e*S	Sn	12 17 08.5	-6.2
MOL				AML	AML	12 17 15.9	
	comp=Z,8.4nm,0.5s						
SUMG	**Summit**	**11.35**	**291**	*e*Pn	P	12 15 35.9	-6.1
	comp=Z,13nm,1.0s						
NB2	**NORSAR Subarra**	**11.87**	**150**	P	P	12 15 47.1	-2.1
	comp=Z,2.1nm,0.6s,baz=336,slow=12						
NB2	**NORSAR Subarra**	**11.87**	**150**	P	P	12 15 47.1	-2.1
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**11.87**	**150**	P	P	12 15 47.1	-2.1
	comp=Z,2.1nm,0.6s						
NB2	**NORSAR Subarra**	**11.87**	**150**	Pn	P	12 15 48.1	-1.1
	SNR=4.2						
NOA	**NORSAR Array B**	**11.87**	**150**	Pn	P	12 15 49.1	-0.1
	comp=Z,0.7nm,0.3s,baz=340,slow=13,SNR=6.6						
NOA				LR	LR	12 20 00.4	
	comp=Z,303nm,21.7s,baz=340,slow=35						
HFS	**Hagfors**	**13.14**	**146**	Pn	P	12 16 04.7	-1.4
	baz=342,slow=14						
HFS				Sn	S	12 18 23.2	-11
	baz=336,slow=22						
HFS	**Hagfors**	**13.14**	**146**	Pn	P	12 16 04.8	-1.3
	comp=Z,0.6nm,0.3s,baz=344,slow=11,SNR=25						
FIA0	**FINESS Array S**	**14.79**	**121**	Pn	P	12 16 26.9	-0.7
	baz=336,slow=14						
FINES	**FINESS Array B**	**14.79**	**121**	*e*P	P	12 16 26.8	-0.8
FINES	**FINESS Array B**	**14.79**	**121**	Pn	P	12 16 27.6	+0.1
	comp=Z,0.3nm,0.3s,baz=333,slow=13,SNR=13						
EKA	**Eskdalemuir Ar**	**16.62**	**184**	Pn	P	12 16 53.1	+1.8
	comp=Z,0.1nm,0.3s,baz=20,slow=9.8,SNR=4.0						
MNK	**Minsk**	**21.34**	**129**	*e*P	P	12 17 44.0	-2.2
CLL	**Collm**	**21.55**	**156**	P	P	12 17 50.0	+1.6
BAIF	**Baives**	**22.00**	**171**	*e*P	P	12 17 53.2	+0.3
	comp=Z,5.8nm,0.4s,mb4.0						
BAIF	**Baives**	**22.00**	**171**	*e*P	P	12 17 53.2	+0.3
BAIF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.1						
OBN	**Obninsk**	**23.08**	**117**	*e*P	P	12 18 07.8	+4.5
OBN				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.5						
OBN	**Obninsk**	**23.08**	**117**	*e*P	P	12 18 07.8	+4.5
	comp=Z,16nm,0.8s,mb4.5						
FLN	**La Foliniere**	**23.18**	**179**	*e*P	P	12 18 03.6	-0.7
LDF	**La Druitiere**	**23.35**	**179**	*e*P	P	12 18 05.0	-1.0
	comp=Z,15nm,0.8s,mb4.2						
LDF	**La Druitiere**	**23.35**	**179**	*e*P	P	12 18 05.0	-1.0
LDF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
GRR	**Gorron**	**23.55**	**180**	*e*P	P	12 18 08.2	+0.2
ROSF	**Rostrenen**	**23.62**	**184**	*e*P	P	12 18 07.9	-0.8
	comp=Z,52nm,1.3s,mb4.5						
ROSF	**Rostrenen**	**23.62**	**184**	*e*P	P	12 18 07.9	-0.8
ROSF				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.5						
SGMF	**Saint Gilles**	**23.69**	**183**	*e*P	P	12 18 09.5	+0.1
KHC	**Kasperske Hory**	**23.76**	**156**	*e*P	P	12 18 15.3	+5.3
VRAC	**Vranov**	**24.01**	**151**	P	P	12 18 16.5	+4.1
	comp=Z,4.0nm,0.6s,mb4.0,baz=2.3,slow=6.1,SNR=3.9						
QUIF	**Quistinic**	**24.04**	**184**	*e*P	P	12 18 12.7	-0.1
GERES	**GERESS Array B**	**24.06**	**156**	P	P	12 18 14.3	+1.4
	comp=Z,0.9nm,0.7s,mb3.3,slow=11,SNR=3.4						
SSF	**Saint Saulge**	**24.97**	**173**	*e*P	P	12 18 20.8	-0.9
SSF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
SSF	**Saint Saulge**	**24.97**	**173**	*e*P	P	12 18 20.8	-0.9
	comp=Z,11nm,0.8s,mb4.4						
AKASG	**Malin Array Be**	**25.17**	**131**	P	P	12 18 23.8	+0.2
	comp=Z,0.5nm,0.3s,mb3.5,baz=338,slow=9.4,SNR=3.0						
AVF	**Avril sur Loir**	**25.23**	**173**	*e*P	P	12 18 24.5	+0.3
	comp=Z,34nm,1.1s,mb4.5						
AVF	**Avril sur Loir**	**25.23**	**173**	*e*P	P	12 18 24.5	+0.3
AVF				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.5						
MFF	**Saint Martin d**	**25.34**	**179**	*e*P	P	12 18 25.3	0.0
	comp=Z,45nm,1.3s,mb4.5						
MFF	**Saint Martin d**	**25.34**	**179**	*e*P	P	12 18 25.3	0.0
MFF				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.5						
FRB	**Frobisher Bay**	**25.34**	**286**	LR	LR	12 28 39.5	
	comp=Z,125nm,18.4s,MS3.5,baz=130,slow=37						
SMF	**Signal de Mont**	**25.39**	**172**	*e*P	P	12 18 26.1	+0.3
	comp=Z,27nm,1.0s,mb4.4						
SMF	**Signal de Mont**	**25.39**	**172**	*e*P	P	12 18 26.1	+0.3
SMF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.5						
BGF	**Bois d'Agland**	**25.45**	**174**	*e*P	P	12 18 26.2	-0.1
	comp=Z,20nm,0.7s,mb4.5						
BGF	**Bois d'Agland**	**25.45**	**174**	*e*P	P	12 18 26.2	-0.1
BGF				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
CABF	**La Chapelle**	**25.55**	**169**	*e*P	P	12 18 27.5	+0.3
TCF	**Toulx Ste Croi**	**25.70**	**175**	*e*P	P	12 18 27.9	-0.7
	comp=Z,51nm,1.3s,mb4.6						
TCF	**Toulx Ste Croi**	**25.70**	**175**	*e*P	P	12 18 27.9	-0.7
TCF				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.6						
RJF	**Les Rejaudoux**	**26.66**	**176**	*e*P	P	12 18 37.3	-0.2
ARU	**Arti**	**28.62**	**91**	⇓*i*P	P	12 18 56.5	+1.3
ARU				*e*		12 19 43.5	
ARU				*e*		12 22 02.4	
ARU				*e*S	S	12 23 46.6	+3.7
ARU				*e*SS	SS	12 25 08.4	+0.2
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
ARU	**Arti**	**28.62**	**91**	*i* P	P	12 18 56.5	+1.3
	comp=Z,5.0nm,1.0s,mb4.2						
ARU	**Arti**	**28.62**	**91**	*e*PcP	PcP	12 22 02.4	-4.1
ARU				*e*S	S	12 23 46.6	+3.7
SJPF	**Ste Jean**	**28.82**	**180**	*e*P	P	12 18 56.9	-0.3
ETSF	**Etsaut**	**29.04**	**179**	*e*P	P	12 18 59.0	-0.1
	comp=Z,30nm,1.2s,mb4.6						
ETSF	**Etsaut**	**29.04**	**179**	*e*P	P	12 18 59.0	-0.1
ETSF				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.6						
MLR	**Muntele Rosu**	**29.37**	**139**	P	P	12 19 02.1	-0.1
	comp=Z,0.6nm,0.5s,mb3.6,baz=260,slow=16,SNR=2.3						
ESDC	**Sonseca Array**	**32.30**	**184**	P	P	12 19 26.2	-1.8
	comp=Z,0.2nm,0.3s,mb3.4,baz=7.2,slow=8.6,SNR=4.2						
ANN	**Anapa**	**32.69**	**125**	*e*P	P	12 19 35.9	+4.6
ANN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
GOF	**Gofitskoye**	**33.94**	**118**	*e*P	P	12 19 39.1	-3.2
SOC	**Sochi**	**34.42**	**123**	*i* P	P	12 19 46.9	+0.5

MKAR	**Makanchi Array**	**44.34**	**78**	P	**P**	**12 21 10.2**	**+1.6**
	comp=Z,1.0nm,0.8s,mb3.6,baz=339,slow=5.8,SNR=12						
MKAR				PcP	PcP	12 22 52.7	-0.6
	comp=Z,0.4nm,0.7s,baz=310,slow=3.4,SNR=3.7						
ASF	**Jabal al Asfar**	**44.53**	**132**	P	**P**	**12 21 11.8**	**+1.4**
	comp=Z,1.9nm,0.4s,mb4.3,baz=238,slow=6.0,SNR=3.3						
WMQ	**Urumqi**	**48.66**	**75**	P	**P**	**12 21 44.0**	**+1.2**
WMQ				AP	pP	12 21 48.5	+4.7
WMQ				XP	sP	12 21 51.2	+7.0
WMQ				PCP	PcP	12 23 08.6	0.0
WMQ				PP	PP	12 23 37.4	+1.6
WMQ				S	**S**	**12 28 46.0**	**+1.3**
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.5s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,230nm,5.1s						
WMQ				LR	LR		
	comp=N,457nm,18.2s,MS4.5						
WMQ				LR	LR		
	comp=E,149nm,17.3s,MS4.5						
WMQ				LR	LR		
	comp=Z,130nm,16.5s,MS4.0						
SONM	**Songino Array**	**50.30**	**57**	P	**P**	**12 21 55.5**	**+0.1**
	comp=Z,1.1nm,0.9s,mb3.9,baz=329,slow=7.2,SNR=6.8						
PDAR	**Pinedale Array**	**55.32**	**302**	P	**P**	**12 22 30.7**	**-2.1**
	comp=Z,0.7nm,1.1s,mb3.6,baz=27,slow=9.9,SNR=3.9						
ANMO	**Albuquerque**	**61.78**	**296**	*eP*	**P**	**12 23 18.5**	**+0.5**
TXAR	**Lajitas Array**	**66.25**	**291**	P	**P**	**12 23 46.2**	**-1.0**
	comp=Z,0.7nm,0.8s,mb3.7,baz=27,slow=6.0,SNR=3.7						
MJAR	**Matsushiro Arr**	**68.16**	**35**	P	**P**	**12 23 58.3**	**-0.9**
	comp=Z,0.6nm,0.3s,mb4.0,baz=348,slow=5.6,SNR=4.4						
NJ2	**Nanjing**	**68.33**	**52**	*eP*	**P**	**12 24 01.0**	**+0.7**
NJ2				AP	pP	12 24 05.7	+4.3
NJ2				XP	sP	12 24 08.0	+6.3
NJ2				PP	PP	12 26 33.6	+0.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,422nm,4.8s						
NJ2				LR	LR		
	comp=N,1μm,21.2s,MS5.4						
NJ2				LR	LR		
	comp=E,2μm,18.4s,MS5.4						
NJ2				LR	LR		
	comp=Z,3μm,27.2s						
CMAR	**Chiang Mai Arr**	**75.67**	**75**	P	**P**	**12 24 44.2**	**+0.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=316,slow=6.2,SNR=5.8						

*CSEM **11** 12:13:03.4±0.1, 64.40N×20.66E, h15km, ML2.8/1, Error ellipse: s-maj=3.4km s-min=2.7km az=114.0*
*HEL **11** 12:13:04.9±0.0, 64.38N×20.66E, h17km, ML1.8, ML1.8(UPP)*
*UPP **11** 12:13:04.4, 64.38N×20.65E, h19km, ML1.8*

ISC 11 12:13:04.1±0.4,**64.39N**±0.02×**20.70E**±0.06,**h20**km±5km, **n30**,σ0$**74/49**,**4C-4D**,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BURU	**Burvik**	**0.35**	**56**	*i* P	**Pb**	**12 13 12.0**	**+0.3**
BURU				*i* S	**Sb**	**12 13 17.2**	**+0.5**
SVAU	**Svanoeiden**	**0.50**	**283**	⇓*i* P	**Pb**	**12 13 13.7**	**-0.4**
SVAU				*i* S	**Sb**	**12 13 20.3**	**-0.6**
SVAU	**Svanoeiden**	**0.50**	**283**	⇓P	**Pb**	**12 13 13.7**	**-0.4**
	baz=99						
UMAU	**Umeaa**	**0.51**	**181**	⇑*i* P	**Pb**	**12 13 14.0**	**-0.2**
UMAU				*i* S	**Sb**	**12 13 20.6**	**-0.6**
UMAU	**Umeaa**	**0.51**	**181**	⇑P	**Pb**	**12 13 14.0**	**-0.2**
	baz=350						
LILU	**Lilltraesk**	**0.97**	**338**	⇑*e* P	**Pb**	**12 13 21.9**	**-0.3**
LILU				*e* S	**Sb**	**12 13 34.3**	**-0.2**
LILU	**Lilltraesk**	**0.97**	**338**	⇑P	**Pb**	**12 13 21.9**	**-0.2**
	baz=150						
LILU				S	**Sb**	**12 13 34.3**	**-0.3**
BREU	**Bredtraesk**	**1.06**	**243**	⇓*e* P	**Pb**	**12 13 23.1**	**-0.4**
BREU				*e* S	**Sb**	**12 13 36.5**	**-0.5**
BREU	**Bredtraesk**	**1.06**	**243**	⇓P	**Pb**	**12 13 23.1**	**-0.5**
	baz=58						
BREU				S	**Sb**	**12 13 36.5**	**-0.5**
SJUU	**Sjulsmark**	**1.19**	**18**	*e* P	**Pn**	**12 13 25.9**	**+0.1**
SJUU				*e* S	**Sb**	**12 13 41.5**	**+0.7**
SJUU	**Sjulsmark**	**1.19**	**18**	P	**Pn**	**12 13 25.8**	**0.0**
SJUU				S	**Sb**	**12 13 41.5**	**+0.7**
VAF	**Ylistaro**	**1.61**	**146**	*e* P	**Pn**	**12 13 32.5**	**+0.8**
VAF				*e* S	**Sn**	**12 13 53.5**	**+1.4**
VAF	**Ylistaro**	**1.61**	**146**	P	**Pn**	**12 13 32.5**	**+0.7**
VAF				S	**Sn**	**12 13 53.4**	**+1.3**
SOLU	**Sollefteaa**	**1.91**	**235**	*e* P	**Pn**	**12 13 36.8**	**+0.7**
SOLU				*e* S	**Sn**	**12 14 00.9**	**+1.2**
SOLU	**Sollefteaa**	**1.91**	**235**	P	**Pn**	**12 13 36.7**	**+0.6**
SOLU				S	**Sn**	**12 14 00.9**	**+1.2**
HEMU	**Hemsoen**	**2.09**	**216**	*e* P	**Pn**	**12 13 38.9**	**+0.2**
HEMU	**Hemsoen**	**2.09**	**216**	P	**Pn**	**12 13 38.9**	**+0.2**
	baz=32						
ERTU	**Ertsjaerv**	**2.26**	**15**	*e* P	**Pn**	**12 13 42.1**	**+0.9**
ERTU	**Ertsjaerv**	**2.26**	**15**	P	**Pn**	**12 13 42.0**	**+0.9**
PAJU	**Pajala**	**2.83**	**20**	*e* P	**Pn**	**12 13 49.2**	**-0.1**
PAJU				*e* S	**Sn**	**12 14 22.1**	**-1.0**
PAJU	**Pajala**	**2.83**	**20**	P	**Pn**	**12 13 49.2**	**0.0**
	baz=189						
PAJU				S	**Sn**	**12 14 22.1**	**-1.0**
KEF	**Keuruu**	**2.92**	**138**	*e* P	**Pn**	**12 13 51.4**	**+1.0**
KEF				*e*		12 14 35.3	
KEF				MSG		12 14 39.4	
	comp=Z,2.3nm,0.1s						
KEF	**Keuruu**	**2.92**	**138**	P	**Pn**	**12 13 51.4**	**+0.9**
	comp=Z,2.3nm,0.1s						
SUF	**Sumiainen**	**2.96**	**122**	*e* S	**Sn**	**12 14 25.7**	**-0.6**
SUF				*e* SB	**Sb**	**12 14 32.0**	**0.0**
SUF				MSG		12 14 37.7	
	comp=Z,2.2nm,0.2s						
SUF	**Sumiainen**	**2.96**	**122**	S	**Sn**	**12 14 25.7**	**-0.6**
SUF				Sb	**Sb**	**12 14 32.0**	**0.0**
	comp=Z,2.2nm,0.2s						
KJN	**Kajaani**	**3.08**	**92**	*e* S	**Sn**	**12 14 28.3**	**-1.1**
KJN				*e* SB	**Sb**	**12 14 35.9**	**+0.5**
KJN				MSG		12 14 41.6	
	comp=Z,5.1nm,0.2s						
KJN	**Kajaani**	**3.08**	**92**	S	**Sn**	**12 14 28.2**	**-1.1**
KAF	**Kangasniemi**	**3.41**	**129**	*e* S	**Sn**	**12 14 37.1**	**-0.7**
KAF				*e* SB	**Sb**	**12 14 49.0**	**+3.9**
KAF				MSG		12 14 51.5	
	comp=Z,2.6nm,0.2s						
FIA0	**FINESS Array S**	**3.84**	**138**	*e* S	**Sn**	**12 14 47.6**	**-1.1**
FIA0				*e*		12 15 02.2	
JOF	**Joensuu**	**4.95**	**103**	*e* S	**Sn**	**12 15 13.1**	**-3.7**
JOF				*e*		12 15 34.6	
JOF				MSG		12 15 39.1	
	comp=Z,1.0nm,0.2s						

*IDC **11** 12:15:55.9±3.2, 54.65N×168.17E, mb3.5/4, mb1 3.9/4, mb1mx3.6/23, mbtmp3.6/4, Error ellipse: s-maj=111.6km s-min=27.6km az=170.0*
*KRSC **11** 12:15:57.8±1.3, 53.89N×168.05E, h32km±9km, ML4.0*
*MOS **11** 12:15:57.8±1.0, 53.93N×167.65E, h10km, mb3.9/2, Error ellipse: s-maj=30.5km s-min=24.1km az=27.8*

ISC 11 12:16:01.6±1.0,**53.93N**±0.05×**167.53E**±0.09,**h33**km,**n34**, σ1$**06/59**,**mb3.5/4**,**Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.57**	**325**	*i* P	**P**	**12 16 26.5**	**-0.9**
BKI				*i* S	**S**	**12 16 47.7**	**+0.9**
BKI				Smax			
	420nm,0.5s						
KBTR	**Krutoberegovo**	**3.54**	**312**	P	**P**	**12 16 54.3**	**-1.3**
KBTR				S	**S**	**12 17 35.5**	**-1.4**
KBTR	**Krutoberegovo**	**3.54**	**312**	*e* P	**P**	**12 16 54.7**	**-0.9**
KBTR				*e* S	**S**	**12 17 38.6**	**+1.7**
TUMR	**Tumrok**	**4.50**	**291**	*e* P	**P**	**12 17 09.3**	**0.0**
TUMR				*e* S	**S**	**12 18 01.5**	**+0.3**
SPN	**Mys Shipunski**	**4.56**	**263**	P	**P**	**12 17 09.6**	**-0.4**
SPN				S	**S**	**12 18 01.2**	**-1.4**
SPN	**Mys Shipunski**	**4.56**	**263**	*e* P	**P**	**12 17 09.5**	**-0.5**
SPN				*e* S	**S**	**12 18 01.4**	**-1.2**
KMNR	**Kamenistaya**	**4.60**	**296**	*e* P	**P**	**12 17 11.1**	**+0.5**
KMNR				*e* S	**S**	**12 18 04.1**	**+0.6**
KLY	**Klyuchi**	**4.62**	**304**	P	**P**	**12 17 09.9**	**-1.0**
KLY				S	**S**	**12 18 02.6**	**-1.4**
KLY	**Klyuchi**	**4.62**	**304**	*e* P	**P**	**12 17 09.5**	**-1.4**
KLY				*e* S	**S**	**12 18 02.5**	**-1.5**
KPT	**Kopyto**	**4.68**	**299**	*e* P	**P**	**12 17 12.5**	**+0.7**
KPT				*e* S	**S**	**12 18 07.6**	**+1.9**
KOZR	**Kozyr**	**4.89**	**299**	PN	**Pn**	**12 17 14.4**	**-0.5**
KOZ	**Kozyrevsk**	**4.90**	**299**	P	**P**	**12 17 14.4**	**-0.5**
KOZ	**Kozyrevsk**	**4.90**	**299**	*e* P	**P**	**12 17 14.0**	**-0.9**
KOZ				*e* S	**S**	**12 18 10.1**	**-1.0**
NLC	**Nalytchevo**	**4.94**	**264**	P	**P**	**12 17 14.2**	**-1.2**
NLC				S	**S**	**12 18 11.1**	**-1.1**
NLC	**Nalytchevo**	**4.94**	**264**	*e* P	**P**	**12 17 14.3**	**-1.1**
NLC				*e* S	**S**	**12 18 11.2**	**-1.0**
SRDR	**Sredinnyy**	**5.08**	**301**	*e* P	**P**	**12 17 18.1**	**+0.6**
SRDR				*e* S	**S**	**12 18 17.1**	**+1.3**
SDLR	**Sedlovina**	**5.19**	**266**	*e* P	**P**	**12 17 18.4**	**-0.6**
SDLR				*e* S	**S**	**12 18 16.7**	**-1.8**
SMAR	**Somma**	**5.24**	**266**	*e* P	**P**	**12 17 21.1**	**+1.4**
SMAR				*e* S	**S**	**12 18 22.1**	**+2.3**
AVH	**Avacha**	**5.28**	**266**	*e* P	**P**	**12 17 21.1**	**+0.9**
AVH				*e* S	**S**	**12 18 20.4**	**-0.3**
KOK	**Koryaka**	**5.33**	**267**	*e* P	**P**	**12 17 21.8**	**+0.8**
KOK				*e* S	**S**	**12 18 20.6**	**-1.5**
PET	**Petropavlovsk**	**5.38**	**264**	*e* S	**S**	**12 18 24.2**	**+1.0**
ESO	**Esso**	**5.47**	**295**	*e* P	**P**	**12 17 22.9**	**0.0**
ESO				*e* S	**S**	**12 18 24.9**	**-0.6**
RUS	**Russkaya**	**5.62**	**258**	P	**P**	**12 17 26.3**	**+1.3**
RUS				S	**S**	**12 18 29.5**	**+0.1**
RUS	**Russkaya**	**5.62**	**258**	*e* P	**P**	**12 17 26.3**	**+1.3**
RUS				*e* S	**S**	**12 18 29.3**	**-0.1**
GNL	**Ganaly**	**5.69**	**272**	*e* P	**P**	**12 17 26.7**	**+0.8**
GNL				*e* S	**S**	**12 18 31.6**	**+0.7**
KRMR	**Karymshinskiy**	**5.73**	**263**	*e* P	**P**	**12 17 28.2**	**+1.6**
KRMR				*e* S	**S**	**12 18 33.7**	**+1.6**
GRL	**Gorelyy**	**5.84**	**260**	*e* P	**P**	**12 17 28.4**	**+0.3**
GRL				*e* S	**S**	**12 18 34.5**	**-0.4**
APC	**Apacha**	**6.28**	**265**	*e* P	**P**	**12 17 33.9**	**-0.4**
APC				*e* S	**S**	**12 18 44.4**	**-1.4**
ILAR	**Eielson Array**	**25.05**	**46**	P	**P**	**12 21 13.6**	**-10**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ILAR	**Eielson Array**	**25.05**	**46**	P	**P**	**12 21 13.6**	**-10**
	comp=Z,1.4nm,0.6s,mb3.7,baz=255,slow=7.5,SNR=41						
SONM	**Songino Array**	**37.98**	**286**	P	**P**	**12 23 16.4**	**-1.3**
	comp=Z,0.4nm,0.6s,mb3.4,baz=55,slow=8.0,SNR=4.8						
YKA	**Yellowknife Ar**	**39.48**	**46**	P	**P**	**12 23 20.5**	**-9.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**39.48**	**46**	P	**P**	**12 23 20.5**	**-9.4**
	comp=Z,0.5nm,0.6s,mb3.5,baz=294,slow=8.5,SNR=12						
PDAR	**Pinedale Array**	**53.18**	**66**	P	**P**	**12 25 12.0**	**-6.3**
	comp=Z,0.4nm,0.8s,mb3.4,baz=301,slow=5.3,SNR=3.4						

*BJI **11** 12:19:59.0, 3.69S×146.72E, h11km, mB6.4, mb5.6, Ms6.5, Msz6.4*
*IDC **11** 12:20:03.7±0.3, 3.38S×145.97E, mb5.4/26, mb1 5.4/30, mb1mx5.4/31, mbtmp5.4/30, ML4.5/4, MS6.5/26, Ms1 6.5/26, ms1mx6.3/30, Error ellipse: s-maj=8.9km s-min=5.7km az=87.0*
*NEIC **11** 12:20:06.0±0.1, 3.48S×145.91E, mb5.9/80, ME7.2, MS6.7/122, MW6.4, Error ellipse: s-maj=5.3km s-min=4.2km az=103.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^{18}Nm; M_{rr}0.64; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-0.74; $M_{r\theta}$0.70; $M_{\theta\phi}$5.68; $M_{r\phi}$0.21; Best double couple: $M_0$5.7×10^{18} NP1:ϕ_s2°,δ83°,λ176°. NP2:ϕ_s92°,δ87°,λ7°. Principal axes: T 5.46, Plg8°, Azm317°; N .57, Plg82°, Azm117°; P -6.03, Plg3°, Azm227°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*HRVD **11** 12:20:06.0±0.1, 3.33S×146.18E, h14km, MW6.6/79, Centroid moment Tensor Solution. LP body waves: s77,c199;Mantle waves: s79,c380; Half duration: 5s0 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.05±.01; $M_{\theta\theta}$-0.08±.01; $M_{\phi\phi}$0.13±.01; $M_{r\theta}$0.03±.01; $M_{\theta\phi}$1.07±.00; $M_{r\phi}$-0.23±.01; Best double couple: $M_0$1.101×10^{19} NP1: ϕ_s267°,δ78°,λ-2°. NP2:ϕ_s357°,δ88°,λ-168°. Principal axes: T 1.122, Plg7°, Azm131°; N -.041, Plg78°, Azm5°; P -1.08, Plg10°, Azm223°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **11** 12:20:08.6±1.6, 3.38S×145.85E, h35km, mb6.1/44, MS6.6/52 Error ellipse: s-maj=8.5km s-min=5.5km az=90.3*

ISC 11 12:20:05.2±0.1,**3.47S**±0.02×**146.00E**±0.03,**h17**km, **h17**km±2.0km:**pP-P**,**n578**,σ1$**28**/380,**mb5.8**/119,**MS6.5**/180, **43C-26D**,**Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOMI	**Yo Moklole**	**5.49**	**278**	⇓*i* Pn	**Pn**	**12 21 31.5**	**+3.2**
MENI	**Mendum Tagoi**	**5.65**	**280**	⇑*i* P	**Pn**	**12 21 33.0**	**+2.4**
PMG	**Port Moresby**	**6.01**	**169**	*e* P	**Pn**	**12 21 33.8**	**-1.8**
PMG				pmax	pmax		
	comp=Z,3μm,1.1s						
PMG	**Port Moresby**	**6.01**	**169**	Pn	**Pn**	**12 21 33.1**	**-2.5**
	comp=Z,27nm,0.3s,baz=28,slow=4.3,SNR=56						
PMG				Sn	**Sn**	**12 22 46.5**	**+1.8**
	baz=27,slow=16,SNR=4.0						
PMG				LR	LR	12 23 48.8	
	comp=Z,202μm,22.0s,baz=356,slow=37						
PMG	**Port Moresby**	**6.01**	**169**	*e* P	**Pn**	**12 21 33.8**	**-1.8**
	comp=Z,3μm,1.1s						
HNR	**Honiara**	**15.07**	**114**	⇑*e* P	**P**	**12 23 36.4**	**-2.9**
HNR	**Honiara**	**15.07**	**114**	Pn	**P**	**12 23 38.0**	**-1.2**
	comp=Z,3.0nm,0.3s,baz=204,slow=4.1,SNR=47						
HNR				Sn	**S**	**12 26 38.5**	**+12**
	comp=Z,2.1nm,0.3s,baz=260,slow=13,SNR=1.6						
HNR				LR	LR	12 28 42.5	
	comp=Z,179μm,18.9s,baz=287,slow=34						
KAKA	**Kakadu**	**16.25**	**235**	⇑*i* P	**P**	**12 23 51.7**	**-2.8**
	comp=Z,766nm,0.8s						
CTA	**Charters Tower**	**16.52**	**179**	*e* P	**P**	**12 24 00.6**	**+2.7**
	comp=Z,505nm,1.2s						
CTA				*e* S		12 27 17.6	
CTA	**Charters Tower**	**16.52**	**179**	*e* P	**P**	**12 24 00.6**	**+2.7**
CTA				pmax	pmax		
	comp=Z,505nm,1.2s						
CTA	**Charters Tower**	**16.52**	**179**	Pn	**P**	**12 23 57.9**	**0.0**
	comp=Z,1.9nm,0.3s,baz=355,slow=12,SNR=41						
CTA				Sn	**S**	**12 27 04.1**	**+3.9**
	comp=Z,0.3nm,0.3s,baz=265,slow=8.6,SNR=2.1						
CTA				LR	LR	12 28 27.3	
	comp=Z,41μm,21.9s,baz=3.5,slow=30						
CTAO	**Charters Tower**	**16.52**	**179**	⇑*e* P	**P**	**12 23 59.8**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,2μm,1.5s						
CTAO	**Charters Tower**	**16.52**	**179**	⇑*e* P	**P**	**12 23 59.8**	**+1.9**
	comp=Z,2μm,1.5s						
GUMO	**Guam**	**16.99**	**356**	⇑*e* P	**P**	**12 24 05.6**	**+1.8**
GUMO				pmax	pmax		
	comp=Z,5μm,2.1s						
GUMO	**Guam**	**16.99**	**356**	⇑*e* P	**P**	**12 24 05.6**	**+1.8**
	comp=Z,5μm,2.1s						
AAI	**Ambon**	**17.77**	**269**	*e* P	**P**	**12 24 21.5**	**+7.9**
WRAB	**Tennant Creek**	**19.92**	**214**	⇑*i* P	**P**	**12 24 37.6**	**-1.6**
WRAB	**Tennant Creek**	**19.92**	**214**	*e* P	**P**	**12 24 35.8**	**-3.4**
	comp=Z,3μm,1.0s						
WRA	**Warramunga Arr**	**19.93**	**214**	P	**P**	**12 24 37.2**	**-2.1**
	comp=Z,1.5nm,0.3s,baz=39,slow=12,SNR=70						
WRA				S	**S**	**12 28 24.0**	**+6.8**
	baz=28,slow=23,SNR=3.0						
SARN	**Sarigan**	**20.04**	**359**	*e* P	**P**	**12 24 44.5**	**+4.0**
BIPH	**Bislig**	**22.75**	**301**	⇑*i* P	**P**	**12 25 09.0**	**+0.9**
DAV	**Davao City (W)**	**22.91**	**297**	*e* P	**P**	**12 25 14.0**	**+4.4**
ASAR	**Alice Springs**	**23.23**	**209**	P	**P**	**12 25 12.5**	**-0.1**
	comp=Z,203nm,0.9s,mb5.5,baz=41,slow=8.4,SNR=95						
ASAR				S	**S**	**12 29 32.5**	**+13**
	comp=Z,20nm,0.9s,baz=30,slow=19,SNR=3.0						
ASAR				LR	LR	12 35 43.5	
	comp=Z,96μm,18.2s,MS6.3,baz=34,slow=40						
ASPA	**Alice Springs**	**23.23**	**209**	⇑*i* P	**P**	**12 25 10.8**	**-1.9**
ASPA				*e* S	**S**	**12 29 27.5**	**+7.8**
KCP	**Kidapawan**	**23.32**	**297**	⇓*e* P	**P**	**12 25 15.0**	**+1.4**
BUKP	**Musuan**	**23.73**	**298**	*e* P	**P**	**12 25 18.1**	**+0.5**
BUTP	**Butuan**	**23.78**	**301**	*e* P	**P**	**12 25 19.3**	**+1.3**
SCPH	**Surigao**	**24.30**	**303**	*e* P	**P**	**12 25 23.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**24.68**	**232**	*e* P	**P**	**12 25 24.7**	**-2.0**
	comp=Z,879nm,0.7s,mb6.4						
FITZ				*e* S	**S**	**12 30 00.9**	**+16**
FITZ	**Fitzroy Crossi**	**24.68**	**232**	P	**P**	**12 25 25.9**	**-0.8**
	comp=Z,2μm,0.9s,mb6.5,baz=62,slow=8.6,SNR=52						
FITZ				S	**S**	**12 29 55.2**	**+11**
	comp=Z,35nm,0.8s,baz=224,slow=21,SNR=1.7						
FITZ				LR	LR	12 35 52.6	
	comp=Z,162μm,18.5s,MS6.5,baz=281,slow=38						
KWAJ	**Kwajalein Atol**	**24.76**	**60**	*e* P	**P**	**12 25 28.1**	**+0.5**
	comp=Z,6μm,1.9s,mb6.8						
KWAJ				LR	LR		
	comp=Z,47μm,22.0s,MS5.9						
MSLP	**Maasin**	**25.02**	**303**	*e* P	**P**	**12 25 29.3**	**-0.8**
PAGZ	**Pagadian**	**25.21**	**297**	*e* P	**P**	**12 25 33.0**	**+1.2**
DCPH	**Dipolog City**	**25.56**	**298**	⇓*e* P	**P**	**12 25 37.7**	**+2.6**
TBP	**Tagbilaran**	**25.64**	**301**	*e* P	**P**	**12 25 35.7**	**-0.1**
IPIL	**Ipil**	**25.91**	**296**	*e* P	**P**	**12 25 41.1**	**+2.7**
SNPH	**Sibulan**	**26.01**	**299**	⇑*e* P	**P**	**12 25 41.7**	**+2.3**
CNP	**Catarman**	**26.48**	**307**	*e* P	**P**	**12 25 41.2**	**-2.5**
NOUC	**Port Laguerre**	**27.04**	**135**	*e* P	**P**	**12 25 46.3**	**-2.5**
NOUC	**Port Laguerre**	**27.04**	**135**	*e* P	**P**	**12 25 46.3**	**-2.5**
DZM	**Mont Dzumac**	**27.12**	**135**	P	**P**	**12 25 48.6**	**-0.9**
	comp=Z,356nm,1.1s,mb5.8,baz=356,slow=8.4,SNR=26						
DZM				S	**S**	**12 30 28.6**	**+3.4**
	comp=Z,14nm,1.1s,baz=154,slow=19,SNR=1.8						
DZM				LR	LR	12 35 19.3	
	comp=Z,253μm,19.3s,MS6.8,baz=318,slow=34						
GUIM	**Jordan**	**27.19**	**301**	*e* P	**P**	**12 25 49.6**	**-0.5**
PVCP	**Virac**	**27.52**	**308**	*e* P	**P**	**12 25 52.5**	**-0.7**
RCP	**Roxas**	**27.53**	**303**	⇑*e* P	**P**	**12 25 53.5**	**+0.2**
KALP	**Kalibo**	**27.93**	**303**	*e* P	**P**	**12 25 52.0**	**-4.9**
OTRP	**Odiongan**	**28.55**	**304**	*e* P	**P**	**12 26 02.4**	**-0.1**
STKA	**Stephens Creek**	**28.56**	**188**	⇑*i* P	**P**	**12 26 00.1**	**-2.3**
	comp=Z,116nm,0.9s,mb5.6						
STKA	**Stephens Creek**	**28.56**	**188**	P	**P**	**12 26 02.2**	**-0.2**
	comp=Z,125nm,1.2s,mb5.5,baz=349,slow=8.4,SNR=20						
STKA				S	**S**	**12 30 49.2**	**+1.0**
	comp=Z,15nm,1.0s,baz=97,slow=23,SNR=1.9						
STKA				LR	LR	12 38 20.1	
	comp=Z,143μm,18.1s,MS6.6,baz=7.0,slow=38						
CUYO	**Cuyo Island**	**28.64**	**300**	*e* P	**P**	**12 26 04.2**	**+0.9**
GQP	**Guinayangan**	**29.05**	**307**	⇓*e* P	**P**	**12 26 06.9**	**0.0**
TSM	**Tawau**	**29.14**	**285**	P	**P**	**12 26 06.9**	**-1.0**
BOAC	**Boac**	**29.28**	**306**	*e* P	**P**	**12 26 14.5**	**+5.4**
SJMP	**San Jose**	**29.35**	**303**	*e* P	**P**	**12 26 10.7**	**+1.0**
BUSP	**Coron**	**29.90**	**301**	*e* P	**P**	**12 26 14.4**	**-0.2**
ENPP	**El Nido**	**30.19**	**299**	*e* P	**P**	**12 26 17.9**	**+0.7**
TGY	**Tagaytay City**	**30.37**	**306**	*e* P	**P**	**12 26 20.0**	**+1.2**
WAKE	**Wake Island**	**30.40**	**41**	PFAKE		12 26 30.0	+11
WAKE				LR	LR		
	comp=Z,155μm,22.0s,MS6.6						
CBIJ	**Chichi jima**	**30.61**	**353**	P	**P**	**12 26 18.1**	**-2.7**
	comp=Z,169nm,0.8s,mb5.9,baz=299,slow=6.2,SNR=5.4						
CBIJ				S	**S**	**12 31 21.2**	**+0.3**
	comp=Z,60nm,1.0s,baz=310,slow=18,SNR=1.8						
BATP	**Bataraza**	**30.64**	**294**	*e* P	**P**	**12 26 21.3**	**+0.2**
LUBP	**Lubang**	**30.74**	**304**	*e* P	**P**	**12 26 20.7**	**-1.3**
BALP	**Baler**	**30.79**	**309**	*e* P	**P**	**12 26 21.5**	**-1.0**
MBWA	**Marble Bar**	**31.01**	**233**	*e* P	**P**	**12 26 23.1**	**-1.2**
	comp=Z,137nm,1.0s,mb5.7						
MBWA				LR	LR		
	comp=Z,79μm,22.0s,MS6.3						
KKM	**Kota Kinabalu**	**31.20**	**288**	*e* P	**P**	**12 26 24.0**	**-2.1**
KKM	**Kota Kinabalu**	**31.20**	**288**	P	**P**	**12 26 25.1**	**-1.1**
CAUP	**Cauayan**	**31.33**	**311**	*e* P	**P**	**12 26 28.2**	**+1.0**
CNB	**Canberra Magne**	**31.84**	**175**	⇑*i* P	**P**	**12 26 30.3**	**-1.2**
	comp=Z,1μm,1.1s,mb6.7						
BCPH	**Baguio City Da**	**31.94**	**309**	⇑*i* P	**P**	**12 26 31.5**	**-1.0**
FORT	**Forrest**	**32.01**	**210**	*e* P	**P**	**12 26 31.4**	**-1.6**
	comp=Z,8μm,0.8s						
ADE	**Adelaide**	**32.06**	**191**	*e* P	**P**	**12 26 34.5**	**+1.1**
BBP	**Basco**	**33.48**	**316**	*e* P	**P**	**12 26 44.2**	**-1.8**
JOW	**Kunigami**	**34.65**	**331**	P	**P**	**12 26 56.0**	**0.0**
	comp=Z,117nm,1.0s,mb5.8,baz=150,slow=9.7,SNR=13						
JOW				LR	LR	12 38 00.1	
	comp=Z,88μm,21.6s,MS6.5,baz=159,slow=31						
KSM	**Kuching**	**36.01**	**277**	*e* P	**P**	**12 27 07.5**	**-0.1**
NACB	**Ninganchiao**	**36.32**	**320**	⇑*e* P	**P**	**12 27 09.9**	**-0.2**
YHNB	**Yeheng**	**36.81**	**321**	*e* P	**P**	**12 27 14.4**	**+0.1**
JHJ	**Hachijo jima 2**	**36.86**	**351**	S	**S**	**12 32 58.0**	**+0.2**
	comp=Z,91nm,0.7s,baz=59,slow=22,SNR=2.2			

SSE			AMB	AMB		
	comp=Z,60nm,0.7s,mb5.3					
SSE			AMB	AMB		
	comp=Z,3μm,6.3s					
SSE			LR	LR		
	comp=N,50μm,20.0s,MS6.5					
SSE			LR	LR		
	comp=E,42μm,20.0s,MS6.5					
SSE			LR	LR		
	comp=Z,83μm,20.0s,MS6.6					
SSE	**Sheshan**	**41.73 327**	P	**P**	**12 27 54.2**	**-1.0**
	comp=Z,60nm,0.7s,mb5.3					
SSE			pP	pP	12 27 57.4	-2.9
SSE			sP	sP	12 27 58.8	-3.6
SSE			S	**S**	**12 34 13.6**	**+2.4**
SSE			sS		12 34 20.2	
SSE			SS	SS	12 37 21.6	+10
SSE			LR	LR		
	comp=Z,83μm,20.0s,MS6.6					
QIZ	**Qiongzhong**	**42.01 304**	P	**P**	**12 27 58.6**	**+0.9**
QIZ			PP	PP	12 29 37.7	-0.5
QIZ			SS	SS	12 37 23.3	+5.9
QIZ			SCS	ScS	12 37 54.4	-3.1
QIZ			AMB	AMB		
	comp=Z,181nm,1.4s,mb5.5					
QIZ			LR	LR		
	comp=N,13μm,21.3s,MS6.0					
QIZ			LR	LR		
	comp=E,18μm,19.9s,MS6.0					
QIZ			LR	LR		
	comp=Z,48μm,33.7s					
QIZ	**Qiongzhong**	**42.01 304**	*e*P	**P**	**12 27 59.0**	**+1.3**
	comp=Z,277nm,1.3s,mb5.7					
RAO	**Raoul Island**	**42.76 131**	LR	LR	12 44 13.1	
	comp=Z,30μm,18.6s,MS6.2,baz=307,slow=34					
RAO	**Raoul Island**	**42.76 131**	PFAKE		12 28 20.0	+16
RAO			LR	LR		
	comp=Z,48μm,21.0s,MS6.4					
AFI	**Afiamalu**	**42.94 107**	*e*P	**P**	**12 28 04.7**	**-0.6**
AFI			pmax	pmax		
	comp=Z,141nm,1.0s,mb5.7					
AFI			MLR	MLR		
	comp=Z,44μm,20.0s,MS6.4					
AFI	**Afiamalu**	**42.94 107**	P	**P**	**12 28 04.6**	**-0.7**
	comp=Z,66nm,1.1s,mb5.3,baz=338,slow=9.6,SNR=5.2					
AFI			S	**S**	**12 34 37.2**	**+8.0**
	comp=Z,21nm,0.9s,baz=285,slow=19,SNR=2.1					
AFI			LR	LR	12 44 08.5	
	comp=Z,42μm,19.5s,MS6.3,baz=280,slow=34					
AFI	**Afiamalu**	**42.94 107**	*e*P	**P**	**12 28 04.7**	**-0.6**
	comp=Z,141nm,1.0s,mb5.7					
AFI			LR	LR		
	comp=Z,44μm,20.0s,MS6.4					
KUZ	**Kuaotunu**	**42.94 144**	*e*P*	**P**	**12 28 04.8**	**-0.2**
HIZ	**Hauiti**	**43.69 147**	*e*P*	**P**	**12 28 12.0**	**+1.0**
NJ2	**Nanjing**	**43.74 326**	*e*P	**P**	**12 28 12.2**	**+0.6**
NJ2			AP	pP	12 28 17.7	+1.0
NJ2			XP	sP	12 28 19.1	+0.3
NJ2			PP	PP	12 29 55.7	+0.4
NJ2			S	**S**	**12 34 42.0**	**+1.4**
NJ2			XS		12 34 51.0	
NJ2			AMB	AMB		
	comp=Z,110nm,1.2s,mb5.5					
NJ2			AMB	AMB		
	comp=Z,6μm,7.4s					
NJ2			LR	LR		
	comp=N,195μm,21.5s					
NJ2			LR	LR		
	comp=E,157μm,29.0s					
NJ2			LR	LR		
	comp=Z,124μm,23.2s,MS6.8					
URZ	**Urewera**	**44.78 145**	P	**P**	**12 28 19.2**	**-0.7**
	comp=Z,76nm,1.1s,mb5.4,baz=336,slow=6.3,SNR=10					
URZ			PP	PP	12 30 11.2	+5.6
	comp=Z,18nm,0.8s,baz=303,slow=6.7,SNR=3.5					
URZ			S	**S**	**12 35 04.1**	**+8.5**
	comp=Z,12nm,1.1s,baz=208,slow=18,SNR=2.0					
BKZ	**Black Stump Fm**	**45.05 146**	*e*P*	**P**	**12 28 22.6**	**+0.5**
THZ	**Tophouse**	**45.10 151**	PcP	PcP	12 30 02.9	-0.6
JCZ	**Jackson Bay**	**45.16 157**	*e*P*	**P**	**12 28 23.8**	**+1.0**
PUZ	**Puketiti**	**45.32 144**	P*	**P**	**12 28 24.1**	**-0.2**
MSZ	**Milford Sound**	**45.35 158**	*e*P*	**P**	**12 28 23.9**	**-0.4**
WHN	**Wuhan**	**45.35 320**	⇑P	**P**	**12 28 25.2**	**+0.6**
WHN			S	**S**	**12 35 07.3**	**+3.3**
WHN			AMB	AMB		
	comp=Z,54nm,1.0s,mb5.3					
WHN			LR	LR		
	comp=Z,171μm,42.7s,MS6.7					
LTZ	**Lake Taylor**	**45.60 153**	P*	**P**	**12 28 26.2**	**-0.1**
MRZ	**Mangatainoka R**	**45.62 148**	P*	**P**	**12 28 26.4**	**-0.1**
SNZO	**South Karori**	**45.65 150**⇑	*e*P	**P**	**12 28 26.0**	**-0.7**
	comp=Z,196nm,1.3s,mb5.9					
SNZO			LR	LR		
	comp=Z,41μm,19.0s,MS6.4					
RPZ	**Rata Peaks**	**45.81 155**	P	**P**	**12 28 27.7**	**-0.3**
	comp=Z,57nm,0.9s,mb5.5,baz=96,slow=1.7,SNR=16					
RPZ			S	**S**	**12 35 10.4**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=39,slow=17,SNR=1.8					
RPZ	**Rata Peaks**	**45.81 155**	P*	**P**	**12 28 27.3**	**-0.7**
BFZ	**Birch Farm**	**45.99 148**	*e*P*	**P**	**12 28 26.8**	**-2.7**
LBZ	**Lake Benmore**	**45.99 156**	*e*P*	**P**	**12 28 28.3**	**-1.1**
MQZ	**McQueen's Vall**	**46.50 153**	*e*P*	**P**	**12 28 32.7**	**-0.7**
SNG	**Songkhla**	**46.51 283**	P	**P**	**12 28 34.0**	**+0.1**
	comp=Z,390nm,1.1s,mb6.2					
KKTK	**Khon Kaen**	**46.99 296**	P	**P**	**12 28 37.0**	**-0.7**
TUZ	**Tuapeka**	**47.08 158**	P*	**P**	**12 28 38.0**	**0.0**
YUK	**Yuzh-Kuril'sk**	**47.29 360**	*e*P	**P**	**12 28 42.0**	**+2.3**
YUK			*e*		12 30 30.0	
YUK			*i* S	**S**	**12 35 31.0**	**-0.4**
YUK			*e*SS	ScS	12 38 21.0	-10
YUK			pmax	pmax		
	comp=Z,10μm,5.0s					
YUK			pmax	pmax		
	comp=N,9μm,4.0s					
YUK			pmax	pmax		
	comp=E,2μm,2.0s					
YUK			smax			
	comp=E,13μm,14.0s					
YUK			smax			
	comp=N,8μm,12.0s					
ASAJ	**Asahikawa**	**47.47 357**	P	**P**	**12 28 40.6**	**-0.5**
	comp=N,99nm,1.2s,mb5.6,baz=222,slow=11,SNR=13					
ASAJ			S	**S**	**12 35 34.5**	**+0.5**
	comp=N,2.6nm,0.8s,baz=213,slow=13,SNR=1.9					
DL2	**Dalian**	**47.79 334**⇑	*i*P	**P**	**12 28 43.6**	**-0.1**
DL2			S	**S**	**12 35 41.6**	**+3.1**
DL2			AMB	AMB		
	comp=Z,150nm,1.5s,mb5.8					
DL2			AMB	AMB		
	comp=Z,2μm,8.3s					
DL2			LR	LR		
	comp=N,18μm,21.4s					
DL2			LR	LR		
	comp=Z,29μm,32.5s					
TIA	**Tai'an**	**47.81 328**	P	**P**	**12 28 42.0**	**-2.0**
TIA			AMB	AMB		
	comp=Z,48nm,1.0s,mb5.5					
TIA			AMB	AMB		
	comp=Z,2μm,7.0s					
TIA			LR	LR		
	comp=N,26μm,19.0s,MS6.5					
TIA			LR	LR		
	comp=E,40μm,19.0s,MS6.5					
GYA	**Guiyang**	**48.28 310**⇑	*i*P	**P**	**12 28 47.5**	**-0.2**
GYA			AP	pP	12 28 51.8	-1.1
GYA			XP	sP	12 28 54.6	-0.3
GYA			PP	PP	12 30 38.5	-1.3
GYA			S	**S**	**12 35 43.0**	**-2.6**
GYA			AMB	AMB		
	comp=Z,80nm,1.1s,mb5.7					
GYA			AMB	AMB		
	comp=Z,5μm,10.5s					
GYA			LR	LR		
	comp=N,11μm,17.1s,MS6.2					
GYA			LR	LR		
	comp=E,19μm,18.5s,MS6.2					
GYA			LR	LR		
	comp=Z,24μm,17.6s,MS6.2					
ENH	**Enshi**	**48.40 317**	*e*P	**P**	**12 28 47.3**	**-1.2**
	comp=Z,330nm,1.5s,mb6.1					
NNT	**Nongplab**	**48.65 290**	P	**P**	**12 28 52.8**	**+2.2**
NST	**Nakhon Sawan**	**49.20 294**	P	**P**	**12 28 55.0**	**+0.1**
	comp=Z,200nm,1.2s,mb6.0					
SNY	**Shenyang**	**49.48 338**	⇑P	**P**	**12 28 55.5**	**-1.2**
SNY			AP	pP	12 29 02.2	+0.3
SNY			S	**S**	**12 36 00.7**	**-1.5**
SNY			SS	SS	12 39 30.8	+0.4
SNY			AMB	AMB		
	comp=Z,100nm,1.9s,mb5.5					
SNY			AMB	AMB		
	comp=Z,4μm,2.8s					
SNY			LR	LR		
	comp=N,31μm,30.0s					
SNY			LR	LR		
	comp=Z,64μm,31.9s,MS6.4					
NANT	**Nan**	**49.77 298**	⇑P	**P**	**12 29 00.0**	**+0.8**
	comp=Z,2μm,0.5s					
MDJ	**Mudanjiang**	**50.08 345**	P	**P**	**12 29 01.0**	**-0.3**
MDJ			AP	pP	12 29 04.2	-2.3
MDJ			XP	sP	12 29 05.4	-3.1
MDJ			PCP	PcP	12 30 19.9	-1.3
MDJ			PP	PP	12 30 55.9	-1.5
MDJ			S	**S**	**12 36 14.2**	**+3.8**
MDJ			AMB	AMB		
	comp=Z,86nm,1.4s,mb5.6					
MDJ			AMB	AMB		
	comp=Z,3μm,11.2s					
MDJ			LR	LR		
	comp=N,32μm,32.3s,MS6.3					
MDJ			LR	LR		
	comp=E,40μm,35.0s,MS6.3					
MDJ			LR	LR		
	comp=Z,26μm,23.3s					
MDJ	**Mudanjiang**	**50.08 345**⇑	*e*P	**P**	**12 29 00.7**	**-0.6**
	comp=Z,104nm,1.1s,mb5.8					
YSS	**Yuzh-Sakhalins**	**50.29 357**	*e*P	**P**	**12 29 02.3**	**-0.6**
YSS			*e**SP	sP	12 29 13.4	+3.3
YSS			*e*		12 30 58.0	
YSS			*e*PPP	PPP	12 31 51.0	-5.0
YSS			*e*S	**S**	**12 36 09.0**	**-4.3**
YSS			*e*PS	PS	12 36 21.0	-2.8
YSS			pmax	pmax		
	comp=N,110nm,1.3s					
YSS			pmax	pmax		
	comp=Z,110nm,1.3s,mb5.7					
YSS			pmax	pmax		
	comp=E,80nm,1.4s					
YSS			pmax	pmax		
	comp=N,1μm,4.0s					
YSS			pmax	pmax		
	comp=Z,2μm,4.0s					
YSS			pmax	pmax		
	comp=Z,2μm,9.0s					
YSS			pmax	pmax		
	comp=N,2μm,8.0s					
YSS			MLR	MLR		
	comp=N,15μm,16.0s,MS6.2					
YSS			MLR	MLR		
	comp=Z,16μm,16.0s,MS6.1					
YSS			MLR	MLR		
	comp=E,7μm,15.0s,MS6.2					
YSS	**Yuzh-Sakhalins**	**50.29 357**	*e*P	**P**	**12 29 01.3**	**-1.6**
	comp=E,233nm,1.3s,mb6.0					
YSS			LR	LR		
	comp=Z,24μm,19.0s,MS6.2					
CN2	**Changchun**	**50.56 341**	⇓P	**P**	**12 29 03.9**	**-1.0**
CN2			*e*XP	sP	12 29 09.8	-2.4
CN2			*e*S	**S**	**12 36 17.4**	**+0.3**
CN2			AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1					
CN2			AMB	AMB		
	comp=Z,4μm,8.0s					
CN2			LR	LR		
	comp=N,28μm,17.0s,MS6.5					
CN2			LR	LR		
	comp=E,21μm,17.0s,MS6.5					
CN2			LR	LR		
	comp=Z,34μm,19.0s,MS6.4					
KMI	**Kunming**	**50.68 307**	P	**P**	**12 29 07.3**	**+1.2**
KMI			AP	pP	12 29 11.2	-0.1
KMI			XP	sP	12 29 12.7	-0.7
KMI			PP	PP	12 31 03.8	+0.7
KMI			S	**S**	**12 36 20.0**	**+0.9**
KMI			AMB	AMB		
	comp=Z,247nm,1.3s,mb6.0					
KMI			AMB	AMB		
	comp=Z,4μm,7.2s					
KMI			LR	LR		
	comp=N,16μm,20.6s					
KMI			LR	LR		
	comp=E,17μm,28.6s					
KMI			LR	LR		
	comp=Z,44μm,36.7s					
KMI	**Kunming**	**50.68 307**	P	**P**	**12 29 07.3**	**+1.2**
KMI					12 31 03.8	
KMI			PPP	PPP	12 32 01.8	+0.4
KMI			S	**S**	**12 36 20.0**	**+0.9**
KMI			PS	PS	12 36 29.0	-0.6
KMI			SS	SS	12 39 50.9	-0.2
KMI			SSS	SSS	12 41 22.5	-1.7
KMI			pmax	pmax		
	comp=Z,247nm,1.3s,mb6.0					
KMI	**Kunming**	**50.68 307**	P	**P**	**12 29 07.3**	**+1.2**
	comp=Z,247nm,1.3s,mb6.0					
KMI			pP	pP	12 29 11.2	-0.1
KMI			sP	sP	12 29 12.7	-0.7
KMI			PP	PP	12 31 03.8	+0.7
KMI			PPP	PPP	12 32 01.8	+0.4
KMI			S	**S**	**12 36 20.0**	**+0.9**
KMI			PS	PS	12 36 29.0	-0.6
KMI			SS	SS	12 39 50.9	-0.2
KMI			SSS	SSS	12 41 22.5	-1.7
KMI			LR	LR		
	comp=Z,44μm,36.7s,MS6.2					
XAN	**Xi'an**	**51.11 320**	P	**P**	**12 29 07.5**	**-1.8**
XAN			AP	pP	12 29 15.0	+0.5
XAN			AMB	AMB		
	comp=Z,143nm,1.0s,mb5.9					
CM31	**Chiang Mai Arr**	**51.20 297**	*e*P	**P**	**12 29 08.1**	**-2.1**
	comp=Z,173nm,1.0s,mb5.9					
CM31			LR	LR		
	comp=Z,14μm,20.0s,MS6.0					
CMAR	**Chiang Mai Arr**	**51.20 297**	P	**P**	**12 29 10.1**	**-0.1**
	comp=Z,38nm,0.9s,mb5.3,baz=122,slow=4.7,SNR=89					
CMAR			LR	LR	12 51 09.5	
	comp=Z,7μm,19.3s,MS5.7,baz=115,slow=36					
CMAR			PKPPKP		12 59 52.6	
	comp=Z,2.2nm,1.1s,baz=294,slow=3.1,SNR=5.7					
CMAR	**Chiang Mai Arr**	**51.20 297**	P	**P**	**12 29 10.1**	**-0.1**
CMAR			LR	LR	12 51 09.5	
CMAR			P'P'		12 59 52.6	
BJT	**Baijiatuau**	**51.21 331**	*e*P	**P**	**12 29 08.3**	**-1.6**
BJT			pmax	pmax		
	comp=Z,483nm,1.4s					
BJT	**Baijiatuau**	**51.21 331**	*e*P	**P**	**12 29 08.3**	**-1.6**
	comp=Z,483nm,1.4s,mb6.2					
BJI	**Beijing**	**51.22 331**	P	**P**	**12 29 09.3**	**-0.7**
BJI			AP	pP	12 29 12.5	-2.7
BJI			XP	sP	12 29 13.8	-3.4
BJI			PCP	PcP	12 30 20.6	-4.9
BJI			PP	PP	12 31 07.7	-0.1
BJI			S	**S**	**12 36 30.3**	**+4.0**
BJI			SCS	ScS	12 38 59.3	+2.5
BJI			SS	SS	12 40 04.2	+4.4
BJI			AMB	AMB		
	comp=Z,74nm,1.0s,mb5.6					
BJI			LR	LR		
	comp=N,36μm,23.8s,MS6.4					
BJI			LR	LR		
	comp=E,26μm,19.7s,MS6.4					
BJI			LR	LR		
	comp=Z,80μm,35.8s					
BJI	**Beijing**	**51.22 331**	P	**P**	**12 29 09.3**	**-0.7**
BJI					12 30 20.6	
BJI					12 31 07.7	
BJI			S	**S**	**12 36 30.3**	**+4.0**
BJI					12 38 59.3	
BJI			pmax	pmax		
	comp=Z,19nm,0.6s,mb5.2					
BJI	**Beijing**	**51.22 331**	P	**P**	**12 29 09.3**	**-0.7**
	comp=Z,19nm,0.6s,mb5.2					
BJI			pP	pP	12 29 12.5	-2.7
BJI			sP	sP	12 29 13.8	-3.4
BJI			PcP	PcP	12 30 20.6	-4.9
BJI			PP	PP	12 31 07.7	-0.1
BJI			S	**S**	**12 36 30.3**	**+4.0**
BJI			ScS	ScS	12 38 59.3	+2.5
BJI			SS	SS	12 40 04.2	+4.4
BJI			LR	LR		
	comp=Z,80μm,35.8s,MS6.5					
CHG	**Chiang Mai**	**51.32 297**	P	**P**	**12 29 11.0**	**-0.1**
	comp=Z,40nm,1.1s,mb5.3					
TIY	**Taiyuan**	**51.46 326**	⇑P	**P**	**12 29 12.6**	**+0.7**
TIY			S	**S**	**12 36 40.0**	**+10**
TIY			LR	LR		
	comp=N,48μm,23.0s					
CD2	**Chengdu**	**52.81 314**	P	**P**	**12 29 21.0**	**-1.2**
CD2			PP	PP	12 31 26.1	+3.1
CD2			S	**S**	**12 36 47.6**	**-0.6**
CD2			SS	SS	12 40 26.7	+0.5
CD2			AMB	AMB		
	comp=Z,320nm,1.4s,mb6.1					
CD2			LR	LR		
	comp=E,26μm,18.0s					
CD2			LR	LR		
	comp=Z,28μm,16.8s,MS6.4					
KLR	**Kul'dur**	**53.93 348***d*	*i*P	**P**	**12 29 26.0**	**-4.1**
KLR			*e*S	**S**	**12 37 00.0**	**-3.1**
KLR			*e*SSS	SSS	12 42 32.5	-5.0
KLR			pmax	pmax		
	comp=N,2μm,8.0s					
KLR			pmax	pmax		
	comp=Z,4μm,8.0s					
KLR			MLR	MLR		
	comp=Z,14μm,14.0s,MS6.2					
HHC	**Hu-ho-hao-te**	**54.17 328**⇑	*i*P	**P**	**12 29 32.3**	**+0.3**
HHC			AP	pP	12 29 42.9	+5.7
HHC			PCP	PcP	12 30 37.8	+1.3
HHC			PP	PP	12 31 34.4	-0.9
HHC			SCP		12 34 27.5	
HHC			PCS		12 34 36.7	
HHC			S	**S**	**12 37 06.7**	**+0.2**
HHC			SCS	ScS	12 39 14.4	-2.9
HHC			SS	SS	12 40 47.5	-0.5
HHC			AMB	AMB		
	comp=Z,114nm,1.3s,mb5.6					
HHC			AMB	AMB		
	comp=Z,4μm,6.3s					
HHC			LR	LR		
	comp=N,26μm,19.6s,MS6.5					
HHC			LR	LR		
	comp=E,25μm,19.1s,MS6.5					
HHC			LR	LR		
	comp=Z,48μm,25.5s					
SKR	**Severo-Kuril's**	**54.64 8**	*e*P	**P**	**12 29 42.2**	**+6.9**
SKR			*e*		12 29 54.8	
SKR			*e*S	**S**	**12 37 16.0**	**+3.4**
SKR			*e*		12 40 52.0	
SKR			*i*		12 42 50.0	
SKR			pmax	pmax		
	comp=Z,220nm,1.0s,mb6.1					
SKR			pmax	pmax		
	comp=N,2μm,6.0s					
SKR			pmax	pmax		
	comp=E,5μm,6.0s					
SKR			pmax	pmax		
	comp=Z,5μm,6.0s					
SKR			smax			
	comp=N,14μm,16.0s					
SKR			smax			
	comp=E,17μm,16.0s					
SKR			smax			
	comp=Z,8μm,10.0s					
BTO	**Baotou**	**54.83 327**	*e*P	**P**	**12 29 34.7**	**-2.1**
BTO			AMB	AMB		
	comp=Z,198nm,1.7s,mb5.9					
RAR	**Rarotonga**	**55.53 113**	S	**S**	**12 37 40.0**	**+15**
	comp=Z,17nm,0.8s,baz=106,slow=14,SNR=1.8					
RAR	**Rarotonga**	**55.53 113**	PFAKE		12 29 50.0	+7.8
RAR			LR	LR		
	comp=Z,10μm,19.0s,MS5.9					
LZH	**Lanzhou**	**55.66 319**	⇑P	**P**	**12 29 42.0**	**-0.9**
LZH			AP	pP	12 29 45.5	-2.6
LZH			XP	sP	12 29 47.0	-3.1
LZH			PP	PP	12 31 48.0	-0.8
LZH			S	**S**	**12 37 28.1**	**+1.7**
LZH			SS	SS	12 41 12.0	+0.2
LZH			AMB	AMB		
	comp=Z,132nm,1.1s,mb5.9					
LZH			AMB	AMB		
	comp=Z,600nm,4.0s					
LZH			LR	LR		
	comp=E,25μm,15.7s					
LZH			LR	LR		
	comp=Z,35μm,17.8s,MS6.5					
LZH	**Lanzhou**	**55.66 319**	⇑P	**P**	**12 29 42.0**	**-0.9**
LZH					12 31 48.0	
LZH			S	**S**	**12 37 28.1**	**+1.7**
LZH			*SS		12 37 33.6	
LZH			SS	SS	12 41 12.0	+0.2
LZH			pmax	pmax		
	comp=Z,132nm,1.1s,mb5.9					
LZH			MLR	MLR		
	comp=Z,35μm,17.8s,MS6.5					
LZH	**Lanzhou**	**55.66 319**	⇑P	**P**	**12 29 42.0**	**-0.9**
	comp=Z,132nm,1.1s,mb5.9					
LZH			pP	pP	12 29 45.5	-2.6
LZH			sP	sP	12 29 47.0	-3.1
LZH			PP	PP	12 31 48.0	-0.8
LZH			S	**S**	**12 37 28.1**	**+1.7**
LZH			sS		12 37 33.6	
LZH			SS	SS	12 41 12.0	+0.2
LZH			LR	LR		
	comp=Z,35μm,17.8s,MS6.5					
HIA	**Hailar**	**57.25 340**⇑	*e*P	**P**	**12 29 53.7**	**-0.4**
HIA			pmax	pmax		
	comp=Z,423nm,1.4s					
HIA	**Hailar**	**57.25 340**⇑	*e*P	**P**	**12 29 53.7**	**-0.5**
	comp=Z,423nm,1.4s,mb6.3					
PET	**Petropavlovsk**	**57.29 9**	*e*P	**P**	**12 29 55.9**	**+1.5**
PET			*e*S	**S**	**12 37 48.6**	**+0.8**
PET			*e*SS	SS	12 41 31.6	-7.1
PET			*e*SSS	SSS	12 43 57.6	+4.1
PET			pmax	pmax		
	comp=Z,98nm,1.1s,mb5.8					
PET			pmax	pmax		
	comp=Z,3μm,6.5s					
PET			smax			
	comp=E,8μm,12.2s					
PET			smax			
	comp=E,10μm,19.7s					
PET			MLR	MLR		
	comp=Z,13μm,20.0s,MS6.0					
PET	**Petropavlovsk**	**57.29 9**	P	**P**	**12 29 54.1**	**-0.3**
	comp=Z,125nm,1.1s,mb5.8					
PET			LR	LR		
	comp=Z,18μm,19.0s,MS6.2					
AGT	**Agartala**	**59.79 300**⇓	*i*	**P**	**12 30 16.0**	**+3.8**
AGT			*i*		12 31 15.0	
SHL	**Shillong**	**59.82 302**	*e*P	**P**	**12 30 11.5**	**-0.9**
SHL			*e*S	**S**	**12 38 26.5**	**+5.2**
KIP	**Kipapa**	**60.11 63**	*e*P	**P**	**12 30 17.2**	**+2.8**
KIP			pmax	pmax		
	comp=Z,941nm,1.5s,mb6.6					
KIP			MLR	MLR		
	comp=Z,27μm,19.0s,MS6.4					
KIP	**Kipapa**	**60.11 63**	*e*P	**P**	**12 30 17.2**	**+2.8**
	comp=Z,941nm,1.5s,mb6.6					
KIP			LR	LR		
	comp=Z,27μm,19.0s,MS6.4					
GTA	**Gaotai**	**60.17 320**	*e*P	**P**	**12 30 14.0**	**-0.6**
GTA			AP	pP	12 30 18.1	-1.8
GTA			XP	sP	12 30 20.5	-1.3
GTA			PP	PP	12 32 30.1	+0.7
GTA			S	**S**	**12 38 28.0**	**+2.4**
GTA			SS	SS	12 42 25.1	+1.1
GTA			AMB	AMB		
	comp=Z,47nm,1.0s,mb5.5					
GTA			AMB	AMB		
	comp=Z,4μm,5.3s					
GTA			LR	LR		
	comp=N,13μm,25.5s,MS6.1					
GTA			LR	LR		
	comp=E,12μm,28.9s,MS6.1					
GTA			LR	LR		
	comp=Z,36μm,38.8s					
FX1	**Attu Island--F**	**60.64 19**	P	**P**	**12 30 17.7**	**+0.2**
	comp=Z,95nm,0.8s,mb6.0,baz=257,slow=2.7,SNR=6.0					
FX1			LR	LR	12 51 31.7	
	comp=Z,3μm,21.6s,baz=226,slow=31					
FX1	**Attu Island--F**	**60.64 19**	*e*P	**P**	**12 30 17.6**	**0.0**
SMY	**Shemya**	**60.81 19**	*e*P	**P**	**12 30 18.2**	**-0.5**
SMY			pmax	pmax		
	comp=Z,716nm,1.4s,mb6.6					
SMY			MLR	MLR		
	comp=Z,57μm,22.0s,MS6.7					

SMY	**Shemya**	**60.81**	**19**	*e*P	**P**	**12 30 18.2**	**-0.5**
	comp=Z,716nm,1.4s,mb6.6						
SMY				LR	LR		
	comp=Z,57µm,22.0s,MS6.7						
ULN	**Ulaanbaatar**	**61.42**	**331**	*i* P	**P**	**12 30 22.2**	**-0.8**
ULN	**Ulaanbaatar**	**61.42**	**331**	*i* Pr		12 30 22.2	
SONM	**Songino Array**	**61.72**	**331**	P	**P**	**12 30 24.3**	**-0.7**
	comp=Z,38nm,0.9s,mb5.5,baz=149,slow=7.2,SNR=99						
SONM				S	**S**	**12 38 56.5**	**+11**
	comp=Z,1.9nm,1.2s,baz=341,slow=22,SNR=2.3						
SONM				LR	LR	12 56 19.9	
	comp=Z,40µm,19.5s,MS6.6,baz=130,slow=35						
SONM				PKP2bc		12 59 42.9	
	comp=Z,2.0nm,0.8s,baz=297,slow=2.8,SNR=7.8						
SONM	**Songino Array**	**61.72**	**331**	P	**P**	**12 30 24.3**	**-0.7**
SONM				S	**S**	**12 38 56.5**	**+11**
SONM				LR	LR	12 56 19.9	
SONM				⇑*e*		12 59 42.9	
CAL	**Calcutta**	**61.92**	**298**	*e*P	**P**	**12 30 28.2**	**+1.5**
CAL				*e*		12 39 05.8	
LSA	**Lhasa**	**61.94**	**306**	P	**P**	**12 30 26.6**	**-0.1**
LSA				AP	pP	12 30 35.7	+3.7
LSA				XP	sP	12 30 38.7	+4.8
LSA				PCP	PcP	12 31 04.5	-2.6
LSA				PP	PP	12 32 42.8	-2.6
LSA				S	**S**	**12 38 43.0**	**-5.2**
LSA				XS		12 39 07.3	
LSA				SCS	ScS	12 40 15.4	+1.3
LSA				SS	SS	12 42 57.3	+4.9
LSA				LR	LR		
	comp=E,16µm,33.8s						
LSA				LR	LR		
	comp=Z,23µm,40.8s						
LSA	**Lhasa**	**61.94**	**306**	*e*P	**P**	**12 30 26.9**	**+0.2**
LSA				pmax	pmax		
	comp=Z,229nm,1.4s,mb6.1						
LSA	**Lhasa**	**61.94**	**306**	*e*P	**P**	**12 30 26.9**	**+0.1**
	comp=Z,228nm,1.4s,mb6.1						
CLNS	**Chul'man**	**62.51**	**347***c*	*i*P	**P**	**12 30 30.6**	**+0.5**
CLNS				*i* S	**S**	**12 38 59.2**	**+4.2**
CLNS				*e*PS	PS	12 39 15.0	+0.4
CLNS				*e*SS	SS	12 42 55.2	-6.0
CLNS				pmax	pmax		
	comp=Z,91nm,0.9s,mb5.9						
CLNS				pmax	pmax		
	comp=N,88nm,1.7s						
CLNS				pmax	pmax		
	comp=E,17nm,0.8s						
CLNS				smax			
	comp=N,17nm,1.5s						
CLNS				smax			
	comp=Z,6.0nm,0.5s						
CLNS				smax			
	comp=E,9.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,14µm,17.0s,MS6.2						
CLNS				MLR	MLR		
	comp=N,6µm,14.0s,MS5.9						
CLNS				MLR	MLR		
	comp=E,2µm,14.0s,MS5.9						
MA2	**Magadan**	**62.97**	**3**	*e*P	**P**	**12 30 31.9**	**-1.2**
MA2				*e*		12 32 58.9	
MA2				*e*S	**S**	**12 38 58.4**	**-2.3**
MA2				*e*SSS	SSS	12 45 54.8	+1.9
MA2				pmax	pmax		
	comp=Z,80nm,1.1s,mb5.8						
MA2				MLR	MLR		
	comp=Z,44µm,22.0s,MS6.6						
MA2	**Magadan**	**62.97**	**3**⇑	*i*P	**P**	**12 30 32.1**	**-1.0**
DRV	**Dumont d'Urvil**	**63.22**	**183**	S	**S**	**12 39 15.0**	**+11**
DRV				L		12 46 00.0	
KIWB	**Kanaga Island**	**63.37**	**25**	*e*P	**P**	**12 30 37.7**	**+1.9**
BWNR	**Bhubaneshwar**	**63.57**	**295**	*e*P	**P**	**12 30 38.5**	**+0.7**
BWNR				*e*		12 30 53.0	
	comp=Z,165nm,1.1s						
GSTR	**Great Sitkin T**	**64.00**	**25**	*e*P	**P**	**12 30 39.8**	**-0.2**
PPT	**Papeete**	**64.59**	**108**	*e*S	**S**	**12 39 25.9**	**+4.3**
PPT				*e*LQ		12 47 27.0	
PPT				*e*LR	LR	12 50 12.8	
	comp=Z,71µm,34.0s						
PPT	**Papeete**	**64.59**	**108**	LR	LR	12 54 46.0	
	comp=Z,17µm,19.0s,MS6.2,baz=274,slow=32						
ZAK	**Zakamensk**	**64.95**	**331**	*e*P	**P**	**12 30 44.6**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,132nm,1.1s,mb5.9						
VIS	**Vishakhapatnam**	**65.25**	**291**	*e*P	**P**	**12 30 49.5**	**+0.9**
VIS				*e*		12 30 58.4	
	comp=Z,150nm,1.7s						
TBI	**Tubuai**	**65.29**	**114**	*e*S	S	12 39 32.8	+2.7
TBI				*e*SS	SS	12 43 50.1	+5.2
TBI				*e*LQ		12 47 56.4	
TBI				*e*LR	LR	12 50 41.7	
	comp=Z,118µm,39.0s						
JIRN	**Jiri**	**65.32**	**302**	*e*P	**P**	**12 30 48.6**	**-0.4**
	comp=Z,276nm,1.1s,mb6.2						
TLY	**Talaya**	**65.66**	**333**	*e*P	**P**	**12 30 51.0**	**+0.3**
TLY				*e*		12 33 13.0	
TLY				*e*S	S	12 39 34.7	+0.6
TLY				*e*PS	PS	12 39 49.2	-8.3
TLY				*e*SS	SS	12 43 50.8	+0.9
TLY				*e*SSS	SSS	12 46 44.8	+1.2
TLY				pmax	pmax		
	comp=Z,208nm,1.4s,mb6.0						
GUN	**Gumba**	**65.66**	**303**	*e*P	**P**	**12 30 50.4**	**-0.8**
	comp=Z,946nm,1.2s,mb6.7						
IRK	**Irkutsk**	**65.75**	**333**	*e*P	**P**	**12 30 50.1**	**-1.2**
IRK				*e*S	S	12 39 46.7	+11
IRK				pmax	pmax		
	comp=Z,339nm,4.1s						
PKI	**Pulchoki**	**65.95**	**302**	*e*P	**P**	**12 30 52.3**	**-0.7**
	comp=Z,937nm,1.6s,mb6.6						
PKI	**Pulchoki**	**65.95**	**302**	*e*P	**P**	**12 30 52.3**	**-0.7**
PKI				pmax	pmax		
	comp=Z,468nm,1.6s,mb6.3						
PALK	**Pallekele**	**66.03**	**279**	*e*P	**P**	**12 30 54.0**	**+0.3**
	comp=Z,52nm,1.1s,mb5.5						
PALK				LR	LR		
	comp=Z,2µm,20.0s						
PMOR	**Pomariorio Ree**	**66.04**	**105**	*e*P	**P**	**12 30 53.7**	**0.0**
	comp=Z,359nm,1.3s,mb6.2						
KKN	**Kakani**	**66.13**	**302**	*e*P	**P**	**12 30 52.0**	**-2.2**
	comp=Z,415nm,1.0s,mb6.4						
KKN	**Kakani**	**66.13**	**302**	*e*P	**P**	**12 30 52.0**	**-2.2**
KKN				pmax	pmax		
	comp=Z,208nm,1.0s,mb6.1						
DMN	**Daman**	**66.22**	**302**	*e*P	**P**	**12 30 53.7**	**-1.0**
	comp=Z,875nm,1.1s,mb6.7						
BOD	**Bodaibo**	**66.28**	**342**	*e*P	**P**	**12 30 51.5**	**-3.1**
BOD				pmax	pmax		
	comp=Z,105nm,1.3s,mb5.7						
VAH	**Vaihoa**	**66.31**	**105**	*e*P	**P**	**12 30 56.1**	**+0.6**
	comp=Z,277nm,1.5s,mb6.1						
SEY	**Seymchan**	**66.40**	**3**	*e*P	**P**	**12 30 52.4**	**-2.9**
SEY				*e*		12 31 20.5	
SEY				*e*		12 33 22.9	
SEY				*e*S	S	12 39 37.4	-5.6
SEY				*e*SS	SS	12 43 54.6	-6.7
SEY				*e*SSS	SSS	12 46 54.5	-2.6
SEY				pmax	pmax		
	comp=Z,280nm,1.4s,mb6.1						
SEY				pmax	pmax		
	comp=N,140nm,1.3s						
SEY				smax			
	comp=N,27µm,19.8s						
SEY				smax			
	comp=E,59µm,20.7s						
SEY				MLR	MLR		
	comp=N,23µm,18.0s,MS6.5						
SEY				MLR	MLR		
	comp=E,15µm,19.0s,MS6.5						
SEY				MLR	MLR		
	comp=Z,78µm,19.0s,MS6.9						
YAK	**Yakutsk**	**66.51**	**352***de*	P	**P**	**12 30 54.0**	**-2.0**
YAK				*e**PP	pP	12 31 08.9	+7.6
YAK				*e*		12 31 23.2	
YAK				*e*		12 33 21.8	
YAK				*i* S	S	12 39 44.6	+0.3
YAK				*e*		12 40 42.9	
YAK				*e*SS	SS	12 43 54.0	-9.1
YAK				*e*SSS	SSS	12 46 57.3	-1.8
YAK				pmax	pmax		
	comp=Z,66nm,0.9s,mb5.7						
YAK				pmax	pmax		
	comp=N,46nm,1.4s						
YAK				pmax	pmax		
	comp=E,15nm,1.3s						
YAK				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.2						
YAK				pmax	pmax		
	comp=N,26nm,1.1s						
YAK				pmax	pmax		
	comp=E,15nm,1.0s						
YAK				smax			
	comp=E,6µm,18.9s						
YAK				smax			
	comp=Z,2µm,19.3s						
YAK				smax			
	comp=N,4µm,16.8s						
YAK	**Yakutsk**	**66.51**	**352**	*e*P	**P**	**12 30 55.0**	**-1.0**
GKN	**Gorkha**	**66.74**	**302**	*e*P	**P**	**12 30 56.1**	**-1.9**
	comp=N,659nm,1.1s,mb6.6						
MOY	**Mondy**	**66.89**	**331**	*e*P	**P**	**12 30 58.4**	**-0.2**
MOY				pmax	pmax		
	comp=Z,523nm,1.9s,mb6.2						
MDRS	**Chennai**	**67.30**	**286**	*e*P	**P**	**12 31 03.0**	**+1.2**
MDRS				*e*		12 40 08.0	
BLSP	**Bilaspur**	**67.34**	**296**	*e*P	**P**	**12 31 02.0**	**0.0**
CASY	**Casey**	**67.42**	**195**	*e*P	**P**	**12 31 01.1**	**-0.6**
	comp=Z,275nm,1.6s,mb6.0						
CASY				LR	LR		
	comp=Z,36µm,19.0s,MS6.6						
KOLN	**Koldanda**	**67.54**	**302**	*e*P	**P**	**12 31 02.2**	**-1.0**
	comp=Z,469nm,1.0s,mb6.5						
NIKO	**Nikolski**	**67.80**	**28**	*e*P	**P**	**12 31 03.3**	**-1.0**
UNV	**Unalaska Valle**	**69.44**	**28**	*e*P	**P**	**12 31 15.9**	**+1.5**
	comp=Z,956nm,1.4s,mb6.5						
UNV				LR	LR		
	comp=Z,137µm,21.0s,MS7.2						
HYB	**Hyderabad**	**69.65**	**290**	*e*P	**P**	**12 31 16.0**	**-0.4**
HYB				*e*S	S	12 40 24.0	+1.4
HYB				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.5						
HYB	**Hyderabad**	**69.65**	**290**	*e*P	**P**	**12 31 16.0**	**-0.4**
	comp=Z,70nm,1.0s,mb5.5						
HYB				*e*S	S	12 40 24.0	+1.4
HYB	**Hyderabad**	**69.65**	**290**	*i* P	**P**	**12 31 16.0**	**-0.4**
	comp=Z,70nm,1.0s,mb5.5						
HYB				*e*		12 32 10.0	
HYB				*e*S	S	12 40 24.0	+1.4
TRD	**Trivandrum**	**69.86**	**280**	*e*	**P**	**12 31 20.0**	**+2.4**
TRD				*e*		12 31 40.9	
	comp=Z,134nm,1.1s						
WMQ	**Urumqi**	**70.24**	**319**	P	**P**	**12 31 19.5**	**0.0**
WMQ				AP	pP	12 31 30.0	+5.2
WMQ				PCP	PcP	12 31 41.5	+0.1
WMQ				PP	PP	12 33 57.0	+0.1
WMQ				S	S	12 40 27.5	-1.5
WMQ				XS		12 40 43.5	
WMQ				SKS	SKS	12 41 13.7	-8.3
WMQ				SCS	ScS	12 41 15.6	-2.2
WMQ				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,3µm,4.9s						
WMQ				LR	LR		
	comp=N,20µm,24.4s,MS6.3						
WMQ				LR	LR		
	comp=E,10µm,25.8s,MS6.3						
WMQ				LR	LR		
	comp=Z,12µm,26.8s,MS6.0						
LGTI	**Lohaghat**	**70.84**	**303**	*e*P	**P**	**12 31 25.0**	**+1.6**
PTH	**Pithoragarh**	**70.89**	**303**	*e*P	**P**	**12 31 23.6**	**-0.1**
AKL	**Akola**	**71.70**	**293**⇓	*i*P	**P**	**12 31 28.0**	**-0.7**
BHPL	**Bhopal**	**71.83**	**296**	*e*P	**P**	**12 31 28.5**	**-0.9**
BHPL				*e*		12 31 42.0	
	comp=Z,138nm,1.3s						
BHPL				*e*S	S	12 40 47.3	-0.6
BILL	**Bilibino**	**72.75**	**8**⇓	*i*P	**P**	**12 31 32.1**	**-2.0**
BILL				pmax	pmax		
	comp=Z,52nm,1.3s,mb5.3						
BILL	**Bilibino**	**72.75**	**8**⇓	*i*P	**P**	**12 31 32.2**	**-1.9**
MIR	**Mirnyy**	**72.80**	**200**	*i* P	**P**	**12 31 35.5**	**+1.1**
MIR				*e*PPP	PPP	12 35 56.0	-5.4
MIR				*e*S	S	12 40 58.0	-0.2
MIR				pmax	pmax		
	comp=E,410nm,4.0s						
MIR				pmax	pmax		
	comp=N,610nm,4.4s						
MIR				pmax	pmax		
	comp=Z,390nm,1.8s,mb6.0						
MIR				pmax	pmax		
	comp=Z,1µm,4.8s						
MIR				smax			
	comp=N,6µm,16.0s						
MIR				MLR	MLR		
	comp=N,5µm,18.0s,MS6.2						
MIR				MLR	MLR		
	comp=E,10µm,18.0s,MS6.2						
MIR				MLR	MLR		
	comp=Z,18µm,18.0s,MS6.4						
KLP	**Kalpa**	**73.05**	**304**	*e*P	**P**	**12 31 37.6**	**+1.0**
KLP				*e*		12 31 52.0	
	comp=Z,341nm,1.3s						
NDI	**New Delhi**	**73.22**	**301**	*e*P	**P**	**12 31 35.0**	**-2.6**
NDI				*e*S	S	12 41 05.0	+1.4
SONA	**Sohna**	**73.23**	**301**	*e*P	**P**	**12 31 37.8**	**0.0**
SONA				*e*		12 31 50.9	
	comp=Z,233nm,1.4s						
TAOE	**Nuku Hiva Isla**	**73.53**	**98**	*e*S	S	12 41 11.9	+4.5
TAOE				*e*SS	SS	12 45 48.8	-4.0
TAOE				*e*LR	LR	12 54 19.9	
KAD	**Karad**	**73.75**	**289**	*e*P	**P**	**12 31 43.0**	**+2.1**
KAD				*e*	pP	12 31 48.4	+2.1
	comp=Z,122nm,1.3s						
KAD				*e*S	S	12 41 11.7	+1.9
GOA	**Goa**	**73.82**	**287**⇑	*e*P	**P**	**12 31 43.0**	**+1.7**
GOA				*e*S	S	12 41 13.6	+3.0
SMLA	**Simla**	**73.85**	**304**⇓	*i*	**P**	**12 31 36.2**	**-5.0**
POO	**Poona**	**74.25**	**290**⇑	*i*P	**P**	**12 31 42.0**	**-1.8**
	comp=Z,583nm,1.5s,mb6.3						
POO				*i* S	S	12 41 16.0	+0.6
KHET	**Khetri**	**74.29**	**300**	*e*P	**P**	**12 31 42.7**	**-1.2**
KHET				*e*		12 31 57.4	
	comp=Z,199nm,1.4s						
VNDA	**Vanda**	**74.48**	**176**	P	**P**	**12 31 43.8**	**-0.2**
	comp=Z,15nm,0.8s,mb5.0,baz=334,slow=7.0,SNR=32						
VNDA				S	S	12 41 17.3	+0.5
	comp=Z,0.8nm,1.1s,baz=351,slow=6.9,SNR=2.3						
VNDA				LR	LR	13 02 16.9	
	comp=Z,26µm,18.8s,MS6.5,baz=344,slow=34						
VNDA	**Vanda**	**74.48**	**176**	P	**P**	**12 31 43.8**	**-0.2**
VNDA				S	S	12 41 17.3	+0.4
VNDA				LR	LR	13 02 16.9	
MKAR	**Makanchi Array**	**74.92**	**320**	P	**P**	**12 31 46.5**	**-0.6**
	comp=Z,58nm,1.1s,mb5.4,baz=104,slow=5.0,SNR=95						
MKAR				S	S	12 41 23.4	+1.1
	comp=Z,0.3nm,0.3s,baz=53,slow=13,SNR=9.0						
MKAR				PKPPKP		12 59 16.2	
	comp=Z,0.8nm,0.9s,baz=243,slow=2.7,SNR=4.9						
MKAR				LR	LR	13 07 01.2	
	comp=Z,15µm,19.3s,MS6.3,baz=97,slow=38						
MKAR	**Makanchi Array**	**74.92**	**320**	P	**P**	**12 31 46.5**	**-0.6**
MKAR				S	S	12 41 23.4	+1.1
MKAR				P'P'		12 59 16.2	
MKAR				LR	LR	13 07 01.2	
AJM	**Ajmer**	**74.97**	**298**⇑	*i*P	**P**	**12 31 46.0**	**-1.8**
PONG	**Pong**	**75.05**	**304**	*e*	**P**	**12 31 51.0**	**+2.8**
SBA	**Scott Base**	**75.14**	**176**	*e*P	**P**	**12 31 48.9**	**+1.1**
SBA				pmax	pmax		
	comp=Z,73nm,1.2s,mb5.5						
SBA	**Scott Base**	**75.14**	**176**	*e*P	**P**	**12 31 48.6**	**+0.7**
	comp=Z,73nm,1.3s,mb5.5						
SBA				LR	LR		
	comp=Z,27µm,22.0s,MS6.5						
THN	**Thein Dam**	**75.36**	**305**	*e*P	**P**	**12 31 49.3**	**-0.7**
TIXI	**Tiksi**	**75.81**	**354**	*e*P	**P**	**12 31 50.2**	**-1.5**
TIXI				LR	LR		
	comp=Z,12µm,21.0s,MS6.2						
ZAL	**Zalesovo**	**76.36**	**328**	P	**P**	**12 31 53.9**	**-1.3**
	comp=Z,8.2nm,0.9s,baz=2.1,slow=6.3,SNR=48						
ZAL				PKPPKP		12 59 09.9	
	comp=Z,1.0nm,0.3s,baz=123,slow=6.6,SNR=4.0						
ZAL				LR	LR	13 04 46.6	
	comp=Z,34µm,21.6s,MS6.6,baz=359,slow=35						
TNA	**Tin City**	**76.50**	**18**	*e*P	**P**	**12 31 53.8**	**-1.9**
	comp=Z,127nm,1.6s,mb5.6						
TNA				LR	LR		
	comp=Z,25µm,21.0s,MS6.5						
KSH	**Kashi**	**76.96**	**312**⇑	*i*P	**P**	**12 32 00.4**	**+1.6**
KSH				*e*AP	pP	12 32 05.4	+1.2
KSH				*e*XP	sP	12 32 07.5	+1.5
KSH				*e*PCP	PcP	12 32 11.6	+1.3
KSH				*e*PP	PP	12 34 55.4	+1.8
KSH				S	S	12 41 48.2	+3.4
KSH				*e*XS		12 41 56.1	
KSH				*e*SKS	SKS	12 42 07.3	-4.2
KSH				*e*SCS	ScS	12 42 13.9	+2.3
KSH				*e*SS	SS	12 46 48.5	+3.8
KSH				AMB	AMB		
	comp=Z,610nm,3.7s						
KSH				LR	LR		
	comp=N,15µm,18.0s,MS6.5						
KSH				LR	LR		
	comp=E,14µm,14.6s,MS6.5						
AAA	**Alma-Ata**	**77.31**	**316**	*e*P	**P**	**12 32 03.0**	**+2.3**
AAA				*e*S	S	12 41 51.0	+2.4
AAA				pmax	pmax		
	comp=Z,1µm,6.0s						
AAA				MLR	MLR		
	comp=Z,6µm,18.0s,MS6.0						
ULHL	**Ulahol**	**77.51**	**314**	P	**P**	**12 32 04.9**	**+3.0**
	SNR=8.3						
TKM2	**Tokmak 2**	**78.16**	**315**	P	**P**	**12 32 06.1**	**+0.7**
	SNR=13						
KDAK	**Kodiak Island**	**78.17**	**29**	*e*P	**P**	**12 32 06.0**	**+1.0**
	comp=Z,313nm,1.3s,mb6.1						
KDAK				LR	LR		
	comp=Z,11µm,22.0s,MS6.1						
KZA	**Kyzart**	**78.18**	**314**	P	**P**	**12 32 07.3**	**+1.9**
	SNR=36						
KBK	**Karagaybulak**	**78.55**	**315**	P	**P**	**12 32 09.0**	**+1.5**
	SNR=9.0						
RKT	**Rikitea**	**78.56**	**113**	*e*S	S	12 42 04.4	+2.0
RKT				*e*LQ		12 53 31.4	
RKT				*e*LR	LR	12 56 39.5	
	comp=Z,103µm,32.5s						
UCH	**Uchtor**	**78.74**	**314**	P	**P**	**12 32 10.3**	**+1.8**
	SNR=35						
FRU	**Bishkek**	**78.83**	**315**⇑	*e*P	**P**	**12 32 10.0**	**+1.0**
FRU				*i*		12 32 22.0	
FRU				*i* S	S	12 42 06.0	+1.1
FRU				*e*		12 47 10.0	
FRU				pmax	pmax		
	comp=Z,200nm,2.0s,mb5.7						
FRU				smax			
	comp=E,6µm,16.0s						
FRU				MLR	MLR		
	comp=Z,17µm,20.0s,MS6.4						
BHJ	**Bhuj**	**78.86**	**294**	*e*S	S	12 42 10.4	+4.8
AAK	**Ala-Archa**	**78.86**	**314**	P	**P**	**12 32 09.3**	**+0.1**
	SNR=11						
AAK	**Ala-Archa**	**78.86**	**314**	P	**P**	**12 32 09.1**	**-0.1**
AAK				pmax	pmax		
	comp=Z,457nm,2.4s,mb6.0						
USP	**Ospenovka**	**79.03**	**315**	P	**P**	**12 32 10.7**	**+0.5**
	SNR=16						
AML	**Almayashu**	**79.31**	**314**	P	**P**	**12 32 13.2**	**+1.6**
	SNR=57						
EKS2	**Erkin-Say**	**79.38**	**314**	P	**P**	**12 32 13.2**	**+1.1**
	SNR=7.6						
SLKM	**Skilak Lake**	**80.45**	**27**	*e*P	**P**	**12 32 17.2**	**-0.2**
FIB	**Fire Island**	**80.75**	**26**	P	**P**	**12 32 19.2**	**+0.3**
FIB				MLR	MLR		
	comp=Z,21µm,22.0s,MS6.5						
PWA	**Palmer West**	**81.08**	**26**	*e*P	**P**	**12 32 19.0**	**-1.7**
PWA				pmax	pmax		
	comp=Z,66nm,1.2s,mb5.4						
PWA	**Palmer West**	**81.08**	**26**	*e*P	**P**	**12 32 19.0**	**-1.7**
	comp=Z,66nm,1.2s,mb5.4						
IMA	**Indian Mountai**	**81.57**	**21**	*e*P	**P**	**12 32 22.5**	**-0.6**
SML	**Sawmill**	**81.82**	**26**	*e*P	**P**	**12 32 23.0**	**-1.5**
KKAR	**Karatay Array**	**81.82**	**314**	*i* P	**P**	**12 32 24.5**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,2µm,4.0s						
MCK	**McKinley**	**82.34**	**24**	*e*P	**P**	**12 32 25.3**	**-1.9**
MCK				pmax	pmax		
	comp=Z,273nm,1.6s,mb5.9						
MCK				MLR	MLR		
	comp=Z,25µm,21.0s,MS6.5						
MCK	**McKinley**	**82.34**	**24**	*e*P	**P**	**12 32 25.3**	**-1.9**
	comp=Z,273nm,1.6s,mb5.9						
MCK				LR	LR		
	comp=Z,25µm,21.0s,MS6.5						
EYAK	**Cordova Ski Ar**	**82.50**	**28**	*e*P	**P**	**12 32 27.7**	**-0.4**
DIV	**Divide**	**82.70**	**27**	*e*P	**P**	**12 32 27.8**	**-1.3**
	comp=Z,657nm,1.2s,mb6.5						
DIV				LR	LR		
	comp=Z,60µm,21.0s,MS6.9						
PTCN	**Pitcairn Islan**	**83.03**	**115**	PFAKE		12 32 40.0	+8.4
PTCN				LR	LR		
	comp=Z,19µm,21.0s,MS6.4						
COLA	**College**	**83.23**	**23**⇑	*i*P	**P**	**12 32 29.7**	**-2.1**
COLA	**College**	**83.23**	**23**	*e*P	**P**	**12 32 30.4**	**-1.4**
	comp=Z,329nm,1.8s,mb6.1						
THY	**Trims Highway**	**83.53**	**25**	*e*P	**P**	**12 32 33.9**	**+0.6**
ILAR	**Eielson Array**	**83.57**	**23**	P	**P**	**12 32 30.5**	**-3.0**
	comp=Z,14nm,0.9s,mb5.1,baz=252,slow=3.7,SNR=34						
ILAR				S	S	12 42 55.0	+1.7
	comp=Z,0.4nm,0.9s,baz=180,slow=8.6,SNR=2.8						
ILAR				PKKPbc		12 50 57.0	
	comp=Z,1.4nm,1.1s,baz=225,slow=1.3,SNR=4.9						
ILAR				LR	LR	13 04 37.9	
	comp=Z,26µm,20.8s,MS6.6,baz=273,slow=32						
BVA0	**Borovoye Array**	**84.15**	**324**	*i* P	**P**	**12 32 36.1**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.6						
BVAR	**Borovoye Array**	**84.15**	**324**	P	**P**	**12 32 36.0**	**-0.7**
	comp=Z,21nm,0.8s,mb5.3,baz=108,slow=4.7,SNR=71						
BVAR				S	S	12 42 59.3	0.0
	comp=Z,0.2nm,0.3s,baz=90,slow=7.2,SNR=2.2						
CHKZ	**Chkalovo**	**84.17**	**325**	*i* P	**P**	**12 32 35.0**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,198nm,1.6s,mb6.0						
MAW	**Mawson**	**84.18**	**202**	P	**P**	**12 32 36.1**	**-0.4**
	comp=Z,15nm,0.9s,mb5.1,baz=298,slow=9.3,SNR=3.6						
MENT	**Mentasta**	**84.23**	**26**	*e*P	**P**	**12 32 37.5**	**+0.6**
DAWY	**Dawson**	**86.42**	**25**	*e*P	**P**	**12 32 46.8**	**-0.9**
QSPA	**South Pole Qui**	**86.48**	**180**	*e*P	**P**	**12 32 47.9**	**+0.2**
	comp=Z,48nm,1.2s,mb5.6						
SIT	**Sitka**	**86.75**	**32**	PFAKE		12 33 00.0	+10
SIT				LR	LR		
	comp=Z,72µm,22.0s,MS7.0						
INK	**Inuvik**	**89.68**	**22**	*e*P	**P**	**12 33 02.8**	**-0.5**
INK				pmax	pmax		
	comp=Z,160nm,1.5s						
INK	**Inuvik**	**89.68**	**22**	P	**P**	**12 33 03.7**	**+0.4**
	comp=Z,14nm,1.2s,mb5.2,baz=274,slow=4.8,SNR=13						
INK				S	S	12 43 42.6	-9.0
	comp=Z,0.6nm,1.0s,baz=43,slow=29,SNR=1.8						
INK				PKKPbc		12 50 39.6	
	comp=Z,1.8nm,0.9s,baz=93,slow=2.7,SNR=8.5						
INK				LR	LR	13 14 35.2	
	comp=Z,33µm,19.2s,MS6.8,baz=246,slow=36						
INK	**Inuvik**	**89.68**	**22**	*e*P	**P**	**12 33 02.8**	**-0.5**
	comp=Z,160nm,1.5s,mb6.1						
BBB	**Bella Bella**	**90.19**	**38**	LR	LR	13 05 10.8	
	comp=Z,52µm,21.8s,MS6.9,baz=249,slow=30						
SVE	**Sverdlovsk**	**90.33**	**327**	*e*P	**P**	**12 33 06.9**	**+0.3**
SVE				*

SOKR	Solikamsk	92.56	329⇓	iP	P	12 33 21.3	+4.6
SOKR						12 37 00.3	
SOKR				S		12 43 52.9	
SOKR				PS	PS	12 45 34.9	-1.3
SOKR				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.9						
SOKR				MLR	MLR		
	comp=Z,24µm,25.0s,MS6.5						
SYO	Syowa Base	92.61	200⇓	P	P	12 33 15.2	-1.5
SYO	Syowa Base	92.61	200⇓	pP	pP	12 33 28.8	+6.6
HOPS	Hopland	92.89	51	P	P	12 33 19.4	+0.7
	comp=Z,171nm,1.7s,mb6.2						
HOPS				LR	LR		
	comp=Z,51µm,22.0s,MS6.9						
COR	Corvallis	92.91	46	PFAKE		12 33 30.0	+11
COR				LR	LR		
	comp=Z,10µm,20.0s,MS6.3						
HUMO	Hull Mountain	93.10	48	eP	P	12 33 21.2	+1.6
	comp=Z,38nm,1.3s,mb5.7						
HUMO				LR	LR		
	comp=Z,57µm,22.0s,MS7.0						
NSHM	Saint Helena R	93.23	52	eP	P	12 33 21.3	+1.0
YBH	Yreka Blue Hor	93.25	49	eP	P	12 33 22.0	+1.6
YBH				pmax	pmax		
	comp=Z,75nm,1.6s						
YBH				MLR	MLR		
	comp=Z,73µm,22.0s						
YBH	Yreka Blue Hor	93.25	49	P	P	12 33 22.3	+1.9
	comp=Z,10nm,1.3s,mb5.1,baz=232,slow=5.3,SNR=3.9						
YBH				LR	LR	13 06 31.3	
	comp=Z,75µm,21.8s,MS7.1,baz=343,slow=30						
YBH	Yreka Blue Hor	93.25	49	eP	P	12 33 22.0	+1.6
	comp=Z,75nm,1.6s,mb5.9						
YBH				LR	LR		
	comp=Z,73µm,22.0s,MS7.1						
WDC	Whiskeytown Da	93.35	50	eP	P	12 33 22.0	+1.2
WDC				pmax	pmax		
	comp=Z,95nm,1.5s,mb6.0						
WDC				MLR	MLR		
	comp=Z,36µm,22.0s,MS6.8						
WDC	Whiskeytown Da	93.35	50	eP	P	12 33 22.0	+1.1
	comp=Z,95nm,1.5s,mb6.0						
WDC				LR	LR		
	comp=Z,36µm,22.0s,MS6.8						
SAO	San Andreas Ge	94.11	54	P	P	12 33 25.2	+0.8
SAO				MLR	MLR		
	comp=Z,45µm,22.0s,MS6.9						
CMB	Columbia Colle	94.97	52	eP	P	12 33 28.4	0.0
CMB				pmax	pmax		
	comp=Z,65nm,1.5s,mb5.8						
CMB				MLR	MLR		
	comp=Z,70µm,22.0s,MS7.1						
CMB	Columbia Colle	94.97	52	eP	P	12 33 28.4	+0.1
	comp=Z,65nm,1.5s,mb5.8						
CMB				LR	LR		
	comp=Z,70µm,22.0s,MS7.1						
MOD	Modoc	95.06	48	eP	P	12 33 29.2	+0.5
	comp=Z,268nm,2.3s,mb6.3						
MOD				LR	LR		
	comp=Z,49µm,20.0s,MS7.0						
WCN	Washoe City	95.47	51	eP	P	12 33 32.6	+2.0
WCN				pmax	pmax		
	comp=Z,203nm,2.1s,mb6.2						
WCN	Washoe City	95.47	51	eP	P	12 33 32.5	+1.9
	comp=Z,203nm,2.1s,mb6.2						
HAWA	Hanford	95.58	44	eP	P	12 33 32.0	+1.1
	comp=Z,7.6nm,1.4s,mb4.9						
HAWA				LR	LR		
	comp=Z,3µm,20.0s,MS5.7						
OMM	Old Mammoth Mi	96.07	53	eP	P	12 33 35.8	+2.4
WVOR	Wild Horse Val	96.29	48	eP	P	12 33 35.5	+1.2
WVOR				pmax	pmax		
	comp=Z,84nm,1.7s,mb5.9						
WVOR				MLR	MLR		
	comp=Z,67µm,22.0s,MS7.1						
WVOR	Wild Horse Val	96.29	48	eP	P	12 33 35.5	+1.2
	comp=Z,84nm,1.7s,mb5.9						
WVOR				LR	LR		
	comp=Z,67µm,22.0s,MS7.1						
MTUM	Tungsten Hills	96.42	53	eP	P	12 33 35.9	+0.9
NVAR	Mina Array Bea	96.61	52	P	P	12 33 36.2	+0.4
	comp=Z,2.1nm,0.8s,baz=242,slow=9.5,SNR=13						
NVAR				PP	PP	12 37 21.8	-11
	comp=Z,2.4nm,1.1s,baz=260,slow=3.9,SNR=3.5						
NVAR				LR	LR	13 08 39.6	
	comp=Z,51µm,21.5s,baz=275,slow=30						
MNV	Mina	96.73	52	eP	P	12 33 38.3	+1.9
MNV				pmax	pmax		
	comp=Z,52nm,1.6s,mb5.7						
MNV				MLR	MLR		
	comp=Z,64µm,22.0s,MS7.1						
MNV	Mina	96.73	52	eP	P	12 33 38.3	+1.9
	comp=Z,52nm,1.6s,mb5.7						
MNV				LR	LR		
	comp=Z,64µm,22.0s,MS7.1						
MWC	Mount Wilson	96.86	56	eP	P	12 33 38.9	+1.9
NEW	Newport	97.16	42	eP	P	12 33 40.6	+2.5
NEW				pmax	pmax		
	comp=Z,71nm,1.4s						
NEW				MLR	MLR		
	comp=Z,25µm,20.0s						
NEW	Newport	97.16	42	P	P	12 33 37.8	-0.3
	comp=Z,3.4nm,0.9s,mb4.8,baz=287,slow=3.2,SNR=5.1						
NEW				PP	PP	12 37 40.7	+3.6
	comp=Z,2.5nm,1.0s,baz=310,slow=4.5,SNR=3.7						
NEW				LR	LR	13 11 17.8	
	comp=Z,23µm,19.9s,MS6.7,baz=285,slow=32						
NEW	Newport	97.16	42	eP	P	12 33 40.6	+2.5
	comp=Z,71nm,1.4s,mb5.9						
NEW				LR	LR		
	comp=Z,25µm,20.0s,MS6.7						
BMO	Blue Mountains	97.19	45	eP	P	12 33 38.1	-0.2
BMO				pmax	pmax		
	comp=Z,62nm,1.4s,mb5.8						
BMO				MLR	MLR		
	comp=Z,32µm,20.0s,MS6.8						
BMO	Blue Mountains	97.19	45	eP	P	12 33 38.1	-0.1
	comp=Z,62nm,1.4s,mb5.8						
BMO				LR	LR		
	comp=Z,32µm,20.0s,MS6.8						
DAC	Darwin (Calif)	97.21	54	PFAKE		12 33 50.0	+11
DAC				LR	LR		
	comp=Z,35µm,22.0s,MS6.8						
OPO	Ambohidratompo	97.23	251	P	P	12 33 39.4	+0.3
	comp=Z,9.3nm,1.0s,mb5.2,baz=123,slow=6.7,SNR=6.4						
YKW3	Yellowknife Ar	97.40	27	eP	P	12 33 37.5	-1.3
BMN	Battle Mountai	97.40	50	PFAKE		12 33 50.0	+11
BMN				LR	LR		
	comp=Z,21µm,22.0s,MS6.6						
YKA	Yellowknife Ar	97.41	28	P	P	12 33 37.5	-1.3
	comp=Z,3.3nm,0.9s,mb4.8,baz=275,slow=4.5,SNR=32						
YKA				PP	PP	12 37 38.7	0.0
	comp=Z,6.9nm,1.1s,baz=272,slow=7.7,SNR=7.9						
YKA				PKKPbc		12 50 18.9	
	comp=Z,0.9nm,0.8s,baz=93,slow=2.9,SNR=11						
YKA				LR	LR	13 16 36.2	
	comp=Z,35µm,20.3s,MS6.8,baz=290,slow=35						
YKA	Yellowknife Ar	97.41	28	P	P	12 33 37.5	-1.3
YKA				PP	PP	12 37 38.7	0.0
YKA				PKKPbc		12 50 18.9	
YKA				LR	LR	13 16 36.2	
TPH	Tonopah	97.47	52	P	P	12 33 41.0	+1.3
TPH				pmax	pmax		
	comp=Z,43nm,1.7s,mb5.6						
TPH				MLR	MLR		
	comp=Z,56µm,22.0s,MS7.0						
TPH	Tonopah	97.47	52	P	P	12 33 41.0	+1.3
	comp=Z,43nm,1.7s,mb5.6						
TPH				LR	LR		
	comp=Z,56µm,22.0s,MS7.0						
PFO	Pinyon Flat Ob	98.20	57	PFAKE		12 34 00.0	+17
PFO				LR	LR		
	comp=Z,10µm,20.0s,MS6.3						
MAK	Makhachkala	98.57	313	eP	pP	12 33 57.0	+7.0
MAK				i		12 37 50.0	
MAK				e		12 45 08.0	
MAK				pmax	pmax		
	comp=Z,1µm,5.0s						
MAK				pmax	pmax		
	comp=Z,4µm,10.0s						
MAK				pmax	pmax		
	comp=N,700nm,8.0s						
MAK				pmax	pmax		
	comp=E,2µm,8.0s						
MAK				smax			
	comp=N,1µm,8.0s						
MAK				smax			
	comp=E,2µm,8.0s						
ELK	Elko	98.90	49	P	P	12 33 48.8	+2.7
ELK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ELK				MLR	MLR		
	comp=Z,29µm,20.0s						
ELK	Elko	98.90	49	Pdif	P	12 33 48.8	+2.7
	comp=Z,10nm,1.2s,mb5.2						
ELK				LR	LR		
	comp=Z,29µm,20.0s,MS6.8						
WALA	Waterton Lakes	99.23	41	Pdif	P	12 33 49.2	+1.9
	comp=Z,51nm,1.4s,mb5.9						
LDFC	Landfair	99.27	55	eP	P	12 33 49.4	+1.5
HLID	Hailey	99.33	47	eP	P	12 33 49.1	+1.1
	comp=Z,43nm,1.5s,mb5.8						
HLID				LR	LR		
	comp=Z,33µm,21.0s,MS6.8						
MSO	Missoula	99.41	43	PFAKE		12 34 00.0	+12
MSO				LR	LR		
	comp=Z,20µm,22.0s,MS6.6						
PECR	Pechory	99.48	326	eP	P	12 33 55.0	+6.7
PECR				e		12 37 55.0	
CHMT	Chamberlain Mo	99.87	43	ePdif	P	12 33 52.0	+1.6
MCMT	McKenzie Canyo	100.35	45	ePdif	P	12 33 54.3	+1.7
ARUT	Antelope Range	100.47	52	eP	P	12 33 55.4	+2.1
HVU	Hansel Valley	100.68	48	eP	P	12 33 56.3	+2.1
RES	Resolute Bay	100.78	14	P	P	12 33 54.0	+0.1
RES				pmax	pmax		
	comp=Z,9.0nm,1.1s						
RES	Resolute Bay	100.78	14	Pdif	P	12 33 54.0	+0.1
	comp=Z,9.4nm,1.1s						
DUG	Dugway	100.78	50	eP	P	12 33 55.8	+1.1
DUG				pmax	pmax		
	comp=Z,14nm,1.5s						
DUG	Dugway	100.78	50	ePdif	P	12 33 55.8	+1.2
	comp=Z,14nm,1.5s						
GNI	Garni	100.83	310	PFAKE		12 34 10.0	+15
GNI				LR	LR		
	comp=Z,5µm,21.0s,MS6.0						
SPUT	South Promonto	100.96	49	Pdif	P	12 33 56.7	+1.3
BOZ	Bozeman (W)	101.12	44	eP	P	12 33 57.6	+1.5
BOZ				pmax	pmax		
	comp=Z,15nm,1.0s						
BOZ				MLR	MLR		
	comp=Z,30µm,20.0s,MS6.8						
BOZ	Bozeman (W)	101.12	44	ePdif	P	12 33 57.5	+1.5
	comp=Z,15nm,1.0s						
BOZ				LR	LR		
	comp=Z,30µm,20.0s,MS6.8						
ZEI	Tsey	101.23	313	eP	P	12 33 50.9	-5.7
ZEI				i		12 38 03.4	
QLMT	Earthquake Lak	101.36	45	ePdif	P	12 33 59.0	+1.8
NLU	North Lily Min	101.37	50	Pdif	P	12 33 58.6	+1.3
MVU	Marysvale	101.38	52	PFAKE		12 34 10.0	+13
MVU				LR	LR		
	comp=Z,65µm,22.0s,MS7.1						
RPN	Rapa Nui	101.42	118	PFAKE		12 34 10.0	+12
RPN				LR	LR		
	comp=Z,4µm,21.0s,MS5.9						
HWUT	Hardware Ranch	101.60	48	ePdif	P	12 33 58.9	+0.6
	comp=Z,8.7nm,1.2s						
HWUT				LR	LR		
	comp=Z,60µm,21.0s,MS7.1						
RRI2	Red Ridge	101.60	47	Pdif	P	12 34 01.1	+2.9
	comp=Z,34nm,1.5s						
GOF	Gofitskoye	101.60	315⇑	iP	P	12 34 09.2	+11
BHD	Baghdad	101.61	303	eP	P	12 33 59.0	+0.5
APA	Apatity	101.69	339⇑	eP	P	12 34 04.4	+6.3
APA				iS	S	12 45 42.0	+7.4
APA				iPS	PS	12 47 08.0	-5.2
APA				pmax	pmax		
	comp=Z,29nm,1.2s						
APA				MLR	MLR		
	comp=Z,20µm,23.0s,MS6.6						
YMR	Madison River	101.70	45	ePdif	P	12 33 59.6	+0.9
JLU	Jordanelle	101.78	49	ePdif	P	12 33 59.7	+0.5
IMW	Indian Meadow	101.81	46	ePdif	P	12 34 00.3	+1.1
	comp=Z,28nm,1.7s						
AHID	Auburn Hatcher	101.82	47	PFAKE		12 34 10.0	+11
AHID				LR	LR		
	comp=Z,17µm,19.0s,MS6.6						
TPAW	Teton Pass	101.85	46	ePdif	P	12 34 02.2	+2.8
	comp=Z,14nm,1.3s						
YNR	Norris Junctio	101.90	45	ePdif	P	12 34 00.5	+0.9
REDW	Red Top Meadow	101.94	47	ePdif	P	12 34 01.2	+1.4
	comp=Z,13nm,1.3s						
MOOW	Moose Ponds	101.97	46	ePdif	P	12 34 01.7	+1.8
	comp=Z,46nm,2.1s						
KIV	Kislovodsk	101.98	314	PFAKE		12 34 10.0	+10
KIV				LR	LR		
	comp=Z,2µm,20.0s,MS5.5						
TMUT	Trail Mountain	102.09	51	ePdif	Pdif	12 34 01.3	+0.6
LKWY	Lake	102.12	45	PFAKE		12 34 10.0	+9.4
LKWY				LR	LR		
	comp=Z,56µm,20.0s,MS7.1						
WUAZ	Wupatki	102.29	55	ePdif	Pdif	12 34 02.8	+1.2
	comp=Z,13nm,1.1s						
WUAZ				LR	LR		
	comp=Z,29µm,21.0s,MS6.8						
SNAA	Sanae	102.31	190	PP	PP	12 38 14.4	-1.3
	comp=Z,7.2nm,1.1s,baz=131,slow=7.4,SNR=4.5						
MSL	Mosul	102.45	306	eP	Pdif	12 34 04.5	+2.2
MSL				ePP	PP	12 38 20.0	+2.4
MSL				eSKS	SKS	12 44 41.5	-4.5
MSL				eS	S	12 45 34.5	-7.1
MSL				ePS	PS	12 47 08.0	-14
MSL				ePPS	PPS	12 48 08.0	-5.4
GCMT	Greycliff	102.47	44	ePdif	Pdif	12 34 03.4	+1.3
SRU	San Rafael	102.64	51	eP	Pdif	12 34 04.0	+1.0
BW06	Boulder Array	102.95	47	ePdif	Pdif	12 34 05.6	+1.3
BW06				LR	LR		
	comp=Z,22µm,20.0s,MS6.7						
PDAR	Pinedale Array	102.95	47	Pdiff	Pdif	12 34 05.2	+0.9
	comp=Z,2.1nm,0.9s,baz=256,slow=2.2,SNR=7.3						
PDAR				PP	PP	12 38 11.7	-10
	comp=Z,1.6nm,1.0s,baz=270,slow=5.9,SNR=4.3						
PDAR				PKiKP		12 38 24.0	
	comp=Z,4.0nm,1.1s,baz=284,slow=3.7,SNR=6.1						
TUC	Tucson	103.02	58	PFAKE		12 34 20.0	+15
TUC				LR	LR		
	comp=Z,25µm,21.0s,MS6.7						
MOS	Moscow	103.15	327κ	iP	Pdif	12 34 00.7	-4.2
MOS				e		12 38 24.2	
MOS				ePPP	PPP	12 40 32.5	-2.4
MOS				e		12 44 33.1	
MOS				eSP	SP	12 47 24.5	-2.5
MOS				ePPS	PPS	12 48 19.9	-2.0
MOS				iSS	SS	12 53 12.2	+10
ARCES	ARCESS Array B	103.56	342	Pdiff	Pdif	12 34 05.3	-1.1
	comp=Z,13nm,1.0s,baz=90,slow=6.1,SNR=4.7						
ARCES				PP	PP	12 38 23.7	-1.5
	comp=Z,10nm,1.1s,baz=349,slow=12,SNR=3.7						
ARCES	ARCESS Array B	103.56	342	Pdif	Pdif	12 34 05.3	-1.1
ARCES				PP	PP	12 38 23.7	-1.5
PV10	Paradox Valley	103.87	51	ePdif	Pdif	12 34 10.0	+1.5
OBN	Obninsk	103.89	326⇓	iP	Pdif	12 34 11.6	+3.5
OBN				i		12 38 30.5	
OBN				iPS	PS	12 47 36.5	+0.1
OBN				iPPS	PPS	12 48 27.3	-3.4
OBN				iSS	SS	12 53 22.1	+11
OBN				pmax	pmax		
	comp=Z,54nm,2.5s						
OBN				MLR	MLR		
	comp=Z,21µm,22.0s,MS6.6						
OBN	Obninsk	103.89	326	PFAKE		12 34 20.0	+12
OBN				LR	LR		
	comp=Z,4µm,21.0s,MS5.9						
PV01	Paradox Valley	104.27	52	ePdif	Pdif	12 34 11.5	+1.3
FFC	Flin Flon	105.44	34	PFAKE		12 38 40.0	
FFC				LR	LR		
	comp=Z,11µm,22.0s,MS6.3						
TRO	Tromso	105.49	343	eP		12 38 15.1	
TRO				LR	LR		
	comp=Z,7404µm,21.2s						
TRO	Tromso	105.49	343	e		12 38 15.1	
TRO				eSKSa		12 44 57.0	
TRO				e		12 47 49.9	
TRO				AMS	AMS	13 22 08.3	
	comp=Z,7µm,21.2s,MS6.2						
ANN	Anapa	105.57	316	eP	Pdif	12 34 17.2	+1.4
ANN				e		12 38 41.8	
ANN				e		12 44 57.2	
ANN				SS	SS	12 53 50.4	+15
ANN				pmax	pmax		
	comp=Z,174nm,5.5s						
ANN				MLR	MLR		
	comp=E,6µm,24.0s						
ANN				MLR	MLR		
	comp=Z,11µm,24.0s,MS6.3						
LAZ	Ladron	105.86	55	ePdif	Pdif	12 34 18.8	+1.5
DAG	Danmarks Havn	106.27	356	eP	Pdif	12 34 19.0	+0.8
DAG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DAG	Danmarks Havn	106.27	356	eP	Pdif	12 34 19.0	+0.8
	comp=Z,4.5nm,0.8s						
DAG	Danmarks Havn	106.27	356	iP	Pdif	12 34 19.0	+0.8
	comp=Z,4.5nm,0.8s						
ANMO	Albuquerque	106.35	55	PP	PP	12 38 42.4	-4.5
	comp=Z,1.7nm,0.9s,baz=286,slow=6.0,SNR=5.8						
ANMO	Albuquerque	106.35	55	PFAKE		12 38 40.0	
ANMO				LR	LR		
	comp=Z,17µm,21.0s,MS6.6						
RSSD	Black Hills	106.69	45	eP	Pdif	12 34 21.6	+0.9
RSSD				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RSSD				MLR	MLR		
	comp=Z,4µm,19.0s,MS6.0						
RSSD	Black Hills	106.69	45	ePdif	Pdif	12 34 21.6	+0.8
	comp=Z,4.6nm,0.9s						
RSSD				LR	LR		
	comp=Z,4µm,19.0s,MS6.0						
SDCO	Great Sand Dun	106.73	52	PFAKE		12 38 40.0	
SDCO				LR	LR		
	comp=Z,86µm,22.0s,MS7.3						
FINES	FINESS Array B	106.98	334	Pdiff	Pdif	12 34 20.4	-1.1
	comp=Z,4.3nm,1.1s,baz=180,slow=15,SNR=3.2						
FINES				PP	PP	12 38 50.5	-0.7
	comp=Z,5.3nm,0.9s,baz=90,slow=5.7,SNR=4.4						
FINES	FINESS Array B	106.98	334	Pdif	Pdif	12 34 20.4	-1.1
FINES				PP	PP	12 38 50.5	-0.7
MNTX	Cornudas Mount	107.65	58	PFAKE		12 38 50.0	
MNTX				LR	LR		
	comp=Z,25µm,21.0s,MS6.8						
ASF	Jabal al Asfar	107.99	303	PP	PP	12 38 53.5	-5.6
	comp=Z,1.9nm,0.5s,baz=355,slow=4.0,SNR=4.6						
ASF				PKKPab		12 50 00.2	
	comp=Z,1.3nm,0.4s,baz=183,slow=16,SNR=3.7						
PMSA	Palmer Station	108.42	167	PFAKE		12 38 50.0	
PMSA				LR	LR		
	comp=Z,13µm,20.0s,MS6.5						
KMBO	Kilima Mbogo	108.63	268	PP	PP	12 39 05.1	+0.5
	comp=Z,0.7nm,0.4s,baz=61,slow=20,SNR=3.1						
KMBO	Kilima Mbogo	108.63	268	PFAKE		12 38 50.0	
KMBO				LR	LR		
	comp=Z,7µm,20.0s,MS6.2						
MNK	Minsk	108.89	327⇑	eP	Pdif	12 34 38.0	+7.9
BRTR	Keskin Array B	109.34	311	PP	PP	12 39 01.8	-7.6
	comp=Z,3.9nm,1.1s,baz=108,slow=3.9,SNR=5.9						
BRTR				PKKPbc		12 49 49.3	
	comp=Z,0.3nm,0.5s,baz=198,slow=3.9,SNR=4.2						
LTX	Lajitas	109.41	60	PFAKE		12 38 50.0	
LTX				LR	LR		
	comp=Z,31µm,20.0s,MS6.9						
TXAR	Lajitas Array	109.41	60	PP	PP	12 38 57.1	-13
	comp=Z,1.9nm,0.9s,baz=243,slow=2.8,SNR=5.5						
TXAR				PKKPab		12 49 53.2	
	comp=Z,1.7nm,1.0s,baz=112,slow=6.7,SNR=5.8						
AKASG	Malin Array Be	109.41	323	Pdiff	Pdif	12 34 33.5	+1.0
	comp=Z,0.1nm,0.3s,baz=57,slow=3.9,SNR=4.3						
AKASG				PP	PP	12 39 02.4	-7.2
	comp=Z,0.2nm,0.2s,baz=69,slow=5.3,SNR=5.3						
AMTX	Amarillo	110.24	54	PFAKE		12 38 50.0	+10
AMTX				LR	LR		
	comp=Z,25µm,21.0s,MS6.8						
ULM	Lac du Bonnet	110.38	37	PP	PP	12 39 16.4	0.0
	comp=Z,9.0nm,1.2s,baz=307,slow=7.3,SNR=4.4						
ULM	Lac du Bonnet	110.38	37	PFAKE		12 38 50.0	+10
ULM				LR	LR		
	comp=Z,71µm,21.0s,MS7.2						
JMIC	Jan Mayen	110.62	351	ePP	PP	12 39 04.2	-13
JMIC				e		12 48 26.3	
JMIC				eSS	SS	12 54 46.5	+3.7
NSS	Namsos	110.75	341	eP	PKPdf	12 38 40.6	+0.1
NSS	Namsos	110.75	341	e	PKPdf	12 38 40.6	+0.1
NSS				eSS	SS	12 54 46.6	+2.1
NSS				AMS	AMS	13 27 37.1	
	comp=Z,13µm,23.2s,MS6.5						
KIS	Kishinev	110.85	319	ePKIKP	PKPdf	12 38 44.0	+2.8
KIS				MLR	MLR		
	comp=Z,14µm,24.0s,MS6.5						
CBKS	Cedar Bluff	110.98	50	PFAKE		12 38 50.0	+8.3
CBKS				LR	LR		
	comp=Z,39µm,22.0s,MS6.9						
SUW	Suwalki	111.58	328	ePKPdf	PKPdf	12 38 39.9	-2.5
SUW				ePP	PP	12 39 22.0	-2.7
SUW				eSKS	SKS	12 45 19.3	-6.0
SUW				ePS	PS	12 48 55.2	+3.4
SUW				eSS	SS	12 55 26.8	+31
SUW	Suwalki	111.58	328	ePKIKP	PKPdf	12 38 39.9	-2.5
SUW				ePP	PP	12 39 21.9	-2.7
SUW				eSKS	SKS	12 45 19.3	-6.0
SUW				ePS	PS	12 48 55.2	+3.4
SUW				eSS	SS	12 55 26.8	+31
SUW				MLR	MLR	13 19 06.9	
	comp=Z,30µm,33.0s,MS6.7						
JCT	Junction City	112.56	59	ePKIKP	PKPdf	12 38 42.4	-2.5
JCT				MLR	MLR		
	comp=Z,35µm,21.0s,MS6.9						
WMOK	Wichita Mounta	112.61	54	PKIKP	PKPdf	12 38 43.0	-1.9
WMOK				MLR	MLR		
	comp=Z,23µm,20.0s,MS6.8						
LVV	L'vov	112.84	323	iPKIKP	PKPdf	12 38 50.5	+5.5
LVV				i		12 49 02.5	
LVV				MLR	MLR		
	comp=N,5µm,19.0s,MS6.3						
LVV				MLR	MLR		
	comp=E,6µm,19.0s,MS6.3						
LVV				MLR	MLR		
	comp=Z,11µm,19.0s,MS6.5						
MLR	Muntele Rosu	113.23	319	PKKPbc		12 49 30.9	
	comp=Z,1.6nm,0.7s,baz=255,slow=11,SNR=3.7						
NB2	NORSAR Subarra	113.25	338	PP	PP	12 39 32.8	-4.4
	comp=Z,40nm,1.4s,baz=50,slow=7.0						
NB2	NORSAR Subarra	113.25	338	PP	PP	12 39 32.8	-4.4
	baz=50,slow=7.4						
NOA	NORSAR Array B	113.25	338	PP	PP	12 39 32.5	-4.7
	comp=Z,4.4nm,0.9s,baz=47,slow=7.4,SNR=3.8						
NAO01	NORSAR Array S	113.50	338	PFAKE		12 39 00.0	+14
NAO01				LR	LR		
	comp=Z,18µm,20.0s,MS6.7						
WAR	Warsaw	113.53	327	ePKIKP	PKPdf	12 38 43.9	-2.4
WAR				ePS	PS	12 49 11.9	+1.5
WAR				eSS	SS	12 55 43.9	+22
WAR				MLR	MLR		
	comp=Z,28µm,25.0s,MS6.8						
WAR	Warsaw	113.53	327	ePKPdf	PKPdf	12 38 43.9	-2.4
WAR				eSKS	SKS	12 45 35.0	+1.9
WAR				ePS	PS	12 49 11.9	+1.5
WAR				eSS	SS	12 55 43.9	+22
WAR				LR	LR		
	comp=Z,28µm,25.0s,MS6.8						
WAR	Warsaw	113.53	327	ePKIKP	PKPdf	12 38 43.9	-2.5
WAR				eSKS	SKS	12 45 35.0	+1.9
WAR				ePS	PS	12 49 11.9	+1.4
WAR				eSS	SS	12 55 43.9	+22
WAR				MLR	MLR	13 24 57.6	
	comp=Z,28µm,25.0s,MS6.8						
KWP	Kalwaria	113.70	324	iPKIKP	PKPdf	12 38 44.8	-1.9
KWP				e		12 39 44.4	
KWP				e		12 45 29.4	
KWP				ePS	PS	12 49 14.2	+2.2
KWP				MLR	MLR		
	comp=Z,19µm,27.9s,MS6.5						
KWP	Kalwaria	113.70	324	ePdif	Pdif	12 35 01.5	+10
KWP				ePKPdf	PKPdf	12 38 44.8	-1.9
KWP				ePP	PP	12 39 44.4	+3.8
KWP				eSKS	SKS	12 45 29.4	-4.4
KWP				ePS	PS	12 49 14.2	+2.2
KWP				eSS	SS	12 55 56.5	+32
KWP	Kalwaria	113.70	324	ePdiff	Pdif	12 35 01.5	+10
KWP				ePKIKP	PKPdf	12 38 44.8	-1.9
KWP				ePP	PP	12 39 44.4	+3.8
KWP				eSKS	SKS	12 45 29.4	-4.4
KWP				ePS	PS	12 49 14.2	+2.2
KWP				eSS	SS	12 55 56.5	+32
KWP				MLR	MLR	13 24 26.2	
	comp=Z,19µm,27.9s,MS6.5						
EYMN	Ely	113.90	38	PFAKE		12 39 00.0	+13
EYMN				LR	LR		
	comp=Z,47µm,22.0s,MS7.0						

KOLS Kolonicke sedl 114.25 323 *e*PP PP 12 39 33.5 -11
MATP Matopo 114.29 246 PKiKP 12 38 45.8
comp=Z,3.2nm,1.0s,baz=124,slow=3.6,SNR=3.0
MATP PKKPab 12 49 33.4
comp=Z,2.0nm,0.8s,baz=298,slow=7.9,SNR=2.7
CRVS Cervenica-Dubn 114.75 323 *e*P Pdif 12 35 07.5 +11
CRVS *e*PS PS 12 49 19.8 -2.4
CRVS *e*SS SS 12 55 51.8 +14
CRVS Cervenica-Dubn 114.75 323 *e*Pdif Pdif 12 35 07.5 +11
CRVS *e*PP PP 12 39 39.2 -8.7
CRVS *e*Sdif 12 46 48.5
CRVS *e*PS PS 12 49 19.8 -2.4
CRVS *e*SS SS 12 55 51.8 +14
CRVS *e* 13 00 05.6
CRVS Cervenica-Dubn 114.75 323 *e* Pdif 12 35 07.5 +11
CRVS *e*PP PP 12 39 39.2 -8.7
CRVS *e* 12 46 48.5
CRVS *e*PS PS 12 49 19.8 -2.4
CRVS *e* 12 55 51.8
CRVS *e* 13 00 05.6
KONO Kongsberg 114.77 337 PFAKE 12 39 00.0 +12
KONO LR LR
comp=Z,14μm,20.0s,MS6.6
FRB Frobisher Bay 114.81 16 PKiKP 12 38 47.5
comp=Z,0.8nm,0.4s,baz=294,slow=20,SNR=2.1
FRB Frobisher Bay 114.81 16 PKPdf PKPdf 12 38 47.5 -1.0
BOSA Boshof 114.83 236 PFAKE 12 39 00.0 +11
BOSA LR LR
comp=Z,12μm,19.0s,MS6.5
GKP Gorka Klasztor 115.05 329 *e*P Pdif 12 34 57.9 +0.6
GKP *e* 12 38 48.2
GKP *e* 12 39 53.1
GKP *e* 12 45 37.7
GKP *e*PS PS 12 49 24.8 -0.3
GKP *e*SS SS 12 55 49.6 +7.9
GKP MLR MLR
comp=Z,30μm,25.4s,MS6.8
GKP Gorka Klasztor 115.05 329 *e*Pdiff Pdif 12 34 57.9 +0.6
GKP *e*PKIKP PKPdf 12 38 48.2 -1.0
GKP *e*PP PP 12 39 53.1 +3.1
GKP *e*SKS SKS 12 45 37.7 -1.2
GKP *e*PS PS 12 49 24.8 -0.3
GKP *e*SS SS 12 55 49.6 +7.8
GKP MLR MLR 13 26 35.9
comp=Z,30μm,25.4s,MS6.8
OJC Ojcow 115.14 325 *e*PKIKP PKPdf 12 38 54.0 +4.5
OJC *e* 12 45 38.3
OJC *e*SP SP 12 49 26.3 +2.4
OJC *e*SS SS 12 55 56.8 +14
OJC MLR MLR
comp=Z,16μm,20.2s,MS6.6
OJC Ojcow 115.14 325 *e*PKP PKPdf 12 38 54.0 +4.5
OJC *e*PP PP 12 39 58.8 +8.1
OJC *e*SKS SKS 12 45 38.3 -1.0
OJC *e*SP SP 12 49 26.3 +2.4
OJC *e*SS SS 12 55 56.8 +14
OJC MLR MLR 13 30 31.9
comp=Z,16μm,20.2s,MS6.6
MBAR Mbarara 115.17 268 PFAKE 12 39 00.0 +10
MBAR LR LR
comp=Z,1μm,21.0s,MS5.5
LBTB Lobatse 115.66 240 PFAKE 12 39 00.0 +8.8
LBTB LR LR
comp=Z,12μm,19.0s,MS6.5
LSZ Lusaka 115.70 251 *e*PKIKP PKPdf 12 38 49.8 -1.6
LSZ MLR MLR
comp=Z,11μm,20.0s,MS6.5
BER Bergen 115.83 340 *e* 12 42 54.3
BER AMS AMS 13 30 29.8
comp=Z,17μm,23.5s,MS6.6
OKC Ostrava-Krasne 116.26 325 *e*PKP PKPdf 12 38 56.1 +4.4
OKC *e*PP PP 12 39 59.6 +1.1
OKC *e*PS PS 12 49 36.2 +0.2
OKC *e*x x 12 56 19.5
OKC *e*x x 13 00 18.5
OKC AMS AMS 13 28 00.0
comp=Z,10μm,20.2s
VYHS Vyhne 116.49 324 *e*P Pdif 12 35 15.7 +12
VYHS *e* 12 39 52.6
VYHS *i* PS PS 12 49 38.1 0.0
VYHS *e* 12 50 46.8
VYHS *e*SS SS 12 55 51.7 -8.8
VYHS *e* 13 00 20.8
VYHS Vyhne 116.49 324 *e*Pdif Pdif 12 35 15.7 +12
VYHS *e*PP PP 12 39 52.6 -7.5
VYHS *e*Sdif 12 47 07.8
VYHS *i* PS PS 12 49 38.1 0.0
VYHS *e* 12 50 46.8
VYHS *e*SS SS 12 55 51.7 -8.8
VYHS *e* 13 00 20.8
VYHS Vyhne 116.49 324 *e* Pdif 12 35 15.7 +12
VYHS *e*PP PP 12 39 52.6 -7.5
VYHS *e* 12 47 07.8
VYHS *i* PS PS 12 49 38.1 0.0
VYHS *e* 12 50 46.8
VYHS *e*SS SS 12 55 51.7 -8.8
VYHS *e* 13 00 20.8
KSP Ksiaz 116.79 327 *e*PKIKP PKPdf 12 38 54.9 +2.2
KSP *e*PP PP 12 40 00.3 -1.9
KSP *e*SKS SKS 12 45 41.9 -3.6
KSP *e*PS PS 12 49 42.5 +1.7
KSP *e*SS SS 12 56 36.2 +32
KSP MLR MLR 13 28 14.3
comp=Z,34μm,23.7s,MS6.9
MIAR Mount Ida 116.83 53 *e*PKIKP PKPdf 12 38 51.5 -1.7
MIAR MLR MLR
comp=Z,35μm,22.0s,MS6.9
DPC Dobruska-Polom 117.03 326 *e*PKP PKPdf 12 38 59.0 +5.8
DPC *e*PP PP 12 40 04.4 +0.5
DPC *e*PS PS 12 49 39.2 -3.8
DPC *e*x x 12 56 27.2
DPC *e*x x 13 00 27.7
DPC AMS AMS 13 26 40.0
comp=Z,20μm,24.2s
SUR Sutherland 117.04 231 PFAKE 12 39 00.0 +6.3
SUR LR LR
comp=Z,4μm,20.0s,MS6.0
UPC Upice 117.12 327 *e*PP PP 12 39 52.0 -13
VRAC Vranov 117.40 325 PP PP 12 40 07.6 +1.1
comp=Z,2.9nm,0.5s,baz=50,slow=8.8,SNR=5.2
SKO Skopje 117.53 316 *e*PKP PKPdf 12 39 10.0 +16
CCM Cathedral Cave 117.60 49 *e*PKIKP PKPdf 12 38 52.0 -2.6
CCM MLR MLR
comp=Z,13μm,22.0s,MS6.5
DIVS Divcibare 117.68 319 *e*PKP PKPdf 12 38 52.6 -1.9
PVCC Panska Ves 117.89 327 *e*PP PP 12 40 23.4 +13
PVCC *e*PS PS 12 49 52.9 +2.2
PVCC *e*SKKS 12 56 41.4
PVCC *e*x x 13 00 46.2
PVCC AMS AMS 13 24 40.0
comp=Z,25μm,31.0s
BORG Borgarnes 118.17 354 PFAKE 12 39 00.0 +5.0
BORG LR LR
comp=Z,2μm,20.0s,MS5.8
PRU Pruhonice 118.20 327 *e*PKP PKPdf 12 39 01.8 +6.4
PRU *e*PP PP 12 40 11.7 -0.4
PRU *e*PS PS 12 49 46.1 -7.4
PRU *e*SKKS 12 56 42.7
PRU *e*x x 13 00 44.2
PRU AMS AMS 13 29 00.0
comp=Z,17μm,22.8s
PRA Prague 118.21 327 PP PP 12 40 12.0 -0.2
PRA AMS AMS 13 30 00.0
FVM French Village 118.24 48 PKIKP PKPdf 12 38 52.1 -3.7
CLL Collm 118.30 329 *i* PKIKP PKPdf 12 38 59.2 +3.6
CLL *e* 12 40 12.0
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL MLR MLR
comp=Z,18μm,19.7s,MS6.7
CLL Collm 118.30 329 *i* PKP PKPdf 12 38 59.2 +3.6
CLL *e* 12 39 27.0
CLL *e*PP PP 12 40 12.0 -0.8
CLL LR LR
comp=Z,18μm,19.7s,MS6.7
CLL Collm 118.30 329 *e*PKIKP PKPdf 12 38 54.0 -1.6
CLL *i* 12 38 59.2
CLL *i* 12 39 03.9
CLL *e* 12 39 27.0
CLL *e* 12 39 58.0
CLL *e*PP PP 12 40 12.0 -0.8
CLL *e*PPP PPP 12 42 39.0 -4.1
CLL *e* 12 46 07.0
CLL *e*PS PS 12 49 55.0 +0.6
CLL *e* 12 50 58.0
CLL *e*PPS PPS 12 51 43.0 +28
CLL *e*SS SS 12 56 30.0 +6.0
CLL *e*SSS SSS 13 00 36.0 -13
KHC Kasperske Hory 119.18 326 *e*PKIKP PKPdf 12 38 56.8 -0.6
KHC *e*PS PS 12 49 59.5 -2.9
KHC *e*SS SS 12 56 52.7 +17
KHC *e* 13 01 03.7
KHC MLR MLR
comp=Z,14μm,22.1s,MS6.6
KHC Kasperske Hory 119.18 326 *e*PKPDF PKPdf 12 38 56.8 -0.6
KHC *e*pPKP 12 39 00.0
KHC *e*PP PP 12 40 08.4 -10
KHC *e*PS PS 12 49 59.5 -2.9
KHC *e*SKKS 12 56 52.7
KHC *e*x x 13 01 03.7
KHC AMS AMS 13 29 20.0
comp=Z,14μm,22.1s
NKC Novy Kostel 119.19 328 *e*PKP PKPdf 12 39 03.2 +5.8
NKC *e*PP PP 12 40 16.6 -2.3
NKC *e*PS PS 12 50 01.8 -0.6
NKC *e*SKKS 12 56 56.6
NKC *e*x x 13 01 02.9
NKC AMS AMS 13 33 20.0
comp=Z,19μm,18.4s
GERES GERESS Array B 119.27 326 PKP PKPdf 12 38 54.4 -3.1
comp=Z,0.9nm,0.8s,baz=315,slow=1.9,SNR=3.7
GERES PP PP 12 40 16.2 -3.1
comp=Z,3.1nm,0.9s,baz=72,slow=4.2,SNR=5.0
GERES PKKPab 12 49 12.7
comp=Z,1.2nm,0.8s,baz=180,slow=4.0,SNR=4.0
PERS Pernice 119.59 323 *e*PP PP 12 40 22.2 +0.9
PDKS Podkum 119.94 323 *e*Pdiff Pdif 12 35 19.4 +0.4
OXF Oxford 120.13 52 PFAKE 12 39 10.0 +10
OXF LR LR
comp=Z,36μm,20.0s,MS7.0
LJU Ljubljana 120.24 323 *e*PP PP 12 40 27.0 +1.5
LJU *e*SP SP 12 50 14.3 +4.4
LJU *e*SS SS 12 57 13.0 +24
KBA Koelnbreinsper 120.41 324⇑ *i*P PKPdf 12 39 04.6 +4.8
WVT Waverly 120.82 50 *e*PKIKP PKPdf 12 38 59.0 -1.9
WVT MLR MLR
comp=Z,59μm,22.0s,MS7.2
PLAL Pickwick Lake 121.02 51 PFAKE 12 39 10.0 +8.7
PLAL LR LR
comp=Z,18μm,20.0s,MS6.7
WCI Wyandotte Cave 121.19 47 PFAKE 12 39 10.0 +8.4
WCI LR LR
comp=Z,10μm,20.0s,MS6.5
WTTA Wattenberg 121.29 325⇓ *i*P PKPdf 12 39 01.8 +0.2
AAM Ann Arbor 121.32 41 PFAKE 12 39 10.0 +8.3
AAM LR LR
comp=Z,31μm,21.0s,MS6.9
MOTA Moosalm 121.55 326⇓ *i*P PKPdf 12 39 04.0 +2.0
DAVA Damuels 122.27 326⇓ *i*P PKPdf 12 39 05.1 +1.7
SCHQ Schefferville 122.30 22 PKP PKPdf 12 39 02.0 -1.2
comp=Z,3.4nm,0.9s,baz=251,slow=13,SNR=3.4
SCHQ PP PP 12 40 38.6 -1.1
comp=Z,6.2nm,1.0s,baz=2.8,slow=9.1,SNR=3.2
SCHQ Schefferville 122.30 22 PKP PKPdf 12 39 02.0 -1.2
SCHQ PP PP 12 40 38.6 -1.0
SCHQ LR LR
comp=Z,25μm,22.0s,MS6.8
LRAL Lakeview Retre 122.50 53 *e*PKPdf PKPdf 12 39 02.9 -1.2
LRAL LR LR
comp=Z,33μm,22.0s,MS7.0
DAVOX Davos 122.56 326 PKP PKPdf 12 39 03.7 -0.2
comp=Z,4.1nm,0.7s,baz=31,slow=18,SNR=4.5
SWET Sewanee 122.58 50 *e*PKPdf PKPdf 12 39 01.8 -2.5
EKA Eskdalemuir Ar 122.62 340 PKP PKPdf 12 39 01.9 -2.0
comp=Z,0.4nm,0.4s,baz=90,slow=5.8,SNR=2.6
ESK Eskdalemuir 122.65 340 PFAKE 12 39 10.0 +6.1
ESK LR LR
comp=Z,3μm,20.0s,MS5.9
ACSO Alum Creek Sta 122.70 43 PFAKE 12 39 10.0 +5.6
ACSO LR LR
comp=Z,29μm,20.0s,MS6.9
CDF Champ du Feu 123.00 328 *e*PKIKP PKPdf 12 39 03.2 -1.5
GIVF Givet 123.15 331 *e*PKIKP PKPdf 12 39 04.0 -1.0
BAIF Baives 123.47 331 *e*PKIKP PKPdf 12 39 04.8 -0.9
CPCT Cooper Cave 123.57 49 *e*PKPdf PKPdf 12 39 04.4 -1.9
HINF Hinteralfeld 123.59 328 *e*PKIKP PKPdf 12 39 04.4 -1.6
comp=Z,76nm,1.4s
PAYG Puerto Ayora 123.60 93 PFAKE 12 39 20.0 +13
PAYG LR LR
comp=Z,14μm,20.0s,MS6.6
HAU Haudompre 123.74 328 *e*PKIKP PKPdf 12 39 04.9 -1.4
comp=Z,28nm,0.9s
HAU *e*R
comp=Z,23μm,23.0s
ERPA Erie 123.80 40 PFAKE 12 39 20.0 +13
ERPA LR LR
comp=Z,30μm,22.0s,MS6.9
TSUM Tsumeb 124.50 244 *e*PKPdf PKPdf 12 39 07.2 -1.3
TSUM LR LR
comp=Z,12μm,19.0s,MS6.6
TEIG Tepich 124.61 68 PFAKE 12 39 20.0 +11
TEIG LR LR
comp=Z,6μm,21.0s,MS6.2
CABF La Chapelle 124.75 327 *e*PKIKP PKPdf 12 39 07.5 -0.8
comp=Z,52nm,1.0s
PLCA Paso Flores 124.77 147 PKP PKPdf 12 39 05.9 -2.6
comp=Z,3.9nm,0.8s,baz=200,slow=2.7,SNR=7.7
PLCA Paso Flores 124.77 147 *e*PKPdf PKPdf 12 39 06.3 -2.2
PLCA LR LR
comp=Z,12μm,20.0s,MS6.5
LPL La Plagne 125.07 326 *e*PKIKP PKPdf 12 39 08.0 -0.9
LPG La Plagne 125.07 326 *e*PKIKP PKPdf 12 39 08.2 -0.7
comp=Z,26nm,0.9s
GOGA Godfrey 125.14 51 PKIKP PKPdf 12 39 07.1 -2.3
GOGA MLR MLR
comp=Z,22μm,21.0s,MS6.8
FWV Forest Hill 125.40 45 *e*PKPdf PKPdf 12 39 07.3 -2.5
SSF Saint Saulge 125.82 329 *e*PKIKP PKPdf 12 39 09.1 -1.2
comp=Z,33nm,1.1s
BLA Blacksburg 125.85 46 *e*PKIKP PKPdf 12 39 07.9 -2.7
BLA MLR MLR
comp=Z,27μm,20.0s,MS6.9
SSPA Standing Stone 125.91 41 PKPdf PKPdf 12 39 09.3 -1.4
SSPA LR LR
comp=Z,6μm,22.0s,MS6.2
SMF Signal de Mont 125.92 329 *e*PKIKP PKPdf 12 39 09.3 -1.2
comp=Z,47nm,1.3s
AVF Avril sur Loir 126.08 329 *e*PKIKP PKPdf 12 39 09.4 -1.4
NCB Newcomb 126.30 35 PFAKE 12 39 20.0 +8.8
NCB LR LR
comp=Z,23μm,20.0s,MS6.8
BGF Bois d'Agland 126.49 329 *e*PKIKP PKPdf 12 39 10.6 -0.9
JSC Jenkinsville 126.49 49 *e*PKIKP PKPdf 12 39 11.1 -0.8
LDF La Druitiere 126.52 333 *e*PKIKP PKPdf 12 39 10.2 -1.3
comp=Z,17nm,0.9s
FLN La Foliniere 126.56 333 *e*PKIKP PKPdf 12 39 10.3 -1.3
comp=Z,48nm,1.2s
FLN *e*R
comp=Z,14μm,19.2s
MIV Mineville/With 126.63 35 *e*PKPdf PKPdf 12 39 10.4 -1.4
TCF Toulx Ste Croi 127.00 329 *e*PKIKP PKPdf 12 39 11.6 -0.9
comp=Z,54nm,1.2s
MVL Millersville 127.25 41 PKPdf PKPdf 12 39 12.2 -1.0
COW Cow Castle Cre 127.29 50 PKPdf PKPdf 12 39 10.8 -2.7
NHSC New Hope 127.80 50 PFAKE 12 39 20.0 +5.5
NHSC LR LR
comp=Z,25μm,21.0s,MS6.9
PQI Presque Isle 127.84 29 PFAKE 12 39 20.0 +5.8
PQI LR LR
comp=Z,166μm,20.0s
WVL Waterville 128.45 32 PFAKE 12 39 20.0 +4.5
WVL LR LR
comp=Z,100μm,20.0s,MS7.5
DWPF Disney 128.66 56 PFAKE 12 39 30.0 +14
DWPF LR LR
comp=Z,4μm,20.0s,MS6.1
HRV Harvard--Oak R 128.73 35 PFAKE 12 39 30.0 +14
HRV LR LR
comp=Z,29μm,20.0s,MS7.0
WES Weston 128.94 35 PFAKE 12 39 30.0 +14
WES LR LR
comp=Z,36μm,21.0s,MS7.0
JTS JuntasAbangare 129.02 80 PFAKE 12 39 30.0 +13
JTS LR LR
comp=Z,5μm,20.0s,MS6.2
EMMW East Machias 129.50 31 PFAKE 12 39 30.0 +13
EMMW LR LR
comp=Z,149μm,21.0s
TRQA Tornquist 131.22 151 PFAKE 12 39 30.0 +9.1
TRQA LR LR
comp=Z,13μm,22.0s,MS6.6
CFAA Coronel Fontan 132.28 140 PKP PKPdf 12 39 20.4 -2.7
comp=Z,0.6nm,0.7s,baz=295,slow=1.7,SNR=4.1
NNA Nana 134.73 111 PFAKE 12 39 40.0 +12
NNA LR LR
comp=Z,3μm,20.0s,MS5.9
ESDC Sonseca Array 134.84 327 PP PP 12 41 55.6 -6.5
comp=Z,2.5nm,0.9s,baz=18,slow=7.6,SNR=4.8
ESLA Sonseca Array 134.84 327 PFAKE 12 39 40.0 +12
ESLA LR LR
comp=Z,88μm,20.0s,MS7.5
TRIS Tristan da Cun 134.89 205 PFAKE 12 39 40.0 +12
TRIS LR LR
comp=Z,13μm,21.0s,MS6.6
OTAV Otavalo 135.47 93 *e*PKPdf PKPdf 12 39 28.3 -1.2
OTAV LR LR
comp=Z,14μm,20.0s,MS6.7
LVC Limon Verde 137.17 129 PKP PKPdf 12 39 30.6 -1.7
comp=Z,4.6nm,0.8s,baz=260,slow=6.1,SNR=2.7
LVC Limon Verde 137.17 129 *e*PKPdf PKPdf 12 39 31.2 -1.1
LVC LR LR
comp=Z,17μm,22.0s,MS6.8
BBSR BB Station 139.33 42 PFAKE 12 39 50.0 +14
BBSR LR LR
comp=Z,26μm,22.0s,MS6.9
ROSC El Rosal 139.76 87 PKP PKPdf 12 39 35.5 -1.8
comp=Z,5.4nm,0.4s,baz=265,slow=22,SNR=2.6
ROSC PP PP 12 42 40.0 +6.7
comp=Z,4.9nm,0.4s,baz=110,slow=17,SNR=3.2
LPAZ La Paz 140.97 121 PKhKP 12 39 30.7
comp=Z,2.0nm,0.7s,baz=34,slow=5.7,SNR=8.1
LPAZ PKP PKPdf 12 39 38.5 -1.0
comp=Z,2.4nm,0.7s,baz=280,slow=2.1,SNR=9.8
LPAZ La Paz 140.97 121 *e*PKPpre 12 39 31.1
LPAZ PKP PKPdf 12 39 38.5 -1.0
LPAZ LR LR
comp=Z,7μm,20.0s,MS6.4
SDV Santo Domingo 143.21 80 PKP PKPdf 12 39 38.7 -4.7
baz=286,slow=4.5
SDV Santo Domingo 143.21 80 *e*PKPpre 12 39 36.3
SDV LR LR
comp=Z,13μm,21.0s,MS6.7
ADH Angra Heroismo 144.44 351 *i* LR LR 13 27 25.0
PDA Ponta Delgada 145.04 348 *e*PKP PKPdf 12 39 45.0 -0.9
PDA Ponta Delgada 145.04 348 *e*LQ 13 20 26.0
PDA *e*LR LR 13 28 14.0
SJG San Juan 145.33 63 *e*PKP2 PKPab 12 39 43.6 -1.6
SJG MLR MLR
comp=Z,16μm,21.0s
SIV San Ignacio 146.97 127 PKPbc PKPbc 12 39 48.9 +1.3
comp=Z,33nm,1.0s,baz=241,slow=3.5,SNR=38
SAML Samuel 148.40 113 *e*PKPdf PKPdf 12 39 49.5 -2.6
SAML *e*PKPbc PKPdf 12 39 53.8 +1.7
SAML LR LR
comp=Z,10μm,20.0s,MS6.6
PCRV Puerto La Cruz 148.88 76 PKPbc PKPdf 12 39 53.4 +0.4
baz=270,slow=5.1
DWS Wesley 150.56 64 *e*P PKPdf 12 40 09.4 +14
DBIC Dimbokro 150.80 277 PKIKP PKPdf 12 39 58.8 +2.8
DBIC Dimbokro 150.80 277 PKPbc PKPdf 12 39 59.5 +3.6
comp=Z,42nm,1.1s,baz=77,slow=3.0,SNR=11
DBIC Dimbokro 150.80 277 *e*PKPbc PKPdf 12 39 58.9 +2.9
DBIC LR LR
comp=Z,15μm,20.0s,MS6.8
CAM4 Nova Friburgo 153.00 162 (P) PKPdf 12 40 04.8 +5.9
CAM4 *i* 12 40 11.8
CAM4 *i* 12 40 16.7
CAM4 *i* 12 40 26.5
CAM4 *i* 12 40 31.1
BDFB Brasilia 156.49 144 PKP PKPdf 12 40 01.7 -2.0
comp=Z,0.8nm,0.3s,baz=119,slow=17,SNR=1.7
BAO Brasilia Array 156.50 144 PKPdf PKPdf 12 40 02.0 -1.7
BAO PP PP 12 44 06.0 -4.2
RCBR Riachuelo 170.57 168 PFAKE 12 40 30.0 +13
RCBR LR LR
comp=Z,15μm,22.0s

DJA 11 12:22:44.9±1.0,9.31S×117.18E,h80km,MD4.5/2, ML4.0/3,6C,Error ellipse: s-maj=31.7km s-min=21.1km az=4.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.33**	**308**⇑	*e*Pn	P	12 23 08.4	-0.1
237nm,0.2s							
KEDI	**Kedomdong**	**1.33**	**308**	*e*P	P	12 23 08.7	+0.2
KEDI			⇑	*i*Sn	S	12 23 26.0	0.0
RATI	**Rata**	**1.72**	**289**⇑	*i*Pn	P	12 23 13.8	+0.1
117nm,0.2s							
RATI			⇑	*i*Sn	S	12 23 33.3	-1.6
SRDI	**Scrawed**	**3.11**	**285**⇑	*i*Pn	P	12 23 31.7	-1.2
30nm,0.2s							
SRDI			⇑	*i*Sn	S	12 24 06.3	-2.7

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*IDC **11** 12:24:30.6±0.8,1.79S×99.87E,h26km±4km,mb4.2/14, mb1 4.4/14,mb1mx4.2/20,mbtmp4.4/14,Error ellipse: s-maj=25.1km s-min=14.4km az=53.0*
*NEIC **11** 12:24:30.2±0.5,1.83S×99.86E,mb4.7/1,Error ellipse: s-maj=16.6km s-min=9.6km az=67.0*
ISC 11 12:24:28.4±0.6,1.82S±0.08×99.8E±0.1,h26km, h26km±2.9km:pP-P,n26,σ0:98/24,mb4.5/14,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.17**	**43**	P	**Pn**	**12 25 47.3**	**+1.0**
IPM	**Ipoh**	**6.47**	**11**	P	**Pn**	**12 26 06.0**	**+1.3**
KULM	**Kulim**	**7.11**	**7**	*e*Pn	**Pn**	**12 26 13.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**20.17**	**358**	*i* P	**P**	**12 29 02.2**	**-1.8**
CMAR	**Chiang Mai Arr**	**20.17**	**358**	P	**P**	**12 29 02.1**	**-1.9**
1.9nm,0.6s,baz=185,slow=9.4,SNR=13							
DDI	**Dehra Dun**	**38.12**	**329**	*e*	**P**	**12 31 43.3**	**-4.0**
WRA	**Warramunga Arr**	**38.24**	**121**	P	**P**	**12 31 48.1**	**-0.4**
4.0nm,0.6s,mb4.3,baz=305,slow=9.1,SNR=13							
WRA				pP	pP	12 31 55.2	-0.9
9.5nm,0.5s,baz=303,slow=9.1,SNR=5.2							
ASAR	**Alice Springs**	**39.50**	**126**	P	**P**	**12 31 59.2**	**+0.3**
4.6nm,0.5s,mb4.4,baz=305,slow=7.4,SNR=13							
BHK	**Bhakra**	**39.84**	**328**	*e*	**P**	**12 31 54.3**	**-7.4**
STKA	**Stephens Creek**	**49.40**	**132**	P	**P**	**12 33 18.1**	**-0.2**
4.7nm,0.5s,mb4.8,baz=17,slow=13,SNR=2.8							
STKA				pP	pP	12 33 27.4	+1.3
12nm,0.8s,baz=308,slow=7.2,SNR=3.4							
STKA	**Stephens Creek**	**49.40**	**132**	P	**P**	**12 33 18.1**	**-0.2**
STKA				pP	pP	12 33 27.4	+1.3
SONM	**Songino Array**	**49.78**	**6**	P	**P**	**12 33 20.9**	**-0.2**
3.0nm,0.7s,mb4.4,baz=190,slow=10,SNR=8.4							
MKAR	**Makanchi Array**	**50.81**	**345**	P	**P**	**12 33 29.1**	**+0.2**
3.1nm,0.3s,mb4.7,baz=158,slow=8.8,SNR=30							
MJAR	**Matsushiro Arr**	**52.25**	**39**	P	**P**	**12 33 38.2**	**-1.7**
1.1nm,0.5s,mb4.1,baz=231,slow=8.1,SNR=5.7							
ZAL	**Zalesovo**	**56.95**	**349**	P	**P**	**12 34 13.8**	**-0.2**
6.6nm,0.5s,mb5.0,baz=291,slow=3.5,SNR=11							
ZAL	**Zalesovo**	**56.95**	**349**	P	**P**	**12 34 13.8**	**-0.2**
ASAJ	**Asahikawa**	**59.57**	**35**	P	**P**	**12 34 32.5**	**+0.1**
2.5nm,0.4s,mb4.6,baz=236,slow=9.9,SNR=5.6							
CHKZ	**Chkalovo**	**60.42**	**340**	P	**P**	**12 34 36.7**	**-1.4**
3.3nm,0.5s,mb4.6							
MATP	**Matopo**	**71.87**	**249**	P	**P**	**12 35 52.9**	**+1.1**
4.1nm,0.8s,mb4.4,baz=90,slow=9.6,SNR=5.6							
BRTR	**Keskin Array B**	**73.07**	**312**	P	**P**	**12 35 57.4**	**-1.2**
1.9nm,0.8s,mb4.0,baz=135,slow=5.8,SNR=5.4							
FINES	**FINESS Array B**	**83.87**	**332**	P	**P**	**12 36 57.9**	**+0.8**
1.4nm,0.5s,mb4.4,baz=108,slow=6.5,SNR=9.6							
FINES				pP	pP	12 37 05.2	-0.1
1.3nm,0.5s,baz=118,slow=4.2,SNR=2.3							
FINES	**FINESS Array B**	**83.87**	**332**	P	**P**	**12 36 57.9**	**+0.8**
FINES				pP	pP	12 37 05.2	-0.1
ARCES	**ARCESS Array B**	**86.25**	**340**	P	**P**	**12 37 09.9**	**+1.2**
3.7nm,0.7s,mb4.7,baz=90,slow=5.4,SNR=9.4							
GERES	**GERESS Array B**	**88.80**	**319**	P	**P**	**12 37 22.4**	**+0.9**
0.5nm,0.5s,mb4.1,baz=101,slow=6.8,SNR=3.8							
TXAR	**Lajitas Array**	**144.67**	**37**	PKP	PKPdf	12 44 05.2	-3.2
2.5nm,0.6s,baz=318,slow=1.3,SNR=10							
TXAR				pPKP		12 44 14.9	
4.2nm,0.7s,baz=293,slow=1.1,SNR=9.0							
CFAA	**Coronel Fontan**	**144.88**	**198**	PKP	PKPdf	12 44 04.8	-3.9
0.8nm,0.6s,baz=175,slow=3.2,SNR=7.7							
CFAA				pPKP		12 44 14.8	

0.9nm,0.6s,baz=191,slow=4.2,SNR=3.8

IDC 11 12:33:06.6±1.9,3.60S×146.40E,mb3.7/3,mb1 4.1/3, mb1mx3.7/14,mbtmp3.8/3,Error ellipse: s-maj=244.8km s-min=29.3km az=119.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.06**	**215**	P	P	12 37 41.3	-3.2
	2.1nm,0.8s,baz=37,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**23.32**	**210**	P	P	12 38 16.9	-0.6
	2.6nm,0.9s,baz=43,slow=7.5,SNR=8.9						
ILAR	**Eielson Array**	**83.52**	**23**	P	P	12 45 36.2	-1.2
	0.4nm,0.7s,baz=258,slow=5.5,SNR=5.8						

*IDC **11** 12:38:27.9±1.6,3.40S×146.19E,mb4.0/6,mb1 4.3/8, mb1mx4.1/17,mbtmp4.1/8,ML3.5/2,Error ellipse: s-maj=39.9km s-min=21.7km az=87.0*
*NEIC **11** 12:38:33.6±2.8,3.48S×146.24E,h42km±32km,mb4.6/2, Error ellipse: s-maj=24.7km s-min=12.0km az=130.0*

ISC 11 12:38:30.9±0.9,3.4S±0.1×146.2E±0.1,h33km,n11, σ0°73/11,mb3.9/5,1C-1D,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.00**	**171**	Pn	**Pn**	**12 39 59.3**	**-0.5**
	2.4nm,0.3s,baz=347,slow=6.4,SNR=12						
HNR	**Honiara**	**14.88**	**114**	Pn	**P**	**12 42 00.9**	**+0.2**
	0.9nm,0.3s,baz=234,slow=14,SNR=1.7						
WRAB	**Tennant Creek**	**20.07**	**214**	*eP*	**P**	**12 43 03.7**	**-0.6**
	14nm,0.6s						
WRA	**Warramunga Arr**	**20.08**	**214**	P	**P**	**12 43 03.3**	**-1.2**
	16nm,0.8s,baz=37,slow=12,SNR=40						
ASAR	**Alice Springs**	**23.37**	**210**	P	**P**	**12 43 38.8**	**+1.3**
	9.3nm,0.9s,mb4.2,baz=45,slow=7.8,SNR=85						
ASPA	**Alice Springs**	**23.37**	**210**	*iP*	**P**	**12 43 38.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.87**	**233**	*iP*	**P**	**12 43 52.1**	**-0.1**
	15nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**24.87**	**233**	P	**P**	**12 43 52.1**	**-0.1**
	21nm,0.8s,mb4.8,baz=68,slow=7.5,SNR=16						
CMAR	**Chiang Mai Arr**	**51.38**	**297**	P	**P**	**12 47 35.4**	**+0.5**
	0.4nm,0.6s,mb3.5,baz=118,slow=5.4,SNR=4.1						
SONM	**Songino Array**	**61.80**	**331**	P	**P**	**12 48 48.6**	**-0.2**
	0.3nm,0.6s,mb3.6,baz=138,slow=6.2,SNR=4.1						
MKAR	**Makanchi Array**	**75.04**	**320**	P	**P**	**12 50 10.6**	**-0.4**
	0.4nm,0.7s,mb3.5,baz=112,slow=6.5,SNR=4.8						

IDC 11 12:40:29.9±1.8,3.42S×145.64E,mb4.0/3,mb1 4.3/4, mb1mx3.8/15,mbtmp4.0/4,ML3.6/1,MS5.2/1,Ms1 5.2/1, ms1mx4.6/26,Error ellipse: s-maj=128.1km s-min=26.7km az=122.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.58**	**178**	LR	LR	12 50 11.8	
	comp=Z,8μm,20.0s,baz=21,slow=35						
WRA	**Warramunga Arr**	**19.78**	**213**	P	P	12 45 02.9	-1.8
	0.2nm,0.3s,baz=38,slow=12,SNR=7.2						
ASAR	**Alice Springs**	**23.11**	**208**	P	P	12 45 37.5	-1.2
	1.5nm,0.9s,baz=40,slow=8.5,SNR=4.8						
FITZ	**Fitzroy Crossi**	**24.43**	**232**	P	P	12 45 50.0	-1.6
	7.4nm,0.6s,baz=82,slow=14,SNR=7.1						
ILAR	**Eielson Array**	**83.66**	**23**	P	P	12 53 00.3	-1.1
	1.0nm,1.0s,baz=214,slow=6.5,SNR=3.2						

*IDC **11** 12:45:22.1±0.8,3.35S×146.39E,mb4.0/11,mb1 4.2/12, mb1mx4.1/17,mbtmp4.1/12,ML2.6/1,Error ellipse: s-maj=31.0km s-min=16.6km az=98.0*
*NEIC **11** 12:45:25.6±5.1,3.39S×146.37E,h22km±36km,mb4.4/3, Error ellipse: s-maj=14.8km s-min=12.3km az=75.0*

ISC 11 12:45:25.1±0.7,3.44S±0.07×146.4E±0.2,h33km,n19, σ0°54/17,mb4.0/12,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.98**	**173**	Pn	**Pn**	**12 46 53.4**	**-0.4**
	0.9nm,0.3s,baz=187,slow=13,SNR=7.3						
WRAB	**Tennant Creek**	**20.16**	**215**	*eP*	**P**	**12 49 59.0**	**-0.6**
	12nm,0.6s						
WRA	**Warramunga Arr**	**20.17**	**215**	P	**P**	**12 49 59.2**	**-0.5**
	5.0nm,0.7s,baz=36,slow=12,SNR=53						
ASAR	**Alice Springs**	**23.45**	**210**	P	**P**	**12 50 33.9**	**+1.3**
	1.9nm,0.6s,mb3.7,baz=45,slow=7.1,SNR=44						
FITZ	**Fitzroy Crossi**	**25.00**	**233**	P	**P**	**12 50 47.8**	**+0.1**
	12nm,0.8s,mb4.5,baz=52,slow=12,SNR=11						
STKA	**Stephens Creek**	**28.65**	**188**	P	**P**	**12 51 21.4**	**+0.3**
	1.1nm,0.8s,mb3.7,baz=42,slow=14,SNR=2.1						
KULM	**Kulim**	**46.49**	**281**	*eP*	**P**	**12 53 50.9**	**-0.5**
BJT	**Baijiatuau**	**51.36**	**330**	*eP*	**P**	**12 54 28.2**	**-0.6**
	5.6nm,0.6s,mb4.7						
CMAR	**Chiang Mai Arr**	**51.52**	**297**	P	**P**	**12 54 30.7**	**+0.5**
	0.9nm,0.8s,mb3.8,baz=117,slow=5.8,SNR=6.2						
SONM	**Songino Array**	**61.87**	**331**	P	**P**	**12 55 43.8**	**+0.2**
	0.6nm,0.9s,mb3.7,baz=158,slow=6.7,SNR=3.7						
MKAR	**Makanchi Array**	**75.13**	**320**	P	**P**	**12 57 06.4**	**+0.6**
	1.0nm,0.6s,mb3.9,baz=103,slow=6.7,SNR=12						
ZAL	**Zalesovo**	**76.53**	**328**	P	**P**	**12 57 13.3**	**-0.3**
	1.0nm,0.3s,mb4.2,baz=64,slow=17,SNR=4.4						
ILAR	**Eielson Array**	**83.39**	**23**	P	**P**	**12 57 49.5**	**-0.7**
	1.1nm,0.7s,mb4.0,baz=256,slow=5.2,SNR=16						
BVAR	**Borovoye Array**	**84.34**	**324**	P	**P**	**12 57 55.3**	**+0.1**
	1.3nm,0.5s,mb4.3,baz=101,slow=7.3,SNR=9.3						
CHKZ	**Chkalovo**	**84.36**	**325**	*eP*	**P**	**12 57 55.1**	**-0.1**
	1.1nm,0.5s,mb4.2						
YKA	**Yellowknife Ar**	**97.20**	**28**	P	**P**	**12 58 56.0**	**+0.7**
	0.2nm,0.7s,mb3.7,baz=277,slow=4.4,SNR=6.0						
YKA	**Yellowknife Ar**	**97.20**	**28**	P	**P**	**12 58 56.0**	**+0.7**
SIV	**San Ignacio**	**146.69**	**126**	PKPbc	PKPbc	13 05 07.8	+3.4
	0.8nm,0.6s,baz=251,slow=3.7,SNR=5.7						
DBIC	**Dimbokro**	**151.16**	**278**	PKPbc	PKPdf	13 05 17.7	+7.6
	2.4nm,0.7s,baz=201,slow=2.3,SNR=3.8						

*IDC **11** 12:52:44.9±1.1,1.88S×99.61E,mb3.9/12,mb1 4.1/12, mb1mx4.0/20,mbtmp3.9/12,Error ellipse: s-maj=56.5km s-min=14.6km az=54.0*
*NEIC **11** 12:52:48.3±0.8,2.18S×99.30E,h30km,mb4.4/2,Error ellipse: s-maj=30.2km s-min=10.7km az=59.0*

ISC 11 12:52:47.9±1.0,1.8S±0.2×99.7E±0.3,h33km,n19, σ0°86/16,mb4.0/13,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.14**	**8**	Pn	**Pn**	**12 54 38.6**	**+5.8**
CMAR	**Chiang Mai Arr**	**20.17**	**358**	P	**P**	**12 57 22.7**	**+0.3**
	0.5nm,0.6s,baz=188,slow=11,SNR=3.9						
FITZ	**Fitzroy Crossi**	**30.17**	**124**	P	**P**	**12 58 56.9**	**-0.6**
	1.8nm,0.5s,mb4.0,baz=331,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**38.35**	**120**	P	**P**	**13 00 06.9**	**-0.9**
	1.1nm,0.5s,mb3.9,baz=303,slow=9.0,SNR=15						
WRA				PcP	PcP	13 02 22.9	+1.3
	0.5nm,0.5s,baz=310,slow=2.4,SNR=6.0						
WRAB	**Tennant Creek**	**38.36**	**120**	*eP*	**P**	**13 00 08.1**	**+0.2**
	11nm,1.1s,mb4.5						
ASAR	**Alice Springs**	**39.61**	**126**	P	**P**	**13 00 18.1**	**-0.1**
	0.7nm,0.6s,mb3.6,baz=310,slow=6.7,SNR=7.7						
ASAR				PcP	PcP	13 02 27.1	+1.5
	0.7nm,0.6s,baz=305,slow=2.4,SNR=5.6						
STKA	**Stephens Creek**	**49.50**	**132**	P	**P**	**13 01 38.6**	**+1.1**
	1.0nm,0.5s,mb4.1,baz=293,slow=10,SNR=3.0						
SONM	**Songino Array**	**49.81**	**6**	P	**P**	**13 01 40.1**	**+0.5**
	0.3nm,0.4s,mb3.7,baz=194,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**50.78**	**345**	P	**P**	**13 01 47.0**	**-0.1**
	1.0nm,0.5s,mb4.0,baz=147,slow=8.2,SNR=8.1						
ZAL	**Zalesovo**	**56.94**	**350**	P	**P**	**13 02 31.7**	**-0.6**
	1.2nm,0.4s,mb4.2,baz=313,slow=3.8,SNR=5.3						
ZAL	**Zalesovo**	**56.94**	**350**	P	**P**	**13 02 31.7**	**-0.6**
BVAR	**Borovoye Array**	**59.91**	**340**	P	**P**	**13 02 51.9**	**-1.1**
	0.6nm,0.6s,mb3.8,baz=143,slow=7.2,SNR=3.0						
CHKZ	**Chkalovo**	**60.38**	**341**	*eP*	**P**	**13 02 55.3**	**-0.9**
	1.6nm,0.7s,mb4.2						
BRTR	**Keskin Array B**	**72.97**	**313**	P	**P**	**13 04 15.4**	**-0.8**
	0.4nm,0.7s,mb3.4,baz=143,slow=6.2,SNR=3.7						
FINES	**FINESS Array B**	**83.81**	**332**	P	**P**	**13 05 16.5**	**+1.4**
	1.7nm,0.9s,mb4.2,baz=124,slow=5.0,SNR=4.4						
ARCES	**ARCESS Array B**	**86.20**	**340**	P	**P**	**13 05 28.5**	**+1.7**
	2.6nm,1.0s,mb4.4,baz=63,slow=2.7,SNR=3.0						
PDAR	**Pinedale Array**	**131.58**	**29**	PKP	PKPdf	13 12 00.5	+2.7
	0.1nm,0.4s,baz=225,slow=6.3,SNR=3.6						
TXAR	**Lajitas Array**	**144.76**	**37**	PKP	PKPdf	13 12 24.4	+2.3
	0.9nm,0.5s,baz=283,slow=1.4,SNR=7.3						
TXAR	**Lajitas Array**	**144.76**	**37**	PKP	PKPdf	13 12 24.4	+2.3

*IDC **11** 12:58:39.6±2.3,0.76N×97.66E,mb4.0/7,mb1 4.1/8, mb1mx3.9/22,mbtmp3.9/8,ML3.8/1,Error ellipse: s-maj=98.3km s-min=17.5km az=58.0*
*NEIC **11** 12:58:43.8±0.9,0.72N×97.60E,h30km,mb4.2/1,Error ellipse: s-maj=24.9km s-min=11.2km az=64.0*

ISC 11 12:58:41.6±1.1,0.7N±0.1×97.6E±0.2,h30km,n10, σ0°54/10,mb4.0/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.50**	**34**	*e*Pn	**Pn**	**13 00 04.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**17.68**	**4**	P	**P**	**13 02 46.2**	**-1.4**
	0.1nm,0.3s,baz=191,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**33.37**	**125**	P	**P**	**13 05 19.7**	**0.0**
	2.9nm,0.6s,mb4.4,baz=333,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**41.49**	**122**	P	**P**	**13 06 27.8**	**-0.1**
	1.1nm,0.8s,mb3.5,baz=301,slow=9.3,SNR=5.2						
ASAR	**Alice Springs**	**42.83**	**127**	P	**P**	**13 06 38.7**	**-0.3**
	0.4nm,0.4s,mb3.5,baz=297,slow=7.8,SNR=8.4						
SONM	**Songino Array**	**47.55**	**8**	P	**P**	**13 07 17.0**	**+0.5**
	0.8nm,0.8s,mb3.8,baz=188,slow=8.7,SNR=7.8						
MKAR	**Makanchi Array**	**47.79**	**346**	P	**P**	**13 07 18.4**	**+0.1**
	2.3nm,0.6s,mb4.4,baz=164,slow=9.0,SNR=23						
ZAL	**Zalesovo**	**54.08**	**351**	P	**P**	**13 08 05.5**	**-0.2**
	1.9nm,0.4s,mb4.4,baz=305,slow=4.6,SNR=7.4						
BVAR	**Borovoye Array**	**56.81**	**341**	P	**P**	**13 08 25.8**	**+0.2**
	1.3nm,0.6s,mb4.1,baz=268,slow=39,SNR=4.8						
CHKZ	**Chkalovo**	**57.29**	**341**	*eP*	**P**	**13 08 29.5**	**+0.5**
	1.7nm,0.7s,mb4.2						

MAN 11 13:12:28.1,9.38N×126.18E,h6km,mb4.3,ML3.1,MS2.9, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.69**	**234**	*eP*	Pg	13 12 42.0	+0.1
SCPH	**Surigao**	**0.80**	**300**	*eP*	Pb	13 12 42.3	-1.6
SCPH				*eS*	Sg	13 12 55.2	+0.6
BIPH	**Bislig**	**1.20**	**172**	*iP*	Pb	13 12 49.6	-1.3
BIPH				*i* S	Sb	13 12 52.6	-14
MSLP	**Maasin**	**1.51**	**300**	*eP*	Pn	13 12 55.4	-0.4
BUKP	**Musuan**	**1.86**	**217**	*eP*	Pn	13 12 59.6	-1.2
BUKP				*eS*	Sn	13 13 29.4	+4.5

IDC 11 13:16:46.6±4.1,1.63N×97.97E,mb3.3/4,mb1 3.4/4, mb1mx3.3/19,mbtmp3.3/4,Error ellipse: s-maj=166.0km s-min=24.9km az=60.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.62**	**123**	P	P	13 24 35.6	-2.9
	0.3nm,0.7s,baz=303,slow=9.2,SNR=2.6						
ASAR	**Alice Springs**	**43.05**	**128**	P	P	13 24 49.8	-0.3
	0.1nm,0.7s,baz=305,slow=8.0,SNR=4.0						
SONM	**Songino Array**	**46.60**	**8**	P	P	13 25 17.2	-1.1
	0.2nm,0.4s,baz=195,slow=8.2,SNR=5.7						
MKAR	**Makanchi Array**	**47.02**	**345**	P	P	13 25 19.1	-2.6
	0.2nm,0.4s,baz=162,slow=8.5,SNR=5.4						

IDC 11 13:21:19.9±2.6,1.57S×99.73E,mb3.7/6,mb1 3.9/7, mb1mx3.7/19,mbtmp3.7/7,ML3.9/1,Error ellipse: s-maj=109.5km s-min=20.2km az=56.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.92**	**358**	P	P	13 25 52.7	-3.5
	0.1nm,0.3s,baz=189,slow=10,SNR=8.3						
WRA	**Warramunga Arr**	**38.44**	**121**	P	P	13 28 43.3	-2.1
	0.2nm,0.4s,baz=306,slow=8.6,SNR=5.0						
ASAR	**Alice Springs**	**39.72**	**126**	P	P	13 28 54.5	-1.4
	0.2nm,0.3s,baz=192,slow=15,SNR=6.3						
SONM	**Songino Array**	**49.55**	**6**	P	P	13 30 13.1	-1.4
	0.4nm,0.4s,baz=189,slow=9.9,SNR=5.6						
MKAR	**Makanchi Array**	**50.55**	**345**	P	P	13 30 19.9	-2.3
	0.8nm,0.5s,baz=156,slow=8.8,SNR=9.3						
ZAL	**Zalesovo**	**56.69**	**349**	P	P	13 31 05.1	-2.4
	1.4nm,0.4s,baz=341,slow=3.2,SNR=5.3						
BVAR	**Borovoye Array**	**59.69**	**340**	P	P	13 31 26.0	-2.4
	0.3nm,0.5s,baz=130,slow=11,SNR=3.4						

IDC 11 13:25:60.0±2.6,2.71N×95.21E,mb3.7/5,mb1 4.0/6, mb1mx3.7/22,mbtmp3.8/6,ML4.0/1,Error ellipse: s-maj=90.1km s-min=26.5km az=58.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.08**	**13**	Pn	P	13 29 49.5	+0.2
	0.2nm,0.3s,baz=203,slow=11,SNR=23						
WRA	**Warramunga Arr**	**44.52**	**122**	P	P	13 34 13.8	-1.7
	0.7nm,0.8s,baz=300,slow=9.4,SNR=4.4						
MKAR	**Makanchi Array**	**45.33**	**348**	P	P	13 34 19.9	-1.7
	0.6nm,0.5s,baz=164,slow=8.3,SNR=9.9						
SONM	**Songino Array**	**45.98**	**10**	P	P	13 34 24.2	-2.5
	1.3nm,0.7s,baz=189,slow=8.4,SNR=14						
ZAL	**Zalesovo**	**51.78**	**352**	P	P	13 35 09.6	-1.9
	0.8nm,0.5s,baz=279,slow=2.5,SNR=4.7						
BVAR	**Borovoye Array**	**54.20**	**342**	P	P	13 35 26.9	-2.5
	0.5nm,0.5s,baz=143,slow=7.4,SNR=3.8						

*IDC **11** 13:33:28.4±8.9,5.98S×130.49E,h51km±87km,mb3.6/5, mb1 4.1/8,mb1mx3.9/16,mbtmp4.1/8,ML4.4/3,Error ellipse: s-maj=96.2km s-min=26.3km az=55.0*
*NEIC **11** 13:33:28.2±0.8,6.00S×130.48E,h50km,Error ellipse: s-maj=35.3km s-min=9.9km az=72.0*

ISC 11 13:33:29.9±2.1,6.18S±0.08×130.2E±0.2,h82km±21km, n13,σ1°38/20,mb3.8/5,1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.85**	**162**	*iP*	**P**	**13 35 11.6**	**+2.0**
	36nm,0.4s						
KAKA				*eS*	**S**	**13 36 25.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**12.68**	**200**	*eP*	**P**	**13 36 29.0**	**+0.5**
	9.3nm,0.2s						
FITZ				*eS*	**S**	**13 38 45.2**	**-2.9**
FITZ	**Fitzroy Crossi**	**12.68**	**200**	P	**P**	**13 36 29.3**	**+0.8**
	5.3nm,0.3s,baz=41,slow=10,SNR=50						
FITZ				S	**S**	**13 38 46.3**	**-1.8**
	2.5nm,0.3s,baz=98,slow=15,SNR=3.6						
WRAB	**Tennant Creek**	**14.25**	**164**	*e*Pn	**P**	**13 36 47.3**	**-1.7**
	7.8nm,0.6s						
WRA	**Warramunga Arr**	**14.25**	**164**	P	**P**	**13 36 47.5**	**-1.6**
	1.0nm,0.3s,baz=345,slow=13,SNR=43						
WRA				S	**S**	**13 39 20.0**	**-5.5**
	2.4nm,0.3s,baz=329,slow=22,SNR=9.8						
ASAR	**Alice Springs**	**17.74**	**169**	P	**P**	**13 37 35.0**	**+1.8**
	1.4nm,0.3s,baz=346,slow=9.0,SNR=71						
ASAR				S	**S**	**13 40 47.6**	**+2.3**
	0.4nm,0.3s,baz=353,slow=27,SNR=6.3						
ASAR	**Alice Springs**	**17.74**	**169**	P	**P**	**13 37 35.0**	**+1.8**
ASAR				S	**S**	**13 40 47.6**	**+2.3**
ASPA	**Alice Springs**	**17.74**	**169**	*eP*	**P**	**13 37 34.7**	**+1.5**
ASPA				*eS*	**S**	**13 40 44.6**	**-0.7**
STKA	**Stephens Creek**	**27.68**	**159**	P	**P**	**13 39 12.8**	**+0.2**
	1.8nm,0.8s,mb3.7,baz=328,slow=6.0,SNR=4.0						
CMAR	**Chiang Mai Arr**	**39.40**	**309**	P	**P**	**13 40 54.4**	**+0.9**
	1.3nm,0.4s,mb4.1,baz=135,slow=6.9,SNR=16						
SONM	**Songino Array**	**57.74**	**341**	P	**P**	**13 43 14.0**	**-0.7**
	0.3nm,0.4s,mb3.6,baz=160,slow=6.7,SNR=3.3						
MKAR	**Makanchi Array**	**67.67**	**327**	P	**P**	**13 44 20.1**	**-0.3**
	0.9nm,0.5s,mb3.8,baz=121,slow=7.8,SNR=14						
BVAR	**Borovoye Array**	**77.50**	**328**	P	**P**	**13 45 17.2**	**-0.9**
	0.3nm,0.3s,mb3.5,baz=132,slow=9.6,SNR=5.1						

*IDC **11** 13:38:13.6±0.9,22.83N×121.68E,mb3.7/8,mb1 3.9/9, mb1mx3.7/24,mbtmp3.7/9,ML3.8/1,Error ellipse: s-maj=27.0km s-min=16.5km az=68.0*
*JMA **11** 13:38:15.6±0.3,22.65N×121.32E,h60km,M4.0*
*TAP **11** 13:38:17.4,22.88N×121.28E,h19km,ML4.2*
TAP Felt I J at Taitung, I J at Pinlang, II J at Chenggung, I J at Lidau, I J at Taimali, I J at Lanyu.
*NEIC **11** 13:38:18.9±1.5,22.88N×121.71E,h38km±17km,mb4.0/3, Error ellipse: s-maj=19.8km s-min=10.6km az=61.0*
NEIC Recorded [3 TAP] in T'ai-tung County.
*BJI **11** 13:38:23.2,23.41N×120.99E,h10km,mb4.4,ML3.8, Msz4.0*

ISC 11 13:38:16.3±0.3,22.80N±0.02×121.37E±0.02,h23km±3km, n86,σ1°10/135,mb3.7/11,15C-5D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.21**	**258**	*iP*	**Pb**	**13 38 22.3**	**+0.3**
TTN				S	**Sb**	**13 38 25.9**	**+0.2**
TWG	**Pinlang**	**0.28**	**275**	*iP*	**Pb**	**13 38 22.3**	**-0.6**
TWG				S	**Sb**	**13 38 26.6**	**-0.7**
CHKT	**Chengkung**	**0.30**	**359**	*iP*	**Pb**	**13 38 23.3**	**0.0**
CHKT				S	**Sb**	**13 38 27.5**	**-0.4**
ECL	**Taimali**	**0.44**	**243**	*iP*	**Pb**	**13 38 25.2**	**-0.2**
ECL				S	**Sb**	**13 38 30.9**	**-0.6**
ELDTW	**Lidau**	**0.51**	**320**	*iP*	**Pb**	**13 38 25.5**	**-1.1**
ELDTW				S	**Sb**	**13 38 31.3**	**-2.3**
TWF1	**Yuli**	**0.56**	**353**	*iP*	**Pb**	**13 38 26.7**	**-0.7**
TWF1				S	**Sb**	**13 38 33.5**	**-1.4**
TAW	**Tawu**	**0.62**	**225**	*eP*	**Pb**	**13 38 28.6**	**+0.2**
TAW				S	**Sb**	**13 38 37.0**	**+0.2**
EAST	**Anshuo**	**0.64**	**230**	P	**Pb**	**13 38 29.1**	**+0.3**
EAST				S	**Sb**	**13 38 37.3**	**+0.1**
STYT	**Tauyuan**	**0.68**	**303**	*iP*	**Pb**	**13 38 28.5**	**-0.9**
STYT				S	**Sb**	**13 38 36.5**	**-1.8**
SSD	**Sandimen**	**0.69**	**266**	*iP*	**Pb**	**13 38 28.8**	**-0.8**
SSD				S	**Sb**	**13 38 36.1**	**-2.5**
EHY	**Hungye**	**0.71**	**356**	P	**Pb**	**13 38 28.7**	**-1.2**
LAY	**Lan-yu**	**0.77**	**168**	*iP*	**Pb**	**13 38 32.3**	**+1.3**
LAY				S	**Sb**	**13 38 43.2**	**+2.1**
SGST	**Jiashian**	**0.78**	**291**	*iP*	**Pb**	**13 38 30.9**	**-0.2**
SGST				S	**Sb**	**13 38 39.7**	**-1.6**
YUS	**Yu-Shan**	**0.79**	**331**	*iP*	**Pb**	**13 38 30.7**	**-0.6**
YUS				S	**Sb**	**13 38 39.4**	**-2.2**
SCZT	**Fangliau**	**0.81**	**239**	*eP*	**Pb**	**13 38 31.9**	**+0.2**
SGLT	**Jiouru**	**0.82**	**265**	*eP*	**Pb**	**13 38 31.3**	**-0.4**
WTP	**Ta-pu**	**0.83**	**303**	*iP*	**Pb**	**13 38 31.7**	**-0.3**
WTP				S	**Sb**	**13 38 42.4**	**-0.3**
CHN1	**Nanshi**	**0.87**	**297**	*iP*	**Pb**	**13 38 32.7**	**0.0**
TWM1	**Shoushan**	**0.88**	**272**	*eP*	**Pb**	**13 38 33.6**	**+0.8**
ALS	**Alishan**	**0.88**	**324**	*iP*	**Pb**	**13 38 32.5**	**-0.3**
ALS				S	**Sb**	**13 38 42.7**	**-1.5**
CHN4	**Tsaushan**	**0.91**	**308**	*iP*	**Pb**	**13 38 33.1**	**-0.1**
CHN4				S	**Sb**	**13 38 45.0**	**+0.1**
TWK	**Hsinying**	**0.94**	**300**	*eP*	**Pb**	**13 38 33.6**	**-0.2**
TWK				S	**Sb**	**13 38 47.2**	**+1.3**
CHN3	**Shinhua**	**0.97**	**287**	*eP*	**Pb**	**13 38 35.8**	**+1.4**
CHN3				S	**Sb**	**13 38 51.2**	**+4.5**
HEN	**Hengchun**	**0.98**	**217**	*eP*	**Pb**	**13 38 34.9**	**+0.3**
TSEB	**Hengchuen, Pin**	**0.99**	**206**	*eP*	**Pb**	**13 38 35.0**	**+0.2**
TWK1	**Hengchun**	**1.00**	**212**	P	**Pb**	**13 38 34.9**	**0.0**
TWK1				S	**Sb**	**13 38 47.9**	**+0.3**
KAU	**Kaohsiung**	**1.01**	**257**	*eP*	**Pb**	**13 38 36.0**	**+1.0**
KAU				S	**Sb**	**13 38 51.8**	**+3.9**
ESL	**Shilin**	**1.01**	**3**	*eP*	**Pb**	**13 38 33.8**	**-1.3**
CHN5	**Tsauling**	**1.02**	**321**	*iP*	**Pb**	**13 38 35.1**	**-0.1**
CHN5				S	**Sb**	**13 38 49.3**	**+1.1**
TWP	**Hsiaoliuchiu**	**1.04**	**245**	*eP*	**Pb**	**13 38 38.8**	**+3.3**
TWP				S	**Sb**	**13 38 56.2**	**+7.5**
TAI1	**Yung-k'ang**	**1.08**	**283**	*eP*	**Pn**	**13 38 35.6**	**-0.7**
CHN2	**Minshiung**	**1.10**	**312**	*eP*	**Pn**	**13 38 37.0**	**+0.4**
CHN2				S	**Sb**	**13 38 52.9**	**+2.3**
CHY	**Chiayi**	**1.12**	**309**	*iP*	**Pn**	**13 38 37.1**	**+0.4**
CHY				S	**Sb**	**13 38 51.5**	**+0.4**
SCLT	**Jiali**	**1.15**	**289**	*eP*	**Pn**	**13 38 37.5**	**+0.2**
SCLT				S	**Sb**	**13 38 53.6**	**+1.6**
WGK	**Gukeng**	**1.16**	**320**	*eP*	**Pn**	**13 38 37.5**	**+0.2**
WGK				S	**Sb**	**13 38 53.4**	**+1.2**
SMLT	**Sun Moon Lake**	**1.17**	**338**	*eP*	**Pn**	**13 38 37.9**	**+0.4**
SMLT				S	**Sb**	**13 38 53.4**	**+1.0**
HWA	**Hwalien**	**1.19**	**10**	*eP*	**Pn**	**13 38 38.4**	**+0.5**
TYC	**Yuchr**	**1.20**	**337**	*eP*	**Pn**	**13 38 38.5**	**+0.6**
TYC				S	**Sb**	**13 38 55.1**	**+1.7**
CHN8	**Yiju**	**1.20**	**297**	*eP*	**Pn**	**13 38 37.5**	**-0.4**
CHN8				S	**Sb**	**13 38 55.1**	**+1.7**
WNT	**Mingjian**	**1.25**	**330**	*iP*	**Pn**	**13 38 39.8**	**+1.2**
WNT				S	**Sb**	**13 38 56.0**	**+1.2**
NACB	**Ninganchiao**	**1.39**

MBWA	**Marble Bar**	**43.72**	**182**	P	**P**	**13 46 21.5**	**-0.3**
	comp=Z,12nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**44.32**	**162**	P	**P**	**13 46 24.3**	**-2.5**
	comp=Z,0.7nm,1.0s,mb3.3,baz=332,slow=10,SNR=6.4						
ASAR	**Alice Springs**	**47.76**	**164**	P	**P**	**13 46 52.0**	**-2.0**
	comp=Z,0.4nm,0.7s,mb3.6,baz=342,slow=6.7,SNR=6.6						
BVAR	**Borovoye Array**	**48.86**	**321**	P	**P**	**13 47 03.4**	**+1.4**
	comp=Z,0.4nm,0.5s,mb3.7,baz=112,slow=7.8,SNR=3.0						
CHKZ	**Chkalovo**	**48.93**	**322**	*eP*	**P**	**13 47 02.2**	**-0.3**
	comp=Z,1.5nm,0.9s,mb4.0						

*BJI **11** 13:39:57.1, 2.14N×97.21E, h43km, mB5.7, mb4.8, Ms5.1, Msz4.7*
*IDC **11** 13:39:58.0±4.4, 2.33N×97.16E, h24km±28km, mb4.4/23, mb1 4.4/24, mb1mx4.3/27, mbtmp4.5/24, ML4.4/1, Error ellipse: s-maj=15.4km s-min=12.4km az=47.0*
*NEIC **11** 13:39:58.9±0.2, 2.36N×97.14E, h30km, mb4.7/22, Error ellipse: s-maj=6.8km s-min=5.0km az=41.0*
ISC 11 13:39:57.1±0.3, 2.34N±0.05×97.11E±0.04, h31km, h31km±1.7km:pP-P, n93, σ1°09/92, mb4.7/48, MS5.0/7, 9C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.50**	**60**	P	**Pn**	**13 41 07.1**	**+2.1**
KULM	**Kulim**	**4.59**	**50**	*eP*	**Pn**	**13 41 08.1**	**+1.8**
SNG	**Songkhla**	**5.94**	**36**	P	**Pn**	**13 41 26.0**	**+0.6**
	376nm,0.9s						
KGM	**Kluang**	**6.21**	**93**	P	**Pn**	**13 41 32.0**	**+2.8**
KSM	**Kuching**	**13.22**	**93**	*eP*	**P**	**13 43 06.8**	**+1.4**
KKTK	**Khon Kaen**	**15.01**	**22**	P	**P**	**13 43 33.0**	**+4.0**
	309nm,0.4s						
CM31	**Chiang Mai Arr**	**16.12**	**6**	*eP*	**P**	**13 43 43.9**	**+0.5**
	4.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.12**	**6**	Pn	**P**	**13 43 43.0**	**-0.3**
	0.6nm,0.3s,baz=192,slow=12,SNR=19						
CMAR				ScP		13 52 10.9	
	baz=207,slow=4.0,SNR=4.9						
NANT	**Nan**	**16.74**	**12**	P	**P**	**13 43 56.0**	**+4.9**
PALK	**Pallekele**	**17.07**	**287**	P	**P**	**13 43 56.7**	**+1.4**
KKM	**Kota Kinabalu**	**19.40**	**78**	*eP*	**P**	**13 44 23.2**	**-0.6**
KKM	**Kota Kinabalu**	**19.40**	**78**	P	**P**	**13 44 23.6**	**-0.2**
QIZ	**Qiongzhong**	**20.75**	**36**	P	**P**	**13 44 35.8**	**-2.2**
KMI	**Kunming**	**23.30**	**13**	P	**P**	**13 45 04.1**	**+0.7**
KMI				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.6						
KMI	**Kunming**	**23.30**	**13**	P	**P**	**13 45 04.1**	**+0.7**
	comp=Z,21nm,0.9s,mb4.6						
HYB	**Hyderabad**	**23.60**	**311**	*eP*	**P**	**13 45 10.0**	**+3.6**
HYB	**Hyderabad**	**23.60**	**311**	*iP*	**P**	**13 45 10.0**	**+3.6**
SHL	**Shillong**	**23.64**	**348**	*eP*	**P**	**13 45 03.5**	**-3.3**
GYA	**Guiyang**	**25.68**	**20**	⇑*iP*	**P**	**13 45 27.1**	**+0.8**
GYA				AP	pP	13 45 36.4	+1.1
GYA				PP	PP	13 46 07.9	+1.4
GYA				S	**S**	**13 49 51.7**	**+1.3**
GYA				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.0						
GYA				AMB	AMB		
	comp=Z,130nm,2.8s,mb5.0						
GYA				LR	LR		
	comp=N,2μm,17.2s,MS4.7						
GYA				LR	LR		
	comp=E,1μm,17.0s,MS4.7						
GYA				LR	LR		
	comp=Z,2μm,15.0s,MS4.7						
JIRN	**Jiri**	**27.26**	**338**	*eP*	**P**	**13 45 40.7**	**-0.1**
	comp=Z,27nm,0.8s,mb4.8						
PKI	**Pulchoki**	**27.48**	**337**	*eP*	**P**	**13 45 42.6**	**-0.2**
	comp=Z,16nm,0.8s,mb4.6						
GUN	**Gumba**	**27.61**	**338**	*eP*	**P**	**13 45 43.9**	**0.0**
	comp=Z,28nm,0.7s,mb5.0						
DMN	**Daman**	**27.63**	**337**	*eP*	**P**	**13 45 43.1**	**-1.1**
	comp=Z,17nm,0.8s,mb4.7						
KKN	**Kakani**	**27.73**	**337**	*eP*	**P**	**13 45 44.7**	**-0.3**
	comp=Z,14nm,0.8s,mb4.7						
LSA	**Lhasa**	**27.80**	**349**	P	**P**	**13 45 45.1**	**-0.6**
GKN	**Gorkha**	**28.17**	**336**	*eP*	**P**	**13 45 48.8**	**-0.2**
	comp=Z,29nm,1.0s,mb4.9						
KOLN	**Koldanda**	**28.40**	**334**	*eP*	**P**	**13 45 50.9**	**-0.2**
	comp=Z,11nm,0.4s,mb4.8						
ENH	**Enshi**	**30.16**	**22**	P	**P**	**13 46 04.4**	**-2.5**
XAN	**Xi'an**	**33.41**	**18**	P	**P**	**13 46 33.1**	**-2.2**
XAN				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.3						
LZH	**Lanzhou**	**34.16**	**10**	*eP*	**P**	**13 46 40.5**	**-1.2**
LZH				PP	PP	13 47 56.0	-0.6
LZH				AMB	AMB		
	comp=Z,14nm,1.5s,mb4.7						
LZH				LR	LR		
	comp=E,8μm,14.5s						
LZH				LR	LR		
	comp=Z,11μm,16.0s,MS5.7						
LZH	**Lanzhou**	**34.16**	**10**	*eP*	**P**	**13 46 40.5**	**-1.2**
	comp=Z,14nm,1.5s,mb4.7						
LZH				pP	pP	13 46 47.5	-3.3
LZH				sP	sP	13 46 50.2	-4.6
LZH				PP	PP	13 47 56.0	-0.6
LZH				LR	LR		
	comp=Z,11μm,16.0s,MS5.7						
FITZ	**Fitzroy Crossi**	**34.67**	**127**	*eP*	**P**	**13 46 44.2**	**-2.1**
	comp=Z,6.3nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**34.67**	**127**	P	**P**	**13 46 44.8**	**-1.5**
	comp=Z,5.9nm,0.7s,mb4.6,baz=308,slow=4.4,SNR=7.5						
NJ2	**Nanjing**	**35.95**	**32**	*eP*	**P**	**13 46 57.1**	**0.0**
NJ2				AP	pP	13 47 06.8	+0.6
NJ2				XP	sP	13 47 10.7	+0.6
NJ2				PP	PP	13 48 19.3	+0.3
NJ2				S	**S**	**13 52 32.0**	**-0.8**
NJ2				XS		13 52 48.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,826nm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,18.2s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,17.4s,MS5.0						
NJ2				LR	LR		
	comp=Z,4μm,18.4s,MS5.2						
GTA	**Gaotai**	**36.98**	**3**	*eP*	**P**	**13 47 05.9**	**+0.2**
GTA				AP	pP	13 47 15.8	+1.0
GTA				XP	sP	13 47 20.0	+1.3
GTA				PP	PP	13 48 33.7	+1.4
GTA				S	**S**	**13 52 50.7**	**+2.2**
GTA				XS		13 53 06.3	
GTA				SS	SS	13 55 22.0	+3.7
GTA				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,145nm,4.4s						
GTA				LR	LR		
	comp=N,896nm,15.6s,MS4.8						
GTA				LR	LR		
	comp=E,767nm,17.1s,MS4.8						
GTA				LR	LR		
	comp=Z,685nm,15.2s,MS4.6						
KAKA	**Kakadu**	**38.13**	**114**	*eP*	**P**	**13 47 14.1**	**-1.4**
	comp=Z,9.6nm,0.8s,mb4.6						
JOW	**Kunigami**	**38.54**	**48**	P	**P**	**13 47 18.9**	**0.0**
	comp=Z,22nm,0.5s,mb5.1,baz=250,slow=6.2,SNR=12						
HHC	**Hu-ho-hao-te**	**40.50**	**17**	*eP*	**P**	**13 47 31.6**	**-3.4**
HHC				AP	pP	13 47 41.8	-2.4
HHC				PP	PP	13 49 11.6	0.0
HHC				PCP	PcP	13 49 35.7	-2.1
HHC				SCP		13 53 23.1	
HHC				PCS		13 53 26.7	
HHC				S	**S**	**13 53 34.7**	**-7.0**
HHC				SCS	ScS	13 57 35.3	-1.0
HHC				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,418nm,14.2s						
HHC				LR	LR		
	comp=N,1μm,17.6s,MS4.8						
HHC				LR	LR		
	comp=E,849nm,18.6s,MS4.8						
HHC				LR	LR		
	comp=Z,1μm,19.4s,MS4.8						
BJT	**Baijiatuau**	**41.30**	**22**	*eP*	**P**	**13 47 41.4**	**-0.2**
	comp=Z,16nm,0.6s,mb4.8						
BJI	**Beijing**	**41.33**	**22**	P	**P**	**13 47 42.5**	**+0.8**
BJI				AMB	AMB		
	comp=Z,26nm,0.5s,mb5.1						
BJI	**Beijing**	**41.33**	**22**	P	**P**	**13 47 42.5**	**+0.8**
	comp=Z,26nm,0.5s,mb5.1						
KSH	**Kashi**	**41.71**	**335**	*eP*	**P**	**13 47 44.0**	**-0.9**
KSH				*e*AP	pP	13 48 00.0	+5.8
KSH				*e*PP	PP	13 49 24.0	-0.4
KSH				*e*PCP	PcP	13 49 41.0	-0.8
KSH				*e*SCP		13 53 27.0	
KSH				*e*PCS		13 53 31.1	
KSH				*e*S	**S**	**13 53 58.4**	**-1.2**
KSH				XS		13 54 16.0	
KSH				*e*SCS	ScS	13 57 43.0	-0.6
KSH				AMB	AMB		
	comp=Z,1μm,12.9s						
KSH				LR	LR		
	comp=N,960nm,11.7s,MS5.1						
KSH				LR	LR		
	comp=E,1μm,11.1s,MS5.1						
WMQ	**Urumqi**	**42.15**	**350**	⇓P	**P**	**13 47 50.3**	**+1.8**
WMQ				AP	pP	13 48 00.3	+2.6
WMQ				XP	sP	13 48 04.3	+2.8
WMQ				PP	PP	13 49 31.5	+2.5
WMQ				PCP	PcP	13 49 44.9	+1.7
WMQ				SCP		13 53 31.8	
WMQ				S	**S**	**13 54 07.7**	**+1.7**
WMQ				XS		13 54 23.8	
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb3.9						
WMQ				AMB	AMB		
	comp=Z,744nm,5.4s						
WMQ				LR	LR		
	comp=N,1μm,24.7s,MS4.9						
WMQ				LR	LR		
	comp=E,1μm,21.4s,MS4.9						
WMQ				LR	LR		
	comp=Z,563nm,18.1s,MS4.5						
WRA	**Warramunga Arr**	**42.72**	**123**	P	**P**	**13 47 52.8**	**-0.7**
	comp=Z,7.2nm,0.7s,mb4.5,baz=302,slow=9.2,SNR=58						
WRAB	**Tennant Creek**	**42.72**	**123**	*eP*	**P**	**13 47 52.7**	**-0.8**
	comp=Z,22nm,0.6s,mb5.1						
ASPA	**Alice Springs**	**44.15**	**128**	*eP*	**P**	**13 48 04.8**	**-0.3**
ASAR	**Alice Springs**	**44.15**	**128**	P	**P**	**13 48 04.5**	**-0.5**
	comp=Z,1.8nm,0.5s,mb4.1,baz=298,slow=7.5,SNR=19						
FORT	**Forrest**	**44.20**	**141**	*eP*	**P**	**13 48 07.1**	**+1.7**
	comp=Z,422nm,0.7s						
SONM	**Songino Array**	**46.03**	**9**	P	**P**	**13 48 19.8**	**+0.1**
	comp=Z,6.2nm,0.4s,mb4.9,baz=190,slow=9.5,SNR=95						
SONM				PcP	PcP	13 49 56.6	+0.3
	comp=Z,1.7nm,0.6s,baz=191,slow=3.7,SNR=5.0						
MKAR	**Makanchi Array**	**46.12**	**346**	P	**P**	**13 48 20.3**	**-0.2**
	comp=Z,5.7nm,0.7s,mb4.6,baz=159,slow=8.1,SNR=38						
ULN	**Ulaanbaatar**	**46.16**	**9**	*eP*	**P**	**13 48 20.2**	**-0.5**
	comp=Z,4.4nm,0.5s,mb4.6						
CN2	**Changchun**	**48.34**	**27**	⇑P	**P**	**13 48 39.5**	**+1.6**
MJAR	**Matsushiro Arr**	**50.92**	**43**	P	**P**	**13 48 57.4**	**-0.4**
	comp=Z,4.3nm,0.9s,mb4.4,baz=225,slow=7.4,SNR=7.3						
MJAR	**Matsushiro Arr**	**50.92**	**43**	P	**P**	**13 48 57.4**	**-0.4**
ZAL	**Zalesovo**	**52.42**	**351**	P	**P**	**13 49 09.1**	**+0.2**
	comp=Z,8.0nm,0.5s,mb4.9,baz=305,slow=6.0,SNR=32						
ZAL	**Zalesovo**	**52.42**	**351**	P	**P**	**13 49 09.1**	**+0.2**
STKA	**Stephens Creek**	**54.18**	**133**	P	**P**	**13 49 21.8**	**-0.4**
	comp=Z,4.1nm,0.7s,mb4.4,baz=290,slow=5.5,SNR=7.3						
STKA	**Stephens Creek**	**54.18**	**133**	*eP*	**P**	**13 49 21.7**	**-0.5**
BVAR	**Borovoye Array**	**55.16**	**341**	P	**P**	**13 49 28.3**	**-0.8**
	comp=Z,6.9nm,0.7s,mb4.8,baz=140,slow=8.9,SNR=42						
CHKZ	**Chkalovo**	**55.63**	**341**	*eP*	**P**	**13 49 31.5**	**-0.9**
	comp=Z,13nm,0.7s,mb5.1						
ASAJ	**Asahikawa**	**57.82**	**37**	P	**P**	**13 49 47.7**	**-0.4**
	comp=Z,7.1nm,0.7s,mb4.8,baz=245,slow=7.7,SNR=8.1						
YSS	**Yuzh-Sakhalins**	**59.47**	**35**	*eP*	**P**	**13 49 58.8**	**-0.8**
	comp=Z,23nm,0.8s,mb5.2						
KMBO	**Kilima Mbogo**	**59.94**	**267**	P	**P**	**13 50 04.6**	**+1.3**
	comp=Z,1.1nm,0.2s,mb4.5,baz=55,slow=23,SNR=4.9						
HNR	**Honiara**	**63.67**	**102**	P	**P**	**13 50 28.0**	**-0.4**
	comp=Z,26nm,0.6s,mb5.4,baz=196,slow=4.3,SNR=4.2						
ASF	**Jabal al Asfar**	**63.74**	**305**	P	**P**	**13 50 28.7**	**+0.1**
	comp=Z,1.2nm,0.3s,mb4.3,baz=173,slow=7.3,SNR=3.2						
MALT	**Malatya**	**64.31**	**312**	*eP*	**P**	**13 50 32.5**	**+0.3**
	comp=Z,2.6nm,0.9s,mb4.3						
YAK	**Yakutsk**	**64.36**	**16**	*eP*	**P**	**13 50 30.5**	**-1.7**
	comp=Z,52nm,0.8s,mb5.6						
BRTR	**Keskin Array B**	**68.29**	**312**	P	**P**	**13 50 56.5**	**-1.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=135,slow=5.2,SNR=3.7						
BRTR				pP	pP	13 51 04.4	-2.7
	comp=Z,0.9nm,0.5s,baz=129,slow=7.9,SNR=4.6						
MATP	**Matopo**	**70.87**	**248**	P	**P**	**13 51 14.3**	**+0.7**
	comp=Z,5.8nm,0.8s,mb4.6,baz=88,slow=7.4,SNR=13						
AKASG	**Malin Array Be**	**74.31**	**322**	P	**P**	**13 51 32.4**	**-1.0**
	comp=Z,0.7nm,0.4s,mb3.9,baz=89,slow=4.1,SNR=8.5						
LBTB	**Lobatse**	**74.31**	**243**	P	**P**	**13 51 34.3**	**+0.4**
	comp=Z,5.3nm,0.8s,mb4.5,baz=131,slow=2.4,SNR=7.7						
VRI	**Vrincioaia**	**74.73**	**317**	⇑P	**P**	**13 51 34.9**	**-1.0**
VRI	**Vrincioaia**	**74.73**	**317**	⇑P	**P**	**13 51 34.9**	**-1.1**
MLR	**Muntele Rosu**	**75.19**	**316**	⇑P	**P**	**13 51 38.5**	**-0.1**
MLR	**Muntele Rosu**	**75.19**	**316**	⇑P	**P**	**13 51 38.5**	**-0.1**
BOSA	**Boshof**	**75.27**	**240**	P	**P**	**13 51 40.1**	**+0.7**
	comp=Z,2.7nm,0.6s,mb4.4,baz=101,slow=9.8,SNR=4.4						
BURAR	**Bucovina Array**	**76.12**	**319**	⇑P	**P**	**13 51 44.9**	**+1.1**
BURAR	**Bucovina Array**	**76.12**	**319**	⇑P	**P**	**13 51 44.9**	**+1.1**
FINES	**FINESS Array B**	**78.96**	**332**	P	**P**	**13 51 59.9**	**+0.7**
	comp=Z,1.6nm,0.5s,mb4.2,baz=102,slow=8.3,SNR=8.0						
SYO	**Syowa Base**	**81.05**	**198**	⇑P	**P**	**13 52 14.0**	**+3.7**
ARCES	**ARCESS Array B**	**81.44**	**340**	P	**P**	**13 52 13.1**	**+0.8**
	comp=Z,1.7nm,0.4s,mb4.3,baz=97,slow=4.7,SNR=23						
MORC	**Moravsky Berou**	**81.48**	**320**	P	**P**	**13 52 13.3**	**+0.4**
GERES	**GERESS Array B**	**83.91**	**319**	P	**P**	**13 52 25.9**	**+0.5**
	comp=Z,0.4nm,0.2s,mb4.2,baz=149,slow=7.8,SNR=5.5						
NB2	**NORSAR Subarra**	**85.98**	**331**	P	**P**	**13 52 36.7**	**+1.2**
	comp=Z,4.2nm,0.9s,mb4.7,baz=94,slow=4.6						
NOA	**NORSAR Array B**	**85.98**	**331**	P	**P**	**13 52 37.2**	**+1.8**
	comp=Z,1.9nm,0.9s,mb4.3,baz=93,slow=5.0,SNR=2.8						
IMA	**Indian Mountai**	**95.58**	**23**	*eP*	**P**	**13 53 21.6**	**+1.3**
	comp=Z,16nm,1.1s,mb5.4						
ILAR	**Eielson Array**	**98.69**	**23**	PP	PP	13 57 31.8	-6.3
	comp=Z,0.5nm,1.1s,baz=295,slow=5.7,SNR=4.2						
YKA	**Yellowknife Ar**	**111.03**	**15**	PP	PP	13 59 04.1	-6.3
	comp=Z,0.4nm,0.7s,baz=332,slow=7.3,SNR=8.3						
NVAR	**Mina Array Bea**	**127.92**	**35**	PKP	PKPdf	13 59 02.5	-3.2
	comp=Z,0.1nm,0.3s,baz=204,slow=6.1,SNR=3.7						
PDAR	**Pinedale Array**	**129.06**	**25**	PKP	PKPdf	13 59 04.6	-3.2
	comp=Z,0.4nm,0.8s,baz=304,slow=3.3,SNR=3.4						
TXAR	**Lajitas Array**	**142.75**	**31**	PKhKP		13 59 26.6	
	comp=Z,0.6nm,0.8s,baz=45,slow=2.6,SNR=2.9						
TXAR				PKP	PKPdf	13 59 30.8	-2.5
	comp=Z,0.3nm,0.4s,baz=180,slow=1.3,SNR=4.4						
TXAR	**Lajitas Array**	**142.75**	**31**	PKP	PKPdf	13 59 30.8	-2.5
CFAA	**Coronel Fontan**	**147.77**	**204**	PKPbc	PKPdf	13 59 41.6	-0.2
	comp=Z,0.5nm,0.5s,baz=186,slow=1.7,SNR=8.4						

*IDC **11** 13:45:18.2±0.8, 1.71S×99.70E, mb4.0/10, mb1 4.2/10, mb1mx4.0/21, mbtmp4.0/10, Error ellipse: s-maj=34.9km s-min=15.4km az=57.0*
*NEIC **11** 13:45:22.8±0.4, 1.74S×99.70E, h30km, mb4.3/2, Error ellipse: s-maj=16.4km s-min=7.3km az=64.0*
ISC 11 13:45:22.8±4.0, 1.6S±0.2×99.8E±0.2, h46km±34km, n19, σ0°48/16, mb4.1/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.94**	**7**	*e*Pn	**P**	**13 47 04.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**19.98**	**358**	P	**P**	**13 49 54.8**	**+0.6**
	3.3nm,0.9s,baz=188,slow=10,SNR=5.1						
FITZ	**Fitzroy Crossi**	**30.21**	**124**	P	**P**	**13 51 31.0**	**-0.5**
	3.0nm,0.7s,mb4.2,baz=337,slow=7.7,SNR=3.0						
WRA	**Warramunga Arr**	**38.38**	**121**	P	**P**	**13 52 41.1**	**-0.4**
	2.5nm,0.9s,mb4.0,baz=304,slow=9.0,SNR=7.5						
WRAB	**Tennant Creek**	**38.39**	**121**	*eP*	**P**	**13 52 42.4**	**+0.8**
	2.5nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**39.66**	**126**	P	**P**	**13 52 52.4**	**+0.2**
	0.6nm,0.6s,mb3.5,baz=296,slow=7.1,SNR=7.0						
STKA	**Stephens Creek**	**49.57**	**132**	P	**P**	**13 54 11.3**	**-0.2**
	1.5nm,0.6s,mb4.2,baz=328,slow=5.0,SNR=3.7						
STKA	**Stephens Creek**	**49.57**	**132**	P	**P**	**13 54 11.3**	**-0.2**
SONM	**Songino Array**	**49.61**	**6**	P	**P**	**13 54 12.0**	**+0.4**
	0.9nm,0.4s,mb4.1,baz=186,slow=11,SNR=11						
MKAR	**Makanchi Array**	**50.62**	**345**	P	**P**	**13 54 19.2**	**-0.1**
	1.1nm,0.3s,mb4.2,baz=156,slow=8.5,SNR=29						
ZAL	**Zalesovo**	**56.76**	**349**	P	**P**	**13 55 04.2**	**-0.2**
	2.1nm,0.4s,mb4.6,baz=301,slow=4.7,SNR=11						
ZAL	**Zalesovo**	**56.76**	**349**	P	**P**	**13 55 04.2**	**-0.2**
BVAR	**Borovoye Array**	**59.76**	**340**	P	**P**	**13 55 24.4**	**-1.0**
	0.4nm,0.4s,mb3.8,baz=146,slow=10,SNR=3.8						
CHKZ	**Chkalovo**	**60.23**	**340**	*eP*	**P**	**13 55 28.7**	**+0.1**
	3.4nm,1.0s,mb4.3						
MATP	**Matopo**	**71.88**	**249**	P	**P**	**13 56 43.7**	**+0.4**
	1.8nm,0.7s,mb4.1,baz=96,slow=11,SNR=4.8						
MATP	**Matopo**	**71.88**	**249**	P	**P**	**13 56 43.7**	**+0.3**
TXAR	**Lajitas Array**	**144.56**	**37**	PKP	PKPdf	14 04 56.6	+1.6
	0.5nm,0.3s,baz=297,slow=1.6,SNR=7.8						
CFAA	**Coronel Fontan**	**145.03**	**198**	PKP	PKPdf	14 04 57.9	+2.2
	0.5nm,0.6s,baz=157,slow=3.3,SNR=7.5						
CFAA	**Coronel Fontan**	**145.03**	**198**	PKP	PKPdf	14 04 57.9	+2.2

PRE 11 13:58:26.3±1.9, 26.03S×29.25E, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**0.92**	**289**	*eP*	Pg	13 58 42.8	-1.8
SLR				*e*S	Sg	13 58 54.8	-2.0
SLR				*e*		13 59 01.9	
	comp=Z,518nm,0.4s						
NWL	**Newcastle**	**1.80**	**160**	*eP*	Pn	13 58 57.5	-1.3
NWL				*e*S	Sn	13 59 21.5	-1.1
NWL				*e*		13 59 24.2	
	comp=Z,567nm,0.6s						
PRYS	**Parys**	**1.91**	**242**	*eP*	Pn	13 58 59.4	-1.0
PRYS				*e*S	Sn	13 59 24.7	-0.9
PRYS				*e*		13 59 29.2	
	comp=Z,499nm,0.4s						
KSR	**Koster**	**2.12**	**274**	*eP*	Pn	13 58 58.0	-5.4
KSR				*e*		13 59 27.1	
	comp=Z,516nm,0.4s						
KSR				*e*S	Sn	13 59 28.7	-2.2
POGA	**Pongola**	**2.50**	**123**	*e*S	Sn	13 59 09.1	-31
POGA				*e*		13 59 46.6	
	comp=Z,83nm,0.5s						
SWZ	**Schweizer**	**3.69**	**251**	*e*S	Sn	13 59 31.3	-39
SWZ				*e*		13 59 38.7	
	comp=Z,35nm,0.4s						
BOSA	**Boshof**	**4.38**	**233**	*eP*	Pn	13 59 45.6	+10
BOSA				*e*S	Sn	14 00 33.5	+5.3
UPI	**Upington**	**7.49**	**250**	*e*S	Sn	14 01 35.2	-11
UPI				*e*		14 02 20.5	
	comp=Z,22nm,0.5s						

IDC 11 14:07:10.9±2.1, 4.80N×125.17E, mb3.4/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=192.4km s-min=26.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.18**	**160**	P	P	14 12 47.0	-2.1
	0.5nm,0.3s,baz=338,slow=10,SNR=21						
ASAR	**Alice Springs**	**29.55**	**164**	P	P	14 13 18.0	-1.6
	0.2nm,0.5s,baz=351,slow=7.0,SNR=7.3						
MKAR	**Makanchi Array**	**55.80**	**326**	P	P	14 16 49.8	-2.4
	0.3nm,0.5s,baz=150,slow=7.8,SNR=5.8						

IDC 11 14:13:22.1±3.9, 1.51S×100.13E, mb3.3/4, mb1 3.4/5, mb1mx3.4/18, mbtmp3.2/5, ML3.2/1, Error ellipse: s-maj=147.2km s-min=22.9km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.88**	**357**	P	P	14 17 53.9	-4.0
	0.0nm,0.3s,baz=190,slow=9.8,SNR=3.1						
WRA	**Warramunga Arr**	**38.13**	**121**	P	P	14 20 43.3	-1.7
	0.4nm,0.5s,baz=303,slow=9.1,SNR=7.2						
ASAR	**Alice Springs**	**39.44**	**127**	P	P	14 20 53.7	-2.2
	0.2nm,0.5s,baz=297,slow=8.2,SNR=2.8						
SONM	**Songino Array**	**49.45**	**6**	P	P	14 22 15.5	-0.5
	0.1nm,0.4s,baz=211,slow=8.4,SNR=3.7						
MKAR	**Makanchi Array**	**50.59**	**344**	P	P	14 22 21.8	-2.9
	0.2nm,0.4s,baz=159,slow=7.6,SNR=4.3						

IDC 11 14:28:49.5±3.8, 0.46S×101.62E, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=219.2km s-min=26.0km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.42**	**123**	P	P	14 36 05.3	-1.2
	0.4nm,0.5s,baz=303,slow=9.1,SNR=6.7						
ASAR	**Alice Springs**	**38.89**	**129**	P	P	14 36 16.9	-1.9
	0.2nm,0.6s,baz=299,slow=8.2,SNR=5.1						
STKA	**Stephens Creek**	**48.99**	**134**	P	P	14 37 37.5	-2.6
	1.3nm,0.7s,baz=331,slow=19,SNR=3.1						
MKAR	**Makanchi Array**	**50.02**	**343**	P	P	14 37 45.8	-2.0
	0.3nm,0.4s,baz=158,slow=8.6,SNR=8.7						

*IDC **11** 14:35:35.4±0.7, 4.81N×95.12E, mb4.5/15, mb1 4.6/15, mb1mx4.4/25, mbtmp4.5/15, MS4.7/1, Ms1 4.7/1, ms1mx3.9/40, Error ellipse: s-maj=39.2km s-min=14.6km az=46.0*
*BJI **11** 14:35:36.2,

NJ2 LR LR
comp=E,3μm,17.0s,MS5.2
NJ2 LR LR
comp=Z,4μm,19.4s,MS5.2
FITZ Fitzroy Crossi 37.70 128 P **P 14 42 52.7 -0.2**
comp=Z,3.1nm,0.5s,mb4.3,baz=270,slow=12,SNR=5.3
WMQ Urumqi 39.61 352 P **P 14 43 08.0 -0.5**
WMQ AP pP 14 43 18.0 -1.7
WMQ XP sP 14 43 22.0 -2.6
WMQ PP PP 14 44 44.6 +1.0
WMQ PCP PcP 14 45 15.5 -0.2
WMQ S **S 14 49 08.6 +0.1**
WMQ XS 14 49 25.0
WMQ AMB AMB
comp=Z,4.0nm,0.5s,mb4.4
WMQ LR LR
comp=N,597nm,20.4s,MS4.6
WMQ LR LR
comp=E,708nm,19.7s,MS4.6
WMQ LR LR
comp=Z,1μm,19.7s,MS4.7
BJT Baijiatuau 40.13 25 *e*P **P 14 43 12.2 -0.6**
comp=Z,7.6nm,0.4s,mb4.8
BJI Beijing 40.15 25 P **P 14 43 12.8 -0.2**
BJI AMB AMB
comp=Z,17nm,0.7s,mb4.9
BJI AMB AMB
comp=Z,815nm,11.1s
BJI Beijing 40.15 25 P **P 14 43 12.8 -0.2**
comp=Z,17nm,0.7s,mb4.9
ULHL Ulahol 41.06 339 P **P 14 43 20.9 +0.3**
SNR=11
KZA Kyzart 41.29 338 P **P 14 43 23.5 +1.1**
SNR=9.2
UCH Uchtor 41.70 337 P **P 14 43 26.9 +1.1**
SNR=26
TKM2 Tokmak 2 41.88 339 P **P 14 43 28.0 +0.7**
SNR=11
KBK Karagaybulak 41.90 338 P **P 14 43 28.8 +1.4**
SNR=24
AML Almayashu 41.94 336 P **P 14 43 29.0 +1.2**
SNR=28
AAK Ala-Archa 42.05 337 P **P 14 43 30.8 +2.1**
SNR=14
EKS2 Erkin-Say 42.35 337 P **P 14 43 32.2 +1.1**
SNR=18
USP Ospenovka 42.59 338 P **P 14 43 33.5 +0.5**
SNR=23
MKAR Makanchi Array 43.47 347 P **P 14 43 39.0 -1.2**
comp=Z,3.8nm,0.4s,mb4.5,baz=166,slow=8.1,SNR=82
MKAR PcP PcP 14 45 26.7 -1.6
comp=Z,0.4nm,0.5s,baz=170,slow=3.2,SNR=3.3
SONM Songino Array 44.20 11 P **P 14 43 43.9 -2.1**
comp=Z,0.6nm,0.4s,mb3.7,baz=190,slow=9.4,SNR=10
SONM PcP PcP 14 45 30.1 -0.8
comp=Z,0.7nm,0.5s,baz=197,slow=3.8,SNR=6.3
ULN Ulaanbaatar 44.36 12 P **P 14 43 46.0 -1.3**
WRA Warramunga Arr 45.71 124 P **P 14 43 58.9 +0.4**
comp=Z,12nm,0.7s,mb5.0,baz=301,slow=9.5,SNR=119
WRAB Tennant Creek 45.71 124 *e*P **P 14 43 58.8 +0.3**
comp=Z,24nm,0.9s,mb5.1
ASAR Alice Springs 47.19 128 P **P 14 44 10.6 +0.5**
comp=Z,1.8nm,0.5s,mb4.2,baz=299,slow=7.9,SNR=47
CN2 Changchun 47.40 30 *e*P **P 14 44 13.1 +1.6**
ZAL Zalesovo 49.91 352 P **P 14 44 29.5 -1.3**
comp=Z,4.7nm,0.5s,mb4.8,baz=296,slow=4.8,SNR=22
MDJ Mudanjiang 50.10 32 P **P 14 44 31.5 -0.9**
MDJ AMB AMB
comp=Z,5.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,401nm,13.4s
ATD Arta Tunnel 52.02 281 LR LR 15 03 40.9
comp=Z,732nm,18.3s,MS4.8,baz=300,slow=32
STKA Stephens Creek 57.25 133 P **P 14 45 23.4 -1.8**
BRTR Keskin Array B 65.23 312 P **P 14 46 18.6 -0.4**
comp=Z,2.6nm,0.6s,mb4.5,baz=127,slow=7.0,SNR=16
TIRR Tirgusor 70.18 316 ⇓P **P 14 46 49.8 -0.1**
TIRR Tirgusor 70.18 316 ⇓P **P 14 46 49.8 0.0**
IDI Anoyia 71.15 306 P **P 14 46 56.4 +0.6**
comp=Z,3.8nm,0.5s,mb4.6,baz=63,slow=16,SNR=3.4
AKASG Malin Array Be 71.25 322 P **P 14 46 54.9 -1.3**
comp=Z,2.2nm,0.6s,mb4.3,baz=88,slow=5.4,SNR=8.4
AKASG Malin Array Be 71.25 322 P **P 14 46 54.9 -1.3**
VRI Vrincioaia 71.66 317 ⇓P **P 14 46 59.6 +0.9**
MLR Muntele Rosu 72.12 316 P **P 14 47 02.5 +1.1**
comp=Z,4.5nm,0.7s,mb4.5,baz=136,slow=3.3,SNR=14
MLR Muntele Rosu 72.12 316 ⇓P **P 14 47 02.6 +1.2**
MLR Muntele Rosu 72.12 316 ⇓P **P 14 47 02.6 +1.2**
BURAR Bucovina Array 73.05 318 ⇓P **P 14 47 07.8 +0.9**
BURAR Bucovina Array 73.05 318 ⇓P **P 14 47 07.8 +0.8**
JOF Joensuu 74.17 335 *ep* **P 14 47 11.8 -1.4**
comp=Z,3.1nm,0.5s,mb4.5
FINES FINESS Array B 76.01 332 P **P 14 47 23.1 -0.6**
comp=Z,2.8nm,0.4s,mb4.5,baz=97,slow=5.6,SNR=31
KAF Kangasniemi 76.09 333 *ep* **P 14 47 22.7 -1.5**
comp=Z,4.7nm,0.5s,mb4.7,baz=103,slow=5.3
KEV Kevo 78.21 341 *ep* **P 14 47 35.5 -0.4**
comp=Z,18nm,1.2s,mb4.9
ARCES ARCESS Array B 78.64 340 P **P 14 47 38.0 -0.2**
comp=Z,1.2nm,0.3s,mb4.3,baz=100,slow=6.7,SNR=38
GERES GERESS Array B 80.84 319 P **P 14 47 51.5 +1.0**
comp=Z,1.3nm,0.5s,mb4.2,baz=90,slow=5.3,SNR=10
HFS Hagfors 81.72 330 P **P 14 47 54.7 -0.1**
comp=Z,1.4nm,0.3s,mb4.4,baz=110,slow=5.5,SNR=15
NB2 NORSAR Subarra 83.00 331 P **P 14 48 01.1 -0.3**
comp=Z,1.1nm,0.8s,mb3.9,baz=96,slow=5.3
DAVOX Davos 83.34 316 P **P 14 48 04.5 +1.1**
comp=Z,4.6nm,0.4s,mb4.9,baz=247,slow=7.7,SNR=3.4
IMA Indian Mountai 94.33 22 *e*P **P 14 48 55.8 +0.4**
NVAR Mina Array Bea 127.26 33 PKP PKPdf 14 54 43.0 +2.9
comp=Z,0.6nm,0.7s,baz=270,slow=4.4,SNR=5.2
TXAR Lajitas Array 141.82 27 PKP PKPdf 14 55 11.5 +4.1
comp=Z,0.4nm,0.5s,baz=102,slow=1.4,SNR=4.9

*NEIC **11** 14:49:13.2±0.9,36.64N×71.36E,h60km,mb4.2/2,Error ellipse: s-maj=19.1km s-min=8.3km az=55.0*
*IDC **11** 14:49:20.4±7.0,37.18N×71.25E,h97km±61km,mb3.3/5, mb1 3.5/8,mb1mx3.4/23,mbtmp3.7/8,ML3.7/3,Error ellipse: s-maj=42.8km s-min=25.1km az=11.0*
*NNC **11** 14:49:21.2±5.5,37.44N×71.11E,mpv4.2,Error ellipse: s-maj=44.3km s-min=42.1km az=52.0*
ISC 11 14:49:16.7±0.6,36.79N±0.03×71.50E±0.08,h118km±10km, n38,σ1°42/43,mb3.4/5,2C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.98**	**173**	P		**P**	**14 50 04.3**	**+0.7**
CHCP	**Chirah Chowk**	**3.44**	**155**	P		**P**	**14 50 12.7**	**+2.9**
THW	**Thamme Wali**	**3.99**	**177**	⇑P		**P**	**14 50 16.8**	**-0.4**
SBDP	**Sheikh Budin**	**4.52**	**187**	P		**P**	**14 50 24.1**	**-0.2**
SARP	**Sargodha**	**4.95**	**168**	P		**P**	**14 50 29.1**	**-1.1**
DRP	**Derazinda**	**5.15**	**192**	P		**P**	**14 50 32.0**	**-0.8**
THN	**Thein Dam**	**5.57**	**140**	*e*P		**P**	**14 50 39.7**	**+1.3**
THN				*e*S		**S**	**14 51 43.2**	**+1.5**
AML	**Almayashu**	**5.59**	**17**	P		**P**	**14 50 39.0**	**+0.2**
	SNR=109							
DLH	**Dalhousie**	**5.61**	**138**	*e*		**P**	**14 50 46.0**	**+6.9**
DLH				*e*S		**S**	**14 51 45.0**	**+2.1**
UCH	**Uchtor**	**5.91**	**22**	P		**P**	**14 50 43.6**	**+0.6**
	SNR=30							
KZA	**Kyzart**	**6.02**	**28**	P		**P**	**14 50 45.4**	**+0.8**
	SNR=11							
EKS2	**Erkin-Say**	**6.12**	**16**	P		**P**	**14 50 46.4**	**+0.4**
	SNR=41							
AAK	**Ala-Archa**	**6.27**	**21**	P		**P**	**14 50 48.6**	**+0.5**
	SNR=64							
AAK	**Ala-Archa**	**6.27**	**21**	⇓P		**P**	**14 50 48.5**	**+0.4**
	14nm,0.3s							
AAK				⇓S		**S**	**14 51 56.9**	**-2.0**
	17nm,0.5s							
KK31	**Karatay Array**	**6.35**	**353**	⇑P		**P**	**14 50 46.9**	**-2.2**
	8.1nm,0.4s,baz=177,slow=12,SNR=104							
KK31				⇓S		**S**	**14 51 53.9**	**-6.9**
	14nm,0.5s,baz=188,slow=25,SNR=6.2							
KBK	**Karagaybulak**	**6.43**	**23**	P		**P**	**14 50 52.0**	**+1.7**
	SNR=7.9							
ULHL	**Ulahol**	**6.56**	**32**	P		**P**	**14 50 52.9**	**+0.8**
	SNR=11							
CHMS	**Chumysh**	**6.68**	**21**	P		**P**	**14 50 53.8**	**+0.1**
	SNR=37							
USP	**Ospenovka**	**6.86**	**19**	P		**P**	**14 50 55.5**	**-0.7**
	SNR=23							
TKM2	**Tokmak 2**	**6.88**	**26**	P		**P**	**14 50 56.7**	**+0.3**
	SNR=51							
SDNR	**Sundarnagar**	**6.96**	**138**	*e*P		**P**	**14 50 58.0**	**+0.5**
SDNR				*e*S		**S**	**14 52 11.8**	**-3.8**
SMLA	**Simla**	**7.35**	**139**	⇓*i*P		**P**	**14 50 59.4**	**-3.4**
	670nm,0.2s							
SMLA				*i*			14 52 18.2	
DDI	**Dehra Dun**	**8.46**	**138**	*e*S		**S**	**14 52 54.0**	**+2.0**
MKAR	**Makanchi Array**	**12.82**	**35**	P		**P**	**14 52 16.3**	**+0.8**
	0.2nm,0.3s,baz=226,slow=14,SNR=23							
KOLN	**Koldanda**	**13.62**	**128**	*e*P		**P**	**14 52 25.1**	**-0.7**
	4.4nm,0.3s							
GKN	**Gorkha**	**14.13**	**125**	*e*P		**P**	**14 52 30.6**	**-1.8**
	9.2nm,0.3s							
KKN	**Kakani**	**14.70**	**124**	*e*P		**P**	**14 52 37.1**	**-2.6**
	7.5nm,0.4s							
DMN	**Daman**	**14.70**	**125**	*e*P		**P**	**14 52 37.9**	**-1.9**
	5.2nm,0.3s							
PKI	**Pulchoki**	**14.93**	**124**	*e*P		**P**	**14 52 41.0**	**-1.6**
	4.5nm,0.2s							
GUN	**Gumba**	**15.02**	**122**	*e*P		**P**	**14 52 41.4**	**-2.5**
	11nm,0.4s							
JIRN	**Jiri**	**15.39**	**122**	*e*P		**P**	**14 52 46.8**	**-1.7**
	15nm,0.4s							
BVAR	**Borovoye Array**	**16.25**	**358**	P		**P**	**14 52 57.1**	**-1.9**
	0.3nm,0.3s,baz=162,slow=13,SNR=12							
ZAL	**Zalesovo**	**19.47**	**24**	P		**P**	**14 53 36.3**	**0.0**
	0.9nm,0.3s,baz=256,slow=4.2,SNR=8.1							
SONM	**Songino Array**	**27.84**	**56**	P		**P**	**14 55 00.1**	**+3.3**
	0.2nm,0.5s,mb2.9,baz=264,slow=11,SNR=3.5							
BRTR	**Keskin Array B**	**29.73**	**287**	P		**P**	**14 55 14.5**	**+0.7**
	1.0nm,0.5s,mb3.7,baz=112,slow=8.8,SNR=4.7							
ARCES	**ARCESS Array B**	**41.03**	**337**	P		**P**	**14 56 50.9**	**+1.6**
	5.6nm,1.0s,mb4.3,baz=108,slow=8.6,SNR=4.9							
YKA	**Yellowknife Ar**	**80.94**	**3**	P		**P**	**15 01 20.7**	**+2.0**
	0.2nm,0.8s,mb3.0,baz=351,slow=5.9,SNR=4.2							
WRA	**Warramunga Arr**	**81.80**	**122**	P		**P**	**15 01 31.1**	**+7.0**
	0.4nm,1.0s,mb3.2,baz=325,slow=5.0,SNR=4.7							

*TIF **11** 14:50:25.8,39.46N×48.94E,h15km±6km*
*MOS **11** 14:50:28.8±1.1,39.78N×49.32E,h33km,mb4.6/6,Error ellipse: s-maj=10.4km s-min=8.1km az=105.8*
*CSEM **11** 14:50:30.4±0.0,39.51N×49.32E,h75km,ML3.8,Error ellipse: s-maj=1.9km s-min=1.1km az=61.0*
*TEH **11** 14:50:31.4,39.51N×49.19E,h28km,Mn3.8*
*NEIC **11** 14:50:31.4,39.51N×49.19E,h28km,mb4.5/6, MN3.8(TEH),After TEH.*
*IDC **11** 14:50:32.5±1.1,39.70N×49.20E,h52km±4km,mb3.7/13, mb1 3.8/19,mb1mx3.8/27,mbtmp3.9/19,MS3.3/1, Ms1 3.3/1,ms1mx2.8/42,Error ellipse: s-maj=26.1km s-min=11.3km az=8.0*
ISC 11 14:50:29.6±0.3,39.58N±0.03×49.29E±0.05,h52km, h52km±1.0km:pP-P,n77,σ1°06/77,mb4.1/19,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ISRB	**Sarab**	**2.16**	**216**	Pn		**P**	**14 51 03.8**	**-0.1**
AKT	**Akhty**	**2.24**	**328**	*e*PN		**P**	**14 51 07.0**	**+2.0**
DRN	**Derbent**	**2.55**	**344**	*e*PN		**P**	**14 51 07.0**	**-2.5**
ITBZ	**Tabriz**	**2.79**	**242**	Pn		**P**	**14 51 12.7**	**-0.2**
IMRD	**Marand**	**2.92**	**254**	Pn		**P**	**14 51 14.4**	**-0.3**
DGRG	**David-gareji**	**3.52**	**303**	P		**P**	**14 51 23.4**	**+0.3**
GNI	**Garni**	**3.54**	**281**	P		**P**	**14 51 24.3**	**+0.8**
	5.8nm,0.3s,baz=114,slow=2.7,SNR=14							
GNI				LR		LR	14 53 06.6	
	comp=Z,444nm,20.8s,baz=355,slow=45							
GNI	**Garni**	**3.54**	**281**	*e*Pn		**P**	**14 51 23.1**	**-0.4**
MTA	**Mtatsminda**	**4.02**	**303**	P		**P**	**14 51 37.8**	**+7.6**
IMHD	**Mahdasht**	**4.04**	**164**	Pn		**P**	**14 51 30.5**	**0.0**
IPRN	**Paran-Amol**	**4.07**	**144**	Pn		**P**	**14 51 30.3**	**-0.6**
TBLG	**Delisi**	**4.07**	**303**	P		**P**	**14 51 38.4**	**+7.5**
IRAZ	**Razeghan**	**4.20**	**173**	Pn		**P**	**14 51 31.1**	**-1.6**
IDMV	**Damavand**	**4.55**	**151**	Pn		**P**	**14 51 37.4**	**-0.3**
IDMV	**Damavand**	**4.55**	**151**	Pn		**P**	**14 51 37.0**	**-0.7**
IGLO	**Galoogah**	**4.66**	**133**	Pn		**P**	**14 51 30.7**	**-8.5**
IFIR	**Firoozkooh**	**4.80**	**144**	Pn		**P**	**14 51 41.3**	**+0.1**
IKIA	**Kiasar**	**4.84**	**133**	Pn		**P**	**14 51 41.5**	**-0.2**
IQOM	**Qom**	**4.94**	**163**	Pn		**P**	**14 51 42.3**	**-0.8**
IQOM				Sn		**S**	**14 52 35.3**	**-4.3**
IVRN	**Varamin**	**4.97**	**156**	Pn		**P**	**14 51 43.0**	**-0.6**
IVRN				Sn		**S**	**14 52 36.3**	**-4.1**
ZEI	**Tsey**	**5.17**	**310**	*e*PN		**P**	**14 51 46.1**	**-0.2**
ZEI				*e*			14 52 10.0	
ZEI				*e*			14 52 48.0	
ZEI				pmax	pmax			
	comp=Z,12nm,0.3s							
ZEI				smax				
	comp=N,35nm,0.5s							
ZEI	**Tsey**	**5.17**	**310**	*e*Pn		**P**	**14 51 46.1**	**-0.2**
	comp=N,12nm,0.3s							
IVIS	**Veys**	**5.41**	**202**	Pn		**P**	**14 51 50.5**	**+0.9**
IKOM	**Komasi**	**5.58**	**195**	Pn		**P**	**14 51 53.4**	**+1.4**
IGHG	**Ghaleghazi**	**5.67**	**203**	Pn		**P**	**14 51 53.3**	**0.0**
BRTR	**Keskin Array B**	**12.07**	**276**	P		**P**	**14 53 21.6**	**+0.4**
	comp=N,0.1nm,0.3s,baz=86,slow=19,SNR=2.1							
OBN	**Obninsk**	**17.72**	**335**	*e*P		**P**	**14 54 43.5**	**+10**
OBN				pmax	pmax			
	comp=Z,19nm,1.5s							
MOS	**Moscow**	**17.93**	**338**	*e*P		**P**	**14 54 32.8**	**-3.7**
MOS				pmax	pmax			
	comp=Z,48nm,1.1s							
AKASG	**Malin Array Be**	**17.94**	**315**	P		**P**	**14 54 35.0**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=94,slow=9.5,SNR=5.1							
AKASG				pP			14 54 47.5	
	comp=Z,2.2nm,0.3s,baz=122,slow=11,SNR=5.3							
ARU	**Arti**	**17.94**	**17**	*e*P		**P**	**14 54 37.0**	**+0.4**
ARU				*e*SS		SS	14 57 56.0	-20
ARU	**Arti**	**17.94**	**17**	*e*P		**P**	**14 54 33.4**	**-3.2**
MLR	**Muntele Rosu**	**18.16**	**297**	P		**P**	**14 54 39.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=186,slow=19,SNR=2.2							
MLR	**Muntele Rosu**	**18.16**	**297**	P		**P**	**14 54 39.7**	**+0.2**
AAK	**Ala-Archa**	**19.22**	**73**	P		**P**	**14 54 51.7**	**-0.2**
AAK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
AAK	**Ala-Archa**	**19.22**	**73**	P		**P**	**14 54 51.7**	**-0.2**
	comp=Z,5.0nm,0.9s							
FRU	**Bishkek**	**19.31**	**72**	*e*P		**P**	**14 54 52.0**	**-0.9**
BVA0	**Borovoye Array**	**19.73**	**40**	*i* P		**P**	**14 54 55.2**	**-2.2**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.8s							
BVA0	**Borovoye Array**	**19.73**	**40**	*i* P		**P**	**14 54 55.2**	**-2.2**
	comp=Z,1.0nm,0.8s							
BVAR	**Borovoye Array**	**19.73**	**40**	P		**P**	**14 54 56.8**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=232,slow=8.6,SNR=12							
BVAR				pP			14 55 10.8	
	comp=Z,0.7nm,0.3s,baz=217,slow=7.4,SNR=6.8							
IDI	**Anoyia**	**19.82**	**265**	P		**P**	**14 54 58.6**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=68,slow=11,SNR=4.1							
CHKZ	**Chkalovo**	**20.22**	**39**	P		**P**	**14 55 01.3**	**-1.2**
KWP	**Kalwaria**	**21.32**	**307**	*e*P			14 55 26.8	
MKAR	**Makanchi Array**	**24.99**	**62**	P		**P**	**14 55 51.1**	**+1.5**
	comp=Z,6.8nm,0.6s,mb4.3,baz=261,slow=8.1,SNR=55							
MKAR				pP			14 56 05.3	
	comp=Z,2.0nm,0.5s,baz=256,slow=9.8,SNR=5.0							
MKAR	**Makanchi Array**	**24.99**	**62**	P		**P**	**14 55 51.2**	**+1.6**
MKAR				pP			14 56 05.3	
FINES	**FINESS Array B**	**26.12**	**335**	P		**P**	**14 55 59.8**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.0,baz=136,slow=9.9,SNR=18							
FINES				pP	pP		14 56 13.0	-0.2
	comp=Z,3.6nm,0.5s,baz=139,slow=12,SNR=4.6							
FINES	**FINESS Array B**	**26.12**	**335**	P		**P**	**14 55 59.8**	**-0.3**
FINES				pP	pP		14 56 13.0	-0.2
GERES	**GERESS Array B**	**26.92**	**302**	P		**P**	**14 56 09.2**	**+1.6**
	comp=Z,0.7nm,0.5s,mb3.4,baz=101,slow=10.0,SNR=4.0							
GERES				pP	pP		14 56 21.1	+0.4
	comp=Z,2.6nm,0.7s,baz=104,slow=11,SNR=6.9							
NVS	**Novosibirsk**	**27.32**	**45**	*e*P		**P**	**14 56 09.4**	**-1.7**
ZAL	**Zalesovo**	**27.90**	**47**	P		**P**	**14 56 17.5**	**+1.0**
	comp=Z,1.7nm,0.3s,mb4.1,baz=202,slow=7.7,SNR=3.7							
ZAL	**Zalesovo**	**27.90**	**47**	P		**P**	**14 56 17.5**	**+1.1**
HFS	**Hagfors**	**30.24**	**325**	P		**P**	**14 56 36.2**	**-1.0**
	comp=Z,3.3nm,0.8s,mb4.1,baz=117,slow=9.9,SNR=6.0							
HFS				pP	pP		14 56 49.5	-1.1
	comp=Z,8.1nm,0.7s,baz=124,slow=11,SNR=7.5							
HFS	**Hagfors**	**30.24**	**325**	P		**P**	**14 56 36.2**	**-1.0**
HFS				pP	pP		14 56 49.5	-1.1
NB2	**NORSAR Subarra**	**31.74**	**325**	P		**P**	**14 56 48.0**	**-2.4**
	comp=Z,5.7nm,0.8s,mb4.5,baz=113,slow=8.6							
NB2	**NORSAR Subarra**	**31.74**	**325**	P		**P**	**14 56 48.0**	**-2.4**
NB2				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.5							
NOA	**NORSAR Array B**	**31.74**	**325**	P		**P**	**14 56 49.1**	**-1.2**
	comp=Z,0.8nm,0.6s,mb3.7,baz=113,slow=8.2,SNR=3.7							
NOA				pP	pP		14 57 02.4	-1.5
	comp=Z,4.9nm,0.7s,baz=118,slow=8.2,SNR=13							
NOA	**NORSAR Array B**	**31.74**	**325**	P		**P**	**14 56 49.1**	**-1.2**
NOA				pP	pP		14 57 02.4	-1.5
ARCES	**ARCESS Array B**	**32.56**	**345**	P		**P**	**14 56 56.9**	**-0.6**
ARCES				*PP	pP		14 57 10.9	-0.2
ARCES	**ARCESS Array B**	**32.56**	**345**	P		**P**	**14 56 56.9**	**-0.6**
	comp=Z,1.9nm,0.8s,mb4.1,baz=134,slow=9.4,SNR=6.7							
ARCES				pP	pP		14 57 10.9	-0.2
	comp=Z,2.6nm,0.6s,baz=146,slow=8.7,SNR=2.3							
ARCES	**ARCESS Array B**	**32.56**	**345**	P		**P**	**14 56 56.9**	**-0.6**
ARCES				pP	pP		14 57 10.9	-0.2
LSA	**Lhasa**	**35.55**	**93**	*e*P		**P**	**14 57 25.3**	**+1.7**
LSA				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
LSA	**Lhasa**	**35.55**	**93**	*e*P		**P**	**14 57 25.3**	**+1.7**
	comp=Z,3.3nm,0.6s,mb4.4							
SONM	**Songino Array**	**41.26**	**59**	P		**P**	**14 58 12.4**	**+1.5**
	comp=Z,1.0nm,0.6s,mb3.6,baz=275,slow=9.0,SNR=10							
ULN	**Ulaanbaatar**	**41.69**	**59**	*e*P		**P**	**14 58 15.9**	**+1.5**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.3s,mb4.2							
ULN	**Ulaanbaatar**	**41.69**	**59**	*e*P		**P**	**14 58 15.9**	**+1.4**
	comp=Z,1.8nm,0.3s,mb4.2							
BOD	**Bodaibo**	**44.54**	**44**	*e*P		**P**	**14 58 37.8**	**+0.3**
BOD				*e*		pP	14 58 51.9	+0.5
BOD				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
BOD				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.2							
CMAR	**Chiang Mai Arr**	**47.58**	**101**	P		**P**	**14 59 02.5**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=302,slow=7.8,SNR=5.8							
CMAR				pP		pP	14 59 17.8	+1.8
	comp=Z,0.7nm,0.7s,baz=305,slow=7.8,SNR=3.7							
ENH	**Enshi**	**49.41**	**81**	P		**P**	**14 59 17.0**	**+0.9**
	comp=Z,2.9nm,0.4s,mb4.7							
HIA	**Hailar**	**49.55**	**54**	P		**P**	**14 59 18.0**	**+1.2**
HIA				pmax	pmax			
	comp=Z,4.0nm,0.5s							
HIA	**Hailar**	**49.55**	**54**	P		**P**	**14 59 18.0**	**+1.2**
	comp=Z,3.6nm,0.5s,mb4.7							
BILL	**Bilibino**	**62.87**	**22**	*e*P		**P**	**15 00 51.7**	**-0.2**
BILL				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.2							
BILL	**Bilibino**	**62.87**	**22**	*e*P		**P**	**15 00 51.7**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.2							
SCHQ	**Schefferville**	**71.29**	**327**	P		**P**	**15 01 44.9**	**-0.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=349,slow=10,SNR=2.8							
SCHQ				pP		pP	15 01 59.3	-0.5
	comp=Z,2.5nm,0.7s,baz=27,slow=6.8,SNR=2.7							
INK	**Inuvik**	**72.42**	**1**	P		**P**	**15 01 52.4**	**+1.0**
	comp=Z,2.1nm,1.1s,mb4.0,baz=221,slow=3.3,SNR=3.2							
ILAR	**Eielson Array**	**75.21**	**7**	P		**P**	**15 02 08.6**	**+1.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=330,slow=4.5,SNR=6.6							
ILAR				pP		pP	15 02 23.7	+1.1
	comp=Z,0.3nm,0.6s,baz=323,slow=4.1,SNR=2.8							
YKA	**Yellowknife Ar**	**77.45**	**352**	P		**P**	**15 02 20.5**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=14,slow=6.1,SNR=8.2							
YKA				pP		pP	15 02 35.2	0.0
	comp=Z,0.5nm,0.5s,baz=14,slow=5.6,SNR=7.4							
YKA	**Yellowknife Ar**	**77.45**	**352**	P		**P**	**15 02 20.5**	**+0.2**
YKA				pP	pP		15 02 35.2	0.0

*CRAAG **11** 14:54:02.8,7.26S×77.96W,Mb6.2*
*MOS **11** 14:54:04.7±0.8,7.19S×77.97W,h118km,mb6.3/111, Error ellipse: s-maj=6.3km s-min=4.2km az=79.4*
*IDC **11** 14:54:06.9±0.3,7.33S×77.86W,h128km±2km,mb5.6/35, mb1 5.7/40,mb1mx5.7/40,mbtmp6.0/40,MS5.0/10, Ms1 5.0/10,ms1mx4.6/36,Error ellipse: s-maj=9.1km s-min=5.4km az=71.0*
*BGS **11** 14:54:07.8,6.78S×78.27W,h130km,mb6.1*
*NEIC **11** 14:54:07.0±0.1,7.29S×77.89W,mb6.1/235,ME5.7, MW5.9,Error ellipse: s-maj=3.3km s-min=2.1km az=222.0 Broadband fault plane solution: P waves. NP1:φs40°,δ70°, λ155°. NP2:φs139°,δ67°,λ22°. Principal axes: T Plg32°, Azm359°; N Plg0°, Azm0°; P Plg2°, Azm90°; Moment Tensor Solution. s21 Moment tensor: Scale 1017 Nm; Mrr5.87; Mθθ0.02; Mφφ-5.89; Mrθ4.24; Mθφ-2.35; Mφr5.13; Best double couple: M0 9.2×1017 NP1:φs183°,δ24°,λ61°. NP2:φs34°,δ69°,λ103°. Principal axes: T 9, Plg64°, Azm325°; N .36, Plg12°, Azm210°; P -9.36, Plg23°, Azm115°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Chiclayo, San Marcos and Trujillo; [III] at Cajamarca. Also felt at Guayaquil, Ecuador.
*HRVD **11** 14:54:07.0±0.2,7.36S×77.96W,h132km±1km,MW6.0/76, Centroid moment Tensor Solution. LP body waves: s63,c103;Mantle waves: s76,c210; Half duration: 2s3 Moment tensor: Scale 1018Nm; Mrr0.58±.02; Mθθ-0.06±.02; Mφφ-0.52±.02; Mrθ0.27±.01; Mθφ-0.92±.02; Mφr-0.11±.02; Best double couple: M0 1.072×1018 NP1: φs180°,δ60°,λ30°. NP2:φs74°,δ64°,λ147°. Principal axes: T .904, Plg41°, Azm36°; N .337, Plg49°, Azm221°; P -1.241, Plg3°, Azm128°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **11** 14:54:07.0,7.30S×77.90W,h129km,mB6.1*
ISC 11 14:54:05.4±0.1,7.31S±0.02×77.96W±0.02,h129km, h129km±.5km:pP-P,n993,σ0°88/799,mb6.0/293,454C-29D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NNA	**Nana**	**4.77**	**167**	Pn		**

VCR **Vista de Mar** 18.93 336 *eP* **P** 14 58 21.5 +2.6
PCRV **Puerto La Cruz** 21.86 38 P **P** 14 58 49.7 +1.0
comp=Z,2µm,1.4s,mb6.4,baz=204,slow=4.6,SNR=96
PCRV S **S** 15 02 43.7 +6.6
comp=Z,48nm,0.9s,baz=29,slow=20,SNR=1.4
CNCH **Conchagua** 22.68 334 *eP* **P** 14 58 58.6 +1.8
BLLM **Bellamira** 23.01 334 *eP* **P** 14 59 00.5 +0.5
LCBS **La Ceiba** 23.53 332 *eP* **P** 14 59 06.6 +1.7
LFRS **El Faro** 23.54 332 *eP* **P** 14 59 06.7 +1.6
TLL **Tololo Astrono** 23.71 164⇓*iP* **P** 14 59 07.5 +0.9
BOQS **Boqueron** 23.74 332 *eP* **P** 14 59 10.1 +3.1
SBLS **San Blas** 23.99 331 *eP* **P** 14 59 11.7 +2.3
TPP **Pointe-a-Pierr** 24.02 43 *eP* **P** 14 59 13.1 +3.4
RBDL **Robledal** 24.26 331 *eP* **P** 14 59 14.0 +2.0
TRN **Trinidad (W)** 24.29 43 *eP* **P** 14 59 13.9 +1.6
TBH **Brigand Hill** 24.40 44 *eP* **P** 14 59 17.0 +3.7
PCJ **Portland Cotta** 24.91 2⇑*iP* **P** 14 59 19.9 +1.7
MCJ **Malvern** 25.08 1⇑*iP* **P** 14 59 22.0 +2.3
BOT **Bacolet** 25.13 43 *eP* **P** 14 59 22.6 +2.4
HOJ **Hope** 25.18 3⇑*iP* **P** 14 59 22.5 +1.8
STH **Stony Hill** 25.25 3⇑*iP* **P** 14 59 23.1 +1.7
GWJ **Greenwich** 25.25 3⇑*iP* **P** 14 59 23.0 +1.6
CFAA **Coronel Fontan** 25.82 161 P **P** 14 59 26.2 -0.3
comp=Z,23nm,0.9s,baz=336,slow=8.6,SNR=140
CFAA pP pP 14 59 54.4 +0.8
comp=Z,18nm,0.9s,baz=342,slow=8.9,SNR=5.2
CFAA PcP PcP 15 02 52.0 -1.1
comp=Z,3.3nm,0.9s,baz=320,slow=4.7,SNR=2.9
SVB **Belmont** 26.34 39 *eP* **P** 14 59 33.9 +2.5
SSV **Crater Summit** 26.42 39 *eP* **P** 14 59 30.0 -2.2
FCH **Farellones** 26.84 166⇓*iP* **P** 14 59 36.3 +0.5
CLCH **Cerro Calan** 26.85 166⇓*iP* **P** 14 59 35.8 -0.1
CCIG **Comitan** 27.32 329 *i P* **P** 14 59 40.4 0.0
LMEL **Las Melosas** 27.36 166⇓*iP* **P** 14 59 40.7 +0.1
SJG **San Juan** 27.82 25⇑*iP* **P** 14 59 43.5 -1.5
SJG pmax pmax
comp=Z,727nm,1.0s
SJG **San Juan** 27.82 25 P **P** 14 59 44.0 -0.9
comp=Z,485nm,0.8s,mb6.3,baz=216,slow=5.4,SNR=97
SJG **San Juan** 27.82 25⇑*iP* **P** 14 59 43.5 -1.5
comp=Z,727nm,1.0s,mb6.4
BBL **Barber's Block** 27.96 36 *eP* **P** 14 59 46.8 +0.6
NVRH **Round Hill, Ne** 28.69 32 *eP* **P** 14 59 52.6 -0.1
BSK **Brimstone Hill** 28.70 31 *eP* **P** 14 59 53.3 +0.6
SKTB **Turtle Beach** 28.70 32 *eP* **P** 14 59 52.3 -0.5
SKI **Saint Kitts** 28.74 31 *eP* **P** 14 59 53.2 +0.1
BPA **Boggy Peak** 28.97 33 *eP* **P** 14 59 54.9 -0.3
HUIG **Huatulco** 29.14 322 *i P* **P** 14 59 56.9 +0.2
TEIG **Tepich** 29.19 340⇑*eP* **P** 14 59 56.3 -0.8
comp=Z,155nm,1.1s,mb5.7
CMIG **Matias Romero** 29.46 326 *i P* **P** 14 59 59.7 +0.2
CCHI **Chillan** 29.64 170⇓*iP* **P** 15 00 00.5 -0.5
BDFB **Brasilia** 30.46 108 P **P** 15 00 07.5 -1.0
comp=Z,167nm,0.9s,mb5.8,baz=280,slow=11,SNR=122
BDFB S **S** 15 04 57.4 -1.2
comp=Z,50nm,1.0s,baz=194,slow=26,SNR=1.6
BDFB LR LR 15 14 31.6
comp=Z,7µm,19.3s,baz=138,slow=40
BAO **Brasilia Array** 30.48 108 P **P** 15 00 06.5 -2.1
VHO **Vista Hermosa** 30.52 323 *i P* **P** 15 00 10.0 +1.0
OXX **Oaxaca** 30.52 323 *i P* **P** 15 00 11.0 +2.0
ACX **Acapulco** 32.38 318 *eP* **P** 15 00 25.0 -0.2
LVIG **Laguna Verde** 32.43 326 *i P* **P** 15 00 25.4 -0.2
CAIG **El Cayaco** 32.74 318 *i P* **P** 15 00 29.2 +0.9
LPA **La Plata** 33.07 149*de*P **P** 15 00 29.0 -2.0
LPA *es*P sP 15 01 12.0 -2.3
LPA *e*PP PP 15 01 41.0 -4.9
LPA *e*S **S** 15 05 39.0 -0.2
LPA *e*SS SS 15 07 51.0 +2.1
LPA *e*SCS ScS 15 10 46.0 +4.4
PPM **Popocatepetl** 33.20 322 *i P* **P** 15 00 34.3 +2.1
PLIG **Platanillo** 33.23 320 *i P* **P** 15 00 33.8 +1.3
TRQA **Tornquist** 33.86 157 *eP* **P** 15 00 35.4 -2.2
comp=Z,325nm,1.4s,mb5.9
PLCA **Paso Flores** 33.93 170 P **P** 15 00 37.5 -0.7
PLCA *PP pP 15 01 05.5 -1.2
PLCA 15 03 13.8
PLCA S **S** 15 05 50.5 -1.9
PLCA pmax pmax
comp=Z,82nm,1.0s
PLCA pmax pmax
comp=Z,130nm,1.1s
PLCA pmax pmax
comp=Z,62nm,0.9s
PLCA **Paso Flores** 33.93 170 P **P** 15 00 37.5 -0.8
comp=Z,82nm,1.0s,mb5.4,baz=344,slow=9.8,SNR=90
PLCA pP pP 15 01 05.5 -1.2
comp=Z,130nm,1.1s,baz=349,slow=9.3,SNR=8.1
PLCA PcP PcP 15 03 13.8 -0.1
comp=Z,62nm,0.9s,baz=338,slow=5.3,SNR=5.0
PLCA S **S** 15 05 50.5 -2.0
comp=Z,2.9nm,1.0s,baz=299,slow=16,SNR=1.3
PLCA **Paso Flores** 33.93 170 *eP* **P** 15 00 37.3 -0.9
comp=Z,379nm,1.4s,mb5.9
PLCA *ep*P pP 15 01 06.8 +0.1
ZIIG **Zihuatanejo** 33.95 317 *i P* **P** 15 00 39.1 +0.6
MOIG **Morelia** 35.25 320 *i P* **P** 15 00 51.1 +1.4
DWPF **Disney** 35.37 355⇑*iP* **P** 15 00 50.2 -0.4
comp=Z,2µm,1.8s,mb6.5
DWPF *ep*P pP 15 01 20.1 +0.8
RPN **Rapa Nui** 35.69 233 LR LR 15 11 54.0
comp=Z,2µm,21.7s,baz=226,slow=30
COLM **Colima** 36.55 316 *i P* **P** 15 01 02.5 +1.9
SFJM **Santa Fe** 37.03 319 *i P* **P** 15 01 06.0 +1.4
CJM **Chamela** 37.70 315 *i P* **P** 15 01 05.2 -5.1
ZAIG **Zacatecas** 38.39 322 *i P* **P** 15 01 17.9 +1.9
CAM3 **Guarapari** 38.58 114⇓*iP* **P** 15 01 16.4 -1.2
CAM3 *i* 15 01 23.6
CAM3 *i* pP 15 01 43.6 -2.9
CAM3 *i* pP 15 01 48.0 +1.5
CAM3 *i* 15 01 53.9
CS6B **Jaguaretama** 39.08 90*ce*P **P** 15 01 20.2 -1.6
CS6B *i* 15 01 21.4
CS6B *e* pP 15 01 50.8 0.0
CS6B *i* 15 02 03.5
CS6B *i* 15 03 19.3
CS6B *e* 15 06 55.4
CS6B *i* 15 07 10.6
CS6B *e* 15 12 59.6
HBF **Harts Bluff** 40.09 357 P **P** 15 01 30.5 +0.6
HBF **Harts Bluff** 40.09 357 *eP* **P** 15 01 29.9 0.0
CSU **Charleston Sou** 40.12 357 *eP* **P** 15 01 30.4 +0.2
CSU *ep*P pP 15 02 00.2 +1.0
CSU *e*PcP PcP 15 03 32.2 -0.6
NHSC **New Hope** 40.25 357⇑*iP* **P** 15 01 31.2 0.0
comp=Z,3µm,1.2s,mb6.8
NHSC *e*PcP PcP 15 03 32.8 -0.5
TWB **Tillmans-White** 40.26 357 *eP* **P** 15 01 31.4 +0.2
TWB *e*PcP PcP 15 03 32.7 -0.6
COW **Cow Castle Cre** 40.55 356 *eP* **P** 15 01 33.7 0.0
COW *e*PcP PcP 15 03 33.6 -0.6
GOGA **Godfrey** 40.84 353 *eP* **P** 15 01 35.4 -0.6
GOGA *e*PP pP 15 02 05.7 +0.6
GOGA pmax pmax
comp=Z,521nm,1.1s,mb6.1
GOGA **Godfrey** 40.84 353 *eP* **P** 15 01 35.4 -0.6
comp=Z,521nm,1.1s,mb6.1
GOGA *ep*P pP 15 02 05.7 +0.6
LRAL **Lakeview Retre** 41.03 348⇑*iP* **P** 15 01 36.8 -0.8
comp=Z,885nm,0.9s,mb6.4
LRAL *ep*P pP 15 02 06.5 -0.2
LRAL *e*PcP PcP 15 03 34.2 -1.5
BBSR **BB Station** 41.44 17⇑*iP* **P** 15 01 40.7 -0.3
comp=Z,306nm,1.1s,mb5.8
JSC **Jenkinsville** 41.48 356⇑*eP* **P** 15 01 41.0 -0.3
JSC *e* 15 03 36.4
CAUB **Caruaru** 41.57 94 *eP* **P** 15 01 41.2 -1.1
CAUB *e* 15 01 44.4
CAUB *e* 15 01 48.8
CAUB *e* pP 15 02 09.3 -2.2
CAUB *e* 15 02 21.1
CAUB *e* 15 02 53.5
CAUB *e* 15 03 21.0
CAUB *e* 15 03 43.9
CAUB *i* 15 07 48.0
CAUB *e* 15 08 34.6
CAUB *i* 15 08 58.4
RCBR **Riachuelo** 41.80 91 *eP* **P** 15 01 43.8 -0.5
comp=Z,145nm,1.1s,mb5.5
SWET **Sewanee** 42.96 350⇑*iP* **P** 15 01 52.2 -1.2
SWET *e*PcP PcP 15 03 40.8 -1.4
CPCT **Cooper Cave** 42.98 352⇑*iP* **P** 15 01 52.5 -1.1
CPCT *e*PcP PcP 15 03 41.1 -1.1
OXF **Oxford** 42.98 346⇑*iP* **P** 15 01 51.9 -1.7
OXF pmax pmax
comp=Z,661nm,1.1s,mb6.2
OXF **Oxford** 42.98 346⇑*iP* **P** 15 01 51.9 -1.8
comp=Z,661nm,1.1s,mb6.2
JCT **Junction City** 43.02 332⇑*iP* **P** 15 01 54.1 +0.1
JCT *e*PP pP 15 02 24.4 +1.1
JCT pmax pmax
comp=Z,795nm,1.4s,mb6.2
JCT **Junction City** 43.02 332⇑*iP* **P** 15 01 54.1 +0.1
comp=Z,796nm,1.4s,mb6.2
JCT *ep*P pP 15 02 24.4 +1.1
PLAL **Pickwick Lake** 43.14 348⇑*iP* **P** 15 01 53.2 -1.6
comp=Z,540nm,1.1s,mb6.1
PLAL *e*PcP PcP 15 03 41.3 -1.4
MET **Memphis--Engin** 43.69 346⇑*iP* **P** 15 01 57.9 -1.5
TZTN **Tazewell** 43.94 354⇑*iP* **P** 15 01 59.9 -1.4
TZTN *e*PcP PcP 15 03 44.5 -1.0
UALR **University of** 44.01 343⇑*iP* **P** 15 02 01.2 -0.7
comp=Z,883nm,0.9s,mb6.4
TXAR **Lajitas Array** 44.04 327 P **P** 15 02 03.0 +0.7
comp=Z,43nm,0.9s,mb5.1,baz=146,slow=9.0,SNR=268
TXAR pP pP 15 02 31.8 +0.3
comp=Z,47nm,0.9s,baz=141,slow=8.0,SNR=7.6
TXAR PcP PcP 15 03 44.9 -1.1
comp=Z,27nm,0.7s,baz=157,slow=6.8,SNR=5.7
LTX **Lajitas** 44.04 327⇑*iP* **P** 15 02 02.6 +0.4
LTX *e*PP pP 15 02 31.4 -0.1
LTX *e* 15 03 45.0
LTX pmax pmax
comp=Z,297nm,1.4s,mb5.7
LTX **Lajitas** 44.04 327⇑*iP* **P** 15 02 02.6 +0.4
comp=Z,297nm,1.4s,mb5.7
LTX *ep*P pP 15 02 31.4 -0.2
LTX *e*PcP PcP 15 03 45.0 -1.0
MIAR **Mount Ida** 44.17 341⇑*iP* **P** 15 02 02.9 -0.3
MIAR pmax pmax
comp=Z,1µm,1.0s,mb6.4
MIAR **Mount Ida** 44.17 341⇑*iP* **P** 15 02 02.9 -0.3
comp=Z,1µm,1.0s,mb6.4
WVT **Waverly** 44.20 349⇑*iP* **P** 15 02 01.1 -2.3
WVT *e* 15 03 44.8
WVT pmax pmax
comp=Z,405nm,1.0s,mb6.0
WVT **Waverly** 44.20 349⇑*iP* **P** 15 02 01.1 -2.3
comp=Z,405nm,1.0s,mb6.0
WVT *e*PcP PcP 15 03 44.8 -1.6
HBAR **Harrisburg** 44.28 345⇑*iP* **P** 15 02 02.9 -1.2
HALT **Halls** 44.31 347⇑*iP* **P** 15 02 02.6 -1.7
HALT *e*PcP PcP 15 03 45.5 -1.3
BLA **Blacksburg** 44.35 357⇑*iP* **P** 15 02 03.9 -0.7
BLA *e* 15 03 46.1
BLA pmax pmax
comp=Z,523nm,1.5s,mb5.9
BLA **Blacksburg** 44.35 357⇑*iP* **P** 15 02 03.9 -0.7
comp=Z,523nm,1.5s,mb5.9
BLA *e*PcP PcP 15 03 46.1 -0.8
ELN **Prospectdale** 44.38 357 *eP* **P** 15 02 04.6 -0.2
ELN *e*PcP PcP 15 03 45.8 -1.2
GNAR **Gosnell** 44.52 346⇑*iP* **P** 15 02 05.0 -0.9
GNAR *ep*P pP 15 02 35.3 0.0
GNAR *e*PcP PcP 15 03 46.8 -0.7
UTMT **University of** 44.62 347 *eP* **P** 15 02 05.2 -1.5
comp=Z,1µm,1.1s,mb6.4
GLAT **Glass** 44.64 347⇑*iP* **P** 15 02 05.4 -1.5
FWV **Forest Hill** 44.74 357⇑*eP* **P** 15 02 06.9 -0.8
FWV *e*PcP PcP 15 03 47.1 -1.1
PVMO **Portageville** 44.87 347 *eP* **P** 15 02 07.5 -1.2
WCI **Wyandotte Cave** 45.97 351⇑*iP* **P** 15 02 15.3 -2.1
WCI *e*PP pP 15 02 46.5 -0.4
WCI *e* 15 03 51.3
WCI pmax pmax
comp=Z,368nm,1.1s,mb5.9
WCI **Wyandotte Cave** 45.97 351⇑*iP* **P** 15 02 15.3 -2.1
comp=Z,368nm,1.1s,mb5.9
WCI *ep*P pP 15 02 46.5 -0.4
WCI *e*PcP PcP 15 03 51.3 -1.2
WCI **Wyandotte Cave** 45.97 351 P **P** 15 02 15.5 -1.9
WCI PcP PcP 15 03 50.8 -1.7
WCI PcS 15 07 45.1
WCI S **S** 15 08 48.9 -2.6
WMOK **Wichita Mounta** 46.22 336⇑*iP* **P** 15 02 18.9 -0.6
WMOK *e*PP pP 15 02 48.9 -0.1
WMOK *e* 15 03 53.0
WMOK pmax pmax
comp=Z,395nm,1.1s,mb6.0
WMOK **Wichita Mounta** 46.22 336⇑*iP* **P** 15 02 18.9 -0.5
comp=Z,395nm,1.1s,mb6.0
WMOK *ep*P pP 15 02 48.9 -0.1
WMOK *e*PcP PcP 15 03 53.0 -0.4
CLNB **Carlsbad** 46.47 329 *eP* **P** 15 02 22.3 +0.9
CLNB *ep*P pP 15 02 52.1 +1.1
SDMD **Soldier's Deli** 46.50 1⇑*iP* **P** 15 02 21.2 -0.4
SDMD *e*PcP PcP 15 03 53.3 -1.1
FVM **French Village** 46.54 346⇑*iP* **P** 15 02 20.2 -1.7
FVM *e*PP pP 15 02 50.7 -0.8
FVM *e* 15 03 53.3
FVM pmax pmax
comp=Z,1µm,1.1s,mb6.4
FVM **French Village** 46.54 346⇑*iP* **P** 15 02 20.2 -1.7
comp=Z,1µm,1.1s,mb6.4
FVM *ep*P pP 15 02 50.6 -0.8
FVM *e*PcP PcP 15 03 53.3 -1.2
GDL2 **Guadalupe Moun** 46.67 329 *eP* **P** 15 02 23.7 +0.7
GDL2 *ep*P pP 15 02 53.7 +1.1
CCM **Cathedral Cave** 46.80 346⇑*iP* **P** 15 02 22.2 -1.8
CCM *e*PP pP 15 02 52.7 -0.9
CCM *e* 15 03 54.5
CCM pmax pmax
comp=Z,309nm,0.8s,mb6.0
CCM **Cathedral Cave** 46.80 346⇑*iP* **P** 15 02 22.2 -1.7
comp=Z,309nm,0.8s,mb6.0
CCM *ep*P pP 15 02 52.7 -0.9
CCM *e*PcP PcP 15 03 54.5 -0.9
MNTX **Cornudas Mount** 46.81 327⇑*iP* **P** 15 02 23.5 -0.6
comp=Z,1µm,1.4s,mb6.3
MNTX *ep*P pP 15 02 54.6 +0.9
BLO **Bloomington** 46.92 351⇑*iP* **P** 15 02 22.9 -2.0
BLO *e*PP pP 15 02 53.5 -1.0
BLO *e* 15 03 54.4
BLO pmax pmax
comp=Z,514nm,1.3s,mb6.0
BLO **Bloomington** 46.92 351⇑*iP* **P** 15 02 22.9 -2.0
comp=Z,514nm,1.3s,mb6.0
BLO *ep*P pP 15 02 53.5 -1.1
BLO *e*PcP PcP 15 03 54.4 -1.5
CPRX **Cap Rock** 47.08 330 *eP* **P** 15 02 27.2 +1.0
CPRX *ep*P pP 15 02 56.8 +0.9
MVL **Millersville** 47.10 2⇑*iP* **P** 15 02 26.0 -0.2
MVL *e*PcP PcP 15 03 54.5 -2.0
SLM **Saint Louis** 47.12 347⇑*iP* **P** 15 02 25.1 -1.3
SLM *e* 15 03 55.6
SLM pmax pmax
comp=Z,875nm,1.3s,mb6.2
SLM **Saint Louis** 47.12 347⇑*iP* **P** 15 02 25.1 -1.3
comp=Z,875nm,1.3s,mb6.2
SLM *e*PcP PcP 15 03 55.6 -1.0
ACSO **Alum Creek Sta** 47.53 355⇑*iP* **P** 15 02 28.0 -1.7
comp=Z,711nm,1.0s,mb6.2
ACSO *ep*P pP 15 02 57.8 -1.6
ACSO *e*PcP PcP 15 03 56.9 -1.2
AMTX **Amarillo** 47.57 333⇑*iP* **P** 15 02 29.8 -0.2
comp=Z,395nm,0.9s,mb6.0
AMTX *ep*P pP 15 03 00.2 +0.5
SSPA **Standing Stone** 47.71 0⇑*iP* **P** 15 02 30.2 -0.9
comp=Z,497nm,1.3s,mb6.0
BRNJ **Basking Ridge** 47.86 3⇑*iP* **P** 15 02 32.5 +0.4
USHA **Ushuaia** 48.00 173 P **P** 15 02 33.2 +0.1
comp=Z,99nm,0.9s,mb5.5,baz=334,slow=5.5,SNR=44
USHA pP pP 15 03 02.8 0.0
comp=Z,96nm,1.0s,baz=346,slow=7.5,SNR=5.5
USHA LR LR 15 21 58.1
comp=Z,2µm,18.9s,baz=240,slow=35
CPNY **Central Park** 48.01 4⇑*iP* **P** 15 02 32.7 -0.7
PAL **Palisades** 48.22 4⇑*iP* **P** 15 02 34.3 -0.7
PAL pmax pmax
comp=Z,303nm,1.2s,mb5.8
PAL **Palisades** 48.22 4⇑*iP* **P** 15 02 34.3 -0.7
comp=Z,303nm,1.2s,mb5.8
ALLY **Alegheny Colle** 48.76 358⇑*iP* **P** 15 02 37.5 -1.6
ALLY *e*PcP PcP 15 04 00.7 -1.7
ERPA **Erie** 49.23 358⇑*iP* **P** 15 02 40.7 -2.0
comp=Z,841nm,1.3s,mb6.2
KSU1 **Kansas State U** 49.31 341⇑*iP* **P** 15 02 42.7 -0.7
KSU1 *ep*P pP 15 03 13.4 +0.1
BRYW **Bryant College** 49.34 6⇑*iP* **P** 15 02 43.5 -0.1
comp=Z,2µm,1.5s,mb6.5
BRYW *ep*P pP 15 03 11.8 -1.7
BRYW *e*PcP PcP 15 04 03.0 -1.5
LPM **Los Pinos Moun** 49.50 329⇑*eP* **P** 15 02 45.1 +0.2
LPM *ep*P pP 15 03 15.4 +0.6
LPM *e*PcP PcP 15 04 04.8 -0.4
LENM **Lemitar** 49.56 328 *eP* **P** 15 02 44.9 -0.5
LENM *ep*P pP 15 03 16.0 +0.7
LENM *e*PcP PcP 15 04 05.5 0.0
QUA2 **Belchertown** 49.62 5⇑*iP* **P** 15 02 45.2 -0.5
comp=Z,452nm,1.2s,mb6.0
QUA2 *e*PcP PcP 15 04 04.3 -1.2
AAM **Ann Arbor** 49.65 354⇑*iP* **P** 15 02 44.0 -1.9
AAM pmax pmax
comp=Z,675nm,1.1s,mb6.2
AAM **Ann Arbor** 49.65 354⇑*iP* **P** 15 02 44.0 -1.9
comp=Z,675nm,1.1s,mb6.2
WES **Weston** 49.83 6⇑*iP* **P** 15 02 47.0 -0.3
WES pmax pmax
comp=Z,523nm,1.1s,mb6.1
WES **Weston** 49.83 6⇑*iP* **P** 15 02 47.0 -0.3
comp=Z,523nm,1.1s,mb6.1
LAZ **Ladron** 49.83 328 *eP* **P** 15 02 48.4 +0.9
LAZ *ep*P pP 15 03 18.6 +1.2
GENY **Geneseo** 49.84 0 *eP* **P** 15 02 46.4 -1.0
GENY *e*PcP PcP 15 04 05.3 -1.0
ANMO **Albuquerque** 49.91 329 P **P** 15 02 48.4 +0.4
ANMO P 15 02 48.4
ANMO pP pP 15 03 18.3 +0.4
ANMO pP pP 15 03 18.3 +0.4
ANMO sP sP 15 03 31.5 -0.7
ANMO S **S** 15 09 50.5 +3.8
ANMO S **S** 15 09 50.7 +3.9
ANMO **Albuquerque** 49.91 329 P **P** 15 02 48.5 +0.5
ANMO *PP pP 15 03 18.6 +0.7
ANMO S **S** 15 09 49.1 +2.3
ANMO pmax pmax
comp=Z,301nm,0.9s
ANMO pmax pmax
comp=Z,484nm,1.1s
ANMO **Albuquerque** 49.91 329 P **P** 15 02 48.5 +0.4
comp=Z,301nm,0.9s,mb5.9,baz=143,slow=8.2,SNR=366
ANMO pP pP 15 03 18.6 +0.7
comp=Z,484nm,1.1s,baz=147,slow=9.3,SNR=15
ANMO S **S** 15 09 49.1 +2.4
comp=Z,0.5nm,0.3s,baz=45,slow=23,SNR=3.3
ANMO P4KPbc 15 40 20.4
comp=Z,3.6nm,0.9s,baz=215,slow=3.9,SNR=5.2
ANMO **Albuquerque** 49.91 329⇑*iP* **P** 15 02 48.2 +0.2
comp=Z,790nm,1.2s,mb6.2
ANMO *ep*P pP 15 03 18.9 +0.9
HRV **Harvard--Oak R** 49.92 6⇑*iP* **P** 15 02 47.8 -0.2
HRV pmax pmax
comp=Z,1µm,1.6s,mb6.2
HRV **Harvard--Oak R** 49.92 6⇑*iP* **P** 15 02 47.8 -0.2
comp=Z,1µm,1.6s,mb6.2
CBKS **Cedar Bluff** 50.15 338⇑*iP* **P** 15 02 49.6 -0.2
CBKS *e*PP pP 15 03 20.1 +0.3
CBKS *e* 15 04 06.9
CBKS pmax pmax
comp=Z,1µm,1.1s,mb6.5
CBKS **Cedar Bluff** 50.15 338⇑*iP* **P** 15 02 49.6 -0.2
comp=Z,1µm,1.1s,mb6.5
CBKS *ep*P pP 15 03 20.1 +0.3
CBKS *e*PcP PcP 15 04 06.9 -0.7
TUC **Tucson** 50.31 323⇑*iP* **P** 15 02 51.2 +0.1
TUC pmax pmax
comp=Z,160nm,1.0s,mb5.6
TUC **Tucson** 50.31 323⇑*iP* **P** 15 02 51.2 +0.1
comp=Z,160nm,1.0s,mb5.6
ACCN **Adirondack Com** 50.61 4⇑*iP* **P** 15 02 52.9 -0.3
ACCN *e*PcP PcP 15 04 07.9 -1.2
FFD **Franklin Falls** 50.87 6⇑*iP* **P** 15 02 49.0 -6.2
comp=Z,556nm,1.0s,mb6.2
HNH **Hanover** 51.04 5⇑*iP* **P** 15 02 56.3 -0.2
comp=Z,50nm,1.1s,mb5.1
NCB **Newcomb** 51.16 3⇑*iP* **P** 15 02 56.3 -1.1
comp=Z,442nm,1.1s,mb6.0
MIV **Mineville/With** 51.30 4 *eP* **P** 15 02 57.9 -0.6
SDCO **Great Sand Dun** 51.67 332⇑*iP* **P** 15 03 01.6 +0.2
comp=Z,151nm,0.4s,mb6.0
SDCO *ep*P pP 15 03 32.9 +1.4
SADO **Sadowa** 51.85 359 P **P** 15 03 00.5 -2.1
comp=Z,224nm,1.0s,mb5.8,baz=198,slow=7.3,SNR=74
SADO pP pP 15 03 32.5 -0.2
comp=Z,77nm,1.0s,baz=219,slow=3.3,SNR=3.6
SADO PcP PcP 15 04 12.7 -1.0
comp=Z,72nm,1.0s,baz=195,slow=5.5,SNR=4.6
SADO S **S** 15 10 08.8 -4.6
comp=Z,6.7nm,1.1s,baz=182,slow=13,SNR=1.9
SADO **Sadowa** 51.85 359 P **P** 15 03 00.5 -2.1
SADO pP pP 15 03 32.5 -0.2
SADO PcP PcP 15 04 12.7 -1.0
SADO S **S** 15 10 08.8 -4.6
MSNY **Massena** 52.15 3 *eP* **P** 15 03 03.9 -0.8
WVL **Waterville** 52.18 8⇑*iP* **P** 15 03 04.7 -0.3
comp=Z,2µm,1.0s,mb6.6
EMMW **East Machias** 52.64 9⇑*iP* **P** 15 03 08.0 -0.5
comp=Z,3µm,1.7s,mb6.8
WUAZ **Wupatki** 52.96 326⇑*iP* **P** 15 03 11.5 +0.5
comp=Z,1µm,1.1s,mb6.5
WUAZ *ep*P pP 15 03 42.7 +1.5
RW3 **Ridgway** 53.11 331 P **P** 15 03 12.5 +0.5
RW3 **Ridgway** 53.11 331 *eP* **P** 15 03 12.3 +0.3
PV01 **Paradox Valley** 53.45 330 *eP* **P** 15 03 15.0 +0.5
PV01 *ep*P pP 15 03 45.9 +1.0
PV10 **Paradox Valley** 53.87 330 *eP* **P** 15 03 16.9 -0.7
BAR **Barrett** 54.21 319⇑*iP* **P** 15 03 19.9 -0.3
BAR *ep*P pP 15 03 50.2 -0.3
BAR *e*PcP PcP 15 04 22.1 -0.7
PQI **Presque Isle** 54.47 8⇑*iP* **P** 15 03 21.2 -0.6
comp=Z,4µm,1.2s
PHWY **Pilot Hill** 54.56 335⇑*iP* **P** 15 03 22.1 -0.5
PHWY *ep*P pP 15 03 52.9 0.0
PHWY *e*PcP PcP 15 04 23.1 -0.9
PFO **Pinyon Flat Ob** 54.67 320⇑*iP* **P** 15 03 23.7 +0.2
PFO *e*PP pP 15 03 53.7 -0.2
PFO *e* 15 04 24.4
PFO pmax pmax
comp=Z,87nm,1.1s,mb5.4
PFO **Pinyon Flat Ob** 54.67 320⇑*iP* **P** 15 03 23.7 +0.2
comp=Z,87nm,1.1s,mb5.4
PFO *ep*P pP 15 03 53.7 -0.2
PFO *e*PcP PcP 15 04 24.4 -0.1
LDFC **Landfair** 54.82 323⇑*iP* **P** 15 03 25.3 +0.7
LDFC *ep*P pP 15 03 55.1 +0.1
LDFC *e*PcP PcP 15 04 25.0 0.0
SRU **San Rafael** 55.18 329⇑*iP* **P** 15 03 26.7 -0.4
SRU *e*PP pP 15 03 58.0 +0.4
MSU **Marysvale** 55.59 328 *eP* **P** 15 03 29.9 -0.2
MSU *e*PP pP 15 04 01.4 +0.8
MSU *e* 15 04 27.8
MVU **Marysvale** 55.60 328⇑*iP* **P** 15 03 30.2 0.0
comp=Z,529nm,1.3s,mb6.2
MVU *ep*P pP 15 04 01.7 +1.0
RWWY **Rawlins** 55.63 334⇑*iP* **P** 15 03 30.1 -0.2
comp=Z,1µm,1.1s,mb6.6
RWWY *ep*P pP 15 04 02.0 +1.1
TMUT **Trail Mountain** 55.67 329⇑*iP* **P** 15 03 30.4 -0.3
ARUT **Antelope Range** 55.75 326 *eP* **P** 15 03 31.7 +0.5
ARUT *e*PP pP 15 04 02.9 +1.1
MWC **Mount Wilson** 56.08 320⇑*iP* **P** 15 03 33.9 +0.2
EYMN **Ely** 56.30 349⇑*iP* **P** 15 03 32.6 -2.4
comp=Z,417nm,1.0s,mb6.2
EYMN *e*PcP PcP 15 04 29.2 -1.4
RSSD **Black Hills** 56.36 338⇑*iP* **P** 15 03 35.2 -0.3
RSSD *e*PP pP 15 04 07.0 +0.9
RSSD pmax pmax
comp=Z,618nm,1.0s,mb6.4
RSSD **Black Hills** 56.36 338⇑*iP* **P** 15 03 35.1 -0.3
comp=Z,618nm,1.0s,mb6.4
RSSD *ep*P pP 15 04 07.0 +0.9
MPU **Maple Canyon** 56.42 329⇑*iP* **P** 15 03 35.6 -0.4
MPU *ep*P pP 15 04 06.7 +0.1
DAU **Daniels Canyon** 56.53 330 *eP* **P** 15 03 36.8 0.0
DAU *e*PP pP 15 04 08.2 +0.8
NLU **North Lily Min** 56.60 329⇑*iP* **P** 15 03 36.8 -0.5
JLU **Jordanelle** 56.77 330⇑*iP* **P** 15 03 38.2 -0.3
JLU *ep*P pP 15 04 09.9 +0.8
RKT **Rikitea** 56.87 247 *eS* **S** 15 11 19.5 -1.3

RKT eLQ 15 18 04.6
RKT eLR LR 15 20 33.4
comp=Z,1µm,29.0s,baz=87
CTU Camp Tracy 56.99 330⇑iP P 15 03 39.6 -0.4
CTU ePP pP 15 04 10.9 +0.2
DAC Darwin (Calif) 57.12 322⇑iP P 15 03 40.9 -0.1
DAC e 15 04 33.9
DAC pmax pmax
comp=Z,87nm,0.9s,mb5.6
DAC Darwin (Calif) 57.12 322⇑iP P 15 03 40.9 -0.1
DAC ePcP PcP 15 04 33.9 -0.1
TCUT Toone Canyon 57.14 330⇑iP P 15 03 40.8 -0.2
TCUT ePP pP 15 04 11.8 +0.1
NOQ North Oquirrh 57.15 329⇑iP P 15 03 40.4 -0.7
DUG Dugway 57.16 329⇑iP P 15 03 41.0 -0.2
DUG e*PP pP 15 04 12.5 +0.7
DUG pmax pmax
comp=Z,365nm,1.1s,mb6.1
DUG Dugway 57.16 329⇑iP P 15 03 41.0 -0.2
comp=Z,365nm,1.1s,mb6.1
DUG epP pP 15 04 12.5 +0.7
TRCR Troy Canyon 57.34 325⇑iP P 15 03 42.8 +0.4
TRCR epP pP 15 04 13.3 +0.2
BW06 Boulder Array 57.54 333⇑iP P 15 03 42.6 -1.2
comp=Z,207nm,1.1s,mb5.9
PDAR Pinedale Array 57.54 333 P P 15 03 42.9 -0.9
comp=Z,124nm,1.0s,mb5.7,baz=133,slow=7.0,SNR=472
PDAR pP pP 15 04 14.2 -0.3
comp=Z,50nm,1.1s,baz=162,slow=9.4,SNR=4.1
PDAR sP sP 15 04 28.5 -0.2
comp=Z,37nm,1.1s,baz=127,slow=9.0,SNR=2.1
PDAR PcP PcP 15 04 34.9 -0.7
comp=Z,66nm,1.0s,baz=133,slow=7.7,SNR=9.1
PDAR P4KPbc 15 40 51.1
comp=Z,5.4nm,0.9s,baz=154,slow=4.8,SNR=29
HWUT Hardware Ranch 57.59 331⇑iP P 15 03 43.4 -0.7
comp=Z,511nm,1.0s,mb6.3
HWUT epP pP 15 04 15.1 +0.2
SPUT South Promonto 57.80 330⇑iP P 15 03 45.1 -0.6
SPUT epP pP 15 04 16.5 +0.1
TPH Tonopah 58.09 324⇑iP P 15 03 47.7 0.0
TPH e*PP pP 15 04 19.1 +0.6
TPH pmax pmax
comp=Z,229nm,1.0s,mb6.0
TPH Tonopah 58.09 324⇑iP P 15 03 47.7 0.0
comp=Z,229nm,1.0s,mb6.0
TPH epP pP 15 04 19.1 +0.6
PMSA Palmer Station 58.20 173 eP P 15 03 48.3 +0.1
comp=Z,197nm,1.0s,mb5.9
AHID Auburn Hatcher 58.26 332⇑iP P 15 03 47.5 -1.3
comp=Z,318nm,1.1s,mb6.1
HVU Hansel Valley 58.32 330⇑iP P 15 03 48.2 -1.0
HVU e*PP pP 15 04 19.9 -0.1
MTUM Tungsten Hills 58.41 322 eP P 15 03 50.3 +0.3
REDW Red Top Meadow 58.60 332⇑iP P 15 03 50.3 -0.9
comp=Z,261nm,1.1s,mb6.0
SNOW Snow King Moun 58.63 332⇑iP P 15 03 50.6 -0.8
comp=Z,228nm,1.2s,mb5.9
LOHW Long Hollow 58.68 333⇑iP P 15 03 50.6 -1.2
comp=Z,223nm,1.1s,mb5.9
WUWY Wally Ulrich 58.69 333⇑iP P 15 03 51.1 -0.7
TPAW Teton Pass 58.74 332⇑iP P 15 03 51.4 -0.8
comp=Z,238nm,1.1s,mb5.9
RRI2 Red Ridge 58.81 332⇑iP P 15 03 51.9 -0.7
comp=Z,527nm,0.9s,mb6.4
RRI2 epP pP 15 04 23.9 +0.4
ELK Elko 58.84 327⇑iP P 15 03 52.5 -0.4
ELK e*PP pP 15 04 24.2 +0.5
ELK pmax pmax
comp=Z,299nm,1.0s
ELK Elko 58.84 327⇑iP P 15 03 52.5 -0.4
comp=Z,299nm,1.0s,mb6.1
ELK epP pP 15 04 24.2 +0.5
OMM Old Mammoth Mi 58.84 322⇑iP P 15 03 52.9 -0.1
OMM epP pP 15 04 24.3 +0.5
MOOW Moose Ponds 58.85 333⇑iP P 15 03 52.0 -1.0
comp=Z,145nm,1.1s,mb5.7
MNV Mina 58.88 324⇑iP P 15 03 53.0 -0.2
MNV pmax pmax
comp=Z,284nm,1.0s,mb6.0
MNV Mina 58.88 324⇑iP P 15 03 53.0 -0.2
comp=Z,284nm,1.0s,mb6.0
NVAR Mina Array Bea 58.97 324 P P 15 03 54.2 +0.4
comp=Z,187nm,0.8s,mb6.0,baz=132,slow=7.5,SNR=888
NVAR pP pP 15 04 24.6 0.0
comp=Z,68nm,0.9s,baz=123,slow=6.5,SNR=4.3
NVAR sP sP 15 04 39.5 +0.6
comp=Z,23nm,0.8s,baz=102,slow=6.2,SNR=1.5
NVAR LR LR 15 26 41.1
comp=Z,699nm,20.7s,baz=130,slow=33
NVAR PKPPKP 15 33 25.0
comp=Z,2.0nm,1.0s,baz=347,slow=0.7,SNR=4.8
NVAR PKP2bc 15 33 35.1
comp=Z,10nm,1.1s,baz=355,slow=0.4,SNR=12
NVAR P4KPbc 15 40 58.4
comp=Z,1.6nm,0.9s,baz=116,slow=6.0,SNR=8.1
NVAR Mina Array Bea 58.97 324 P P 15 03 54.2 +0.4
NVAR pP pP 15 04 24.6 0.0
NVAR sP sP 15 04 39.5 +0.6
NVAR LR LR 15 26 41.1
NVAR P'P' 15 33 25.0
NVAR ⇑e 15 33 35.1
IMW Indian Meadow 59.06 333⇑iP P 15 03 53.6 -0.7
comp=Z,357nm,1.2s,mb6.1
LKWY Lake 59.34 334⇑iP P 15 03 56.6 +0.3
LKWY pmax pmax
comp=Z,255nm,1.0s,mb6.0
LKWY Lake 59.34 334⇑iP P 15 03 56.5 +0.3
comp=Z,255nm,1.0s,mb6.0
LRV Little Rabbit 59.35 320 eP P 15 03 56.9 +0.4
ULM Lac du Bonnet 59.40 347 P P 15 03 54.7 -1.9
comp=Z,571nm,0.9s,mb6.4,baz=158,slow=6.9,SNR=361
ULM pP pP 15 04 26.2 -1.4
comp=Z,139nm,0.9s,baz=167,slow=8.8,SNR=3.9
ULM PKP2bc 15 33 33.0
comp=Z,11nm,1.0s,baz=353,slow=3.7,SNR=10
ULM Lac du Bonnet 59.40 347⇑iP P 15 03 54.5 -2.2
comp=Z,955nm,1.0s,mb6.6
YFT Old Faithful 59.44 333 eP P 15 03 57.6 +0.6
YNR Norris Junctio 59.58 333⇑iP P 15 03 57.7 -0.3
YMR Madison River 59.67 333⇑iP P 15 03 58.4 -0.1
BMN Battle Mountai 59.70 326⇑iP P 15 03 58.1 -0.7
BMN e*PP pP 15 04 29.6 -0.1
BMN pmax pmax
comp=Z,324nm,1.1s,mb6.1
BMN Battle Mountai 59.70 326⇑iP P 15 03 58.1 -0.7
comp=Z,324nm,1.1s,mb6.1
BMN epP pP 15 04 29.6 -0.2
SAO San Andreas Ge 59.83 320⇑iP P 15 03 58.9 -0.8
SAO pmax pmax
comp=Z,63nm,1.0s,mb5.4
SAO San Andreas Ge 59.83 320⇑iP P 15 03 58.9 -0.8
comp=Z,63nm,1.0s,mb5.4
CMB Columbia Colle 59.96 322⇑iP P 15 03 59.7 -0.9
CMB pmax pmax
comp=Z,128nm,1.0s,mb5.7
CMB Columbia Colle 59.96 322⇑iP P 15 03 59.6 -1.0
comp=Z,128nm,1.0s,mb5.7
GCMT Greycliff 59.99 335 eP P 15 04 00.4 -0.3
GCMT epP pP 15 04 31.8 +0.1
QLMT Earthquake Lak 60.00 333 eP P 15 04 00.9 +0.1
WCN Washoe City 60.39 324⇑iP P 15 04 03.7 +0.2
WCN e*PP pP 15 04 35.3 +0.7
WCN pmax pmax
comp=Z,385nm,1.2s,mb6.1
WCN Washoe City 60.39 324⇑iP P 15 04 03.7 +0.1
comp=Z,385nm,1.2s,mb6.1
WCN epP pP 15 04 35.2 +0.7
PAHR Pah Rah Range 60.44 324⇑iP P 15 04 04.0 +0.2
comp=Z,277nm,1.3s,mb5.9
PAHR epP pP 15 04 35.5 +0.6
HLID Hailey 60.45 330 eP P 15 04 03.8 -0.1
comp=Z,180nm,1.0s,mb5.8
HLID epP pP 15 04 35.7 +0.8
MCMT McKenzie Canyo 60.65 332 eP P 15 04 05.4 +0.2
BOZ Bozeman (W) 60.72 334⇑iP P 15 04 04.8 -0.9
BOZ e*PP pP 15 04 37.1 +0.3
BOZ pmax pmax
comp=Z,611nm,1.3s,mb6.3
BOZ Bozeman (W) 60.72 334⇑iP P 15 04 04.8 -0.9
comp=Z,611nm,1.3s,mb6.3
BOZ epP pP 15 04 37.0 +0.3
SAC San Andreas 60.94 320 eP P 15 04 06.8 -0.5
NSHM Saint Helena R 61.63 321 eP P 15 04 12.1 +0.2

HRY Holter Researc 61.64 334 eP P 15 04 11.4 -0.4
HRY epP pP 15 04 42.7 -0.3
WVOR Wild Horse Val 61.84 327 eP P 15 04 12.4 -0.9
WVOR e*PP pP 15 04 43.8 -0.6
WVOR pmax pmax
comp=Z,324nm,1.1s,mb6.1
WVOR Wild Horse Val 61.84 327 eP P 15 04 12.4 -0.8
comp=Z,324nm,1.1s,mb6.1
WVOR epP pP 15 04 43.8 -0.6
HOPS Hopland 62.20 321⇑iP P 15 04 15.7 -0.1
comp=Z,300nm,1.4s,mb5.9
CHMT Chamberlain Mo 62.42 333 eP P 15 04 15.8 -1.3
LTIM Timbered Crate 62.61 324 P P 15 04 18.4 -0.1
SCHQ Schefferville 62.61 7 P P 15 04 16.9 -1.3
comp=Z,400nm,0.9s,mb6.2,baz=194,slow=5.1,SNR=249
SCHQ Schefferville 62.61 7⇑iP P 15 04 16.3 -1.9
comp=Z,673nm,1.0s,mb6.4
MSO Missoula 62.66 333⇑iP P 15 04 18.2 -0.5
comp=Z,547nm,1.1s,mb6.3
MSO epP pP 15 04 49.6 -0.3
BMO Blue Mountains 62.82 330⇑iP P 15 04 18.2 -1.5
comp=Z,121nm,1.2s,mb5.6
BMO epP pP 15 04 50.4 -0.5
WDC Whiskeytown Da 62.86 323⇑iP P 15 04 17.6 -2.5
WDC pmax pmax
comp=Z,92nm,1.0s,mb5.6
WDC Whiskeytown Da 62.86 323⇑iP P 15 04 17.6 -2.4
comp=Z,92nm,1.0s,mb5.6
HOG Hogback Mounta 63.42 325 P P 15 04 24.1 +0.3
YBH Yreka Blue Hor 63.67 324 P P 15 04 24.0 -1.4
YBH *PP pP 15 04 55.3 -1.4
YBH pmax pmax
comp=Z,162nm,0.9s
YBH pmax pmax
comp=Z,80nm,0.9s
YBH Yreka Blue Hor 63.67 324 P P 15 04 24.0 -1.4
comp=Z,162nm,0.9s,mb5.9,baz=126,slow=4.5,SNR=193
YBH pP pP 15 04 55.3 -1.4
comp=Z,80nm,0.9s,baz=31,slow=6.2,SNR=4.4
YBH Yreka Blue Hor 63.67 324⇑eP P 15 04 23.6 -1.9
comp=Z,178nm,0.9s,mb5.9
YBH epP pP 15 04 55.9 -0.8
KHMM Horse Mountain 63.75 323⇑iP P 15 04 26.1 +0.2
KRMB Red Mountain 64.25 323⇑iP P 15 04 29.1 0.0
KRMB epP pP 15 05 00.5 0.0
WALA Waterton Lakes 64.34 335⇑iP P 15 04 29.1 -0.5
comp=Z,397nm,0.9s,mb6.2
HUMO Hull Mountain 64.37 325 eP P 15 04 28.1 -1.8
comp=Z,44nm,0.9s,mb5.3
KSXB Camp Six Broad 64.42 323 P P 15 04 30.3 +0.1
CALA Caldeira 64.60 41 eP P 15 04 30.8 -0.7
PCED Cedros 64.63 41 eP P 15 04 31.3 -0.4
comp=Z,896nm,1.1s,mb6.5
PICO Pico 64.74 41 eP P 15 04 31.0 -1.4
PPNO Prainha do Nor 64.83 41 eP P 15 04 32.5 -0.5
comp=Z,721nm,1.2s,mb6.4
KBO Bosley Butte 64.86 324⇑iP P 15 04 33.1 0.0
KBO e pP 15 05 05.2 +0.7
FFC Flin Flon 65.00 345⇑iP P 15 04 32.1 -1.7
FFC pmax pmax
comp=Z,492nm,1.0s,mb6.3
FFC Flin Flon 65.00 345⇑iP P 15 04 32.1 -1.7
comp=Z,492nm,1.0s,mb6.3
HAWA Hanford 65.01 330⇑iP P 15 04 33.5 -0.5
comp=Z,25nm,1.4s
PMAN Manadas 65.03 41 eP P 15 04 33.6 -0.7
comp=Z,996nm,1.3s,mb6.5
BROR Big Rock Looko 65.14 326 P P 15 04 34.2 -0.7
NEW Newport 65.17 332 P P 15 04 34.5 -0.5
NEW *PP pP 15 05 04.9 -1.5
NEW pmax pmax
comp=Z,254nm,0.9s
NEW pmax pmax
comp=Z,55nm,0.9s
NEW Newport 65.17 332 P P 15 04 34.5 -0.5
comp=Z,254nm,0.9s,mb6.0,baz=134,slow=6.6,SNR=228
NEW pP pP 15 05 04.9 -1.5
comp=Z,55nm,0.9s,baz=94,slow=4.3,SNR=2.6
NEW Newport 65.17 332⇑iP P 15 04 34.0 -1.1
comp=Z,360nm,1.0s,mb6.2
OD2 Odessa Site #2 65.30 331 P P 15 04 35.7 -0.2
PGRA Graciosa 65.32 41 eP P 15 04 34.8 -1.4
comp=Z,1µm,1.4s,mb6.6
KEBM Edson Butte 65.33 324 eP P 15 04 35.9 -0.2
KEBM e pP 15 05 07.2 -0.4
STGR Santa Cruz 65.33 41 eP P 15 04 36.3 +0.1
comp=Z,519nm,1.3s,mb6.2
ASBA Santa Barbara 65.58 42 eP P 15 04 37.8 0.0
comp=Z,387nm,1.4s,mb6.0
PPAD Pico dos Padre 65.60 42 eP P 15 04 38.0 +0.1
comp=Z,342nm,1.3s,mb6.0
ADH Angra Heroismo 65.61 42 iP P 15 04 37.6 -0.4
ADH Angra Heroismo 65.61 42 iLR LR 15 25 42.5
PSBA Serra de Santa 65.61 42 eP P 15 04 37.9 -0.1
comp=Z,623nm,1.6s,mb6.2
PBIS Biscoitos 65.65 42 eP P 15 04 38.0 -0.3
comp=Z,347nm,1.4s,mb6.8
RIB2 Ribeirinha 65.66 42 eP P 15 04 38.4 +0.1
comp=Z,422nm,1.3s,mb6.1
PSCM Serra do Cume 65.71 42 eP P 15 04 38.5 -0.1
comp=Z,996nm,1.3s,mb6.5
PVNV Vila Nova 65.72 42 eP P 15 04 38.8 +0.1
comp=Z,325nm,1.5s,mb5.9
PFAV Pico das Favas 65.74 42 eP P 15 04 39.0 +0.2
comp=Z,325nm,1.3s,mb6.0
COR Corvallis 65.81 326⇑iP P 15 04 38.8 -0.4
COR e*PP pP 15 05 11.1 +0.5
COR pmax pmax
comp=Z,874nm,1.4s,mb6.4
COR Corvallis 65.81 326⇑iP P 15 04 38.8 -0.4
comp=Z,874nm,1.4s,mb6.4
COR epP pP 15 05 11.1 +0.5
TBM Table Mountain 66.08 330 P P 15 04 41.2 +0.4
PSET Sete Cidades 66.18 43 eP P 15 04 41.2 -0.5
comp=Z,994nm,1.6s,mb6.4
CML Cha da Macela 66.28 43 eP P 15 04 42.2 -0.1
LFA Lagoa do Fogo 66.32 43 eP P 15 04 44.0 +1.5
VIF Vila Franca 66.33 43 eP P 15 04 42.5 -0.1
comp=Z,226nm,1.6s,mb5.8
PMAT Coroa da Mata 66.35 43 eP P 15 04 42.8 +0.1
comp=Z,403nm,1.6s,mb6.0
MESC Monte Escuro 66.36 43 eP P 15 04 42.7 -0.1
PCNG Congro 66.38 43 eP P 15 04 42.9 0.0
comp=Z,664nm,1.2s,mb6.3
LON Longmire 66.42 329 P P 15 04 42.5 -0.5
PFAD Fenais da Ajud 66.46 43 eP P 15 04 43.4 0.0
MIRA Miradouro 66.47 43 eP P 15 04 43.4 -0.1
TTW Tolt Reservoir 66.98 330 P P 15 04 45.5 -1.0
FCC Fort Churchill 67.13 351⇑iP P 15 04 45.6 -1.6
FCC e pP 15 05 13.1 -5.7
FCC pmax pmax
comp=Z,944nm,1.1s,mb6.5
FCC Fort Churchill 67.13 351⇑iP P 15 04 45.5 -1.7
comp=Z,944nm,1.1s,mb6.5
FCC ePcP PcP 15 05 13.1 -1.1
EDM Edmonton 67.34 338⇑iP P 15 04 47.2 -1.5
EDM e pP 15 05 14.2 -6.0
EDM e*PP pP 15 05 20.5 +0.3
CHIE El Hierro 67.60 56 ⇑P P 15 04 49.9 -0.8
comp=Z,394nm,1.0s,mb6.1
EGOM La Gomera 68.37 56 ⇑P P 15 04 54.4 -1.1
comp=Z,786nm,1.5s,mb6.2
PGC Sidney 68.50 329⇑iP P 15 04 56.0 +0.1
comp=Z,3µm,1.8s,mb6.6
PGC ePcP PcP 15 05 19.6 -0.5
PGC epP pP 15 05 28.0 +0.4
VAH Vaihoa 68.55 257 eP P 15 04 58.5 +1.8
comp=Z,522nm,1.2s,mb6.1
VAH epP pP 15 05 28.2 -0.2
comp=Z,197nm,1.2s
PMOR Pomariorio Ree 68.81 257 eP P 15 04 59.4 +1.1
comp=Z,560nm,1.1s,mb6.2
PMOR epP pP 15 05 29.2 -0.8
comp=Z,219nm,1.2s
CCAN Las Canadas 68.89 56 P P 15 04 58.5 -0.1
comp=Z,170nm,1.2s,mb5.7
EBAJ Bajamar 69.22 56 P P 15 05 00.5 -0.2
comp=Z,785nm,1.8s,mb6.1
EOSO Osorio 69.71 57 P P 15 05 03.7 0.0
comp=Z,636nm,1.9s,mb6.0
TBI Tubuai 70.18 248 eP P 15 05 08.1 +1.6
comp=Z,408nm,1.1s,mb6.1
TBI eLQ 15 22 55.3
TBI eLR LR 15 26 43.4
comp=Z,1µm,27.8s

PPT Papeete 70.34 254 eP P 15 05 08.5 +0.9
comp=Z,206nm,1.3s,mb5.7
PPT Papeete 70.34 254 eLQ 15 22 51.8
PPT eLR LR 15 26 49.7
comp=Z,2µm,24.0s,baz=105
PPT Papeete 70.34 254 P P 15 05 08.4 +0.8
comp=Z,116nm,1.0s,mb5.6,baz=56,slow=7.3,SNR=5.1
PPT LR LR 15 28 24.8
comp=Z,1µm,19.9s,baz=263,slow=29
PPT Papeete 70.34 254 P P 15 05 08.4 +0.8
PPT LR LR 15 28 24.8
CFTV Fuerteventura 71.04 57 P P 15 05 11.0 -0.7
comp=Z,98nm,1.2s,mb5.4
FRB Frobisher Bay 71.22 4 P P 15 05 11.2 -0.9
comp=Z,469nm,0.9s,mb6.2,baz=194,slow=6.3,SNR=402
EFAM Famara 71.74 56 P P 15 05 16.1 +0.3
comp=Z,239nm,1.5s,mb5.7
BBB Bella Bella 73.04 330 P P 15 05 23.7 +0.7
comp=Z,285nm,1.0s,mb5.9,baz=125,slow=5.3,SNR=30
BBB LR LR 15 36 27.3
comp=Z,532nm,20.7s,baz=20,slow=35
DBIC Dimbokro 74.23 81 P P 15 05 30.7 0.0
DBIC *PP pP 15 06 01.4 -1.6
DBIC S S 15 14 53.9 +1.7
DBIC pmax pmax
comp=Z,308nm,1.0s
DBIC pmax pmax
comp=Z,110nm,1.0s
DBIC Dimbokro 74.23 81 P P 15 05 30.6 -0.1
comp=Z,308nm,1.0s,mb6.0,baz=242,slow=5.5,SNR=169
DBIC pP pP 15 06 01.4 -1.6
comp=Z,110nm,1.0s,baz=261,slow=7.4,SNR=3.7
DBIC S S 15 14 53.9 +1.7
comp=Z,2.6nm,0.9s,baz=24,slow=19,SNR=6.3
DBIC Dimbokro 74.23 81⇑iP P 15 05 30.6 -0.1
comp=Z,523nm,1.1s,mb6.2
YKA Yellowknife Ar 75.08 343 P P 15 05 33.2 -1.3
comp=Z,67nm,0.8s,mb5.3,baz=139,slow=6.0,SNR=780
YKA pP pP 15 06 08.0 +1.2
comp=Z,18nm,0.9s,baz=139,slow=6.0,SNR=2.2
YKA sP sP 15 06 20.9 +0.1
comp=Z,15nm,0.8s,baz=137,slow=6.2,SNR=2.2
YKA PKKP PKKP 15 24 44.9 +20
comp=Z,0.6nm,0.9s,baz=327,slow=3.8,SNR=4.2
YKA PKKPbc 15 24 58.1
comp=Z,0.1nm,0.4s,baz=357,slow=3.9,SNR=3.7
YKA Yellowknife Ar 75.08 343 P P 15 05 33.2 -1.3
YKA pP pP 15 06 08.1 +1.2
YKA sP sP 15 06 20.9 +0.1
YKA PKKP PKKP 15 24 44.9 +20
YKA PKKPbc 15 24 58.1
YKW3 Yellowknife Ar 75.13 343⇑iP P 15 05 33.8 -1.1
YKW3 ePcP PcP 15 05 47.5 -0.6
YKW3 epP pP 15 06 06.4 -0.7
VNA3 Neumayer Olymp 76.21 162⇑iP P 15 05 41.8 +1.0
VNA1 Neumayer--Stat 76.47 161⇑iP P 15 05 43.7 +1.4
SFJD Kangerlussuaq 76.70 11 P P 15 05 42.6 -1.0
VNA2 Neumayer--Watz 76.83 161⇑iP P 15 05 45.2 +1.0
CRAG Craig 77.36 331 eP P 15 05 47.9 +0.4
comp=Z,342nm,1.4s,mb5.8
PTEO Sao Teotonio 78.30 49 eP P 15 05 54.1 +1.1
comp=Z,563nm,1.4s,mb6.0
PTEO epP pP 15 06 26.0 +0.5
PLOU Loures 78.42 48 eP P 15 05 54.1 +0.5
comp=Z,451nm,1.0s,mb6.0
SNAA Sanae 78.43 162⇑iP P 15 05 53.1 0.0
SNAA Sanae 78.43 162 P P 15 05 53.2 +0.1
SNAA *PP pP 15 06 25.7 +0.1
SNAA pmax pmax
comp=Z,96nm,0.9s
SNAA pmax pmax
comp=Z,199nm,1.2s
SNAA Sanae 78.43 162 P P 15 05 53.2 +0.2
comp=Z,96nm,0.9s,mb5.4,baz=277,slow=5.1,SNR=148
SNAA pP pP 15 06 25.7 +0.1
comp=Z,199nm,1.1s,baz=279,slow=3.7,SNR=15
PBEJ Beja 79.10 49 eP P 15 05 58.1 +0.8
comp=Z,409nm,1.5s,mb5.8
PBEJ epP pP 15 06 30.2 +0.3
PTOM Tomar 79.20 47 eP P 15 05 58.0 +0.1
comp=Z,365nm,1.9s,mb5.7
PTOM epP pP 15 06 30.1 -0.3
PALC Alcoutim 79.22 50 eP P 15 05 59.2 +1.2
comp=Z,585nm,1.7s,mb5.9
PALC epP pP 15 06 31.4 +0.8
EGRO El Granado 79.23 50 ⇑P P 15 05 58.8 +0.7
comp=Z,677nm,1.7s,mb6.0
SIT Sitka 79.26 332 eP P 15 05 58.3 +0.5
SIT pmax pmax
comp=Z,222nm,1.3s,mb5.6
SIT Sitka 79.26 332 eP P 15 05 58.3 +0.5
comp=Z,222nm,1.3s,mb5.6
EZAM Zamans 79.83 45 ⇑P P 15 06 01.2 0.0
EZAM pmax pmax
comp=Z,274nm,1.2s,mb5.8
EZAM Zamans 79.83 45 ⇑P P 15 06 01.2 0.0
comp=Z,274nm,1.2s,mb5.8
SFS San Fernando 79.89 51⇑iP P 15 06 02.9 +1.2
SFS pmax pmax
comp=Z,502nm,1.1s,mb6.1
SFS San Fernando 79.89 51⇑iP P 15 06 02.9 +1.2
comp=Z,502nm,1.1s,mb6.1
EMAZ Mazaricos 79.90 44 ⇑P P 15 06 00.9 -0.7
comp=Z,202nm,1.4s,mb5.6
EMIN Mina Concepcio 79.92 50 ⇑P P 15 06 01.8 0.0
comp=Z,439nm,1.9s,mb5.8
PCBR Castelo Branco 79.95 47 eP P 15 06 01.9 0.0
comp=Z,221nm,1.6s,mb5.5
PCBR epP pP 15 06 34.1 -0.4
EBAD Badajoz 79.96 49 ⇑P P 15 06 02.0 0.0
comp=Z,174nm,1.4s,mb5.5
MTE Manteigas 80.08 47 eP P 15 06 02.6 0.0
comp=Z,228nm,1.2s,mb5.7
MTE epP pP 15 06 34.2 -1.0
MTE Manteigas 80.08 47⇑iP P 15 06 02.3 -0.3
comp=Z,159nm,1.0s,mb5.6
STS Santiago 80.17 44 ⇑P P 15 06 02.8 -0.2
comp=Z,319nm,1.3s,mb5.8
ELOB Lobios 80.18 45 ⇑P P 15 06 02.5 -0.6
comp=Z,404nm,1.9s,mb5.7
PVRL Vila Real 80.23 46 eP P 15 06 03.5 +0.1
comp=Z,292nm,1.1s,mb5.8
PVRL epP pP 15 06 35.4 -0.6
ESPR Espera 80.28 51 ⇑P P 15 06 05.0 +1.3
comp=Z,303nm,1.3s,mb5.8
EJIF Jimena Fronter 80.46 51 ⇑P P 15 06 06.2 +1.5
EJIF pmax pmax
comp=Z,297nm,1.2s,mb5.8
EJIF Jimena Fronter 80.46 51 ⇑P P 15 06 06.2 +1.5
comp=Z,297nm,1.2s,mb5.8
EINC Incio 80.94 45 ⇑P P 15 06 07.2 +0.1
comp=Z,368nm,1.3s,mb5.8
ECAB El Cabril 80.96 50 ⇑P P 15 06 07.7 +0.4
comp=Z,458nm,2.2s,mb5.7
ERUA La Rua 81.00 45 ⇑P P 15 06 07.6 +0.2
ERUA pmax pmax
comp=Z,400nm,1.4s,mb5.9
ERUA La Rua 81.00 45 ⇑P P 15 06 07.6 +0.2
comp=Z,400nm,1.4s,mb5.9
EMIJ Mijas 81.03 51 ⇑P P 15 06 07.3 -0.4
comp=Z,371nm,1.3s,mb5.9
PBRG Braganca 81.10 46 eP P 15 06 08.1 +0.2
comp=Z,287nm,1.4s,mb5.7
PBRG epP pP 15 06 40.4 -0.2
ECAL Calabor 81.14 46 ⇑P P 15 06 08.1 -0.1
comp=Z,176nm,1.5s,mb5.5
EPON Pontenova 81.29 44 ⇑P P 15 06 09.1 +0.2
comp=Z,455nm,1.0s,mb6.1
EADA Adamuz 81.62 50 ⇑P P 15 06 11.0 +0.3
comp=Z,535nm,2.0s,mb5.8
ELOJ Sierra Loja 81.66 51 ⇑P P 15 06 12.7 +1.7
ELOJ pmax pmax
comp=Z,675nm,1.2s,mb6.2
ELOJ Sierra Loja 81.66 51 ⇑P P 15 06 12.7 +1.7
comp=Z,675nm,1.2s,mb6.2
ELUQ Luque 81.69 50 ⇑P P 15 06 12.1 +1.0
ELUQ pmax pmax
comp=Z,309nm,1.5s,mb5.7
ELUQ Luque 81.69 50 ⇑P P 15 06 12.1 +1.0
comp=Z,309nm,1.5s,mb5.7
ERON Agron 81.90 51 ⇑P P 15 06 13.3 +1.1
comp=Z,209nm,0.8s,mb5.8
ECOG Cogollos-Vega 82.15 51 ⇓P P 15 06 14.9 +1.4
ECOG pmax pmax
comp=Z,156nm,0.7s,mb5.8
ECOG Cogollos-Vega 82.15 51 ⇓P P 15 06 14.9 +1.4

comp=Z,156nm,0.7s,mb5.8
PAB San Pablo 82.17 48 P P 15 06 14.0 +0.4
PAB pP pP 15 06 45.8 -0.6
EALB Alboran 82.22 52 P P 15 06 14.3 +0.4
comp=Z,984nm,2.1s,mb6.1
ESDC Sonseca Array 82.49 48 P P 15 06 15.9 +0.7
comp=Z,74nm,1.0s,mb5.3,baz=261,slow=5.2,SNR=146
ESDC pP pP 15 06 48.0 0.0
comp=Z,34nm,1.1s,baz=259,slow=6.2,SNR=3.2
ESDC Sonseca Array 82.49 48⇑P P 15 06 15.8 +0.6
comp=Z,612nm,1.7s,mb6.0
ESLA Sonseca Array 82.49 48⇑iP P 15 06 15.7 +0.5
comp=Z,283nm,1.7s,mb5.6
RES Resolute Bay 82.51 356⇑iP P 15 06 13.8 -0.9
comp=Z,0.1nm,0.6s
EBER Berja 82.57 51 ⇑P P 15 06 16.7 +1.0
comp=Z,922nm,1.1s,mb6.4
GUD Guadarrama 82.62 47 ⇑P P 15 06 16.8 +0.9
GUD pmax pmax
comp=Z,287nm,1.6s,mb5.8
GUD Guadarrama 82.62 47 ⇑P P 15 06 16.8 +0.9
comp=Z,287nm,1.6s,mb5.8
EARI Arriondas 82.63 45 ⇑P P 15 06 16.3 +0.5
comp=Z,563nm,1.4s,mb6.1
QSPA South Pole Qui 82.79 180⇑iP P 15 06 17.5 +1.5
comp=Z,558nm,1.0s,mb6.2
MAIT Maitri 83.05 161 eP P 15 06 18.3 +0.9
NVL N'lazarevskaya 83.08 160⇑iP P 15 06 15.2 -2.4
NVL i*PP pP 15 06 49.8 -0.6
NVL pmax pmax
comp=Z,258nm,1.1s,mb5.9
BORG Borgarnes 83.12 21 P P 15 06 19.2 +1.3
comp=Z,236nm,0.9s,mb5.9,baz=217,slow=3.7,SNR=32
BORG Borgarnes 83.12 21 eP P 15 06 19.0 +1.1
comp=Z,1μm,1.6s,mb6.4
ENIJ Nijar 83.12 51 ⇑P P 15 06 18.3 -0.2
ENIJ pmax pmax
comp=Z,426nm,1.0s,mb6.1
ENIJ Nijar 83.12 51 ⇑P P 15 06 18.3 -0.1
comp=Z,426nm,1.0s,mb6.1
EVIA Vianos 83.31 50 ⇑P P 15 06 20.7 +1.3
EVIA pmax pmax
comp=Z,749nm,0.8s,mb6.5
EVIA Vianos 83.31 50 ⇑P P 15 06 20.7 +1.3
comp=Z,748nm,0.8s,mb6.5
SUMG Summit 83.69 11⇑iP P 15 06 21.1 +0.6
comp=Z,952nm,1.1s,mb6.4
ELAN Lanestosa 83.85 45 ⇑P P 15 06 22.4 +0.4
comp=Z,700nm,1.2s,mb6.3
ETOB Tobarra 84.04 50 ⇑P P 15 06 23.8 +0.7
comp=Z,521nm,1.3s,mb6.1
EMUR La Murta 84.08 51 ⇑P P 15 06 22.7 -0.6
comp=Z,254nm,1.2s,mb5.8
CART Cartagena 84.20 51⇑iP P 15 06 22.7 -1.2
comp=Z,54nm,0.9s,mb5.3
CART epP pP 15 06 55.1 -1.7
ECRI Cripan 84.34 46 ⇑P P 15 06 25.6 +1.1
ECRI pmax pmax
comp=Z,212nm,0.8s,mb5.9
ECRI Cripan 84.34 46 ⇑P P 15 06 25.6 +1.2
comp=Z,212nm,0.8s,mb5.9
CPZ Penzance 84.47 38⇑iP P 15 06 25.1 +0.1
CPZ AMb AMB 15 06 26.9
comp=Z,508nm,1.2s,mb6.1
DCN Croghan 84.52 35 eP P 15 06 24.5 -0.6
DCN Croghan 84.52 35⇑iP P 15 06 25.5 +0.4
DAWY Dawson 84.55 337⇑iP P 15 06 25.0 0.0
CGW Gweek 84.67 38⇑iP P 15 06 26.4 +0.5
CCA1 Carnmenellis 84.70 38⇑iP P 15 06 26.5 +0.4
ECHE Chera 84.71 49 ⇑P P 15 06 26.6 +0.2
ECHE pmax pmax
comp=Z,234nm,1.4s,mb5.7
ECHE Chera 84.71 49 ⇑P P 15 06 26.6 +0.2
comp=Z,234nm,1.4s,mb5.7
CMA1 Manaccan 84.73 38⇑eP P 15 06 26.3 +0.1
CRQ2 Rosemanowes 2 84.73 38⇑iP P 15 06 26.6 +0.4
CRQ2 AMb AMB 15 06 28.2
comp=Z,750nm,1.2s,mb6.3
INK Inuvik 84.77 342 P P 15 06 26.2 +0.2
INK *PP pP 15 06 59.0 0.0
INK S S 15 16 42.7 +1.3
INK pmax pmax
comp=Z,388nm,1.0s
INK pmax pmax
comp=Z,129nm,1.0s
INK Inuvik 84.77 342 P P 15 06 26.2 +0.2
comp=Z,388nm,1.0s,mb6.1,baz=121,slow=5.6,SNR=489
INK pP pP 15 06 59.0 0.0
comp=Z,128nm,1.0s,baz=111,slow=5.6,SNR=3.5
INK S S 15 16 42.7 +1.4
comp=Z,3.4nm,1.0s,baz=352,slow=30,SNR=3.7
INK Inuvik 84.77 342⇑iP P 15 06 26.0 0.0
comp=Z,682nm,1.2s,mb6.2
DLF Lyons Farm 84.92 35 eP P 15 06 26.4 -0.7
DLF Lyons Farm 84.92 35⇑iP P 15 06 27.3 +0.2
DLF Lyons Farm 84.92 35⇑iP P 15 06 27.3 +0.2
DSB Dublin 85.00 35⇑iP P 15 06 27.4 -0.1
comp=Z,449nm,1.6s,mb6.0
EBEN Beniarda 85.06 50 ⇑P P 15 06 28.4 +0.2
comp=Z,662nm,1.4s,mb6.2
EALK Alkurruntz 85.21 45 ⇑P P 15 06 29.0 +0.3
comp=Z,717nm,1.5s,mb6.2
EMOS Mosqueruela 85.26 48 P P 15 06 29.6 +0.5
comp=Z,341nm,1.3s,mb5.9
QUIF Quistinic 85.33 41⇑iP P 15 06 29.3 0.0
comp=Z,859nm,1.8s,mb5.9
QUIF Quistinic 85.33 41⇑iP P 15 06 29.3 0.0
QUIF pmax pmax
comp=Z,429nm,1.8s,mb5.9
ROSF Rostrenen 85.38 40⇑iP P 15 06 29.6 +0.1
comp=Z,785nm,1.5s,mb5.9
ROSF epP pP 15 07 01.8 -0.7
ROSF Rostrenen 85.38 40⇑iP P 15 06 29.6 +0.1
ROSF e*PP pP 15 07 01.8 -0.7
ROSF pmax pmax
comp=Z,392nm,1.5s,mb5.9
SJPF Ste Jean 85.38 46⇑iP P 15 06 30.4 +0.8
comp=Z,1μm,1.5s,mb6.2
SJPF epP pP 15 07 02.5 -0.2
SJPF Ste Jean 85.38 46⇑iP P 15 06 30.4 +0.8
SJPF e*PP pP 15 07 02.5 -0.2
SJPF pmax pmax
comp=Z,711nm,1.5s,mb6.2
OSSF Osses 85.39 46⇑eP P 15 06 29.7 0.0
EANR 'Ain N'Sour 85.48 53 P P 15 06 31.5 +1.2
ETRT Tiaret 85.52 54 P P 15 06 32.5 +2.0
LARF Larrau 85.53 46⇑eP P 15 06 31.1 +0.7
GMM Mts of Mourne 85.56 34⇑iP P 15 06 29.9 -0.4
ESAC San Caprasio 85.58 47 ⇑P P 15 06 31.4 +0.7
comp=Z,833nm,1.6s,mb6.2
EYAK Cordova Ski Ar 85.68 333⇑iP P 15 06 30.6 0.0
GCL Cushendall 85.73 33⇑iP P 15 06 31.4 +0.4
ECHA Ech Chlef 85.73 53 P P 15 06 33.0 +1.5
MENT Mentasta 85.77 335 eP P 15 06 31.4 +0.4
FDAF Les Forges d'A 85.78 46⇑eP P 15 06 32.5 +0.9
ETSF Etsaut 85.80 46⇑iP P 15 06 32.5 +0.8
comp=Z,438nm,1.6s,mb5.6
ETSF Etsaut 85.80 46⇑iP P 15 06 32.5 +0.8
ETSF pmax pmax
comp=Z,219nm,1.6s,mb5.6
SGMF Saint Gilles 85.81 40⇑iP P 15 06 31.4 -0.2
comp=Z,534nm,1.7s,mb5.7
SGMF Saint Gilles 85.81 40⇑iP P 15 06 31.4 -0.2
SGMF pmax pmax
comp=Z,267nm,1.7s,mb5.7
HSA Swansea 85.82 37⇑iP P 15 06 31.5 0.0
HEX Exmoor 85.83 37⇑iP P 15 06 31.7 +0.1
EBNR Beni Rached 85.89 53 P P 15 06 34.0 +1.7
DIV Divide 85.91 333⇑iP P 15 06 31.6 -0.2
comp=Z,894nm,1.0s,mb6.5
REYF Montagne du Re 85.96 46⇑eP P 15 06 33.0 +0.5
ERTA Horta de San J 86.00 48 ⇑P P 15 06 33.2 +0.6
comp=Z,428nm,1.4s,mb6.0
YRC Rhoscolyn 86.02 35⇑eP P 15 06 32.3 -0.2
YRC AMb AMB 15 06 35.0
comp=Z,492nm,1.7s,mb6.0
YRE Yr Eifl 86.03 36⇑eP P 15 06 32.9 +0.3
YRE AMb AMB 15 06 36.2
comp=Z,798nm,1.7s,mb6.2
WCB1 Church Bay 86.08 35⇑eP P 15 06 32.6 -0.1
WCB1 AMb AMB 15 06 35.3
comp=Z,466nm,1.6s,mb6.0
EBR Ebro Roquetas 86.08 48 eP P 15 06 34.5 +1.4
GMK Mull of Kintyr 86.11 33⇑iP P 15 06 32.8 -0.1
SCO Scoresbysund 86.14 16 iP P 15 06 32.9 +0.2
SCO pmax pmax
comp=Z,56nm,0.8s,mb5.3
SCO Scoresbysund 86.14 16 iP P 15 06 32.9 +0.2
comp=Z,56nm,0.8s,mb5.3
VIEF Viey 86.21 46⇑eP P 15 06 34.2 +0.5
WME Myndd Eilian 86.22 35⇑eP P 15 06 33.7 +0.2
YLL Llanberis 86.22 35⇑eP P 15 06 33.4 -0.1
YLL AMb AMB 15 06 35.1
comp=Z,483nm,1.3s,mb6.1
WIM Isle of Man 86.24 34⇑iP P 15 06 33.9 +0.4
WIM AMb AMB 15 06 35.6
comp=Z,557nm,1.3s,mb6.1
EBIE Bielsa 86.25 46 ⇑P P 15 06 34.7 +0.8
comp=Z,329nm,1.5s,mb5.8
WPM1 Penmaenmawr 86.41 35⇑eP P 15 06 34.4 0.0
WPM1 AMb AMB 15 06 36.7
comp=Z,516nm,1.4s,mb6.1
RESF Ens 86.42 46⇑eP P 15 06 35.6 +0.9
HTR Trewern Hill 86.44 37⇑eP P 15 06 34.3 -0.3
HTR AMb AMB 15 06 36.2
comp=Z,398nm,1.4s,mb6.0
GAL1 Galloway 86.44 34⇑iP P 15 06 34.5 0.0
EPF Esparros 86.47 46⇑iP P 15 06 35.4 +0.4
comp=Z,728nm,1.8s,mb5.8
EPF Esparros 86.47 46⇑iP P 15 06 35.4 +0.4
EPF pmax pmax
comp=Z,364nm,1.8s,mb5.8
MCH1 Michaelchurch 86.58 37⇑iP P 15 06 34.9 -0.3
HGH Gray Hill 86.59 37⇑eP P 15 06 35.0 -0.3
HGH AMb AMB 15 06 37.0
comp=Z,400nm,1.3s,mb6.1
LCHF La Chataignera 86.59 42⇑eP P 15 06 36.0 +0.6
SSP1 Stoney Pound 86.63 36⇑iP P 15 06 35.4 0.0
SSP1 AMb AMB 15 06 37.8
comp=Z,346nm,1.6s,mb5.9
EPOB Poblet 86.63 48 P P 15 06 34.7 -1.1
comp=Z,111nm,1.6s,mb5.4
SBD1 Bryn Du 86.68 36⇑eP P 15 06 35.7 0.0
SBD1 AMb AMB 15 06 37.3
comp=Z,307nm,1.3s,mb6.0
MELF Melles 86.74 46⇑eP P 15 06 36.8 +0.6
HLM1 Long Mynd 86.79 36⇑iP P 15 06 36.2 -0.1
HLM1 AMb AMB 15 06 38.0
comp=Z,513nm,1.3s,mb6.2
THY Trims Highway 86.80 335⇑iP P 15 06 35.9 -0.1
HAE Alders End 86.86 37⇑eP P 15 06 36.6 0.0
HAE AMb AMB 15 06 38.3
comp=Z,729nm,1.2s,mb6.4
GRR Gorron 86.94 41⇑iP P 15 06 36.8 -0.3
comp=Z,135nm,0.9s,mb5.5
GRR Gorron 86.94 41⇑iP P 15 06 36.8 -0.3
GRR pmax pmax
comp=Z,67nm,0.9s,mb5.5
MFF Saint Martin d 86.98 42⇑iP P 15 06 37.2 -0.1
comp=Z,336nm,1.0s,mb5.8
MFF Saint Martin d 86.98 42⇑iP P 15 06 37.2 -0.1
MFF pmax pmax
comp=Z,168nm,1.0s,mb5.8
MLS Moulis 87.00 46⇑eP P 15 06 37.7 +0.2
EMHD Djebel Mahouad 87.00 53 P P 15 06 37.0 -0.7
SALF Salau 87.02 46⇑eP P 15 06 38.7 +1.1
EMIR Miracle 87.08 47 P P 15 06 37.5 -0.4
comp=Z,288nm,1.7s,mb5.8
LFF La Frestale 87.19 44⇑iP P 15 06 38.3 -0.1
comp=Z,289nm,1.1s,mb5.7
LFF epP pP 15 07 10.7 -0.8
LFF La Frestale 87.19 44⇑iP P 15 06 38.3 -0.1
LFF e*PP pP 15 07 10.7 -0.8
LFF pmax pmax
comp=Z,145nm,1.0s,mb5.8
FLN La Foliniere 87.28 40⇑iP P 15 06 38.6 -0.1
comp=Z,291nm,1.0s,mb5.8
FLN La Foliniere 87.28 40⇑iP P 15 06 38.6 -0.1
FLN pmax pmax
comp=Z,146nm,1.0s,mb5.8
SML Sawmill 87.31 333 P P 15 06 39.0 +0.5
SML Sawmill 87.31 333⇑iP P 15 06 38.5 0.0
ESK Eskdalemuir 87.40 34 P P 15 06 39.3 +0.2
ESK pmax pmax
comp=Z,200nm,1.0s,mb5.9
ESK Eskdalemuir 87.40 34⇑iP P 15 06 38.6 -0.6
comp=Z,200nm,1.0s,mb5.9
ESK Eskdalemuir 87.40 34⇑eP P 15 06 38.9 -0.2
ESK AMb AMB 15 06 40.8
comp=Z,349nm,1.3s,mb6.0
MDO Dochfour 87.42 31⇑eP P 15 06 39.1 0.0
EKA Eskdalemuir Ar 87.43 34 P P 15 06 39.4 +0.1
comp=Z,151nm,0.9s,mb5.8,baz=242,slow=5.6,SNR=129
EKA pP pP 15 07 11.4 -1.0
comp=Z,12nm,0.9s,baz=243,slow=3.2,SNR=1.4
EKA PKKPbc 15 24 29.4
comp=Z,5.5nm,1.0s,baz=90,slow=6.7,SNR=4.3
LDF La Druitiere 87.47 41⇑iP P 15 06 39.4 -0.2
comp=Z,346nm,1.0s,mb5.8
LDF La Druitiere 87.47 41⇑iP P 15 06 39.4 -0.2
LDF pmax pmax
comp=Z,173nm,1.0s,mb5.8
KWE Weaver Farm 87.53 36⇑iP P 15 06 40.1 +0.3
VALF Valcebollere 87.54 47⇑eP P 15 06 40.5 +0.4
EDI Edinburgh 87.59 33⇑iP P 15 06 39.8 -0.2
EDI AMb AMB 15 06 41.7
comp=Z,326nm,1.4s,mb6.0
PMR Palmer 87.59 333 eP P 15 06 40.0 +0.1
PMR pmax pmax
comp=Z,367nm,1.4s,mb6.0
PMR Palmer 87.59 333 eP P 15 06 40.0 +0.1
comp=Z,367nm,1.4s,mb6.0
ETOS Mallorca 87.59 50 P P 15 06 39.2 -1.2
comp=Z,379nm,1.6s,mb6.0
MVH1 Achvaich 87.66 31⇑iP P 15 06 40.4 +0.1
LHO Holmfirth 87.67 35⇑iP P 15 06 40.8 +0.3
SLKM Skilak Lake 87.73 332 eP P 15 06 40.8 +0.3
KBI1 Birley Grange 87.78 36⇑eP P 15 06 41.3 +0.3
ILAR Eielson Array 87.79 336 P P 15 06 40.6 -0.1
comp=Z,170nm,0.9s,mb5.9,baz=145,slow=3.2,SNR=647
ILAR PP PP 15 10 06.2 -4.2
comp=Z,48nm,0.9s,baz=99,slow=6.1,SNR=24
RJF Les Rejaudoux 87.81 44⇑iP P 15 06 40.9 -0.4
comp=Z,345nm,1.1s,mb5.8
RJF epP pP 15 07 13.2 -1.3
RJF Les Rejaudoux 87.81 44⇑iP P 15 06 40.9 -0.4
RJF e*PP pP 15 07 13.2 -1.3
RJF pmax pmax
comp=Z,173nm,1.1s,mb5.8
MTLF Montolieu 87.88 46⇑iP P 15 06 41.4 -0.3
comp=Z,281nm,1.1s,mb5.7
MTLF Montolieu 87.88 46⇑iP P 15 06 41.4 -0.3
MTLF pmax pmax
comp=Z,140nm,1.1s,mb5.7
HPK Haverah Park 87.91 35⇑eP P 15 06 41.9 +0.3
FIB Fire Island 87.92 332⇑iP P 15 06 42.4 +0.9
FILF Fillols 87.97 47⇑eP P 15 06 42.0 -0.2
MCD Coleburn Disti 88.03 31⇑iP P 15 06 42.2 +0.1
KDAK Kodiak Island 88.04 329 eP P 15 06 42.2 0.0
comp=Z,289nm,1.1s,mb6.0
SBA Scott Base 88.06 191⇑iP P 15 06 42.9 +1.0
SBA pmax pmax
comp=Z,144nm,1.1s,mb5.7
SBA Scott Base 88.06 191⇑iP P 15 06 42.9 +1.0
comp=Z,144nm,1.1s,mb5.7
CAF Calviac 88.11 44⇑iP P 15 06 42.5 -0.3
comp=Z,269nm,1.2s,mb5.7
CAF Calviac 88.11 44⇑iP P 15 06 42.5 -0.3
CAF pmax pmax
comp=Z,134nm,1.2s,mb5.7
EJON La Jonquera 88.18 47 ⇑P P 15 06 43.0 -0.2
comp=Z,132nm,1.2s,mb5.6
MLA1 Latheron 88.18 31⇑eP P 15 06 43.0 +0.2
LCP Cassop 88.20 34⇑eP P 15 06 43.4 +0.4
COLA College 88.21 336 P P 15 06 42.7 -0.1
COLA pmax pmax
comp=Z,500nm,1.1s,mb6.3
COLA College 88.21 336 eP P 15 06 42.6 -0.2
comp=Z,813nm,1.3s,mb6.4
MCK McKinley 88.24 335⇑iP P 15 06 43.1 +0.2
MCK pmax pmax
comp=Z,192nm,0.9s,mb5.9
MCK McKinley 88.24 335⇑iP P 15 06 43.1 +0.2
comp=Z,192nm,0.9s,mb5.9
TCF Toulx Ste Croi 88.49 43⇑iP P 15 06 44.1 -0.4
comp=Z,187nm,1.0s,mb5.5
TCF epP pP 15 07 16.2 -1.6
TCF Toulx Ste Croi 88.49 43⇑iP P 15 06 44.1 -0.4
TCF e*PP pP 15 07 16.2 -1.6
TCF pmax pmax
comp=Z,93nm,1.0s,mb5.6
FRNF Fournols 88.55 44⇑eP P 15 06 44.7 -0.1
VERF Verneugheol 88.57 44⇑eP P 15 06 44.9 0.0
SPU Mount Spurr 88.79 332 eP P 15 06 45.8 +0.3
SET Setif 88.95 53 P P 15 06 48.0 +1.1
BGF Bois d'Agland 88.98 43⇑iP P 15 06 46.6 -0.2
comp=Z,718nm,1.2s,mb6.2
BGF Bois d'Agland 88.98 43⇑iP P 15 06 46.6 -0.2
BGF pmax pmax
comp=Z,359nm,1.2s,mb6.2
HYF Humbligny 88.98 42⇑iP P 15 06 46.8 0.0
LBL Lubilhac 88.99 44⇑eP P 15 06 48.3 +1.4
AGO Saint Agoulin 89.07 43 eP P 15 06 47.9 +0.6
VNDA Vanda 89.14 191 P P 15 06 48.2 +1.3
comp=Z,67nm,0.8s,mb5.6,baz=126,slow=4.3,SNR=307
VNDA pP pP 15 07 20.9 +0.6
comp=Z,32nm,1.0s,baz=102,slow=5.1,SNR=3.3
LASF Ste Croix 89.19 46⇑iP P 15 06 48.1 +0.2
comp=Z,357nm,1.3s,mb5.8
MENF Mencas 89.36 39⇑eP P 15 06 48.3 -0.2
AVF Avril sur Loir 89.37 43⇑iP P 15 06 48.0 -0.6
comp=Z,296nm,1.1s,mb5.8
AVF Avril sur Loir 89.37 43⇑iP P 15 06 48.0 -0.6
AVF pmax pmax
comp=Z,148nm,1.1s,mb5.8
DFRA Djebel Bou Aff 89.38 53 P P 15 06 50.0 +1.0
PLDF La Plantade 89.39 44⇑eP P 15 06 49.7 +0.9
SSF Saint Saulge 89.52 43⇑iP P 15 06 48.6 -0.8
SSF e*PP pP 15 07 20.8 -1.9
SSF pmax pmax
comp=Z,144nm,1.2s,mb5.8
SSF Saint Saulge 89.52 43⇑iP P 15 06 48.6 -0.8
comp=Z,144nm,1.2s,mb5.8
SSF epP pP 15 07 20.8 -1.9
SMF Signal de Mont 89.67 43⇑iP P 15 06 49.7 -0.4
comp=Z,578nm,1.2s,mb6.1
SMF epP pP 15 07 21.8 -1.6
SMF Signal de Mont 89.67 43⇑iP P 15 06 49.7 -0.4
SMF e*PP pP 15 07 21.8 -1.6
SMF pmax pmax
comp=Z,289nm,1.2s,mb6.1
CTEI Djebel Teioual 89.73 54 P P 15 06 51.5 +0.9
CASM Ain Smara 89.83 54 P P 15 06 52.0 +0.9
VIVF Saint-Julien-l 89.91 45⇑iP P 15 06 51.6 +0.4
comp=Z,406nm,1.4s,mb5.9
VIVF Saint-Julien-l 89.91 45⇑iP P 15 06 51.6 +0.4
VIVF pmax pmax
comp=Z,203nm,1.4s,mb5.9
CKFL Kef-Lekhel 90.03 53 P P 15 06 54.0 +2.0
CAEH 'Ain El Ouahch 90.19 53 P P 15 06 54.0 +1.2
JMIC Jan Mayen 90.31 18 P P 15 06 53.8 +1.3
comp=Z,40nm,0.4s,mb5.7,baz=129,slow=5.6,SNR=4.3
JMIC LR LR 15 44 36.7
comp=Z,308nm,18.2s,baz=17,slow=34
DAG Danmarks Havn 90.37 11⇓iP P 15 06 43.1 -10
comp=Z,445nm,1.2s,mb6.3
SMRF Simiane la Rot 90.39 46⇑iP P 15 06 54.1 +0.6
comp=Z,434nm,1.5s,mb5.9
BAIF Baives 90.55 40⇑iP P 15 06 53.9 -0.2
comp=Z,267nm,1.4s,mb5.8
BAIF Baives 90.55 40⇑iP P 15 06 53.9 -0.2
BAIF pmax pmax
comp=Z,133nm,1.4s,mb5.8
GRN Grenoble 90.73 45⇑eP P 15 06 55.6 +0.5
ORIF Oris-en-Rattie 90.77 45⇑iP P 15 06 55.7 +0.4
comp=Z,630nm,1.5s,mb6.1
ORIF epP pP 15 07 28.0 -0.7
ORIF Oris-en-Rattie 90.77 45⇑iP P 15 06 55.7 +0.4
ORIF e*PP pP 15 07 28.0 -0.7
ORIF pmax pmax
comp=Z,315nm,1.5s,mb6.1
MEZF Maizieres J'vi 90.81 41⇑iP P 15 06 55.2 -0.2
comp=Z,409nm,1.3s,mb6.0
IMA Indian Mountai 90.89 337 P P 15 06 56.1 +0.7
IMA pmax pmax
comp=Z,2μm,1.2s,mb7.0
IMA Indian Mountai 90.89 337 eP P 15 06 55.9 +0.6
GIVF Givet 90.95 40⇑iP P 15 06 56.1 +0.1
comp=Z,960nm,1.3s,mb6.4
GIVF epP pP 15 07 28.3 -1.1
GIVF Givet 90.95 40⇑iP P 15 06 56.1 +0.1
GIVF e*PP pP 15 07 28.3 -1.1
GIVF pmax pmax
comp=Z,480nm,1.3s,mb6.4
LMR La Mourre 90.96 47⇑iP P 15 06 56.1 -0.1
comp=Z,714nm,1.5s,mb6.2
LMR La Mourre 90.96 47⇑iP P 15 06 56.1 -0.1
LMR pmax pmax
comp=Z,357nm,1.5s,mb6.2
GDM Grand'Maison 90.98 45⇑eP P 15 06 56.3 0.0
FRF La Foret Royal 91.09 46⇑iP P 15 06 56.7 -0.1
comp=Z,380nm,1.2s,mb6.0
FRF La Foret Royal 91.09 46⇑iP P 15 06 56.7 -0.1
FRF pmax pmax
comp=Z,190nm,1.2s,mb6.0
CABF La Chapelle 91.19 43⇑iP P 15 06 57.1 -0.1
comp=Z,402nm,1.3s,mb6.0
CABF La Chapelle 91.19 43⇑iP P 15 06 57.1 -0.1
CABF pmax pmax
comp=Z,201nm,1.3s,mb6.0
BNI Bardonecchia 91.35 45 eP P 15 06 57.6 -0.4
BNI pmax pmax
comp=Z,148nm,1.5s,mb5.8
BNI Bardonecchia 91.35 45 eP P 15 06 57.5 -0.4
comp=Z,148nm,1.5s,mb5.8
SURF Saint Ours 91.35 45⇑eP P 15 06 58.7 +0.7
MBDF Montbardon 91.36 45⇑iP P 15 06 58.3 +0.2
comp=Z,318nm,1.6s,mb5.8
MBDF Montbardon 91.36 45⇑iP P 15 06 58.3 +0.2
MBDF pmax pmax
comp=Z,159nm,1.6s,mb5.8
THEF They Montfort 91.38 42⇑eP P 15 06 57.9 -0.1
RRL Cesana Torines 91.40 45 P P 15 06 58.2 0.0
LPL La Plagne 91.46 44⇑iP P 15 06 59.0 +0.5
comp=Z,155nm,1.1s,mb5.7
LPL La Plagne 91.46 44⇑iP P 15 06 59.0 +0.5
LPL pmax pmax
comp=Z,77nm,1.1s,mb5.7
LPG La Plagne 91.47 44⇑iP P 15 06 59.4 +0.9
comp=Z,254nm,1.2s,mb5.8
LPG epP pP 15 07 31.6 -0.3
LPG La Plagne 91.47 44⇑iP P 15 06 59.4 +0.9
LPG e*PP pP 15 07 31.6 -0.3
LPG pmax pmax
comp=Z,127nm,1.2s,mb5.8
MVIF Mont Vial 91.51 46 eP P 15 06 58.8 +0.1
PZZ Prazzo 91.56 45 P P 15 06 59.5 +0.5
HAU Haudompre 91.58 42⇑iP P 15 06 58.4 -0.6
comp=Z,222nm,1.4s,mb5.7
HAU epP pP 15 07 30.7 -1.7
HAU Haudompre 91.58 42⇑iP P 15 06 58.4 -0.6
HAU e*PP pP 15 07 30.7 -1.7
HAU pmax pmax
comp=Z,111nm,1.4s,mb5.7
TOUF Mont Tournerai 91.59 46⇑eP P 15 06 59.4 +0.3
FENE Fenestrelle 91.61 45 P P 15 06 58.8 -0.4
REVF Revere 91.64 46 eP P 15 06 59.4 +0.1
STV Sta Anna Valdi 91.68 46 P P 15 06 58.8 -0.7
STV2 Anna di Valdie 91.68 46 P P 15 06 58.4 -1.2
SBF Sospel 91.70 46⇑iP P 15 06 59.5 -0.1
comp=Z,601nm,1.6s,mb6.1
SBF Sospel 91.70 46⇑iP P 15 06 59.5 -0.1
SBF pmax pmax
comp=Z,301nm,1.6s,mb6.1
AUTN L'Aution 91.72 46⇑eP P 15 06 59.7 0.0
SDPT Sand Point 91.72 325 eP P 15 06 59.9 +0.5
comp=Z,802nm,1.0s,mb6.7
WLF Walferdange 91.72 40⇑iP P 15 06 59.6 0.0
WLF e*PP pP 15 07 32.4 -0.6
WLF pmax pmax
comp=Z,324nm,1.2s,mb6.2
WLF Walferdange 91.72 40⇑iP P 15 06 59.6 +0.1
comp=Z,324nm,1.2s,mb6.2
WLF epP pP 15 07 32.4 -0.5
BHB Bricherasio 91.73 45 P P 15 06 59.1 -0.6
LSD Ceresole Reale 91.74 45 P P 15 07 00.6 +0.8
ENR Entracque 91.75 46 P P 15 07 00.1 +0.3
HGN Heimansgroeve 91.76 39⇑iP P 15 06 59.3 -0.4
comp=Z,156nm,0.9s,mb6.1
HGN ex x 15 07 32.1
RSP Reno Superiore 91.77 45 P P 15 07 00.6 +0.7
LOMF Lomont 91.80 43⇑eP P 15 06 59.9 -0.1
SAOF Saorge 91.81 46 eP P 15 07 00.1 0.0
HINF Hinteralfeld 91.89 42⇑iP P 15 06 59.7 -0.7
comp=Z,407nm,1.7s,mb5.9

HINF Hinteralfeld 91.89 42⇑*i*P P 15 06 59.7 -0.7
HINF pmax pmax
comp=Z,203nm,1.7s,mb5.9
NEGI Negi 91.89 46 P **P 15 06 58.9 -1.6**
AFI Afiamalu 91.94 256 *e*P **P 15 07 03.2 +1.8**
AFI pmax pmax
comp=Z,136nm,1.1s,mb5.9
AFI Afiamalu 91.94 256 *e*P **P 15 07 03.2 +1.8**
comp=Z,136nm,1.1s,mb5.9
MONE Monesi 91.96 46 P **P 15 06 59.7 -1.1**
IMI Imperia 92.04 46 P **P 15 07 00.9 -0.3**
ROB Roburent 92.08 46 P **P 15 07 00.7 -0.6**
MOF Molkenrain 92.08 42⇑*e*P **P 15 07 00.9 -0.4**
ECH Echery 92.15 42⇑*e*P **P 15 07 01.3 -0.3**
TRAV 92.16 45 P **P 15 06 59.9 -1.7**
CDF Champ du Feu 92.26 42⇑*i*P **P 15 07 01.7 -0.4**
comp=Z,355nm,1.4s,mb5.9
CDF *e*pP pP 15 07 34.0 -1.5
CDF Champ du Feu 92.26 42⇑*i*P **P 15 07 01.7 -0.4**
CDF *e**PP pP 15 07 34.0 -1.5
CDF pmax pmax
comp=Z,178nm,1.4s,mb5.9
BBS Basel-Blauen 92.28 43 *e*P **P 15 07 01.8 -0.4**
BBS Basel-Blauen 92.28 43⇑*e*P **P 15 07 02.0 -0.2**
FIN Finale Ligure 92.31 46 P **P 15 07 01.8 -0.6**
RUP Ruppelstein 92.31 40 *e*P **P 15 07 02.7 +0.5**
RUP Ruppelstein 92.31 40⇑*e*P **P 15 07 02.6 +0.3**
WLS Welschbruch 92.31 42⇑*e*P **P 15 07 02.0 -0.3**
ORX Oropa 92.34 44 P **P 15 07 01.8 -0.7**
MCGN Macugnaga 92.39 44 *e*P **P 15 07 03.6 +0.9**
LIBD Limburg 92.44 42⇑*e*P **P 15 07 03.0 +0.1**
WTSB Winterswijk 92.48 38⇑*i*P **P 15 07 02.3 -0.7**
comp=Z,254nm,1.7s,mb6.0
WTSB *e*x x 15 07 35.1
PCP Pian Castagno 92.59 46 P **P 15 07 02.7 -1.0**
KIZ Kirchzarten 92.62 42⇑*e*P **P 15 07 03.3 -0.4**
ABH Alteburg 92.65 40⇑*e*P **P 15 07 04.0 +0.2**
ABH Alteburg 92.65 40⇑*e*P **P 15 07 03.9 +0.1**
PGF Pioggiola 92.66 48⇑*i*P **P 15 07 04.0 0.0**
comp=Z,482nm,1.7s,mb6.1
PGF *e*pP pP 15 07 36.4 -1.1
PGF Pioggiola 92.66 48⇑*i*P **P 15 07 04.0 0.0**
PGF *e**PP pP 15 07 36.4 -1.1
PGF pmax pmax
comp=Z,241nm,1.7s,mb6.0
FELD Feldberg 92.67 42⇑*e*P **P 15 07 03.5 -0.4**
LANF Langenberg 92.69 41⇑*e*P **P 15 07 04.1 +0.1**
SYO Syowa Base 92.72 161 ⇓P **P 15 07 02.3 -1.4**
SYO Syowa Base 92.72 161 ⇓PcP PcP 15 07 03.0 -1.4
SYO Syowa Base 92.72 161 ⇓pP pP 15 07 37.7 +0.6
TSUM Tsumeb 92.82 110 LR LR 15 47 49.2
comp=Z,1μm,18.3s,baz=239,slow=35
TSUM Tsumeb 92.82 110⇑*i*P **P 15 07 05.8 +0.5**
comp=Z,123nm,1.1s,mb6.0
TSUM *e*pP pP 15 07 38.1 -0.7
KTD Kalmit 92.92 41 *e*P **P 15 07 05.3 +0.2**
VAI Varese 92.92 44 *e*P **P 15 07 04.8 -0.4**
BFO Black Forest 92.94 42 P **P 15 07 05.1 -0.1**
comp=Z,159nm,1.2s,mb6.0,SNR=8.3
BFO Black Forest 92.94 42 *e*P **P 15 07 04.1 -1.1**
BFO *e**PP pP 15 07 37.4 -1.3
BFO pmax pmax
comp=Z,59nm,1.4s,mb5.5
BFO Black Forest 92.94 42 *e*P **P 15 07 04.1 -1.1**
comp=Z,59nm,1.4s,mb5.5
BFO *e*pP pP 15 07 37.4 -1.3
SPAK Spaichingen 93.22 42 *e*P **P 15 07 06.4 -0.1**
SPAK Spaichingen 93.22 42⇑*e*P **P 15 07 06.1 -0.4**
BOB Bobbio (Čoli) 93.26 45 *e*P **P 15 07 07.3 +0.6**
TNS Taunus Mts 93.27 40 *e*P **P 15 07 06.4 -0.2**
TNS *e**PP pP 15 07 39.5 -0.6
TNS pmax pmax
comp=Z,98nm,1.2s,mb5.8
TNS Taunus Mts 93.27 40 *e*P **P 15 07 06.4 -0.2**
comp=Z,98nm,1.2s,mb5.8
TNS *e*pP pP 15 07 39.5 -0.6
LBG Lerchenberg 93.30 42⇑*e*P **P 15 07 06.3 -0.5**
SWS Schriesheim 93.34 41 *e*P **P 15 07 06.9 -0.1**
TOD Tromm 93.42 41 *e*P **P 15 07 05.9 -1.4**
GUT Gutenstein 93.43 42⇑*e*P **P 15 07 07.0 -0.4**
CODM 93.50 46 P **P 15 07 05.5 -2.3**
STU Stuttgart 93.57 41 *e*P **P 15 07 07.6 -0.4**
STU pmax pmax
comp=Z,29nm,0.8s,mb5.5
STU Stuttgart 93.57 41 *e*P **P 15 07 07.6 -0.4**
comp=Z,29nm,0.8s,mb5.5
BUCH Bad Urach 93.64 42⇑*e*P **P 15 07 08.3 0.0**
BACM 93.64 46 P **P 15 07 07.0 -1.5**
GRAM 93.66 46 P **P 15 07 07.5 -1.1**
VALM 93.78 46 P **P 15 07 08.5 -0.5**
DAVOX Davos 93.80 43 P **P 15 07 09.2 +0.1**
comp=Z,17nm,0.9s,mb5.2,baz=246,slow=6.3,SNR=20
DAVOX pP pP 15 07 42.0 -0.5
comp=Z,6.9nm,0.8s,baz=44,slow=5.6,SNR=1.9
DAVA Damuels 93.85 43⇑*i*P **P 15 07 09.7 +0.4**
comp=Z,415nm,2.2s,mb6.2
SARO Sassorosso 93.87 46 P **P 15 07 08.1 -1.3**
ERBM Eremo 93.90 46 *e*P **P 15 07 11.4 +1.8**
SIND Sindeldorf 93.91 41⇑*e*P **P 15 07 09.6 +0.1**
GSCL Gusciola 94.02 46 *e*P **P 15 07 10.7 +0.5**
UBR Uberruh 94.05 43⇑*e*P **P 15 07 10.3 +0.1**
BRMO Bormio 94.10 44 *e*P **P 15 07 11.3 +0.8**
GRFL Gerfalco 94.17 47 *e*P **P 15 07 11.7 +0.8**
HDH Heidenheim 94.22 42 *e*P **P 15 07 11.1 +0.2**
ZCCA Zocca 94.30 46 *e*P **P 15 07 12.3 +0.8**
MUD Monsted U'grnd 94.45 34⇑*i*P **P 15 07 13.0 +1.2**
AKUT Akutan 94.58 324 *e*P **P 15 07 13.2 +0.7**
comp=Z,732nm,1.9s,mb6.6
CLZ Clausthal 94.66 38 *e*P **P 15 07 13.1 +0.2**
comp=Z,133nm,1.4s,mb6.0
CLZ *e*pP pP 15 07 46.6 +0.2
CLZ *e*PP PP 15 11 02.4 -2.4
MOTA Moosalm 94.69 43⇑*i*P **P 15 07 13.1 0.0**
SQTA Sankt Quirin 94.75 43⇑*i*P **P 15 07 13.4 0.0**
comp=Z,90nm,1.2s,mb5.9
SQTA Sankt Quirin 94.75 43⇑*i*P **P 15 07 13.4 0.0**
SQTA pmax pmax
comp=Z,90nm,1.2s,mb5.9
BSEG Bad Segeberg 94.84 36 *e*P **P 15 07 14.0 +0.3**
BSEG *e**PP pP 15 07 47.2 +0.1
BSEG *e* 15 11 03.2
ERC Erice 94.88 52 *e*P **P 15 07 15.1 +0.8**
FUR Furstenfeldbru 94.88 42 *e*P **P 15 07 13.9 -0.1**
FUR *e**PP pP 15 07 47.1 -0.4
FUR pmax pmax
comp=Z,129nm,1.5s,mb5.9
FUR Furstenfeldbru 94.88 42 *e*P **P 15 07 13.9 -0.1**
comp=Z,129nm,1.5s,mb5.9
FUR *e*pP pP 15 07 47.1 -0.4
CTI Castel Tesino 94.94 44 *e*P **P 15 07 14.9 +0.6**
GRA1 Grafenberg Arr 94.99 41 *e*P **P 15 07 14.4 -0.1**
comp=Z,104nm,1.3s,mb5.9
GRA1 *e*pP pP 15 07 47.5 -0.4
GRF Grafenberg Arr 94.99 41 *e*P **P 15 07 14.4 -0.1**
GRF *e**PP pP 15 07 47.5 -0.4
GRF pmax pmax
comp=Z,104nm,1.3s,mb5.9
GRF Grafenberg Arr 94.99 41 *e*P **P 15 07 14.4 -0.1**
GRF *e**PP pP 15 07 47.5 -0.4
GRF pmax pmax
comp=Z,104nm,1.3s,mb5.9
GRF Grafenberg Arr 94.99 41 *e*P **P 15 07 14.4 -0.1**
comp=Z,104nm,1.3s,mb5.9
GRF *e*pP pP 15 07 47.5 -0.4
WATA Walderalm 95.01 43⇑*i*P **P 15 07 14.8 +0.2**
comp=Z,100nm,1.4s,mb5.8
WATA Walderalm 95.01 43⇑*i*P **P 15 07 14.8 +0.2**
WATA pmax pmax
comp=Z,100nm,1.4s,mb5.8
WTTA Wattenberg 95.04 43⇑*i*P **P 15 07 14.9 +0.1**
comp=Z,356nm,1.8s,mb6.3
WTTA Wattenberg 95.04 43⇑*i*P **P 15 07 14.9 +0.1**
WTTA pmax pmax
comp=Z,356nm,1.8s,mb6.3
MOX Moxa 95.33 40 *e*P **P 15 07 16.4 +0.4**
MOX *e* pP 15 07 48.6 -0.9
MOX Moxa 95.33 40 *i*P **P 15 07 16.4 +0.4**
MOX pP pP 15 07 49.0 -0.5
ASS Assisi 95.38 47 *e*P **P 15 07 16.1 -0.3**
NKC Novy Kostel 95.83 40⇓*e*PP PP 15 11 12.8 -1.0
PTQR Pietraquaria 95.85 48 *e*P **P 15 07 19.8 +1.2**
NB2 NORSAR Subarra 95.94 29 P **P 15 07 18.5 0.0**
comp=Z,1.1nm,0.8s,baz=264,slow=4.1
NB2 NORSAR Subarra 95.94 29 P **P 15 07 18.5 0.0**
NB2 pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 95.94 29 P **P 15 07 19.0 +0.5**
comp=Z,24nm,1.0s,mb5.5,baz=268,slow=4.8,SNR=22
NOA pP pP 15 07 51.6 -0.3
comp=Z,2.7nm,1.0s,baz=263,slow=4.0,SNR=1.1
NOA PKKP PKKP 15 24 06.7 +17
comp=Z,2.5nm,0.8s,baz=255,slow=3.0,SNR=5.4
WET Wettzell 96.02 41 *e*P **P 15 07 19.2 +0.1**
WET *e**PP pP 15 07 51.9 -0.7
WET pmax pmax
comp=Z,184nm,1.9s,mb6.1
WET Wettzell 96.02 41 *e*P **P 15 07 19.2 +0.1**
comp=Z,184nm,1.9s,mb6.1
WET *e*pP pP 15 07 51.9 -0.7
GMNA Gemona 96.06 44 *e*P **P 15 07 19.7 +0.3**
SDI San Donato 96.13 49 *e*P **P 15 07 20.2 +0.4**
PTCC Patocco-Chiusa 96.14 44 *e*P **P 15 07 20.1 +0.3**
KBA Koelnbreinsper 96.19 43⇑*i*P **P 15 07 20.1 +0.1**
comp=Z,178nm,1.9s,mb6.1
KBA Koelnbreinsper 96.19 43⇑*i*P **P 15 07 20.1 +0.1**
KBA pmax pmax
comp=Z,178nm,1.9s,mb6.1
CLL Collm 96.25 39⇑*i*P **P 15 07 20.6 +0.5**
CLL *i**PP pP 15 07 53.2 -0.4
CLL pmax pmax
comp=Z,67nm,1.2s,mb5.8
CLL Collm 96.25 39⇑*i*P **P 15 07 20.6 +0.5**
comp=Z,67nm,1.2s,mb5.8
CLL *i*pP pP 15 07 53.2 -0.4
CLL Collm 96.25 39 ⇑P **P 15 07 20.6 +0.5**
comp=Z,logA/T=1.7,mb5.8
CLL *e* 15 07 31.0
CLL *i**PP pP 15 07 53.2 -0.4
CLL *e* 15 10 54.0
CLL *e*PP PP 15 11 13.0 -4.1
CLL *e* 15 32 19.0
NIKO Nikolski 96.32 323 *e*P **P 15 07 20.6 +0.3**
KHC Kasperske Hory 96.48 41⇓*i*P **P 15 07 21.9 +0.7**
KHC *e* pP 15 07 54.5 -0.2
KHC *e* 15 11 16.2
KHC Kasperske Hory 96.48 41⇓*i*P **P 15 07 21.9 +0.7**
KHC pP pP 15 07 54.5 -0.2
KHC *e*PP PP 15 11 16.2 -2.8
GEC2 GERESS Array S 96.54 42 *e*P **P 15 07 21.1 -0.4**
GEC2 pmax pmax
comp=Z,42nm,1.2s,mb5.6
GEC2 GERESS Array S 96.54 42 *e*P **P 15 07 21.1 -0.4**
comp=Z,42nm,1.2s,mb5.6
GERES GERESS Array B 96.54 42 P **P 15 07 21.4 -0.1**
comp=Z,12nm,1.0s,mb5.2,baz=243,slow=3.0,SNR=42
GERES PP PP 15 11 16.2 -3.3
comp=Z,1.4nm,0.7s,baz=256,slow=5.5,SNR=3.6
GERES PKKP PKKP 15 24 06.1 +17
comp=Z,3.6nm,0.7s,baz=45,slow=1.9,SNR=15
TNA Tin City 96.59 335⇑*i*P **P 15 07 21.5 +0.2**
comp=Z,6.8nm,0.3s,mb5.5
BRG Berggiesshubel 96.82 40 *i*P **P 15 07 23.6 +0.8**
BRG *i* pP 15 07 56.1 -0.1
BRG *i* 15 11 19.6
BRG pmax pmax
comp=Z,87nm,1.2s,mb6.0
BRG Berggiesshubel 96.82 40 *i*P **P 15 07 23.6 +0.8**
comp=Z,87nm,1.2s,mb6.0
BRG *i* 15 07 30.8
BRG *i* pP 15 07 56.1 -0.1
BRG *i* 15 11 19.6
MOA Molln 96.86 43⇑*i*P **P 15 07 23.0 0.0**
comp=Z,158nm,1.5s,mb6.1
LJU Ljubljana 96.94 45 *e*P **P 15 07 24.0 +0.6**
OBKA Obir 96.98 44⇑*i*P **P 15 07 23.6 0.0**
comp=Z,367nm,2.5s,mb6.3
HFS Hagfors 97.11 30 P **P 15 07 23.7 -0.2**
comp=Z,45nm,0.9s,mb5.8,baz=180,slow=3.0,SNR=29
PRU Pruhonice 97.16 41⇓*i*P **P 15 07 25.1 +0.8**
PRU *e*PP PP 15 11 22.1 -2.2
SGO Sicignano 97.18 50 *e*P **P 15 07 24.8 +0.1**
PVCC Panska Ves 97.20 40⇓*i*P **P 15 07 25.5 +1.0**
CRES Cresnjev 97.57 45 *e*P **P 15 07 26.6 +0.3**
DOBS Dobrina 97.59 44 *e*P **P 15 07 26.6 +0.2**
DOBS *e*PP PP 15 11 23.5 -4.4
GROS Grobnik 97.63 44 *e*P **P 15 07 26.6 0.0**
ARSA Arzberg 97.68 43⇑*i*P **P 15 07 26.7 -0.1**
comp=Z,214nm,1.9s,mb6.2
BOSA Boshof 98.00 120 P **P 15 07 29.4 +0.7**
comp=Z,37nm,1.1s,mb5.7,baz=276,slow=5.6,SNR=17
BOSA PKKPbc 15 24 01.8
comp=Z,8.2nm,0.9s,baz=126,slow=0.9,SNR=7.9
BOSA LR LR 15 49 31.9
comp=Z,1μm,19.2s,baz=245,slow=34
BOSA Boshof 98.00 120 *e*P **P 15 07 29.0 +0.3**
comp=Z,59nm,1.3s,mb5.9
UPC Upice 98.12 40⇓*i*P **P 15 07 29.8 +1.2**
UPC *e*PP PP 15 11 29.4 -2.5
KSP Ksiaz 98.31 40 *e*P **P 15 07 30.3 +0.8**
KSP *e**PP pP 15 08 03.0 0.0
KSP *e* 15 11 29.5
KSP Ksiaz 98.31 40 *e*P **P 15 07 30.5 +1.0**
DPC Dobruska-Polom 98.31 40 *e*P **P 15 07 30.4 +0.9**
DPC *e*PP PP 15 11 29.3 -3.9
VRAC Vranov 98.46 41 P **P 15 07 31.0 +0.7**
comp=Z,26nm,1.1s,mb5.6,baz=308,slow=5.3,SNR=29
ZST Bratislava 98.78 42 *e*P **P 15 07 31.9 +0.2**
ZST *e* pP 15 08 03.3 -1.9
ZST *e*PP PP 15 11 27.1 -9.4
GKP Gorka Klasztor 98.92 37 *e*P **P 15 07 33.7 +1.4**
SMOL Smolenice 99.00 42 *e*P **P 15 07 33.2 +0.4**
LBTB Lobatse 99.08 117 P **P 15 07 33.4 -0.3**
LBTB pmax pmax
comp=Z,56nm,1.5s,mb5.8
LBTB Lobatse 99.08 117 *e*P **P 15 07 33.7 0.0**
comp=Z,56nm,1.5s,mb5.8
MORC Moravsky Berou 99.09 41 P **P 15 07 33.9 +0.8**
MORC pmax pmax
comp=Z,270nm,2.1s,mb6.3
MORC Moravsky Berou 99.09 41 *e*P **P 15 07 33.6 +0.4**
comp=Z,267nm,2.1s,mb6.3
OKC Ostrava-Krasne 99.48 41⇓*i*P **P 15 07 36.2 +1.3**
OKC *e*PP PP 15 11 39.4 -2.4
KOLL Kolacno 99.65 42 *e*P **P 15 07 36.4 +0.7**
KOLL *e* 15 07 43.1
RPZ Rata Peaks 99.82 223 P **P 15 07 36.4 -0.2**
comp=Z,4.8nm,0.8s,mb5.0,baz=166,slow=20,SNR=4.2
VYHS Vyhne 99.94 42 *e*P **P 15 07 37.1 +0.1**
VYHS *e* pP 15 08 09.9 -0.5
VYHS Vyhne 99.94 42 *e*P **P 15 07 37.1 +0.1**
VYHS *e* 15 07 44.8
VYHS *e* pP 15 08 09.9 -0.5
MAW Mawson 100.25 166 P P 15 07 37.8 -0.1
comp=Z,9.5nm,0.9s,baz=246,slow=11,SNR=8.6
MAW pP 15 08 11.9
comp=Z,9.9nm,1.2s,baz=186,slow=5.3,SNR=2.2
MAW PKKPbc 15 23 54.3
comp=Z,4.6nm,0.9s,baz=309,slow=2.9,SNR=5.5
OJC Ojcow 100.54 40⇑*i*P P 15 07 40.3 +0.6
OJC *i* 15 08 13.1
OJC Ojcow 100.54 40⇑*i*P P 15 07 40.3 +0.6
OJC *e* 15 08 13.1
PSZ Piszkesteto 100.65 43 *e*P P 15 07 40.4 +0.2
PSZ pmax pmax
comp=Z,13nm,1.1s
PSZ Piszkesteto 100.65 43 *e*Pdif P 15 07 40.4 +0.2
comp=Z,13nm,1.1s
PSZ Piszkesteto 100.65 43⇑*e*P P 15 07 40.5 +0.3
DIVS Divcibare 100.75 47 *e*P P 15 07 41.2 +0.4
NIE Niedzica 100.89 41 *e*P P 15 07 41.3 0.0
KECS Kecovo 101.03 42 *e*P P 15 07 42.5 +0.6
KECS Kecovo 101.03 42 PDIF P 15 07 42.5 +0.6
ARCES ARCESS Array B 101.52 20 P P 15 07 43.0 -0.6
comp=Z,14nm,1.0s,baz=270,slow=3.6,SNR=16
ARCES PP PP 15 11 51.4 -5.8
comp=Z,18nm,1.0s,baz=306,slow=10,SNR=8.4
ARCES PKKPbc 15 23 51.2
comp=Z,8.5nm,0.9s,baz=76,slow=5.0,SNR=6.4
ARCES ARCESS Array B 101.52 20 P P 15 07 43.0 -0.6
ARCES PP PP 15 11 51.4 -5.8
ARCES PKKPbc 15 23 51.2
CRVS Cervenica-Dubn 101.67 42 *e*P P 15 07 51.9 +7.2
CRVS Cervenica-Dubn 101.67 42 *e* P 15 07 51.9 +7.2
SKO Skopje 101.83 49 *i*P P 15 07 46.7 +1.1
KOLS Kolonicke sedl 102.20 42 *e*P Pdif 15 07 48.3 +1.3
KOLS Kolonicke sedl 102.20 42 PDIF Pdif 15 07 48.3 +1.3
KWP Kalwaria 102.44 41 *e*P Pdif 15 07 49.5 +1.4
KWP pmax pmax
comp=Z,30nm,1.1s
KWP Kalwaria 102.44 41 *e*Pdif Pdif 15 07 49.5 +1.4
comp=Z,30nm,1.1s
FINES FINESS Array B 103.09 29 Pdiff Pdif 15 07 50.8 +0.1
comp=Z,7.7nm,0.9s,slow=1.9,SNR=11
FINES PKKPbc 15 23 46.8
comp=Z,4.3nm,0.7s,baz=63,slow=4.3,SNR=10
KAF Kangasniemi 103.09 28 *e*P Pdif 15 07 48.8 -1.9
comp=Z,22nm,1.1s,baz=281,slow=4.4
KAF Kangasniemi 103.09 28 *e*P Pdif 15 07 48.8 -1.9
KAF pmax pmax
comp=Z,22nm,1.1s
IDI Anoyia 104.67 56 Pdiff Pdif 15 07 58.8 +0.5
comp=Z,8.2nm,0.7s,baz=292,slow=7.3,SNR=4.0
IDI PKiKP 15 12 14.4
comp=Z,29nm,1.0s,baz=306,slow=5.7,SNR=5.0
MLR Muntele Rosu 104.93 45 Pdiff Pdif 15 07 58.2 -0.9
comp=Z,3.5nm,0.9s,baz=198,slow=0.5,SNR=8.8
MLR PKiKP 15 12 16.1
comp=Z,72nm,1.3s,baz=279,slow=1.2,SNR=10.0
MLR PKKPbc 15 23 42.1
comp=Z,4.9nm,0.9s,baz=205,slow=2.9,SNR=7.5
MLR Muntele Rosu 104.93 45 ⇑P 15 12 19.9
JOF Joensuu 105.21 27 *e*p Pdif 15 07 58.8 -1.1
comp=Z,16nm,1.1s
VRI Vrincioaia 105.44 45 ⇑P 15 12 23.0
VRI Vrincioaia 105.44 45 ⇑P 15 12 23.0
BILL Bilibino 106.22 339⇓*i*P Pdif 15 08 05.3 +1.0
BILL *i* 15 12 28.6
BILL *i* SS SS 15 27 22.8 +0.9
BILL pmax pmax
comp=Z,41nm,1.4s
BILL MLR MLR
comp=Z,600nm,19.0s
BILL Bilibino 106.22 339 *e*Pdif Pdif 15 08 04.6 +0.2
comp=Z,38nm,1.4s
CFR Carcaliu 106.50 45 ⇑P 15 12 16.5
CFR Carcaliu 106.50 45 ⇑P 15 12 16.5
AKASG Malin Array Be 106.50 39 P Pdif 15 08 06.2 +0.3
AKASG 15 12 30.3
AKASG Malin Array Be 106.50 39 Pdiff Pdif 15 08 06.2 +0.3
comp=Z,0.3nm,0.2s,baz=284,slow=4.3,SNR=4.3
AKASG PKiKP 15 12 15.1
comp=Z,0.2nm,0.3s,baz=272,slow=2.9,SNR=10
AKASG PP PP 15 12 30.3 -4.6
comp=Z,3.4nm,0.8s,baz=265,slow=6.7,SNR=6.4
AKASG PKKPbc 15 23 36.6
comp=Z,3.1nm,0.7s,baz=74,slow=3.1,SNR=12
AKASG PKKPab 15 23 51.0
comp=Z,4.8nm,0.8s,baz=80,slow=4.2,SNR=8.5
AKASG Malin Array Be 106.50 39 Pdif Pdif 15 08 06.2 +0.3
AKASG PKPdf 15 12 15.1
AKASG PP PP 15 12 30.3 -4.6
AKASG PKKPbc 15 23 36.6
AKASG PKKPab 15 23 51.0
TIRR Tirgusor 106.77 46 ⇑P 15 12 17.1
TIRR Tirgusor 106.77 46 ⇑P 15 12 17.1
OBN Obninsk 109.89 34 *e*P Pdif 15 08 21.6 +0.9
OBN pmax pmax
comp=Z,44nm,1.9s
OBN pmax pmax
comp=Z,19nm,1.1s
OBN MLR MLR
comp=Z,300nm,17.0s
MOS Moscow 110.28 33 *e*PKIKP PKPdf 15 12 24.6 +2.9
MOS *e* 15 13 02.1
BRTR Keskin Array B 111.23 50 PKIKP PKPdf 15 12 25.5 +1.5
BRTR 15 13 03.4
BRTR 15 23 32.5
BRTR Keskin Array B 111.23 50 PKiKP 15 12 25.5
comp=Z,8.0nm,0.9s,baz=207,slow=2.8,SNR=19
BRTR PP PP 15 13 03.4 -6.5
comp=Z,16nm,1.1s,baz=256,slow=5.1,SNR=12
BRTR PKKPbc 15 23 22.4
comp=Z,1.5nm,0.7s,baz=136,slow=4.5,SNR=6.1
BRTR PKKPab 15 23 32.5
comp=Z,2.1nm,0.8s,baz=132,slow=6.6,SNR=8.1
CSS Prodhromos 111.59 55 *e*PKP PKPdf 15 12 26.2 +1.4
VOR Voronezh 112.38 37 PKIKP PKPdf 15 12 25.0 -0.9
VOR *e* 15 13 11.7
VOR pmax pmax
comp=Z,60nm,1.8s
VOR pmax pmax
comp=Z,120nm,1.8s
ANN Anapa 113.06 44 *i*PKIKP PKPdf 15 12 27.2 -0.3
ANN *e**PP 15 13 02.4
ANN *e* 15 13 14.4
ANN pmax pmax
comp=Z,32nm,1.6s
ANN MLR MLR
comp=N,440nm,24.0s
ANN MLR MLR
comp=E,265nm,24.0s
ANN MLR MLR
comp=Z,418nm,24.0s
PECR Pechory 113.47 31 *e*PKIKP PKPdf 15 12 28.4 +0.4
PECR *e* 15 13 26.0
EIL Elat 113.48 61 *e*PKP PKPdf 15 12 30.2 +1.5
TIXI Tiksi 113.60 351⇓*i*PKIKP PKPdf 15 12 28.1 +0.2
KMBO Kilima Mbogo 114.84 95 PKiKP 15 12 34.9
comp=Z,4.2nm,0.9s,baz=6.2,slow=2.6,SNR=9.9
ASF Jabal al Asfar 114.88 58 PKiKP 15 12 33.8
comp=Z,30nm,0.9s,baz=117,slow=0.5,SNR=23
ASF PKKPbc 15 23 11.5
comp=Z,2.3nm,0.4s,baz=102,slow=1.8,SNR=5.2
ASF PKKPab 15 23 16.6
comp=Z,5.9nm,0.6s,baz=106,slow=1.1,SNR=6.8
SOC Sochi 114.94 45 *i*PKIKP PKPdf 15 12 31.5 +0.2
SOC *e* 15 13 29.9
SOC *e*PPP PPP 15 16 01.3 -2.4
SOC *e*PS PS 15 23 13.2 -0.1
SOC *e*SS SS 15 29 12.4 -5.9
SOC pmax pmax
comp=Z,22nm,0.5s
SOC pmax pmax
comp=N,2.0nm,0.3s
SOC pmax pmax
comp=E,6.0nm,0.6s
MALT Malatya 115.14 51 ⇑PKIKP PKPdf 15 12 34.1 +2.3
PET Petropavlovsk 115.50 326 *i*PKIKP PKPdf 15 12 31.4 -0.7
MA2 Magadan 116.22 335 *i*PKIKP PKPdf 15 12 34.0 +0.7
GOF Gofitskoye 116.83 43⇑*i*PKIKP PKPdf 15 12 35.3 +0.5
GOF *i* 15 13 45.1
GOF pmax pmax
comp=Z,80nm,1.7s
KIV Kislovodsk 116.92 44 *i*PKIKP PKPdf 15 12 35.8 +0.8
KIV Kislovodsk 116.92 44 *i* PKP PKPdf 15 12 35.9 +0.9
ZEI Tsey 118.11 45 *e*PKIKP PKPdf 15 12 38.9 +1.6
CNB Canberra Magne 118.50 223 *e*P PKPdf 15 12 39.9 +1.6
comp=Z,557nm,1.1s
MSL Mosul 119.20 52 *e*PKP PKPdf 15 12 43.0 +3.3
GNI Garni 119.47 48*c* *i*PKIKP PKPdf 15 12 39.8 -0.3
GNI Garni 119.47 48 PKP PKPdf 15 12 42.2 +2.1
comp=Z,18nm,0.7s,baz=327,slow=1.3,SNR=15
OPO Ambohidratompo120.11 116 PKP PKPdf 15 12 44.3 +2.5
comp=Z,9.8nm,0.9s,baz=194,slow=2.2,SNR=8.6
ARU Arti 120.33 26 *i*PKIKP PKPdf 15 12 41.5 +0.2
ARU *i* 15 14 08.6
ARU *e* 15 19 41.0
ARU *e*PS PS 15 23 50.7 -11
ARU *e*PS PS 15 24 00.9 -0.4
ARU *e*SS SS 15 30 26.7 -0.9
ARU Arti 120.33 26⇑*i*PKP PKPdf 15 12 41.7 +0.4
BHD Baghdad 120.91 56 *e*PKP PKPdf 15 12 39.0 -4.1
BHD *e*PP 15 15 48.5
BHD *e*PPP PPP 15 16 45.0 -8.5
BHD *e*SKS 15 20 52.0
BHD *e*PS PS 15 23 55.0 -12
SVE Sverdlovsk 120.98 25⇑*i*PKIKP PKPdf 15 12 40.0 -2.6
SVE pmax pmax
comp=Z,48nm,1.5s
SVE MLR MLR
comp=E,100nm,16.0s
SVE MLR MLR
comp=Z,300nm,16.0s
ATD Arta Tunnel 121.54 81 PKP PKPdf 15 12 47.1 +2.4
comp=Z,55nm,1.0s,baz=262,slow=4.2,SNR=12
YAK Yakutsk 121.72 345*c* *i*PKIKP PKPdf 15 12 43.8 -0.1
YAK Yakutsk 121.72 345⇑*i*PKP PKPdf 15 12 43.9 0.0
STKA Stephens Creek 125.75 222⇑*i*PKP PKPdf 15 12 53.2 +0.7
comp=Z,46nm,0.8s
STKA *e*pPKP 15 13 29.0
STKA Stephens Creek 125.75 222 PKP PKPdf 15 12 53.5 +1.1
comp=Z,56nm,0.8s,baz=116,slow=2.5,SNR=100

STKA				pPKP		15 13 29.1	
	comp=Z,27nm,1.0s,baz=159,slow=2.8,SNR=5.0						
CHKZ	**Chkalovo**	**127.25**	**23**	*e*PKIKP	PKPdf	15 12 55.7	+1.0
YSS	**Yuzh-Sakhalins**	**127.39**	**326***c*	*i*PKIKP	PKPdf	15 12 55.5	+0.3
YSS	**Yuzh-Sakhalins**	**127.39**	**326**⇑	*i*PKP	PKPdf	15 12 55.6	+0.4
CLNS	**Chul'man**	**127.45**	**344***c*	*i*PKIKP	PKPdf	15 12 55.8	+0.8
CLNS				*e*PPP		15 13 26.8	
CLNS				*i* S	PP	15 14 56.0	-4.9
CLNS				pmax	pmax		
	comp=Z,152nm,0.9s						
CLNS				pmax	pmax		
	comp=N,28nm,0.7s						
CLNS				pmax	pmax		
	comp=E,13nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,35nm,1.2s						
CLNS				pmax	pmax		
	comp=N,22nm,1.0s						
CLNS				pmax	pmax		
	comp=E,31nm,1.2s						
BVA0	**Borovoye Array**	**127.65**	**24**	*i* PKIKP	PKIKP	15 12 56.4	+0.8
BVA0				pmax	pmax		
	comp=Z,12nm,1.1s						
BVAR	**Borovoye Array**	**127.65**	**24**	PKP	PKPdf	15 12 57.2	+1.6
	comp=Z,35nm,0.8s,baz=270,slow=1.5,SNR=97						
BVAR				PKKP	PKKP	15 23 07.5	+16
	comp=Z,3.1nm,0.9s,baz=135,slow=4.2,SNR=6.0						
CTA	**Charters Tower**	**128.69**	**237**	*e*PKP	PKPdf	15 12 59.5	+1.1
	comp=Z,57nm,0.9s						
CTA				*e*pPKP		15 13 34.8	
CTA	**Charters Tower**	**128.69**	**237**	PKIKP	PKPdf	15 13 00.1	+1.7
CTA						15 13 34.4	
CTA				pmax	pmax		
	comp=Z,106nm,1.0s						
CTA				pmax	pmax		
	comp=Z,42nm,1.1s						
CTA	**Charters Tower**	**128.69**	**237**	PKP	PKPdf	15 13 00.1	+1.6
	comp=Z,106nm,1.0s,baz=123,slow=0.7,SNR=35						
CTA				pPKP		15 13 34.4	
	comp=Z,42nm,1.1s,baz=107,slow=7.8,SNR=3.4						
BOD	**Bodaibo**	**128.77**	**352**	*e*PKHKP		15 12 37.3	
BOD				pmax	pmax		
	comp=Z,49nm,1.6s						
ASAJ	**Asahikawa**	**129.09**	**323**	PKIKP	PKPdf	15 13 00.1	+1.5
ASAJ						15 13 34.4	
ASAJ				pmax	pmax		
	comp=Z,131nm,1.0s						
ASAJ				pmax	pmax		
	comp=Z,44nm,1.0s						
ASAJ	**Asahikawa**	**129.09**	**323**	PKP	PKPdf	15 13 00.1	+1.5
	comp=Z,130nm,1.0s,baz=267,slow=4.7,SNR=42						
ASAJ				pPKP		15 13 34.4	
	comp=Z,44nm,1.0s,baz=257,slow=12,SNR=3.2						
NVS	**Novosibirsk**	**130.27**	**14**⇑	*i*PKIKP	PKPdf	15 13 00.3	-0.2
NVS				*i*		15 13 34.5	
NVS				*i*		15 15 12.9	
NVS				pmax	pmax		
	comp=E,30nm,1.5s						
NVS				pmax	pmax		
	comp=Z,184nm,1.5s						
KLR	**Kul'dur**	**131.32**	**334**	*e*PKIKP	PKPdf	15 13 00.0	-2.7
KLR				*e*		15 13 36.2	
KLR				pmax	pmax		
	comp=N,78nm,1.8s						
KLR				pmax	pmax		
	comp=E,70nm,1.8s						
KLR				pmax	pmax		
	comp=Z,130nm,1.8s						
ZAL	**Zalesovo**	**131.47**	**14**	PKhKP		15 12 54.7	
	comp=Z,3.0nm,0.9s,baz=262,slow=1.6,SNR=11						
ZAL				PKP	PKPdf	15 13 04.4	+1.6
	comp=Z,104nm,1.0s,baz=160,slow=2.1,SNR=155						
ZAL				pPKP		15 13 38.5	
	comp=Z,42nm,1.0s,baz=160,slow=1.4,SNR=4.2						
ABTO	**Aybut**	**131.47**	**73**	P	PKPdf	15 13 06.4	+2.6
	SNR=20						
WHFO	**Wadi Hawf**	**131.86**	**73**	P	PKPdf	15 13 06.5	+1.9
	SNR=19						
PMG	**Port Moresby**	**132.08**	**250**	PKIKP	PKPdf	15 13 07.1	+2.1
PMG						15 13 39.9	
PMG				pmax	pmax		
	comp=Z,63nm,1.2s						
PMG				pmax	pmax		
	comp=Z,13nm,1.0s						
PMG	**Port Moresby**	**132.08**	**250**	PKP	PKPdf	15 13 07.1	+2.1
	comp=Z,63nm,1.2s,baz=0.2,slow=1.5,SNR=8.0						
PMG				pPKP		15 13 39.9	
	comp=Z,13nm,1.0s,baz=77,slow=6.0,SNR=1.5						
PMG	**Port Moresby**	**132.08**	**250**	*e*PKPdf	PKPdf	15 13 06.7	+1.7
RBK	**Rabkut**	**132.32**	**73**	P	PKPdf	15 13 07.4	+2.0
	SNR=7.6						
ASHO	**Ashiyiah**	**132.81**	**63**	P	PKPdf	15 13 07.2	+1.0
	SNR=11						
ARQ	**Araqi**	**133.53**	**65**	P	PKPdf	15 13 08.5	+1.0
	SNR=13						
HOQ	**Hoqain**	**134.18**	**64**	P	PKPdf	15 13 09.0	+0.3
	SNR=14						
BSY	**Bisya**	**134.26**	**65**	P	PKPdf	15 13 09.4	+0.5
	SNR=26						
FORT	**Forrest**	**134.65**	**212**	*e*PKP	PKPdf	15 13 00.0	-9.5
	comp=Z,1μm,0.7s						
KKAR	**Karatay Array**	**134.86**	**33**	*i* PKIKP	PKPdf	15 13 10.1	+0.6
KKAR				pmax	pmax		
	comp=Z,107nm,1.5s						
JMDO	**Jabal Madar**	**135.16**	**66**	P	PKPdf	15 13 10.9	+0.3
	SNR=6.8						
IRK	**Irkutsk**	**135.17**	**358**	*e*PKIKP	PKPdf	15 13 10.0	+0.2
IRK				*e*		15 13 50.6	
IRK				pmax	pmax		
	comp=Z,191nm,2.1s						
HIA	**Hailar**	**135.61**	**343**	*e*PKIKP	PKPdf	15 13 11.5	+0.8
TLY	**Talaya**	**135.75**	**359**	*e*PKHKP		15 13 00.8	
TLY				*e*		15 13 12.6	
TLY				pmax	pmax		
	comp=Z,75nm,1.6s						
MDJ	**Mudanjiang**	**135.78**	**332**	PKP	PKPdf	15 13 11.7	+0.6
MDJ	**Mudanjiang**	**135.78**	**332**	*e*PKPdf	PKPdf	15 13 11.7	+0.6
MOY	**Mondy**	**135.78**	**1**	*e*PKIKP	PKPdf	15 13 13.0	+2.1
MOY				*e*		15 15 50.2	
MOY				pmax	pmax		
	comp=Z,255nm,2.4s						
MJAR	**Matsushiro Arr**	**136.04**	**317**	PKhKP		15 13 00.4	
	comp=Z,20nm,0.9s,baz=44,slow=2.0,SNR=10.0						
MJAR				PKP	PKPdf	15 13 12.0	+0.2
	comp=Z,27nm,0.9s,baz=81,slow=1.8,SNR=17						
MJAR				SKPbc		15 16 32.4	
	comp=Z,20nm,1.2s,baz=7.4,slow=1.5,SNR=6.0						
MAT	**Matsushiro**	**136.04**	**317**	PKHKP		15 12 59.0	
MAT	**Matsushiro**	**136.04**	**317**	*e*PKP		15 12 59.6	
ASAR	**Alice Springs**	**136.22**	**224**	PKhKP		15 13 00.4	
	comp=Z,2.3nm,0.8s,baz=126,slow=3.6,SNR=16						
ASAR				PKP	PKPdf	15 13 13.0	+0.6
	comp=Z,81nm,0.8s,baz=126,slow=2.1,SNR=97						
ASAR				pPKP		15 13 48.0	
	comp=Z,29nm,1.0s,baz=139,slow=2.3,SNR=3.2						
ASAR				PP	PP	15 15 51.9	-5.5
	comp=Z,11nm,1.1s,baz=133,slow=5.4,SNR=4.7						
ASAR				PKKP	PKKP	15 22 50.8	+16
	comp=Z,1.1nm,1.1s,baz=308,slow=1.6,SNR=7.8						
ASPA	**Alice Springs**	**136.22**	**224**	*e*PKP	PKPdf	15 13 13.2	+0.8
ASPA				*e*pPKP		15 13 48.9	
ASPA				*e*PP	PP	15 15 50.7	-6.7
ASPA				*e*PKS	PKS	15 16 44.5	-3.2
ASPA				*e*		15 17 18.7	
USP	**Ospenovka**	**136.79**	**30**	P	PKPdf	15 13 06.8	-6.1
	SNR=6.0						
EKS2	**Erkin-Say**	**136.88**	**31**	P	PKPdf	15 13 05.2	-7.9
	SNR=5.9						
ZAK	**Zakamensk**	**137.06**	**359**	*e*PKHKP		15 13 02.1	
ZAK				pmax	pmax		
	comp=Z,29nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CHMS	**Chumysh**	**137.12**	**30**	P	PKPdf	15 13 16.2	+2.6
	SNR=12						
MKAR	**Makanchi Array**	**137.17**	**20**	PKHKP		15 13 03.6	
MKAR				pmax	pmax		
	comp=Z,63nm,1.0s						
MKAR	**Makanchi Array**	**137.17**	**20**	PKhKP		15 13 03.0	
	comp=Z,8.8nm,0.9s,baz=333,slow=2.7,SNR=18						
MKAR				PKP	PKPdf	15 13 14.1	+0.6
	comp=Z,41nm,0.9s,baz=325,slow=2.0,SNR=41						
MKAR				pPKP		15 13 48.8	
	comp=Z,21nm,1.0s,slow=1.2,SNR=2.7						
FRU	**Bishkek**	**137.17**	**30**⇑	*i*PKIKP	PKPdf	15 13 16.0	+2.3
FRU				pmax	pmax		
	comp=Z,160nm,1.8s						
AML	**Almayashu**	**137.22**	**31**	P	PKPdf	15 13 17.1	+3.3
	SNR=17						
AAK	**Ala-Archa**	**137.26**	**30**	P	PKPdf	15 13 16.9	+3.1
	SNR=23						
AAK	**Ala-Archa**	**137.26**	**30**	PKIKP	PKPdf	15 13 15.7	+1.8
AAK				pmax	pmax		
	comp=Z,84nm,1.1s						
NWAO	**Narrogin (SRO)**	**137.45**	**199**	PKhKP		15 13 05.0	
	comp=Z,15nm,1.0s,baz=313,slow=5.9,SNR=6.9						
NWAO				PKP	PKPdf	15 13 15.7	+1.2
	comp=Z,44nm,0.9s,baz=152,slow=2.2,SNR=4.5						
NWAO				pPKP		15 13 50.1	
	comp=Z,48nm,1.1s,baz=171,slow=3.1,SNR=3.9						
NWAO	**Narrogin (SRO)**	**137.45**	**199**	PKP	PKPdf	15 13 05.0	-9.5
NWAO				*e*PKPdf	PKPdf	15 13 15.5	+0.9
NWAO				*e*pPKPdf		15 13 51.7	
KBK	**Karagaybulak**	**137.47**	**30**	P	PKPdf	15 13 07.3	-6.9
	SNR=10						
UCH	**Uchtor**	**137.57**	**31**	P	PKPdf	15 13 07.1	-7.4
	SNR=7.2						
TKM2	**Tokmak 2**	**137.58**	**29**	P	PKPdf	15 13 17.2	+2.7
	SNR=28						
KZA	**Kyzart**	**138.04**	**30**	P	PKPdf	15 13 06.8	-8.5
	SNR=9.7						
WRAB	**Tennant Creek**	**138.24**	**229**	*e*PKIKP	PKPdf	15 13 17.5	+1.2
WRAB				*e*		15 16 04.4	
WRA	**Warramunga Arr**	**138.24**	**229**	PKhKP		15 13 07.1	
	comp=Z,9.1nm,1.0s,baz=135,slow=1.4,SNR=37						
WRA				PKP	PKPdf	15 13 17.5	+1.3
	comp=Z,116nm,0.8s,baz=124,slow=1.5,SNR=108						
WRA				pPKP		15 13 52.1	
	comp=Z,52nm,1.0s,baz=126,slow=1.4,SNR=3.9						
WRA				PP	PP	15 16 04.6	-5.8
	comp=Z,14nm,1.1s,baz=128,slow=5.5,SNR=12						
WRA				PKKP	PKKP	15 22 46.3	+15
	comp=Z,2.1nm,1.1s,baz=320,slow=1.7,SNR=6.5						
ULHL	**Ulahol**	**138.41**	**29**	P	PKPdf	15 13 19.3	+3.3
	SNR=31						
KLBR	**Kellerberrin**	**138.50**	**200**	*e*PKP	PKPdf	15 13 07.4	-9.1
	comp=Z,1μm,0.8s						
KLBR				*e*pPKP		15 13 53.1	
KLBR				*e*PKS	PKS	15 16 52.3	+0.9
KLBR				*e*		15 17 26.1	
MUN	**Mundaring**	**138.65**	**198**	*e*PKP	PKPdf	15 13 08.0	-8.7
	comp=Z,420nm,0.9s						
MUN				*e*pPKP		15 13 53.5	
ULN	**Ulaanbaatar**	**139.37**	**355**	PKPdf	PKPdf	15 13 09.1	-8.4
ULN				PP	PP	15 16 11.5	-4.8
ULN	**Ulaanbaatar**	**139.37**	**355**	*e*PKHKP		15 13 08.8	
ULN				*e*		15 13 18.7	
ULN				*e*		15 16 12.4	
ULN	**Ulaanbaatar**	**139.37**	**355**	*e*PKPpre		15 13 08.8	
ULN				*e*PKPdf	PKPdf	15 13 18.7	+1.2
ULN				⇑*i*PKP	PKPdf	15 13 19.1	+1.5
ULN				*e*PP	PP	15 16 12.4	-3.9
SONM	**Songino Array**	**139.45**	**355**	PKhKP		15 13 09.5	
	comp=Z,23nm,0.9s,baz=340,slow=2.9,SNR=76						
SONM				PKP	PKPdf	15 13 19.0	+1.2
	comp=Z,51nm,1.0s,baz=359,slow=1.3,SNR=31						
SONM				pPKP		15 13 53.3	
	comp=Z,30nm,1.0s,baz=309,slow=0.7,SNR=2.8						
SONM				PP	PP	15 16 17.3	+0.5
	comp=Z,24nm,1.0s,baz=350,slow=7.5,SNR=6.3						
KAKA	**Kakadu**	**143.83**	**237**⇓	*i*P	PKPbc	15 13 24.8	-0.6
	comp=Z,167nm,0.9s						
KAKA				*e*SKP		15 17 05.5	
DL2	**Dalian**	**143.93**	**334**	PKP	PKPdf	15 13 23.7	-2.1
DL2				XPKP		15 14 14.4	
DL2				PP	PP	15 16 41.6	-2.3
DL2				PP	PP		
	comp=Z,450nm,6.4s						
THN	**Thein Dam**	**145.02**	**41**	*e*PKP	PKPdf	15 13 29.0	+1.0
BJI	**Beijing**	**145.04**	**341**	PKP	PKPdf	15 13 27.4	-0.4
BJI				APKP		15 14 05.3	
BJI				PP	PP	15 16 47.1	-3.4
BJI				PP	PP		
	comp=Z,1μm,6.7s						
BJI	**Beijing**	**145.04**	**341**	pPKP		15 14 05.3	
BJI				PP	PP	15 16 47.1	-3.4
BJI				SS	SS	15 35 19.8	-7.9
BJT	**Baijiatuau**	**145.06**	**341**	*e*PKIKP	PKPdf	15 13 27.5	-0.3
PONG	**Pong**	**145.48**	**41**	*e*PKP	PKPdf	15 13 30.0	+1.2
PONG				*e*		15 16 44.0	
HHC	**Hu-ho-hao-te**	**145.54**	**347**⇓	*i*PKP	PKPdf	15 13 30.1	+1.5
HHC				PP	PP	15 16 50.6	-2.9
HHC				PKS	PKS	15 17 03.5	+0.6
HHC				SKS	SKS	15 20 22.2	-0.6
HHC				SS	SS	15 35 30.6	-2.6
HHC				LR	LR		
	comp=N,252nm,24.9s						
HHC				LR	LR		
	comp=E,278nm,26.1s						
HHC				LR	LR		
	comp=Z,598nm,26.2s						
FITZ	**Fitzroy Crossi**	**145.64**	**222**⇑	*i*PKP	PKPdf	15 13 30.4	+1.0
	comp=Z,549nm,0.7s						
FITZ				*e*pPKP		15 14 05.1	
FITZ				*e*PKS	PKS	15 17 09.3	+5.6
FITZ				*e*		15 17 45.3	
FITZ	**Fitzroy Crossi**	**145.64**	**222**	PKPbc	PKPbc	15 13 30.7	+0.5
	comp=Z,567nm,0.7s,baz=170,slow=4.1,SNR=456						
FITZ				pPKPbc		15 14 04.0	
	comp=Z,149nm,0.7s,baz=164,slow=1.7,SNR=2.5						
BTO	**Baotou**	**146.09**	**349**	*e*PKP	PKPdf	15 13 31.2	+1.7
BHK	**Bhakra**	**146.13**	**42**	*e*PKPb		15 13 33.2	
BHK				*e*		15 14 12.8	
SDNR	**Sundarnagar**	**146.44**	**41**	*e*PKP	PKPdf	15 13 32.4	+2.0
SMLA	**Simla**	**146.81**	**41**⇑	*i*P	PKPdf	15 13 30.3	-0.7
AJM	**Ajmer**	**147.72**	**51**⇑	*i*P	PKPdf	15 13 33.0	+0.3
GTA	**Gaotai**	**147.98**	**3**	*e*PKP	PKPdf	15 13 34.7	+2.0
GTA				APKP		15 14 10.6	
GTA				XPKP		15 14 27.5	
GTA				PKS	PKS	15 17 08.4	+1.7
GTA				SKS	SKS	15 20 25.4	-0.9
GTA				SKKS		15 23 39.3	
GTA				PP	PP		
	comp=Z,1μm,7.2s						
GTA				LR	LR		
	comp=N,252nm,23.6s						
GTA				LR	LR		
	comp=E,210nm,20.5s						
GTA				LR	LR		
	comp=Z,471nm,22.8s						
TIA	**Tai'an**	**148.10**	**337**⇑	PKP	PKPdf	15 13 34.1	+1.1
NDI	**New Delhi**	**148.37**	**45**	*e*PKP	PKPdf	15 13 34.0	+0.3
JOW	**Kunigami**	**148.41**	**311**	PKPbc	PKPdf	15 13 35.7	+1.9
	comp=Z,264nm,0.9s,baz=33,slow=1.9,SNR=23						
BOM	**Bombay**	**149.35**	**65**	*e*PKPb		15 13 41.5	
	comp=Z,96nm,1.6s						
BOM				*e*		15 15 35.6	
PTH	**Pithoragarh**	**149.82**	**40**	*e*PKP	PKPdf	15 13 37.4	+1.5
LGTI	**Lohaghat**	**149.91**	**40**	*e*PKP	PKPdf	15 13 38.3	+2.3
POO	**Poona**	**150.40**	**65**⇑	*i*P	PKPdf	15 13 37.0	0.0
	comp=Z,510nm,1.0s						
POO				*i*		15 17 14.0	
NJ2	**Nanjing**	**150.82**	**330**	*e*PKP	PKPdf	15 13 38.3	+1.0
NJ2				PKS	PKS	15 17 08.0	-3.0
NJ2				PP	PP		
	comp=Z,840nm,10.0s						
NJ2				LR	LR		
	comp=N,1μm,25.1s						
NJ2				LR	LR		
	comp=E,1μm,29.8s						
NJ2				LR	LR		
	comp=Z,540nm,29.1s						
KAD	**Karad**	**151.07**	**67**	*e*PKP	PKPdf	15 13 39.1	+1.1
KAD				*e*		15 13 46.6	
	comp=Z,457nm,1.7s						
GOA	**Goa**	**151.20**	**71**⇑	*e*PKP	PKPdf	15 13 36.3	-2.0
LZH	**Lanzhou**	**151.31**	**357**	*i* PKP	PKPdf	15 13 40.0	+2.1
LZH				APKP		15 14 14.5	
LZH				XPKP		15 14 30.4	
LZH				PP	PP	15 17 24.3	-2.7
LZH				*e*SKS	SKS	15 20 36.0	+5.2
LZH				SKKS		15 24 02.0	
LZH				SS	SS	15 36 38.0	+0.3
LZH				PP	PP		
	comp=Z,1μm,4.9s						
LZH				LR	LR		
	comp=E,1μm,19.0s						
LZH				LR	LR		
	comp=Z,2μm,20.4s						
LZH	**Lanzhou**	**151.31**	**357**	PKP	PKPdf	15 13 55.6	+18
LZH				pPKP		15 14 14.5	
LZH				sPKP		15 14 30.4	
LZH				PP	PP	15 17 24.3	-2.7
LZH				*e*SKS	SKS	15 20 36.0	+5.2
LZH				SKKS		15 24 02.0	
LZH				SS	SS	15 36 38.0	+0.3
LZH				LR	LR		
	comp=Z,2μm,20.4s						
BHPL	**Bhopal**	**151.54**	**54**	*e*PKP	PKPdf	15 13 39.6	+1.0
BHPL				*e*		15 13 57.9	
	comp=Z,302nm,0.9s						
AKL	**Akola**	**152.37**	**59**⇓	*i*P	PKPdf	15 13 40.0	+0.1
XAN	**Xi'an**	**152.65**	**347**	PKP	PKPdf	15 13 40.8	+0.9
LATR	**Latur**	**152.86**	**64**	*e*PKP	PKPdf	15 13 40.0	-0.6
KOLN	**Koldanda**	**153.19**	**38**	*e*P	PKPdf	15 13 42.1	+1.2
	comp=Z,645nm,1.4s						
GKN	**Gorkha**	**153.64**	**37**	*e*P	PKPdf	15 13 42.8	+1.3
	comp=Z,1μm,1.3s						
WHN	**Wuhan**	**154.17**	**335**	PKP	PKPdf	15 13 44.0	+1.9
WHN				PKP2	PKPab	15 14 05.2	-2.0
WHN				PP	PP	15 17 40.0	-3.5
KKN	**Kakani**	**154.18**	**36**	*e*P	PKPdf	15 13 43.5	+1.3
	comp=Z,476nm,1.5s						
DMN	**Daman**	**154.21**	**36**	*e*P	PKPdf	15 13 43.8	+1.5
	comp=Z,380nm,1.5s						
PKI	**Pulchoki**	**154.42**	**36**	*e*P	PKPdf	15 13 44.0	+1.5
	comp=Z,276nm,1.3s						
GUN	**Gumba**	**154.43**	**35**	*e*P	PKPdf	15 13 44.4	+1.8
	comp=Z,188nm,0.9s						
YHNB	**Yeheng**	**154.70**	**315**	*e*PKPab	PKPab	15 14 07.9	-1.7
JIRN	**Jiri**	**154.80**	**35**	*e*P	PKPdf	15 13 44.5	+1.4
	comp=Z,324nm,1.6s						
NACB	**Ninganchiao**	**154.85**	**314**	*e*PKPab	PKPab	15 14 09.5	-0.7
HYB	**Hyderabad**	**154.99**	**64**	*e*PKIKP	PKPdf	15 13 45.0	+1.5
HYB				*e*		15 14 10.0	
HYB				*e*		15 17 46.0	
HYB	**Hyderabad**	**154.99**	**64**	*i* PKP	PKPdf	15 13 45.0	+1.5
	comp=Z,150nm,1.0s						
HYB				*e*		15 13 54.0	
HYB				*e*PKPAB	PKPab	15 14 10.0	-0.9
HYB				*e*pPKP		15 14 39.5	
HYB				*e*PP	PP	15 17 46.0	-1.9
LSA	**Lhasa**	**155.49**	**23**	PKP	PKPdf	15 13 46.4	+2.5
LSA	**Lhasa**	**155.49**	**23**	*e*PKPdf	PKPdf	15 13 46.7	+2.8
BLSP	**Bilaspur**	**155.81**	**50**	*e*PKP	PKPdf	15 13 45.5	+1.0
ENH	**Enshi**	**156.12**	**344**	*e*PKPdf	PKPdf	15 13 46.3	+1.6
QZH	**Quanzhou**	**156.38**	**320**⇑	*i*PKP	PKPdf	15 13 47.0	+1.8
MDRS	**Chennai**	**157.81**	**73**	*e*PKP	PKPdf	15 13 48.6	+1.3
MDRS				*e*		15 18 01.4	
PALK	**Pallekele**	**158.84**	**89**	*e*PKPdf	PKPdf	15 13 50.0	+1.3
VIS	**Vishakhapatnam**	**159.03**	**59**	*e*PKP	PKPdf	15 13 47.9	-0.9
VIS				*i* pP		15 14 21.6	
VIS				*e*		15 14 58.9	
SHL	**Shillong**	**159.42**	**27**	*e*PKP	PKPdf	15 13 50.2	+1.2
BWNR	**Bhubaneshwar**	**159.66**	**49**	*e*PKP	PKPdf	15 13 52.3	+2.9
BWNR				*e*		15 13 55.5	
	comp=Z,174nm,1.3s						
BWNR				*i*		15 14 32.2	
BWNR				*e*		15 18 13.6	
GYA	**Guiyang**	**160.46**	**348**⇑	*i*PKP	PKPdf	15 13 51.5	+1.4
GYA				XPKP		15 14 39.8	
GYA				PP	PP		
	comp=Z,990nm,5.7s						
GYA				LR	LR		
	comp=N,500nm,26.1s						
GYA				LR	LR		
	comp=E,860nm,25.4s						
GYA				LR	LR		
	comp=Z,570nm,19.8s						
AGT	**Agartala**	**160.54**	**31**⇓	*i*	PKPdf	15 13 44.0	-6.2
AGT				*i*		15 14 45.0	
GZH	**Guangzhou**	**160.92**	**326**	PKP	PKPdf	15 13 52.0	+1.4
KMI	**Kunming**	**162.28**	**358**	PKP	PKPdf	15 13 53.6	+1.7
KMI				APKP		15 14 27.5	
KMI				PKP2	PKPab	15 14 38.6	-3.6
KMI				XPKP		15 14 40.4	
KMI				PP	PP	15 18 22.5	-4.7
KMI				SKS	SKS	15 20 44.4	+2.2
KMI				SKKS		15 24 56.1	
KMI				PP	PP		
	comp=Z,595nm,8.8s						
KMI				LR	LR		
	comp=N,233nm,20.8s						
KMI				LR	LR		
	comp=E,208nm,22.0s						
KMI				LR	LR		
	comp=Z,330nm,22.0s						
KMI	**Kunming**	**162.28**	**358**	pPKP		15 14 27.5	
KMI				PKPab	PKPab	15 14 38.6	-3.6
KMI				sPKP		15 14 40.4	
KMI				PP	PP	15 18 22.5	-4.7
KMI				SKS	SKS	15 20 44.4	+2.2
KMI				PPP	PPP	15 22 09.2	-7.8
KMI				PcPP'		15 22 16.8	
KMI				SKKS		15 24 56.1	
KMI				SS	SS	15 38 22.3	-12
KMI				SSS	SSS	15 44 36.5	-17
KMI				LR	LR		
	comp=Z,330nm,22.0s						
KKM	**Kota Kinabalu**	**165.86**	**266**	*e*PKPdf	PKPdf	15 13 57.3	+1.6
KKM				*e*PKPab	PKPab	15 14 58.4	+0.3
CHG	**Chiang Mai**	**168.18**	**14**⇑	P	PKPdf	15 13 58.5	+1.4
	comp=Z,83nm,1.0s						
NANT	**Nan**	**168.51**	**6**⇑	P	PKPdf	15 13 59.0	+1.7
	comp=Z,500nm,0.6s						
CM31	**Chiang Mai Arr**	**168.52**	**15**	*e*PKPdf	PKPdf	15 13 59.1	+1.8
CM31				*e*PKPab	PKPab	15 15 08.2	-1.4
CM31				*e*PP	PP	15 18 57.2	-2.3
CMAR	**Chiang Mai Arr**	**168.52**	**15**	PKP	PKPdf	15 13 59.0	+1.6
	comp=Z,61nm,0.9s,baz=284,slow=1.7,SNR=274						
CMAR				pPKP		15 14 32.9	
	comp=Z,12nm,1.1s,baz=315,slow=1.3,SNR=1.4						
CMAR				PKPab	PKPab	15 15 08.3	-1.3
	comp=Z,50nm,1.0s,baz=327,slow=4.4,SNR=18						
CMAR				pPKPab		15 15 41.1	
	comp=Z,15nm,0.9s,baz=332,slow=3.2,SNR=4.7						
CMAR				PP	PP	15 18 57.3	-2.2
	comp=Z,23nm,1.0s,baz=345,slow=6.0,SNR=12						
KSM	**Kuching**	**169.92**	**235**	*e*PKPdf	PKPdf	15 13 59.2	+0.9
KKTK	**Khon Kaen**	**171.00**	**355**	P	PKPdf	15 14 00.0	+1.1
NST	**Nakhon Sawan**	**171.

MATP	**Matopo**	**71.86 249**	P	**P**		**15 29 57.1**	**+0.1**
	1.0nm,0.5s,mb4.0,baz=89,slow=9.4,SNR=4.2						
TXAR	**Lajitas Array**	**144.54 37**	PKP	PKPdf		15 38 10.9	+2.1
	2.6nm,0.6s,baz=281,slow=1.5,SNR=16						
CFAA	**Coronel Fontan**	**145.08 198**	PKP	PKPdf		15 38 10.9	+1.2
	0.7nm,0.6s,baz=178,slow=3.7,SNR=9.5						

IDC 11 15:24:00.5±1.7, 27.31N×44.61W, mb3.8/6, mb1 4.1/6, mb1mx3.8/23, mbtmp3.8/6, Error ellipse: s-maj=47.6km s-min=29.0km az=110.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**48.98 211**		P	P	15 32 49.3	-1.7
	0.8nm,0.6s,slow=12,SNR=2.8						
TXAR	**Lajitas Array**	**51.54 287**		P	P	15 33 09.6	-0.8
	0.2nm,0.3s,baz=90,slow=3.6,SNR=2.8						
PDAR	**Pinedale Array**	**54.11 305**		P	P	15 33 26.4	-2.9
	1.9nm,0.9s,baz=90,slow=7.2,SNR=8.7						
YKA	**Yellowknife Ar**	**56.93 329**		P	P	15 33 45.5	-4.1
	0.3nm,0.7s,baz=88,slow=7.3,SNR=5.7						
ARCES	**ARCESS Array B**	**57.74 23**		P	P	15 33 52.7	-2.5
	3.1nm,0.9s,baz=243,slow=6.0,SNR=4.9						
ILAR	**Eielson Array**	**70.65 334**		P	P	15 35 19.0	-0.5
	0.9nm,0.8s,baz=67,slow=5.0,SNR=11						

*IDC **11** 15:25:25.2±1.3, 1.77S×99.83E, mb4.0/10, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, Error ellipse: s-maj=66.0km s-min=15.0km az=57.0*
*NEIC **11** 15:25:30.0±0.6, 1.71S×99.94E, h30km, mb4.2/2, Error ellipse: s-maj=27.6km s-min=7.8km az=57.0*
ISC 11 15:25:28.2±1.4, 1.7S±0.2×99.9E±0.4, h33km, n16, σ0°59/13, mb4.1/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.06 357**		P	**P**	**15 30 01.4**	**-0.2**
	0.7nm,0.6s,baz=182,slow=9.6,SNR=6.7						
FITZ	**Fitzroy Crossi**	**30.07 124**		P	**P**	**15 31 36.4**	**-0.5**
	14nm,1.0s,mb4.6,baz=283,slow=9.3,SNR=4.5						
WRA	**Warramunga Arr**	**38.24 121**		P	**P**	**15 32 47.0**	**-0.1**
	1.4nm,0.3s,mb4.1,baz=306,slow=9.0,SNR=33						
WRAB	**Tennant Creek**	**38.24 121**		*eP*	**P**	**15 32 46.9**	**-0.3**
	3.2nm,0.4s,mb4.4						
ASAR	**Alice Springs**	**39.51 126**		P	**P**	**15 32 58.1**	**+0.4**
	0.8nm,0.4s,mb3.8,baz=300,slow=7.6,SNR=31						
ASAR				PcP	PcP	15 35 06.6	+1.0
	0.5nm,0.5s,baz=312,slow=2.4,SNR=5.6						
STKA	**Stephens Creek**	**49.42 132**		P	**P**	**15 34 17.7**	**+0.5**
	1.2nm,0.6s,mb4.1,baz=310,slow=12,SNR=5.2						
SONM	**Songino Array**	**49.67 6**		P	**P**	**15 34 19.6**	**+0.8**
	0.9nm,0.6s,mb4.0,baz=189,slow=8.8,SNR=9.4						
SONM				PcP	PcP	15 35 39.2	-0.9
	0.3nm,0.5s,baz=198,slow=4.6,SNR=2.8						
MKAR	**Makanchi Array**	**50.72 344**		P	**P**	**15 34 27.4**	**+0.5**
	1.0nm,0.5s,mb4.0,baz=159,slow=8.6,SNR=14						
ZAL	**Zalesovo**	**56.86 349**		P	**P**	**15 35 12.2**	**+0.2**
	1.9nm,0.6s,mb4.3,baz=303,slow=4.7,SNR=8.5						
BVAR	**Borovoye Array**	**59.88 340**		P	**P**	**15 35 32.1**	**-1.0**
	0.7nm,0.5s,mb3.9,baz=147,slow=8.4,SNR=6.7						
CHKZ	**Chkalovo**	**60.34 340**		*eP*	**P**	**15 35 35.3**	**-0.9**
	0.7nm,0.7s,mb3.8						
FINES	**FINESS Array B**	**83.81 332**		P	**P**	**15 37 56.2**	**+0.8**
	1.8nm,0.7s,mb4.3,baz=124,slow=6.9,SNR=3.9						
FINES	**FINESS Array B**	**83.81 332**		P	**P**	**15 37 56.2**	**+0.8**
TXAR	**Lajitas Array**	**144.54 37**		PKP	PKPdf	15 45 04.0	+2.0
	0.8nm,0.5s,baz=283,slow=1.8,SNR=4.7						
CFAA	**Coronel Fontan**	**145.00 198**		PKP	PKPdf	15 45 05.1	+2.3
	0.2nm,0.5s,baz=185,slow=2.6,SNR=4.0						
CFAA	**Coronel Fontan**	**145.00 198**		PKP	PKPdf	15 45 05.1	+2.3

*IDC **11** 15:33:58.2±1.5, 8.30N×104.04W, mb3.8/7, mb1 4.1/7, mb1mx4.0/19, mbtmp3.8/7, MS4.0/2, Ms1 4.0/2, ms1mx3.0/28, Error ellipse: s-maj=59.0km s-min=19.4km az=49.0*
*NEIC **11** 15:33:59.2±0.9, 8.19N×104.16W, h10km, mb4.4/12, Error ellipse: s-maj=30.6km s-min=8.8km az=57.0*
ISC 11 15:33:57.1±1.3, 8.1N±0.2×104.3W±0.2, h10km, n24, σ1°22/22, mb4.2/19, MS3.9/2, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTX	**Lajitas**	**21.10 1**		*eP*	**P**	**15 38 43.8**	**-0.5**
	11nm,1.1s,mb4.1						
TXAR	**Lajitas Array**	**21.10 1**		P	**P**	**15 38 44.1**	**-0.2**
	1.7nm,0.6s,mb3.6,baz=180,slow=11,SNR=6.1						
TXAR				LR	LR	15 45 30.9	
	comp=Z,330nm,20.0s,MS3.7,baz=300,slow=33						
JCT	**Junction City**	**22.62 10**		P	**P**	**15 38 59.5**	**-0.1**
	16nm,1.1s,mb4.3						
MNTX	**Cornudas Mount**	**23.48 358**		*eP*	**P**	**15 39 08.1**	**+0.2**
	16nm,1.3s,mb4.3						
GDL2	**Guadalupe Moun**	**23.95 360**		*eP*	**P**	**15 39 14.7**	**+2.2**
TUC	**Tucson**	**24.82 347**		*eP*	**P**	**15 39 22.6**	**+1.7**
	6.0nm,0.9s,mb4.1						
LAZ	**Ladron**	**26.28 355**		*eP*	**P**	**15 39 35.8**	**+1.2**
OTAV	**Otavalo**	**26.88 106**		*eP*	**P**	**15 39 41.7**	**+1.4**
	14nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**32.72 339**		P	**P**	**15 40 33.8**	**+1.6**
	0.9nm,1.1s,mb3.6,baz=168,slow=8.3,SNR=3.2						
SDV	**Santo Domingo**	**33.25 86**		P	**P**	**15 40 36.2**	**-0.8**
	9.2nm,0.9s,mb4.7,baz=303,slow=9.0,SNR=5.6						
REDW	**Red Top Meadow**	**35.57 352**		*eP*	**P**	**15 40 56.9**	**+0.2**
RRI2	**Red Ridge**	**35.62 351**		*eP*	**P**	**15 40 57.3**	**+0.2**
	8.9nm,1.1s,mb4.6						
LOHW	**Long Hollow**	**35.78 352**		*eP*	**P**	**15 40 57.4**	**-1.0**
	11nm,1.0s,mb4.8						
MOOW	**Moose Ponds**	**35.93 352**		*eP*	**P**	**15 40 58.0**	**-1.7**
	3.8nm,0.9s,mb4.3						
IMW	**Indian Meadow**	**36.10 352**		*eP*	**P**	**15 40 59.4**	**-1.8**
	16nm,0.9s,mb5.0						
HLID	**Hailey**	**36.40 348**		*eP*	**P**	**15 41 04.7**	**+1.0**
	5.6nm,1.2s,mb4.4						
SADO	**Sadowa**	**42.51 27**		LR	LR	16 03 29.8	
	comp=Z,230nm,18.9s,MS4.1,baz=248,slow=42						
LPAZ	**La Paz**	**43.20 124**		P	**P**	**15 42 02.2**	**+1.9**
	2.3nm,0.8s,mb3.9,baz=329,slow=7.8,SNR=8.0						
SAML	**Samuel**	**44.29 112**		*eP*	**P**	**15 42 08.5**	**-0.8**
	3.0nm,0.9s,mb4.0						
LVC	**Limon Verde**	**46.16 132**		*eP*	**P**	**15 42 24.1**	**0.0**
	2.9nm,1.0s,mb4.2						
SIV	**San Ignacio**	**49.01 119**		P	**P**	**15 42 45.2**	**-1.2**
	2.3nm,1.1s,mb4.1,baz=296,slow=13,SNR=4.4						
YKA	**Yellowknife Ar**	**54.79 354**		P	**P**	**15 43 27.1**	**-2.1**
	0.1nm,0.4s,mb3.2,baz=165,slow=7.5,SNR=4.0						
YKA				PcP	PcP	15 44 31.0	-0.6
	0.5nm,1.0s,baz=162,slow=3.3,SNR=5.4						
ILAR	**Eielson Array**	**63.95 341**		P	**P**	**15 44 31.2**	**-1.3**
	1.0nm,0.8s,mb3.9,baz=151,slow=5.1,SNR=8.7						
CMAR	**Chiang Mai Arr**	**145.05 319**		PKPbc	PKPbc	15 53 38.1	+2.1
	1.0nm,0.8s,baz=18,slow=2.7,SNR=9.0						

IDC 11 16:04:05.2±3.8, 1.50S×99.90E, mb3.3/4, mb1 3.5/5, mb1mx3.4/18, mbtmp3.3/5, ML3.4/1, Error ellipse: s-maj=144.7km s-min=22.2km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.85 357**		P	P	16 08 39.5	-1.2
	0.0nm,0.3s,baz=191,slow=9.9,SNR=4.3						
WRA	**Warramunga Arr**	**38.34 121**		P	P	16 11 27.9	-1.8
	0.1nm,0.3s,baz=302,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**39.63 126**		P	P	16 11 39.0	-1.5
	0.3nm,0.7s,baz=300,slow=7.7,SNR=6.8						
SONM	**Songino Array**	**49.46 6**		P	P	16 12 56.7	-2.3
	0.1nm,0.5s,baz=180,slow=4.9,SNR=3.9						
MKAR	**Makanchi Array**	**50.52 344**		P	P	16 13 04.6	-2.6
	0.2nm,0.3s,baz=160,slow=8.4,SNR=4.9						

IDC 11 16:11:53.1±3.1, 0.25S×96.78E, mb3.6/4, mb1 3.8/5, mb1mx3.5/19, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=115.3km s-min=28.7km az=62.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.71 6**		P	P	16 16 13.3	-2.1
	0.1nm,0.3s,baz=196,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**42.88 126**		P	P	16 19 53.6	-1.7
	0.3nm,0.8s,baz=294,slow=7.6,SNR=4.2						
MKAR	**Makanchi Array**	**48.54 347**		P	P	16 20 38.8	-1.2
	0.5nm,0.5s,baz=161,slow=8.9,SNR=8.3						
SONM	**Songino Array**	**48.62 9**		P	P	16 20 38.9	-1.7
	0.4nm,0.6s,baz=198,slow=9.4,SNR=5.6						
ZAL	**Zalesovo**	**54.91 351**		P	P	16 21 24.3	-3.6
	1.2nm,0.4s,baz=328,slow=7.6,SNR=5.0						

IDC 11 16:15:34.4±8.0, 3.50N×127.77E, mb3.7/3, mb1 3.9/3, mb1mx3.4/19, mbtmp3.7/3, Error ellipse: s-maj=132.3km s-min=126.1km az=109.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.18 165**		P	P	16 20 52.5	-1.1
	1.3nm,0.4s,baz=345,slow=10,SNR=27						
ASAR	**Alice Springs**	**27.66 168**		P	P	16 21 24.1	-2.1
	0.1nm,0.4s,baz=349,slow=7.3,SNR=10						
STKA	**Stephens Creek**	**37.56 161**		P	P	16 22 50.8	-1.6
	0.8nm,0.3s,baz=349,slow=8.9,SNR=14						

*IDC **11** 16:32:22.0±1.3, 1.13N×97.07E, mb4.2/9, mb1 4.3/10, mb1mx4.1/22, mbtmp4.2/10, ML4.5/1, Error ellipse: s-maj=61.7km s-min=14.7km az=56.0*
*BJI **11** 16:32:25.9, 1.05N×97.44E, h43km, mB5.2, mb4.6, Ms4.3, Msz4.0*
*NEIC **11** 16:32:27.2±0.6, 1.25N×97.31E, h30km, mb4.5/14, Error ellipse: s-maj=17.8km s-min=9.4km az=57.0*
ISC 11 16:32:25.5±2.4, 1.28N±0.07×97.34E±0.10, h29km±17km, h30km±2.0km:pP-P, n42, σ1°12/45, mb4.5/28, MS4.0/3, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.18 40**		*eP*	**Pn**	**16 33 44.6**	**+1.5**
CM31	**Chiang Mai Arr**	**17.15 5**		*eP*	**P**	**16 36 24.2**	**-0.6**
	2.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**17.15 5**		P	**P**	**16 36 23.6**	**-1.3**
	0.6nm,0.3s,baz=196,slow=11,SNR=19						
KMI	**Kunming**	**24.27 12**		P	**P**	**16 37 44.4**	**+2.8**
KMI				AP		16 37 50.6	
KMI				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.5						
KMI	**Kunming**	**24.27 12**		P	**P**	**16 37 44.4**	**+2.8**
	comp=Z,21nm,1.0s,mb4.5						
KMI				pP		16 37 50.6	
SHL	**Shillong**	**24.72 348**		*eP*	**P**	**16 37 46.2**	**+0.4**
GYA	**Guiyang**	**26.59 19**		⇑P	**P**	**16 38 04.7**	**+1.3**
GYA				AP	pP	16 38 13.8	+1.9
GYA				XP	sP	16 38 17.6	+1.8
GYA				PP	PP	16 38 49.9	+2.3
GYA				S	**S**	**16 42 38.5**	**+4.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
GYA				AMB	AMB		
	comp=Z,60nm,2.8s,mb4.6						
GYA				LR	LR		
	comp=N,340nm,15.8s,MS4.1						
GYA				LR	LR		
	comp=E,280nm,15.5s,MS4.1						
GYA				LR	LR		
	comp=Z,310nm,16.0s,MS4.0						
JIRN	**Jiri**	**28.33 339**		*eP*	**P**	**16 38 20.0**	**+0.9**
	comp=Z,19nm,0.7s,mb4.8						
PKI	**Pulchoki**	**28.54 337**		*eP*	**P**	**16 38 22.3**	**+1.3**
GUN	**Gumba**	**28.67 338**		*eP*	**P**	**16 38 23.0**	**+0.8**
	comp=Z,25nm,0.6s,mb5.1						
DMN	**Daman**	**28.69 337**		*eP*	**P**	**16 38 23.5**	**+1.2**
	comp=Z,9.1nm,0.8s,mb4.5						
KKN	**Kakani**	**28.79 337**		*eP*	**P**	**16 38 23.4**	**+0.2**
	comp=Z,19nm,0.9s,mb4.8						
LSA	**Lhasa**	**28.88 349**		P	**P**	**16 38 21.8**	**-2.2**
GKN	**Gorkha**	**29.23 337**		*eP*	**P**	**16 38 27.3**	**+0.1**
	comp=Z,21nm,0.8s,mb4.9						
KOLN	**Koldanda**	**29.45 335**		*eP*	**P**	**16 38 29.7**	**+0.5**
	comp=Z,16nm,0.7s,mb4.8						
ENH	**Enshi**	**31.06 21**		*eP*	**P**	**16 38 42.2**	**-1.2**
	comp=Z,12nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.85 126**		P	**P**	**16 39 06.3**	**-1.6**
	comp=Z,5.4nm,1.0s,mb4.4,baz=360,slow=6.0,SNR=3.7						
XAN	**Xi'an**	**34.35 17**		P	**P**	**16 39 11.6**	**-0.4**
XAN				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.6						
LZH	**Lanzhou**	**35.16 9**		*eP*	**P**	**16 39 18.6**	**-0.3**
LZH				AP	pP	16 39 26.3	-1.3
LZH				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
LZH	**Lanzhou**	**35.16 9**		*eP*	**P**	**16 39 18.6**	**-0.3**
	comp=Z,11nm,1.0s,mb4.7						
LZH				pP	pP	16 39 26.3	-1.3
LZH				sP	sP	16 39 30.0	-1.4
NJ2	**Nanjing**	**36.73 31**		*eP*	**P**	**16 39 31.8**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GTA	**Gaotai**	**38.02 3**		*eP*	**P**	**16 39 43.4**	**+0.4**
GTA				AP	pP	16 39 50.8	-1.0
GTA				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
HHC	**Hu-ho-hao-te**	**41.45 16**		*eP*	**P**	**16 40 10.6**	**-0.7**
HHC				AP	pP	16 40 21.1	+1.0
HHC				XP	sP	16 40 25.2	+1.4
HHC				PP	PP	16 41 50.8	+0.7
HHC				PCP	PcP	16 42 10.0	+0.5
HHC				SCP		16 45 51.2	
HHC				PCS		16 46 02.0	
HHC				S	**S**	**16 46 24.6**	**+0.2**
HHC				XS		16 46 41.6	
HHC				SS	SS	16 49 23.0	-1.3
HHC				SCS	ScS	16 50 09.6	-1.1
HHC				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.3						
HHC				AMB	AMB		
	comp=Z,226nm,9.2s						
HHC				LR	LR		
	comp=N,148nm,16.5s,MS4.2						
HHC				LR	LR		
	comp=E,183nm,15.7s,MS4.2						
HHC				LR	LR		
	comp=Z,228nm,15.1s,MS4.2						
WRA	**Warramunga Arr**	**41.95 122**		P	**P**	**16 40 16.1**	**+0.3**
	comp=Z,1.8nm,0.5s,mb3.9,baz=301,slow=9.2,SNR=34						
WRAB	**Tennant Creek**	**41.96 122**		*eP*	**P**	**16 40 15.8**	**0.0**
	comp=Z,3.6nm,0.5s,mb4.3						
BJI	**Beijing**	**42.22 22**		P	**P**	**16 40 15.3**	**-2.4**
BJI				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.2						
BJI	**Beijing**	**42.22 22**		P	**P**	**16 40 15.3**	**-2.4**
	comp=Z,3.0nm,0.5s,mb4.2						
WMQ	**Urumqi**	**43.23 350**		P	**P**	**16 40 27.3**	**+1.4**
WMQ				AP	pP	16 40 37.0	+2.3
WMQ				XP	sP	16 40 41.3	+2.9
WMQ				PP	PP	16 42 10.1	+1.6
WMQ				PCP	PcP	16 42 16.9	+1.5
WMQ				S	**S**	**16 46 51.4**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,186nm,4.1s						
WMQ				LR	LR		
	comp=N,47nm,22.0s,MS3.6						
WMQ				LR	LR		
	comp=E,64nm,21.8s,MS3.6						
WMQ				LR	LR		
	comp=Z,115nm,19.4s,MS3.8						
ASAR	**Alice Springs**	**43.33 127**		P	**P**	**16 40 27.4**	**+0.5**
	comp=Z,0.9nm,0.4s,mb3.8,baz=298,slow=7.7,SNR=22						
SONM	**Songino Array**	**47.04 8**		P	**P**	**16 40 56.7**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.3,baz=188,slow=9.1,SNR=32						
SONM				PcP	PcP	16 42 28.6	+0.1
	comp=Z,0.9nm,0.5s,baz=183,slow=4.3,SNR=6.3						
ULN	**Ulaanbaatar**	**47.16 9**		*eP*	**P**	**16 40 57.5**	**+0.2**
	comp=Z,2.7nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**47.20 346**		P	**P**	**16 40 57.8**	**+0.2**
	comp=Z,2.9nm,0.5s,mb4.5,baz=161,slow=9.1,SNR=46						
CN2	**Changchun**	**49.17 27**		*eP*	**P**	**16 41 17.6**	**+4.6**
STKA	**Stephens Creek**	**53.30 132**		P	**P**	**16 41 44.7**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=322,slow=7.8,SNR=6.2						
ZAL	**Zalesovo**	**53.50 351**		P	**P**	**16 41 45.4**	**-0.1**
	comp=Z,3.5nm,0.7s,mb4.4,baz=312,slow=6.3,SNR=22						
ZAL	**Zalesovo**	**53.50 351**		P	**P**	**16 41 45.4**	**-0.1**
BVAR	**Borovoye Array**	**56.23 341**		P	**P**	**16 42 03.8**	**-1.5**
	comp=Z,2.5nm,0.7s,mb4.3,baz=129,slow=9.5,SNR=16						
CHKZ	**Chkalovo**	**56.70 341**		*eP*	**P**	**16 42 07.6**	**-1.1**
	comp=Z,2.3nm,0.5s,mb4.5						
KIV	**Kislovodsk**	**64.34 319**		P	**P**	**16 42 58.0**	**-2.9**
MALT	**Malatya**	**65.19 312**		P	**P**	**16 43 06.3**	**-0.2**
AKASG	**Malin Array Be**	**75.29 322**		P	**P**	**16 44 06.0**	**-1.7**
	comp=Z,0.2nm,0.2s,mb3.6,baz=88,slow=4.7,SNR=3.5						
SYO	**Syowa Base**	**80.12 198**		⇑P	**P**	**16 44 36.0**	**+2.0**

*IDC **11** 16:44:41.9±3.0, 22.43N×143.01E, h163km±24km, mb3.4/4, mb1 3.6/5, mb1mx3.1/23, mbtmp4.0/5, Error ellipse: s-maj=46.0km s-min=21.8km az=94.0*
ISC 11 16:44:41.6±2.9, 22.4N±0.2×142.9E±0.5, h174km±24km, n5, σ0°91/6, mb3.6/4, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.67 353**		P	**P**	**16 45 52.9**	**+0.9**
	15nm,0.3s,baz=110,slow=22,SNR=37						
CBIJ				S	**S**	**16 46 45.6**	**-0.7**
	3.9nm,0.3s,baz=279,slow=19,SNR=2.2						
WRA	**Warramunga Arr**	**42.94 192**		P	**P**	**16 52 24.6**	**-0.5**
	0.4nm,1.0s,mb3.0,baz=15,slow=9.3,SNR=5.0						
BVAR	**Borovoye Array**	**61.91 319**		P	**P**	**16 54 44.9**	**+0.2**
	0.9nm,0.4s,mb4.0,baz=98,slow=7.0,SNR=5.8						
YKA	**Yellowknife Ar**	**75.95 28**		P	**P**	**16 56 10.3**	**-0.1**
	0.6nm,0.4s,mb3.6,baz=292,slow=5.9,SNR=12						
ARCES	**ARCESS Array B**	**78.12 341**		P	**P**	**16 56 22.5**	**+0.2**
	2.4nm,0.8s,mb3.9,baz=76,slow=11,SNR=2.7						

*BJI **11** 16:51:28.9, 2.37S×99.58E, h35km, mB4.9, mb4.7, Ms4.4, Msz4.2*
*IDC **11** 16:51:31.7±0.6, 1.77S×99.69E, h20km±3km, mb4.1/16, mb1 4.2/16, mb1mx4.2/21, mbtmp4.2/16, Error ellipse: s-maj=20.5km s-min=10.6km az=46.0*
*NEIC **11** 16:51:32.0±0.3, 1.83S×99.63E, mb4.7/13, Error ellipse: s-maj=9.4km s-min=5.7km az=51.0*
ISC 11 16:51:30.2±0.4, 1.78S±0.07×99.68E±0.08, h21km, h21km±.5km:pP-P, n45, σ0°80/46, mb4.6/28, MS3.8/2, 6C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.08 8**		*e*Pn	**Pn**	**16 53 15.4**	**0.0**
KKM	**Kota Kinabalu**	**18.25 65**		*eP*	**P**	**16 55 45.5**	**+1.2**
CM31	**Chiang Mai Arr**	**20.12 358**		*eP*	**P**	**16 56 05.9**	**0.0**
	6.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.12 358**		P	**P**	**16 56 05.5**	**-0.4**
	1.3nm,0.5s,baz=187,slow=10,SNR=22						
SHL	**Shillong**	**28.21 345**		*eP*	**P**	**16 57 24.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**30.20 124**		P	**P**	**16 57 40.7**	**-1.1**
	8.7nm,0.8s,mb4.5,baz=355,slow=5.1,SNR=4.3						
JIRN	**Jiri**	**32.02 337**		*eP*	**P**	**16 57 58.2**	**+0.5**
	55nm,0.9s,mb5.4						
PKI	**Pulchoki**	**32.25 336**		*eP*	**P**	**16 57 59.7**	**0.0**
	11nm,0.6s,mb4.8						
LSA	**Lhasa**	**32.34 346**		*eP*	**P**	**16 58 01.2**	**+0.6**
	6.8nm,0.6s,mb4.7						
LSA				*e*pP	pP	16 58 08.0	+1.4
GUN	**Gumba**	**32.36 337**		*eP*	**P**	**16 58 01.2**	**+0.5**
	35nm,0.8s,mb5.3						
DMN	**Daman**	**32.41 335**		*eP*	**P**	**16 58 01.6**	**+0.5**
	15nm,0.9s,mb4.8						
KKN	**Kakani**	**32.50 336**		*eP*	**P**	**16 58 01.9**	**0.0**
	28nm,0.9s,mb5.1						
GKN	**Gorkha**	**32.95 335**		*eP*	**P**	**16 58 05.7**	**-0.1**
	23nm,1.0s,mb5.1						
KOLN	**Koldanda**	**33.20 333**		*eP*	**P**	**16 58 08.3**	**+0.3**
	19nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**38.38 120**		P	**P**	**16 58 51.9**	**-0.2**
	2.7nm,0.5s,mb4.2,baz=303,slow=9.1,SNR=35						
WRA				pP	pP	16 58 57.6	-0.6
	6.6nm,0.7s,baz=303,slow=9.0,SNR=23						
WRA				PcP	PcP	17 01 05.9	-0.1
	0.8nm,0.5s,baz=313,slow=2.4,SNR=7.0						
WRA				pPcP		17 01 12.3	
	1.9nm,0.7s,baz=309,slow=2.5,SNR=22						
WRAB	**Tennant Creek**	**38.38 120**		*eP*	**P**	**16 58 52.1**	**0.0**
	9.0nm,0.6s,mb4.7						
WRAB				*e*pP	pP	16 58 57.7	-0.6
ASAR	**Alice Springs**	**39.64 126**		P	**P**	**16 59 02.8**	**+0.2**
	1.1nm,0.5s,mb3.9,baz=303,slow=7.9,SNR=36						
ASAR				PcP	PcP	17 01 09.8	-0.2
	1.3nm,0.7s,baz=312,slow=2.4,SNR=6.0						
ASAR				pPcP		17 01 16.2	
	3.0nm,0.7s,baz=306,slow=2.7,SNR=12						
ASAR				S	**S**	**17 05 03.8**	**-0.6**
	0.6nm,0.8s,baz=294,slow=16,SNR=4.0						
HHC	**Hu-ho-hao-te**	**43.78 13**		*eP*	**P**	**16 59 35.2**	**-1.2**
HHC				PCP	PcP	17 01 23.6	+0.1
HHC				SCP		17 05 10.6	
HHC				PCS		17 05 15.7	
HHC				S	**S**	**17 06 03.7**	**-1.7**
HHC				SCS	ScS	17 09 30.4	-1.8
HHC				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
HHC				LR	LR		
	comp=N,175nm,12.2s,MS4.2						
HHC				LR	LR		
	comp=E,89nm,14.3s,MS4.2						
HHC				LR	LR		
	comp=Z,189nm,13.8s,MS4.2						
WMQ	**Urumqi**	**46.65 348**		P	**P**	**17 00 00.6**	**+1.4**
WMQ				AP	pP	17 00 06.6	+1.2
WMQ				PCP	PcP	17 01 34.6	+1.3
WMQ			

BURAR	**Bucovina Array**	**80.88 319**	⇓P	**P**	**17 03 45.8**	**+1.3**
FINES	**FINESS Array B**	**83.77 332**	P	**P**	**17 03 59.6**	**+0.5**
	comp=Z,1.2nm,0.5s,mb4.3,baz=98,slow=6.3,SNR=12					
ARCES	**ARCESS Array B**	**86.16 340**	P	**P**	**17 04 11.6**	**+0.7**
	comp=Z,3.2nm,0.8s,mb4.6,baz=37,slow=6.1,SNR=4.4					
GERES	**GERESS Array B**	**88.67 319**	P	**P**	**17 04 23.7**	**+0.2**
	comp=Z,0.7nm,0.6s,mb4.2,baz=124,slow=3.5,SNR=3.4					
TXAR	**Lajitas Array**	**144.72 37**	PKP	PKPdf	17 11 07.7	-2.8
	comp=Z,1.3nm,0.5s,baz=240,slow=1.2,SNR=16					
TXAR			pPKP		17 11 13.9	
	comp=Z,4.3nm,0.6s,baz=245,slow=1.0,SNR=24					
TXAR	**Lajitas Array**	**144.72 37**	PKP	PKPdf	17 11 07.7	-2.8
TXAR			pPKP		17 11 13.9	

IDC 11 17:00:52.9±1.8, 8.99N×92.49E, mb3.7/5, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=63.1km s-min=20.5km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.31**	**33**	Pn	P	17 03 37.7	-1.2
	0.2nm,0.3s,baz=221,slow=14,SNR=9.8						
MKAR	**Makanchi Array**	**38.66**	**349**	P	P	17 08 17.9	-2.1
	0.9nm,0.7s,baz=175,slow=8.6,SNR=9.1						
SONM	**Songino Array**	**40.47**	**14**	P	P	17 08 32.4	-2.5
	0.4nm,0.3s,baz=201,slow=9.0,SNR=10						
BVAR	**Borovoye Array**	**47.42**	**342**	P	P	17 09 29.7	-1.2
	0.2nm,0.3s,baz=153,slow=9.7,SNR=2.8						
WRA	**Warramunga Arr**	**50.24**	**125**	P	P	17 09 51.2	-1.9
	0.8nm,0.4s,baz=308,slow=8.2,SNR=20						
ASAR	**Alice Springs**	**51.88**	**130**	P	P	17 10 03.4	-2.2
	0.6nm,0.6s,baz=308,slow=7.1,SNR=7.7						

*IDC **11** 17:05:19.8±2.2, 1.93N×96.39E, h28km±6km, mb3.6/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.8/7, ML3.6/1, MS3.1/1, Ms1 3.3/1, ms1mx3.3/33, Error ellipse: s-maj=83.8km s-min=17.2km az=58.0*

*NEIC **11** 17:05:19.6±0.8, 1.93N×96.48E, mb4.0/2, Error ellipse: s-maj=17.4km s-min=10.7km az=55.0*

ISC 11 17:05:17.4±1.1, 1.9N±0.1×96.5E±0.1, h28km, h28km±.7km: pP-P, n14, σ0$77/14, mb3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.35**	**51**	*e*Pn	**Pn**	**17 06 38.0**	**+0.4**
CM31	**Chiang Mai Arr**	**16.61**	**8**	*e*P	**P**	**17 09 10.6**	**+0.4**
	3.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.61**	**8**	Pn	**P**	**17 09 10.2**	**0.0**
	0.1nm,0.3s,baz=198,slow=12,SNR=15						
CMAR				LR	LR	17 16 02.2	
	comp=Z,65nm,19.4s,baz=185,slow=39						
CMAR	**Chiang Mai Arr**	**16.61**	**8**	Pn	**P**	**17 09 10.2**	**0.0**
CMAR				LR	LR	17 16 02.2	
KKM	**Kota Kinabalu**	**20.12**	**78**	*e*P	**P**	**17 09 50.7**	**-1.5**
WRA	**Warramunga Arr**	**43.04**	**122**	P	**P**	**17 13 18.4**	**+1.6**
	0.2nm,0.4s,mb3.2,baz=303,slow=9.0,SNR=6.0						
WRA				pP	pP	17 13 27.1	+2.0
	0.4nm,0.5s,baz=302,slow=9.1,SNR=2.6						
ASAR	**Alice Springs**	**44.41**	**127**	P	**P**	**17 13 27.4**	**-0.5**
	0.9nm,1.1s,mb3.4,baz=315,slow=6.1,SNR=4.6						
MKAR	**Makanchi Array**	**46.37**	**347**	P	**P**	**17 13 43.5**	**+0.4**
	1.0nm,0.4s,mb4.1,baz=160,slow=7.7,SNR=27						
MKAR				pP	pP	17 13 51.7	+0.3
	2.4nm,0.7s,baz=161,slow=8.4,SNR=11						
MKAR	**Makanchi Array**	**46.37**	**347**	P	**P**	**17 13 43.5**	**+0.4**
MKAR				pP	pP	17 13 51.7	+0.3
SONM	**Songino Array**	**46.54**	**9**	P	**P**	**17 13 45.1**	**+0.6**
	0.7nm,0.7s,mb3.7,baz=189,slow=8.3,SNR=8.6						
SONM				pP	pP	17 13 53.1	+0.3
	0.7nm,0.8s,baz=188,slow=8.0,SNR=6.0						
ZAL	**Zalesovo**	**52.73**	**351**	P	**P**	**17 14 31.8**	**-0.2**
	2.5nm,0.5s,mb4.4,baz=302,slow=4.8,SNR=13						
ZAL	**Zalesovo**	**52.73**	**351**	P	**P**	**17 14 31.8**	**-0.2**
BVAR	**Borovoye Array**	**55.33**	**341**	P	**P**	**17 14 50.3**	**-0.7**
	0.7nm,0.6s,mb3.9,baz=135,slow=8.4,SNR=5.0						
CHKZ	**Chkalovo**	**55.81**	**342**	*e*P	**P**	**17 14 54.0**	**-0.5**
	6.8nm,1.4s,mb4.5						

*LDG **11** 17:08:46.0±0.1, 21.88S×170.33E, h10km, Mb5.8/4, Ms6.2/7, Error ellipse: s-maj=19.8km s-min=5.1km az=173.0*

*MOS **11** 17:08:49.4±1.0, 21.95S×170.57E, h33km, mb6.2/45, MS6.5/32, Error ellipse: s-maj=7.4km s-min=6.5km az=42.3*

*BJI **11** 17:08:51.7, 21.28S×170.57E, h38km, mB6.5, mb5.6, Ms6.5, Msz6.3*

*HRVD **11** 17:08:53.9±0.1, 22.01S×170.50E, h78km, MW6.7/82, Centroid moment Tensor Solution. LP body waves: s82, c226; Mantle waves: s81, c389; Half duration: 5s6 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.69±.01; $M_{\theta\theta}$-0.24±.01; $M_{\phi\phi}$0.92±.01; $M_{r\theta}$0.89±.01; $M_{\theta\phi}$0.73±.01; $M_{\phi r}$0.45±.01; Best double couple: $M_0$1.485×10^{19} NP1: ϕ_s351°, δ37°, λ-150°. NP2: ϕ_s236°, δ73°, λ-56°. Principal axes: T 1.582, Plg21°, Azm302°; N -.193, Plg32°, Azm45°; P -1.388, Plg51°, Azm185°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **11** 17:08:53.9±0.1, 21.98S×170.61E, h68km, mb6.0/75, ME6.4, MW6.7 Error ellipse: s-maj=4.9km s-min=3.5km az=166.0 Broadband fault plane solution: P waves. NP1: ϕ_s240°, δ75°, λ-90°. NP2: ϕ_s60°, δ15°, λ-90°. Principal axes: T Plg30°, Azm330°; N Plg0°, Azm0°; P Plg60°, Azm150°; Moment Tensor Solution. s50 Moment tensor: Scale 10^{19} Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.5×10^{19} NP1: ϕ_s344°, δ46°, λ-164°. NP2: ϕ_s243°, δ79°, λ-45°. Principal axes: T 1.7, Plg20°, Azm301°; N -.32, Plg44°, Azm52°; P -1.38, Plg39°, Azm193°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt on New Caledonia and in the Loyalty Islands.

*BGS **11** 17:08:54.4, 21.98S×170.61E, h68km*

*IDC **11** 17:08:55.9±0.8, 21.95S×170.56E, h83km±5km, mb5.3/25, mb1 5.5/29, mb1mx5.5/30, mbtmp5.7/29, MS6.2/25, Ms1 6.2/25, ms1mx6.1/27, Error ellipse: s-maj=10.8km s-min=6.9km az=176.0*

*CRAAG **11** 17:08:56.0, 21.99S×170.48E, Mw6.7*

ISC 11 17:08:53.7±0.6, 21.93S±0.02×170.55E±0.02, h73km±5km, h64km±1.9km: pP-P, n1047, σ1$00/432, mb5.8/126, 111C-87D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.81**	**267**	⇑*i*P	**P**	**17 09 52.9**	**+1.5**
DZM	**Mont Dzumac**	**3.81**	**267**	P	**P**	**17 09 52.8**	**+1.4**
	3μm,0.3s,baz=88,slow=16,SNR=6026						
DZM				S	**S**	**17 10 34.9**	**-0.4**
	6μm,0.3s,baz=113,slow=23,SNR=25						
DZM	**Mont Dzumac**	**3.81**	**267**	⇑*i*P	**P**	**17 09 52.9**	**+1.5**
NOUC	**Port Laguerre**	**3.95**	**267**	*e*P	**P**	**17 09 54.4**	**+1.1**
NOUC				*e*S	**S**	**17 10 37.3**	**-1.3**
NOUC	**Port Laguerre**	**3.95**	**267**	*e*P	**P**	**17 09 54.4**	**+1.1**
NOUC				*e*S	**S**	**17 10 37.3**	**-1.3**
RAO	**Raoul Island**	**12.70**	**127**	*e*P	**P**	**17 11 50.6**	**-2.2**
RAO				pmax	pmax		
	comp=Z,3μm,1.1s						
RAO	**Raoul Island**	**12.70**	**127**	P	**P**	**17 11 51.4**	**-1.4**
	comp=Z,68nm,0.3s,baz=282,slow=20,SNR=2.4						
RAO				LR	LR	17 15 49.1	
	comp=Z,177μm,20.8s,baz=321,slow=33						
RAO	**Raoul Island**	**12.70**	**127**	*e*P	**P**	**17 11 50.6**	**-2.2**
	comp=Z,3μm,1.1s						
OUZ	**Omahuta**	**13.51**	**169**	PN	**P**	**17 12 03.4**	**0.0**
OUZ				*e*SN	**S**	**17 14 25.9**	**-6.2**
OUZ				PcP		17 20 54.8	
WCZ	**Waipu Caves**	**14.34**	**167**	PN	**P**	**17 12 14.8**	**+0.5**
WCZ				*e*SN	**S**	**17 14 45.5**	**-6.5**
WCZ				PcP		17 20 56.0	
MTAZ	**Motutapu**	**15.28**	**167**	PN	**P**	**17 12 27.6**	**+1.2**
KUZ	**Kuaotunu**	**15.43**	**164**	PN	**P**	**17 12 29.0**	**+0.7**
OTAZ	**Otara**	**15.44**	**167**	*e*PN	**P**	**17 12 29.8**	**+1.4**
HNR	**Honiara**	**16.07**	**319**	*e*P	**P**	**17 12 37.1**	**+0.5**
HNR				pmax	pmax		
	comp=Z,10μm,1.9s						
HNR	**Honiara**	**16.07**	**319**	*e*P	**P**	**17 12 37.0**	**+0.5**
	comp=Z,50μm,1.9s						
TOZ	**Tahuroa Road**	**16.31**	**166**	PN	**P**	**17 12 39.2**	**-0.2**
HIZ	**Hauiti**	**16.93**	**168**	PN	**P**	**17 12 48.3**	**+1.1**
URZ	**Urewera**	**17.22**	**162**	P	**P**	**17 12 51.0**	**+0.2**
	comp=Z,39nm,0.3s,baz=359,slow=5.8,SNR=136						
URZ				S	**S**	**17 16 07.8**	**+10**
	comp=Z,2.1nm,0.3s,baz=31,slow=18,SNR=2.1						
URZ				LR	LR	17 18 24.6	
	comp=Z,108μm,18.6s,baz=347,slow=33						
URZ				ScP		17 20 58.7	
	comp=Z,0.6nm,0.3s,baz=44,slow=4.1,SNR=5.7						
URZ	**Urewera**	**17.22**	**162**	PN	**P**	**17 12 51.9**	**+1.1**
URZ				PcP		17 20 58.5	
PUZ	**Puketiti**	**17.40**	**159**	PN	**P**	**17 12 53.8**	**+0.8**
MWZ	**Matawai**	**17.41**	**161**	PN	**P**	**17 12 54.2**	**+1.0**
PKE	**Pukeiti**	**17.46**	**171**	*e*PN	**P**	**17 12 54.0**	**+0.3**
RATZ	**Rangitukua**	**17.46**	**166**	PN	**P**	**17 12 54.9**	**+1.1**
VRZ	**Vera Road**	**17.51**	**169**	PN	**P**	**17 12 55.5**	**+1.1**
MGZ	**Maungaku**	**17.54**	**167**	PN	**P**	**17 12 56.0**	**+1.2**
NGZ	**Ngauruhoe**	**17.72**	**167**	PN	**P**	**17 12 58.3**	**+1.3**
CNZ	**Chateau**	**17.73**	**167**	PN	**P**	**17 12 58.5**	**+1.3**
BKZ	**Black Stump Fm**	**17.91**	**165**	⇓PN	**P**	**17 12 59.8**	**+0.4**
KNZ	**Kokohu**	**18.09**	**162**	PN	**P**	**17 13 01.1**	**-0.4**
WAZ	**Wanganui**	**18.16**	**169**	PN	**P**	**17 13 04.8**	**+2.4**
AFI	**Afiamalu**	**18.60**	**68**	P	**P**	**17 13 05.2**	**-2.4**
	comp=Z,13nm,0.3s,baz=64,slow=1.0,SNR=45						
AFI				S	**S**	**17 16 27.3**	**-1.9**
	baz=180,slow=20,SNR=1.5						
AFI				ScP		17 21 02.6	
	comp=Z,0.9nm,0.3s,baz=157,slow=2.2,SNR=8.6						
AFI	**Afiamalu**	**18.60**	**68**	P	**P**	**17 13 05.2**	**-2.4**
AFI				S	**S**	**17 16 27.3**	**-1.9**
AFI				ScP		17 21 02.6	
TSZ	**Takapari Road**	**18.65**	**167**	PN	**P**	**17 13 07.7**	**-0.3**
PWZ	**Pawanui**	**18.82**	**165**	PN	**P**	**17 13 08.0**	**-2.0**
QRZ	**Quartz Range**	**18.91**	**175**	PN	**P**	**17 13 11.1**	**+0.1**
QRZ				*e*SN	**S**	**17 16 33.4**	**-2.3**
DUWZ	**D'Urville Isla**	**19.03**	**172**	PN	**P**	**17 13 12.3**	**-0.1**
MRZ	**Mangatainoka R**	**19.15**	**168**	⇓PN	**P**	**17 13 12.1**	**-1.6**
MRZ				*e*SN	**S**	**17 16 54.8**	**+14**
MRZ				PcP		17 21 03.3	
MRZ				ScS	ScS	17 24 42.5	-0.5
BFZ	**Birch Farm**	**19.30**	**167**	PN	**P**	**17 13 13.1**	**-2.2**
BFZ				PcP		17 21 04.5	
BFZ				ScS	ScS	17 24 45.7	+2.3
NNZ	**Nelson**	**19.38**	**174**	PN	**P**	**17 13 15.8**	**-0.3**
NNZ				*e*SN	**S**	**17 16 48.7**	**+3.0**
CAW	**Cannon Point**	**19.50**	**170**	PN	**P**	**17 13 15.8**	**-1.6**
MRW	**Makara Radio**	**19.55**	**171**	PN	**P**	**17 13 16.6**	**-1.5**
MTW	**Mount Morrison**	**19.62**	**169**	PN	**P**	**17 13 16.5**	**-2.3**
SNZO	**South Karori**	**19.63**	**171**	*e*P	**P**	**17 13 15.7**	**-3.2**
	comp=Z,3μm,1.4s						
SNZO	**South Karori**	**19.63**	**171**	PN	**P**	**17 13 17.2**	**-1.7**
DSZ	**Denniston Nort**	**19.78**	**177**	PN	**P**	**17 13 20.5**	**0.0**
DSZ				*e*SN	**S**	**17 16 57.3**	**+3.1**
THZ	**Tophouse**	**19.87**	**175**	PN	**P**	**17 13 20.9**	**-0.5**
KHZ	**Kahutara**	**20.58**	**174**	⇓PN	**P**	**17 13 27.2**	**-1.6**
RIV	**Riverview**	**20.80**	**231**	*e*P	**P**	**17 13 33.6**	**+2.6**
RIV				*e*S	**S**	**17 17 25.9**	**+12**
LTZ	**Lake Taylor**	**20.84**	**176**	PN	**P**	**17 13 30.8**	**-0.6**
FOZ	**Fox Glacier**	**21.58**	**182**	PN	**P**	**17 13 38.7**	**-0.1**
CRLZ	**Canterbury Las**	**21.65**	**176**	PN	**P**	**17 13 38.9**	**-0.6**
RPZ	**Rata Peaks**	**21.73**	**179**	PN	**P**	**17 13 40.0**	**-0.2**
MQZ	**McQueen's Vall**	**21.78**	**176**	PN	**P**	**17 13 39.6**	**-1.2**
JCZ	**Jackson Bay**	**22.13**	**183**	PN	**P**	**17 13 44.8**	**+0.6**
LBZ	**Lake Benmore**	**22.40**	**181**	PN	**P**	**17 13 46.5**	**-0.3**
CTA	**Charters Tower**	**22.75**	**270**	*e*P	**P**	**17 13 52.5**	**+2.0**
	comp=Z,896nm,1.9s,mb5.8						
CTA				*e*S	**S**	**17 17 54.3**	**+4.7**
CTA				*e*SCP		17 21 13.5	
CTA				*e*SCS	ScS	17 24 59.3	+3.5
CTA	**Charters Tower**	**22.75**	**270**	*e*P	**P**	**17 13 52.5**	**+2.0**
CTA				*e*S	**S**	**17 17 54.3**	**+4.7**
CTA				*e*		17 24 59.3	
CTA				pmax	pmax		
	comp=Z,896nm,1.9s						
CTA	**Charters Tower**	**22.75**	**270**	P	**P**	**17 13 52.3**	**+1.8**
	comp=Z,197nm,0.7s,mb5.5,baz=98,slow=12,SNR=117						
CTA				S	**S**	**17 17 56.2**	**+6.6**
	comp=Z,20nm,0.8s,baz=235,slow=18,SNR=6.4						
CTA				ScP		17 21 13.1	
	comp=Z,39nm,1.0s,baz=91,slow=3.5,SNR=4.2						
CTAO	**Charters Tower**	**22.75**	**270**	P	**P**	**17 13 52.5**	**+1.9**
CTAO				S	**S**	**17 17 57.8**	**+8.2**
CTAO	**Charters Tower**	**22.75**	**270**	⇑*e*P	**P**	**17 13 51.9**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,4μm,2.0s,mb6.5						
CTAO	**Charters Tower**	**22.75**	**270**	⇑*e*P	**P**	**17 13 51.9**	**+1.4**
	comp=Z,4μm,2.0s,mb6.5						
MSZ	**Milford Sound**	**22.78**	**185**	PN	**P**	**17 13 52.2**	**+1.6**
CNB	**Canberra Mague**	**22.82**	**230**	⇓*i*P	**P**	**17 13 53.4**	**+2.3**
	comp=Z,75μm,1.3s						
CNB				*e*S	**S**	**17 18 02.0**	**+11**
ODZ	**Otahua Downs**	**23.05**	**180**	PN	**P**	**17 13 53.2**	**0.0**
EAZ	**Earnscleugh**	**23.26**	**182**	PN	**P**	**17 13 55.8**	**+0.6**
MLZ	**Mavora Lakes**	**23.44**	**184**	PN	**P**	**17 13 58.4**	**+1.5**
MLZ				PcP	PcP	17 17 41.3	-1.7
TUZ	**Tuapeka**	**23.97**	**182**	PN	**P**	**17 14 02.0**	**-0.1**
TUZ				PcP	PcP	17 17 43.8	-0.3
WHZ	**Wether Hill Ro**	**24.00**	**184**	PN	**P**	**17 14 02.3**	**0.0**
PMG	**Port Moresby**	**25.69**	**295**	P	**P**	**17 14 19.4**	**+0.6**
	comp=Z,800nm,0.9s,mb6.2,baz=117,slow=5.1,SNR=67						
PMG				ScP		17 21 21.1	
	comp=Z,128nm,1.1s,baz=58,slow=2.2,SNR=8.1						
PMG				LR	LR	17 22 40.2	
	comp=Z,82μm,21.2s,baz=143,slow=32						
STKA	**Stephens Creek**	**27.58**	**243**	⇓*i*P	**P**	**17 14 36.5**	**+0.4**
	comp=Z,292nm,1.6s,mb5.6						
STKA				*e*pP	PP	17 15 19.1	-7.4
STKA				*e*PCP	PcP	17 17 53.5	+1.2
STKA				*e*S	**S**	**17 19 11.6**	**+1.2**
STKA				*e*SCP		17 21 28.5	
STKA				*e*SCS	ScS	17 25 17.6	+2.1
STKA	**Stephens Creek**	**27.58**	**243**	P	**P**	**17 14 36.5**	**+0.5**
	comp=Z,89nm,0.5s,mb5.5,baz=80,slow=9.5,SNR=176						
STKA				PcP	PcP	17 17 53.1	+0.8
	comp=Z,44nm,0.7s,baz=44,slow=3.4,SNR=3.5						
STKA				ScP		17 21 26.9	
	comp=Z,276nm,1.1s,baz=54,slow=3.0,SNR=31						
STKA				LR	LR	17 25 00.8	
	comp=Z,65μm,19.7s,baz=69,slow=35						
STKA				PKiKP		17 25 26.9	
	comp=Z,4.5nm,1.1s,baz=54,slow=22,SNR=6.7						
RAR	**Rarotonga**	**27.59**	**94**	P	**P**	**17 14 35.8**	**-0.4**
	comp=Z,32nm,0.8s,mb4.9,baz=174,slow=5.3,SNR=4.5						
RAR				LR	LR	17 23 36.9	
	comp=Z,25μm,21.9s,baz=261,slow=32						
TAU	**Tasmania Unive**	**28.50**	**217**	⇓*e*P	**P**	**17 14 43.2**	**-1.0**
TAU				pmax	pmax		
	comp=Z,755nm,1.3s,mb6.2						
TAU	**Tasmania Unive**	**28.50**	**217**	⇓*e*P	**P**	**17 14 43.1**	**-1.0**
	comp=Z,755nm,1.3s,mb6.2						
ADE	**Adelaide**	**30.72**	**238**	P	**P**	**17 15 04.6**	**+0.6**
MCQ	**Macquarie Isla**	**33.67**	**192**	*e*P	**P**	**17 15 29.4**	**-0.1**
ASAR	**Alice Springs**	**33.77**	**260**	P	**P**	**17 15 30.0**	**-0.6**
	comp=Z,228nm,0.9s,mb6.0,baz=80,slow=8.0,SNR=442						
ASAR				ScP		17 21 47.9	
	comp=Z,170nm,1.0s,baz=105,slow=3.6,SNR=51						
ASAR				PKiKP		17 25 32.1	
	comp=Z,1.6nm,0.5s,baz=107,slow=1.3,SNR=11						
ASAR				LR	LR	17 28 38.0	
	comp=Z,41μm,18.9s,baz=97,slow=35						
ASPA	**Alice Springs**	**33.77**	**260**	⇑*i*P	**P**	**17 15 30.0**	**-0.6**
ASPA				*e*S	**S**	**17 20 45.2**	**-2.7**
ASPA				*e*SCP		17 21 48.0	
ASPA				*e*SCS	ScS	17 25 46.4	+0.7
ASPA	**Alice Springs**	**33.77**	**260**	⇑*i*P	**P**	**17 15 30.0**	**-0.6**
ASPA				*e*S	**S**	**17 20 45.2**	**-2.7**
ASPA				*e*		17 25 46.4	
WRAB	**Tennant Creek**	**33.82**	**267**	⇑*e*P	**P**	**17 15 29.9**	**-1.2**
WRAB				*e*		17 16 43.7	
WRAB				pmax	pmax		
	comp=Z,2μm,1.7s,mb6.8						
WRAB	**Tennant Creek**	**33.82**	**267**	⇑*e*P	**P**	**17 15 29.9**	**-1.2**
	comp=Z,2μm,1.7s,mb6.8						
WRAB				*e*PP	PP	17 16 43.7	-2.6
WRAB				*e*ScP		17 21 47.4	
WRA	**Warramunga Arr**	**33.83**	**267**	P	**P**	**17 15 30.1**	**-1.1**
	comp=Z,132nm,0.8s,mb5.8,baz=97,slow=8.5,SNR=208						
WRA				PcP	PcP	17 18 09.4	+0.6
	comp=Z,23nm,0.8s,baz=106,slow=2.8,SNR=3.7						
WRA				S	**S**	**17 20 46.7**	**-2.2**
	comp=Z,5.5nm,0.9s,baz=98,slow=19,SNR=5.0						
WRA				ScP		17 21 48.2	
	comp=Z,198nm,1.1s,baz=90,slow=3.9,SNR=32						
WRA				PKiKP		17 25 31.5	
	comp=Z,2.2nm,0.5s,baz=55,slow=0.2,SNR=17						
JAY	**Jayapura**	**34.84**	**300**	*e*P	**P**	**17 15 39.9**	**+0.1**
YOMI	**Yo Mokiole**	**34.88**	**299**	⇑*i*P	**P**	**17 15 38.7**	**-1.5**
	comp=Z,985nm,1.8s,mb6.3						
MENI	**Mendum Tagoi**	**35.08**	**299**	⇓*i*P	**P**	**17 15 40.7**	**-1.2**
MENI				pmax	pmax		
	comp=Z,527nm,1.0s,mb6.3						
MENI	**Mendum Tagoi**	**35.08**	**299**	⇓*i*P	**P**	**17 15 40.7**	**-1.2**
	comp=Z,527nm,1.0s,mb6.3						
TBI	**Tubuai**	**36.85**	**100**	*e*S	**S**	**17 21 39.5**	**+4.2**
TBI				*e*LR	LR	17 25 49.4	
	comp=Z,194μm,34.2s						
KAKA	**Kakadu**	**37.43**	**278**	⇑*i*P	**P**	**17 16 01.5**	**-0.2**
	comp=Z,235nm,0.4s,mb6.5						
KAKA				*e*PP	PP	17 17 33.5	+2.8
KAKA				*e*S	**S**	**17 21 45.9**	**+1.7**
PAE	**Paea**	**37.68**	**91**	*e*P	**P**	**17 16 02.5**	**-1.2**
	comp=Z,256nm,1.4s,mb5.9						
PPT	**Papeete**	**37.70**	**91**	*e*P	**P**	**17 16 02.9**	**-1.0**
	comp=Z,74nm,1.2s,mb5.4						
PPT	**Papeete**	**37.70**	**91**	*e*LR	LR	17 26 16.1	
	comp=Z,284μm,31.8s						
PPT	**Papeete**	**37.70**	**91**	LR	LR	17 27 41.6	
	comp=Z,31μm,21.4s,baz=272,slow=30						
TIAR	**Tiarei**	**37.92**	**91**	*e*P	**P**	**17 16 04.4**	**-1.3**
	comp=Z,177nm,0.9s,mb5.9						
TVO	**Taravao**	**37.96**	**91**	*e*P	**P**	**17 16 04.7**	**-1.3**
	comp=Z,252nm,1.3s,mb5.9						
FORT	**Forrest**	**38.89**	**248**	⇑*i*P	**P**	**17 16 14.2**	**+0.5**
	comp=Z,9μm,0.7s						
FORT				*e*S	**S**	**17 22 06.1**	**-0.1**
FORT				*e*SCP		17 22 07.5	
FORT				*e*SCS	ScS	17 26 15.9	+1.9
PMOR	**Pomariorio Ree**	**39.92**	**87**	*e*P	**P**	**17 16 21.3**	**-1.0**
	comp=Z,221nm,1.2s,mb5.9						
VAH	**Vaihoa**	**40.10**	**88**	*e*P	**P**	**17 16 22.0**	**-1.8**
	comp=Z,270nm,1.0s,mb6.0						
FITZ	**Fitzroy Crossi**	**42.26**	**267**	⇑*i*P	**P**	**17 16 42.2**	**+0.5**
	comp=Z,817nm,0.7s,mb6.6						
FITZ				*i* sP	sP	17 17 20.3	+12
FITZ				*e*PP	PP	17 18 26.5	+3.0
FITZ				*e*SCP		17 22 19.1	
FITZ				*e*S	**S**	**17 22 54.8**	**-1.7**
FITZ				*e*SCS	ScS	17 26 37.7	+3.6
FITZ	**Fitzroy Crossi**	**42.26**	**267**	P	**P**	**17 16 41.6**	**-0.1**
	comp=Z,1μm,0.8s,mb6.6,baz=126,slow=5.6,SNR=195						
FITZ				ScP		17 22 19.3	
	comp=Z,266nm,1.2s,baz=40,slow=4.8,SNR=7.7						
FITZ				S	**S**	**17 22 54.6**	**-1.9**
	comp=Z,28nm,1.1s,baz=190,slow=18,SNR=3.8						
FITZ				LR	LR	17 32 49.8	
	comp=Z,46μm,21.6s,baz=98,slow=34						
GUMO	**Guam**	**43.37**	**322**	⇑*e*P	**P**	**17 16 50.8**	**0.0**
GUMO				*e*		17 18 32.1	
GUMO				pmax	pmax		
	comp=Z,7μm,2.5s						
GUMO	**Guam**	**43.37**	**322**	⇑*e*P	**P**	**17 16 50.8**	**0.0**
	comp=Z,7μm,2.5s						
GUMO				*e*PP	PP	17 18 32.1	-2.5
SARN	**Sarigan**	**45.43**	**326**	*e*P	**P**	**17 17 05.8**	**-1.5**
MBWA	**Marble Bar**	**47.10**	**261**	⇑*i*P	**P**	**17 17 20.3**	**0.0**
	comp=Z,416nm,0.9s,mb6.2						
KLBR	**Kellerberrin**	**47.73**	**247**	⇓*i*P	**P**	**17 17 24.4**	**-0.8**
	comp=Z,40μm,1.4s						
KLBR				*e*S	**S**	**17 24 12.4**	**-2.3**
KLBR				*e*SCS	ScS	17 27 10.7	+2.1
NWAO	**Narrogin (SRO)**	**48.13**	**245**	*e*P	**P**	**17 17 27.7**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,591nm,1.0s						
NWAO	**Narrogin (SRO)**	**48.13**	**245**	P	**P**	**17 17 27.9**	**-0.4**
	comp=Z,348nm,0.6s,mb6.3,baz=92,slow=8.0,SNR=181						
NWAO				S	**S**	**17 24 19.8**	**-0.7**
	comp=Z,7.5nm,0.9s,baz=180,slow=20,SNR=4.1						
NWAO	**Narrogin (SRO)**	**48.13**	**245**	*e*P	**P**	**17 17 27.7**	**-0.6**
	comp=Z,591nm,1.0s,mb6.4						
DRV	**Dumont d'Urvil**	**48.76**	**196**	P	**P**	**17 17 33.0**	**+0.3**
DRV				S	**S**	**17 24 31.0**	**+2.2**
DRV				R		17 32 00.0	
MUN	**Mundaring**	**49.03**	**246**	⇓*i*P	**P**	**17 17 34.8**	**-0.4**
	comp=Z,2μm,1.2s,mb6.9						
MUN				*e*S	**S**	**17 24 33.6**	**+0.6**
MUN				*e*SCS	ScS	17 27 19.7	+2.5
MUN	**Mundaring**	**49.03**	**246**	⇓*i*P	**P**	**17 17 34.8**	**-0.4**
MUN				*e*S	**S**	**17 24 33.6**	**+0.6**
MUN				*e*		17 27 19.7	
MUN				pmax	pmax		

BALP Baler 60.87 304 *e*P **P 17 18 59.9 -1.3**
PALP Palanan 61.02 305 *e*P **P 17 19 01.5 -0.7**
PCPH Palayan 61.14 303⇓*e*P **P 17 19 03.5 +0.4**
CAUP Cauayan 61.40 305 *e*P **P 17 19 05.3 +0.5**
BCPH Baguio City Da 62.02 304⇑*i*P **P 17 19 08.5 -0.4**
JHJ Hachijo jima 2 62.12 331 P **P 17 19 08.3 -1.1**
comp=Z,123nm,0.5s,mb6.2,baz=256,slow=17,SNR=2.3
SCZP Santa Cruz 62.19 303 *e*P **P 17 19 08.9 -1.2**
APYP Conner 62.40 305 *e*P **P 17 19 10.1 -1.4**
BOLP Bolinao 62.54 303 *e*P **P 17 19 10.4 -2.0**
ABRA Dolores 62.67 305 *e*P **P 17 19 12.7 -0.6**
KSM Kuching 63.18 283⇑*i*P **P 17 19 16.3 -0.5**
BBP Basco 63.45 308 *e*P **P 17 19 17.0 -1.4**
PULI Pulasari 64.09 274⇑*i*P **P 17 19 20.3 -2.4**
PASI Pasiripis 64.32 273 *e*P **P 17 19 22.8 -1.5**
PENI Pendagan 65.12 274⇑*i*P **P 17 19 26.1 -3.3**
PENI pmax pmax
comp=Z,202nm,0.8s,mb6.0
PENI Pendagan 65.12 274⇑*i*P **P 17 19 26.1 -3.3**
comp=Z,202nm,0.8s,mb6.0
MIR Mirnyy 65.13 206*d i*P **P 17 19 26.0 -2.6**
MIR *i* 17 21 50.0
MIR *e*S S 17 27 58.0 -5.9
MIR *e*PS PS 17 28 34.0 -1.1
MIR *e*PS PS 17 28 40.0 +4.9
MIR *e* 17 29 12.0
MIR pmax pmax
comp=Z,6μm,2.6s
MIR pmax pmax
comp=N,1μm,5.2s
MIR pmax pmax
comp=E,6μm,6.8s
MIR pmax pmax
comp=Z,12μm,8.8s
MIR smax
comp=N,10μm,12.0s
MJAR Matsushiro Arr 65.69 332 P **P 17 19 31.7 -1.1**
comp=N,35nm,0.6s,mb5.4,baz=163,slow=7.1,SNR=70
MJAR S S 17 28 09.6 -1.8
comp=N,1.0nm,0.6s,baz=186,slow=11,SNR=4.1
MJAR PKPPKP 17 48 06.4
comp=N,2.1nm,0.9s,baz=306,slow=5.0,SNR=4.8
MJAR LR LR 17 48 27.5
comp=N,9μm,18.4s,baz=145,slow=36
MAJO Matsushiro 65.70 332⇑*i*P **P 17 19 32.7 -0.1**
MAJO pmax pmax
comp=Z,327nm,1.3s,mb6.0
MAJO Matsushiro 65.70 332⇑*i*P **P 17 19 32.7 -0.1**
comp=Z,327nm,1.3s,mb6.0
MAT Matsushiro 65.70 332 *e*P **P 17 19 30.0 -2.8**
MAT *e*S S 17 28 11.0 -0.4
MAT pmax pmax
comp=Z,264nm,1.5s,mb5.8
MAT MLR MLR
comp=Z,9μm,20.0s
MAT Matsushiro 65.70 332 *e*P **P 17 19 30.0 -2.8**
comp=Z,264nm,1.5s,mb5.8
MAT *e*S S 17 28 11.0 -0.4
MAT LR LR
comp=Z,9μm,20.0s
MAT Matsushiro 65.70 332 P **P 17 19 30.3 -2.5**
MAT S S 17 28 11.0 -0.4
NACB Ninganchiao 66.07 311⇑*i*P **P 17 19 34.1 -1.2**
YHNB Yeheng 66.54 311⇑*e*P **P 17 19 37.4 -0.9**
TATO Taipei 66.66 312⇑*i*P **P 17 19 38.2 -0.9**
comp=Z,2μm,1.8s,mb6.7
QSPA South Pole Qui 68.13 180 *e*P **P 17 19 46.5 -0.9**
comp=Z,5μm,1.8s
QZH Quanzhou 68.67 310⇑*i*P **P 17 19 51.6 0.0**
QZH PP PP 17 22 22.5 -3.8
QZH S S 17 28 46.0 -1.4
QZH AMB AMB
comp=Z,2μm,2.2s,mb6.5
QZH AMB AMB
comp=Z,14μm,9.2s
QZH LR LR
comp=N,29μm,23.6s
QZH LR LR
comp=E,9μm,21.4s
QZH LR LR
comp=Z,71μm,31.6s
YUK Yuzh-Kuril'sk 69.44 341⇑*i*P **P 17 19 57.0 +1.0**
YUK *e* pP 17 20 16.7 +1.1
YUK *i* 17 22 29.0
YUK *e*PPP PPP 17 24 10.0 -1.3
YUK S S 17 29 00.5 +4.4
YUK *e*PS PS 17 29 36.0 +3.4
YUK *e* 17 29 55.0
YUK *e*SS SS 17 33 25.0 -1.3
YUK *e*SSS SSS 17 36 28.5 -1.7
YUK pmax pmax
comp=Z,8μm,6.0s
YUK pmax pmax
comp=N,5μm,4.0s
YUK pmax pmax
comp=E,2μm,3.0s
YUK smax
comp=E,5μm,14.0s
YUK smax
comp=N,11μm,13.0s
KGM Kluang 69.75 281 P **P 17 19 58.9 +0.5**
HKC Hong Kong 70.37 305⇑*i*P **P 17 20 04.0 +2.0**
HKC *i* S S 17 29 12.0 +4.7
ASAJ Asahikawa 70.54 339 PKPPKP 17 47 59.0
comp=N,27nm,1.1s,baz=272,slow=5.9,SNR=10.0
ASAJ LR LR 17 49 08.4
comp=N,15μm,20.9s,baz=158,slow=34
SSE Sheshan 70.86 316 P **P 17 20 05.3 +0.5**
SSE S S 17 29 18.4 +5.5
SSE SCS ScS 17 30 03.2 +4.9
SSE AMB AMB
comp=Z,113nm,1.5s,mb5.5
SSE AMB AMB
comp=Z,4μm,8.9s
SSE LR LR
comp=N,5μm,27.8s
SSE LR LR
comp=E,12μm,28.0s
SSE LR LR
comp=Z,14μm,28.6s
SSE Sheshan 70.86 316 P **P 17 20 05.3 +0.5**
comp=Z,113nm,1.5s,mb5.5
SSE S S 17 29 18.4 +5.5
SSE sS 17 29 50.8
SSE ScS ScS 17 30 03.2 +4.9
SSE LR LR
comp=Z,14μm,28.6s
GZH Guangzhou 71.44 305 P **P 17 20 09.8 +1.4**
GZH S S 17 29 19.3 -0.4
GZH LR LR
comp=N,7μm,27.4s
GZH LR LR
comp=E,8μm,23.3s
GZH LR LR
comp=Z,18μm,27.4s
RPN Rapa Nui 71.91 113 P **P 17 20 10.7 -0.4**
comp=Z,22nm,0.3s,mb5.5,baz=319,slow=7.5,SNR=5.5
RPN LR LR 17 44 22.4
comp=Z,15μm,20.7s,baz=68,slow=30
QIZ Qiongzhong 71.98 300 P **P 17 20 12.6 +0.9**
QIZ S S 17 29 28.3 +2.4
QIZ SS SS 17 34 07.1 +1.4
QIZ AMB AMB
comp=Z,120nm,1.8s,mb5.4
QIZ AMB AMB
comp=Z,6μm,11.6s
QIZ LR LR
comp=N,5μm,26.3s
QIZ LR LR
comp=E,7μm,36.1s
QIZ LR LR
comp=Z,31μm,42.4s
QIZ Qiongzhong 71.98 300⇑*e*P **P 17 20 12.5 +0.9**
comp=Z,130nm,1.1s,mb5.7
IPM Ipoh 72.89 282 P **P 17 20 17.5 +0.3**
NJ2 Nanjing 72.99 316 *e*P **P 17 20 17.4 0.0**
NJ2 AP pP 17 20 34.0 -3.2
NJ2 S S 17 29 35.0 -2.2
NJ2 AMB AMB
comp=Z,370nm,1.0s,mb6.2
NJ2 AMB AMB
comp=Z,6μm,10.4s
NJ2 LR LR
comp=N,30μm,25.6s
NJ2 LR LR
comp=E,38μm,23.5s
NJ2 LR LR
comp=Z,27μm,20.4s
YSS Yuzh-Sakhalins 73.02 340*αe*P **P 17 20 18.1 +0.8**
YSS *e* 17 20 27.3
YSS *e* pP 17 20 34.0 -3.0
YSS *e*PPP PPP 17 24 45.0 -1.0
YSS *i* S S 17 29 41.0 +3.8
YSS *e*PPS 17 30 15.0
YSS *e*SS SS 17 34 20.0 -1.7
YSS pmax pmax
comp=N,540nm,2.1s
YSS pmax pmax
comp=Z,1μm,2.1s,mb6.3
YSS pmax pmax
comp=E,400nm,2.0s
YSS smax
comp=N,15μm,14.0s
YSS smax
comp=E,5μm,12.0s
YSS Yuzh-Sakhalins 73.02 340⇑*i*P **P 17 20 18.7 +1.4**
SKR Severo-Kuril's 73.41 350 *e*P **P 17 20 19.0 -0.5**
SKR *e* pP 17 20 37.0 -2.3
SKR *e*PPP PPP 17 24 45.0 -4.9
SKR *e*S S 17 29 42.0 +0.5
SKR *e* 17 30 15.0
SKR pmax pmax
comp=Z,5μm,8.0s
SKR pmax pmax
comp=N,3μm,6.0s
SKR pmax pmax
comp=E,4μm,6.0s
SKR pmax pmax
comp=Z,800nm,1.5s,mb6.3
SKR pmax pmax
comp=N,50nm,0.7s
SKR pmax pmax
comp=E,40nm,0.7s
SKR smax
comp=N,17μm,14.0s
SKR smax
comp=E,17μm,14.0s
SKR MLR MLR
comp=N,8μm,20.0s
SKR MLR MLR
comp=E,6μm,20.0s
SKR MLR MLR
comp=Z,13μm,20.0s
UBT Ubonrachathani 74.09 294 P **P 17 20 25.8 +1.6**
KIWB Kanaga Island 74.25 8 *e*P **P 17 20 24.3 -0.1**
SNG Songkhla 74.34 285 P **P 17 20 26.0 +0.3**
comp=Z,200nm,0.9s,mb5.8
FX1 Attu Island--F 74.53 2 *e*P **P 17 20 27.4 +1.4**
WHN Wuhan 75.06 312⇑P **P 17 20 29.5 0.0**
WHN AP pP 17 20 46.3 -3.0
WHN S S 17 30 01.0 +0.7
WHN SS SS 17 34 47.3 -5.3
WHN AMB AMB
comp=Z,10μm,10.5s
WHN LR LR
comp=Z,48μm,25.4s
PET Petropavlovsk 75.35 353 *e*P **P 17 20 31.6 +0.9**
PET *e*'PP pP 17 20 48.0 -2.5
PET *e*S S 17 29 59.6 -3.4
PET pmax pmax
comp=Z,137nm,2.0s,mb5.3
PET pmax pmax
comp=Z,4μm,10.1s
PET pmax pmax
comp=Z,4μm,10.8s
PET smax
comp=E,12μm,17.5s
PET smax
comp=N,18μm,18.1s
PET Petropavlovsk 75.35 353⇑*i*P **P 17 20 30.0 -0.7**
DL2 Dalian 75.89 323⇑*i*P **P 17 20 34.3 +0.2**
DL2 S S 17 30 10.1 +0.8
DL2 SCS ScS 17 30 41.0 +2.6
DL2 SS SS 17 34 57.6 -8.2
DL2 AMB AMB
comp=Z,70nm,1.3s,mb5.2
DL2 AMB AMB
comp=Z,3μm,9.1s
DL2 LR LR
comp=N,6μm,30.3s
DL2 LR LR
comp=E,5μm,25.5s
DL2 LR LR
comp=Z,11μm,31.0s
MDJ Mudanjiang 76.06 331 P **P 17 20 34.9 0.0**
MDJ AP pP 17 20 51.4 -3.4
MDJ PP PP 17 23 25.2 -2.8
MDJ S S 17 30 11.6 +0.6
MDJ SS SS 17 35 05.2 -3.1
MDJ AMB AMB
comp=Z,85nm,2.1s,mb5.1
MDJ AMB AMB
comp=Z,4μm,10.2s
MDJ LR LR
comp=N,20μm,28.1s
MDJ LR LR
comp=E,18μm,29.1s
MDJ LR LR
comp=Z,35μm,29.5s
MDJ Mudanjiang 76.06 331 *e*P **P 17 20 34.0 -0.9**
comp=Z,251nm,1.7s,mb5.7
MAW Mawson 76.41 202⇓*i*P **P 17 20 36.2 -0.2**
MAW *e*S S 17 30 14.5 +0.2
MAW Mawson 76.41 202 P **P 17 20 36.2 -0.2**
comp=Z,115nm,0.8s,mb5.7,baz=107,slow=7.1,SNR=72
MAW S S 17 30 13.7 -0.6
comp=Z,2.2nm,1.1s,baz=341,slow=9.4,SNR=2.0
MAW LR LR 17 51 31.4
comp=Z,15μm,20.0s,baz=100,slow=34
NIKO Nikolski 76.71 13 *e*P **P 17 20 37.4 -1.0**
TIA Tai'an 76.76 318⇑P **P 17 20 38.5 -0.5**
TIA S S 17 30 13.0 -5.8
TIA AMB AMB
comp=Z,109nm,1.2s,mb5.5
TIA AMB AMB
comp=Z,4μm,9.0s
TIA LR LR
comp=N,4μm,18.0s
TIA LR LR
comp=E,9μm,18.0s
SNY Shenyang 76.89 326⇑P **P 17 20 39.2 -0.5**
SNY XP sP 17 20 57.2 -10
SNY S S 17 30 20.1 0.0
SNY SS SS 17 35 16.2 -4.5
SNY AMB AMB
comp=Z,120nm,2.5s,mb5.2
SNY AMB AMB
comp=Z,4μm,9.0s
SNY LR LR
comp=N,15μm,23.5s
SNY LR LR
comp=Z,29μm,36.5s
CN2 Changchun 77.39 328⇑P **P 17 20 41.8 -0.5**
CN2 *e*S S 17 30 28.0 +2.6
CN2 AMB AMB
comp=Z,70nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,4μm,10.0s
CN2 LR LR
comp=N,19μm,19.0s
CN2 LR LR
comp=E,15μm,19.0s
CN2 LR LR
comp=Z,29μm,23.0s
NNT Nongplab 77.44 289 P **P 17 20 45.5 +2.3**
UNV Unalaska Valle 78.03 14 *e*P **P 17 20 45.0 -0.7**
comp=Z,363nm,1.2s,mb6.0
ENH Enshi 78.33 309 *e*P **P 17 20 47.4 -0.4**
comp=Z,220nm,1.2s,mb5.8
ENH *e*S S 17 30 36.2 +0.5
GYA Guiyang 78.36 305⇑*i*P **P 17 20 48.5 +0.5**
GYA PP PP 17 23 47.9 +0.3
GYA S S 17 30 38.3 +2.1
GYA SKS SKS 17 30 57.4 +6.5
GYA AMB AMB
comp=Z,150nm,1.1s,mb5.6
GYA AMB AMB
comp=Z,5μm,10.5s
GYA LR LR
comp=N,8μm,25.0s
GYA LR LR
comp=E,13μm,24.0s
GYA LR LR
comp=Z,10μm,22.1s
NST Nakhon Sawan 78.46 292 P **P 17 20 50.0 +1.2**
comp=Z,108nm,1.3s,mb5.4
KLR Kul'dur 78.82 335*de*P **P 17 20 47.1 -3.0**
KLR *e*S S 17 30 39.5 -1.1
KLR *e* 17 30 53.2
KLR pmax pmax
comp=N,130nm,2.2s
KLR pmax pmax
comp=E,130nm,2.2s
KLR pmax pmax
comp=Z,350nm,2.2s,mb5.8
KLR pmax pmax
comp=N,2μm,9.0s
KLR pmax pmax
comp=E,1μm,9.0s
KLR pmax pmax
comp=Z,5μm,9.0s
NANT Nan 79.40 295⇑P **P 17 20 55.0 +1.1**
comp=Z,562nm,0.5s,mb6.7
BJT Baijiatuau 79.78 321⇑*i*P **P 17 20 55.5 0.0**
comp=Z,620nm,2.0s,mb6.1
BJI Beijing 79.79 321 P **P 17 20 55.7 +0.1**
BJI S S 17 30 51.1 0.0
BJI AMB AMB
comp=Z,88nm,1.5s,mb5.4
BJI AMB AMB
comp=Z,6μm,5.7s
BJI LR LR
comp=N,15μm,26.7s
BJI LR LR
comp=E,15μm,23.9s
BJI LR LR
comp=Z,29μm,42.3s
BJI Beijing 79.79 321 P **P 17 20 55.7 +0.1**
BJI *PP pP 17 21 13.1 -2.5
BJI 17 24 06.3
BJI S S 17 30 51.1 0.0
BJI pmax pmax
comp=Z,88nm,1.5s,mb5.4
BJI Beijing 79.79 321 P **P 17 20 55.7 +0.1**
comp=Z,88nm,1.5s,mb5.4
BJI pP pP 17 21 13.1 -2.5
BJI sP sP 17 21 21.6 -2.1
BJI PP PP 17 24 06.3 +7.6
BJI S S 17 30 51.1 0.0
BJI SS tx 17 36 37.1
BJI LR LR
comp=Z,29μm,42.3s
BDT Bhumibol Dam 80.13 293 P **P 17 21 00.0 +2.2**
TIY Taiyuan 80.64 317⇑*i*P **P 17 21 00.0 -0.1**
TIY S S 17 31 00.0 +0.1
TIY LR LR
comp=N,11μm,20.0s
TIY LR LR
comp=Z,2μm,17.0s
CM31 Chiang Mai Arr 80.72 294⇑*e*P **P 17 21 02.3 +1.3**
comp=Z,37nm,0.7s,mb5.3
CMAR Chiang Mai Arr 80.72 294 *i*P **P 17 21 02.6 +1.7**
CMAR pmax pmax
comp=Z,37nm,0.7s
CMAR Chiang Mai Arr 80.72 294 P **P 17 21 02.0 +1.1**
comp=Z,37nm,0.7s,mb5.3,baz=134,slow=4.2,SNR=127
CMAR S S 17 31 05.9 +4.7
comp=Z,0.3nm,0.4s,baz=144,slow=2.1,SNR=3.8
CMAR ScS ScS 17 31 17.9 0.0
comp=Z,2.3nm,1.1s,baz=140,slow=10.0,SNR=7.7
CMAR PKKPbc 17 39 39.8
comp=Z,7.5nm,0.8s,baz=290,slow=3.8,SNR=21
CMAR LR LR 17 53 30.7
comp=Z,5μm,21.4s,baz=170,slow=33
KMI Kunming 80.73 302 P **P 17 21 02.1 +1.2**
KMI PP PP 17 24 02.4 -4.9
KMI S S 17 31 03.9 +2.7
KMI SS SS 17 36 22.5 +4.0
KMI AMB AMB
comp=Z,187nm,2.0s,mb5.6
KMI AMB AMB
comp=Z,5μm,8.6s
KMI LR LR
comp=N,7μm,20.2s
KMI LR LR
comp=E,6μm,23.1s
KMI LR LR
comp=Z,19μm,40.4s
KMI Kunming 80.73 302 P **P 17 21 02.1 +1.2**
KMI 17 24 02.4
KMI PPP PPP 17 26 01.8 +2.9
KMI S S 17 31 03.9 +2.7
KMI PS PS 17 32 01.8 +3.7
KMI SS SS 17 36 22.5 +4.0
KMI SSS SSS 17 39 45.4 +4.6
KMI pmax pmax
comp=Z,187nm,2.0s,mb5.6
KMI Kunming 80.73 302 P **P 17 21 02.1 +1.2**
comp=Z,187nm,2.0s,mb5.6
KMI pP pP 17 21 23.0 +2.1
KMI sP sP 17 21 31.2 +2.1
KMI PP PP 17 24 02.4 -4.9
KMI PPP PPP 17 26 01.8 +2.9
KMI S S 17 31 03.9 +2.7
KMI sS 17 31 39.2
KMI PS PS 17 32 01.8 +3.7
KMI SS SS 17 36 22.5 +4.0
KMI SSS SSS 17 39 45.4 +4.6
KMI LR LR
comp=Z,19μm,40.4s
XAN Xi'an 80.83 312 P **P 17 21 01.5 +0.3**
XAN AMB AMB
comp=Z,1μm,2.0s,mb6.4
CHG Chiang Mai 80.88 294⇑P **P 17 21 03.4 +1.6**
comp=Z,71nm,0.8s,mb5.5
SYO Syowa Base 82.70 196⇑P **P 17 21 07.8 -2.4**
SYO Syowa Base 82.70 196⇓PcP PcP 17 21 10.0 -5.3
MA2 Magadan 82.82 350 *i*P **P 17 21 10.9 -0.1**
MA2 pmax pmax
comp=Z,77nm,1.7s,mb5.3
MA2 Magadan 82.82 350 *i*P **P 17 21 10.0 -1.0**
CD2 Chengdu 82.84 307 P **P 17 21 12.4 +0.7**
CD2 AP pP 17 21 28.6 -3.2
CD2 S S 17 31 20.7 -1.9
CD2 SKS SKS 17 31 24.9 +2.6
CD2 SS SS 17 36 46.3 -3.7
CD2 AMB AMB
comp=Z,100nm,2.3s,mb5.2
CD2 AMB AMB
comp=Z,5μm,11.8s
CD2 LR LR
comp=E,10μm,32.4s
CD2 LR LR
comp=Z,28μm,38.4s
HHC Hu-ho-hao-te 83.05 319⇑*i*P **P 17 21 13.4 +0.8**
HHC PP PP 17 24 23.7 -2.1
HHC SKS SKS 17 31 24.6 +1.0
HHC S S 17 31 27.3 +2.8
HHC AMB AMB
comp=Z,94nm,1.6s,mb5.4
HHC AMB AMB
comp=Z,4μm,10.6s
HHC LR LR
comp=N,6μm,22.5s
HHC LR LR
comp=E,12μm,24.0s
BTO Baotou 83.86 318 *e*P **P 17 21 17.1 +0.5**
BTO S S 17 31 22.9 -10
BTO AMB AMB
comp=Z,124nm,3.3s
PMSA Palmer Station 83.97 159⇓*e*P **P 17 21 15.5 -1.1**
comp=Z,409nm,0.9s,mb6.3
HIA Hailar 84.05 329 *e*P **P 17 21 17.1 -0.2**
HIA pmax pmax
comp=Z,42nm,1.3s
HIA Hailar 84.05 329 *e*P **P 17 21 17.1 -0.2**
comp=Z,42nm,1.3s,mb5.1
LZH Lanzhou 85.43 312⇑*i*P **P 17 21 26.1 +1.5**
LZH PP PP 17 24 46.5 +1.5
LZH SKS SKS 17 31 41.0 +1.2
LZH S S 17 31 50.6 +2.4
LZH AMB AMB
comp=Z,535nm,1.7s,mb6.2
LZH AMB AMB
comp=Z,2μm,5.2s
LZH LR LR

comp=E,20µm,18.2s
LZH LR LR
comp=Z,29µm,20.0s
LZH Lanzhou 85.43 312⇑ *i* P P 17 21 26.1 +1.5
LZH *PP pP 17 21 45.0 +0.2
LZH 17 24 46.5
LZH 17 31 41.0
LZH S S 17 31 50.6 +2.4
LZH SS SS 17 37 32.0 +4.2
LZH pmax pmax
comp=Z,535nm,1.7s,mb6.2
LZH MLR MLR
comp=Z,29µm,20.0s
LZH Lanzhou 85.43 312⇑ *i* P P 17 21 26.1 +1.5
comp=Z,535nm,1.7s,mb6.2
LZH pP pP 17 21 45.0 +0.2
LZH sP sP 17 21 53.4 +0.7
LZH PP PP 17 24 46.5 +1.5
LZH SKS SKS 17 31 41.0 +1.2
LZH S S 17 31 50.6 +2.4
LZH sS 17 32 25.0
LZH SS SS 17 37 32.0 +4.2
LZH LR LR
comp=Z,29µm,20.0s
SEY Seymchan 85.79 352 *i* P P 17 21 28.6 +2.9
SEY *PP pP 17 21 45.5 -0.4
SEY *e* 17 24 46.4
SEY *e*PPP PPP 17 26 45.8 +1.2
SEY 17 31 45.4
SEY *e*S S 17 31 51.1 +0.1
SEY pmax pmax
comp=Z,60nm,0.8s,mb5.6
SEY smax
comp=N,58µm,20.9s
SEY smax
comp=E,18µm,22.5s
NVL N'lazarevskaya 86.35 187⇓ *i* P P 17 21 26.1 -2.1
NVL *e*S S 17 31 56.7 +0.5
NVL pmax pmax
comp=Z,133nm,1.2s,mb5.7
MAIT Maitri 86.35 187 *e*P P 17 21 27.5 -0.8
SNAA Sanae 86.53 182⇓ *i* P P 17 21 28.9 -0.2
SNAA Sanae 86.53 182⇑ *i* P 17 21 32.1 +3.0
SNAA Sanae 86.53 182 P P 17 21 28.0 -1.1
SNAA pmax pmax
comp=Z,590nm,1.0s
SNAA Sanae 86.53 182 P P 17 21 27.9 -1.2
comp=Z,112nm,0.8s,mb5.9,baz=184,slow=3.7,SNR=188
SAO San Andreas Ge 86.68 48 P P 17 21 32.0 +1.3
SAO pmax pmax
comp=Z,83nm,1.0s,mb5.6
SAO San Andreas Ge 86.68 48 *e*P P 17 21 30.3 -0.3
comp=Z,52nm,1.3s,mb5.3
HOPS Hopland 86.72 46 *e*P P 17 21 31.1 +0.3
comp=Z,307nm,1.6s,mb6.0
VNA3 Neumayer Olymp 87.08 180⇓ *i* P P 17 21 31.5 -0.3
VNA3 Neumayer Olymp 87.08 180⇓ *i* P 17 21 36.4 +4.6
KHMM Horse Mountain 87.28 44 *e*P P 17 21 33.9 +0.4
KHMM *e*pP pP 17 21 53.9 +0.1
CLNS Chul'man 87.34 337*c* *i* P P 17 21 33.9 +0.5
CLNS *e*PP pP 17 21 41.5 -12
CLNS *i* S 17 31 52.9
CLNS *e*PS PS 17 33 15.0 -3.6
CLNS pmax pmax
comp=Z,140nm,1.4s,mb5.7
CLNS pmax pmax
comp=N,71nm,1.3s
CLNS pmax pmax
comp=E,16nm,1.0s
VNA2 Neumayer--Watz 87.38 181⇓ *i* P P 17 21 33.3 0.0
VNA2 Neumayer--Watz 87.38 181⇓ *i* P 17 21 37.6 +4.3
KRMB Red Mountain 87.51 43 P P 17 21 35.7 +1.1
VNA1 Neumayer--Stat 87.67 180⇓ *i* P P 17 21 35.8 +1.1
MWC Mount Wilson 87.84 52 P P 17 21 37.4 +1.0
MWC Mount Wilson 87.84 52 *e*P P 17 21 36.5 +0.2
WDC Whiskeytown Da 87.89 45 *e*P P 17 21 36.8 +0.4
WDC pmax pmax
comp=Z,307nm,1.7s,mb6.1
WDC Whiskeytown Da 87.89 45 *e*P P 17 21 36.8 +0.3
comp=Z,307nm,1.7s,mb6.1
CMB Columbia Colle 88.04 48 P P 17 21 37.4 +0.2
CMB S S 17 32 17.0 +4.1
CMB sS 17 32 51.5
CMB Columbia Colle 88.04 48 *e*P P 17 21 37.2 0.0
CMB pmax pmax
comp=Z,85nm,1.2s,mb5.7
CMB Columbia Colle 88.04 48 *e*P P 17 21 37.2 0.0
comp=Z,85nm,1.2s,mb5.7
SLKM Skilak Lake 88.10 18 *e*P P 17 21 37.2 +0.3
BAR Barrett 88.15 54 *e*P P 17 21 38.2 +0.4
YBH Yreka Blue Hor 88.39 43 *e*P P 17 21 39.7 +1.0
YBH pmax pmax
comp=Z,244nm,1.7s
YBH Yreka Blue Hor 88.39 43 P P 17 21 39.1 +0.3
comp=Z,13nm,1.1s,mb4.9,baz=192,slow=2.5,SNR=11
YBH LR LR 17 51 15.5
comp=Z,16µm,21.9s,baz=242,slow=29
YBH Yreka Blue Hor 88.39 43 *e*P P 17 21 39.7 +0.9
comp=Z,244nm,1.7s,mb6.0
USHA Ushuaia 88.50 150 P P 17 21 38.6 -0.4
comp=Z,28nm,0.9s,mb5.3,baz=197,slow=7.0,SNR=16
HUMO Hull Mountain 88.69 43 *e*P P 17 21 40.8 +0.7
comp=Z,308nm,1.8s,mb6.0
PFO Pinyon Flat Ob 88.74 53 P P 17 21 40.8 +0.2
PFO pmax pmax
comp=Z,240nm,2.3s,mb5.8
PFO Pinyon Flat Ob 88.74 53 *e*P P 17 21 39.9 -0.8
comp=Z,238nm,2.3s,mb5.8
TNA Tin City 88.76 9 *e*P P 17 21 40.3 +0.4
comp=Z,23µm,1.8s
OMM Old Mammoth Mi 88.80 48 *e*P P 17 21 41.9 +1.0
MTUM Tungsten Hills 88.97 49 *e*P P 17 21 42.2 +0.6
WCN Washoe City 89.10 47 P P 17 21 43.6 +1.4
WCN pmax pmax
comp=Z,52nm,1.0s,mb5.5
WCN Washoe City 89.10 47 *e*P P 17 21 42.8 +0.6
comp=Z,52nm,1.1s,mb5.5
DAC Darwin (Calif) 89.15 50 *e*P P 17 21 43.2 +0.7
comp=Z,89nm,1.5s,mb5.6
AGT Agartala 89.53 296⇑ *i* P P 17 21 45.0 +0.5
AGT *i* 17 22 45.0
PAHR Pah Rah Range 89.55 46 *e*P P 17 21 44.1 -0.2
comp=Z,51nm,1.3s,mb5.5
NVAR Mina Array Bea 89.67 48 P P 17 21 45.6 +0.7
comp=Z,6.2nm,0.7s,mb4.9,baz=205,slow=4.7,SNR=64
NVAR PKKPbc 17 39 20.7
comp=Z,2.9nm,0.7s,baz=91,slow=4.7,SNR=7.0
NVAR PKPPKP 17 47 27.5
comp=Z,0.9nm,0.5s,baz=50,slow=1.6,SNR=6.5
NVAR LR LR 17 56 11.6
comp=Z,10µm,19.3s,baz=275,slow=32
SHL Shillong 89.69 298⇑ *i* P P 17 21 45.7 +0.4
SHL *i* S S 17 32 08.0 -20
ULN Ulaanbaatar 89.75 323⇑ *i* P P 17 21 45.6 +0.6
BILL Bilibino 89.76 358 P P 17 21 44.3 -0.3
BILL pmax pmax
comp=Z,290nm,1.7s,mb6.1
BILL Bilibino 89.76 358 *i* Pr P 17 21 44.0 -0.6
MNV Mina 89.77 48 *e*P P 17 21 45.8 +0.4
comp=Z,256nm,1.8s,mb6.0
YAK Yakutsk 89.80 342*c* *i* P P 17 21 45.4 +0.5
YAK *e*SS S 17 32 28.6 +0.1
YAK *e*SSS SP 17 33 44.1 +6.7
YAK pmax pmax
comp=E,3.0nm,1.2s
YAK pmax pmax
comp=Z,19nm,1.2s,mb5.1
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK Yakutsk 89.80 342 *i* Pr P 17 21 44.9 0.0
GTA Gaotai 89.86 313 ⇑P P 17 21 46.7 +1.0
GTA PP PP 17 25 18.0 -3.3
GTA SKS SKS 17 32 08.7 +0.9
GTA S S 17 32 29.2 -0.4
GTA SS SS 17 38 31.9 -0.2
GTA AMB AMB
comp=Z,58nm,1.8s,mb5.4
GTA AMB AMB
comp=Z,2µm,9.9s
GTA LR LR
comp=N,7µm,25.1s
GTA LR LR
comp=E,10µm,23.6s
GTA LR LR
comp=Z,22µm,24.3s

DIV Divide 89.93 20 *e*P P 17 21 45.0 -0.6
comp=Z,135nm,1.2s,mb6.0
MOD Modoc 90.02 44 *e*P P 17 21 47.1 +0.7
comp=Z,95nm,1.3s,mb5.8
SONM Songino Array 90.10 323 P P 17 21 47.0 +0.4
comp=Z,17nm,0.6s,mb5.4,baz=115,slow=1.6,SNR=100
SONM PKKPbc 17 39 17.4
comp=Z,5.8nm,1.0s,baz=272,slow=2.2,SNR=14
SONM PKPPKP 17 47 23.7
comp=Z,4.3nm,1.1s,baz=269,slow=1.3,SNR=10
SONM LR LR 17 57 54.6
comp=Z,8µm,21.0s,baz=120,slow=33
TPH Tonopah 90.25 49 *e*P P 17 21 48.1 +0.5
TPH pmax pmax
comp=Z,100nm,1.3s,mb5.8
TPH Tonopah 90.25 49 *e*P P 17 21 48.1 +0.5
comp=Z,100nm,1.3s,mb5.8
LDFC Landfair 90.39 52 *e*P P 17 21 49.1 +0.7
BBB Bella Bella 91.06 33 LR LR 17 56 01.6
comp=Z,8µm,19.9s,baz=238,slow=31
MCK McKinley 91.06 17 *e*P P 17 21 49.9 -0.9
MCK pmax pmax
comp=Z,24nm,1.0s,mb5.3
MCK McKinley 91.06 17 *e*P P 17 21 49.9 -0.8
comp=Z,24nm,1.0s,mb5.3
BMN Battle Mountai 91.35 47 P P 17 21 54.0 +1.3
BMN pmax pmax
comp=Z,110nm,1.3s,mb5.8
BMN Battle Mountai 91.35 47 *e*P P 17 21 53.3 +0.6
comp=Z,109nm,1.3s,mb5.8
WVOR Wild Horse Val 91.36 44 *e*P P 17 21 52.8 +0.1
WVOR pmax pmax
comp=Z,113nm,1.4s,mb5.8
WVOR Wild Horse Val 91.36 44 *e*P P 17 21 52.8 +0.1
comp=Z,113nm,1.4s,mb5.8
CAL Calcutta 91.45 294 *e* P 17 21 58.6 +5.1
CAL *e* 17 25 37.5
TRCR Troy Canyon 91.52 49 *e*P P 17 21 53.6 +0.1
THY Trims Highway 91.70 18 *e*P P 17 21 52.8 -0.9
IMA Indian Mountai 91.82 14 P P 17 21 54.8 +0.6
IMA pmax pmax
comp=Z,490nm,2.1s,mb6.4
IMA Indian Mountai 91.82 14 *e*P P 17 21 54.6 +0.4
LSA Lhasa 91.98 301 P P 17 21 56.1 +0.3
LSA AP pP 17 22 05.0 -11
LSA XP sP 17 22 08.6 -15
LSA PP PP 17 25 32.1 -6.4
LSA AMB AMB
comp=Z,40nm,1.2s,mb5.5
LSA AMB AMB
comp=Z,1µm,10.7s
LSA LR LR
comp=N,5µm,41.2s
LSA LR LR
comp=E,9µm,30.9s
LSA LR LR
comp=Z,10µm,29.2s
LSA Lhasa 91.98 301 *e*P P 17 21 57.1 +1.3
LSA pmax pmax
comp=Z,48nm,1.1s,mb5.6
LSA Lhasa 91.98 301 *e*P P 17 21 57.1 +1.3
comp=Z,48nm,1.1s,mb5.6
COYC Coyhaique 92.03 141⇓ *i* P P 17 21 55.9 +0.2
COLA College 92.26 16 *e*P P 17 21 55.3 -1.0
COLA pmax pmax
comp=Z,78nm,1.6s,mb5.7
COLA College 92.26 16 *e*P P 17 21 55.3 -1.0
comp=Z,78nm,1.6s,mb5.7
BOD Bodaibo 92.28 333 *e*P P 17 21 54.8 -1.7
BOD pmax pmax
comp=Z,32nm,1.9s,mb5.2
ILAR Eielson Array 92.43 17 P P 17 21 55.5 -1.6
comp=Z,5.1nm,0.7s,mb4.9,baz=238,slow=5.3,SNR=30
ILAR PKiKP 17 26 45.0
comp=Z,1.2nm,0.7s,baz=282,slow=3.1,SNR=7.3
ILAR S 17 32 18.1
comp=Z,0.7nm,0.8s,baz=247,slow=6.9,SNR=3.4
ILAR PKKP PKKP 17 39 09.2 +13
comp=Z,2.4nm,0.8s,baz=319,slow=1.4,SNR=12
ILAR PKPPKP 17 47 17.9
comp=Z,2.0nm,1.1s,baz=322,slow=0.8,SNR=5.0
ILAR LR LR 18 00 51.4
comp=Z,10µm,20.2s,baz=239,slow=34
TUC Tucson 92.47 56 *e*P P 17 21 58.3 +0.3
TUC pmax pmax
comp=Z,29nm,1.1s,mb5.4
TUC Tucson 92.47 56 *e*P P 17 21 58.2 +0.2
comp=Z,29nm,1.1s,mb5.4
PALK Pallekele 92.54 277 *e*P P 17 22 00.0 +1.2
comp=Z,27nm,1.0s,mb5.5
HAWA Hanford 92.71 41 *e*P P 17 21 58.9 +0.1
comp=Z,3.5nm,1.5s
ARUT Antelope Range 92.79 50 *e*P P 17 22 00.2 +0.8
ARUT Antelope Range 92.79 50 *e*P P 17 22 00.1 +0.7
ELK Elko 92.84 47 *e*P P 17 21 59.4 -0.1
ELK pmax pmax
comp=Z,25nm,1.0s
ELK Elko 92.84 47 *e*P P 17 21 59.4 -0.1
comp=Z,25nm,1.0s,mb5.5
ZAK Zakamensk 93.19 324⇑ *i* P P 17 22 01.0 +0.1
ZAK *e* 17 32 26.8
ZAK pmax pmax
comp=Z,36nm,2.1s,mb5.3
WUAZ Wupatki 93.34 53 *e*P P 17 22 02.5 +0.5
comp=Z,60nm,1.6s,mb5.7
BMO Blue Mountains 93.35 43 P P 17 22 02.2 +0.4
BMO pmax pmax
comp=Z,57nm,1.7s,mb5.6
BMO Blue Mountains 93.35 43 *e*P P 17 22 01.6 -0.1
comp=Z,57nm,1.8s,mb5.6
IRK Irkutsk 93.62 326 *e*P P 17 22 02.2 -0.6
IRK pmax pmax
comp=Z,74nm,2.3s,mb5.6
TLY Talaya 93.66 325 *e*P P 17 22 02.4 -0.6
TLY *e*S S 17 33 01.9 -0.8
TLY *e*PPS PPS 17 35 07.2 +0.2
TLY pmax pmax
comp=Z,47nm,1.2s,mb5.7
MVU Marysvale 93.97 50 *e*P P 17 22 05.9 +1.2
comp=Z,25nm,1.3s,mb5.4
VIS Vishakhapatnam 93.98 287 *e*P P 17 22 06.0 +0.8
VIS *i* 17 25 18.3
MSU Marysvale 94.00 50 *e*P P 17 22 06.3 +1.5
DAWY Dawson 94.09 20 *e*P P 17 22 04.1 -0.5
DUG Dugway 94.26 48 *e*P P 17 22 06.0 0.0
comp=Z,11nm,1.0s,mb5.2
BGU Big Grassy Mou 94.42 48 *e*P P 17 22 07.4 +0.7
HLID Hailey 94.63 45 *e*P P 17 22 07.9 +0.3
comp=Z,26nm,1.5s,mb5.4
HVU Hansel Valley 94.96 47 P P 17 22 10.0 +0.9
HVU Hansel Valley 94.96 47 *e*P P 17 22 09.1 -0.1
SPUT South Promonto 94.98 47 *e*P P 17 22 09.7 +0.4
MPU Maple Canyon 95.01 49 *e*P P 17 22 10.2 +0.8
TMUT Trail Mountain 95.02 50 *e*P P 17 22 10.3 +0.8
NEW Newport 95.05 40 PP PP 17 25 58.4 -3.2
comp=Z,1.8nm,0.4s,baz=240,slow=6.6,SNR=4.9
NEW LR LR 18 04 22.4
comp=Z,10µm,18.0s,baz=249,slow=35
MDRS Chennai 95.06 282 *e*P P 17 22 11.0 +0.8
MDRS *e* 17 26 01.0
MDRS *e* 17 34 38.0
MDRS *e* 17 39 56.0
MOY Mondy 95.08 324 *e*P P 17 22 10.4 +0.9
MOY *e* 17 32 39.7
MOY pmax pmax
comp=Z,157nm,2.3s,mb6.0
JIRN Jiri 95.20 298 *e*P P 17 22 11.5 +0.9
comp=Z,133nm,1.4s,mb6.2
JIRN Jiri 95.20 298 *e*P PKKP 17 39 03.8 +11
comp=Z,47nm,1.3s
JLU Jordanelle 95.38 48 *e*P P 17 22 11.6 +0.6
SRU San Rafael 95.42 50 *e*P P 17 22 11.4 +0.1
DAU Daniels Canyon 95.44 49 *e*P P 17 22 12.2 +0.8
GUN Gumba 95.55 298 *e*P P 17 22 12.5 +0.4
comp=Z,336nm,2.0s,mb6.4
GUN Gumba 95.55 298 *e*P PKKP 17 39 03.3 +11
comp=Z,46nm,0.8s
TCUT Toone Canyon 95.62 48 P P 17 22 13.7 +1.5
PLCA Paso Flores 95.72 138 *e*P P 17 22 12.7 +0.1
PLCA pmax pmax
comp=Z,1µm,2.1s
PLCA Paso Flores 95.72 138 P P 17 22 12.6 0.0
comp=Z,79nm,1.1s,mb6.0,baz=235,slow=4.7,SNR=42
PLCA LR LR 17 55 27.7
comp=Z,13µm,21.4s,baz=226,slow=29

PLCA Paso Flores 95.72 138 *e*P P 17 22 12.7 +0.1
comp=Z,1µm,2.1s,mb6.9
PKI Pulchoki 95.81 297 *e*P P 17 22 14.3 +1.0
comp=Z,144nm,1.3s,mb6.3
PKI Pulchoki 95.81 297 *e*P PKKP 17 39 02.0 +10
comp=Z,45nm,1.4s
PKI Pulchoki 95.81 297 *e*P P 17 22 14.3 +1.0
PKI pmax pmax
comp=Z,72nm,1.3s,mb5.9
KKN Kakani 95.99 297 *e*P P 17 22 14.8 +0.6
comp=Z,126nm,1.3s,mb6.2
KKN Kakani 95.99 297 *e*P PKKP 17 39 01.5 +10
comp=Z,21nm,0.7s
KKN Kakani 95.99 297 *e*P P 17 22 14.8 +0.6
KKN pmax pmax
comp=Z,63nm,1.3s,mb5.9
DMN Daman 96.07 297 *e*P P 17 22 15.3 +0.8
comp=Z,164nm,1.1s,mb6.4
DMN Daman 96.07 297 *e*P PKKP 17 39 00.8 +10
comp=Z,36nm,1.2s
LAZ Ladron 96.09 55 *e*P P 17 22 15.0 +0.5
PV10 Paradox Valley 96.20 51 *e*P P 17 22 14.7 -0.2
BNM Barren Site 96.39 56 *e*P P 17 22 16.1 +0.3
TRD Trivandrum 96.44 277⇓ *e* P 17 22 20.2 +3.7
TRD *e* 17 25 49.2
PV01 Paradox Valley 96.45 52 *e*P P 17 22 16.0 0.0
MNTX Cornudas Mount 96.45 59 *e*P P 17 22 15.7 -0.4
comp=Z,509nm,1.9s,mb6.6
RRI2 Red Ridge 96.58 46 *e*P P 17 22 16.9 +0.4
comp=Z,16nm,1.0s,mb5.4
GKN Gorkha 96.60 297 *e*P P 17 22 16.7 -0.2
comp=Z,95nm,1.1s,mb6.2
GKN Gorkha 96.60 297 *e*P PKKP 17 39 00.2 +10
comp=Z,15nm,0.6s
CHMT Chamberlain Mo 96.81 42 *e*P P 17 22 16.8 -0.6
ANMO Albuquerque 96.82 55 P P 17 22 17.0 -0.8
ANMO P 17 22 17.1
ANMO SKSac 17 32 46.6
ANMO S S 17 33 37.3 +7.3
ANMO Albuquerque 96.82 55 *e*P P 17 22 16.8 -1.0
ANMO pmax pmax
comp=Z,10.0nm,1.1s
ANMO Albuquerque 96.82 55 P P 17 22 17.8 +0.1
comp=Z,0.7nm,0.4s,baz=245,slow=6.0,SNR=8.6
ANMO PP PP 17 26 12.8 -3.3
comp=Z,0.7nm,0.4s,baz=246,slow=5.4,SNR=5.8
ANMO LR LR 17 59 39.3
comp=Z,7µm,20.5s,baz=80,slow=31
ANMO Albuquerque 96.82 55 *e*P P 17 22 16.8 -1.0
comp=Z,9.6nm,1.1s,mb5.1
ANMO *e* pP 17 22 42.1 +3.8
REDW Red Top Meadow 96.90 46 *e*P P 17 22 17.3 -0.7
comp=Z,47nm,1.5s,mb5.7
LTX Lajitas 96.97 61 P P 17 22 19.7 +1.1
LTX pmax pmax
comp=Z,37nm,1.9s,mb5.5
LTX Lajitas 96.97 61 *e*P P 17 22 18.9 +0.3
comp=Z,37nm,1.9s,mb5.5
TXAR Lajitas Array 96.97 61 P P 17 22 18.8 +0.1
comp=Z,0.4nm,0.4s,baz=233,slow=6.3,SNR=12
TXAR PKKP PKKP 17 39 01.7 +12
comp=Z,3.2nm,0.8s,baz=118,slow=5.8,SNR=4.7
TXAR LR LR 17 56 28.7
comp=Z,16µm,21.8s,baz=270,slow=29
TXAR Lajitas Array 96.97 61 P P 17 22 18.8 +0.1
TXAR PKKP PKKP 17 39 01.7 +12
TXAR LR LR 17 56 28.7
IMW Indian Meadow 97.06 46 *e*P P 17 22 18.6 -0.1
comp=Z,2.7nm,0.9s
MOOW Moose Ponds 97.13 46 *e*P P 17 22 18.9 -0.1
comp=Z,14nm,1.3s,mb5.2
RW3 Ridgway 97.14 52 P P 17 22 13.9 -5.2
LOHW Long Hollow 97.17 46 *e*P P 17 22 19.1 -0.1
comp=Z,20nm,1.4s,mb5.3
KOLN Koldanda 97.38 297 *e*P P 17 22 20.7 +0.2
comp=Z,38nm,1.0s,mb5.8
KOLN Koldanda 97.38 297 *e*P PKKP 17 38 57.9 +9.0
comp=Z,54nm,1.4s
GDL2 Guadalupe Moun 97.44 58 *e*P P 17 22 20.3 -0.4
PDAR Pinedale Array 97.54 47 P 17 22 20.3
comp=Z,0.9nm,0.6s,baz=225,slow=4.2,SNR=7.0
PDAR PP PP 17 26 18.4 -3.2
comp=Z,3.4nm,1.1s,baz=288,slow=4.7,SNR=4.4
PDAR PKKP PKKP 17 38 59.4 +11
comp=Z,2.2nm,0.7s,baz=78,slow=5.6,SNR=13
PDAR LR LR 18 02 57.1
comp=Z,6µm,18.3s,baz=98,slow=33
TIXI Tiksi 97.62 348⇓ *i* P P 17 22 19.3 -1.3
TIXI pmax pmax
comp=Z,16nm,1.7s,mb5.3
TIXI Tiksi 97.62 348⇓ *i* P P 17 22 19.4 -1.2
HYB Hyderabad 98.13 285 *e*P P 17 22 24.0 -0.1
HYB Hyderabad 98.13 285 *i* P P 17 22 24.0 -0.1
HYB *e*pP pP 17 22 44.0 -0.6
HYB *e*PP PP 17 26 24.0 -2.8
HYB *e*SKS SKS 17 32 54.0 0.0
HYB *e*S S 17 33 44.0 +2.6
HYB *e*PS PS 17 35 16.0 -3.9
HYB *e* 17 36 00.0
HYB *e*SSP SSP 17 40 36.0 -1.5
INK Inuvik 98.71 18 *e*P P 17 22 24.6 -0.9
INK pmax pmax
comp=Z,37nm,1.4s
INK Inuvik 98.71 18 P P 17 22 24.3 -1.2
comp=Z,2.2nm,0.8s,baz=226,slow=5.5,SNR=13
INK S SKS 17 32 51.7 -4.1
comp=Z,1.2nm,0.2s,baz=21,slow=30,SNR=31
INK PKKPbc 17 38 53.9
comp=Z,5.5nm,0.7s,baz=41,slow=6.3,SNR=16
INK LR LR 18 00 56.4
comp=Z,12µm,21.7s,baz=226,slow=32
INK Inuvik 98.71 18 *e*P P 17 22 24.6 -1.0
comp=Z,37nm,1.4s,mb5.7
WMQ Urumqi 99.94 313 P P 17 22 33.0 +1.3
WMQ PP PP 17 26 41.2 +1.4
WMQ SKS SKS 17 33 05.1 +2.7
WMQ S S 17 33 58.9 +2.8
WMQ SS SS 17 40 57.0 +2.7
WMQ AMB AMB
comp=Z,35nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,842nm,5.2s
WMQ LR LR
comp=N,5µm,24.8s
WMQ LR LR
comp=E,19µm,29.0s
WMQ LR LR
comp=Z,21µm,27.6s
BHPL Bhopal 101.09 291 *e*P P 17 22 38.1 +0.7
BHPL *i* 17 32 53.2
BHPL *e*S SKS 17 33 09.2 +0.8
BHPL *i* 17 35 48.1
BHPL *i* 17 58 17.4
BHPL *e* 18 07 56.3
comp=Z,5µm,26.7s
GOA Goa 101.74 282⇑ *e*P P 17 22 38.0 -2.4
GOA *e*S SKS 17 33 10.8 -0.9
AGRA Agra 101.92 295 *e*P P 17 22 42.0 +1.0
AGRA *e* 17 33 09.8
YKA Yellowknife Ar 102.49 27 P Pdif 17 22 42.1 -0.5
comp=Z,0.8nm,0.7s,baz=254,slow=4.7,SNR=16
YKA PP PP 17 26 54.6 -4.1
comp=Z,1.5nm,1.1s,baz=241,slow=6.1,SNR=4.6
YKA PKKPbc 17 38 42.6
comp=Z,1.8nm,0.7s,baz=59,slow=2.8,SNR=12
YKA PKPPKP 17 47 02.1
comp=Z,0.5nm,0.9s,baz=54,slow=1.8,SNR=5.8
CFAA Coronel Fontan 102.53 132 P Pdif 17 22 43.1 -0.4
comp=Z,0.4nm,0.5s,baz=223,slow=4.9,SNR=14
CFAA PP PP 17 26 55.4 -4.4
comp=Z,1.3nm,1.0s,baz=230,slow=6.9,SNR=7.3
DDI Dehra Dun 102.80 298 *e*P Pdif 17 22 44.5 -0.3
NDI New Delhi 102.99 296 *e*P Pdif 17 22 42.0 -3.7
NDI *e* 17 26 56.0
AYAN Aya Nagar 103.00 296 *e*P Pdif 17 22 47.1 +1.4
KLP Kalpa 103.01 299 *e*P Pdif 17 22 46.6 +0.9
KLP *i* 17 26 54.1
KLP *e*S SKS 17 33 16.0 -1.4
KKR Kurukshetra 103.71 297 *e*P Pdif 17 22 49.2 +0.4
KKR *i* 17 26 56.3
BOM Bombay 103.76 285 *e* 17 27 09.0
BOM *e* 17 33 23.1
KHET Khetri 103.99 295 *e*P Pdif 17 22 50.6 +0.5
KHET *e* 17 25 35.0
KHET *i* 17 27 08.4

MKAR Makanchi Array 104.51 315 P Pdif 17 22 51.8 -0.1
MKAR S SKS 17 33 22.3 -1.5
MKAR Makanchi Array 104.51 315 Pdiff Pdif 17 22 51.8 -0.1
comp=Z,2.5nm,0.6s,baz=98,slow=5.6,SNR=20
MKAR PP PP 17 27 08.2 -6.1
comp=Z,11nm,1.1s,baz=129,slow=7.8,SNR=7.1
MKAR Sdiff 17 33 22.2
comp=Z,0.7nm,0.9s,baz=117,slow=3.2,SNR=2.4
MKAR PKKPbc 17 38 35.6
comp=Z,5.5nm,0.7s,baz=286,slow=2.2,SNR=25
MKAR PKKP PKKP 17 38 54.4 +19
comp=Z,11nm,0.8s,baz=284,slow=4.1,SNR=15
MKAR PKPPKP 17 46 59.4
comp=Z,2.0nm,0.9s,slow=1.2,SNR=8.9
ZAL Zalesovo 105.00 322 Pdiff Pdif 17 22 54.2 +0.3
comp=Z,1.5nm,0.6s,baz=25,slow=3.2,SNR=7.9
ZAL Sdiff 17 33 25.4
comp=Z,1.0nm,0.3s,baz=224,slow=22,SNR=12
ZAL PKKPbc 17 38 35.2
comp=Z,2.6nm,0.4s,baz=182,slow=3.9,SNR=9.9
ZAL Zalesovo 105.00 322 Pdif Pdif 17 22 54.2 +0.3
ZAL Sdif 17 33 25.4
ZAL PKKPbc 17 38 35.2
NVS Novosibirsk 106.13 323⇑ *i*P Pdif 17 22 59.0 +0.2
NVS *i* 17 34 17.1
NVS pmax pmax
comp=Z,35nm,1.9s
NVS pmax pmax
comp=E,20nm,2.0s
LVC Limon Verde 107.09 124 Pdiff Pdif 17 23 04.2 +0.3
comp=E,5.3nm,0.9s,baz=223,slow=4.9,SNR=3.9
LVC PKKPbc 17 38 31.3
comp=E,1.8nm,0.5s,baz=322,slow=4.2,SNR=5.1
LPA La Plata 107.11 140 *de*P Pdif 17 23 03.0 -0.7
LPA *es*P 17 23 31.0
LPA *e*PP PP 17 27 26.0 -8.3
comp=Z,16μm,24.0s
AAA Alma-Ata 107.23 310 *e*P Pdif 17 23 08.0 +4.0
AAA *i* 17 27 31.0
AAA *i* 17 33 37.0
AAA *i* PS PS 17 36 41.0 -12
AAA MLR MLR
comp=Z,5μm,22.0s
JASL Jaisalmer 107.83 292 *e*P Pdif 17 23 09.4 +2.4
JASL *i* 17 27 26.0
ULM Lac du Bonnet 108.78 43 PKKPbc 17 38 24.8
comp=Z,4.7nm,0.8s,baz=117,slow=2.1,SNR=5.2
FRU Bishkek 108.80 309 *e*P Pdif 17 23 31.0 +20
FRU *i* 17 27 41.5
FRU *e* 17 33 43.0
FRU *i* 17 37 06.0
FRU *e* 17 38 08.0
FRU *e* 17 43 00.0
FRU MLR MLR
comp=E,15μm,25.0s
FRU MLR MLR
comp=Z,13μm,25.0s
LPAZ La Paz 111.10 118 Pdiff Pdif 17 23 24.9 +3.3
comp=Z,0.7nm,0.2s,baz=202,slow=3.9,SNR=6.3
LPAZ PKiKP 17 27 21.5
comp=Z,1.9nm,0.6s,baz=253,slow=0.2,SNR=5.5
LPAZ La Paz 111.10 118 Pdif Pdif 17 23 24.9 +3.3
LPAZ *e*PKP PKPdf 17 27 21.2 +1.9
LPAZ *e*PP PP 17 27 56.7 -6.8
KKAR Karatay Array 111.80 309 *i* PKIKP PKPdf 17 27 21.4 +1.4
KKAR pmax pmax
comp=Z,2μm,3.0s
RES Resolute Bay 112.18 17 *e*PKP PKPdf 17 27 20.0 -0.1
RES *e*SKPdf 17 30 47.6
BVA0 Borovoye Array 113.26 320 *i* PKIKP PKPdf 17 27 22.7 +0.1
BVA0 pmax pmax
comp=Z,69nm,2.2s
BVAR Borovoye Array 113.26 320 Pdiff Pdif 17 23 32.6 +2.3
comp=Z,0.6nm,0.5s,baz=95,slow=5.0,SNR=5.4
BVAR PKiKP 17 27 23.6
comp=Z,3.2nm,0.4s,baz=140,slow=1.9,SNR=33
BVAR PP PP 17 28 14.8 -4.1
comp=Z,4.2nm,0.7s,baz=90,slow=4.4,SNR=7.2
BVAR PKKPbc 17 38 08.9
comp=Z,3.6nm,0.5s,baz=274,slow=2.7,SNR=27
SIV San Ignacio 116.92 122 PKP PKPdf 17 27 31.4 +0.8
comp=Z,4.7nm,0.6s,baz=260,slow=3.8,SNR=23
SIV PKKPbc 17 37 57.9
comp=Z,2.5nm,0.9s,baz=11,slow=12,SNR=5.5
JMDO Jabal Madar 117.95 284 P PKPdf 17 27 34.5 +2.0
SNR=8.3
SUR Sutherland 118.73 209 PKP PKPdf 17 27 35.6 +1.8
comp=Z,28nm,0.7s,baz=118,slow=3.2,SNR=18
BSY Bisya 118.85 285 P PKPdf 17 27 36.1 +1.8
SNR=27
SVE Sverdlovsk 118.95 324⇑ *i*PKIKP PKPdf 17 27 31.9 -1.7
SVE *e* 17 34 40.0
SVE pmax pmax
comp=Z,160nm,2.4s
SAML Samuel 119.03 114 *e*PKPdf PKPdf 17 27 34.9 +0.1
BOSA Boshof 119.62 215 PKP PKPdf 17 27 36.8 +1.2
comp=Z,12nm,0.5s,baz=153,slow=2.7,SNR=44
BOSA Boshof 119.62 215 *e*PKPdf PKPdf 17 27 37.2 +1.6
SDV Santo Domingo 119.95 92 *e*PKPdf PKPdf 17 27 36.3 -0.2
SDV *e*SKPdf 17 31 05.0
ARU Arti 120.13 323 *i* PKIKP PKPdf 17 27 36.5 +0.6
ARU *i* 17 28 59.0
ARU *e*S SKS 17 34 25.5 0.0
ARU *e* 17 34 41.9
ARU Arti 120.13 323 *e*PKPdf PKPdf 17 27 36.7 +0.8
ARU *e*SKPdf 17 31 04.4
RBK Rabkut 120.28 278 P PKPdf 17 27 39.5 +2.4
SNR=17
SOKR Solikamsk 120.67 327 *c i*PKIKP PKPdf 17 27 38.2 +1.3
SOKR 17 34 26.3
SOKR SS SS 17 45 32.2 +1.4
SOKR pmax pmax
comp=Z,30nm,1.0s
WHFO Wadi Hawf 120.79 278 P PKPdf 17 27 40.1 +2.0
SNR=27
ABTO Aybut 121.08 278 P PKPdf 17 27 41.3 +2.6
SNR=9.9
MVL Millersville 121.17 56 *e*PKPdf PKPdf 17 27 38.8 +0.4
LBTB Lobatse 122.24 218 *e*PKIKP PKPdf 17 27 41.7 +1.0
NCB Newcomb 122.86 51 *e*PKPdf PKPdf 17 27 41.8 +0.3
NCB *e*SKPdf 17 31 09.6
MIV Mineville/With 123.36 51 *e*PKPdf PKPdf 17 27 42.3 -0.2
QUA2 Belchertown 124.25 53 *e*PKPdf PKPdf 17 27 44.5 +0.2
CAM4 Nova Friburgo 125.41 142 (P) PKPdf 17 27 47.9 +0.9
SCHQ Schefferville 126.33 37 PKP PKPdf 17 27 47.3 -0.6
comp=Z,18nm,1.1s,baz=316,slow=1.9,SNR=13
SCHQ Schefferville 126.33 37 *e*PKPdf PKPdf 17 27 47.8 -0.1
LVZ Lovozero 126.59 341 *e*P Pdif 17 24 45.5 +17
LVZ *e*PS PS 17 39 52.6 +3.0
LVZ MLR MLR
comp=N,10μm,23.0s
LVZ MLR MLR
comp=Z,16μm,23.0s
LVZ MLR MLR
comp=E,7μm,22.0s
SUMG Summit 126.78 11 *e*PKPdf PKPdf 17 27 49.5 +1.2
SUMG *e*SKPdf 17 31 17.6
SJG San Juan 126.84 83 *e*PKIKP PKPdf 17 27 49.1 -0.7
BDFB Brasilia 126.86 131 PKP PKPdf 17 27 49.6 -0.3
comp=E,43nm,0.6s,baz=277,slow=1.8,SNR=31
BAO Brasilia Array 126.89 131 PKPdf PKPdf 17 27 47.0 -2.9
APA Apatity 127.17 341⇑ *i*PKIKP PKPdf 17 27 49.4 +0.2
APA *i* 17 34 46.0
APA *i* PS PS 17 39 51.0 -3.6
APA *i* PPS PPS 17 41 24.0 -4.7
APA pmax pmax
comp=Z,720nm,2.2s
KEV Kevo 127.45 345 *ep* PKPdf 17 27 45.8 -3.9
EMMW East Machias 127.67 50 PKPdf PKPdf 17 27 50.9 +0.2
LSZ Lusaka 127.76 228 *e*PKIKP PKPdf 17 27 52.9 +1.2
LSZ *e* 17 29 53.0
CAM3 Guarapari 127.86 142 *e*P PKPdf 17 27 52.6 +0.8
CAM3 *i* 17 27 55.7
ARCES ARCESS Array B 127.97 345 PKhKP 17 27 34.6
comp=Z,9.4nm,1.2s,baz=45,slow=1.7,SNR=5.4
ARCES PKP PKPdf 17 27 50.6 -0.1
comp=Z,20nm,0.4s,baz=72,slow=1.6,SNR=117
ARCES SKPbc 17 31 01.8
comp=Z,64nm,1.1s,baz=45,slow=3.4,SNR=22
ARE0 ARCESS Array S 127.97 345 *e*PKPdf PKPdf 17 27 51.1 +0.4
PECR Pechory 128.02 325 *i* PKIKP PKPdf 17 27 52.6 +1.5
PECR pmax pmax
comp=Z,320nm,2.0s
PECR pmax pmax
comp=Z,1μm,4.0s
MAK Makhachkala 128.60 308 *c i*PKIKP PKPdf 17 27 54.5 +1.9
MAK *i* 17 30 02.0
MAK *e*PPP PPP 17 32 47.0 -2.5
MAK *e* 17 34 55.0
MAK *i* PS PS 17 40 03.0 -4.4
MAK pmax pmax
comp=Z,1μm,4.0s
MAK pmax pmax
comp=N,700nm,8.0s
MAK pmax pmax
comp=E,1μm,8.0s
MAK pmax pmax
comp=Z,4μm,8.0s
KMBO Kilima Mbogo 129.00 249 PKP PKPdf 17 27 55.8 +1.7
comp=Z,18nm,1.0s,baz=67,slow=2.5,SNR=51
KMBO Kilima Mbogo 129.00 249 *e*PKPdf PKPdf 17 27 56.6 +2.5
KMBO *e*SKPdf 17 31 13.7
TRO Tromso 129.34 348 *e*P PKPdf 17 27 53.1 -0.2
TRO *e* 17 31 00.0
TRO LR LR
comp=Z,4994μm,19.9s
TRO Tromso 129.34 348 *e*P PKPdf 17 27 53.1 -0.2
TRO *e*PP PP 17 30 02.2 -5.4
TRO *e*SS SS 17 47 32.2 +12
TRO AMS AMS 18 17 08.4
comp=Z,5μm,19.9s
DGRG David-gareji 130.32 306 P PKPdf 17 27 57.0 +1.1
DGRG S 17 31 14.6
JOF Joensuu 130.70 337 *ep* PKPdf 17 27 56.7 +0.7
comp=Z,8.9nm,0.4s
TI2 Plekhanov 130.75 307 *d i*PKIKP PKPdf 17 27 59.6 +2.9
TI2 *e* 17 40 22.6
TI2 pmax pmax
comp=Z,10μm,6.0s
TI2 MLR MLR
comp=N,4μm,25.0s
TI2 MLR MLR
comp=E,3μm,25.0s
TI2 MLR MLR
comp=Z,2μm,25.0s
TBLG Delisi 130.76 307 P PKPdf 17 27 58.8 +2.0
TBLG S 17 31 15.4
GNI Garni 130.91 305 *e*P PKPdf 17 27 59.5 +2.4
GNI Garni 130.91 305 *d i*PKIKP PKPdf 17 27 58.6 +1.5
GNI Garni 130.91 305 PKP PKPdf 17 27 59.2 +2.1
comp=Z,5.4nm,0.6s,baz=293,slow=2.7,SNR=14
JMIC Jan Mayen 130.93 360 PKP PKPdf 17 27 58.6 +2.3
comp=Z,25nm,0.5s,baz=270,slow=7.1,SNR=2.6
JMIC Jan Mayen 130.93 360 *e*PP PP 17 30 15.2 -2.9
JMIC *e*SS SS 17 47 41.9 +3.1
JMIC AMS AMS 18 13 11.9
comp=Z,1μm,24.3s
ZEI Tsey 131.25 308 *e*PKIKP PKPdf 17 27 58.0 +0.3
ZEI *i* 17 30 14.4
TSUM Tsumeb 131.31 215 *e*PKPdf PKPdf 17 27 59.4 +1.1
TSUM *e*PP PP 17 30 14.4 -7.3
TSUM *e*SKPbc 17 31 19.1
BHD Baghdad 131.44 296 *i* PKP PKPdf 17 27 54.0 -4.3
BHD *i* SKP 17 30 10.0
BHD *i* PPP 17 31 11.0
GOF Gofitskoye 131.51 311⇑ *i*PKIKP PKPdf 17 27 57.6 -0.5
GOF *i* 17 30 24.8
GOF pmax pmax
comp=Z,340nm,2.5s
MOS Moscow 131.60 326 *e*PKIKP PKPdf 17 27 59.2 +1.3
MOS *e* 17 28 09.8
MOS *e* 17 30 19.7
MOS *e*PS PS 17 40 29.4 -3.0
MOS *e*SS SS 17 47 54.2 +6.3
MOS pmax pmax
comp=Z,700nm,2.8s
CLDR Caldiran 131.63 303 *e*P PKPdf 17 28 03.5 +5.0
KIV Kislovodsk 131.95 310 *i* PKIKP PKPdf 17 27 59.8 +0.9
KIV Kislovodsk 131.95 310 *i* PKPr 17 27 59.8
VANB Van 132.09 303 *e*P PKPdf 17 27 59.5 +0.1
VOR Voronezh 132.25 321 PKIKP PKPdf 17 28 00.0 +0.7
VOR 17 30 21.0
VOR *e* 17 35 04.5
VOR pmax pmax
comp=Z,320nm,2.3s
VOR pmax pmax
comp=Z,210nm,2.5s
OBN Obninsk 132.41 326 *i* PKIKP PKPdf 17 28 00.6 +1.1
OBN Obninsk 132.41 326⇑ *i*PKP PKPdf 17 28 00.7 +1.2
MSL Mosul 132.46 300 *e*PKP PKPdf 17 28 02.5 +2.3
MSL *e*SKP 17 31 23.5
MSL *e*SKS SKS 17 35 03.5 +1.8
KAF Kangasniemi 133.00 338 *ep* PKPdf 17 28 01.8 +1.4
comp=Z,6.2nm,0.4s
FINES FINESS Array B 133.53 337 PKhKP 17 27 47.3
comp=Z,0.9nm,0.5s,baz=68,slow=4.1,SNR=10
FINES PKP PKPdf 17 28 02.0 +0.6
comp=Z,4.7nm,0.4s,baz=90,slow=4.2,SNR=20
FINES SKPbc 17 31 22.3
comp=Z,238nm,1.1s,baz=63,slow=4.3,SNR=61
FINES FINESS Array B 133.53 337 PKP 17 27 47.3
FINES PKP PKPdf 17 28 02.0 +0.6
FINES SKPbc 17 31 22.3
BEST Besiri 133.81 302 *i* P PKPdf 17 28 05.9 +3.4
SOC Sochi 134.13 310 *i* PKIKP PKPdf 17 28 02.4 -0.6
SOC *i* 17 30 32.7
SOC pmax pmax
comp=Z,28nm,1.3s
SOC pmax pmax
comp=N,4.0nm,0.7s
SOC pmax pmax
comp=E,3.0nm,0.7s
SOC Sochi 134.13 310 *e*P PKPdf 17 28 01.4 -1.6
MBAR Mbarara 134.86 246 *e*PKPdf PKPdf 17 28 05.6 +0.4
MBAR *e*PP PP 17 30 40.4 -3.6
MBAR *e*SKPbc 17 31 31.5
NSS Namsos 135.12 347 *e*P PKPdf 17 27 53.1 -11
NSS *e* 17 31 19.6
NSS Namsos 135.12 347 *e*P PKPdf 17 27 55.0 -9.3
NSS *e*PP PP 17 30 40.9 -3.3
NSS AMS AMS 18 24 20.7
comp=Z,9μm,23.0s
ANN Anapa 135.45 312 *d i*PKIKP PKPdf 17 28 05.1 -0.3
ANN pmax pmax
comp=Z,112nm,3.9s
ANN MLR MLR
comp=N,9μm,25.0s
ANN MLR MLR
comp=E,11μm,25.0s
ANN MLR MLR
comp=Z,8μm,25.0s
ANN Anapa 135.45 312 *e*P PKPdf 17 28 04.0 -1.4
ELZG Elazig 135.53 303 *i* P PKPdf 17 28 06.1 +0.3
URFA Urfa 135.78 302 *e*P PKPdf 17 28 08.8 +2.6
MALT Malatya 135.99 303 *e*P PKPdf 17 28 05.8 -0.7
MALT Malatya 135.99 303 PKIKP PKPdf 17 28 03.0 -3.6
MALT Malatya 135.99 303⇑P PKPdf 17 28 03.2 -3.4
BORG Borgarnes 136.49 7 SKPbc 17 31 31.9
comp=Z,88nm,0.9s,baz=23,slow=1.2,SNR=13
GZT Gaziantep 136.79 302 *i* P PKPdf 17 28 02.0 -6.1
MNK Minsk 137.10 329⇑ *e*PKIKP PKPdf 17 28 08.0 -0.1
IZAR Zarasai 137.11 331 *e*P 17 31 33.6
IZAR AMPb AMB 17 31 37.7
comp=Z,130nm,1.4s
IDID Didziasalis 137.15 330⇓ *i*P 17 31 33.9
IDID AMPb AMB 17 31 37.8
comp=Z,77nm,1.5s
ISAL Salakas 137.27 331⇓ *i*P 17 31 34.6
ISAL AMPb AMB 17 31 38.3
comp=Z,83nm,1.5s
KAHT Ahir Dag 137.30 302 *i* P PKPdf 17 28 09.3 +0.3
SIM Simferopol' 137.67 313 *de*PKIKP PKPdf 17 28 11.0 +1.5
SIM Simferopol' 137.67 313⇑ *i*P PKPdf 17 28 08.0 -1.5
ASF Jabal al Asfar 137.76 294 PKP PKPdf 17 28 11.9 +1.9
comp=Z,4.1nm,0.4s,baz=10.0,slow=2.5,SNR=5.1
ASF SKPbc 17 31 37.3
comp=Z,42nm,1.1s,baz=324,slow=1.1,SNR=13
COBT Iskenderun 137.94 301 *i* P PKPdf 17 28 01.1 -9.1
BOYT Boyabat 138.08 308 *i* P PKPdf 17 28 03.9 -6.5
NB2 NORSAR Subarra138.35 345 PKPdf PKPdf 17 28 03.1 -7.2
comp=Z,188nm,2.5s,baz=27,slow=1.8
NB2 NORSAR Subarra138.35 345 PKPdf 17 28 03.1
NB2 PKPdf PKPdf 17 28 09.7 -0.6
NB2 NORSAR Subarra138.35 345 PKPd 17 28 03.1
baz=27,slow=1.8
NOA NORSAR Array B 138.35 345 PKhKP 17 28 02.7
comp=Z,1.4nm,0.5s,baz=32,slow=2.9,SNR=9.0
NOA PKP PKPdf 17 28 10.9 +0.6
comp=Z,1.1nm,0.5s,baz=73,slow=2.6,SNR=16
NOA SKPbc 17 31 36.6
comp=Z,94nm,1.0s,baz=17,slow=4.2,SNR=41
NOA NORSAR Array B 138.35 345 PKP 17 28 02.7
NOA PKP PKPdf 17 28 10.9 +0.6
NOA SKPbc 17 31 36.6
AKASG Malin Array Be 138.38 323 PKhKP 17 28 01.5
comp=Z,1.4nm,0.3s,baz=44,slow=3.9,SNR=17
AKASG PKP PKPdf 17 28 10.2 -0.4
comp=Z,8.5nm,0.6s,baz=55,slow=2.6,SNR=27
AKASG PP PP 17 31 00.5 -4.4
comp=Z,0.3nm,0.3s,baz=55,slow=4.6,SNR=4.0
AKASG SKPbc 17 31 38.0
comp=Z,65nm,1.0s,baz=46,slow=2.8,SNR=27
AKASG Malin Array Be 138.38 323 PKP 17 28 01.5
AKASG PKP PKPdf 17 28 10.2 -0.4
AKASG PP PP 17 31 00.5 -4.4
AKASG SKPbc 17 31 38.0
HFS Hagfors 138.49 343 PKhKP 17 28 00.8
comp=Z,1.5nm,0.3s,baz=67,slow=4.7,SNR=16
HFS PKP PKPdf 17 28 07.5 -3.1
comp=Z,10nm,0.5s,baz=90,slow=4.3,SNR=23
HFS SKPbc 17 31 37.5
comp=Z,113nm,1.0s,slow=1.5,SNR=33
CORM Corum 138.56 306 *e*P PKPdf 17 28 13.8 +2.5
BHL Bhannes 138.70 297 *e*P PKPdf 17 28 13.1 +1.4
BALT Daday 139.16 309 *i* P PKPdf 17 28 05.0 -7.3
BALT Daday 139.16 309 *i* P 17 31 40.9
ELDT Eldivan 139.39 307 *i* P PKPdf 17 28 06.1 -6.7
ELDT Eldivan 139.39 307 *i* P 17 31 42.0
EIL Elat 139.49 290 *e*PKPdf PKPdf 17 28 14.1 +0.9
EIL *e*SKPdf 17 31 43.4
SUW Suwalki 139.58 331 *i* PKIKP PKPdf 17 28 16.9 +4.2
SUW *e* 17 35 19.6
SUW Suwalki 139.58 331 *e*PKP PKPdf 17 28 14.9 +2.2
SUW *e*PKPdf PKPdf 17 28 16.9 +4.2
SUW *e*PP 17 31 41.2
SUW *e*SKS SKS 17 35 19.6 +6.0
SUW *e* 17 37 54.4
SUW Suwalki 139.58 331 *e*PKP PKPdf 17 28 14.9 +2.3
SUW *e*PKIKP PKPdf 17 28 16.9 +4.2
SUW *e*PP 17 31 41.2
SUW *e*SKS SKS 17 35 19.6 +6.1
SUW *e* 17 37 54.4
SUW MLR MLR 18 22 03.5
comp=Z,24μm,32.3s
MEST Erdemli 139.61 301 *i* P PKPdf 17 28 08.7 -4.5
PHNC Paralimni 139.92 299 P 17 31 42.9
KONO Kongsberg 139.96 345 *e*PP PP 17 31 10.4 -3.6
KONO *e*SS SS 17 49 27.9 +0.7
ANTO Ankara 140.01 306 *e*P PKPdf 17 28 03.5 -10
ANTO Ankara 140.01 306 PKIKP PKPdf 17 28 16.6 +2.7
BER Bergen 140.20 349 *e*PP PP 17 31 11.3 -4.1
BER *e*SS SS 17 49 31.2 +1.2
CAUB Caruaru 140.33 136 *c i*P PKPdf 17 28 07.7 -7.4
CAUB *e* 17 28 09.8
CAUB *i* 17 28 16.3
CAUB *i* 17 28 52.6
CAUB *i* 17 31 10.5
CAUB *e* 17 31 44.8
CAUB *i* 17 31 54.6
KIS Kishinev 140.33 318 *e*PKIKP PKPdf 17 28 15.0 +0.7
KIS *e* 17 31 16.0
KIS *i* PPS PPS 17 43 42.0 +5.9
SGKT Sivrigoynuk 140.38 308 *i* P PKPdf 17 28 09.5 -5.1
SGKT Sivrigoynuk 140.38 308 *i* P 17 31 45.0
CS6B Jaguaretama 140.47 130 *e* 17 28 07.0
CS6B *i* 17 28 17.9
CS6B *i* 17 31 14.4
CS6B *i* 17 31 52.5
CS6B *e* 17 32 24.0
CSS Prodhromos 140.50 299⇓P 17 31 45.3
comp=Z,1.9nm,1.3s
CSS Prodhromos 140.50 299 *e*P PKPdf 17 28 09.8 -5.1
CSS Prodhromos 140.50 299 *e*PKPpre 17 28 10.0
CSS *e*SKPdf 17 31 45.3
MAMC Mammari 140.56 299 P 17 31 45.6
HDMB Hadim 140.86 302 *e*P PKPdf 17 28 13.8 -1.8
KIZT Kizilcal 140.93 305 *e*P PKPdf 17 28 12.4 -3.2
ALFC Alevga 141.06 299 P 17 31 46.1
comp=Z,0.9nm,0.9s
TLCR 141.09 316⇑P PKPdf 17 28 12.1 -3.6
HENT Hendek 141.16 308 *i* P PKPdf 17 28 13.6 -2.3
HENT Hendek 141.16 308 *i* P 17 31 45.0
PPCY Paphos 141.31 299 P 17 31 47.5
CFR Carcaliu 141.53 316⇑P PKPdf 17 28 13.8 -2.6
ESKT Eskisehir 141.55 306 *i* P PKPdf 17 28 13.1 -3.5
ESKT Eskisehir 141.55 306 *i* P 17 31 45.7
TIRR Tirgusor 141.64 315⇑P PKPdf 17 28 15.9 -0.7
LVV L'vov 141.68 325 *e*PKHKP 17 28 13.5
WAR Warsaw 141.72 330 *e*PKIKP PKPdf 17 28 18.2 +1.7
WAR *e* 17 35 23.4
WAR Warsaw 141.72 330 *e*PKP PKPdf 17 28 18.2 +1.7
WAR *e*PKPdf PKPdf 17 28 21.2 +4.7
WAR *e*PP 17 31 47.3
WAR *e*SKS SKS 17 35 23.4 +6.3
WAR LR LR
comp=Z,23μm,30.7s
WAR Warsaw 141.72 330 *e*PKP PKPdf 17 28 18.2 +1.8
WAR *e*PKIKP PKPdf 17 28 21.2 +4.7
WAR *e*PP 17 31 47.4
WAR *e*SKS SKS 17 35 23.4 +6.3
WAR MLR MLR 18 23 19.4
comp=Z,23μm,30.7s
VRI Vrincioaia 142.13 318 PKHKP 17 28 14.4
VRI Vrincioaia 142.13 318⇑P PKPdf 17 28 16.2 -1.2
RCBR Riachuelo 142.15 134 *e*PKPpre 17 28 12.8
BSD Bornholm Skovb 142.18 337⇑ *i*PKHKP 17 28 14.1
BSD *i* 17 31 26.3
BSD *i* 17 43 47.8
BSD Bornholm Skovb 142.18 337⇑ *i*P PKPdf 17 28 14.1 -3.1
comp=Z,48nm,1.2s
BSD *i* 17 31 26.3
BSD *i* S 17 38 10.6
BSD *i* 17 41 25.1
BSD *i* 17 43 47.8
comp=Z,8μm,24.0s
BURAR Bucovina Array 142.20 321⇓P PKPdf 17 28 16.0 -1.5
BURAR Bucovina Array 142.20 321⇓P PKPdf 17 28 16.0 -1.5
ISP Isparta 142.22 304 *e*P PKPdf 17 28 13.8 -4.1
YLV Yalova 142.34 309 *e*P PKPdf 17 28 16.1 -1.8
ISK Istanbul-Kandi 142.41 309 *e*P PKPdf 17 28 16.1 -1.9
KWP Kalwaria 142.49 325 *e*PKPdf PKPdf 17 28 18.1 +0.2
KWP *e*PKPdf PKPdf 17 28 22.4 +4.5
KWP *e*PP PP 17 31 28.5 -0.9
KWP *e*SKS SKS 17 35 28.0 +10
KWP *e* 17 38 13.6
KWP Kalwaria 142.49 325 *e*PKP PKPdf 17 28 15.3 -2.5
KWP *e*PKIKP PKPdf 17 28 22.4 +4.5
KWP *e*PP PP 17 31 28.5 -0.9
KWP *e*SKS SKS 17 35 28.0 +10
KWP *e* 17 38 13.6
KWP MLR MLR 18 25 02.3
comp=Z,15μm,29.8s
COP Copenhagen 142.56 340⇑ *i*PKIKP PKPdf 17 28 15.6 -2.2
COP *e* 17 31 28.9
COP MLR MLR
comp=Z,9μm,22.0s
COP Copenhagen 142.56 340⇑ *i*P PKPdf 17 28 15.6 -2.2
COP *e* 17 31 28.9
COP *i* 17 31 48.5
COP *i* S 17 38 11.4
COP *i* 17 40 19.5
comp=Z,9μm,22.0s
ULDT Uludag 142.64 308 *i* P PKPdf 17 28 17.1 -1.4
ULDT Uludag 142.64 308 *i* P 17 31 49.8
GKP Gorka Klasztor 142.67 334 *e*PKIKP PKPdf 17 28 17.6 -0.5
GKP MLR MLR
comp=Z,32μm,29.4s
GKP Gorka Klasztor 142.67 334 *e*PKP PKPdf 17 28 17.6 -0.5
GKP *e*PP 17 31 49.9
GKP *e* 17 38 13.7
GKP LR LR
comp=Z,32μm,29.4s
GKP Gorka Klasztor 142.67 334 *e*PKP PKPdf 17 28 17.6 -0.5
GKP *e*PP 17 31 49.9
GKP *e* 17 38 13.7
GKP MLR MLR 18 25 47.5
comp=Z,32μm,29.4s
MLR Muntele Rosu 142.79 318 PKhKP 17 28 16.1
comp=Z,17nm,0.5s,baz=348,slow=3.3,SNR=64
MLR SKPbc 17 31 50.1

comp=Z,106nm,1.2s,baz=34,slow=5.1,SNR=7.0
MLR Muntele Rosu 142.79 318 ⇑P PKPdf 17 28 17.6 -0.9
MLR Muntele Rosu 142.79 318 ⇑P PKPdf 17 28 17.6 -0.9
MUD Monsted U'grnd 142.88 343 *e*PKIKP PKPdf 17 28 16.9 -1.4
MUD *e* 17 31 30.0
MUD *i* 17 50 05.1
MUD pmax pmax
comp=Z,19nm,0.6s
MUD MLR MLR
comp=Z,10μm,25.0s
MUD Monsted U'grnd 142.88 343 *e*P PKPdf 17 28 16.9 -1.4
MUD *e* 17 31 30.0
MUD *i* 17 31 49.4
MUD *e* 17 41 13.9
MUD *i* 17 50 05.1
MUD Monsted U'grnd 142.88 343 *i* P PKPdf 17 28 16.9 -1.4
comp=Z,19nm,0.6s
MUD *e* 17 31 30.0
MUD *i* 17 31 49.4
MUD *e* 17 41 13.9
MUD *i* 17 50 05.1
comp=Z,10μm,25.0s
GOLH Golhisar 143.09 303 *i* P PKPbc 17 28 15.5 -1.9
SNX Sinaia 143.12 318 PKIKP PKPdf 17 28 18.4 -0.7
KOLS Kolonicke sedl 143.13 325 *e*PKP PKPdf 17 28 18.6 -0.4
KOLS *e* 17 28 20.0
KOLS *e*SKP 17 31 52.0
BUC1 Bucharest 143.24 316 PKIKP PKPdf 17 28 19.8 +0.5
AKAS Kas 143.27 302 *i* P PKPbc 17 28 17.4 -0.6
DNZL Cakiroluk 143.38 304 *i* P PKPbc 17 28 18.1 -0.2
BNT Bandirma 143.46 309 *e*P PKPbc 17 28 17.7 -0.7
MTUR Matau 143.46 318 ⇑P PKPbc 17 28 20.1 +1.8
MANT Manisa 143.54 306 *i* P PKPbc 17 28 19.2 +0.4
BTOK Tokmak 143.57 308 *i* P PKPbc 17 28 18.1 -0.7
BTOK Tokmak 143.57 308 *i* P 17 31 50.9
CRVS Cervenica-Dubn 143.58 325 *e*PKP PKPdf 17 28 20.2 +0.4
CRVS *e* 17 28 21.5
CRVS *e*SKKSac 17 38 17.3
CRVS Cervenica-Dubn 143.58 325 *e*PKP PKPdf 17 28 20.2 +0.4
CRVS *e* 17 28 21.5
CRVS *e*SKP 17 31 54.7
CRVS *e* 17 32 30.5
FETY Fethiye 143.60 302 *e*P PKPbc 17 28 19.4 +0.4
MRMT Marmara Adasi 143.61 309 *e*P PKPbc 17 28 16.9 -2.0
OJC Ojcow 143.61 328 *e*PKP PKPdf 17 28 18.9 -0.9
OJC *e*PP PP 17 31 33.6 -2.5
OJC *e*SS SS 17 50 20.0 +10
OJC MLR MLR 18 32 35.8
comp=Z,15μm,23.0s
JMB Yambol 143.65 313 *e*P PKPbc 17 28 19.0 +0.1
BALB Balikesir 143.71 308 *e*P PKPbc 17 28 17.7 -1.5
SZH Strazhica 143.76 314 *i* P PKPbc 17 28 20.0 +0.7
EDRB Edirne 143.77 312 *e*P PKPbc 17 28 17.7 -1.6
MFT Murefte 143.78 310 *e*P PKPbc 17 28 19.0 -0.4
NIE Niedzica 143.86 327 *e*PKP PKPdf 17 28 20.0 -0.2
NIE *e* 17 31 51.6
SART Tekirdag 143.88 310 *i* P PKPbc 17 28 21.5 +1.8
DALT Dalyan (Mudla) 143.92 303 *e*P PKPbc 17 28 20.9 +0.9
YER Yerkesik 144.10 303 *e*P PKPbc 17 28 20.9 +0.4
PVL Pavlikeni 144.18 315 *e*P PKPbc 17 28 22.0 +1.5
AYDN Tasoluk 144.28 304 *i* P PKPbc 17 28 21.6 +0.6
KECS Kecovo 144.35 325 *e*PKP PKPdf 17 28 22.2 +1.1
KECS *e* 17 28 23.1
ARG Arkhangelos 144.44 302 *e*P PKPbc 17 28 22.5 +1.1
RAC Raciborz 144.48 329 *e*PKIKP PKPdf 17 28 22.4 +1.1
RAC *e* 17 31 39.8
RAC MLR MLR
comp=Z,32μm,26.3s
RAC Raciborz 144.48 329 *e*PKPdf PKPdf 17 28 22.4 +1.1
RAC *e*PP PP 17 31 39.8 -1.5
RAC MLR MLR 18 27 19.3
RAC LME 18 27 27.9
RAC LMN 18 27 54.2
comp=Z,35μm,26.6s
DIM Dimitrovgrad 144.53 313 *i* P PKPbc 17 28 22.0 +0.5
KDAG Bornova 144.54 306 *i* P PKPbc 17 28 22.3 +0.6
KDAG Bornova 144.54 306 *i* P 17 31 53.0
IZM Izmir 144.54 306 *e*P PKPbc 17 28 22.3 +0.6
ALN Alexandroupoli 144.61 311 *e*P PKPbc 17 28 22.0 +0.3
RUE Ruedersdorf 144.65 335 *e*PKPdf PKPdf 17 28 22.4 +0.8
OKC Ostrava-Krasne 144.67 329 *e*PKIKP PKPdf 17 28 22.3 +0.6
OKC *e*SS tx 17 51 05.5
OKC *e* 17 55 52.3
OKC Ostrava-Krasne 144.67 329 *e*PKPDF PKPdf 17 28 22.3 +0.6
OKC *ex* x 17 28 23.5
OKC *e*SKP 17 31 55.4
OKC *ex* x 17 41 38.8
OKC *ex* x 17 51 05.5
OKC *ex* x 17 55 52.3
OKC AMS AMS 18 26 50.0
comp=Z,23μm,27.4s
AYVA Ayvalik 144.69 308 *i* P PKPbc 17 28 21.1 -0.9
AYVA Ayvalik 144.69 308 *i* P 17 31 55.2
BSEG Bad Segeberg 144.70 340 *e*PKP PKPdf 17 28 22.4 +0.8
BSEG *e*SKPdf 17 31 54.1
LIKS Likavka 144.71 327 *e*PKP PKPdf 17 28 24.8 +3.0
BLCB Balcova 144.71 306 *e*P PKPbc 17 28 23.0 +0.8
KDZ Kurdzhali 144.77 312 *i* P PKPdf 17 28 23.0 +0.9
BDRM Kayabasi 144.77 304 *i* P PKPdf 17 28 23.0 +0.7
BDRM Kayabasi 144.77 304 *i* P 17 31 56.1
KSP Ksiaz 144.83 331 *e*PKP PKPdf 17 28 23.0 +1.1
KSP *e*pPKP 17 28 43.8
KSP *e*PP PP 17 31 36.0 -7.4
KSP *e*SKKS 17 38 24.0
KSP *e* 17 41 34.0
KSP *e*SS SS 17 50 10.0 -14
KSP LR LR
comp=Z,71μm,32.2s
KSP Ksiaz 144.83 331 *e*PKP PKPdf 17 28 23.3 +1.4
KSP *e*PP PP 17 31 56.0 +13
KSP *e* 17 38 26.6
KSP MLR MLR 18 23 35.0
comp=Z,62μm,32.2s
BODT Bodrum 144.88 304 *e*P PKPdf 17 28 23.4 +0.9
RDO Rodhopi 144.88 311 *e*P PKPdf 17 28 23.5 +1.2
MORC Moravsky Berou 145.00 329 *e*PKIKP PKPdf 17 28 22.9 +0.6
PSZ Piszkesteto 145.01 325 ⇑PKIKP PKPdf 17 28 24.3 +2.0
PSZ Piszkesteto 145.01 325 *e*PKPdf PKPdf 17 28 22.6 +0.2
PSZ Piszkesteto 145.01 325⇓*e*PKP/p 17 28 24.0
PRK Paraskevi 145.02 308 *e*P PKPdf 17 28 23.7 +1.1
SMG Samos 145.06 305 *e*P PKPdf 17 28 24.5 +1.7
PLD Plovdiv 145.07 313 *i* P PKPdf 17 28 24.0 +1.4
NISR Nisiros 145.13 303 *e*P PKPdf 17 28 21.5 -1.4
DPC Dobruska-Polom 145.17 331 *e*PKIKP PKPdf 17 28 24.6 +2.1
DPC *e* 17 55 56.1
DPC Dobruska-Polom 145.17 331 *e*PKPDF PKPdf 17 28 24.6 +2.1
DPC *e*SKP 17 31 56.8
DPC *ex* x 17 41 51.1
DPC *ex* x 17 51 01.9
DPC *ex* x 17 55 56.1
DPC AMS AMS 18 23 20.0
comp=Z,32μm,30.8s
UPC Upice 145.19 331 *e*PKPDF PKPdf 17 28 24.4 +1.8
UPC *e*SKP 17 31 56.0
VYHS Vyhne 145.20 326 *i* PKP PKPdf 17 28 24.4 +1.8
VYHS *e* 17 28 26.3
VYHS *e*SKKSac 17 38 25.6
VYHS Vyhne 145.20 326 *i* PKP PKPdf 17 28 24.4 +1.8
VYHS *e* 17 28 26.3
VYHS *e*SKP 17 31 56.4
VYHS Vyhne 145.20 326⇑*e*SKKSp 17 38 25.6
RZN Rozhen 145.23 312 *i* P PKPdf 17 28 24.0 +1.1
PGB Panagyurishte 145.24 314 *i* P PKPdf 17 28 25.0 +2.1
KARP Karpathos 145.36 301 *e*P PKPdf 17 28 25.0 +1.7
KOLL Kolacno 145.37 327 *i* PKP PKPdf 17 28 25.1 +2.2
KOLL *e* 17 28 26.5
KOLL *i* SKP 17 31 57.1
LOS Limnos 145.65 309 *e*P PKPdf 17 28 27.8 +4.1
EDI Edinburgh 145.74 354 *e*P PKPdf 17 28 24.1 +0.8
EDI AMb AMB 17 28 29.3
comp=Z,597nm,2.0s
BUD Budapest 145.74 325⇑*e*PKP/p 17 28 26.8
VRAC Vranov 145.77 329 PKPbc PKPbc 17 28 24.8 +0.3
comp=Z,65nm,0.5s,baz=36,slow=5.0,SNR=86
VRAC SKPbc 17 31 57.7
comp=Z,32nm,1.1s,baz=19,slow=3.4,SNR=8.6
VRAC Vranov 145.77 329 ⇓P PKPdf 17 28 26.0 +2.4
PVCC Panska Ves 145.81 332 *e*PKIKP PKPdf 17 28 24.9 +1.3
PVCC *e* 17 28 27.7
PVCC *e* 17 31 57.8
PVCC *e* 17 56 05.0
PVCC MLR MLR
comp=Z,20μm,24.5s
PVCC Panska Ves 145.81 332 *e*PKPDF PKPdf 17 28 24.9 +1.3
PVCC *ex* x 17 28 27.7
PVCC *e*SKP 17 31 57.8
PVCC *ex* x 17 41 55.5
PVCC *ex* x 17 50 47.6
PVCC *ex* x 17 56 05.0
PVCC AMS AMS 18 29 00.0
comp=Z,20μm,24.5s
BRG Berggiesshubel 145.82 333 *i* PKP2 PKPab 17 28 25.9 -1.0
BRG *i* 17 31 50.0
BRG pmax pmax
comp=Z,759nm,1.4s
BRG Berggiesshubel 145.82 333 *i* PKP PKPdf 17 28 25.9 +2.3
BRG *i* 17 28 27.2
BRG *i* pPKP 17 28 47.0
BRG *i* SKP 17 31 50.0
BRG *i* 17 31 57.7
BRG *i* SKKS 17 38 31.6
BRG *e* 17 38 38.0
BRG *e* 17 38 53.6
BRG LR LR
comp=Z,20μm,29.5s
VTS Vitosha 145.86 315 *i* P PKPdf 17 28 25.0 +1.0
CLL Collm 145.87 335 *i* PKP2 PKPab 17 28 25.8 -1.3
CLL *i* 17 31 57.0
CLL pmax pmax
comp=Z,2μm,2.1s
CLL MLR MLR
comp=Z,13μm,22.8s
CLL Collm 145.87 335 *i* PKP PKPdf 17 28 25.8 +2.1
CLL *e*pPKP 17 28 49.0
CLL *i* SKP 17 31 57.0
CLL *e*SKKS 17 38 29.0
CLL LR LR
comp=Z,13μm,22.8s
CLL Collm 145.87 335⇑*i*PKP1 PKPbc 17 28 25.8 +1.1
CLL *e**PPKP 17 28 44.0
CLL *e* 17 28 49.0
CLL *e* 17 28 59.0
CLL *i* 17 31 57.0
CLL *e**SPP 17 32 14.0
CLL *e* 17 32 20.0
CLL *e*PPP PPP 17 35 12.0 +5.9
CLL *e* 17 38 29.0
CLL *e*SKKP 17 39 52.0
CLL *e*SKSP 17 41 52.0
CLL *e*PPS PPS 17 44 23.0 -4.4
CLL *e*SS SS 17 50 36.0 +0.6
CLL *e*SSS SSS 17 55 48.0 -18
CLL *e* 18 05 06.0
SRO2 Moca 145.90 326 *e*PKP PKPdf 17 28 26.9 +3.1
SMOL Smolenice 145.90 328 *i* PKP PKPdf 17 28 27.4 +3.6
SMOL *e* 17 28 29.1
SMOL *e*SKP 17 31 58.3
SRO Srobarova 145.91 326 *e*PKP PKPdf 17 28 27.3 +3.4
MMB Musomiste 145.95 313 *i* P PKPdf 17 28 25.0 +0.9
SRO1 Iza 145.98 326 *e*PKP PKPdf 17 28 27.8 +3.8
SRO1 *e*SKP 17 31 57.9
BOLS Boljevac 146.08 317⇑*i*PKP PKPdf 17 28 25.3 +1.0
PRA Prague 146.21 332 PKPDF PKPdf 17 28 27.0 +2.7
PRA *ex* x 17 28 38.0
PRA SKP 17 31 55.0
PRU Pruhonice 146.22 332 *e*PKIKP PKPdf 17 28 25.6 +1.3
PRU *e* 17 31 58.6
PRU *e* 17 56 07.8
PRU MLR MLR
comp=Z,25μm,25.4s
PRU Pruhonice 146.22 332 *e*PKPDF PKPdf 17 28 25.6 +1.3
PRU *e*SKP 17 31 58.6
PRU *ex* x 17 41 50.4
PRU *ex* x 17 51 03.8
PRU *ex* x 17 56 07.8
PRU AMS AMS 18 29 10.0
comp=Z,25μm,25.4s
SRS Serrai 146.24 312 *e*P PKPdf 17 28 25.1 +0.4
APE Apeiranthos 146.24 304 *e*P PKPdf 17 28 24.0 -0.8
APE Apeiranthos 146.24 304 *e*P PKPdf 17 28 27.5 +2.7
KKB Krupnik 146.27 314 *i* P PKPdf 17 28 25.0 +0.3
ZST Bratislava 146.28 327 *e*PKP PKPdf 17 28 26.8 +2.3
ZST *e*SKKSac 17 38 34.2
ZST Bratislava 146.28 327 *e*PKP PKPdf 17 28 26.8 +2.3
ZST *e*SKP 17 31 58.4
ZST *e*L 17 35 54.8
ZST Bratislava 146.28 327⇑*e*SKKSp 17 38 34.2
ZST Bratislava 146.28 327 *e* 17 39 48.2
OUR Ouranopolis 146.28 311 *e*P PKPdf 17 28 26.4 +1.6
SVIS Svilajnac 146.30 319⇑*i*PKP PKPdf 17 28 25.0 +0.3
EKA Eskdalemuir Ar 146.32 354 PKPbc PKPbc 17 28 25.6 0.0
comp=Z,33nm,0.5s,baz=356,slow=2.7,SNR=150
ESK Eskdalemuir 146.34 354 *e*PKPdf PKPdf 17 28 26.1 +1.7
ESK Eskdalemuir 146.34 354 *e*P PKPdf 17 28 25.4 +1.1
ESK AMb AMB 17 28 31.4
comp=Z,532nm,1.6s
CLZ Clausthal 146.43 338 *e*PKPdf PKPdf 17 28 25.8 +1.2
CLZ *e*PKPbc PKPbc 17 28 28.3 +2.3
CLZ *e*SKPdf 17 31 56.8
BBH Bruntsheil 146.49 353 *e*P PKPdf 17 28 25.5 +0.9
SANT Santorini 146.49 303 *e*PKPdf PKPdf 17 28 26.1 +0.9
THR1 Thera Island 146.49 303 *e*P PKPdf 17 28 28.0 +2.7
BWH Wardlaw 146.52 354 *e*P PKPdf 17 28 25.8 +1.2
SOH Sokhos 146.52 312 *e*P PKPdf 17 28 23.9 -1.2
THR3 Thira Island, 146.53 303 *e*P PKPdf 17 28 27.7 +2.4
BHH Howats Hill 146.56 354 *e*P PKPdf 17 28 25.6 +0.8
VKA Vienna 146.62 328⇓*i*PKP PKPdf 17 28 27.0 +1.9
PLG Polygyros 146.64 311 *e*P PKPdf 17 28 28.0 +2.6
PAIG Paliouri 146.65 310 *e*P PKPdf 17 28 27.6 +2.2
NPS Neapolis 146.66 301 *e*P PKPdf 17 28 29.5 +3.9
XRY Khrisi 146.68 301 *e*P PKPdf 17 28 27.0 +1.4
BTA Talkin 146.69 353 *e*P PKPdf 17 28 26.0 +1.0
LCP Cassop 146.70 352 *e*P PKPdf 17 28 26.6 +1.6
PKSM Moragy 146.72 323 ⇑PKIKP PKPdf 17 28 26.9 +1.6
GCL Cushendall 146.81 357 *e*P PKPdf 17 28 25.5 +0.3
BDL Dobcross Hall 146.81 353 *e*P PKPdf 17 28 26.4 +1.2
GRUS Gruza 146.82 318⇑*i*PKP PKPdf 17 28 28.0 +2.4
VAY Valandovo 146.85 313 *i* PKIKP PKPdf 17 28 25.5 -0.2
VAY *i* PP PP 17 31 53.9 -2.0
SOP Sopron 146.89 327⇓*e*PKP/p PKPdf 17 28 26.7 +1.1
BERN Bernov 146.90 334 ⇑P PKPdf 17 28 34.1 +8.6
BBO1 Bothel 146.91 353 *e*P PKPdf 17 28 26.7 +1.4
BBO1 AMb AMB 17 28 31.1
comp=Z,470nm,1.9s
GAL1 Galloway 146.92 355 *e*P PKPdf 17 28 26.4 +1.1
NKC Novy Kostel 146.92 334 *e*PKIKP PKPdf 17 28 26.9 +1.4
NKC *e* 17 28 30.8
NKC *e* 17 32 00.1
NKC *e* 17 56 19.5
NKC Novy Kostel 146.92 334 *e*PKPDF PKPdf 17 28 26.9 +1.4
NKC *ex* x 17 28 30.8
NKC *e*SKP 17 32 00.1
NKC *ex* x 17 42 09.7
NKC *ex* x 17 51 23.2
NKC *ex* x 17 56 19.5
NKC AMS AMS 18 27 10.0
comp=Z,19μm,29.6s
MOX Moxa 146.93 335 *e*PKIKP PKPdf 17 28 26.8 +1.3
MOX *e* 17 31 59.0
MOX Moxa 146.93 335 *i* P PKPdf 17 28 26.8 +1.3
comp=Z,logA/T=2.5
MOX PP PP 17 31 59.0 +3.0
MOX *e* 17 41 52.0
MOX L 18 33 25.0
GRG Griva 147.12 313 *e*P PKPdf 17 28 29.3 +3.1
PTL Penteli 147.19 307 *e*P PKPdf 17 28 30.5 +4.1
NEO Neokhori 147.21 309 *e*P PKPdf 17 28 30.0 +3.6
IDI Anoyia 147.22 302 PKPbc PKPdf 17 28 28.7 +2.2
comp=Z,80nm,0.6s,baz=4.6,slow=4.2,SNR=58
MPAR Parnis Oros 147.26 307 *e*P PKPdf 17 28 30.0 +3.5
KHC Kasperske Hory 147.28 332 *e*PKP PKPdf 17 28 27.8 +1.7
KHC *e* 17 28 31.3
KHC *e* 17 28 34.0
KHC *e*PP PP 17 32 00.5 +2.3
KHC *e* 17 42 09.2
KHC *e*SS SS 17 51 07.4 +15
KHC *e* 17 56 04.3
KHC LR LR
comp=Z,26μm,26.8s
KHC Kasperske Hory 147.28 332 *e*PKPDF PKPdf 17 28 27.8 +1.7
KHC *ex* x 17 28 31.3
KHC x x 17 28 34.0
KHC *e*SKP 17 32 00.5
KHC *ex* x 17 42 09.2
KHC *ex* x 17 51 07.4
KHC *ex* x 17 56 04.3
KHC AMS AMS 18 29 00.0
comp=Z,26μm,26.8s
SKO Skopje 147.31 315⇓*i*PKIKP PKPdf 17 28 27.0 +0.6
SKO ⇑*i*PKP1 PKPdf 17 28 30.5 +4.1
comp=Z,0.2nm,0.7s
SKO *i* PKP2 PKPab 17 28 35.0 +2.0
comp=Z,0.2nm,0.9s
SKO *i* PP PP 17 31 53.0 -5.6
ATH Athens Observa 147.33 307 *e*P PKPdf 17 28 30.0 +3.4
LIT Litokhoron 147.42 311 *e*P PKPdf 17 28 27.3 +0.6
GEC2 GERESS Array S 147.44 331 *e*PKIKP PKPdf 17 28 27.8 +1.4
GEC2 *e* 17 28 31.7
GEC2 *e* 17 32 00.5
GERES GERESS Array B 147.44 331 PKP PKPdf 17 28 28.1 +1.7
comp=Z,43nm,0.6s,baz=91,slow=1.2,SNR=135
GERES PKPbc PKPdf 17 28 31.3 +4.9
comp=Z,50nm,0.7s,baz=27,slow=2.2,SNR=169
GERES SKPbc 17 32 01.2
comp=Z,26nm,0.9s,baz=45,slow=1.9,SNR=6.1
HPK Haverah Park 147.48 351 *e*P PKPdf 17 28 27.2 +0.9
WTSB Winterswijk 147.49 341 *e*PKP PKPdf 17 28 26.3 -0.1
comp=Z,251nm,4.3s
NSAL Nisos Salamina 147.54 307 *e*P PKPdf 17 28 30.5 +3.6
NAIG Nisos Aigina 147.57 307 *e*P PKPdf 17 28 30.5 +3.5
WET Wettzell 147.57 332 *e*PKIKP PKPdf 17 28 28.1 +1.5
WET *e* 17 28 32.1
WET *e* 17 32 00.5
BBLS Bajina Basta - 147.63 319⇑*i*PKP PKPdf 17 28 27.8 +0.9
WIM Isle of Man 147.63 355 *e*P PKPdf 17 28 27.2 +0.6
WIM AMb AMB 17 28 35.0
comp=Z,519nm,1.8s
GMM Mts of Mourne 147.64 356 *e*P PKPdf 17 28 27.5 +1.0
MGER Gerania Oros 147.66 307 *e*P PKPdf 17 28 30.5 +3.4
ARSA Arzberg 147.70 327⇓*i*P PKPdf 17 28 27.8 +0.9
VAM Vamos 147.74 302 *e*P PKPdf 17 28 32.7 +5.4
KZN Kozani 147.84 312 *e*P PKPdf 17 28 30.7 +3.4
GRA1 Grafenberg Arr 147.84 334 *e*PKPdf PKPdf 17 28 28.8 +1.8
GRA1 *e*PKPbc PKPdf 17 28 32.9 +5.9
GRA1 *e*SKPdf 17 32 02.9
GRA1 *e*PP PP 17 32 17.3 +16
GRA1 *e*SKKSac 17 38 44.1
GRA1 *e*SS SS 17 51 14.1 +16
GRA1 *e*SSS SSS 17 56 48.8 +15
GRA1 LR LR
comp=Z,8μm,21.5s
GRF Grafenberg Arr 147.84 334 *e*PKP2 PKPab 17 28 32.9 -1.9
GRF *e* 17 32 02.9
GRF MLR MLR
comp=Z,8μm,21.5s
GRF Grafenberg Arr 147.84 334 *e*PKIKP PKPdf 17 28 28.8 +1.8
GRF *e* 17 28 32.9
GRF 17 32 02.9
GRF MLR MLR
comp=Z,8μm,21.5s
GRF Grafenberg Arr 147.84 334 *e*PKP PKPdf 17 28 28.8 +1.8
GRF *e*PKP PKPdf 17 28 32.9 +5.9
GRF SKPdf 17 32 02.9
GRF *e*PP PP 17 32 17.3 +16
GRF *e*SKKS 17 38 44.1
GRF *e*SS SS 17 51 14.1 +16
GRF *e*SSS SSS 17 56 48.8 +15
GRF LR LR
comp=Z,8μm,21.5s
IVA Berane 147.86 317⇑*i*PKP PKPdf 17 28 32.7 +5.5
MOA Molln 147.90 329⇓*i*P PKPdf 17 28 28.0 +0.8
FNA Florina 147.90 313 *e*P PKPdf 17 28 28.4 +1.0
LHO Holmfirth 147.91 351 *e*P PKPdf 17 28 28.2 +1.2
PLE Pljevlja 147.93 318⇑*i*PKP PKPdf 17 28 33.1 +5.8
PVY Plav 147.95 317⇑*i*PKP PKPdf 17 28 32.9 +5.4
AGG Agios Georgios 147.96 309 *e*P PKPdf 17 28 28.6 +1.0
GVD Gavdhos 147.97 301 *e*PKPbc PKPdf 17 28 32.6 +4.9
GVD Gavdhos 147.97 301 *e*P PKPdf 17 28 31.5 +3.8
OHR Ohrid 148.14 314⇓*i*PKIKP PKPdf 17 28 28.5 +0.7
OHR *i* 17 28 53.1
KBI1 Birley Grange 148.15 351 *e*P PKPdf 17 28 28.5 +1.1
UPM Unac-Piva 148.30 319⇑*i*PKP PKPdf 17 28 33.5 +5.5
PERS Pernice 148.32 327 *e*PKPdf PKPdf 17 28 29.0 +1.1
PERS *e*PKPbc PKPdf 17 28 32.8 +5.0
PERS *e* 17 28 54.3
VLI Veliai 148.33 305 *e*P PKPdf 17 28 32.5 +4.3
WME Myndd Eilian 148.34 354 *e*P PKPdf 17 28 29.0 +1.3
WME AMb AMB 17 28 35.9
comp=Z,612nm,1.7s
EVR Evrytania 148.38 309 *e*P PKPdf 17 28 33.5 +5.3
WCB1 Church Bay 148.38 354⇑*e*P PKPdf 17 28 28.9 +1.1
WCB1 AMb AMB 17 28 34.8
comp=Z,506nm,1.9s
KYTH Kithira 148.39 304 *e*P PKPdf 17 28 33.5 +5.2
KWE Weaver Farm 148.43 351 *e*P PKPdf 17 28 29.4 +1.6
SISC Sisak 148.43 324 *i* P PKPdf 17 28 28.0 -0.1
MEV Metsovon 148.43 311 *e*P PKPdf 17 28 34.8 +6.5
WPM1 Penmaenmawr 148.44 354 *e*P PKPdf 17 28 29.1 +1.3
WPM1 AMb AMB 17 28 36.3
comp=Z,762nm,1.8s
TNS Taunus Mts 148.45 338 *e*PKIKP PKPdf 17 28 29.8 +1.8
TNS *e* 17 28 34.3
TNS *e* 17 32 02.7
NKY Niksic 148.45 318⇑*i*PKP PKPdf 17 28 34.2 +6.0
GOLS Golise 148.48 326 *e*PKPdf PKPdf 17 28 29.5 +1.4
GOLS *i* PKPbc PKPdf 17 28 33.8 +5.6
TTG Podgorica 148.49 317⇑*i*PKP PKPdf 17 28 33.8 +5.5
YLL Llanberis 148.58 354 *e*P PKPdf 17 28 29.1 +1.1
DCN Croghan 148.60 358⇑*i*P PKPdf 17 28 29.5 +1.4
DLF Lyons Farm 148.61 357⇑*i*P PKPdf 17 28 29.5 +1.4
DSB Dublin 148.65 356 *e*PKPdf PKPdf 17 28 28.3 +0.1
DSB *e*PKPbc PKPdf 17 28 33.0 +4.8
BRY Bratogost 148.69 318⇑*i*PKP PKPdf 17 28 34.4 +5.8
OBKA Obir 148.69 327⇓*i*P PKPdf 17 28 28.7 +0.2
ULC Ulcinj 148.74 316⇑*i*PKP PKPdf 17 28 34.5 +5.8
SIND Sindeldorf 148.75 336 *e*P PKPdf 17 28 29.2 +0.7
JAN Janina 148.75 311 *e*P PKPdf 17 28 35.5 +6.7
YRE Yr Eifl 148.77 354 *e*P PKPdf 17 28 29.6 +1.2
YRE AMb AMB 17 28 37.7
comp=Z,566nm,2.0s
BUM Brajici-Budva 148.79 317⇑*i*PKP PKPdf 17 28 33.8 +5.0
HGN Heimansgroeve 148.81 341 *e*PKP PKPdf 17 28 28.0 -0.5
comp=Z,60nm,2.2s
HGN *e*PP PP 17 31 58.5 -8.0
HGN *ex* x 17 35 26.7
HGN *ex* x 17 50 56.9
TOD Tromm 148.84 337 PKP PKPdf 17 28 30.8 +2.0
TOD Tromm 148.84 337⇓*e*P PKPdf 17 28 29.7 +1.1
KBA Koelnbreinsper 148.88 329⇓*i*P PKPdf 17 28 27.9 -0.9
ITM Ithomi 148.94 306 *e*P PKPdf 17 28 35.5 +6.3
HCY Herceg Novi 148.96 318⇑*i*PKP PKPdf 17 28 35.0 +6.0
SWS Schriesheim 148.97 337 *e*P PKPdf 17 28 29.8 +1.0
BOJS Bojanci 149.01 325 *e*PKPdf PKPdf 17 28 30.5 +1.5
FUR Furstenfeldbru 149.01 333 *e*PKIKP PKPdf 17 28 30.8 +1.9
FUR *e* 17 32 04.5
LJU Ljubljana 149.02 327 *e*PKIKP PKPdf 17 28 30.3 +1.3
LJU *e* 17 28 35.1
LJU *e* 17 32 04.6
LJU Ljubljana 149.02 327 *e*PKPdf PKPdf 17 28 30.3 +1.3
LJU *e*PKPbc PKPdf 17 28 35.1 +6.0
LJU *e* 17 28 54.5
LJU *e*PP PP 17 32 04.6 -3.1
ABH Alteburg 149.05 338 PKP PKPdf 17 28 31.3 +2.4
ABH Alteburg 149.05 338⇓*e*P PKPdf 17 28 30.3 +1.4
HDH Heidenheim 149.12 334 *e*P PKPdf 17 28 29.6 +0.5
IGT Igoumenitsa 149.17 311 *e*P PKPdf 17 28 35.1 +5.7
STON Ston 149.22 319 *i* P PKPdf 17 28 29.9 +0.5
LKD Levkas 149.29 310 *e*P PKPdf 17 28 35.5 +5.8
KTD Kalmit 149.34 337 PKP PKPdf 17 28 31.5 +2.1
KTD Kalmit 149.34 337 *e*P PKPdf 17 28 30.9 +1.5
VOY Vojsko 149.35 327 *e*PKPbc PKPdf 17 28 34.8 +5.2
PTCC Patocco-Chiusa 149.36 328 *e*PKP PKPdf 17 28 35.6 +6.1
RUP Ruppelstein 149.37 339 PKHKP 17 28 31.7
RUP Ruppelstein 149.37 339⇓*e*P PKPdf 17 28 31.1 +1.6
STU Stuttgart 149.37 335 *e*PKP2 PKPab 17 28 35.7 -5.4
SSW Stow on the Wo 149.45 351 *e*P PKPdf 17 28 31.4 +1.9
KEK Kerkira 149.46 312 *e*P PKPdf 17 28 36.5 +6.6
GMNA Gemona 149.51 328 *e*PKP PKPdf 17 28 36.1 +6.3
WATA Walderalm 149.51 331⇓*i*P PKPdf 17 28 31.4 +1.6
WATA *i* 17 28 36.6
SKP1 Kophill 149.52 349 *e*P PKPdf 17 28 30.4 +0.8
WTTA Wattenberg 149.54 331⇓*i*P PKPdf 17 28 30.7 +0.9
VLS Valsamata 149.55 309 *e*P PKPdf 17 28 36.5 +6.4

BUCH	Bad Urach	149.57 335	⇓	eP	PKPdf	17 28 30.5 +0.7
MCH1	Michaelchurch	149.58 352		eP	PKPdf	17 28 30.0 +0.3
LBG	Lerchenberg	149.61 336		eP	PKPdf	17 28 30.7 +0.8
WLF	Walferdange	149.70 340		ePKPdf	PKPdf	17 28 31.8 +1.8
WLF				ePKPbc	PKPdf	17 28 37.4 +7.4
MOTA	Moosalm	149.71 332	⇑	iP	PKPdf	17 28 31.6 +1.5
MOTA				i		17 28 37.2
LANF	Langenberg	149.72 337		PKP	PKPdf	17 28 32.1 +2.0
GIVF	Givet	149.72 342		ePKIKP	PKPdf	17 28 31.0 +1.0
SQTA	Sankt Quirin	149.76 331	⇑	iP	PKPdf	17 28 31.6 +1.4
SQTA				i		17 28 37.4
NVLJ	Novalja	149.83 324		i PKP	PKPdf	17 28 31.2 +0.8
UBR	Uberruh	149.88 333		eP	PKPdf	17 28 30.6 +0.3
SWN1	Swindon	149.88 350		eP	PKPdf	17 28 31.7 +1.4
BAIF	Baives	149.94 342		ePKIKP	PKPdf	17 28 31.5 +1.1
HSA	Swansea	149.96 353		eP	PKPdf	17 28 31.4 +1.1
GUT	Gutenstein	149.97 335		eP	PKPdf	17 28 31.4 +0.9
MENF	Mencas	150.01 345		PKP	PKPdf	17 28 33.3 +2.8
STR	Strasbourg	150.06 337		PKP	PKPdf	17 28 32.9 +2.3
BFO	Black Forest	150.07 336		ePKPdf	PKPdf	17 28 31.9 +1.3
BFO				ePKPbc	PKPdf	17 28 38.0 +7.4
BFO				eSKPdf		17 32 06.6
SPAK	Spaichingen	150.08 335		PKP	PKPdf	17 28 31.7 +1.1
SPAK	Spaichingen	150.08 335		eP	PKPdf	17 28 31.4 +0.8
SMD	Mendips	150.21 351		eP	PKPdf	17 28 31.9 +1.1
DAVA	Damuels	150.28 333	⇓	iP	PKPdf	17 28 32.2 +1.2
SWK	Warminster	150.30 351		eP	PKPdf	17 28 31.9 +1.0
WLS	Welschbruch	150.36 337		PKP	PKPdf	17 28 32.3 +1.2
CDF	Champ du Feu	150.39 337		ePKIKP	PKPdf	17 28 31.8 +0.7
CTI	Castel Tesino	150.44 329		ePKIKP	PKPdf	17 28 38.7 +7.4
LIENZ	Alp Oberkamor	150.44 333	⇑	iPKPdf	PKPdf	17 28 32.0 +0.8
SLE	Schleitheim	150.47 335	⇓	ePKPdf	PKPdf	17 28 30.7 -0.5
LIBD	Limburg	150.49 337		PKP	PKPdf	17 28 33.0 +1.7
LIBD	Limburg	150.49 337		eP	PKPdf	17 28 32.3 +1.0
KIZ	Kirchzarten	150.53 336		eP	PKPdf	17 28 32.1 +0.8
FELD	Feldberg	150.56 336		eP	PKPdf	17 28 32.1 +0.7
WILA	Wila	150.59 334	⇓	P	PKPdf	17 28 32.5 +1.1
HEX	Exmoor	150.59 353		eP	PKPdf	17 28 32.6 +1.3
ECH	Echery	150.59 337		PKP	PKPdf	17 28 33.0 +1.6
SIW	Isle of Wight	150.63 350		eP	PKPdf	17 28 32.5 +1.1
FUORN	Ofenpass	150.64 332	⇓	iPKPdf	PKPdf	17 28 32.4 +0.9
DAVOX	Davos	150.68 332	⇓	iPKPdf	PKPdf	17 28 32.7 +1.1
PLONS	Plons	150.68 333	⇓	iPKPdf	PKPdf	17 28 31.2 -0.4
MOF	Molkenrain	150.91 337		PKP	PKPdf	17 28 33.5 +1.6
LLS	Linth-Limmern	151.00 333	⇓	iPKPdf	PKPdf	17 28 32.1 0.0
THEF	They Montfort	151.00 338		PKP	PKPdf	17 28 33.7 +1.7
HINF	Hinteralfeld	151.04 337		ePKIKP	PKPdf	17 28 32.8 +0.7
	comp=Z,355nm,1.9s					
MUO	Muotathal	151.05 334	⇓	iP	PKPdf	17 28 32.4 +0.3
MUO	Muotathal	151.05 334	⇓	iPKPdf	PKPdf	17 28 32.5 +0.4
HAU	Haudompre	151.06 338		ePKIKP	PKPdf	17 28 33.2 +1.1
	comp=Z,222nm,1.8s					
HAU				eR		
	comp=Z,10μm,22.7s					
MEZF	Maizieres J'vi	151.07 340		ePKIKP	PKPdf	17 28 33.1 +1.0
	comp=Z,283nm,1.5s					
VDL	Val di Lei	151.09 332	⇓	PKIKP	PKPdf	17 28 33.4 +1.2
BBS	Basel-Blauen	151.09 336		PKIKP	PKPdf	17 28 33.6 +1.4
BBS	Basel-Blauen	151.09 336		eP	PKPdf	17 28 33.0 +0.8
BALST	Balsthal	151.13 335	⇓	iPKPdf	PKPdf	17 28 32.4 +0.2
RGNG	Rignano Grg	151.19 319		ePKP	PKPdf	17 28 40.1 +7.6
BNALP	Bannalp	151.22 334	⇓	iPKPdf	PKPdf	17 28 32.4 0.0
DYA	Yadsworthy	151.23 353		eP	PKPdf	17 28 33.1 +0.8
BOURR	Bourrignon	151.26 336	⇓	ePKPdf	PKPdf	17 28 32.8 +0.4
DCO	Combe Farm	151.33 353		eP	PKPdf	17 28 33.7 +1.3
CSA1	St Austell	151.41 354		eP	PKPdf	17 28 33.9 +1.3
HASLI	Hasliberg	151.42 334	⇓	ePKPdf	PKPdf	17 28 31.8 -0.9
LOMF	Lomont	151.44 337		PKP	PKPdf	17 28 34.5 +1.8
FSSB	Fossombrone	151.53 325		ePKP	PKPdf	17 28 42.0 +9.0
ORI	Oriolo Calabro	151.53 315		ePKIKP	PKPdf	17 28 44.4 +11
ARV	Arcevia	151.58 324		ePKP2	PKPab	17 28 42.1 -8.4
CCA1	Carnmenellis	151.61 354		eP	PKPdf	17 28 34.1 +1.3
FG5	Orsara di Pugl	151.61 318		ePKIKP	PKPdf	17 28 41.7 +8.5
CRQ2	Rosemanowes 2	151.62 354		eP	PKPdf	17 28 34.1 +1.2
CRQ2				AMb	AMB	17 28 44.8
	comp=Z,603nm,2.1s					
CPZ	Penzance	151.67 355		eP	PKPdf	17 28 34.3 +1.3
CPZ				AMb	AMB	17 28 44.1
	comp=Z,314nm,2.2s					
CGW	Gweek	151.69 354		eP	PKPdf	17 28 34.1 +1.1
CMA1	Manaccan	151.70 354		eP	PKPdf	17 28 34.1 +1.1
MUGIO	Muggio	151.71 332	⇓	ePKPdf	PKPdf	17 28 32.4 -0.8
CGH1	Goonhilly	151.74 354		eP	PKPdf	17 28 34.0 +0.9
MRLC	Muro Lucano	151.77 317		ePKP	PKPdf	17 28 42.7 +9.3
TIP	Timpagrande	151.78 313		ePKPbc	PKPdf	17 28 41.2 +7.7
TDS	Terranova Siba	151.82 315		ePKIKP	PKPdf	17 28 43.6 +10
SLCN	Sala Consilina	151.89 317		ePKP	PKPdf	17 28 43.3 +10
LKBD	Leukerbad	151.93 334	⇓	iPKPdf	PKPdf	17 28 34.2 +0.7
CII	Carovilli	151.93 320		ePKP	PKPdf	17 28 35.5 +1.8
CSSN	Cassano Irpino	152.00 318		ePKP	PKPdf	17 28 42.0 +8.2
ASS	Assisi	152.02 324		ePKIKP	PKPdf	17 28 41.9 +8.2
MMK	Mattmark	152.07 334	⇓	iPKPdf	PKPdf	17 28 35.2 +1.5
AQU	L'Aquila	152.07 322	⇓	PKIKP	PKPdf	17 28 42.6 +8.8
MGR	Morigerati	152.07 316		ePKP	PKPdf	17 28 41.8 +7.9
SENIN	Lac Senin	152.08 335	⇓	iPKPdf	PKPdf	17 28 34.2 +0.5
DIX	Grande Dixence	152.27 334	⇓	PKPdf	PKPdf	17 28 35.9 +1.9
PTQR	Pietraquaria	152.28 322		ePKP	PKPdf	17 28 43.2 +9.1
FLN	La Foliniere	152.29 347		ePKIKP	PKPdf	17 28 34.8 +0.9
	comp=Z,410nm,1.6s					
FLN				eR		
	comp=Z,8μm,21.1s					
CABF	La Chapelle	152.34 337		ePKIKP	PKPdf	17 28 35.3 +1.2
	comp=Z,143nm,1.2s					
GIMEL	Gimel	152.34 336	⇓	ePKPdf	PKPdf	17 28 34.9 +0.8
GRAM		152.34 329		P	PKPdf	17 28 33.8 -0.3
OG01	Vacheresse	152.35 335		PKP	PKPdf	17 28 36.5 +2.4
VALM		152.36 329		P	PKPdf	17 28 34.1 -0.1
LDF	La Druitiere	152.37 347		ePKIKP	PKPdf	17 28 34.7 +0.7
	comp=Z,461nm,1.9s					
ORX	Oropa	152.40 333		PKIKP	PKPdf	17 28 34.0 -0.2
SARO	Sassorosso	152.40 328		P	PKPdf	17 28 33.2 -1.0
BOB	Bobbio (Coli)	152.42 330		ePKIKP	PKPdf	17 28 43.4 +9.2
VLC	Villacollemand	152.43 328		ePKPbc	PKPdf	17 28 42.3 +8.1
MNS	Montasola	152.46 323		ePKIKP	PKPdf	17 28 42.9 +8.5
EMV	Vieux Emosson	152.49 335	⇓	iPKPdf	PKPdf	17 28 35.1 +0.8
BACM		152.50 329		P	PKPdf	17 28 33.7 -0.7
CODM		152.52 329		P	PKPdf	17 28 33.7 -0.7
VINC	Vinca	152.56 328		P	PKPdf	17 28 34.1 -0.4
PII	Pisa	152.68 327		ePKIKP	PKPdf	17 28 42.7 +8.1
GRR	Gorron	152.72 347		ePKIKP	PKPdf	17 28 35.7 +1.2
	comp=Z,463nm,1.9s					
SSF	Saint Saulge	152.83 340		ePKIKP	PKPdf	17 28 35.6 +0.9
	comp=Z,113nm,1.4s					
LSD	Ceresole Reale	152.88 334		PKIKP	PKPdf	17 28 35.8 +0.9
HYF	Humbligny	152.90 342		ePKIKP	PKPdf	17 28 36.4 +1.6
RSL	Roselend	152.91 335		PKP	PKPdf	17 28 36.8 +1.9
LPL	La Plagne	153.00 334		ePKIKP	PKPdf	17 28 36.8 +1.8
	comp=Z,144nm,1.9s					
PCP	Pian Castagno	153.01 331		PKIKP	PKPdf	17 28 34.1 -1.0
LPG	La Plagne	153.01 334		ePKIKP	PKPdf	17 28 36.8 +1.8
	comp=Z,170nm,1.9s					
RSP	Reno Superiore	153.09 333		PKIKP	PKPdf	17 28 34.5 -0.6
SMF	Signal de Mont	153.09 340		ePKIKP	PKPdf	17 28 35.9 +0.8
	comp=Z,314nm,1.9s					
AVF	Avril sur Loir	153.12 340		ePKIKP	PKPdf	17 28 35.5 +0.4
	comp=Z,208nm,1.9s					
SGMF	Saint Gilles	153.16 350		ePKIKP	PKPdf	17 28 35.6 +0.5
	comp=Z,290nm,1.8s					
ROSF	Rostrenen	153.20 351		ePKIKP	PKPdf	17 28 35.6 +0.4
	comp=Z,230nm,1.9s					
FENE	Fenestrelle	153.27 333		P	PKPdf	17 28 35.2 -0.1
BHB	Bricherasio	153.33 333		P	PKPdf	17 28 35.2 -0.2
BNI	Bardonecchia	153.41 334		ePKIKP	PKPdf	17 28 37.3 +1.7
BNI				e		17 28 44.9
FIN	Finale Ligure	153.42 331		PKIKP	PKPdf	17 28 36.1 +0.5
RRL	Cesana Torines	153.47 334		PKIKP	PKPdf	17 28 35.7 0.0
BGF	Bois d'Agland	153.48 341		ePKIKP	PKPdf	17 28 37.0 +1.4
	comp=Z,381nm,1.8s					
ROB	Roburent	153.50 331		PKIKP	PKPdf	17 28 36.0 +0.3
GDM	Grand'Maison	153.51 335		PKP	PKPdf	17 28 38.3 +2.6
QUIF	Quistinic	153.59 350		ePKIKP	PKPdf	17 28 36.0 +0.3
	comp=Z,396nm,1.9s					
DOI	San Damiano	153.61 332		ePKIKP	PKPdf	17 28 44.1 +8.2
GRN	Grenoble	153.62 335		PKP	PKPdf	17 28 38.3 +2.5
MBDF	Montbardon	153.63 333		ePKIKP	PKPdf	17 28 36.9 +1.0
	comp=Z,322nm,1.9s					
PZZ	Prazzo	153.67 333		PKIKP	PKPdf	17 28 37.3 +1.4
MONE	Monesi	153.72 331		P	PKPdf	17 28 36.8 +0.8
ENR	Entracque	153.76 332		PKIKP	PKPdf	17 28 37.0 +0.9
STV2	Anna di Valdie	153.78 332		P	PKPdf	17 28 36.7 +0.6
STV	Sta Anna Valdi	153.78 332		PKIKP	PKPdf	17 28 37.3 +1.2
IMI	Imperia	153.80 331		P	PKPdf	17 28 37.5 +1.4
SURF	Saint Ours	153.81 333		PKP	PKPdf	17 28 38.7 +2.6
SURF				PKP	PKPdf	17 28 39.3 +3.2
ORIF	Oris-en-Rattie	153.84 335		ePKIKP	PKPdf	17 28 37.5 +1.4
	comp=Z,170nm,1.9s					
ORIF				eR		
	comp=Z,7μm,22.4s					
TCF	Toulx Ste Croi	153.92 341		ePKIKP	PKPdf	17 28 37.1 +0.9
	comp=Z,597nm,1.9s					
NEGI	Negi	153.93 331		P	PKPdf	17 28 37.2 +1.0
SBF	Sospel	154.04 331		ePKIKP	PKPdf	17 28 37.8 +1.4
	comp=Z,442nm,1.9s					
MFF	Saint Martin d	154.26 345		ePKIKP	PKPdf	17 28 37.8 +1.2
	comp=Z,410nm,1.6s					
PGF	Pioggiola	154.30 327		ePKIKP	PKPdf	17 28 38.5 +1.7
	comp=Z,360nm,1.8s					
VERF	Verneugheol	154.32 340		PKP	PKPdf	17 28 35.8 -0.9
LCHF	La Chataignera	154.33 346		PKP	PKPdf	17 28 34.6 -2.1
VIVF	Saint-Julien-l	154.35 336		ePKIKP	PKPdf	17 28 38.3 +1.5
	comp=Z,352nm,1.9s					
LRYF	La Roche-sur-Y	154.59 347		PKP	PKPdf	17 28 38.1 +1.0
FRF	La Foret Royal	154.63 332		ePKIKP	PKPdf	17 28 38.9 +1.7
SMRF	Simiane la Rot	154.74 334		ePKIKP	PKPdf	17 28 39.0 +1.6
	comp=Z,380nm,1.9s					
LMR	La Mourre	154.87 332		ePKIKP	PKPdf	17 28 38.7 +1.1
	comp=Z,256nm,1.7s					
RJF	Les Rejaudoux	155.01 341		ePKIKP	PKPdf	17 28 38.7 +1.0
	comp=Z,513nm,1.9s					
RJF				eR		
	comp=Z,19μm,21.5s					
CAF	Calviac	155.19 340		ePKIKP	PKPdf	17 28 39.4 +1.4
	comp=Z,440nm,1.9s					
LASF	Ste Croix	155.32 337		ePKIKP	PKPdf	17 28 39.7 +1.5
	comp=Z,459nm,1.9s					
LFF	La Frestale	155.57 342		ePKIKP	PKPdf	17 28 39.7 +1.2
	comp=Z,271nm,1.7s					
MTLF	Montolieu	156.55 338		ePKIKP	PKPdf	17 28 40.9 +1.1
	comp=Z,496nm,1.9s					
ADH	Angra Heroismo	157.41 38		ePKP		17 29 00.0
EPF	Esparros	157.43 341		ePKIKP	PKPdf	17 28 42.6 +1.6
	comp=Z,419nm,1.9s					
SJPF	Ste Jean	157.79 344		ePKIKP	PKPdf	17 28 43.1 +1.7
	comp=Z,292nm,1.9s					
EBIE	Bielsa	157.81 341		PKP	PKPdf	17 28 44.6 +3.2
ETSF	Etsaut	157.82 342		ePKIKP	PKPdf	17 28 43.1 +1.6
	comp=Z,123nm,1.8s					
EPON	Pontenova	158.58 355		PKP	PKPdf	17 28 44.0 +1.6
PDA	Ponta Delgada	158.93 38		i PKP	PKPdf	17 28 47.0 +4.0
PDA	Ponta Delgada	158.93 38		eLQ		18 14 26.0
PDA				i LR	LR	18 23 00.0
EMAZ	Mazaricos	159.04 359		PKP	PKPdf	17 28 43.9 +0.9
STS	Santiago	159.09 358		PKIKP	PKPdf	17 28 45.0 +2.0
EINC	Incio	159.26 356		PKP	PKPdf	17 28 44.8 +1.6
ERUA	La Rua	159.51 355		PKIKP	PKPdf	17 28 45.7 +2.2
EZAM	Zamans	159.83 358		PKIKP	PKPdf	17 28 46.0 +2.1
CKFL	Kef-Lekhel	159.87 319		P	PKPdf	17 28 46.0 +1.9
ECAL	Calabor	159.92 354		PKP	PKPdf	17 28 44.8 +0.8
PBRG	Braganca	160.06 354		ePKPdf	PKPdf	17 28 46.0 +1.9
PBRG				ePKPab	PKPab	17 29 25.3 -1.3
ELOB	Lobios	160.09 357		PKP	PKPdf	17 28 45.3 +1.2
CASM	Ain Smara	160.10 319		P	PKPdf	17 28 46.5 +2.2
EMOS	Mosqueruela	160.11 339		PKP	PKPdf	17 28 47.4 +3.2
CTEI	Djebel Teioual	160.28 319		P	PKPdf	17 28 47.0 +2.5
PVRL	Vila Real	160.66 356		ePKPdf	PKPdf	17 28 47.2 +2.5
PVRL				ePKPab	PKPab	17 29 29.1 -0.2
SET	Setif	160.79 321		P	PKPdf	17 28 49.0 +4.0
CMER	Merouana	160.88 319		P	PKPdf	17 28 48.0 +2.9
ECHE	Chera	160.97 340		PKIKP	PKPdf	17 28 48.0 +2.9
MTE	Manteigas	161.52 355		ePKPdf	PKPdf	17 28 47.2 +1.6
MTE				ePKPab	PKPab	17 29 33.0 0.0
MTE				eSS	SS	17 53 32.0 +6.7
MTE				eLQ		18 14 08.2
MTE				eLR	LR	18 24 49.6
	comp=Z,7μm,22.6s					
MTE	Manteigas	161.52 355		ePKPdf	PKPdf	17 28 47.2 +1.6
MTE				ePKPab	PKPab	17 29 32.5 -0.5
ABA	Alger-Bouzarea	161.65 327		P	PKPdf	17 28 55.0 +9.1
ATAF	Djebel Tarf	161.66 322		P	PKPdf	17 28 52.0 +6.1
ESDC	Sonseca Array	161.71 346		PKP	PKPdf	17 28 47.0 +1.2
	comp=Z,0.4nm,0.4s,baz=357,slow=2.7,SNR=9.3					
ESDC	Sonseca Array	161.71 346		PKP	PKPdf	17 28 46.3 +0.5
PAB	San Pablo	161.91 347		PKPdf	PKPdf	17 28 47.2 +1.2
ADJB	Djebel Djouab	161.92 324		P	PKPdf	17 28 50.0 +3.8
ETOB	Tobarra	162.02 340		PKP	PKPdf	17 28 47.3 +1.2
PCBR	Castelo Branco	162.07 355		ePKPdf	PKPdf	17 28 47.9 +1.7
EVIA	Vianos	162.31 342		PKIKP	PKPdf	17 28 48.2 +1.7
PTOM	Tomar	162.35 357		ePKPdf	PKPdf	17 28 47.6 +1.1
PTOM				ePKPab	PKPab	17 29 36.3 -0.4
EMUR	La Murta	162.64 338		PKP	PKPdf	17 28 47.0 +0.1
EBAD	Badajoz	163.10 353		PKP	PKPdf	17 28 47.6 +0.3
EBAN	Banos Encina	163.10 344		PKIKP	PKPdf	17 28 49.6 +2.3
EADA	Adamuz	163.29 347		PKP	PKPdf	17 28 49.1 +1.6
ECAB	El Cabril	163.54 349		PKP	PKPdf	17 28 49.3 +1.5
ENIJ	Nijar	163.75 339		PKIKP	PKPdf	17 28 49.7 +1.7
ELUQ	Luque	163.79 345		PKIKP	PKPdf	17 28 50.2 +2.2
PBEJ	Beja	163.90 355		ePKPdf	PKPdf	17 28 50.0 +1.9
PBEJ				ePKPab	PKPab	17 29 43.6 +0.1
EBER	Berja	164.04 341		PKP	PKPdf	17 28 49.8 +1.6
EMIN	Mina Concepcio	164.04 352		PKP	PKPdf	17 28 49.3 +1.0
ELOJ	Sierra Loja	164.16 344		PKIKP	PKPdf	17 28 49.9 +1.5
DBIC	Dimbokro	164.19 197		PKIKP	PKPdf	17 28 50.5 +1.4
DBIC	Dimbokro	164.19 197		PKP	PKPdf	17 28 50.1 +1.0
	comp=Z,34nm,0.9s,baz=132,slow=1.7,SNR=30					
DBIC				PP	PP	17 33 31.9 -0.7
	comp=Z,20nm,1.1s,baz=144,slow=8.0,SNR=8.0					
DBIC	Dimbokro	164.19 197		ePKPdf	PKPdf	17 28 50.2 +1.2
DBIC				ePKPab	PKPab	17 29 43.6 -1.8
EGRO	El Granado	164.36 354		PKP	PKPdf	17 28 49.0 +0.5
PALC	Alcoutim	164.43 354		ePKPdf	PKPdf	17 28 50.0 +1.4
PALC				ePKPab	PKPab	17 29 45.4 -0.4
PTEO	Sao Teotonio	164.43 358		ePKPdf	PKPdf	17 28 50.5 +1.9
PTEO				ePKPab	PKPab	17 29 45.5 -0.3
ESPR	Espera	164.79 349		PKP	PKPdf	17 28 51.1 +2.1
EMIJ	Mijas	164.87 345		PKP	PKPdf	17 28 48.4 -0.7
EJIF	Jimena Fronter	165.12 347		PKIKP	PKPdf	17 28 52.1 +2.8
EGOM	La Gomera	170.62 47		PKP	PKPdf	17 28 54.9 +1.7
CCAN	Las Canadas	170.99 45		PKP	PKPdf	17 28 57.2 +3.7
EOSO	Osorio	171.76 41		PKP	PKPdf	17 28 56.4 +2.5
EFAM	Famara	171.94 26		PKP	PKPdf	17 28 55.5 +1.4
CFTV	Fuerteventura	172.30 32		PKP	PKPdf	17 28 56.6 +2.4

IDC 11 17:17:50.5±62.0, 2.40N×96.66E, mb4.2/3, mb1 4.3/3, mb1mx4.0/18, mbtmp4.2/3, Error ellipse: s-maj=1187.0km s-min=143.7km az=176.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	45.95	346	P	P	17 26 15.2	-1.8
	1.6nm,0.5s,baz=160,slow=8.9,SNR=13						
SONM	Songino Array	46.03	9	P	P	17 26 15.9	-1.7
	1.2nm,0.4s,baz=191,slow=8.9,SNR=7.3						
ZAL	Zalesovo	52.28	351	P	P	17 27 03.4	-2.4
	2.2nm,0.5s,baz=291,slow=7.5,SNR=6.8						

IDC 11 17:34:17.3±2.2, 8.56N×104.02W, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=80.7km s-min=28.1km az=47.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	33.00	87	P	P	17 40 55.3	-1.2
	1.1nm,0.4s,baz=276,slow=6.0,SNR=3.7						
PDAR	Pinedale Array	34.42	353	P	P	17 41 05.6	-2.9
	0.6nm,0.9s,baz=166,slow=7.4,SNR=2.0						
LPAZ	La Paz	43.26	125	P	P	17 42 20.9	-1.7
	1.0nm,0.7s,baz=310,slow=7.2,SNR=4.6						
ILAR	Eielson Array	63.62	341	P	P	17 44 50.5	-1.7
	0.8nm,0.9s,baz=162,slow=5.7,SNR=4.5						
CMAR	Chiang Mai Arr	144.87	320	PKP	PKPdf	17 53 57.3	-1.8
	0.8nm,0.8s,slow=1.8,SNR=4.7						

*PDG **11** 17:35:33.0±0.1, 44.59N×17.37E, h1km*
*BEO **11** 17:35:32.6±0.4, 44.60N×17.25E, h5km±1km*
*NEIC **11** 17:35:33.0, 44.59N×17.37E, h1km, MD3.2(PDG), After PDG.*
*CSEM **11** 17:35:37.1±0.1, 44.62N×17.27E, h40km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.2km az=45.0*
ISC 11 17:35:34.7±0.2, 44.60N±0.02×17.25E±0.03, h10km, n46, σ1§16/86, 14C-7D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISC	Sisak	1.07	325	i Pg	Pg	17 35 57.0	+0.8
SISC				i Sg	Sg	17 36 11.8	+1.2
RHK3	Tenkes	1.47	28	⇓ iP	Pn	17 36 01.6	+0.2
RHK3				eS	Sb	17 36 23.0	+2.6
	7.8nm,0.4s						
RHK1	Bakonya	1.61	21	⇓ eP	Pn	17 36 03.6	+0.3
RHK1				eS	Sn	17 36 25.3	+1.0
BOJS	Bojanci	1.68	303	ePn	Pn	17 36 05.3	+0.8
NVLJ	Novalja	1.70	270	i Pn	Pn	17 36 05.2	+0.5
NVLJ				i Pg	Pg	17 36 06.9	-1.9
NVLJ				i Sg	Sg	17 36 29.7	-1.8
NVLJ	Novalja	1.70	270	i Pn	Pn	17 36 05.1	+0.4
NVLJ	Novalja	1.70	270	i Pg	Pg	17 36 06.8	-1.9
NVLJ				i Sg	Sg	17 36 29.6	-1.8
BBLS	Bajina Basta -	1.71	114	ePn	Pn	17 36 04.2	-0.7
BBLS				Sg	Sg	17 36 28.7	-3.1
STON	Ston	1.75	169	i Pn	Pn	17 36 02.8	-2.6
STON				i Pg	Pg	17 36 04.2	-5.6
STON				i Sg	Sg	17 36 26.3	-6.9
STON	Ston	1.75	169	i Pg	Pg	17 36 04.1	-5.7
STON				i Sg	Sg	17 36 26.3	-6.9
UPM	Unac-Piva	1.84	139	⇑ iPn	Pn	17 36 05.3	-1.4
UPM				eSn	Sn	17 36 32.2	+2.1
PKSM	Moragy	1.89	31	⇓ eP	Pn	17 36 07.2	-0.2
PKSM				eS	Sn	17 36 31.0	-0.4
BRY	Bratogost	1.94	151	⇑ iPn	Pn	17 36 07.0	-1.0
BRY				eSn	Sn	17 36 34.6	+1.9
PLE	Pljevlja	2.00	129	⇑ iPn	Pn	17 36 08.1	-0.9
PLE				eSn	Sn	17 36 35.4	+1.2
DIVS	Divcibare	2.03	103	ePn	Pn	17 36 09.4	+0.5
DIVS				Sn	Sn	17 36 38.4	+3.4
TREB	Trebinje	2.04	157	Pn	Pn	17 36 09.0	-0.6
TREB				Sg	Sg	17 36 36.0	-6.7
VISS	Visnje	2.09	306	i Pn	Pn	17 36 10.8	+0.5
NKY	Niksic	2.19	144	ePn	Pn	17 36 10.8	-0.8
NKY				eSn	Sn	17 36 40.5	+1.5
BEO	Belgrade	2.29	83	ePn	Pn	17 36 13.0	-0.2
HCY	Herceg Novi	2.33	157	⇑ iPn	Pn	17 36 13.1	-0.6
HCY				eSn	Sn	17 36 44.4	+1.7
PKS8	Sarbogard	2.49	23	⇑ iP	Pn	17 36 15.7	-0.3
PKS8				eS	Sn	17 36 48.3	+1.6
	1.9nm,0.4s						
IVA	Berane	2.58	131	⇑ iPn	Pn	17 36 16.1	-1.2
IVA				eSn	Sn	17 36 49.6	+0.6
GRUS	Gruza	2.59	105	⇑ iSn	Sn	17 36 46.1	-3.1
BUM	Brajici-Budva	2.59	152	ePn	Pn	17 36 16.3	-1.1
BUM				eSn	Sn	17 36 50.6	+1.4
TTG	Podgorica	2.61	145	ePn	Pn	17 36 16.8	-0.9
TTG				eSn	Sn	17 36 50.9	+1.0
OBKA	Obir	2.69	316	⇑ iPN	Pn	17 36 19.6	+0.7
OBKA				i SN	Sn	17 36 54.0	+2.1
VOY	Vojsko	2.77	302	ePn	Pn	17 36 20.9	+0.9
VOY				eSn	Sn	17 36 56.7	+2.9
PVY	Plav	2.81	134	ePn	Pn	17 36 19.3	-1.3
PVY				eSn	Sn	17 36 55.5	+0.5
SVIS	Svilajnac	2.86	95	⇑ iPn	Pn	17 36 20.5	-0.8
SVIS				Sn	Sn	17 36 57.0	+0.9
PKSG		2.91	15	⇓ iP	Pn	17 36 22.5	+0.6
ARSA	Arzberg	2.92	336	⇑ iPN	Pn	17 36 22.5	+0.4
ARSA				i

6.4nm,0.7s,mb4.3
KKN Kakani 27.35 339 *e*P **P 17 47 40.0 +0.2**
12nm,0.9s,mb4.5
GKN Gorkha 27.78 338 *e*P **P 17 47 43.0 -0.7**
16nm,0.9s,mb4.7
KOLN Koldanda 27.98 336 *e*P **P 17 47 46.0 +0.5**
11nm,0.7s,mb4.6
FITZ Fitzroy Crossi 35.46 126 P **P 17 48 50.3 -0.8**
3.3nm,0.8s,mb4.3,baz=176,slow=3.3,SNR=3.6
WRA Warramunga Arr 43.55 122 P **P 17 49 58.4 +0.1**
0.9nm,0.5s,mb3.8,baz=302,slow=8.9,SNR=9.5
WRAB Tennant Creek 43.55 122 P **P 17 49 59.3 +1.0**
1.3nm,0.4s,mb4.0
ASAR Alice Springs 44.93 127 P **P 17 50 09.8 +0.3**
0.4nm,0.5s,mb3.5,baz=299,slow=8.2,SNR=4.4
MKAR Makanchi Array 45.89 347 P **P 17 50 16.4 -0.4**
2.9nm,0.6s,mb4.4,baz=159,slow=8.2,SNR=36
SONM Songino Array 46.19 10 P **P 17 50 18.7 -0.3**
2.2nm,0.7s,mb4.2,baz=189,slow=8.7,SNR=17
PMG Port Moresby 52.16 104 P **P 17 51 05.6 0.0**
6.7nm,0.7s,mb4.7,baz=210,slow=8.1,SNR=2.7
ZAL Zalesovo 52.27 352 P **P 17 51 05.8 -0.1**
2.5nm,0.5s,mb4.4,baz=325,slow=5.6,SNR=11
BVAR Borovoye Array 54.83 341 P **P 17 51 23.8 -1.0**
1.1nm,0.7s,mb4.0,baz=135,slow=8.4,SNR=8.5
STKA Stephens Creek 54.91 132 P **P 17 51 25.6 0.0**
1.1nm,0.8s,mb3.9,baz=338,slow=12,SNR=3.5
CHKZ Chkalovo 55.32 342 *e*P **P 17 51 27.1 -1.2**
13nm,0.8s,mb5.0

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*BJI **11** 17:42:25.3, 0.67N×97.42E, h39km, mB5.9, mb5.1, Ms5.5, Msz5.2*
*IDC **11** 17:42:27.8±0.7, 1.11N×97.25E, h22km±3km, mb4.4/21, mb1 4.5/22, mb1mx4.4/29, mbtmp4.5/22, ML4.8/1, Error ellipse: s-maj=19.7km s-min=11.9km az=45.0*
*NEIC **11** 17:42:27.8±0.3, 1.05N×97.28E, mb5.0/22, Error ellipse: s-maj=9.6km s-min=7.1km az=56.0*
*MOS **11** 17:42:28.1±1.1, 1.20N×97.40E, h36km, mb5.0/11, Error ellipse: s-maj=16.5km s-min=7.9km az=107.2*
ISC 11 17:42:26.5±0.4, 1.05N±0.05×97.28E±0.05, h26km, h26km±1.4km:pP-P,n104,σ1§11/98, mb4.8/56, MS5.4/4, 7C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.13**	**47**	P	**Pn**	**17 43 44.4**	**+0.6**
KULM	**Kulim**	**5.40**	**39**	*e*P	**Pn**	**17 43 47.6**	**+0.1**
KGM	**Kluang**	**6.12**	**81**	P	**Pn**	**17 43 59.3**	**+1.7**
NST	**Nakhon Sawan**	**14.80**	**11**	P	**P**	**17 46 01.0**	**+4.7**
CM31	**Chiang Mai Arr**	**17.38**	**5**	*e*P	**P**	**17 46 29.7**	**+0.6**
	5.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**17.38**	**5**	P	**P**	**17 46 27.7**	**-1.5**
	1.2nm,0.3s,baz=195,slow=12,SNR=25						
NANT	**Nan**	**17.96**	**11**	⇓P	**P**	**17 46 37.0**	**+0.6**
	425nm,0.6s						
KKM	**Kota Kinabalu**	**19.54**	**75**	P	**P**	**17 46 55.8**	**+0.5**
TSM	**Tawau**	**20.82**	**81**	P	**P**	**17 47 12.5**	**+3.7**
QIZ	**Qiongzhong**	**21.71**	**34**	P	**P**	**17 47 17.4**	**-0.4**
KMI	**Kunming**	**24.51**	**12**	P	**P**	**17 47 47.3**	**+2.0**
KMI				AP		17 47 53.4	
KMI				AMB	AMB		
	comp=Z,90nm,1.2s,mb5.2						
KMI	**Kunming**	**24.51**	**12**	P	**P**	**17 47 47.3**	**+2.0**
	comp=Z,90nm,1.2s,mb5.2						
KMI				pP		17 47 53.4	
HYB	**Hyderabad**	**24.57**	**313**	*e*P	**P**	**17 47 48.0**	**+2.0**
HYB	**Hyderabad**	**24.57**	**313**	*i* P	**P**	**17 47 48.0**	**+2.0**
JIRN	**Jiri**	**28.52**	**339**	*e*P	**P**	**17 48 23.0**	**+0.7**
	comp=Z,91nm,1.1s,mb5.4						
PKI	**Pulchoki**	**28.73**	**338**	*e*P	**P**	**17 48 24.9**	**+0.8**
	comp=Z,64nm,1.2s,mb5.2						
GUN	**Gumba**	**28.86**	**339**	*e*P	**P**	**17 48 25.8**	**+0.5**
	comp=Z,52nm,0.7s,mb5.4						
DMN	**Daman**	**28.88**	**337**	*e*P	**P**	**17 48 25.5**	**0.0**
	comp=Z,60nm,1.2s,mb5.2						
KKN	**Kakani**	**28.97**	**338**	*e*P	**P**	**17 48 26.3**	**0.0**
	comp=Z,97nm,1.3s,mb5.4						
LSA	**Lhasa**	**29.09**	**349**	P	**P**	**17 48 28.2**	**+0.8**
LSA	**Lhasa**	**29.09**	**349**	*e*P	**P**	**17 48 28.7**	**+1.3**
	comp=Z,11nm,0.8s,mb4.6						
GKN	**Gorkha**	**29.41**	**337**	*e*P	**P**	**17 48 30.4**	**+0.1**
	comp=Z,122nm,1.5s,mb5.4						
KOLN	**Koldanda**	**29.63**	**335**	*e*P	**P**	**17 48 32.7**	**+0.4**
CD2	**Chengdu**	**30.33**	**11**	*e*P	**P**	**17 48 37.6**	**-0.9**
ENH	**Enshi**	**31.30**	**21**	*e*P	**P**	**17 48 44.6**	**-2.4**
	comp=Z,28nm,0.6s,mb5.3						
LGTI	**Lohaghat**	**32.58**	**332**	⇓*i*P	**P**	**17 48 59.0**	**+0.8**
WHN	**Wuhan**	**33.52**	**27**	⇑P	**P**	**17 49 06.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**33.78**	**126**	*e*P	**P**	**17 49 08.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**33.78**	**126**	P	**P**	**17 49 07.8**	**-0.9**
	comp=Z,7.0nm,0.7s,mb4.7,baz=314,slow=4.4,SNR=11						
XAN	**Xi'an**	**34.59**	**17**	P	**P**	**17 49 13.9**	**-1.7**
XAN				AMB	AMB		
	comp=Z,32nm,0.8s,mb5.3						
LZH	**Lanzhou**	**35.39**	**9**	*e*P	**P**	**17 49 22.4**	**0.0**
LZH				AP	pP	17 49 29.2	-0.8
LZH				XP	sP	17 49 33.2	0.0
LZH				AMB	AMB		
	comp=Z,25nm,1.2s,mb5.0						
LZH	**Lanzhou**	**35.39**	**9**	*e*P	**P**	**17 49 22.4**	**0.0**
	comp=Z,25nm,1.2s,mb5.0						
LZH				pP	pP	17 49 29.2	-0.8
LZH				sP	sP	17 49 33.2	0.0
NJ2	**Nanjing**	**36.96**	**31**	*e*P	**P**	**17 49 33.2**	**-2.4**
NJ2				AP	pP	17 49 43.0	-0.2
NJ2				XP	sP	17 49 47.1	+0.7
NJ2				PP	PP	17 51 02.0	0.0
NJ2				S	**S**	**17 55 21.0**	**+2.3**
NJ2				XS		17 55 38.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,1μm,4.7s						
NJ2				LR	LR		
	comp=N,2μm,24.0s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,19.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,16.3s,MS4.7						
GTA	**Gaotai**	**38.25**	**3**	⇑P	**P**	**17 49 46.5**	**0.0**
GTA				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.8						
JOW	**Kunigami**	**39.29**	**47**	P	**P**	**17 49 55.0**	**-0.2**
	comp=Z,12nm,0.6s,mb4.8,baz=269,slow=11,SNR=6.6						
HHC	**Hu-ho-hao-te**	**41.68**	**16**	*e*P	**P**	**17 50 17.9**	**+3.1**
HHC				AP	pP	17 50 26.5	+4.0
HHC				XP	sP	17 50 33.9	+8.2
HHC				PP	PP	17 52 00.4	+6.1
HHC				PCP	PcP	17 52 11.2	-0.7
HHC				SCP		17 55 52.8	
HHC				PCS		17 55 58.8	
HHC				SCS	ScS	18 00 12.5	-1.7
HHC				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.6						
HHC				LR	LR		
	comp=N,2μm,18.1s,MS5.3						
HHC				LR	LR		
	comp=E,3μm,18.1s,MS5.3						
HHC				LR	LR		
	comp=Z,3μm,18.0s,MS5.2						
WRA	**Warramunga Arr**	**41.89**	**122**	P	**P**	**17 50 16.7**	**-0.1**
	comp=Z,5.5nm,0.6s,mb4.3,baz=300,slow=9.1,SNR=28						
BJT	**Baijiatuan**	**42.43**	**22**	*e*P	**P**	**17 50 20.7**	**-0.3**
	comp=Z,16nm,0.6s,mb4.8						
ASPA	**Alice Springs**	**43.24**	**127**	*e*P	**P**	**17 50 28.6**	**+0.8**
ASAR	**Alice Springs**	**43.24**	**127**	*e*P	**P**	**17 50 28.3**	**+0.5**
ASAR	**Alice Springs**	**43.24**	**127**	P	**P**	**17 50 28.3**	**+0.5**
	comp=Z,5.2nm,0.9s,mb4.3,baz=301,slow=7.9,SNR=20						
WMQ	**Urumqi**	**43.44**	**350**	⇑P	**P**	**17 50 30.2**	**+1.1**
WMQ				AP	pP	17 50 40.2	+3.4
WMQ				XP	sP	17 50 44.2	+4.3
WMQ				PCP	PcP	17 52 13.2	-4.5
WMQ				PP	PP	17 52 15.6	+3.5
WMQ				S	**S**	**17 57 03.4**	**+8.0**
WMQ				XS		17 57 19.8	
WMQ				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,2μm,7.9s						
WMQ				LR	LR		
	comp=N,3μm,22.2s,MS5.4						
WMQ				LR	LR		
	comp=E,4μm,23.8s,MS5.4						
WMQ				LR	LR		
	comp=Z,3μm,20.6s,MS5.2						
DL2	**Dalian**	**43.78**	**28**	P	**P**	**17 50 32.3**	**+0.4**
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
ULHL	**Ulahol**	**45.17**	**338**	P	**P**	**17 50 44.1**	**+1.0**
	SNR=7.5						
UCH	**Uchtor**	**45.82**	**336**	P	**P**	**17 50 49.5**	**+1.2**
	SNR=9.0						
TKM2	**Tokmak 2**	**45.99**	**338**	P	**P**	**17 50 50.8**	**+1.3**
	SNR=8.5						
KBK	**Karagaybulak**	**46.01**	**337**	P	**P**	**17 50 51.6**	**+1.9**
	SNR=9.5						
AML	**Almayashu**	**46.07**	**336**	P	**P**	**17 50 51.4**	**+1.2**
	SNR=6.1						
EKS2	**Erkin-Say**	**46.48**	**336**	P	**P**	**17 50 53.9**	**+0.4**
	SNR=6.8						
USP	**Ospenovka**	**46.70**	**337**	P	**P**	**17 50 55.6**	**+0.4**
	SNR=12						
SONM	**Songino Array**	**47.27**	**8**	P	**P**	**17 50 59.4**	**-0.2**
	comp=Z,11nm,0.5s,mb5.0,baz=191,slow=9.2,SNR=36						
SONM				pP	pP	17 51 06.4	-0.9
	comp=Z,4.7nm,0.5s,baz=192,slow=9.7,SNR=6.8						
SONM				PcP	PcP	17 52 31.0	+0.1
	comp=Z,3.9nm,0.7s,baz=191,slow=3.7,SNR=6.3						
ULN	**Ulaanbaatar**	**47.40**	**9**	*e*P	**P**	**17 51 03.1**	**+2.4**
ULN	**Ulaanbaatar**	**47.40**	**9**	*e*P	**P**	**17 51 00.5**	**-0.2**
	comp=Z,9.0nm,0.6s,mb4.9						
MKAR	**Makanchi Array**	**47.41**	**346**	*i* P	**P**	**17 51 00.1**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,29nm,1.1s						
MKAR	**Makanchi Array**	**47.41**	**346**	P	**P**	**17 51 00.6**	**-0.1**
	comp=Z,8.6nm,0.7s,mb4.8,baz=159,slow=8.0,SNR=23						
KKAR	**Karatay Array**	**48.23**	**334**	*i* P	**P**	**17 51 07.1**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
CN2	**Changchun**	**49.41**	**27**	*e*P	**P**	**17 51 15.8**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
ZAK	**Zakamensk**	**49.42**	**5**	⇑*e*P	**P**	**17 51 15.2**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
PMG	**Port Moresby**	**50.75**	**103**	P	**P**	**17 51 27.1**	**+0.2**
	comp=Z,7.7nm,0.7s,mb4.8,baz=310,slow=17,SNR=4.4						
OPO	**Ambohidratompo**	**52.93**	**246**	P	**P**	**17 51 42.6**	**-0.7**
	comp=Z,3.8nm,1.0s,mb4.3,baz=47,slow=9.2,SNR=4.0						
STKA	**Stephens Creek**	**53.20**	**132**	P	**P**	**17 51 46.0**	**+0.9**
	comp=Z,9.1nm,0.7s,mb4.8,baz=299,slow=6.9,SNR=25						
ZAL	**Zalesovo**	**53.71**	**351**	P	**P**	**17 51 48.1**	**-0.5**
	comp=Z,6.7nm,0.6s,mb4.7,baz=305,slow=6.2,SNR=25						
NVS	**Novosibirsk**	**54.84**	**350**	*e*P	**P**	**17 51 54.0**	**-2.8**
KLR	**Kul'dur**	**56.36**	**26**	*e*P	**P**	**17 52 04.8**	**-3.1**
BVA0	**Borovoye Array**	**56.42**	**341**	*i* P	**P**	**17 52 06.9**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**56.42**	**341**	P	**P**	**17 52 06.3**	**-2.0**
	comp=Z,5.6nm,0.8s,mb4.6,baz=149,slow=8.6,SNR=18						
BVAR				pP	pP	17 52 12.5	-3.6
	comp=Z,6.0nm,0.6s,baz=140,slow=8.8,SNR=15						
CHKZ	**Chkalovo**	**56.90**	**341**	*i* P	**P**	**17 52 10.6**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.9						
CHKZ	**Chkalovo**	**56.90**	**341**	*e*P	**P**	**17 52 10.2**	**-1.5**
	comp=Z,9.0nm,0.7s,mb4.9						
BOD	**Bodaibo**	**58.15**	**10**	⇓*i*P	**P**	**17 52 19.3**	**-1.1**
BOD				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**60.43**	**34**	*e*P	**P**	**17 52 36.0**	**-0.3**
GNI	**Garni**	**61.46**	**316**	*e*P	pP	17 52 48.4	-3.0
SVE	**Sverdlovsk**	**62.86**	**338**	*e*P	**P**	**17 52 55.5**	**+3.0**
SVE				*e*		17 53 11.8	
ARU	**Arti**	**63.35**	**337**	⇓*i*P	**P**	**17 52 53.7**	**-2.1**
ARU				*e*		17 53 26.7	
ARU				*e*		17 55 09.6	
ARU				*e*S	**S**	**18 01 32.0**	**+7.1**
ARU				*e*SS	SS	18 05 29.0	-4.6
ARU				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9						
KIV	**Kislovodsk**	**64.47**	**319**	*e*P	**P**	**17 53 08.0**	**+4.7**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**64.47**	**319**	*e*P	**P**	**17 53 02.4**	**-0.9**
	comp=Z,12nm,1.0s,mb4.9						
ASF	**Jabal al Asfar**	**64.62**	**305**	P	**P**	**17 53 05.2**	**+0.7**
	comp=Z,1.1nm,0.4s,mb4.3,baz=300,slow=4.4,SNR=3.8						
GOF	**Gofitskoye**	**64.73**	**321**	⇓*i*P	**P**	**17 53 10.2**	**+5.2**
GOF				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
MALT	**Malatya**	**65.29**	**312**	P	**P**	**17 53 07.8**	**-0.9**
	comp=Z,2.9nm,1.0s,mb4.3						
YAK	**Yakutsk**	**65.55**	**16**	⇑*i*P	**P**	**17 53 08.7**	**-1.2**
YAK				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
YAK	**Yakutsk**	**65.55**	**16**	*e*P	**P**	**17 53 07.6**	**-2.3**
	comp=Z,47nm,1.1s,mb5.4						
EIL	**Elat**	**65.60**	**302**	P	**P**	**17 53 10.3**	**-0.5**
	comp=Z,4.9nm,0.8s,mb4.6,baz=207,slow=0.9,SNR=6.9						
EIL	**Elat**	**65.60**	**302**	*e*P	**P**	**17 53 10.1**	**-0.8**
	comp=Z,3.9nm,0.8s,mb4.5						
SOC	**Sochi**	**66.28**	**318**	*e*P	**P**	**17 53 17.0**	**+2.0**
SOC				*e*		17 53 44.8	
SOC				*e*S		18 02 16.7	
SOC				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
SOC				pmax	pmax		
	comp=N,2.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,1.0nm,0.4s						
SOC				MLR	MLR		
	comp=N,6μm,21.0s,MS5.9						
SOC				MLR	MLR		
	comp=Z,13μm,21.0s,MS6.1						
SOC				MLR	MLR		
	comp=E,5μm,20.0s,MS5.9						
ANN	**Anapa**	**68.27**	**318**	*e*P	pP	17 53 36.4	+1.0
MATP	**Matopo**	**70.54**	**248**	P	**P**	**17 53 42.1**	**+0.4**
	comp=E,4.9nm,1.1s,mb4.3,baz=205,slow=2.6,SNR=4.5						
OBN	**Obninsk**	**72.79**	**328**	*e*P	pP	17 54 00.7	-2.0
OBN				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.9						
TIXI	**Tiksi**	**73.32**	**10**	⇑*i*P	**P**	**17 53 56.1**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
AKASG	**Malin Array Be**	**75.43**	**322**	P	**P**	**17 54 09.1**	**-0.9**
	comp=Z,0.6nm,0.4s,mb3.9,baz=80,slow=5.2,SNR=8.1						
MLR	**Muntele Rosu**	**76.23**	**317**	P	**P**	**17 54 14.1**	**-0.6**
	comp=Z,3.4nm,1.0s,mb4.2,baz=63,slow=4.2,SNR=5.8						
MLR				pP	pP	17 54 21.8	-0.9
	comp=Z,7.6nm,1.1s,baz=33,slow=3.7,SNR=7.7						
FINES	**FINESS Array B**	**80.17**	**333**	P	**P**	**17 54 35.8**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=92,slow=6.8,SNR=10						
FINES				pP	pP	17 54 43.1	-0.9
	comp=Z,1.8nm,0.7s,baz=270,slow=11,SNR=2.7						
BILL	**Bilibino**	**81.28**	**21**	⇑*i*P	**P**	**17 54 40.6**	**-1.1**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
ARCES	**ARCESS Array B**	**82.71**	**340**	P	**P**	**17 54 48.9**	**-0.1**
	comp=Z,1.5nm,0.5s,mb4.3,baz=104,slow=4.6,SNR=14						
ARCES	**ARCESS Array B**	**82.71**	**340**	P	**P**	**17 54 48.9**	**-0.1**
GERES	**GERESS Array B**	**84.98**	**319**	P	**P**	**17 55 01.6**	**+0.7**
	comp=Z,2.7nm,0.9s,mb4.4,baz=104,slow=5.5,SNR=9.9						
GERES				pP	pP	17 55 09.2	0.0
	comp=Z,3.3nm,1.0s,baz=101,slow=6.8,SNR=6.4						
CLL	**Collm**	**85.60**	**321**	P	**P**	**17 55 04.0**	**0.0**
CLL				*e*PP	pP	17 55 12.0	-0.2
GRA1	**Grafenberg Arr**	**86.65**	**320**	*e*P	pP	17 55 17.8	+0.4
	comp=Z,7.0nm,1.1s						
GRF	**Grafenberg Arr**	**86.65**	**320**	*e*P	pP	17 55 17.8	+0.4
GRF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**86.65**	**320**	*e*P	pP	17 55 17.8	+0.4
	comp=Z,7.0nm,1.1s						
NB2	**NORSAR Subarra**	**87.18**	**331**	P	**P**	**17 55 11.5**	**0.0**
	comp=Z,1.2nm,0.8s,mb4.2,baz=92,slow=4.8						
NOA	**NORSAR Array B**	**87.18**	**331**	P	**P**	**17 55 11.4**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.4,baz=94,slow=4.8,SNR=5.3						
EKA	**Eskdalemuir Ar**	**95.08**	**326**	P	**P**	**17 55 47.4**	**-1.1**
	comp=Z,1.9nm,0.8s,mb4.5,baz=127,slow=4.2,SNR=3.8						
NVAR	**Mina Array Bea**	**128.86**	**36**	PKP	PKPdf	18 01 35.6	-1.6
	comp=Z,0.7nm,0.9s,baz=216,slow=2.2,SNR=5.2						
PDAR	**Pinedale Array**	**130.15**	**26**	PKP	PKPdf	18 01 34.3	-5.3
	comp=Z,0.5nm,0.7s,baz=270,slow=1.5,SNR=3.6						
TXAR	**Lajitas Array**	**143.76**	**32**	PKP	PKPdf	18 02 00.0	-4.7
	comp=Z,0.7nm,0.6s,baz=270,slow=1.3,SNR=6.0						

IDC 11 17:49:47.2±3.7, 2.80N×97.35E, mb3.3/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, Error ellipse: s-maj=148.8km s-min=23.9km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.77**	**124**	P	P	17 57 47.4	-1.1
	0.3nm,0.4s,baz=304,slow=9.0,SNR=8.7						
ASAR	**Alice Springs**	**44.25**	**129**	P	P	17 57 57.8	-2.7
	0.6nm,0.8s,baz=308,slow=7.6,SNR=4.7						
SONM	**Songino Array**	**45.53**	**9**	P	P	17 58 09.2	-1.2
	0.2nm,0.7s,baz=190,slow=8.8,SNR=2.9						
MKAR	**Makanchi Array**	**45.73**	**346**	P	P	17 58 09.7	-2.3
	0.1nm,0.5s,baz=153,slow=9.8,SNR=2.8						

IDC 11 17:50:21.9±8.1, 1.84S×99.87E, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=177.5km s-min=108.5km az=131.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.19**	**357**	P	P	17 54 58.1	-3.0
	0.4nm,0.6s,baz=187,slow=10,SNR=4.7						
SONM	**Songino Array**	**49.80**	**6**	P	P	17 59 16.5	-2.0
	0.4nm,0.6s,baz=196,slow=8.4,SNR=3.9						
MKAR	**Makanchi Array**	**50.84**	**344**	P	P	17 59 24.7	-1.7
	2.0nm,0.8s,baz=166,slow=9.5,SNR=13						
ZAL	**Zalesovo**	**56.98**	**349**	P	P	18 00 09.3	-2.3
	1.0nm,0.3s,baz=282,slow=7.1,SNR=3.9						
BVAR	**Borovoye Array**	**59.99**	**340**	P	P	18 00 29.7	-2.9
	0.4nm,0.6s,baz=124,slow=10,SNR=3.9						

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*IDC **11** 17:55:29.8±1.5, 30.74N×83.98E, mb3.6/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=56.7km s-min=24.4km az=50.0*
*NDI **11** 17:55:29.5±3.6, 31.25N×84.19E, h10km, MD3.4*
ISC 11 17:55:34.4±2.6, 30.8N±0.2×84.1E±0.1, h43km±29km, n10, σ0§87/12, mb3.7/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.54**	**251**	*e*PN	**P**	**17 56 28.6**	**+0.4**
PTH				*e*SN	**S**	**17 57 10.0**	**+0.7**
LGTI	**Lohaghat**	**3.55**	**249**	*e*PN	**P**	**17 56 32.3**	**+3.9**
LGTI				*e*SN	**S**	**17 57 17.0**	**+7.3**
DDI	**Dehra Dun**	**5.19**	**266**	*e*P	**P**	**17 56 50.5**	**-1.0**
NDI	**New Delhi**	**6.30**	**252**	*e*P	**P**	**17 57 03.0**	**-4.1**
CMAR	**Chiang Mai Arr**	**18.25**	**129**	P	**P**	**17 59 46.2**	**-0.1**
	0.0nm,0.3s,baz=318,slow=13,SNR=4.2						
SONM	**Songino Array**	**24.13**	**39**	P	**P**	**18 00 47.8**	**+0.7**
	0.7nm,0.8s,mb3.1,baz=226,slow=10,SNR=3.2						
FINES	**FINESS Array B**	**48.25**	**327**	P	**P**	**18 04 12.0**	**-0.6**
	0.7nm,0.7s,mb3.8,baz=167,slow=33,SNR=3.3						
NOA	**NORSAR Array B**	**55.35**	**326**	P	**P**	**18 05 05.2**	**-0.7**
	0.9nm,0.8s,mb3.9,baz=83,slow=6.4,SNR=3.4						
WRA	**Warramunga Arr**	**69.84**	**130**	P	**P**	**18 06 42.2**	**-0.7**
	1.2nm,0.8s,mb3.9,baz=324,slow=6.4,SNR=7.3						
YKA	**Yellowknife Ar**	**85.85**	**9**	P	**P**	**18 08 11.4**	**+1.4**
	0.3nm,0.6s,mb3.7,baz=338,slow=5.2,SNR=8.0						

IDC 11 17:57:51.3±7.7, 9.05S×130.13E, h70km±87km, mb3.4/1, mb1 3.4/4, mb1mx3.2/15, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=55.9km s-min=43.5km az=179.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.00**	**205**	P	P	18 00 12.4	-2.1
	0.5nm,0.3s,baz=15,slow=11,SNR=18						
FITZ				S	S	18 02 05.4	-0.4
	1.5nm,0.3s,baz=193,slow=17,SNR=8.4						
WRA	**Warramunga Arr**	**11.57**	**160**	P	P	18 00 32.9	-2.7
	0.2nm,0.3s,baz=336,slow=13,SNR=12						
WRA				S	S	18 02 41.3	-2.5
	0.2nm,0.3s,baz=338,slow=20,SNR=5.8						
ASAR	**Alice Springs**	**14.98**	**166**	P	P	18 01 18.6	-1.9
	0.1nm,0.3s,baz=334,slow=9.4,SNR=9.2						
MKAR	**Makanchi Array**	**70.00**	**327**	P	P	18 08 55.5	-1.9
	0.5nm,0.6s,baz=122,slow=7.5,SNR=7.2						

CASC 11 18:04:19.2±1.6, 10.22N×86.63W, h48km±220km, MD4.2, 5C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**1.66**	**36**	⇑*e*P	P	18 04 46.0	-0.4
MASN	**Masaya**	**1.82**	**15**	*e*P	P	18 04 48.6	-0.1
TICN	**Ticuantepe**	**1.85**	**12**	*e*P	P	18 04 48.7	-0.4
XAVN	**Gruta Xavier**	**1.94**	**9**	*e*P	P	18 04 49.2	-1.2
COPN	**Copaltepe**	**1.95**	**1**	⇓*e*P	P	18 04 49.7	-0.8
COPN				*e*S	S	18 05 14.1	+0.3
MGAN	**Managua**	**1.95**	**11**	*e*P	P	18 04 49.7	-0.9
MGAN				*e*S	S	18 05 15.3	+1.4
WILN	**Americas 2**	**1.98**	**13**	*e*P	P	18 04 50.9	0.0
APYN	**Apoyeque**	**2.02**	**8**	⇑*e*P	P	18 04 50.8	-0.7

Sumatra.

ISC 11 18:19:12.5±0.2,**1.71S**±0.04×**99.83E**±0.04,**h24**km,
h24km±.5km:**pP-P,n163,**σ1§**20**/158,**mb4.8**/71,**MS5.0**/5,
12C-16D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.37**	**25**	*e*P	**Pn**	**18 19 38.0**	**+1.5**
KSI	**Kapahiang**	**3.37**	**125**	*e*P	**Pn**	**18 20 07.0**	**+2.1**
LARI	**Lau Rambong**	**4.86**	**340**	*e*P	**Pn**	**18 20 19.5**	**-6.7**
PENI	**Pendagan**	**6.56**	**126**	⇑*i*P	**Pn**	**18 20 49.9**	**-0.3**
	2μm,0.5s						
KULM	**Kulim**	**7.00**	**7**	*e*P	**Pn**	**18 20 56.1**	**-0.3**
PASI	**Pasiripis**	**7.58**	**131**	*e*P	**Pn**	**18 21 02.4**	**-2.0**
PULI	**Pulasari**	**7.67**	**127**	*e*P	**Pn**	**18 21 04.7**	**-0.9**
	770nm,0.7s						
SNG	**Songkhla**	**8.87**	**5**	P	**P**	**18 21 28.0**	**+5.7**
	222nm,1.0s						
KSM	**Kuching**	**10.95**	**73**	P	**P**	**18 21 52.9**	**+1.9**
SRDI	**Scrawed**	**15.76**	**116**	*e*P	**P**	**18 22 53.4**	**-1.4**
	112nm,0.2s						
KELI	**Kelakatan**	**15.97**	**114**	⇑*i*P	**P**	**18 22 57.7**	**+0.1**
	57nm,0.4s						
RATI	**Rata**	**17.11**	**115**	⇑*i*P	**P**	**18 23 09.8**	**-2.2**
	210nm,0.6s						
NST	**Nakhon Sawan**	**17.28**	**1**	P	**P**	**18 23 34.0**	**+20**
KKM	**Kota Kinabalu**	**18.09**	**65**	*e*P	**P**	**18 23 26.0**	**+1.8**
CM31	**Chiang Mai Arr**	**20.06**	**358**	*e*P	**P**	**18 23 45.1**	**-2.1**
	24nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.06**	**358**	P	**P**	**18 23 45.5**	**-1.7**
	2.7nm,0.6s,baz=187,slow=10.0,SNR=24						
CMAR				PcP	PcP	18 28 02.2	+0.3
	1.4nm,0.7s,baz=216,slow=3.3,SNR=5.7						
NANT	**Nan**	**20.40**	**2**	P	**P**	**18 23 52.0**	**+1.3**
	88nm,0.9s						
CHG	**Chiang Mai**	**20.42**	**358**	⇓P	**P**	**18 23 56.1**	**+5.2**
	11nm,0.9s						
BUNI	**Buntu Taipa**	**20.56**	**96**	*e*P	**P**	**18 23 53.1**	**+0.7**
QIZ	**Qiongzhong**	**22.84**	**25**	P	**P**	**18 24 18.4**	**+3.0**
KMI	**Kunming**	**26.83**	**6**	P	**P**	**18 24 58.7**	**+5.5**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.0						
KMI	**Kunming**	**26.83**	**6**	P	**P**	**18 24 58.7**	**+5.5**
	comp=Z,6.0nm,1.2s,mb4.0						
FITZ	**Fitzroy Crossi**	**30.12**	**124**	⇑*i*P	**P**	**18 25 22.2**	**-0.7**
	comp=Z,33nm,0.9s,mb5.1						
FITZ	**Fitzroy Crossi**	**30.12**	**124**	P	**P**	**18 25 22.3**	**-0.6**
	comp=Z,53nm,0.9s,mb5.2,baz=323,slow=4.4,SNR=22						
FITZ				pP	pP	18 25 29.5	-0.5
	comp=Z,43nm,0.9s,baz=338,slow=4.6,SNR=9.9						
FITZ				LR	LR	18 39 47.0	
	comp=Z,1μm,18.2s,MS4.5,baz=60,slow=41						
JIRN	**Jiri**	**32.02**	**337**	*e*P	**P**	**18 25 40.1**	**+0.6**
	comp=Z,126nm,1.3s,mb5.6						
PKI	**Pulchoki**	**32.25**	**336**	*e*P	**P**	**18 25 42.3**	**+0.7**
	comp=Z,23nm,0.9s,mb5.0						
LSA	**Lhasa**	**32.32**	**346**	P	**P**	**18 25 41.0**	**-1.2**
LSA	**Lhasa**	**32.32**	**346**	*e*P	**P**	**18 25 41.8**	**-0.4**
	comp=Z,21nm,0.9s,mb5.0						
GUN	**Gumba**	**32.36**	**337**	*e*P	**P**	**18 25 43.0**	**+0.4**
	comp=Z,53nm,0.6s,mb5.5						
DMN	**Daman**	**32.41**	**335**	*e*P	**P**	**18 25 42.7**	**-0.3**
	comp=Z,33nm,1.0s,mb5.1						
KKN	**Kakani**	**32.50**	**336**	*e*P	**P**	**18 25 43.7**	**0.0**
	comp=Z,36nm,1.0s,mb5.2						
GKN	**Gorkha**	**32.95**	**335**	*e*P	**P**	**18 25 47.8**	**+0.1**
	comp=Z,43nm,1.1s,mb5.3						
ENH	**Enshi**	**33.11**	**15**	*e*P	**P**	**18 25 47.0**	**-2.1**
	comp=Z,12nm,0.8s,mb4.9						
KOLN	**Koldanda**	**33.21**	**333**	*e*P	**P**	**18 25 50.2**	**+0.3**
	comp=Z,37nm,1.0s,mb5.3						
KAKA	**Kakadu**	**34.10**	**110**	⇓*i*P	**P**	**18 25 54.8**	**-3.0**
	comp=Z,11nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**35.09**	**154**	P	**P**	**18 26 06.7**	**+0.6**
	comp=Z,18nm,0.9s,mb5.0,baz=302,slow=8.4,SNR=6.6						
NWAO	**Narrogin (SRO)**	**35.09**	**154**	P	**P**	**18 26 06.7**	**+0.6**
XAN	**Xi'an**	**36.58**	**13**	P	**P**	**18 26 17.3**	**-1.4**
XAN				AP	pP	18 26 23.9	-1.9
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
LZH	**Lanzhou**	**37.79**	**5**	*e*P	**P**	**18 26 31.0**	**+2.2**
LZH				AP	pP	18 26 37.3	+1.3
LZH				XP	sP	18 26 40.0	+0.9
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH	**Lanzhou**	**37.79**	**5**	*e*P	**P**	**18 26 31.0**	**+2.2**
	comp=Z,15nm,1.0s,mb4.7						
LZH				pP	pP	18 26 37.3	+1.3
LZH				sP	sP	18 26 40.0	+0.9
NJ2	**Nanjing**	**38.12**	**27**	*e*P	**P**	**18 26 31.7**	**+0.1**
NJ2				AP	pP	18 26 41.6	+2.8
NJ2				XP	sP	18 26 45.6	+3.7
NJ2				PP	PP	18 28 03.0	+0.8
NJ2				S	**S**	**18 32 24.0**	**+1.2**
NJ2				XS		18 32 40.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,1μm,6.0s						
NJ2				LR	LR		
	comp=N,4μm,24.0s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,19.2s,MS5.3						
NJ2				LR	LR		
	comp=Z,1μm,16.3s,MS4.7						
WRA	**Warramunga Arr**	**38.29**	**121**	P	**P**	**18 26 32.6**	**-0.5**
	comp=Z,13nm,0.5s,mb4.9,baz=303,slow=9.1,SNR=139						
WRA				pP	pP	18 26 40.9	+0.6
	comp=Z,11nm,0.5s,baz=300,slow=9.4,SNR=14						
WRA				PcP	PcP	18 28 47.9	+0.4
	comp=Z,3.2nm,0.7s,baz=301,slow=2.5,SNR=7.0						
WRA				S	**S**	**18 32 23.9**	**-1.5**
	comp=Z,1.6nm,1.1s,baz=286,slow=15,SNR=5.2						
WRAB	**Tennant Creek**	**38.29**	**121**	⇓*i*P	**P**	**18 26 33.1**	**-0.1**
WRAB	**Tennant Creek**	**38.29**	**121**	*e*P	**P**	**18 26 32.5**	**-0.7**
	comp=Z,9μm,0.6s						
SSE	**Sheshan**	**38.44**	**30**	P	**P**	**18 26 33.0**	**-1.3**
SSE				AMB	AMB		
	comp=Z,21nm,0.6s,mb5.0						
SSE				AMB	AMB		
	comp=Z,1μm,12.0s						
SSE	**Sheshan**	**38.44**	**30**	P	**P**	**18 26 33.0**	**-1.3**
	comp=Z,21nm,0.6s,mb5.0						
ASPA	**Alice Springs**	**39.56**	**126**	⇑*i*P	**P**	**18 26 44.1**	**+0.4**
ASPA				*e*S	**S**	**18 32 47.2**	**+2.6**
ASAR	**Alice Springs**	**39.56**	**126**	P	**P**	**18 26 44.1**	**+0.4**
	comp=Z,46nm,0.4s,mb5.6,baz=298,slow=7.4,SNR=5.3						
ASAR				S	**S**	**18 32 46.2**	**+1.5**
	comp=Z,103nm,0.4s,baz=298,slow=15,SNR=6.2						
GTA	**Gaotai**	**40.92**	**360**	*e*P	**P**	**18 26 55.1**	**+0.3**
GTA				AP	pP	18 27 02.2	+0.2
GTA				XP	sP	18 27 06.3	+1.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb3.8						
HHC	**Hu-ho-hao-te**	**43.69**	**13**	*e*P	**P**	**18 27 17.1**	**-0.4**
HHC				AP	pP	18 27 25.0	+0.3
HHC				XP	sP	18 27 28.8	+1.1
HHC				PP	PP	18 29 01.0	0.0
HHC				PCP	PcP	18 29 08.3	+3.4
HHC				PCS		18 32 57.6	
HHC				S	**S**	**18 33 45.2**	**-0.3**
HHC				XS		18 33 58.7	
HHC				SS	SS	18 36 55.4	+1.7
HHC				SCS	ScS	18 37 11.2	-1.8
HHC				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,956nm,12.7s						
HHC				LR	LR		
	comp=N,1μm,16.6s,MS5.0						
HHC				LR	LR		
	comp=E,801nm,15.7s,MS5.0						
HHC				LR	LR		
	comp=Z,2μm,17.1s,MS5.1						
BJI	**Beijing**	**44.16**	**18**	P	**P**	**18 27 21.5**	**+0.2**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
BJI	**Beijing**	**44.16**	**18**	P	**P**	**18 27 21.5**	**+0.2**
	comp=Z,8.0nm,0.9s,mb4.5						
KSH	**Kashi**	**46.50**	**334**	*e*P	**P**	**18 27 38.2**	**-1.7**
KSH				*e*AP	pP	18 27 47.3	+0.1
KSH				*e*XP	sP	18 27 50.0	-0.1
KSH				*e*PCP	PcP	18 29 13.0	-1.6
KSH				*e*PP	PP	18 29 26.1	-3.0
KSH				*e*SCP		18 33 03.0	
KSH				*e*PCS		18 33 06.0	
KSH				*e*S	**S**	**18 34 23.0**	**-3.0**
KSH				*e*SCS	ScS	18 37 28.4	-2.5
KSH				AMB	AMB		
	comp=Z,3μm,15.0s						
KSH				LR	LR		
	comp=N,1μm,12.8s,MS5.4						
KSH				LR	LR		
	comp=E,3μm,16.4s,MS5.4						
WMQ	**Urumqi**	**46.62**	**348**	⇓P	**P**	**18 27 42.4**	**+1.6**
WMQ				AP	pP	18 27 49.9	+1.9
WMQ				XP	sP	18 27 53.4	+2.4
WMQ				PP	PP	18 29 27.8	-2.4
WMQ				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,89nm,6.9s						
WMQ				LR	LR		
	comp=N,1μm,22.8s,MS4.9						
WMQ				LR	LR		
	comp=E,336nm,20.1s,MS4.9						
WMQ				LR	LR		
	comp=Z,1μm,18.8s,MS4.9						
CTA	**Charters Tower**	**48.88**	**115**	*e*P	**P**	**18 27 58.7**	**0.0**
	comp=Z,12nm,0.8s,mb5.0						
CTA	**Charters Tower**	**48.88**	**115**	P	**P**	**18 27 58.9**	**+0.2**
	comp=Z,14nm,0.8s,mb5.0,baz=292,slow=8.6,SNR=10.0						
STKA	**Stephens Creek**	**49.47**	**132**	⇑*i*P	**P**	**18 28 03.8**	**+0.6**
	comp=Z,9.9nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**49.47**	**132**	P	**P**	**18 28 03.5**	**+0.4**
	comp=Z,12nm,0.8s,mb5.0,baz=309,slow=6.9,SNR=26						
TKM2	**Tokmak 2**	**49.50**	**337**	P	**P**	**18 28 03.9**	**+0.6**
	SNR=9.7						
KBK	**Karagaybulak**	**49.54**	**336**	P	**P**	**18 28 05.0**	**+1.5**
	SNR=6.4						
AML	**Almayashu**	**49.63**	**335**	P	**P**	**18 28 05.1**	**+0.8**
	SNR=9.4						
SONM	**Songino Array**	**49.68**	**6**	P	**P**	**18 28 04.2**	**-0.4**
	comp=Z,4.1nm,0.8s,mb4.5,baz=189,slow=9.4,SNR=34						
SONM				PcP	PcP	18 29 25.8	0.0
	comp=Z,4.5nm,0.8s,baz=183,slow=4.1,SNR=5.7						
SONM				pPcP		18 29 33.2	
	comp=Z,2.0nm,0.5s,baz=186,slow=3.8,SNR=6.4						
AAK	**Ala-Archa**	**49.71**	**336**	P	**P**	**18 28 05.5**	**+0.7**
AAK				pmax	pmax		
	comp=Z,64nm,2.2s,mb5.3						
ULN	**Ulaanbaatar**	**49.78**	**6**	*i*P	**P**	**18 28 05.4**	**+0.1**
ULN	**Ulaanbaatar**	**49.78**	**6**	*e*P	**P**	**18 28 05.0**	**-0.3**
	comp=Z,9.4nm,1.0s,mb4.8						
EKS2	**Erkin-Say**	**50.03**	**335**	P	**P**	**18 28 08.1**	**+0.8**
	SNR=13						
USP	**Ospenovka**	**50.23**	**336**	P	**P**	**18 28 09.0**	**+0.1**
	SNR=9.6						
MKAR	**Makanchi Array**	**50.71**	**344**	*i*P	**P**	**18 28 12.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MKAR	**Makanchi Array**	**50.71**	**344**	P	**P**	**18 28 12.4**	**0.0**
	comp=Z,7.8nm,0.6s,mb4.8,baz=148,slow=8.1,SNR=109						
MKAR				S	**S**	**18 35 28.2**	**+3.4**
	comp=Z,0.6nm,0.8s,baz=150,slow=17,SNR=4.0						
MKAR	**Makanchi Array**	**50.71**	**344**	P	**P**	**18 28 12.4**	**0.0**
MKAR				S	**S**	**18 35 28.2**	**+3.4**
CN2	**Changchun**	**50.79**	**24**	*e*P	**P**	**18 28 15.6**	**+2.5**
ZAK	**Zakamensk**	**51.98**	**3**	*e*P	**P**	**18 28 23.7**	**+1.7**
ZAK				*e*		18 29 33.1	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.8						
MJAR	**Matsushiro Arr**	**52.16**	**39**	P	**P**	**18 28 22.3**	**-1.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=212,slow=9.1,SNR=5.5						
MDJ	**Mudanjiang**	**53.21**	**26**	P	**P**	**18 28 31.8**	**+0.5**
MDJ				XP	sP	18 28 40.8	-0.7
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
ZAL	**Zalesovo**	**56.85**	**349**	*i*P	**P**	**18 28 57.3**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZAL	**Zalesovo**	**56.85**	**349**	P	**P**	**18 28 57.3**	**-0.3**
	comp=Z,10nm,0.6s,mb5.0,baz=312,slow=5.5,SNR=55						
ZAL				S	**S**	**18 36 48.9**	**+1.2**
	comp=Z,0.9nm,0.4s,baz=186,slow=20,SNR=12						
KLR	**Kul'dur**	**57.74**	**24**	*e*P	**P**	**18 29 00.0**	**-3.9**
NVS	**Novosibirsk**	**58.00**	**349**	⇓*i*P	**P**	**18 29 03.6**	**-2.0**
NVS				*e*S	**S**	**18 37 03.4**	**+0.5**
NVS				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
NVS				pmax	pmax		
	comp=N,27nm,1.6s						
NVS				smax			
	comp=N,24nm,2.4s						
BVA0	**Borovoye Array**	**59.86**	**340**	*e*P	**P**	**18 29 15.9**	**-2.7**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**59.86**	**340**	P	**P**	**18 29 17.1**	**-1.4**
	comp=Z,4.3nm,0.6s,mb4.7,baz=144,slow=8.8,SNR=43						
CHKZ	**Chkalovo**	**60.32**	**340**	P	**P**	**18 29 20.3**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**60.32**	**340**	*e*P	**P**	**18 29 20.1**	**-1.6**
	comp=Z,11nm,0.8s,mb4.9						
BOD	**Bodaibo**	**60.42**	**9**	*e*P	**P**	**18 29 19.9**	**-2.5**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.4						
YSS	**Yuzh-Sakhalins**	**61.33**	**32**	*e*P	**P**	**18 29 28.9**	**+0.2**
YSS				*e*		18 29 44.4	
YSS	**Yuzh-Sakhalins**	**61.33**	**32**	*e*P	**P**	**18 29 27.2**	**-1.4**
	comp=Z,12nm,0.8s,mb5.1						
KMBO	**Kilima Mbogo**	**62.55**	**270**	P	**P**	**18 29 38.0**	**+0.6**
	comp=Z,4.1nm,0.8s,mb4.6,baz=58,slow=10,SNR=15						
KMBO				pP	pP	18 29 45.2	+0.3
	comp=Z,3.8nm,0.7s,baz=59,slow=9.1,SNR=7.6						
KMBO	**Kilima Mbogo**	**62.55**	**270**	*e*P	**P**	**18 29 37.3**	**0.0**
	comp=Z,9.7nm,1.1s,mb4.8						
KMBO				*e*pP	pP	18 29 45.4	+0.5
GNI	**Garni**	**65.20**	**316**	⇓*i*P	**P**	**18 29 54.4**	**+0.1**
GNI				pmax	pmax		
	comp=Z,17nm,1.7s						
GNI	**Garni**	**65.20**	**316**	*e*P	**P**	**18 29 54.1**	**-0.2**
	comp=Z,29nm,1.8s,mb5.0						
GNI				*e*pP	pP	18 30 02.2	+0.3
SVE	**Sverdlovsk**	**66.35**	**338**	*e*P	**P**	**18 29 57.9**	**-3.5**
SVE				*e*		18 30 26.0	
ARU	**Arti**	**66.88**	**337**	⇑*i*P	**P**	**18 30 03.5**	**-1.3**
ARU				*e*		18 30 27.8	
ARU				*e*S	S	18 38 55.0	+0.5
ARU				*e*SS	SS	18 43 12.3	-2.4
ARU				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9						
YAK	**Yakutsk**	**67.51**	**15**	*e*P	**P**	**18 30 06.5**	**-2.2**
YAK				pmax	pmax		
	comp=Z,33nm,1.7s,mb5.1						
YAK	**Yakutsk**	**67.51**	**15**	*e*P	**P**	**18 30 07.3**	**-1.4**
	comp=Z,48nm,0.8s,mb5.6						
KIV	**Kislovodsk**	**68.21**	**319**	⇑*i*P	**P**	**18 30 12.7**	**-0.7**
KIV				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**68.21**	**319**	*e*P	**P**	**18 30 12.4**	**-1.0**
	comp=Z,33nm,1.1s,mb5.3						
KIV				*e*pP	pP	18 30 19.9	-1.0
ASF	**Jabal al Asfar**	**68.28**	**306**	P	**P**	**18 30 13.8**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.5,baz=341,slow=3.0,SNR=6.6						
GOF	**Gofitskoye**	**68.47**	**320**	⇑*i*P	**P**	**18 30 13.0**	**-2.0**
GOF				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.1						
MALT	**Malatya**	**69.02**	**312**	⇓P	**P**	**18 30 18.6**	**+0.1**
MALT	**Malatya**	**69.02**	**312**	*e*P	**P**	**18 30 18.0**	**-0.4**
	comp=Z,8.0nm,1.0s,mb4.6						
MALT				*e*pP	pP	18 30 24.6	-1.4
SOC	**Sochi**	**70.03**	**318**	*e*P	**P**	**18 30 22.5**	**-2.0**
SOC				*e*		18 30 51.7	
SOC				*e*		18 32 58.8	
SOC				*e*PPP	PPP	18 34 37.2	-4.1
SOC				*e*S	S	18 39 28.3	-3.9
SOC				*e*		18 40 22.7	
SOC				*e*SS	SS	18 44 02.0	-1.3
SOC				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
SOC				pmax	pmax		
	comp=N,4.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.5s						
MAW	**Mawson**	**70.52**	**194**	⇓*i*P	**P**	**18 30 28.6**	**+1.5**
	comp=E,8.6nm,1.0s,mb4.6						
MAW	**Mawson**	**70.52**	**194**	P	**P**	**18 30 27.5**	**+0.4**
	comp=E,10.0nm,0.9s,mb4.7,baz=18,slow=7.7,SNR=11						
ANN	**Anapa**	**72.01**	**318**	*e*P	**P**	**18 30 33.5**	**-3.0**
ANN				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
MA2	**Magadan**	**72.84**	**24**	*e*P	**P**	**18 30 41.4**	**+0.3**
MA2				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
BRTR	**Keskin Array B**	**73.00**	**312**	P	**P**	**18 30 41.1**	**-1.4**
	comp=Z,2.8nm,0.7s,mb4.3,baz=128,slow=6.5,SNR=18						
BRTR				pP	pP	18 30 48.5	-1.6
	comp=Z,3.7nm,1.0s,baz=129,slow=7.9,SNR=8.5						
VOR	**Voronezh**	**73.64**	**326**	*e*P	**P**	**18 30 46.0**	**+0.1**
VOR				*e*PP	pP	18 30 52.5	-1.0
VOR				pmax	pmax		
	comp=Z,50nm,2.0s,mb5.1						
SIM	**Simferopol'**	**74.27**	**318**	*e*P	**P**	**18 30 49.7**	**0.0**
SIM				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
TIXI	**Tiksi**	**75.60**	**9**	⇓*i*P	**P**	**18 30 55.6**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.7						
BOSA	**Boshof**	**75.64**	**241**	P	**P**	**18 30 57.9**	**-0.1**
	comp=Z,4.2nm,0.8s,mb4.4,baz=289,slow=7.6,SNR=6.4						
BOSA				pP	pP	18 31 05.5	0.0
	comp=Z,3.3nm,0.7s,baz=93,slow=14,SNR=2.4						
MOS	**Moscow**	**76.16**	**329**	*e*P	**P**	**18 30 58.7**	**-1.6**
MOS				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.3						
OBN	**Obninsk**	**76.46**	**328**	⇓*i*P	**P**	**18 31 01.8**	**-0.2**
OBN				*i*	pP	18 31 09.0	-0.6
OBN				pmax	pmax		
	comp=Z,33nm,1.6s,mb5.0						
TIRR	**Tirgusor**	**78.03**	**316**	⇓P	**P**	**18 31 10.7**	**-0.2**
SYO	**Syowa Base**	**78.08**	**199**	⇑P	**P**	**18 31 11.3**	**+0.6**
SYO	**Syowa Base**	**78.08**	**199**	⇓pP	pP	18 31 18.5	+0.2
CFR	**Caraliu**	**78.40**	**317**	⇑P	**P**	**18 31 11.5**	**-1.4**
AKASG	**Malin Array Be**	**79.15**	**322**	P	**P**	**18 31 16.1**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.1,baz=93,slow=4.5,SNR=11						
VRI	**Vrincioaia**	**79.53**	**317**	⇑P	**P**	**18 31 19.8**	**+0.7**
MLR	**Muntele Rosu**	**79.97**	**317**	P	**P**	**18 31 21.9**	**+0.4**
	comp=Z,12nm,0.9s,mb4.8,baz=80,slow=6.1						
MLR	**Muntele Rosu**	**79.97**	**317**	⇓P	**P**	**18 31 22.2**	**+0.7**
MLR	**Muntele Rosu**	**79.97**	**317**	⇓P	**P**	**18 31 22.2**	**+0.7**
BURAR	**Bucovina Array**	**80.93**	**319**	⇓P	**P**	**18 31 27.9**	**+1.4**
BURAR	**Bucovina Array**	**80.93**	**319**	⇓P	**P**	**18 31 28.0**	**+1.5**
JOF	**Joensuu**	**81.89**	**335**	*e*p	**P**	**18 31 28.9**	**-2.2**
	comp=Z,3.0nm,0.7s,mb4.3						
JOF	**Joensuu**	**81.89**	**335**	*e*P	**P**	**18 31 28.9**	**-2.2**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
VNDA	**Vanda**	**82.47**	**169**	P	**P**	**18 31 35.3**	**+1.3**
	comp=Z,3.3nm,0.9s,mb4.3,baz=298,slow=4.4,SNR=16						
BILL	**Bilibino**	**82.95**	**20**	*e*P	**P**	**18 31 36.1**	**-0.5**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.4						
KOLS	**Kolonicke sedl**	**83.12**	**320**	*i*P	**P**	**18 31 39.3**	**+1.4**
KOLS				*e*pP	pP	18 31 46.4	+0.8
KOLS				*e*		18 31 56.4	
FINES	**FINESS Array B**	**83.78**	**332**	P	**P**	**18 31 41.4**	**+0.4**
	comp=Z,3.3nm,0.6s,mb4.6,baz=96,slow=5.9,SNR=26						
FINES				pP	pP	18 31 48.5	-0.2
	comp=Z,2.5nm,0.6s,baz=98,slow=5.2,SNR=4.1						
KAF	**Kangasniemi**	**83.85**	**333**	*e*p	**P**	**18 31 41.6**	**+0.3**
	comp=Z,6.8nm,0.6s,mb5.0,baz=100,slow=4.7						
KAF	**Kangasniemi**	**83.85**	**333**	*e*P	**P**	**18 31 41.6**	**+0.3**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.0						
KEV	**Kevo**	**85.70**	**341**	*e*p	**P**	**18 31 50.6**	**+0.2**
	comp=Z,13nm,0.9s,mb5.2						
KEV	**Kevo**	**85.70**	**341**	*e*P	**P**	**18 31 50.6**	**+0.2**
KEV				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.2						
OKC	**Ostrava-Krasne**	**85.93**	**320**	*e*P	**P**	**18 31 53.1**	**+1.1**
OKC				*e*pP	pP	18 32 01.3	+1.6
ARCES	**ARCESS Array B**	**86.15**	**340**	P	**P**	**18 31 53.8**	**+1.2**
	comp=Z,9.7nm,0.8s,mb5.1,baz=94,slow=4.8,SNR=18						
ARCES				pP	pP	18 32 00.5	+0.2
	comp=Z,16nm,1.1s,baz=94,slow=3.7,SNR=4.4						
MORC	**Moravsky Berou**	**86.31**	**320**	*e*P	**P**	**18 31 53.9**	**+0.1**
	comp=Z,1.2nm,0.6s,mb4.3						
MORC				*e*pP	pP	18 32 01.4	-0.1
ZST	**Bratislava**	**86.41**	**318**	*e*P	**P**	**18 31 54.6**	**+0.2**
ZST				*e*pP	pP	18 32 02.4	+0.3
DPC	**Dobruska-Polom**	**87.15**	**320**	*e*P	**P**	**18 31 59.5**	**+1.6**
DPC				*e*pP	pP	18 32 06.9	+1.2
UPC	**Upice**	**87.37**	**321**	*e*P	**P**	**18 31 59.9**	**+0.9**
UPC				*e*pP	pP	18 32 08.2	+1.5
PRU	**Pruhonice**	**88.26**	**320**	*e*P	**P**	**18 32 04.3**	**+1.1**
PRU				*e*pP	pP	18 32 11.7	+0.7
BRG	**Berggiesshubel**	**88.71**	**321**	*e*P	**P**	**18 32 07.1**	**+1.7**
BRG				pmax	pmax		
	comp=Z,11nm,1.3s,mb5.0						
BRG	**Berggiessh

CMAR Sn **Sn** **18 41 47.0 -1.3**
0.8nm,0.3s,baz=239,slow=28,SNR=8.0
MKAR Makanchi Array 34.12 347 P **P** **18 45 20.8 -0.3**
0.4nm,0.7s,mb3.4,baz=180,slow=8.5,SNR=5.0
JOW Kunigami 35.40 63 P **P** **18 45 33.2 +1.0**
2.7nm,0.4s,mb4.5,baz=333,slow=6.8,SNR=3.8
CHKZ Chkalovo 43.56 341 *e*P **P** **18 46 40.2 +0.6**
1.0nm,0.6s,mb3.7
FITZ Fitzroy Crossi 45.15 134 P **P** **18 46 52.5 -0.4**
3.6nm,0.7s,mb4.3,baz=356,slow=7.7,SNR=8.4
WRA Warramunga Arr 52.68 129 P **P** **18 47 51.2 +0.1**
1.8nm,0.4s,mb4.4,baz=300,slow=9.7,SNR=84
WRA PcP PcP 18 49 00.8 +0.2
0.4nm,0.5s,baz=316,slow=3.2,SNR=7.5
WRAB Tennant Creek 52.69 129 *e*P **P** **18 47 50.6 -0.5**
6.9nm,0.6s,mb4.8
ASAR Alice Springs 54.62 133 P **P** **18 48 05.3 +0.1**
2.4nm,0.4s,mb4.6,baz=310,slow=7.0,SNR=144
BRTR Keskin Array B 57.84 308 P **P** **18 48 27.2 -0.9**
0.7nm,0.7s,mb3.8,baz=129,slow=7.4,SNR=3.9
FINES FINESS Array B 67.02 331 P **P** **18 49 28.5 -0.5**
3.5nm,1.0s,mb4.3,baz=135,slow=9.8,SNR=5.9
ARCES ARCESS Array B 69.38 340 P **P** **18 49 44.0 +0.5**
3.0nm,0.9s,mb4.2,baz=98,slow=8.6,SNR=4.9

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*NEIC **11** 18:39:10.1, 17.71N×62.26W, h24km, MD3.1(TRN), After TRN.*
TRN 11 18:39:10.1, 17.71N×62.26W, h22km, MD3.1, M3.6(FDF), **Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.43**	**100**	*e*P	Pb	18 39 20.8	+1.8
CPB				*e*S	Sb	18 39 28.5	+3.4
SKI	**Saint Kitts**	**0.59**	**230**	*e*P	Pb	18 39 23.7	+2.1
SKI				*e*S	Sb	18 39 33.2	+3.7
SKTB	**Turtle Beach**	**0.60**	**214**	*e*P	Pb	18 39 24.3	+2.4
SKTB				*e*S	Sb	18 39 34.7	+4.7
NVRH	**Round Hill, Ne**	**0.61**	**211**	*e*P	Pb	18 39 24.4	+2.3
NVRH				*e*S	Sb	18 39 34.7	+4.4
BSK	**Brimstone Hill**	**0.66**	**236**	*e*P	Pb	18 39 25.6	+2.8
BSK				*e*S	Sb	18 39 36.0	+4.6
BPA	**Boggy Peak**	**0.77**	**149**	*e*P	Pb	18 39 26.6	+1.8
BPA				*e*S	Sb	18 39 39.2	+4.5

IDC 11 18:46:22.6±2.3, 1.54S×100.03E, mb3.8/5, mb1 3.9/6, mb1mx3.6/19, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=103.3km s-min=25.9km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.90**	**357**	P	P	18 50 57.7	-1.1
0.1nm,0.3s,baz=186,slow=9.7,SNR=3.3
WRA Warramunga Arr 38.20 121 P P 18 53 44.4 -1.6
0.3nm,0.4s,baz=304,slow=9.0,SNR=6.7
MKAR Makanchi Array 50.60 344 P P 18 55 23.6 -1.7
0.7nm,0.3s,baz=159,slow=8.7,SNR=21
ZAL Zalesovo 56.72 349 P P 18 56 07.8 -2.6
1.2nm,0.5s,baz=296,slow=4.0,SNR=6.4
BVAR Borovoye Array 59.77 340 P P 18 56 28.5 -3.3
0.5nm,0.6s,baz=148,slow=11,SNR=6.1
FINES FINESS Array B 83.72 332 P P 18 58 53.0 -1.7
2.2nm,1.0s,baz=135,slow=3.9,SNR=3.7

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*DJA **11** 18:51:52.4±0.6, 1.96S×99.44E, h33km, mb4.8/5, Error ellipse: s-maj=23.0km s-min=6.0km az=60.0*
*BJI **11** 18:51:54.3, 1.83S×99.86E, h36km, mB5.4, mb4.9, Ms5.3, Msz5.1*
*MOS **11** 18:51:55.7±1.0, 1.56S×99.92E, h33km, mb5.7/38, MS5.1/4, Error ellipse: s-maj=12.6km s-min=5.4km az=118.1*
*NEIC **11** 18:51:56.4±0.1, 1.71S×99.74E, h30km, mb5.4/84, Error ellipse: s-maj=4.5km s-min=3.5km az=222.0*
NEIC Felt [III] at Padangpanjang, Sumatra.
*IDC **11** 18:51:57.2±0.6, 1.67S×99.82E, h34km±3km, mb4.9/34, mb1 4.9/34, mb1mx4.9/34, mbtmp5.1/34, MS4.7/2, Ms1 4.8/2, ms1mx4.0/34, Error ellipse: s-maj=11.5km s-min=6.5km az=55.0*
*CSEM **11** 18:52:02.8, 0.90S×98.75E, h33km, mb5.6*
ISC 11 18:51:55.1±0.2, 1.72S±0.03×99.76E±0.03, h32km, h32km±1.2km: pP-P, n399, σ0s99/385, mb5.3/140, MS5.1/21, 36C-29D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.40**	**27**	*e*P	**Pn**	**18 52 20.0**	**+1.2**
LARI	**Lau Rambong**	**4.84**	**341**	*e*P	**Pn**	**18 53 07.2**	**-0.5**
KGM	**Kluang**	**5.14**	**44**	P	**Pn**	**18 53 14.0**	**+2.1**
IPM	**Ipoh**	**6.38**	**11**	P	**Pn**	**18 53 29.7**	**+0.3**
PENI	**Pendagan**	**6.62**	**125**	*e*P	**Pn**	**18 53 31.6**	**-1.2**
KULM	**Kulim**	**7.01**	**7**	*e*P	**Pn**	**18 53 38.1**	**-0.2**
PULI	**Pulasari**	**7.72**	**127**	⇓*i*pP		18 53 48.1	
PULI	**Pulasari**	**7.72**	**127**	⇑*i*P	**Pn**	**18 53 46.5**	**-1.7**
506nm,0.8s
SINI Singah 9.34 125 ⇑*i*P **P** **18 54 08.1 -2.6**
5.6nm,0.5s
KSM Kuching 11.02 73 *e*P **P** **18 54 34.5 +0.7**
NNT Nongplab 14.21 360 P **P** **18 55 22.9 +6.5**
SRDI Scrawed 15.82 116 ⇑*i*P **P** **18 55 35.5 -1.9**
106nm,0.3s
KELI Kelakatan 16.03 114 ⇑*i*P **P** **18 55 41.0 +1.0**
27nm,0.2s
RATI Rata 17.18 114 ⇑*i*P **P** **18 55 53.1 -1.4**
200nm,0.2s
NST Nakhon Sawan 17.28 1 P **P** **18 55 46.0 -10**
KKM Kota Kinabalu 18.15 65 *e*P **P** **18 56 08.1 +1.4**
KKM Kota Kinabalu 18.15 65 P **P** **18 56 08.7 +2.0**
KKTK Khon Kaen 18.19 9 P **P** **18 56 04.0 -3.1**
BDT Bhumibol Dam 18.85 358 P **P** **18 56 14.0 -1.1**
TSM Tawau 19.06 72 P **P** **18 56 19.1 +1.4**
TANI Tanete Lipujan 19.68 95 *e*P **P** **18 56 24.6 -0.1**
CM31 Chiang Mai Arr 20.06 358 *e*P **P** **18 56 25.3 -3.4**
56nm,0.8s
CMAR Chiang Mai Arr 20.06 358 P **P** **18 56 25.6 -3.1**
24nm,0.7s,baz=186,slow=9.5,SNR=46
CMAR LR LR 19 04 48.7
comp=Z,3μm,19.4s,MS4.6,baz=180,slow=38
NINI Niniconang 20.15 98 *e*P **P** **18 56 30.6 +1.0**
NANT Nan 20.41 3 ⇓P **P** **18 56 31.0 -1.3**
288nm,0.5s
CHG Chiang Mai 20.41 358 P **P** **18 56 32.7 +0.3**
BUNI Buntu Taipa 20.63 96 *e*P **P** **18 56 37.4 +2.7**
PALK Pallekele 21.00 295 *e*P **P** **18 56 38.4 -0.1**
140nm,1.2s,mb5.2
QIZ Qiongzhong 22.88 25 P **P** **18 56 58.0 +0.8**
QIZ S **S** **19 01 01.2 +1.0**
QIZ AMB AMB
comp=Z,96nm,1.3s,mb5.1
QIZ LR LR
comp=N,2μm,13.2s,MS5.0
QIZ LR LR
comp=E,3μm,13.2s,MS5.0
QIZ LR LR
comp=Z,3μm,11.9s,MS4.9
QIZ Qiongzhong 22.88 25 *e*P **P** **18 56 57.9 +0.7**
comp=Z,140nm,1.2s,mb5.3
MDRS Chennai 24.30 308 *e*P **P** **18 57 13.1 +2.0**
VIS Vishakhapatnam 25.20 321 *e*P **P** **18 57 20.6 +1.0**
VIS *e* 18 57 23.9
comp=Z,142nm,1.4s
VIS *e* 19 00 05.5
AGT Agartala 26.75 342 ⇑*i*P **P** **18 57 33.0 -1.0**
AGT *i* 18 58 03.0
KMI Kunming 26.84 6 P **P** **18 57 35.3 +0.6**
KMI AP pP 18 57 45.9 +1.7
KMI S **S** **19 02 10.9 +3.8**
KMI AMB AMB
comp=Z,24nm,0.8s,mb4.8
KMI LR LR
comp=N,2μm,12.0s,MS5.1
KMI LR LR
comp=E,2μm,13.4s,MS5.1
KMI LR LR
comp=Z,3μm,14.4s,MS4.9
KMI Kunming 26.84 6 P **P** **18 57 35.3 +0.6**
comp=Z,24nm,0.8s,mb4.8
KMI pP pP 18 57 45.9 +1.7
KMI S **S** **19 02 10.9 +3.8**
KMI LR LR
comp=Z,3μm,14.4s,MS4.9
MBWA Marble Bar 27.44 136 *e*P **P** **18 57 40.4 +0.2**
comp=Z,21nm,1.0s,mb4.6
SHL Shillong 28.17 345 *e*P **P** **18 57 47.0 +0.2**
SHL *e* 19 02 28.0
HYB Hyderabad 28.25 313 *e*P **P** **18 57 47.0 -0.7**
HYB Hyderabad 28.25 313 *i*P **P** **18 57 47.0 -0.7**
GYA Guiyang 28.79 13 ⇓*i*P **P** **18 57 51.8 -0.6**
GYA AP pP 18 58 02.5 +0.5
GYA XP sP 18 58 05.2 -1.0
GYA PP PP 18 58 41.0 -4.7
GYA S **S** **19 02 36.5 -2.1**
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,2μm,3.2s
GYA LR LR
comp=N,3μm,14.1s,MS5.2
GYA LR LR
comp=E,2μm,10.8s,MS5.2
GYA LR LR
comp=Z,4μm,14.4s,MS5.2
FITZ Fitzroy Crossi 30.17 124 *e*P **P** **18 58 04.0 -0.9**
comp=Z,49nm,1.1s,mb5.2
FITZ Fitzroy Crossi 30.17 124 P **P** **18 58 04.0 -0.9**
comp=Z,62nm,1.0s,mb5.3,baz=308,slow=3.4,SNR=20
FITZ PcP PcP 19 01 06.0 +0.4
comp=Z,6.0nm,0.7s,baz=353,slow=8.6,SNR=2.6
KAD Karad 31.51 308 *e*P **P** **18 58 16.7 +0.1**
KAD *e* 18 58 18.2
comp=Z,99nm,1.0s
JIRN Jiri 31.99 337 *e*P **P** **18 58 20.9 +0.1**
comp=Z,257nm,0.9s,mb6.0
PKI Pulchoki 32.23 336 *e*P **P** **18 58 22.4 -0.4**
comp=Z,127nm,1.3s,mb5.6
LSA Lhasa 32.30 346 P **P** **18 58 24.4 +0.9**
LSA Lhasa 32.30 346 *e*P **P** **18 58 24.0 +0.5**
comp=Z,204nm,1.3s,mb5.8
GUN Gumba 32.34 337 *e*P **P** **18 58 23.7 -0.1**
comp=Z,377nm,1.1s,mb6.1
DMN Daman 32.38 335 *e*P **P** **18 58 23.9 -0.3**
comp=Z,178nm,1.3s,mb5.7
POO Poona 32.47 309 *e*P **P** **18 58 25.1 +0.1**
POO *e* 18 58 27.2
comp=Z,113nm,1.0s
POO *e* 19 02 24.4
KKN Kakani 32.47 336 *e*P **P** **18 58 24.5 -0.4**
comp=Z,311nm,1.3s,mb6.0
CD2 Chengdu 32.67 6 P **P** **18 58 25.4 -1.2**
CD2 S **S** **19 03 37.4 -2.1**
CD2 LR LR
comp=E,4μm,10.8s
CD2 LR LR
comp=Z,4μm,10.8s,MS5.4
GKN Gorkha 32.93 335 *e*P **P** **18 58 28.6 -0.3**
comp=Z,208nm,1.1s,mb6.0
BHPL Bhopal 32.99 320 *e*P **P** **18 58 29.2 -0.3**
BHPL *e* 18 58 30.6
comp=Z,49nm,0.9s
ENH Enshi 33.13 16 *e*P **P** **18 58 28.7 -2.0**
comp=Z,38nm,0.8s,mb5.4
KOLN Koldanda 33.18 333 *e*P **P** **18 58 30.9 -0.2**
comp=Z,187nm,1.0s,mb6.0
YHNB Yeheng 33.58 37 *e*P **P** **18 58 35.4 +0.7**
TATO Taipei 33.88 37 *e*P **P** **18 58 37.6 +0.4**
comp=Z,66nm,1.1s,mb5.5
WHN Wuhan 34.97 22 ⇑P **P** **18 58 46.5 0.0**
NWAO Narrogin (SRO) 35.12 154 *e*P **P** **18 58 47.1 -0.7**
NWAO Narrogin (SRO) 35.12 154 P **P** **18 58 47.1 -0.7**
comp=Z,8.5nm,0.6s,mb4.8,baz=308,slow=7.8,SNR=12
LGTI Lohaghat 36.17 330 *e*P **P** **18 58 57.0 +0.3**
PTH Pithoragarh 36.27 330 *e*P **P** **18 58 58.0 +0.4**
PTH *e* 19 00 06.0
XAN Xi'an 36.59 13 P **P** **18 58 58.7 -1.5**
XAN AMB AMB
comp=Z,56nm,0.9s,mb5.4
AJM Ajmer 37.06 321 *e*P **P** **18 59 04.0 -0.2**
NDI New Delhi 37.16 326 *e*P **P** **18 59 03.0 -2.0**
NDI *e* 19 04 57.0
LZH Lanzhou 37.80 5 *e*P **P** **18 59 10.0 -0.3**
LZH AP pP 18 59 17.2 -2.8
LZH PP PP 19 00 40.0 +0.1
LZH S **S** **19 04 58.2 -0.4**
LZH SCP 19 05 10.5
LZH XS 19 05 12.5
LZH SS SS 19 07 37.0 +2.3
LZH SCS ScS 19 09 21.0 +2.8
LZH AMB AMB
comp=Z,39nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,153nm,4.0s
LZH LR LR
comp=N,4μm,12.6s
LZH LR LR
comp=Z,5μm,13.1s,MS5.5
LZH Lanzhou 37.80 5 *e*P **P** **18 59 10.0 -0.3**
comp=Z,39nm,1.2s,mb5.0
LZH pP pP 18 59 17.2 -2.8
LZH sP sP 18 59 19.4 -4.7
LZH PP PP 19 00 40.0 +0.1
LZH S **S** **19 04 58.2 -0.4**
LZH ScP 19 05 10.5
LZH sS 19 05 12.5
LZH SS SS 19 07 37.0 +2.3
LZH ScS ScS 19 09 21.0 +2.8
LZH LR LR
comp=Z,5μm,13.1s,MS5.5
DDI Dehra Dun 37.99 329 *e*P **P** **18 59 11.0 -1.0**
DDI *e* 19 05 10.5
NJ2 Nanjing 38.15 27 *e*P **P** **18 59 16.0 +2.7**
NJ2 AP pP 18 59 25.6 +2.6
NJ2 XP sP 18 59 29.8 +2.7
NJ2 PP PP 19 00 47.7 +3.6
NJ2 S **S** **19 05 08.0 +4.0**
NJ2 XS 19 05 24.0
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
NJ2 AMB AMB
comp=Z,1μm,5.8s
NJ2 LR LR
comp=N,7μm,24.0s,MS5.5
NJ2 LR LR
comp=E,6μm,19.2s,MS5.5
NJ2 LR LR
comp=Z,5μm,22.3s,MS5.3
WRA Warramunga Arr 38.35 121 *e*P **P** **18 59 14.8 -0.3**
WRA Warramunga Arr 38.35 121 P **P** **18 59 14.8 -0.3**
comp=Z,29nm,0.9s,mb5.0,baz=303,slow=9.2,SNR=153
WRA pP pP 18 59 26.7 +1.9
comp=Z,14nm,0.5s,baz=301,slow=9.2,SNR=10
WRA PcP PcP 19 01 29.4 +0.5
comp=Z,3.6nm,0.5s,baz=314,slow=2.5,SNR=9.6
WRA S **S** **19 05 05.5 -1.5**
comp=Z,1.7nm,1.0s,baz=302,slow=19,SNR=3.7
WRAB Tennant Creek 38.35 121 ⇓*i*P **P** **18 59 14.9 -0.2**
WRAB Tennant Creek 38.35 121 *e*P **P** **18 59 14.3 -0.8**
comp=Z,36nm,0.6s,mb5.3
SSE Sheshan 38.47 30 P **P** **18 59 16.5 +0.5**
SSE S **S** **19 05 11.9 +3.1**
SSE XS 19 05 27.2
SSE AMB AMB
comp=Z,24nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,461nm,12.0s
SSE LR LR
comp=N,947nm,17.4s,MS4.8
SSE LR LR
comp=E,672nm,17.4s,MS4.8
SSE LR LR
comp=Z,1μm,13.0s,MS4.8
SSE Sheshan 38.47 30 P **P** **18 59 16.5 +0.5**
comp=Z,24nm,0.7s,mb5.0
SSE S **S** **19 05 11.9 +3.1**
SSE sS 19 05 27.2
SSE LR LR
comp=Z,1μm,13.0s,MS4.8
SMLA Simla 39.09 329 ⇑*i*P **P** **18 59 17.8 -3.4**
comp=Z,11nm,0.4s,mb4.9
SMLA *i* 19 05 27.4
FORT Forrest 39.41 140 *e*P **P** **18 59 25.5 +1.6**
comp=Z,597nm,0.7s,mb6.4
SDNR Sundarnagar 39.49 329 *e*P **P** **18 59 25.0 +0.5**
ASPA Alice Springs 39.61 126 *e*P **P** **18 59 25.7 +0.1**
ASPA *e*S **S** **19 05 27.9 +1.8**
ASAR Alice Springs 39.62 126 P **P** **18 59 25.4 -0.2**
comp=Z,23nm,1.0s,mb4.9,baz=302,slow=6.8,SNR=7.0
ASAR pP pP 18 59 35.8 +0.4
comp=Z,47nm,0.9s,baz=300,slow=7.9,SNR=22
ASAR S **S** **19 05 26.1 0.0**
comp=Z,8.6nm,1.0s,baz=295,slow=15,SNR=10
ASAR LR LR 19 15 23.7
comp=Z,1μm,19.8s,MS4.7,baz=16,slow=36
PONG Pong 40.38 328 *e*P **P** **18 59 31.0 -0.8**
THN Thein Dam 40.88 328 *e*P **P** **18 59 35.8 -0.1**
GTA Gaotai 40.92 0 *e*P **P** **18 59 36.4 +0.2**
GTA AP pP 18 59 44.7 -1.3
GTA XP sP 18 59 48.9 -1.1
GTA PP PP 19 01 15.2 +1.6
GTA S **S** **19 05 47.4 +1.9**
GTA XS 19 06 00.0
GTA SS SS 19 08 46.5 +3.2
GTA SCS ScS 19 09 37.5 +1.2
GTA AMB AMB
comp=Z,17nm,1.1s,mb4.6
GTA AMB AMB
comp=Z,463nm,5.7s
GTA LR LR
comp=N,1μm,12.9s,MS5.1
GTA LR LR
comp=E,1μm,12.5s,MS5.1
GTA LR LR
comp=Z,2μm,14.5s,MS5.2
HHC Hu-ho-hao-te 43.71 13 *e*P **P** **18 59 59.3 +0.3**
HHC AP pP 19 00 09.8 +1.1
HHC XP sP 19 00 13.9 +1.1
HHC PP PP 19 01 44.0 +1.6
HHC PCP PcP 19 01 47.9 +1.7
HHC SCP 19 05 29.6
HHC PCS 19 05 40.1
HHC S **S** **19 06 27.4 +1.0**
HHC XS 19 06 42.3
HHC SS SS 19 09 35.5 +0.8
HHC SCS ScS 19 09 51.4 -1.9
HHC AMB AMB
comp=Z,20nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,375nm,8.7s
HHC LR LR
comp=N,4μm,14.9s,MS5.5
HHC LR LR
comp=E,1μm,12.8s,MS5.5
HHC LR LR
comp=Z,3μm,14.3s,MS5.3
BJT Baijiatuau 44.17 18 P **P** **19 00 01.9 -0.8**
BJT Baijiatuau 44.17 18 *e*P **P** **19 00 02.0 -0.8**
comp=Z,66nm,1.1s,mb5.3
BJI Beijing 44.19 18 P **P** **19 00 02.5 -0.4**
BJI S **S** **19 06 38.4 +5.0**
BJI AMB AMB
comp=Z,28nm,0.9s,mb5.0
BJI AMB AMB
comp=Z,599nm,10.5s
BJI LR LR
comp=N,979nm,19.5s,MS4.9
BJI LR LR
comp=E,863nm,18.0s,MS4.9
BJI LR LR
comp=Z,598nm,25.6s
BJI Beijing 44.19 18 P **P** **19 00 02.5 -0.4**
comp=Z,28nm,0.9s,mb5.0
BJI S **S** **19 06 38.4 +5.0**
BJI LR LR
comp=Z,600nm,25.6s,MS4.4
DL2 Dalian 45.16 24 P **P** **19 00 11.2 +0.5**
DL2 S **S** **19 06 49.6 +2.2**
DL2 AMB AMB
comp=Z,20nm,1.1s,mb4.9
DL2 LR LR
comp=N,730nm,14.1s,MS4.8
DL2 LR LR
comp=E,300nm,15.5s,MS4.8
DL2 LR LR
comp=Z,810nm,14.7s,MS4.8
KSH Kashi 46.47 335 *e*P **P** **19 00 21.8 +0.7**
KSH *e*AP pP 19 00 30.7 -0.2
KSH *e*XP sP 19 00 36.2 +1.3
KSH *e*PCP PcP 19 01 56.5 +0.8
KSH *e*PP PP 19 02 10.0 -0.1
KSH *e*SCP 19 05 46.2
KSH *e*PCS 19 05 49.8
KSH S **S** **19 07 06.1 -0.1**
KSH *e*XS 19 07 22.6
KSH *e*SCS ScS 19 10 11.5 +0.6
KSH *e*SS SS 19 10 24.1 -0.3
KSH AMB AMB
comp=Z,550nm,5.9s
KSH LR LR
comp=N,710nm,10.2s,MS5.1
KSH LR LR
comp=E,1μm,10.8s,MS5.1
WMQ Urumqi 46.60 348 P **P** **19 00 23.3 +1.2**
WMQ AP pP 19 00 33.3 +1.4
WMQ XP sP 19 00 37.3 +1.5
WMQ PCP PcP 19 01 57.4 +1.3
WMQ PP PP 19 02 12.7 +1.4
WMQ S **S** **19 07 09.3 +1.3**
WMQ XS 19 07 25.7
WMQ AMB AMB
comp=Z,135nm,0.9s,mb5.9
WMQ AMB AMB
comp=Z,310nm,4.0s
WMQ LR LR
comp=N,1μm,18.6s,MS5.0
WMQ LR LR
comp=E,2μm,23.0s,MS5.0
WMQ LR LR
comp=Z,3μm,28.0s,MS5.1
PMG Port Moresby 47.75 101 P **P** **19 00 29.9 -1.6**
comp=Z,6.0nm,0.6s,mb4.8,baz=251,slow=18,SNR=5.4
HOQ Hoqain 48.33 304 P **P** **19 00 36.4 +0.6**
SNR=8.4
ULHL Ulahol 48.65 337 P **P** **19 00 38.8 +0.7**
SNR=34
RBK Rabkut 48.77 295 P **P** **19 00 39.7 +0.3**
SNR=9.1
ARQ Araqi 48.88 303 P **P** **19 00 40.4 +0.3**
SNR=8.8
KZA Kyzart 48.91 336 P **P** **19 00 40.8 +0.7**
SNR=24
CTA Charters Tower 48.94 115 *e*P **P** **19 00 40.4 -0.2**
comp=Z,14nm,1.0s,mb5.0
CTA Charters Tower 48.94 115 *e*P **P** **19 00 40.2 -0.4**
CTA Charters Tower 48.94 115 P **P** **19 00 40.1 -0.4**
comp=Z,23nm,1.0s,mb5.2,baz=293,slow=7.4,SNR=7.1
CTAO Charters Tower 48.94 115 *e*P **P** **19 00 40.1 -0.5**
comp=Z,32nm,1.2s,mb5.2
WHFO Wadi Hawf 49.29 295 P **P** **19 00 43.1 -0.3**
SNR=9.7
UCH Uchtor 49.34 335 P **P** **19 00 44.3 +0.9**
SNR=45
TKM2 Tokmak 2 49.48 337 P **P** **19 00 44.7 +0.2**
SNR=96
KBK Karagaybulak 49.51 336 P **P** **19 00 46.0 +1.3**
SNR=41
STKA Stephens Creek 49.52 132 ⇑*i*P **P** **19 00 45.2 +0.3**
comp=Z,18nm,0.8s,mb5.1
STKA Stephens Creek 49.52 132 P **P** **19 00 45.4 +0.5**
comp=Z,20nm,0.9s,mb5.2,baz=316,slow=7.4,SNR=31
ABTO Aybut 49.55 295 P **P** **19 00 45.5 +0.2**
SNR=8.9
AML Almayashu 49.60 335 P **P** **19 00 45.8 +0.4**
SNR=40
AAK Ala-Archa 49.68 336 P **P** **19 00 47.1 +1.1**
SNR=19
AAK Ala-Archa 49.68 336 P **P** **19 00 46.4 +0.4**
AAK pmax pmax
comp=Z,47nm,1.5s,mb5.3
SONM Songino Array 49.69 6 P **P** **19 00 46.2 +0.2**
comp=Z,18nm,0.8s,mb5.2,baz=186,slow=8.9,SNR=151
SONM ScP 19 06 00.1
comp=Z,1.9nm,0.9s,baz=198,slow=3.9,SNR=4.0
SONM S **S** **19 07 51.3 0.0**
comp=Z,1.1nm,1.1s,baz=207,slow=9.7,SNR=2.6
ULN Ulaanbaatar 49.79 6 *i*P **P** **19 00 46.8 0.0**
ULN Ulaanbaatar 49.79 6 *e*P **P** **19 00 46.5 -0.2**
comp=Z,31nm,1.0s,mb5.3
FRU Bishkek 49.80 336 *i*P **P** **19 00 47.0 +0.1**
FRU *i* pP 19 00 55.0 -1.8
FRU pmax pmax
comp=Z,100nm,1.9s,mb5.5
ASHO Ashiyiah 49.83 305 P **P** **19 00 47.5 +0.1**

SNR=5.2
CHMS Chumysh 49.88 336 P P 19 00 47.5 0.0
SNR=21
EKS2 Erkin-Say 50.00 335 P P 19 00 48.8 +0.3
SNR=102
USP Ospenovka 50.20 336 P P 19 00 50.0 0.0
SNR=6.9
MKAR Makanchi Array 50.69 345 *i* P **P 19 00 52.8 -0.9**
MKAR pmax pmax
comp=Z,49nm,0.7s
MKAR Makanchi Array 50.69 345 P P 19 00 53.6 -0.1
comp=Z,35nm,0.6s,mb5.5,baz=152,slow=8.2,SNR=264
MKAR S **S 19 08 07.5 +2.4**
comp=Z,9.3nm,1.0s,baz=153,slow=16,SNR=8.4
CN2 Changchun 50.82 24 ⇓P **P 19 00 53.5 -1.2**
CN2 *e*XP sP 19 01 06.0 -2.5
CN2 *e*S **S 19 08 07.0 -0.1**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,500nm,4.0s
CN2 LR LR
comp=N,2μm,15.0s,MS5.3
CN2 LR LR
comp=E,2μm,15.0s,MS5.3
CN2 LR LR
comp=Z,2μm,16.0s,MS5.2
KKAR Karatay Array 51.79 333 *i* P **P 19 01 01.3 -0.8**
ZAK Zakamensk 51.98 3⇑*e*P **P 19 01 02.7 -0.7**
ZAK pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MAJO Matsushiro 52.21 39 *e*P **P 19 01 03.5 -1.8**
comp=Z,27nm,1.2s,mb5.0
MAT Matsushiro 52.21 39 *e*P **P 19 01 04.0 -1.3**
comp=Z,62nm,1.7s,mb5.3
MAT Matsushiro 52.21 39 P P 19 01 04.2 -1.1
MJAR Matsushiro Arr 52.21 39 P P 19 01 04.5 -0.9
comp=Z,9.2nm,1.0s,mb4.7,baz=222,slow=7.7,SNR=14
MOY Mondy 53.19 1 *e*P **P 19 01 12.9 +0.5**
MDJ Mudanjiang 53.24 26 P P 19 01 12.9 0.0
MDJ AP pP 19 01 22.1 -0.7
MDJ XP sP 19 01 25.8 -0.9
MDJ PCP PcP 19 02 19.5 -0.8
MDJ PP PP 19 03 13.5 -1.0
MDJ S **S 19 08 42.0 +1.9**
MDJ SS SS 19 12 21.0 +1.8
MDJ AMB AMB
comp=Z,20nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,473nm,12.4s
MDJ LR LR
comp=N,2μm,29.0s,MS5.0
MDJ LR LR
comp=E,831nm,29.0s,MS5.0
MDJ LR LR
comp=Z,2μm,27.1s,MS5.0
MDJ Mudanjiang 53.24 26 *e*P **P 19 01 11.9 -1.0**
comp=Z,31nm,1.0s,mb5.2
MDJ *e* pP 19 01 23.0 +0.2
TLY Talaya 53.30 3 *e*P **P 19 01 13.0 -0.2**
TLY pmax pmax
comp=Z,11nm,0.8s,mb4.8
HIA Hailar 53.64 16 *e*P **P 19 01 14.3 -1.4**
comp=Z,7.3nm,0.8s,mb4.7
HIA *e*pP pP 19 01 24.7 -1.0
IRK Irkutsk 53.89 3 *e*P **P 19 01 13.1 -4.4**
IRK pmax pmax
comp=Z,28nm,1.5s,mb5.0
OPO Ambohidratompo 54.15 248 P P 19 01 20.1 +0.3
comp=Z,16nm,1.0s,mb4.9,baz=75,slow=7.9,SNR=13
ZAL Zalesovo 56.84 349 P **P 19 01 38.2 -0.7**
comp=Z,50nm,0.4s,mb5.9,baz=323,slow=3.7,SNR=173
ZAL pP pP 19 01 48.4 -0.5
comp=Z,69nm,0.8s,baz=289,slow=6.4,SNR=19
ZAL S **S 19 09 29.6 +1.5**
comp=Z,5.9nm,0.8s,baz=169,slow=20,SNR=32
ZAL Zalesovo 56.84 349 P P 19 01 38.2 -0.7
ZAL pP pP 19 01 48.4 -0.5
ZAL S **S 19 09 29.6 +1.5**
KLR Kul'dur 57.77 24 *e*P **P 19 01 41.2 -4.3**
KLR MLR MLR
comp=E,1μm,13.5s
KLR MLR MLR
comp=Z,2μm,13.5s,MS5.4
NVS Novosibirsk 57.99 349⇑*i*P **P 19 01 45.0 -1.9**
NVS *i* S **S 19 09 37.6 -5.7**
NVS pmax pmax
comp=Z,114nm,1.4s,mb5.7
NVS pmax pmax
comp=N,110nm,1.6s
NVS pmax pmax
comp=E,43nm,1.3s
NVS smax
comp=E,52nm,1.4s
ATD Arta Tunnel 58.06 285 P P 19 01 47.5 -0.5
comp=E,7.5nm,0.8s,mb4.8,baz=93,slow=23,SNR=3.7
ASAJ Asahikawa 59.52 35 P P 19 01 56.9 -0.8
comp=E,12nm,0.5s,mb5.2,baz=246,slow=10,SNR=19
BVA0 Borovoye Array 59.83 340 P P 19 01 57.1 -2.7
BVA0 pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BVAR Borovoye Array 59.83 340 P P 19 01 58.2 -1.6
comp=Z,23nm,0.8s,mb5.3,baz=145,slow=8.4,SNR=151
BVAR pP pP 19 02 08.5 -1.4
comp=Z,20nm,0.6s,baz=141,slow=9.5,SNR=12
BVAR S **S 19 10 08.7 +1.4**
comp=Z,1.7nm,0.7s,baz=131,slow=16,SNR=9.4
CHKZ Chkalovo 60.30 341 *i* P **P 19 02 01.5 -1.4**
CHKZ pmax pmax
comp=Z,57nm,1.1s,mb5.5
CHKZ Chkalovo 60.30 341 *e*P **P 19 02 01.2 -1.7**
comp=Z,57nm,1.0s,mb5.6
BOD Bodaibo 60.44 9⇑*i*P **P 19 02 02.7 -1.1**
BOD pmax pmax
comp=Z,25nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 61.37 32⇑*e*P **P 19 02 10.0 -0.3**
YSS *e* pP 19 02 21.0 +0.5
YSS pmax pmax
comp=N,20nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS pmax pmax
comp=E,30nm,0.9s
YSS MLR MLR
comp=E,700nm,16.0s
YSS MLR MLR
comp=Z,800nm,16.0s,MS5.0
YSS Yuzh-Sakhalins 61.37 32 *e*P **P 19 02 09.3 -1.0**
comp=Z,82nm,1.0s,mb5.8
CLNS Chul'man 61.80 15 *e*P **P 19 02 11.7 -1.4**
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=Z,21nm,1.0s,mb5.2
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS MLR MLR
comp=Z,4μm,21.0s,MS5.5
CLNS MLR MLR
comp=N,2μm,29.0s
CLNS MLR MLR
comp=E,300nm,15.0s
KMBO Kilima Mbogo 62.48 270 P P 19 02 18.6 +0.3
comp=E,22nm,1.0s,mb5.2,baz=50,slow=8.6,SNR=38
KMBO Kilima Mbogo 62.48 270 *e*P **P 19 02 18.3 +0.1**
comp=E,39nm,1.2s,mb5.4
BHD Baghdad 62.64 309 *e*P **P 19 02 12.0 -7.0**
MSL Mosul 64.77 312 *e*P **P 19 02 34.0 +1.0**
GNI Garni 65.15 316 *e* *i*P **P 19 02 35.0 -0.4**
GNI pmax pmax
comp=Z,76nm,1.7s
GNI Garni 65.15 316 P P 19 02 35.5 +0.2
comp=Z,17nm,0.9s,mb5.0,baz=315,slow=3.5,SNR=26
GNI Garni 65.15 316 *e*P **P 19 02 34.5 -0.9**
comp=Z,34nm,1.0s,mb5.3
DGRG David-gareji 65.29 318 P P 19 02 36.6 +0.4
MTA Mtatsminda 65.79 318 P P 19 02 38.6 -0.8
TBLG Delisi 65.84 318 P P 19 02 39.4 -0.4
SVE Sverdlovsk 66.33 338⇑*e*P **P 19 02 38.8 -3.8**
SVE *e* 19 02 56.6
SVE *e* 19 03 10.0
ARU Arti 66.85 337⇑*i*P **P 19 02 44.8 -1.1**
ARU *e* 19 03 10.0
ARU *e* 19 05 09.0
ARU *e*S S 19 11 36.0 +1.2
ARU *e* 19 12 40.0
ARU *e*SS SS 19 15 51.4 -3.4
ARU pmax pmax
comp=Z,49nm,1.0s,mb5.5
ZEI Tsey 66.86 318 *e*P **P 19 02 44.9 -1.4**
ZEI *i* 19 05 15.8
ZEI pmax pmax
comp=Z,32nm,0.8s,mb5.4
YAK Yakutsk 67.53 15*c* *i*P **P 19 02 48.6 -1.5**
YAK *e* 19 11 40.9
YAK pmax pmax
comp=N,13nm,0.9s
YAK pmax pmax
comp=Z,47nm,0.9s,mb5.5
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK Yakutsk 67.53 15 *e*P **P 19 02 48.1 -2.0**
comp=E,82nm,0.8s,mb5.8
DZM Mont Dzumac 67.79 113 P P 19 02 52.9 +0.4
comp=E,8.1nm,0.9s,mb4.8,baz=306,slow=19,SNR=3.2
KIV Kislovodsk 68.17 319*c* *i*P **P 19 02 53.7 -0.8**
KIV pmax pmax
comp=Z,90nm,1.0s,mb5.8
KIV Kislovodsk 68.17 319 *e*P **P 19 02 53.9 -0.6**
comp=Z,90nm,1.0s,mb5.8
ASF Jabal al Asfar 68.22 306 P P 19 02 55.4 +0.4
comp=Z,24nm,0.9s,mb5.2,baz=356,slow=3.9,SNR=25
GOF Gofitskoye 68.42 320⇑*i*P **P 19 02 54.0 -2.0**
GOF pmax pmax
comp=Z,90nm,1.3s,mb5.6
ELZG Elazig 68.62 313 *i* P **P 19 02 57.3 0.0**
MALT Malatya 68.97 312 *e*P **P 19 02 58.9 -0.6**
comp=Z,27nm,1.0s,mb5.1
MBAR Mbarara 69.01 270 *e*P **P 19 02 59.6 -0.6**
comp=Z,56nm,1.7s,mb5.2
KELT Kelkit 69.01 314 *i* P **P 19 02 59.0 -0.8**
EIL Elat 69.16 303 *e*P **P 19 03 00.3 -0.5**
comp=Z,40nm,0.9s,mb5.3
GZT Gaziantep 69.29 311 *i* P **P 19 03 00.9 -0.6**
SOKR Solikamsk 69.71 338⇓*i*P **P 19 03 03.8 +0.1**
SOKR pmax pmax
comp=Z,50nm,0.9s,mb5.4
KAHT Ahir Dag 69.90 311 *i* P **P 19 03 05.2 0.0**
SOC Sochi 69.98 318 *e*P **P 19 03 02.7 -2.9**
SOC *e* 19 03 24.2
SOC *e* 19 05 41.6
SOC *e*PPP PPP 19 07 17.9 -4.3
SOC *e*S S 19 12 09.6 -2.6
SOC *e* 19 13 02.9
SOC pmax pmax
comp=Z,98nm,1.3s,mb5.6
SOC pmax pmax
comp=N,12nm,1.0s
SOC pmax pmax
comp=E,8.0nm,0.9s
COBT Iskenderun 70.02 310 *i* P **P 19 03 05.7 -0.3**
MAW Mawson 70.50 194 P P 19 03 09.0 +0.6
comp=E,17nm,0.9s,mb5.0,baz=8.5,slow=4.9,SNR=13
MAW Mawson 70.50 194 *e*P **P 19 03 08.7 +0.3**
comp=E,39nm,1.2s,mb5.2
MEST Erdemli 71.67 309 *i* P **P 19 03 13.9 -2.0**
AVNT Avonos 71.77 312 *i* P **P 19 03 15.5 -1.0**
LSZ Lusaka 71.77 255 *e*P **P 19 03 16.4 -0.5**
comp=E,40nm,1.4s,mb5.2
CSS Prodhromos 71.86 308 *e*P **P 19 03 16.2 -0.9**
comp=E,136nm,1.5s,mb5.7
ANN Anapa 71.96 318 *e*P **P 19 03 13.7 -3.8**
ANN *e*S S 19 12 34.4 -0.7
ANN pmax pmax
comp=Z,18nm,1.2s,mb4.9
BOYT Boyabat 72.55 314 *i* P **P 19 03 19.3 -1.8**
MA2 Magadan 72.87 24⇓*i*P **P 19 03 23.1 +0.5**
MA2 pmax pmax
comp=Z,33nm,0.8s,mb5.3
MA2 Magadan 72.87 24 *e*P **P 19 03 22.5 -0.2**
comp=Z,30nm,0.8s,mb5.3
BRTR Keskin Array B 72.95 312 P **P 19 03 21.9 -1.6**
comp=Z,12nm,0.8s,mb4.8,baz=135,slow=7.0,SNR=76
ELDT Eldivan 73.33 313 *i* P **P 19 03 24.2 -1.6**
VOR Voronezh 73.60 326⇓*i*P **P 19 03 26.5 -0.5**
VOR pmax pmax
comp=Z,150nm,1.7s,mb5.7
VOR pmax pmax
comp=N,70nm,1.4s
VOR pmax pmax
comp=E,150nm,1.4s
SIM Simferopol' 74.23 318⇓*e*P **P 19 03 30.7 -0.1**
SIM pmax pmax
comp=Z,41nm,0.8s,mb5.4
SGKT Sivrigoynuk 74.36 313 *i* P **P 19 03 29.5 -2.1**
ISP Isparta 74.80 310 *e*P **P 19 03 32.6 -1.7**
LBTB Lobatse 74.93 245 *e*P **P 19 03 34.8 -0.5**
comp=Z,37nm,1.3s,mb5.2
ESKT Eskisehir 74.96 312 *i* P **P 19 03 34.3 -0.9**
RPZ Rata Peaks 75.35 135 P P 19 03 37.8 +0.5
comp=Z,12nm,0.5s,mb5.1,baz=342,slow=6.4,SNR=6.1
RPZ Rata Peaks 75.35 135 P P 19 03 37.8 +0.5
SEY Seymchan 75.45 22 *e*P **P 19 03 39.6 +2.1**
SEY pmax pmax
comp=Z,60nm,0.7s,mb5.6
BOSA Boshof 75.58 241 P P 19 03 39.0 +0.1
comp=Z,16nm,1.0s,mb4.9,baz=76,slow=5.0,SNR=9.2
TIXI Tiksi 75.61 9⇑*i*P **P 19 03 36.9 -1.4**
TIXI pmax pmax
comp=Z,33nm,1.7s,mb5.0
MOS Moscow 76.13 329 *i* P **P 19 03 41.9 +0.4**
MOS *e* 19 03 54.7
MOS *e*S S 19 13 21.0 -0.5
MOS *e* 19 13 46.6
MOS pmax pmax
comp=Z,148nm,1.2s,mb5.8
MOS pmax pmax
comp=Z,300nm,1.9s,mb5.9
ULDT Uludag 76.40 312 *i* P **P 19 03 42.5 -0.8**
OBN Obninsk 76.42 328⇑*i*P **P 19 03 43.0 -0.1**
OBN *i* 19 03 50.1
OBN *i* 19 03 59.7
OBN *e*S S 19 13 29.3 +4.5
OBN pmax pmax
comp=Z,164nm,1.6s,mb5.7
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.8
OBN Obninsk 76.42 328 *e*P **P 19 03 42.8 -0.3**
comp=Z,153nm,1.4s,mb5.7
AYDN Tasoluk 76.78 309 *i* P **P 19 03 45.4 -0.2**
BTOK Tokmak 77.13 311 *i* P **P 19 03 46.1 -1.4**
KDAG Bornova 77.41 310 *i* P **P 19 03 48.9 -0.1**
TIRR Tirgusor 77.98 316 P P 19 03 52.1 +0.1
TIRR Tirgusor 77.98 316 ⇓P **P 19 03 51.3 -0.6**
TIRR Tirgusor 77.98 316 ⇓P **P 19 03 51.3 -0.7**
AYVA Ayvalik 78.05 311 *i* P **P 19 03 51.9 -0.6**
SYO Syowa Base 78.06 199 ⇑P **P 19 03 51.8 -0.1**
CFR Carcaliu 78.35 317 P P 19 03 53.7 -0.3
CFR Carcaliu 78.35 317 ⇑P **P 19 03 53.4 -0.6**
CFR Carcaliu 78.35 317 ⇑P **P 19 03 53.4 -0.6**
KIS Kishinev 78.36 319 *e*P **P 19 03 52.0 -2.0**
KIS *e* pP 19 04 04.0 -0.3
HARR Harsova 78.37 316 P P 19 03 54.6 +0.5
HARR Harsova 78.37 316 ⇓P **P 19 03 54.1 0.0**
HARR Harsova 78.37 316 ⇓P **P 19 03 54.1 0.0**
ALN Alexandroupoli 78.86 312 *e*P **P 19 03 56.8 -0.1**
AKASG Malin Array Be 79.11 322 P P 19 03 57.2 -0.8
comp=Z,8.6nm,0.8s,mb4.7,baz=88,slow=4.5,SNR=48
AKASG PP PP 19 06 56.2 -2.9
comp=Z,0.3nm,0.2s,baz=98,slow=6.8,SNR=4.4
VRI Vrincioaia 79.48 317 P P 19 04 00.7 +0.6
VRI Vrincioaia 79.48 317 ⇑P **P 19 04 00.5 +0.4**
BUC1 Bucharest 79.62 316 P P 19 04 02.1 +1.2
MLR Muntele Rosu 79.93 317 P P 19 04 03.0 +0.5
MLR Muntele Rosu 79.93 317 P P 19 04 02.9 +0.3
comp=Z,58nm,0.9s,mb5.5,baz=51,slow=3.6
MLR Muntele Rosu 79.93 317 ⇓P **P 19 04 02.9 +0.4**
MLR Muntele Rosu 79.93 317 ⇓P **P 19 04 02.9 +0.4**
RZN Rozhen 80.00 313 *i* P **P 19 04 02.0 -1.0**
SNX Sinaia 80.19 316 ⇓P **P 19 04 06.3 +2.3**
PAIG Paliouri 80.45 311 *e*P **P 19 04 04.8 -0.6**
MTUR Matau 80.48 316 P P 19 04 05.9 +0.4
MMB Musomiste 80.71 312 *i* P **P 19 04 06.0 -0.8**
SRS Serrai 80.73 312 *e*P **P 19 04 06.2 -0.7**
BURAR Bucovina Array 80.89 319 ⇓P **P 19 04 08.7 +1.1**
BURAR Bucovina Array 80.89 319 ⇓P **P 19 04 08.7 +1.1**
MNK Minsk 80.98 326 *e*P **P 19 04 06.0 -1.9**
KKB Krupnik 81.24 313 *i* P **P 19 04 08.5 -1.0**
VTS Vitosha 81.28 313 *i* P **P 19 04 09.0 -0.7**
LIT Litokhoron 81.38 311 *e*P **P 19 04 09.4 -0.9**
GRG Griva 81.59 312 *e*P **P 19 04 10.8 -0.6**
JOF Joensuu 81.86 335 *e*p **P 19 04 12.1 -0.2**
comp=Z,17nm,0.9s,mb5.0
JOF Joensuu 81.86 335 *e*P **P 19 04 12.1 -0.2**
JOF pmax pmax
comp=Z,17nm,0.9s,mb5.0
TSUM Tsumeb 82.05 251 *e*P **P 19 04 14.6 +0.5**
comp=Z,23nm,1.0s,mb5.0
FNA Florina 82.33 311 *e*P **P 19 04 13.4 -1.8**
SKO Skopje 82.46 313⇓*i*P **P 19 04 15.5 -0.4**
VNDA Vanda 82.49 169 P P 19 04 15.6 +0.2
comp=Z,6.8nm,1.1s,mb4.5,baz=292,slow=4.7,SNR=14
VNDA Vanda 82.49 169 P P 19 04 15.6 +0.2
APA Apatity 82.74 339⇑*i*P **P 19 04 18.0 +1.2**
APA *i* pP 19 04 29.0 +1.8
APA *i* 19 04 35.8
APA pmax pmax
comp=Z,54nm,1.2s,mb5.5
KWP Kalwaria 82.93 320 *e*P **P 19 04 19.3 +1.1**
BILL Bilibino 82.98 20⇓*i*P **P 19 04 19.2 +1.2**
BILL pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
BILL Bilibino 82.98 20 *e*P **P 19 04 19.6 +1.5**
comp=Z,19nm,1.4s,mb4.9
SVIS Svilajnac 82.99 315⇑*i*P **P 19 04 19.0 +0.4**
KOLS Kolonicke sedl 83.08 320 *e*P **P 19 04 20.3 +1.4**
GRUS Gruza 83.29 314⇓*i*P **P 19 04 20.0 -0.1**
SUW Suwalki 83.51 325 *e*P **P 19 04 21.0 -0.1**
SUW Suwalki 83.51 325 *e*P **P 19 04 21.0 -0.1**
CRVS Cervenica-Dubn 83.60 319 *e*P **P 19 04 22.9 +1.3**
FINES FINESS Array B 83.75 332 *i* P **P 19 04 22.4 +0.3**
FINES pmax pmax
comp=Z,14nm,0.8s
FINES FINESS Array B 83.75 332 P P 19 04 22.4 +0.3
comp=Z,14nm,0.8s,mb5.2,baz=105,slow=5.5,SNR=62
KAF Kangasniemi 83.82 333 *e*P **P 19 04 22.5 +0.1**
comp=Z,23nm,0.6s,mb5.5,baz=100,slow=4.7
KAF Kangasniemi 83.82 333 *e*P **P 19 04 22.5 +0.1**
KAF pmax pmax
comp=Z,23nm,0.6s,mb5.5
DIVS Divcibare 83.84 315⇓*i*P **P 19 04 23.1 +0.2**
KECS Kecovo 84.17 319 *e*P **P 19 04 25.2 +0.7**
NIE Niedzica 84.43 320 *e*P **P 19 04 25.3 -0.5**
PSZ Piszkesteto 84.47 318 P P 19 04 27.4 +1.4
PSZ Piszkesteto 84.47 318 *e*P **P 19 04 25.0 -1.0**
comp=Z,16nm,1.0s,mb5.1
PSZ Piszkesteto 84.47 318⇑*e*P **P 19 04 26.7 +0.7**
OJC Ojcow 84.88 321 *e*P **P 19 04 28.6 +0.6**
PKSM Moragy 85.08 316 ⇓P **P 19 04 29.3 +0.2**
VYHS Vyhne 85.25 319 *e*P **P 19 04 30.6 +0.7**
SRO1 Iza 85.56 318 *e*P **P 19 04 33.4 +1.9**
KEV Kevo 85.68 341 *e*p **P 19 04 31.4 -0.2**
comp=Z,30nm,1.2s,mb5.4
KEV Kevo 85.68 341 *e*P **P 19 04 31.4 -0.2**
KEV pmax pmax
comp=Z,30nm,1.2s,mb5.4
OKC Ostrava-Krasne 85.88 320 *e*P **P 19 04 33.8 +0.8**
ARCES ARCESS Array B 86.12 340 P P 19 04 34.2 +0.5
comp=Z,32nm,0.9s,mb5.5,baz=108,slow=3.8,SNR=31
ARE0 ARCESS Array S 86.12 340 *e*P **P 19 04 34.6 +0.8**
MORC Moravsky Berou 86.26 320 ⇑P **P 19 04 35.6 +0.7**
MORC Moravsky Berou 86.26 320 *e*P **P 19 04 35.5 +0.6**
comp=Z,48nm,1.6s,mb5.5
ZST Bratislava 86.36 318 *e*P **P 19 04 36.5 +1.1**
ZST *e*pP pP 19 04 45.6 -0.3
VRAC Vranov 86.82 319 P **P 19 04 37.5 -0.1**
comp=Z,1.4nm,0.3s,mb4.6,baz=321,slow=21,SNR=5.5
GKP Gorka Klasztor 86.88 323 *e*P **P 19 04 38.5 +0.7**
DPC Dobruska-Polom 87.11 320 *e*P **P 19 04 40.5 +1.5**
KSP Ksiaz 87.18 321 *e*P **P 19 04 40.7 +1.3**
KSP Ksiaz 87.18 321 *e*P **P 19 04 40.9 +1.6**
GROS Grobnik 87.27 316 *e*P **P 19 04 40.6 +0.8**
ARSA Arzberg 87.33 317⇓*i*P **P 19 04 40.9 +0.8**
comp=Z,22nm,1.3s,mb5.2
NVL N'lazarevskaya 87.70 199⇓*i*P **P 19 04 43.6 +2.2**
NVL 19 15 12.7
NVL pmax pmax
comp=Z,31nm,1.2s,mb5.4
MAIT Maitri 87.74 199 *e*P **P 19 04 42.4 +0.8**
LJU Ljubljana 87.90 316 *e*P **P 19 04 42.7 -0.3**
PRU Pruhonice 88.22 320 *e*P **P 19 04 45.4 +1.1**
PVCC Panska Ves 88.24 320 *e*P **P 19 04 46.2 +1.7**
QSPA South Pole Qui 88.25 180 *e*P **P 19 04 45.2 +1.4**
comp=Z,122nm,1.3s,mb6.0
BSD Bornholm Skovb 88.44 325⇑*i*P **P 19 04 45.6 +0.3**
BSD pmax pmax
comp=Z,39nm,0.9s,mb5.6
BSD Bornholm Skovb 88.44 325⇑*i*P **P 19 04 45.6 +0.3**
comp=Z,39nm,0.9s,mb5.6
BRG Berggiesshubel 88.67 321 *i* P **P 19 04 47.7 +1.2**
BRG *i* 19 04 55.8
BRG pmax pmax
comp=Z,60nm,1.6s,mb5.7
BRG Berggiesshubel 88.67 321 *i* P **P 19 04 47.7 +1.2**
comp=Z,60nm,1.6s,mb5.7
BRG *i* 19 04 55.8
GEC2 GERESS Array S 88.67 319 *e*P **P 19 04 47.6 +1.0**
GEC2 pmax pmax
comp=Z,82nm,1.6s,mb5.8
GEC2 GERESS Array S 88.67 319 *e*P **P 19 04 47.6 +1.0**
comp=Z,82nm,1.6s,mb5.8
GERES GERESS Array B 88.67 319 P P 19 04 47.2 +0.7
comp=Z,11nm,1.0s,mb5.1,baz=108,slow=4.2,SNR=39
KHC Kasperske Hory 88.78 319 *e*P **P 19 04 47.7 +0.7**
KHC *e* 19 04 53.5
KHC Kasperske Hory 88.78 319 *e*P **P 19 04 47.7 +0.7**
KHC pP pP 19 04 53.5 -4.0
RUE Ruedersdorf 88.89 322 *e*P **P 19 04 48.5 +1.0**
comp=Z,28nm,0.6s,mb5.8
WET Wettzell 89.24 319 *e*P **P 19 04 50.0 +0.8**
WET pmax pmax
comp=Z,28nm,1.2s,mb5.5
WET Wettzell 89.24 319 *e*P **P 19 04 50.0 +0.8**
comp=Z,28nm,1.2s,mb5.5
CLL Collm 89.29 321⇓*i*P **P 19 04 50.5 +1.1**
CLL *i* 19 05 03.4
CLL pmax pmax
comp=Z,34nm,1.2s,mb5.5
CLL Collm 89.29 321⇓*i*P **P 19 04 50.5 +1.1**
comp=Z,34nm,1.2s,mb5.5
CLL *i* 19 05 03.4
CLL Collm 89.29 321 ⇓P **P 19 04 50.5 +1.1**
comp=Z,logA/T=1.5,mb5.6
CLL *i* *SP sP 19 05 03.4 +0.2
HFS Hagfors 89.50 330 P **P 19 04 51.1 +0.9**
comp=Z,6.4nm,0.6s,mb5.2,baz=135,slow=4.2,SNR=24
NKC Novy Kostel 89.58 320 *e*P **P 19 04 52.3 +1.5**
CTI Castel Tesino 89.90 316 *e*P **P 19 04 53.9 +1.5**
WTTA Wattenberg 89.97 317⇑*i*P **P 19 04 53.2 +0.5**
comp=Z,30nm,1.1s,mb5.5
WATA Walderalm 90.01 317⇑*i*P **P 19 04 53.0 +0.1**
comp=Z,19nm,1.2s,mb5.3
MOX Moxa 90.13 320 *e*P **P 19 04 54.1 +0.7**
comp=Z,38nm,1.4s,mb5.5
MOX Moxa 90.13 320 *i* P **P 19 04 54.1 +0.7**
comp=Z,logA/T=1.4,mb5.5
FUR Furstenfeldbru 90.25 318 *e*P **P 19 04 54.7 +0.7**
FUR pmax pmax
comp=Z,28nm,1.1s,mb5.5
FUR Furstenfeldbru 90.25 318 *e*P **P 19 04 54.7 +0.7**
comp=Z,28nm,1.1s,mb5.5
SQTA Sankt Quirin 90.26 317⇑*i*P **P 19 04 54.4 +0.4**
comp=Z,21nm,1.3s,mb5.3
MOTA Moosalm 90.33 317⇑*i*P **P 19 04 54.8 +0.4**
GRA1 Grafenberg Arr 90.34 320 *e*P **P 19 04 55.8 +1.4**
comp=Z,39nm,1.2s,mb5.6
GRF Grafenberg Arr 90.34 320 *e*P **P 19 04 55.8 +1.4**
GRF pmax pmax
comp=Z,39nm,1.2s,mb5.6
GRF Grafenberg Arr 90.34 320 *e*P **P 19 04 55.8 +1.4**
comp=Z,39nm,1.2s,mb5.6
GSCL Gusciola 90.59 314 *e*P **P 19 04 57.4 +1.7**
NB2 NORSAR Subarra 90.78 331 P **P 19 04 56.2 +0.1**
comp=Z,2.1nm,0.7s,mb4.6,baz=92,slow=5.3
NOA NORSAR Array B 90.78 331 P **P 19 04 56.6 +0.5**
comp=Z,3.8nm,0.8s,mb4.8,baz=94,slow=4.7,SNR=11
BRMO Bormio 90.80 316 *e*P **P 19 04 57.7 +1.1**
CLZ Clausthal 90.95 322 *e*P **P 19 04 58.1 +1.0**
comp=Z,34nm,1.3s,mb5.5
BSEG Bad Segeberg 91.04 324 *e*P **P 19 04 58.9 +1.4**

BSEG pmax pmax
comp=Z,26nm,1.5s,mb5.3
DAVOX **Davos** 91.15 317 P **P** 19 04 59.5 +1.3
comp=Z,25nm,0.9s,mb5.5,baz=109,slow=6.4,SNR=15
DAVA **Damuels** 91.16 317 ⇑iP **P** 19 04 59.4 +1.2
comp=Z,48nm,1.0s,mb5.8
PGF **Pioggiola** 91.71 312 eP **P** 19 05 00.1 -0.7
TNS **Taunus Mts** 92.15 320 eP **P** 19 05 04.0 +1.4
comp=Z,25nm,1.0s,mb5.5
BFO **Black Forest** 92.22 318 eP **P** 19 05 03.5 +0.5
comp=Z,12nm,1.0s,mb5.2
TNA **Tin City** 92.51 25 eP **P** 19 05 04.3 +0.3
comp=Z,2.5nm,0.9s,mb4.6
SBF **Sospel** 92.85 314 eP **P** 19 05 06.1 0.0
comp=Z,74nm,1.0s,mb5.8
CDF **Champ du Feu** 92.92 318 eP **P** 19 05 06.1 -0.2
comp=Z,23nm,1.2s,mb5.2
HINF **Hinteralfeld** 93.21 318 eP **P** 19 05 07.3 -0.3
MBDF **Montbardon** 93.32 315 eP **P** 19 05 09.4 +1.2
comp=Z,25nm,1.1s,mb5.2
LPG **La Plagne** 93.32 315 eP **P** 19 05 08.5 +0.3
comp=Z,22nm,1.0s,mb5.2
LPL **La Plagne** 93.34 315 eP **P** 19 05 08.4 +0.1
comp=Z,31nm,1.1s,mb5.4
FRF **La Foret Royal** 93.43 313 eP **P** 19 05 08.7 0.0
HAU **Haudompre** 93.55 318 eP **P** 19 05 08.9 -0.3
comp=Z,46nm,1.2s,mb5.5
CABF **La Chapelle** 93.76 316 eP **P** 19 05 10.3 +0.1
comp=Z,79nm,1.5s,mb5.6
SMRF **Simiane la Rot** 94.20 314 eP **P** 19 05 12.0 -0.2
MEZF **Maizieres J'vi** 94.40 318 eP **P** 19 05 13.1 0.0
BAIF **Baives** 94.88 320 eP **P** 19 05 15.4 +0.2
comp=Z,21nm,1.1s,mb5.2
SMF **Signal de Mont** 95.31 317 eP **P** 19 05 17.0 -0.3
comp=Z,26nm,1.1s,mb5.3
SSF **Saint Saulge** 95.51 317 eP **P** 19 05 18.0 -0.2
AVF **Avril sur Loir** 95.64 317 eP **P** 19 05 19.4 +0.6
comp=Z,9.5nm,1.0s,mb4.9
BGF **Bois d'Agland** 96.00 316 eP **P** 19 05 20.3 -0.2
comp=Z,32nm,1.1s,mb5.3
CAF **Calviac** 96.66 315 eP **P** 19 05 22.6 -0.9
MTLF **Montolieu** 96.66 313 eP **P** 19 05 23.2 -0.3
LDF **La Druitiere** 97.82 319 eP **P** 19 05 28.4 -0.2
comp=Z,13nm,1.0s,mb5.1
FLN **La Foliniere** 98.04 319 eP **P** 19 05 29.3 -0.3
IMA **Indian Mountai** 98.24 23 eP **P** 19 05 31.5 +1.4
comp=Z,28nm,0.8s,mb5.8
ILAR **Eielson Array** 101.34 24 P P 19 05 45.6 +1.4
comp=Z,0.2nm,0.5s,baz=292,slow=4.9,SNR=2.9
ILAR PKKPbc 19 21 53.0
comp=Z,1.0nm,0.8s,baz=136,slow=2.1,SNR=8.0
YKA **Yellowknife Ar** 114.17 17 PKP PKPdf 19 10 31.6 -4.7
comp=Z,0.8nm,0.8s,baz=315,slow=2.2,SNR=13
YKA PKKPbc 19 21 13.2
comp=Z,0.4nm,0.9s,baz=141,slow=3.2,SNR=5.9
YKA **Yellowknife Ar** 114.17 17 PKP PKPdf 19 10 31.6 -4.7
YKA PKKPbc 19 21 13.2
FRB **Frobisher Bay** 117.51 354 PKP PKPdf 19 10 38.5 -4.2
comp=Z,3.4nm,1.0s,baz=77,slow=3.2,SNR=3.2
SCHQ **Schefferville** 125.93 350 PKP PKPdf 19 10 55.5 -3.8
comp=Z,3.5nm,0.9s,baz=207,slow=3.8,SNR=5.9
SCHQ **Schefferville** 125.93 350 PKP PKPdf 19 10 55.5 -3.8
BMO **Blue Mountains** 126.03 32 PKPdf PKPdf 19 10 55.8 -4.0
MSO **Missoula** 126.34 28 ePKPdf PKPdf 19 10 56.6 -3.7
CHMT **Chamberlain Mo** 126.60 28 ePKPdf PKPdf 19 10 57.4 -3.3
WVOR **Wild Horse Val** 126.87 35 ePKPdf PKPdf 19 10 58.6 -2.8
BOZ **Bozeman (W)** 128.30 28 ePKPdf PKPdf 19 11 01.1 -3.0
NVAR **Mina Array Bea** 129.53 39 PKP PKPdf 19 11 03.6 -3.1
comp=Z,1.5nm,0.8s,baz=306,slow=0.7,SNR=9.8
NVAR SKPbc 19 14 22.6
comp=Z,1.6nm,0.8s,baz=275,slow=1.9,SNR=5.9
ULM **Lac du Bonnet** 129.85 13 PKP PKPdf 19 11 02.8 -4.1
comp=Z,5.5nm,0.8s,baz=342,slow=1.7,SNR=4.9
PDAR **Pinedale Array** 131.45 29 PKP PKPdf 19 11 06.8 -3.4
comp=Z,1.3nm,0.8s,baz=180,slow=1.5,SNR=8.3
PDAR SKPbc 19 14 29.6
comp=Z,3.6nm,1.1s,baz=315,slow=2.1,SNR=12
RSSD **Black Hills** 132.79 23 ePKPdf PKPdf 19 11 09.4 -3.3
RSSD eSKPbc 19 14 35.0
MSU **Marysvale** 133.15 35 ePKPdf PKPdf 19 11 10.6 -2.9
MSU eSKPab 19 14 38.0
PV01 **Paradox Valley** 135.41 32 ePKPdf PKPdf 19 11 15.0 -2.7
ANMO **Albuquerque** 138.90 34 PKP PKPdf 19 11 20.9 -3.3
comp=Z,2.8nm,0.9s,baz=215,slow=1.3,SNR=5.3
ANMO SKPbc 19 14 55.9
comp=Z,4.9nm,0.9s,baz=346,slow=2.2,SNR=9.2
ANMO **Albuquerque** 138.90 34 PKP PKPdf 19 11 20.9 -3.3
ANMO SKPbc 19 14 55.9
MNTX **Cornudas Mount** 141.89 36 ePKPdf PKPdf 19 11 24.0 -5.7
WCI **Wyandotte Cave** 143.24 8 ePKPpre 19 11 23.4
BAO **Brasilia Array** 143.75 240 PKPdf PKPdf 19 11 27.0 -6.2
BDFB **Brasilia** 143.77 240 PKP PKPdf 19 11 27.9 -5.3
comp=Z,7.2nm,0.8s,baz=148,slow=3.9,SNR=6.7
LTX **Lajitas** 144.62 37 ePKPdf PKPdf 19 11 30.3 -4.2
TXAR **Lajitas Array** 144.62 37 PKP PKPdf 19 11 30.3 -4.1
comp=Z,9.7nm,0.4s,baz=223,slow=0.8,SNR=59
TXAR SKPbc 19 15 09.9
comp=Z,2.2nm,0.9s,baz=297,slow=2.8,SNR=3.6
CFAA **Coronel Fontan** 144.96 198 PKP PKPdf 19 11 31.1 -3.9
comp=Z,3.8nm,0.6s,baz=173,slow=3.0,SNR=53
WVT **Waverly** 145.04 11 ePKPdf PKPdf 19 11 29.9 -5.0
MIAR **Mount Ida** 145.05 19 ePKPdf PKPdf 19 11 30.6 -4.4
MIAR eSKPbc 19 15 09.0
TZTN **Tazewell** 145.21 5 ePKPdf PKPdf 19 11 30.6 -4.7
UALR **University of** 145.23 18 ePKPdf PKPdf 19 11 30.7 -4.6
JCT **Junction City** 145.91 31 ePKPdf PKPdf 19 11 33.4 -3.2
JCT ePKPbc PKPbc 19 11 34.2 +1.9
PLAL **Pickwick Lake** 146.11 12 ePKPdf PKPdf 19 11 32.8 -4.1
PLAL ePKPbc PKPbc 19 11 33.4 +0.8
CPCT **Cooper Cave** 146.20 6 ePKPdf PKPdf 19 11 32.9 -4.1
NATX **Nacogdoches** 147.16 23 ePKPbc PKPdf 19 11 37.4 -1.3
JSC **Jenkinsville** 147.59 2 ePKPdf PKPdf 19 11 36.2 -3.1
JSC ePKPbc PKPdf 19 11 38.5 -0.8
LRAL **Lakeview Retre** 148.21 11 ePKPbc PKPdf 19 11 39.3 -1.1
GOGA **Godfrey** 148.32 5 ePKPbc PKPdf 19 11 41.1 +0.5
LVC **Limon Verde** 153.41 204 PKPbc PKPdf 19 11 54.5 +6.0
comp=Z,8.8nm,0.9s,baz=326,slow=1.8,SNR=8.7
LVC PKPab PKPab 19 12 04.5 -0.9
comp=Z,11nm,1.0s,baz=161,slow=3.0,SNR=5.6
SIV **San Ignacio** 154.15 226 PKP PKPdf 19 11 47.3 -2.3
comp=Z,1.0nm,0.5s,baz=164,slow=5.8,SNR=6.1
SIV PKPbc PKPdf 19 11 54.5 +4.9
comp=Z,6.1nm,0.8s,baz=124,slow=3.7,SNR=23
SIV PKPab PKPab 19 12 08.4 -0.2
comp=Z,5.1nm,1.1s,baz=158,slow=5.4,SNR=5.5
LPAZ **La Paz** 158.48 213 PKP PKPdf 19 11 53.8 -1.5
comp=Z,1.0nm,0.3s,baz=39,slow=5.3,SNR=7.9
LPAZ PKPab PKPab 19 12 28.4 +1.2
comp=Z,3.8nm,0.8s,baz=130,slow=6.2,SNR=6.7
ROSC **El Rosal** 173.32 298 PKP PKPdf 19 12 05.2 -2.2
comp=Z,2.3nm,0.4s,baz=268,slow=24,SNR=5.4

*BJI **11** 19:07:26.6, 1.16N×96.98E, h40km, mB5.3, mb4.7, Ms4.9, Msz4.7*
*IDC **11** 19:07:28.6±0.8, 1.38N×96.86E, h24km±3km, mb4.0/12, mb1 4.1/13, mb1mx3.9/22, mbtmp4.1/13, ML4.1/1, Error ellipse: s-maj=32.0km s-min=11.9km az=53.0*
*NEIC **11** 19:07:29.2±0.5, 1.44N×96.97E, mb4.5/12, Error ellipse: s-maj=11.5km s-min=7.1km az=45.0*
ISC 11 19:07:27.3±0.6, 1.45N±0.08×96.99E±0.09, h25km, h25km±.5km:pP-P, n40, σ0°82/36, mb4.3/27, MS4.7/2, 5C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.29	44	ePn	Pn	19 08 46.3	-0.5
CMAR	Chiang Mai Arr	17.01	6	P	P	19 11 26.6	+1.1
0.2nm,0.3s,baz=198,slow=10,SNR=12							
KKM	Kota Kinabalu	19.72	76	P	P	19 11 58.0	-0.2
QIZ	Qiongzhong	21.54	35	eP	P	19 12 20.5	+3.5
JIRN	Jiri	28.04	339	eP	P	19 13 19.1	+0.2
15nm,0.9s,mb4.6							
GUN	Gumba	28.38	339	eP	P	19 13 22.3	+0.4
12nm,0.6s,mb4.7							
DMN	Daman	28.39	337	eP	P	19 13 23.1	+1.0
12nm,0.9s,mb4.5							
KKN	Kakani	28.49	338	eP	P	19 13 23.3	+0.4
10nm,0.9s,mb4.5							
GKN	Gorkha	28.93	337	eP	P	19 13 27.1	+0.2
13nm,0.8s,mb4.7							
KOLN	Koldanda	29.14	335	eP	P	19 13 29.3	+0.5
11nm,0.8s,mb4.6							
ENH	Enshi	31.03	21	eP	P	19 13 43.1	-2.4
7.5nm,0.6s,mb4.7							
ENH				epP	pP	19 13 50.7	-2.1
XAN	Xi'an	34.29	18	P	P	19 14 12.1	-1.9
GTA	Gaotai	37.87	4	eP	P	19 14 44.1	-0.1
GTA				AP	pP	19 14 51.0	-0.5
GTA				XP	sP	19 14 54.7	+0.1
GTA				AMB	AMB		
comp=Z,2.0nm,1.1s,mb3.8							
JOW	Kunigami	39.23	47	P	P	19 14 55.6	0.0
comp=Z,7.9nm,0.6s,mb4.7,baz=238,slow=15,SNR=6.1							
HHC	Hu-ho-hao-te	41.38	17	eP	P	19 15 13.2	0.0
HHC				AP	pP	19 15 19.6	-1.0
HHC				XP	sP	19 15 23.7	0.0
HHC				PP	PP	19 16 51.7	-0.2
HHC				PCP	PcP	19 17 12.0	+0.2
HHC				AMB	AMB		
comp=Z,20nm,1.2s,mb4.6							
HHC				AMB	AMB		
comp=Z,539nm,13.7s							
HHC				LR	LR		
comp=N,1μm,19.4s,MS4.8							
HHC				LR	LR		
comp=E,430nm,19.0s,MS4.8							
HHC				LR	LR		
comp=Z,2μm,18.8s,MS4.9							
BJT	Baijiatuau	42.17	22	eP	P	19 15 20.6	+0.9
comp=Z,9.7nm,0.6s,mb4.6							
BJI	Beijing	42.19	22	P	P	19 15 20.6	+0.7
BJI				AMB	AMB		
comp=Z,17nm,0.5s,mb4.9							
BJI	Beijing	42.19	22	P	P	19 15 20.6	+0.7
comp=Z,17nm,0.5s,mb4.9							
WRA	Warramunga Arr	42.35	122	P	P	19 15 21.3	-0.2
comp=Z,1.4nm,0.8s,mb3.6,baz=300,slow=9.1,SNR=6.9							
WRA				pP	pP	19 15 28.8	-0.1
comp=Z,1.1nm,0.5s,baz=302,slow=9.1,SNR=6.7							
WRAB	Tennant Creek	42.35	122	P	P	19 15 22.7	+1.1
comp=Z,3.3nm,0.7s,mb4.1							
WMQ	Urumqi	42.99	350	⇑P	P	19 15 27.0	+0.5
WMQ				AP	pP	19 15 35.1	+1.3
WMQ				XP	sP	19 15 38.5	+1.6
WMQ				PP	PP	19 17 09.1	+0.5
WMQ				PCP	PcP	19 17 18.4	+1.2
WMQ				AMB	AMB		
comp=Z,13nm,0.5s,mb4.9							
WMQ				AMB	AMB		
comp=Z,400nm,6.0s							
WMQ				LR	LR		
comp=N,692nm,21.8s,MS4.6							
WMQ				LR	LR		
comp=E,400nm,20.4s,MS4.6							
WMQ				LR	LR		
comp=Z,766nm,20.4s,MS4.6							
ASAR	Alice Springs	43.72	127	P	P	19 15 32.7	+0.1
comp=Z,1.3nm,0.8s,mb3.7,baz=298,slow=7.6,SNR=14							
ASAR				pP	pP	19 15 40.5	+0.5
comp=Z,0.8nm,0.8s,baz=309,slow=8.6,SNR=4.3							
SONM	Songino Array	46.92	9	P	P	19 15 58.0	+0.3
comp=Z,7.1nm,0.9s,mb4.6,baz=191,slow=8.6,SNR=41							
SONM				pP	pP	19 16 05.0	-0.2
comp=Z,3.8nm,0.7s,baz=193,slow=8.9,SNR=12							
SONM				PcP	PcP	19 17 30.0	-0.6
comp=Z,0.6nm,0.6s,baz=190,slow=4.2,SNR=3.9							
MKAR	Makanchi Array	46.95	346	P	P	19 15 58.3	+0.3
comp=Z,6.3nm,0.9s,mb4.6,baz=160,slow=8.0,SNR=43							
MKAR				pP	pP	19 16 05.5	0.0
comp=Z,3.8nm,0.8s,baz=158,slow=7.9,SNR=12							
ULN	Ulaanbaatar	47.05	9	eP	P	19 15 58.8	0.0
comp=Z,5.0nm,0.8s,mb4.5							
ZAL	Zalesovo	53.27	351	P	P	19 16 46.3	0.0
comp=Z,1.5nm,0.5s,mb4.2,baz=252,slow=3.6,SNR=9.5							
ZAL				pP	pP	19 16 53.5	-0.3
comp=Z,4.0nm,0.5s,baz=310,slow=5.9,SNR=6.6							
STKA	Stephens Creek	53.68	132	P	P	19 16 49.5	0.0
comp=Z,1.0nm,0.6s,mb3.9,baz=326,slow=7.3,SNR=4.3							
STKA				pP	pP	19 16 56.5	-0.6
comp=Z,2.2nm,0.8s,baz=282,slow=6.1,SNR=3.7							
BVAR	Borovoye Array	55.95	341	P	P	19 17 04.7	-1.0
comp=Z,1.5nm,0.7s,mb4.1,baz=135,slow=6.3,SNR=9.8							
BVAR				pP	pP	19 17 12.3	-1.0
comp=Z,2.4nm,0.8s,baz=127,slow=7.4,SNR=9.8							
CHKZ	Chkalovo	56.42	342	eP	P	19 17 08.3	-0.9
comp=Z,5.4nm,0.8s,mb4.6							
CHKZ				epP	pP	19 17 16.9	+0.1
BRTR	Keskin Array B	68.79	312	P	P	19 18 30.9	-0.8
comp=Z,0.3nm,0.3s,mb3.7,baz=138,slow=8.7,SNR=2.7							
BRTR				pP	pP	19 18 38.6	-0.8
comp=Z,1.1nm,0.6s,baz=121,slow=7.2,SNR=3.6							
AKASG	Malin Array Be	74.93	322	P	P	19 19 06.7	-1.4
comp=Z,0.1nm,0.2s,mb3.3,baz=87,slow=4.8,SNR=5.1							
AKASG				pP	pP	19 19 14.8	-1.0
comp=Z,0.5nm,0.4s,baz=84,slow=5.1,SNR=3.4							
AKASG	Malin Array Be	74.93	322	P	P	19 19 06.7	-1.4
AKASG				pP	pP	19 19 14.8	-1.0
VRI	Vrincioaia	75.29	317	⇑P	pP	19 19 18.9	+0.9
VRI	Vrincioaia	75.29	317	⇑P	pP	19 19 19.0	+0.9
MLR	Muntele Rosu	75.74	317	⇓P	pP	19 19 19.8	-0.8
MLR	Muntele Rosu	75.74	317	⇓P	pP	19 19 19.8	-0.8
BURAR	Bucovina Array	76.70	319	⇑P	P	19 19 19.2	+1.0
BURAR	Bucovina Array	76.70	319	⇑P	P	19 19 19.2	+1.0
FINES	FINESS Array B	79.68	333	P	P	19 19 33.8	-0.4
comp=Z,1.1nm,0.8s,mb3.8,baz=143,slow=9.5,SNR=4.9							
ARCES	ARCESS Array B	82.23	340	P	P	19 19 47.4	-0.1
comp=Z,4.3nm,0.9s,mb4.4,baz=76,slow=5.0,SNR=5.6							

*BJI **11** 19:11:22.5, 1.89S×99.97E, h32km, mB5.5, mb4.7, Ms4.8, Msz4.6*
*IDC **11** 19:11:26.0±0.5, 1.73S×99.89E, h31km±3km, mb4.1/17, mb1 4.3/17, mb1mx4.2/22, mbtmp4.3/17, Error ellipse: s-maj=21.1km s-min=11.2km az=55.0*
*NEIC **11** 19:11:26.1±0.3, 1.72S×99.89E, mb4.8/14, Error ellipse: s-maj=8.2km s-min=4.9km az=59.0*
ISC 11 19:11:23.9±2.1, 1.71S±0.06×99.85E±0.07, h30km±14km, h31km±.6km:pP-P, n58, σ0°80/59, mb4.6/30, MS4.7/2, 2C-5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	Kluang	5.08	43	P	Pn	19 12 41.6	+1.6
IPM	Ipoh	6.36	11	P	Pn	19 12 58.4	+0.2
KULM	Kulim	7.00	7	ePn	Pn	19 13 07.1	-0.1
KKM	Kota Kinabalu	18.07	65	eP	P	19 15 35.7	+0.8
TSM	Tawau	18.98	72	P	P	19 15 46.2	+0.4
CM31	Chiang Mai Arr	20.06	358	eP	P	19 15 56.2	-1.7
10nm,0.6s							
CMAR	Chiang Mai Arr	20.06	358	P	P	19 15 56.2	-1.6
6.3nm,0.8s,baz=188,slow=10,SNR=46							
QIZ	Qiongzhong	22.83	25	P	P	19 16 26.3	+0.3
SHL	Shillong	28.19	345	eP	P	19 17 15.7	-0.6
FITZ	Fitzroy Crossi	30.10	124	eP	P	19 17 32.3	-1.2
9.3nm,0.6s,mb4.7							
FITZ	Fitzroy Crossi	30.10	124	P	P	19 17 32.0	-1.4
7.1nm,0.7s,mb4.5,baz=349,slow=5.2,SNR=7.0							
FITZ				pP	pP	19 17 41.2	-1.0
14nm,0.7s,baz=347,slow=6.5,SNR=5.8							
JIRN	Jiri	32.02	337	eP	P	19 17 50.7	+0.4
LSA	Lhasa	32.32	346	P	P	19 17 53.6	+0.8
LSA				AMB	AMB		
comp=Z,20nm,0.7s,mb5.1							
LSA	Lhasa	32.32	346	eP	P	19 17 53.4	+0.5
comp=Z,11nm,0.6s,mb4.9							
GUN	Gumba	32.37	336	eP	P	19 17 53.6	+0.3
comp=Z,25nm,0.4s,mb5.4							
DMN	Daman	32.42	335	eP	P	19 17 54.2	+0.5
comp=Z,15nm,1.0s,mb4.8							
KKN	Kakani	32.51	336	eP	P	19 17 54.4	-0.1
comp=Z,19nm,0.8s,mb5.1							
GKN	Gorkha	32.96	335	eP	P	19 17 58.4	0.0
comp=Z,8.2nm,0.3s,mb5.1							
ENH	Enshi	33.11	15	eP	P	19 17 57.2	-2.5
comp=Z,10nm,0.6s,mb4.9							
KOLN	Koldanda	33.22	333	eP	P	19 18 01.0	+0.3
comp=Z,12nm,0.7s,mb5.0							
WRA	Warramunga Arr	38.27	121	P	P	19 18 42.8	-0.9
comp=Z,3.2nm,0.5s,mb4.3,baz=303,slow=9.0,SNR=44							
WRA				pP	pP	19 18 52.5	0.0
comp=Z,7.7nm,0.4s,baz=303,slow=9.2,SNR=20							
WRAB	Tennant Creek	38.28	121	eP	P	19 18 43.2	-0.5
comp=Z,14nm,0.5s,mb5.0							
WRAB				epP	pP	19 18 52.1	-0.5
ASPA	Alice Springs	39.54	126	eP	P	19 18 54.8	+0.5
ASAR	Alice Springs	39.55	126	P	P	19 18 54.0	-0.3
comp=Z,2.2nm,0.5s,mb4.2,baz=301,slow=7.8,SNR=44							
ASAR				pP	pP	19 19 03.5	+0.3
comp=Z,10nm,0.5s,baz=297,slow=7.7,SNR=30							
GTA	Gaotai	40.92	360	eP	P	19 19 05.5	+0.1
GTA				AP	pP	19 19 13.0	-1.3
GTA				XP	sP	19 19 16.0	-2.0
GTA				AMB	AMB		
comp=Z,3.0nm,0.8s,mb4.0							
HHC	Hu-ho-hao-te	43.69	13	eP	P	19 19 28.4	+0.3
HHC				AP	pP	19 19 37.4	+0.5
HHC				XP	sP	19 19 43.4	+2.8
HHC				PP	PP	19 21 09.1	-2.4
HHC				PCS		19 25 05.9	
HHC				S	S	19 25 57.2	+1.6
HHC				SCS	ScS	19 29 23.8	+1.0
HHC				AMB	AMB		
comp=Z,13nm,1.1s,mb4.6							
HHC				AMB	AMB		
comp=Z,1μm,11.4s							
HHC				LR	LR		
comp=N,1μm,19.0s,MS4.9							
HHC				LR	LR		
comp=E,430nm,16.3s,MS4.9							
HHC				LR	LR		
comp=Z,2μm,19.5s,MS5.0							
BJT	Baijiatuau	44.14	18	P	P	19 19 31.4	-0.3
BJI	Beijing	44.16	18	P	P	19 19 31.7	-0.2
BJI				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.5							
BJI	Beijing	44.16	18	P	P	19 19 31.7	-0.2
comp=Z,10.0nm,0.9s,mb4.5							
KSH	Kashi	46.51	334	eP	P	19 19 50.0	-0.6
KSH				eAP	pP	19 19 59.4	-0.1
KSH				eXP	sP	19 20 03.1	-0.1
KSH				ePCP	PcP	19 21 25.0	-0.2
KSH				ePP	PP	19 21 38.1	-1.6
KSH				eSCP		19 25 14.0	
KSH				ePCS		19 25 18.0	
KSH				eS	S	19 26 34.3	-1.9
KSH				eXS		19 26 51.0	
KSH				eSCS	ScS	19 29 39.1	-1.7
KSH				eSS	SS	19 29 52.0	-2.6
KSH				AMB	AMB		
comp=Z,520nm,5.4s							
KSH				LR	LR		
comp=N,430nm,5.4s							
KSH				LR	LR		
comp=E,790nm,12.7s							
WMQ	Urumqi	46.62	348	⇓P	P	19 19 52.4	+1.0
WMQ				AP	pP	19 20 02.4	+2.0
WMQ				XP	sP	19 20 06.4	+2.4
WMQ				PCP	PcP	19 21 26.5	+1.0
WMQ				PP	PP	19 21 41.8	+1.0
WMQ				S	S	19 26 38.4	+0.7
WMQ				XS		19 26 54.8	
WMQ				AMB	AMB		
comp=Z,47nm,1.0s,mb5.4							
WMQ				AMB	AMB		
comp=Z,228nm,6.8s							
WMQ				LR	LR		
comp=N,468nm,20.6s,MS4.6							
WMQ				LR	LR		
comp=E,426nm,20.6s,MS4.6							
WMQ				LR	LR		
comp=Z,450nm,19.0s,MS4.4							
STKA	Stephens Creek	49.46	132	eP	P	19 20 13.8	+0.1
comp=Z,4.3nm,0.9s,mb4.5							
STKA				i	pP	19 20 23.5	+0.8
STKA	Stephens Creek	49.46	132	P	P	19 20 13.9	+0.2
comp=Z,2.0nm,0.5s,mb4.4,baz=308,slow=8.1,SNR=6.3							
STKA				pP	pP	19 20 23.2	+0.5
comp=Z,9.2nm,0.5s,baz=309,slow=9.0,SNR=13							
SONM	Songino Array	49.67	6	P	P	19 20 15.2	+0.1
comp=Z,8.6nm,0.7s,mb4.9,baz=188,slow=9.1,SNR=82							
SONM				pP	pP	19 20 24.9	+0.7
comp=Z,3.5nm,0.6s,baz=187,slow=9.0,SNR=10							
SONM				PcP	PcP	19 21 36.5	+0.1
comp=Z,1.2nm,0.8s,baz=198,slow=1.9,SNR=2.2							
SONM	Songino Array	49.67	6	P	P	19 20 15.2	+0.1
SONM				pP	pP	19 20 24.9	+0.7
SONM				PcP	PcP	19 21 36.5	+0.1
ULN	Ulaanbaatar	49.77	6	eP	P	19 20 15.3	-0.6
comp=Z,7.3nm,1.0s,mb4.7							
ULN				epP	pP	19 20 25.2	+0.3
MKAR	Makanchi Array	50.71	344	P	P	19 20 23.0	-0.1
comp=Z,11nm,0.4s,mb5.1,baz=161,slow=8.5,SNR=172							
ZAL	Zalesovo	56.85	349	P	P	19 21 07.7	-0.5
comp=Z,14nm,0.5s,mb5.3,baz=314,slow=5.2,SNR=58							
ZAL	Zalesovo	56.85	349	P	P	19 21 07.7	-0.5
ASAJ	Asahikawa	59.46	35	P	P	19 21 26.2	-0.4
comp=Z,2.8nm,0.7s,mb4.4,baz=266,slow=14,SNR=4.7							
CHKZ	Chkalovo	60.32	340	eP	P	19 21 31.0	-1.4
comp=Z,7.1nm,0.7s,mb4.8							
CHKZ				epP	pP	19 21 41.4	-0.2
KMBO	Kilima Mbogo	62.57	270	P	P	19 21 48.3	+0.2
comp=Z,0.4nm,0.3s,mb4.1,baz=42,slow=20,SNR=4.4							
MATP	Matopo	71.93	249	P	P	19 22 47.2	+0.2
comp=Z,2.7nm,0.7s,mb4.3,baz=75,slow=5.5,SNR=7.4							
BRTR	Keskin Array B	73.01	312	P	P	19 22 53.5	+0.3
comp=Z,0.4nm,0.4s,mb3.7,baz=146,slow=5.5,SNR=3.3							
TIRR	Tirgusor	78.04	316	⇓P	P	19 23 21.1	-0.4
TIRR	Tirgusor	78.04	316	⇓P	P	19 23 21.1	-0.5
AKASG	Malin Array Be	79.16	322	P	P	19 23 28.6	+1.0
comp=Z,0.1nm,0.2s,mb3.3,baz=87,slow=4.5,SNR=2.5							
MLR	Muntele Rosu	79.98	317	P	P	19 23 32.7	+0.6
comp=Z,1.7nm,0.7s,mb4.1,baz=126,slow=8.1,SNR=4.3							
MLR	Muntele Rosu	79.98	317	⇓P	P	19 23 32.4	+0.2
MLR	Muntele Rosu	79.98	317	⇓P	P	19 23 32.4	+0.3
BURAR	Bucovina Array	80.94	319	⇑P	P	19 23 38.6	+1.5
BURAR	Bucovina Array	80.94	319	⇑P	P	19 23 38.7	+1.6
VNDA	Vanda	82.47	169	P	P	19 23 45.2	+0.7
comp=Z,0.9nm,0.9s,mb3.7,baz=278,slow=14,SNR=3.5							
VNDA				pP	pP	19 23 55.7	+1.7
comp=Z,1.0nm,0.8s,baz=333,slow=4.5,SNR=3.6							
FINES	FINESS Array B	83.79	332	P	P	19 23 51.6	+0.1
comp=Z,0.8nm,0.5s,mb4.1,baz=90,slow=3.8,SNR=6.0							
ARCES	ARCESS Array B	86.15	340	P	P	19 24 04.2	+1.0
comp=Z,2.0nm,0.6s,mb4.5,baz=90,slow=6.1,SNR=11							
ARCES				pP	pP	19 24 14.0	+1.3
comp=Z,3.8nm,0.6s,baz=105,slow=4.7,SNR=3.4							
ARCES	ARCESS Array B	86.15	340	P	P	19 24 04.2	+1

ISC 11 19:18:01.9±1.8, 1.5S±0.2×99.8E±0.4, h33km, n9, σ0°62/8, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.83	7	Pn	Pn	19 19 42.2	-0.3
CMAR	Chiang Mai Arr	19.88	358	P	P	19 22 32.9	-0.5
	0.5nm,0.6s,baz=189,slow=11,SNR=4.9						
WRA	Warramunga Arr	38.39	121	P	P	19 25 21.7	-0.4
	0.9nm,0.5s,mb3.8,baz=302,slow=9.2,SNR=9.7						
WRAB	Tennant Creek	38.39	121	P	P	19 25 22.0	-0.1
	2.2nm,0.5s,mb4.1						
ASAR	Alice Springs	39.67	126	P	P	19 25 32.9	+0.2
	0.5nm,0.5s,mb3.5,baz=294,slow=7.4,SNR=6.0						
SONM	Songino Array	49.50	6	P	P	19 26 52.9	+1.6
	0.5nm,0.8s,mb3.6,baz=186,slow=6.1,SNR=3.9						
MKAR	Makanchi Array	50.53	344	P	P	19 26 58.8	-0.4
	0.4nm,0.4s,mb3.7,baz=157,slow=8.5,SNR=7.2						
ZAL	Zalesovo	56.67	349	P	P	19 27 44.2	-0.1
	1.1nm,0.4s,mb4.3,baz=302,slow=4.3,SNR=5.3						
TXAR	Lajitas Array	144.44	37	PKP	PKPdf	19 37 37.0	+1.5
	0.7nm,0.5s,baz=294,slow=1.3,SNR=6.3						

*IDC **11** 19:26:46.1±1.1, 1.81S×99.43E, mb3.9/9, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, Error ellipse: s-maj=50.4km s-min=17.6km az=52.0*
*NEIC **11** 19:26:51.0±0.6, 1.68S×99.62E, h30km, mb4.2/2, Error ellipse: s-maj=22.6km s-min=9.7km az=60.0*

ISC 11 19:26:49.8±0.9, 1.6S±0.1×99.7E±0.2, h33km, n13, σ0°63/12, mb4.0/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.90	8	*e*Pn	Pn	19 28 30.9	-0.4
CMAR	Chiang Mai Arr	19.93	358	P	P	19 31 21.4	-0.3
	1.2nm,0.6s,baz=188,slow=10,SNR=10						
WRA	Warramunga Arr	38.48	121	P	P	19 34 10.3	-0.4
	0.9nm,0.5s,mb3.8,baz=302,slow=9.5,SNR=13						
WRA				PcP	PcP	19 36 24.7	+0.7
	0.4nm,0.6s,baz=316,slow=2.6,SNR=7.5						
WRAB	Tennant Creek	38.48	121	*e*P	P	19 34 10.4	-0.4
	2.9nm,0.7s,mb4.1						
ASAR	Alice Springs	39.75	126	P	P	19 34 21.8	+0.5
	1.2nm,0.8s,mb3.7,baz=297,slow=7.8,SNR=11						
SONM	Songino Array	49.57	6	P	P	19 35 40.6	+0.9
	0.7nm,0.8s,mb3.7,baz=192,slow=8.3,SNR=7.3						
MKAR	Makanchi Array	50.55	345	P	P	19 35 47.8	+0.6
	1.0nm,0.7s,mb3.9,baz=145,slow=8.5,SNR=14						
ZAL	Zalesovo	56.70	350	P	P	19 36 32.9	+0.5
	2.2nm,0.4s,mb4.5,baz=330,slow=6.5,SNR=11						
CHKZ	Chkalovo	60.15	341	*e*P	P	19 36 55.6	-0.9
	1.7nm,0.9s,mb4.1						
BRTR	Keskin Array B	72.81	312	P	P	19 38 16.1	-1.0
	0.4nm,0.6s,mb3.5,baz=101,slow=7.3,SNR=2.7						
MLR	Muntele Rosu	79.78	317	P	P	19 38 56.6	+0.2
	1.2nm,0.7s,mb3.9,baz=167,slow=8.2,SNR=4.2						
FINES	FINESS Array B	83.60	332	P	P	19 39 16.8	+0.9
	3.0nm,0.9s,mb4.4,baz=104,slow=5.7,SNR=4.2						
TXAR	Lajitas Array	144.57	37	PKP	PKPdf	19 46 25.1	+1.5
	1.2nm,0.5s,baz=254,slow=1.0,SNR=11						

IDC 11 19:31:08.9±5.4, 2.36S×99.18E, mb3.4/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=256.7km s-min=28.3km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.53	120	P	P	19 38 32.9	-2.3
	0.4nm,0.4s,baz=294,slow=8.1,SNR=8.2						
ASAR	Alice Springs	39.71	125	P	P	19 38 44.0	-1.1
	0.3nm,0.6s,baz=305,slow=8.9,SNR=5.3						
MKAR	Makanchi Array	51.15	345	P	P	19 40 13.8	-2.1
	0.2nm,0.4s,baz=156,slow=8.8,SNR=6.7						

*IDC **11** 19:33:39.6±1.8, 14.99S×173.79W, mb4.0/8, mb1 4.4/8, mb1mx4.1/17, mbtmp4.0/8, MS4.0/2, Ms1 4.0/2, ms1mx3.5/32, Error ellipse: s-maj=109.1km s-min=20.3km az=150.0*
*NEIC **11** 19:33:40.6±0.7, 15.09S×173.60W, h10km, mb4.4/1, Error ellipse: s-maj=39.3km s-min=15.0km az=147.0*

ISC 11 19:33:42.6±0.7, 15.0S±0.2×173.8W±0.2, h33km, n14, σ1°00/12, mb4.0/9, MS4.5/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.23	60	Pn	Pn	19 34 14.0	-4.2
	160nm,0.3s,baz=94,slow=1.0,SNR=108						
AFI				Sn	Sn	19 34 34.3	-11
	328nm,0.3s,baz=7.3,slow=23,SNR=8.2						
AFI				LR	LR	19 34 58.5	
	comp=Z,974nm,20.6s,baz=200,slow=35						
WRA	Warramunga Arr	49.58	256	P	P	19 42 32.5	-0.4
	0.3nm,0.3s,mb3.8,baz=97,slow=7.8,SNR=24						
ASAR	Alice Springs	49.88	252	P	P	19 42 34.8	-0.5
	4.2nm,0.8s,mb4.5,baz=86,slow=8.2,SNR=32						
RPN	Rapa Nui	60.76	113	LR	LR	20 02 53.5	
	comp=Z,412nm,21.9s,MS4.5,baz=44,slow=29						
YBH	Yreka Blue Hor	73.53	37	P	P	19 45 15.1	+0.9
	4.1nm,0.9s,mb4.4,baz=294,slow=5.0,SNR=7.8						
NVAR	Mina Array Bea	74.30	42	P	P	19 45 18.7	0.0
	3.5nm,0.8s,mb4.3,baz=218,slow=8.0,SNR=18						
QSPA	South Pole Qui	75.01	180	*e*P	P	19 45 22.0	0.0
	4.0nm,1.0s,mb4.3						
TXAR	Lajitas Array	80.71	56	P	P	19 45 55.4	+0.9
	0.1nm,0.3s,mb3.3,baz=236,slow=4.5,SNR=5.1						
ILAR	Eielson Array	82.16	11	P	P	19 46 00.7	-0.6
	0.7nm,0.8s,mb3.7,baz=200,slow=6.4,SNR=6.4						
PDAR	Pinedale Array	82.24	42	P	P	19 46 02.7	+0.6
	0.8nm,0.8s,mb3.7,baz=270,slow=3.0,SNR=6.2						
YKA	Yellowknife Ar	89.91	23	P	P	19 46 39.7	+0.4
	0.5nm,0.8s,mb3.9,baz=237,slow=4.4,SNR=12						
YKA	Yellowknife Ar	89.91	23	P	P	19 46 39.7	+0.4
BRTR	Keskin Array B	145.65	321	PKPbc	PKPbc	19 53 21.4	+2.7
	0.7nm,0.6s,baz=63,slow=2.8,SNR=4.8						
GERES	GERESS Array B	145.73	351	PKPbc	PKPbc	19 53 20.7	+2.2
	0.4nm,0.6s,slow=5.3,SNR=4.6						

*IDC **11** 19:37:10.3±1.8, 1.90S×99.30E, mb3.7/8, mb1 3.9/8, mb1mx3.7/19, mbtmp3.8/8, Error ellipse: s-maj=82.5km s-min=19.1km az=56.0*
*NEIC **11** 19:37:14.5±1.1, 1.95S×99.28E, h30km, mb4.0/1, Error ellipse: s-maj=49.0km s-min=12.6km az=56.0*

ISC 11 19:37:13.2±1.5, 1.9S±0.3×99.3E±0.4, h33km, n10, σ0°75/9, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.18	359	P	P	19 41 48.5	+0.5
	0.5nm,0.5s,baz=186,slow=9.5,SNR=5.1						
WRA	Warramunga Arr	38.65	120	P	P	19 44 34.9	-0.7
	0.5nm,0.5s,mb3.5,baz=302,slow=9.2,SNR=6.6						
WRA				PcP	PcP	19 46 48.8	+0.9
	0.5nm,0.7s,baz=314,slow=2.4,SNR=4.8						
ASAR	Alice Springs	39.88	126	P	P	19 44 46.4	+0.6
	0.5nm,0.6s,mb3.5,baz=306,slow=8.1,SNR=5.9						
SONM	Songino Array	49.87	6	P	P	19 46 05.2	-0.2
	0.2nm,0.4s,mb3.5,baz=202,slow=7.6,SNR=3.3						
MKAR	Makanchi Array	50.71	345	P	P	19 46 12.4	+0.6
	1.0nm,0.6s,mb3.9,baz=151,slow=8.1,SNR=13						
ZAL	Zalesovo	56.89	350	P	P	19 46 57.3	0.0
	2.0nm,0.4s,mb4.5,baz=312,slow=4.6,SNR=9.7						
BVAR	Borovoye Array	59.82	340	P	P	19 47 16.4	-1.3
	0.6nm,0.4s,mb3.9,baz=135,slow=8.4,SNR=4.5						
CHKZ	Chkalovo	60.28	341	*e*P	P	19 47 20.1	-0.8
	0.9nm,0.7s,mb3.9						
FINES	FINESS Array B	83.67	332	P	P	19 49 40.9	+1.2
	1.1nm,0.7s,mb4.1,baz=191,slow=9.7,SNR=3.7						
TXAR	Lajitas Array	144.99	36	PKPbc	PKPbc	19 56 49.8	+1.8
	1.0nm,0.4s,baz=167,slow=4.9,SNR=4.3						

IDC 11 19:49:55.3±3.1, 1.58S×100.01E, mb3.6/5, mb1 3.6/6, mb1mx3.5/18, mbtmp3.4/6, ML3.2/1, Error ellipse: s-maj=128.3km s-min=20.3km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.94	357	P	P	19 54 28.1	-3.8
	0.0nm,0.3s,baz=186,slow=11,SNR=2.4						
WRA	Warramunga Arr	38.20	121	P	P	19 57 17.0	-1.8
	0.5nm,0.4s,baz=306,slow=8.8,SNR=4.1						
ASAR	Alice Springs	39.49	126	P	P	19 57 27.9	-1.6
	0.5nm,0.8s,baz=300,slow=7.5,SNR=3.7						
SONM	Songino Array	49.53	6	P	P	19 58 48.4	-1.4
	0.3nm,0.7s,baz=191,slow=7.3,SNR=3.2						
MKAR	Makanchi Array	50.63	344	P	P	19 58 56.3	-2.0
	0.7nm,0.6s,baz=150,slow=8.3,SNR=7.5						
ZAL	Zalesovo	56.75	349	P	P	19 59 40.8	-2.6
	0.8nm,0.4s,baz=293,slow=9.6,SNR=4.9						
TXAR	Lajitas Array	144.36	37	PKP	PKPdf	20 09 33.3	-2.7
	0.8nm,0.8s,baz=135,slow=1.8,SNR=3.4						

*DJA **11** 19:51:42.1±0.9, 8.77S×118.67E, h261km±12km, MD4.6/4, ML4.6/4, Error ellipse: s-maj=120.2km s-min=24.2km az=4.0*
*IDC **11** 19:51:45.2±4.7, 8.15S×119.02E, h170km±58km, mb2.9/3, mb1 3.2/5, mb1mx3.0/19, mbtmp3.6/5, Error ellipse: s-maj=120.9km s-min=13.6km az=50.0*

ISC 11 19:51:47.1±1.5, 8.6S±0.2×118.5E±0.2, h227km±21km, n9, σ0°81/15, mb3.3/3, 4C-4D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	2.37	273	⇑*i*Pn	P	19 52 31.6	-0.2
	429nm,0.2s						
KEDI				⇓*i*Sn	S	19 53 07.4	+1.0
RATI	Rata	2.95	267	⇑*i*Pn	P	19 52 37.5	-0.5
	592nm,0.2s						
RATI				⇑*i*Sn	S	19 53 18.5	+1.0
KELI	Kelakatan	3.99	275	⇓*i*Pn	P	19 52 50.3	-0.1
	34nm,0.2s						
KELI				⇑*i*Sn	S	19 53 39.6	+0.1
SRDI	Scrawed	4.32	271	⇓*i*Pn	P	19 52 53.3	-1.1
	114nm,0.2s						
SRDI				⇓*i*Sn	S	19 53 45.8	-0.8
FITZ	Fitzroy Crossi	11.71	144	P	P	19 54 28.4	-0.2
	0.4nm,0.3s,baz=350,slow=15,SNR=4.4						
FITZ				S	S	19 56 29.6	-6.1
	1.4nm,0.3s,baz=189,slow=20,SNR=9.3						
WRA	Warramunga Arr	19.02	128	P	P	19 55 52.7	-1.2
	baz=302,slow=12,SNR=1.8						
WRA				S	S	19 59 19.8	+6.9
	0.1nm,0.3s,baz=309,slow=22,SNR=4.5						
ASAR	Alice Springs	21.01	137	P	P	19 56 15.7	+1.8
	0.3nm,0.5s,mb3.1,baz=320,slow=9.6,SNR=6.4						
SONM	Songino Array	57.21	350	P	P	20 01 12.7	+0.1
	0.4nm,0.5s,mb3.3,baz=168,slow=9.0,SNR=4.8						
MKAR	Makanchi Array	63.88	333	P	P	20 01 58.0	+0.4
	0.3nm,0.4s,mb3.3,baz=152,slow=6.0,SNR=7.0						

IDC 11 19:59:51.6±2.6, 1.72S×99.59E, mb3.5/7, mb1 3.7/7, mb1mx3.6/19, mbtmp3.5/7, Error ellipse: s-maj=108.4km s-min=19.5km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.06	358	P	P	20 04 26.7	-2.8
	0.5nm,0.5s,baz=186,slow=10.0,SNR=4.8						
WRA	Warramunga Arr	38.48	121	P	P	20 07 15.5	-1.9
	0.5nm,0.5s,baz=302,slow=9.2,SNR=7.9						
ASAR	Alice Springs	39.75	126	P	P	20 07 26.6	-1.4
	0.5nm,0.6s,baz=298,slow=7.4,SNR=7.7						
SONM	Songino Array	49.70	6	P	P	20 08 45.2	-2.2
	0.2nm,0.7s,baz=191,slow=7.3,SNR=2.7						
MKAR	Makanchi Array	50.65	345	P	P	20 08 52.8	-1.9
	0.4nm,0.6s,baz=144,slow=7.4,SNR=6.7						
ZAL	Zalesovo	56.81	350	P	P	20 09 38.0	-2.0
	1.1nm,0.4s,baz=342,slow=1.9,SNR=6.6						
BVAR	Borovoye Array	59.78	340	P	P	20 09 57.9	-2.9
	0.3nm,0.4s,baz=146,slow=5.2,SNR=3.2						

IDC 11 19:59:52.3±7.8, 48.34S×122.83E, mb3.6/2, mb1 3.9/2, mb1mx3.5/12, mbtmp3.6/2, Error ellipse: s-maj=622.5km s-min=67.7km az=102.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	26.15	24	P	P	20 05 28.1	-1.6
	0.9nm,0.5s,baz=201,slow=8.7,SNR=9.8						
WRA	Warramunga Arr	29.82	22	P	P	20 06 01.0	-2.1
	0.3nm,0.5s,baz=198,slow=8.1,SNR=4.0						
YKA	Yellowknife Ar	145.74	44	PKPbc	PKPbc	20 19 30.9	-1.2
	1.0nm,0.8s,baz=277,slow=3.6,SNR=14						

*CSEM **11** 20:00:40.9±0.3, 51.47N×16.25E, h2km, ML3.0/4, Error ellipse: s-maj=5.3km s-min=2.7km az=17.0*
*PRU **11** 20:00:42.7, 51.40N×16.16E*
*NEIC **11** 20:00:42.9±2.0, 51.35N×16.20E, h5km, ML2.6(VIE), Error ellipse: s-maj=22.7km s-min=8.0km az=218.0*

WAR 11 20:00:42.2, 51.45N×16.17E, h1km, ML2.2, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	173	*e*PG	Pg	20 00 53.0	-1.4
KSP				*e*SG	Sg	20 01 02.0	-0.6
UPC	Upice	0.95	186	*e*PG	Pg	20 00 59.4	-1.7
DPC	Dobruska-Polom	1.11	175	*e*PG	Pg	20 01 02.2	-2.1
DPC				*e*SG	Sg	20 01 16.8	-2.2
	20nm,0.4s						
PVCC	Panska Ves	1.37	228	*e*PG	Pg	20 01 07.8	-1.7
BRG	Berggiesshubel	1.52	248	*e*Pg	Pg	20 01 10.4	-2.0
BRG				*e*Sg	Sg	20 01 30.4	-2.2
PRU	Pruhonice	1.79	216	*e*PG	Pg	20 01 14.6	-3.4
PRU				*e*SG	Sg	20 01 38.2	-3.6
	15nm,0.4s						
MORC	Moravsky Berou	1.89	152	*e*P	Pn	20 01 14.2	-1.7
MORC	Moravsky Berou	1.89	152	*e*P	Pn	20 01 14.2	-1.7
CLL	Collm	1.99	267	*e*PN	Pn	20 01 18.0	+0.7
CLL				*e*PG	Pg	20 01 21.0	-0.9
CLL				*e*SG	Sg	20 01 46.0	-2.4
CLL	Collm	1.99	267	*e*Pn	Pn	20 01 18.0	+0.7
CLL				*e*Sg	Sg	20 01 46.0	-2.4
OKC	Ostrava-Krasne	2.05	141	*e*SG	Sg	20 01 47.0	-3.4
NKC	Novy Kostel	2.65	244	*e*SG	Sg	20 02 05.9	-4.7
	13nm,0.3s						
KHC	Kasperske Hory	2.85	217	*e*PN	Pn	20 01 28.8	-0.9
KHC				*e*PG	Pg	20 01 34.1	-5.1
KHC				*e*SN	Sn	20 02 01.9	-3.3
KHC				*e*SG	Sg	20 02 11.4	-5.8
MOX	Moxa	2.98	256	*e*Pg	Pg	20 01 39.1	-2.7
MOX				*e*SG	Sg	20 02 18.0	-3.5
MOA	Molln	3.81	200	⇑*i*PN	Pn	20 01 40.4	-2.9
MOA				*i* SG	Sg	20 02 44.3	-4.7
	3.3nm,0.5s						

*NEIC **11** 20:05:35.5±0.9, 0.27S×124.13E, h25km, mb3.9/1, Error ellipse: s-maj=160.0km s-min=13.9km az=66.0*

IDC 11 20:05:31.7±1.7, 0.26S×124.12E, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=169.2km s-min=26.4km az=62.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	21.97	153	*e*P	P	20 10 27.1	-2.1
	2.6nm,0.5s						
WRA	Warramunga Arr	21.98	154	P	P	20 10 27.1	-2.1
	2.1nm,0.6s,baz=332,slow=10.0,SNR=17						
ASAR	Alice Springs	25.13	158	P	P	20 10 58.0	-2.1
	2.3nm,0.8s,baz=333,slow=7.5,SNR=20						
STKA	Stephens Creek	35.53	154	P	P	20 12 32.1	-0.5
	0.6nm,0.5s,baz=324,slow=14,SNR=2.9						
ULN	Ulaanbaatar	50.18	345	P	P	20 14 29.1	-2.1
MKAR	Makanchi Array	59.42	328	P	P	20 15 36.0	-2.5
	0.2nm,0.5s,baz=111,slow=8.7,SNR=3.2						

*IDC **11** 20:09:50.7±0.7, 48.90S×124.86E, mb4.5/11, mb1 4.6/12, mb1mx4.5/16, mbtmp4.5/12, ML2.2/1, MS4.3/4, Ms1 4.3/4, ms1mx4.0/21, Error ellipse: s-maj=34.0km s-min=15.1km az=104.0*
*BJI **11** 20:09:51.1, 48.74S×124.38E, h8km, mB5.4, mb4.8, Ms4.5, Msz4.3*
*NEIC **11** 20:09:52.1±0.3, 48.95S×124.84E, h10km, mb4.5/6, Error ellipse: s-maj=12.9km s-min=6.2km az=95.0*

ISC 11 20:09:50.5±0.5, 48.97S±0.07×125.0E±0.2, h10km, (h17km±2.5km:pP-P), n45, σ0°87/36, mb4.5/19, MS4.2/4, 1C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	17.06	337	Pn	P	20 13 50.5	-0.1
	0.5nm,0.3s,baz=165,slow=10,SNR=4.0						
NWAO				LR	LR	20 18 28.2	
	comp=Z,1μm,21.6s,baz=118,slow=30						
NWAO	Narrogin (SRO)	17.06	337	P	P	20 13 48.9	-1.7
FORT	Forrest	18.31	8	*e*P	P	20 14 06.8	+0.5
	780nm,0.8s						
STKA	Stephens Creek	21.14	42	*e*P	P	20 14 38.7	+0.8
	10nm,0.9s,mb4.2						
STKA	Stephens Creek	21.14	42	P	P	20 14 38.3	+0.5
	6.6nm,0.8s,mb4.0,baz=204,slow=9.2,SNR=14						
ASPA	Alice Springs	26.20	19	*e*P	P	20 15 26.6	-0.5
ASAR	Alice Springs	26.20	19	P	P	20 15 26.7	-0.4
	10nm,0.9s,mb4.4,baz=190,slow=9.7,SNR=72						
ASAR				PcP	PcP	20 18 51.6	-2.9
	1.3nm,0.9s,baz=204,slow=2.4,SNR=6.3						
ASAR				LR	LR	20 24 44.9	
	comp=Z,623nm,20.4s,MS4.1,baz=101,slow=34						
MBWA	Marble Bar	28.07	349	P	P	20 15 43.2	-0.9
WRA	Warramunga Arr	29.91	18	P	P	20 15 58.9	-1.8
	2.4nm,0.9s,mb3.9,baz=196,slow=8.2,SNR=12						
WRA				PcP	PcP	20 19 01.8	-1.8
	1.6nm,0.9s,baz=207,slow=2.3,SNR=6.8						
WRAB	Tennant Creek	29.92	18	*e*P	P	20 15 59.5	-1.3
	6.1nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	30.79	1	P	P	20 16 08.3	-0.2
	7.7nm,0.8s,mb4.6,baz=187,slow=14,SNR=5.2						
FITZ				LR	LR	20 27 42.0	
	comp=Z,906nm,18.2s,MS4.5,baz=110,slow=35						
VNDA	Vanda	31.91	166	P	P	20 16 18.1	+0.3
	4.8nm,1.0s,mb4.3,baz=310,slow=8.9,SNR=18						
VNDA	Vanda	31.91	166	*e*P	P	20 16 17.4	-0.4
	7.8nm,1.1s,mb4.5						
SBA	Scott Base	32.94	165	*e*P	P	20 16 26.0	-0.8
MAW	Mawson	35.65	216	P	P	20 16 50.4	+0.2
	3.6nm,1.0s,mb4.3,baz=151,slow=13,SNR=3.0						
MAW				LR	LR	20 28 13.9	
	comp=Z,320nm,20.4s,MS4.1,baz=30,slow=31						
MAW	Mawson	35.65	216	P	P	20 16 49.6	-0.6
PMG	Port Moresby	43.57	33	P	P	20 17 57.0	+0.6
	11nm,0.9s,mb4.6,baz=318,slow=7.3,SNR=4.9						
SNAA	Sanae	54.16	198	P	P	20 19 16.7	-0.8
SNAA	Sanae	54.16	198	P	P	20 19 17.3	-0.2
	5.4nm,1.1s,mb4.4,baz=122,slow=6.6,SNR=6.3						
VNA2	Neumayer--Watz	55.66	197		P	20 19 23.3	-5.1
VNA3	Neumayer Olymp	55.83	196		P	20 19 21.4	-8.2
CM31	Chiang Mai Arr	71.03	334	P	P	20 21 09.7	-0.9
	1.3nm,0.6s,mb4.0						
CMAR	Chiang Mai Arr	71.03	334	P	P	20 21 09.9	-0.7
	4.0nm,1.0s,mb4.3,baz=187,slow=5.9,SNR=17						
KMI	Kunming	76.40	339	P	P	20 21 42.7	+0.9
KMI				AP	pP	20 21 50.0	+5.1
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
KMI	Kunming	76.40	339	P	P	20 21 42.7	+0.9
	comp=Z,12nm,1.1s,mb4.7						
KMI				pP	pP	20 21 50.0	+5.1
WHN	Wuhan	79.72	351	*e*P	P	20 22 01.0	+1.1
SHL	Shillong	79.89	330	*e*P	P	20 22 02.0	+1.1
NJ2	Nanjing	80.84	355	*e*P	P	20 22 05.2	-0.6
LSA	Lhasa	83.96	331	*e*P	P	20 22 22.1	+0.1
	comp=Z,5.3nm,1.1s,mb4.6						
MJAR	Matsushiro Arr	85.93	11	P	P	20 22 31.6	-0.1
	comp=Z,6.9nm,1.0s,mb4.8,baz=184,slow=5.9,SNR=8.1						
LZH	Lanzhou	86.75	343	*e*P	P	20 22 36.9	+1.2
LZH				AP	pP	20 22 41.0	+2.1
LZH				XP	sP	20 22 42.5	+2.5
LZH				AMB	AMB		
	comp=Z,48nm,1.7s,mb5.5						
GTA	Gaotai	90.79	341	*e*P	P	20 22 55.4	+0.6
GTA				AP	pP	20 23 01.0	+3.0
GTA				XP	sP	20 23 04.5	+5.5
GTA				AMB	AMB		
	comp=Z,3.0nm,1.5s,mb4.4						
CN2	Changchun	92.38	0	*e*P	P	20 23 03.8	+1.8
MDJ	Mudanjiang	93.28	3	P	P	20 23 07.5	+1.4
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,97nm,8.3s						
SONM	Songino Array	97.76	347	P	P	20 23 26.4	0.0
	comp=Z,0.8nm,1.0s,mb4.2,baz=180,slow=2.5,SNR=5.8						
WMQ	Urumqi	98.03	334	⇑P	P	20 23 27.6	-0.2
WMQ				AP	pP	20 23 32.6	+1.6
WMQ				XP	sP	20 23 34.8	+2.8
WMQ				PP	PP	20 27 29.1	-0.6
WMQ				SKS	SKS	20 34 03.6	-5.6
WMQ				S	S	20 34 50.0	-0.9
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,147nm,3.2s						
WMQ				LR	LR		
	comp=N,42nm,21.2s,MS4.1						
WMQ				LR	LR		
	comp=E,59nm,22.8s,MS4.1						
WMQ				LR	LR		
	comp=Z,54nm,18.8s,MS4.1						
CHKZ	Chkalovo	112.11	329	*e*PKP	PKPdf	20 28 26.6	-1.7
AKASG	Malin Array Be	128.53	306	PKP	PKPdf	20 28 57.2	-3.0
	comp=Z,0.2nm,0.3s,baz=54,slow=2.7,SNR=5.7						
ILAR	Eielson Array	132.07	35	PKP	PKPdf	20 29 04.8	-1.8
	comp=Z,0.5nm,0.8s,baz=305,slow=3.8,SNR=4.6						
NVAR	Mina Array Bea	134.25	78	PKP	PKPdf	20 29 11.4	+0.2
	comp=Z,0.6nm,0.7s,baz=236,slow=5.5,SNR=4.1						
YKA	Yellowknife Ar	145.16	45	PKPbc	PKPbc	20 29 28.8	+1.5
	comp=Z,8.2nm,0.8s,baz=270,slow=3.4,SNR=132						
YKW3	Yellowknife Ar	145.16	44	*e*PKP	PKPdf

ARCES	**ARCESS Array B**	**59.18 348**	P		**P**		**20 25 30.3**	**-1.4**
WRA	**Warramunga Arr**	**82.86 112**	P		**P**		**20 27 53.6**	**-1.5**
	1.7nm,0.8s,mb4.1,baz=289,slow=4.6,SNR=6.5							
ASAR	**Alice Springs**	**83.60 116**	P		**P**		**20 27 57.4**	**-1.6**
	1.0nm,0.6s,mb4.1,baz=310,slow=5.5,SNR=11							
ASAR	**Alice Springs**	**83.60 116**	P		**P**		**20 27 57.4**	**-1.6**

*CSEM **11** 20:21:49.8±0.3,51.46N×16.19E,h1km,ML3.0/3,Error ellipse: s-maj=4.3km s-min=2.1km az=18.0*
*PRU **11** 20:21:50.4,51.43N×16.17E*
*NEIC **11** 20:21:50.2±1.7,51.40N×16.20E,h5km,ML2.6(VIE),Error ellipse: s-maj=17.2km s-min=7.3km az=201.0*

WAR 11 20:21:50.4,51.45N×16.17E,h1km,ML2.3,1D,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	Pg	20 22 01.7	-0.9
KSP				*e*Sg	Sg	20 22 10.2	-0.5
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	Pg	20 22 01.7	-0.9
KSP				*e*Sg	Sg	20 22 09.8	-0.9
UPC	**Upice**	**0.95**	**186**	*e*PG	Pg	20 22 07.9	-1.4
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	Pg	20 22 10.6	-1.8
DPC				*e*SG	Sg	20 22 24.9	-2.2
	12nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	Pg	20 22 16.1	-1.6
BRG	**Berggiesshubel**	**1.52**	**249**	*e*Pg	Pg	20 22 18.3	-2.4
BRG				*e*Sg	Sg	20 22 38.8	-2.1
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	Pg	20 22 22.7	-3.5
PRU				*e*SG	Sg	20 22 46.5	-3.5
	13nm,0.4s						
MORC	**Moravsky Berou**	**1.89**	**152**	*e*P	Pn	20 22 22.2	-1.9
MORC	**Moravsky Berou**	**1.89**	**152**	*e*P	Pn	20 22 22.2	-1.9
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	Pn	20 22 22.6	-1.5
CLL	**Collm**	**1.99**	**267**	*i* PG	Pg	20 22 26.5	-3.6
CLL				*i* SG	Sg	20 22 54.2	-2.5
OKC	**Ostrava-Krasne**	**2.04**	**141**	*e*PG	Pg	20 22 28.0	-3.2
OKC				*e*SG	Sg	20 22 54.1	-4.4
NKC	**Novy Kostel**	**2.66**	**244**	*e*PN	Pn	20 22 33.6	-1.5
NKC				*e*PG	Pg	20 22 39.4	-4.0
NKC				*e*SG	Sg	20 23 15.7	-3.1
	13nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PN	Pn	20 22 36.3	-1.6
KHC				*e*PG	Pg	20 22 42.1	-5.3
KHC				*e*SN	Sn	20 23 09.0	-4.4
KHC				*e*SG	Sg	20 23 19.6	-5.8
MOX	**Moxa**	**2.98**	**256**	Pg	Pg	20 22 46.0	-4.0
MOX				Sg	Sg	20 23 26.0	-3.8
MOA	**Molln**	**3.81**	**200**	⇓*i* PN	Pn	20 22 49.6	-1.9
MOA				*i* SG	Sg	20 23 52.6	-4.6
	4.2nm,0.6s						

*NEIC **11** 20:22:15.9±4.0,3.20N×124.97E,h209km±40km,mb3.9/6, Error ellipse: s-maj=26.1km s-min=6.7km az=58.0*
*IDC **11** 20:22:17.3±6.6,3.21N×124.99E,h225km±66km,mb3.4/9, mb1 3.5/9,mb1mx3.3/20,mbtmp3.9/9,Error ellipse: s-maj=54.3km s-min=15.8km az=68.0*

ISC 11 20:22:13.4±0.8,3.2N±0.1×125.1E±0.2,h200km,n19, σ0§46/19,mb3.9/16,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.22**	**178**	P	**P**	**20 26 45.3**	**+0.9**
	2.3nm,0.3s,mb4.2,baz=12,slow=11,SNR=26						
WRAB	**Tennant Creek**	**24.78**	**159**	*e*P	**P**	**20 27 18.7**	**+0.1**
	1.4nm,0.3s,mb4.1						
WRA	**Warramunga Arr**	**24.78**	**159**	P	**P**	**20 27 19.0**	**+0.3**
	0.7nm,0.3s,mb3.8,baz=332,slow=11,SNR=26						
ASAR	**Alice Springs**	**28.10**	**163**	P	**P**	**20 27 48.3**	**-0.6**
	0.2nm,0.3s,mb3.2,baz=344,slow=7.4,SNR=4.6						
ASAR	**Alice Springs**	**28.10**	**163**	P	**P**	**20 27 48.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**36.73**	**191**	P	**P**	**20 29 03.0**	**-0.2**
	5.5nm,0.8s,mb4.1,baz=56,slow=11,SNR=4.4						
NWAO	**Narrogin (SRO)**	**36.73**	**191**	P	**P**	**20 29 03.0**	**-0.2**
STKA	**Stephens Creek**	**38.30**	**157**	P	**P**	**20 29 15.8**	**-0.6**
	1.7nm,0.9s,mb3.6,baz=342,slow=9.6,SNR=2.6						
JIRN	**Jiri**	**44.31**	**307**	*e*P	**P**	**20 30 05.9**	**+0.5**
	5.8nm,0.6s,mb4.1						
GUN	**Gumba**	**44.67**	**307**	*e*P	**P**	**20 30 08.5**	**+0.3**
	14nm,0.6s,mb4.5						
PKI	**Pulchoki**	**44.90**	**307**	*e*P	**P**	**20 30 09.7**	**-0.3**
KKN	**Kakani**	**45.09**	**307**	*e*P	**P**	**20 30 11.4**	**-0.2**
	4.6nm,0.5s,mb4.0						
DMN	**Daman**	**45.16**	**307**	*e*P	**P**	**20 30 12.0**	**-0.1**
	7.9nm,1.0s,mb4.0						
GKN	**Gorkha**	**45.70**	**307**	*e*P	**P**	**20 30 16.3**	**-0.1**
	2.8nm,0.4s,mb4.0						
KOLN	**Koldanda**	**46.44**	**306**	*e*P	**P**	**20 30 22.2**	**+0.1**
	14nm,0.5s,mb4.5						
SONM	**Songino Array**	**47.24**	**343**	P	**P**	**20 30 28.5**	**+0.4**
	0.3nm,0.9s,mb2.6,baz=170,slow=8.8,SNR=3.1						
MKAR	**Makanchi Array**	**57.01**	**326**	P	**P**	**20 31 39.5**	**-0.9**
	1.1nm,0.4s,mb3.8,baz=122,slow=8.1,SNR=45						
MKAR				PcP	PcP	20 32 30.8	-2.3
	0.5nm,0.7s,baz=130,slow=3.7,SNR=4.8						
VNDA	**Vanda**	**83.16**	**172**	P	**P**	**20 34 17.9**	**0.0**
	0.3nm,0.4s,mb3.3,baz=307,slow=8.5,SNR=5.2						
ARCES	**ARCESS Array B**	**90.32**	**340**	P	**P**	**20 34 53.1**	**+0.7**
	7.0nm,1.0s,mb4.5,baz=72,slow=5.7,SNR=5.3						

*IDC **11** 20:30:59.4±1.2,1.83S×99.46E,mb4.1/10,mb1 4.3/10, mb1mx4.0/20,mbtmp4.1/10,Error ellipse: s-maj=62.5km s-min=14.4km az=57.0*
*NEIC **11** 20:31:04.7±0.9,1.68S×99.74E,h30km,mb4.4/1,Error ellipse: s-maj=34.0km s-min=7.8km az=63.0*

ISC 11 20:31:02.8±1.1,1.7S±0.1×99.7E±0.2,h33km,n16, σ0§60/14,mb4.2/10,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.99**	**8**	*e*P	**P**	**20 32 45.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**20.01**	**358**	P	**P**	**20 35 34.8**	**-0.9**
	1.8nm,0.7s,baz=185,slow=10,SNR=7.0						
FITZ	**Fitzroy Crossi**	**30.28**	**124**	P	**P**	**20 37 12.7**	**-0.6**
	5.2nm,0.8s,mb4.3,baz=163,slow=9.1,SNR=6.5						
WRA	**Warramunga Arr**	**38.45**	**121**	P	**P**	**20 38 23.2**	**-0.3**
	2.3nm,0.4s,mb4.2,baz=302,slow=9.2,SNR=26						
WRA				PcP	PcP	20 40 37.7	+0.9
	1.0nm,1.0s,baz=312,slow=2.6,SNR=4.6						
WRAB	**Tennant Creek**	**38.46**	**121**	*e*P	**P**	**20 38 23.2**	**-0.4**
	3.6nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**39.72**	**126**	P	**P**	**20 38 34.4**	**+0.4**
	1.0nm,0.6s,mb3.7,baz=299,slow=7.5,SNR=17						
ASAR				PcP	PcP	20 40 40.5	-0.3
	0.6nm,0.7s,baz=328,slow=2.9,SNR=4.2						
STKA	**Stephens Creek**	**49.62**	**132**	P	**P**	**20 39 53.9**	**+0.6**
	2.7nm,0.7s,mb4.4,baz=310,slow=9.2,SNR=7.8						
STKA	**Stephens Creek**	**49.62**	**132**	P	**P**	**20 39 53.9**	**+0.6**
SONM	**Songino Array**	**49.65**	**6**	P	**P**	**20 39 54.5**	**+1.2**
	1.2nm,0.6s,mb4.1,baz=187,slow=8.3,SNR=12						
SONM				PcP	PcP	20 41 15.5	+0.8
	0.6nm,0.4s,baz=192,slow=4.1,SNR=7.7						
ULN	**Ulaanbaatar**	**49.75**	**7**	*e*P	**P**	**20 39 54.5**	**+0.4**
MKAR	**Makanchi Array**	**50.62**	**345**	P	**P**	**20 40 01.4**	**+0.7**
	1.3nm,0.4s,mb4.2,baz=151,slow=8.0,SNR=18						
ZAL	**Zalesovo**	**56.78**	**350**	P	**P**	**20 40 46.2**	**+0.2**
	3.7nm,0.3s,mb4.9,baz=293,slow=6.7,SNR=20						
BVAR	**Borovoye Array**	**59.76**	**340**	P	**P**	**20 41 06.3**	**-0.6**
	0.9nm,0.6s,mb4.0,baz=143,slow=7.4,SNR=8.0						
FINES	**FINESS Array B**	**83.67**	**332**	P	**P**	**20 43 28.7**	**-0.6**
	1.2nm,0.8s,mb4.1,baz=117,slow=3.1,SNR=3.2						
TXAR	**Lajitas Array**	**144.65**	**37**	PKP	PKPdf	20 50 39.3	+2.5
	1.8nm,0.4s,baz=243,slow=0.8,SNR=18						
CFAA	**Coronel Fontan**	**144.97**	**198**	PKP	PKPdf	20 50 38.6	+1.3
	0.5nm,0.6s,baz=186,slow=6.6,SNR=5.1						

*IDC **11** 20:32:13.2±1.8,11.53N×92.45E,mb3.8/4,mb1 3.9/5, mb1mx3.6/21,mbtmp3.7/5,ML3.6/1,Error ellipse: s-maj=53.2km s-min=27.0km az=59.0*
*NEIC **11** 20:32:18.2±0.9,11.58N×92.64E,h30km,mb4.1/2,Error ellipse: s-maj=22.9km s-min=14.6km az=64.0*

ISC 11 20:32:16.4±1.2,11.6N±0.1×92.8E±0.2,h30km,n7,σ0§87/8, mb3.7/6,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.03**	**41**	Pn	**P**	**20 34 28.0**	**+0.1**
	0.2nm,0.3s,baz=236,slow=15,SNR=4.9						
CMAR				Sn	**Sn**	**20 36 04.0**	**-5.8**
	0.1nm,0.3s,baz=209,slow=30,SNR=5.3						
MKAR	**Makanchi Array**	**36.14**	**348**	P	**P**	**20 39 18.6**	**+0.7**
	0.3nm,0.7s,mb3.4,baz=178,slow=9.9,SNR=3.9						
SONM	**Songino Array**	**37.85**	**15**	P	**P**	**20 39 33.0**	**+0.7**
	0.2nm,0.3s,mb3.3,baz=206,slow=7.6,SNR=7.2						
CHKZ	**Chkalovo**	**45.49**	**342**	*e*P	**P**	**20 40 34.9**	**+0.1**
	1.0nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**51.58**	**127**	P	**P**	**20 41 22.5**	**+0.1**
	0.6nm,0.5s,mb3.8,baz=310,slow=7.8,SNR=7.6						
WRAB	**Tennant Creek**	**51.59**	**127**	P	**P**	**20 41 22.5**	**0.0**
	1.4nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**68.76**	**332**	P	**P**	**20 43 18.2**	**-1.4**
	1.5nm,0.9s,mb3.9,baz=108,slow=6.0,SNR=3.7						

*NEIC **11** 20:33:41.8±3.3,31.56S×179.83W,h292km±25km,mb3.8/2, Error ellipse: s-maj=38.6km s-min=16.0km az=221.0*
*IDC **11** 20:33:42.4±8.1,31.68S×179.97W,h287km±87km,mb3.4/3, mb1 3.5/4,mb1mx3.3/15,mbtmp4.0/4,Error ellipse: s-maj=86.9km s-min=35.2km az=0.0*

ISC 11 20:33:48.1±1.2,32.12S±0.08×179.6E±0.2,h341km±11km, n27,σ1§20/35,mb3.5/5,2C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**6.04**	**190**	*e*PN	**P**	**20 35 20.1**	**+0.4**
PUZ				SN	**S**	**20 36 31.5**	**-0.1**
MWZ	**Matawai**	**6.43**	**195**	*e*PN	**P**	**20 35 23.6**	**-0.6**
MWZ				SN	**S**	**20 36 41.1**	**+1.5**
URZ	**Urewera**	**6.46**	**198**	P	**P**	**20 35 24.6**	**0.0**
	1.8nm,0.3s,baz=217,slow=8.6,SNR=16						
URZ				S	**S**	**20 36 43.0**	**+2.8**
	5.7nm,0.3s,baz=99,slow=22,SNR=22						
URZ	**Urewera**	**6.46**	**198**	*e*PN	**P**	**20 35 23.6**	**-1.0**
URZ				SN	**S**	**20 36 42.4**	**+2.1**
BKZ	**Black Stump Fm**	**7.47**	**199**	*e*PN	**P**	**20 35 36.9**	**+0.4**
BKZ				SN	**S**	**20 37 03.5**	**+1.7**
WNVZ	**Wahianoa**	**7.89**	**203**	PN	**P**	**20 35 42.7**	**+1.1**
TSZ	**Takapari Road**	**8.45**	**199**	SN	**S**	**20 37 23.6**	**+0.6**
BFZ	**Birch Farm**	**8.96**	**197**	PN	**P**	**20 35 55.1**	**+0.8**
BFZ				SN	**S**	**20 37 33.5**	**-0.5**
MRZ	**Mangatainoka R**	**9.12**	**200**	*e*PN	**P**	**20 35 53.0**	**-3.2**
MRZ				SN	**S**	**20 37 36.6**	**-0.8**
KIW	**Kapiti Island**	**9.50**	**202**	*e*PN	**P**	**20 35 58.8**	**-2.1**
KIW				*e*SN	**S**	**20 37 44.5**	**-1.3**
TUWZ	**Tuamarina**	**10.34**	**204**	*e*PN	**P**	**20 36 09.7**	**-1.3**
QRZ	**Quartz Range**	**10.38**	**211**	PN	**P**	**20 36 11.6**	**+0.1**
THZ	**Tophouse**	**11.01**	**207**	PN	**P**	**20 36 18.6**	**-0.4**
THZ				SN	**S**	**20 38 19.6**	**+1.0**
KHZ	**Kahutara**	**11.35**	**203**	PN	**P**	**20 36 20.8**	**-2.4**
KHZ				SN	**S**	**20 38 27.7**	**+1.7**
LTZ	**Lake Taylor**	**12.13**	**207**	*e*PN	**P**	**20 36 31.0**	**-1.5**
LTZ				*e*SN	**S**	**20 38 42.0**	**-0.8**
MQZ	**McQueen's Vall**	**12.79**	**203**	*e*SN	**S**	**20 38 55.3**	**-2.0**
STKA	**Stephens Creek**	**32.12**	**260**	P	**P**	**20 39 48.3**	**+2.0**
	1.3nm,0.4s,mb3.5,baz=106,slow=11,SNR=7.7						
STKA	**Stephens Creek**	**32.12**	**260**	P	**P**	**20 39 48.3**	**+2.0**
ASAR	**Alice Springs**	**41.01**	**270**	P	**P**	**20 41 00.8**	**+0.4**
	1.0nm,0.4s,mb3.4,baz=108,slow=7.5,SNR=15						
WRAB	**Tennant Creek**	**42.15**	**275**	P	**P**	**20 41 09.3**	**-0.4**
	1.6nm,0.6s,mb3.3						
WRA	**Warramunga Arr**	**42.16**	**275**	P	**P**	**20 41 09.8**	**0.0**
	1.5nm,0.5s,mb3.4,baz=113,slow=7.9,SNR=30						
QSPA	**South Pole Qui**	**57.99**	**180**	*e*P	**P**	**20 43 08.1**	**+0.8**
	6.6nm,0.8s,mb4.0						
SNAA	**Sanae**	**76.48**	**179**	⇑*i*	**P**	**20 45 01.5**	**-0.3**
VNA2	**Neumayer--Watz**	**77.13**	**178**	⇑*i*	**P**	**20 45 06.3**	**+1.0**
KAF	**Kangasniemi**	**145.43**	**338**	*e*pkp	PKPdf	20 52 43.4	-1.4
	baz=34,slow=3.5						
FINES	**FINESS Array B**	**146.00**	**337**	PKPbc	PKPbc	20 52 46.0	-1.1
	1.4nm,0.5s,baz=46,slow=4.5,SNR=17						
FINES	**FINESS Array B**	**146.00**	**337**	PKPbc	PKPbc	20 52 46.0	-1.1

*IDC **11** 20:54:08.2±0.9,1.07S×100.76E,mb4.0/10,mb1 4.1/11, mb1mx4.0/18,mbtmp3.9/11,ML3.8/1,Error ellipse: s-maj=48.7km s-min=15.2km az=54.0*
*BJI **11** 20:54:11.0,1.00S×100.90E,h30km,mB4.7,mb4.7,Ms4.4, Msz4.2*
*NEIC **11** 20:54:13.0±0.4,1.04S×100.87E,h30km,mb4.4/9,Error ellipse: s-maj=17.6km s-min=6.8km az=57.0*

ISC 11 20:54:12.2±3.6,1.0S±0.2×100.9E±0.2,h38km±30km,n27, σ0§69/25,mb4.3/20,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.25**	**358**	*e*P	**P**	**20 55 44.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**19.43**	**354**	P	**P**	**20 58 38.3**	**0.0**
	0.1nm,0.3s,baz=188,slow=9.5,SNR=10						
JIRN	**Jiri**	**31.80**	**335**	*e*P	**P**	**21 00 35.9**	**+0.3**
	9.7nm,0.9s,mb4.6						
LSA	**Lhasa**	**31.91**	**344**	*e*P	**P**	**21 00 37.2**	**+0.7**
GUN	**Gumba**	**32.15**	**335**	*e*P	**P**	**21 00 38.8**	**+0.1**
	12nm,0.7s,mb4.9						
DMN	**Daman**	**32.23**	**333**	*e*P	**P**	**21 00 39.1**	**-0.3**
	8.4nm,0.8s,mb4.6						
KKN	**Kakani**	**32.31**	**334**	*e*P	**P**	**21 00 39.8**	**-0.2**
	12nm,0.8s,mb4.8						
GKN	**Gorkha**	**32.78**	**333**	*e*P	**P**	**21 00 44.1**	**-0.1**
	17nm,1.1s,mb4.9						
KOLN	**Koldanda**	**33.08**	**331**	*e*P	**P**	**21 00 46.2**	**-0.5**
	20nm,0.7s,mb5.2						
NJ2	**Nanjing**	**37.02**	**26**	*e*P	**P**	**21 01 20.2**	**0.0**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**37.76**	**122**	P	**P**	**21 01 26.1**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.7,baz=304,slow=8.6,SNR=18						
WRA				PcP	PcP	21 03 43.0	-0.4
	comp=Z,0.4nm,0.7s,baz=313,slow=2.6,SNR=5.4						
WRAB	**Tennant Creek**	**37.76**	**122**	*e*P	**P**	**21 01 26.3**	**-0.3**
ASAR	**Alice Springs**	**39.14**	**128**	P	**P**	**21 01 38.0**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.9,baz=302,slow=8.1,SNR=18						
ASAR				PcP	PcP	21 03 48.1	+0.4
	comp=Z,0.8nm,0.7s,baz=306,slow=2.6,SNR=7.1						
SONM	**Songino Array**	**48.87**	**5**	P	**P**	**21 02 56.5**	**+0.4**
	comp=Z,1.6nm,0.7s,mb4.1,baz=184,slow=8.6,SNR=21						
ULN	**Ulaanbaatar**	**48.96**	**6**	*e*P	**P**	**21 02 57.2**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**49.16**	**133**	P	**P**	**21 02 59.1**	**+0.5**
	comp=Z,2.3nm,0.7s,mb4.3,baz=328,slow=6.6,SNR=8.4						
MKAR	**Makanchi Array**	**50.32**	**343**	P	**P**	**21 03 05.9**	**-1.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=156,slow=8.4,SNR=9.2						
ZAL	**Zalesovo**	**56.35**	**349**	P	**P**	**21 03 51.1**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.9,baz=303,slow=14,SNR=3.5						
CHKZ	**Chkalovo**	**60.01**	**340**	*e*P	**P**	**21 04 15.8**	**-1.6**
	comp=Z,1.4nm,0.6s,mb4.2						
MALT	**Malatya**	**69.33**	**312**	*e*P	**P**	**21 05 18.9**	**+0.9**
	comp=Z,2.9nm,1.1s,mb4.1						
BRTR	**Keskin Array B**	**73.31**	**312**	P	**P**	**21 05 41.5**	**-0.3**
	comp=Z,1.0nm,0.8s,mb3.8,baz=127,slow=6.2,SNR=7.0						
AKASG	**Malin Array Be**	**79.24**	**322**	P	**P**	**21 06 14.5**	**-0.7**
	comp=Z,0.6nm,0.4s,mb3.8,baz=82,slow=4.8,SNR=6.6						
FINES	**FINESS Array B**	**83.64**	**332**	P	**P**	**21 06 39.1**	**+1.2**
	comp=Z,2.2nm,0.9s,mb4.3,baz=90,slow=3.8,SNR=6.0						
ARCES	**ARCESS Array B**	**85.84**	**340**	P	**P**	**21 06 50.2**	**+1.5**
	comp=Z,3.9nm,0.8s,mb4.7,baz=72,slow=3.8,SNR=6.9						
ARCES	**ARCESS Array B**	**85.84**	**340**	P	**P**	**21 06 50.2**	**+1.5**
CLL	**Collm**	**89.44**	**321**	P	pP	21 07 19.0	+0.7
BDFB	**Brasilia**	**145.10**	**240**	PKP	PKPdf	21 13 49.6	+2.9
	comp=Z,2.6nm,0.5s,baz=116,slow=2.1,SNR=4.5						

*IDC **11** 21:03:14.5±1.4,19.95N×121.35E,mb3.8/3,mb1 4.0/4, mb1mx3.6/21,mbtmp3.9/4,ML3.7/1,Error ellipse: s-maj=40.7km s-min=24.0km az=83.0*

ISC 11 21:03:17.8±1.9,20.19N±0.06×121.3E±0.1,h27km±17km, n13,σ1§23/16,mb3.7/3,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.70**	**69**	*e*P	**Pb**	**21 03 31.5**	**+0.1**
APYP	**Conner**	**2.32**	**180**	*e*P	**Pn**	**21 03 55.1**	**+0.1**
APYP				*e*S	**Sn**	**21 04 22.7**	**-0.3**
CVP	**Callao Caves**	**2.53**	**168**	⇓*i*P	**Pn**	**21 03 58.0**	**-0.1**
CVP				*i* S	**Sn**	**21 04 29.0**	**+0.6**
ABRA	**Dolores**	**2.58**	**192**	*e*P	**Pn**	**21 03 58.7**	**-0.1**
CAUP	**Cauayan**	**3.27**	**171**	*e*P	**Pn**	**21 04 09.9**	**+1.3**
PALP	**Palanan**	**3.30**	**160**	*e*P	**Pn**	**21 04 10.1**	**+1.0**
BOLP	**Bolinao**	**4.00**	**199**	*e*P	**Pn**	**21 04 18.4**	**-0.6**
BALP	**Baler**	**4.44**	**176**	*e*P	**Pn**	**21 04 25.4**	**+0.3**
PVCP	**Virac**	**7.12**	**157**	*e*P	**Pn**	**21 04 60.0**	**-3.0**
JOW	**Kunigami**	**9.22**	**43**	Pn	**P**	**21 05 29.9**	**-2.3**
	1.7nm,0.3s,baz=106,slow=28,SNR=9.5						
JOW				Sn	**Sn**	**21 07 20.2**	**+4.2**
	0.4nm,0.3s,baz=329,slow=24,SNR=5.0						
MKAR	**Makanchi Array**	**41.32**	**319**	P	**P**	**21 11 03.8**	**+1.1**
	0.2nm,0.5s,mb3.0,baz=110,slow=9.0,SNR=4.4						
WRA	**Warramunga Arr**	**41.89**	**161**	P	**P**	**21 11 03.9**	**-3.9**
	2.1nm,0.6s,mb4.0,baz=342,slow=9.0,SNR=27						
ASAR	**Alice Springs**	**45.30**	**164**	P	**P**	**21 11 33.0**	**-2.4**
	1.9nm,0.6s,mb4.1,baz=348,slow=7.0,SNR=27						

*BJI **11** 21:03:24.9,1.59N×95.91E,h30km,mB4.9,mb4.7,Ms4.2, Msz4.0*
*IDC **11** 21:03:30.2±1.4,2.42N×96.14E,mb4.3/9,mb1 4.4/10, mb1mx4.0/21,mbtmp4.2/10,ML4.2/1,Error ellipse: s-maj=65.9km s-min=16.3km az=57.0*
*NEIC **11** 21:03:34.9±0.5,2.46N×96.26E,h30km,mb4.6/11,Error ellipse: s-maj=13.2km s-min=6.9km az=54.0*

ISC 11 21:03:32.9±0.7,2.47N±0.08×96.27E±0.09,h29km, h29km±2.7km:pP-P,n33,σ0§85/36,mb4.5/26,MS3.7/3,1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.19**	**57**	*e*P	**Pn**	**21 04 51.9**	**+1.2**
CM31	**Chiang Mai Arr**	**16.11**	**9**	*e*P	**P**	**21 07 18.9**	**-0.2**
	2.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.11**	**9**	Pn	**P**	**21 07 18.2**	**-0.9**
	0.3nm,0.3s,baz=200,slow=12,SNR=30						
SHL	**Shillong**	**23.35**	**350**	*e*P	**P**	**21 08 39.0**	**-0.9**
GYA	**Guiyang**	**25.86**	**22**	⇑*i*P	**P**	**21 09 04.7**	**+0.8**
GYA				AP	pP	21 09 13.8	+1.3
GYA				XP	sP	21 09 17.3	+0.9
GYA				S	**S**	**21 13 30.9**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
GYA				LR	LR		
	comp=N,180nm,15.2s,MS3.9						
GYA				LR	LR		
	comp=E,210nm,15.4s,MS3.9						
GYA				LR	LR		
	comp=Z,130nm,15.0s,MS3.6						
JIRN	**Jiri**	**26.84**	**340**	*e*P	**P**	**21 09 13.9**	**+0.9**
	comp=Z,41nm,0.8s,mb5.0						
PKI	**Pulchoki**	**27.04**	**338**	*e*P	**P**	**21 09 15.4**	**+0.6**
	comp=Z,21nm,0.8s,mb4.7						
GUN	**Gumba**	**27.18**	**340**	*e*P	**P**	**21 09 16.9**	**+0.8**
	comp=Z,42nm,0.7s,mb5.1						
DMN	**Daman**	**27.18**	**338**	*e*P	**P**	**21 09 16.0**	**-0.1**
	comp=Z,17nm,0.7s,mb4.7						
KKN	**Kakani**	**27.28**	**338**	*e*P	**P**	**21 09 17.5**	**+0.5**
	comp=Z,21nm,0.7s,mb4.8						
LSA	**Lhasa**	**27.52**	**350**	P	**P**	**21 09 19.6**	**+0.5**
LSA	**Lhasa**	**27.52**	**350**	*e*P	**P**	**21 09 19.2**	**+0.1**
	comp=Z,5.4nm,0.6s,mb4.3						
GKN	**Gorkha**	**27.72**	**337**	*e*P	**P**	**21 09 21.3**	**+0.4**
	comp=Z,33nm,0.8s,mb5.0						
KOLN	**Koldanda**	**27.92**	**335**	*e*P	**P**	**21 09 23.6**	**+0.8**
	comp=Z,30nm,0.9s,mb4.9						
XAN	**Xi'an**	**33.56**	**19**	P	**P**	**21 10 10.2**	**-2.4**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
NJ2	**Nanjing**	**36.30**	**33**	*e*P	**P**	**21 10 36.3**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GTA	**Gaotai**	**36.91**	**5**	*e*P	**P**	**21 10 41.3**	**+0.3**
GTA				AP	pP	21 10 47.3	-2.5
GTA				XP	sP	21 10 50.2	-3.3
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.7						
HHC	**Hu-ho-hao-te**	**40.63**	**18**	*e*P	**P**	**21 11 10.2**	**-1.8**
HHC				AP	pP	21 11 19.8	-1.0
HHC				XP	sP	21 11 23.7	-0.8
HHC				PP	PP	21 12 49.4	+0.5
HHC				PCP	PcP	21 13 13.7	-0.5
HHC				SCP		21 16 54

JYN Shimob 4.16 242 P Pn 21 08 01.0 -0.1
SONM Songino Array 28.62 303 P P 21 12 55.3 +1.4
0.9nm,0.9s,mb3.5,baz=112,slow=7.4,SNR=4.4
SONM LR LR 21 23 38.8
comp=Z,128nm,19.4s,MS3.5,baz=224,slow=34
MKAR Makanchi Array 44.98 302 P P 21 15 12.0 -0.4
0.5nm,0.7s,mb3.5,baz=89,slow=9.0,SNR=5.4
BVAR Borovoye Array 51.23 312 P P 21 16 01.2 +0.4
0.4nm,0.7s,mb3.5,baz=90,slow=7.2,SNR=4.2

IDC 11 21:11:40.6±7.3, 2.19N×128.05E, h156km±68km, mb3.5/7, mb1 3.6/7, mb1mx3.4/18, mbtmp3.9/7, Error ellipse: s-maj=88.9km s-min=15.3km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.30**	**187**	P	P	21 16 04.3	-1.9
3.4nm,0.7s,baz=10,slow=10,SNR=6.3							
WRA	**Warramunga Arr**	**22.84**	**165**	P	P	21 16 30.8	-0.4
2.6nm,0.4s,baz=345,slow=11,SNR=136							
ASAR	**Alice Springs**	**26.32**	**168**	P	P	21 17 02.1	-1.8
0.7nm,0.4s,baz=350,slow=7.7,SNR=21							
ASAR				PcP	PcP	21 20 24.0	-2.4
0.4nm,0.5s,baz=350,slow=2.2,SNR=5.9							
STKA	**Stephens Creek**	**36.24**	**160**	P	P	21 18 28.8	-1.7
2.3nm,0.4s,baz=351,slow=6.6,SNR=32							
SONM	**Songino Array**	**49.17**	**341**	P	P	21 20 12.5	-2.2
0.5nm,0.6s,baz=152,slow=7.8,SNR=9.8							
MKAR	**Makanchi Array**	**59.56**	**325**	P	P	21 21 28.2	-2.0
0.6nm,0.5s,baz=117,slow=8.4,SNR=9.5							
VNDA	**Vanda**	**81.74**	**173**	P	P	21 23 41.2	-1.6
1.0nm,0.9s,baz=321,slow=5.6,SNR=3.9							

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*IDC **11** 21:11:41.3±3.7, 1.69S×99.73E, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=164.5km s-min=23.2km az=56.0*
*NEIC **11** 21:11:46.2±1.1, 1.58S×99.91E, h30km, mb3.7/2, Error ellipse: s-maj=40.2km s-min=10.2km az=64.0*
ISC 11 21:11:45.2±1.8, 1.5S±0.2×100.0E±0.4, h33km, n9, σ0§29/8, mb3.7/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.78**	**6**	P	**P**	**21 13 24.8**	**-0.2**
WRA	**Warramunga Arr**	**38.27**	**121**	P	**P**	**21 19 04.5**	**0.0**
0.7nm,0.5s,mb3.7,baz=302,slow=9.2,SNR=5.5							
WRAB	**Tennant Creek**	**38.28**	**121**	P	**P**	**21 19 04.1**	**-0.4**
1.8nm,0.6s,mb4.0							
ASAR	**Alice Springs**	**39.57**	**127**	P	**P**	**21 19 15.6**	**+0.3**
0.2nm,0.4s,mb3.2,baz=309,slow=9.2,SNR=4.3							
SONM	**Songino Array**	**49.45**	**6**	P	**P**	**21 20 34.7**	**+0.5**
0.5nm,0.8s,mb3.6,baz=187,slow=10.0,SNR=3.9							
ULN	**Ulaanbaatar**	**49.55**	**6**	P	**P**	**21 20 35.2**	**+0.2**
0.3nm,0.6s,mb3.5							
MKAR	**Makanchi Array**	**50.54**	**344**	P	**P**	**21 20 42.4**	**-0.2**
0.3nm,0.3s,mb3.7,baz=152,slow=8.4,SNR=5.4							
ZAL	**Zalesovo**	**56.67**	**349**	P	**P**	**21 21 27.5**	**-0.2**
1.1nm,0.3s,mb4.3,baz=316,slow=5.3,SNR=4.6							
TXAR	**Lajitas Array**	**144.33**	**37**	PKP	PKPdf	21 31 19.6	+0.9
0.7nm,0.4s,baz=270,slow=3.8,SNR=4.3							

IDC 11 21:17:09.9±3.0, 48.60S×124.76E, mb3.7/4, mb1 3.9/4, mb1mx3.8/12, mbtmp3.7/4, MS3.6/1, Ms1 3.6/1, ms1mx3.2/19, Error ellipse: s-maj=73.6km s-min=49.2km az=151.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.00**	**43**	P	P	21 21 55.4	-1.9
2.5nm,1.0s,baz=196,slow=11,SNR=3.2							
ASAR	**Alice Springs**	**25.92**	**19**	P	P	21 22 43.8	-1.5
2.4nm,0.8s,baz=199,slow=8.8,SNR=19							
ASAR				LR	LR	21 31 49.7	
comp=Z,129nm,19.3s,baz=214,slow=34							
WRA	**Warramunga Arr**	**29.62**	**18**	P	P	21 23 16.3	-2.7
0.2nm,0.5s,baz=197,slow=8.3,SNR=3.7							
CMAR	**Chiang Mai Arr**	**70.62**	**334**	P	P	21 28 27.4	-1.8
0.8nm,0.8s,baz=191,slow=8.4,SNR=6.3							
YKA	**Yellowknife Ar**	**144.03**	**44**	PKPbc	PKPbc	21 36 46.2	-1.8
1.6nm,0.8s,baz=268,slow=3.6,SNR=31							

IDC 11 21:31:52.2±69.0, 1.16N×97.51E, mb3.5/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.5/3, Error ellipse: s-maj=1335.0km s-min=163.9km az=175.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**47.13**	**8**	P	P	21 40 26.2	-1.8
0.2nm,0.4s,baz=186,slow=9.4,SNR=4.6							
MKAR	**Makanchi Array**	**47.36**	**346**	P	P	21 40 27.9	-1.9
0.2nm,0.4s,baz=166,slow=9.0,SNR=5.2							
ZAL	**Zalesovo**	**53.64**	**351**	P	P	21 41 15.2	-2.5
0.6nm,0.4s,baz=304,slow=9.5,SNR=3.2							

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*IDC **11** 21:32:11.5±3.2, 1.02N×97.03E, mb3.6/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, ML3.7/1, MS2.9/1, Ms1 3.2/1, ms1mx2.9/29, Error ellipse: s-maj=114.6km s-min=27.8km az=59.0*
*NEIC **11** 21:32:16.5±1.2, 1.12N×97.21E, h30km, mb3.9/1, Error ellipse: s-maj=25.0km s-min=17.6km az=63.0*
ISC 11 21:32:14.4±1.5, 1.1N±0.2×97.2E±0.2, h30km, n8, σ0§78/8, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**40**	P	**Pn**	**21 33 34.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**17.31**	**6**	P	**P**	**21 36 17.2**	**+1.5**
0.1nm,0.3s,baz=196,slow=11,SNR=6.6							
CMAR				LR	LR	21 43 47.6	
comp=Z,45nm,20.2s,baz=118,slow=40							
WRA	**Warramunga Arr**	**42.02**	**122**	P	**P**	**21 40 05.6**	**+0.4**
0.3nm,0.5s,mb3.2,baz=300,slow=9.2,SNR=6.0							
SONM	**Songino Array**	**47.20**	**8**	P	**P**	**21 40 46.6**	**+0.1**
0.3nm,0.7s,mb3.3,baz=183,slow=8.5,SNR=5.7							
MKAR	**Makanchi Array**	**47.30**	**346**	P	**P**	**21 40 47.5**	**+0.2**
0.4nm,0.5s,mb3.6,baz=162,slow=8.3,SNR=7.1							
MKAR	**Makanchi Array**	**47.30**	**346**	P	**P**	**21 40 47.5**	**+0.2**
ZAL	**Zalesovo**	**53.62**	**351**	P	**P**	**21 41 34.9**	**-0.3**
1.1nm,0.3s,mb4.2,baz=303,slow=4.2,SNR=4.4							
CHKZ	**Chkalovo**	**56.78**	**341**	P	**P**	**21 41 57.1**	**-1.1**
0.5nm,0.4s,mb3.9							

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*NEIC **11** 21:33:09.0, 19.37N×64.87W, h61km, MD3.5(RSPR), After RSPR.*
RSPR 11 21:33:09.0, 19.37N×64.87W, h61km±9km, MD3.5/11, MD3.5/11, 8C-2D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.02**	**185⇑**	*eP*	P	21 33 26.0	-1.6
STVI				*eS*	S	21 33 40.4	-0.9
MTP	**Monte Pirata**	**1.43**	**207⇑**	*eP*	P	21 33 32.2	-1.1
MTP				*eS*	S	21 33 49.6	-1.7
CBYP	**Canovanas**	**1.44**	**221⇑**	*eP*	P	21 33 31.8	-1.7
HUMP	**Col San Antoni**	**1.54**	**217⇑**	*eP*	P	21 33 33.5	-1.3
HUMP				*eS*	S	21 33 52.6	-1.2
SJG	**San Juan**	**1.74**	**224⇓**	*eP*	P	21 33 36.3	-1.3
SJG				*eS*	S	21 33 58.1	-0.6
SJG	**San Juan**	**1.74**	**224⇑**	*eP*	P	21 33 36.1	-1.5
SJG				*eS*	S	21 33 57.3	-1.5
AOPR	**Arecibo Observ**	**2.05**	**241⇑**	*eP*	P	21 33 40.8	-1.1
AOPR				*eS*	S	21 34 04.7	-1.6
CELP	**Cerrillos**	**2.07**	**232⇑**	*eP*	P	21 33 41.2	-1.0
CELP				*eS*	S	21 34 05.6	-1.2
PORP	**Portuguez**	**2.13**	**232⇓**	*eP*	P	21 33 42.0	-1.0
PORP				*eS*	S	21 34 06.9	-1.3
LRS	**Lares**	**2.16**	**241⇑**	*eP*	P	21 33 42.3	-1.1

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*IDC **11** 21:46:02.0±0.6, 1.73S×99.70E, mb4.1/14, mb1 4.3/14, mb1mx4.2/20, mbtmp4.1/14, MS3.9/1, Ms1 3.9/1, ms1mx3.1/30, Error ellipse: s-maj=28.1km s-min=15.1km az=53.0*
*BJI **11** 21:46:06.8, 1.70S×99.80E, h30km, mB4.7, mb4.5, Ms4.0, Msz3.8*

*NEIC **11** 21:46:06.8±0.3, 1.68S×99.81E, h30km, mb4.6/10, Error ellipse: s-maj=12.7km s-min=7.0km az=60.0*
ISC 11 21:46:05.5±0.5, 1.65S±0.08×99.8E±0.1, h33km, n38, σ0§85/37, mb4.4/25, MS3.8/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.94**	**7**	*eP*	**P**	**21 47 46.0**	**-1.4**
CM31	**Chiang Mai Arr**	**19.99**	**358**	P	**P**	**21 50 36.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**19.99**	**358**	P	**P**	**21 50 37.5**	**-0.7**
1.0nm,0.7s,baz=186,slow=10.0,SNR=8.6							
FITZ	**Fitzroy Crossi**	**30.16**	**124**	LR	LR	22 05 37.8	
comp=Z,204nm,19.1s,MS3.8,baz=223,slow=39							
JIRN	**Jiri**	**31.95**	**337**	*eP*	**P**	**21 52 31.7**	**+0.9**
18nm,0.8s,mb5.0							
PKI	**Pulchoki**	**32.19**	**335**	*eP*	**P**	**21 52 32.7**	**-0.2**
6.8nm,0.9s,mb4.5							
GUN	**Gumba**	**32.30**	**336**	*eP*	**P**	**21 52 34.8**	**+1.0**
20nm,0.7s,mb5.1							
KKN	**Kakani**	**32.44**	**335**	*eP*	**P**	**21 52 35.5**	**+0.5**
16nm,0.9s,mb4.8							
GKN	**Gorkha**	**32.89**	**335**	*eP*	**P**	**21 52 39.4**	**+0.4**
5.9nm,0.6s,mb4.7							
KOLN	**Koldanda**	**33.15**	**333**	*eP*	**P**	**21 52 41.8**	**+0.6**
12nm,0.8s,mb4.8							
WRA	**Warramunga Arr**	**38.32**	**121**	P	**P**	**21 53 24.8**	**-0.3**
2.8nm,0.4s,mb4.3,baz=302,slow=9.1,SNR=21							
WRA				PcP	PcP	21 55 39.3	+0.1
0.7nm,0.6s,baz=312,slow=2.5,SNR=6.8							
WRAB	**Tennant Creek**	**38.33**	**121**	*eP*	**P**	**21 53 24.6**	**-0.5**
4.9nm,0.4s,mb4.6							
ASAR	**Alice Springs**	**39.60**	**126**	P	**P**	**21 53 35.9**	**+0.1**
1.3nm,0.6s,mb3.8,baz=306,slow=8.3,SNR=18							
ASAR				PcP	PcP	21 55 43.8	+0.6
1.2nm,0.6s,baz=322,slow=2.7,SNR=7.3							
HHC	**Hu-ho-hao-te**	**43.62**	**13**	*eP*	**P**	**21 54 09.9**	**+1.2**
HHC				AP	pP	21 54 20.6	+2.0
HHC				XP	sP	21 54 23.0	+0.3
HHC				PP	PP	21 55 56.4	+4.4
HHC				SCP		21 59 44.9	
HHC				PCS		21 59 48.1	
HHC				S	**S**	**22 00 38.9**	**+3.3**
HHC				XS		22 00 54.0	
HHC				SS	SS	22 03 49.7	+6.2
HHC				SCS	ScS	22 04 04.2	+1.1
HHC				AMB	AMB		
comp=Z,7.0nm,1.0s,mb4.3							
HHC				AMB	AMB		
comp=Z,54nm,6.2s							
HHC				LR	LR		
comp=N,119nm,13.0s,MS4.2							
HHC				LR	LR		
comp=E,143nm,14.4s,MS4.2							
HHC				LR	LR		
comp=Z,91nm,15.1s,MS3.8							
WMQ	**Urumqi**	**46.55**	**348**	P	**P**	**21 54 32.6**	**+0.6**
WMQ				AP	pP	21 54 42.6	+0.8
WMQ				XP	sP	21 54 46.6	+0.6
WMQ				PCP	PcP	21 56 06.9	+0.6
WMQ				PP	PP	21 56 21.7	+0.5
WMQ				S	**S**	**22 01 18.2**	**+0.7**
WMQ				XS		22 01 34.8	
WMQ				AMB	AMB		
comp=Z,9.0nm,0.7s,mb4.8							
WMQ				AMB	AMB		
comp=Z,50nm,5.0s							
WMQ				LR	LR		
comp=N,33nm,19.2s,MS3.5							
WMQ				LR	LR		
comp=E,52nm,22.4s,MS3.5							
WMQ				LR	LR		
comp=Z,67nm,20.6s,MS3.6							
STKA	**Stephens Creek**	**49.51**	**132**	P	**P**	**21 54 56.0**	**+0.8**
comp=Z,1.4nm,0.5s,mb4.2,baz=282,slow=8.3,SNR=4.3							
SONM	**Songino Array**	**49.61**	**6**	P	**P**	**21 54 56.7**	**+0.9**
comp=Z,0.8nm,0.5s,mb4.0,baz=186,slow=8.6,SNR=15							
SONM				PcP	PcP	21 56 17.3	+0.1
comp=Z,0.8nm,0.5s,baz=191,slow=4.5,SNR=8.4							
ULN	**Ulaanbaatar**	**49.71**	**6**	*eP*	**P**	**21 54 55.8**	**-0.7**
comp=Z,0.6nm,0.6s,mb3.8							
MKAR	**Makanchi Array**	**50.64**	**344**	P	**P**	**21 55 04.0**	**+0.3**
comp=Z,4.1nm,0.6s,mb4.5,baz=148,slow=8.0,SNR=56							
MKAR	**Makanchi Array**	**50.64**	**344**	P	**P**	**21 55 04.0**	**+0.3**
ZAL	**Zalesovo**	**56.78**	**349**	P	**P**	**21 55 49.0**	**+0.2**
comp=Z,6.2nm,0.5s,mb4.9,baz=319,slow=5.0,SNR=28							
ZAL	**Zalesovo**	**56.78**	**349**	P	**P**	**21 55 49.0**	**+0.2**
BVAR	**Borovoye Array**	**59.79**	**340**	P	**P**	**21 56 08.6**	**-1.3**
comp=Z,2.3nm,0.6s,mb4.4,baz=143,slow=9.2,SNR=24							
CHKZ	**Chkalovo**	**60.25**	**340**	*eP*	**P**	**21 56 11.6**	**-1.4**
comp=Z,6.4nm,1.3s,mb4.5							
KMBO	**Kilima Mbogo**	**62.55**	**270**	P	**P**	**21 56 28.9**	**-0.1**
comp=Z,1.2nm,0.7s,mb4.1,baz=43,slow=11,SNR=4.4							
KIV	**Kislovodsk**	**68.16**	**319**	*eP*	**P**	**21 57 04.4**	**-0.2**
MALT	**Malatya**	**68.97**	**312**	*eP*	**P**	**21 57 09.6**	**-0.2**
MATP	**Matopo**	**71.94**	**249**	P	**P**	**21 57 27.5**	**-0.4**
comp=Z,0.7nm,0.6s,mb3.8,baz=98,slow=9.6,SNR=3.6							
MATP	**Matopo**	**71.94**	**249**	P	**P**	**21 57 27.5**	**-0.4**
BRTR	**Keskin Array B**	**72.95**	**312**	P	**P**	**21 57 32.7**	**-1.1**
comp=Z,0.8nm,0.7s,mb3.8,baz=139,slow=7.3,SNR=5.2							
JOF	**Joensuu**	**81.82**	**335**	*ep*	**P**	**21 58 30.0**	**+7.4**
FINES	**FINESS Array B**	**83.72**	**332**	P	**P**	**21 58 33.1**	**+0.9**
comp=Z,1.4nm,0.5s,mb4.3,baz=114,slow=5.5,SNR=15							
KAF	**Kangasniemi**	**83.79**	**333**	*ep*	**P**	**21 58 31.6**	**-1.0**
KEV	**Kevo**	**85.64**	**341**	*ep*	**P**	**21 58 37.7**	**-3.9**
comp=Z,18nm,1.0s,mb5.3							
ARCES	**ARCESS Array B**	**86.08**	**340**	P	**P**	**21 58 45.2**	**+1.4**
comp=Z,2.5nm,0.8s,mb4.5,baz=97,slow=7.3,SNR=4.5							
GERES	**GERESS Array B**	**88.67**	**319**	P	**P**	**21 58 57.1**	**+0.3**
comp=Z,0.6nm,0.7s,mb4.0,baz=90,slow=2.7,SNR=3.7							
TXAR	**Lajitas Array**	**144.53**	**37**	PKP	PKPdf	22 05 41.0	+1.7
comp=Z,2.3nm,0.6s,baz=259,slow=0.9,SNR=22							
JCT	**Junction City**	**145.81**	**31**	PKP	PKPdf	22 05 44.5	+3.0

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*IDC **11** 22:06:27.7±5.0, 29.56N×83.45E, mb3.3/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, ML2.9/1, Error ellipse: s-maj=99.6km s-min=81.4km az=53.0*
ISC 11 22:06:46.4±3.9, 30.5N±0.3×83.8E±0.4, h110km±41km, n6, σ1§15/8, mb3.1/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.20**	**254**	*eP*	**P**	**22 07 31.4**	**-4.7**
PTH				*eSN*	**S**	**22 08 14.0**	**+0.2**
LGTI	**Lohaghat**	**3.21**	**252**	*eP*	**P**	**22 07 36.0**	**-0.2**
LGTI				*eSN*	**S**	**22 08 20.0**	**+6.1**
MKAR	**Makanchi Array**	**16.33**	**356**	P	**P**	**22 10 29.3**	**-0.9**
0.0nm,0.3s,baz=180,slow=12,SNR=6.9							
ZAL	**Zalesovo**	**23.45**	**2**	P	**P**	**22 11 47.8**	**+1.4**
0.5nm,0.3s,mb3.3,baz=112,slow=19,SNR=3.0							
SONM	**Songino Array**	**24.53**	**39**	P	**P**	**22 11 57.1**	**+0.4**
0.2nm,0.5s,mb2.8,baz=218,slow=7.6,SNR=3.0							
YKA	**Yellowknife Ar**	**86.19**	**8**	P	**P**	**22 19 15.0**	**-0.9**
0.3nm,0.7s,mb3.3,baz=338,slow=5.2,SNR=5.2							

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*IDC **11** 22:11:57.1±1.1, 17.65S×174.61W, mb4.1/7, mb1 4.4/7, mb1mx4.1/18, mbtmp4.1/7, Error ellipse: s-maj=48.8km s-min=20.9km az=141.0*
*NEIC **11** 22:11:58.7±0.6, 17.64S×174.64W, h10km, mb4.5/1, Error ellipse: s-maj=25.0km s-min=12.7km az=137.0*
ISC 11 22:12:00.4±0.8, 17.6S±0.2×174.7W±0.2, h33km, n10, σ0§46/10, mb4.2/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.62**	**37**	*Sn*	**Sn**	**22 14 02.6**	**-0.6**
13nm,0.3s,baz=49,slow=23,SNR=5.7							
URZ	**Urewera**	**21.78**	**198**	P	**P**	**22 16 50.6**	**-0.6**
3.6nm,0.3s,mb4.2,baz=333,slow=4.5,SNR=4.9							
WRAB	**Tennant Creek**	**48.18**	**259**	*eP*	**P**	**22 20 39.8**	**-0.1**
2.0nm,0.4s,mb4.5							
WRA	**Warramunga Arr**	**48.19**	**259**	P	**P**	**22 20 39.9**	**-0.1**
1.2nm,0.4s,mb4.3,baz=98,slow=6.7,SNR=66							
ASAR	**Alice Springs**	**48.30**	**254**	P	**P**	**22 20 40.7**	**-0.1**
10.0nm,0.6s,mb5.0,baz=89,slow=8.4,SNR=118							
FITZ	**Fitzroy Crossi**	**56.59**	**260**	P	**P**	**22 21 42.6**	**-0.1**
3.9nm,0.8s,mb4.5,baz=117,slow=2.3,SNR=3.8							
NVAR	**Mina Array Bea**	**76.78**	**42**	P	**P**	**22 23 51.2**	**+0.6**
1.2nm,0.7s,mb3.9,baz=221,slow=7.8,SNR=8.2							
NVAR	**Mina Array Bea**	**76.78**	**42**	P	**P**	**22 23 51.2**	**+0.6**
PDAR	**Pinedale Array**	**84.72**	**42**	P	**P**	**22 24 33.4**	**+0.9**
0.2nm,0.5s,mb3.5,baz=214,slow=3.3,SNR=4.0							
ILAR	**Eielson Array**	**84.86**	**12**	P	**P**	**22 24 32.6**	**0.0**
0.2nm,0.5s,mb3.5,baz=225,slow=4.7,SNR=6.3							

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*NEIC **11** 22:20:53.9±0.8, 1.73S×99.64E, mb4.0/3, Error ellipse: s-maj=30.1km s-min=9.2km az=62.0*
*IDC **11** 22:20:54.4±1.4, 1.64S×99.70E, h32km±4km, mb3.7/8, mb1 3.8/9, mb1mx3.6/19, mbtmp3.9/9, ML4.0/1, Error ellipse: s-maj=62.0km s-min=12.3km az=57.0*
ISC 11 22:20:52.1±1.0, 1.7S±0.1×99.7E±0.2, h33km, h33km±1.2km: pP-P, n15, σ0§72/14, mb3.9/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.99**	**8**	*eP*	**P**	**22 22 35.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**20.01**	**358**	P	**P**	**22 25 24.2**	**-0.8**
0.2nm,0.3s,baz=186,slow=10,SNR=9.5							
CMAR				pP		22 25 32.0	
0.2nm,0.3s,baz=185,slow=7.4,SNR=6.5							
WRA	**Warramunga Arr**	**38.46**	**121**	P	**P**	**22 28 12.6**	**-0.3**
1.1nm,0.5s,mb3.8,baz=305,slow=8.9,SNR=12							
WRA				pP	pP	22 28 22.6	-0.1
1.3nm,0.6s,baz=302,slow=9.1,SNR=7.5							
WRA				PcP	PcP	22 30 26.8	+0.6
0.4nm,0.5s,baz=312,slow=2.6,SNR=6.6							
WRAB	**Tennant Creek**	**38.47**	**121**	*eP*	**P**	**22 28 11.8**	**-1.2**
3.5nm,0.7s,mb4.2							
ASAR	**Alice Springs**	**39.73**	**126**	P	**P**	**22 28 23.4**	**0.0**
1.0nm,0.7s,mb3.7,baz=306,slow=7.9,SNR=8.9							
ASAR				pP	pP	22 28 34.4	+1.2
2.2nm,0.8s,baz=302,slow=7.8,SNR=9.0							
STKA	**Stephens Creek**	**49.63**	**132**	P	**P**	**22 29 44.2**	**+1.5**
0.7nm,0.5s,mb3.9,baz=324,slow=13,SNR=3.1							
SONM	**Songino Array**	**49.65**	**6**	P	**P**	**22 29 43.1**	**+0.4**
0.3nm,0.4s,mb3.6,baz=185,slow=9.7,SNR=4.4							
SONM				pP	pP	22 29 52.9	+0.4
1.6nm,0.8s,baz=186,slow=9.3,SNR=11							
SONM				PcP	PcP	22 31 04.4	+0.4
0.2nm,0.3s,baz=194,slow=4.1,SNR=2.7							
SONM				pPcP		22 31 14.7	
0.6nm,0.7s,baz=199,slow=2.9,SNR=4.0							
ULN	**Ulaanbaatar**	**49.75**	**7**	P	**P**	**22 29 43.7**	**+0.2**
0.5nm,0.6s,mb3.7							
MKAR	**Makanchi Array**	**50.62**	**345**	P	**P**	**22 29 50.9**	**+0.8**
1.3nm,0.5s,mb4.1,baz=155,slow=8.0,SNR=25							
MKAR				pP	pP	22 30 00.5	+0.4
1.1nm,0.4s,baz=154,slow=8.7,SNR=8.1							
ZAL	**Zalesovo**	**56.77**	**350**	P	**P**	**22 30 34.9**	**-0.4**
1.9nm,0.4s,mb4.5,baz=309,slow=4.4,SNR=10							
ZAL				pP	pP	22 30 44.7	-0.7
2.4nm,0.5s,baz=293,slow=4.1,SNR=7.1							
ZAL	**Zalesovo**	**56.77**	**350**	P	**P**	**22 30 34.9**	**-0.4**
ZAL				pP	pP	22 30 44.7	-0.7
BVAR	**Borovoye Array**	**59.76**	**340**	P	**P**	**22 30 55.5**	**-0.6**
0.6nm,0.6s,mb3.8,baz=141,slow=9.5,SNR=4.6							
BVAR				pP	pP	22 31 05.2	-1.1
0.6nm,0.4s,baz=129,slow=9.5,SNR=6.1							
CHKZ	**Chkalovo**	**60.22**	**341**	*eP*	**P**	**22 30 58.7**	**-0.6**
0.8nm,0.7s,mb3.9							
FINES	**FINESS Array B**	**83.66**	**332**	P	**P**	**22 33 19.1**	**+0.6**
0.8nm,0.5s,mb4.1,baz=108,slow=6.0,SNR=6.1							
TXAR	**Lajitas Array**	**144.65**	**37**	PKP	PKPdf	22 40 27.6	+1.4
0.4nm,0.3s,baz=217,slow=1.9,SNR=4.7							
TXAR				pPKP		22 40 38.3	
1.4nm,0.7s,baz=292,slow=1.6,SNR=3.8							

MAN 11 22:21:48.9, 10.11N×125.78E, h48km, mb3.9, ML2.7, MS2.3, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.43**	**221**	*eP*	P	22 22 01.0	+1.8
SCPH				*eS*	S	22 22 09.8	+3.1
MSLP	**Maasin**	**0.90**	**271**	*eP*	P	22 22 06.5	+1.1
MSLP				*eS*	S	22 22 21.3	+3.7
BUTP	**Butuan**	**1.15**	**188**	*eP*	P	22 22 09.6	+0.8
BUTP				*eS*	S	22 22 27.0	+3.3
PLP	**Palo**	**1.30**	**323**	*eP*	P	22 22 10.9	-0.2
PLP				*i S*	S	22 22 28.6	+0.9
TBP	**Tagbilaran**	**1.93**	**258**	*eP*	P	22 22 19.9	-0.1
TBP				*eS*	S	22 22 43.6	+0.6

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*IDC **11** 22:29:20.7±0.9, 1.62S×99.59E, mb4.1/10, mb1 4.3/11, mb1mx4.0/20, mbtmp4.1/11, ML3.9/1, MS3.5/2, Ms1 3.6/2, ms1mx2.9/25, Error ellipse: s-maj=39.5km s-min=15.0km az=54.0*
*BJI **11** 22:29:25.5, 1.50S×99.70E, h30km, mB4.9, mb4.6, Ms4.2, Msz3.6*
*NEIC **11** 22:29:25.5±0.4, 1.55S×99.72E, h30km, mb4.3/5, Error ellipse: s-maj=14.8km s-min=6.9km az=59.0*
ISC 11 22:29:24.1±0.6, 1.50S±0.09×99.7E±0.1, h33km, n28, σ0§69/27, mb4.2/15, MS3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.80**	**8**	*eP*	**P**	**22 31 04.4**	**+0.3**
CM31	**Chiang Mai Arr**	**19.84**	**358**	*eP*	**P**	**22 33 51.8**	**-3.4**
2.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**19.84**	**358**	P	**P**	**22 33 54.5**	**-0.6**
0.1nm,0.3s,baz=187,slow=10,SNR=18							
CMAR				LR	LR	22 42 10.2	
comp=Z,87nm,18.5s,baz=165,slow=39							
CMAR	**Chiang Mai Arr**	**19.84**	**358**	P	**P**	**22 33 54.5**	**-0.

MAN 11 22:30:43.0, 13.35N×120.82E, h1km, mb4.0, ML2.8, MS2.5, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.67**	**304**	*e*P	Pg	22 30 56.6	+0.3
LUBP	**Lubang**	**0.67**	**304**	*e*P	Pg	22 30 56.7	+0.3
TGY	**Tagaytay City**	**0.75**	**9**	⇓*e*P	Pg	22 30 57.4	-0.6
TGY				*e*S	Sg	22 31 12.7	+4.7
SJMP	**San Jose**	**0.94**	**162**	*e*P	Pg	22 31 05.1	+3.5
SJMP				*e*S	Sg	22 31 24.9	+11
BOAC	**Boac**	**1.00**	**84**	*e*P	Pb	22 31 04.3	+1.5
NBP	**Mount Natib**	**1.43**	**344**	*e*P	Pn	22 32 00.4	+50
BUSP	**Coron**	**1.47**	**204**	*e*P	Pn	22 31 09.6	-1.2
BUSP				*e*S	Sb	22 31 32.4	+2.4
OTRP	**Odiongan**	**1.53**	**130**	*e*P	Pn	22 31 11.6	0.0

CSEM ***11*** *22:32:30.2±0.1, 34.42N×26.67E, h2km, MD3.6, Error ellipse: s-maj=6.4km s-min=2.8km az=26.0*
ATH ***11*** *22:32:31.5, 34.46N×26.59E, h16km±2km, MD3.6/6*
IDC ***11*** *22:32:31.1±2.0, 34.93N×26.84E, mb3.9/4, mb1 3.8/5, mb1mx3.5/21, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=39.7km s-min=21.6km az=11.0*
NEIC ***11*** *22:32:31.5, 34.46N×26.59E, h16km, MD3.6(ATH), After ATH.*

ISC 11 22:32:31.1±0.9, 34.38N±0.08×26.67E±0.05, h16km, n25, σ1§19/29, mb3.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.95**	**302**	*e*PN	**Pn**	**22 32 47.5**	**-2.2**
KARP	**Karpathos**	**1.23**	**19**	*e*PN	**Pn**	**22 32 53.9**	**+0.1**
NPS	**Neapolis**	**1.24**	**316**	*e*PN	**Pn**	**22 32 52.8**	**-1.1**
IDI	**Anoyia**	**1.72**	**302**	Pn	**Pn**	**22 33 01.9**	**+1.1**
	8.3nm,0.3s,baz=122,slow=14,SNR=44						
IDI				Sn	**Sn**	**22 33 23.7**	**+1.1**
	19nm,0.3s,baz=234,slow=20,SNR=14						
GVD	**Gavdhos**	**2.18**	**283**	*e*P	**Pn**	**22 33 07.9**	**+0.6**
GVD	**Gavdhos**	**2.18**	**283**	*e*P	**Pn**	**22 33 07.9**	**+0.6**
ARG	**Arkhangelos**	**2.19**	**33**	*e*PN	**Pn**	**22 33 09.1**	**+1.7**
SANT	**Santorini**	**2.22**	**334**	*e*P	**Pn**	**22 33 06.4**	**-1.5**
SANT	**Santorini**	**2.22**	**334**	*e*P	**Pn**	**22 33 06.4**	**-1.5**
VAM	**Vamos**	**2.28**	**297**	*e*PN	**Pn**	**22 33 10.0**	**+1.3**
BDRM	**Kayabasi**	**2.75**	**13**	*i* P	**Pn**	**22 33 15.0**	**-0.5**
APE	**Apeiranthos**	**2.84**	**341**	*e*PN	**Pn**	**22 33 17.5**	**+0.7**
AKAS	**Kas**	**3.03**	**51**	*i* P	**Pn**	**22 33 20.8**	**+1.4**
AKAS				*i* S	**Sn**	**22 33 55.0**	**-0.7**
GOLH	**Golhisar**	**3.69**	**39**	*i* P	**Pn**	**22 33 30.9**	**+2.1**
VLI	**Veliai**	**3.84**	**309**	*e*PN	**Pn**	**22 33 30.5**	**-0.4**
VLI	**Veliai**	**3.84**	**309**	*e*Pn	**Pn**	**22 33 30.0**	**-0.9**
MEST	**Erdemli**	**6.48**	**68**	*i* P	**Pn**	**22 34 08.6**	**+0.3**
COBT	**Iskenderun**	**8.11**	**72**	*i* P	**P**	**22 34 30.6**	**-0.4**
EIL	**Elat**	**8.45**	**121**	Pn	**P**	**22 34 35.9**	**0.0**
	0.4nm,0.3s,baz=333,slow=16,SNR=9.7						
EIL				Sn	**Sn**	**22 36 06.0**	**-5.9**
	0.9nm,0.3s,baz=353,slow=37,SNR=4.5						
EIL	**Elat**	**8.45**	**121**	Pn	**P**	**22 34 35.8**	**0.0**
EIL				Sn	**Sn**	**22 36 05.9**	**-5.9**
AKASG	**Malin Array Be**	**16.42**	**6**	Pn	**P**	**22 36 20.6**	**-1.8**
	1.0nm,0.3s,baz=193,slow=11,SNR=5.5						
FINES	**FINESS Array B**	**27.09**	**359**	P	**P**	**22 38 10.0**	**-4.6**
	1.7nm,0.8s,mb3.6,baz=172,slow=9.3,SNR=4.8						
HFS	**Hagfors**	**27.13**	**346**	P	**P**	**22 38 10.7**	**-4.4**
	3.1nm,1.0s,mb3.8,baz=148,slow=14,SNR=3.6						
ARCES	**ARCESS Array B**	**35.22**	**359**	P	**P**	**22 39 21.6**	**-4.7**
	1.2nm,0.5s,mb4.1,baz=173,slow=9.8,SNR=11						
SONM	**Songino Array**	**59.02**	**51**	P	**P**	**22 42 30.8**	**-1.5**
	0.3nm,0.5s,mb3.6,baz=284,slow=10,SNR=3.9						

IDC ***11*** *22:35:50.3±2.0, 4.66S×146.23E, mb4.0/4, mb1 4.2/6, mb1mx3.9/16, mbtmp4.1/6, ML3.5/2, MS3.6/6, Ms1 3.6/6, ms1mx3.4/16, Error ellipse: s-maj=44.8km s-min=30.4km az=104.0*
NEIC ***11*** *22:35:54.1±1.3, 4.70S×146.13E, h25km, mb4.5/2, Error ellipse: s-maj=27.4km s-min=20.4km az=111.0*

ISC 11 22:35:53.3±1.3, 4.6S±0.1×145.9E±0.2, h33km, n14, σ0§92/11, mb3.8/4, MS3.6/6, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.89**	**165**	Pn	**Pn**	**22 37 04.9**	**-1.7**
	1.3nm,0.3s,baz=21,slow=4.7,SNR=3.7						
PMG				Sn	**Sn**	**22 38 03.5**	**+0.7**
	0.9nm,0.3s,baz=55,slow=16,SNR=3.2						
WRAB	**Tennant Creek**	**18.92**	**216**	*e*P	**P**	**22 40 12.9**	**-1.2**
	31nm,0.9s						
WRA	**Warramunga Arr**	**18.93**	**216**	P	**P**	**22 40 14.3**	**0.0**
	0.7nm,0.3s,baz=40,slow=11,SNR=52						
ASAR	**Alice Springs**	**22.18**	**210**	P	**P**	**22 40 48.5**	**+0.2**
	2.0nm,0.6s,mb3.8,baz=50,slow=7.9,SNR=28						
ASAR				LR	LR	22 50 14.3	
	comp=Z,111nm,18.3s,MS3.3,baz=34,slow=39						
ASPA	**Alice Springs**	**22.18**	**210**	*e*P	**P**	**22 40 48.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**23.92**	**234**	*e*P	**P**	**22 41 09.4**	**+4.0**
	25nm,1.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**23.92**	**234**	P	**P**	**22 41 09.1**	**+3.7**
	7.5nm,0.6s,mb4.3,baz=26,slow=7.9,SNR=13						
STKA	**Stephens Creek**	**27.39**	**188**	P	**P**	**22 41 38.8**	**+0.8**
	1.2nm,0.8s,mb3.5,baz=45,slow=7.1,SNR=2.9						
STKA				LR	LR	22 51 17.9	
	comp=Z,34nm,20.6s,MS2.9,baz=230,slow=34						
SONM	**Songino Array**	**62.70**	**331**	LR	LR	23 12 49.2	
	comp=Z,62nm,19.7s,MS3.8,baz=62,slow=35						
MKAR	**Makanchi Array**	**75.77**	**321**	LR	LR	23 23 47.9	
	comp=Z,41nm,19.0s,MS3.8,baz=271,slow=38						
ZAL	**Zalesovo**	**77.30**	**328**	LR	LR	23 20 56.7	
	comp=Z,59nm,18.9s,MS3.9,baz=145,slow=35						
ILAR	**Eielson Array**	**84.67**	**23**	LR	LR	23 20 30.0	
	comp=Z,48nm,20.2s,MS3.9,baz=177,slow=32						
YKA	**Yellowknife Ar**	**98.48**	**28**	P	**P**	**22 49 29.4**	**+0.2**
	0.2nm,0.6s,mb3.8,baz=272,slow=4.6,SNR=5.5						
YKA	**Yellowknife Ar**	**98.48**	**28**	P	**P**	**22 49 29.4**	**+0.2**

PRE 11 22:57:30.0±2.0, 28.21S×26.74E, h2km, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**0.79**	**99**	*e*P	Pg	22 57 43.5	-2.3
SEK				*e*S	Sg	22 57 54.1	-2.2
BOSA	**Boshof**	**1.37**	**252**	*e*P	Pb	22 57 55.0	-1.0
BOSA				*e*S	Sb	22 58 12.4	-1.3
PRYS	**Parys**	**1.39**	**24**	*e*P	Pb	22 57 55.2	-1.2
PRYS				*e*S	Sb	22 58 13.9	-0.6
PRYS				*e*		22 58 16.6	
	comp=Z,402nm,0.2s						
SWZ	**Schweizer**	**1.61**	**309**	*e*P	Pn	22 57 59.3	-0.4
SWZ				*e*S	Sb	22 58 20.1	-0.7
SWZ				*e*		22 58 24.2	
	comp=Z,806nm,0.5s						
KSR	**Koster**	**2.35**	**4**	*e*P	Pn	22 57 52.9	-17
KSR				*e*S	Sn	22 58 03.1	-37
KSR				*e*		22 58 08.6	
	comp=Z,110nm,0.2s						
SLR	**Silverton**	**2.82**	**30**	*e*P	Pn	22 58 22.7	+5.8
SLR				*e*S	Sn	22 58 54.4	+2.4
SLR				*e*		22 59 04.6	
	comp=Z,322nm,0.3s						
NWL	**Newcastle**	**2.88**	**81**	*e*P	Pn	22 58 15.8	-2.0
NWL				*e*S	Sn	22 58 51.1	-2.5
NWL				*e*		22 58 55.5	
	comp=Z,229nm,0.5s						
POGA	**Pongola**	**4.40**	**80**	*e*S	Sn	22 59 28.0	-3.9
POGA				*e*		22 59 51.7	
	comp=Z,35nm,0.8s						
UPI	**Upington**	**4.84**	**267**	*e*P	Pn	22 58 42.1	-3.5
UPI				*e*S	Sn	22 59 35.6	-7.5
CVNA	**Calvinia**	**6.88**	**240**	*e*S	Sn	23 00 24.4	-10

TAP 11 23:01:47.6, 23.26N×120.53E, h2km, ML2.7, Taiwan

NIED ***11*** *23:01:00, 22.90N×120.70E, h8km, Mw4.1 Best double couple: M0=1.88×10^15 NP1:φs=337°, δ56°, λ62°. NP2:φs=201°, δ43°, λ125°.*
IDC ***11*** *23:01:53.6±0.7, 23.26N×120.70E, mb4.2/13, mb1 4.4/14, mb1mx4.2/23, mbtmp4.2/14, ML3.9/1, MS3.1/2, Ms1 3.2/2, ms1mx2.6/32, Error ellipse: s-maj=27.6km s-min=16.5km az=60.0*
JMA ***11*** *23:01:54.0±0.5, 22.88N×120.67E, M4.7*
TAP ***11*** *23:01:55.7, 23.27N×120.53E, h5km, ML4.6*
TAP Felt V J at Dungshan, IV J at Dapu, III J at Nanshi, III J at Tsaushan, II J at Jiashian, II J at Tauyuan, II J at Shinhua, II J at Jiali, I J at Sandimen.
BJI ***11*** *23:01:58.3, 23.62N×120.42E, h10km, mB4.5, mb4.4, ML4.6, Ms4.0, Msz3.8*
NEIC ***11*** *23:01:58.6±1.8, 23.19N×120.69E, h34km±13km, mb4.4/8, ML4.7(TAP), Error ellipse: s-maj=7.4km s-min=6.3km az=160.0*
NEIC Recorded [5 TAP] in T'ai-nan; [4 TAP] in Chia-i; [2 TAP] in Kao-hsiung and Yun-lin; [1 TAP] in Chang-hua, Nan-t'ou and P'eng-hu Counties.

ISC 11 23:01:56.0±0.2, 23.28N±0.01×120.48E±0.01, h5km, n116, σ1§28/165, mb4.2/20, MS3.0/3, 9C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK	**Hsinying**	**0.02**	**131**	⇓*i*P	**Pg**	**23 01 57.1**	**+0.1**
TWK				S	**Sg**	**23 01 58.5**	**+0.9**
CHN1	**Nanshi**	**0.10**	**152**	*i* P	**Pg**	**23 01 58.0**	**-0.2**
CHN4	**Tsaushan**	**0.13**	**56**	⇑*i*P	**Pg**	**23 01 58.6**	**-0.2**
CHN4				S	**Sg**	**23 02 00.9**	**+0.3**
WTP	**Ta-pu**	**0.13**	**104**	⇑*i*P	**Pg**	**23 01 58.3**	**-0.5**
SGST	**Jiashian**	**0.22**	**153**	⇑*i*P	**Pg**	**23 02 00.5**	**+0.1**
CHN3	**Shinhua**	**0.22**	**207**	P	**Pg**	**23 02 02.1**	**+1.6**
CHY	**Chiayi**	**0.22**	**348**	*i* P	**Pg**	**23 02 01.8**	**+1.3**
CHN8	**Yiju**	**0.25**	**286**	⇑*i*P	**Pg**	**23 02 02.6**	**+1.5**
CHN2	**Minshiung**	**0.25**	**0**	⇓P	**Pg**	**23 02 02.3**	**+1.2**
SCLT	**Jiali**	**0.28**	**249**	⇑*i*P	**Pg**	**23 02 03.4**	**+1.8**
SCLT				S	**Sg**	**23 02 10.2**	**+4.9**
STYT	**Tauyuan**	**0.28**	**114**	⇑*i*P	**Pg**	**23 02 01.4**	**-0.2**
CHN5	**Tsauling**	**0.37**	**30**	P	**Pg**	**23 02 03.6**	**+0.2**
ALS	**Alishan**	**0.38**	**53**	*i* P	**Pg**	**23 02 04.0**	**+0.3**
ALS				S	**Sg**	**23 02 09.7**	**+0.9**
WGK	**Gukeng**	**0.41**	**11**	⇓*i*P	**Pg**	**23 02 05.2**	**+0.9**
WGK				S	**Sg**	**23 02 12.8**	**+2.9**
TWM1	**Shoushan**	**0.45**	**186**	*e*P	**Pg**	**23 02 07.3**	**+2.2**
YUS	**Yu-Shan**	**0.49**	**64**	*e*P	**Pg**	**23 02 05.7**	**0.0**
YUS				S	**Sg**	**23 02 12.8**	**+0.5**
ELDTW	**Lidau**	**0.51**	**100**	⇑*i*P	**Pg**	**23 02 05.5**	**-0.6**
ELDTW				S	**Sg**	**23 02 13.2**	**+0.3**
SSD	**Sandimen**	**0.55**	**165**	*i* P	**Pg**	**23 02 07.4**	**+0.5**
SSD				S	**Sg**	**23 02 16.1**	**+1.8**
SGLT	**Jiouru**	**0.55**	**178**	*e*P	**Pg**	**23 02 08.8**	**+1.8**
WTCT	**Ta-ch'eng**	**0.61**	**343**	*e*P	**Pg**	**23 02 08.5**	**+0.3**
WTCT				S	**Sg**	**23 02 18.6**	**+2.3**
WNT	**Mingjian**	**0.63**	**18**	⇓P	**Pg**	**23 02 08.8**	**+0.3**
WNT				S	**Sg**	**23 02 19.1**	**+2.2**
TWG	**Pinlang**	**0.71**	**129**	*i* P	**Pg**	**23 02 09.8**	**-0.5**
TWG				S	**Sg**	**23 02 20.3**	**+0.5**
TYC	**Yuchr**	**0.72**	**29**	*e*P	**Pg**	**23 02 10.2**	**-0.1**
TYC				S	**Sg**	**23 02 22.3**	**+2.5**
SMLT	**Sun Moon Lake**	**0.72**	**33**	⇓*i*P	**Pg**	**23 02 10.2**	**-0.1**
SMLT				S	**Sg**	**23 02 21.9**	**+2.0**
KAU	**Kaohsiung**	**0.72**	**192**	*e*P	**Pg**	**23 02 12.0**	**+1.5**
WDGT	**Dungji**	**0.75**	**269**	⇑P	**Pg**	**23 02 11.1**	**+0.2**
WDGT				S	**Sg**	**23 02 22.8**	**+1.8**
TWF1	**Yuli**	**0.76**	**84**	⇑*i*P	**Pg**	**23 02 10.0**	**-1.1**
TWF1				S	**Sg**	**23 02 20.7**	**-0.6**
ECL	**Taimali**	**0.81**	**147**	P	**Pb**	**23 02 11.6**	**-0.5**
ECL				S	**Sg**	**23 02 23.6**	**+0.7**
TTN	**Taitung**	**0.81**	**130**	*e*P	**Pb**	**23 02 12.3**	**+0.2**
TTN				S	**Sg**	**23 02 25.1**	**+2.2**
EHY	**Hungye**	**0.81**	**74**	P	**Pb**	**23 02 11.1**	**-1.0**
EHY				S	**Sg**	**23 02 22.3**	**-0.7**
CHKT	**Chengkung**	**0.84**	**102**	*e*P	**Pb**	**23 02 12.1**	**-0.5**
CHKT				S	**Sg**	**23 02 25.9**	**+2.0**
TCU	**Taichung**	**0.89**	**12**	*e*P	**Pb**	**23 02 13.2**	**-0.2**
PNG	**Penghu**	**0.89**	**289**	*e*P	**Pb**	**23 02 13.3**	**-0.2**
PNG				S	**Sb**	**23 02 26.4**	**+0.9**
SCZT	**Fangliau**	**0.91**	**172**	P	**Pb**	**23 02 13.9**	**+0.1**
SCZT				S	**Sb**	**23 02 29.6**	**+3.6**
TWP	**Hsiaoliuchiu**	**0.93**	**186**	*e*P	**Pb**	**23 02 15.4**	**+1.2**
TWP				S	**Sb**	**23 02 31.4**	**+4.8**
EAST	**Anshuo**	**0.95**	**159**	*e*P	**Pb**	**23 02 14.7**	**+0.1**
EAST				S	**Sb**	**23 02 28.6**	**+1.2**
TAW	**Tawu**	**0.99**	**157**	*e*P	**Pb**	**23 02 15.3**	**+0.1**
TAW				S	**Sb**	**23 02 29.3**	**+0.9**
ESL	**Shilin**	**1.03**	**59**	*e*P	**Pb**	**23 02 15.3**	**-0.5**
ESL				S	**Sb**	**23 02 29.9**	**+0.5**
TWQ1	**Liyutan**	**1.10**	**14**	*e*P	**Pb**	**23 02 17.1**	**0.0**
TWQ1				S	**Sb**	**23 02 33.4**	**+1.8**
NSY	**Sanyi**	**1.16**	**13**	*e*P	**Pb**	**23 02 18.3**	**+0.1**
NSY				S	**Sb**	**23 02 35.3**	**+1.9**
TWT	**Tachien**	**1.17**	**33**	*e*P	**Pb**	**23 02 17.5**	**-0.7**
TWT				S	**Sb**	**23 02 34.2**	**+0.8**
HWA	**Hwalien**	**1.25**	**56**	*e*P	**Pb**	**23 02 19.5**	**-0.1**
HWA				S	**Sb**	**23 02 37.2**	**+1.4**
HEN	**Hengchun**	**1.29**	**169**	*e*P	**Pb**	**23 02 19.9**	**-0.4**
HEN				S	**Sb**	**23 02 40.1**	**+3.1**
NACB	**Ninganchiao**	**1.36**	**49**	*e*P	**Pb**	**23 02 20.3**	**-1.2**
NNS	**Nan Shan**	**1.42**	**35**	*e*P	**Pn**	**23 02 21.9**	**-0.6**
NNS				S	**Sb**	**23 02 42.9**	**+2.1**
NSTT	**Nanjuang**	**1.43**	**20**	*e*P	**Pn**	**23 02 21.8**	**-0.8**
NSTT				S	**Sb**	**23 02 41.8**	**+0.7**
LAY	**Lan-yu**	**1.58**	**141**	*e*P	**Pn**	**23 02 23.2**	**-1.6**
LAY				S	**Sb**	**23 02 46.6**	**+1.0**
HSN	**Hsinchu**	**1.58**	**16**	*e*P	**Pn**	**23 02 24.8**	**-0.1**
YHNB	**Yeheng**	**1.61**	**31**	*e*P	**Pn**	**23 02 24.5**	**-0.8**
ENA	**Nanau**	**1.63**	**45**	*e*P	**Pn**	**23 02 25.5**	**0.0**
ENA				S	**Sb**	**23 02 47.7**	**+0.8**
ENTT	**Nioudou**	**1.68**	**36**	*e*P	**Pn**	**23 02 26.4**	**+0.1**
ENTT				S	**Sn**	**23 02 51.3**	**+2.9**
TWE	**Neicheng**	**1.80**	**37**	*e*P	**Pn**	**23 02 28.4**	**+0.4**
TWE				S	**Sn**	**23 02 52.1**	**+0.6**
TWC	**Suao**	**1.83**	**43**	*e*P	**Pn**	**23 02 28.7**	**+0.4**
TWC				S	**Sn**	**23 02 54.1**	**+2.0**
TATO	**Taipei**	**1.93**	**28**	*e*P	**Pn**	**23 02 28.3**	**-1.5**
TWA	**Mucha**	**1.98**	**31**	*e*P	**Pn**	**23 02 29.9**	**-0.6**
TWS1	**Kuangyinshan**	**2.01**	**25**	*e*P	**Pn**	**23 02 30.0**	**-0.9**
EGS		**2.05**	**40**	*e*P	**Pn**	**23 02 32.1**	**+0.6**
EGS				S	**Sn**	**23 02 58.7**	**+0.9**
NWF	**Wu-fen Shan**	**2.15**	**33**	*e*P	**Pn**	**23 02 32.1**	**-0.8**
NWF				S	**Sn**	**23 03 02.2**	**+2.0**
KNM	**Kinmen**	**2.19**	**302**	*e*P	**Pn**	**23 02 33.3**	**0.0**
TWB1	**Santiao Chiao**	**2.21**	**38**	*e*P	**Pn**	**23 02 33.8**	**0.0**
TWB1				S	**Sn**	**23 03 03.7**	**+1.9**
TWY	**Chenhua**	**2.24**	**27**	*e*P	**Pn**	**23 02 33.8**	**-0.4**
QZH	**Quanzhou**	**2.39**	**314**	P	**Pn**	**23 02 34.0**	**-2.4**
QZH				S	**Sn**	**23 03 11.1**	**+4.7**
QZH				Smax			
	comp=N,2μm,0.5s						
QZH				Smax			
	comp=E,2μm,0.6s						
YOJ	**Yonaguni jima**	**2.60**	**63**	P	**Pn**	**23 02 39.1**	**-0.3**
YOJ				*e*S	**Sn**	**23 03 12.8**	**+1.0**
HATJ	**Hateruma jima**	**3.15**	**75**	P	**Pn**	**23 02 45.0**	**-2.2**
HATJ				*e*S	**Sn**	**23 03 24.4**	**-1.3**
IRIF	**Iriomote-Funau**	**3.16**	**70**	P	**Pn**	**23 02 46.7**	**-0.7**
IRIF				S	**Sn**	**23 03 25.3**	**-0.6**
JKRS	**Kuro-shima**	**3.38**	**73**	P	**Pn**	**23 02 49.6**	**-0.8**
JKRS				*e*S	**Sn**	**23 03 30.5**	**-0.9**
JIJ	**Ishigaki jima**	**3.53**	**71**	P	**Pn**	**23 02 51.2**	**-1.4**
JIJ				S	**Sn**	**23 03 32.6**	**-2.6**
JTJ	**Tarama**	**4.10**	**70**	P	**Pn**	**23 02 59.5**	**-1.2**
JTJ				*e*S	**Sn**	**23 03 47.1**	**-2.6**
JMJ	**Miyako jima 2**	**4.66**	**70**	*e*S	**Sn**	**23 04 01.1**	**-2.9**
JOGS	**Gusukube**	**4.75**	**71**	P	**Pn**	**23 03 08.7**	**-1.2**
JOGS				*e*S	**Sn**	**23 04 03.1**	**-2.9**
JOW	**Kunigami**	**7.91**	**62**	Pn	**Pn**	**23 03 49.8**	**-4.6**
	comp=E,3.6nm,0.3s,baz=204,slow=9.3,SNR=10						
NJ2	**Nanjing**	**8.86**	**351**	*e*P	**P**	**23 04 03.1**	**-4.5**
NJ2				AP		23 04 06.5	
NJ2				XP		23 04 09.2	
NJ2				S	**Sn**	**23 05 50.9**	**+2.0**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s						
NJ2				Smax			
	comp=N,420nm,1.0s						
NJ2				Smax			
	comp=E,430nm,1.1s						
NJ2				LR	LR		
	comp=N,850nm,9.3s						
NJ2				LR	LR		
	comp=E,920nm,9.0s						
NJ2				LR	LR		
	comp=Z,490nm,9.2s						
WHN	**Wuhan**	**9.07**	**324**	*e*P	**P**	**23 04 06.0**	**-4.5**
QIZ	**Qiongzhong**	**10.78**	**249**	*e*P	**P**	**23 04 38.4**	**+4.2**
QIZ				*e*S	**S**	**23 06 39.4**	**+3.0**
QIZ	**Qiongzhong**	**10.78**	**249**	P	**P**	**23 04 31.9**	**-2.3**
ENH	**Enshi**	**12.03**	**308**	P	**P**	**23 04 50.2**	**-0.9**
GYA	**Guiyang**	**12.93**	**287**	P	**P**	**23 05 04.1**	**+0.9**
GYA				AP		23 05 11.4	
GYA				XP		23 05 14.8	
GYA				S	**S**	**23 07 29.0**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				LR	LR		
	comp=N,540nm,16.6s						
GYA				LR	LR		
	comp=E,640nm,15.9s						
GYA				LR	LR		
	comp=Z,550nm,16.1s						
BJT	**Baijiatuau**	**17.08**	**349**	P	**P**	**23 05 57.1**	**0.0**
BJI	**Beijing**	**17.10**	**349**	P	**P**	**23 05 57.0**	**-0.4**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.8s						
BJI				LR	LR		
	comp=N,291nm,10.9s						
BJI				LR	LR		
	comp=E,142nm,7.2s						
HHC	**Hu-ho-hao-te**	**19.06**	**339**	*e*P	**P**	**23 06 19.8**	**-1.7**
HHC				AP		23 06 25.9	
HHC				XP		23 06 29.8	
HHC				PP	PP	23 06 37.8	-0.4
HHC				AMB	AMB		
	comp=Z,10.0nm,1.2s						
HHC				AMB	AMB		
	comp=Z,115nm,5.5s						
HHC				LR	LR		
	comp=N,85nm,12.2s						
HHC				LR	LR		
	comp=E,139nm,13.7s						
HHC				LR	LR		
	comp=Z,95nm,14.8s						
LZH	**Lanzhou**	**19.24**	**315**	*e*P	**P**	**23 06 23.5**	**-0.2**
LZH				AP		23 06 30.0	
LZH				XP		23 06 33.5	
LZH				PP	PP	23 06 41.4	+0.6
LZH				*e*S	**S**	**23 09 55.5**	**+0.1**
LZH				AMB	AMB		
	comp=Z,23nm,1.2s						
LZH				AMB	AMB		
	comp=Z,112nm,4.0s						
LZH				LR	LR		
	comp=N,337nm,9.2s						
LZH				LR	LR		
	comp=Z,406nm,10.5s						
LZH	**Lanzhou**	**19.24**	**315**	*e*P	**P**	**23 06 23.5**	**-0.2**
	comp=Z,23nm,1.2s						
LZH				pP		23 06 30.0	
LZH				sP		23 06 33.5	
LZH				PP	PP	23 06 41.4	+0.6
LZH				*e*S	**S**	**23 09 55.5**	**+0.1**
LZH				sS		23 10 06.0	
LZH				SS	SS	23 10 22.0	+0.8
MAJO	**Matsushiro**	**20.23**	**45**	P	**P**	**23 06 30.1**	**-4.6**
MJAR	**Matsushiro Arr**	**20.23**	**45**	LR	LR	23 13 50.7	
	comp=Z,36nm,21.5s,MS2.7,baz=250,slow=36						
CMAR	**Chiang Mai Arr**	**20.68**	**261**	P	**P**	**23 06 39.1**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=57,slow=7.8,SNR=14						
CMAR				LR	LR	23 15 23.4	
	comp=Z,77nm,19.0s,MS3.1,baz=85,slow=39						
CN2	**Changchun**	**20.88**	**10**	*e*P	**P**	**23 06 41.0**	**-0.4**
MDJ	**Mudanjiang**	**22.56**	**17**	P	**P**	**23 06 56.6**	**-1.7**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,57nm,6.7s						
SHL	**Shillong**	**26.11**	**281**	*e*P	**P**	**23 07 30.5**	**-2.1**
ULN	**Ulaanbaatar**	**26.77**	**340**	*e*P	**P**	**23 07 35.6**	**-2.9**
	comp=Z,2.2nm,0.8s,mb3.7						
SONM	**Songino Array**	**26.96**	**339**	P	**P**	**23 07 37.3**	**-3.0**
	comp=Z,3.1nm,0.8s,mb3.9,baz=156,slow=9.9,SNR=29						
LSA	**Lhasa**	**26.97**	**290**	P	**P**	**23 07 40.4**	**-0.1**
LSA	**Lhasa**	**26.97**	**290**	*e*P	**P**	**23 07 40.4**	**-0.1**
	comp=Z,4.9nm,0.6s,mb4.2						
WMQ	**Urumqi**	**33.83**	**315**	P	**P**	**23 08 41.0**	**-0.2**
WMQ				AP	pP	23 08 48.4	+5.7
WMQ				XP	sP	23 08 51.8	+8.4
WMQ				PP	PP	23 09 55.1	+0.8
WMQ				PCP	PcP	23 11 18.6	-1.8
WMQ				S	**S**	**23 14 04.0**	**-0.6**
WMQ				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,45nm,4.4s						
WMQ				LR	LR		
	comp=N,9.0nm,15.2s,MS3.1						
WMQ				LR	LR		
	comp=E,27nm,16.1s,MS3.1						
MKAR	**Makanchi Array**	**38.55**	**317**	P	**P**	**23 09 18.7**	**-2.5**
	comp=E,1.3nm,0.6s,mb3.8,baz=110,slow=8.8,SNR=19						
MKAR	**Makanchi Array**	**38.55**	**317**	P	**P**	**23 09 18.7**	**-2.5**
ZAL	**Zalesovo**	**40.66**

*IDC **11** 23:37:04.1±1.5,2.05S×99.31E,mb4.1/9,mb1 4.2/9, mb1mx4.0/19,mbtmp4.1/9,MS3.3/1,Ms1 3.5/1, ms1mx2.8/25,Error ellipse: s-maj=55.4km s-min=20.9km az=47.0*

*NEIC **11** 23:37:09.8±0.9,1.68S×99.67E,h30km,mb4.3/2,Error ellipse: s-maj=30.8km s-min=12.9km az=56.0*

ISC 11 23:37:07.4±1.1,1.9S±0.2×99.4E±0.2,h33km,n15, σ0§64/14,mb4.2/10,MS3.0/1,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	Kulim	7.28	10	eP		P		23 38 48.5	-5.7
CMAR	Chiang Mai Arr	20.27	359	P		P		23 41 43.2	+0.2
	1.7nm,0.6s,baz=190,slow=9.4,SNR=7.5								
CMAR				LR			LR	23 49 47.7	
	comp=Z,69nm,18.2s,MS3.0,baz=200,slow=38								
SHL	Shillong	28.30	346	eP		P		23 43 01.5	+1.2
WRA	Warramunga Arr	38.52	120	P		P		23 44 28.8	+0.1
	0.7nm,0.4s,mb3.7,baz=304,slow=9.1,SNR=3.6								
WRAB	Tennant Creek	38.52	120	eP		P		23 44 28.7	-0.1
	1.8nm,0.6s,mb4.0								
PMG	Port Moresby	48.03	101	P		P		23 45 45.9	0.0
	6.6nm,0.7s,mb4.8,baz=275,slow=12,SNR=3.0								
SONM	Songino Array	49.94	6	P		P		23 46 00.1	-0.1
	0.8nm,0.7s,mb3.9,baz=189,slow=9.3,SNR=8.6								
ULN	Ulaanbaatar	50.05	7	P		P		23 46 00.8	-0.2
MKAR	Makanchi Array	50.82	345	P		P		23 46 07.0	+0.1
	2.6nm,0.6s,mb4.3,baz=148,slow=8.1,SNR=21								
ZAL	Zalesovo	57.00	350	P		P		23 46 52.0	-0.2
	3.6nm,0.6s,mb4.6,baz=320,slow=6.1,SNR=18								
BVAR	Borovoye Array	59.93	340	P		P		23 47 11.7	-1.0
	1.5nm,0.7s,mb4.2,baz=150,slow=12,SNR=7.6								
CHKZ	Chkalovo	60.40	341	eP		P		23 47 14.7	-1.2
	4.2nm,0.9s,mb4.5								
BRTR	Keskin Array B	72.86	313	P		P		23 48 35.0	-0.1
	0.4nm,0.4s,mb3.7,baz=117,slow=5.5,SNR=5.8								
FINES	FINESS Array B	83.79	332	P		P		23 49 35.7	+1.2
	1.2nm,0.6s,mb4.2,baz=108,slow=6.0,SNR=7.5								
TXAR	Lajitas Array	145.00	37	PKPbc		PKPbc		23 56 44.2	+1.9
	1.2nm,0.6s,baz=271,slow=0.9,SNR=12								

IDC 11 23:37:35.0±72.0,3.41N×96.38E,mb3.7/3,mb1 3.8/3, mb1mx3.5/18,mbtmp3.7/3,Error ellipse: s-maj=1365.0km s-min=149.3km az=177.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	44.91	346	P		P		23 45 51.4	-1.9
	0.4nm,0.4s,baz=161,slow=8.6,SNR=7.4								
SONM	Songino Array	45.09	10	P		P		23 45 53.0	-1.8
	0.3nm,0.3s,baz=184,slow=7.4,SNR=5.3								
ZAL	Zalesovo	51.25	351	P		P		23 46 40.4	-2.2
	0.7nm,0.4s,baz=310,slow=6.4,SNR=3.3								

*IDC **11** 23:50:38.2±9.6,1.59N×96.60E,mb3.7/3,mb1 3.8/4, mb1mx3.6/19,mbtmp3.7/4,Error ellipse: s-maj=191.6km s-min=116.3km az=144.0*

*NEIC **11** 23:50:42.7±1.2,1.60N×96.74E,h30km,mb4.5/1,Error ellipse: s-maj=24.4km s-min=16.8km az=62.0*

ISC 11 23:50:40.7±1.7,1.6N±0.2×96.7E±0.2,h30km,n7,σ0§19/7, mb3.9/4,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	Kulim	5.36	47	eP		Pn		23 52 00.7	-0.1
CMAR	Chiang Mai Arr	16.88	7	Pn		P		23 54 36.7	0.0
	baz=199,slow=11,SNR=8.2								
WRAB	Tennant Creek	42.66	122	P		P		23 58 36.7	0.0
	6.2nm,0.7s,mb4.5								
MKAR	Makanchi Array	46.73	346	P		P		23 59 09.1	+0.1
	1.1nm,0.7s,mb3.9,baz=166,slow=7.4,SNR=14								
MKAR	Makanchi Array	46.73	346	P		P		23 59 09.1	+0.1
SONM	Songino Array	46.80	9	P		P		23 59 09.8	+0.3
	0.2nm,0.3s,mb3.5,baz=187,slow=9.4,SNR=5.5								
ZAL	Zalesovo	53.07	351	P		P		23 59 57.1	-0.4
	0.7nm,0.5s,mb3.9,baz=172,slow=4.9,SNR=3.8								

*IDC **11** 23:51:28.4±1.4,1.71S×99.60E,mb4.1/8,mb1 4.2/8, mb1mx4.1/17,mbtmp4.1/8,MS3.0/1,Ms1 3.2/1, ms1mx2.4/20,Error ellipse: s-maj=59.5km s-min=20.0km az=56.0*

*NEIC **11** 23:51:33.1±0.8,1.63S×99.72E,h30km,mb4.5/3,Error ellipse: s-maj=29.9km s-min=11.3km az=63.0*

ISC 11 23:51:31.4±0.9,1.6S±0.1×99.8E±0.2,h30km,n14, σ0§91/13,mb4.2/10,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	Kulim	6.88	7	eP		Pn		23 53 12.9	0.0
CMAR	Chiang Mai Arr	19.93	358	P		P		23 56 01.4	-2.5
	2.4nm,0.8s,baz=189,slow=10,SNR=12								
CMAR				LR			LR	00 05 22.5	
	comp=Z,44nm,19.4s,baz=180,slow=42								
SHL	Shillong	28.04	345	eP		P		23 57 23.0	+0.6
LSA	Lhasa	32.17	346	eP		P		23 57 58.9	-0.1
	5.3nm,0.7s,mb4.5								
WRA	Warramunga Arr	38.40	121	P		P		23 58 51.1	-1.1
	2.1nm,0.8s,mb3.9,baz=303,slow=9.3,SNR=4.0								
WRAB	Tennant Creek	38.41	121	eP		P		23 58 52.0	-0.2
	5.8nm,0.6s,mb4.5								
SONM	Songino Array	49.55	6	P		P		00 00 22.7	+1.1
	2.2nm,0.8s,mb4.3,baz=189,slow=9.5,SNR=22								
STKA	Stephens Creek	49.60	132	P		P		00 00 23.2	+1.0
	0.7nm,0.4s,mb4.0,baz=303,slow=14,SNR=4.7								
ULN	Ulaanbaatar	49.65	6	eP		P		00 00 22.8	+0.4
	2.1nm,0.8s,mb4.2								
MKAR	Makanchi Array	50.56	345	P		P		00 00 29.8	+0.5
	3.7nm,0.6s,mb4.5,baz=148,slow=7.9,SNR=26								
ZAL	Zalesovo	56.71	349	P		P		00 01 14.8	+0.2
	2.8nm,0.4s,mb4.6,baz=319,slow=5.6,SNR=15								
BRTR	Keskin Array B	72.87	312	P		P		00 02 58.4	-1.3
	0.4nm,0.6s,mb3.5,baz=145,slow=8.8,SNR=3.7								
FINES	FINESS Array B	83.64	332	P		P		00 03 58.9	+0.7
	0.7nm,0.6s,mb3.9,baz=76,slow=7.9,SNR=4.9								
TXAR	Lajitas Array	144.51	37	PKP		PKPdf		00 11 07.9	-2.8
	1.4nm,0.6s,baz=251,slow=1.1,SNR=23								

*IDC **12** 00:20:56.8±1.0,1.34N×96.80E,h27km±4km,mb3.8/8, mb1 4.0/9,mb1mx3.8/19,mbtmp4.0/9,ML4.2/1,MS3.6/3, Ms1 3.6/3,ms1mx3.1/30,Error ellipse: s-maj=40.2km s-min=18.8km az=54.0*

*NEIC **12** 00:20:57.5±0.7,1.50N×97.03E,mb4.4/1,Error ellipse: s-maj=16.7km s-min=12.0km az=63.0*

ISC 12 00:20:55.7±0.9,1.5N±0.1×97.0E±0.1,h28km, h28km±1.3km:pP-P,n16,σ0§64/13,mb4.0/9,MS3.7/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	Kulim	5.20	44	eP		Pn		00 22 13.5	-0.2
CMAR	Chiang Mai Arr	16.94	6	Pn		P		00 24 53.5	+1.0
	0.3nm,0.3s,baz=197,slow=12,SNR=7.3								
CMAR				LR			LR	00 31 46.7	
	comp=Z,79nm,19.1s,baz=187,slow=38								
ENH	Enshi	30.94	21	P		P		00 27 11.2	-1.5
	4.3nm,0.7s,mb4.4								
NWAO	Narrogin (SRO)	39.21	153	LR		LR		00 45 19.2	
	comp=Z,152nm,18.3s,MS3.9,baz=102,slow=37								
WRA	Warramunga Arr	42.34	122	P		P		00 28 49.8	+0.5
	0.3nm,0.4s,mb3.3,baz=301,slow=9.2,SNR=2.5								
ASAR	Alice Springs	43.72	127	P		P		00 29 00.5	0.0
	0.4nm,0.6s,mb3.4,baz=299,slow=8.2,SNR=3.8								
SONM	Songino Array	46.84	9	P		P		00 29 25.4	+0.3
	3.7nm,0.8s,mb4.3,baz=190,slow=8.8,SNR=30								
SONM				pP		pP		00 29 33.9	+0.3
	1.4nm,0.5s,baz=191,slow=9.0,SNR=7.5								
SONM				LR		LR		00 51 53.1	
	comp=Z,64nm,18.4s,MS3.6,baz=63,slow=39								
MKAR	Makanchi Array	46.90	346	P		P		00 29 26.1	+0.7
	3.5nm,0.8s,mb4.4,baz=160,slow=8.4,SNR=37								
MKAR				pP		pP		00 29 34.7	+0.7
	0.7nm,0.4s,baz=159,slow=9.0,SNR=6.4								
MKAR	Makanchi Array	46.90	346	P		P		00 29 26.1	+0.7
MKAR				pP		pP		00 29 34.7	+0.7
ZAL	Zalesovo	53.21	351	P		P		00 30 13.4	-0.3
	1.4nm,0.4s,mb4.2,baz=298,slow=3.7,SNR=6.2								
ZAL				pP		pP		00 30 23.8	+1.5
	1.8nm,0.6s,baz=295,slow=3.9,SNR=3.9								
BRTR	Keskin Array B	68.78	312	P		P		00 31 58.9	-0.6
	0.3nm,0.5s,mb3.5,baz=135,slow=8.7,SNR=3.5								
BRTR				pP		pP		00 32 06.5	-1.8
	0.7nm,0.7s,baz=122,slow=6.9,SNR=5.2								
AKASG	Malin Array Be	74.91	322	pP		pP		00 32 43.5	-1.2
	0.8nm,0.5s,baz=88,slow=4.3,SNR=4.7								
MLR	Muntele Rosu	75.72	317	pP		pP		00 32 50.2	+0.7
	1.1nm,0.6s,baz=117,slow=4.5,SNR=2.9								
FINES	FINESS Array B	79.64	332	P		P		00 33 01.9	-0.1
	3.0nm,0.9s,mb4.2,baz=176,slow=29,SNR=5.5								
FINES				pP		pP		00 33 10.5	-0.4
	0.7nm,0.5s,baz=101,slow=4.1,SNR=1.7								
ARCES	ARCESS Array B	82.18	340	P		P		00 33 15.3	+0.2
	4.2nm,0.9s,mb4.3,baz=63,slow=5.4,SNR=4.5								
ARCES				pP		pP		00 33 24.1	0.0
	1.7nm,0.7s,baz=72,slow=3.8,SNR=1.3								
ARCES	ARCESS Array B	82.18	340	P		P		00 33 15.3	+0.2
ARCES				pP		pP		00 33 24.1	0.0

*NEIC **12** 00:27:13.1,16.96N×100.09W,h6km,MD3.5(MEX),After MEX.*

MEX 12 00:27:13.0±0.5,16.93N×100.11W,h7km±5km,MD3.5,2C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.19	308	iP		Pg		00 27 16.8	-0.2
CAIG				iS		Sg		00 27 19.1	-0.6
CAIG	El Cayaco	0.19	308	⇑iP		Pg		00 27 16.8	-0.2
CAIG				iS		Sg		00 27 19.2	-0.5
ACX	Acapulco	0.19	109	iP		Pg		00 27 16.5	-0.6
ACX				iS		Sg		00 27 19.5	-0.3
ZIIG	Zihuatanejo	1.46	298	iP		Pn		00 27 35.8	-4.1
ZIIG				iS		Sb		00 27 54.8	-4.0
PLIG	Platanillo	1.57	22	iP		Pn		00 27 38.0	-3.5
PLIG				iS		Sb		00 27 56.5	-5.4
PLIG	Platanillo	1.57	22	⇑iP		Pn		00 27 38.1	-3.4
PLIG				iS		Sb		00 27 56.5	-5.4
PPM	Popocatepetl	2.55	33	eP		Pn		00 27 46.5	-9.0
PPM	Popocatepetl	2.55	33	eP		Pn		00 27 53.5	-2.0
PPM				iS		Sn		00 28 25.0	-2.2

IDC 12 00:28:43.0±9.2,1.44N×96.88E,mb3.9/3,mb1 4.1/4, mb1mx3.6/20,mbtmp3.9/4,ML4.6/1,Error ellipse: s-maj=185.5km s-min=114.8km az=144.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.04	7	Pn		P		00 32 43.0	-1.4
	0.7nm,0.3s,baz=196,slow=12,SNR=12								
MKAR	Makanchi Array	46.94	346	P		P		00 37 15.1	-2.3
	1.1nm,0.5s,baz=165,slow=7.2,SNR=16								
SONM	Songino Array	46.95	9	P		P		00 37 15.5	-1.9
	0.4nm,0.3s,baz=186,slow=9.0,SNR=8.6								
ZAL	Zalesovo	53.27	351	P		P		00 38 03.8	-1.9
	0.9nm,0.4s,baz=309,slow=4.9,SNR=8.0								

IDC 12 00:31:10.2±5.8,3.46S×151.36E,h122km±52km,mb3.6/3, mb1 3.8/4,mb1mx3.4/16,mbtmp3.9/4,Error ellipse: s-maj=223.0km s-min=36.6km az=127.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.24	215	P		P		00 32 53.8	-0.8
	0.9nm,0.3s,baz=50,slow=9.0,SNR=2.2								
PMG				S		S		00 34 14.0	-1.8
	1.2nm,0.3s,baz=348,slow=19,SNR=2.9								
WRA	Warramunga Arr	23.33	224	P		P		00 36 08.5	+0.1
	1.1nm,0.4s,baz=49,slow=9.7,SNR=4.9								
ASAR	Alice Springs	26.23	218	P		P		00 36 34.0	-1.8
	0.6nm,0.8s,baz=38,slow=10,SNR=3.7								
YKA	Yellowknife Ar	94.91	28	P		P		00 44 17.7	-1.7
	0.0nm,0.3s,baz=275,slow=5.0,SNR=4.7								

*IDC **12** 00:31:50.6±1.9,43.23N×13.56E,mb3.3/3,mb1 3.6/7, mb1mx3.5/24,mbtmp3.5/7,ML3.6/4,Error ellipse: s-maj=34.2km s-min=20.4km az=70.0*

*MOS **12** 00:31:50.3±1.0,43.19N×13.40E,h11km,mb3.8/1,Error ellipse: s-maj=7.3km s-min=4.1km az=111.6*

*ROM **12** 00:31:51.6±0.3,43.09N×13.38E,h4km±2km,MD3.5/6, ML3.5/14,Error ellipse: s-maj=2.0km s-min=1.1km az=90.0*

*CSEM **12** 00:31:51.1±0.1,43.16N×13.52E,h12km,ML3.4/9,Error ellipse: s-maj=1.6km s-min=1.5km az=71.0*

*NEIC **12** 00:31:51.6,43.09N×13.38E,h4km,MD3.5(ROM), ML3.4(LDG),After ROM.*

*LDG **12** 00:31:51.6±0.1,43.21N×13.53E,h10km,Ml3.4/13,Error ellipse: s-maj=3.9km s-min=3.0km az=69.0*

ISC 12 00:31:50.6±0.2,43.16N±0.01×13.39E±0.02,h10km,n153, σ1§12/201,mb3.4/3,16C-5D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CING	Cingoli	0.26	326	⇑iPG		Pg		00 31 59.2	+3.2
CING				SG		Sg		00 32 04.6	+5.0
CING	Cingoli	0.26	326	⇑iPg		Pg		00 31 59.2	+3.2
CING				eSg		Sg		00 32 04.5	+4.9
SNTG	Esanatoglia	0.34	286	⇓iPG		Pg		00 31 59.7	+2.0
NRCA	Norcia	0.39	212	⇑iPG		Pg		00 31 59.3	+0.7
NRCA	Norcia	0.39	212	⇑iPg		Pg		00 31 59.3	+0.8
AOI	Ancona	0.42	22	ePg		Pg		00 32 02.2	+3.1
ARV	Arcevia	0.47	316	⇑iPG		Pg		00 32 02.4	+2.3
ARV				SG		Sg		00 32 09.9	+3.4
ARV	Arcevia	0.47	316	⇑iPg		Pg		00 32 02.4	+2.3
ARV				eSg		Sg		00 32 09.9	+3.4
ASS	Assisi	0.55	260	⇓iPG		Pg		00 32 02.4	+0.7
ASS	Assisi	0.55	260	⇓iPg		Pg		00 32 02.4	+0.7
TERO	Teramo	0.56	164	ePG		Pg		00 32 02.2	+0.2
CAMP	Campotosto	0.63	179	⇑iPG		Pg		00 32 03.1	-0.2
CAMP				SG		Sg		00 32 12.6	+0.9
FSSB	Fossombrone	0.69	320	ePG		Pn		00 32 06.3	+0.1
FSSB				SG		Sn		00 32 17.9	+0.9
FSSB	Fossombrone	0.69	320	ePg		Pn		00 32 06.3	+0.1
FSSB				eSg		Sn		00 32 17.9	+1.0
AQU	L'Aquila	0.81	179	ePG		Pg		00 32 05.9	-1.0
AQU				SG		Sg		00 32 19.0	+1.3
AQU	L'Aquila	0.81	179	ePg		Pg		00 32 05.9	-0.9
AQU				eSg		Sg		00 32 18.9	+1.2
FAGN	Fagnano	0.91	171	ePG		Pg		00 32 08.0	-0.8
MNS	Montasola	0.94	214	⇑iPG		Pg		00 32 08.4	-1.0
MNS	Montasola	0.94	214	⇑iPg		Pg		00 32 08.4	-1.0
PTQR	Pietraquaria	1.14	180	ePG		Pg		00 32 11.7	-1.8
PTQR	Pietraquaria	1.14	180	ePg		Pg		00 32 11.7	-1.7
SFI	Santa Sofia	1.34	304	ePG		Pn		00 32 18.3	+0.8
	703nm,0.6s								
SFI	Santa Sofia	1.34	304	ePg		Pg		00 32 18.3	+0.8
SFI	Santa Sofia	1.34	304	ePn		Pg		00 32 18.3	+0.8
	703nm,0.6s								
PGD	Poggio Sodo	1.41	301	ePN		Pg		00 32 19.4	+0.6
PGD				SN		Sg		00 32 37.5	-0.1
PGD	Poggio Sodo	1.41	301	ePg		Pg		00 32 19.4	+0.6
PGD				eSg		Sg		00 32 37.5	0.0
SDI	San Donato	1.49	168	ePN		Pn		00 32 18.3	+0.8
SDI	San Donato	1.49	168	ePg		Pn		00 32 18.3	+0.7
MA9	Marino	1.49	201	ePN		Pn		00 32 18.4	+0.7
	359nm,0.4s								
MA9	Marino	1.49	201	ePg		Pn		00 32 18.4	+0.7
MA9	Marino	1.49	201	ePn		Pn		00 32 18.4	+0.7
	359nm,0.4s								
VMG	Vicchio	1.56	301	ePN		Pg		00 32 21.5	-0.3
VMG	Vicchio	1.56	301	ePg		Pg		00 32 21.5	-0.3
LAV9	Lanuvio	1.57	199	ePN		Pn		00 32 20.1	+1.3
	558nm,0.3s								
LAV9	Lanuvio	1.57	199	ePg		Pn		00 32 20.1	+1.3
LAV9	Lanuvio	1.57	199	ePn		Pn		00 32 20.1	+1.3
	558nm,0.3s								
CII	Carovilli	1.59	155	ePN		Pg		00 32 21.5	-0.9
	664nm,0.6s								
CII	Carovilli	1.59	155	ePg		Pg		00 32 21.4	-1.0
CII	Carovilli	1.59	155	ePn		Pg		00 32 21.5	-0.9
	664nm,0.6s								
SEI	Scarperia	1.73	302	ePN		Pg		00 32 24.1	-1.0
	1μm,0.6s								
SEI	Scarperia	1.73	302	ePg		Pg		00 32 24.1	-1.0
SEI	Scarperia	1.73	302	ePn		Pg		00 32 24.1	-1.0
	1μm,0.6s								
NVLJ	Novalja	1.76	37	iPn		Pn		00 32 22.4	+0.9
NVLJ				iSg		Sn		00 32 45.2	+1.1
PII	Pisa	2.16	286	ePN		Pn		00 32 28.8	+1.6
	105nm,0.4s								
PII	Pisa	2.16	286	ePg		Pn		00 32 28.8	+1.6
PII	Pisa	2.16	286	ePn		Pn		00 32 28.8	+1.6
	105nm,0.4s								
RGNG	Rignano Grg	2.20	132	ePN		Pn		00 32 27.8	0.0
RGNG	Rignano Grg	2.20	132	ePg		Pn		00 32 27.8	-0.1
FG5	Orsara di Pugl	2.34	143	ePN		Pn		00 32 30.9	+1.1
	348nm,0.7s								
FG5	Orsara di Pugl	2.34	143	ePg		Pn		00 32 30.9	+1.1
FG5	Orsara di Pugl	2.34	143	ePn		Pn		00 32 30.9	+1.1
	348nm,0.7s								
GSCL	Gusciola	2.35	301	ePN		Pn		00 32 32.8	+2.9
GSCL	Gusciola	2.35	301	ePg		Pn		00 32 32.8	+2.9
TRI	Trieste	2.56	6	ePN		Pn		00 32 33.1	+0.2
	165nm,0.7s								
TRI	Trieste	2.56	6	ePg		Pn		00 32 33.1	+0.2
TRI	Trieste	2.56	6	ePn		Pn		00 32 33.1	+0.2
	165nm,0.7s								
CEY	Cerknica	2.68	16	iPn		Pn		00 32 35.2	+0.5
BOJS	Bojanci	2.69	29	iPn		Pn		00 32 36.5	+1.6
JAVS	Javornik	2.77	10	iPn		Pn		00 32 36.2	+0.3
VISS	Visnje	2.84	21	iPn		Pn		00 32 37.6	+0.8
MRLC	Muro Lucano	2.87	146	ePN		Pn		00 32 38.0	+0.7
MRLC	Muro Lucano	2.87	146	ePg		Pn		00 32 38.0	+0.7
VOY	Vojsko	2.89	7	ePn		Pn		00 32 37.7	+0.1
VOY				eSn		Sn		00 33 12.4	-0.4
SGO	Sicignano	2.97	151	ePN		Pn		00 32 39.4	+0.7
	38nm,0.5s								
SGO	Sicignano	2.97	151	ePn		Pn		00 32 39.4	+0.7
	38nm,0.5s								
CDT	Castel del Mon	2.99	133	ePn		Pn		00 32 38.5	-0.5
LJU	Ljubljana	2.99	15	ePn		Pn		00 32 40.1	+1.0
LJU				eSn		Sn		00 33 16.0	+0.6
CRES	Cresnjev	3.04	28	ePn		Pn		00 32 40.6	+0.8
CADS	Cadrg	3.07	4	iPn		Pn		00 32 40.3	+0.1
ROBS	Robic	3.08	2	iPn		Pn		00 32 40.4	+0.1
LEGS	Legarje	3.11	26	iPn		Pn		00 32 41.6	+0.9
GMNA	Gemona	3.11	358	ePN		Pn		00 32 41.0	+0.2
	226nm,0.3s								
GMNA	Gemona	3.11	358	ePg		Pn		00 32 41.0	+0.2
GMNA	Gemona	3.11	358	ePn		Pn		00 32 41.0	+0.2
	226nm,0.3s								
PDKS	Podkum	3.12	21	iPn		Pn		00 32 41.8	+0.9
CTI	Castel Tesino	3.14	337	ePN		Pn		00 32 41.7	+0.5
	126nm,0.4s								
CTI	Castel Tesino	3.14	337	ePg		Pn		00 32 41.7	+0.5
CTI	Castel Tesino	3.14	337	ePn		Pn		00 32 41.7	+0.5
	126nm,0.4s								
GCIS	Gornji Cirnik	3.14	30	ePn		Pn		00 32 42.2	+1.0
STON	Ston	3.17	94	iPn		Pn		00 32 41.6	0.0
STON				iSn		Sn		00 33 18.3	-1.7
STON	Ston	3.17	94	iPn		Pn		00 32 41.6	-0.1
STON				iSn		Sn		00 33 18.2	-1.8
GORS	Gorjuse	3.18	8	iPn		Pn		00 32 41.9	+0.1
GORS	Gorjuse	3.18	8	iPn		Pn		00 32 41.8	0.0
SAL	Salo	3.19	321	ePN		Pn		00 32 42.5	+0.6
SAL	Salo	3.19	321	ePg		Pn		00 32 42.5	+0.5
SLCN	Sala Consilina	3.24	148	ePN		Pn		00 32 43.5	+0.9
SLCN	Sala Consilina	3.24	148	ePg		Pn		00 32 43.5	+0.9
PTCC	Patocco-Chiusa	3.24	360	ePN		Pn		00 32 42.5	-0.1
	53nm,0.3s								
PTCC	Patocco-Chiusa	3.24	360	ePg		Pn		00 32 42.5	-0.1
PTCC	Patocco-Chiusa	3.24	360	ePn		Pn		00 32 42.5	-0.1
	53nm,0.3s								
GOLS	Golise	3.26	29	iPn		Pn		00 32 43.6	+0.7
PGF	Pioggiola	3.29	261	ePn		Pn		00 32 43.2	-0.1
PGF				eSn		Sn		00 33 21.1	-1.7
	18nm,0.4s								
BAI	Bari	3.31	127	ePn		Pn		00 32 43.5	-0.1
DOBS	Dobrina	3.33	26	iPn		Pn		00 32 44.5	+0.6
SG1	Sgolgore (BA)	3.38	132	ePn		Pn		00 32 44.5	0.0
OBKA	Obir	3.44	13	⇑iPn		Pn		00 32 45.7	+0.2
OBKA				iSN		Sn		00 33 26.0	-0.8
LTRZ	Laterza	3.62	134	ePg		Pn		00 32 47.5	-0.4
LTRZ	Laterza	3.62	134	ePg		Pn		00 32 47.5	-0.5
TREB	Trebinje	3.67	95	ePn		Pn		00 32 50.5	+1.8
PERS	Pernice	3.68	19	iPn		Pn		00 32 49.3	+0.4
PE1	Pezze di Greco	3.82	127	ePn		Pn		00 32 50.2	-0.6
KOGS	Kog	3.86	31	iPn		Pn		00 32 51.5	0.0
FIN	Finale Ligure	3.90	287	ePg		Pn		00 32 53.1	+1.1
KBA	Koelnbreinsper	3.92	360	⇑iPN		Pn		00 32 52.9	+0.7
KBA				iSN		Sn		00 33 38.2	-0.5
BRMO	Bormio	3.95	328	ePg		Pn		00 32 53.9	+1.3
BRMO	Bormio	3.95	328	ePg		Pn		00 32 53.9	+1

LASF Ste Croix 6.98 281 *e*Pn **Pn 00 33 35.2 -0.3**
NKC Novy Kostel 7.10 355 *e*SN **Sn 00 34 52.3 -6.5**
MOX Moxa 7.58 351 *e*P **Pn 00 33 54.0 +10**
SMF Signal de Mont 7.62 300 *e*Pn **Pn 00 33 41.6 -2.9**
SMF *e*Sn **Sn 00 35 03.0 -8.8**
5.4nm,0.5s
AVF Avril sur Loir 7.99 300 *e*Pn **Pn 00 33 44.7 -4.9**
SSF Saint Saulge 8.00 303 *e*Pn **Pn 00 33 46.7 -3.1**
SSF *e*Sn **Sn 00 35 11.2 -10**
2.5nm,0.5s
CLL Collm 8.15 358 *e*Pn **P 00 33 50.0 -1.9**
CLL *e*Sg **Sg 00 36 17.0 -5.0**
CLL Collm 8.15 358 *e*PN **P 00 33 50.0 -1.9**
CLL *e* 00 35 38.0
CLL *e*SG **Sg 00 36 17.0 -5.0**
MTLF Montolieu 8.16 275 *e*Pn **P 00 33 51.9 -0.1**
BGF Bois d'Agland 8.22 298 *e*Pn **P 00 33 49.9 -3.0**
FINES FINESS Array B 19.82 18 P **P 00 36 23.2 -0.7**
0.1nm,0.3s,baz=186,slow=13,SNR=6.4
MKAR Makanchi Array 47.45 60 P **P 00 40 25.9 -1.1**
0.3nm,0.6s,mb3.4,baz=292,slow=6.5,SNR=4.9
SONM Songino Array 61.45 50 P **P 00 42 07.5 -1.9**
0.3nm,0.8s,mb3.5,baz=284,slow=5.9,SNR=3.1
YKA Yellowknife Ar 66.76 337 P **P 00 42 42.2 -1.4**
0.2nm,0.7s,mb3.3,baz=44,slow=5.8,SNR=6.6
YKA Yellowknife Ar 66.76 337 P **P 00 42 42.2 -1.4**

IDC 12 00:45:28.6±3.7, 1.63S×99.91E, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=157.3km s-min=27.4km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.25**	**121**	P	P	00 52 50.8	-1.7
	0.4nm,0.4s,baz=302,slow=9.2,SNR=4.5						
SONM	**Songino Array**	**49.59**	**6**	P	P	00 54 22.1	-1.4
	0.2nm,0.6s,baz=179,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**50.65**	**344**	P	P	00 54 29.3	-2.3
	0.6nm,0.6s,baz=146,slow=8.2,SNR=7.6						
ZAL	**Zalesovo**	**56.78**	**349**	P	P	00 55 14.2	-2.6
	1.2nm,0.5s,baz=326,slow=4.8,SNR=5.2						
TXAR	**Lajitas Array**	**144.46**	**37**	PKP	PKPdf	01 05 06.7	-2.7
	0.4nm,0.6s,baz=292,slow=1.3,SNR=6.1						

IDC 12 00:54:08.6±3.9, 0.10S×97.77E, mb3.5/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=132.9km s-min=29.2km az=61.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.48**	**4**	P	P	00 58 27.5	-0.5
	baz=196,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**40.88**	**121**	P	P	01 01 52.7	-1.5
	0.8nm,0.7s,baz=301,slow=9.0,SNR=5.4						
SONM	**Songino Array**	**48.33**	**8**	P	P	01 02 51.4	-2.4
	0.3nm,1.0s,baz=200,slow=9.2,SNR=3.0						
MKAR	**Makanchi Array**	**48.63**	**346**	P	P	01 02 54.0	-2.1
	0.2nm,0.4s,baz=160,slow=9.4,SNR=4.5						

IDC 12 00:58:20.6±1.9, 1.56S×99.20E, mb3.9/8, mb1 4.0/8, mb1mx3.8/18, mbtmp3.9/8, Error ellipse: s-maj=95.3km s-min=17.4km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.91**	**120**	P	P	01 05 48.0	-2.0
	0.8nm,0.3s,baz=304,slow=9.1,SNR=3.7						
ASAR	**Alice Springs**	**40.16**	**126**	P	P	01 05 58.1	-2.1
	1.1nm,0.6s,baz=300,slow=7.9,SNR=12						
SONM	**Songino Array**	**49.59**	**6**	P	P	01 07 12.9	-2.7
	0.5nm,0.6s,baz=189,slow=9.5,SNR=7.7						
STKA	**Stephens Creek**	**50.04**	**132**	P	P	01 07 18.5	-0.7
	0.7nm,0.5s,baz=304,slow=6.8,SNR=4.7						
MKAR	**Makanchi Array**	**50.40**	**345**	P	P	01 07 20.8	-0.9
	1.5nm,0.6s,baz=150,slow=8.1,SNR=19						
ZAL	**Zalesovo**	**56.59**	**350**	P	P	01 08 05.2	-2.2
	1.7nm,0.4s,baz=311,slow=7.4,SNR=6.2						
BVAR	**Borovoye Array**	**59.50**	**340**	P	P	01 08 25.7	-2.1
	0.4nm,0.5s,baz=159,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**83.35**	**332**	P	P	01 10 47.9	-2.8
	0.8nm,0.7s,baz=90,slow=8.3,SNR=4.1						

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*DJA **12** 01:00:19.8±0.9, 2.56S×99.87E, h33km, mb5.3/4, Error ellipse: s-maj=51.7km s-min=7.2km az=46.0*
*BJI **12** 01:00:24.0, 2.05S×99.45E, h35km, mB5.0, mb4.7, Ms4.8, Msz4.6*
*MOS **12** 01:00:25.7±1.3, 1.72S×99.69E, h33km, mb5.1/24, Error ellipse: s-maj=12.1km s-min=5.8km az=127.2*
*IDC **12** 01:00:26.7±0.3, 1.66S×99.75E, h26km±1km, mb4.5/29, mb1 4.6/29, mb1mx4.6/29, mbtmp4.7/29, MS3.8/9, Ms1 3.8/9, ms1mx3.6/30, Error ellipse: s-maj=13.2km s-min=7.0km az=56.0*
*HRVD **12** 01:00:26.6±1.0, 1.59S×99.60E, h18km±2km, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s9,c9; Mantle waves: s37,c50; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.64±.38; $M_{\theta\theta}$-0.79±.19; $M_{\phi\phi}$-1.85±.26; $M_{r\theta}$-0.79±.64; $M_{\theta\phi}$0.59±.12; $M_{\phi r}$-0.56±.55; Best double couple: $M_0$2.516×10^{16} NP1:ϕ_s322°, δ45°, λ68°. NP2: ϕ_s172°, δ50°, λ110°. Principal axes: T 2.908, Plg74°, Azm148°; N -.783, Plg15°, Azm338°; P -2.124, Plg3°, Azm247°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **12** 01:00:26.6±0.2, 1.73S×99.73E, mb5.0/28 Error ellipse: s-maj=8.2km s-min=4.2km az=46.0*
NEIC Felt [III] at Padangpanjang, Sumatra.

ISC 12 01:00:24.7±0.2, 1.78S±0.04×99.68E±0.04, h28km, **h28**km±.6km**; pP-P, n176,** σ1**19**/160**, mb4.8**/65**, MS4.0**/17**, 10C-9D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PENI	**Pendagan**	**6.65**	**125**	*e*P	**Pn**	**01 02 01.8**	**-1.5**
PENI				pmax	pmax		
	comp=Z,534nm,0.6s						
PENI	**Pendagan**	**6.65**	**125**	⇑*i*pP		01 02 02.5	
PENI	**Pendagan**	**6.65**	**125**	*e*P	**Pn**	**01 02 01.8**	**-1.5**
	comp=Z,1μm,0.6s						
KULM	**Kulim**	**7.09**	**8**	*e*P	**Pn**	**01 02 09.7**	**+0.3**
PASI	**Pasiripis**	**7.65**	**130**	*e*P	**Pn**	**01 02 14.5**	**-2.8**
PULI	**Pulasari**	**7.75**	**126**	⇑*e*P	**Pn**	**01 02 17.6**	**-1.1**
	comp=Z,384nm,0.6s						
BSI	**Banda Aceh**	**8.45**	**329**	*e*P	**P**	**01 02 27.0**	**-1.3**
SNG	**Songkhla**	**8.95**	**6**	P	**P**	**01 02 38.0**	**+2.8**
	comp=Z,162nm,0.9s						
SRDI	**Scrawed**	**15.87**	**115**	*e*P	**P**	**01 04 06.2**	**-1.9**
	comp=Z,91nm,0.2s						
KEDI	**Kedomdong**	**17.67**	**113**	*e*P	**P**	**01 04 31.3**	**+0.5**
	comp=Z,54nm,0.5s						
KKM	**Kota Kinabalu**	**18.25**	**65**	*e*P	**P**	**01 04 39.3**	**+1.2**
CMAR	**Chiang Mai Arr**	**20.12**	**358**	P	**P**	**01 04 58.1**	**-1.4**
	comp=Z,3.9nm,0.6s,baz=188,slow=10,SNR=11						
CMAR				LR	LR	01 13 27.0	
	comp=Z,383nm,18.6s,MS3.8,baz=190,slow=39						
NINI	**Niniconang**	**20.22**	**98**	*e*P	**P**	**01 05 01.4**	**+0.8**
NANT	**Nan**	**20.47**	**3**	⇓pP	**P**	**01 05 01.0**	**-2.2**
	comp=Z,75nm,0.8s						
CHG	**Chiang Mai**	**20.48**	**358**	P	**P**	**01 05 05.7**	**+2.5**
BUNI	**Buntu Taipa**	**20.71**	**96**	*e*P	**P**	**01 05 08.4**	**+2.7**
PALK	**Pallekele**	**20.96**	**296**	*e*P	**P**	**01 05 08.7**	**+0.4**
	comp=Z,13nm,0.9s						
QIZ	**Qiongzhong**	**22.97**	**25**	*e*P	**P**	**01 05 29.3**	**+1.0**
QIZ				*e*S	**S**	**01 09 33.6**	**+1.2**
QIZ				LR	LR		
	comp=E,1μm,11.6s						
QIZ				LR	LR		
	comp=Z,873nm,11.7s,MS4.4						
FITZ	**Fitzroy Crossi**	**30.20**	**124**	*e*P	**P**	**01 06 33.3**	**-2.1**
	comp=Z,15nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.20**	**124**	P	**P**	**01 06 34.7**	**-0.8**
	comp=Z,16nm,0.8s,mb4.8,baz=206,slow=3.7,SNR=10.0						
FITZ				LR	LR	01 19 16.8	
	comp=Z,133nm,18.3s,MS3.6,baz=289,slow=37						
JIRN	**Jiri**	**32.02**	**337**	*e*P	**P**	**01 06 51.0**	**-0.3**
	comp=Z,65nm,0.9s,mb5.5						
PKI	**Pulchoki**	**32.25**	**336**	*e*P	**P**	**01 06 53.1**	**-0.2**
LSA	**Lhasa**	**32.34**	**346**	P	**P**	**01 06 54.4**	**+0.3**
LSA	**Lhasa**	**32.34**	**346**	*e*P	**P**	**01 06 53.9**	**-0.2**
LSA				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.0						
LSA	**Lhasa**	**32.34**	**346**	*e*P	**P**	**01 06 53.9**	**-0.2**
	comp=Z,14nm,0.6s,mb5.0						
DMN	**Daman**	**32.41**	**335**	*e*P	**P**	**01 06 54.2**	**-0.5**
	comp=Z,24nm,0.7s,mb5.1						
KKN	**Kakani**	**32.49**	**336**	*e*P	**P**	**01 06 54.8**	**-0.6**
	comp=Z,36nm,0.7s,mb5.3						
KKN	**Kakani**	**32.49**	**336**	*e*P	**P**	**01 06 54.8**	**-0.6**
KKN				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.0						
GKN	**Gorkha**	**32.95**	**335**	*e*P	**P**	**01 06 58.6**	**-0.8**
	comp=Z,53nm,1.0s,mb5.4						
KOLN	**Koldanda**	**33.20**	**333**	*e*P	**P**	**01 07 01.1**	**-0.5**
	comp=Z,57nm,0.9s,mb5.3						
ENH	**Enshi**	**33.22**	**16**	*e*P	**P**	**01 07 01.5**	**-0.2**
	comp=Z,5.9nm,0.5s,mb4.8						
NWAO	**Narrogin (SRO)**	**35.10**	**154**	P	**P**	**01 07 18.8**	**+0.9**
	comp=Z,7.1nm,0.8s,mb4.6,baz=283,slow=14,SNR=3.1						
XAN	**Xi'an**	**36.67**	**13**	P	**P**	**01 07 30.9**	**-0.3**
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.7						
NJ2	**Nanjing**	**38.24**	**27**	*e*P	**P**	**01 07 46.8**	**+2.4**
NJ2				AP	pP	01 07 56.6	+3.9
NJ2				XP	sP	01 08 00.5	+4.3
NJ2				PP	PP	01 09 19.0	+3.6
NJ2				S	**S**	**01 13 39.0**	**+2.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,556nm,4.1s						
NJ2				LR	LR		
	comp=N,550nm,17.1s,MS4.7						
NJ2				LR	LR		
	comp=E,940nm,19.1s,MS4.7						
NJ2				LR	LR		
	comp=Z,4μm,14.4s						
WRA	**Warramunga Arr**	**38.38**	**120**	P	**P**	**01 07 44.7**	**-1.0**
	comp=Z,6.1nm,0.7s,mb4.5,baz=296,slow=9.4,SNR=22						
WRA				pP	pP	01 07 53.7	-0.3
	comp=Z,11nm,0.7s,baz=304,slow=9.0,SNR=14						
WRA				PcP	PcP	01 09 59.4	0.0
	comp=Z,0.9nm,0.6s,baz=305,slow=2.4,SNR=6.0						
WRAB	**Tennant Creek**	**38.39**	**120**	*e*P	**P**	**01 07 45.3**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**38.39**	**120**	*e*P	**P**	**01 07 45.3**	**-0.5**
	comp=Z,21nm,0.8s,mb4.9						
FORT	**Forrest**	**39.42**	**140**	*e*P	**P**	**01 07 54.1**	**-0.1**
	comp=Z,336nm,0.8s						
ASPA	**Alice Springs**	**39.64**	**126**	*e*P	**P**	**01 07 55.8**	**-0.3**
ASAR	**Alice Springs**	**39.64**	**126**	P	**P**	**01 07 55.9**	**-0.3**
	comp=Z,8.5nm,0.9s,mb4.5,baz=303,slow=7.7,SNR=40						
ASAR				PcP	PcP	01 10 03.9	+0.5
	comp=Z,5.7nm,0.8s,baz=303,slow=2.6,SNR=14						
ASAR				S	**S**	**01 13 58.5**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=300,slow=15,SNR=7.6						
ASAR				LR	LR	01 27 00.8	
	comp=Z,151nm,18.1s,MS3.9,baz=297,slow=40						
HHC	**Hu-ho-hao-te**	**43.79**	**13**	*e*P	**P**	**01 08 29.7**	**-0.3**
HHC				PP	PP	01 10 13.2	-0.4
HHC				PCP	PcP	01 10 15.2	-1.7
HHC				SCP		01 14 05.2	
HHC				PCS		01 14 09.5	
HHC				S	**S**	**01 14 57.9**	**-0.4**
HHC				SCS	ScS	01 18 25.5	+0.7
HHC				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
HHC				AMB	AMB		
	comp=Z,76nm,5.8s						
HHC				LR	LR		
	comp=N,871nm,12.6s,MS4.9						
HHC				LR	LR		
	comp=E,328nm,12.8s,MS4.9						
HHC				LR	LR		
	comp=Z,646nm,12.5s,MS4.7						
BJT	**Baijiatuau**	**44.25**	**18**	*e*P	**P**	**01 08 33.8**	**+0.1**
BJT				pmax	pmax		
	comp=Z,12nm,0.9s						
BJT	**Baijiatuau**	**44.25**	**18**	*e*P	**P**	**01 08 33.8**	**+0.1**
	comp=Z,12nm,0.9s,mb4.6						
BJI	**Beijing**	**44.27**	**18**	P	**P**	**01 08 36.2**	**+2.3**
BJI				AP	pP	01 08 45.0	+2.7
BJI				XP	sP	01 08 48.6	+2.9
BJI				PCP	PcP	01 10 20.6	+2.1
BJI				S	**S**	**01 15 04.3**	**-1.1**
BJI				SS	SS	01 18 28.3	+1.3
BJI				ScS	ScS	01 18 32.3	+4.5
BJI				LR	LR		
	comp=Z,90nm,24.5s,MS3.6						
KSH	**Kashi**	**46.49**	**335**	*e*P	**P**	**01 08 50.7**	**-0.9**
KSH				*e*PCP	PcP	01 10 27.0	+0.8
KSH				*e*PP	PP	01 10 40.3	-0.4
KSH				*e*SCP		01 14 17.4	
KSH				*e*PCS		01 14 20.0	
KSH				*e*S	**S**	**01 15 35.4**	**-1.9**
KSH				*e*SCS	ScS	01 18 42.0	0.0
KSH				*e*SS	SS	01 18 55.0	-0.6
KSH				AMB	AMB		
	comp=Z,380nm,3.9s						
KSH				LR	LR		
	comp=N,440nm,6.5s						
KSH				LR	LR		
	comp=E,350nm,5.2s						
WMQ	**Urumqi**	**46.65**	**348**	⇓P	**P**	**01 08 53.1**	**+0.4**
WMQ				AP	pP	01 09 02.2	+1.1
WMQ				XP	sP	01 09 06.5	+2.0
WMQ				PCP	PcP	01 10 27.1	+0.4
WMQ				PP	PP	01 10 42.7	+0.5
WMQ				S	**S**	**01 15 40.2**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,43nm,2.6s,mb4.9						
WMQ				LR	LR		
	comp=Z,67nm,20.6s,MS3.6						
CTA	**Charters Tower**	**48.98**	**115**	P	**P**	**01 09 10.1**	**-1.2**
	comp=Z,6.0nm,0.8s,mb4.7,baz=236,slow=11,SNR=4.3						
CTA				pP	pP	01 09 20.1	+0.3
	comp=Z,10nm,0.8s,baz=296,slow=12,SNR=4.2						
CTA	**Charters Tower**	**48.98**	**115**	P	**P**	**01 09 10.1**	**-1.2**
CTA				pP	pP	01 09 20.1	+0.3
UCH	**Uchtor**	**49.36**	**335**	P	**P**	**01 09 14.4**	**+0.5**
	SNR=10						
TKM2	**Tokmak 2**	**49.50**	**337**	P	**P**	**01 09 15.2**	**+0.3**
	SNR=10						
STKA	**Stephens Creek**	**49.54**	**132**	⇓*i*P	**P**	**01 09 15.8**	**+0.4**
	comp=Z,7.2nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**49.54**	**132**	P	**P**	**01 09 16.0**	**+0.6**
	comp=Z,7.2nm,0.8s,mb4.8,baz=312,slow=5.7,SNR=17						
STKA				pP	pP	01 09 24.4	+0.5
	comp=Z,8.8nm,0.8s,baz=318,slow=7.3,SNR=8.2						
STKA				LR	LR	01 31 45.1	
	comp=Z,218nm,20.8s,MS4.1,baz=115,slow=38						
KBK	**Karagaybulak**	**49.54**	**336**	P	**P**	**01 09 15.4**	**+0.2**
	SNR=7.9						
AML	**Almayashu**	**49.63**	**335**	P	**P**	**01 09 16.0**	**0.0**
	SNR=11						
AAK	**Ala-Archa**	**49.70**	**336**	P	**P**	**01 09 16.8**	**+0.3**
AAK				pmax	pmax		
	comp=Z,22nm,1.8s,mb4.9						
SONM	**Songino Array**	**49.76**	**6**	P	**P**	**01 09 16.4**	**-0.4**
	comp=Z,5.7nm,0.8s,mb4.6,baz=185,slow=7.1,SNR=25						
SONM				pP	pP	01 09 24.7	-0.6
	comp=Z,8.8nm,0.9s,baz=187,slow=9.1,SNR=17						
SONM				PcP	PcP	01 10 36.9	-0.9
	comp=Z,4.6nm,0.8s,baz=186,slow=4.4,SNR=5.7						
EKS2	**Erkin-Say**	**50.03**	**335**	P	**P**	**01 09 19.1**	**+0.1**
	SNR=20						
USP	**Ospenovka**	**50.23**	**336**	P	**P**	**01 09 20.2**	**-0.3**
	SNR=20						
MKAR	**Makanchi Array**	**50.73**	**345**	P	**P**	**01 09 23.5**	**-0.7**
	comp=Z,14nm,0.8s,mb5.0,baz=150,slow=7.5,SNR=65						
MKAR				pP	pP	01 09 32.1	-0.7
	comp=Z,18nm,0.7s,baz=150,slow=8.0,SNR=22						
MKAR				S	**S**	**01 16 39.5**	**+3.1**
	comp=Z,1.0nm,1.1s,baz=155,slow=17,SNR=3.8						
MKAR				LR	LR	01 32 48.8	
	comp=Z,50nm,21.3s,MS3.5,baz=85,slow=38						
MKAR	**Makanchi Array**	**50.73**	**345**	P	**P**	**01 09 23.5**	**-0.7**
MKAR				pP	pP	01 09 32.1	-0.7
MKAR				S	**S**	**01 16 39.5**	**+3.1**
CN2	**Changchun**	**50.91**	**24**	*e*P	**P**	**01 09 23.4**	**-2.3**
CN2				*e*S	**S**	**01 16 38.3**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,500nm,18.0s,MS4.7						
CN2				LR	LR		
	comp=E,400nm,18.0s,MS4.7						
CN2				LR	LR		
	comp=Z,600nm,19.0s,MS4.6						
KKAR	**Karatay Array**	**51.81**	**333**	P	**P**	**01 09 30.7**	**-1.8**
ZAK	**Zakamensk**	**52.05**	**3**	*e*P	**P**	**01 09 36.1**	**+1.9**
ZAK				*e*		01 10 46.2	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
MJAR	**Matsushiro Arr**	**52.31**	**39**	pP	pP	01 09 42.5	-2.4
	comp=Z,1.2nm,0.4s,baz=211,slow=7.3,SNR=2.6						
MJAR				LR	LR	01 32 46.0	
	comp=Z,74nm,18.1s,MS3.8,baz=210,slow=37						
MDJ	**Mudanjiang**	**53.33**	**26**	P	**P**	**01 09 45.2**	**+1.3**
MDJ				S	**S**	**01 17 18.2**	**+6.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,41nm,6.4s						
MDJ				LR	LR		
	comp=N,88nm,26.6s,MS4.0						
MDJ				LR	LR		
	comp=E,152nm,26.2s,MS4.0						
MDJ				LR	LR		
	comp=Z,157nm,15.0s						
TLY	**Talaya**	**53.37**	**3**	*e*P	**P**	**01 09 46.1**	**+2.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TLY				MLR	MLR		
	comp=Z,181nm,13.0s,MS4.3						
OPO	**Ambohidratompo**	**54.05**	**248**	P	**P**	**01 09 51.0**	**+1.6**
	comp=Z,7.0nm,1.1s,mb4.5,baz=79,slow=8.6,SNR=4.9						
ZAL	**Zalesovo**	**56.88**	**350**	P	**P**	**01 10 08.3**	**-1.3**
	comp=Z,15nm,0.9s,mb5.0,baz=302,slow=5.4,SNR=63						
ZAL				pP	pP	01 10 17.3	-0.8
	comp=Z,14nm,0.5s,baz=307,slow=5.2,SNR=13						
ZAL				S	**S**	**01 17 59.9**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=192,slow=21,SNR=14						
ZAL	**Zalesovo**	**56.88**	**350**	P	**P**	**01 10 08.3**	**-1.3**
ZAL				pP	pP	01 10 17.3	-0.8
ZAL				S	**S**	**01 17 59.9**	**+0.4**
ATD	**Arta Tunnel**	**58.00**	**285**	LR	LR	01 29 12.3	
	comp=Z,55nm,20.6s,MS3.6,baz=83,slow=30						
NVS	**Novosibirsk**	**58.03**	**349**	⇑*i*P	**P**	**01 10 14.9**	**-2.7**
NVS				pmax	pmax		
	comp=N,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
NVS				pmax	pmax		
	comp=E,3.0nm,0.7s						
BVAR	**Borovoye Array**	**59.87**	**340**	P	**P**	**01 10 28.1**	**-2.2**
	comp=E,7.9nm,0.7s,mb4.8,baz=146,slow=9.0,SNR=40						
BVAR				pP	pP	01 10 37.7	-1.3
	comp=E,9.5nm,0.7s,baz=149,slow=8.4,SNR=18						
CHKZ	**Chkalovo**	**60.33**	**341**	*e*P	**P**	**01 10 31.5**	**-2.0**
CHKZ				*e*PP	pP	01 10 40.8	-1.4
CHKZ				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**60.33**	**341**	*e*P	**P**	**01 10 31.5**	**-2.0**
	comp=Z,16nm,0.9s,mb5.0						
CHKZ				*e*pP	pP	01 10 40.8	-1.4
BOD	**Bodaibo**	**60.51**	**9**	*e*P	**P**	**01 10 30.7**	**-4.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
YSS	**Yuzh-Sakhalins**	**61.47**	**32**	*e*P	**P**	**01 10 42.5**	**+1.2**
KMBO	**Kilima Mbogo**	**62.40**	**270**	*e*P	**P**	**01 10 48.5**	**+0.4**
KMBO				*e*	pP	01 10 57.2	+0.5
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMBO	**Kilima Mbogo**	**62.40**	**270**	P	**P**	**01 10 49.0**	**+1.0**
	comp=Z,6.5nm,0.9s,mb4.8,baz=58,slow=9.8,SNR=22						
KMBO	**Kilima Mbogo**	**62.40**	**270**	*e*P	**P**	**01 10 48.5**	**+0.5**
	comp=Z,7.0nm,0.9s,mb4.8						
KMBO				*e*	pP	01 10 57.2	+0.5
GNI	**Garni**	**65.14**	**316**	*e*P	**P**	**01 11 04.8**	**-0.9**
GNI				pmax	pmax		
	comp=Z,11nm,0.9s						
GNI	**Garni**	**65.14**	**316**	P	**P**	**01 11 05.5**	**-0.1**
	comp=Z,7.2nm,1.0s,mb4.7,baz=35,slow=3.5,SNR=8.0						
GNI				pP	pP	01 11 13.4	-0.9
	comp=Z,2.0nm,0.4s,baz=338,slow=13,SNR=4.4						
GNI	**Garni**	**65.14**	**316**	*e*P	**P**	**01 11 04.8**	**-0.9**
	comp=Z,11nm,0.9s,mb4.9						
SVE	**Sverdlovsk**	**66.36**	**338**	⇓*e*P	**P**	**01 11 09.0**	**-4.1**
SVE				*e*		01 11 26.0	
SVE				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.2						
YAK	**Yakutsk**	**67.61**	**15**	*e*P	**P**	**01 11 20.3**	**-0.7**
YAK				*e*PP	pP	01 11 26.0	-3.7
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
YAK				pmax	pmax		
	comp=N,1.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,1.0nm,0.7s						
YAK	**Yakutsk**	**67.61**	**15**	*e*P	**P**	**01 11 19.4**	**-1.6**
	comp=E,31nm,0.5s,mb5.6						
KIV	**Kislovodsk**	**68.16**	**319**	*e*P	**P**	**01 11 24.1**	**-0.7**
KIV				*e*		01 11 53.2	
KIV				*e*S	S	01 20 18.9	-2.6
KIV				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
KIV	**Kislovodsk**	**68.16**	**319**	*e*P	**P**	**01 11 23.6**	**-1.2**
	comp=Z,22nm,1.0s,mb5.1						
ASF	**Jabal al Asfar**	**68.20**	**306**	P	**P**	**01 11 25.1**	**-0.1**
	comp=Z,7.8nm,0.9s,mb4.7,baz=19,slow=2.4,SNR=14						
ASF				pP	pP	01 11 34.4	+0.5
	comp=Z,5.8nm,1.0s,baz=316,slow=3.6,SNR=5.0						
ASF				LR	LR	01 40 51.5	
	comp=Z,87nm,18.8s,MS4.0,baz=184,slow=36						
GOF	**Gofitskoye**	**68.42**	**320**	⇓*i*P	**P**	**01 11 24.1**	**-2.2**
GOF				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
MALT	**Malatya**	**68.95**	**312**	*e*P	**P**

comp=E,2.2nm,0.7s,baz=132,slow=8.3,SNR=6.3
BOSA Boshof 75.48 241 P P 01 12 09.3 +0.6
BOSA pP pP 01 12 17.0 -0.5
comp=E,5.2nm,0.9s,mb4.5,baz=114,slow=11,SNR=4.6
BOSA LR LR 01 42 16.4
comp=E,3.7nm,0.9s,baz=78,slow=9.9,SNR=4.0
BOSA Boshof 75.48 241 P P 01 12 09.3 +0.6
BOSA pP pP 01 12 17.0 -0.5
comp=E,81nm,20.9s,MS4.0,baz=166,slow=33
OBN Obninsk 76.44 328κ *iP* **P 01 12 13.0 -0.6**
OBN *e* pP 01 12 20.7 -1.6
OBN pmax pmax
comp=E,35nm,1.8s,mb5.0
TIRR Tirgusor 77.97 316 ⇑P **P 01 12 21.0 -1.3**
SYO Syowa Base 77.97 199 ⇑P **P 01 12 20.5 -1.3**
CFR Carcaliu 78.34 317 ⇑P **P 01 12 24.7 +0.4**
IDI Anoyia 78.65 306 P P 01 12 26.5 +0.3
comp=Z,15nm,0.9s,mb4.9,baz=81,slow=9.8,SNR=8.8
IDI pP pP 01 12 35.1 +0.1
comp=Z,16nm,1.0s,baz=52,slow=5.5,SNR=4.9
AKASG Malin Array Be 79.11 322 P P 01 12 27.2 -1.1
comp=Z,3.5nm,0.8s,mb4.3,baz=88,slow=4.7,SNR=12
VRI Vrincioaia 79.47 317 ⇑P **P 01 12 30.5 +0.1**
MLR Muntele Rosu 79.92 317 P P 01 12 33.5 +0.7
comp=Z,16nm,0.9s,mb5.0,baz=134,slow=2.2,SNR=34
MLR pP pP 01 12 41.8 +0.1
comp=Z,12nm,0.9s,baz=82,slow=19,SNR=9.2
MLR Muntele Rosu 79.92 317 ⇓P **P 01 12 32.7 -0.1**
BURAR Bucovina Array 80.88 319 ⇑P **P 01 12 38.7 +0.8**
BURAR Bucovina Array 80.88 319 ⇑P **P 01 12 38.7 +0.8**
JOF Joensuu 81.88 335 *ep* **P 01 12 40.4 -2.4**
comp=Z,5.4nm,0.8s,mb4.5
VNDA Vanda 82.44 169 P P 01 12 46.9 +1.4
comp=Z,2.5nm,0.8s,mb4.2,baz=289,slow=4.7,SNR=13
VNDA sP sP 01 12 57.9 +0.6
comp=Z,2.7nm,0.9s,baz=331,slow=2.3,SNR=6.1
VNDA Vanda 82.44 169 P P 01 12 46.9 +1.4
VNDA sP sP 01 12 57.9 +0.6
KOLS Kolonicke sedl 83.07 320 *iP* **P 01 12 50.1 +0.8**
KOLS *e* pP 01 12 58.6 +0.4
SUW Suwalki 83.52 325 *eP* **P 01 12 50.8 -0.6**
SUW *e* pP 01 12 58.7 -1.6
SUW pmax pmax
comp=Z,41nm,0.9s,mb5.6
SUW Suwalki 83.52 325 *eP* **P 01 12 50.8 -0.7**
comp=Z,41nm,0.9s,mb5.6
SUW *e* pP 01 12 58.7 -1.6
CRVS Cervenica-Dubn 83.59 319 *eP* **P 01 12 53.5 +1.5**
FINES FINESS Array B 83.77 332 P P 01 12 52.4 -0.1
comp=Z,6.5nm,0.7s,mb4.9,baz=107,slow=5.7,SNR=41
FINES pP pP 01 13 01.1 -0.4
comp=Z,2.8nm,0.5s,baz=110,slow=6.0,SNR=4.3
KAF Kangasniemi 83.84 333 *ep* **P 01 12 50.6 -2.3**
baz=100,slow=4.7
NIE Niedzica 84.42 320 *eP* **P 01 12 57.0 +0.9**
OJC Ojcow 84.88 321 *eP* **P 01 12 59.3 +0.9**
OKC Ostrava-Krasne 85.88 320 *eP* **P 01 13 04.0 +0.6**
ARCES ARCESS Array B 86.16 340 P P 01 13 05.2 +0.9
comp=Z,13nm,0.8s,mb5.2,baz=104,slow=5.0,SNR=16
ARCES pP pP 01 13 14.4 +1.2
comp=Z,9.4nm,0.8s,baz=105,slow=4.1,SNR=5.1
MORC Moravsky Berou 86.26 320 *eP* **P 01 13 05.3 0.0**
MORC *e* pP 01 13 14.7 +0.5
MORC pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
MORC Moravsky Berou 86.26 320 *eP* **P 01 13 05.3 0.0**
comp=Z,4.5nm,1.0s,mb4.7
MORC *e* pP 01 13 14.7 +0.5
ZST Bratislava 86.36 318 *eP* **P 01 13 07.1 +1.3**
ZST *ep*P pP 01 13 15.3 +0.6
VRAC Vranov 86.82 319 ⇑P **P 01 13 08.3 +0.3**
DPC Dobruska-Polom 87.11 320 *eP* **P 01 13 10.3 +0.9**
UPC Upice 87.32 321 *eP* **P 01 13 11.7 +1.3**
QSPA South Pole Qui 88.18 180 ⇓*iP* **P 01 13 16.3 +2.4**
comp=Z,7.4nm,0.8s,mb5.0
PRU Pruhonice 88.21 320 *eP* **P 01 13 15.4 +0.7**
PVCC Panska Ves 88.24 320 *eP* **P 01 13 13.3 -1.5**
BRG Berggiesshubel 88.67 321 *eP* **P 01 13 17.8 +1.0**
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
BRG Berggiesshubel 88.67 321 *eP* **P 01 13 17.8 +1.0**
comp=Z,5.7nm,1.0s,mb4.9
GERES GERESS Array B 88.67 319 P P 01 13 17.5 +0.6
comp=Z,3.0nm,0.8s,mb4.7,baz=72,slow=4.2,SNR=15
KHC Kasperske Hory 88.77 319 *eP* **P 01 13 18.7 +1.3**
CLL Collm 89.29 321 *iP* **P 01 13 20.7 +0.9**
CLL pmax pmax
comp=Z,11nm,1.1s,mb5.1
CLL Collm 89.29 321 *iP* **P 01 13 20.7 +0.9**
comp=Z,11nm,1.1s,mb5.1
CLL *e* 01 13 56.0
CLL Collm 89.29 321 P P 01 13 20.7 +0.9
comp=Z,logA/T=1.0,mb5.1
CLL *e* 01 13 56.0
HFS Hagfors 89.52 330 P P 01 13 21.1 +0.4
comp=Z,3.2nm,0.7s,mb4.8,baz=124,slow=5.3,SNR=9.4
HFS pP pP 01 13 29.8 +0.2
comp=Z,2.2nm,0.6s,baz=117,slow=3.3,SNR=2.7
NKC Novy Kostel 89.58 320 *eP* **P 01 13 22.5 +1.3**
MOX Moxa 90.13 320 *eP* **P 01 13 24.0 +0.3**
GRA1 Grafenberg Arr 90.34 320 *eP* **P 01 13 25.5 +0.8**
comp=Z,10.0nm,1.2s,mb5.0
GRA1 *ep*P pP 01 13 34.8 +1.1
GRF Grafenberg Arr 90.34 320 *eP* **P 01 13 25.5 +0.8**
GRF *e**PP pP 01 13 34.8 +1.1
GRF pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
GRF Grafenberg Arr 90.34 320 *eP* **P 01 13 25.5 +0.8**
GRF *e**PP pP 01 13 34.8 +1.1
GRF pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
GRF Grafenberg Arr 90.34 320 *eP* **P 01 13 25.5 +0.8**
comp=Z,10.0nm,1.2s,mb5.0
GRF *ep*P pP 01 13 34.8 +1.1
NOA NORSAR Array B 90.79 331 P P 01 13 27.8 +1.3
comp=Z,0.9nm,0.8s,mb4.2,baz=96,slow=4.7,SNR=3.3
DAVOX Davos 91.14 317 P P 01 13 29.6 +1.1
comp=Z,13nm,0.9s,mb5.3,baz=87,slow=3.7,SNR=10
ILAR Eielson Array 101.43 24 PKKPbc 01 30 24.4
comp=Z,0.9nm,0.8s,baz=155,slow=2.4,SNR=8.3
YKA Yellowknife Ar 114.25 17 PKP PKPdf 01 19 02.1 -4.4
comp=Z,0.4nm,0.8s,baz=314,slow=2.6,SNR=7.4
YKA pPKP 01 19 10.5
comp=Z,0.4nm,0.8s,baz=315,slow=1.9,SNR=5.5
YKA PKKPab 01 29 50.9
comp=Z,0.2nm,0.7s,baz=137,slow=4.9,SNR=4.4
NVAR Mina Array Bea 129.63 39 PKP PKPdf 01 19 35.6 -1.2
comp=Z,0.6nm,0.6s,baz=288,slow=0.6,SNR=5.1
ULM Lac du Bonnet 129.93 13 PKP PKPdf 01 19 33.9 -3.1
comp=Z,1.9nm,0.6s,baz=260,slow=3.8,SNR=2.9
ULM Lac du Bonnet 129.93 13 PKP PKPdf 01 19 33.9 -3.1
PDAR Pinedale Array 131.54 29 PKP PKPdf 01 19 38.2 -2.1
comp=Z,0.4nm,0.8s,baz=342,slow=2.9,SNR=3.1
PDAR pPKP 01 19 45.8
comp=Z,0.5nm,0.7s,baz=135,slow=2.1,SNR=3.4
PDAR SKPbc 01 22 59.4
comp=Z,0.5nm,0.9s,baz=342,slow=5.7,SNR=3.6
MSU Marysvale 133.25 35 *e*PKIKP PKPdf 01 19 40.6 -3.1
PV10 Paradox Valley 135.08 32 *e*PKP PKPdf 01 19 45.1 -2.0
ANMO Albuquerque 139.00 33 PKiKP 01 19 44.3
comp=Z,0.7nm,0.4s,baz=277,slow=3.1,SNR=4.5
BDFB Brasilia 143.67 240 PKP PKPdf 01 19 58.6 -4.4
comp=Z,3.0nm,0.7s,baz=152,slow=1.3,SNR=4.2
LTX Lajitas 144.72 37 *e*PKIKP PKPdf 01 19 59.9 -4.7
TXAR Lajitas Array 144.72 37 PKP PKPdf 01 20 00.8 -3.7
comp=Z,8.2nm,0.7s,baz=270,slow=1.3,SNR=51
TXAR pPKP 01 20 09.7
comp=Z,7.5nm,0.7s,baz=177,slow=1.2,SNR=14
CFAA Coronel Fontan 144.87 198 PKPbc PKPbc 01 20 01.8 +1.8
comp=Z,3.4nm,0.8s,baz=173,slow=2.7,SNR=51
CFAA pPKPbc 01 20 10.4
comp=Z,1.0nm,0.6s,baz=152,slow=2.8,SNR=5.8
WVT Waverly 145.12 11 *e*PKP PKPdf 01 19 59.9 -5.1
WVT *e* 01 20 08.8
MIAR Mount Ida 145.13 19 *e*PKIKP PKPdf 01 20 00.7 -4.5
TZTN Tazewell 145.28 5 *e*PKP PKPdf 01 20 00.7 -4.6
UALR University of 145.31 18 *e*PKPdf PKPdf 01 20 01.2 -4.3
UALR *e* 01 20 09.3
JCT Junction City 146.00 31 *e*PKPdf PKPdf 01 20 04.1 -2.7
JCT *e* 01 20 12.6
CPCT Cooper Cave 146.27 6 *e*PKPdf PKPdf 01 20 04.3 -2.8
SWET Sewanee 146.32 8 *e*PKPdf PKPdf 01 20 03.0 -4.1
OXF Oxford 146.35 14 *e*PKPdf PKPdf 01 20 04.1 -3.2
OXF *e* 01 20 12.9
JSC Jenkinsville 147.65 1 *e*PKP2 PKPab 01 20 08.2 -3.4

GOGA Godfrey 148.40 5 *e*PKP2 PKPab 01 20 10.5 -4.1
LVC Limon Verde 153.32 204 PKPbc PKPdf 01 20 24.3 +6.0
comp=Z,5.1nm,0.8s,baz=253,slow=2.3,SNR=6.7
LVC PKPab PKPab 01 20 36.3 +0.8
comp=Z,6.0nm,0.8s,baz=115,slow=1.9,SNR=5.5
LVC Limon Verde 153.32 204 PKPbc PKPdf 01 20 24.3 +6.0
LVC PKPab PKPab 01 20 36.3 +0.8
SIV San Ignacio 154.04 226 PKP PKPdf 01 20 17.4 -2.1
comp=Z,0.4nm,0.8s,baz=127,slow=19,SNR=3.8
SIV PKPbc PKPdf 01 20 24.3 +4.9
comp=Z,3.0nm,0.8s,baz=99,slow=5.0,SNR=15
SIV pPKPbc 01 20 32.8
comp=Z,1.5nm,0.7s,baz=113,slow=2.3,SNR=4.4
LPAZ La Paz 158.38 213 PKP PKPdf 01 20 24.1 -1.1
comp=Z,0.6nm,0.6s,baz=172,slow=7.1,SNR=4.2
LPAZ PKPab PKPab 01 20 58.1 +0.9
comp=Z,2.0nm,0.8s,baz=133,slow=3.9,SNR=5.7

GCG ***12*** *01:05:16.3, 13.94N×91.27W, h50km, MD3.8*
SSS ***12*** *01:05:17.3, 14.09N×91.31W, h49km, MD3.9*
CASC 12 01:05:16.3±1.5, 13.91N×91.24W, h8km±11km, MD3.7, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.56**	**317**	⇓*eP*	Pg	01 05 26.4	-1.2
JAT				*eS*	Sg	01 05 36.4	+1.2
FUG	**Fuego 3**	**0.66**	**36**	⇑*eP*	Pg	01 05 30.1	+0.4
IXG	**Ixpaco**	**0.81**	**71**	*eP*	Pb	01 05 32.2	+0.1
RBDL	**Robledal**	**1.52**	**82**	*eP*	Pn	01 05 43.6	-0.4
RTR	**El Retiro**	**1.55**	**90**	*eP*	Pn	01 05 44.4	0.0
SBLS	**San Blas**	**1.57**	**92**	*eP*	Pn	01 05 43.9	-0.8
SBLS				*eS*	Sb	01 06 06.4	+1.2
SNJE	**San Jose**	**1.59**	**91**	*eP*	Pn	01 05 44.5	-0.4
LFRS	**El Faro**	**2.13**	**97**	*eP*	Pn	01 05 52.5	-0.3
LFRS				*eS*	Sn	01 06 19.8	+0.1
LCBS	**La Ceiba**	**2.21**	**96**	*eP*	Pn	01 05 54.0	+0.1

INMG ***12*** *01:13:30.1±0.7, 36.53N×7.42W, h24km±12km, ML1.3, Error ellipse: s-maj=8.9km s-min=3.4km az=34.0*
MDD 12 01:13:30.0±1.7, 36.50N×7.44W, h41km±51km, mb3.3/5, 1C, Error ellipse: s-maj=16.8km s-min=9.0km az=32.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALC	**Alcoutim**	**0.97**	**358**	*iP*	P	01 13 46.6	-0.6
PALC				*eS*	S	01 13 58.7	-1.3
7.8nm,0.1s							
PALC	**Alcoutim**	**0.97**	**358**	⇑P	P	01 13 46.6	-0.6
PALC				S	S	01 13 58.7	-1.3
3.9nm,0.1s							
EGRO	**El Granado**	**1.04**	**358**	P	P	01 13 47.3	-0.9
1.3nm,0.1s,SNR=7.7							
EGRO				S	S	01 14 00.4	-1.4
3.6nm,0.1s,SNR=5.0							
ESPR	**Espera**	**1.32**	**73**	P	P	01 13 51.5	-0.9
0.8nm,0.1s,SNR=6.1							
ESPR				S	S	01 14 07.4	-1.7
3.9nm,0.2s,SNR=5.0							
EMIN	**Mina Concepcio**	**1.41**	**25**	P	P	01 13 52.1	-1.5
0.1nm,0.0s,SNR=7.0							
EMIN				S	S	01 14 08.9	-2.3
0.5nm,0.1s,SNR=5.0							
PTEO	**Sao Teotonio**	**1.47**	**316**	*eP*	P	01 13 53.2	-1.3
PBEJ	**Beja**	**1.57**	**347**	*eS*	S	01 14 13.0	-2.1
0.8nm,0.1s							
PBEJ	**Beja**	**1.57**	**347**	S	S	01 14 13.0	-2.1
0.4nm,0.1s							
EMIJ	**Mijas**	**2.15**	**87**	S	S	01 14 26.7	-2.9
2.0nm,0.6s,SNR=7.9							
EBAD	**Badajoz**	**2.28**	**8**	P	P	01 14 05.6	-0.4
0.8nm,0.5s,SNR=7.9							
EBAD				S	S	01 14 29.5	-3.5
1.9nm,0.4s,SNR=7.9							
PCBR	**Castelo Branco**	**3.34**	**359**	*eP*n	P	01 14 19.0	-2.1
PCBR				*eS*n	S	01 14 55.4	-4.5
0.4nm,0.1s							
PCBR	**Castelo Branco**	**3.34**	**359**	P	P	01 14 19.0	-2.1
PCBR				S	S	01 14 55.4	-4.5
0.2nm,0.1s							
ETOB	**Tobarra**	**5.14**	**64**	P	P	01 14 43.0	-3.5
0.4nm,0.2s,SNR=7.9							
ETOB				S	S	01 15 38.5	-7.0
2.6nm,0.9s,SNR=7.9							

GCG ***12*** *01:14:26.0, 13.63N×91.22W, h136km, MD4.2*
SSS ***12*** *01:14:26.7, 13.56N×91.62W, h35km, MD3.9*
CASC 12 01:14:29.3±2.7, 13.45N×91.18W, MD3.8, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.97**	**333**	*eP*	Pb	01 14 47.8	-0.9
JAT				*eS*	Sg	01 15 04.8	+3.1
IXG	**Ixpaco**	**1.01**	**44**	*eP*	Pb	01 14 49.6	+0.2
TP2	**Tecpan 2**	**1.34**	**7**	⇑*eP*	Pb	01 14 54.4	-0.6
TP2				*eS*	Sb	01 15 13.2	+0.6
RTR	**El Retiro**	**1.56**	**73**	*eP*	Pn	01 14 57.9	-0.5
RTR				*eS*	Sb	01 15 22.3	+3.3
SBLS	**San Blas**	**1.57**	**75**	*eP*	Pn	01 14 57.6	-0.9
SNJE	**San Jose**	**1.59**	**74**	*eP*	Pn	01 14 58.6	-0.3
LCBS	**La Ceiba**	**2.15**	**84**	*eP*	Pn	01 15 06.2	-0.7

IGQ 12 01:15:25.6, 2.11S×79.71W, h15km±2km, mb4.0, 2C-10D, Error ellipse: s-maj=4.0km s-min=1.3km az=77.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.24**	**60**	⇓P	Pb	01 15 49.8	+1.7
IGUA				S	Sb	01 16 06.7	+3.0
SALI	**Salinas**	**1.28**	**267**	P	Pb	01 15 49.2	+0.3
HOJA	**Cerro de Hojas**	**1.34**	**322**	⇓P	Pn	01 15 50.2	+0.2
ARRY	**Arrayan**	**1.39**	**64**	⇓P	Pn	01 15 51.5	+0.8
ARRY				S	Sb	01 16 09.5	+1.4
JUIV	**Juive**	**1.42**	**61**	⇓P	Pn	01 15 52.2	+1.1
JUIV				S	Sb	01 16 10.0	+1.0
ULBA	**Ulba**	**1.46**	**63**	P	Pn	01 15 53.2	+1.6
ULBA				S	Sb	01 16 12.3	+2.2
PISA	**Pisayambo**	**1.69**	**52**	⇓P	Pn	01 15 57.6	+2.8
PISA				S	Sn	01 16 21.4	+5.1
NAS1	**Nasa**	**1.92**	**40**	⇓P	Pn	01 16 01.5	+3.4
NAS1				S	Sn	01 16 25.6	+3.5
TAMB	**Tambo**	**1.94**	**44**	P	Pn	01 16 01.2	+2.7
VC1	**Cotopaxi 1**	**1.96**	**42**	⇓P	Pn	01 16 01.3	+2.5
JUA2	**San Juan 2**	**2.19**	**30**	P	Pn	01 16 04.3	+2.3
JUA2				S	Sn	01 16 32.2	+3.2
TERV	**Terraza Guagua**	**2.22**	**30**	P	Pn	01 16 04.8	+2.3
TERV				S	Sn	01 16 33.2	+3.4
GGP	**Refugio Guagua**	**2.22**	**30**	⇓P	Pn	01 16 04.9	+2.3
GGP				S	Sn	01 16 33.4	+3.4
PINO	**Pino**	**2.23**	**30**	⇓P	Pn	01 16 04.8	+2.2
ANTI	**Antisana**	**2.26**	**43**	⇑P	Pn	01 16 05.2	+2.0
YANA	**Yana**	**2.28**	**30**	⇓P	Pn	01 16 05.4	+2.0
YANA				S	Sn	01 16 34.9	+3.4
JOR1	**San Jorge 1**	**2.35**	**27**	⇑P	Pn	01 16 03.4	-1.0
JOR1				S	Sn	01 16 29.7	-3.6
CAYR	**Refugio Cayamb**	**2.71**	**39**	P	Pn	01 16 12.1	+2.5
CAYA	**Cayambe**	**2.77**	**38**	P	Pn	01 16 12.1	+1.8
ECEN	**Cerro Negro**	**3.40**	**31**	P	Pn	01 16 21.7	+2.5

IDC 12 01:20:22.8±3.6, 1.47S×100.25E, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=148.0km s-min=27.1km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.05**	**121**	P	P	01 27 43.2	-1.8
0.3nm,0.4s,baz=304,slow=9.0,SNR=3.1							
SONM	**Songino Array**	**49.40**	**5**	P	P	01 29 15.3	-1.0
0.2nm,0.5s,baz=182,slow=11,SNR=3.4							
MKAR	**Makanchi Array**	**50.59**	**344**	P	P	01 29 23.1	-2.3
0.6nm,0.5s,baz=160,slow=8.9,SNR=12							
ZAL	**Zalesovo**	**56.69**	**349**	P	P	01 30 07.3	-3.1
1.0nm,0.4s,baz=226,slow=4.5,SNR=3.4							
TXAR	**Lajitas Array**	**144.13**	**37**	PKP	PKPdf	01 40 00.2	-2.8
0.2nm,0.5s,baz=243,slow=1.3,SNR=3.8							

IDC 12 01:22:24.5±3.6, 1.55S×100.12E, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=150.0km s-min=24.3km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.12**	**121**	P	P	01 29 45.3	-1.9
1.0nm,0.5s,baz=302,slow=9.2,SNR=3.0							
ASAR	**Alice Springs**	**39.43**	**127**	P	P	01 29 56.9	-1.3
0.3nm,0.5s,baz=301,slow=8.1,SNR=3.7							
SONM	**Songino Array**	**49.48**	**6**	P	P	01 31 16.9	-1.7
0.1nm,0.4s,baz=194,slow=5.9,SNR=2.5							
MKAR	**Makanchi Array**	**50.63**	**344**	P	P	01 31 25.2	-2.1
0.6nm,0.6s,baz=144,slow=7.8,SNR=6.9							
TXAR	**Lajitas Array**	**144.27**	**37**	PKP	PKPdf	01 42 02.0	-3.0
0.4nm,0.6s,baz=312,slow=0.5,SNR=7.8							

DJA ***12*** *01:24:48.9±0.4, 1.84S×99.44E, h33km, mb5.8/3, Error ellipse: s-maj=17.2km s-min=6.2km az=55.0*
IDC ***12*** *01:24:48.5±0.4, 1.64S×99.60E, mb4.8/27, mb1 4.8/27, mb1mx4.8/29, mbtmp4.8/27, Error ellipse: s-maj=17.7km s-min=9.9km az=48.0*
BJI ***12*** *01:24:50.4, 1.87S×99.80E, h38km, mB4.9, mb4.8, Ms4.9, Msz4.6*
MOS ***12*** *01:24:51.7±1.4, 1.60S×99.72E, h33km, mb5.1/26, Error ellipse: s-maj=11.1km s-min=5.7km az=123.7*
NEIC ***12*** *01:24:52.8±0.2, 1.66S×99.64E, h30km, mb5.0/30, MS4.1/1, Error ellipse: s-maj=7.4km s-min=3.9km az=48.0*
NEIC Felt [III] at Padangpanjang, Sumatra.
ISC 12 01:24:50.2±0.2, 1.62S±0.04×99.71E±0.04, h24km, h24km±1.2km: pP-P, n184, σ1°08/166, mb4.9/73, MS4.7/11, 18C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.35**	**31**	*eP*n	**Pn**	**01 25 14.0**	**+0.2**
KGM	**Kluang**	**5.11**	**45**	P	**Pn**	**01 26 11.8**	**+4.4**
IPM	**Ipoh**	**6.30**	**12**	P	**Pn**	**01 26 25.8**	**+1.6**
PENI	**Pendagan**	**6.71**	**126**	*eP*	**Pn**	**01 26 29.4**	**-0.6**
2μm,0.5s							
KULM	**Kulim**	**6.93**	**8**	*eP*	**Pn**	**01 26 33.3**	**+0.2**
PASI	**Pasiripis**	**7.73**	**131**	*eP*	**Pn**	**01 26 42.0**	**-2.2**
PULI	**Pulasari**	**7.82**	**127**	⇓*i*pP		01 26 44.8	
PULI	**Pulasari**	**7.82**	**127**	⇑*iP*	**Pn**	**01 26 43.8**	**-1.6**
695nm,0.7s							
BSI	**Banda Aceh**	**8.33**	**328**	*eP*	**P**	**01 26 51.0**	**-1.6**
SNG	**Songkhla**	**8.79**	**6**	P	**P**	**01 26 57.5**	**-1.4**
278nm,0.9s							
SRDI	**Scrawed**	**15.90**	**116**	*eP*	**P**	**01 28 32.8**	**-1.6**
KEDI	**Kedomdong**	**17.70**	**113**	*eP*	**P**	**01 28 57.2**	**+0.2**
64nm,0.6s							
KKM	**Kota Kinabalu**	**18.16**	**65**	*eP*	**P**	**01 29 06.0**	**+3.2**
CM31	**Chiang Mai Arr**	**19.97**	**358**	*eP*	**P**	**01 29 20.9**	**-3.1**
11nm,0.6s							
CMAR	**Chiang Mai Arr**	**19.97**	**358**	P	**P**	**01 29 19.2**	**-4.7**
1.9nm,0.3s,baz=189,slow=11,SNR=32							
NINI	**Niniconang**	**20.21**	**98**	*eP*	**P**	**01 29 27.0**	**+0.5**
NANT	**Nan**	**20.32**	**3**	⇑P	**P**	**01 29 25.0**	**-2.5**
148nm,0.8s							
CHG	**Chiang Mai**	**20.32**	**358**	P	**P**	**01 29 26.6**	**-1.0**
BUNI	**Buntu Taipa**	**20.69**	**96**	*eP*	**P**	**01 29 32.5**	**+1.1**
QIZ	**Qiongzhong**	**22.81**	**25**	P	**P**	**01 29 53.0**	**+0.2**
QIZ				LR	LR		
comp=N,722nm,11.8s,MS4.7							
QIZ				LR	LR		
comp=E,1μm,12.4s,MS4.7							
QIZ				LR	LR		
comp=Z,1μm,13.2s,MS4.5							
VIS	**Vishakhapatnam**	**25.10**	**321**	*eP*	**P**	**01 30 16.1**	**+1.2**
VIS				*e*		01 33 11.6	
KMI	**Kunming**	**26.75**	**6**	P	**P**	**01 30 30.5**	**+0.3**
KMI				LR	LR		
comp=N,945nm,11.6s,MS4.7							
KMI				LR	LR		
comp=E,1μm,12.6s,MS4.7							
KMI				LR	LR		
comp=Z,1μm,14.5s,MS4.5							
MBWA	**Marble Bar**	**27.54**	**136**	*eP*	**P**	**01 30 36.9**	**-0.5**
comp=Z,5.6nm,0.6s,mb4.4							
GYA	**Guiyang**	**28.71**	**13**	⇑*iP*	**P**	**01 30 47.4**	**-0.6**
GYA				AP	pP	01 30 54.5	-0.6
GYA				PP	PP	01 31 39.6	-1.3
GYA				AMB	AMB		
comp=Z,40nm,0.8s,mb5.2							
GYA				LR	LR		
comp=N,2μm,15.4s,MS5.0							
GYA				LR	LR		
comp=E,2μm,15.6s,MS5.0							
GYA				LR	LR		
comp=Z,2μm,15.8s,MS4.9							
FITZ	**Fitzroy Crossi**	**30.26**	**124**	⇑*iP*	**P**	**01 31 01.2**	**-0.7**
comp=Z,36nm,0.8s,mb5.2							
FITZ	**Fitzroy Crossi**	**30.26**	**124**	P	**P**	**01 31 01.3**	**-0.6**
comp=Z,55nm,0.8s,mb5.3,baz=324,slow=4.1,SNR=32							
JIRN	**Jiri**	**31.89**	**337**	*eP*	**P**	**01 31 16.8**	**+0.7**
comp=Z,64nm,0.6s,mb5.6							
PKI	**Pulchoki**	**32.12**	**336**	*eP*	**P**	**01 31 18.6**	**+0.4**
LSA	**Lhasa**	**32.20**	**346**	P	**P**	**01 31 19.6**	**+0.8**
LSA	**Lhasa**	**32.20**	**346**	*eP*	**P**	**01 31 19.9**	**+1.1**
LSA				pmax	pmax		
comp=Z,33nm,0.5s,mb5.4							
LSA	**Lhasa**	**32.20**	**346**	*eP*	**P**	**01 31 19.9**	**+1.0**
comp=Z,33nm,0.5s,mb5.4							
GUN	**Gumba**	**32.23**	**337**	*eP*	**P**	**01 31 19.8**	**+0.7**
comp=Z,132nm,0.7s,mb5.9							
DMN	**Daman**	**32.28**	**335**	*eP*	**P**	**01 31 19.8**	**+0.3**
comp=Z,28nm,0.7s,mb5.2							
KKN	**Kakani**	**32.37**	**336**	*eP*	**P**	**01 31 20.3**	**0.0**
GKN	**Gorkha**	**32.82**	**335**	*eP*	**P**	**01 31 24.6**	**+0.3**
comp=Z,31nm,0.6s,mb5.5							
ENH	**Enshi**	**33.06**	**16**	*eP*	**P**	**01 31 24.6**	**-1.8**
comp=Z,24nm,0.8s,mb5.2							
KOLN	**Koldanda**	**33.08**	**333**	*eP*	**P**	**01 31 27.0**	**+0.5**
comp=Z,49nm,0.7s,mb5.6							
NWAO	**Narrogin (SRO)**	**35.23**	**154**	P	**P**	**01 31 45.7**	**+0.7**
comp=Z,11nm,0.9s,mb4.8,baz=298,slow=8.3,SNR=5.6							
LGTI	**Lohaghat**	**36.07**	**330**	*eP*	**P**	**01 31 53.0**	**+0.8**
LGTI				*e*		01 34 50.3	
XAN	**Xi'an**	**36.52**	**13**	P	**P**	**01 31 54.4**	**-1.4**
XAN				AMB	AMB		
comp=Z,28nm,0.8s,mb5.1							
LZH	**Lanzhou**	**37.71**	**5**	*eP*	**P**	**01 32 06.0**	**+0.1**
LZH				AP	pP	01 32 14.6	+1.5
LZH				XP	sP	01 32 17.5	+1.4
LZH				PP	PP	01 33 36.0	+0.9
LZH				AMB	AMB		
comp=Z,23nm,1.0s,mb4.9							
LZH				AMB	AMB		
comp=Z,110nm,5.0s							
LZH				LR	LR		
comp=E,725nm,13.5s							
LZH				LR	LR		
comp=Z,1μm,13.6s,MS4.8							
LZH	**Lanzh

NJ2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
NJ2 AMB AMB
comp=Z,440nm,4.0s
NJ2 LR LR
comp=N,880nm,12.0s
NJ2 LR LR
comp=E,1μm,18.0s
NJ2 LR LR
comp=Z,6μm,13.0s,MS5.6
WRA Warramunga Arr 38.44 121 P **P 01 32 12.0 -0.1**
comp=Z,34nm,0.8s,mb5.1,baz=297,slow=9.4,SNR=67
WRAB Tennant Creek 38.44 121 *e*P **P 01 32 11.4 -0.7**
WRAB pmax pmax
comp=Z,45nm,0.6s,mb5.4
WRAB Tennant Creek 38.44 121 *e*P **P 01 32 11.4 -0.7**
comp=Z,45nm,0.6s,mb5.4
JOW Kunigami 39.48 42 P **P 01 32 22.6 +1.9**
comp=Z,13nm,0.8s,mb4.7,baz=160,slow=15,SNR=2.6
FORT Forrest 39.52 140 *e*P **P 01 32 22.6 +1.6**
comp=Z,867nm,0.6s
ASPA Alice Springs 39.71 126⇑*i*P **P 01 32 22.9 +0.2**
ASPA *e* 01 32 44.6
ASPA *e*S **S 01 38 23.5 -1.1**
ASPA Alice Springs 39.71 126⇑*i*P **P 01 32 22.9 +0.2**
ASPA *e*S **S 01 38 23.5 -1.1**
ASAR Alice Springs 39.71 126 P **P 01 32 22.6 -0.1**
comp=Z,14nm,0.6s,mb4.9,baz=301,slow=7.7,SNR=93
ASAR PcP PcP 01 34 30.2 +0.6
comp=Z,5.6nm,0.8s,baz=308,slow=2.7,SNR=11
GTA Gaotai 40.83 0 *e*P **P 01 32 32.2 +0.4**
GTA AP pP 01 32 40.8 +1.8
GTA XP sP 01 32 44.8 +2.8
GTA PP PP 01 34 09.3 +0.2
GTA AMB AMB
comp=Z,9.0nm,0.9s,mb4.4
GTA AMB AMB
comp=Z,114nm,5.7s
GTA LR LR
comp=N,405nm,14.1s,MS4.6
GTA LR LR
comp=E,471nm,13.7s,MS4.6
GTA LR LR
comp=Z,495nm,12.9s,MS4.6
HHC Hu-ho-hao-te 43.63 13 *e*P **P 01 32 55.9 +1.2**
HHC AP pP 01 33 04.5 +2.6
HHC XP sP 01 33 06.3 +1.4
HHC PP PP 01 34 38.2 +0.1
HHC PCP PcP 01 34 43.7 +1.3
HHC AMB AMB
comp=Z,9.0nm,1.1s,mb4.4
HHC AMB AMB
comp=Z,208nm,11.1s
HHC LR LR
comp=N,798nm,13.3s,MS4.9
HHC LR LR
comp=E,668nm,15.5s,MS4.9
HHC LR LR
comp=Z,521nm,13.4s,MS4.6
BJT Baijiatuau 44.10 18 *e*P **P 01 32 58.9 +0.4**
BJT pmax pmax
comp=Z,27nm,1.0s
BJT Baijiatuau 44.10 18 *e*P **P 01 32 58.9 +0.5**
comp=Z,27nm,1.0s,mb4.9
BJI Beijing 44.12 18 P **P 01 32 59.1 +0.5**
BJI AP pP 01 33 04.9 -1.0
BJI PP PP 01 34 42.9 -0.1
BJI AMB AMB
comp=Z,17nm,1.1s,mb4.7
BJI LR LR
comp=N,313nm,17.6s,MS4.6
BJI LR LR
comp=E,458nm,12.9s,MS4.6
BJI LR LR
comp=Z,229nm,19.5s
BJI Beijing 44.12 18 P **P 01 32 59.1 +0.5**
BJI *SP sP 01 33 07.2 -1.7
BJI 01 34 42.9
BJI S **S 01 39 36.7 +7.3**
BJI SS SS 01 42 59.1 +20
BJI pmax pmax
comp=Z,17nm,1.1s,mb4.7
BJI MLR MLR
comp=Z,230nm,19.5s,MS4.1
BJI Beijing 44.12 18 P **P 01 32 59.1 +0.5**
comp=Z,17nm,1.1s,mb4.7
BJI pP pP 01 33 04.9 -1.0
BJI sP sP 01 33 07.2 -1.7
BJI PP PP 01 34 42.9 -0.1
BJI S **S 01 39 36.7 +7.3**
BJI SS SS 01 42 59.1 +20
BJI LR LR
comp=Z,230nm,19.5s,MS4.1
KSH Kashi 46.37 335 *e*P **P 01 33 17.0 +0.4**
KSH *e*AP pP 01 33 24.0 +0.1
KSH PCP PcP 01 34 52.4 +0.5
KSH *e*PP PP 01 35 05.0 -0.5
KSH AMB AMB
comp=Z,170nm,1.9s,mb5.7
KSH LR LR
comp=N,560nm,10.1s
KSH LR LR
comp=E,490nm,4.8s
WMQ Urumqi 46.51 348 ⇑P **P 01 33 18.6 +1.0**
WMQ AP pP 01 33 26.1 +1.2
WMQ XP sP 01 33 29.4 +1.6
WMQ PCP PcP 01 34 52.6 +0.3
WMQ PP PP 01 35 07.7 +0.9
WMQ AMB AMB
comp=Z,23nm,0.6s,mb5.3
WMQ AMB AMB
comp=Z,49nm,2.7s,mb5.0
WMQ LR LR
comp=N,58nm,19.0s,MS4.1
WMQ LR LR
comp=E,233nm,22.0s,MS4.1
WMQ LR LR
comp=Z,128nm,17.7s,MS3.9
KS15 Wonju Array Si 46.82 31 *e*P **P 01 33 20.6 +0.4**
CTA Charters Tower 49.02 115 *e*P **P 01 33 37.0 -0.5**
comp=Z,11nm,0.8s,mb4.9
CTA Charters Tower 49.02 115 *e*P **P 01 33 37.0 -0.5**
CTA pmax pmax
comp=Z,11nm,0.8s
CTA Charters Tower 49.02 115 P **P 01 33 37.9 +0.4**
comp=Z,15nm,0.8s,mb5.1,baz=290,slow=9.2,SNR=9.2
TKM2 Tokmak 2 49.37 337 P **P 01 33 40.7 +0.8**
SNR=9.1
KBK Karagaybulak 49.41 336 P **P 01 33 41.9 +1.6**
SNR=10
AML Almayashu 49.50 335 P **P 01 33 41.9 +0.9**
SNR=24
AAK Ala-Archa 49.58 336 P **P 01 33 42.6 +1.1**
AAK pmax pmax
comp=Z,69nm,2.2s,mb5.3
SONM Songino Array 49.60 6 P **P 01 33 42.3 +0.6**
comp=Z,7.0nm,0.5s,mb4.9,baz=188,slow=9.6,SNR=65
SONM PcP PcP 01 35 03.2 -0.1
comp=Z,3.5nm,0.7s,baz=188,slow=5.4,SNR=4.1
STKA Stephens Creek 49.62 132⇑*i*P **P 01 33 42.6 +0.6**
comp=Z,18nm,0.8s,mb5.1
STKA Stephens Creek 49.62 132 P **P 01 33 42.7 +0.7**
comp=Z,20nm,0.7s,mb5.2,baz=305,slow=7.2,SNR=38
FRU Bishkek 49.69 336 *e*P **P 01 33 45.0 +2.6**
ULN Ulaanbaatar 49.70 6 *e*P **P 01 33 42.8 +0.4**
ULN pmax pmax
comp=Z,11nm,0.8s,mb4.9
ULN Ulaanbaatar 49.70 6 *e*P **P 01 33 42.8 +0.4**
comp=Z,11nm,0.8s,mb4.9
EKS2 Erkin-Say 49.90 335 P **P 01 33 44.9 +0.9**
SNR=16
USP Ospenovka 50.10 336 P **P 01 33 45.8 +0.3**
SNR=14
MKAR Makanchi Array 50.59 345 *e*P **P 01 33 48.8 -0.4**
MKAR pmax pmax
comp=Z,17nm,0.7s
MKAR Makanchi Array 50.59 345 P **P 01 33 49.2 +0.1**
comp=Z,22nm,0.6s,mb5.3,baz=148,slow=8.0,SNR=133
CN2 Changchun 50.76 24 *e*P **P 01 33 49.5 -1.0**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,800nm,19.0s,MS4.8
CN2 LR LR
comp=E,300nm,19.0s,MS4.8
CN2 LR LR
comp=Z,500nm,19.0s,MS4.5
KKAR Karatay Array 51.69 333 *e*P **P 01 33 56.4 -1.2**
ZAK Zakamensk 51.90 3 *e*P **P 01 33 57.8 -1.3**
ZAK *e* 01 35 11.3
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
ZAK pmax pmax
comp=Z,3.0nm,1.6s,mb4.0
MOY Mondy 53.10 1 *e*P **P 01 34 08.8 +0.7**
MDJ Mudanjiang 53.18 26 P **P 01 34 08.9 +0.1**
MDJ AP pP 01 34 15.2 -1.0
MDJ AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,70nm,5.4s
MDJ LR LR
comp=N,181nm,20.7s,MS4.2
MDJ LR LR
comp=E,139nm,18.9s,MS4.2
MDJ LR LR
comp=Z,256nm,16.0s,MS4.4
TLY Talaya 53.21 3 *e*P **P 01 34 08.3 -0.6**
TLY pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
OPO Ambohidratompo 54.13 248 P **P 01 34 16.1 +0.1**
comp=Z,5.7nm,1.1s,mb4.4,baz=123,slow=11,SNR=4.8
ZAL Zalesovo 56.74 350 P **P 01 34 34.4 -0.1**
comp=Z,19nm,0.5s,mb5.4,baz=319,slow=4.9,SNR=54
ARMA Armidale 56.86 126 *e*P **P 01 34 36.9 +1.2**
KLR Kul'dur 57.71 24 *e*P **P 01 34 37.2 -4.2**
NVS Novosibirsk 57.89 349 *e*P **P 01 34 40.8 -1.8**
NVS pmax pmax
comp=N,30nm,1.8s
NVS pmax pmax
comp=Z,36nm,1.8s,mb5.1
BVA0 Borovoye Array 59.73 340 P **P 01 34 53.6 -1.8**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
BVAR Borovoye Array 59.73 340 P **P 01 34 54.0 -1.4**
comp=Z,6.6nm,0.5s,mb5.0,baz=143,slow=9.4,SNR=31
CHKZ Chkalovo 60.19 341 *e*P **P 01 34 57.3 -1.3**
CHKZ pmax pmax
comp=Z,15nm,0.7s,mb5.1
CHKZ Chkalovo 60.19 341 *e*P **P 01 34 57.3 -1.3**
comp=Z,15nm,0.7s,mb5.1
BOD Bodaibo 60.35 9 *e*P **P 01 34 57.7 -1.9**
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.9
YSS Yuzh-Sakhalins 61.32 32⇑*i*P **P 01 35 06.2 -0.1**
YSS *e* 01 35 16.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.4
YSS Yuzh-Sakhalins 61.32 32 *e*P **P 01 35 05.2 -1.2**
comp=Z,11nm,0.6s,mb5.2
KMBO Kilima Mbogo 62.44 270 *e*P **P 01 35 14.1 -0.2**
KMBO pmax pmax
comp=Z,7.0nm,1.1s
KMBO Kilima Mbogo 62.44 270 P **P 01 35 14.3 +0.1**
comp=Z,5.2nm,1.0s,mb4.6,baz=57,slow=10,SNR=15
KMBO Kilima Mbogo 62.44 270 *e*P **P 01 35 14.1 -0.1**
comp=Z,7.1nm,1.1s,mb4.7
GNI Garni 65.05 316 P **P 01 35 31.3 +0.2**
comp=Z,1.6nm,0.3s,mb4.5,baz=180,slow=20,SNR=3.5
SVE Sverdlovsk 66.22 338 *e*P **P 01 35 36.2 -2.1**
ZEI Tsey 66.76 318 *e*P **P 01 35 36.4 -5.6**
ZEI *i* *PP pP 01 35 45.7 -3.8
ZEI pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
YAK Yakutsk 67.45 15 *e*P **P 01 35 45.1 -0.9**
YAK pmax pmax
comp=Z,16nm,1.3s,mb4.9
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.2s
DZM Mont Dzumac 67.87 113 P **P 01 35 49.9 +0.5**
comp=E,4.0nm,0.7s,mb4.6,baz=303,slow=17,SNR=3.5
KIV Kislovodsk 68.07 319 *e*P **P 01 35 49.4 -0.8**
KIV *i* pP 01 35 56.5 -1.2
KIV pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
KIV Kislovodsk 68.07 319 *e*P **P 01 35 49.7 -0.5**
comp=Z,19nm,0.8s,mb5.2
ASF Jabal al Asfar 68.13 306 P **P 01 35 50.7 -0.1**
comp=Z,2.6nm,0.7s,mb4.4,baz=11,slow=6.3,SNR=4.9
GOF Gofitskoye 68.32 320⇓*i*P **P 01 35 50.3 -1.4**
GOF pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
ELZG Elazig 68.52 313 *i*P **P 01 35 52.4 -0.7**
MALT Malatya 68.87 312 *e*P **P 01 35 54.6 -0.7**
MALT *e* pP 01 36 01.5 -1.3
MALT pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MALT Malatya 68.87 312 *e*P **P 01 35 54.6 -0.6**
comp=Z,5.2nm,0.9s,mb4.5
MALT *e* pP 01 36 01.5 -1.3
KELT Kelkit 68.91 314 *i*P **P 01 35 59.2 +3.7**
EIL Elat 69.07 303⇑*e*P **P 01 35 55.2 -1.4**
comp=Z,6.6nm,0.8s,mb4.6
GZT Gaziantep 69.19 311 *i*P **P 01 35 56.5 -0.8**
SOKR Solikamsk 69.61 338⇑*i*P **P 01 36 04.9 +5.5**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MAW Mawson 70.58 194 P **P 01 36 05.6 +0.4**
comp=Z,8.3nm,0.8s,mb4.7,baz=16,slow=6.1,SNR=8.7
BRTR Keskin Array B 72.85 312 P **P 01 36 17.8 -1.6**
comp=Z,2.1nm,0.8s,mb4.1,baz=134,slow=7.5,SNR=16
RPZ Rata Peaks 75.45 135 P **P 01 36 35.4 +1.1**
comp=Z,17nm,0.7s,mb5.1,baz=199,slow=0.5,SNR=15
BOSA Boshof 75.58 241 P **P 01 36 34.3 -1.0**
comp=Z,3.0nm,0.9s,mb4.2,baz=19,slow=4.4,SNR=3.9
MOS Moscow 76.03 329 *e*P **P 01 36 39.1 +1.9**
MOS *e* pP 01 36 44.9 0.0
MOS pmax pmax
comp=Z,55nm,0.8s,mb5.5
OBN Obninsk 76.32 328 *e*P **P 01 36 40.3 +1.4**
OBN *e* 01 36 45.8
OBN pmax pmax
comp=Z,24nm,1.6s,mb4.9
TIRR Tirgusor 77.88 316⇑P **P 01 36 45.7 -2.1**
SYO Syowa Base 78.13 199⇑P **P 01 36 48.5 -0.2**
CFR Carcaliu 78.25 317⇑P **P 01 36 49.5 -0.3**
IDI Anoyia 78.58 306 P **P 01 36 50.7 -1.1**
comp=Z,7.6nm,0.8s,mb4.7,baz=22,slow=14,SNR=5.4
AKASG Malin Array Be 79.01 322 P **P 01 36 52.7 -1.1**
comp=Z,0.3nm,0.3s,baz=78,slow=4.9,SNR=6.4
AKASG Malin Array Be 79.01 322 P **P 01 36 52.7 -1.1**
URZ Urewera 79.11 129 P **P 01 36 55.5 +0.8**
comp=Z,5.6nm,0.6s,mb4.7,baz=348,slow=9.3,SNR=2.9
VRI Vrincioaia 79.38 317⇑P **P 01 36 56.2 +0.2**
MLR Muntele Rosu 79.83 317 P **P 01 36 58.4 0.0**
comp=Z,9.1nm,0.9s,mb4.7,baz=90,slow=3.0
MLR Muntele Rosu 79.83 317⇑P **P 01 36 58.4 0.0**
MLR Muntele Rosu 79.83 317⇑P **P 01 36 58.4 0.0**
BURAR Bucovina Array 80.79 319⇓P **P 01 37 04.5 +1.0**
BURAR Bucovina Array 80.79 319⇓P **P 01 37 04.5 +1.1**
JOF Joensuu 81.75 335 *ep* **P 01 37 07.8 -0.4**
comp=Z,5.1nm,0.8s,mb4.5
VNDA Vanda 82.58 169 P **P 01 37 13.2 +1.0**
comp=Z,3.0nm,0.8s,mb4.3,baz=297,slow=5.5,SNR=15
KWP Kalwaria 82.83 320 *e*P **P 01 37 13.5 -0.5**
KWP pmax pmax
comp=Z,16nm,1.4s,mb4.9
KWP Kalwaria 82.83 320 *e*P **P 01 37 13.5 -0.5**
comp=Z,16nm,1.4s,mb4.8
BILL Biiibino 82.91 20 P **P 01 37 24.0 +10**
KOLS Kolonicke sedl 82.98 320 *e*P **P 01 37 15.8 +1.0**
SUW Suwalki 83.41 325 *e*P **P 01 37 15.9 -1.0**
SUW *e* pP 01 37 23.8 -0.9
FINES FINESS Array B 83.64 332 P **P 01 37 18.3 +0.4**
comp=Z,2.7nm,0.7s,mb4.5,baz=108,slow=5.6,SNR=20
KAF Kangasniemi 83.72 333 *ep* **P 01 37 17.8 -0.5**
comp=Z,5.5nm,0.6s,mb4.9,baz=101,slow=4.7
KAF Kangasniemi 83.72 333 *e*P **P 01 37 17.8 -0.5**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
PKSM Moragy 84.98 316⇑P **P 01 37 23.4 -1.6**
ARCES ARCESS Array B 86.02 340 P **P 01 37 31.6 +1.9**
comp=Z,1.7nm,0.5s,mb4.6,baz=98,slow=4.4,SNR=19
QSPA South Pole Qui 88.34 180 P **P 01 37 41.4 +0.7**
comp=Z,9.4nm,0.9s,mb5.0
BRG Berggiesshubel 88.57 321 *e*P **P 01 37 45.3 +2.9**
BRG *e* pP 01 37 51.6 +1.4
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
BRG Berggiesshubel 88.57 321 *e*P **P 01 37 45.3 +2.9**
comp=Z,5.4nm,1.1s,mb4.8
BRG *e* pP 01 37 51.6 +1.4
GERES GERESS Array B 88.58 319 P **P 01 37 43.5 +1.0**
comp=Z,1.5nm,0.9s,mb4.3,baz=90,slow=1.3,SNR=6.3
KHC Kasperske Hory 88.68 319 *e*P **P 01 37 48.5 +5.5**
CLL Collm 89.19 321 *e*P **P 01 37 46.0 +0.7**
CLL *e* pP 01 37 53.0 -0.1
CLL Collm 89.19 321 P **P 01 37 46.0 +0.7**
CLL *e**PP pP 01 37 53.0 -0.1
GRA1 Grafenberg Arr 90.24 320 *e*P **P 01 37 51.9 +1.6**
comp=Z,6.0nm,1.1s,mb4.8
GRF Grafenberg Arr 90.24 320 *e*P **P 01 37 51.9 +1.6**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
GRF Grafenberg Arr 90.24 320 *e*P **P 01 37 51.9 +1.6**
GRF pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
GRF Grafenberg Arr 90.24 320 *e*P **P 01 37 51.9 +1.6**
comp=Z,6.0nm,1.1s,mb4.8
IMA Indian Mountai 98.18 23 *e*P **P 01 38 30.3 +4.1**
IMA pmax pmax
comp=Z,11nm,0.8s,mb5.4
IMA Indian Mountai 98.18 23 *e*P **P 01 38 30.3 +4.1**
comp=Z,11nm,0.8s,mb5.4
YKA Yellowknife Ar 114.10 17 PKP PKPdf 01 43 28.2 -3.6
comp=Z,0.4nm,0.8s,baz=322,slow=2.0,SNR=7.6
YKA PP PP 01 44 22.7 -4.4
comp=Z,0.4nm,0.8s,baz=329,slow=7.3,SNR=5.0
YKA Yellowknife Ar 114.10 17 PKP PKPdf 01 43 28.2 -3.6
YKA PP PP 01 44 22.7 -4.4
NVAR Mina Array Bea 129.49 39 PKP PKPdf 01 44 01.1 -1.2
comp=Z,0.9nm,0.6s,baz=352,slow=1.8,SNR=7.6
PDAR Pinedale Array 131.39 29 PKP PKPdf 01 44 03.6 -2.1
comp=Z,0.5nm,0.6s,baz=280,slow=1.1,SNR=5.8
RSSD Black Hills 132.73 23 *e*PKIKP PKPdf 01 44 05.9 -2.4
MSU Marysvale 133.10 35 *e*PKIKP PKPdf 01 44 08.3 -0.8
PV10 Paradox Valley 134.93 32 PKP PKPdf 01 44 11.2 -1.3
ANMO Albuquerque 138.85 33 PKhKP 01 44 09.9
ANMO PKP PKPdf 01 44 18.2 -1.6
comp=Z,1.1nm,0.7s,baz=28,slow=2.0,SNR=6.6
comp=Z,0.4nm,0.3s,baz=326,slow=3.6,SNR=5.4
BDFB Brasilia 143.77 241 PKP PKPdf 01 44 26.4 -2.5
comp=Z,1.4nm,0.4s,baz=113,slow=5.2,SNR=4.5
LTX Lajitas 144.58 37 *e*PKIKP PKPdf 01 44 26.7 -3.3
TXAR Lajitas Array 144.58 37 PKP PKPdf 01 44 27.0 -3.0
comp=Z,12nm,0.5s,baz=252,slow=1.0,SNR=187
WVT Waverly 144.96 11 *e*PKIKP PKPdf 01 44 26.4 -4.1
MIAR Mount Ida 144.98 19 *e*PKIKP PKPdf 01 44 27.1 -3.5
TZTN Tazewell 145.12 5 *e*PKP PKPdf 01 44 26.9 -3.8
UALR University of 145.16 18 *e*PKP PKPdf 01 44 27.0 -3.9
JCT Junction City 145.85 31 *e*PKP2 PKPab 01 44 30.3 -0.5
CPCT Cooper Cave 146.12 6 *e*PKPdf PKPdf 01 44 29.8 -2.7
SWET Sewanee 146.17 8 *e*PKP PKPdf 01 44 29.5 -3.1
OXF Oxford 146.19 14 *e*PKP2 PKPab 01 44 29.9 -2.1
JSC Jenkinsville 147.50 1 *e*PKP2 PKPab 01 44 34.7 -2.4
LRAL Lakeview Retre 148.12 11 *e*PKPbc PKPdf 01 44 35.4 -0.5
GOGA Godfrey 148.24 5 *e*PKP2 PKPab 01 44 36.9 -3.1
LPAZ La Paz 158.53 214 PKP PKPdf 01 44 49.6 -1.4
comp=Z,0.8nm,0.7s,baz=198,slow=6.4,SNR=3.4

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*IDC **12** 01:26:28.0±3.5, 18.64S×169.39E, h230km±29km, mb3.7/7, mb1 3.8/8, mb1mx3.7/17, mbtmp4.2/8, Error ellipse: s-maj=30.0km s-min=23.7km az=10.0*
*NEIC **12** 01:26:28.7±1.6, 18.73S×169.43E, h240km±10km, mb4.4/4, Error ellipse: s-maj=22.3km s-min=14.4km az=74.0*
ISC 12 01:26:28.4±2.0, 18.8S±0.1×169.4E±0.2, h249km±14km, n16, σ0=67/14, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.28**	**220**	*e*P	**P**	**01 27 36.0**	**0.0**
DZM	**Mont Dzumac**	**4.28**	**220**	P	**P**	**01 27 35.6**	**-0.4**
3.1nm,0.3s,baz=63,slow=18,SNR=27							
NOUC	**Port Laguerre**	**4.39**	**221**	*e*P	**P**	**01 27 37.3**	**+0.1**
HNR	**Honiara**	**13.04**	**314**	*e*P	**P**	**01 29 26.0**	**0.0**
45nm,0.6s							
CTA	**Charters Tower**	**21.85**	**263**	P	**P**	**01 31 03.4**	**+1.7**
1.9nm,0.4s,mb4.0,baz=80,slow=10.0,SNR=4.8							
STKA	**Stephens Creek**	**28.21**	**237**	P	**P**	**01 32 00.2**	**-0.2**
2.2nm,0.6s,mb4.0,baz=39,slow=9.0,SNR=8.4							
STKA	**Stephens Creek**	**28.21**	**237**	P	**P**	**01 32 00.2**	**-0.2**
WRA	**Warramunga Arr**	**33.05**	**262**	P	**P**	**01 32 41.7**	**-1.0**
3.2nm,0.7s,mb4.0,baz=85,slow=8.5,SNR=6.8							
ASAR	**Alice Springs**	**33.38**	**255**	P	**P**	**01 32 44.9**	**-0.6**
9.0nm,0.5s,mb4.6,baz=80,slow=8.8,SNR=25							
FITZ	**Fitzroy Crossi**	**41.43**	**264**	P	**P**	**01 33 53.1**	**+0.6**
50nm,1.1s,mb4.9,baz=144,slow=4.9,SNR=6.4							
FITZ	**Fitzroy Crossi**	**41.43**	**264**	*e*P	**P**	**01 33 53.2**	**+0.7**
5.0nm,0.4s,mb4.3							
MBWA	**Marble Bar**	**46.58**	**258**	P	**P**	**01 34 33.0**	**-0.5**
3.3nm,0.4s,mb4.0							
VNDA	**Vanda**	**58.89**	**182**	P	**P**	**01 36 03.4**	**+0.4**
0.2nm,0.4s,mb3.1,baz=23,slow=12,SNR=3.4							
ILAR	**Eielson Array**	**89.75**	**17**	P	**P**	**01 38 59.1**	**-0.1**
0.4nm,0.7s,mb3.4,baz=238,slow=5.7,SNR=6.4							
ARCES	**ARCESS Array B**	**124.66**	**345**	PKP	PKPdf	01 44 58.9	+1.1
5.5nm,0.9s,baz=65,slow=2.7,SNR=12							
GERES	**GERESS Array B**	**144.16**	**332**	PKP	PKPdf	01 45 35.0	+0.8
0.3nm,0.4s,baz=45,slow=3.8,SNR=4.1							

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*BJI **12** 01:27:47.1, 2.07S×99.86E, h47km, mB5.2, mb4.9, Ms5.0, Msz4.8*
*IDC **12** 01:27:48.9±0.4, 1.72S×99.75E, h26km±2km, mb4.7/27, mb1 4.8/27, mb1mx4.8/28, mbtmp4.8/27, MS4.2/17, Ms1 4.2/17, ms1mx4.0/31, Error ellipse: s-maj=14.2km s-min=6.9km az=53.0*
*MOS **12** 01:27:48.4±1.2, 1.64S×99.75E, h33km, mb5.3/38, MS4.6/4, Error ellipse: s-maj=9.9km s-min=5.2km az=125.1*
*HRVD **12** 01:27:49.2±0.8, 1.92S×99.68E, h18km±1km, MW4.9/38, Centroid moment Tensor Solution. LP body waves: s20,c28;Mantle waves: s38,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.86±.27; $M_{\theta\theta}$-1.42±.15; $M_{\phi\phi}$-1.44±.19; $M_{r\theta}$1.39±.39; $M_{r\phi}$1.22±.10; $M_{\theta r}$-0.28±.40; Best double couple: $M_0$3.087×10^{16} NP1:φs326°, δ35°, λ111°. NP2:φs122°, δ58°, λ76°. Principal axes: T 3.273, Plg73°, Azm356°; N -.372, Plg12°, Azm129°; P -2.901, Plg12°, Azm222°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **12** 01:27:49.1±0.2, 1.74S×99.69E, mb5.2/42 Error ellipse: s-maj=7.2km s-min=3.8km az=45.0*
*DJA **12** 01:28:07.0±1.6, 2.58S×100.86E, h85km±22km, mb5.1/4, Error ellipse: s-maj=111.3km s-min=7.4km az=61.0*
ISC 12 01:27:47.4±0.2, 1.72S±0.04×99.75E±0.04, h29km, h29km±.8km: pP-P, n232, σ1=04/213, mb5.0/81, MS4.4/28, 24C-8D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**6.63**	**125**⇑*i*P	**Pn**		**01 29 24.4**	**-1.1**
PENI				pmax	pmax		
comp=Z,319nm,0.6s							
PENI	**Pendagan**	**6.63**	**125**⇑*i*P	**Pn**		**01 29 24.4**	**-1.1**
comp=Z,319nm,0.6s							
PENI	**Pendagan**	**6.63**	**125**⇑*i*P	**Pn**		**01 29 24.6**	**-0.9**
comp=Z,638nm,0.6s							
KULM	**Kulim**	**7.02**	**7**	P	**Pn**	**01 29 32.5**	**+1.5**
PASI	**Pasiripis**	**7.64**	**130**	*e*P	**Pn**	**01 29 37.2**	**-2.5**
PULI	**Pulasari**	**7.73**	**127**⇑*i*P	**Pn**		**01 29 40.3**	**-0.7**
comp=Z,619nm,0.7s							
KSM	**Kuching**	**11.03**	**73**	*e*P	**P**	**01 30 46.0**	**+19**
SRDI	**Scrawed**	**15.83**	**116**⇑*i*P	**P**		**01 31 30.8**	**+0.6**
SRDI				pmax	pmax		
comp=Z,58nm,0.2s							
SRDI	**Scrawed**	**15.83**	**116**⇑*i*P	**P**		**01 31 30.8**	**+0.6**
comp=Z,58nm,0.2s							
SRDI	**Scrawed**	**15.83**	**116**⇑*i*P	**P**		**01 31 27.7**	**-2.5**
comp=Z,116nm,0.2s							
RATI	**Rata**	**17.18**	**114**⇓*i*P	**P**		**01 31 45.8**	**-1.5**
comp=Z,153nm,0.3s							
RATI	**Rata**	**17.18**	**114**⇓*i*P	**P**		**01 31 45.2**	**-2.1**
comp=Z,153nm,0.3s							
KEDI	**Kedomdong**	**17.63**	**113**⇑*i*P	**P**		**01 31 53.6**	**+0.8**
KKM	**Kota Kinabalu**	**18.16**	**65**	*e*P	**P**	**01 32 03.1**	**+3.5**
TANI	**Tanete Lipujan**	**19.69**	**95**	*e*P	**P**	**01 32 17.8**	**+0.2**
CM31	**Chiang Mai Arr**	**20.06**	**358**	*e*P	**P**	**01 32 21.1**	**-0.4**
comp=Z,77nm,1.2s							

CMAR	**Chiang Mai Arr**	**20.06**	**358**	P	**P**	**01 32 19.4**	**-2.1**
	comp=Z,9.2nm,0.7s,baz=188,slow=10.0,SNR=9.1						
CMAR				S	**S**	**01 36 15.5**	**+15**
	comp=Z,1.8nm,1.1s,baz=178,slow=15,SNR=4.3						
CMAR				PcP	PcP	01 36 37.1	+1.0
	comp=Z,2.0nm,0.8s,baz=213,slow=2.6,SNR=4.6						
CMAR				LR	LR	01 40 33.7	
	comp=Z,669nm,18.9s,MS4.0,baz=316,slow=38						
NINI	**Niniconang**	**20.16**	**98**	*e*P	**P**	**01 32 23.0**	**+0.4**
BUNI	**Buntu Taipa**	**20.64**	**96**	*e*P	**P**	**01 32 30.6**	**+3.0**
QIZ	**Qiongzhong**	**22.88**	**25**	P	**P**	**01 32 51.0**	**+0.9**
KMI	**Kunming**	**26.84**	**6**	P	**P**	**01 33 29.1**	**+1.5**
KMI				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.6						
KMI	**Kunming**	**26.84**	**6**	P	**P**	**01 33 29.1**	**+1.5**
	comp=Z,13nm,0.6s,mb4.6						
GYA	**Guiyang**	**28.80**	**13⇑**	*i*P	**P**	**01 33 44.1**	**-1.2**
GYA				PP	PP	01 34 36.5	-2.1
GYA				S	**S**	**01 38 29.6**	**-2.2**
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,1μm,3.2s						
GYA				LR	LR		
	comp=N,3μm,16.4s,MS5.0						
GYA				LR	LR		
	comp=E,2μm,16.0s,MS5.0						
GYA				LR	LR		
	comp=Z,3μm,16.8s,MS5.0						
FITZ	**Fitzroy Crossi**	**30.18**	**124**	*i*	**P**	**01 33 57.6**	**-0.2**
FITZ				*i*	pP	01 34 06.1	-0.1
FITZ	**Fitzroy Crossi**	**30.18**	**124**	P	**P**	**01 33 57.5**	**-0.3**
	comp=Z,50nm,1.1s,mb5.2,baz=341,slow=7.5,SNR=8.1						
FITZ				pP	pP	01 34 06.1	-0.1
	comp=Z,45nm,0.9s,baz=320,slow=5.4,SNR=7.7						
FITZ	**Fitzroy Crossi**	**30.18**	**124**	P	**P**	**01 33 57.5**	**-0.3**
FITZ				*i*		01 33 57.6	
FITZ				pP	pP	01 34 06.1	-0.1
JIRN	**Jiri**	**31.99**	**337**	*e*P	**P**	**01 34 13.8**	**+0.2**
	comp=Z,147nm,0.9s,mb5.8						
PKI	**Pulchoki**	**32.22**	**336**	*e*P	**P**	**01 34 15.7**	**+0.1**
	comp=Z,43nm,1.1s,mb5.2						
PKI	**Pulchoki**	**32.22**	**336**	*e*P	**P**	**01 34 15.7**	**+0.1**
PKI				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.9						
LSA	**Lhasa**	**32.30**	**346**	*e*P	**P**	**01 34 16.3**	**0.0**
LSA				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.3						
LSA	**Lhasa**	**32.30**	**346**	*e*P	**P**	**01 34 16.3**	**0.0**
	comp=Z,56nm,1.1s,mb5.3						
GUN	**Gumba**	**32.33**	**337**	*e*P	**P**	**01 34 16.8**	**+0.2**
	comp=Z,110nm,0.8s,mb5.8						
DMN	**Daman**	**32.38**	**335**	*e*P	**P**	**01 34 17.0**	**0.0**
	comp=Z,38nm,0.8s,mb5.3						
KKN	**Kakani**	**32.47**	**336**	*e*P	**P**	**01 34 17.7**	**-0.1**
	comp=Z,98nm,1.0s,mb5.6						
KKN	**Kakani**	**32.47**	**336**	*e*P	**P**	**01 34 17.7**	**-0.1**
KKN				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.3						
GKN	**Gorkha**	**32.92**	**335**	*e*P	**P**	**01 34 21.8**	**+0.1**
	comp=Z,90nm,1.1s,mb5.6						
ENH	**Enshi**	**33.14**	**16**	*e*P	**P**	**01 34 20.9**	**-2.7**
	comp=Z,18nm,0.8s,mb5.1						
KOLN	**Koldanda**	**33.18**	**333**	*e*P	**P**	**01 34 23.7**	**-0.2**
	comp=Z,84nm,1.0s,mb5.6						
NWAO	**Narrogin (SRO)**	**35.12**	**154**	P	**P**	**01 34 40.9**	**+0.2**
	comp=Z,10nm,0.7s,mb4.8,baz=308,slow=7.9,SNR=5.3						
NWAO				LR	LR	01 47 33.0	
	comp=Z,546nm,19.1s,MS4.3,baz=153,slow=34						
NWAO	**Narrogin (SRO)**	**35.12**	**154**	P	**P**	**01 34 41.1**	**+0.4**
	comp=Z,20nm,1.0s,mb5.0						
XAN	**Xi'an**	**36.60**	**13**	P	**P**	**01 34 51.5**	**-1.6**
XAN				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.0						
LZH	**Lanzhou**	**37.80**	**5**	*e*P	**P**	**01 35 02.9**	**-0.3**
LZH				PP	PP	01 36 33.1	+0.3
LZH				PCP	PcP	01 37 21.0	+1.0
LZH				S	**S**	**01 40 53.0**	**+1.1**
LZH				SS	SS	01 43 30.0	+2.1
LZH				AMB	AMB		
	comp=Z,37nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,123nm,4.0s						
LZH				LR	LR		
	comp=N,836nm,12.5s						
LZH				LR	LR		
	comp=Z,2μm,13.0s,MS5.0						
LZH	**Lanzhou**	**37.80**	**5**	*e*P	**P**	**01 35 02.9**	**-0.3**
LZH				*SP	sP	01 35 14.1	-1.3
LZH						01 36 33.1	
LZH						01 37 21.0	
LZH				S	**S**	**01 40 53.0**	**+1.1**
LZH				*SS		01 41 06.0	
LZH				SS	SS	01 43 30.0	+2.1
LZH				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.0						
LZH				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.0						
LZH	**Lanzhou**	**37.80**	**5**	*e*P	**P**	**01 35 02.9**	**-0.3**
	comp=Z,37nm,1.3s,mb5.0						
LZH				pP	pP	01 35 10.5	-1.3
LZH				sP	sP	01 35 14.1	-1.3
LZH				PP	PP	01 36 33.1	+0.3
LZH				PcP	PcP	01 37 21.0	+1.0
LZH				S	**S**	**01 40 53.0**	**+1.1**
LZH				sS		01 41 06.0	
LZH				SS	SS	01 43 30.0	+2.1
LZH				LR	LR		
	comp=Z,2μm,13.0s,MS5.0						
NJ2	**Nanjing**	**38.16**	**27**	*e*P	**P**	**01 35 07.6**	**+1.4**
NJ2				AP	pP	01 35 17.1	+2.3
NJ2				XP	sP	01 35 21.4	+3.0
NJ2				PP	PP	01 36 39.6	+2.6
NJ2				S	**S**	**01 40 59.0**	**+1.7**
NJ2				XS		01 41 15.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,640nm,5.2s						
NJ2				LR	LR		
	comp=N,880nm,12.0s						
NJ2				LR	LR		
	comp=E,1μm,18.0s						
NJ2				LR	LR		
	comp=Z,6μm,13.0s,MS5.6						
WRA	**Warramunga Arr**	**38.35**	**121**	P	**P**	**01 35 07.9**	**-0.1**
	comp=Z,16nm,0.7s,mb4.9,baz=296,slow=9.4,SNR=16						
WRA				sP	sP	01 35 18.6	-1.5
	comp=Z,8.9nm,0.9s,baz=305,slow=8.7,SNR=5.0						
WRA				PcP	PcP	01 37 21.8	0.0
	comp=Z,2.5nm,0.5s,baz=311,slow=2.7,SNR=6.1						
WRA				S	**S**	**01 41 00.1**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=279,slow=15,SNR=4.4						
WRAB	**Tennant Creek**	**38.36**	**121**	*e*P	**P**	**01 35 07.3**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**38.36**	**121**	*e*P	**P**	**01 35 07.3**	**-0.7**
	comp=Z,24nm,0.8s,mb5.0						
FORT	**Forrest**	**39.42**	**140**	*e*P	**P**	**01 35 16.9**	**+0.1**
	comp=Z,632nm,0.6s						
ASPA	**Alice Springs**	**39.62**	**126**	*e*P	**P**	**01 35 19.4**	**+0.9**
ASPA				*e*S	**S**	**01 41 20.3**	**+0.9**
ASAR	**Alice Springs**	**39.62**	**126**	P	**P**	**01 35 18.5**	**0.0**
	comp=Z,11nm,0.9s,mb4.6,baz=307,slow=8.0,SNR=11						
ASAR				pP	pP	01 35 27.9	+0.8
	comp=Z,18nm,0.9s,baz=300,slow=8.4,SNR=11						
ASAR				PcP	PcP	01 37 26.6	+0.7
	comp=Z,8.2nm,0.8s,baz=310,slow=2.4,SNR=12						
ASAR				S	**S**	**01 41 20.1**	**+0.7**
	comp=Z,3.2nm,0.9s,baz=296,slow=14,SNR=9.5						
GTA	**Gaotai**	**40.93**	**0**	*e*P	**P**	**01 35 29.5**	**+0.4**
GTA				PP	PP	01 37 07.1	+0.6
GTA				PCP	PcP	01 37 30.6	+0.8
GTA				S	**S**	**01 41 38.3**	**-0.5**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,88nm,5.3s						
GTA				LR	LR		
	comp=N,550nm,14.1s,MS4.7						
GTA				LR	LR		
	comp=E,453nm,11.4s,MS4.7						
GTA				LR	LR		
	comp=Z,558nm,12.5s,MS4.6						
HHC	**Hu-ho-hao-te**	**43.71**	**13**	*e*P	**P**	**01 35 52.7**	**+0.8**
HHC				AP	pP	01 36 00.4	-0.1
HHC				PP	PP	01 37 37.4	+2.0
HHC				PCP	PcP	01 37 39.8	+0.7
HHC				PCS		01 41 31.3	
HHC				S	**S**	**01 42 22.6**	**+2.9**
HHC				SS	SS	01 45 28.7	+0.7
HHC				SCS	ScS	01 45 47.8	+1.1
HHC				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,75nm,4.5s						
HHC				LR	LR		
	comp=N,1μm,13.1s,MS5.0						
HHC				LR	LR		
	comp=E,421nm,14.5s,MS5.0						
HHC				LR	LR		
	comp=Z,957nm,14.0s,MS4.9						
BJT	**Baijiatuau**	**44.17**	**18**	*e*P	**P**	**01 35 55.4**	**-0.3**
BJT				pmax	pmax		
	comp=Z,35nm,1.1s						
BJT	**Baijiatuau**	**44.17**	**18**	*e*P	**P**	**01 35 55.4**	**-0.3**
	comp=Z,35nm,1.1s,mb5.0						
BJI	**Beijing**	**44.19**	**18**	P	**P**	**01 35 55.3**	**-0.5**
BJI				S	**S**	**01 42 31.3**	**+4.6**
BJI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.8						
BJI				AMB	AMB		
	comp=Z,73nm,4.6s						
BJI				LR	LR		
	comp=N,269nm,15.5s,MS4.4						
BJI				LR	LR		
	comp=E,258nm,19.3s,MS4.4						
BJI				LR	LR		
	comp=Z,219nm,16.5s,MS4.2						
BJI	**Beijing**	**44.19**	**18**	P	**P**	**01 35 55.3**	**-0.5**
	comp=Z,18nm,0.9s,mb4.8						
BJI				S	**S**	**01 42 31.3**	**+4.6**
BJI				LR	LR		
	comp=Z,220nm,16.5s,MS4.2						
KSH	**Kashi**	**46.47**	**335**	*e*P	**P**	**01 36 14.3**	**+0.4**
KSH				*e*PCP	PcP	01 37 49.1	+0.4
KSH				*e*PP	PP	01 38 02.0	-1.0
KSH				*e*SCP		01 41 39.1	
KSH				*e*PCS		01 41 42.0	
KSH				*e*S	**S**	**01 42 58.8**	**-0.6**
KSH				*e*SCS	ScS	01 46 04.0	-0.3
KSH				*e*SS	SS	01 46 17.7	0.0
KSH				AMB	AMB		
	comp=Z,330nm,8.0s						
KSH				LR	LR		
	comp=N,490nm,4.6s						
KSH				LR	LR		
	comp=E,490nm,4.8s						
WMQ	**Urumqi**	**46.60**	**348**	⇓P	**P**	**01 36 16.3**	**+1.4**
WMQ				AP	pP	01 36 23.8	+0.2
WMQ				PCP	PcP	01 37 50.6	+1.5
WMQ				PP	PP	01 38 05.4	+1.1
WMQ				S	**S**	**01 43 02.6**	**+1.3**
WMQ				AMB	AMB		
	comp=Z,78nm,0.8s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,82nm,2.6s,mb5.2						
WMQ				LR	LR		
	comp=N,84nm,19.0s,MS4.1						
WMQ				LR	LR		
	comp=E,171nm,17.6s,MS4.1						
WMQ				LR	LR		
	comp=Z,111nm,19.2s,MS3.8						
ULHL	**Ulahol**	**48.65**	**337**	P	**P**	**01 36 31.5**	**+0.5**
	SNR=7.4						
KZA	**Kyzart**	**48.91**	**336**	P	**P**	**01 36 33.7**	**+0.8**
	SNR=5.1						
CTA	**Charters Tower**	**48.95**	**115**	*e*P	**P**	**01 36 33.3**	**-0.2**
	comp=Z,11nm,0.9s,mb4.9						
CTA	**Charters Tower**	**48.95**	**115**	*e*P	**P**	**01 36 33.3**	**-0.2**
CTA				pmax	pmax		
	comp=Z,11nm,0.9s						
CTA	**Charters Tower**	**48.95**	**115**	P	**P**	**01 36 33.0**	**-0.5**
	comp=Z,14nm,0.9s,mb5.0,baz=306,slow=7.5,SNR=6.7						
CTA				LR	LR	02 00 48.2	
	comp=Z,330nm,19.8s,MS4.3,baz=231,slow=40						
CTAO	**Charters Tower**	**48.95**	**115**	*e*P	**P**	**01 36 32.8**	**-0.7**
CTAO				pmax	pmax		
	comp=Z,91nm,1.8s,mb5.5						
CTAO	**Charters Tower**	**48.95**	**115**	*e*P	**P**	**01 36 32.8**	**-0.7**
	comp=Z,92nm,1.8s,mb5.5						
UCH	**Uchtor**	**49.34**	**335**	P	**P**	**01 36 37.0**	**+0.8**
	SNR=7.9						
TKM2	**Tokmak 2**	**49.47**	**337**	P	**P**	**01 36 38.2**	**+0.9**
	SNR=16						
KBK	**Karagaybulak**	**49.51**	**336**	P	**P**	**01 36 38.9**	**+1.3**
	SNR=8.7						
STKA	**Stephens Creek**	**49.52**	**132⇑**	*i*P	**P**	**01 36 38.1**	**+0.2**
	comp=Z,12nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**49.52**	**132**	P	**P**	**01 36 38.5**	**+0.6**
	comp=Z,15nm,0.8s,mb5.1,baz=304,slow=9.1,SNR=9.9						
AML	**Almayashu**	**49.60**	**335**	P	**P**	**01 36 39.0**	**+0.7**
	SNR=11						
AAK	**Ala-Archa**	**49.68**	**336**	P	**P**	**01 36 39.2**	**+0.3**
AAK				pmax	pmax		
	comp=Z,25nm,1.5s,mb5.0						
SONM	**Songino Array**	**49.69**	**6**	P	**P**	**01 36 39.4**	**+0.5**
	comp=Z,10.0nm,0.8s,mb4.9,baz=186,slow=9.0,SNR=15						
SONM				pP	pP	01 36 48.5	+0.9
	comp=Z,11nm,0.8s,baz=184,slow=8.9,SNR=12						
SONM				PcP	PcP	01 37 59.7	-0.4
	comp=Z,6.3nm,0.8s,baz=187,slow=3.8,SNR=5.5						
SONM				pPcP		01 38 08.6	
	comp=Z,2.1nm,0.6s,baz=188,slow=2.8,SNR=4.5						
ULN	**Ulaanbaatar**	**49.79**	**6**	*e*P	**P**	**01 36 39.3**	**-0.4**
ULN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
ULN	**Ulaanbaatar**	**49.79**	**6**	*e*P	**P**	**01 36 39.3**	**-0.4**
	comp=Z,12nm,1.0s,mb4.9						
CHMS	**Chumysh**	**49.88**	**336**	P	**P**	**01 36 40.4**	**0.0**
	SNR=7.0						
EKS2	**Erkin-Say**	**50.00**	**335**	P	**P**	**01 36 42.1**	**+0.7**
	SNR=15						
USP	**Ospenovka**	**50.20**	**336**	P	**P**	**01 36 43.1**	**+0.3**
	SNR=22						
MKAR	**Makanchi Array**	**50.69**	**345**	P	**P**	**01 36 46.1**	**-0.4**
	comp=Z,25nm,0.7s,mb5.2,baz=149,slow=8.2,SNR=23						
MKAR				S	**S**	**01 44 02.6**	**+4.2**
	comp=Z,2.2nm,1.0s,baz=156,slow=15,SNR=9.4						
MKAR				LR	LR	01 59 48.1	
	comp=Z,122nm,18.8s,MS3.9,baz=252,slow=38						
CN2	**Changchun**	**50.83**	**24**	*e*P	**P**	**01 36 46.3**	**-1.3**
CN2				*e*S	**S**	**01 44 00.7**	**+0.3**
CN2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
CN2				AMB	AMB		
	comp=Z,500nm,4.0s						
CN2				LR	LR		
	comp=N,600nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=E,400nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=Z,800nm,17.0s,MS4.8						
KKAR	**Karatay Array**	**51.79**	**333**	*i* P	**P**	**01 36 53.9**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
ZAK	**Zakamensk**	**51.99**	**3**	*e*P	**P**	**01 36 55.7**	**-0.6**
ZAK				*e*		01 38 06.8	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MJAR	**Matsushiro Arr**	**52.22**	**39**	P	**P**	**01 36 57.8**	**-0.4**
	comp=Z,3.7nm,1.0s,mb4.3,baz=230,slow=5.9,SNR=5.4						
MJAR				LR	LR	02 01 05.2	
	comp=Z,95nm,19.5s,MS3.8,baz=230,slow=38						
MDJ	**Mudanjiang**	**53.25**	**26**	P	**P**	**01 37 05.9**	**+0.1**
MDJ				PP	PP	01 39 09.1	+1.7
MDJ				S	**S**	**01 44 36.8**	**+3.3**
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,317nm,10.2s						
MDJ				LR	LR		
	comp=N,516nm,13.9s,MS4.8						
MDJ				LR	LR		
	comp=E,318nm,12.7s,MS4.8						
MDJ				LR	LR		
	comp=Z,554nm,12.3s,MS4.8						
TLY	**Talaya**	**53.30**	**3**	*e*P	**P**	**01 37 06.3**	**+0.2**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
TLY				MLR	MLR		
	comp=Z,229nm,13.0s,MS4.4						
OPO	**Ambohidratompo**	**54.14**	**248**	P	**P**	**01 37 12.9**	**+0.3**
	comp=Z,5.5nm,1.1s,mb4.4,baz=88,slow=14,SNR=3.5						
ARMA	**Armidale**	**56.77**	**126**	*e*P	**P**	**01 37 32.5**	**+0.9**
ZAL	**Zalesovo**	**56.84**	**350**	P	**P**	**01 37 30.8**	**-0.9**
	comp=Z,37nm,0.4s,mb5.8,baz=323,slow=4.4,SNR=34						
ZAL				pP	pP	01 37 39.7	-0.9
	comp=Z,18nm,0.7s,baz=283,slow=8.0,SNR=7.3						
ZAL				S	**S**	**01 45 22.9**	**+1.5**
	comp=Z,1.7nm,0.8s,baz=180,slow=19,SNR=15						
ZAL				LR	LR	02 05 58.4	
	comp=Z,99nm,18.8s,MS3.9,baz=304,slow=40						
ZAL	**Zalesovo**	**56.84**	**350**	P	**P**	**01 37 30.8**	**-0.9**
ZAL				pP	pP	01 37 39.7	-0.9
ZAL				S	**S**	**01 45 22.9**	**+1.5**
KLR	**Kul'dur**	**57.78**	**24**	*e*P	**P**	**01 37 34.9**	**-3.5**
KLR				MLR	MLR		
	comp=E,500nm,13.5s						
KLR				MLR	MLR		
	comp=Z,800nm,13.5s,MS5.0						
NVS	**Novosibirsk**	**57.99**	**349**	*e*P	**P**	**01 37 37.7**	**-2.1**
NVS				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.3						
NVS				pmax	pmax		
	comp=N,41nm,1.5s						
NVS				pmax	pmax		
	comp=E,18nm,1.2s						
ATD	**Arta Tunnel**	**58.06**	**285**	LR	LR	01 57 12.0	
	comp=E,134nm,19.9s,MS4.0,baz=91,slow=30						
BVA0	**Borovoye Array**	**59.83**	**340**	*i* P	**P**	**01 37 50.0**	**-2.7**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**59.83**	**340**	P	**P**	**01 37 50.8**	**-1.8**
	comp=Z,12nm,0.7s,mb5.0,baz=149,slow=8.6,SNR=20						
BVAR				pP	pP	01 37 58.8	-2.8
	comp=Z,5.4nm,0.6s,baz=142,slow=9.2,SNR=5.6						
CHKZ	**Chkalovo**	**60.30**	**341**	*e*P	**P**	**01 37 54.0**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
CHKZ	**Chkalovo**	**60.30**	**341**	*e*P	**P**	**01 37 54.0**	**-1.8**
	comp=Z,22nm,1.0s,mb5.1						
BOD	**Bodaibo**	**60.44**	**9**	*e*P	**P**	**01 37 55.7**	**-1.0**
BOD				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
YSS	**Yuzh-Sakhalins**	**61.38**	**32⇑**	*i*P	**P**	**01 38 03.0**	**-0.3**
YSS				*e*	pP	01 38 11.6	-0.6
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
YSS	**Yuzh-Sakhalins**	**61.38**	**32**	*e*P	**P**	**01 38 02.9**	**-0.4**
	comp=Z,10nm,0.6s,mb5.1						
KMBO	**Kilima Mbogo**	**62.48**	**270**	*e*P	**P**	**01 38 11.1**	**0.0**
KMBO				*e*	pP	01 38 19.6	-0.4
KMBO				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KMBO	**Kilima Mbogo**	**62.48**	**270**	P	**P**	**01 38 11.8**	**+0.7**
	comp=Z,7.0nm,1.0s,mb4.8,baz=56,slow=7.9,SNR=13						
KMBO				LR	LR	02 01 38.6	
	comp=Z,228nm,18.5s,MS4.4,baz=278,slow=32						
KMBO	**Kilima Mbogo**	**62.48**	**270**	*e*P	**P**	**01 38 11.1**	**0.0**
	comp=Z,7.9nm,1.1s,mb4.8						
KMBO				*e*	pP	01 38 19.6	-0.5
BHD	**Baghdad**	**62.63**	**309**	*e*P	**P**	**01 38 03.0**	**-8.9**
MSL	**Mosul**	**64.76**	**312**	*e*P	**P**	**01 38 26.0**	**+0.1**
GNI	**Garni**	**65.15**	**316**	*e*P	**P**	**01 38 27.4**	**-0.8**
GNI				pmax	pmax		
	comp=Z,22nm,1.1s						
GNI	**Garni**	**65.15**	**316**	P	**P**	**01 38 27.9**	**-0.3**
	comp=Z,1.7nm,0.4s,mb4.4,baz=169,slow=10.0,SNR=5.5						
GNI	**Garni**	**65.15**	**316**	*e*P	**P**	**01 38 27.4**	**-0.8**
	comp=Z,22nm,1.1s,mb5.1						
TI2	**Plekhanov**	**65.83**	**318**	*e*P	**P**	**01 38 34.0**	**+1.4**
SVE	**Sverdlovsk**	**66.33**	**338⇑**	*e*P	**P**	**01 38 31.0**	**-4.5**
SVE				*e*		01 38 44.0	
SVE				*e*		01 38 59.0	
SVE				pmax	pmax		
	comp=Z,72nm,1.2s,mb5.6						
ARU	**Arti**	**66.85**	**337**	*e*P	**P**	**01 38 37.0**	**-1.8**
KIV	**Kislovodsk**	**68.16**	**319**	*i* P	**P**	**01 38 46.4**	**-0.9**
KIV				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
KIV	**Kislovodsk**	**68.16**	**319**	*e*P	**P**	**01 38 46.1**	**-1.3**
	comp=Z,32nm,1.3s,mb5.2						
ASF	**Jabal al Asfar**	**68.22**	**306**	P	**P**	**01 38 48.2**	**+0.3**
	comp=Z,6.4nm,0.9s,mb4.7,baz=335,slow=2.5,SNR=9.2						
ASF				LR	LR	02 10 14.5	
	comp=Z,140nm,18.5s,MS4.2,baz=212,slow=37						
GOF	**Gofitskoye**	**68.42**	**320⇑**	*i*P	**P**	**01 38 46.7**	**-2.2**
GOF				pmax	pmax		
	comp=Z,30nm,1.3s,mb5.2						
MALT	**Malatya**	**68.96**	**312⇑**	*e*P	**P**	**01 38 51.8**	**-0.6**
	comp=Z,29nm,1.5s,mb5.0						
MALT	**Malatya**	**68.96**	**312**	⇓P	**P**	**01 38 52.4**	**0.0**
EIL	**Elat**	**69.16**	**303⇑**	*e*P	**P**	**01 38 52.5**	**-1.2**
	comp=Z,39nm,1.4s,mb5.1						
EIL				*e*	pP	01 38 59.9	-2.7
SOC	**Sochi**	**69.98**	**318**	*e*P	**P**	**01 38 55.9**	**-2.6**
SOC				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
SOC				pmax	pmax		
	comp=N,6.0nm,1.2s						
SOC				pmax	pmax		
	comp=E,5.0nm,1.4s						
MAW	**Mawson**	**70.49**	**194**	P	**P**	**01 39 02.3**	**+1.1**
	comp=E,7.8nm,0.9s,mb4.6,baz=17,slow=5.6,SNR=7.6						
MAW				LR	LR	02 03 01.4	
	comp=E,255nm,19.9s,MS4.5,baz=164,slow=30						
LSZ	**Lusaka**	**71.76**	**255**	*e*P	**P**	**01 39 09.3**	**-0.4**
LSZ				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
LSZ	**Lusaka**	**71.76**	**255**	*e*P	**P**	**01 39 09.3**	**-0.4**
	comp=Z,4.4nm,1.1s,mb4.3						
MATP	**Matopo**	**71.84**	**249**	LR	LR	02 06 33.9	
	comp=Z,187nm,18.4s,MS4.4,baz=58,slow=32						
CSS	**Prodhromos**	**71.85**	**308⇑**	*e*P	**P**	**01 39 08.7**	**-1.2**
	comp=Z,33nm,1.3s,mb5.1						
BRTR	**Keskin Array B**	**72.94**	**312**	P	**P**	**01 39 14.8**	**-1.6**
	comp=Z,3.3nm,0.7s,mb4.3,baz=129,slow=7.9,SNR=13						
RPZ	**Rata Peaks**	**75.36**	**135**	P	**P**	**01 39 29.8**	**-0.4**
	comp=Z,13nm,0.7s,mb5.0,baz=240,slow=6.2,SNR=7.9						
SEY	**Seymchan**	**75.46**	**22**	*e*P	**P**	**01 39 30.3**	**-0.1**
SEY				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.5						
BOSA	**Boshof**	**75.57**	**241**	LR	LR	02 08 03.9	
	comp=Z,137nm,18.3s,MS4.3,baz=141,slow=32						
**M

comp=Z,11nm,1.6s,mb4.6
KOLS Kolonicke sedl 83.07 320 *i* P **P 01 40 12.6 +0.8**
KOLS *e* pP 01 40 23.6 +2.6
SUW Suwalki 83.51 325 *eP* **P 01 40 14.0 +0.1**
SUW Suwalki 83.51 325 *eP* **P 01 40 14.0 0.0**
FINES FINESS Array B 83.75 332 P **P 01 40 15.2 +0.3**
comp=Z,3.8nm,0.4s,mb4.9,baz=109,slow=5.4,SNR=29
FINES LR LR 02 22 20.9
comp=Z,148nm,18.1s,MS4.4,baz=22,slow=39
KAF Kangasniemi 83.82 333 *ep* **P 01 40 13.5 -1.8**
comp=Z,18nm,0.9s,mb5.2
KAF Kangasniemi 83.82 333 *eP* **P 01 40 13.5 -1.8**
KAF pmax pmax
comp=Z,18nm,0.9s,mb5.2
DIVS Divcibare 83.83 315 *eP* **P 01 40 14.3 -1.5**
KECS Kecovo 84.16 319 *eP* **P 01 40 17.5 +0.1**
NIE Niedzica 84.42 320 *eP* **P 01 40 19.0 +0.3**
VYHS Vyhne 85.25 319 *eP* **P 01 40 23.2 +0.4**
VYHS epP pP 01 40 32.1 +0.1
OKC Ostrava-Krasne 85.88 320 *eP* **P 01 40 26.6 +0.7**
ARCES ARCESS Array B 86.12 340 P **P 01 40 27.4 +0.8**
comp=Z,21nm,0.9s,mb5.4,baz=104,slow=5.0,SNR=17
ARCES pP pP 01 40 35.7 -0.2
comp=Z,9.3nm,0.8s,baz=90,slow=6.1,SNR=4.4
ARCES LR LR 02 22 14.8
comp=Z,136nm,19.1s,MS4.4,baz=104,slow=38
SMOL Smolenice 86.18 319 *eP* **P 01 40 27.8 +0.3**
MORC Moravsky Berou 86.26 320 ⇑P **P 01 40 28.4 +0.6**
MORC Moravsky Berou 86.26 320 *eP* **P 01 40 27.7 -0.1**
comp=Z,2.9nm,1.3s,mb4.3
ZST Bratislava 86.36 318 *eP* **P 01 40 29.2 +0.9**
ZST *e* pP 01 40 36.5 -1.0
DPC Dobruska-Polom 87.11 320 *eP* **P 01 40 32.5 +0.6**
DPC epP pP 01 40 44.0 +2.9
UPC Upice 87.32 321 *eP* **P 01 40 33.7 +0.7**
PRU Pruhonice 88.21 320 *eP* **P 01 40 38.0 +0.8**
PRU epP pP 01 40 48.9 +2.5
PVCC Panska Ves 88.24 320 *eP* **P 01 40 38.1 +0.7**
QSPA South Pole Qui 88.24 180 ⇓ *iP* **P 01 40 38.4 +1.6**
comp=Z,14nm,1.2s,mb5.1
BRG Berggiesshubel 88.66 321 *eP* **P 01 40 40.5 +1.1**
BRG pmax pmax
comp=Z,24nm,1.4s,mb5.3
BRG Berggiesshubel 88.66 321 *eP* **P 01 40 40.5 +1.1**
comp=Z,24nm,1.4s,mb5.3
GEC2 GERESS Array S 88.67 319 *eP* **P 01 40 40.4 +0.9**
GEC2 pmax pmax
comp=Z,50nm,1.7s,mb5.6
GEC2 GERESS Array S 88.67 319 *eP* **P 01 40 40.4 +0.9**
comp=Z,50nm,1.7s,mb5.6
GERES GERESS Array B 88.67 319 P **P 01 40 40.3 +0.8**
comp=Z,4.1nm,0.9s,mb4.7,baz=90,slow=2.7,SNR=14
KHC Kasperske Hory 88.77 319 *eP* **P 01 40 40.3 +0.4**
KHC epP pP 01 40 51.6 +2.5
WET Wettzell 89.23 319 *eP* **P 01 40 42.7 +0.6**
WET pmax pmax
comp=Z,24nm,1.7s,mb5.2
WET Wettzell 89.23 319 *eP* **P 01 40 42.7 +0.6**
comp=Z,24nm,1.7s,mb5.2
CLL Collm 89.29 321 *eP* **P 01 40 42.0 -0.3**
CLL Collm 89.29 321 P **P 01 40 42.0 -0.3**
NKC Novy Kostel 89.57 320 *eP* **P 01 40 44.3 +0.6**
MOX Moxa 90.13 320 *eP* **P 01 40 48.0 +1.7**
GRA1 Grafenberg Arr 90.34 320 *eP* **P 01 40 48.4 +1.1**
comp=Z,14nm,1.0s,mb5.2
GRF Grafenberg Arr 90.34 320 *eP* **P 01 40 48.4 +1.1**
GRF pmax pmax
comp=Z,14nm,1.0s,mb5.2
GRF Grafenberg Arr 90.34 320 *eP* **P 01 40 48.4 +1.1**
GRF pmax pmax
comp=Z,14nm,1.0s,mb5.2
GRF Grafenberg Arr 90.34 320 *eP* **P 01 40 48.4 +1.1**
comp=Z,14nm,1.0s,mb5.2
NB2 NORSAR Subarra 90.78 331 P **P 01 40 46.9 -2.1**
comp=Z,5.3nm,1.2s,mb4.8,baz=91,slow=4.8
NB2 NORSAR Subarra 90.78 331 P **P 01 40 46.9 -2.1**
NB2 pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
NOA NORSAR Array B 90.78 331 P **P 01 40 49.2 +0.2**
comp=Z,1.9nm,0.8s,mb4.5,baz=94,slow=4.6,SNR=3.9
NOA LR LR 02 26 43.8
comp=Z,95nm,18.8s,MS4.2,baz=60,slow=39
NOA NORSAR Array B 90.78 331 P **P 01 40 49.2 +0.2**
CLZ Clausthal 90.95 322 *eP* **P 01 40 51.6 +1.6**
CLZ pmax pmax
comp=Z,23nm,1.5s,mb5.3
CLZ Clausthal 90.95 322 *eP* **P 01 40 51.6 +1.6**
comp=Z,23nm,1.5s,mb5.3
BSEG Bad Segeberg 91.04 324 *eP* **P 01 40 53.0 +2.6**
DAVOX Davos 91.15 317 LR LR 02 25 38.8
comp=Z,82nm,18.8s,MS4.2,baz=88,slow=38
TNS Taunus Mts 92.14 320 *eP* **P 01 40 56.8 +1.3**
TNS pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
TNS Taunus Mts 92.14 320 *eP* **P 01 40 56.8 +1.3**
comp=Z,10.0nm,1.0s,mb5.1
BFO Black Forest 92.22 318 *eP* **P 01 40 55.8 -0.1**
BFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
BFO Black Forest 92.22 318 *eP* **P 01 40 55.8 -0.1**
comp=Z,5.0nm,0.9s,mb4.8
IMA Indian Mountai 98.25 23 *eP* **P 01 41 25.3 +2.3**
ILAR Eielson Array 101.35 24 PKKPbc 01 57 46.4
comp=Z,0.6nm,0.9s,baz=118,slow=2.1,SNR=6.3
YKA Yellowknife Ar 114.17 17 PKP PKPdf 01 46 24.6 -4.3
comp=Z,0.4nm,0.7s,baz=319,slow=2.3,SNR=5.9
YKA PP PP 01 47 10.7 -13
comp=Z,0.2nm,0.6s,baz=333,slow=7.7,SNR=3.8
YKA Yellowknife Ar 114.17 17 PKP PKPdf 01 46 24.6 -4.3
YKA PP PP 01 47 10.7 -13
SCHQ Schefferville 125.93 350 PKP PKPdf 01 46 48.5 -3.4
comp=Z,3.0nm,0.8s,baz=37,slow=5.1,SNR=2.9
ULM Lac du Bonnet 129.85 13 PKP PKPdf 01 46 56.1 -3.4
comp=Z,3.8nm,0.8s,baz=343,slow=2.8,SNR=3.8
PDAR Pinedale Array 131.45 29 PKP PKPdf 01 46 59.9 -2.9
comp=Z,0.6nm,0.5s,baz=315,slow=2.1,SNR=5.9
RSSD Black Hills 132.80 23 *e*PKIKP PKPdf 01 47 01.7 -3.6
MSU Marysvale 133.16 35 PKIKP PKPdf 01 47 04.9 -1.2
PV10 Paradox Valley 134.99 32 *e*PKP PKPdf 01 47 05.6 -4.0
ANMO Albuquerque 138.91 34 PKhKP 01 47 06.8
comp=Z,1.7nm,0.8s,baz=17,slow=2.8,SNR=4.1
ANMO PKP PKPdf 01 47 15.5 -1.3
comp=Z,1.7nm,0.8s,baz=146,slow=2.4,SNR=5.7
ANMO Albuquerque 138.91 34 PKP PKPdf 01 47 06.8 -10
ANMO PKP PKPdf 01 47 15.5 -1.3
WMOK Wichita Mounta 142.88 26 *e*PKIKP PKPdf 01 47 15.9 -7.9
BDFB Brasilia 143.76 240 PKP PKPdf 01 47 20.9 -4.9
comp=Z,4.4nm,1.0s,baz=67,slow=5.6,SNR=3.1
LTX Lajitas 144.63 37 *e*PKIKP PKPdf 01 47 23.1 -4.0
TXAR Lajitas Array 144.63 37 PKP PKPdf 01 47 23.3 -3.8
comp=Z,14nm,0.7s,baz=220,slow=0.4,SNR=35
TXAR pPKP 01 47 31.9
comp=Z,10nm,0.7s,baz=270,slow=1.8,SNR=11
TXAR Lajitas Array 144.63 37 PKP PKPdf 01 47 23.3 -3.8
TXAR pPKP 01 47 31.9
CFAA Coronel Fontan 144.95 198 PKP PKPdf 01 47 23.4 -4.2
comp=Z,3.2nm,0.8s,baz=167,slow=2.6,SNR=36
CFAA pPKP 01 47 32.4
comp=Z,1.7nm,0.7s,baz=172,slow=2.9,SNR=9.6
CFAA Coronel Fontan 144.95 198 PKP PKPdf 01 47 23.4 -4.2
CFAA pPKP 01 47 32.4
WVT Waverly 145.05 11 *e*PKIKP PKPdf 01 47 22.7 -4.9
MIAR Mount Ida 145.06 19 *e*PKIKP PKPdf 01 47 23.2 -4.4
TZTN Tazewell 145.21 5 *e*PKP PKPdf 01 47 23.2 -4.7
UALR University of 145.23 18 *e*PKP PKPdf 01 47 23.5 -4.4
JCT Junction City 145.91 31 *e*PKP2 PKPab 01 47 26.6 -0.9
PLAL Pickwick Lake 146.11 12 *e*PKP PKPdf 01 47 26.2 -3.3
CPCT Cooper Cave 146.21 6 *e*PKPdf PKPdf 01 47 26.4 -3.2
SWET Sewanee 146.25 8 *e*PKPdf PKPdf 01 47 26.4 -3.2
OXF Oxford 146.27 14 *e*PKP2 PKPab 01 47 26.8 -1.9
NATX Nacogdoches 147.17 23 *e*PKPbc PKPdf 01 47 30.3 -1.0
JSC Jenkinsville 147.59 2 *e*PKP2 PKPab 01 47 31.2 -2.7
LRAL Lakeview Retre 148.21 11 *e*PKPbc PKPdf 01 47 31.8 -1.1
GOGA Godfrey 148.33 5 *e*PKP2 PKPab 01 47 33.1 -3.8
LVC Limon Verde 153.41 204 PKPbc PKPdf 01 47 47.2 +6.2
comp=Z,5.5nm,0.8s,baz=270,slow=1.3,SNR=6.7
LVC PKPab PKPab 01 47 56.0 -2.4
comp=Z,4.4nm,0.8s,baz=318,slow=1.3,SNR=5.4
LVC Limon Verde 153.41 204 *e*PKPbc PKPdf 01 47 47.2 +6.2
SIV San Ignacio 154.14 226 PKP PKPdf 01 47 38.5 -3.7
comp=Z,0.8nm,0.7s,baz=148,slow=8.3,SNR=3.5
SIV PKPbc PKPdf 01 47 47.3 +5.1
comp=Z,3.0nm,0.8s,baz=132,slow=5.1,SNR=13
SIV pPKPbc 01 47 55.7
comp=Z,1.9nm,0.8s,baz=162,slow=4.1,SNR=5.5

LPAZ La Paz 158.47 213 PKP PKPdf 01 47 46.3 -1.6
comp=Z,1.2nm,0.8s,baz=225,slow=4.5,SNR=4.2
LPAZ PKPab PKPab 01 48 20.1 0.0
comp=Z,2.2nm,0.9s,baz=217,slow=2.6,SNR=4.1

PRE 12 01:38:45.7±1.9, 28.27S×26.75E, h2km, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**0.77**	**94**	*eP*	Pg	01 38 59.6	-1.5
SEK				*eS*	Sg	01 39 09.0	-2.4
BOSA	**Boshof**	**1.36**	**255**	*eP*	Pb	01 39 10.9	-0.7
BOSA				*eS*	Sb	01 39 27.9	-1.4
PRYS	**Parys**	**1.45**	**22**	*eP*	Pn	01 39 12.1	-0.8
PRYS				*eS*	Sb	01 39 30.0	-1.8
PRYS				*e*		01 39 32.6	
	comp=Z,310nm,0.2s						
SWZ	**Schweizer**	**1.66**	**310**	*eP*	Pn	01 39 15.3	-0.7
SWZ				*eS*	Sb	01 39 36.8	-1.2
SWZ				*e*		01 39 40.3	
	comp=Z,524nm,0.5s						
KSR	**Koster**	**2.41**	**3**	*eP*	Pn	01 39 18.8	-8.0
KSR				*eS*	Sn	01 39 50.2	-7.1
KSR				*e*		01 39 52.6	
	comp=Z,346nm,0.2s						
SLR	**Silverton**	**2.87**	**29**	*eP*	Pn	01 39 31.7	-1.7
SLR				*eS*	Sn	01 40 06.4	-2.5
SLR				*e*		01 40 20.3	
	comp=Z,201nm,0.4s						
NWL	**Newcastle**	**2.88**	**80**	*eP*	Pn	01 39 32.1	-1.4
NWL				*eS*	Sn	01 40 06.0	-3.3
NWL				*e*		01 40 11.9	
	comp=Z,174nm,0.4s						
POGA	**Pongola**	**4.40**	**79**	*eP*	Pn	01 39 53.8	-1.3
UPI	**Upington**	**4.85**	**268**	*eP*	Pn	01 39 58.1	-3.3
UPI				*eS*	Sn	01 40 51.3	-7.6
UPI				*e*		01 40 55.0	
	comp=Z,21nm,0.4s						
CVNA	**Calvinia**	**6.86**	**240**	*eP*	Pn	01 40 26.2	-3.6

*IDC **12** 01:41:13.3±1.1, 1.56S×99.67E, mb4.0/7, mb1 4.2/8, mb1mx3.9/20, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=49.0km s-min=18.6km az=57.0*
*NEIC **12** 01:41:17.4±0.6, 1.65S×99.69E, h30km, mb4.3/3, Error ellipse: s-maj=21.0km s-min=11.6km az=64.0*
ISC 12 01:41:16.0±0.8, 1.6S±0.1×99.7E±0.2, h33km, n16, σ1°19/13, mb4.0/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.88**	**8**	*eP*	**P**	**01 42 58.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**19.91**	**358**	P	**P**	**01 45 45.7**	**-2.0**
	0.3nm,0.3s,baz=190,slow=10,SNR=8.4						
NANT	**Nan**	**20.26**	**3**	P	**P**	**01 45 48.5**	**-3.0**
WRA	**Warramunga Arr**	**38.49**	**121**	P	**P**	**01 48 37.4**	**+0.5**
	0.4nm,0.4s,mb3.5,baz=299,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**39.77**	**126**	P	**P**	**01 48 48.5**	**+1.0**
	0.6nm,0.7s,mb3.4,baz=299,slow=7.9,SNR=6.8						
CTAO	**Charters Tower**	**49.07**	**115**	P	**P**	**01 49 59.8**	**-2.6**
	1.5nm,0.5s,mb4.3						
SONM	**Songino Array**	**49.55**	**6**	P	**P**	**01 50 06.6**	**+0.9**
	0.7nm,0.6s,mb3.9,baz=187,slow=9.7,SNR=4.1						
MKAR	**Makanchi Array**	**50.53**	**345**	P	**P**	**01 50 13.4**	**+0.2**
	1.4nm,0.5s,mb4.1,baz=145,slow=7.3,SNR=14						
ZAL	**Zalesovo**	**56.68**	**350**	P	**P**	**01 50 58.2**	**-0.2**
	1.3nm,0.7s,mb4.1,baz=306,slow=4.6,SNR=7.6						
BVAR	**Borovoye Array**	**59.67**	**340**	P	**P**	**01 51 19.7**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=121,slow=8.4,SNR=3.2						
CHKZ	**Chkalovo**	**60.13**	**341**	P	**P**	**01 51 23.8**	**+1.2**
	1.4nm,0.6s,mb4.2						
KMBO	**Kilima Mbogo**	**62.41**	**270**	P	**P**	**01 51 37.8**	**-0.7**
	1.3nm,0.8s,mb4.1						
GNI	**Garni**	**64.99**	**316**	P	**P**	**01 51 55.5**	**+0.5**
	1.4nm,0.3s,mb4.5,baz=15,slow=20,SNR=3.7						
TXAR	**Lajitas Array**	**144.55**	**37**	PKP	PKPdf	02 00 51.3	+1.5
	0.4nm,0.5s,baz=198,slow=1.0,SNR=11						
CFAA	**Coronel Fontan**	**145.08**	**198**	PKPbc	PKPbc	02 00 51.9	+1.0
	0.4nm,0.6s,baz=164,slow=6.1,SNR=6.6						
JCT	**Junction City**	**145.82**	**31**	*e*PKP	PKPdf	02 00 54.9	+3.0

IDC 12 01:47:21.0±3.5, 1.67S×100.27E, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=134.4km s-min=27.0km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.04**	**356**	P	P	01 51 54.0	-4.7
	0.7nm,0.4s,baz=189,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**37.93**	**121**	P	P	01 54 40.5	-1.7
	0.4nm,0.4s,baz=295,slow=12,SNR=2.4						
SONM	**Songino Array**	**49.59**	**5**	P	P	01 56 14.7	-1.2
	0.2nm,0.5s,baz=196,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**50.78**	**344**	P	P	01 56 23.5	-1.6
	0.4nm,0.6s,baz=159,slow=7.8,SNR=5.0						
TXAR	**Lajitas Array**	**144.27**	**37**	PKP	PKPdf	02 06 57.9	-3.7
	0.1nm,0.5s,baz=221,slow=0.6,SNR=4.8						

*IDC **12** 01:51:53.4±0.7, 1.69S×99.75E, mb4.4/12, mb1 4.5/12, mb1mx4.3/21, mbtmp4.4/12, MS3.5/2, Ms1 3.6/2, ms1mx2.8/31, Error ellipse: s-maj=33.4km s-min=13.7km az=55.0*
*NEIC **12** 01:51:58.1±0.4, 1.62S×99.89E, h30km, mb4.6/8, Error ellipse: s-maj=15.5km s-min=6.2km az=57.0*
ISC 12 01:51:56.8±0.6, 1.57S±0.10×99.9E±0.1, h33km, n28, σ0°88/24, mb4.5/20, MS3.7/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.85**	**6**	P	**P**	**01 53 36.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**19.93**	**357**	P	**P**	**01 56 26.4**	**-2.4**
	2.2nm,0.6s,baz=188,slow=11,SNR=9.9						
CMAR				LR	LR	02 05 16.3	
	comp=Z,107nm,18.9s,baz=200,slow=40						
FITZ	**Fitzroy Crossi**	**30.11**	**125**	P	**P**	**01 58 04.6**	**-1.2**
	7.1nm,0.8s,mb4.5,baz=335,slow=3.9,SNR=4.2						
JIRN	**Jiri**	**31.93**	**337**	*eP*	**P**	**01 58 22.5**	**+0.7**
	23nm,0.9s,mb5.0						
PKI	**Pulchoki**	**32.17**	**335**	*eP*	**P**	**01 58 24.0**	**+0.1**
GUN	**Gumba**	**32.27**	**336**	*eP*	**P**	**01 58 25.5**	**+0.6**
	15nm,0.7s,mb5.0						
DMN	**Daman**	**32.33**	**335**	*eP*	**P**	**01 58 26.1**	**+0.8**
KKN	**Kakani**	**32.41**	**335**	*eP*	**P**	**01 58 26.1**	**0.0**
	15nm,0.9s,mb4.8						
ENH	**Enshi**	**32.95**	**15**	*eP*	**P**	**01 58 30.7**	**0.0**
	4.3nm,0.6s,mb4.6						
KOLN	**Koldanda**	**33.13**	**333**	*eP*	**P**	**01 58 32.5**	**+0.2**
	11nm,0.7s,mb4.9						
WRA	**Warramunga Arr**	**38.27**	**121**	P	**P**	**01 59 16.3**	**+0.3**
	4.0nm,0.6s,mb4.3,baz=298,slow=9.2,SNR=15						
WRA				PcP	PcP	02 01 30.4	+0.2
	0.9nm,0.5s,baz=322,slow=2.1,SNR=5.3						
WRAB	**Tennant Creek**	**38.27**	**121**	*eP*	**P**	**01 59 15.4**	**-0.6**
	8.1nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**39.56**	**126**	P	**P**	**01 59 27.4**	**+0.7**
	1.8nm,0.6s,mb4.0,baz=298,slow=7.5,SNR=19						
ASAR				PcP	PcP	02 01 34.9	+0.6
	2.0nm,0.7s,baz=307,slow=2.8,SNR=10						
CTA	**Charters Tower**	**48.84**	**115**	P	**P**	**02 00 41.1**	**-0.3**
	5.7nm,1.0s,mb4.6,baz=328,slow=9.5,SNR=2.8						
STKA	**Stephens Creek**	**49.48**	**132**	P	**P**	**02 00 47.1**	**+0.9**
	3.2nm,0.5s,mb4.6,baz=303,slow=5.6,SNR=7.3						
SONM	**Songino Array**	**49.52**	**6**	P	**P**	**02 00 47.6**	**+1.2**
	2.4nm,0.7s,mb4.3,baz=186,slow=9.3,SNR=20						
SONM				PcP	PcP	02 02 08.6	+0.4
	0.9nm,0.6s,baz=191,slow=3.3,SNR=6.2						
ULN	**Ulaanbaatar**	**49.62**	**6**	P	**P**	**02 00 47.9**	**+0.8**
	2.5nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**50.60**	**344**	P	**P**	**02 00 55.0**	**+0.5**
	4.3nm,0.6s,mb4.6,baz=146,slow=7.9,SNR=41						
JHJ	**Hachijo jima 2**	**51.01**	**44**	LR	LR	02 19 46.2	
	comp=Z,70nm,21.0s,MS3.7,baz=286,slow=33						
ZAL	**Zalesovo**	**56.73**	**349**	P	**P**	**02 01 39.5**	**-0.1**
	8.1nm,0.5s,mb5.0,baz=322,slow=5.0,SNR=30						
BVAR	**Borovoye Array**	**59.76**	**340**	P	**P**	**02 01 59.6**	**-1.2**
	2.5nm,0.7s,mb4.4,baz=145,slow=8.7,SNR=21						
CHKZ	**Chkalovo**	**60.22**	**340**	*eP*	**P**	**02 02 02.6**	**-1.4**
	3.1nm,0.6s,mb4.5						
MATP	**Matopo**	**72.06**	**249**	P	**P**	**02 03 18.6**	**-1.3**
	2.4nm,0.8s,mb4.2,baz=107,slow=6.7,SNR=6.0						

FINES FINESS Array B 83.70 332 P **P 02 04 23.9 +0.5**
0.8nm,0.5s,mb4.1,baz=108,slow=6.0,SNR=8.5
ARCES ARCESS Array B 86.05 340 P **P 02 04 36.0 +1.1**
2.5nm,0.8s,mb4.5,baz=117,slow=6.0,SNR=3.2
TXAR Lajitas Array 144.40 37 PKP PKPdf 02 11 32.1 +1.8
3.2nm,0.6s,baz=208,slow=1.0,SNR=21
JCT Junction City 145.69 31 *e*PKPdf PKPdf 02 11 35.1 +2.6
JCT *e* 02 11 41.8
NATX Nacogdoches 146.96 23 *e*PKPbc PKPbc 02 11 38.7 +2.5

*IDC **12** 01:59:20.8±2.0, 1.98S×99.35E, mb3.7/7, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, Error ellipse: s-maj=87.5km s-min=20.1km az=56.0*
*NEIC **12** 01:59:25.6±0.8, 1.89S×99.51E, h30km, mb4.3/2, Error ellipse: s-maj=28.4km s-min=8.6km az=63.0*
ISC 12 01:59:23.7±1.1, 1.8S±0.1×99.6E±0.3, h30km, n12, σ0°59/11, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.14**	**9**	P	**Pn**	**02 01 08.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**20.15**	**358**	P	**P**	**02 03 58.9**	**+0.2**
	0.7nm,0.6s,baz=187,slow=9.3,SNR=4.6						
WRA	**Warramunga Arr**	**38.48**	**120**	P	**P**	**02 06 44.6**	**-0.5**
	0.5nm,0.5s,mb3.5,baz=301,slow=9.5,SNR=2.7						
WRAB	**Tennant Creek**	**38.48**	**120**	P	**P**	**02 06 45.6**	**+0.4**
	4.1nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**39.73**	**126**	P	**P**	**02 06 56.6**	**+1.1**
	0.4nm,0.7s,mb3.3,baz=297,slow=7.8,SNR=3.7						
STKA	**Stephens Creek**	**49.61**	**132**	P	**P**	**02 08 13.6**	**-1.0**
SONM	**Songino Array**	**49.81**	**6**	P	**P**	**02 08 16.3**	**+0.4**
	0.2nm,0.3s,mb3.6,baz=194,slow=5.9,SNR=3.0						
MKAR	**Makanchi Array**	**50.73**	**345**	P	**P**	**02 08 23.4**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=149,slow=7.1,SNR=6.0						
ZAL	**Zalesovo**	**56.90**	**350**	P	**P**	**02 09 08.4**	**+0.1**
	1.4nm,0.4s,mb4.3,baz=271,slow=3.2,SNR=5.7						
CHKZ	**Chkalovo**	**60.32**	**341**	*eP*	**P**	**02 09 31.3**	**-0.8**
	1.9nm,0.9s,mb4.1						
FINES	**FINESS Array B**	**83.74**	**332**	P	**P**	**02 11 51.3**	**+0.2**
	3.6nm,1.1s,mb4.4,baz=100,slow=8.5,SNR=2.9						
TXAR	**Lajitas Array**	**144.83**	**37**	PKPbc	PKPbc	02 19 00.7	+2.1
	1.0nm,0.7s,baz=264,slow=2.0,SNR=11						

*NIED **12** 02:16:00, 26.10N×124.70E, h5km, Mw4.4 Best double couple: M0=4.33×10^15 NP1:φs=56°, δ75°, λ-92°. NP2:φs=246°, δ15°, λ-81°.*
*JMA **12** 02:16:44.3±0.2, 26.14N×124.70E, M3.7*
*NEIC **12** 02:16:48.9±3.2, 26.22N×124.75E, h24km±25km, mb4.0/1, Error ellipse: s-maj=12.0km s-min=10.3km az=145.0*
*IDC **12** 02:16:50.9±5.1, 26.25N×124.82E, h38km±47km, mb3.4/7, mb1 3.6/8, mb1mx3.5/24, mbtmp3.6/8, ML3.1/1, MS3.3/6, Ms1 3.4/6, ms1mx3.3/18, Error ellipse: s-maj=32.9km s-min=17.2km az=75.0*
ISC 12 02:16:47.4±2.1, 26.14N±0.05×124.69E±0.05, h25km±17km, n26, σ0°88/25, mb3.6/8, MS3.3/4, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.43**	**157**	P	**Pn**	**02 17 10.9**	**-1.2**
JTJ	**Tarama**	**1.49**	**180**	P	**Pn**	**02 17 12.1**	**-0.9**
JOGS	**Gusukube**	**1.52**	**155**	P	**Pn**	**02 17 12.8**	**-0.6**
JOGS				*eS*	**Sn**	**02 17 33.0**	**+0.5**
JIJ	**Ishigaki jima**	**1.83**	**196**	P	**Pn**	**02 17 17.0**	**-0.9**
JKE	**Kume jima 2**	**1.89**	**84**	P	**Pn**	**02 17 18.2**	**-0.6**
JKRS	**Kuro-shima**	**1.99**	**198**	P	**Pn**	**02 17 20.0**	**-0.2**
IRIF	**Iriomote-Funau**	**1.99**	**206**	P	**Pn**	**02 17 20.4**	**+0.2**
IRIF				*eS*	**Sn**	**02 17 49.4**	**+4.8**
YOJ	**Yonaguni jima**	**2.25**	**223**	*eS*	**Sn**	**02 17 52.2**	**+0.9**
JAGN	**Aguni-jima**	**2.33**	**78**	*eS*	**Sn**	**02 17 54.5**	**+1.2**
JIH	**Iheya**	**3.07**	**72**	P	**Pn**	**02 17 36.7**	**+1.1**
JOW	**Kunigami**	**3.29**	**77**	Pn	**Pn**	**02 17 38.0**	**-0.6**
	3.8nm,0.3s,baz=285,slow=12,SNR=8.0						
JOW				LR	LR	02 18 47.3	
	comp=Z,292nm,18.5s,baz=309,slow=37						
YHNB	**Yeheng**	**3.33**	**245**	*e*Pn	**Pn**	**02 17 39.5**	**+0.2**
NACB	**Ninganchiao**	**3.42**	**236**	*e*Pn	**Pn**	**02 17 43.1**	**+2.6**
JTK	**Tokunoshima**	**4.14**	**66**	P	**Pn**	**02 17 52.0**	**+1.2**
MJAR	**Matsushiro AR**	**15.51**	**45**	LR	LR	02 26 58.3	
	comp=Z,96nm,19.4s,baz=200,slow=40						
ASAJ	**Asahikawa**	**23.07**	**34**	LR	LR	02 31 49.4	
	comp=Z,47nm,18.9s,MS3.0,baz=164,slow=39						
CMAR	**Chiang Mai Arr**	**24.98**	**257**	LR	LR	02 31 51.0	
	comp=Z,75nm,18.8s,MS3.2,baz=75,slow=36						
ULN	**Ulaanbaatar**	**25.74**	**332**	*eP*	**P**	**02 22 17.4**	**-0.3**
	2.9nm,0.8s,mb3.9						
SONM	**Songino Array**	**26.00**	**331**	P	**P**	**02 22 20.1**	**0.0**
	0.9nm,0.7s,mb3.4,baz=146,slow=10,SNR=8.0						
SONM				LR	LR	02 33 44.5	
	comp=Z,170nm,18.6s,MS3.6,baz=125,slow=39						
MKAR	**Makanchi Array**	**39.25**	**313**	P	**P**	**02 24 15.6**	**-0.1**
	1.2nm,0.7s,mb3.8,baz=96,slow=11,SNR=15						
MKAR				LR	LR	02 41 30.7	
	comp=Z,54nm,18.7s,MS3.4,baz=340,slow=38						
FITZ	**Fitzroy Crossi**	**43.98**	**179**	P	**P**	**02 24 54.3**	**-0.5**
	2.5nm,0.5s,mb4.2,baz=354,slow=8.1,SNR=6.2						
WRA	**Warramunga Arr**	**46.75**	**167**	P	**P**	**02 25 17.5**	**+0.7**
	0.5nm,0.7s,mb3.6,baz=350,slow=8.4,SNR=2.5						
ASAR	**Alice Springs**	**50.30**	**169**	P	**P**	**02 25 44.9**	**+0.6**
	0.6nm,0.7s,mb3.7,baz=346,slow=7.4,SNR=3.8						
ILAR	**Eielson Array**	**66.02**	**28**	P	**P**	**02 27 32.5**	**-1.3**
	0.2nm,0.6s,mb3.3,baz=238,slow=4.1,SNR=4.1						
YKA	**Yellowknife Ar**	**79.93**	**24**	P	**P**	**02 28 54.4**	**-1.0**
	0.2nm,0.8s,mb3.1,baz=316,slow=4.4,SNR=6.5						
YKA	**Yellowknife Ar**	**79.93**	**24**	P	**P**	**02 28 54.4**	**-1.0**

*CSEM **12** 02:25:08.2±0.3, 37.47

14nm,0.2s
ASBA Santa Barbara 2.41 302 *e*S Sn 02 26 11.4 -8.6
19nm,0.1s
PICO Pico 3.11 290 *e*P Pn 02 25 54.7 -4.7
PICO *e*S Sn 02 26 28.6 -9.2
CALA Caldeira 3.34 291 *e*P Pn 02 25 58.1 -4.6
CALA *e*S Sn 02 26 35.5 -8.1

CSEM ***12*** *02:33:38.0±1.2, 39.10N×28.58W, h5km, ML2.3, Error ellipse: s-maj=38.2km s-min=13.5km az=140.0, After PDA*
PDA ***12*** *02:33:38.0±1.1, 39.10N×28.58W, h5km, MD3.3, ML2.3, Error ellipse: s-maj=9.2km s-min=3.2km az=133.0*
SVSA 12 02:33:38.0±1.1, 39.10N×28.58W, h5km, MD3.3, ML2.3, Error ellipse: s-maj=9.2km s-min=3.2km az=133.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.45**	**93**	*i* S	Sg	02 33 52.1	-0.9
	70nm,0.2s						
PCED	**Cedros**	**0.48**	**192**	*i* P	Pg	02 33 46.3	-1.4
PCED				*i* S	Sg	02 33 53.1	-1.1
	96nm,0.2s						
CALA	**Caldeira**	**0.53**	**191**	*e*P	Pg	02 33 47.4	-1.2
CALA				*e*S	Sg	02 33 53.7	-2.0
HOR	**Horta**	**0.58**	**184**	*e*P	Pg	02 33 47.6	-2.0
HOR				*e*S	Sg	02 33 55.3	-2.0
PICO	**Pico**	**0.61**	**169**	*e*P	Pg	02 33 48.4	-1.9
PICO				*e*S	Sg	02 33 56.0	-2.5
PSBA	**Serra de Santa**	**1.03**	**109**	*e*P	Pb	02 33 53.9	-4.1
PSBA				*e*S	Sb	02 34 06.1	-5.5

MOS ***12*** *02:40:19.0±1.1, 14.09N×91.15W, h33km, mb5.6/8, Error ellipse: s-maj=11.0km s-min=5.8km az=99.2*
CASC ***12*** *02:40:23.9±2.8, 13.84N×91.37W, h4km±9km, MD4.8, ML5.6, mb5.2(NEIC)*
MEX ***12*** *02:40:25.4±3.1, 13.88N×91.78W, h67km±25km, MD5.2*
HRVD ***12*** *02:40:26.5±0.2, 13.95N×91.66W, h50km±1km, MW5.4/66, Centroid moment Tensor Solution. LP body waves: s62,c121;Mantle waves: s66,c138; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}~0.67±.04; $M_{\theta\theta}$0.76±.03; $M_{\phi\phi}$-0.08±.03; $M_{r\theta}$0.56±.03; $M_{\theta\phi}$-0.85±.03; $M_{\phi r}$~1.03±.03; Best double couple: $M_0$1.597×10^{17} NP1: ϕ_s86°, δ33°, λ-150°. NP2:ϕ_s330°, δ74°, λ-61°. Principal axes: T 1.741, Plg24°, Azm38°; N -.289, Plg28°, Azm142°; P -1.452, Plg52°, Azm274°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***12*** *02:40:26.5±0.5, 14.08N×91.16W, h93km±4km, mb5.2/144, MD5.6(SNET), MD5.2(MEX) Error ellipse: s-maj=4.9km s-min=2.7km az=211.0*
NEIC At least three homes damaged at Nahuala. Felt [IV] at Antigua Guatemala and Guatemala. Felt [III] at San Salvador, El Salvador. Also felt throughout western and central Guatemala.
BJI ***12*** *02:40:26.5, 14.10N×91.20W, h92km, mB5.5*
IDC ***12*** *02:40:27.9±1.9, 14.25N×91.09W, h95km±15km, mb4.7/26, mb1 4.9/28, mb1mx4.8/30, mbtmp5.0/28, MS4.7/20, Ms1 4.7/20, ms1mx4.5/26, Error ellipse: s-maj=17.6km s-min=8.7km az=52.0*
ISC 12 02:40:22.0±0.2, 14.00N±0.03×91.55W±0.02, h67km, (h106km±1.2km:pP-P), n542, σ1§50/512, mb5.2/162, 78C-27D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.32**	**346**	⇑*e*P	**P**	**02 40 34.7**	**+1.6**
JAT				*e*S	**S**	**02 40 45.6**	**+4.3**
JAT				AML	AML	02 40 46.8	
	comp=E,1118μm,0.3s						
FUG	**Fuego 3**	**0.82**	**57**	⇑*i*P	**P**	**02 40 39.8**	**+1.6**
TP2	**Tecpan 2**	**0.93**	**34**	⇑*e*P	**P**	**02 40 42.5**	**+2.8**
TP2				*e*S	**S**	**02 40 57.8**	**+4.9**
TP2				AML	AML	02 41 04.1	
	comp=E,98μm,0.6s						
PCG	**Pacaya**	**1.00**	**67**	⇑*e*P	**P**	**02 40 42.8**	**+2.2**
PCG				*e*S	**S**	**02 40 57.9**	**+3.6**
IXG	**Ixpaco**	**1.08**	**81**	⇓*e*P	**P**	**02 40 42.8**	**+1.1**
IXG				AML	AML	02 41 10.0	
	comp=N,484μm,0.4s						
GCG	**Guatemala City**	**1.15**	**59**	⇑*i*P	**P**	**02 40 42.5**	**0.0**
GCG				*e*S	**S**	**02 40 59.4**	**+1.5**
RBDL	**Robledal**	**1.82**	**86**	⇑*i*P	**P**	**02 40 54.0**	**+2.3**
RTR	**El Retiro**	**1.86**	**93**	⇓*i*P	**P**	**02 40 54.0**	**+1.8**
SBLS	**San Blas**	**1.88**	**95**	⇓*e*P	**P**	**02 40 54.1**	**+1.6**
SNJE	**San Jose**	**1.90**	**94**	⇓*e*P	**P**	**02 40 54.5**	**+1.8**
SNJE				*e*S	**S**	**02 41 18.7**	**+3.2**
MTO2	**Montecristo 2**	**2.16**	**79**	⇑*e*P	**P**	**02 40 58.5**	**+2.0**
MTO2				*e*S	**S**	**02 41 25.7**	**+3.6**
BOQS	**Boqueron**	**2.23**	**97**	⇓*e*P	**P**	**02 40 59.1**	**+1.8**
BOQS				*e*S	**S**	**02 41 27.2**	**+3.6**
SNET	**Serv Nac Est T**	**2.28**	**98**	*e*P	**P**	**02 40 59.9**	**+1.8**
SNET				*e*S	**S**	**02 41 26.6**	**+1.7**
SNET				*e*S	**S**	**02 41 27.4**	**+2.4**
SNET				*i*		02 41 30.2	
	comp=Z,42μm,0.5s						
CCIG	**Comitan**	**2.34**	**346**	*i* P	**P**	**02 41 01.2**	**+2.3**
CCIG				*i* S	**S**	**02 41 30.3**	**+3.8**
CCIG	**Comitan**	**2.34**	**346**	⇑*i*P	**P**	**02 41 02.6**	**+3.7**
CCIG				*i* S	**S**	**02 41 30.3**	**+3.8**
LFU	**La Fuente**	**2.38**	**96**	*e*P	**P**	**02 40 58.0**	**-1.6**
LFRS	**El Faro**	**2.45**	**99**	⇓*i*P	**P**	**02 41 02.5**	**+1.9**
LFRS				*e*S	**S**	**02 41 31.9**	**+2.6**
LBRS	**Las Brisas**	**2.45**	**96**	⇑*e*P	**P**	**02 41 02.5**	**+2.0**
LBRS				*e*S	**S**	**02 41 31.8**	**+2.4**
LCBS	**La Ceiba**	**2.53**	**98**	⇑*e*P	**P**	**02 41 03.1**	**+1.4**
SNVI	**San Vicente**	**2.67**	**98**	⇑*e*P	**P**	**02 41 05.6**	**+2.0**
SNVI				*e*S	**S**	**02 41 38.5**	**+3.7**
SCX	**San Cristobal**	**2.91**	**339**	*i* P	**P**	**02 41 10.0**	**+2.9**
SCX				*i* S	**S**	**02 41 42.0**	**+1.0**
SCX	**San Cristobal**	**2.91**	**339**	*i* P	**P**	**02 41 08.5**	**+1.4**
SCX				*i* S	**S**	**02 41 42.5**	**+1.6**
VSM	**San Miguel**	**3.24**	**100**	⇑*e*P	**P**	**02 41 13.2**	**+1.6**
VSM				*e*S	**S**	**02 41 51.4**	**+2.2**
CAHU	**Cacacuatique**	**3.25**	**94**	⇑*e*P	**P**	**02 41 13.3**	**+1.4**
CAHU				*e*S	**S**	**02 41 51.2**	**+1.6**
BLLM	**Bellamira**	**3.27**	**99**	⇓*e*P	**P**	**02 41 13.6**	**+1.5**
BLLM				*e*S	**S**	**02 41 52.9**	**+2.9**
CNCH	**Conchagua**	**3.69**	**101**	⇓*e*P	**P**	**02 41 19.1**	**+1.2**
CNCH				*e*S	**S**	**02 42 01.5**	**+1.1**
CMIG	**Matias Romero**	**4.44**	**314**	*e*P	**P**	**02 41 28.9**	**+0.4**
CMIG				*e*S	**S**	**02 42 18.5**	**-0.9**
CMIG	**Matias Romero**	**4.44**	**314**	⇓*e*P	**P**	**02 41 28.5**	**0.0**
CMIG				*e*S	**S**	**02 42 18.5**	**-0.9**
CRIN	**San Cristobal**	**4.57**	**106**	⇓*e*P	**P**	**02 41 32.6**	**+2.3**
CRIN				*e*S	**S**	**02 42 23.5**	**+0.9**
HUIG	**Huatulco**	**4.74**	**292**	*e*P	**P**	**02 41 30.9**	**-1.7**
HUIG				*e*S	**S**	**02 42 22.4**	**-4.4**
TEL3	**Telica 3**	**4.80**	**107**	⇓*e*P	**P**	**02 41 34.1**	**+0.7**
TELN	**Telica**	**4.80**	**106**	*e*P	**P**	**02 41 32.5**	**-0.9**
TELN				*e*S	**S**	**02 42 28.2**	**-0.2**
LEON	**Leon**	**4.81**	**109**	*e*P	**P**	**02 41 33.5**	**-0.1**
LEON				*e*S	**S**	**02 42 27.1**	**-1.4**
TUIG	**Tuzandepetl**	**4.87**	**326**	*e*P	**P**	**02 41 34.4**	**+0.1**
TUIG				*e*S	**S**	**02 42 30.1**	**+0.1**
CNGN	**Cerro Negro**	**4.96**	**107**	⇑*e*P	**P**	**02 41 36.7**	**+1.1**
CNGN				*e*S	**S**	**02 42 31.0**	**-1.2**
APYN	**Apoyeque**	**5.37**	**109**	⇓*e*P	**P**	**02 41 41.8**	**+0.6**
MGAN	**Managua**	**5.49**	**109**	*e*P	**P**	**02 41 43.4**	**+0.4**
WILN	**Americas 2**	**5.54**	**109**	*e*P	**P**	**02 41 44.8**	**+1.2**
WILN				*e*S	**S**	**02 42 45.6**	**-1.2**
TICN	**Ticuantepe**	**5.54**	**110**	*e*P	**P**	**02 41 46.0**	**+2.3**
TICN				*e*S	**S**	**02 42 44.1**	**-2.7**
PYTN	**Playitas**	**5.55**	**105**	⇑*e*P	**P**	**02 41 44.6**	**+0.9**
PYTN				*e*S	**S**	**02 42 47.7**	**+0.8**
EVV	**El Vigia**	**5.74**	**321**	*e*P	**P**	**02 41 44.5**	**-1.8**
EVV	**El Vigia**	**5.74**	**321**	*e*P	**P**	**02 41 45.0**	**-1.4**
EVV				*i* S	**S**	**02 42 48.1**	**-3.5**
OXX	**Oaxaca**	**5.85**	**302**	*i* P	**P**	**02 41 49.2**	**+1.4**
OXX	**Oaxaca**	**5.85**	**302**	*i* P	**P**	**02 41 48.5**	**+0.6**
OXX				*i* S	**S**	**02 42 50.4**	**-4.0**
VHO	**Vista Hermosa**	**5.85**	**302**	*e*P	**P**	**02 41 48.5**	**+0.5**
VHO				*e*S	**S**	**02 42 53.5**	**-1.0**
VHO	**Vista Hermosa**	**5.85**	**302**	⇓*e*P	**P**	**02 41 48.8**	**+0.8**
VHO				*e*S	**S**	**02 42 53.5**	**-1.0**
CONN	**Concepcion**	**6.27**	**112**	*e*P	**P**	**02 41 54.9**	**+1.1**
CONN				*e*S	**S**	**02 43 04.7**	**-0.1**
TEIG	**Tepich**	**6.94**	**26**	⇑*i*Pn	**P**	**02 42 03.6**	**+0.4**
	comp=Z,3μm,0.8s						
TEIG				*e*		02 42 13.2	
TEIG				*e*Sn	**S**	**02 43 16.4**	**-4.9**
VCR	**Vista de Mar**	**6.96**	**123**	*e*P	**P**	**02 42 04.2**	**+0.8**
JTS	**JuntasAbangare**	**7.43**	**119**	P	**P**	**02 42 10.5**	**+0.5**
	comp=Z,19nm,0.3s,baz=311,slow=22,SNR=144						
JTS				S	**S**	**02 43 32.8**	**-0.8**
	comp=Z,9.1nm,0.3s,baz=264,slow=18,SNR=1.8						
JTS				ScP		02 52 21.2	
	comp=Z,0.1nm,0.3s,baz=335,slow=11,SNR=3.9						
JTS	**JuntasAbangare**	**7.43**	**119**	*e*Pn	**P**	**02 42 09.1**	**-0.9**
	comp=Z,350nm,0.8s						
IISM	**Ciudad Serdan**	**7.47**	**312**	*e*P	**P**	**02 42 09.4**	**-1.0**
IISM	**Ciudad Serdan**	**7.47**	**312**	*e*P	**P**	**02 42 10.0**	**-0.4**
IISM				*i* S	**S**	**02 43 32.4**	**-2.0**
JCR	**Jicaral**	**7.53**	**123**	*e*P	**P**	**02 42 12.2**	**+0.8**
FORC	**Fortuna**	**7.59**	**117**	*e*P	**P**	**02 42 13.4**	**+1.2**
CGA2	**Cerro Gallo 2**	**7.99**	**119**	*e*P	**P**	**02 42 18.9**	**+1.4**
LAJ	**Bijagual**	**8.36**	**119**	*e*P	**P**	**02 42 19.8**	**-2.8**
SJS	**Escuela Geolog**	**8.38**	**118**	*e*P	**P**	**02 42 25.2**	**+2.4**
SJS				*e*S	S	02 44 19.1	+22
TRTC	**Tortuguero**	**8.38**	**113**	*e*P	**P**	**02 42 22.0**	**-1.0**
PPM	**Popocatepetl**	**8.45**	**308**	*i* P	**P**	**02 42 27.4**	**+3.5**
PPM	**Popocatepetl**	**8.45**	**308**	*i* P	**P**	**02 42 26.7**	**+2.8**
PPM				*i* S	**S**	**02 43 59.2**	**+0.6**
LCR2	**La Lucha 2**	**8.52**	**119**	*e*P	**P**	**02 42 26.3**	**+1.4**
ICR	**Volcan Irazu**	**8.55**	**117**	*e*P	**P**	**02 42 27.1**	**+1.8**
ACX	**Acapulco**	**8.55**	**291**	*i* P	**P**	**02 42 24.0**	**-1.3**
ACX				*i* S	**S**	**02 43 57.2**	**-4.0**
URSC	**Urasca**	**8.66**	**118**	*e*P	**P**	**02 42 28.3**	**+1.5**
PLIG	**Platanillo**	**8.79**	**301**	*e*P	**P**	**02 42 29.4**	**+0.8**
PLIG				*e*S	**S**	**02 44 05.7**	**-1.5**
PLIG	**Platanillo**	**8.79**	**301**	*e*P	**P**	**02 42 28.7**	**+0.1**
PLIG				*e*S	**S**	**02 44 04.3**	**-2.8**
BUS	**Buena Vista**	**8.82**	**119**	*e*P	**P**	**02 42 31.1**	**+2.1**
CAIG	**El Cayaco**	**8.93**	**291**	*i* P	**P**	**02 42 30.6**	**+0.2**
IIZ	**Mezontepec**	**8.99**	**306**	*i* P	**P**	**02 42 33.0**	**+1.7**
UNM	**Universidad Na**	**9.02**	**307**	*e*P	**P**	**02 42 29.0**	**-2.8**
UNM				*e*P		02 42 30.8	
UNM				*e*S	**S**	**02 44 03.3**	**-10**
UNM	**Universidad Na**	**9.02**	**307**	*e*P	**P**	**02 42 29.0**	**-2.8**
UNM				*e*P		02 42 30.8	
UNM				*e*S	**S**	**02 44 09.3**	**-3.5**
ACR	**Cerro Adams**	**9.79**	**122**	*e*P	**P**	**02 42 42.9**	**+0.6**
BRU2	**Volcan**	**10.11**	**120**	*e*P	**P**	**02 42 48.7**	**+2.0**
MOIG	**Morelia**	**10.81**	**303**	*e*P	**P**	**02 42 57.0**	**+0.8**
MOIG				*e*S	**S**	**02 44 52.3**	**-4.0**
SFJM	**Santa Fe**	**12.72**	**302**	*i* P	**P**	**02 43 24.7**	**+2.9**
MCJ	**Malvern**	**13.89**	**72**	⇓*e*P	**P**	**02 43 35.4**	**-1.7**
PCJ	**Portland Cotta**	**14.34**	**73**	⇑*i*P	**P**	**02 43 45.5**	**+2.5**
PAYG	**Puerto Ayora**	**14.63**	**175**	*e*Pn	**P**	**02 43 52.8**	**+5.9**
	comp=Z,102nm,1.2s						
STH	**Stony Hill**	**14.74**	**72**	⇓*e*P	**P**	**02 43 49.0**	**+0.8**
HOJ	**Hope**	**14.78**	**72**	⇑*e*P	**P**	**02 43 49.9**	**+1.2**
GWJ	**Greenwich**	**14.81**	**72**	⇑*i*P	**P**	**02 43 50.4**	**+1.3**
DWPF	**Disney**	**16.91**	**32**	Pn	**P**	**02 44 15.9**	**+0.3**
DWPF	**Disney**	**16.91**	**32**	⇑*e*P	**P**	**02 44 15.7**	**+0.1**
	comp=Z,3μm,1.9s						
NATX	**Nacogdoches**	**17.90**	**351**	⇑*e*P	**P**	**02 44 28.6**	**+0.6**
	comp=Z,502nm,1.4s						
NATX				*e*S	**S**	**02 47 33.8**	**-8.5**
JCT	**Junction City**	**18.08**	**336**	⇑*e*P	**P**	**02 44 30.6**	**+0.5**
	comp=Z,148nm,1.3s						
JCT				*e*S	**S**	**02 47 40.1**	**-6.1**
OTAV	**Otavalo**	**18.85**	**135**	⇓*e*P	**P**	**02 44 40.3**	**+1.0**
	comp=Z,42nm,1.3s						
LTX	**Lajitas**	**18.94**	**326**	*e*P	**P**	**02 44 42.4**	**+2.2**
	comp=Z,95nm,1.1s						
TXAR	**Lajitas Array**	**18.94**	**326**	P	**P**	**02 44 42.5**	**+2.3**
	comp=Z,1.0nm,0.3s,baz=152,slow=10,SNR=322						
TXAR				PcP	PcP	02 49 06.3	+2.9
	comp=Z,0.4nm,0.3s,baz=162,slow=4.0,SNR=6.6						
TXAR				ScP		02 52 40.2	
	comp=Z,0.3nm,0.3s,baz=146,slow=4.8,SNR=32						
TXAR				LR	LR	02 52 57.1	
	comp=Z,569nm,18.3s,baz=210,slow=39						
TXAR	**Lajitas Array**	**18.94**	**326**	P	**P**	**02 44 42.5**	**+2.4**
TXAR				PcP	PcP	02 49 06.3	+2.9
TXAR				ScP		02 52 40.2	
ROSC	**El Rosal**	**19.25**	**117**	P	**P**	**02 44 45.3**	**+1.5**
	comp=Z,2.5nm,0.3s,baz=86,slow=2.2,SNR=135						
ROSC				S	**S**	**02 48 28.7**	**+16**
	comp=Z,0.2nm,0.3s,baz=77,slow=19,SNR=2.1						
ROSC				ScP		02 52 42.0	
	comp=Z,0.1nm,0.3s,baz=44,slow=2.8,SNR=5.6						
LRAL	**Lakeview Retre**	**19.40**	**12**	⇑*e*P	**P**	**02 44 45.7**	**+0.5**
	comp=Z,402nm,1.3s						
LRAL				*e*		02 45 02.3	
LPIG	**La Paz**	**20.35**	**302**	*i* P	**P**	**02 44 57.6**	**+2.2**
OXF	**Oxford**	**20.51**	**5**	*e*P	**P**	**02 44 56.2**	**-0.8**
	comp=Z,708nm,1.1s						
MIAR	**Mount Ida**	**20.54**	**355**	⇑*e*P	**P**	**02 44 55.9**	**-1.3**
	comp=Z,234nm,1.2s						
MIAR				*e*S	**S**	**02 48 32.6**	**-5.6**
GOGA	**Godfrey**	**20.68**	**19**	*e*P	**P**	**02 44 58.9**	**+0.3**
GOGA	**Godfrey**	**20.68**	**19**	⇑*i*P	**P**	**02 44 58.9**	**+0.2**
	comp=Z,263nm,1.0s						
UALR	**University of**	**20.70**	**358**	⇑*e*P	**P**	**02 44 58.5**	**-0.3**
	comp=Z,240nm,0.8s						
MET	**Memphis--Engin**	**21.08**	**4**	*e*P	**P**	**02 45 03.4**	**+0.7**
SDV	**Santo Domingo**	**21.12**	**102**	P	**P**	**02 45 01.0**	**-2.2**
	comp=Z,47nm,0.7s,mb4.9,baz=303,slow=4.1,SNR=90						
SDV				PcP	PcP	02 49 09.3	+1.6
	comp=Z,24nm,0.9s,baz=4.8,slow=4.9,SNR=4.3						
SDV				ScP		02 52 44.4	
	comp=Z,28nm,0.9s,baz=282,slow=2.2,SNR=23						
SDV	**Santo Domingo**	**21.12**	**102**	⇑*e*P	**P**	**02 45 00.9**	**-2.4**
	comp=Z,78nm,0.9s,mb5.0						
PLAL	**Pickwick Lake**	**21.12**	**8**	*e*P	**P**	**02 45 01.8**	**-1.4**
	comp=Z,204nm,1.0s,mb5.4						
PLAL				*e*S	**S**	**02 48 51.4**	**+2.2**
CLNB	**Carlsbad**	**21.39**	**330**	*e*P	**P**	**02 45 07.6**	**+1.8**
HBF	**Harts Bluff**	**21.42**	**27**	*e*P	**P**	**02 45 07.2**	**+1.0**
HBAR	**Harrisburg**	**21.48**	**2**	*e*P	**P**	**02 45 06.8**	**+0.1**
GDL2	**Guadalupe Moun**	**21.57**	**329**	*e*P	**P**	**02 45 09.6**	**+1.9**
CSU	**Charleston Sou**	**21.60**	**27**	*e*P	**P**	**02 45 09.5**	**+1.6**
WMOK	**Wichita Mounta**	**21.65**	**344**	*e*P	**P**	**02 45 07.5**	**-1.0**
	comp=Z,146nm,1.2s,mb5.2						
NHSC	**New Hope**	**21.66**	**27**	*e*P	**P**	**02 45 09.3**	**+0.8**
	comp=Z,740nm,1.0s,mb6.0						
COW	**Cow Castle Cre**	**21.67**	**25**	*e*P	**P**	**02 45 10.4**	**+1.7**
TWB	**Tillmans-White**	**21.70**	**27**	*e*P	**P**	**02 45 10.1**	**+1.2**
MNTX	**Cornudas Mount**	**21.70**	**327**	⇑*e*P	**P**	**02 45 10.2**	**+1.3**
	comp=Z,395nm,1.3s,mb5.6						
SWET	**Sewanee**	**21.72**	**13**	*e*P	**P**	**02 45 09.6**	**+0.4**
HALT	**Halls**	**21.91**	**5**	*e*P	**P**	**02 45 10.9**	**0.0**
HALT				*e*		02 45 27.9	
GNAR	**Gosnell**	**21.91**	**3**	⇑*e*P	**P**	**02 45 10.9**	**-0.1**
GNAR				*e*		02 45 21.0	
CPRX	**Cap Rock**	**22.02**	**331**	*e*P	**P**	**02 45 13.3**	**+1.2**
JSC	**Jenkinsville**	**22.24**	**23**	*e*P	**P**	**02 45 14.6**	**+0.4**
GLAT	**Glass**	**22.27**	**5**	*e*P	**P**	**02 45 14.6**	**+0.1**
GLAT				*e*		02 45 24.5	
CPCT	**Cooper Cave**	**22.27**	**15**	*e*P	**P**	**02 45 15.7**	**+1.1**
WVT	**Waverly**	**22.29**	**8**	*e*P	**P**	**02 45 14.1**	**-0.6**
	comp=Z,93nm,0.8s,mb5.2						
WVT				*e*		02 45 24.6	
PARMO	**Parma**	**22.62**	**4**	*e*P	**P**	**02 45 18.2**	**+0.2**
AMTX	**Amarillo**	**22.71**	**338**	⇑*i*P	**P**	**02 45 19.6**	**+0.7**
	comp=Z,93nm,0.6s,mb5.3						
TZTN	**Tazewell**	**23.57**	**16**	⇑*i*P	**P**	**02 45 28.1**	**+1.0**
FVM	**French Village**	**23.91**	**2**	⇑*e*P	**P**	**02 45 29.8**	**-0.6**
	comp=Z,76nm,0.9s,mb5.0						
CCM	**Cathedral Cave**	**23.96**	**1**	⇑*e*P	**P**	**02 45 30.5**	**-0.4**
	comp=Z,344nm,1.0s,mb5.6						
BNM	**Barren Site**	**24.27**	**328**	*e*P	**P**	**02 45 37.2**	**+3.2**
LPM	**Los Pinos Moun**	**24.40**	**329**	*e*P	**P**	**02 45 38.0**	**+2.8**
LENM	**Lemitar**	**24.46**	**328**	*e*P	**P**	**02 45 39.0**	**+3.1**
SLM	**Saint Louis**	**24.56**	**2**	*e*P	**P**	**02 45 36.6**	**-0.2**
	comp=Z,344nm,0.8s,mb5.8						
WCI	**Wyandotte Cave**	**24.58**	**10**	*e*P	**P**	**02 45 36.7**	**-0.3**
WCI	**Wyandotte Cave**	**24.58**	**10**	⇑*i*P	**P**	**02 45 36.7**	**-0.3**
	comp=Z,137nm,0.8s,mb5.4						
LAZ	**Ladron**	**24.73**	**328**	*e*P	**P**	**02 45 41.6**	**+3.2**
SJG	**San Juan**	**24.74**	**77**	*e*P	**P**	**02 45 35.9**	**-2.9**
SJG	**San Juan**	**24.74**	**77**	P	**P**	**02 45 36.0**	**-2.8**
	comp=Z,6.3nm,0.5s,mb4.3,baz=241,slow=2.8,SNR=5.7						
SJG				PcP	PcP	02 49 15.1	0.0
	comp=Z,10nm,0.6s,baz=3.2,slow=15,SNR=4.6						
SJG				ScP		02 52 50.4	
	comp=Z,15nm,0.8s,baz=336,slow=4.2,SNR=6.2						
ANMO	**Albuquerque**	**24.82**	**330**	P	**P**	**02 45 41.9**	**+2.5**
	comp=Z,7.4nm,0.6s,mb4.3,baz=151,slow=12,SNR=34						
ANMO				PcP	PcP	02 49 17.1	+2.0
	comp=Z,10nm,0.9s,baz=128,slow=3.9,SNR=5.2						
ANMO				ScP		02 52 54.0	
	comp=Z,22nm,1.0s,baz=165,slow=6.8,SNR=10						
ANMO	**Albuquerque**	**24.82**	**330**	*e*P	**P**	**02 45 41.5**	**+2.1**
	comp=Z,40nm,1.3s,mb4.7						
ANMO				*e*pP		02 46 05.4	
ELN	**Prospectdale**	**25.06**	**21**	*e*P	**P**	**02 45 41.9**	**+0.3**
BLA	**Blacksburg**	**25.16**	**21**	⇑*e*P	**P**	**02 45 42.4**	**-0.1**
	comp=Z,342nm,1.3s,mb5.6						
TUC	**Tucson**	**25.31**	**319**	⇓*e*P	**P**	**02 45 46.5**	**+2.5**
	comp=Z,50nm,1.0s,mb4.9						
TUC				*e*PcP	PcP	02 49 17.3	+1.1
TUC				*e*ScP		02 52 53.3	
FWV	**Forest Hill**	**25.36**	**20**	⇑*i*P	**P**	**02 45 44.2**	**-0.1**
KSU1	**Kansas State U**	**25.40**	**351**	*e*P	**P**	**02 45 43.7**	**-1.0**
BLO	**Bloomington**	**25.46**	**9**	*e*P	**P**	**02 45 44.7**	**-0.7**
	comp=Z,510nm,1.4s,mb5.8						
CBKS	**Cedar Bluff**	**25.75**	**345**	P	**P**	**02 45 49.9**	**+1.9**
	comp=Z,60nm,1.2s,mb4.9						
PCRV	**Puerto La Cruz**	**26.59**	**95**	ScP		02 52 58.8	
	comp=Z,18nm,1.1s,baz=304,slow=11,SNR=2.5						
SDCO	**Great Sand Dun**	**26.70**	**335**	*e*P	**P**	**02 45 58.0**	**+1.1**
	comp=Z,49nm,1.2s,mb4.9						
SDCO				*e*PcP	PcP	02 49 21.5	+2.2
SDCO				*e*ScP		02 52 58.5	
ACSO	**Alum Creek Sta**	**27.19**	**14**	⇑*i*P	**P**	**02 46 00.4**	**-0.9**
	comp=Z,117nm,0.8s,mb5.5						
ACSO				*e*	pP	02 46 21.1	+3.8
CBN	**Corbin**	**27.19**	**25**	⇑*i*P	**P**	**02 46 01.1**	**-0.2**
	comp=Z,411nm,1.4s,mb5.8						
WUAZ	**Wupatki**	**27.87**	**324**	*e*P	**P**	**02 46 10.0**	**+2.5**
	comp=Z,110nm,1.3s,mb5.2						
WUAZ				*e*PcP	PcP	02 49 24.8	+2.7
WUAZ				*e*ScP		02 53 02.9	
PV01	**Paradox Valley**	**28.38**	**331**	*e*P	**P**	**02 46 13.8**	**+1.7**
SDMD	**Soldier's Deli**	**28.44**	**24**	*e*P	**P**	**02 46 11.6**	**-0.9**
ISCO	**Idaho Springs**	**28.52**	**337**	*e*P	**P**	**02 46 14.7**	**+1.5**
	comp=Z,30nm,1.3s,mb4.8						
ISCO				*e*PcP	PcP	02 49 25.7	+2.1
ISCO				*e*ScP		02 53 03.0	
PV10	**Paradox Valley**	**28.80**	**331**	*e*P	**P**	**02 46 16.8**	**+1.1**
PV10				*e*PcP	PcP	02 49 26.3	+1.9
PV10				*e*ScP		02 53 05.0	
AAM	**Ann Arbor**	**29.02**	**12**	*e*P	**P**	**02 46 15.4**	**-2.2**
	comp=Z,34nm,0.8s,mb5.0						
SSPA	**Standing Stone**	**29.10**	**22**	⇑*i*P	**P**	**02 46 17.5**	**-1.0**
	comp=Z,101nm,1.1s,mb5.4						
MVL	**Millersville**	**29.14**	**24**	*e*P	**P**	**02 46 18.1**	**-0.7**
BAR	**Barrett**	**29.50**	**313**	*e*P	**P**	**02 46 23.1**	**+1.1**
BAR				*e*PcP	PcP	02 49 29.1	+2.9
ERPA	**Erie**	**29.75**	**17**	⇑*i*P	**P**	**02 46 22.9**	**-1.4**
	comp=Z,73nm,0.9s,mb5.3						
LDFC	**Landfair**	**29.85**	**319**	*e*P	**P**	**02 46 28.2**	**+3.1**
LDFC				*e*PcP	PcP	02 49 29.4	+2.4
LDFC				*e*ScP		02 53 08.0	
PFO	**Pinyon Flat Ob**	**29.86**	**315**	⇓*e*P	**P**	**02 46 27.5**	**+2.2**
	comp=Z,14nm,0.9s,mb4.6						
SRU	**San Rafael**	**30.09**	**330**	*e*P	**P**	**02 46 28.7**	**+1.4**
SRU				*e*PcP

RRI2				eScP		02 53 20.8	
MNV	**Mina**	**33.85**	**321**	eP	**P**	**02 47 03.1**	**+3.0**
	comp=Z,214nm,1.6s,mb5.7						
MNV				e	pP	02 47 19.2	+2.5
MNV				ePcP	PcP	02 49 39.6	+1.8
OMM	**Old Mammoth Mi**	**33.88**	**319**	eP	**P**	**02 47 02.8**	**+2.5**
OMM				e	pP	02 47 18.7	+1.8
OMM				ePcP	PcP	02 49 38.7	+0.8
MOOW	**Moose Ponds**	**33.90**	**335**	eP	**P**	**02 47 01.0**	**+0.6**
	comp=Z,26nm,1.3s,mb4.9						
MOOW				ePcP	PcP	02 49 39.1	+1.3
MOOW				eScP		02 53 20.8	
NVAR	**Mina Array Bea**	**33.94**	**321**	P	**P**	**02 47 04.2**	**+3.4**
	comp=Z,49nm,0.9s,mb5.3,baz=132,slow=8.9,SNR=170						
NVAR				PcP	PcP	02 49 40.2	+2.2
	comp=Z,22nm,0.8s,baz=130,slow=3.9,SNR=17						
NVAR				LR	LR	03 02 26.5	
	comp=Z,1µm,18.4s,baz=350,slow=39						
FFD	**Franklin Falls**	**33.97**	**26**	eP	**P**	**02 46 53.8**	**-7.3**
	comp=Z,31nm,0.6s,mb5.3						
MSNY	**Massena**	**33.99**	**21**	eP	**P**	**02 46 60.0**	**-1.3**
IMW	**Indian Meadow**	**34.10**	**335**	eP	**P**	**02 47 02.8**	**+0.6**
	comp=Z,13nm,0.6s,mb4.9						
IMW				ePcP	PcP	02 49 39.9	+1.5
IMW				eScP		02 53 21.7	
LKWY	**Lake**	**34.43**	**336**	eP	**P**	**02 47 06.9**	**+1.9**
	comp=Z,9.5nm,0.7s,mb4.7						
YFT	**Old Faithful**	**34.51**	**335**	eP	**P**	**02 47 07.7**	**+2.0**
YFT				ePcP	PcP	02 49 42.7	+3.0
YFT				eScP		02 53 24.1	
LRV	**Little Rabbit**	**34.54**	**316**	eP	**P**	**02 47 08.6**	**+2.6**
BMN	**Battle Mountai**	**34.60**	**324⇑**	eP	**P**	**02 47 09.6**	**+3.1**
	comp=Z,63nm,1.0s,mb5.4						
YNR	**Norris Junctio**	**34.67**	**336**	eP	**P**	**02 47 08.3**	**+1.3**
YMR	**Madison River**	**34.75**	**335**	eP	**P**	**02 47 08.9**	**+1.3**
YMR				ePcP	PcP	02 49 42.3	+2.0
CMB	**Columbia Colle**	**35.02**	**318**	eP	**P**	**02 47 12.1**	**+2.1**
	comp=Z,44nm,1.3s,mb5.1						
CMB				e	pP	02 47 27.4	+0.7
CMB				ePcP	PcP	02 49 42.4	+1.2
QLMT	**Earthquake Lak**	**35.07**	**335**	eP	**P**	**02 47 12.5**	**+2.1**
QLMT				ePcP	PcP	02 49 43.5	+2.3
QLMT				eScP		02 53 26.2	
WCN	**Washoe City**	**35.37**	**321**	eP	**P**	**02 47 15.8**	**+2.7**
	comp=Z,152nm,2.1s,mb5.5						
HLID	**Hailey**	**35.38**	**331**	eP	**P**	**02 47 14.6**	**+1.5**
	comp=Z,69nm,1.4s,mb5.3						
HLID				ePcP	PcP	02 49 44.8	+2.6
HLID				eScP		02 53 27.6	
MCMT	**McKenzie Canyo**	**35.66**	**334**	eP	**P**	**02 47 17.5**	**+2.0**
WVL	**Waterville**	**35.72**	**27**	eP	**P**	**02 47 15.3**	**-0.7**
	comp=Z,864nm,1.4s						
BOZ	**Bozeman (W)**	**35.82**	**336**	eP	**P**	**02 47 17.1**	**+0.3**
	comp=Z,17nm,1.1s,mb4.9						
BOZ				ePcP	PcP	02 49 44.9	+1.5
SAML	**Samuel**	**36.23**	**127**	eP	**P**	**02 47 18.8**	**-1.7**
	comp=Z,23nm,0.9s,mb5.1						
SAML				ePcP	PcP	02 49 46.8	+1.8
SAML				eScP		02 53 31.5	
ULM	**Lac du Bonnet**	**36.32**	**355**	P	**P**	**02 47 19.5**	**-1.5**
	comp=Z,19nm,0.7s,mb5.1,baz=173,slow=8.3,SNR=22						
ULM				PcP	PcP	02 49 43.9	-0.9
	comp=Z,3.5nm,0.4s,baz=154,slow=9.5,SNR=4.8						
ULM				ScP		02 53 27.4	
	comp=Z,7.0nm,0.7s,baz=178,slow=6.1,SNR=6.7						
ULM				LR	LR	03 05 01.4	
	comp=Z,700nm,21.8s,baz=176,slow=41						
ULM	**Lac du Bonnet**	**36.32**	**355⇑**	iP	**P**	**02 47 19.3**	**-1.7**
	comp=Z,34nm,1.0s,mb5.2						
WVOR	**Wild Horse Val**	**36.73**	**326**	eP	**P**	**02 47 26.8**	**+2.3**
	comp=Z,130nm,1.1s,mb5.8						
WVOR				ePcP	PcP	02 49 48.2	+2.0
WVOR				eScP		02 53 32.3	
NSHM	**Saint Helena R**	**36.73**	**317**	eP	**P**	**02 47 27.6**	**+3.0**
HRY	**Holter Researc**	**36.77**	**337**	eP	**P**	**02 47 25.8**	**+1.0**
HRY				ePcP	PcP	02 49 48.2	+2.0
HRY				eScP		02 53 27.8	
EMMW	**East Machias**	**36.83**	**29**	eP	**P**	**02 47 24.5**	**-0.8**
	comp=Z,1µm,1.6s						
MOD	**Modoc**	**37.32**	**324**	eP	**P**	**02 47 31.4**	**+1.9**
	comp=Z,80nm,1.2s,mb5.5						
MOD				ePcP	PcP	02 49 50.7	+2.8
CHMT	**Chamberlain Mo**	**37.50**	**335**	eP	**P**	**02 47 31.7**	**+0.8**
CHMT				eScP		02 53 34.6	
MSO	**Missoula**	**37.72**	**335**	eP	**P**	**02 47 33.1**	**+0.4**
	comp=Z,39nm,1.4s,mb5.0						
MSO				ePcP	PcP	02 49 50.3	+1.1
MSO				eScP		02 53 35.1	
BMO	**Blue Mountains**	**37.73**	**330**	eP	**P**	**02 47 33.6**	**+0.8**
	comp=Z,54nm,1.3s,mb5.2						
BMO				e	pP	02 47 54.2	+4.6
BMO				ePcP	PcP	02 49 50.9	+1.7
WDC	**Whiskeytown Da**	**37.85**	**320**	eP	**P**	**02 47 33.4**	**-0.5**
	comp=Z,13nm,1.2s,mb4.6						
WDC				ePcP	PcP	02 49 50.1	+0.4
LPAZ	**La Paz**	**37.97**	**142**	P	**P**	**02 47 35.7**	**+0.7**
	comp=Z,2.8nm,0.8s,mb4.1,baz=328,slow=12,SNR=8.2						
LPAZ				ScP		02 53 41.2	
	comp=Z,1.7nm,0.9s,baz=22,slow=5.9,SNR=3.8						
LPAZ	**La Paz**	**37.97**	**142**	eP	**P**	**02 47 35.8**	**+0.8**
	comp=Z,8.4nm,1.1s,mb4.5						
YBH	**Yreka Blue Hor**	**38.63**	**322**	P	**P**	**02 47 42.0**	**+1.6**
	comp=Z,7.7nm,0.9s,mb4.5,baz=96,slow=7.3,SNR=12						
YBH				PcP	PcP	02 49 52.8	+0.8
	comp=Z,6.6nm,0.9s,baz=96,slow=2.5,SNR=5.7						
YBH				ScP		02 53 38.7	
	comp=Z,5.9nm,1.0s,baz=114,slow=2.1,SNR=6.0						
YBH				LR	LR	03 05 00.1	
	comp=Z,1µm,21.5s,baz=143,slow=38						
YBH	**Yreka Blue Hor**	**38.63**	**322**	eP	**P**	**02 47 41.4**	**+1.0**
	comp=Z,15nm,1.3s,mb4.7						
KHMM	**Horse Mountain**	**38.76**	**320**	eP	**P**	**02 47 43.8**	**+2.3**
KHMM				ePcP	PcP	02 49 53.9	+1.4
HUMO	**Hull Mountain**	**39.30**	**323**	eP	**P**	**02 47 46.8**	**+0.9**
	comp=Z,16nm,1.3s,mb4.7						
BBOR	**Butler Butte**	**39.31**	**323**	P	**P**	**02 47 48.2**	**+2.2**
HBO	**Huckleberry Mo**	**39.70**	**325**	P	**P**	**02 47 52.2**	**+3.0**
KBO	**Bosley Butte**	**39.83**	**321**	eP	**P**	**02 47 51.6**	**+1.4**
HAWA	**Hanford**	**39.93**	**330**	eP	**P**	**02 47 52.1**	**+1.1**
	comp=Z,0.9nm,0.8s						
NEW	**Newport**	**40.19**	**333**	P	**P**	**02 47 53.3**	**+0.1**
	comp=Z,11nm,0.7s,mb4.8,baz=146,slow=8.1,SNR=15						
NEW				PcP	PcP	02 49 57.5	+0.6
	comp=Z,6.5nm,0.5s,baz=120,slow=3.1,SNR=6.9						
NEW				ScP		02 53 44.0	
	comp=Z,7.2nm,0.9s,baz=150,slow=1.4,SNR=6.9						
NEW				LR	LR	03 07 13.2	
	comp=Z,943nm,20.4s,baz=133,slow=40						
NEW	**Newport**	**40.19**	**333**	eP	**P**	**02 47 54.4**	**+1.2**
	comp=Z,12nm,0.7s,mb4.8						
NEW				ePcP	PcP	02 49 57.0	0.0
OD2	**Odessa Site #2**	**40.25**	**331**	P	**P**	**02 47 55.7**	**+2.0**
KEBM	**Edson Butte**	**40.28**	**322**	eP	**P**	**02 47 57.0**	**+3.0**
EPH	**Ephrata**	**40.64**	**331**	P	**P**	**02 47 59.1**	**+2.2**
SAW	**Saint Andrews**	**40.80**	**331**	P	**P**	**02 48 00.9**	**+2.7**
TBM	**Table Mountain**	**40.99**	**330**	P	**P**	**02 48 02.8**	**+2.9**
LON	**Longmire**	**41.31**	**328**	P	**P**	**02 48 05.0**	**+2.6**
NLW	**Nelson Butte**	**41.51**	**331**	P	**P**	**02 48 06.2**	**+2.2**
WRW	**Wenatchee Ridg**	**41.61**	**330**	P	**P**	**02 48 07.4**	**+2.5**
RPW	**Rockport**	**42.33**	**330**	P	**P**	**02 48 12.6**	**+1.8**
LVC	**Limon Verde**	**42.62**	**148**	eP	**P**	**02 48 13.6**	**+0.1**
	comp=Z,35nm,1.3s,mb4.9						
EDM	**Edmonton**	**42.77**	**341**	eP	**P**	**02 48 14.2**	**-0.2**
EDM				ePcP	PcP	02 50 05.2	-0.1
OSD	**Olympics--Snow**	**42.99**	**328**	P	**P**	**02 48 19.3**	**+3.1**
PGC	**Sidney**	**43.41**	**329**	eP	**P**	**02 48 20.8**	**+1.2**
	comp=Z,410nm,1.3s,mb6.0						
FCC	**Fort Churchill**	**44.72**	**358⇑**	iP	**P**	**02 48 29.0**	**-1.0**
	comp=Z,121nm,1.1s,mb5.5						
SCHQ	**Schefferville**	**45.07**	**20**	P	**P**	**02 48 31.6**	**-1.3**
	comp=Z,125nm,0.7s,mb5.8,baz=218,slow=6.5,SNR=219						
SCHQ				PcP	PcP	02 50 10.3	-2.8
	comp=Z,13nm,0.9s,baz=226,slow=7.8,SNR=1.8						
SCHQ				ScP		02 54 00.4	
	comp=Z,3.9nm,0.8s,baz=243,slow=5.1,SNR=2.8						
SCHQ				LR	LR	03 08 19.3	
	comp=Z,3µm,20.9s,baz=208,slow=37						
SCHQ	**Schefferville**	**45.07**	**20⇑**	iP	**P**	**02 48 31.2**	**-1.6**
	comp=Z,216nm,0.9s,mb5.9						
YKA	**Yellowknife Ar**	**51.12**	**346**	eP	**P**	**02 49 19.2**	**-0.6**
YKA	**Yellowknife Ar**	**51.12**	**346**	P	**P**	**02 49 19.2**	**-0.6**
	comp=Z,33nm,0.7s,mb5.5,baz=148,slow=7.8,SNR=566						
YKA				PcP	PcP	02 50 34.2	-0.5
	comp=Z,6.5nm,0.7s,baz=150,slow=3.9,SNR=12						
YKA				ScP		02 54 27.0	
	comp=Z,1.7nm,0.7s,baz=148,slow=4.7,SNR=12						
YKA				PKiKP		02 57 16.4	
	comp=Z,0.5nm,0.8s,baz=158,slow=1.3,SNR=5.4						
YKA				LR	LR	03 14 10.4	
	comp=Z,739nm,21.3s,baz=170,slow=40						
YKA				PKPPKP		03 19 49.8	
	comp=Z,0.9nm,1.0s,baz=360,slow=2.5,SNR=8.6						
YKA	**Yellowknife Ar**	**51.12**	**346**	P	**P**	**02 49 19.2**	**-0.6**
YKA				PcP	PcP	02 50 34.2	-0.5
YKA				ScP		02 54 27.1	
YKW3	**Yellowknife Ar**	**51.19**	**347**	eP	**P**	**02 49 19.3**	**-0.9**
BDFB	**Brasilia**	**52.16**	**123**	eP	**P**	**02 49 26.9**	**-1.3**
BDFB	**Brasilia**	**52.16**	**123**	P	**P**	**02 49 26.9**	**-1.2**
	comp=Z,6.5nm,0.7s,mb4.8,baz=292,slow=7.3,SNR=10.0						
BDFB				PcP	PcP	02 50 39.5	+0.3
	comp=Z,12nm,0.9s,baz=209,slow=1.5,SNR=5.4						
BDFB				LR	LR	03 13 32.4	
	comp=Z,326nm,20.1s,baz=153,slow=38						
BAO	**Brasilia Array**	**52.17**	**123**	P	**P**	**02 49 28.0**	**-0.3**
TAOE	**Nuku Hiva Isla**	**53.30**	**248**	eLR	LR	03 04 32.9	
CS6B	**Jaguaretama**	**55.93**	**107⇓**	iP	**P**	**02 49 55.5**	**-0.4**
CS6B				e	pP	02 50 10.4	-3.1
RKT	**Rikitea**	**56.27**	**230**	eP	**P**	**02 49 57.9**	**-0.3**
	comp=Z,149nm,1.1s,mb6.0						
RKT	**Rikitea**	**56.27**	**230**	eLQ		03 04 04.4	
RKT				eLR	LR	03 06 27.8	
	comp=Z,3µm,27.5s						
PLCA	**Paso Flores**	**57.84**	**161**	P	**P**	**02 50 08.4**	**-0.6**
	comp=Z,25nm,1.1s,mb5.2,baz=336,slow=8.2,SNR=20						
PLCA				LR	LR	03 09 22.2	
	comp=Z,360nm,20.8s,baz=351,slow=30						
PLCA	**Paso Flores**	**57.84**	**161⇓**	eP	**P**	**02 50 08.2**	**-0.8**
	comp=Z,65nm,1.4s,mb5.5						
RCBR	**Riachuelo**	**58.63**	**106**	eP	**P**	**02 50 13.7**	**-1.2**
	comp=Z,88nm,1.5s,mb5.6						
SFJD	**Kangerlussuaq**	**59.38**	**17⇑**	iP	**P**	**02 50 16.7**	**-2.7**
SFJD				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.4						
SFJD	**Kangerlussuaq**	**59.38**	**17⇑**	iP	**P**	**02 50 16.7**	**-2.7**
	comp=Z,36nm,0.9s,mb5.4						
CAM4	**Nova Friburgo**	**60.08**	**126**	eP	**P**	**02 50 26.1**	**+1.2**
CAM4				i	pP	02 50 43.0	+0.5
CAM4				i		02 50 51.0	
INK	**Inuvik**	**60.56**	**343**	P	**P**	**02 50 26.7**	**-0.7**
	comp=Z,49nm,0.9s,mb5.5,baz=130,slow=7.4,SNR=206						
INK				ScP		02 55 08.8	
	comp=Z,2.2nm,1.1s,baz=154,slow=6.9,SNR=3.1						
INK	**Inuvik**	**60.56**	**343⇑**	iP	**P**	**02 50 26.8**	**-0.7**
	comp=Z,54nm,0.9s,mb5.6						
EYAK	**Cordova Ski Ar**	**60.68**	**333**	eP	**P**	**02 50 29.8**	**+1.5**
RES	**Resolute Bay**	**60.71**	**359⇑**	eP	**P**	**02 50 26.2**	**-2.2**
	comp=Z,27nm,0.8s,mb5.3						
CAM3	**Guarapari**	**60.87**	**124**	eP	**P**	**02 50 29.5**	**-0.6**
CAM3				i		02 50 31.1	
CAM3				i		02 50 33.8	
MENT	**Mentasta**	**60.91**	**336**	eP	**P**	**02 50 30.9**	**+1.0**
DIV	**Divide**	**60.94**	**333⇑**	iP	**P**	**02 50 31.1**	**+0.9**
	comp=Z,310nm,1.4s,mb6.2						
THY	**Trims Highway**	**61.95**	**336**	eP	**P**	**02 50 37.0**	**+0.1**
SML	**Sawmill**	**62.35**	**333**	eP	**P**	**02 50 39.9**	**+0.3**
VAH	**Vaihoa**	**62.60**	**244**	eP	**P**	**02 50 43.1**	**+1.3**
	comp=Z,259nm,1.3s,mb6.0						
PMR	**Palmer**	**62.61**	**333**	eP	**P**	**02 50 41.9**	**+0.6**
SLKM	**Skilak Lake**	**62.70**	**332**	eP	**P**	**02 50 42.4**	**+0.5**
PMOR	**Pomariorio Ree**	**62.74**	**245**	eP	**P**	**02 50 43.0**	**+0.2**
	comp=Z,112nm,1.3s,mb5.7						
KDAK	**Kodiak Island**	**62.94**	**328**	eP	**P**	**02 50 44.1**	**+0.6**
	comp=Z,70nm,1.3s,mb5.4						
ILAR	**Eielson Array**	**63.01**	**337**	eP	**P**	**02 50 43.8**	**-0.1**
ILAR	**Eielson Array**	**63.01**	**337**	P	**P**	**02 50 43.8**	**-0.1**
	comp=Z,36nm,0.9s,mb5.3,baz=116,slow=3.6,SNR=182						
ILAR				ScP		02 55 19.5	
	comp=Z,0.9nm,0.9s,baz=132,slow=3.1,SNR=5.3						
ILAR				LR	LR	03 20 10.5	
	comp=Z,439nm,21.4s,baz=148,slow=38						
MCK	**McKinley**	**63.38**	**335⇑**	eP	**P**	**02 50 46.6**	**+0.3**
	comp=Z,52nm,1.3s,mb5.3						
COLA	**College**	**63.42**	**337c**	iP	**P**	**02 50 46.3**	**-0.4**
COLA	**College**	**63.42**	**337**	eP	**P**	**02 50 46.4**	**-0.3**
MEH	**Mehetia**	**64.11**	**242**	eP	**P**	**02 50 51.8**	**0.0**
	comp=Z,106nm,1.2s,mb5.5						
TIAR	**Tiarei**	**65.07**	**243**	eP	**P**	**02 50 58.3**	**+0.2**
	comp=Z,280nm,1.1s,mb6.0						
TVO	**Taravao**	**65.08**	**243**	eP	**P**	**02 50 58.2**	**0.0**
	comp=Z,185nm,1.1s,mb5.8						
PPT	**Papeete**	**65.28**	**243**	eLR	LR	03 10 08.5	
	comp=Z,2µm,27.2s						
PPT	**Papeete**	**65.28**	**243**	LR	LR	03 10 48.6	
	comp=Z,954nm,21.2s,baz=74,slow=28						
PAE	**Paea**	**65.32**	**243**	eP	**P**	**02 50 59.7**	**0.0**
	comp=Z,166nm,1.3s,mb5.7						
SVW2	**Sparrevohn**	**65.38**	**331**	eP	**P**	**02 50 59.6**	**+0.3**
SUMG	**Summit**	**66.12**	**15⇑**	eP	**P**	**02 51 02.7**	**-1.2**
	comp=Z,159nm,1.1s,mb5.8						
IMA	**Indian Mountai**	**66.13**	**337**	eP	**P**	**02 51 03.9**	**-0.2**
TBI	**Tubuai**	**67.71**	**237**	eLR	LR	03 11 29.3	
	comp=Z,2µm,28.5s						
BORG	**Borgarnes**	**69.02**	**26**	P	**P**	**02 51 20.3**	**-1.8**
	comp=Z,22nm,0.9s,mb5.0,baz=315,slow=2.9,SNR=3.1						
UNV	**Unalaska Valle**	**69.94**	**322**	eP	**P**	**02 51 28.9**	**+1.0**
	comp=Z,471nm,1.0s						
SCO	**Scoresbysund**	**70.12**	**20**	i P	**P**	**02 51 26.8**	**-1.9**
	comp=Z,7.8nm,0.5s,mb4.8						
TNA	**Tin City**	**71.71**	**335⇑**	iP	**P**	**02 51 39.6**	**+1.2**
	comp=Z,48nm,1.2s,mb5.2						
DAG	**Danmarks Havn**	**72.56**	**13⇓**	iP	**P**	**02 51 41.9**	**-1.3**
DAG				pmax	pmax		
	comp=Z,68nm,1.0s,mb5.4						
DAG	**Danmarks Havn**	**72.56**	**13⇓**	iP	**P**	**02 51 41.9**	**-1.3**
	comp=Z,68nm,1.0s,mb5.4						
JMIC	**Jan Mayen**	**74.59**	**20**	AMS	AMS	03 22 56.2	
	comp=Z,963nm,33.7s						
ESK	**Eskdalemuir**	**77.69**	**36**	eP	**P**	**02 52 10.4**	**-2.4**
	comp=Z,80nm,1.2s,mb5.3						
EKA	**Eskdalemuir Ar**	**77.71**	**36**	P	**P**	**02 52 10.9**	**-2.0**
	comp=Z,43nm,0.9s,mb5.2,baz=272,slow=6.0,SNR=44						
EKA				pP	pP	02 52 39.5	+8.0
	comp=Z,17nm,1.0s,baz=270,slow=6.7,SNR=4.3						
EARI	**Arriondas**	**77.91**	**48**	P	**P**	**02 52 10.6**	**-3.7**
	comp=Z,94nm,1.5s,mb5.3						
ROSF	**Rostrenen**	**78.55**	**43**	eP	**P**	**02 52 14.9**	**-2.8**
	comp=Z,57nm,1.3s,mb4.9						
ROSF				epP	pP	02 52 42.7	+6.5
QUIF	**Quistinic**	**78.68**	**43**	eP	**P**	**02 52 15.8**	**-2.7**
	comp=Z,28nm,1.0s,mb4.7						
QUIF				epP	pP	02 52 43.5	+6.5
EJIF	**Jimena Fronter**	**78.72**	**55**	P	**P**	**02 52 17.6**	**-1.4**
	comp=Z,35nm,1.3s,mb5.0						
SGMF	**Saint Gilles**	**79.04**	**43**	eP	**P**	**02 52 17.3**	**-3.1**
	comp=Z,40nm,1.1s,mb4.9						
GUD	**Guadarrama**	**79.08**	**51**	P	**P**	**02 52 19.0**	**-1.8**
	comp=Z,19nm,0.8s,mb5.0						
EMIJ	**Mijas**	**79.25**	**55**	P	**P**	**02 52 19.7**	**-2.2**
	comp=Z,66nm,1.8s,mb5.2						
ESDC	**Sonseca Array**	**79.38**	**52**	P	**P**	**02 52 20.2**	**-2.2**
	comp=Z,9.3nm,0.9s,mb4.6,baz=289,slow=5.5,SNR=32						
ESDC				pP	pP	02 52 48.2	+7.2
	comp=Z,8.9nm,1.0s,baz=289,slow=5.2,SNR=6.1						
ESDC	**Sonseca Array**	**79.38**	**52**	P	**P**	**02 52 19.8**	**-2.6**
	comp=Z,19nm,1.0s,mb4.9						
ESLA	**Sonseca Array**	**79.38**	**52**	eP	**P**	**02 52 20.1**	**-2.4**
	comp=Z,12nm,1.4s,mb4.5						
ESLA				e		02 52 48.0	
ELOJ	**Sierra Loja**	**79.65**	**54**	P	**P**	**02 52 22.6**	**-1.3**
	comp=Z,16nm,1.1s,mb4.8						
ERON	**Agron**	**79.94**	**54**	P	**P**	**02 52 24.3**	**-1.3**
	comp=Z,2.0nm,0.3s,mb4.4						
ECRI	**Cripan**	**79.97**	**49**	P	**P**	**02 52 23.9**	**-1.7**
	comp=Z,8.6nm,0.4s,mb4.9						
ECOG	**Cogollos-Vega**	**80.09**	**54**	P	**P**	**02 52 24.9**	**-1.5**
	comp=Z,6.3nm,0.8s,mb4.5						
GRR	**Gorron**	**80.13**	**43**	eP	**P**	**02 52 23.8**	**-2.5**
	comp=Z,93nm,1.1s,mb5.2						
GRR				epP	pP	02 52 51.6	+6.8
FLN	**La Foliniere**	**80.31**	**42**	eP	**P**	**02 52 24.9**	**-2.4**
	comp=Z,40nm,0.9s,mb5.0						
FLN				eR			
	comp=Z,486nm,21.5s						
LDF	**La Druitiere**	**80.58**	**42**	eP	**P**	**02 52 26.3**	**-2.4**
	comp=Z,56nm,1.1s,mb5.0						
EBER	**Berja**	**80.69**	**54**	P	**P**	**02 52 27.6**	**-1.9**
	comp=Z,20nm,1.0s,mb4.9						
SJPF	**Ste Jean**	**80.81**	**48**	eP	**P**	**02 52 27.9**	**-2.2**
SJPF				epP	pP	02 52 56.0	+7.4
MFF	**Saint Martin d**	**80.93**	**44**	eP	**P**	**02 52 27.9**	**-2.7**
	comp=Z,37nm,1.2s,mb4.8						
ETSF	**Etsaut**	**81.33**	**48**	eP	**P**	**02 52 30.6**	**-2.2**
BILL	**Bilibino**	**81.62**	**338α**	iP	**P**	**02 52 34.9**	**+1.1**
BILL				e		03 02 41.1	
BILL				pmax	pmax		
	comp=Z,96nm,1.5s,mb5.4						
BILL				MLR	MLR		
	comp=Z,300nm,21.0s						
BILL	**Bilibino**	**81.62**	**338⇑**	eP	**P**	**02 52 34.8**	**+1.1**
	comp=Z,60nm,1.1s,mb5.3						
BILL				e		02 53 03.6	
LFF	**La Frestale**	**81.86**	**46**	eP	**P**	**02 52 33.0**	**-2.5**
	comp=Z,67nm,1.2s,mb5.0						
EPF	**Esparros**	**81.96**	**48**	eP	**P**	**02 52 33.7**	**-2.3**
	comp=Z,54nm,1.4s,mb4.9						
RJF	**Les Rejaudoux**	**82.32**	**45**	eP	**P**	**02 52 35.3**	**-2.5**
	comp=Z,26nm,1.0s,mb4.7						
RJF				eR			
	comp=Z,341nm,23.0s						
TCF	**Toulx Ste Croi**	**82.59**	**44**	eP	**P**	**02 52 36.5**	**-2.7**
	comp=Z,50nm,1.3s,mb4.9						
TCF				epP	pP	02 53 04.5	+6.7
HYF	**Humbligny**	**82.66**	**43**	eP	**P**	**02 52 37.3**	**-2.2**
CAF	**Calviac**	**82.78**	**46**	eP	**P**	**02 52 37.6**	**-2.6**
BGF	**Bois d'Agland**	**82.96**	**44**	eP	**P**	**02 52 38.5**	**-2.5**
	comp=Z,67nm,1.2s,mb5.0						
BGF				epP	pP	02 53 06.7	+7.0
BAIF	**Baives**	**83.05**	**40**	eP	**P**	**02 52 39.4**	**-2.0**
	comp=Z,36nm,1.3s,mb4.8						
MTLF	**Montolieu**	**83.23**	**47**	eP	**P**	**02 52 40.2**	**-2.3**
	comp=Z,46nm,1.2s,mb4.9						
AVF	**Avril sur Loir**	**83.25**	**44**	eP	**P**	**02 52 39.7**	**-2.8**
	comp=Z,39nm,1.3s,mb4.8						
SSF	**Saint Saulge**	**83.29**	**43**	eP	**P**	**02 52 40.1**	**-2.6**
	comp=Z,37nm,1.1s,mb4.8						
SSF				epP	pP	02 53 08.1	+6.8
GIVF	**Givet**	**83.42**	**40**	eP	**P**	**02 52 41.4**	**-1.9**
	comp=Z,53nm,1.3s,mb4.9						
GIVF				epP	pP	02 53 09.6	+7.6
SMF	**Signal de Mont**	**83.61**	**44**	eP	**P**	**02 52 41.6**	**-2.7**
	comp=Z,39nm,1.2s,mb4.8						
SMF				epP	pP	02 53 09.6	+6.6
TRO	**Tromso**	**83.90**	**19**	eP	**P**	**02 52 44.8**	**-0.5**
TRO				AMS	AMS	03 29 27.8	
	comp=Z,849nm,19.7s						
NB2	**NORSAR Subarra**	**83.94**	**29**	P	**P**	**02 52 45.6**	**0.0**
	comp=Z,54nm,1.4s,mb5.2,baz=289,slow=5.0						
NB2	**NORSAR Subarra**	**83.94**	**29**	P	**P**	**02 52 45.6**	**0.0**
	baz=288,slow=5.3						
NOA	**NORSAR Array B**	**83.94**	**29**	P	**P**	**02 52 45.6**	**-0.1**
	comp=Z,13nm,1.0s,mb4.7,baz=289,slow=5.2,SNR=15						
NOA				pP	pP	02 53 12.7	+8.4
	comp=Z,5.4nm,0.9s,baz=289,slow=5.1,SNR=3.8						
NOA				LR	LR	03 26 10.1	
	comp=Z,505nm,21.5s,baz=300,slow=33						
HGN	**Heimansgroeve**	**83.95**	**39**	eP	**P**	**02 52 44.1**	**-1.8**
	comp=Z,25nm,1.1s,mb5.0						
HGN				epP	pP	02 53 11.6	+7.0
HGN				eS	S	03 03 00.1	-2.9
MEZF	**Maizieres J'vi**	**83.96**	**42**	eP	**P**	**02 52 44.2**	**-1.8**
	comp=Z,44nm,1.0s,mb5.0						
WTSB	**Winterswijk**	**84.17**	**38**	eP	**P**	**02 52 45.9**	**-1.1**
	comp=Z,39nm,1.5s,mb5.0						
WTSB				epP	pP	02 53 13.2	+7.5
LASF	**Ste Croix**	**84.22**	**46**	eP	**P**	**02 52 45.8**	**-1.7**
	comp=Z,181nm,1.7s,mb5.3						
VIVF	**Saint-Julien-l**	**84.60**	**45**	eP	**P**	**02 52 47.9**	**-1.5**
	comp=Z,41nm,1.2s,mb4.9						
VIVF				epP	pP	02 53 16.2	+8.1
THEF	**They Montfort**	**84.63**	**42**	eP	**P**	**02 52 47.8**	**-1.6**
HAU	**Haudompre**	**84.92**	**42**	eP	**P**	**02 52 49.0**	**-1.9**
	comp=Z,41nm,1.0s,mb5.0						
HAU				epP	pP	02 53 17.1	+7.5
HAU				eR			
	comp=Z,607nm,22.5s						
RUP	**Ruppelstein**	**84.93**	**40**	eP	**P**	**02 52 50.0**	**-0.9**
RUP	**Ruppelstein**	**84.93**	**40**	eP	**P**	**02 52 50.1**	**-0.8**
CABF	**La Chapelle**	**85.11**	**43**	eP	**P**	**02 52 50.2**	**-1.7**
	comp=Z,48nm,1.3s,mb5.0						
ABH	**Alteburg**	**85.18**	**40**	eP	**P**	**02 52 51.2**	**-0.9**
DBIC	**Dimbokro**	**85.22**	**84**	P	**P**	**02 52 51.9**	**-1.3**
	comp=Z,6.5nm,0.8s,mb4.6,baz=294,slow=2.8,SNR=19						
DBIC				LR	LR	03 28 42.6	
	comp=Z,141nm,18.0s,baz=268,slow=34						
DBIC	**Dimbokro**	**85.22**	**84**	eP	**P**	**02 52 51.4**	**-1.8**
	comp=Z,30nm,1.5s,mb5.0						
HINF	**Hinteralfeld**	**85.30**	**42**	eP	**P**	**02 52 50.7**	**-2.0**
	comp=Z,17nm,0.9s,mb4.7						
ECH	**Echery**	**85.39**	**42**	eP	**P**	**02 52 51.6**	**-1.6**
HFS	**Hagfors**	**85.39**	**29**	LR	LR	03 27 04.3	
	comp=Z,797nm,21.9s,baz=180,slow=33						
CDF	**Champ du Feu**	**85.41**	**41**	eP	**P**	**02 52 51.6**	**-1.7**
	comp=Z,45nm,1.3s,mb5.0						
ORIF	**Oris-en-Rattie**	**85.41**	**45**	eP	**P**	**02 52 52.1**	**-1.3**
	comp=Z,22nm,1.0s,mb4.8						
ORIF				eR			
	comp=Z,390nm,23.0s						
SMRF	**Simiane la Rot**	**85.45**	**46**	eP	**P**	**02 52 52.4**	**-1.2**
	comp=Z,90nm,1.4s,mb5.2						
WLS	**Welschbruch**	**85.46**	**41**	eP	**P**	**02 52 51.8**	**-1.7**
MOF	**Molkenrain**	**85.47**	**42**	eP	**P**	**02 52 51.6**	**-2.0**
LANF	**Langenberg**	**85.59**	**41**	eP	**P**	**02 52 53.0**	**-1.2**
TNS	**Taunus Mts**	**85.64**	**39**	eP	**P**	**02 52 53.5**	**-0.9**
BSEG	**Bad Segeberg**	**85.65**	**35**	eP	**P**	**02 52 53.9**	**-0.4**
STR	**Strasbourg**	**85.68**	**41**	eP	**P**	**02 52 53.3**	**-1.3**
LIBD	**Limburg**	**85.69**	**42**	eP	**P**	**02 52 53.2**	**-1.5**
BBS	**Basel-Blauen**	**85.82**	**42**	eP	**P**	**02 52 53.9**	**-1.4**
LPL	**La Plagne**	**85.84**	**44**	eP	**P**	**02 52 54.5**	**-0.9**
	comp=Z,28nm,1.2s,mb4.8						
LPG	**La Plagne**	**85.86**	**44**	eP	**P**	**02 52 54.8**	**-0.7**
	comp=Z,54nm,1.3s,mb5.0						
KIZ	**Kirchzarten**	**85.95**	**42**	eP	**P**	**02 52 54.4**	**-1.5**
ARCES	**ARCESS Array B**	**86.00**	**18**	P	**P**	**02 52 55.3**	**-0.4**
	comp=Z,18nm,1.1s,mb4.9,baz=287,slow=4.3,SNR=30						
ARCES				PP	PP	02 56 13.2	-4.5
	comp=Z,7.5nm,0.9s,baz=297,slow=8.1,SNR=4.5						
ARCES				LR	LR	03 30 28.5	
	comp=Z,1µm,22.0s,baz=307,slow=35						
FELD	**Feldberg**	**86.03**	**42**	eP	**P**	**02 52 54.9**	**-1.4**
RRL	**Cesana Torines**	**86.03**	**45**	P	**P**	**02 52 55.5**	**-0.9**
MBDF	**Montbardon**	**86.08**	**45**	eP	**P**	**02 52 55.4**	**-1.2**
	comp=Z,19nm,0.9s,mb4.7						
BFO	**Black Forest**	**86.11**	**41**	eP	**P**	**02 52 55.3**	**-1.4**
LSD	**Ceresole Reale**	**86.14**	**44**	P	**P**	**02 52 56.3**	**-0.7**
FENE	**Fenestrelle**	**86.19**	**45**	P	**P**	**02 52 56.3**	**-0.9**
LMR	**La Mourre**	**86.27**	**46**	eP	**P**	**02 52 55.8**	**-1.8**
	comp=Z,103nm,1.4s,mb5.3						
RSP	**Reno Superiore**	**86.29**	**44**	P	**P**	**02 52 56.6**	**-1.0**
FRF	**La Foret Royal**	**86.31**	**46**	eP	**P**	**02 52 56.0**	**-1.8**
	comp=Z,71nm,1.2s,mb5.2						
CLZ	**Clausthal**	**86.33**	**37**	eP	**P**	**02 52 57.2**	**-0.5**
PZZ	**Prazzo**	**86.36**	**45**	P	**P**	**02 52 56.6**	**-1.4**
BHB	**Bricherasio**	**86.38**	**45**	P	**P**	**02 52 56.1**	**-2.0**
SPAK	**Spaichingen**	**86.47**	**41**	eP	**P**	**02 52 57.1**	**-1.4**
TRAV		**86.52**	**44**	P	**P**	**02 52 56.3**	**-2.5**
STV	**Sta Anna Valdi**	**86.59**	**45**	P	**P**	**02 52 57.5**	**-1.6**
STV2	**Anna di Valdie**	**86.59**	**45**	P	**P**	**02 52 57.7**	**-1.5**
SIND	**Sindeldorf**	**86.62**	**40**	eP	**P**	**02 52 57.9**	**-1.3**
ORX	**Oropa**	**86.65**	**44**	P	**P**	**02 52 57.5**	**-1.9**
ENR	**Entracque**	**86.66**	**45**	P	**P**	**02 52 58.2**	**-1.3**
GUT	**Gutenstein**	**86.69**	**41⇑**	eP	**P**	**02 52 58.0**	**-1.5**
BUCH	**Bad Urach**	**86.73**	**41**	eP	**P**	**02 52 58.8**	**-0.9**
SBF	**Sospel**	**86.77**	**46**	eP	**P**	**02 52 58.4**	**-1.7**
	comp=Z,133nm,1.3s,mb5.4						
MONE	**Monesi**	**86.93**	**45**	P	**P**	**02 52 58.7**	**-2.2**
ROB	**Roburent**	**86.95**	**45**	P	**P**	**02 52 59.1**	**-1.9**
NEGI	**Negi**	**86.96**	**46**	P	**P**	**02 52 58.2**	**-2.8**
IMI	**Imperia**	**87.07**	**46**	P	**P**	**02 52 58.8**	**-2.7**
FIN	**Finale Ligure**	**87.21**	**45**	P	**P**	**02 52 59.6**	**-2.6**
HDH	**Heidenheim**	**87.23**	**41**	eP	**P**	**02 53 01.1**	**-1.1**
PCP	**Pian Castagno**	**87.34**	**45**	P	**P**	**02 52 59.6**	**-3.3**
DAVA	**Damuels**	**87.42**	**42⇑**	iP	**P**	**02 53 02.3**	**-0.8**
	comp=Z,51nm,1.2s,mb5.3						
UBR	**Uberruh**	**87.44**	**41⇑**	eP	**P**	**02 53 02.1**	**-1.1**
MOX	**Moxa**	**87.44**	**38**	eP	**P**	**02 53 03.0**	**-0.2**
GRA1	**Grafenberg Arr**	**87.51**	**39**	eP	**P**	**02 53 03.1**	**-0.4**
GRA1				epP	pP	02 53 28.1	+5.8
GRA1				eS	S	03 03 32.7	-4.7
GRA1				LR	LR		
	comp=Z,500nm,21.3s						
GRF	**Grafenberg Arr**	**87.51**	**39**	eP	**P**	**02 53 03.1**	**-0.4**
GRF				eS	S	03 03 32.7	-4.7
GRF	**Grafenberg Arr**	**87.51**	**39**	eP	**P**	**02 53 03.1**	**-0.4**
GRF				epP	pP	02 53 28.1	+5.8
GRF				eS	S	03 03 32.7	-4.7
GRF				LR	LR		

comp=Z,500nm,21.3s
DAVOX Davos 87.57 42 P **P 02 53 03.8 0.0**
comp=Z,17nm,0.9s,mb5.1,baz=273,slow=9.5
DAVOX LR LR 03 26 23.8
comp=Z,447nm,21.6s,baz=289,slow=32
GENL Genova Univers 87.67 45 P **P 02 53 01.2 -3.2**
CLL Collm 88.05 37⇓*i*P **P 02 53 05.5 -0.5**
CLL pmax pmax
comp=Z,18nm,1.2s,mb5.0
CLL Collm 88.05 37⇓*i*P **P 02 53 05.5 -0.5**
comp=Z,18nm,1.2s,mb5.0
CLL *i* pP pP 02 53 32.7 +7.8
CLL S S 03 03 54.0 +12
CLL Collm 88.05 37 ⇓P **P 02 53 05.5 -0.5**
comp=Z,logA/T=1.2,mb5.0
CLL *i* pP 02 53 21.4 -3.5
CLL *i* *PP pP 02 53 32.7 +7.8
CLL *e*PP PP 02 56 34.0 -1.6
NKC Novy Kostel 88.08 39 *e*P **P 02 53 05.6 -0.6**
NKC *e*pP pP 02 53 32.7 +7.6
MOTA Moosalm 88.19 42⇑*i*P **P 02 53 05.7 -1.1**
CODM 88.28 45 P **P 02 53 02.6 -4.7**
SQTA Sankt Quirin 88.30 42⇑*i*P **P 02 53 06.4 -0.9**
comp=Z,22nm,1.3s,mb5.0
GRAM 88.40 45 P **P 02 53 04.0 -3.9**
BACM 88.47 45 P **P 02 53 04.0 -4.2**
VALM 88.56 45 P **P 02 53 04.8 -3.9**
WET Wettzell 88.71 40 *e*P **P 02 53 08.9 -0.3**
SARO Sassorosso 88.72 45 P **P 02 53 05.0 -4.4**
BRG Berggiesshubel 88.76 38 *e*P **P 02 53 09.6 +0.2**
BRG pmax pmax
comp=Z,20nm,1.6s,mb4.9
BRG Berggiesshubel 88.76 38 *e*P **P 02 53 09.6 +0.2**
comp=Z,20nm,1.6s,mb4.9
BRG *e* 02 53 36.9
BRG *e* 02 54 06.5
SEY Seymchan 88.93 336 *e*P **P 02 53 11.8 +1.9**
SEY *e* 02 56 50.4
SEY *e* 03 03 54.5
SEY pmax pmax
comp=N,20nm,1.4s
SEY pmax pmax
comp=Z,30nm,1.4s,mb5.1
KHC Kasperske Hory 89.15 39 *e*P **P 02 53 10.1 -1.2**
KHC *e* 02 56 42.0
KHC Kasperske Hory 89.15 39 *e*P **P 02 53 10.1 -1.2**
KHC *e*pP pP 02 53 38.8 +8.6
KHC *e*PP PP 02 56 42.0 -2.4
GEC2 GERESS Array S 89.33 40 *e*P **P 02 53 11.4 -0.7**
GERES GERESS Array B 89.33 40 P **P 02 53 11.3 -0.8**
comp=Z,3.4nm,0.9s,mb4.4,baz=288,slow=4.2,SNR=14
GERES pP pP 02 53 39.3 +8.2
comp=Z,1.1nm,0.6s,baz=297,slow=3.0,SNR=4.1
GERES LR LR 03 29 31.7
comp=Z,533nm,21.9s,baz=109,slow=33
PRU Pruhonice 89.43 38 *e*P **P 02 53 11.4 -1.2**
PRU *e*pP pP 02 53 43.3 +12
PRU *e*PP PP 02 56 35.8 -11
KBA Koelnbreinsper 89.72 41⇑*i*P **P 02 53 13.1 -0.9**
comp=Z,32nm,1.8s,mb5.2
GKP Gorka Klasztor 89.75 35 *e*P **P 02 53 12.3 -1.6**
KAF Kangasniemi 90.06 25 *e*p **P 02 53 11.0 -4.3**
comp=Z,9.9nm,1.0s,mb4.9
KAF Kangasniemi 90.06 25 *e*P **P 02 53 11.0 -4.3**
KAF pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
UPC Upice 90.12 38 *e*P **P 02 53 15.1 -0.7**
UPC *e* 02 56 48.4
UPC Upice 90.12 38 *e*P **P 02 53 15.1 -0.7**
UPC *e*pP pP 02 53 45.5 +11
UPC *e*PP PP 02 56 48.4 -3.7
FINES FINESS Array B 90.31 25 P **P 02 53 15.7 -0.8**
comp=Z,10nm,1.0s,mb4.9,baz=297,slow=4.3,SNR=12
FINES PP PP 02 56 46.6 -6.8
comp=Z,2.3nm,0.9s,baz=288,slow=8.8,SNR=3.7
FINES LR LR 03 34 51.1
comp=Z,349nm,19.3s,baz=337,slow=36
TIXI Tiksi 90.35 348⇑*i*P **P 02 53 16.1 -0.3**
TIXI pmax pmax
comp=Z,24nm,1.3s,mb5.2
DPC Dobruska-Polom 90.36 38 *e*P **P 02 53 16.0 -0.9**
DPC *e* 02 56 49.9
DPC Dobruska-Polom 90.36 38 *e*P **P 02 53 16.0 -0.9**
DPC *e*pP pP 02 53 45.9 +10
DPC *e*PP PP 02 56 49.9 -4.2
MA2 Magadan 91.29 333 *e*P **P 02 53 22.8 +1.7**
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.2
MA2 MLR MLR
comp=Z,2μm,27.0s
MA2 Magadan 91.29 333 *e*P **P 02 53 22.9 +1.8**
OKC Ostrava-Krasne 91.64 38 *e*P **P 02 53 22.9 0.0**
OKC *e*pP pP 02 53 51.0 +9.1
ZST Bratislava 91.67 39 *e*P **P 02 53 21.1 -2.0**
ZST *e* 02 53 51.3
SMOL Smolenice 91.74 39 *e*P **P 02 53 22.9 -0.5**
OJC Ojcow 92.45 37 *e*P **P 02 53 25.9 -0.7**
SRO Srobarova 92.56 39 *e*P **P 02 53 26.5 -0.7**
VYHS Vyhne 92.61 39 *e*P **P 02 53 27.1 -0.3**
VYHS *e* 02 53 53.9
SUW Suwalki 92.62 32 *e*P **P 02 53 26.2 -1.1**
SUW *e*PP PP 02 57 06.3 -5.8
VAE Valguarnera 93.83 50 LR LR 03 27 38.2
comp=Z,620nm,21.5s,baz=128,slow=30
KWP Kalwaria 94.40 36 *e*P **P 02 53 35.0 -0.5**
KOLS Kolonicke sedl 94.47 37 *e*P **P 02 53 36.3 +0.5**
AKASG Malin Array Be 97.49 33 PP PP 02 57 44.5 -5.6
comp=Z,0.7nm,0.5s,baz=302,slow=7.5,SNR=8.5
MLR Muntele Rosu 98.30 39 P **P 02 53 51.9 -1.4**
comp=Z,6.3nm,1.2s,mb5.0,baz=354,slow=5.6
MLR LR LR 03 39 33.3
comp=Z,424nm,20.4s,baz=251,slow=36
MLR Muntele Rosu 98.30 39 P **P 02 53 51.9 -1.4**
OBN Obninsk 98.48 27⇑*i*P **P 02 53 53.7 -0.2**
OBN *e* 02 57 50.6
OBN pmax pmax
comp=Z,32nm,1.7s,mb5.6
OBN MLR MLR
comp=Z,400nm,18.0s
OBN Obninsk 98.48 27⇓*i*P **P 02 53 53.3 -0.6**
ANN Anapa 105.42 35 *e*P Pdif 02 54 25.9 +0.8
BRTR Keskin Array B 106.17 41 PKiKP 02 58 40.8
comp=Z,0.8nm,0.9s,baz=270,slow=2.9,SNR=3.3
BRTR PKKPbc 03 10 02.4
comp=Z,0.8nm,0.7s,baz=135,slow=5.2,SNR=5.8
KIV Kislovodsk 108.83 33 *e*P Pdif 02 54 43.8 +3.6
KIV *e* 02 59 07.7
KIV *e* 03 05 16.9
KIV *e*SS SS 03 14 26.7 +1.2
KIV pmax pmax
comp=Z,2.0nm,1.1s
KIV pmax pmax
comp=Z,3.0nm,1.8s
CHKZ Chkalovo 110.89 11 *e*PP PP 02 59 15.6 -15
ZAL Zalesovo 112.26 2 *i* PKIKP PKPdf 02 58 53.2 +3.4
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZAL Zalesovo 112.26 2 PKiKP 02 58 51.8
comp=Z,1.3nm,0.3s,baz=180,slow=1.4,SNR=5.0
ZAL PP PP 02 59 32.4 -7.8
comp=Z,1.6nm,0.8s,baz=108,slow=8.7,SNR=6.2
GNI Garni 112.55 35 *i* PKIKP PKPdf 02 58 51.8 +1.1
GNI Garni 112.55 35 *e*PKP PKPdf 02 58 51.9 +1.2
CN2 Changchun 113.30 332 *e*PKP PKPdf 02 58 53.1 +1.0
ZAK Zakamensk 114.58 350 *e*PKIKP PKPdf 02 58 54.4 -0.1
ZAK pmax pmax
comp=Z,5.0nm,1.0s
ZAK pmax pmax
comp=Z,2.0nm,1.3s
ULN Ulaanbaatar 116.21 346⇑*i*PKIKP PKPdf 02 59 00.4 +2.7
SONM Songino Array 116.39 347 PKP PKPdf 02 59 01.0 +2.9
comp=Z,2.5nm,0.8s,slow=1.2,SNR=16
SONM SKP 03 02 34.9
comp=Z,1.6nm,0.9s,baz=180,slow=1.2,SNR=5.7
SONM PKKPbc 03 09 27.7
comp=Z,0.8nm,0.7s,baz=191,slow=6.3,SNR=5.4
SONM PKKP PKKP 03 09 48.4 +5.4
comp=Z,0.5nm,0.7s,baz=234,slow=1.5,SNR=3.2
MKAR Makanchi Array 119.23 5 *i* PKIKP PKPdf 02 59 05.0 +1.4
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 119.23 5 PKP PKPdf 02 59 05.0 +1.4
comp=Z,1.2nm,0.5s,baz=311,slow=2.9,SNR=15
MKAR PP PP 03 00 15.5 -14
comp=Z,0.8nm,0.8s,baz=14,slow=5.9,SNR=2.6
MKAR SKP 03 02 36.9
comp=Z,1.6nm,0.8s,baz=117,slow=2.7,SNR=6.1
MKAR Makanchi Array 119.23 5 PKP PKPdf 02 59 05.0 +1.4
MKAR PP PP 03 00 15.5 -14
MKAR SKP 03 02 36.9
BOSA Boshof 119.97 115 PKP PKPdf 02 59 08.8 +3.3
comp=Z,16nm,0.9s,baz=307,slow=1.5,SNR=16
BOSA SKP 03 02 42.9
comp=Z,6.1nm,0.9s,baz=46,slow=1.6,SNR=4.1
BOSA Boshof 119.97 115 *e*PKPdf PKPdf 02 59 08.3 +2.8
BJI Beijing 120.37 336 PKP PKPdf 02 59 08.7 +2.7
HHC Hu-ho-hao-te 121.37 340 *e*PKP PKPdf 02 59 11.6 +3.7
HHC SKS SKS 03 06 11.4 +12
HHC SKKS 03 07 27.6
HHC LR LR
comp=N,147nm,21.6s
HHC LR LR
comp=E,382nm,21.2s
HHC LR LR
comp=Z,208nm,22.0s
LSZ Lusaka 121.85 99 *e*PKP PKPdf 02 59 11.7 +2.3
WMQ Urumqi 122.46 1⇑PKP PKPdf 02 59 10.6 +0.7
WMQ XPKP 02 59 51.1
WMQ PP PP 03 00 51.8 +0.2
WMQ PP PP
comp=Z,199nm,5.4s
WMQ LR LR
comp=N,588nm,29.0s
WMQ LR LR
comp=E,199nm,29.0s
WMQ LR LR
comp=Z,652nm,32.2s
MAW Mawson 123.89 169 PKP PKPdf 02 59 13.7 +1.6
comp=Z,4.2nm,0.7s,baz=292,slow=3.8,SNR=2.3
SSE Sheshan 125.23 325 PKP PKPdf 02 59 18.1 +2.5
SSE SS SS 03 17 56.3 -3.0
SSE LR LR
comp=N,90nm,20.0s
SSE LR LR
comp=E,153nm,20.0s
SSE LR LR
comp=Z,98nm,18.4s
NJ2 Nanjing 125.73 328 *e*PKP PKPdf 02 59 16.6 0.0
NJ2 PP PP 03 01 12.0 -1.8
NJ2 PKS PKS 03 02 52.0 -0.3
NJ2 SKS SKS 03 06 24.0 +10
NJ2 SKKS 03 07 59.0
NJ2 PP PP
comp=Z,496nm,10.4s
NJ2 LR LR
comp=N,720nm,24.0s
NJ2 LR LR
comp=E,700nm,21.3s
NJ2 LR LR
comp=Z,2μm,28.4s
GTA Gaotai 125.82 349 *e*PKP PKPdf 02 59 19.6 +3.1
GTA SKS SKS 03 06 23.0 +9.3
GTA PP PP
comp=Z,80nm,6.1s
GTA LR LR
comp=N,274nm,24.3s
GTA LR LR
comp=E,366nm,19.4s
GTA LR LR
comp=Z,380nm,22.4s
KMBO Kilima Mbogo 127.80 80 *e*PKIKP PKPdf 02 59 23.9 +2.8
KMBO Kilima Mbogo 127.80 80 PKP PKPdf 02 59 23.9 +2.8
comp=Z,4.3nm,1.2s,baz=25,slow=1.1,SNR=6.1
KMBO SKP 03 02 39.5
comp=Z,1.4nm,0.5s,baz=32,slow=2.7,SNR=5.4
KMBO Kilima Mbogo 127.80 80 PKP PKPdf 02 59 23.9 +2.8
KMBO SKP 03 02 39.5
LZH Lanzhou 128.10 344 *e*PKP PKPdf 02 59 24.5 +3.4
LZH XPKP 02 59 58.5
LZH PP PP 03 01 31.4 +2.1
LZH *e*SKS SKS 03 06 24.0 +3.7
LZH SKKS 03 08 12.0
LZH SS SS 03 18 31.5 -3.2
LZH PP PP
LZH LR LR
comp=Z,250nm,9.8s
LZH LR LR
comp=E,786nm,19.5s
LZH LR LR
comp=Z,1μm,21.0s
LZH Lanzhou 128.10 344 *e*PKP PKPdf 02 59 24.5 +3.4
LZH pPKP 02 59 42.0
LZH sPKP 02 59 58.5
LZH PP PP 03 01 31.4 +2.1
LZH *e*SKS SKS 03 06 24.0 +3.7
LZH SKKS 03 08 12.0
LZH SS SS 03 18 31.5 -3.2
LZH LR LR
comp=Z,1μm,21.0s
XAN Xi'an 128.40 338 PKP PKPdf 02 59 24.4 +2.7
STKA Stephens Creek 128.43 240 *e*PKP PKPdf 02 59 24.0 +2.2
comp=Z,12nm,0.9s
STKA Stephens Creek 128.43 240 PKP PKPdf 02 59 24.2 +2.4
comp=Z,14nm,0.9s,baz=35,slow=2.3,SNR=22
STKA SKP 03 02 50.0
comp=Z,0.7nm,0.3s,baz=72,slow=6.4,SNR=3.3
WHN Wuhan 129.18 331 PKP PKPdf 02 59 26.5 +3.2
ENH Enshi 131.54 335 *e*PKP PKPdf 02 59 30.5 +2.7
ENH *e*SKP 03 02 51.0
CD2 Chengdu 132.98 342 *e*PKP PKPdf 02 59 33.0 +2.5
WRAB Tennant Creek 135.80 256⇑*i*PKIKP PKPdf 02 59 38.3 +2.4
WRAB Tennant Creek 135.80 256 *e*PKP PKPdf 02 59 37.7 +1.8
WRA Warramunga Arr 135.81 256 *e*PKHKP 02 59 27.6
WRA Warramunga Arr 135.81 256 PKhKP 02 59 27.6
comp=Z,1.7nm,1.0s,baz=101,slow=2.1,SNR=6.6
WRA PKP PKPdf 02 59 38.5 +2.6
comp=Z,4.5nm,0.8s,baz=93,slow=1.5,SNR=19
WRA PP PP 03 02 15.0 -3.6
comp=Z,2.7nm,1.1s,baz=85,slow=6.2,SNR=5.6
WRA SKPab 03 03 16.2
comp=Z,4.3nm,0.9s,baz=87,slow=2.0,SNR=7.8
GYA Guiyang 136.05 336⇓*i*PKP PKPdf 02 59 39.4 +3.2
GYA XPKP 03 00 16.8
GYA PKS PKS 03 03 13.4 +1.9
GYA PP PP
comp=Z,1μm,7.8s
GYA LR LR
comp=N,1μm,20.4s
GYA LR LR
comp=E,4μm,22.8s
GYA LR LR
comp=Z,3μm,21.0s
ASAR Alice Springs 136.07 250 *e*PKHKP 02 59 28.1
ASAR Alice Springs 136.07 250 PKhKP 02 59 28.1
comp=Z,1.1nm,0.7s,baz=106,slow=3.3,SNR=7.0
ASAR PKP PKPdf 02 59 38.9 +2.5
comp=Z,6.5nm,1.0s,baz=95,slow=2.9,SNR=12
ASAR PP PP 03 02 17.3 -2.7
comp=Z,0.3nm,0.3s,baz=97,slow=7.3,SNR=3.8
ASAR SKP 03 03 14.8
comp=Z,2.9nm,0.8s,baz=105,slow=2.7,SNR=6.1
NDI New Delhi 136.20 14 *e*P PKPdf 02 59 37.5 +1.1
GKN Gorkha 138.08 5 *e*P PKPdf 02 59 39.1 -0.8
KOLN Koldanda 138.21 6 *e*P PKPdf 02 59 39.7 -0.5
comp=Z,31nm,1.0s
GUN Gumba 138.26 3 *e*P PKPdf 02 59 37.8 -2.5
KKN Kakani 138.34 4 *e*P PKPdf 02 59 37.5 -2.9
comp=Z,27nm,0.7s
DMN Daman 138.51 4 *e*P PKPdf 02 59 38.1 -2.6
JIRN Jiri 138.53 3 *e*P PKPdf 02 59 36.7 -4.0
comp=Z,14nm,0.6s
PKI Pulchoki 138.57 4 *e*P PKPdf 02 59 38.2 -2.6
KMI Kunming 138.69 340 PKP PKPdf 02 59 44.7 +3.6
OPO Ambohidratompo 140.20 102 SKPab 03 03 22.1
comp=Z,6.9nm,0.9s,baz=188,slow=1.0,SNR=7.9
SHL Shillong 140.53 355 *e*P PKPdf 02 59 40.7 -3.8
FITZ Fitzroy Crossi 144.06 258 *e*PKP PKPdf 02 59 51.1 +0.4
comp=Z,37nm,0.9s
POO Poona 144.62 24 *e*P PKPbc 02 59 48.0 -3.6
NANT Nan 145.24 339⇑P PKPdf 02 59 53.0 +0.2
comp=Z,322nm,0.8s
CHG Chiang Mai 145.79 342⇑P PKPdf 02 59 56.2 +2.5
comp=Z,46nm,1.0s
KAD Karad 145.85 25 *e*P PKPdf 02 59 54.6 +0.7
KKM Kota Kinabalu 146.00 304 *e*PKPbc PKPbc 02 59 58.0 +2.6
CM31 Chiang Mai Arr 146.13 342 *e*PKPab PKPab 02 59 57.5 -0.7
CMAR Chiang Mai Arr 146.13 342 *e*PKP2 PKPab 02 59 57.7 -0.5
CMAR Chiang Mai Arr 146.13 342 PKPbc PKPbc 02 59 57.7 +2.2
comp=Z,47nm,0.8s,baz=336,slow=3.6,SNR=234
CMAR SKPbc 03 03 35.8
comp=Z,11nm,0.9s,baz=336,slow=2.9,SNR=14
BDT Bhumibol Dam 147.25 341 P PKPdf 03 00 00.0 +3.8
comp=Z,22nm,1.0s
HYB Hyderabad 147.29 18 *e*PKIKP PKPdf 02 59 58.5 +2.2
HYB Hyderabad 147.29 18 *i* PKP PKPdf 02 59 58.5 +2.2
comp=Z,80nm,1.0s
NST Nakhon Sawan 148.33 338⇓P PKPdf 03 00 05.0 +7.0
comp=Z,75nm,1.0s
MUN Mundaring 148.94 230 *e*PKP PKPdf 03 00 04.9 +6.3
comp=Z,363nm,0.9s
MBWA Marble Bar 149.38 252 *e*PKPbc PKPdf 03 00 05.8 +6.2
NNT Nongplab 151.31 337 P PKPdf 03 00 12.1 +9.4
KSM Kuching 153.44 304 *e*PKPbc PKPdf 03 00 16.4 +11

NEIC ***12*** *02:44:20.7, 37.15S×176.89E, h17km, ML4.1 (WEL), After WEL.*
WEL 12 02:44:19.8±0.2, 37.16S×176.91E, h5km, ML4.1/7, 1C, Error ellipse: s-maj=1.6km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.43**	**149**	P	Pg	02 44 28.5	0.0
WIZ	**White Island**	**0.43**	**149**	PG	Pg	02 44 28.5	+0.1
MYRZ	**Mayor Island**	**0.55**	**257**	PG	Pg	02 44 31.5	+0.6
MYRZ				SG	Sg	02 44 38.7	+0.5
TGRZ	**Tauranga**	**0.77**	**222**	P	Pg	02 44 34.6	-0.7
TGRZ				S	Sg	02 44 44.3	-1.3
TGRZ	**Tauranga**	**0.77**	**222**	P*	Pb	02 44 34.6	-0.8
TGRZ				S*	Sb	02 44 44.3	-1.6
LIRZ	**Lichensteins R**	**0.95**	**206**	P*	Pb	02 44 37.3	-1.0
EDRZ	**Edgecumbe**	**0.96**	**188**	P	Pb	02 44 37.5	-1.0
EDRZ	**Edgecumbe**	**0.96**	**188**	P*	Pb	02 44 36.7	-1.9
KUZ	**Kuaotunu**	**1.04**	**293**	*e*P	Pb	02 44 39.3	-0.6
KUZ	**Kuaotunu**	**1.04**	**293**	P*	Pb	02 44 39.3	-0.6
KUZ				S*	Sb	02 44 53.4	-0.2
URZ	**Urewera**	**1.11**	**172**	*e*P	Pb	02 44 39.2	-2.0
URZ	**Urewera**	**1.11**	**172**	P*	Pb	02 44 39.2	-2.0
URZ				S*	Sb	02 44 52.5	-3.3
TAZ	**Tarawera**	**1.12**	**196**	P	Pb	02 44 41.0	-0.3
TAZ	**Tarawera**	**1.12**	**196**	*e*P*	Pb	02 44 39.8	-1.5
TOZ	**Tahuroa Road**	**1.26**	**242**	*e*P	Pb	02 44 41.9	-1.8
TOZ	**Tahuroa Road**	**1.26**	**242**	P*	Pb	02 44 41.9	-1.8
TOZ				S*	Sb	02 44 57.6	-2.5
MWZ	**Matawai**	**1.27**	**158**	P	Pb	02 44 41.9	-2.0
MWZ				S	Sb	02 44 57.7	-2.8
MWZ	**Matawai**	**1.27**	**158**	⇑P*	Pb	02 44 41.9	-2.0
MWZ				S*	Sb	02 44 57.7	-2.8
MKAZ	**Moumakai**	**1.40**	**271**	PN	Pn	02 44 44.6	-1.4
PUZ	**Puketiti**	**1.41**	**131**	*e*P	Pn	02 44 45.9	-0.3
PUZ	**Puketiti**	**1.41**	**131**	PN	Pn	02 44 45.9	-0.3
MTAZ	**Motutapu**	**1.65**	**282**	P	Pn	02 44 49.1	-0.5
MTAZ	**Motutapu**	**1.65**	**282**	PN	Pn	02 44 49.1	-0.4
KAAZ	**Kauri Point**	**1.80**	**280**	PN	Pn	02 44 51.8	0.0
WTAZ	**Waiatarua**	**1.88**	**276**	P	Pn	02 44 55.3	+2.3
WTAZ	**Waiatarua**	**1.88**	**276**	PN	Pn	02 44 55.3	+2.3
BKZ	**Black Stump Fm**	**2.04**	**189**	*e*P	Pn	02 44 55.6	+0.4
BKZ	**Black Stump Fm**	**2.04**	**189**	P*	Pb	02 44 55.6	-1.4
HIZ	**Hauiti**	**2.12**	**230**	P	Pn	02 44 54.4	-2.0
HIZ	**Hauiti**	**2.12**	**230**	PN	Pn	02 44 54.4	-1.9
WCZ	**Waipu Caves**	**2.40**	**300**	*e*P	Pn	02 44 59.3	-1.0
OUZ	**Omahuta**	**3.31**	**305**	*e*P	Pn	02 45 12.5	-0.8

CASC 12 02:52:53.2±2.2, 14.08N×91.61W, h80km±16km, MD4.1, ML4.9, 2C-10D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.24**	**354**⇓	*e*P	P	02 53 04.8	-0.3
JAT				*e*S	S	02 53 14.9	+0.8
JAT				AML	AML	02 53 15.8	
	comp=E,58μm,0.3s						
FUG	**Fuego 3**	**0.83**	**64**⇑	*i*P	P	02 53 10.2	-0.3
PCG	**Pacaya**	**1.02**	**72**⇓	*e*P	P	02 53 13.6	+0.9
PCG				*e*S	S	02 53 28.0	+0.6
IXG	**Ixpaco**	**1.12**	**85**⇑	*e*P	P	02 53 12.9	-1.1
IXG				*e*S	S	02 53 30.4	+0.7
RBDL	**Robledal**	**1.87**	**89**⇓	*e*P	P	02 53 24.2	+0.3
RBDL				*e*S	S	02 53 49.7	+3.3
RTR	**El Retiro**	**1.92**	**95**⇓	*e*P	P	02 53 24.4	-0.1
RTR				*e*S	S	02 53 48.4	+0.8
SBLS	**San Blas**	**1.94**	**97**⇓	*e*P	P	02 53 24.5	-0.4
SBLS				*e*S	S	02 53 49.1	+0.8
SNJE	**San Jose**	**1.96**	**96**⇓	*e*P	P	02 53 25.0	-0.1
SNJE				*e*S	S	02 53 50.2	+1.6
BOQS	**Boqueron**	**2.29**	**98**	*e*P	P	02 53 29.1	-0.6
BOQS				*e*S	S	02 53 57.5	+0.8
LFRS	**El Faro**	**2.52**	**100**⇓	*e*P	P	02 53 32.7	-0.2
LFRS				*e*S	S	02 54 02.4	-0.1
LCBS	**La Ceiba**	**2.59**	**99**⇓	*e*P	P	02 53 33.7	-0.2
LCBS				*e*S	S	02 54 05.5	+1.1
SNVI	**San Vicente**	**2.73**	**99**⇓	*e*P	P	02 53 35.5	-0.4
SNVI				*e*S	S	02 54 09.8	+1.9
VSM	**San Miguel**	**3.31**	**101**⇓	*e*P	P	02 53 44.0	+0.1
BLLM	**Bellamira**	**3.34**	**100**	*e*P	P	02 53 45.8	+1.4
BLLM				*e*S	S	02 54 21.3	-1.6

ISK ***12*** *03:07:02.2, 38.35N×26.84E, h30km, MD2.8*
ATH ***12*** *03:07:03.1, 38.14N×26.82E, h33km±4km, MD3.1/3*
CSEM ***12*** *03:07:03.5±0.2, 38.20N×26.93E, h19km±2km, MD2.8, Error ellipse: s-maj=7.9km s-min=3.5km az=94.0*
ISC 12 03:07:02.7±1.2, 38.17N±0.03×26.77E±0.06, h1km±8km, n13, σ0=81/22, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.30**	**45**	*i* PG	**Pg**	**03 07 08.7**	**0.0**
BLCB				*i* SG	**Sg**	**03 07 12.0**	**-0.7**
IZM	**Izmir**	**0.45**	**59**	PG	**Pg**	**03 07 11.7**	**+0.1**
IZM				SG	**Sg**	**03 07 17.1**	**-0.5**
KDAG	**Bornova**	**0.45**	**59**	*i* P	**Pg**	**03 07 11.8**	**+0.1**
KDAG				*i* S	**Sg**	**03 07 17.9**	**+0.1**
SMG	**Samos**	**0.47**	**174**	*e*PB	**Pb**	**03 07 13.1**	**-0.2**
SMG				*e*SB	**Sb**	**03 07 20.1**	**-0.4**
AYDN	**Tasoluk**	**1.01**	**120**	*i* P	**Pb**	**03 07 23.3**	**+0.6**
AYDN				*i* S	**Sb**	**03 07 36.0**	**-0.3**
AYVA	**Ayvalik**	**1.14**	**357**	*i* P	**Pb**	**03 07 25.1**	**+0.2**
AYVA				*i* S	**Sb**	**03 07 41.5**	**+1.5**
PRK	**Paraskevi**	**1.14**	**340**	*e*PN	**Pn**	**03 07 25.0**	**-0.7**
PRK				*e*SN	**Sn**	**03 07 41.2**	**-1.0**
BODT	**Bodrum**	**1.19**	**159**	*e*PN	**Pn**	**03 07 25.2**	**-1.2**
BDRM	**Kayabasi**	**1.23**	**154**	*i* P	**Pb**	**03 07 27.9**	**+1.6**
BDRM				*i* S	**Sb**	**03 07 43.3**	**+0.8**
MANT	**Manisa**	**1.44**	**77**	*i* P	**Pn**	**03 07 30.6**	**+0.6**
MANT				*i* S	**Sb**	**03 07 47.7**	**-1.0**
APE	**Apeiranthos**	**1.48**	**222**	*e*PN	**Pn**	**03 07 29.7**	**-0.8**
APE	**Apeiranthos**	**1.48**	**222**	*e*PN	**Pn**	**03 07 29.5**	**-1.0**
BTOK	**Tokmak**	**1.87**	**31**	*i* P	**Pn**	**03 07 37.5**	**+1.5**

IDC ***12*** *03:10:38.3±1.6, 1.86S×99.46E, mb4.0/9, mb1 4.2/9, mb1mx3.9/19, mbtmp4.0/9, Error ellipse: s-maj=77.2km s-min=16.5km az=57.0*
NEIC ***12*** *03:10:43.2±0.7, 1.75S×99.63E, h30km, mb4.3/2, Error ellipse: s-maj=29.5km s-min=8.3km az=63.0*
ISC 12 03:10:41.7±1.0, 1.7S±0.1×99.6E±0.2, h33km, n16, σ0=69/12, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.00**	**8**	P	**P**	**03 12 23.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**20.03**	**358**	P	**P**	**03 15 15.2**	**+0.4**
	0.9nm,0.6s,baz=188,slow=9.8,SNR=6.0						
WRA	**Warramunga Arr**	**38.46**	**121**	P	**P**	**03 18 02.0**	**-0.5**
	1.8nm,0.4s,mb4.1,baz=301,slow=9.5,SNR=8.5						
WRAB	**Tennant Creek**	**38.47**	**121**	*e*P	**P**	**03 18 02.9**	**+0.3**
	3.2nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**39.73**	**126**	P	**P**	**03 18 13.8**	**+0.9**
	0.6nm,0.5s,mb3.6,baz=296,slow=8.2,SNR=9.3						
ASAR				PcP	PcP	03 20 20.9	+1.1
	0.8nm,0.7s,baz=282,slow=2.0,SNR=5.7						
STKA	**Stephens Creek**	**49.63**	**132**	P	**P**	**03 19 31.3**	**-1.0**
	1.6nm,0.7s,mb4.2,baz=319,slow=6.9,SNR=5.5						
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**03 19 33.4**	**+1.1**
	0.3nm,0.3s,mb3.8,baz=198,slow=9.1,SNR=2.7						
MKAR	**Makanchi Array**	**50.63**	**345**	P	**P**	**03 19 40.1**	**+0.4**
	1.0nm,0.4s,mb4.1,baz=150,slow=8.1,SNR=19						
ZAL	**Zalesovo**	**56.79**	**350**	P	**P**	**03 20 25.1**	**+0.2**
	3.1nm,0.4s,mb4.7,baz=314,slow=5.7,SNR=11						

BVAR	**Borovoye Array**	**59.77**	**340**	P		**P**	**03 20 45.1**	**-0.7**
	1.0nm,0.6s,mb4.1,baz=68,slow=8.0,SNR=4.2							
CHKZ	**Chkalovo**	**60.23**	**341**	*e*P		**P**	**03 20 48.0**	**-1.0**
	1.4nm,0.6s,mb4.2							
FINES	**FINESS Array B**	**83.67**	**332**	P		**P**	**03 23 08.8**	**+0.6**
	2.5nm,1.0s,mb4.3,baz=90,slow=3.8,SNR=5.7							
TXAR	**Lajitas Array**	**144.67**	**37**	PKP	PKPdf		03 30 17.8	+2.0
	1.9nm,0.5s,baz=245,slow=0.9,SNR=37							
TXAR	**Lajitas Array**	**144.67**	**37**	PKP	PKPdf		03 30 17.8	+2.0
MIAR	**Mount Ida**	**145.06**	**19**	*e*PKP	PKPdf		03 30 17.7	+1.5
JCT	**Junction City**	**145.94**	**31**	*e*PKPbc	PKPbc		03 30 21.4	+2.6

*DJA **12** 03:21:47.8±7.3, 2.58S×99.98E, h80km, mb4.2/2, Error ellipse: s-maj=233.6km s-min=31.0km az=78.0*
*IDC **12** 03:21:47.1±0.5, 1.65S×99.71E, mb4.4/20, mb1 4.5/21, mb1mx4.4/23, mbtmp4.4/21, ML4.3/1, MS3.8/2, Ms1 3.9/2, ms1mx3.2/28, Error ellipse: s-maj=23.4km s-min=12.8km az=52.0*
*BJI **12** 03:21:48.8, 2.13S×99.79E, h42km, mB5.0, mb4.6, Ms4.8, Msz4.2*
*NEIC **12** 03:21:51.6±0.3, 1.66S×99.78E, h30km, mb4.8/17, Error ellipse: s-maj=9.4km s-min=5.2km az=52.0*
ISC 12 03:21:50.1±0.3,**1.71S**±0.05×**99.73E**±0.05,**h32**km, **h32**km±1.3km:**pP-P,n80,**σ1§**13**/77,**mb4.5**/36,**MS4.2**/9, **13C-1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.41**	**28**	*e*P	**Pn**	**03 22 13.0**	**-0.9**
PENI	**Pendagan**	**6.64**	**125**	⇓*i*P	**Pn**	**03 23 27.5**	**-0.6**
	364nm,0.5s						
PENI				*i* pP		03 23 28.3	
KULM	**Kulim**	**7.01**	**7**	*e*P	**Pn**	**03 23 32.1**	**-1.3**
PASI	**Pasiripis**	**7.65**	**130**	*e*P	**Pn**	**03 23 40.3**	**-2.0**
PULI	**Pulasari**	**7.74**	**127**	⇑*i*P	**Pn**	**03 23 41.9**	**-1.6**
	446nm,0.4s						
SRDI	**Scrawed**	**15.84**	**116**	⇑*i*P	**P**	**03 25 31.5**	**-1.2**
	34nm,0.2s						
SRDI	**Scrawed**	**15.84**	**116**	*e*P	**P**	**03 25 31.2**	**-1.5**
	69nm,0.2s						
KELI	**Kelakatan**	**16.05**	**114**	⇑*i*P	**P**	**03 25 36.1**	**+0.7**
	28nm,0.2s						
KELI	**Kelakatan**	**16.05**	**114**	⇑*i*P	**P**	**03 25 36.0**	**+0.6**
	28nm,0.2s						
KKM	**Kota Kinabalu**	**18.17**	**65**	P	**P**	**03 26 04.9**	**+2.9**
TANI	**Tanete Lipujan**	**19.70**	**95**	*e*P	**P**	**03 26 20.2**	**+0.2**
CM31	**Chiang Mai Arr**	**20.05**	**358**	*e*P	**P**	**03 26 20.9**	**-2.8**
	10nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.05**	**358**	P	**P**	**03 26 21.6**	**-2.0**
	0.3nm,0.3s,baz=187,slow=10,SNR=9.8						
CMAR				LR	LR	03 34 47.2	
	comp=Z,120nm,18.6s,MS3.3,baz=190,slow=39						
NINI	**Niniconang**	**20.17**	**98**	*e*P	**P**	**03 26 27.0**	**+2.0**
QIZ	**Qiongzhong**	**22.88**	**25**	*e*P	**P**	**03 26 52.0**	**-0.3**
QIZ				LR	LR		
	comp=Z,413nm,11.7s,MS4.1						
KMI	**Kunming**	**26.83**	**6**	P	**P**	**03 27 32.0**	**+2.2**
KMI				AP	pP	03 27 40.6	+1.4
KMI				S	**S**	**03 32 06.8**	**+4.7**
KMI				SS	SS	03 33 20.7	+5.2
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.4						
KMI				AMB	AMB		
	comp=Z,44nm,4.6s						
KMI				LR	LR		
	comp=N,160nm,17.5s,MS3.9						
KMI				LR	LR		
	comp=E,260nm,19.5s,MS3.9						
KMI				LR	LR		
	comp=Z,204nm,16.4s,MS3.8						
KMI	**Kunming**	**26.83**	**6**	P	**P**	**03 27 32.0**	**+2.2**
	comp=Z,8.0nm,0.6s,mb4.4						
KMI				pP	pP	03 27 40.6	+1.4
KMI				S	**S**	**03 32 06.8**	**+4.7**
KMI				sS		03 32 19.2	
KMI				SS	SS	03 33 20.7	+5.2
KMI				LR	LR		
	comp=Z,200nm,16.4s,MS3.8						
JIRN	**Jiri**	**31.98**	**337**	*e*P	**P**	**03 28 16.5**	**+0.8**
	comp=Z,25nm,0.8s,mb5.1						
LSA	**Lhasa**	**32.29**	**346**	*e*P	**P**	**03 28 20.1**	**+1.7**
	comp=Z,8.2nm,0.5s,mb4.8						
GUN	**Gumba**	**32.32**	**337**	*e*P	**P**	**03 28 18.1**	**-0.6**
	comp=Z,23nm,0.5s,mb5.2						
DMN	**Daman**	**32.37**	**335**	*e*P	**P**	**03 28 21.2**	**+2.1**
KKN	**Kakani**	**32.46**	**336**	*e*P	**P**	**03 28 20.2**	**+0.3**
GKN	**Gorkha**	**32.91**	**335**	*e*P	**P**	**03 28 22.7**	**-1.1**
	comp=Z,11nm,0.5s,mb5.0						
ENH	**Enshi**	**33.14**	**16**	P	**P**	**03 28 22.8**	**-3.0**
	comp=Z,6.5nm,0.6s,mb4.7						
KOLN	**Koldanda**	**33.16**	**333**	*e*P	**P**	**03 28 25.8**	**-0.2**
	comp=Z,18nm,0.7s,mb5.1						
NJ2	**Nanjing**	**38.16**	**27**	*e*P	**P**	**03 29 10.6**	**+2.2**
NJ2				AP	pP	03 29 21.3	+3.2
NJ2				XP	sP	03 29 24.0	+1.8
NJ2				PP	PP	03 30 42.1	+2.9
NJ2				S	**S**	**03 35 06.0**	**+6.9**
NJ2				XS		03 35 21.0	
NJ2				AMB	AMB		
	comp=Z,750nm,4.5s						
NJ2				LR	LR		
	comp=N,1μm,21.2s,MS4.8						
NJ2				LR	LR		
	comp=E,960nm,21.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,1μm,19.3s,MS4.7						
WRA	**Warramunga Arr**	**38.37**	**121**	P	**P**	**03 29 10.3**	**0.0**
	comp=Z,4.9nm,0.5s,mb4.5,baz=302,slow=9.1,SNR=30						
WRA				PcP	PcP	03 31 24.3	+0.3
	comp=Z,0.9nm,0.4s,baz=314,slow=2.5,SNR=5.3						
WRAB	**Tennant Creek**	**38.37**	**121**	*e*P	**P**	**03 29 10.1**	**-0.3**
	comp=Z,13nm,0.6s,mb4.8						
ASPA	**Alice Springs**	**39.63**	**126**	*e*P	**P**	**03 29 21.9**	**+1.0**
ASAR	**Alice Springs**	**39.64**	**126**	P	**P**	**03 29 21.6**	**+0.7**
	comp=Z,4.6nm,0.8s,mb4.3,baz=305,slow=8.0,SNR=30						
ASAR				PcP	PcP	03 31 29.0	+1.0
	comp=Z,2.0nm,0.7s,baz=293,slow=2.0,SNR=5.8						
HHC	**Hu-ho-hao-te**	**43.71**	**13**	*e*P	**P**	**03 29 55.8**	**+1.7**
HHC				AP	pP	03 30 06.1	+2.3
HHC				XP	sP	03 30 10.4	+2.6
HHC				PP	PP	03 31 41.1	+3.6
HHC				SCP		03 35 29.3	
HHC				PCS		03 35 35.9	
HHC				S	**S**	**03 36 24.9**	**+3.4**
HHC				XS		03 36 41.4	
HHC				SS	SS	03 39 37.0	+7.3
HHC				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
HHC				AMB	AMB		
	comp=Z,55nm,5.1s						
HHC				LR	LR		
	comp=N,386nm,15.7s,MS4.6						
HHC				LR	LR		
	comp=E,499nm,18.6s,MS4.6						
HHC				LR	LR		
	comp=Z,356nm,15.9s,MS4.4						
BJI	**Beijing**	**44.19**	**18**	P	**P**	**03 29 57.3**	**-0.7**
BJI				S	**S**	**03 36 29.8**	**+1.3**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.5						
BJI				LR	LR		
	comp=N,203nm,24.9s,MS4.1						
BJI				LR	LR		
	comp=E,165nm,23.1s,MS4.1						
BJI				LR	LR		
	comp=Z,287nm,30.4s						
BJI	**Beijing**	**44.19**	**18**	P	**P**	**03 29 57.3**	**-0.7**
	comp=Z,5.0nm,0.5s,mb4.5						
BJI				S	**S**	**03 36 29.8**	**+1.3**
BJI				LR	LR		
	comp=Z,290nm,30.4s,MS4.0						
KSH	**Kashi**	**46.46**	**335**	*e*P	**P**	**03 30 17.0**	**+1.0**
KSH				*e*AP	pP	03 30 26.1	+0.3
KSH				*e*XP	sP	03 30 30.0	+0.2
KSH				*e*PCP	PcP	03 31 51.2	+0.4
KSH				*e*PP	PP	03 32 06.0	+1.0
KSH				*e*S	**S**	**03 37 01.4**	**+0.3**
KSH				*e*XS		03 37 19.0	
KSH				*e*SCS	ScS	03 40 06.0	+0.1
KSH				*e*SS	SS	03 40 21.0	+1.7
KSH				AMB	AMB		
	comp=Z,250nm,5.8s						
KSH				LR	LR		
	comp=N,470nm,5.2s						
KSH				LR	LR		
	comp=E,500nm,8.4s						
WMQ	**Urumqi**	**46.59**	**348**	⇑P	**P**	**03 30 17.0**	**-0.1**
WMQ				AP	pP	03 30 26.7	-0.1
WMQ				XP	sP	03 30 31.0	+0.2
WMQ				PCP	PcP	03 31 51.5	+0.3
WMQ				PP	PP	03 32 06.1	-0.2
WMQ				S	**S**	**03 37 02.7**	**-0.3**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.8						
WMQ				LR	LR		
	comp=N,720nm,20.5s,MS4.6						
WMQ				LR	LR		
	comp=E,177nm,21.8s,MS4.6						
WMQ				LR	LR		
	comp=Z,706nm,21.2s,MS4.6						
STKA	**Stephens Creek**	**49.54**	**132**	P	**P**	**03 30 39.7**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.6,baz=294,slow=7.3,SNR=11						
STKA	**Stephens Creek**	**49.54**	**132**	*e*P	**P**	**03 30 40.8**	**+0.6**
SONM	**Sonqino Array**	**49.68**	**6**	P	**P**	**03 30 41.5**	**+0.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=190,slow=9.0,SNR=9.2						
MKAR	**Makanchi Array**	**50.68**	**345**	P	**P**	**03 30 48.7**	**+0.1**
	comp=Z,5.0nm,0.5s,mb4.7,baz=155,slow=8.5,SNR=30						
MKAR	**Makanchi Array**	**50.68**	**345**	P	**P**	**03 30 48.7**	**+0.1**
MDJ	**Mudanjiang**	**53.25**	**26**	P	**P**	**03 31 07.8**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,29nm,6.7s						
MDJ				LR	LR		
	comp=N,68nm,24.3s,MS4.0						
MDJ				LR	LR		
	comp=E,162nm,23.6s,MS4.0						
MDJ				LR	LR		
	comp=Z,237nm,22.9s,MS4.2						
BVAR	**Borovoye Array**	**59.82**	**340**	P	**P**	**03 31 53.3**	**-1.4**
	comp=Z,1.9nm,0.7s,mb4.2,baz=135,slow=8.4,SNR=14						
CHKZ	**Chkalovo**	**60.28**	**341**	*e*P	**P**	**03 31 56.5**	**-1.4**
	comp=Z,5.3nm,0.7s,mb4.7						
KMBO	**Kilima Mbogo**	**62.46**	**270**	P	**P**	**03 32 13.8**	**+0.6**
	comp=Z,3.5nm,0.9s,mb4.5,baz=64,slow=10,SNR=8.4						
KMBO	**Kilima Mbogo**	**62.46**	**270**	*e*P	**P**	**03 32 13.5**	**+0.3**
	comp=Z,5.9nm,1.2s,mb4.6						
GNI	**Garni**	**65.13**	**316**	P	**P**	**03 32 30.6**	**+0.3**
	comp=Z,2.8nm,0.4s,mb4.6,baz=83,slow=6.5,SNR=3.4						
KIV	**Kislovodsk**	**68.15**	**319**	P	**P**	**03 32 48.8**	**-0.6**
	comp=Z,7.9nm,0.6s,mb4.9						
ASF	**Jabal al Asfar**	**68.20**	**306**	P	**P**	**03 32 49.6**	**-0.4**
	comp=Z,1.5nm,0.4s,mb4.4,baz=238,slow=3.6,SNR=4.2						
EIL	**Elat**	**69.14**	**303**	P	**P**	**03 32 55.7**	**-0.1**
	comp=Z,3.0nm,0.7s,mb4.3,baz=156,slow=9.2,SNR=4.7						
MAW	**Mawson**	**70.50**	**194**	P	**P**	**03 33 04.2**	**+0.8**
	comp=Z,2.2nm,0.6s,mb4.3,baz=0.7,slow=9.7,SNR=6.0						
LSZ	**Lusaka**	**71.75**	**255**	P	**P**	**03 33 11.8**	**0.0**
	comp=Z,4.4nm,1.0s,mb4.3						
BRTR	**Keskin Array B**	**72.93**	**312**	P	**P**	**03 33 17.1**	**-1.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=127,slow=6.2,SNR=10						
BOSA	**Boshof**	**75.56**	**241**	P	**P**	**03 33 34.0**	**+0.1**
	comp=Z,6.8nm,1.0s,mb4.5,baz=41,slow=5.8,SNR=4.4						
HARR	**Harsova**	**78.35**	**316**	⇑P	**P**	**03 33 48.1**	**-1.0**
HARR	**Harsova**	**78.35**	**316**	⇑P	**P**	**03 33 48.1**	**-1.0**
IDI	**Anoyia**	**78.65**	**306**	P	**P**	**03 33 50.9**	**0.0**
	comp=Z,9.2nm,1.1s,mb4.6,baz=64,slow=7.6,SNR=4.1						
AKASG	**Malin Array Be**	**79.09**	**322**	P	**P**	**03 33 52.1**	**-0.9**
	comp=Z,1.2nm,0.7s,mb3.9,baz=87,slow=4.3,SNR=5.2						
VRI	**Vrincioaia**	**79.46**	**317**	⇑P	**P**	**03 33 55.2**	**+0.1**
VRI	**Vrincioaia**	**79.46**	**317**	⇑P	**P**	**03 33 55.2**	**+0.1**
MLR	**Muntele Rosu**	**79.91**	**317**	P	**P**	**03 33 58.0**	**+0.5**
	comp=Z,7.5nm,0.9s,mb4.6,baz=107,slow=3.0,SNR=12						
MLR	**Muntele Rosu**	**79.91**	**317**	⇑P	**P**	**03 33 57.7**	**+0.2**
MLR	**Muntele Rosu**	**79.91**	**317**	⇑P	**P**	**03 33 57.7**	**+0.2**
BURAR	**Bucovina Array**	**80.87**	**319**	⇑P	**P**	**03 34 03.6**	**+1.1**
BURAR	**Bucovina Array**	**80.87**	**319**	⇑P	**P**	**03 34 03.7**	**+1.1**
VNDA	**Vanda**	**82.50**	**169**	P	**P**	**03 34 11.7**	**+1.2**
	comp=Z,1.4nm,0.9s,mb3.9,baz=328,slow=5.9,SNR=6.0						
FINES	**FINESS Array B**	**83.73**	**332**	P	**P**	**03 34 17.4**	**+0.3**
	comp=Z,1.8nm,0.7s,mb4.3,baz=117,slow=4.3,SNR=7.4						
KAF	**Kangasniemi**	**83.81**	**333**	*e*p	**P**	**03 34 15.5**	**-1.9**
	comp=Z,4.4nm,0.7s,mb4.7						
ARCES	**ARCESS Array B**	**86.11**	**340**	P	**P**	**03 34 29.2**	**+0.5**
	comp=Z,6.9nm,0.9s,mb4.9,baz=76,slow=5.0,SNR=7.1						
GERES	**GERESS Array B**	**88.66**	**319**	P	**P**	**03 34 42.5**	**+0.9**
	comp=Z,0.7nm,0.6s,mb4.2,baz=90,slow=5.3,SNR=5.2						
SNAA	**Sanae**	**92.33**	**198**	LR	LR	04 09 33.1	
	comp=Z,95nm,21.2s,MS4.2,baz=330,slow=31						
YKA	**Yellowknife Ar**	**114.17**	**17**	PKP	PKPdf	03 40 26.1	-5.3
	comp=Z,0.4nm,1.2s,baz=352,slow=2.3,SNR=4.2						
TXAR	**Lajitas Array**	**144.63**	**37**	PKP	PKPdf	03 41 25.8	-3.7
	comp=Z,2.5nm,0.6s,baz=243,slow=0.6,SNR=31						
WVT	**Waverly**	**145.04**	**11**	*e*PKPdf	PKPdf	03 41 25.2	-4.8
MIAR	**Mount Ida**	**145.05**	**19**	*e*PKPdf	PKPdf	03 41 26.0	-4.1
TZTN	**Tazewell**	**145.21**	**5**	*e*PKPdf	PKPdf	03 41 25.7	-4.6
JCT	**Junction City**	**145.91**	**31**	*e*PKPdf	PKPdf	03 41 29.1	-2.6
CPCT	**Cooper Cave**	**146.20**	**6**	*e*PKPdf	PKPdf	03 41 29.0	-3.0
SWET	**Sewanee**	**146.25**	**8**	*e*PKPdf	PKPdf	03 41 28.0	-4.1
NATX	**Nacogdoches**	**147.17**	**23**	*e*PKPbc	PKPdf	03 41 32.3	-1.5
LRAL	**Lakeview Retre**	**148.20**	**11**	*e*PKPbc	PKPdf	03 41 34.8	-0.6

*DJA **12** 03:54:37.0±0.4, 1.97S×99.60E, h2km, mb5.2/4, Error ellipse: s-maj=17.6km s-min=5.7km az=54.0*
*BJI **12** 03:54:40.7, 2.35S×99.93E, h47km, mB5.1, mb4.9, Ms5.1, Msz4.9*
*IDC **12** 03:54:44.0±2.1, 1.73S×99.84E, h24km±13km, mb4.7/26, mb1 4.8/26, mb1mx4.8/26, mbtmp4.9/26, MS4.4/5, Ms1 4.5/5, ms1mx4.1/23, Error ellipse: s-maj=15.0km s-min=9.3km az=53.0*
*CSEM **12** 03:54:44.7, 1.56S×99.99E, h33km, mb5.5*
*NEIC **12** 03:54:45.0±0.1, 1.76S×99.85E, mb5.3/63, MS5.0/97, Error ellipse: s-maj=5.8km s-min=3.3km az=222.0*
NEIC Felt [III] at Padang and [II] at Padangpanjang, Sumatra.
*MOS **12** 03:54:44.5±0.8, 1.46S×99.90E, h33km, mb5.6/32, MS4.6/7, Error ellipse: s-maj=18.3km s-min=6.8km az=118.3*
*HRVD **12** 03:54:45.0±0.4, 1.82S×99.83E, h21km±1km, MW5.1/51, Centroid moment Tensor Solution. LP body waves: s36,c53;Mantle waves: s51,c80; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.63±.28; Mθθ-1.39±.19; Mφφ-2.25±.24; Mrθ0.90±.35; Mθφ2.92±.16; Mφr3.85±.49; Best double couple: M0 5.823×10^16 NP1:φs112°, δ38°, λ39°. NP2:φs350°, δ68°, λ121°. Principal axes: T 6.16, Plg56°, Azm301°; N -.685, Plg28°, Azm157°; P -5.485, Plg17°, Azm58°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 12 03:54:43.1±0.2,**1.74S**±0.03×**99.85E**±0.03,**h32**km, **h32**km±.6km:**pP-P,n394,**σ1§**06**/300,**mb5.1**/104,**MS4.9**/117, **51C-7D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.39**	**23**	*e*P	**Pn**	**03 55 08.0**	**+1.4**
KGM	**Kluang**	**5.10**	**43**	P	**Pn**	**03 56 03.5**	**+4.2**
IPM	**Ipoh**	**6.39**	**11**	P	**Pn**	**03 56 18.8**	**+1.2**
PENI	**Pendagan**	**6.53**	**126**	⇓*i*P	**Pn**	**03 56 18.5**	**-1.0**
	757nm,0.5s						
PENI				*i* pP		03 56 19.3	
PENI	**Pendagan**	**6.53**	**126**	*e*P	**Pn**	**03 56 18.5**	**-1.0**
	2μm,0.5s						
KULM	**Kulim**	**7.03**	**7**	*e*P	**Pn**	**03 56 27.1**	**+0.5**
PASI	**Pasiripis**	**7.54**	**131**	*e*P	**Pn**	**03 56 31.5**	**-2.2**
PULI	**Pulasari**	**7.63**	**127**	⇑*i*P	**Pn**	**03 56 33.6**	**-1.4**
	710nm,0.5s						
PULI	**Pulasari**	**7.63**	**127**	⇑*i*P	**Pn**	**03 56 33.3**	**-1.7**
BSI	**Banda Aceh**	**8.51**	**328**	*e*P	**P**	**03 56 45.0**	**-2.2**
SNG	**Songkhla**	**8.89**	**5**	P	**P**	**03 56 52.0**	**-0.5**
	290nm,0.9s						
KSM	**Kuching**	**10.94**	**73**	*e*P	**P**	**03 57 23.4**	**+2.8**
SRDI	**Scrawed**	**15.72**	**116**	⇑*i*P	**P**	**03 58 22.0**	**-2.2**
	140nm,0.2s						
SRDI	**Scrawed**	**15.72**	**116**	⇑*i*P	**P**	**03 58 21.7**	**-2.5**
	281nm,0.2s						
KELI	**Kelakatan**	**15.94**	**114**	⇑*i*P	**P**	**03 58 27.5**	**+0.6**
	66nm,0.2s						
RATI	**Rata**	**17.08**	**115**	⇓*i*P	**P**	**03 58 37.7**	**-3.7**
	300nm,0.3s						
RATI	**Rata**	**17.08**	**115**	⇓*i*P	**P**	**03 58 37.8**	**-3.6**
	300nm,0.3s						
KEDI	**Kedomdong**	**17.52**	**113**	⇑*i*P	**P**	**03 58 44.4**	**-2.5**
	56nm,0.2s						
KEDI	**Kedomdong**	**17.52**	**113**	⇑*i*P	**P**	**03 58 44.5**	**-2.4**
KKM	**Kota Kinabalu**	**18.08**	**65**	*e*P	**P**	**03 58 55.4**	**+1.4**
KKM	**Kota Kinabalu**	**18.08**	**65**	P	**P**	**03 58 56.1**	**+2.2**
TSM	**Tawau**	**18.98**	**72**	P	**P**	**03 59 07.0**	**+2.3**
TANI	**Tanete Lipujan**	**19.59**	**95**	*e*P	**P**	**03 59 11.2**	**-0.5**
NINI	**Niniconang**	**20.05**	**98**	*e*P	**P**	**03 59 18.2**	**+1.5**
CM31	**Chiang Mai Arr**	**20.09**	**357**	*e*P	**P**	**03 59 15.9**	**-1.2**
	29nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.09**	**357**	P	**P**	**03 59 13.9**	**-3.2**
	16nm,0.5s,baz=187,slow=10,SNR=77						
CMAR				PcP	PcP	04 03 32.4	+1.1
	2.8nm,0.7s,baz=208,slow=3.1,SNR=5.9						
CMAR				ScP		04 07 07.5	
	0.4nm,0.5s,baz=207,slow=2.6,SNR=4.3						
CMAR				LR	LR	04 07 30.0	
	comp=Z,2μm,19.2s,MS4.4,baz=195,slow=38						
NANT	**Nan**	**20.43**	**2**	⇑P	**P**	**03 59 19.0**	**-1.6**
	194nm,0.9s						
CHG	**Chiang Mai**	**20.45**	**358**	P	**P**	**03 59 20.1**	**-0.7**
PALK	**Pallekele**	**21.10**	**295**	⇑*i*P	**P**	**03 59 27.7**	**+0.2**
	203nm,1.5s,mb5.2						
PALK				LR	LR		
	comp=Z,516nm,20.0s,MS3.9						
QIZ	**Qiongzhong**	**22.86**	**25**	P	**P**	**03 59 46.0**	**+0.9**
QIZ				S	**S**	**04 03 49.0**	**+0.9**
QIZ				LR	LR		
	comp=N,1μm,20.5s,MS4.7						
QIZ				LR	LR		
	comp=E,3μm,19.8s,MS4.7						
QIZ				LR	LR		
	comp=Z,2μm,12.6s						
QIZ	**Qiongzhong**	**22.86**	**25**	*e*P	**P**	**03 59 45.7**	**+0.6**
	comp=Z,42nm,1.0s,mb4.8						
QIZ				LR	LR		
	comp=Z,1μm,19.0s,MS4.4						
MDRS	**Chennai**	**24.39**	**308**	*e*P	**P**	**04 00 01.0**	**+1.0**
MDRS				*e*		04 06 49.0	
VIS	**Vishakhapatnam**	**25.28**	**321**	*e*P	**P**	**04 00 07.5**	**-1.0**
KMI	**Kunming**	**26.85**	**6**	P	**P**	**04 00 25.9**	**+2.9**
KMI				S	**S**	**04 04 58.2**	**+2.7**
KMI				LR	LR		
	comp=N,2μm,13.9s,MS4.9						
KMI				LR	LR		
	comp=E,1μm,15.5s,MS4.9						
KMI				LR	LR		
	comp=Z,2μm,15.6s,MS4.8						
MBWA	**Marble Bar**	**27.35**	**136**	*e*P	**P**	**04 00 27.7**	**+0.1**
	comp=Z,15nm,0.6s,mb4.7						
MBWA				LR	LR		
	comp=Z,998nm,20.0s,MS4.4						
SHL	**Shillong**	**28.22**	**345**	⇑*i*	**P**	**04 00 50.7**	**+15**
SHL				*e*		04 04 32.7	
HYB	**Hyderabad**	**28.34**	**313**	*e*P	**P**	**04 00 36.5**	**0.0**
HYB	**Hyderabad**	**28.34**	**313**	*i* P	**P**	**04 00 36.5**	**0.0**
GYA	**Guiyang**	**28.80**	**13**	⇓*i*P	**P**	**04 00 40.3**	**-0.3**
GYA				AP	pP	04 00 49.8	-0.1
GYA				PP	PP	04 01 32.9	-1.0
GYA				S	**S**	**04 05 25.0**	**-1.8**
GYA				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.3						
GYA				AMB	AMB		
	comp=Z,2μm,3.4s						
GYA				LR	LR		
	comp=N,4μm,16.0s,MS5.3						
GYA				LR	LR		
	comp=E,4μm,15.8s,MS5.3						
GYA				LR	LR		
	comp=Z,3μm,15.5s,MS5.0						
FITZ	**Fitzroy Crossi**	**30.08**	**124**	⇑*i*P	**P**	**04 00 51.4**	**-0.7**
	comp=Z,51nm,1.0s,mb5.2						
FITZ				*i*	pP	04 01 01.2	-0.3
FITZ	**Fitzroy Crossi**	**30.08**	**124**	P	**P**	**04 00 51.6**	**-0.6**
	comp=Z,41nm,0.9s,mb5.2,baz=306,slow=6.6,SNR=18						
KAD	**Karad**	**31.60**	**308**	*e*P	**P**	**04 01 05.8**	**+0.3**
JIRN	**Jiri**	**32.05**	**337**	*e*P	**P**	**04 01 10.0**	**+0.6**
	comp=Z,119nm,0.7s,mb5.9						
PKI	**Pulchoki**	**32.29**	**336**	*e*P	**P**	**04 01 11.2**	**-0.3**
LSA	**Lhasa**	**32.35**	**346**	P	**P**	**04 01 12.0**	**0.0**
LSA				AP	pP	04 01 21.0	-0.4
LSA				PP	PP	04 02 27.2	+7.1
LSA				PCP	PcP	04 03 56.5	-2.9
LSA				S	**S**	**04 06 24.9**	**+2.1**
LSA				SCP		04 07 38.1	
LSA				PCS		04 07 42.1	
LSA				SCS	ScS	04 11 38.8	+1.6
LSA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.1						
LSA				LR	LR		
	comp=N,380nm,25.1s,MS4.4						
LSA				LR	LR		
	comp=E,800nm,23.5s,MS4.4						
LSA				LR	LR		
	comp=Z,770nm,22.7s,MS4.3						
LSA	**Lhasa**	**32.35**	**346**	*e*P	**P**	**04 01 12.3**	**+0.3**
	comp=Z,22nm,0.6s,mb5.2						
LSA				LR	LR		
	comp=Z,735nm,19.0s,MS4.4						
GUN	**Gumba**	**32.40**	**337**	*e*P	**P**	**04 01 13.0**	**+0.6**
	comp=Z,184nm,0.6s,mb6.1						
DMN	**Daman**	**32.45**	**335**	*e*P	**P**	**04 01 13.4**	**+0.6**
	comp=Z,40nm,0.8s,mb5.3						
KKN	**Kakani**	**32.53**	**336**	*e*P	**P**	**04 01 13.6**	**0.0**
	comp=Z,43nm,0.5s,mb5.6						
POO	**Poona**	**32.56**	**309**	⇓*i

SSE				PCS		04 08 02.2	
SSE				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,153nm,4.1s						
SSE				LR	LR		
	comp=N,484nm,19.7s,MS4.5						
SSE				LR	LR		
	comp=E,522nm,19.6s,MS4.5						
SSE				LR	LR		
	comp=Z,636nm,18.9s,MS4.5						
SSE	**Sheshan**	**38.45**	**30**	P	**P**	**04 02 01.2**	**-2.8**
	comp=Z,13nm,0.7s,mb4.8						
SSE				pP	pP	04 02 10.0	-3.5
SSE				sP	sP	04 02 13.8	-3.7
SSE				S	**S**	**04 07 56.6**	**-0.1**
SSE				PcS		04 08 02.2	
SSE				sS		04 08 10.9	
SSE				LR	LR		
	comp=Z,640nm,18.9s,MS4.5						
FORT	**Forrest**	**39.33**	**140**	*e*P	**P**	**04 02 12.7**	**+1.4**
	comp=Z,765nm,0.6s						
JOW	**Kunigami**	**39.48**	**42**	LR	LR	04 20 11.9	
	comp=Z,356nm,18.2s,MS4.2,baz=291,slow=39						
ASPA	**Alice Springs**	**39.52**	**126**	*e*P	**P**	**04 02 12.9**	**-0.1**
ASPA				*e*S	**S**	**04 08 12.6**	**-0.3**
ASAR	**Alice Springs**	**39.52**	**126**	P	**P**	**04 02 13.3**	**+0.4**
	comp=Z,6.1nm,0.5s,mb4.6,baz=302,slow=7.9,SNR=48						
ASAR				PcP	PcP	04 04 21.4	+0.7
	comp=Z,6.0nm,0.7s,baz=308,slow=2.8,SNR=5.0						
ASAR				S	**S**	**04 08 13.8**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=299,slow=14,SNR=7.2						
SDNR	**Sundarnagar**	**39.56**	**329**	*e*P	**P**	**04 02 12.6**	**-0.6**
GTA	**Gaotai**	**40.95**	**360**	*e*P	**P**	**04 02 25.4**	**+0.8**
GTA				PP	PP	04 04 02.8	+0.8
GTA				PCP	PcP	04 04 26.2	+1.1
GTA				S	**S**	**04 08 32.2**	**-1.9**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.1						
GTA				AMB	AMB		
	comp=Z,290nm,3.8s						
GTA				LR	LR		
	comp=N,910nm,14.8s,MS4.9						
GTA				LR	LR		
	comp=E,958nm,14.5s,MS4.9						
GTA				LR	LR		
	comp=Z,1μm,14.8s,MS4.9						
HHC	**Hu-ho-hao-te**	**43.72**	**13**	*e*P	**P**	**04 02 48.0**	**+0.8**
HHC				AP	pP	04 02 57.5	+0.8
HHC				XP	sP	04 03 01.9	+1.2
HHC				PP	PP	04 04 31.6	+1.0
HHC				PCP	PcP	04 04 35.2	+0.9
HHC				SCP		04 08 22.6	
HHC				S	**S**	**04 09 16.8**	**+2.1**
HHC				XS		04 09 39.4	
HHC				SS	SS	04 12 24.8	+1.9
HHC				SCS	ScS	04 12 43.8	+2.3
HHC				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.4						
HHC				AMB	AMB		
	comp=Z,160nm,5.6s						
HHC				LR	LR		
	comp=N,2μm,15.9s,MS5.2						
HHC				LR	LR		
	comp=E,1μm,15.2s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,15.1s,MS5.0						
BJT	**Baijiatuau**	**44.16**	**18**	PFAKE		04 03 00.0	+9.2
BJT				LR	LR		
	comp=Z,623nm,19.0s,MS4.5						
BJI	**Beijing**	**44.19**	**18**	P	**P**	**04 02 51.6**	**+0.6**
BJI				AP	pP	04 03 00.9	+0.3
BJI				XP	sP	04 03 04.5	0.0
BJI				PP	PP	04 04 33.9	-1.4
BJI				S	**S**	**04 09 17.6**	**-4.0**
BJI				SS	SS	04 12 38.2	+6.7
BJI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
BJI				AMB	AMB		
	comp=Z,193nm,4.4s						
BJI				LR	LR		
	comp=N,1μm,21.0s,MS5.0						
BJI				LR	LR		
	comp=E,1μm,16.2s,MS5.0						
BJI				LR	LR		
	comp=Z,469nm,21.0s,MS4.4						
BJI	**Beijing**	**44.19**	**18**	P	**P**	**04 02 51.6**	**+0.6**
	comp=Z,12nm,0.9s,mb4.6						
BJI				pP	pP	04 03 00.9	+0.3
BJI				sP	sP	04 03 04.5	0.0
BJI				PP	PP	04 04 33.9	-1.4
BJI				S	**S**	**04 09 17.6**	**-4.0**
BJI				SS	SS	04 12 38.2	+6.7
BJI				LR	LR		
	comp=Z,470nm,21.0s,MS4.4						
KSH	**Kashi**	**46.54**	**334**	*e*P	**P**	**04 03 09.2**	**-0.5**
KSH				*e*AP	pP	04 03 18.2	-1.1
KSH				PCP	PcP	04 04 44.1	0.0
KSH				*e*PP	PP	04 04 57.1	-1.8
KSH				*e*SCP		04 08 33.0	
KSH				*e*PCS		04 08 37.0	
KSH				*e*S	**S**	**04 09 53.0**	**-2.3**
KSH				*e*SCS	ScS	04 12 58.6	-0.9
KSH				AMB	AMB		
	comp=Z,420nm,4.9s						
KSH				LR	LR		
	comp=N,750nm,6.0s						
KSH				LR	LR		
	comp=E,740nm,5.3s						
WMQ	**Urumqi**	**46.65**	**348**	⇑P	**P**	**04 03 10.9**	**+0.4**
WMQ				AP	pP	04 03 20.9	+0.8
WMQ				XP	sP	04 03 24.9	+0.9
WMQ				PCP	PcP	04 04 45.2	+0.8
WMQ				PP	PP	04 05 00.3	+0.4
WMQ				S	**S**	**04 09 56.8**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,91nm,0.9s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,310nm,2.7s,mb5.8						
WMQ				LR	LR		
	comp=N,456nm,19.7s,MS4.5						
WMQ				LR	LR		
	comp=E,279nm,18.8s,MS4.5						
WMQ				LR	LR		
	comp=Z,298nm,20.6s,MS4.2						
SMDO	**Samad**	**47.58**	**304**	P	**P**	**04 03 18.5**	**+0.3**
	SNR=6.3						
PMG	**Port Moresby**	**47.65**	**101**	PFAKE		04 03 30.0	+11
PMG				LR	LR		
	comp=Z,494nm,19.0s,MS4.5						
BSY	**Bisya**	**48.16**	**303**	P	**P**	**04 03 23.7**	**+1.0**
	SNR=8.5						
HOQ	**Hoqain**	**48.42**	**304**	P	**P**	**04 03 25.6**	**+1.0**
	SNR=6.1						
ULHL	**Ulahol**	**48.71**	**337**	P	**P**	**04 03 27.1**	**+0.5**
	SNR=14						
CTA	**Charters Tower**	**48.84**	**115**	*e*P	**P**	**04 03 27.7**	**-0.3**
	comp=Z,8.7nm,0.8s,mb4.8						
CTA				*i*	pP	04 03 37.5	-0.1
CTAO	**Charters Tower**	**48.84**	**115**	*e*P	**P**	**04 03 27.5**	**-0.5**
	comp=Z,36nm,1.2s,mb5.3						
CTAO				*e*	pP	04 03 37.6	-0.1
CTAO				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
RBK	**Rabkut**	**48.87**	**295**	P	**P**	**04 03 28.6**	**+0.4**
	SNR=7.3						
KZA	**Kyzart**	**48.97**	**336**	P	**P**	**04 03 29.5**	**+0.8**
	SNR=17						
WHFO	**Wadi Hawf**	**49.39**	**295**	P	**P**	**04 03 31.9**	**-0.3**
	SNR=9.4						
UCH	**Uchtor**	**49.40**	**335**	P	**P**	**04 03 32.8**	**+0.8**
	SNR=18						
STKA	**Stephens Creek**	**49.43**	**132**	⇑*i*P	**P**	**04 03 33.0**	**+0.6**
	comp=Z,13nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**49.43**	**132**	P	**P**	**04 03 33.4**	**+1.0**
	comp=Z,11nm,0.6s,mb5.0,baz=306,slow=8.0,SNR=36						
STKA				LR	LR	04 27 16.8	
	comp=Z,582nm,19.4s,MS4.6,baz=277,slow=40						
TKM2	**Tokmak 2**	**49.54**	**337**	P	**P**	**04 03 33.5**	**+0.5**
	SNR=45						
ABTO	**Aybut**	**49.65**	**295**	P	**P**	**04 03 34.4**	**+0.3**
	SNR=6.7						
AML	**Almayashu**	**49.67**	**335**	P	**P**	**04 03 34.8**	**+0.7**
	SNR=39						
SONM	**Songino Array**	**49.70**	**6**	P	**P**	**04 03 34.4**	**+0.1**
	comp=Z,13nm,0.6s,mb5.1,baz=189,slow=9.4,SNR=83						
SONM				PcP	PcP	04 04 55.3	0.0
	comp=Z,6.0nm,0.6s,baz=187,slow=4.0,SNR=6.8						
AAK	**Ala-Archa**	**49.74**	**336**	P	**P**	**04 03 35.7**	**+1.1**
	SNR=12						
ULN	**Ulaanbaatar**	**49.80**	**6**	P	**P**	**04 03 32.0**	**-3.0**
	comp=Z,90nm,0.3s						
FRU	**Bishkek**	**49.86**	**336**	*e*P	**P**	**04 03 35.5**	**0.0**
FRU				pmax	pmax		
	comp=Z,74nm,1.8s,mb5.4						
CHMS	**Chumysh**	**49.94**	**336**	P	**P**	**04 03 35.7**	**-0.4**
	SNR=9.9						
EKS2	**Erkin-Say**	**50.07**	**335**	P	**P**	**04 03 37.7**	**+0.6**
	SNR=18						
USP	**Ospenovka**	**50.27**	**336**	P	**P**	**04 03 39.0**	**+0.3**
	SNR=9.1						
MKAR	**Makanchi Array**	**50.74**	**344**	P	**P**	**04 03 41.9**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MKAR	**Makanchi Array**	**50.74**	**344**	P	**P**	**04 03 42.0**	**-0.1**
	comp=Z,30nm,0.6s,mb5.4,baz=151,slow=8.2,SNR=319						
MKAR				S	**S**	**04 10 57.7**	**+3.6**
	comp=Z,0.9nm,0.8s,baz=165,slow=14,SNR=6.0						
MKAR				LR	LR	04 29 06.5	
	comp=Z,323nm,21.0s,MS4.3,baz=102,slow=41						
MKAR	**Makanchi Array**	**50.74**	**344**	P	**P**	**04 03 42.0**	**-0.1**
MKAR				S	**S**	**04 10 57.7**	**+3.6**
MKAR				LR	LR	04 29 06.5	
CN2	**Changchun**	**50.81**	**24**	*e*P	**P**	**04 03 42.2**	**-0.5**
CN2				*e*XP	sP	04 03 56.2	0.0
CN2				*e*S	**S**	**04 10 55.6**	**+0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,600nm,6.0s						
CN2				LR	LR		
	comp=N,900nm,15.0s,MS5.0						
CN2				LR	LR		
	comp=E,600nm,15.0s,MS5.0						
CN2				LR	LR		
	comp=Z,1μm,17.0s,MS5.0						
KKAR	**Karatay Array**	**51.86**	**333**	*i* P	**P**	**04 03 49.9**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
ZAK	**Zakamensk**	**52.01**	**3**	*e*P	**P**	**04 03 50.5**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.8s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
MAJO	**Matsushiro**	**52.17**	**39**	PFAKE		04 04 00.0	+6.9
MAJO				LR	LR		
	comp=Z,601nm,20.0s,MS4.6						
MAT	**Matsushiro**	**52.17**	**39**	*e*P	**P**	**04 03 53.0**	**-0.1**
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.7						
MAT	**Matsushiro**	**52.17**	**39**	P	**P**	**04 03 52.7**	**-0.4**
MJAR	**Matsushiro Arr**	**52.17**	**39**	P	**P**	**04 03 53.1**	**-0.1**
	comp=Z,1.7nm,0.4s,mb4.3,baz=220,slow=7.6,SNR=8.3						
MOY	**Mondy**	**53.22**	**1**	*e*P	**P**	**04 04 00.8**	**+0.1**
MDJ	**Mudanjiang**	**53.23**	**26**	P	**P**	**04 04 01.1**	**+0.2**
MDJ				AP	pP	04 04 10.3	-0.3
MDJ				PCP	PcP	04 05 07.8	-0.6
MDJ				S	**S**	**04 11 29.2**	**+1.1**
MDJ				SS	SS	04 15 13.0	+5.9
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,83nm,7.0s						
MDJ				LR	LR		
	comp=N,419nm,26.6s,MS4.6						
MDJ				LR	LR		
	comp=E,589nm,27.3s,MS4.6						
MDJ				LR	LR		
	comp=Z,1μm,16.2s						
MDJ	**Mudanjiang**	**53.23**	**26**	PFAKE		04 04 10.0	+9.1
MDJ				LR	LR		
	comp=Z,799nm,20.0s,MS4.8						
TLY	**Talaya**	**53.32**	**3**	*e*P	**P**	**04 04 01.9**	**+0.4**
TLY				*e*S	**S**	**04 11 27.3**	**-2.0**
TLY				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
TLY				MLR	MLR		
	comp=Z,883nm,15.0s,MS4.9						
HIA	**Hailar**	**53.64**	**16**	PFAKE		04 04 20.0	+16
HIA				LR	LR		
	comp=Z,583nm,21.0s,MS4.6						
OPO	**Ambohidratompo**	**54.22**	**248**	P	**P**	**04 04 09.1**	**+0.7**
	comp=Z,6.3nm,0.9s,mb4.5,baz=57,slow=7.1,SNR=6.1						
ARMA	**Armidale**	**56.67**	**126**	*e*P	**P**	**04 04 27.5**	**+1.4**
ARMA				*e*	pP	04 04 38.3	+2.4
KLR	**Kul'dur**	**57.76**	**24**	*e*P	**P**	**04 04 29.8**	**-3.7**
KLR				MLR	MLR		
	comp=N,1μm,13.5s,MS5.2						
KLR				MLR	MLR		
	comp=E,500nm,13.5s,MS5.2						
KLR				MLR	MLR		
	comp=Z,2μm,13.5s,MS5.3						
NVS	**Novosibirsk**	**58.03**	**349**	⇑*i*P	**P**	**04 04 33.7**	**-1.7**
NVS				*i* *PP	pP	04 04 43.1	-2.1
NVS				*e*S	**S**	**04 12 30.6**	**-1.5**
NVS				pmax	pmax		
	comp=Z,46nm,1.4s,mb5.3						
NVS				pmax	pmax		
	comp=N,41nm,1.5s						
NVS				pmax	pmax		
	comp=E,23nm,1.4s						
NVS				smax			
	comp=E,59nm,2.5s						
ASAJ	**Asahikawa**	**59.49**	**35**	P	**P**	**04 04 45.1**	**-0.5**
	comp=E,7.8nm,0.5s,mb5.0,baz=234,slow=12,SNR=6.7						
BVA0	**Borovoye Array**	**59.89**	**340**	P	**P**	**04 04 46.8**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**59.89**	**340**	P	**P**	**04 04 46.7**	**-1.5**
	comp=Z,15nm,0.6s,mb5.2,baz=147,slow=9.4,SNR=76						
CHKZ	**Chkalovo**	**60.35**	**340**	P	**P**	**04 04 50.2**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,109nm,1.6s,mb5.6						
CHKZ	**Chkalovo**	**60.35**	**340**	⇑*i*P	**P**	**04 04 50.1**	**-1.3**
	comp=Z,30nm,0.7s,mb5.4						
BOD	**Bodaibo**	**60.45**	**9**	*e*P	**P**	**04 04 50.9**	**-1.1**
BOD				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
YSS	**Yuzh-Sakhalins**	**61.35**	**32**	*e*P	**P**	**04 04 58.3**	**+0.1**
YSS				*i*	pP	04 05 08.0	-0.2
YSS				*e*		04 13 17.0	
YSS				MLR	MLR		
	comp=N,500nm,15.0s,MS4.9						
YSS				MLR	MLR		
	comp=E,300nm,15.0s,MS4.9						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.7						
YSS	**Yuzh-Sakhalins**	**61.35**	**32**	*e*P	**P**	**04 04 58.0**	**-0.3**
	comp=Z,37nm,1.0s,mb5.5						
YSS				*e*	pP	04 05 07.3	-0.9
YSS				LR	LR		
	comp=Z,287nm,22.0s,MS4.4						
KMBO	**Kilima Mbogo**	**62.58**	**270**	P	**P**	**04 05 07.2**	**+0.3**
	comp=Z,6.3nm,0.7s,mb4.9,baz=58,slow=9.1,SNR=27						
KMBO	**Kilima Mbogo**	**62.58**	**270**	⇑*i*P	**P**	**04 05 07.1**	**+0.2**
	comp=Z,14nm,1.2s,mb5.0						
KMBO				LR	LR		
	comp=Z,727nm,19.0s,MS4.9						
BHD	**Baghdad**	**62.73**	**309**	*e*P	**P**	**04 05 10.0**	**+2.3**
CASY	**Casey**	**64.85**	**175**	PFAKE		04 05 30.0	+8.9
CASY				LR	LR		
	comp=Z,629nm,20.0s,MS4.8						
MSL	**Mosul**	**64.86**	**312**	*e*P	**P**	**04 05 25.0**	**+3.3**
GNI	**Garni**	**65.24**	**316**	*c* *i*P	**P**	**04 05 23.3**	**-0.7**
GNI				pmax	pmax		
	comp=Z,46nm,1.6s						
GNI	**Garni**	**65.24**	**316**	P	**P**	**04 05 23.8**	**-0.2**
	comp=Z,4.3nm,0.4s,mb4.8,baz=18,slow=14,SNR=10						
GNI	**Garni**	**65.24**	**316**	*e*P	**P**	**04 05 23.2**	**-0.9**
	comp=Z,35nm,1.1s,mb5.3						
GNI				LR	LR		
	comp=Z,238nm,20.0s,MS4.4						
DGRG	**David-gareji**	**65.38**	**318**	P	**P**	**04 05 25.0**	**+0.1**
SVE	**Sverdlovsk**	**66.39**	**338**	⇑*i*P	**P**	**04 05 27.5**	**-3.6**
SVE				pmax	pmax		
	comp=Z,116nm,1.7s,mb5.6						
SVE				MLR	MLR		
	comp=N,200nm,16.0s,MS4.5						
SVE				MLR	MLR		
	comp=E,100nm,16.0s,MS4.5						
SVE				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.7						
BEST	**Besiri**	**66.81**	**313**	*i* P	**P**	**04 05 32.0**	**-2.2**
ARU	**Arti**	**66.91**	**337**	⇑*i*P	**P**	**04 05 33.2**	**-1.3**
ARU				*e*		04 05 59.8	
ARU				*e*		04 07 58.9	
ARU				*e*S	S	04 14 24.6	+0.9
ARU				*e*SS	SS	04 18 38.8	-5.1
ARU				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
ZEI	**Tsey**	**66.94**	**318**	*e*P	**P**	**04 05 34.5**	**-0.4**
ZEI				*i*		04 08 01.3	
ZEI				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.2						
YAK	**Yakutsk**	**67.53**	**15**	*e*P	**P**	**04 05 36.8**	**-1.5**
YAK				*e**PP	pP	04 05 46.5	-1.7
YAK				*e*		04 05 50.5	
YAK				*e*S	S	04 14 29.8	-1.2
YAK				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.5						
YAK				pmax	pmax		
	comp=N,12nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
YAK				smax			
	comp=N,4.0nm,1.2s						
YAK				smax			
	comp=Z,3.0nm,0.7s						
YAK				smax			
	comp=E,3.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,557nm,17.0s,MS4.8						
YAK				MLR	MLR		
	comp=N,347nm,16.0s,MS4.7						
YAK				MLR	MLR		
	comp=E,181nm,17.0s,MS4.7						
YAK	**Yakutsk**	**67.53**	**15**	*e*P	**P**	**04 05 36.7**	**-1.6**
	comp=E,86nm,0.9s,mb5.8						
YAK				LR	LR		
	comp=Z,501nm,19.0s,MS4.8						
KIV	**Kislovodsk**	**68.25**	**319**	*c* *i*P	**P**	**04 05 42.2**	**-0.9**
KIV				*e*	pP	04 05 52.1	-0.9
KIV				*e*		04 06 07.1	
KIV				*e*S	S	04 14 41.3	+1.4
KIV				*e*SS	SS	04 19 05.4	+0.8
KIV				pmax	pmax		
	comp=Z,94nm,1.7s,mb5.5						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
KIV	**Kislovodsk**	**68.25**	**319**	⇑*i*P	**P**	**04 05 42.1**	**-1.0**
	comp=Z,15nm,0.6s,mb5.2						
KIV				*e*	pP	04 05 51.9	-1.2
KIV				LR	LR		
	comp=Z,28nm,19.0s						
ASF	**Jabal al Asfar**	**68.32**	**306**	P	**P**	**04 05 44.5**	**+0.8**
	comp=Z,7.9nm,0.6s,mb4.9,baz=354,slow=3.5,SNR=24						
GOF	**Gofitskoye**	**68.50**	**320**	⇑*i*P	**P**	**04 05 42.5**	**-2.1**
GOF				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.4						
ELZG	**Elazig**	**68.71**	**313**	*i* P	**P**	**04 05 45.8**	**-0.2**
WAKE	**Wake Island**	**68.78**	**69**	PFAKE		04 06 00.0	+13
WAKE				LR	LR		
	comp=Z,196μm,19.0s						
MALT	**Malatya**	**69.05**	**312**	*e*P	**P**	**04 05 47.6**	**-0.5**
	comp=Z,43nm,1.5s,mb5.2						
EIL	**Elat**	**69.26**	**303**	⇑*e*P	**P**	**04 05 48.6**	**-1.0**
	comp=Z,55nm,1.3s,mb5.3						
GZT	**Gaziantep**	**69.38**	**311**	*i* P	**P**	**04 05 49.9**	**-0.3**
SOKR	**Solikamsk**	**69.77**	**338**	⇓*i*P	**P**	**04 05 52.0**	**-0.1**
SOKR				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
KAHT	**Ahir Dag**	**69.99**	**311**	*i* P	**P**	**04 05 53.5**	**-0.4**
SOC	**Sochi**	**70.06**	**318**	*i* P	**P**	**04 05 50.9**	**-3.3**
SOC				*e*		04 06 13.8	
SOC				*e*S	S	04 14 55.1	-6.3
SOC				pmax	pmax		
	comp=N,16nm,1.3s						
SOC				pmax	pmax		
	comp=E,12nm,1.3s						
SOC				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.3						
SOC				MLR	MLR		
	comp=Z,287nm,24.0s,MS4.4						
SOC				MLR	MLR		
	comp=N,231nm,14.0s						
SOC				MLR	MLR		
	comp=E,190nm,12.0s						
COBT	**Iskenderun**	**70.11**	**310**	*i* P	**P**	**04 05 54.5**	**-0.1**
MAW	**Mawson**	**70.49**	**194**	P	**P**	**04 05 57.1**	**+0.7**
	comp=E,8.7nm,1.0s,mb4.6,baz=25,slow=9.2,SNR=7.5						
MAW	**Mawson**	**70.49**	**194**	P	**P**	**04 05 57.1**	**+0.7**
MAW				LR	LR		
	comp=Z,510nm,20.0s,MS4.8						
MEST	**Erdemli**	**71.75**	**309**	*i* P	**P**	**04 06 03.0**	**-1.5**
LSZ	**Lusaka**	**71.85**	**255**	*e*P	**P**	**04 06 04.7**	**-0.8**
	comp=Z,23nm,1.4s,mb4.9						
LSZ				*e*	pP	04 06 16.4	+1.0
LSZ				LR	LR		
	comp=Z,478nm,21.0s,MS4.7						
CSS	**Prodhromos**	**71.95**	**308**	⇑*e*P	**P**	**04 06 04.8**	**-1.0**
	comp=Z,14nm,0.6s,mb5.1						
ANN	**Anapa**	**72.04**	**318**	*e*P	**P**	**04 06 03.9**	**-2.2**
ANN				*e*S	S	04 15 20.8	-3.5
ANN				*e*SS	SS	04 19 57.6	-5.6
ANN				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
CDAG	**Cicekdag**	**72.47**	**313**	*i* P	**P**	**04 06 05.5**	**-3.3**
BOYT	**Boyabat**	**72.64**	**314**	*i* P	**P**	**04 06 08.7**	**-1.1**
MA2	**Magadan**	**72.86**	**24**	PFAKE		04 06 20.0	+9.3
MA2				LR	LR		
	comp=Z,397nm,20.0s,MS4.7						
BR131	**Keskin Array S**	**73.04**	**312**	PFAKE		04 06 20.0	+7.9
BR131				LR	LR		
	comp=Z,176nm,20.0s,MS4.3						
BRTR	**Keskin Array B**	**73.04**	**312**	P	**P**	**04 06 10.6**	**-1.6**
	comp=Z,6.9nm,0.6s,mb4.8,baz=135,slow=7.0,SNR=47						
PET	**Petropavlovsk**	**73.22**	**33**	*e*P	**P**	**04 06 12.5**	**-0.4**
PET				*e*		04 06 26.9	
PET				*e*S	S	04 15 37.3	-0.2
PET				pmax	pmax		
	comp=Z,28nm,0.6s,mb5.4						
PET				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.5						
PET				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.8						
ELDT	**Eldivan**	**73.42**	**313**	*i* P	**P**	**04 06 13.6**	**-0.7**
VOR	**Voronezh**	**73.68**	**326**	*e*P	**P**	**04 06 15.0**	**-0.6**
VOR				*e*	pP	04 06 24.0	-1.6
VOR				pmax	pmax		
	comp=Z,180nm,1.7s,mb5.7						
VOR				pmax	pmax		
	comp=E,120nm,1.6s						
BALT	**Daday**	**73.76**	**314**	*i* P	**P**	**04 06 15.0**	**-1.3**
SIM	**Simferopol'**	**74.31**	**318**	*e*P	**P**	**04 06 19.4**	**0.0**
SIM				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
SGKT	**Sivrigoynuk**	**74.44**	**313**	*i* P	**P**	**04 06 13.6**	**-6.7**
LBTB	**Lobatse**	**75.00**	**245**	PFAKE		04 06 40.0	+16
LBTB				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
ESKT	**Eskisehir**	**75.05**	**312**	*i* P	**P**	**04 06 22.4**	**-1.4**
SEY	**Seymchan**	**75.45**	**22**	*e*P	**P**	**04 06 25.9**	**+0.3**
SEY				*e*		04 16 56.2	
SEY				pmax	pmax		
	comp=N,30nm,0.9s						
SEY				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.6						
SEY				pmax	pmax		
	comp=E,50nm,1.1s						
GOLH	**Golhisar**	**75.47**	**309**	*i* P	**P**	**04 06 24.7**	**-1.6**
TIXI	**Tiksi**	**75.63**	**9**	*c* *i*P	**P**	**04 06 25.1**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,54nm,1.7s,

comp=Z,534nm,20.0s,MS4.8
MOS Moscow 76.20 329 *e*P **P 04 06 29.7 -0.3**
MOS *e* 04 06 43.1
MOS *e* 04 09 18.7
MOS pmax pmax
comp=Z,200nm,0.9s,mb6.0
MOS pmax pmax
comp=Z,106nm,0.7s,mb5.9
ULDT Uludag 76.49 312 *i* P **P 04 06 31.0 -0.9**
OBN Obninsk 76.50 328 *c i*P **P 04 06 31.4 -0.2**
OBN *e**PP pP 04 06 40.5 -1.2
OBN 04 09 25.0
OBN SS SS 04 21 14.0 +2.2
OBN pmax pmax
comp=Z,49nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.5
OBN Obninsk 76.50 328 *e*P **P 04 06 30.8 -0.8**
comp=Z,15nm,0.4s,mb5.3
BTOK Tokmak 77.22 311 *i* P **P 04 06 35.0 -1.0**
SYO Syowa Base 78.06 199 ⇑P **P 04 06 40.5 +0.5**
SYO Syowa Base 78.06 199 ⇑PcP PcP 04 06 49.5 -0.5
TIRR Tirgusor 78.07 316 ⇑P **P 04 06 40.0 -0.5**
CFR Carcaliu 78.44 317 ⇑P **P 04 06 42.1 -0.5**
KIS Kishinev 78.44 319 *e*P **P 04 06 41.0 -1.5**
KIS *e* pP 04 06 51.0 -1.6
KIS *e* 04 09 40.0
KIS *e* 04 16 28.0
HARR Harsova 78.46 316 ⇑P **P 04 06 42.7 0.0**
APE Apeiranthos 78.58 308 ⇑*i*P **P 04 06 42.3 -1.2**
AKASG Malin Array Be 79.19 322 P **P 04 06 45.4 -1.2**
comp=Z,3.3nm,0.6s,mb4.5,baz=88,slow=4.5,SNR=26
VRI Vrincioaia 79.56 317 ⇑P **P 04 06 48.9 +0.2**
MLR Muntele Rosu 80.01 317 P **P 04 06 51.4 +0.3**
comp=Z,36nm,1.1s,mb5.2,baz=39,slow=1.9,SNR=35
MLR Muntele Rosu 80.01 317 ⇑P **P 04 06 51.4 +0.3**
MLR Muntele Rosu 80.01 317 ⇑P **P 04 06 51.4 +0.3**
BURAR Bucovina Array 80.97 319 ⇑P **P 04 06 57.3 +1.2**
SMY Shemya 81.89 36 PFAKE 04 07 10.0 +9.2
SMY LR LR
comp=Z,5μm,21.0s,MS5.8
JOF Joensuu 81.92 335 *ep* **P 04 07 00.8 +0.1**
comp=Z,8.5nm,0.7s,mb4.8
JOF Joensuu 81.92 335 *e*P **P 04 07 00.8 +0.1**
JOF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
TSUM Tsumeb 82.12 251 PFAKE 04 07 10.0 +7.3
TSUM LR LR
comp=Z,689nm,20.0s,MS5.0
LVV L'vov 82.21 321 *e*P **P 04 07 02.3 -0.2**
VNDA Vanda 82.44 169 P **P 04 07 04.1 +0.9**
comp=Z,4.0nm,1.0s,mb4.3,baz=303,slow=4.3,SNR=11
LVZ Lovozero 82.49 340 *e*P **P 04 07 03.5 -0.1**
LVZ pmax pmax
comp=Z,72nm,1.7s,mb5.3
SKO Skopje 82.55 313 *i* P **P 04 07 03.5 -1.0**
APA Apatity 82.80 339 ⇑*i*P **P 04 07 06.0 +0.8**
APA *i* pP 04 07 17.5 +2.1
APA pmax pmax
comp=Z,40nm,1.2s,mb5.3
BILL Bilibino 82.97 20 P **P 04 07 06.0 -0.1**
BILL *e* pP 04 07 15.0 -1.3
BILL Bilibino 82.97 20 *e*P **P 04 07 06.4 +0.3**
BILL LR LR
comp=Z,396nm,19.0s,MS4.8
KWP Kalwaria 83.01 320 *e*P **P 04 07 07.6 +0.9**
KOLS Kolonicke sedl 83.16 320 *i* P **P 04 07 08.4 +0.9**
KOLS *e* pP 04 07 17.5 -0.1
SUW Suwalki 83.59 325 *e*P **P 04 07 09.8 +0.2**
SUW *e* pP 04 07 21.4 +1.7
SUW Suwalki 83.59 325 *e*P **P 04 07 09.8 +0.3**
SUW *e* pP 04 07 21.4 +1.6
FINES FINESS Array B 83.82 332 P **P 04 07 10.9 +0.4**
comp=Z,13nm,0.5s,mb5.3,baz=104,slow=5.8,SNR=165
KAF Kangasniemi 83.89 333 *ep* **P 04 07 10.2 -0.7**
comp=Z,16nm,0.5s,mb5.4,baz=101,slow=4.6
KAF Kangasniemi 83.89 333 *e*P **P 04 07 10.2 -0.7**
KAF pmax pmax
comp=Z,16nm,0.5s,mb5.4
DIVS Divcibare 83.92 315 *e*P **P 04 07 10.2 -1.3**
KECS Kecovo 84.25 319 *e*P **P 04 07 13.9 +0.9**
KECS *e* pP 04 07 24.8 +1.6
MIDW Midway 84.45 62 PFAKE 04 07 30.0 +15
MIDW LR LR
comp=Z,1μm,21.0s,MS5.3
NIE Niedzica 84.51 320 *e*P **P 04 07 13.6 -0.7**
PSZ Piszkesteto 84.55 318 *e*P **P 04 07 14.2 -0.4**
comp=Z,23nm,1.3s,mb5.2
OJC Ojcow 84.96 321 *e*P **P 04 07 17.0 +0.5**
VYHS Vyhne 85.34 319 *e*P **P 04 07 19.1 +0.7**
VYHS *ep*P pP 04 07 30.2 +1.5
SRO2 Moca 85.53 318 *es*P sP 04 07 32.2 -0.7
KOLL Kolacno 85.63 319 *e*P **P 04 07 21.1 +1.2**
KOLL *ep*P pP 04 07 30.3 +0.2
OKC Ostrava-Krasne 85.96 320 *e*P **P 04 07 22.7 +1.2**
OKC *ep*P pP 04 07 32.1 +0.3
ARCES ARCESS Array B 86.18 340 P **P 04 07 22.9 +0.8**
comp=Z,18nm,0.8s,mb5.3,baz=88,slow=6.9,SNR=39
MORC Moravsky Berou 86.34 320 ⇑P **P 04 07 25.0 +1.6**
MORC Moravsky Berou 86.34 320 *e*P **P 04 07 23.8 +0.3**
comp=Z,11nm,1.0s,mb5.0
ZST Bratislava 86.45 318 *e*P **P 04 07 24.0 0.0**
ZST *ep*P pP 04 07 34.1 -0.1
ZST *e*L 04 16 52.3
VRAC Vranov 86.91 319 P **P 04 07 27.3 +1.1**
comp=Z,1.1nm,0.5s,mb4.4,baz=218,slow=18,SNR=3.6
GKP Gorka Klasztor 86.96 323 *e*P **P 04 07 21.3 -5.0**
GKP *e* 04 07 26.8
GKP Gorka Klasztor 86.96 323 *e*P **P 04 07 21.4 -5.0**
GKP *e* 04 07 26.9
DPC Dobruska-Polom 87.19 320 *e*P **P 04 07 28.6 +1.1**
DPC *ep*P pP 04 07 37.2 -0.6
KSP Ksiaz 87.26 321 *e*P **P 04 07 28.7 +0.8**
KSP Ksiaz 87.26 321 *e*P **P 04 07 28.9 +1.0**
UPC Upice 87.41 321 *e*P **P 04 07 29.7 +1.1**
UPC *ep*P pP 04 07 38.3 -0.5
BOJS Bojanci 87.44 316 *i* P **P 04 07 29.4 +0.6**
PERS Pernice 87.63 317 *e*P **P 04 07 30.2 +0.5**
LJU Ljubljana 87.99 316 *e*P **P 04 07 33.0 +1.5**
QSPA South Pole Qui 88.22 180 *e*P **P 04 07 33.5 +1.7**
comp=Z,23nm,1.2s,mb5.3
QSPA *e*P 04 07 41.5
PRU Pruhonice 88.30 320 *e*P **P 04 07 33.9 +1.1**
PRU *ep*P pP 04 07 40.8 -2.3
MOA Molln 88.31 318 ⇑*i*P **P 04 07 33.1 +0.2**
comp=Z,8.3nm,1.2s,mb4.8
MOA *i* 04 09 08.0
PVCC Panska Ves 88.33 320 *e*P **P 04 07 34.0 +1.0**
PVCC *ep*P pP 04 07 45.7 +2.5
ROBS Robic 88.71 316 *e*P **P 04 07 35.3 +0.4**
BRG Berggiesshubel 88.75 321 *e*P **P 04 07 35.9 +0.9**
BRG *i* pP 04 07 47.7 +2.5
BRG pmax pmax
comp=Z,66nm,1.8s,mb5.7
BRG Berggiesshubel 88.75 321 *e*P **P 04 07 35.9 +0.9**
comp=Z,66nm,1.8s,mb5.7
BRG *i* pP 04 07 47.7 +2.5
GEC2 GERESS Array S 88.76 319 *e*P **P 04 07 36.2 +1.1**
GEC2 pmax pmax
comp=Z,70nm,1.7s,mb5.7
GEC2 GERESS Array S 88.76 319 *e*P **P 04 07 36.2 +1.1**
comp=Z,70nm,1.7s,mb5.7
GERES GERESS Array B 88.76 319 P **P 04 07 36.4 +1.3**
comp=Z,3.9nm,0.6s,mb4.9,baz=90,slow=4.0,SNR=28
KHC Kasperske Hory 88.86 319 *e*P **P 04 07 36.1 +0.5**
KHC *ep*P pP 04 07 46.4 +0.6
WET Wettzell 89.32 319 *e*P **P 04 07 38.7 +1.0**
WET pmax pmax
comp=Z,48nm,1.7s,mb5.5
WET Wettzell 89.32 319 *e*P **P 04 07 38.7 +1.0**
comp=Z,48nm,1.7s,mb5.5
CLL Collm 89.37 321 ⇑*i*P **P 04 07 38.2 +0.3**
CLL *i* pP 04 07 50.2 +2.1
CLL pmax pmax
comp=Z,22nm,1.3s,mb5.3
CLL Collm 89.37 321 ⇑*i*P **P 04 07 38.2 +0.3**
comp=Z,22nm,1.3s,mb5.3
CLL *i* pP 04 07 50.2 +2.1
CLL Collm 89.37 321 ⇑P **P 04 07 38.2 +0.3**
comp=Z,logA/T=1.2,mb5.3
CLL *i* *PP pP 04 07 50.2 +2.1
CLL *e* 04 07 56.0
HFS Hagfors 89.58 330 P **P 04 07 40.1 +1.4**
comp=Z,4.8nm,0.5s,mb5.1,baz=146,slow=5.3,SNR=42
NKC Novy Kostel 89.66 320 *e*P **P 04 07 39.8 +0.5**
NKC *ep*P pP 04 07 49.4 -0.1
WTTA Wattenberg 90.05 317 ⇑*i*P **P 04 07 41.3 +0.1**
comp=Z,16nm,1.0s,mb5.3
WATA Walderalm 90.09 317 ⇑*i*P **P 04 07 40.6 -0.8**
comp=Z,17nm,1.3s,mb5.2
MOX Moxa 90.21 320 *e*P **P 04 07 43.0 +1.1**
MOX pP pP 04 07 53.0 +0.9
SQTA Sankt Quirin 90.34 317 ⇑*i*P **P 04 07 42.7 +0.2**
comp=Z,7.2nm,0.8s,mb5.0
GRA1 Grafenberg Arr 90.42 320 *e*P **P 04 07 44.5 +1.6**
comp=Z,27nm,1.0s,mb5.5
GRA1 *ep*P pP 04 07 55.7 +2.6
GRF Grafenberg Arr 90.42 320 *e*P **P 04 07 44.5 +1.6**
GRF *e**PP pP 04 07 55.7 +2.6
GRF pmax pmax
comp=Z,27nm,1.0s,mb5.5
GRF Grafenberg Arr 90.42 320 *e*P **P 04 07 44.5 +1.6**
comp=Z,27nm,1.0s,mb5.5
GRF *ep*P pP 04 07 55.7 +2.6
NB2 NORSAR Subarra 90.85 331 P **P 04 07 45.0 +0.5**
comp=Z,1.7nm,0.6s,mb4.5,baz=95,slow=4.6
NOA NORSAR Array B 90.85 331 P **P 04 07 45.5 +0.9**
comp=Z,1.6nm,0.5s,mb4.6,baz=117,slow=3.9,SNR=8.3
CLZ Clausthal 91.03 322 *e*P **P 04 07 46.7 +1.1**
comp=Z,30nm,1.5s,mb5.4
DAVA Damuels 91.25 317 ⇓*i*P **P 04 07 47.9 +1.2**
comp=Z,36nm,1.1s,mb5.6
PGF Pioggiola 91.79 312 *e*P **P 04 07 50.4 +1.1**
TNS Taunus Mts 92.23 320 *e*P **P 04 07 52.6 +1.5**
TNS pmax pmax
comp=Z,21nm,1.0s,mb5.4
TNS Taunus Mts 92.23 320 *e*P **P 04 07 52.6 +1.5**
comp=Z,21nm,1.0s,mb5.4
BFO Black Forest 92.30 318 *e*P **P 04 07 51.8 +0.3**
BFO pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
BFO Black Forest 92.30 318 *e*P **P 04 07 51.8 +0.3**
comp=Z,9.0nm,1.1s,mb5.0
SNAA Sanae 92.34 198 ⇑*i*P **P 04 07 46.5 -4.7**
SNAA *e* 04 08 00.3
SNAA *e* 04 08 04.8
TNA Tin City 92.50 25 PFAKE 04 08 00.0 +8.0
TNA LR LR
comp=Z,157nm,22.0s,MS4.4
SBF Sospel 92.94 314 *e*P **P 04 07 55.3 +0.7**
comp=Z,19nm,0.6s,mb5.4
CDF Champ du Feu 93.00 318 *e*P **P 04 07 54.7 -0.1**
LPG La Plagne 93.41 315 *e*P **P 04 07 57.6 +0.9**
comp=Z,6.4nm,0.6s,mb4.9
LPL La Plagne 93.42 315 *e*P **P 04 07 57.6 +0.8**
comp=Z,7.9nm,0.6s,mb5.0
FRF La Foret Royal 93.52 313 *e*P **P 04 07 57.8 +0.6**
UNV Unalaska Valle 93.56 36 PFAKE 04 08 10.0 +13
UNV LR LR
comp=Z,780nm,22.0s,MS5.1
LMR La Mourre 93.62 313 *e*P **P 04 07 58.1 +0.4**
HAU Haudompre 93.63 318 *e*P **P 04 07 58.1 +0.4**
comp=Z,16nm,0.8s,mb5.2
CABF La Chapelle 93.85 316 *e*P **P 04 07 59.5 +0.8**
comp=Z,14nm,0.9s,mb5.1
VNA2 Neumayer--Watz 93.95 198 ⇑*i*P **P 04 07 57.9 -0.7**
VNA2 *e* pP 04 08 08.0 -0.8
VNA2 *e* 04 08 12.1
MEZF Maizieres J'vi 94.48 318 *e*P **P 04 08 02.1 +0.5**
VNA3 Neumayer Olymp 94.56 198 ⇑*i*P **P 04 07 59.9 -1.5**
VNA3 *e* 04 08 13.9
VIVF Saint-Julien-l 94.90 315 *e*P **P 04 08 04.2 +0.6**
SMF Signal de Mont 95.39 317 *e*P **P 04 08 06.2 +0.4**
SSF Saint Saulge 95.60 317 *e*P **P 04 08 06.6 -0.1**
AVF Avril sur Loir 95.72 317 *e*P **P 04 08 07.5 +0.2**
comp=Z,18nm,1.2s,mb5.1
TCF Toulx Ste Croi 96.54 316 *e*P **P 04 08 11.7 +0.7**
RJF Les Rejaudoux 97.10 315 *e*P **P 04 08 13.8 +0.2**
JMIC Jan Mayen 97.57 342 LR LR 04 58 42.6
comp=Z,152nm,18.8s,MS4.5,baz=82,slow=39
FLN La Foliniere 98.12 319 *e*P **P 04 08 18.4 +0.3**
IMA Indian Mountai 98.23 23 P **P 04 08 22.6 +4.5**
comp=Z,39nm,1.4s,mb5.7
ROSF Rostrenen 100.02 319 *e*P P 04 08 27.0 +0.3
comp=Z,13nm,0.9s
MCK McKinley 100.84 25 PFAKE 04 08 40.0 +10
MCK LR LR
comp=Z,148nm,21.0s,MS4.5
COLA College 100.91 24 PFAKE 04 08 40.0 +10
COLA LR LR
comp=Z,225nm,19.0s,MS4.7
FIB Fire Island 101.07 28 PFAKE 04 08 40.0 +8.9
FIB LR LR
comp=Z,2μm,19.0s,MS5.7
ILAR Eielson Array 101.33 24 P P 04 08 32.3 +0.1
comp=Z,0.2nm,0.6s,baz=281,slow=4.6,SNR=3.2
ILAR PKKPbc 04 24 42.2
comp=Z,0.8nm,0.9s,baz=148,slow=2.3,SNR=6.1
DIV Divide 103.10 27 PFAKE 04 08 50.0 +10
DIV LR LR
comp=Z,928nm,21.0s,MS5.3
DBIC Dimbokro 104.80 276 PFAKE 04 09 00.0 +11
DBIC LR LR
comp=Z,368nm,21.0s,MS4.9
YKA Yellowknife Ar 114.17 17 PKP PKPdf 04 13 20.6 -3.8
comp=Z,0.5nm,0.6s,baz=340,slow=1.6,SNR=17
YKA PP PP 04 14 08.8 -10
comp=Z,0.2nm,0.7s,baz=336,slow=7.5,SNR=3.8
YKA PKKPbc 04 24 02.9
comp=Z,0.0nm,0.4s,baz=198,slow=5.9,SNR=4.4
YKA PKKPab 04 24 08.0
comp=Z,0.2nm,0.8s,baz=138,slow=3.8,SNR=5.6
YKA Yellowknife Ar 114.17 17 PKP PKPdf 04 13 20.6 -3.8
YKA PP PP 04 14 08.8 -10
YKA PKKPbc 04 24 02.9
YKA PKKPab 04 24 08.0
NEW Newport 123.79 29 PFAKE 04 13 50.0 +6.6
NEW LR LR
comp=Z,263nm,21.0s,MS4.9
YBH Yreka Blue Hor 124.83 38 PFAKE 04 13 50.0 +4.4
YBH LR LR
comp=Z,530nm,19.0s,MS5.2
SCHQ Schefferville 125.97 351 PKP PKPdf 04 13 44.2 -3.2
comp=Z,2.0nm,0.5s,baz=14,slow=4.2,SNR=9.9
SCHQ Schefferville 125.97 351 PKP PKPdf 04 13 44.2 -3.2
SCHQ LR LR
comp=Z,495nm,20.0s,MS5.2
BMO Blue Mountains 126.01 32 PFAKE 04 14 00.0 +12
BMO LR LR
comp=Z,265nm,19.0s,MS4.9
MOD Modoc 126.19 37 PFAKE 04 14 00.0 +12
MOD LR LR
comp=Z,214nm,21.0s,MS4.8
MSO Missoula 126.32 28 PFAKE 04 14 00.0 +12
MSO LR LR
comp=Z,228nm,20.0s,MS4.8
CHMT Chamberlain Mo 126.59 28 *e*PKP PKPdf 04 13 43.5 -5.3
WVOR Wild Horse Val 126.84 35 PFAKE 04 14 00.0 +11
WVOR LR LR
comp=Z,383nm,19.0s,MS5.1
BOZ Bozeman (W) 128.28 28 PFAKE 04 14 00.0 +7.8
BOZ LR LR
comp=Z,268nm,20.0s,MS4.9
CMB Columbia Colle 128.40 41 PFAKE 04 14 00.0 +7.4
CMB LR LR
comp=Z,393nm,22.0s,MS5.0
HLID Hailey 128.41 31 PFAKE 04 14 00.0 +7.5
HLID LR LR
comp=Z,361nm,19.0s,MS5.1
BMN Battle Mountai 128.93 36 PFAKE 04 14 00.0 +6.5
BMN LR LR
comp=Z,307nm,19.0s,MS5.0
NVAR Mina Array Bea 129.50 39 PKP PKPdf 04 13 52.9 -1.8
comp=Z,1.4nm,0.7s,baz=322,slow=1.3,SNR=9.4
MNV Mina 129.59 39 PFAKE 04 14 00.0 +5.1
MNV LR LR
comp=Z,409nm,21.0s,MS5.1
LKWY Lake 129.67 28 PFAKE 04 14 00.0 +5.2
LKWY LR LR
comp=Z,406nm,20.0s,MS5.1
ULM Lac du Bonnet 129.86 13 PKP PKPdf 04 13 51.5 -3.5
comp=Z,2.6nm,0.4s,baz=9.1,slow=1.3,SNR=4.0
ULM Lac du Bonnet 129.86 13 PKP PKPdf 04 13 51.5 -3.5
ULM LR LR
comp=Z,392nm,20.0s,MS5.1
ELK Elko 129.87 35 PFAKE 04 14 00.0 +4.7
ELK LR LR
comp=Z,422nm,20.0s,MS5.1
TPH Tonopah 130.39 39 PFAKE 04 14 00.0 +3.6
TPH LR LR
comp=Z,336nm,19.0s,MS5.1
AHID Auburn Hatcher 130.67 30 PFAKE 04 14 00.0 +3.2
AHID LR LR
comp=Z,281nm,19.0s,MS5.0
DAC Darwin (Calif) 131.23 41 PFAKE 04 14 10.0 +12
DAC LR LR
comp=Z,291nm,20.0s,MS5.0
HWUT Hardware Ranch 131.28 31 PFAKE 04 14 10.0 +12
HWUT LR LR
comp=Z,392nm,22.0s,MS5.1
BW06 Boulder Array 131.43 29 PFAKE 04 14 10.0 +12
BW06 LR LR
comp=Z,294nm,20.0s,MS5.0
PDAR Pinedale Array 131.43 29 PKP PKPdf 04 13 55.3 -2.9
comp=Z,0.7nm,0.6s,baz=227,slow=0.6,SNR=7.2
PDAR SKPbc 04 17 17.1
comp=Z,1.4nm,1.0s,slow=4.4,SNR=5.8
DUG Dugway 131.61 34 PFAKE 04 14 10.0 +11
DUG LR LR
comp=Z,273nm,22.0s,MS4.9
RSSD Black Hills 132.78 23 PKP PKPdf 04 13 55.7 -5.0
EYMN Ely 132.94 10 PFAKE 04 14 10.0 +9.1
EYMN LR LR
comp=Z,302nm,19.0s,MS5.0
MVU Marysvale 133.11 35 PFAKE 04 14 10.0 +8.5
MVU LR LR
comp=Z,258nm,21.0s,MS4.9
PFO Pinyon Flat Ob 133.54 43 PFAKE 04 14 10.0 +7.6
PFO LR LR
comp=Z,61nm,21.0s,MS4.3
PV10 Paradox Valley 134.96 32 *e*PKP PKPdf 04 14 02.4 -2.5
RCBR Riachuelo 135.18 260 PFAKE 04 14 10.0 +4.0
RCBR LR LR
comp=Z,439nm,20.0s,MS5.2
ISCO Idaho Springs 135.60 28 PFAKE 04 14 10.0 +3.9
ISCO LR LR
comp=Z,374nm,22.0s,MS5.1
WUAZ Wupatki 135.63 37 PFAKE 04 14 10.0 +3.8
WUAZ LR LR
comp=Z,492nm,22.0s,MS5.2
EMMW East Machias 135.76 347 PFAKE 04 14 10.0 +3.8
EMMW LR LR
comp=Z,4μm,19.0s
WVL Waterville 136.36 349 PFAKE 04 14 20.0 +13
WVL LR LR
comp=Z,3μm,21.0s
PLCA Paso Flores 136.83 191 PKhKP 04 14 01.1
comp=Z,1.2nm,0.7s,baz=293,slow=2.3,SNR=3.3
TRQA Tornquist 136.98 201 PFAKE 04 14 20.0 +11
TRQA LR LR
comp=Z,560nm,22.0s,MS5.2
SDCO Great Sand Dun 137.26 30 PFAKE 04 14 20.0 +11
SDCO LR LR
comp=Z,495nm,21.0s,MS5.2
NCB Newcomb 137.62 354 PFAKE 04 14 20.0 +10
NCB LR LR
comp=Z,441nm,20.0s,MS5.2
TUC Tucson 138.10 40 PFAKE 04 14 20.0 +9.1
TUC LR LR
comp=Z,237nm,21.0s,MS4.9
HRV Harvard--Oak R 138.69 350 PFAKE 04 14 20.0 +8.3
HRV LR LR
comp=Z,252nm,20.0s,MS5.0
WES Weston 138.77 350 PFAKE 04 14 20.0 +8.2
WES LR LR
comp=Z,561nm,22.0s,MS5.3
ANMO Albuquerque 138.87 34 PKhKP 04 14 02.4
comp=Z,1.4nm,0.6s,baz=223,slow=1.3,SNR=6.6
ANMO Albuquerque 138.87 34 PKP PKPdf 04 14 02.4 -10
ANMO LR LR
comp=Z,398nm,19.0s,MS5.2
CBKS Cedar Bluff 138.99 24 PFAKE 04 14 20.0 +7.7
CBKS LR LR
comp=Z,281nm,19.0s,MS5.0
AAM Ann Arbor 139.50 4 PFAKE 04 14 20.0 +6.9
AAM LR LR
comp=Z,394nm,21.0s,MS5.1
SSPA Standing Stone 141.23 357 PFAKE 04 14 20.0 +3.7
SSPA LR LR
comp=Z,214nm,19.0s,MS4.9
AMTX Amarillo 141.41 29 PFAKE 04 14 30.0 +13
AMTX LR LR
comp=Z,342nm,20.0s,MS5.1
MNTX Cornudas Mount 141.86 36 PFAKE 04 14 30.0 +12
MNTX LR LR
comp=Z,293nm,19.0s,MS5.1
GDL2 Guadalupe Moun 142.08 34 *e*PKP PKPdf 04 14 11.1 -6.9
CCM Cathedral Cave 142.46 14 PFAKE 04 14 30.0 +12
CCM LR LR
comp=Z,315nm,19.0s,MS5.1
WMOK Wichita Mounta 142.86 26 *e*PKPpre 04 14 10.9
WMOK LR LR
comp=Z,314nm,20.0s,MS5.1
WCI Wyandotte Cave 143.26 8 PFAKE 04 14 30.0 +17
WCI LR LR
comp=Z,371nm,20.0s,MS5.2
CBN Corbin 143.62 356 PFAKE 04 14 30.0 +16
CBN LR LR
comp=Z,447nm,21.0s,MS5.2
BAO Brasilia Array 143.82 240 PKPdf PKPdf 04 14 16.0 -5.4
BDFB Brasilia 143.84 240 PKP PKPdf 04 14 16.2 -5.3
comp=Z,2.6nm,0.5s,baz=40,slow=4.2,SNR=7.5
LTX Lajitas 144.59 37 *e*PKPdf PKPdf 04 14 18.5 -4.0
LTX *ep*PKPdf 04 14 28.8
LTX LR LR
comp=Z,456nm,21.0s,MS5.2
TXAR Lajitas Array 144.59 37 PKP PKPdf 04 14 18.6 -3.9
comp=Z,9.5nm,0.5s,baz=200,slow=0.8,SNR=218
ELN Prospectdale 144.69 1 *e*PKP PKPdf 04 14 17.4 -4.9
BLA Blacksburg 144.71 0 PFAKE 04 14 30.0 +13
BLA LR LR
comp=Z,389nm,20.0s,MS5.2
MIAR Mount Ida 145.04 20 *e*PKPdf PKPdf 04 14 19.0 -4.1
MIAR *ep*PKPdf 04 14 28.5
MIAR LR LR
comp=Z,306nm,22.0s,MS5.0
WVT Waverly 145.05 11 *e*PKP PKPdf 04 14 18.1 -4.9
WVT LR LR
comp=Z,279nm,20.0s,MS5.0
UALR University of 145.23 18 *e*PKPdf PKPdf 04 14 18.6 -4.8
TZTN Tazewell 145.23 5 *e*PKPdf PKPdf 04 14 18.8 -4.6
JCT Junction City 145.88 31 *e*PKPdf PKPdf 04 14 21.9 -2.7
JCT *e* 04 14 31.7
JCT LR LR
comp=Z,384nm,19.0s,MS5.2
PLAL Pickwick Lake 146.12 12 *e*PKPdf PKPdf 04 14 21.0 -3.9
PLAL LR LR
comp=Z,368nm,22.0s,MS5.1
CPCT Cooper Cave 146.22 6 *e*PKPdf PKPdf 04 14 21.9 -3.1
SWET Sewanee 146.27 9 *e*PKPdf PKPdf 04 14 21.5 -3.6
OXF Oxford 146.27 14 *e*PKPdf PKPdf 04 14 22.1 -3.1
OXF LR LR
comp=Z,300nm,22.0s,MS5.0
NATX Nacogdoches 147.15 23 *e*PKPbc PKPdf 04 14 25.9 -0.9
NATX LR LR
comp=Z,365nm,22.0s,MS5.1
JSC Jenkinsville 147.61 2 *e*PKPbc PKPdf 04 14 26.5 -0.9
LRAL Lakeview Retre 148.22 11 *e*PKPbc PKPdf 04 14 27.2 -1.2
LRAL LR LR
comp=Z,477nm,19.0s,MS5.3
GOGA Godfrey 148.34 5 *e*PKPbc PKPdf 04 14 28.4 -0.2
GOGA LR LR
comp=Z,412nm,22.0s,MS5.2
NHSC New Hope 148.80 0 PFAKE 04 14 40.0 +11
NHSC LR LR
comp=Z,362nm,19.0s,MS5.2
DWPF Disney 153.75 3 PFAKE 04 14 40.0 +3.1
DWPF LR LR
comp=Z,374nm,21.0s,MS5.2
SIV San Ignacio 154.19 226 PKP PKPdf 04 14 35.4 -2.3
comp=Z,1.0nm,0.7s,baz=89,slow=3.4,SNR=5.4
SIV PKPbc PKPdf 04 14 42.2 +4.5
comp=Z,2.7nm,0.7s,baz=118,slow=2.7,SNR=17
SIV PKPab PKPab 04 14 54.3 -2.7
comp=Z,2.9nm,0.8s,baz=140,slow=4.0,SNR=8.2
LPAZ La Paz 158.51 213 PKP PKPdf 04 14 41.1 -2.3
comp=Z,1.6nm,0.9s,baz=52,slow=2.8,SNR=6.6
LPAZ PKPab PKPab 04 15 15.4 0.0
comp=Z,1.7nm,0.6s,baz=57,slow=5.5,SNR=5.4
LPAZ La Paz 158.51 213 PKP PKPdf 04 14 41.1 -2.3
LPAZ PKPab PKPab 04 15 15.4 0.0
LPAZ LR LR
comp=Z,284nm,20.0s,MS5.1

SJG	**San Juan**	**158.71**	**321**	PFAKE		04 14 50.0	+6.4
SJG				LR	LR		
	comp=Z,239nm,20.0s,MS5.0						
TEIG	**Tepich**	**159.99**	**23**	PFAKE		04 14 50.0	+5.0
TEIG				LR	LR		
	comp=Z,224nm,21.0s,MS5.0						
SAML	**Samuel**	**160.03**	**238**	PFAKE		04 14 50.0	+4.8
SAML				LR	LR		
	comp=Z,432nm,19.0s						
NNA	**Nana**	**165.97**	**193**	PFAKE		04 15 00.0	+9.0
NNA				LR	LR		
	comp=Z,79nm,20.0s						
SDV	**Santo Domingo**	**168.16**	**307**	PFAKE		04 15 00.0	+7.5
SDV				LR	LR		
	comp=Z,365nm,19.0s						
JTS	**JuntasAbangare**	**170.26**	**29**	PFAKE		04 15 00.0	+6.3
JTS				LR	LR		
	comp=Z,116nm,21.0s						
OTAV	**Otavalo**	**177.74**	**229**	*e*PKPdf	PKPdf	04 14 53.5	-3.0
OTAV				LR	LR		
	comp=Z,504nm,22.0s						

*GUC **12** 03:57:04.6±0.8, 33.98S×70.38W, h108km±3km, ML4.3*
*NEIC **12** 03:57:04.6, 33.98S×70.38W, h108km, mb3.9/5, After GUC.*
NEIC Felt [II] at Rancagua and Santiago.
*IDC **12** 03:57:05.6±2.1, 34.06S×70.05W, h107km±17km, mb3.8/3, mb1 3.7/7, mb1mx3.5/17, mbtmp3.9/7, Error ellipse: s-maj=30.7km s-min=17.7km az=111.0*
ISC 12 03:57:03.8±0.3, 33.99S±0.03×70.33W±0.06, h114km±3km, n44, σ0°76/62, mb3.8/6, 6C-11D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.18**	**36**	⇓*i*P	**P**	**03 57 19.8**	**0.0**
LMEL				*i* S	**S**	**03 57 31.9**	**+0.1**
LMEL				AMP		03 57 38.1	
	comp=N,11μm,0.6s						
CACH	**El Canelo**	**0.26**	**241**	⇑*i*P	**P**	**03 57 20.4**	**+0.4**
CHCH	**Chadas Angostu**	**0.27**	**282**	⇓*i*P	**P**	**03 57 20.1**	**0.0**
CICH	**Cipreses**	**0.34**	**193**	⇓*i*P	**P**	**03 57 20.7**	**+0.3**
SJCH	**San Jose de Ma**	**0.35**	**357**	⇓*i*P	**P**	**03 57 20.6**	**+0.2**
SJCH				*i* S	**S**	**03 57 32.5**	**-0.4**
SJCH				AMP		03 57 33.7	
	comp=E,22μm,0.7s						
PCH	**Pirque**	**0.40**	**338**	⇓*i*P	**P**	**03 57 21.1**	**+0.4**
SAN	**Santiago**	**0.60**	**333**	*e*P	**P**	**03 57 21.9**	**0.0**
SAN				*i* S	**S**	**03 57 35.0**	**-0.8**
TACH	**Talagante**	**0.61**	**304**	⇓*i*P	**P**	**03 57 22.3**	**+0.3**
STL	**Santa Lucia**	**0.61**	**335**	*i* P	**P**	**03 57 22.0**	**-0.1**
STL				*i* S	**S**	**03 57 35.0**	**-0.9**
STL				AMP		03 57 36.1	
	comp=N,6μm,0.3s						
CLCH	**Cerro Calan**	**0.62**	**344**	⇑*i*P	**P**	**03 57 22.6**	**+0.5**
CLCH				*i* S	**S**	**03 57 35.6**	**-0.4**
CLCH				AMP		03 57 37.0	
	comp=E,17μm,0.4s						
DSCH	**Colegio Aleman**	**0.62**	**341**	⇓*i*P	**P**	**03 57 22.6**	**+0.5**
DSCH				*i* S	**S**	**03 57 35.8**	**-0.3**
DSCH				AMP		03 57 37.3	
	comp=E,17μm,0.4s						
FCH	**Farellones**	**0.66**	**3**	⇓*i*P	**P**	**03 57 23.2**	**+0.8**
FCH				*i* S	**S**	**03 57 37.2**	**+0.6**
FCH				AMP		03 57 38.2	
	comp=N,32μm,0.2s						
SFDO	**San Fernando**	**0.84**	**222**	⇓*i*P	**P**	**03 57 24.7**	**+0.6**
LNV	**Longovilo**	**0.90**	**272**	⇑*i*P	**P**	**03 57 24.4**	**-0.2**
LCCH	**Las Cruces**	**1.15**	**296**	⇓*i*P	**P**	**03 57 27.4**	**0.0**
NICH	**Los Niches**	**1.25**	**216**	*i* P	**P**	**03 57 28.9**	**+0.4**
NICH				*i* S	**S**	**03 57 47.3**	**+0.3**
JACH	**Jahuel**	**1.32**	**350**	⇓*i*P	**P**	**03 57 30.2**	**+0.9**
JACH				*i* S	**S**	**03 57 48.9**	**+0.3**
IHA	**Instituto Hidr**	**1.46**	**311**	⇑*i*P	**P**	**03 57 31.4**	**+0.5**
IHA				*i* S	**S**	**03 57 50.7**	**-0.6**
PACH	**Papudo**	**1.72**	**327**	⇑*i*P	**P**	**03 57 34.0**	**0.0**
TALC	**Talca**	**1.77**	**217**	*e*P	**P**	**03 57 34.7**	**+0.2**
TALC				*i* S	**S**	**03 57 57.2**	**-0.5**
TALC				AMP		03 57 58.5	
	comp=E,7μm,0.3s						
PTCH	**Petorca**	**1.80**	**344**	*e*P	**P**	**03 57 35.1**	**+0.2**
PTCH				*i* S	**S**	**03 57 58.0**	**-0.3**
PTCH				AMP		03 58 01.3	
	comp=E,4μm,0.8s						
LNCH	**Linares**	**2.12**	**209**	*i* P	**P**	**03 57 39.4**	**+0.2**
LNCH				*i* S	**S**	**03 58 06.1**	**+0.4**
LNCH				AMP		03 58 30.1	
	comp=N,1μm,0.6s						
CHNG	**Los Chungos**	**2.32**	**335**	*i* P	**P**	**03 57 42.1**	**+0.3**
CHNG				*i* S	**S**	**03 58 09.5**	**-0.9**
ILCH	**Illapel**	**2.45**	**343**	*e*P	**P**	**03 57 43.5**	**0.0**
ILCH				*i* S	**S**	**03 58 12.8**	**-0.7**
CNCO	**Chanco**	**2.51**	**226**	*e*P	**P**	**03 57 44.0**	**-0.3**
ZON	**Zonda**	**2.81**	**30**	⇑*i*P	**P**	**03 57 53.0**	**+4.7**
ZON				*e*S	**S**	**03 58 25.0**	**+3.1**
CFAA	**Coronel Fontan**	**2.96**	**37**	P	**P**	**03 57 50.4**	**0.0**
	comp=N,0.9nm,0.3s,baz=204,slow=16,SNR=54						
CFAA				S	**S**	**03 58 24.5**	**-1.1**
	comp=N,4.0nm,0.3s,baz=207,slow=14,SNR=13						
CCHI	**Chillan**	**2.97**	**208**	*e*P	**P**	**03 57 50.2**	**-0.3**
CCHI				*i* S	**S**	**03 58 25.2**	**-0.6**
CCHI				AMP		03 58 40.9	
	comp=N,595nm,0.5s						
TLL	**Tololo Astrono**	**3.83**	**354**	*e*P	**P**	**03 58 02.6**	**+0.4**
PLCA	**Paso Flores**	**6.73**	**181**	P	**P**	**03 58 40.9**	**-0.7**
	comp=N,0.5nm,0.3s,baz=345,slow=11,SNR=13						
PLCA	**Paso Flores**	**6.73**	**181**	*e*Pn	**P**	**03 58 40.9**	**-0.6**
TRQA	**Tornquist**	**7.89**	**123**	*e*P	**P**	**03 58 55.7**	**-1.5**
LVC	**Limon Verde**	**11.41**	**7**	P	**P**	**03 59 47.9**	**+3.7**
	comp=N,0.2nm,0.3s,baz=204,slow=12,SNR=2.7						
LVC	**Limon Verde**	**11.41**	**7**	P	**P**	**03 59 46.0**	**+1.7**
LPAZ	**La Paz**	**17.74**	**7**	P	**P**	**04 01 07.1**	**+2.1**
	comp=N,0.2nm,0.3s,baz=180,slow=6.7,SNR=8.3						
LPAZ	**La Paz**	**17.74**	**7**	*e*P	**P**	**04 01 06.6**	**+1.6**
	comp=N,3.3nm,0.9s						
SIV	**San Ignacio**	**19.77**	**27**	P	**P**	**04 01 26.1**	**-1.0**
	comp=N,0.2nm,0.3s,baz=222,slow=14,SNR=21						
SAML	**Samuel**	**25.78**	**16**	*e*P	**P**	**04 02 25.0**	**-0.9**
	comp=N,0.8nm,0.7s,mb3.3						
BDFB	**Brasilia**	**27.17**	**53**	P	**P**	**04 02 37.4**	**-1.2**
	comp=N,7.0nm,0.8s,mb4.3,baz=229,slow=8.9,SNR=12						
OTAV	**Otavalo**	**34.89**	**346**	P	**P**	**04 03 43.8**	**-2.5**
	comp=N,0.8nm,0.5s,mb3.8						
TXAR	**Lajitas Array**	**70.43**	**329**	P	**P**	**04 08 09.1**	**+1.4**
	comp=N,0.2nm,0.5s,mb3.2,baz=156,slow=8.9,SNR=3.4						
DBIC	**Dimbokro**	**73.84**	**70**	P	**P**	**04 08 28.5**	**+0.4**
	comp=N,3.1nm,0.7s,mb4.2,baz=233,slow=5.5,SNR=8.0						
DBIC	**Dimbokro**	**73.84**	**70**	*e*P	**P**	**04 08 28.0**	**-0.1**
	comp=N,3.6nm,0.6s,mb4.3						
BOSA	**Boshof**	**78.81**	**117**	P	**P**	**04 08 56.6**	**+0.9**
	comp=N,1.9nm,0.6s,mb4.1						

*NIED **12** 04:09:00, 35.50N×139.00E, h38km, Mw3.9 Best double couple: M0:7.72×10^14 NP1:φs221°, δ89°, λ-83°. NP2: φs320°, δ7°, λ-171°.*
*NEIC **12** 04:09:26.3±0.9, 35.24N×138.91E, h10km, mb4.2/3, Error ellipse: s-maj=23.4km s-min=14.0km az=68.0*
NEIC Recorded [2 JMA] in Gumma, Kanagawa, Saitama, Tokyo and Yamanashi; [1 JMA] in Nagano Prefectures.
*MOS **12** 04:09:27.6±0.9, 35.18N×138.97E, h33km, mb4.3/4, Error ellipse: s-maj=41.1km s-min=13.1km az=103.2*
*JMA **12** 04:09:30.8, 35.49N×138.96E, h25km±1km, M4.1 Broadband fault plane solution: P waves. NP1:φs209°, δ24°, λ67°. NP2:φs54°, δ68°, λ100°. Principal axes: T Plg66°, Azm341°; N Plg9°, Azm230°; P Plg22°, Azm136°;*
JMA Felt II J1.
*IDC **12** 04:09:33.4±0.9, 35.42N×138.59E, h56km±10km, mb3.3/5, mb1 3.6/6, mb1mx3.3/23, mbtmp3.7/6, MS3.1/1, Ms1 3.1/1, ms1mx2.1/18 Error ellipse: s-maj=34.8km s-min=6.8km az=71.0*
ISC 12 04:09:29.9±0.5, 35.42N±0.05×138.95E±0.08, h43km±5km, n24, σ1°09/31, mb3.7/8, 1C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.19**	**144**	⇑P	**P**	**04 09 36.8**	**-0.5**
JOD2				*e*S	**S**	**04 09 41.3**	**-1.2**
JYN	**Shimob**	**0.34**	**284**	⇓P	**P**	**04 09 38.2**	**-0.7**
JYN				*e*S	**S**	**04 09 43.7**	**-1.5**
JRY	**Ryogami san**	**0.60**	**356**	⇓P	**P**	**04 09 41.2**	**-0.9**
JIZS	**Izushimoda**	**0.70**	**185**	P	**P**	**04 09 44.7**	**+1.3**
SHZ3	**Shizuoka 3**	**0.70**	**240**	P	**P**	**04 09 45.3**	**+1.8**
JIM2	**Oshima 3**	**0.80**	**151**	P	**P**	**04 09 46.0**	**+1.1**
JAG	**Ashikaga**	**1.09**	**22**	⇓P	**P**	**04 09 49.2**	**+0.3**
MJAR	**Matsushiro Arr**	**1.28**	**332**	P	**P**	**04 09 52.2**	**+0.5**
	158nm,0.3s,baz=162,slow=13,SNR=393						
MJAR				S	**S**	**04 10 08.2**	**+0.3**
	528nm,0.3s,baz=169,slow=26,SNR=46						
MAJO	**Matsushiro**	**1.28**	**332**	*e*Pn	**P**	**04 09 52.8**	**+1.1**
MAJO				*e*Sn	**S**	**04 10 08.0**	**+0.1**
MAT	**Matsushiro**	**1.28**	**332**	*e*P	**P**	**04 09 53.0**	**+1.3**
MAT				*e*S	**S**	**04 10 08.0**	**+0.1**
MAT	**Matsushiro**	**1.28**	**332**	P	**P**	**04 09 52.6**	**+0.9**
MAT				S	**S**	**04 10 08.4**	**+0.5**
JHJ	**Hachijo jima 2**	**2.39**	**163**	P	**P**	**04 10 11.2**	**+3.6**
	66nm,0.3s,baz=61,slow=9.3,SNR=5.7						
JHJ				S	**S**	**04 10 42.5**	**+6.6**
	70nm,0.3s,baz=223,slow=23,SNR=4.5						
JHJ				LR	LR	04 10 44.1	
	comp=Z,432nm,21.9s,baz=162,slow=28						
SONM	**Songino Array**	**27.11**	**307**	P	**P**	**04 15 09.9**	**-0.8**
	0.3nm,0.6s,mb3.0,baz=104,slow=5.9,SNR=3.0						
CHKZ	**Chkalovo**	**49.98**	**314**	P	**P**	**04 18 20.6**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
CHKZ	**Chkalovo**	**49.98**	**314**	P	**P**	**04 18 20.6**	**-1.0**
	comp=Z,1.0nm,0.7s,mb4.0						
ILAR	**Eielson Array**	**51.92**	**32**	P	**P**	**04 18 37.2**	**+1.1**
	comp=Z,0.4nm,0.9s,mb3.4,baz=278,slow=7.4,SNR=4.3						
WRA	**Warramunga Arr**	**55.23**	**185**	P	**P**	**04 18 58.8**	**-2.3**
	comp=Z,0.3nm,0.3s,mb3.8,baz=0.2,slow=7.5,SNR=4.1						
INK	**Inuvik**	**56.73**	**26**	*e*P	**P**	**04 19 10.8**	**-0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
INK	**Inuvik**	**56.73**	**26**	*e*P	**P**	**04 19 10.8**	**-0.4**
	comp=Z,4.3nm,1.3s,mb4.3						
RES	**Resolute Bay**	**64.65**	**14**	*e*P	**P**	**04 20 03.2**	**-1.7**
RES				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
RES	**Resolute Bay**	**64.65**	**14**	*e*P	**P**	**04 20 03.2**	**-1.7**
	comp=Z,1.3nm,0.7s,mb4.1						
YKA	**Yellowknife Ar**	**66.20**	**29**	P	**P**	**04 20 15.6**	**+0.7**
	comp=Z,0.2nm,0.8s,mb3.2,baz=294,slow=6.5,SNR=4.1						
FINES	**FINESS Array B**	**69.31**	**332**	P	**P**	**04 20 34.3**	**-0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,1.1s						
FINES	**FINESS Array B**	**69.31**	**332**	P	**P**	**04 20 34.3**	**-0.1**
	comp=Z,2.9nm,1.1s,mb4.1,baz=54,slow=5.0,SNR=3.3						

*DJA **12** 04:17:21.6±5.9, 2.25S×98.33E, h33km, mb5.4/4, Error ellipse: s-maj=199.0km s-min=21.9km az=72.0*
*BJI **12** 04:17:29.7, 2.01S×99.71E, h41km, mB5.4, mb4.9, Ms5.3, Msz5.1*
*HRVD **12** 04:17:31.8±0.3, 1.62S×99.46E, h13km, MW5.2/60, Centroid moment Tensor Solution. LP body waves: s43,c74;Mantle waves: s60,c118; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.67±.03; Mθθ-0.40±.02; Mφφ-0.27±.02; Mrθ-0.32±.06; Mθφ0.41±.01; Mφr0.23±.06; Best double couple: M0:811×10^17 NP1: φs133°, δ31°, λ95°. NP2:φs308°, δ59°, λ87°. Principal axes: T .775, Plg75°, Azm209°; N .073, Plg3°, Azm309°; P -.848, Plg14°, Azm40°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **12** 04:17:31.8±0.2, 1.59S×99.45E, mb5.1/39, MS4.8/1 Error ellipse: s-maj=7.0km s-min=4.0km az=223.0*
*MOS **12** 04:17:32.0±1.1, 1.47S×99.54E, h33km, mb5.2/27, MS4.8/9, Error ellipse: s-maj=12.5km s-min=6.4km az=118.4*
*IDC **12** 04:17:33.6±3.0, 1.64S×99.38E, h38km±24km, mb4.5/18, mb1 4.6/19, mb1mx4.6/20, mbtmp4.7/19, ML5.1/1, MS4.7/14, Ms1 4.7/14, ms1mx4.6/23, Error ellipse: s-maj=18.1km s-min=10.9km az=49.0*
ISC 12 04:17:31.4±0.2, 1.57S±0.03×99.46E±0.04, h32km, h32km±.9km: pP-P, n225, σ1°19/209, mb5.0/81, MS4.9/33, 18C-13D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**5.25**	**47**	P	**Pn**	**04 18 53.3**	**+3.5**
IPM	**Ipoh**	**6.30**	**14**	P	**Pn**	**04 19 05.3**	**+0.6**
KULM	**Kulim**	**6.91**	**10**	*e*P	**Pn**	**04 19 13.1**	**-0.2**
PENI	**Pendagan**	**6.95**	**125**	*e*P	**Pn**	**04 19 10.8**	**-3.0**
PENI	**Pendagan**	**6.95**	**125**	⇑*i*P	**Pn**	**04 19 10.8**	**-3.0**
	503nm,0.5s						
PENI				*i* pP		04 19 11.6	
PENI	**Pendagan**	**6.95**	**125**	⇓*i*pP		04 19 11.4	
PASI	**Pasiripis**	**7.96**	**130**	*e*P	**Pn**	**04 19 24.0**	**-3.8**
PULI	**Pulasari**	**8.05**	**126**	⇑*i*P	**P**	**04 19 29.5**	**+0.3**
	519nm,0.4s						
SNG	**Songkhla**	**8.76**	**8**	P	**P**	**04 19 37.0**	**-2.0**
	286nm,1.0s						
KSM	**Kuching**	**11.26**	**75**	P	**P**	**04 20 10.2**	**-3.3**
SRDI	**Scrawed**	**16.15**	**116**	*e*P	**P**	**04 21 12.9**	**-5.1**
KELI	**Kelakatan**	**16.36**	**114**	⇑*i*P	**P**	**04 21 22.0**	**+1.3**
	35nm,0.5s						
RATI	**Rata**	**17.51**	**115**	⇓*i*P	**P**	**04 21 33.5**	**-1.6**
	225nm,0.5s						
KKM	**Kota Kinabalu**	**18.36**	**66**	*e*P	**P**	**04 21 47.0**	**+1.3**
KKM	**Kota Kinabalu**	**18.36**	**66**	P	**P**	**04 21 47.9**	**+2.3**
TSM	**Tawau**	**19.30**	**72**	P	**P**	**04 21 58.4**	**+1.6**
CM31	**Chiang Mai Arr**	**19.90**	**359**	*e*P	**P**	**04 22 00.9**	**-2.6**
	22nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.90**	**359**	*e*P	**P**	**04 22 01.4**	**-2.1**
CMAR	**Chiang Mai Arr**	**19.90**	**359**	P	**P**	**04 22 01.4**	**-2.1**
	2.1nm,0.3s,baz=187,slow=10,SNR=84						
CMAR				LR	LR	04 30 04.5	
	comp=Z,2μm,19.5s,baz=185,slow=38						
TANI	**Tanete Lipujan**	**19.99**	**96**	*e*P	**P**	**04 22 04.2**	**-0.3**
CHG	**Chiang Mai**	**20.26**	**359**	P	**P**	**04 22 06.5**	**-0.7**
NANT	**Nan**	**20.27**	**3**	⇑P	**P**	**04 22 05.0**	**-2.3**
	144nm,1.0s						
NINI	**Niniconang**	**20.47**	**98**	*e*P	**P**	**04 22 09.4**	**0.0**
PALK	**Pallekele**	**20.67**	**295**	*e*P	**P**	**04 22 11.2**	**-0.3**
	42nm,1.0s						
BUNI	**Buntu Taipa**	**20.95**	**96**	*e*P	**P**	**04 22 16.1**	**+1.8**
QIZ	**Qiongzhong**	**22.87**	**26**	*e*P	**P**	**04 22 34.0**	**+0.4**
QIZ				S	**S**	**04 26 36.7**	**+0.1**
QIZ				LR	LR		
	comp=N,3μm,16.7s,MS5.0						
QIZ				LR	LR		
	comp=E,4μm,12.8s,MS5.0						
QIZ				LR	LR		
	comp=Z,4μm,13.2s,MS5.1						
VIS	**Vishakhapatnam**	**24.89**	**321**	*e*P	**P**	**04 22 53.0**	**-0.2**
CAL	**Calcutta**	**26.30**	**336**	*e*	**P**	**04 23 15.3**	**+9.0**
CAL				*e*		04 27 54.2	
KMI	**Kunming**	**26.72**	**7**	P	**P**	**04 23 10.2**	**+0.1**
KMI				AP	pP	04 23 18.9	-0.5
KMI				S	**S**	**04 27 43.0**	**+1.3**
KMI				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.6						
KMI				LR	LR		
	comp=N,4μm,11.6s,MS5.2						
KMI				LR	LR		
	comp=E,2μm,11.2s,MS5.2						
KMI				LR	LR		
	comp=Z,3μm,12.1s,MS5.0						
KMI	**Kunming**	**26.72**	**7**	P	**P**	**04 23 10.2**	**+0.1**
	comp=Z,15nm,0.8s,mb4.6						
KMI				pP	pP	04 23 18.9	-0.5
KMI				S	**S**	**04 27 43.0**	**+1.3**
KMI				LR	LR		
	comp=Z,3μm,12.1s,MS5.0						
SHL	**Shillong**	**27.95**	**345**	*e*P	**P**	**04 23 21.9**	**+0.6**
SHL				*e*		04 28 19.2	
GYA	**Guiyang**	**28.71**	**14**	⇑*i*P	**P**	**04 23 27.7**	**-0.5**
GYA				AP	pP	04 23 38.2	+0.7
GYA				XP	sP	04 23 42.6	+0.9
GYA				PP	PP	04 24 19.4	-1.8
GYA				S	**S**	**04 28 12.1**	**-1.7**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,1μm,3.0s						
GYA				LR	LR		
	comp=N,3μm,15.2s,MS5.1						
GYA				LR	LR		
	comp=E,1μm,15.8s,MS5.1						
GYA				LR	LR		
	comp=Z,2μm,15.9s,MS4.8						
FITZ	**Fitzroy Crossi**	**30.50**	**124**	*e*P	**P**	**04 23 43.6**	**-0.6**
	comp=Z,13nm,0.8s,mb4.8						
JIRN	**Jiri**	**31.74**	**337**	*e*P	**P**	**04 23 55.4**	**+0.4**
	comp=Z,72nm,0.8s,mb5.6						
PKI	**Pulchoki**	**31.97**	**336**	*e*P	**P**	**04 23 57.4**	**+0.4**
GUN	**Gumba**	**32.08**	**337**	*e*P	**P**	**04 23 58.6**	**+0.6**
	comp=Z,60nm,0.6s,mb5.6						
LSA	**Lhasa**	**32.09**	**346**	P	**P**	**04 24 00.0**	**+2.0**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
LSA	**Lhasa**	**32.09**	**346**	*e*P	**P**	**04 23 58.8**	**+0.8**
	comp=Z,21nm,0.6s,mb5.2						
DMN	**Daman**	**32.12**	**336**	*e*P	**P**	**04 23 58.5**	**+0.1**
	comp=Z,41nm,0.9s,mb5.2						
POO	**Poona**	**32.14**	**310**	*e*P	**P**	**04 23 56.5**	**-2.1**
KKN	**Kakani**	**32.21**	**336**	*e*P	**P**	**04 23 59.3**	**+0.2**
	comp=Z,62nm,0.9s,mb5.4						
CD2	**Chengdu**	**32.55**	**7**	*e*P	**P**	**04 24 01.8**	**-0.3**
GKN	**Gorkha**	**32.67**	**335**	*e*P	**P**	**04 24 03.1**	**0.0**
	comp=Z,76nm,1.1s,mb5.5						
KOLN	**Koldanda**	**32.91**	**334**	*e*P	**P**	**04 24 05.7**	**+0.5**
	comp=Z,61nm,0.8s,mb5.6						
ENH	**Enshi**	**33.07**	**16**	*e*P	**P**	**04 24 04.4**	**-2.2**
	comp=Z,37nm,0.9s,mb5.3						
NWAO	**Narrogin (SRO)**	**35.39**	**154**	*e*P	**P**	**04 24 25.4**	**-1.1**
NWAO	**Narrogin (SRO)**	**35.39**	**154**	P	**P**	**04 24 25.4**	**-1.1**
	comp=Z,9.8nm,0.9s,mb4.7,baz=353,slow=9.1,SNR=2.7						
NWAO				LR	LR	04 38 44.5	
	comp=Z,2μm,20.6s,MS4.9,baz=331,slow=36						
LGTI	**Lohaghat**	**35.90**	**331**	*e*P	**P**	**04 24 32.5**	**+1.6**
XAN	**Xi'an**	**36.52**	**13**	P	**P**	**04 24 34.5**	**-1.5**
XAN				AMB	AMB		
	comp=Z,72nm,1.0s,mb5.5						
NDI	**New Delhi**	**36.87**	**326**	*e*P	**P**	**04 24 40.0**	**+1.0**
LZH	**Lanzhou**	**37.68**	**6**	⇑P	**P**	**04 24 46.6**	**+0.8**
LZH				AP	pP	04 24 56.7	+1.4
LZH				XP	sP	04 25 03.0	+3.7
LZH				PP	PP	04 26 16.0	+1.1
LZH				S	**S**	**04 30 32.0**	**-1.3**
LZH				SS	SS	04 33 11.5	+3.0
LZH				AMB	AMB		
	comp=Z,33nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,12.0s						
LZH				LR	LR		
	comp=Z,4μm,14.3s,MS5.4						
LZH	**Lanzhou**	**37.68**	**6**	*e*P	**P**	**04 24 46.6**	**+0.8**
LZH	**Lanzhou**	**37.68**	**6**	⇑P	**P**	**04 24 46.6**	**+0.8**
	comp=Z,33nm,1.5s,mb4.8						
LZH				pP	pP	04 24 56.7	+1.4
LZH				sP	sP	04 25 03.0	+3.7
LZH				PP	PP	04 26 16.0	+1.1
LZH				S	**S**	**04 30 32.0**	**-1.3**
LZH				sS		04 30 49.8	
LZH				SS	SS	04 33 11.5	+3.0
LZH				LR	LR		
	comp=Z,4μm,14.3s,MS5.4						
NJ2	**Nanjing**	**38.15**	**27**	*e*P	**P**	**04 24 50.1**	**+0.3**
NJ2				AP	pP	04 25 00.8	+1.5
NJ2				XP	sP	04 25 03.4	+0.1
NJ2				PP	PP	04 26 21.5	+0.9
NJ2				S	**S**	**04 30 43.0**	**+2.5**
NJ2				XS		04 30 59.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,5.8s						
NJ2				LR	LR		
	comp=N,6μm,16.9s,MS5.6						
NJ2				LR	LR		
	comp=E,4μm,15.6s,MS5.6						
NJ2				LR	LR		
	comp=Z,3μm,16.9s,MS5.2						
SSE	**Sheshan**	**38.50**	**31**	P	**P**	**04 24 50.4**	**-2.3**
SSE				S	**S**	**04 30 45.2**	**-0.5**
SSE				PCS		04 30 51.5	
SSE				AMB	AMB		
	comp=Z,28nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,229nm,9.2s						
SSE				LR	LR		
	comp=N,1μm,19.9s,MS4.9						
SSE				LR	LR		
	comp=E,1μm,19.7s,MS4.9						
SSE				LR	LR		
	comp=Z,1μm,19.6s,MS4.8						
SSE	**Sheshan**	**38.50**	**31**	P	**P**	**04 24 50.4**	**-2.3**
	comp=Z,28nm,0.6s,mb5.2						
SSE				pP	pP	04 24 59.0	-3.2
SSE				sP	sP	04 25 02.6	-3.6
SSE				S	**S**	**04 30 45.2**	**-0.5**
SSE				PcS		04 30 51.5	
SSE				sS		04 31 00.5	
SSE				LR	LR		
	comp=Z,1μm,19.6s,MS4.8						
WRA	**Warramunga Arr**	**38.68**	**121**	*e*P	**P**	**04 24 53.5**	**-0.8**
WRA	**Warramunga Arr**	**38.68**	**121**	P	**P**	**04 24 53.5**	**-0.8**
	comp=Z,13nm,0.7s,mb4.8,baz=302,slow=9.2,SNR=47						
WRA				S	**S**	**04 30 48.3**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=296,slow=16,SNR=3.9						
WRAB	**Tennant Creek**	**38.69**	**121**	⇑*i*P	**P**	**04 24 54.2**	**-0.2**
WRAB	**Tennant Creek**	**38.69**	**121**	*e*P	**P**	**04 24 53.3**	**-1.0**
	comp=Z,17nm,0.6s,mb5.0						
JOW	**Kunigami**	**39.61**	**42**	LR	LR	04 40 58.4	
	comp=Z,566nm,19.7s,MS4.4,baz=128,slow=35						
FORT	**Forrest**	**39.72**	**140**	*e*P	**P**	**04 25 04.6**	**+1.7**
	comp=Z,605nm,0.7s						
ASPA	**Alice Springs**	**39.94**	**126**	*e*P	**P**	**04 25 05.0**	**+0.2**
ASAR	**Alice Springs**	**39.95**	**126**	*e*P	**P**	**04 25 04.4**	**-0.4**
ASAR	**Alice Springs**	**39.95**	**126**	P	**P

comp=Z,864nm,22.7s
BJI Beijing 44.14 18 *e*P **P 04 25 39.3 +0.3**
KSH Kashi 46.21 335 P **P 04 25 56.0 +0.5**
KSH AP pP 04 26 05.2 +0.1
KSH XP sP 04 26 09.0 0.0
KSH PCP PcP 04 27 31.1 -0.2
KSH PP PP 04 27 44.2 +0.3
KSH SCP 04 31 21.2
KSH PCS 04 31 25.0
KSH S **S 04 32 38.1 -0.9**
KSH SCS ScS 04 35 46.0 +0.3
KSH AMB AMB
comp=Z,450nm,3.2s
KSH LR LR
comp=N,560nm,7.0s
KSH LR LR
comp=E,740nm,7.7s
WMQ Urumqi 46.40 348 ⇓P **P 04 25 57.7 +0.8**
WMQ AP pP 04 26 07.7 +1.2
WMQ XP sP 04 26 11.7 +1.3
WMQ PCP PcP 04 27 31.8 -0.1
WMQ PP PP 04 27 47.1 +1.4
WMQ *e*S **S 04 32 42.2 +0.6**
WMQ AMB AMB
comp=Z,39nm,1.1s,mb5.2
WMQ LR LR
comp=N,406nm,22.2s,MS4.8
WMQ LR LR
comp=E,1μm,24.2s,MS4.8
WMQ LR LR
comp=Z,554nm,19.2s,MS4.5
ULHL Ulahol 48.40 337 P **P 04 26 13.0 +0.4**
SNR=14
UCH Uchtor 49.08 336 P **P 04 26 18.9 +1.1**
SNR=20
TKM2 Tokmak 2 49.22 337 P **P 04 26 19.7 +0.8**
SNR=22
CTA Charters Tower 49.27 115 *e*P **P 04 26 19.2 -0.4**
comp=Z,9.1nm,0.9s,mb4.8
AML Almayashu 49.34 335 P **P 04 26 20.6 +0.8**
SNR=19
AAK Ala-Archa 49.42 336 P **P 04 26 18.3 -2.2**
AAK pmax pmax
comp=Z,98nm,2.3s,mb5.4
FRU Bishkek 49.54 336 *e*P **P 04 26 22.0 +0.6**
FRU pmax pmax
comp=Z,207nm,2.5s,mb5.7
FRU MLR MLR
comp=Z,1μm,20.0s,MS4.9
SONM Songino Array 49.57 6 P **P 04 26 22.5 +1.0**
comp=Z,6.1nm,0.5s,mb4.8,baz=189,slow=9.9,SNR=35
SONM LR LR 04 50 23.6
comp=Z,886nm,20.7s,MS4.8,baz=192,slow=40
ULN Ulaanbaatar 49.67 7 *e*P **P 04 26 22.2 -0.1**
comp=Z,23nm,1.2s,mb5.1
EKS2 Erkin-Say 49.74 335 P **P 04 26 23.7 +0.8**
SNR=20
STKA Stephens Creek 49.84 132 *e*P **P 04 26 24.3 +0.4**
comp=Z,8.1nm,0.6s,mb4.9
STKA Stephens Creek 49.84 132 P **P 04 26 24.4 +0.5**
comp=Z,8.9nm,0.6s,mb5.0,baz=299,slow=7.2,SNR=19
USP Ospenovka 49.95 336 P **P 04 26 25.2 +0.7**
SNR=18
MKAR Makanchi Array 50.47 345 *e*P **P 04 26 28.8 +0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 50.47 345 P **P 04 26 28.1 -0.3**
comp=Z,11nm,0.5s,mb5.1,baz=148,slow=8.2,SNR=90
CN2 Changchun 50.81 24 *e*P **P 04 26 29.5 -1.5**
CN2 *e*XP sP 04 26 43.5 -1.1
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,800nm,5.0s
KKAR Karatay Array 51.52 333 *i*P **P 04 26 35.3 -1.2**
KKAR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ZAK Zakamensk 51.85 3 ⇓*i*P **P 04 26 39.2 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.6s,mb4.1
MJAR Matsushiro Arr 52.28 40 P **P 04 26 41.5 -0.9**
comp=Z,5.1nm,0.8s,mb4.5,baz=225,slow=6.7,SNR=7.9
MJAR LR LR 04 50 13.6
comp=Z,553nm,19.2s,MS4.6,baz=220,slow=37
MOY Mondy 53.05 1 *e*P **P 04 26 48.5 +0.7**
MDJ Mudanjiang 53.24 27 P **P 04 26 49.6 +0.3**
MDJ AMB AMB
comp=Z,7.0nm,1.0s,mb4.5
MDJ LR LR
comp=N,1μm,19.3s,MS5.1
MDJ LR LR
comp=E,1μm,21.3s,MS5.1
MDJ LR LR
comp=Z,2μm,19.3s,MS5.1
MDJ Mudanjiang 53.24 27 P **P 04 26 45.6 -3.7**
KLR Kul'dur 57.76 24 *e*P **P 04 27 18.0 -3.9**
KLR MLR MLR
comp=E,1μm,14.0s
KLR MLR MLR
comp=Z,2μm,14.0s,MS5.4
NVS Novosibirsk 57.79 349 ⇓*i*P **P 04 27 20.6 -1.4**
NVS *e*S **S 04 35 18.6 +1.5**
NVS pmax pmax
comp=N,35nm,1.7s
NVS pmax pmax
comp=E,19nm,1.7s
NVS pmax pmax
comp=Z,28nm,1.7s,mb5.0
NVS smax
comp=N,41nm,2.2s
BVA0 Borovoye Array 59.59 340 *i*P **P 04 27 32.6 -2.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
CHKZ Chkalovo 60.06 341 P **P 04 27 36.2 -1.5**
CHKZ pmax pmax
comp=Z,11nm,0.8s,mb4.9
CHKZ Chkalovo 60.06 341 *e*P **P 04 27 36.2 -1.5**
comp=Z,47nm,1.1s,mb5.4
BOD Bodaibo 60.34 9 *e*P **P 04 27 38.4 -1.2**
BOD pmax pmax
comp=Z,18nm,1.3s,mb4.9
YSS Yuzh-Sakhalins 61.40 32 ⇑*i*P **P 04 27 47.1 +0.1**
YSS *e* 04 27 53.2
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
YSS MLR MLR
comp=Z,400nm,16.0s,MS4.7
YSS MLR MLR
comp=E,500nm,15.0s
YSS Yuzh-Sakhalins 61.40 32 *e*P **P 04 27 47.1 +0.2**
comp=E,42nm,1.0s,mb5.5
CLNS Chul'man 61.74 16 *e*P **P 04 27 55.6 +6.5**
CLNS *e* 04 30 04.3
CLNS *e*PPP PPP 04 31 30.0 -6.0
CLNS *e*S **S 04 36 11.2 +3.2**
CLNS pmax pmax
comp=Z,11nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS smax
comp=E,71nm,12.5s
CLNS smax
comp=Z,961nm,15.9s
CLNS smax
comp=N,358nm,14.1s
CLNS MLR MLR
comp=Z,1μm,14.0s,MS5.3
CLNS MLR MLR
comp=N,700nm,13.0s,MS5.1
CLNS MLR MLR
comp=E,300nm,12.0s,MS5.1
KMBO Kilima Mbogo 62.19 270 P **P 04 27 51.4 -1.3**
comp=E,9.8nm,1.0s,mb4.9,baz=56,slow=9.4,SNR=18
KMBO Kilima Mbogo 62.19 270 *e*P **P 04 27 52.7 0.0**
comp=E,12nm,1.0s,mb5.0
BHD Baghdad 62.31 309 *e*P **P 04 27 45.0 -8.3**
BHD *e*S **S 04 36 08.0 -7.7**
MSL Mosul 64.45 312 *e*P **P 04 28 14.0 +6.6**

GNI Garni 64.84 316 ⇑*i*P **P 04 28 09.2 -0.6**
GNI pmax pmax
comp=Z,11nm,1.0s
GNI Garni 64.84 316 *e*P **P 04 28 09.2 -0.6**
comp=Z,20nm,0.9s,mb5.1
SVE Sverdlovsk 66.08 338 *e*P **P 04 28 14.5 -2.9**
SVE *e*S SKS 04 38 08.0 -7.8
SVE pmax pmax
comp=Z,30nm,1.0s,mb5.3
SVE MLR MLR
comp=N,400nm,16.0s,MS4.8
SVE MLR MLR
comp=E,200nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,300nm,16.0s,MS4.6
ZEI Tsey 66.55 319 *e*P **P 04 28 16.8 -3.9**
ZEI *i* *PP pP 04 28 25.9 -4.8
ZEI *i* 04 30 42.3
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ARU Arti 66.59 337 *e*P **P 04 28 19.1 -1.7**
ARU *e* 04 30 45.8
ARU *e*S S 04 37 09.0 +0.8
ARU *e*SS SS 04 41 24.0 -3.2
YAK Yakutsk 67.46 15 *d i*P **P 04 28 24.9 -1.3**
YAK pmax pmax
comp=Z,52nm,1.0s,mb5.5
YAK Yakutsk 67.46 15 *e*P **P 04 28 25.0 -1.2**
comp=Z,47nm,0.9s,mb5.5
KIV Kislovodsk 67.86 319 *c i*P **P 04 28 28.1 -0.9**
KIV *i* 04 28 42.0
KIV *e* 04 28 55.0
KIV *e* 04 30 59.5
KIV pmax pmax
comp=Z,21nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.1
KIV Kislovodsk 67.86 319 *e*P **P 04 28 27.9 -1.1**
comp=Z,21nm,0.8s,mb5.2
ASF Jabal al Asfar 67.90 306 LR LR 04 59 24.7
comp=Z,778nm,18.4s,MS5.0,baz=208,slow=37
GOF Gofitskoye 68.12 320 ⇑*i*P **P 04 28 28.0 -2.6**
GOF pmax pmax
comp=Z,80nm,2.3s,mb5.3
ELZG Elazig 68.30 313 *i*P **P 04 28 31.6 -0.2**
MALT Malatya 68.65 312 *e*P **P 04 28 33.2 -0.8**
comp=Z,7.0nm,0.9s,mb4.6
KELT Kelkit 68.69 314 *i*P **P 04 28 38.0 +3.7**
MBAR Mbarara 68.71 270 P **P 04 28 34.9 +0.1**
comp=Z,19nm,1.3s,mb4.9
EIL Elat 68.83 303 ⇑*e*P **P 04 28 34.4 -0.9**
comp=Z,20nm,0.9s,mb5.0
EIL *e* 04 28 39.1
GZT Gaziantep 68.97 311 *i*P **P 04 28 34.1 -1.9**
SOKR Solikamsk 69.46 338 ⇓*i*P **P 04 28 39.2 +0.6**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.0
SOKR MLR MLR
comp=Z,450nm,19.0s,MS4.7
KAHT Ahir Dag 69.58 311 *i*P **P 04 28 39.1 -0.6**
SOC Sochi 69.67 318 *e*P **P 04 28 37.7 -2.5**
SOC *e* 04 28 56.5
SOC *e*S S 04 37 42.2 -2.9
SOC *e* 04 38 18.7
SOC pmax pmax
comp=Z,20nm,1.1s,mb5.0
SOC pmax pmax
comp=N,6.0nm,0.7s
SOC pmax pmax
comp=E,7.0nm,0.6s
SOC MLR MLR
comp=Z,356nm,20.0s,MS4.6
SOC MLR MLR
comp=N,271nm,21.0s,MS4.7
SOC MLR MLR
comp=E,291nm,17.0s,MS4.7
COBT Iskenderun 69.70 310 *i*P **P 04 28 40.4 -0.1**
MAW Mawson 70.57 194 P **P 04 28 43.9 -1.3**
comp=E,7.8nm,1.1s,mb4.6,baz=14,slow=6.8,SNR=6.5
MAW LR LR 04 52 21.5
comp=E,541nm,18.7s,MS4.8,baz=37,slow=30
MATP Matopo 71.62 249 LR LR 04 54 42.2
comp=E,832nm,21.0s,MS5.0,baz=78,slow=31
ANN Anapa 71.65 319 *e*P **P 04 28 53.9 +1.8**
ANN pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ANN MLR MLR
comp=N,433nm,21.0s
ANN MLR MLR
comp=Z,387nm,21.0s,MS4.7
ANN MLR MLR
comp=E,81nm,10.0s
BOYT Boyabat 72.23 315 *i*P **P 04 28 51.5 -4.2**
BRTR Keskin Array B 72.63 313 P **P 04 28 56.6 -1.4**
comp=E,3.1nm,0.9s,mb4.2,baz=135,slow=7.0,SNR=16
MA2 Magadan 72.86 25 *e*P **P 04 28 59.1 +0.1**
MA2 pmax pmax
comp=Z,20nm,1.2s,mb4.9
MA2 Magadan 72.86 25 *e*P **P 04 28 59.2 +0.2**
PET Petropavlovsk 73.28 33 *e*P **P 04 29 04.3 +2.7**
PET *e*S S 04 38 32.5 +6.0
PET *e*SS SS 04 43 14.2 +3.2
PET pmax pmax
comp=Z,54nm,0.9s,mb5.5
PET MLR MLR
comp=Z,500nm,20.0s,MS4.8
VOR Voronezh 73.31 326 P **P 04 29 03.0 +1.2**
VOR pmax pmax
comp=Z,50nm,1.8s,mb5.1
SIM Simferopol' 73.92 318 P **P 04 29 04.3 -1.1**
SIM pmax pmax
comp=Z,11nm,0.6s,mb5.0
SGKT Sivrigoynuk 74.04 313 *i*P **P 04 29 13.1 +6.8**
ESKT Eskisehir 74.64 312 *i*P **P 04 29 14.1 +4.4**
BOSA Boshof 75.39 241 P **P 04 29 12.7 -1.6**
comp=Z,4.3nm,0.9s,mb4.4,baz=97,slow=4.9,SNR=4.5
BOSA LR LR 04 56 24.6
comp=Z,684nm,18.9s,MS5.0,baz=81,slow=31
SEY Seymchan 75.43 22 *e*P **P 04 29 14.1 +0.3**
SEY pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
TIXI Tiksi 75.52 9 ⇓*i*P **P 04 29 13.2 -1.0**
TIXI pmax pmax
comp=Z,27nm,1.7s,mb4.9
TIXI Tiksi 75.52 9 ⇓*i*P **P 04 29 13.3 -0.9**
MOS Moscow 75.85 329 *e*P **P 04 29 16.0 -0.3**
MOS pmax pmax
comp=Z,91nm,0.8s,mb5.8
ULDT Uludag 76.08 312 *i*P **P 04 29 17.8 -0.1**
OBN Obninsk 76.14 328 *i*P **P 04 29 17.6 -0.4**
OBN pmax pmax
comp=Z,45nm,1.7s,mb5.1
BTOK Tokmak 76.81 311 *i*P **P 04 29 21.0 -1.1**
KDAG Bornova 77.09 310 *i*P **P 04 29 18.1 -5.6**
TIRR Tirgusor 77.67 316 ⇑P **P 04 29 31.2 +4.5**
KIS Kishinev 78.05 319 *e*P **P 04 29 29.0 +0.3**
APE Apeiranthos 78.17 308 *e*P **P 04 29 33.2 +3.6**
AKASG Malin Array Be 78.81 322 P **P 04 29 31.8 -1.1**
comp=Z,2.5nm,0.7s,mb4.2,baz=87,slow=4.4,SNR=10
VRI Vrincioaia 79.17 317 ⇑P **P 04 29 34.9 0.0**
MLR Muntele Rosu 79.61 317 P **P 04 29 37.2 -0.1**
comp=Z,16nm,1.0s,mb4.9,baz=68,slow=1.9,SNR=17
MLR Muntele Rosu 79.61 317 ⇓P **P 04 29 36.9 -0.4**
BURAR Bucovina Array 80.58 319 ⇓P **P 04 29 43.8 +1.4**
BURAR Bucovina Array 80.58 319 ⇓P **P 04 29 43.8 +1.4**
FX1 Attu Island--F 81.47 36 P **P 04 29 47.4 +0.5**
comp=Z,25nm,0.8s,mb5.2,baz=263,slow=6.2,SNR=5.7
KWP Kalwaria 82.62 320 *e*P **P 04 29 53.5 +0.5**
VNDA Vanda 82.69 169 P **P 04 29 52.7 -0.2**
comp=Z,2.1nm,0.9s,mb4.2,baz=329,slow=4.9,SNR=7.0
VNDA LR LR 04 59 58.6
comp=Z,329nm,20.0s,MS4.7,baz=308,slow=31
KOLS Kolonicke sedl 82.77 320 *i*P **P 04 29 54.7 +0.9**
KOLS *e* 04 29 59.9
BILL Bilibino 82.94 20 *e*P **P 04 29 52.4 -1.9**
BILL pmax pmax
comp=Z,5.0nm,1.7s,mb4.3
BILL Bilibino 82.94 20 *e*P **P 04 29 52.5 -1.8**
SUW Suwalki 83.22 325 *e*P **P 04 29 56.9 +0.9**
CRVS Cervenica-Dubn 83.29 319 *e*P **P 04 29 59.4 +2.9**
FINES FINESS Array B 83.48 332 *i*P **P 04 29 57.3 +0.1**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 83.48 332 P **P 04 29 57.3 +0.1**
comp=Z,3.9nm,0.6s,mb4.7,baz=103,slow=6.1,SNR=32

FINES LR LR 05 15 05.1
comp=Z,480nm,18.6s,MS4.9,baz=303,slow=41
KAF Kangasniemi 83.55 333 *e*p **P 04 29 57.6 +0.1**
comp=Z,9.9nm,0.8s,mb5.0,baz=100,slow=4.6
KAF Kangasniemi 83.55 333 *e*P **P 04 29 57.6 +0.1**
KAF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
OJC Ojcow 84.58 321 *e*P **P 04 30 03.1 +0.1**
PKSM Moragy 84.76 316 ⇑P **P 04 30 04.5 +0.5**
ARCES ARCESS Array B 85.88 340 P **P 04 30 10.0 +1.0**
comp=Z,10nm,1.0s,mb5.0,baz=153,slow=2.7,SNR=8.6
ARCES LR LR 05 13 13.0
comp=Z,572nm,21.0s,MS5.0,baz=107,slow=39
ARCES ARCESS Array B 85.88 340 P **P 04 30 10.0 +1.0**
MORC Moravsky Berou 85.96 320 *e*P **P 04 30 10.4 +0.5**
comp=Z,31nm,1.8s,mb5.2
ZST Bratislava 86.05 318 *e*P **P 04 30 11.8 +1.4**
DPC Dobruska-Polom 86.81 320 *e*P **P 04 30 15.3 +1.3**
PRU Pruhonice 87.91 320 *e*P **P 04 30 20.8 +1.5**
PVCC Panska Ves 87.94 320 *e*P **P 04 30 21.2 +1.8**
BRG Berggiesshubel 88.36 321 *e*P **P 04 30 22.8 +1.3**
BRG pmax pmax
comp=Z,17nm,1.7s,mb5.0
BRG Berggiesshubel 88.36 321 *e*P **P 04 30 22.8 +1.3**
comp=Z,17nm,1.7s,mb5.0
GERES GERESS Array B 88.37 319 P **P 04 30 22.4 +0.9**
comp=Z,3.2nm,1.0s,mb4.5,baz=108,slow=4.2,SNR=12
QSPA South Pole Qui 88.39 180 ⇓*i*P **P 04 30 22.8 +1.8**
comp=Z,15nm,1.1s,mb5.1
KHC Kasperske Hory 88.47 319 ⇑*i*P **P 04 30 22.7 +0.7**
KHC Kasperske Hory 88.47 319 ⇑*i*P **P 04 30 22.8 +0.8**
KHC Kasperske Hory 88.47 319 *e*P **P 04 30 26.7 +4.7**
CLL Collm 88.99 321 *e*P **P 04 30 25.0 +0.5**
CLL pmax pmax
comp=Z,14nm,1.3s,mb5.1
CLL Collm 88.99 321 *e*P **P 04 30 25.0 +0.5**
comp=Z,14nm,1.3s,mb5.1
CLL Collm 88.99 321 P **P 04 30 25.0 +0.5**
comp=Z,logA/T=1.0,mb5.1
NKC Novy Kostel 89.27 320 *e*P **P 04 30 27.1 +1.3**
MOX Moxa 89.83 320 *e*P **P 04 30 30.0 +1.6**
GRA1 Grafenberg Arr 90.04 320 *e*P **P 04 30 30.3 +0.9**
comp=Z,13nm,1.3s,mb5.1
GRF Grafenberg Arr 90.04 320 *e*P **P 04 30 30.3 +0.9**
GRF pmax pmax
comp=Z,13nm,1.3s,mb5.1
GRF Grafenberg Arr 90.04 320 *e*P **P 04 30 30.3 +0.9**
comp=Z,13nm,1.3s,mb5.1
NOA NORSAR Array B 90.50 331 LR LR 05 15 52.5
comp=Z,231nm,19.6s,MS4.6,baz=270,slow=39
IMA Indian Mountai 98.22 23 *e*P **P 04 31 10.1 +3.6**
comp=Z,18nm,0.8s,mb5.6
TBI Tubual 108.65 115 *e*LR LR 05 07 34.7
comp=Z,467nm,23.8s
PPT Papeete 109.46 109 *e*LR LR 05 07 57.7
comp=Z,484nm,23.8s
YKA Yellowknife Ar 114.11 17 *e*PKIKP PKPdf 04 36 08.5 -4.1
YKA Yellowknife Ar 114.11 17 PKP PKPdf 04 36 08.5 -4.1
comp=Z,0.3nm,0.8s,baz=0.7,slow=2.0,SNR=5.5
YKA PP PP 04 36 59.9 -7.3
comp=Z,0.3nm,0.8s,baz=330,slow=7.4,SNR=5.7
YKA Yellowknife Ar 114.11 17 PKP PKPdf 04 36 08.5 -4.1
YKA PP PP 04 36 59.9 -7.3
RKT Rikitea 121.65 118 *e*LR LR 05 13 35.9
comp=Z,551nm,25.8s
NVAR Mina Array Bea 129.60 39 PKP PKPdf 04 36 41.5 -1.7
comp=Z,1.1nm,0.8s,baz=317,slow=0.5,SNR=5.6
PDAR Pinedale Array 131.46 28 PKP PKPdf 04 36 43.8 -2.9
comp=Z,0.4nm,0.7s,baz=315,slow=2.1,SNR=3.7
MSU Marysvale 133.20 34 PKP PKPdf 04 36 49.5 -0.5
PV10 Paradox Valley 135.01 32 *e*PKP PKPdf 04 36 50.6 -2.8
BDFB Brasilia 143.58 241 *e*PKIKP PKPdf 04 37 06.1 -3.2
BDFB Brasilia 143.58 241 PKP PKPdf 04 37 06.0 -3.3
comp=Z,2.1nm,0.8s,baz=105,slow=2.5,SNR=3.1
LTX Lajitas 144.68 36 *e*PKPdf PKPdf 04 37 07.2 -3.7
TXAR Lajitas Array 144.68 36 PKP PKPdf 04 37 06.9 -4.0
comp=Z,15nm,0.7s,baz=262,slow=1.1,SNR=148
WVT Waverly 144.95 10 *e*PKPdf PKPdf 04 37 06.5 -4.7
MIAR Mount Ida 145.01 19 *e*PKPdf PKPdf 04 37 06.7 -4.6
TZTN Tazewell 145.08 4 *e*PKPdf PKPdf 04 37 06.9 -4.5
UALR University of 145.18 17 *e*PKPdf PKPdf 04 37 06.8 -4.9
JCT Junction City 145.93 31 *e*PKPdf PKPdf 04 37 10.3 -2.8
CPCT Cooper Cave 146.08 6 *e*PKPdf PKPdf 04 37 09.6 -3.6
SWET Sewanee 146.15 8 *e*PKPdf PKPdf 04 37 10.1 -3.2
OXF Oxford 146.19 13 *e*PKPdf PKPdf 04 37 09.0 -4.4
NATX Nacogdoches 147.14 23 *e*PKPdf PKPdf 04 37 11.8 -3.2
JSC Jenkinsville 147.44 1 *e*PKP2 PKPab 04 37 14.1 -2.7
LRAL Lakeview Retre 148.11 10 *e*PKPbc PKPdf 04 37 16.4 -0.2
GOGA Godfrey 148.20 5 *e*PKPbc PKPdf 04 37 16.1 -0.6
LPAZ La Paz 158.44 214 *e*PKIKP PKPdf 04 37 29.1 -2.6
LPAZ La Paz 158.44 214 PKP PKPdf 04 37 28.2 -3.4
comp=Z,2.1nm,1.1s,baz=59,slow=6.0,SNR=5.1
LPAZ La Paz 158.44 214 PKPdf PKPdf 04 37 29.1 -2.6

BJI ***12*** *04:29:51.9, 2.64S×99.92E, h30km, mB5.3, mb4.8, Ms5.2, Msz5.0*
DJA ***12*** *04:29:56.9±0.7, 1.95S×99.60E, h33km, mb5.3/6, Error ellipse: s-maj=25.9km s-min=5.9km az=63.0*
MOS ***12*** *04:29:59.4±1.0, 1.71S×99.88E, h33km, mb5.5/30, MS4.6/8, Error ellipse: s-maj=10.8km s-min=5.6km az=124.2*
HRVD ***12*** *04:30:00.6±0.5, 1.79S×99.81E, h26km±1km, MW5.2/52, Centroid moment Tensor Solution. LP body waves: s35,c49;Mantle waves: s52,c87; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.21±.36; $M_{\theta\theta}$-2.22±.22; $M_{\phi\phi}$-2.00±.26; $M_{r\theta}$0.66±.38; $M_{\theta\phi}$3.80±.14; $M_{\phi r}$4.85±.52; Best double couple: $M_0$7.167×10^{16} NP1: ϕ_s106°, δ38°, λ36°. NP2:ϕ_s346°, δ69°, λ122°. Principal axes: T 7.506, Plg55°, Azm296°; N -.687, Plg30°, Azm153°; P -6.829, Plg17°, Azm52°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***12*** *04:30:00.7±0.1, 1.76S×99.80E, h30km, mb5.3/53, MS5.1/103 Error ellipse: s-maj=5.6km s-min=3.2km az=223.0*
NEIC Felt [III] at Padang and [II] at Padangpanjang, Sumatra.
IDC ***12*** *04:30:01.3±1.9, 1.77S×99.85E, h33km±12km, mb4.6/18, mb1 4.7/18, mb1mx4.7/19, mbtmp4.8/18, MS4.8/9, Ms1 4.8/9, ms1mx4.5/24, Error ellipse: s-maj=17.5km s-min=8.8km az=53.0*
CSEM ***12*** *04:30:05.3, 0.67S×99.67E, h33km, mb5.5*
ISC 12 04:29:59.0±0.2, 1.78S±0.03×99.81E±0.03, h32km, h32km±.9km:pP-P, n343, σ1°03/240, mb5.1/87, MS5.0/125, 26C-25D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.44**	**24**	*e*P	**Pn**	**04 30 24.0**	**+0.7**
PSI	**Prapat**	**4.53**	**349**	*e*P	**Pn**	**04 31 07.2**	**-0.1**
KGM	**Kluang**	**5.16**	**43**	P	**Pn**	**04 31 18.2**	**+2.1**
IPM	**Ipoh**	**6.44**	**11**	P	**Pn**	**04 31 34.5**	**+0.3**
PENI	**Pendagan**	**6.54**	**125**	⇓*e*P	**Pn**	**04 31 34.8**	**-0.8**
	1μm,0.6s						
PENI				*i* pP		04 31 35.2	
PENI	**Pendagan**	**6.54**	**125**	⇑*i* pP		04 31 35.2	
KULM	**Kulim**	**7.08**	**7**	*e*P	**Pn**	**04 31 42.8**	**-0.4**
PASI	**Pasiripis**	**7.55**	**130**	*e*P	**Pn**	**04 31 47.4**	**-2.4**
PULI	**Pulasari**	**7.64**	**127**	⇓*i*P	**Pn**	**04 31 49.9**	**-1.1**
	1μm,0.5s						
SNG	**Songkhla**	**8.94**	**5**	P	**P**	**04 32 09.0**	**0.0**
	170nm,0.8s						
KSM	**Kuching**	**10.99**	**73**	*e*P	**P**	**04 32 37.0**	**-0.3**
SRDI	**Scrawed**	**15.74**	**115**	⇓*i*P	**P**	**04 33 39.0**	**-1.4**
	282nm,0.3s						
KELI	**Kelakatan**	**15.96**	**114**	⇑*i*P	**P**	**04 33 43.9**	**+0.8**
	105nm,0.2s						
RATI	**Rata**	**17.10**	**114**	⇓*i*P	**P**	**04 33 56.3**	**-1.3**
	286nm,0.2s						
KEDI	**Kedomdong**	**17.55**	**113**	⇑*i*P	**P**	**04 34 01.9**	**-1.2**
	66nm,0.4s						
KKM	**Kota Kinabalu**	**18.14**	**64**	*e*P	**P**	**04 34 11.7**	**+1.2**
KKM	**Kota Kinabalu**	**18.14**	**64**	P	**P**	**04 34 11.6**	**+1.1**
TSM	**Tawau**	**19.04**	**71**	P	**P**	**04 34 22.1**	**+0.7**
TANI	**Tanete Lipujan**	**19.62**	**95**	*e*P	**P**	**04 34 27.5**	**-0.6**
NINI	**Niniconang**	**20.09**	**98**	*e*P	**P**	**04 34 32.7**	**-0.3**
CM31	**Chiang Mai Arr**	**20.13**	**358**	*e*P	**P**	**04 34 30.8**	**-2.6**
	10nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.13**	**358**	*e*P	**P**	**04 34 31.9**	**-1.5**
CMAR	**Chiang Mai Arr**	**20.13**	**358**	P	**P**	**04 34 31.9**	**-1.5**
	3.9nm,0.5s,baz=185,slow=10.0,SNR=25						

CMAR				S	S	04 38 26.7	+14
	1.1nm,0.3s,baz=247,slow=22,SNR=5.4						
CMAR				ScP		04 42 22.5	
	0.9nm,0.5s,baz=226,slow=2.9,SNR=4.6						
CMAR				LR	LR	04 42 45.5	
	comp=Z,2μm,18.6s,MS4.5,baz=190,slow=38						
BUNI	**Buntu Taipa**	**20.58**	**96**	*eP*	**P**	**04 34 38.3**	**+0.2**
PALK	**Pallekele**	**21.08**	**295**	*eP*	**P**	**04 34 43.4**	**+0.2**
	190nm,1.4s,mb5.2						
PALK				LR	LR		
	comp=Z,645nm,19.0s,MS4.0						
QIZ	**Qiongzhong**	**22.91**	**25**	*eP*	**P**	**04 35 04.3**	**+2.7**
QIZ				*eS*	**S**	**04 39 08.1**	**+3.2**
QIZ				LR	LR		
	comp=E,3μm,19.7s						
QIZ				LR	LR		
	comp=Z,3μm,12.5s						
QIZ	**Qiongzhong**	**22.91**	**25**	PFAKE		04 35 10.0	+8.4
QIZ				LR	LR		
	comp=Z,2μm,20.0s,MS4.5						
VIS	**Vishakhapatnam**	**25.28**	**321**	*eP*	**P**	**04 35 24.1**	**-0.3**
KMI	**Kunming**	**26.90**	**6**	P	**P**	**04 35 41.7**	**+2.4**
KMI				LR	LR		
	comp=N,3μm,13.9s,MS4.9						
KMI				LR	LR		
	comp=E,949nm,15.8s,MS4.9						
KMI				LR	LR		
	comp=Z,2μm,15.2s,MS4.9						
KMI	**Kunming**	**26.90**	**6**	*eP*	**P**	**04 35 41.7**	**+2.4**
MBWA	**Marble Bar**	**27.35**	**136**	*eP*	**P**	**04 35 44.0**	**+0.5**
	comp=Z,17nm,0.6s,mb4.8						
MBWA				LR	LR		
	comp=Z,1μm,19.0s,MS4.6						
FITZ	**Fitzroy Crossi**	**30.09**	**124⇑**	*iP*	**P**	**04 36 07.6**	**-0.6**
	comp=Z,86nm,0.9s,mb5.5						
FITZ	**Fitzroy Crossi**	**30.09**	**124**	LR	LR	04 50 23.0	
	comp=Z,1μm,19.0s,MS4.6,baz=316,slow=41						
JIRN	**Jiri**	**32.07**	**337**	*eP*	**P**	**04 36 25.8**	**+0.3**
	comp=Z,145nm,1.2s,mb5.7						
PKI	**Pulchoki**	**32.31**	**336**	*eP*	**P**	**04 36 27.4**	**-0.1**
LSA	**Lhasa**	**32.38**	**346**	*eP*	**P**	**04 36 28.6**	**+0.4**
	comp=Z,22nm,0.6s,mb5.2						
LSA				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
GUN	**Gumba**	**32.42**	**337**	*eP*	**P**	**04 36 28.8**	**+0.3**
	comp=Z,68nm,0.7s,mb5.6						
DMN	**Daman**	**32.47**	**335**	*eP*	**P**	**04 36 28.9**	**0.0**
	comp=Z,47nm,1.2s,mb5.2						
POO	**Poona**	**32.55**	**309**	*eP*	**P**	**04 36 26.5**	**-3.2**
KKN	**Kakani**	**32.55**	**336**	*eP*	**P**	**04 36 29.5**	**-0.2**
	comp=Z,70nm,1.2s,mb5.5						
GKN	**Gorkha**	**33.01**	**335**	*eP*	**P**	**04 36 33.3**	**-0.3**
	comp=Z,115nm,1.2s,mb5.7						
ENH	**Enshi**	**33.19**	**15**	*eP*	**P**	**04 36 32.7**	**-2.5**
	comp=Z,16nm,0.6s,mb5.1						
ENH				LR	LR		
	comp=Z,828nm,19.0s,MS4.5						
KOLN	**Koldanda**	**33.26**	**333**	*eP*	**P**	**04 36 35.8**	**0.0**
	comp=Z,116nm,1.3s,mb5.7						
TATO	**Taipei**	**33.90**	**37**	PFAKE		04 36 50.0	+8.6
TATO				LR	LR		
	comp=Z,961nm,20.0s,MS4.5						
NWAO	**Narrogin (SRO)**	**35.04**	**154**	*eP*	**P**	**04 36 51.9**	**+0.8**
NWAO	**Narrogin (SRO)**	**35.04**	**154**	P	**P**	**04 36 51.9**	**+0.8**
	comp=Z,22nm,0.9s,mb5.1,baz=287,slow=10,SNR=5.6						
NWAO				LR	LR	04 50 05.0	
	comp=Z,1μm,20.0s,MS4.7,baz=346,slow=34						
XAN	**Xi'an**	**36.65**	**13**	P	**P**	**04 37 02.5**	**-2.2**
XAN				AMB	AMB		
	comp=Z,48nm,1.0s,mb5.3						
AJM	**Ajmer**	**37.14**	**321⇑**	*iP*	**P**	**04 37 07.0**	**-1.9**
LZH	**Lanzhou**	**37.86**	**5**	*eP*	**P**	**04 37 16.5**	**+1.6**
LZH				AP	pP	04 37 24.5	+0.1
LZH				XP	sP	04 37 28.8	+0.4
LZH				PP	PP	04 38 46.5	+1.8
LZH				*eS*	**S**	**04 43 06.0**	**+2.4**
LZH				AMB	AMB		
	comp=Z,36nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,129nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,12.0s						
LZH				LR	LR		
	comp=Z,4μm,14.3s,MS5.4						
LZH	**Lanzhou**	**37.86**	**5**	*eP*	**P**	**04 37 16.5**	**+1.6**
	comp=Z,36nm,1.5s,mb4.9						
LZH				pP	pP	04 37 24.5	+0.1
LZH				sP	sP	04 37 28.8	+0.4
LZH				PP	PP	04 38 46.5	+1.8
LZH				*eS*	**S**	**04 43 06.0**	**+2.4**
LZH				ScP		04 43 17.5	
LZH				sS		04 43 20.5	
LZH				SS	SS	04 45 43.0	+2.8
LZH				LR	LR		
	comp=Z,4μm,14.3s,MS5.4						
WRA	**Warramunga Arr**	**38.27**	**121**	*eP*	**P**	**04 37 18.2**	**-0.2**
WRA	**Warramunga Arr**	**38.27**	**121**	P	**P**	**04 37 18.2**	**-0.2**
	comp=Z,20nm,0.4s,mb5.2,baz=303,slow=9.0,SNR=80						
WRA				S	**S**	**04 43 07.1**	**-2.8**
	comp=Z,7.4nm,1.2s,baz=298,slow=14,SNR=5.3						
WRAB	**Tennant Creek**	**38.27**	**121⇑**	*iP*	**P**	**04 37 18.2**	**-0.3**
WRAB	**Tennant Creek**	**38.27**	**121**	*eP*	**P**	**04 37 18.0**	**-0.5**
	comp=Z,45nm,0.7s,mb5.3						
WRAB				LR	LR		
	comp=Z,617nm,20.0s,MS4.4						
SSE	**Sheshan**	**38.51**	**30**	P	**P**	**04 37 17.5**	**-2.8**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,641nm,12.0s						
SSE				LR	LR		
	comp=N,681nm,20.0s,MS4.6						
SSE				LR	LR		
	comp=E,533nm,20.0s,MS4.6						
SSE				LR	LR		
	comp=Z,708nm,14.3s						
SSE	**Sheshan**	**38.51**	**30**	P	**P**	**04 37 17.5**	**-2.8**
	comp=Z,39nm,0.7s,mb5.2						
SSE				LR	LR		
	comp=Z,710nm,14.3s,MS4.6						
FORT	**Forrest**	**39.33**	**140**	*eP*	**P**	**04 37 28.6**	**+1.4**
	comp=Z,645nm,0.7s						
ASPA	**Alice Springs**	**39.53**	**126⇑**	*iP*	**P**	**04 37 29.5**	**+0.5**
ASPA				*eS*	**S**	**04 43 26.9**	**-2.1**
ASPA	**Alice Springs**	**39.53**	**126**	*eP*	**P**	**04 37 29.5**	**+0.5**
ASAR	**Alice Springs**	**39.53**	**126**	*eP*	**P**	**04 37 29.6**	**+0.6**
ASAR	**Alice Springs**	**39.53**	**126**	P	**P**	**04 37 29.6**	**+0.6**
	comp=Z,20nm,0.7s,mb5.0,baz=300,slow=7.6,SNR=80						
ASAR				PcP	PcP	04 39 38.1	+1.5
	comp=Z,5.2nm,0.9s,baz=306,slow=2.8,SNR=3.7						
ASAR				ScP		04 43 24.3	
	comp=Z,2.4nm,1.0s,baz=315,slow=5.3,SNR=4.4						
ASAR				S	**S**	**04 43 28.9**	**-0.1**
	comp=Z,7.7nm,0.9s,baz=298,slow=15,SNR=14						
ASAR				LR	LR	04 53 25.6	
	comp=Z,1μm,19.8s,MS4.7,baz=304,slow=36						
ASAR	**Alice Springs**	**39.53**	**126**	P	**P**	**04 37 29.6**	**+0.6**
ASAR				PcP	PcP	04 39 38.1	+1.5
ASAR				ScP		04 43 24.3	
ASAR				S	**S**	**04 43 28.9**	**-0.1**
ASAR				LR	LR	04 53 25.6	
SDNR	**Sundarnagar**	**39.57**	**329**	*eP*	**P**	**04 37 29.0**	**-0.2**
GTA	**Gaotai**	**40.99**	**0**	*eP*	**P**	**04 37 41.7**	**+0.9**
GTA				AP	pP	04 37 48.5	-1.9
GTA				XP	sP	04 37 51.5	-2.8
GTA				PP	PP	04 39 17.1	-1.2
GTA				S	**S**	**04 43 49.3**	**-1.3**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.2						
GTA				AMB	AMB		
	comp=Z,321nm,4.2s						
GTA				LR	LR		
	comp=N,1μm,14.8s,MS5.0						
GTA				LR	LR		
	comp=E,986nm,14.4s,MS5.0						
GTA				LR	LR		
	comp=Z,1μm,14.8s,MS5.0						
HHC	**Hu-ho-hao-te**	**43.76**	**13**	*eP*	**P**	**04 38 04.0**	**+0.5**
HHC				AP	pP	04 38 14.4	+1.4
HHC				XP	sP	04 38 17.6	+0.6
HHC				PP	PP	04 39 50.3	+3.3
HHC				SCP		04 43 34.6	
HHC				S	**S**	**04 44 33.0**	**+1.7**
HHC				XS		04 44 50.3	
HHC				SCS	ScS	04 47 56.8	-0.9
HHC				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,379nm,8.9s						
HHC				LR	LR		
	comp=N,2μm,14.3s,MS5.3						
HHC				LR	LR		
	comp=E,1μm,14.7s,MS5.3						
HHC				LR	LR		
	comp=Z,2μm,14.7s,MS5.1						
BJT	**Baijiatuau**	**44.22**	**18**	PFAKE		04 38 20.0	+13
BJT				LR	LR		
	comp=Z,907nm,20.0s,MS4.7						
BJI	**Beijing**	**44.24**	**18**	P	**P**	**04 38 07.1**	**-0.2**
BJI				S	**S**	**04 44 49.7**	**+12**
BJI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.5						
BJI				AMB	AMB		
	comp=Z,218nm,9.5s						
BJI				LR	LR		
	comp=N,2μm,21.3s						
BJI				LR	LR		
	comp=E,751nm,15.0s						
BJI				LR	LR		
	comp=Z,497nm,19.1s,MS4.5						
BJI	**Beijing**	**44.24**	**18**	*eP*	**P**	**04 38 07.1**	**-0.2**
BJI	**Beijing**	**44.24**	**18**	P	**P**	**04 38 07.1**	**-0.2**
	comp=Z,13nm,1.3s,mb4.5						
BJI				S	**S**	**04 44 49.7**	**+12**
BJI				LR	LR		
	comp=Z,500nm,19.1s,MS4.5						
KSH	**Kashi**	**46.55**	**334**	*eP*	**P**	**04 38 25.4**	**-0.4**
KSH				*eAP*	pP	04 38 35.0	-0.4
KSH				*eXP*	sP	04 38 39.0	-0.3
KSH				*ePCP*	PcP	04 39 55.5	-4.5
KSH				*ePP*	PP	04 40 14.2	-0.7
KSH				*eSCP*		04 43 49.6	
KSH				*ePCS*		04 43 53.6	
KSH				*eS*	**S**	**04 45 09.4**	**-2.1**
KSH				*eSCS*	ScS	04 48 15.5	0.0
KSH				AMB	AMB		
	comp=Z,610nm,3.7s						
KSH				LR	LR		
	comp=N,2μm,16.4s,MS5.2						
KSH				LR	LR		
	comp=E,1μm,12.5s,MS5.2						
WMQ	**Urumqi**	**46.68**	**348**	⇑P	**P**	**04 38 27.2**	**+0.5**
WMQ				AP	pP	04 38 37.2	+0.9
WMQ				XP	sP	04 38 41.2	+1.0
WMQ				PCP	PcP	04 40 01.5	+1.1
WMQ				PP	PP	04 40 16.6	+0.5
WMQ				S	**S**	**04 45 13.1**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,76nm,1.2s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,24nm,4.0s						
WMQ				LR	LR		
	comp=N,508nm,21.2s,MS4.5						
WMQ				LR	LR		
	comp=E,355nm,21.2s,MS4.5						
WMQ				LR	LR		
	comp=Z,399nm,21.2s,MS4.3						
GUMO	**Guam**	**47.21**	**70**	PFAKE		04 38 40.0	+8.7
GUMO				LR	LR		
	comp=Z,573nm,19.0s,MS4.6						
PMG	**Port Moresby**	**47.69**	**101**	PFAKE		04 38 50.0	+15
PMG				LR	LR		
	comp=Z,821nm,21.0s,MS4.7						
ULHL	**Ulahol**	**48.73**	**337**	P	**P**	**04 38 42.9**	**+0.2**
	SNR=14						
CTA	**Charters Tower**	**48.86**	**115**	*eP*	**P**	**04 38 43.9**	**-0.1**
	comp=Z,10nm,0.9s,mb4.9						
CTA				*i*	pP	04 38 53.2	-0.6
CTAO	**Charters Tower**	**48.86**	**115**	*eP*	**P**	**04 38 43.9**	**-0.2**
	comp=Z,16nm,1.0s,mb5.0						
CTAO				LR	LR		
	comp=Z,1μm,19.0s,MS4.9						
KZA	**Kyzart**	**48.99**	**336**	P	**P**	**04 38 45.4**	**+0.7**
	SNR=12						
UCH	**Uchtor**	**49.42**	**335**	P	**P**	**04 38 48.6**	**+0.6**
	SNR=18						
STKA	**Stephens Creek**	**49.44**	**132⇓**	*iP*	**P**	**04 38 48.8**	**+0.5**
	comp=Z,22nm,1.0s,mb5.1						
STKA	**Stephens Creek**	**49.44**	**132**	P	**P**	**04 38 49.2**	**+0.9**
	comp=Z,16nm,0.7s,mb5.2,baz=309,slow=7.7,SNR=37						
STKA				S	**S**	**04 45 55.8**	**+3.6**
	comp=Z,2.1nm,0.9s,baz=179,slow=20,SNR=4.3						
TKM2	**Tokmak 2**	**49.56**	**337**	P	**P**	**04 38 49.3**	**+0.2**
	SNR=34						
AML	**Almayashu**	**49.69**	**335**	P	**P**	**04 38 50.5**	**+0.4**
	SNR=20						
SONM	**Songino Array**	**49.75**	**6**	P	**P**	**04 38 50.4**	**-0.1**
	comp=Z,4.6nm,0.6s,mb4.7,baz=189,slow=7.8,SNR=31						
SONM				ScP		04 44 04.8	
	comp=Z,2.0nm,1.0s,baz=180,slow=3.7,SNR=4.8						
AAK	**Ala-Archa**	**49.76**	**336**	P	**P**	**04 38 51.3**	**+0.6**
	SNR=7.7						
AAK	**Ala-Archa**	**49.76**	**336**	*iP*	**P**	**04 38 50.4**	**-0.3**
ULN	**Ulaanbaatar**	**49.85**	**6**	*eP*	**P**	**04 38 51.2**	**0.0**
	comp=Z,11nm,0.7s,mb5.0						
ULN				LR	LR		
	comp=Z,1μm,22.0s,MS4.8						
FRU	**Bishkek**	**49.88**	**336**	*eP*	**P**	**04 38 52.5**	**+0.9**
FRU				pmax	pmax		
	comp=Z,88nm,2.0s,mb5.4						
CHMS	**Chumysh**	**49.96**	**336**	P	**P**	**04 38 52.0**	**-0.2**
	SNR=6.0						
EKS2	**Erkin-Say**	**50.09**	**335**	P	**P**	**04 38 53.6**	**+0.5**
	SNR=20						
USP	**Ospenovka**	**50.29**	**336**	P	**P**	**04 38 54.5**	**-0.2**
	SNR=29						
MKAR	**Makanchi Array**	**50.77**	**345**	*iP*	**P**	**04 38 57.8**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,24nm,1.0s						
MKAR	**Makanchi Array**	**50.77**	**345**	P	**P**	**04 38 57.9**	**-0.4**
	comp=Z,5.7nm,0.4s,mb4.8,baz=149,slow=7.1,SNR=65						
MKAR				S	**S**	**04 46 13.2**	**+2.9**
	comp=Z,3.6nm,1.1s,baz=165,slow=14,SNR=10						
KKAR	**Karatay Array**	**51.87**	**333**	*iP*	**P**	**04 39 05.1**	**-1.6**
KKAR				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.0						
ZAK	**Zakamensk**	**52.05**	**3**	*eP*	**P**	**04 39 06.5**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.8s						
MAJO	**Matsushiro**	**52.23**	**39**	PFAKE		04 39 20.0	+11
MAJO				LR	LR		
	comp=Z,663nm,20.0s,MS4.7						
MAT	**Matsushiro**	**52.23**	**39**	*eP*	**P**	**04 39 09.0**	**-0.5**
MAT	**Matsushiro**	**52.23**	**39**	P	**P**	**04 39 09.2**	**-0.3**
MJAR	**Matsushiro Arr**	**52.23**	**39**	*eP*	**P**	**04 39 09.7**	**+0.2**
MJAR	**Matsushiro Arr**	**52.23**	**39**	P	**P**	**04 39 09.7**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.3,baz=209,slow=8.7,SNR=8.0						
MOY	**Mondy**	**53.26**	**1**	*eP*	**P**	**04 39 26.8**	**+10**
MDJ	**Mudanjiang**	**53.28**	**26**	P	**P**	**04 39 17.4**	**+0.2**
MDJ				AP	pP	04 39 26.1	-0.9
MDJ				XP	sP	04 39 29.9	-0.8
MDJ				PCS		04 44 22.8	
MDJ				S	**S**	**04 46 47.2**	**+2.5**
MDJ				XS		04 47 01.8	
MDJ				SS	SS	04 50 29.6	+5.7
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,218nm,15.0s						
MDJ				LR	LR		
	comp=N,456nm,17.2s,MS5.0						
MDJ				LR	LR		
	comp=E,939nm,17.2s,MS5.0						
MDJ				LR	LR		
	comp=Z,1μm,15.5s,MS5.1						
MDJ	**Mudanjiang**	**53.28**	**26**	PFAKE		04 39 30.0	+13
MDJ				LR	LR		
	comp=Z,733nm,19.0s,MS4.8						
TLY	**Talaya**	**53.36**	**3**	*eP*	**P**	**04 39 17.6**	**-0.1**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
HIA	**Hailar**	**53.69**	**16**	PFAKE		04 39 30.0	+10
HIA				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
ARMA	**Armidale**	**56.68**	**126**	*eP*	**P**	**04 39 43.6**	**+1.5**
KLR	**Kul'dur**	**57.81**	**24**	*eP*	**P**	**04 39 45.2**	**-4.6**
KLR				MLR	MLR		
	comp=E,900nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS5.4						
NVS	**Novosibirsk**	**58.06**	**349⇑**	*iP*	**P**	**04 39 49.0**	**-2.5**
NVS				*eS*	**S**	**04 47 41.0**	**-7.4**
NVS				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
NVS				pmax	pmax		
	comp=N,27nm,1.4s						
NVS				pmax	pmax		
	comp=E,13nm,1.2s						
NVS				smax			
	comp=E,60nm,2.2s						
ATD	**Arta Tunnel**	**58.13**	**285**	LR	LR	05 00 16.9	
	comp=E,601nm,20.2s,MS4.7,baz=94,slow=31						
BVA0	**Borovoye Array**	**59.91**	**340**	*iP*	**P**	**04 40 02.3**	**-2.0**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
HNR	**Honiara**	**60.26**	**100**	PFAKE		04 40 20.0	+13
HNR				LR	LR		
	comp=Z,430nm,19.0s,MS4.6						
CHKZ	**Chkalovo**	**60.38**	**341**	P	**P**	**04 40 05.8**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.4						
CHKZ	**Chkalovo**	**60.38**	**341⇑**	*eP*	**P**	**04 40 06.0**	**-1.5**
	comp=Z,48nm,1.3s,mb5.4						
BOD	**Bodaibo**	**60.50**	**9**	*eP*	**P**	**04 39 57.3**	**-11**
BOD				*e*	pP	04 40 06.4	-12
BOD				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
YSS	**Yuzh-Sakhalins**	**61.40**	**32**	*eP*	**P**	**04 40 14.6**	**+0.1**
YSS				*e*		04 40 22.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
YSS				MLR	MLR		
	comp=N,500nm,15.0s,MS4.9						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.4						
YSS				MLR	MLR		
	comp=E,300nm,13.0s,MS4.9						
YSS	**Yuzh-Sakhalins**	**61.40**	**32**	*eP*	**P**	**04 40 14.4**	**-0.1**
	comp=E,51nm,1.0s,mb5.6						
YSS				LR	LR		
	comp=Z,417nm,21.0s,MS4.6						
KMBO	**Kilima Mbogo**	**62.53**	**270**	*iP*	**P**	**04 40 23.8**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KMBO	**Kilima Mbogo**	**62.53**	**270**	P	**P**	**04 40 23.2**	**+0.7**
	comp=Z,10nm,1.0s,mb4.9,baz=56,slow=7.4,SNR=20						
KMBO				LR	LR	05 04 26.2	
	comp=Z,1μm,18.7s,MS5.0,baz=95,slow=33						
KMBO	**Kilima Mbogo**	**62.53**	**270⇑**	*eP*	**P**	**04 40 23.1**	**+0.5**
	comp=Z,46nm,1.6s,mb5.4						
KMBO				LR	LR		
	comp=Z,985nm,19.0s,MS5.0						
CASY	**Casey**	**64.81**	**175**	PFAKE		04 40 50.0	+13
CASY				LR	LR		
	comp=Z,559nm,20.0s,MS4.8						
GNI	**Garni**	**65.23**	**316***c*	*iP*	**P**	**04 40 38.8**	**-1.1**
GNI				pmax	pmax		
	comp=Z,53nm,1.7s						
GNI	**Garni**	**65.23**	**316⇑**	*eP*	**P**	**04 40 39.0**	**-1.0**
	comp=Z,24nm,1.1s,mb5.1						
GNI				LR	LR		
	comp=Z,307nm,20.0s,MS4.5						
SVE	**Sverdlovsk**	**66.41**	**338⇑**	*iP*	**P**	**04 40 42.9**	**-4.2**
SVE				*e*		04 41 18.9	
SVE				pmax	pmax		
	comp=Z,100nm,1.7s,mb5.6						
SVE				MLR	MLR		
	comp=N,200nm,16.0s,MS4.5						
SVE				MLR	MLR		
	comp=E,100nm,16.0s,MS4.5						
SVE				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.7						
ARU	**Arti**	**66.93**	**337⇑**	*iP*	**P**	**04 40 48.6**	**-1.9**
ARU				*e*		04 41 17.5	
ARU				*e*		04 43 12.4	
ARU				*ePPP*	PPP	04 44 51.6	-4.9
ARU				*eS*	S	04 49 40.1	+0.3
ARU				*eSS*	SS	04 53 54.0	-6.1
ARU				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
ZEI	**Tsey**	**66.94**	**318**	*eP*	**P**	**04 40 50.2**	**-0.6**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
YAK	**Yakutsk**	**67.58**	**15**	*eP*	**P**	**04 40 53.8**	**-0.7**
YAK				*e*	pP	04 41 03.6	-0.9
YAK				*e*		04 41 23.5	
YAK				*eS*	S	04 49 46.8	-0.7
YAK				*e*		04 50 46.6	
YAK				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,11nm,1.2s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
YAK				pmax	pmax		
	comp=N,5.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
YAK				smax			
	comp=N,6.0nm,1.3s						
YAK				smax			
	comp=Z,4.0nm,0.9s						
YAK				smax			
	comp=E,4.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,401nm,16.0s,MS4.7						
YAK				MLR	MLR		
	comp=N,379nm,17.0s,MS4.7						
YAK				MLR	MLR		
	comp=E,242nm,19.0s,MS4.7						
YAK	**Yakutsk**	**67.58**	**15**	*eP*	**P**	**04 40 53.1**	**-1.4**
	comp=E,23nm,0.4s,mb5.6						
YAK				LR	LR		
	comp=Z,722nm,19.0s,MS4.9						
KIV	**Kislovodsk**	**68.25**	**319***c*	*iP*	**P**	**04 40 58.0**	**-1.0**
KIV				*e*		04 41 24.2	
KIV				*e*		04 43 28.9	
KIV				*eS*	S	04 49 57.8	+1.9
KIV				*eSS*	SS	04 54 22.4	+1.9
KIV				pmax	pmax		
	comp=Z,91nm,1.7s,mb5.5						
KIV				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.4						
KIV	**Kislovodsk**	**68.25**	**319⇑**	*eP*	**P**	**04 40 58.1**	**-0.9**
	comp=Z,51nm,1.1s,mb5.5						
KIV				LR	LR		
	comp=Z,81nm,20.0s,MS4.0						
GOF	**Gofitskoye**	**68.51**	**320⇓**	*iP*	**P**	**04 40 57.8**	**-2.8**
GOF				pmax	pmax		
	comp=Z,60nm,1.3s,mb5.4						
MALT	**Malatya**	**69.05**	**312⇑**	*eP*	**P**	**04 41 03.5**	**-0.6**
	comp=Z,34nm,1.4s,mb5.1						
KELT	**Kelkit**	**69.09**	**314**	*iP*	**P**	**04 41 09.5**	**+5.2**
EIL	**Elat**	**69.24**	**303⇑**	*eP*	**P**	**04 41 04.8**	**-0.5**
	comp=Z,47nm,1.4s,mb5.2						
GZT	**Gaziantep**	**69.37**	**311**	*iP*	**P**	**04 41 05.6**	**-0.4**
SOKR	**Solikamsk**	**69.79**	**338⇑**	*iP*	**P**	**04 41 08.5**	**+0.3**
SOKR				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.1						
KAHT	**Ahir Dag**	**69.98**	**311**	*iP*	**P**	**04 41 09.3**	**-0.4**
SOC	**Sochi**	**70.06**	**318**	*eP*	**P**	**04 41 08.1**	**-2.0**
SOC				*eS*	S	04 50 22.5	+5.2
SOC				*eSS*	SS	04 54 50.2	+1.7
SOC				pmax	pmax		
	comp=Z,53nm,1.3s,mb5.3						
SOC				pmax	pmax		
	comp=N,12nm,0.9s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.5s						
SOC				MLR	MLR		
	comp=Z,233nm,17.0s,MS4.5						
SOC				MLR	MLR		
	comp=N,303nm,25.0s						
SOC

ANN Anapa 72.05 318 *e*P **P** **04 41 18.6 -3.5**
ANN *e*S S 04 50 35.2 -5.0
ANN pmax pmax
comp=Z,25nm,1.4s,mb5.0
CDAG Cicekdag 72.46 313 *i* P **P** **04 41 23.2 -1.4**
BOYT Boyabat 72.63 314 *i* P **P** **04 41 24.7 -1.0**
MA2 Magadan 72.92 24 *e*P **P** **04 41 26.4 -0.5**
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
MA2 Magadan 72.92 24 *e*P **P** **04 41 26.6 -0.3**
comp=Z,20nm,0.6s,mb5.2
MA2 LR LR
comp=Z,524nm,21.0s,MS4.8
BR131 Keskin Array S 73.03 312 PFAKE 04 41 40.0 +12
BR131 LR LR
comp=Z,227nm,19.0s,MS4.5
BRTR Keskin Array B 73.03 312 P **P** **04 41 26.7 -1.3**
comp=Z,7.0nm,1.0s,mb4.5,baz=127,slow=6.2,SNR=39
PET Petropavlovsk 73.28 33 *e*P **P** **04 41 38.4 +9.2**
PET *e*S S 04 50 59.3 +5.3
PET pmax pmax
comp=Z,35nm,0.8s,mb5.3
PET MLR MLR
comp=Z,400nm,19.0s,MS4.7
ELDT Eldivan 73.41 313 *i* P **P** **04 41 29.8 -0.4**
VOR Voronezh 73.69 326 *e*P **P** **04 41 31.0 -0.5**
VOR *e**PP pP 04 41 40.0 -1.6
VOR pmax pmax
comp=Z,170nm,1.5s,mb5.8
SIM Simferopol' 74.31 318 P **P** **04 41 35.2 -0.1**
SIM pmax pmax
comp=Z,20nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,200nm,17.0s,MS4.5
LBTB Lobatse 74.94 245 PFAKE 04 41 50.0 +11
LBTB LR LR
comp=Z,1μm,20.0s,MS5.2
ESKT Eskisehir 75.05 312 *i* P **P** **04 41 38.3 -1.4**
SEY Seymchan 75.50 22 *e*P **P** **04 41 42.4 +0.6**
SEY pmax pmax
comp=E,20nm,0.7s
SEY pmax pmax
comp=Z,40nm,0.7s,mb5.5
BOSA Boshof 75.59 241 P **P** **04 41 42.6 -0.4**
comp=Z,5.3nm,0.8s,mb4.5,baz=91,slow=6.9,SNR=7.9
BOSA LR LR 05 10 12.9
comp=Z,635nm,18.3s,MS5.0,baz=51,slow=32
TIXI Tiksi 75.67 9*c* *i*P **P** **04 41 41.0 -1.6**
TIXI pmax pmax
comp=Z,28nm,1.3s,mb5.0
TIXI Tiksi 75.67 9⇑ *i*P **P** **04 41 41.0 -1.6**
TIXI LR LR
comp=Z,1μm,21.0s,MS5.1
MOS Moscow 76.21 329 *e*P **P** **04 41 44.3 -1.6**
MOS *e* pP 04 41 55.1 -0.9
MOS *e* 04 44 33.1
MOS *e*S S 04 51 22.4 -4.1
MOS pmax pmax
comp=Z,300nm,2.1s,mb5.8
MOS pmax pmax
comp=Z,124nm,1.6s,mb5.6
ULDT Uludag 76.48 312 *i* P **P** **04 41 47.2 -0.6**
OBN Obninsk 76.51 328κ *i*P **P** **04 41 47.6 0.0**
OBN *e* pP 04 41 58.0 +0.3
OBN pmax pmax
comp=Z,104nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.7
OBN Obninsk 76.51 328 *e*P **P** **04 41 46.6 -1.0**
comp=Z,151nm,1.5s,mb5.7
OBN LR LR
comp=Z,151nm,19.0s,MS4.3
BTOK Tokmak 77.22 311 *i* P **P** **04 41 51.1 -0.8**
KDAG Bornova 77.50 310 *i* P **P** **04 41 52.2 -1.3**
SNZO South Karori 77.50 132 PFAKE 04 42 10.0 +17
SNZO LR LR
comp=Z,1μm,19.0s,MS5.2
SYO Syowa Base 78.01 199 ⇑P **P** **04 41 56.5 +0.9**
SYO Syowa Base 78.01 199 ⇑PcP PcP 04 42 04.0 -1.7
TIRR Tirgusor 78.06 316 ⇓P **P** **04 41 56.1 -0.3**
AYVA Ayvalik 78.13 311 *i* P **P** **04 41 56.0 -0.9**
KIS Kishinev 78.44 319 *e*P **P** **04 41 57.0 -1.5**
KIS *e* pP 04 42 09.0 +0.4
VRI Vrincioaia 79.56 317 ⇓P **P** **04 42 04.8 +0.2**
MLR Muntele Rosu 80.01 317 P **P** **04 42 07.3 +0.3**
comp=Z,38nm,1.1s,mb5.2,baz=84,slow=1.7,SNR=32
MLR Muntele Rosu 80.01 317 ⇓P **P** **04 42 07.6 +0.6**
MLR Muntele Rosu 80.01 317 ⇓P **P** **04 42 07.6 +0.6**
BURAR Bucovina Array 80.97 319 ⇓P **P** **04 42 13.0 +1.0**
BURAR Bucovina Array 80.97 319 ⇓P **P** **04 42 13.0 +1.0**
JOF Joensuu 81.94 335 *ep* **P** **04 42 15.2 -1.6**
SMY Shemya 81.95 36 PFAKE 04 42 30.0 +13
SMY LR LR
comp=Z,4μm,22.0s,MS5.7
TSUM Tsumeb 82.07 251 *e*P **P** **04 42 18.7 +0.4**
comp=Z,12nm,1.0s,mb4.8
TSUM LR LR
comp=Z,708nm,19.0s,MS5.0
LVV L'vov 82.21 321 *e*P **P** **04 42 18.5 +0.1**
VNDA Vanda 82.41 169 P **P** **04 42 20.7 +1.7**
comp=Z,5.0nm,1.0s,mb4.4,baz=296,slow=4.9,SNR=15
VNDA Vanda 82.41 169 P **P** **04 42 20.7 +1.7**
VNDA LR LR
comp=Z,442nm,21.0s,MS4.8
BOLS Boljevac 82.47 314⇓ *i*P **P** **04 42 20.0 0.0**
SKO Skopje 82.55 313 *i* P **P** **04 42 20.0 -0.4**
KWP Kalwaria 83.01 320 *e*P **P** **04 42 23.4 +0.8**
BILL Bilibino 83.02 20⇓ *i*P **P** **04 42 22.5 +0.2**
BILL pmax pmax
comp=Z,8.0nm,1.7s,mb4.5
SVIS Svilajnac 83.08 315 *e*P **P** **04 42 23.4 +0.3**
KOLS Kolonicke sedl 83.16 320 *e*P **P** **04 42 24.5 +1.1**
SUW Suwalki 83.60 325 *e*P **P** **04 42 25.4 -0.1**
FINES FINESS Array B 83.83 332 P **P** **04 42 26.9 +0.3**
comp=Z,3.2nm,0.5s,mb4.7,baz=111,slow=5.2,SNR=30
KAF Kangasniemi 83.90 333 *ep* **P** **04 42 25.7 -1.2**
comp=Z,12nm,0.8s,mb5.1
KAF Kangasniemi 83.90 333 *e*P **P** **04 42 25.7 -1.2**
KAF pmax pmax
comp=Z,12nm,0.8s,mb5.1
DIVS Divcibare 83.92 315⇓ *i*P **P** **04 42 27.6 +0.3**
KECS Kecovo 84.25 319 *e*P **P** **04 42 30.0 +1.1**
NIE Niedzica 84.51 320 *e*P **P** **04 42 30.5 +0.3**
PSZ Piszkesteto 84.55 318 *e*P **P** **04 42 30.3 -0.2**
comp=Z,19nm,1.4s,mb5.0
OJC Ojcow 84.97 321 *e*P **P** **04 42 33.0 +0.5**
PKSM Moragy 85.16 316 ⇓P **P** **04 42 33.8 +0.3**
VYHS Vyhne 85.34 319 *e*P **P** **04 42 35.2 +0.8**
VYHS *e*pP pP 04 42 46.2 +1.6
VYHS *e* 04 42 58.0
OKC Ostrava-Krasne 85.97 320 *e*P **P** **04 42 38.7 +1.2**
OKC *e*pP pP 04 42 49.5 +1.8
ARCES ARCESS Array B 86.20 340 P **P** **04 42 39.2 +1.0**
comp=Z,17nm,1.0s,mb5.2,baz=107,slow=2.9,SNR=13
MORC Moravsky Berou 86.35 320 *e*P **P** **04 42 39.6 +0.2**
comp=Z,9.8nm,1.2s,mb4.9
ZST Bratislava 86.45 318 *e*P **P** **04 42 40.9 +1.0**
ZST *e* pP 04 42 51.4 +1.3
DPC Dobruska-Polom 87.19 320 *e*P **P** **04 42 44.6 +1.1**
DPC *e*pP pP 04 42 54.7 +1.0
KSP Ksiaz 87.27 321 *e*P **P** **04 42 44.9 +1.1**
ARSA Arzberg 87.41 317⇓ *i*P **P** **04 42 45.8 +1.2**
comp=Z,15nm,1.4s,mb5.0
UPC Upice 87.41 321 *e*P **P** **04 42 45.5 +1.0**
BOJS Bojanci 87.44 316 *i* P **P** **04 42 46.0 +1.2**
PERS Pernice 87.63 317 *e*P **P** **04 42 46.9 +1.2**
NVL N'lazarevskaya 87.66 199⇓ *i*P **P** **04 42 45.3 +0.1**
NVL *e**PP pP 04 43 03.4 +7.9
NVL *e*SS SKS 04 53 14.1 -3.0
NVL pmax pmax
comp=Z,59nm,2.1s,mb5.5
QSPA South Pole Qui 88.18 180⇓ *i*P **P** **04 42 50.0 +2.5**
comp=Z,27nm,1.1s,mb5.4
PRU Pruhonice 88.30 320 *e*P **P** **04 42 49.9 +1.1**
PRU *e*pP pP 04 42 58.5 -0.5
PVCC Panska Ves 88.33 320 *e*P **P** **04 42 50.3 +1.4**
PVCC *e*pP pP 04 43 01.8 +2.7
BRG Berggiesshubel 88.75 321 *e*P **P** **04 42 51.7 +0.8**
BRG *e* pP 04 43 02.9 +1.7
BRG pmax pmax
comp=Z,47nm,1.7s,mb5.5
BRG MLR MLR
comp=N,360nm,16.5s,MS5.0
BRG MLR MLR
comp=E,380nm,16.5s,MS5.0
BRG MLR MLR
comp=Z,480nm,16.5s,MS5.0
BRG Berggiesshubel 88.75 321 *e*P **P** **04 42 51.7 +0.8**
comp=Z,47nm,1.7s,mb5.5
BRG *e* pP 04 43 02.9 +1.7
BRG LR LR
comp=Z,480nm,16.5s,MS5.0
GEC2 GERESS Array S 88.76 319 *e*P **P** **04 42 51.7 +0.7**
GEC2 pmax pmax
comp=Z,59nm,1.6s,mb5.7
GEC2 GERESS Array S 88.76 319 *e*P **P** **04 42 51.7 +0.7**
comp=Z,59nm,1.6s,mb5.7
GERES GERESS Array B 88.76 319 P **P** **04 42 51.8 +0.8**
comp=Z,10nm,1.2s,mb5.0,baz=108,slow=4.2,SNR=21
KHC Kasperske Hory 88.86 319 *e*P **P** **04 42 51.6 +0.1**
KHC *e*pP pP 04 43 03.2 +1.5
KHC *e* 04 43 20.0
KHC Kasperske Hory 88.86 319 *e*P **P** **04 42 51.6 +0.1**
KHC *e*pP pP 04 43 03.2 +1.5
KHC x x 04 43 20.0
WET Wettzell 89.32 319 *e*P **P** **04 42 54.1 +0.4**
WET pmax pmax
comp=Z,28nm,1.4s,mb5.4
WET Wettzell 89.32 319 *e*P **P** **04 42 54.1 +0.4**
comp=Z,28nm,1.4s,mb5.4
CLL Collm 89.37 321⇓ *i*P **P** **04 42 54.6 +0.8**
CLL pmax pmax
comp=Z,31nm,1.5s,mb5.4
CLL Collm 89.37 321⇓ *i*P **P** **04 42 54.6 +0.8**
comp=Z,31nm,1.5s,mb5.4
CLL Collm 89.37 321 ⇓P **P** **04 42 54.6 +0.8**
comp=Z,logA/T=1.3,mb5.4
NKC Novy Kostel 89.66 320 *e*P **P** **04 42 56.5 +1.3**
WTTA Wattenberg 90.05 317⇓ *i*P **P** **04 42 57.4 +0.3**
comp=Z,19nm,1.0s,mb5.4
MOX Moxa 90.21 320 *e*P **P** **04 42 58.0 +0.2**
GRA1 Grafenberg Arr 90.43 320 *e*P **P** **04 42 59.8 +1.0**
comp=Z,42nm,1.4s,mb5.6
GRF Grafenberg Arr 90.43 320 *e*P **P** **04 42 59.8 +1.0**
GRF pmax pmax
comp=Z,42nm,1.4s,mb5.6
GRF Grafenberg Arr 90.43 320 *e*P **P** **04 42 59.8 +1.0**
comp=Z,42nm,1.4s,mb5.6
NB2 NORSAR Subarra 90.86 331 P **P** **04 43 01.1 +0.6**
comp=Z,0.9nm,0.8s,mb4.2,baz=92,slow=4.6
NOA NORSAR Array B 90.86 331 P **P** **04 43 01.7 +1.2**
comp=Z,2.0nm,0.9s,mb4.4,baz=63,slow=10,SNR=3.2
CLZ Clausthal 91.04 322 *e*P **P** **04 43 02.2 +0.7**
comp=Z,44nm,1.6s,mb5.5
BSEG Bad Segeberg 91.13 324 *e*P **P** **04 43 02.9 +1.0**
BSEG pmax pmax
comp=Z,21nm,1.5s,mb5.2
DAVA Damuels 91.25 317⇑ *i*P **P** **04 43 03.3 +0.7**
comp=Z,26nm,1.1s,mb5.5
TNS Taunus Mts 92.23 320 *e*P **P** **04 43 08.1 +1.0**
TNS pmax pmax
comp=Z,19nm,1.1s,mb5.3
TNS Taunus Mts 92.23 320 *e*P **P** **04 43 08.1 +1.0**
comp=Z,19nm,1.1s,mb5.3
BFO Black Forest 92.30 318 *e*P **P** **04 43 07.7 +0.3**
BFO pmax pmax
comp=Z,14nm,1.3s,mb5.1
BFO Black Forest 92.30 318 *e*P **P** **04 43 07.7 +0.3**
comp=Z,14nm,1.3s,mb5.1
TNA Tin City 92.56 25 PFAKE 04 43 20.0 +12
TNA LR LR
comp=Z,326nm,20.0s,MS4.8
UNV Unalaska Valle 93.61 36 PFAKE 04 43 30.0 +17
UNV LR LR
comp=Z,651nm,20.0s,MS5.1
IMA Indian Mountai 98.29 23 *e*P **P** **04 43 36.1 +1.8**
comp=Z,42nm,1.6s,mb5.7
KDAK Kodiak Island 100.84 31 PFAKE 04 44 00.0 +14
KDAK LR LR
comp=Z,199nm,21.0s,MS4.6
MCK McKinley 100.89 25 PFAKE 04 44 00.0 +14
MCK LR LR
comp=Z,204nm,20.0s,MS4.6
COLA College 100.96 24 *i* P P 04 43 46.4 -0.1
COLA College 100.96 24 PFAKE 04 44 00.0 +14
COLA LR LR
comp=Z,462nm,21.0s,MS5.0
FIB Fire Island 101.12 28 PFAKE 04 44 00.0 +13
FIB LR LR
comp=Z,2μm,21.0s,MS5.6
ILAR Eielson Array 101.39 24 PP PP 04 48 01.4 +0.7
comp=Z,0.6nm,1.0s,baz=285,slow=7.6,SNR=4.1
ESLA Sonseca Array 101.73 310 PFAKE 04 44 00.0 +9.5
ESLA LR LR
comp=Z,1μm,19.0s,MS5.4
DIV Divide 103.16 27 PFAKE 04 44 10.0 +14
DIV LR LR
comp=Z,953nm,19.0s,MS5.3
DBIC Dimbokro 104.77 276 PFAKE 04 44 20.0 +16
DBIC LR LR
comp=Z,365nm,20.0s,MS4.9
YKA Yellowknife Ar 114.22 17 PKP PKPdf 04 48 36.5 -3.9
comp=Z,0.6nm,0.9s,baz=325,slow=2.5,SNR=9.0
YKA PP PP 04 49 27.8 -7.7
comp=Z,0.2nm,0.6s,baz=326,slow=6.4,SNR=4.4
YKA Yellowknife Ar 114.22 17 PKP PKPdf 04 48 36.5 -3.9
YKA PP PP 04 49 27.8 -7.7
NEW Newport 123.84 29 PFAKE 04 49 10.0 +11
NEW LR LR
comp=Z,395nm,20.0s,MS5.1
HUMO Hull Mountain 124.24 37 PFAKE 04 49 10.0 +10
HUMO LR LR
comp=Z,346nm,19.0s,MS5.0
WDC Whiskeytown Da 125.64 39 PFAKE 04 49 10.0 +6.9
WDC LR LR
comp=Z,408nm,19.0s,MS5.1
SCHQ Schefferville 126.00 350 PFAKE 04 49 10.0 +6.6
SCHQ LR LR
comp=Z,630nm,22.0s,MS5.2
BMO Blue Mountains 126.06 32 PFAKE 04 49 10.0 +6.2
BMO LR LR
comp=Z,386nm,20.0s,MS5.1
MOD Modoc 126.25 37 PFAKE 04 49 10.0 +5.8
MOD LR LR
comp=Z,268nm,19.0s,MS4.9
MSO Missoula 126.38 28 PFAKE 04 49 10.0 +5.7
MSO LR LR
comp=Z,416nm,21.0s,MS5.1
WVOR Wild Horse Val 126.89 35 PFAKE 04 49 10.0 +4.6
WVOR LR LR
comp=Z,377nm,19.0s,MS5.1
BOZ Bozeman (W) 128.34 28 PFAKE 04 49 20.0 +12
BOZ LR LR
comp=Z,391nm,19.0s,MS5.1
CMB Columbia Colle 128.45 41 PFAKE 04 49 20.0 +11
CMB LR LR
comp=Z,370nm,22.0s,MS5.0
HLID Hailey 128.47 31 PFAKE 04 49 20.0 +12
HLID LR LR
comp=Z,477nm,19.0s,MS5.2
BMN Battle Mountai 128.98 36 PFAKE 04 49 20.0 +10
BMN LR LR
comp=Z,346nm,19.0s,MS5.1
QLMT Earthquake Lak 129.04 28 *e*PKP PKPdf 04 49 07.6 -1.9
NVAR Mina Array Bea 129.56 39 PKP PKPdf 04 49 09.6 -1.1
comp=Z,1.0nm,0.7s,baz=342,slow=1.3,SNR=6.7
MNV Mina 129.65 39 PFAKE 04 49 20.0 +9.1
MNV LR LR
comp=Z,321nm,20.0s,MS5.0
LKWY Lake 129.72 28 PFAKE 04 49 20.0 +9.2
LKWY LR LR
comp=Z,691nm,19.0s,MS5.4
ULM Lac du Bonnet 129.90 13 PFAKE 04 49 20.0 +9.0
ULM LR LR
comp=Z,647nm,21.0s,MS5.3
ELK Elko 129.93 35 PFAKE 04 49 20.0 +8.6
ELK LR LR
comp=Z,319nm,19.0s,MS5.0
SNOW Snow King Moun 130.38 29 PKP PKPdf 04 49 09.1 -3.0
TPH Tonopah 130.45 39 PFAKE 04 49 20.0 +7.6
TPH LR LR
comp=Z,328nm,22.0s,MS5.0
AHID Auburn Hatcher 130.73 30 PFAKE 04 49 20.0 +7.2
AHID LR LR
comp=Z,457nm,20.0s,MS5.2
DAC Darwin (Calif) 131.29 41 PFAKE 04 49 20.0 +5.9
DAC LR LR
comp=Z,297nm,19.0s,MS5.0
HWUT Hardware Ranch 131.33 31 PFAKE 04 49 20.0 +6.0
HWUT LR LR
comp=Z,480nm,20.0s,MS5.2
BW06 Boulder Array 131.48 29 PFAKE 04 49 20.0 +5.8
BW06 LR LR
comp=Z,385nm,20.0s,MS5.1
PDAR Pinedale Array 131.48 29 PKP PKPdf 04 49 11.5 -2.7
comp=Z,0.6nm,0.7s,slow=1.5,SNR=6.2
DUG Dugway 131.66 34 *e*PKP PKPdf 04 49 13.0 -1.7
EYMN Ely 132.99 10 PFAKE 04 49 20.0 +3.0
EYMN LR LR
comp=Z,459nm,21.0s,MS5.2
MVU Marysvale 133.16 35 PFAKE 04 49 30.0 +12
MVU LR LR
comp=Z,356nm,19.0s,MS5.1
MSU Marysvale 133.18 35 *e*PKP PKPdf 04 49 16.3 -1.3
PFO Pinyon Flat Ob 133.60 43 PFAKE 04 49 30.0 +12
PFO LR LR
comp=Z,54nm,20.0s,MS4.3
PV10 Paradox Valley 135.01 32 PKP PKPdf 04 49 19.3 -1.7
RCBR Riachuelo 135.13 260 PFAKE 04 49 30.0 +8.2
RCBR LR LR
comp=Z,424nm,20.0s,MS5.2
ISCO Idaho Springs 135.66 28 PFAKE 04 49 30.0 +7.9
ISCO LR LR
comp=Z,374nm,22.0s,MS5.1
WUAZ Wupatki 135.68 37 PFAKE 04 49 30.0 +7.7
WUAZ LR LR
comp=Z,326nm,20.0s,MS5.0
EMMW East Machias 135.79 347 PFAKE 04 49 30.0 +7.8
EMMW LR LR
comp=Z,2μm,19.0s,MS6.0
WVL Waterville 136.39 349 PFAKE 04 49 30.0 +6.7
WVL LR LR
comp=Z,3μm,21.0s,MS6.0
PLCA Paso Flores 136.78 191 PFAKE 04 49 30.0 +5.9
PLCA LR LR
comp=Z,174nm,19.0s,MS4.8
SDCO Great Sand Dun 137.32 30 PFAKE 04 49 30.0 +4.8
SDCO LR LR
comp=Z,495nm,21.0s,MS5.2
NCB Newcomb 137.66 354 PFAKE 04 49 30.0 +4.3
NCB LR LR
comp=Z,392nm,20.0s,MS5.1
TUC Tucson 138.16 40 PFAKE 04 49 40.0 +13
TUC LR LR
comp=Z,272nm,20.0s,MS5.0
HRV Harvard--Oak R 138.72 350 PFAKE 04 49 40.0 +12
HRV LR LR
comp=Z,340nm,20.0s,MS5.1
WES Weston 138.80 350 PFAKE 04 49 40.0 +12
WES LR LR
comp=Z,909nm,20.0s,MS5.5
ANMO Albuquerque 138.93 34 *e*PKIKP PKPdf 04 49 25.1 -3.1
ANMO Albuquerque 138.93 34 PKP PKPdf 04 49 25.1 -3.2
comp=Z,2.2nm,0.9s,baz=219,slow=0.6,SNR=6.7
ANMO Albuquerque 138.93 34 PKP PKPdf 04 49 25.1 -3.1
ANMO LR LR
comp=Z,290nm,20.0s,MS5.0
CBKS Cedar Bluff 139.04 23 PFAKE 04 49 40.0 +12
CBKS LR LR
comp=Z,403nm,20.0s,MS5.2
AAM Ann Arbor 139.54 4 PFAKE 04 49 40.0 +11
AAM LR LR
comp=Z,597nm,22.0s,MS5.3
ERPA Erie 139.84 360 PFAKE 04 49 40.0 +10
ERPA LR LR
comp=Z,434nm,22.0s,MS5.2
SSPA Standing Stone 141.27 357 PFAKE 04 49 40.0 +7.7
SSPA LR LR
comp=Z,399nm,22.0s,MS5.1
AMTX Amarillo 141.46 29 PFAKE 04 49 40.0 +7.2
AMTX LR LR
comp=Z,498nm,20.0s,MS5.3
ACSO Alum Creek Sta 141.65 3 PFAKE 04 49 40.0 +7.0
ACSO LR LR
comp=Z,603nm,21.0s,MS5.3
MNTX Cornudas Mount 141.92 36 PFAKE 04 49 40.0 +6.3
MNTX LR LR
comp=Z,393nm,19.0s,MS5.2
CCM Cathedral Cave 142.50 14 PFAKE 04 49 40.0 +5.5
CCM LR LR
comp=Z,360nm,20.0s,MS5.1
WMOK Wichita Mounta 142.92 26 *e*PKPpre 04 49 28.7
WMOK LR LR
comp=Z,526nm,20.0s,MS5.3
WCI Wyandotte Cave 143.30 8 PFAKE 04 49 40.0 +11
WCI LR LR
comp=Z,480nm,21.0s,MS5.2
CBN Corbin 143.66 356 PFAKE 04 49 40.0 +10
CBN LR LR
comp=Z,649nm,22.0s,MS5.3
BDFB Brasilia 143.78 240 *e*PKIKP PKPdf 04 49 32.1 -5.1
BDFB Brasilia 143.78 240 PKP PKPdf 04 49 32.1 -5.1
comp=Z,8.8nm,1.1s,baz=22,slow=10,SNR=8.3
LTX Lajitas 144.65 37 *e*PKP PKPdf 04 49 34.4 -4.1
LTX LR LR
comp=Z,480nm,19.0s,MS5.3
TXAR Lajitas Array 144.65 37 PKP PKPdf 04 49 34.5 -4.0
comp=Z,6.6nm,0.8s,baz=271,slow=1.5,SNR=59
TXAR Lajitas Array 144.65 37 PKP PKPdf 04 49 34.5 -4.0
BLA Blacksburg 144.75 0 PFAKE 04 49 50.0 +17
BLA LR LR
comp=Z,439nm,21.0s,MS5.2
MIAR Mount Ida 145.10 20 *e*PKP PKPdf 04 49 34.6 -4.5
MIAR LR LR
comp=Z,384nm,19.0s,MS5.2
WVT Waverly 145.10 11 *e*PKPdf PKPdf 04 49 34.3 -4.7
WVT LR LR
comp=Z,436nm,19.0s,MS5.2
TZTN Tazewell 145.27 5 *e*PKP PKPdf 04 49 34.9 -4.5
UALR University of 145.28 18 *e*PKP PKPdf 04 49 34.8 -4.6
JCT Junction City 145.94 31 *e*PKPdf PKPdf 04 49 37.7 -3.0
JCT LR LR
comp=Z,410nm,20.0s,MS5.2
PLAL Pickwick Lake 146.16 12 *e*PKP PKPdf 04 49 37.1 -3.8
PLAL LR LR
comp=Z,490nm,22.0s,MS5.2
CPCT Cooper Cave 146.26 6 *e*PKPdf PKPdf 04 49 36.9 -4.2
SWET Sewanee 146.31 8 *e*PKP PKPdf 04 49 37.2 -4.0
OXF Oxford 146.32 14 *e*PKPdf PKPdf 04 49 37.6 -3.6
OXF LR LR
comp=Z,353nm,20.0s,MS5.1
NATX Nacogdoches 147.21 23 PFAKE 04 49 50.0 +7.2
NATX LR LR
comp=Z,492nm,19.0s,MS5.3
JSC Jenkinsville 147.65 2 *e*PKPbc PKPdf 04 49 42.5 -0.9
LRAL Lakeview Retre 148.26 11 *e*PKPdf PKPdf 04 49 40.3 -4.1
LRAL *e*PKPbc PKPdf 04 49 43.9 -0.5
LRAL LR LR
comp=Z,558nm,20.0s,MS5.3
GOGA Godfrey 148.39 5 *e*PKPbc PKPdf 04 49 43.3 -1.3
GOGA LR LR
comp=Z,409nm,21.0s,MS5.2
NHSC New Hope 148.84 360 PFAKE 04 49 50.0 +4.7
NHSC LR LR
comp=Z,448nm,19.0s,MS5.3
LVC Limon Verde 153.37 204 *e*PKPbc PKPdf 04 49 56.6 +4.2
LVC LR LR
comp=Z,296nm,19.0s,MS5.1
DWPF Disney 153.79 2 PFAKE 04 50 00.0 +7.2
DWPF LR LR
comp=Z,438nm,19.0s,MS5.3
LPAZ La Paz 158.45 213 *e*PKIKP PKPdf 04 49 57.9 -1.4
LPAZ La Paz 158.45 213 PKP PKPdf 04 49 57.9 -1.4
comp=Z,2.3nm,1.0s,baz=56,slow=5.2,SNR=5.6
LPAZ PKPab PKPab 04 50 32.4 +1.4
comp=Z,4.6nm,1.1s,baz=123,slow=1.6,SNR=5.2
LPAZ La Paz 158.45 213 PKP PKPdf 04 49 57.9 -1.4
LPAZ PKPab PKPab 04 50 32.4 +1.4
LPAZ LR LR
comp=Z,334nm,19.0s,MS5.2
SJG San Juan 158.71 321 PFAKE 04 50 10.0 +10
SJG LR LR
comp=Z,300nm,20.0s,MS5.1
SAML Samuel 159.97 238 *e*PKPdf PKPdf 04 49 57.7 -3.4
SAML *e*PKPab PKPab 04 50 37.4 -0.3
SAML LR LR
comp=Z,432nm,19.0s,MS5.3
TEIG Tepich 160.04 23 PFAKE 04 50 10.0 +9.0
TEIG LR LR
comp=Z,232nm,20.0s
SDV Santo Domingo 168.16 307 PKP PKPdf 04 50 05.0 -3.4
comp=Z,0.9nm,0.5s,baz=311,slow=2.6,SNR=4.1
SDV PKPab PKPab 04 51 12.7 -0.6
comp=Z,1.8nm,0.7s,baz=333,slow=6.4,SNR=3.7
SDV Santo Domingo 168.16 307 PKP PKPdf 04 50 05.0 -3.4

SDV					PKPab	PKPab	04 51 12.7	-0.6
SDV					LR	LR		
	comp=Z,365nm,19.0s								
JTS	**JuntasAbangare**	**170.31**	**29**	PFAKE			04 50 20.0	+10
JTS				LR	LR			
	comp=Z,116nm,21.0s								
ROSC	**El Rosal**	**173.40**	**298**	PKP	PKPdf		04 50 08.8	-2.6
	comp=Z,4.4nm,0.9s,baz=96,slow=24,SNR=4.7								
OTAV	**Otavalo**	**177.68**	**229**	PFAKE			04 50 20.0	+7.6
OTAV				LR	LR			
	comp=Z,438nm,19.0s								

*BJI **12** 04:39:51.4, 2.30N×96.70E, h30km, mb4.9*
*IDC **12** 04:39:53.4±0.8, 2.45N×96.86E, h26km±4km, mb4.0/13, mb1 4.2/14, mb1mx4.0/22, mbtmp4.2/14, ML4.2/1, Error ellipse: s-maj=31.5km s-min=13.3km az=54.0*
*NEIC **12** 04:39:53.4±0.6, 2.30N×96.70E, h30km, mb4.5/11, Error ellipse: s-maj=17.5km s-min=9.9km az=54.0*

ISC 12 04:39:50.5±0.6, 2.23N±0.08×96.63E±0.10, h27km, h27km±3.1km: pP-P, n30, σ1§15/30, mb4.4/25, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.03**	**53**	⇑i/Pn	**Pn**	**04 41 08.7**	**+2.5**
SNG	**Songkhla**	**6.32**	**39**	P	**Pn**	**04 41 26.0**	**+1.6**
	176nm,0.9s						
BDT	**Bhumibol Dam**	**15.10**	**9**	P	**P**	**04 43 24.0**	**0.0**
CMAR	**Chiang Mai Arr**	**16.28**	**8**	Pn	**P**	**04 43 38.9**	**-0.3**
	0.3nm,0.3s,baz=198,slow=10,SNR=25						
JIRN	**Jiri**	**27.18**	**339**	*e*P	**P**	**04 45 34.0**	**0.0**
	22nm,0.7s,mb4.8						
PKI	**Pulchoki**	**27.39**	**338**	*e*P	**P**	**04 45 36.9**	**+1.0**
	17nm,0.8s,mb4.6						
GUN	**Gumba**	**27.52**	**339**	*e*P	**P**	**04 45 36.8**	**-0.3**
	23nm,0.7s,mb4.9						
DMN	**Daman**	**27.54**	**337**	*e*P	**P**	**04 45 38.9**	**+1.7**
	22nm,1.0s,mb4.7						
KKN	**Kakani**	**27.63**	**338**	*e*P	**P**	**04 45 38.9**	**+0.8**
	25nm,0.9s,mb4.8						
LSA	**Lhasa**	**27.81**	**350**	P	**P**	**04 45 37.0**	**-2.6**
	5.5nm,0.6s,mb4.4						
GKN	**Gorkha**	**28.07**	**337**	*e*P	**P**	**04 45 41.7**	**-0.4**
	29nm,0.9s,mb4.9						
KOLN	**Koldanda**	**28.29**	**335**	*e*P	**P**	**04 45 43.7**	**-0.3**
	19nm,0.9s,mb4.7						
ENH	**Enshi**	**30.43**	**22**	*e*P	**P**	**04 46 02.1**	**-1.1**
	4.8nm,0.7s,mb4.3						
XAN	**Xi'an**	**33.66**	**19**	P	**P**	**04 46 30.0**	**-1.4**
XAN				AMB	AMB		
	comp=Z,41nm,0.8s,mb5.4						
FITZ	**Fitzroy Crossi**	**35.00**	**126**	P	**P**	**04 46 42.5**	**-0.5**
	comp=Z,11nm,1.0s,mb4.7,baz=281,slow=7.0,SNR=4.6						
WRA	**Warramunga Arr**	**43.07**	**123**	P	**P**	**04 47 50.6**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.7,baz=300,slow=9.3,SNR=5.3						
WRAB	**Tennant Creek**	**43.07**	**123**	*e*P	**P**	**04 47 50.2**	**-0.1**
	comp=Z,10nm,1.0s,mb4.5						
ASAR	**Alice Springs**	**44.47**	**128**	P	**P**	**04 48 01.8**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.6,baz=295,slow=7.9,SNR=6.2						
ASAR				pP	pP	04 48 12.1	+2.4
	comp=Z,1.4nm,0.7s,baz=303,slow=7.8,SNR=6.6						
MKAR	**Makanchi Array**	**46.11**	**346**	P	**P**	**04 48 13.6**	**-0.6**
	comp=Z,8.8nm,0.8s,mb4.8,baz=160,slow=8.0,SNR=30						
SONM	**Songino Array**	**46.20**	**9**	P	**P**	**04 48 15.2**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=191,slow=9.4,SNR=7.0						
SONM				pP	pP	04 48 23.8	+0.6
	comp=Z,1.9nm,0.8s,baz=193,slow=9.4,SNR=8.3						
SONM				PcP	PcP	04 49 50.5	-0.5
	comp=Z,0.6nm,0.8s,baz=183,slow=5.3,SNR=3.8						
ZAL	**Zalesovo**	**52.45**	**351**	P	**P**	**04 49 02.6**	**-0.4**
	comp=Z,5.0nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**54.47**	**132**	P	**P**	**04 49 17.4**	**-0.8**
	comp=Z,1.0nm,0.6s,mb3.9,baz=192,slow=16,SNR=3.0						
BVAR	**Borovoye Array**	**55.09**	**341**	P	**P**	**04 49 20.7**	**-1.8**
	comp=Z,2.5nm,0.8s,mb4.3,baz=158,slow=8.0,SNR=8.6						
CHKZ	**Chkalovo**	**55.57**	**342**	*e*P	**P**	**04 49 23.9**	**-2.0**
	comp=Z,7.1nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**68.00**	**312**	P	**P**	**04 50 52.5**	**+2.8**
	comp=Z,0.5nm,0.8s,mb3.6,baz=80,slow=8.8,SNR=2.6						
AKASG	**Malin Array Be**	**74.09**	**322**	P	**P**	**04 51 27.2**	**+1.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=359,slow=35,SNR=4.9						
BOSA	**Boshof**	**74.80**	**240**	P	**P**	**04 51 34.9**	**+4.2**
	comp=Z,4.6nm,1.0s,mb4.4,baz=69,slow=8.6,SNR=3.1						
FINES	**FINESS Array B**	**78.82**	**332**	P	**P**	**04 51 53.8**	**+1.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=240,slow=38,SNR=2.7						
FINES				pP	pP	04 52 00.3	-0.7
	comp=Z,1.5nm,0.6s,baz=90,slow=3.8,SNR=3.1						
FINES	**FINESS Array B**	**78.82**	**332**	P	**P**	**04 51 53.8**	**+1.3**
FINES				pP	pP	04 52 00.3	-0.7
ARCES	**ARCESS Array B**	**81.38**	**340**	P	**P**	**04 52 05.9**	**0.0**
	comp=Z,7.9nm,1.0s,mb4.6,baz=349,slow=6.2,SNR=3.8						
ARCES				pP	pP	04 52 14.1	-0.5
	comp=Z,3.5nm,0.8s,baz=104,slow=5.0,SNR=2.2						

IDC 12 04:48:44.9±4.1, 0.60S×98.71E, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=163.7km s-min=24.1km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.81**	**121**	P	P	04 56 19.7	-2.0
	0.2nm,0.3s,baz=301,slow=9.0,SNR=3.7						
ASAR	**Alice Springs**	**41.11**	**127**	P	P	04 56 31.1	-1.3
	0.6nm,0.6s,baz=298,slow=7.5,SNR=7.4						
SONM	**Songino Array**	**48.70**	**7**	P	P	04 57 31.6	-1.4
	0.3nm,0.6s,baz=191,slow=9.2,SNR=3.7						
MKAR	**Makanchi Array**	**49.35**	**345**	P	P	04 57 35.4	-2.6
	0.4nm,0.6s,baz=146,slow=7.8,SNR=5.6						

*IDC **12** 04:52:20.4±1.1, 0.74N×97.16E, mb4.3/11, mb1 4.4/12, mb1mx4.2/20, mbtmp4.3/12, ML4.3/1, Error ellipse: s-maj=47.0km s-min=15.1km az=56.0*
*BJI **12** 04:52:23.6, 0.51N×97.47E, h44km, mB5.6, mb4.9, Ms4.8, Msz4.3*
*NEIC **12** 04:52:25.4±0.6, 0.75N×97.39E, h30km, mb4.6/14, Error ellipse: s-maj=17.1km s-min=9.0km az=55.0*

ISC 12 04:52:23.9±0.6, 0.79N±0.07×97.40E±0.07, h31km, h31km±1.0km: pP-P, n48, σ1§20/49, mb4.5/31, MS4.1/4, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.22**	**44**	P	**Pn**	**04 53 41.8**	**-0.2**
KULM	**Kulim**	**5.53**	**36**	*e*P	**Pn**	**04 53 45.3**	**-1.0**
KGM	**Kluang**	**6.04**	**78**	P	**Pn**	**04 53 54.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**17.63**	**5**	P	**P**	**04 56 27.1**	**-2.0**
	0.4nm,0.3s,baz=193,slow=12,SNR=16						
KKM	**Kota Kinabalu**	**19.49**	**74**	*e*P	**P**	**04 56 51.2**	**-0.3**
KKM	**Kota Kinabalu**	**19.49**	**74**	P	**P**	**04 56 52.7**	**+1.2**
KMI	**Kunming**	**24.74**	**12**	P	**P**	**04 57 46.5**	**+2.3**
KMI				AP		04 57 53.8	
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
KMI				LR	LR		
	comp=Z,130nm,23.4s,MS3.4						
KMI	**Kunming**	**24.74**	**12**	P	**P**	**04 57 46.5**	**+2.3**
	comp=Z,20nm,1.0s,mb4.6						
KMI				pP		04 57 53.8	
KMI				LR	LR		
	comp=Z,130nm,23.4s,MS3.4						
SHL	**Shillong**	**25.20**	**348**	*e*P	**P**	**04 57 48.7**	**0.0**
JIRN	**Jiri**	**28.80**	**339**	*e*P	**P**	**04 58 22.8**	**+1.2**
	comp=Z,12nm,0.7s,mb4.7						
PKI	**Pulchoki**	**29.01**	**338**	*e*P	**P**	**04 58 25.5**	**+2.1**
	comp=Z,5.2nm,0.4s,mb4.6						
GUN	**Gumba**	**29.14**	**339**	*e*P	**P**	**04 58 25.5**	**+0.9**
	comp=Z,15nm,0.6s,mb4.9						
DMN	**Daman**	**29.16**	**337**	*e*P	**P**	**04 58 27.3**	**+2.5**
	comp=Z,11nm,0.8s,mb4.6						
KKN	**Kakani**	**29.26**	**338**	*e*P	**P**	**04 58 26.6**	**+0.9**
	comp=Z,9.4nm,0.6s,mb4.7						
LSA	**Lhasa**	**29.36**	**349**	P	**P**	**04 58 25.6**	**-1.0**
	comp=Z,6.3nm,0.6s,mb4.5						
GKN	**Gorkha**	**29.70**	**337**	*e*P	**P**	**04 58 29.7**	**+0.1**
KOLN	**Koldanda**	**29.91**	**335**	*e*P	**P**	**04 58 32.1**	**+0.5**
	comp=Z,19nm,0.8s,mb4.9						
ENH	**Enshi**	**31.49**	**20**	*e*P	**P**	**04 58 41.5**	**-4.0**
	comp=Z,5.7nm,0.3s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.52**	**125**	P	**P**	**04 59 02.8**	**-0.4**
	comp=Z,5.8nm,0.7s,mb4.6,baz=276,slow=5.4,SNR=8.3						
XAN	**Xi'an**	**34.80**	**17**	P	**P**	**04 59 12.0**	**-2.1**
XAN				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
LZH	**Lanzhou**	**35.63**	**9**	*e*P	**P**	**04 59 20.3**	**-0.8**
LZH				AP	pP	04 59 28.4	-1.9
LZH				PP	PP	05 00 41.0	-0.9
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
LZH	**Lanzhou**	**35.63**	**9**	*e*P	**P**	**04 59 20.3**	**-0.8**
	comp=Z,20nm,1.0s,mb5.0						
LZH				pP	pP	04 59 28.4	-1.9
LZH				sP	sP	04 59 31.7	-2.5
LZH				PP	PP	05 00 41.0	-0.9
NJ2	**Nanjing**	**37.11**	**31**	*e*P	**P**	**04 59 35.6**	**+2.0**
NJ2				AP	pP	04 59 45.3	+2.5
NJ2				XP	sP	04 59 50.0	+3.3
NJ2				PP	PP	05 01 03.1	+2.4
NJ2				S	**S**	**05 05 20.0**	**+2.7**
NJ2				XS		05 05 36.0	
NJ2				AMB	AMB		
	comp=Z,820nm,4.8s						
NJ2				LR	LR		
	comp=N,1μm,20.3s,MS4.8						
NJ2				LR	LR		
	comp=E,960nm,22.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,930nm,19.3s,MS4.6						
GTA	**Gaotai**	**38.50**	**3**	*e*P	**P**	**04 59 45.2**	**-0.1**
GTA				AP	pP	04 59 54.2	-0.3
GTA				XP	sP	04 59 57.9	-0.4
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**41.65**	**122**	P	**P**	**05 00 11.7**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.0,baz=301,slow=9.1,SNR=8.8						
WRAB	**Tennant Creek**	**41.65**	**122**	*e*P	**P**	**05 00 11.3**	**-0.2**
	comp=Z,7.9nm,0.8s,mb4.4						
HHC	**Hu-ho-hao-te**	**41.90**	**16**	*e*P	**P**	**05 00 17.2**	**+3.9**
HHC				AP	pP	05 00 26.5	+4.0
HHC				XP	sP	05 00 33.5	+7.2
HHC				PP	PP	05 02 00.0	+6.7
HHC				PCP	PcP	05 02 09.5	+0.3
HHC				SCP		05 05 55.9	
HHC				PCS		05 05 59.2	
HHC				S	**S**	**05 06 37.1**	**+8.0**
HHC				XS		05 06 52.6	
HHC				SCS	ScS	05 10 13.5	+2.0
HHC				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.3						
HHC				LR	LR		
	comp=N,185nm,17.2s,MS4.5						
HHC				LR	LR		
	comp=E,489nm,15.7s,MS4.5						
HHC				LR	LR		
	comp=Z,308nm,15.4s,MS4.3						
BJT	**Baijiatuau**	**42.62**	**21**	P	**P**	**05 00 19.7**	**+0.4**
	comp=Z,12nm,0.5s,mb4.9						
BJI	**Beijing**	**42.65**	**21**	P	**P**	**05 00 19.9**	**+0.5**
BJI				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.9						
BJI	**Beijing**	**42.65**	**21**	P	**P**	**05 00 19.9**	**+0.5**
	comp=Z,17nm,0.7s,mb4.9						
ASAR	**Alice Springs**	**42.99**	**127**	P	**P**	**05 00 23.2**	**+0.8**
	comp=Z,2.0nm,0.6s,mb4.0,baz=298,slow=7.7,SNR=22						
KSH	**Kashi**	**43.23**	**336**	*e*P	**P**	**05 00 26.1**	**+1.9**
KSH				*e*AP	pP	05 00 35.3	+1.9
KSH				*e*XP	sP	05 00 39.3	+2.1
KSH				*e*PP	PP	05 02 09.0	+2.3
KSH				*e*PCP	PcP	05 02 13.1	-0.5
KSH				*e*SCP		05 06 02.1	
KSH				*e*PCS		05 06 05.1	
KSH				*e*S	**S**	**05 06 52.4**	**+3.7**
KSH				*e*XS		05 07 09.0	
KSH				*e*SS	SS	05 10 00.2	+4.8
KSH				*e*SCS	ScS	05 10 20.2	+0.6
KSH				AMB	AMB		
	comp=Z,280nm,6.2s						
KSH				LR	LR		
	comp=N,430nm,6.0s						
KSH				LR	LR		
	comp=E,570nm,5.5s						
WMQ	**Urumqi**	**43.71**	**350**	⇑P	**P**	**05 00 27.5**	**-0.5**
WMQ				AP	pP	05 00 37.4	+0.1
WMQ				XP	sP	05 00 41.4	+0.3
WMQ				PP	PP	05 02 11.2	-0.3
WMQ				PCP	PcP	05 02 15.0	-0.2
WMQ				S	**S**	**05 06 54.4**	**-1.2**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,367nm,4.2s						
WMQ				LR	LR		
	comp=N,141nm,17.2s,MS4.0						
WMQ				LR	LR		
	comp=E,119nm,20.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,92nm,17.3s,MS3.8						
SONM	**Songino Array**	**47.51**	**8**	P	**P**	**05 00 58.1**	**-0.1**
	comp=Z,1.5nm,0.4s,mb4.3,baz=188,slow=9.3,SNR=22						
SONM				PcP	PcP	05 02 28.5	+0.2
	comp=Z,0.8nm,0.7s,baz=183,slow=2.9,SNR=3.6						
ULN	**Ulaanbaatar**	**47.64**	**9**	*e*P	**P**	**05 00 58.3**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**47.69**	**346**	P	**P**	**05 00 59.5**	**-0.1**
	comp=Z,4.2nm,0.5s,mb4.8,baz=161,slow=8.8,SNR=71						
MJAR	**Matsushiro Arr**	**51.86**	**42**	P	**P**	**05 01 31.9**	**+0.2**
	comp=Z,1.4nm,0.4s,mb4.2,baz=227,slow=5.6,SNR=5.6						
MDJ	**Mudanjiang**	**52.13**	**29**	P	**P**	**05 01 32.4**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**52.93**	**132**	P	**P**	**05 01 41.1**	**+1.3**
	comp=Z,3.8nm,0.7s,mb4.4,baz=307,slow=9.5,SNR=8.4						
STKA	**Stephens Creek**	**52.93**	**132**	*e*P	**P**	**05 01 38.1**	**-1.7**
ZAL	**Zalesovo**	**53.99**	**351**	P	**P**	**05 01 47.1**	**-0.1**
	comp=Z,3.7nm,0.4s,mb4.7,baz=314,slow=8.0,SNR=17						
CHKZ	**Chkalovo**	**57.18**	**341**	*e*P	**P**	**05 02 08.7**	**-1.6**
	comp=Z,3.4nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**75.71**	**322**	P	**P**	**05 04 07.3**	**-0.9**
	comp=Z,0.2nm,0.2s,mb3.7,baz=96,slow=4.5,SNR=4.4						
FINES	**FINESS Array B**	**80.46**	**333**	P	**P**	**05 04 32.0**	**-2.0**
	comp=Z,1.0nm,0.7s,mb3.8,baz=135,slow=11,SNR=3.9						
ARCES	**ARCESS Array B**	**82.99**	**340**	P	**P**	**05 04 45.5**	**-1.7**
	comp=Z,7.1nm,1.0s,mb4.7,baz=39,slow=7.8,SNR=4.4						
TXAR	**Lajitas Array**	**143.91**	**32**	PKP	PKPdf	05 11 57.9	-4.2
	comp=Z,0.3nm,0.7s,baz=356,slow=1.4,SNR=4.4						
JCT	**Junction City**	**144.86**	**26**	*e*PKP	PKPdf	05 11 59.1	-4.7
LRAL	**Lakeview Retre**	**146.11**	**7**	*e*PKPdf	PKPdf	05 12 03.1	-2.8

IDC 12 05:19:41.1±3.7, 0.29S×96.87E, mb3.9/1, mb1 3.9/2, mb1mx3.4/19, mbtmp3.7/2, ML3.6/1, Error ellipse: s-maj=144.6km s-min=67.9km az=74.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.75**	**6**	P	P	05 24 02.1	-1.6
	0.1nm,0.3s,baz=196,slow=11,SNR=8.6						
MKAR	**Makanchi Array**	**48.60**	**347**	P	P	05 28 26.3	-2.1
	0.9nm,0.5s,baz=156,slow=8.1,SNR=12						
TXAR	**Lajitas Array**	**145.10**	**32**	PKPbc	PKPbc	05 39 19.9	-1.6
	0.5nm,0.7s,baz=239,slow=1.4,SNR=6.4						

*IDC **12** 05:31:22.1±0.9, 21.85S×67.64W, h105km±21km, mb4.1/1, mb1 3.6/5, mb1mx3.4/17, mbtmp4.0/5, Error ellipse: s-maj=28.2km s-min=10.6km az=111.0*
*GUC **12** 05:31:23.2±0.8, 21.75S×68.53W, h148km±8km, ML3.7*
*NEIC **12** 05:31:23.2, 21.75S×68.53W, h148km, mb4.1/1, After GUC.*

ISC 12 05:31:21.7±0.6, 21.78S±0.05×68.4W±0.1, h167km±7km, n16, σ1§05/26, mb4.1/1, 1C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.97**	**211**	P	**P**	**05 31 48.6**	**+0.6**
	66nm,0.3s,baz=13,slow=9.1,SNR=1310						
LVC				S	**S**	**05 32 07.0**	**-1.4**
	111nm,0.3s,baz=101,slow=23,SNR=77						
LVC	**Limon Verde**	**0.97**	**211**	P	**P**	**05 31 48.6**	**+0.6**
LVC				S	**S**	**05 32 07.0**	**-1.4**
LVC	**Limon Verde**	**0.97**	**211**	⇑iP	**P**	**05 31 48.2**	**+0.2**
LVC				*i* S	**S**	**05 32 06.7**	**-1.7**
LVC				AMP		05 32 08.9	
	comp=E,901nm,0.2s						
SPCH	**San Pedro de A**	**1.14**	**172**	*i* P	**P**	**05 31 50.2**	**+0.8**
SPCH				*i* S	**S**	**05 32 11.3**	**+0.5**
SPCH				AMP		05 32 26.6	
	comp=N,227nm,0.6s						
ANCH	**Antofagasta**	**2.67**	**224**	*i* P	**P**	**05 32 07.7**	**+1.4**
ANCH				*i* S	**S**	**05 32 40.3**	**-0.4**
ANCH				AMP		05 32 42.3	
	comp=E,576nm,0.3s						
CPN1	**Cerro Paranal**	**3.40**	**213**	*i* P	**P**	**05 32 16.6**	**+1.1**
CPN1				*i* S	**S**	**05 32 56.3**	**-0.4**
CPN1				AMP		05 32 59.0	
	comp=E,278nm,0.2s						
LPAZ	**La Paz**	**5.46**	**2**	P	**P**	**05 32 43.4**	**+1.1**
	comp=E,1.2nm,0.3s,baz=172,slow=8.4,SNR=24						
LPAZ				S	**S**	**05 33 44.5**	**-0.2**
	comp=E,0.2nm,0.3s,baz=268,slow=14,SNR=3.3						
ARE	**Arequipa**	**6.06**	**330**	*e*P	**P**	**05 32 49.0**	**-1.1**
SIV	**San Ignacio**	**8.99**	**51**	P	**P**	**05 33 23.9**	**-5.0**
	comp=E,3.7nm,0.3s,baz=245,slow=10.0,SNR=110						
SIV				S	**S**	**05 34 56.0**	**-12**
	comp=E,0.7nm,0.3s,baz=129,slow=23,SNR=8.1						
CFAA	**Coronel Fontan**	**9.79**	**179**	P	**P**	**05 33 37.7**	**-1.7**
	comp=E,0.0nm,0.3s,baz=356,slow=15,SNR=4.1						
CFAA				S	**S**	**05 35 21.6**	**-5.7**
	comp=E,0.1nm,0.3s,baz=94,slow=22,SNR=8.4						
CFAA	**Coronel Fontan**	**9.79**	**179**	P	**P**	**05 33 37.7**	**-1.8**
CFAA				S	**S**	**05 35 21.6**	**-5.7**
PLCA	**Paso Flores**	**18.99**	**185**	P	**P**	**05 35 36.4**	**+3.9**
	comp=E,0.1nm,0.3s,baz=360,slow=14,SNR=3.4						
PLCA	**Paso Flores**	**18.99**	**185**	*e*P	**P**	**05 35 36.2**	**+3.7**
BDFB	**Brasilia**	**20.21**	**76**	P	**P**	**05 35 44.0**	**-1.3**
	comp=E,0.3nm,0.3s,baz=237,slow=6.9,SNR=4.3						
DBIC	**Dimbokro**	**68.33**	**73**	P	**P**	**05 42 08.2**	**+0.9**
	comp=E,2.1nm,0.5s,mb4.1,baz=232,slow=5.2,SNR=5.3						
DBIC	**Dimbokro**	**68.33**	**73**	*e*P	**P**	**05 42 07.9**	**+0.6**
	comp=E,1.6nm,0.4s,mb4.1						

IDC 12 05:35:18.4±3.2, 4.86N×93.80E, mb3.6/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=111.3km s-min=30.8km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.42**	**20**	Pn	P	05 38 44.5	-1.4
	0.2nm,0.3s,baz=212,slow=14,SNR=4.2						
MKAR	**Makanchi Array**	**42.95**	**348**	P	P	05 43 18.9	-1.8
	0.7nm,0.7s,baz=164,slow=7.9,SNR=8.6						
WRA	**Warramunga Arr**	**46.85**	**123**	P	P	05 43 50.4	-1.9
	0.3nm,0.4s,baz=307,slow=8.3,SNR=4.4						

*NEIC **12** 05:57:40.2, 37.09S×177.51E, h177km, MG4.2(WEL), After WEL.*

WEL 12 05:57:40.4±0.4, 37.06S×177.46E, h172km±4km, ML4.2/12, 1C, Error ellipse: s-maj=5.7km s-min=4.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.84**	**127**	*e*PN	P	05 58 06.8	+0.4
MXZ				SN	S	05 58 25.1	-1.2
PUZ	**Puketiti**	**1.19**	**148**	P	P	05 58 08.7	-0.4
PUZ				S	S	05 58 30.1	-1.2
PUZ	**Puketiti**	**1.19**	**148**	PN	P	05 58 08.7	-0.4
PUZ				SN	S	05 58 30.1	-1.2
URZ	**Urewera**	**1.23**	**193**	P	P	05 58 09.2	-0.2
URZ	**Urewera**	**1.23**	**193**	⇑PN	P	05 58 09.2	-0.2
URZ				SN	S	05 58 31.7	-0.2
MWZ	**Matawai**	**1.28**	**178**	P	P	05 58 09.7	-0.1
MWZ	**Matawai**	**1.28**	**178**	PN	P	05 58 09.7	-0.2
MWZ				SN	S	05 58 32.6	0.0
KNZ	**Kokohu**	**1.97**	**175**	*e*P	P	05 58 16.5	-0.3
KNZ	**Kokohu**	**1.97**	**175**	PN	P	05 58 16.5	-0.3
KNZ				SN	S	05 58 45.0	+0.1
BKZ	**Black Stump Fm**	**2.24**	**200**	P	P	05 58 19.3	-0.7
BKZ	**Black Stump Fm**	**2.24**	**200**	PN	P	05 58 19.3	-0.7
BKZ				SN	S	05 58 50.3	-0.2
KATZ	**Kakaramea**	**2.37**	**216**	P	P	05 58 21.5	0.0
KATZ	**Kakaramea**	**2.37**	**216**	*e*PN	P	05 58 21.5	0.0
MGZ	**Maungaku**	**2.46**	**217**	P	P	05 58 23.0	+0.3
WTVZ	**West Tongariro**	**2.53**	**215**	P	P	05 58 23.5	0.0
TWVZ	**Taurewa**	**2.57**	**218**	P	P	05 58 23.8	-0.1
NGZ	**Ngauruhoe**	**2.57**	**214**	P	P	05 58 24.5	+0.5
CNZ	**Chateau**	**2.62**	**215**	P	P	05 58 24.9	+0.4
WPVZ	**Whakapapa**	**2.62**	**215**	*e*P	P	05 58 25.0	+0.4
TUVZ	**Tukino**	**2.63**	**212**	P	P	05 58 24.3	-0.3
FWVZ	**Far West T-bar**	**2.66**	**214**	*e*P	P	05 58 24.8	-0.3
WNVZ	**Wahianoa**	**2.70**	**212**	P	P	05 58 25.0	-0.5
MOVZ	**Moawhango**	**2.70**	**209**	P	P	05 58 24.4	-1.2
PWZ	**Pawanui**	**3.00**	**189**	P	P	05 58 27.9	-1.4
TSZ	**Takapari Road**	**3.22**	**201**	P	P	05 58 30.0	-2.0
WAZ	**Wanganui**	**3.32**	**215**	P	P	05 58 32.5	-0.8
BFZ	**Birch Farm**	**3.74**	**194**	P	P	05 58 36.3	-2.3
MRZ	**Mangatainoka R**	**3.89**	**202**	P	P	05 58 37.7	-2.8
KIW	**Kapiti Island**	**4.29**	**207**	P	P	05 58 42.4	-3.3
MTW	**Mount Morrison**	**4.37**	**200**	P	P	05 58 43.3	-3.4
CAW	**Cannon Point**	**4.45**	**204**	P	P	05 58 44.3	-3.5
MSWZ	**Moikau Station**	**4.68**	**201**	P	P	05 58 46.9	-3.8

ZAL	Zalesovo	52.89 351	P		P	06 10 22.9	+0.1
	11nm,0.5s,mb5.0,baz=314,slow=5.5,SNR=44						
STKA	Stephens Creek	53.88 132	P		P	06 10 31.0	+0.5
	1.0nm,0.7s,mb3.9,baz=329,slow=18,SNR=2.5						
STKA	Stephens Creek	53.88 132	P		P	06 10 31.0	+0.5
BVAR	Borovoye Array	55.60 341	P		P	06 10 41.7	-1.0
	4.0nm,0.7s,mb4.6,baz=149,slow=8.6,SNR=23						
CHKZ	Chkalovo	56.07 341⇑	eP		P	06 10 45.2	-0.8
	7.4nm,0.7s,mb4.8						
CHKZ			e		pP	06 10 53.8	-2.4
BRTR	Keskin Array B	68.58 312	P		P	06 12 09.1	-0.6
	0.6nm,0.8s,mb3.6,baz=124,slow=8.9,SNR=3.7						
BOSA	Boshof	74.99 240	P		P	06 12 48.2	0.0
	3.4nm,0.9s,mb4.3,baz=127,slow=5.1,SNR=3.4						
BOSA	Boshof	74.99 240	P		P	06 12 48.2	0.0
FINES	FINESS Array B	79.37 332	P		P	06 13 12.2	+0.2
	0.6nm,0.5s,mb3.8,baz=117,slow=4.3,SNR=7.3						
ARCES	ARCESS Array B	81.89 340	P		P	06 13 25.9	+0.8
	3.8nm,1.0s,mb4.3,baz=98,slow=5.8,SNR=6.3						
GERES	GERESS Array B	84.24 319	P		P	06 13 39.0	+1.4
	0.8nm,0.7s,mb4.0,baz=90,slow=2.7,SNR=4.2						
TXAR	Lajitas Array	143.19 31	PKP		PKPdf	06 20 41.8	+2.4
	0.1nm,0.4s,baz=297,slow=2.0,SNR=3.4						
LRAL	Lakeview Retre	145.09 6	PKP		PKPdf	06 20 43.0	+0.4

*IDC **12** 06:26:39.5±1.8, 15.73S×173.98W, h94km±18km, mb3.7/8, mb1 4.0/9, mb1mx3.8/18, mbtmp4.1/9, Error ellipse: s-maj=44.3km s-min=13.9km az=140.0*
*NEIC **12** 06:26:40.5±1.2, 15.74S×174.00W, h103km±12km, mb4.4/2, Error ellipse: s-maj=26.5km s-min=9.5km az=141.0*

ISC 12 06:26:38.7±1.6,**15.7S**±0.2×**174.1W**±0.2,**h99**km±16km,**n14**, σ0§**46**/16,**mb3.9**/9,**1D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.83	53	P		P		06 27 24.1	+1.0
	95nm,0.3s,baz=165,slow=2.2,SNR=149								
AFI						S		06 27 55.6	-0.7
	115nm,0.3s,baz=36,slow=22,SNR=15								
AFI	Afiamalu	2.83	53	P		P		06 27 24.1	+1.0
AFI						S		06 27 55.6	-0.7
URZ	Urewera	23.82	197	P		P		06 31 43.4	0.0
	8.9nm,0.6s,mb4.2,baz=18,slow=3.7,SNR=8.6								
STKA	Stephens Creek	43.34	240	⇓	P			06 34 33.1	+0.3
	2.2nm,0.6s,mb4.1								
STKA	Stephens Creek	43.34	240	P				06 34 32.8	0.0
	3.3nm,0.6s,mb4.2,baz=57,slow=8.0,SNR=7.9								
WRA	Warramunga Arr	49.14	257	P		P		06 35 18.5	-0.2
	1.3nm,0.7s,mb4.0,baz=90,slow=7.8,SNR=6.0								
ASAR	Alice Springs	49.40	252	P		P		06 35 20.6	0.0
	5.1nm,0.6s,mb4.7,baz=87,slow=7.1,SNR=47								
ASPA	Alice Springs	49.41	252	eP		P		06 35 20.4	-0.3
MBWA	Marble Bar	62.65	254	eP		P		06 36 55.2	-0.2
	4.2nm,0.6s,mb4.5								
NVAR	Mina Array Bea	74.96	42	P		P		06 38 10.4	-0.6
	0.5nm,0.9s,mb3.2,baz=217,slow=9.0,SNR=3.7								
TXAR	Lajitas Array	81.30	56	P		P		06 38 46.2	+0.2
	0.5nm,0.8s,mb3.4,baz=222,slow=7.9,SNR=6.1								
TXAR	Lajitas Array	81.30	56	P		P		06 38 46.2	+0.2
ILAR	Eielson Array	82.82	11	P		P		06 38 53.7	+0.7
	0.3nm,0.5s,mb3.4,baz=240,slow=6.1,SNR=11								
ILAR				PP		PP		06 41 58.6	-7.1
	0.4nm,0.9s,baz=192,slow=8.3,SNR=4.2								
PDAR	Pinedale Array	82.89	42	P		P		06 38 54.0	+0.1
	1.2nm,0.7s,mb3.8,baz=243,slow=2.5,SNR=11								

*IDC **12** 06:29:33.7±2.9, 2.09S×99.14E, mb3.8/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.9/7, Error ellipse: s-maj=123.0km s-min=18.6km az=59.0*
*NEIC **12** 06:29:38.4±1.9, 2.08S×99.23E, h30km, mb4.4/1, Error ellipse: s-maj=77.8km s-min=12.3km az=60.0*

ISC 12 06:29:36.3±2.5,**2.1S**±0.3×**99.1E**±0.6,**h33**km,**n10**, σ0§**84**/8, **mb4.0**/7,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.42	360	P		P		06 34 14.3	+0.9
	0.4nm,0.4s,baz=190,slow=10,SNR=4.4								
WRA	Warramunga Arr	38.71	120	P		P		06 36 58.0	-1.2
	1.4nm,0.4s,mb4.0,baz=297,slow=8.9,SNR=5.9								
WRAB	Tennant Creek	38.72	120	P		P		06 36 58.6	-0.6
	4.4nm,0.6s,mb4.4								
ASAR	Alice Springs	39.92	125	P		P		06 37 10.2	+1.0
	1.1nm,0.7s,mb3.7,baz=303,slow=8.1,SNR=9.4								
STKA	Stephens Creek	49.75	131	P		P		06 38 28.9	+1.0
	1.6nm,0.8s,mb4.1,baz=274,slow=10,SNR=3.7								
SONM	Songino Array	50.12	6	P		P		06 38 30.4	-0.1
	0.3nm,0.4s,mb3.7,baz=187,slow=12,SNR=3.4								
MKAR	Makanchi Array	50.88	345	P		P		06 38 36.3	+0.1
	1.0nm,0.7s,mb3.9,baz=156,slow=8.2,SNR=8.8								
ZAL	Zalesovo	57.09	350	P		P		06 39 20.8	-1.0
	2.0nm,0.4s,mb4.5,baz=244,slow=2.0,SNR=6.9								
TXAR	Lajitas Array	145.30	36	PKPbc		PKPbc		06 49 13.9	+1.9
	1.2nm,0.5s,baz=205,slow=1.0,SNR=27								
JCT	Junction City	146.55	31	ePKPbc		PKPbc		06 49 17.7	+2.7

IDC 12 06:47:27.7±3.3,**60.55S**×**43.86W**,**mb4.1**/2,**mb1 4.2**/2, **mb1mx3.6**/16,**mbtmp4.1**/2,**Error ellipse: s-maj=346.5km s-min=38.5km az=8.0,Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LBTB	Lobatse	58.47	85	P		P		06 57 25.7	-1.9
	1.3nm,0.5s,baz=173,slow=8.1,SNR=3.9								
MATP	Matopo	63.77	85	P		P		06 58 01.1	-2.3
	0.9nm,0.6s,baz=187,slow=7.1,SNR=2.3								
YKA	Yellowknife Ar	133.97	322	PKP		PKPdf		07 06 44.1	-3.2
	0.2nm,0.6s,baz=137,slow=2.0,SNR=10								
INK	Inuvik	143.70	321	PKP		PKPdf		07 07 03.3	-1.3
	1.1nm,1.0s,baz=69,slow=2.1,SNR=3.1								
MKAR	Makanchi Array	146.30	89	PKPbc		PKPbc		07 07 08.4	-0.6
	0.8nm,0.5s,baz=239,slow=3.6,SNR=12								
ILAR	Eielson Array	146.43	311	PKPbc		PKPbc		07 07 08.2	-0.6
	0.7nm,0.7s,baz=128,slow=1.8,SNR=10.0								

*IDC **12** 06:49:56.8±1.1, 5.36N×93.39E, mb4.1/10, mb1 4.3/11, mb1mx4.0/24, mbtmp4.1/11, Error ellipse: s-maj=47.1km s-min=16.4km az=55.0*
*NEIC **12** 06:50:01.5±0.5, 5.35N×93.40E, h30km, mb4.5/2, Error ellipse: s-maj=14.1km s-min=7.6km az=52.0*

ISC 12 06:50:01.9±6.4,**5.4N**±0.2×**93.5E**±0.3,**h48**km±52km,**n21**, σ0§**57**/18,**mb4.2**/12,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.10	91	P		P		06 51 45.7	-0.1
CM31	Chiang Mai Arr	14.02	22	P		P		06 53 25.1	+5.5
	6.1nm,0.8s								
CMAR	Chiang Mai Arr	14.02	22	Pn		P		06 53 19.6	-0.1
	baz=222,slow=13,SNR=5.6								
LSA	Lhasa	24.27	355	eP		P		06 55 17.5	+1.6
	4.4nm,0.4s,mb4.2								
FITZ	Fitzroy Crossi	39.36	127	P		P		06 57 28.6	0.0
	4.9nm,1.0s,mb4.2,baz=63,slow=2.3,SNR=5.4								
MKAR	Makanchi Array	42.36	349	P		P		06 57 52.7	-0.4
	1.5nm,0.5s,mb3.9,baz=167,slow=9.2,SNR=23								
MKAR	Makanchi Array	42.36	349	P		P		06 57 52.7	-0.4
SONM	Songino Array	43.70	13	P		P		06 58 03.7	-0.2
	0.9nm,0.6s,mb3.7,baz=169,slow=14,SNR=6.4								
WRA	Warramunga Arr	47.38	123	P		P		06 58 34.0	+0.4
	5.0nm,0.7s,mb4.5,baz=302,slow=9.0,SNR=26								
WRAB	Tennant Creek	47.39	123	eP		P		06 58 33.5	-0.1
	6.1nm,0.7s,mb4.6								
ASAR	Alice Springs	48.85	128	P		P		06 58 44.9	-0.1
	1.5nm,0.7s,mb4.1,baz=300,slow=6.7,SNR=11								
ZAL	Zalesovo	48.91	353	P		P		06 58 45.1	+0.1
	1.2nm,0.5s,mb4.2,baz=256,slow=4.9,SNR=8.6								
BVAR	Borovoye Array	51.13	342	P		P		06 59 00.8	-1.2
	1.4nm,0.8s,mb4.0,baz=149,slow=8.6,SNR=7.4								
MLR	Muntele Rosu	70.51	316	P		P		07 01 13.8	+0.1
	1.9nm,0.5s,mb4.2,baz=99,slow=1.7,SNR=4.2								
MLR	Muntele Rosu	70.51	316	P		P		07 01 13.8	+0.1
ARCES	ARCESS Array B	77.37	340	P		P		07 01 52.7	-0.4
	1.6nm,0.7s,mb4.0,baz=108,slow=3.8,SNR=4.0								
ARCES	ARCESS Array B	77.37	340	P		P		07 01 52.7	-0.4
GERES	GERESS Array B	79.25	319	P		P		07 02 04.3	+0.4
	1.5nm,0.7s,mb4.0,baz=45,slow=1.9,SNR=6.3								
PDAR	Pinedale Array	127.68	21	PKP		PKPdf		07 09 05.2	+2.7
	0.6nm,0.8s,baz=333,slow=3.3,SNR=4.8								
TXAR	Lajitas Array	141.72	25	PKP		PKPdf		07 09 32.3	+3.4
	0.3nm,0.5s,baz=130,slow=0.6,SNR=6.9								
JCT	Junction City	142.11	19	PKP		PKPdf		07 09 32.4	+2.9

*NEIC **12** 07:18:42.9, 34.28S×70.61W, h10km, ML3.4(GUC), After GUC.*

GUC 12 07:18:42.9±0.9,**34.28S**×**70.61W**,**h10**km±2km,**MD3.7, ML3.4**,**5C-4D,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CACH	El Canelo	0.16	3	⇓	iP		Pg	07 18 46.6	+0.1
CACH					iS		Sg	07 18 49.5	+0.5
CICH	Cipreses	0.16	105	⇓	iP		Pg	07 18 47.0	+0.4
SFDO	San Fernando	0.47	225	⇑	iP		Pg	07 18 52.8	+0.3
SFDO					iS		Sg	07 18 60.0	+1.1
LMEL	Las Melosas	0.55	38	i	P		Pg	07 18 53.8	-0.1
LMEL					AMP			07 19 01.8	
	comp=N,2μm,0.4s								
PCH	Pirque	0.66	7	⇑	iP		Pb	07 18 56.0	-0.1
PCH					iS		Sb	07 19 05.5	+0.4
SJCH	San Jose de Ma	0.67	19	i	P		Pb	07 18 55.9	-0.4
SJCH					iS		Sb	07 19 05.6	+0.2
SJCH					AMP			07 19 06.6	
	comp=E,1μm,0.5s								
TACH	Talagante	0.68	336	i	P		Pb	07 18 56.3	-0.1
TACH					iS		Sb	07 19 05.8	+0.1
LNV	Longovilo	0.74	296	⇓	iP		Pb	07 18 56.9	-0.5
LNV					iS		Sb	07 19 07.3	0.0
SAN	Santiago	0.82	357	i	S		Sb	07 19 10.2	+0.4
STL	Santa Lucia	0.84	358	⇑	iP		Pb	07 18 58.8	-0.4
STL					iS		Sb	07 19 10.6	+0.3
DSCH	Colegio Aleman	0.88	2	⇓	iP		Pb	07 18 59.8	0.0
DSCH					iS		Sb	07 19 12.2	+0.8
DSCH					AMP			07 19 19.6	
	comp=N,2μm,0.6s								
CLCH	Cerro Calan	0.88	4	⇑	iP		Pb	07 18 59.8	-0.1
CLCH					iS		Sb	07 19 12.1	+0.6
CLCH					AMP			07 19 17.4	
	comp=E,1μm,0.6s								
FCH	Farellones	0.99	16	⇑	iP		Pb	07 19 01.6	0.0
FCH					iS		Sb	07 19 15.6	+1.1
FCH					AMP			07 19 15.9	
	comp=N,516nm,0.6s								
ROCH	El Roble	1.35	345	i	P		Pb	07 19 07.5	-0.3
ROCH					iS		Sb	07 19 25.9	+1.0
TALC	Talca	1.40	217	AMP				07 19 27.9	
	comp=N,4μm,0.3s								
IHA	Instituto Hidr	1.52	325	i	P		Pn	07 19 10.5	+0.2
IHA					iS		Sb	07 19 30.5	+0.6
JACH	Jahuel	1.59	1	i	P		Pn	07 19 11.2	-0.2
JACH					iS		Sb	07 19 32.5	+0.3
LNCH	Linares	1.76	207	i	P		Pn	07 19 15.2	+1.4
LNCH					iS		Sn	07 19 38.2	+1.7
LNCH					AMP			07 19 41.7	
	comp=N,2μm,0.4s								
PACH	Papudo	1.87	338	eP			Pn	07 19 16.1	+0.8
PACH					iS		Sn	07 19 40.6	+1.4
CNCO	Chanco	2.15	227	eP			Pn	07 19 20.6	+1.3
CNCO					iS		Sn	07 19 48.6	+2.4
CNCO					AMP			07 19 54.0	
	comp=N,1μm,0.5s								
CHNG	Los Chungos	2.50	342	i	P		Pn	07 19 26.5	+2.1
CHNG					iS		Sn	07 19 57.8	+2.5
CHNG					AMP			07 20 05.5	
	comp=E,176nm,0.4s								
CCHI	Chillan	2.61	207	AMP				07 20 11.9	
	comp=E,302nm,0.3s								

IDC 12 07:22:05.0±2.2,**42.48S**×**88.70E**,**mb3.8**/4,**mb1 4.1**/4, **mb1mx3.8**/16,**mbtmp3.8**/4,**MS4.0**/15,**Ms1 4.0**/15, **ms1mx3.8**/27,**Error ellipse: s-maj=54.6km s-min=34.0km az=90.0,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	24.41	76	LR		LR		07 33 51.9	
	comp=Z,130nm,18.5s,baz=0.7,slow=29								
MAW	Mawson	28.76	200	LR		LR		07 37 25.6	
	comp=Z,397nm,18.3s,baz=66,slow=32								
ASAR	Alice Springs	41.72	78	P		P		07 29 55.8	-1.5
	1.2nm,0.6s,baz=224,slow=7.4,SNR=20								
ASAR				LR		LR		07 45 31.9	
	comp=Z,174nm,20.4s,baz=230,slow=34								
STKA	Stephens Creek	42.84	94	LR		LR		07 44 18.8	
	comp=Z,348nm,18.9s,baz=208,slow=31								
WRA	Warramunga Arr	44.38	74	P		P		07 30 17.0	-2.0
	0.7nm,0.8s,baz=229,slow=7.3,SNR=4.7								
VNDA	Vanda	45.30	163	P		P		07 30 23.9	-1.8
	0.9nm,0.9s,baz=300,slow=8.5,SNR=4.4								
VNDA				LR		LR		07 46 34.9	
	comp=Z,193nm,20.1s,baz=83,slow=32								
BOSA	Boshof	52.31	264	LR		LR		07 48 16.2	
	comp=Z,137nm,19.4s,baz=159,slow=30								
CMAR	Chiang Mai Arr	61.36	11	P		P		07 32 22.6	-2.5
	1.1nm,0.9s,baz=209,slow=6.3,SNR=6.4								
CMAR				LR		LR		07 53 44.8	
	comp=Z,82nm,21.0s,baz=205,slow=31								
KMBO	Kilima Mbogo	61.70	297	LR		LR		07 53 21.5	
	comp=Z,41nm,20.4s,baz=128,slow=30								
USHA	Ushuaia	81.12	193	LR		LR		08 06 42.4	
	comp=Z,217nm,19.1s,baz=146,slow=33								
AFI	Afiamalu	87.60	107	LR		LR		08 06 24.6	
	comp=Z,81nm,18.7s,baz=150,slow=30								
MKAR	Makanchi Array	89.07	356	LR		LR		08 13 26.1	
	comp=Z,69nm,18.4s,baz=182,slow=35								
SONM	Songino Array	91.28	12	LR		LR		08 15 27.7	
	comp=Z,77nm,18.0s,baz=33,slow=35								
PLCA	Paso Flores	95.07	196	LR		LR		08 19 44.9	
	comp=Z,116nm,19.5s,baz=179,slow=36								
ZAL	Zalesovo	96.10	358	LR		LR		08 17 59.7	
	comp=Z,53nm,18.9s,baz=104,slow=35								
DBIC	Dimbokro	97.07	273	LR		LR		08 12 35.3	
	comp=Z,79nm,19.4s,baz=114,slow=31								

*IDC **12** 07:27:53.8±0.9, 6.76N×73.02W, h167km±9km, mb3.4/9, mb1 3.7/12, mb1mx3.5/24, mbtmp4.0/12, Error ellipse: s-maj=15.3km s-min=11.9km az=102.0*
*NEIC **12** 07:27:53.8±0.6, 6.75N×73.04W, h168km±6km, mb3.8/3, Error ellipse: s-maj=8.3km s-min=6.9km az=91.0*

ISC 12 07:27:53.0±0.6,**6.78N**±0.06×**73.00W**±0.07,**h174**km±6km, **n21**, σ0§**76**/21,**mb3.6**/11,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.32	215	P		P		07 28 34.4	+0.7
	101nm,0.3s,baz=286,slow=9.5,SNR=566								
ROSC						S		07 29 05.2	0.0
	176nm,0.3s,baz=106,slow=20,SNR=10								
SDV	Santo Domingo	3.14	48	P		P		07 28 44.0	+0.3
	86nm,0.3s,baz=272,slow=6.1,SNR=144								
SDV						S		07 29 22.0	-0.8
	67nm,0.3s,baz=67,slow=23,SNR=19								
OTAV	Otavalo	8.47	220	eP		P		07 29 51.9	-1.5
PCRV	Puerto La Cruz	8.93	67	P		P		07 30 00.6	+1.2
	1.1nm,0.3s,baz=90,slow=8.6,SNR=10								
JTS	JuntasAbangare	12.33	287	P		P		07 30 50.8	+7.2
	0.3nm,0.3s,baz=188,slow=14,SNR=5.5								
SAML	Samuel	18.43	148	eP		P		07 31 56.9	-0.8
	2.7nm,0.4s								
SAML				e				07 32 24.1	
LPAZ	La Paz	23.42	168	P		P		07 32 48.8	+1.3
	0.6nm,0.3s,mb3.5,baz=344,slow=6.3,SNR=7.2								
SIV	San Ignacio	25.52	153	P		P		07 33 06.7	-0.6
	0.6nm,0.7s,mb3.3,baz=335,slow=12,SNR=4.8								
BDFB	Brasilia	33.29	132	P		P		07 34 16.4	+0.2
	1.6nm,0.6s,mb3.9,baz=297,slow=15,SNR=3.3								
TXAR	Lajitas Array	36.58	312	P		P		07 34 44.3	+0.4
	0.4nm,0.4s,mb3.4,baz=125,slow=9.1,SNR=12								
WMOK	Wichita Mounta	36.59	323	eP		P		07 34 43.4	-0.5
	1.9nm,0.8s,mb3.8								
ISCO	Idaho Springs	44.01	323	eP		P		07 35 45.2	+0.3
	1.3nm,0.8s,mb3.6								
ULM	Lac du Bonnet	47.37	340	P		P		07 36 10.3	-0.8
	2.1nm,0.4s,mb4.2,baz=141,slow=5.4,SNR=3.6								
MSU	Marysvale	47.42	318	eP		P		07 36 13.1	+1.4
SCHQ	Schefferville	48.17	5	P		P		07 36 16.9	-0.5
	1.6nm,0.6s,mb3.8,baz=232,slow=12,SNR=5.5								
PDAR	Pinedale Array	48.19	324	P		P		07 36 17.9	+0.3
	0.4nm,0.5s,mb3.3,baz=124,slow=9.4,SNR=5.1								
YKA	Yellowknife Ar	63.35	340	P		P		07 38 04.8	-0.7
	1.2nm,0.5s,mb4.0,baz=133,slow=6.7,SNR=66								
YKA				pP		pP		07 38 43.8	-2.8
	0.4nm,0.6s,baz=132,slow=7.0,SNR=5.4								
YKA	Yellowknife Ar	63.35	340	P		P		07 38 04.8	-0.7
YKA				pP		pP		07 38 43.8	-2.8
ILAR	Eielson Array	77.06	335	P		P		07 39 28.1	0.0
	0.2nm,0.6s,mb3.0,baz=104,slow=5.1,SNR=4.4								
ASAR	Alice Springs	149.18	234	PKPbc		PKPdf		07 47 22.8	+5.8
	1.5nm,0.7s,baz=118,slow=3.3,SNR=15								
WRA	Warramunga Arr	150.42	241	PKPbc		PKPdf		07 47 26.1	+7.1
	0.7nm,0.4s,baz=109,slow=2.5,SNR=9.2								

DJA 12 07:47:39.9±0.9,**9.35S**×**113.70E**,**h15**km,**MD4.6**/3, **ML3.6**/3,**3C,Error ellipse: s-maj=18.4km s-min=12.0km az=51.0,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	0.96	27	⇑	iPn		Pn	07 47 56.3	-2.5
	59nm,0.2s								
SRDI					eSn		Sn	07 48 07.4	-4.8
KELI	Kelakatan	1.37	35	ePn			Pn	07 48 02.4	-2.2
	23nm,0.2s								
KELI	Kelakatan	1.37	35	ePg			Pg	07 48 03.7	-3.6
KELI					eSn		Sn	07 48 17.9	-4.5
RATI	Rata	1.91	71	⇑	ePn		Pn	07 48 07.8	-4.6
	132nm,0.2s								
RATI					eSn		Sn	07 48 32.2	-4.1
KEDI	Kedomdong	2.53	71	⇑	iPn		Pn	07 48 19.8	-1.4
KEDI					eSn		Sn	07 48 46.6	-5.5

*IDC **12** 07:50:45.0±3.0, 1.60S×99.78E, mb3.7/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=124.2km s-min=21.5km az=58.0*
*NEIC **12** 07:50:49.7±1.2, 1.54S×99.85E, h30km, mb4.3/1, Error ellipse: s-maj=46.1km s-min=12.3km az=65.0*

ISC 12 07:50:48.9±1.8,**1.4S**±0.2×**99.9E**±0.4,**h33**km,**n10**, σ0§**80**/8, **mb3.7**/6,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.71	6	P		P		07 52 27.4	-0.2
CMAR	Chiang Mai Arr	19.78	357	P		P		07 55 20.4	+1.1
	0.1nm,0.3s,baz=185,slow=11,SNR=3.4								
WRA	Warramunga Arr	38.34	121	P		P		07 58 07.2	-1.5
	0.3nm,0.5s,mb3.3,baz=302,slow=9.2,SNR=4.5								
WRAB	Tennant Creek	38.34	121	P		P		07 58 09.3	+0.6
	4.0nm,0.8s,mb4.2								
ASAR	Alice Springs	39.64	127	P		P		07 58 20.4	+1.0
	0.2nm,0.5s,mb3.1,baz=301,slow=7.7,SNR=4.7								
SONM	Songino Array	49.38	6	P		P		07 59 37.0	-0.4
	0.4nm,0.7s,mb3.5,baz=207,slow=6.4,SNR=3.0								
MKAR	Makanchi Array	50.46	344	P		P		07 59 45.8	+0.1
	0.7nm,0.6s,mb3.9,baz=148,slow=8.2,SNR=12								
ZAL	Zalesovo	56.59	349	P		P		08 00 30.1	-0.6
	1.4nm,0.4s,mb4.3,baz=306,slow=2.2,SNR=3.0								
TXAR	Lajitas Array	144.29	37	PKP		PKPdf		08 10 22.9	+0.6
	0.2nm,0.4s,baz=274,slow=0.6,SNR=10								
JCT	Junction City	145.57	31	PKP		PKPdf		08 10 25.9	+1.4

*FUNV **12** 07:50:49.6, 10.98N×62.17W, h103km, MW2.8*
*NEIC **12** 07:50:54.5, 11.06N×62.16W, h11km, MD2.9(TRN), After TRN.*
*TRN **12** 07:50:54.5, 11.06N×62.16W, h12km, MD2.9*

ISC 12 07:50:49.6±0.4,**10.85N**±0.04×**62.36W**±0.03,**h100**km,**n18**, σ1§**38**/33,**1C,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.24	146	eP		P		07 51 05.1	+1.1
GUIV				eS		S		07 51 14.7	-0.2
GUNV	Guanoco	0.89	220	eP		P		07 51 12.2	+3.1
GUNV				eS		S		07 51 27.6	+3.9
ITEV	Isla Los Testi	0.91	304	eP		P		07 51 10.6	+1.3
ITEV				eS		S		07 51 24.4	+0.5
TRN	Trinidad (W)	0.96	102	⇑	iP	P		07 51 10.8	+0.9
TRN				eS		S		07 51 23.6	-1.5
TPP	Pointe-a-Pierr	1.04	121	eP		P		07 51 13.5	+2.8
TPP				eS		S		07 51 29.4	+2.8
TBH	Brigand Hill	1.32	106	eP		P		07 51 18.7	+4.6
TBH				eS		S		07 51 33.9	+1.5
GRW	Mount Saint Ca	1.47	28	eS		S		07 51 31.9	-3.6
GRHS	Sauteurs	1.54	27	eS		S		07 51 35.4	-1.5
BOT	Bacolet	1.64	79	eP		P		07 51 21.1	+3.1
BOT				eS		S		07 51 36.7	-2.5
PCRV

0.1nm,0.3s,baz=168,slow=8.2,SNR=2.6
LPAZ La Paz 14.75 353 *e*P **P 07 55 00.0 -2.8**
4.0nm,0.8s
LPAZ Pn **P 07 55 03.2 +0.4**
SIV San Ignacio 15.69 19 Pn **P 07 55 17.3 +2.3**
0.2nm,0.3s,baz=194,slow=15,SNR=6.0
SAML Samuel 22.14 8 P **P 07 56 27.4 -1.0**
0.5nm,0.5s,mb3.2
BDFB Brasilia 22.66 52 P **P 07 56 38.0 +4.4**
1.1nm,0.5s,mb3.5,baz=199,slow=12,SNR=3.7
BDFB LR LR 08 06 23.6
comp=Z,66nm,19.8s,MS3.1,baz=289,slow=39
OTAV Otavalo 33.15 337 P **P 07 58 03.4 -6.0**
1.6nm,0.4s,mb4.3
RPN Rapa Nui 37.64 265 LR LR 08 09 56.4
comp=Z,180nm,19.6s,MS3.9,baz=358,slow=30
SNAA Sanae 52.58 159 P **P 08 00 51.4 +5.7**
0.9nm,0.8s,mb3.8,baz=304,slow=12,SNR=7.3
SNAA Sanae 52.58 159 P **P 08 00 46.3 +0.6**
3.4nm,0.8s,mb4.3
SNAA P 08 00 51.4
QSPA South Pole Qui 59.22 180 *e*P **P 08 01 33.9 +0.6**
3.3nm,0.6s,mb4.5
WRA Warramunga Arr 125.60 204 PKhKP 08 10 33.8
0.3nm,0.4s,baz=158,slow=1.7,SNR=4.8
MKAR Makanchi Array 151.16 48 PKPbc PKPdf 08 11 31.0 +14
1.4nm,0.6s,baz=280,slow=2.6,SNR=8.2

IDC 12 07:58:08.8±5.6, 0.56S×101.35E, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=315.8km s-min=27.1km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.60**	**123**	P	P	08 05 26.0	-1.2
0.4nm,0.6s,baz=303,slow=9.1,SNR=5.6							
ASAR	**Alice Springs**	**39.05**	**128**	P	P	08 05 37.2	-2.1
0.2nm,0.5s,baz=302,slow=8.1,SNR=3.2							
MKAR	**Makanchi Array**	**50.03**	**343**	P	P	08 07 05.3	-1.8
0.3nm,0.4s,baz=156,slow=8.8,SNR=4.1							
TXAR	**Lajitas Array**	**142.75**	**38**	PKP	PKPdf	08 17 42.0	-4.6
0.2nm,0.4s,baz=255,slow=0.2,SNR=7.7							

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*NEIC **12** 08:06:25.0±0.9, 0.24N×97.65E, mb4.4/1, Error ellipse: s-maj=26.6km s-min=10.6km az=66.0*
*IDC **12** 08:06:25.1±1.9, 0.24N×97.60E, h22km±5km, mb3.9/7, mb1 4.1/8, mb1mx3.8/21, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=86.1km s-min=14.0km az=56.0*
ISC 12 08:06:23.3±1.1, 0.3N±0.1×97.7E±0.2, h23km, h23km±1.3km: pP-P, n12, σ0§73/11, mb4.0/8, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.80**	**31⇑**	*e*P	**Pn**	**08 07 50.4**	**0.0**
CMAR	**Chiang Mai Arr**	**18.10**	**4**	P	**P**	**08 10 34.8**	**-0.6**
0.3nm,0.3s,baz=195,slow=11,SNR=15							
FITZ	**Fitzroy Crossi**	**33.03**	**125**	P	**P**	**08 12 57.7**	**-1.8**
3.5nm,0.7s,mb4.4,baz=207,slow=9.0,SNR=2.3							
WRA	**Warramunga Arr**	**41.17**	**121**	P	**P**	**08 14 08.4**	**+0.4**
0.3nm,0.4s,mb3.2,baz=298,slow=9.1,SNR=4.8							
WRA				pP	pP	08 14 15.0	+0.2
1.6nm,0.5s,baz=302,slow=9.0,SNR=7.9							
WRAB	**Tennant Creek**	**41.18**	**121**	P	**P**	**08 14 08.7**	**+0.6**
4.1nm,0.5s,mb4.3							
WRAB				*e*	pP	08 14 16.3	+1.4
ASAR	**Alice Springs**	**42.49**	**127**	P	**P**	**08 14 19.5**	**+0.6**
1.0nm,0.5s,mb3.7,baz=298,slow=8.3,SNR=14							
ASAR				pP	pP	08 14 26.9	+1.1
1.5nm,0.6s,baz=297,slow=8.0,SNR=9.6							
SONM	**Songino Array**	**47.97**	**8**	P	**P**	**08 15 03.2**	**+0.8**
1.4nm,0.7s,mb4.1,baz=191,slow=9.3,SNR=10.0							
MKAR	**Makanchi Array**	**48.23**	**346**	P	**P**	**08 15 04.7**	**+0.3**
1.3nm,0.7s,mb4.1,baz=155,slow=7.8,SNR=15							
MKAR				pP	pP	08 15 10.4	-0.9
0.6nm,0.5s,baz=156,slow=8.7,SNR=4.9							
MKAR	**Makanchi Array**	**48.23**	**346**	P	**P**	**08 15 04.7**	**+0.3**
MKAR				pP	pP	08 15 10.4	-0.9
ZAL	**Zalesovo**	**54.52**	**351**	P	**P**	**08 15 52.0**	**+0.3**
1.8nm,0.4s,mb4.5,baz=332,slow=8.0,SNR=4.2							
BVAR	**Borovoye Array**	**57.26**	**341**	P	**P**	**08 16 10.9**	**-0.7**
1.2nm,0.7s,mb4.1,baz=143,slow=7.4,SNR=6.5							
BVAR				pP	pP	08 16 17.8	-0.7
1.2nm,0.7s,baz=146,slow=11,SNR=4.6							
TXAR	**Lajitas Array**	**144.20**	**33**	PKP	PKPdf	08 25 58.6	-3.9
0.1nm,0.6s,baz=252,slow=2.9,SNR=2.7							

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*IDC **12** 08:20:34.9±2.3, 1.85S×99.43E, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=100.9km s-min=19.1km az=56.0*
*NEIC **12** 08:20:40.0±0.8, 1.72S×99.66E, h30km, mb4.5/2, Error ellipse: s-maj=30.2km s-min=9.5km az=63.0*
ISC 12 08:20:39.0±1.2, 1.6S±0.2×99.7E±0.3, h33km, n14, σ0§71/11, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.92**	**8**	P	**P**	**08 22 20.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	**P**	**08 25 10.8**	**-0.6**
1.8nm,0.7s,baz=189,slow=11,SNR=8.7							
SHL	**Shillong**	**28.07**	**345**	*e*	**P**	**08 26 31.0**	**+1.1**
WRA	**Warramunga Arr**	**38.41**	**121**	P	**P**	**08 27 59.4**	**0.0**
0.8nm,0.5s,mb3.8,baz=301,slow=9.7,SNR=7.7							
WRAB	**Tennant Creek**	**38.42**	**121**	*e*P	**P**	**08 27 59.2**	**-0.2**
6.2nm,0.6s,mb4.5							
ASAR	**Alice Springs**	**39.69**	**126**	P	**P**	**08 28 10.2**	**+0.2**
0.9nm,0.6s,mb3.7,baz=306,slow=7.5,SNR=12							
SONM	**Songino Array**	**49.59**	**6**	P	**P**	**08 29 29.7**	**+0.7**
1.4nm,0.8s,mb4.0,baz=188,slow=8.7,SNR=5.3							
MKAR	**Makanchi Array**	**50.59**	**345**	P	**P**	**08 29 37.4**	**+0.7**
2.3nm,0.8s,mb4.2,baz=153,slow=7.2,SNR=7.0							
ZAL	**Zalesovo**	**56.74**	**349**	P	**P**	**08 30 22.1**	**+0.2**
2.2nm,0.4s,mb4.5,baz=318,slow=3.4,SNR=5.7							
BVAR	**Borovoye Array**	**59.74**	**340**	P	**P**	**08 30 41.2**	**-1.7**
0.6nm,0.5s,mb3.9,baz=153,slow=9.7,SNR=3.2							
CHKZ	**Chkalovo**	**60.20**	**341**	*e*P	**P**	**08 30 45.9**	**-0.2**
2.5nm,0.7s,mb4.3							
TXAR	**Lajitas Array**	**144.56**	**37**	PKP	PKPdf	08 40 14.1	+1.2
0.8nm,0.5s,baz=213,slow=0.7,SNR=24							
MIAR	**Mount Ida**	**144.97**	**19**	*e*PKPdf	PKPdf	08 40 14.3	+0.9
JCT	**Junction City**	**145.84**	**31**	*e*PKPbc	PKPbc	08 40 17.4	+1.5

CASC 12 08:24:23.8±2.2, 13.83N×91.54W, h17km±15km, MD4.0, 2C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.50**	**349⇓**	*e*P	Pb	08 24 32.6	-1.1
JAT				*e*S	Sb	08 24 42.0	+1.5
IXG	**Ixpaco**	**1.11**	**72⇓**	*e*P	Pb	08 24 42.8	-1.4
IXG				*e*S	Sb	08 24 59.9	+1.7
RBDL	**Robledal**	**1.82**	**81⇓**	*e*P	Pn	08 24 54.2	-0.6
RBDL				*e*S	Sn	08 25 18.0	+0.4
RTR	**El Retiro**	**1.84**	**88**	*e*P	Pn	08 24 54.9	-0.1
SBLS	**San Blas**	**1.86**	**89⇓**	*e*P	Pn	08 24 55.2	-0.2
SBLS				*e*S	Sn	08 25 19.6	+1.0
SNJE	**San Jose**	**1.88**	**88⇓**	*e*P	Pn	08 24 55.5	-0.1
BOQS	**Boqueron**	**2.20**	**92**	*e*P	Pn	08 25 00.1	0.0
BOQS				*e*S	Sn	08 25 28.7	+1.6
LFRS	**El Faro**	**2.42**	**94⇑**	*e*P	Pn	08 25 03.0	-0.3
LFRS				*e*S	Sn	08 25 33.8	+1.0
LCBS	**La Ceiba**	**2.50**	**94⇑**	*e*P	Pn	08 25 04.2	-0.2

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*BJI **12** 08:53:39.5, 6.48S×152.08E, h64km, mB5.0, mb4.7, Ms4.6, Msz4.1*
*NEIC **12** 08:53:45.7±2.5, 5.94S×151.34E, h65km±22km, mb4.8/9, Error ellipse: s-maj=15.8km s-min=15.0km az=69.0*
*IDC **12** 08:53:47.1±3.6, 5.92S×151.31E, h74km±31km, mb3.9/11, mb1 4.2/13, mb1mx4.1/17, mbtmp4.2/13, MS3.5/2, Ms1 3.5/2, ms1mx3.1/16, Error ellipse: s-maj=21.1km s-min=19.4km az=84.0*
ISC 12 08:53:45.2±2.7, 5.95S±0.09×151.3E±0.1, h70km±23km, n30, σ0§91/31, mb4.2/20, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.33**	**230**	P	**P**	**08 55 04.4**	**+0.3**
31nm,0.3s,baz=53,slow=7.1,SNR=104							

PMG				S	**S**	**08 56 06.1**	**+1.2**
89nm,0.3s,baz=81,slow=16,SNR=14							
PMG	**Port Moresby**	**5.33**	**230**	*e*Pn	**P**	**08 55 03.8**	**-0.3**
311nm,0.7s							
PMG				*e*S	**S**	**08 56 02.7**	**-2.2**
CTA	**Charters Tower**	**14.88**	**199**	P	**P**	**08 57 12.7**	**-0.5**
0.2nm,0.3s,baz=30,slow=15,SNR=2.9							
CTA				LR	LR	09 02 02.4	
comp=Z,84nm,21.3s,baz=208,slow=33							
CTAO	**Charters Tower**	**14.88**	**199**	P	**P**	**08 57 10.1**	**-3.0**
8.0nm,0.7s							
KAKA	**Kakadu**	**19.76**	**249**	*e*P	**P**	**08 58 12.3**	**0.0**
19nm,0.4s							
WRAB	**Tennant Creek**	**21.54**	**228**	*e*P	**P**	**08 58 30.4**	**-0.1**
12nm,0.8s,mb4.3							
WRA	**Warramunga Arr**	**21.55**	**228**	P	**P**	**08 58 30.2**	**-0.4**
5.6nm,0.6s,mb4.0,baz=55,slow=10,SNR=38							
WRA				PcP	PcP	09 02 31.3	-0.1
1.9nm,0.7s,baz=55,slow=2.0,SNR=7.3							
DZM	**Mont Dzumac**	**21.72**	**139**	P	**P**	**08 58 34.1**	**+1.9**
10.0nm,0.9s,mb4.1,baz=257,slow=18,SNR=3.4							
DZM				LR	LR	09 05 57.2	
comp=Z,228nm,18.0s,baz=204,slow=34							
ASAR	**Alice Springs**	**24.29**	**222**	P	**P**	**08 58 57.7**	**+0.4**
7.5nm,0.6s,mb4.2,baz=55,slow=9.0,SNR=92							
ASPA	**Alice Springs**	**24.29**	**222**	*e*P	**P**	**08 58 57.9**	**+0.5**
STKA	**Stephens Creek**	**27.34**	**198**	*e*P	**P**	**08 59 26.5**	**+0.7**
4.2nm,0.9s,mb4.0							
STKA				*i*	pP	08 59 39.0	-3.2
STKA	**Stephens Creek**	**27.34**	**198**	P	**P**	**08 59 26.7**	**+0.9**
4.1nm,0.8s,mb4.0,baz=24,slow=10,SNR=7.6							
FITZ	**Fitzroy Crossi**	**27.79**	**242⇑**	*i*P	**P**	**08 59 30.0**	**0.0**
16nm,0.6s,mb4.7							
FITZ				*i*		08 59 35.9	
FITZ	**Fitzroy Crossi**	**27.79**	**242**	P	**P**	**08 59 30.0**	**+0.1**
21nm,0.5s,mb4.9,baz=94,slow=7.0,SNR=42							
MBWA	**Marble Bar**	**34.09**	**241**	*e*P	**P**	**09 00 24.9**	**-0.5**
14nm,0.8s,mb4.8							
MDJ	**Mudanjiang**	**53.98**	**341**	P	**P**	**09 03 04.5**	**+0.1**
MDJ				AMB	AMB		
comp=Z,3.0nm,0.8s,mb4.4							
MDJ				AMB	AMB		
comp=Z,48nm,5.2s							
KMI	**Kunming**	**56.39**	**305**	P	**P**	**09 03 24.2**	**+2.1**
KMI				AMB	AMB		
comp=Z,9.0nm,0.9s,mb4.8							
KMI	**Kunming**	**56.39**	**305**	P	**P**	**09 03 24.2**	**+2.1**
comp=Z,9.0nm,0.9s,mb4.8							
CMAR	**Chiang Mai Arr**	**57.01**	**296**	P	**P**	**09 03 26.2**	**-0.3**
comp=Z,0.7nm,0.6s,mb3.9,baz=117,slow=5.8,SNR=5.0							
CMAR				PcP	PcP	09 04 21.2	+0.5
comp=Z,0.4nm,0.5s,baz=114,slow=2.7,SNR=4.4							
SONM	**Songino Array**	**66.50**	**329**	P	**P**	**09 04 29.1**	**-0.6**
comp=Z,0.7nm,0.5s,mb3.7,baz=151,slow=6.0,SNR=5.4							
VNDA	**Vanda**	**71.75**	**178**	P	**P**	**09 05 00.4**	**-1.1**
comp=Z,1.2nm,0.8s,mb3.8,baz=313,slow=6.5,SNR=8.6							
WMQ	**Urumqi**	**75.57**	**318**	P	**P**	**09 05 26.0**	**+1.8**
WMQ				PCP	PcP	09 05 38.8	+1.6
WMQ				AP	pP	09 05 40.8	-2.4
WMQ				XP	sP	09 05 46.6	-4.2
WMQ				PP	PP	09 08 18.4	+2.2
WMQ				S	S	09 15 03.4	+5.3
WMQ				AMB	AMB		
comp=Z,5.0nm,0.9s,mb4.2							
WMQ				AMB	AMB		
comp=Z,81nm,3.7s							
WMQ				LR	LR		
comp=N,37nm,19.0s							
WMQ				LR	LR		
comp=E,64nm,17.8s							
WMQ				LR	LR		
comp=Z,28nm,17.8s							
MCK	**McKinley**	**82.50**	**23**	*e*P	**P**	**09 06 00.5**	**-0.9**
comp=Z,7.4nm,1.1s,mb4.4							
MCK				*e*		09 06 06.1	
ILAR	**Eielson Array**	**83.79**	**22**	P	**P**	**09 06 06.9**	**-1.0**
comp=Z,2.2nm,0.7s,mb4.1,baz=248,slow=5.1,SNR=36							
MAW	**Mawson**	**83.93**	**203**	P	**P**	**09 06 08.2**	**-0.3**
comp=Z,1.5nm,0.5s,mb4.1,baz=124,slow=8.1,SNR=7.9							
QSPA	**South Pole Qui**	**84.02**	**180**	P	**P**	**09 06 08.6**	**-0.1**
comp=Z,9.4nm,1.0s,mb4.6							
INK	**Inuvik**	**90.06**	**21**	P	**P**	**09 06 37.3**	**-0.9**
comp=Z,8.7nm,1.4s,mb4.7							
NVAR	**Mina Array Bea**	**93.98**	**52**	P	**P**	**09 06 57.0**	**+0.1**
comp=Z,1.0nm,0.9s,mb4.2,baz=252,slow=5.7,SNR=6.9							
YKA	**Yellowknife Ar**	**97.14**	**28**	P	**P**	**09 07 10.9**	**+0.1**
comp=Z,0.3nm,0.9s,mb3.7,baz=275,slow=5.0,SNR=5.1							
BDFB	**Brasilia**	**151.27**	**139**	PKPbc	PKPdf	09 13 31.9	+6.3
comp=Z,2.2nm,0.6s,baz=242,slow=1.9,SNR=3.8							

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*NEIC **12** 08:55:41.8, 37.03S×177.81E, h116km, MG4.1(WEL), After WEL.*
WEL 12 08:55:42.4±0.6, 37.05S×177.76E, h111km±6km, ML4.2/5, 1D, Error ellipse: s-maj=4.6km s-min=3.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.68**	**140**	P	P	08 56 00.0	-0.7
MXZ				S	S	08 56 15.5	+0.9
MXZ	**Matakaoa Point**	**0.68**	**140**	PN	P	08 55 60.0	-0.7
MXZ				SN	S	08 56 15.5	+0.9
PUZ	**Puketiti**	**1.10**	**159**	PN	P	08 56 05.0	0.0
PUZ				SN	S	08 56 21.8	-0.1
MWZ	**Matawai**	**1.30**	**188**	P	P	08 56 07.2	-0.1
MWZ				S	S	08 56 25.0	-1.0
MWZ	**Matawai**	**1.30**	**188**	PN	P	08 56 07.2	-0.1
MWZ				SN	S	08 56 25.0	-1.0
URZ	**Urewera**	**1.32**	**203**	P	P	08 56 07.2	-0.3
URZ	**Urewera**	**1.32**	**203**	PN	P	08 56 07.2	-0.3
URZ				SN	S	08 56 25.1	-1.4
KUZ	**Kuaotunu**	**1.66**	**280**	P	P	08 56 11.2	-0.4
KUZ	**Kuaotunu**	**1.66**	**280**	⇓PN	P	08 56 11.2	-0.4
KNZ	**Kokohu**	**1.97**	**182**	*e*P	P	08 56 14.6	-0.9
KNZ	**Kokohu**	**1.97**	**182**	PN	P	08 56 14.6	-0.8
KNZ				SN	S	08 56 38.9	-1.4
BKZ	**Black Stump Fm**	**2.34**	**205**	*e*P	P	08 56 19.8	-0.6
BKZ	**Black Stump Fm**	**2.34**	**205**	PN	P	08 56 19.8	-0.7
BKZ				SN	S	08 56 48.8	-0.2
OTVZ	**Oturere**	**2.68**	**217**	PN	P	08 56 25.5	+0.4
TWVZ	**Taurewa**	**2.73**	**221**	P	P	08 56 26.5	+0.8
FWVZ	**Far West T-bar**	**2.81**	**218**	P	P	08 56 27.1	+0.4
MOVZ	**Moawhango**	**2.84**	**213**	P	P	08 56 26.2	-0.9
WNVZ	**Wahianoa**	**2.84**	**216**	P	P	08 56 26.9	-0.3
PWZ	**Pawanui**	**3.06**	**193**	*e*P	P	08 56 27.5	-2.6
TSZ	**Takapari Road**	**3.32**	**205**	*e*P	P	08 56 31.1	-2.6
WAZ	**Wanganui**	**3.47**	**218**	P	P	08 56 35.5	-0.2
BFZ	**Birch Farm**	**3.82**	**198**	*e*P	P	08 56 37.1	-3.3
MRZ	**Mangatainoka R**	**3.99**	**205**	*e*P	P	08 56 39.2	-3.5
KIW	**Kapiti Island**	**4.41**	**209**	P	P	08 56 44.7	-3.7
MTW	**Mount Morrison**	**4.46**	**202**	P	P	08 56 44.7	-4.5
CAW	**Cannon Point**	**4.56**	**206**	P	P	08 56 46.3	-4.2
MSWZ	**Moikau Station**	**4.78**	**203**	P	P	08 56 48.2	-5.2
SNZO	**South Karori**	**4.87**	**208**	*e*Pn	P	08 56 50.1	-4.7
SNZO				*e*Sn	S	08 57 43.4	-7.0
QRZ	**Quartz Range**	**5.55**	**226**	*e*P	P	08 57 00.9	-3.0
LTZ	**Lake Taylor**	**7.11**	**215**	*e*P	P	08 57 20.0	-5.3

IDC 12 08:57:22.6±3.2, 2.55N×96.93E, mb3.7/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=115.0km s-min=28.7km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.93**	**7**	Pn	P	09 01 09.6	-0.4
0.1nm,0.3s,baz=198,slow=11,SNR=5.5							
WRA	**Warramunga Arr**	**42.98**	**123**	P	P	09 05 23.9	-1.7
0.6nm,0.5s,baz=301,slow=9.0,SNR=4.6							
SONM	**Songino Array**	**45.84**	**9**	P	P	09 05 46.1	-2.2
0.3nm,0.5s,baz=191,slow=7.3,SNR=3.2							
MKAR	**Makanchi Array**	**45.88**	**346**	P	P	09 05 46.6	-1.9
0.6nm,0.5s,baz=154,slow=8.9,SNR=11							
ZAL	**Zalesovo**	**52.18**	**351**	P	P	09 06 35.2	-2.0
0.8nm,0.3s,baz=247,slow=4.6,SNR=3.3							

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*IDC **12** 09:28:36.8±1.6, 0.61N×98.39E, h22km±6km, mb3.6/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.8/6, ML4.1/1, Error ellipse: s-maj=59.8km s-min=17.2km az=58.0*
*NEIC **12** 09:28:36.6±1.1, 0.67N×98.44E, mb4.3/2, Error ellipse: s-maj=31.6km s-min=15.1km az=65.0*

ISC 12 09:28:35.3±1.1, 0.7N±0.1×98.5E±0.2, h22km, h22km±.4km: pP-P, n9, σ1§03/9, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.04**	**25**	P	**Pn**	**09 29 50.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**17.65**	**1**	P	**P**	**09 32 43.4**	**+1.6**
0.2nm,0.3s,baz=192,slow=11,SNR=15							
WRA	**Warramunga Arr**	**40.66**	**122**	P	**P**	**09 36 16.0**	**+0.1**
0.6nm,0.5s,mb3.5,baz=302,slow=8.9,SNR=8.3							
WRA				pP	pP	09 36 22.8	+0.3
1.8nm,0.5s,baz=302,slow=9.0,SNR=13							
WRAB	**Tennant Creek**	**40.67**	**122**	*e*P	**P**	**09 36 15.9**	**-0.1**
4.1nm,0.6s,mb4.2							
ASAR	**Alice Springs**	**42.05**	**128**	P	**P**	**09 36 27.6**	**+0.2**
1.0nm,0.5s,mb3.7,baz=297,slow=8.1,SNR=8.2							
ASAR				pP	pP	09 36 34.4	+0.3
1.8nm,0.5s,baz=298,slow=8.1,SNR=11							
SONM	**Songino Array**	**47.45**	**7**	P	**P**	**09 37 11.4**	**+1.0**
0.6nm,0.6s,mb3.7,baz=184,slow=9.0,SNR=5.8							
SONM				pP	pP	09 37 17.7	+0.7
0.4nm,0.5s,baz=195,slow=9.2,SNR=3.8							
MKAR	**Makanchi Array**	**48.05**	**345**	P	**P**	**09 37 13.4**	**-1.6**
0.8nm,0.6s,mb3.9,baz=156,slow=7.5,SNR=10							
CHKZ	**Chkalovo**	**57.62**	**341**	*e*P	**P**	**09 38 22.4**	**-3.7**
2.5nm,0.8s,mb4.3							
BRTR	**Keskin Array B**	**70.41**	**312**	P	**P**	**09 39 50.2**	**+0.2**
0.3nm,0.4s,mb3.5,baz=158,slow=6.7,SNR=4.0							

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*IDC **12** 09:30:20.8±0.7, 1.05N×97.20E, mb4.3/13, mb1 4.4/14, mb1mx4.3/21, mbtmp4.3/14, ML4.3/1, MS3.8/6, Ms1 3.9/6, ms1mx3.6/26, Error ellipse: s-maj=33.0km s-min=14.8km az=50.0*
*BJI **12** 09:30:22.0, 0.78N×97.33E, h32km, mB5.0, mb4.9, Ms4.6, Msz4.4*
*NEIC **12** 09:30:24.1±0.5, 1.01N×97.28E, mb4.9/16, Error ellipse: s-maj=12.9km s-min=9.0km az=59.0*
ISC 12 09:30:22.3±0.5, 1.02N±0.07×97.31E±0.08, h20km, h20km±1.9km: pP-P, n51, σ1§01/53, mb4.7/33, MS4.1/12, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**38**	*e*P	**Pn**	**09 31 44.0**	**+0.3**
CM31	**Chiang Mai Arr**	**17.40**	**5**	*e*P	**P**	**09 34 24.2**	**-1.7**
15nm,0.8s							
CMAR	**Chiang Mai Arr**	**17.40**	**5**	P	**P**	**09 34 23.9**	**-1.9**
0.4nm,0.3s,baz=196,slow=12,SNR=23							
CMAR				LR	LR	09 41 55.2	
comp=Z,203nm,18.6s,baz=190,slow=40							
KKM	**Kota Kinabalu**	**19.51**	**75**	*e*P	**P**	**09 34 51.1**	**-0.3**
KMI	**Kunming**	**24.53**	**12**	P	**P**	**09 35 43.7**	**+1.7**
KMI				AP		09 35 50.2	
KMI				S	**S**	**09 40 08.2**	**+10**
KMI				AMB	AMB		
comp=Z,64nm,1.1s,mb5.1							
KMI				AMB	AMB		
comp=Z,199nm,4.5s							
KMI				LR	LR		
comp=N,743nm,15.9s,MS4.3							
KMI				LR	LR		
comp=E,300nm,15.5s,MS4.3							
KMI				LR	LR		
comp=Z,767nm,15.3s,MS4.3							
KMI	**Kunming**	**24.53**	**12**	P	**P**	**09 35 43.7**	**+1.7**
comp=Z,64nm,1.1s,mb5.1							
KMI				pP		09 35 50.2	
KMI				S	**S**	**09 40 08.2**	**+10**
KMI				LR	LR		
comp=Z,770nm,15.3s,MS4.3							
SHL	**Shillong**	**24.96**	**348**	*e*P	**P**	**09 35 46.0**	**-0.1**
SHL				*e*S	PcP	09 39 14.0	-8.3
JIRN	**Jiri**	**28.55**	**339**	*e*P	**P**	**09 36 19.8**	**+0.7**
comp=Z,64nm,1.1s,mb5.3							
PKI	**Pulchoki**	**28.76**	**338**	*e*P	**P**	**09 36 22.2**	**+1.2**
comp=Z,37nm,1.1s,mb5.0							
GUN	**Gumba**	**28.89**	**339**	*e*P	**P**	**09 36 22.6**	**+0.4**
comp=Z,58nm,0.8s,mb5.3							
DMN	**Daman**	**28.91**	**337**	*e*P	**P**	**09 36 24.1**	**+1.7**
KKN	**Kakani**	**29.00**	**338**	*e*P	**P**	**09 36 23.3**	**+0.1**
comp=Z,48nm,1.2s,mb5.1							
LSA	**Lhasa**	**29.12**	**349**	*e*P	**P**	**09 36 24.0**	**-0.2**
comp=Z,8.4nm,0.5s,mb4.7							
GKN	**Gorkha**	**29.45**	**337**	*e*P	**P**	**09 36 27.2**	**0.0**
comp=Z,55nm,1.0s,mb5.2							
KOLN	**Koldanda**	**29.66**	**335**	*e*P	**P**	**09 36 29.4**	**+0.2**
comp=Z,26nm,0.8s,mb5.0							
ENH	**Enshi**	**31.31**	**21**	*e*P	**P**	**09 36 41.7**	**-1.9**
comp=Z,28nm,0.9s,mb5.1							
ENH				*e*	pP	09 36 46.4	-3.0
FITZ	**Fitzroy Crossi**	**33.73**	**126**	P	**P**	**09 37 03.8**	**-1.1**
comp=Z,6.1nm,0.8s,mb4.6,baz=301,slow=5.9,SNR=4.1							
XAN	**Xi'an**	**34.60**	**17**	P	**P**	**09 37 10.8**	**-1.4**
XAN				AP	pP	09 37 17.3	-0.8
XAN				AMB	AMB		
comp=Z,16nm,0.9s,mb5.0							
LZH	**Lanzhou**	**35.41**	**9**	*e*P	**P**	**09 37 18.5**	**-0.7**
LZH				AP	pP	09 37 26.0	+0.9
LZH				XP	sP	09 37 28.5	+0.9
LZH				PP	PP	09 38 39.5	+0.5
LZH				AMB	AMB		
comp=Z,26nm,1.2s,mb5.0							
LZH				AMB	AMB		
comp=Z,112nm,4.0s							
LZH

BJI				S	S	09 44 38.1	-0.3
BJI				LR	LR		
	comp=Z,70nm,21.9s,MS3.5						
KSH	**Kashi**	**42.98**	**336**	*e*P	**P**	**09 38 24.0**	**+2.0**
KSH				*e*AP	pP	09 38 29.2	+1.2
KSH				*e*XP	sP	09 38 32.3	+1.8
KSH				*e*PP	PP	09 40 06.3	+2.0
KSH				*e*PCP	PcP	09 40 13.0	+0.1
KSH				*e*SCP		09 44 03.1	
KSH				*e*PCS		09 44 05.2	
KSH				*e*S	**S**	**09 44 49.3**	**+3.4**
KSH				*e*SS	SS	09 47 56.0	+4.3
KSH				*e*SCS	ScS	09 48 21.3	+1.8
KSH				AMB	AMB		
	comp=Z,110nm,2.1s,mb5.2						
KSH				LR	LR		
	comp=N,420nm,7.0s						
KSH				LR	LR		
	comp=E,710nm,6.3s						
ASAR	**Alice Springs**	**43.20**	**127**	P	**P**	**09 38 24.8**	**+0.7**
	comp=E,2.7nm,0.8s,mb4.0,baz=300,slow=7.4,SNR=11						
WMQ	**Urumqi**	**43.47**	**350**	⇓P	**P**	**09 38 25.6**	**-0.3**
WMQ				AP	pP	09 38 31.1	-0.8
WMQ				PP	PP	09 40 08.9	-0.2
WMQ				PCP	PcP	09 40 14.1	-0.5
WMQ				S	**S**	**09 44 52.8**	**-0.2**
WMQ				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,20nm,2.9s,mb4.3						
WMQ				LR	LR		
	comp=N,67nm,25.4s,MS3.9						
WMQ				LR	LR		
	comp=E,172nm,25.5s,MS3.9						
WMQ				LR	LR		
	comp=Z,74nm,21.0s,MS3.6						
SONM	**Songino Array**	**47.29**	**8**	P	**P**	**09 38 56.3**	**-0.1**
	comp=Z,9.1nm,0.8s,mb4.8,baz=191,slow=8.8,SNR=32						
SONM				PcP	PcP	09 40 27.5	-0.3
	comp=Z,2.6nm,0.8s,baz=188,slow=3.7,SNR=5.5						
ULN	**Ulaanbaatar**	**47.42**	**9**	*e*P	**P**	**09 38 57.3**	**-0.1**
	comp=Z,6.7nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**47.44**	**346**	P	**P**	**09 38 57.2**	**-0.4**
	comp=Z,6.4nm,0.7s,mb4.6,baz=158,slow=7.8,SNR=32						
MKAR				LR	LR	10 02 37.9	
	comp=Z,62nm,18.1s,MS3.6,baz=180,slow=41						
MKAR	**Makanchi Array**	**47.44**	**346**	P	**P**	**09 38 57.2**	**-0.4**
HIA	**Hailar**	**51.77**	**19**	*e*P	**P**	**09 39 30.2**	**-0.6**
	comp=Z,13nm,0.8s,mb4.9						
MDJ	**Mudanjiang**	**51.97**	**29**	P	**P**	**09 39 33.3**	**+0.9**
MDJ				AP	pP	09 39 37.0	-1.4
MDJ				PCP	PcP	09 40 44.7	-0.1
MDJ				PCS		09 44 43.0	
MDJ				XS		09 47 05.4	
MDJ				SS	SS	09 50 29.0	+0.9
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,44nm,5.9s						
MDJ				LR	LR		
	comp=N,146nm,16.1s,MS4.2						
MDJ				LR	LR		
	comp=E,117nm,15.5s,MS4.2						
MDJ				LR	LR		
	comp=Z,253nm,15.5s,MS4.4						
STKA	**Stephens Creek**	**53.16**	**132**	P	**P**	**09 39 42.4**	**+1.0**
	comp=Z,3.2nm,0.7s,mb4.4,baz=309,slow=7.1,SNR=8.9						
STKA				LR	LR	10 03 24.9	
	comp=Z,185nm,19.8s,MS4.1,baz=205,slow=37						
CHKZ	**Chkalovo**	**56.93**	**341⇑**	*e*P	**P**	**09 40 07.2**	**-1.3**
	comp=Z,8.7nm,0.8s,mb4.8						
ASF	**Jabal al Asfar**	**64.66**	**305**	LR	LR	10 12 41.0	
	comp=Z,44nm,18.1s,MS3.7,baz=123,slow=39						
BRTR	**Keskin Array B**	**69.31**	**312**	P	**P**	**09 41 28.9**	**-1.7**
	comp=Z,1.1nm,0.8s,mb3.9,baz=129,slow=7.9,SNR=4.9						
MATP	**Matopo**	**70.56**	**248**	P	**P**	**09 41 38.4**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.1,baz=127,slow=5.1,SNR=3.7						
MATP				LR	LR	10 08 26.7	
	comp=Z,82nm,18.6s,MS4.0,baz=68,slow=32						
AKASG	**Malin Array Be**	**75.47**	**322**	P	**P**	**09 42 05.8**	**-1.1**
	comp=Z,0.2nm,0.2s,mb3.7,baz=98,slow=3.9,SNR=5.1						
FINES	**FINESS Array B**	**80.21**	**333**	P	**P**	**09 42 32.2**	**-0.6**
	comp=Z,2.3nm,0.9s,mb4.1,baz=74,slow=14,SNR=4.1						
FINES	**FINESS Array B**	**80.21**	**333**	P	**P**	**09 42 32.2**	**-0.6**
ARCES	**ARCESS Array B**	**82.74**	**340**	P	**P**	**09 42 45.9**	**0.0**
	comp=Z,4.1nm,0.9s,mb4.5,baz=68,slow=6.5,SNR=4.5						
ARCES				LR	LR	10 23 45.9	
	comp=Z,85nm,20.1s,MS4.1,baz=171,slow=39						
GERES	**GERESS Array B**	**85.02**	**319**	P	**P**	**09 42 58.2**	**+0.3**
	comp=Z,1.4nm,0.8s,mb4.1,baz=104,slow=5.5,SNR=5.9						
NOA	**NORSAR Array B**	**87.21**	**331**	P	**P**	**09 43 08.4**	**+0.1**
	comp=Z,1.3nm,0.8s,mb4.2,baz=94,slow=5.1,SNR=3.5						
NVAR	**Mina Array Bea**	**128.86**	**36**	PKP	PKPdf	09 49 32.8	-0.6
	comp=Z,0.4nm,0.7s,baz=270,slow=0.9,SNR=4.4						
TXAR	**Lajitas Array**	**143.76**	**32**	PKP	PKPdf	09 49 56.3	-4.6
	comp=Z,0.7nm,0.9s,baz=189,slow=1.0,SNR=6.1						
JCT	**Junction City**	**144.69**	**26**	*e*PKPdf	PKPdf	09 49 57.5	-5.0
GOGA	**Godfrey**	**145.74**	**1**	*e*PKP	PKPdf	09 49 59.9	-4.3
LRAL	**Lakeview Retre**	**145.88**	**6**	*e*PKPdf	PKPdf	09 50 01.2	-3.3

CSEM ***12*** *09:37:49.5±0.1,43.76N×8.51E,h15km,ML3.2/12,Error ellipse: s-maj=3.9km s-min=2.0km az=1.0*
LDG ***12*** *09:37:50.2±0.2,43.69N×8.43E,h7km,Md3.0/1,Ml3.2/12, Error ellipse: s-maj=3.6km s-min=2.9km az=62.0*
NEIC ***12*** *09:37:50.0,43.84N×8.53E,ML3.2(LDG),ML3.0(GEN), ML2.9(STR),After GEN.*
GEN ***12*** *09:37:50.0,43.84N×8.53E,ML3.0*
STR ***12*** *09:37:52.0±0.5,43.84N×8.47E,h10km±1km,Ml2.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ROM 12 09:37:51.9±0.5,43.91N×8.38E,h7km±2km,MD3.0/3, ML2.8/3,Error ellipse: s-maj=2.9km s-min=1.3km az=0.0,Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIN	**Finale Ligure**	**0.33**	**337**	*e*PG	Pg	09 37 58.9	+0.4
FIN				SG	Sg	09 38 05.4	+2.4
	938nm,0.4s						
FIN	**Finale Ligure**	**0.33**	**337**	*e*Pg	Pg	09 37 58.9	+0.4
FIN				*e*Sg	Sg	09 38 05.4	+2.4
FIN	**Finale Ligure**	**0.33**	**337**	*e*Pg	Pg	09 37 58.9	+0.4
	938nm,0.4s						
FIN				Sg	Sg	09 38 05.4	+2.4
IMI	**Imperia**	**0.36**	**270**	*e*PG	Pg	09 37 59.8	+0.6
IMI				SG	Sg	09 38 06.5	+2.5
IMI	**Imperia**	**0.36**	**270**	*e*Pg	Pg	09 37 59.8	+0.6
IMI				*e*Sg	Sg	09 38 06.5	+2.5
MONE	**Monesi**	**0.48**	**291**	P	Pg	09 38 01.9	+0.3
MONE				S	Sg	09 38 10.5	+2.3
MONE	**Monesi**	**0.48**	**291**	P	Pg	09 38 01.9	+0.2
MONE				S	Sg	09 38 10.5	+2.3
NEGI	**Negi**	**0.50**	**263**	P	Pg	09 38 01.9	0.0
NEGI				S	Sg	09 38 09.8	+1.3
NEGI	**Negi**	**0.50**	**263**	P	Pg	09 38 01.9	0.0
NEGI				S	Sg	09 38 09.8	+1.2
ROB	**Roburent**	**0.53**	**316**	P	Pg	09 38 02.8	+0.1
ROB				S	Sg	09 38 11.4	+1.6
ROB	**Roburent**	**0.53**	**316**	P	Pg	09 38 02.8	+0.1
SAOF	**Saorge**	**0.60**	**278**	Pg	Pg	09 38 04.3	+0.3
SAOF				Sg	Sg	09 38 13.9	+1.8
PCP	**Pian Castagno**	**0.64**	**10**	P	Pg	09 38 03.5	-1.3
PCP				S	Sg	09 38 12.8	-0.7
PCP	**Pian Castagno**	**0.64**	**10**	P	Pg	09 38 03.5	-1.3
GENL	**Genova Univers**	**0.65**	**40**	P	Pg	09 38 02.6	-2.4
GENL	**Genova Univers**	**0.65**	**40**	P	Pg	09 38 02.6	-2.4
SBF	**Sospel**	**0.69**	**267**	*e*Pg	Pg	09 38 04.8	-0.9
SBF				*e*Pn	Pn	09 38 05.9	-1.8
SBF				*e*Sg	Sg	09 38 13.1	-1.8
SBF				*e*Sn	Sn	09 38 16.3	-2.3
	726nm,0.3s						
AUTN	**L'Aution**	**0.70**	**277**	Pg	Pg	09 38 06.1	+0.2
AUTN				Sg	Sg	09 38 17.5	+2.3
REVF	**Revere**	**0.76**	**257**	Pg	Pg	09 38 07.2	+0.2
REVF				Sg	Sg	09 38 19.4	+2.3
ENR	**Entracque**	**0.76**	**295**	P	Pb	09 38 06.9	-0.1
ENR				S	Sb	09 38 18.7	+1.4
ENR	**Entracque**	**0.76**	**295**	P	Pb	09 38 06.9	-0.2
ENR				S	Sb	09 38 18.7	+1.3
TOUF	**Mont Tournerai**	**0.83**	**278**	Pg	Pg	09 38 08.6	+0.1
TOUF				Sg	Sg	09 38 22.5	+3.0
STV2	**Anna di Valdie**	**0.83**	**294**	P	Pb	09 38 08.1	-0.2
STV2				S	Sb	09 38 20.7	+1.3
STV2	**Anna di Valdie**	**0.83**	**294**	P	Pb	09 38 08.1	-0.1
STV2				S	Sb	09 38 20.7	+1.3
STV	**Sta Anna Valdi**	**0.83**	**294**	P	Pb	09 38 08.2	-0.1
STV				S	Sb	09 38 20.7	+1.3
STV	**Sta Anna Valdi**	**0.83**	**294**	P	Pb	09 38 08.2	-0.1
STV				S	Sb	09 38 20.7	+1.3
MVIF	**Mont Vial**	**0.89**	**270**	Pg	Pg	09 38 10.1	+0.4
MVIF				Sg	Sg	09 38 23.3	+1.7
DOI	**San Damiano**	**1.01**	**306**	*e*PG	Pg	09 38 11.4	-0.7
DOI				SG	Sg	09 38 26.8	+1.2
	493nm,0.4s						
DOI	**San Damiano**	**1.01**	**306**	*e*Pg	Pg	09 38 11.4	-0.8
DOI				*e*Sg	Sg	09 38 26.8	+1.2
DOI	**San Damiano**	**1.01**	**306**	*e*Pg	Pg	09 38 11.4	-0.7
	493nm,0.4s						
DOI				Sg	Sg	09 38 26.8	+1.2
CALN	**Calern**	**1.09**	**262**	Pg	Pg	09 38 13.1	-0.7
CALN				Sg	Sg	09 38 29.4	+1.0
PZZ	**Prazzo**	**1.10**	**303**	P	Pb	09 38 12.8	0.0
PZZ				S	Sb	09 38 28.2	+1.1
PZZ	**Prazzo**	**1.10**	**303**	P	Pb	09 38 12.8	0.0
PZZ				S	Sb	09 38 28.2	+1.1
BOB	**Bobbio (Coli)**	**1.15**	**41**	*e*PN	Pn	09 38 14.4	+0.1
BOB	**Bobbio (Coli)**	**1.15**	**41**	*e*Pg	Pg	09 38 14.4	-0.5
CODM		**1.16**	**65**	P	Pb	09 38 11.0	-2.8
CODM		**1.16**	**65**	P	Pb	09 38 11.0	-2.8
BHB	**Bricherasio**	**1.23**	**320**	P	Pb	09 38 14.8	-0.3
BHB				S	Sb	09 38 31.7	+0.7
BHB	**Bricherasio**	**1.23**	**320**	P	Pb	09 38 14.8	-0.3
BHB				S	Sb	09 38 31.7	+0.7
SURF	**Saint Ours**	**1.27**	**297**	Pn	Pn	09 38 16.6	+0.6
SURF				Sg	Sg	09 38 36.1	+2.0
BACM		**1.27**	**73**	P	Pb	09 38 12.1	-3.7
BACM				S	Sb	09 38 27.6	-4.6
BACM		**1.27**	**73**	P	Pb	09 38 12.1	-3.6
BACM				S	Sb	09 38 27.6	-4.5
VINC	**Vinca**	**1.30**	**79**	P	Pb	09 38 12.1	-4.1
VINC	**Vinca**	**1.30**	**79**	P	Pb	09 38 12.1	-4.1
VINC	**Vinca**	**1.30**	**79**	P	Pb	09 38 12.1	-4.1
FRF	**La Foret Royal**	**1.31**	**255**	*e*Pn	Pn	09 38 13.2	-3.3
FRF				*e*Pg	Pg	09 38 14.1	-3.9
FRF				*e*Sn	Sn	09 38 29.4	-5.0
FRF				*e*Sg	Sg	09 38 30.9	-4.6
	116nm,0.3s						
GRAM		**1.34**	**64**	P	Pb	09 38 13.8	-3.2
GRAM		**1.34**	**64**	P	Pb	09 38 13.8	-3.2
OG22	**Abries**	**1.38**	**312**	Pn	Pn	09 38 17.7	+0.1
MBDF	**Montbardon**	**1.42**	**306**	*e*Pn	Pn	09 38 17.0	-1.1
MBDF				*e*Pg	Pg	09 38 19.5	-0.7
MBDF				*e*Sn	Sn	09 38 36.6	-0.6
MBDF				*e*Sg	Sg	09 38 39.2	+0.1
	118nm,0.5s						
PGF	**Pioggiola**	**1.43**	**161**	*e*Pn	Pn	09 38 12.3	-6.1
PGF				*e*Sn	Sn	09 38 27.9	-10
	35nm,0.2s						
VLC	**Villacollemand**	**1.47**	**79**	*e*Pn	Pn	09 38 15.3	-3.5
VLC				*e*Sn	Sn	09 38 34.5	-3.9
VLC	**Villacollemand**	**1.47**	**79**	*e*Pn	Pn	09 38 15.3	-3.5
VLC				*e*Sn	Sn	09 38 34.5	-3.9
FENE	**Fenestrelle**	**1.47**	**320**	P	Pn	09 38 18.1	-0.8
FENE	**Fenestrelle**	**1.47**	**320**	P	Pn	09 38 18.1	-0.7
LMR	**La Mourre**	**1.48**	**248**	*e*Pn	Pn	09 38 14.9	-4.1
LMR				*e*Pg	Pg	09 38 16.6	-4.8
LMR				*e*Sn	Sn	09 38 32.9	-5.8
LMR				*e*Sg	Sg	09 38 35.0	-6.2
	44nm,0.2s						
RSP	**Reno Superiore**	**1.48**	**327**	P	Pn	09 38 18.5	-0.5
RSP				S	Sb	09 38 37.4	-0.8
RSP	**Reno Superiore**	**1.48**	**327**	P	Pn	09 38 18.5	-0.5
RSP				S	Sb	09 38 37.4	-0.8
SARO	**Sassorosso**	**1.48**	**79**	P	Pn	09 38 15.4	-3.7
SARO				S	Sb	09 38 33.3	-4.9
SARO	**Sassorosso**	**1.48**	**79**	P	Pn	09 38 15.4	-3.6
SARO	**Sassorosso**	**1.48**	**79**	P	Pn	09 38 15.4	-3.6
SARO				S	Sb	09 38 33.3	-4.9
SARO				S	Sb	09 38 33.3	-4.9
RRL	**Cesana Torines**	**1.53**	**312**	P	Pn	09 38 20.2	+0.5
RRL	**Cesana Torines**	**1.53**	**312**	P	Pn	09 38 20.2	+0.5
ERBM	**Eremo**	**1.55**	**70**	*e*PN	Pn	09 38 18.9	-1.1
ERBM	**Eremo**	**1.55**	**70**	*e*Pg	Pg	09 38 18.9	-3.9
GSCL	**Gusciola**	**1.65**	**74**	*e*PN	Pn	09 38 20.9	-0.5
	52nm,0.5s						
GSCL	**Gusciola**	**1.65**	**74**	*e*Pg	Pg	09 38 20.9	-3.9
TRAV		**1.67**	**344**	P	Pn	09 38 21.0	-0.7
TRAV		**1.67**	**344**	P	Pn	09 38 21.0	-0.7
BNI	**Bardonecchia**	**1.67**	**314**	*e*Pn	Pn	09 38 22.6	+0.8
BNI				*e*S	Sn	09 38 46.7	+3.0
BNI	**Bardonecchia**	**1.67**	**314**	*e*Pn	Pn	09 38 22.6	+0.8
BNI				*e*S	Sn	09 38 46.7	+3.1
ORX	**Oropa**	**1.75**	**351**	P	Pn	09 38 21.9	-0.9
ORX	**Oropa**	**1.75**	**351**	P	Pn	09 38 21.9	-0.9
LSD	**Ceresole Reale**	**1.78**	**331**	P	Pn	09 38 24.9	+1.6
ZCCA	**Zocca**	**1.92**	**76**	*e*PN	Pn	09 38 25.5	+0.2
ZCCA	**Zocca**	**1.92**	**76**	*e*Pg	Pg	09 38 25.5	-4.7
LPG	**La Plagne**	**1.97**	**324**	*e*Pn	Pn	09 38 25.4	-0.6
LPG				*e*Pg	Pg	09 38 30.7	-0.5
LPG				*e*Sn	Sn	09 38 50.6	-0.6
LPG				*e*Sg	Sg	09 38 58.2	+0.7
	37nm,0.7s						
LPL	**La Plagne**	**1.99**	**324**	*e*Pn	Pn	09 38 25.7	-0.7
LPL				*e*Pg	Pg	09 38 30.7	-1.0
LPL				*e*Sn	Sn	09 38 51.7	-0.1
	18nm,0.3s						
LPL				*e*Sg	Sg	09 38 59.3	+1.0
SMRF	**Simiane la Rot**	**2.03**	**273**	*e*Pn	Pn	09 38 23.4	-3.5
SMRF				*e*Pg	Pg	09 38 28.5	-4.0
SMRF				*e*Sn	Sn	09 38 48.3	-4.4
SMRF				*e*Sg	Sg	09 38 55.5	-4.0
	162nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.06**	**300**	*e*Pn	Pn	09 38 25.1	-2.2
ORIF				*e*Pg	Pg	09 38 30.9	-2.1
ORIF				*e*Sn	Sn	09 38 50.0	-3.5
ORIF				*e*Sg	Sg	09 38 59.6	-0.9
	46nm,0.4s						
VIVF	**Saint-Julien-l**	**2.82**	**291**	*e*Pn	Pn	09 38 35.4	-2.9
VIVF				*e*Pg	Pg	09 38 46.0	-2.3
VIVF				*e*Sn	Sn	09 39 09.0	-3.9
VIVF				*e*Sg	Sg	09 39 22.1	-3.9
	22nm,0.5s						
LASF	**Ste Croix**	**3.27**	**274**	*e*Pn	Pn	09 38 40.6	-4.0
LASF				*e*Sn	Sn	09 39 18.2	-6.0
LASF				*e*Sg	Sg	09 39 34.2	-6.6
	14nm,0.6s						
SMF	**Signal de Mont**	**4.21**	**312**	*e*Pn	Pn	09 38 55.2	-2.8
MTLF	**Montolieu**	**4.51**	**265**	*e*Pn	Pn	09 38 56.9	-5.4
MTLF				*e*Sn	Sn	09 39 47.0	-8.7
	3.1nm,0.6s						
AVF	**Avril sur Loir**	**4.57**	**311**	*e*Pn	Pn	09 38 59.8	-3.3
SSF	**Saint Saulge**	**4.66**	**314**	*e*Sn	Sn	09 39 54.3	-5.0
	3.2nm,0.4s						
HYF	**Humbligny**	**5.25**	**312**	*e*Pn	Pn	09 39 08.9	-3.7

IDC ***12*** *09:51:38.9±2.9,2.42N×95.67E,mb4.0/4,mb1 4.1/5, mb1mx3.8/20,mbtmp3.9/5,ML3.5/1,Error ellipse: s-maj=118.5km s-min=22.7km az=59.0*
NEIC ***12*** *09:51:45.5±1.0,2.65N×96.24E,h30km,mb4.5/2,Error ellipse: s-maj=23.5km s-min=12.1km az=66.0*
ISC 12 09:51:44.0±1.2,2.7N±0.1×96.2E±0.2,h33km,n10,σ0s81/8, mb4.2/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.13**	**59**	*e*P	**P**	**09 52 59.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**15.92**	**9**	Pn	**P**	**09 55 28.7**	**+1.4**
	0.1nm,0.3s,baz=201,slow=11,SNR=7.3						
FITZ	**Fitzroy Crossi**	**35.58**	**127**	P	**P**	**09 58 40.7**	**+0.2**
	5.5nm,0.8s,mb4.5,baz=291,slow=8.6,SNR=3.7						
WRA	**Warramunga Arr**	**43.64**	**123**	P	**P**	**09 59 48.1**	**+0.6**
	2.3nm,0.6s,mb4.1,baz=300,slow=9.3,SNR=10						
WRAB	**Tennant Creek**	**43.64**	**123**	P	**P**	**09 59 46.6**	**-1.0**
	4.2nm,0.5s,mb4.4						
ASAR	**Alice Springs**	**45.05**	**128**	P	**P**	**09 59 59.5**	**+0.7**
	0.6nm,0.7s,mb3.5,baz=302,slow=7.3,SNR=5.5						
MKAR	**Makanchi Array**	**45.60**	**347**	P	**P**	**10 00 02.0**	**-0.8**
	1.2nm,0.4s,mb4.2,baz=158,slow=7.5,SNR=21						
CHKZ	**Chkalovo**	**55.04**	**342**	*e*P	**P**	**10 01 14.3**	**-0.4**
	3.0nm,0.6s,mb4.5						
TXAR	**Lajitas Array**	**142.91**	**30**	PKP	PKPdf	10 11 13.3	-1.6
	0.1nm,0.5s,baz=214,slow=0.2,SNR=4.9						
TXAR	**Lajitas Array**	**142.91**	**30**	PKP	PKPdf	10 11 13.3	-1.6

IDC ***12*** *09:56:35.9±0.9,1.06N×97.11E,mb4.2/12,mb1 4.4/13, mb1mx4.2/21,mbtmp4.2/13,ML4.5/1,MS3.8/2,Ms1 3.9/2, ms1mx3.2/26,Error ellipse: s-maj=49.7km s-min=14.5km az=52.0*
BJI ***12*** *09:56:35.7,0.43N×97.10E,h44km,mB4.9,mb4.9,Ms4.6, Msz4.1*
NEIC ***12*** *09:56:39.3±0.5,1.03N×97.17E,mb4.7/16,Error ellipse: s-maj=13.4km s-min=7.5km az=53.0*
ISC 12 09:56:39.9±1.5,1.09N±0.07×97.21E±0.08,h38km±11km, h21km±4.4km:pP-P,n56,σ1s05/58,mb4.6/33,MS4.0/6, 2C-1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.15**	**48**	P	**P**	**09 57 56.7**	**+0.1**
KULM	**Kulim**	**5.40**	**39**	*e*P	**P**	**09 57 60.0**	**-0.2**
KGM	**Kluang**	**6.18**	**81**	P	**P**	**09 58 12.0**	**+1.0**
SNG	**Songkhla**	**6.94**	**29**	P	**P**	**09 58 20.0**	**-1.6**
	148nm,0.8s						
KSM	**Kuching**	**13.11**	**88**	P	**P**	**09 59 49.5**	**+3.3**
KKTK	**Khon Kaen**	**16.13**	**20**	P	**P**	**10 00 27.0**	**+1.5**
CM31	**Chiang Mai Arr**	**17.34**	**6**	P	**P**	**10 00 35.5**	**-5.3**
CMAR	**Chiang Mai Arr**	**17.34**	**6**	Pn	**P**	**10 00 39.0**	**-1.8**
	0.6nm,0.3s,baz=195,slow=12,SNR=13						
CMAR				LR	LR	10 08 43.5	
	comp=Z,132nm,18.6s,baz=202,slow=42						
NANT	**Nan**	**17.93**	**11**	⇑P	**P**	**10 00 36.0**	**-12**
	181nm,0.7s						
KKM	**Kota Kinabalu**	**19.59**	**75**	P	**P**	**10 01 06.2**	**-1.7**
QIZ	**Qiongzhong**	**21.71**	**34**	P	**P**	**10 01 29.4**	**-0.3**
KMI	**Kunming**	**24.48**	**12**	P	**P**	**10 01 58.5**	**+1.6**
KMI				AP		10 02 05.2	
KMI				PP	PP	10 02 36.1	+2.9
KMI				S	**S**	**10 06 18.1**	**+6.2**
KMI				AMB	AMB		
	comp=Z,35nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,80nm,4.2s						
KMI				LR	LR		
	comp=N,409nm,15.6s,MS4.1						
KMI				LR	LR		
	comp=E,236nm,14.5s,MS4.1						
KMI				LR	LR		
	comp=Z,403nm,15.6s,MS4.0						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**10 01 58.5**	**+1.6**
	comp=Z,35nm,1.0s,mb4.7						
KMI				pP		10 02 05.2	
KMI				sP		10 02 07.9	
KMI				PP	PP	10 02 36.1	+2.9
KMI				S	**S**	**10 06 18.1**	**+6.2**
KMI				sS		10 06 28.0	
KMI				SS	SS	10 07 13.6	+5.7
KMI				LR	LR		
	comp=Z,400nm,15.6s,MS4.0						
SHL	**Shillong**	**24.87**	**349**	*e*P	**P**	**10 02 00.5**	**-0.1**
GYA	**Guiyang**	**26.81**	**19⇑**	*i*P	**P**	**10 02 20.7**	**+1.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
JIRN	**Jiri**	**28.45**	**339**	*e*P	**P**	**10 02 34.6**	**+1.0**
	comp=Z,30nm,1.0s,mb4.9						
PKI	**Pulchoki**	**28.65**	**338**	*e*P	**P**	**10 02 35.3**	**-0.1**
	comp=Z,20nm,0.9s,mb4.8						
GUN	**Gumba**	**28.79**	**339**	*e*P	**P**	**10 02 37.5**	**+0.9**
	comp=Z,49nm,0.9s,mb5.2						
DMN	**Daman**	**28.80**	**337**	*e*P	**P**	**10 02 36.5**	**-0.3**
	comp=Z,18nm,1.0s,mb4.8						
KKN	**Kakani**	**28.90**	**338**	*e*P	**P**	**10 02 37.6**	**0.0**
	comp=Z,39nm,1.0s,mb5.1						
LSA	**Lhasa**	**29.03**	**349**	P	**P**	**10 02 39.9**	**+1.2**
	comp=Z,7.0nm,0.6s,mb4.6						
GKN	**Gorkha**	**29.34**	**337**	*e*P	**P**	**10 02 41.7**	**+0.2**
	comp=Z,14nm,0.5s,mb4.9						
KOLN	**Koldanda**	**29.56**	**335**	*e*P	**P**	**10 02 43.3**	**-0.1**
	comp=Z,20nm,0.8s,mb4.9						
ENH	**Enshi**	**31.28**	**21**	*e*P	**P**	**10 02 57.1**	**-1.6**
	comp=Z,11nm,0.4s,mb5.0						
ENH				*e*		10 03 03.6	
FITZ	**Fitzroy Crossi**	**33.86**	**126**	P	**P**	**10 03 19.4**	**-1.9**
	comp=Z,8.1nm,1.0s,mb4.6,baz=297,slow=6.8,SNR=3.1						
XAN	**Xi'an**	**34.56**	**17**	P	**P**	**10 03 25.8**	**-1.4**
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
LZH	**Lanzhou**	**35.36**	**9**	*e*P	**P**	**10 03 35.3**	**+1.4**
LZH				AP	pP	10 03 44.0	-0.6
LZH				XP	sP	10 03 48.5	-1.0
LZH				PP	PP	10 04 53.5	-0.6
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,112nm,4.0s						
LZH	**Lanzhou**	**35.36**	**9**	*e*P	**P**	**10 03 35.3**	**+1.4**
	comp=Z,25nm,1.0s,mb5.1						
NJ2	**Nanjing

ULN	**Ulaanbaatar**	**47.37**	**9**	*e*P	**P**	**10 05 12.3**	**+0.1**
	comp=Z,3.5nm,0.7s,mb4.4						
HIA	**Hailar**	**51.74**	**19**	*e*P	**P**	**10 05 45.1**	**-0.6**
	comp=Z,8.8nm,0.7s,mb4.8						
MDJ	**Mudanjiang**	**51.96**	**29**	P	**P**	**10 05 46.9**	**-0.5**
MDJ				PCP	PcP	10 06 57.3	-2.4
MDJ				PCS		10 10 56.3	
MDJ				S	**S**	**10 13 05.5**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,155nm,11.0s						
MDJ				LR	LR		
	comp=N,14nm,19.0s,MS3.5						
MDJ				LR	LR		
	comp=E,35nm,19.0s,MS3.5						
MDJ				LR	LR		
	comp=Z,69nm,16.4s,MS3.8						
STKA	**Stephens Creek**	**53.28**	**132**	P	**P**	**10 05 58.3**	**+0.8**
	comp=Z,2.2nm,0.6s,mb4.3,baz=314,slow=11,SNR=7.0						
STKA				LR	LR	10 28 11.0	
	comp=Z,179nm,18.0s,MS4.2,baz=206,slow=36						
STKA	**Stephens Creek**	**53.28**	**132**	*e*P	**P**	**10 05 58.0**	**+0.5**
STKA				*e*pP	pP	10 06 04.9	-3.6
BVAR	**Borovoye Array**	**56.35**	**341**	P	**P**	**10 06 18.1**	**-1.4**
	comp=Z,3.1nm,0.7s,mb4.4,baz=112,slow=8.0,SNR=13						
CHKZ	**Chkalovo**	**56.83**	**341**	*e*P	**P**	**10 06 20.8**	**-2.2**
	comp=Z,67nm,0.9s,mb5.7						
CHKZ				*e*		10 06 27.6	
BRTR	**Keskin Array B**	**69.19**	**312**	P	**P**	**10 07 44.4**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=97,slow=10.0,SNR=3.8						
FINES	**FINESS Array B**	**80.09**	**333**	P	**P**	**10 08 47.0**	**-0.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=186,slow=34,SNR=3.8						
ARCES	**ARCESS Array B**	**82.64**	**340**	P	**P**	**10 09 00.4**	**0.0**
	comp=Z,3.1nm,0.9s,mb4.3,baz=104,slow=5.0,SNR=5.7						
GERES	**GERESS Array B**	**84.90**	**319**	P	**P**	**10 09 13.4**	**+1.1**
	comp=Z,0.2nm,0.3s,mb3.7,baz=97,slow=7.9,SNR=3.0						
NOA	**NORSAR Array B**	**87.10**	**331**	P	**P**	**10 09 23.1**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.3,baz=94,slow=4.8,SNR=3.6						
MIAR	**Mount Ida**	**143.13**	**15**	PKP	PKPdf	10 16 08.6	-1.8
TXAR	**Lajitas Array**	**143.75**	**32**	PKP	PKPdf	10 16 11.5	-0.1
	comp=Z,0.3nm,0.6s,baz=38,slow=0.3,SNR=5.6						
TXAR	**Lajitas Array**	**143.75**	**32**	PKP	PKPdf	10 16 11.5	-0.1
JCT	**Junction City**	**144.67**	**26**	*e*PKPdf	PKPdf	10 16 13.4	+0.1
LRAL	**Lakeview Retre**	**145.82**	**6**	*e*PKPdf	PKPdf	10 16 16.3	+1.1

IDC 12 10:07:28.3±3.3, 1.62S×99.73E, mb3.6/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=130.8km s-min=21.5km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	P	10 12 00.9	-4.3
	0.1nm,0.3s,baz=186,slow=9.7,SNR=5.0						
WRA	**Warramunga Arr**	**38.42**	**121**	P	P	10 14 51.8	-1.8
	0.9nm,0.4s,baz=302,slow=9.2,SNR=8.8						
ASAR	**Alice Springs**	**39.69**	**126**	P	P	10 15 02.6	-1.6
	0.4nm,0.5s,baz=299,slow=7.8,SNR=3.6						
SONM	**Songino Array**	**49.59**	**6**	P	P	10 16 22.1	-1.2
	0.2nm,0.3s,baz=194,slow=5.9,SNR=2.3						
MKAR	**Makanchi Array**	**50.59**	**345**	P	P	10 16 28.9	-2.0
	0.6nm,0.5s,baz=148,slow=8.0,SNR=7.3						
TXAR	**Lajitas Array**	**144.56**	**37**	PKP	PKPdf	10 27 06.7	-2.7
	0.3nm,0.5s,baz=244,slow=0.6,SNR=14						

IDC 12 10:16:07.9±57.0, 14.92S×171.18W, mb4.0/3, mb1 4.2/3, mb1mx3.7/18, mbtmp4.0/3, Error ellipse: s-maj=1117.0km s-min=203.0km az=79.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.13**	**240**	P	P	10 24 34.4	-1.7
	0.5nm,0.3s,baz=71,slow=7.2,SNR=4.6						
WRA	**Warramunga Arr**	**52.04**	**256**	P	P	10 25 19.5	-2.4
	0.3nm,0.3s,baz=84,slow=7.8,SNR=15						
ASAR	**Alice Springs**	**52.30**	**252**	P	P	10 25 21.8	-2.0
	3.9nm,0.5s,baz=89,slow=8.1,SNR=65						

IDC 12 10:24:36.7±2.6, 21.62N×145.38E, mb3.9/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=112.5km s-min=22.1km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**40.71**	**319**	P	P	10 32 20.3	-0.3
	0.5nm,0.5s,baz=130,slow=7.0,SNR=4.9						
WRA	**Warramunga Arr**	**42.69**	**195**	P	P	10 32 35.5	-1.8
	0.8nm,0.3s,baz=14,slow=8.8,SNR=27						
ASAR	**Alice Springs**	**46.38**	**195**	P	P	10 33 05.0	-1.8
	0.4nm,0.5s,baz=16,slow=13,SNR=8.4						
MKAR	**Makanchi Array**	**56.25**	**313**	P	P	10 34 18.8	-2.3
	0.7nm,0.5s,baz=84,slow=8.6,SNR=11						
MKAR				PcP	PcP	10 35 15.5	-3.1
	0.3nm,0.4s,baz=85,slow=4.1,SNR=5.9						
FINES	**FINESS Array B**	**84.12**	**335**	P	P	10 37 09.0	-1.5
	1.0nm,0.4s,baz=76,slow=5.7,SNR=13						

BJI 12 10:27:28.5, 35.02N×117.85E, h13km, ML3.8, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**1.33**	**334**	PG	Pg	10 27 52.5	-2.6
TIA				SG	Sg	10 28 09.5	-3.4
NJ2	**Nanjing**	**3.08**	**164**	*e*P	Pn	10 28 15.1	-2.7
NJ2				PG	Pg	10 28 24.1	-5.9
NJ2				SG	Sg	10 29 04.0	-7.0
NJ2				Smax			
	comp=N,780nm,0.3s						
NJ2				Smax			
	comp=E,380nm,0.4s						
DL2	**Dalian**	**4.92**	**37**	*e*PG	Pg	10 28 50.5	-16
DL2				*e*S	Sn	10 29 48.1	+6.7
DL2				Smax			
	comp=N,70nm,0.6s						
DL2				Smax			
	comp=E,120nm,0.5s						
BJI	**Beijing**	**5.18**	**346**	PG	Pg	10 29 00.5	-12

*CSEM **12** 10:28:38.0±0.8, 38.61N×28.56W, h10km, ML2.3, Error ellipse: s-maj=4.1km s-min=2.3km az=10.0, After PDA*
*PDA **12** 10:28:38.0±0.8, 38.61N×28.56W, h10km, MD2.9, ML2.3, Error ellipse: s-maj=4.1km s-min=2.3km az=10.0*
SVSA 12 10:28:38.0±0.8, 38.61N×28.56W, h10km, MD2.9, ML2.3, Error ellipse: s-maj=4.1km s-min=2.3km az=10.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.10**	**211**	*e*P	Pg	10 28 39.9	-0.8
HOR				*e*S	Sg	10 28 42.2	-0.3
PCED	**Cedros**	**0.11**	**278**	*i* P	Pg	10 28 40.3	-0.5
PCED				*e*S	Sg	10 28 42.6	-0.1
	160nm,0.1s						
PCED	**Cedros**	**0.11**	**278**	*e*S	Sg	10 28 42.6	-0.1
	160nm,0.1s						
CALA	**Caldeira**	**0.11**	**254**	*i* P	Pg	10 28 40.6	-0.3
CALA				*e*S	Sg	10 28 42.8	0.0
CALA	**Caldeira**	**0.11**	**254**	*e*S	Sg	10 28 42.8	0.0
PICO	**Pico**	**0.15**	**136**	*e*P	Pg	10 28 41.0	-0.6
PICO				*e*S	Sg	10 28 43.9	-0.1
PMAN	**Manadas**	**0.37**	**87**	*e*S	Sg	10 28 49.4	-1.3
	150nm,0.2s						

IDC 12 10:37:47.4±3.6, 0.96S×100.83E, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=155.3km s-min=24.9km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.82**	**122**	P	P	10 45 06.0	-1.7
	0.2nm,0.3s,baz=306,slow=9.1,SNR=6.3						
ASAR	**Alice Springs**	**39.21**	**128**	P	P	10 45 17.6	-1.7
	0.7nm,1.0s,baz=310,slow=7.9,SNR=4.2						
SONM	**Songino Array**	**48.84**	**5**	P	P	10 46 36.5	-0.1
	0.2nm,0.4s,baz=202,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**50.27**	**343**	P	P	10 46 44.5	-3.0
	0.7nm,0.6s,baz=146,slow=8.7,SNR=6.2						
TXAR	**Lajitas Array**	**143.38**	**37**	PKP	PKPdf	10 57 22.0	-4.4
	0.4nm,0.5s,baz=268,slow=0.9,SNR=10						

BJI 12 10:38:49.0, 34.96N×117.92E, h17km, ML3.5, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**1.41**	**333**	PG	Pn	10 39 11.5	-2.6
TIA				SG	Sb	10 39 28.5	-3.5
NJ2	**Nanjing**	**3.00**	**165**	*e*P	Pn	10 39 35.2	-1.7
NJ2				PG	Pn	10 39 44.5	+7.6
NJ2				SG	Sn	10 40 23.9	+11
NJ2				Smax			
	comp=N,280nm,0.5s						
NJ2				Smax			
	comp=E,130nm,0.4s						

*NEIC **12** 10:46:41.5, 38.30S×179.14E, h12km, ML3.8(WEL), After WEL.*
*WEL **12** 10:46:41.4±0.4, 38.29S×179.14E, h12km, ML4.0/6, Error ellipse: s-maj=3.5km s-min=1.4km az=90.0*
*IDC **12** 10:46:42.6±2.7, 39.23S×178.26E, mb3.5/2, mb1 3.8/2, mb1mx3.6/13, mbtmp3.5/2, Error ellipse: s-maj=67.9km s-min=34.4km az=53.0*
ISC 12 10:46:38.1±1.4, 38.37S±0.06×179.3E±0.1, h12km, n32, σ0^{s}99/37, mb3.3/2, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.88**	**290**	P	**Pb**	**10 46 55.2**	**+0.4**
PUZ				S	**Sb**	**10 47 05.6**	**-0.7**
PUZ	**Puketiti**	**0.88**	**290**	P*	**Pb**	**10 46 55.2**	**+0.4**
PUZ				S*	**Sb**	**10 47 05.6**	**-0.7**
MXZ	**Matakaoa Point**	**1.13**	**315**	P	**Pb**	**10 46 59.2**	**+0.1**
MXZ	**Matakaoa Point**	**1.13**	**315**	P*	**Pb**	**10 46 59.2**	**+0.1**
MXZ				S*	**Sb**	**10 47 13.2**	**-0.4**
MWZ	**Matawai**	**1.40**	**271**	P	**Pn**	**10 47 03.9**	**+0.3**
MWZ				S	**Sb**	**10 47 20.9**	**-0.5**
MWZ	**Matawai**	**1.40**	**271**	PN	**Pn**	**10 47 03.9**	**+0.3**
MWZ				S*	**Sb**	**10 47 20.8**	**-0.6**
KNZ	**Kokohu**	**1.44**	**243**	*e*P	**Pn**	**10 47 05.5**	**+1.5**
KNZ	**Kokohu**	**1.44**	**243**	PN	**Pn**	**10 47 05.5**	**+1.5**
URZ	**Urewera**	**1.73**	**273**	Pn	**Pn**	**10 47 09.0**	**+0.7**
	8.5nm,0.3s,baz=100,slow=7.4,SNR=49						
URZ				Sn	**Sn**	**10 47 25.8**	**-4.7**
	20nm,0.3s,baz=117,slow=15,SNR=16						
URZ	**Urewera**	**1.73**	**273**	*e*P	**Pn**	**10 47 09.1**	**+0.8**
URZ	**Urewera**	**1.73**	**273**	PN	**Pn**	**10 47 09.1**	**+0.8**
BKZ	**Black Stump Fm**	**2.34**	**249**	*e*P	**Pn**	**10 47 18.1**	**+1.1**
BKZ	**Black Stump Fm**	**2.34**	**249**	PN	**Pn**	**10 47 18.1**	**+1.1**
MOVZ	**Moawhango**	**2.96**	**248**	P	**Pn**	**10 47 27.1**	**+1.2**
MOVZ	**Moawhango**	**2.96**	**248**	PN	**Pn**	**10 47 27.1**	**+1.2**
TUVZ	**Tukino**	**2.99**	**251**	*e*PN	**Pn**	**10 47 26.2**	**-0.1**
WNVZ	**Wahianoa**	**3.05**	**251**	P	**Pn**	**10 47 27.7**	**+0.6**
WNVZ	**Wahianoa**	**3.05**	**251**	*e*PN	**Pn**	**10 47 27.6**	**+0.5**
CNZ	**Chateau**	**3.06**	**253**	P	**Pn**	**10 47 28.1**	**+0.9**
WPVZ	**Whakapapa**	**3.06**	**253**	P	**Pn**	**10 47 27.6**	**+0.4**
WPVZ	**Whakapapa**	**3.06**	**253**	PN	**Pn**	**10 47 28.0**	**+0.8**
TSZ	**Takapari Road**	**3.10**	**236**	*e*P	**Pn**	**10 47 27.5**	**-0.3**
TSZ	**Takapari Road**	**3.10**	**236**	PN	**Pn**	**10 47 27.4**	**-0.4**
BFZ	**Birch Farm**	**3.31**	**225**	*e*P	**Pn**	**10 47 29.8**	**-0.9**
WAZ	**Wanganui**	**3.64**	**246**	*e*P	**Pn**	**10 47 36.7**	**+1.2**
MRZ	**Mangatainoka R**	**3.68**	**230**	*e*P	**Pn**	**10 47 35.1**	**-1.0**
MRZ	**Mangatainoka R**	**3.68**	**230**	PN	**Pn**	**10 47 35.0**	**-1.1**
MTW	**Mount Morrison**	**4.04**	**225**	P	**Pn**	**10 47 38.8**	**-2.4**
NNZ	**Nelson**	**5.38**	**236**	*e*P	**Pn**	**10 47 57.2**	**-2.9**
ASAR	**Alice Springs**	**41.17**	**277**	P	**P**	**10 54 23.5**	**-0.5**
	0.6nm,0.7s,mb3.3,baz=125,slow=8.3,SNR=6.9						
WRA	**Warramunga Arr**	**42.88**	**282**	P	**P**	**10 54 37.3**	**-0.8**
	0.6nm,0.9s,mb3.3,baz=130,slow=6.9,SNR=4.3						
ARCES	**ARCESS Array B**	**145.77**	**344**	PKPbc	PKPbc	11 06 23.1	+6.9
	2.4nm,0.7s,baz=63,slow=8.1,SNR=3.7						

IDC 12 10:50:45.9±10.0, 18.36S×171.60W, mb3.9/4, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=252.1km s-min=44.4km az=37.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.15**	**243**	P	P	10 58 56.4	-1.7
	0.6nm,0.5s,baz=98,slow=7.1,SNR=3.0						
ASAR	**Alice Springs**	**50.90**	**254**	P	P	10 59 49.2	-1.9
	2.0nm,0.5s,baz=91,slow=8.0,SNR=47						
WRA	**Warramunga Arr**	**50.91**	**259**	P	P	10 59 49.2	-2.0
	0.7nm,0.3s,baz=97,slow=7.4,SNR=63						
VNDA	**Vanda**	**60.63**	**186**	P	P	11 00 58.0	-2.5
	0.4nm,0.7s,baz=14,slow=6.9,SNR=4.7						

*IDC **12** 11:06:45.7±1.9, 32.76N×116.77W, mb3.1/2, mb1 3.7/7, mb1mx3.5/24, mbtmp3.4/7, ML3.5/4, Error ellipse: s-maj=30.3km s-min=11.3km az=41.0*
*ECX **12** 11:06:46.7±0.5, 32.71N×116.81W, h18km±1km, MD4.0, ML4.3*
*NEIC **12** 11:06:46.0, 32.73N×116.82W, h20km, ML3.9(PAS), After PAS.*
NEIC Felt [V] at Tecate; [IV] at Alpine, Boulevard, Campo, Chula Vista, Dulzura, El Cajon, Jamul, Lakeside, La Mesa, Pine Valley, Potrero, San Diego, Santee and Spring Valley; [III] at Bonita, Bonsall, Cardiff by the Sea, Carlsbad, Coronado, Del Mar, Descanso, Encinitas, Escondido, Fallbrook, Imperial Beach, Julian, La Jolla, Lemon Grove, National City, Oceanside, Poway, Ramona, San Marcos, Solana Beach, Valley Center and Vista.
ISC 12 11:06:45.4±0.5, 32.75N±0.03×116.81W±0.05, h23km±4km, n46, σ1^{s}04/56, mb3.0/2, 7C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR	**Barrett**	**0.14**	**122**	⇓*i*P	**Pb**	**11 06 50.3**	**+0.2**
BAR				*i* S	**Sb**	**11 06 53.1**	**-0.1**
BAR	**Barrett**	**0.14**	**122**	*e*P	**Pb**	**11 06 49.7**	**-0.4**
CBX	**Cerro Bola**	**0.46**	**164**	⇓*i*P	**Pb**	**11 06 54.7**	**-0.1**
CBX				*e*S	**Sb**	**11 07 00.8**	**-0.3**
YAQ	**Yaqui Meadows**	**0.57**	**43**	⇓*i*P	**Pb**	**11 06 57.7**	**+1.1**
PLM	**Palomar**	**0.60**	**356**	⇓*i*P	**Pb**	**11 06 58.0**	**+0.8**
RMX	**La Rumorosa**	**0.64**	**103**	⇑*i*P	**Pb**	**11 06 58.1**	**+0.4**
RMX				*e*S	**Sb**	**11 07 06.5**	**+0.3**
RMX				⇑*e*		11 07 07.1	
	comp=N,13μm,0.3s						
RMX				*e*		11 07 08.0	
	comp=E,7μm,0.2s						
CRR	**Carrizo Plain**	**0.72**	**79**	⇑*i*P	**Pb**	**11 07 00.2**	**+1.0**
YUH	**Yuha Desert**	**0.76**	**98**	⇑*i*P	**Pb**	**11 07 00.2**	**+0.4**
ENX	**Ensenada**	**0.88**	**172**	⇓*i*P	**Pb**	**11 07 01.3**	**-0.5**
ENX				*e*S	**Sb**	**11 07 12.9**	**-0.2**
ENX				⇑*e*		11 07 17.5	
	comp=E,17μm,0.6s						
PFO	**Pinyon Flat Ob**	**0.91**	**19**	*e*P	**Pb**	**11 07 03.1**	**+0.7**
PBX	**Punta Banda**	**1.01**	**176**	⇓*i*P	**Pb**	**11 07 03.7**	**-0.4**
PBX				*e*S	**Sb**	**11 07 16.6**	**-0.4**
RDX	**Rancho Dowling**	**1.10**	**138**	⇑*i*P	**Pn**	**11 07 05.0**	**-0.6**
RDX				*e*S	**Sb**	**11 07 19.1**	**-0.4**
RDX				⇓*e*		11 07 20.2	
	comp=N,10μm,0.2s						
ECNX	**Esteban Cantu**	**1.11**	**170**	⇓*i*P	**Pn**	**11 07 01.5**	**-4.2**
ECNX				*e*S	**Sb**	**11 07 13.3**	**-6.5**
CPBX	**Cerro Prieto**	**1.32**	**104**	*e*P	**Pn**	**11 07 08.9**	**+0.2**
EMX	**El Mayor**	**1.53**	**119**	⇓*e*P	**Pn**	**11 07 11.4**	**-0.4**
EMX				*e*S	**Sn**	**11 07 33.0**	**+1.8**
MWC	**Mount Wilson**	**1.80**	**325**	*e*P	**Pn**	**11 07 16.4**	**+0.7**
SPX	**San Pedro Mart**	**2.05**	**146**	⇑*e*P	**Pn**	**11 07 19.9**	**+0.7**
SPX				*e*S	**Sn**	**11 07 47.1**	**+2.7**
LDFC	**Landfair**	**2.72**	**31**	*e*Pn	**Pn**	**11 07 28.8**	**+0.1**
MTUM	**Tungsten Hills**	**4.81**	**343**	*e*Pn	**Pn**	**11 07 58.4**	**0.0**
TUC	**Tucson**	**5.11**	**93**	*e*Pn	**Pn**	**11 08 01.1**	**-1.6**
OMM	**Old Mammoth Mi**	**5.17**	**340**	*e*Pn	**Pn**	**11 08 04.4**	**+0.8**
WUAZ	**Wupatki**	**5.29**	**57**	*e*Pn	**Pn**	**11 08 05.0**	**-0.2**
TPH	**Tonopah**	**5.32**	**357**	*e*Pn	**Pn**	**11 08 04.2**	**-1.4**
TRCR	**Troy Canyon**	**5.67**	**10**	Pn	**Pn**	**11 08 09.8**	**-0.9**
ARUT	**Antelope Range**	**5.73**	**28**	*e*Pn	**Pn**	**11 08 11.4**	**0.0**
MNV	**Mina**	**5.77**	**349**	*e*Pn	**Pn**	**11 08 10.9**	**-1.1**
NVAR	**Mina Array Bea**	**5.79**	**348**	Pn	**Pn**	**11 08 14.1**	**+1.8**
	comp=N,0.7nm,0.3s,baz=170,slow=15,SNR=31						
NVAR				Lg		11 09 48.4	
	baz=187,slow=23,SNR=1.8						
NVAR	**Mina Array Bea**	**5.79**	**348**	Pn	**Pn**	**11 08 14.1**	**+1.8**
NVAR				Lg		11 09 48.4	
CMB	**Columbia Colle**	**6.02**	**332**	*e*Pn	**Pn**	**11 08 14.8**	**-0.8**
MVU	**Marysvale**	**6.85**	**32**	*e*Pn	**Pn**	**11 08 27.0**	**-0.2**
MSU	**Marysvale**	**6.87**	**32**	*e*Pn	**Pn**	**11 08 27.8**	**+0.3**
TMUT	**Trail Mountain**	**7.95**	**33**	Pn	**Pn**	**11 08 42.4**	**-0.2**
ELK	**Elko**	**8.07**	**9**	*e*Pn	**P**	**11 08 43.1**	**-1.2**
SRU	**San Rafael**	**8.14**	**37**	*e*Pn	**P**	**11 08 42.4**	**-2.8**
PV10	**Paradox Valley**	**8.46**	**46**	*e*Pn	**P**	**11 08 47.9**	**-1.8**
PV01	**Paradox Valley**	**8.60**	**49**	Pn	**P**	**11 08 50.9**	**-0.8**
ANMO	**Albuquerque**	**8.88**	**73**	Pn	**P**	**11 08 56.0**	**+0.4**
	baz=259,slow=13,SNR=6.7						
ANMO				Lg		11 11 26.3	
	baz=340,slow=7.7,SNR=2.5						
ANMO	**Albuquerque**	**8.88**	**73**	Pn	**P**	**11 08 56.0**	**+0.4**
ANMO				Lg		11 11 26.3	
MNTX	**Cornudas Mount**	**9.74**	**93**	*e*Pn	**P**	**11 09 05.6**	**-1.8**
HWUT	**Hardware Ranch**	**9.78**	**24**	Pn	**P**	**11 09 05.4**	**-2.4**
YBH	**Yreka Blue Hor**	**10.12**	**334**	Pn	**P**	**11 09 14.1**	**+1.6**
	comp=N,0.1nm,0.3s,baz=228,slow=12,SNR=3.2						
YBH				Sn	**S**	**11 11 06.3**	**-0.1**
	comp=N,0.1nm,0.3s,baz=185,slow=11,SNR=2.7						
PDAR	**Pinedale Array**	**11.52**	**28**	Pn	**P**	**11 09 34.7**	**+3.0**
	comp=N,0.0nm,0.3s,baz=207,slow=10,SNR=14						
TXAR	**Lajitas Array**	**11.78**	**103**	Pn	**P**	**11 09 36.1**	**+0.9**
	comp=N,0.4nm,0.3s,baz=282,slow=14,SNR=36						
YKA	**Yellowknife Ar**	**29.79**	**2**	P	**P**	**11 12 52.9**	**+0.4**
	comp=N,0.2nm,0.7s,mb3.0,baz=181,slow=9.6,SNR=6.3						
YKA	**Yellowknife Ar**	**29.79**	**2**	P	**P**	**11 12 52.9**	**+0.4**
ILAR	**Eielson Array**	**36.96**	**339**	P	**P**	**11 13 56.6**	**+2.0**
	comp=N,0.2nm,0.8s,mb3.0,baz=164,slow=6.6,SNR=2.9						

IDC 12 11:07:09.9±5.7, 0.49S×100.62E, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=301.4km s-min=29.4km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.25**	**122**	P	P	11 14 32.2	-1.6
	0.3nm,0.5s,baz=300,slow=9.1,SNR=4.4						
ASAR	**Alice Springs**	**39.67**	**128**	P	P	11 14 43.8	-1.8
	0.4nm,0.5s,baz=299,slow=8.0,SNR=7.2						
MKAR	**Makanchi Array**	**49.75**	**344**	P	P	11 16 04.0	-2.1
	0.1nm,0.4s,baz=160,slow=8.9,SNR=4.3						

*IDC **12** 11:31:29.1±2.1, 1.84S×99.76E, mb3.6/6, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, Error ellipse: s-maj=89.0km s-min=20.8km az=57.0*
*NEIC **12** 11:31:32.6±0.6, 2.00S×99.53E, h30km, mb4.3/1, Error ellipse: s-maj=21.1km s-min=10.8km az=68.0*
ISC 12 11:31:31.3±0.9, 1.9S±0.1×99.6E±0.2, h33km, n12, σ0^{s}86/10, mb4.0/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.25**	**9**	P	**P**	**11 33 17.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**20.27**	**358**	P	**P**	**11 36 05.5**	**-1.4**
	0.4nm,0.5s,baz=190,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**38.42**	**120**	P	**P**	**11 38 51.1**	**-0.6**
	0.9nm,0.5s,mb3.8,baz=303,slow=9.1,SNR=9.6						
WRAB	**Tennant Creek**	**38.42**	**120**	*e*P	**P**	**11 38 51.8**	**+0.1**
	2.9nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**39.66**	**126**	P	**P**	**11 39 02.5**	**+0.5**
	0.6nm,0.5s,mb3.5,baz=294,slow=7.3,SNR=5.7						
STKA	**Stephens Creek**	**49.53**	**132**	P	**P**	**11 40 26.5**	**+5.4**
SONM	**Songino Array**	**49.92**	**6**	P	**P**	**11 40 23.7**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=194,slow=5.9,SNR=2.5						
MKAR	**Makanchi Array**	**50.84**	**345**	P	**P**	**11 40 31.6**	**+0.7**
	0.6nm,0.4s,mb3.8,baz=158,slow=6.5,SNR=5.6						
BOSA	**Boshof**	**75.30**	**241**	*e*P	**P**	**11 43 12.4**	**-0.9**
	25nm,1.1s,mb5.0						
FINES	**FINESS Array B**	**83.84**	**332**	P	**P**	**11 44 00.4**	**+1.8**
	0.5nm,0.5s,mb3.9,baz=108,slow=4.4,SNR=4.8						
TXAR	**Lajitas Array**	**144.92**	**37**	PKP	PKPdf	11 51 07.6	+1.9
	0.5nm,0.5s,baz=198,slow=0.7,SNR=15						
JCT	**Junction City**	**146.19**	**31**	*e*PKPbc	PKPbc	11 51 11.2	+2.2

*NIED **12** 11:40:00, 36.80N×137.90E, h240km, Mw3.9 Best double couple: M0:6.7×10^{14} NP1:φs:217°, δ67°, λ121°. NP2:φs:340°, δ37°, λ39°.*
*MOS **12** 11:40:24.0±0.3, 36.92N×137.79E, h242km, mb4.5/1, Error ellipse: s-maj=51.3km s-min=18.1km az=81.0*
*IDC **12** 11:40:25.8±0.5, 36.53N×137.16E, h210km±7km, mb3.4/7, mb1 3.6/8, mb1mx3.3/24, mbtmp4.0/8, Error ellipse: s-maj=27.3km s-min=10.8km az=66.0*
*NEIC **12** 11:40:26.2±0.4, 36.53N×137.13E, h216km±6km, mb4.5/2, MW3.8(NIED), Error ellipse: s-maj=17.0km s-min=10.6km az=62.0*
*JMA **12** 11:40:26.4±0.2, 36.78N×137.86E, h230km±2km, M3.6*
ISC 12 11:40:24.6±0.4, 36.81N±0.04×137.82E±0.05, h239km±3km, n38, σ0^{s}79/57, mb3.8/9, 1C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**0.41**	**130**	⇑*e*P	**P**	**11 40 56.8**	**+0.6**
MAT

MKAR Makanchi Array 41.80 302 P **P** **11 47 52.4 +0.3**
comp=Z,0.7nm,0.5s,mb3.4,baz=85,slow=9.8,SNR=9.4
MKAR Makanchi Array 41.80 302 P **P** **11 47 52.4 +0.3**
BVAR Borovoye Array 48.59 312 P **P** **11 48 46.0 +0.5**
comp=Z,1.0nm,0.3s,mb3.6,baz=94,slow=8.1,SNR=13
ILAR Eielson Array 51.22 32 P **P** **11 49 11.1 +5.9**
comp=Z,0.3nm,0.9s,mb2.7,baz=231,slow=5.8,SNR=5.1
WRAB Tennant Creek 56.53 184 *e*P **P** **11 49 43.7 -0.5**
WRAB pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
WRAB Tennant Creek 56.53 184 *e*P **P** **11 49 43.7 -0.5**
comp=Z,7.5nm,0.6s,mb4.5
WRA Warramunga Arr 56.54 184 P **P** **11 49 44.2 -0.1**
comp=Z,2.1nm,0.4s,mb4.1,baz=360,slow=7.5,SNR=117
ASAR Alice Springs 60.26 184 P **P** **11 50 10.1 +0.1**
comp=Z,0.8nm,0.3s,mb3.8,baz=358,slow=5.7,SNR=31
STKA Stephens Creek 68.42 177 P **P** **11 51 02.8 +0.4**
comp=Z,1.2nm,0.5s,mb3.8,baz=346,slow=8.1,SNR=4.7

*IDC **12** 11:42:57.6±0.6, 1.77S×99.85E, mb4.4/18, mb1 4.5/18, mb1mx4.4/23, mbtmp4.4/18, Error ellipse: s-maj=26.6km s-min=11.5km az=45.0*
*NEIC **12** 11:43:02.3±0.3, 1.79S×99.82E, h30km, mb4.8/5, Error ellipse: s-maj=11.7km s-min=6.4km az=58.0*
ISC 12 11:43:00.4±4.1, 1.7S±0.1×99.9E±0.1, h28km±27km, n36, σ0§73/32, mb4.5/22, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.03**	**7**	*e*P		**Pn**	**11 44 44.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**20.09**	**357**	P		**P**	**11 47 33.6**	**-1.2**
	2.3nm,0.5s,baz=190,slow=10,SNR=20							
FITZ	**Fitzroy Crossi**	**30.08**	**124**	P		**P**	**11 49 09.4**	**-0.6**
	3.9nm,0.4s,mb4.5,baz=282,slow=5.6,SNR=12							
JIRN	**Jiri**	**32.05**	**337**	*e*P		**P**	**11 49 27.9**	**+0.7**
	26nm,0.8s,mb5.1							
GUN	**Gumba**	**32.39**	**336**	*e*P		**P**	**11 49 30.7**	**+0.5**
	21nm,0.5s,mb5.2							
DMN	**Daman**	**32.44**	**335**	*e*P		**P**	**11 49 31.5**	**+0.8**
KKN	**Kakani**	**32.53**	**336**	*e*P		**P**	**11 49 31.2**	**-0.2**
GKN	**Gorkha**	**32.99**	**335**	*e*P		**P**	**11 49 35.3**	**-0.1**
KOLN	**Koldanda**	**33.24**	**333**	*e*P		**P**	**11 49 37.8**	**+0.2**
	11nm,0.8s,mb4.9							
WRA	**Warramunga Arr**	**38.26**	**121**	P		**P**	**11 50 20.4**	**0.0**
	4.2nm,0.4s,mb4.5,baz=303,slow=9.1,SNR=42							
ASAR	**Alice Springs**	**39.53**	**126**	P		**P**	**11 50 31.1**	**+0.2**
	3.7nm,0.6s,mb4.3,baz=301,slow=7.9,SNR=45							
ASAR				S		**S**	**11 56 31.2**	**-0.1**
	0.3nm,0.7s,baz=296,slow=15,SNR=4.5							
STKA	**Stephens Creek**	**49.44**	**132**	P		**P**	**11 51 51.2**	**+0.9**
	1.8nm,0.4s,mb4.4,baz=306,slow=9.1,SNR=12							
STKA	**Stephens Creek**	**49.44**	**132**	*e*P		**P**	**11 51 49.9**	**-0.4**
SONM	**Songino Array**	**49.70**	**6**	P		**P**	**11 51 52.5**	**+0.4**
	3.0nm,0.7s,mb4.4,baz=188,slow=9.4,SNR=25							
SONM				PcP		PcP	11 53 12.8	-0.5
	0.8nm,0.5s,baz=186,slow=4.3,SNR=4.1							
ULN	**Ulaanbaatar**	**49.80**	**6**	P		**P**	**11 51 52.3**	**-0.6**
	1.7nm,0.6s,mb4.2							
MKAR	**Makanchi Array**	**50.74**	**344**	P		**P**	**11 51 59.9**	**-0.1**
	5.9nm,0.6s,mb4.7,baz=152,slow=8.4,SNR=59							
BVAR	**Borovoye Array**	**59.89**	**340**	P		**P**	**11 53 04.7**	**-1.4**
	2.7nm,0.6s,mb4.5,baz=142,slow=9.1,SNR=21							
KMBO	**Kilima Mbogo**	**62.58**	**270**	P		**P**	**11 53 24.8**	**-0.1**
	0.9nm,0.6s,mb4.1,baz=177,slow=13,SNR=4.2							
KMBO	**Kilima Mbogo**	**62.58**	**270**	P		**P**	**11 53 24.8**	**-0.1**
EIL	**Elat**	**69.25**	**303**	P		**P**	**11 54 06.0**	**-1.4**
	3.6nm,0.4s,mb4.6,baz=53,slow=11,SNR=4.6							
MATP	**Matopo**	**71.93**	**249**	P		**P**	**11 54 24.2**	**+0.4**
	3.8nm,0.9s,mb4.3,baz=80,slow=4.1,SNR=6.0							
BRTR	**Keskin Array B**	**73.03**	**312**	P		**P**	**11 54 28.3**	**-1.8**
	1.5nm,0.6s,mb4.1,baz=118,slow=7.4,SNR=6.4							
MLR	**Muntele Rosu**	**80.01**	**317**	P		**P**	**11 55 09.6**	**+0.6**
	4.2nm,0.8s,mb4.4,baz=102,slow=8.0,SNR=5.5							
FINES	**FINESS Array B**	**83.81**	**332**	P		**P**	**11 55 28.8**	**+0.3**
	2.1nm,0.5s,mb4.5,baz=102,slow=6.2,SNR=24							
FINES	**FINESS Array B**	**83.81**	**332**	P		**P**	**11 55 28.8**	**+0.3**
KAF	**Kangasniemi**	**83.88**	**333**	*e*p		**P**	**11 55 20.7**	**-8.1**
	4.5nm,0.6s,mb4.8							
ARCES	**ARCESS Array B**	**86.18**	**340**	P		**P**	**11 55 41.0**	**+0.9**
	5.7nm,1.0s,mb4.8,baz=76,slow=5.0,SNR=7.7							
GERES	**GERESS Array B**	**88.75**	**319**	P		**P**	**11 55 53.7**	**+0.7**
	0.3nm,0.3s,mb4.2,baz=90,slow=3.9,SNR=3.8							
HFS	**Hagfors**	**89.57**	**330**	P		**P**	**11 55 57.5**	**+0.9**
	1.1nm,0.5s,mb4.5,baz=124,slow=5.2,SNR=5.1							
HFS	**Hagfors**	**89.57**	**330**	P		**P**	**11 55 57.5**	**+0.9**
NOA	**NORSAR Array B**	**90.84**	**331**	P		**P**	**11 56 02.5**	**0.0**
	1.3nm,0.8s,mb4.3,baz=107,slow=5.1,SNR=2.4							
TXAR	**Lajitas Array**	**144.58**	**37**	PKP		PKPdf	12 02 36.5	-3.6
	1.4nm,0.5s,baz=204,slow=0.7,SNR=43							
MIAR	**Mount Ida**	**145.04**	**20**	*e*PKPdf		PKPdf	12 02 36.5	-4.2
WVT	**Waverly**	**145.05**	**11**	*e*PKP		PKPdf	12 02 36.3	-4.4
TZTN	**Tazewell**	**145.22**	**5**	*e*PKPdf		PKPdf	12 02 36.8	-4.2
JCT	**Junction City**	**145.88**	**31**	*e*PKPdf		PKPdf	12 02 39.9	-2.4

*BJI **12** 11:53:04.9, 0.73N×97.07E, h45km, mB5.0, mb4.8, Ms4.5, Msz4.3*
*IDC **12** 11:53:04.1±1.3, 1.21N×97.03E, mb4.5/10, mb1 4.5/11, mb1mx4.2/22, mbtmp4.4/11, ML4.5/1, MS4.1/4, Ms1 4.1/4, ms1mx3.5/26, Error ellipse: s-maj=49.7km s-min=15.5km az=58.0*
*NEIC **12** 11:53:08.4±0.6, 1.20N×97.15E, h30km, mb4.7/17, Error ellipse: s-maj=15.9km s-min=8.1km az=58.0*
ISC 12 11:53:07.4±0.6, 1.22N±0.08×97.14E±0.10, h33km, (h33km±.9km:pP-P), n47, σ0§83/48, mb4.6/32, MS4.1/8, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.35**	**41**	*e*P		**P**	**11 54 26.4**	**-0.6**
CM31	**Chiang Mai Arr**	**17.22**	**6**	P		**P**	**11 57 01.3**	**-5.8**
	9.6nm,0.6s							
CMAR	**Chiang Mai Arr**	**17.22**	**6**	P		**P**	**11 57 06.6**	**-0.5**
	0.6nm,0.3s,baz=198,slow=11,SNR=13							
KMI	**Kunming**	**24.37**	**12**	P		**P**	**11 58 25.4**	**+1.6**
KMI					AMB	AMB		
	comp=Z,25nm,1.1s,mb4.6							
KMI	**Kunming**	**24.37**	**12**	P		**P**	**11 58 25.4**	**+1.6**
	comp=Z,25nm,1.1s,mb4.6							
SHL	**Shillong**	**24.73**	**349**	*e*P		**P**	**11 58 27.0**	**-0.3**
GYA	**Guiyang**	**26.71**	**19**	⇑*i*P		**P**	**11 58 46.1**	**+0.2**
GYA					AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8							
JIRN	**Jiri**	**28.30**	**339**	*e*P		**P**	**11 59 00.8**	**+0.5**
	comp=Z,43nm,1.0s,mb5.0							
PKI	**Pulchoki**	**28.51**	**338**	*e*P		**P**	**11 59 02.1**	**0.0**
	comp=Z,17nm,0.9s,mb4.8							
GUN	**Gumba**	**28.64**	**339**	*e*P		**P**	**11 59 03.8**	**+0.5**
	comp=Z,29nm,0.7s,mb5.2							
DMN	**Daman**	**28.66**	**337**	*e*P		**P**	**11 59 03.5**	**0.0**
	comp=Z,19nm,1.0s,mb4.8							
KKN	**Kakani**	**28.76**	**338**	*e*P		**P**	**11 59 04.5**	**+0.2**
	comp=Z,23nm,0.9s,mb4.9							
LSA	**Lhasa**	**28.89**	**349**	P		**P**	**11 59 05.8**	**+0.3**
	comp=Z,7.8nm,0.6s,mb4.6							
GKN	**Gorkha**	**29.20**	**337**	*e*P		**P**	**11 59 08.3**	**+0.1**
KOLN	**Koldanda**	**29.41**	**335**	*e*P		**P**	**11 59 10.6**	**+0.4**
	comp=Z,20nm,0.7s,mb5.0							
ENH	**Enshi**	**31.18**	**21**	*e*P		**P**	**11 59 24.1**	**-1.8**
	comp=Z,19nm,0.7s,mb5.0							
FITZ	**Fitzroy Crossi**	**33.99**	**126**	P		**P**	**11 59 49.4**	**-1.0**
	comp=Z,3.3nm,0.6s,mb4.4,baz=260,slow=5.2,SNR=6.0							
LZH	**Lanzhou**	**35.24**	**9**	*e*P		**P**	**12 00 02.8**	**+1.8**
LZH					AP	pP	12 00 12.5	+1.8
LZH					XP	sP	12 00 16.5	+1.5
LZH					PP	PP	12 01 23.0	+2.5
LZH					AMB	AMB		
	comp=Z,23nm,1.6s,mb4.9							
LZH	**Lanzhou**	**35.24**	**9**	*e*P		**P**	**12 00 02.8**	**+1.8**
	comp=Z,23nm,1.6s,mb4.9							
LZH					pP	pP	12 00 12.5	+1.8
LZH					sP	sP	12 00 16.5	+1.5
LZH					PP	PP	12 01 23.0	+2.5
NJ2	**Nanjing**	**36.88**	**32**	*e*P		**P**	**12 00 16.5**	**+1.7**
NJ2					AP	pP	12 00 26.5	+1.9
NJ2					XP	sP	12 00 29.1	+0.3
NJ2					PP	PP	12 01 44.2	+3.2
NJ2					S	**S**	**12 06 03.0**	**+6.2**
NJ2					XS		12 06 19.0	
NJ2					AMB	AMB		
	comp=Z,570nm,4.7s							
NJ2					LR	LR		
	comp=N,500nm,19.4s,MS4.4							
NJ2					LR	LR		
	comp=E,340nm,22.4s,MS4.4							
NJ2					LR	LR		
	comp=Z,400nm,15.5s							
GTA	**Gaotai**	**38.09**	**3**	*e*P		**P**	**12 00 25.0**	**+0.1**
GTA					PP	PP	12 01 52.2	-3.4
GTA					S	**S**	**12 06 10.3**	**-4.8**
GTA					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6							
GTA					AMB	AMB		
	comp=Z,79nm,5.3s							
GTA					LR	LR		
	comp=N,186nm,14.5s,MS4.1							
GTA					LR	LR		
	comp=E,123nm,14.1s,MS4.1							
GTA					LR	LR		
	comp=Z,218nm,14.5s,MS4.1							
JOW	**Kunigami**	**39.27**	**47**	P		**P**	**12 00 35.0**	**+0.2**
	comp=Z,12nm,0.6s,mb4.8,baz=135,slow=26,SNR=4.2							
RKGY	**Rocky Gully**	**40.21**	**154**	*e*P		**P**	**12 00 37.2**	**-5.4**
	comp=Z,0.6nm,0.1s,mb4.3							
HHC	**Hu-ho-hao-te**	**41.55**	**17**	*e*P		**P**	**12 00 55.9**	**+2.2**
HHC					AP	pP	12 01 06.3	+2.8
HHC					XP	sP	12 01 09.9	+2.2
HHC					PP	PP	12 02 36.8	+4.1
HHC					PCP	PcP	12 02 52.8	+1.6
HHC					SCP		12 06 37.3	
HHC					PCS		12 06 42.4	
HHC					S	**S**	**12 07 12.3**	**+5.2**
HHC					XS		12 07 33.5	
HHC					SS	SS	12 10 15.6	+8.1
HHC					SCS	ScS	12 10 53.9	+1.6
HHC					AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4							
HHC					AMB	AMB		
	comp=Z,108nm,7.0s							
HHC					LR	LR		
	comp=N,276nm,14.5s,MS4.4							
HHC					LR	LR		
	comp=E,220nm,15.1s,MS4.4							
HHC					LR	LR		
	comp=Z,205nm,16.0s,MS4.1							
WRA	**Warramunga Arr**	**42.10**	**122**	P		**P**	**12 00 58.8**	**+0.4**
	comp=Z,3.5nm,0.6s,mb4.2,baz=301,slow=9.1,SNR=34							
WRAB	**Tennant Creek**	**42.10**	**122**	*e*P		**P**	**12 00 57.4**	**-1.0**
	comp=Z,16nm,0.9s,mb4.7							
BJT	**Baijiatuan**	**42.32**	**22**	*e*P		**P**	**12 00 58.8**	**-1.1**
	comp=Z,14nm,0.7s,mb4.7							
BJI	**Beijing**	**42.34**	**22**	P		**P**	**12 00 59.6**	**-0.5**
BJI					AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.2							
BJI					LR	LR		
	comp=N,108nm,19.4s							
BJI					LR	LR		
	comp=E,110nm,12.1s							
BJI	**Beijing**	**42.34**	**22**	P		**P**	**12 00 59.6**	**-0.5**
	comp=E,5.0nm,0.7s,mb4.2							
KSH	**Kashi**	**42.72**	**336**	*e*P		**P**	**12 01 03.0**	**-0.3**
KSH				*e*AP		pP	12 01 12.2	-1.0
KSH				*e*XP		sP	12 01 16.0	-1.3
KSH				*e*PP		PP	12 02 45.2	+0.3
KSH				*e*PCP		PcP	12 02 54.5	-0.6
KSH				*e*SCP			12 06 41.0	
KSH				*e*PCS			12 06 45.0	
KSH				*e*S		**S**	**12 07 23.0**	**-1.3**
KSH				*e*SS		SS	12 10 29.4	+0.1
KSH				*e*SCS		ScS	12 10 59.0	-0.5
KSH					AMB	AMB		
	comp=Z,150nm,5.2s							
KSH					LR	LR		
	comp=N,550nm,4.8s							
KSH					LR	LR		
	comp=E,420nm,5.2s							
WMQ	**Urumqi**	**43.24**	**350**	⇑P		**P**	**12 01 07.2**	**-0.2**
WMQ					AP	pP	12 01 17.2	-0.1
WMQ					XP	sP	12 01 21.2	-0.2
WMQ					PP	PP	12 02 50.2	+0.2
WMQ					PCP	PcP	12 02 56.4	-0.4
WMQ					S	**S**	**12 07 32.3**	**+0.5**
WMQ					AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8							
WMQ					AMB	AMB		
	comp=Z,107nm,4.5s							
WMQ					LR	LR		
	comp=N,96nm,25.4s							
WMQ					LR	LR		
	comp=E,53nm,18.6s							
WMQ					LR	LR		
	comp=Z,75nm,18.6s							
ASAR	**Alice Springs**	**43.46**	**127**	P		**P**	**12 01 10.3**	**+0.8**
	comp=Z,2.8nm,0.7s,mb4.1,baz=298,slow=7.7,SNR=32							
SONM	**Songino Array**	**47.12**	**9**	P		**P**	**12 01 38.4**	**+0.1**
	comp=Z,5.6nm,0.8s,mb4.6,baz=189,slow=9.1,SNR=48							
SONM					LR	LR	12 24 01.1	
	comp=Z,203nm,18.7s,MS4.1,baz=25,slow=39							
MKAR	**Makanchi Array**	**47.20**	**346**	P		**P**	**12 01 38.8**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.4,baz=158,slow=8.7,SNR=27							
ULN	**Ulaanbaatar**	**47.25**	**9**	*e*P		**P**	**12 01 38.6**	**-0.7**
	comp=Z,5.1nm,0.8s,mb4.5							
HIA	**Hailar**	**51.64**	**19**	*e*P		**P**	**12 02 12.0**	**-1.0**
	comp=Z,7.7nm,0.8s,mb4.7							
MDJ	**Mudanjiang**	**51.88**	**29**	P		**P**	**12 02 14.9**	**+0.1**
MDJ					AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7							
MDJ					AMB	AMB		
	comp=Z,56nm,5.4s							
MDJ					LR	LR		
	comp=N,48nm,21.7s,MS3.6							
MDJ					LR	LR		
	comp=E,26nm,19.8s,MS3.6							
MDJ					LR	LR		
	comp=Z,59nm,16.9s,MS3.7							
STKA	**Stephens Creek**	**53.42**	**132**	P		**P**	**12 02 27.1**	**+0.6**
	comp=Z,4.0nm,0.9s,mb4.4,baz=282,slow=5.0,SNR=4.9							
STKA					LR	LR	12 24 14.2	
	comp=Z,255nm,20.1s,MS4.3,baz=26,slow=35							
ZAL	**Zalesovo**	**53.52**	**351**	P		**P**	**12 02 26.7**	**-0.3**
	comp=Z,7.3nm,0.5s,mb4.9,baz=308,slow=5.5,SNR=39							
ZAL	**Zalesovo**	**53.52**	**351**	P		**P**	**12 02 26.7**	**-0.3**
CHKZ	**Chkalovo**	**56.69**	**341**	*e*P		**P**	**12 02 48.7**	**-1.3**
	comp=Z,9.9nm,0.8s,mb4.9							
BOSA	**Boshof**	**74.74**	**240**	LR		LR	12 31 49.6	
	comp=Z,88nm,18.6s,MS4.1,baz=280,slow=31							
FINES	**FINESS Array B**	**79.95**	**333**	P		**P**	**12 05 14.2**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.9,baz=135,slow=5.4,SNR=5.9							
ARCES	**ARCESS Array B**	**82.49**	**340**	P		**P**	**12 05 28.1**	**+0.3**
	comp=Z,4.2nm,0.9s,mb4.4,baz=90,slow=4.9,SNR=7.8							
ARCES					LR	LR	12 43 14.5	
	comp=Z,112nm,19.0s,MS4.2,baz=233,slow=36							
TXAR	**Lajitas Array**	**143.68**	**32**	PKP		PKPdf	12 12 39.0	-0.6
	comp=Z,0.4nm,0.8s,baz=64,slow=0.6,SNR=6.1							
JCT	**Junction City**	**144.58**	**26**	PKP		PKPdf	12 12 42.2	+1.0
LRAL	**Lakeview Retre**	**145.70**	**6**	PKP		PKPdf	12 12 41.8	-1.4

*LDG **12** 11:55:59.9±0.3, 18.05S×167.55E, h10km, Mb4.3/2, Error ellipse: s-maj=34.0km s-min=5.0km az=94.0*
*IDC **12** 11:56:02.8±1.3, 18.48S×168.22E, h44km±8km, mb3.9/9, mb1 4.1/11, mb1mx4.0/17, mbtmp4.2/11, ML4.3/2, MS3.4/4, Ms1 3.4/4, ms1mx3.1/24, Error ellipse: s-maj=27.2km s-min=13.7km az=109.0*
*NEIC **12** 11:56:02.2±1.7, 18.33S×168.16E, h35km±13km, mb4.6/2, Error ellipse: s-maj=17.5km s-min=11.8km az=88.0*
ISC 12 11:56:00.4±4.9, 18.39S±0.07×168.1E±0.2, h32km±33km, h40km±1.7km:pP-P, n29, σ0§89/20, mb4.1/9, MS3.3/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.97**	**202**	*e*P		**Pn**	**11 57 01.4**	**+0.8**
DZM					*e*S	**Sn**	**11 57 45.0**	**-1.6**
DZM	**Mont Dzumac**	**3.97**	**202**	P		**Pn**	**11 57 00.5**	**-0.1**
	6.8nm,0.3s,baz=100,slow=13,SNR=47							
DZM					S	**Sn**	**11 57 45.1**	**-1.5**
	15nm,0.3s,baz=138,slow=22,SNR=9.7							
DZM					LR	LR	11 58 24.6	
	comp=Z,292nm,20.3s,baz=16,slow=36							
DZM	**Mont Dzumac**	**3.97**	**202**	*e*P		**Pn**	**11 57 01.4**	**+0.8**
DZM					*e*S	**Sn**	**11 57 45.0**	**-1.6**
HNR	**Honiara**	**11.88**	**317**	P		**P**	**11 58 50.1**	**-0.7**
	5.1nm,0.3s,baz=183,slow=10,SNR=3.5							
HNR					LR	LR	12 02 56.7	
	comp=Z,186nm,19.1s,baz=144,slow=34							
CTA	**Charters Tower**	**20.66**	**262**	P		**P**	**12 00 40.4**	**+0.2**
	3.0nm,0.3s,baz=108,slow=9.1,SNR=4.0							
CTA					LR	LR	12 06 00.2	
	comp=Z,76nm,20.2s,MS3.0,baz=41,slow=29							
CTAO	**Charters Tower**	**20.66**	**262**	P		**P**	**12 00 40.5**	**+0.3**
	25nm,1.1s							
STKA	**Stephens Creek**	**27.38**	**236**	P		**P**	**12 01 46.5**	**+1.6**
	1.9nm,0.5s,mb3.9,baz=46,slow=6.2,SNR=9.8							
STKA					pP	pP	12 01 57.7	+3.3
	5.9nm,0.9s,baz=46,slow=7.9,SNR=7.1							
WRA	**Warramunga Arr**	**31.86**	**262**	P		**P**	**12 02 24.6**	**-0.4**
	0.2nm,0.4s,mb3.3,baz=81,slow=6.2,SNR=4.6							
WRA					pP	pP	12 02 36.4	+1.8
	1.3nm,0.8s,baz=94,slow=8.8,SNR=4.8							
ASAR	**Alice Springs**	**32.27**	**255**	P		**P**	**12 02 28.3**	**-0.1**
	1.5nm,0.4s,mb4.2,baz=83,slow=8.4,SNR=37							
ASAR					pP	pP	12 02 40.0	+1.9
	6.2nm,0.9s,baz=80,slow=8.8,SNR=9.8							
ASAR					LR	LR	12 15 14.8	
	comp=Z,128nm,19.6s,MS3.6,baz=17,slow=36							
ASPA	**Alice Springs**	**32.27**	**255**	*e*P		**P**	**12 02 28.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**40.23**	**264**	*e*P		**P**	**12 03 37.4**	**+1.5**
	11nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**40.23**	**264**	P		**P**	**12 03 36.2**	**+0.2**
	4.6nm,0.6s,mb4.4,baz=134,slow=11,SNR=6.7							
FITZ					pP	pP	12 03 49.2	+3.5
	13nm,0.7s,baz=140,slow=8.1,SNR=5.5							
PPT	**Papeete**	**40.23**	**96**	*e*LR		LR	12 15 01.0	
	97nm,23.5s							
QSPA	**South Pole Qui**	**71.66**	**180**	P		**P**	**12 07 21.9**	**+1.4**
	5.4nm,0.6s,mb4.7							
MAW	**Mawson**	**78.80**	**202**	P		**P**	**12 08 01.1**	**-0.1**
	1.8nm,0.8s,mb4.1,baz=210,slow=10,SNR=2.8							
SONM	**Songino Array**	**85.88**	**324**	P		**P**	**12 08 38.5**	**+0.3**
	1.8nm,1.0s,mb4.3,baz=124,slow=5.2,SNR=9.7							
NVAR	**Mina Array Bea**	**89.08**	**49**	P		**P**	**12 08 53.5**	**-0.4**
	0.3nm,0.5s,mb3.9,baz=238,slow=8.5,SNR=4.0							
ILAR	**Eielson Array**	**89.76**	**18**	P		**P**	**12 08 55.1**	**-1.3**
	0.5nm,0.6s,mb4.0,baz=249,slow=5.0,SNR=14							
YKA	**Yellowknife Ar**	**100.43**	**27**	P		P	12 09 44.5	-0.7
	0.2nm,0.5s,baz=258,slow=4.9,SNR=6.3							
YKA	**Yellowknife Ar**	**100.43**	**27**	P		P	12 09 44.5	-0.8
ARCES	**ARCESS Array B**	**123.97**	**345**	PKP		PKPdf	12 14 55.6	-4.8
	11nm,1.0s,baz=63,slow=3.0,SNR=7.8							
CDF	**Champ du Feu**	**146.23**	**337**	*e*PKP1		PKPbc	12 15 38.9	+1.4
	9.7nm,0.7s							
CABF	**La Chapelle**	**148.17**	**336**	*e*PKP1		PKPdf	12 15 44.8	-0.2
	9.8nm,0.8s							
FLN	**La Foiniere**	**148.31**	**346**	*e*PKP1		PKPdf	12 15 44.1	-1.0
SSF	**Saint Saulge**	**148.71**	**339**	*e*PKP1		PKPdf	12 15 45.8	0.0
	10nm,0.8s							
GRR	**Gorron**	**148.75**	**346**	*e*PKP1		PKPdf	12 15 45.5	-0.3
TCF	**Toulx Ste Croi**	**149.82**	**340**	*e*PKP1		PKPdf	12 15 48.6	+1.0
MFF	**Saint Martin d**	**150.23**	**344**	*e*PKP1		PKPdf	12 15 49.3	+1.0
	18nm,1.0s							
RJF	**Les Rejaudoux**	**150.91**	**340**	*e*PKP1		PKPdf	12 15 51.2	+1.9

MAN 12 11:58:09.3, 11.52N×124.47E, h11km, mb4.1, ML2.9, MS2.7, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.61**	**125**	*e*P		Pb	11 58 21.3	-0.3
PLP				*i* S		Sb	11 58 30.4	+0.5
BESP	**Borongan**	**0.95**	**85**	*e*P		Pb	11 58 27.6	+0.2
BESP				*e*S		Sb	11 58 42.4	+2.6
CNP	**Catarman**	**1.00**	**11**	*e*P		Pb	11 58 28.2	0.0
MSLP	**Maasin**	**1.43**	**164**	*e*P		Pn	11 58 35.5	+0.1
MSLP				*e*S		Sb	11 58 58.5	+4.7
GUIM	**Jordan**	**2.05**	**244**	*e*P		Pn	11 58 43.5	-0.8
GUIM				*e*S		Sn	11 59 10.4	+0.5

*NEIC **12** 11:59:35.0, 30.59S×117.01E, h2km, ML3.5(AUST), After AUST.*
AUST 12 11:59:35.0, 30.59S×117.01E, h2km, ML3.5, 1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BLDU	**Ballidu**	**0.26**	**265**	⇓*i*P		Pg	11 59 39.6	-0.5
BLDU				*e*S		Sg	11 59 43.0	-0.6
	2μm,0.4s							
BLDU				*e*RG			11 59 45.6	
KLBR	**Kellerberrin**	**1.19**	**147**	*e*P		Pb	11 59 56.8	-1.2
KLBR				*e*S		Sb	12 00 11.5	-2.1
	2μm,0.6s							
MORW	**Morawa**	**1.73**	**331**	*e*P		Pn	12 00 04.9	-1.5
MORW				*i* S		Sn	12 00 26.6	-2.7
	304nm,0.2s							
NWAO	**Narrogin (SRO)**	**2.34**	**175**	*e*P		Pn	12 00 12.9	-2.2
NWAO				*e*S		Sn	12 00 40.7	-4.1
	161nm,0.3s							

**AUST 12 12:00:02.1, 30.56S×117.01E,

JNK				*e*S	S	12 39 33.5	-0.6
JCH	**Churui**	**1.15**	**277**	P	P	12 39 21.0	+0.6
JCH				*e*S	S	12 39 35.3	+0.1
JAR	**Ashorobuto**	**1.16**	**314**	P	P	12 39 20.5	-0.1
JEM	**Erimo**	**1.39**	**251**	P	P	12 39 25.1	+1.2
JRA	**Rausu**	**1.46**	**6**	P	P	12 39 24.8	-0.1
JRA				*e*S	S	12 39 42.6	-0.4

*NEIC **12** 12:39:44.4, 36.81S×72.25W, h72km, MD3.5(GUC), After GUC.*

GUC 12 12:39:44.4±0.7, 36.81S×72.25W, h72km±4km, MD3.5, ML3.8, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.25**	**33**	⇓*i*P	P	12 39 55.3	-0.4
CCHI				*i* S	S	12 40 04.3	+0.4
CCHI				AMP		12 40 05.7	
	comp=N,3μm,0.4s						
LNCH	**Linares**	**1.10**	**29**	*i* P	P	12 40 04.6	0.0
LNCH				*i* S	S	12 40 20.0	+0.5
LNCH				AMP		12 40 30.8	
	comp=E,995nm,0.3s						
TALC	**Talca**	**1.50**	**20**	*i* P	P	12 40 09.8	-0.1
TALC				*i* S	S	12 40 28.5	-0.3
TALC				AMP		12 40 35.8	
	comp=E,4μm,0.1s						
CICH	**Cipreses**	**2.90**	**31**	*e*P	P	12 40 29.3	-0.1
CICH				*i* S	S	12 41 03.0	-0.3
LNV	**Longovilo**	**2.93**	**14**	*i* P	P	12 40 28.9	-0.9
LNV				*i* S	S	12 41 03.5	-0.5
CACH	**El Canelo**	**3.01**	**27**	*e*P	P	12 40 30.7	-0.2
CACH				*i* S	S	12 41 05.4	-0.5
CHCH	**Chadas Angostu**	**3.16**	**25**	*i* P	P	12 40 32.6	-0.4
CHCH				*i* S	S	12 41 09.1	-0.5
LMEL	**Las Melosas**	**3.40**	**30**	AMP		12 41 27.8	
	comp=E,265nm,0.3s						
RCDM	**Rinconada Maip**	**3.52**	**20**	AMP		12 41 31.1	
	comp=E,286nm,0.1s						
FCH	**Farellones**	**3.83**	**25**	⇓*i*P	P	12 40 42.2	-0.2
FCH				*i* S	S	12 41 25.9	-0.5
PLCA	**Paso Flores**	**4.13**	**162**	*e*Pn	P	12 40 48.0	+1.4

*IDC **12** 12:51:14.1±1.0, 2.03S×99.04E, mb3.7/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, Error ellipse: s-maj=41.3km s-min=25.0km az=46.0*

ISC 12 12:51:17.4±0.9, 2.0S±0.2×99.1E±0.2, h33km, n8, σ0.69/7, mb3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**26.18**	**53**	*e*P	**P**	**12 56 51.7**	**+0.7**
WRA	**Warramunga Arr**	**38.81**	**120**	P	**P**	**12 58 40.4**	**-0.7**
	0.1nm,0.3s,mb3.0,baz=305,slow=9.2,SNR=4.9						
ASAR	**Alice Springs**	**40.03**	**125**	P	**P**	**12 58 51.7**	**+0.6**
	0.3nm,0.4s,mb3.4,baz=295,slow=7.4,SNR=6.5						
STKA	**Stephens Creek**	**49.87**	**131**	P	**P**	**13 00 09.8**	**0.0**
	0.9nm,0.8s,mb3.9,baz=319,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**50.77**	**345**	P	**P**	**13 00 15.7**	**-0.7**
	0.3nm,0.4s,mb3.6,baz=154,slow=8.6,SNR=5.2						
BOSA	**Boshof**	**74.84**	**241**	P	**P**	**13 02 57.7**	**+0.9**
	1.4nm,0.4s,mb4.3,baz=88,slow=19,SNR=3.8						
VNDA	**Vanda**	**82.36**	**169**	P	**P**	**13 03 36.2**	**-0.8**
	0.3nm,0.6s,mb3.4,baz=324,slow=8.7,SNR=3.3						
TXAR	**Lajitas Array**	**145.26**	**36**	PKPbc	PKPbc	13 10 54.4	+1.5
	0.8nm,0.5s,baz=298,slow=1.9,SNR=5.8						

*NEIC **12** 12:51:23.2±3.1, 5.17S×151.97E, h159km±23km, mb4.2/2, Error ellipse: s-maj=56.6km s-min=19.2km az=117.0*
*IDC **12** 12:51:24.2±4.6, 5.07S×151.82E, h160km±37km, mb3.4/6, mb1 3.5/7, mb1mx3.4/16, mbtmp3.8/7, Error ellipse: s-maj=56.7km s-min=24.7km az=115.0*

ISC 12 12:51:22.7±3.9, 5.1S±0.3×151.9E±0.4, h165km±29km, n9, σ0.88/10, mb3.7/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.37**	**227**	P	**P**	**12 52 54.9**	**-0.4**
	0.5nm,0.3s,baz=204,slow=20,SNR=2.3						
PMG				S	**S**	**12 54 07.7**	**+0.4**
	7.6nm,0.3s,baz=171,slow=20,SNR=12						
WRAB	**Tennant Creek**	**22.58**	**228**	*e*P	**P**	**12 56 10.6**	**+0.7**
	5.3nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**22.59**	**228**	P	**P**	**12 56 10.9**	**+0.8**
	3.0nm,0.6s,mb3.9,baz=50,slow=9.9,SNR=38						
ASAR	**Alice Springs**	**25.34**	**221**	P	**P**	**12 56 36.6**	**+0.5**
	1.1nm,0.6s,mb3.5,baz=53,slow=8.7,SNR=23						
FITZ	**Fitzroy Crossi**	**28.75**	**241**	P	**P**	**12 57 05.5**	**-1.5**
	3.6nm,0.3s,mb4.6,baz=67,slow=9.1,SNR=18						
MBWA	**Marble Bar**	**35.06**	**240**	P	**P**	**12 58 00.2**	**-1.6**
	3.8nm,0.6s,mb4.2						
SONM	**Songino Array**	**66.10**	**328**	P	**P**	**13 01 54.4**	**+0.2**
	0.3nm,0.4s,mb3.4,baz=141,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**79.96**	**319**	P	**P**	**13 03 15.9**	**+1.1**
	0.2nm,0.5s,mb3.0,baz=90,slow=7.2,SNR=2.7						
ILAR	**Eielson Array**	**82.76**	**22**	P	**P**	**13 03 28.7**	**-0.4**
	0.2nm,0.7s,mb3.0,baz=251,slow=5.5,SNR=4.2						

MAN 12 12:58:31.2, 9.34N×126.66E, h1km, mb4.3, ML3.1, MS2.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.09**	**250**	*e*P	Pb	12 58 52.2	-0.3
BUTP				*e*S	Sb	12 59 09.4	+2.3
SCPH	**Surigao**	**1.23**	**291**	*i* P	Pb	12 58 54.2	-0.8
SCPH				*e*S	Sb	12 59 12.9	+1.7
MSLP	**Maasin**	**1.94**	**294**	*e*P	Pn	12 59 06.7	+1.1
MSLP				*e*S	Sn	12 59 37.4	+6.4
BUKP	**Musuan**	**2.14**	**227**	*e*P	Pn	12 59 08.6	0.0
BUKP				*e*S	Sn	12 59 38.9	+2.7
BESP	**Borongan**	**2.55**	**332**	*e*P	Pn	12 59 14.1	-0.3
BESP				*e*S	Sn	12 59 46.5	0.0

IDC 12 13:01:47.4±2.6, 15.68S×173.98W, mb4.0/3, mb1 4.1/4, mb1mx3.8/16, mbtmp4.0/4, ML1.9/1, Error ellipse: s-maj=177.8km s-min=27.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.77**	**51**	Pn	Pn	13 02 33.2	-0.6
	12nm,0.3s,baz=294,slow=1.9,SNR=22						
AFI				Sn	Sn	13 02 59.7	-8.7
	40nm,0.3s,baz=39,slow=21,SNR=17						
STKA	**Stephens Creek**	**43.41**	**240**	P	P	13 09 51.9	-1.8
	2.0nm,1.0s,baz=74,slow=7.4,SNR=3.0						
WRA	**Warramunga Arr**	**49.23**	**257**	P	P	13 10 37.9	-2.0
	0.4nm,0.3s,baz=93,slow=6.5,SNR=24						
ASAR	**Alice Springs**	**49.49**	**252**	P	P	13 10 40.0	-1.9
	3.3nm,0.6s,baz=86,slow=8.2,SNR=87						

*IDC **12** 13:05:53.8±0.7, 10.36N×92.68E, mb4.2/11, mb1 4.3/11, mb1mx4.1/22, mbtmp4.2/11, MS3.6/7, Ms1 3.7/7, ms1mx3.3/40, Error ellipse: s-maj=34.5km s-min=14.8km az=54.0*
*BJI **12** 13:05:57.4, 10.35N×92.82E, h39km, mB4.7, mb4.3, Ms3.6, Msz3.3*
*NEIC **12** 13:05:58.9±0.5, 10.47N×92.75E, h30km, mb4.1/14, Error ellipse: s-maj=12.8km s-min=7.1km az=55.0*

ISC 12 13:05:56.6±0.5, 10.44N±0.05×92.75E±0.05, h30km, n45, σ1.07/46, mb4.2/20, MS3.6/9, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.35**	**123**	P	**P**	**13 08 14.5**	**+2.0**
CM31	**Chiang Mai Arr**	**9.97**	**36**	*e*Pn	**P**	**13 08 20.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**9.97**	**36**	Pn	**P**	**13 08 24.4**	**+3.2**
CMAR				Sn	**Sn**	**13 10 14.7**	**+1.6**
CMAR				LR	LR	13 12 34.9	
	comp=Z,132nm,20.5s,baz=215,slow=40						
SHL	**Shillong**	**15.06**	**357**	*e*P	**P**	**13 09 34.5**	**+5.2**
HYB	**Hyderabad**	**15.42**	**298**	*e*P	**P**	**13 09 40.0**	**+6.1**
HYB	**Hyderabad**	**15.42**	**298**	*i* P	**P**	**13 09 40.0**	**+6.1**
HYB				*e*S	**S**	**13 12 24.0**	**0.0**
KMI	**Kunming**	**17.41**	**32**	P	**P**	**13 09 58.9**	**-0.2**
KMI				AP		13 10 06.0	
KMI				S	**S**	**13 13 07.7**	**-2.3**
KMI				SS	SS	13 13 30.7	-1.2
KMI				AMB	AMB		
	comp=Z,7.0nm,1.4s						
KMI				AMB	AMB		
	comp=Z,22nm,3.3s						
KMI				LR	LR		
	comp=N,160nm,16.4s						
KMI				LR	LR		
	comp=E,191nm,17.8s						
KMI				LR	LR		
	comp=Z,143nm,19.2s						
KMI	**Kunming**	**17.41**	**32**	P	**P**	**13 09 58.9**	**-0.2**
	comp=Z,7.0nm,1.4s						
KMI				pP		13 10 06.0	
KMI				S	**S**	**13 13 07.7**	**-2.3**
KMI				SS	SS	13 13 30.7	-1.2
JIRN	**Jiri**	**18.20**	**341**	*e*P	**P**	**13 10 10.7**	**+1.7**
	comp=Z,14nm,0.7s						
PKI	**Pulchoki**	**18.39**	**339**	*e*P	**P**	**13 10 10.0**	**-1.2**
	comp=Z,22nm,0.9s						
DMN	**Daman**	**18.53**	**338**	*e*P	**P**	**13 10 12.9**	**-0.1**
	comp=Z,14nm,0.7s						
GUN	**Gumba**	**18.54**	**341**	*e*P	**P**	**13 10 13.8**	**+0.7**
GKN	**Gorkha**	**19.06**	**338**	*e*P	**P**	**13 10 20.2**	**+0.9**
	comp=Z,7.5nm,0.3s						
LSA	**Lhasa**	**19.22**	**356**	P	**P**	**13 10 22.0**	**+0.9**
LSA	**Lhasa**	**19.22**	**356**	*e*P	**P**	**13 10 19.6**	**-1.5**
	comp=Z,8.8nm,0.8s						
KOLN	**Kolkanda**	**19.27**	**335**	*e*P	**P**	**13 10 22.7**	**+1.0**
	comp=Z,14nm,0.8s						
KSM	**Kuching**	**19.59**	**116**	P	**P**	**13 10 25.5**	**0.0**
POO	**Poona**	**19.97**	**296**	*e*P	**P**	**13 10 27.0**	**-2.6**
ENH	**Enshi**	**25.15**	**36**	*e*P	**P**	**13 11 21.1**	**+0.3**
	comp=Z,8.6nm,0.9s,mb4.3						
LZH	**Lanzhou**	**27.44**	**20**	*e*P	**P**	**13 11 41.5**	**-0.5**
LZH				AP	pP	13 11 50.5	-0.2
LZH				XP	sP	13 11 54.5	-0.2
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.5						
LZH	**Lanzhou**	**27.44**	**20**	*e*P	**P**	**13 11 41.5**	**-0.5**
	comp=Z,22nm,1.5s,mb4.5						
LZH				pP	pP	13 11 50.5	-0.2
LZH				sP	sP	13 11 54.5	-0.2
WMQ	**Urumqi**	**33.54**	**353**	⇑P	**P**	**13 12 35.4**	**-0.5**
WMQ				AP	pP	13 12 44.9	+0.1
WMQ				XP	sP	13 12 49.0	+0.4
WMQ				PP	PP	13 13 47.4	-1.1
WMQ				PCP	PcP	13 15 17.0	+0.7
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.4s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,42nm,3.8s						
WMQ				LR	LR		
	comp=N,60nm,15.3s,MS3.5						
WMQ				LR	LR		
	comp=E,17nm,14.4s,MS3.5						
WMQ				LR	LR		
	comp=Z,29nm,14.1s,MS3.1						
BJI	**Beijing**	**36.07**	**31**	P	**P**	**13 12 57.1**	**-0.5**
BJI				S	**S**	**13 18 42.6**	**+8.5**
BJI				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
BJI				LR	LR		
	comp=N,130nm,19.1s,MS3.9						
BJI				LR	LR		
	comp=E,119nm,16.2s,MS3.9						
BJI				LR	LR		
	comp=Z,97nm,22.2s						
BJI	**Beijing**	**36.07**	**31**	P	**P**	**13 12 57.1**	**-0.5**
	comp=Z,4.0nm,1.0s,mb4.3						
BJI				S	**S**	**13 18 42.6**	**+8.5**
BJI				LR	LR		
	comp=Z,100nm,22.2s,MS3.5						
MKAR	**Makanchi Array**	**37.30**	**348**	P	**P**	**13 13 07.8**	**0.0**
	comp=Z,2.3nm,0.9s,mb4.0,baz=164,slow=8.7,SNR=12						
SONM	**Songino Array**	**39.01**	**15**	P	**P**	**13 13 23.9**	**+1.8**
	comp=Z,0.6nm,0.4s,mb3.6,baz=196,slow=7.7,SNR=12						
SONM				LR	LR	13 32 37.9	
	comp=Z,56nm,18.6s,MS3.4,baz=95,slow=41						
ULN	**Ulaanbaatar**	**39.20**	**15**	*e*P	**P**	**13 13 23.0**	**-0.8**
	comp=Z,1.7nm,0.9s,mb3.8						
FITZ	**Fitzroy Crossi**	**43.12**	**131**	P	**P**	**13 13 55.4**	**-0.9**
	comp=Z,9.2nm,0.9s,mb4.5,baz=304,slow=4.8,SNR=6.6						
ZAL	**Zalesovo**	**43.84**	**353**	LR	LR	13 37 00.8	
	comp=Z,49nm,20.4s,MS3.4,baz=13,slow=42						
BVAR	**Borovoye Array**	**46.13**	**341**	P	**P**	**13 14 20.3**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.0,baz=162,slow=9.4,SNR=8.8						
MDJ	**Mudanjiang**	**46.51**	**36**	P	**P**	**13 14 22.2**	**-0.9**
MDJ				AMB	AMB		
	comp=Z,2.0nm,1.2s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,70nm,5.8s						
MDJ				LR	LR		
	comp=N,22nm,20.9s,MS3.2						
MDJ				LR	LR		
	comp=E,23nm,21.9s,MS3.2						
MDJ				LR	LR		
	comp=Z,30nm,20.4s,MS3.2						
CHKZ	**Chkalovo**	**46.62**	**342**	*e*P	**P**	**13 14 24.1**	**+0.2**
	comp=Z,5.7nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**50.87**	**126**	P	**P**	**13 14 56.4**	**-0.8**
	comp=Z,1.8nm,0.4s,mb4.3,baz=307,slow=8.3,SNR=90						
GNI	**Garni**	**51.67**	**313**	LR	LR	13 38 12.1	
	comp=Z,50nm,19.6s,MS3.5,baz=349,slow=38						
ASAR	**Alice Springs**	**52.62**	**131**	P	**P**	**13 15 09.4**	**-0.9**
	comp=Z,2.3nm,0.5s,mb4.3,baz=304,slow=7.2,SNR=70						
KIV	**Kislovodsk**	**54.51**	**317**	*e*P	**P**	**13 15 24.5**	**+0.5**
	comp=Z,9.0nm,0.5s,mb5.1						
KMBO	**Kilima Mbogo**	**56.38**	**262**	LR	LR	13 35 48.4	
	comp=Z,84nm,20.8s,MS3.8,baz=90,slow=32						
KMBO	**Kilima Mbogo**	**56.38**	**262**	P	**P**	**13 15 41.9**	**+3.9**
	comp=Z,0.7nm,0.4s,mb4.0						
BRTR	**Keskin Array B**	**59.73**	**310**	P	**P**	**13 15 59.9**	**-1.2**
	comp=Z,1.0nm,0.8s,mb3.9,baz=130,slow=9.6,SNR=5.0						
STKA	**Stephens Creek**	**62.87**	**134**	P	**P**	**13 16 22.9**	**+0.5**
	comp=Z,1.6nm,0.4s,mb4.5,baz=331,slow=8.8,SNR=7.0						
FINES	**FINESS Array B**	**69.81**	**332**	P	**P**	**13 17 05.6**	**-0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=90,slow=9.7,SNR=4.0						
ARCES	**ARCESS Array B**	**72.40**	**340**	LR	LR	13 50 32.7	
	comp=Z,82nm,21.4s,MS4.0,baz=52,slow=37						
GERES	**GERESS Array B**	**75.01**	**318**	P	**P**	**13 17 37.5**	**+0.5**
	comp=Z,2.2nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=12						
HFS	**Hagfors**	**75.56**	**330**	LR	LR	13 58 39.9	
	comp=Z,128nm,18.1s,MS4.3,baz=78,slow=42						
BOSA	**Boshof**	**75.80**	**237**	P	**P**	**13 17 43.0**	**+1.0**
	comp=Z,3.0nm,1.1s,mb4.2,baz=143,slow=10,SNR=3.2						

*STR **12** 13:11:00.5±0.6, 47.61N×1.62W, h10km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **12** 13:11:03.8, 47.53N×1.55W, h3km, ML2.9(STR), ML2.5(LDG), After LDG.*
*CSEM **12** 13:11:03.7±0.0, 47.53N×1.54W, h2km, ML2.6/7, Error ellipse: s-maj=1.1km s-min=0.8km az=50.0*

LDG 12 13:11:03.8±0.0, 47.53N×1.55W, h3km, Md2.2/1, Ml2.5/7, Error ellipse: s-maj=1.0km s-min=0.7km az=50.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRYF	**La Roche-sur-Y**	**0.95**	**180**	Pg	Pg	13 11 21.5	-1.3
LRYF				Sg	Sg	13 11 34.0	-1.5
GRR	**Gorron**	**0.97**	**28**	*e*Pg	Pg	13 11 22.1	-1.2
GRR				*e*Sg	Sg	13 11 34.6	-1.7
	9.2nm,0.2s						
SGMF	**Saint Gilles**	**0.99**	**317**	*e*Pg	Pg	13 11 22.2	-1.5
SGMF				*e*Pn	Pn	13 11 23.3	-1.2
SGMF				*e*Sg	Sg	13 11 36.0	-0.9
	5.2nm,0.2s						
LCHF	**La Chataignera**	**1.02**	**147**	Pg	Pg	13 11 23.1	-1.1
LCHF				Sg	Sg	13 11 36.6	-1.2
QUIF	**Quistinic**	**1.16**	**290**	*e*Pn	Pn	13 11 25.2	-1.7
QUIF				*e*Pg	Pg	13 11 25.5	-1.5
QUIF				*e*Sg	Sg	13 11 40.0	-2.5
	15nm,0.2s						
QUIF	**Quistinic**	**1.16**	**290**	*e*Pg	Pg	13 11 25.5	-1.5
QUIF				*e*Sg	Sg	13 11 40.0	-2.5
	7.6nm,0.2s						
MFF	**Saint Martin d**	**1.33**	**134**	*e*Pn	Pn	13 11 27.5	-1.8
MFF				*e*Pg	Pg	13 11 28.5	-1.9
MFF				*e*Sg	Sg	13 11 45.9	-2.3
	5.2nm,0.2s						
ROSF	**Rostrenen**	**1.42**	**305**	*e*Pn	Pn	13 11 28.8	-1.7
ROSF				*e*Pg	Pg	13 11 30.2	-1.9
ROSF				*e*Sg	Sg	13 11 48.5	-2.4
	11nm,0.2s						
FLN	**La Foliniere**	**1.43**	**30**	*e*Pn	Pn	13 11 29.0	-1.6
FLN				*e*Pg	Pg	13 11 30.4	-1.8
FLN				*e*Sg	Sg	13 11 49.1	-2.1
	10nm,0.2s						
LDF	**La Druitiere**	**1.43**	**41**	*e*Pg	Pg	13 11 30.2	-2.1
LDF				*e*Sg	Sg	13 11 49.0	-2.4
	9.4nm,0.2s						
CHIF	**Chize**	**1.60**	**150**	Pg	Pg	13 11 32.5	-3.2
CHIF				Sg	Sg	13 11 55.2	-1.9
TCF	**Toulx Ste Croi**	**2.86**	**114**	*e*Pn	Pn	13 11 48.3	-2.8
LFF	**La Frestale**	**3.04**	**148**	*e*Pn	Pn	13 11 50.1	-3.6
RJF	**Les Rejaudoux**	**3.07**	**135**	*e*Pn	Pn	13 11 51.2	-3.0
AVF	**Avril sur Loir**	**3.42**	**101**	*e*Pn	Pn	13 11 56.0	-3.2

IDC 12 13:17:13.8±2.8, 1.21N×97.18E, mb3.6/5, mb1 3.7/5, mb1mx3.6/20, mbtmp3.6/5, Error ellipse: s-maj=121.1km s-min=21.7km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.05**	**122**	P	P	13 25 07.5	-1.7
	0.6nm,0.6s,baz=302,slow=9.1,SNR=7.8						
ASAR	**Alice Springs**	**43.41**	**127**	P	P	13 25 18.6	-1.7
	0.3nm,0.4s,baz=299,slow=7.8,SNR=5.9						
SONM	**Songino Array**	**47.12**	**8**	P	P	13 25 48.1	-1.5
	0.4nm,0.5s,baz=188,slow=7.8,SNR=6.8						
MKAR	**Makanchi Array**	**47.23**	**346**	P	P	13 25 49.3	-1.2
	0.7nm,0.5s,baz=153,slow=9.7,SNR=1.9						
BVAR	**Borovoye Array**	**56.23**	**341**	P	P	13 26 54.8	-3.3
	0.6nm,0.6s,baz=108,slow=4.6,SNR=3.7						

*IDC **12** 13:34:48.3±4.3, 6.23S×146.22E, h88km±33km, mb4.0/6, mb1 4.2/8, mb1mx3.9/15, mbtmp4.4/8, Error ellipse: s-maj=31.7km s-min=27.0km az=158.0*
*NEIC **12** 13:34:51.5±1.9, 6.27S×146.07E, h114km±15km, mb4.6/6, Error ellipse: s-maj=22.3km s-min=10.5km az=161.0*

ISC 12 13:34:48.9±2.0, 6.3S±0.1×146.2E±0.1, h106km±15km, n23, σ0.73/23, mb4.2/7, 1C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.23**	**163**	P	**P**	**13 35 39.7**	**+0.9**
	68nm,0.3s,baz=9.7,slow=4.3,SNR=312						
PMG				S	**S**	**13 36 15.8**	**-0.8**
	74nm,0.3s,baz=154,slow=21,SNR=23						
CTA	**Charters Tower**	**13.71**	**180**	P	**P**	**13 38 04.2**	**+4.3**
	1.7nm,0.3s,baz=354,slow=14,SNR=9.0						
CTA				S	**S**	**13 40 29.9**	**+0.1**
	0.5nm,0.3s,baz=205,slow=6.4,SNR=3.0						
CTAO	**Charters Tower**	**13.71**	**180**	*e*P	**P**	**13 38 05.1**	**+5.3**
HNR	**Honiara**	**13.96**	**104**	P	**P**	**13 38 08.6**	**+5.4**
	4.1nm,0.3s,baz=277,slow=7.8,SNR=4.5						
KAKA	**Kakadu**	**14.99**	**244**	⇓*i*P	**P**	**13 38 17.6**	**+1.2**
	69nm,0.6s						
WRAB	**Tennant Creek**	**17.79**	**219**	*e*P	**P**	**13 38 50.1**	**-1.0**
	12nm,0.5s						
WRA	**Warramunga Arr**	**17.80**	**219**	P	**P**	**13 38 50.7**	**-0.6**
	1.5nm,0.3s,baz=45,slow=12,SNR=73						
ASAR	**Alice Springs**	**20.93**	**213**	P	**P**	**13 39 25.4**	**+0.6**
	3.0nm,0.3s,baz=47,slow=8.8,SNR=78						
ASPA	**Alice Springs**	**20.93**	**213**	*e*P	**P**	**13 39 25.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**23.24**	**238**	*e*P	**P**	**13 39 47.7**	**+0.1**
	14nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**23.24**	**238**	P	**P**	**13 39 47.7**	**+0.2**
	28nm,0.5s,mb4.9,baz=69,slow=9.3,SNR=51						
STKA	**Stephens Creek**	**25.81**	**189**	*e*P	**P**	**13 40 12.5**	**+0.6**
	3.0nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**25.81**	**189**	P	**P**	**13 40 12.8**	**+0.9**
	3.4nm,0.4s,mb4.2,baz=345,slow=7.1,SNR=17						
MBWA	**Marble Bar**	**29.58**	**237**	*e*P	**P**	**13 40 44.8**	**-1.3**
	11nm,0.9s,mb4.5						
FORT	**Forrest**	**29.72**	**213**	*e*P	**P**	**13 40 46.7**	**-0.6**
	656nm,1.5s						
KLBR	**Kellerberrin**	**36.62**	**223**	⇑*i*P	**P**	**13 41 46.3**	**-0.4**
	251nm,0.6s						
VNDA	**Vanda**	**71.66**	**176**	P	**P**	**13 46 00.3**	**-0.2**
	1.9nm,0.8s,mb4.0,baz=332,slow=6.0,SNR=11						
VNDA	**Vanda**	**71.66**	**176**	P	**P**	**13 46 00.3**	**-0.2**
MAW	**Mawson**	**81.67**	**203**	P	**P**	**13 46 56.6**	**+0.2**
	1.1nm,0.6s,mb3.9,baz=82,slow=7.1,SNR=4.2						
QSPA	**South Pole Qui**	**83.67**	**180**	*e*P	**P**	**13 47 07.0**	**+0.7**
	5.4nm,0.5s,mb4.6						
ILAR	**Eielson Array**	**86.07**	**23**	P	**P**	**13 47 17.9**	**-0.5**
	0.6nm,0.7s,mb3.6,baz=268,slow=3.7,SNR=4.5						
SIV	**San Ignacio**	**145.07**	**130**	PKPbc	PKPbc	13 54 16.1	+1.1
	1.3nm,0.8s,baz=237,slow=8.2,SNR=7.5						
DBIC	**Dimbokro**	**151.25**	**272**	PKPbc	PKPdf	13 54 33.0	+8.2
	1.8nm,0.4s,baz=121,slow=5.8,SNR=6.1						

*IDC **12** 13:54:30.1±1.4, 1.70S×99.78E, mb4.0/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, Error ellipse: s-maj=74.9km s-min=15.6km az=55.0*
*NEIC **12** 13:54:33.8±0.6, 1.87S×99.57E, h30km, mb4.4/2, Error ellipse: s-maj=27.1km s-min=9.8km az=59.0*

ISC 12 13:54:32.3±1.1, 1.8S±0.2×99.6E±0.2, h33km, n15, σ0.99/12, mb4.0/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.15**	**8**	*e*P	**P**	**13 56 17.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**30.24**	**124**	P	**P**	**14 00 41.0**	**-1.5**
	5.8nm,0.8s,mb4.3,baz=304,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**38.42**	**120**	P	**P**	**14 01 52.8**	**+0.1**
	2.6nm,0.5s,mb4.2,baz=303,slow=9.1,SNR=32						
WRAB	**Tennant Creek**	**38.43**	**120**	*e*P	**P**	**14 01 52.4**	**-0.4**
	5.7nm,0.6s,mb4.5						
**ASA

Moment tensor: Scale 10^{16}Nm; M_{rr}-5.62±.16; $M_{\theta\theta}$1.04±.16; $M_{\phi\phi}$4.58±.14; $M_{r\theta}$-1.16±.54; $M_{r\phi}$-1.78±.13; $M_{\theta\phi}$-0.34±.47; Best double couple: $M_0$5.589×10^{16} NP1: ϕ_s348°, δ45°, λ-74°. NP2:ϕ_s147°, δ47°, λ-105°. Principal axes: T 5.322, Plg1°, Azm247°; N .535, Plg11°, Azm157°; P -5.856, Plg79°, Azm341°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **12** 13:55:52.8±0.3, 10.51S×13.09W, h10km, mb4.9/18, MS4.7/9 Error ellipse: s-maj=11.1km s-min=7.3km az=144.0*

ISC 12 13:55:51.0±0.4, 10.46S±0.08×13.09W±0.07, h10km, n67, σ0:93/54, mb4.5/35, MS4.6/30, 6C-2D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**18.89**	**26**	P		**P**	**14 00 13.7**	**-0.5**
	0.4nm,0.3s,baz=182,slow=11,SNR=8.4							
DBIC				LR		LR	14 05 50.3	
	comp=Z,2μm,20.0s,baz=184,slow=32							
DBIC	**Dimbokro**	**18.89**	**26**	*eP*		**P**	**14 00 14.6**	**+0.4**
	29nm,1.1s							
CS6B	**Jaguaretama**	**25.80**	**279**	⇓*iP*		**P**	**14 01 31.8**	**+7.5**
CS6B				*e*			14 03 15.9	
BDFB	**Brasilia**	**34.38**	**258**	P		**P**	**14 02 39.5**	**-1.2**
	1.4nm,0.4s,mb4.2,baz=53,slow=14,SNR=2.7							
BDFB				LR		LR	14 13 51.0	
	comp=Z,2μm,21.2s,MS4.8,baz=88,slow=31							
BOSA	**Boshof**	**40.16**	**122**	LR		LR	14 16 25.1	
	comp=Z,682nm,21.6s,MS4.5,baz=289,slow=31							
LSZ	**Lusaka**	**40.48**	**101**	*eP*		**P**	**14 03 32.5**	**+0.6**
	97nm,2.1s,mb5.2							
LSZ				LR		LR		
	comp=Z,1μm,20.0s,MS4.7							
MATP	**Matopo**	**41.19**	**109**	P		**P**	**14 03 37.0**	**-0.6**
	comp=Z,6.0nm,0.7s,mb4.4,baz=271,slow=7.6,SNR=7.4							
MATP				LR		LR	14 18 17.3	
	comp=Z,1μm,20.5s,MS4.7,baz=271,slow=33							
MBAR	**Mbarara**	**44.65**	**80**	*eP*		**P**	**14 04 06.5**	**+0.4**
	comp=Z,24nm,1.0s,mb5.0							
MBAR				LR		LR		
	comp=Z,232nm,19.0s,MS4.1							
SIV	**San Ignacio**	**46.95**	**258**	P		**P**	**14 04 24.2**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=104,slow=9.3,SNR=7.4							
SAML	**Samuel**	**49.36**	**267**	*eP*		**P**	**14 04 42.6**	**-0.4**
	comp=Z,55nm,2.0s,mb5.2							
SAML				LR		LR		
	comp=Z,1μm,21.0s,MS5.0							
ESDC	**Sonseca Array**	**50.60**	**9**	P		**P**	**14 04 51.9**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.6,baz=166,slow=6.1,SNR=4.2							
KMBO	**Kilima Mbogo**	**50.87**	**83**	P		**P**	**14 04 55.7**	**+1.1**
	comp=Z,3.9nm,0.9s,mb4.3,baz=230,slow=22,SNR=5.2							
KMBO				LR		LR	14 25 24.3	
	comp=Z,780nm,18.2s,MS4.8,baz=98,slow=35							
KMBO	**Kilima Mbogo**	**50.87**	**83**	*eP*		**P**	**14 04 55.9**	**+1.3**
	comp=Z,7.6nm,0.9s,mb4.6							
KMBO				LR		LR		
	comp=Z,768nm,20.0s,MS4.7							
LPAZ	**La Paz**	**53.73**	**257**	P		**P**	**14 05 15.6**	**-0.4**
	comp=Z,0.4nm,0.3s,mb3.8,baz=135,slow=10.0,SNR=2.9							
LPAZ				LR		LR	14 26 51.9	
	comp=Z,389nm,19.8s,MS4.5,baz=78,slow=35							
LPAZ	**La Paz**	**53.73**	**257**	*eP*		**P**	**14 05 17.1**	**+1.1**
	comp=Z,3.2nm,0.9s,mb4.2							
LPAZ				LR		LR		
	comp=Z,407nm,20.0s,MS4.5							
CFAA	**Coronel Fontan**	**54.99**	**239**	P		**P**	**14 05 22.6**	**-2.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=73,slow=10.0,SNR=7.0							
ARE	**Arequipa**	**56.95**	**257**	*eP*		**P**	**14 05 39.0**	**-0.4**
IDI	**Anoyia**	**57.96**	**36**	P		**P**	**14 05 46.1**	**-0.1**
	comp=Z,5.6nm,0.6s,mb4.8,baz=207,slow=4.5,SNR=2.9							
PLCA	**Paso Flores**	**58.72**	**229**	LR		LR	14 27 02.1	
	comp=Z,424nm,18.8s,MS4.6,baz=76,slow=32							
ATD	**Arta Tunnel**	**59.73**	**70**	LR		LR	14 31 11.3	
	comp=Z,632nm,18.7s,MS4.8,baz=340,slow=36							
SDV	**Santo Domingo**	**60.40**	**286**	*eP*		**P**	**14 06 06.2**	**+2.8**
	comp=Z,13nm,1.0s,mb4.9							
SDV				LR		LR		
	comp=Z,209nm,19.0s,MS4.3							
VNA2	**Neumayer--Watz**	**60.52**	**178**	⇑*i*		**P**	**14 06 03.4**	**0.0**
VNA2	**Neumayer--Watz**	**60.52**	**178**			**P**	**14 06 08.3**	**+4.9**
VNA2	**Neumayer--Watz**	**60.52**	**178**	⇑*i*		**P**	**14 06 10.6**	**+7.2**
DAVOX	**Davos**	**60.57**	**18**	LR		LR	14 31 33.4	
	comp=Z,897nm,20.1s,MS4.9,baz=257,slow=35							
SKO	**Skopje**	**61.05**	**29**	*eP*		**P**	**14 06 07.5**	**+0.1**
EIL	**Elat**	**61.09**	**48**	*eP*		**P**	**14 06 07.3**	**-0.5**
	comp=Z,32nm,1.8s,mb5.2							
SNAA	**Sanae**	**61.48**	**176**	⇑*i*		**P**	**14 06 07.9**	**-2.1**
SNAA	**Sanae**	**61.48**	**176**	⇑*i*		**P**	**14 06 15.7**	**+5.7**
SNAA	**Sanae**	**61.48**	**176**	⇑*i*		**P**	**14 06 21.2**	**+11**
SNAA	**Sanae**	**61.48**	**176**	P		**P**	**14 06 06.0**	**-4.0**
	comp=Z,1.8nm,0.9s,mb4.2,baz=343,slow=13,SNR=3.5							
SNAA				LR		LR	14 26 18.7	
	comp=Z,142nm,21.4s,MS4.1,baz=204,slow=30							
SNAA	**Sanae**	**61.48**	**176**	⇑*iP*		**P**	**14 06 07.9**	**-2.1**
ROSC	**El Rosal**	**62.85**	**281**	P		**P**	**14 06 21.6**	**+1.7**
	comp=Z,4.2nm,0.4s,mb4.9,baz=87,slow=23,SNR=5.9							
ROSC				LR		LR	14 31 59.3	
	comp=Z,632nm,18.3s,MS4.8,baz=166,slow=34							
GRA1	**Grafenberg Arr**	**63.58**	**17**	*eP*		**P**	**14 06 23.5**	**-0.7**
	comp=Z,5.0nm,1.1s,mb4.5							
GRF	**Grafenberg Arr**	**63.58**	**17**	*eP*		**P**	**14 06 23.5**	**-0.7**
	comp=Z,5.0nm,1.1s,mb4.5							
GRF				LR		LR		
	comp=Z,500nm,21.1s,MS4.7							
GERES	**GERESS Array B**	**63.60**	**19**	P		**P**	**14 06 24.3**	**-0.1**
	comp=Z,0.5nm,0.3s,mb4.0,baz=194,slow=5.5,SNR=8.0							
GERES				LR		LR	14 33 55.6	
	comp=Z,535nm,19.3s,MS4.7,baz=206,slow=36							
ASF	**Jabal al Asfar**	**63.85**	**46**	P		**P**	**14 06 26.8**	**+0.4**
	comp=Z,1.9nm,0.5s,mb4.4,baz=195,slow=14,SNR=6.0							
ASF				LR		LR	14 33 14.2	
	comp=Z,638nm,19.8s,MS4.8,baz=278,slow=35							
MOX	**Moxa**	**64.55**	**17**	*eP*		**P**	**14 06 29.7**	**-0.8**
MOX	**Moxa**	**64.55**	**17**	*iP*		**P**	**14 06 29.7**	**-0.8**
MOX				L			14 35 22.0	
PSZ	**Piszkesteto**	**65.07**	**24**	*eP*		**P**	**14 06 31.8**	**-2.2**
	comp=Z,15nm,1.4s,mb4.8							
VYHS	**Vyhne**	**65.13**	**23**	*eP*		**P**	**14 06 34.1**	**-0.2**
MORC	**Moravsky Berou**	**65.71**	**21**	*eP*		**P**	**14 06 37.9**	**-0.2**
	comp=Z,6.0nm,1.1s,mb4.5							
OTAV	**Otavalo**	**65.84**	**275**	*eP*		**P**	**14 06 41.2**	**+1.7**
	comp=Z,22nm,1.4s,mb5.0							
OTAV				LR		LR		
	comp=Z,722nm,20.0s,MS4.9							
MLR	**Muntele Rosu**	**65.85**	**29**	P		**P**	**14 06 38.7**	**-0.3**
	comp=Z,14nm,1.1s,mb4.9,baz=1.8,slow=5.5,SNR=6.8							
BRTR	**Keskin Array B**	**66.10**	**38**	P		**P**	**14 06 41.5**	**+0.8**
	comp=Z,1.9nm,0.7s,mb4.2,baz=202,slow=6.7,SNR=10							
MALT	**Malatya**	**68.28**	**42**	*eP*		**P**	**14 06 55.3**	**+0.8**
	comp=Z,6.0nm,0.8s,mb4.7							
MALT				*e*			14 07 01.0	
AKASG	**Malin Array Be**	**71.14**	**27**	P		**P**	**14 07 10.8**	**-0.9**
	comp=Z,8.1nm,0.7s,mb4.8,baz=225,slow=6.7,SNR=7.0							
NOA	**NORSAR Array B**	**73.82**	**12**	P		**P**	**14 07 27.1**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=204,slow=6.1,SNR=3.3							
NOA				LR		LR	14 37 07.8	
	comp=Z,241nm,20.0s,MS4.5,baz=210,slow=34							
MAW	**Mawson**	**75.04**	**157**	P		**P**	**14 07 34.0**	**-0.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=323,slow=4.9,SNR=4.1							
MAW				LR		LR	14 33 01.0	
	comp=Z,277nm,19.8s,MS4.6,baz=132,slow=30							
FINES	**FINESS Array B**	**77.98**	**18**	P		**P**	**14 07 51.1**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.1,baz=252,slow=6.0,SNR=5.7							
FINES				LR		LR	14 42 18.8	
	comp=Z,343nm,19.7s,MS4.7,baz=176,slow=36							
SCHQ	**Schefferville**	**79.08**	**332**	LR		LR	14 35 31.2	
	comp=Z,109nm,20.7s,MS4.2,baz=135,slow=30							
QSPA	**South Pole Qui**	**79.67**	**180**	⇓*iP*		**P**	**14 08 00.8**	**+0.9**
	comp=Z,28nm,1.2s,mb5.1							
ARCES	**ARCESS Array B**	**84.18**	**13**	P		**P**	**14 08 23.3**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.3,baz=236,slow=4.4,SNR=8.3							
ARCES				LR		LR	14 47 32.2	
	comp=Z,179nm,20.3s,MS4.4,baz=226,slow=37							
SUMG	**Summit**	**84.51**	**353**	*eP*		**P**	**14 08 26.8**	**+1.7**
	comp=Z,14nm,0.9s,mb5.1							
CCM	**Cathedral Cave**	**87.21**	**309**	*eP*		**P**	**14 08 38.9**	**-0.3**
	comp=Z,8.1nm,0.6s,mb5.1							
MIAR	**Mount Ida**	**88.14**	**305**	P		**P**	**14 08 43.1**	**-0.6**
	comp=Z,4.0nm,0.9s,mb4.7							
VNDA	**Vanda**	**92.12**	**179**	LR		LR	14 46 23.3	
	comp=Z,252nm,21.3s,MS4.6,baz=156,slow=33							
ULM	**Lac du Bonnet**	**93.39**	**320**	LR		LR	14 44 49.9	
	comp=Z,149nm,18.0s,MS4.5,baz=59,slow=31							
BVAR	**Borovoye Array**	**94.38**	**37**	P		**P**	**14 09 12.3**	**+0.1**
	comp=Z,0.3nm,0.5s,mb4.0,baz=270,slow=4.4,SNR=4.2							
TXAR	**Lajitas Array**	**95.55**	**299**	P		**P**	**14 09 18.7**	**+0.5**
	comp=Z,0.3nm,0.5s,mb4.0,baz=127,slow=6.3,SNR=5.1							
TXAR				LR		LR	14 48 10.8	
	comp=Z,73nm,21.4s,MS4.1,baz=80,slow=33							
TXAR	**Lajitas Array**	**95.55**	**299**	P		**P**	**14 09 18.7**	**+0.5**
ANMO	**Albuquerque**	**98.65**	**304**	LR		LR	14 48 41.5	
	comp=Z,246nm,19.8s,MS4.7,slow=32							
KMI	**Kunming**	**117.69**	**67**	PKP		PKPdf	14 14 40.8	-0.4
KMI				PP		PP	14 15 56.2	+0.2
KMI				SS		SS	14 32 05.4	+1.2
KMI				PP		PP		
	comp=Z,78nm,10.7s							
KMI				LR		LR		
	comp=N,209nm,18.1s							
KMI				LR		LR		
	comp=E,188nm,24.1s							
KMI				LR		LR		
	comp=Z,258nm,28.6s							
LZH	**Lanzhou**	**117.82**	**55**	*e*PKP		PKPdf	14 14 32.0	-9.2
LZH				sPKP			14 14 37.0	
LZH				LR		LR		
	comp=Z,710nm,21.0s,MS5.3							
BJI	**Beijing**	**126.41**	**48**	PKP		PKPdf	14 14 52.2	-5.5
BJI				LR		LR		
	comp=N,198nm,15.6s,MS4.9							
BJI				LR		LR		
	comp=E,99nm,17.8s,MS4.9							
BJI				LR		LR		
	comp=Z,207nm,23.2s							
ASAR	**Alice Springs**	**133.18**	**137**	PKP		PKPdf	14 15 08.8	-2.4
	comp=Z,0.4nm,0.6s,baz=227,slow=1.5,SNR=8.1							
MDJ	**Mudanjiang**	**133.23**	**36**	PKP		PKPdf	14 15 08.2	-2.5
MDJ				LR		LR		
	comp=N,62nm,20.2s,MS4.5							
MDJ				LR		LR		
	comp=E,79nm,22.7s,MS4.5							
MDJ				LR		LR		
	comp=Z,92nm,21.0s,MS4.5							

*IDC **12** 14:11:58.6±3.2, 23.15N×96.15E, mb4.1/3, mb1 4.4/3, mb1mx3.6/20, mbtmp4.1/3, Error ellipse: s-maj=304.1km s-min=24.8km az=59.0*

*BJI **12** 14:12:04.7, 22.41N×94.59E, h105km*

*NEIC **12** 14:12:08.5±0.8, 22.43N×94.45E, h112km±11km, mb4.6/1, Error ellipse: s-maj=26.2km s-min=7.8km az=222.0*

ISC 12 14:12:07.5±1.4, 22.4N±0.1×94.06E±0.09, h100km, n15, σ1:49/24, mb4.2/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.71**	**328**	*eP*		**P**	**14 13 07.0**	**+3.1**
SHL				*eS*		**S**	**14 13 47.5**	**+0.8**
CM31	**Chiang Mai Arr**	**6.05**	**130**	P		**P**	**14 13 32.6**	**-3.2**
LSA	**Lhasa**	**7.70**	**341**	P		**P**	**14 13 59.4**	**+0.8**
LSA				S		**S**	**14 15 23.0**	**-1.8**
LSA				Smax				
	comp=N,20nm,0.7s							
LSA				Smax				
	comp=E,40nm,0.7s							
LSA	**Lhasa**	**7.70**	**341**	*eP*		**P**	**14 13 59.0**	**+0.4**
JIRN	**Jiri**	**8.83**	**308**	*ePn*		**P**	**14 14 18.0**	**+4.2**
JIRN				*eSn*		**S**	**14 15 53.0**	**+0.6**
	comp=E,100nm,0.4s							
GUN	**Gumba**	**9.20**	**308**	*ePn*		**P**	**14 14 22.7**	**+3.9**
GUN				*eSn*		**S**	**14 16 00.4**	**-0.9**
	comp=E,53nm,0.4s							
PKI	**Pulchoki**	**9.37**	**305**	*ePn*		**P**	**14 14 25.1**	**+4.1**
PKI				*eSn*		**S**	**14 16 04.8**	**-0.5**
	comp=E,35nm,0.5s							
KKN	**Kakani**	**9.58**	**306**	*ePn*		**P**	**14 14 27.2**	**+3.2**
KKN				*eSn*		**S**	**14 16 09.5**	**-0.9**
	comp=E,24nm,0.3s							
DMN	**Daman**	**9.62**	**304**	*ePn*		**P**	**14 14 28.5**	**+4.0**
DMN				*eSn*		**S**	**14 16 11.6**	**+0.2**
	comp=E,29nm,0.5s							
GKN	**Gorkha**	**10.18**	**305**	*ePn*		**P**	**14 14 35.5**	**+3.5**
GKN				*eSn*		**S**	**14 16 23.6**	**-1.2**
	comp=E,60nm,0.4s							
KOLN	**Koldanda**	**10.87**	**301**	*ePn*		**P**	**14 14 45.0**	**+3.8**
KOLN				*eSn*		**S**	**14 16 40.9**	**-0.4**
	comp=E,35nm,0.4s							
MKAR	**Makanchi Array**	**26.11**	**341**	P		**P**	**14 17 34.1**	**+0.5**
	comp=E,1.4nm,0.6s,mb3.5,baz=150,slow=10,SNR=14							
WRA	**Warramunga Arr**	**57.62**	**134**	P		**P**	**14 21 44.5**	**-5.2**
	comp=E,2.0nm,0.5s,mb4.5,baz=323,slow=7.4,SNR=26							
WRAB	**Tennant Creek**	**57.62**	**134**	*eP*		**P**	**14 21 45.0**	**-4.8**
	comp=E,3.6nm,0.5s,mb4.7							
ASAR	**Alice Springs**	**60.00**	**137**	P		**P**	**14 22 02.4**	**-3.8**
	comp=E,1.4nm,0.5s,mb4.3,baz=321,slow=7.0,SNR=60							

MAN 12 14:23:12.3, 10.15N×124.89E, h32km, mb4.0, ML2.8, MS2.5, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.03**	**239**	*eP*		Pn	14 23 18.4	+2.0
MSLP				*eS*		Sn	14 23 22.8	+4.0
SCPH	**Surigao**	**0.70**	**122**	*iP*		Pn	14 23 26.6	+0.6
SCPH				*eS*		Sb	14 23 35.8	+0.3
TBP	**Tagbilaran**	**1.11**	**246**	*eP*		Pn	14 23 31.8	-0.1
TBP				*eS*		Sn	14 23 45.4	-0.7

*BJI **12** 14:45:37.4, 1.80N×127.60E, h91km, mB4.9, mb4.5*

*NEIC **12** 14:45:37.4±2.1, 1.78N×127.56E, h92km±22km, mb4.7/9, Error ellipse: s-maj=17.1km s-min=6.1km az=79.0*

*IDC **12** 14:45:40.4±0.8, 1.78N×127.63E, h121km±7km, mb4.0/12, mb1 4.2/13, mb1mx4.1/20, mbtmp4.4/13, Error ellipse: s-maj=32.3km s-min=10.0km az=75.0*

ISC 12 14:45:38.8±0.5, 1.76N±0.07×127.5E±0.2, h122km, h122km±2.1km:pP-P, n26, σ0:71/26, mb4.5/17, 1C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.18**	**161**	*eP*		**P**	**14 49 07.1**	**-0.8**
	14nm,0.4s							
FITZ	**Fitzroy Crossi**	**19.82**	**185**	*eP*		**P**	**14 50 00.9**	**-1.2**
	24nm,0.6s							
FITZ	**Fitzroy Crossi**	**19.82**	**185**	P		**P**	**14 50 01.0**	**-1.2**
	4.8nm,0.3s,baz=17,slow=8.3,SNR=71							
WRAB	**Tennant Creek**	**22.57**	**163**	*eP*		**P**	**14 50 30.7**	**+1.1**
	49nm,0.4s,mb5.2							
WRA	**Warramunga Arr**	**22.58**	**163**	P		**P**	**14 50 30.4**	**+0.8**
	20nm,0.5s,mb4.8,baz=337,slow=11,SNR=242							
WRA				pP			14 50 53.4	
	2.6nm,0.4s,baz=334,slow=11,SNR=1.7							
MBWA	**Marble Bar**	**24.02**	**198**	*eP*		**P**	**14 50 43.3**	**-0.3**
	9.9nm,0.5s,mb4.4							
ASAR	**Alice Springs**	**26.02**	**167**	P		**P**	**14 51 02.4**	**0.0**
	10nm,0.4s,mb4.6,baz=347,slow=7.6,SNR=424							
ASAR				PcP		PcP	14 54 27.4	-0.4
	0.9nm,0.6s,baz=359,slow=2.3,SNR=4.7							
ASAR				ScP			14 57 57.0	
	0.5nm,0.6s,baz=344,slow=2.7,SNR=8.1							
ASPA	**Alice Springs**	**26.02**	**167**	*eP*		**P**	**14 51 02.3**	**-0.1**
FORT	**Forrest**	**32.36**	**179**	*eP*		**P**	**14 51 58.3**	**-0.5**
	534nm,0.6s							
CMAR	**Chiang Mai Arr**	**32.58**	**302**	P		**P**	**14 52 00.8**	**-0.1**
	0.7nm,0.8s,baz=105,slow=7.1,SNR=4.8							
ENH	**Enshi**	**33.13**	**331**	P		**P**	**14 52 05.2**	**-0.2**
	5.8nm,0.6s,mb4.6							
KLBR	**Kellerberrin**	**34.45**	**195**	⇓*iP*		**P**	**14 52 16.2**	**-0.5**
	169nm,0.3s							
MUN	**Mundaring**	**35.23**	**197**	⇓*iP*		**P**	**14 52 23.1**	**-0.3**
	147nm,1.9s,mb5.5							
NWAO	**Narrogin (SRO)**	**35.85**	**195**	P		**P**	**14 52 28.5**	**-0.1**
	27nm,1.1s,mb5.1,baz=32,slow=10,SNR=18							
NWAO	**Narrogin (SRO)**	**35.85**	**195**	*eP*		**P**	**14 52 28.4**	**-0.1**
	7.5nm,0.5s,mb4.9							
MJAR	**Matsushiro Arr**	**35.99**	**15**	P		**P**	**14 52 28.4**	**-1.3**
	2.7nm,0.6s,mb4.4,baz=192,slow=9.0,SNR=7.6							
STKA	**Stephens Creek**	**36.01**	**159**	⇑*iP*		**P**	**14 52 30.6**	**+0.6**
	20nm,0.9s,mb5.0							
STKA	**Stephens Creek**	**36.01**	**159**	P		**P**	**14 52 30.6**	**+0.6**
	26nm,0.6s,mb5.4,baz=333,slow=8.1,SNR=99							
GTA	**Gaotai**	**45.19**	**329**	*eP*		**P**	**14 53 46.5**	**+1.2**
GTA				AMB		AMB		
	comp=Z,3.0nm,0.8s,mb4.1							
ULN	**Ulaanbaatar**	**49.23**	**342**	*eP*		**P**	**14 54 16.3**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.1							
SONM	**Songino Array**	**49.41**	**341**	P		**P**	**14 54 17.6**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=155,slow=8.1,SNR=8.6							
SONM				pP		pP	14 54 46.6	0.0
	comp=Z,1.4nm,0.8s,baz=159,slow=6.5,SNR=6.0							
MKAR	**Makanchi Array**	**59.62**	**326**	P		**P**	**14 55 32.0**	**-0.2**
	comp=Z,1.6nm,0.3s,mb4.5,baz=116,slow=7.7,SNR=53							
MKAR				pP		pP	14 56 00.6	-1.3
	comp=Z,1.1nm,0.5s,baz=118,slow=8.1,SNR=3.6							
ZAL	**Zalesovo**	**62.70**	**333**	P		**P**	**14 55 53.8**	**+0.9**
	comp=Z,0.5nm,0.4s,mb3.8,baz=314,slow=4.9,SNR=2.6							
BVAR	**Borovoye Array**	**69.40**	**327**	P		**P**	**14 56 35.2**	**-0.1**
	comp=Z,1.4nm,0.7s,mb3.9,baz=90,slow=5.9,SNR=7.7							
BVAR				pP		pP	14 57 06.2	+0.4
	comp=Z,1.0nm,0.6s,baz=139,slow=8.6,SNR=3.3							
VNDA	**Vanda**	**81.38**	**173**	P		**P**	**14 57 43.3**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.2,baz=323,slow=5.5,SNR=13							
MAW	**Mawson**	**82.20**	**200**	P		**P**	**14 57 48.7**	**+1.5**
	comp=Z,2.1nm,0.7s,mb4.1,baz=54,slow=7.2,SNR=4.2							

IDC 12 15:03:33.2±1.6, 6.86N×73.01W, h160km±41km, mb3.0/2, mb1 3.4/4, mb1mx3.0/22, mbtmp3.5/4, Error ellipse: s-maj=102.5km s-min=14.5km az=133.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.38**	**214**	P		P	15 04 13.7	-0.2
	17nm,0.3s,baz=0.3,slow=2.2,SNR=17							
ROSC				S		S	15 04 40.8	-4.4
	64nm,0.3s,baz=94,slow=17,SNR=20							
SDV	**Santo Domingo**	**3.10**	**49**	P		P	15 04 23.7	+0.7
	2.3nm,0.3s,baz=260,slow=5.4,SNR=26							
SDV				S		S	15 05 00.7	-0.3
	14nm,0.3s,baz=51,slow=20,SNR=33							
TXAR	**Lajitas Array**	**36.52**	**312**	P		P	15 10 23.6	-1.5
	0.2nm,0.3s,baz=119,slow=8.5,SNR=2.6							
YKA	**Yellowknife Ar**	**63.27**	**340**	P		P	15 13 44.4	-2.5
	0.4nm,0.6s,baz=133,slow=6.8,SNR=12							

*IDC **12** 15:14:44.7±4.0, 6.40S×128.20E, h305km±42km, mb3.2/3, mb1 3.5/6, mb1mx3.3/16, mbtmp4.1/6, Error ellipse: s-maj=56.3km s-min=11.8km az=69.0*

*NEIC **12** 15:14:47.2±1.7, 6.55S×128.03E, h333km±20km, mb4.1/2, Error ellipse: s-maj=30.9km s-min=14.8km az=67.0*

ISC 12 15:14:38.1±2.2, 6.07S±0.09×128.5E±0.2, h251km±22km, n9, σ0:95/12, mb3.5/3, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.65**	**150**	⇓*iP*		**P**	**15 16 35.1**	**+7.5**
	10.0nm,0.9s							
FITZ	**Fitzroy Crossi**	**12.29**	**193**	P		**P**	**15 17 25.7**	**-0.5**
	0.6nm,0.3s,baz=28,slow=9.7,SNR=21							
FITZ				S		**S**	**15 19 39.4**	**+0.4**
	0.4nm,0.3s,baz=61,slow=13,SNR=1.9							
WRAB	**Tennant Creek**	**14.90**	**158**	*eP*		**P**	**15 17 58.7**	**+0.2**
	6.7nm,0.5s							
WRA	**Warramunga Arr**	**14.90**	**158**	P		**P**	**15 17 58.1**	**-0.5**
	2.4nm,0.3s,baz=331,slow=12,SNR=102							
WRA				S		**S**	**15 20 39.4**	**+2.1**
	baz=336,slow=21,SNR=5.2							
ASPA	**Alice Springs**	**18.25**	**164**	⇓*iP*		**P**	**15 18 35.0**	**-0.4**
ASAR	**Alice Springs**	**18.25**	**164**	P		**P**	**15 18 34.7**	**-0.7**
	1.1nm,0.3s,baz=345,slow=12,SNR=91							
ASAR				S		**S**	**15 21 46.1**	**-0.3**
	0.1nm,0.3s,baz=346,slow=19,SNR=3.2							
STKA	**Stephens Creek**	**28.44**	**156**	P		**P**	**15 20 10.4**	**-1.5**
	1.6nm,0.5s,mb3.9,baz=329,slow=8.7,SNR=9.8							
SONM	**Songino Array**	**57.11**	**342**	P		**P**	**15 24 02.0**	**+1.6**
	0.4nm,0.5s,mb3.3,baz=170,slow=7.1,SNR=6.6							
MKAR	**Makanchi Array**	**66.65**	**327**	P		**P**	**15 25 03.5**	**-0.1**
	0.5nm,0.4s,mb3.5,baz=126,slow=7.9,SNR=15							

*IDC **12** 15:16:16.1±42.0, 51.21S×166.25E, mb4.0/3, mb1 4.2/3, mb1mx3.8/12, mbtmp4.0/3, Error ellipse: s-maj=782.0km s-min=622.2km az=168.0*

**ISC 12 15:16:38.3±2.3, 50.55S±0.3×162.1E±0.2, h10km, n11, σ1:24/13, mb3.9/3,

DBIC	Dimbokro	19.15	26	P		P	16 02 15.8 +0.2
	0.1nm,0.3s,baz=189,slow=10,SNR=4.5						
DBIC				LR	LR		16 07 49.1
	comp=Z,490nm,20.3s,baz=191,slow=31						
TSUM	Tsumeb	30.90	110	LR	LR		16 13 42.1
	comp=Z,470nm,20.6s,MS4.1,baz=267,slow=31						
BDFB	Brasilia	34.20	258	LR	LR		16 15 38.5
	comp=Z,590nm,22.0s,MS4.3,baz=271,slow=31						
BOSA	Boshof	40.16	122	LR	LR		16 18 55.7
	comp=Z,211nm,18.7s,MS4.0,baz=291,slow=32						
LSZ	Lusaka	40.56	101	P		P	16 05 31.7 +0.8
	3.7nm,0.9s,mb4.0						
MATP	Matopo	41.24	109	P		P	16 05 36.4 0.0
	5.0nm,0.9s,mb4.1,baz=288,slow=9.8,SNR=6.4						
MBAR	Mbarara	44.82	80	eP		P	16 06 05.8 0.0
	15nm,1.0s,mb4.8						
SIV	San Ignacio	46.78	258	P		P	16 06 21.7 +0.4
	1.0nm,0.7s,mb3.9,baz=85,slow=11,SNR=6.3						
SAML	Samuel	49.22	267	eP		P	16 06 41.5 +1.2
	4.4nm,0.9s,mb4.5						
KMBO	Kilima Mbogo	51.02	83	LR	LR		16 27 22.6
	comp=Z,246nm,18.5s,MS4.3,baz=283,slow=35						
LPAZ	La Paz	53.56	258	P		P	16 07 13.5 +0.5
	2.3nm,0.9s,mb4.1,baz=84,slow=9.0,SNR=5.5						
LPAZ				LR	LR		16 27 42.2
	comp=Z,130nm,21.0s,MS4.0,baz=122,slow=34						
LVC	Limon Verde	54.38	250	P		P	16 07 17.1 -1.9
	4.2nm,1.1s,mb4.3,baz=53,slow=5.1,SNR=3.1						
LVC				LR	LR		16 29 57.7
	comp=Z,246nm,19.1s,MS4.3,baz=284,slow=35						
CFAA	Coronel Fontan	54.76	239	P		P	16 07 21.0 -0.8
	0.5nm,0.8s,mb3.6,baz=75,slow=6.9,SNR=5.3						
PLCA	Paso Flores	58.47	229	LR	LR		16 29 11.3
	comp=Z,148nm,20.6s,MS4.1,baz=269,slow=32						
ATD	Arta Tunnel	59.93	70	LR	LR		16 33 10.1
	comp=Z,196nm,18.7s,MS4.3,baz=174,slow=35						
SDV	Santo Domingo	60.34	287	P		P	16 08 02.6 +1.3
	1.9nm,0.3s,mb4.5,baz=60,slow=15,SNR=5.1						
SDV	Santo Domingo	60.34	287	eP		P	16 08 01.3 0.0
	8.5nm,1.0s,mb4.7						
DAVOX	Davos	60.83	18	LR	LR		16 33 52.3
	comp=Z,316nm,18.5s,MS4.5,baz=264,slow=36						
EIL	Elat	61.34	48	LR	LR		16 34 12.2
	comp=Z,157nm,19.0s,MS4.2,baz=45,slow=36						
ROSC	El Rosal	62.76	281	LR	LR		16 33 57.2
	comp=Z,187nm,18.2s,MS4.3,baz=358,slow=34						
GERES	GERESS Array B	63.86	19	P		P	16 08 23.4 -1.0
	0.9nm,0.8s,mb3.8,baz=207,slow=3.0,SNR=5.1						
GERES				LR	LR		16 35 44.5
	comp=Z,196nm,18.9s,MS4.3,baz=219,slow=36						
ASF	Jabal al Asfar	64.10	46	LR	LR		16 34 41.8
	comp=Z,171nm,19.7s,MS4.2,baz=69,slow=34						
MLR	Muntele Rosu	66.11	29	LR	LR		16 36 46.6
	comp=Z,140nm,20.6s,MS4.2,baz=316,slow=35						
BRTR	Keskin Array B	66.36	38	P		P	16 08 40.8 +0.1
	1.8nm,0.9s,mb4.1,baz=198,slow=7.8,SNR=8.2						
AKASG	Malin Array Be	71.40	27	P		P	16 09 10.6 -1.1
	4.5nm,0.8s,mb4.5,baz=226,slow=6.7,SNR=13						
GNI	Garni	73.67	43	LR	LR		16 41 55.9
	comp=Z,92nm,21.0s,MS4.0,baz=80,slow=36						
HFS	Hagfors	73.79	14	LR	LR		16 43 25.1
	comp=Z,161nm,18.2s,MS4.3,baz=261,slow=37						
NOA	NORSAR Array B	74.07	12	P		P	16 09 27.4 +0.3
	1.8nm,0.8s,mb4.0,baz=210,slow=6.2,SNR=3.7						
NOA				LR	LR		16 45 09.7
	comp=Z,76nm,18.1s,MS4.0,baz=185,slow=38						
MAW	Mawson	74.89	157	LR	LR		16 36 59.0
	comp=Z,131nm,18.5s,MS4.3,baz=62,slow=31						
FINES	FINESS Array B	78.24	18	P		P	16 09 51.0 +0.4
	2.1nm,1.0s,mb4.0,baz=243,slow=4.3,SNR=4.2						
FINES				LR	LR		16 44 58.6
	comp=Z,149nm,18.3s,MS4.3,baz=180,slow=36						
SADO	Sadowa	81.01	319	LR	LR		16 37 59.4
	comp=Z,92nm,18.5s,MS4.2,baz=65,slow=30						
ARCES	ARCESS Array B	84.42	13	LR	LR		16 50 51.1
	comp=Z,104nm,19.2s,MS4.2,baz=259,slow=38						
VNDA	Vanda	91.90	179	LR	LR		16 49 25.8
	comp=Z,122nm,18.8s,MS4.4,baz=239,slow=34						
ANMO	Albuquerque	98.67	304	LR	LR		16 48 40.1
	comp=Z,134nm,19.0s,MS4.5,slow=31						

*IDC **12** 15:58:51.0±7.8, 8.57S×125.19E, h90km±89km, mb3.2/2, mb1 3.7/5, mb1mx3.5/16, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=65.2km s-min=37.8km az=46.0*

ISC 12 15:58:51.7±2.6, 8.60S±0.10×125.2E±0.1, h120km±29km, n7, σ0§68/12, mb3.5/2, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	8.22	120	eP	P	16 00 49.2	-0.3
	5.1nm,0.6s						
KAKA				eS	S	16 02 21.9	+0.6
FITZ	Fitzroy Crossi	9.46	177	eP	P	16 01 06.7	+0.6
	4.0nm,0.3s						
FITZ				eS	S	16 02 52.1	+1.1
FITZ	Fitzroy Crossi	9.46	177	P	P	16 01 04.8	-1.3
	2.2nm,0.3s,baz=355,slow=9.1,SNR=24						
FITZ				S	S	16 02 50.6	-0.4
	3.7nm,0.3s,baz=137,slow=16,SNR=7.9						
WRA	Warramunga Arr	14.34	143	P	P	16 02 09.5	-0.8
	0.5nm,0.3s,baz=317,slow=13,SNR=27						
WRA				S	S	16 04 46.1	-0.6
	0.3nm,0.3s,baz=322,slow=27,SNR=5.6						
ASAR	Alice Springs	17.16	152	P	P	16 02 46.6	+1.0
	0.4nm,0.3s,baz=325,slow=12,SNR=30						
ASAR				S	S	16 05 57.3	+6.6
	0.1nm,0.3s,baz=322,slow=23,SNR=6.8						
SONM	Songino Array	58.60	345	P	P	16 08 38.4	0.0
	0.5nm,1.0s,mb3.5,baz=162,slow=4.6,SNR=3.1						
MKAR	Makanchi Array	67.05	329	P	P	16 09 34.3	+0.1
	0.4nm,0.6s,mb3.5,baz=138,slow=7.8,SNR=5.4						

CASC 12 16:05:17.8±1.7, 13.36N×90.09W, h36km±320km, MD3.5, 5C-6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.66	44	eP	P	16 05 31.3	+0.6
SBLS				eS	S	16 05 42.0	+2.0
RTR	El Retiro	0.69	39	eP	P	16 05 31.7	+0.7
RTR				eS	S	16 05 42.1	+1.4
SNJE	San Jose	0.69	43	eP	P	16 05 31.7	+0.6
SNJE				eS	S	16 05 41.7	+0.9
RBDL	Robledal	0.85	28	eP	P	16 05 34.0	+0.7
RBDL				eS	S	16 05 46.8	+2.1
BOQS	Boqueron	0.88	65	eP	P	16 05 33.9	+0.2
BOQS				eS	S	16 05 45.1	-0.3
IXG	Ixpaco	0.88	337	eP	P	16 05 33.4	-0.4
IXG				eS	S	16 05 45.5	-0.1
LFU	La Fuente	1.03	68	eP	P	16 05 36.0	+0.1
LFRS	El Faro	1.04	75	eP	P	16 05 35.5	-0.5
LFRS				eS	S	16 05 50.7	+1.2
LCBS	La Ceiba	1.12	75	eP	P	16 05 37.1	-0.1
LCBS				eS	S	16 05 51.5	-0.2
SNVI	San Vicente	1.25	78	eP	P	16 05 39.3	+0.4
SNVI				eS	S	16 05 54.9	+0.1
TP2	Tecpan 2	1.68	328	eP	P	16 05 46.4	+1.1
TP2				eS	S	16 06 07.0	+1.2

*BJI **12** 16:06:44.3, 15.38N×120.86E, h10km, mB4.9, mb3.9*
*IDC **12** 16:06:53.9±0.6, 16.17N×120.02E, mb4.0/11, mb1 4.2/11, mb1mx4.0/22, mbtmp4.0/11, MS3.7/3, Ms1 3.7/3, ms1mx3.0/36, Error ellipse: s-maj=38.3km s-min=14.6km az=65.0*
*NEIC **12** 16:06:55.3±0.4, 16.21N×120.15E, h10km, mb4.2/8, Error ellipse: s-maj=11.8km s-min=6.8km az=76.0*
*MAN **12** 16:06:57.2, 16.25N×119.51E, h18km, mb5.0, ML4.0, MS4.1*

ISC 12 16:06:56.9±0.4, 16.22N±0.03×119.51E±0.03, h18km, n50, σ1§33/55, mb4.1/15, MS3.8/2, 4C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.42	68	eP	Pb	16 07 06.4	+0.8
BOLP				eS	Sb	16 07 12.7	+1.4
SCZP	Santa Cruz	0.59	139	eP	Pb	16 07 09.5	+1.0
BCPH	Baguio City Da	1.04	81	iP	Pb	16 07 15.3	-0.8
BCPH				i S	Sb	16 07 27.5	-1.8
PCPH	Palayan	1.66	113	eP	Pn	16 07 23.8	-1.8
PCPH				i S	Sn	16 07 45.8	-0.8
NBP	Mount Natib	1.71	149	i P	Pn	16 07 34.5	+8.2
ABRA	Dolores	1.83	39	eP	Pn	16 07 27.7	-0.2
ABRA				eS	Sn	16 07 51.2	+0.5
BALP	Baler	2.05	103	eP	Pn	16 07 30.9	-0.2
BALP				eS	Sn	16 07 56.4	+0.1
QVPH	Quezon City--P	2.16	136	eP	Pn	16 07 33.7	+1.0
PAZ	Puerto Azul	2.28	150	iP	Pn	16 07 30.9	-3.6
APYP	Conner	2.33	45	eP	Pn	16 07 34.8	-0.3
APYP				eS	Sn	16 08 02.8	-0.6
CAUP	Cauayan	2.33	72	eP	Pn	16 07 36.7	+1.5
TGY	Tagaytay City	2.52	147	eP	Pn	16 07 40.2	+2.4
LUBP	Lubang	2.58	164	eP	Pn	16 07 40.3	+1.7
LUBP	Lubang	2.58	164	eP	Pn	16 07 38.5	-0.1
LBPH	Los Banos	2.62	142	eP	Pn	16 07 40.4	+1.2
LBPH				eS	Px	16 07 44.2	
POLP	Polillo Island	2.78	122	eP	Pn	16 07 41.9	+0.4
PALP	Palanan	2.92	73	eP	Pn	16 07 45.0	+1.5
BOAC	Boac	3.56	140	eP	Pn	16 07 53.6	+1.0
GQP	Guinayangan	3.66	129	eP	Pn	16 07 54.2	+0.2
SJMP	San Jose	4.05	157	eP	Pn	16 08 00.6	+1.0
BUSP	Coron	4.25	171	eP	Pn	16 08 01.8	-0.6
ENPP	El Nido	4.99	181	eP	Pn	16 08 11.9	-1.0
CUYO	Cuyo Island	5.54	164	eP	Pn	16 08 19.3	-1.4
KKM	Kota Kinabalu	10.62	198	ePn	P	16 09 30.1	-1.4
KKM				eSn	S	16 11 24.7	-6.2
KSM	Kuching	17.23	213	eP	P	16 11 02.3	+3.7
CM31	Chiang Mai Arr	19.76	279	eP	P	16 11 31.8	+2.8
	4.0nm,0.7s						
CMAR	Chiang Mai Arr	19.76	279	P	P	16 11 32.3	+3.3
	3.2nm,0.8s,baz=96,slow=9.2,SNR=19						
CMAR				LR	LR	16 19 36.1	
	comp=Z,103nm,18.3s,baz=80,slow=38						
CD2	Chengdu	20.51	318	eP	P	16 11 41.4	+4.5
LZH	Lanzhou	24.20	328	eP	P	16 12 16.2	+2.6
LZH				AP		16 12 23.0	
LZH				XP		16 12 25.0	
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.5						
LZH	Lanzhou	24.20	328	eP	P	16 12 16.2	+2.6
	comp=Z,28nm,1.5s,mb4.5						
LZH				pP		16 12 23.0	
LZH				sP		16 12 25.0	
SHL	Shillong	27.38	294	eP	P	16 12 39.5	-3.9
LSA	Lhasa	29.26	302	P	P	16 13 02.5	+2.2
	comp=Z,2.3nm,0.4s,mb4.3						
ULN	Ulaanbaatar	33.18	345	eP	P	16 13 32.9	-1.8
	comp=Z,0.9nm,0.8s,mb3.8						
SONM	Songino Array	33.33	344	P	P	16 13 35.8	-0.2
	comp=Z,1.3nm,0.7s,mb4.0,baz=162,slow=10,SNR=12						
SONM				PcP	PcP	16 16 15.6	-2.3
	comp=Z,0.2nm,0.5s,baz=135,slow=4.1,SNR=3.4						
SONM				LR	LR	16 28 01.0	
	comp=Z,80nm,18.1s,MS3.5,baz=218,slow=38						
MBWA	Marble Bar	37.15	180	eP	P	16 14 05.6	-3.2
	comp=Z,5.9nm,0.6s,mb4.6						
WRAB	Tennant Creek	38.78	157	eP	P	16 14 17.9	-4.5
	comp=Z,12nm,0.9s,mb4.6						
WRA	Warramunga Arr	38.78	157	P	P	16 14 17.9	-4.7
	comp=Z,1.8nm,0.7s,mb3.9,baz=340,slow=8.9,SNR=20						
WRA				PcP	PcP	16 16 31.8	-2.6
	comp=Z,0.8nm,0.5s,baz=342,slow=3.2,SNR=8.0						
ASAR	Alice Springs	42.07	160	P	P	16 14 45.4	-4.2
	comp=Z,1.3nm,0.4s,mb3.9,baz=337,slow=6.6,SNR=33						
ASAR				PcP	PcP	16 16 42.1	-2.9
	comp=Z,0.9nm,0.5s,baz=335,slow=3.3,SNR=12						
MKAR	Makanchi Array	43.33	323	P	P	16 15 00.6	+0.9
	comp=Z,1.6nm,0.7s,mb3.9,baz=128,slow=9.3,SNR=21						
MKAR				PcP	PcP	16 16 47.0	-1.9
	comp=Z,0.7nm,0.8s,baz=108,slow=3.8,SNR=3.6						
MKAR	Makanchi Array	43.33	323	P	P	16 15 00.6	+0.9
MKAR				PcP	PcP	16 16 47.0	-1.9
STKA	Stephens Creek	52.31	156	eP	P	16 16 05.4	-4.5
	comp=Z,2.3nm,1.2s,mb4.0						
STKA	Stephens Creek	52.31	156	P	P	16 16 05.9	-4.1
	comp=Z,2.2nm,0.8s,mb4.1,baz=334,slow=4.6,SNR=5.6						
BVAR	Borovoye Array	53.05	325	P	P	16 16 14.7	-0.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=127,slow=7.2,SNR=6.0						
ARCES	ARCESS Array B	76.33	339	P	P	16 18 45.3	-0.9
	comp=Z,6.6nm,1.1s,mb4.5,baz=63,slow=8.1,SNR=3.8						
FINES	FINESS Array B	77.53	331	P	P	16 18 51.8	-1.3
	comp=Z,1.6nm,0.8s,mb4.0,baz=72,slow=6.0,SNR=9.2						
INK	Inuvik	81.17	21	eP	P	16 19 10.7	-1.9
	comp=Z,1.6nm,0.8s,mb4.0,baz=273,slow=1.4,SNR=7.4						
INK	Inuvik	81.17	21	eP	P	16 19 10.5	-2.1
	comp=Z,1.8nm,0.8s,mb4.0						
YKA	Yellowknife Ar	90.89	22	P	P	16 19 59.3	-1.2
	comp=Z,0.3nm,0.8s,mb3.7,baz=314,slow=4.5,SNR=9.3						
YBH	Yreka Blue Hor	98.69	42	LR	LR	17 05 35.1	
	comp=Z,72nm,18.0s,MS4.2,baz=4.8,slow=36						
SDV	Santo Domingo	153.11	23	ePKPbc	PKPdf	16 26 54.1	+3.2

NEIC 12 16:10:41.8, 37.94S×177.33E, h66km, ML3.8(WEL), After WELL, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.36	208	P	P	16 10 52.8	-0.3
MWZ	Matawai	0.42	159	P	P	16 10 53.4	-0.2
MWZ				S	S	16 11 02.6	+0.2
PUZ	Puketiti	0.74	101	P	P	16 10 56.2	-0.9
PUZ				S	S	16 11 08.9	+0.5
MXZ	Matakaoa Point	0.86	64	P	P	16 10 58.6	+0.1
TGRZ	Tauranga	0.87	284	P	P	16 10 58.4	-0.3
KUZ	Kuaotunu	1.75	312	eP	P	16 11 09.6	-1.0
CNZ	Chateau	1.88	227	P	P	16 11 12.8	+0.5
WPVZ	Whakapapa	1.89	227	P	P	16 11 12.8	+0.4
MOVZ	Moawhango	1.92	220	P	P	16 11 12.2	-0.6
WNVZ	Wahianoa	1.94	224	P	P	16 11 13.0	-0.2
TSZ	Takapari Road	2.37	206	eP	P	16 11 16.9	-2.4
MRZ	Mangatainoka R	3.04	206	eP	P	16 11 25.3	-3.4

*BJI **12** 16:24:52.3, 5.25N×93.61E, h40km, mB4.4, mb4.5, Ms3.7, Msz3.4*
*IDC **12** 16:24:54.4±0.5, 5.41N×93.39E, h29km±2km, mb4.3/17, mb1 4.4/18, mb1mx4.3/26, mbtmp4.4/18, ML4.1/1, MS3.6/2, Ms1 3.6/2, ms1mx3.0/29, Error ellipse: s-maj=24.1km s-min=10.1km az=50.0*
*NEIC **12** 16:24:54.5±0.3, 5.47N×93.44E, mb4.5/18, Error ellipse: s-maj=10.2km s-min=5.8km az=47.0*

ISC 12 16:24:52.6±0.5, 5.41N±0.07×93.45E±0.06, h31km, h31km±.9km:pP-P, n72, σ1§07/68, mb4.5/35, MS3.6/3, 3C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.17	91	eP	Pn	16 26 37.6	-0.6
SNG	Songkhla	7.34	76	P	Pn	16 26 41.0	+0.5
CMAR	Chiang Mai Arr	14.03	22	Pn	P	16 28 12.2	+0.5
	0.3nm,0.3s,baz=219,slow=14,SNR=35						
KKTK	Khon Kaen	14.22	40	PG	P	16 28 22.0	+7.7
KKTK				SG	rx	16 28 30.0	
CHG	Chiang Mai	14.36	21	P	P	16 28 20.6	+4.6
	15nm,0.9s						
NANT	Nan	15.07	27	P	P	16 28 29.0	+3.7
VIS	Vishakhapatnam	15.73	322	eP	P	16 28 32.2	-1.8
VIS				eS	S	16 31 17.0	-10
KSM	Kuching	17.27	102	eP	P	16 28 54.6	+1.1
HYB	Hyderabad	18.84	311	eP	P	16 29 12.0	-0.7
HYB	Hyderabad	18.84	311	i P	P	16 29 12.0	-0.7
HYB				eS	S	16 32 37.0	-1.1
SHL	Shillong	20.09	356	iP	P	16 29 23.2	-3.6
SHL				e		16 33 18.2	
QIZ	Qiongzhong	20.94	48	P	P	16 29 36.6	+1.0
KMI	Kunming	21.53	24	P	P	16 29 40.9	-0.6
KMI				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.5						
KMI	Kunming	21.53	24	P	P	16 29 40.9	-0.6
	comp=Z,19nm,1.0s,mb4.5						
POO	Poona	23.15	306	eS	S	16 34 09.0	+6.1
JIRN	Jiri	23.18	343	eP	P	16 29 58.4	+0.6
	comp=Z,26nm,0.9s,mb4.7						
PKI	Pulchoki	23.33	342	eP	P	16 30 00.4	+1.1
	comp=Z,21nm,1.0s,mb4.5						
DMN	Daman	23.46	341	eP	P	16 30 01.2	+0.7
	comp=Z,20nm,0.8s,mb4.6						
GUN	Gumba	23.50	343	eP	P	16 30 01.7	+0.7
KKN	Kakani	23.57	342	eP	P	16 30 02.0	+0.4
	comp=Z,21nm,0.8s,mb4.6						
GKN	Gorkha	23.98	341	eP	P	16 30 06.6	+1.0
	comp=Z,20nm,0.7s,mb4.7						
KOLN	Koldanda	24.13	338	eP	P	16 30 08.3	+1.2
	comp=Z,19nm,0.7s,mb4.6						
LSA	Lhasa	24.25	355	P	P	16 30 09.0	+0.7
LSA	Lhasa	24.25	355	eP	P	16 30 09.0	+0.7
	comp=Z,24nm,0.9s,mb4.6						
CD2	Chengdu	27.15	20	eP	P	16 30 34.0	-1.4
ENH	Enshi	28.98	30	eP	P	16 30 49.6	-2.3
	comp=Z,11nm,0.7s,mb4.7						
XAN	Xi'an	31.90	25	P	P	16 31 14.7	-3.0
XAN				AP	pP	16 31 25.5	-1.3
XAN				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.6						
LZH	Lanzhou	31.99	16	eP	P	16 31 17.5	-0.9
LZH				AP	pP	16 31 28.5	+1.0
LZH				XP	sP	16 31 34.0	+2.5
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.8						
LZH	Lanzhou	31.99	16	eP	P	16 31 17.5	-0.9
	comp=Z,22nm,1.5s,mb4.8						
LZH				pP	pP	16 31 28.5	+1.0
LZH				sP	sP	16 31 34.0	+2.5
GTA	Gaotai	34.33	9	eP	P	16 31 38.1	-0.7
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,42nm,4.6s						
GTA				LR	LR		
	comp=N,76nm,17.9s,MS3.7						
GTA				LR	LR		
	comp=E,82nm,14.4s,MS3.7						
GTA				LR	LR		
	comp=Z,108nm,15.2s,MS3.7						
WMQ	Urumqi	38.59	353	P	P	16 32 16.0	+1.3
WMQ				AP	pP	16 32 26.0	+2.1
WMQ				XP	sP	16 32 30.0	+2.3
FITZ	Fitzroy Crossi	39.43	127	iP	P	16 32 21.5	-0.4
	comp=Z,9.3nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	39.43	127	P	P	16 32 21.6	-0.3
	comp=Z,14nm,0.8s,mb4.7,baz=333,slow=4.5,SNR=11						
UCH	Uchtor	40.34	338	P	P	16 32 30.3	+1.1
	SNR=11						
KBK	Karagaybulak	40.56	339	P	P	16 32 32.3	+1.3
	SNR=13						
AML	Almayashu	40.57	337	P	P	16 32 32.0	+0.9
	SNR=29						
AAK	Ala-Archa	40.70	338	P	P	16 32 34.1	+1.9
	SNR=5.6						
EKS2	Erkin-Say	40.99	338	P	P	16 32 35.5	+1.0
	SNR=12						
USP	Ospenovka	41.25	339	P	P	16 32 37.0	+0.3
	SNR=10						
MKAR	Makanchi Array	42.34	349	P	P	16 32 45.5	-0.1
	comp=Z,4.4nm,0.5s,mb4.3,baz=167,slow=8.6,SNR=63						
MKAR				pP	pP	16 32 54.1	-0.7
	comp=Z,5.3nm,0.7s,baz=164,slow=7.8,SNR=12						
MKAR				LR	LR	16 53 38.4	
	comp=Z,46nm,20.7s,MS3.4,baz=158,slow=41						
SONM	Songino Array	43.70	13	P	P	16 32 56.5	-0.1
	comp=Z,5.2nm,0.8s,mb4.3,baz=192,slow=8.3,SNR=42						
SONM				pP	pP	16 33 06.0	+0.1
	comp=Z,2.6nm,0.9s,baz=193,slow=6.1,SNR=6.9						
SONM				PcP	PcP	16 34 44.3	+0.4
	comp=Z,0.9nm,0.5s,baz=196,slow=1.6,SNR=4.1						
ULN	Ulaanbaatar	43.87	13	eP	P	16 32 57.0	-1.0
	comp=Z,4.2nm,1.0s,mb4.1						
WRA	Warramunga Arr	47.45	123	P	P	16 33 26.6	-0.3
	comp=Z,18nm,0.8s,mb5.1,baz=301,slow=8.9,SNR=9.2						
WRA				pP	pP	16 33 35.7	-0.4
	comp=Z,13nm,0.7s,baz=301,slow=9.2,SNR=16						
WRAB	Tennant Creek	47.45	123	eP	P	16 33 26.3	-0.6
	comp=Z,28nm,0.7s,mb5.3						
WRAB				epP	pP	16 33 35.4	-0.8
ZAL	Zalesovo	48.89	353	P	P	16 33 38.1	+0.6
	comp=Z,4.3nm,0.7s,mb4.6,baz=290,slow=4.8,SNR=26						
ZAL				pP	pP	16 33 46.9	0.0
	comp=Z,2.7nm,0.4s,baz=298,slow=9.4,SNR=6.5						
ASPA	Alice Springs	48.91	128	eP	P	16 33 38.2	0.0
ASAR	Alice Springs	48.91	128	P	P	16 33 38.1	-0.1
	comp=Z,4.8nm,0.8s,mb4.6,baz=300,slow=7.6,SNR=42						
ASAR				pP	pP	16 33 47.7	+0.1
	comp=Z,3.2nm,0.7s,baz=299,slow=8.0,SNR=10.0						
ASAR				PcP	PcP	16 35 02.7	+0.2
	comp=Z,1.6nm,0.8s,baz=311,slow=3.4,SNR=5.6						
HIA	Hailar	49.04	23	eP	P	16 33 38.3	-0.5
	comp=Z,5.9nm,0.6s,mb4.8						
MJAR	Matsushiro Arr	51.33	47	P	P	16 33 56.3	-0.1
	comp=Z,1.6nm,0.6s,mb4.1,baz=247,slow=7.0,SNR=5.7						
MJAR				pP	pP	16 34 05.3	-0.5
	comp=Z,0.4nm,0.4s,baz=248,slow=6.6,SNR=1.9						
KMBO	Kilima Mbogo	56.50	265	LR	LR	16 57 07.3	
	comp=Z,78nm,19.4s,MS3.8,baz=80,slow=34						
STKA	Stephens Creek	58.94	132	iP	P	16 34 51.4	-0.3
	comp=Z,4.9nm,0.9s,mb4.5						
STKA	Stephens Creek	58.94	132	P	P	16 34 52.0	+0.2
	comp=Z,4.6nm,0.7s,mb4.6,baz=293,slow=6.7,SNR=11						
STKA				pP	pP	16 35 00.6	-0.7
	comp=Z,4.4nm,0.8s,baz=301,slow=10,SNR=5.6						
YAK	Yakutsk	62.53	18	eP	P	16 35 13.8	-2.0
	comp=Z,11nm,0.8s,mb5.0						
YAK				e	pP	16 35 23.7	-1.6
BRTR	Keskin Array B	63.53	312	P	P	16 35 21.9	-0.8
	comp=Z,1.2nm,0.8s,mb4.0,baz=112,slow=6.7,SNR=7.1						
AKASG	Malin Array Be	69.66	322	P

s-maj=1290.0km s-min=145.1km az=176.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**44.62**	**9**	P	P	17 10 10.6	-1.7
	0.3nm,0.4s,baz=193,slow=8.0,SNR=5.4						
MKAR	**Makanchi Array**	**44.68**	**346**	P	P	17 10 10.9	-1.9
	1.0nm,0.7s,baz=152,slow=8.3,SNR=10.0						
ZAL	**Zalesovo**	**50.96**	**351**	P	P	17 10 59.4	-2.2
	0.9nm,0.6s,baz=309,slow=8.5,SNR=5.4						

IDC 12 17:04:54.8±10.0, 51.14N×152.97E, mb3.7/5, mb1 3.9/5, mb1mx3.5/24, mbtmp3.7/5, Error ellipse: s-maj=278.0km s-min=25.4km az=168.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**33.27**	**43**	P	P	17 11 34.9	-0.5
	0.4nm,0.4s,baz=270,slow=7.3,SNR=7.9						
INK	**Inuvik**	**38.06**	**35**	P	P	17 12 14.4	-1.7
	0.8nm,0.3s,baz=307,slow=5.7,SNR=7.9						
MKAR	**Makanchi Array**	**44.97**	**293**	P	P	17 13 12.3	-0.7
	0.3nm,0.4s,baz=63,slow=8.3,SNR=3.3						
YKA	**Yellowknife Ar**	**47.51**	**39**	P	P	17 13 29.5	-3.4
	0.5nm,0.5s,baz=304,slow=7.1,SNR=9.3						
BVAR	**Borovoye Array**	**48.08**	**306**	P	P	17 13 34.5	-3.0
	0.6nm,0.5s,baz=60,slow=6.3,SNR=6.2						

*CSEM **12** 17:06:29.7±0.8, 38.70N×28.98W, ML2.0, Error ellipse: s-maj=22.2km s-min=7.2km az=31.0, After PDA*
*PDA **12** 17:06:29.7±0.8, 38.70N×28.98W, MD3.0, ML2.0, Error ellipse: s-maj=22.2km s-min=7.2km az=31.0*
SVSA 12 17:06:29.7±0.8, 38.70N×28.98W, MD3.0, ML2.0, Error ellipse: s-maj=22.2km s-min=7.2km az=31.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.23**	**108**	*i* P	Pg	17 06 34.3	0.0
PCED				*e*S	Sg	17 06 37.4	0.0
	44nm,0.2s						
PCED	**Cedros**	**0.23**	**108**	*e*S	Sg	17 06 37.4	0.0
	44nm,0.2s						
CALA	**Caldeira**	**0.25**	**119**	*e*P	Pg	17 06 34.6	-0.1
CALA				*e*S	Sg	17 06 38.0	0.0
PICO	**Pico**	**0.48**	**115**	*e*P	Pg	17 06 38.5	-0.8
PICO				*e*S	Sg	17 06 45.7	0.0

*NEIC **12** 17:07:07.8±0.8, 1.85S×99.87E, mb4.2/1, Error ellipse: s-maj=31.0km s-min=8.7km az=61.0*
*IDC **12** 17:07:08.2±1.5, 1.73S×100.00E, h33km±5km, mb3.8/10, mb1 3.9/10, mb1mx3.7/19, mbtmp4.0/10, MS3.4/1, Ms1 3.4/1, ms1mx2.7/30, Error ellipse: s-maj=72.4km s-min=12.5km az=55.0*
ISC 12 17:07:06.3±1.1, 1.8S±0.1×100.0E±0.2, h33km, h33km±1.7km: pP-P, n17, σ0°93/15, mb4.0/11, MS3.4/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.04**	**5**	*e*P	**P**	**17 08 50.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**20.12**	**357**	P	**P**	**17 11 39.5**	**-0.7**
	0.3nm,0.5s,baz=186,slow=11,SNR=3.8						
FITZ	**Fitzroy Crossi**	**29.97**	**124**	P	**P**	**17 13 13.6**	**-0.5**
	5.5nm,1.0s,mb4.2,baz=301,slow=18,SNR=2.4						
FITZ				pP	pP	17 13 23.2	-0.5
	6.8nm,0.8s,baz=278,slow=8.0,SNR=3.3						
WRA	**Warramunga Arr**	**38.13**	**121**	P	**P**	**17 14 24.0**	**-0.4**
	0.7nm,0.4s,mb3.8,baz=304,slow=9.0,SNR=12						
WRA				pP	pP	17 14 34.5	+0.3
	0.6nm,0.3s,baz=308,slow=9.2,SNR=5.6						
WRA				pPcP		17 16 49.6	
	0.6nm,1.1s,baz=305,slow=2.3,SNR=5.0						
WRAB	**Tennant Creek**	**38.14**	**121**	*e*P	**P**	**17 14 24.9**	**+0.5**
	2.1nm,0.5s,mb4.1						
WRAB				*e*pP	pP	17 14 34.9	+0.6
WRAB				*e*sP	sP	17 14 40.5	+2.0
JOW	**Kunigami**	**39.40**	**42**	LR	LR	17 30 09.8	
	comp=Z,53nm,20.7s,MS3.4,baz=99,slow=35						
ASAR	**Alice Springs**	**39.41**	**126**	P	**P**	**17 14 35.8**	**+0.9**
	0.4nm,0.4s,mb3.5,baz=302,slow=7.9,SNR=13						
ASAR				pP	pP	17 14 45.4	+0.6
	1.0nm,0.5s,baz=303,slow=7.6,SNR=7.6						
ASAR				pPcP		17 16 52.4	
	0.4nm,0.5s,baz=2.8,slow=3.9,SNR=8.8						
STKA	**Stephens Creek**	**49.33**	**132**	P	**P**	**17 15 54.0**	**-0.6**
	1.5nm,0.8s,mb4.1,baz=325,slow=12,SNR=2.8						
STKA				pP	pP	17 16 04.7	+0.2
	2.5nm,0.8s,baz=306,slow=8.3,SNR=3.4						
SONM	**Songino Array**	**49.71**	**6**	P	**P**	**17 15 56.8**	**-0.5**
	0.4nm,0.5s,mb3.7,baz=189,slow=8.6,SNR=5.4						
MKAR	**Makanchi Array**	**50.79**	**344**	P	**P**	**17 16 05.6**	**0.0**
	1.0nm,0.4s,mb4.1,baz=149,slow=7.9,SNR=21						
ZAL	**Zalesovo**	**56.92**	**349**	P	**P**	**17 16 50.3**	**-0.3**
	1.6nm,0.5s,mb4.3,baz=307,slow=1.1,SNR=7.3						
ZAL				pP	pP	17 16 59.2	-1.5
	1.9nm,0.4s,baz=350,slow=3.1,SNR=5.7						
ZAL	**Zalesovo**	**56.92**	**349**	P	**P**	**17 16 50.3**	**-0.3**
ZAL				pP	pP	17 16 59.2	-1.5
BVAR	**Borovoye Array**	**59.95**	**340**	P	**P**	**17 17 09.1**	**-2.6**
	0.5nm,0.5s,mb3.8,baz=141,slow=9.5,SNR=4.2						
FINES	**FINESS Array B**	**83.89**	**332**	P	**P**	**17 19 34.7**	**+0.8**
	0.7nm,0.5s,mb4.0,baz=135,slow=5.4,SNR=6.4						
FINES	**FINESS Array B**	**83.89**	**332**	P	**P**	**17 19 34.7**	**+0.8**
ARCES	**ARCESS Array B**	**86.24**	**340**	P	**P**	**17 19 47.1**	**+1.7**
	2.9nm,0.9s,mb4.5,baz=18,slow=3.8,SNR=4.0						
TXAR	**Lajitas Array**	**144.53**	**37**	PKP	PKPdf	17 26 41.8	+1.7
	0.3nm,0.6s,baz=284,slow=2.8,SNR=4.1						
TXAR				pPKP		17 26 52.0	
	0.7nm,0.6s,baz=291,slow=1.9,SNR=6.8						

IDC 12 17:19:54.5±5.2, 16.19S×175.35W, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=173.4km s-min=104.0km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.02**	**240**	P	P	17 27 47.5	-1.9
	1.2nm,0.7s,baz=95,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**47.84**	**258**	P	P	17 28 34.7	-1.6
	0.6nm,0.4s,baz=92,slow=7.4,SNR=13						
ASAR	**Alice Springs**	**48.09**	**253**	P	P	17 28 36.1	-2.0
	1.3nm,0.5s,baz=92,slow=7.8,SNR=43						
ASAR				PcP	PcP	17 30 03.9	-2.4
	0.2nm,0.5s,baz=99,slow=3.7,SNR=4.0						

*IDC **12** 17:23:29.0±1.0, 2.90N×96.22E, mb4.0/11, mb1 4.1/12, mb1mx4.0/21, mbtmp4.0/12, ML4.4/1, MS3.3/2, Ms1 3.4/2, ms1mx3.1/27, Error ellipse: s-maj=46.9km s-min=15.8km az=53.0*
*BJI **12** 17:23:33.3, 2.90N×96.20E, h30km, mB4.9, mb4.4*
*NEIC **12** 17:23:33.3±0.5, 2.88N×96.21E, h30km, mb4.4/14, Error ellipse: s-maj=12.2km s-min=7.2km az=52.0*
ISC 12 17:23:31.8±0.6, 2.92N±0.09×96.30E±0.10, h30km, n37, σ0°94/37, mb4.3/24, MS3.2/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.93**	**61**	*e*P	**Pn**	**17 24 48.1**	**+2.2**
CM31	**Chiang Mai Arr**	**15.66**	**9**	*e*P	**P**	**17 27 14.9**	**+2.7**
	2.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**15.66**	**9**	Pn	**P**	**17 27 11.8**	**-0.4**
	0.5nm,0.3s,baz=199,slow=12,SNR=48						
CMAR				LR	LR	17 33 27.5	
	comp=Z,107nm,19.1s,baz=190,slow=38						
SHL	**Shillong**	**22.92**	**350**	⇑*i*P	**P**	**17 28 33.2**	**-1.4**
JIRN	**Jiri**	**26.43**	**340**	*e*P	**P**	**17 29 08.4**	**+0.3**
	12nm,0.7s,mb4.5						
PKI	**Pulchoki**	**26.64**	**338**	*e*P	**P**	**17 29 09.8**	**-0.1**
GUN	**Gumba**	**26.77**	**339**	*e*P	**P**	**17 29 10.8**	**-0.4**
	13nm,0.6s,mb4.7						
DMN	**Daman**	**26.78**	**338**	*e*P	**P**	**17 29 11.3**	**0.0**
	6.1nm,0.8s,mb4.2						
KKN	**Kakani**	**26.88**	**338**	*e*P	**P**	**17 29 11.6**	**-0.6**
	9.9nm,1.0s,mb4.3						
LSA	**Lhasa**	**27.08**	**350**	P	**P**	**17 29 14.0**	**0.0**
LSA	**Lhasa**	**27.08**	**350**	*e*P	**P**	**17 29 13.9**	**-0.1**
	4.1nm,0.7s,mb4.1						
GKN	**Gorkha**	**27.32**	**337**	*e*P	**P**	**17 29 16.0**	**-0.2**
	7.3nm,0.5s,mb4.5						
KOLN	**Koldanda**	**27.53**	**335**	*e*P	**P**	**17 29 18.5**	**+0.4**
	12nm,0.8s,mb4.6						
ENH	**Enshi**	**29.93**	**23**	*e*P	**P**	**17 29 38.1**	**-1.6**
	3.8nm,0.6s,mb4.3						
XAN	**Xi'an**	**33.12**	**19**	P	**P**	**17 30 06.1**	**-1.5**
BJT	**Baijiatuau**	**41.09**	**23**	*e*P	**P**	**17 31 14.7**	**+0.1**
	13nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**43.71**	**123**	P	**P**	**17 31 36.6**	**+0.3**
	1.2nm,0.5s,mb3.9,baz=301,slow=9.1,SNR=19						
WRAB	**Tennant Creek**	**43.71**	**123**	*e*P	**P**	**17 31 36.2**	**-0.2**
	7.1nm,0.6s,mb4.6						
UCH	**Uchtor**	**43.73**	**336**	P	**P**	**17 31 37.6**	**+1.4**
	SNR=11						
TKM2	**Tokmak 2**	**43.90**	**338**	P	**P**	**17 31 38.8**	**+1.2**
	SNR=5.7						
KBK	**Karagaybulak**	**43.92**	**337**	P	**P**	**17 31 39.6**	**+1.9**
	SNR=9.4						
AML	**Almayashu**	**43.98**	**336**	P	**P**	**17 31 39.9**	**+1.6**
	SNR=8.3						
EKS2	**Erkin-Say**	**44.39**	**336**	P	**P**	**17 31 41.2**	**-0.4**
	SNR=7.2						
USP	**Ospenovka**	**44.61**	**337**	P	**P**	**17 31 44.2**	**+0.8**
	SNR=16						
ASAR	**Alice Springs**	**45.14**	**128**	P	**P**	**17 31 48.3**	**+0.4**
	0.4nm,0.5s,mb3.5,baz=298,slow=7.8,SNR=15						
MKAR	**Makanchi Array**	**45.37**	**346**	P	**P**	**17 31 49.3**	**-0.1**
	3.6nm,0.3s,mb4.6,baz=159,slow=9.0,SNR=63						
MKAR				LR	LR	17 55 27.4	
	comp=Z,28nm,19.7s,MS3.2,baz=71,slow=42						
SONM	**Songino Array**	**45.59**	**10**	P	**P**	**17 31 50.9**	**-0.1**
	2.3nm,0.5s,mb4.4,baz=190,slow=9.6,SNR=28						
SONM				PcP	PcP	17 33 30.0	+0.4
	1.2nm,0.6s,baz=195,slow=3.7,SNR=7.3						
ULN	**Ulaanbaatar**	**45.73**	**10**	P	**P**	**17 31 51.3**	**-0.8**
	1.8nm,0.5s,mb4.3						
HIA	**Hailar**	**50.32**	**20**	*e*P	**P**	**17 32 27.4**	**-0.5**
	4.4nm,0.7s,mb4.6						
ZAL	**Zalesovo**	**51.73**	**351**	P	**P**	**17 32 38.0**	**-0.5**
	2.1nm,0.4s,mb4.4,baz=298,slow=5.3,SNR=12						
BVAR	**Borovoye Array**	**54.34**	**341**	P	**P**	**17 32 56.9**	**-1.0**
	2.4nm,0.6s,mb4.3,baz=141,slow=8.9,SNR=28						
STKA	**Stephens Creek**	**55.17**	**133**	P	**P**	**17 33 03.8**	**-0.5**
	1.1nm,0.7s,mb4.0,baz=145,slow=19,SNR=4.0						
YAK	**Yakutsk**	**64.04**	**17**	*e*P	**P**	**17 34 03.5**	**-1.4**
	13nm,0.5s,mb5.2						
BRTR	**Keskin Array B**	**67.30**	**312**	P	**P**	**17 34 26.1**	**0.0**
	0.4nm,0.5s,mb3.7,baz=127,slow=7.2,SNR=2.6						
AKASG	**Malin Array Be**	**73.36**	**322**	P	**P**	**17 35 01.8**	**-1.0**
	1.6nm,0.9s,mb4.0,baz=89,slow=4.6,SNR=5.1						
FINES	**FINESS Array B**	**78.07**	**332**	P	**P**	**17 35 29.5**	**+0.3**
	1.4nm,0.7s,mb4.0,baz=108,slow=6.0,SNR=7.1						
ARCES	**ARCESS Array B**	**80.63**	**340**	P	**P**	**17 35 43.5**	**+0.7**
	3.3nm,0.9s,mb4.3,baz=90,slow=6.1,SNR=8.9						

*IDC **12** 17:26:53.6±0.8, 16.53S×174.71W, mb4.2/9, mb1 4.4/9, mb1mx4.3/16, mbtmp4.2/9, MS3.9/9, Ms1 3.9/9, ms1mx3.7/23, Error ellipse: s-maj=42.0km s-min=20.2km az=139.0*
*NEIC **12** 17:26:55.1±0.3, 16.58S×174.70W, h10km, mb4.8/4, Error ellipse: s-maj=17.4km s-min=9.6km az=126.0*
ISC 12 17:26:57.2±0.6, 16.6S±0.1×174.7W±0.2, h33km, n47, σ0°58/16, mb4.4/13, MS3.9/8, 6C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.91**	**47**	*e*Pn	**Pn**	**17 27 47.7**	**-8.8**
DZM	**Mont Dzumac**	**18.57**	**250**	LR	LR	17 36 25.6	
	comp=Z,116nm,19.9s,baz=19,slow=31						
PPT	**Papeete**	**24.05**	**96**	LR	LR	17 38 26.6	
	comp=Z,414nm,20.3s,MS3.9,baz=276,slow=29						
HNR	**Honiara**	**25.67**	**283**	LR	LR	17 40 58.2	
	comp=Z,534nm,19.3s,MS4.1,baz=120,slow=33						
CTA	**Charters Tower**	**37.14**	**259**	LR	LR	17 47 24.8	
	comp=Z,150nm,20.6s,MS3.8,baz=59,slow=33						
STKA	**Stephens Creek**	**42.33**	**241**	P	**P**	**17 34 50.0**	**+0.2**
	6.7nm,1.1s,mb4.2,baz=105,slow=10,SNR=3.9						
ASAR	**Alice Springs**	**48.53**	**253**	P	**P**	**17 35 38.6**	**-0.7**
	11nm,0.8s,mb5.0,baz=86,slow=8.4,SNR=63						
ASAR				LR	LR	17 54 08.9	
	comp=Z,141nm,20.9s,MS3.9,baz=77,slow=34						
VNDA	**Vanda**	**62.05**	**186**	P	**P**	**17 37 16.0**	**-0.4**
	1.8nm,1.0s,mb4.1,baz=357,slow=7.6,SNR=5.0						
VNDA	**Vanda**	**62.05**	**186**	P	**P**	**17 37 16.0**	**-0.4**
MJAR	**Matsushiro Arr**	**69.05**	**321**	LR	LR	18 05 34.0	
	comp=Z,66nm,18.1s,MS3.9,baz=145,slow=34						
QSPA	**South Pole Qua**	**73.44**	**180**	P	**P**	**17 38 27.9**	**+0.5**
	5.0nm,0.7s,mb4.5						
NVAR	**Mina Array Bea**	**76.08**	**42**	P	**P**	**17 38 43.1**	**-0.3**
	1.3nm,0.9s,mb3.9,baz=234,slow=13,SNR=4.5						
NVAR				LR	LR	18 04 19.8	
	comp=Z,38nm,19.4s,MS3.7,baz=270,slow=30						
TNA	**Tin City**	**82.08**	**3**	*e*P	**P**	**17 39 15.9**	**+0.6**
	13nm,1.4s,mb4.7						
TXAR	**Lajitas Array**	**82.34**	**56**	P	**P**	**17 39 17.4**	**-0.1**
	1.2nm,0.9s,mb3.8,baz=217,slow=6.3,SNR=7.7						
TXAR				LR	LR	18 07 18.4	
	comp=Z,76nm,19.8s,MS4.1,baz=180,slow=30						
ANMO	**Albuquerque**	**82.55**	**50**	P	**P**	**17 39 18.9**	**+0.5**
	0.9nm,0.4s,mb4.2,baz=264,slow=9.2,SNR=8.9						
ANMO	**Albuquerque**	**82.55**	**50**	P	**P**	**17 39 18.9**	**+0.5**
COLA	**College**	**83.78**	**11**	*e*P	**P**	**17 39 23.0**	**-1.1**
	7.4nm,1.0s,mb4.8						
ILAR	**Eielson Array**	**83.87**	**12**	P	**P**	**17 39 23.9**	**-0.6**
	4.2nm,1.1s,mb4.5,baz=238,slow=5.5,SNR=15						
IMA	**Indian Mountai**	**83.93**	**8**	*e*P	**P**	**17 39 25.6**	**+0.8**
	56nm,1.5s,mb5.5						
YKA	**Yellowknife Ar**	**91.71**	**24**	P	**P**	**17 40 02.0**	**-0.2**
	1.1nm,0.9s,mb4.2,baz=238,slow=4.4,SNR=13						
CMAR	**Chiang Mai Arr**	**91.78**	**289**	P	**P**	**17 40 04.4**	**+0.8**
	1.3nm,1.2s,mb4.1,baz=108,slow=2.9,SNR=3.4						
ULM	**Lac du Bonnet**	**95.67**	**39**	LR	LR	18 19 44.8	
	comp=Z,56nm,18.6s,MS4.1,baz=8.9,slow=33						
BVAR	**Borovoye Array**	**118.04**	**322**	PKP	PKPdf	17 45 41.8	+1.2
	0.4nm,0.6s,baz=63,slow=3.2,SNR=4.3						
KMBO	**Kilima Mbogo**	**143.86**	**244**	PKP	PKPdf	17 46 30.6	+0.5
KOLS	**Kolonicke sedl**	**144.91**	**340**	*e*PKP	PKPdf	17 46 32.2	+1.3
BURAR	**Bucovina Array**	**144.98**	**336**	⇑P	PKPdf	17 46 33.3	+2.2
BURAR	**Bucovina Array**	**144.98**	**336**	⇑P	PKPdf	17 46 33.3	+2.3
UPC	**Upice**	**145.10**	**348**	*e*PKP	PKPdf	17 46 32.7	+1.6
BRG	**Berggiesshubel**	**145.12**	**350**	*e*P	PKPdf	17 46 32.8	+1.6
DPC	**Dobruska-Polom**	**145.18**	**348**	*e*PKP	PKPdf	17 46 33.0	+1.7
OKC	**Ostrava-Krasne**	**145.25**	**345**	*e*PKP	PKPdf	17 46 32.6	+1.2
PVCC	**Panska Ves**	**145.35**	**350**	*e*PKP	PKPdf	17 46 33.6	+2.0
MORC	**Moravsky Berou**	**145.46**	**346**	⇓P	PKPdf	17 46 33.8	+2.0
MOX	**Moxa**	**145.67**	**353**	*e*PKPbc	PKPbc	17 46 33.7	+0.9
MOX	**Moxa**	**145.67**	**353**	*i* P	PKPdf	17 46 34.1	+2.0
	logA/T=1.2						
VRI	**Vrincioaia**	**145.77**	**333**	⇑P	PKPdf	17 46 34.0	+1.6
VRI	**Vrincioaia**	**145.77**	**333**	⇑P	PKPdf	17 46 34.0	+1.6
PRU	**Pruhonice**	**145.87**	**349**	*e*PKP	PKPdf	17 46 33.6	+1.1
NKC	**Novy Kostel**	**145.96**	**352**	*e*PKP	PKPdf	17 46 35.3	+2.7
BRTR	**Keskin Array B**	**146.25**	**319**	PKPbc	PKPbc	17 46 35.8	+1.2
	2.1nm,0.9s,baz=117,slow=2.8,SNR=10						
MLR	**Muntele Rosu**	**146.40**	**333**	⇑P	PKPdf	17 46 36.9	+3.3
MLR	**Muntele Rosu**	**146.40**	**333**	⇑P	PKPdf	17 46 36.9	+3.4
KHC	**Kasperske Hory**	**146.87**	**350**	*e*PKP	PKPdf	17 46 38.2	+4.0
GERES	**GERESS Array B**	**147.12**	**350**	PKPbc	PKPdf	17 46 38.4	+3.8
	1.8nm,0.9s,baz=27,slow=3.0,SNR=11						
ASF	**Jabal al Asfar**	**147.45**	**304**	PKPbc	PKPdf	17 46 39.4	+3.7
	1.1nm,0.3s,baz=332,slow=1.0,SNR=4.5						
EIL	**Elat**	**149.87**	**301**	*e*PKPbc	PKPdf	17 46 47.0	+7.3
ESDC	**Sonseca Array**	**155.65**	**17**	PKPab	PKPab	17 47 15.0	-1.2
	0.8nm,0.7s,baz=297,slow=3.3,SNR=4.2						

*DJA **12** 17:28:08.7±1.1, 6.92S×101.12E, h33km, mb5.2/3, Error ellipse: s-maj=36.1km s-min=8.0km az=45.0*
*BJI **12** 17:28:26.5, 7.14S×102.58E, h53km, mB4.9, mb4.7, Ms4.4, Msz4.3*
*MOS **12** 17:28:27.4±1.3, 6.56S×102.58E, h33km, mb4.9/11, Error ellipse: s-maj=10.5km s-min=9.1km az=126.0*
*IDC **12** 17:28:28.2±0.7, 6.56S×102.38E, h24km±3km, mb4.1/14, mb1 4.3/14, mb1mx4.1/21, mbtmp4.3/14, Error ellipse: s-maj=23.9km s-min=11.2km az=55.0*
*NEIC **12** 17:28:28.9±0.4, 6.55S×102.52E, mb4.7/16, Error ellipse: s-maj=10.0km s-min=5.8km az=215.0*
ISC 12 17:28:26.9±0.4, 6.59S±0.06×102.51E±0.05, h28km, h28km±.9km: pP-P, n82, σ1°11/71, mb4.6/35, MS4.4/4, 11C-1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**2.84**	**69**	⇑*i*P	**Pn**	**17 29 12.7**	**+1.2**
PENI				*e*pP		17 29 20.4	
PENI	**Pendagan**	**2.84**	**69**	*e*pP		17 29 20.4	
KSI	**Kapahiang**	**2.92**	**2**	*e*P	**Pn**	**17 29 10.0**	**-2.7**
PASI	**Pasiripis**	**3.06**	**92**	*e*P	**Pn**	**17 29 16.5**	**+1.8**
PULI	**Pulasari**	**3.46**	**86**	⇑*i*P	**Pn**	**17 29 20.7**	**+0.5**
KALI	**Kaliastana**	**4.15**	**97**	*e*P	**Pn**	**17 29 30.7**	**+0.5**
KSM	**Kuching**	**11.17**	**44**	P	**P**	**17 31 08.0**	**-0.1**
SRDI	**Scrawed**	**11.69**	**100**	⇑*i*P	**P**	**17 31 12.6**	**-2.5**
SRDI				pmax	pmax		
	comp=Z,32nm,0.2s						
SRDI	**Scrawed**	**11.69**	**100**	⇑*i*P	**P**	**17 31 12.6**	**-2.5**
	comp=Z,65nm,0.2s						
KULM	**Kulim**	**11.95**	**351**	*e*P	**P**	**17 31 14.3**	**-4.3**
KELI	**Kelakatan**	**11.99**	**98**	⇑*i*P	**P**	**17 31 18.7**	**-0.5**
	comp=Z,29nm,0.3s						
RATI	**Rata**	**13.08**	**100**	⇑*i*P	**P**	**17 31 32.8**	**-0.9**
	comp=Z,205nm,0.2s						
KEDI	**Kedomdong**	**13.62**	**99**	⇑*i*P	**P**	**17 31 37.4**	**-3.5**
SNG	**Songkhla**	**13.81**	**352**	P	**P**	**17 31 41.0**	**-2.4**
	comp=Z,488nm,0.9s						
NINI	**Niniconang**	**17.30**	**84**	*e*P	**P**	**17 32 26.9**	**-1.5**
NINI	**Niniconang**	**17.30**	**84**	*e*P	**P**	**17 32 27.2**	**-1.2**
KKM	**Kota Kinabalu**	**18.57**	**48**	*e*P	**P**	**17 32 44.6**	**+0.5**
NNT	**Nongplab**	**19.25**	**352**	P		17 33 03.0	
NST	**Nakhon Sawan**	**22.24**	**354**	P	**P**	**17 33 23.5**	**+0.2**
NST	**Nakhon Sawan**	**22.24**	**354**	P	**P**	**17 33 29.0**	**+5.7**
KKTK	**Khon Kaen**	**22.78**	**1**	P	**P**	**17 33 31.0**	**+2.3**
	comp=Z,309nm,0.6s						
KKTK	**Khon Kaen**	**22.78**	**1**	P		17 33 43.0	
CM31	**Chiang Mai Arr**	**25.14**	**352**	⇑*e*P	**P**	**17 33 51.7**	**+0.2**
	comp=Z,21nm,0.7s,mb4.8						
CM31				*e*pP	pP	17 34 00.3	+0.8
CMAR	**Chiang Mai Arr**	**25.14**	**352**	P	**P**	**17 33 51.6**	**+0.2**
	comp=Z,25nm,0.9s,mb4.7,baz=186,slow=8.6,SNR=92						
CMAR				pP	pP	17 33 59.5	0.0
	comp=Z,26nm,0.9s,baz=186,slow=8.2,SNR=20						
FITZ	**Fitzroy Crossi**	**25.29**	**119**	*e*P	**P**	**17 33 54.7**	**+1.8**
	comp=Z,11nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**25.29**	**119**	P	**P**	**17 33 54.3**	**+1.4**
	comp=Z,11nm,0.7s,mb4.5,baz=276,slow=6.6,SNR=12						
FITZ				pP	pP	17 34 01.6	+0.6
	comp=Z,13nm,0.7s,baz=277,slow=4.3,SNR=5.4						
NANT	**Nan**	**25.29**	**356**	P	**P**	**17 33 51.0**	**-1.9**
NANT	**Nan**	**25.29**	**356**	⇓P	sP	17 34 07.0	+2.2
	comp=Z,425nm,1.0s						
CHG	**Chiang Mai**	**25.49**	**352**	⇑P	**P**	**17 33 55.0**	**+0.3**
	comp=Z,16nm,0.8s,mb4.6						
CHG	**Chiang Mai**	**25.49**	**352**	P	sP	17 34 08.4	+1.8
GYA	**Guiyang**	**33.10**	**7**	⇑*i*P	**P**	**17 35 03.5**	**+0.7**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,110nm,3.3s						
GYA				LR	LR		
	comp=N,220nm,16.0s,MS4.2						
GYA				LR	LR		
	comp=E,280nm,15.9s,MS4.2						
GYA				LR	LR		
	comp=Z,420nm,15.7s,MS4.2						
SHL	**Shillong**	**33.59**	**342**	*e*P	**P**	**17 35 06.8**	**-0.3**
WRA	**Warramunga Arr**	**33.62**	**116**	P	**P**	**17 35 07.6**	**+0.1**
	comp=Z,4.1nm,0.7s,mb4.5,baz=287,slow=12,SNR=25						
WRA				pP	pP	17 35 16.4	+0.7
	comp=Z,7.4nm,0.7s,baz=286,slow=11,SNR=20						
WRAB	**Tennant Creek**	**33.63**	**116**	*e*P	**P**	**17 35 07.9**	**+0.4**
WRAB				*e*PP	pP	17 35 16.7	+0.9
WRAB				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.1						
WRAB	**Tennant Creek**	**33.63**	**116**	*e*P	**P**	**17 35 07.9**	**+0.4**
	comp=Z,19nm,0.7s,mb5.1						
WRAB				*e*pP	pP	17 35 16.7	+0.9
ASAR	**Alice Springs**	**34.61**	**123**	P	**P**	**17 35 15.9**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=302,slow=8.3,SNR=12						
ENH	**Enshi**	**37.26**	**10**	⇑*e*P	**P**	**17 35 38.1**	**-

comp=Z,2.0nm,1.0s,mb4.1
ZAL Zalesovo 62.12 348 P **P 17 38 46.7 -1.0**
comp=Z,8.2nm,0.4s,mb5.2,baz=292,slow=4.6,SNR=20
BOD Bodaibo 64.87 7 *eP* **P 17 39 03.2 -2.5**
BOD pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
BVAR Borovoye Array 65.33 339 P **P 17 39 07.7 -1.0**
comp=Z,1.6nm,0.7s,mb4.2,baz=141,slow=8.9,SNR=18
BVAR pP pP 17 39 14.0 -3.5
comp=Z,1.6nm,0.5s,baz=145,slow=9.6,SNR=11
MAW Mawson 66.52 195 P **P 17 39 15.7 -0.4**
comp=Z,2.1nm,0.8s,mb4.2,baz=28,slow=8.1,SNR=3.9
YAK Yakutsk 71.57 13 *iP* **P 17 39 46.0 -1.4**
MATP Matopo 72.77 251 P **P 17 39 54.8 -0.5**
comp=Z,2.1nm,0.8s,mb4.1,baz=66,slow=5.5,SNR=4.7
LSZ Lusaka 73.20 256 P **P 17 39 56.9 -1.0**
LSZ pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
LSZ Lusaka 73.20 256 P **P 17 39 56.9 -1.0**
comp=Z,8.9nm,1.2s,mb4.6
KIV Kislovodsk 73.63 319 *eP* pP 17 40 08.4 -0.3
KIV pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
GOF Gofitskoye 73.91 321 *eP* **P 17 40 01.0 -0.4**
BRTR Keskin Array B 78.25 313 P **P 17 40 25.0 -1.0**
comp=Z,0.3nm,0.4s,baz=117,slow=6.4,SNR=2.9
TIXI Tiksi 79.99 8 *iP* **P 17 40 33.6 -1.3**
OBN Obninsk 81.99 328 *eP* **P 17 40 48.3 +2.7**
OBN pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BILL Bilibino 86.59 20 P pP 17 41 19.0 +1.4
FINES FINESS Array B 89.31 332 P **P 17 41 22.1 +0.3**
comp=Z,3.7nm,1.0s,mb4.7,baz=135,slow=2.7,SNR=4.1
PPT Papeete 104.91 110 *eLR* LR 17 43 26.6
comp=Z,193nm,26.2s
RKT Rikitea 116.56 120 *eLR* LR 17 44 07.0
comp=Z,284nm,27.2s
TXAR Lajitas Array 146.52 44 PKPbc PKPbc 17 48 08.2 +1.9
comp=Z,2.5nm,0.7s,baz=315,slow=1.8,SNR=15
JCT Junction City 148.32 39 *e*PKP2 PKPab 17 48 13.8 -2.7

IDC 12 17:32:54.4±3.4, 1.35N×97.75E, mb3.6/5, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, Error ellipse: s-maj=132.6km s-min=23.1km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.04**	**4**	Pn	P	17 36 52.8	-3.1
	baz=192,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**41.65**	**122**	P	P	17 40 45.0	-1.6
	0.6nm,0.7s,baz=301,slow=9.0,SNR=5.4						
ASAR	**Alice Springs**	**43.05**	**128**	P	P	17 40 56.0	-2.0
	0.3nm,0.8s,baz=307,slow=7.6,SNR=3.1						
SONM	**Songino Array**	**46.90**	**8**	P	P	17 41 27.2	-1.3
	0.7nm,0.6s,baz=188,slow=9.3,SNR=5.0						
MKAR	**Makanchi Array**	**47.23**	**346**	P	P	17 41 28.8	-2.2
	0.8nm,0.7s,baz=168,slow=8.0,SNR=3.5						
ZAL	**Zalesovo**	**53.49**	**351**	P	P	17 42 16.4	-2.3
	0.7nm,0.3s,baz=344,slow=4.4,SNR=3.3						

IDC 12 17:49:04.5±3.4, 1.25S×100.15E, mb3.3/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.2/4, ML3.4/1, Error ellipse: s-maj=146.6km s-min=23.9km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.62**	**357**	P	P	17 53 36.4	-1.1
	0.1nm,0.3s,baz=188,slow=10.0,SNR=6.0						
WRA	**Warramunga Arr**	**38.25**	**121**	P	P	17 56 26.8	-1.6
	0.4nm,1.0s,baz=304,slow=9.0,SNR=4.3						
ASAR	**Alice Springs**	**39.57**	**127**	P	P	17 56 37.9	-1.6
	0.3nm,0.8s,baz=303,slow=8.0,SNR=6.6						
MKAR	**Makanchi Array**	**50.35**	**344**	P	P	17 58 02.8	-2.5
	1.2nm,0.8s,baz=163,slow=9.1,SNR=5.8						
TXAR	**Lajitas Array**	**144.02**	**37**	PKP	PKPdf	18 08 40.6	-4.0
	0.3nm,0.3s,baz=342,slow=2.9,SNR=3.3						

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*IDC **12** 17:49:12.7±0.6, 1.56S×99.55E, h24km±3km, mb4.0/15, mb1 4.1/16, mb1mx4.0/21, mbtmp4.1/16, ML3.9/1, Error ellipse: s-maj=21.9km s-min=11.4km az=52.0*
*NEIC **12** 17:49:13.2±0.3, 1.57S×99.63E, mb4.5/10, Error ellipse: s-maj=13.6km s-min=6.0km az=56.0*
ISC 12 17:49:11.2±0.4, 1.56S±0.08×99.64E±0.10, h26km, h26km±.5km:pP-P, n44, σ0°78/39, mb4.3/23, 2C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.88**	**8**	Pn	**Pn**	**17 50 52.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**19.90**	**358**	P	**P**	**17 53 42.8**	**-1.2**
	0.2nm,0.3s,baz=187,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**19.90**	**358**	P	**P**	**17 53 42.8**	**-1.2**
SHL	**Shillong**	**27.99**	**345**	*e*	**P**	**17 55 05.7**	**+3.5**
FITZ	**Fitzroy Crossi**	**30.36**	**124**	P	**P**	**17 55 22.8**	**-0.7**
	7.8nm,0.9s,mb4.5,baz=300,slow=9.0,SNR=3.7						
JIRN	**Jiri**	**31.80**	**337**	*eP*	**P**	**17 55 36.7**	**+0.6**
	15nm,0.9s,mb4.8						
LSA	**Lhasa**	**32.12**	**346**	P	**P**	**17 55 39.9**	**+1.0**
	3.5nm,0.6s,mb4.4						
GUN	**Gumba**	**32.14**	**337**	*eP*	**P**	**17 55 39.7**	**+0.6**
	13nm,0.6s,mb4.9						
DMN	**Daman**	**32.19**	**335**	*eP*	**P**	**17 55 40.5**	**+1.0**
KKN	**Kakani**	**32.28**	**336**	*eP*	**P**	**17 55 40.3**	**0.0**
	5.9nm,0.7s,mb4.5						
GKN	**Gorkha**	**32.73**	**335**	*eP*	**P**	**17 55 44.2**	**-0.1**
	7.6nm,0.7s,mb4.7						
KOLN	**Koldanda**	**32.98**	**333**	*eP*	**P**	**17 55 46.5**	**+0.1**
	11nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**38.53**	**121**	P	**P**	**17 56 33.6**	**-0.1**
	3.4nm,0.5s,mb4.3,baz=302,slow=9.1,SNR=40						
WRA				pP	pP	17 56 40.9	-0.5
	4.0nm,0.6s,baz=304,slow=9.1,SNR=15						
WRA				PcP	PcP	17 58 47.0	+0.3
	0.6nm,0.7s,baz=314,slow=2.5,SNR=4.1						
WRA				pPcP		17 58 54.9	
	0.4nm,0.5s,baz=311,slow=2.6,SNR=5.6						
WRA	**Warramunga Arr**	**38.53**	**121**	P	**P**	**17 56 33.6**	**-0.1**
WRA				pP	pP	17 56 40.9	-0.5
WRA				PcP	PcP	17 58 47.0	+0.3
WRA				pPcP		17 58 54.9	
WRAB	**Tennant Creek**	**38.53**	**121**	*eP*	**P**	**17 56 33.6**	**-0.1**
	10nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**39.80**	**126**	P	**P**	**17 56 44.8**	**+0.5**
	1.2nm,0.5s,mb3.9,baz=301,slow=8.0,SNR=36						
ASAR				pP	pP	17 56 52.8	+0.8
	1.6nm,0.5s,baz=302,slow=7.6,SNR=10						
ASAR				PcP	PcP	17 58 51.1	+0.4
	0.9nm,0.8s,baz=294,slow=2.7,SNR=5.3						
ASAR	**Alice Springs**	**39.80**	**126**	P	**P**	**17 56 44.8**	**+0.5**
ASAR				pP	pP	17 56 52.8	+0.8
ASAR				PcP	PcP	17 58 51.1	+0.4
SONM	**Songino Array**	**49.54**	**6**	P	**P**	**17 58 01.9**	**-0.1**
	0.8nm,0.6s,mb3.9,baz=188,slow=9.1,SNR=7.3						
SONM				pP	pP	17 58 09.8	-0.1
	2.0nm,0.6s,baz=193,slow=8.9,SNR=12						
SONM				PcP	PcP	17 59 23.6	-0.3
	1.3nm,0.6s,baz=192,slow=2.7,SNR=5.6						
SONM				pPcP		17 59 31.6	
	1.2nm,0.6s,baz=186,slow=4.3,SNR=4.8						
ULN	**Ulaanbaatar**	**49.64**	**7**	P	**P**	**17 58 03.6**	**+0.9**
	1.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**49.71**	**132**	*eP*	**P**	**17 58 04.5**	**+1.0**
	4.0nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**49.71**	**132**	P	**P**	**17 58 03.9**	**+0.4**
	2.5nm,0.7s,mb4.3,baz=335,slow=10.0,SNR=7.3						
MKAR	**Makanchi Array**	**50.51**	**345**	P	**P**	**17 58 08.9**	**-0.5**
	1.4nm,0.6s,mb4.1,baz=149,slow=8.1,SNR=16						
MKAR	**Makanchi Array**	**50.51**	**345**	P	**P**	**17 58 08.9**	**-0.5**
ZAL	**Zalesovo**	**56.66**	**350**	P	**P**	**17 58 54.6**	**-0.1**
	2.1nm,0.4s,mb4.5,baz=309,slow=5.6,SNR=14						
BVAR	**Borovoye Array**	**59.65**	**340**	P	**P**	**17 59 13.5**	**-2.1**
	1.1nm,0.8s,mb4.0,baz=149,slow=8.6,SNR=9.8						
BVAR				pP	pP	17 59 21.5	-2.1
	1.2nm,0.7s,baz=129,slow=9.5,SNR=7.8						
KMBO	**Kilima Mbogo**	**62.37**	**270**	P	**P**	**17 59 34.6**	**0.0**
	1.0nm,0.4s,mb4.3,baz=52,slow=17,SNR=5.8						
KMBO	**Kilima Mbogo**	**62.37**	**270**	P	**P**	**17 59 35.0**	**+0.4**
	3.6nm,0.9s,mb4.5						
MATP	**Matopo**	**71.79**	**249**	P	**P**	**18 00 34.0**	**-0.1**
	2.2nm,0.7s,mb4.2,baz=101,slow=3.6,SNR=5.1						
BRTR	**Keskin Array B**	**72.76**	**312**	P	**P**	**18 00 37.9**	**-1.7**
	1.0nm,0.6s,mb3.9,baz=124,slow=6.7,SNR=6.1						
BOSA	**Boshof**	**75.55**	**241**	P	**P**	**18 00 55.2**	**-0.7**
	1.8nm,0.7s,mb4.1,baz=112,slow=19,SNR=3.1						
VRI	**Vrincioaia**	**79.28**	**317**	⇓P	**P**	**18 01 16.6**	**+0.4**
VRI	**Vrincioaia**	**79.28**	**317**	⇓P	**P**	**18 01 16.6**	**+0.4**
MLR	**Muntele Rosu**	**79.73**	**317**	⇓P	**P**	**18 01 19.0**	**+0.4**
BURAR	**Bucovina Array**	**80.69**	**319**	⇑P	**P**	**18 01 24.7**	**+1.1**
BURAR	**Bucovina Array**	**80.69**	**319**	⇑P	**P**	**18 01 24.7**	**+1.0**
FINES	**FINESS Array B**	**83.55**	**332**	P	**P**	**18 01 38.2**	**0.0**
	1.0nm,0.5s,mb4.2,baz=117,slow=4.3,SNR=9.5						
FINES				pP	pP	18 01 46.6	+0.1
	0.9nm,0.5s,baz=108,slow=6.0,SNR=2.1						
FINES	**FINESS Array B**	**83.55**	**332**	P	**P**	**18 01 38.2**	**0.0**
FINES				pP	pP	18 01 46.6	+0.1
ARCES	**ARCESS Array B**	**85.94**	**340**	P	**P**	**18 01 50.3**	**+0.3**
	10nm,1.1s,mb5.0,baz=73,slow=9.4,SNR=4.8						
GERES	**GERESS Array B**	**88.48**	**319**	P	**P**	**18 02 01.8**	**-0.9**
	0.4nm,0.7s,mb3.8,baz=72,slow=4.2,SNR=4.8						
TXAR	**Lajitas Array**	**144.57**	**37**	PKP	PKPdf	18 08 48.1	-2.8
	2.2nm,0.5s,baz=286,slow=1.5,SNR=19						
TXAR				pPKP		18 08 55.8	
	3.3nm,0.7s,baz=237,slow=1.2,SNR=8.0						
TXAR	**Lajitas Array**	**144.57**	**37**	PKP	PKPdf	18 08 48.1	-2.8
TXAR				pPKP		18 08 55.8	
MIAR	**Mount Ida**	**144.94**	**19**	*e*PKP	PKPdf	18 08 47.7	-3.8
MIAR				*e*		18 08 55.6	
TZTN	**Tazewell**	**145.06**	**4**	*e*PKP	PKPdf	18 08 47.6	-3.9
TZTN				*e*		18 08 55.7	
JCT	**Junction City**	**145.83**	**31**	*e*PKP	PKPdf	18 08 51.1	-1.9

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*NEIC **12** 18:04:02.7, 39.34S×175.05E, h29km, ML3.8(WEL), After WEL.*
WEL 12 18:04:02.6±0.1, 39.35S×175.05E, h30km, ML3.6/21, 3C-5D, Error ellipse: s-maj=0.5km s-min=0.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.32**	**315**	P	Pb	18 04 10.0	-0.3
VRZ				S	Sb	18 04 16.3	+0.8
VRZ	**Vera Road**	**0.32**	**315**	⇑P*	Pb	18 04 10.0	-0.3
VRZ				S*	Sb	18 04 16.4	+0.8
MTVZ	**Mangateitei**	**0.33**	**96**	P*	Pb	18 04 10.4	-0.1
MTVZ				S*	Sb	18 04 16.4	+0.5
FWVZ	**Far West T-bar**	**0.40**	**76**	P	Pb	18 04 11.5	0.0
FWVZ				S	Sb	18 04 17.9	+0.3
FWVZ	**Far West T-bar**	**0.40**	**76**	⇑P*	Pb	18 04 11.5	0.0
FWVZ				S*	Sb	18 04 17.9	+0.3
WAZ	**Wanganui**	**0.41**	**187**	P	Pb	18 04 11.2	-0.4
WAZ				S	Sb	18 04 18.2	+0.5
WAZ	**Wanganui**	**0.41**	**187**	P*	Pb	18 04 11.2	-0.4
WAZ				S*	Sb	18 04 18.0	+0.3
DRZ	**Dome Shelter**	**0.41**	**79**	P	Pb	18 04 11.7	+0.1
DRZ	**Dome Shelter**	**0.41**	**79**	P*	Pb	18 04 11.7	0.0
DRZ				S*	Sb	18 04 18.2	+0.4
TWVZ	**Taurewa**	**0.41**	**48**	P	Pb	18 04 11.3	-0.4
TWVZ	**Taurewa**	**0.41**	**48**	⇓P*	Pb	18 04 11.3	-0.4
TWVZ				S*	Sb	18 04 17.8	-0.1
WPVZ	**Whakapapa**	**0.41**	**69**	P	Pb	18 04 11.6	-0.1
WPVZ				S	Sb	18 04 18.4	+0.5
WPVZ	**Whakapapa**	**0.41**	**69**	⇓P*	Pb	18 04 11.6	-0.1
WPVZ				S*	Sb	18 04 18.4	+0.6
CNZ	**Chateau**	**0.42**	**69**	P	Pb	18 04 11.7	-0.1
CNZ	**Chateau**	**0.42**	**69**	P*	Pb	18 04 11.7	-0.1
WNVZ	**Wahianoa**	**0.43**	**87**	P	Pb	18 04 11.8	-0.1
WNVZ				S	Sb	18 04 18.5	+0.2
WNVZ	**Wahianoa**	**0.43**	**87**	P*	Pb	18 04 11.8	-0.1
WNVZ				S*	Sb	18 04 18.5	+0.3
NGZ	**Ngauruhoe**	**0.47**	**68**	P	Pb	18 04 12.3	-0.2
NGZ	**Ngauruhoe**	**0.47**	**68**	P*	Pb	18 04 12.3	-0.2
TUVZ	**Tukino**	**0.48**	**80**	P	Pb	18 04 12.7	0.0
TUVZ				S	Sb	18 04 20.0	+0.4
TUVZ	**Tukino**	**0.48**	**80**	P*	Pb	18 04 12.7	0.0
TUVZ				S*	Sb	18 04 20.0	+0.4
WTVZ	**West Tongariro**	**0.48**	**61**	P	Pb	18 04 12.5	-0.3
WTVZ	**West Tongariro**	**0.48**	**61**	P*	Pb	18 04 12.5	-0.3
WTVZ				S*	Sb	18 04 19.8	+0.2
RAEZ	**Rainy Point**	**0.51**	**277**	P	Pb	18 04 13.1	-0.1
RAEZ	**Rainy Point**	**0.51**	**277**	P*	Pb	18 04 13.1	-0.1
OTVZ	**Oturere**	**0.52**	**69**	⇓P*	Pb	18 04 13.0	-0.3
OTVZ				S*	Sb	18 04 21.0	+0.4
MGZ	**Maungaku**	**0.52**	**48**	P	Pb	18 04 13.0	-0.3
MGZ	**Maungaku**	**0.52**	**48**	⇓P*	Pb	18 04 13.0	-0.4
MOVZ	**Moawhango**	**0.55**	**96**	P	Pb	18 04 13.3	-0.5
MOVZ				S	Sb	18 04 20.7	-0.8
MOVZ	**Moawhango**	**0.55**	**96**	P*	Pb	18 04 13.3	-0.5
MOVZ				S*	Sb	18 04 20.7	-0.8
KATZ	**Kakaramea**	**0.63**	**54**	P	Pb	18 04 14.6	-0.5
KATZ	**Kakaramea**	**0.63**	**54**	⇓P*	Pb	18 04 14.6	-0.5
KATZ				S*	Sb	18 04 23.9	+0.2
DFE	**Dawson Falls**	**0.73**	**272**	P	Pb	18 04 21.8	+5.0
NEZ	**North Egmont**	**0.74**	**276**	P	Pb	18 04 17.0	0.0
NEZ	**North Egmont**	**0.74**	**276**	PN	Pn	18 04 17.0	-0.1
RATZ	**Rangitukua**	**0.74**	**50**	P	Pb	18 04 16.4	-0.6
RATZ	**Rangitukua**	**0.74**	**50**	PN	Pn	18 04 16.4	-0.7
PKE	**Pukeiti**	**0.84**	**280**	P	Pn	18 04 18.0	-0.5
PKE	**Pukeiti**	**0.84**	**280**	PN	Pn	18 04 18.0	-0.4
PKE				SN	Sn	18 04 30.0	+0.2
WATZ	**Wairara**	**0.84**	**40**	PN	Pn	18 04 17.6	-0.8
WATZ				SN	Sn	18 04 29.0	-0.8
HIZ	**Hauiti**	**0.85**	**350**	P	Pn	18 04 17.9	-0.7
HIZ	**Hauiti**	**0.85**	**350**	⇑PN	Pn	18 04 17.9	-0.7
HIZ				SN	Sn	18 04 30.0	-0.1
NRZ	**Ngariki Road**	**0.86**	**271**	P	Pn	18 04 18.3	-0.5
NRZ	**Ngariki Road**	**0.86**	**271**	PN	Pn	18 04 18.3	-0.5
NWEZ	**Newall Road**	**0.92**	**274**	P	Pn	18 04 19.4	-0.2
NWEZ	**Newall Road**	**0.92**	**274**	PN	Pn	18 04 19.4	-0.2
HATZ	**Hinemaiaia**	**0.94**	**61**	PN	Pn	18 04 18.9	-0.9
WHTZ	**Whakaora**	**0.99**	**46**	PN	Pn	18 04 21.2	+0.6
TSZ	**Takapari Road**	**1.00**	**135**	P	Pn	18 04 20.0	-0.8
TSZ	**Takapari Road**	**1.00**	**135**	PN	Pn	18 04 20.0	-0.8
TSZ				SN	Sn	18 04 33.6	-0.4
BKZ	**Black Stump Fm**	**1.14**	**81**	P	Pn	18 04 22.1	-0.7
BKZ	**Black Stump Fm**	**1.14**	**81**	PN	Pn	18 04 22.1	-0.7
MRZ	**Mangatainoka R**	**1.37**	**163**	*e*P	Pn	18 04 26.0	-0.1
MRZ	**Mangatainoka R**	**1.37**	**163**	PN	Pn	18 04 25.8	-0.3
KIW	**Kapiti Island**	**1.51**	**184**	P	Pn	18 04 27.4	-0.7
KIW	**Kapiti Island**	**1.51**	**184**	PN	Pn	18 04 27.4	-0.7
KIW				SN	Sn	18 04 46.3	-0.6
BFZ	**Birch Farm**	**1.62**	**146**	*e*P	Pn	18 04 31.6	+2.0
TOZ	**Tahuroa Road**	**1.66**	**13**	*e*P	Pn	18 04 28.9	-1.3
TOZ	**Tahuroa Road**	**1.66**	**13**	PN	Pn	18 04 28.9	-1.3
TOZ				SN	Sn	18 04 49.3	-1.4
DUWZ	**D'Urville Isla**	**1.69**	**210**	PN	Pn	18 04 29.9	-0.7
CAW	**Cannon Point**	**1.75**	**179**	P	Pn	18 04 31.7	+0.1
CAW	**Cannon Point**	**1.75**	**179**	PN	Pn	18 04 30.7	-0.9
MTW	**Mount Morrison**	**1.84**	**169**	P	Pn	18 04 33.3	+0.5
MTW	**Mount Morrison**	**1.84**	**169**	PN	Pn	18 04 33.3	+0.5
TGRZ	**Tauranga**	**1.88**	**31**	P	Pn	18 04 36.3	+2.9
TGRZ	**Tauranga**	**1.88**	**31**	PN	Pn	18 04 36.3	+2.9
MRW	**Makara Radio**	**1.89**	**188**	P	Pn	18 04 33.9	+0.3
MRW	**Makara Radio**	**1.89**	**188**	PN	Pn	18 04 33.9	+0.4
WEL	**Wellington**	**1.94**	**186**	P	Pn	18 04 37.1	+2.8
WEL	**Wellington**	**1.94**	**186**	*e*PN	Pn	18 04 35.4	+1.1
URZ	**Urewera**	**1.95**	**57**	*e*P	Pn	18 04 34.0	-0.3
URZ	**Urewera**	**1.95**	**57**	PN	Pn	18 04 34.0	-0.3
SNZO	**South Karori**	**1.97**	**187**	P	Pn	18 04 35.1	+0.4
SNZO	**South Karori**	**1.97**	**187**	*e*PN	Pn	18 04 34.2	-0.5
BHW	**Baring Head**	**2.06**	**184**	P	Pn	18 04 37.9	+2.0
BHW	**Baring Head**	**2.06**	**184**	*e*PN	Pn	18 04 37.2	+1.2
MSWZ	**Moikau Station**	**2.07**	**176**	P	Pn	18 04 39.9	+3.8
MSWZ	**Moikau Station**	**2.07**	**176**	*e*PN	Pn	18 04 35.4	-0.7
MWZ	**Matawai**	**2.19**	**63**	*e*P	Pn	18 04 37.8	0.0
MWZ	**Matawai**	**2.19**	**63**	*e*PN	Pn	18 04 36.5	-1.3
MKAZ	**Moumakai**	**2.24**	**2**	P	Pn	18 04 37.4	-1.1
MKAZ	**Moumakai**	**2.24**	**2**	PN	Pn	18 04 37.1	-1.5
TUWZ	**Tuamarina**	**2.24**	**202**	PN	Pn	18 04 37.7	-0.9
NNZ	**Nelson**	**2.26**	**214**	*e*P	Pn	18 04 38.2	-0.6
NNZ	**Nelson**	**2.26**	**214**	PN	Pn	18 04 37.7	-1.1
OTAZ	**Otara**	**2.40**	**358**	P	Pn	18 04 40.4	-0.4
QRZ	**Quartz Range**	**2.43**	**232**	*e*P	Pn	18 04 39.3	-1.9
QRZ	**Quartz Range**	**2.43**	**232**	PN	Pn	18 04 39.2	-2.1
WTAZ	**Waiatarua**	**2.44**	**351**	P	Pn	18 04 41.2	-0.2
WTAZ	**Waiatarua**	**2.44**	**351**	PN	Pn	18 04 40.6	-0.8
BSWZ	**Blackbirch Sta**	**2.52**	**200**	P	Pn	18 04 43.5	+0.9
KUZ	**Kuaotunu**	**2.66**	**12**	*e*P	Pn	18 04 42.5	-2.0
THZ	**Tophouse**	**2.91**	**213**	*e*P	Pn	18 04 47.8	-0.3
KHZ	**Kahutara**	**3.27**	**200**	*e*P	Pn	18 04 51.8	-1.4
DSZ	**Denniston Nort**	**3.44**	**225**	*e*P	Pn	18 04 53.8	-1.8
LTZ	**Lake Taylor**	**4.02**	**211**	*e*P	Pn	18 05 01.9	-1.9
OUZ	**Omahuta**	**4.28**	**344**	*e*P	Pn	18 05 05.7	-1.9
MQZ	**McQueen's Vall**	**4.71**	**202**	*e*P	Pn	18 05 07.2	-6.4
ODZ	**Otahua Downs**	**6.56**	**208**	*e*P	Pn	18 05 35.8	-3.9

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*NEIC **12** 18:05:11.5±1.5, 1.70S×99.82E, mb4.0/1, Error ellipse: s-maj=51.1km s-min=13.1km az=66.0*
*IDC **12** 18:05:14.4±2.7, 1.11S×100.58E, h27km±7km, mb3.4/4, mb1 3.5/4, mb1mx3.4/16, mbtmp3.5/4, Error ellipse: s-maj=117.9km s-min=21.0km az=56.0*
ISC 12 18:05:10.5±2.1, 1.6S±0.2×99.9E±0.4, h33km, n9, σ0°61/7, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.89**	**6**	Pn	**Pn**	**18 06 52.4**	**+0.4**
WRA	**Warramunga Arr**	**38.28**	**121**	P	**P**	**18 12 29.4**	**-0.4**
	0.7nm,0.5s,mb3.7,baz=303,slow=9.0,SNR=10						
WRA				pP	pP	18 12 38.5	-1.1
	0.5nm,0.6s,baz=302,slow=9.0,SNR=4.0						
WRAB	**Tennant Creek**	**38.29**	**121**	P	**P**	**18 12 29.5**	**-0.4**
	1.3nm,0.5s,mb3.9						
ASAR	**Alice Springs**	**39.57**	**126**	P	**P**	**18 12 41.5**	**+1.0**
	0.7nm,0.7s,mb3.5,baz=299,slow=8.0,SNR=6.7						
ASAR				pP	pP	18 12 50.1	-0.2
	0.8nm,0.7s,baz=299,slow=8.0,SNR=5.5						
SONM	**Songino Array**	**49.56**	**6**	P	**P**	**18 13 59.6**	**-0.8**
	0.3nm,0.5s,mb3.6,baz=190,slow=8.8,SNR=2.7						
MKAR	**Makanchi Array**	**50.62**	**344**	P	**P**	**18 14 08.8**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=159,slow=8.8,SNR=8.5						
MKAR	**Makanchi Array**	**50.62**	**344**	P	**P**	**18 14 08.8**	**+0.3**
TXAR	**Lajitas Array**	**144.45**	**37**	PKP	PKPdf	18 24 45.6	+1.4
	0.4nm,0.4s,SNR=3.8						
TXAR				pPKP		18 24 54.9	
	0.6nm,0.5s,baz=280,slow=0.8,SNR=3.6						
TXAR	**Lajitas Array**	**144.45**	**37**	PKP	PKPdf	18 24 45.6	+1.4
TXAR				pPKP		18 24 54.9	

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*NEIC **12** 18:18:25.9, 35.68N×22.30E, h35km, MD3.7(ATH), After ATH.*
*CSEM **12** 18:18:25.9, 35.68N×22.30E, h35km, MD3.7/8, After ATH*
ATH 12 18:18:25.8, 35.67N×22.29E, h35km±2km, MD3.7/8, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.86**	**45**	*e*PN	P	18 18 42.5	+1.1
VLI	**Veliai**	**1.17**	**26**	*e*PN	P	18 18 47.7	+1.8
VLI				*e*SN	S	18 19 03.4	+2.5
ITM	**Ithomi**	**1.54**	**349**	*e*PN	P	18 18 53.0	+1.8
VAM	**Vamos**	**1.58**	**99**	*e*PB	P	18 18 53.3	+1.5
PTL	**Penteli**	**2.69**	**28**	*e*PN	P	18 19 08.5	+0.8
NPS	**Neapolis**	**2.74**	**98**	*e*PN	P	18 19 09.5	+1.1
VLS	**Valsamata**	**2.85**	**332**	*e*PN	P	18 19 11.0	+1.1
VLS	**Valsamata**	**2.85**	**332**	*e*Pn	P	18 19 10.4	+0.5
APE	**Apeiranthos**	**2.96**	**61**	*e*PN	P	18 19 12.5	+0.9
LKR	**Lokris**	**3.03**	**11**	*e*PN	P	18 19 13.0	+0.5
EVR	**Evrytania**	**3.26**	**353**	*e*PN	P	18 19 17.0	+1.2
NEO	**Neokhori**	**3.71**	**11**	*e*PN	P	18 19 22.8	+0.7

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*NEIC **12** 18:18:46.0±0.8, 1.93S×99.76E, mb4.6/1, Error ellipse: s-maj=32.7km s-min=10.9km az=57.0*
*IDC **12** 18:18:47.0±1.8, 1.64S×100.07E, h29km±5km, mb3.9/9, mb1 4.1/9, mb1mx3.8/18, mbtmp4.1/9, Error ellipse: s-maj=106.4km s-min=13.7km az=51.0*
ISC 12 18:18:45.7±0.9, 1.8S±0.2×99.9E±0.2, h33km, (h26km±1.8km:pP-P), n14, σ0°89/11, mb4.2/10, Southern Sumatera

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

6.7nm,0.8s,mb4.4,baz=284,slow=4.2,SNR=4.3
LSA Lhasa 32.27 345 P **P 18 43 20.2 +0.3**
2.6nm,0.6s,mb4.2
WRA Warramunga Arr 38.16 121 P **P 18 44 09.8 -0.4**
1.4nm,0.5s,mb4.0,baz=303,slow=9.0,SNR=18
WRAB Tennant Creek 38.17 121 *e*P **P 18 44 10.2 0.0**
4.0nm,0.6s,mb4.3
ASAR Alice Springs 39.46 126 P **P 18 44 21.2 +0.4**
1.2nm,0.5s,mb3.9,baz=302,slow=7.8,SNR=33
STKA Stephens Creek 49.38 132 P **P 18 45 40.3 -0.3**
2.1nm,0.8s,mb4.2,baz=316,slow=12,SNR=5.7
SONM Songino Array 49.55 6 P **P 18 45 41.9 +0.3**
1.4nm,0.6s,mb4.1,baz=191,slow=9.8,SNR=14
ULN Ulaanbaatar 49.65 6 P **P 18 45 42.7 +0.4**
1.0nm,0.7s,mb4.0
MKAR Makanchi Array 50.66 344 P **P 18 45 50.0 -0.1**
2.2nm,0.3s,mb4.5,baz=158,slow=8.8,SNR=53
BVAR Borovoye Array 59.83 340 P **P 18 46 54.8 -1.5**
1.0nm,0.5s,mb4.1,baz=141,slow=9.0,SNR=9.0
FINES FINESS Array B 83.78 332 P **P 18 49 19.4 +0.6**
1.0nm,0.6s,mb4.1,baz=120,slow=6.2,SNR=7.9
ARCES ARCESS Array B 86.11 340 P **P 18 49 30.9 +0.7**
4.9nm,0.9s,mb4.7,baz=34,slow=4.4,SNR=4.0
ARCES ARCESS Array B 86.11 340 P **P 18 49 30.9 +0.7**
TXAR Lajitas Array 144.37 37 PKP PKPdf 18 56 25.9 +0.7
0.5nm,0.5s,baz=267,slow=0.4,SNR=5.2
CFAA Coronel Fontan 145.15 198 PKP PKPdf 18 56 27.3 +0.8
0.3nm,0.6s,baz=252,slow=1.4,SNR=3.8
CFAA Coronel Fontan 145.15 198 PKP PKPdf 18 56 27.3 +0.8

*IDC **12** 18:39:29.9±1.2, 1.49S×99.74E, mb4.2/7, mb1 4.3/8, mb1mx4.0/19, mbtmp4.1/8, ML3.9/1, Error ellipse: s-maj=63.6km s-min=17.0km az=55.0*
*NEIC **12** 18:39:34.2±0.8, 1.60S×99.64E, h30km, mb4.5/1, Error ellipse: s-maj=31.0km s-min=11.0km az=64.0*
ISC 12 18:39:33.9±1.1, 1.4S±0.1×100.0E±0.2, h33km, n15, σ1§13/12, mb4.2/8, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.71**	**6**	P	**P**	**18 41 14.9**	**+2.3**
CMAR	**Chiang Mai Arr**	**19.79**	**357**	P	**P**	**18 44 01.9**	**-2.4**
0.2nm,0.3s,baz=188,slow=10,SNR=7.6							
TGY	**Tagaytay City**	**25.89**	**53**	‖*e*P	**P**	**18 45 04.1**	**-0.8**
SHL	**Shillong**	**27.95**	**344**	*e*P	**P**	**18 45 24.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**30.18**	**125**	P	**P**	**18 45 43.3**	**-0.2**
5.7nm,0.8s,mb4.3,baz=311,slow=11,SNR=3.7							
WRA	**Warramunga Arr**	**38.33**	**121**	P	**P**	**18 46 53.7**	**+0.1**
1.7nm,0.5s,mb4.1,baz=301,slow=9.3,SNR=12							
WRAB	**Tennant Creek**	**38.33**	**121**	*e*P	**P**	**18 46 53.8**	**+0.2**
4.7nm,0.6s,mb4.4							
ASAR	**Alice Springs**	**39.63**	**127**	P	**P**	**18 47 05.1**	**+0.8**
1.2nm,0.5s,mb3.9,baz=298,slow=7.7,SNR=12							
STKA	**Stephens Creek**	**49.57**	**132**	P	**P**	**18 48 23.6**	**-0.4**
2.4nm,0.7s,mb4.3,baz=318,slow=23,SNR=4.2							
MKAR	**Makanchi Array**	**50.47**	**344**	P	**P**	**18 48 30.6**	**-0.1**
1.0nm,0.5s,mb4.1,baz=155,slow=7.9,SNR=11							
BVAR	**Borovoye Array**	**59.63**	**340**	P	**P**	**18 49 33.9**	**-3.2**
0.6nm,0.5s,mb3.9,baz=140,slow=9.1,SNR=5.2							
ARCES	**ARCESS Array B**	**85.92**	**340**	P	**P**	**18 52 12.4**	**+1.0**
3.1nm,0.9s,mb4.5,baz=72,slow=3.8,SNR=3.8							
TXAR	**Lajitas Array**	**144.28**	**37**	PKP	PKPdf	18 59 08.9	+1.6
0.9nm,0.5s,baz=272,slow=0.6,SNR=4.8							
CFAA	**Coronel Fontan**	**145.29**	**198**	PKPbc	PKPbc	18 59 08.7	-0.7
0.2nm,0.5s,baz=82,slow=1.7,SNR=5.4							
JCT	**Junction City**	**145.56**	**31**	*e*PKP	PKPdf	18 59 11.9	+2.5

*IDC **12** 18:40:05.2±0.5, 1.82S×99.63E, mb4.3/18, mb1 4.4/18, mb1mx4.3/22, mbtmp4.3/18, MS3.9/2, Ms1 3.9/2, ms1mx3.1/29, Error ellipse: s-maj=23.2km s-min=13.3km az=48.0*
*BJI **12** 18:40:09.9, 1.80S×99.70E, h28km, mB4.7, mb4.7, Ms3.9*
*MOS **12** 18:40:09.0±1.4, 1.69S×99.70E, h33km, mb4.9/14, Error ellipse: s-maj=18.7km s-min=8.8km az=114.5*
*NEIC **12** 18:40:09.9±0.3, 1.78S×99.74E, mb4.8/19, Error ellipse: s-maj=8.9km s-min=5.9km az=55.0*
ISC 12 18:40:09.1±2.5, 1.75S±0.08×99.74E±0.08, h37km±22km, h27km±2.5km: pP-P, n70, σ1§01/63, mb4.6/37, MS3.9/2, 2C, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.05**	**7**	P	**P**	**18 41 51.9**	**-0.6**
KKM	**Kota Kinabalu**	**18.18**	**65**	*e*P	**P**	**18 44 21.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**20.09**	**358**	P	**P**	**18 44 40.2**	**-2.3**
2.7nm,0.9s,baz=184,slow=9.9,SNR=5.2							
PALK	**Pallekele**	**21.01**	**295**	*e*P	**P**	**18 44 53.0**	**+1.0**
12nm,0.9s,mb4.2							
FITZ	**Fitzroy Crossi**	**30.16**	**124**	P	**P**	**18 46 17.7**	**-0.5**
12nm,1.0s,mb4.6,baz=342,slow=3.2,SNR=6.4							
JIRN	**Jiri**	**32.02**	**337**	*e*P	**P**	**18 46 35.6**	**+1.1**
41nm,0.7s,mb5.3							
PKI	**Pulchoki**	**32.25**	**336**	*e*P	**P**	**18 46 37.2**	**+0.6**
5.2nm,0.6s,mb4.5							
PKI	**Pulchoki**	**32.25**	**336**	*e*P	**P**	**18 46 37.2**	**+0.6**
PKI				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.3							
LSA	**Lhasa**	**32.33**	**346**	*e*P	**P**	**18 46 37.2**	**-0.1**
LSA				*e*	pP	18 46 46.9	-0.7
LSA				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.5							
LSA	**Lhasa**	**32.33**	**346**	*e*P	**P**	**18 46 37.2**	**-0.1**
comp=Z,6.8nm,0.8s,mb4.5							
LSA				*e*	pP	18 46 46.9	-0.7
GUN	**Gumba**	**32.36**	**337**	*e*P	**P**	**18 46 38.6**	**+1.1**
comp=Z,34nm,0.6s,mb5.3							
DMN	**Daman**	**32.41**	**335**	*e*P	**P**	**18 46 38.8**	**+0.8**
comp=Z,21nm,0.8s,mb5.0							
KKN	**Kakani**	**32.50**	**336**	*e*P	**P**	**18 46 39.3**	**+0.6**
comp=Z,25nm,0.8s,mb5.1							
KKN	**Kakani**	**32.50**	**336**	*e*P	**P**	**18 46 39.3**	**+0.6**
KKN				pmax	pmax		
comp=Z,13nm,0.8s,mb4.8							
GKN	**Gorkha**	**32.95**	**335**	*e*P	**P**	**18 46 42.5**	**-0.2**
comp=Z,24nm,0.9s,mb5.1							
KOLN	**Koldanda**	**33.20**	**333**	*e*P	**P**	**18 46 44.8**	**0.0**
comp=Z,25nm,0.8s,mb5.2							
WRA	**Warramunga Arr**	**38.34**	**121**	P	**P**	**18 47 28.4**	**-0.1**
comp=Z,2.5nm,0.5s,mb4.2,baz=306,slow=8.9,SNR=11							
WRAB	**Tennant Creek**	**38.35**	**121**	*e*P	**P**	**18 47 27.6**	**-0.9**
WRAB				*e**PP	pP	18 47 35.9	-3.1
WRAB				*e**SP	sP	18 47 40.1	-3.5
WRAB				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.7							
WRAB	**Tennant Creek**	**38.35**	**121**	*e*P	**P**	**18 47 27.6**	**-0.9**
comp=Z,9.5nm,0.7s,mb4.6							
WRAB				*e*pP	pP	18 47 35.9	-3.1
WRAB				*e*sP	sP	18 47 40.1	-3.5
ASAR	**Alice Springs**	**39.61**	**126**	P	**P**	**18 47 39.2**	**+0.3**
comp=Z,2.8nm,0.6s,mb4.2,baz=300,slow=7.9,SNR=8.6							
ASAR				PcP	PcP	18 49 45.4	-0.9
comp=Z,1.0nm,0.9s,baz=313,slow=2.5,SNR=3.1							
WMQ	**Urumqi**	**46.63**	**348**	*e*P	**P**	**18 48 37.5**	**+1.7**
PMG	**Port Moresby**	**47.75**	**101**	LR	LR	19 09 14.2	
comp=Z,92nm,21.6s,MS3.7,baz=344,slow=37							
STKA	**Stephens Creek**	**49.51**	**132**	P	**P**	**18 48 58.4**	**+0.1**
comp=Z,2.5nm,0.7s,mb4.4,baz=326,slow=12,SNR=4.9							
STKA				LR	LR	19 11 44.1	
comp=Z,169nm,19.0s,MS4.1,baz=207,slow=38							
STKA	**Stephens Creek**	**49.51**	**132**	P	**P**	**18 48 58.4**	**+0.1**
SONM	**Songino Array**	**49.72**	**6**	P	**P**	**18 49 00.2**	**+0.5**
comp=Z,2.4nm,0.7s,mb4.3,baz=192,slow=8.5,SNR=6.5							
SONM				PcP	PcP	18 50 20.8	+0.1
comp=Z,1.7nm,0.9s,baz=199,slow=4.3,SNR=2.7							
ULN	**Ulaanbaatar**	**49.82**	**6**	P	**P**	**18 49 00.3**	**-0.2**
ULN				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.3							
ULN	**Ulaanbaatar**	**49.82**	**6**	P	**P**	**18 49 00.3**	**-0.2**
comp=Z,1.6nm,0.6s,mb4.2							
MKAR	**Makanchi Array**	**50.72**	**345**	P	**P**	**18 49 06.9**	**-0.5**
comp=Z,7.0nm,0.7s,mb4.7,baz=152,slow=8.0,SNR=19							
KLR	**Kul'dur**	**57.81**	**24**	*e*P	**P**	**18 50 02.2**	**+3.0**
NVS	**Novosibirsk**	**58.02**	**349**	*i*P	**P**	**18 49 59.6**	**-1.0**
BVAR	**Borovoye Array**	**59.86**	**340**	P	**P**	**18 50 12.4**	**-1.0**
comp=Z,3.3nm,0.7s,mb4.5,baz=141,slow=9.5,SNR=14							
BOD	**Bodaibo**	**60.47**	**9**	*e*P	**P**	**18 50 13.0**	**-4.5**
YSS	**Yuzh-Sakhalins**	**61.41**	**32**	P	**P**	**18 50 23.9**	**-0.1**
YSS				*e**PP	pP	18 50 32.1	-2.8
YSS				pmax	pmax		
comp=Z,23nm,1.3s,mb5.2							
YSS	**Yuzh-Sakhalins**	**61.41**	**32**	P	**P**	**18 50 23.9**	**-0.1**
comp=Z,23nm,1.3s,mb5.2							
YSS				*e*pP	pP	18 50 32.1	-2.8

KMBO	**Kilima Mbogo**	**62.47**	**270**	*e*P	**P**	**18 50 31.8**	**+0.2**
KMBO				pmax	pmax		
comp=Z,4.0nm,0.8s							
KMBO	**Kilima Mbogo**	**62.47**	**270**	P	**P**	**18 50 31.4**	**-0.2**
comp=Z,2.2nm,0.8s,mb4.3,baz=50,slow=12,SNR=8.4							
KMBO	**Kilima Mbogo**	**62.47**	**270**	*e*P	**P**	**18 50 31.8**	**+0.2**
comp=Z,3.7nm,0.8s,mb4.6							
GNI	**Garni**	**65.17**	**316**	*i*P	**P**	**18 50 49.4**	**+0.5**
ARU	**Arti**	**66.88**	**337**	*i*P	**P**	**18 50 58.6**	**-0.9**
YAK	**Yakutsk**	**67.56**	**15**	*e*P	**P**	**18 51 02.2**	**-1.5**
YAK				*e**PP	pP	18 51 10.5	-4.3
YAK				pmax	pmax		
comp=Z,14nm,0.9s,mb5.0							
YAK	**Yakutsk**	**67.56**	**15**	*e*P	**P**	**18 51 02.2**	**-1.5**
comp=Z,14nm,0.9s,mb5.0							
YAK				*e*pP	pP	18 51 10.5	-4.3
KIV	**Kislovodsk**	**68.19**	**319**	*e*P	**P**	**18 51 08.0**	**+0.1**
KIV				*e*		18 51 33.8	
KIV				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.9							
KIV	**Kislovodsk**	**68.19**	**319**	‖*e*P	**P**	**18 51 07.9**	**0.0**
comp=Z,13nm,0.9s,mb5.0							
ASF	**Jabal al Asfar**	**68.23**	**306**	P	**P**	**18 51 08.8**	**+0.4**
comp=Z,1.9nm,0.5s,mb4.3,baz=29,slow=3.9,SNR=5.1							
GOF	**Gofitskoye**	**68.44**	**320**	‖*i*P	**P**	**18 51 08.5**	**-1.0**
GOF				pmax	pmax		
comp=Z,10.0nm,1.3s,mb4.7							
MALT	**Malatya**	**68.98**	**312**	*e*P	**P**	**18 51 13.0**	**+0.1**
MALT				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.2							
MALT	**Malatya**	**68.98**	**312**	*e*P	**P**	**18 51 13.0**	**+0.1**
comp=Z,1.7nm,0.7s,mb4.1							
EIL	**Elat**	**69.17**	**303**	P	**P**	**18 51 13.4**	**-0.8**
comp=Z,3.5nm,0.7s,mb4.4,baz=122,slow=3.7,SNR=6.4							
EIL	**Elat**	**69.17**	**303**	*e*P	**P**	**18 51 14.7**	**+0.5**
comp=Z,4.5nm,0.8s,mb4.5							
SOC	**Sochi**	**70.00**	**318**	*e*P	**P**	**18 51 17.6**	**-1.4**
SOC				pmax	pmax		
comp=Z,13nm,1.3s,mb4.7							
SOC				pmax	pmax		
comp=N,2.0nm,0.5s							
SOC				pmax	pmax		
comp=E,1.0nm,0.2s							
MAW	**Mawson**	**70.46**	**194**	P	**P**	**18 51 21.4**	**0.0**
comp=E,1.8nm,0.8s,mb4.1,baz=221,slow=0.5,SNR=3.5							
MATP	**Matopo**	**71.83**	**249**	P	**P**	**18 51 28.4**	**-2.0**
comp=E,5.8nm,0.9s,mb4.5,baz=112,slow=3.6,SNR=7.3							
BRTR	**Keskin Array B**	**72.96**	**312**	P	**P**	**18 51 36.6**	**-0.3**
comp=E,0.8nm,0.4s,mb4.0,baz=149,slow=7.2,SNR=7.3							
TIXI	**Tiksi**	**75.65**	**9**	*i*P	**P**	**18 51 51.3**	**-0.6**
OBN	**Obninsk**	**76.45**	**328**	*e*P	**P**	**18 51 56.6**	**-0.1**
OBN				*e*	pP	18 52 05.9	-1.9
OBN				pmax	pmax		
comp=Z,30nm,2.1s,mb4.8							
AKASG	**Malin Array Be**	**79.13**	**322**	P	**P**	**18 52 11.6**	**-0.1**
comp=Z,0.5nm,0.5s,mb3.7,baz=90,slow=3.7,SNR=7.7							
AKASG	**Malin Array Be**	**79.13**	**322**	P	**P**	**18 52 11.6**	**-0.1**
SBA	**Scott Base**	**83.55**	**169**	*e*P	**P**	**18 52 36.6**	**+2.4**
SBA				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.5							
SBA	**Scott Base**	**83.55**	**169**	*e*P	**P**	**18 52 36.6**	**+2.4**
comp=Z,2.7nm,0.8s,mb4.4							
FINES	**FINESS Array B**	**83.77**	**332**	P	**P**	**18 52 36.1**	**+0.5**
comp=Z,1.0nm,0.5s,mb4.2,baz=105,slow=5.2,SNR=8.3							
KAF	**Kangasniemi**	**83.84**	**333**	*e*p	**P**	**18 52 33.4**	**-2.6**
comp=Z,5.6nm,0.6s,mb4.9							
KAF	**Kangasniemi**	**83.84**	**333**	*e*P	**P**	**18 52 33.4**	**-2.6**
KAF				pmax	pmax		
comp=Z,6.0nm,0.6s,mb4.9							
ARCES	**ARCESS Array B**	**86.15**	**340**	P	**P**	**18 52 48.6**	**+1.4**
comp=Z,6.6nm,1.1s,mb4.8,baz=68,slow=20,SNR=4.0							
GERES	**GERESS Array B**	**88.69**	**319**	P	**P**	**18 53 01.8**	**+1.8**
comp=Z,0.8nm,0.7s,mb4.2,baz=117,slow=3.0,SNR=8.6							
PDAR	**Pinedale Array**	**131.48**	**29**	PKP	PKPdf	18 59 20.4	+2.0
comp=Z,0.2nm,0.5s,baz=333,slow=2.0,SNR=2.2							
TXAR	**Lajitas Array**	**144.66**	**37**	PKP	PKPdf	18 59 44.6	+2.0
comp=Z,2.2nm,0.8s,baz=270,slow=2.5,SNR=6.9							
CFAA	**Coronel Fontan**	**144.92**	**198**	PKP	PKPdf	18 59 44.8	+1.8
comp=Z,0.8nm,0.9s,baz=146,slow=1.7,SNR=7.0							
MIAR	**Mount Ida**	**145.08**	**19**	*e*PKIKP	PKPdf	18 59 44.9	+1.7
JCT	**Junction City**	**145.94**	**31**	*e*PKP2	PKPab	18 59 47.8	-0.3
SIV	**San Ignacio**	**154.12**	**226**	PKPbc	PKPdf	19 00 07.3	+10
comp=Z,0.5nm,0.4s,baz=72,slow=3.2,SNR=4.4							

*NIED **12** 18:42:00, 23.50N×122.30E, h32km, Mw4.4 Best double couple: M0=5.03×10^15 NP1:φs=65°, δ90°, λ87°. NP2:φs=334°, δ3°, λ179°.*
*BJI **12** 18:42:21.5, 22.71N×122.83E, h31km, mB4.8, mb3.9, ML4.0, Ms3.9, Msz3.9*
*IDC **12** 18:42:28.4±0.7, 23.56N×122.26E, mb4.2/15, mb1 4.2/16, mb1mx4.1/24, mbtmp4.2/16, ML3.7/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/36, Error ellipse: s-maj=25.0km s-min=15.6km az=67.0*
*NEIC **12** 18:42:29.6±1.7, 23.56N×122.30E, h8km±10km, mb4.7/9, Error ellipse: s-maj=11.3km s-min=8.0km az=61.0*
*TAP **12** 18:42:31.6, 23.53N×122.20E, h14km, ML4.5*
*JMA **12** 18:42:32.2±0.2, 23.52N×122.25E, h47km, M4.2*
ISC 12 18:42:29.0±0.4, 23.53N±0.05×122.22E±0.03, h14km, n48, σ1§11/62, mb4.2/24, MS3.6/4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.86**	**318**	*e*Pg	**Pg**	**18 42 46.6**	**+0.1**
NACB				*e*Sg	**Sg**	**18 42 56.3**	**-1.8**
YOJ	**Yonaguni jima**	**1.18**	**38**	P	**Pb**	**18 42 52.5**	**+1.9**
YOJ				S	**Sb**	**18 43 07.3**	**+1.8**
YHNB	**Yeheng**	**1.38**	**326**	*e*Pn	**Pn**	**18 42 55.5**	**+1.6**
HATJ	**Hateruma jima**	**1.54**	**70**	P	**Pn**	**18 42 57.4**	**+1.1**
HATJ				S	**Sb**	**18 43 16.1**	**0.0**
TATO	**Taipei**	**1.59**	**335**	*e*Pn	**Pn**	**18 42 59.2**	**+2.3**
IRIF	**Iriomote-Funau**	**1.60**	**59**	P	**Pn**	**18 42 58.7**	**+1.7**
IRIF				S	**Sn**	**18 43 18.0**	**+0.5**
JKRS	**Kuro-shima**	**1.78**	**66**	P	**Pn**	**18 43 01.2**	**+1.5**
JKRS				S	**Sn**	**18 43 22.9**	**+0.7**
JIJ	**Ishigaki jima**	**1.94**	**64**	P	**Pn**	**18 43 02.8**	**+0.8**
JIJ				S	**Sn**	**18 43 25.5**	**-0.8**
JTJ	**Tarama**	**2.52**	**63**	P	**Pn**	**18 43 11.4**	**+1.1**
JTJ				S	**Sn**	**18 43 40.0**	**-1.0**
JMJ	**Miyako jima 2**	**3.08**	**65**	P	**Pn**	**18 43 19.3**	**+1.0**
JMJ				S	**Sn**	**18 43 54.2**	**-1.0**
JOGS	**Gusukube**	**3.16**	**66**	P	**Pn**	**18 43 20.3**	**+1.0**
JOGS				S	**Sn**	**18 43 57.4**	**+0.3**
QZH	**Quanzhou**	**3.60**	**294**	P	**Pn**	**18 43 26.6**	**+0.9**
QZH				Smax			
comp=N,910nm,0.7s							
QZH				Smax			
comp=E,320nm,0.5s							
JKE	**Kume jima 2**	**4.99**	**55**	P	**Pn**	**18 43 44.4**	**-1.0**
JAGN	**Aguni-jima**	**5.48**	**55**	P	**Pn**	**18 43 51.2**	**-1.0**
JAGN				*e*S	**Sn**	**18 44 50.4**	**-5.3**
JJT2	**Tamagusuku 2**	**5.65**	**61**	*e*S	**Sn**	**18 44 56.8**	**-3.3**
JIH	**Iheya**	**6.26**	**55**	P	**Pn**	**18 44 01.2**	**-2.1**
JIH				S	**Sn**	**18 45 08.9**	**-6.5**
JOW	**Kunigami**	**6.39**	**58**	Pn	**Pn**	**18 44 02.7**	**-2.5**
comp=E,3.9nm,0.3s,baz=330,slow=22,SNR=21							
JOW	**Kunigami**	**6.39**	**58**	P	**Pn**	**18 44 02.7**	**-2.5**
JOW				S	**Sn**	**18 45 14.4**	**-4.2**
JTK	**Tokunoshima**	**7.40**	**54**	P	**Pn**	**18 44 16.0**	**-3.3**
JTK				*e*S	**Sn**	**18 45 35.8**	**-8.1**
JAM	**Amami Oshima**	**8.23**	**52**	P	**Pn**	**18 44 26.9**	**-4.0**
JAM				S	**Sn**	**18 45 54.7**	**-10**
LZH	**Lanzhou**	**20.23**	**312**	*e*P	**P**	**18 47 15.0**	**+8.5**
comp=E,13nm,1.2s							
LZH				pP		18 47 21.0	
GTA	**Gaotai**	**24.72**	**315**	*e*P	**P**	**18 47 51.0**	**-0.1**
GTA				AP		18 47 59.9	
GTA				XP		18 48 03.2	
GTA				AMB	AMB		
comp=Z,3.0nm,1.2s,mb3.7							
GTA				AMB	AMB		
comp=Z,115nm,4.9s							
GTA				LR	LR		
comp=N,89nm,13.7s,MS3.8							
GTA				LR	LR		
comp=E,189nm,14.1s,MS3.8							
GTA				LR	LR		
comp=Z,236nm,14.1s,MS3.8							
HIA	**Hailar**	**25.76**	**356**	*e*P	**P**	**18 48 00.1**	**-0.7**
comp=Z,9.3nm,0.6s,mb4.5							
ASAJ	**Asahikawa**	**26.48**	**34**	P	**P**	**18 48 07.2**	**-0.3**
comp=Z,2.1nm,0.4s,mb4.0,baz=196,slow=3.6,SNR=4.8							
ASAJ				LR	LR	18 58 06.4	
comp=Z,67nm,20.5s,MS3.2,baz=165,slow=36							
ULN	**Ulaanbaatar**	**27.13**	**337**	*e*P	**P**	**18 48 13.2**	**-0.2**
comp=Z,9.4nm,0.6s,mb4.5							
SONM	**Songino Array**	**27.34**	**336**	P	**P**	**18 48 15.3**	**-0.1**
comp=Z,6.4nm,0.7s,mb4.3,baz=153,slow=9.7,SNR=48							
SONM				LR	LR	18 59 39.0	
comp=Z,71nm,19.6s,MS3.2,baz=53,slow=38							
YAK	**Yakutsk**	**38.82**	**6**	*e*P	**P**	**18 49 52.9**	**-2.1**
comp=Z,5.8nm,0.6s,mb4.5							
MKAR	**Makanchi Array**	**39.47**	**316**	P	**P**	**18 50 01.2**	**+0.7**
comp=Z,1.6nm,0.6s,mb3.9,baz=107,slow=8.0,SNR=3.4							
WRAB	**Tennant Creek**	**44.78**	**164**	P	**P**	**18 50 44.6**	**+0.2**
comp=Z,3.4nm,0.6s,mb4.3							
WRA	**Warramunga Arr**	**44.79**	**164**	P	**P**	**18 50 43.5**	**-0.8**
comp=Z,0.6nm,0.5s,mb3.6,baz=347,slow=8.8,SNR=4.9							
ASAR	**Alice Springs**	**48.26**	**166**	P	**P**	**18 51 12.2**	**+0.5**
comp=Z,0.4nm,0.6s,mb3.7,baz=350,slow=7.5,SNR=5.1							
BVAR	**Borovoye Array**	**48.78**	**321**	P	**P**	**18 51 16.0**	**+0.7**
comp=Z,1.2nm,0.5s,mb4.2,baz=101,slow=10,SNR=3.5							
STKA	**Stephens Creek**	**58.12**	**161**	P	**P**	**18 52 24.2**	**-0.4**
comp=Z,2.0nm,0.8s,mb4.2,baz=326,slow=9.4,SNR=6.5							
MCK	**McKinley**	**68.67**	**29**	*e*P	**P**	**18 53 33.4**	**-0.3**
comp=Z,4.8nm,0.8s,mb4.5							
COLA	**College**	**68.94**	**27**	*e*P	**P**	**18 53 36.3**	**+1.0**
comp=Z,9.0nm,0.8s,mb4.8							
SML	**Sawmill**	**69.30**	**31**	*e*P	**P**	**18 53 37.8**	**+0.2**
ILAR	**Eielson Array**	**69.36**	**27**	P	**P**	**18 53 37.2**	**-0.6**
comp=Z,1.0nm,0.5s,mb4.0,baz=259,slow=5.2,SNR=27							
ARCES	**ARCESS Array B**	**70.50**	**338**	P	**P**	**18 53 44.6**	**-0.2**
comp=Z,4.9nm,1.0s,mb4.4,baz=75,slow=10,SNR=2.5							
FINES	**FINESS Array B**	**72.49**	**330**	P	**P**	**18 53 56.2**	**-0.6**
comp=Z,2.2nm,0.9s,mb4.1,baz=53,slow=6.0,SNR=5.3							
FINES				LR	LR	19 26 36.5	
comp=Z,82nm,18.5s,MS4.0,baz=198,slow=36							
FINES	**FINESS Array B**	**72.49**	**330**	P	**P**	**18 53 56.2**	**-0.7**
DAWY	**Dawson**	**72.69**	**27**	*e*P	**P**	**18 53 58.2**	**+0.4**
INK	**Inuvik**	**73.47**	**22**	*e*P	**P**	**18 54 02.4**	**-0.1**
comp=Z,10.0nm,1.0s,mb4.7							
AKASG	**Malin Array Be**	**73.99**	**319**	P	**P**	**18 54 04.5**	**-1.2**
comp=Z,0.1nm,0.3s,mb3.3,baz=57,slow=6.2,SNR=4.7							
BRTR	**Keskin Array B**	**74.33**	**307**	P	**P**	**18 54 07.5**	**-0.4**
comp=Z,1.2nm,0.5s,mb4.1,baz=79,slow=6.3,SNR=6.1							
HFS	**Hagfors**	**78.60**	**331**	P	**P**	**18 54 31.8**	**+0.3**
comp=Z,5.6nm,1.0s,mb4.5,baz=90,slow=7.2,SNR=3.4							
YKA	**Yellowknife Ar**	**83.20**	**23**	P	**P**	**18 54 56.5**	**+0.7**
comp=Z,4.0nm,0.7s,mb4.6,baz=314,slow=4.9,SNR=88							
GERES	**GERESS Array B**	**83.95**	**321**	P	**P**	**18 55 00.3**	**+0.5**
comp=Z,0.3nm,0.5s,mb3.7,baz=72,slow=4.2,SNR=5.5							
HLID	**Hailey**	**95.42**	**38**	*e*P	**P**	**18 55 53.2**	**-1.1**
comp=Z,1.7nm,0.4s,mb4.8							

IDC 12 18:52:48.2±3.2, 0.12S×97.23E, mb3.6/4, mb1 3.7/5, mb1mx3.6/18, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=117.6km s-min=22.4km az=61.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.54**	**5**	P	P	18 57 07.2	-1.3
0.1nm,0.3s,baz=196,slow=12,SNR=9.9							
WRA	**Warramunga Arr**	**41.33**	**121**	P	P	19 00 34.4	-3.2
0.7nm,1.0s,baz=294,slow=9.8,SNR=2.5							
ASAR	**Alice Springs**	**42.59**	**126**	P	P	19 00 48.0	0.0
0.2nm,0.7s,baz=306,slow=8.4,SNR=5.6							
SONM	**Songino Array**	**48.42**	**8**	P	P	19 01 32.8	-1.4
1.0nm,1.1s,baz=188,slow=8.7,SNR=4.2							
SONM				pP	pP	19 01 41.2	+7.0
0.5nm,0.8s,baz=189,slow=8.8,SNR=3.4				

PLCA	**Paso Flores**	**11.92**	**176**	Pn		**P**	**19 03 59.0**	**-3.4**
	comp=E,0.5nm,0.3s,baz=315,slow=8.4,SNR=7.2							
PLCA				LR		LR	19 08 52.2	
	comp=E,523nm,19.1s,baz=217,slow=39							
PLCA	**Paso Flores**	**11.92**	**176**	P		**P**	**19 03 59.1**	**-3.3**
TRQA	**Tornquist**	**12.21**	**141**	*eP*		**P**	**19 04 02.9**	**-3.4**
LPAZ	**La Paz**	**12.87**	**15**	Pn		**P**	**19 04 15.3**	**+0.1**
	comp=E,0.6nm,0.3s,baz=196,slow=9.2,SNR=11							
LPAZ				LR		LR	19 08 26.4	
	comp=E,37nm,21.2s,baz=184,slow=34							
LPAZ	**La Paz**	**12.87**	**15**	*eP*		**P**	**19 04 13.2**	**-2.1**
SIV	**San Ignacio**	**16.03**	**39**	Pn		**P**	**19 04 55.9**	**-0.7**
	comp=E,0.7nm,0.3s,baz=228,slow=11,SNR=16							
SAML	**Samuel**	**21.29**	**23**	*eP*		**P**	**19 05 57.0**	**-1.0**
	comp=E,6.7nm,0.6s,mb4.2							
BDFB	**Brasilia**	**25.39**	**64**	P		**P**	**19 06 36.3**	**-1.8**
	comp=E,7.6nm,0.7s,mb4.3,baz=230,slow=3.9,SNR=5.2							
BDFB				LR		LR	19 17 26.9	
	comp=E,187nm,21.1s,MS3.6,baz=244,slow=39							
USHA	**Ushuaia**	**26.09**	**176**	P		**P**	**19 06 43.3**	**-1.0**
	comp=E,23nm,0.7s,mb4.8,baz=327,slow=8.8,SNR=10.0							
USHA				LR		LR	19 17 00.4	
	comp=E,357nm,21.0s,MS3.9,baz=218,slow=36							
OTAV	**Otavalo**	**29.63**	**346**	P		**P**	**19 07 14.0**	**-2.8**
	comp=E,2.4nm,0.6s,mb4.1							
SJG	**San Juan**	**46.95**	**7**	LR		LR	19 29 03.3	
	comp=E,47nm,18.5s,MS3.5,baz=116,slow=36							
TEIG	**Tepich**	**51.35**	**340**	*eP*		**P**	**19 10 15.3**	**-0.3**
	comp=E,11nm,0.7s,mb4.9							
TEIG				*e*pP		pP	19 10 24.9	+0.3
VNA3	**Neumayer Olymp**	**54.03**	**159**			**P**	**19 10 42.9**	**+8.0**
VNA3	**Neumayer Olymp**	**54.03**	**159**	⇓*i*		**P**	**19 10 51.7**	**+17**
VNA3	**Neumayer Olymp**	**54.03**	**159**	⇑*i*P		**P**	**19 10 34.3**	**-0.6**
VNA3				P		pP	19 10 42.9	-0.9
VNA3				⇓*i*P			19 10 51.7	
VNA2	**Neumayer--Watz**	**54.66**	**159**			**P**	**19 10 52.4**	**+13**
VNA2	**Neumayer--Watz**	**54.66**	**159**	⇑*i*		**P**	**19 10 54.7**	**+15**
VNA2	**Neumayer--Watz**	**54.66**	**159**	⇓*i*		**P**	**19 10 57.4**	**+18**
VNA2	**Neumayer--Watz**	**54.66**	**159**	P		**P**	**19 10 39.0**	**-0.5**
VNA2				P			19 10 52.4	
VNA2				⇑*i*P			19 10 54.7	
VNA2				⇓*i*P			19 10 57.4	
SNAA	**Sanae**	**56.25**	**159**			**P**	**19 10 55.4**	**+4.4**
SNAA	**Sanae**	**56.25**	**159**	P		**P**	**19 10 49.6**	**-1.4**
	comp=E,3.6nm,0.6s,mb4.6,baz=283,slow=6.7,SNR=27							
SNAA	**Sanae**	**56.25**	**159**	P		**P**	**19 10 49.1**	**-1.9**
SNAA				P			19 10 55.4	
JCT	**Junction City**	**64.82**	**333**	⇑*eP*		**P**	**19 11 50.3**	**+0.3**
	comp=E,16nm,0.6s,mb5.2							
TXAR	**Lajitas Array**	**65.45**	**329**	P		**P**	**19 11 54.2**	**+0.1**
	comp=E,2.5nm,0.6s,mb4.5,baz=153,slow=8.8,SNR=24							
ELN	**Prospectdale**	**66.26**	**352**	*eP*		**P**	**19 11 56.7**	**-2.4**
GDL2	**Guadalupe Moun**	**68.21**	**330**	*eP*		**P**	**19 12 12.0**	**+0.5**
CPRX	**Cap Rock**	**68.71**	**331**	*eP*		**P**	**19 12 14.7**	**0.0**
CCM	**Cathedral Cave**	**69.02**	**343**	⇑*eP*		**P**	**19 12 16.1**	**-0.4**
	comp=E,36nm,1.1s,mb5.2							
CCM				*e*		pP	19 12 25.0	-0.5
VNDA	**Vanda**	**69.25**	**191**	P		**P**	**19 12 17.9**	**+0.7**
	comp=E,1.7nm,0.8s,mb4.0,baz=157,slow=3.3,SNR=6.5							
SYO	**Syowa Base**	**70.54**	**159**	⇑P		**P**	**19 12 24.0**	**-1.2**
DBIC	**Dimbokro**	**73.20**	**72**	P		**P**	**19 12 41.2**	**-0.8**
	comp=E,4.9nm,0.8s,mb4.5,baz=212,slow=6.1,SNR=8.5							
DBIC	**Dimbokro**	**73.20**	**72**	*eP*		**P**	**19 12 40.6**	**-1.3**
	comp=E,11nm,0.9s,mb4.8							
DBIC				*e*pP		pP	19 12 49.3	-1.8
SDCO	**Great Sand Dun**	**73.44**	**333**	⇓*eP*		**P**	**19 12 44.2**	**+1.2**
	comp=E,4.4nm,0.6s,mb4.6							
PV01	**Paradox Valley**	**75.06**	**331**	P		**P**	**19 12 53.0**	**+0.7**
PV10	**Paradox Valley**	**75.46**	**330**	*eP*		**P**	**19 12 55.7**	**+1.1**
SRU	**San Rafael**	**76.72**	**330**	⇑*eP*		**P**	**19 13 02.6**	**+0.9**
MSU	**Marysvale**	**76.98**	**328**	*eP*		**P**	**19 13 04.8**	**+1.7**
SUR	**Sutherland**	**77.02**	**120**	P		**P**	**19 13 02.7**	**-0.8**
	comp=E,4.8nm,0.8s,mb4.5,baz=172,slow=7.1,SNR=2.4							
SUR				pP		pP	19 13 12.5	-0.2
	comp=E,7.8nm,0.8s,baz=228,slow=7.9,SNR=2.7							
SUR	**Sutherland**	**77.02**	**120**	P		**P**	**19 13 02.6**	**-0.8**
SUR				pP		pP	19 13 12.5	-0.2
RWWY	**Rawlins**	**77.50**	**333**	*eP*		**P**	**19 13 06.7**	**+0.8**
	comp=E,22nm,1.0s,mb5.0							
MAW	**Mawson**	**78.03**	**164**	P		**P**	**19 13 07.9**	**-0.4**
	comp=E,5.4nm,0.6s,mb4.7,baz=218,slow=6.5,SNR=4.3							
DAU	**Daniels Canyon**	**78.11**	**330**	*eP*		**P**	**19 13 11.1**	**+1.8**
JLU	**Jordanelle**	**78.35**	**330**	*eP*		**P**	**19 13 12.1**	**+1.4**
RSSD	**Black Hills**	**78.43**	**337**	*eP*		**P**	**19 13 12.0**	**+1.0**
	comp=E,5.9nm,0.6s,mb4.7							
HWUT	**Hardware Ranch**	**79.22**	**331**	⇑*eP*		**P**	**19 13 16.4**	**+1.0**
	comp=E,16nm,0.6s,mb5.1							
PDAR	**Pinedale Array**	**79.34**	**333**	P		**P**	**19 13 16.5**	**+0.5**
	comp=E,2.6nm,0.6s,mb4.3,baz=130,slow=6.7,SNR=23							
NVAR	**Mina Array Bea**	**79.88**	**324**	P		**P**	**19 13 20.2**	**+1.2**
	comp=E,2.2nm,0.7s,mb4.2,baz=130,slow=7.0,SNR=7.8							
TSUM	**Tsumeb**	**80.28**	**107**	LR		LR	19 43 01.0	
	comp=E,88nm,20.1s,MS4.1,baz=325,slow=31							
LOHW	**Long Hollow**	**80.47**	**332**	P		**P**	**19 13 22.8**	**+0.8**
	comp=E,2.5nm,0.6s,mb4.3							
ULM	**Lac du Bonnet**	**81.62**	**345**	P		**P**	**19 13 27.9**	**+0.1**
	comp=E,3.6nm,0.5s,mb4.6,baz=159,slow=5.0,SNR=5.2							
HLID	**Hailey**	**82.04**	**330**	*eP*		**P**	**19 13 31.8**	**+1.6**
	comp=E,8.2nm,1.0s,mb4.6							
HLID				*e*pP		pP	19 13 40.2	+0.7
BOSA	**Boshof**	**82.15**	**118**	P		**P**	**19 13 30.8**	**-0.3**
	comp=E,5.4nm,0.7s,mb4.6,baz=210,slow=3.3,SNR=11							
BOSA				pP		pP	19 13 40.1	-0.3
	comp=E,5.8nm,0.4s,baz=242,slow=4.3,SNR=5.7							
BOSA				LR		LR	19 45 33.0	
	comp=E,104nm,18.1s,MS4.2,baz=144,slow=32							
LBTB	**Lobatse**	**84.14**	**115**	P		**P**	**19 13 41.2**	**-0.2**
	comp=E,7.0nm,0.7s,mb4.9,baz=250,slow=4.3,SNR=11							
LBTB				pP		pP	19 13 50.4	-0.3
	comp=E,11nm,0.6s,baz=254,slow=5.7,SNR=11							
LBTB	**Lobatse**	**84.14**	**115**	P		**P**	**19 13 41.2**	**-0.2**
LBTB				pP		pP	19 13 50.4	-0.3
WALA	**Waterton Lakes**	**86.24**	**334**	*eP*		**P**	**19 13 51.5**	**+0.2**
	comp=E,9.9nm,1.1s,mb5.0							
MATP	**Matopo**	**88.72**	**113**	P		**P**	**19 14 03.9**	**-0.1**
	comp=E,0.7nm,0.4s,mb4.3,baz=209,slow=7.9,SNR=3.0							
MATP				pP		pP	19 14 13.4	+0.1
	comp=E,2.0nm,0.6s,baz=229,slow=5.2,SNR=3.2							
EDM	**Edmonton**	**89.41**	**336**	*eP*		**P**	**19 14 05.8**	**-0.6**
YKA	**Yellowknife Ar**	**97.29**	**341**	P		**P**	**19 14 41.7**	**-0.6**
	comp=E,0.6nm,0.7s,mb4.1,baz=141,slow=4.4,SNR=13							
YKA				pP		pP	19 14 51.6	-0.1
	comp=E,0.5nm,0.6s,baz=142,slow=4.2,SNR=5.0							
YKA	**Yellowknife Ar**	**97.29**	**341**	P		**P**	**19 14 41.7**	**-0.6**
YKA				pP		pP	19 14 51.6	-0.1
AKASG	**Malin Array Be**	**118.34**	**45**	PKP		PKPdf	19 19 56.0	-4.9
	comp=E,0.5nm,0.4s,baz=267,slow=2.6,SNR=9.6							
FINES	**FINESS Array B**	**118.47**	**33**	PKP		PKPdf	19 19 56.8	-4.2
	comp=E,2.5nm,1.0s,baz=180,slow=3.8,SNR=3.5							
BRTR	**Keskin Array B**	**118.88**	**58**	PKP		PKPdf	19 19 58.2	-4.0
	comp=E,1.1nm,0.7s,baz=180,slow=1.2,SNR=5.1							
ASAR	**Alice Springs**	**122.34**	**208**	PKP		PKPdf	19 20 05.0	-4.3
	comp=E,2.4nm,0.6s,baz=134,slow=1.7,SNR=52							
WRA	**Warramunga Arr**	**125.44**	**210**	PKP		PKPdf	19 20 11.4	-4.1
	comp=E,7.9nm,0.6s,baz=155,slow=1.7,SNR=170							
WRA				pPKP			19 20 20.7	
	comp=E,1.8nm,0.6s,baz=151,slow=1.6,SNR=6.0							
WRAB	**Tennant Creek**	**125.45**	**210**	*e*PKP		PKPdf	19 20 11.4	-4.1
EKS2	**Erkin-Say**	**148.91**	**54**	P		PKPdf	19 20 55.2	-2.0
	SNR=11							
AML	**Almayashu**	**148.98**	**55**	P		PKPdf	19 20 56.4	-1.0
	SNR=6.0							
USP	**Ospenovka**	**149.25**	**53**	P		PKPdf	19 20 59.5	+1.7
	SNR=5.1							
AAK	**Ala-Archa**	**149.43**	**54**	P		PKPdf	19 21 00.4	+2.3
	SNR=10							
CHMS	**Chumysh**	**149.50**	**53**	P		PKPdf	19 21 00.1	+1.9
	SNR=6.3							
UCH	**Uchtor**	**149.55**	**55**	P		PKPdf	19 21 01.2	+2.9
	SNR=12							
KBK	**Karagaybulak**	**149.74**	**54**	P		PKPdf	19 21 01.3	+2.7
	SNR=8.5							
KZA	**Kyzart**	**150.11**	**55**	P		PKPdf	19 21 02.3	+3.0
	SNR=7.4							
TKM2	**Tokmak 2**	**150.12**	**53**	P		PKPdf	19 21 01.6	+2.4
	SNR=7.8							
HYB	**Hyderabad**	**150.36**	**106**	*eP*		PKPdf	19 21 02.5	+2.2
HYB				*e*			19 22 11.0	
HYB	**Hyderabad**	**150.36**	**106**	*i* PKP		PKPdf	19 21 02.5	+2.2
HYB				*ep*PKP			19 21 11.5	
ULHL	**Ulahol**	**150.78**	**54**	P		PKPdf	19 21 03.9	+3.7
	SNR=6.3							
MKAR	**Makanchi Array**	**152.84**	**42**	PKP		PKPdf	19 20 59.1	-4.0
	comp=E,0.8nm,0.7s,baz=325,slow=1.7,SNR=8.8							
MKAR				PKPbc		PKPdf	19 21 06.9	+3.8
	comp=E,8.4nm,0.7s,baz=325,slow=2.0,SNR=70							
MKAR				PKPab		PKPab	19 21 16.2	-2.4
	comp=E,4.4nm,0.7s,baz=297,slow=2.7,SNR=9.2							
MJAR	**Matsushiro Arr**	**153.84**	**295**	PKPab		PKPab	19 21 22.8	-0.4
	comp=E,2.6nm,0.6s,baz=103,slow=2.4,SNR=7.0							
MDJ	**Mudanjiang**	**156.94**	**319**	PKP		PKPdf	19 21 05.2	-3.5
WMQ	**Urumqi**	**157.66**	**42**	PKP		PKPdf	19 21 04.0	-5.6
WMQ				APKP			19 21 14.5	
WMQ				XPKP			19 21 18.5	
WMQ				PKP2		PKPab	19 21 38.0	-1.3
WMQ				PP		PP	19 25 18.3	-1.6
WMQ				SKS		SKS	19 28 04.5	-10
WMQ				PP		PP		
	comp=Z,105nm,4.7s							
WMQ				LR		LR		
	comp=N,32nm,15.0s,MS4.5							
WMQ				LR		LR		
	comp=E,40nm,16.0s,MS4.5							
WMQ				LR		LR		
	comp=Z,39nm,17.1s,MS4.3							
SONM	**Songino Array**	**160.95**	**4**	PKP		PKPdf	19 21 10.5	-2.6
	comp=Z,0.4nm,0.6s,baz=270,slow=1.2,SNR=15							
SONM				PKPab		PKPab	19 21 51.5	-1.8
	comp=Z,0.6nm,0.6s,baz=346,slow=5.1,SNR=5.2							
CMAR	**Chiang Mai Arr**	**166.53**	**138**	PKP		PKPdf	19 21 16.1	-3.3
	comp=Z,0.9nm,0.9s,baz=291,slow=1.6,SNR=5.8							
LZH	**Lanzhou**	**171.79**	**27**	*e*PKP		PKPdf	19 21 12.3	-10

*IDC **12** 19:06:55.1±3.1, 1.30N×97.28E, mb3.8/4, mb1 3.9/5, mb1mx3.7/19, mbtmp3.8/5, ML3.9/1, MS3.6/3, Ms1 3.7/3, ms1mx3.3/24, Error ellipse: s-maj=115.4km s-min=21.7km az=62.0*
*BJI **12** 19:06:57.4, 1.15N×97.18E, h38km, mB4.9, mb4.5, Ms4.5, Msz4.2*
*NEIC **12** 19:06:58.9±1.0, 1.26N×97.22E, h30km, mb4.2/5, Error ellipse: s-maj=25.5km s-min=10.3km az=69.0*
ISC 12 19:06:57.3±1.2, 1.3N±0.1×97.2E±0.2, h30km, n15, σ0§71/13, mb4.0/8, MS3.7/2, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.25**	**40**	*eP*	**Pn**	**19 08 16.6**	**+0.7**
CM31	**Chiang Mai Arr**	**17.16**	**5**	*eP*	**P**	**19 10 57.2**	**+0.4**
	3.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.16**	**5**	P	**P**	**19 10 56.4**	**-0.4**
	0.2nm,0.3s,baz=205,slow=11,SNR=8.1						
CMAR				LR	LR	19 17 34.3	
	comp=Z,127nm,19.5s,baz=185,slow=37						
SHL	**Shillong**	**24.70**	**348**	⇑*i*P	**P**	**19 12 17.7**	**+0.3**
LSA	**Lhasa**	**28.86**	**349**	P	**P**	**19 12 56.6**	**+1.0**
LSA	**Lhasa**	**28.86**	**349**	P	**P**	**19 12 56.0**	**+0.5**
	2.0nm,0.6s,mb4.0						
ENH	**Enshi**	**31.10**	**21**	P	**P**	**19 13 13.3**	**-2.1**
	3.4nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**19 14 48.3**	**+0.1**
	1.2nm,0.6s,mb3.7,baz=303,slow=9.0,SNR=10						
WRAB	**Tennant Creek**	**42.04**	**122**	*eP*	**P**	**19 14 47.9**	**-0.4**
	16nm,1.2s,mb4.5						
ASAR	**Alice Springs**	**43.40**	**127**	P	**P**	**19 14 59.9**	**+0.5**
	0.9nm,0.8s,mb3.5,baz=299,slow=7.0,SNR=8.3						
SONM	**Songino Array**	**47.06**	**8**	P	**P**	**19 15 28.3**	**+0.2**
	2.1nm,0.8s,mb4.1,baz=189,slow=8.1,SNR=17						
MKAR	**Makanchi Array**	**47.18**	**346**	P	**P**	**19 15 29.2**	**+0.1**
	1.0nm,0.5s,mb4.0,baz=152,slow=7.3,SNR=12						
ULN	**Ulaanbaatar**	**47.19**	**9**	P	**P**	**19 15 28.6**	**-0.5**
	1.7nm,0.9s,mb4.0						
CTA	**Charters Tower**	**52.50**	**117**	LR	LR	19 44 41.7	
	comp=Z,112nm,18.3s,MS3.9,baz=44,slow=43						
ASAJ	**Asahikawa**	**58.58**	**37**	LR	LR	19 45 30.0	
	comp=Z,35nm,18.0s,MS3.5,baz=154,slow=40						

*NEIC **12** 19:21:49.0±1.0, 1.72S×99.70E, mb4.4/2, Error ellipse: s-maj=35.9km s-min=11.3km az=62.0*
*IDC **12** 19:21:49.2±1.7, 1.62S×99.73E, h24km±6km, mb3.7/6, mb1 3.7/7, mb1mx3.6/18, mbtmp3.7/7, ML3.9/1, MS3.2/2, Ms1 3.3/2, ms1mx2.9/24, Error ellipse: s-maj=77.4km s-min=17.8km az=55.0*
ISC 12 19:21:48.7±1.2, 1.6S±0.2×99.8E±0.3, h33km, (h23km±2.9km:pP-P), n13, σ0§93/11, mb3.9/8, MS3.6/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.91**	**7**	*eP*	**P**	**19 23 30.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	**P**	**19 26 19.5**	**-1.4**
	0.2nm,0.3s,baz=185,slow=9.1,SNR=4.1						
CMAR				LR	LR	19 34 20.9	
	comp=Z,36nm,20.4s,baz=80,slow=38						
LSA	**Lhasa**	**32.20**	**346**	*eP*	**P**	**19 28 18.7**	**+2.6**
	2.1nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**38.39**	**121**	P	**P**	**19 29 08.7**	**-0.2**
	0.4nm,0.4s,mb3.5,baz=304,slow=9.0,SNR=6.7						
WRA				pP	pP	19 29 16.0	-2.6
	1.6nm,0.5s,baz=303,slow=9.1,SNR=10						
WRA				PcP	PcP	19 31 22.7	+0.2
	0.2nm,0.5s,baz=316,slow=2.6,SNR=5.7						
WRAB	**Tennant Creek**	**38.40**	**121**	*eP*	**P**	**19 29 08.6**	**-0.4**
	4.2nm,0.6s,mb4.3						
WRAB				*e*	pP	19 29 16.9	-1.8
ASAR	**Alice Springs**	**39.67**	**126**	P	**P**	**19 29 20.1**	**+0.6**
	0.3nm,0.6s,mb3.2,baz=295,slow=7.7,SNR=8.1						
ASAR				pP	pP	19 29 27.2	-2.0
	0.7nm,0.6s,baz=305,slow=7.9,SNR=6.1						
SONM	**Songino Array**	**49.58**	**6**	P	**P**	**19 30 38.6**	**0.0**
	0.5nm,0.6s,mb3.7,baz=207,slow=8.3,SNR=4.5						
SONM				PcP	PcP	19 31 59.6	-0.6
	0.6nm,0.7s,baz=180,slow=2.9,SNR=2.5						
MKAR	**Makanchi Array**	**50.59**	**345**	P	**P**	**19 30 46.7**	**+0.3**
	1.3nm,0.5s,mb4.1,baz=159,slow=8.5,SNR=15						
MKAR	**Makanchi Array**	**50.59**	**345**	P	**P**	**19 30 46.7**	**+0.3**
BVAR	**Borovoye Array**	**59.74**	**340**	P	**P**	**19 31 51.4**	**-1.2**
	0.6nm,0.6s,mb3.8,baz=141,slow=9.5,SNR=6.2						
HNR	**Honiara**	**60.33**	**100**	LR	LR	20 00 38.5	
	comp=Z,43nm,19.0s,MS3.6,baz=76,slow=39						
FINES	**FINESS Array B**	**83.66**	**332**	P	**P**	**19 34 15.1**	**0.0**
	2.1nm,0.9s,mb4.3,baz=256,slow=5.7,SNR=3.2						
TXAR	**Lajitas Array**	**144.53**	**37**	PKP	PKPdf	19 41 24.2	+1.7
	0.9nm,0.6s,baz=274,slow=1.2,SNR=7.5						
TXAR				pPKP		19 41 32.4	
	0.8nm,0.6s,baz=273,slow=1.0,SNR=4.8						

*IDC **12** 19:25:48.5±2.4, 52.21N×177.96E, h131km±23km, mb3.6/8, mb1 3.8/9, mb1mx3.4/27, mbtmp4.0/9, Error ellipse: s-maj=49.7km s-min=19.6km az=4.0*
*NEIC **12** 19:25:49.1±1.1, 52.13N×177.91E, h142km±11km, mb3.8/2, Error ellipse: s-maj=29.1km s-min=11.1km az=187.0*
ISC 12 19:25:48.0±1.2, 52.1N±0.2×177.8E±0.1, h150km±11km, n17, σ0§73/18, mb3.8/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**2.95**	**287**	P	**P**	**19 26 36.0**	**+0.6**
	28nm,0.3s,baz=143,slow=2.6,SNR=447						
FX1				S	**S**	**19 27 11.3**	**-0.4**
	64nm,0.3s,baz=341,slow=22,SNR=42						
FX1	**Attu Island--F**	**2.95**	**287**	*eP*	**P**	**19 26 35.8**	**+0.4**
KIWB	**Kanaga Island**	**3.12**	**93**	*eP*	**P**	**19 26 37.1**	**-0.5**
UNV	**Unalaska Valle**	**9.61**	**73**	P	**P**	**19 28 04.1**	**+0.6**
IMA	**Indian Mountai**	**19.97**	**35**	*eP*	**P**	**19 30 11.4**	**+1.4**
	8.5nm,0.9s						
SML	**Sawmill**	**20.60**	**49**	*eP*	**P**	**19 30 15.4**	**-1.0**
ILAR	**Eielson Array**	**22.02**	**41**	P	**P**	**19 30 29.6**	**-0.8**
	1.1nm,0.5s,mb3.5,baz=249,slow=9.1,SNR=15						
DAWY	**Dawson**	**25.03**	**45**	*eP*	**P**	**19 30 59.6**	**+0.6**
INK	**Inuvik**	**28.08**	**36**	P	**P**	**19 31 26.6**	**-0.3**
	0.9nm,0.4s,mb3.9,baz=253,slow=11,SNR=9.1						
YKA	**Yellowknife Ar**	**36.24**	**47**	P	**P**	**19 32 38.1**	**+0.5**
	3.2nm,0.6s,mb4.1,baz=283,slow=8.4,SNR=54						
EDM	**Edmonton**	**40.27**	**60**	*eP*	**P**	**19 33 11.4**	**+0.1**
YBH	**Yreka Blue Hor**	**40.84**	**80**	P	**P**	**19 33 17.3**	**+1.3**
	1.7nm,0.6s,mb3.9,baz=344,slow=7.4,SNR=4.3						
BW06	**Boulder Array**	**48.06**	**71**	*eP*	**P**	**19 34 13.1**	**-0.5**
	0.6nm,0.6s,mb3.4						
PDAR	**Pinedale Array**	**48.06**	**71**	P	**P**	**19 34 12.9**	**-0.7**
	0.9nm,0.7s,mb3.5,baz=319,slow=4.6,SNR=8.9						
BVAR	**Borovoye Array**	**58.94**	**318**	P	**P**	**19 35 33.9**	**+0.7**
	0.4nm,0.4s,mb3.6,baz=60,slow=8.0,SNR=4.7						
SCHQ	**Schefferville**	**60.69**	**37**	P	**P**	**19 35 44.3**	**-0.8**
	2.6nm,0.9s,mb4.1,baz=349,slow=5.2,SNR=4.7						
FINES	**FINESS Array B**	**64.56**	**345**	P	**P**	**19 36 09.8**	**-0.6**
	2.3nm,0.9s,mb4.0,baz=9.5,slow=8.5,SNR=3.5						

IDC 12 19:36:10.1±13.0, 2.77S×127.68E, mb3.5/2, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=332.6km s-min=182.3km az=85.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.27**	**160**	P	P	19 40 25.4	-1.5
	0.1nm,0.3s,baz=334,slow=13,SNR=5.0						
ASAR	**Alice Springs**	**21.63**	**164**	P	P	19 41 02.9	-1.3
	0.6nm,0.5s,baz=345,slow=12,SNR=10						
STKA	**Stephens Creek**	**31.78**	**157**	P	P	19 42 35.5	-3.0
	1.0nm,0.6s,baz=344,slow=15,SNR=3.0						

*IDC **12** 19:40:16.8±4.0, 6.34S×127.79E, h358km±77km, mb3.4/1, mb1 3.6/4, mb1mx3.1/15, mbtmp4.3/4, Error ellipse: s-maj=95.8km s-min=44.9km az=91.0*
ISC 12 19:40:10.7±3.0, 5.9S±0.3×127.7E±0.3, h358km±23km, n5, σ1§62/7, mb3.5/1, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.23**	**145**	⇑*i*P	**P**	**19 42 09.5**	**+1.0**
	12nm,0.3s						
FITZ	**Fitzroy Crossi**	**12.28**	**189**	P	**P**	**19 42 56.6**	**-0.2**
	0.6nm,0.3s,baz=10,slow=12,SNR=7.9						
WRA	**Warramunga Arr**	**15.38**	**156**	P	**P**	**19 43 29.9**	**-1.7**
	0.7nm,0.3s,baz=332,slow=12,SNR=134						
WRA				S	**S**	**19 46 11.4**	**-1.4**
	0.1nm,0.3s,baz=328,slow=24,SNR=5.3						
ASAR	**Alice Springs**	**18.64**	**162**	P	**P**	**19 44 05.4**	**+0.4**
	1.0nm,0.3s,baz=343,slow=12,SNR=71						
ASAR				S	**S**	**19 47 16.1**	**+1.9**
	0.2nm,0.3s,baz=349,slow=23,SNR=7.2						
STKA	**Stephens Creek**	**28.93**	**155**	P	**P**	**19 45 40.4**	**+0.2**
	1.4nm,0.5s,mb3.5,baz=343,slow=9.3,SNR=10						

OTT 12 19:56:44.2±0.2, 53.06N×66.92W, MN3.0/6, Blast, Labrador City, NI Mining explosion., Labrador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**1.77**	**2**	PN	Pn	19 57 15.6	-0.7
SCHQ				SN	Sn	19 57 39.2	-0.7
SCHQ				Trac		19 57 44.2	
	comp=Z,19nm,0.1s						
MNQ	**Manicouagan**	**2.78**	**205**	PN	Pn	19 57 29.6	-1.2
MNQ				SN	Sn	19 58 07.0	+1.4
MNQ				Trac		19 58 16.1	
	comp=Z,13nm,0.1s						
SMQ	**Clarke City**	**2.85**	**177**	PN	Pn	19 57 30.0	-1.7
SMQ				SN	Sn	19 58 06.2	-1.0
SMQ				Trac		19 58 14.8	
	comp=Z,8.2nm,0.1s						
ICQ	**Pointe Anglais**	**3.55**	**184**	PN	Pn	19 57 39.5	-2.2
ICQ				SN	Sn	19 58 22.0	-3.1
ICQ				Trac		19 58 25.9	
	comp=Z,7.2nm,0.1s						
CNQ	**Baie Comeau**	**3.84**	**191**	PN	Pn	19 57 44.3	-1.4
CNQ				SN	Sn	19 58 29.8	-2.4
CNQ				Trac		19 58 37.0	
	comp=Z,3.5nm,0.1s						
GSQ	**Grosses Roches**	**4.

CEY Cerknica 2.21 329 *e*Pn **Pn 20 46 31.6 +1.0**

IDC ***12*** *20:50:17.3±4.2, 26.55S×177.46W, h77km±39km, mb3.8/10, mb1 4.1/11, mb1mx4.0/16, mbtmp4.1/11, MS3.5/2, Ms1 3.5/2, ms1mx3.1/26, Error ellipse: s-maj=35.4km s-min=21.6km az=165.0*
NEIC ***12*** *20:50:17.4±2.6, 26.57S×177.40W, h81km±25km, mb4.7/3, Error ellipse: s-maj=29.5km s-min=15.2km az=170.0*
ISC 12 20:50:19.7±3.8, 26.5S±0.2×177.6W±0.1, h106km±36km, n27, σ0°90/17, mb4.1/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.73 186**		P	**P**	**20 50 58.6**	**-4.3**
	baz=285,slow=20,SNR=2.3						
RAO				S	**S**	**20 51 35.6**	**+0.1**
	342nm,0.3s,baz=142,slow=22,SNR=7.7						
RAO				LR	LR	20 51 38.0	
	comp=Z,872nm,21.2s,baz=338,slow=30						
DZM	**Mont Dzumac**	**15.23 284**		*e*P	**P**	**20 54 04.8**	**+15**
NOUC	**Port Laguerre**	**15.35 283**		*e*P	**P**	**20 54 05.7**	**+14**
CTA	**Charters Tower**	**33.76 273**	LR	LR	LR	21 07 10.7	
	comp=Z,87nm,21.8s,baz=226,slow=30						
CTAO	**Charters Tower**	**33.76 273**	P		**P**	**20 56 54.4**	**+1.1**
	3.8nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**43.84 263**	P		**P**	**20 58 16.6**	**-0.5**
	0.9nm,0.4s,mb3.8,baz=96,slow=7.0,SNR=20						
WRAB	**Tennant Creek**	**44.47 268**	*e*P		**P**	**20 58 21.5**	**-0.6**
	8.3nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**44.47 268**	P		**P**	**20 58 21.7**	**-0.5**
	3.1nm,0.7s,mb4.1,baz=107,slow=7.7,SNR=31						
FITZ	**Fitzroy Crossi**	**52.85 267**	P		**P**	**20 59 25.8**	**-1.0**
	3.4nm,0.6s,mb4.5,baz=171,slow=17,SNR=7.4						
MJAR	**Matsushiro Arr**	**75.30 324**	P		**P**	**21 01 53.3**	**+0.4**
	2.1nm,0.6s,mb4.0,baz=164,slow=5.8,SNR=5.8						
MAW	**Mawson**	**76.06 200**	P		**P**	**21 01 56.6**	**-0.1**
	1.8nm,0.6s,mb4.0,baz=178,slow=11,SNR=6.1						
NVAR	**Mina Array Bea**	**85.14 43**	P		**P**	**21 02 45.6**	**+0.4**
	1.0nm,0.7s,mb3.8,baz=210,slow=6.4,SNR=5.5						
ENH	**Enshi**	**89.74 304**	*e*P		**P**	**21 03 08.7**	**+1.2**
	11nm,0.8s,mb5.0						
TXAR	**Lajitas Array**	**89.97 57**	P		**P**	**21 03 09.2**	**+0.7**
	0.3nm,0.5s,mb3.6,baz=216,slow=7.8,SNR=3.1						
CMAR	**Chiang Mai Arr**	**92.48 289**	P		**P**	**21 03 21.8**	**+1.3**
	0.7nm,0.7s,mb4.0,baz=105,slow=2.2,SNR=6.7						
PDAR	**Pinedale Array**	**93.06 43**	P		**P**	**21 03 21.9**	**-0.7**
	0.7nm,0.8s,mb4.0,baz=243,slow=3.3,SNR=5.8						
ILAR	**Eielson Array**	**94.08 13**	P		**P**	**21 03 24.6**	**-2.0**
	0.4nm,0.8s,mb3.8,baz=214,slow=6.2,SNR=4.2						
MKAR	**Makanchi Array**	**115.54 311**	PKP		PKPdf	21 08 49.0	-0.1
	0.4nm,0.6s,baz=205,slow=1.8,SNR=6.1						
ARCES	**ARCESS Array B**	**134.88 349**	PKP		PKPdf	21 09 25.8	+0.2
	2.6nm,0.8s,slow=2.4,SNR=7.5						
FINES	**FINESS Array B**	**141.62 342**	PKhKP			21 09 33.0	
	2.3nm,0.9s,baz=48,slow=3.3,SNR=11						
NB2	**NORSAR Subarra**	**144.98 353**	PKPabc		PKPdf	21 09 44.2	+0.5
	2.7nm,0.6s,baz=16,slow=4.0						
NOA	**NORSAR Array B**	**144.98 353**	PKPbc		PKPbc	21 09 44.5	+0.6
	5.0nm,0.8s,baz=8.1,slow=2.6,SNR=11						
AKASG	**Malin Array Be**	**148.36 327**	PKPbc		PKPdf	21 09 52.9	+3.3
	1.8nm,0.5s,baz=38,slow=3.7,SNR=16						
BRTR	**Keskin Array B**	**150.90 305**	PKPbc		PKPdf	21 10 00.8	+6.9
	0.9nm,0.7s,baz=153,slow=2.8,SNR=5.1						
BRTR				PKPab	PKPab	21 10 09.8	+0.1
	3.0nm,0.7s,baz=100,slow=3.7,SNR=13						
CLL	**Collm**	**153.97 345**	*e*PKP1		PKPdf	21 10 07.0	+9.1
CLL			*e*PKP2		PKPab	21 10 22.0	-0.3
KHC	**Kasperske Hory**	**155.83 342**	*e*PKPab		PKPab	21 10 30.0	-0.2
GERES	**GERESS Array B**	**156.05 341**	PKPab		PKPab	21 10 29.6	-1.6
	0.5nm,0.7s,baz=45,slow=3.8,SNR=3.6						

IDC 12 21:01:30.2±9.2, 0.39N×98.00E, mb3.6/2, mb1 3.6/3, mb1mx3.4/18, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=182.2km s-min=135.2km az=134.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.98**	**3**	P	P	21 05 41.8	-1.6
	0.0nm,0.3s,baz=191,slow=9.2,SNR=4.6						
SONM	**Songino Array**	**47.82**	**8**	P	P	21 10 09.5	-1.9
	0.4nm,0.4s,baz=202,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**48.22 346**	P		P	21 10 12.5	-2.1
	0.6nm,0.6s,baz=156,slow=8.1,SNR=6.8						

IDC ***12*** *21:03:07.0±5.3, 4.72S×150.96E, h89km±46km, mb3.8/4, mb1 4.1/5, mb1mx3.6/15, mbtmp4.2/5, Error ellipse: s-maj=94.3km s-min=31.5km az=130.0*
ISC 12 21:03:05.6±4.2, 4.8S±0.4×151.1E±0.4, h89km±36km, n8, σ0°45/9, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.00 220**		P	**P**	**21 04 33.5**	**+0.2**
	18nm,0.3s,baz=47,slow=5.5,SNR=39						
PMG				S	**S**	**21 05 41.0**	**-0.3**
	21nm,0.3s,baz=126,slow=19,SNR=7.8						
KAKA	**Kakadu**	**20.02 246**	*e*P		**P**	**21 07 34.2**	**+0.4**
	8.9nm,0.5s						
WRA	**Warramunga Arr**	**22.18 226**	P		**P**	**21 07 55.1**	**-0.4**
	2.6nm,0.4s,mb3.9,baz=50,slow=11,SNR=29						
ASAR	**Alice Springs**	**25.01 220**	P		**P**	**21 08 22.6**	**-0.3**
	3.1nm,0.6s,mb3.9,baz=55,slow=8.8,SNR=34						
ASPA	**Alice Springs**	**25.01 220**	*e*P		**P**	**21 08 23.9**	**+1.0**
FITZ	**Fitzroy Crossi**	**28.17 240**	*e*P		**P**	**21 08 51.7**	**-0.2**
	6.1nm,1.1s,mb4.0						
FITZ	**Fitzroy Crossi**	**28.17 240**	P		**P**	**21 08 51.5**	**-0.4**
	3.1nm,0.3s,mb4.2,baz=43,slow=4.6,SNR=17						
ILAR	**Eielson Array**	**82.83 22**	P		**P**	**21 15 20.9**	**-0.3**
	0.3nm,0.6s,mb3.3,baz=242,slow=6.4,SNR=4.1						

CASC 12 21:16:20.3±1.3, 12.73N×86.93W, h3km±3km, MD4.2, 6C-5D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.12 258**		⇑*i*P	Pg	21 16 23.1	+0.3
CRIN				*e*S	Sg	21 16 26.3	+1.8
TELN	**Telica**	**0.15 143**		⇑*i*P	Pg	21 16 24.0	+0.6
TEL3	**Telica 3**	**0.17 153**		⇓*i*P	Pg	21 16 24.5	+0.8
LEON	**Leon**	**0.31 174**		⇓*i*P	Pg	21 16 26.6	+0.1
CNGN	**Cerro Negro**	**0.32 135**		⇑*e*P	Pg	21 16 27.5	+0.9
MIRN	**Miramar**	**0.35 144**		*e*P	Pg	21 16 28.2	+0.8
MOMJ	**Momotombo**	**0.49 130**		⇓*e*P	Pg	21 16 30.6	+0.5
COPN	**Copaltepe**	**0.63 149**		⇑*e*P	Pg	21 16 32.6	-0.3
APYN	**Apoyeque**	**0.75 131**		⇓*e*P	Pg	21 16 35.3	+0.1
APYN				*e*S	Sg	21 16 46.9	+1.8
XAVN	**Gruta Xavier**	**0.82 134**		*e*P	Pg	21 16 36.5	-0.2
PYTN	**Playitas**	**0.87 102**		⇑*i*P	Pb	21 16 37.1	-0.5
PYTN				*e*S	Sg	21 16 51.4	+2.2
MGAN	**Managua**	**0.88 131**		⇓*e*P	Pb	21 16 37.8	0.0
MGAN				*e*S	Sg	21 16 50.0	+0.5
WILN	**Americas 2**	**0.91 128**		*e*P	Pb	21 16 37.5	-0.9
WILN				*e*S	Sg	21 16 50.5	-0.3
TICN	**Ticuantepe**	**0.97 135**		⇑*e*P	Pb	21 16 39.0	-0.4
TICN				*e*S	Sb	21 16 53.0	+0.7
CNCH	**Conchagua**	**1.04 302**		*e*P	Pb	21 16 39.5	-1.1
CNCH				*e*S	Sb	21 16 55.8	+1.3
VSM	**San Miguel**	**1.49 298**		*e*P	Pn	21 16 47.4	-0.6
VSM				*e*S	Sb	21 17 09.7	+2.3
CONN	**Concepcion**	**1.72 132**		*e*P	Pn	21 16 50.4	-0.9
LCBS	**La Ceiba**	**2.20 295**		*e*P	Pn	21 16 57.0	-1.2
LCBS				*e*S	Sn	21 17 26.4	+0.1
LFRS	**El Faro**	**2.26 293**		*e*P	Pn	21 16 58.3	-0.8
LFRS				*e*S	Sn	21 17 28.0	+0.1

CSEM ***12*** *21:29:27.1±1.2, 38.62N×28.59W, h8km±11km, ML2.1, Error ellipse: s-maj=9.8km s-min=3.6km az=44.0, After PDA*
PDA ***12*** *21:29:27.1±1.2, 38.62N×28.59W, h8km±11km, MD3.1, ML2.1, Error ellipse: s-maj=9.8km s-min=3.6km az=44.0*
SVSA 12 21:29:27.1±1.2, 38.62N×28.59W, h8km±11km, MD3.1, ML2.1, Error ellipse: s-maj=9.8km s-min=3.6km az=44.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.09 278**		*i*P	Pg	21 29 28.8	-0.5
PCED				*e*S	Sg	21 29 30.7	-0.1
	201nm,0.2s						
PCED	**Cedros**	**0.09 278**		*e*S	Sg	21 29 30.7	-0.1
	201nm,0.2s						
CALA	**Caldeira**	**0.09 247**		*e*P	Pg	21 29 29.3	-0.1
CALA				*e*S	Sg	21 29 31.2	+0.3
HOR	**Horta**	**0.09 197**		*e*P	Pg	21 29 28.8	-0.6
HOR				*e*S	Sg	21 29 31.1	+0.1
PICO	**Pico**	**0.18 131**		*i*P	Pg	21 29 30.2	-0.7
PICO				*e*S	Sg	21 29 33.5	+0.1
PICO	**Pico**	**0.18 131**		*e*S	Sg	21 29 33.5	+0.1
PMAN	**Manadas**	**0.40 88**		*e*S	Sg	21 29 38.9	-1.6
	50nm,0.2s						
PMAN	**Manadas**	**0.40 88**		*e*S	Sg	21 29 38.9	-1.6
	50nm,0.2s						
PGRA	**Graciosa**	**0.63 49**		*e*S	Sg	21 29 45.7	-2.5
PSBA	**Serra de Santa**	**1.00 81**		*e*S	Sb	21 29 54.4	-5.1

IDC 12 21:32:47.5±50.0, 17.19S×178.50W, mb4.2/3, mb1 4.4/3, mb1mx3.9/16, mbtmp4.2/3, Error ellipse: s-maj=923.0km s-min=153.1km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.91 240**		P	P	21 40 15.2	-1.4
	6.4nm,1.3s,baz=85,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**44.68 259**		P	P	21 41 02.4	-1.8
	0.9nm,0.4s,baz=94,slow=7.4,SNR=44						
ASAR	**Alice Springs**	**44.91 254**		P	P	21 41 03.9	-2.1
	3.0nm,0.6s,baz=88,slow=8.8,SNR=46						
ASPA	**Alice Springs**	**44.91 254**		*e*P	P	21 41 04.0	-2.0
KAKA	**Kakadu**	**47.51 268**		*e*P	P	21 41 24.5	-2.2
	43nm,1.6s						

IDC ***12*** *21:47:23.9±2.2, 12.55N×91.63E, mb3.8/3, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=66.2km s-min=28.4km az=68.0*
ISC 12 21:47:26.2±6.3, 12.8N±0.1×91.77E±0.10, h29km±49km, n12, σ0°73/13, mb3.8/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.95 50**		Pn	**P**	**21 49 37.4**	**+0.9**
	baz=240,slow=12,SNR=3.1						
CMAR				Sn	**Sn**	**21 51 17.0**	**-0.4**
	0.3nm,0.3s,baz=238,slow=31,SNR=5.2						
JIRN	**Jiri**	**15.73 341**		*e*P	**P**	**21 51 06.9**	**-0.6**
	6.4nm,0.3s						
PKI	**Pulchoki**	**15.90 339**		*e*P	**P**	**21 51 09.9**	**+0.1**
	12nm,0.6s						
DMN	**Daman**	**16.04 338**		*e*P	**P**	**21 51 11.2**	**-0.4**
	20nm,0.9s						
GUN	**Gumba**	**16.06 341**		*e*P	**P**	**21 51 10.6**	**-1.1**
	12nm,0.8s						
KKN	**Kakani**	**16.15 339**		*e*P	**P**	**21 51 12.3**	**-0.6**
	4.2nm,0.4s						
GKN	**Gorkha**	**16.57 337**		*e*P	**P**	**21 51 18.5**	**+0.2**
	7.8nm,0.3s						
KOLN	**Koldanda**	**16.78 334**		*e*P	**P**	**21 51 22.0**	**+1.1**
	10nm,0.7s						
LUBP	**Lubang**	**27.73 85**		*e*P	**P**	**21 53 25.9**	**+11**
MKAR	**Makanchi Array**	**34.86 349**		P	**P**	**21 54 18.4**	**+1.4**
	0.3nm,0.6s,mb3.4,baz=167,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**53.02 127**		P	**P**	**21 56 42.5**	**-0.5**
	1.0nm,0.7s,mb3.9,baz=305,slow=8.4,SNR=9.9						
ASAR	**Alice Springs**	**54.84 131**		P	**P**	**21 56 56.4**	**-0.1**
	1.2nm,0.5s,mb4.2,baz=307,slow=6.7,SNR=16						

LDG ***12*** *21:49:29.7±0.1, 50.36N×7.40E, h4km, Md2.6/1, Ml2.4/9, Error ellipse: s-maj=1.4km s-min=0.9km az=65.0*
STR ***12*** *21:49:30.2±0.6, 50.29N×7.47E, h10km±1km, Ml1.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 12 21:49:28.9±1.0, 50.26N±0.04×7.28E±0.07, h6km±4km, n13, σ0°42/29, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGN	**Heimansgroeve**	**0.99 301**		*e*Pg	**Pg**	**21 49 48.8**	**-0.1**
	9.6nm,0.2s						
HGN				*e*Sg	**Sg**	**21 50 02.3**	**+0.2**
LANF	**Langenberg**	**1.33 165**		Pg	**Pg**	**21 49 55.1**	**-0.3**
LANF				Sg	**Sg**	**21 50 13.5**	**+0.4**
GIVF	**Givet**	**1.58 265**		*e*Pn	**Pn**	**21 49 58.0**	**+0.3**
GIVF				*e*Pg	**Pg**	**21 50 00.7**	**+0.2**
GIVF				*e*Sn	**Sn**	**21 50 18.6**	**-0.2**
GIVF				*e*Sg	**Sg**	**21 50 22.0**	**+0.3**
	7.4nm,0.2s						
CDF	**Champ du Feu**	**1.85 180**		*e*Pn	**Pn**	**21 50 02.0**	**+0.5**
CDF				*e*Pg	**Pg**	**21 50 05.9**	**+0.1**
CDF				*e*Sn	**Sn**	**21 50 25.6**	**+0.1**
	2.1nm,0.2s						
BAIF	**Baives**	**1.98 265**		*e*Pn	**Pn**	**21 50 03.6**	**+0.2**
BAIF				*e*Pg	**Pg**	**21 50 08.0**	**-0.5**
BAIF				*e*Sn	**Sn**	**21 50 28.6**	**-0.3**
	8.5nm,0.3s						
RFYF	**Reffroy**	**2.01 216**		*e*Pn	**Pn**	**21 50 04.4**	**+0.6**
RFYF				*e*Pg	**Pg**	**21 50 08.7**	**-0.4**
RFYF				*e*Sg	**Sg**	**21 50 37.0**	**+1.1**
	3.2nm,0.2s,baz=34						
ECH	**Echery**	**2.05 182**		Pg	**Pg**	**21 50 10.1**	**+0.3**
THEF	**They Montfort**	**2.20 203**		Pg	**Pg**	**21 50 12.7**	**-0.2**
MEZF	**Maizieres J'vi**	**2.28 220**		*e*Pn	**Pn**	**21 50 08.1**	**+0.4**
	baz=36						
MEZF				*e*Sg	**Sg**	**21 50 45.1**	**+0.2**
	2.8nm,0.3s						
HAU	**Haudompre**	**2.34 195**		*e*Pg	**Pg**	**21 50 15.1**	**-0.5**
HINF	**Hinteralfeld**	**2.46 187**		*e*Pn	**Pn**	**21 50 10.7**	**+0.4**
HINF				*e*Pg	**Pg**	**21 50 17.6**	**-0.4**
HINF				*e*Sg	**Sg**	**21 50 50.5**	**-0.3**
	2.0nm,0.3s						
SFTF	**Sexfontaines**	**2.52 216**		*e*Pg	**Pg**	**21 50 18.9**	**-0.4**
	baz=36						
SFTF				*e*Sn	**Sn**	**21 50 42.1**	**-0.6**
SFTF				*e*Sg	**Sg**	**21 50 52.5**	**-0.5**
	1.1nm,0.1s,baz=44						
SSF	**Saint Saulge**	**4.06 219**		*e*Pn	**Pn**	**21 50 32.3**	**-0.7**

IDC 12 22:05:06.3±3.4, 0.32N×98.03E, mb3.6/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=136.9km s-min=24.6km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.05**	**3**	P	P	22 09 18.9	-1.4
	0.1nm,0.3s,baz=198,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**40.87 122**		P	P	22 12 49.9	-2.0
	0.2nm,0.4s,baz=302,slow=9.1,SNR=4.5						
ASAR	**Alice Springs**	**42.20 127**		P	P	22 13 01.6	-1.3
	0.4nm,0.6s,baz=304,slow=8.0,SNR=5.8						
MKAR	**Makanchi Array**	**48.29 346**		P	P	22 13 49.3	-2.0
	0.6nm,0.5s,baz=153,slow=8.2,SNR=15						

IDC 12 22:07:10.9±14.0, 17.67S×178.75W, h673km±150km, mb3.3/4, mb1 3.4/4, mb1mx3.1/17, mbtmp4.4/4, Error ellipse: s-maj=111.9km s-min=84.2km az=106.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.46 241**		P	P	22 13 38.8	-1.6
	2.1nm,0.7s,baz=104,slow=13,SNR=7.6						
WRA	**Warramunga Arr**	**44.35 259**		P	P	22 14 25.1	-1.8
	1.6nm,0.4s,baz=93,slow=7.3,SNR=64						
ASAR	**Alice Springs**	**44.54 254**		P	P	22 14 26.6	-1.7
	5.5nm,0.6s,baz=87,slow=8.7,SNR=71						
ASAR				PcP	PcP	22 15 53.8	-2.4
	0.5nm,0.5s,baz=108,slow=3.9,SNR=4.6						
ASPA	**Alice Springs**	**44.54 254**		*e*P	P	22 14 26.5	-1.8
KAKA	**Kakadu**	**47.26 269**		*e*P	P	22 14 47.3	-1.6
	41nm,1.7s						
FITZ	**Fitzroy Crossi**	**52.74 260**		*e*P	P	22 15 27.4	-1.2
	5.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.74 260**		P	P	22 15 27.1	-1.5
	9.3nm,1.1s,baz=83,slow=5.2,SNR=4.3						
BRTR	**Keskin Array B**	**144.38 315**	PKP		PKPdf	22 25 32.9	+0.1
	1.1nm,0.7s,baz=124,slow=4.5,SNR=5.0						
GERES	**GERESS Array B**	**147.29 345**	PKPbc		PKPdf	22 25 40.5	+3.3
	0.6nm,0.5s,baz=25,slow=3.4,SNR=9.6						

BJI ***12*** *22:29:19.3, 3.59S×130.21E, h41km, mB5.1, mb4.7, Ms4.2, Msz4.0*
IDC ***12*** *22:29:19.9±0.7, 2.93S×130.01E, mb4.4/13, mb1 4.6/14, mb1mx4.5/19, mbtmp4.5/14, ML5.0/1, MS4.1/11, Ms1 4.1/11, ms1mx3.9/25, Error ellipse: s-maj=31.4km s-min=13.9km az=73.0*
DJA ***12*** *22:29:21.1±0.2, 3.34S×130.12E, h14km, mb5.5/3, Error ellipse: s-maj=40.6km s-min=5.3km az=173.0*
NEIC ***12*** *22:29:21.5±0.3, 3.00S×129.90E, h10km, mb4.7/19, Error ellipse: s-maj=11.9km s-min=5.6km az=63.0*
ISC 12 22:29:22.5±0.3, 3.04S±0.04×130.05E±0.05, h33km, n76, σ1°12/73, mb4.7/27, MS4.0/12, 8C, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUNI	**Buntu Taipa**	**9.73 266**		*e*P	**P**	**22 31 45.2**	**+1.9**
KAKA	**Kakadu**	**9.90 166**		*e*P	**P**	**22 31 44.0**	**-1.6**
	18nm,0.5s						
KAKA				*e*S	**S**	**22 33 34.0**	**-2.6**
MENI	**Mendum Tagoi**	**10.37**	**87**	⇑*i*P	**P**	**22 31 52.7**	**+0.7**
	26nm,0.9s						
NINI	**Niniconang**	**10.37 262**		*e*P	**P**	**22 31 51.9**	**-0.2**
YOMI	**Yo Moklole**	**10.50**	**88**	⇑*i*P	**P**	**22 31 53.0**	**-0.9**
	145nm,0.7s						
TANI	**Tanete Lipujan**	**10.66 268**		*e*P	**P**	**22 31 57.8**	**+1.7**
TSM	**Tawau**	**14.19 301**		P	**P**	**22 32 39.4**	**-3.9**
KEDI	**Kedomdong**	**14.88 248**		⇑*i*P	**P**	**22 32 53.7**	**+1.3**
	113nm,0.9s						
FITZ	**Fitzroy Crossi**	**15.58 196**		⇑*i*P	**P**	**22 33 01.5**	**0.0**
	33nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.58 196**		Pn	**P**	**22 33 01.3**	**-0.2**
	4.1nm,0.3s,baz=12,slow=8.1,SNR=38						
FITZ				LR	LR	22 39 07.2	
	comp=Z,439nm,19.2s,baz=51,slow=38						
SRDI	**Scrawed**	**16.72 250**		*e*pP		22 33 19.0	
SRDI	**Scrawed**	**16.72 250**		⇑*i*P	**P**	**22 33 15.7**	**-0.3**
WRAB	**Tennant Creek**	**17.31 166**		*e*P	**P**	**22 33 23.2**	**-0.1**
	58nm,1.1s						
WRA	**Warramunga Arr**	**17.31 166**		P	**P**	**22 33 21.6**	**-1.8**
	1.0nm,0.3s,baz=345,slow=12,SNR=41						
WRA				S	**S**	**22 36 31.2**	**-1.9**
	0.6nm,0.3s,baz=324,slow=26,SNR=4.3						
PMG	**Port Moresby**	**18.14 111**		P	**P**	**22 33 37.5**	**+3.8**
	0.5nm,0.3s,baz=285,slow=14,SNR=2.9						
LUBP	**Lubang**	**19.30 330**		*e*P	**P**	**22 33 46.9**	**-0.7**
KSM	**Kuching**	**20.24 283**		*e*P	**P**	**22 33 56.6**	**-1.2**
MBWA	**Marble Bar**	**20.62 208**		*e*P	**P**	**22 34 02.1**	**+0.3**
	59nm,1.2s						
ASAR	**Alice Springs**	**20.84 170**		P	**P**	**22 34 04.7**	**+0.7**
	53nm,0.7s,baz=350,slow=9.7,SNR=318						
ASAR				S	**S**	**22 37 53.6**	**+4.0**
	7.4nm,0.9s,baz=350,slow=17,SNR=5.4						
ASAR				LR	LR	22 42 59.4	
	comp=Z,342nm,19.1s,MS3.7,baz=342,slow=39						
ASPA	**Alice Springs**	**20.84 170**		⇑*i*P	**P**	**22 34 04.7**	**+0.7**
ASPA				*e*S	**S**	**22 37 53.6**	**+4.0**
CTA	**Charters Tower**	**23.17 138**		*e*P	**P**	**22 34 29.1**	**+1.8**
	13nm,0.9s,mb4.4						
CTA	**Charters Tower**	**23.17 138**		P	**P**	**22 34 31.1**	**+3.8**
	12nm,0.8s,mb4.4,baz=319,slow=13,SNR=7.2						
CTAO	**Charters Tower**	**23.17 138**		*e*P	**P**	**22 34 31.6**	**+4.3**
	24nm,0.9s,mb4.6						
KGM	**Kluang**	**27.19 280**		P	**P**	**22 35 06.3**	**+0.9**
JOW	**Kunigami**	**29.75 357**		P	**P**	**22 35 28.4**	**+0.2**
	17nm,0.8s,mb4.9,baz=144,slow=6.9,SNR=3.6						
JOW				LR	LR	22 46 25.5	
	comp=Z,291nm,19.8s,MS3.9,baz=5.8,slow=35						
IPM	**Ipoh**	**29.98 285**		P	**P**	**22 35 29.5**	**-0.8**
KULM	**Kulim**	**30.52 286**		*e*P	**P**	**22 35 33.8**	**-1.4**
KLBR	**Kellerberrin**	**30.67 201**		*e*P	**P**	**22 35 35.5**	**-0.9**
	972nm,1.4s						
STKA	**Stephens Creek**	**30.67 161**		*e*P	**P**	**22 35 37.3**	**+0.9**
	6.6nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**30.67 161**		P	**P**	**22 35 37.4**	**+0.9**
	2.8nm,0.3s,mb4.5,baz=339,slow=7.7,SNR=16						
NWAO	**Narrogin (SRO)**	**32.07 201**		LR	LR	22 50 40.0	
	comp=Z,324nm,18.9s,MS4.0,baz=39,slow=40						
CBIJ	**Chichi jima**	**32.17**	**21**	LR	LR	22 47 08.1	
	comp=Z,403nm,18.2s,MS4.2,baz=146,slow=33						
KKTK	**Khon Kaen**	**33.09 306**		P	**P**	**22 35 58.0**	**+0.3**
	309nm,0.7s						
JHJ	**Hachijo jima 2**	**37.12**	**14**	LR	LR	22 50 50.7	
	comp=Z,300nm,18.5s,MS4.1,baz=135,slow=35						
CM31	**Chiang Mai Arr**	**37.35 306**		*e*P	**P**	**22 36 34.1**	**+0.1**
	8.1nm,0.7s,mb4.7						
CMAR	**Chiang Mai Arr**	**37.35 306**		P	**P**	**22 36 34.2**	**+0.2**
	11nm,1.0s,mb4.6,baz=133,slow=7.2,SNR=48						
CMAR				PcP	PcP	22 38 53.7	+0.6
	1.6nm,0.9s,baz=133,slow=2.3,SNR=4.4						
CHG	**Chiang Mai**	**37.53 307**		⇑P	**P**	**22 36 35.6**	**+0.1**
	24nm,0.8s,mb5.0						
KMI	**Kunming**	**38.55 318**		P	**P**	**22 36 44.6**	**+0.7**
KMI				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.6						
KMI	**Kunming**	**38.55 318**		P	**P**	**22 36 44.6**	**+0.7**
	comp=

	SNR=8.6						
AML	**Almayashu**	**67.89**	**318**	P	**P**	**22 40 20.4**	**+0.5**
	SNR=9.2						
EKS2	**Erkin-Say**	**68.07**	**319**	P	**P**	**22 40 21.2**	**+0.2**
	SNR=6.2						
VNDA	**Vanda**	**76.35**	**173**	P	**P**	**22 41 10.7**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=311,slow=8.8,SNR=4.0						
SBA	**Scott Base**	**77.23**	**173**	P	**P**	**22 41 16.8**	**+2.2**
	comp=Z,11nm,1.4s,mb4.6						
MAW	**Mawson**	**78.64**	**201**	P	**P**	**22 41 23.2**	**+0.8**
	comp=Z,3.7nm,1.0s,mb4.3,baz=66,slow=6.3,SNR=5.3						
MAW				LR	LR	23 10 36.8	
	comp=Z,147nm,20.3s,MS4.3,baz=259,slow=32						
ARU	**Arti**	**82.40**	**328**	*e*P	**P**	**22 41 42.2**	**-0.3**
	comp=Z,15nm,1.0s,mb4.9						
GNI	**Garni**	**88.35**	**310**	P	**P**	**22 42 15.0**	**+2.6**
	comp=Z,0.7nm,0.3s,mb4.3,baz=165,slow=16,SNR=4.3						
ILAR	**Eielson Array**	**89.76**	**25**	P	**P**	**22 42 19.6**	**+1.0**
	comp=Z,0.4nm,0.7s,mb3.9,baz=231,slow=5.8,SNR=3.7						
KMBO	**Kilima Mbogo**	**92.74**	**269**	P	**P**	**22 42 34.9**	**+1.3**
	comp=Z,2.9nm,1.0s,mb4.7,baz=53,slow=7.6,SNR=7.8						
KMBO				LR	LR	23 19 49.7	
	comp=Z,121nm,19.8s,MS4.3,baz=99,slow=33						
KMBO	**Kilima Mbogo**	**92.74**	**269**	*e*P	**P**	**22 42 34.7**	**+1.2**
	comp=Z,6.0nm,1.1s,mb4.9						
KMBO				P		22 42 34.9	
ARCES	**ARCESS Array B**	**97.91**	**340**	LR	LR	23 32 06.1	
	comp=Z,85nm,19.0s,MS4.2,baz=231,slow=38						

*PRU **12** 22:31:26.6, 50.15N×19.05E*

WAR 12 22:31:25.9, 50.10N×19.18E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.42**	**74**	*e*PG	Pg	22 31 34.0	-0.2
OJC				*e*SG	Sg	22 31 40.0	+0.2
RAC	**Raciborz**	**0.63**	**269**	*e*PG	Pg	22 31 39.0	+0.5
RAC				*e*SG	Sg	22 31 48.0	+1.1
OKC	**Ostrava-Krasne**	**0.71**	**249**	*e*PG	Pg	22 31 39.5	-0.7
OKC				*e*SG	Sg	22 31 46.4	-3.3
NIE	**Niedzica**	**1.01**	**132**	*e*PG	Pg	22 31 44.0	-2.0
NIE				*e*SG	Sg	22 31 59.0	-0.4
LIKS	**Likavka**	**1.05**	**182**	*e*SN	Sn	22 32 00.5	-2.8
KOLL	**Kolacno**	**1.61**	**199**	*e*SN	Sn	22 32 17.2	-0.1
VYHS	**Vyhne**	**1.63**	**188**	*e*PN	Pn	22 31 55.1	-0.8
VYHS				*e*SN	Sn	22 32 16.6	-1.2
DPC	**Dobruska-Polom**	**1.85**	**279**	*e*PG	Pg	22 31 57.9	-4.9
DPC				*e*SG	Sg	22 32 21.8	-5.7
	24nm,0.6s						
CRVS	**Cervenica-Dubn**	**1.92**	**128**	*e*PN	Pn	22 32 02.2	+2.2
CRVS				*e*SN	Sn	22 32 27.6	+2.5
SMOL	**Smolenice**	**1.96**	**216**	*e*SN	Sn	22 32 24.3	-2.0
KSP	**Ksiaz**	**1.98**	**293**	*e*PG	Pg	22 32 01.0	-4.5
KSP				*e*SN	Sn	22 32 27.0	+0.1
UPC	**Upice**	**2.07**	**282**	*e*SG	Sg	22 32 28.7	-6.0
KOLS	**Kolonicke sedl**	**2.33**	**119**	*e*PN	Pn	22 32 10.3	+4.3
PRU	**Pruhonice**	**2.99**	**270**	*e*SG	Sg	22 32 58.3	-7.1
KHC	**Kasperske Hory**	**3.77**	**257**	*e*PN	Pn	22 32 23.5	-2.9
KHC				*ex*	x	22 32 38.5	
KHC				*e*SG	Sg	22 33 22.6	-8.7
CLL	**Collm**	**4.11**	**289**	*e*SG	Sg	22 33 36.0	-6.5
CLL				*i*		22 33 47.5	
NKC	**Novy Kostel**	**4.33**	**274**	*e*SG	Sg	22 33 42.4	-7.5

*NEIC **12** 22:32:10.5, 41.71S×174.29E, h16km, ML4.3(WEL), After WEL.*

WEL 12 22:32:10.5±0.1, 41.71S×174.29E, h17km±1km, ML4.3/28, 4C-6D, Error ellipse: s-maj=0.8km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.06**	**236**	P	Pb	22 32 13.4	-0.3
CMWZ				S	Sb	22 32 16.2	+0.3
CMWZ	**Cape Campbell**	**0.06**	**236**	P*	Pb	22 32 13.4	-0.3
CMWZ				S*	Sb	22 32 16.4	+0.4
BSWZ	**Blackbirch Sta**	**0.31**	**270**	P	Pb	22 32 16.8	-0.4
BSWZ	**Blackbirch Sta**	**0.31**	**270**	⇓P*	Pb	22 32 16.8	-0.4
BSWZ				S*	Sb	22 32 21.6	-0.1
TUWZ	**Tuamarina**	**0.38**	**318**	P*	Pb	22 32 18.2	-0.2
TUWZ				S*	Sb	22 32 23.9	+0.1
SNZO	**South Karori**	**0.51**	**38**	P	Pb	22 32 20.8	+0.1
SNZO	**South Karori**	**0.51**	**38**	⇑P*	Pb	22 32 20.8	+0.1
SNZO				P*	Pb	22 32 20.8	+0.1
SNZO				S*	Sb	22 32 28.5	+0.9
SNZO				S*	Sb	22 32 28.7	+1.1
BHW	**Baring Head**	**0.54**	**56**	P	Pb	22 32 21.2	+0.1
BHW	**Baring Head**	**0.54**	**56**	⇓P*	Pb	22 32 21.2	+0.2
BHW				S*	Sb	22 32 30.1	+1.8
WEL	**Wellington**	**0.56**	**40**	P	Pb	22 32 21.8	+0.3
WEL	**Wellington**	**0.56**	**40**	⇑P*	Pb	22 32 21.8	+0.3
WEL				S*	Sb	22 32 30.1	+1.1
MRW	**Makara Radio**	**0.57**	**33**	P	Pb	22 32 21.7	-0.1
MRW	**Makara Radio**	**0.57**	**33**	P*	Pb	22 32 21.7	0.0
MRW				S*	Sb	22 32 30.4	+0.9
MSWZ	**Moikau Station**	**0.78**	**68**	P	Pb	22 32 26.0	+0.7
MSWZ	**Moikau Station**	**0.78**	**68**	P*	Pb	22 32 26.0	+0.7
MSWZ				S*	Sb	22 32 37.0	+1.6
NNZ	**Nelson**	**0.84**	**306**	P	Pb	22 32 26.2	-0.1
NNZ	**Nelson**	**0.84**	**306**	⇓P*	Pb	22 32 26.2	-0.1
CAW	**Cannon Point**	**0.84**	**45**	P	Pb	22 32 26.5	+0.2
CAW	**Cannon Point**	**0.84**	**45**	P*	Pb	22 32 26.5	+0.2
CAW				S*	Sb	22 32 38.6	+1.4
KHZ	**Kahutara**	**0.90**	**218**	P	Pb	22 32 27.4	+0.2
KHZ	**Kahutara**	**0.90**	**218**	⇑P*	Pb	22 32 27.4	+0.2
KHZ				S*	Sb	22 32 40.9	+2.1
PAWZ	**Paruwai Farm**	**0.92**	**69**	⇓P*	Pb	22 32 27.6	0.0
PAWZ				S*	Sb	22 32 42.3	+3.0
DUWZ	**D'Urville Isla**	**0.95**	**343**	P*	Pb	22 32 28.1	0.0
DUWZ				S*	Sb	22 32 42.0	+1.8
KIW	**Kapiti Island**	**0.97**	**29**	P	Pb	22 32 28.6	+0.1
KIW	**Kapiti Island**	**0.97**	**29**	⇑P*	Pb	22 32 28.6	+0.1
THZ	**Tophouse**	**1.03**	**267**	*e*P	Pb	22 32 29.7	+0.1
THZ	**Tophouse**	**1.03**	**267**	⇓P*	Pb	22 32 29.7	+0.1
THZ				S*	Sb	22 32 45.3	+2.5
MTW	**Mount Morrison**	**1.07**	**59**	P	Pb	22 32 29.7	-0.5
MTW	**Mount Morrison**	**1.07**	**59**	P*	Pb	22 32 29.7	-0.5
MRZ	**Mangatainoka R**	**1.43**	**43**	P	Pn	22 32 35.1	-0.9
MRZ	**Mangatainoka R**	**1.43**	**43**	⇓P*	Pb	22 32 35.1	-1.3
QRZ	**Quartz Range**	**1.59**	**303**	P	Pn	22 32 38.9	+0.6
QRZ	**Quartz Range**	**1.59**	**303**	PN	Pn	22 32 38.9	+0.7
BFZ	**Birch Farm**	**1.80**	**56**	P	Pn	22 32 39.0	-2.3
BFZ	**Birch Farm**	**1.80**	**56**	PN	Pn	22 32 39.0	-2.3
LTZ	**Lake Taylor**	**1.84**	**234**	*e*P	Pn	22 32 40.5	-1.3
LTZ	**Lake Taylor**	**1.84**	**234**	PN	Pn	22 32 40.5	-1.3
DSZ	**Denniston Nort**	**1.86**	**268**	*e*P	Pn	22 32 42.4	+0.3
DSZ	**Denniston Nort**	**1.86**	**268**	PN	Pn	22 32 41.7	-0.3
WAZ	**Wanganui**	**2.03**	**15**	*e*P	Pn	22 32 45.3	+0.8
WAZ	**Wanganui**	**2.03**	**15**	PN	Pn	22 32 45.3	+0.9
TSZ	**Takapari Road**	**2.08**	**38**	PN	Pn	22 32 43.8	-1.5
CRLZ	**Canterbury Las**	**2.23**	**213**	*e*P	Pn	22 32 44.4	-3.0
MQZ	**McQueen's Vall**	**2.33**	**211**	*e*P	Pn	22 32 45.2	-3.6
MOVZ	**Moawhango**	**2.56**	**26**	P	Pn	22 32 51.3	-0.8
WNVZ	**Wahianoa**	**2.58**	**23**	P	Pn	22 32 52.2	-0.2
VRZ	**Vera Road**	**2.61**	**8**	*e*P	Pn	22 32 53.8	+1.0
FWVZ	**Far West T-bar**	**2.64**	**22**	P	Pn	22 32 57.4	+4.2
TUVZ	**Tukino**	**2.66**	**24**	P	Pn	22 32 53.3	-0.2
NGZ	**Ngauruhoe**	**2.73**	**22**	P	Pn	22 32 58.5	+4.0
RPZ	**Rata Peaks**	**3.11**	**229**	*e*P	Pn	22 32 57.0	-2.9
HIZ	**Hauiti**	**3.23**	**8**	*e*P	Pn	22 33 02.0	+0.4
LBZ	**Lake Benmore**	**4.02**	**227**	*e*P	Pn	22 33 09.8	-3.1
ODZ	**Otahua Downs**	**4.26**	**217**	*e*P	Pn	22 33 12.3	-3.9
JCZ	**Jackson Bay**	**4.70**	**238**	*e*P	Pn	22 33 20.3	-2.2
TUZ	**Tuapeka**	**5.41**	**217**	*e*P	Pn	22 33 27.9	-4.7

*MOS **12** 22:36:48.0±1.2, 50.12N×19.11E, h10km, mb4.0/1, Error ellipse: s-maj=10.9km s-min=8.5km az=76.7*
*CSEM **12** 22:36:48.0±0.2, 50.19N×19.05E, h2km, ML3.3/4, Error ellipse: s-maj=5.2km s-min=2.2km az=3.0*
*IPEC **12** 22:36:48.4±0.1, 50.12N×19.08E, h4km±1km, ML2.2/3, Error ellipse: s-maj=2.4km s-min=0.7km az=164.0*
*PRU **12** 22:36:49.0, 50.12N×19.02E*
*IDC **12** 22:36:49.2±2.5, 49.95N×19.06E, mb1 3.8/2, mb1mx3.3/18, mbtmp3.8/2, ML2.9/3, Error ellipse: s-maj=43.9km s-min=10.7km az=140.0*

WAR 12 22:36:48.0, 50.08N×19.13E, h0km, ML2.6, 1C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.46**	**72**	*e*PG	Pg	22 36 57.0	-0.1
OJC				*e*SG	Sg	22 37 04.0	+0.8
OJC	**Ojcow**	**0.46**	**72**	*e*Pg	Pg	22 36 57.2	+0.1
OJC				*e*Sg	Sg	22 37 03.8	+0.6
RAC	**Raciborz**	**0.60**	**271**	*e*Pg	Pg	22 37 00.6	+0.6
RAC				*e*Sg	Sg	22 37 09.7	+1.7
OKC	**Ostrava-Krasne**	**0.68**	**250**	*e*PG	Pg	22 37 01.2	-0.3
OKC	**Ostrava-Krasne**	**0.68**	**250**	Pg	Pg	22 37 01.2	-0.3
OKC				*e*Sg	Sg	22 37 10.0	-0.5
NIE	**Niedzica**	**1.01**	**130**	⇓*e*P	Pg	22 37 05.9	-2.3
NIE				*e*Sg	Sg	22 37 22.2	+0.4
LIKS	**Likavka**	**1.03**	**181**	*e*PN	Pn	22 37 08.4	-1.1
LIKS				*e*SN	Sn	22 37 23.3	-1.4
MORC	**Moravsky Berou**	**1.07**	**254**	*e*Pg	Pg	22 37 08.0	-1.3
MORC				*e*Sg	Sg	22 37 22.0	-1.5
	36nm,0.2s						
JAVC	**Velka Javorina**	**1.55**	**218**	*e*Pn	Pn	22 37 16.6	-0.3
KOLL	**Kolacno**	**1.57**	**198**	*e*PN	Pn	22 37 17.0	-0.2
KOLL				*e*SN	Sn	22 37 38.8	+0.2
VYHS	**Vyhne**	**1.60**	**187**	*e*PN	Pn	22 37 17.0	-0.6
VYHS				*e*SN	Sn	22 37 38.0	-1.2
VRAC	**Vranov**	**1.82**	**246**	Pg	Pg	22 37 21.2	-3.0
	2.9nm,0.3s,baz=68,slow=14,SNR=19						
VRAC				Lg		22 37 44.5	
	5.6nm,0.3s,baz=346,slow=23,SNR=10						
VRAC	**Vranov**	**1.82**	**246**	*e*Pn	Pn	22 37 20.6	-0.1
VRAC				*e*Sg	Sg	22 37 44.8	-3.7
	14nm,0.2s						
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*P	Pn	22 37 19.9	-0.9
DPC				*e*		22 37 44.1	
DPC				smax			
	comp=N,39nm,0.3s						
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*PG	Pg	22 37 19.9	-4.5
DPC				*e*SG	Sg	22 37 44.1	-4.5
	comp=N,39nm,0.3s						
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*Pn	Pn	22 37 19.8	-1.0
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*Pg	Pg	22 37 19.9	-4.5
DPC				Sg	Sg	22 37 44.1	-4.5
	comp=N,39nm,0.3s						
KECS	**Kecovo**	**1.83**	**150**	*e*PN	Pn	22 37 21.7	+0.8
KECS				*e*SN	Sn	22 37 45.5	+0.5
SMOL	**Smolenice**	**1.92**	**216**	*e*PN	Pn	22 37 21.1	-1.1
CRVS	**Cervenica-Dubn**	**1.93**	**127**	*e*PN	Pn	22 37 24.1	+1.8
CRVS				*e*SN	Sn	22 37 51.3	+3.8
KSP	**Ksiaz**	**1.97**	**294**	*e*PG	Pg	22 37 25.0	-2.2
KSP				*e*SG	Sg	22 37 51.0	-2.4
KSP	**Ksiaz**	**1.97**	**294**	*e*Pn	Pn	22 37 22.5	-0.3
KSP				*e*Pg	Pg	22 37 25.2	-2.0
KSP				*e*Sn	Sn	22 37 48.5	0.0
KSP				*e*Sg	Sg	22 37 52.4	-1.1
KSP	**Ksiaz**	**1.97**	**294**	*e*Pg	Pg	22 37 24.7	-2.5
KSP				*e*Sg	Sg	22 37 50.8	-2.6
UPC	**Upice**	**2.04**	**283**	*e*PG	Pg	22 37 23.6	-5.2
UPC				*e*SG	Sg	22 37 50.3	-5.7
KRUC	**Moravsky**	**2.05**	**241**	*e*Pn	Pn	22 37 24.3	+0.3
KRUC				*e*Sg	Sg	22 37 51.7	-4.5
	comp=N,17nm,0.4s						
PSZ	**Piszkesteto**	**2.22**	**167**	⇑*i*P	Pn	22 37 24.3	-2.2
KOLS	**Kolonicke sedl**	**2.35**	**118**	*e*PG	Pg	22 37 32.7	-2.2
KWP	**Kalwaria**	**2.36**	**100**	*e*P	Pn	22 37 36.3	+7.8
KWP				*e*		22 38 02.8	
KWP	**Kalwaria**	**2.36**	**100**	*e*Pn	Pn	22 37 31.0	+2.5
KWP				*e*P*	Pb	22 37 36.3	+5.1
KWP				*e*Pg	Pg	22 37 41.3	+6.2
KWP				*e*Sn	Sn	22 38 02.9	+4.3
KWP				*e*Sg	Sg	22 38 14.2	+7.6
PVCC	**Panska Ves**	**2.96**	**281**	*e*PG	Pg	22 37 40.9	-6.1
PVCC				*e*SG	Sg	22 38 19.5	-6.9
PRU	**Pruhonice**	**2.96**	**270**	*e*SG	Sg	22 38 19.3	-7.2
BRG	**Berggiesshubel**	**3.41**	**286**	*e*P	Pn	22 37 51.1	+7.7
KHC	**Kasperske Hory**	**3.73**	**257**	*e*P	Pn	22 37 45.0	-3.0
KHC				*e*		22 38 29.5	
KHC	**Kasperske Hory**	**3.73**	**257**	*e*PN	Pn	22 37 45.0	-3.0
KHC				*e*PG	Pg	22 37 56.0	-6.5
KHC				*e*SN	Sn	22 38 29.5	-3.8
KHC				*e*SG	Sg	22 38 45.5	-6.7
GERES	**GERESS Array B**	**3.75**	**253**	Pn	Pn	22 37 47.5	-0.7
	comp=N,0.1nm,0.3s,baz=77,slow=13,SNR=3.6						
GERES				Pg	Pg	22 37 55.8	-7.0
	comp=N,0.4nm,0.3s,baz=71,slow=15,SNR=10						
GERES				Sn	Sn	22 38 33.9	+0.2
	comp=N,0.6nm,0.3s,baz=68,slow=18,SNR=5.1						
GERES				Lg		22 38 45.7	
	comp=N,1.4nm,0.3s,baz=68,slow=24,SNR=6.4						
GERES	**GERESS Array B**	**3.75**	**253**	P	Pn	22 37 47.5	-0.8
GERES				S	Sn	22 38 33.9	+0.2
CLL	**Collm**	**4.08**	**290**	*e*PG	Pg	22 38 06.0	-3.5
CLL				*e*SG	Sg	22 38 59.0	-4.9
FINES	**FINESS Array B**	**12.04**	**16**	Pn	P	22 39 37.7	-5.9
	comp=N,0.2nm,0.3s,baz=207,slow=12,SNR=5.0						
ARCES	**ARCESS Array B**	**19.76**	**7**	Pn	P	22 41 18.8	-3.2
	comp=N,0.1nm,0.3s,baz=195,slow=14,SNR=4.5						

*IDC **12** 22:39:37.7±2.0, 1.21N×97.23E, mb3.9/6, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=90.5km s-min=18.4km az=59.0*
*BJI **12** 22:39:39.1, 0.59N×97.18E, h52km, mB5.1, mb4.4*
*NEIC **12** 22:39:42.7±0.7, 1.19N×97.34E, h30km, mb4.3/9, Error ellipse: s-maj=19.9km s-min=9.3km az=58.0*

ISC 12 22:39:41.3±0.8, 1.2N±0.1×97.3E±0.1, h33km, n21, σ0=87/20, mb4.3/16, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.26**	**39**	*e*P	**P**	**22 41 00.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**17.24**	**5**	P	**P**	**22 43 40.4**	**-0.9**
	0.2nm,0.3s,baz=194,slow=12,SNR=9.6						
KMI	**Kunming**	**24.37**	**12**	P	**P**	**22 44 58.9**	**+1.2**
KMI				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.3						
KMI	**Kunming**	**24.37**	**12**	P	**P**	**22 44 58.9**	**+1.2**
	comp=Z,15nm,1.3s,mb4.3						
SHL	**Shillong**	**24.80**	**348**	⇑*i*P	**P**	**22 45 02.0**	**+0.1**
JIRN	**Jiri**	**28.41**	**339**	*e*P	**P**	**22 45 35.7**	**+0.6**
	comp=Z,11nm,0.8s,mb4.5						
GUN	**Gumba**	**28.75**	**339**	*e*P	**P**	**22 45 38.5**	**+0.4**
	comp=Z,13nm,0.7s,mb4.8						
DMN	**Daman**	**28.77**	**337**	*e*P	**P**	**22 45 39.9**	**+1.6**
	comp=Z,23nm,1.5s,mb4.7						
KKN	**Kakani**	**28.86**	**337**	*e*P	**P**	**22 45 39.3**	**+0.2**
	comp=Z,12nm,0.9s,mb4.6						
GKN	**Gorkha**	**29.30**	**337**	*e*P	**P**	**22 45 43.0**	**-0.1**
	comp=Z,16nm,1.1s,mb4.7						
KOLN	**Koldanda**	**29.53**	**335**	*e*P	**P**	**22 45 45.4**	**+0.4**
	comp=Z,8.7nm,0.8s,mb4.5						
GTA	**Gaotai**	**38.11**	**3**	*e*P	**P**	**22 46 59.2**	**+0.2**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**22 47 30.6**	**-0.1**
	0.2nm,0.7s,mb3.6,baz=300,slow=9.1,SNR=8.9						
WRAB	**Tennant Creek**	**41.92**	**122**	P	**P**	**22 47 30.7**	**-0.1**
	comp=Z,6.3nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**43.28**	**127**	P	**P**	**22 47 41.9**	**-0.1**
	comp=Z,1.0nm,0.9s,mb3.5,baz=286,slow=7.4,SNR=5.4						
SONM	**Songino Array**	**47.13**	**8**	P	**P**	**22 48 11.4**	**-0.8**
	comp=Z,1.9nm,0.8s,mb4.0,baz=180,slow=12,SNR=4.7						
ULN	**Ulaanbaatar**	**47.26**	**9**	*e*P	**P**	**22 48 11.3**	**-1.9**
	comp=Z,2.7nm,1.0s,mb4.1						
MKAR	**Makanchi Array**	**47.29**	**346**	P	**P**	**22 48 13.2**	**-0.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=160,slow=8.3,SNR=21						
STKA	**Stephens Creek**	**53.25**	**132**	P	**P**	**22 48 59.8**	**+0.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=330,slow=14,SNR=2.6						
BVAR	**Borovoye Array**	**56.31**	**341**	P	**P**	**22 49 18.9**	**-2.2**
	comp=Z,1.4nm,0.8s,mb4.0,baz=135,slow=8.4,SNR=9.5						
PDAR	**Pinedale Array**	**130.00**	**26**	PKP	PKPdf	22 58 49.7	+1.4
	comp=Z,0.6nm,0.9s,baz=56,slow=3.3,SNR=4.2						

IDC 12 22:46:01.3±1.7, 5.51N×94.46E, mb3.8/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, Error ellipse: s-maj=103.8km s-min=20.7km az=52.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.59**	**18**	Pn	P	22 49 22.9	+4.9
	0.5nm,0.3s,baz=209,slow=14,SNR=13						
MKAR	**Makanchi Array**	**42.45**	**348**	P	P	22 53 58.3	-1.2
	1.5nm,0.5s,baz=166,slow=6.8,SNR=35						
WRA	**Warramunga Arr**	**46.66**	**124**	P	P	22 54 31.8	-1.9
	0.6nm,0.5s,baz=304,slow=9.2,SNR=9.6						
ASAR	**Alice Springs**	**48.18**	**129**	P	P	22 54 43.9	-1.8
	0.3nm,0.4s,baz=304,slow=7.9,SNR=5.8						
BVAR	**Borovoye Array**	**51.31**	**342**	P	P	22 55 07.2	-2.1
	0.8nm,0.4s,baz=152,slow=13,SNR=8.9						
FINES	**FINESS Array B**	**74.94**	**332**	P	P	22 57 42.8	-2.9
	0.8nm,0.7s,baz=124,slow=6.9,SNR=5.5						
GERES	**GERESS Array B**	**79.79**	**319**	P	P	22 58 12.2	-0.8
	0.3nm,0.5s,baz=108,slow=4.2,SNR=4.8						

*IDC **12** 22:55:38.9±0.9, 0.36S×96.86E, mb4.3/7, mb1 4.4/8, mb1mx4.0/20, mbtmp4.3/8, ML4.3/1, Error ellipse: s-maj=36.6km s-min=17.9km az=51.0*
*BJI **12** 22:55:42.5, 0.30S×97.00E, h30km, mb4.5*
*NEIC **12** 22:55:43.6±0.5, 0.28S×96.99E, h30km, mb4.2/2, Error ellipse: s-maj=14.7km s-min=8.6km az=71.0*

ISC 12 22:55:41.8±0.7, 0.26S±0.08×97.0E±0.1, h30km, n17, σ0=66/14, mb4.3/9, 1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.60**	**33**	*e*P	**Pn**	**22 57 18.1**	**-1.3**
CM31	**Chiang Mai Arr**	**18.70**	**6**	*e*P	**P**	**23 00 00.2**	**-0.1**
	14nm,1.0s						
CMAR	**Chiang Mai Arr**	**18.70**	**6**	P	**P**	**23 00 00.3**	**0.0**
	0.4nm,0.3s,baz=197,slow=11,SNR=38						
SHL	**Shillong**	**26.16**	**349**	⇓*i*P	**P**	**23 01 16.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**33.24**	**124**	P	**P**	**23 02 18.3**	**-0.5**
	8.3nm,0.9s,mb4.7,baz=17,slow=4.7,SNR=3.7						
GTA	**Gaotai**	**39.56**	**3**	*e*P	**P**	**23 03 13.3**	**+1.1**
GTA				AP	pP	23 03 21.2	+0.1
GTA				XP	sP	23 03 24.2	-0.7
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**41.43**	**120**	P	**P**	**23 03 27.9**	**+0.3**
	comp=Z,1.4nm,0.4s,mb3.9,baz=296,slow=8.8,SNR=13						
WRAB	**Tennant Creek**	**41.43**	**120**	P	**P**	**23 03 28.0**	**+0.3**
	comp=Z,2.6nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**42.67**	**126**	P	**P**	**23 03 38.4**	**+0.5**
	comp=Z,3.8nm,0.7s,mb4.2,baz=297,slow=7.8,SNR=37						
MKAR	**Makanchi Array**	**48.61**	**347**	P	**P**	**23 04 25.0**	**+0.1**
	comp=Z,7.1nm,0.5s,mb4.9,baz=163,slow=8.9,SNR=100						
STKA	**Stephens Creek**	**52.52**	**131**	P	**P**	**23 04 54.9**	**+0.1**
	comp=Z,2.5nm,0.6s,mb4.3,baz=302,slow=7.5,SNR=8.8						
STKA	**Stephens Creek**	**52.52**	**131**	P	**P**	**23 04 54.9**	**+0.1**
MATP	**Matopo**	**69.83**	**248**	P	**P**	**23 06 51.1**	**-1.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=82,slow=7.1,SNR=4.6						
FINES	**FINESS Array B**	**81.21**	**333**	P	**P**	**23 07 55.6**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=108,slow=6.0,SNR=9.4						
TXAR	**Lajitas Array**	**144.99**	**33**	PKPbc	PKPbc	23 15 19.0	+1.9
	comp=Z,2.1nm,0.7s,baz=276,slow=1.9,SNR=17						
TXAR	**Lajitas Array**	**144.99**	**33**	PKPbc	PKPbc	23 15 19.0	+1.9
JCT	**Junction City**	**145.96**	**27**	*e*PKPdf	PKPdf	23 15 20.3	-3.3

IDC 12 23:20:18.9±3.8, 20.48S×168.52E, mb4.0/3, mb1 4.2/3, mb1mx3.9/14, mbtmp4.0/3, ML2.8/1, Error ellipse: s-maj=110.6km s-min=39.0km az=130.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.50**	**230**	*e*P	Pn	23 20 58.6	-2.8
DZM				*e*S	Sn	23 21 31.3	-1.8
DZM	**Mont Dzumac**	**2.50**	**230**	Pn	Pn	23 20 58.7	-2.8
	2.1nm,0.3s,baz=42,slow=21,SNR=46						
DZM				Sn	Sn	23 21 36.0	+3.0
	6.5nm,0.3s,baz=152,slow=17,SNR=7.4

MKAR	**Makanchi Array**	**46.17**	**347**	P		**P**	**23 51 38.7**	**-0.7**
SONM	**Songino Array**	**46.37**	**9**	P		**P**	**23 51 40.5**	**-0.5**
	0.7nm,0.5s,mb3.9,baz=188,slow=8.7,SNR=5.4							
FINES	**FINESS Array B**	**78.81**	**333**	P		**P**	**23 55 15.9**	**-1.2**
	1.7nm,0.9s,mb4.0,baz=37,slow=14,SNR=2.9							

*SNSN **13** 00:00:46.2,27.53N×34.36E,h5km,Ml2.5*
*HLW **13** 00:00:47.7,27.45N×34.37E,h17km,Mb3.3*
*CSEM **13** 00:00:47.4±0.0,27.46N×34.36E,h35km,ML3.3,Error ellipse: s-maj=1.7km s-min=1.0km az=91.0*

ISC 13 00:00:45.3±0.3,27.43N±0.03×34.35E±0.04,h10km,n31, σ0°73/35,8C-9D,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSFG		**0.94**	**204**	⇑*i*P	**Pb**	**00 01 04.8**	**+1.6**
AYUS	**'Aynunah**	**1.11**	**47**	P	**Pb**	**00 01 06.6**	**+0.6**
AYUS				S	**Sb**	**00 01 19.3**	**-1.0**
HKAT	**Jabal Katrina**	**1.13**	**344**	⇑P	**Pb**	**00 01 07.2**	**+0.7**
BDAS	**Al Bad'**	**1.20**	**33**	P	**Pb**	**00 01 07.7**	**+0.2**
TAYS	**Tayyib Ism**	**1.20**	**22**	P	**Pb**	**00 01 07.5**	**-0.2**
HDHB	**Dhahab**	**1.30**	**10**	⇓P	**Pb**	**00 01 09.3**	**-0.2**
HRDS	**Abu Rudays**	**1.58**	**324**	⇓P	**Pn**	**00 01 13.7**	**+0.2**
NUB		**1.61**	**9**	⇑P	**Pn**	**00 01 13.7**	**-0.2**
GRB	**Gharib**	**1.62**	**301**	⇑P	**Pn**	**00 01 14.2**	**+0.1**
HQSR		**1.67**	**179**	⇑P	**Pn**	**00 01 15.2**	**+0.4**
HAQS	**Haql**	**1.69**	**17**	P	**Pn**	**00 01 14.6**	**-0.5**
HBST	**Basata**	**1.81**	**11**	⇓P	**Pn**	**00 01 16.6**	**-0.2**
JMOS	**Jabal al Moall**	**1.85**	**21**	P	**Pn**	**00 01 17.2**	**-0.2**
ALWS	**Ilw as Safayha**	**1.97**	**18**	P	**Pn**	**00 01 18.8**	**-0.3**
JMQS	**Jabal Moqyreh**	**1.98**	**43**	P	**Pn**	**00 01 19.8**	**+0.6**
HADB		**2.09**	**173**	⇑P	**Pn**	**00 01 21.2**	**+0.4**
TBKS	**Tabuk**	**2.10**	**67**	P	**Pn**	**00 01 22.3**	**+1.3**
ZAF		**2.43**	**320**	⇓P	**Pn**	**00 01 25.8**	**0.0**
EMRS	**Mersa Alam**	**2.45**	**170**	⇑P	**Pn**	**00 01 26.0**	**0.0**
EMRS				S	**Sn**	**00 01 54.0**	**-2.2**
ASUT		**2.48**	**270**	⇓P	**Pn**	**00 01 26.4**	**-0.1**
HNKL	**Nakhl**	**2.51**	**353**	P	**Pn**	**00 01 26.6**	**-0.3**
HEDF	**Idfu**	**2.56**	**205**	⇓P	**Pn**	**00 01 27.7**	**+0.2**
SUZ		**2.75**	**331**	⇓P	**Pn**	**00 01 29.6**	**-0.6**
HAGS	**Hagol**	**3.09**	**169**	⇓P	**Pn**	**00 01 35.5**	**+0.4**
HAGS				S	**Sn**	**00 02 10.4**	**-2.2**
HAGS	**Hagol**	**3.09**	**169**	P	**Pn**	**00 01 35.5**	**+0.3**
HAGS				S	**Sn**	**00 02 10.4**	**-2.2**
AMAG	**Maghara**	**3.35**	**343**	⇑P	**Pn**	**00 01 38.3**	**-0.5**
UMJS	**Umm Lajj**	**3.44**	**129**	P	**Pn**	**00 01 40.3**	**+0.3**
GTR	**Jabal at Tayr**	**3.90**	**241**	P	**Pn**	**00 01 46.5**	**-0.1**
AKRG	**Al Kharijah**	**3.95**	**242**	⇓P	**Pn**	**00 01 47.1**	**-0.3**
HSHL	**Bi'r Shalatayn**	**4.41**	**167**	P	**Pn**	**00 01 54.1**	**+0.3**
YNBS	**Yanbu' al Bahr**	**4.50**	**132**	P	**Pn**	**00 01 56.3**	**+1.2**

*KNET **13** 00:07:23.5±0.3,42.72N×75.66E,h6km±4km,ml1.3,Error ellipse: s-maj=2.1km s-min=1.2km az=85.0*
*NNC **13** 00:07:23.7±3.2,42.56N×75.65E,h0km±69km,mpv2.6, Error ellipse: s-maj=172.6km s-min=25.5km az=7.0*

ISC 13 00:07:23.6±1.0,42.75N±0.05×75.71E±0.08,h13km±7km, n12,σ0°54/17,15C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.19**	**334**	P	**Pg**	**00 07 27.9**	**-0.1**
	44nm,0.1s,SNR=384						
TKM2				⇑S	**Sg**	**00 07 31.3**	**+0.3**
	116nm,0.1s						
KBK	**Karagaybulak**	**0.57**	**261**	⇑P	**Pb**	**00 07 34.6**	**-0.3**
	34nm,0.2s,SNR=111						
KBK				⇑S	**Sg**	**00 07 42.8**	**-0.2**
	37nm,0.2s						
ULHL	**Ulahol**	**0.64**	**142**	⇑P	**Pb**	**00 07 35.7**	**-0.4**
	6.2nm,0.1s,SNR=62						
CHMS	**Chumysh**	**0.75**	**290**	⇑P	**Pb**	**00 07 37.4**	**-0.6**
	6.0nm,0.2s,SNR=12						
CHMS				⇑S	**Sb**	**00 07 47.3**	**-0.4**
	8.4nm,0.2s						
KZA	**Kyzart**	**0.76**	**207**	⇑P	**Pb**	**00 07 37.9**	**-0.2**
	16nm,0.1s,SNR=30						
KZA				⇓S	**Sb**	**00 07 48.2**	**+0.2**
	6.4nm,0.2s						
AAK	**Ala-Archa**	**0.90**	**263**	⇑P	**Pb**	**00 07 40.3**	**-0.3**
	8.2nm,0.2s,SNR=22						
AAK	**Ala-Archa**	**0.90**	**263**	⇑P	**Pb**	**00 07 40.3**	**-0.3**
	1.7nm,0.2s						
AAK				⇑S	**Sb**	**00 07 52.4**	**+0.1**
	5.3nm,0.5s						
USP	**Ospenovka**	**1.03**	**300**	⇑P	**Pb**	**00 07 42.5**	**-0.2**
	4.7nm,0.1s,SNR=35						
UCH	**Uchtor**	**1.03**	**240**	⇑P	**Pb**	**00 07 42.3**	**-0.4**
	4.9nm,0.3s,SNR=10						
EKS2	**Erkin-Say**	**1.43**	**267**	⇓P	**Pn**	**00 07 50.4**	**+1.1**
	10nm,0.2s,SNR=54						
AML	**Almayashu**	**1.62**	**248**	⇑P	**Pn**	**00 07 53.4**	**+1.3**
	5.9nm,0.2s,SNR=16						
KK31	**Karatay Array**	**3.83**	**277**	⇑Pg	**Pg**	**00 08 34.4**	**-5.8**
	0.9nm,0.3s,baz=93,slow=14,SNR=42						
KK31				⇑Lg		00 09 22.4	
	1.0nm,0.6s,baz=96,slow=30,SNR=4.4						

IDC 13 00:09:50.0±6.8,4.28S×154.51E,mb3.7/3,mb1 3.9/3, mb1mx3.6/14,mbtmp3.7/3,Error ellipse: s-maj=207.6km s-min=40.0km az=106.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.07**	**230**	P	P	00 15 17.1	-0.8
	0.9nm,0.4s,baz=55,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**27.69**	**224**	P	P	00 15 39.4	-2.7
	0.4nm,0.3s,baz=55,slow=9.3,SNR=6.0						
MKAR	**Makanchi Array**	**81.06**	**319**	P	P	00 22 07.2	-1.3
	0.2nm,0.4s,baz=90,slow=7.2,SNR=4.5						

SKHL 13 00:21:48.8±0.1,51.53N×143.21E,h10km,mb3.6/2, Sakhalin Island

*IDC **13** 00:33:50.5±4.0,1.29S×127.73E,h34km±30km,mb4.1/6, mb1 4.3/8,mb1mx4.0/18,mbtmp4.3/8,ML4.7/2,MS3.6/1, Ms1 3.6/1,ms1mx3.0/22,Error ellipse: s-maj=71.1km s-min=12.7km az=68.0*
*NEIC **13** 00:33:50.3±0.5,1.24S×127.83E,h30km,mb4.9/12,Error ellipse: s-maj=28.3km s-min=5.7km az=65.0*
*BJI **13** 00:33:57.5,0.44S×127.12E,h30km,mB5.2,mb4.9*

ISC 13 00:33:47.2±4.0,1.3S±0.1×127.9E±0.2,h23km±29km,n29, σ0°85/32,mb4.8/17,MS3.5/1,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.24**	**159**	*e*P	**P**	**00 36 43.0**	**-0.3**
	14nm,0.3s						
KAKA				*i*S	**S**	**00 38 55.9**	**-4.2**
FITZ	**Fitzroy Crossi**	**16.88**	**187**	*e*P	**P**	**00 37 45.3**	**+1.4**
	8.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**16.88**	**187**	Pn	**P**	**00 37 42.5**	**-1.3**
	1.2nm,0.3s,baz=1.5,slow=5.4,SNR=16						
WRAB	**Tennant Creek**	**19.61**	**162**	*e*P	**P**	**00 38 16.5**	**-0.5**
	20nm,0.6s						
WRA	**Warramunga Arr**	**19.61**	**162**	P	**P**	**00 38 16.1**	**-1.1**
	3.3nm,0.3s,baz=341,slow=12,SNR=34						
WRA				S	**S**	**00 41 51.2**	**-0.2**
	0.6nm,0.3s,baz=339,slow=21,SNR=5.5						
ASAR	**Alice Springs**	**23.03**	**166**	P	**P**	**00 38 52.8**	**+0.9**
	17nm,0.7s,mb4.6,baz=341,slow=9.5,SNR=92						
ASAR				S	**S**	**00 43 02.4**	**+5.4**
	1.8nm,0.5s,baz=348,slow=22,SNR=7.0						
ASPA	**Alice Springs**	**23.03**	**166**	*e*P	**P**	**00 38 52.9**	**+1.0**
ASPA				*e*S	**S**	**00 43 01.8**	**+4.9**
STKA	**Stephens Creek**	**33.09**	**158**	*e*P	**P**	**00 40 26.0**	**+2.3**
	3.2nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**33.09**	**158**	P	**P**	**00 40 24.0**	**+0.3**
	2.8nm,0.5s,mb4.5,baz=335,slow=6.1,SNR=7.8						
CMAR	**Chiang Mai Arr**	**34.55**	**306**	P	**P**	**00 40 35.7**	**-0.7**
	1.0nm,0.8s,mb3.8,baz=128,slow=7.6,SNR=10.0						
ENH	**Enshi**	**35.93**	**332**	*e*P	**P**	**00 40 47.8**	**-0.3**
	14nm,1.0s,mb4.8						
MJAR	**Matsushiro Arr**	**38.82**	**13**	LR	LR	00 58 16.9	
	comp=Z,68nm,18.0s,MS3.5,baz=175,slow=38						
XAN	**Xi'an**	**39.38**	**335**	P	**P**	**00 41 16.9**	**-0.1**
LZH	**Lanzhou**	**43.38**	**331**	*e*P	**P**	**00 41 51.2**	**+1.4**
LZH				AP	pP	00 41 56.4	-0.3
LZH				XP	sP	00 41 59.0	-0.5
LZH				AMB	AMB		
	comp=Z,31nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,170nm,4.0s						
LZH	**Lanzhou**	**43.38**	**331**	*e*P	**P**	**00 41 51.2**	**+1.4**
	comp=Z,31nm,1.2s,mb4.9						
LZH				pP	pP	00 41 56.4	-0.3
LZH				sP	sP	00 41 59.0	-0.5
SHL	**Shillong**	**43.85**	**310**	*e*P	**P**	**00 41 54.5**	**+0.8**
LSA	**Lhasa**	**46.66**	**314**	P	**P**	**00 42 18.0**	**+1.9**
LSA	**Lhasa**	**46.66**	**314**	*e*P	**P**	**00 42 17.7**	**+1.6**
	comp=Z,9.1nm,0.4s,mb5.1						
GTA	**Gaotai**	**47.96**	**331**	*e*P	**P**	**00 42 27.0**	**+0.7**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.6						
JIRN	**Jiri**	**49.30**	**309**	*e*P	**P**	**00 42 37.1**	**+0.4**
	comp=Z,19nm,0.6s,mb5.3						
GUN	**Gumba**	**49.66**	**309**	*e*P	**P**	**00 42 39.7**	**+0.2**
	comp=Z,28nm,0.7s,mb5.4						
PKI	**Pulchoki**	**49.87**	**308**	*e*P	**P**	**00 42 40.6**	**-0.5**
	comp=Z,10nm,0.5s,mb5.1						
KKN	**Kakani**	**50.07**	**309**	*e*P	**P**	**00 42 42.0**	**-0.6**
	comp=Z,6.8nm,0.4s,mb5.1						
DMN	**Daman**	**50.12**	**308**	*e*P	**P**	**00 42 42.5**	**-0.5**
	comp=Z,8.7nm,0.5s,mb5.1						
GKN	**Gorkha**	**50.67**	**308**	*e*P	**P**	**00 42 47.0**	**-0.2**
	comp=Z,20nm,0.8s,mb5.1						
KOLN	**Koldanda**	**51.38**	**308**	*e*P	**P**	**00 42 52.6**	**0.0**
	comp=Z,22nm,0.6s,mb5.2						
SONM	**Songino Array**	**52.36**	**342**	P	**P**	**00 42 59.2**	**-0.5**
	comp=Z,1.8nm,0.9s,mb4.0,baz=158,slow=6.7,SNR=6.4						
MKAR	**Makanchi Array**	**62.30**	**326**	P	**P**	**00 44 09.1**	**-1.0**
	comp=Z,2.6nm,0.4s,mb4.8,baz=117,slow=8.3,SNR=64						
BVAR	**Borovoye Array**	**72.11**	**328**	P	**P**	**00 45 10.6**	**-1.2**
	comp=Z,2.1nm,0.6s,mb4.2,baz=129,slow=8.6,SNR=12						

IDC 13 00:53:13.2±2.3,1.78S×99.89E,mb3.5/5,mb1 3.8/5, mb1mx3.6/17,mbtmp3.6/5,MS2.8/1,Ms1 3.0/1, ms1mx2.8/20,Error ellipse: s-maj=111.0km s-min=21.7km az=54.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.13**	**357**	P	P	00 57 48.5	-3.3
	0.2nm,0.4s,baz=201,slow=13,SNR=2.9						
CMAR				LR	LR	01 06 29.2	
	comp=Z,26nm,19.9s,baz=170,slow=40						
WRA	**Warramunga Arr**	**38.20**	**121**	P	P	01 00 35.0	-1.7
	0.4nm,0.4s,baz=303,slow=9.0,SNR=3.1						
ASAR	**Alice Springs**	**39.47**	**126**	P	P	01 00 45.7	-1.6
	0.4nm,0.6s,baz=297,slow=8.1,SNR=4.7						
MKAR	**Makanchi Array**	**50.78**	**344**	P	P	01 02 15.7	-1.6
	0.7nm,0.6s,baz=145,slow=7.9,SNR=13						
FINES	**FINESS Array B**	**83.86**	**332**	P	P	01 05 44.2	-1.7
	2.4nm,1.0s,baz=117,slow=3.1,SNR=3.6						
TXAR	**Lajitas Array**	**144.59**	**37**	PKP	PKPdf	01 12 51.8	-2.5
	0.3nm,0.6s,baz=292,slow=0.9,SNR=7.0						

*IDC **13** 01:05:10.2±1.3,15.40S×167.95E,mb4.1/8,mb1 4.3/9, mb1mx4.1/16,mbtmp4.1/9,ML4.4/1,MS2.9/2,Ms1 2.9/2, ms1mx2.7/23,Error ellipse: s-maj=43.5km s-min=21.3km az=122.0*
*NEIC **13** 01:05:12.2±0.8,15.34S×167.80E,h10km,mb4.3/1,Error ellipse: s-maj=23.2km s-min=12.4km az=101.0*

ISC 13 01:05:14.0±0.9,15.52S±0.05×167.8E±0.2,h33km,n16, σ0°93/18,mb4.0/9,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.64**	**191**	*e*P	**P**	**01 06 52.2**	**+0.5**
DZM				*e*S	**S**	**01 08 06.5**	**-0.6**
DZM	**Mont Dzumac**	**6.64**	**191**	Pn	**Pn**	**01 06 52.0**	**+0.1**
	8.1nm,0.3s,baz=48,slow=18,SNR=30						
DZM				Sn	**Sn**	**01 08 07.8**	**+0.6**
	baz=327,slow=23,SNR=2.8						
DZM				LR	LR	01 08 20.9	
	comp=Z,103nm,21.9s,baz=190,slow=28						
NOUC	**Port Laguerre**	**6.69**	**192**	*e*P	**P**	**01 06 53.4**	**+0.9**
NOUC				*e*S	**S**	**01 08 07.3**	**-1.1**
NOUC	**Port Laguerre**	**6.69**	**192**	*e*P	**P**	**01 06 53.4**	**+0.9**
NOUC				*e*S	**S**	**01 08 07.3**	**-1.1**
HNR	**Honiara**	**9.75**	**307**	LR	LR	01 10 33.8	
	comp=Z,66nm,18.9s,baz=93,slow=33						
CTA	**Charters Tower**	**20.99**	**254**	P		01 10 06.2	
	4.7nm,1.0s,baz=96,slow=10,SNR=2.8						
STKA	**Stephens Creek**	**28.87**	**231**	P	**P**	**01 11 12.6**	**+0.7**
	0.5nm,0.5s,mb3.5,baz=21,slow=8.6,SNR=2.2						
WRAB	**Tennant Creek**	**32.11**	**257**	*e*P	**P**	**01 11 38.7**	**-2.0**
	3.8nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**32.12**	**257**	P	**P**	**01 11 39.7**	**-1.1**
	0.8nm,0.7s,mb3.7,baz=86,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**32.86**	**250**	P	**P**	**01 11 48.8**	**+1.5**
	2.1nm,0.8s,mb4.1,baz=78,slow=9.1,SNR=13						
CMAR	**Chiang Mai Arr**	**75.72**	**294**	P	**P**	**01 16 59.2**	**+0.6**
	0.5nm,0.7s,mb3.5,baz=132,slow=4.8,SNR=4.8						
SONM	**Songino Array**	**83.42**	**323**	P	**P**	**01 17 39.7**	**+0.2**
	0.7nm,0.5s,mb4.0,baz=166,slow=5.1,SNR=4.6						
ILAR	**Eielson Array**	**87.12**	**18**	P	**P**	**01 17 56.1**	**-1.3**
	2.0nm,0.8s,mb4.4,baz=238,slow=5.5,SNR=17						
YKA	**Yellowknife Ar**	**98.02**	**27**	P	**P**	**01 18 47.7**	**-0.1**
	1.1nm,0.9s,mb4.4,baz=255,slow=4.5,SNR=16						
YKA	**Yellowknife Ar**	**98.02**	**27**	P	**P**	**01 18 47.7**	**-0.1**
MKAR	**Makanchi Array**	**98.11**	**316**	P	**P**	**01 18 49.2**	**+0.6**
	0.3nm,0.6s,mb4.0,baz=109,slow=4.5,SNR=3.6						

IDC 13 01:05:33.8±1.8,16.21S×178.47W,mb4.1/4,mb1 4.3/4, mb1mx3.9/16,mbtmp4.1/4,Error ellipse: s-maj=158.5km s-min=31.3km az=155.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.42**	**239**	P	P	01 13 05.0	-2.3
	1.5nm,0.5s,baz=45,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**44.91**	**258**	P	P	01 13 50.9	-1.4
	0.5nm,0.3s,baz=91,slow=7.9,SNR=11						
ASAR	**Alice Springs**	**45.22**	**253**	P	P	01 13 53.0	-1.7
	5.6nm,0.6s,baz=87,slow=8.7,SNR=30						
TXAR	**Lajitas Array**	**85.14**	**58**	P	P	01 18 12.3	-1.2
	0.2nm,0.5s,baz=218,slow=4.0,SNR=4.5						

*IDC **13** 01:20:32.0±1.6,1.70S×100.02E,mb4.2/9,mb1 4.4/9, mb1mx4.1/18,mbtmp4.2/9,MS3.8/1,Ms1 3.8/1, ms1mx2.8/26,Error ellipse: s-maj=77.3km s-min=15.3km az=55.0*
*NEIC **13** 01:20:36.7±0.9,1.64S×100.12E,h30km,mb4.6/2,Error ellipse: s-maj=42.4km s-min=8.7km az=55.0*

ISC 13 01:20:35.7±1.3,1.5S±0.2×100.3E±0.3,h33km,n15, σ0°80/12,mb4.2/11,MS3.8/1,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.89**	**356**	P	**P**	**01 25 06.9**	**-0.4**
	0.5nm,0.4s,baz=187,slow=8.7,SNR=5.2						
FITZ	**Fitzroy Crossi**	**29.88**	**125**	P	**P**	**01 26 41.7**	**-1.0**
	8.2nm,0.9s,mb4.5,baz=313,slow=8.2,SNR=9.6						
WRA	**Warramunga Arr**	**38.02**	**121**	P	**P**	**01 27 53.0**	**+0.1**
	2.6nm,0.4s,mb4.3,baz=303,slow=9.0,SNR=23						
WRAB	**Tennant Creek**	**38.03**	**121**	*e*P	**P**	**01 27 53.0**	**0.0**
	7.0nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**39.33**	**127**	P	**P**	**01 28 04.2**	**+0.5**
	2.1nm,0.6s,mb4.0,baz=301,slow=7.8,SNR=32						
STKA	**Stephens Creek**	**49.28**	**132**	P	**P**	**01 29 23.8**	**+0.2**
	2.5nm,0.7s,mb4.4,baz=302,slow=6.3,SNR=8.4						
CBIJ	**Chichi jima**	**49.38**	**52**	LR	LR	01 49 45.4	
	comp=Z,98nm,19.2s,MS3.8,baz=129,slow=35						
SONM	**Songino Array**	**49.45**	**5**	P	**P**	**01 29 25.5**	**+0.8**
	0.4nm,0.5s,mb3.7,baz=237,slow=21,SNR=3.8						
MKAR	**Makanchi Array**	**50.64**	**344**	P	**P**	**01 29 34.7**	**+0.9**
	1.7nm,0.6s,mb4.2,baz=150,slow=8.0,SNR=29						
BVAR	**Borovoye Array**	**59.82**	**340**	P	**P**	**01 30 38.3**	**-2.0**
	0.8nm,0.7s,mb3.9,baz=158,slow=8.0,SNR=3.7						
CHKZ	**Chkalovo**	**60.28**	**340**	*e*P	**P**	**01 30 42.7**	**-0.6**
	2.6nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**83.81**	**332**	P	**P**	**01 33 03.3**	**+0.4**
	0.6nm,0.4s,mb4.1,baz=108,slow=6.0,SNR=9.1						
ARCES	**ARCESS Array B**	**86.11**	**340**	P	**P**	**01 33 15.1**	**+0.9**
	4.6nm,0.9s,mb4.7,baz=80,slow=5.5,SNR=5.1						
TXAR	**Lajitas Array**	**144.17**	**37**	PKP	PKPdf	01 40 10.5	+1.6
	0.6nm,0.6s,baz=309,slow=1.0,SNR=14						
TXAR	**Lajitas Array**	**144.17**	**37**	PKP	PKPdf	01 40 10.5	+1.6

*IDC **13** 01:29:58.0±1.2,1.54S×99.60E,mb4.1/9,mb1 4.2/10, mb1mx4.0/19,mbtmp4.1/10,ML3.8/1,Error ellipse: s-maj=63.3km s-min=15.4km az=55.0*
*NEIC **13** 01:30:02.8±0.6,1.51S×99.69E,h30km,mb4.5/1,Error ellipse: s-maj=27.6km s-min=8.4km az=57.0*

ISC 13 01:30:01.8±1.3,1.4S±0.2×99.8E±0.3,h33km,n16, σ0°46/12,mb4.2/10,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.73**	**357**	P	**P**	**01 34 31.7**	**+0.1**
	0.1nm,0.3s,baz=185,slow=9.7,SNR=7.2						
FITZ	**Fitzroy Crossi**	**30.30**	**125**	P	**P**	**01 36 12.1**	**-0.4**
	3.5nm,0.8s,mb4.1,slow=13,SNR=3.3						
WRA	**Warramunga Arr**	**38.45**	**121**	P	**P**	**01 37 22.4**	**-0.1**
	2.0nm,0.6s,mb4.0,baz=302,slow=9.2,SNR=14						
WRAB	**Tennant Creek**	**38.45**	**121**	*e*P	**P**	**01 37 22.7**	**+0.2**
	4.7nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**39.75**	**127**	P	**P**	**01 37 33.9**	**+0.6**
	1.0nm,0.5s,mb3.8,baz=302,slow=8.0,SNR=19						
SONM	**Songino Array**	**49.34**	**6**	P	**P**	**01 38 50.1**	**+0.2**
	1.3nm,0.6s,mb4.1,baz=195,slow=9.5,SNR=6.2						
STKA	**Stephens Creek**	**49.68**	**132**	P	**P**	**01 38 52.3**	**-0.5**
	0.7nm,0.4s,mb4.1,baz=318,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**50.39**	**344**	P	**P**	**01 38 57.6**	**-0.4**
	1.1nm,0.4s,mb4.2,baz=158,slow=8.1,SNR=21						
BVAR	**Borovoye Array**	**59.55**	**340**	P	**P**	**01 40 03.6**	**-0.8**
	0.8nm,0.5s,mb4.0,baz=153,slow=9.7,SNR=3.9						
FINES	**FINESS Array B**	**83.49**	**332**	P	**P**	**01 42 27.7**	**+0.3**
	2.5nm,0.9s,mb4.2,baz=135,slow=8.1,SNR=8.7						
ARCES	**ARCESS Array B**	**85.84**	**340**	P	**P**	**01 42 39.7**	**+0.8**
	2.9nm,0.9s,mb4.5,baz=48,slow=11,SNR=3.1						
ARCES	**ARCESS Array B**	**85.84**	**340**	P	**P**	**01 42 39.7**	**+0.8**
TXAR	**Lajitas Array**	**144.31**	**37**	PKP	PKPdf	01 49 36.9	+1.7
	1.0nm,0.4s,baz=211,slow=0.6,SNR=32						
MIAR	**Mount Ida**	**144.71**	**19**	*e*PKPdf	PKPdf	01 49 37.0	+1.2
CFAA	**Coronel Fontan**	**145.30**	**198**	PKP	PKPdf	01 49 37.4	+0.5
	0.7nm,0.5s,baz=162,slow=3.7,SNR=13						
JCT	**Junction City**	**145.58**	**31**	*e*PKPdf	PKPdf	01 49 41.2	+3.8

IDC 13 01:35:17.0±4.0,38.13S×93.73W,mb3.7/6,mb1 4.0/7, mb1mx3.9/18,mbtmp3.8/7,ML3.8/1,MS3.8/9,Ms1 3.8/9, ms1mx3.6/25,Error ellipse: s-maj=98.3km s-min=28.7km az=20.0,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**17.09**	**305**	LR	LR	01 44 03.4	
	comp=Z,256nm,21.0s,baz=96,slow=31						
PLCA	**Paso Flores**	**18.09**	**106**	P	P	01 39 30.0	-1.3
	0.1nm,0.3s,baz=280,slow=11,SNR=5.5						
PLCA				LR	LR	01 44 43.4	
	comp=Z,200nm,21.5s,baz=244,slow=31						
CFAA	**Coronel Fontan**	**21.87**	**80**	P	P	01 40 10.8	-2.5
	0.4nm,0.6s,baz=253,slow=9.4,SNR=6.3						
CFAA				LR	LR	01 46 35.3	
	comp=Z,39nm,21.6s,baz=202,slow=31						
LVC	**Limon Verde**	**26.30**	**61**	P	P	01 40 55.4	-0.8
	4.1nm,0.8s,baz=227,slow=10,SNR=3.5						
LVC				LR	LR	01 48 19.0	
	comp=Z,312nm,18.4s,baz=188,slow=30						
LPAZ	**La Paz**	**31.31**	**53**	P	P	01 41 39.9	-1.3
	2.4nm,0.8s,baz=225,slow=4.3,SNR=6.2						
SIV	**San Ignacio**	**36.20**	**61**	P	P	01 42 21.3	-2.2
	3.1nm,1.2s,baz=230,slow=9.5,SNR=4.1						
RKT	**Rikitea**	**38.19**	**281**	*e*LR	LR	01 52 34.3	
	178nm,31.2s						
BDFB	**Brasilia**	**45.95**	**74**	LR	LR	02 01 49.6	
	comp=Z,133nm,21.0s,baz=218,slow=35						
PPT	**Papeete**	**52.64**	**277**	*e*LR	LR	01 59 15.3	
	154nm,25.2s						
PPT	**Papeete**	**52.64**	**277**	LR	LR	01 59 47.5	
	comp=Z,350nm,19.2s,baz=112,slow=28						
TXAR	**Lajitas Array**	**67.75**	**351**	P	P	01 46 16.4	-2.2
	0.1nm,0.3s,baz=184,slow=12,SNR=2.8						
TXAR				LR	LR	02 09 16.7	
	comp=Z,53nm,18.9s,baz=280,slow=30						
ANMO	**Albuquerque**	**73.66**	**349**	LR	LR	02 15 09.4	
	comp=Z,53nm,19.5s,baz=45,slow=32						
PDAR	**Pinedale Array**	**81.79**	**348**	P	P	01 47 37.8	-1.2
	0.2nm,0

GERES	GERESS Array B	72.87	317	P		P	01 54 41.2	+1.2
	1.8nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=17							
CLL	Collm	73.28	320	P		P	01 54 43.0	+0.7
LBTB	Lobatse	75.83	240	LR		LR	02 28 03.9	
	comp=Z,40nm,18.1s,MS3.8,baz=281,slow=36							

IDC 13 01:45:05.3±1.7, 24.15N×141.53E, h179km±19km, mb3.4/5, mb1 3.5/6, mb1mx3.2/23, mbtmp3.9/6, Error ellipse: s-maj=40.6km s-min=17.5km az=89.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.99	11	P	P	01 45 55.1	+0.8
	14nm,0.3s,baz=284,slow=22,SNR=10						
CBIJ				S	S	01 46 31.6	-0.5
	22nm,0.3s,baz=234,slow=23,SNR=8.3						
WRA	Warramunga Arr	44.38	190	P	P	01 52 57.5	-2.3
	0.3nm,0.3s,baz=10,slow=8.9,SNR=5.1						
FITZ	Fitzroy Crossi	44.77	202	P	P	01 53 01.2	-1.7
	8.4nm,1.2s,baz=34,slow=7.3,SNR=8.6						
MKAR	Makanchi Array	51.93	311	P	P	01 53 55.9	-1.7
	0.4nm,0.4s,baz=84,slow=9.0,SNR=7.0						
BVAR	Borovoye Array	59.83	319	P	P	01 54 51.4	-2.5
	0.9nm,0.4s,baz=85,slow=5.7,SNR=9.1						
YKA	Yellowknife Ar	75.00	28	P	P	01 56 27.0	-1.3
	0.2nm,0.4s,baz=289,slow=6.0,SNR=4.1						

CSEM 13 01:49:51.7±0.2, 35.05N×3.75W, h10km, ML2.4/1, Error ellipse: s-maj=4.1km s-min=3.4km az=67.0
CNRM 13 01:49:53.0, 35.16N×3.82W, h11km, MD2.7
NEIC 13 01:49:54.8, 35.22N×4.00W, MG3.0(MDD), After MDD.
MDD 13 01:49:53.4±0.6, 35.08N×3.97W, h2km±5km, mbLg1.8/15, Error ellipse: s-maj=5.7km s-min=3.4km az=71.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	Palemas	0.14	9	P	Pg	01 49 56.0	-0.2
MPAL				S	Sg	01 49 58.0	-0.2
MPAL	Palemas	0.14	9	*i* P	Pg	01 49 56.0	-0.2
TOU	Touzarine	0.21	124	P	Pg	01 49 57.0	-0.7
TOU				S	Sg	01 50 00.5	-0.1
TOU	Touzarine	0.21	124	*i* P	Pg	01 49 57.0	-0.7
EMEL	Melilla	0.86	75	P	Pg	01 50 09.2	-1.4
	42nm,0.1s,SNR=7.9						
EMEL				S	Sg	01 50 21.3	-0.7
	134nm,0.1s,SNR=7.9						
EMLI	Melilla	0.86	75	S	Sg	01 50 22.9	+0.8
	134nm,0.1s,SNR=7.9						
TZK	Tazeka	1.01	190	*i* P	Pb	01 50 12.0	-1.2
TZK				*i* S	Sb	01 50 28.0	+1.2
ZAI	Zaio	1.01	96	*e*P	Pb	01 50 09.0	-4.3
ZAI				*e*S	Sb	01 50 22.0	-4.9
EALB	Alboran	1.15	42	P	Pb	01 50 14.5	-1.1
	0.7nm,0.2s,SNR=7.9						
EALB				S	Sb	01 50 29.5	-1.3
	13nm,0.1s,SNR=5.0						
EALB	Alboran	1.15	42	S	Sb	01 50 28.8	-2.0
	13nm,0.1s,SNR=5.0						
EMIJ	Mijas	1.61	336	P	Pn	01 50 21.7	-1.4
EMIJ				S	Sb	01 50 39.2	-5.2
EMIJ	Mijas	1.61	336	P	Pn	01 50 21.7	-1.4
	0.5nm,0.1s,SNR=7.9						
EMIJ				S	Sb	01 50 42.3	-2.1
	5.5nm,0.2s,SNR=6.0						
ERON	Agron	1.94	4	P	Pn	01 50 26.1	-1.5
	0.1nm,0.2s,SNR=7.9						
ERON				S	Sn	01 50 50.4	-2.5
	1.5nm,0.3s,SNR=7.9						
EBER	Berja	2.01	26	P	Pn	01 50 26.4	-2.4
EBER				S	Sn	01 50 50.7	-4.1
EBER	Berja	2.01	26	P	Pn	01 50 26.4	-2.4
	0.9nm,0.2s,SNR=4.6						
EBER				S	Sn	01 50 52.4	-2.4
	4.2nm,0.2s,SNR=6.1						
EBER	Berja	2.01	26	S	Sn	01 50 50.7	-4.1
	4.2nm,0.2s,SNR=6.1						
ECOG	Cogollos-Vega	2.21	8	P	Pn	01 50 30.6	-1.0
ECOG				S	Sn	01 50 57.9	-2.1
ECOG	Cogollos-Vega	2.21	8	P	Pn	01 50 30.3	-1.3
	0.6nm,0.2s,SNR=4.0						
ECOG				S	Sn	01 50 56.8	-3.2
	1.4nm,0.3s,SNR=4.0						
ECOG	Cogollos-Vega	2.21	8	S	Sn	01 50 57.9	-2.1
	1.4nm,0.3s,SNR=4.0						
ESPR	Espera	2.35	320	P	Pn	01 50 33.5	-0.1
ESPR				S	Sn	01 51 02.3	-1.1
ESPR	Espera	2.35	320	P	Pn	01 50 32.1	-1.4
	0.5nm,0.3s,SNR=4.0						
ESPR				S	Sn	01 51 00.1	-3.3
	1.7nm,0.2s,SNR=7.9						
ESPR	Espera	2.35	320	P	Pn	01 50 33.5	-0.1
	0.5nm,0.3s,SNR=4.0						
ESPR				S	Sn	01 51 02.3	-1.1
	1.7nm,0.2s,SNR=7.9						
ENIJ	Nijar	2.37	37	P	Pn	01 50 34.8	+1.0
ENIJ				S	Sn	01 51 00.9	-2.9
ENIJ	Nijar	2.37	37	P	Pn	01 50 32.7	-1.1
	0.5nm,0.2s,SNR=7.9						
ENIJ				S	Sn	01 51 00.4	-3.4
	1.6nm,0.4s,SNR=4.0						
ELUQ	Luque	2.48	355	P	Pn	01 50 34.0	-1.5
	0.2nm,0.3s,SNR=7.9						
ELUQ				S	Sn	01 51 03.5	-3.4
	2.6nm,0.8s,SNR=7.9						
EADA	Adamuz	3.12	351	P	Pn	01 50 42.8	-1.8
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	01 51 18.7	-4.2
	1.4nm,0.3s,SNR=7.9						
EADA	Adamuz	3.12	351	P	Pn	01 50 42.8	-1.7
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	01 51 18.7	-4.2
	1.4nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.45	322	P	Pn	01 50 45.8	-3.5
EMIN				S	Sn	01 51 25.0	-6.4
EMIN	Mina Concepcio	3.45	322	P	Pn	01 50 47.3	-2.0
	0.2nm,0.1s,SNR=7.9						
EMIN				S	Sn	01 51 26.1	-5.3
	0.2nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.45	322	P	Pn	01 50 45.8	-3.5
	0.2nm,0.1s,SNR=7.9						
PALC	Alcoutim	3.70	311	*e*Pn	Pn	01 50 50.4	-2.4
PALC				*e*Sn	Sn	01 51 31.7	-5.9
	1.3nm,0.4s						
PALC	Alcoutim	3.70	311	*e*Pn	Pn	01 50 50.4	-2.4
PALC				*e*Sn	Sn	01 51 31.7	-5.9
	1.3nm,0.4s						
EGRO	El Granado	3.75	312	P	Pn	01 50 51.1	-2.4
EGRO				S	Sn	01 51 31.5	-7.3
EGRO	El Granado	3.75	312	P	Pn	01 50 51.1	-2.4
	0.6nm,0.1s,SNR=7.9						
EGRO				S	Sn	01 51 32.9	-5.9
	0.5nm,0.2s,SNR=7.9						
EGRO	El Granado	3.75	312	P	Pn	01 50 51.1	-2.4
	0.6nm,0.1s,SNR=7.9						
ETOB	Tobarra	4.05	28	P	Pn	01 50 56.5	-1.3
ETOB				S	Sn	01 51 38.1	-8.4
ETOB	Tobarra	4.05	28	P	Pn	01 50 56.2	-1.6
	0.2nm,0.2s,SNR=7.9						
ETOB				S	Sn	01 51 40.6	-5.9
	2.9nm,0.7s,SNR=4.0						
ETOB	Tobarra	4.05	28	P	Pn	01 50 56.5	-1.3
	0.2nm,0.2s,SNR=7.9						
ETOB				S	Sn	01 51 38.1	-8.4
PBEJ	Beja	4.30	314	*e*Sn	Sn	01 51 46.8	-6.0
EBAD	Badajoz	4.40	327	P	Pn	01 50 59.5	-3.3
EBAD				S	Sn	01 51 47.1	-8.3
EBAD	Badajoz	4.40	327	P	Pn	01 50 59.5	-3.3
	0.7nm,0.2s,SNR=7.9						
EBAD				S	Sn	01 51 48.5	-6.9
	1.3nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.40	327	P	Pn	01 50 59.5	-3.3
PTEO	Sao Teotonio	4.56	304	*e*Sn	Sn	01 51 52.8	-6.6

IDC 13 02:01:19.2±2.8, 0.71S×98.57E, mb4.1/6, mb1 4.2/7, mb1mx3.9/18, mbtmp4.0/7, ML4.1/1, Error ellipse: s-maj=113.6km s-min=18.3km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.05	1	P	P	02 05 44.0	-1.5
	0.3nm,0.3s,baz=189,slow=11,SNR=9.0						
FITZ	Fitzroy Crossi	31.72	125	P	P	02 07 44.5	-2.6
	5.6nm,1.0s,baz=326,slow=11,SNR=6.9						
WRA	Warramunga Arr	39.88	121	P	P	02 08 54.3	-2.4
	1.2nm,0.6s,baz=301,slow=9.1,SNR=8.7						
ASAR	Alice Springs	41.16	126	P	P	02 09 06.0	-1.1
	1.5nm,0.7s,baz=295,slow=8.3,SNR=13						
SONM	Songino Array	48.83	7	P	P	02 10 06.2	-2.1
	0.6nm,0.4s,baz=190,slow=10,SNR=7.3						
MKAR	Makanchi Array	49.42	345	P	P	02 10 10.8	-2.1
	1.9nm,0.6s,baz=152,slow=8.0,SNR=33						
STKA	Stephens Creek	51.07	132	P	P	02 10 24.7	-0.9
	2.8nm,0.8s,baz=336,slow=6.9,SNR=3.9						
TXAR	Lajitas Array	144.51	35	PKP	PKPdf	02 20 56.6	-3.5
	0.3nm,0.7s,baz=235,slow=1.0,SNR=4.7						

IDC 13 02:08:18.8±0.6, 1.79S×99.74E, mb4.2/15, mb1 4.3/15, mb1mx4.3/19, mbtmp4.2/15, MS3.5/3, Ms1 3.6/3, ms1mx3.1/32, Error ellipse: s-maj=27.6km s-min=14.2km az=49.0
NEIC 13 02:08:25.2±3.5, 1.74S×99.83E, h43km±32km, mb4.7/8, Error ellipse: s-maj=18.3km s-min=7.0km az=53.0
ISC 13 02:08:22.3±0.5, 1.72S±0.10×99.9E±0.1, h33km, n36, σ0§75/34, mb4.5/24, MS3.5/3, 2C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.07	357	P	P	02 12 55.0	-0.7
	1.7nm,0.5s,baz=187,slow=10.0,SNR=13						
CMAR				LR	LR	02 21 00.8	
	comp=Z,97nm,19.3s,MS3.2,baz=186,slow=38						
SHL	Shillong	28.20	345	*e*P	P	02 14 14.0	-0.3
FITZ	Fitzroy Crossi	30.09	124	P	P	02 14 30.1	-1.1
	9.5nm,0.9s,mb4.5,baz=296,slow=7.6,SNR=6.9						
JIRN	Jiri	32.03	337	*e*P	P	02 14 48.9	+0.7
	20nm,0.7s,mb5.1						
GUN	Gumba	32.38	336	*e*P	P	02 14 51.9	+0.6
	24nm,0.5s,mb5.3						
KKN	Kakani	32.51	335	*e*P	P	02 14 52.4	-0.1
	9.7nm,0.5s,mb5.0						
GKN	Gorkha	32.97	335	*e*P	P	02 14 56.4	0.0
	8.0nm,0.4s,mb5.0						
KOLN	Koldanda	33.22	333	*e*P	P	02 14 58.7	+0.1
	11nm,0.7s,mb4.9						
WRA	Warramunga Arr	38.26	121	P	P	02 15 41.6	+0.1
	1.8nm,0.4s,mb4.2,baz=303,slow=9.0,SNR=21						
WRAB	Tennant Creek	38.27	121	*e*P	P	02 15 41.3	-0.1
	20nm,0.6s,mb5.0						
WRAB				*e*	pP	02 15 51.3	0.0
ASAR	Alice Springs	39.53	126	P	P	02 15 52.0	0.0
	1.5nm,0.7s,mb3.8,baz=299,slow=7.9,SNR=10						
ASAR				PcP	PcP	02 17 60.0	+0.2
	1.3nm,0.5s,baz=290,slow=2.6,SNR=5.1						
STKA	Stephens Creek	49.45	132	P	P	02 17 11.7	+0.2
	1.0nm,0.3s,mb4.3,baz=286,slow=5.2,SNR=3.1						
STKA	Stephens Creek	49.45	132	P	P	02 17 13.5	+2.0
SONM	Songino Array	49.67	6	P	P	02 17 13.6	+0.5
	2.2nm,0.7s,mb4.3,baz=189,slow=9.7,SNR=15						
SONM				PcP	PcP	02 18 33.8	-0.5
	0.7nm,0.4s,baz=185,slow=4.9,SNR=4.9						
ULN	Ulaanbaatar	49.77	6	*e*P	P	02 17 13.4	-0.3
	2.5nm,0.9s,mb4.2						
MKAR	Makanchi Array	50.72	344	P	P	02 17 21.1	+0.1
	5.0nm,0.5s,mb4.7,baz=156,slow=8.6,SNR=80						
MKAR				LR	LR	02 40 41.8	
	comp=Z,45nm,18.9s,MS3.5,baz=264,slow=38						
ATD	Arta Tunnel	58.16	285	LR	LR	02 38 39.6	
	comp=Z,51nm,18.3s,MS3.7,baz=162,slow=31						
BVAR	Borovoye Array	59.87	340	P	P	02 18 25.8	-1.4
	2.9nm,0.7s,mb4.4,baz=149,slow=8.6,SNR=15						
CHKZ	Chkalovo	60.33	340	*e*P	P	02 18 29.0	-1.3
	5.0nm,0.8s,mb4.6						
KMBO	Kilima Mbogo	62.59	270	P	P	02 18 45.8	-0.2
	1.2nm,0.7s,mb4.2,baz=59,slow=11,SNR=6.7						
BRTR	Keskin Array B	73.03	312	P	P	02 19 49.5	-1.5
	1.4nm,0.7s,mb4.0,baz=132,slow=6.4,SNR=6.4						
BOSA	Boshof	75.67	241	P	P	02 20 05.7	-0.8
	5.3nm,1.0s,mb4.4,baz=248,slow=18,SNR=3.8						
BOSA	Boshof	75.67	241	*e*P	P	02 20 06.2	-0.3
AKASG	Malin Array Be	79.17	322	P	P	02 20 24.6	-0.9
	0.3nm,0.4s,mb3.6,baz=89,slow=4.1,SNR=4.0						
VRI	Vrincioaia	79.55	317	⇓P	P	02 20 27.7	+0.1
VRI	Vrincioaia	79.55	317	⇓P	P	02 20 27.7	0.0
MLR	Muntele Rosu	80.00	317	⇓P	P	02 20 30.6	+0.5
MLR	Muntele Rosu	80.00	317	⇓P	P	02 20 30.6	+0.5
BURAR	Bucovina Array	80.95	319	⇑P	P	02 20 35.8	+0.7
BURAR	Bucovina Array	80.95	319	⇑P	P	02 20 35.8	+0.7
JOF	Joensuu	81.90	335	*e*p	P	02 20 41.2	+1.5
	5.6nm,1.0s,mb4.5						
FINES	FINESS Array B	83.79	332	P	P	02 20 49.9	+0.5
	1.8nm,0.4s,mb4.5,baz=112,slow=5.2,SNR=34						
KAF	Kangasniemi	83.86	333	*e*p	P	02 20 49.9	+0.2
	5.2nm,0.8s,mb4.7,baz=99,slow=4.6						
ARCES	ARCESS Array B	86.16	340	P	P	02 21 01.8	+0.9
	4.6nm,0.9s,mb4.7,baz=98,slow=5.1,SNR=6.6						
GERES	GERESS Array B	88.74	319	P	P	02 21 14.8	+0.9
	0.8nm,0.7s,mb4.2,baz=90,slow=4.0,SNR=8.8						
TXAR	Lajitas Array	144.56	37	PKP	PKPdf	02 27 57.5	+1.3
	1.8nm,0.4s,baz=197,slow=0.5,SNR=39						

IDC 13 02:32:08.9±0.7, 1.66S×99.53E, mb4.2/10, mb1 4.4/10, mb1mx4.2/17, mbtmp4.3/10, MS3.4/1, Ms1 3.6/1, ms1mx2.8/34, Error ellipse: s-maj=27.6km s-min=17.5km az=54.0
NEIC 13 02:32:13.2±0.5, 1.71S×99.59E, h30km, mb4.6/1, Error ellipse: s-maj=17.5km s-min=10.8km az=67.0
ISC 13 02:32:12.1±0.6, 1.65S±0.09×99.6E±0.1, h33km, n20, σ0§91/17, mb4.3/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.98	9	P	P	02 33 55.5	+1.0
CMAR	Chiang Mai Arr	20.00	358	P	P	02 36 42.6	-2.2
	5.2nm,0.7s,baz=188,slow=10,SNR=20						
CMAR				LR	LR	02 45 56.6	
	comp=Z,113nm,19.2s,baz=175,slow=41						
SHL	Shillong	28.07	345	*e*P	P	02 38 03.0	0.0
WRA	Warramunga Arr	38.50	121	P	P	02 39 33.2	0.0
	2.9nm,0.5s,mb4.3,baz=298,slow=9.3,SNR=8.6						
WRAB	Tennant Creek	38.51	121	P	P	02 39 31.0	-2.3
	6.1nm,0.5s,mb4.6						
ASAR	Alice Springs	39.77	126	P	P	02 39 44.3	+0.6
	2.5nm,0.8s,mb4.0,baz=302,slow=7.9,SNR=8.2						
SONM	Songino Array	49.64	6	P	P	02 41 03.0	+0.5
	1.5nm,0.6s,mb4.2,baz=189,slow=9.8,SNR=9.1						
STKA	Stephens Creek	49.67	132	P	P	02 41 04.0	+1.0
	5.1nm,0.9s,mb4.5,baz=312,slow=2.6,SNR=6.1						
STKA	Stephens Creek	49.67	132	P	P	02 41 04.0	+1.0
MKAR	Makanchi Array	50.59	345	P	P	02 41 09.8	0.0
	2.9nm,0.6s,mb4.4,baz=154,slow=6.7,SNR=21						
MKAR	Makanchi Array	50.59	345	P	P	02 41 09.8	-0.1
KMBO	Kilima Mbogo	62.34	270	P	P	02 42 34.2	+0.1
	1.6nm,0.8s,mb4.2,baz=40,slow=22,SNR=7.7						
KMBO	Kilima Mbogo	62.34	270	P	P	02 42 34.2	+0.1
BOSA	Boshof	75.48	241	P	P	02 43 55.0	-0.2
	2.9nm,1.1s,mb4.1,baz=20,slow=13,SNR=3.9						
FINES	FINESS Array B	83.63	332	P	P	02 44 38.5	+0.2
	1.3nm,0.6s,mb4.2,baz=90,slow=5.7,SNR=5.1						
FINES	FINESS Array B	83.63	332	P	P	02 44 38.5	+0.1
ARCES	ARCESS Array B	86.02	340	P	P	02 44 50.4	+0.4
	5.2nm,0.9s,mb4.7,baz=117,slow=4.0,SNR=2.2						
TXAR	Lajitas Array	144.66	37	PKP	PKPdf	02 51 47.6	+1.5
	1.8nm,0.6s,baz=217,slow=0.5,SNR=49						
CFAA	Coronel Fontan	144.97	198	PKP	PKPdf	02 51 48.0	+1.4
	1.5nm,0.7s,baz=172,slow=2.9,SNR=26						
SIV	San Ignacio	154.08	227	PKPbc	PKPdf	02 52 11.1	+10
	0.6nm,0.7s,baz=142,slow=5.4,SNR=6.1						

IDC 13 02:33:16.0±1.5, 2.91S×139.88E, mb4.1/4, mb1 4.3/5, mb1mx4.0/13, mbtmp4.1/5, ML4.1/1, Error ellipse: s-maj=74.6km s-min=24.8km az=111.0
ISC 13 02:33:19.5±1.4, 3.0S±0.2×139.5E±0.3, h33km, n7, σ0§78/10, mb3.9/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.62	196	P	P	02 37 23.7	-0.6
	0.7nm,0.3s,baz=14,slow=12,SNR=9.9						
WRA				S	S	02 40 31.8	-5.4
	0.2nm,0.3s,baz=19,slow=22,SNR=3.0						
FITZ	Fitzroy Crossi	20.30	221	*e*P	P	02 37 56.6	+1.2
	12nm,0.7s						
FITZ				*e*S	S	02 41 35.8	-0.5
FITZ	Fitzroy Crossi	20.30	221	P	P	02 37 56.2	+0.8
	12nm,0.5s,baz=40,slow=8.6,SNR=26						
FITZ				S	S	02 41 34.4	-1.9
	4.2nm,0.5s,baz=218,slow=16,SNR=4.6						
ASAR	Alice Springs	21.29	194	P	P	02 38 06.2	+0.7
	1.8nm,0.5s,mb3.6,baz=26,slow=10,SNR=17						
ASPA	Alice Springs	21.29	194	*e*P	P	02 38 10.0	+4.4
STKA	Stephens Creek	28.82	176	P	P	02 39 16.9	-0.1
	1.3nm,0.7s,mb3.8,baz=348,slow=10,SNR=4.5						
ILAR	Eielson Array	85.72	24	P	P	02 45 55.7	-0.4
	0.9nm,0.5s,mb4.3,baz=262,slow=4.5,SNR=19						

IDC 13 02:41:36.1±0.7, 56.05N×162.96E, mb3.7/11, mb1 3.9/12, mb1mx3.8/24, mbtmp3.7/12, ML3.7/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/36, Error ellipse: s-maj=19.8km s-min=11.1km az=20.0
KRSC 13 02:41:38.6±1.0, 56.13N×163.14E, h19km±2km, ML4.6
MOS 13 02:41:39.2±1.9, 56.07N×163.05E, h21km, mb4.1/3, Error ellipse: s-maj=16.9km s-min=9.7km az=76.0
NEIC 13 02:41:42.8±1.6, 55.96N×163.15E, h52km±19km, mb3.8/1, Error ellipse: s-maj=21.1km s-min=9.7km az=161.0
ISC 13 02:41:38.0±0.3, 56.07N±0.02×163.24E±0.04, h19km, n61, σ1§22/98, mb3.6/11, MS3.5/2, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.27	300	*i* P	Pb	02 41 44.3	+0.1
KBTR				*e*S	Sb	02 41 48.2	-0.2
SVLR	Shiveluch	1.23	295	*e*P	Pn	02 42 02.5	+2.1
SVLR				*e*S	Sb	02 42 19.0	+3.0
ZLN	Zelenaya	1.37	269	*i* P	Pn	02 42 02.7	+0.4
ZLN				*e*S	Sb	02 42 19.3	-0.6
CIRR	Tsirk	1.40	273	*i* P	Pn	02 42 02.9	+0.2
CIRR				*e*S	Sb	02 42 20.6	-0.1
LGNR	Loginova	1.43	271	*i* P	Pn	02 42 03.5	+0.3
LGNR				*e*S	Sn	02 42 21.2	-0.4
KLY	Klyuchi	1.47	281	*i* P	Pn	02 42 01.7	-2.0
KLY				*i* S	Sn	02 42 18.8	-3.7
KRSR	Krestovskiy	1.50	277	*i* P	Pn	02 42 03.8	-0.5
KRSR				*e*S	Sn	02 42 22.4	-1.1
KPT	Kopyto	1.70	268	*i* P	Pn	02 42 07.3	+0.3
KPT				*e*S	Sn	02 42 29.0	+0.6
MKZ	Mys Kozlova	1.75	210	P	Pn	02 42 08.1	+0.3
MKZ				S	Sn	02 42 29.3	-0.4
MKZ	Mys Kozlova	1.75	210	*e*P	Pn	02 42 08.0	+0.2
MKZ				*e*S	Sn	02 42 29.3	-0.4
BKI	Bering	1.78	118	*i* P	Pn	02 42 09.6	+1.4
BKI				*i* S	Sn	02 42 32.6	+2.2
BKI				Smax			
	610nm,0.4s						
KOZR	Kozyr	1.88	271	PN	Pn	02 42 10.9	+1.3
KOZR				S	Sn	02 42 33.9	+1.0
KOZ	Kozyrevsk	1.89	271	P	Pn	02 42 10.9	+1.1
KOZ				S	Sn	02 42 33.9	+0.7
KOZ	Kozyrevsk	1.89	271	*i* P	Pn	02 42 10.8	+1.0
KOZ				*e*S	Sn	02 42 34.1	+0.9
TUMR	Tumrok	1.92	247	*i* P	Pn	02 42 11.6	+1.3
TUMR				*i* S	Sn	02 42 35.3	+1.2
SRDR	Sredinnyy	1.98	279	*i* P	Pn	02 42 11.7	+0.6
SRDR				*e*S	Sn	02 42 36.2	+0.5
ESO	Esso	2.55	269	*i* P	Pn	02 42 19.8	+0.5
ESO				*e*S	Sn	02 42 49.5	-0.7
ESO				Smax			
	760nm,1.0s						
KII	Karymskiy	2.99	228	*e*P	Pn	02 42 27.1	+1.6
KII				*e*S	Sn	02 43 01.8	+0.7
OSSR	Ossora	3.19	358	*i* P	Pn	02 42 25.5	-2.8
OSSR				*e*S	Sn	02 43 02.9	-3.3
OSSR				Smax			
	250nm,0.8s						
SPN	Mys Shipunski	3.52	213	P	Pn	02 42 32.7	-0.3
SPN				S	Sn	02 43 11.4	-3.2
SPN	Mys Shipunski	3.52	213	*e*P	Pn	02 42 32.5	-0.5
SPN				*e*S	Sn	02 43 12.2	-2.4
NLC	Nalytchevo	3.69	220	P	Pn	02 42 35.5	+0.1
NLC				S	Sn	02 43 16.8	-2.0
NLC	Nalytchevo	3.69	220	*e*P	Pn	02 42 35.5	+0.1
NLC				*e*S	Sn	02 43 16.9	-1.9
SMAR	Somma	3.82	224	*e*P	Pn	02 42 38.2	+1.0
AVH	Avacha	3.84	225	*e*P	Pn	02 42 38.7	+1.1
AVH				*e*S	Sn	02 43 22.5	-0.2
UGLR	Uglovaya	3.85	224	*e*P	Pn	02 42 38.8	+1.1
UGLR				*e*S	Sn	02 43 23.2	+0.3
KOK	Koryaka	3.86	226	*e*P	Pn	02 42 39.0	+1.1
KOK				*e*S	Sn	02 43 22.1	-1.1
GNL	Ganaly	3.88	234	*e*P	Pn	02 42 39.1	+1.0
GNL				*e*S	Sn	02 43 22.6	-1.1
PET	Petropavlovsk	4.06	223	P	Pn	02 42 41.6	+0.9
PET				S	Sn	02 43 26.8	-1.4
PET	Petropavlovsk	4.06	223	*e*PN	Pn	02 42 41.7	+1.0
PET				*e*S	Sn	02 43 29.1	+0.9
PET				pmax	pmax		
	comp=Z,133nm,1.1s						
PET				smax			
	comp=E,357nm,0.9s						
PET				smax			
	comp=N,279nm,0.7s						
PET				MLR	MLR		
	comp=Z,200nm,14.0s						
PET	Petropavlovsk	4.06	223	*e*P	Pn	02 42 41.6	+0.9
PET	Petropavlovsk	4.06	223	*e*P	Pn	02 42 41.0	+0.3
PET		

AKASG	**Malin Array Be**	**66.97**	**330**	P	**P**	**02 52 30.3**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.7,baz=23,slow=6.9,SNR=4.5						
TXAR	**Lajitas Array**	**67.84**	**70**	P	**P**	**02 52 36.7**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=333,slow=2.0,SNR=4.8						
TXAR	**Lajitas Array**	**67.84**	**70**	P	**P**	**02 52 36.7**	**-0.2**
ASAR	**Alice Springs**	**83.24**	**207**	*e*P	**P**	**02 54 02.6**	**-1.7**
ASAR	**Alice Springs**	**83.24**	**207**	P	**P**	**02 54 02.5**	**-1.8**
	comp=Z,0.3nm,0.4s,mb3.6,baz=19,slow=4.4,SNR=5.1						

NEIC ***13*** *02:47:51.6±0.4, 8.89N×93.17E, h30km, mb4.2/6, Error ellipse: s-maj=12.2km s-min=7.7km az=50.0*
IDC ***13*** *02:47:54.6±3.0, 9.03N×93.20E, h59km±26km, mb3.8/14, mb1 3.9/15, mb1mx3.8/24, mbtmp4.0/15, ML3.6/1, MS3.0/1, Ms1 3.2/1, ms1mx2.6/31, Error ellipse: s-maj=26.6km s-min=12.7km az=56.0*

ISC 13 02:47:51.4±1.5, 8.91N±0.07×93.17E±0.08, h48km±15km, n33, σ0°78/31, mb4.1/14, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.24**	**115**	*e*P	**P**	**02 49 50.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**11.02**	**30**	P	**P**	**02 50 28.8**	**-0.5**
	0.1nm,0.3s,baz=236,slow=13,SNR=3.3						
CMAR				LR	LR	02 54 48.8	
	comp=Z,80nm,19.1s,baz=205,slow=38						
PALK	**Pallekele**	**12.45**	**263**	*e*P	**P**	**02 50 48.2**	**-0.4**
	7.5nm,0.7s						
VIS	**Vishakhapatnam**	**12.98**	**313**	*e*P	**P**	**02 50 52.0**	**-3.5**
VIS				*e*S	**S**	**02 53 07.0**	**-12**
HYB	**Hyderabad**	**16.55**	**302**	*e*P	**P**	**02 51 42.5**	**+0.7**
HYB	**Hyderabad**	**16.55**	**302**	*i* P	**P**	**02 51 42.5**	**+0.7**
SHL	**Shillong**	**16.61**	**356**	*e*P	**P**	**02 51 43.0**	**+0.4**
JIRN	**Jiri**	**19.79**	**341**	*e*P	**P**	**02 52 21.7**	**+1.2**
	16nm,0.5s						
PKI	**Pulchoki**	**19.96**	**339**	*e*P	**P**	**02 52 23.3**	**+0.9**
	14nm,0.6s						
DMN	**Daman**	**20.10**	**339**	*e*P	**P**	**02 52 24.5**	**+0.6**
	16nm,0.6s						
GUN	**Gumba**	**20.12**	**341**	*e*P	**P**	**02 52 24.0**	**-0.1**
	25nm,0.6s						
KKN	**Kakani**	**20.21**	**339**	*e*P	**P**	**02 52 25.1**	**+0.1**
	12nm,0.6s						
GKN	**Gorkha**	**20.63**	**338**	*e*P	**P**	**02 52 29.3**	**-0.1**
	15nm,0.4s						
KOLN	**Koldanda**	**20.83**	**336**	*e*P	**P**	**02 52 31.6**	**+0.2**
	21nm,0.7s						
MKAR	**Makanchi Array**	**38.88**	**348**	P	**P**	**02 55 12.9**	**-0.9**
	0.5nm,0.6s,mb3.4,baz=177,slow=8.6,SNR=6.6						
MKAR				ScP		03 01 07.1	
	0.5nm,0.7s,baz=146,slow=4.4,SNR=6.1						
SONM	**Songino Array**	**40.38**	**14**	P	**P**	**02 55 26.8**	**+0.5**
	0.5nm,0.5s,mb3.5,baz=192,slow=11,SNR=4.0						
FITZ	**Fitzroy Crossi**	**41.80**	**130**	P	**P**	**02 55 40.3**	**+1.8**
	2.3nm,0.7s,mb3.9,baz=260,slow=11,SNR=6.4						
NWAO	**Narrogin (SRO)**	**47.50**	**152**	P	**P**	**02 56 25.1**	**+1.2**
	12nm,0.5s,mb5.1,baz=310,slow=7.4,SNR=16						
CHKZ	**Chkalovo**	**48.20**	**342**	*e*P	**P**	**02 56 28.2**	**-0.9**
WRA	**Warramunga Arr**	**49.64**	**126**	P	**P**	**02 56 39.9**	**-0.7**
	1.5nm,0.4s,mb4.4,baz=301,slow=9.8,SNR=9.6						
ASAR	**Alice Springs**	**51.31**	**130**	P	**P**	**02 56 52.4**	**-0.9**
	0.7nm,0.3s,mb4.1,baz=306,slow=8.2,SNR=14						
ASAR				PcP	PcP	02 58 08.5	+0.6
	0.9nm,0.7s,baz=311,slow=4.2,SNR=5.0						
KMBO	**Kilima Mbogo**	**56.59**	**263**	P	**P**	**02 57 32.6**	**+0.3**
	0.9nm,0.6s,mb4.0,baz=49,slow=11,SNR=5.0						
BRTR	**Keskin Array B**	**61.03**	**311**	P	**P**	**02 58 01.6**	**-1.2**
	1.1nm,0.6s,mb4.2,baz=119,slow=7.7,SNR=6.1						
STKA	**Stephens Creek**	**61.51**	**134**	P	**P**	**02 58 05.8**	**-0.2**
	0.7nm,0.3s,mb4.2,baz=333,slow=9.0,SNR=3.1						
STKA	**Stephens Creek**	**61.51**	**134**	P	**P**	**02 58 05.8**	**-0.2**
ARCES	**ARCESS Array B**	**73.97**	**340**	P	**P**	**02 59 22.5**	**-0.8**
	4.6nm,1.0s,mb4.4,baz=97,slow=7.3,SNR=4.2						
GERES	**GERESS Array B**	**76.42**	**318**	P	**P**	**02 59 38.0**	**+0.2**
	0.5nm,0.7s,mb3.6,baz=90,slow=6.7,SNR=6.6						
HFS	**Hagfors**	**77.09**	**330**	P	**P**	**02 59 40.7**	**-0.5**
	2.6nm,0.9s,mb4.1,baz=72,slow=9.1,SNR=3.1						
ILAR	**Eielson Array**	**94.15**	**22**	P	**P**	**03 01 05.5**	**-0.4**
	0.3nm,0.7s,mb3.8,baz=293,slow=4.8,SNR=6.8						
INK	**Inuvik**	**96.27**	**16**	P	**P**	**03 01 15.8**	**+0.4**
	0.5nm,0.6s,mb4.1,baz=151,slow=7.2,SNR=3.1						
TXAR	**Lajitas Array**	**138.66**	**23**	SKPbc		03 10 44.6	
	0.3nm,0.6s,baz=101,slow=1.0,SNR=6.2						
PLCA	**Paso Flores**	**145.16**	**202**	PKPbc	PKPbc	03 07 26.0	+1.6
	1.4nm,0.6s,baz=133,slow=5.0,SNR=3.3						
PLCA	**Paso Flores**	**145.16**	**202**	PKPbc	PKPbc	03 07 26.0	+1.6

MAN 13 02:48:24.1, 17.79N×120.42E, h20km, mb3.7, ML2.5, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**1.41**	**174⇑**	*e*P	Pn	02 48 47.0	-1.9
BCPH				*e*S	Sn	02 49 06.5	-0.5

IDC 13 02:55:22.1±5.9, 2.76S×98.54E, mb3.6/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=304.1km s-min=27.4km az=52.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.89**	**119**	P	P	03 02 49.0	-2.3
	0.5nm,0.4s,baz=302,slow=9.6,SNR=3.2						
ASAR	**Alice Springs**	**40.01**	**124**	P	P	03 03 00.0	-0.6
	0.2nm,0.5s,baz=299,slow=7.7,SNR=3.9						
MKAR	**Makanchi Array**	**51.38**	**346**	P	P	03 04 28.8	-1.9
	0.3nm,0.3s,baz=160,slow=8.7,SNR=10						
TXAR	**Lajitas Array**	**146.18**	**36**	PKP	PKPdf	03 15 02.9	-3.0
	0.3nm,0.5s,baz=231,slow=0.7,SNR=10						

DJA ***13*** *02:59:29.7±4.3, 2.02S×99.57E, h33km, mb5.8/4, MD5.3/2, Error ellipse: s-maj=140.3km s-min=9.1km az=75.0*
IDC ***13*** *02:59:29.7±0.3, 1.72S×99.97E, mb5.0/30, mb1 5.1/30, mb1mx5.1/30, mbtmp5.0/30, MS4.6/16, Ms1 4.6/16, ms1mx4.3/29, Error ellipse: s-maj=13.5km s-min=8.0km az=50.0*
BJI ***13*** *02:59:32.5, 1.96S×99.96E, h42km, mB5.2, mb4.9, Ms5.1, Msz5.0*
MOS ***13*** *02:59:33.9±0.8, 1.55S×99.91E, h33km, mb5.6/36, MS4.8/6, Error ellipse: s-maj=17.8km s-min=7.0km az=121.6*
HRVD ***13*** *02:59:34.7±0.4, 1.81S×99.96E, h29km, MW5.2/53, Centroid moment Tensor Solution. LP body waves: s37,c58;Mantle waves: s53,c86; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.61±.21; $M_{\theta\theta}$-2.11±.13; $M_{\phi\phi}$-2.51±.18; $M_{r\theta}$0.08±.22; $M_{\theta\phi}$2.53±.11; $M_{\phi r}$5.01±.27; Best double couple: $M_0$6.83×10^{16} NP1: ϕ_s118°,δ29°,λ47°; NP2:ϕ_s345°,δ69°,λ111°. Principal axes: T 7.363, Plg60°, Azm286°; N -1.077, Plg20°, Azm157°; P -6.296, Plg21°, Azm59°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
CSEM ***13*** *02:59:34.1, 1.60S×100.01E, h33km, mb5.6*
NEIC ***13*** *02:59:34.6±0.1, 1.71S×99.85E, mb5.2/82, MS5.0/93, Error ellipse: s-maj=4.2km s-min=2.9km az=222.0*
NEIC Felt [III] at Padang and [II] at Padangpanjang, Sumatra.

ISC 13 02:59:32.8±0.2, 1.74S±0.03×99.90E±0.03, h31km, h31km±.5km: pP-P, n440, σ0°95/346, mb5.2/129, MS4.9/123, 42C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.37**	**21**	*e*Pn	**Pn**	**02 59 57.0**	**+0.9**
KGM	**Kluang**	**5.06**	**43**	P	**Pn**	**03 00 51.3**	**+2.6**
IPM	**Ipoh**	**6.37**	**10**	P	**Pn**	**03 01 09.1**	**+1.9**
PENI	**Pendagan**	**6.49**	**126⇓**	*e*P	**Pn**	**03 01 08.1**	**-0.8**
	4μm,0.5s						
KULM	**Kulim**	**7.02**	**6**	*e*P	**Pn**	**03 01 16.6**	**+0.3**
PULI	**Pulasari**	**7.60**	**127⇑**	*e*P	**Pn**	**03 01 22.5**	**-1.8**
	1μm,0.3s						
PULI				*e*pP		03 01 26.3	
PULI	**Pulasari**	**7.60**	**127**	*e*pP		03 01 26.3	
KSM	**Kuching**	**10.89**	**73**	*e*P	**P**	**03 02 10.3**	**+0.5**
KSM				*e*		03 16 37.6	
SRDI	**Scrawed**	**15.68**	**116⇓**	*e*P	**P**	**03 03 11.3**	**-2.2**
	80nm,0.0s						
KELI	**Kelakatan**	**15.89**	**114⇑**	*e*P	**P**	**03 03 15.0**	**-1.2**
RATI	**Rata**	**17.04**	**115⇓**	*e*P	**P**	**03 03 28.2**	**-2.5**
	550nm,0.2s						
KEDI	**Kedomdong**	**17.48**	**113⇓**	*e*P	**P**	**03 03 33.9**	**-2.3**
KKM	**Kota Kinabalu**	**18.03**	**64**	*e*P	**P**	**03 03 45.8**	**+2.6**
KKM	**Kota Kinabalu**	**18.03**	**64**	P	**P**	**03 03 45.3**	**+2.1**
TSM	**Tawau**	**18.93**	**72**	P	**P**	**03 03 55.3**	**+1.3**
TANI	**Tanete Lipujan**	**19.54**	**95**	*e*P	**P**	**03 04 00.9**	**-0.2**
NINI	**Niniconang**	**20.01**	**98**	*e*P	**P**	**03 04 06.3**	**+0.2**
CM31	**Chiang Mai Arr**	**20.09**	**357**	*e*P	**P**	**03 04 04.2**	**-2.7**
	25nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.09**	**357**	P	**P**	**03 04 04.0**	**-2.9**
	18nm,0.6s,baz=185,slow=8.6,SNR=51						
CMAR				PcP	PcP	03 08 22.1	+1.0
	4.8nm,0.7s,baz=201,slow=3.5,SNR=7.5						
CMAR				LR	LR	03 12 19.3	
	comp=Z,2μm,18.7s,MS4.5,baz=195,slow=38						
PALK	**Pallekele**	**21.14**	**295**	*e*P	**P**	**03 04 18.1**	**+0.3**
	290nm,1.6s,mb5.4						
PALK				LR	LR		
	comp=Z,574nm,20.0s,MS4.0						
QIZ	**Qiongzhong**	**22.83**	**25**	P	**P**	**03 04 36.0**	**+1.2**
QIZ				S	**S**	**03 08 43.0**	**+5.5**
QIZ				XS		03 08 59.8	
QIZ				LR	LR		
	comp=N,2μm,13.0s,MS4.9						
QIZ				LR	LR		
	comp=E,2μm,13.0s,MS4.9						
QIZ				LR	LR		
	comp=Z,3μm,13.0s,MS5.0						
QIZ	**Qiongzhong**	**22.83**	**25**	*e*P	**P**	**03 04 35.9**	**+1.1**
	comp=Z,42nm,0.8s,mb4.9						
QIZ				*e*		03 04 47.6	
QIZ				LR	LR		
	comp=Z,1μm,19.0s,MS4.4						
TRD	**Trivandrum**	**25.03**	**294⇓**	*e*P	**P**	**03 04 58.2**	**+2.1**
TRD				*e*		03 08 58.2	
VIS	**Vishakhapatnam**	**25.30**	**321**	*e*P	**P**	**03 04 59.1**	**+0.5**
VIS				*e*		03 05 02.2	
	comp=Z,100nm,1.3s						
BWNR	**Bhubaneshwar**	**25.89**	**328**	*e*P	**P**	**03 05 06.2**	**+2.1**
BWNR				*e*		03 05 07.8	
	comp=Z,141nm,0.9s						
BWNR				*e*		03 09 24.0	
AGT	**Agartala**	**26.82**	**342**	*e*	**P**	**03 05 08.0**	**-4.6**
KMI	**Kunming**	**26.84**	**6**	P	**P**	**03 05 11.7**	**-1.1**
KMI				PP	PP	03 06 01.7	+3.5
KMI				S	**S**	**03 09 52.2**	**+6.9**
KMI				XS		03 10 06.6	
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,75nm,3.3s						
KMI				LR	LR		
	comp=N,2μm,13.1s						
KMI				LR	LR		
	comp=E,2μm,21.8s						
KMI				LR	LR		
	comp=Z,3μm,13.1s,MS5.0						
KMI	**Kunming**	**26.84**	**6**	P	**P**	**03 05 11.7**	**-1.1**
	comp=Z,13nm,0.9s,mb4.5						
KMI				pP	pP	03 05 19.9	-1.9
KMI				sP	sP	03 05 23.8	-2.1
KMI				PP	PP	03 06 01.7	+3.5
KMI				S	**S**	**03 09 52.2**	**+6.9**
KMI				sS		03 10 06.6	
KMI				SS	SS	03 11 13.0	+14
KMI				LR	LR		
	comp=Z,3μm,13.1s,MS5.0						
MBWA	**Marble Bar**	**27.32**	**136**	*e*P	**P**	**03 05 17.6**	**+0.4**
	comp=Z,22nm,0.8s,mb4.8						
MBWA				LR	LR		
	comp=Z,1μm,20.0s,MS4.5						
SHL	**Shillong**	**28.23**	**345⇑**	*i* P	**P**	**03 05 24.5**	**-0.8**
SHL				*e*S	**S**	**03 10 07.0**	**-0.6**
HYB	**Hyderabad**	**28.37**	**313**	*e*P	**P**	**03 05 26.0**	**-0.7**
HYB	**Hyderabad**	**28.37**	**313**	*i* P	**P**	**03 05 26.0**	**-0.7**
GYA	**Guiyang**	**28.78**	**13⇑**	*i* P	**P**	**03 05 28.2**	**-2.1**
GYA				AP	pP	03 05 39.0	-0.4
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
GYA				AMB	AMB		
	comp=Z,120nm,3.3s						
GYA				LR	LR		
	comp=N,3μm,14.0s,MS5.0						
GYA				LR	LR		
	comp=E,1μm,13.4s,MS5.0						
GYA				LR	LR		
	comp=Z,4μm,13.4s,MS5.2						
FITZ	**Fitzroy Crossi**	**30.04**	**124**	*e*P	**P**	**03 05 40.9**	**-0.8**
	comp=Z,85nm,1.0s,mb5.4						
FITZ	**Fitzroy Crossi**	**30.04**	**124**	P	**P**	**03 05 40.9**	**-0.8**
	comp=Z,39nm,0.6s,mb5.4,baz=301,slow=4.6,SNR=33						
KAD	**Karad**	**31.64**	**308**	*e*P	**P**	**03 05 55.3**	**-0.4**
KAD				*e*		03 05 57.9	
	comp=Z,51nm,2.0s						
KAD				*e*		03 10 51.4	
JIRN	**Jiri**	**32.06**	**337**	*e*P	**P**	**03 05 59.9**	**+0.5**
	comp=Z,159nm,0.7s,mb5.9						
PKI	**Pulchoki**	**32.30**	**335**	*e*P	**P**	**03 06 01.3**	**-0.2**
	comp=Z,64nm,1.1s,mb5.3						
LSA	**Lhasa**	**32.36**	**346**	P	**P**	**03 06 01.9**	**0.0**
LSA				AP	pP	03 06 10.2	-0.9
LSA				XP	sP	03 06 14.4	-0.7
LSA				PP	PP	03 07 14.9	+4.9
LSA				PCP	PcP	03 08 48.8	-0.5
LSA				S	**S**	**03 11 10.7**	**-2.1**
LSA				SCP		03 12 30.0	
LSA				PCS		03 12 34.1	
LSA				SCS	ScS	03 16 29.9	+2.7
LSA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.2						
LSA				LR	LR		
	comp=N,470nm,24.8s,MS4.4						
LSA				LR	LR		
	comp=E,930nm,24.8s,MS4.4						
LSA				LR	LR		
	comp=Z,910nm,23.7s,MS4.4						
LSA	**Lhasa**	**32.36**	**346**	*e*P	**P**	**03 06 02.3**	**+0.4**
	comp=Z,34nm,0.6s,mb5.3						
LSA				*e*	pP	03 06 12.8	+1.7
LSA				LR	LR		
	comp=Z,733nm,21.0s,MS4.3						
GUN	**Gumba**	**32.41**	**336**	*e*P	**P**	**03 06 02.5**	**+0.1**
	comp=Z,389nm,1.1s,mb6.1						
DMN	**Daman**	**32.46**	**335**	*e*P	**P**	**03 06 02.8**	**-0.1**
	comp=Z,52nm,1.0s,mb5.3						
KKN	**Kakani**	**32.55**	**335**	*e*P	**P**	**03 06 03.5**	**-0.1**
	comp=Z,91nm,0.9s,mb5.7						
POO	**Poona**	**32.59**	**309**	*e*P	**P**	**03 06 03.9**	**-0.2**
POO				*e*		03 06 06.9	
	comp=Z,54nm,0.9s						
POO				*e*		03 10 54.5	
CD2	**Chengdu**	**32.67**	**6**	P	**P**	**03 06 02.9**	**-1.7**
CD2				S	**S**	**03 11 17.2**	**-0.5**
CD2				SS	SS	03 13 20.7	+4.8
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
CD2				LR	LR		
	comp=E,2μm,12.0s						
CD2				LR	LR		
	comp=Z,2μm,13.2s,MS5.0						
GKN	**Gorkha**	**33.01**	**335**	*e*P	**P**	**03 06 07.5**	**-0.1**
	comp=Z,159nm,1.2s,mb5.8						
BHPL	**Bhopal**	**33.09**	**320**	*e*P	**P**	**03 06 08.4**	**0.0**
BHPL				*e*		03 06 10.3	
BHPL				*e*		03 11 14.2	
ENH	**Enshi**	**33.12**	**15**	*e*P	**P**	**03 06 06.5**	**-2.0**
	comp=Z,68nm,1.1s,mb5.5						
ENH				LR	LR		
	comp=Z,1μm,19.0s,MS4.6						
KOLN	**Koldanda**	**33.26**	**333**	*e*P	**P**	**03 06 09.7**	**-0.1**
	comp=Z,197nm,1.2s,mb5.9						
TATO	**Taipei**	**33.81**	**37**	PFAKE		03 06 30.0	+15
TATO				LR	LR		
	comp=Z,773nm,19.0s,MS4.5						
KAKA	**Kakadu**	**34.02**	**110**	*e*P	**P**	**03 06 14.0**	**-2.5**
	comp=Z,11nm,0.6s,mb5.0						
WHN	**Wuhan**	**34.93**	**22**	P	**P**	**03 06 23.0**	**-1.2**
WHN				S	**S**	**03 11 57.0**	**+4.3**
WHN				LR	LR		
	comp=Z,5μm,14.4s,MS5.4						
NWAO	**Narrogin (SRO)**	**35.04**	**154**	P	**P**	**03 06 24.6**	**-0.5**
	comp=Z,7.5nm,0.7s,mb4.7,baz=322,slow=10,SNR=4.7						
NWAO				LR	LR	03 19 49.4	
	comp=Z,1μm,20.9s,MS4.6,baz=330,slow=35						
NWAO	**Narrogin (SRO)**	**35.04**	**154**	*e*P	**P**	**03 06 25.5**	**+0.4**
NWAO				*e*	pP	03 06 35.0	+0.7
NWAO				LR	LR		
	comp=Z,1μm,21.0s,MS4.6						
LGTI	**Lohaghat**	**36.26**	**330**	*e*P	**P**	**03 06 35.7**	**+0.2**
XAN	**Xi'an**	**36.59**	**13**	P	**P**	**03 06 36.9**	**-1.2**
XAN				AP	pP	03 06 47.2	-0.1
XAN				AMB	AMB		
	comp=Z,44nm,0.9s,mb5.3						
NDI	**New Delhi**	**37.25**	**326**	*e*P	**P**	**03 06 41.0**	**-2.8**
LZH	**Lanzhou**	**37.81**	**5**	*e*P	**P**	**03 06 48.8**	**+0.4**
LZH				AP	pP	03 06 57.3	-0.3
LZH				XP	sP	03 07 01.0	-0.5
LZH				PP	PP	03 08 19.0	+1.0
LZH				*e*S	**S**	**03 12 38.8**	**+2.0**
LZH				XS		03 12 55.0	
LZH				SS	SS	03 15 16.0	+3.0
LZH				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,12.7s						
LZH				LR	LR		
	comp=Z,3μm,13.1s,MS5.3						
LZH	**Lanzhou**	**37.81**	**5**	*e*P	**P**	**03 06 48.8**	**+0.4**
	comp=Z,31nm,1.0s,mb5.0						
LZH				pP	pP	03 06 57.3	-0.3
LZH				sP	sP	03 07 01.0	-0.5
LZH				PP	PP	03 08 19.0	+1.0
LZH				*e*S	**S**	**03 12 38.8**	**+2.0**
LZH				sS		03 12 55.0	
LZH				SS	SS	03 15 16.0	+3.0
LZH				LR	LR		
	comp=Z,3μm,13.1s,MS5.3						
NJ2	**Nanjing**	**38.11**	**27**	*e*P	**P**	**03 06 51.8**	**+0.9**
NJ2				AP	pP	03 07 00.4	+0.2
NJ2				XP	sP	03 07 03.9	-0.2
NJ2				PP	PP	03 08 23.8	+2.2
NJ2				S	**S**	**03 12 47.0**	**+5.6**
NJ2				XS		03 13 05.0	
NJ2				AMB	AMB		
	comp=Z,2μm,4.2s						
NJ2				LR	LR		
	comp=N,3μm,18.2s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,20.2s,MS5.3						
NJ2				LR	LR		
	comp=Z,3μm,14.4s						
WRA	**Warramunga Arr**	**38.21**	**121**	P	**P**	**03 06 51.6**	**-0.4**
	comp=Z,17nm,0.4s,mb5.1,baz=305,slow=8.9,SNR=102						
WRA				S	**S**	**03 12 42.4**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=295,slow=16,SNR=5.5						
WRAB	**Tennant Creek**	**38.22**	**121**	*i* P	**P**	**03 06 52.3**	**+0.3**
WRAB	**Tennant Creek**	**38.22**	**121**	*e*P	**P**	**03 06 51.5**	**-0.5**
	comp=Z,58nm,0.8s,mb5.4						
WRAB				LR	LR		
	comp=Z,415nm,21.0s,MS4.2						
SSE	**Sheshan**	**38.42**	**30**	P	**P**	**03 06 55.1**	**+1.5**
SSE				AP	pP	03 07 04.0	+1.2
SSE				XP	sP	03 07 07.6	+0.9
SSE				PP	PP	03 08 25.3	+0.1
SSE				S	**S**	**03 12 48.8**	**+2.6**
SSE				XS		03 13 05.0	
SSE				AMB	AMB		
	comp=Z,29nm,1.0s,mb5.0						
SSE				AMB	AMB		
	comp=Z,35nm,3.3s						
SSE				LR	LR		
	comp=N,1μm,14.8s,MS5.0						
SSE				LR	LR		
	comp=E,1μm,14.8s,MS5.0						
SSE				LR	LR		
	comp=Z,2μm,13.8s,MS5.1						
SSE	**Sheshan**	**38.42**	**30**	P	**P**	**03 06 55.1**	**+1.5**
	comp=Z,29nm,1.0s,mb5.0						
SSE				pP	pP	03 07 04.0	+1.2
SSE				sP	sP	03 07 07.6	+0.9
SSE				PP	PP	03 08 25.3	+0.1
SSE				S	**S**	**03 12 48.8**	**+2.6**
SSE				sS		03 13 05.0	
SSE				SS	SS	03 15 39.1	+12
SSE				ScS	ScS	03 17 03.9	+3.9
SSE				LR	LR		
	comp=Z,2μm,13.8s,MS5.1						
FORT	**Forrest**	**39.31**	**140**	*e*P	**P**	**03 07 03.2**	**+2.2**
	comp=Z,928nm,0.6s						
JOW	**Kunigami**	**39.44**	**42**	LR	LR	03 23 51.8	
	comp=Z,362nm,20.1s,MS4.2,baz=237,slow=37						
ASPA	**Alice Springs**	**39.49**	**126**	*e*P	**P**	**03 07 03.7**	**+1.2**
ASPA				*e*S	**S**	**03 13 02.4**	**+0.1**
ASAR	**Alice Springs**	**39.49**	**126**	P	**P**	**03 07 02.8**	**+0.2**
	comp=Z,26nm,0.6s,mb5.1,baz=302,slow=7.2,SNR=88						
ASAR				PcP	PcP	03 09 11.1	+0.6
	comp=Z,8.8nm,0.7s,baz=312,slow=2.8,SNR=5.5						
ASAR				S	**S**	**03 13 03.1**	**+0.7**
	comp=Z,5.3nm,0.7s,baz=296,slow=16,SNR=10						
ASAR				LR	LR	03 26 01.5	
	comp=Z,510nm,19.9s,MS4.4,baz=298,slow=40						
SDNR	**Sundarnagar**	**39.58**	**329**	*e*P	**P**	**03 07 03.0**	**-0.3**
GTA	**Gaotai**	**40.95**	**360**	*e*P	**P**	**03 07 14.6**	**+0.2**
GTA				AP	pP	03 07 25.0	+1.3
GTA				XP	sP	03 07 28.6	+1.1
GTA				PP	PP	03 08 51.9	+0.1
GTA				PCP	PcP	03 09 15.6	+0.6
GTA				S	**S**	**03 13 20.4**	**-3.6**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,77nm,3.8s						
GTA				LR	LR		
	comp=N,1μm,14.8s,MS5.0						
GTA				LR	LR		
	comp=E,979nm,16.7s,MS5.0						
GTA				LR	LR		
	comp=Z,2μm,15.2s,MS5.0						
THN	**Thein Dam**	**40.97**	**328**	*e*P	**P**	**03 07 14.1**	**-0.6**
HHC	**Hu-ho-hao-te**	**43.70**	**13**	*e*P	**P**	**03 07 37.5**	**+0.6**
HHC				AP	pP	03 07 47.9	+1.7
HHC				XP	sP	03 07 51.6	+1.6
HHC				PP	PP	03 09 21.2	+0.9
HHC				PCP	PcP	03 09 23.7	-0.5
HHC				SCP		03 13 12.9	
HHC				PCS		03 13 15.0	
HHC				S	**S**	**03 14 05.6**	**+1.2**
HHC				SS	SS	03 17 15.4	+2.8
HHC				SCS	ScS	03 17 32.6	+1.2
HHC				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.6						
HHC				AMB	AMB		
	comp=Z,174nm,5.2s						
HHC	

comp=Z,840nm,15.9s,MS4.8
DL2 Dalian 45.12 24 *e*P **P** **03 07 49.7 +1.3**
DL2 *e*S **S** **03 14 25.9 +0.9**
DL2 AMB AMB
comp=Z,20nm,1.4s,mb4.8
DL2 LR LR
comp=N,300nm,22.5s,MS4.6
DL2 LR LR
comp=E,650nm,21.2s,MS4.6
DL2 LR LR
comp=Z,620nm,19.6s,MS4.5
INCN Inchon 46.22 30 PFAKE 03 08 10.0 +13
INCN LR LR
comp=Z,503nm,21.0s,MS4.4
KSH Kashi 46.55 334 *e*P **P** **03 08 00.0 +0.3**
KSH *e*AP pP 03 08 09.6 +0.5
KSH *e*XP sP 03 08 13.6 +0.8
KSH *e*PCP PcP 03 09 35.2 +1.2
KSH *e*PP PP 03 09 48.5 -0.4
KSH *e*SCP 03 13 24.3
KSH *e*PCS 03 13 28.1
KSH *e*S **S** **03 14 44.2 -1.3**
KSH *e*SCS ScS 03 17 49.5 -0.1
KSH *e*SS SS 03 18 02.4 -1.6
KSH AMB AMB
comp=Z,520nm,6.0s
KSH LR LR
comp=N,980nm,6.1s
KSH LR LR
comp=E,750nm,6.0s
WMQ Urumqi 46.66 348 ⇑P **P** **03 08 01.4 +1.0**
WMQ AP pP 03 08 11.4 +1.6
WMQ XP sP 03 08 15.4 +1.8
WMQ PCP PcP 03 09 35.7 +1.4
WMQ PP PP 03 09 50.8 +0.9
WMQ S **S** **03 14 47.3 +0.4**
WMQ XS 03 15 03.4
WMQ AMB AMB
comp=Z,168nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,325nm,2.6s,mb5.8
WMQ LR LR
comp=N,536nm,20.0s,MS4.6
WMQ LR LR
comp=E,281nm,18.2s,MS4.6
WMQ LR LR
comp=Z,429nm,21.2s,MS4.4
WBK Wadi Bani Khal 46.66 304 P **P** **03 08 00.9 +0.1**
SNR=6.4
KS15 Wonju Array Si 46.82 31 *e*P **P** **03 08 02.0 +0.1**
PMG Port Moresby 47.60 101 P **P** **03 08 07.8 -0.6**
comp=Z,8.6nm,0.5s,mb5.0,baz=142,slow=9.2,SNR=5.5
PMG Port Moresby 47.60 101 P **P** **03 08 07.8 -0.6**
PMG LR LR
comp=Z,649nm,19.0s,MS4.6
SMDO Samad 47.62 304 P **P** **03 08 08.3 0.0**
SNR=7.2
BSY Bisya 48.20 303 P **P** **03 08 13.1 +0.3**
SNR=6.2
SNY Shenyang 48.38 24 ⇓P **P** **03 08 13.5 -0.5**
SNY AP pP 03 08 21.4 -2.0
SNY S **S** **03 15 13.0 +1.7**
SNY LR LR
comp=N,1μm,14.7s,MS5.2
SNY LR LR
comp=E,2μm,15.3s,MS5.2
SNY LR LR
comp=Z,900nm,15.6s,MS4.9
ULHL Ulahol 48.73 337 P **P** **03 08 17.0 +0.4**
SNR=11
CTA Charters Tower 48.80 115 *e*P **P** **03 08 17.4 -0.1**
comp=Z,22nm,1.0s,mb5.2
CTA Charters Tower 48.80 115 P **P** **03 08 17.7 +0.2**
comp=Z,12nm,0.9s,mb4.9,baz=278,slow=11,SNR=6.0
CTA LR LR 03 32 18.9
comp=Z,1μm,20.3s,MS4.8,baz=88,slow=40
CTAO Charters Tower 48.80 115 *e*P **P** **03 08 18.9 +1.3**
comp=Z,40nm,1.0s,mb5.4
CTAO LR LR
comp=Z,1μm,21.0s,MS4.9
RBK Rabkut 48.91 295 P **P** **03 08 18.2 -0.1**
SNR=15
KZA Kyzart 48.99 336 P **P** **03 08 19.5 +0.9**
SNR=15
STKA Stephens Creek 49.40 132 *e*P **P** **03 08 22.5 +0.5**
comp=Z,22nm,0.6s,mb5.4
STKA Stephens Creek 49.40 132 P **P** **03 08 21.9 -0.1**
comp=Z,9.9nm,0.4s,mb5.2,baz=312,slow=7.8,SNR=33
UCH Uchtor 49.42 335 P **P** **03 08 22.7 +0.8**
SNR=24
WHFO Wadi Hawf 49.43 295 P **P** **03 08 22.0 -0.4**
SNR=10
TKM2 Tokmak 2 49.55 337 P **P** **03 08 23.5 +0.5**
SNR=57
KBK Karagaybulak 49.59 336 P **P** **03 08 24.4 +1.1**
SNR=17
AML Almayashu 49.69 334 P **P** **03 08 24.8 +0.7**
SNR=47
ABTO Aybut 49.69 294 P **P** **03 08 24.1 -0.2**
SNR=8.2
SONM Songino Array 49.69 6 P **P** **03 08 24.2 +0.2**
comp=Z,23nm,0.7s,mb5.3,baz=187,slow=9.5,SNR=144
SONM PcP PcP 03 09 45.2 0.0
comp=Z,7.0nm,0.6s,baz=189,slow=4.3,SNR=5.3
SONM S **S** **03 15 32.9 +3.4**
comp=Z,0.5nm,0.5s,baz=202,slow=6.7,SNR=3.8
AAK Ala-Archa 49.76 335 P **P** **03 08 25.3 +0.7**
SNR=11
CBIJ Chichi jima 49.79 52 LR LR 03 28 43.7
comp=Z,287nm,19.1s,MS4.3,baz=338,slow=35
ULN Ulaanbaatar 49.79 6 *i* P **P** **03 08 24.8 0.0**
ULN Ulaanbaatar 49.79 6 *e*P **P** **03 08 24.8 0.0**
comp=Z,16nm,0.8s,mb5.1
ULN LR LR
comp=Z,748nm,19.0s,MS4.7
FRU Bishkek 49.87 336 *e*P **P** **03 08 25.0 -0.5**
FRU *e* pP 03 08 35.0 0.0
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
CHMS Chumysh 49.96 336 P **P** **03 08 26.2 +0.1**
SNR=10
EKS2 Erkin-Say 50.08 335 P **P** **03 08 27.8 +0.7**
SNR=38
USP Ospenovka 50.28 336 P **P** **03 08 28.6 +0.1**
SNR=40
MKAR Makanchi Array 50.75 344 P **P** **03 08 32.0 -0.1**
comp=Z,50nm,0.7s,mb5.5,baz=150,slow=8.1,SNR=337
MKAR S **S** **03 15 47.8 +3.6**
comp=Z,1.7nm,0.8s,baz=153,slow=14,SNR=6.4
MKAR LR LR 03 35 19.9
comp=Z,347nm,19.2s,MS4.4,baz=162,slow=42
ZAK Zakamensk 52.00 3 *e*P **P** **03 08 41.0 -0.5**
ZAK *e* 03 09 53.6
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
MAJO Matsushiro 52.14 39 PFAKE 03 08 50.0 +7.2
MAJO LR LR
comp=Z,591nm,19.0s,MS4.6
MJAR Matsushiro Arr 52.14 39 P **P** **03 08 42.2 -0.5**
comp=Z,6.7nm,1.0s,mb4.5,baz=222,slow=7.4,SNR=13
MDJ Mudanjiang 53.20 26 P **P** **03 08 50.7 +0.1**
MDJ AP pP 03 08 59.8 -0.2
MDJ XP sP 03 09 03.6 -0.1
MDJ PP PP 03 10 53.0 +0.9
MDJ S **S** **03 16 22.1 +4.4**
MDJ XS 03 16 40.8
MDJ AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,104nm,5.3s
MDJ LR LR
comp=N,864nm,15.1s,MS5.1
MDJ LR LR
comp=E,873nm,15.1s,MS5.1
MDJ LR LR
comp=Z,1μm,13.3s,MS5.2
MDJ Mudanjiang 53.20 26 *e*P **P** **03 08 51.1 +0.5**
MDJ LR LR
comp=Z,837nm,20.0s,MS4.8
MOY Mondy 53.21 1 *e*P **P** **03 08 50.4 -0.1**
MOY pmax pmax
comp=Z,46nm,2.0s,mb5.1
TLY Talaya 53.31 3 *e*P **P** **03 08 51.5 +0.2**
TLY *e*S **S** **03 16 19.4 +0.3**
TLY pmax pmax
comp=Z,15nm,1.1s,mb4.8
TLY MLR MLR
comp=Z,1μm,15.0s,MS5.0
HIA Hailar 53.62 16 P **P** **03 08 48.8 -4.8**
HIA LR LR
comp=Z,455nm,20.0s,MS4.5
OPO Ambohidratompo 54.27 248 P **P** **03 08 59.2 +0.5**
comp=Z,5.4nm,0.7s,mb4.6,baz=67,slow=6.7,SNR=10
KLR Kul'dur 57.73 24 *e*P **P** **03 09 19.7 -3.5**
KLR *e*S **S** **03 17 17.0 -1.1**
KLR MLR MLR
comp=N,1μm,13.5s,MS5.3
KLR MLR MLR
comp=E,500nm,13.5s,MS5.3
KLR MLR MLR
comp=Z,2μm,13.5s,MS5.4
NVS Novosibirsk 58.04 349 *i* P **P** **03 09 23.6 -1.7**
NVS *i* pP 03 09 33.1 -1.8
NVS *e*S **S** **03 17 21.1 -1.0**
NVS pmax pmax
comp=N,64nm,1.6s
NVS pmax pmax
comp=Z,66nm,1.6s,mb5.4
NVS pmax pmax
comp=E,24nm,1.3s
ATD Arta Tunnel 58.21 285 LR LR 03 29 41.4
comp=E,557nm,20.8s,MS4.7,baz=186,slow=31
ASAJ Asahikawa 59.45 35 P **P** **03 09 35.5 +0.3**
comp=E,12nm,0.5s,mb5.2,baz=242,slow=8.0,SNR=9.3
BVAR Borovoye Array 59.90 340 P **P** **03 09 36.7 -1.6**
comp=E,17nm,0.6s,mb5.2,baz=144,slow=8.8,SNR=109
CHKZ Chkalovo 60.36 340 *e*P **P** **03 09 40.1 -1.3**
comp=E,51nm,0.7s,mb5.7
BOD Bodaibo 60.44 9 *e*P **P** **03 09 41.4 -0.4**
BOD pmax pmax
comp=Z,19nm,1.3s,mb5.0
YSS Yuzh-Sakhalins 61.31 32⇑*e*P **P** **03 09 47.5 -0.4**
YSS *e* pP 03 09 56.2 -1.4
YSS *e*S **S** **03 18 06.0 +1.6**
YSS pmax pmax
comp=Z,50nm,0.9s,mb5.6
YSS MLR MLR
comp=N,500nm,15.0s,MS4.9
YSS MLR MLR
comp=E,300nm,15.0s,MS4.9
YSS MLR MLR
comp=Z,300nm,15.0s,MS4.6
YSS Yuzh-Sakhalins 61.31 32 PFAKE 03 10 00.0 +12
YSS LR LR
comp=Z,222nm,20.0s,MS4.3
CLNS Chul'man 61.79 15 *e*P **P** **03 09 49.4 -1.6**
CLNS pmax pmax
comp=Z,13nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,13nm,1.2s
CLNS pmax pmax
comp=E,10.0nm,0.9s
KMBO Kilima Mbogo 62.63 270 P **P** **03 09 57.4 +0.2**
comp=E,9.2nm,0.8s,mb5.0,baz=62,slow=9.9,SNR=44
KMBO LR LR 03 33 51.5
comp=E,698nm,19.5s,MS4.8,baz=95,slow=33
KMBO Kilima Mbogo 62.63 270 *e*P **P** **03 09 57.2 +0.1**
comp=E,49nm,1.5s,mb5.4
KMBO LR LR
comp=Z,700nm,20.0s,MS4.8
BHD Baghdad 62.76 309 *e*P **P** **03 09 50.0 -7.8**
BHD *e*S S 03 17 26.0 -57
MSL Mosul 64.89 312 *e*P **P** **03 10 12.0 +0.2**
GNI Garni 65.27 316⇑*i*P **P** **03 10 13.5 -0.6**
GNI pmax pmax
comp=Z,41nm,1.5s
GNI Garni 65.27 316 P **P** **03 10 14.0 -0.1**
comp=Z,4.7nm,0.6s,mb4.7,baz=140,slow=1.0,SNR=13
GNI Garni 65.27 316 *e*P **P** **03 10 13.6 -0.5**
comp=Z,31nm,1.1s,mb5.3
GNI LR LR
comp=Z,294nm,22.0s,MS4.4
TBLG Delisi 65.95 318 P **P** **03 10 17.9 -0.6**
SVE Sverdlovsk 66.40 338⇑*i*P **P** **03 10 17.3 -3.8**
SVE *e* pP 03 10 27.7 -3.0
SVE pmax pmax
comp=Z,100nm,1.5s,mb5.6
BEST Besiri 66.84 313 *i* P **P** **03 10 23.4 -0.8**
ARU Arti 66.93 336⇑*i*P **P** **03 10 23.0 -1.4**
ARU *e* 03 10 52.1
ARU *e* 03 12 51.8
ARU *e*S S 03 19 14.3 +0.5
ARU *e*SS SS 03 23 31.3 -2.8
ARU pmax pmax
comp=Z,23nm,0.8s,mb5.3
ARU Arti 66.93 336 *e*P **P** **03 10 22.9 -1.6**
comp=Z,54nm,1.1s,mb5.5
ZEI Tsey 66.97 318 *e*P **P** **03 10 23.9 -1.1**
ZEI *i* 03 12 51.5
ZEI pmax pmax
comp=Z,27nm,0.8s,mb5.3
YAK Yakutsk 67.51 15*c* *i*P **P** **03 10 26.8 -1.2**
YAK *e**PP pP 03 10 38.4 +0.7
YAK *e* 03 10 50.4
YAK *e* 03 12 59.4
YAK *e*PPP PPP 03 14 35.2 -0.5
YAK *e* 03 20 25.4
YAK pmax pmax
comp=Z,56nm,0.9s,mb5.6
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=E,13nm,1.2s
YAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK MLR MLR
comp=Z,565nm,17.0s,MS4.9
YAK MLR MLR
comp=N,440nm,16.0s,MS4.8
YAK MLR MLR
comp=E,231nm,18.0s,MS4.8
YAK Yakutsk 67.51 15 *e*P **P** **03 10 26.5 -1.6**
comp=E,118nm,0.9s,mb5.9
YAK LR LR
comp=Z,614nm,19.0s,MS4.8
ERZM Erzurum 67.53 315 *i* P **P** **03 10 28.4 -0.2**
KIV Kislovodsk 68.28 319⇑*i*P **P** **03 10 32.2 -0.9**
KIV pmax pmax
comp=Z,94nm,1.5s,mb5.6
KIV Kislovodsk 68.28 319 *e*P **P** **03 10 31.8 -1.4**
comp=Z,74nm,1.2s,mb5.6
KIV LR LR
comp=Z,54nm,19.0s
ASF Jabal al Asfar 68.35 306 P **P** **03 10 33.9 +0.1**
comp=Z,16nm,0.9s,mb5.0,baz=333,slow=5.0,SNR=21
GOF Gofitskoye 68.53 320⇓*i*P **P** **03 10 32.3 -2.4**
GOF *i* 03 10 44.8
GOF pmax pmax
comp=Z,90nm,1.7s,mb5.4
ELZG Elazig 68.74 313 *i* P **P** **03 10 36.0 -0.1**
MALT Malatya 69.09 312⇑P **P** **03 10 37.9 -0.3**
MALT Malatya 69.09 312 *e*P **P** **03 10 37.8 -0.4**
comp=Z,54nm,1.6s,mb5.2
MBAR Mbarara 69.15 270⇑*i*P **P** **03 10 38.2 -0.8**
MBAR Mbarara 69.15 270 *e*P **P** **03 10 38.0 -1.0**
comp=Z,5.5nm,1.0s,mb4.4
MBAR LR LR
comp=Z,125nm,21.0s,MS4.1
EIL Elat 69.30 303 *e*P **P** **03 10 38.9 -0.7**
comp=Z,59nm,1.2s,mb5.4
GZT Gaziantep 69.41 311 *i* P **P** **03 10 39.9 -0.4**
KAHT Ahir Dag 70.02 311 *i* P **P** **03 10 44.1 +0.1**
SOC Sochi 70.09 318 *e*P **P** **03 10 41.3 -3.0**
SOC *e* 03 11 04.7
SOC *e* 03 13 16.1
SOC *e*PPP PPP 03 14 58.7 -2.6
SOC *e*S S 03 19 49.1 -2.6
SOC *e* 03 20 39.5
SOC *e*SS SS 03 24 20.9 -2.1
SOC pmax pmax
comp=N,5.0nm,0.8s
SOC pmax pmax
comp=Z,41nm,0.8s,mb5.4
SOC pmax pmax
comp=E,10.0nm,0.9s
MAW Mawson 70.51 194 P **P** **03 10 47.0 +0.6**
comp=E,15nm,0.9s,mb4.9,baz=30,slow=6.9,SNR=18
MAW LR LR 03 35 57.2
comp=E,530nm,18.7s,MS4.8,baz=47,slow=31
MAW Mawson 70.51 194 *e*P **P** **03 10 47.0 +0.5**
comp=E,19nm,1.0s,mb5.0
MAW LR LR
comp=Z,633nm,21.0s,MS4.8
LSZ Lusaka 71.90 255 *e*P **P** **03 10 55.2 -0.5**
comp=Z,28nm,1.4s,mb5.0
LSZ LR LR
comp=Z,545nm,20.0s,MS4.8
CSS Prodhromos 71.98 308 *e*P **P** **03 10 55.3 -0.6**
comp=Z,22nm,0.9s,mb5.1
ANN Anapa 72.07 318 *e*P **P** **03 10 48.7 -7.5**
ANN *i* 03 10 55.9
ANN pmax pmax
comp=Z,22nm,0.8s,mb5.1
BOYT Boyabat 72.67 314 *i* P **P** **03 10 57.2 -2.6**
MA2 Magadan 72.83 24 *e*P **P** **03 11 00.8 +0.4**
MA2 *e*S S 03 20 21.2 -1.8
MA2 pmax pmax
comp=Z,40nm,1.2s,mb5.2
MA2 MLR MLR
comp=Z,900nm,22.0s,MS5.0
BRTR Keskin Array B 73.07 312 P **P** **03 11 00.6 -1.6**
comp=Z,9.9nm,0.7s,mb4.9,baz=130,slow=6.7,SNR=45
PET Petropavlovsk 73.19 33 *e*P **P** **03 10 54.4 -8.2**
PET *e*S sP 03 11 12.7 -3.1
PET pmax pmax
comp=Z,20nm,0.2s,mb5.7
ELDT Eldivan 73.45 313 *i* P **P** **03 11 03.3 -1.1**
VOR Voronezh 73.70 326⇑*i*P **P** **03 11 04.5 -1.1**
VOR *e**PP pP 03 11 14.0 -1.3
VOR pmax pmax
comp=Z,80nm,1.6s,mb5.4
SIM Simferopol' 74.34 318 *e*P **P** **03 11 08.6 -0.8**
SIM pmax pmax
comp=Z,28nm,0.8s,mb5.2
LBTB Lobatse 75.05 245 PFAKE 03 11 30.0 +16
LBTB LR LR
comp=Z,1μm,19.0s,MS5.2
ESKT Eskisehir 75.08 312 *i* P **P** **03 11 12.4 -1.4**
SEY Seymchan 75.42 22 *i* P **P** **03 11 15.8 +0.5**
SEY *e* 03 15 55.3
SEY *e* 03 21 26.4
SEY pmax pmax
comp=Z,50nm,0.8s,mb5.5
SEY pmax pmax
comp=N,30nm,0.7s
SEY pmax pmax
comp=E,10.0nm,0.7s
TIXI Tiksi 75.61 9 PFAKE 03 11 30.0 +14
TIXI LR LR
comp=Z,750nm,21.0s,MS5.0
BOSA Boshof 75.69 241 P **P** **03 11 17.3 -0.3**
comp=Z,8.7nm,0.7s,mb4.8,baz=96,slow=4.6,SNR=18
BOSA LR LR 03 39 46.5
comp=Z,533nm,18.7s,MS4.9,baz=80,slow=32
BOSA Boshof 75.69 241 P **P** **03 11 17.3 -0.3**
BOSA LR LR 03 39 46.5
MOS Moscow 76.22 329 *e*P **P** **03 11 18.4 -1.6**
MOS *e* 03 11 30.2
MOS pmax pmax
comp=Z,108nm,1.1s,mb5.7
OBN Obninsk 76.52 328 *i* P **P** **03 11 21.1 -0.6**
OBN *e* pP 03 11 31.8 +0.4
OBN *e* 03 14 11.4
OBN *e*S S 03 21 05.5 +1.5
OBN pmax pmax
comp=Z,104nm,1.6s,mb5.5
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.6
OBN Obninsk 76.52 328 *e*P **P** **03 11 21.1 -0.5**
comp=Z,96nm,1.4s,mb5.5
ULDT Uludag 76.52 312 *i* P **P** **03 11 20.1 -1.9**
MANT Manisa 76.57 310 *i* P **P** **03 11 20.9 -1.4**
BTOK Tokmak 77.25 311 *i* P **P** **03 11 25.1 -1.0**
KDAG Bornova 77.54 310 *i* P **P** **03 11 27.5 -0.2**
SYO Syowa Base 78.08 199⇓P **P** **03 11 30.9 +0.9**
SYO Syowa Base 78.08 199⇑PcP PcP 03 11 41.0 +1.0
AYVA Ayvalik 78.17 311 P **P** **03 11 30.1 -1.0**
CFR Carcaliu 78.46 317 P **P** **03 11 32.4 -0.2**
CFR Carcaliu 78.46 317⇓P **P** **03 11 32.2 -0.4**
KIS Kishinev 78.47 319 *e*P **P** **03 11 32.0 -0.6**
KIS *e* 03 11 44.0
HARR Harsova 78.48 316 P **P** **03 11 32.7 0.0**
HARR Harsova 78.48 316⇑P **P** **03 11 32.8 +0.1**
IDI Anoyia 78.80 306 P **P** **03 11 34.1 -0.5**
comp=Z,29nm,0.7s,mb5.3,baz=90,slow=5.7,SNR=12
AKASG Malin Array Be 79.21 322 P **P** **03 11 35.4 -1.2**
comp=Z,4.6nm,0.6s,mb4.6,baz=85,slow=4.7,SNR=27
AKASG Malin Array Be 79.21 322 P **P** **03 11 35.4 -1.2**
VRI Vrincioaia 79.59 317 P **P** **03 11 39.2 +0.4**
VRI Vrincioaia 79.59 317⇑P **P** **03 11 39.1 +0.4**
SUR Sutherland 79.85 238 PFAKE 03 11 50.0 +10
SUR LR LR
comp=Z,357nm,20.0s,MS4.7
MLR Muntele Rosu 80.04 317 P **P** **03 11 41.4 +0.3**
comp=Z,29nm,0.9s,mb5.2,baz=171,slow=1.2,SNR=36
MLR Muntele Rosu 80.04 317 P **P** **03 11 41.5 +0.4**
MLR Muntele Rosu 80.04 317⇑P **P** **03 11 41.4 +0.3**
BURAR Bucovina Array 81.00 319 P **P** **03 11 47.3 +1.1**
BURAR Bucovina Array 81.00 319⇑P **P** **03 11 47.2 +1.0**
MNK Minsk 81.08 326 *e*P **P** **03 11 44.0 -2.4**
FX1 Attu Island--F 81.35 36 P **P** **03 11 48.6 +0.8**
comp=Z,20nm,0.6s,mb5.2,baz=216,slow=23,SNR=5.3
JOF Joensuu 81.94 335 *e*p **P** **03 11 50.4 -0.3**
comp=Z,12nm,0.7s,mb4.9
JOF Joensuu 81.94 335 *e*P **P** **03 11 50.4 -0.3**
JOF pmax pmax
comp=Z,12nm,0.7s,mb4.9
TSUM Tsumeb 82.17 251 *e*P **P** **03 11 53.5 +0.6**
comp=Z,12nm,1.0s,mb4.8
TSUM LR LR
comp=Z,782nm,19.0s,MS5.1
LVV L'vov 82.23 321 *e*P **P** **03 11 52.3 -0.2**
VNDA Vanda 82.44 169 P **P** **03 11 54.1 +1.0**
comp=Z,4.0nm,0.7s,mb4.4,baz=300,slow=6.0,SNR=16
VNDA LR LR 03 43 56.4
comp=Z,270nm,20.2s,MS4.6,baz=311,slow=32
VNDA Vanda 82.44 169 *e*P **P** **03 11 53.8 +0.7**
comp=Z,6.4nm,0.9s,mb4.5
SKO Skopje 82.58 313 *i* P **P** **03 11 53.3 -1.2**
APA Apatity 82.81 339⇑*i*P **P** **03 11 54.4 -0.8**
APA *i* pP 03 12 04.6 -0.5
APA pmax pmax
comp=Z,160nm,1.8s,mb5.8
BILL Bilibino 82.95 20 PFAKE 03 12 10.0 +14
BILL LR LR
comp=Z,475nm,20.0s,MS4.9
KWP Kalwaria 83.04 320 *e*P **P** **03 11 57.2 +0.5**
KOLS Kolonicke sedl 83.19 320 *i* P **P** **03 11 58.4 +0.9**
SBA Scott Base 83.53 169 *e*P **P** **03 12 00.6 +1.8**
comp=Z,13nm,0.8s,mb5.1
SBA *e* pP 03 12 10.9 +2.3
SUW Suwalki 83.61 325 *e*P **P** **03 11 59.4 -0.2**
CRVS Cervenica-Dubn 83.71 319 *e*P **P** **03 12 02.1 +1.9**
CRVS *e*pP pP 03 12 12.3 +2.2
FINES FINESS Array B 83.83 332 P **P** **03 12 00.8 +0.3**
comp=Z,14nm,0.6s,mb5.3,baz=101,slow=6.0,SNR=97
FINES LR LR 03 53 53.1
comp=Z,288nm,18.4s,MS4.7,baz=115,slow=39
FINES FINESS Array B 83.83 332 P **P** **03 12 00.8 +0.3**
FINES LR LR 03 53 53.1
KAF Kangasniemi 83.90 333 *e*p **P** **03 12 00.8 0.0**
comp=Z,26nm,0.6s,mb5.5,baz=100,slow=4.6
KAF Kangasniemi 83.90 333 *e*P **P** **03 12 00.8 0.0**
KAF pmax pmax
comp=Z,26nm,0.6s,mb5.5
DIVS Divcibare 83.95 314⇓*i*P **P** **03 12 01.4 -0.2**
KECS Kecovo 84.28 319 *e*P **P** **03 12 03.4 +0.3**
MIDW Midway 84.41 62 PFAKE 03 12 20.0 +16
MIDW LR LR
comp=Z,1μm,19.0s,MS5.3
NIE Niedzica 84.54 320 *e*P **P** **03 12 03.1 -1.2**
PSZ Piszkesteto 84.58 318 *e*P **P** **03 12 04.6 0.0**
comp=Z,22nm,1.3s,mb5.1
PSZ *e* pP 03 12 15.2 +0.7
PSZ Piszkesteto 84.58 318⇑*i*P **P** **03 12 04.7 +0.1**
OJC Ojcow 84.99 321 *e*P **P** **03 12 05.4 -1.2**
PKSM Moragy 85.19 316⇑P **P** **03 12 07.8 +0.1**
VYHS Vyhne 85.36 319 *e*P **P** **03 12 08.9 +0.4**
VYHS *e*pP pP 03 12 19.3 +0.9
KEV Kevo 85.75 341 *e*p **P** **03 12 09.1 -0.8**

comp=Z,24nm,1.0s,mb5.4
KEV Kevo 85.75 341 *e*P **P 03 12 09.1 -0.8**
KEV pmax pmax
comp=Z,24nm,1.0s,mb5.4
OKC Ostrava-Krasne 85.99 320 *e*P **P 03 12 12.0 +0.4**
ARCES ARCESS Array B 86.19 340 P **P 03 12 13.2 +1.0**
comp=Z,18nm,0.8s,mb5.4,baz=108,slow=5.0,SNR=32
ARCES LR LR 03 54 14.1
comp=Z,380nm,18.2s,MS4.8,baz=97,slow=38
SMOL Smolenice 86.29 319 *e*P **P 03 12 13.6 +0.5**
SMOL *e*pP pP 03 12 23.8 +0.7
MORC Moravsky Berou 86.37 320 ⇑P **P 03 12 14.0 +0.5**
MORC Moravsky Berou 86.37 320 *e*P **P 03 12 13.9 +0.4**
comp=Z,8.4nm,1.0s,mb4.9
MORC *e* pP 03 12 23.2 -0.2
ZST Bratislava 86.47 318 *e*P **P 03 12 14.6 +0.6**
ZST *e*pP pP 03 12 24.9 +1.0
GKP Gorka Klasztor 86.98 323 *e*P **P 03 12 16.6 +0.2**
DPC Dobruska-Polom 87.22 320 *e*P **P 03 12 18.6 +1.0**
DPC *e*pP pP 03 12 28.7 +1.2
GOLS Golise 87.25 316 *e*P **P 03 12 18.5 +0.6**
KSP Ksiaz 87.29 321 *e*P **P 03 12 18.3 +0.4**
KSP Ksiaz 87.29 321 *e*P **P 03 12 19.2 +1.3**
GROS Grobnik 87.38 316 *i* P **P 03 12 18.9 +0.5**
UPC Upice 87.43 321 *e*P **P 03 12 19.5 +0.9**
UPC *e*pP pP 03 12 27.7 -0.8
ARSA Arzberg 87.44 317⇑*i*P **P 03 12 19.3 +0.6**
comp=Z,101nm,2.6s,mb5.6
AFI Afiamalu 87.96 104 PFAKE 03 12 30.0 +8.1
AFI LR LR
comp=Z,1μm,22.0s,MS5.2
LJU Ljubljana 88.02 316 *i* P **P 03 12 22.2 +0.7**
OBKA Obir 88.04 316⇑*i*P **P 03 12 22.2 +0.6**
comp=Z,62nm,2.1s,mb5.5
QSPA South Pole Qui 88.22 180⇑*i*P **P 03 12 23.5 +1.7**
comp=Z,14nm,0.6s,mb5.4
PRU Pruhonice 88.32 320 *e*P **P 03 12 23.4 +0.5**
PRU *e*pP pP 03 12 31.0 -1.8
MOA Molln 88.34 318⇑*i*P **P 03 12 23.2 +0.2**
comp=Z,10nm,1.8s,mb4.8
PVCC Panska Ves 88.35 320 *e*P **P 03 12 23.8 +0.8**
BSD Bornholm Skovb 88.53 325⇑*i*P **P 03 12 23.8 +0.1**
BSD pmax pmax
comp=Z,26nm,0.7s,mb5.7
BSD Bornholm Skovb 88.53 325⇑*i*P **P 03 12 23.8 +0.1**
comp=Z,26nm,0.7s,mb5.7
AQU L'Aquila 88.56 312 ⇑P **P 03 12 25.4 +1.2**
AQU L'Aquila 88.56 312 *e*P **P 03 12 24.6 +0.3**
BRG Berggiesshubel 88.77 321 *i* P **P 03 12 25.9 +0.9**
BRG *i* pP 03 12 36.3 +1.4
BRG pmax pmax
comp=Z,27nm,1.6s,mb5.3
BRG Berggiesshubel 88.77 321 *i* P **P 03 12 25.9 +0.9**
comp=Z,27nm,1.6s,mb5.3
BRG *i* pP 03 12 36.3 +1.4
GEC2 GERESS Array S 88.78 319 *e*P **P 03 12 25.8 +0.7**
GEC2 pmax pmax
comp=Z,18nm,1.0s,mb5.4
GEC2 GERESS Array S 88.78 319 *e*P **P 03 12 25.8 +0.7**
comp=Z,18nm,1.0s,mb5.4
GERES GERESS Array B 88.78 319 P **P 03 12 25.6 +0.5**
comp=Z,5.8nm,0.7s,mb5.0,baz=89,slow=3.8,SNR=64
GERES LR LR 03 58 33.1
comp=Z,155nm,20.4s,MS4.4,baz=333,slow=40
PTCC Patocco-Chiusa 88.86 316 *e*P **P 03 12 25.8 +0.3**
KHC Kasperske Hory 88.89 319 *e*P **P 03 12 26.0 +0.4**
KHC *e*pP pP 03 12 36.2 +0.7
KBA Koelnbreinsper 88.91 317⇑*i*P **P 03 12 25.6 -0.1**
comp=Z,117nm,3.5s
ARV Arcevia 88.97 313 *e*P **P 03 12 27.0 +0.9**
RUE Ruedersdorf 88.99 322 *e*P **P 03 12 24.9 -1.1**
RUE *e* 03 12 37.6
WET Wettzell 89.34 319 *e*P **P 03 12 28.4 +0.6**
WET pmax pmax
comp=Z,16nm,0.9s,mb5.3
WET Wettzell 89.34 319 *e*P **P 03 12 28.4 +0.6**
comp=Z,16nm,0.9s,mb5.3
CLL Collm 89.39 321⇑*i*P **P 03 12 28.2 +0.3**
CLL *e* 03 12 41.0
CLL pmax pmax
comp=Z,20nm,1.2s,mb5.3
CLL Collm 89.39 321⇑*i*P **P 03 12 28.2 +0.3**
comp=Z,20nm,1.2s,mb5.3
CLL *e* 03 12 41.0
CLL Collm 89.39 321 ⇑P **P 03 12 28.2 +0.3**
comp=Z,logA/T=1.2,mb5.3
CLL *e**SP sP 03 12 41.0 -0.1
HFS Hagfors 89.59 330 P **P 03 12 29.2 +0.6**
comp=Z,7.1nm,0.7s,mb5.1,baz=153,slow=3.3,SNR=24
NKC Novy Kostel 89.69 320 *e*P **P 03 12 30.1 +0.8**
NKC *e*pP pP 03 12 42.5 +3.2
SFI Santa Sofia 89.78 314 *e*P **P 03 12 31.6 +1.7**
CTI Castel Tesino 90.02 316 *e*P **P 03 12 31.9 +0.9**
WTTA Wattenberg 90.08 317⇑*i*P **P 03 12 31.0 -0.2**
comp=Z,224nm,3.9s
WATA Walderalm 90.12 317⇑*i*P **P 03 12 31.2 -0.2**
comp=Z,15nm,1.3s,mb5.2
MOX Moxa 90.24 320 *e*P **P 03 12 32.5 +0.6**
MOX pmax pmax
comp=Z,14nm,1.1s,mb5.2
MOX Moxa 90.24 320 *e*P **P 03 12 32.5 +0.6**
comp=Z,14nm,1.1s,mb5.2
MOX Moxa 90.24 320 *i* P **P 03 12 32.5 +0.6**
comp=Z,logA/T=1.3,mb5.4
FUR Furstenfeldbru 90.36 318 *e*P **P 03 12 33.0 +0.5**
FUR pmax pmax
comp=Z,18nm,0.9s,mb5.4
FUR Furstenfeldbru 90.36 318 *e*P **P 03 12 33.0 +0.5**
comp=Z,18nm,0.9s,mb5.4
SQTA Sankt Quirin 90.37 317⇑*i*P **P 03 12 32.7 +0.1**
comp=Z,7.0nm,0.7s,mb5.1
ZCCA Zocca 90.43 314 *e*P **P 03 12 34.8 +1.9**
MOTA Moosalm 90.44 317⇑*i*P **P 03 12 32.9 0.0**
GRA1 Grafenberg Arr 90.45 320 *e*P **P 03 12 33.9 +1.0**
comp=Z,26nm,1.0s,mb5.5
GRA1 *e*pP pP 03 12 42.3 -0.5
GRF Grafenberg Arr 90.45 320 *e*P **P 03 12 33.9 +1.0**
GRF *e**PP pP 03 12 42.3 -0.5
GRF pmax pmax
comp=Z,26nm,1.0s,mb5.5
GRF Grafenberg Arr 90.45 320 *e*P **P 03 12 33.9 +1.0**
comp=Z,26nm,1.0s,mb5.5
GRF *e*pP pP 03 12 42.3 -0.5
GSCL Gusciola 90.71 314 *e*P **P 03 12 35.5 +1.3**
NB2 NORSAR Subarra 90.87 331 P **P 03 12 34.3 -0.2**
comp=Z,2.4nm,0.7s,mb4.6,baz=95,slow=4.6
NOA NORSAR Array B 90.87 331 P **P 03 12 34.9 +0.4**
comp=Z,3.6nm,0.7s,mb4.8,baz=94,slow=4.7,SNR=11
NOA LR LR 03 57 13.3
comp=Z,251nm,19.5s,MS4.7,baz=160,slow=38
BRMO Bormio 90.92 316 *e*P **P 03 12 36.2 +1.1**
CLZ Clausthal 91.06 322 *e*P **P 03 12 36.6 +1.0**
comp=Z,14nm,1.1s,mb5.2
BSEG Bad Segeberg 91.14 324 *e*P **P 03 12 37.1 +1.2**
BSEG pmax pmax
comp=Z,15nm,1.4s,mb5.1
DAVA Damuels 91.28 317⇑*i*P **P 03 12 37.4 +0.7**
comp=Z,28nm,1.1s,mb5.5
STU Stuttgart 91.76 319 P **P 03 12 39.5 +0.6**
STU *e* pP 03 12 49.0 +0.1
PGF Pioggiola 91.83 312 *e*P **P 03 12 39.7 +0.3**
comp=Z,13nm,0.8s,mb5.0
TNS Taunus Mts 92.25 320 *e*P **P 03 12 42.0 +0.8**
TNS pmax pmax
comp=Z,17nm,0.9s,mb5.4
TNS Taunus Mts 92.25 320 *e*P **P 03 12 42.0 +0.8**
comp=Z,17nm,0.9s,mb5.4
BFO Black Forest 92.33 318 *e*P **P 03 12 41.6 0.0**
BFO pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
BFO Black Forest 92.33 318 *e*P **P 03 12 41.6 0.0**
comp=Z,10.0nm,1.0s,mb5.1
SNAA Sanae 92.36 198 *e* **P 03 12 50.3 +9.1**
SNAA Sanae 92.36 198 *e* **P 03 12 53.1 +12**
SNAA Sanae 92.36 198 P **P 03 12 41.7 +0.5**
SNAA *e* pP 03 12 50.3 -0.8
SNAA *e* pP 03 12 53.1 +2.0
SBF Sospel 92.97 314 *e*P **P 03 12 44.7 +0.1**
comp=Z,15nm,0.7s,mb5.2
CDF Champ du Feu 93.03 318 *e*P **P 03 12 44.7 -0.1**
comp=Z,11nm,1.0s,mb5.0
HINF Hinteralfeld 93.33 318 *e*P **P 03 12 45.7 -0.4**
comp=Z,2.7nm,0.6s,mb4.5
MBDF Montbardon 93.44 315 *e*P **P 03 12 46.3 -0.4**
comp=Z,4.6nm,0.8s,mb4.7

LPG La Plagne 93.44 315 *e*P **P 03 12 47.1 +0.4**
comp=Z,8.9nm,0.6s,mb5.1
LPL La Plagne 93.45 315 *e*P **P 03 12 47.1 +0.3**
comp=Z,14nm,0.7s,mb5.2
FRF La Foret Royal 93.55 313 *e*P **P 03 12 47.3 0.0**
comp=Z,22nm,0.8s,mb5.3
HAU Haudompre 93.66 318 *e*P **P 03 12 47.5 -0.2**
comp=Z,33nm,1.1s,mb5.4
HAU *e*R
comp=Z,243nm,19.8s
CABF La Chapelle 93.88 316 *e*P **P 03 12 49.0 +0.3**
comp=Z,13nm,0.8s,mb5.1
VNA2 Neumayer--Watz 93.97 198⇑*i*P **P 03 12 50.4 +1.8**
VNA2 *e* pP 03 13 00.7 +2.2
VNA2 *e* 03 13 03.8
VNA2 *e* 03 16 33.5
ORIF Oris-en-Rattie 94.07 315 *e*P **P 03 12 50.0 +0.4**
comp=Z,8.0nm,0.7s,mb5.0
ORIF *e*R
comp=Z,198nm,20.5s
VNA1 Neumayer--Stat 94.33 199 *e* **P 03 13 00.3 +10**
VNA1 Neumayer--Stat 94.33 199 *e* **P 03 13 03.5 +13**
VNA1 Neumayer--Stat 94.33 199⇑*i*P **P 03 12 51.1 +0.9**
VNA1 *e* pP 03 13 00.3 +0.1
VNA1 *e* 03 13 03.5
VNA1 *e* 03 16 36.3
VNA3 Neumayer Olymp 94.58 198⇑*i*P **P 03 12 51.8 +0.4**
VNA3 *e* pP 03 13 01.2 -0.1
VNA3 *e* 03 13 04.4
VNA3 *e* 03 16 36.5
VIVF Saint-Julien-l 94.93 315 *e*P **P 03 12 53.4 -0.2**
comp=Z,7.7nm,0.8s,mb4.9
BAIF Baives 94.98 320 *e*P **P 03 12 53.1 -0.6**
SMF Signal de Mont 95.42 317 *e*P **P 03 12 55.5 -0.3**
comp=Z,13nm,0.9s,mb5.0
SSF Saint Saulge 95.63 317 *e*P **P 03 12 56.9 +0.2**
AVF Avril sur Loir 95.75 317 *e*P **P 03 12 57.2 -0.1**
BGF Bois d'Agland 96.11 316 *e*P **P 03 12 58.7 -0.3**
comp=Z,13nm,0.9s,mb5.0
LDF La Druitiere 97.93 319 *e*P **P 03 13 06.9 -0.2**
comp=Z,12nm,1.0s,mb5.1
FLN La Foliniere 98.15 319 *e*P **P 03 13 07.8 -0.3**
comp=Z,9.9nm,0.8s,mb5.1
FLN *e*R
comp=Z,242nm,22.8s
IMA Indian Mountai 98.21 23 *e*P **P 03 13 08.1 +0.2**
comp=Z,27nm,1.0s,mb5.7
KDAK Kodiak Island 100.75 31 PFAKE 03 13 30.0 +10
KDAK LR LR
comp=Z,103nm,19.0s,MS4.4
COLA College 100.88 24 PFAKE 03 13 30.0 +10
COLA LR LR
comp=Z,218nm,20.0s,MS4.7
ILAR Eielson Array 101.31 24 PP PP 03 17 30.9 -3.1
comp=Z,0.5nm,0.8s,baz=299,slow=6.4,SNR=4.1
ILAR PKKPbc 03 29 31.4
comp=Z,1.2nm,0.8s,baz=139,slow=2.4,SNR=12
ESLA Sonseca Array 101.77 310 PFAKE 03 13 40.0 +15
ESLA LR LR
comp=Z,777nm,20.0s,MS5.2
INK Inuvik 104.44 18 PKKPbc 03 29 21.5
comp=Z,0.6nm,0.8s,baz=262,slow=5.3,SNR=4.1
DBIC Dimbokro 104.85 276 PFAKE 03 13 50.0 +11
DBIC LR LR
comp=Z,345nm,20.0s,MS4.9
PPT Papeete 108.98 109 *e*LR LR 03 50 00.2
comp=Z,250nm,23.5s
YKA Yellowknife Ar 114.15 17 PKP PKPdf 03 18 09.7 -4.4
comp=Z,0.3nm,0.6s,baz=326,slow=2.1,SNR=9.2
YKA PP PP 03 18 57.4 -12
comp=Z,0.5nm,0.9s,baz=324,slow=7.5,SNR=3.8
YKA PKKPbc 03 28 51.1
comp=Z,0.4nm,0.8s,baz=144,slow=3.6,SNR=8.4
YKA Yellowknife Ar 114.15 17 PKP PKPdf 03 18 09.7 -4.4
YKA PP PP 03 18 57.4 -12
YKA PKKPbc 03 28 51.1
RKT Rikitea 121.18 118 *e*LR LR 03 55 36.8
comp=Z,287nm,26.2s
EDM Edmonton 121.78 23 *e*PKPdf PKPdf 03 18 24.9 -4.3
FCC Fort Churchill 122.08 9 *e*PKPdf PKPdf 03 18 24.8 -4.8
NEW Newport 123.76 29 PFAKE 03 18 40.0 +6.8
NEW LR LR
comp=Z,410nm,19.0s,MS5.1
SCHQ Schefferville 125.97 351 PKP PKPdf 03 18 33.8 -3.5
comp=Z,4.2nm,0.7s,baz=59,slow=2.3,SNR=12
SCHQ Schefferville 125.97 351 PKP PKPdf 03 18 33.8 -3.4
SCHQ LR LR
comp=Z,614nm,21.0s,MS5.2
BMO Blue Mountains 125.98 32 PFAKE 03 18 50.0 +12
BMO LR LR
comp=Z,142nm,21.0s,MS4.6
MSO Missoula 126.30 28 *e*PKPdf PKPdf 03 18 34.6 -3.5
MSO *e* 03 18 45.0
MSO LR LR
comp=Z,178nm,20.0s,MS4.7
CHMT Chamberlain Mo 126.56 28 *e*PKPdf PKPdf 03 18 34.8 -3.8
WVOR Wild Horse Val 126.80 35 *e*PKPdf PKPdf 03 18 36.4 -2.8
WVOR LR LR
comp=Z,279nm,20.0s,MS4.9
BOZ Bozeman (W) 128.25 28 *e*PKPdf PKPdf 03 18 39.0 -2.9
BOZ *e* 03 18 50.5
BOZ LR LR
comp=Z,291nm,21.0s,MS4.9
SAO San Andreas Ge 128.36 43 PFAKE 03 18 50.0 +7.6
SAO LR LR
comp=Z,640nm,20.0s,MS5.3
CMB Columbia Colle 128.36 41 PFAKE 03 18 50.0 +7.6
CMB LR LR
comp=Z,196nm,22.0s,MS4.8
HLID Hailey 128.38 32 PFAKE 03 18 50.0 +7.8
HLID LR LR
comp=Z,323nm,22.0s,MS5.0
BMN Battle Mountai 128.89 36 PFAKE 03 18 50.0 +6.7
BMN LR LR
comp=Z,148nm,19.0s,MS4.7
NVAR Mina Array Bea 129.46 39 PKP PKPdf 03 18 42.7 -1.8
comp=Z,2.2nm,0.7s,baz=342,slow=1.0,SNR=16
NVAR Mina Array Bea 129.46 39 PKP PKPdf 03 18 42.7 -1.8
MNV Mina 129.55 39 *e*PKPdf PKPdf 03 18 42.8 -1.8
MNV LR LR
comp=Z,351nm,20.0s,MS5.0
LKWY Lake 129.64 28 PFAKE 03 18 50.0 +5.4
LKWY LR LR
comp=Z,415nm,21.0s,MS5.1
ULM Lac du Bonnet 129.84 13 PKP PKPdf 03 18 41.5 -3.3
comp=Z,4.3nm,0.6s,baz=1.7,slow=0.3,SNR=5.0
ULM Lac du Bonnet 129.84 13 PKP PKPdf 03 18 41.5 -3.3
ULM LR LR
comp=Z,214nm,19.0s,MS4.9
ELK Elko 129.84 35 *e*PKPdf PKPdf 03 18 42.6 -2.5
ELK *e* 03 18 53.1
ELK LR LR
comp=Z,332nm,19.0s,MS5.0
MOOW Moose Ponds 130.09 29 *e*PKPdf PKPdf 03 18 42.0 -3.5
RRI2 Red Ridge 130.10 30 *e*PKPdf PKPdf 03 18 43.0 -2.6
SNOW Snow King Moun 130.30 29 PKPdf PKPdf 03 18 42.6 -3.3
REDW Red Top Meadow 130.32 29 *e*PKPdf PKPdf 03 18 41.6 -4.3
TPH Tonopah 130.35 39 PFAKE 03 18 50.0 +3.9
TPH LR LR
comp=Z,247nm,21.0s,MS4.9
AHID Auburn Hatcher 130.64 30 PFAKE 03 18 50.0 +3.5
AHID LR LR
comp=Z,313nm,19.0s,MS5.0
DAC Darwin (Calif) 131.19 41 PFAKE 03 19 00.0 +12
DAC LR LR
comp=Z,531nm,22.0s,MS5.2
HWUT Hardware Ranch 131.25 31 PFAKE 03 19 00.0 +12
HWUT LR LR
comp=Z,409nm,21.0s,MS5.1
BW06 Boulder Array 131.40 29 PFAKE 03 19 00.0 +12
BW06 LR LR
comp=Z,231nm,19.0s,MS4.9
PDAR Pinedale Array 131.40 29 PKP PKPdf 03 18 44.6 -3.3
comp=Z,1.2nm,0.6s,baz=249,slow=1.0,SNR=13
RSSD Black Hills 132.76 23 *e*PKPdf PKPdf 03 18 47.2 -3.3
EYMN Ely 132.93 10 PKPdf PKPdf 03 18 47.0 -3.8
EYMN LR LR
comp=Z,195nm,19.0s,MS4.8
MVU Marysvale 133.07 35 PFAKE 03 19 00.0 +8.7
MVU LR LR
comp=Z,373nm,22.0s,MS5.1
TMUT Trail Mountain 133.09 33 *e*PKPdf PKPdf 03 18 48.9 -2.4
MSU Marysvale 133.09 35 *e*PKPdf PKPdf 03 18 49.1 -2.2
RWWY Rawlins 133.34 28 *e*PKPdf PKPdf 03 18 48.1 -3.5
PFO Pinyon Flat Ob 133.50 43 PFAKE 03 19 00.0 +7.8

PFO LR LR
comp=Z,111nm,22.0s,MS4.5
SRU San Rafael 133.59 33 *e*PKPdf PKPdf 03 18 48.8 -3.4
PV10 Paradox Valley 134.92 32 *e*PKPdf PKPdf 03 18 51.8 -2.9
RCBR Riachuelo 135.23 260 PFAKE 03 19 00.0 +4.1
RCBR LR LR
comp=Z,336nm,19.0s,MS5.1
PV01 Paradox Valley 135.35 32 PKPdf PKPdf 03 18 52.5 -3.0
ISCO Idaho Springs 135.57 28 PFAKE 03 19 00.0 +4.1
ISCO LR LR
comp=Z,234nm,21.0s,MS4.9
WUAZ Wupatki 135.59 37 *e*PKPdf PKPdf 03 18 54.3 -1.7
WUAZ LR LR
comp=Z,508nm,22.0s,MS5.2
EMMW East Machias 135.77 347 PFAKE 03 19 00.0 +3.9
EMMW LR LR
comp=Z,3μm,20.0s,MS6.0
WVL Waterville 136.36 349 PFAKE 03 19 10.0 +13
WVL LR LR
comp=Z,3μm,22.0s,MS6.0
PLCA Paso Flores 136.84 191 PKP PKPdf 03 18 53.7 -4.4
comp=Z,1.5nm,0.8s,baz=190,slow=1.3,SNR=5.1
PLCA Paso Flores 136.84 191 PKP PKPdf 03 18 53.7 -4.4
PLCA LR LR
comp=Z,2μm,19.0s,MS5.8
TRQA Tornquist 137.01 201 PFAKE 03 19 10.0 +12
TRQA LR LR
comp=Z,689nm,22.0s,MS5.3
SDCO Great Sand Dun 137.23 30 PFAKE 03 19 10.0 +11
SDCO LR LR
comp=Z,312nm,21.0s,MS5.0
NCB Newcomb 137.62 354 PFAKE 03 19 10.0 +11
NCB LR LR
comp=Z,411nm,21.0s,MS5.1
TUC Tucson 138.07 40 *e*PKPdf PKPdf 03 19 00.6 -0.1
TUC LR LR
comp=Z,271nm,20.0s,MS5.0
WES Weston 138.77 350 PFAKE 03 19 10.0 +8.4
WES LR LR
comp=Z,764nm,19.0s,MS5.5
ANMO Albuquerque 138.84 34 PKhKP 03 18 51.9
comp=Z,2.5nm,0.8s,baz=350,slow=3.5,SNR=9.5
ANMO Albuquerque 138.84 34 PKP PKPdf 03 18 51.9 -10
ANMO LR LR
comp=Z,314nm,20.0s,MS5.0
CBKS Cedar Bluff 138.96 24 PFAKE 03 19 10.0 +7.9
CBKS LR LR
comp=Z,260nm,20.0s,MS5.0
ERPA Erie 139.80 360 PFAKE 03 19 10.0 +6.5
ERPA LR LR
comp=Z,297nm,22.0s,MS5.0
AMTX Amarillo 141.38 29 PFAKE 03 19 20.0 +13
AMTX LR LR
comp=Z,363nm,20.0s,MS5.1
ACSO Alum Creek Sta 141.59 4 PFAKE 03 19 20.0 +13
ACSO LR LR
comp=Z,426nm,20.0s,MS5.2
MNTX Cornudas Mount 141.83 36 *e*PKPpre 03 19 00.3
MNTX LR LR
comp=Z,273nm,21.0s,MS5.0
MCWV Mont Chateau 142.26 360 PFAKE 03 19 20.0 +12
MCWV LR LR
comp=Z,384nm,20.0s,MS5.2
CCM Cathedral Cave 142.44 14 PFAKE 03 19 20.0 +12
CCM LR LR
comp=Z,252nm,20.0s,MS5.0
WMOK Wichita Mounta 142.84 26 *e*PKPpre 03 19 00.9
WMOK LR LR
comp=Z,383nm,21.0s,MS5.1
WCI Wyandotte Cave 143.24 8 *e*PKPpre 03 19 02.3
WCI LR LR
comp=Z,250nm,19.0s,MS5.0
CBN Corbin 143.62 356 PFAKE 03 19 20.0 +16
CBN LR LR
comp=Z,405nm,19.0s,MS5.2
BAO Brasilia Array 143.87 240 PKPdf PKPdf 03 19 06.0 -5.3
BAO PKPdf PKPdf 03 19 12.0 +0.7
BDFB Brasilia 143.88 240 PKhKP 03 19 05.4
comp=Z,3.3nm,0.5s,baz=83,slow=4.5,SNR=12
LTX Lajitas 144.56 37 *e*PKPdf PKPdf 03 19 08.3 -3.9
LTX LR LR
comp=Z,374nm,19.0s,MS5.2
TXAR Lajitas Array 144.56 37 PKP PKPdf 03 19 08.8 -3.4
comp=Z,19nm,0.8s,baz=284,slow=1.2,SNR=263
TXAR Lajitas Array 144.56 37 PKP PKPdf 03 19 08.8 -3.4
ELN Prospectdale 144.68 1 *e*PKPpre 03 19 06.4
BLA Blacksburg 144.70 0 PFAKE 03 19 20.0 +13
BLA LR LR
comp=Z,332nm,21.0s,MS5.1
MIAR Mount Ida 145.02 20 *e*PKPdf PKPdf 03 19 08.7 -4.2
MIAR LR LR
comp=Z,423nm,22.0s,MS5.2
WVT Waverly 145.04 11 *e*PKPdf PKPdf 03 19 08.1 -4.8
WVT *e* 03 19 19.1
WVT LR LR
comp=Z,222nm,20.0s,MS4.9
UALR University of 145.21 18 *e*PKPdf PKPdf 03 19 08.9 -4.2
TZTN Tazewell 145.22 5 *e*PKPdf PKPdf 03 19 08.9 -4.2
JCT Junction City 145.85 31 *e*PKPdf PKPdf 03 19 11.8 -2.6
JCT LR LR
comp=Z,442nm,19.0s,MS5.3
PLAL Pickwick Lake 146.10 12 *e*PKPdf PKPdf 03 19 11.0 -3.7
PLAL LR LR
comp=Z,280nm,21.0s,MS5.0
CPCT Cooper Cave 146.21 6 *e*PKPdf PKPdf 03 19 12.0 -2.9
SWET Sewanee 146.25 9 *e*PKPdf PKPdf 03 19 11.3 -3.6
OXF Oxford 146.26 14 *e*PKPdf PKPdf 03 19 11.8 -3.2
OXF LR LR
comp=Z,247nm,20.0s,MS5.0
NATX Nacogdoches 147.13 23 *e*PKPbc PKPdf 03 19 15.8 -0.7
NATX LR LR
comp=Z,316nm,20.0s,MS5.1
JSC Jenkinsville 147.60 2 *e*PKPbc PKPdf 03 19 15.9 -1.3
LRAL Lakeview Retre 148.20 11 *e*PKPbc PKPdf 03 19 16.3 -1.9
LRAL LR LR
comp=Z,367nm,20.0s,MS5.2
GOGA Godfrey 148.33 5 *e*PKPbc PKPdf 03 19 18.3 -0.1
GOGA LR LR
comp=Z,462nm,21.0s,MS5.2
NHSC New Hope 148.79 0 PFAKE 03 19 30.0 +11
NHSC LR LR
comp=Z,395nm,19.0s,MS5.2
LVC Limon Verde 153.45 204 *e*PKPbc PKPdf 03 19 32.0 +5.6
LVC *e* 03 19 42.7
LVC LR LR
comp=Z,523nm,19.0s,MS5.4
DWPF Disney 153.74 3 PFAKE 03 19 30.0 +3.3
DWPF LR LR
comp=Z,381nm,19.0s,MS5.2
SIV San Ignacio 154.23 226 PKP PKPdf 03 19 24.8 -2.8
comp=Z,1.8nm,0.8s,baz=152,slow=2.9,SNR=11
SIV PKPbc PKPdf 03 19 32.3 +4.6
comp=Z,5.4nm,0.7s,baz=112,slow=2.7,SNR=27
LPAZ La Paz 158.54 213 PKP PKPdf 03 19 30.6 -2.7
comp=Z,3.2nm,0.9s,baz=183,slow=1.8,SNR=8.3
LPAZ La Paz 158.54 213 *e*PKPdf PKPdf 03 19 31.3 -2.0
LPAZ *e*PKPab PKPab 03 20 05.8 +0.4
LPAZ LR LR
comp=Z,341nm,19.0s,MS5.2
SJG San Juan 158.73 321 PFAKE 03 19 40.0 +6.5
SJG LR LR
comp=Z,284nm,21.0s,MS5.1
TEIG Tepich 159.96 23 PFAKE 03 19 40.0 +5.2
TEIG LR LR
comp=Z,182nm,19.0s,MS4.9
SAML Samuel 160.08 238 *e*PKPdf PKPdf 03 19 31.5 -3.6
SAML LR LR
comp=Z,451nm,20.0s
NNA Nana 165.99 193 PFAKE 03 19 50.0 +9.1
NNA LR LR
comp=Z,98nm,21.0s
SDV Santo Domingo 168.20 307 PFAKE 03 19 50.0 +7.7
SDV LR LR
comp=Z,338nm,20.0s
JTS JuntasAbangare 170.23 29 PFAKE 03 19 50.0 +6.5
JTS LR LR
comp=Z,146nm,19.0s
ROSC El Rosal 173.46 298 PKP PKPdf 03 19 42.8 -2.5
comp=Z,2.8nm,0.6s,baz=101,slow=22,SNR=3.6
OTAV Otavalo 177.78 228 *e*PKPdf PKPdf 03 19 43.5 -2.8
OTAV LR LR
comp=Z,431nm,20.0s

*IDC **13** 03:03:31.2±1.1, 1.73S×99.84E, mb4.1/8, mb1 4.2/8,*

mb1mx4.0/19, mbtmp4.1/8, Error ellipse: s-maj=30.9km s-min=27.3km az=62.0

ISC 13 03:03:34.5±0.9, 1.7S±0.2×99.9E±0.2, h33km, n8, σ0°71/8, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.24**	**121**	P	**P**	**03 10 53.3**	**-0.2**
	3.0nm,0.4s,mb4.3,baz=302,slow=9.1,SNR=5.2						
SONM	**Songino Array**	**49.65**	**6**	P	**P**	**03 12 25.8**	**+0.8**
	1.0nm,0.7s,mb4.0,baz=188,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**50.70**	**344**	P	**P**	**03 12 33.5**	**+0.4**
	2.6nm,0.6s,mb4.3,baz=158,slow=8.8,SNR=5.0						
BVAR	**Borovoye Array**	**59.86**	**340**	P	**P**	**03 13 37.9**	**-1.4**
	1.5nm,0.6s,mb4.2,baz=146,slow=10,SNR=5.4						
KMBO	**Kilima Mbogo**	**62.62**	**270**	P	**P**	**03 13 58.9**	**+0.5**
	0.7nm,0.7s,mb3.9,baz=63,slow=8.6,SNR=3.7						
MATP	**Matopo**	**71.98**	**249**	P	**P**	**03 14 57.3**	**+0.1**
	1.6nm,0.7s,mb4.1,baz=90,slow=9.9						
BRTR	**Keskin Array B**	**73.03**	**312**	P	**P**	**03 15 02.3**	**-0.9**
	0.6nm,0.5s,mb3.8,baz=198,slow=35,SNR=3.5						
FINES	**FINESS Array B**	**83.79**	**332**	P	**P**	**03 16 02.2**	**+0.6**
	0.8nm,0.5s,mb4.2,baz=123,slow=6.5,SNR=7.0						

IDC 13 03:09:11.6±2.0, 1.95S×99.45E, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=99.8km s-min=18.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.29**	**359**	P	P	03 13 49.1	-2.7
	0.6nm,0.6s,baz=185,slow=11,SNR=4.1						
FITZ	**Fitzroy Crossi**	**30.30**	**124**	P	P	03 15 24.7	-2.4
	2.6nm,0.6s,baz=325,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**38.49**	**120**	P	P	03 16 35.6	-1.9
	1.9nm,0.5s,baz=303,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**39.73**	**126**	P	P	03 16 46.4	-1.4
	1.2nm,0.6s,baz=302,slow=7.2,SNR=6.7						
MKAR	**Makanchi Array**	**50.83**	**345**	P	P	03 18 14.2	-1.8
	1.4nm,0.6s,baz=145,slow=7.8,SNR=10						
BVAR	**Borovoye Array**	**59.95**	**340**	P	P	03 19 18.8	-3.2
	0.8nm,0.7s,baz=135,slow=8.4,SNR=4.6						
FINES	**FINESS Array B**	**83.81**	**332**	P	P	03 21 42.9	-1.1
	3.5nm,1.1s,baz=108,slow=6.0,SNR=5.8						
TXAR	**Lajitas Array**	**145.00**	**37**	PKP	PKPdf	03 28 51.4	-2.0
	1.3nm,0.6s,baz=268,slow=1.3,SNR=22						

*IDC **13** 03:12:28.3±0.5, 3.39N×93.69E, mb4.6/24, mb1 4.7/25, mb1mx4.7/28, mbtmp4.6/25, ML3.9/1, MS4.2/5, Ms1 4.2/5, ms1mx3.9/31, Error ellipse: s-maj=18.2km s-min=12.0km az=53.0*

*BJI **13** 03:12:31.0, 3.26N×93.78E, h35km, mB5.0, mb4.9, Ms4.8, Msz4.6*

*MOS **13** 03:12:31.7±0.9, 3.41N×93.68E, h33km, mb5.2/34, Error ellipse: s-maj=11.5km s-min=5.8km az=115.8*

*HRVD **13** 03:12:32.6±0.8, 3.34N×93.62E, h14km±2km, MW4.8/39, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s39,c56; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.75±.28; $M_{\theta\theta}$-0.59±.15; $M_{\phi\phi}$-1.16±.18; $M_{r\theta}$0.16±.43; $M_{\theta\phi}$1.00±.10; $M_{\phi r}$0.53±.34; Best double couple: $M_0$1.918×10^{16} NP1:ϕ_s129°, δ42°, λ68°. NP2: ϕ_s337°, δ52°, λ108°. Principal axes: T 1.893, Plg75°, Azm305°; N .049, Plg14°, Azm145°; P -1.944, Plg5°, Azm54°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **13** 03:12:32.6±0.2, 3.37N×93.70E, mb5.0/35 Error ellipse: s-maj=4.9km s-min=4.5km az=60.0*

ISC 13 03:12:30.8±0.3, 3.36N±0.04×93.70E±0.04, h28km, h28km±.5km: pP-P, n174, σ0°83/173, mb4.8/78, MS4.5/13, 16C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.20**	**74**	*e*P	**Pn**	**03 14 16.9**	**-0.1**
IPM	**Ipoh**	**7.41**	**80**	P	**Pn**	**03 14 19.5**	**-0.5**
PALK	**Pallekele**	**13.51**	**287**	P	**P**	**03 15 38.5**	**-4.9**
	15nm,1.0s						
CM31	**Chiang Mai Arr**	**15.86**	**19**	*e*P	**P**	**03 16 13.3**	**-0.8**
	11nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.86**	**19**	Pn	**P**	**03 16 13.0**	**-1.1**
	0.2nm,0.3s,baz=214,slow=13,SNR=48						
CMAR				LR	LR	03 23 27.7	
	comp=Z,576nm,18.6s,baz=180,slow=42						
KSM	**Kuching**	**16.70**	**96**	*e*P	**P**	**03 16 29.1**	**+4.4**
VIS	**Vishakhapatnam**	**17.52**	**325**	*e*P	**P**	**03 16 33.9**	**-1.1**
VIS				*e*		03 16 56.0	
	comp=Z,90nm,1.8s						
HYB	**Hyderabad**	**20.39**	**314**	*e*P	**P**	**03 17 07.0**	**-1.5**
HYB	**Hyderabad**	**20.39**	**314**	*i* P	**P**	**03 17 07.0**	**-1.5**
HYB				*e*S	**S**	**03 20 49.0**	**-1.4**
SHL	**Shillong**	**22.15**	**356**	*e*P	**P**	**03 17 25.0**	**-1.2**
SHL				*e*S	**S**	**03 21 34.0**	**+10**
KMI	**Kunming**	**23.33**	**21**	P	**P**	**03 17 39.6**	**+1.8**
KMI				AP		03 17 47.9	
KMI				AMB	AMB		
	comp=Z,31nm,1.8s,mb4.4						
KMI	**Kunming**	**23.33**	**21**	P	**P**	**03 17 39.6**	**+1.8**
	comp=Z,31nm,1.8s,mb4.4						
KMI				pP		03 17 47.9	
KAD	**Karad**	**23.64**	**307**	*e*P	**P**	**03 17 44.0**	**+3.0**
KAD				*e*		03 17 46.8	
	comp=Z,37nm,1.8s						
POO	**Poona**	**24.59**	**309**	*e*P	**P**	**03 17 49.7**	**-0.4**
POO				*e*		03 17 54.9	
	comp=Z,49nm,1.6s						
JIRN	**Jiri**	**25.21**	**344**	*e*P	**P**	**03 17 56.5**	**+0.5**
	comp=Z,80nm,1.3s,mb5.1						
PKI	**Pulchoki**	**25.35**	**343**	*e*P	**P**	**03 17 57.2**	**-0.1**
	comp=Z,126nm,1.5s,mb5.2						
PKI	**Pulchoki**	**25.35**	**343**	*e*P	**P**	**03 17 57.2**	**-0.1**
PKI				pmax	pmax		
	comp=Z,63nm,1.5s,mb4.9						
DMN	**Daman**	**25.47**	**342**	*e*P	**P**	**03 17 58.7**	**+0.2**
	comp=Z,120nm,1.6s,mb5.2						
GUN	**Gumba**	**25.53**	**344**	*e*P	**P**	**03 17 59.3**	**+0.3**
	comp=Z,82nm,1.2s,mb5.1						
KKN	**Kakani**	**25.59**	**343**	*e*P	**P**	**03 17 59.6**	**0.0**
	comp=Z,125nm,1.6s,mb5.2						
KKN	**Kakani**	**25.59**	**343**	*e*P	**P**	**03 17 59.6**	**0.0**
KKN				pmax	pmax		
	comp=Z,62nm,1.6s,mb4.9						
GKN	**Gorkha**	**25.99**	**341**	*e*P	**P**	**03 18 03.2**	**-0.1**
	comp=Z,133nm,1.3s,mb5.3						
GYA	**Guiyang**	**26.12**	**27**	⇑*i*P	**P**	**03 18 04.3**	**-0.2**
GYA				AP	pP	03 18 13.8	+1.2
GYA				XP	sP	03 18 17.4	+1.1
GYA				PP	PP	03 18 48.6	+2.2
GYA				S	**S**	**03 22 34.8**	**+2.8**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,3.2s						
GYA				LR	LR		
	comp=N,550nm,11.7s,MS4.5						
GYA				LR	LR		
	comp=E,790nm,13.2s,MS4.5						
GYA				LR	LR		
	comp=Z,560nm,12.4s,MS4.3						
KOLN	**Koldanda**	**26.12**	**339**	*e*P	**P**	**03 18 04.8**	**+0.3**
	comp=Z,144nm,1.4s,mb5.3						
LSA	**Lhasa**	**26.31**	**355**	P	**P**	**03 18 08.3**	**+2.1**
LSA	**Lhasa**	**26.31**	**355**	*e*P	**P**	**03 18 08.2**	**+2.0**
LSA				pmax	pmax		
	comp=Z,87nm,0.8s,mb5.3						
LSA	**Lhasa**	**26.31**	**355**	*e*P	**P**	**03 18 08.2**	**+2.0**
	comp=Z,87nm,0.8s,mb5.3						
CD2	**Chengdu**	**29.01**	**18**	⇓*i*P	**P**	**03 18 30.0**	**-0.7**
CD2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
WHN	**Wuhan**	**33.35**	**34**	P	**P**	**03 19 09.5**	**+0.6**
WHN				S	**S**	**03 24 30.0**	**+3.1**
WHN				LR	LR		
	comp=Z,3μm,12.6s,MS5.2						
XAN	**Xi'an**	**33.66**	**23**	P	**P**	**03 19 10.1**	**-1.5**
XAN				AP	pP	03 19 18.6	-1.3
XAN				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.1						
LZH	**Lanzhou**	**33.89**	**15**	*e*P	**P**	**03 19 13.4**	**-0.2**
LZH				AP	pP	03 19 21.8	0.0
LZH				XP	sP	03 19 25.5	+0.1
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,150nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,12.9s						
LZH				LR	LR		
	comp=Z,2μm,13.0s,MS4.9						
LZH	**Lanzhou**	**33.89**	**15**	*e*P	**P**	**03 19 13.4**	**-0.2**
	comp=Z,30nm,1.0s,mb5.2						
LZH				pP	pP	03 19 21.8	0.0
LZH				sP	sP	03 19 25.5	+0.1
LZH				LR	LR		
	comp=Z,2μm,13.0s,MS4.9						
GTA	**Gaotai**	**36.32**	**8**	*e*P	**P**	**03 19 34.4**	**+0.2**
GTA				AP	pP	03 19 48.8	+6.3
GTA				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,168nm,4.9s						
GTA				LR	LR		
	comp=N,371nm,12.5s,MS4.5						
GTA				LR	LR		
	comp=E,372nm,13.3s,MS4.5						
GTA				LR	LR		
	comp=Z,363nm,14.8s,MS4.3						
NJ2	**Nanjing**	**37.06**	**37**	*e*P	**P**	**03 19 41.1**	**+0.6**
NJ2				AP	pP	03 19 50.8	+2.0
NJ2				XP	sP	03 19 54.8	+2.5
NJ2				S	**S**	**03 25 25.0**	**+0.9**
NJ2				XS		03 25 41.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,5.6s						
NJ2				LR	LR		
	comp=N,3μm,20.0s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,20.6s,MS5.2						
NJ2				LR	LR		
	comp=Z,2μm,11.1s						
SSE	**Sheshan**	**37.85**	**40**	P	**P**	**03 19 46.5**	**-0.7**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,124nm,7.6s						
SSE	**Sheshan**	**37.85**	**40**	P	**P**	**03 19 46.5**	**-0.7**
	comp=Z,27nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**38.02**	**125**	P	**P**	**03 19 48.0**	**-0.8**
	comp=Z,9.4nm,0.8s,mb4.6,baz=357,slow=1.8,SNR=3.3						
JOW	**Kunigami**	**40.49**	**51**	LR	LR	03 36 40.5	
	comp=Z,460nm,20.0s,MS4.3,baz=288,slow=36						
WMQ	**Urumqi**	**40.64**	**353**	⇑P	**P**	**03 20 11.5**	**+1.3**
WMQ				AP	pP	03 20 19.5	+0.9
WMQ				XP	sP	03 20 23.1	+1.0
WMQ				PP	PP	03 21 49.0	+1.9
WMQ				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,209nm,2.8s,mb5.3						
WMQ				LR	LR		
	comp=N,143nm,16.3s,MS4.0						
WMQ				LR	LR		
	comp=E,93nm,17.1s,MS4.0						
WMQ				LR	LR		
	comp=Z,146nm,18.1s,MS3.9						
HHC	**Hu-ho-hao-te**	**40.65**	**21**	⇑P	**P**	**03 20 11.3**	**+1.0**
HHC				PP	PP	03 21 49.5	+2.2
HHC				PCP	PcP	03 22 09.4	-3.1
HHC				SCP		03 25 55.3	
HHC				PCS		03 26 02.4	
HHC				S	**S**	**03 26 16.8**	**-1.5**
HHC				SS	SS	03 29 15.1	+1.1
HHC				SCS	ScS	03 30 05.4	-6.3
HHC				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,129nm,5.7s						
HHC				LR	LR		
	comp=N,379nm,17.9s,MS4.6						
HHC				LR	LR		
	comp=E,632nm,15.3s,MS4.6						
HHC				LR	LR		
	comp=Z,479nm,17.3s,MS4.4						
ULHL	**Ulahol**	**41.75**	**340**	P	**P**	**03 20 19.9**	**+0.6**
	SNR=8.2						
BJI	**Beijing**	**41.80**	**26**	P	**P**	**03 20 20.1**	**+0.3**
BJI				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
BJI				AMB	AMB		
	comp=Z,166nm,4.3s						
BJI	**Beijing**	**41.80**	**26**	P	**P**	**03 20 20.1**	**+0.3**
	comp=Z,30nm,0.9s,mb4.9						
KZA	**Kyzart**	**41.94**	**339**	P	**P**	**03 20 21.6**	**+0.7**
	SNR=8.0						
UCH	**Uchtor**	**42.33**	**339**	P	**P**	**03 20 25.0**	**+0.8**
	SNR=12						
AML	**Almayashu**	**42.55**	**338**	P	**P**	**03 20 26.9**	**+0.9**
	SNR=26						
KBK	**Karagaybulak**	**42.55**	**339**	P	**P**	**03 20 27.1**	**+1.1**
	SNR=9.8						
TKM2	**Tokmak 2**	**42.56**	**340**	P	**P**	**03 20 26.4**	**+0.3**
	SNR=13						
AAK	**Ala-Archa**	**42.69**	**339**	P	**P**	**03 20 28.3**	**+1.2**
	SNR=7.3						
AAK	**Ala-Archa**	**42.69**	**339**	P	**P**	**03 20 27.0**	**-0.1**
AAK				pmax	pmax		
	comp=Z,41nm,1.7s,mb4.9						
FRU	**Bishkek**	**42.83**	**339**	*e*P	**P**	**03 20 29.0**	**+0.8**
FRU				*e*	pP	03 20 38.0	+1.5
FRU				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.8						
EKS2	**Erkin-Say**	**42.98**	**338**	P	**P**	**03 20 30.3**	**+0.8**
	SNR=9.0						
USP	**Ospenovka**	**43.25**	**339**	P	**P**	**03 20 31.9**	**+0.3**
	SNR=15						
MKAR	**Makanchi Array**	**44.39**	**349**	P	**P**	**03 20 40.9**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,15nm,0.8s						
MKAR	**Makanchi Array**	**44.39**	**349**	P	**P**	**03 20 41.0**	**+0.2**
	comp=Z,12nm,0.7s,mb4.7,baz=166,slow=8.5,SNR=72						
KKAR	**Karatay Array**	**44.62**	**336**	*i* P	**P**	**03 20 42.0**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.9						
SONM	**Songino Array**	**45.64**	**12**	P	**P**	**03 20 51.3**	**+0.5**
	comp=Z,8.6nm,0.8s,mb4.7,baz=196,slow=8.3,SNR=40						
ULN	**Ulaanbaatar**	**45.81**	**13**	*i* P	**P**	**03 20 52.5**	**+0.4**
WRA	**Warramunga Arr**	**46.14**	**122**	P	**P**	**03 20 55.0**	**-0.1**
	comp=Z,19nm,0.7s,mb5.1,baz=299,slow=8.8,SNR=19						
WRAB	**Tennant Creek**	**46.15**	**122**	*e*P	**P**	**03 20 55.0**	**-0.1**
WRAB				*e**PP	pP	03 21 02.9	-0.6
WRAB				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.3						
WRAB	**Tennant Creek**	**46.15**	**122**	*e*P	**P**	**03 20 55.0**	**-0.2**
	comp=Z,28nm,0.7s,mb5.3						
WRAB				*e*pP	pP	03 21 02.9	-0.6
SNY	**Shenyang**	**46.72**	**31**	⇑P	**P**	**03 20 59.3**	**-0.1**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**47.48**	**127**	P	**P**	**03 21 05.4**	**-0.3**
	comp=Z,8.4nm,0.9s,mb4.7,baz=307,slow=7.6,SNR=14						
ASAR				PcP	PcP	03 22 36.1	+0.1
	comp=Z,5.0nm,0.9s,baz=301,slow=2.6,SNR=5.2						
ZAK	**Zakamensk**	**47.55**	**8**	⇑*e*P	**P**	**03 21 06.0**	**+0.1**
ZAK				*e*		03 22 41.8	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
TLY	**Talaya**	**48.87**	**8**	*e*P	**P**	**03 21 15.8**	**-0.3**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
OPO	**Ambohidratompo**	**50.70**	**243**	P	**P**	**03 21 30.8**	**+0.3**
	comp=Z,4.5nm,1.1s,mb4.3,baz=49,slow=8.3,SNR=4.1						
MDJ	**Mudanjiang**	**51.81**	**32**	P	**P**	**03 21 39.4**	**+0.8**
MDJ				AP	pP	03 21 45.8	-1.3
MDJ				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,52nm,4.1s						
NVS	**Novosibirsk**	**52.02**	**352**	*e*P	**P**	**03 21 38.7**	**-1.4**
NVS				pmax	pmax		
	comp=Z,47nm,1.8s,mb5.1						
NVS				pmax	pmax		
	comp=N,24nm,1.2s						
NVS				pmax	pmax		
	comp=E,15nm,1.2s						
MJAR	**Matsushiro Arr**	**52.57**	**45**	PcP	PcP	03 22 54.7	+0.3
	comp=E,0.8nm,0.3s,baz=257,slow=3.8,SNR=5.1						
BVA0	**Borovoye Array**	**53.12**	**343**	P	**P**	**03 21 46.8**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
BVAR	**Borovoye Array**	**53.12**	**343**	P	**P**	**03 21 47.1**	**-1.1**
	comp=Z,9.2nm,0.9s,mb4.7,baz=143,slow=7.4,SNR=38						
CHKZ	**Chkalovo**	**53.62**	**343**	*e*P	**P**	**03 21 50.8**	**-1.1**
CHKZ				*e**PP	pP	03 21 59.3	-1.1
CHKZ				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
CHKZ	**Chkalovo**	**53.62**	**343**	*e*P	**P**	**03 21 50.8**	**-1.1**
	comp=Z,27nm,1.0s,mb5.1						
CHKZ				*e*pP	pP	03 21 59.3	-1.2
KMBO	**Kilima Mbogo**	**56.59**	**266**	*e*P	**P**	**03 22 14.3**	**+0.2**
KMBO				*e**PP	pP	03 22 22.4	-0.2
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	**Kilima Mbogo**	**56.59**	**266**	P	**P**	**03 22 14.4**	**+0.4**
	comp=Z,3.3nm,0.9s,mb4.3,baz=59,slow=8.0,SNR=8.0						
KMBO	**Kilima Mbogo**	**56.59**	**266**	*e*P	**P**	**03 22 14.3**	**+0.2**
	comp=Z,3.3nm,0.9s,mb4.4						
KMBO				*e*pP	pP	03 22 22.4	-0.2
BOD	**Bodaibo**	**56.62**	**13**	*e*P	**P**	**03 22 11.2**	**-2.5**
BOD				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.7						
GNI	**Garni**	**57.33**	**317**	*i* P	**P**	**03 22 18.6**	**-0.3**
GNI				pmax	pmax		
	comp=Z,37nm,1.8s						
GNI	**Garni**	**57.33**	**317**	P	**P**	**03 22 18.3**	**-0.6**
	comp=Z,2.1nm,0.3s,mb4.6,baz=23,slow=17,SNR=8.8						
GNI	**Garni**	**57.33**	**317**	*e*P	**P**	**03 22 18.7**	**-0.2**
	comp=Z,12nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**57.39**	**131**	P	**P**	**03 22 18.6**	**-0.9**
	comp=Z,5.5nm,0.7s,mb4.7,baz=296,slow=9.6,SNR=4.6						
ASAJ	**Asahikawa**	**59.14**	**39**	LR	LR	03 47 16.2	
	comp=Z,227nm,18.4s,MS4.3,baz=208,slow=35						
SVE	**Sverdlovsk**	**59.43**	**340**	⇑*e*P	**P**	**03 22 29.0**	**-4.4**
SVE				*e*		03 23 17.0	
SVE				pmax	pmax		
	comp=Z,48nm,1.7s,mb5.2						
ASF	**Jabal al Asfar**	**60.37**	**305**	P	**P**	**03 22 41.1**	**+1.0**
	comp=Z,4.7nm,0.6s,mb4.7,baz=25,slow=1.3,SNR=9.3						
KIV	**Kislovodsk**	**60.40**	**320**	*i* P	**P**	**03 22 39.7**	**-0.5**
KIV				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
KIV	**Kislovodsk**	**60.40**	**320**	*e*P	**P**	**03 22 39.3**	**-0.9**
	comp=Z,6.9nm,0.6s,mb4.9						
YSS	**Yuzh-Sakhalins**	**60.63**	**36**	⇑*e*P	**P**	**03 22 41.5**	**-0.2**
YSS				*e*	pP	03 22 50.1	-0.3
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.4						
GOF	**Gofitskoye**	**60.69**	**321**	*e*P	**P**	**03 22 39.5**	**-2.6**
MALT	**Malatya**	**61.10**	**312**	⇓P	**P**	**03 22 44.9**	**-0.1**
EIL	**Elat**	**61.35**	**302**	*e*P	**P**	**03 22 46.4**	**-0.5**
	comp=Z,10nm,1.0s,mb4.9						
SOC	**Sochi**	**62.19**	**318**	*e*P	**P**	**03 22 48.7**	**-3.6**
SOC				*e*		03 23 25.4	
SOC				*e*PPP	PPP	03 26 43.9	+3.3
SOC				*e*S	**S**	**03 31 07.6**	**-6.6**
SOC				*e*SS	SS	03 35 14.3	-4.9
SOC				*e*SSS	SSS	03 37 55.7	-5.9
SOC				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.2						
SOC				pmax	pmax		
	comp=N,8.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,147nm,12.0s,MS4.4						
SOC				MLR	MLR		
	comp=N,237nm,17.0s						
SOC				MLR	MLR		
	comp=E,96nm,7.0s						
ANN	**Anapa**	**64.18**	**319**	*e*P	**P**	**03 22 57.9**	**-7.5**
ANN				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
BRTR	**Keskin Array B**	**65.08**	**313**	P	**P**	**03 23 10.3**	**-1.1**
	comp=Z,3.3nm,0.9s,mb4.4,baz=135,slow=7.0,SNR=17						
SIM	**Simferopol'**	**66.43**	**318**	*e*P	**P**	**03 23 19.3**	**-0.6**
SIM				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
LSZ	**Lusaka**	**67.41**	**252**	*e*P	**P**	**03 23 26.4**	**-0.1**
LSZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
LSZ	**Lusaka**	**67.41**	**252**	*e*P	**P**	**03 23 26.4**	**-0.1**
	comp=Z,4.9nm,0.9s,mb4.5						
MATP	**Matopo**	**68.12**	**247**	P	**P**	**03 23 30.8**	**-0.2**
	comp=Z,5.5nm,0.9s,mb4.6,baz=78,slow=6.1,SNR=9.1						
OBN	**Obninsk**	**68.97**	**329**	*i* P	**P**	**03 23 34.4**	**-1.2**
OBN				*i*	pP	03 23 43.4	-0.9
OBN				*e*		03 26 06.5	
OBN				*e*S	S	03 32 38.0	+1.1
OBN				pmax	pmax		
	comp=Z,50nm,1.7s,mb5.2						
OBN				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.4						
OBN	**Obninsk**	**68.97**	**329**	*i* P	**P**	**03 23 34.5**	**-1.1**
AKASG	**Malin Array Be**	**71.43**	**323**	P	**P**	**03 23 48.9**	**-1.8**
	comp=Z,3.9nm,0.8s,mb4.4,baz=92,slow=4.5,SNR=15						
VRI	**Vrincioaia**	**71.67**	**317**	⇑P	**P**	**03 23 52.0**	**-0.2**
LBTB	**Lobatse**	**71.73**	**242**	*e*P	**P**	**03 23 52.9**	**0.0**
LBTB				*e**PP	pP	03 24 01.8	+0.1
LBTB				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
LBTB	**Lobatse**	**71.73**	**242**	*e*P	**P**	**03 23 52.9**	**0.0**
	comp=Z,11nm,1.3s,mb4.6						
LBTB				*e*pP	pP	03 24 01.8	+0.2
MLR	**Muntele Rosu**	**72.11**	**317**	P	**P**	**03 23 55.3**	**+0.5**
	comp=Z,19nm,1.2s,mb4.9,baz=79,slow=2.9,SNR=7.5						
MLR	**Muntele Rosu**	**72.11**	**317**	⇑P	**P**	**03 23 54.3**	**-0.5**
BOSA	**Boshof**	**72.85**	**239**	P	**P**	**03 23 58.7**	**-0.9**
	comp=Z,4.8nm,0.8s,mb4.5,baz=106,slow=8.9,SNR=5.2						
BOSA				LR	LR	03 49 18.4	
	comp=Z,185nm,19.9s,MS4.4,baz=61,slow=30						
BURAR	**Bucovina Array**	**73.11**	**319**	⇓P	**P**	**03 24 00.9**	**+0.2**
BURAR	**Bucovina Array**	**73.11**	**319**	⇓P	**P**	**03 24 00.9**	**+0.2**
MAW	**Mawson**	**74.05**	**192**	P	**P**	**03 24 07.1**	**+1.3**
	comp=Z,2.2nm,0.9s,mb4.1,baz=302,slow=15,SNR=2.9						
MAW				LR	LR	03 52 52.7	
	comp=Z,153nm,18.8s,MS4.3,baz=254,slow=33						
**K

comp=Z,52nm,1.7s,mb5.2
GEC2 GERESS Array S 80.89 319 *e*P **P** **03 24 44.4 +0.4**
comp=Z,52nm,1.7s,mb5.2
GERES GERESS Array B 80.89 319 P **P** **03 24 44.5 +0.5**
comp=Z,5.2nm,0.7s,mb4.5,baz=100,slow=5.1,SNR=45
BRG Berggiesshubel 80.94 321 *e*P **P** **03 24 44.9 +0.7**
BRG *i* pP 03 24 53.4 +0.3
BRG pmax pmax
comp=Z,29nm,1.8s,mb4.9
BRG Berggiesshubel 80.94 321 *e*P **P** **03 24 44.9 +0.7**
comp=Z,28nm,1.8s,mb4.9
BRG *i* pP 03 24 53.4 +0.3
KBA Koelnbreinsper 80.98 317⇑ *i*P **P** **03 24 44.5 0.0**
comp=Z,8.3nm,1.4s,mb4.5
KBA Koelnbreinsper 80.98 317 *i*P **P** **03 24 44.5 0.0**
KBA pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
KHC Kasperske Hory 81.00 319 *e*P **P** **03 24 44.2 -0.4**
KHC *e*pP pP 03 24 52.9 -0.6
WET Wettzell 81.46 319 *e*P **P** **03 24 47.3 +0.3**
WET pmax pmax
comp=Z,32nm,1.7s,mb5.0
WET Wettzell 81.46 319 *e*P **P** **03 24 47.3 +0.3**
comp=Z,32nm,1.7s,mb5.0
CLL Collm 81.57 321 *e*P **P** **03 24 46.0 -1.5**
CLL *e* pP 03 24 56.0 -0.4
CLL Collm 81.57 321 P **P** **03 24 48.0 +0.5**
CLL *e**PP pP 03 24 56.0 -0.4
SFI Santa Sofia 81.81 314 *e*P **P** **03 24 50.5 +1.6**
NKC Novy Kostel 81.83 320 *e*P **P** **03 24 49.2 +0.3**
NKC *e*pP pP 03 24 57.8 +0.1
PGD Poggio Sodo 81.90 314 *e*P **P** **03 24 51.1 +1.8**
HFS Hagfors 82.12 330 P **P** **03 24 49.7 -0.5**
comp=Z,9.7nm,1.1s,mb4.6,baz=259,slow=7.6,SNR=4.4
MOX Moxa 82.39 320 *e*P **P** **03 24 52.0 +0.2**
MOX pmax pmax
comp=Z,24nm,1.6s,mb4.9
MOX Moxa 82.39 320 *e*P **P** **03 24 52.0 +0.2**
comp=Z,24nm,1.6s,mb4.9
MOX Moxa 82.39 320 *i* P **P** **03 24 51.9 +0.1**
comp=Z,logA/T=1.2,mb4.9
GRA1 Grafenberg Arr 82.58 320 *e*P **P** **03 24 53.4 +0.6**
comp=Z,20nm,1.1s,mb5.1
GRA1 *e*pP pP 03 25 02.0 +0.3
GRF Grafenberg Arr 82.58 320 *e*P **P** **03 24 53.4 +0.6**
GRF *e**PP pP 03 25 02.0 +0.3
GRF pmax pmax
comp=Z,20nm,1.1s,mb5.1
GRF Grafenberg Arr 82.58 320 *e*P **P** **03 24 53.4 +0.6**
GRF *e**PP pP 03 25 02.0 +0.3
GRF pmax pmax
comp=Z,20nm,1.1s,mb5.1
GRF Grafenberg Arr 82.58 320 *e*P **P** **03 24 53.4 +0.6**
comp=Z,20nm,1.1s,mb5.1
GRF *e*pP pP 03 25 02.0 +0.3
BRMO Bormio 82.98 316 *e*P **P** **03 24 55.5 +0.6**
CLZ Clausthal 83.25 322 *e*P **P** **03 24 56.4 +0.2**
CLZ pmax pmax
comp=Z,14nm,1.4s,mb4.8
CLZ Clausthal 83.25 322 *e*P **P** **03 24 56.4 +0.2**
comp=Z,14nm,1.4s,mb4.8
DAVOX Davos 83.33 317 P **P** **03 24 57.5 +0.8**
comp=Z,12nm,0.7s,mb5.0,baz=124,slow=5.5,SNR=18
DAVA Damuels 83.35 317⇑ *i*P **P** **03 24 57.2 +0.4**
comp=Z,15nm,1.1s,mb4.9
BSEG Bad Segeberg 83.40 324 *e*P **P** **03 24 57.3 +0.4**
NOA NORSAR Array B 83.43 331 P **P** **03 24 56.6 -0.3**
comp=Z,2.5nm,0.9s,mb4.2,baz=93,slow=5.7,SNR=3.4
TNS Taunus Mts 84.39 320 *e*P **P** **03 25 02.5 +0.5**
TNS pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
TNS Taunus Mts 84.39 320 *e*P **P** **03 25 02.5 +0.5**
comp=Z,10.0nm,1.1s,mb4.9
LPG La Plagne 85.48 315 *e*P **P** **03 25 07.9 +0.3**
comp=Z,23nm,1.1s,mb4.9
LPG La Plagne 85.48 315 *e*P **P** **03 25 07.9 +0.3**
LPG pmax pmax
comp=Z,12nm,1.1s,mb4.9
VNDA Vanda 88.62 168 P **P** **03 25 22.5 +0.3**
comp=Z,2.8nm,0.8s,mb4.7,baz=274,slow=4.6,SNR=4.4
NVAR Mina Array Bea 128.97 32 PKP PKPdf 03 31 40.0 -1.7
comp=Z,1.4nm,0.9s,baz=242,slow=4.7,SNR=5.4
NVAR Mina Array Bea 128.97 32 PKP PKPdf 03 31 40.0 -1.7
PDAR Pinedale Array 129.50 22 PKhKP 03 31 34.7
comp=Z,0.4nm,0.6s,baz=153,slow=3.3,SNR=3.5
PDAR PKP PKPdf 03 31 40.1 -2.4
comp=Z,1.1nm,0.9s,slow=3.0,SNR=7.3
TXAR Lajitas Array 143.48 26 PKP PKPdf 03 32 03.8 -4.7
comp=Z,0.7nm,0.7s,baz=270,slow=2.5,SNR=6.8
LPAZ La Paz 157.99 233 PKP PKPdf 03 32 28.2 -2.5
comp=Z,0.8nm,0.6s,baz=258,slow=0.6,SNR=4.3

*IDC **13** 03:12:34.8±3.0, 0.03N×124.49E, h53km±26km, mb4.4/18, mb1 4.5/19, mb1mx4.4/23, mbtmp4.6/19, ML4.7/1, Error ellipse: s-maj=22.8km s-min=12.2km az=71.0*
*BJI **13** 03:12:36.6, 0.10S×124.50E, h73km, mB5.0, mb5.0, Ms5.0, Msz4.7*
*NEIC **13** 03:12:36.7±1.4, 0.05S×124.47E, h73km±13km, mb5.0/23, Error ellipse: s-maj=12.2km s-min=6.1km az=67.0*
ISC 13 03:12:36.1±1.0, 0.07S±0.04×124.48E±0.08, h84km±9km, n70, σ1§03/62, mb4.8/40, 4C-1D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZMPH	**Zamboanga City**	**7.39**	**341**⇑	*e*P	**P**	**03 14 22.9**	**-0.3**
BUKP	**Musuan**	**7.92**	**4**	*e*P	**P**	**03 14 32.8**	**+2.3**
PAGZ	**Pagadian**	**7.95**	**352**	*e*P	**P**	**03 14 30.6**	**-0.2**
PAGZ				*e*S	Px	03 14 45.2	
IPIL	**Ipil**	**8.04**	**346**	*e*P	**P**	**03 14 28.5**	**-3.6**
DCPH	**Dipolog City**	**8.67**	**353**⇑	*i*P	**P**	**03 14 41.5**	**+0.8**
DCPH				*i* S	Px	03 14 58.5	
KKM	**Kota Kinabalu**	**10.25**	**307**	*e*P	**P**	**03 15 02.7**	**+0.5**
KSM	**Kuching**	**14.25**	**276**	*e*P	**P**	**03 16 02.7**	**+7.4**
KAKA	**Kakadu**	**14.83**	**148**	*e*P	**P**	**03 16 01.1**	**-1.7**
36nm,0.6s							
FITZ	**Fitzroy Crossi**	**17.95**	**176**	*e*P	**P**	**03 16 41.4**	**-0.4**
19nm,0.8s							
FITZ	**Fitzroy Crossi**	**17.95**	**176**	P	**P**	**03 16 41.6**	**-0.2**
2.0nm,0.3s,baz=349,slow=7.0,SNR=35							
MBWA	**Marble Bar**	**21.46**	**192**	*e*P	**P**	**03 17 18.9**	**-0.5**
64nm,1.2s,mb4.8							
WRAB	**Tennant Creek**	**21.98**	**154**	*e*P	**P**	**03 17 23.8**	**-0.7**
43nm,0.9s,mb4.8							
WRA	**Warramunga Arr**	**21.98**	**155**	P	**P**	**03 17 23.9**	**-0.6**
9.4nm,0.5s,mb4.4,baz=335,slow=11,SNR=39							
ASAR	**Alice Springs**	**25.17**	**159**	P	**P**	**03 17 56.3**	**+0.9**
6.4nm,0.7s,mb4.2,baz=331,slow=7.8,SNR=33							
ASAR				PcP	PcP	03 21 29.1	+1.0
8.0nm,0.4s,baz=354,slow=2.0,SNR=38							
ASPA	**Alice Springs**	**25.17**	**159**	*e*P	**P**	**03 17 56.5**	**+1.1**
FORT	**Forrest**	**30.73**	**174**	*e*P	**P**	**03 18 45.5**	**-0.1**
993nm,0.9s							
CMAR	**Chiang Mai Arr**	**31.12**	**308**	P	**P**	**03 18 49.8**	**+0.6**
4.6nm,0.8s,mb4.3,baz=136,slow=6.9,SNR=14							
CMAR				PcP	PcP	03 21 44.2	+1.6
5.9nm,0.7s,baz=161,slow=1.9,SNR=21							
KLBR	**Kellerberrin**	**31.99**	**191**	*e*P	**P**	**03 18 55.6**	**-1.0**
3μm,1.9s							
KMI	**Kunming**	**32.70**	**322**	P	**P**	**03 19 04.3**	**+1.4**
KMI				AMB	AMB		
comp=Z,13nm,0.8s,mb4.8							
KMI	**Kunming**	**32.70**	**322**	P	**P**	**03 19 04.3**	**+1.4**
comp=Z,13nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**35.53**	**154**⇑	*i*P	**P**	**03 19 27.8**	**+0.7**
comp=Z,6.2nm,0.3s,mb5.0							
STKA	**Stephens Creek**	**35.53**	**154**	P	**P**	**03 19 27.8**	**+0.7**
comp=Z,9.6nm,0.4s,mb5.1,baz=338,slow=9.3,SNR=39							
STKA				PcP	PcP	03 21 55.6	+0.8
comp=Z,2.6nm,0.5s,baz=300,slow=6.0,SNR=2.8							
MJAR	**Matsushiro Arr**	**38.59**	**18**	P	**P**	**03 19 52.6**	**0.0**
comp=Z,15nm,0.8s,mb4.9,baz=194,slow=8.7,SNR=28							
MJAR				PcP	PcP	03 22 05.0	+0.8
comp=Z,2.7nm,0.8s,baz=179,slow=3.9,SNR=4.7							
MAJO	**Matsushiro**	**38.60**	**18**	*e*P	**P**	**03 19 52.4**	**-0.3**
comp=Z,12nm,0.6s,mb4.9							
MAT	**Matsushiro**	**38.60**	**18**	*e*P	**P**	**03 19 52.0**	**-0.6**
comp=Z,14nm,0.8s,mb4.8							
MAT				S		03 26 00.0	
MAT				LR	LR		
comp=Z,340nm,18.0s							
MAT	**Matsushiro**	**38.60**	**18**	P	**P**	**03 19 52.2**	**-0.4**
MAT				*e*S		03 26 00.0	
BJT	**Baijiatuau**	**40.62**	**350**	*e*P	**P**	**03 20 18.5**	**+9.2**
comp=Z,16nm,0.8s,mb4.9							
MDJ	**Mudanjiang**	**44.73**	**5**	P	**P**	**03 20 43.6**	**+0.8**
MDJ				AMB	AMB		
comp=Z,37nm,0.7s,mb5.2							
MDJ				AMB	AMB		
comp=Z,98nm,9.5s							
MDJ	**Mudanjiang**	**44.73**	**5**	*e*P	**P**	**03 20 43.3**	**+0.5**
comp=Z,20nm,0.6s,mb5.0							
GTA	**Gaotai**	**45.31**	**333**	*e*P	**P**	**03 20 48.4**	**+0.9**
GTA				AP	pP	03 21 02.9	-5.0
GTA				AMB	AMB		
comp=Z,18nm,0.8s,mb4.8							
JIRN	**Jiri**	**45.92**	**310**	*e*P	**P**	**03 20 52.7**	**+0.2**
comp=Z,24nm,0.5s,mb5.2							
GUN	**Gumba**	**46.29**	**310**	*e*P	**P**	**03 20 55.6**	**+0.2**
comp=Z,45nm,0.6s,mb5.4							
PKI	**Pulchoki**	**46.48**	**310**	*e*P	**P**	**03 20 55.4**	**-1.5**
comp=Z,17nm,0.7s,mb4.8							
KKN	**Kakani**	**46.69**	**310**	*e*P	**P**	**03 20 58.1**	**-0.5**
comp=Z,27nm,0.6s,mb5.1							
DMN	**Daman**	**46.73**	**309**	*e*P	**P**	**03 20 56.7**	**-2.2**
comp=Z,43nm,1.0s,mb5.1							
GKN	**Gorkha**	**47.29**	**310**	*e*P	**P**	**03 21 03.6**	**+0.3**
comp=Z,15nm,0.5s,mb5.0							
KOLN	**Koldanda**	**47.98**	**309**	*e*P	**P**	**03 21 08.5**	**-0.2**
comp=Z,41nm,0.7s,mb5.3							
HIA	**Hailar**	**49.32**	**356**	*e*P	**P**	**03 21 17.8**	**-0.9**
comp=Z,13nm,0.8s,mb4.9							
HIA				*e*		03 21 30.9	
ULN	**Ulaanbaatar**	**50.10**	**345**	*e*P	**P**	**03 21 24.2**	**-0.5**
comp=Z,6.8nm,0.7s,mb4.7							
SONM	**Songino Array**	**50.24**	**344**	P	**P**	**03 21 25.4**	**-0.4**
comp=Z,6.0nm,0.7s,mb4.6,baz=160,slow=7.7,SNR=8.0							
WMQ	**Urumqi**	**54.63**	**328**	⇓P	**P**	**03 21 59.4**	**+0.9**
WMQ				AP	pP	03 22 20.8	+1.2
WMQ				XP	sP	03 22 30.0	+1.0
WMQ				PCP	PcP	03 23 01.3	+1.0
WMQ				PP	PP	03 24 04.4	+1.2
WMQ				S	**S**	**03 29 30.4**	**+0.3**
WMQ				AMB	AMB		
comp=Z,14nm,0.8s,mb5.0							
WMQ				AMB	AMB		
comp=Z,174nm,4.8s							
WMQ				LR	LR		
comp=N,143nm,17.1s							
WMQ				LR	LR		
comp=E,102nm,16.0s							
WMQ				LR	LR		
comp=Z,95nm,16.2s							
MKAR	**Makanchi Array**	**59.46**	**328**	P	**P**	**03 22 31.4**	**-1.2**
comp=Z,9.4nm,0.5s,mb5.1,baz=129,slow=8.1,SNR=61							
MKAR				ScP		03 27 14.5	
comp=Z,0.9nm,0.8s,baz=112,slow=6.5,SNR=4.3							
BVAR	**Borovoye Array**	**69.31**	**328**	P	**P**	**03 23 35.2**	**-1.3**
comp=Z,2.7nm,0.3s,mb4.5,baz=135,slow=9.2,SNR=21							
CHKZ	**Chkalovo**	**69.53**	**329**	*e*P	**P**	**03 23 35.5**	**-2.3**
OPO	**Ambohidratompo**	**77.93**	**251**	P	**P**	**03 24 28.3**	**+1.1**
comp=Z,14nm,0.7s,mb4.8,baz=84,slow=4.1,SNR=27							
VNDA	**Vanda**	**79.97**	**172**	P	**P**	**03 24 38.4**	**+1.2**
comp=Z,4.2nm,0.8s,mb4.3,baz=306,slow=6.4,SNR=18							
VNDA	**Vanda**	**79.97**	**172**	P	**P**	**03 24 38.4**	**+1.2**
IMA	**Indian Mountai**	**86.75**	**24**	*e*P	**P**	**03 25 14.2**	**+2.4**
comp=Z,28nm,0.9s,mb5.2							
MALT	**Malatya**	**86.94**	**308**	*e*P	**P**	**03 25 12.6**	**-0.7**
comp=Z,3.2nm,0.8s,mb4.3							
KMBO	**Kilima Mbogo**	**87.23**	**269**	P	**P**	**03 25 17.4**	**+2.1**
comp=Z,2.4nm,0.6s,mb4.3,baz=69,slow=8.8,SNR=7.9							
KMBO	**Kilima Mbogo**	**87.23**	**269**	*e*P	**P**	**03 25 16.8**	**+1.5**
comp=Z,4.3nm,1.0s,mb4.3							
SLKM	**Skilak Lake**	**87.74**	**30**	*e*P	**P**	**03 25 17.2**	**+0.6**
ASF	**Jabal al Asfar**	**87.99**	**302**	P	**P**	**03 25 19.5**	**+0.9**
comp=Z,5.8nm,0.7s,mb4.7,baz=305,slow=4.5,SNR=8.9							
ILAR	**Eielson Array**	**89.48**	**25**	P	**P**	**03 25 24.8**	**+0.1**
comp=Z,0.9nm,0.7s,mb3.9,baz=239,slow=5.2,SNR=16							
QSPA	**South Pole Qui**	**89.86**	**180**⇑ *i*P		**P**	**03 25 28.6**	**+2.3**
comp=Z,7.1nm,0.8s,mb4.8							
ARCES	**ARCESS Array B**	**93.21**	**340**	P	**P**	**03 25 41.4**	**-0.6**
comp=Z,1.7nm,0.5s,mb4.7,baz=80,slow=7.4,SNR=6.6							
AKASG	**Malin Array Be**	**93.40**	**321**	P	**P**	**03 25 42.0**	**-1.2**
comp=Z,0.9nm,0.5s,mb4.3,baz=66,slow=4.5,SNR=5.0							
FINES	**FINESS Array B**	**94.09**	**332**	P	**P**	**03 25 45.5**	**-0.6**
comp=Z,1.4nm,0.7s,mb4.4,baz=104,slow=5.7,SNR=5.3							
INK	**Inuvik**	**94.50**	**21**	P	**P**	**03 25 46.6**	**-1.2**
comp=Z,1.9nm,0.9s,mb4.5,baz=299,slow=5.0,SNR=7.4							
MATP	**Matopo**	**95.58**	**250**	P	**P**	**03 25 54.2**	**+0.3**
comp=Z,1.7nm,0.4s,mb4.8,baz=136,slow=4.2,SNR=9.5							
LSZ	**Lusaka**	**96.05**	**255**	*e*P	**P**	**03 25 56.6**	**+0.5**
comp=Z,5.8nm,0.7s,mb5.1							
HFS	**Hagfors**	**100.30**	**332**	P	**P**	03 26 13.7	-0.6
comp=Z,5.0nm,1.1s,baz=90,slow=4.4,SNR=4.4							
YKA	**Yellowknife Ar**	**103.87**	**24**	Pdiff	Pdif	03 26 32.3	+2.3
comp=Z,0.2nm,0.5s,baz=296,slow=4.9,SNR=4.9							
YKA				PKiKP		03 30 48.6	
comp=Z,0.2nm,0.3s,baz=301,slow=1.7,SNR=13							
PV10	**Paradox Valley**	**117.91**	**46**	*e*PKPdf	PKPdf	03 31 17.7	+4.3
SCHQ	**Schefferville**	**124.64**	**8**	PKP	PKPdf	03 31 28.8	+2.8
comp=Z,1.0nm,0.3s,baz=274,slow=6.7,SNR=13							
SCHQ	**Schefferville**	**124.64**	**8**	PKP	PKPdf	03 31 28.8	+2.8
TXAR	**Lajitas Array**	**125.68**	**53**	PKP	PKPdf	03 31 32.0	+3.3
comp=Z,1.0nm,0.9s,baz=237,slow=1.3,SNR=7.4							
TZTN	**Tazewell**	**135.37**	**33**	*e*P	Pdif	03 28 51.1	+1.7
TZTN				*e*pP		03 28 58.7	
PLCA	**Paso Flores**	**137.15**	**163**	PKP	PKPdf	03 31 54.1	+4.1
comp=Z,1.7nm,0.7s,baz=176,slow=5.7,SNR=4.3							
ARE	**Arequipa**	**157.24**	**137**	*e*P	PKPdf	03 32 26.0	+3.1

IDC 13 03:30:19.4±3.2, 0.85N×97.51E, mb3.6/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=120.2km s-min=23.2km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.55**	**5**	P	P	03 34 25.2	-2.1
0.1nm,0.3s,baz=196,slow=11,SNR=7.4							
WRA	**Warramunga Arr**	**41.59**	**122**	P	P	03 38 09.1	-1.9
0.3nm,0.5s,baz=303,slow=9.0,SNR=4.5							
ASAR	**Alice Springs**	**42.94**	**127**	P	P	03 38 20.4	-1.6
0.5nm,0.5s,baz=297,slow=7.9,SNR=4.7							
SONM	**Songino Array**	**47.43**	**8**	P	P	03 38 56.2	-1.4
0.3nm,0.3s,baz=192,slow=13,SNR=3.2							
MKAR	**Makanchi Array**	**47.65**	**346**	P	P	03 38 57.0	-2.3
1.0nm,0.7s,baz=158,slow=8.3,SNR=11							

*MDD **13** 03:30:40.3±3.0, 35.35N×13.19W, h27km±170km, mbLg2.8/13, Error ellipse: s-maj=162.0km s-min=26.4km az=50.0, PRXIMO*
*CSEM **13** 03:30:41.7±0.5, 35.56N×12.92W, h10km, ML3.4/8, Error ellipse: s-maj=9.7km s-min=8.1km az=17.0*
*INMG **13** 03:30:42.4±0.7, 35.28N×13.28W, h10km, ML2.4, Error ellipse: s-maj=7.2km s-min=5.9km az=144.0*
ISC 13 03:30:43.1±1.4, 35.91N±0.07×12.77W±0.09, h10km, n28, σ1§24/51, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.64**	**62**	*e*Pn	**Pn**	**03 31 42.1**	**+1.3**
PTEO				*e*Sn	**Sn**	**03 32 26.6**	**+2.3**
3.9nm,0.5s							
PTEO	**Sao Teotonio**	**3.64**	**62**	*e*Pn	**Pn**	**03 31 42.1**	**+1.3**
PTEO				*e*Sn	**Sn**	**03 32 26.6**	**+2.3**
3.9nm,0.5s							
PLOU	**Loures**	**4.14**	**43**	*e*Pn	**Pn**	**03 31 49.9**	**+2.0**
PBEJ	**Beja**	**4.46**	**60**	*e*Pn	**Pn**	**03 31 53.2**	**+0.8**
PBEJ				*e*Sn	**Sn**	**03 32 46.3**	**+1.2**
2.7nm,0.1s							
PBEJ	**Beja**	**4.46**	**60**	*e*Pn	**Pn**	**03 31 53.2**	**+0.8**
PBEJ				*e*Sn	**Sn**	**03 32 46.3**	**+1.2**
2.7nm,0.1s							
PALC	**Alcoutim**	**4.53**	**68**	*e*Pn	**Pn**	**03 31 54.0**	**+0.6**
PALC				*e*Sn	**Sn**	**03 32 47.6**	**+0.8**
3.8nm,0.1s							
PALC	**Alcoutim**	**4.53**	**68**	P	**Pn**	**03 31 54.0**	**+0.6**
PALC				S	**Sn**	**03 32 47.6**	**+0.8**
1.9nm,0.1s							
EGRO	**El Granado**	**4.55**	**68**	P	**Pn**	**03 31 54.2**	**+0.5**
1.3nm,0.1s,SNR=23							
EGRO				S	**Sn**	**03 32 48.0**	**+0.7**
2.6nm,0.1s,SNR=8.2							
EGRO	**El Granado**	**4.55**	**68**	Pn	**Pn**	**03 31 54.2**	**+0.5**
1.3nm,0.1s,SNR=23							
EGRO				Sn	**Sn**	**03 32 48.0**	**+0.7**
2.6nm,0.1s,SNR=8.2							
EMIN	**Mina Concepcio**	**5.23**	**67**	P	**Pn**	**03 32 02.9**	**-0.4**
1.5nm,0.1s,SNR=26							
EMIN				S	**Sn**	**03 33 03.6**	**-0.9**
0.9nm,0.1s							
EMIN	**Mina Concepcio**	**5.23**	**67**	Pn	**Pn**	**03 32 02.9**	**-0.5**
1.5nm,0.1s,SNR=26							
EMIN				Sn	**Sn**	**03 33 03.6**	**-0.9**
0.9nm,0.1s							
EBAD	**Badajoz**	**5.40**	**57**	P	**Pn**	**03 32 06.2**	**+0.5**
1.4nm,0.1s,SNR=13							
EBAD				S	**Sn**	**03 33 09.9**	**+1.3**
1.3nm,0.1s							
EBAD	**Badajoz**	**5.40**	**57**	Pn	**Pn**	**03 32 06.2**	**+0.5**
1.4nm,0.1s,SNR=13							
EBAD				Sn	**Sn**	**03 33 09.9**	**+1.3**
1.3nm,0.1s							
ESPR	**Espera**	**5.66**	**78**	P	**Pn**	**03 32 07.9**	**-1.5**
1.3nm,0.1s,SNR=9.1							
ESPR				S	**Sn**	**03 33 12.1**	**-3.1**
7.1nm,0.3s							
ESPR	**Espera**	**5.66**	**78**	Pn	**Pn**	**03 32 07.9**	**-1.5**
1.3nm,0.1s,SNR=9.1							
ESPR				Sn	**Sn**	**03 33 12.1**	**-3.2**
7.1nm,0.3s							
EADA	**Adamuz**	**6.93**	**69**	P	**Pn**	**03 32 25.9**	**-1.4**
1.0nm,0.1s,SNR=9.1							
EADA				S	**Sn**	**03 33 43.9**	**-3.2**
1.1nm,0.1s							
EADA	**Adamuz**	**6.93**	**69**	Pn	**Pn**	**03 32 25.9**	**-1.4**
1.0nm,0.1s,SNR=9.1							
EADA				Sn	**Sn**	**03 33 43.9**	**-3.1**
1.1nm,0.1s							
ELOB	**Lobios**	**6.99**	**30**	S	**Sn**	**03 33 48.4**	**-0.2**
0.5nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**7.64**	**36**	P	**Pn**	**03 32 37.4**	**+0.2**
0.5nm,0.1s,SNR=7.9							
ECAL				S	**Sn**	**03 34 04.7**	**-0.1**
0.7nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**7.64**	**36**	Pn	**Pn**	**03 32 37.4**	**+0.1**
0.5nm,0.1s,SNR=7.9							
ECAL				Sn	**Sn**	**03 34 04.7**	**-0.1**
0.7nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**7.92**	**59**	P	**Pn**	**03 32 40.3**	**-0.8**
3.5nm,0.1s,baz=243,slow=13,SNR=19							
ESDC	**Sonseca Array**	**7.92**	**59**	Pn	**Pn**	**03 32 40.3**	**-0.9**
3.5nm,0.1s,baz=243,slow=13,SNR=19							
EINC	**Incio**	**7.94**	**30**	P	**Pn**	**03 32 42.3**	**+0.8**
0.5nm,0.2s,SNR=4.0							
EINC				S	**Sn**	**03 34 11.1**	**-1.2**
0.6nm,0.4s,SNR=7.9							
EINC	**Incio**	**7.94**	**30**	Pn	**Pn**	**03 32 42.3**	**+0.8**
0.5nm,0.2s,SNR=4.0							
EINC				Sn	**Sn**	**03 34 11.1**	**-1.2**
0.6nm,0.4s,SNR=7.9							
GUD	**Guadarrama**	**8.26**	**53**	P	**P**	**03 32 46.4**	**+0.5**
0.3nm,0.4s,SNR=7.9							
EPON	**Pontenova**	**8.58**	**29**	P	**P**	**03 32 50.4**	**+0.1**
3.5nm,0.5s,SNR=7.9							
EPON				S	**Sn**	**03 34 26.2**	**-2.1**
3.8nm,0.7s,SNR=7.9							
ETOB	**Tobarra**	**9.35**	**70**	P	**P**	**03 32 59.6**	**-1.4**
0.1nm,0.1s,SNR=4.0							
ETOB				S	**Sn**	**03 34 42.3**	**-5.1**
0.6nm,0.3s,SNR=4.0							
ETOB	**Tobarra**	**9.35**	**70**	Pn	**P**	**03 32 58.4**	**-2.6**
0.1nm,0.1s,SNR=4.0							
ETOB				Sn	**Sn**	**03 34 43.2**	**-4.2**
0.6nm,0.3s,SNR=4.0							

*MOS **13** 03:47:21.6±0.9, 45.80N×149.41E, h143km, mb3.7/5, Error ellipse: s-maj=22.1km s-min=15.1km az=58.6*
*JMA **13** 03:47:22.4±0.5, 45.09N×149.66E, h130km, M3.6*
*IDC **13** 03:47:23.4±2.9, 45.91N×149.33E, h135km±28km, mb3.4/10, mb1 3.6/12, mb1mx3.4/23, mbtmp3.8/12, Error ellipse: s-maj=23.8km s-min=17.9km az=152.0*
*NEIC **13** 03:47:23.9±1.4, 45.85N×149.37E, h145km±13km, mb3.8/1, Error ellipse: s-maj=14.7km s-min=10.8km az=125.0*
ISC 13 03:47:20.1±0.7, 45.1N±0.1×149.7E±0.1, h150km, n52, σ1§41/61, mb3.5/11, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**2.96**	**250**	PN	**P**	**03 48 08.6**	**+1.0**
YUK				*e*S	**S**	**03 48 45.1**	**+1.1**
YUK				pmax	pmax		
comp=Z,150nm,0.3s							
YUK				smax			
comp=N,420nm,0.3s							
YUK				smax			
comp=E,180nm,0.3s							
NEM2	**Nemuro 2**	**3.34**	**240**	P	**P**	**03 48 13.4**	**+0.7**
NEM2				*e*S	**S**	**03 48 53.0**	**+0.1**
JRA	**Rausu**	**3.49**	**252**	P	**P**	**03 48 15.8**	**+1.3**
JNK	**Nakash**	**3.90**	**249**	P	**P**	**03 48 21.3**	**+1.5**
JAK	**Akkeshi**	**4.19**	**242**	P	**P**	**03 48 24.4**	**+0.7**
JAK				*e*S	**S**	**03 49 12.8**	**+0.2**
JTKR	**Abashiri--Toko**	**4.31**	**257**	P	**P**	**03 48 26.0**	**+0.7**
JAR	**Ashorobuto**	**4.64**	**249**	P	**P**	**03 48 31.7**	**+2.0**
JMP	**Maruseppu**	**4.68**	**259**	P	**P**	**03 48 31.6**	**+1.5**
JOB	**Onbets**	**4.78**	**245**	P	**P**	**03 48 32.3**	**+0.8**
JOB				*e*S	**S**	**03 49 26.8**	**+0.2**
JKK2	**Kamakawa 2**	**5.14**	**259**	P	**P**	**03 48 37.8**	**+1.6**
ASAJ	**Asahikawa**	**5.18**	**262**	PN	**P**	**03 48 38.4**	**+1.6**
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.3s							
ASAJ	**Asahikawa**	**5.18**	**262**	P	**P**	**03 48 38.4**	**+1.6**

FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 64.50 334 P P 03 57 39.5 -2.8
comp=Z,0.7nm,0.4s,mb3.8,baz=29,slow=17,SNR=5.7
NVAR Mina Array Bea 65.30 60 PcP PcP 03 58 18.1 -0.5
comp=Z,0.5nm,0.6s,baz=292,slow=8.5,SNR=4.6
PDAR Pinedale Array 67.63 51 P P **03 58 03.2 +0.8**
comp=Z,0.4nm,0.6s,mb3.3,baz=304,slow=5.3,SNR=4.1
PDAR PcP PcP 03 58 32.3 +4.0
comp=Z,0.4nm,0.6s,baz=286,slow=1.5,SNR=4.8
HFS Hagfors 69.14 338 P P **03 58 08.9 -2.5**
HFS pmax pmax
comp=Z,2.0nm,0.9s
HFS Hagfors 69.14 338 P P **03 58 08.9 -2.5**
comp=Z,2.3nm,0.9s,mb3.9,baz=37,slow=5.2,SNR=6.3
ASAR Alice Springs 69.94 195 P P **03 58 23.7 +6.8**
comp=Z,0.8nm,0.8s,mb3.5,baz=8.5,slow=5.5,SNR=5.6
AKASG Malin Array Be 71.56 325 P P **03 58 24.1 -2.0**
comp=Z,0.4nm,0.3s,mb3.6,baz=38,slow=5.9,SNR=6.1
GERES GERESS Array B 78.86 332 P P **03 59 06.2 -1.2**
comp=Z,0.4nm,0.5s,mb3.4,baz=37,slow=7.1,SNR=6.7
TXAR Lajitas Array 80.37 58 P P **03 59 19.0 +3.0**
comp=Z,0.2nm,0.4s,mb3.1,baz=285,slow=4.5,SNR=10.0
TXAR pP pP 03 59 46.5 -7.0
comp=Z,0.2nm,0.5s,baz=298,slow=4.2,SNR=5.8
TXAR Lajitas Array 80.37 58 P P **03 59 19.0 +3.0**
TXAR pP pP 03 59 46.5 -7.0

IDC 13 03:55:49.3±1.3, 4.74S×144.23E, mb3.6/4, mb1 3.9/6, mb1mx3.7/15, mbtmp3.7/6, ML3.2/2, Error ellipse: s-maj=45.8km s-min=25.2km az=92.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.47**	**148**	Pn		Pn	03 57 12.1	-1.9
	2.7nm,0.3s,baz=278,slow=12,SNR=5.4							
PMG				Sn		Sn	03 58 12.1	-6.5
	1.2nm,0.3s,baz=298,slow=23,SNR=2.9							
WRA	**Warramunga Arr**	**17.92**	**212**	P		P	03 59 58.7	-3.0
	0.1nm,0.3s,baz=36,slow=13,SNR=3.2							
ASAR	**Alice Springs**	**21.29**	**207**	P		P	04 00 38.5	-1.3
	1.2nm,0.7s,baz=32,slow=11,SNR=6.9							
MKAR	**Makanchi Array**	**74.79**	**321**	P		P	04 07 31.6	-1.6
	0.2nm,0.4s,baz=101,slow=7.9,SNR=4.4							
BVAR	**Borovoye Array**	**84.14**	**324**	P		P	04 08 22.4	-1.2
	0.7nm,0.7s,baz=80,slow=9.0,SNR=5.1							
ILAR	**Eielson Array**	**85.43**	**24**	P		P	04 08 28.4	-1.3
	0.5nm,0.7s,baz=247,slow=5.6,SNR=6.5							

*NEIC **13** 03:56:18.6±3.1, 24.51S×177.24W, h116km±32km, mb4.6/3, Error ellipse: s-maj=23.3km s-min=15.4km az=178.0*
*IDC **13** 03:56:19.6±4.7, 24.39S×177.32W, h119km±45km, mb4.2/7, mb1 4.3/8, mb1mx3.9/19, mbtmp4.6/8, MS4.9/1, Ms1 4.9/1, ms1mx3.6/17, Error ellipse: s-maj=28.4km s-min=24.2km az=7.0*

ISC 13 03:56:27.2±4.9, 23.9S±0.2×177.1W±0.1, h235km±54km, n19, σ0∓74/18, mb4.1/9, 3C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.15**	**28**	P		**P**	**03 59 02.2**	**+0.8**
	11nm,0.3s,baz=222,slow=23,SNR=8.4							
AFI				S		**S**	**04 01 02.2**	**-0.6**
	7.3nm,0.3s,baz=215,slow=19,SNR=4.0							
AFI	**Afiamalu**	**11.15**	**28**	P		**P**	**03 59 02.2**	**+0.8**
AFI				S		**S**	**04 01 02.2**	**-0.6**
RPZ	**Rata Peaks**	**22.02**	**203**	LR		LR	04 08 30.9	
	comp=Z,3μm,18.4s,baz=49,slow=34							
CTA	**Charters Tower**	**34.10**	**269**	P		**P**	**04 02 52.7**	**+1.1**
	4.4nm,0.4s,mb4.3,baz=103,slow=9.4,SNR=9.0							
CTAO	**Charters Tower**	**34.10**	**269**	*eP*		**P**	**04 02 52.5**	**+1.0**
	5.7nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**37.16**	**248**	P		**P**	**04 03 16.4**	**-0.8**
	1.3nm,0.4s,mb3.8,baz=103,slow=15,SNR=5.8							
STKA	**Stephens Creek**	**37.16**	**248**	*eP*		**P**	**04 03 14.7**	**-2.5**
ASAR	**Alice Springs**	**44.62**	**260**	P		**P**	**04 04 18.3**	**+0.2**
	6.1nm,0.5s,mb4.2,baz=91,slow=7.1,SNR=90							
WRAB	**Tennant Creek**	**45.02**	**265**	*eP*		**P**	**04 04 21.0**	**-0.2**
	7.6nm,0.5s,mb4.3							
WRA	**Warramunga Arr**	**45.02**	**265**	P		**P**	**04 04 20.7**	**-0.7**
	4.2nm,0.3s,mb4.2,baz=100,slow=7.0,SNR=54							
WRA				PcP		PcP	04 06 01.8	+3.3
	1.1nm,0.7s,baz=98,slow=3.5,SNR=6.1							
FITZ	**Fitzroy Crossi**	**53.44**	**265**	P		**P**	**04 05 26.1**	**+0.9**
	8.7nm,0.5s,mb4.4,baz=108,slow=11,SNR=24							
VNDA	**Vanda**	**54.61**	**185**	P		**P**	**04 05 32.1**	**-0.9**
	0.8nm,0.5s,mb3.5,baz=317,slow=9.8,SNR=9.0							
MBWA	**Marble Bar**	**57.95**	**259**	*eP*		**P**	**04 05 56.8**	**-0.4**
	4.5nm,0.8s,mb4.2							
MAW	**Mawson**	**78.65**	**200**	P		**P**	**04 08 04.7**	**+0.6**
	3.5nm,0.5s,mb4.2,baz=132,slow=8.8,SNR=20							
SNAA	**Sanae**	**84.60**	**178**	⇑*iP*		**P**	**04 08 34.6**	**0.0**
VNA3	**Neumayer Olymp**	**84.71**	**176**	⇑*iP*		**P**	**04 08 35.1**	**-0.1**
VNA2	**Neumayer--Watz**	**85.16**	**177**	⇑*iP*		**P**	**04 08 38.0**	**+0.6**
ARCES	**ARCESS Array B**	**132.40**	**349**	PKP		PKPdf	04 15 20.4	+7.6
	2.4nm,0.9s,baz=18,slow=3.8,SNR=4.7							
BRTR	**Keskin Array B**	**149.65**	**309**	PKPbc		PKPdf	04 15 55.5	+12
	0.3nm,0.4s,baz=270,slow=4.9,SNR=4.5							

GUC 13 03:58:06.0±0.8, 34.03S×70.16W, h6km±2km, MD3.7, ML2.4, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.19**	**349**	*eP*		Pg	03 58 10.3	+0.4
LMEL				*i* S		Sg	03 58 13.8	+1.3
LMEL				AMP			03 58 14.0	
	comp=E,2μm,0.1s							
CICH	**Cipreses**	**0.36**	**217**	⇑*iP*		Pg	03 58 13.4	+0.2
CICH				*i* S		Sg	03 58 18.7	+0.6
CACH	**El Canelo**	**0.37**	**257**	⇓*iP*		Pg	03 58 14.0	+0.5
CACH				*i* S		Sg	03 58 19.6	+1.0
CHCH	**Chadas Angostu**	**0.42**	**284**	*eP*		Pg	03 58 14.8	+0.4
CHCH				*i* S		Sg	03 58 21.1	+1.0
PCH	**Pirque**	**0.51**	**324**	*eP*		Pg	03 58 16.2	+0.1
PCH				*i* S		Sg	03 58 24.2	+1.3
CLCH	**Cerro Calan**	**0.71**	**334**	*eP*		Pg	03 58 20.0	-0.2
CLCH				*i* S		Sg	03 58 30.5	+0.9
CLCH				AMP			03 58 33.4	
	comp=E,144nm,0.3s							
FCH	**Farellones**	**0.71**	**351**	⇓*iP*		Pg	03 58 19.9	-0.3
FCH				*i* S		Sg	03 58 30.0	+0.2
SFDO	**San Fernando**	**0.91**	**230**	*eP*		Pb	03 58 23.4	-0.4
SFDO				*i* S		Sb	03 58 36.0	0.0
LNV	**Longovilo**	**1.04**	**274**	*i* P		Pb	03 58 25.7	-0.3
LNV				*i* S		Sb	03 58 40.0	+0.3
LCCH	**Las Cruces**	**1.30**	**295**	*eP*		Pb	03 58 29.8	-0.7

*CSEM **13** 03:58:14.8, 29.61S×177.97W, h33km, mb5.5*
*MOS **13** 03:58:14.9±0.9, 29.62S×177.78W, h33km, mb5.8/47, MS4.9/10, Error ellipse: s-maj=10.5km s-min=8.2km az=60.0*
*BJI **13** 03:58:16.8, 29.48S×177.26W, h59km, mB5.7, mb5.3, Ms5.1, Msz4.9*
*IDC **13** 03:58:18.3±0.6, 29.60S×177.70W, h51km±4km, mb5.0/20, mb1 5.1/21, mb1mx5.1/22, mbtmp5.2/21, MS4.7/11, Ms1 4.7/11, ms1mx4.4/19, Error ellipse: s-maj=13.9km s-min=11.1km az=9.0*
*NEIC **13** 03:58:18.1±0.1, 29.67S×177.76W, mb5.6/67, Error ellipse: s-maj=6.5km s-min=4.2km az=154.0*
*HRVD **13** 03:58:18.1±0.2, 29.73S×177.36W, h40km, MW5.4/73, Centroid moment Tensor Solution. LP body waves: s71,c145; Mantle waves: s73,c140; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.14±.03; $M_{\theta\theta}$-0.11±.02; $M_{\phi\phi}$-1.02±.02; $M_{r\theta}$0.36±.03; $M_{\theta\phi}$-0.42±.02; $M_{\phi r}$0.70±.03; Best double couple: $M_0$1.402×10^{17} NP1: ϕ_s198°, δ28°, λ84°. NP2: ϕ_s25°, δ62°, λ93°. Principal axes: T 1.381, Plg73°, Azm302°; N .049, Plg3°, Azm203°; P -1.423, Plg17°, Azm112°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **13** 03:58:39.6±2.9, 29.67S×177.76W, h54km*

ISC 13 03:58:16.5±0.2, 29.91S±0.03×177.83W±0.04, h54km, h54km±.6km: pP-P, n478, σ1∓07/238, mb5.5/83, MS4.8/29, 49C-17D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.66**	**353**	P		**P**	**03 58 28.1**	**-1.9**
	18μm,0.3s,baz=97,slow=9.4,SNR=237							
RAO	**Raoul Island**	**0.66**	**353**	*eP*		**P**	**03 58 27.7**	**-2.3**
PUZ	**Puketiti**	**8.76**	**201**	PN		**P**	**04 00 19.2**	**-4.0**
PUZ				SN		**S**	**04 02 00.4**	**-1.2**
WCZ	**Waipu Caves**	**8.91**	**226**	PN		**P**	**04 00 34.3**	**+9.1**
MWZ	**Matawai**	**9.24**	**203**	PN		**P**	**04 00 27.4**	**-2.4**
URZ	**Urewera**	**9.32**	**205**	P		**P**	**04 00 27.3**	**-3.6**
	2.0nm,0.3s,baz=18,slow=20,SNR=9.5							
URZ				S		**S**	**04 02 15.0**	**-0.4**
	44nm,0.3s,baz=195,slow=15,SNR=15							
URZ	**Urewera**	**9.32**	**205**	PN		**P**	**04 00 27.3**	**-3.6**
URZ				SN		**S**	**04 02 13.8**	**-1.6**
KNZ	**Kokohu**	**9.81**	**201**	SN		**S**	**04 02 22.3**	**-5.0**
BKZ	**Black Stump Fm**	**10.35**	**205**	PN		**P**	**04 00 40.0**	**-4.9**
BKZ				SN		**S**	**04 02 37.7**	**-2.7**
HIZ	**Hauiti**	**10.50**	**213**	PN		**P**	**04 00 50.7**	**+3.8**
BFZ	**Birch Farm**	**11.78**	**203**	SN		**S**	**04 03 10.3**	**-4.8**
MRZ	**Mangatainoka R**	**11.99**	**205**	PN		**P**	**04 01 00.3**	**-6.9**
KIW	**Kapiti Island**	**12.42**	**206**	PN		**P**	**04 01 06.0**	**-6.8**
QRZ	**Quartz Range**	**13.42**	**213**	PN		**P**	**04 01 25.0**	**-1.0**
THZ	**Tophouse**	**14.00**	**210**	PN		**P**	**04 01 32.5**	**-1.1**
KHZ	**Kahutara**	**14.28**	**207**	PN		**P**	**04 01 34.1**	**-3.2**
KHZ				SN		**S**	**04 04 05.2**	**-10**
DSZ	**Denniston Nort**	**14.48**	**213**	*e*PN		**P**	**04 01 38.6**	**-1.3**
DSZ				SN		**S**	**04 04 10.0**	**-10**
LTZ	**Lake Taylor**	**15.10**	**209**	PN		**P**	**04 01 47.5**	**-0.5**
MOZ	**McQueen's Vall**	**15.72**	**206**	SN		**S**	**04 04 35.9**	**-12**
DZM	**Mont Dzumac**	**16.14**	**295**	P		**P**	**04 02 07.8**	**+6.4**
	2.3nm,0.3s,baz=96,slow=15,SNR=16							
DZM				S		**S**	**04 05 16.2**	**+18**
	0.2nm,0.3s,baz=284,slow=22,SNR=1.6							
DZM				LR		LR	04 06 58.0	
	comp=Z,6μm,20.2s,baz=190,slow=32							
DZM	**Mont Dzumac**	**16.14**	**295**	*eP*		**P**	**04 02 01.2**	**-0.1**
DZM				S		**S**	**04 05 16.2**	**+18**
DZM				LR		LR	04 06 58.0	
NOUC	**Port Laguerre**	**16.24**	**295**	*eP*		**P**	**04 02 07.9**	**+5.4**
NOUC	**Port Laguerre**	**16.24**	**295**	*eP*		**P**	**04 02 07.9**	**+5.4**
RPZ	**Rata Peaks**	**16.38**	**210**	P		**P**	**04 02 05.6**	**+1.4**
	7.0nm,0.3s,baz=140,slow=2.4,SNR=12							
RPZ				S		**S**	**04 04 51.2**	**-12**
	2.8nm,0.3s,baz=52,slow=22,SNR=4.8							
FOZ	**Fox Glacier**	**16.88**	**213**	PN		**P**	**04 02 10.9**	**+0.5**
AFI	**Afiamalu**	**16.88**	**21**	*eP*		**P**	**04 02 07.0**	**-3.6**
AFI				pmax		pmax		
	comp=Z,72nm,0.8s							
AFI	**Afiamalu**	**16.88**	**21**	P		**P**	**04 02 07.1**	**-3.5**
	comp=Z,5.0nm,0.3s,baz=43,slow=22,SNR=6.7							
AFI				S		S	04 04 50.3	-25
	comp=Z,2.6nm,0.3s,baz=115,slow=18,SNR=2.7							
AFI	**Afiamalu**	**16.88**	**21**	*eP*		**P**	**04 02 07.0**	**-3.7**
	comp=Z,72nm,0.8s							
JCZ	**Jackson Bay**	**17.70**	**213**	PN		**P**	**04 02 19.2**	**-1.6**
RAR	**Rarotonga**	**18.43**	**66**	*eP*		**P**	**04 02 21.5**	**-8.4**
RAR				pmax		pmax		
	comp=Z,173nm,0.9s							
RAR	**Rarotonga**	**18.43**	**66**	P		**P**	**04 02 21.9**	**-8.0**
	comp=Z,13nm,0.3s,baz=245,slow=11,SNR=13							
RAR				S		**S**	**04 05 31.2**	**-19**
	comp=Z,4.8nm,0.3s,baz=113,slow=20,SNR=3.5							
RAR	**Rarotonga**	**18.43**	**66**	*eP*		**P**	**04 02 21.4**	**-8.4**
	comp=Z,173nm,0.9s							
TBI	**Tubuai**	**26.15**	**82**	*e*LQ			04 08 37.9	
TBI				*e*LR		LR	04 10 04.1	
	comp=Z,5μm,27.0s,baz=246							
CNB	**Canberra Magne**	**28.08**	**250**	⇓*iP*		**P**	**04 04 09.4**	**+4.2**
	comp=Z,2μm,1.2s,mb6.5							
PAE	**Paea**	**28.50**	**71**	*eP*		**P**	**04 04 08.7**	**-0.4**
	comp=Z,131nm,1.0s,mb5.5							
PPT	**Papeete**	**28.55**	**71**	*e*LQ			04 09 28.7	
PPT				*e*LR		LR	04 11 05.3	
	comp=Z,5μm,26.2s,baz=239							
PPT	**Papeete**	**28.55**	**71**	LR		LR	04 11 58.7	
	comp=Z,2μm,21.6s,MS4.8,baz=243,slow=29							
HNR	**Honiara**	**29.10**	**310**	LR		LR	04 13 51.8	
	comp=Z,1μm,20.9s,MS4.5,baz=295,slow=32							
TAU	**Tasmania Unive**	**30.68**	**235**	*eP*		**P**	**04 04 29.8**	**+1.6**
TAU				pmax		pmax		
	comp=Z,49nm,0.9s,mb5.3							
TAU	**Tasmania Unive**	**30.68**	**235**	*eP*		**P**	**04 04 29.8**	**+1.6**
	comp=Z,49nm,0.9s,mb5.3							
TOO	**Toolangi**	**31.29**	**246**	⇓*iP*		**P**	**04 04 36.9**	**+3.2**
	comp=Z,57nm,0.9s,mb5.4							
TOO	**Toolangi**	**31.29**	**246**	⇓*iP*		**P**	**04 04 36.9**	**+3.2**
TOO				pmax		pmax		
	comp=Z,57nm,0.9s,mb5.4							
CTA	**Charters Tower**	**33.87**	**278**	⇑*iP*		**P**	**04 04 58.4**	**+2.1**
	comp=Z,115nm,0.9s,mb5.8							
CTA	**Charters Tower**	**33.87**	**278**	⇑*iP*		**P**	**04 04 58.4**	**+2.1**
CTA				pmax		pmax		
	comp=Z,115nm,0.9s							
CTA	**Charters Tower**	**33.87**	**278**	P		**P**	**04 04 58.6**	**+2.3**
	comp=Z,124nm,0.8s,mb5.9,baz=100,slow=11,SNR=59							
CTA				LR		LR	04 17 31.0	
	comp=Z,3μm,18.1s,MS5.0,baz=102,slow=34							
CTAO	**Charters Tower**	**33.87**	**278**	*eP*		**P**	**04 04 58.0**	**+1.7**
CTAO				pmax		pmax		
	comp=Z,184nm,0.9s,mb6.0							
CTAO	**Charters Tower**	**33.87**	**278**	*eP*		**P**	**04 04 58.0**	**+1.8**
	comp=Z,184nm,0.9s,mb6.0							
STKA	**Stephens Creek**	**34.73**	**256**	⇑*iP*		**P**	**04 05 06.2**	**+2.6**
	comp=Z,108nm,0.9s,mb5.8							
STKA	**Stephens Creek**	**34.73**	**256**	P		**P**	**04 05 06.2**	**+2.7**
	comp=Z,134nm,0.9s,mb5.9,baz=92,slow=8.7,SNR=129							
PMG	**Port Moresby**	**38.53**	**295**	*eP*		**P**	**04 05 37.3**	**+1.6**
PMG				pmax		pmax		
	comp=Z,31nm,1.0s							
PMG	**Port Moresby**	**38.53**	**295**	P		**P**	**04 05 37.4**	**+1.8**
	comp=Z,34nm,1.0s,mb5.0,baz=144,slow=4.3,SNR=5.1							
PMG				LR		LR	04 18 39.3	
	comp=Z,2μm,21.8s,MS4.8,baz=122,slow=32							
PMG	**Port Moresby**	**38.53**	**295**	*eP*		**P**	**04 05 37.3**	**+1.6**
	comp=Z,31nm,1.0s,mb5.0							
RKT	**Rikitea**	**38.77**	**90**	*e*LR		LR	04 15 54.9	
	comp=Z,3μm,26.8s,baz=256							
ASAR	**Alice Springs**	**43.28**	**266**	P		**P**	**04 06 15.6**	**+0.8**
	comp=Z,45nm,0.8s,mb5.2,baz=114,slow=7.6,SNR=70							
ASAR				ScP			04 11 52.0	
	comp=Z,3.0nm,0.8s,baz=122,slow=3.8,SNR=4.7							
ASPA	**Alice Springs**	**43.29**	**266**	⇓*iP*		**P**	**04 06 15.9**	**+1.1**
WB2	**Warramunga Arr**	**44.22**	**272**	⇑*iP*		**P**	**04 06 22.9**	**+0.5**
WB2				*i* PCS			04 12 54.0	
WB2				*e*S		**S**	**04 13 11.4**	**+20**
WRAB	**Tennant Creek**	**44.22**	**272**	*i* P		**P**	**04 06 23.3**	**+0.9**
WRAB	**Tennant Creek**	**44.22**	**272**	*eP*		**P**	**04 06 22.9**	**+0.5**
	comp=Z,279nm,1.0s,mb6.0							
WRA	**Warramunga Arr**	**44.23**	**272**	P		**P**	**04 06 23.0**	**+0.5**
	comp=Z,122nm,0.9s,mb5.7,baz=109,slow=7.8,SNR=138							
WRA				S		**S**	**04 12 54.2**	**+2.7**
	comp=Z,4.3nm,0.8s,baz=107,slow=14,SNR=5.6							
DRV	**Dumont d'Urvil**	**44.65**	**202**	P		**P**	**04 06 32.0**	**+6.8**
FORT	**Forrest**	**46.32**	**255**	*eP*		**P**	**04 06 39.2**	**+0.2**
	comp=Z,2μm,0.8s							
SBA	**Scott Base**	**48.53**	**184**	*eP*		**P**	**04 06 59.9**	**+4.2**
SBA				pmax		pmax		
	comp=Z,105nm,1.1s,mb5.8							
SBA	**Scott Base**	**48.53**	**184**	*eP*		**P**	**04 06 59.9**	**+4.2**
	comp=Z,105nm,1.1s,mb5.8							
VNDA	**Vanda**	**48.59**	**186**	*eP*		**P**	**04 06 59.3**	**+3.1**
VNDA				pmax		pmax		
	comp=Z,32nm,1.1s							
VNDA	**Vanda**	**48.59**	**186**	P		**P**	**04 06 57.7**	**+1.5**
	comp=Z,19nm,1.3s,mb5.0,baz=2.0,slow=8.2,SNR=10							
VNDA	**Vanda**	**48.59**	**186**	*eP*		**P**	**04 06 59.3**	**+3.2**
	comp=Z,32nm,1.1s,mb5.3							
KAKA	**Kakadu**	**49.00**	**279**	*eP*		**P**	**04 07 00.0**	**0.0**
	comp=Z,19nm,0.7s,mb5.2							
FITZ	**Fitzroy Crossi**	**52.51**	**269**	⇓*iP*		**P**	**04 07 27.5**	**+0.8**
	comp=Z,143nm,0.9s,mb5.9							
FITZ	**Fitzroy Crossi**	**52.51**	**269**	P		**P**	**04 07 27.5**	**+0.8**
	comp=Z,246nm,1.0s,mb6.1,baz=126,slow=6.8,SNR=65							
KIP	**Kipapa**	**54.49**	**23**	*eP*		**P**	**04 07 37.9**	**-3.3**
KIP				pmax		pmax		
	comp=Z,94nm,1.0s,mb5.7							
KIP	**Kipapa**	**54.49**	**23**	*eP*		**P**	**04 07 37.9**	**-3.4**
	comp=Z,94nm,1.0s,mb5.7							
KLBR	**Kellerberrin**	**54.65**	**251**	⇑*iP*		**P**	**04 07 41.3**	**-1.0**
	comp=Z,3μm,1.1s							
CASY	**Casey**	**55.64**	**208**	⇑*iP*		**P**	**04 07 49.2**	**+0.2**
MUN	**Mundaring**	**55.80**	**250**	⇓*iP*		**P**	**04 07 50.4**	**-0.2**
	comp=Z,326nm,1.1s,mb6.3							
MUN	**Mundaring**	**55.80**	**250**	⇓*iP*		**P**	**04 07 50.4**	**-0.2**
MUN				pmax		pmax		
	comp=Z,326nm,1.1s,mb6.3							
MBWA	**Marble Bar**	**56.43**	**263**	*eP*		**P**	**04 07 54.1**	**-1.1**
	comp=Z,61nm,1.2s,mb5.5							
QSPA	**South Pole Qui**	**60.20**	**180**	*eP*		**P**	**04 08 23.1**	**+2.3**
	comp=Z,98nm,0.9s,mb5.8							
MIR	**Mirnyy**	**62.62**	**207**	*d iP*		**P**	**04 08 37.5**	**+0.2**
MIR				pmax		pmax		
	comp=Z,286nm,2.2s,mb6.0							
BUNI	**Buntu Taipa**	**63.88**	**281**	*eP*		**P**	**04 08 45.6**	**-0.7**
NINI	**Niniconang**	**63.97**	**280**	*eP*		**P**	**04 08 46.5**	**-0.4**
TANI	**Tanete Lipujan**	**64.79**	**281**	*eP*		**P**	**04 08 50.6**	**-1.7**
KEDI	**Kedomdong**	**65.08**	**275**	⇑*eP*		**P**	**04 08 53.1**	**-1.0**
RATI	**Rata**	**65.47**	**274**	⇓*eP*		**P**	**04 08 56.4**	**-0.2**
KELI	**Kelakatan**	**66.62**	**274**	*eP*		**P**	**04 09 03.0**	**-0.9**
	comp=Z,324nm,1.0s,mb6.3							
SRDI	**Scrawed**	**66.80**	**274**	*eP*		**P**	**04 09 04.4**	**-0.6**
SRDI				pmax		pmax		
	comp=Z,152nm,0.9s,mb6.0							
SRDI	**Scrawed**	**66.80**	**274**	*eP*		**P**	**04 09 04.4**	**-0.6**
	comp=Z,152nm,0.9s,mb6.0							
MAW	**Mawson**	**72.81**	**200**	⇑*iP*		**P**	**04 09 42.6**	**+1.9**
	comp=Z,46nm,1.1s,mb5.3							
MAW	**Mawson**	**72.81**	**200**	⇑*iP*		**P**	**04 09 42.6**	**+1.9**
MAW				pmax		pmax		
	comp=Z,46nm,1.1s							
MAW	**Mawson**	**72.81**	**200**	P		**P**	**04 09 42.8**	**+2.1**
	comp=Z,68nm,1.1s,mb5.5,baz=111,slow=6.9,SNR=49							
KSM	**Kuching**	**75.08**	**281**	*eP*		**P**	**04 09 54.6**	**-0.3**
KSM				*ep*P		pP	04 10 08.8	-1.4
PENI	**Pendagan**	**75.98**	**272**	⇑*eP*		**P**	**04 09 56.9**	**-3.2**
JOW	**Kunigami**	**76.44**	**312**	P		**P**	**04 10 02.8**	**+0.3**
	comp=Z,42nm,0.9s,mb5.3,baz=129,slow=8.5,SNR=3.8							
SYO	**Syowa Base**	**77.62**	**193**	⇑P		**P**	**04 10 09.5**	**+1.3**
SYO	**Syowa Base**	**77.62**	**193**	⇑PcP		PcP	04 10 19.8	+1.3
SYO	**Syowa Base**	**77.62**	**193**	⇑pP		pP	04 10 25.0	+1.6
MJAR	**Matsushiro Arr**	**77.93**	**325**	P		**P**	**04 10 09.2**	**-1.3**
	comp=Z,22nm,0.8s,mb5.1,baz=161,slow=5.7,SNR=35							
MJAR				LR		LR	04 44 43.9	
	comp=Z,229nm,18.5s,MS4.5,baz=60,slow=36							
MAJO	**Matsushiro**	**77.93**	**325**	*eP*		**P**	**04 10 09.4**	**-1.1**
MAJO				pmax		pmax		
	comp=Z,68nm,1.1s,mb5.5							
MAJO	**Matsushiro**	**77.93**	**325**	*eP*		**P**	**04 10 09.4**	**-1.1**
	comp=Z,68nm,1.1s,mb5.5							
MAT	**Matsushiro**	**77.93**	**325**	*eP*		**P**	**04 10 10.0**	**-0.5**
MAT				S		S	04 20 16.0	+18
MAT				pmax		pmax		
	comp=Z,63nm,1.2s,mb5.4							
MAT	**Matsushiro**	**77.93**	**325**	*eP*		**P**	**04 10 10.0**	**-0.5**
	comp=Z,62nm,1.2s,mb5.4							
MAT				S		S	04 20 16.0	+18
MAT	**Matsushiro**	**77.93**	**325**	P		**P**	**04 10 09.8**	**-0.7**
MAT				*e*S		S	04 20 16.0	+18
SNAA	**Sanae**	**78.64**	**178**	*e*		PcP	04 10 22.7	-0.2
SNAA	**Sanae**	**78.64**	**178**	*e*		pP	04 10 29.9	+0.9
SNAA	**Sanae**	**78.64**	**178**	*e*		sP	04 10 36.2	+1.3
SNAA	**Sanae**	**78.64**	**178**	P		**P**	**04 10 15.2**	**+1.5**
	comp=Z,6.7nm,1.1s,mb4.5,baz=223,slow=4.9,SNR=7.0							
SNAA	**Sanae**	**78.64**	**178**	⇑*iP*		**P**	**04 10 15.0**	**+1.3**
SNAA				*e*			04 10 22.7	
SNAA				*e*		pP	04 10 29.9	+0.9
SNAA				*e*			04 10 36.2	
VNA3	**Neumayer Olymp**	**78.78**	**176**	*e*		PcP	04 10 22.8	-0.7
VNA3	**Neumayer Olymp**	**78.78**	**176**	*e*		pP	04 10 30.6	+0.8
VNA3	**Neumayer Olymp**	**78.78**	**176**	*e*		sP	04 10 38.0	+2.3
VNA3	**Neumayer Olymp**	**78.78**	**176**	⇑*iP*		**P**	**04 10 15.4**	**+0.9**
VNA3				*e*			04 10 22.8	
VNA3				*e*		pP	04 10 30.6	+0.8
VNA3				*e*			04 10 38.0	
COYC	**Coyhaique**	**79.19**	**137**	*eP*		**P**	**04 10 17.9**	**+0.7**
VNA2	**Neumay

PFO pmax pmax
comp=Z,43nm,1.2s,mb5.5
PFO Pinyon Flat Ob 85.77 47 *e*P **P 04 10 51.6 +0.2**
comp=Z,43nm,1.2s,mb5.5
PFO *e*pP pP 04 11 07.0 +0.1
NJ2 Nanjing 86.04 310 *e*P **P 04 10 53.5 +0.8**
NJ2 AP pP 04 11 05.8 -2.4
NJ2 XP sP 04 11 15.6 +1.7
NJ2 PP PP 04 14 16.5 +1.7
NJ2 S S 04 21 23.0 +2.0
NJ2 XS 04 21 54.0
NJ2 AMB AMB
comp=Z,920nm,4.0s
NJ2 LR LR
comp=N,2μm,32.5s
NJ2 LR LR
comp=E,470nm,19.0s
NJ2 LR LR
comp=Z,1μm,22.7s
SDPT Sand Point 86.21 10 *e*P **P 04 10 50.6 -2.3**
CMB Columbia Colle 86.30 42 *e*P **P 04 10 53.3 -0.5**
CMB *e**PP pP 04 11 09.1 -0.2
CMB pmax pmax
comp=Z,46nm,1.1s,mb5.6
CMB Columbia Colle 86.30 42 *e*P **P 04 10 53.3 -0.5**
comp=Z,46nm,1.1s,mb5.6
CMB *e*pP pP 04 11 09.1 -0.2
OMM Old Mammoth Mi 86.84 43 *e*P **P 04 10 56.7 +0.3**
OMM *e*pP pP 04 11 12.5 +0.5
WDC Whiskeytown Da 86.84 39 *e*P **P 04 10 56.1 -0.3**
WDC *e**PP pP 04 11 11.7 -0.3
WDC pmax pmax
comp=Z,86nm,1.4s,mb5.8
WDC Whiskeytown Da 86.84 39 *e*P **P 04 10 56.0 -0.4**
comp=Z,86nm,1.4s,mb5.8
WDC *e*pP pP 04 11 11.7 -0.2
MTUM Tungsten Hills 86.91 43 *e*P **P 04 10 55.8 -1.0**
MTUM *e*pP pP 04 11 11.9 -0.5
FCH Farellones 87.00 127 *e*P **P 04 10 59.0 +1.6**
WCN Washoe City 87.52 41 *e*P **P 04 10 58.5 -1.2**
WCN *e**PP pP 04 11 14.4 -0.9
WCN pmax pmax
comp=Z,45nm,1.2s,mb5.6
WCN Washoe City 87.52 41 *e*P **P 04 10 58.5 -1.3**
comp=Z,44nm,1.2s,mb5.6
WCN *e*pP pP 04 11 14.4 -0.9
YBH Yreka Blue Hor 87.56 38 P **P 04 10 59.4 -0.4**
comp=Z,7.8nm,0.9s,mb4.9,baz=224,slow=4.1,SNR=8.6
LDFC Landfair 87.56 47 *e*P **P 04 11 00.8 +0.7**
LDFC *e*pP pP 04 11 16.5 +0.9
SFJM Santa Fe 87.65 65 *e*P **P 04 11 02.0 +1.2**
NVAR Mina Array Bea 87.78 43 P **P 04 11 01.0 0.0**
comp=Z,16nm,0.9s,mb5.3,baz=229,slow=10,SNR=74
NVAR PKKPbc 04 28 50.5
comp=Z,1.1nm,0.8s,baz=75,slow=4.8,SNR=5.2
NVAR LR LR 04 46 28.4
comp=Z,475nm,18.1s,MS4.9,baz=270,slow=33
MNV Mina 87.87 43 *e*P **P 04 11 01.0 -0.4**
MNV *e* 04 11 10.4
MNV *e**PP pP 04 11 16.6 -0.4
MNV pmax pmax
comp=Z,47nm,1.4s,mb5.5
MNV Mina 87.87 43 *e*P **P 04 11 01.0 -0.5**
comp=Z,47nm,1.4s,mb5.5
MNV *e* 04 11 10.4
MNV *e*pP pP 04 11 16.6 -0.5
HUMO Hull Mountain 88.04 37 *e*P **P 04 11 02.5 +0.3**
comp=Z,44nm,1.7s,mb5.4
HUMO *e* 04 11 12.9
HUMO *e*pP pP 04 11 17.9 +0.2
WHN Wuhan 88.17 307 P **P 04 11 03.0 -0.1**
WHN AP pP 04 11 20.0 +1.4
WHN S S 04 21 46.0 +4.8
WHN LR LR
comp=Z,680nm,22.1s,MS5.0
TPH Tonopah 88.19 43 *e*P **P 04 11 02.8 -0.2**
TPH *e**PP pP 04 11 17.3 -1.2
TPH pmax pmax
comp=Z,51nm,1.1s,mb5.7
TPH Tonopah 88.19 43 *e*P **P 04 11 02.8 -0.2**
comp=Z,51nm,1.1s,mb5.7
TPH *e*pP pP 04 11 17.3 -1.2
MDJ Mudanjiang 88.31 325 P **P 04 11 03.6 +0.2**
MDJ AP pP 04 11 17.9 -1.1
MDJ XP sP 04 11 23.3 -1.2
MDJ PP PP 04 14 29.3 -4.3
MDJ S S 04 21 44.8 +2.7
MDJ XS 04 22 08.6
MDJ AMB AMB
comp=Z,21nm,1.3s,mb5.2
MDJ AMB AMB
comp=Z,145nm,6.5s
MDJ LR LR
comp=N,170nm,20.8s,MS4.6
MDJ LR LR
comp=E,194nm,22.2s,MS4.6
MDJ LR LR
comp=Z,335nm,22.2s,MS4.7
MDJ Mudanjiang 88.31 325 *e*P **P 04 11 02.7 -0.6**
comp=Z,13nm,0.8s,mb5.2
TUC Tucson 88.69 51 *e*P **P 04 11 06.2 +0.7**
TUC *e* 04 11 15.4
TUC *e**PP pP 04 11 21.5 +0.4
TUC pmax pmax
comp=Z,46nm,1.1s,mb5.7
TUC Tucson 88.69 51 *e*P **P 04 11 06.2 +0.7**
comp=Z,46nm,1.1s,mb5.7
TUC *e* 04 11 15.3
TUC *e*pP pP 04 11 21.5 +0.4
MOD Modoc 88.98 39 *e*P **P 04 11 06.3 -0.3**
comp=Z,37nm,1.6s,mb5.5
MOD *e*pP pP 04 11 21.0 -1.2
ZAIG Zacatecas 89.26 63 *i*P **P 04 11 09.7 +1.3**
CFAA Coronel Fontan 89.41 126 P **P 04 11 10.0 +1.1**
comp=Z,1.5nm,0.9s,baz=228,slow=4.2,SNR=12
CFAA pP pP 04 11 25.4 +0.9
comp=Z,3.4nm,0.9s,baz=237,slow=4.2,SNR=8.5
SNY Shenyang 89.51 320 ⇑P **P 04 11 09.3 +0.2**
SNY AMB AMB
comp=Z,20nm,1.3s,mb5.3
TRQA Tornquist 89.67 135 P **P 04 11 10.6 +0.6**
comp=Z,86nm,1.5s,mb5.9
BMN Battle Mountai 89.73 42 *e*P **P 04 11 10.1 -0.1**
BMN *e* 04 11 18.9
BMN *e**PP pP 04 11 25.5 -0.3
BMN pmax pmax
comp=Z,35nm,1.4s,mb5.5
BMN Battle Mountai 89.73 42 *e*P **P 04 11 10.1 -0.1**
comp=Z,35nm,1.4s,mb5.5
BMN *e* 04 11 18.9
BMN *e*pP pP 04 11 25.5 -0.3
TIA Tai'an 89.75 313 *e*P **P 04 11 10.3 -0.1**
TIA AMB AMB
comp=Z,64nm,1.5s,mb5.7
WUAZ Wupatki 90.23 48 *e*P **P 04 11 13.2 +0.6**
comp=Z,110nm,1.2s,mb6.1
WUAZ *e*pP pP 04 11 28.9 +0.6
WVOR Wild Horse Val 90.25 39 *e*P **P 04 11 12.5 -0.1**
WVOR pmax pmax
comp=Z,47nm,1.5s,mb5.6
WVOR Wild Horse Val 90.25 39 *e*P **P 04 11 12.5 -0.1**
comp=Z,46nm,1.5s,mb5.6
ARUT Antelope Range 90.31 46 *e*P **P 04 11 13.3 +0.3**
ARUT *e**PP pP 04 11 29.1 +0.5
KLR Kul'dur 90.69 330 *e*P **P 04 11 11.7 -2.8**
KLR *e*S S 04 22 08.5 +4.7
ELK Elko 91.08 42 *e*P **P 04 11 15.8 -0.7**
ELK pmax pmax
comp=Z,26nm,1.4s
ELK Elko 91.08 42 *e*P **P 04 11 15.8 -0.7**
comp=Z,26nm,1.4s,mb5.4
GYA Guiyang 91.44 300 ⇑*i*P **P 04 11 19.1 +0.6**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb5.3
ENH Enshi 91.45 304 *e*P **P 04 11 19.1 +0.6**
comp=Z,207nm,1.4s,mb6.3
ENH *e*pP pP 04 11 35.4 +1.2
MVU Marysvale 91.51 46 *e*P **P 04 11 19.1 +0.5**
comp=Z,28nm,1.2s,mb5.5
MVU *e*pP pP 04 11 34.9 +0.6
MSU Marysvale 91.54 46 *e*P **P 04 11 19.2 +0.5**
LTX Lajitas 92.00 57 *e*P **P 04 11 21.1 +0.1**
LTX *e* 04 11 29.7
LTX *e**PP pP 04 11 36.3 -0.4
LTX pmax pmax
comp=Z,36nm,1.4s,mb5.5
LTX Lajitas 92.00 57 *e*P **P 04 11 21.1 +0.1**
comp=Z,36nm,1.4s,mb5.5
LTX *e* 04 11 29.7
LTX *e*pP pP 04 11 36.3 -0.4
TXAR Lajitas Array 92.00 57 P **P 04 11 20.9 -0.1**
comp=Z,10nm,1.1s,mb5.1,baz=217,slow=6.3,SNR=54
TXAR pP pP 04 11 36.8 +0.1
comp=Z,14nm,1.0s,baz=245,slow=2.5,SNR=18
TXAR PKKPbc 04 28 40.4
comp=Z,1.1nm,1.0s,baz=90,slow=2.7,SNR=5.7
TXAR LR LR 04 42 54.3
comp=Z,226nm,21.1s,MS4.6,baz=240,slow=29
TXAR Lajitas Array 92.00 57 P **P 04 11 20.9 -0.1**
TXAR pP pP 04 11 36.8 +0.1
TXAR PKKPbc 04 28 40.4
TXAR LR LR 04 42 54.3
MNTX Cornudas Mount 92.08 54 *e*P **P 04 11 20.5 -0.8**
comp=Z,30nm,1.2s,mb5.5
MNTX *e*pP pP 04 11 36.6 -0.4
HAWA Hanford 92.42 36 *e*P **P 04 11 22.3 -0.3**
comp=Z,2.9nm,1.4s
SVW2 Sparrevohn 92.48 11 *e*P **P 04 11 20.0 -2.4**
BGU Big Grassy Mou 92.50 43 *e*P **P 04 11 22.4 -0.6**
BMO Blue Mountains 92.57 38 *e*P **P 04 11 22.4 -0.9**
BMO pmax pmax
comp=Z,16nm,1.4s,mb5.3
BMO Blue Mountains 92.57 38 *e*P **P 04 11 22.4 -0.9**
comp=Z,16nm,1.4s,mb5.2
TMUT Trail Mountain 92.61 45 *e*P **P 04 11 24.1 +0.5**
TMUT *e*pP pP 04 11 40.0 +0.6
BJT Baijiatuau 92.67 315 *e*P **P 04 11 23.5 -0.4**
BJT pmax pmax
comp=Z,26nm,0.8s
BJT Baijiatuau 92.67 315 *e*P **P 04 11 23.5 -0.4**
comp=Z,26nm,0.8s,mb5.7
BJI Beijing 92.68 315 P **P 04 11 24.3 +0.4**
BJI AP pP 04 11 39.1 -0.5
BJI XP sP 04 11 44.9 -0.1
BJI AMB AMB
comp=Z,15nm,0.9s,mb5.4
BJI AMB AMB
comp=Z,166nm,4.3s
BJI LR LR
comp=N,267nm,19.6s,MS4.8
BJI LR LR
comp=E,290nm,22.9s,MS4.8
BJI LR LR
comp=Z,836nm,15.9s
BJI Beijing 92.68 315 P **P 04 11 24.2 +0.3**
BJI *PP pP 04 11 39.1 -0.5
BJI pmax pmax
comp=Z,15nm,0.9s,mb5.4
BJI MLR MLR
comp=Z,840nm,15.9s,MS5.3
BJI Beijing 92.68 315 P **P 04 11 24.2 +0.3**
comp=Z,15nm,0.9s,mb5.4
BJI pP pP 04 11 39.1 -0.5
BJI sP sP 04 11 44.9 -0.1
BJI S S 04 22 07.3 -14
BJI SS SS 04 28 54.8 +16
BJI LR LR
comp=Z,840nm,15.9s,MS5.3
SLKM Skilak Lake 92.89 13 *e*P **P 04 11 23.5 -0.9**
SRU San Rafael 92.93 46 *e*P **P 04 11 24.9 -0.2**
SRU *e**PP pP 04 11 40.4 -0.4
SPUT South Promonto 93.08 43 *e*P **P 04 11 25.8 +0.1**
SPUT *e*pP pP 04 11 41.2 -0.2
ANMO Albuquerque 93.16 51 *e*P **P 04 11 26.3 +0.1**
ANMO *e**PP pP 04 11 42.1 +0.2
ANMO pmax pmax
comp=Z,27nm,1.1s
ANMO MLR MLR
comp=Z,314nm,20.0s
ANMO Albuquerque 93.16 51 P **P 04 11 26.3 +0.1**
comp=Z,11nm,1.1s,mb5.2,baz=214,slow=5.6,SNR=23
ANMO pP pP 04 11 41.8 -0.1
comp=Z,13nm,0.9s,baz=206,slow=5.9,SNR=13
ANMO Albuquerque 93.16 51 *e*P **P 04 11 26.3 0.0**
comp=Z,27nm,1.1s,mb5.6
ANMO *e*pP pP 04 11 42.1 +0.2
ANMO LR LR
comp=Z,314nm,20.0s,MS4.8
HVU Hansel Valley 93.18 43 *e*P **P 04 11 25.8 -0.3**
HVU *e**PP pP 04 11 41.6 -0.2
HLID Hailey 93.34 41 *e*P **P 04 11 26.7 -0.1**
comp=Z,12nm,1.0s,mb5.3
HLID LR LR
comp=Z,480nm,21.0s,MS4.9
CM31 Chiang Mai Arr 93.38 289 P **P 04 11 28.6 +1.0**
comp=Z,18nm,1.0s,mb5.5
CM31 *e*pP pP 04 11 44.7 +1.5
CMAR Chiang Mai Arr 93.38 289 P **P 04 11 28.9 +1.3**
comp=Z,5.7nm,1.1s,mb4.9,baz=136,slow=3.3,SNR=17
CMAR pP pP 04 11 45.0 +1.8
comp=Z,9.0nm,1.0s,baz=140,slow=3.6,SNR=9.1
CMAR PP PP 04 15 11.8 -3.0
comp=Z,2.2nm,1.0s,baz=132,slow=6.3,SNR=5.5
CMAR LR LR 04 55 23.8
comp=Z,170nm,19.3s,MS4.5,baz=155,slow=37
PV10 Paradox Valley 93.43 47 *e*P **P 04 11 26.8 -0.5**
PV01 Paradox Valley 93.59 48 *e*P **P 04 11 27.5 -0.6**
PV01 *e*pP pP 04 11 42.4 -1.4
KMI Kunming 93.73 297 P **P 04 11 30.4 +1.4**
KMI PP PP 04 15 17.9 +0.4
KMI SKS SKS 04 21 52.6 -4.8
KMI S S 04 22 34.5 +3.5
KMI SS SS 04 28 53.5 -0.8
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
KMI AMB AMB
comp=Z,64nm,6.6s
KMI LR LR
comp=N,200nm,18.9s,MS4.8
KMI LR LR
comp=E,231nm,17.9s,MS4.8
KMI LR LR
comp=Z,297nm,18.9s,MS4.8
KMI Kunming 93.73 297 P **P 04 11 30.4 +1.4**
KMI *PP pP 04 11 40.7 -4.0
KMI *SP sP 04 11 45.0 -5.2
KMI 04 15 17.9
KMI 04 21 52.6
KMI S S 04 22 34.5 +3.5
KMI SS SS 04 28 53.5 -0.8
KMI pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
KMI MLR MLR
comp=Z,300nm,18.9s,MS4.8
KMI Kunming 93.73 297 P **P 04 11 30.4 +1.4**
comp=Z,10.0nm,0.8s,mb5.3
KMI pP pP 04 11 40.7 -4.0
KMI sP sP 04 11 45.0 -5.2
KMI PP PP 04 15 17.9 +0.4
KMI SKS SKS 04 21 52.6 -4.8
KMI S S 04 22 34.5 +3.5
KMI SS SS 04 28 53.5 -0.8
KMI SSS SSS 04 32 17.9 -17
KMI LR LR
comp=Z,300nm,18.9s,MS4.8
HWUT Hardware Ranch 93.79 43 *e*P **P 04 11 28.0 -0.9**
comp=Z,16nm,1.2s,mb5.3
HWUT LR LR
comp=Z,587nm,19.0s,MS5.1
XAN Xi'an 93.94 307 P **P 04 11 30.3 +0.6**
XAN AP pP 04 11 47.4 +2.0
XAN AMB AMB
comp=Z,10.0nm,1.7s,mb5.0
PMR Palmer 94.10 13 *e*P **P 04 11 28.9 -0.9**
AHID Auburn Hatcher 94.76 43 *e*P **P 04 11 33.3 0.0**
comp=Z,27nm,1.2s,mb5.5
AHID *e*pP pP 04 11 49.0 0.0
RRI2 Red Ridge 94.98 42 *e*P **P 04 11 34.3 0.0**
comp=Z,43nm,1.4s,mb5.7
RRI2 *e*pP pP 04 11 49.8 -0.3
MCMT McKenzie Canyo 95.01 40 *e*P **P 04 11 34.4 0.0**
REDW Red Top Meadow 95.27 42 *e*P **P 04 11 34.9 -0.7**
comp=Z,37nm,1.3s,mb5.7
TPAW Teton Pass 95.29 42 *e*P **P 04 11 35.4 -0.2**
comp=Z,32nm,1.4s,mb5.5
SNOW Snow King Moun 95.38 42 *e*P **P 04 11 36.0 -0.1**
comp=Z,28nm,1.0s,mb5.7
WUWY Wally Ulrich 95.44 42 *e*P **P 04 11 35.9 -0.4**
WUWY *e*pP pP 04 11 51.9 -0.2
IMW Indian Meadow 95.53 42 *e*P **P 04 11 37.1 +0.3**
comp=Z,22nm,1.2s,mb5.5
IMW *e*pP pP 04 11 52.4 0.0
SEY Seymchan 95.54 347 *e*P **P 04 11 35.0 -1.3**
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.5
LOHW Long Hollow 95.56 42 *e*P **P 04 11 36.5 -0.4**
comp=Z,25nm,1.4s,mb5.5
PDAR Pinedale Array 95.68 43 P **P 04 11 37.0 -0.5**
comp=Z,4.0nm,1.0s,mb4.8,baz=220,slow=2.6,SNR=23
PDAR PP PP 04 15 26.4 -5.2
comp=Z,2.1nm,1.1s,baz=236,slow=5.3,SNR=5.2
PDAR PKKPbc 04 28 29.2
comp=Z,2.5nm,1.0s,baz=63,slow=3.3,SNR=14
QLMT Earthquake Lak 95.81 41 *e*P **P 04 11 38.5 +0.5**
YMR Madison River 95.98 41 *e*P **P 04 11 39.5 +0.7**
HHC Hu-ho-hao-te 96.00 314 ⇑P **P 04 11 43.3 +4.3**
HHC AP pP 04 12 00.8 +6.1
HHC XP sP 04 12 06.4 +6.3
HHC SKS SKS 04 22 13.3 +3.9
HHC AMB AMB
comp=Z,16nm,1.5s,mb5.2
HHC AMB AMB
comp=Z,143nm,5.9s
HHC LR LR
comp=N,171nm,24.3s,MS4.8
HHC LR LR
comp=E,345nm,21.0s,MS4.8
HHC LR LR
comp=Z,343nm,23.5s,MS4.8
BOZ Bozeman (W) 96.19 40 *e*P **P 04 11 39.9 +0.2**
BOZ *PP pP 04 11 54.7 -0.7
BOZ pmax pmax
comp=Z,24nm,1.4s,mb5.4
BOZ MLR MLR
comp=Z,503nm,21.0s,MS5.0
BOZ Bozeman (W) 96.19 40 *e*P **P 04 11 39.9 +0.2**
comp=Z,24nm,1.4s,mb5.4
BOZ *e*pP pP 04 11 54.7 -0.7
BOZ LR LR
comp=Z,503nm,21.0s,MS5.0
LKWY Lake 96.24 42 *e*P **P 04 11 41.3 +1.3**
LKWY pmax pmax
comp=Z,19nm,1.4s,mb5.3
LKWY Lake 96.24 42 *e*P **P 04 11 41.3 +1.3**
comp=Z,20nm,1.4s,mb5.3
RWWY Rawlins 96.48 45 *e*P **P 04 11 40.6 -0.6**
comp=Z,21nm,1.4s,mb5.4
RWWY *e*pP pP 04 11 56.2 -0.6
COLA College 97.33 12 *i*P **P 04 11 42.9 -1.5**
COLA College 97.33 12 *e*P **P 04 11 43.2 -1.2**
ILAR Eielson Array 97.42 13 P **P 04 11 43.5 -1.3**
comp=Z,3.7nm,0.9s,mb4.8,baz=225,slow=5.8,SNR=24
ILAR PP PP 04 15 44.6 -0.5
comp=Z,2.1nm,1.0s,baz=228,slow=7.7,SNR=4.9
ILAR PKKPbc 04 28 26.1
comp=Z,0.6nm,0.7s,baz=340,slow=3.0,SNR=5.7
ILAR LR LR 04 46 49.0
comp=Z,152nm,22.0s,MS4.4,baz=188,slow=30
LPAZ La Paz 98.21 114 P **P 04 11 51.2 +1.7**
comp=Z,0.7nm,0.7s,baz=225,slow=4.3,SNR=2.6
DAWY Dawson 98.43 16 *e*P **P 04 11 48.5 -1.0**
LZH Lanzhou 98.55 307 *e*P **P 04 11 51.5 +0.8**
LZH AP pP 04 12 07.8 +1.4
LZH XP sP 04 12 12.3 +0.5
LZH PP PP 04 15 56.0 +1.8
LZH SKS SKS 04 22 23.0 +0.2
LZH *e*S S 04 23 12.0 +0.5
LZH SS SS 04 30 01.0 -0.5
LZH AMB AMB
comp=Z,20nm,1.0s,mb5.6
LZH AMB AMB
comp=Z,142nm,6.0s
LZH LR LR
comp=E,365nm,18.0s
LZH LR LR
comp=Z,503nm,19.1s,MS5.0
LZH Lanzhou 98.55 307 *e*P **P 04 11 51.5 +0.8**
LZH *PP pP 04 12 07.7 +1.3
LZH 04 15 56.0
LZH 04 22 23.0
LZH *e*S S 04 23 12.0 +0.5
LZH SS SS 04 30 01.0 -0.5
LZH pmax pmax
comp=Z,20nm,1.0s,mb5.6
LZH MLR MLR
comp=Z,500nm,19.1s,MS5.0
LZH Lanzhou 98.55 307 *e*P **P 04 11 51.5 +0.8**
comp=Z,20nm,1.0s,mb5.6
LZH pP pP 04 12 07.7 +1.3
LZH sP sP 04 12 12.2 +0.4
LZH PP PP 04 15 56.0 +1.8
LZH SKS SKS 04 22 23.0 +0.2
LZH *e*S S 04 23 12.0 +0.5
LZH SS SS 04 30 01.0 -0.5
LZH LR LR
comp=Z,500nm,19.1s,MS5.0
RSSD Black Hills 99.77 45 *e*P **P 04 11 55.4 -0.6**
RSSD *PP pP 04 12 11.2 -0.5
RSSD pmax pmax
comp=Z,16nm,1.1s,mb5.4
RSSD MLR MLR
comp=Z,489nm,19.0s,MS5.0
RSSD Black Hills 99.77 45 *e*P **P 04 11 55.4 -0.6**
comp=Z,16nm,1.1s,mb5.4
RSSD *e*pP pP 04 12 11.2 -0.6
RSSD LR LR
comp=Z,489nm,19.0s,MS5.0
ULN Ulaanbaatar 102.51 318 *e*P Pdif 04 12 12.6 +4.4
ULN pmax pmax
comp=Z,3.0nm,0.8s
ULN MLR MLR
comp=Z,194nm,19.0s,MS4.7
ULN Ulaanbaatar 102.51 318 *e*P Pdif 04 12 12.6 +4.4
comp=Z,3.3nm,0.8s
ULN LR LR
comp=Z,194nm,19.0s,MS4.7
SONM Songino Array 102.88 318 Pdiff Pdif 04 12 13.7 +3.9
comp=Z,1.4nm,0.8s,baz=150,slow=4.0,SNR=6.2
SONM PP PP 04 16 27.9 +0.7
comp=Z,0.6nm,0.6s,baz=127,slow=7.2,SNR=2.8
SONM PKKPbc 04 28 09.1
comp=Z,0.8nm,0.7s,baz=252,slow=3.9,SNR=4.3
GTA Gaotai 102.96 308 *e*P Pdif 04 12 14.8 +4.4
GTA PP PP 04 16 31.3 +3.3
GTA S S 04 23 49.6 +1.2
GTA XS 04 24 18.1
GTA SS SS 04 31 03.4 +0.3
GTA LR LR
comp=N,185nm,17.5s,MS4.8
GTA LR LR
comp=E,210nm,20.2s,MS4.8
GTA LR LR
comp=Z,230nm,20.5s,MS4.7
INK Inuvik 103.27 15 Pdiff Pdif 04 12 10.2 -0.9
comp=Z,2.5nm,1.1s,baz=213,slow=6.9,SNR=7.3
INK PP PP 04 16 23.9 -5.6
comp=Z,2.7nm,1.1s,baz=221,slow=8.1,SNR=3.7
INK PKKPbc 04 28 06.4
comp=Z,0.9nm,0.9s,baz=34,slow=2.3,SNR=3.4
YKA Yellowknife Ar 104.94 25 Pdiff Pdif 04 12 18.2 -0.3
comp=Z,0.2nm,0.8s,baz=243,slow=4.1,SNR=3.3
YKA PP PP 04 16 32.4 -10
comp=Z,2.0nm,1.1s,baz=232,slow=6.5,SNR=8.6
YKA PKKPbc 04 28 01.7
comp=Z,1.3nm,1.0s,baz=37,slow=2.9,SNR=8.7
YKA PKPPKP 04 36 24.2
comp=Z,0.4nm,0.9s,baz=56,slow=2.7,SNR=3.7
YKA Yellowknife Ar 104.94 25 Pdif Pdif 04 12 18.2 -0.3
YKA PP PP 04 16 32.4 -10
YKA PKKPbc 04 28 01.7
YKA P'P' 04 36 24.2
ZAK Zakamensk 105.91 319 *e*P Pdif 04 12 23.8 +0.7
ZAK pmax pmax
comp=Z,2.0nm,1.1s
ZAK pmax pmax
comp=Z,2.0nm,1.2s
WMQ Urumqi 113.04 308 PKP PKPdf 04 16 47.9 +0.3
WMQ XPKP 04 17 09.9
WMQ PP PP 04 17 43.1 +0.6
WMQ PP PP
comp=Z,45nm,5.9s
WMQ LR LR
comp=N,116nm,22.6s,MS4.8
WMQ LR LR

comp=E,279nm,26.4s,MS4.8
WMQ LR LR
comp=Z,286nm,24.6s,MS4.8
RES Resolute Bay 116.74 17 *e*PKIKP PKPdf 04 16 53.4 -0.8
MKAR Makanchi Array 117.57 310 PKP PKPdf 04 16 56.5 +0.2
comp=Z,8.4nm,0.8s,baz=63,slow=2.7,SNR=45
MKAR PKKPbc 04 27 22.6
comp=Z,0.3nm,0.5s,baz=252,slow=4.6,SNR=5.4
NVS Novosibirsk 118.86 319 *e*PKIKP PKPdf 04 16 58.2 -0.5
NVS *i* 04 17 14.0
NVS pmax pmax
comp=Z,22nm,1.0s
NVS pmax pmax
comp=N,4.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.7s
ULHL Ulahol 120.61 304 P PKPdf 04 17 03.8 +1.4
SNR=31
TKM2 Tokmak 2 121.24 305 P PKPdf 04 17 04.3 +0.7
SNR=25
KZA Kyzart 121.29 304 P PKPdf 04 17 05.5 +1.8
SNR=31
UCH Uchtor 121.86 304 P PKPdf 04 17 06.5 +1.7
SNR=46
CHMS Chumysh 121.86 304 P PKPdf 04 17 06.0 +1.2
SNR=8.5
FRU Bishkek 121.92 304 *e*PKIKP PKPdf 04 17 06.0 +1.1
FRU pmax pmax
comp=Z,60nm,1.2s
AAK Ala-Archa 121.96 304 PKIKP PKPdf 04 17 06.0 +1.0
AAK pmax pmax
comp=Z,13nm,0.8s
USP Ospenovka 122.10 305 P PKPdf 04 17 05.4 +0.2
SNR=18
AML Almayashu 122.43 303 P PKPdf 04 17 07.3 +1.4
SNR=47
EKS2 Erkin-Say 122.49 304 P PKPdf 04 17 07.3 +1.3
SNR=18
KKAR Karatay Array 124.93 304 *i* PKIKP PKPdf 04 17 11.3 +0.6
KKAR pmax pmax
comp=Z,14nm,0.7s
SCHQ Schefferville 125.78 42 PKP PKPdf 04 17 11.7 -0.3
comp=Z,6.9nm,1.0s,baz=109,slow=0.4,SNR=4.9
CHKZ Chkalovo 126.06 317 *e*PKIKP PKPdf 04 17 12.6 +0.1
BVA0 Borovoye Array 126.16 316 PKIKP PKPdf 04 17 13.2 +0.4
BVA0 pmax pmax
comp=Z,8.0nm,1.0s
BVAR Borovoye Array 126.16 316 PKP PKPdf 04 17 13.6 +0.8
comp=Z,30nm,0.9s,baz=135,slow=2.1,SNR=4.5
BSY Bisya 130.55 275 P PKPdf 04 17 22.9 +0.8
SNR=11
RBK Rabkut 131.15 268 ⇑P PKPdf 04 17 25.7 +2.4
SVE Sverdlovsk 131.61 321 *e*PKIKP PKPdf 04 17 20.9 -2.2
SVE pmax pmax
comp=Z,56nm,1.4s
SVE MLR MLR
comp=N,100nm,20.0s,MS4.9
SVE MLR MLR
comp=E,200nm,20.0s,MS4.9
SVE MLR MLR
comp=Z,400nm,20.0s,MS5.1
WHFO Wadi Hawf 131.70 268 P PKPdf 04 17 26.9 +2.6
SNR=9.7
ABTO Aybut 131.87 267 P PKPdf 04 17 27.0 +2.3
SNR=11
ASHO Ashiyiah 132.19 277 P PKPdf 04 17 26.0 +0.9
SNR=12
SUMG Summit 132.19 15 *e*PKPdf PKPdf 04 17 25.2 +1.3
ARU Arti 132.81 321 *i* PKIKP PKPdf 04 17 24.0 -1.4
ARU Arti 132.81 321 *e*PKPdf PKPdf 04 17 25.6 +0.2
SOKR Solikamsk 133.07 325 ⇑*i* PKIKP PKPdf 04 17 27.0 +1.2
SOKR pmax pmax
comp=Z,40nm,1.0s
KMBO Kilima Mbogo 134.48 234 PKP PKPdf 04 17 32.1 +2.4
comp=Z,7.6nm,0.9s,baz=8.3,slow=1.4,SNR=14
KMBO SKPbc 04 20 58.9
comp=Z,2.3nm,0.8s,baz=58,slow=5.2,SNR=7.3
KMBO Kilima Mbogo 134.48 234 *e*PKPdf PKPdf 04 17 32.4 +2.7
APA Apatity 137.99 343 ⇓*i* PKIKP PKPdf 04 17 36.6 +1.9
APA *i* 04 17 41.7
APA pmax pmax
comp=Z,36nm,1.2s
ARCES ARCESS Array B 138.15 348 PKhKP 04 17 29.8
comp=Z,6.8nm,0.7s,baz=100,slow=0.4,SNR=17
JOF Joensuu 142.02 339 *e*pkp PKPdf 04 17 38.9 -2.9
TI2 Plekhanov 143.86 301 *e*PKIKP PKPdf 04 17 52.0 +6.4
GNI Garni 143.97 298 *e*PKIKP PKPdf 04 17 45.2 -0.7
GNI Garni 143.97 298 PKP PKPdf 04 17 46.1 +0.2
comp=Z,5.0nm,0.5s,baz=52,slow=13,SNR=9.2
MOS Moscow 144.01 326 *e*PKHKP 04 17 42.5
MOS pmax pmax
comp=Z,86nm,1.2s
BHD Baghdad 144.06 286 *e*PKP PKPdf 04 17 36.0 -10
KAF Kangasniemi 144.14 341 *e*pkp PKPdf 04 17 44.4 -1.1
baz=38,slow=3.4
ZEI Tsey 144.37 303 *e*PKIKP PKPdf 04 17 46.5 0.0
PUL Pulkovo 144.62 336 ⇑*e*PKIKP PKPdf 04 17 46.5 +0.1
GOF Gofitskoye 144.63 307 ⇓*i* PKIKP PKPdf 04 17 45.3 -1.6
GOF pmax pmax
comp=Z,50nm,1.3s
FINES FINESS Array B 144.74 340 PKP PKPdf 04 17 46.0 -0.6
comp=Z,192nm,0.9s,baz=63,slow=4.3,SNR=264
NSS Namsos 144.82 353 *e*P PKPdf 04 17 45.4 -1.3
OBN Obninsk 144.85 326 *i* PKIKP PKPdf 04 17 46.9 -0.1
OBN *i* 04 21 11.5
OBN pmax pmax
comp=Z,170nm,1.0s
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.9
OBN Obninsk 144.85 326 *e*PKPdf PKPdf 04 17 46.9 -0.1
VOR Voronezh 145.04 319 PKIKP PKPdf 04 17 47.0 -0.4
VOR pmax pmax
comp=Z,130nm,1.5s
KIV Kislovodsk 145.07 305 *c i* PKIKP PKPdf 04 17 48.7 +1.0
KIV Kislovodsk 145.07 305 *e*PKPdf PKPdf 04 17 48.3 +0.6
TVAN Van 145.07 295 *i* P PKPdf 04 17 48.3 +0.4
MSL Mosul 145.33 292 *e*PKP PKPdf 04 17 52.0 +3.6
ERZM Erzurum 146.58 298 *i* P PKPdf 04 17 52.0 +1.6
BEST Besiri 146.78 294 *i* P PKPdf 04 17 52.3 +1.4
MOL Molde 147.15 355 ⇓*i* P PKPdf 04 17 54.0 +3.3
MOL AMb AMB 04 17 55.8
comp=Z,212nm,1.2s
SOC Sochi 147.25 305 *c i* PKIKP PKPdf 04 17 53.5 +2.1
SOC pmax pmax
comp=Z,130nm,0.9s
SOC pmax pmax
comp=N,43nm,1.2s
SOC pmax pmax
comp=E,9.0nm,0.9s
DOMB Dombas 147.55 354 ⇓*i* P PKPdf 04 17 55.0 +3.7
DOMB AMb AMB 04 17 58.6
comp=Z,177nm,1.5s
NB2 NORSAR Subarra 148.29 352 PKPabc PKPdf 04 17 56.8 +4.3
comp=Z,7.6nm,0.8s,baz=25,slow=3.1
NB2 NORSAR Subarra 148.29 352 ⇑PKPab PKPab 04 17 56.8 -4.5
NOA NORSAR Array B 148.29 352 PKPbc PKPdf 04 17 56.7 +4.2
comp=Z,95nm,1.0s,baz=16,slow=4.3,SNR=102
NAO01 NORSAR Array S 148.52 352 *e*PKPbc PKPdf 04 17 57.4 +4.5
ELZG Elazig 148.54 296 *i* P PKPdf 04 17 59.2 +5.5
ANN Anapa 148.55 308 *d i* PKIKP PKPdf 04 17 57.4 +3.9
ANN *i* 04 18 12.0
ANN pmax pmax
comp=Z,144nm,1.2s
MALT Malatya 148.99 295 *e*PKIKP PKPdf 04 17 56.3 +1.9
MALT *e* 04 18 00.6
IZAR Zarasai 149.03 333 *e*P PKPdf 04 17 59.0 +5.1
IZAR AMPb AMB 04 18 01.3
comp=Z,76nm,1.1s
IDID Didziasalis 149.15 332 *i* P PKPdf 04 17 59.5 +5.4
IDID AMPb AMB 04 18 01.4
comp=Z,46nm,1.1s
ISAL Salakas 149.21 333 *i* P PKPdf 04 17 59.6 +5.4
ISAL AMPb AMB 04 18 01.7
comp=Z,48nm,1.1s
IIGN Ignalina 149.33 333 *i* P PKPdf 04 18 00.0 +5.6
IIGN AMPb AMB 04 18 02.0
comp=Z,59nm,1.1s
GZT Gaziantep 149.74 294 *i* P PKPdf 04 18 00.0 +4.4
KONO Kongsberg 149.84 352 *e*PKP2 PKPab 04 18 00.9 -6.8
KONO Kongsberg 149.84 352 ⇓*i* P PKPdf 04 18 00.8 +5.7
SVST Sivas 149.97 299 *i* P PKPdf 04 18 03.1 +7.2
ASF Jabal al Asfar 150.24 283 PKP PKPdf 04 17 57.9 +1.3
comp=Z,5.4nm,0.6s,baz=134,slow=4.2,SNR=5.4
ASF PKPbc PKPdf 04 18 04.4 +7.9
comp=Z,69nm,0.9s,baz=335,slow=1.4,SNR=52
SIM Simferopol' 150.75 310 *c i* PKIKP PKPdf 04 18 04.0 +7.1
SIM *e* 04 18 15.0
SIM *e* 04 21 49.0
SIM pmax pmax
comp=Z,102nm,0.9s
SIM pmax pmax
comp=Z,60nm,14.8s
COBT Iskenderun 150.84 292 *i* P PKPdf 04 18 04.0 +6.7
AKASG Malin Array Be 151.00 323 PKP PKPdf 04 17 58.1 +1.0
comp=Z,2.0nm,0.8s,baz=38,slow=1.6,SNR=9.4
AKASG PKPbc PKPdf 04 18 03.0 +6.0
comp=Z,97nm,0.8s,baz=45,slow=2.5,SNR=197
BHL Bhannes 151.37 287 *e*P PKPdf 04 18 06.5 +8.3
CTKT Corum 151.45 301 *i* P PKPdf 04 18 05.6 +7.5
SUW Suwalki 151.51 334 *e*PKIKP PKPdf 04 18 04.8 +7.0
SUW Suwalki 151.51 334 *e*PKP PKPdf 04 18 05.3 +7.5
SUW Suwalki 151.51 334 *e*PKP PKPdf 04 18 05.3 +7.5
EIL Elat 151.60 278 *e*PKPdf PKPdf 04 17 59.8 +1.1
EIL *e*PKPbc PKPdf 04 18 06.9 +8.2
AVNT Avonos 151.72 297 *i* P PKPdf 04 18 05.8 +7.2
CDAG Cicekdag 151.96 299 *i* P PKPdf 04 18 04.8 +5.9
BALT Daday 152.28 303 *i* P PKPdf 04 18 07.5 +8.2
BRTR Keskin Array B 152.49 299 PKP PKPdf 04 18 00.7 +1.0
comp=Z,2.8nm,0.9s,baz=135,slow=1.7,SNR=7.8
BRTR PKPbc PKPdf 04 18 08.0 +8.3
comp=Z,24nm,0.9s,baz=117,slow=2.8,SNR=48
BRTR PP PP 04 21 55.0 +2.1
comp=Z,1.5nm,1.0s,baz=90,slow=5.8,SNR=3.3
MEST Erdemli 152.53 292 *i* P PKPdf 04 18 07.2 +7.4
PHNC Paralimni 152.71 289 P PKPdf 04 18 09.2 +9.1
MUD Monsted U'grnd 153.01 351 *i* PKIKP PKPdf 04 18 08.5 +8.7
MUD pmax pmax
comp=Z,58nm,1.1s
MUD Monsted U'grnd 153.01 351 *i* P PKPdf 04 18 08.5 +8.7
comp=Z,58nm,1.1s
BSD Bornholm Skovb 153.21 344 ⇑*i* PKIKP PKPdf 04 18 08.8 +8.7
BSD *i* 04 18 22.6
BSD pmax pmax
comp=Z,62nm,0.9s
BSD Bornholm Skovb 153.21 344 ⇑*i* P PKPdf 04 18 08.8 +8.7
comp=Z,62nm,0.9s
BSD *i* 04 18 22.6
COP Copenhagen 153.22 347 ⇑*e*PKIKP PKPdf 04 18 09.0 +8.9
COP *i* 04 18 22.8
COP pmax pmax
comp=Z,31nm,0.6s
COP Copenhagen 153.22 347 ⇑*i* P PKPdf 04 18 09.0 +8.9
comp=Z,31nm,0.6s
COP *i* 04 18 22.8
KIS Kishinev 153.24 317 *e*PKIKP PKPdf 04 18 10.0 +10
CSS Prodhromos 153.28 289 ⇑P PKPdf 04 18 10.2 +9.3
comp=Z,1.1nm,0.9s
CSS Prodhromos 153.28 289 ⇑*e*P PKPdf 04 18 10.2 +9.3
SGKT Sivrigoynuk 153.49 302 *i* P PKPdf 04 18 06.5 +5.5
ALFC Alevga 153.88 290 ⇑P PKPdf 04 18 10.8 +9.1
comp=Z,1.2nm,1.0s
RGN Rugen 154.10 345 *e*PKPbc PKPdf 04 18 11.0 +10
LVV L'vov 154.15 326 *e*PKIKP PKPdf 04 18 09.9 +8.3
LVV *e*S PKPab 04 18 23.3 -2.8
GKP Gorka Klasztor 154.19 339 *e*PKP PKPdf 04 18 12.0 +10
GKP *e* 04 18 27.2
GKP Gorka Klasztor 154.19 339 *e*PKP PKPdf 04 18 12.0 +10
GKP *e* 04 18 27.2
BWH Wardlaw 154.41 8 *e*P PKPab 04 18 23.9 -3.1
BWH AMb AMB 04 18 26.0
comp=Z,60nm,1.2s
BBH Bruntsheil 154.53 7 *e*P PKPab 04 18 24.2 -3.3
CFR Carcaliu 154.53 314 ⇑P PKPdf 04 18 11.2 +8.9
BHH Howats Hill 154.54 7 *e*P PKPab 04 18 25.3 -2.3
BHH AMb AMB 04 18 27.2
comp=Z,59nm,1.2s
BTA Talkin 154.78 7 *e*P PKPab 04 18 25.7 -2.8
BTA AMb AMB 04 18 28.7
comp=Z,50nm,1.1s
BBO1 Bothel 154.89 7 *e*P PKPab 04 18 25.2 -3.9
BBO1 AMb AMB 04 18 31.4
comp=Z,68nm,1.5s
KWP Kalwaria 154.91 327 *e*PKP PKPdf 04 18 14.3 +12
KWP *e* 04 18 28.5
BURAR Bucovina Array 154.94 321 ⇑P PKPdf 04 18 14.1 +11
BURAR Bucovina Array 154.94 321 ⇑P PKPdf 04 18 14.1 +11
VRI Vrincioaia 155.06 316 ⇑P PKPdf 04 18 13.9 +11
BSEG Bad Segeberg 155.28 348 *e*PKPdf PKPdf 04 18 05.0 +2.0
BSEG *e*PKPab PKPab 04 18 29.0 -1.7
KOLS Kolonicke sedl 155.60 327 *e*PKP PKPdf 04 18 03.8 +0.3
KOLS *e* 04 18 15.2
KOLS *e* 04 18 31.9
MLR Muntele Rosu 155.72 316 PKP PKPdf 04 18 06.2 +2.4
comp=Z,3.5nm,1.1s,baz=26,slow=1.2,SNR=2.7
MLR Muntele Rosu 155.72 316 ⇑P PKPdf 04 18 06.6 +2.7
MLR Muntele Rosu 155.72 316 ⇑P PKPdf 04 18 06.6 +2.8
OJC Ojcow 155.75 332 *e*PKP PKPdf 04 18 09.9 +6.2
ULDT Uludag 155.76 302 *i* P PKPdf 04 18 05.1 +1.0
DBIC Dimbokro 155.95 163 PKP PKPdf 04 18 08.7 +3.6
comp=Z,5.0nm,0.9s,baz=56,slow=2.2,SNR=3.0
CRVS Cervenica-Dubn 156.00 328 *e*PKIKP PKPdf 04 18 17.2 +13
CRVS Cervenica-Dubn 156.00 328 *e* PKPdf 04 18 17.2 +13
CRVS *e* 04 18 36.9
NIE Niedzica 156.14 330 *e*PKP PKPdf 04 18 04.5 +0.3
KSP Ksiaz 156.57 337 *e*PKPdf PKPdf 04 18 06.3 +1.5
KSP *ep*PKPdf 04 18 17.0
KSP *e*PKPab PKPab 04 18 34.9 -1.5
KSP Ksiaz 156.57 337 *e*PKP PKPdf 04 18 07.0 +2.3
KSP *e* 04 18 17.5
KSP *e* 04 18 35.7
OKC Ostrava-Krasne 156.72 333 *e*PKPDF PKPdf 04 18 05.9 +0.9
OKC *ex* x 04 18 16.4
OKC *e*PKPAB PKPab 04 18 35.5 -1.6
KECS Kecovo 156.75 328 *e*PKP PKPab 04 18 36.7 -0.6
SZH Strazhica 156.82 312 *e*P PKPab 04 18 38.5 +0.8
UPC Upice 156.95 337 *e*PKPDF PKPdf 04 18 07.3 +2.0
UPC *e*PKPAB PKPab 04 18 36.9 -1.1
DPC Dobruska-Polom 156.97 336 *e*PKPDF PKPdf 04 18 06.9 +1.6
DPC *ex* x 04 18 17.9
DPC *e*PKPAB PKPab 04 18 37.0 -1.1
MORC Moravsky Berou 157.00 334 ⇑PKIKP PKPdf 04 18 12.2 +6.8
MORC Moravsky Berou 157.00 334 *e*PKPdf PKPdf 04 18 06.7 +1.3
CLL Collm 157.15 342 *e*PKIKP PKPdf 04 18 06.0 +0.5
comp=Z,logA/T=0.9
CLL *i* 04 18 17.5
CLL *i* PKP2 PKPab 04 18 37.3 -1.6
PVL Pavlikeni 157.24 312 *e*P PKPab 04 18 40.0 +0.5
CLZ Clausthal 157.26 347 *e*PKPdf PKPdf 04 18 07.7 +2.0
CLZ *e*PKPab PKPab 04 18 37.7 -1.6
BRG Berggiesshubel 157.28 340 *i* PKIKP PKPdf 04 18 07.5 +1.8
BRG pmax pmax
comp=Z,38nm,1.0s
BRG Berggiesshubel 157.28 340 *i* PKP PKPdf 04 18 07.5 +1.8
BRG *i* 04 18 38.5
PVCC Panska Ves 157.40 339 *e*PKPDF PKPdf 04 18 07.2 +1.3
PVCC *e*PKPAB PKPab 04 18 38.9 -1.0
PSZ Piszkesteto 157.44 328 *e*PKPdf PKPdf 04 18 07.8 +1.8
PSZ *e*PKPab PKPab 04 18 39.8 -0.4
PSZ Piszkesteto 157.44 328 *e*PKP/p PKPab 04 18 39.8 -0.4
VYHS Vyhne 157.48 330 *e*PKP PKPdf 04 18 07.7 +1.7
VYHS *e* 04 18 28.1
VYHS *e* 04 18 39.2
KOLL Kolacno 157.60 331 *e*PKP2 PKPab 04 18 43.1 +2.2
KOLL Kolacno 157.60 331 *e* PKPab 04 18 43.1 +2.2
WTSB Winterswijk 157.70 352 *e*PKP PKPab 04 18 38.5 -2.7
comp=Z,48nm,1.8s
VRAC Vranov 157.74 335 PKPab PKPab 04 18 41.5 0.0
comp=Z,17nm,0.8s,baz=62,slow=6.3,SNR=9.7
PRU Pruhonice 157.88 338 *e*PKPDF PKPdf 04 18 07.7 +1.2
PRU *ex* x 04 18 19.6
PRU *e*PKPAB PKPab 04 18 40.9 -1.1
SMOL Smolenice 158.06 332 *e*PKP PKPab 04 18 44.7 +1.8
MOX Moxa 158.11 344 *e*PKPdf PKPdf 04 18 08.2 +1.4
MOX *e*PKPab PKPab 04 18 41.1 -1.9
PGB Panagyurishte 158.31 312 *e*P PKPab 04 18 43.0 -1.1
VTS Vitosha 158.90 313 *e*P PKPab 04 18 47.0 +0.3
KHC Kasperske Hory 158.93 339 *e*PKP PKPdf 04 18 09.2 +1.4
KHC *e* 04 18 23.0
KHC *e* 04 18 45.3
KHC *e* 04 18 54.0
KHC Kasperske Hory 158.93 339 *e*PKPDF PKPdf 04 18 09.2 +1.4
KHC *ep*PKP 04 18 23.0
KHC *e*PKPAB PKPab 04 18 45.3 -1.3
KHC x x 04 18 54.0
HGN Heimansgroeve 158.98 353 *e*PKP PKPab 04 18 44.5 -2.2
comp=Z,42nm,1.2s
GRF Grafenberg Arr 159.09 343 *e*PKP2 PKPab 04 18 46.0 -1.2
WET Wettzell 159.13 340 *e*PKPdf PKPdf 04 18 09.8 +1.8
WET *e*PKPab PKPab 04 18 46.3 -1.2
GEC2 GERESS Array S 159.14 338 *e*PKP2 PKPab 04 18 46.0 -1.5
GERES GERESS Array B 159.14 338 PKP PKPdf 04 18 09.2 +1.1
comp=Z,2.3nm,0.9s,baz=180,slow=1.3,SNR=10
GERES PKPab PKPab 04 18 46.3 -1.2
comp=Z,10nm,0.8s,baz=34,slow=4.8,SNR=11
TNS Taunus Mts 159.17 349 *e*PKPdf PKPdf 04 18 09.9 +1.8
TNS *e*PKPab PKPab 04 18 45.6 -2.0
PKSM Moragy 159.26 326 ⇑PKIKP PKPdf 04 18 09.6 +1.3
KKB Krupnik 159.34 311 *e*P PKPab 04 18 48.0 -0.6
GIVF Givet 159.74 355 *e*PKIKP PKPdf 04 18 09.5 +0.8
BAIF Baives 159.82 356 *e*PKIKP PKPdf 04 18 09.5 +0.7
DIVS Divcibare 159.99 320 ⇓*i* PKP PKPdf 04 18 09.7 +0.6
SKO Skopje 160.35 313 *i* PKP PKPab 04 18 52.6 -0.3
comp=Z,0.0nm,0.8s
SKO *i* 04 19 09.5
FUR Furstenfeldbru 160.47 342 *e*PKP2 PKPab 04 18 51.9 -1.4
LANF Langenberg 160.48 349 PKP PKPab 04 18 50.6 -2.6
KBA Koelnbreinsper 160.79 336 ⇑*i* P PKPdf 04 18 19.2 +9.3
KBA *i* 04 18 53.0
BFO Black Forest 161.01 347 *e*PKP2 PKPab 04 18 53.5 -2.1
FLN La Foliniere 161.07 5 *e*PKIKP PKPdf 04 18 09.9 -0.2
comp=Z,63nm,1.2s
FLN *e*R
comp=Z,286nm,22.5s
WLS Welschbruch 161.10 349 PKP PKPab 04 18 53.7 -2.3
CDF Champ du Feu 161.12 349 *e*PKIKP PKPdf 04 18 10.7 +0.6
ROSF Rostrenen 161.13 11 *e*PKIKP PKPdf 04 18 10.7 +0.5
comp=Z,101nm,1.5s
WATA Walderalm 161.14 340 ⇑*i* P PKPdf 04 18 18.7 +8.5
WATA *i* 04 18 55.4
WTTA Wattenberg 161.19 340 ⇑*i* P PKPdf 04 18 20.3 +10
WTTA *i* 04 18 55.5
LJU Ljubljana 161.22 332 *e*PKPdf PKPdf 04 18 12.5 +2.2
LJU *e*PKPab PKPab 04 18 57.2 +0.7
LDF La Druitiere 161.26 5 *e*PKIKP PKPdf 04 18 11.0 +0.7
comp=Z,25nm,1.2s
MOTA Moosalm 161.27 341 ⇑*i* P PKPdf 04 18 19.1 +8.8
MOTA *i* 04 18 56.7
MEZF Maizieres J'vi 161.31 354 *e*PKIKP PKPdf 04 18 11.5 +1.2
ECH Echery 161.32 350 PKP PKPab 04 18 54.2 -2.8
SGMF Saint Gilles 161.33 10 *e*PKIKP PKPdf 04 18 10.7 +0.3
comp=Z,82nm,1.5s
SQTA Sankt Quirin 161.35 340 ⇑*i* P PKPdf 04 18 19.6 +9.2
SQTA *i* 04 18 56.2
GRR Gorron 161.40 6 *e*PKIKP PKPdf 04 18 11.1 +0.7
THEF They Montfort 161.48 352 PKP PKPab 04 18 55.8 -1.8
VOY Vojsko 161.48 334 *e*PKPdf PKPdf 04 18 12.5 +1.9
VOY *e*PKPab PKPab 04 18 56.3 -1.4
CEY Cerknica 161.51 332 *e*PKPab PKPab 04 18 57.1 -0.7
QUIF Quistinic 161.56 11 *e*PKIKP PKPdf 04 18 10.4 -0.2
comp=Z,68nm,1.3s
HAU Haudompre 161.65 351 *e*PKIKP PKPdf 04 18 11.3 +0.6
HAU *e*R
comp=Z,290nm,22.0s
DAVA Damuels 161.65 343 ⇑*i* P PKPdf 04 18 24.7 +14
DAVA *i* 04 18 58.0
MOF Molkenrain 161.68 349 PKP PKPab 04 18 52.5 -6.0
HINF Hinteralfeld 161.76 350 *e*PKIKP PKPdf 04 18 11.4 +0.6
DAVOX Davos 162.12 343 PKPab PKPab 04 19 00.6 +0.1
comp=Z,23nm,0.8s,baz=300,slow=3.1,SNR=12
LOMF Lomont 162.22 350 PKP PKPab 04 18 56.3 -4.6
SSF Saint Saulge 162.85 357 *e*PKIKP PKPdf 04 18 12.9 +1.0
comp=Z,33nm,1.1s
CABF La Chapelle 163.05 351 *e*PKIKP PKPdf 04 18 13.6 +1.5
comp=Z,79nm,1.4s
AVF Avril sur Loir 163.12 357 *e*PKIKP PKPdf 04 18 12.7 +0.5
comp=Z,70nm,1.8s
MFF Saint Martin d 163.24 6 *e*PKIKP PKPdf 04 18 13.4 +1.1
comp=Z,28nm,1.3s
SMF Signal de Mont 163.24 356 *e*PKIKP PKPdf 04 18 13.1 +0.8
comp=Z,31nm,1.4s
BGF Bois d'Agland 163.37 358 *e*PKIKP PKPdf 04 18 13.5 +1.0
comp=Z,40nm,1.1s
TCF Toulx Ste Croi 163.65 360 *e*PKIKP PKPdf 04 18 13.7 +1.0
comp=Z,109nm,1.9s
AGO Saint Agoulin 163.87 358 PKP PKPab 04 19 06.0 -2.1
PLDF La Plantade 163.93 356 PKP PKPab 04 19 06.2 -2.2
LPL La Plagne 164.02 348 *e*PKIKP PKPdf 04 18 14.5 +1.4
LPG La Plagne 164.03 348 *e*PKIKP PKPdf 04 18 14.5 +1.4
comp=Z,12nm,1.1s
BNI Bardonecchia 164.47 348 PKIKP PKPdf 04 18 14.9 +1.3
RJF Les Rejaudoux 164.63 2 *e*PKIKP PKPdf 04 18 14.8 +1.0
comp=Z,31nm,1.4s
RJF *e*R
comp=Z,374nm,22.0s
LBL Lubilhac 164.68 357 PKP PKPab 04 19 10.0 -1.7
ORIF Oris-en-Rattie 164.74 350 *e*PKIKP PKPdf 04 18 14.8 +0.9
comp=Z,23nm,1.3s
ORIF *e*R
comp=Z,258nm,21.0s
MBDF Montbardon 164.77 347 *e*PKIKP PKPdf 04 18 14.9 +1.0
comp=Z,34nm,1.4s
VIVF Saint-Julien-l 164.95 353 *e*PKIKP PKPdf 04 18 15.2 +1.1
comp=Z,71nm,1.6s
LFF La Frestale 164.96 4 *e*PKIKP PKPdf 04 18 15.1 +1.0
CAF Calviac 165.01 0 *e*PKIKP PKPdf 04 18 15.3 +1.1
comp=Z,42nm,1.3s
SAOF Saorge 165.31 345 PKP PKPab 04 19 12.0 -2.4
SBF Sospel 165.46 345 *e*PKIKP PKPdf 04 18 14.9 +0.3
MVIF Mont Vial 165.49 345 PKP PKPab 04 19 08.5 -6.7
REVF Revere 165.59 345 PKP PKPab 04 19 14.2 -1.5
LASF Ste Croix 165.80 355 *e*PKIKP PKPdf 04 18 16.0 +1.1
LMR La Mourre 166.16 347 *e*PKIKP PKPdf 04 18 15.9 +0.7
PGF Pioggiola 166.25 338 *e*PKIKP PKPdf 04 18 15.9 +0.6
comp=Z,92nm,1.4s
MTLF Montolieu 166.60 360 *e*PKIKP PKPdf 04 18 16.4 +0.9
comp=Z,18nm,1.1s
EPF Esparros 166.83 6 *e*PKIKP PKPdf 04 18 17.2 +1.5
comp=Z,31nm,1.4s
EVO Evora 167.97 42 *e*PKIKP PKPdf 04 18 17.7 +1.2
comp=Z,62nm,1.6s
EVO *e*R
comp=Z,453nm,22.8s
ESDC Sonseca Array 169.04 26 PKP PKPdf 04 18 19.4 +2.3
comp=Z,3.3nm,0.9s,baz=354,slow=2.7,SNR=12
ESDC PKPab PKPab 04 19 29.9 -0.9
comp=Z,0.5nm,0.5s,baz=332,slow=3.7,SNR=5.8
ESLA Sonseca Array 169.04 26 *e*PKPdf PKPdf 04 18 18.8 +1.7

PRE 13 04:10:28.1±1.9, 26.87S×26.78E, h2km, ML4.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.52**	**96**	*e*P		Pg	04 10 37.7	-0.8
PRYS				*e*S		Sg	04 10 45.7	+0.3
PRYS				AML		AML	04 10 49.0	
comp=Z,3μm,0.5s								
KSR	**Koster**	**1.02**	**6**	*e*P		Pb	04 10 36.1	-12
KSR				*e*S		Sb	04 10 47.4	-14
KSR				*e*			04 10 54.4	
comp=Z,4μm,0.3s								
SWZ	**Schweizer**	**1.33**	**256**	*e*P		Pb	04 10 52.4	-1.0
SWZ				*e*S		Sb	04 11 10.3	-0.6
SWZ				*e*			04 11 13.6	
comp=Z,4μm,0.4s								
SEK	**Senekal**	**1.63**	**153**	*e*P		Pn	04 10 57.1	-0.9
SEK				*e*S		Sb	04 11 18.1	-1.4
SEK				AML		AML	04 11 20.6	
comp=Z,1μm,0.1s								
NWL	**Newcastle**	**2.95**	**107**	*e*P		Pn	04 11 14.7	-2.1
NWL				AML		AML	04 11 17.6	
comp=Z,584nm,0.7s								
NWL				*e*S		Sn	04 11 50.2	-3.0
NWL				*e*			04 12 17.5	
comp=Z,2μm,0.5s								
POGA	**Pongola**	**4.33**	**98**	*e*P		Pn	04 11 34.5	-2.0
MSNA	**Messina**	**5.38**	**34**	*e*P		Pn	04 11 46.8	-4.6

PRE 13 04:10:44.0±1.4, 26.87S×26.84E, h2km, ML4.1, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.47**	**97**	*e*P		Pg	04 10 52.0	-1.3
PRYS				*e*S		Sg	04 10 58.9	-0.6
PRYS				AML		AML	04 11 05.8	
comp=Z,4μm,0.7s								
KSR	**Koster**	**1.02**	**3**	*e*P		Pb	04 10 56.7	-7.3
KSR				*e*S		Sb	04 11 06.2	-12
KSR				AML		AML	04 11 11.7	

comp=Z,7μm,0.2s
SWZ Schweizer 1.38 257 *e*P Pb 04 11 09.5 -0.7
SWZ *e*S Sb 04 11 26.7 -1.5
SWZ AML AML 04 11 30.4
comp=Z,6μm,0.5s
SEK Senekal 1.60 154 *e*P Pn 04 11 13.2 -0.3
SEK *e*S Sb 04 11 34.0 -0.6
SEK AML AML 04 11 37.4
comp=Z,2μm,0.2s
NWL Newcastle 2.90 108 *e*P Pn 04 11 55.5 +24
NWL AML AML 04 12 17.6
comp=Z,1μm,0.5s

MAN ***13*** *04:44:05.4, 19.38N×120.25E, h4km, mb4.4, ML3.2, MS3.0*
NEIC ***13*** *04:44:05.2±0.4, 19.47N×120.47E, h10km, mb4.3/2, Error ellipse: s-maj=18.9km s-min=8.9km az=70.0*
IDC ***13*** *04:44:11.4±11.0, 19.46N×120.37E, h60km±107km, mb3.7/11, mb1 3.9/11, mb1mx3.8/19, mbtmp4.0/11, Error ellipse: s-maj=47.5km s-min=13.7km az=63.0*
ISC 13 04:44:03.7±0.5, 19.47N±0.06×120.2E±0.1, h10km, n21, σ0=99/22, mb4.0/11, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.87**	**165**	*e*P	**Pn**	**04 44 26.4**	**-10**
APYP	**Conner**	**1.88**	**148**	*e*P	**Pn**	**04 44 36.7**	**+0.5**
SGCP	**Mt. Cagua**	**2.13**	**125**	*e*P	**Pn**	**04 44 40.1**	**+0.2**
CVP	**Callao Caves**	**2.33**	**138**	⇑*i*P	**Pn**	**04 44 44.0**	**+1.2**
CVP				*i*S	**Sn**	**04 45 12.5**	**+0.7**
CAUP	**Cauayan**	**2.95**	**148**	*e*P	**Pn**	**04 44 54.7**	**+3.2**
BCPH	**Baguio City Da**	**3.09**	**173**	⇑*i*P	**Pn**	**04 44 54.2**	**+0.6**
BCPH				*i*S	**Sn**	**04 45 30.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**20.13**	**271**	P	**P**	**04 48 42.5**	**+1.7**
	1.1nm,0.8s,baz=76,slow=8.8,SNR=8.6						
BJT	**Baijiatuau**	**20.77**	**351**	*e*P	**P**	**04 48 47.5**	**0.0**
	11nm,0.8s						
MJAR	**Matsushiro Arr**	**23.22**	**39**	pP		04 49 21.1	
	1.3nm,0.3s,baz=241,slow=13,SNR=6.8						
SONM	**Songino Array**	**30.44**	**342**	P	**P**	**04 50 19.1**	**+0.5**
	1.2nm,0.8s,mb3.7,baz=166,slow=10,SNR=3.8						
FITZ	**Fitzroy Crossi**	**37.71**	**172**	P	**P**	**04 51 20.6**	**-0.9**
	5.5nm,0.6s,mb4.5,baz=0.3,slow=2.9,SNR=7.5						
MKAR	**Makanchi Array**	**41.22**	**320**	P	**P**	**04 51 51.6**	**+1.3**
	1.6nm,0.7s,mb3.8,baz=118,slow=9.3,SNR=18						
WRAB	**Tennant Creek**	**41.54**	**160**	*e*P	**P**	**04 51 51.9**	**-1.4**
	4.3nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**41.54**	**160**	P	**P**	**04 51 51.8**	**-1.5**
	2.0nm,0.4s,mb4.1,baz=347,slow=8.8,SNR=18						
ASAR	**Alice Springs**	**44.91**	**162**	P	**P**	**04 52 19.9**	**-0.8**
	2.9nm,0.5s,mb4.4,baz=340,slow=6.7,SNR=30						
STKA	**Stephens Creek**	**55.02**	**158**	P	**P**	**04 53 37.8**	**-0.1**
	2.1nm,0.4s,mb4.5,baz=339,slow=9.0,SNR=10						
ILAR	**Eielson Array**	**73.81**	**26**	P	**P**	**04 55 38.4**	**-1.5**
	0.3nm,0.6s,mb3.4,baz=269,slow=5.2,SNR=6.1						
FINES	**FINESS Array B**	**75.05**	**330**	P	**P**	**04 55 47.1**	**-0.1**
	1.3nm,0.5s,mb4.1,baz=62,slow=6.7,SNR=12						
AKASG	**Malin Array Be**	**75.79**	**319**	P	**P**	**04 55 50.9**	**-0.7**
	0.5nm,0.4s,mb3.8,baz=62,slow=5.3,SNR=4.7						
YKA	**Yellowknife Ar**	**87.66**	**22**	P	**P**	**04 56 53.4**	**+0.1**
	0.6nm,0.7s,mb3.9,baz=314,slow=4.7,SNR=15						
YKA	**Yellowknife Ar**	**87.66**	**22**	P	**P**	**04 56 53.4**	**+0.1**

NEIC ***13*** *05:27:19.9±2.1, 38.99N×11.26W, h10km, MG4.1(MDD), Error ellipse: s-maj=26.0km s-min=5.4km az=75.0*
IGIL ***13*** *05:27:23.7, 39.00N×11.10W, h10km, ML2.9*
INMG ***13*** *05:27:24.9±0.9, 38.97N×11.36W, h10km, ML2.5, Error ellipse: s-maj=4.7km s-min=2.2km az=80.0*
MDD ***13*** *05:27:24.1±1.2, 38.99N×11.15W, h65km±39km, mb3.7/19, Error ellipse: s-maj=13.7km s-min=6.6km az=81.0, PRXIMO*
CSEM 13 05:27:24.2±0.3, 39.02N×11.10W, h30km, ML3.5/13, 1C, Error ellipse: s-maj=6.9km s-min=3.2km az=73.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOU	**Loures**	**1.52**	**95**	*e*P	Pn	05 27 49.5	-0.3
PLOU				S	Sn	05 28 07.8	-0.9
	82nm,0.3s						
PLOU	**Loures**	**1.52**	**95**	Pn	Pn	05 27 49.4	-0.4
PLOU				Sn	Sn	05 28 07.1	-1.6
PLOU	**Loures**	**1.52**	**95**	*e*P	Pn	05 27 49.5	-0.3
PLOU				S	Sn	05 28 07.8	-0.9
	82nm,0.3s						
LIS	**Lisbon**	**1.55**	**101**	*e*P	Pn	05 27 49.6	-0.6
LIS				*e*S	Sn	05 28 08.3	-1.1
LIS				*e*S	Sn	05 28 08.4	-1.1
LIS				AML	AML	05 28 12.7	
	comp=E,218nm,0.3s						
ALMR	**Almeirim**	**1.96**	**85**	*e*P	Pn	05 27 55.3	-0.8
ALMR				*e*S	Sn	05 28 18.5	-1.5
ALMR				*e*S	Sn	05 28 18.5	-1.5
ALMR				AML	AML	05 28 19.5	
	comp=N,55nm,0.1s						
PTOM	**Tomar**	**2.17**	**73**	*e*Pn	Pn	05 27 58.1	-0.9
PTOM				*e*Sn	Sn	05 28 23.0	-2.1
	comp=N,25nm,0.1s						
PTOM	**Tomar**	**2.17**	**73**	P	Pn	05 27 58.1	-0.9
PTOM				S	Sn	05 28 23.0	-2.1
	comp=N,12nm,0.1s						
PTOM	**Tomar**	**2.17**	**73**	Pn	Pn	05 27 58.0	-1.0
PTOM				*e*Sn	Sn	05 28 23.0	-2.1
	comp=N,25nm,0.1s						
MOE	**Montemor**	**2.20**	**102**	*e*Pn	Pn	05 27 58.1	-1.5
MOE				*e*Sn	Sn	05 28 22.5	-3.6
MOE	**Montemor**	**2.20**	**102**	Pn	Pn	05 27 57.0	-2.6
MOE				Sn	Sn	05 28 22.0	-4.1
PTEO	**Sao Teotonio**	**2.38**	**128**	*e*Pn	Pn	05 27 59.9	-2.2
PTEO				*e*Sn	Sn	05 28 25.2	-5.3
	comp=N,23nm,0.3s						
PTEO	**Sao Teotonio**	**2.38**	**128**	P	Pn	05 27 59.9	-2.2
PTEO				S	Sn	05 28 25.2	-5.3
	comp=N,11nm,0.3s						
PTEO	**Sao Teotonio**	**2.38**	**128**	Pn	Pn	05 27 59.8	-2.3
PTEO				Sn	Sn	05 28 25.4	-5.1
PBEJ	**Beja**	**2.72**	**110**	*e*Pn	Pn	05 28 05.3	-1.7
PBEJ				*e*Sn	Sn	05 28 35.2	-4.0
	comp=N,10nm,0.2s						
PBEJ	**Beja**	**2.72**	**110**	P	Pn	05 28 05.3	-1.7
PBEJ				S	Sn	05 28 35.2	-4.0
	comp=N,5.2nm,0.2s						
PBEJ	**Beja**	**2.72**	**110**	Pn	Pn	05 28 04.7	-2.3
PBEJ				Sn	Sn	05 28 34.6	-4.6
PCBR	**Castelo Branco**	**2.92**	**73**	*e*Pn	Pn	05 28 08.2	-1.6
PCBR				*e*Sn	Sn	05 28 40.6	-3.6
	comp=N,6.0nm,0.1s						
PCBR	**Castelo Branco**	**2.92**	**73**	*e*Pn	Pn	05 28 08.2	-1.6
PCBR				*e*Sn	Sn	05 28 40.6	-3.6
	comp=N,6.0nm,0.1s						
PVIS	**Viseu**	**2.99**	**55**	*e*Pn	Pn	05 28 09.4	-1.3
PVIS				*e*Sn	Sn	05 28 42.2	-3.7
	comp=N,16nm,0.1s						
PVIS	**Viseu**	**2.99**	**55**	P	Pn	05 28 09.4	-1.3
PVIS				S	Sn	05 28 42.2	-3.7
	comp=N,7.9nm,0.1s						
PVIS	**Viseu**	**2.99**	**55**	Pn	Pn	05 28 08.8	-1.9
PVIS				Sn	Sn	05 28 42.1	-3.8
MTE	**Manteigas**	**3.06**	**62**	*e*Pn	Pn	05 28 10.0	-1.8
MTE				*e*Sn	Sn	05 28 44.4	-3.5
	comp=N,10nm,0.1s						
MTE	**Manteigas**	**3.06**	**62**	P	Pn	05 28 10.0	-1.8
MTE				S	Sn	05 28 44.4	-3.5
	comp=N,5.1nm,0.1s						
MTE	**Manteigas**	**3.06**	**62**	Pn	Pn	05 28 09.9	-1.9
MTE				Sn	Sn	05 28 44.3	-3.6
EBAD	**Badajoz**	**3.20**	**94**	P	Pn	05 28 11.7	-2.0
	comp=N,0.5nm,0.0s,SNR=46						
EBAD				S	Sn	05 28 46.6	-4.6
	comp=N,12nm,0.1s,SNR=18						
EBAD	**Badajoz**	**3.20**	**94**	Pn	Pn	05 28 11.7	-2.0
	comp=N,0.5nm,0.0s,SNR=46						
EBAD				Sn	Sn	05 28 46.6	-4.6
	comp=N,12nm,0.1s,SNR=18						
EGRO	**El Granado**	**3.21**	**116**	⇑P	Pn	05 28 11.6	-2.3
	comp=N,0.7nm,0.0s,SNR=18						
EGRO				S	Sn	05 28 46.7	-4.8
	comp=N,9.4nm,0.2s,SNR=14						
EGRO	**El Granado**	**3.21**	**116**	Pn	Pn	05 28 11.6	-2.3
	comp=N,0.7nm,0.0s,SNR=18						
EGRO				Sn	Sn	05 28 46.7	-4.8
	comp=N,9.4nm,0.2s,SNR=14						
PALC	**Alcoutim**	**3.25**	**118**	*e*Pn	Pn	05 28 12.1	-2.3
PALC				*e*Sn	Sn	05 28 46.4	-6.1
	comp=N,12nm,0.1s						
PALC	**Alcoutim**	**3.25**	**118**	P	Pn	05 28 12.1	-2.3
PALC				S	Sn	05 28 46.4	-6.1
	comp=N,6.2nm,0.1s						
PALC	**Alcoutim**	**3.25**	**118**	Pn	Pn	05 28 11.9	-2.5
PALC				Sn	Sn	05 28 46.8	-5.7
PVRL	**Vila Real**	**3.43**	**48**	*e*Pn	Pn	05 28 15.0	-2.0
PVRL				*e*Sn	Sn	05 28 52.9	-4.2
	comp=N,13nm,0.1s						
PVRL	**Vila Real**	**3.43**	**48**	P	Pn	05 28 15.0	-2.0
PVRL				S	Sn	05 28 52.9	-4.2
	comp=N,6.3nm,0.1s						
PVRL	**Vila Real**	**3.43**	**48**	Pn	Pn	05 28 15.0	-2.0
PVRL				Sn	Sn	05 28 52.3	-4.8
EZAM	**Zamans**	**3.62**	**30**	Pn	Pn	05 28 17.0	-2.6
EZAM				Sn	Sn	05 28 56.2	-5.7
EZAM	**Zamans**	**3.62**	**30**	P	Pn	05 28 17.0	-2.6
	comp=N,2.6nm,0.2s,SNR=6.9						
EZAM				S	Sn	05 28 56.9	-4.9
	comp=N,2.7nm,0.1s,SNR=5.0						
EZAM	**Zamans**	**3.62**	**30**	Pn	Pn	05 28 17.0	-2.7
	comp=N,2.6nm,0.2s,SNR=6.9						
EZAM				Sn	Sn	05 28 56.2	-5.7
	comp=N,2.7nm,0.1s,SNR=5.0						
ELOB	**Lobios**	**3.66**	**38**	P	Pn	05 28 18.4	-1.9
	comp=N,1.6nm,0.1s,SNR=20						
ELOB				S	Sn	05 28 58.3	-4.7
	comp=N,8.2nm,0.1s,SNR=12						
ELOB	**Lobios**	**3.66**	**38**	Pn	Pn	05 28 18.4	-1.9
	comp=N,1.6nm,0.1s,SNR=20						
ELOB				Sn	Sn	05 28 58.3	-4.7
	comp=N,8.2nm,0.1s,SNR=12						
EMIN	**Mina Concepcio**	**3.69**	**108**	P	Pn	05 28 18.6	-2.2
	comp=N,0.7nm,0.1s,SNR=30						
EMIN				S	Sn	05 28 58.8	-5.1
	comp=N,2.2nm,0.1s,SNR=18						
EMIN	**Mina Concepcio**	**3.69**	**108**	Pn	Pn	05 28 18.6	-2.2
	comp=N,0.7nm,0.1s,SNR=30						
EMIN				Sn	Sn	05 28 58.8	-5.0
	comp=N,2.2nm,0.1s,SNR=18						
EMAZ	**Mazaricos**	**4.24**	**22**	Pn	Pn	05 28 25.3	-3.1
EMAZ				Sn	Sn	05 29 08.8	-8.8
EMAZ	**Mazaricos**	**4.24**	**22**	P	Pn	05 28 25.3	-3.1
	comp=N,0.6nm,0.1s,SNR=5.6						
EMAZ				S	Sn	05 29 10.3	-7.2
	comp=N,21nm,0.2s,SNR=5.8						
EMAZ	**Mazaricos**	**4.24**	**22**	Pn	Pn	05 28 25.3	-3.2
	comp=N,0.6nm,0.1s,SNR=5.6						
STS	**Santiago**	**4.31**	**26**	S	Sn	05 29 13.1	-6.4
	comp=N,5.2nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**4.33**	**49**	*e*Pn	Pn	05 28 27.7	-2.1
PBRG				*e*Sn	Sn	05 29 13.5	-6.5
	comp=N,3.1nm,0.2s						
PBRG	**Braganca**	**4.33**	**49**	P	Pn	05 28 27.7	-2.1
PBRG				S	Sn	05 29 13.5	-6.5
	comp=N,1.6nm,0.2s						
PBRG	**Braganca**	**4.33**	**49**	Pn	Pn	05 28 27.4	-2.4
PBRG				Sn	Sn	05 29 13.4	-6.6
ECAL	**Calabor**	**4.42**	**47**	P	Pn	05 28 28.9	-2.2
	comp=N,3.5nm,0.1s,SNR=19						
ECAL				S	Sn	05 29 16.5	-5.7
	comp=N,4.9nm,0.2s,SNR=4.5						
ECAL	**Calabor**	**4.42**	**47**	Pn	Pn	05 28 28.9	-2.2
	comp=N,3.5nm,0.1s,SNR=19						
ECAL				Sn	Sn	05 29 16.5	-5.7
	comp=N,4.9nm,0.2s,SNR=4.5						
ERUA	**La Rua**	**4.51**	**41**	P	Pn	05 28 30.6	-1.7
	comp=N,4.7nm,0.2s,SNR=7.4						
ERUA				S	Sn	05 29 19.0	-5.4
	comp=N,3.5nm,0.1s,SNR=5.0						
EINC	**Incio**	**4.61**	**37**	Pn	Pn	05 28 31.0	-2.8
EINC				Sn	Sn	05 29 19.9	-7.2
EINC	**Incio**	**4.61**	**37**	P	Pn	05 28 31.0	-2.8
	comp=N,4.6nm,0.2s,SNR=47						
EINC				S	Sn	05 29 20.2	-6.8
	comp=N,1.7nm,0.1s,SNR=6.4						
EINC	**Incio**	**4.61**	**37**	Pn	Pn	05 28 31.0	-2.8
	comp=N,4.6nm,0.2s,SNR=47						
EINC				Sn	Sn	05 29 19.9	-7.1
	comp=N,1.7nm,0.1s,SNR=6.4						
ESPR	**Espera**	**4.67**	**116**	Pn	Pn	05 28 33.7	-0.8
ESPR				Sn	Sn	05 29 23.2	-5.2
ESPR	**Espera**	**4.67**	**116**	P	Pn	05 28 31.4	-3.1
	comp=N,2.1nm,0.2s,SNR=4.0						
ESPR				S	Sn	05 29 21.4	-7.0
	comp=N,6.5nm,0.3s,SNR=7.9						
ESPR	**Espera**	**4.67**	**116**	Pn	Pn	05 28 33.7	-0.9
	comp=N,2.1nm,0.2s,SNR=4.0						
ESPR				Sn	Sn	05 29 23.2	-5.2
EJIF	**Jimena Fronter**	**5.15**	**118**	P	Pn	05 28 38.0	-3.3
	comp=N,0.7nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**5.18**	**97**	P	Pn	05 28 39.2	-2.5
	comp=N,3.8nm,0.4s,SNR=7.9						
EADA				S	Sn	05 29 34.8	-6.5
	comp=N,2.8nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**5.18**	**97**	Sn	Sn	05 29 34.8	-6.5
	comp=N,2.8nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**5.23**	**33**	P	Pn	05 28 39.4	-3.0
	comp=N,0.8nm,0.1s,SNR=9.4						
EPON				S	Sn	05 29 34.7	-7.9
	comp=N,0.8nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**5.23**	**33**	Pn	Pn	05 28 39.4	-3.1
	comp=N,0.8nm,0.1s,SNR=9.4						
EPON				Sn	Sn	05 29 34.7	-7.8
	comp=N,0.8nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.57**	**81**	Pn	Pn	05 28 44.8	-2.5
ESDC				Sn	Sn	05 29 38.2	-13
ESDC	**Sonseca Array**	**5.57**	**81**	P	Pn	05 28 44.8	-2.5
	comp=N,8.1nm,0.1s,baz=263,slow=12,SNR=12						
ESDC				S	Sn	05 29 43.1	-7.9
	comp=N,3.3nm,0.3s,baz=80,slow=40,SNR=27						
ESDC	**Sonseca Array**	**5.57**	**81**	Pn	Pn	05 28 44.8	-2.5
	comp=N,8.1nm,0.1s,SNR=12						
EMIJ	**Mijas**	**5.58**	**114**	S	Sn	05 29 42.9	-8.4
	comp=N,0.7nm,0.9s,SNR=7.9						
GUD	**Guadarrama**	**5.58**	**71**	S	Sn	05 29 43.5	-7.9
	comp=N,1.0nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**6.16**	**44**	Pn	Pn	05 28 53.6	-2.1
EARI				Sn	Sn	05 30 00.0	-5.8
EARI	**Arriondas**	**6.16**	**44**	P	Pn	05 28 53.3	-2.4
	comp=N,1.2nm,0.1s,SNR=16						
EARI				S	Sn	05 29 57.0	-8.9
	comp=N,0.4nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**6.16**	**44**	Pn	Pn	05 28 53.6	-2.1
EARI				Sn	Sn	05 30 00.0	-5.9
EBER	**Berja**	**6.82**	**106**	S	Sn	05 30 13.1	-9.2
	comp=N,2.0nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**7.46**	**90**	P	Pn	05 29 10.8	-3.2
	comp=N,0.2nm,0.2s,SNR=7.9						
ETOB				S	Sn	05 30 28.8	-10
	comp=N,5.4nm,1.1s,SNR=7.9						
EMOS	**Mosqueruela**	**8.30**	**77**	P	P	05 29 22.5	-3.0
	comp=N,0.5nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**8.30**	**77**	Pn	P	05 29 22.5	-3.1
ESAC	**San Caprasio**	**8.55**	**68**	P	P	05 29 25.8	-3.2
	comp=N,0.0nm,0.4s,SNR=7.9						
ESAC				S	Sn	05 30 53.6	-12
	comp=N,15nm,0.7s,SNR=7.9						
EBIE	**Bielsa**	**9.27**	**63**	P	P	05 29 36.4	-2.6
	comp=N,3.5nm,0.6s,SNR=7.9						

IDC 13 05:42:09.4±2.2, 9.03N×92.51E, mb3.8/5, mb1 3.9/6, mb1mx3.7/21, mbtmp3.7/6, ML3.7/1, Error ellipse: s-maj=73.9km s-min=24.0km az=68.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.26**	**33**	Pn	P	05 44 52.8	-1.9
	0.2nm,0.3s,baz=224,slow=15,SNR=8.5						
MKAR	**Makanchi Array**	**38.63**	**349**	P	P	05 49 35.1	-1.0
	0.5nm,0.6s,baz=164,slow=7.7,SNR=6.1						
SONM	**Songino Array**	**40.42**	**14**	P	P	05 49 48.4	-2.5
	0.5nm,0.4s,baz=207,slow=6.4,SNR=3.1						
WRA	**Warramunga Arr**	**50.24**	**125**	P	P	05 51 07.6	-2.1
	0.6nm,0.4s,baz=306,slow=8.4,SNR=6.0						
ASAR	**Alice Springs**	**51.89**	**130**	P	P	05 51 20.0	-2.1
	0.4nm,0.5s,baz=300,slow=6.8,SNR=4.6						
INK	**Inuvik**	**96.33**	**16**	P	P	05 55 39.5	-1.3
	0.4nm,0.7s,baz=300,slow=3.1,SNR=5.0						

NEIC ***13*** *05:44:55.9, 19.12N×64.68W, h44km, MD3.5(RSPR),*
After RSPR.
RSPR 13 05:44:55.9, 19.12N×64.68W, h44km±5km, MD3.5/14, MD3.5/14, 6C-7D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.81**	**200**	⇓*e*P	P	05 45 09.3	-1.7
STVI				*e*S	S	05 45 20.9	-1.2
MTP	**Monte Pirata**	**1.32**	**219**	⇓*e*P	P	05 45 16.8	-1.5
MTP				*e*S	S	05 45 32.9	-2.1
CDVI	**St. Croix**	**1.36**	**184**	⇓*e*P	P	05 45 16.8	-2.2
CDVI	**St. Croix**	**1.36**	**184**	*e*S	S	05 45 34.8	-1.3
CBYP	**Canovanas**	**1.40**	**233**	⇑*e*P	P	05 45 17.6	-1.9
CBYP				*e*S	S	05 45 35.1	-1.9
HUMP	**Col San Antoni**	**1.48**	**229**	⇑*e*P	P	05 45 19.2	-1.4
HUMP				*e*S	S	05 45 37.5	-1.4
CPD	**Cerro la Pandu**	**1.59**	**228**	⇓*e*P	P	05 45 20.8	-1.4
CPD				*e*S	S	05 45 40.6	-1.2
SJG	**San Juan**	**1.72**	**235**	⇓*e*P	P	05 45 22.2	-1.7
SJG				*e*S	S	05 45 42.7	-2.2
SJG	**San Juan**	**1.72**	**235**	⇑*e*P	P	05 45 22.1	-1.9
SJG				*e*S	S	05 45 43.3	-1.6
CELP	**Cerrillos**	**2.08**	**240**	⇑*e*P	P	05 45 27.6	-1.5
CELP				*e*S	S	05 45 52.1	-1.8
AOPR	**Arecibo Observ**	**2.11**	**249**	⇑*e*P	P	05 45 28.2	-1.3
AOPR				*e*S	S	05 45 52.4	-2.2
PORP	**Portuguez**	**2.14**	**241**	⇓*e*P	P	05 45 28.9	-1.0
PORP				*e*S	S	05 45 53.8	-1.6
LRS	**Lares**	**2.22**	**249**	⇓*e*P	P	05 45 29.2	-1.7
LRS				*e*S	S	05 45 55.7	-1.6
MGP	**Maguayo**	**2.54**	**245**	⇑*e*P	P	05 45 34.2	-1.5

IDC 13 06:02:35.9±6.8, 1.71N×96.47E, mb4.1/5, mb1 4.2/6, mb1mx3.8/21, mbtmp4.1/6, ML3.9/1, Error ellipse: s-maj=162.5km s-min=85.1km az=130.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.82**	**8**	Pn	P	06 06 33.5	-1.0
	0.2nm,0.3s,baz=197,slow=11,SNR=11						
MKAR	**Makanchi Array**	**46.57**	**347**	P	P	06 11 05.3	-2.1
	1.0nm,0.5s,baz=158,slow=7.7,SNR=20						
SONM	**Songino Array**	**46.74**	**9**	P	P	06 11 06.6	-2.0
	0.9nm,0.4s,baz=180,slow=7.2,SNR=4.1						
ZAL	**Zalesovo**	**52.93**	**351**	P	P	06 11 54.0	-2.1
	1.8nm,0.4s,baz=278,slow=4.8,SNR=7.4						
BVAR	**Borovoye Array**	**55.53**	**341**	P	P	06 12 12.4	-2.8
	0.5nm,0.5s,baz=135,slow=6.3,SNR=4.4						
ARCES	**ARCESS Array B**	**81.81**	**340**	P	P	06 14 56.9	-0.9
	5.6nm,1.0s,baz=90,slow=4.5,SNR=4.0						

NIED ***13*** *06:05:00, 36.70N×142.10E, h23km, Mw4.0 Best double couple: M0:9.88×10^14 NP1:φs 18°, δ66°, λ87°. NP2:φs 207°, δ24°, λ98°.*
JMA ***13*** *06:05:43.9±0.2, 36.73N×142.14E, h21km±3km, M4.0*
MOS ***13*** *06:05:47.3±0.8, 37.06N×141.98E, h33km, mb4.1/4, Error ellipse: s-maj=24.8km s-min=16.8km az=179.1*
IDC ***13*** *06:05:48.3±3.8, 36.52N×142.07E, h52km±40km, mb3.5/8, mb1 3.6/10, mb1mx3.4/26, mbtmp3.8/10, ML3.7/2, MS3.2/3, Ms1 3.3/3, ms1mx2.8/20, Error ellipse: s-maj=29.0km s-min=26.7km az=116.0*
NEIC ***13*** *06:05:48.2±2.1, 36.61N×142.07E, h47km±15km, mb4.4/1, Error ellipse: s-maj=48.1km s-min=15.8km az=162.0*
ISC 13 06:05:44.1±1.8, 36.70N±0.04×142.20E±0.05, h27km±14km, n32, σ0=92/45, mb3.8/10, MS3.3/1, 4D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.19**	**290**	⇓P	**Pn**	**06 06 04.8**	**-0.4**
ONAJ				S	**Sn**	**06 06 19.4**	**-1.1**
JFK	**Kawauchi**	**1.25**	**302**	⇓P	**Pn**	**06 06 05.2**	**-0.8**
JFK				S	**Sn**	**06 06 20.5**	**-1.5**
JHO	**Hitachi**	**1.31**	**267**	P	**Pn**	**06 06 06.0**	**-0.9**
JHO				S	**Sn**	**06 06 22.7**	**-0.9**
JMM	**Marumori**	**1.61**	**317**	⇓P	**Pn**	**06 06 10.6**	**-0.6**
JMM				S	**Sn**	**06 06 31.8**	**+0.5**
JFT	**Otama**	**1.69**	**299**	⇓P	**Pn**	**06 06 12.4**	**0.0**
JFT				S	**Sn**	**06 06 32.9**	**-0.5**
JIO	**Ouri**	**1.87**	**339**	P	**Pn**	**06 06 14.9**	**-0.1**
JIO				*e*S	**Sn**	**06 06 37.6**	**-0.3**
JOU	**Okura**	**2.06**	**324**	P	**Pn**	**06 06 18.2**	**+0.6**
JOU				S	**Sn**	**06 06 44.0**	**+1.4**
JFY	**Yanaizu**	**2.11**	**290**	P	**Pn**	**06 06 19.2**	**+0.8**
JFY				S	**Sn**	**06 06 44.6**	**+0.6**
JAG	**Ashikaga**	**2.23**	**264**	P	**Pn**	**06 06 20.3**	**+0.3**
JAG				S	**Sn**	**06 06 46.3**	**-0.6**
BSO3	**Boso 3**	**2.34**	**216**	P	**Pn**	**06 06 22.4**	**+0.8**
BSO3				S	**Sn**	**06 06 50.8**	**+1.0**
MJAR	**Matsushiro Arr**	**3.21**	**268**	P	**Pn**	**06 06 34.3**	**+0.3**
MJAR				S	**Sn**	**06 07 14.2**	**+2.4**
MJAR				pmax	pmax		
	comp=Z,12nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,422nm,18.8s						
MJAR	**Matsushiro Arr**	**3.21**	**268**	P	**Pn**

comp=E,460nm,0.4s
AKL Akola 2.63 5⇑iP Pn 06 07 46.0 +1.7
POO Poona 2.83 280 eP Pn 06 07 48.9 +1.7
POO eS Sn 06 08 21.2 -0.4
POO e 06 08 29.9
comp=E,197nm,0.3s
POO e 06 08 30.1
comp=N,306nm,0.3s
GOA Goa 3.82 228 e Pn 06 07 56.5 -4.8
GOA eS Sn 06 08 40.5 -6.3
BOM Bombay 3.86 283 ePB Pb 06 08 09.3 +0.4
BOM eSB Sb 06 08 54.8 -1.2
BHPL Bhopal 5.18 7 eP Pn 06 08 21.4 +0.9
BHPL eS Sn 06 09 19.6 -1.4
BHPL e 06 09 52.9
comp=E,148nm,0.3s
BHPL e 06 09 53.1
comp=N,111nm,0.3s
VIS Vishakhapatnam 6.24 92 eS Sn 06 09 47.3 -0.3
VIS e 06 10 29.5
comp=N,46nm,0.3s
VIS e 06 10 29.5
comp=E,40nm,0.3s
BLSP Bilaspur 6.44 50 e Sb 06 10 25.0 +14
NDI New Delhi 10.57 2 eS S 06 11 24.0 -11
NDI e 06 12 32.0
KOLN Koldanda 11.51 32 eP P 06 09 48.3 -0.3
comp=E,8.4nm,0.2s
DMN Daman 12.20 37 eP P 06 09 59.0 +1.1
comp=E,9.5nm,0.6s
GKN Gorkha 12.24 35 eP P 06 09 58.0 -0.4
comp=E,12nm,0.3s
PKI Pulchoki 12.35 38 eP P 06 10 00.3 +0.4
comp=E,4.5nm,0.2s
KKN Kakani 12.44 37 eP P 06 09 59.9 -1.2
comp=E,5.9nm,0.2s
GUN Gumba 12.88 39 eP P 06 10 05.9 -1.1
comp=E,6.4nm,0.3s
JIRN Jiri 12.88 41 eP P 06 10 06.8 -0.3
comp=E,25nm,0.7s

IDC 13 06:09:40.0±1.5, 50.80S×139.28E, mb3.7/3, mb1 3.9/4, mb1mx3.8/11, mbtmp3.7/4, ML3.7/1, MS3.7/14, Ms1 3.7/14, ms1mx3.6/27, Error ellipse: s-maj=166.9km s-min=23.5km az=82.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	18.98	6	P	P	06 14 02.4	-2.8
0.1nm,0.3s,baz=187,slow=8.1,SNR=4.7							
STKA				LR	LR	06 21 11.9	
comp=Z,131nm,18.8s,baz=196,slow=36							
NWAO	Narrogin (SRO)	24.11	309	LR	LR	06 22 06.4	
comp=Z,277nm,19.6s,baz=197,slow=31							
ASAR	Alice Springs	27.41	349	P	P	06 15 26.0	-3.0
0.4nm,0.6s,baz=168,slow=9.6,SNR=6.3							
ASAR				LR	LR	06 24 46.1	
comp=Z,96nm,18.5s,baz=168,slow=33							
VNDA	Vanda	28.14	170	P	P	06 15 33.2	-2.0
0.7nm,0.5s,baz=315,slow=2.9,SNR=5.2							
VNDA				LR	LR	06 25 44.5	
comp=Z,142nm,20.2s,baz=158,slow=34							
WRA	Warramunga Arr	31.04	351	P	P	06 16 00.8	-0.8
1.1nm,0.8s,baz=175,slow=7.8,SNR=3.8							
CTA	Charters Tower	31.14	13	LR	LR	06 29 03.8	
comp=Z,185nm,19.2s,baz=227,slow=37							
FITZ	Fitzroy Crossi	34.39	337	LR	LR	06 29 07.6	
comp=Z,101nm,21.1s,baz=184,slow=34							
MAW	Mawson	39.56	216	LR	LR	06 31 33.3	
comp=Z,197nm,19.3s,baz=292,slow=33							
PMG	Port Moresby	41.78	12	LR	LR	06 35 15.5	
comp=Z,132nm,18.1s,baz=192,slow=37							
HNR	Honiara	44.63	30	LR	LR	06 34 58.6	
comp=Z,88nm,18.2s,baz=166,slow=34							
RAR	Rarotonga	55.56	81	LR	LR	06 40 24.4	
comp=Z,129nm,18.7s,baz=346,slow=33							
PPT	Papeete	64.69	87	LR	LR	06 41 58.6	
comp=Z,37nm,18.8s,baz=21,slow=30							
SUR	Sutherland	81.03	229	LR	LR	06 50 12.2	
comp=Z,70nm,20.0s,baz=90,slow=30							
BOSA	Boshof	81.89	234	LR	LR	06 49 43.8	
comp=Z,83nm,18.8s,baz=50,slow=29							
LBTB	Lobatse	84.62	237	LR	LR	06 51 23.5	
comp=Z,17nm,19.0s,baz=96,slow=30							

IDC 13 06:25:18.6±2.8, 16.58S×175.10E, mb3.7/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.7/4, MS3.6/6, Ms1 3.6/6, ms1mx3.3/27, Error ellipse: s-maj=171.0km s-min=26.3km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.83	235	LR	LR	06 30 19.1	
comp=Z,76nm,19.0s,baz=27,slow=31							
AFI	Afiamalu	12.94	80	LR	LR	06 31 37.0	
comp=Z,197nm,20.1s,baz=22,slow=29							
CTA	Charters Tower	27.59	258	LR	LR	06 40 23.4	
comp=Z,102nm,19.0s,baz=48,slow=33							
WRA	Warramunga Arr	38.79	259	P	P	06 32 45.1	-1.8
0.9nm,0.7s,baz=89,slow=8.4,SNR=5.2							
ASAR	Alice Springs	39.21	253	P	P	06 32 49.1	-1.3
1.8nm,0.8s,baz=85,slow=9.0,SNR=14							
ASAR				LR	LR	06 46 48.3	
comp=Z,105nm,18.1s,baz=56,slow=33							
FITZ	Fitzroy Crossi	47.13	261	LR	LR	06 53 08.9	
comp=Z,73nm,20.1s,baz=78,slow=35							
NWAO	Narrogin (SRO)	54.38	241	LR	LR	06 57 18.4	
comp=Z,132nm,18.9s,baz=163,slow=35							
NVAR	Mina Array Bea	82.90	47	P	P	06 37 45.9	-0.8
0.3nm,0.6s,baz=225,slow=6.4,SNR=2.9							
ILAR	Eielson Array	86.12	15	P	P	06 38 01.4	-0.9
0.4nm,0.8s,baz=225,slow=7.7,SNR=3.6							
GERES	GERESS Array B	144.42	339	PKP	PKPdf	06 44 54.2	-4.4
0.5nm,0.6s,baz=22,slow=5.3,SNR=6.0							

CSEM 13 06:37:10.7±0.3, 38.68N×28.53W, h13km±9km, ML1.4, Error ellipse: s-maj=6.4km s-min=2.4km az=37.0, After PDA
PDA 13 06:37:10.7±0.3, 38.68N×28.53W, h13km±9km, MD2.9, ML1.4, Error ellipse: s-maj=6.4km s-min=2.4km az=37.0
SVSA 13 06:37:10.7±0.3, 38.68N×28.53W, h13km±9km, MD2.9, ML1.4, Error ellipse: s-maj=6.4km s-min=2.4km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.14	251	eP	Pg	06 37 13.8	-0.5
PCED				eS	Sg	06 37 16.2	-0.5
13nm,0.1s							
PCED	Cedros	0.14	251	eP	Pg	06 37 13.8	-0.5
PCED				eS	Sg	06 37 16.2	-0.5
13nm,0.1s							
CALA	Caldeira	0.16	235	eP	Pg	06 37 14.2	-0.5
CALA				eS	Sg	06 37 16.9	-0.4
PICO	Pico	0.19	155	iP	Pg	06 37 14.7	-0.5
PICO				eS	Sg	06 37 17.6	-0.5

IDC 13 06:41:37.6±1.0, 7.73N×137.33E, mb3.7/8, mb1 3.9/8, mb1mx3.9/19, mbtmp3.7/8, MS3.4/4, Ms1 3.4/4, ms1mx3.1/24, Error ellipse: s-maj=39.0km s-min=20.2km az=82.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	19.80	13	LR	LR	06 51 37.1	
comp=Z,99nm,21.0s,baz=120,slow=30							
WRA	Warramunga Arr	27.66	186	P	P	06 47 27.8	-1.5
1.3nm,0.6s,baz=4.7,slow=11,SNR=8.2							
HNR	Honiara	28.26	127	LR	LR	06 56 30.5	
comp=Z,89nm,19.1s,baz=63,slow=32							
CTA	Charters Tower	29.01	162	LR	LR	06 59 37.0	
comp=Z,86nm,19.6s,baz=48,slow=37							
ASAR	Alice Springs	31.38	186	P	P	06 48 00.2	-2.3
0.5nm,0.6s,baz=19,slow=12,SNR=3.4							
ASAR				LR	LR	07 00 30.9	
comp=Z,76nm,19.1s,baz=54,slow=36							
CMAR	Chiang Mai Arr	38.79	290	P	P	06 49 03.4	-2.6
0.6nm,0.7s,baz=109,slow=7.2,SNR=5.5							
SONM	Songino Array	47.82	332	P	P	06 50 18.2	-0.6
1.1nm,0.7s,baz=121,slow=8.4,SNR=3.4							
MKAR	Makanchi Array	60.84	320	P	P	06 51 51.6	-2.5
0.5nm,0.5s,baz=105,slow=8.6,SNR=8.1							
ZAL	Zalesovo	62.34	328	P	P	06 52 02.0	-2.1
0.6nm,0.4s,baz=293,slow=11,SNR=1.9							
ILAR	Eielson Array	77.00	25	P	P	06 53 31.2	-2.4
0.3nm,0.8s,baz=247,slow=7.1,SNR=4.2							
YKA	Yellowknife Ar	91.40	26	P	P	06 54 45.4	-1.1
0.4nm,0.9s,baz=293,slow=4.8,SNR=5.5							

IDC 13 06:42:32.7±0.8, 0.84N×29.09W, mb4.3/14, mb1 4.4/14, mb1mx4.2/23, mbtmp4.3/14, MS3.6/8, Ms1 3.6/8, ms1mx3.4/24, Error ellipse: s-maj=30.2km s-min=13.8km az=149.0
NEIC 13 06:42:34.2±0.5, 0.79N×29.13W, h10km, mb4.7/11, Error ellipse: s-maj=18.5km s-min=7.2km az=144.0
ISC 13 06:42:32.3±0.7, 0.8N±0.2×29.1W±0.1, h10km, n42, σ0°83/37, mb4.4/24, MS3.6/8, 5C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	Brasilia	24.83	228	P	P	06 47 57.2	+0.8
2.3nm,0.8s,mb3.8,baz=47,slow=15,SNR=3.3							
BDFB				LR	LR	06 56 53.0	
comp=Z,208nm,19.0s,MS3.6,baz=224,slow=35							
DBIC	Dimbokro	24.86	76	P	P	06 47 57.0	+0.2
27nm,1.1s,mb4.7,baz=237,slow=12,SNR=10.0							
DBIC	Dimbokro	24.86	76	eP	P	06 47 56.8	0.0
31nm,1.1s,mb4.8							
SIV	San Ignacio	35.72	241	P	P	06 49 32.6	-0.8
1.8nm,1.0s,mb4.0,baz=67,slow=8.9,SNR=5.5							
LPAZ	La Paz	42.10	244	P	P	06 50 27.1	+0.4
4.5nm,0.8s,mb4.2,baz=311,slow=0.5,SNR=11							
LPAZ				LR	LR	07 07 49.0	
comp=Z,77nm,18.0s,MS3.6,baz=55,slow=36							
LPAZ	La Paz	42.10	244	eP	P	06 50 26.5	-0.1
6.0nm,0.9s,mb4.2							
SDV	Santo Domingo	42.13	282	P	P	06 50 29.0	+2.1
14nm,0.9s,mb4.6,baz=80,slow=3.6,SNR=21							
EVO	Evora	42.24	25	eP	P	06 50 28.7	+1.2
8.5nm,0.7s,mb4.2							
ESDC	Sonseca Array	44.97	28	P	P	06 50 50.1	+0.5
1.8nm,0.5s,mb4.2,baz=221,slow=8.7,SNR=18							
LVC	Limon Verde	45.22	236	LR	LR	07 11 20.4	
comp=Z,94nm,20.9s,MS3.7,baz=164,slow=38							
ROSC	El Rosal	45.35	276	P	P	06 50 53.8	+0.8
10nm,0.7s,mb4.8,baz=104,slow=7.4,SNR=10							
SJPF	Ste Jean	48.95	27	iP	P	06 51 21.6	+0.8
24nm,0.9s,mb5.0							
ETSF	Etsaut	49.09	28	iP	P	06 51 22.9	+1.0
15nm,0.8s,mb4.8							
CFAA	Coronel Fontan	49.12	225	LR	LR	07 10 56.7	
comp=Z,16nm,18.2s,MS3.0,baz=254,slow=35							
EPF	Esparros	49.61	28	iP	P	06 51 27.0	+1.1
10nm,0.8s,mb4.6							
LFF	La Frestale	51.26	27	iP	P	06 51 38.6	+0.1
28nm,0.8s,mb5.0							
CAF	Calviac	51.86	28	eP	P	06 51 43.2	+0.2
MFF	Saint Martin d	52.17	25	eP	P	06 51 45.1	-0.3
TCF	Toulx Ste Croi	52.95	27	eP	P	06 51 50.8	-0.4
VIVF	Saint-Julien-l	53.06	30	eP	P	06 51 52.3	+0.2
22nm,1.1s,mb4.7							
BGF	Bois d'Agland	53.45	27	eP	P	06 51 54.8	-0.1
SMF	Signal de Mont	53.97	28	eP	P	06 51 58.6	0.0
11nm,0.9s,mb4.5							
LPG	La Plagne	54.55	30	eP	P	06 52 03.9	+0.9
LPL	La Plagne	54.56	30	eP	P	06 52 03.7	+0.7
CABF	La Chapelle	55.01	29	iP	P	06 52 06.1	-0.2
11nm,0.8s,mb4.6							
HAU	Haudompre	56.13	28	eP	P	06 52 13.8	-0.6
16nm,0.9s,mb4.8							
CDF	Champ du Feu	56.85	28	eP	P	06 52 18.9	-0.7
BOSA	Boshof	59.61	124	LR	LR	07 12 27.6	
comp=Z,82nm,19.5s,MS3.9,baz=162,slow=30							
GERES	GERESS Array B	60.32	31	P	P	06 52 42.9	-0.8
1.2nm,0.6s,mb4.1,baz=225,slow=5.7,SNR=10.0							
GERES				LR	LR	07 19 45.8	
comp=Z,32nm,18.0s,MS3.5,baz=275,slow=37							
KHC	Kasperske Hory	60.44	31	eP	P	06 52 43.0	-1.5
SCHQ	Schefferville	62.05	336	P	P	06 52 55.0	-0.4
2.6nm,0.7s,mb4.5,baz=129,slow=8.8,SNR=5.1							
SCHQ	Schefferville	62.05	336	P	P	06 52 55.0	-0.4
NOA	NORSAR Array B	67.47	20	P	P	06 53 30.2	-0.2
2.6nm,1.0s,mb4.2,baz=229,slow=5.9,SNR=2.9							
NOA				LR	LR	07 22 00.3	
comp=Z,29nm,18.3s,MS3.5,baz=95,slow=35							
NOA	NORSAR Array B	67.47	20	P	P	06 53 30.2	-0.2
NOA				LR	LR	07 22 00.3	
BRTR	Keskin Array B	68.77	47	P	P	06 53 38.8	-0.1
1.7nm,0.8s,mb4.0,baz=225,slow=5.2,SNR=7.1							
AKASG	Malin Array Be	69.84	35	P	P	06 53 44.4	-0.8
4.6nm,0.6s,mb4.6,baz=245,slow=6.5,SNR=18							
JCT	Junction City	73.02	302	eP	P	06 54 02.8	-1.9
5.0nm,0.9s,mb4.4							
FINES	FINESS Array B	73.35	24	P	P	06 54 05.8	-0.2
3.8nm,0.9s,mb4.3,baz=288,slow=6.0,SNR=7.5							
FINES	FINESS Array B	73.35	24	P	P	06 54 05.8	-0.2
ULM	Lac du Bonnet	74.71	322	LR	LR	07 21 03.9	
comp=Z,52nm,20.9s,MS3.8,baz=350,slow=31							
TXAR	Lajitas Array	76.18	300	P	P	06 54 21.4	-1.6
1.0nm,0.8s,mb3.8,baz=135,slow=5.3,SNR=7.2							
ASAR	Alice Springs	151.91	145	PKPbc	PKPdf	07 02 32.1	+7.2
2.1nm,1.0s,baz=210,slow=2.1,SNR=9.7							

NEIC 13 07:05:01.9, 33.24S×70.62W, h90km, mb3.6/1, MD3.8(GUC), After GUC.
NEIC Felt [III] at Santiago.
GUC 13 07:05:01.9±0.8, 33.24S×70.62W, h90km±2km, MD3.8, ML4.1, 9C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	Peldehue	0.11	333	iP	P	07 05 15.2	+0.4
PEL				iS	S	07 05 24.8	+0.4
DSCH	Colegio Aleman	0.16	163	iP	P	07 05 15.4	+0.6
DSCH				iS	S	07 05 25.6	+1.0
DSCH				AMP		07 05 27.6	
comp=N,25μm,0.4s							
CLCH	Cerro Calan	0.17	154	iP	P	07 05 15.4	+0.5
CLCH				iS	S	07 05 25.4	+0.8
CLCH				AMP		07 05 26.7	
comp=N,15μm,0.3s							
STL	Santa Lucia	0.19	184	iP	P	07 05 15.2	+0.3
STL				iS	S	07 05 25.3	+0.5
STL				AMP		07 05 25.8	
comp=N,7μm,0.3s							
SAN	Santiago	0.21	189	iP	P	07 05 15.3	+0.3
SAN				iS	S	07 05 25.6	+0.7
SAN				AMP		07 05 26.2	
comp=N,11μm,0.3s							
FSR	Penalolen	0.25	161	iP	P	07 05 15.8	+0.6
FSR				iS	S	07 05 26.0	+0.8
FSR				AMP		07 05 26.6	
comp=N,27μm,0.3s							
FCH	Farellones	0.29	107	iP	P	07 05 16.1	+0.7
FCH				iS	S	07 05 26.9	+1.2
FCH				AMP		07 05 29.0	
comp=E,23μm,0.1s							
PCH	Pirque	0.39	166	iP	P	07 05 16.2	+0.3
PCH				iS	S	07 05 27.0	+0.4
ROCH	El Roble	0.42	310	iP	P	07 05 16.8	+0.5
ROCH				iS	S	07 05 28.0	+1.0
SJCH	San Jose de Ma	0.46	150	iP	P	07 05 16.4	0.0
SJCH				iS	S	07 05 27.8	+0.4
SJCH				AMP		07 05 28.6	
comp=N,7μm,0.3s							
TACH	Talagante	0.49	213	iP	P	07 05 16.9	+0.2
TACH				iS	S	07 05 28.1	+0.3
JACH	Jahuel	0.56	3	iP	P	07 05 17.4	+0.1
JACH				iS	S	07 05 29.6	+0.8
CHCH	Chadas Angostu	0.69	182	iP	P	07 05 18.6	+0.1
CHCH				iS	S	07 05 31.3	+0.3
LMEL	Las Melosas	0.70	150	iP	P	07 05 19.1	+0.4
LMEL				iS	S	07 05 31.9	+0.7
LMEL				AMP		07 05 35.4	
comp=N,11μm,0.2s							
CACH	El Canelo	0.87	179	iP	P	07 05 21.2	+0.7
CACH				iS	S	07 05 35.8	+1.6
LNV	Longovilo	0.97	223	iP	P	07 05 21.3	-0.2
LNV				iS	S	07 05 35.7	-0.5
PACH	Papudo	0.98	316	iP	P	07 05 21.7	+0.1
PACH				iS	S	07 05 36.6	+0.1
PTCH	Petorca	1.01	345	iP	P	07 05 22.2	+0.2
PTCH				iS	S	07 05 37.3	+0.2
PTCH				AMP		07 05 40.2	
comp=N,11μm,0.4s							
CICH	Cipreses	1.09	171	iP	P	07 05 23.2	+0.2
SFDO	San Fernando	1.41	193	iP	P	07 05 26.9	-0.1
SFDO				iS	S	07 05 45.8	+0.3
CHNG	Los Chungos	1.54	331	eP	P	07 05 28.8	+0.1
CHNG				iS	S	07 05 49.0	+0.5
CHNG				AMP		07 05 49.6	
comp=N,2μm,0.4s							
NICH	Los Niches	1.83	196	iP	P	07 05 32.0	-0.3
NICH				iS	S	07 05 55.8	+1.1
TALC	Talca	2.31	201	iP	P	07 05 37.9	-1.0
TALC				iS	S	07 06 05.8	-0.6
ZON	Zonda	2.36	45	eP	P	07 05 43.6	+4.0
ZON				eS	S	07 06 16.7	+9.0
LNCH	Linares	2.72	197	AMP		07 06 33.5	
comp=N,576nm,0.6s							
TLL	Tololo Astrono	3.07	357	AMP		07 06 27.2	
comp=N,828nm,0.6s							
CCHI	Chillan	3.56	199	AMP		07 06 56.0	
comp=E,183nm,0.3s							
LPAZ	La Paz	17.03	8	eP	P	07 08 55.0	-0.7
comp=E,3.5nm,0.9s							

DJA 13 07:06:07.9±0.9, 11.74S×111.92E, h56km±48km, MD4.8/3, ML4.8/4, Error ellipse: s-maj=29.2km s-min=23.6km az=137.0
IDC 13 07:06:08.6±1.2, 12.29S×112.51E, mb3.8/5, mb1 4.2/6, mb1mx3.9/17, mbtmp3.9/6, ML4.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/24, Error ellipse: s-maj=56.2km s-min=19.8km az=49.0
ISC 13 07:06:10.1±1.0, 11.88S±0.06×112.5E±0.1, h33km, n13, σ1°37/20, mb3.8/5, MS3.1/1, 1C-3D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	3.74	26	iPn	Pn	07 07 05.5	-1.5
197nm,0.2s							
SRDI	Scrawed	3.74	26	eP	P	07 07 07.0	+0.2
SRDI				eSn	Sn	07 07 49.1	-1.3
KELI	Kelakatan	4.13	28	iPn	Pn	07 07 11.9	-0.6
108nm,0.2s							
KELI				eSn	Sn	07 07 58.8	-1.5
RATI	Rata	4.32	44	iPn	Pn	07 07 16.1	+0.9
356nm,0.2s							
RATI				eSn	Sn	07 08 05.5	+0.4
KEDI	Kedomdong	4.89	47	iPn	Pn	07 07 25.2	+1.9
123nm,0.2s							
KEDI				eSn	Sn	07 08 20.9	+1.4
FITZ	Fitzroy Crossi	14.10	118	eP	P	07 09 28.5	-1.3
4.1nm,0.3s							
FITZ				eS	S	07 11 55.3	-11
FITZ	Fitzroy Crossi	14.10	118	Pn	P	07 09 26.7	-3.1
0.8nm,0.3s,baz=219,slow=2.0,SNR=20							
FITZ				Sn	S	07 11 54.5	-12
3.0nm,0.3s,baz=199,slow=23,SNR=11							
WRA	Warramunga Arr	22.45	114	P	P	07 11 06.9	-0.7
1.7nm,0.6s,mb3.6,baz=282,slow=12,SNR=8.5							
WRA				S	S	07 15 09.5	+2.3
1.6nm,1.2s,baz=51,slow=34,SNR=2.6							
ASAR	Alice Springs	23.46	123	P	P	07 11 18.6	+0.9
1.6nm,0.6s,mb3.6,baz=299,slow=9.5,SNR=26							
ASAR				S	S	07 15 36.2	+11
0.7nm,1.0s,baz=211,slow=25,SNR=2.8							
ASAR				LR	LR	07 19 23.3	
comp=Z,63nm,20.0s,MS3.1,baz=100,slow=34							
CMAR	Chiang Mai Arr	32.98	336	P	P	07 12 46.8	+2.5
1.6nm,0.8s,mb4.0,baz=173,slow=8.0,SNR=8.5							
MKAR	Makanchi Array	64.37	337	P	P	07 16 50.0	+5.0
0.7nm,0.4s,mb4.0,baz=146,slow=8.2,SNR=5.5							
VNDA	Vanda	70.22	170	P	P	07 17 20.1	-1.1
1.3nm,0.9s,mb3.9,baz=308,slow=6.5,SNR=5.1							
YKA	Yellowknife Ar	119.37	23	PKP	PKPdf	07 25 01.4	+5.4
0.2nm,0.7s,baz=311,slow=1.8,SNR=4.8							

MOS 13 07:12:16.2±1.1, 50.67N×157.85E, h77km, mb4.1/3, Error ellipse: s-maj=24.3km s-min=7.7km az=76.7
IDC 13 07:12:18.5±5.7, 50.97N×157.69E, h62km±46km, mb3.3/7, mb1 3.6/7, mb1mx3.4/25, mbtmp3.6/7, ML4.1/1, Error ellipse: s-maj=67.8km s-min=25.8km az=179.0
KRSC 13 07:12:20.1±0.8, 50.89N×158.22E, h49km±15km, ML4.2
ISC 13 07:12:20.8±0.7, 50.99N±0.05×158.01E±0.09, h97km±6km, n52, σ1°23/89, mb3.5/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.89	303	iP	P	07 12 39.3	-0.8
PAU				iS	S	07 12 53.3	-1.1
PAU				Smax			
1μm,0.7s							
PAU	Pauzhetka	0.89	303	iP	P	07 12 39.5	-0.6
PAU				iS	S	07 12 53.7	-0.7
PAU				Smax			
1μm,1.2s							
SKR	Severo-Kuril's	1.24	256	ePN	P	07 12 38.2	-6.0
SKR				iS	S	07 12 54.3	-7.3
SKR				pmax	pmax		
comp=N,30nm,0.5s							
SKR				pmax	pmax		
comp=E,60nm,0.5s							
SKR				pmax	pmax		
comp=Z,90nm,0.5s							
SKR				smax			
comp=N,2μm,0.2s							
SKR				smax			
comp=E,4μm,0.2s							
SKR				smax			
comp=Z,760nm,0.2s							
RUS	Russkaya	1.48	12	P	P	07 12 46.4	-0.7
RUS				S	S	07 13 05.6	-0.9
RUS	Russkaya	1.48	12	eP	P	07 12 46.4	-0.7
RUS				iS	S	07 13 05.7	-0.8
ALID	Alaid	1.56	266	eP	P	07 12 47.0	-1.1
ALID				eS	S	07 13 06.7	-1.6
GRL	Gorelyy	1.56	1	iP	P	07 12 48.7	+0.6
GRL				iS	S	07 13 08.9	+0.6
KRMR	Karymshinskiy	1.84	2	iP	P	07 12 52.5	+0.8
KRMR				iS	S	07 13 16.8	+2.3
APC	Apacha	2.01	345	iP	P	07 12 54.4	+0.6
APC				iS	S	07 13 20.2	+2.0
APC				Smax			
comp=Z,130nm,0.8s							
PET	Petropavlovsk	2.07	11	P	P	07 12 55.0	+0.2
PET				S	S	07 13 20.2	+0.3
PET	Petropavlovsk	2.07	11	ePN	P	07 12 54.5	-0.3
PET				eS	S	07 13 20.6	+0.7
PET				pmax	pmax		
comp=Z,92nm,0.2s							
PET				smax			
comp=E,347nm,0.6s							
PET				smax			
comp=N,310nm,0.5s							
PET	Petropavlovsk	2.07	11	iP	P	07 12 54.9	+0.1
PET				iS	S	07 13 20.3	+0.4
UGLR	Uglovaya	2.28	12	iP	P	07 12 58.2	+0.6
UGLR				eS	S	07 13 26.1	+1.2
AVH	Avacha	2.32	11	iP	P	07 12 59.3	+1.1
AVH				eS	S	07 13 27.5	+1.5
SMAR	Somma	2.33	12	eP	P	07 12 58.7	+0.4
SMAR				eS	S	07 13 25.4	-0.7
NLC	Nalytchevo	2.33	20	P	P	07 12 56.9	-1.5
NLC				S	S	07 13 23.5	-2.8
NLC	Nalytchevo	2.33	20	iP	P	07 12 57.0	-1.4
NLC				iS	S	07 13 23.7	-2.6
KOK	Koryaka	2.34	9	iP	P	07 12 59.5	+1.1
KOK				eS	S	07 13 27.4	+1.1
SDLR	Sedlovina	2.35	13	iP	P	07 12 58.6	0.0
SDLR				eS	S	07 13 25.5	-1.2
SPN	Mys Shipunski	2.45	30	P	P	07 12 59.6	-0.4
SPN				S	S	07 13 27.5	-1.6
SPN	Mys Shipunski	2.45	30	eP	P	07 12 59.5	-0.5
SPN				eS	S	07 13 27.4	-1.7

KMNR					*e*S		**S**	**07 14 29.9 -0.9**
ESO	**Esso**	**4.96**	**5**		*e*P		**P**	**07 13 34.9 +0.5**
ESO					*e*S		**S**	**07 14 29.4 -1.5**
KPT	**Kopyto**	**5.16**	**14**		*i* P		**P**	**07 13 37.9 +0.9**
KPT					*e*S		**S**	**07 14 34.2 -1.6**
KOZ	**Kozyrevsk**	**5.20**	**12**		P		**P**	**07 13 39.0 +1.4**
KOZ	**Kozyrevsk**	**5.20**	**12**		*e*P		**P**	**07 13 38.5 +0.9**
KOZ					*e*S		**S**	**07 14 35.4 -1.4**
KOZR	**Kozyr**	**5.21**	**12**		PN		**P**	**07 13 39.0 +1.3**
ZLN	**Zelenaya**	**5.30**	**17**		*e*P		**P**	**07 13 40.9 +1.9**
LGNR	**Loginova**	**5.34**	**16**		*e*P		**P**	**07 13 39.6 0.0**
LGNR					*e*S		**S**	**07 14 36.9 -3.5**
CIRR	**Tsirk**	**5.39**	**17**		*e*P		**P**	**07 13 41.8 +1.6**
SRDR	**Sredinnyy**	**5.43**	**10**		*e*P		**P**	**07 13 41.4 +0.6**
SRDR					*e*S		**S**	**07 14 40.2 -2.4**
KRSR	**Krestovskiy**	**5.45**	**15**		*e*P		**P**	**07 13 41.6 +0.6**
KRSR					*e*S		**S**	**07 14 40.6 -2.5**
KLY	**Klyuchi**	**5.56**	**15**		P		**P**	**07 13 44.0 +1.5**
KLY	**Klyuchi**	**5.56**	**15**		*e*P		**P**	**07 13 43.8 +1.3**
KLY					*e*S		**S**	**07 14 45.2 -0.5**
KBTR	**Krutoberegovo**	**5.96**	**27**		*e*P		**P**	**07 13 47.1 -0.9**
KBTR					*e*S		**S**	**07 14 50.6 -4.9**
BKI	**Bering**	**6.39**	**46**		*e*P		**P**	**07 13 51.1 -2.8**
BKI					*e*S		**S**	**07 14 55.6 -10**
BKI					Smax			
comp=N,60nm,0.4s								
FX1	**Attu Island--F**	**9.55**	**73**		P		**P**	**07 14 35.8 -1.0**
comp=N,5.7nm,0.3s,baz=322,slow=7.4,SNR=56								
FX1					S		**S**	**07 16 14.5 -8.6**
comp=N,8.2nm,0.3s,baz=303,slow=22,SNR=12								
BILL	**Bilibino**	**17.58**	**10**		*e*P		**P**	**07 16 23.7 +3.1**
BILL					*e*S		**S**	**07 19 35.9 +5.4**
BILL					pmax	pmax		
comp=Z,2.0nm,1.7s								
TIXI	**Tiksi**	**24.51**	**338**		*i* P		**P**	**07 17 30.6 -1.1**
TIXI					pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.4								
ILAR	**Eielson Array**	**31.22**	**43**		P		**P**	**07 18 32.2 -0.5**
comp=Z,0.3nm,0.9s,mb3.0,baz=271,slow=9.3,SNR=4.9								
INK	**Inuvik**	**36.33**	**36**		P		**P**	**07 19 17.2 +0.8**
INK					pmax	pmax		
comp=Z,1.0nm,0.6s								
INK	**Inuvik**	**36.33**	**36**		P		**P**	**07 19 17.1 +0.7**
comp=Z,1.3nm,0.6s,mb4.0,baz=296,slow=7.0,SNR=19								
YKA	**Yellowknife Ar**	**45.59**	**40**		P		**P**	**07 20 33.1 +0.9**
comp=Z,0.3nm,0.6s,mb3.2,baz=300,slow=7.9,SNR=7.6								
MKAR	**Makanchi Array**	**47.92**	**296**		P		**P**	**07 20 48.9 -1.9**
comp=Z,0.2nm,0.3s,mb3.4,baz=63,slow=6.4,SNR=5.7								
PDAR	**Pinedale Array**	**59.70**	**58**		P		**P**	**07 22 17.8 +0.7**
comp=Z,0.4nm,0.7s,mb3.6,baz=315,slow=4.2,SNR=4.5								
HFS	**Hagfors**	**65.54**	**341**		P		**P**	**07 22 54.4 -1.1**
HFS					pmax	pmax		
comp=Z,1.0nm,0.6s								
HFS	**Hagfors**	**65.54**	**341**		P		**P**	**07 22 54.4 -1.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=37,slow=7.4,SNR=4.3								
TXAR	**Lajitas Array**	**72.67**	**65**		P		**P**	**07 23 40.9 +1.3**
comp=Z,0.4nm,0.5s,mb3.5,baz=296,slow=5.1,SNR=8.8								

KRSC 13 07:16:24.1±0.7, 53.10N×160.24E, h36km±2km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.13**	**269**	*i* P	P	07 16 31.0	+0.6
SPN				*i* S	S	07 16 35.9	+1.1
NLC	**Nalytchevo**	**0.54**	**278**	*i* P	P	07 16 35.6	+0.3
NLC				*i* S	S	07 16 44.1	+0.8
SDLR	**Sedlovina**	**0.83**	**283**	*i* P	P	07 16 40.0	+0.6
SDLR				*e*S	S	07 16 50.6	-0.1
UGLR	**Uglovaya**	**0.86**	**278**	*i* P	P	07 16 40.6	+0.8
UGLR				*i* S	S	07 16 52.5	+1.2
SMAR	**Somma**	**0.88**	**281**	*e*P	P	07 16 40.5	+0.4
SMAR				*e*S	S	07 16 52.2	+0.4
AVH	**Avacha**	**0.92**	**281**	*i* P	P	07 16 41.4	+0.8
AVH				*i* S	S	07 16 54.2	+1.4
PET	**Petropavlovsk**	**0.96**	**266**	*i* P	P	07 16 41.4	+0.2
PET				*i* S	S	07 16 53.5	-0.4
KOK	**Koryaka**	**0.98**	**282**	*i* P	P	07 16 42.1	+0.5
KOK				*e*S	S	07 16 55.6	+1.1
KII	**Karymskiy**	**1.05**	**334**	*i* P	P	07 16 43.0	+0.5
KII				*i* S	S	07 16 56.6	+0.5
RUS	**Russkaya**	**1.24**	**238**	*i* P	P	07 16 45.2	0.0
RUS				*i* S	S	07 17 00.7	-0.4
KRMR	**Karymshinskiy**	**1.30**	**259**	*e*P	P	07 16 46.4	+0.2
KRMR				*e*S	S	07 17 02.9	+0.3
GRL	**Gorelyy**	**1.43**	**248**	*e*P	P	07 16 48.6	+0.7
GRL				*i* S	S	07 17 06.3	+0.6
GNL	**Ganaly**	**1.50**	**294**	*e*P	P	07 16 49.8	+0.8
GNL				*e*S	S	07 17 09.4	+1.9
MKZ	**Mys Kozlova**	**1.71**	**31**	*e*P	P	07 16 50.6	-1.3
MKZ				*e*S	S	07 17 10.7	-2.0
APC	**Apacha**	**1.87**	**266**	*i* P	P	07 16 56.1	+1.9
APC				*i* S	S	07 17 19.9	+3.0
APC				Smax			
230nm,0.5s							
TUMR	**Tumrok**	**2.19**	**359**	*i* P	P	07 16 59.6	+0.8
TUMR				*e*S	S	07 17 25.7	+0.8
KMNR	**Kamenistaya**	**2.66**	**360**	*e*P	P	07 17 06.7	+1.1
KMNR				*e*S	S	07 17 38.1	+1.2
PAU	**Pauzhetka**	**2.67**	**234**	*e*P	P	07 17 06.4	+0.8
PAU				*e*S	S	07 17 37.4	+0.3
PAU				Smax			
100nm,0.5s							
PAU	**Pauzhetka**	**2.67**	**234**	*e*P	P	07 17 07.1	+1.5
PAU				*e*S	S	07 17 38.3	+1.2
KPT	**Kopyto**	**2.87**	**360**	*e*P	P	07 17 09.8	+1.2
KPT				*e*S	S	07 17 44.0	+1.7
ZLN	**Zelenaya**	**2.94**	**6**	*e*P	P	07 17 11.2	+1.6
ZLN				*e*S	S	07 17 45.0	+0.9
ESO	**Esso**	**2.97**	**343**	*e*P	P	07 17 10.1	+0.1
ESO				*e*S	S	07 17 43.6	-1.2
ESO				Smax			
20nm,0.7s							
KOZ	**Kozyrevsk**	**2.97**	**356**	*e*P	P	07 17 10.8	+0.8
KOZ				*e*S	S	07 17 44.1	-0.7
LGNR	**Loginova**	**3.00**	**5**	*e*P	P	07 17 11.1	+0.7
LGNR				*e*S	S	07 17 43.5	-2.1
KRSR	**Krestovskiy**	**3.13**	**3**	*e*P	P	07 17 13.6	+1.4
KRSR				*e*S	S	07 17 49.7	+0.9
KLY	**Klyuchi**	**3.23**	**4**	*e*P	P	07 17 15.1	+1.5
KLY				*e*S	S	07 17 51.3	-0.1
SRDR	**Sredinnyy**	**3.24**	**355**	*e*P	P	07 17 13.7	-0.1
SRDR				*e*S	S	07 17 49.3	-2.3
KBTR	**Krutoberegovo**	**3.46**	**25**	*e*P	P	07 17 16.8	-0.1
KBTR				*e*S	S	07 17 55.9	-1.2
BKI	**Bering**	**3.98**	**56**	*e*P	P	07 17 21.6	-2.6
BKI				*e*S	S	07 18 03.7	-6.6
BKI				Smax			
30nm,0.7s							

*NEIC **13** 07:24:24.5, 17.10N×100.07W, h36km, MD3.8(MEX), After MEX.*

MEX 13 07:24:23.5±0.5, 17.04N×100.05W, h42km±6km, MD3.6, 2D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.21**	**274**	*i* P	P	07 24 29.6	-1.4
CAIG				*i* S	S	07 24 34.7	-1.6
CAIG	**El Cayaco**	**0.21**	**274**	⇓*i* P	P	07 24 29.6	-1.4
CAIG				*i* S	S	07 24 34.7	-1.6
ACX	**Acapulco**	**0.21**	**142**	*i* P	P	07 24 30.5	-0.6
ACX				*i* S	S	07 24 36.0	-0.4
ACX	**Acapulco**	**0.21**	**142**	⇓*i* P	P	07 24 29.6	-1.5
ACX				*i* S	S	07 24 34.9	-1.4
PLIG	**Platanillo**	**1.45**	**21**	*i* P	P	07 24 45.9	-1.8
PLIG				*i* S	S	07 25 02.9	-2.8
ZIIG	**Zihuatanejo**	**1.47**	**293**	*i* P	P	07 24 46.1	-1.9
ZIIG				*i* S	S	07 25 03.9	-2.2
UNM	**Universidad Na**	**2.43**	**20**	*e*P	P	07 25 01.0	-0.6
PPM	**Popocatepetl**	**2.43**	**34**	*i* P	P	07 24 59.6	-2.1
PPM				*e*P		07 25 02.0	
PPM				*i* S	S	07 25 27.5	-3.0
IISM	**Ciudad Serdan**	**3.20**	**52**	*e*P	P	07 25 07.0	-5.6
IISM	**Ciudad Serdan**	**3.20**	**52**	*e*P	P	07 25 10.0	-2.6

IDC 13 07:31:05.9±5.2, 0.38S×101.70E, mb3.5/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=286.6km s-min=29.0km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.40**	**123**	P	P	07 38 21.4	-1.3
0.6nm,0.6s,baz=303,slow=9.1,SNR=5.3							
ASAR	**Alice Springs**	**38.88**	**129**	P	P	07 38 32.9	-2.2
0.3nm,0.6s,baz=302,slow=8.4,SNR=6.4							
MKAR	**Makanchi Array**	**49.97**	**343**	P	P	07 40 01.7	-2.1
0.3nm,0.5s,baz=161,slow=8.1,SNR=4.8							
TXAR	**Lajitas Array**	**142.39**	**38**	PKhKP		07 50 38.0	
0.4nm,0.9s,baz=270,slow=0.9,SNR=3.9							

*NIED **13** 07:39:00, 43.40N×147.20E, h53km, Mw4.1 Best double couple: M0 1.88×10^15 NP1:φs74°, δ83°, λ105°. NP2:φs187°, δ17°, λ24°.*
*MOS **13** 07:39:33.9±1.5, 43.57N×147.23E, h69km, mb4.7/15, Error ellipse: s-maj=16.2km s-min=9.2km az=114.6*
*SKHL **13** 07:39:33.0±0.2, 43.50N×147.44E, h33km, mb4.2/2*
*JMA **13** 07:39:33.8±0.2, 43.38N×147.20E, h41km±4km, M4.5*
*IDC **13** 07:39:34.9±0.8, 43.46N×147.45E, h62km±5km, mb3.9/17, mb1 4.1/18, mb1mx4.0/24, mbtmp4.2/18, MS3.0/2, Ms1 3.0/2, ms1mx2.6/30, Error ellipse: s-maj=17.5km s-min=9.7km az=179.0*
*NEIC **13** 07:39:34.3±0.5, 43.54N×147.20E, mb4.6/7, Error ellipse: s-maj=12.2km s-min=9.8km az=179.0*

ISC 13 07:39:32.7±0.8, 43.51N±0.05×147.29E±0.06, h58km±6km, h55km±1.5km: pP-P, n79, σ1ŝ14/91, mb4.3/33, MS3.7/2, 2C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.13**	**263**	P	**P**	**07 39 52.6**	**-0.1**
NEM2				*e*S	**S**	**07 40 06.5**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**1.16**	**297**	⇓*i* PN	**P**	**07 39 52.6**	**-0.4**
YUK				*i* S	**S**	**07 40 07.5**	**-0.6**
YUK				pmax	pmax		
comp=Z,3μm,0.4s							
YUK				pmax	pmax		
comp=N,610nm,0.3s							
YUK				pmax	pmax		
comp=E,690nm,0.2s							
YUK				pmax	pmax		
comp=Z,5μm,0.4s							
YUK				smax			
comp=N,24μm,0.6s							
YUK				smax			
comp=E,18μm,0.6s							
YUK				smax			
comp=N,17μm,0.3s							
YUK				smax			
comp=E,5μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.16**	**297**	⇓*i* P	**P**	**07 39 52.6**	**-0.4**
YUK				AMB	AMB	07 39 53.5	
comp=E,690nm,0.2s							
YUK				AMB	AMB	07 39 53.5	
comp=E,610nm,0.3s							
YUK				AMB	AMB	07 39 53.5	
comp=E,3μm,0.4s							
YUK				AMB	AMB	07 39 53.6	
comp=E,5μm,0.4s							
YUK				*i* S	**S**	**07 40 07.5**	**-0.6**
YUK				A		07 40 11.0	
comp=E,24μm,0.6s							
YUK				A		07 40 11.0	
comp=E,18μm,0.6s							
YUK				A		07 40 13.7	
comp=E,17μm,0.3s							
YUK				A		07 40 13.7	
comp=E,5μm,0.3s							
JRA	**Rausu**	**1.62**	**286**	P	**P**	**07 40 00.5**	**+0.8**
JRA				*e*S	**S**	**07 40 19.8**	**+0.3**
KUR	**Kuril'sk**	**1.77**	**13**	*e*P	**P**	**07 40 00.5**	**-1.1**
KUR				AMB	AMB	07 40 05.6	
comp=E,260nm,0.9s							
KUR				*e*S	**S**	**07 40 21.0**	**-2.0**
KUR				A		07 40 23.0	
comp=E,530nm,0.5s							
KUR				A		07 40 23.0	
comp=E,1μm,0.5s							
JNK	**Nakash**	**1.87**	**273**	P	**P**	**07 40 03.3**	**+0.3**
JNK				*e*S	**S**	**07 40 25.2**	**-0.2**
JAK	**Akkeshi**	**1.96**	**256**	P	**P**	**07 40 04.1**	**-0.2**
JAK				*e*S	**S**	**07 40 27.0**	**-0.7**
JTKR	**Abashiri--Toko**	**2.49**	**282**	P	**P**	**07 40 13.1**	**+1.3**
JTKR				*e*S	**S**	**07 40 43.1**	**+2.0**
JAR	**Ashorobuto**	**2.57**	**266**	P	**P**	**07 40 13.6**	**+0.6**
JAR				*e*S	**S**	**07 40 43.3**	**+0.2**
JOB	**Onbets**	**2.60**	**258**	P	**P**	**07 40 13.4**	**+0.1**
JOB				*e*S	**S**	**07 40 42.9**	**-0.8**
JMP	**Maruseppu**	**2.89**	**281**	P	**P**	**07 40 18.9**	**+1.4**
JCH	**Churui**	**3.01**	**254**	P	**P**	**07 40 18.8**	**-0.4**
JCH				*e*S	**S**	**07 40 52.2**	**-2.1**
JKK2	**Kamakawa 2**	**3.31**	**278**	P	**P**	**07 40 25.2**	**+1.8**
JFR	**Furan**	**3.44**	**266**	P	**P**	**07 40 26.5**	**+1.3**
JFR				*e*S	**S**	**07 41 04.1**	**-1.0**
ASAJ	**Asahikawa**	**3.45**	**282**	P	**P**	**07 40 28.2**	**+2.9**
comp=E,8.2nm,0.3s,baz=101,slow=9.2,SNR=18							
ASAJ				S	**S**	**07 41 11.9**	**+6.7**
comp=E,8.1nm,0.3s,baz=16,slow=33,SNR=9.9							
JNBK	**Urakawa-nobuka**	**3.55**	**251**	P	**P**	**07 40 26.4**	**-0.4**
JSE	**Soyaes**	**3.67**	**295**	P	**P**	**07 40 29.6**	**+1.1**
YSS	**Yuzh-Sakhalins**	**4.70**	**319**	*e*P	**P**	**07 40 40.8**	**-2.1**
YSS	**Yuzh-Sakhalins**	**4.70**	**319**	⇑*e*P	**P**	**07 40 44.9**	**+2.0**
YSS				*e*S	**S**	**07 41 36.7**	**0.0**
YSS				A		07 41 39.0	
comp=E,30nm,0.9s							
YSS				A		07 41 39.0	
comp=E,60nm,0.9s							
CBIJ	**Chichi jima**	**16.90**	**196**	LR	LR	07 48 36.9	
comp=E,28nm,21.6s,baz=155,slow=32							
BILL	**Bilibino**	**26.56**	**16**	*e*P	**P**	**07 45 03.3**	**-3.4**
BILL				*i* *SP	tx	07 45 54.0	
BILL				*i*		07 48 33.5	
BILL				pmax	pmax		
comp=Z,3.0nm,1.1s,mb3.7							
SONM	**Songino Array**	**28.65**	**293**	P	**P**	**07 45 26.1**	**+0.3**
comp=Z,4.6nm,0.6s,mb4.4,baz=83,slow=7.7,SNR=16							
TIXI	**Tiksi**	**29.61**	**348**	*i* P	**P**	**07 45 29.2**	**-4.9**
TIXI				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.6							
IMA	**Indian Mountai**	**38.82**	**34**	*e*P	**P**	**07 46 54.4**	**+1.3**
IMA				pmax	pmax		
comp=Z,38nm,0.6s,mb5.3							
IMA	**Indian Mountai**	**38.82**	**34**	*e*P	**P**	**07 46 54.4**	**+1.3**
comp=Z,38nm,0.6s,mb5.3							
COLA	**College**	**41.20**	**36**	⇓*e*P	**P**	**07 47 14.2**	**+1.3**
COLA	**College**	**41.20**	**36**	*e*P	**P**	**07 47 12.6**	**-0.2**
comp=Z,2.9nm,0.8s,mb4.0							
ZAL	**Zalesovo**	**41.23**	**307**	P	**P**	**07 47 13.3**	**+0.1**
ZAL				pmax	pmax		
comp=Z,2.0nm,0.4s							
ZAL	**Zalesovo**	**41.23**	**307**	P	**P**	**07 47 13.3**	**+0.1**
comp=Z,1.9nm,0.3s,mb4.1,baz=18,slow=9.0,SNR=9.3							
ZAL	**Zalesovo**	**41.23**	**307**	P	**P**	**07 47 13.3**	**+0.1**
ILAR	**Eielson Array**	**41.62**	**36**	P	**P**	**07 47 16.8**	**+0.6**
ILAR				*PP	pP	07 47 31.2	+0.1
ILAR				pmax	pmax		
comp=Z,2.0nm,0.6s							
ILAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
ILAR	**Eielson Array**	**41.62**	**36**	P	**P**	**07 47 16.8**	**+0.6**
comp=Z,1.5nm,0.6s,mb3.8,baz=269,slow=9.0,SNR=24							
ILAR				pP	pP	07 47 31.1	0.0
comp=Z,0.7nm,0.5s,baz=272,slow=7.6,SNR=5.4							
NVS	**Novosibirsk**	**41.94**	**309**	*e*P	**P**	**07 47 19.1**	**+0.2**
MKAR	**Makanchi Array**	**44.78**	**298**	*i* P	**P**	**07 47 42.6**	**+0.5**
MKAR				pmax	pmax		
comp=Z,4.0nm,0.5s							
MKAR	**Makanchi Array**	**44.78**	**298**	P	**P**	**07 47 42.6**	**+0.5**
comp=Z,6.7nm,0.5s,mb4.7,baz=80,slow=9.3,SNR=108							
MKAR				LR	LR	08 05 50.2	
comp=Z,33nm,18.8s,MS3.3,baz=266,slow=35							
INK	**Inuvik**	**46.56**	**30**	*e*P	**P**	**07 47 56.6**	**+0.7**
INK				pmax	pmax		
comp=Z,5.0nm,0.6s							
INK	**Inuvik**	**46.56**	**30**	P	**P**	**07 47 56.9**	**+1.0**
comp=Z,6.1nm,0.7s,mb4.7,baz=300,slow=7.2,SNR=107							
INK	**Inuvik**	**46.56**	**30**	*e*P	**P**	**07 47 56.6**	**+0.7**
comp=Z,5.3nm,0.6s,mb4.7							
JIRN	**Jiri**	**51.04**	**273**	*e*P	**P**	**07 48 31.6**	**+0.5**
comp=Z,4.1nm,0.4s,mb4.8							

GUN	**Gumba**	**51.13**	**274**	*e*P		**P**	**07 48 32.8**	**+1.1**
comp=Z,14nm,0.5s,mb5.2								
KKN	**Kakani**	**51.63**	**274**	*e*P		**P**	**07 48 33.0**	**-2.5**
DMN	**Daman**	**51.86**	**274**	*e*P		**P**	**07 48 31.2**	**-6.0**
GKN	**Gorkha**	**51.98**	**274**	*e*P		**P**	**07 48 38.2**	**+0.1**
KOLN	**Koldanda**	**52.86**	**275**	*e*P		**P**	**07 48 44.6**	**-0.2**
comp=Z,5.1nm,0.5s,mb4.7								
KKAR	**Karatay Array**	**53.91**	**298**	*e*P		**P**	**07 48 52.1**	**-0.2**
KKAR				pmax	pmax			
comp=Z,1.0nm,0.5s,mb4.0								
ARU	**Arti**	**54.59**	**317**	⇑*i* P		**P**	**07 48 53.9**	**-3.1**
ARU				pmax	pmax			
comp=Z,5.0nm,0.7s,mb4.7								
RES	**Resolute Bay**	**55.17**	**17**	*e*P		**P**	**07 48 59.6**	**-1.4**
RES				pmax	pmax			
comp=Z,6.0nm,0.6s,mb4.8								
RES	**Resolute Bay**	**55.17**	**17**	*e*P		**P**	**07 48 59.6**	**-1.4**
comp=Z,5.5nm,0.6s,mb4.8								
YKA	**Yellowknife Ar**	**55.94**	**34**	P		**P**	**07 49 06.4**	**-0.4**
YKA				*PP	pP	07 49 20.6	-1.7	
YKA				pmax	pmax			
comp=Z,1.0nm,0.4s								
YKA				pmax	pmax			
comp=Z,1.0nm,0.4s								
YKA	**Yellowknife Ar**	**55.94**	**34**	P		**P**	**07 49 06.4**	**-0.4**
comp=Z,0.6nm,0.3s,mb4.0,baz=301,slow=6.9,SNR=31								
YKA				pP	pP	07 49 20.6	-1.6	
comp=Z,0.6nm,0.4s,baz=302,slow=7.3,SNR=5.9								
YKA	**Yellowknife Ar**	**55.94**	**34**	P		**P**	**07 49 06.4**	**-0.4**
YKA				pP	pP	07 49 20.6	-1.6	
ARCES	**ARCESS Array B**	**59.50**	**340**	P		**P**	**07 49 30.6**	**-1.1**
ARCES				pmax	pmax			
comp=Z,5.0nm,1.0s								
ARCES	**ARCESS Array B**	**59.50**	**340**	P		**P**	**07 49 30.6**	**-1.1**
comp=Z,4.8nm,1.0s,mb4.5,baz=47,slow=6.5,SNR=23								
JOF	**Joensuu**	**62.34**	**332**	*ep*		**P**	**07 49 48.3**	**-2.7**
comp=Z,0.9nm,0.3s,mb4.4								
WRA	**Warramunga Arr**	**64.25**	**194**	P		**P**	**07 50 02.7**	**-1.4**
WRA				pmax	pmax			
comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**	**64.25**	**194**	P		**P**	**07 50 02.7**	**-1.4**
comp=Z,1.0nm,0.6s,mb4.0,baz=9.0,slow=6.6,SNR=3.9								
KAF	**Kangasniemi**	**64.57**	**333**	*ep*		**P**	**07 50 04.2**	**-1.2**
comp=Z,0.8nm,0.4s,mb4.1,baz=42,slow=6.3								
KAF	**Kangasniemi**	**64.57**	**333**	*e*P		**P**	**07 50 04.2**	**-1.2**
KAF				pmax	pmax			
comp=Z,1.0nm,0.4s,mb4.2								
FINES	**FINESS Array B**	**65.13**	**333**	*e*P		**P**	**07 50 08.0**	**-1.1**
FINES	**FINESS Array B**	**65.13**	**333**	P		**P**	**07 50 08.2**	**-1.0**
comp=Z,4.8nm,0.6s,mb4.7,baz=40,slow=7.9,SNR=29								
OBN	**Obninsk**	**65.56**	**324**	*i* P		**P**	**07 50 09.7**	**-2.3**
OBN				*e*			07 50 44.8	
OBN				pmax	pmax			
comp=Z,24nm,1.5s,mb5.0								
OBN				MLR	MLR			
comp=Z,100nm,18.0s,MS4.1								
NVAR	**Mina Array Bea**	**67.62**	**58**	P		**P**	**07 50 26.6**	**+1.3**
comp=Z,0.6nm,0.6s,mb3.8,baz=304,slow=6.5,SNR=5.3								
NVAR				pP	pP	07 50 42.3	+1.0	
comp=Z,0.8nm,0.6s,baz=293,slow=6.9,SNR=4.8								
ASAR	**Alice Springs**	**67.97**	**193**	P		**P**	**07 50 26.9**	**-0.7**
comp=Z,0.5nm,0.6s,mb3.7,baz=17,slow=5.9,SNR=6.0								
NB2	**NORSAR Subarra**	**69.86**	**339**	P		**P**	**07 50 38.3**	**-0.4**
comp=Z,3.2nm,0.5s,mb4.5,baz=32,slow=6.2								
NB2	**NORSAR Subarra**	**69.86**	**339**	P		**P**	**07 50 38.3**	**-0.4**
NB2				pmax	pmax			
comp=Z,3.0nm,0.5s,mb4.5								
NOA	**NORSAR Array B**	**69.86**	**339**	P		**P**	**07 50 38.4**	**-0.2**
comp=Z,4.5nm,0.6s,mb4.6,baz=32,slow=6.3,SNR=15								
PDAR	**Pinedale Array**	**69.99**	**50**	P		**P**	**07 50 40.2**	**+0.4**
comp=Z,0.2nm,0.4s,mb3.4,baz=315,slow=2.1,SNR=4.0								
KIV	**Kislovodsk**	**70.00**	**312**	⇓*e*P		**P**	**07 50 41.6**	**+1.8**
KIV				pmax	pmax			
comp=Z,13nm,0.9s,mb4.9								
AKASG	**Malin Array Be**	**71.83**	**324**	P		**P**	**07 50 50.5**	**-0.2**
AKASG				pmax	pmax			
comp=Z,3.0nm,0.5s								
AKASG	**Malin Array Be**	**71.83**	**324**	P		**P**	**07 50 50.5**	**-0.2**
comp=Z,3.4nm,0.5s,mb4.5,baz=38,slow=6.0,SNR=19								
ANN	**Anapa**	**72.19**	**315**	*e*P		**P**	**07 51 02.6**	**+10**
ANN				*e*S		S	08 00 14.9	+5.2
ANN				pmax	pmax			
comp=Z,10.0nm,0.7s,mb4.8								
CLL	**Collm**	**77.57**	**333**	*i* P		**P**	**07 51 24.0**	**+0.4**
CLL				pmax	pmax			
comp=Z,9.0nm,1.0s,mb4.7								
CLL	**Collm**	**77.57**	**333**	*i* P		**P**	**07 51 24.0**	**+0.4**
comp=Z,9.0nm,1.0s,mb4.7								
CLL	**Collm**	**77.57**	**333**	P		**P**	**07 51 24.0**	**+0.4**
comp=Z,logA/T=1.0,mb4.7								
BRTR	**Keskin Array B**	**77.78**	**314**	P		**P**	**07 51 27.2**	**+2.2**
comp=Z,0.3nm,0.5s,mb3.5,baz=72,slow=3.9,SNR=4.0								
KHC	**Kasperske Hory**	**79.22**	**331**	*e*P		**P**	**07 51 33.5**	**+0.8**
GERES	**GERESS Array B**	**79.41**	**331**	P		**P**	**07 51 34.0**	**+0.2**
comp=Z,0.4nm,0.3s,mb3.8,baz=39,slow=8.5,SNR=5.8								
TXAR	**Lajitas Array**	**82.70**	**56**	P		**P**	**07 51 52.8**	**+1.3**
comp=Z,0.6nm,0.7s,mb3.7,baz=306,slow=3.8,SNR=8.

comp=Z,7,6nm,0.6s,mb4.7
FITZ Fitzroy Crossi 31.64 125 P **P 08 25 12.7 -1.0**
comp=Z,11nm,0.7s,mb4.8,baz=317,slow=2.8,SNR=15
ENH Enshi 32.27 18 P **P 08 25 18.9 -0.2**
comp=Z,8.4nm,0.8s,mb4.6
LZH Lanzhou 36.73 7 *e*P **P 08 26 02.8 +5.6**
LZH AP pP 08 26 14.9 +8.8
LZH XP sP 08 26 21.4 +11
LZH AMB AMB
comp=Z,40nm,1.2s,mb5.1
GTA Gaotai 39.75 1 *e*P **P 08 26 27.8 +5.3**
GTA AP pP 08 26 33.9 +2.4
GTA XP sP 08 26 36.8 +1.6
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
WRA Warramunga Arr 39.78 121 P **P 08 26 22.5 -0.5**
comp=Z,5.3nm,0.7s,mb4.4,baz=300,slow=9.0,SNR=22
WRA PcP PcP 08 28 29.9 +0.6
comp=Z,0.8nm,0.6s,baz=315,slow=2.4,SNR=5.8
WRAB Tennant Creek 39.79 121 *e*P **P 08 26 22.8 -0.1**
comp=Z,8.8nm,0.6s,mb4.7
WB2 Warramunga Arr 39.79 121 *e*P **P 08 26 22.7 -0.3**
ASPA Alice Springs 41.09 127 ⇓*i*P **P 08 26 34.0 +0.4**
ASAR Alice Springs 41.09 127 P **P 08 26 34.0 +0.3**
comp=Z,6.0nm,0.6s,mb4.4,baz=301,slow=7.8,SNR=72
ASAR PcP PcP 08 28 34.0 +0.5
comp=Z,1.0nm,0.6s,baz=314,slow=2.8,SNR=5.5
SONM Songino Array 48.62 7 P **P 08 27 34.3 +0.7**
comp=Z,2.7nm,0.7s,mb4.4,baz=191,slow=8.2,SNR=8.5
SONM PcP PcP 08 28 59.6 +0.4
comp=Z,1.4nm,0.6s,baz=180,slow=2.9,SNR=3.6
MKAR Makanchi Array 49.30 345 P **P 08 27 38.9 0.0**
comp=Z,6.4nm,0.6s,mb4.8,baz=151,slow=7.7,SNR=55
MKAR Makanchi Array 49.30 345 P **P 08 27 38.9 0.0**
STKA Stephens Creek 51.03 132 *e*P **P 08 27 53.1 +0.8**
comp=Z,3.4nm,0.6s,mb4.5
STKA Stephens Creek 51.03 132 P **P 08 27 52.9 +0.6**
comp=Z,4.4nm,0.6s,mb4.6,baz=301,slow=8.2,SNR=14
ZAL Zalesovo 55.50 350 P **P 08 28 24.8 -0.4**
comp=Z,4.4nm,0.5s,mb4.7,baz=319,slow=6.2,SNR=20
ZAL Zalesovo 55.50 350 P **P 08 28 24.8 -0.4**
BVAR Borovoye Array 58.39 340 P **P 08 28 40.2 -5.5**
comp=Z,2.9nm,0.6s,mb4.5,baz=153,slow=9.7,SNR=17
MATP Matopo 71.37 249 P **P 08 30 10.4 +0.1**
comp=Z,5.8nm,0.8s,mb4.6,baz=85,slow=6.7,SNR=11
FINES FINESS Array B 82.25 332 P **P 08 31 10.2 -0.1**
comp=Z,1.1nm,0.7s,mb3.9,baz=56,slow=10.0,SNR=4.0
TXAR Lajitas Array 144.23 35 PKP PKPdf 08 38 24.6 -4.9
comp=Z,1.3nm,0.9s,baz=250,slow=1.2,SNR=16
JCT Junction City 145.37 29 *e*PKPdf PKPdf 08 38 28.2 -3.2

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*PRU **13** 08:20:04.8, 50.32N×19.26E*
WAR 13 08:20:04.7, 50.17N×19.30E, h1^{km}, MW2.3, Mw2.6, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.32**	**81**	*e*Pg	Pg	08 20 11.2	0.0
OJC				*e*Sg	Sg	08 20 15.9	+0.4
OKC	**Ostrava-Krasne**	**0.82**	**246**	*e*PG	Pg	08 20 20.7	-0.3
OKC				*e*SG	Sg	08 20 32.2	+0.4
NIE	**Niedzica**	**1.00**	**139**	*e*Pg	Pg	08 20 22.9	-1.7
NIE				*e*Sg	Sg	08 20 39.0	+1.1
DPC	**Dobruska-Polom**	**1.92**	**277**	*e*PG	Pg	08 20 37.7	-5.3
DPC				*e*SG	Sg	08 21 04.9	-3.7
UPC	**Upice**	**2.13**	**280**	*e*SG	Sg	08 21 12.1	-3.6

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*BJI **13** 08:24:49.1, 0.60N×97.86E, h29^{km}, mB5.0, mb4.8, Ms4.4, Msz4.0*
*IDC **13** 08:24:50.4±0.5, 0.77N×97.33E, h23^{km}±3^{km}, mb4.2/18, mb1 4.3/19, mb1mx4.2/23, mbtmp4.3/19, ML4.8/1, MS3.5/4, Ms1 3.6/4, ms1mx3.2/34, Error ellipse: s-maj=18.1km s-min=11.5km az=53.0*
*NEIC **13** 08:24:50.6±0.3, 0.73N×97.45E, mb4.6/13, Error ellipse: s-maj=8.5km s-min=7.0km az=76.0*
ISC 13 08:24:49.2±0.4, 0.73N±0.05×97.41E±0.05, h28^{km}, h28^{km}±1.3^{km}: pP-P, n49, σ0^{s}92/51, mb4.5/33, MS3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.26**	**43**	P	**Pn**	**08 26 08.8**	**+0.6**
KULM	**Kulim**	**5.57**	**35**	*e*P	**Pn**	**08 26 12.2**	**-0.3**
KGM	**Kluang**	**6.05**	**78**	P	**Pn**	**08 26 20.3**	**+1.0**
CM31	**Chiang Mai Arr**	**17.69**	**5**	*e*P	**P**	**08 28 52.9**	**-2.6**
20nm,0.8s
CMAR Chiang Mai Arr 17.69 5 P **P 08 28 54.1 -1.3**
1.3nm,0.3s,baz=194,slow=11,SNR=49
CMAR LR LR 08 36 40.8
comp=Z,130nm,21.9s,baz=185,slow=40
PALK Pallekele 17.88 292 *e*P **P 08 28 59.7 +1.8**
7.7nm,0.8s
KKM Kota Kinabalu 19.50 74 P **P 08 29 18.1 +0.8**
KMI Kunming 24.80 12 P **P 08 30 11.5 +1.0**
KMI XP 08 30 21.6
KMI AMB AMB
comp=Z,11nm,1.2s,mb4.3
KMI LR LR
comp=N,307nm,11.7s,MS4.0
KMI LR LR
comp=E,204nm,16.7s,MS4.0
KMI LR LR
comp=Z,367nm,15.0s,MS4.0
KMI Kunming 24.80 12 P **P 08 30 11.5 +1.0**
comp=Z,11nm,1.2s,mb4.3
KMI sP 08 30 21.6
KMI LR LR
comp=Z,370nm,15.0s,MS4.0
SHL Shillong 25.27 348 *e*P **P 08 30 15.0 +0.1**
JIRN Jiri 28.86 339 *e*P **P 08 30 48.5 +0.7**
comp=Z,15nm,0.8s,mb4.8
PKI Pulchoki 29.07 338 *e*P **P 08 30 50.8 +1.1**
comp=Z,8.2nm,0.6s,mb4.6
GUN Gumba 29.20 339 *e*P **P 08 30 50.8 -0.1**
comp=Z,22nm,0.5s,mb5.1
DMN Daman 29.22 337 *e*P **P 08 30 51.8 +0.8**
KKN Kakani 29.32 338 *e*P **P 08 30 51.6 -0.3**
LSA Lhasa 29.43 349 *e*P **P 08 30 53.4 +0.5**
comp=Z,6.6nm,0.8s,mb4.4
GKN Gorkha 29.75 337 *e*P **P 08 30 55.0 -0.8**
comp=Z,15nm,0.7s,mb4.8
KOLN Koldanda 29.97 335 *e*P **P 08 30 57.9 +0.1**
comp=Z,16nm,0.7s,mb4.8
ENH Enshi 31.55 20 *e*P **P 08 31 10.1 -1.5**
comp=Z,9.9nm,0.7s,mb4.8
XAN Xi'an 34.85 17 P **P 08 31 38.8 -1.5**
XAN AP pP 08 31 46.9 -1.7
XAN AMB AMB
comp=Z,21nm,0.7s,mb5.2
NJ2 Nanjing 37.16 31 *e*P **P 08 32 00.5 +0.7**
NJ2 AP pP 08 32 10.3 +2.1
NJ2 XP sP 08 32 14.3 +2.6
NJ2 PP PP 08 33 28.8 +1.8
NJ2 S **S 08 37 44.0 0.0**
NJ2 XS 08 38 00.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
NJ2 LR LR
comp=N,710nm,16.6s,MS4.6
NJ2 LR LR
comp=E,470nm,15.6s,MS4.6
NJ2 LR LR
comp=Z,330nm,16.3s,MS4.2
WRA Warramunga Arr 41.61 122 P **P 08 32 36.2 -0.7**
comp=Z,2.3nm,0.6s,mb4.0,baz=300,slow=9.2,SNR=8.2
WRA pP pP 08 32 44.1 -1.3
comp=Z,5.3nm,0.5s,baz=302,slow=8.9,SNR=16
WRAB Tennant Creek 41.61 122 *e*P **P 08 32 35.9 -1.1**
comp=Z,11nm,0.6s,mb4.7
HHC Hu-ho-hao-te 41.95 16 *e*P **P 08 32 43.8 +4.3**
HHC AP pP 08 32 53.8 +5.9
HHC XP sP 08 32 58.0 +6.6
HHC PP PP 08 34 24.8 +5.1
HHC SCP 08 38 21.5
HHC PCS 08 38 26.6
HHC S **S 08 39 03.8 +7.9**
HHC SCS ScS 08 42 38.0 +0.1
HHC AMB AMB
comp=Z,13nm,1.1s,mb4.5
HHC AMB AMB
comp=Z,107nm,5.6s
HHC LR LR
comp=N,132nm,17.1s,MS4.1
HHC LR LR
comp=E,164nm,16.6s,MS4.1
HHC LR LR
comp=Z,157nm,16.1s,MS4.0
BJT Baijiatuau 42.68 21 *e*P **P 08 32 46.7 +1.3**
comp=Z,12nm,0.6s,mb4.8
ASAR Alice Springs 42.94 127 P **P 08 32 47.7 -0.1**
comp=Z,1.0nm,0.4s,mb3.9,baz=296,slow=7.7,SNR=8.4
ASAR pP pP 08 32 55.8 -0.5
comp=Z,4.2nm,0.7s,baz=299,slow=7.9,SNR=12
ASAR LR LR 08 51 32.2
comp=Z,65nm,18.4s,MS3.6,baz=154,slow=37
KSH Kashi 43.29 336 *e*P **P 08 32 53.1 +2.7**
KSH *e*AP pP 08 33 03.1 +4.3
KSH *e*XP sP 08 33 06.0 +3.7
KSH *e*PP PP 08 34 37.0 +3.9
KSH *e*PCP PcP 08 34 40.5 +0.9
KSH *e*SCP 08 38 28.1
KSH *e*PCS 08 38 32.0
KSH *e*S **S 08 39 19.0 +3.5**
KSH XS 08 39 36.0
KSH *e*SS SS 08 42 27.0 +4.6
KSH *e*SCS ScS 08 42 47.0 +0.9
KSH AMB AMB
comp=Z,480nm,4.4s
KSH LR LR
comp=N,820nm,6.6s
KSH LR LR
comp=E,750nm,5.0s
WMQ Urumqi 43.77 350 P **P 08 32 54.6 +0.3**
WMQ AP pP 08 33 04.6 +1.9
WMQ XP sP 08 33 08.8 +2.6
WMQ PP PP 08 34 38.4 +0.5
WMQ PCP PcP 08 34 41.4 +0.2
WMQ S **S 08 39 22.3 -0.2**
WMQ XS 08 39 38.1
WMQ AMB AMB
comp=Z,2.0nm,0.6s,mb4.0
WMQ AMB AMB
comp=Z,137nm,6.0s
WMQ LR LR
comp=N,46nm,16.6s,MS3.5
WMQ LR LR
comp=E,21nm,15.9s,MS3.5
WMQ LR LR
comp=Z,47nm,16.6s,MS3.5
KS15 Wonju Array Si 46.09 34 *e*P **P 08 33 12.7 -0.1**
SONM Songino Array 47.57 8 P **P 08 33 24.7 +0.3**
comp=Z,2.8nm,0.7s,mb4.4,baz=196,slow=9.0,SNR=8.4
MKAR Makanchi Array 47.75 346 P **P 08 33 25.6 -0.2**
comp=Z,5.4nm,0.6s,mb4.8,baz=157,slow=7.6,SNR=44
MKAR LR LR 08 59 16.7
comp=Z,35nm,18.5s,MS3.4,baz=332,slow=43
PMG Port Moresby 50.55 103 P **P 08 33 48.1 +0.3**
comp=Z,6.8nm,0.7s,mb4.7,baz=291,slow=4.7,SNR=3.9
PMG pP pP 08 33 56.3 -0.1
comp=Z,6.5nm,0.6s,baz=225,slow=10.0,SNR=1.5
STKA Stephens Creek 52.88 132 P **P 08 34 06.2 +1.0**
comp=Z,1.8nm,0.7s,mb4.1,baz=297,slow=8.6,SNR=5.4
STKA pP pP 08 34 13.6 -0.3
comp=Z,5.6nm,0.7s,baz=313,slow=5.6,SNR=7.3
STKA Stephens Creek 52.88 132 *e*P **P 08 34 05.0 -0.2**
OPO Ambohidratompo 52.92 246 P **P 08 34 05.4 -0.2**
comp=Z,0.5nm,0.4s,mb3.8,baz=30,slow=7.2,SNR=3.7
ZAL Zalesovo 54.05 351 P **P 08 34 13.2 -0.2**
comp=Z,5.1nm,0.4s,mb4.8,baz=321,slow=7.3,SNR=21
BVAR Borovoye Array 56.76 341 P **P 08 34 32.0 -1.1**
comp=Z,1.5nm,0.6s,mb4.2,baz=132,slow=7.9,SNR=11
BVAR pP pP 08 34 39.1 -2.7
comp=Z,2.0nm,0.5s,baz=143,slow=7.4,SNR=11
KMBO Kilima Mbogo 60.18 268 P **P 08 34 57.4 -0.1**
comp=Z,1.0nm,0.5s,mb4.1,baz=60,slow=9.4,SNR=6.4
EIL Elat 65.88 302 LR LR 09 05 24.7
comp=Z,66nm,18.9s,MS3.9,baz=117,slow=37
BRTR Keskin Array B 69.58 312 P **P 08 35 56.6 -1.5**
comp=Z,1.2nm,0.8s,mb3.9,baz=130,slow=9.6,SNR=4.5
BRTR pP pP 08 36 04.1 -2.8
comp=Z,1.2nm,0.7s,baz=129,slow=7.9,SNR=4.4
MATP Matopo 70.54 248 P **P 08 36 04.0 -0.2**
comp=Z,7.0nm,0.8s,mb4.7,baz=82,slow=7.2,SNR=12
MAW Mawson 72.30 193 P **P 08 36 14.5 +0.5**
comp=Z,2.8nm,0.7s,mb4.3,baz=280,slow=19,SNR=7.3
LBTB Lobatse 73.86 244 *e*P **P 08 36 24.1 +0.2**
comp=Z,4.9nm,0.8s,mb4.5
BOSA Boshof 74.72 240 P **P 08 36 28.3 -0.5**
comp=Z,5.1nm,1.0s,mb4.4,baz=110,slow=8.6,SNR=4.0
AKASG Malin Array Be 75.76 322 P **P 08 36 32.6 -1.7**
comp=Z,1.3nm,0.5s,mb4.1,baz=86,slow=4.8,SNR=6.4
FINES FINESS Array B 80.51 333 P **P 08 36 59.8 -0.3**
comp=Z,0.6nm,0.4s,mb3.8,baz=113,slow=5.1,SNR=11
ARCES ARCESS Array B 83.05 340 P **P 08 37 13.7 +0.5**
comp=Z,4.0nm,0.8s,mb4.5,baz=90,slow=4.9,SNR=7.6
GERES GERESS Array B 85.31 319 P **P 08 37 25.6 +0.6**
comp=Z,0.4nm,0.2s,mb4.1,baz=101,slow=6.8,SNR=6.8
TXAR Lajitas Array 143.96 32 PKP PKPdf 08 44 23.0 -4.7
comp=Z,0.2nm,0.5s,baz=24,slow=1.0,SNR=4.8
TXAR pPKP 08 44 32.1
comp=Z,0.4nm,0.6s,baz=359,slow=1.2,SNR=5.7

IDC 13 08:35:18.4±5.8, 5.85N×92.22E, mb3.5/2, mb1 3.8/3, mb1mx3.5/21, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=142.9km s-min=48.9km az=84.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.15**	**27**	Pn	P	08 38 40.6	-1.8
0.2nm,0.3s,baz=225,slow=14,SNR=15
WRA Warramunga Arr 48.70 123 P P 08 44 04.0 -2.8
0.5nm,0.8s,baz=306,slow=8.7,SNR=4.6
ASAR Alice Springs 50.14 127 P P 08 44 16.4 -1.5
0.3nm,0.8s,baz=303,slow=8.0,SNR=3.0
TXAR Lajitas Array 141.83 23 PKP PKPdf 08 54 54.2 -0.5
0.1nm,0.4s,baz=178,slow=1.1,SNR=3.5

DJA 13 08:47:30.7±1.2, 8.64S×116.12E, h15^{km}, MD4.5/1, 2C-3D, Error ellipse: s-maj=35.3km s-min=9.0km az=131.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.15**	**358**	⇑*e*Pg	Pg	08 47 33.8	-0.9
KEDI				⇑*e*Sg	Sg	08 47 38.2	+0.8
RATI	**Rata**	**0.59**	**262**	⇓*e*Pg	Pg	08 47 41.6	-1.1
RATI				⇓*e*Sg	Sg	08 47 47.5	-3.2
KELI	**Kelakatan**	**1.66**	**284**	Pn	Pn	08 47 57.8	-1.8
SRDI	**Scrawed**	**1.96**	**274**	⇓*e*Pn	Pn	08 48 01.2	-2.7

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*HEL **13** 08:59:01.8±0.2, 64.74N×30.72E, ML1.9, ML2.1(NAO), Explosion*
*IDC **13** 08:59:02.5±2.5, 64.72N×30.89E, mb1 3.3/4, mb1mx3.1/23, mbtmp3.2/4, ML2.7/4, Error ellipse: s-maj=34.8km s-min=8.7km az=100.0*
*NAO **13** 08:59:03.0±2.1, 64.85N×30.44E, ML2.1*
*BER **13** 08:59:03.8±3.5, 64.82N×30.45E, ML2.1(NAO), Suspected explosion*
ISC 13 08:58:59.8±0.6, 64.76N±0.03×30.7E±0.1, n19, σ1^{s}28/41, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KJN	**Kajaani**	**1.47**	**244**	*e*P	**Pn**	**08 59 28.0**	**+0.5**
KJN				*e*S	**Sb**	**08 59 46.1**	**-0.6**
KU4	**Liikasenvaara**	**1.68**	**344**	*e*P	**Pn**	**08 59 31.7**	**+1.0**
KU4				*e*S	**Sb**	**08 59 53.5**	**+0.4**
JOF	**Joensuu**	**1.86**	**172**	*e*P	**Pn**	**08 59 33.8**	**+0.5**
JOF				*e*S	**Sn**	**08 59 57.5**	**-0.3**
JOF				MSG		09 00 03.3	
comp=Z,4.5nm,0.1s
OUL Oulu 2.08 281 *e*P **Pn 08 59 38.2 +1.9**
OUL *e*S **Sn 09 00 04.0 +0.7**
OUL MSG 09 00 06.1
comp=Z,9.3nm,0.1s
SUF Sumiainen 2.88 227 *e*P **Pn 08 59 49.4 +1.6**
SUF *e*PB **Pb 08 59 52.3 +0.5**
SUF *e*S **Sn 09 00 23.7 +0.1**
SUF MSG 09 00 30.0
comp=Z,3.9nm,0.2s
APA0 Apatity Array 3.01 17 *e*P **Pn 08 59 51.5 +1.8**
APA0 *e*PG **Pg 08 59 56.4 -3.5**
APA0 *e*S **Sn 09 00 26.8 -0.2**
APA0 *e*SG **Sg 09 00 35.2 -4.8**
APA0 Apatity Array 3.01 17 Pn **Pn 08 59 51.5 +1.8**
baz=194,slow=14
APA0 Pg **Pg 08 59 56.4 -3.5**
baz=204,slow=16
APA0 Sn **Sn 09 00 26.8 -0.2**
baz=197,slow=28
APA0 Lg 09 00 35.2
baz=177,slow=28
FIA0 FINESS Array S 3.93 214 *e*P **Pn 09 00 03.4 +0.7**
FIA0 *e*PG **Pg 09 00 12.3 -6.1**
FIA0 *e*S **Sn 09 00 49.1 -1.2**
FIA0 *e*SG **Sg 09 01 03.7 -7.1**
FIA0 FINESS Array S 3.93 214 Pn **Pn 09 00 03.4 +0.7**
baz=27,slow=14
FIA0 Pg **Pg 09 00 12.3 -6.1**
baz=29,slow=16
FIA0 Sn **Sn 09 00 49.1 -1.2**
FIA0 Lg 09 01 03.7
baz=27,slow=28
FINES FINESS Array B 3.93 214 Pn **Pn 09 00 03.3 +0.5**
comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=8.2
FINES Lg 09 01 03.7
comp=Z,1.1nm,0.3s,baz=32,slow=26,SNR=8.6
ARA0 ARCESS Array S 5.21 339 Pn **Pn 09 00 19.5 -1.4**
baz=155,slow=14
ARA0 Sn **Sn 09 01 18.1 -4.5**
baz=151,slow=28
ARA0 Lg 09 01 38.4
baz=150,slow=37
ARA0 ARCESS Array S 5.21 339 *e*P **Pn 09 00 19.5 -1.4**
ARA0 *e*S **Sn 09 01 18.1 -4.5**
ARA0 *e*SB **Sb 09 01 38.4 +2.9**
ARCES ARCESS Array B 5.21 339 Pn **Pn 09 00 20.1 -0.7**
comp=Z,0.5nm,0.3s,baz=156,slow=13,SNR=53
ARCES Sn **Sn 09 01 18.8 -3.8**
comp=Z,0.6nm,0.3s,baz=153,slow=24,SNR=8.2
ARCES Lg 09 01 43.9
comp=Z,0.7nm,0.3s,baz=145,slow=33,SNR=7.3
HFS Hagfors 9.13 247 Pn **P 09 01 14.4 -1.4**
baz=53,slow=14
HFS Sn **Sn 09 02 50.8 -10**
baz=50,slow=28
HFS Hagfors 9.13 247 *e*P **P 09 01 14.4 -1.4**
HFS *e*S **Sn 09 02 50.8 -10**
HFS Hagfors 9.13 247 Pn **P 09 01 13.9 -1.9**
comp=Z,0.0nm,0.3s,baz=58,slow=14,SNR=4.6
NB2 NORSAR Subarra 9.63 256 *e*P **P 09 01 21.1 -1.3**
NB2 NORSAR Subarra 9.63 256 Pn **P 09 01 21.1 -1.3**
baz=60
NOA NORSAR Array B 9.63 256 Pn **P 09 01 20.7 -1.8**
comp=Z,0.2nm,0.3s,baz=83,slow=8.6,SNR=2.4

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*NEIC **13** 08:59:12.3, 15.43N×96.12W, h9^{km}, MD3.9(MEX), After MEX.*
MEX 13 08:59:14.5±1.8, 15.52N×96.01W, h9^{km}±11^{km}, MD4.1, 1C-1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.26**	**338**	*i*P	Pg	08 59 18.6	-1.4
HUIG				*i*S	Sg	08 59 23.9	+0.2
HUIG	**Huatulco**	**0.26**	**338**	⇓*i*P	Pg	08 59 18.7	-1.3
HUIG				*i*S	Sg	08 59 23.5	-0.2
VHO	**Vista Hermosa**	**1.69**	**336**	*e*P	Pn	08 59 41.1	-3.4
VHO				*e*S	Sn	08 59 59.7	-6.7
VHO	**Vista Hermosa**	**1.69**	**336**	⇑*e*P	Pn	08 59 42.3	-2.2
VHO				*i*S	Sn	09 00 01.3	-5.1
OXX	**Oaxaca**	**1.70**	**336**	*e*P	Pn	08 59 43.0	-1.5
OXX				*i*S	Sn	09 00 03.5	-3.0
OXX	**Oaxaca**	**1.70**	**336**	*e*P	Pn	08 59 43.0	-1.5
OXX				*i*S	Sn	09 00 01.0	-5.5
CMIG	**Matias Romero**	**1.90**	**34**	*e*P	Pn	08 59 43.6	-3.8
CMIG				*e*S	Sn	09 00 07.8	-3.8
CMIG	**Matias Romero**	**1.90**	**34**	*e*P	Pn	08 59 43.0	-4.4
CMIG				*e*S	Sn	09 00 06.2	-5.4
PNIG	**Pinotepa**	**2.21**	**293**	*e*P	Pn	08 59 47.8	-4.2
PNIG				*e*S	Sn	09 00 13.7	-6.0
EVV	**El Vigia**	**2.98**	**12**	*e*P	Pn	09 00 09.0	+6.0
IISM	**Ciudad Serdan**	**3.69**	**339**	*e*P	Pn	09 00 17.0	+4.1
IISM				*i*S	Sn	09 00 57.0	0.0
ACX	**Acapulco**	**3.99**	**290**	*e*P	Pn	09 00 15.0	-2.2
ACX				*e*S	Sn	09 00 54.5	-10
PPM	**Popocatepetl**	**4.32**	**325**	*e*P	Pn	09 00 18.3	-3.7
PPM				*e*S	Sn	09 01 15.8	+2.6
PPM	**Popocatepetl**	**4.32**	**325**	*e*P	Pn	09 00 18.2	-3.8
PPM				*e*P		09 00 25.0	
PPM				*e*S	Sn	09 01 08.1	-5.1
PPM				*i*S	Sn	09 01 16.0	+2.9
UNM	**Universidad Na**	**4.85**	**322**	*e*P	Pn	09 00 40.0	+11

IDC 13 09:04:17.9±1.0, 1.62S×99.63E, mb3.9/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=33.7km s-min=22.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	P	09 08 51.4	-3.3
0.1nm,0.3s,baz=196,slow=11,SNR=4.7
WRA Warramunga Arr 38.50 121 P P 09 11 41.3 -2.5
0.6nm,0.5s,baz=302,slow=9.3,SNR=7.7
ASAR Alice Springs 39.77 126 P P 09 11 53.9 -0.6
0.6nm,0.8s,baz=299,slow=7.4,SNR=4.8
MKAR Makanchi Array 50.57 345 P P 09 13 18.4 -1.9
0.4nm,0.3s,baz=165,slow=8.6,SNR=6.6
OPO Ambohidratompo 54.06 248 P P 09 13 44.8 -2.1
1.4nm,0.3s,baz=101,slow=3.7,SNR=9.3
ZAL Zalesovo 56.72 350 P P 09 14 03.5 -2.2
1.6nm,0.4s,baz=275,slow=1.7,SNR=4.8
TXAR Lajitas Array 144.62 37 PKP PKPdf 09 23 56.3 -2.7
0.4nm,0.4s,baz=207,slow=0.4,SNR=18

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*IDC **13** 09:05:45.7±1.8, 1.81S×99.14E, mb3.8/9, mb1 4.0/9, mb1mx3.8/19, mbtmp3.8/9, Error ellipse: s-maj=79.8km s-min=18.0km az=56.0*
*NEIC **13** 09:05:50.8±0.8, 1.65S×99.41E, h30^{km}, mb4.4/1, Error ellipse: s-maj=31.5km s-min=9.8km az=63.0*
ISC 13 09:05:49.4±1.1, 1.6S±0.1×99.5E±0.2, h33^{km}, n12, σ0^{s}86/11, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.92**	**10**	*e*P	**P**	**09 07 31.1**	**0.0**
CMAR	**Chiang Mai Arr**	**19.91**	**359**	P	**P**	**09 10 20.1**	**-1.1**
1.7nm,0.7s,baz=188,slow=9.8,SNR=11
WRA Warramunga Arr 38.68 121 P **P 09 13 12.1 +0.1**
1.1nm,0.9s,mb3.6,baz=301,slow=9.1,SNR=7.0
WRAB Tennant Creek 38.69 121 P **P 09 13 11.6 -0.5**
7.6nm,1.1s,mb4.3
ASAR Alice Springs 39.95 126 P **P 09 13 22.8 +0.2**
0.5nm,0.6s,mb3.4,baz=302,slow=7.6,SNR=4.8
SONM Songino Array 49.57 6 P **P 09 14 41.8 +2.5**
0.7nm,0.6s,mb3.9,baz=191,slow=7.3,SNR=3.1
STKA Stephens Creek 49.84 132 P **P 09 14 41.5 -0.1**
1.0nm,0.4s,mb4.2,baz=327,slow=11,SNR=2.9
MKAR Makanchi Array 50.47 345 P **P 09 14 46.2 0.0**
1.4nm,0.6s,mb4.2,baz=153,slow=7.7,SNR=7.9
ZAL Zalesovo 56.64 350 P **P 09 15 31.8 +0.1**
2.0nm,0.4s,mb4.5,baz=37,slow=6.7,SNR=4.1
BVAR Borovoye Array 59.59 340 P **P 09 15 51.2 -1.2**
0.6nm,0.7s,mb3.8,baz=146,slow=5.3,SNR=4.9
FINES FINESS Array B 83.48 332 P **P 09 18 15.8 +0.8**
0.5nm,0.6s,mb3.7,baz=329,slow=8.1,SNR=3.8
TXAR Lajitas Array 144.69 36 PKPbc PKPbc 09 25 25.4 +2.1
1.1nm,0.6s,baz=265,slow=1.2,SNR=16

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*IDC **13** 09:20:00.0±1.7, 1.76S×99.56E, mb3.8/8, mb1 4.0/8, mb1mx3.8/18, mbtmp3.8/8, MS2.9/1, Ms1 3.1/1, ms1mx2.6/32, Error ellipse: s-maj=80.4km s-min=17.3km az=58.0*
*NEIC **13** 09:20:04.3±0.8, 1.79S×99.57E, h30^{km}, mb4.2/1, Error ellipse: s-maj=30.5km s-min=8.8km az=64.0*
ISC 13 09:20:03.2±1.3, 1.7S±0.2×99.6E±0.3, h33^{km}, n11, σ0^{s}58/10, mb4.0/8, MS2.7/1, Southern Sumatera

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

KULM Kulim 7.02 8 P **P 09 21 46.9 +0.6**
CMAR Chiang Mai Arr 20.05 358 P **P 09 24 35.4 -1.1**
0.7nm,0.6s,baz=190,slow=10,SNR=5.0
CMAR LR LR 09 32 10.3
comp=Z,34nm,19.1s,MS2.7,baz=165,slow=36
WRA Warramunga Arr 38.45 121 P **P 09 27 23.5 -0.4**
0.8nm,0.5s,mb3.7,baz=302,slow=9.2,SNR=9.6
WRA PcP PcP 09 29 37.8 +0.6
0.4nm,1.0s,baz=316,slow=2.5,SNR=4.9
WRAB Tennant Creek 38.46 121 P **P 09 27 23.3 -0.6**
3.0nm,0.7s,mb4.1
ASAR Alice Springs 39.72 126 P **P 09 27 35.1 +0.8**
0.3nm,0.5s,mb3.3,baz=299,slow=7.0,SNR=5.5
STKA Stephens Creek 49.62 132 P **P 09 28 53.8 +0.1**
2.0nm,1.0s,mb4.1,baz=301,slow=12,SNR=2.6
SONM Songino Array 49.69 6 P **P 09 28 54.5 +0.5**
0.5nm,0.5s,mb3.8,baz=190,slow=8.8,SNR=2.8
MKAR Makanchi Array 50.65 345 P **P 09 29 01.2 -0.1**
0.5nm,0.3s,mb3.9,baz=159,slow=8.7,SNR=12
ZAL Zalesovo 56.81 350 P **P 09 29 46.3 -0.3**
1.5nm,0.4s,mb4.4,baz=304,slow=8.0,SNR=7.1
FINES FINESS Array B 83.68 332 P **P 09 32 30.2 +0.5**
2.9nm,1.0s,mb4.3,baz=236,slow=5.0,SNR=5.0
TXAR Lajitas Array 144.69 37 PKP PKPdf 09 39 38.9 +1.6
1.0nm,0.5s,baz=192,slow=1.1,SNR=13

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*GUC **13** 09:25:25.2±0.8,33.14S×72.93W,h25km±3km,ML5.2*
*BJI **13** 09:25:27.6,33.10S×72.80W,h30km,mB5.4,Ms5.3,Msz5.0*
*HRVD **13** 09:25:27.6±0.2,33.27S×73.24W,h12km,MW5.4/74, Centroid moment Tensor Solution. LP body waves: s62,c103;Mantle waves: s74,c148; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.33±.03; $M_{\theta\theta}$0.04±.02; $M_{\phi\phi}$1.29±.03; $M_{r\theta}$0.10±.07; $M_{\theta\phi}$0.53±.02; $M_{\phi r}$0.31±.06; Best double couple: $M_0$1.444×10^{17} NP1: ϕ_s21°,δ38°,λ-89°. NP2:ϕ_s200°,δ52°,λ-91°. Principal axes: T 1.521, Plg7°, Azm290°; N -.157, Plg0°, Azm200°; P -1.367, Plg83°, Azm106°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 09:25:27.6±0.1,33.14S×72.85W,mb5.6/95,MS4.7/81, MW5.3,ML5.2(GUC) Error ellipse: s-maj=3.7km s-min=2.5km az=48.0,Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.2×10^{17} NP1:ϕ_s235°,δ49°,λ-51°. NP2:ϕ_s5°,δ54°, λ-125°. Principal axes: T 1.18, Plg3°, Azm119°; N .02, Plg28°, Azm27°; P -1.2, Plg62°, Azm215°;*
NEIC Felt [III] at Santiago, Valparaiso and Vina del Mar; [II] at Curico, Rancagua, San Fernando and Talca.
*MOS **13** 09:25:27.4±1.0,32.99S×72.95W,h33km,mb5.7/48, MS4.7/32 Error ellipse: s-maj=13.2km s-min=6.8km az=101.4*
*IDC **13** 09:25:28.7±3.4,33.13S×72.90W,h36km±26km,mb5.1/15, mb1 5.2/18,mb1mx5.1/19,mbtmp5.3/18,ML5.0/3,MS4.6/19, Ms1 4.6/19,ms1mx4.6/28,Error ellipse: s-maj=17.3km s-min=12.2km az=96.0*
ISC 13 09:25:26.1±0.1,**33.13S**±0.02×**72.94W**±0.02,**h30**km, **h30**km±.5km:**pP-P,n421,σ1900**/292,**mb5.5**/105,**MS4.7**/91, **24C-28D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**1.09**	**85**	⇑iP	**Pn**	**09 25 45.2**	**-0.3**
IHA				*i* S	**Sn**	**09 25 59.9**	**+0.2**
LCCH	**Las Cruces**	**1.20**	**107**	⇓iP	**Pn**	**09 25 46.5**	**-0.5**
LLCH	**Llolleo**	**1.20**	**114**	⇑iP	**Pn**	**09 25 45.9**	**-1.2**
LLCH				*i* S	**Sn**	**09 26 01.4**	**-1.1**
PACH	**Papudo**	**1.40**	**65**	*e*P	**Pn**	**09 25 49.3**	**-0.6**
LNV	**Longovilo**	**1.52**	**123**	⇑iP	**Pn**	**09 25 51.1**	**-0.5**
ROCH	**El Roble**	**1.62**	**85**	⇓iP	**Pn**	**09 25 53.3**	**+0.1**
CHNG	**Los Chungos**	**1.74**	**45**	⇑iP	**Pn**	**09 25 54.1**	**-0.7**
CHNG				*i* S	**Sn**	**09 26 16.4**	**+0.3**
CHNG				AMP		09 26 17.7	
	comp=E,11μm,0.6s						
TACH	**Talagante**	**1.75**	**108**	⇓iP	**Pn**	**09 25 54.7**	**-0.2**
PTCH	**Petorca**	**1.90**	**63**	*e*P	**Pn**	**09 25 57.0**	**-0.1**
PTCH				*i* S	**Sn**	**09 26 20.9**	**+0.7**
PTCH				AMP		09 26 23.4	
	comp=N,25μm,0.4s						
SAN	**Santiago**	**1.93**	**100**	*e*P	**Pn**	**09 25 57.9**	**+0.3**
SAN				*i* S	**Sn**	**09 26 22.1**	**+1.1**
DSCH	**Colegio Aleman**	**2.00**	**98**	*e*P	**Pn**	**09 25 59.1**	**+0.5**
DSCH				*i* S	**Sn**	**09 26 24.1**	**+1.3**
DSCH				AMP		09 26 26.0	
	comp=E,79μm,0.5s						
JACH	**Jahuel**	**2.02**	**78**	⇓iP	**Pn**	**09 25 58.8**	**0.0**
CLCH	**Cerro Calan**	**2.03**	**98**	⇑iP	**Pn**	**09 25 59.4**	**+0.5**
CLCH				*i* S	**Sn**	**09 26 24.7**	**+1.2**
CLCH				AMP		09 26 27.4	
	comp=E,31μm,0.7s						
FSR	**Penalolen**	**2.05**	**100**	*e*P	**Pn**	**09 25 60.0**	**+0.7**
FSR				*i* S	**Sn**	**09 26 25.1**	**+1.1**
FSR				AMP		09 26 27.6	
	comp=N,26μm,0.5s						
CHCH	**Chadas Angostu**	**2.07**	**113**	⇓iP	**Pn**	**09 25 59.3**	**-0.2**
PCH	**Pirque**	**2.08**	**104**	⇓iP	**Pn**	**09 26 00.2**	**+0.5**
ILCH	**Illapel**	**2.11**	**46**	*e*P	**Pn**	**09 25 59.5**	**-0.6**
ILCH				*i* S	**Sn**	**09 26 25.7**	**0.0**
SFDO	**San Fernando**	**2.18**	**133**	⇓iP	**Pn**	**09 26 00.6**	**-0.5**
CACH	**El Canelo**	**2.18**	**117**	⇑iP	**Pn**	**09 26 01.9**	**+0.7**
FCH	**Farellones**	**2.23**	**96**	⇑iP	**Pn**	**09 26 02.6**	**+0.8**
FCH				*i* S	**Sn**	**09 26 30.4**	**+1.8**
FCH				AMP		09 26 34.0	
	comp=N,16μm,0.7s						
NICH	**Los Niches**	**2.34**	**143**	⇑iP	**Pn**	**09 26 03.0**	**-0.5**
NICH				*i* S	**Sn**	**09 26 32.0**	**+0.4**
LMEL	**Las Melosas**	**2.39**	**108**	⇑iP	**Pn**	**09 26 04.5**	**+0.3**
LMEL				*i* S	**Sn**	**09 26 34.1**	**+1.3**
LMEL				AMP		09 26 40.6	
	comp=N,16μm,0.2s						
CICH	**Cipreses**	**2.41**	**120**	⇓iP	**Pn**	**09 26 04.8**	**+0.5**
TALC	**Talca**	**2.50**	**155**	⇑iP	**Pn**	**09 26 04.7**	**-1.1**
TALC				*i* S	**Sn**	**09 26 31.9**	**-3.7**
CNCO	**Chanco**	**2.62**	**173**	⇓iP	**Pn**	**09 26 05.3**	**-2.0**
LNCH	**Linares**	**2.92**	**158**	*e*P	**Pn**	**09 26 13.4**	**+1.7**
TLL	**Tololo Astrono**	**3.47**	**32**	⇓iP	**Pn**	**09 26 18.8**	**-0.6**
CCHI	**Chillan**	**3.53**	**169**	⇓iP	**Pn**	**09 26 19.3**	**-1.0**
CCHI				*i* S	**Sn**	**09 26 57.5**	**-4.2**
CFAA	**Coronel Fontan**	**4.26**	**70**	Pn	**Pn**	**09 26 31.6**	**+1.0**
	comp=N,7.8nm,0.3s,baz=247,slow=12,SNR=455						
CFAA				Sn	**Sn**	**09 27 19.4**	**-0.6**
	comp=N,2.9nm,0.3s,baz=246,slow=14,SNR=4.5						
CFAA				LR	LR	09 28 18.3	
	comp=N,2μm,19.8s,baz=253,slow=40						
VACH	**Vallenar**	**4.91**	**23**	*e*P	**Pn**	**09 26 37.8**	**-2.1**
PLCA	**Paso Flores**	**7.82**	**167**	‖*e*P	**Pn**	**09 27 18.3**	**-2.5**
PLCA				pmax	pmax		
	comp=Z,100nm,0.8s						
PLCA	**Paso Flores**	**7.82**	**167**	Pn	**Pn**	**09 27 18.6**	**-2.2**
	comp=Z,10nm,0.3s,baz=338,slow=13,SNR=302						
PLCA				Sn	**Sn**	**09 29 00.2**	**+11**
	comp=Z,7.6nm,0.3s,baz=252,slow=20,SNR=3.6						
PLCA				LR	LR	09 30 16.4	
	comp=Z,3μm,18.3s,baz=345,slow=37						
PLCA	**Paso Flores**	**7.82**	**167**	‖*e*P	**Pn**	**09 27 18.3**	**-2.5**
	comp=Z,100nm,0.8s						
LVC	**Limon Verde**	**11.06**	**20**	Pn	**P**	**09 27 59.7**	**-5.9**
	comp=Z,1.9nm,0.3s,baz=190,slow=5.6,SNR=23						
LVC				Sn	**S**	**09 30 18.8**	**+10**
	comp=Z,4.5nm,0.3s,baz=146,slow=18,SNR=5.0						
LVC				LR	LR	09 32 03.3	
	comp=Z,2μm,20.0s,baz=207,slow=36						
LVC	**Limon Verde**	**11.06**	**20**	*e*P	**P**	**09 27 59.1**	**-6.5**
	comp=Z,23nm,0.7s						
COYC	**Coyhaique**	**12.44**	**177**	*e*P	**P**	**09 28 22.0**	**-2.1**
LPA	**La Plata**	**12.58**	**102**	*ce*P	**P**	**09 28 23.0**	**-2.9**
LPA				*ep*P		09 28 30.0	
LPA				*es*P		09 28 35.0	
LPA				*e*S	**S**	**09 30 45.0**	**-0.9**
LPA				*es*S		09 30 52.0	
ARE	**Arequipa**	**16.65**	**5**	*e*P	**P**	**09 29 22.0**	**+3.0**
LPAZ	**La Paz**	**17.32**	**16**	*e*P	**P**	**09 29 28.8**	**+1.3**
LPAZ				pmax	pmax		
	comp=Z,75nm,0.8s						
LPAZ	**La Paz**	**17.32**	**16**	P	**P**	**09 29 28.8**	**+1.3**
	comp=Z,3.2nm,0.3s,baz=190,slow=8.3,SNR=80						
LPAZ				LR	LR	09 35 41.7	
	comp=Z,942nm,20.2s,baz=265,slow=35						
LPAZ	**La Paz**	**17.32**	**16**	*e*P	**P**	**09 29 28.8**	**+1.3**
	comp=Z,75nm,0.8s						
SIV	**San Ignacio**	**20.16**	**35**	P	**P**	**09 29 59.7**	**-1.3**
	comp=Z,75nm,0.8s,baz=222,slow=9.2,SNR=99						
NNA	**Nana**	**21.35**	**349**	*e*P	**P**	**09 30 13.3**	**+0.2**
	comp=Z,78nm,0.9s,mb5.0						
NNA				LR	LR		
	comp=Z,548nm,19.0s,MS4.0						
USHA	**Ushuaia**	**21.93**	**173**	P	**P**	**09 30 19.2**	**+0.6**
	comp=Z,37nm,0.8s,mb4.9,baz=344,slow=4.7,SNR=15						
USHA				LR	LR	09 39 03.6	
	comp=Z,1μm,20.1s,MS4.4,baz=329,slow=37						
SAML	**Samuel**	**25.70**	**23**	⇓*i*P	**P**	**09 30 55.4**	**-0.1**
	comp=Z,83nm,0.9s,mb5.3						
SAML				LR	LR		
	comp=Z,944nm,20.0s,MS4.3						
BDFB	**Brasilia**	**28.49**	**58**	P	**P**	**09 31 20.0**	**-1.0**
	comp=Z,46nm,0.8s,mb5.2,baz=232,slow=6.0,SNR=29						
BDFB				LR	LR	09 42 50.5	
	comp=Z,3μm,18.1s,MS5.0,baz=233,slow=37						
BAO	**Brasilia Array**	**28.51**	**58**	P	**P**	**09 31 19.0**	**-2.2**
CAM4	**Nova Friburgo**	**28.85**	**76**	⇓*i*P	**P**	**09 31 23.7**	**-0.5**
CAM4				*i*	pP	09 31 32.5	-0.4
CAM4				*i*		09 31 35.1	
CAM4				*i*		09 31 56.1	
CAM4				*i*		09 32 06.6	
CAM3	**Guarapari**	**31.30**	**75**	⇓*i*P	**P**	**09 31 44.6**	**-1.3**
CAM3				*i*		09 31 47.4	
RPN	**Rapa Nui**	**31.93**	**271**	PFAKE		09 32 00.0	+8.6
RPN				LR	LR		
	comp=Z,782nm,21.0s,MS4.4						
OTAV	**Otavalo**	**33.59**	**350**	*e*P	**P**	**09 32 07.3**	**+1.2**
	comp=Z,34nm,1.1s,mb5.2						
OTAV				*e*PcP	PcP	09 34 46.3	+0.3
OTAV				LR	LR		
	comp=Z,747nm,19.0s,MS4.4						
PAYG	**Puerto Ayora**	**36.17**	**330**	PFAKE		09 32 40.0	+12
PAYG				LR	LR		
	comp=Z,907nm,20.0s,MS4.5						
ROSC	**El Rosal**	**37.80**	**358**	P	**P**	**09 32 41.5**	**-0.2**
	comp=Z,30nm,0.8s,mb5.1,baz=140,slow=3.8,SNR=16						
ROSC				LR	LR	09 48 06.8	
	comp=Z,736nm,20.1s,MS4.5,baz=338,slow=36						
SDV	**Santo Domingo**	**41.84**	**3**	*e*P	**P**	**09 33 14.4**	**-0.8**
	comp=Z,32nm,1.0s,mb4.9						
SDV				*e*PcP	PcP	09 35 10.4	-1.0
SDV				LR	LR		
	comp=Z,605nm,20.0s,MS4.5						
RCBR	**Riachuelo**	**43.84**	**60**	PFAKE		09 33 40.0	+8.5
RCBR				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
JTS	**JuntasAbangare**	**44.67**	**343**	*e*P	**P**	**09 33 38.5**	**+0.2**
JTS				pmax	pmax		
	comp=Z,35nm,1.1s						
JTS				MLR	MLR		
	comp=Z,153nm,19.0s						
JTS	**JuntasAbangare**	**44.67**	**343**	*e*P	**P**	**09 33 38.5**	**+0.3**
	comp=Z,35nm,1.1s,mb5.1						
JTS				LR	LR		
	comp=Z,153nm,19.0s,MS4.0						
VNA3	**Neumayer Olymp**	**50.44**	**158**	*e*	**P**	**09 34 31.6**	**+9.0**
VNA3	**Neumayer Olymp**	**50.44**	**158**	*e*	**P**	**09 34 34.7**	**+12**
VNA3	**Neumayer Olymp**	**50.44**	**158**	⇓*i*P	**P**	**09 34 22.4**	**-0.2**
VNA3				*e*	pP	09 34 31.6	-0.1
VNA3				*e*		09 34 34.7	
VNA1	**Neumayer--Stat**	**50.76**	**157**	*e*	**P**	**09 34 34.7**	**+10**
VNA1	**Neumayer--Stat**	**50.76**	**157**	*e*	**P**	**09 34 38.0**	**+13**
VNA1	**Neumayer--Stat**	**50.76**	**157**	⇑*i*P	**P**	**09 34 25.7**	**+0.7**
VNA1				*e*	pP	09 34 34.7	+0.5
VNA1				*e*		09 34 38.0	
VNA2	**Neumayer--Watz**	**51.10**	**157**	*e*	**P**	**09 34 36.5**	**+8.9**
VNA2	**Neumayer--Watz**	**51.10**	**157**	*e*	**P**	**09 34 40.3**	**+13**
VNA2	**Neumayer--Watz**	**51.10**	**157**	⇓*i*P	**P**	**09 34 27.4**	**-0.2**
VNA2				*e*	pP	09 34 36.5	-0.2
VNA2				*e*		09 34 40.3	
SJG	**San Juan**	**51.36**	**8**	*e*P	**P**	**09 34 27.9**	**-2.4**
SJG				pmax	pmax		
	comp=Z,84nm,1.2s						
SJG				MLR	MLR		
	comp=Z,610nm,22.0s						
SJG	**San Juan**	**51.36**	**8**	*e*P	**P**	**09 34 27.9**	**-2.4**
	comp=Z,84nm,1.2s,mb5.5						
SJG				LR	LR		
	comp=Z,610nm,22.0s,MS4.6						
SNAA	**Sanae**	**52.67**	**158**	*e*	**P**	**09 34 47.8**	**+8.4**
SNAA	**Sanae**	**52.67**	**158**	*e*	**P**	**09 34 50.9**	**+11**
SNAA	**Sanae**	**52.67**	**158**	⇓*i*P	**P**	**09 34 38.8**	**-0.6**
SNAA				*e*	pP	09 34 47.8	-0.8
SNAA				*e*		09 34 50.9	
TEIG	**Tepich**	**55.04**	**342**	*e*P	**P**	**09 34 55.9**	**-1.6**
	comp=Z,32nm,0.7s,mb5.5						
TEIG				LR	LR		
	comp=Z,147nm,19.0s,MS4.1						
QSPA	**South Pole Qui**	**57.10**	**180**	⇓*i*P	**P**	**09 35 11.2**	**-0.4**
	comp=Z,133nm,1.0s,mb5.9						
MAIT	**Maitri**	**57.38**	**157**	*e*P	**P**	**09 35 12.8**	**-0.8**
NVL	**N'lazarevskaya**	**57.41**	**157**	⇓*i*P	**P**	**09 35 11.8**	**-2.1**
NVL				*i*	pP	09 35 21.5	-1.6
NVL				pmax	pmax		
	comp=Z,109nm,1.4s,mb5.7						
SBA	**Scott Base**	**63.77**	**192**	*e*P	**P**	**09 35 57.0**	**+0.1**
SBA				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.5						
SBA	**Scott Base**	**63.77**	**192**	*e*P	**P**	**09 35 57.0**	**+0.1**
	comp=Z,53nm,1.1s,mb5.5						
VNDA	**Vanda**	**64.81**	**191**	*e*P	**P**	**09 36 03.6**	**0.0**
VNDA				pmax	pmax		
	comp=Z,68nm,1.2s						
VNDA	**Vanda**	**64.81**	**191**	P	**P**	**09 36 03.9**	**+0.2**
	comp=Z,16nm,0.9s,mb5.0,baz=137,slow=5.4,SNR=50						
VNDA				PKP2bc		10 04 50.0	
	comp=Z,2.7nm,0.8s,baz=330,slow=5.2,SNR=7.3						
VNDA				LR	LR	10 05 15.0	
	comp=Z,190nm,18.6s,MS4.3,baz=234,slow=37						
VNDA	**Vanda**	**64.81**	**191**	*e*P	**P**	**09 36 03.6**	**-0.1**
	comp=Z,68nm,1.2s,mb5.5						
BBSR	**BB Station**	**65.61**	**8**	*e*P	**P**	**09 36 09.2**	**-0.4**
	comp=Z,121nm,1.3s,mb5.8						
NHSC	**New Hope**	**66.24**	**353**	*e*P	**P**	**09 36 12.8**	**-0.7**
	comp=Z,177nm,1.0s,mb6.0						
TWB	**Tillmans-White**	**66.24**	**353**	*e*P	**P**	**09 36 12.5**	**-1.0**
COW	**Cow Castle Cre**	**66.56**	**353**	*e*P	**P**	**09 36 14.4**	**-1.2**
TBI	**Tubuai**	**66.79**	**257**	*e*S	S	09 45 09.1	+3.2
TBI				*e*LR	LR	09 56 15.1	
	comp=Z,3μm,30.8s						
GOGA	**Godfrey**	**66.93**	**350**	*e*P	**P**	**09 36 16.3**	**-1.6**
GOGA				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.6						
GOGA				MLR	MLR		
	comp=Z,273nm,20.0s,MS4.5						
GOGA	**Godfrey**	**66.93**	**350**	*e*P	**P**	**09 36 16.3**	**-1.7**
	comp=Z,47nm,0.8s,mb5.6						
GOGA				LR	LR		
	comp=Z,273nm,20.0s,MS4.5						
SYO	**Syowa Base**	**66.95**	**159**	⇑P	**P**	**09 36 16.3**	**-1.1**
SYO	**Syowa Base**	**66.95**	**159**	⇓P	**P**	**09 36 20.5**	**+3.1**
SYO	**Syowa Base**	**66.95**	**159**	⇓sP	sP	09 36 25.5	-4.6
LRAL	**Lakeview Retre**	**67.13**	**347**	*e*P	**P**	**09 36 17.8**	**-1.5**
	comp=Z,32nm,1.1s,mb5.3						
LRAL				LR	LR		
	comp=Z,271nm,21.0s,MS4.4						
JSC	**Jenkinsville**	**67.51**	**353**	*e*P	**P**	**09 36 20.2**	**-1.4**
NATX	**Nacogdoches**	**67.72**	**340**	*e*P	**P**	**09 36 22.5**	**-0.5**
	comp=Z,54nm,0.8s,mb5.6						
NATX				LR	LR		
	comp=Z,356nm,20.0s,MS4.6						
JCT	**Junction City**	**68.18**	**335**	*e*P	**P**	**09 36 25.2**	**-0.7**
JCT				pmax	pmax		
	comp=Z,106nm,1.2s,mb5.8						
JCT				MLR	MLR		
	comp=Z,177nm,20.0s,MS4.3						
JCT	**Junction City**	**68.18**	**335**	*e*P	**P**	**09 36 25.2**	**-0.6**
	comp=Z,106nm,1.2s,mb5.8						
JCT				LR	LR		
	comp=Z,177nm,20.0s,MS4.3						
LTX	**Lajitas**	**68.61**	**331**	*e*P	**P**	**09 36 27.8**	**-0.8**
LTX				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
LTX				MLR	MLR		
	comp=Z,667nm,19.0s,MS4.9						
LTX	**Lajitas**	**68.61**	**331**	*e*P	**P**	**09 36 27.8**	**-0.7**
	comp=Z,19nm,1.0s,mb5.0						
LTX				LR	LR		
	comp=Z,667nm,19.0s,MS4.9						
TXAR	**Lajitas Array**	**68.61**	**331**	P	**P**	**09 36 28.1**	**-0.5**
	comp=Z,12nm,0.9s,mb4.8,baz=148,slow=8.3,SNR=112						
TXAR				LR	LR	10 02 05.5	
	comp=Z,564nm,18.5s,MS4.8,baz=135,slow=32						
OXF	**Oxford**	**69.04**	**345**	*e*P	**P**	**09 36 29.6**	**-1.5**
OXF				pmax	pmax		
	comp=Z,132nm,1.0s,mb5.8						
OXF				MLR	MLR		
	comp=Z,196nm,21.0s,MS4.3						
OXF	**Oxford**	**69.04**	**345**	*e*P	**P**	**09 36 29.6**	**-1.5**
	comp=Z,132nm,1.0s,mb5.8						
OXF				LR	LR		
	comp=Z,196nm,21.0s,MS4.3						
SWET	**Sewanee**	**69.07**	**349**	*e*P	**P**	**09 36 29.9**	**-1.4**
CPCT	**Cooper Cave**	**69.08**	**350**	*e*P	**P**	**09 36 29.6**	**-1.7**
VAH	**Vaihoa**	**69.15**	**265**	*e*P	**P**	**09 36 35.7**	**+3.7**
	comp=Z,77nm,1.0s,mb5.6						
PLAL	**Pickwick Lake**	**69.23**	**347**	*e*P	**P**	**09 36 30.6**	**-1.6**
	comp=Z,61nm,0.8s,mb5.6						
PLAL				LR	LR		
	comp=Z,228nm,20.0s,MS4.4						
PPT	**Papeete**	**69.62**	**262**	*e*P	**P**	**09 36 38.6**	**+3.7**
	comp=Z,130nm,1.3s,mb5.7						
PPT	**Papeete**	**69.62**	**262**	*e*S	S	09 45 42.9	+3.1
PPT				*e*LR	LR	09 57 23.7	
	comp=Z,2μm,30.5s						
PPT	**Papeete**	**69.62**	**262**	P	**P**	**09 36 36.2**	**+1.3**
	comp=Z,63nm,0.9s,mb5.5,baz=40,slow=8.5,SNR=3.5						
PPT				LR	LR	09 59 45.5	
	comp=Z,678nm,19.6s,MS4.9,baz=112,slow=30						
UALR	**University of**	**69.96**	**343**	*e*P	**P**	**09 36 34.9**	**-1.8**
	comp=Z,23nm,1.0s,mb5.1						
TZTN	**Tazewell**	**70.02**	**351**	*e*P	**P**	**09 36 35.3**	**-1.8**
MIAR	**Mount Ida**	**70.05**	**342**	*e*P	**P**	**09 36 35.9**	**-1.4**
MIAR				pmax	pmax		
	comp=Z,46nm,1.4s,mb5.2						
MIAR				MLR	MLR		
	comp=Z,278nm,20.0s,MS4.5						
MIAR	**Mount Ida**	**70.05**	**342**	*e*P	**P**	**09 36 35.9**	**-1.4**
	comp=Z,46nm,1.4s,mb5.2						
MIAR				LR	LR		
	comp=Z,278nm,20.0s,MS4.5						
WVT	**Waverly**	**70.30**	**347**	*e*P	**P**	**09 36 37.2**	**-1.5**
WVT				pmax	pmax		
	comp=Z,151nm,0.9s,mb5.9						
WVT	**Waverly**	**70.30**	**347**	*e*P	**P**	**09 36 37.2**	**-1.5**
	comp=Z,151nm,0.9s,mb5.9						
BLA	**Blacksburg**	**70.33**	**354**	*e*P	**P**	**09 36 38.0**	**-0.9**
BLA				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.2						
BLA				MLR	MLR		
	comp=Z,316nm,20.0s,MS4.6						
BLA	**Blacksburg**	**70.33**	**354**	*e*P	**P**	**09 36 38.0**	**-0.9**
	comp=Z,29nm,0.9s,mb5.2						
BLA				LR	LR		
	comp=Z,316nm,20.0s,MS4.6						
ELN	**Prospectdale**	**70.38**	**353**	*e*P	**P**	**09 36 37.6**	**-1.6**
HALT	**Halls**	**70.38**	**346**	*e*P	**P**	**09 36 38.5**	**-0.7**
UTMT	**University of**	**70.70**	**346**	*e*P	**P**	**09 36 40.7**	**-0.5**
	comp=Z,222nm,1.0s,mb6.0						
CBN	**Corbin**	**71.09**	**356**	*e*P	**P**	**09 36 43.2**	**-0.3**
	comp=Z,73nm,0.9s,mb5.6						
CBN				LR	LR		
	comp=Z,355nm,22.0s,MS4.6						
PARMO	**Parma**	**71.19**	**346**	*e*P	**P**	**09 36 43.2**	**-1.0**
MNTX	**Cornudas Mount**	**71.39**	**331**	*e*P	**P**	**09 36 43.5**	**-1.9**
	comp=Z,36nm,0.9s,mb5.3						
MNTX				LR	LR		
	comp=Z,527nm,20.0s,MS4.8						
WMOK	**Wichita Mounta**	**71.74**	**338**	*e*P	**P**	**09 36 46.0**	**-1.5**
WMOK				*e**PP	pP	09 37 06.2	+9.4
WMOK				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.2						
WMOK				MLR	MLR		
	comp=Z,218nm,20.0s,MS4.4						
WMOK	**Wichita Mounta**	**71.74**	**338**	*e*P	**P**	**09 36 46.0**	**-1.5**
	comp=Z,32nm,1.1s,mb5.2						
WMOK				*ep*P	pP	09 37 06.2	+9.4
WMOK				LR	LR		
	comp=Z,218nm,20.0s,MS4.4						
WCI	**Wyandotte Cave**	**72.08**	**349**	*e*P	**P**	**09 36 47.4**	**-2.0**
WCI				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.3						
WCI				MLR	MLR		
	comp=Z,262nm,22.0s,MS4.5						
WCI	**Wyandotte Cave**	**72.08**	**349**	*e*P	**P**	**09 36 47.4**	**-2.0**
	comp=Z,38nm,0.9s,mb5.3						
WCI				LR	LR		
	comp=Z,262nm,22.0s,MS4.5						
SDMD	**Soldier's Deli**	**72.27**	**357**	*e*P	**P**	**09 36 50.2**	**-0.3**
FVM	**French Village**	**72.60**	**346**	*e*P	**P**	**09 36 51.2**	**-1.3**
FVM				pmax	pmax		
	comp=Z,89nm,1.1s,mb5.6						
FVM	**French Village**	**72.60**	**346**	*e*P	**P**	**09 36 51.2**	**-1.3**
	comp=Z,89nm,1.1s,mb5.6						
MCWV	**Mont Chateau**	**72.71**	**354**	*e*P	**P**	**09 36 52.5**	**-0.6**
	comp=Z,72nm,1.1s,mb5.5						
MCWV				LR	LR		
	comp=Z,442nm,22.0s,MS4.7						
MVL	**Millersville**	**72.83**	**357**	*e*P	**P**	**09 36 53.7**	**-0.2**
AMTX	**Amarillo**	**72.83**	**336**	*e*P	**P**	**09 36 53.3**	**-0.6**
	comp=Z,82nm,1.2s,mb5.5						
AMTX				LR	LR		
	comp=Z,201nm,21.0s,MS4.4						
CCM	**Cathedral Cave**	**72.84**	**345

ERPA LR LR
comp=Z,233nm,19.0s,MS4.5
WES Weston 75.16 1 *e*P **P 09 37 06.8 -0.5**
WES pmax pmax
comp=Z,88nm,1.3s,mb5.5
WES Weston 75.16 1 *e*P **P 09 37 06.8 -0.5**
comp=Z,88nm,1.3s,mb5.5
DBIC Dimbokro 75.62 72 *e*P **P 09 37 10.3 -0.1**
DBIC *e**PP pP 09 37 19.7 -0.2
DBIC pmax pmax
comp=Z,103nm,1.3s
DBIC MLR MLR
comp=Z,973nm,19.0s
DBIC Dimbokro 75.62 72 P **P 09 37 10.4 -0.1**
comp=Z,40nm,0.8s,mb5.4,baz=210,slow=6.0,SNR=45
DBIC LR LR 10 08 11.5
comp=Z,878nm,18.4s,MS5.1,baz=213,slow=34
DBIC Dimbokro 75.62 72 *e*P **P 09 37 10.3 -0.1**
comp=Z,103nm,1.3s,mb5.6
DBIC *e*pP pP 09 37 19.7 -0.2
DBIC LR LR
comp=Z,973nm,19.0s,MS5.1
GENY Geneseo 75.66 356 *e*P **P 09 37 10.1 0.0**
CBKS Cedar Bluff 75.78 339 *e*P **P 09 37 10.8 -0.1**
CBKS *e**PP pP 09 37 20.6 +0.3
CBKS pmax pmax
comp=Z,235nm,1.3s,mb6.0
CBKS MLR MLR
comp=Z,168nm,22.0s,MS4.3
CBKS Cedar Bluff 75.78 339 *e*P **P 09 37 10.8 -0.1**
comp=Z,235nm,1.3s,mb6.0
CBKS *e*pP pP 09 37 20.6 +0.2
CBKS LR LR
comp=Z,168nm,22.0s,MS4.3
SUR Sutherland 75.91 119 LR LR 10 04 47.3
comp=Z,730nm,20.5s,MS5.0,baz=353,slow=31
SUR Sutherland 75.91 119 *e*P **P 09 37 12.7 +1.0**
comp=Z,42nm,0.9s,mb5.4
SUR *e*pP pP 09 37 21.8 +0.7
SUR LR LR
comp=Z,195nm,22.0s,MS4.4
ACCN Adirondack Com 76.15 359 *e*P **P 09 37 12.2 -0.6**
FFD Franklin Falls 76.24 1 *e*P **P 09 37 08.3 -5.1**
comp=Z,87nm,1.0s,mb5.6
HNH Hanover 76.47 0 *e*P **P 09 37 15.0 +0.3**
comp=Z,4.4nm,1.0s
HNH *e*pP pP 09 37 24.3 +0.2
NCB Newcomb 76.74 359 *e*P **P 09 37 15.8 -0.4**
comp=Z,39nm,1.1s,mb5.2
NCB LR LR
comp=Z,251nm,22.0s,MS4.5
SDCO Great Sand Dun 76.76 334 *e*P **P 09 37 17.0 +0.6**
comp=Z,27nm,0.8s,mb5.2
SDCO LR LR
comp=Z,396nm,21.0s,MS4.7
MIV Mineville/With 76.84 360 *e*P **P 09 37 16.3 -0.4**
WUAZ Wupatki 77.20 329 *e*P **P 09 37 19.7 +0.8**
comp=Z,72nm,1.0s,mb5.6
BAR Barrett 77.35 323 *e*P **P 09 37 20.1 +0.3**
WVL Waterville 77.38 2 PFAKE 09 37 30.0 +10
WVL LR LR
comp=Z,4μm,19.0s,MS5.8
EMMW East Machias 77.63 4 *e*P **P 09 37 22.0 +0.9**
comp=Z,746nm,1.5s,mb6.4
EMMW LR LR
comp=Z,2μm,20.0s,MS5.5
PFO Pinyon Flat Ob 77.99 324 *e*P **P 09 37 24.3 +1.0**
PFO pmax pmax
comp=Z,36nm,1.0s,mb5.3
PFO MLR MLR
comp=Z,147nm,22.0s,MS4.3
PFO Pinyon Flat Ob 77.99 324 *e*P **P 09 37 24.3 +1.1**
comp=Z,36nm,1.0s,mb5.3
PFO LR LR
comp=Z,147nm,22.0s,MS4.3
PV01 Paradox Valley 78.27 332 *e*P **P 09 37 25.6 +0.8**
LDFC Landfair 78.53 326 *e*P **P 09 37 27.6 +1.4**
ISCO Idaho Springs 78.62 335 *e*P **P 09 37 27.3 +0.7**
ISCO pmax pmax
comp=Z,67nm,1.4s,mb5.4
ISCO MLR MLR
comp=Z,310nm,20.0s,MS4.6
ISCO Idaho Springs 78.62 335 *e*P **P 09 37 27.3 +0.7**
comp=Z,67nm,1.4s,mb5.4
ISCO LR LR
comp=Z,310nm,20.0s,MS4.6
PV10 Paradox Valley 78.66 332 *e*P **P 09 37 27.0 +0.1**
MWC Mount Wilson 79.28 323 *e*P **P 09 37 31.6 +1.3**
SRU San Rafael 79.89 331 *e*P **P 09 37 33.8 +0.3**
PHWY Pilot Hill 79.90 336 *e*P **P 09 37 34.0 +0.6**
ARUT Antelope Range 80.00 328 *e*P **P 09 37 35.6 +1.5**
MIR Mirnyy 80.05 174 *e*P **P 09 37 31.5 -2.3**
MIR pmax pmax
comp=Z,84nm,1.8s,mb5.4
MSU Marysvale 80.07 330 *e*P **P 09 37 35.4 +0.9**
MVU Marysvale 80.07 330 *e*P **P 09 37 35.4 +0.9**
comp=Z,39nm,1.0s,mb5.3
MVU LR LR
comp=Z,604nm,19.0s,MS5.0
TSUM Tsumeb 80.17 106 LR LR 10 07 52.2
comp=Z,1μm,20.7s,MS5.2,baz=146,slow=32
TSUM Tsumeb 80.17 106⇓ *e*P **P 09 37 36.0 +0.6**
comp=Z,63nm,1.0s,mb5.5
TSUM *e*pP pP 09 37 45.3 +0.4
TSUM LR LR
comp=Z,1μm,20.0s,MS5.3
TMUT Trail Mountain 80.33 331 *e*P **P 09 37 36.5 +0.7**
DAC Darwin (Calif) 80.69 325 *e*P **P 09 37 39.4 +1.6**
DAC pmax pmax
comp=Z,52nm,1.1s,mb5.4
DAC MLR MLR
comp=Z,522nm,19.0s,MS4.9
DAC Darwin (Calif) 80.69 325 *e*P **P 09 37 39.4 +1.6**
comp=Z,52nm,1.1s,mb5.4
DAC LR LR
comp=Z,522nm,19.0s,MS4.9
RWWY Rawlins 80.86 335 *e*P **P 09 37 39.1 +0.5**
comp=Z,87nm,0.9s,mb5.7
RWWY *e*pP pP 09 37 48.9 +0.8
CASY Casey 80.87 181⇓ *e*P **P 09 37 38.2 +0.1**
comp=Z,24nm,0.8s,mb5.2
CASY *e*pP pP 09 37 46.6 -1.0
CASY LR LR
comp=Z,1μm,21.0s,MS5.2
MPU Maple Canyon 81.11 331 *e*P **P 09 37 40.5 +0.6**
BOSA Boshof 81.14 118 *e*P **P 09 37 40.6 +0.3**
BOSA *e**PP pP 09 37 50.7 +0.9
BOSA pmax pmax
comp=Z,55nm,0.8s,mb5.5
BOSA MLR MLR
comp=Z,737nm,19.0s,MS5.1
BOSA Boshof 81.14 118 P **P 09 37 40.8 +0.4**
comp=Z,54nm,0.8s,mb5.5,baz=236,slow=5.0,SNR=69
BOSA LR LR 10 08 02.9
comp=Z,514nm,21.8s,MS4.8,baz=242,slow=32
BOSA Boshof 81.14 118 *e*P **P 09 37 40.6 +0.3**
comp=Z,55nm,0.8s,mb5.5
BOSA *e*pP pP 09 37 50.6 +0.8
BOSA LR LR
comp=Z,737nm,19.0s,MS5.1
NLU North Lily Min 81.24 331 *e*P **P 09 37 41.4 +0.8**
DAU Daniels Canyon 81.29 331 *e*P **P 09 37 41.4 +0.5**
TRCR Troy Canyon 81.42 327 *e*P **P 09 37 42.9 +1.3**
JLU Jordanelle 81.53 331 *e*P **P 09 37 42.7 +0.6**
CTU Camp Tracy 81.73 331 *e*P **P 09 37 43.3 +0.2**
NOQ North Oquirrh 81.84 331 *e*P **P 09 37 43.5 -0.2**
RSSD Black Hills 81.95 338 *e*P **P 09 37 44.3 +0.1**
RSSD pmax pmax
comp=Z,40nm,0.9s,mb5.3
RSSD Black Hills 81.95 338 *e*P **P 09 37 44.3 +0.1**
comp=Z,40nm,0.9s,mb5.3
TPH Tonopah 81.95 326 *e*P **P 09 37 45.3 +1.0**
TPH pmax pmax
comp=Z,44nm,0.9s,mb5.4
TPH MLR MLR
comp=Z,395nm,20.0s,MS4.8
TPH Tonopah 81.95 326 *e*P **P 09 37 45.3 +1.0**
comp=Z,44nm,0.9s,mb5.4
TPH LR LR
comp=Z,395nm,20.0s,MS4.8
MTUM Tungsten Hills 82.01 325 *e*P **P 09 37 46.1 +1.5**
EYMN Ely 82.41 348 *e*P **P 09 37 45.5 -1.0**
comp=Z,159nm,1.6s,mb5.7
EYMN LR LR
comp=Z,156nm,19.0s,MS4.4
HWUT Hardware Ranch 82.43 332 *e*P **P 09 37 47.1 +0.3**
comp=Z,72nm,0.8s,mb5.7
HWUT LR LR
comp=Z,640nm,20.0s,MS5.0
OMM Old Mammoth Mi 82.43 325 *e*P **P 09 37 47.9 +1.0**
BGU Big Grassy Mou 82.45 331 *e*P **P 09 37 47.3 +0.4**
LRV Little Rabbit 82.50 323 *e*P **P 09 37 48.8 +1.6**
SPUT South Promonto 82.53 331 *e*P **P 09 37 48.0 +0.7**
BW06 Boulder Array 82.65 334 PFAKE 09 38 00.0 +12
BW06 LR LR
comp=Z,578nm,20.0s,MS4.9
PDAR Pinedale Array 82.65 334 P **P 09 37 48.0 +0.1**
comp=Z,7.2nm,0.8s,mb4.8,baz=162,slow=4.7,SNR=58
PDAR PKKPbc 09 56 12.2
comp=Z,1.0nm,0.8s,baz=309,slow=1.6,SNR=10
MNV Mina 82.67 326 *e*P **P 09 37 48.9 +0.8**
MNV pmax pmax
comp=Z,58nm,1.5s,mb5.4
MNV MLR MLR
comp=Z,227nm,19.0s,MS4.6
MNV Mina 82.67 326 *e*P **P 09 37 48.9 +0.8**
comp=Z,58nm,1.5s,mb5.4
MNV LR LR
comp=Z,227nm,19.0s,MS4.6
NVAR Mina Array Bea 82.74 326 P **P 09 37 49.6 +1.2**
comp=Z,21nm,0.7s,mb5.3,baz=151,slow=6.3,SNR=113
NVAR PKKPbc 09 56 13.5
comp=Z,1.0nm,0.7s,baz=300,slow=2.7,SNR=6.0
NVAR Mina Array Bea 82.74 326 P **P 09 37 49.6 +1.2**
NVAR PKKPbc 09 56 13.5
HVU Hansel Valley 83.06 331 *e*P **P 09 37 50.1 +0.1**
ELK Elko 83.23 329 *e*P **P 09 37 51.6 +0.7**
ELK *e**PP pP 09 38 02.5 +2.0
ELK pmax pmax
comp=Z,57nm,0.9s
ELK MLR MLR
comp=Z,152nm,22.0s
ELK Elko 83.23 329 *e*P **P 09 37 51.6 +0.7**
comp=Z,57nm,0.9s,mb5.6
ELK *e*pP pP 09 38 02.5 +2.0
ELK LR LR
comp=Z,152nm,22.0s,MS4.3
AHID Auburn Hatcher 83.23 333 *e*P **P 09 37 50.4 -0.5**
comp=Z,240nm,1.9s,mb5.9
AHID LR LR
comp=Z,352nm,19.0s,MS4.8
LBTB Lobatse 83.35 115 *e*P **P 09 37 52.2 +0.3**
LBTB *e**PP pP 09 38 02.0 +0.6
LBTB *e**SP sP 09 38 07.7 +3.2
LBTB pmax pmax
comp=Z,163nm,0.8s,mb6.1
LBTB MLR MLR
comp=Z,1μm,21.0s,MS5.2
LBTB Lobatse 83.35 115 LR LR 10 10 56.7
comp=Z,724nm,19.6s,MS5.0,baz=248,slow=33
LBTB Lobatse 83.35 115 *e*P **P 09 37 52.1 +0.3**
comp=Z,163nm,0.8s,mb6.1
LBTB *e*pP pP 09 38 02.0 +0.6
LBTB *e*sP sP 09 38 07.7 +3.2
LBTB LR LR
comp=Z,1μm,21.0s,MS5.2
CMB Columbia Colle 83.44 324 *e*P **P 09 37 52.4 +0.4**
CMB pmax pmax
comp=Z,12nm,0.9s,mb4.9
CMB MLR MLR
comp=Z,322nm,20.0s,MS4.7
CMB Columbia Colle 83.44 324 *e*P **P 09 37 52.4 +0.4**
comp=Z,12nm,0.9s,mb4.9
CMB LR LR
comp=Z,322nm,20.0s,MS4.7
REDW Red Top Meadow 83.65 333 *e*P **P 09 37 53.1 +0.1**
comp=Z,30nm,0.9s,mb5.4
SNOW Snow King Moun 83.70 333 *e*P **P 09 37 53.6 +0.4**
comp=Z,35nm,0.9s,mb5.5
WUWY Wally Ulrich 83.76 333 *e*P **P 09 37 53.5 0.0**
LOHW Long Hollow 83.77 333 *e*P **P 09 37 53.8 +0.2**
comp=Z,29nm,0.9s,mb5.4
TPAW Teton Pass 83.79 333 *e*P **P 09 37 54.2 +0.5**
comp=Z,39nm,0.8s,mb5.6
RPZ Rata Peaks 83.81 221 P **P 09 37 54.9 +1.1**
comp=Z,49nm,0.9s,mb5.6,baz=199,slow=4.2,SNR=9.4
RPZ LR LR 10 09 16.2
comp=Z,373nm,18.9s,MS4.8,baz=273,slow=31
RRI2 Red Ridge 83.81 333 *e*P **P 09 37 54.2 +0.4**
comp=Z,47nm,1.0s,mb5.6
BMN Battle Mountai 83.85 328 *e*P **P 09 37 54.4 +0.3**
BMN pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
BMN MLR MLR
comp=Z,551nm,19.0s,MS5.0
BMN Battle Mountai 83.85 328 *e*P **P 09 37 54.4 +0.3**
comp=Z,9.5nm,0.8s,mb5.0
BMN LR LR
comp=Z,551nm,19.0s,MS5.0
MOOW Moose Ponds 83.94 333 *e*P **P 09 37 54.3 -0.1**
comp=Z,12nm,0.8s,mb5.1
WCN Washoe City 84.12 325 *e*P **P 09 37 57.1 +1.6**
WCN pmax pmax
comp=Z,90nm,1.7s,mb5.6
WCN Washoe City 84.12 325 *e*P **P 09 37 57.1 +1.6**
comp=Z,90nm,1.7s,mb5.6
IMW Indian Meadow 84.14 333 *e*P **P 09 37 56.4 +1.0**
comp=Z,25nm,0.8s,mb5.4
PAHR Pah Rah Range 84.27 326 *e*P **P 09 37 57.9 +1.7**
comp=Z,36nm,1.1s,mb5.4
LKWY Lake 84.51 334 PFAKE 09 38 10.0 +13
LKWY LR LR
comp=Z,629nm,22.0s,MS5.0
YFT Old Faithful 84.57 334 *e*P **P 09 37 59.3 +1.7**
YNR Norris Junctio 84.74 334 *e*P **P 09 37 59.9 +1.5**
YMR Madison River 84.81 334 *e*P **P 09 37 59.8 +1.0**
NSHM Saint Helena R 84.92 323 *e*P **P 09 38 00.7 +1.3**
QLMT Earthquake Lak 85.12 334 *e*P **P 09 38 01.6 +1.3**
HLID Hailey 85.21 331 *e*P **P 09 38 01.9 +1.1**
comp=Z,56nm,1.1s,mb5.6
HLID *e*pP pP 09 38 10.6 +0.2
ULM Lac du Bonnet 85.47 345 P **P 09 38 01.4 -0.6**
comp=Z,29nm,0.8s,mb5.4,baz=163,slow=3.9,SNR=30
ULM Lac du Bonnet 85.47 345 *e*P **P 09 38 00.8 -1.1**
comp=Z,69nm,1.0s,mb5.7
ULM LR LR
comp=Z,333nm,19.0s,MS4.8
MCMT McKenzie Canyo 85.65 333 *e*P **P 09 38 04.0 +1.0**
BOZ Bozeman (W) 85.89 334 *e*P **P 09 38 04.1 0.0**
BOZ pmax pmax
comp=Z,18nm,0.9s,mb5.3
BOZ MLR MLR
comp=Z,316nm,20.0s,MS4.7
BOZ Bozeman (W) 85.89 334 *e*P **P 09 38 04.1 0.0**
comp=Z,18nm,0.9s,mb5.3
BOZ LR LR
comp=Z,316nm,20.0s,MS4.7
WVOR Wild Horse Val 86.09 328 *e*P **P 09 38 05.8 +0.6**
WVOR pmax pmax
comp=Z,41nm,1.1s,mb5.6
WVOR MLR MLR
comp=Z,674nm,19.0s,MS5.1
WVOR Wild Horse Val 86.09 328 *e*P **P 09 38 05.8 +0.5**
comp=Z,41nm,1.1s,mb5.6
WVOR LR LR
comp=Z,674nm,19.0s,MS5.1
LTIM Timbered Crate 86.42 325 P **P 09 38 08.2 +1.3**
MOD Modoc 86.43 327 *e*P **P 09 38 07.9 +1.0**
comp=Z,48nm,0.8s,mb5.8
MOD LR LR
comp=Z,571nm,22.0s,MS4.9
WDC Whiskeytown Da 86.46 324 *e*P **P 09 38 06.6 -0.5**
WDC *e**PP pP 09 38 16.1 -0.6
WDC pmax pmax
comp=Z,40nm,0.8s,mb5.7
WDC MLR MLR
comp=Z,403nm,19.0s,MS4.8
WDC Whiskeytown Da 86.46 324 *e*P **P 09 38 06.6 -0.5**
comp=Z,40nm,0.8s,mb5.7
WDC *e*pP pP 09 38 16.1 -0.6
WDC LR LR
comp=Z,403nm,19.0s,MS4.8
HRY Holter Researc 86.86 334 *e*P **P 09 38 09.4 +0.5**
LHEM Herd Peak 87.11 325 P **P 09 38 11.3 +1.1**
KHMM Horse Mountain 87.27 324 *e*P **P 09 38 12.4 +1.4**
YBH Yreka Blue Hor 87.43 325 *e*P **P 09 38 11.8 +0.1**
YBH pmax pmax
comp=Z,51nm,0.8s
YBH Yreka Blue Hor 87.43 325 *e*P **P 09 38 11.8 +0.1**
comp=Z,51nm,0.8s,mb5.8
BMO Blue Mountains 87.46 330 *e*P **P 09 38 12.1 +0.3**
comp=Z,27nm,0.9s,mb5.5
BMO LR LR
comp=Z,334nm,22.0s,MS4.7
CHMT Chamberlain Mo 87.56 334 *e*P **P 09 38 12.8 +0.6**
MSO Missoula 87.75 333 *e*P **P 09 38 14.1 +0.9**
comp=Z,12nm,1.0s,mb5.1
MSO LR LR
comp=Z,234nm,20.0s,MS4.6
SCHQ Schefferville 87.76 4 P **P 09 38 12.8 -0.2**
comp=Z,27nm,1.0s,mb5.4,baz=165,slow=3.8,SNR=26
SCHQ LR LR 10 17 44.5
comp=Z,148nm,18.9s,MS4.4,baz=191,slow=36
SCHQ Schefferville 87.76 4 *e*P **P 09 38 12.8 -0.2**
comp=Z,181nm,1.7s,mb6.0
SCHQ *e*pP pP 09 38 22.2 -0.4
SCHQ LR LR
comp=Z,486nm,21.0s,MS4.9
KRMB Red Mountain 87.85 324 *e*P **P 09 38 15.6 +1.8**
HUMO Hull Mountain 88.22 326 *e*P **P 09 38 15.8 +0.3**
comp=Z,18nm,0.9s,mb5.3
FRIS Frissel Point 89.05 327 P **P 09 38 20.8 +1.4**
WALA Waterton Lakes 89.60 334 *e*P **P 09 38 21.9 +0.1**
comp=Z,61nm,1.1s,mb5.8
HAWA Hanford 89.63 330 *e*P **P 09 38 22.8 +0.6**
comp=Z,6.0nm,1.4s,mb4.7
NEW Newport 90.15 332 *e*P **P 09 38 23.8 -0.7**
NEW pmax pmax
comp=Z,18nm,1.1s
NEW MLR MLR
comp=Z,243nm,19.0s
NEW Newport 90.15 332 LR LR 10 15 16.2
comp=Z,252nm,18.0s,MS4.7,baz=235,slow=33
NEW Newport 90.15 332 *e*P **P 09 38 23.8 -0.7**
comp=Z,18nm,1.1s,mb5.3
NEW LR LR
comp=Z,243nm,19.0s,MS4.7
EBG Ellensburg 90.48 330 P **P 09 38 27.1 +1.1**
TBM Table Mountain 90.69 330 P **P 09 38 28.1 +1.1**
LSZ Lusaka 90.79 109 *e*P **P 09 38 29.7 +1.5**
LSZ pmax pmax
comp=Z,94nm,1.4s,mb5.9
LSZ MLR MLR
comp=Z,1μm,21.0s,MS5.3
LSZ Lusaka 90.79 109 *e*P **P 09 38 29.6 +1.5**
comp=Z,94nm,1.4s,mb5.9
LSZ LR LR
comp=Z,1μm,21.0s,MS5.3
JCW Jim Creek 92.06 330 P **P 09 38 33.3 0.0**
EDM Edmonton 92.89 337 *e*P **P 09 38 35.3 -1.7**
FCC Fort Churchill 93.23 349 *e*P **P 09 38 38.6 +0.2**
FCC pmax pmax
comp=Z,19nm,0.8s,mb5.6
FCC Fort Churchill 93.23 349 *e*P **P 09 38 38.6 +0.2**
comp=Z,19nm,0.8s,mb5.6
ESLA Sonseca Array 96.52 46 PFAKE 09 39 10.0 +16
ESLA LR LR
comp=Z,3μm,20.0s,MS5.7
YKA Yellowknife Ar 101.00 342 P P 09 39 12.6 -1.0
comp=Z,4.4nm,0.8s,baz=141,slow=4.4,SNR=116
YKA PKIKP 09 43 39.9
comp=Z,0.3nm,0.7s,baz=130,slow=1.9,SNR=4.1
YKA PKKPbc 09 55 23.2
comp=Z,0.2nm,0.7s,baz=338,slow=2.5,SNR=4.2
YKW3 Yellowknife Ar 101.06 342 *e*Pdif P 09 39 12.8 -1.1
MBAR Mbarara 101.11 98 P P 09 39 30.0 +15
MBAR MLR MLR
comp=Z,178nm,20.0s,MS4.6
KMBO Kilima Mbogo 106.19 102 PFAKE 09 44 00.0
KMBO LR LR
comp=Z,607nm,22.0s,MS5.1
INK Inuvik 110.59 340 PKKPbc 09 54 55.1
comp=Z,3.1nm,1.2s,baz=243,slow=2.3,SNR=6.6
GERES GERESS Array B 112.08 45 PKiKP 09 43 59.8
comp=Z,2.2nm,0.8s,baz=225,slow=1.9,SNR=12
KDAK Kodiak Island 112.24 325 PFAKE 09 44 10.0 +6.7
KDAK LR LR
comp=Z,146nm,22.0s,MS4.5
CLL Collm 112.72 43 *e*PKIKP PKPdf 09 44 01.0 -3.4
CLL pmax pmax
comp=Z,11nm,1.5s
CLL Collm 112.72 43 *e*PKIKP PKPdf 09 44 01.0 -3.4
comp=Z,logA/T=0.9
COLA College 113.49 333 PFAKE 09 44 10.0 +4.3
COLA LR LR
comp=Z,232nm,22.0s,MS4.7
NWAO Narrogin (SRO) 113.60 189 PKIKP PKPdf 09 44 10.0 +3.3
NWAO MLR MLR
comp=Z,422nm,20.0s
NWAO Narrogin (SRO) 113.60 189 PFAKE 09 44 10.0 +3.3
NWAO LR LR
comp=Z,422nm,20.0s,MS5.0
KOLL Kolacno 114.82 47 *e*PKP PKPdf 09 44 04.7 -3.9
VYHS Vyhne 115.05 47 *e*PKP PKPdf 09 44 05.6 -3.5
NOA NORSAR Array B 115.69 32 PKKPbc 09 54 41.1
comp=Z,1.0nm,0.8s,baz=67,slow=4.5,SNR=3.5
IMA Indian Mountai 116.20 333 *e*PKIKP PKPdf 09 44 07.4 -3.6
KOLS Kolonicke sedl 117.33 48 *e*PKP PKPdf 09 44 10.5 -3.0
KWP Kalwaria 117.84 47 *e*PKP PKPdf 09 44 10.9 -3.5
ASAR Alice Springs 117.99 208 PKP PKPdf 09 44 10.4 -5.0
comp=Z,3.5nm,0.8s,baz=128,slow=1.9,SNR=28
ASAR PKKPbc 09 54 31.2
comp=Z,3.2nm,0.8s,baz=336,slow=3.2,SNR=12
MSEY Mahe Island 118.40 117 PFAKE 09 44 20.0 +3.6
MSEY LR LR
comp=Z,132nm,21.0s,MS4.5
MLR Muntele Rosu 118.54 52 PKP PKPdf 09 44 11.9 -4.0
comp=Z,7.5nm,1.0s,baz=84,slow=3.2,SNR=6.5
SUW Suwalki 119.47 42 *e*PKP PKPdf 09 44 13.3 -4.3
KIS Kishinev 120.90 51 *e*PKIKP PKPdf 09 44 12.0 -8.5
WB2 Warramunga Arr 121.14 210 *e*P PKPdf 09 44 16.8 -4.8
WRA Warramunga Arr 121.14 210 PKP PKPdf 09 44 16.9 -4.7
comp=Z,8.2nm,0.8s,baz=173,slow=1.6,SNR=69
WRA PKKPbc 09 54 19.9
comp=Z,1.4nm,0.8s,baz=347,slow=4.5,SNR=11
WRAB Tennant Creek 121.15 210⇑ *i*PKIKP PKPdf 09 44 17.4 -4.2
WRAB Tennant Creek 121.15 210 *e*PKPdf PKPdf 09 44 16.4 -5.2
WRAB LR LR
comp=Z,129nm,19.0s,MS4.6
ASF Jabal al Asfar 121.98 70 PKP PKPdf 09 44 19.9 -3.1
comp=Z,5.1nm,0.8s,baz=263,slow=1.1,SNR=5.5
BR131 Keskin Array S 122.07 61 PFAKE 09 44 30.0 +7.1
BR131 LR LR
comp=Z,298nm,21.0s,MS4.9
BRTR Keskin Array B 122.07 61 PKP PKPdf 09 44 19.0 -3.9
comp=Z,6.5nm,0.7s,baz=193,slow=2.9,SNR=26
AKASG Malin Array Be 122.16 47 PKP PKPdf 09 44 18.1 -4.7
comp=Z,11nm,0.8s,baz=264,slow=2.9,SNR=46
AKASG PP PP 09 45 54.2 -3.1
comp=Z,0.9nm,0.6s,baz=250,slow=7.7,SNR=4.9
FINES FINESS Array B 122.70 34 PKP PKPdf 09 44 21.2 -2.4
comp=Z,1.7nm,0.9s,baz=237,slow=3.5,SNR=7.2
FINES FINESS Array B 122.70 34 PKP PKPdf 09 44 21.2 -2.4
PMG Port Moresby 123.03 229 PKIKP PKPdf 09 44 30.0 +4.7
PMG MLR MLR
comp=Z,304nm,19.0s
PMG Port Moresby 123.03 229 PFAKE 09 44 30.0 +4.7
PMG LR LR
comp=Z,304nm,19.0s,MS5.0
MALT Malatya 125.19 64 *e*PKIKP PKPdf 09 44 25.4 -3.6
WAKE Wake Island 125.43 271 PFAKE 09 44 40.0 +10
WAKE LR LR
comp=Z,306μm,20.0s
FITZ Fitzroy Crossi 126.05 202⇑ *i*P PKPdf 09 44 27.0 -4.1
comp=Z,31nm,0.7s
FITZ Fitzroy Crossi 126.05 202 PKP PKPdf 09 44 27.1 -4.1
comp=Z,40nm,0.7s,baz=192,slow=4.1,SNR=36
LVZ Lovozero 126.83 27 *e*P Pdif 09 41 26.7 +20
LVZ pmax pmax
comp=N,155nm,0.9s
LVZ pmax pmax
comp=Z,244nm,0.9s
OBN Obninsk 127.32 43⇑ *i*PKIKP PKPdf 09 44 28.5 -4.1
OBN *e* 09 46 29.6
OBN *e* 09 51 24.5
OBN pmax pmax
comp=Z,25nm,1.2s
OBN MLR MLR
comp=Z,300nm,18.0s,MS5.0
SOC Sochi 127.48 58 *i*PKIKP PKPdf 09 44 28.4 -4.9
SOC *e* 09 46 27.8
SOC *e*PPP PPP 09 49 16.5 -0.8
SOC pmax pmax
comp=N,11nm,0.9s
SOC pmax pmax
comp=Z,24nm,0.9s
SOC pmax pmax
comp=E,15nm,1.1s

KIV	**Kislovodsk**	**129.67**	**58**	*c i* PKIKP	PKPdf	09 44 34.3	-3.2
KIV	**Kislovodsk**	**129.67**	**58**	PFAKE		09 44 50.0	+13
KIV				LR	LR		
comp=Z,76nm,20.0s,MS4.4							
GOF	**Gofitskoye**	**130.10**	**56**	⇑ *i* PKIKP	PKPdf	09 44 33.1	-5.2
GOF				pmax	pmax		
comp=Z,40nm,1.7s							
GNI	**Garni**	**130.40**	**63**	*d i* PKIKP	PKPdf	09 44 35.8	-3.2
GNI	**Garni**	**130.40**	**63**	PKP	PKPdf	09 44 36.6	-2.4
comp=Z,2.3nm,0.3s,baz=19,slow=15,SNR=5.8							
GNI	**Garni**	**130.40**	**63**	PKP	PKPdf	09 44 36.6	-2.4
GNI				LR	LR		
comp=Z,250nm,21.0s,MS4.9							
BILL	**Bilibino**	**131.73**	**334**	⇑ *i* PKIKP	PKPdf	09 44 37.4	-3.3
BILL				*e*		09 46 57.9	
BILL				*e*SS	SS	10 05 06.3	+36
BILL				pmax	pmax		
comp=Z,15nm,1.1s							
BILL				MLR	MLR		
comp=Z,100nm,15.0s,MS4.6							
BILL	**Bilibino**	**131.73**	**334**	*e*PKPdf	PKPdf	09 44 37.1	-3.6
BILL				LR	LR		
comp=Z,189nm,20.0s,MS4.8							
SOKR	**Solikamsk**	**137.84**	**36**	⇑ *i* PKIKP	PKPdf	09 44 48.8	-3.4
SOKR				pmax	pmax		
comp=Z,10.0nm,0.9s							
SEY	**Seymchan**	**138.91**	**330**	*e*PKHKP		09 44 39.3	
SEY				*e*		09 44 49.2	
SEY				pmax	pmax		
comp=Z,20nm,1.2s							
ARU	**Arti**	**139.57**	**40**	*i* PKIKP	PKPdf	09 44 52.9	-2.5
ARU				*e*		09 47 44.5	
TIXI	**Tiksi**	**139.71**	**350**	⇓ *i* PKIKP	PKPdf	09 44 50.9	-4.4
TIXI	**Tiksi**	**139.71**	**350**	PFAKE		09 45 00.0	+4.7
TIXI				LR	LR		
comp=Z,181nm,19.0s,MS4.8							
MA2	**Magadan**	**140.99**	**326**	*e*PKHKP		09 44 41.9	
MA2				*e*		10 00 17.4	
MA2				pmax	pmax		
comp=Z,7.0nm,1.0s							
PALK	**Pallekele**	**144.52**	**131**	*e*PKPdf	PKPdf	09 45 00.1	-5.2
PALK				*ep*P		09 45 09.3	
PALK				LR	LR		
comp=Z,94nm,20.0s,MS4.6							
KAD	**Karad**	**146.51**	**110**	*e*PKP	PKPdf	09 45 01.3	-7.3
KAD				*e*		09 45 09.0	
comp=Z,86nm,0.8s							
POO	**Poona**	**146.92**	**108**	⇑ *i* PKP	PKPdf	09 45 05.0	-4.3
comp=Z,90nm,1.0s							
CHKZ	**Chkalovo**	**147.01**	**40**	*e*PKIKP	PKPdf	09 45 05.0	-3.4
BVA0	**Borovoye Array**	**147.15**	**42**	*i* PKIKP	PKPdf	09 45 05.3	-3.3
BVA0				pmax	pmax		
comp=Z,22nm,1.9s							
BVAR	**Borovoye Array**	**147.15**	**42**	PKPbc	PKPdf	09 45 05.6	-3.0
comp=Z,7.9nm,0.6s,baz=270,slow=3.0,SNR=45							
YAK	**Yakutsk**	**147.66**	**340**	*d i* PKP2	PKPab	09 45 07.9	-3.3
YAK				pmax	pmax		
comp=Z,133nm,0.9s							
YAK				pmax	pmax		
comp=N,11nm,1.0s							
YAK				pmax	pmax		
comp=E,8.0nm,1.0s							
YAK	**Yakutsk**	**147.66**	**340**	*e*PKPdf	PKPdf	09 45 07.3	-1.8
JASL	**Jaisalmer**	**148.20**	**92**	*e*PKP	PKPdf	09 45 09.7	-1.4
JASL				*i*		09 48 37.4	
KSM	**Kuching**	**148.36**	**186**	*e*PKPbc	PKPdf	09 45 10.8	-1.0
YSS	**Yuzh-Sakhalins**	**149.67**	**308**	⇓ *e*PKHKP		09 45 09.0	
YSS				pmax	pmax		
comp=E,30nm,0.8s							
YSS				pmax	pmax		
comp=Z,70nm,0.8s							
YSS				pmax	pmax		
comp=Z,400nm,4.0s							
YSS	**Yuzh-Sakhalins**	**149.67**	**308**	*e*PKPdf	PKPdf	09 45 10.1	-2.7
YSS				*e*PKPbc	PKPdf	09 45 13.6	+0.8
KKAR	**Karatay Array**	**149.78**	**60**	*i* PKP2	PKPab	09 45 14.2	-6.2
KKAR				pmax	pmax		
comp=Z,21nm,0.9s							
HYB	**Hyderabad**	**149.97**	**114**	*e*PKIKP	PKPdf	09 45 11.0	-3.2
HYB				*e*		09 45 15.5	
HYB	**Hyderabad**	**149.97**	**114**	*i* PKP	PKPdf	09 45 11.0	-3.2
comp=Z,130nm,1.0s							
HYB				*e*		09 45 15.5	
HYB				*ep*PKP		09 45 23.5	
ASAJ	**Asahikawa**	**150.36**	**302**	PKP	PKPdf	09 45 11.1	-3.0
comp=Z,68nm,0.9s,baz=234,slow=8.3,SNR=9.1							
ASAJ				PKPbc	PKPdf	09 45 15.8	+1.8
comp=Z,68nm,0.9s,baz=230,slow=3.0,SNR=35							
KULM	**Kulim**	**151.66**	**166**	*e*PKPbc	PKPdf	09 45 18.9	+2.0
KULM				*e*PKPab	PKPab	09 45 27.6	-1.5
KKM	**Kota Kinabalu**	**151.74**	**200**	*e*PKPbc	PKPdf	09 45 19.2	+2.2
KKM				*e*PKPab	PKPab	09 45 28.5	-0.9
EKS2	**Erkin-Say**	**152.22**	**60**	P	PKPdf	09 45 14.3	-2.5
SNR=9.1							
AML	**Almayashu**	**152.23**	**61**	P	PKPdf	09 45 15.0	-1.8
SNR=10							
NVS	**Novosibirsk**	**152.59**	**31**	*i* PKIKP	PKPdf	09 45 11.3	-5.6
NVS				*i*		09 45 29.2	
NVS				*i*		09 49 01.4	
NVS				pmax	pmax		
comp=Z,154nm,1.9s							
NVS				pmax	pmax		
comp=N,8.0nm,1.3s							
NVS				pmax	pmax		
comp=E,27nm,1.3s							
USP	**Ospenovka**	**152.63**	**59**	P	PKPdf	09 45 14.2	-3.2
SNR=6.9							
KHET	**Khetri**	**152.69**	**92**	*e*PKP	PKPdf	09 45 13.4	-4.5
KHET				*e*		09 45 14.2	
comp=Z,27nm,2.0s							
KHET				*i*		09 45 21.5	
AAK	**Ala-Archa**	**152.74**	**60**	P	PKPdf	09 45 15.1	-2.5
SNR=8.2							
AAK	**Ala-Archa**	**152.74**	**60**	PKIKP	PKPdf	09 45 14.9	-2.7
AAK				pmax	pmax		
comp=Z,44nm,0.8s							
FRU	**Bishkek**	**152.80**	**60**	*e*PKIKP	PKPdf	09 45 15.0	-2.6
FRU				*i*		09 45 22.0	
FRU				pmax	pmax		
comp=Z,160nm,1.6s							
UCH	**Uchtor**	**152.82**	**61**	P	PKPdf	09 45 15.9	-1.8
SNR=15							
CHMS	**Chumysh**	**152.86**	**59**	P	PKPdf	09 45 22.1	+4.4
SNR=12							
KBK	**Karagaybulak**	**153.07**	**60**	P	PKPdf	09 45 22.9	+4.9
SNR=6.0							
CLNS	**Chul'man**	**153.31**	**338**	*e*PKIKP	PKPdf	09 45 21.2	+3.3
CLNS				pmax	pmax		
comp=Z,26nm,1.0s							
CLNS				pmax	pmax		
comp=N,13nm,0.8s							
CLNS				pmax	pmax		
comp=E,10.0nm,0.9s							
CLNS				pmax	pmax		
comp=N,14nm,1.2s							
CLNS				pmax	pmax		
comp=Z,19nm,0.9s							
CLNS				pmax	pmax		
comp=E,13nm,0.8s							
KZA	**Kyzart**	**153.38**	**61**	P	PKPdf	09 45 16.4	-2.1
SNR=7.2							
TKM2	**Tokmak 2**	**153.49**	**59**	P	PKPdf	09 45 16.2	-2.4
SNR=10							
VIS	**Vishakhapatnam**	**153.73**	**120**	*e*PKP	PKPdf	09 45 12.3	-7.3
VIS				*i*		09 45 17.9	
SONA	**Sohna**	**153.81**	**93**	*e*PKP	PKPdf	09 45 12.4	-7.1
ZAL	**Zalesovo**	**153.88**	**31**	PKP	PKPdf	09 45 15.8	-3.0
comp=E,5.0nm,0.9s,baz=203,slow=3.3,SNR=30							
ZAL				PKPbc	PKPdf	09 45 24.1	+5.3
comp=E,12nm,0.9s,baz=182,slow=3.6,SNR=29							
ZAL				PKPab	PKPab	09 45 38.1	+0.9
comp=E,9.5nm,0.7s,baz=165,slow=5.8,SNR=9.3							
AYAN	**Aya Nagar**	**153.92**	**92**	*e*PKP	PKPdf	09 45 13.5	-6.1
NDI	**New Delhi**	**154.06**	**92**	*e*	PKPdf	09 44 56.0	-24
ULHL	**Ulahol**	**154.08**	**61**	P	PKPdf	09 45 17.6	-1.8
SNR=8.3							
MJAR	**Matsushiro Arr**	**154.27**	**286**	PKP	PKPdf	09 45 15.9	-4.0
comp=E,5.3nm,0.9s,baz=91,slow=1.4,SNR=12							
MJAR				PKPbc	PKPdf	09 45 24.0	+4.2
comp=E,6.1nm,0.9s,baz=171,slow=1.7,SNR=10.0							
MJAR				PKPab	PKPab	09 45 38.7	-0.7
comp=E,6.8nm,0.9s,baz=136,slow=2.7,SNR=6.9							
MJAR	**Matsushiro Arr**	**154.27**	**286**	PKP	PKPdf	09 45 15.9	-4.0
MJAR				PKPbc	PKPdf	09 45 24.0	+4.2
MJAR				PKPab	PKPab	09 45 38.7	-0.7
MAJO	**Matsushiro**	**154.27**	**286**	PFAKE		09 45 30.0	+10
MAJO				LR	LR		
comp=Z,432nm,19.0s,MS5.3							
MAT	**Matsushiro**	**154.27**	**286**	*e*PKIKP	PKPdf	09 45 15.0	-4.9
MAT	**Matsushiro**	**154.27**	**286**	PKP	PKPdf	09 45 15.3	-4.6
BOD	**Bodaibo**	**154.86**	**351**	*e*PKIKP	PKPdf	09 45 24.5	+4.6
BOD				*e*		09 45 40.8	
BOD				pmax	pmax		
comp=Z,6.0nm,0.8s							
BOD				pmax	pmax		
comp=Z,62nm,1.0s							
DDI	**Dehra Dun**	**155.20**	**89**	*e*PKP	PKPdf	09 45 17.3	-4.0
DDI				*e*		09 59 47.0	
KLR	**Kul'dur**	**155.59**	**319**	*e*PKIKP	PKPdf	09 45 13.8	-7.3
KLP	**Kalpa**	**155.63**	**86**	*e*PKP	PKPdf	09 45 19.0	-2.8
KLP				*i*		09 45 19.4	
KLP				*e*		09 45 24.5	
comp=Z,40nm,2.1s							
MKAR	**Makanchi Array**	**156.74**	**47**	PKIKP	PKPdf	09 45 19.5	-3.3
MKAR						09 45 28.8	
MKAR						09 49 27.4	
MKAR	**Makanchi Array**	**156.74**	**47**	PKP	PKPdf	09 45 19.5	-3.3
comp=Z,6.0nm,0.8s,baz=315,slow=1.7,SNR=45							
MKAR				PKPbc	PKPdf	09 45 28.8	+6.0
comp=Z,4.3nm,0.8s,baz=289,slow=2.7,SNR=11							
MKAR				PKPab	PKPab	09 45 49.8	+0.2
comp=Z,11nm,0.8s,baz=305,slow=3.4,SNR=15							
MKAR				PP	PP	09 49 27.4	-1.5
comp=Z,1.4nm,0.8s,baz=304,slow=4.4,SNR=4.0							
KOLN	**Koldanda**	**159.09**	**99**	*e*P	PKPdf	09 45 22.3	-4.1
comp=Z,126nm,1.6s							
MDJ	**Mudanjiang**	**159.12**	**310**	PKP	PKPdf	09 45 21.3	-4.6
MDJ	**Mudanjiang**	**159.12**	**310**	*e*PKPdf	PKPdf	09 45 21.5	-4.4
MDJ				LR	LR		
comp=Z,220nm,20.0s,MS5.0							
GKN	**Gorkha**	**160.04**	**99**	*e*P	PKPdf	09 45 23.7	-3.7
comp=Z,43nm,0.9s							
DMN	**Daman**	**160.28**	**100**	*e*P	PKPdf	09 45 23.9	-3.8
comp=Z,61nm,1.3s							
KKN	**Kakani**	**160.49**	**100**	*e*P	PKPdf	09 45 24.2	-3.7
comp=Z,26nm,0.8s							
PKI	**Pulchoki**	**160.52**	**101**	*e*P	PKPdf	09 45 23.9	-4.0
comp=Z,79nm,1.5s							
GUN	**Gumba**	**161.03**	**100**	*e*P	PKPdf	09 45 25.0	-3.4
comp=Z,54nm,1.2s							
JIRN	**Jiri**	**161.20**	**101**	*e*P	PKPdf	09 45 24.9	-3.7
comp=Z,79nm,1.4s							
WMQ	**Urumqi**	**161.50**	**49**	PKP	PKPdf	09 45 25.4	-3.0
WMQ				APKP		09 45 36.1	
WMQ				XPKP		09 45 39.9	
WMQ				PKP2	PKPab	09 46 12.5	+2.2
WMQ				PP	PP	09 49 56.8	+2.0
WMQ				SKS	SKS	09 52 25.5	-6.7
WMQ				PP	PP		
comp=Z,105nm,6.9s							
WMQ				LR	LR		
comp=N,203nm,22.4s							
WMQ				LR	LR		
comp=E,85nm,24.5s							
WMQ				LR	LR		
comp=Z,257nm,25.5s							
ZAK	**Zakamensk**	**162.54**	**8**	*e*PKIKP	PKPdf	09 45 25.5	-3.7
ZAK				pmax	pmax		
comp=Z,3.0nm,1.7s							
INCN	**Inchon**	**163.45**	**291**	PFAKE		09 45 40.0	+9.5
INCN				LR	LR		
comp=Z,230nm,19.0s							
CMAR	**Chiang Mai Arr**	**163.67**	**152**	PKP	PKPdf	09 45 28.2	-3.1
comp=Z,6.5nm,0.9s,baz=244,slow=2.4,SNR=37							
CMAR				PKPab	PKPab	09 46 18.9	-1.6
comp=Z,4.2nm,1.0s,baz=224,slow=5.6,SNR=6.5							
CMAR				PP	PP	09 50 05.8	-1.3
comp=Z,0.8nm,0.9s,baz=228,slow=6.1,SNR=4.4							
ULN	**Ulaanbaatar**	**165.28**	**0**	*e*PKIKP	PKPdf	09 45 28.5	-3.5
ULN				MLR	MLR		
comp=Z,290nm,21.0s							
SONM	**Songino Array**	**165.30**	**2**	PKP	PKPdf	09 45 27.9	-4.2
comp=Z,2.0nm,0.8s,baz=315,slow=1.7,SNR=11							
SONM				PKPab	PKPab	09 46 27.3	+0.6
comp=Z,15nm,0.9s,baz=342,slow=3.9,SNR=33							
SONM				PP	PP	09 50 12.0	-2.7
comp=Z,2.9nm,1.0s,baz=342,slow=3.9,SNR=7.4							
QIZ	**Qiongzhong**	**165.74**	**191**	PKP	PKPdf	09 45 28.0	-5.3
QIZ				PP	PP	09 50 18.4	+0.7
QIZ	**Qiongzhong**	**165.74**	**191**	PFAKE		09 45 40.0	+6.7
QIZ				LR	LR		
comp=Z,245nm,20.0s							
LSA	**Lhasa**	**165.99**	**100**	PFAKE		09 45 40.0	+6.8
LSA				LR	LR		
comp=Z,301nm,21.0s							
SSE	**Sheshan**	**167.85**	**264**	PKP	PKPdf	09 45 29.6	-4.8
SSE				PP	PP	09 50 29.0	+1.0
SSE				PP	PP		
comp=Z,95nm,6.0s							
SSE				LR	LR		
comp=N,119nm,26.9s							
SSE				LR	LR		
comp=E,111nm,26.9s							
SSE				LR	LR		
comp=Z,155nm,22.7s							
BJI	**Beijing**	**169.94**	**316**	PKP	PKPdf	09 45 31.6	-3.8
NJ2	**Nanjing**	**169.99**	**267**	*e*PKP	PKPdf	09 45 31.4	-4.2
NJ2				APKP		09 45 42.1	
NJ2				XPKP		09 45 45.1	
NJ2				PKP2	PKPab	09 46 47.3	-0.4
NJ2				PKS	PKS	09 49 02.0	-0.1
NJ2				PP	PP	09 50 40.0	+1.3
NJ2				PP	PP		
comp=Z,110nm,5.8s							
NJ2				LR	LR		
comp=N,840nm,22.0s							
NJ2				LR	LR		
comp=E,740nm,23.4s							
NJ2				LR	LR		
comp=Z,530nm,22.0s							
KMI	**Kunming**	**171.17**	**154**	PKP	PKPdf	09 45 32.5	-4.0
KMI				APKP		09 45 41.5	
KMI				XPKP		09 45 45.1	
KMI				PKP2	PKPab	09 46 52.4	-0.8
KMI				PP	PP	09 50 40.8	-4.0
KMI				PP	PP		
comp=Z,8μm,1.9s							
KMI				PP	PP		
comp=Z,180nm,12.9s							
KMI				LR	LR		
comp=N,133nm,24.5s							
KMI				LR	LR		
comp=E,182nm,22.3s							
KMI				LR	LR		
comp=Z,207nm,22.3s							
GTA	**Gaotai**	**171.43**	**41**	*e*PKP	PKPdf	09 45 33.4	-2.9
GTA				APKP		09 45 43.3	
GTA				XPKP		09 45 46.5	
GTA				PKP2	PKPab	09 46 54.9	+1.0
GTA				PKS	PKS	09 49 04.6	+1.9
GTA				PP	PP	09 50 45.0	-0.6
GTA				SKS	SKS	09 52 33.0	-5.4
GTA				PP	PP		
comp=Z,293nm,6.1s							
GTA				LR	LR		
comp=N,130nm,16.4s							
GTA				LR	LR		
comp=E,193nm,17.1s							
GTA				LR	LR		
comp=Z,212nm,19.0s							
HHC	**Hu-ho-hao-te**	**171.50**	**336**	*e*PKP	PKPdf	09 45 33.0	-3.3
HHC				XPKP		09 45 48.9	
HHC				PKS	PKS	09 49 08.0	+5.4
HHC				LR	LR		
comp=N,170nm,23.8s							
HHC				LR	LR		
comp=E,377nm,26.2s							
HHC				LR	LR		
comp=Z,281nm,27.4s							
WHN	**Wuhan**	**173.28**	**249**	PKP	PKPdf	09 45 34.0	-3.5
LZH	**Lanzhou**	**176.03**	**41**	*e*PKP	PKPdf	09 45 35.1	-3.0
LZH				APKP		09 45 45.6	
LZH				XPKP		09 45 48.9	
LZH				PP	PP	09 51 11.0	+2.3
LZH				PP	PP		
comp=Z,362nm,7.8s							
LZH				LR	LR		
comp=E,486nm,19.9s							
LZH				LR	LR		
comp=Z,798nm,21.0s							
CD2	**Chengdu**	**176.42**	**127**	⇑ *i* PKP	PKPdf	09 45 35.3	-3.1
ENH	**Enshi**	**176.48**	**217**	*e*PKPdf	PKPdf	09 45 34.9	-3.5

IDC 13 09:30:31.9±6.9, 0.20N×101.51E, mb3.4/2, mb1 3.7/2, mb1mx3.3/18, mbtmp3.4/2, Error ellipse: s-maj=269.2km s-min=107.0km az=51.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.88**	**124**	P	P	P	09 37 51.6	-1.1
0.5nm,0.6s,baz=303,slow=9.3,SNR=5.0								
ASAR	**Alice Springs**	**39.40**	**129**	P	P	P	09 38 03.0	-2.3
0.3nm,0.5s,baz=301,slow=7.8,SNR=8.1								
TXAR	**Lajitas Array**	**142.05**	**37**	PKP	PKPdf	PKPdf	09 50 06.7	-1.9
0.1nm,0.3s,baz=185,slow=1.3,SNR=6.0								

IGQ 13 09:36:47.0, 1.27S×81.19W, h15km±3km, mb4.0, 2C-3D, Error ellipse: s-maj=6.6km s-min=2.5km az=25.0, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.68**	**71**	⇓ P	P	Pb	09 36 59.0	-1.0
HOJA				S		Sb	09 37 09.1	+0.2
SALI	**Salinas**	**0.93**	**168**	P	P	Pb	09 37 04.5	+0.3
JAMA	**Jama**	**1.41**	**45**	⇑ P	P	Pn	09 37 12.6	+0.4
JAMA				S		Sb	09 37 31.4	+1.5
IGUA	**Igualata**	**2.56**	**95**	P	P	Pn	09 37 28.0	-0.7
ARRY	**Arrayan**	**2.75**	**95**	P	P	Pn	09 37 31.5	+0.2
NAS1	**Nasa**	**2.79**	**77**	P	P	Pn	09 37 33.5	+1.6
JUA2	**San Juan 2**	**2.79**	**68**	P	P	Pn	09 37 33.8	+1.8
TERV	**Terraza Guagua**	**2.81**	**67**	P	P	Pn	09 37 34.1	+1.9
PINO	**Pino**	**2.81**	**67**	P	P	Pn	09 37 33.9	+1.6
PISA	**Pisayambo**	**2.81**	**86**	⇓ P	P	Pn	09 37 34.9	+2.6
GGP	**Refugio Guagua**	**2.82**	**67**	P	P	Pn	09 37 33.4	+1.1
JOR1	**San Jorge 1**	**2.85**	**64**	P	P	Pn	09 37 32.0	-0.8
VC1	**Cotopaxi 1**	**2.86**	**77**	P	P	Pn	09 37 35.0	+2.1
YANA	**Yana**	**2.86**	**66**	P	P	Pn	09 37 32.3	-0.7
TAMB	**Tambo**	**2.88**	**79**	P	P	Pn	09 37 34.9	+1.7
ANTI	**Antisana**	**3.14**	**75**	⇓ P	P	Pn	09 37 39.4	+2.5
COTA	**Cotacachi**	**3.27**	**61**	P	P	Pn	09 37 41.0	+2.2
CAYR	**Refugio Cayamb**	**3.43**	**68**	⇑ P	P	Pn	09 37 44.6	+3.5

IDC 13 09:49:25.3±29.0, 16.87S×175.59W, mb4.3/4, mb1 4.5/4, mb1mx4.0/17, mbtmp4.3/4, MS3.5/1, Ms1 3.5/1, ms1mx3.0/19, Error ellipse: s-maj=565.4km s-min=149.0km az=85.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.71**	**250**	LR	LR	LR	09 58 59.6	
comp=Z,173nm,20.1s,baz=18,slow=32								
STKA	**Stephens Creek**	**41.49**	**241**	P	P	P	09 57 15.0	-0.7
2.9nm,1.1s,baz=81,slow=6.9,SNR=4.3								
WRA	**Warramunga Arr**	**47.48**	**258**	P	P	P	09 58 02.5	-1.7
2.6nm,0.4s,baz=96,slow=7.6,SNR=97								
ASAR	**Alice Springs**	**47.67**	**253**	P	P	P	09 58 03.5	-2.1
2.9nm,0.6s,baz=92,slow=7.6,SNR=68								
FITZ	**Fitzroy Crossi**	**55.86**	**259**	P	P	P	09 59 04.4	-2.9
2.3nm,0.7s,baz=98,slow=7.1,SNR=5.6								

IDC 13 09:49:46.3±3.2, 1.30S×99.88E, mb3.8/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, ML4.0/1, MS4.2/1, Ms1 4.1/1, ms1mx3.4/22, Error ellipse: s-maj=138.0km s-min=23.1km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.65**	**357**	P	P	P	09 54 17.3	-2.4
0.2nm,0.3s,baz=189,slow=10.0,SNR=11								
WRA	**Warramunga Arr**	**38.45**	**121**	P	P	P	09 57 10.2	-1.7
0.3nm,0.3s,baz=300,slow=9.1,SNR=7.9								
ASAR	**Alice Springs**	**39.76**	**127**	P	P	P	09 57 21.2	-1.6
0.8nm,0.8s,baz=298,slow=7.5,SNR=5.6								
STKA	**Stephens Creek**	**49.71**	**132**	LR	LR	LR	10 17 59.9	
comp=Z,259nm,21.5s,baz=295,slow=34								
MKAR	**Makanchi Array**	**50.33**	**344**	P	P	P	09 58 44.8	-2.1
1.2nm,0.5s,baz=146,slow=7.9,SNR=13								
TXAR	**Lajitas Array**	**144.22**	**37**	PKP	PKPdf	PKPdf	10 09 23.8	-3.0
1.1nm,0.6s,baz=273,slow=1.5,SNR=13								

NIED ***13*** *09:50:00, 31.20N×142.60E, h5km, Mw5.0 Best double couple: M0 3.49×10^16 NP1:φs 139°, δ60°, λ-103°. NP2: φs 344°, δ33°, λ-69°.*

JMA ***13*** *09:50:18.8±0.2, 31.22N×142.59E, h51km, M5.5*

NEIC ***13*** *09:50:21.6±1.5, 31.20N×142.36E, h25km±10km, mb5.1/78, MS4.4/8, MW5.0(NIED), Error ellipse: s-maj=4.3km s-min=3.4km az=143.0*

BJI ***13*** *09:50:22.2, 31.37N×142.10E, h23km, mB4.9, mb4.7, Ms4.6, Msz4.3*

MOS ***13*** *09:50:22.9±0.8, 31.55N×142.41E, h33km, mb5.2/65, MS4.2/13, Error ellipse: s-maj=8.5km s-min=4.5km az=109.5*

IDC ***13*** *09:50:25.1±0.4, 31.22N×142.24E, h51km±3km, mb4.6/36, mb1 4.7/38, mb1mx4.7/39, mbtmp4.8/38, MS4.3/13, Ms1 4.3/13, ms1mx4.1/31, Error ellipse: s-maj=10.2km s-min=7.2km az=59.0*

HRVD ***13*** *09:50:25.2±0.4, 31.22N×142.52E, h16km±1km, MW5.0/46, Centroid moment Tensor Solution. LP body waves: s27, c39; Mantle waves: s46, c80; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.54±.24; Mθθ 0.02±.17; Mφφ 3.52±.17; Mrθ-0.45±.56; Mθφ-1.03±.10; Mφr 0.49±.42; Best double couple: M0 3.731×10^16 NP1:φs 350°, δ41°, λ-82°. NP2:φs 160°, δ50°, λ-97°. Principal axes: T 3.848, Plg5°, Azm254°; N -.233, Plg5°, Azm164°; P -3.614, Plg83°, Azm26°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 13 09:50:24.4±0.2, 31.46N±0.03×142.31E±0.03, h50km, h50km±1.5km: pP-P, n363, σ1§04/393, mb5.0/125, MS4.5/30, 18C-17D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.68**	**309**	P	**P**	**P**	**09 51 05.3**	**-0.9**
JHJ2				S		**S**	**09 51 38.4**	**+0.8**
JHJ	**Hachijo jima 2**	**2.71**	**308**	P	**P**	**P**	**09 51 05.3**	**-1.2**
106nm,0.3s,baz=77,slow=13,SNR=26								
JHJ				S		**S**	**09 51 38.6**	**+0.3**
678nm,0.3s,baz=92,slow=21,SNR=9.9								
JHJ				LR	LR	LR	09 51 44.0	
comp=Z,850nm,22.0s,baz=110,slow=28								
BSO1	**Boso 1**	**3.38**	**341**	P	**P**	**P**	**09 51 14.8**	**-1.2**
BSO1				*e*S		**S**	**09 51 56.3**	**+1.0**
JMY	**Miyakejima3**	**3.52**	**319**	*e*S	**P**	**S**	**09 51 59.6**	**+0.9**
BSO2	**Boso 2**	**3.54**	**339**	*e*S	**S**	**S**	**09 52 02.1**	**+2.9**
BSO3	**Boso 3**	**3.66**	**336**	P	**P**	**P**	**09 51 18.9**	**-1.1**
BSO3				*e*S		**S**	**09 52 05.0**	**+2.6**
JKO	**Kozu shima**	**3.82**	**316**	P	**P**	**P**	**09 51 21.8**	**-0.4**
JKO				*e*S		**S**	**09 52 07.4**	**+1.1**
CBIJ	**Chichi jima**	**4.34**	**182**	P	**P**	**P**	**09 51 22.5**	**-7.1**
51nm,0.3s,baz=197,slow=17,SNR=24

MJAR S **S** **09 53 04.6 +0.8**
MJAR pmax pmax
comp=Z,24nm,0.3s
MJAR Matsushiro Arr 6.11 327 P **P** **09 51 53.6 -0.7**
comp=Z,24nm,0.3s,baz=140,slow=15,SNR=108
MJAR S **S** **09 53 04.6 +0.8**
comp=Z,22nm,0.3s,baz=162,slow=16,SNR=7.6
MAJO Matsushiro 6.11 327 *e*P **P** **09 51 53.5 -0.8**
MAJO pmax pmax
comp=Z,118nm,0.6s
MAJO Matsushiro 6.11 327 *e*P **P** **09 51 53.5 -0.9**
comp=Z,118nm,0.6s
MAT Matsushiro 6.11 327 *e*P **P** **09 51 54.0 -0.3**
MAT S **S** **09 53 04.0 +0.2**
MAT pmax pmax
comp=Z,41nm,0.7s
MAT Matsushiro 6.11 327 *e*P **P** **09 51 54.0 -0.3**
comp=Z,41nm,0.7s
MAT S **S** **09 53 04.0 +0.2**
MAT Matsushiro 6.11 327 P **P** **09 51 53.7 -0.6**
MAT *e*S **S** **09 53 03.5 -0.3**
MAT Matsushiro 6.11 327 P **P** **09 51 52.6 -1.7**
MAT S **S** **09 53 05.1 +1.3**
JHK Hiroka 6.39 336 P **P** **09 51 56.8 -1.4**
JHK S **S** **09 53 10.0 -0.7**
JMM Marumori 6.52 349 P **P** **09 51 57.2 -2.8**
JMK Ichinoseki 7.53 353 P **P** **09 52 10.5 -3.7**
JMK *e*S **S** **09 53 31.5 -7.6**
JTO Tosashimizu 8.18 282 P **P** **09 52 22.5 -0.7**
JOT Ohata 9.96 354 P **P** **09 52 43.2 -4.4**
JOT *e*S **S** **09 54 31.2 -7.8**
JKB Kayabe 10.46 355 P **P** **09 52 50.9 -3.6**
JKB S **S** **09 54 42.4 -8.8**
JCH Churui 11.17 4 P **P** **09 52 58.7 -5.4**
JCH *e*S **S** **09 54 55.9 -13**
ASAJ Asahikawa 12.64 1 P **P** **09 53 19.7 -4.1**
ASAJ pmax pmax
comp=Z,7.0nm,0.3s
ASAJ Asahikawa 12.64 1 P **P** **09 53 19.6 -4.2**
comp=Z,7.0nm,0.3s,baz=240,slow=14,SNR=46
JOW Kunigami 13.10 253 LR LR 09 58 20.9
comp=Z,663nm,19.6s,baz=120,slow=37
KS15 Wonju Array Si 13.31 301 *e*P **P** **09 53 32.6 -0.1**
INCN Inchon 14.26 299 *e*P **P** **09 53 44.5 -0.6**
comp=Z,62nm,0.9s
YSS Yuzh-Sakhalins 15.48 1⇑*i*P **P** **09 53 58.0 -2.8**
YSS *e*S **S** **09 56 42.0 -9.0**
YSS pmax pmax
comp=N,50nm,0.9s
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,80nm,1.1s
YSS pmax pmax
comp=N,130nm,1.2s
YSS pmax pmax
comp=E,40nm,0.9s
YSS MLR MLR
comp=Z,600nm,13.0s
YSS MLR MLR
comp=N,700nm,14.0s
YSS Yuzh-Sakhalins 15.48 1⇑*i*P **P** **09 53 58.0 -2.8**
comp=N,40nm,0.9s
YSS *e*S **S** **09 56 42.0 -9.0**
MDJ Mudanjiang 16.50 326 P **P** **09 54 13.0 -0.7**
MDJ AP 09 54 21.1
MDJ XP 09 54 27.8
MDJ S **S** **09 57 18.9 +4.4**
MDJ SCP 10 02 39.3
MDJ SCS ScS 10 06 16.0 +5.0
MDJ AMB AMB
comp=Z,16nm,1.4s
MDJ AMB AMB
comp=Z,66nm,5.4s
MDJ LR LR
comp=N,398nm,20.7s
MDJ LR LR
comp=E,483nm,20.0s
MDJ LR LR
comp=Z,499nm,16.0s
MDJ Mudanjiang 16.50 326 P **P** **09 54 13.0 -0.7**
comp=Z,16nm,1.4s
MDJ pP 09 54 21.1
MDJ sP 09 54 27.8
MDJ S **S** **09 57 18.9 +4.4**
MDJ ScP 10 02 39.3
MDJ ScS ScS 10 06 16.0 +5.0
UGL Uglegorsk 17.61 359 *e*P **P** **09 54 28.0 +0.4**
UGL pmax pmax
comp=Z,57nm,0.9s
UGL pmax pmax
comp=Z,600nm,4.0s
UGL MLR MLR
comp=N,700nm,16.0s
UGL MLR MLR
comp=E,700nm,16.0s
UGL MLR MLR
comp=Z,550nm,16.0s
SSE Sheshan 18.06 274 P **P** **09 54 31.1 -2.3**
SSE AP 09 54 39.3
SSE XP 09 54 43.8
SSE S **S** **09 57 53.1 +3.0**
SSE AMB AMB
comp=Z,30nm,0.7s
SSE AMB AMB
comp=Z,281nm,10.4s
SSE LR LR
comp=N,740nm,15.0s
SSE LR LR
comp=E,563nm,15.0s
SSE LR LR
comp=Z,1μm,15.6s
SSE Sheshan 18.06 274 P **P** **09 54 31.1 -2.3**
comp=Z,30nm,0.7s
SSE pP 09 54 39.3
SSE sP 09 54 43.8
SSE S **S** **09 57 53.1 +3.0**
SNY Shenyang 18.22 310 ⇓P **P** **09 54 35.1 -0.1**
SNY S **S** **09 57 50.9 -2.6**
SNY AMB AMB
comp=Z,10.0nm,1.1s
SNY AMB AMB
comp=Z,300nm,5.1s
SNY LR LR
comp=N,870nm,18.0s
SNY LR LR
comp=Z,830nm,15.6s
TATO Taipei 19.44 256 *e*P **P** **09 54 47.5 -2.0**
comp=Z,176nm,1.0s
KLR Kul'dur 19.46 339 *e*P **P** **09 54 46.8 -2.8**
KLR *e*S **S** **09 58 25.5 +4.3**
YHNB Yeheng 19.66 255 *e*P **P** **09 54 48.0 -3.9**
NACB Ninganchiao 19.69 254 *e*P **P** **09 54 48.4 -3.8**
NJ2 Nanjing 19.95 278 *e*P **P** **09 54 51.4 -3.6**
NJ2 AP 09 54 56.5
NJ2 PP PP 09 55 10.1 -4.9
NJ2 S **S** **09 58 32.0 +0.3**
NJ2 XS 09 58 38.0
NJ2 AMB AMB
comp=Z,1μm,4.4s
NJ2 LR LR
comp=N,540nm,10.0s
NJ2 LR LR
comp=E,1μm,12.0s
NJ2 LR LR
comp=Z,1μm,16.0s
BJI Beijing 22.82 299 P **P** **09 55 22.9 -0.9**
BJI S **S** **09 59 28.9 +3.8**
BJI AMB AMB
comp=Z,24nm,1.3s,mb4.5
BJI AMB AMB
comp=Z,223nm,5.1s
BJI LR LR
comp=N,876nm,16.8s,MS4.4
BJI LR LR
comp=E,1μm,21.8s,MS4.4
BJI LR LR
comp=Z,758nm,21.3s,MS4.1
BJI Beijing 22.82 299 P **P** **09 55 22.9 -0.9**
comp=Z,24nm,1.3s,mb4.5
BJI S **S** **09 59 28.9 +3.8**
BJI LR LR
comp=Z,760nm,21.3s,MS4.1
BJT Baijiatuau 22.82 299 *e*P **P** **09 55 23.1 -0.7**
BJT pmax pmax
comp=Z,36nm,0.8s
BJT MLR MLR
comp=Z,1μm,19.0s
BJT Baijiatuau 22.82 299 *e*P **P** **09 55 23.1 -0.7**
comp=Z,36nm,0.8s,mb4.8
BJT LR LR
comp=Z,1μm,19.0s,MS4.4
WHN Wuhan 23.96 275 P **P** **09 55 36.5 +1.5**
WHN S **S** **09 59 40.5 -4.8**
WHN LR LR
comp=Z,2μm,17.3s,MS4.7
HIA Hailar 24.59 323 *e*P **P** **09 55 41.5 +0.5**
HIA pmax pmax
comp=Z,55nm,0.8s
HIA MLR MLR
comp=Z,406nm,20.0s
HIA Hailar 24.59 323 *e*P **P** **09 55 41.5 +0.5**
comp=Z,55nm,0.8s,mb5.1
HIA LR LR
comp=Z,406nm,20.0s,MS3.9
PET Petropavlovsk 24.60 24 *e*P **P** **09 55 41.0 0.0**
PET *e*S **S** **09 59 58.2 +2.3**
PET pmax pmax
comp=Z,100nm,11.2s
PET MLR MLR
comp=Z,800nm,18.0s,MS4.3
HHC Hu-ho-hao-te 26.43 299 *e*P **P** **09 55 57.4 -0.9**
HHC AP pP 09 56 02.3 -8.6
HHC XP sP 09 56 04.4 -12
HHC S **S** **10 00 32.6 +6.3**
HHC XS 10 00 40.8
HHC PCS 10 02 59.6
HHC SCP 10 03 01.8
HHC SCS ScS 10 06 51.1 +4.8
HHC AMB AMB
comp=Z,24nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,233nm,9.7s
HHC LR LR
comp=N,561nm,16.2s,MS4.5
HHC LR LR
comp=E,1μm,17.2s,MS4.5
HHC LR LR
comp=Z,1μm,17.8s,MS4.4
XAN Xi'an 28.13 284 P **P** **09 56 12.3 -1.6**
XAN AP pP 09 56 18.9 -7.7
XAN AMB AMB
comp=Z,45nm,0.7s,mb5.2
ENH Enshi 28.15 276 *e*P **P** **09 56 11.3 -2.7**
comp=Z,17nm,0.8s,mb4.7
ENH LR LR
comp=Z,1μm,19.0s,MS4.5
MA2 Magadan 28.69 9 *e*P **P** **09 56 16.2 -2.4**
MA2 pmax pmax
comp=Z,20nm,1.6s,mb4.6
FX1 Attu Island--F 30.94 37 P **P** **09 56 39.5 +0.8**
FX1 pmax pmax
comp=Z,32nm,0.9s
FX1 Attu Island--F 30.94 37 P **P** **09 56 39.5 +0.9**
comp=Z,32nm,0.9s,mb5.2,baz=275,slow=13,SNR=6.8
ULN Ulaanbaatar 31.37 312 *e*P **P** **09 56 43.9 +1.4**
ULN pmax pmax
comp=Z,48nm,1.3s,mb5.2
ULN Ulaanbaatar 31.37 312 *e*P **P** **09 56 43.9 +1.4**
comp=Z,48nm,1.3s,mb5.2
GYA Guiyang 31.50 270⇑*i*P **P** **09 56 45.0 +1.2**
GYA AP pP 09 56 54.3 -2.5
GYA XP sP 09 56 58.9 -4.1
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,90nm,3.3s
GYA LR LR
comp=N,550nm,15.7s,MS4.4
GYA LR LR
comp=E,460nm,16.7s,MS4.4
GYA LR LR
comp=Z,780nm,18.6s,MS4.4
YAK Yakutsk 31.67 349⇓*e*P **P** **09 56 44.4 -0.5**
QIZ Qiongzhong 31.75 255 P **P** **09 56 47.3 +1.2**
QIZ S **S** **10 01 53.0 +1.8**
QIZ XS 10 02 08.6
QIZ LR LR
comp=N,547nm,18.2s
QIZ LR LR
comp=Z,597nm,19.0s,MS4.3
SONM Songino Array 31.79 311 P **P** **09 56 47.2 +1.1**
comp=Z,10nm,0.7s,mb4.8,baz=119,slow=8.2,SNR=39
SONM PcP PcP 09 59 36.0 -0.5
comp=Z,1.7nm,0.8s,baz=128,slow=2.8,SNR=4.8
SEY Seymchan 32.15 9 *e*P **P** **09 56 48.9 -0.2**
SEY 09 58 00.0
SEY *e*S **S** **10 02 00.1 +3.0**
SEY *e*SS SS 10 04 07.4 +14
SEY pmax pmax
comp=E,9.0nm,0.8s
SEY pmax pmax
comp=Z,30nm,0.8s,mb5.2
SEY pmax pmax
comp=N,10.0nm,0.7s
LZH Lanzhou 32.17 289 *e*P **P** **09 56 48.6 -1.0**
LZH PP PP 09 57 56.0 -1.5
LZH *e*S **S** **10 01 57.5 -0.2**
LZH SS SS 10 03 51.5 -2.2
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,85nm,4.0s
LZH LR LR
comp=N,1μm,14.8s
LZH LR LR
comp=Z,2μm,15.3s,MS4.8
LZH Lanzhou 32.17 289 *e*P **P** **09 56 48.6 -1.0**
comp=Z,15nm,1.0s,mb4.8
LZH PP PP 09 57 56.0 -1.5
LZH *e*S **S** **10 01 57.5 -0.2**
LZH SS SS 10 03 51.5 -2.2
LZH LR LR
comp=Z,2μm,15.3s,MS4.8
BOD Bodaibo 32.72 332 *e*P **P** **09 56 54.0 -0.2**
BOD pmax pmax
comp=Z,99nm,1.0s,mb5.7
CD2 Chengdu 32.88 279 P **P** **09 56 54.8 -1.0**
CD2 S **S** **10 02 11.4 +2.6**
CD2 AMB AMB
comp=Z,30nm,1.4s,mb5.0
CD2 LR LR
comp=E,920nm,14.4s
CD2 LR LR
comp=Z,1μm,16.8s,MS4.7
ZAK Zakamensk 34.52 315 *e*P **P** **09 57 11.0 +1.2**
ZAK pmax pmax
comp=Z,14nm,1.4s,mb4.7
TLY Talaya 34.74 317 *e*P **P** **09 57 12.3 +0.7**
TLY pmax pmax
comp=Z,16nm,1.3s,mb4.8
TLY MLR MLR
comp=Z,377nm,15.0s,MS4.3
GTA Gaotai 35.27 295 *e*P **P** **09 57 16.0 -0.2**
GTA PP PP 09 58 37.5 +1.0
GTA S **S** **10 02 52.8 +7.1**
GTA XS 10 02 58.4
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
GTA AMB AMB
comp=Z,100nm,4.6s
GTA LR LR
comp=N,565nm,15.6s,MS4.7
GTA LR LR
comp=E,907nm,16.0s,MS4.7
GTA LR LR
comp=Z,1μm,16.7s,MS4.7
KMI Kunming 35.27 270 P **P** **09 57 19.4 +2.9**
KMI AMB AMB
comp=Z,13nm,0.9s,mb4.9
KMI Kunming 35.27 270 P **P** **09 57 19.4 +2.9**
comp=Z,13nm,0.9s,mb4.9
MOY Mondy 36.29 316 *e*P **P** **09 57 25.1 +0.3**
MOY pmax pmax
comp=Z,20nm,1.7s,mb4.8
BILL Bilibino 39.20 14⇑*e*P **P** **09 57 49.4 +0.5**
BILL *e* 09 59 19.7
BILL *e* 09 59 53.9
BILL *e*S **S** **10 03 50.8 +5.3**
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
BILL MLR MLR
comp=Z,300nm,15.0s,MS4.2
BILL Bilibino 39.20 14⇑*e*P **P** **09 57 49.4 +0.5**
comp=Z,10.0nm,1.0s,mb4.5
BILL *e* 09 59 19.7
BILL *e* 09 59 53.9
BILL *e*S **S** **10 03 50.8 +5.3**
BILL LR LR
comp=Z,300nm,15.0s,MS4.2
TIXI Tiksi 40.90 354⇓*e*P **P** **09 58 03.1 +0.1**
CM31 Chiang Mai Arr 41.14 262 P **P** **09 58 02.5 -3.0**
comp=Z,2.7nm,0.6s,mb4.0
CMAR Chiang Mai Arr 41.14 262 P **P** **09 58 03.1 -2.4**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR MLR MLR
comp=Z,380nm,18.0s
CMAR Chiang Mai Arr 41.14 262 P **P** **09 58 03.0 -2.4**
comp=Z,1.8nm,0.6s,baz=56,slow=6.9,SNR=13
CMAR LR LR 10 17 02.1
comp=Z,380nm,18.0s,MS4.3,baz=65,slow=39
KSM Kuching 42.46 232 *e*P **P** **09 58 14.0 -2.4**
LSA Lhasa 43.76 282 P **P** **09 58 28.1 +1.3**
LSA pmax pmax
comp=Z,16nm,1.3s,mb4.6
LSA MLR MLR
comp=Z,521nm,20.0s,MS4.4
LSA Lhasa 43.76 282 P **P** **09 58 28.1 +1.3**
comp=Z,16nm,1.3s,mb4.6
LSA LR LR
comp=Z,521nm,20.0s,MS4.4
WMQ Urumqi 44.24 302 ⇑P **P** **09 58 32.0 +1.5**
WMQ AP pP 09 58 36.4 -7.4
WMQ XP sP 09 58 39.0 -11
WMQ PCP PcP 10 00 15.3 +0.4
WMQ PP PP 10 00 17.3 +1.9
WMQ S **S** **10 05 06.3 +6.4**
WMQ XS 10 05 13.8
WMQ AMB AMB
comp=Z,19nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,608nm,2.6s,mb5.9
WMQ LR LR
comp=N,608nm,24.2s,MS4.5
WMQ LR LR
comp=E,182nm,20.8s,MS4.5
WMQ LR LR
comp=Z,241nm,15.5s
NVS Novosibirsk 47.34 318 *i*P **P** **09 58 54.8 -0.1**
NVS *e*S **S** **10 05 53.3 +9.2**
NVS pmax pmax
comp=N,10.0nm,1.3s
NVS pmax pmax
comp=E,38nm,1.3s
NVS pmax pmax
comp=Z,37nm,1.3s,mb5.2
NVS smax
comp=N,11nm,1.4s
NVS smax
comp=E,35nm,2.1s
MKAR Makanchi Array 47.88 307 P **P** **09 58 59.7 +0.4**
MKAR *PP pP 09 59 13.9 +1.3
MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR pmax pmax
comp=Z,18nm,0.8s
MKAR MLR MLR
comp=Z,254nm,19.7s
MKAR Makanchi Array 47.88 307 P **P** **09 58 59.7 +0.4**
comp=Z,6.7nm,0.5s,mb4.9,baz=87,slow=9.4,SNR=74
MKAR pP pP 09 59 13.9 +1.3
comp=Z,18nm,0.8s,baz=90,slow=8.4,SNR=11
MKAR LR LR 10 19 48.7
comp=Z,254nm,19.6s,MS4.2,baz=271,slow=37
JIRN Jiri 48.52 281 *e*P **P** **09 59 04.2 -0.3**
comp=Z,144nm,0.8s,mb6.0
GUN Gumba 48.70 281 *e*P **P** **09 59 05.7 -0.2**
comp=Z,130nm,1.0s,mb5.9
PKI Pulchoki 49.21 281 *e*P **P** **09 59 08.9 -0.9**
comp=Z,57nm,1.1s,mb5.5
PKI Pulchoki 49.21 281 *e*P **P** **09 59 08.9 -0.9**
PKI pmax pmax
comp=Z,28nm,1.1s,mb5.2
KKN Kakani 49.24 281 *e*P **P** **09 59 09.4 -0.7**
comp=Z,99nm,1.1s,mb5.7
KKN Kakani 49.24 281 *e*P **P** **09 59 09.4 -0.7**
KKN pmax pmax
comp=Z,49nm,1.1s,mb5.5
DMN Daman 49.45 281 *e*P **P** **09 59 10.7 -0.9**
comp=Z,60nm,1.1s,mb5.5
SVW2 Sparrevohn 49.60 34 *e*P **P** **09 59 12.9 +0.6**
GKN Gorkha 49.72 282 *e*P **P** **09 59 12.9 -0.8**
comp=Z,77nm,1.0s,mb5.7
KOLN Koldanda 50.66 282 *e*P **P** **09 59 20.4 -0.5**
comp=Z,75nm,1.1s,mb5.5
KDAK Kodiak Island 50.86 39 *e*P **P** **09 59 21.1 -0.9**
IMA Indian Mountai 51.18 28 *e*P **P** **09 59 23.6 -0.7**
WRAB Tennant Creek 51.66 190*d i*P **P** **09 59 24.2 -4.3**
WRAB Tennant Creek 51.66 190 *e*P **P** **09 59 24.0 -4.6**
comp=Z,130nm,1.0s,mb5.8
WB2 Warramunga Arr 51.67 190⇓*i*P **P** **09 59 24.2 -4.4**
WRA Warramunga Arr 51.67 190 P **P** **09 59 24.3 -4.3**
WRA *PP pP 09 59 37.9 -4.2
WRA pmax pmax
comp=Z,68nm,0.9s
WRA pmax pmax
comp=Z,19nm,0.6s
WRA Warramunga Arr 51.67 190 P **P** **09 59 24.3 -4.3**
comp=Z,68nm,0.9s,mb5.6,baz=7.5,slow=7.8,SNR=87
WRA pP pP 09 59 37.9 -4.2
comp=Z,19nm,0.6s,baz=6.9,slow=7.6,SNR=8.0
FITZ Fitzroy Crossi 51.81 200⇓*i*P **P** **09 59 26.1 -3.5**
comp=Z,21nm,0.9s,mb5.1
FITZ Fitzroy Crossi 51.81 200 P **P** **09 59 26.0 -3.6**
comp=Z,19nm,0.6s,mb5.2,baz=12,slow=6.7,SNR=25
FITZ pP pP 09 59 40.1 -3.0
comp=Z,20nm,0.6s,baz=10,slow=7.6,SNR=5.2
SLKM Skilak Lake 52.17 35 *e*P **P** **09 59 30.5 -1.3**
PWA Palmer West 52.38 34 *e*P **P** **09 59 32.3 -1.1**
PMR Palmer 52.74 34 *e*P **P** **09 59 34.6 -1.4**
ULHL Ulahol 52.76 302 P **P** **09 59 37.6 +1.2**
SNR=6.7
LGTI Lohaghat 52.90 285 *e*P **P** **09 59 42.5 +4.8**
TKM2 Tokmak 2 53.09 302 P **P** **09 59 40.0 +1.0**
SNR=13
COLA College 53.46 30*d i*P **P** **09 59 41.0 -0.4**
COLA College 53.46 30 *e*P **P** **09 59 41.6 +0.2**
KZA Kyzart 53.51 301 P **P** **09 59 44.2 +2.2**
SNR=16
KBK Karagaybulak 53.62 302 P **P** **09 59 43.7 +0.9**
SNR=10.0
USP Ospenovka 53.82 303 P **P** **09 59 44.6 +0.3**
SNR=9.8
FRU Bishkek 53.82 303 *e*P **P** **09 59 45.0 +0.7**
FRU *e* 09 59 50.0
FRU pmax pmax
comp=Z,60nm,1.4s,mb5.3
ILAR Eielson Array 53.87 30 P **P** **09 59 43.1 -1.3**
ILAR *PP pP 09 59 58.3 +0.3
ILAR pmax pmax
comp=Z,13nm,0.5s
ILAR pmax pmax
comp=Z,5.0nm,0.7s
ILAR Eielson Array 53.87 30 P **P** **09 59 43.0 -1.3**
comp=Z,13nm,0.5s,mb5.1,baz=257,slow=6.3,SNR=233
ILAR pP pP 09 59 58.2 +0.2
comp=Z,5.3nm,0.7s,baz=264,slow=6.0,SNR=4.8
AAK Ala-Archa 53.95 302 P **P** **09 59 45.7 +0.4**
SNR=8.5
AAK Ala-Archa 53.95 302 *i*P **P** **09 59 45.5 +0.2**
UCH Uchtor 54.02 302 P **P** **09 59 47.3 +1.5**
SNR=12
EKS2 Erkin-Say 54.46 302 P **P** **09 59 49.3 +0.3**
SNR=6.2
AML Almayashu 54.63 302 P **P** **09 59 51.7 +1.4**
SNR=55
CHKZ Chkalovo 54.76 316 *e*P **P** **09 59 50.3 -0.7**
CHKZ pmax pmax
comp=Z,56nm,0.8s,mb5.7
SDNR Sundarnagar 54.93 288 *e*P **P** **09 59 51.4 -1.2**
BVA0 Borovoye Array 54.97 315 P **P** **09 59 52.4 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BVAR Borovoye Array 54.97 315 P **P** **09 59 52.4 -0.1**
comp=Z,9.4nm,0.5s,mb5.1,baz=102,slow=8.4,SNR=50
BVAR pP pP 10 00 05.1 -1.1

comp=Z,5.0nm,0.5s,baz=112,slow=8.0,SNR=5.1
BVAR PcP PcP 10 00 52.6 -1.1
comp=Z,3.8nm,0.5s,baz=84,slow=4.0,SNR=4.3
MENT Mentasta 55.27 32 eP **P 09 59 54.7 +0.1**
ASAR Alice Springs 55.40 189 P **P 09 59 51.5 -4.5**
comp=Z,6.2nm,0.5s,mb4.9,baz=7.8,slow=7.3,SNR=101
ASAR pP pP 10 00 05.6 -4.2
comp=Z,7.2nm,0.7s,baz=16,slow=6.6,SNR=8.2
ASPA Alice Springs 55.40 189⇓iP **P 09 59 51.5 -4.6**
THN Thein Dam 55.65 290 eP **P 09 59 58.9 +1.1**
MBWA Marble Bar 56.62 205 eP **P 10 00 01.1 -3.7**
KKAR Karatay Array 56.70 304 P **P 10 00 05.1 0.0**
KKAR pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
DAWY Dawson 57.14 31 eP **P 10 00 07.6 -0.4**
DZM Mont Dzumac 58.03 153 P **P 10 00 12.2 -2.6**
comp=Z,17nm,0.8s,mb5.1,baz=6.3,slow=8.4,SNR=12
DZM pP pP 10 00 25.8 -2.8
comp=Z,8.0nm,0.5s,slow=7.1,SNR=2.6
INK Inuvik 59.05 26 P **P 10 00 20.4 -0.8**
INK *PP pP 10 00 35.2 +0.1
INK pmax pmax
comp=Z,6.0nm,0.5s
INK pmax pmax
comp=Z,6.0nm,0.5s
INK Inuvik 59.05 26 P **P 10 00 20.4 -0.9**
comp=Z,6.3nm,0.5s,mb5.0,baz=282,slow=5.9,SNR=105
INK pP pP 10 00 35.1 +0.1
comp=Z,5.8nm,0.5s,baz=280,slow=8.8,SNR=8.6
INK Inuvik 59.05 26 eP **P 10 00 20.4 -0.8**
comp=Z,6.7nm,0.5s,mb4.9
SVE Sverdlovsk 59.88 321⇓eP **P 10 00 28.0 +0.8**
SVE pmax pmax
comp=Z,44nm,1.8s,mb5.2
ARU Arti 61.09 321 eP **P 10 00 34.8 -0.6**
ARU e 10 02 47.1
ARU eS **S 10 08 54.3 +5.3**
ARU e 10 10 21.9
ARU eSS SS 10 12 56.0 +5.3
DLBC Dease Lake 62.62 36 P **P 10 00 46.0 +0.4**
comp=Z,2.7nm,0.5s,mb4.6,baz=298,slow=5.2,SNR=13
STKA Stephens Creek 62.99 181 P **P 10 00 43.7 -4.7**
comp=Z,2.9nm,0.8s,mb4.5,baz=310,slow=8.6,SNR=5.5
STKA Stephens Creek 62.99 181 P **P 10 00 43.7 -4.8**
FORT Forrest 63.35 194 eP **P 10 00 47.9 -3.0**
comp=Z,683nm,0.5s
RES Resolute Bay 67.81 14 eP **P 10 01 17.7 -1.0**
RES pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
RES Resolute Bay 67.81 14 eP **P 10 01 17.7 -1.0**
comp=Z,6.9nm,0.9s,mb4.7
YKW3 Yellowknife Ar 68.25 29 eP **P 10 01 20.9 -0.7**
YKA Yellowknife Ar 68.28 29 P **P 10 01 20.8 -0.9**
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 68.28 29 P **P 10 01 20.8 -0.9**
comp=Z,4.4nm,0.6s,mb4.7,baz=292,slow=6.4,SNR=109
YKA Yellowknife Ar 68.28 29 P **P 10 01 20.8 -0.9**
KEV Kevo 68.92 340 ep **P 10 01 25.0 -0.6**
comp=Z,32nm,1.1s,mb5.2
KEV Kevo 68.92 340 eP **P 10 01 25.0 -0.6**
KEV pmax pmax
comp=Z,32nm,1.1s,mb5.2
ARCES ARCESS Array B 69.48 340 P **P 10 01 28.6 -0.4**
ARCES *PP pP 10 01 44.7 +1.5
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES pmax pmax
comp=Z,10.0nm,0.9s
ARCES MLR MLR
comp=Z,335nm,19.5s
ARCES ARCESS Array B 69.48 340 P **P 10 01 28.6 -0.5**
comp=Z,3.0nm,0.6s,mb4.4,baz=58,slow=9.6,SNR=18
ARCES pP pP 10 01 44.7 +1.5
comp=Z,10nm,0.9s,baz=51,slow=6.0,SNR=2.5
ARCES LR LR 10 33 54.8
comp=Z,335nm,19.5s,MS4.6,baz=259,slow=38
ARCES ARCESS Array B 69.48 340 P **P 10 01 28.6 -0.5**
ARCES pP pP 10 01 44.7 +1.5
ARCES LR LR 10 33 54.8
JOF Joensuu 71.25 333 ep **P 10 01 39.1 -0.7**
comp=Z,13nm,0.5s,mb5.1
MOS Moscow 72.20 325 eP **P 10 01 44.7 -0.9**
MOS e pP 10 01 58.2 -1.6
MOS pmax pmax
comp=Z,54nm,0.6s,mb5.7
OBN Obninsk 73.04 325⇑eP **P 10 01 51.1 +0.6**
OBN e pP 10 02 05.7 +1.0
OBN pmax pmax
comp=Z,38nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.5
OBN Obninsk 73.04 325⇑eP **P 10 01 51.1 +0.6**
comp=Z,38nm,1.3s,mb5.2
OBN e pP 10 02 05.7 +1.0
OBN LR LR
comp=Z,200nm,15.0s,MS4.5
YBH Yreka Blue Hor 73.21 51 P **P 10 01 52.4 +0.6**
YBH pmax pmax
comp=Z,5.0nm,0.6s
YBH Yreka Blue Hor 73.21 51 P **P 10 01 52.4 +0.6**
comp=Z,5.3nm,0.6s,mb4.6,baz=360,slow=5.1,SNR=17
YBH Yreka Blue Hor 73.21 51 eP **P 10 01 52.0 +0.2**
comp=Z,18nm,1.3s,mb4.8
EDM Edmonton 73.28 37 eP **P 10 01 51.4 -0.6**
KAF Kangasniemi 73.61 334 ep **P 10 01 53.5 -0.2**
comp=Z,16nm,0.4s,mb5.3,baz=51,slow=5.5
KAF Kangasniemi 73.61 334 eP **P 10 01 53.5 -0.2**
KAF pmax pmax
comp=Z,16nm,0.4s,mb5.3
NEW Newport 73.64 43 P **P 10 01 54.1 -0.1**
NEW pmax pmax
comp=Z,6.0nm,1.1s
NEW Newport 73.64 43 P **P 10 01 54.1 -0.1**
comp=Z,5.5nm,1.1s,mb4.4,baz=258,slow=4.3,SNR=6.1
FINES FINESS Array B 74.11 333 P **P 10 01 56.8 +0.2**
FINES *PP pP 10 02 10.9 0.0
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES MLR MLR
comp=Z,346nm,18.8s
FINES FINESS Array B 74.11 333 P **P 10 01 56.8 +0.2**
comp=Z,8.8nm,0.6s,mb4.9,baz=77,slow=5.8,SNR=83
FINES pP pP 10 02 10.9 0.0
comp=Z,3.9nm,0.4s,baz=60,slow=4.6,SNR=6.1
FINES LR LR 10 37 05.4
comp=Z,346nm,18.8s,MS4.7,baz=184,slow=38
GOF Gofitskoye 74.42 313⇑iP **P 10 01 57.9 -0.9**
GOF pmax pmax
comp=Z,50nm,1.7s,mb5.2
BSY Bisya 74.53 287 P **P 10 02 00.7 +0.8**
SNR=20
ASHO Ashiyiah 74.55 290 P **P 10 02 00.6 +0.7**
SNR=10
ARQ Araqi 74.80 288 P **P 10 02 02.4 +1.0**
SNR=11
TI2 Plekhanov 74.92 310 eP **P 10 02 13.0 +11**
WALA Waterton Lakes 75.09 41 eP **P 10 02 02.7 +0.1**
comp=Z,23nm,1.3s,mb4.9
KIV Kislovodsk 75.17 313 iP **P 10 02 04.2 +1.1**
BMO Blue Mountains 75.20 46 eP **P 10 02 03.0 -0.2**
comp=Z,16nm,1.3s,mb4.8
GNI Garni 75.69 308⇓eP **P 10 02 07.8 +1.6**
GNI pmax pmax
comp=Z,23nm,1.1s
GNI MLR MLR
comp=Z,200nm,19.0s
GNI Garni 75.69 308 P **P 10 02 06.4 +0.3**
comp=Z,2.7nm,0.4s,mb4.5,baz=207,slow=6.1,SNR=6.7
GNI Garni 75.69 308⇓eP **P 10 02 07.8 +1.6**
comp=Z,23nm,1.1s,mb5.0
GNI LR LR
comp=Z,200nm,19.0s,MS4.4
SUMG Summit 76.25 0 eP **P 10 02 10.1 +1.4**
comp=Z,16nm,0.6s,mb5.1
CMB Columbia Colle 76.54 54 eP **P 10 02 10.4 -0.6**
CMB pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
CMB Columbia Colle 76.54 54 eP **P 10 02 10.4 -0.7**
comp=Z,6.2nm,0.6s,mb4.7
URZ Urewera 76.57 152 LR LR 10 36 11.3
comp=Z,284nm,18.0s,MS4.6,baz=15,slow=36
CHMT Chamberlain Mo 76.59 43 eP **P 10 02 10.9 -0.2**
SOC Sochi 77.22 313 eP **P 10 02 13.3 -1.4**
SOC e pP 10 02 27.4 -1.6
SOC e 10 05 03.4
SOC pmax pmax
comp=Z,20nm,0.9s,mb5.0
SOC pmax pmax
comp=N,6.0nm,0.7s
SOC pmax pmax
comp=E,5.0nm,0.6s
HRY Holter Researc 77.52 43 eP **P 10 02 16.2 -0.1**
HLID Hailey 77.65 46 eP **P 10 02 17.6 +0.5**
comp=E,2.2nm,0.6s,mb4.3
NVAR Mina Array Bea 77.76 52 P **P 10 02 17.9 +0.1**
comp=E,11nm,0.6s,mb5.0,baz=293,slow=6.3,SNR=74
BOZ Bozeman (W) 78.22 44 eP **P 10 02 19.6 -0.6**
BOZ pmax pmax
comp=Z,12nm,1.1s,mb4.7
BOZ Bozeman (W) 78.22 44 eP **P 10 02 19.6 -0.5**
comp=Z,12nm,1.1s,mb4.7
FCC Fort Churchill 78.66 26 eP **P 10 02 20.8 -1.5**
TPH Tonopah 78.67 52 eP **P 10 02 22.8 -0.1**
TPH pmax pmax
comp=Z,19nm,1.4s,mb4.8
TPH Tonopah 78.67 52 eP **P 10 02 22.8 0.0**
comp=Z,19nm,1.4s,mb4.8
QLMT Earthquake Lak 78.78 44 P **P 10 02 24.3 +1.0**
AKASG Malin Array Be 79.19 323 P **P 10 02 25.5 +0.1**
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKASG Malin Array Be 79.19 323 P **P 10 02 25.5 +0.1**
comp=Z,7.3nm,0.4s,mb4.9,baz=48,slow=5.5,SNR=60
YNR Norris Junctio 79.29 44 eP **P 10 02 26.9 +0.8**
RPZ Rata Peaks 79.30 159 P **P 10 02 23.4 -2.7**
comp=Z,22nm,0.8s,mb5.1,baz=124,slow=3.6,SNR=4.6
YFT Old Faithful 79.34 44 eP **P 10 02 28.8 +2.5**
RBK Rabkut 79.51 284 P **P 10 02 27.5 -0.3**
SNR=8.2
NB2 NORSAR Subarra 79.62 338 P **P 10 02 27.4 -0.1**
comp=Z,11nm,0.6s,mb5.0,baz=40,slow=5.3
NB2 NORSAR Subarra 79.62 338 P **P 10 02 27.4 -0.1**
NB2 pmax pmax
comp=Z,11nm,0.6s,mb5.0
NB2 NORSAR Subarra 79.62 338 P **P 10 02 27.4 -0.1**
baz=40,slow=5.3
NOA NORSAR Array B 79.62 338 P **P 10 02 27.8 +0.2**
comp=Z,8.7nm,0.5s,mb4.9,baz=41,slow=5.2,SNR=40
NOA LR LR 10 44 23.7
comp=Z,170nm,18.1s,MS4.4,baz=85,slow=41
WHFO Wadi Hawf 79.66 285 P **P 10 02 28.4 -0.2**
SNR=9.1
RRI2 Red Ridge 79.66 45 eP **P 10 02 28.8 +0.7**
comp=Z,13nm,0.8s,mb4.9
MOOW Moose Ponds 79.79 45 eP **P 10 02 29.0 +0.2**
comp=Z,24nm,1.6s,mb4.9
TPAW Teton Pass 79.81 45 eP **P 10 02 29.4 +0.5**
comp=Z,12nm,0.8s,mb4.9
WUWY Wally Ulrich 79.90 45 eP **P 10 02 29.4 0.0**
SNOW Snow King Moun 79.94 45 eP **P 10 02 30.4 +0.8**
comp=Z,5.8nm,0.8s,mb4.6
LOHW Long Hollow 79.95 45 eP **P 10 02 29.6 -0.1**
comp=Z,15nm,1.4s,mb4.7
HWUT Hardware Ranch 80.47 47 eP **P 10 02 33.2 +0.7**
comp=Z,21nm,1.1s,mb5.0
MALT Malatya 80.84 309⇑P **P 10 02 36.6 +2.1**
MALT Malatya 80.84 309 eP **P 10 02 36.6 +2.1**
comp=Z,16nm,1.1s,mb4.8
CTU Camp Tracy 80.86 48 eP **P 10 02 34.7 +0.1**
comp=Z,25nm,1.3s,mb5.0
PDAR Pinedale Array 81.06 45 P **P 10 02 35.4 -0.1**
comp=Z,4.9nm,0.5s,mb4.7,baz=280,slow=1.6,SNR=68
JLU Jordanelle 81.10 48 eP **P 10 02 35.8 0.0**
MPU Maple Canyon 81.31 48 eP **P 10 02 36.5 -0.4**
comp=Z,52nm,1.8s,mb5.2
ARUT Antelope Range 81.36 51 eP **P 10 02 37.1 -0.2**
SFJD Kangerlussuaq 81.37 5 iP **P 10 02 37.5 +0.8**
SFJD pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
SFJD Kangerlussuaq 81.37 5 iP **P 10 02 37.5 +0.8**
comp=Z,5.2nm,0.4s,mb4.8
PPT Papeete 81.48 116 eLR LR 10 28 04.8
comp=Z,213nm,21.2s
PPT Papeete 81.48 116 LR LR 10 38 05.9
comp=Z,460nm,18.0s,MS4.9,baz=193,slow=35
PFO Pinyon Flat Ob 81.54 56 eP **P 10 02 37.3 -1.0**
PFO pmax pmax
comp=Z,11nm,0.7s,mb4.9
PFO Pinyon Flat Ob 81.54 56 eP **P 10 02 37.3 -0.9**
comp=Z,11nm,0.7s,mb4.9
KIS Kishinev 81.64 321 eP **P 10 02 31.0 -7.5**
MSU Marysvale 81.80 50 eP **P 10 02 39.7 +0.2**
TMUT Trail Mountain 81.99 49 eP **P 10 02 41.1 +0.7**
LVV L'vov 82.34 325 eP **P 10 02 41.9 -0.1**
SRU San Rafael 82.53 49 eP **P 10 02 43.2 -0.1**
comp=Z,12nm,0.6s,mb5.1
RWWY Rawlins 83.10 45 eP **P 10 02 46.2 +0.2**
comp=Z,85nm,1.8s,mb5.5
KWP Kalwaria 83.11 325 eP **P 10 02 47.2 +1.2**
BRTR Keskin Array B 83.14 313 P **P 10 02 47.4 +1.1**
BRTR pmax pmax
comp=Z,9.0nm,0.9s
BRTR Keskin Array B 83.14 313 P **P 10 02 47.4 +1.0**
comp=Z,9.0nm,0.9s,mb4.8,baz=108,slow=3.9,SNR=38
BURAR Bucovina Array 83.17 323⇓P **P 10 02 47.2 +0.9**
BURAR Bucovina Array 83.17 323⇓P **P 10 02 47.2 +0.9**
BORG Borgarnes 83.26 353 P **P 10 02 48.8 +2.4**
comp=Z,5.0nm,0.4s,mb4.9,baz=344,slow=2.0,SNR=3.8
VRI Vrincioaia 83.48 321⇑P **P 10 02 50.0 +2.1**
RSSD Black Hills 83.49 42 eP **P 10 02 47.1 -0.9**
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
RSSD Black Hills 83.49 42 eP **P 10 02 47.1 -0.9**
comp=Z,2.9nm,0.6s,mb4.5
ULM Lac du Bonnet 83.75 33 P **P 10 02 48.3 -0.8**
comp=Z,2.0nm,0.4s,mb4.6,baz=319,slow=7.4,SNR=4.0
ULM LR LR 10 40 55.0
comp=Z,133nm,18.0s,MS4.4,baz=326,slow=36
KOLS Kolonicke sedl 83.79 325 iP **P 10 02 50.6 +1.2**
KOLS e pP 10 03 05.4 +1.6
PV10 Paradox Valley 83.90 48 eP **P 10 02 50.5 +0.3**
WUAZ Wupatki 84.00 52 eP **P 10 02 51.2 +0.4**
comp=Z,32nm,1.5s,mb5.2
WUAZ LR LR
comp=Z,292nm,20.0s,MS4.7
OJC Ojcow 84.10 327 eP **P 10 02 51.7 +0.8**
MLR Muntele Rosu 84.14 321 P **P 10 02 52.1 +0.9**
comp=Z,3.3nm,0.5s,mb4.7,baz=351,slow=7.7,SNR=12
MLR Muntele Rosu 84.14 321⇑P **P 10 02 52.0 +0.8**
MLR Muntele Rosu 84.14 321⇑P **P 10 02 52.0 +0.8**
CRVS Cervenica-Dubn 84.20 325 eP **P 10 02 56.9 +5.4**
CRVS e pP 10 03 10.6 +4.6
CRVS Cervenica-Dubn 84.20 325 e **P 10 02 56.9 +5.4**
CRVS e pP 10 03 10.6 +4.6
PV01 Paradox Valley 84.34 48 eP **P 10 02 52.5 +0.1**
NIE Niedzica 84.41 326 eP **P 10 02 53.2 +0.7**
KECS Kecovo 84.96 325 eP **P 10 02 55.4 +0.1**
OKC Ostrava-Krasne 85.13 327 eP **P 10 02 57.2 +1.2**
ISCO Idaho Springs 85.20 46 eP **P 10 02 57.6 +0.9**
ISCO pmax pmax
comp=Z,18nm,1.3s,mb5.0
ISCO Idaho Springs 85.20 46 eP **P 10 02 57.6 +0.9**
comp=Z,18nm,1.3s,mb5.0
KSP Ksiaz 85.24 329 eP **P 10 02 57.6 +1.0**
KSP Ksiaz 85.24 329 eP **P 10 02 58.0 +1.4**
BSEG Bad Segeberg 85.37 334 eP **P 10 02 57.9 +0.7**
BSEG pmax pmax
comp=Z,13nm,0.6s,mb5.2
MORC Moravsky Berou 85.45 328⇑P **P 10 02 58.5 +0.9**
MORC Moravsky Berou 85.45 328 eP **P 10 02 58.0 +0.4**
comp=Z,17nm,1.3s,mb5.0
DPC Dobruska-Polom 85.58 329 eP **P 10 02 59.4 +1.1**
UPC Upice 85.61 329 eP **P 10 02 59.7 +1.3**
PSZ Piszkesteto 85.64 325 eP **P 10 02 59.6 +1.0**
PSZ pmax pmax
comp=Z,16nm,1.3s,mb5.1
PSZ Piszkesteto 85.64 325 eP **P 10 02 59.9 +1.3**
VYHS Vyhne 85.75 326 iP **P 10 03 00.2 +1.1**
VYHS e pP 10 03 14.8 +1.1
VRAC Vranov 86.21 328 P **P 10 03 02.5 +1.1**
VRAC pmax pmax
comp=Z,3.0nm,0.5s
VRAC Vranov 86.21 328 P **P 10 03 02.5 +1.2**
comp=Z,3.3nm,0.5s,mb4.9,baz=31,slow=7.9,SNR=6.7
VRAC Vranov 86.21 328 eP **P 10 03 02.7 +1.3**
BRG Berggiesshubel 86.24 330 eP **P 10 03 02.5 +1.0**
BRG e pP 10 03 16.6 +0.6
BRG pmax pmax
comp=Z,14nm,1.5s,mb5.0
BRG Berggiesshubel 86.24 330 eP **P 10 03 02.5 +1.0**
comp=Z,14nm,1.5s,mb5.0
BRG e pP 10 03 16.6 +0.6
CLL Collm 86.31 331⇓iP **P 10 03 02.0 +0.2**
CLL i pP 10 03 16.3 -0.1
CLL pmax pmax
comp=Z,22nm,1.1s,mb5.3
CLL Collm 86.31 331⇓iP **P 10 03 02.0 +0.2**
comp=Z,22nm,1.1s,mb5.3
CLL i 10 03 06.4
CLL i pP 10 03 16.3 -0.1
CLL Collm 86.31 331⇓P **P 10 03 02.0 +0.2**
comp=Z,logA/T=1.3,mb5.3
CLL i PCP PcP 10 03 06.4 +1.6
CLL i *SP sP 10 03 16.3 -5.3
CLL e 10 03 57.0
SDCO Great Sand Dun 86.52 47 eP **P 10 03 03.7 +0.5**
comp=Z,7.4nm,0.7s,mb5.0
PRU Pruhonice 86.63 329 eP **P 10 03 04.3 +0.9**
CLZ Clausthal 86.97 332 eP **P 10 03 06.0 +1.0**
comp=Z,16nm,1.0s,mb5.2
MOX Moxa 87.39 331 eP **P 10 03 07.3 +0.2**
MOX pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
MOX Moxa 87.39 331 eP **P 10 03 07.3 +0.2**
comp=Z,5.0nm,1.0s,mb4.7
MOX Moxa 87.39 331 iP **P 10 03 08.0 +0.9**
ANMO Albuquerque 87.60 50⇓eP **P 10 03 08.5 0.0**
ANMO Albuquerque 87.60 50 P **P 10 03 08.6 +0.1**
comp=Z,1.0nm,0.5s,mb4.3,baz=304,slow=8.4,SNR=6.9
ANMO LR LR 10 39 58.1
comp=Z,397nm,18.7s,MS4.8,baz=232,slow=34
ANMO Albuquerque 87.60 50 P **P 10 03 08.6 +0.1**
ANMO LR LR 10 39 58.0
KHC Kasperske Hory 87.69 329⇑eP **P 10 03 09.5 +0.9**
KHC Kasperske Hory 87.69 329 eP **P 10 03 08.9 +0.3**
GEC2 GERESS Array S 87.85 329 eP **P 10 03 10.3 +1.0**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
GEC2 GERESS Array S 87.85 329 eP **P 10 03 10.3 +1.0**
comp=Z,5.0nm,0.9s,mb4.7
GERES GERESS Array B 87.85 329 P **P 10 03 09.3 0.0**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 87.85 329 P **P 10 03 09.3 0.0**
comp=Z,1.4nm,0.5s,mb4.5,baz=38,slow=6.1,SNR=15
EIL Elat 88.06 304 P **P 10 03 11.8 +1.0**
comp=Z,7.8nm,1.1s,mb4.8
EIL Elat 88.06 304 eP **P 10 03 11.0 +0.1**
comp=Z,8.0nm,1.1s,mb4.9
GRA1 Grafenberg Arr 88.28 331 eP **P 10 03 12.2 +0.8**
comp=Z,11nm,0.6s,mb5.3
GRF Grafenberg Arr 88.28 331 eP **P 10 03 12.2 +0.8**
GRF pmax pmax
comp=Z,11nm,0.6s,mb5.3
GRF Grafenberg Arr 88.28 331 eP **P 10 03 12.2 +0.8**
GRF pmax pmax
comp=Z,11nm,0.6s,mb5.3
GRF Grafenberg Arr 88.28 331 eP **P 10 03 12.2 +0.8**
comp=Z,11nm,0.6s,mb5.3
SCHQ Schefferville 90.48 16 P **P 10 03 22.1 +0.5**
comp=Z,2.1nm,0.5s,mb4.7,baz=287,slow=1.9,SNR=10
BFO Black Forest 90.53 331 eP **P 10 03 22.0 0.0**
BFO pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
BFO Black Forest 90.53 331 eP **P 10 03 22.0 0.0**
comp=Z,9.0nm,0.8s,mb5.2
AMTX Amarillo 90.71 48 eP **P 10 03 23.3 +0.1**
comp=Z,6.4nm,0.8s,mb5.0
BAIF Baives 90.75 335 eP **P 10 03 23.0 0.0**
CDF Champ du Feu 90.90 332 eP **P 10 03 23.8 +0.1**
DAVOX Davos 91.09 330 P **P 10 03 25.1 +0.4**
comp=Z,8.1nm,0.6s,mb5.2,baz=20,slow=3.3,SNR=11
IDI Anoyia 91.34 313 P **P 10 03 24.2 -1.9**
comp=Z,6.8nm,0.8s,mb5.1,baz=79,slow=5.2,SNR=5.8
HINF Hinteralfeld 91.54 332 eP **P 10 03 26.4 -0.4**
HAU Haudompre 91.59 332 eP **P 10 03 26.7 -0.3**
WMOK Wichita Mounta 92.62 46 eP **P 10 03 31.6 -0.4**
WMOK pmax pmax
comp=Z,19nm,1.5s,mb5.3
WMOK Wichita Mounta 92.62 46 eP **P 10 03 31.6 -0.4**
comp=Z,19nm,1.5s,mb5.3
CABF La Chapelle 92.82 331 eP **P 10 03 32.7 0.0**
comp=Z,8.3nm,0.6s,mb5.0
CABF La Chapelle 92.82 331 eP **P 10 03 32.7 0.0**
CABF pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
LTX Lajitas 92.91 53 eP **P 10 03 34.0 +0.5**
LTX pmax pmax
comp=Z,22nm,1.1s,mb5.5
LTX MLR MLR
comp=Z,407nm,22.0s,MS4.8
LTX Lajitas 92.91 53 eP **P 10 03 34.0 +0.6**
comp=Z,22nm,1.1s,mb5.5
LTX LR LR
comp=Z,407nm,22.0s,MS4.8
TXAR Lajitas Array 92.91 53 P **P 10 03 33.8 +0.3**
comp=Z,6.5nm,0.7s,mb5.2,baz=292,slow=2.5,SNR=98
TXAR LR LR 10 45 53.6
comp=Z,235nm,18.5s,MS4.7,baz=335,slow=36
LPL La Plagne 93.44 330 eP **P 10 03 35.9 +0.4**
comp=Z,19nm,0.6s,mb5.4
LPL La Plagne 93.44 330 eP **P 10 03 35.9 +0.4**
LPL pmax pmax
comp=Z,9.0nm,0.6s,mb5.4
LPG La Plagne 93.44 330 eP **P 10 03 36.0 +0.5**
comp=Z,31nm,0.6s,mb5.6
LPG La Plagne 93.44 330 eP **P 10 03 36.0 +0.5**
LPG pmax pmax
comp=Z,16nm,0.6s,mb5.6
SSF Saint Saulge 93.48 333 eP **P 10 03 35.7 +0.1**
SSF pmax pmax
comp=Z,7.0nm,0.6s,mb5.3
SSF Saint Saulge 93.48 333 eP **P 10 03 35.7 +0.1**
comp=Z,6.6nm,0.6s,mb5.2
FLN La Foliniere 93.50 336 eP **P 10 03 36.0 +0.3**
SMF Signal de Mont 93.69 333 eP **P 10 03 36.5 -0.1**
comp=Z,25nm,1.1s,mb5.3
SMF Signal de Mont 93.69 333 eP **P 10 03 36.5 -0.1**
SMF pmax pmax
comp=Z,13nm,1.1s,mb5.3
AVF Avril sur Loir 93.76 333 eP **P 10 03 37.1 +0.2**
comp=Z,25nm,0.6s,mb5.5
AVF Avril sur Loir 93.76 333 eP **P 10 03 37.1 +0.2**
AVF pmax pmax
comp=Z,12nm,0.6s,mb5.5
MBDF Montbardon 94.05 330 eP **P 10 03 37.8 -0.5**
comp=Z,20nm,0.9s,mb5.3
MBDF Montbardon 94.05 330 eP **P 10 03 37.8 -0.5**
MBDF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
ORIF Oris-en-Rattie 94.28 331 eP **P 10 03 39.4 +0.1**
SBF Sospel 94.45 329 eP **P 10 03 39.4 -0.7**
TCF Toulx Ste Croi 94.62 333 eP **P 10 03 41.1 +0.3**
CCM Cathedral Cave 94.70 40 eP **P 10 03 41.0 -0.4**
CCM pmax pmax
comp=Z,5.0nm,0.6s,mb5.1
CCM Cathedral Cave 94.70 40 eP **P 10 03 41.0 -0.4**
comp=Z,5.0nm,0.6s,mb5.1
JCT Junction City 94.76 50 eP **P 10 03 41.6 -0.3**
JCT pmax pmax
comp=Z,12nm,0.6s,mb5.5
JCT Junction City 94.76 50 eP **P 10 03 41.6 -0.3**
comp=Z,12nm,0.6s,mb5.5
VIVF Saint-Julien-l 94.83 331 eP **P 10 03 41.9 +0.1**
FRF La Foret Royal 95.04 329 eP **P 10 03 42.1 -0.7**
LMR La Mourre 95.28 329 eP **P 10 03 44.4 +0.5**
comp=Z,31nm,1.2s,mb5.3
LMR La Mourre 95.28 329 eP **P 10 03 44.4 +0.5**
LMR pmax pmax
comp=Z,16nm,1.2s,mb5.3
QSPA South Pole Qui 121.21 180⇑iP PKPdf 10 09 10.9 -0.1
LBTB Lobatse 124.54 260 PKIKP PKPdf 10 09 20.0 +1.2
LBTB 10 09 33.7
LBTB pmax pmax
comp=Z,2.0nm,0.8s
LBTB pmax pmax
comp=Z,5.0nm,1.0s
LBTB Lobatse 124.54 260 PKP PKPdf 10 09 20.0 +1.3
comp=Z,2.4nm,0.8s,baz=202,slow=2.0,SNR=3.5
LBTB pPKP 10 09 33.6
comp=Z,4.8nm,1.0s,baz=56,slow=5.9,SNR=3.1
LBTB Lobatse 124.54 260 PKP PKPdf 10 09 20.0 +1.3
LBTB pPKP 10 09 33.6
BOSA Boshof 126.10 256 PKIKP PKPdf 10 09 22.9 +1.3

BOSA pmax pmax
comp=Z,4.0nm,1.0s
BOSA Boshof 126.10 256 PKP PKPdf 10 09 22.9 +1.3
comp=Z,3.6nm,1.0s,baz=72,slow=3.2,SNR=3.9
SDV Santo Domingo 128.98 44 *e*PKPdf PKPdf 10 09 28.8 +1.3
DBIC Dimbokro 130.80 315 PKIKP PKPdf 10 09 32.4 +1.4
DBIC 10 09 48.0
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC pmax pmax
comp=Z,2.0nm,0.7s
DBIC Dimbokro 130.80 315 PKP PKPdf 10 09 32.4 +1.3
comp=Z,3.0nm,0.7s,baz=32,slow=3.0,SNR=6.3
DBIC pPKP 10 09 48.0
comp=Z,1.9nm,0.7s,baz=311,slow=18,SNR=1.8
VNA2 Neumayer--Watz 137.14 194⇑*i*PKPdf PKPdf 10 09 41.7 +0.4
VNA2 *e* 10 09 52.0
VNA2 *e* 10 09 56.0
VNA3 Neumayer Olymp 137.34 193⇑*i*PKPdf PKPdf 10 09 41.6 -0.1
VNA3 *e* 10 09 52.1
VNA3 *e* 10 09 56.6
SAML Samuel 147.39 52 *e*PKPdf PKPdf 10 10 02.2 +1.4
SAML *e*PKPbc PKPdf 10 10 03.9 +3.0
LPAZ La Paz 148.47 68 PKPbc PKPdf 10 10 07.7 +5.3
comp=Z,9.0nm,0.7s,baz=323,slow=3.3,SNR=33
LPAZ pPKPbc 10 10 23.0
comp=Z,4.2nm,0.5s,baz=10,slow=15,SNR=4.1
LPAZ La Paz 148.47 68 *e*PKPdf PKPdf 10 10 04.5 +2.1
LPAZ *e*PKPbc PKPdf 10 10 07.7 +5.2
LPAZ pPKPbc 10 10 23.0
PLCA Paso Flores 152.01 119 PKIKP PKPdf 10 10 15.0 +7.8
PLCA pmax pmax
comp=Z,5.0nm,1.0s
PLCA Paso Flores 152.01 119 PKPbc PKPdf 10 10 14.9 +7.7
comp=Z,5.1nm,1.0s,baz=253,slow=0.9,SNR=11

IDC 13 10:31:05.2±3.2, 24.43S×179.84E, h495km±34km, mb3.3/4, mb1 3.5/5, mb1mx3.3/15, mbtmp4.2/5, Error ellipse: s-maj=42.6km s-min=26.3km az=171.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.99**	**189**	P	P	10 34 04.5	-1.0
	0.4nm,0.3s,baz=356,slow=10,SNR=3.6						
URZ				S	S	10 36 31.2	+0.4
	baz=17,slow=20,SNR=2.0						
STKA	**Stephens Creek**	**34.39**	**249**	P	P	10 37 11.0	-0.4
	2.2nm,0.5s,baz=94,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**41.80**	**261**	P	P	10 38 10.9	-1.2
	0.9nm,0.5s,baz=98,slow=7.3,SNR=29						
WRA	**Warramunga Arr**	**42.23**	**267**	P	P	10 38 13.9	-1.7
	2.7nm,0.5s,baz=103,slow=8.2,SNR=78						
WRA				ScP		10 42 59.9	
	0.8nm,0.8s,baz=98,slow=3.7,SNR=5.4						
TXAR	**Lajitas Array**	**90.83**	**58**	P	P	10 43 15.7	-0.6
	0.5nm,0.8s,baz=214,slow=5.9,SNR=6.6						

IDC 13 10:39:22.2±3.1, 1.62S×99.47E, mb3.6/4, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=124.0km s-min=21.3km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.95**	**359**	P	P	10 43 56.0	-3.0
	0.1nm,0.3s,baz=189,slow=9.8,SNR=8.6						
WRA	**Warramunga Arr**	**38.64**	**121**	P	P	10 46 47.4	-2.0
	0.3nm,0.4s,baz=308,slow=9.1,SNR=9.9						
ASAR	**Alice Springs**	**39.91**	**126**	P	P	10 46 58.5	-1.4
	0.3nm,0.6s,baz=306,slow=8.7,SNR=6.6						
SONM	**Songino Array**	**49.62**	**6**	P	P	10 48 15.6	-1.8
	0.4nm,0.6s,baz=198,slow=9.9,SNR=2.9						
MKAR	**Makanchi Array**	**50.52**	**345**	P	P	10 48 22.1	-2.2
	0.8nm,0.4s,baz=150,slow=8.1,SNR=11						
TXAR	**Lajitas Array**	**144.72**	**36**	PKP	PKPdf	10 59 01.3	-2.2
	0.9nm,0.6s,baz=227,slow=0.7,SNR=17						

IDC 13 11:05:52.0±2.5, 0.87N×97.36E, mb3.8/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=101.4km s-min=20.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.55**	**5**	P	P	11 09 57.8	-2.1
	0.2nm,0.3s,baz=201,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**41.73**	**122**	P	P	11 13 43.0	-1.8
	0.4nm,0.5s,baz=300,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**43.03**	**127**	P	P	11 13 54.0	-1.7
	0.4nm,0.6s,baz=300,slow=7.6,SNR=5.5						
SONM	**Songino Array**	**47.44**	**8**	P	P	11 14 28.6	-1.7
	0.3nm,0.4s,baz=200,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**47.60**	**346**	P	P	11 14 29.9	-1.7
	1.7nm,0.5s,baz=158,slow=7.9,SNR=32						
ZAL	**Zalesovo**	**53.90**	**351**	P	P	11 15 16.9	-2.5
	1.5nm,0.4s,baz=266,slow=2.5,SNR=3.9						
BVAR	**Borovoye Array**	**56.61**	**341**	P	P	11 15 36.3	-2.8
	0.6nm,0.6s,baz=153,slow=6.6,SNR=4.9						

*NEIC **13** 11:13:20.8±0.7, 29.93S×178.44W, h352km±10km, mb3.7/1, Error ellipse: s-maj=19.8km s-min=7.5km az=99.0*
*IDC **13** 11:13:21.2±1.3, 29.85S×178.87W, h324km±12km, mb3.3/4, mb1 3.7/7, mb1mx3.5/18, mbtmp4.4/7, Error ellipse: s-maj=33.1km s-min=16.5km az=147.0*
ISC 13 11:13:19.4±0.7, 30.02S±0.05×178.5W±0.2, h356km±9km, n84, σ1§24/95, mb3.4/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.90**	**32**	P	**P**	**11 14 05.1**	**-0.4**
	205nm,0.3s,baz=70,slow=22,SNR=5.5						
RAO				S	**S**	**11 14 31.6**	**-10**
	436nm,0.3s,baz=263,slow=20,SNR=4.2						
PUZ	**Puketiti**	**8.48**	**198**	*e*P	**P**	**11 15 19.9**	**-0.2**
PUZ				S	**S**	**11 16 51.5**	**-3.8**
PUZ	**Puketiti**	**8.48**	**198**	PN	**P**	**11 15 19.9**	**-0.2**
PUZ				SN	**S**	**11 16 54.9**	**-0.4**
MWZ	**Matawai**	**8.94**	**201**	*e*P	**P**	**11 15 25.2**	**-0.3**
MWZ				S	**S**	**11 17 05.7**	**+0.6**
MWZ	**Matawai**	**8.94**	**201**	PN	**P**	**11 15 25.2**	**-0.3**
MWZ				SN	**S**	**11 17 07.1**	**+2.1**
URZ	**Urewera**	**9.00**	**203**	P	**P**	**11 15 26.2**	**0.0**
	1.9nm,0.3s,baz=202,slow=1.5,SNR=26						
URZ				S	**S**	**11 17 06.2**	**-0.3**
	14nm,0.3s,baz=318,slow=20,SNR=15						
URZ	**Urewera**	**9.00**	**203**	*e*P	**P**	**11 15 26.2**	**-0.1**
URZ	**Urewera**	**9.00**	**203**	PN	**P**	**11 15 25.9**	**-0.4**
URZ				SN	**S**	**11 17 04.9**	**-1.6**
KNZ	**Kokohu**	**9.53**	**198**	PN	**P**	**11 15 36.8**	**+4.2**
BKZ	**Black Stump Fm**	**10.03**	**203**	*e*P	**P**	**11 15 37.8**	**-0.8**
BKZ	**Black Stump Fm**	**10.03**	**203**	PN	**P**	**11 15 37.4**	**-1.1**
BKZ				SN	**S**	**11 17 30.6**	**+1.9**
MGZ	**Maungaku**	**10.24**	**207**	P	**P**	**11 15 43.9**	**+2.9**
MGZ	**Maungaku**	**10.24**	**207**	PN	**P**	**11 15 44.1**	**+3.1**
NGZ	**Ngauruhoe**	**10.36**	**207**	P	**P**	**11 15 46.0**	**+3.4**
NGZ	**Ngauruhoe**	**10.36**	**207**	PN	**P**	**11 15 44.8**	**+2.2**
CNZ	**Chateau**	**10.40**	**207**	P	**P**	**11 15 47.3**	**+4.3**
CNZ	**Chateau**	**10.40**	**207**	PN	**P**	**11 15 47.3**	**+4.2**
WPVZ	**Whakapapa**	**10.41**	**207**	*e*P	**P**	**11 15 44.3**	**+1.2**
WPVZ	**Whakapapa**	**10.41**	**207**	PN	**P**	**11 15 46.1**	**+3.0**
TUVZ	**Tukino**	**10.42**	**206**	P	**P**	**11 15 44.8**	**+1.5**
TUVZ	**Tukino**	**10.42**	**206**	PN	**P**	**11 15 46.5**	**+3.2**
FWVZ	**Far West T-bar**	**10.45**	**207**	*e*P	**P**	**11 15 46.3**	**+2.7**
FWVZ	**Far West T-bar**	**10.45**	**207**	PN	**P**	**11 15 46.6**	**+3.0**
WNVZ	**Wahianoa**	**10.49**	**206**	P	**P**	**11 15 44.9**	**+0.8**
WNVZ	**Wahianoa**	**10.49**	**206**	PN	**P**	**11 15 45.2**	**+1.0**
WNVZ				SN	**S**	**11 17 42.3**	**+3.6**
MOVZ	**Moawhango**	**10.51**	**205**	P	**P**	**11 15 45.5**	**+1.2**
MOVZ	**Moawhango**	**10.51**	**205**	PN	**P**	**11 15 46.6**	**+2.3**
TSZ	**Takapari Road**	**11.01**	**203**	*e*P	**P**	**11 15 49.7**	**-0.6**
TSZ	**Takapari Road**	**11.01**	**203**	PN	**P**	**11 15 48.3**	**-2.0**
TSZ				SN	**S**	**11 17 47.2**	**-2.6**
WAZ	**Wanganui**	**11.10**	**207**	*e*P	**P**	**11 15 52.3**	**+0.9**
WAZ	**Wanganui**	**11.10**	**207**	PN	**P**	**11 15 52.1**	**+0.7**
BFZ	**Birch Farm**	**11.48**	**201**	*e*P	**P**	**11 15 56.7**	**+0.8**
BFZ	**Birch Farm**	**11.48**	**201**	PN	**P**	**11 15 58.4**	**+2.5**
BFZ				SN	**S**	**11 18 01.1**	**+1.1**
MRZ	**Mangatainoka R**	**11.68**	**203**	*e*P	**P**	**11 15 55.2**	**-3.1**
MRZ	**Mangatainoka R**	**11.68**	**203**	PN	**P**	**11 15 55.0**	**-3.3**
MRZ				SN	**S**	**11 18 02.3**	**-2.0**
KIW	**Kapiti Island**	**12.09**	**205**	P	**P**	**11 16 02.0**	**-1.2**
KIW	**Kapiti Island**	**12.09**	**205**	PN	**P**	**11 16 01.9**	**-1.2**
KIW				SN	**S**	**11 18 11.7**	**-1.3**
MTW	**Mount Morrison**	**12.15**	**202**	P	**P**	**11 16 03.2**	**-0.7**
MTW	**Mount Morrison**	**12.15**	**202**	PN	**P**	**11 16 03.3**	**-0.6**
MTW				SN	**S**	**11 18 14.1**	**-0.3**
CAW	**Cannon Point**	**12.25**	**204**	P	**P**	**11 16 04.1**	**-1.0**
CAW	**Cannon Point**	**12.25**	**204**	PN	**P**	**11 16 04.1**	**-1.0**
CAW				SN	**S**	**11 18 16.9**	**+0.4**
PAWZ	**Paruwai Farm**	**12.38**	**202**	PN	**P**	**11 16 07.7**	**+1.2**
MSWZ	**Moikau Station**	**12.46**	**202**	P	**P**	**11 16 07.2**	**-0.4**
MSWZ	**Moikau Station**	**12.46**	**202**	PN	**P**	**11 16 07.1**	**-0.5**
MRW	**Makara Radio**	**12.49**	**205**	P	**P**	**11 16 07.6**	**-0.3**
MRW	**Makara Radio**	**12.49**	**205**	PN	**P**	**11 16 07.7**	**-0.2**
TUWZ	**Tuamarina**	**12.95**	**206**	PN	**P**	**11 16 12.0**	**-1.3**
TUWZ				SN	**S**	**11 18 31.0**	**-0.4**
NNZ	**Nelson**	**12.99**	**208**	*e*P	**P**	**11 16 13.9**	**+0.1**
NNZ	**Nelson**	**12.99**	**208**	PN	**P**	**11 16 12.2**	**-1.6**
QRZ	**Quartz Range**	**13.04**	**212**	*e*P	**P**	**11 16 13.9**	**-0.5**
QRZ	**Quartz Range**	**13.04**	**212**	PN	**P**	**11 16 13.9**	**-0.5**
QRZ				SN	**S**	**11 18 33.8**	**+0.3**
BSWZ	**Blackbirch Sta**	**13.22**	**206**	SN	**S**	**11 18 37.6**	**+0.4**
THZ	**Tophouse**	**13.64**	**208**	*e*P	**P**	**11 16 21.0**	**-0.4**
THZ	**Tophouse**	**13.64**	**208**	PN	**P**	**11 16 21.1**	**-0.3**
THZ				SN	**S**	**11 18 45.3**	**-1.1**
KHZ	**Kahutara**	**13.95**	**205**	*e*P	**P**	**11 16 22.9**	**-1.9**
KHZ	**Kahutara**	**13.95**	**205**	PN	**P**	**11 16 22.2**	**-2.6**
KHZ				SN	**S**	**11 18 47.1**	**-5.8**
DSZ	**Denniston Nort**	**14.10**	**211**	PN	**P**	**11 16 26.5**	**0.0**
LTZ	**Lake Taylor**	**14.75**	**208**	*e*P	**P**	**11 16 33.8**	**+0.4**
LTZ	**Lake Taylor**	**14.75**	**208**	PN	**P**	**11 16 33.8**	**+0.4**
LTZ				SN	**S**	**11 19 06.7**	**-2.4**
CRLZ	**Canterbury Las**	**15.29**	**205**	SN	**S**	**11 19 21.6**	**+2.0**
MQZ	**McQueen's Vall**	**15.39**	**205**	SN	**S**	**11 19 21.6**	**+0.1**
DZM	**Mont Dzumac**	**15.70**	**297**	*e*P	**P**	**11 16 43.5**	**-0.1**
DZM	**Mont Dzumac**	**15.70**	**297**	P	**P**	**11 16 42.1**	**-1.4**
	4.1nm,0.3s,baz=307,slow=23,SNR=41						
NOUC	**Port Laguerre**	**15.79**	**296**	*e*P	**P**	**11 16 44.6**	**+0.1**
NOUC	**Port Laguerre**	**15.79**	**296**	*e*P	**P**	**11 16 44.5**	**+0.1**
RPZ	**Rata Peaks**	**16.02**	**209**	S	**S**	**11 19 36.1**	**+2.4**
	1.8nm,0.3s,baz=326,slow=24,SNR=10						
AFI	**Afiamalu**	**17.18**	**22**	P	**P**	**11 16 59.1**	**+0.1**
	3.8nm,0.3s,baz=162,slow=22,SNR=7.8						
ODZ	**Otahua Downs**	**17.29**	**207**	PN	**P**	**11 17 07.2**	**+7.4**
ODZ				SN	**S**	**11 20 05.9**	**+8.2**
STKA	**Stephens Creek**	**34.18**	**256**	P	**P**	**11 19 34.4**	**+0.6**
	1.7nm,0.7s,mb3.4,baz=14,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**34.18**	**256**	P	**P**	**11 19 34.4**	**+0.6**
ASAR	**Alice Springs**	**42.73**	**267**	P	**P**	**11 20 44.7**	**+0.4**
	0.7nm,0.7s,mb2.9,baz=100,slow=7.6,SNR=9.0						
WRAB	**Tennant Creek**	**43.68**	**272**	*e*P	**P**	**11 20 51.7**	**-0.2**
	3.5nm,0.7s,mb3.6						
WRA	**Warramunga Arr**	**43.69**	**272**	P	**P**	**11 20 51.9**	**-0.1**
	1.7nm,0.5s,mb3.5,baz=111,slow=7.4,SNR=26						
FITZ	**Fitzroy Crossi**	**51.96**	**270**	P	**P**	**11 21 55.2**	**0.0**
	3.4nm,0.8s,mb3.7,baz=131,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**117.22**	**310**	PKP	PKPdf	11 31 27.0	+4.6
	0.3nm,0.6s,baz=90,slow=1.4,SNR=4.6						
BVAR	**Borovoye Array**	**125.85**	**316**	PKP	PKPdf	11 31 43.1	+4.2
	0.9nm,0.4s,baz=91,slow=2.3,SNR=6.7						
KEV	**Kevo**	**137.66**	**347**	*e*p	PKPdf	11 32 12.3	+12
	25nm,1.1s						
ARCES	**ARCESS Array B**	**138.13**	**348**	PKhKP		11 31 58.3	
	1.6nm,0.7s,baz=60,slow=2.1,SNR=5.7						
ARCES				PKP	PKPdf	11 32 08.4	+6.9
	2.3nm,0.7s,slow=1.2,SNR=5.2						
JOF	**Joensuu**	**141.92**	**338**	*e*p	PKPdf	11 32 00.4	-7.9
	4.2nm,0.9s						
FINES	**FINESS Array B**	**144.65**	**340**	PKP	PKPdf	11 32 17.2	+4.2
	5.0nm,0.4s,baz=57,slow=3.9,SNR=60						
NB2	**NORSAR Subarra**	**148.31**	**351**	PKPabc	PKPdf	11 32 28.3	+9.2
	2.1nm,0.6s,baz=14,slow=2.8						
NOA	**NORSAR Array B**	**148.31**	**351**	PKPbc	PKPdf	11 32 28.6	+10
	2.6nm,0.6s,baz=16,slow=4.3,SNR=8.5						
AKASG	**Malin Array Be**	**150.75**	**323**	PKPbc	PKPdf	11 32 34.0	+11
	2.6nm,0.5s,baz=47,slow=2.8,SNR=12						
BRTR	**Keskin Array B**	**152.07**	**299**	PKPbc	PKPdf	11 32 37.8	+12
	0.3nm,0.3s,baz=108,slow=3.9,SNR=4.3						

*TAP **13** 11:20:36.0, 24.24N×122.45E, h41km, ML2.8*
JMA 13 11:20:35.8±0.3, 24.26N×122.43E, h43km, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.57**	**69**	P	P	11 20 47.5	0.0
YOJ				*e*S	S	11 20 55.8	-0.2
IRIF	**Iriomote-Funau**	**1.19**	**86**	P	P	11 20 56.1	-0.1
IRIF				*e*S	S	11 21 12.0	+0.5
JKRS	**Kuro-shima**	**1.44**	**91**	P	P	11 21 00.3	+0.4
JKRS				*e*S	S	11 21 18.3	+0.4
JIJ	**Ishigaki jima**	**1.57**	**86**	P	P	11 21 01.3	-0.4
JIJ				S	S	11 21 20.6	-0.3
JTJ	**Tarama**	**2.10**	**79**	P	P	11 21 09.4	+0.1

*IDC **13** 11:22:47.1±0.8, 55.05S×169.91W, mb4.3/10, mb1 4.5/11, mb1mx4.3/16, mbtmp4.3/11, ML4.1/1, MS4.0/4, Ms1 3.9/4, ms1mx3.2/18, Error ellipse: s-maj=28.0km s-min=17.5km az=32.0*
*NEIC **13** 11:22:48.3±0.5, 55.01S×169.89W, h10km, mb4.8/2, Error ellipse: s-maj=17.7km s-min=9.6km az=46.0*
ISC 13 11:22:47.2±0.9, 55.1S±0.1×170.0W±0.2, h10km, (h15km±1.1km:pP-P), n39, σ1§29/30, mb4.4/11, MS4.0/4, 7C-4D, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUZ	**Tuapeka**	**15.80**	**297**	PN	**P**	**11 26 31.7**	**+0.5**
ODZ	**Otahua Downs**	**15.93**	**301**	PN	**P**	**11 26 33.0**	**+0.1**
EAZ	**Earnscleugh**	**16.47**	**298**	PN	**P**	**11 26 42.2**	**+2.5**
RPZ	**Rata Peaks**	**16.72**	**305**	Pn	**P**	**11 26 41.8**	**-1.1**
	0.6nm,0.3s,baz=107,slow=20,SNR=3.2						
MSZ	**Milford Sound**	**17.56**	**297**	PN	**P**	**11 26 57.4**	**+3.9**
VNDA	**Vanda**	**24.66**	**194**	P	**P**	**11 28 09.7**	**+1.0**
	3.3nm,1.0s,mb3.8,baz=30,slow=9.5,SNR=8.0						
VNDA				LR	LR	11 35 28.2	
	comp=Z,232nm,18.9s,MS3.7,baz=18,slow=31						
QSPA	**South Pole Qui**	**35.05**	**180**⇓*i*P		**P**	**11 29 42.2**	**+0.6**
	16nm,0.9s,mb5.0						
STKA	**Stephens Creek**	**41.01**	**284**	P	**P**	**11 30 33.9**	**+2.0**
	3.4nm,1.0s,mb3.9,baz=122,slow=9.5,SNR=3.0						
MAW	**Mawson**	**51.49**	**205**	P	**P**	**11 31 54.4**	**+0.1**
	7.2nm,0.9s,mb4.6,baz=139,slow=12,SNR=7.4						
MAW				LR	LR	11 50 53.3	
	comp=Z,986nm,21.3s,MS3.8,baz=253,slow=33						
MAW	**Mawson**	**51.49**	**203**	*e*P	**P**	**11 31 54.2**	**0.0**
	10nm,0.9s,mb4.8						
ASAR	**Alice Springs**	**51.65**	**284**	P	**P**	**11 31 56.0**	**-0.1**
	3.5nm,0.6s,mb4.5,baz=139,slow=6.1,SNR=82						
VNA3	**Neumayer Olymp**	**53.20**	**172**⇑*i*		**P**	**11 32 11.0**	**+3.9**
VNA3	**Neumayer Olymp**	**53.20**	**172**⇑*i*		**P**	**11 32 15.6**	**+8.5**
VNA3	**Neumayer Olymp**	**53.20**	**172**⇑*i*P		**P**	**11 32 06.0**	**-1.1**
VNA3				⇑*i*P	pP	11 32 11.0	+0.8
SNAA	**Sanae**	**53.22**	**175**⇑*i*		**P**	**11 32 10.5**	**+3.3**
SNAA	**Sanae**	**53.22**	**175**	P	**P**	**11 32 05.9**	**-1.4**
	3.7nm,0.9s,mb4.3,baz=222,slow=14,SNR=5.0						
SNAA	**Sanae**	**53.22**	**175**⇑*i*P		**P**	**11 32 05.5**	**-1.7**
SNAA				⇑*i*P	pP	11 32 10.5	+0.2
VNA2	**Neumayer--Watz**	**53.69**	**173**		**P**	**11 32 13.5**	**+2.9**
VNA2	**Neumayer--Watz**	**53.69**	**173**	P	**P**	**11 32 09.7**	**-0.9**
VNA2				P	pP	11 32 13.5	-0.2
VNA1	**Neumayer--Stat**	**53.89**	**173**⇓*i*		**P**	**11 32 03.9**	**-8.2**
NWAO	**Narrogin (SRO)**	**54.15**	**262**	P	**P**	**11 32 13.8**	**-0.6**
	5.9nm,1.1s,mb4.4,baz=116,slow=8.8,SNR=5.2						
SYO	**Syowa Base**	**54.34**	**193**	⇓P	**P**	**11 32 14.0**	**-1.4**
SYO	**Syowa Base**	**54.34**	**193**	⇓P	**P**	**11 32 19.4**	**+4.0**
WB2	**Warramunga Arr**	**54.37**	**287**	*e*P	**P**	**11 32 16.0**	**-0.3**
WRA	**Warramunga Arr**	**54.38**	**287**	P	**P**	**11 32 16.1**	**-0.2**
	2.7nm,0.6s,mb4.4,baz=142,slow=6.4,SNR=46						
WRA				PcP	PcP	11 33 19.5	-0.7
	1.6nm,0.8s,baz=143,slow=3.7,SNR=5.0						
WRAB	**Tennant Creek**	**54.38**	**287**	P	**P**	**11 32 14.7**	**-1.7**
FITZ	**Fitzroy Crossi**	**60.71**	**280**	P	**P**	**11 32 59.2**	**-1.9**
	3.6nm,0.9s,mb4.5,baz=180,slow=9.1,SNR=3.4						
PLCA	**Paso Flores**	**62.60**	**122**	P	**P**	**11 33 12.7**	**-0.9**
	6.3nm,1.1s,mb4.7,baz=202,slow=6.0,SNR=6.2						
LPAZ	**La Paz**	**83.42**	**109**	P	**P**	**11 35 17.9**	**+1.9**
	3.3nm,0.9s,mb4.4,baz=202,slow=4.5,SNR=8.5						
LPAZ	**La Paz**	**83.42**	**109**	P	**P**	**11 35 17.9**	**+1.9**
BDFB	**Brasilia**	**94.25**	**125**	LR	LR	12 16 53.1	
	comp=Z,88nm,21.2s,MS4.2,baz=163,slow=34						
BOSA	**Boshof**	**95.63**	**193**	LR	LR	12 15 00.1	
	comp=Z,82nm,18.2s,MS4.2,baz=339,slow=33						
ILAR	**Eielson Array**	**120.83**	**11**	PKP	PKPdf	11 41 39.5	-2.1
	3.9nm,0.7s,baz=250,slow=2.2,SNR=66						
YKA	**Yellowknife Ar**	**124.95**	**28**	PKP	PKPdf	11 41 46.8	-2.7
	1.0nm,0.8s,baz=200,slow=2.2,SNR=25						
YKA	**Yellowknife Ar**	**124.95**	**28**	PKP	PKPdf	11 41 46.8	-2.7
MKAR	**Makanchi Array**	**135.62**	**291**	PKP	PKPdf	11 42 05.9	-4.2
	0.5nm,0.8s,baz=135,slow=1.7,SNR=5.7						
CHKZ	**Chkalovo**	**145.64**	**293**	*e*PKPdf	PKPdf	11 42 25.7	-1.9
SUMG	**Summit**	**153.50**	**30**	*e*PKPdf	PKPdf	11 42 37.3	-1.9
BRTR	**Keskin Array B**	**157.99**	**236**	PKPab	PKPab	11 43 18.6	-0.3
	0.7nm,0.8s,baz=127,slow=7.2,SNR=3.8						

IDC 13 11:24:05.7±1.9, 2.74S×127.25E, mb3.2/2, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=151.5km s-min=26.1km az=66.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.45**	**158**	P	P	11 28 23.1	-1.6
	0.1nm,0.3s,baz=337,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**21.78**	**163**	P	P	11 28 58.5	-2.7
	0.6nm,0.7s,baz=342,slow=11,SNR=5.9						
MKAR	**Makanchi Array**	**63.18**	**327**	P	P	11 34 36.0	-1.9
	0.1nm,0.5s,baz=135,slow=8.2,SNR=2.7						

ISC 13 11:31:20.6±1.5, 46.03N±0.06×13.58E±0.09, n6, σ0§65/11, 1C, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRE	**Drenchia**	**0.15**	**17**⇑*i*Pg		**Pg**	**11 31 23.2**	**-0.6**
VOJS	**Vojsko**	**0.21**	**88**	*i* Pg	**Pg**	**11 31 24.6**	**-0.3**
VOJS				*i* Sg	**Sg**	**11 31 28.2**	**+0.5**
ROBS	**Robic**	**0.22**	**348**	*e*Pg	**Pg**	**11 31 25.3**	**+0.2**
ROBS				*e*Sg	**Sg**	**11 31 29.4**	**+1.3**
CADS	**Cadrg**	**0.23**	**28**	*i* Pg	**Pg**	**11 31 24.6**	**-0.6**
CADS				*i* Sg	**Sg**	**11 31 28.5**	**+0.2**
	comp=Z,9.0nm,0.1s						
JAVS	**Javornik**	**0.36**	**111**	*e*Pg	**Pg**	**11 31 27.6**	**-0.3**
JAVS				*i* Sg	**Sg**	**11 31 33.7**	**+0.9**
GORS	**Gorjuse**	**0.41**	**45**	*i* Pg	**Pg**	**11 31 28.0**	**-0.9**
GORS				*i* Sg	**Sg**	**11 31 33.9**	**-0.4**
	comp=Z,1.0nm,0.1s						

*IDC **13** 11:39:37.0±1.2, 6.55S×130.80E, mb3.8/5, mb1 4.2/7, mb1mx4.1/13, mbtmp4.0/7, ML4.7/3, Error ellipse: s-maj=47.7km s-min=23.5km az=83.0*
*NEIC **13** 11:39:42.8±0.7, 6.39S×130.59E, h30km, mb3.7/1, Error ellipse: s-maj=25.2km s-min=11.9km az=82.0*
ISC 13 11:39:46.6±1.9, 6.84S±0.08×130.6E±0.2, h105km±20km, n15, σ1§34/21, mb3.6/6, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.10**	**163**⇓*i*P		**P**	**11 41 17.4**	**+1.8**
	42nm,0.4s						
KAKA				*i*		11 42 25.6	
FITZ	**Fitzroy Crossi**	**12.20**	**203**	*e*P	**P**	**11 42 35.7**	**-2.3**
	23nm,0.2s						
FITZ				*e*S	**S**	**11 44 43.1**	**-9.1**
FITZ	**Fitzroy Crossi**	**12.20**	**203**	Pn	**P**	**11 42 35.7**	**-2.4**
	14nm,0.3s,baz=24,slow=10,SNR=82						
FITZ				Sn	**S**	**11 44 42.1**	**-10**
	14nm,0.3s,baz=358,slow=22,SNR=9.4						
WRAB	**Tennant Creek**	**13.50**	**165**	*e*P	**P**	**11 42 54.4**	**-0.7**
	22nm,0.5s						
WRA	**Warramunga Arr**	**13.51**	**165**	Pn	**P**	**11 42 54.4**	**-0.7**
	2.9nm,0.3s,baz=346,slow=13,SNR=69						
WRA				Sn	**S**	**11 45 18.7**	**-4.4**
	4.3nm,0.3s,baz=333,slow=23,SNR=8.8						
WB2	**Warramunga Arr**	**13.51**	**165**	*e*P	**P**	**11 42 54.3**	**-0.9**
WB2				*e*S	**S**	**11 45 19.3**	**-3.8**
ASAR	**Alice Springs**

Error ellipse: s-maj=2.5km s-min=2.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.92**	**136**	*e*P*	Pb	12 19 33.9	-1.7
MXZ				S*	Sb	12 19 45.6	-1.9
PUZ	**Puketiti**	**1.31**	**153**	PN	Pn	12 19 42.0	-0.4
PUZ				SN	Sn	12 20 01.0	+1.1
URZ	**Urewera**	**1.39**	**193**	P*	Pb	12 19 41.3	-2.3
URZ				S*	Sb	12 19 57.9	-3.2
MWZ	**Matawai**	**1.43**	**179**	P*	Pb	12 19 41.7	-2.6
MWZ				S*	Sb	12 19 59.1	-3.2
KUZ	**Kuaotunu**	**1.44**	**276**	⇑PN	Pn	12 19 43.6	-0.7
KUZ				SN	Sn	12 20 01.5	-1.7
TOZ	**Tahuroa Road**	**1.80**	**242**	*e*P*	Pb	12 19 47.8	-2.8
OTAZ	**Otara**	**2.07**	**268**	PN	Pn	12 19 53.2	-0.1
MTAZ	**Motutapu**	**2.08**	**272**	*e*PN	Pn	12 19 52.8	-0.6
KAAZ	**Kauri Point**	**2.25**	**271**	PN	Pn	12 19 56.5	+0.7
WTAZ	**Waiatarua**	**2.35**	**268**	PN	Pn	12 19 57.6	+0.4
BKZ	**Black Stump Fm**	**2.40**	**199**	*e*P*	Pb	12 19 55.7	-5.1
PWZ	**Pawanui**	**3.16**	**189**	*e*PN	Pn	12 20 05.6	-3.2
OUZ	**Omahuta**	**3.58**	**297**	PN	Pn	12 20 15.0	+0.2

MAN 13 12:28:44.3, 17.14N×121.96E, h33km, mb3.6, ML2.3, MS2.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.23**	**215**	*e*P	P	12 28 52.8	+1.6
CAUP				*e*S	S	12 28 56.8	+0.7
PALP	**Palanan**	**0.45**	**99**	*e*P	P	12 28 55.4	+1.4
CVP	**Callao Caves**	**0.58**	**347**	⇓*i*P	P	12 28 55.6	-0.3
CVP				*i* S	S	12 29 03.0	-1.4
APYP	**Conner**	**1.00**	**317**	*e*P	P	12 29 02.5	+0.6
ABRA	**Dolores**	**1.30**	**293**	*e*P	P	12 29 06.6	+0.4

*IDC **13** 12:34:11.7±1.3, 6.78S×130.43E, mb4.1/3, mb1 4.3/5, mb1mx4.1/14, mbtmp4.2/5, ML4.6/3, Error ellipse: s-maj=66.8km s-min=19.1km az=71.0*
*NEIC **13** 12:34:17.3±1.1, 6.78S×130.16E, h30km, mb4.2/1, Error ellipse: s-maj=30.1km s-min=13.9km az=78.0*
ISC 13 12:34:21.8±0.8, 7.27S±0.06×129.9E±0.1, h100km, n12, σ1§47/19, mb3.9/4, 2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.94**	**156**	⇓*i*P	P	**12 35 50.0**	**+1.4**
KAKA	41nm,0.4s			*e*S	S	**12 36 55.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**11.55**	**201**	Pn	P	**12 37 06.8**	**+2.1**
FITZ	20nm,0.3s,baz=22,slow=8.8,SNR=134			Sn	S	**12 39 10.9**	**-1.1**
WRAB	**Tennant Creek**	**13.29**	**162**	*e*P	P	**12 37 26.5**	**-1.2**
WRAB	6.6nm,0.3s,baz=168,slow=19,SNR=4.7 8.1nm,0.4s			*e*S	S	**12 39 46.7**	**-6.6**
WRA	**Warramunga Arr**	**13.30**	**162**	Pn	P	**12 37 25.9**	**-1.8**
WRA	1.8nm,0.3s,baz=339,slow=13,SNR=79			Sn	S	**12 39 46.1**	**-7.4**
WB2	**Warramunga Arr**	**13.30**	**162**	⇓*i*P	P	**12 37 26.7**	**-1.0**
WB2	3.4nm,0.3s,baz=353,slow=22,SNR=9.9			*e*S	S	**12 39 47.7**	**-5.9**
ASAR	**Alice Springs**	**16.74**	**167**	Pn	P	**12 38 12.9**	**+1.5**
ASAR	1.4nm,0.3s,baz=345,slow=9.0,SNR=43 0.4nm,0.3s,baz=338,slow=14,SNR=5.2			Sn	S	**12 41 14.2**	**+1.0**
ASPA	**Alice Springs**	**16.74**	**167**	*e*P	P	**12 38 13.4**	**+1.9**
ASPA				*e*S	S	**12 41 10.6**	**-2.5**
MBWA	**Marble Bar**	**16.97**	**215**	*e*P	P	**12 38 19.6**	**+5.3**
STKA	**Stephens Creek**	**26.79**	**158**	P	P	**12 39 56.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**39.86**	**310**	P	P	**12 41 48.0**	**+0.7**
SONM	**Songino Array**	**58.68**	**342**	P	P	**12 44 09.3**	**-1.8**
MKAR	**Makanchi Array**	**68.42**	**327**	P	P	**12 45 14.2**	**-0.7**

JMA 13 12:34:48.9±0.2, 25.64N×122.34E, h221km, M3.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.32**	**152**	*e*S	S	12 35 49.7	-0.4
IRIF	**Iriomote-Funau**	**1.81**	**136**	P	P	12 35 27.3	-0.3
IRIF				*e*S	S	12 35 57.2	-0.2
JKRS	**Kuro-shima**	**2.06**	**132**	P	P	12 35 29.9	-0.1
JKRS				S	S	12 36 01.6	0.0
HATJ	**Hateruma jima**	**2.06**	**140**	P	P	12 35 30.0	0.0
HATJ				*e*S	S	12 36 01.4	-0.3
JIJ	**Ishigaki jima**	**2.07**	**127**	P	P	12 35 29.6	-0.5
JIJ				S	S	12 36 00.6	-1.2
JTJ	**Tarama**	**2.36**	**114**	P	P	12 35 33.0	-0.1
JTJ				*e*S	S	12 36 06.6	-0.6
JMJ	**Miyako jima 2**	**2.80**	**106**	P	P	12 35 37.6	-0.2
JMJ				*e*S	S	12 36 15.6	-0.1
JOGS	**Gusukube**	**2.91**	**107**	P	P	12 35 38.9	-0.2
JOGS				*e*S	S	12 36 18.0	0.0
JKE	**Kume jima 2**	**4.06**	**79**	P	P	12 35 51.0	-1.8
JKE				*e*S	S	12 36 41.0	-1.3

WEL 13 12:39:58.8±0.4, 36.91S×177.53E, h12km, ML3.7/5, 2C, Error ellipse: s-maj=3.4km s-min=2.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**136**	P*	Pb	12 40 14.2	-1.6
MXZ				S*	Sb	12 40 25.5	-2.0
PUZ	**Puketiti**	**1.29**	**154**	PN	Pn	12 40 22.8	0.0
PUZ				SN	Sn	12 40 39.7	-0.4
URZ	**Urewera**	**1.38**	**194**	⇑P*	Pb	12 40 21.9	-2.3
URZ				S*	Sb	12 40 37.6	-4.1
MWZ	**Matawai**	**1.42**	**180**	P*	Pb	12 40 22.2	-2.5
MWZ				S*	Sb	12 40 38.3	-4.3
KUZ	**Kuaotunu**	**1.46**	**276**	PN	Pn	12 40 24.0	-1.1
KUZ				SN	Sn	12 40 43.5	-0.8
TOZ	**Tahuroa Road**	**1.81**	**243**	P*	Pb	12 40 28.9	-2.5
HIZ	**Hauiti**	**2.65**	**232**	⇑PN	Pn	12 40 41.2	-1.0
OUZ	**Omahuta**	**3.60**	**297**	PN	Pn	12 40 54.7	-1.1

*NIED **13** 12:49:00, 33.80N×130.10E, h14km, Mw3.7 Best double couple: M0 3.41×10^14 NP1:φs207°, δ88°, λ-170°. NP2: φs117°, δ80°, λ-2°.*
JMA 13 12:49:12.7, 33.78N×130.10E, h11km, M3.5, 5C-1D Broadband fault plane solution: P waves. NP1: φs95°, δ38°, λ-15°. **NP2:** φs197°, δ81°, λ-127°. **Principal axes:** T Plg26°, Azm316°; N Plg37°, Azm205°; P Plg42°, Azm72°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.31**	**273**	⇑P	Pg	12 49 19.1	0.0
JII				S	Sg	12 49 23.4	0.0
JFI	**Itaya**	**0.43**	**146**	⇑P	Pg	12 49 21.2	-0.2
JFI				S	Sg	12 49 27.2	-0.1
JFA	**Akaike**	**0.58**	**96**	⇓P	Pb	12 49 23.9	-0.5
JFA				S	Sg	12 49 32.2	-0.2
JUR	**Ureshino**	**0.70**	**190**	⇑P	Pb	12 49 26.0	-0.4
JUR				S	Sb	12 49 35.3	-0.4
JTA	**Tamana**	**0.89**	**156**	⇑P	Pb	12 49 29.5	-0.2
JTA				S	Sb	12 49 41.6	+0.2
JTU	**Tsushima**	**0.94**	**322**	⇑P	Pb	12 49 30.5	-0.1
JTU				S	Sb	12 49 43.2	+0.3

IDC 13 12:50:04.2±3.2, 1.54N×97.16E, mb3.8/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, ML3.5/1 Error ellipse: s-maj=114.6km s-min=26.5km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.91**	**6**	Pn	P	12 54 03.8	-0.2
WRA	**Warramunga Arr**	**42.25**	**122**	P	P	12 57 59.5	-1.7

	0.2nm,0.4s,baz=303,slow=9.0,SNR=8.2						
SONM	**Songino Array**	**46.81**	**9**	P	P	12 58 35.8	-1.7
	1.4nm,0.7s,baz=187,slow=8.5,SNR=14						
MKAR	**Makanchi Array**	**46.91**	**346**	P	P	12 58 36.3	-2.0
	1.4nm,0.7s,baz=164,slow=8.0,SNR=19						
ZAL	**Zalesovo**	**53.21**	**351**	P	P	12 59 23.7	-2.8
	0.7nm,0.3s,baz=346,slow=9.8,SNR=3.4						

*JMA **13** 12:54:37.1, 42.57N×145.24E, h46km±1km, M3.4*
*IDC **13** 12:54:40.6±13.0, 43.89N×144.70E, mb3.7/6, mb1 3.8/6, mb1mx3.5/25, mbtmp3.7/6, Error ellipse: s-maj=327.4km s-min=32.6km az=165.0*
ISC 13 12:54:37.9±1.3, 42.64N±0.10×145.2E±0.1, h52km±8km, n15, σ0§39/19, mb3.7/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.53**	**313**	P	P	**12 54 49.3**	**-0.3**
JAK				*e*S	S	**12 54 58.3**	**+0.2**
NEM2	**Nemuro 2**	**0.82**	**28**	P	P	**12 54 53.3**	**-0.1**
NEM2				*e*S	S	**12 55 04.7**	**-0.2**
JNK	**Nakash**	**1.01**	**339**	P	P	**12 54 55.9**	**-0.2**
JNK				*e*S	S	**12 55 09.8**	**+0.2**
JOB	**Onbets**	**1.05**	**285**	P	P	**12 54 56.4**	**-0.2**
JOB				*e*S	S	**12 55 10.8**	**+0.3**
JAR	**Ashorobuto**	**1.25**	**302**	P	P	**12 54 59.0**	**-0.4**
JRA	**Rausu**	**1.30**	**357**	P	P	**12 55 00.4**	**+0.2**
JCH	**Churui**	**1.37**	**270**	P	P	**12 55 00.9**	**-0.3**
JTKR	**Abashiri--Toko**	**1.64**	**325**	P	P	**12 55 05.3**	**+0.4**
JEM	**Erimo**	**1.65**	**249**	P	P	**12 55 05.6**	**+0.5**
SONM	**Songino Array**	**27.62**	**294**	P	P	**13 00 22.4**	**+0.1**
	1.1nm,0.8s,mb3.6,baz=82,slow=8.0,SNR=8.4						
ZAL	**Zalesovo**	**40.57**	**308**	P	P	**13 02 13.2**	**-0.3**
	0.5nm,0.3s,mb3.5,baz=18,slow=9.6,SNR=3.3						
MKAR	**Makanchi Array**	**43.85**	**298**	P	P	**13 02 40.7**	**+0.2**
	0.3nm,0.5s,mb3.3,baz=74,slow=8.8,SNR=4.9						
INK	**Inuvik**	**48.07**	**30**	P	P	**13 03 14.6**	**+1.0**
	0.6nm,0.6s,mb3.8,baz=310,slow=4.2,SNR=7.9						
BVAR	**Borovoye Array**	**49.12**	**310**	P	P	**13 03 21.5**	**-0.4**
	0.6nm,0.3s,mb4.1,baz=71,slow=8.0,SNR=5.0						
HFS	**Hagfors**	**70.16**	**337**	P	P	**13 05 45.7**	**-0.6**
	0.8nm,0.5s,mb4.0,baz=67,slow=11,SNR=3.1						

*CSEM **13** 12:55:22.3±0.8, 38.65N×28.58W, h10km, ML1.9, Error ellipse: s-maj=4.1km s-min=2.4km az=1.0, After PDA*
*PDA **13** 12:55:22.3±0.8, 38.65N×28.58W, h10km, MD2.8, ML1.9, Error ellipse: s-maj=4.1km s-min=2.4km az=1.0*
SVSA 13 12:55:22.3±0.8, 38.65N×28.58W, h10km, MD2.8, ML1.9, Error ellipse: s-maj=4.1km s-min=2.4km az=1.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.10**	**257**	*e*P	Pg	12 55 24.3	-0.6
PCED				*i* S	Sg	12 55 26.5	-0.2
PCED	**Cedros**	**0.10**	**257**	*e*P	Pg	12 55 24.3	-0.6
PCED	51nm,0.1s			*i* S	Sg	12 55 26.5	-0.2
CALA	**Caldeira**	**0.12**	**234**	*i* P	Pg	12 55 24.9	-0.3
CALA				*e*S	Sg	12 55 27.3	+0.1
CALA	**Caldeira**	**0.12**	**234**	*e*S	Sg	12 55 27.3	+0.1
HOR	**Horta**	**0.13**	**197**	*e*S	Sg	12 55 26.9	-0.6
PICO	**Pico**	**0.19**	**140**	*i* P	Pg	12 55 25.9	-0.7
PICO				*e*S	Sg	12 55 29.0	-0.4
PICO	**Pico**	**0.19**	**140**	*e*S	Sg	12 55 29.0	-0.4
PMAN	**Manadas**	**0.39**	**92**	*e*S	Sg	12 55 34.2	-1.3
	38nm,0.1s						

IDC 13 12:55:28.6±3.4, 28.77S×177.44W, mb3.6/3, mb1 3.8/3, mb1mx3.7/14, mbtmp3.6/3, Error ellipse: s-maj=67.2km s-min=23.9km az=110.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.64**	**221**	Pn	Pn	12 55 45.9	+1.4
RAO	385nm,0.3s,baz=41,slow=19,SNR=7.9			Sn	Sn	12 55 54.9	-0.5
STKA	**Stephens Creek**	**35.35**	**255**	P	P	13 02 25.9	-1.8
	0.8nm,0.5s,baz=102,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**43.71**	**265**	P	P	13 03 36.4	-0.8
	0.3nm,0.5s,baz=102,slow=7.2,SNR=6.2						
WRA	**Warramunga Arr**	**44.55**	**270**	P	P	13 03 41.1	-3.0
	0.4nm,0.5s,baz=113,slow=6.3,SNR=11						
FINES	**FINESS Array B**	**143.77**	**341**	PKP	PKPdf	13 15 03.6	-3.1
	0.6nm,0.7s,baz=58,slow=4.2,SNR=4.0						

*IDC **13** 12:58:26.0±1.0, 1.72S×99.62E, h37km±7km, mb3.6/10, mb1 3.7/10, mb1mx3.6/19, mbtmp3.8/10, MS3.0/1, Ms1 3.2/1, ms1mx2.8/24, Error ellipse: s-maj=31.6km s-min=14.2km az=54.0*
*NEIC **13** 12:58:25.7±0.5, 1.72S×99.60E, mb4.5/1, Error ellipse: s-maj=16.6km s-min=8.7km az=63.0*
ISC 13 12:58:23.8±0.7, 1.7S±0.1×99.6E±0.2, h37km, h37km±1.3km: pP-P, n13, σ0§55/12, mb3.9/10, MS2.8/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.99**	**9**	*e*P	P	**13 00 06.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**20.00**	**358**	P	P	**13 02 56.0**	**-0.3**
	1.4nm,0.8s,baz=187,slow=9.8,SNR=9.0						
CMAR	comp=Z,43nm,19.3s,MS2.8,baz=198,slow=37			LR	LR	13 10 43.5	
WRA	**Warramunga Arr**	**38.50**	**121**	P	P	**13 05 44.2**	**-0.2**
	1.5nm,0.9s,mb3.7,baz=302,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**39.76**	**126**	P	P	**13 05 55.2**	**+0.3**
	0.6nm,0.6s,mb3.5,baz=298,slow=7.8,SNR=7.4						
SONM	**Songino Array**	**49.65**	**6**	P	P	**13 07 14.8**	**+0.9**
	0.4nm,0.6s,mb3.6,baz=190,slow=7.5,SNR=6.0						
SONM				pP	pP	13 07 25.2	+0.5
	1.4nm,0.8s,baz=192,slow=8.0,SNR=7.8						
SONM				PcP	PcP	13 08 35.6	+0.5
	0.6nm,0.6s,baz=163,slow=2.4,SNR=3.0						
STKA	**Stephens Creek**	**49.66**	**132**	P	P	**13 07 14.0**	**-0.2**
	1.1nm,0.8s,mb3.9,baz=315,slow=7.1,SNR=2.6						
STKA				pP	pP	13 07 24.5	-0.5
	2.0nm,0.9s,slow=6.1,SNR=1.9						
MKAR	**Makanchi Array**	**50.60**	**345**	P	P	**13 07 21.9**	**+0.7**
	0.3nm,0.3s,mb3.7,baz=148,slow=8.7,SNR=5.9						
ZAL	**Zalesovo**	**56.76**	**350**	P	P	**13 08 06.3**	**-0.1**
	1.8nm,0.7s,mb4.2,baz=302,slow=7.8,SNR=13						
ZAL				pP	pP	13 08 18.0	+0.5
	1.8nm,0.6s,baz=330,slow=4.0,SNR=5.2						
BVAR	**Borovoye Array**	**59.74**	**340**	P	P	**13 08 26.4**	**-0.8**
	1.0nm,0.7s,mb3.9,baz=101,slow=7.3,SNR=7.0						
CHKZ	**Chkalovo**	**60.20**	**341**	*e*P	P	**13 08 29.5**	**-0.9**
	6.0nm,1.4s,mb4.4						
KMBO	**Kilima Mbogo**	**62.34**	**270**	P	P	**13 08 46.0**	**+0.6**
	0.5nm,0.3s,mb4.2,baz=65,slow=16,SNR=2.9						
BRTR	**Keskin Array B**	**72.81**	**312**	P	P	**13 09 50.5**	**-0.2**
	0.3nm,0.4s,mb3.5,baz=106,slow=9.0,SNR=3.6						
TXAR	**Lajitas Array**	**144.67**	**37**	PKP	PKPdf	13 17 59.3	+2.0
	2.4nm,0.7s,baz=265,slow=1.3,SNR=17						

*NNC **13** 13:28:18.0±78.0, 36.11N×69.60E, h52km±999km, mpv4.0, Error ellipse: s-maj=1731.3km s-min=47.2km az=26.0*
ISC 13 13:28:16.3±2.2, 36.12N±0.09×69.5E±0.3, h100km, n13, σ0§53/14, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.82**	**27**	P	P	**13 29 55.4**	**0.0**
	SNR=55						
KK31	**Karatay Array**	**7.01**	**6**	⇑P	P	**13 29 58.3**	**+0.2**
	1.8nm,0.2s,baz=199,slow=16,SNR=42						
KK31				⇓S	S	**13 31 16.8**	**-0.1**
	4.4nm,0.5s,baz=194,slow=17,SNR=8.1						
UCH	**Uchtor**	**7.22**	**31**	P	P	**13 30 00.7**	**-0.3**
	SNR=22						
EKS2	**Erkin-Say**	**7.32**	**25**	P	P	**13 30 02.6**	**+0.5**
	SNR=9.7						
KZA	**Kyzart**	**7.43**	**35**	P	P	**13 30 02.7**	**-1.0**
	SNR=20						
AAK	**Ala-Archa**	**7.56**	**29**	P	P	**13 30 05.5**	**0.0**
	SNR=16						
AAK	**Ala-Archa**	**7.56**	**29**	⇓P	P	**13 30 05.3**	**-0.2**
	5.4nm,0.5s						
AAK				⇑S	S	**13 31 30.6**	**+0.5**
	12nm,0.4s						
SDNR	**Sundarnagar**	**7.72**	**125**	*e*P	P	**13 30 08.0**	**+0.3**
SDNR				*e*S	S	13 31 12.0	-22
CHMS	**Chumysh**	**7.97**	**29**	P	P	**13 30 12.0**	**+1.0**
	SNR=5.9						
ULHL	**Ulahol**	**8.04**	**38**	P	P	**13 30 11.7**	**-0.3**
	SNR=8.9						
SMLA	**Simla**	**8.09**	**126**	⇓*i*P	Px	13 31 19.3	
	245nm,0.3s						
SMLA				*i* S	Sx	13 31 42.6	
USP	**Ospenovka**	**8.10**	**27**	P	P	**13 30 13.2**	**+0.3**
	SNR=12						
TKM2	**Tokmak 2**	**8.25**	**33**	P	P	**13 30 14.0**	**-0.9**
	SNR=15						

*NEIC **13** 13:32:47.9, 31.95S×71.03W, h68km, After GUC.*
NEIC Felt [III] at Illapel, Mincha and Salamanca.
GUC 13 13:32:47.9±0.7, 31.95S×71.03W, h68km±3km, ML4.0, 9C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.33**	**165**	⇑*i*P	P	13 32 59.3	+0.2
PTCH				*i* S	S	13 33 07.6	+0.2
CHNG	**Los Chungos**	**0.41**	**279**	⇓*i*P	P	13 32 59.8	0.0
CHNG				*i* S	S	13 33 08.9	+0.5
CHNG				AMP		13 33 09.6	
	comp=E,7μm,0.2s						
PACH	**Papudo**	**0.68**	**210**	⇓*i*P	P	13 33 02.7	+0.2
JACH	**Jahuel**	**0.82**	**154**	⇑*i*P	P	13 33 04.4	+0.2
JACH				*i* S	S	13 33 17.2	+0.9
IHA	**Instituto Hidr**	**1.20**	**206**	*e*P	P	13 33 09.1	0.0
PEL	**Peldehue**	**1.23**	**167**	⇑*i*P	P	13 33 09.6	0.0
PEL				*i* S	S	13 33 25.8	+0.1
DSCH	**Colegio Aleman**	**1.50**	**165**	⇓*i*P	P	13 33 13.5	+0.2
DSCH				*i* S	S	13 33 32.8	+0.7
DSCH				AMP		13 33 35.8	
	comp=E,6μm,0.3s						
CLCH	**Cerro Calan**	**1.50**	**164**	⇑*i*P	P	13 33 13.6	+0.2
CLCH				*i* S	S	13 33 32.7	+0.5
CLCH				AMP		13 33 35.2	
	comp=E,3μm,0.5s						
CLCH				AMP		13 33 35.8	
	comp=E,4μm,0.6s						
FCH	**Farellones**	**1.51**	**156**	⇑*i*P	P	13 33 14.1	+0.6
FCH				*i* S	S	13 33 34.0	+1.6
FCH				AMP		13 33 38.5	
	comp=E,3μm,0.2s						
SAN	**Santiago**	**1.53**	**169**	*i* S	S	13 33 33.5	+0.6
SAN				AMP		13 33 34.8	
	comp=N,2μm,0.3s						
LCCH	**Las Cruces**	**1.59**	**197**	⇓*i*P	P	13 33 13.9	-0.7
TACH	**Talagante**	**1.70**	**177**	*e*P	P	13 33 15.6	-0.5
PCH	**Pirque**	**1.73**	**166**	⇑*i*P	P	13 33 16.5	+0.1
PCH				*i* S	S	13 33 38.4	+1.0
TLL	**Tololo Astrono**	**1.78**	**6**	⇓*i*P	P	13 33 17.5	+0.3
TLL				*i* S	S	13 33 40.1	+1.4
TLL				AMP		13 33 41.9	
	comp=N,3μm,0.5s						
CHCH	**Chadas Angostu**	**2.01**	**171**	⇓*i*P	P	13 33 20.3	+0.1
LMEL	**Las Melosas**	**2.02**	**160**	⇑*i*P	P	13 33 21.3	+0.9
LMEL				AMP		13 33 51.2	
	comp=N,3μm,0.2s						
LNV	**Longovilo**	**2.03**	**189**	*e*P	P	13 33 19.6	-0.9
ZON	**Zonda**	**2.04**	**79**	⇑*i*P	P	13 33 23.8	+3.1
ZON				*e*S	S	13 33 59.7	+15
CACH	**El Canelo**	**2.19**	**171**	⇑*i*P	P	13 33 23.6	+0.7
SFDO	**San Fernando**	**2.66**	**180**	*i* P	P	13 33 29.2	-0.3

IDC 13 13:39:59.9±6.4, 2.95N×94.07E, mb3.6/3, mb1 3.8/4, mb1mx3.6/20, mbtmp3.5/4, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/22, Error ellipse: s-maj=193.0km s-min=28.1km az=71.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.13**	**17**	Pn	P	13 43 49.4	-0.5
	0.1nm,0.3s,baz=209,slow=12,SNR=7.6						
NWAO	**Narrogin (SRO)**	**41.88**	**150**	LR	LR	14 03 10.5	
	comp=Z,63nm,18.4s,baz=287,slow=33						
WRA	**Warramunga Arr**	**45.61**	**122**	P	P	13 48 22.1	-2.0
	1.8nm,0.9s,baz=301,slow=9.1,SNR=11						
SONM	**Songino Array**	**45.96**	**12**	P	P	13 48 24.5	-2.0
	0.2nm,0.5s,baz=190,slow=8.8,SNR=2.7						
ASAR	**Alice Springs**	**46.94**	**127**	P	P	13 48 32.9	-1.7
	0.6nm,0.6s,baz=300,slow=7.7,SNR=8.1						

MAN 13 13:45:10.3, 14.40N×123.29E, h223km, mb4.1, ML2.9, MS2.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.95**	**239**	⇑*e*P	P	13 45 42.4	0.0
GQP				*i* S	S	13 46 02.3	-5.0
POLP	**Polilio Island**	**1.35**	**284**	*e*P	P	13 45 47.1	+1.9
POLP				*e*S	S	13 46 11.9	-0.3
BALP	**Baler**	**2.13**	**309**	*e*P	P	13 45 51.4	-0.9
CAUP	**Cauayan**	**2.90**	**331**	*e*P	P	13 46 00.4	-0.1

*IDC **13** 13:50:12.8±2.6, 1.15N×97.05E, mb3.7/4, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, ML3.6/1, MS3.1/1, Ms1 3.3/1, ms1mx2.9/27, Error ellipse: s-maj=96.7km s-min=22.8km az=60.0*
ISC 13 13:50:15.8±2.0, 1.2N±0.2×97.0E±0.4, h33km, n6, σ0§93/6, mb3.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.30**	**6**	P	P	**13 54 15.8**	**-0.6**
	0.1nm,0.3s,baz=194,slow=9.8,SNR=7.3						
CMAR	comp=Z,67nm,20.4s,baz=210,slow=40			LR	LR	14 01 52.7	
SHL	**Shillong**	**24.78**	**349**	*e*P	P	**13 55 37.0**	**+0.8**
WRA	**Warramunga Arr**	**42.15**	**122**	P	P	**13 58 06.9**	**-0.3**
	0.9nm,0.7s,mb3.5,baz=300,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**43.49**	**127**	P	P	**13 58 18.4**	**+0.2**
	0.9nm,1.0s,mb3.5,baz=299,slow=7.2,SNR=5.1						
SONM	**Songino Array**	**47.20**	**9**	P	P	**13 58 48.0**	**+0.7**
	0.7nm,0.6s,mb3.8,baz=188,slow=8.7,SNR=6.9						
BVAR	**Borovoye Array**	**56.24**	**341**	P	P	**13 59 54.3**	**-0.9**
	1.2nm,0.8s,mb4.0,baz=112,slow=7.8						

*IDC **13** 14:14:10.3±0.9, 0.40S×96.75E, mb3.9/7, mb1 4.0/8, mb1mx3.9/18, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=33.5km s-min=19.4km az=50.0*
*NEIC **13** 14:14:15.0±0.5, 0.32S×96.93E, h30km, mb4.4/5, Error ellipse: s-maj=15.9km s-min=8.6km az=56.0*
ISC 13 14:14:13.1±0.6, 0.28S±0.09×96.9E±0.1, h30km, n19, σ0§90/18, mb4.1/13, Southwest of Sumatera

| Code |

BRTR	Keskin Array B	69.91 313	P		P	14 25 23.0	-0.6
	0.4nm,0.5s,mb3.6,baz=127,slow=7.2,SNR=3.1						
FINES	FINESS Array B	81.18 333	P		P	14 26 27.6	+0.3
	3.5nm,1.1s,mb4.2,baz=90,slow=1.9,SNR=5.5						
GERES	GERESS Array B	85.75 319	P		P	14 26 55.6	+4.7
	0.2nm,0.3s,mb3.8,baz=104,slow=5.5,SNR=3.6						
TXAR	Lajitas Array	145.05 32	PKPbc		PKPbc	14 33 51.0	+2.5
	0.3nm,0.3s,baz=270,slow=3.6,SNR=3.4						

IDC 13 14:22:30.3±16.0, 3.86N×95.30E, mb3.4/2, mb1 3.7/3, mb1mx3.4/19, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=428.0km s-min=49.7km az=80.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.94	14	Pn	P	14 26 02.8	-2.0
	0.1nm,0.3s,baz=214,slow=12,SNR=6.9						
WRA	Warramunga Arr	45.06	123	P	P	14 30 48.4	-1.7
	0.6nm,0.5s,baz=301,slow=9.1,SNR=8.2						
ASAR	Alice Springs	46.51	128	P	P	14 30 59.5	-2.0
	0.2nm,0.6s,baz=296,slow=8.0,SNR=4.7						

*JMA **13** 14:31:16.8±0.2, 24.77N×122.21E, h68km, M2.2*

TAP 13 14:31:16.8, 24.46N×122.17E, h65km±1km, ML3.2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.77	90	P	P	14 31 32.6	+0.4
YOJ				eS	S	14 31 44.3	+0.6
IRIF	Iriomote-Funau	1.43	95	P	P	14 31 41.1	0.0
IRIF				S	S	14 31 59.0	-0.2
HATJ	Hateruma jima	1.54	105	eS	S	14 32 03.8	+1.9
JKRS	Kuro-shima	1.69	97	P	P	14 31 45.4	+0.7
JKRS				S	S	14 32 05.7	+0.4
JIJ	Ishigaki jima	1.80	93	P	P	14 31 46.2	0.0
JIJ				eS	S	14 32 07.5	-0.4
JTJ	Tarama	2.31	85	eS	S	14 32 21.1	+0.5

*PRU **13** 14:33:01.5, 50.23N×18.65E*

WAR 13 14:32:58.1, 50.26N×18.86E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.60	93	ePG	Pg	14 33 10.0	-0.1
OJC				eSG	Sg	14 33 19.0	+0.8
OKC	Ostrava-Krasne	0.62	228	ePG	Pg	14 33 10.9	+0.3
NIE	Niedzica	1.26	131	ePG	Pg	14 33 22.0	-1.3
NIE				eSG	Sg	14 33 39.0	-1.1
DPC	Dobruska-Polom	1.63	274	ePG	Pg	14 33 27.9	-2.7
DPC				eSG	Sg	14 33 49.2	-3.2
	24nm,0.3s						
KSP	Ksiaz	1.74	291	ePG	Pg	14 33 31.0	-1.8
KSP				eSG	Sg	14 33 54.0	-2.0
KSP	Ksiaz	1.74	291	ePn	Pn	14 33 29.0	-0.7
KSP				ePg	Pg	14 33 31.2	-1.6
KSP				eSg	Sg	14 33 54.3	-1.7
VYHS	Vyhne	1.77	181	ePN	Pn	14 33 30.1	0.0
VYHS				eSN	Sn	14 33 54.2	+0.6
UPC	Upice	1.84	279	eSG	Sg	14 33 55.3	-4.1
CRVS	Cervenica-Dubn	2.17	128	ePN	Pn	14 33 39.5	+3.6
CRVS				eSN	Sn	14 34 07.6	+3.8
PRU	Pruhonice	2.79	266	eSG	Sg	14 34 24.9	-6.2
KHC	Kasperske Hory	3.61	254	ePG	Pg	14 34 07.0	-3.2
KHC				eSG	Sg	14 34 52.9	-5.4
CLL	Collm	3.86	288	eSG	Sg	14 35 03.0	-3.7

IDC 13 14:39:47.1±19.0, 12.69S×167.29E, h150km±175km, mb3.4/5, mb1 3.7/5, mb1mx3.4/16, mbtmp3.8/5, Error ellipse: s-maj=106.9km s-min=51.5km az=147.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.39	253	P	P	14 46 02.4	-2.5
	0.2nm,0.4s,baz=83,slow=8.5,SNR=16						
ASAR	Alice Springs	33.46	246	P	P	14 46 12.4	-1.6
	0.3nm,0.5s,baz=75,slow=9.3,SNR=5.2						
FITZ	Fitzroy Crossi	40.45	257	P	P	14 47 11.4	-1.3
	4.0nm,0.8s,baz=80,slow=17,SNR=8.2						
CMAR	Chiang Mai Arr	74.15	293	P	P	14 51 07.8	-1.7
	0.7nm,0.8s,baz=100,slow=5.5,SNR=4.3						
ILAR	Eielson Array	84.60	18	P	P	14 52 03.4	-1.1
	1.5nm,0.6s,baz=241,slow=5.5,SNR=30						
ARCES	ARCESS Array B	118.30	346	PKP	PKPdf	14 58 15.8	-0.4
	4.0nm,0.9s,baz=57,slow=2.8,SNR=6.6						

IDC 13 14:44:14.8±2.8, 0.98N×96.73E, mb3.7/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=100.5km s-min=28.9km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.50	7	P	P	14 48 21.1	-1.0
	0.0nm,0.3s,baz=199,slow=9.8,SNR=4.6						
WRA	Warramunga Arr	42.32	121	P	P	14 52 10.6	-1.7
	0.5nm,0.8s,baz=301,slow=9.1,SNR=5.1						
SONM	Songino Array	47.42	9	P	P	14 52 50.8	-2.1
	0.6nm,0.8s,baz=191,slow=6.3,SNR=5.0						
ZAL	Zalesovo	53.69	351	P	P	14 53 38.6	-2.0
	0.5nm,0.7s,baz=301,slow=7.4,SNR=3.8						
BVAR	Borovoye Array	56.30	341	P	P	14 53 56.9	-2.7
	0.9nm,0.8s,baz=135,slow=10,SNR=5.8						

*JMA **13** 15:05:57.3±0.4, 24.12N×122.12E, h28km, M2.2*

TAP 13 15:05:56.4, 24.06N×122.22E, h13km±1km, ML3.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.82	61	P	Pb	15 06 13.5	+1.5
YOJ				eS	Sb	15 06 25.0	+2.2
IRIF	Iriomote-Funau	1.41	78	P	Pn	15 06 22.6	+0.8
IRIF				eS	Sb	15 06 41.4	+1.8
JKRS	Kuro-shima	1.64	83	P	Pn	15 06 26.8	+1.6
JKRS				eS	Sn	15 06 48.0	+1.8
JIJ	Ishigaki jima	1.78	80	P	Pn	15 06 27.7	+0.5
JIJ				eS	Sn	15 06 50.0	+0.3

*IDC **13** 15:06:02.2±1.1, 1.82S×99.73E, mb4.0/10, mb1 4.2/10, mb1mx4.0/18, mbtmp4.0/10, MS3.3/2, Ms1 3.3/2, ms1mx2.9/25, Error ellipse: s-maj=53.6km s-min=15.7km az=53.0*

*NEIC **13** 15:06:06.8±0.7, 1.79S×99.76E, h30km, mb4.5/1, Error ellipse: s-maj=26.6km s-min=9.0km az=59.0*

ISC 13 15:06:05.7±0.8, 1.7S±0.1×99.9E±0.2, h33km, n17, σ0=84/15, mb4.1/10, MS3.1/2, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.00	6	eP	P	15 07 49.1	+0.6
CMAR	Chiang Mai Arr	20.07	357	P	P	15 10 37.8	-1.3
	0.8nm,0.6s,baz=185,slow=10.0,SNR=9.1						
CMAR				LR	LR	15 19 52.6	
	comp=Z,46nm,19.9s,MS2.8,baz=55,slow=41						
CMAR	Chiang Mai Arr	20.07	357	P	P	15 10 37.8	-1.3
CMAR				LR	LR	15 19 52.6	
FITZ	Fitzroy Crossi	30.07	124	P	P	15 12 13.4	-1.1
	6.1nm,0.8s,mb4.4,baz=333,slow=6.6,SNR=4.3						
NWAO	Narrogin (SRO)	35.07	154	LR	LR	15 27 17.0	
	comp=Z,73nm,19.8s,MS3.4,baz=21,slow=36						
WRA	Warramunga Arr	38.24	121	P	P	15 13 24.3	-0.3
	1.2nm,0.4s,mb4.0,baz=304,slow=9.0,SNR=28						
WRAB	Tennant Creek	38.25	121	eP	P	15 13 24.5	-0.2
	4.7nm,0.6s,mb4.4						
WB2	Warramunga Arr	38.25	121	eP	P	15 13 24.4	-0.4
ASPA	Alice Springs	39.52	126	eP	P	15 13 38.2	+3.0
ASAR	Alice Springs	39.52	126	P	P	15 13 35.2	0.0
	1.3nm,0.6s,mb3.9,baz=298,slow=8.0,SNR=18						
ASAR				PcP	PcP	15 15 43.6	+0.6
	1.0nm,0.7s,baz=334,slow=3.4,SNR=5.0						
STKA	Stephens Creek	49.43	132	P	P	15 14 55.3	+0.5
	0.8nm,0.4s,mb4.1,baz=316,slow=17,SNR=2.3						
SONM	Songino Array	49.67	6	P	P	15 14 57.1	+0.7
	1.0nm,0.6s,mb4.0,baz=186,slow=9.9,SNR=11						
ZAL	Zalesovo	56.86	349	P	P	15 15 49.3	-0.2
	2.7nm,0.6s,mb4.5,baz=303,slow=8.0,SNR=11						
BRTR	Keskin Array B	73.04	312	P	P	15 17 33.6	-0.8
	0.4nm,0.5s,mb3.6,baz=141,slow=7.9,SNR=3.6						
FINES	FINESS Array B	83.80	332	P	P	15 18 33.1	+0.3
	0.7nm,0.5s,mb4.1,baz=133,slow=6.1,SNR=9.8						
GERES	GERESS Array B	88.75	319	P	P	15 18 58.3	+0.9
	0.2nm,0.2s,mb4.0,baz=90,slow=5.3,SNR=3.4						
TXAR	Lajitas Array	144.55	37	PKP	PKPdf	15 25 41.1	+1.5
	0.9nm,0.4s,baz=270,slow=1.8,SNR=8.3						

MEX 13 15:18:45.0±1.3, 17.40N×101.02W, h20km±40km, MD3.6, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.47	296	⇑iP	Pb	15 18 52.6	-1.9
ZIIG				iS	Sb	15 18 60.0	-1.0
CAIG	El Cayaco	0.80	116	iP	Pb	15 18 57.0	-3.1
CAIG				iS	Sb	15 19 08.1	-2.4
ACX	Acapulco	1.18	117	eP	Pb	15 19 04.5	-2.1
ACX				iS	Sb	15 19 17.0	-4.4
PPM	Popocatepetl	2.81	54	iP	Pn	15 19 27.2	-2.7
PPM				iS	Sn	15 19 59.2	-4.4

IDC 13 15:23:10.0±7.9, 0.33N×98.69E, mb3.5/2, mb1 3.7/3, mb1mx3.4/19, mbtmp3.4/3, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/22, Error ellipse: s-maj=241.2km s-min=37.1km az=69.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.02	1	P	P	15 27 22.4	-1.4
	0.0nm,0.3s,baz=194,slow=12,SNR=5.5						
WRA	Warramunga Arr	40.31	122	P	P	15 30 49.9	-1.2
	0.3nm,0.8s,baz=302,slow=8.9,SNR=5.1						
ASAR	Alice Springs	41.69	127	P	P	15 31 00.3	-2.1
	0.6nm,0.6s,baz=297,slow=7.9,SNR=8.4						
MJAR	Matsushiro Arr	51.35	41	LR	LR	15 53 34.4	
	comp=Z,28nm,19.2s,baz=15,slow=36						

*STR **13** 15:43:03.8±0.2, 44.48N×6.98E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **13** 15:43:03.7±0.1, 44.49N×7.00E, h2km, Md2.5/1, Ml2.6/9, Error ellipse: s-maj=1.9km s-min=1.2km az=69.0*

*NEIC **13** 15:43:03.8, 44.48N×6.98E, h5km, ML2.6(LDG), ML2.6(GEN), ML2.4(STR), After STR.*

*CSEM **13** 15:43:03.4±0.1, 44.48N×7.02E, h10km, ML2.5/9, Error ellipse: s-maj=1.3km s-min=1.0km az=74.0*

*GEN **13** 15:43:03.0, 44.45N×6.92E, h1km, ML2.6*

ISC 13 15:43:02.9±0.2, 44.47N±0.01×6.94E±0.02, h12km±2km, n61, σ0=76/107, 2C, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	Saint Ours	0.09	278	Pg	Pg	15 43 05.7	-0.1
SURF				Sg	Sg	15 43 07.6	-0.1
PZZ	Prazzo	0.12	72	⇑P	Pg	15 43 06.5	+0.3
PZZ	Prazzo	0.12	72	⇑P	Pg	15 43 06.5	+0.3
DOI	San Damiano	0.22	81	ePg	Pg	15 43 08.1	+0.2
DOI				eSg	Sg	15 43 12.8	+1.6
DOI	San Damiano	0.22	81	ePg	Pg	15 43 08.1	+0.2
MBDF	Montbardon	0.28	335	ePg	Pg	15 43 09.5	+0.5
MBDF				eSg	Sg	15 43 14.0	+0.9
	50nm,0.2s						
OG22	Abries	0.35	1	Pg	Pg	15 43 10.7	+0.4
OG22				Sg	Sg	15 43 16.1	+0.8
STV	Sta Anna Valdi	0.35	129	P	Pg	15 43 10.1	-0.2
STV				S	Sg	15 43 14.8	-0.5
STV	Sta Anna Valdi	0.35	129	P	Pg	15 43 10.1	-0.3
STV2	Anna di Valdie	0.35	129	P	Pg	15 43 10.0	-0.4
STV2				S	Sg	15 43 14.7	-0.6
STV2	Anna di Valdie	0.35	129	P	Pg	15 43 10.0	-0.4
ENR	Entracque	0.42	125	P	Pg	15 43 11.2	-0.4
ENR				S	Sg	15 43 17.2	-0.2
ENR	Entracque	0.42	125	P	Pg	15 43 11.2	-0.4
BHB	Bricherasio	0.44	32	P	Pg	15 43 12.0	+0.1
BHB				S	Sg	15 43 17.8	-0.2
BHB	Bricherasio	0.44	32	P	Pg	15 43 12.0	0.0
RRL	Cesana Torines	0.47	346	P	Pg	15 43 12.8	+0.3
RRL	Cesana Torines	0.47	346	P	Pg	15 43 12.8	+0.3
TOUF	Mont Tournerai	0.51	154	Pg	Pg	15 43 13.2	-0.1
AUTN	L'Aution	0.59	143	Pg	Pg	15 43 15.0	+0.1
AUTN				Sg	Sg	15 43 22.8	-0.1
MVIF	Mont Vial	0.59	165	Pg	Pg	15 43 15.1	+0.1
MVIF				Sg	Sg	15 43 23.6	+0.6
BNI	Bardonecchia	0.61	342	eP	Pb	15 43 14.8	-0.2
BNI	Bardonecchia	0.61	342	eP	Pb	15 43 14.9	-0.2
SAOF	Saorge	0.65	137	Pg	Pg	15 43 15.7	-0.5
SAOF				Sg	Sg	15 43 25.1	+0.1
ROB	Roburent	0.69	104	P	Pb	15 43 16.7	+0.3
ROB				S	Sb	15 43 25.7	+0.2
ROB	Roburent	0.69	104	P	Pb	15 43 16.7	+0.3
ROB				S	Sb	15 43 25.7	+0.1
SBF	Sospel	0.70	149	ePg	Pg	15 43 16.8	-0.3
SBF				eSg	Sg	15 43 25.9	-0.7
	34nm,0.4s						
MONE	Monesi	0.70	123	P	Pb	15 43 16.7	+0.1
MONE				S	Sb	15 43 25.7	-0.2
MONE	Monesi	0.70	123	P	Pb	15 43 16.7	+0.1
MONE				S	Sb	15 43 25.7	-0.3
CALN	Calern	0.72	183	Pg	Pg	15 43 17.6	+0.2
CALN				Sg	Sg	15 43 27.5	+0.4
RSP	Reno Superiore	0.72	18	P	Pb	15 43 17.2	+0.2
RSP				S	Sb	15 43 26.8	+0.3
RSP	Reno Superiore	0.72	18	P	Pb	15 43 17.2	+0.3
RSP				S	Sb	15 43 26.8	+0.3
REVF	Revere	0.79	157	Pg	Pg	15 43 19.2	+0.3
NEGI	Negi	0.83	138	P	Pb	15 43 18.6	-0.2
NEGI				S	Sb	15 43 30.0	+0.3
NEGI	Negi	0.83	138	P	Pb	15 43 18.6	-0.2
NEGI				S	Sb	15 43 30.0	+0.4
ORIF	Oris-en-Rattie	0.88	301	ePg	Pg	15 43 20.6	0.0
ORIF				eSg	Sg	15 43 31.0	-1.5
	17nm,0.3s						
IMI	Imperia	0.88	129	ePg	Pg	15 43 20.3	-0.3
IMI				eSg	Sg	15 43 31.8	-0.7
IMI	Imperia	0.88	129	P	Pb	15 43 20.3	+0.6
IMI				S	Sb	15 43 31.7	+0.5
FRF	La Foret Royal	0.93	193	ePg	Pg	15 43 20.9	-0.8
FRF				eSg	Sg	15 43 34.0	-0.2
	34nm,0.3s						
FIN	Finale Ligure	0.95	105	ePg	Pg	15 43 21.2	-0.8
FIN				eSg	Sg	15 43 34.2	-0.4
FIN	Finale Ligure	0.95	105	P	Pb	15 43 21.2	+0.4
FIN				S	Sb	15 43 33.4	+0.4
LSD	Ceresole Reale	1.00	9	P	Pb	15 43 23.0	+1.3
LSD				S	Sb	15 43 35.9	+1.3
LSD	Ceresole Reale	1.00	9	P	Pb	15 43 23.0	+1.3
LSD				S	Sb	15 43 35.9	+1.3
LPG	La Plagne	1.04	353	ePg	Pg	15 43 23.2	-0.6
LPG				eSg	Sg	15 43 35.5	-2.2
	13nm,0.4s						
LPL	La Plagne	1.06	352	ePg	Pg	15 43 23.7	-0.5
LPL				eSn	Sn	15 43 37.0	-1.2
	11nm,0.3s						
TAVF	Tavernes	1.06	217	Pg	Pg	15 43 24.1	-0.2
TAVF				Sg	Sg	15 43 41.1	+2.6
VILF	Villemus	1.07	236	Pg	Pg	15 43 26.0	+1.5
VILF				Sg	Sg	15 43 41.8	+2.9
SMRF	Simiane la Rot	1.10	244	ePg	Pg	15 43 25.5	+0.5
SMRF				eSg	Sg	15 43 40.4	+0.7
	33nm,0.3s						
PCP	Pian Castagno	1.15	86	P	Pb	15 43 24.9	+0.6
PCP				S	Sb	15 43 39.7	+0.7
PCP	Pian Castagno	1.15	86	P	Pb	15 43 24.9	+0.6
PCP				S	Sb	15 43 39.7	+0.7
LMR	La Mourre	1.18	196	ePn	Pn	15 43 25.2	0.0
LMR				ePg	Pg	15 43 25.9	-0.6
LMR				eSg	Sg	15 43 41.8	-0.5
	24nm,0.2s						
LMR	La Mourre	1.18	196	ePg	Pg	15 43 25.9	-0.6
LMR				eSg	Sg	15 43 41.8	-0.5
	12nm,0.2s						
PUYF	Puyloubier	1.29	224	Pg	Pg	15 43 28.1	-0.8
PUYF				Sg	Sg	15 43 45.8	-0.4
ORX	Oropa	1.38	32	P	Pn	15 43 27.3	-0.8
ORX	Oropa	1.38	32	P	Pn	15 43 27.3	-0.8
PRAF	Pradon	1.44	243	Pg	Pg	15 43 31.6	-0.1
PRAF				Sg	Sg	15 43 51.9	+1.0
BERF	Bertagne	1.47	218	Pg	Pg	15 43 31.4	-0.9
BERF				Sg	Sg	15 43 51.7	-0.2
GELF	Grande-Etoile	1.54	226	Pg	Pg	15 43 34.0	+0.2
VIVF	Saint-Julien-l	1.66	284	ePn	Pn	15 43 33.6	+1.4
VIVF				ePg	Pg	15 43 35.6	-0.6
VIVF				eSg	Sg	15 43 57.2	-1.3
	7.5nm,0.3s						
LASF	Ste Croix	2.25	261	ePn	Pn	15 43 40.5	-0.1
LASF				eSn	Sn	15 44 07.9	-0.5
	1.2nm,0.2s						
PGF	Ploggiola	2.44	141	ePn	Pn	15 43 44.1	+0.9
PGF				eSn	Sn	15 44 11.1	-2.0
	4.0nm,0.3s						
SSF	Saint Saulge	3.54	318	ePn	Pn	15 43 57.7	-1.2

MAN 13 15:43:28.5, 7.34N×126.58E, h1km, mb4.5, ML3.4, MS3.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.50	219	eP	Pg	15 43 38.5	0.0
KCP	Kidapawan	1.51	258	‖eP	Pn	15 43 56.0	-0.8
KCP				iS	Sb	15 44 17.0	+0.5
BUKP	Musuan	1.59	290	eP	Pn	15 43 58.3	+0.3
BUKP				eS	Sb	15 44 21.8	+2.8
BUTP	Butuan	1.88	330	eP	Pn	15 44 03.7	+1.7
SCPH	Surigao	2.66	336	eP	Pn	15 44 13.2	0.0
SCPH				iS	Sn	15 44 39.8	-6.7
PAGZ	Pagadian	3.21	279	eP	Pn	15 44 20.9	0.0
MSLP	Maasin	3.26	329	eP	Pn	15 44 20.9	-0.8
TBP	Tagbilaran	3.56	311	eP	Pn	15 44 25.6	-0.4
TBP				eS	Sn	15 45 08.4	-0.9

*IDC **13** 15:47:58.2±13.0, 17.50S×178.76W, h581km±173km, mb3.3/7, mb1 3.5/7, mb1mx3.2/18, mbtmp4.2/7, Error ellipse: s-maj=91.6km s-min=51.9km az=162.0*

ISC 13 15:47:58.5±1.3, 17.6S±0.6×178.8W±0.3, h600km, n9, σ0=36/9, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.13	260	P	P	15 53 48.5	+0.3
	12nm,1.2s,mb4.4,baz=84,slow=9.5,SNR=4.0						
STKA	Stephens Creek	38.44	241	P	P	15 54 31.6	-0.1
	2.5nm,0.6s,mb3.9,baz=88,slow=12,SNR=8.9						
WRA	Warramunga Arr	44.32	259	P	P	15 55 18.0	-0.4
	1.5nm,0.4s,mb3.8,baz=92,slow=7.3,SNR=58						
ASAR	Alice Springs	44.51	254	P	P	15 55 19.8	-0.1
	12nm,0.6s,mb4.6,baz=87,slow=8.6,SNR=253						
ASPA	Alice Springs	44.51	254	eP	P	15 55 19.9	0.0
KAKA	Kakadu	47.22	269	eP	P	15 55 40.9	+0.3
	4.5nm,0.4s,mb4.3						
FITZ	Fitzroy Crossi	52.71	260	P	P	15 56 20.7	0.0
	1.1nm,0.4s,mb3.6,baz=74,slow=12,SNR=3.8						
TXAR	Lajitas Array	86.16	58	P	P	15 59 39.3	+0.6
	0.2nm,0.3s,mb3.2,baz=270,slow=1.8,SNR=3.6						
PDAR	Pinedale Array	87.41	44	P	P	15 59 43.5	-0.6
	0.4nm,0.6s,mb3.3,baz=252,slow=2.9,SNR=3.9						

*IDC **13** 15:51:31.3±6.1, 21.42S×170.00E, h80km±41km, mb4.0/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.3/9, ML3.8/1, MS3.4/1, Ms1 3.3/1, ms1mx2.5/20, Error ellipse: s-maj=57.8km s-min=35.2km az=139.0*

*NEIC **13** 15:51:31.7±2.5, 21.49S×170.08E, h91km±14km, mb4.2/2, Error ellipse: s-maj=41.2km s-min=20.4km az=148.0*

ISC 13 15:51:33.0±3.6, 21.3S±0.3×169.8E±0.3, h101km±22km, n21, σ0=89/20, mb4.2/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.22	256	eP	P	15 52 23.3	+0.5
DZM				eS	S	15 52 59.2	-1.2
DZM	Mont Dzumac	3.22	256	P	P	15 52 22.9	+0.1
	9.4nm,0.3s,baz=308,slow=17,SNR=152						
DZM				S	S	15 53 00.8	+0.3
	97nm,0.3s,baz=175,slow=20,SNR=14						
DZM	Mont Dzumac	3.22	256	eP	P	15 52 23.3	+0.5
DZM				eS	S	15 52 59.2	-1.2
NOUC	Port Laguerre	3.36	256	eP	P	15 52 24.9	+0.2
NOUC				eS	S	15 53 03.8	+0.1
NOUC	Port Laguerre	3.36	256	eP	P	15 52 24.9	+0.2
NOUC				eS	S	15 53 03.8	+0.1
CTA	Charters Tower	22.08	269	P	P	15 56 22.9	+2.1
	4.0nm,0.7s,mb3.9,baz=88,slow=13,SNR=7.6						
CTAO	Charters Tower	22.08	269	eP	P	15 56 21.3	+0.6
	5.0nm,0.8s,mb3.9						
PMG	Port Moresby	24.82	295	P	P	15 56 48.4	+0.9
	8.1nm,0.7s,mb4.3,baz=100,slow=7.6,SNR=8.3						
STKA	Stephens Creek	27.25	241	LR	LR	16 06 46.5	
	comp=Z,72nm,19.8s,baz=184,slow=33						
WRAB	Tennant Creek	33.18	266	eP	P	15 58 01.4	-0.9
	3.3nm,0.5s,mb4.4						
WRA	Warramunga Arr	33.19	266	P	P	15 58 01.1	-1.2
	1.7nm,0.4s,mb4.2,baz=100,slow=8.4,SNR=35						
ASAR	Alice Springs	33.21	259	P	P	15 58 02.1	-0.4
	1.0nm,0.4s,mb4.0,baz=88,slow=8.7,SNR=27						
ASAR				PcP	PcP	16 00 41.7	-1.3
	0.6nm,0.8s,baz=128,slow=3.6,SNR=3.8						
FITZ	Fitzroy Crossi	41.62	266	P	P	15 59 13.7	+0.8
	14nm,0.6s,mb4.9						
MJAR	Matsushiro Arr	64.86	332	P	P	16 02 02.2	-1.6
	2.4nm,0.9s,mb4.0,baz=159,slow=6.7,SNR=5.0						
CMAR	Chiang Mai Arr	79.86	294	P	P	16 03 33.5	+0.9
	1.4nm,0.8s,mb3.8,baz=131,slow=4.3,SNR=9.2						
SONM	Songino Array	89.22	323	P	P	16 04 18.8	+0.1
	0.9nm,0.8s,mb3.9,baz=151,slow=6.1,SNR=8.4						
BRG	Berggiesshubel	144.99	333	iP	PKPdf	16 10 58.4	+0.2
CLL	Collm	145.04	334	iPKP1	PKPbc	16 10 58.6	0.0
KHC	Kasperske Hory	146.44	331	eP	PKPdf	16 11 03.0	+2.3
GERES	GERESS Array B	146.59	331	PKPbc	PKPbc	16 11 03.4	+1.0
	6.2nm,0.6s,baz=32,slow=2.8,SNR=62						
DAVOX	Davos	149.84	332	PKPbc	PKPdf	16 11 11.9	+5.6
	8.7nm,0.7s,baz=44,slow=2.0,SNR=12						

**IDC 13 15:59:44.3±62.0, 17.88S×176.17W, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=1148

*NNC **13** 16:24:05.2±4.0,30.39N×68.21E,h26km±47km,Error ellipse: s-maj=65.4km s-min=15.1km az=117.0*

ISC 13 16:23:57.5±0.3,29.74N±0.04×68.27E±0.03,h33km,n64, σ1♀43/70,mb4.0/18,4C-8D,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	Derazinda	2.60	39	P	P	16 24 41.8	+3.6
SBDP	Sheikh Budin	3.36	40	⇑P	P	16 24 51.6	+2.7
THW	Thamme Wali	4.26	43	⇑P	P	16 25 03.1	+1.4
SARP	Sargodha	4.37	59	P	P	16 25 05.8	+2.5
CEP	Cherat	5.12	36	P	P	16 25 15.5	+1.6
CEP				S	S	16 26 13.0	+0.4
CHCP	Chirah Chowk	5.78	46	P	P	16 25 25.4	+2.3
AJM	Ajmer	6.50	118	*e*	P	16 25 45.0	+12
AJM				*e*S	S	16 26 48.0	+0.9
THN	Thein Dam	6.93	65	*e*P	P	16 25 41.7	+2.3
THN				*e*S	S	16 26 52.1	-5.8
BHK	Bhakra	7.22	75	*e*	S	16 27 10.2	+5.0
SDNR	Sundarnagar	7.70	75	*e*P	P	16 25 52.0	+1.9
SDNR				*e*	S	16 27 16.0	-1.1
SMLA	Simla	7.81	78	⇓*i*P	P	16 25 50.0	-1.5
SMLA				*i*	S	16 27 17.4	-2.4
	525nm,0.6s						
NDI	New Delhi	7.89	95	*e*P	P	16 25 52.0	-0.7
NDI				*e*S	S	16 27 17.0	-4.8
LGTI	Lohaghat	10.43	89	*e*P	P	16 26 26.0	-1.9
LGTI				*e*	S	16 28 23.0	-1.7
WBK	Wadi Bani Khal	10.95	232	P	P	16 26 33.8	-1.2
	SNR=12						
BIDO	Bidbid	10.98	238	⇓P	P	16 26 35.4	+0.1
SMDO	Samad	11.31	236	⇓P	P	16 26 39.0	-0.9
HOQ	Hoqain	11.55	241	⇓P	P	16 26 41.2	-1.9
	SNR=7.4						
JMDO	Jabal Madar	11.71	234	P	P	16 26 46.0	+0.7
	SNR=18						
ASHO	Ashiyiah	11.97	248	P	P	16 26 48.1	-0.6
	SNR=13						
BSY	Bisya	12.12	238	P	P	16 26 51.1	+0.2
	SNR=28						
ARQ	Araqi	12.29	242	P	P	16 26 54.3	+1.2
	SNR=7.2						
AML	Almayashu	13.12	18	P	P	16 27 02.5	-1.6
	SNR=26						
UCH	Uchtor	13.45	20	P	P	16 27 06.4	-2.0
	SNR=19						
KK31	Karatay Array	13.46	7	P	P	16 27 04.9	-3.7
	2.0nm,0.4s,baz=217,slow=31,SNR=36						
KK31				⇓S	S	16 29 28.5	-10
	2.1nm,0.7s,baz=193,slow=23,SNR=4.2						
KOLN	Koldanda	13.60	95	*e*P	P	16 27 10.4	0.0
	13nm,0.5s						
EKS2	Erkin-Say	13.64	17	P	P	16 27 10.1	-0.8
	SNR=9.3						
AAK	Ala-Archa	13.81	20	P	P	16 27 11.1	-2.0
	SNR=13						
AAK	Ala-Archa	13.81	20	⇓P	P	16 27 11.3	-1.8
	7.4nm,0.7s						
AAK				⇑S	S	16 29 37.4	-8.9
	4.8nm,0.8s						
KBK	Karagaybulak	13.97	21	P	P	16 27 15.2	0.0
	SNR=6.3						
USP	Ospenovka	14.40	19	P	P	16 27 20.0	-0.8
	SNR=5.3						
TKM2	Tokmak 2	14.41	22	P	P	16 27 19.2	-1.9
	SNR=18						
GKN	Gorkha	14.45	93	*e*P	P	16 27 20.4	-1.2
	10nm,0.3s						
DMN	Daman	14.93	94	*e*P	P	16 27 27.1	-0.8
	6.4nm,0.4s						
KKN	Kakani	15.05	93	*e*P	P	16 27 28.5	-0.9
	13nm,0.5s						
PKI	Pulchoki	15.21	94	*e*P	P	16 27 30.5	-1.0
HYB	Hyderabad	15.46	140	*e*P		16 27 47.0	
HYB	Hyderabad	15.46	140	*i*P		16 27 47.0	
GUN	Gumba	15.55	92	*e*P	P	16 27 35.2	-0.7
	30nm,0.3s						
JIRN	Jiri	15.87	93	*e*P	P	16 27 41.1	+1.1
	28nm,0.4s						
LSA	Lhasa	19.87	84	*e*P	P	16 28 32.2	+3.5
	5.5nm,0.6s						
BVA0	Borovoye Array	23.32	3	⇓P	P	16 29 04.5	+1.2
	2.8nm,1.7s,mb3.4,baz=173,slow=12,SNR=35						
BVAR	Borovoye Array	23.32	3	P	P	16 29 03.0	-0.3
	4.0nm,0.5s,mb4.1,baz=180,slow=8.2,SNR=33						
CHKZ	Chkalovo	23.98	3	⇓P	P	16 29 10.4	+0.7
	2.6nm,0.6s,mb3.8						
ZAL	Zalesovo	27.00	22	P	P	16 29 38.0	-0.2
	2.4nm,0.3s,mb4.2,baz=265,slow=5.7,SNR=5.1						
ZAL	Zalesovo	27.00	22	P	P	16 29 38.0	-0.2
CMAR	Chiang Mai Arr	30.08	105	P	P	16 30 09.3	+3.2
	0.5nm,0.6s,mb3.4,baz=300,slow=9.3,SNR=6.4						
GYA	Guiyang	33.93	86	⇑*i*P	P	16 30 43.3	+3.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
SONM	Songino Array	34.35	48	P	P	16 30 45.3	+2.2
	comp=Z,0.5nm,0.3s,mb3.9,baz=247,slow=8.6,SNR=11						
ENH	Enshi	35.56	79	*e*P	P	16 30 57.5	+3.8
	comp=Z,3.8nm,0.6s,mb4.5						
AKASG	Malin Array Be	35.86	317	P	P	16 30 55.0	-1.1
	comp=Z,0.6nm,0.4s,mb3.8,baz=105,slow=6.9,SNR=11						
AKASG	Malin Array Be	35.86	317	P	P	16 30 55.0	-1.1
FINES	FINESS Array B	42.06	331	P	P	16 31 47.0	-0.4
	comp=Z,0.9nm,0.5s,mb3.6,baz=117,slow=8.9,SNR=12						
GERES	GERESS Array B	45.28	311	P	P	16 32 13.6	-0.1
	comp=Z,0.8nm,0.6s,mb3.7,baz=98,slow=6.9,SNR=10						
CLL	Collm	45.95	314	P	P	16 32 20.0	+1.0
ARCES	ARCESS Array B	46.64	341	P	P	16 32 24.2	0.0
	comp=Z,3.3nm,0.7s,mb4.4,baz=127,slow=6.1,SNR=14						
NB2	NORSAR Subarra	48.60	327	P	P	16 32 38.3	-1.2
	comp=Z,1.6nm,0.7s,mb4.2,baz=106,slow=7.9						
NOA	NORSAR Array B	48.60	327	P	P	16 32 38.5	-1.0
	comp=Z,1.7nm,0.6s,mb4.2,baz=107,slow=7.7,SNR=8.5						
ESDC	Sonseca Array	58.76	301	P	P	16 33 53.3	-1.3
	comp=Z,0.6nm,0.4s,mb3.9,baz=66,slow=7.8,SNR=4.8						
WRA	Warramunga Arr	80.53	119	P	P	16 36 10.7	+2.4
	comp=Z,0.6nm,0.5s,mb3.8,baz=320,slow=4.8,SNR=12						
WRAB	Tennant Creek	80.53	119	*e*P	pP	16 36 16.1	-2.6
ILAR	Eielson Array	81.89	14	P	P	16 36 14.8	+0.3
	comp=Z,0.5nm,0.5s,mb3.7,baz=315,slow=4.6,SNR=13						
ASAR	Alice Springs	82.42	123	P	P	16 36 21.1	+3.0
	comp=Z,0.7nm,0.5s,mb3.9,baz=304,slow=5.3,SNR=14						
DAWY	Dawson	84.00	12	*e*P	P	16 36 27.4	+2.2
YKA	Yellowknife Ar	88.07	1	P	P	16 36 47.1	+1.9
	comp=Z,1.1nm,0.4s,mb4.4,baz=349,slow=5.0,SNR=30						

*IDC **13** 16:29:41.8±1.7,0.70S×98.49E,mb4.3/7,mb1 4.4/8, mb1mx4.0/19,mbtmp4.2/8,ML3.9/1,Error ellipse: s-maj=79.2km s-min=15.8km az=59.0*

*NEIC **13** 16:29:46.2±0.8,0.68S×98.55E,h30km,mb4.2/3,Error ellipse: s-maj=26.3km s-min=7.1km az=68.0*

ISC 13 16:29:44.8±1.3,0.6S±0.1×98.6E±0.2,h33km,n16, σ0♀58/15,mb4.3/9,1D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.22	20	*e*P	P	16 31 16.7	0.0
CM31	Chiang Mai Arr	18.96	1	*e*P	P	16 34 06.5	+0.4
	4.6nm,0.9s						
CMAR	Chiang Mai Arr	18.96	1	P	P	16 34 05.8	-0.3
	0.1nm,0.3s,baz=191,slow=11,SNR=11						
FITZ	Fitzroy Crossi	31.77	125	P	P	16 36 07.8	-0.8
	4.6nm,0.6s,mb4.5,baz=90,slow=20						
ENH	Enshi	32.43	18	P	P	16 36 13.5	-0.7
	2.6nm,0.7s,mb4.2						
WRA	Warramunga Arr	39.93	121	P	P	16 37 17.6	-0.2
	2.0nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=22						
WRA				PcP	PcP	16 39 24.5	+1.0
	0.3nm,0.5s,baz=309,slow=2.5,SNR=5.4						
WRAB	Tennant Creek	39.93	121	*e*P	P	16 37 17.9	+0.1
	4.3nm,0.6s,mb4.4						
WB2	Warramunga Arr	39.94	121	⇓*i*P	P	16 37 17.6	-0.3
ASPA	Alice Springs	41.22	126	*e*P	P	16 37 29.3	+0.9
ASAR	Alice Springs	41.22	126	P	P	16 37 29.1	+0.6
	2.3nm,0.6s,mb4.0,baz=302,slow=7.9,SNR=30						
ASAR				PcP	PcP	16 39 28.8	+1.1
	0.5nm,0.5s,baz=318,slow=3.2,SNR=5.2						
SONM	Songino Array	48.73	7	P	P	16 38 29.5	+1.2
	1.0nm,0.4s,mb4.2,baz=188,slow=10,SNR=14						
SONM				PcP	PcP	16 39 53.5	+0.1
	0.9nm,0.6s,baz=196,slow=4.1,SNR=3.6						
STKA	Stephens Creek	51.13	132	P	P	16 38 46.6	-0.3
	2.7nm,0.7s,mb4.3,baz=294,slow=8.1,SNR=5.7						
ZAL	Zalesovo	55.55	350	P	P	16 39 19.5	+0.3
	3.0nm,0.5s,mb4.6,baz=319,slow=6.0,SNR=12						
ZAL	Zalesovo	55.55	350	P	P	16 39 19.5	+0.3
BVAR	Borovoye Array	58.40	340	P	P	16 39 38.7	-0.8
	2.0nm,0.6s,mb4.3,baz=143,slow=9.3,SNR=16						
TXAR	Lajitas Array	144.43	35	PKP	PKPdf	16 49 19.4	+1.0
	0.3nm,0.3s,baz=270,slow=1.8,SNR=3.4						

*CSEM **13** 16:34:30.0±0.3,67.02N×20.76E,h5km,ML1.9,Error ellipse: s-maj=9.8km s-min=7.2km az=33.0,Mining explosion.*

*HEL **13** 16:34:31.6±0.1,67.07N×20.91E,ML1.9,ML2.5(UPP), Explosion*

*UPP **13** 16:34:31.0,67.07N×20.93E,h1km,ML2.5,Mining explosion.*

ISC 13 16:34:30.3±0.5,67.05N±0.03×20.97E±0.08,n26,σ1♀09/39, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.17	297	*i*P	Pg	16 34 34.1	+0.2
DUNU	Dundret	0.17	297	P	Pg	16 34 34.0	+0.2
MASU	Masugnsbyn	0.58	44	*i*P	Pg	16 34 41.7	-0.1
ERTU	Ertsjaerv	0.69	135	*i*P	Pg	16 34 44.4	+0.3
PAJU	Pajala	0.84	90	*i*P	Pg	16 34 46.7	-0.5
KUA	Kurravaara	0.94	345	*e*P	Pg	16 34 47.7	-1.6
SALU	Saltoluokta	1.02	291	*e*P	Pb	16 34 49.4	-1.1
NIKU	Nikkaluokta	1.11	319	*e*P	Pb	16 34 50.8	-1.3
SJUU	Sjulsmark	1.56	170	*e*P	Pn	16 35 00.0	+0.5
KIF	Kilpisjarvi	1.97	358	*e*P	Pn	16 35 06.2	+0.9
KIF				*e*S	Sn	16 35 32.9	+1.8
KIF	Kilpisjarvi	1.97	358	P	Pn	16 35 06.2	+0.9
KIF				S	Sn	16 35 32.8	+1.7
KTK1	Kautokeino	2.15	22	*e*P	Pn	16 35 09.5	+1.5
KTK1	Kautokeino	2.15	22	P	Pn	16 35 09.4	+1.5
SGF	Sodankyl	2.20	77	*e*P	Pn	16 35 09.7	+1.1
SGF				*e*S	Sn	16 35 38.6	+1.7
SGF				MSG		16 35 44.3	
	comp=Z,3.2nm,0.1s						
SGF	Sodankyl	2.20	77	P	Pn	16 35 09.6	+1.0
SGF				S	Sn	16 35 38.6	+1.7
	comp=Z,3.2nm,0.1s						
MOR8	Moi Rana	2.75	254	*e*SG	Sn	16 35 51.5	+0.6
MOR8	Moi Rana	2.75	254	Sg	Sn	16 35 51.4	+0.6
OUL	Oulu	2.81	132	*e*PG	Pg	16 35 21.7	-4.8
OUL				*e*S	Sn	16 35 52.3	-0.2
OUL				*e*SG	Sg	16 35 59.8	-4.2
OUL				MSG		16 36 00.3	
	comp=Z,4.2nm,0.2s						
MELSS	Ber_school_2	2.86	270	*e*	Sg	16 35 59.6	-5.8
MSF	Maaselka	3.43	106	*e*P	Pn	16 35 26.5	+0.3
MSF				*e*S	Sn	16 36 08.2	0.0
MSF				*e*SG	Sg	16 36 18.6	-6.0
MSF				MSG		16 36 21.2	
	comp=Z,2.2nm,0.2s						
MSF	Maaselka	3.43	106	P	Pn	16 35 26.4	+0.2
MSF				S	Sn	16 36 08.1	-0.1
KU4	Liikasenvaara	3.49	97	*e*P	Pn	16 35 28.1	+1.1
KU4				*e*S	Sn	16 36 08.4	-1.2
KEV	Kevo	3.52	37	*e*P	Pn	16 35 26.5	-0.9
KEV				*e*S	Sn	16 36 08.6	-1.9
KEV				MSG		16 36 17.5	
	comp=Z,1.9nm,0.2s						
KEV	Kevo	3.52	37	P	Pn	16 35 26.5	-0.9
KEV				S	Sn	16 36 08.5	-1.9
	comp=Z,1.9nm,0.2s						
KJN	Kajaani	4.08	134	*e*P	Pn	16 35 35.6	+0.2
KJN				*e*S	Sn	16 36 21.7	-3.0
KJN				MSG		16 36 40.9	
	comp=Z,1.7nm,0.2s						
VAF	Ylistaro	4.08	169	*e*P	Pn	16 35 35.9	+0.4
VAF				MSG		16 36 41.5	
	comp=Z,2.9nm,0.2s						

*IDC **13** 16:37:00.9±0.7,55.35S×129.43W,mb4.1/6,mb1 4.3/6, mb1mx4.2/16,mbtmp4.1/6,MS4.6/16,Ms1 4.6/16, ms1mx4.5/21,Error ellipse: s-maj=36.6km s-min=22.4km az=166.0*

*NEIC **13** 16:37:01.9±0.4,54.76S×129.36W,h10km,mb4.6/2,Error ellipse: s-maj=18.1km s-min=16.8km az=119.0*

ISC 13 16:37:02.0±0.8,55.0S±0.2×129.3W±0.2,h10km,n52, σ1♀31/17,mb4.4/9,MS4.6/16,7C,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	31.44	36	LR	LR	16 53 31.6	
	comp=Z,421nm,18.7s,MS4.1,baz=199,slow=31						
PMSA	Palmer Station	32.64	134	*e*P	P	16 43 44.0	+8.4
	54nm,0.3s						
TBI	Tubuai	35.02	326	*e*LR	LR	16 53 03.2	
	3μm,29.5s,baz=162						
QSPA	South Pole Qui	35.15	180	*e*P	P	16 43 57.9	+0.7
	12nm,1.0s,mb4.8						
PPT	Papeete	40.49	329	*e*LQ		16 53 54.8	
PPT				*e*LR	LR	16 55 36.2	
	3μm,26.8s,baz=170						
PPT	Papeete	40.49	329	LR	LR	16 56 17.6	
	comp=Z,2μm,21.0s,MS4.9,baz=136,slow=28						
PLCA	Paso Flores	40.66	95	LR	LR	16 57 51.2	
	comp=Z,772nm,18.4s,MS4.6,baz=228,slow=31						
RAR	Rarotonga	40.79	314	LR	LR	16 58 39.3	
	comp=Z,790nm,18.5s,MS4.6,baz=6.9,slow=32						
VNA3	Neumayer Olymp	47.03	157	⇑*i*	P	16 45 35.6	+0.9
VNA3	Neumayer Olymp	47.03	157	⇑*i*	P	16 45 44.3	+10
VNA2	Neumayer--Watz	47.77	158	⇑*i*	P	16 45 39.7	-0.8
VNA2	Neumayer--Watz	47.77	158	⇑*i*	P	16 45 50.4	+10
SNAA	Sanae	48.14	160	⇑*i*	P	16 45 42.5	-0.8
SNAA	Sanae	48.14	160	⇑*i*	P	16 45 53.8	+10
SNAA	Sanae	48.14	160	P	P	16 45 39.8	-3.5
	1.9nm,1.0s,mb4.1,baz=229,slow=11,SNR=2.4						
SNAA				LR	LR	17 04 53.0	
	comp=Z,537nm,19.7s,MS4.5,baz=201,slow=35						
SNAA	Sanae	48.14	160	⇑*i*P	P	16 45 42.5	-0.8
CFAA	Coronel Fontan	48.38	87	P	P	16 45 44.5	-1.3
	0.8nm,0.9s,mb3.7,baz=240,slow=9.1,SNR=5.9						
AFI	Afiamalu	52.59	304	LR	LR	17 02 29.6	
	comp=Z,337nm,19.6s,MS4.4,baz=199,slow=29						
MAW	Mawson	57.35	186	LR	LR	17 08 52.6	
	comp=Z,535nm,18.9s,MS4.7,baz=165,slow=34						
MAW	Mawson	57.35	186	P	P	16 46 53.0	+1.0
	3.3nm,0.8s,mb4.4						
LPAZ	La Paz	60.35	75	P	P	16 47 13.3	-0.1
	4.2nm,1.1s,mb4.4,baz=194,slow=6.0,SNR=11						
LPAZ				LR	LR	17 08 15.9	
	comp=Z,78nm,19.9s,MS3.9,baz=218,slow=31						
STKA	Stephens Creek	64.08	251	LR	LR	17 09 52.7	
	comp=Z,632nm,20.6s,MS4.8,baz=99,slow=31						
BDFB	Brasilia	72.35	92	LR	LR	17 16 20.9	
	comp=Z,697nm,21.4s,MS4.9,baz=212,slow=33						
ASAR	Alice Springs	74.71	251	P	P	16 48 42.0	-1.4
	3.1nm,0.9s,mb4.2,baz=139,slow=5.4,SNR=10						
ASAR				LR	LR	17 17 45.3	
	comp=Z,314nm,18.1s,MS4.7,baz=137,slow=33						
ROSC	El Rosal	74.89	58	LR	LR	17 15 24.8	
	comp=Z,192nm,18.7s,MS4.4,baz=198,slow=31						
WRA	Warramunga Arr	77.46	253	P	P	16 48 57.1	-2.0
	4.1nm,1.0s,mb4.3,baz=142,slow=5.3,SNR=9.9						
PMG	Port Moresby	78.67	270	LR	LR	17 19 36.2	
	comp=Z,326nm,18.2s,MS4.7,baz=140,slow=32						
FITZ	Fitzroy Crossi	83.68	248	P	P	16 49 33.8	+1.6
	19nm,1.0s,mb5.2,baz=142,slow=8.6,SNR=6.9						
TXAR	Lajitas Array	86.86	22	P	P	16 49 49.6	+1.9
	1.0nm,0.7s,mb4.2,baz=190,slow=7.6,SNR=6.4						
NVAR	Mina Array Bea	93.56	9	LR	LR	17 22 51.7	
	comp=Z,322nm,19.3s,MS4.8,baz=180,slow=29						
BOSA	Boshof	93.88	158	LR	LR	17 30 05.2	
	comp=Z,447nm,19.2s,MS4.9,baz=180,slow=34						
YBH	Yreka Blue Hor	96.55	5	LR	LR	17 25 21.3	
	comp=Z,414nm,18.5s,MS4.9,baz=184,slow=30						
YKA	Yellowknife Ar	117.74	8	PKP	PKPdf	16 55 48.1	-2.3
	0.1nm,0.5s,baz=180,slow=2.5,SNR=3.1						
ILAR	Eielson Array	120.23	351	PKP	PKPdf	16 55 52.1	-3.1
	1.3nm,0.8s,baz=199,slow=1.9,SNR=8.5						
SJPF	Ste Jean	144.76	88	*e*PKIKP	PKPdf	16 56 38.0	-3.2
	23nm,1.2s						
ETSF	Etsaut	145.01	89	*e*PKIKP	PKPdf	16 56 37.5	-4.2
	32nm,1.3s						
ULN	Ulaanbaatar	145.02	282	*e*PKPdf	PKPdf	16 56 38.3	-3.3
SONM	Songino Array	145.38	282	PKPbc	PKPbc	16 56 36.6	-3.0
	0.6nm,0.7s,baz=101,slow=6.3,SNR=3.9						
EPF	Esparros	145.61	89	*e*PKIKP	PKPdf	16 56 39.2	-3.5
	5.2nm,0.7s						
QUIF	Quistinic	146.44	79	*e*PKIKP	PKPdf	16 56 39.2	-4.7
	53nm,1.2s						
MTLF	Montolieu	146.88	90	*e*PKIKP	PKPdf	16 56 42.0	-2.8
CAF	Calviac	147.74	88	*e*PKIKP	PKPdf	16 56 42.6	-3.6
LASF	Ste Croix	148.27	90	*e*PKIKP	PKPdf	16 56 44.1	-2.9
	12nm,1.1s						
SMRF	Simiane la Rot	149.20	92	*e*PKIKP	PKPdf	16 56 45.5	-3.0
VIVF	Saint-Julien-l	149.20	90	*e*PKIKP	PKPdf	16 56 46.2	-2.3
FRF	La Foret Royal	149.56	94	*e*PKIKP	PKPdf	16 56 44.7	-4.4
	140nm,1.8s						
SMF	Signal de Mont	149.74	86	*e*PKIKP	PKPdf	16 56 46.0	-3.3
ORIF	Oris-en-Rattie	149.94	91	*e*PKIKP	PKPdf	16 56 46.9	-2.8
ORIF				*e*R			
	192nm,20.5s						
LPG	La Plagne	150.77	91	*e*PKIKP	PKPdf	16 56 48.0	-2.9
LPL	La Plagne	150.77	90	*e*PKIKP	PKPdf	16 56 47.9	-3.0
GERES	GERESS Array B	156.57	90	PKP	PKPdf	16 56 57.4	-1.4
	0.9nm,0.7s,baz=90,slow=1.3,SNR=7.4						
CLL	Collm	157.28	84	*e*PKP2	PKPab	16 57 30.0	-0.2

*CSEM **13** 16:51:17.0±0.3,40.68N×29.12W,h5km,ML3.2,Error ellipse: s-maj=6.8km s-min=3.7km az=94.0,After PDA*

*PDA **13** 16:51:17.0±0.9,40.68N×29.12W,h5km,MD3.0,ML3.2, Error ellipse: s-maj=9.9km s-min=5.0km az=95.0*

SVSA 13 16:51:17.0±0.9,40.68N×29.12W,h5km,MD3.0,ML3.2, Error ellipse: s-maj=9.9km s-min=5.0km az=95.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	Santa Cruz	1.82	151	*e*P	Pn	16 51 43.7	-5.5
PCED	Cedros	2.08	171	*e*S	Sn	16 52 10.4	-9.1
	119nm,0.3s						
CALA	Caldeira	2.12	171	*e*S	Sn	16 52 11.7	-9.0
HOR	Horta	2.19	170	*e*S	Sn	16 52 13.6	-8.7
PMAN	Manadas	2.20	158	*e*S	Sn	16 52 14.1	-8.5
	80nm,0.2s						
PICO	Pico	2.25	166	*e*S	Sn	16 52 15.4	-8.4
PBIS	Biscoitos	2.40	142	*e*P	Pn	16 51 52.3	-5.3
PBIS				*e*S	Sn	16 52 18.4	-9.3
	21nm,0.2s						
ASBA	Santa Barbara	2.40	144	*e*P	Pn	16 51 52.3	-5.3
ASBA				*e*S	Sn	16 52 18.6	-9.1
	24nm,0.1s						
PPAD	Pico dos Padre	2.44	144	*e*P	Pn	16 51 52.7	-5.4
PPAD				*e*S	Sn	16 52 19.4	-9.2
	12nm,0.1s						
PVNV	Vila Nova	2.45	141	*e*P	Pn	16 51 53.0	-5.2
PVNV				*e*S	Sn	16 52 19.9	-9.0
	17nm,0.2s						
RIB2	Ribeirinha	2.51	143	*e*P	Pn	16 51 53.9	-5.2
PFAV	Pico das Favas	2.52	141	*e*P	Pn	16 51 54.0	-5.3

CASC 13 17:04:34.3±2.1,13.87N×91.41W,h7km±16km,MD3.8, 5C-2D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.50	333	⇑*e*P	Pg	17 04 44.8	+0.4
JAT				*e*S	Sg	17 04 51.9	+0.9
IXG	Ixpaco	0.97	72	⇑*e*P	Pb	17 04 52.8	-0.2
IXG				*e*S	Sb	17 05 07.8	+1.9
TP2	Tecpan 2	0.98	22	⇑*e*P	Pb	17 04 52.3	-0.9
TP2				*e*S	Sb	17 05 07.9	+1.7
RBDL	Robledal	1.69	82	⇓*e*P	Pn	17 05 04.0	-0.4
RBDL				*e*S	Sn	17 05 27.7	+1.3
RTR	El Retiro	1.71	89	*e*P	Pn	17 05 03.3	-1.4
RTR				*e*S	Sn	17 05 28.4	+1.4
SBLS	San Blas	1.73	91	⇓*e*P	Pn	17 05 04.2	-0.9
SBLS				*e*S	Sn	17 05 27.6	0.0
SNJE	San Jose	1.75	90	⇑*e*P	Pn	17 05 04.6	-0.7
SNJE				*e*S	Sn	17 05 27.3	-0.8
BOQS	Boqueron	2.07	93	*e*P	Pn	17 05 10.8	+0.9
BOQS				*e*S	Sn	17 05 36.3	+0.1
LFRS	El Faro	2.29	96	⇑*e*P	Pn	17 05 12.2	-0.9
LFRS				*e*S	Sn	17 05 41.6	-0.2
LCBS	La Ceiba	2.37	95	*e*P	Pn	17 05 13.2	-0.9
LCBS				*e*S	Sn	17 05 45.0	+1.2
SNVI	San Vicente	2.51	96	*e*P	Pn	17 05 16.5	+0.4
SNVI				*e*S	Sn	17 05 47.8	+0.5

*NEIC **13** 17:20:24.9,37.88S×176.72E,h6km,ML4.0(WEL),After WEL.*

NEIC Felt at Manawahe and Te Puke.

WEL 13 17:20:25.0±0.1,37.87S×176.73E,h6km,ML3.9/11,7C-3D, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	Manawahe	0.13	199	P	Pg	17 20 27.5	-0.2
MARZ	Manawahe	0.13	199	PG	Pg	17 20 27.6	-0.2
EDRZ	Edgecumbe	0.24	178	⇓PG	Pg	17 20 29.7	-0.2
LIRZ	Lichensteins R	0.30	243	⇑PG	Pg	17 20 31.1	-0.1
MKRZ	Makatiti	0.34	217	P	Pg	17 20 32.1	+0.2
MKRZ	Makatiti	0.34	217	⇓PG	Pg	17 20 32.0	+0.2
MKRZ				SG	Sg

ATH.
*CSEM **13** 17:20:34.4±0.1,39.30N×21.96E,h10km,ML3.1,Error ellipse: s-maj=3.0km s-min=2.9km az=106.0*
ISC 13 17:20:33.9±0.5,39.34N±0.02×21.99E±0.04,h10km,n16,σ1⁘08/24,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.42**	**140**	*e*Pg	**Pg**	**17 20 42.5**	**+0.1**
AGG				*e*Sg	**Sg**	**17 20 50.0**	**+1.9**
EVR	**Evrytania**	**0.45**	**198**	*e*PG	**Pg**	**17 20 42.2**	**-0.8**
EVR				*e*SG	**Sg**	**17 20 49.7**	**+0.7**
LIT	**Litokhoron**	**0.85**	**27**	*e*Pg	**Pg**	**17 20 50.3**	**-0.7**
LIT				*e*Sg	**Sg**	**17 21 04.1**	**+1.6**
JAN	**Janina**	**0.93**	**290**	*e*PG	**Pg**	**17 20 52.0**	**-0.6**
NEO	**Neokhori**	**0.96**	**92**	*e*PG	**Pg**	**17 20 52.7**	**-0.5**
NEO				*e*SG	**Sg**	**17 21 07.2**	**+1.2**
KZN	**Kozani**	**0.98**	**350**	*e*PG	**Pg**	**17 20 53.0**	**-0.5**
KZN				*e*SG	**Sg**	**17 21 08.3**	**+1.6**
LKD	**Levkas**	**1.22**	**239**	*e*Pb	**Pb**	**17 20 56.0**	**-0.6**
IGT	**Igoumenitsa**	**1.29**	**279**	*e*Pb	**Pb**	**17 20 58.0**	**+0.1**
PAIG	**Paliouri**	**1.43**	**65**	*e*Pb	**Pb**	**17 20 59.0**	**-1.3**
FNA	**Florina**	**1.52**	**342**	*e*Pb	**Pb**	**17 21 01.2**	**-0.5**
FNA				*e*Sb	**Sb**	**17 21 21.7**	**+0.8**
GRG	**Griva**	**1.65**	**11**	*e*Pb	**Pb**	**17 21 03.2**	**-0.7**
GRG				*e*Sb	**Sb**	**17 21 25.2**	**+0.6**
GRG	**Griva**	**1.65**	**11**	*e*Pb	**Pb**	**17 21 03.2**	**-0.7**
GRG				*e*Sb	**Sb**	**17 21 25.2**	**+0.6**
KEK	**Kerkira**	**1.73**	**283**	*e*PB	**Pb**	**17 21 08.0**	**+2.6**
SOH	**Sokhos**	**1.81**	**35**	*e*Pb	**Pb**	**17 21 05.5**	**-1.3**
OUR	**Ouranopolis**	**1.83**	**57**	*e*Pb	**Pb**	**17 21 05.3**	**-1.8**
SRS	**Serrai**	**2.16**	**34**	*e*Pn	**Pn**	**17 21 09.9**	**-0.6**

GUC 13 17:27:45.9±0.7,28.90S×71.49W,h36km±6km,ML3.6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.70**	**99**	*e*P	P	17 27 59.8	+0.5
LCO				*i* S	S	17 28 10.2	+1.2
LCO				AMP		17 28 11.3	
	comp=E,2μm,0.3s						
VACH	**Vallenar**	**0.72**	**64**	*e*P	P	17 27 59.5	-0.1
VACH				*i* S	S	17 28 10.4	+0.9
VACH				AMP		17 28 10.9	
	comp=N,13μm,0.1s						
LSCH	**La Serena**	**1.03**	**168**	*e*P		17 29 57.5	
LSCH				*i* S		17 30 11.8	
TLL	**Tololo Astrono**	**1.40**	**155**	*e*P	P	17 28 10.7	+1.4
TLL				*i* S	S	17 28 29.7	+3.0
TLL				AMP		17 28 34.4	
	comp=E,498nm,0.4s						
CPCH	**Copiapo**	**1.83**	**33**	*e*P	P	17 28 16.2	+0.7
CPCH				*i* S	S	17 28 39.4	+1.7
CPCH				AMP		17 28 43.7	
	comp=E,2μm,0.1s						

*DJA **13** 17:29:14.9±4.8,6.50S×97.07E,h48km±18km,mb5.0/6, Error ellipse: s-maj=122.3km s-min=13.8km az=57.0*
*BJI **13** 17:29:32.5,1.60S×99.94E,h26km,mB5.0,mb4.9,Ms5.1, Msz4.9*
*MOS **13** 17:29:33.7±0.7,1.53S×99.94E,h33km,mb5.5/29, MS4.6/7,Error ellipse: s-maj=15.6km s-min=6.7km az=117.4*
*IDC **13** 17:29:34.7±0.5,1.69S×99.87E,h34km±4km,mb4.5/23, mb1 4.5/23,mb1mx4.5/23,mbtmp4.7/23,MS4.4/16, Ms1 4.4/16,ms1mx4.2/37,Error ellipse: s-maj=14.4km s-min=8.6km az=47.0*
*NEIC **13** 17:29:34.6±0.2,1.71S×99.88E,mb5.3/54,Error ellipse: s-maj=5.4km s-min=4.0km az=222.0*
NEIC Felt [II] at Padang and [I] at Padangpanjang, Sumatra.
*HRVD **13** 17:29:34.6±0.4,1.82S×99.63E,h21km±1km,MW5.0/51, Centroid moment Tensor Solution. LP body waves: s32,c44;Mantle waves: s51,c87; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.49±.23; $M_{\theta\theta}$-1.99±.14; $M_{\phi\phi}$-1.50±.16; $M_{r\theta}$2.71±.27; $M_{r\phi}$2.07±.09; $M_{\theta r}$1.25±.28; Best double couple: $M_0$4.631×10^{16} NP1:φs335°,δ41°, λ134°. NP2:φs102°,δ62°,λ59°. Principal axes: T 5.19, Plg60°, Azm325°; N -1.117, Plg27°, Azm118°; P -4.073, Plg11°, Azm214°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **13** 17:29:34.0,1.62S×100.02E,h33km,mb5.6*
ISC 13 17:29:32.8±0.2,1.73S±0.03×99.91E±0.03,h31km, h31km±.6km:pP-P,n284,σ0⁘95/269,mb5.1/96,MS4.5/53, 35C-13D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.36**	**21**	*e*Pn	**Pn**	**17 29 55.0**	**-0.9**
KGM	**Kluang**	**5.05**	**42**	P	**Pn**	**17 30 51.5**	**+3.2**
IPM	**Ipoh**	**6.37**	**10**	P	**Pn**	**17 31 08.0**	**+1.0**
PENI	**Pendagan**	**6.49**	**126⇓**	*e*P	**Pn**	**17 31 12.9**	**+4.2**
	1μm,0.6s						
KULM	**Kulim**	**7.01**	**6**	*e*P	**Pn**	**17 31 16.4**	**+0.3**
PASI	**Pasiripis**	**7.50**	**131**	*e*P	**Pn**	**17 31 18.0**	**-4.9**
PULI	**Pulasari**	**7.59**	**127⇑**	*e*P	**Pn**	**17 31 23.1**	**-1.0**
	419nm,0.5s						
SRDI	**Scrawed**	**15.67**	**116⇓**	*e*P	**P**	**17 33 11.1**	**-2.2**
	124nm,0.2s						
KELI	**Kelakatan**	**15.88**	**114⇑**	*e*P	**P**	**17 33 16.2**	**+0.2**
	29nm,0.3s						
RATI	**Rata**	**17.03**	**115⇓**	*e*P	**P**	**17 33 28.0**	**-2.4**
	326nm,0.2s						
KEDI	**Kedomdong**	**17.47**	**113⇑**	*e*P	**P**	**17 33 34.9**	**-1.1**
	34nm,0.2s						
KKM	**Kota Kinabalu**	**18.02**	**64**	*e*P	**P**	**17 33 45.4**	**+2.5**
KKM	**Kota Kinabalu**	**18.02**	**64**	P	**P**	**17 33 45.9**	**+3.0**
TANI	**Tanete Lipujan**	**19.52**	**95**	*e*P	**P**	**17 34 11.4**	**+11**
NINI	**Niniconang**	**19.99**	**98**	*e*P	**P**	**17 34 12.9**	**+7.0**
CM31	**Chiang Mai Arr**	**20.08**	**357**	*e*P	**P**	**17 34 03.9**	**-2.8**
	26nm,0.5s						
CMAR	**Chiang Mai Arr**	**20.08**	**357**	P	**P**	**17 34 02.2**	**-4.6**
	22nm,0.5s,baz=187,slow=10,SNR=92						
CMAR				S	**S**	**17 37 55.4**	**+10**
	1.1nm,1.1s,baz=176,slow=14,SNR=2.6						
CMAR				LR	LR	17 42 01.0	
	comp=Z,1μm,18.5s,MS4.3,baz=185,slow=37						
PALK	**Pallekele**	**21.15**	**295**	*e*P	**P**	**17 34 18.0**	**+0.2**
	130nm,1.3s,mb5.1						
PALK				LR	LR		
	comp=Z,223nm,19.0s,MS3.6						
QIZ	**Qiongzhong**	**22.82**	**25**	P	**P**	**17 34 35.3**	**+0.8**
QIZ				S	**S**	**17 38 38.4**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,48nm,0.9s,mb4.9						
QIZ				AMB	AMB		
	comp=Z,156nm,3.7s						
QIZ				LR	LR		
	comp=N,1μm,12.0s,MS4.8						
QIZ				LR	LR		
	comp=E,1μm,12.3s,MS4.8						
QIZ				LR	LR		
	comp=Z,3μm,12.3s,MS4.9						
QIZ	**Qiongzhong**	**22.82**	**25**	*e*P	**P**	**17 34 35.0**	**+0.5**
	comp=Z,34nm,0.8s,mb4.8						
QIZ				LR	LR		
	comp=Z,978nm,19.0s,MS4.3						
MDRS	**Chennai**	**24.43**	**308**	*e*P	**P**	**17 34 52.0**	**+1.8**
MDRS				*e*		17 39 21.0	
MDRS				*e*		17 41 22.0	
TRD	**Trivandrum**	**25.04**	**294⇓**	*e*P	**P**	**17 34 58.2**	**+2.2**
TRD				*e*		17 39 26.2	
VIS	**Vishakhapatnam**	**25.31**	**320**	*e*P	**P**	**17 34 58.9**	**+0.4**
VIS				*e*		17 35 13.0	
	comp=Z,94nm,0.7s						
AGT	**Agartala**	**26.82**	**342⇑**	*i*P	**P**	**17 35 13.0**	**+0.6**
AGT				*i*		17 35 34.0	
KMI	**Kunming**	**26.84**	**6**	P	**P**	**17 35 12.5**	**-0.1**
KMI				AP	pP	17 35 20.8	-1.0
KMI				XP	sP	17 35 26.4	+0.5
KMI				S	**S**	**17 39 49.3**	**+4.3**
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.5						
KMI				AMB	AMB		
	comp=Z,114nm,5.8s						
KMI				LR	LR		
	comp=N,2μm,12.9s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,14.7s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,15.0s,MS4.8						
KMI	**Kunming**	**26.84**	**6**	P	**P**	**17 35 12.5**	**-0.1**
	comp=Z,11nm,0.7s,mb4.5						
KMI				pP	pP	17 35 20.8	-1.0
KMI				sP	sP	17 35 26.4	+0.5
KMI				S	**S**	**17 39 49.3**	**+4.3**
KMI				sS		17 40 04.8	
KMI				SS	SS	17 41 05.4	+7.0
KMI				LR	LR		
	comp=Z,2μm,15.0s,MS4.8						
MBWA	**Marble Bar**	**27.32**	**136**	*e*P	**P**	**17 35 19.1**	**+2.1**
	comp=Z,14nm,0.8s,mb4.6						
MBWA				LR	LR		
	comp=Z,717nm,20.0s,MS4.2						
DGAR	**Diego Garcia**	**27.93**	**257**	PFAKE		17 35 30.0	+7.3
DGAR				LR	LR		
	comp=Z,112nm,19.0s,MS3.5						
SHL	**Shillong**	**28.23**	**345**	*e*P	**P**	**17 35 25.0**	**-0.2**
SHL				*e*S	**S**	**17 40 09.0**	**+1.6**
HYB	**Hyderabad**	**28.38**	**313**	*e*P	**P**	**17 35 26.5**	**-0.1**
HYB	**Hyderabad**	**28.38**	**313**	*i* P	**P**	**17 35 26.5**	**-0.1**
HYB				*e*	pP	17 35 36.5	+0.7
GYA	**Guiyang**	**28.77**	**13⇑**	*i*P	**P**	**17 35 29.0**	**-1.1**
GYA				AP	pP	17 35 36.9	-2.4
GYA				XP	sP	17 35 39.8	-3.6
GYA				PP	PP	17 36 19.3	-4.0
GYA				S	**S**	**17 40 15.4**	**-0.8**
GYA				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
GYA				AMB	AMB		
	comp=Z,200nm,3.6s						
GYA				LR	LR		
	comp=N,2μm,13.8s,MS5.0						
GYA				LR	LR		
	comp=E,1μm,12.6s,MS5.0						
GYA				LR	LR		
	comp=Z,4μm,11.4s,MS5.3						
BLSP	**Bilaspur**	**29.39**	**325**	*e*P	**P**	**17 35 34.7**	**-1.0**
BLSP				*e*		17 35 39.9	
	comp=Z,43nm,1.1s						
FITZ	**Fitzroy Crossi**	**30.04**	**124⇓**	*i*P	**P**	**17 35 40.9**	**-0.6**
	comp=Z,28nm,0.8s,mb5.0						
FITZ				*e*	pP	17 35 48.4	-2.3
FITZ	**Fitzroy Crossi**	**30.04**	**124**	P	**P**	**17 35 40.9**	**-0.5**
	comp=Z,70nm,0.9s,mb5.4,baz=231,slow=3.8,SNR=18						
FITZ				LR	LR	17 46 59.1	
	comp=Z,484nm,20.3s,MS4.1,baz=310,slow=35						
KAD	**Karad**	**31.64**	**308**	*e*P	**P**	**17 35 55.5**	**-0.1**
KAD				*e*		17 35 57.1	
	comp=Z,58nm,0.9s						
JIRN	**Jiri**	**32.07**	**337**	*e*P	**P**	**17 35 59.8**	**+0.5**
	comp=Z,204nm,0.9s,mb6.0						
PKI	**Pulchoki**	**32.30**	**335**	*e*P	**P**	**17 36 01.0**	**-0.3**
LSA	**Lhasa**	**32.36**	**346**	P	**P**	**17 36 01.8**	**0.0**
LSA				AP	pP	17 36 09.4	-1.7
LSA				XP	sP	17 36 14.5	-0.6
LSA				PCP	PcP	17 38 51.4	+2.2
LSA				S	**S**	**17 41 07.8**	**-4.8**
LSA				XS		17 41 25.8	
LSA				SCP		17 42 32.5	
LSA				PCS		17 42 35.1	
LSA				SCS	ScS	17 46 31.8	+4.8
LSA				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.5						
LSA				LR	LR		
	comp=N,280nm,25.7s,MS4.2						
LSA				LR	LR		
	comp=E,480nm,21.1s,MS4.2						
LSA				LR	LR		
	comp=Z,630nm,23.4s,MS4.2						
LSA	**Lhasa**	**32.36**	**346**	*e*P	**P**	**17 36 02.4**	**+0.6**
	comp=Z,36nm,0.5s,mb5.5						
LSA				LR	LR		
	comp=Z,611nm,20.0s,MS4.3						
GUN	**Gumba**	**32.41**	**336**	*e*P	**P**	**17 36 02.5**	**+0.2**
	comp=Z,302nm,1.0s,mb6.1						
DMN	**Daman**	**32.47**	**335**	*e*P	**P**	**17 36 02.7**	**0.0**
	comp=Z,82nm,1.0s,mb5.5						
KKN	**Kakani**	**32.55**	**335**	*e*P	**P**	**17 36 03.4**	**-0.1**
	comp=Z,108nm,0.8s,mb5.8						
POO	**Poona**	**32.60**	**309**	*e*P	**P**	**17 36 03.3**	**-0.7**
POO				*e*		17 36 05.9	
	comp=Z,48nm,1.0s						
CD2	**Chengdu**	**32.67**	**6⇑**	*i*P	**P**	**17 36 00.8**	**-3.6**
CD2				PP	PP	17 37 09.8	-4.1
CD2				S	**S**	**17 41 12.0**	**-5.4**
CD2				SS	SS	17 43 09.5	-6.1
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CD2				LR	LR		
	comp=N,1μm,14.4s						
CD2				LR	LR		
	comp=Z,2μm,13.2s,MS4.9						
GKN	**Gorkha**	**33.01**	**335**	*e*P	**P**	**17 36 07.1**	**-0.4**
	comp=Z,209nm,1.3s,mb5.9						
BHPL	**Bhopal**	**33.10**	**320**	*e*P	**P**	**17 36 07.2**	**-1.1**
BHPL				*e*		17 36 09.4	
	comp=Z,24nm,1.0s						
ENH	**Enshi**	**33.11**	**15**	*e*P	**P**	**17 36 06.4**	**-1.9**
	comp=Z,38nm,0.5s,mb5.6						
ENH				LR	LR		
	comp=Z,972nm,21.0s,MS4.5						
KOLN	**Koldanda**	**33.26**	**333**	*e*P	**P**	**17 36 09.6**	**-0.1**
	comp=Z,148nm,1.1s,mb5.8						
YHNB	**Yeheng**	**33.50**	**37**	*e*P	**P**	**17 36 12.6**	**+0.8**
MUN	**Mundaring**	**33.78**	**155**	*e*P	pP	17 36 24.0	+0.5
	comp=Z,124nm,1.0s						
KAKA	**Kakadu**	**34.01**	**110**	*e*P	**P**	**17 36 15.1**	**-1.2**
	comp=Z,12nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**35.04**	**154**	P	**P**	**17 36 25.9**	**+0.9**
	comp=Z,13nm,1.0s,mb4.8,baz=330,slow=8.1,SNR=3.5						
NWAO				pP	pP	17 36 34.4	+0.1
	comp=Z,20nm,0.9s,baz=337,slow=9.6,SNR=4.6						
NWAO				LR	LR	17 49 26.0	
	comp=Z,729nm,21.1s,MS4.4,baz=338,slow=34						
NWAO	**Narrogin (SRO)**	**35.04**	**154**	*e*P	**P**	**17 36 28.8**	**+3.8**
	comp=Z,30nm,1.2s,mb5.1						
NWAO				LR	LR		
	comp=Z,753nm,19.0s,MS4.5						
LGTI	**Lohaghat**	**36.27**	**330**	*e*P	**P**	**17 36 35.5**	**+0.1**
XAN	**Xi'an**	**36.58**	**13**	P	**P**	**17 36 36.4**	**-1.5**
XAN				AP	pP	17 36 47.4	+0.1
XAN				AMB	AMB		
	comp=Z,41nm,0.6s,mb5.4						
NDI	**New Delhi**	**37.26**	**326**	*e*P	**P**	**17 36 41.0**	**-2.7**
LZH	**Lanzhou**	**37.80**	**5**	*e*P	**P**	**17 36 48.3**	**+0.1**
LZH				AP	pP	17 36 55.5	-2.1
LZH				XP	sP	17 36 59.0	-2.5
LZH				PP	PP	17 38 18.5	+0.7
LZH				*e*S	**S**	**17 42 38.0**	**+1.4**
LZH				XS		17 42 52.0	
LZH				SS	SS	17 45 15.0	+2.3
LZH				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,102nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,12.3s						
LZH				LR	LR		
	comp=Z,3μm,13.1s,MS5.3						
LZH	**Lanzhou**	**37.80**	**5**	*e*P	**P**	**17 36 48.2**	**0.0**
	comp=Z,22nm,1.0s,mb4.8						
LZH				pP	pP	17 36 55.5	-2.1
LZH				sP	sP	17 36 59.0	-2.5
LZH				PP	PP	17 38 18.5	+0.7
LZH				*e*S	**S**	**17 42 38.0**	**+1.4**
LZH				sS		17 42 52.0	
LZH				SS	SS	17 45 15.0	+2.3
LZH				LR	LR		
	comp=Z,3μm,13.1s,MS5.3						
NJ2	**Nanjing**	**38.10**	**27**	*e*P	**P**	**17 36 53.8**	**+3.1**
NJ2				AP	pP	17 37 03.0	+2.9
NJ2				XP	sP	17 37 06.3	+2.2
NJ2				PP	PP	17 38 24.8	+3.5
NJ2				S	**S**	**17 42 42.0**	**+0.9**
NJ2				XS		17 42 58.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,820nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,16.0s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,13.4s,MS5.1						
NJ2				LR	LR		
	comp=Z,1μm,16.9s,MS4.7						
WRA	**Warramunga Arr**	**38.20**	**121**	P	**P**	**17 36 51.9**	**+0.2**
	comp=Z,8.5nm,0.4s,mb4.8,baz=302,slow=9.1,SNR=45						
WRA				pP	pP	17 37 01.9	+0.8
	comp=Z,29nm,0.5s,baz=303,slow=9.1,SNR=28						
WRAB	**Tennant Creek**	**38.21**	**121⇓**	*e*P	**P**	**17 36 52.0**	**+0.2**
WRAB	**Tennant Creek**	**38.21**	**121**	*e*P	**P**	**17 36 51.5**	**-0.3**
	comp=Z,71nm,0.7s,mb5.5						
WRAB				LR	LR		
	comp=Z,141nm,19.0s,MS3.8						
WB2	**Warramunga Arr**	**38.22**	**121**	*e*P	**P**	**17 36 52.2**	**+0.4**
WB2				*e*pP	pP	17 37 01.0	-0.2
WB2				*e*S	**S**	**17 42 38.1**	**-4.9**
SSE	**Sheshan**	**38.41**	**30**	P	**P**	**17 36 53.6**	**+0.2**
SSE				XP	sP	17 37 06.3	-0.4
SSE				PP	PP	17 38 21.6	-3.3
SSE				PCP	PcP	17 39 06.3	-0.5
SSE				S	**S**	**17 42 47.1**	**+1.3**
SSE				XS		17 43 03.0	
SSE				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,42nm,6.4s						
SSE				LR	LR		
	comp=N,672nm,13.4s,MS4.9						
SSE				LR	LR		
	comp=E,1μm,13.4s,MS4.9						
SSE				LR	LR		
	comp=Z,2μm,13.5s,MS5.0						
SSE	**Sheshan**	**38.41**	**30**	P	**P**	**17 36 53.6**	**+0.2**
	comp=Z,36nm,0.8s,mb5.2						
SSE				sP	sP	17 37 06.3	-0.4
SSE				PP	PP	17 38 21.6	-3.3
SSE				PcP	PcP	17 39 06.3	-0.5
SSE				S	**S**	**17 42 47.1**	**+1.3**
SSE				sS		17 43 03.0	
SSE				SS	SS	17 45 36.6	+10
SSE				LR	LR		
	comp=Z,2μm,13.5s,MS5.0						
SMLA	**Simla**	**39.19**	**328⇑**	*i*	**P**	**17 36 56.3**	**-3.5**
FORT	**Forrest**	**39.30**	**140**	*e*P	**P**	**17 37 07.1**	**+6.3**
	comp=Z,688nm,0.6s						
JOW	**Kunigami**	**39.42**	**42**	P	**P**	**17 37 01.8**	**-0.1**
	comp=Z,12nm,0.6s,mb4.8,baz=255,slow=6.1,SNR=4.2						
ASPA	**Alice Springs**	**39.48**	**126**	*e*P	**P**	**17 37 02.9**	**+0.6**
ASPA				*e*pP	pP	17 37 10.3	-1.5
ASPA				*e*S	**S**	**17 42 55.1**	**-6.9**
ASAR	**Alice Springs**	**39.48**	**126**	P	**P**	**17 37 02.6**	**+0.2**
	comp=Z,6.7nm,0.6s,mb4.5,baz=299,slow=7.4,SNR=104						
ASAR				PcP	PcP	17 39 11.1	+0.8
	comp=Z,2.6nm,0.6s,baz=287,slow=2.4,SNR=3.9						
ASAR				pPcP		17 39 20.7	
	comp=Z,9.0nm,0.8s,baz=309,slow=3.0,SNR=6.2						
ASAR				S	**S**	**17 43 01.6**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=300,slow=15,SNR=6.5						
ASAR				LR	LR	17 56 14.3	
	comp=Z,254nm,19.3s,MS4.1,baz=299,slow=40						
SDNR	**Sundarnagar**	**39.59**	**328**	*e*P	**P**	**17 37 03.2**	**+0.1**
GTA	**Gaotai**	**40.94**	**360**	*e*P	**P**	**17 37 14.1**	**-0.1**
GTA				AP	pP	17 37 21.8	-1.8
GTA				XP	sP	17 37 24.9	-2.6
GTA				PP	PP	17 38 52.8	+1.2
GTA				PCP	PcP	17 39 15.1	+0.3
GTA				SCP		17 43 03.9	
GTA				S	**S**	**17 43 24.6**	**+0.9**
GTA				XS		17 43 40.1	
GTA				SS	SS	17 46 22.9	+1.3
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,129nm,5.7s						
GTA				LR	LR		
	comp=N,854nm,13.7s,MS4.9						
GTA				LR	LR		
	comp=E,846nm,14.5s,MS4.9						
GTA				LR	LR		
	comp=Z,987nm,13.3s,MS4.8						
THN	**Thein Dam**	**40.98**	**328**	*e*P	**P**	**17 37 13.7**	**-0.8**
HHC	**Hu-ho-hao-te**	**43.69**	**13**	⇑P	**P**	**17 37 37.3**	**+0.6**
HHC				AP	pP	17 37 46.8	+0.7
HHC				XP	sP	17 37 50.8	+0.8
HHC				PP	PP	17 39 15.4	-4.7
HHC				PCP	PcP	17 39 24.8	+0.8
HHC				SCP		17 43 11.5	
HHC				PCS		17 43 20.1	
HHC				S	**S**	**17 44 04.9**	**+0.8**
HHC				XS		17 44 20.8	
HHC				SS	SS	17 47 14.5	+2.2
HHC				SCS	ScS	17 47 32.8	+1.6
HHC				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,73nm,3.7s						
HHC				LR	LR		
	comp=N,2μm,15.1s,MS5.2						
HHC				LR	LR		
	comp=E,953nm,14.1s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,14.5s,MS5.1						
BJT	**Baijiatuau**	**44.13**	**18**	*e*P	**P**	**17 37 39.9**	**-0.4**
	comp=Z,44nm,1.1s,mb5.1						
BJT				LR	LR		
	comp=Z,495nm,19.0s,MS4.5						
BJI	**Beijing**	**44.16**	**18**	P	**P**	**17 37 40.5**	**0.0**
BJI				AP	pP	17 37 49.4	-0.5
BJI				XP	sP	17 37 53.4	-0.5
BJI				PCP	PcP	17 39 20.3	-5.3
BJI				PP	PP	17 39 27.0	+2.2
BJI				S	**S**	**17 44 16.8**	**+5.9**
BJI				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.8						
BJI				LR	LR		
	comp=N,734nm,18.0s,MS4.9						
BJI				LR	LR		
	comp=E,944nm,15.4s,MS4.9						
BJI				LR	LR		
	comp=Z,438nm,16.0s,MS4.5						
BJI	**Beijing**	**44.16**	**18**	P	**P**	**17 37 40.5**	**0.0**
	comp=Z,22nm,1.0s,mb4.8						
BJI				pP	pP	17 37 49.4	-0.5
BJI				sP	sP	17 37 53.4	-0.5
BJI				PcP	PcP	17 39 20.3	-5.3
BJI				PP	PP	17 39 27.0	+2.2
BJI				S	**S**	**17 44 16.7**	**+5.8**
BJI				SS	SS	17 47 47.5	+27
BJI				LR	LR		
	comp=Z,440nm,16.0s,MS4.5						
INCN	**Inchon**	**46.21**	**30**	PFAKE		17 38 10.0	+13
INCN				LR	LR		
	comp=Z,302nm,19.0s,MS4.3						
KSH	**Kashi**	**46.55**	**334**	*e*P	**P**	**17 38 00.0**	**+0.4**
KSH				*e*AP	pP	17 38 09.8	+0.7
KSH				*e*XP	sP	17 38 13.6	+0.7
KSH				*e*PCP	PcP	17 39 35.0	+1.1
KSH				*e*PP	PP	17 39 48.6	-0.2
KSH				*e*SCP		17 43 24.1	
KSH				*e*PCS		17 43 28.3	
KSH				*e*S	**S**	**17 44 45.0**	**-0.3**
KSH				*e*XS		17 45 01.0	
KSH				*e*SCS	ScS	17 47 49.6	+0.2
KSH				*e*SS	SS	17 48 02.6	-1.2
KSH				AMB	AMB		
	comp=Z,260nm,3.3s						
KSH				LR	LR		
	comp=N,720nm,5.5s						
KSH				LR	LR		
	comp=E,700nm,5.4s						
WMQ	**Urumqi**	**46.65**	**348**	P	**P**	**17 38 01.3**	**+1.0**
WMQ				AP	pP	17 38 11.3	+1.5
WMQ				XP	sP	17 38 15.3	+1.7
WMQ				PCP

comp=Z,199nm,19.7s,MS4.1
WBK Wadi Bani Khal 46.67 304 P **P 17 38 01.1 +0.4**
SNR=6.7
KS15 Wonju Array Si 46.81 31 *e*P **P 17 38 01.2 -0.4**
PMG Port Moresby 47.59 101 PFAKE 17 38 20.0 +12
PMG LR LR
comp=Z,404nm,21.0s,MS4.4
BSY Bisya 48.20 303 P **P 17 38 13.0 +0.2**
SNR=8.4
CTA Charters Tower 48.79 115 *e*P **P 17 38 17.0 -0.3**
comp=Z,12nm,1.5s,mb4.7
CTA *e*pP pP 17 38 26.2 -0.7
CTA Charters Tower 48.79 115 LR LR 18 03 00.2
comp=Z,363nm,18.9s,MS4.4,baz=290,slow=41
CTAO Charters Tower 48.79 115 *e*P **P 17 38 19.6 +2.2**
comp=Z,71nm,1.3s,mb5.5
CTAO LR LR
comp=Z,535nm,21.0s,MS4.5
RBK Rabkut 48.92 295 P **P 17 38 18.3 0.0**
SNR=7.6
KZA Kyzart 48.99 336 P **P 17 38 19.2 +0.7**
SNR=18
STKA Stephens Creek 49.39 132 *e*P **P 17 38 22.6 +0.8**
comp=Z,9.1nm,0.8s,mb4.9
STKA *e*pP pP 17 38 32.1 +0.7
STKA Stephens Creek 49.39 132 P **P 17 38 22.1 +0.3**
comp=Z,7.2nm,0.7s,mb4.8,baz=312,slow=6.5,SNR=16
STKA pP pP 17 38 32.4 +1.0
comp=Z,50nm,0.7s,baz=294,slow=7.5,SNR=23
STKA LR LR 18 01 57.1
comp=Z,450nm,19.7s,MS4.5,baz=105,slow=39
UCH Uchtor 49.42 335 P **P 17 38 22.6 +0.7**
SNR=21
WHFO Wadi Hawf 49.44 295 P **P 17 38 21.7 -0.7**
SNR=8.6
TKM2 Tokmak 2 49.55 337 P **P 17 38 23.3 +0.5**
SNR=44
KBK Karagaybulak 49.59 336 P **P 17 38 24.1 +0.9**
SNR=31
AML Almayashu 49.69 334 P **P 17 38 24.6 +0.6**
SNR=32
SONM Songino Array 49.69 6 P **P 17 38 24.0 +0.1**
comp=Z,20nm,0.6s,mb5.3,baz=188,slow=9.5,SNR=258
SONM PcP PcP 17 39 44.6 -0.4
comp=Z,2.9nm,0.4s,baz=187,slow=4.8,SNR=7.7
ABTO Aybut 49.70 294 P **P 17 38 23.9 -0.4**
SNR=6.4
AAK Ala-Archa 49.76 335 P **P 17 38 24.7 +0.2**
SNR=11
AAK Ala-Archa 49.76 335 P **P 17 38 24.9 +0.4**
AAK pmax pmax
comp=Z,82nm,1.9s,mb5.4
AAK Ala-Archa 49.76 335 *i* P **P 17 38 24.9 +0.4**
ULN Ulaanbaatar 49.79 6 *c i* P **P 17 38 24.8 +0.2**
ULN Ulaanbaatar 49.79 6 *e*P **P 17 38 24.2 -0.4**
comp=Z,19nm,0.8s,mb5.2
FRU Bishkek 49.88 336 *e*P **P 17 38 25.0 -0.4**
FRU *e* 17 38 32.0
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.4
CHMS Chumysh 49.96 336 P **P 17 38 26.0 0.0**
SNR=10
EKS2 Erkin-Say 50.08 335 P **P 17 38 27.6 +0.6**
SNR=49
USP Ospenovka 50.28 336 P **P 17 38 28.5 0.0**
SNR=37
KKAR Karatay Array 51.88 333 *i* P **P 17 38 39.0 -1.6**
KKAR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ZAK Zakamensk 51.99 3 *e*P **P 17 38 40.4 -0.9**
ZAK *e* 17 39 53.2
ZAK pmax pmax
comp=Z,3.0nm,1.7s,mb4.0
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
MAJO Matsushiro 52.12 39 PFAKE 17 38 50.0 +7.5
MAJO LR LR
comp=Z,143nm,19.0s,MS4.0
MAT Matsushiro 52.12 39 *e*P **P 17 38 42.0 -0.5**
MAT Matsushiro 52.12 39 P **P 17 38 41.6 -0.9**
MJAR Matsushiro Arr 52.12 39 P **P 17 38 41.1 -1.4**
comp=Z,3.2nm,0.7s,mb4.4,baz=217,slow=7.9,SNR=8.0
MJAR LR LR 18 02 38.8
comp=Z,285nm,19.1s,MS4.3,baz=220,slow=38
MDJ Mudanjiang 53.19 26 P **P 17 38 51.1 +0.8**
MDJ AP pP 17 39 00.3 +0.3
MDJ XP sP 17 39 04.0 +0.3
MDJ PP PP 17 40 51.5 -0.3
MDJ S **S 17 46 21.4 +4.1**
MDJ XS 17 46 36.9
MDJ AMB AMB
comp=Z,7.0nm,0.7s,mb4.7
MDJ AMB AMB
comp=Z,77nm,5.6s
MDJ LR LR
comp=N,460nm,15.0s,MS4.8
MDJ LR LR
comp=E,491nm,13.0s,MS4.8
MDJ LR LR
comp=Z,875nm,16.1s,MS4.9
MDJ Mudanjiang 53.19 26 PFAKE 17 39 00.0 +10
MDJ LR LR
comp=Z,605nm,19.0s,MS4.7
MOY Mondy 53.21 1 *e*P **P 17 38 50.1 -0.3**
MOY pmax pmax
comp=Z,30nm,2.5s,mb4.8
TLY Talaya 53.31 3⇑ *i*P **P 17 38 50.6 -0.5**
TLY pmax pmax
comp=Z,23nm,1.9s,mb4.8
TLY MLR MLR
comp=Z,705nm,14.0s,MS4.9
TLY Talaya 53.31 3 PFAKE 17 39 00.0 +8.9
TLY LR LR
comp=Z,91nm,19.0s,MS3.9
HIA Hailar 53.61 16 PFAKE 17 39 00.0 +6.6
HIA LR LR
comp=Z,433nm,20.0s,MS4.5
IRK Irkutsk 53.90 3 *e*P **P 17 38 55.2 -0.2**
IRK pmax pmax
comp=Z,37nm,2.2s,mb4.9
OPO Ambohidratompo 54.28 248 P **P 17 38 58.0 -0.6**
comp=Z,2.7nm,0.8s,mb4.2,baz=74,slow=9.4,SNR=4.0
OPO pP pP 17 39 07.0 -1.3
comp=Z,10nm,1.0s,baz=23,slow=4.8,SNR=7.5
ZAL Zalesovo 56.88 349 P **P 17 39 15.9 -1.1**
ZAL pP pP 17 39 26.9 +0.1
ZAL S **S 17 47 06.6 0.0**
comp=Z,1.2nm,0.8s,baz=164,slow=19,SNR=6.3
KLR Kul'dur 57.72 24 *e*P **P 17 39 21.2 -1.8**
KLR MLR MLR
comp=E,600nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.3
NVS Novosibirsk 58.04 349⇑ *i*P **P 17 39 23.5 -1.6**
NVS *i* *PP pP 17 39 33.4 -1.4
NVS *i* S **S 17 47 21.1 -0.7**
NVS pmax pmax
comp=Z,102nm,1.3s,mb5.7
NVS pmax pmax
comp=N,47nm,1.5s
NVS pmax pmax
comp=E,26nm,1.3s
NVS smax
comp=N,14nm,1.8s
NVS smax
comp=E,31nm,1.9s
BVA0 Borovoye Array 59.90 340 *i* P **P 17 39 36.3 -1.8**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
BOD Bodaibo 60.43 9 *e*P **P 17 39 40.8 -0.8**
BOD pmax pmax
comp=Z,17nm,1.5s,mb4.8
YSS Yuzh-Sakhalins 61.30 32⇑ *i*P **P 17 39 47.4 -0.3**
YSS *i* pP 17 39 57.2 -0.3
YSS *e* 17 40 26.8
YSS *e*S **S 17 48 04.0 -0.1**
YSS pmax pmax
comp=N,10.0nm,0.8s
YSS pmax pmax
comp=Z,20nm,0.8s,mb5.3
YSS pmax pmax
comp=N,30nm,1.1s
YSS pmax pmax
comp=Z,50nm,1.1s,mb5.6
YSS MLR MLR
comp=N,300nm,17.0s
YSS MLR MLR
comp=Z,200nm,17.0s,MS4.3
YSS Yuzh-Sakhalins 61.30 32 *e*P **P 17 39 47.4 -0.3**
comp=Z,21nm,0.7s,mb5.4
CLNS Chul'man 61.78 15 *e*P **P 17 39 50.3 -0.5**
CLNS *e* 17 40 30.9
CLNS *e* 17 42 01.7
CLNS *e*S **S 17 48 12.7 +2.7**
CLNS *e*SS SS 17 52 13.4 -0.2
CLNS pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS pmax pmax
comp=E,3.0nm,0.9s
CLNS pmax pmax
comp=N,5.0nm,1.0s
CLNS pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
CLNS pmax pmax
comp=E,5.0nm,0.8s
CLNS smax
comp=N,3.0nm,0.8s
CLNS smax
comp=E,3.0nm,0.8s
CLNS smax
comp=Z,2.0nm,0.8s
CLNS MLR MLR
comp=Z,600nm,13.0s,MS4.9
CLNS MLR MLR
comp=N,500nm,14.0s,MS4.9
CLNS MLR MLR
comp=E,200nm,13.0s,MS4.9
KMBO Kilima Mbogo 62.64 270 P **P 17 39 57.3 +0.2**
comp=E,4.7nm,0.9s,mb4.6,baz=61,slow=9.5,SNR=13
KMBO Kilima Mbogo 62.64 270 *e*P **P 17 39 57.2 +0.1**
comp=E,12nm,1.2s,mb4.9
CASY Casey 64.86 175 PFAKE 17 40 20.0 +9.1
CASY LR LR
comp=Z,661nm,21.0s,MS4.8
GNI Garni 65.27 316 *c i*P **P 17 40 13.3 -0.7**
GNI pmax pmax
comp=Z,44nm,1.8s
GNI Garni 65.27 316 P **P 17 40 13.5 -0.5**
comp=Z,1.7nm,0.3s,mb4.5,baz=326,slow=22,SNR=11
GNI Garni 65.27 316 *e*P **P 17 40 13.2 -0.8**
comp=Z,24nm,1.2s,mb5.1
GNI LR LR
comp=Z,237nm,20.0s,MS4.4
TI2 Plekhanov 65.95 318⇑ *i*P **P 17 40 18.0 -0.3**
SVE Sverdlovsk 66.40 338⇑ *e*P **P 17 40 21.0 +0.1**
SVE pmax pmax
comp=Z,140nm,1.1s,mb5.9
ARU Arti 66.93 336⇑ *i*P **P 17 40 22.9 -1.4**
ARU *e* 17 40 51.9
ARU *e* 17 42 49.9
ARU *e*S S 17 49 14.5 +0.9
ARU *e*SS SS 17 53 28.9 -5.0
ARU pmax pmax
comp=Z,38nm,1.3s,mb5.3
ARU Arti 66.93 336 *e*P **P 17 40 22.7 -1.6**
comp=Z,24nm,1.0s,mb5.2
YAK Yakutsk 67.51 15 *c i*P **P 17 40 26.6 -1.3**
YAK *e**PP pP 17 40 35.4 -2.3
YAK *e* 17 40 54.4
YAK *e* 17 42 53.8
YAK *e*PPP PPP 17 44 31.4 -4.0
YAK *e*S S 17 49 20.0 -0.5
YAK *e* 17 50 21.6
YAK *e*SS SS 17 53 39.7 -2.9
YAK pmax pmax
comp=Z,42nm,1.0s,mb5.4
YAK pmax pmax
comp=N,14nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax
comp=N,6.0nm,1.2s
YAK smax
comp=E,4.0nm,1.2s
YAK MLR MLR
comp=Z,375nm,16.0s,MS4.7
YAK MLR MLR
comp=N,342nm,17.0s,MS4.7
YAK MLR MLR
comp=E,124nm,17.0s,MS4.7
YAK Yakutsk 67.51 15 *e*P **P 17 40 26.3 -1.5**
comp=E,30nm,0.5s,mb5.6
YAK *e*pP pP 17 40 35.5 -2.2
DZM Mont Dzumac 67.64 113 P **P 17 40 30.9 +1.5**
comp=E,7.6nm,0.9s,mb4.7,baz=291,slow=14,SNR=2.8
KIV Kislovodsk 68.28 319 *c i*P **P 17 40 32.3 -0.7**
KIV pmax pmax
comp=Z,94nm,1.7s,mb5.5
KIV Kislovodsk 68.28 319 *e*P **P 17 40 32.1 -0.9**
comp=Z,62nm,1.2s,mb5.5
KIV LR LR
comp=Z,81nm,21.0s,MS3.9
ASF Jabal al Asfar 68.36 306 P **P 17 40 33.2 -0.5**
comp=Z,12nm,1.0s,mb4.9,baz=312,slow=3.2,SNR=9.8
GOF Gofitskoye 68.53 320⇑ *i*P **P 17 40 32.8 -1.8**
GOF pmax pmax
comp=Z,90nm,1.7s,mb5.4
MALT Malatya 69.09 312 ⇓P **P 17 40 38.1 0.0**
MALT Malatya 69.09 312 *e*P **P 17 40 37.5 -0.7**
comp=Z,21nm,1.2s,mb5.0
MBAR Mbarara 69.16 270⇓ *e*P **P 17 40 38.6 -0.4**
MBAR Mbarara 69.16 270 *e*P **P 17 40 37.6 -1.4**
comp=Z,12nm,1.3s,mb4.7
MBAR *e*pP pP 17 40 46.4 -2.4
EIL Elat 69.30 303 P **P 17 40 39.0 -0.5**
comp=Z,19nm,1.1s,mb4.9,baz=225,slow=4.3,SNR=9.7
EIL Elat 69.30 303 *e*P **P 17 40 39.0 -0.6**
comp=Z,16nm,0.9s,mb4.9
SOC Sochi 70.10 318 *i* P **P 17 40 42.3 -1.9**
SOC *e*S S 17 49 53.4 +1.9
SOC *e* 17 50 39.6
SOC *e*SS SS 17 54 20.4 -2.5
SOC pmax pmax
comp=N,12nm,1.2s
SOC pmax pmax
comp=Z,43nm,1.2s,mb5.2
SOC pmax pmax
comp=E,23nm,1.6s
MAW Mawson 70.52 194 P **P 17 40 46.3 0.0**
comp=E,4.1nm,1.0s,mb4.3,baz=50,slow=11,SNR=2.9
MAW LR LR 18 05 33.5
comp=E,334nm,19.4s,MS4.6,baz=56,slow=31
LSZ Lusaka 71.92 255 *e*P **P 17 40 55.4 -0.2**
comp=E,19nm,1.3s,mb4.9
LSZ *e*pP pP 17 41 06.6 +1.1
MA2 Magadan 72.83 24 *e*P **P 17 41 00.1 -0.1**
MA2 pmax pmax
comp=Z,30nm,1.2s,mb5.1
BRTR Keskin Array B 73.08 312 P **P 17 41 00.2 -2.0**
comp=Z,5.0nm,0.8s,mb4.5,baz=131,slow=6.4,SNR=26
PET Petropavlovsk 73.18 33 *e*P **P 17 41 02.4 0.0**
PET *e* pP 17 41 12.8 +0.5
PET *e*S S 17 50 25.9 -0.9
PET *e*SS SS 17 55 09.1 -1.8
PET pmax pmax
comp=Z,32nm,0.8s,mb5.3
PET pmax pmax
comp=Z,78nm,1.1s,mb5.5
PET MLR MLR
comp=Z,400nm,14.0s,MS4.8
PET Petropavlovsk 73.18 33 *e*P **P 17 41 02.5 +0.1**
comp=Z,77nm,1.3s,mb5.5
PET *e*pP pP 17 41 12.5 +0.2
VOR Voronezh 73.70 326 *e*P **P 17 41 04.7 -0.8**
VOR *e**PP pP 17 41 13.0 -2.4
VOR pmax pmax
comp=N,60nm,1.5s
VOR pmax pmax
comp=Z,110nm,1.5s,mb5.6
VOR pmax pmax
comp=E,70nm,1.4s
SIM Simferopol' 74.34 318 *e*P **P 17 41 08.0 -1.3**
SIM pmax pmax
comp=Z,19nm,0.7s,mb5.1
SEY Seymchan 75.41 22 *i* P **P 17 41 17.6 +2.5**
SEY pP 17 41 26.3 +1.3
SEY *e* 17 44 06.4
SEY *e*S S 17 50 55.6 +4.1
SEY *e* 17 51 25.3
SEY *e*SS SS 17 55 38.3 -6.3
SEY pmax pmax
comp=Z,60nm,0.8s,mb5.6
SEY pmax pmax
comp=N,50nm,0.9s
TIXI Tiksi 75.61 9⇑ *e*P **P 17 41 14.9 -1.2**
TIXI pmax pmax
comp=Z,59nm,1.5s,mb5.3
TIXI Tiksi 75.61 9⇑ *e*P **P 17 41 14.0 -2.1**
BOSA Boshof 75.71 241 P **P 17 41 16.4 -1.1**
comp=Z,2.6nm,0.8s,mb4.2,baz=87,slow=13,SNR=4.8
BOSA LR LR 18 09 24.5
comp=Z,218nm,18.5s,MS4.5,baz=100,slow=32
MOS Moscow 76.22 329⇓ *i*P **P 17 41 18.5 -1.3**
MOS *e* 17 41 34.1
MOS pmax pmax
comp=Z,147nm,1.7s,mb5.6
OBN Obninsk 76.52 328⇑ *e*P **P 17 41 20.9 -0.6**
OBN *e* 17 44 12.8
OBN *e*SS SS 17 56 02.5 +0.6
OBN pmax pmax
comp=Z,85nm,1.5s,mb5.5
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.5
OBN Obninsk 76.52 328⇑ *e*P **P 17 41 20.9 -0.6**
OBN LR LR
comp=Z,200nm,18.0s,MS4.5
SYO Syowa Base 78.09 199 ⇑P **P 17 41 35.3 +5.4**
SYO Syowa Base 78.09 199 ⇓*s*P *s*P 17 41 49.2 +5.9
TIRR Tirgusor 78.10 316 ⇑P **P 17 41 29.8 -0.7**
CFR Carcaliu 78.47 317 ⇓P **P 17 41 31.9 -0.6**
KIS Kishinev 78.47 319 *e*P **P 17 41 32.0 -0.5**
KIS *e* pP 17 41 43.0 +0.6
URZ Urewera 78.88 129 LR LR 18 13 50.4
comp=Z,435nm,19.8s,MS4.8,baz=283,slow=34
AKASG Malin Array Be 79.22 322 P **P 17 41 34.7 -1.8**
comp=Z,2.2nm,0.6s,mb4.3,baz=88,slow=4.3,SNR=25
VRI Vrincioaia 79.60 317 ⇑P **P 17 41 39.0 +0.4**
SUR Sutherland 79.87 238 LR LR 18 11 53.8
comp=Z,281nm,19.3s,MS4.6,baz=44,slow=32
MLR Muntele Rosu 80.05 317 ⇑P **P 17 41 41.3 +0.3**
BURAR Bucovina Array 81.00 319 ⇑P **P 17 41 47.2 +1.1**
BURAR Bucovina Array 81.00 319 ⇑P **P 17 41 47.2 +1.2**
FX1 Attu Island--F 81.33 36 *e*P **P 17 41 48.3 +0.6**
JOF Joensuu 81.94 335 *e*p **P 17 41 50.0 -0.6**
comp=Z,7.7nm,0.7s,mb4.7
JOF Joensuu 81.94 335 *e*P **P 17 41 50.0 -0.6**
JOF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LVV L'vov 82.24 321 *e*P **P 17 41 51.9 -0.5**
VNDA Vanda 82.44 169 P **P 17 41 53.5 +0.5**
comp=Z,1.1nm,0.8s,baz=297,slow=5.5,SNR=4.3
VNDA LR LR 18 13 09.5
comp=Z,150nm,18.5s,MS4.4,baz=308,slow=32
VNDA Vanda 82.44 169 P **P 17 41 53.5 +0.5**
VNDA LR LR 18 13 09.5
LVZ Lovozero 82.50 340 *i* P **P 17 41 53.1 -0.3**
LVZ Lovozero 82.50 340 *i* P **P 17 41 53.2 -0.2**
SKO Skopje 82.59 313 *i* P **P 17 41 53.0 -1.4**
APA Apatity 82.81 339 *i* P **P 17 41 55.4 +0.4**
APA pmax pmax
comp=Z,56nm,1.3s,mb5.4
BILL Bilibino 82.94 20⇓ *e*P **P 17 41 55.9 +0.2**
BILL *e* pP 17 42 05.6 -0.2
BILL *e*S S 17 52 15.1 +4.2
BILL pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.7
BILL Bilibino 82.94 20 *e*P **P 17 41 54.5 -1.1**
comp=Z,2.5nm,0.6s,mb4.4
KWP Kalwaria 83.04 320 *e*P **P 17 41 57.1 +0.5**
KOLS Kolonicke sedl 83.19 320 *e*P **P 17 41 58.3 +0.9**
KOLS *e* pP 17 42 09.6 +2.2
KOLS Kolonicke sedl 83.19 320 *e*P **P 17 41 58.3 +0.9**
KOLS *e* 17 42 03.0
KOLS *e* pP 17 42 09.6 +2.2
KOLS *e* 17 42 24.8
SUW Suwalki 83.62 325 *e*P **P 17 41 59.2 -0.2**
CRVS Cervenica-Dubn 83.71 319 *e*P **P 17 42 00.5 +0.4**
CRVS *e* pP 17 42 08.6 -1.5
CRVS *e*sP sP 17 42 13.0 -0.4
FINES FINESS Array B 83.83 332 P **P 17 42 00.8 +0.4**
comp=Z,6.4nm,0.5s,mb5.0,baz=104,slow=5.6,SNR=79
FINES LR LR 18 23 49.6
comp=Z,228nm,19.0s,MS4.6,baz=102,slow=39
DIVS Divcibare 83.96 314⇓ *i*P **P 17 42 01.2 -0.2**
KECS Kecovo 84.28 319 *e*P pP 17 42 13.4 +0.4
KECS Kecovo 84.28 319 *e*pP pP 17 42 13.4 +0.4
NIE Niedzica 84.54 320 *e*P **P 17 42 04.1 -0.1**
OJC Ojcow 84.99 321 *e*P **P 17 42 06.9 +0.5**
PKSM Moragy 85.19 316 ⇑P **P 17 42 07.6 +0.1**
VYHS Vyhne 85.37 319 *e*P **P 17 42 08.7 +0.3**
VYHS *e*pP pP 17 42 19.0 +0.5
OKC Ostrava-Krasne 86.00 320 *e*P **P 17 42 10.6 -0.9**
OKC *e*pP pP 17 42 22.5 +0.9
ARCES ARCESS Array B 86.19 340 P **P 17 42 12.7 +0.7**
comp=Z,15nm,0.9s,mb5.2,baz=81,slow=5.2,SNR=27
ARCES LR LR 18 26 38.9
comp=Z,240nm,19.9s,MS4.6,baz=101,slow=40
MORC Moravsky Berou 86.38 320 ⇑P **P 17 42 13.9 +0.6**
MORC Moravsky Berou 86.38 320 *e*P **P 17 42 13.8 +0.4**
comp=Z,8.1nm,1.0s,mb4.9
MORC *e*pP pP 17 42 24.9 +1.5
ZST Bratislava 86.48 318 *e*P **P 17 42 14.1 +0.2**
ZST *e* pP 17 42 25.8 +1.8
DPC Dobruska-Polom 87.22 320 *e*P **P 17 42 17.9 +0.5**
DPC *e*pP pP 17 42 28.8 +1.3
KSP Ksiaz 87.29 321 *e*P **P 17 42 19.0 +1.2**
KSP Ksiaz 87.29 321 *e*P **P 17 42 18.9 +1.1**
UPC Upice 87.44 321 *e*P **P 17 42 19.0 +0.6**
UPC *e*pP pP 17 42 29.6 +1.1
QSPA South Pole Qui 88.23 180⇑ *i*P **P 17 42 23.3 +1.7**
comp=Z,27nm,1.5s,mb5.3
QSPA LR LR
comp=Z,1.0nm,21.0s
PRU Pruhonice 88.33 320 *e*P **P 17 42 23.3 +0.6**
PRU *e*pP pP 17 42 32.9 +0.1
PVCC Panska Ves 88.36 320 *e*P **P 17 42 23.8 +1.0**
PVCC *e*pP pP 17 42 34.3 +1.4
AQU L'Aquila 88.57 312 *e*P **P 17 42 25.2 +1.1**
BRG Berggiesshubel 88.78 321 *e*P **P 17 42 25.8 +0.9**
BRG *e* pP 17 42 37.2 +2.2
BRG pmax pmax
comp=Z,31nm,1.5s,mb5.4
BRG Berggiesshubel 88.78 321 *e*P **P 17 42 25.8 +0.9**
comp=Z,31nm,1.5s,mb5.4
BRG *e* pP 17 42 37.2 +2.2
GEC2 GERESS Array S 88.79 319 *e*P **P 17 42 25.6 +0.6**
GEC2 pmax pmax
comp=Z,28nm,1.4s,mb5.4
GEC2 GERESS Array S 88.79 319 *e*P **P 17 42 25.6 +0.6**
comp=Z,28nm,1.4s,mb5.4
GERES GERESS Array B 88.79 319 P **P 17 42 25.6 +0.7**
comp=Z,3.3nm,0.8s,mb4.7,baz=90,slow=4.0,SNR=30
PTCC Patocco-Chiusa 88.86 316 *e*P **P 17 42 26.0 +0.7**
KHC Kasperske Hory 88.89 319 *i* P **P 17 42 26.1 +0.6**
KHC Kasperske Hory 88.89 319 *e*P **P 17 42 25.6 +0.1**
ARV Arcevia 88.98 313 *e*P **P 17 42 26.9 +0.9**
RUE Ruedersdorf 89.00 322 *e*P **P 17 42 26.4 +0.5**
comp=Z,50nm,1.0s,mb5.8
WET Wettzell 89.35 319 *e*P **P 17 42 28.1 +0.5**
WET pmax pmax
comp=Z,15nm,1.2s,mb5.2
WET Wettzell 89.35 319 *e*P **P 17 42 28.1 +0.5**
comp=Z,15nm,1.2s,mb5.2
CLL Collm 89.40 321⇑ *i*P **P 17 42 28.3 +0.5**
CLL *e* pP 17 42 39.0 +1.1
CLL pmax pmax
comp=Z,21nm,1.3s,mb5.3
CLL Collm 89.40 321⇑ *i*P **P 17 42 28.3 +0.5**
comp=Z,21nm,1.3s,mb5.3
CLL *e* pP 17 42 39.0 +1.1
CLL Collm 89.40 321 ⇑P **P 17 42 28.3 +0.5**
comp=Z,logA/T=1.2,mb5.3
CLL *e**PP pP 17 42 39.0 +1.1
NKC Novy Kostel 89.69 320 *e*P **P 17 42 29.3 +0.1**
SFI Santa Sofia 89.79 314 *e*P **P 17 42 31.3 +1.5**

PGD	Poggio Sodo	89.88	314	eP	P	17 42 31.8	+1.6
CTI	Castel Tesino	90.02	316	eP	P	17 42 31.8	+0.9
MOX	Moxa	90.24	320	eP	P	17 42 32.3	+0.6
MOX				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.2						
MOX	Moxa	90.24	320	eP	P	17 42 32.3	+0.6
	comp=Z,17nm,1.3s,mb5.2						
MOX	Moxa	90.24	320	i P	P	17 42 31.9	+0.2
	comp=Z,logA/T=1.2,mb5.3						
MOX				pP	pP	17 42 44.0	+2.2
FUR	Furstenfeldbru	90.36	318	eP	P	17 42 32.8	+0.4
FUR				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.6						
FUR	Furstenfeldbru	90.36	318	eP	P	17 42 32.8	+0.4
	comp=Z,19nm,0.6s,mb5.6						
GRA1	Grafenberg Arr	90.46	320	eP	P	17 42 33.7	+0.9
	comp=Z,24nm,1.1s,mb5.4						
GRA1				epP	pP	17 42 44.4	+1.5
GRF	Grafenberg Arr	90.46	320	eP	P	17 42 33.7	+0.9
GRF				e*PP	pP	17 42 44.4	+1.5
GRF				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.4						
GRF	Grafenberg Arr	90.46	320	eP	P	17 42 33.7	+0.9
	comp=Z,24nm,1.1s,mb5.4						
GRF				epP	pP	17 42 44.4	+1.5
GSCL	Gusciola	90.71	314	eP	P	17 42 35.5	+1.4
NB2	NORSAR Subarra	90.87	331	P	P	17 42 33.9	-0.5
	comp=Z,1.1nm,0.6s,mb4.4,baz=95,slow=4.6						
NOA	NORSAR Array B	90.87	331	P	P	17 42 34.2	-0.1
	comp=Z,2.2nm,0.8s,mb4.6,baz=92,slow=4.8,SNR=5.3						
NOA				LR	LR	18 27 12.2	
	comp=Z,157nm,19.6s,MS4.5,baz=65,slow=38						
BRMO	Bormio	90.92	316	eP	P	17 42 36.0	+1.0
CLZ	Clausthal	91.06	322	eP	P	17 42 36.2	+0.7
	comp=Z,28nm,1.5s,mb5.4						
BSEG	Bad Segeberg	91.15	324	eP	P	17 42 36.5	+0.7
BSEG				pmax	pmax		
	comp=Z,23nm,1.5s,mb5.3						
TNS	Taunus Mts	92.26	320	eP	P	17 42 42.0	+1.0
TNS				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.2						
TNS	Taunus Mts	92.26	320	eP	P	17 42 42.0	+1.0
	comp=Z,15nm,1.1s,mb5.2						
BFO	Black Forest	92.34	318	eP	P	17 42 41.6	+0.2
BFO				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.0						
BFO	Black Forest	92.34	318	eP	P	17 42 41.6	+0.2
	comp=Z,8.0nm,1.1s,mb5.0						
SNAA	Sanae	92.37	198	LR	LR	18 21 44.2	
	comp=Z,84nm,18.3s,MS4.2,baz=33,slow=34						
IMA	Indian Mountai	98.20	23	eP	P	17 43 09.2	+1.4
	comp=Z,28nm,1.5s,mb5.6						
YKA	Yellowknife Ar	114.14	17	PKP	PKPdf	17 48 09.3	-4.8
	comp=Z,0.3nm,0.6s,baz=326,slow=2.5,SNR=6.8						
YKA				PP	PP	17 49 03.1	-5.7
	comp=Z,0.7nm,1.0s,baz=320,slow=7.4,SNR=5.3						
YKA	Yellowknife Ar	114.14	17	PKP	PKPdf	17 48 09.3	-4.7
YKA				PP	PP	17 49 03.1	-5.7
SCHQ	Schefferville	125.97	351	PKP	PKPdf	17 48 33.2	-3.9
	comp=Z,2.0nm,0.8s,baz=125,slow=4.1,SNR=3.8						
SCHQ	Schefferville	125.97	351	PKP	PKPdf	17 48 33.2	-3.9
LKWY	Lake	129.63	28	ePdif	Pdif	17 45 27.9	+0.9
ELK	Elko	129.83	35	ePKPdf	PKPdf	17 48 42.5	-2.5
ELK				LR	LR		
	comp=Z,256nm,19.0s,MS4.9						
ULM	Lac du Bonnet	129.83	13	PKP	PKPdf	17 48 39.0	-5.7
	comp=Z,2.1nm,0.5s,baz=63,slow=2.3,SNR=2.5						
PDAR	Pinedale Array	131.39	29	PKP	PKPdf	17 48 43.9	-4.0
	comp=Z,0.6nm,0.6s,SNR=5.0						
CBKS	Cedar Bluff	138.95	24	PFAKE		17 49 10.0	+8.0
CBKS				LR	LR		
	comp=Z,310nm,19.0s,MS5.1						
MCWV	Mont Chateau	142.25	360	PFAKE		17 49 20.0	+12
MCWV				LR	LR		
	comp=Z,383nm,21.0s,MS5.1						
BAO	Brasilia Array	143.88	240	PKPdf	PKPdf	17 49 04.0	-7.2
BDFB	Brasilia	143.90	240	PKP	PKPdf	17 49 05.7	-5.6
	comp=Z,1.6nm,0.3s,baz=141,slow=4.4,SNR=3.6						
LTX	Lajitas	144.54	37	ePKPdf	PKPdf	17 49 07.8	-4.3
TXAR	Lajitas Array	144.54	37	PKP	PKPdf	17 49 08.0	-4.0
	comp=Z,9.0nm,0.6s,baz=283,slow=1.4,SNR=30						
TXAR				pPKP		17 49 17.2	
	comp=Z,22nm,0.7s,baz=285,slow=2.2,SNR=19						
TXAR	Lajitas Array	144.54	37	PKP	PKPdf	17 49 08.0	-4.0
TXAR				pPKP		17 49 17.2	
MIAR	Mount Ida	145.01	20	ePKPdf	PKPdf	17 49 08.8	-4.0
WVT	Waverly	145.03	11	ePKPdf	PKPdf	17 49 07.8	-4.9
UALR	University of	145.20	18	eP	PKPbc	17 49 07.1	-1.1
TZTN	Tazewell	145.21	5	ePKPdf	PKPdf	17 49 08.7	-4.4
JCT	Junction City	145.84	31	ePKPdf	PKPdf	17 49 11.6	-2.7
PLAL	Pickwick Lake	146.09	12	ePKPdf	PKPdf	17 49 10.6	-3.9
CPCT	Cooper Cave	146.20	7	ePKPdf	PKPdf	17 49 11.9	-2.9
SWET	Sewanee	146.25	9	ePKPdf	PKPdf	17 49 11.4	-3.4
JSC	Jenkinsville	147.60	2	ePKPbc	PKPdf	17 49 15.4	-1.7
LPAZ	La Paz	158.55	213	PKP	PKPdf	17 49 30.9	-2.3
	comp=Z,0.5nm,0.2s,baz=19,slow=4.1,SNR=3.5						
LPAZ				PKPab	PKPab	17 50 05.3	0.0
	comp=Z,0.7nm,0.2s,baz=135,slow=5.7,SNR=2.8						
LPAZ	La Paz	158.55	213	ePKPdf	PKPdf	17 49 30.9	-2.3

IDC 13 17:38:00.1±6.0, 0.39S×102.46E, mb3.5/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.5/3, MS4.0/1, Ms1 4.0/1, ms1mx3.2/28, Error ellipse: s-maj=227.3km s-min=28.8km az=64.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.76	124	P	P	17 45 10.2	-1.3
	0.6nm,0.4s,baz=303,slow=9.1,SNR=8.7						
ASAR	Alice Springs	38.29	129	P	P	17 45 22.0	-2.3
	0.6nm,0.6s,baz=304,slow=8.2,SNR=6.7						
PMG	Port Moresby	45.38	103	LR	LR	18 04 13.0	
	comp=Z,181nm,21.5s,baz=91,slow=35						
SONM	Songino Array	48.15	4	P	P	17 46 42.1	-1.9
	0.3nm,0.7s,baz=187,slow=10,SNR=3.2						
TXAR	Lajitas Array	141.93	39	PKP	PKPdf	17 57 34.4	-2.2
	0.4nm,0.4s,baz=304,slow=3.3,SNR=4.3						

GUC 13 18:06:06.8±0.5, 33.24S×70.20W, h6km±2km, MD3.7, ML2.1, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	Farellones	0.12	219⇑	iP	Pg	18 06 10.2	+0.8
FCH				i S	Sg	18 06 12.8	+1.6
FCH				AMP		18 06 13.5	
	comp=N,769nm,0.2s						
CLCH	Cerro Calan	0.33	240⇑	iP	Pg	18 06 13.5	+0.1
CLCH				i S	Sg	18 06 18.9	+1.1
CLCH				AMP		18 06 21.6	
	comp=E,391nm,0.3s						
PCH	Pirque	0.47	214	eP	Pg	18 06 16.5	+0.3
PCH				i S	Sg	18 06 23.8	+1.4
RCDM	Rinconada Maip	0.57	243	eP	Pg	18 06 17.4	-0.7
LMEL	Las Melosas	0.61	180⇑	iP	Pg	18 06 19.5	+0.5
LMEL				i S	Sg	18 06 28.9	+1.7
LMEL				AMP		18 06 31.1	
	comp=N,213nm,0.2s						
JACH	Jahuel	0.64	329	eP	Pg	18 06 16.6	-3.0
TACH	Talagante	0.74	236	eP	Pg	18 06 20.7	-1.0
CHCH	Chadas Angostu	0.79	208	eP	Pb	18 06 22.4	-0.2
CACH	El Canelo	0.94	201	eP	Pb	18 06 25.4	+0.3
CICH	Cipreses	1.10	190⇑	iP	Pb	18 06 28.3	+0.5
CICH				i S	Sb	18 06 44.0	+1.8
LNV	Longovilo	1.24	234	eP	Pb	18 06 28.9	-1.4

*IDC **13** 18:09:18.1±1.1, 0.99N×97.24E, mb4.3/11, mb1 4.3/12, mb1mx4.1/22, mbtmp4.2/12, ML4.5/1, MS3.7/2, Ms1 3.8/2, ms1mx3.0/27, Error ellipse: s-maj=42.1km s-min=15.4km az=55.0*
*BJI **13** 18:09:21.8, 1.00N×97.30E, h30km, mB4.2, mb4.5, Ms3.8, Msz3.4*
*MOS **13** 18:09:21.0±1.2, 0.97N×97.27E, h33km, mb4.6/8, Error ellipse: s-maj=21.7km s-min=10.6km az=94.2*
*NEIC **13** 18:09:22.8±0.6, 1.04N×97.28E, h30km, mb4.4/9, Error ellipse: s-maj=14.4km s-min=8.2km az=52.0*

ISC 13 18:09:21.1±0.6, 1.00N±0.08×97.27E±0.08, h33km, n44, σ1§00/43, mb4.3/27, MS3.8/2, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.17	46	P	P	18 10 38.7	+0.5
KULM	Kulim	5.43	38	eP	P	18 10 41.7	-0.2
KGM	Kluang	6.13	80	P	P	18 10 53.0	+1.3
CM31	Chiang Mai Arr	17.43	5	eP	P	18 13 21.6	-1.8
	4.1nm,0.5s						
CMAR	Chiang Mai Arr	17.43	5	P	P	18 13 22.0	-1.4
	0.7nm,0.3s,baz=194,slow=11,SNR=41						
CMAR				LR	LR	18 21 00.6	
	comp=Z,161nm,18.0s,baz=195,slow=40						
KKM	Kota Kinabalu	19.56	75	eP	P	18 13 48.8	-0.3
KMI	Kunming	24.56	12	P	P	18 14 41.6	+2.2
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.2						
KMI				LR	LR		
	comp=N,202nm,10.9s,MS3.9						
KMI				LR	LR		
	comp=E,143nm,12.4s,MS3.9						
KMI				LR	LR		
	comp=Z,212nm,15.5s,MS3.7						
KMI	Kunming	24.56	12	P	P	18 14 41.6	+2.2
	comp=Z,9.0nm,1.2s,mb4.2						
KMI				LR	LR		
	comp=Z,210nm,15.5s,MS3.7						
SHL	Shillong	24.97	348	eP	P	18 14 45.0	+1.6
JIRN	Jiri	28.56	339	eP	P	18 15 17.3	+1.0
	comp=Z,11nm,0.8s,mb4.6						
PKI	Pulchoki	28.76	338	eP	P	18 15 17.1	-1.0
GUN	Gumba	28.90	339	eP	P	18 15 20.2	+0.9
	comp=Z,16nm,0.6s,mb4.9						
DMN	Daman	28.91	337	eP	P	18 15 17.8	-1.7
KKN	Kakani	29.01	338	eP	P	18 15 19.5	-0.8
GKN	Gorkha	29.45	337	eP	P	18 15 24.7	+0.5
KOLN	Koldanda	29.67	335	eP	P	18 15 26.9	+0.7
	comp=Z,9.7nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	33.76	126	P	P	18 16 00.6	-1.5
	comp=Z,3.8nm,0.9s,mb4.3,baz=346,slow=8.3,SNR=3.7						
XAN	Xi'an	34.63	17	P	P	18 16 08.1	-1.4
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
GTA	Gaotai	38.30	3	eP	P	18 16 40.9	+0.5
GTA				AP	pP	18 16 46.8	-3.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
JOW	Kunigami	39.33	47	P	P	18 16 49.7	+0.7
	comp=Z,10nm,0.7s,mb4.7,baz=149,slow=18,SNR=2.6						
WRA	Warramunga Arr	41.87	122	P	P	18 17 10.2	-0.1
	comp=Z,3.5nm,0.9s,mb4.0,baz=300,slow=9.5,SNR=16						
WRAB	Tennant Creek	41.88	122	eP	P	18 17 08.0	-2.3
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
WRAB	Tennant Creek	41.88	122	eP	P	18 17 08.0	-2.3
	comp=Z,7.6nm,0.9s,mb4.3						
BJT	Baijiatuau	42.48	22	P	P	18 17 15.9	+0.9
BJT				pmax	pmax		
	comp=Z,15nm,0.8s						
BJT	Baijiatuau	42.48	22	P	P	18 17 15.9	+0.9
	comp=Z,15nm,0.8s,mb4.7						
ASAR	Alice Springs	43.22	127	P	P	18 17 21.9	+0.7
	comp=Z,0.8nm,0.6s,mb3.6,baz=297,slow=7.2,SNR=9.5						
SONM	Songino Array	47.32	8	P	P	18 17 54.0	+0.4
	comp=Z,4.4nm,0.6s,mb4.6,baz=191,slow=9.4,SNR=32						
SONM				PcP	PcP	18 19 24.9	+0.3
	comp=Z,1.0nm,0.5s,baz=187,slow=3.6,SNR=7.8						
ULN	Ulaanbaatar	47.45	9	eP	P	18 17 54.1	-0.5
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ULN	Ulaanbaatar	47.45	9	eP	P	18 17 54.1	-0.5
	comp=Z,2.0nm,0.6s,mb4.2						
ZAK	Zakamensk	49.46	5	eP	P	18 18 10.3	+0.1
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
HIA	Hailar	51.80	19	eP	P	18 18 28.0	0.0
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HIA	Hailar	51.80	19	eP	P	18 18 28.0	+0.1
	comp=Z,3.9nm,0.8s,mb4.4						
CTA	Charters Tower	52.35	116	LR	LR	18 41 53.0	
	comp=Z,86nm,19.6s,MS3.8,baz=164,slow=37						
STKA	Stephens Creek	53.17	132	P	P	18 18 39.5	+1.0
	comp=Z,5.2nm,0.9s,mb4.4,baz=317,slow=8.8,SNR=3.7						
ZAL	Zalesovo	53.76	351	P	P	18 18 42.5	0.0
	comp=Z,3.9nm,0.5s,mb4.6,baz=320,slow=4.3,SNR=20						
BVAR	Borovoye Array	56.46	341	P	P	18 19 01.2	-0.8
	comp=Z,1.9nm,0.7s,mb4.2,baz=144,slow=8.3,SNR=18						
BOD	Bodaibo	58.19	10	eP	P	18 19 14.1	-0.1
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
YSS	Yuzh-Sakhalins	60.47	34⇓	eP	P	18 19 30.2	0.0
YSS				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.6						
YAK	Yakutsk	65.59	16⇑	eP	P	18 20 02.9	-0.8
YAK				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
OBN	Obninsk	72.82	328	eP	P	18 20 42.4	-5.9
OBN				e		18 20 58.4	
OBN				eS	S	18 30 09.6	-1.1
OBN				eSS	SS	18 34 49.7	-3.6
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
TIXI	Tiksi	73.37	10⇑	eP	P	18 20 50.2	-1.0
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
FINES	FINESS Array B	80.21	333	P	P	18 21 29.9	+0.2
	comp=Z,1.4nm,0.8s,mb4.0,baz=90,slow=1.9,SNR=5.8						
ARCES	ARCESS Array B	82.75	340	P	P	18 21 43.5	+0.7
	comp=Z,2.9nm,0.9s,mb4.3,baz=90,slow=4.5,SNR=4.6						
GERES	GERESS Array B	85.01	319	P	P	18 21 55.9	+1.3
	comp=Z,0.6nm,0.8s,mb3.8,baz=79,slow=5.0,SNR=4.5						

*WAR **13** 18:12:53.6, 51.54N×16.06E, h1km, ML2.6, Mining Induced*
*PRU **13** 18:12:53.8, 51.49N×16.02E*

ISC 13 18:12:50.0±0.7, 51.56N±0.03×16.03E±0.05, n13, σ1§30/24, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.74	167	ePG	Pg	18 13 07.0	+2.2
KSP				eSG	Sg	18 13 16.0	+1.4
UPC	Upice	1.05	181	ePG	Pg	18 13 12.4	+1.3
DPC	Dobruska-Polom	1.23	171	ePG	Pg	18 13 15.3	+0.8
DPC				eSG	Sg	18 13 30.5	-0.3
	6.5nm,0.2s						
PVCC	Panska Ves	1.38	222	ePG	Pg	18 13 19.1	+1.4
PRU	Pruhonice	1.83	212	ePG	Pg	18 13 25.5	-1.2
PRU				eSG	Sg	18 13 50.5	-0.6
CLL	Collm	1.91	264	i PG	Pg	18 13 28.6	+0.4
CLL				i		18 13 33.1	
CLL				i SG	Sg	18 13 54.6	+0.9
OKC	Ostrava-Krasne	2.19	141	eSG	Sg	18 14 00.3	-2.6
OKC	Ostrava-Krasne	2.19	141	eSg	Sg	18 14 00.3	-2.6
NKC	Novy Kostel	2.63	241	ePN	Pn	18 13 36.8	+2.4
NKC				ePG	Pg	18 13 42.3	-0.2
NKC				eSG	Sg	18 14 16.4	-1.1
OJC	Ojcow	2.74	118	ePG	Pg	18 13 45.0	+0.3
OJC				eSG	Sg	18 14 21.0	-0.2
KHC	Kasperske Hory	2.89	214	ePN	Pn	18 13 39.0	+0.8
KHC				ePG	Pg	18 13 45.8	-2.0
KHC				eSN	Sn	18 14 14.0	-0.3
KHC				eSG	Sg	18 14 23.3	-3.1
BSD	Bornholm Skovb	3.62	350	i P	Pn	18 13 48.8	+0.2
BSD				i S	Sn	18 14 30.2	-2.5
SRO1	Iza	4.06	159	ePN	Pg	18 14 10.4	-0.7

*IDC **13** 18:35:58.8±1.1, 1.53S×99.73E, mb4.1/8, mb1 4.2/9, mb1mx3.9/18, mbtmp4.0/9, ML4.1/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/31, Error ellipse: s-maj=54.7km s-min=16.3km az=58.0*
*NEIC **13** 18:36:03.2±0.6, 1.60S×99.75E, h30km, mb4.4/7, Error ellipse: s-maj=23.0km s-min=8.7km az=61.0*

ISC 13 18:36:02.1±0.8, 1.5S±0.1×99.8E±0.2, h33km, n27, σ1§08/23, mb4.4/15, MS3.5/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.80	7	eP	P	18 37 44.0	+1.8
CM31	Chiang Mai Arr	19.85	358	eP	P	18 40 33.5	+0.2
	3.2nm,0.7s						
CMAR	Chiang Mai Arr	19.85	358	P	P	18 40 31.0	-2.3
	0.2nm,0.3s,baz=187,slow=10.0,SNR=20						
JIRN	Jiri	31.82	337	eP	P	18 42 26.9	+0.7
	11nm,0.8s,mb4.8						
PKI	Pulchoki	32.05	335	eP	P	18 42 29.8	+1.5
LSA	Lhasa	32.11	346	P	P	18 42 29.0	+0.3
	3.5nm,0.8s,mb4.2						
GUN	Gumba	32.16	336	eP	P	18 42 29.3	+0.1
	13nm,0.6s,mb4.9						
DMN	Daman	32.22	335	eP	P	18 42 30.5	+0.8
	12nm,1.2s,mb4.6						
KKN	Kakani	32.30	335	eP	P	18 42 30.2	-0.2
	7.0nm,0.9s,mb4.5						
GKN	Gorkha	32.76	335	eP	P	18 42 32.9	-1.5
	2.0nm,0.4s,mb4.4						
ENH	Enshi	32.92	16	P	P	18 42 34.6	-1.2
KOLN	Koldanda	33.02	333	eP	P	18 42 35.6	-1.0
	5.8nm,0.7s,mb4.6						
NWAO	Narrogin (SRO)	35.29	154	LR	LR	18 55 18.5	
	comp=Z,80nm,20.2s,MS3.5,baz=207,slow=33						
WRA	Warramunga Arr	38.41	121	P	P	18 43 21.1	-1.4
	0.7nm,0.4s,mb3.8,baz=304,slow=9.1,SNR=14						
WRAB	Tennant Creek	38.41	121	P	P	18 43 22.1	-0.5
ASAR	Alice Springs	39.70	126	P	P	18 43 34.3	+1.2
	1.2nm,0.5s,mb3.9,baz=303,slow=7.8,SNR=17						
SONM	Songino Array	49.47	6	P	P	18 44 52.0	+0.7
	1.4nm,0.6s,mb4.2,baz=185,slow=9.2,SNR=20						
STKA	Stephens Creek	49.62	132	P	P	18 44 53.4	+0.7
	1.7nm,0.8s,mb4.1,baz=4.1,slow=14,SNR=2.7						
ZAL	Zalesovo	56.64	349	P	P	18 45 44.2	-0.2
	2.4nm,0.4s,mb4.5,baz=301,slow=6.3,SNR=14						
ZAL	Zalesovo	56.64	349	P	P	18 45 44.2	-0.2
BVAR	Borovoye Array	59.65	340	P	P	18 46 03.9	-1.6
	1.3nm,0.5s,mb4.2,baz=141,slow=9.6,SNR=12						
FINES	FINESS Array B	83.59	332	P	P	18 48 28.5	+0.3
	1.9nm,1.0s,mb4.2,baz=112,slow=10,SNR=3.9						
ARCES	ARCESS Array B	85.94	340	P	P	18 48 41.0	+1.2
	5.5nm,1.0s,mb4.8,baz=90,slow=6.3,SNR=4.1						
ARCES	ARCESS Array B	85.94	340	P	P	18 48 41.0	+1.2
TXAR	Lajitas Array	144.43	37	PKP	PKPdf	18 55 36.8	+1.1
	0.4nm,0.4s,baz=191,slow=1.1,SNR=5.3						
CFAA	Coronel Fontan	145.17	198	PKPbc	PKPbc	18 55 37.7	+0.4
	0.5nm,0.5s,baz=168,slow=3.8,SNR=4.8						
CFAA	Coronel Fontan	145.17	198	PKPbc	PKPbc	18 55 37.7	+0.4

*ROM **13** 18:46:07.6±0.3, 44.69N×9.33E, h3km±2km, MD3.4/5, ML3.3/10, Error ellipse: s-maj=1.4km s-min=1.2km az=0.0*
*PRU **13** 18:46:07.7, 44.59N×9.34E*
*MOS **13** 18:46:07.1±1.2, 44.68N×9.42E, h10km, mb4.3/1, Error ellipse: s-maj=4.0km s-min=3.5km az=97.2*
*CSEM **13** 18:46:07.8±0.0, 44.59N×9.38E, h10km, ML3.6/28, Error ellipse: s-maj=1.1km s-min=0.8km az=169.0*
*IDC **13** 18:46:07.5±2.3, 44.69N×9.48E, mb4.0/1, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, ML3.6/5, Error ellipse: s-maj=42.9km s-min=18.6km az=141.0*
*STR **13** 18:46:08.6±0.6, 44.63N×9.48E, h10km±1km, Ml3.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **13** 18:46:08.1, 44.74N×9.38E, h1km, ML3.5*
*LDG **13** 18:46:08.7±0.2, 44.71N×9.49E, h10km, Md3.5/1, Ml3.6/29, Error ellipse: s-maj=4.1km s-min=3.0km az=138.0*
*NEIC **13** 18:46:08.1, 44.74N×9.38E, h1km, ML3.7(STR), ML3.7(VIE), ML3.6(LDG), ML3.5(GEN). After GEN.*
*ZUR **13** 18:46:09.6, 44.70N×9.45E, h25km, ML3.3/9*
*MDD **13** 18:46:11.4±1.1, 44.61N×9.42E, h40km±45km, mb4.4/7, Error ellipse: s-maj=13.2km s-min=6.7km az=90.0, PRXIMO*

ISC 13 18:46:07.4±0.2, 44.68N±0.01×9.32E±0.01, h6km±2km, n236, σ1§32/344, mb3.9/1, 9C-13D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	Bobbio (Coli)	0.13	45	ePG	Pg	18 46 10.2	+0.1
BOB				SG	Sg	18 46 12.6	+0.7
BOB	Bobbio (Coli)	0.13	45	ePg	Pg	18 46 10.2	+0.1
BOB				eSg	Sg	18 46 12.6	+0.7
GENL	Genova Univers	0.37	223	P	Pg	18 46 16.6	+1.7
GENL				S	Sg	18 46 23.4	+3.6
GENL	Genova Univers	0.37	223	P	Pg	18 46 16.6	+1.8
GENL				S	Sg	18 46 23.4	+3.5
CODM		0.47	127	P	Pg	18 46 16.9	+0.1
CODM				S	Sg	18 46 24.3	+1.1
CODM		0.47	127	P	Pg	18 46 16.9	0.0
CODM				S	Sg	18 46 24.3	+1.1
GRAM		0.56	109	P	Pg	18 46 18.5	-0.2
GRAM				S	Sg	18 46 26.8	+0.6
GRAM		0.56	109	P	Pg	18 46 18.5	-0.1
GRAM				S	Sg	18 46 26.8	+0.7
PCP	Pian Castagno	0.57	257	⇑P	Pg	18 46 20.0	+1.2
VALM		0.74	116	P	Pb	18 46 21.7	-0.5
VALM				S	Sg	18 46 31.5	-0.4
VALM		0.74	116	P	Pb	18 46 21.7	-0.5
VALM				S	Sg	18 46 31.5	-0.5
VINC	Vinca	0.80	132	P	Pb	18 46 22.8	-0.5
VINC				S	Sb	18 46 35.0	+0.8
VINC	Vinca	0.80	132	P	Pb	18 46 22.8	-0.5
VINC				S	Sb	18 46 35.0	+0.9
VINC	Vinca	0.80	132	P	Pb	18 46 22.8	-0.5
VINC				S	Sb	18 46 35.0	+0.9
ERBM	Eremo	0.82	108	ePG	Pg	18 46 23.6	-0.2
ERBM				SG	Sg	18 46 37.1	+2.4
ERBM	Eremo	0.82	108	ePg	Pg	18 46 23.6	-0.2
ERBM				eSg	Sg	18 46 37.1	+2.4
SARO	Sassorosso	0.92	122	P	Pb	18 46 24.9	-0.3
SARO				S	Sb	18 46 37.9	+0.4
SARO	Sassorosso	0.92	122	P	Pb	18 46 25.0	-0.3
SARO	Sassorosso	0.92	122	P	Pb	18 46 25.0	-0.3
SARO				S	Sb	18 46 37.9	+0.4
SARO				S	Sb	18 46 37.9	+0.4
FIN	Finale Ligure	0.93	240	ePG	Pg	18 46 26.2	+0.3
FIN			

SAOF			Sg	Sg	18 46 55.3	-0.2
BHB	Bricherasio	1.48 277	P	Pn	18 46 35.5	+0.9
BHB	Bricherasio	1.48 277	P	Pn	18 46 35.5	+0.9
DOI	San Damiano	1.49 264	ePN	Pn	18 46 36.8	+1.9
DOI	San Damiano	1.49 264	ePg	Pg	18 46 36.8	-0.4
STV2	Anna di Valdie	1.49 254	P	Pn	18 46 35.6	+0.8
STV2	Anna di Valdie	1.49 254	P	Pn	18 46 35.7	+0.8
STV	Sta Anna Valdi	1.50 254	P	Pn	18 46 35.8	+0.9
AUTN	L'Aution	1.52 244	Pg	Pg	18 46 36.2	-1.6
RSP	Reno Superiore	1.54 289	P	Pn	18 46 36.1	+0.5
RSP			S	Sb	18 46 54.5	-1.2
SBF	Sospel	1.58 240	ePn	Pn	18 46 36.5	+0.4
SBF			eSn	Sn	18 46 55.1	-2.0
	251nm,0.3s					
MCGN	Macugnaga	1.59 324	ePN	Pn	18 46 36.1	-0.1
	261nm,0.4s					
MCGN	Macugnaga	1.59 324	ePg	Pn	18 46 36.1	-0.1
MCGN	Macugnaga	1.59 324	ePn	Pn	18 46 36.1	-0.1
	261nm,0.4s					
PZZ	Prazzo	1.60 265	P	Pn	18 46 37.3	+1.0
PZZ			S	Sb	18 46 55.4	-1.9
TOUF	Mont Tournerai	1.63 247	Pg	Pg	18 46 37.9	-2.0
MMK	Mattmark	1.68 326	⇓iPn	Pn	18 46 37.8	+0.3
REVF	Revere	1.69 237	Pg	Pg	18 46 38.8	-2.3
OG22	Abries	1.70 276	Pg	Pg	18 46 40.0	-1.3
LSD	Ceresole Reale	1.72 298	P	Pn	18 46 39.2	+1.1
MVIF	Mont Vial	1.74 244	Pg	Pg	18 46 39.7	-2.5
MVIF			Sg	Sg	18 47 03.8	-1.6
VMG	Vicchio	1.75 113	ePN	Pn	18 46 40.3	+1.8
BERNI	Berninapass	1.80 16	⇓iP	Pn	18 46 39.7	+0.4
BERNI	Berninapass	1.80 16	⇓iPn	Pn	18 46 39.8	+0.5
SURF	Saint Ours	1.81 265	Pg	Pg	18 46 41.2	-2.2
VDL	Val di Lei	1.81 3	⇓iPn	Pn	18 46 40.2	+0.8
MBDF	Montbardon	1.82 272	eP	Pn	18 46 41.2	+1.7
MBDF			eSn	Sn	18 47 01.9	-1.3
	218nm,0.6s					
RRL	Cesana Torines	1.82 279	P	Pn	18 46 41.3	+1.7
FUSIO	Fusio	1.84 346	⇑iPn	Pn	18 46 39.8	0.0
GRFL	Gerfalco	1.94 141	ePN	Pn	18 46 42.5	+1.2
	48nm,0.5s					
GRFL	Gerfalco	1.94 141	ePg	Pn	18 46 42.5	+1.3
GRFL	Gerfalco	1.94 141	ePn	Pn	18 46 42.5	+1.2
	48nm,0.5s					
BRMO	Bormio	1.94 22	ePN	Pn	18 46 42.0	+0.7
	212nm,0.6s					
BRMO	Bormio	1.94 22	ePg	Pn	18 46 42.0	+0.7
BRMO	Bormio	1.94 22	ePn	Pn	18 46 42.0	+0.7
	212nm,0.6s					
DIX	Grande Dixence	1.95 317	⇓iPn	Pn	18 46 42.3	+1.0
CALN	Calern	1.98 243	Pg	Pg	18 46 42.7	-4.2
CALN			Sg	Sg	18 47 09.8	-3.5
LPG	La Plagne	2.00 295	ePn	Pn	18 46 42.9	+0.8
LPG			eSn	Sn	18 47 06.3	-1.4
	191nm,0.6s					
LPL	La Plagne	2.02 295	eP	Pn	18 46 44.1	+1.7
LPL			eSn	Sn	18 47 06.4	-1.8
	156nm,0.5s					
FUORN	Ofenpass	2.05 18	ePn	Pn	18 46 43.9	+1.1
LKBD	Leukerbad	2.08 326	ePn	Pn	18 46 44.5	+1.2
CTI	Castel Tesino	2.14 49	ePN	Pn	18 46 43.5	-0.6
	334nm,0.3s					
CTI	Castel Tesino	2.14 49	ePg	Pn	18 46 43.5	-0.5
CTI	Castel Tesino	2.14 49	ePn	Pn	18 46 43.5	-0.6
	334nm,0.3s					
DAVOX	Davos	2.14 10	Pn	Pn	18 46 45.5	+1.4
	13nm,0.3s,baz=190,slow=12,SNR=58					
DAVOX			Sn	Sn	18 47 13.1	+1.8
	15nm,0.3s,baz=131,slow=23,SNR=8.3					
DAVOX	Davos	2.14 10	ePn	Pn	18 46 45.3	+1.2
PGF	Pioggiola	2.14 186	eP	Pn	18 46 43.3	-0.8
PGF			eSn	Sn	18 47 06.1	-5.2
	30nm,0.2s					
RSL	Roselend	2.16 299	Pg	Pg	18 46 46.9	-3.6
LLS	Linth-Limmern	2.18 354	⇑iPn	Pn	18 46 45.2	+0.5
EMV	Vieux Emosson	2.20 310	⇑iPn	Pn	18 46 47.1	+2.1
SENIN	Lac Senin	2.21 321	ePn	Pn	18 46 46.9	+1.8
SALAN	Lac Salanfe	2.21 312	ePn	Pn	18 46 47.7	+2.6
GRYON	Gryon	2.21 316	ePn	Pn	18 46 47.7	+2.5
FRF	La Foret Royal	2.23 241	ePn	Pn	18 46 45.3	-0.1
FRF			eSn	Sn	18 47 11.1	-2.4
	128nm,0.4s					
HASLI	Hasliberg	2.24 339	ePn	Pn	18 46 46.3	+0.8
APPI	Appiano	2.24 36	ePN	Pn	18 46 46.1	+0.5
GDM	Grand'Maison	2.34 284	Pg	Pg	18 46 51.4	-2.6
PLONS	Plons	2.37 1	⇓iPn	Pn	18 46 48.7	+1.3
LMR	La Mourre	2.44 237	ePn	Pn	18 46 47.7	-0.6
LMR			eSn	Sn	18 47 15.0	-3.8
	64nm,0.3s					
ORIF	Oris-en-Rattie	2.46 277	eP	Pn	18 46 51.4	+2.7
ORIF			eSn	Sn	18 47 17.3	-2.2
	169nm,0.6s					
OG01	Vacheresse	2.49 313	Pg	Pg	18 46 51.8	-5.2
STOF	St-Etienne Org	2.54 256	Pg	Pg	18 46 52.7	-5.4
TAVF	Tavernes	2.58 247	Pg	Pn	18 46 51.2	+0.8
TAVF			Sg	Sn	18 47 24.3	+1.9
GRN	Grenoble	2.60 284	Pg	Pg	18 46 54.2	-5.1
LIENZ	Alp Oberkamor	2.62 3	⇓iPn	Pn	18 46 51.7	+0.7
DAVA	Damuels	2.64 8	⇓iPN	Pn	18 46 52.6	+1.4
DAVA			i SN	Sn	18 47 26.3	+2.4
TORNY	Torny	2.67 323	⇓iPn	Pn	18 46 53.8	+2.1
VILF	Villemus	2.72 254	Pg	Pn	18 46 54.0	+1.6
SMRF	Simiane la Rot	2.78 257	eP	Pn	18 46 54.8	+1.5
SMRF			eSn	Sn	18 47 24.3	-3.3
	55nm,0.4s					
PUYF	Puyloubier	2.85 248	Pg	Pn	18 46 54.9	+0.6
SQTA	Sankt Quirin	2.86 27	⇓iPN	Pn	18 46 56.3	+1.9
SQTA			i SN	Sn	18 47 33.2	+3.5
OCF	Saint Nazaire	2.87 269	Pg	Pn	18 46 57.7	+3.1
OG26	St.-Nazaire-De	2.87 269	Pg	Pn	18 46 57.7	+3.1
MOTA	Moosalm	2.94 24	⇑iPN	Pn	18 46 57.0	+1.4
MOTA			i SN	Sn	18 47 33.9	+2.3
CABF	La Chapelle	2.98 312	ePn	Pn	18 46 56.9	+0.8
CABF			eSn	Sn	18 47 29.6	-3.1
	70nm,0.6s					
TREF	Trevaresse	3.02 251	Pg	Pn	18 46 57.6	+0.8
OG05	Jujurieux	3.05 298	Pg	Pn	18 46 59.1	+2.0
WTTA	Wattenberg	3.05 31	⇑iPN	Pn	18 46 58.5	+1.4
WTTA			i SN	Sn	18 47 37.7	+3.4
BBS	Basel-Blauen	3.06 336	Pg	Pn	18 46 58.5	+1.3
WATA	Walderalm	3.09 30	⇓iPN	Pn	18 46 59.1	+1.5
WATA			i SN	Sn	18 47 36.5	+1.2
GELF	Grande-Etoile	3.09 247	Pg	Pn	18 46 58.2	+0.5
GMNA	Gemona	3.18 58	ePN	Pn	18 46 57.7	-1.3
	261nm,0.6s					
GMNA	Gemona	3.18 58	ePg	Pn	18 46 57.7	-1.3
GMNA	Gemona	3.18 58	ePn	Pn	18 46 57.7	-1.3
	261nm,0.6s					
LOMF	Lomont	3.19 328	Pg	Pn	18 47 00.1	+1.0
TRI	Trieste	3.30 70	ePN	Pn	18 46 59.0	-1.7
	46nm,0.3s					
TRI	Trieste	3.30 70	ePg	Pn	18 46 59.0	-1.7
TRI	Trieste	3.30 70	ePn	Pn	18 46 59.0	-1.7
	46nm,0.3s					
NRCA	Norcia	3.31 123	ePN	Pn	18 47 01.2	+0.4
	26nm,0.2s					
NRCA	Norcia	3.31 123	ePg	Pn	18 47 01.2	+0.4
PTCC	Patocco-Chiusa	3.32 57	ePN	Pn	18 46 59.8	-1.1
	83nm,0.3s					
PTCC	Patocco-Chiusa	3.32 57	ePg	Pn	18 46 59.8	-1.1
PTCC	Patocco-Chiusa	3.32 57	ePn	Pn	18 46 59.8	-1.1
	83nm,0.3s					
VIVF	Saint-Julien-I	3.32 275	eP	Pn	18 47 02.6	+1.7
VIVF			eSn	Sn	18 47 37.6	-3.6
	29nm,0.4s					
FELD	Feldberg	3.33 345	Pg	Pn	18 47 00.5	-0.5
SPAK	Spaichingen	3.44 354	Pg	Pn	18 47 01.5	-1.2
VOY	Vojsko	3.49 66	ePn	Pn	18 47 02.3	-1.1
VOY			eSn	Sn	18 47 41.7	-3.9
MOF	Molkenrain	3.52 335	Pg	Pn	18 47 03.8	0.0
HINF	Hinteralfeld	3.58 332	ePn	Pn	18 47 04.6	0.0
HINF			eSn	Sn	18 47 43.3	-4.4
	56nm,0.4s					
KBA	Koelnbreinsper	3.69 48	⇑iPN	Pn	18 47 07.3	+1.0
KBA			i SN	Sn	18 47 49.5	-1.2
BFO	Black Forest	3.72 350	Pn	Pn	18 47 05.8	-0.8
	85nm,0.3s,SNR=20					
BFO	Black Forest	3.72 350	ePn	Pn	18 47 05.2	-1.4
BFO			eSn	Sn	18 47 47.4	-3.9
ECH	Echery	3.84 338	Pg	Pn	18 47 07.8	-0.6
HAU	Haudompre	3.92 329	ePn	Pn	18 47 09.3	-0.1
HAU			eSn	Sn	18 47 51.6	-4.7
	160nm,0.3s					
NVLJ	Novalja	3.96 90	i Pn	Pn	18 47 09.2	-0.9
NVLJ			i Sn	Sn	18 47 53.2	-4.3
NVLJ	Novalja	3.96 90	i Pn	Pn	18 47 09.1	-1.0
NVLJ			i Sn	Sn	18 47 53.2	-4.3
LASF	Ste Croix	3.96 263	ePn	Pn	18 47 10.1	0.0
LASF			eSn	Sn	18 47 53.0	-4.5
	27nm,0.5s					
WLS	Welschbruch	3.98 341	Pg	Pn	18 47 09.9	-0.4
CDF	Champ du Feu	3.99 340	ePn	Pn	18 47 09.6	-0.9
CDF			eSn	Sn	18 47 53.5	-4.8
	48nm,0.5s					
OBKA	Obir	4.10 62	⇑iPN	Pn	18 47 11.0	-1.0
OBKA			i PG	Pg	18 47 28.2	-1.0
OBKA			i SN	Sn	18 47 59.6	-1.4
OBKA			i SG	Sg	18 48 23.2	-0.6
	21nm,0.4s					
PLDF	La Plantade	4.22 290	Pg	Pn	18 47 14.7	+0.9
THEF	They Montfort	4.23 328	Pg	Pn	18 47 14.0	+0.1
SMF	Signal de Mont	4.32 299	ePn	Pn	18 47 15.8	+0.7
SMF			eSn	Sn	18 48 01.5	-5.0
	56nm,0.4s					
LBL	Lubilhac	4.35 279	Pg	Pn	18 47 16.9	+1.3
LBL			Sg	Sn	18 48 10.0	+2.7
AGO	Saint Agoulin	4.58 290	Pg	Pn	18 47 19.3	+0.5
PYM	Petit Puy Mans	4.59 286	Pg	Pn	18 47 21.6	+2.6
SFTF	Sexfontaines	4.61 322	eP	Pn	18 47 19.5	+0.3
	baz=135					
SFTF			eSn	Sn	18 48 07.5	-6.3
	38nm,0.5s					
MOA	Molln	4.67 45	⇓iPN	Pn	18 47 17.6	-2.5
MOA			i SN	Sn	18 48 13.7	-1.7
AVF	Avril sur Loir	4.68 299	ePn	Pn	18 47 19.9	-0.4
AVF			eSn	Sn	18 48 10.4	-5.3
	18nm,0.5s					
SSF	Saint Saulge	4.71 302	ePn	Pn	18 47 20.8	+0.1
SSF			eSn	Sn	18 48 11.4	-5.0
	8.1nm,0.5s					
RFYF	Reffroy	4.76 328	eP	Pn	18 47 21.6	+0.2
	baz=143					
RFYF			eSn	Sn	18 48 11.9	-5.7
	26nm,0.3s					
MEZF	Maizieres J'vi	4.83 324	eP	Pn	18 47 22.5	+0.2
	baz=143					
MEZF			eSn	Sn	18 48 13.2	-6.2
	22nm,0.4s					
BGF	Bois d'Agland	4.92 295	ePn	Pn	18 47 24.1	+0.5
BGF			eSn	Sn	18 48 16.3	-5.3
	60nm,0.4s					
ARSA	Arzberg	5.03 57	⇑iPN	Pn	18 47 23.6	-1.6
ARSA			i SN	Sn	18 48 22.1	-2.4
WET	Wettzell	5.09 27	ePn	Pn	18 47 24.0	-2.0
WET			eSn	Sn	18 48 18.7	-7.2
GEC2	GERESS Array S	5.14 34	ePn	Pn	18 47 24.4	-2.4
GEC2			eSn	Sn	18 48 21.1	-6.1
GERES	GERESS Array B	5.14 34	P	Pn	18 47 24.3	-2.5
GERES					18 48 21.6	
GERES			pmax	pmax		
	comp=Z,2.0nm,0.3s					
GERES	GERESS Array B	5.14 34	Pn	Pn	18 47 24.3	-2.5
	comp=Z,1.9nm,0.3s,baz=212,slow=14,SNR=47					
GERES			Sn	Sn	18 48 21.6	-5.6
	comp=Z,5.5nm,0.3s,baz=216,slow=24,SNR=14					
CAF	Calviac	5.17 275	eP	Pn	18 47 28.5	+1.3
EJON	La Jonquera	5.18 247	P	Pn	18 47 27.1	-0.2
EJON			S	Sn	18 48 22.1	-6.1
EJON	La Jonquera	5.18 247	Pn	Pn	18 47 26.5	-0.8
	comp=Z,7.0nm,0.4s,SNR=7.9					
EJON			Sn	Sn	18 48 22.1	-6.1
	comp=Z,0.5nm,0.1s,SNR=7.9					
EJON	La Jonquera	5.18 247	Pn	Pn	18 47 27.1	-0.2
	comp=Z,7.0nm,0.4s,SNR=7.9					
EJON			Sn	Sn	18 48 22.1	-6.1
	comp=Z,0.5nm,0.1s,SNR=7.9					
TCF	Toulx Ste Croi	5.25 290	ePn	Pn	18 47 29.2	+0.8
TCF			eSn	Sn	18 48 24.0	-6.1
	comp=Z,12nm,0.2s					
RUP	Ruppelstein	5.26 344	Pg	Pn	18 47 28.0	-0.4
MTLF	Montolieu	5.30 258	ePn	Pn	18 47 28.5	-0.5
MTLF			eSn	Sn	18 48 24.3	-6.9
	comp=Z,8.9nm,0.4s					
KHC	Kasperske Hory	5.32 32	ePN	Pn	18 47 27.0	-2.3
KHC			ePG	Pg	18 47 48.5	-5.1
KHC			eSN	Sn	18 48 25.3	-6.5
KHC			eSG	Sg	18 48 55.7	-8.9
KHC	Kasperske Hory	5.32 32	ePn	Pn	18 47 27.0	-2.3
KHC			eSn	Sn	18 48 25.3	-6.5
HYF	Humbligny	5.33 301	ePn	Pn	18 47 27.9	-1.6
ABH	Alteburg	5.34 348	Pg	Pn	18 47 28.0	-1.6
RJF	Les Rejaudoux	5.57 279	ePn	Pn	18 47 33.3	+0.4
RJF			eSn	Sn	18 48 31.5	-6.6
	comp=Z,6.5nm,0.5s					
TNS	Taunus Mts	5.58 354	ePn	Pn	18 47 30.6	-2.4
TNS			eSn	Sn	18 48 32.5	-5.8
NKC	Novy Kostel	5.95 20	eSN	Sn	18 48 41.0	-6.5
LFF	La Frestale	6.11 275	ePn	Pn	18 47 39.4	-1.1
MOX	Moxa	6.17 14	ePn	Pg	18 48 07.5	-3.0
MOX			eSn	Sn	18 48 45.3	-7.7
MOX	Moxa	6.17 14	i P	Pg	18 48 07.5	-3.0
MOX			S	Sn	18 48 45.0	-8.0
MOX	Moxa	6.17 14	eSn	Sn	18 48 45.3	-7.7
EMIR	Miracle	6.33 247	P	Pn	18 47 43.5	+0.1
EMIR	Miracle	6.33 247	Sn	Sn	18 48 48.9	-8.0
	comp=Z,3.0nm,1.2s,SNR=7.9					
EMIR	Miracle	6.33 247	Pn	Pn	18 47 43.6	+0.1
	comp=Z,3.5nm,0.2s,SNR=9.5					
BAIF	Baives	6.41 329	ePn	Pn	18 47 43.3	-1.3
EPF	Esparros	6.70 259	ePn	Pn	18 47 46.9	-1.9
VRAC	Vranov	6.79 44	Pn	Pn	18 47 47.6	-2.5
	comp=Z,0.2nm,0.3s,baz=242,slow=17,SNR=2.0					
VRAC			Sn	Sn	18 49 01.5	-7.2
	comp=Z,0.6nm,0.3s,baz=1.7,slow=12,SNR=3.9					
ETOS	Mallorca	6.88 227	P	Pn	18 47 50.5	-0.8
ETOS			S	Sn	18 49 01.0	-10
ETOS	Mallorca	6.88 227	Pn	Pn	18 47 50.2	-1.1
	comp=Z,4.4nm,0.3s,SNR=11					
ETOS			Sn	Sn	18 49 01.0	-10
	comp=Z,2.6nm,0.3s,SNR=7.9					
ETOS	Mallorca	6.88 227	Pn	Pn	18 47 50.5	-0.9
	comp=Z,4.4nm,0.3s,SNR=11					
ETOS			Sn	Sn	18 49 01.0	-10
	comp=Z,2.6nm,0.3s,SNR=7.9					
EPOB	Poblet	6.90 244	P	Pn	18 47 51.1	-0.4
EPOB	Poblet	6.90 244	Pn	Pn	18 47 51.1	-0.4
	comp=Z,1.5nm,0.3s,SNR=7.9					
MFF	Saint Martin d	6.91 289	ePn	Pn	18 47 49.3	-2.4
MFF			eSn	Sn	18 49 04.0	-7.6
	comp=Z,5.2nm,0.4s					
EBIE	Bielsa	6.95 257	P	Pn	18 47 53.5	+1.2
EBIE	Bielsa	6.95 257	Pn	Pn	18 47 51.2	-1.0
	comp=Z,2.8nm,0.3s,SNR=7.1					
EBIE	Bielsa	6.95 257	Pn	Pn	18 47 53.5	+1.2
	comp=Z,2.8nm,0.3s,SNR=7.1					
CLL	Collm	7.08 19	eSN	Sn	18 49 09.0	-6.7
CLL			eSG	Sg	18 49 56.0	-7.0
ETSF	Etsaut	7.37 259	ePn	Pn	18 47 56.1	-2.1
ERTA	Horta de San J	7.58 244	P	Pn	18 48 01.3	+0.1
ERTA	Horta de San J	7.58 244	Pn	Pn	18 47 59.5	-1.6
	comp=Z,0.6nm,0.1s,SNR=4.0					
ERTA			Sn	Sn	18 49 19.2	-9.1
	comp=Z,5.9nm,0.4s,SNR=7.9					
ERTA	Horta de San J	7.58 244	P	Pn	18 48 01.3	+0.1
VYHS	Vyhne	7.58 56	ePN	Pn	18 47 59.2	-1.9
VYHS			eSN	Sn	18 49 18.1	-10
LDF	La Druitiere	7.59 304	eP	Pn	18 48 01.6	+0.4
ESAC	San Caprasio	7.74 251	P	Pn	18 48 02.2	-1.1
ESAC	San Caprasio	7.74 251	Pn	Pn	18 48 02.3	-1.1
	comp=Z,9.3nm,0.4s,SNR=4.0					
ESAC	San Caprasio	7.74 251	Pn	Pn	18 48 02.2	-1.2
	comp=Z,9.3nm,0.4s,SNR=4.0					
SJPF	Ste Jean	7.78 262	ePn	Pn	18 48 01.4	-2.5
EALK	Alkurruntz	7.95 263	P	Pn	18 48 05.6	-0.7
EALK	Alkurruntz	7.95 263	Pn	Pn	18 48 05.5	-0.8
	comp=Z,1.2nm,0.2s,SNR=4.0					
EALK	Alkurruntz	7.95 263	Pn	Pn	18 48 05.6	-0.7
	comp=Z,1.2nm,0.2s,SNR=4.0					
EIBI	Ibiza	8.20 229	Pn	P	18 48 08.3	-1.6
	comp=Z,1.3nm,0.3s,SNR=4.0					
EIBI			Sn	Sn	18 49 32.2	-12
	comp=Z,2.9nm,0.4s,SNR=7.9					
EIBI	Ibiza	8.20 229	Pn	P	18 48 08.3	-1.5
	comp=Z,1.3nm,0.3s,SNR=4.0					
ELAN	Lanestosa	9.32 266	P	P	18 48 26.2	+1.0
ELAN	Lanestosa	9.32 266	P	P	18 48 26.2	+0.9
ROSF	Rostrenen	9.43 297	eP	P	18 48 26.8	0.0
EARI	Arriondas	10.57 268	P	P	18 48 42.3	0.0
	comp=Z,8.4nm,0.6s					
EARI	Arriondas	10.57 268	Pn	P	18 48 42.3	-0.1
	comp=Z,8.4nm,0.6s,SNR=7.8					
ESDC	Sonseca Array	11.05 248	Pn	P	18 48 48.4	-0.7
	comp=Z,0.3nm,0.3s,baz=61,slow=14,SNR=4.7					
FINES	FINESS Array B	19.48 25	P	P	18 50 34.2	-3.2
	comp=Z,0.1nm,0.3s,baz=203,slow=11,SNR=5.4					
ARCES	ARCESS Array B	26.24 13	P	P	18 51 41.7	-2.8
ARCES			pmax	pmax		
	comp=Z,4.0nm,1.0s					
ARCES	ARCESS Array B	26.24 13	P	P	18 51 41.7	-2.8
	comp=Z,4.3nm,1.0s,mb3.9,baz=187,slow=7.3,SNR=4.0					

*SOF **13** 18:52:23.3, 41.36N×22.56E, h1km, MD3.1*
*ATH **13** 18:52:25.6, 41.45N×22.68E, h24km±3km, MD3.5/5*
*NEIC **13** 18:52:25.6, 41.45N×22.68E, h24km, MD3.5(ATH), After ATH.*
*CSEM **13** 18:52:25.8±0.1, 41.44N×22.66E, h2km, ML3.6, Error ellipse: s-maj=2.1km s-min=1.5km az=127.0*
*SKO **13** 18:52:25.3, 41.39N×22.71E, h13km, ML2.6*
*THE **13** 18:52:26.2, 41.39N×22.67E, h10km, ML3.6*

ISC 13 18:52:25.7±0.5, 41.40N±0.02×22.69E±0.03, h3km±4km, n34, σ1§06/46, 8C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.12 229	⇑iPg	Pg	18 52 28.9	+0.7
VAY			⇑iSg	Sg	18 52 30.8	+1.0
GRG	Griva	0.49 206	ePg	Pg	18 52 35.4	-0.1
GRG			eSg	Sg	18 52 42.4	+0.3
KKB	Krupnik	0.55 32	Pg	Pg	18 52 36.8	+0.1
SRS	Serrai	0.74 112	ePg	Pg	18 52 40.0	-0.4
SRS			eSg	Sg	18 52 51.1	+0.9
SOH	Sokhos	0.76 139	ePg	Pg	18 52 40.6	-0.3
SOH			eSg	Sg	18 52 51.6	+0.5
THE	Thessaloniki	0.80 165	ePg	Pg	18 52 40.9	-0.7
THE			eSg	Sg	18 52 53.0	+0.8
MMB	Musomiste	0.80 76	Pg	Pg	18 52 41.4	-0.3
NVR	Nevrokopi	0.88 93	⇑iPN	Pn	18 52 42.8	-2.0
NVR			eSN	Sn	18 52 55.5	-2.7
SKO	Skopje	1.10 302	⇑iPg	Pg	18 52 48.0	+0.4
	comp=Z,0.1nm,0.5s					
SKO			i		18 52 52.2	
SKO			i Sg	Sg	18 53 02.0	-0.3
SKO			Lg		18 53 08.5	
	comp=Z,0.1nm,0.5s					
FNA	Florina	1.17 239	ePg	Pg	18 52 47.8	-1.2
FNA			eSg	Sg	18 53 03.9	-0.7
PLG	Polygyros	1.17 151	ePN	Pn	18 52 48.3	-0.6
PLG			eSN	Sn	18 53 05.0	-0.6
VTS	Vitosha	1.25 18	Pg	Pg	18 52 50.0	-0.7
KZN	Kozani	1.30 213	ePN	Pn	18 52 50.8	+0.1
KZN			eSN	Sn	18 53 09.4	+0.7
LIT	Litokhoron	1.31 187	ePb	Pb	18 52 49.8	-0.7
LIT			eSb	Sb	18 53 09.1	+1.5
OUR	Ouranopolis	1.45 137	ePb	Pb	18 52 52.9	-0.1
RZN	Rozhen	1.55 79	P	Pn	18 52 55.0	+0.7
PGB	Panagyurishte	1.59 43	P	Pn	18 52 55.5	+0.6
PAIG	Paliouri	1.65 153	ePb	Pb	18 52 56.3	-0.1
PLD	Plovdiv	1.66 64	eP	Pn	18 52 58.0	+2.1
QSH	Qafa e Shtames	2.10 274	i Sn	Sn	18 53 34.6	+5.5
NEO	Neokhori	2.13 169	ePN	Pn	18 53 02.0	-0.6
RDO	Rodhopi	2.16 96	⇓iPB	Pb	18 53 02.9	-2.2
DIM	Dimitrovgrad	2.22 72	eP	Pn	18 53 10.0	+6.0
AGG	Agios Georgios	2.39 187	ePn	Pn	18 53 06.2	-0.2
BOLS	Boljevac	2.49 348	⇓iPn	Pn	18 53 11.7	+4.0
BOLS			Sn	Sn	18 53 39.7	+0.7
ALN	Alexandroupoli	2.58 100	ePn	Pn	18 53 08.8	-0.2
PVL	Pavlikeni	2.67 46	eP	Pn	18 53 14.0	+3.7
DIVS	Divcibare	3.35 324	⇓iPn	Pn	18 53 18.8	-1.2
MLR	Muntele Rosu	4.72 29	⇓iP	Pn	18 53 42.5	+3.0
TIRR	Tirgusor	5.19 52	⇑iP	Pg	18 54 03.2	-6.2
VRI	Vrincioaia	5.34 32	⇑iP	Pn	18 53 49.3	+1.1
CFR	Carcaliu	5.48 45	⇓iP	Pn	18 53 51.9	+1.7
PKSM	Moragy	5.63 330	⇑iP	Pn	18 53 50.3	-2.0
PKSM	Moragy	5.63 330	⇑iP	Pn	18 53 50.3	-2.0

*CSEM **13** 18:59:44.8±0.2, 40.41N×20.40E, h5km, ML2.8, Error ellipse: s-maj=3.8km s-min=3.2km az=168.0*
*THE **13** 18:59:46.0, 40.44N×20.42E, h2km, ML2.8*

ISC 13 18:59:44.1±1.5, 40.45N±0.05×20.34E±0.10, h2km, n10, σ1§07/19, Greece-Albania border region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSK	Leskovik	0.36 147	i Pg	Pg	18 59 48.9	-2.3
LSK			i Sg	Sg	18 59 54.8	-1.2
KBN	Korca	0.38 63	i Pg	Pg	18 59 50.8	-0.9
KBN			i Sg	Sg	18 59 59.4	+2.6
KBN	Korca	0.38 63	ePg	Pg	18 59 50.8	-0.9
KBN			i Sg	Sg	18 59 59.4	+2.6
FNA	Florina	0.85 67	ePg	Pg	19 00 00.6	-0.5
FNA			eSg	Sg	19 00 13.3	+0.8
IGT	Igoumenitsa	0.92 181	ePg	Pg	19 00 02.5	+0.2
IGT			eSg	Sg	19 00 16.4	+1.8
GRG	Griva	1.64 71	ePb	Pb	19 00 14.5	-0.3
GRG			eSb	Sb

OXX	**Oaxaca**	**2.84 298**	*e*P	P	19 14 40.5	-3.0
VHO	**Vista Hermosa**	**2.84 298**	*i* P	P	19 14 42.8	-0.8
VHO			*i* S	S	19 15 16.7	-0.3
VHO	**Vista Hermosa**	**2.84 298**	*i* P	P	19 14 42.0	-1.6
VHO			*i* S	S	19 15 14.3	-2.7
EVV	**El Vigia**	**2.94 336**	*i* P	P	19 14 47.0	+2.1
EVV			*i* S	S	19 15 15.5	-3.9

NIED ***13*** *19:20:00, 42.60N×144.30E, h50km, Mw3.6 Best double couple: M₀2.99×10¹⁴ NP1:φs288°, δ81°, λ-131°. NP2: φs188°, δ42°, λ-13°.*
SKHL ***13*** *19:20:31.7±3.4, 42.83N×144.10E, h64km±5km, mb5.1/1*
JMA ***13*** *19:20:31.8±0.1, 42.64N×144.28E, h63km±1km, M3.8*
IDC ***13*** *19:20:32.9±3.3, 42.47N×144.26E, h73km±30km, mb3.1/2, mb1 3.4/4, mb1mx3.1/23, mbtmp3.4/4, Error ellipse: s-maj=33.9km s-min=22.2km az=91.0*
ISC 13 19:20:30.6±0.7, 42.58N±0.05×144.35E±0.05, h63km±6km, n20, σ0§77/33, mb3.2/2, 2C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.49**	**32**	⇓P	**P**	**19 20 43.6**	**+0.8**
JAK				*e*S	**S**	**19 20 52.2**	**+0.4**
JOB	**Onbets**	**0.50**	**311**	⇓P	**P**	**19 20 43.4**	**+0.5**
JOB				*e*S	**S**	**19 20 51.7**	**-0.2**
JCH	**Churui**	**0.73**	**273**	⇑P	**P**	**19 20 46.1**	**+0.6**
JCH				*e*S	**S**	**19 20 55.6**	**-1.0**
JAR	**Ashorobuto**	**0.83**	**330**	⇓P	**P**	**19 20 47.1**	**+0.3**
JAR				*e*S	**S**	**19 20 58.2**	**-0.6**
JNK	**Nakash**	**1.04**	**15**	⇓P	**P**	**19 20 49.8**	**+0.2**
JNK				*e*S	**S**	**19 21 01.9**	**-1.8**
JEM	**Erimo**	**1.05**	**238**	P	**P**	**19 20 50.5**	**+0.8**
JNBK	**Urakawa-nobuka**	**1.22**	**256**	P	**P**	**19 20 52.0**	**0.0**
NEM2	**Nemuro 2**	**1.29**	**52**	P	**P**	**19 20 53.3**	**+0.2**
NEM2				*e*S	**S**	**19 21 08.8**	**-0.9**
JFR	**Furan**	**1.41**	**295**	⇓P	**P**	**19 20 54.8**	**0.0**
JFR				*e*S	**S**	**19 21 11.3**	**-1.3**
JTKR	**Abashiri--Toko**	**1.43**	**347**	⇓P	**P**	**19 20 55.8**	**+0.8**
JTKR				*e*S	**S**	**19 21 13.9**	**+1.0**
JRA	**Rausu**	**1.47**	**22**	P	**P**	**19 20 56.4**	**+0.8**
JRA				*e*S	**S**	**19 21 14.8**	**+0.8**
JBT2	**Biratori 2**	**1.47**	**278**	⇑P	**P**	**19 20 55.1**	**-0.5**
JMP	**Maruseppu**	**1.60**	**334**	⇓P	**P**	**19 20 57.7**	**+0.4**
JMP				*e*S	**S**	**19 21 16.8**	**-0.1**
JKK2	**Kamakawa 2**	**1.74**	**318**	⇓P	**P**	**19 20 59.8**	**+0.6**
YUK	**Yuzh-Kuril'sk**	**1.83**	**37**	*e*P	**P**	**19 21 00.5**	**+0.1**
YUK				AMB	AMB	19 21 03.7	
	230nm,0.3s						
YUK				AMB	AMB	19 21 03.7	
	650nm,0.3s						
YUK				*i* S	**S**	**19 21 22.1**	**-0.3**
YUK				A		19 21 23.0	
	6μm,0.6s						
YUK				A		19 21 23.0	
	8μm,0.6s						
YUK				A		19 21 23.0	
	9μm,0.6s						
YUK				A		19 21 23.0	
	4μm,0.4s						
ASAJ	**Asahikawa**	**2.00**	**321**	P	**P**	**19 21 03.6**	**+0.9**
	19nm,0.3s,baz=134,slow=12,SNR=70						
ASAJ				S	**S**	**19 21 30.6**	**+4.1**
	16nm,0.3s,baz=279,slow=33,SNR=10						
KUR	**Kuril'sk**	**3.68**	**43**	*e*P	**P**	**19 21 25.0**	**-1.4**
KUR				*e*S	**S**	**19 22 08.0**	**-0.8**
KUR				A		19 22 19.0	
	91nm,0.6s						
KUR				A		19 22 19.0	
	76nm,0.6s						
MJAR	**Matsushiro Arr**	**7.67**	**220**	P	**P**	**19 22 21.1**	**-0.9**
	0.5nm,0.3s,baz=327,slow=15,SNR=5.1						
SONM	**Songino Array**	**27.05**	**294**	P	**P**	**19 26 08.0**	**-0.8**
	0.4nm,0.9s,mb3.0,baz=79,slow=7.3,SNR=2.4						
ILAR	**Eielson Array**	**43.64**	**35**	P	**P**	**19 28 30.9**	**+0.9**
	1.0nm,0.9s,mb3.5,baz=271,slow=6.8,SNR=9.2						

NEIC ***13*** *19:25:32.4±1.0, 2.78N×96.17E, h30km, Error ellipse: s-maj=22.6km s-min=15.2km az=59.0*
IDC ***13*** *19:25:38.1±13.0, 2.98N×96.39E, h74km±109km, mb3.6/6, mb1 3.7/7, mb1mx3.5/19, mbtmp3.9/7, ML4.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/13, Error ellipse: s-maj=103.4km s-min=19.0km az=59.0*
ISC 13 19:25:30.7±1.1, 2.8N±0.1×96.2E±0.2, h30km, n10, σ0§84/9, mb3.9/6, MS3.5/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.09**	**61**	*e*P	**Pn**	**19 26 46.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**15.79**	**10**	P	**P**	**19 29 14.7**	**+1.8**
	0.2nm,0.3s,baz=198,slow=12,SNR=21						
FITZ	**Fitzroy Crossi**	**35.69**	**127**	LR	LR	19 49 41.9	
	comp=Z,79nm,18.8s,MS3.5,baz=356,slow=40						
WRA	**Warramunga Arr**	**43.74**	**123**	P	**P**	**19 33 35.7**	**+0.3**
	0.7nm,0.5s,mb3.7,baz=302,slow=9.0,SNR=13						
ASAR	**Alice Springs**	**45.16**	**128**	P	**P**	**19 33 47.3**	**+0.4**
	0.2nm,0.4s,mb3.3,baz=301,slow=7.9,SNR=6.4						
SONM	**Songino Array**	**45.72**	**10**	P	**P**	**19 33 49.7**	**-1.2**
	0.8nm,0.5s,mb3.9,baz=189,slow=9.8,SNR=13						
SONM				PcP	PcP	19 35 29.0	+0.1
	0.3nm,0.3s,baz=198,slow=3.3,SNR=3.6						
ZAL	**Zalesovo**	**51.83**	**351**	P	**P**	**19 34 37.4**	**-0.8**
	1.0nm,0.3s,mb4.2,baz=297,slow=9.1,SNR=4.2						
FINES	**FINESS Array B**	**78.12**	**333**	P	**P**	**19 37 28.5**	**+0.1**
	1.7nm,0.9s,mb4.0,baz=90,slow=1.9,SNR=5.7						
ARCES	**ARCESS Array B**	**80.70**	**340**	P	**P**	**19 37 42.2**	**+0.1**
	6.0nm,1.0s,mb4.5,baz=97,slow=7.3,SNR=3.6						
ARCES	**ARCESS Array B**	**80.70**	**340**	P	**P**	**19 37 42.2**	**+0.1**

IDC 13 19:40:39.8±3.8, 1.45S×99.89E, mb3.8/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=149.2km s-min=21.2km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.80**	**357**	P	P	19 45 11.2	-3.6
	0.1nm,0.3s,baz=189,slow=9.9,SNR=10						
WRA	**Warramunga Arr**	**38.37**	**121**	P	P	19 48 02.5	-2.1
	0.6nm,0.5s,baz=304,slow=9.3,SNR=8.9						
ASAR	**Alice Springs**	**39.66**	**127**	P	P	19 48 14.2	-1.2
	0.9nm,0.6s,baz=304,slow=7.8,SNR=14						
SONM	**Songino Array**	**49.41**	**6**	P	P	19 49 31.9	-1.5
	0.3nm,0.5s,baz=190,slow=9.2,SNR=6.4						
ZAL	**Zalesovo**	**56.60**	**349**	P	P	19 50 24.4	-2.3
	1.4nm,0.5s,baz=218,slow=0.5,SNR=8.0						
TXAR	**Lajitas Array**	**144.33**	**37**	PKP	PKPdf	20 00 17.2	-3.2
	0.5nm,0.4s,baz=316,slow=1.4,SNR=4.7						

IGQ 13 20:06:38.4, 1.08S×81.17W, h16km±4km, mb4.0, 3C-7D, Error ellipse: s-maj=10.0km s-min=3.1km az=21.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.62**	**87**	⇓P	Pb	20 06 49.5	-0.9
SALI	**Salinas**	**1.11**	**171**	P	Pb	20 06 59.2	+0.4
JAMA	**Jama**	**1.26**	**50**	⇓P	Pb	20 07 01.4	+0.1
JAMA				S	Sb	20 07 18.8	+1.6
IGUA	**Igualata**	**2.56**	**99**	⇑P	Pn	20 07 21.6	+1.5
JUA2	**San Juan 2**	**2.71**	**71**	P	Pn	20 07 23.0	+0.9
TERV	**Terraza Guagua**	**2.72**	**71**	⇓P	Pn	20 07 23.7	+1.4
TERV				S	Sn	20 08 01.9	+6.8
PINO	**Pino**	**2.72**	**70**	P	Pn	20 07 23.2	+0.9
GGP	**Refugio Guagua**	**2.73**	**71**	⇓P	Pn	20 07 23.6	+1.2
NAS1	**Nasa**	**2.73**	**81**	P	Pn	20 07 25.0	+2.6
ARRY	**Arrayan**	**2.75**	**99**	P	Pn	20 07 24.1	+1.4
JOR1	**San Jorge 1**	**2.75**	**67**	P	Pn	20 07 21.7	-1.0
YANA	**Yana**	**2.77**	**70**	⇓P	Pn	20 07 23.9	+0.9
PISA	**Pisayambo**	**2.78**	**90**	P	Pn	20 07 25.1	+1.9
VC1	**Cotopaxi 1**	**2.80**	**81**	P	Pn	20 07 26.1	+2.6
TAMB	**Tambo**	**2.83**	**82**	P	Pn	20 07 27.2	+3.3
ANTI	**Antisana**	**3.07**	**78**	⇑P	Pn	20 07 29.9	+2.6
ANTI				S	Sn	20 08 10.1	+6.0
COTA	**Cotacachi**	**3.16**	**64**	⇑P	Pn	20 07 30.0	+1.5
CAYR	**Refugio Cayamb**	**3.34**	**71**	⇓P	Pn	20 07 34.5	+3.4
CAYR				S	Sn	20 08 16.4	+5.5
ELAGU	**Cayambe Volc**	**3.35**	**72**	P	Pn	20 07 32.4	+1.2
CAYA	**Cayambe**	**3.38**	**70**	⇓P	Pn	20 07 34.7	+3.1
ECEN	**Cerro Negro**	**3.72**	**59**	P	Pn	20 07 38.7	+2.3
ECEN				S	Sn	20 08 30.1	+10

NDI 13 20:09:19.7±2.4, 28.69N×76.79E, h11km±7km, MD2.9, ML2.7, 1C, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHGR	**Bahadurgarh**	**0.13**	**89**	*e*P	Pg	20 09 22.5	-0.5
BHGR				*e*S	Sg	20 09 26.2	+1.0
BHGR				*e*		20 09 27.4	
	comp=Z,2μm,0.1s						
AYAN	**Aya Nagar**	**0.36**	**124**	*e*P	Pg	20 09 27.0	-0.2
AYAN				*e*S	Sg	20 09 33.1	+1.0
NDI	**New Delhi**	**0.38**	**90**	*e*P	Pg	20 09 26.5	-1.0
NDI				*e*S	Sg	20 09 32.0	-0.7
SONA	**Sohna**	**0.51**	**149**	*e*P	Pg	20 09 29.2	-0.8
SONA				*e*S	Sg	20 09 37.0	+0.2
SONA				*e*S	Sg	20 09 37.2	+0.3
SONA				*e*		20 09 37.8	
	comp=N,244nm,0.2s						
SONA				*e*		20 09 38.0	
	comp=E,467nm,0.1s						
AGRA	**Agra**	**1.77**	**144**	*e*S	Sn	20 10 15.9	+2.5
KALG	**Kalgarh**	**1.91**	**64**	*e*P	Pn	20 09 34.2	-18
KALG				*e*S	Sn	20 10 00.2	-17
KALG				*e*		20 10 04.7	
	comp=N,33nm,0.1s						
DDI	**Dehra Dun**	**1.97**	**34**	*e*	Pn	20 10 17.0	+24
SMLA	**Simla**	**2.46**	**8**	⇑*i*	Pn	20 09 56.0	-4.5
SMLA				*i*		20 10 24.0	
SDNR	**Sundarnagar**	**2.81**	**3**	*e*P	Pn	20 10 06.0	+0.5
SDNR				*e*S	Sn	20 10 40.2	+0.5
KLP	**Kalpa**	**3.11**	**24**	*e*	Pn	20 10 15.4	+5.7
LGTI	**Loghaghat**	**3.12**	**75**	*e*	Pn	20 10 11.3	+1.4
THN	**Thein Dam**	**3.85**	**346**	*e*P	Pn	20 10 21.3	+1.1
THN				*e*		20 11 10.9	
POO	**Poona**	**10.46**	**196**	*e*	P	20 12 44.0	+51

WAR ***13*** *20:14:20.9, 50.07N×18.46E, h0km, ML2.4, Mining Induced*
PRU ***13*** *20:14:22.2, 50.11N×18.35E*
ISC 13 20:14:19.3±0.6, 50.12N±0.04×18.42E±0.04, n13, σ1§34/25, 3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**255**	⇓*i*PG	**Pg**	**20 14 25.1**	**+2.8**
RAC				⇓*e*SG	**Sg**	**20 14 28.1**	**+3.7**
RAC	**Raciborz**	**0.15**	**255**	⇓*i*Pg	**Pg**	**20 14 25.1**	**+2.8**
RAC				*e*Sg	**Sg**	**20 14 28.4**	**+4.0**
OKC	**Ostrava-Krasne**	**0.34**	**212**	*e*PG	**Pg**	**20 14 27.2**	**+1.2**
OKC				*e*SG	**Sg**	**20 14 32.1**	**+1.6**
	41nm,0.3s						
OJC	**Ojcow**	**0.89**	**83**	*e*PG	**Pg**	**20 14 37.0**	**0.0**
OJC				*e*SG	**Sg**	**20 14 51.0**	**+2.1**
DPC	**Dobruska-Polom**	**1.37**	**280**	*e*PG	**Pg**	**20 14 46.6**	**0.0**
DPC				*e*SG	**Sg**	**20 15 05.8**	**+1.0**
	29nm,0.5s						
NIE	**Niedzica**	**1.41**	**119**	*e*PG	**Pg**	**20 14 46.0**	**-1.5**
NIE				*e*SG	**Sg**	**20 15 05.0**	**-1.3**
KSP	**Ksiaz**	**1.54**	**299**	*e*PG	**Pg**	**20 14 49.0**	**-1.0**
KSP				*e*SG	**Sg**	**20 15 11.0**	**+0.4**
KOLL	**Kolacno**	**1.54**	**181**	*e*SN	**Sn**	**20 15 08.3**	**-0.9**
UPC	**Upice**	**1.59**	**285**	*e*SG	**Sg**	**20 15 12.5**	**+0.2**
VYHS	**Vyhne**	**1.65**	**170**	*e*PN	**Pn**	**20 14 50.2**	**+0.5**
VYHS				*e*SN	**Sn**	**20 15 12.3**	**+0.4**
CRVS	**Cervenica-Dubn**	**2.33**	**121**	*e*PN	**Pn**	**20 15 04.1**	**+4.8**
CRVS				*e*SN	**Sn**	**20 15 34.6**	**+5.6**
PRU	**Pruhonice**	**2.51**	**268**	*e*PG	**Pg**	**20 15 06.7**	**-2.6**
PRU				*e*SG	**Sg**	**20 15 38.7**	**-4.0**
KHC	**Kasperske Hory**	**3.30**	**254**	*e*PN	**Pn**	**20 15 12.5**	**-0.8**
KHC				*e*PG	**Pg**	**20 15 20.3**	**-4.9**
KHC				*e*SG	**Sg**	**20 16 06.8**	**-2.4**

IDC ***13*** *20:18:57.1±1.8, 1.83S×99.61E, mb3.8/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.9/8, Error ellipse: s-maj=80.2km s-min=17.1km az=55.0*
NEIC ***13*** *20:19:01.9±0.9, 1.75S×99.73E, h30km, Error ellipse: s-maj=31.4km s-min=9.7km az=64.0*
ISC 13 20:19:00.4±1.3, 1.7S±0.2×99.8E±0.3, h30km, n10, σ0§61/9, mb3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.95**	**7**	P	**Pn**	**20 20 43.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**20.01**	**358**	P	**P**	**20 23 33.1**	**-0.6**
	1.1nm,0.6s,baz=186,slow=10,SNR=16						
FITZ	**Fitzroy Crossi**	**30.16**	**124**	P	**P**	**20 25 09.7**	**-0.6**
	1.9nm,0.8s,mb3.9,baz=252,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**38.32**	**121**	P	**P**	**20 26 20.1**	**-0.4**
	0.6nm,0.4s,mb3.6,baz=304,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**39.60**	**126**	P	**P**	**20 26 32.0**	**+0.9**
	0.4nm,0.6s,mb3.3,baz=301,slow=8.3,SNR=7.5						
SONM	**Songino Array**	**49.62**	**6**	P	**P**	**20 27 51.9**	**+0.8**
	1.3nm,0.7s,mb4.1,baz=188,slow=9.4,SNR=17						
ZAL	**Zalesovo**	**56.79**	**349**	P	**P**	**20 28 44.4**	**+0.2**
	2.1nm,0.6s,mb4.3,baz=308,slow=4.6,SNR=13						
BVAR	**Borovoye Array**	**59.80**	**340**	P	**P**	**20 29 04.3**	**-0.9**
	0.6nm,0.4s,mb3.9,baz=141,slow=9.5,SNR=6.0						
FINES	**FINESS Array B**	**83.73**	**332**	P	**P**	**20 31 28.1**	**+0.5**
	0.5nm,0.7s,mb3.8,baz=90,slow=5.7,SNR=6.1						
TXAR	**Lajitas Array**	**144.54**	**37**	PKP	PKPdf	20 38 35.8	-3.9
	0.6nm,0.5s,baz=213,slow=0.6,SNR=5.6						

IDC 13 21:08:00.8±3.7, 0.83N×96.92E, mb3.8/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=132.8km s-min=23.7km az=63.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.63**	**6**	P	P	21 12 08.6	-1.1
	0.1nm,0.3s,baz=196,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**42.08**	**121**	P	P	21 15 54.6	-1.8
	0.8nm,0.8s,baz=308,slow=8.5,SNR=6.4						
ASAR	**Alice Springs**	**43.40**	**127**	P	P	21 16 05.7	-1.5
	1.0nm,1.0s,baz=297,slow=8.0,SNR=4.1						
SONM	**Songino Array**	**47.54**	**9**	P	P	21 16 37.7	-2.2
	0.2nm,0.3s,baz=199,slow=8.0,SNR=5.6						
ZAL	**Zalesovo**	**53.87**	**351**	P	P	21 17 25.7	-2.2
	2.9nm,0.5s,baz=300,slow=3.7,SNR=8.5						

MAN 13 21:08:38.2, 12.71N×122.75E, h8km, mb4.3, ML3.1, MS2.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.61**	**353**	*e*P	Pg	21 08 50.4	-0.1
AUQP				*e*S	Sg	21 09 03.3	+4.6
BOAC	**Boac**	**1.16**	**310**	*e*P	Pb	21 08 59.5	-0.5
GQP	**Guinayangan**	**1.22**	**346**	*i* P	Pb	21 09 00.5	-0.6
GQP				*e*S	Sb	21 09 18.7	+1.8
POLP	**Polilio Island**	**2.15**	**339**	*e*P	Pn	21 09 14.4	-0.5

IDC ***13*** *21:21:05.6±1.7, 1.04N×98.07E, mb4.1/6, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, ML4.1/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/27, Error ellipse: s-maj=75.0km s-min=20.8km az=58.0*
BJI ***13*** *21:21:10.0, 1.22N×98.77E, h27km, mB5.1, mb4.9, Ms4.1*
NEIC ***13*** *21:21:10.2±0.7, 1.07N×98.15E, h30km, mb4.3/7, Error ellipse: s-maj=18.2km s-min=10.5km az=57.0*
ISC 13 21:21:08.9±0.9, 1.1N±0.1×98.1E±0.1, h33km, n24, σ0§76/21, mb4.3/14, MS3.6/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.88**	**31**	*e*P	**P**	**21 22 23.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**17.29**	**3**	P	**P**	**21 25 08.8**	**-0.7**
	0.3nm,0.3s,baz=191,slow=11,SNR=15						
SHL	**Shillong**	**25.08**	**347**	*e*P	**P**	**21 26 33.0**	**+0.8**
JIRN	**Jiri**	**28.80**	**338**	*e*P	**P**	**21 27 06.2**	**0.0**
	8.6nm,0.9s,mb4.5						
PKI	**Pulchoki**	**29.03**	**336**	*e*P	**P**	**21 27 09.5**	**+1.2**
GUN	**Gumba**	**29.14**	**337**	*e*P	**P**	**21 27 09.2**	**-0.1**
	12nm,0.4s,mb5.0						
DMN	**Daman**	**29.18**	**336**	*e*P	**P**	**21 27 10.1**	**+0.4**
	9.7nm,0.9s,mb4.5						
LSA	**Lhasa**	**29.23**	**347**	P	**P**	**21 27 10.0**	**0.0**
LSA	**Lhasa**	**29.23**	**347**	*e*P	**P**	**21 27 09.8**	**-0.2**
	3.7nm,0.4s,mb4.5						
KKN	**Kakani**	**29.27**	**336**	*e*P	**P**	**21 27 10.2**	**-0.3**
	15nm,1.1s,mb4.6						
GKN	**Gorkha**	**29.72**	**335**	*e*P	**P**	**21 27 14.2**	**-0.3**
	31nm,1.2s,mb4.9						
KOLN	**Koldanda**	**29.97**	**334**	*e*P	**P**	**21 27 16.7**	**+0.1**
	6.3nm,0.7s,mb4.5						
ENH	**Enshi**	**30.97**	**19**	P	**P**	**21 27 22.7**	**-2.8**
FITZ	**Fitzroy Crossi**	**33.11**	**126**	LR	LR	21 41 48.3	
	comp=Z,89nm,19.4s,MS3.5,baz=68,slow=38						
WRA	**Warramunga Arr**	**41.19**	**122**	P	**P**	**21 28 52.0**	**-0.4**
	0.9nm,0.8s,mb3.5,baz=304,slow=8.9,SNR=3.4						
ASAR	**Alice Springs**	**42.58**	**128**	P	**P**	**21 29 04.3**	**+0.4**
	0.2nm,0.4s,mb3.2,baz=293,slow=8.0,SNR=2.9						
ASAR	**Alice Springs**	**42.58**	**128**	P	**P**	**21 29 04.3**	**+0.4**
SONM	**Songino Array**	**47.12**	**8**	P	**P**	**21 29 39.9**	**+0.1**
	1.2nm,0.4s,mb4.2,baz=189,slow=9.2,SNR=23						
SONM				PcP	PcP	21 31 11.6	-0.1
	0.7nm,0.7s,baz=194,slow=2.8,SNR=4.4						
CTA	**Charters Tower**	**51.62**	**117**	LR	LR	21 55 01.8	
	comp=Z,72nm,18.6s,MS3.7,baz=48,slow=39						
ZAL	**Zalesovo**	**53.82**	**350**	P	**P**	**21 30 30.4**	**-0.4**
	2.5nm,0.4s,mb4.5,baz=326,slow=3.2,SNR=6.5						
CHKZ	**Chkalovo**	**57.14**	**341**	*e*P	**P**	**21 30 53.5**	**-1.2**
	1.7nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**80.53**	**332**	P	**P**	**21 33 19.4**	**+0.1**
	0.9nm,0.8s,mb3.8,baz=104,slow=5.7,SNR=5.6						
ARCES	**ARCESS Array B**	**82.96**	**340**	P	**P**	**21 33 32.3**	**+0.7**
	4.9nm,1.0s,mb4.5,baz=106,slow=6.6,SNR=4.3						
TXAR	**Lajitas Array**	**143.27**	**33**	PKP	PKPdf	21 40 42.1	+1.6
	0.2nm,0.4s,baz=315,slow=1.3,SNR=3.1						

IDC 13 21:29:46.2±1.6, 13.48N×92.86E, mb3.7/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=51.0km s-min=23.1km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.66**	**49**	Pn	Pn	21 31 39.3	-2.5
	0.3nm,0.3s,baz=238,slow=15,SNR=9.2						
CMAR				Sn	Sn	21 33 00.8	-10
	0.3nm,0.3s,baz=239,slow=26,SNR=5.5						
SONM	**Songino Array**	**36.06**	**16**	P	P	21 36 49.4	-1.9
	0.7nm,1.0s,baz=202,slow=6.7,SNR=4.5						
ZAL	**Zalesovo**	**40.86**	**353**	P	P	21 37 29.6	-1.8
	0.8nm,0.3s,baz=285,slow=3.4,SNR=5.1						
WRA	**Warramunga Arr**	**52.62**	**128**	P	P	21 39 02.1	-2.4
	0.4nm,0.6s,baz=307,slow=8.0,SNR=5.5						
ASAR	**Alice Springs**	**54.53**	**132**	P	P	21 39 16.4	-2.1
	0.3nm,0.4s,baz=315,slow=7.0,SNR=7.6						
FINES	**FINESS Array B**	**67.20**	**331**	P	P	21 40 42.1	-2.1
	1.9nm,1.0s,baz=135,slow=7.9,SNR=3.5						

BJI ***13*** *21:33:49.1, 2.59S×100.02E, h29km, mB4.8, mb4.8, Ms4.5, Msz4.2*
NEIC ***13*** *21:33:57.9±0.3, 1.69S×99.96E, mb4.7/11, Error ellipse: s-maj=11.0km s-min=5.9km az=59.0*
IDC ***13*** *21:34:01.6±3.6, 1.69S×99.99E, h61km±31km, mb4.1/15, mb1 4.2/15, mb1mx4.1/20, mbtmp4.4/15, MS3.3/3, Ms1 3.4/3, ms1mx2.9/31, Error ellipse: s-maj=21.4km s-min=11.2km az=44.0*
ISC 13 21:33:56.7±0.4, 1.72S±0.07×99.95E±0.08, h33km, (h29km±1.3km:pP-P), n45, σ0§89/43, mb4.6/26, MS3.7/6, 1C-3D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.99**	**6**	*e*P	**P**	**21 35 38.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**20.07**	**357**	P	**P**	**21 38 26.3**	**-3.8**
	3.5nm,0.6s,baz=187,slow=9.8,SNR=27						
CMAR				LR	LR	21 46 50.8	
	comp=Z,37nm,18.3s,MS2.8,baz=190,slow=38						
QIZ	**Qiongzhong**	**22.79**	**25**	*e*P	**P**	**21 38 59.0**	**+1.2**
QIZ				*e*S	**S**	**21 43 00.6**	**+0.5**
QIZ				LR	LR		
	comp=Z,366nm,11.1s,MS4.1						
QIZ	**Qiongzhong**	**22.79**	**25**	*e*P	**P**	**21 38 58.7**	**+0.9**
FITZ	**Fitzroy Crossi**	**30.01**	**124**	⇑*i*P	**P**	**21 40 04.0**	**-0.8**
	comp=Z,12nm,0.8s,mb4.7						
FITZ				*i*	pP	21 40 12.3	-2.1
FITZ	**Fitzroy Crossi**	**30.01**	**124**	P	**P**	**21 40 04.1**	**-0.7**
	comp=Z,16nm,0.8s,mb4.8,baz=289,slow=5.2,SNR=8.1						
FITZ				LR	LR	21 53 08.6	
	comp=Z,97nm,20.1s,MS3.4,baz=353,slow=38						
JIRN	**Jiri**	**32.07**	**337**	*e*P	**P**	**21 40 23.1**	**+0.2**
	comp=Z,23nm,0.7s,mb5.1						
PKI	**Pulchoki**	**32.31**	**335**	*e*P	**P**	**21 40 24.9**	**-0.1**
LSA	**Lhasa**	**32.35**	**346**	P	**P**	**21 40 26.4**	**+1.0**
LSA	**Lhasa**	**32.35**	**346**	*e*P	**P**	**21 40 26.0**	**+0.6**
	comp=Z,7.3nm,0.6s,mb4.7						
GUN	**Gumba**	**32.41**	**336**	*e*P	**P**	**21 40 26.1**	**+0.1**
	comp=Z,28nm,0.7s,mb5.2						
DMN	**Daman**	**32.47**	**335**	*e*P

comp=N,157nm,17.2s,MS4.0
WMQ LR LR
comp=E,20nm,16.3s,MS4.0
WMQ LR LR
comp=Z,120nm,16.2s,MS3.9
STKA Stephens Creek 49.37 132 *e*P **P 21 42 47.0 +1.7**
comp=Z,2.6nm,0.5s,mb4.5
STKA Stephens Creek 49.37 132 P **P 21 42 46.4 +1.1**
comp=Z,2.6nm,0.5s,mb4.5,baz=328,slow=10,SNR=12
SONM Songino Array 49.67 6 P **P 21 42 47.4 +0.1**
comp=Z,5.9nm,0.7s,mb4.7,baz=187,slow=9.0,SNR=67
SONM PcP PcP 21 44 08.3 -0.2
comp=Z,2.3nm,0.8s,baz=186,slow=4.3,SNR=6.1
ULN Ulaanbaatar 49.77 6 *e*P **P 21 42 48.2 +0.1**
comp=Z,6.2nm,0.8s,mb4.7
MJAR Matsushiro Arr 52.09 39 P **P 21 43 04.8 -1.0**
comp=Z,0.7nm,0.4s,mb3.9,baz=206,slow=7.4,SNR=4.5
ZAL Zalesovo 56.87 349 P **P 21 43 40.1 -0.5**
comp=Z,13nm,0.5s,mb5.2,baz=316,slow=5.5,SNR=61
ASAJ Asahikawa 59.41 35 LR LR 22 14 21.4
comp=Z,30nm,18.8s,MS3.4,baz=327,slow=41
BVAR Borovoye Array 59.90 340 P **P 21 44 00.1 -1.6**
comp=Z,4.4nm,0.6s,mb4.6,baz=143,slow=8.7,SNR=30
KMBO Kilima Mbogo 62.68 270 P **P 21 44 21.1 +0.2**
comp=Z,0.6nm,0.6s,mb3.9,baz=60,slow=21,SNR=2.8
MATP Matopo 72.03 249 P **P 21 45 19.4 -0.3**
comp=Z,2.0nm,0.8s,mb4.1,baz=91,slow=5.2,SNR=3.5
BRTR Keskin Array B 73.10 312 P **P 21 45 24.4 -1.4**
comp=Z,1.0nm,0.6s,mb3.9,baz=153,slow=6.4,SNR=5.2
FINES FINESS Array B 83.84 332 P **P 21 46 24.5 +0.5**
comp=Z,2.0nm,0.6s,mb4.5,baz=100,slow=4.8,SNR=23
ARCES ARCESS Array B 86.19 340 P **P 21 46 36.6 +1.1**
comp=Z,4.1nm,0.9s,mb4.6,baz=90,slow=6.1,SNR=7.3
GERES GERESS Array B 88.81 319 P **P 21 46 49.3 +0.7**
comp=Z,0.7nm,0.7s,mb4.1,baz=90,slow=4.0,SNR=7.9
HFS Hagfors 89.60 330 P **P 21 46 53.2 +1.1**
comp=Z,0.7nm,0.5s,mb4.3,baz=135,slow=6.3,SNR=7.6
YKA Yellowknife Ar 114.11 17 PKP PKPdf 21 52 33.5 +1.1
comp=Z,0.2nm,0.7s,baz=324,slow=1.4,SNR=4.8
YKA Yellowknife Ar 114.11 17 PKP PKPdf 21 52 33.5 +1.1
TXAR Lajitas Array 144.50 37 PKP PKPdf 21 53 32.0 +1.6
comp=Z,3.6nm,0.7s,baz=276,slow=1.7,SNR=29
CFAA Coronel Fontan 145.02 198 PKPbc PKPbc 21 53 33.1 +1.6
comp=Z,0.9nm,0.7s,baz=166,slow=3.8,SNR=13
JCT Junction City 145.81 31 *e*PKPdf PKPdf 21 53 35.4 +2.8
SIV San Ignacio 154.29 226 PKPbc PKPdf 21 53 56.0 +10
comp=Z,0.9nm,0.8s,baz=180,slow=5.1,SNR=5.1

IDC 13 21:41:56.7±4.1, 0.35S×96.95E, mb3.7/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=149.9km s-min=26.8km az=61.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.79**	**6**	P	P	21 46 18.7	-1.2
	0.2nm,0.3s,baz=197,slow=9.4,SNR=4.7						
WRA	**Warramunga Arr**	**41.45**	**120**	P	P	21 49 45.3	-1.7
	0.6nm,0.8s,baz=300,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**42.69**	**126**	P	P	21 49 55.8	-1.5
	0.3nm,0.4s,baz=300,slow=7.6,SNR=4.8						
ZAL	**Zalesovo**	**55.03**	**351**	P	P	21 51 29.5	-2.8
	1.0nm,0.4s,baz=307,slow=5.3,SNR=4.8						

*NEIC **13** 21:51:43.2, 53.30N×166.31W, h16km, mb3.9/2, ML4.2(PMR), ML3.9(AEIC), After AEIC.*
*IDC **13** 21:51:45.4±5.2, 53.46N×166.48W, h70km±48km, mb3.5/4, mb1 3.8/6, mb1mx3.4/25, mbtmp3.8/6, ML3.5/2, MS2.8/1, Ms1 2.9/1, ms1mx2.5/24, Error ellipse: s-maj=56.7km s-min=20.3km az=164.0*

ISC 13 21:51:42.9±0.7, 53.40N±0.10×166.47W±0.08, h59km±6km, n39, σ0°90/45, mb3.7/5, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.45**	**358**	P	**P**	**21 51 53.7**	**-0.6**
UNV				S	**S**	**21 52 02.3**	**-0.3**
MNAT	**Makushin Natee**	**0.50**	**345**	P	**P**	**21 51 54.9**	**+0.1**
MSW	**Makushin Switc**	**0.55**	**340**	P	**P**	**21 51 55.8**	**+0.5**
AHB	**Akutan Harbor**	**0.81**	**28**	P	**P**	**21 51 58.2**	**-0.4**
AKUT	**Akutan**	**0.84**	**29**	P	**P**	**21 51 58.4**	**-0.6**
AKUT				S	**S**	**21 52 10.4**	**-0.6**
AKA	**Akutan**	**0.84**	**29**	P	**P**	**21 51 58.5**	**-0.5**
WESS	**West Dahl Sout**	**1.50**	**43**	P	**P**	**21 52 07.8**	**-0.3**
NIKO	**Nikolski**	**1.50**	**254**	P	**P**	**21 52 08.4**	**+0.4**
NIKO				S	**S**	**21 52 28.1**	**+1.5**
WFAR	**Faris Peak**	**1.52**	**41**	P	**P**	**21 52 08.2**	**-0.2**
WESN	**West Dahl Nort**	**1.61**	**43**	P	**P**	**21 52 09.6**	**-0.1**
SSLS	**Shishaldin Sou**	**1.96**	**47**	P	**P**	**21 52 14.5**	**0.0**
SSLS				S	**S**	**21 52 39.4**	**+1.5**
SSLN	**Shishaldin Nor**	**2.03**	**45**	P	**P**	**21 52 15.3**	**-0.1**
FALS	**False Pass**	**2.31**	**50**	P	**P**	**21 52 19.5**	**0.0**
FALS				S	**S**	**21 52 48.4**	**+1.6**
BALA	**Baldy Mountain**	**2.81**	**49**	P	**P**	**21 52 26.7**	**+0.3**
DT1	**Dutton Round H**	**2.99**	**54**	P	**P**	**21 52 29.2**	**+0.1**
DTNA	**Dutton South F**	**3.03**	**53**	P	**P**	**21 52 29.3**	**-0.3**
DOL	**Dolgoi Island**	**3.22**	**55**	P	**P**	**21 52 31.3**	**-1.0**
HAG	**Hague Volcano**	**3.29**	**52**	P	**P**	**21 52 33.0**	**-0.3**
BLHA	**Black Hill**	**3.45**	**46**	P	**P**	**21 52 34.8**	**-0.7**
SDPT	**Sand Point**	**4.01**	**59**	P	**P**	**21 52 42.9**	**-0.5**
GSTR	**Great Sitkin T**	**5.97**	**261**	*e*P	**P**	**21 53 11.1**	**+0.4**
KIWB	**Kanaga Island**	**6.69**	**261**	*e*P	**P**	**21 53 20.0**	**-0.7**
KDAK	**Kodiak Island**	**9.00**	**55**	*e*P	**P**	**21 53 53.3**	**+0.7**
SVW2	**Sparrevohn**	**9.70**	**33**	*e*P	**P**	**21 54 04.3**	**+2.3**
FX1	**Attu Island--F**	**12.24**	**276**	P	**P**	**21 54 36.5**	**+0.1**
	0.7nm,0.3s,baz=84,slow=19,SNR=14						
FX1				S	**S**	**21 56 51.6**	**-0.3**
	baz=114,slow=23,SNR=1.8						
IMA	**Indian Mountai**	**14.20**	**22**	*e*P	**P**	**21 55 05.7**	**+3.7**
ILAR	**Eielson Array**	**15.11**	**33**	P	**P**	**21 55 13.3**	**-0.5**
	0.2nm,0.3s,baz=229,slow=11,SNR=8.8						
ILAR				LR	LR	22 01 27.9	
	comp=Z,37nm,18.8s,baz=180,slow=39						
MENT	**Mentasta**	**15.25**	**42**	*e*P	**P**	**21 55 17.0**	**+1.4**
DAWY	**Dawson**	**17.49**	**42**	P	**P**	**21 55 42.6**	**-1.2**
DLBC	**Dease Lake**	**20.85**	**61**	P	**P**	**21 56 24.2**	**+2.6**
	2.0nm,0.3s,baz=188,slow=22,SNR=5.4						
INK	**Inuvik**	**21.52**	**33**	P	**P**	**21 56 27.9**	**-0.4**
	4.0nm,0.6s,mb4.0,baz=251,slow=12,SNR=14						
INK	**Inuvik**	**21.52**	**33**	P	**P**	**21 56 26.3**	**-2.0**
	4.2nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**28.23**	**51**	P	**P**	**21 57 30.9**	**-0.9**
	0.4nm,0.4s,mb3.8,baz=274,slow=8.2,SNR=14						
YKA	**Yellowknife Ar**	**28.23**	**51**	P	**P**	**21 57 30.9**	**-0.9**
BW06	**Boulder Array**	**38.50**	**82**	P	**P**	**21 59 04.2**	**+3.5**
MNTX	**Cornudas Mount**	**48.28**	**91**	*e*P	**P**	**22 00 20.1**	**+0.4**
	0.6nm,0.6s,mb3.8						
WMOK	**Wichita Mounta**	**50.10**	**83**	P	**P**	**22 00 32.4**	**-1.3**
TXAR	**Lajitas Array**	**51.00**	**92**	P	**P**	**22 00 40.1**	**-0.6**
	0.4nm,0.6s,mb3.5,baz=297,slow=5.6,SNR=4.0						
CMAR	**Chiang Mai Arr**	**78.08**	**285**	P	**P**	**22 03 36.5**	**-0.3**
	0.4nm,0.6s,mb3.6,baz=13,slow=5.8,SNR=4.6						

NEIC 13 21:55:15.7, 38.62N×118.52W, h8km, ML3.5(REN), 1C, After REN., California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNV	**Mina**	**0.34**	**123**	⇑*e*P	Pg	21 55 22.4	-0.3
MNV				*e*S	Sg	21 55 27.1	-0.4
OMM	**Old Mammoth Mi**	**1.07**	**201**	*e*P	Pb	21 55 35.4	-0.6
TPH	**Tonopah**	**1.16**	**118**	*e*P	Pb	21 55 37.3	-0.2
WCN	**Washoe City**	**1.18**	**306**	*e*P	Pb	21 55 37.8	-0.1
PAHR	**Pah Rah Range**	**1.27**	**328**	*e*P	Pb	21 55 39.4	-0.2
CMB	**Columbia Colle**	**1.58**	**249**	*e*P	Pn	21 55 43.8	-0.4
BMN	**Battle Mountai**	**2.07**	**29**	*e*Pn	Pn	21 55 50.0	-1.2
TRCR	**Troy Canyon**	**2.32**	**96**	*e*Pn	Pn	21 55 54.4	-0.4
DAC	**Darwin (Calif)**	**2.45**	**162**	Pn	Pn	21 55 55.4	-1.3
SAO	**San Andreas Ge**	**2.97**	**232**	*e*Pn	Pn	21 56 03.5	-0.5
ELK	**Elko**	**3.30**	**49**	*e*Pn	Pn	21 56 07.5	-1.3
MOD	**Modoc**	**3.55**	**338**	*e*Pn	Pn	21 56 10.8	-1.5
WDC	**Whiskeytown Da**	**3.67**	**303**	*e*Pn	Pn	21 56 11.9	-2.2
ARUT	**Antelope Range**	**4.09**	**100**	Pn	Pn	21 56 19.6	-0.4
BGU	**Big Grassy Mou**	**4.81**	**60**	*e*Pn	Pn	21 56 28.6	-1.6
MSU	**Marysvale**	**4.97**	**89**	*e*Pn	Pn	21 56 30.2	-2.3
NLU	**North Lily Min**	**5.17**	**73**	Pn	Pn	21 56 34.3	-1.0
SPUT	**South Promonto**	**5.38**	**58**	Pn	Pn	21 56 36.2	-2.1
TMUT	**Trail Mountain**	**5.74**	**81**	Pn	Pn	21 56 40.6	-2.7
HLID	**Hailey**	**5.83**	**31**	*e*Pn	Pn	21 56 41.4	-3.2
SRU	**San Rafael**	**6.26**	**83**	Pn	Pn	21 56 48.8	-1.9
WUAZ	**Wupatki**	**6.50**	**116**	Pn	Pn	21 56 52.6	-1.4
TPAW	**Teton Pass**	**7.51**	**47**	Pn	Pn	21 57 06.9	-1.3
RWWY	**Rawlins**	**9.19**	**67**	Pn	P	21 57 28.4	-3.1

*IDC **13** 22:01:48.0±1.3, 0.59S×97.18E, mb4.1/7, mb1 4.3/8, mb1mx4.0/18, mbtmp4.1/8, ML3.8/1, MS3.6/3, Ms1 3.6/3, ms1mx2.8/30, Error ellipse: s-maj=57.5km s-min=18.1km az=56.0*
*NEIC **13** 22:01:52.7±0.8, 0.61S×97.23E, h30km, mb4.0/2, Error ellipse: s-maj=30.4km s-min=10.9km az=64.0*

ISC 13 22:01:50.8±1.3, 0.6S±0.1×97.2E±0.3, h33km, n17, σ0°73/11, mb4.0/8, MS3.6/3, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**19.01**	**5**	*e*P	**P**	**22 06 13.3**	**+0.7**
	7.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**19.01**	**5**	P	**P**	**22 06 12.4**	**-0.2**
	0.1nm,0.3s,baz=196,slow=11,SNR=23						
ENH	**Enshi**	**32.87**	**20**	*e*P	**P**	**22 08 23.7**	**-0.2**
WRA	**Warramunga Arr**	**41.16**	**120**	P	**P**	**22 09 33.4**	**-0.6**
	2.1nm,0.9s,mb3.8,baz=297,slow=9.1,SNR=8.0						
WRAB	**Tennant Creek**	**41.16**	**120**	*e*P	**P**	**22 09 34.0**	**0.0**
	5.0nm,1.0s,mb4.1						
ASAR	**Alice Springs**	**42.38**	**126**	P	**P**	**22 09 44.5**	**+0.5**
	1.7nm,0.7s,mb3.8,baz=298,slow=7.6,SNR=17						
SONM	**Songino Array**	**48.90**	**8**	P	**P**	**22 10 35.8**	**+0.3**
	1.1nm,0.8s,mb4.0,baz=189,slow=9.6,SNR=13						
SONM				PcP	PcP	22 11 59.4	-0.5
	0.9nm,0.8s,baz=176,slow=3.9,SNR=4.9						
SONM				LR	LR	22 33 03.8	
	comp=Z,65nm,18.9s,MS3.6,baz=116,slow=38						
CTA	**Charters Tower**	**51.77**	**115**	LR	LR	22 34 18.4	
	comp=Z,77nm,18.4s,MS3.8,baz=228,slow=38						
STKA	**Stephens Creek**	**52.21**	**131**	P	**P**	**22 11 01.1**	**+0.2**
	4.1nm,0.9s,mb4.3,baz=280,slow=5.6,SNR=4.9						
ZAL	**Zalesovo**	**55.30**	**351**	P	**P**	**22 11 22.8**	**-0.6**
	1.5nm,0.4s,mb4.4,baz=284,slow=7.7,SNR=10.0						
KMBO	**Kilima Mbogo**	**59.89**	**269**	LR	LR	22 32 31.6	
	comp=Z,30nm,21.8s,MS3.4,baz=77,slow=31						
FINES	**FINESS Array B**	**81.56**	**333**	P	**P**	**22 14 05.5**	**-0.9**
	1.8nm,0.7s,mb4.1,baz=72,slow=6.0,SNR=9.3						
GERES	**GERESS Array B**	**86.12**	**319**	P	**P**	**22 14 33.1**	**+3.4**
	0.7nm,0.9s,mb3.9,baz=104,slow=4.0,SNR=4.1						
PV01	**Paradox Valley**	**135.78**	**29**	*e*PKPdf	PKPdf	22 21 10.9	+2.2
TXAR	**Lajitas Array**	**145.20**	**33**	PKPbc	PKPbc	22 21 28.0	+1.9
	2.6nm,0.8s,baz=284,slow=2.1,SNR=18						
SWET	**Sewanee**	**145.43**	**4**	*e*PKPdf	PKPdf	22 21 31.0	+5.0
JCT	**Junction City**	**146.19**	**27**	*e*PKPdf	PKPdf	22 21 30.2	+2.8
JCT				*ep*PKPdf		22 21 40.1	

IDC 13 22:09:18.3±40.0, 14.59S×176.37W, mb4.3/3, mb1 4.5/3, mb1mx3.8/16, mbtmp4.3/3, 1C-2D, Error ellipse: s-maj=746.6km s-min=157.7km az=76.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.98**	**238**	P	P	22 17 09.8	-3.1
	1.7nm,0.5s,baz=95,slow=10,SNR=6.8						
WB2	**Warramunga Arr**	**47.23**	**256**	⇓*i*P	P	22 17 54.4	-0.9
WRA	**Warramunga Arr**	**47.24**	**256**	P	P	22 17 54.3	-1.1
	0.5nm,0.3s,baz=86,slow=8.2,SNR=29						
ASAR	**Alice Springs**	**47.64**	**251**	P	P	22 17 57.0	-1.5
	7.2nm,0.5s,baz=89,slow=8.0,SNR=133						
ASPA	**Alice Springs**	**47.65**	**251**	⇓*i*P	P	22 17 56.8	-1.7
KAKA	**Kakadu**	**49.70**	**266**	⇑*i*P	P	22 18 17.3	+2.8
	2.1nm,0.2s						

*NIED **13** 22:18:00, 33.70N×130.20E, h5km, Mw3.8 Best double couple: M=5.63×10^14 NP1:φs=111°, δ=89°, λ=-49°. NP2: φs=202°, δ=41°, λ=-179°.*

JMA 13 22:18:14.4, 33.70N×130.23E, h5km, M3.8, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.30**	**154**	⇑P	Pg	22 18 20.5	0.0
JII	**Iki**	**0.43**	**283**	⇓P	Pg	22 18 23.0	+0.1
JII				S	Sg	22 18 29.0	+0.3
JFA	**Akaike**	**0.47**	**88**	⇓P	Pg	22 18 23.6	-0.3
JFA				S	Sg	22 18 30.1	-0.1
JTA	**Tamana**	**0.78**	**161**	⇑P	Pg	22 18 29.3	-0.6
JTA				S	Sg	22 18 39.9	-0.4

*LDG **13** 22:18:07.7±0.3, 19.35S×169.37E, h10km, Mb4.0/1, Error ellipse: s-maj=25.3km s-min=5.2km az=122.0*
*NEIC **13** 22:18:08.5±0.9, 19.36S×168.98E, h10km, mb4.3/1, Error ellipse: s-maj=36.7km s-min=13.7km az=138.0*
*IDC **13** 22:18:15.8±4.3, 19.69S×168.93E, h71km±42km, mb3.9/9, mb1 4.1/10, mb1mx3.9/18, mbtmp4.2/10, ML4.6/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/23, Error ellipse: s-maj=49.1km s-min=25.5km az=155.0*

ISC 13 22:18:15.0±3.3, 19.75±0.3×168.9E±0.2, h74km±34km, n35, σ0°79/14, mb4.0/10, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.30**	**223**	*e*P	**P**	**22 19 05.4**	**-0.1**
DZM	**Mont Dzumac**	**3.30**	**223**	P	**P**	**22 19 05.9**	**+0.3**
	60nm,0.3s,baz=334,slow=4.9,SNR=1021						
DZM				S	**S**	**22 19 43.7**	**-0.1**
	64nm,0.3s,baz=61,slow=17,SNR=3.4						
DZM				LR	LR	22 19 48.4	
	comp=Z,152nm,22.0s,baz=51,slow=28						
CTA	**Charters Tower**	**21.27**	**265**	P	**P**	**22 22 58.4**	**+1.2**
	6.6nm,0.9s,mb4.0,baz=90,slow=15,SNR=2.9						
STKA	**Stephens Creek**	**27.33**	**238**	P	**P**	**22 23 56.0**	**+1.0**
	2.5nm,1.0s,mb3.7,baz=62,slow=9.8,SNR=4.0						
STKA				LR	LR	22 34 25.8	
	comp=Z,81nm,19.1s,baz=27,slow=36						
STKA	**Stephens Creek**	**27.33**	**238**	*e*P	**P**	**22 23 54.8**	**-0.2**
STKA				LR	LR	22 34 25.8	
WRA	**Warramunga Arr**	**32.46**	**264**	P	**P**	**22 24 39.0**	**-1.5**
	0.4nm,0.5s,mb3.4,baz=82,slow=6.0,SNR=13						
ASAR	**Alice Springs**	**32.69**	**257**	P	**P**	**22 24 42.2**	**-0.3**
	2.9nm,0.5s,mb4.4,baz=84,slow=8.7,SNR=58						
ASAJ	**Asahikawa**	**67.87**	**340**	P	**P**	**22 29 07.0**	**-0.5**
	3.2nm,0.8s,mb4.2,baz=159,slow=8.6,SNR=3.7						
ULN	**Ulaanbaatar**	**86.99**	**324**	*e*P	**P**	**22 30 54.0**	**+0.8**
	1.8nm,0.8s,mb4.0						
SONM	**Songino Array**	**87.34**	**323**	P	**P**	**22 30 55.3**	**+0.4**
	0.6nm,0.5s,mb3.8,baz=147,slow=6.2,SNR=8.7						
NVAR	**Mina Array Bea**	**89.34**	**49**	P	**P**	**22 31 05.0**	**+0.4**
	0.4nm,0.3s,mb4.0,baz=230,slow=7.0,SNR=1.8						
ILAR	**Eielson Array**	**90.73**	**17**	P	**P**	**22 31 09.1**	**-1.4**
	1.1nm,0.6s,mb4.2,baz=235,slow=4.8,SNR=12						
NEW	**Newport**	**94.32**	**40**	LR	LR	23 06 09.8	
	comp=Z,164nm,21.5s,baz=54,slow=30						
INK	**Inuvik**	**97.05**	**18**	P	**P**	**22 31 39.8**	**+0.5**
	0.5nm,0.4s,mb4.3,baz=234,slow=7.1,SNR=5.7						
YKA	**Yellowknife Ar**	**101.20**	**27**	P	P	22 31 59.4	+1.2
	0.9nm,0.8s,baz=257,slow=4.4,SNR=13						
ARCES	**ARCESS Array B**	**125.38**	**345**	PKP	PKPdf	22 37 07.0	+0.1
	6.6nm,0.9s,baz=52,slow=2.1,SNR=16						
GERES	**GERESS Array B**	**144.69**	**331**	PKP	PKPdf	22 37 43.5	+0.4
	1.7nm,0.6s,baz=30,slow=4.0,SNR=18						
BAIF	**Baives**	**147.29**	**342**	*e*PKP1	PKPdf	22 37 50.7	+3.3
	7.1nm,0.7s						
CDF	**Champ du Feu**	**147.69**	**337**	*e*PKP1	PKPdf	22 37 51.9	+3.8
	7.1nm,0.6s						
DAVOX	**Davos**	**147.94**	**332**	PKPbc	PKPdf	22 37 53.3	+4.7
HAU	**Haudompre**	**148.37**	**337**	*e*PKP1	PKPdf	22 37 53.6	+4.4
	8.4nm,0.6s						
MEZF	**Maizieres J'vi**	**148.39**	**339**	*e*PKP1	PKPdf	22 37 54.0	+4.8
CABF	**La Chapelle**	**149.63**	**336**	*e*PKP1	PKPdf	22 37 57.3	+6.0
	7.9nm,0.5s						
FLN	**La Foliniere**	**149.72**	**346**	*e*PKP1	PKPdf	22 37 57.1	+5.8
SSF	**Saint Saulge**	**150.16**	**340**	*e*PKP1	PKPdf	22 37 58.2	+6.1
	6.2nm,0.8s						
LPL	**La Plagne**	**150.28**	**334**	*e*PKP1	PKPdf	22 37 58.9	+6.6
	8.0nm,0.8s						
LPG	**La Plagne**	**150.29**	**334**	*e*PKP1	PKPdf	22 37 59.1	+6.8
	11nm,0.9s						
SGMF	**Saint Gilles**	**150.64**	**348**	*e*PKP1	PKPdf	22 37 58.6	+5.8
MBDF	**Montbardon**	**150.90**	**333**	*e*PKP1	PKPdf	22 38 00.6	+7.3
	5.6nm,0.7s						
ORIF	**Oris-en-Rattie**	**151.12**	**335**	*e*PKP1	PKPdf	22 38 01.2	+7.6
	19nm,0.9s						
TCF	**Toulx Ste Croi**	**151.26**	**341**	*e*PKP1	PKPdf	22 38 00.1	+6.3
SBF	**Sospel**	**151.29**	**331**	*e*PKP1	PKPdf	22 38 01.2	+7.3
PGF	**Pioggiola**	**151.54**	**328**	*e*PKP1	PKPdf	22 38 01.7	+7.4
	23nm,0.7s						
MFF	**Saint Martin d**	**151.65**	**344**	*e*PKP1	PKPdf	22 38 02.2	+7.9
FRF	**La Foret Royal**	**151.88**	**332**	*e*PKP1	PKPdf	22 38 02.0	+7.2
	4.4nm,0.5s						

IDC 13 22:18:32.5±4.2, 21.06S×176.58W, mb4.1/5, mb1 4.2/5, mb1mx3.9/16, mbtmp4.1/5, Error ellipse: s-maj=145.5km s-min=60.9km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.76**	**265**	P	P	22 25 26.2	-0.6
	1.3nm,0.3s,baz=100,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**38.75**	**245**	P	P	22 25 59.0	-1.4
	5.3nm,1.0s,baz=101,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**45.69**	**257**	P	P	22 26 54.7	-2.5
	1.5nm,0.8s,baz=95,slow=8.8,SNR=4.3						
WRA	**Warramunga Arr**	**45.84**	**262**	P	P	22 26 55.1	-3.3
	0.3nm,0.3s,baz=95,slow=8.0,SNR=9.1						
CMAR	**Chiang Mai Arr**	**91.55**	**289**	P	P	22 31 42.9	-0.1
	1.0nm,0.9s,baz=125,slow=3.9,SNR=5.0						
AKASG	**Malin Array Be**	**144.13**	**332**	PKP	PKPdf	22 38 08.4	-3.5
	0.6nm,0.4s,baz=40,slow=3.4,SNR=6.7						

OTT 13 22:22:16.6±0.1, 64.66N×110.66W, h1km, MN3.0/18, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.04**	**30**	PG	Pg	22 22 17.1	-0.3
DVKN	**Diavik Mine**	**0.21**	**136**	PG	Pg	22 22 20.3	-0.5
ACKN	**Achilles Lake**	**0.34**	**345**	PG	Pg	22 22 22.7	-0.7
ACKN				SG	Sg	22 22 28.2	+0.2
ACKN				Trac		22 22 29.4	
	comp=Z,69nm,0.1s						
LGSN	**Lac de Gras So**	**0.40**	**145**	PG	Pg	22 22 23.7	-0.8
LGSN				SG	Sg	22 22 30.2	+0.2
LGSN				Trac		22 22 31.6	
	comp=Z,83nm,0.1s						
YMBN	**Yamba Lake**	**0.43**	**300**	PG	Pg	22 22 24.4	-0.8
YMBN				SG	Sg	22 22 29.5	-1.4
YMBN				Trac		22 22 32.4	
	comp=Z,111nm,0.1s						
YNEN	**Yamba Lake Nor**	**0.46**	**339**	PG	Pg	22 22 24.9	-0.8
YNEN				SG	Sg	22 22 30.9	-0.9
YNEN				Trac		22 22 33.2	
	comp=Z,95nm,0.1s						
GLWN	**Glow Worm Lake**	**0.57**	**83**	PG	Pg	22 22 27.1	-0.9
GLWN				SG	Sg	22 22 36.6	+0.9
GLWN				Trac		22 22 36.7	
	comp=Z,45nm,0.1s						
COWN	**Contwyoto Lake**	**0.65**	**340**	PG	Pg	22 22 28.4	-1.1
COWN				SG	Sg	22 22 37.0	-1.1
COWN				Trac		22 22 40.2	
	comp=Z,104nm,0.2s						
NODN	**Nodinka Narrow**	**0.72**	**191**	PG	Pg	22 22 29.6	-1.3
NODN				SG	Sg	22 22 38.2	-2.2
NODN				Trac		22 22 40.7	
	comp=Z,97nm,0.2s						
MLON	**Marlo Lake**	**0.77**	**154**	PG	Pg	22 22 30.9	-1.1
MLON				SG	Sg	22 22 41.8	-0.5
MLON				Trac		22 22 44.1	
	comp=Z,80nm,0.2s						
BOXN	**Box Lake**	**0.91**	**153**	PG	Pg	22 22 33.1	-1.6
BOXN				Trac		22 22 47.5	
	comp=Z,73nm,0.1s						
CAMN	**Camsell Lake**	**0.94**	**187**	PG	Pg	22 22 33.6	-1.7
CAMN				SG	Sg	22 22 46.4	-1.5
CAMN				Trac		22 22 48.3	
	comp=Z,25nm,0.1s						
MGTN	**Margaret Lake**	**1.09**	**154**	PG	Pg	22 22 36.3	-1.9
MGTN				SG	Sg	22 22 50.7	-2.0
MGTN				Trac		22 22 55.2	
	comp=Z,118nm,0.1s						
LUPN	**Lupin Mine**	**1.11**	**347**	PG	Pg	22 22 36.6	-2.0
LUPN				SG	Sg	22 22 52.2	-1.3
LUPN				Trac		22 22 57.0	
	comp=Z,61nm,0.1s						
GBLN	**Grizzly Bear L**	**1.12**	**246**	PG	Pg	22 22 36.5	-2.3
GBLN				SG	Sg	22 22 51.6	-2.1
GBLN				Trac		22 22 59.8	
	comp=Z,236nm,0.1s						
SNPN	**Snap Lake**	**1.16**	**186**	PG	Pg	22 22 37.5	-2.2
SNPN				SG	Sg	22 22 52.8

ASHO			⇑S	Sn	22 38 03.4	-1.6
NASN	**Na'in**	**5.01 360**	*e*PN	Pn	22 37 25.5	-0.7
BSY	**Bisya**	**6.38 141**	P	Pn	22 37 45.7	+0.2
	SNR=19					
SMDO	**Samad**	**6.65 134**	⇓P	Pn	22 37 49.4	0.0
ASAO	**Ashtian**	**7.17 341**	*e*PN	Pn	22 37 56.8	+0.3
MZLS	**Mizel**	**7.81 243**	P	Pn	22 38 06.3	+0.7
AFFS	**'Afif**	**9.65 249**	P	P	22 38 31.2	+0.1
HILS	**Ha'il**	**9.81 270**	P	P	22 38 31.7	-1.5
HILS			S	Sn	22 40 18.3	-6.2
KAMS	**Al Khamasin**	**10.58 227**	P	P	22 38 43.6	-0.3
DJNS	**Zahran al Janu**	**13.18 222**	P	P	22 39 17.2	-1.7

IDC 13 22:39:23.0±1.3, 24.45S×67.46W, h119km±20km, mb3.6/2, mb1 3.6/6, mb1mx3.4/18, mbtmp3.9/6, Error ellipse: s-maj=23.0km s-min=12.6km az=85.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.26 324**		P	P	22 40 01.4	+1.1
	28nm,0.3s,baz=143,slow=7.9,SNR=178						
LVC				S	S	22 40 28.6	+0.2
	118nm,0.3s,baz=258,slow=23,SNR=109						
CFAA	**Coronel Fontan**	**7.17 185**		P	P	22 41 06.1	-0.5
	0.3nm,0.3s,baz=357,slow=14,SNR=25						
CFAA				S	S	22 42 23.4	-3.5
	0.4nm,0.3s,baz=255,slow=20,SNR=9.0						
LPAZ	**La Paz**	**8.14 355**		P	P	22 41 20.6	+0.9
	1.0nm,0.3s,baz=133,slow=6.8,SNR=22						
LPAZ				S	S	22 42 48.4	-2.2
	0.2nm,0.3s,baz=257,slow=24,SNR=3.5						
SIV	**San Ignacio**	**10.32**	**37**	P	P	22 41 46.9	-2.0
	2.0nm,0.3s,baz=222,slow=12,SNR=20						
SIV				S	S	22 43 39.4	-3.6
	0.1nm,0.3s,baz=255,slow=20,SNR=2.2						
BDFB	**Brasilia**	**20.24**	**68**	P	P	22 43 50.2	-0.6
	4.6nm,0.5s,baz=254,slow=10,SNR=9.6						
YKA	**Yellowknife Ar**	**94.40 340**		P	P	22 52 28.2	-1.7
	0.2nm,0.6s,baz=132,slow=4.5,SNR=5.7						

*NEIC **13** 22:45:50.5, 19.13N×64.74W, h21km, MD3.4(RSPR), After RSPR.*
RSPR 13 22:45:50.5, 19.13N×64.74W, h21km±29km, MD3.4/13, MD3.4/13, 8C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**1.29 217**		⇑*e*P	Pn	22 46 10.2	-3.3
MTP				*e*S	Sb	22 46 26.5	-3.6
CBYP	**Canovanas**	**1.36 231**		⇑*e*P	Pn	22 46 11.6	-2.9
CBYP				*e*S	Sn	22 46 28.5	-3.5
CDVI	**St. Croix**	**1.37 181**		⇑*e*P	Pn	22 46 12.7	-2.0
CDVI	**St. Croix**	**1.37 181**		*e*S	Sn	22 46 29.0	-3.3
HUMP	**Col San Antoni**	**1.44 227**		⇑*e*P	Pn	22 46 12.6	-3.1
HUMP				*e*S	Sn	22 46 30.4	-3.6
CPD	**Cerro la Pandu**	**1.56 226**		⇓*e*P	Pn	22 46 14.8	-2.5
CPD				*e*S	Sn	22 46 33.1	-3.9
SJG	**San Juan**	**1.68 233**		⇑*e*P	Pn	22 46 16.0	-3.1
SJG				*e*S	Sn	22 46 35.9	-4.2
SJG	**San Juan**	**1.68 233**		⇓*e*P	Pn	22 46 16.6	-2.4
SJG				*e*S	Sn	22 46 35.6	-4.4
CELP	**Cerrillos**	**2.04 239**		⇑*e*P	Pn	22 46 21.3	-2.9
CELP				*e*S	Sn	22 46 45.0	-4.2
AOPR	**Arecibo Observ**	**2.06 248**		⇑*e*P	Pn	22 46 21.5	-3.0
AOPR				*e*S	Sn	22 46 45.9	-3.8
PORP	**Portuguez**	**2.09 239**		⇓*e*P	Pn	22 46 22.7	-2.3
PORP				*e*S	Sn	22 46 46.0	-4.6
LRS	**Lares**	**2.16 248**		⇑*e*P	Pn	22 46 22.6	-3.4
LRS				*e*S	Sn	22 46 48.6	-3.7
MGP	**Maguayo**	**2.49 244**		⇓*e*P	Pn	22 46 27.9	-2.8
SDV	**Santo Domingo**	**11.68 210**		*e*P	P	22 48 35.9	-3.2

DJA 13 22:53:41.2±0.8, 9.56S×116.19E, h33km, MD5.2/4, ML4.5/4, 5C-4D, Error ellipse: s-maj=18.6km s-min=10.5km az=158.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATI	**Rata**	**1.06 322**		⇓*e*Pn	Pn	22 53 58.5	-1.4
	937nm,0.2s						
RATI				⇑*e*Sn	Sn	22 54 10.9	-2.7
KEDI	**Kedomdong**	**1.07 356**		⇓*e*Pn	Pn	22 53 59.2	-0.9
	2μm,0.2s						
KEDI	**Kedomdong**	**1.07 356**		⇓*i*P	P	22 53 59.8	-0.1
KEDI				⇑*e*Sn	Sn	22 54 12.5	-1.5
KELI	**Kelakatan**	**2.15 308**		⇑*e*Pn	Pn	22 54 14.1	-1.4
	64nm,0.2s						
KELI				⇓*e*Sn	Sn	22 54 38.9	-2.4
SRDI	**Scrawed**	**2.29 298**		⇑*e*Pn	Pn	22 54 16.3	-1.3
	210nm,0.2s						
SRDI				⇑*e*Sn	Sn	22 54 40.8	-4.2

*NEIC **13** 22:55:24.3±1.2, 50.27N×19.01E, h5km, MG2.5(WAR), Error ellipse: s-maj=22.0km s-min=8.2km az=178.0*
*PRU **13** 22:55:25.3, 50.23N×18.98E*
WAR 13 22:55:23.9, 50.21N×19.12E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.44**	**88**	*e*PG	Pg	22 55 33.0	+0.3
OJC				*e*SG	Sg	22 55 39.0	+0.5
OKC	**Ostrava-Krasne**	**0.73 240**		*e*PG	Pg	22 55 38.2	-0.2
MORC	**Moravsky Berou**	**1.10 248**		*e*P	Pb	22 55 44.1	-1.4
NIE	**Niedzica**	**1.11 135**		*e*PG	Pg	22 55 44.0	-2.0
NIE				*e*SG	Sg	22 56 10.0	+9.3
VYHS	**Vyhne**	**1.72 186**		*e*PN	Pn	22 55 54.6	-0.7
VYHS				*e*SN	Sn	22 56 17.9	-0.4
DPC	**Dobruska-Polom**	**1.80 276**		*e*PG	Pg	22 55 55.4	-4.4
DPC				*e*SG	Sg	22 56 19.3	-4.5
	9.4nm,0.2s						
KSP	**Ksiaz**	**1.91 291**		*e*PG	Pg	22 55 59.0	-3.0
KSP				*e*SG	Sg	22 56 24.0	-3.5
CRVS	**Cervenica-Dubn**	**2.01 130**		*e*PN	Pn	22 56 02.0	+2.6
CRVS				*e*SN	Sn	22 56 31.5	+6.0
UPC	**Upice**	**2.01 280**		*e*SG	Sg	22 56 25.6	-5.2
KOLS	**Kolonicke sedl**	**2.42 121**		*e*PN	Pn	22 56 10.3	+5.1
KOLS				*e*SN	Sn	22 56 34.3	-1.6
PRU	**Pruhonice**	**2.95 268**		*e*SG	Sg	22 56 54.9	-7.3
KHC	**Kasperske Hory**	**3.75 255**		*e*PN	Pn	22 56 22.0	-2.3
KHC				*e*SG	Sg	22 57 21.4	-7.5
CLL	**Collm**	**4.04 288**		*e*SG	Sg	22 57 36.0	-2.2

IDC 13 23:30:38.7±2.6, 1.60S×99.68E, mb3.9/5, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, ML4.0/1, MS3.0/1, Ms1 3.2/1, ms1mx2.7/23, Error ellipse: s-maj=108.5km s-min=20.4km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.94 358**		P	P	23 35 11.2	-4.0
	0.2nm,0.3s,baz=188,slow=10,SNR=12						
CMAR				LR	LR	23 42 26.7	
	comp=Z,48nm,20.7s,baz=195,slow=36						
WRA	**Warramunga Arr**	**38.47 121**		P	P	23 38 01.9	-2.5
	1.9nm,0.8s,baz=297,slow=9.4,SNR=6.2						
ASAR	**Alice Springs**	**39.75 126**		P	P	23 38 13.9	-1.1
	1.1nm,0.5s,baz=304,slow=8.4,SNR=9.7						
SONM	**Songino Array**	**49.58**	**6**	P	P	23 39 32.2	-1.4
	0.8nm,0.7s,baz=182,slow=9.9,SNR=9.9						
ZAL	**Zalesovo**	**56.71 350**		P	P	23 40 24.5	-1.9
	2.1nm,0.3s,baz=3.7,slow=1.5,SNR=8.6						
BVAR	**Borovoye Array**	**59.70 340**		P	P	23 40 44.2	-3.1
	0.3nm,0.5s,baz=129,slow=9.5,SNR=4.1						
TXAR	**Lajitas Array**	**144.57**	**37**	PKP	PKPdf	23 50 17.5	-2.3
	1.0nm,0.5s,baz=232,slow=1.3,SNR=14						

*IDC **13** 23:47:08.7±1.0, 18.91N×121.56E, mb3.5/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.5/6, MS3.2/1, Ms1 3.2/1, ms1mx2.6/15, Error ellipse: s-maj=40.8km s-min=21.0km az=66.0*
*MAN **13** 23:47:10.9, 19.23N×121.18E, h1km, mb4.3, ML3.2, MS3.0*
ISC 13 23:47:11.8±2.4, 19.23N±0.05×121.2E±0.1, h11km±17km, n14, σ1°02/17, mb3.5/6, MS3.1/1, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.27 140**		*e*P	Pb	23 47 35.7	+0.4
APYP	**Conner**	**1.36 178**		*e*P	Pn	23 47 36.0	-0.7
APYP				*e*S	Sb	23 47 51.8	-2.2
CVP	**Callao Caves**	**1.63 158**		⇑*i*P	Pn	23 47 40.7	0.0
CVP				*i* S	Sn	23 48 02.5	+0.7
ABRA	**Dolores**	**1.63 196**		*e*P	Pn	23 47 39.8	-0.9
CAUP	**Cauayan**	**2.35 165**		*e*P	Pn	23 47 53.2	+2.2
PALP	**Palanan**	**2.45 151**		*e*P	Pn	23 47 52.4	0.0
BCPH	**Baguio City Da**	**2.89 192**		⇑*i*P	Pn	23 47 58.1	-0.6
BCPH				*i* S	Sn	23 48 34.2	+0.5
BOLP	**Bolinao**	**3.08 203**		*e*P	Pn	23 48 02.2	+0.9
CMAR	**Chiang Mai Arr**	**21.07 272**		P	P	23 51 59.9	+1.4
	0.5nm,0.6s,mb3.0,baz=69,slow=7.7,SNR=4.1						
SONM	**Songino Array**	**30.97 340**		P	P	23 53 30.1	-1.1
	0.4nm,0.4s,mb3.6,baz=160,slow=9.3,SNR=6.3						
SONM				LR	LR	00 07 33.2	
	comp=Z,36nm,18.4s,MS3.1,baz=302,slow=39						
WRA	**Warramunga Arr**	**41.01 161**		P	P	23 54 49.6	-7.2
	0.3nm,0.3s,mb3.4,baz=334,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**44.40 163**		P	P	23 55 18.4	-6.1
	0.3nm,0.3s,mb3.5,baz=342,slow=7.3,SNR=5.1						
BVAR	**Borovoye Array**	**51.57 323**		P	P	23 56 20.2	+0.3
	0.4nm,0.6s,mb3.5,baz=90,slow=7.4,SNR=4.4						
BVAR				PcP	PcP	23 57 31.5	-2.5
	0.7nm,0.6s,baz=90,slow=4.4,SNR=6.7						
YKA	**Yellowknife Ar**	**87.52**	**23**	P	P	23 59 59.6	-0.9
	0.5nm,0.7s,mb3.9,baz=309,slow=4.7,SNR=12						

IDC 13 23:58:58.1±5.8, 4.65N×92.78E, mb3.5/2, mb1 3.8/3, mb1mx3.5/20, mbtmp3.6/3, ML4.0/1, Error ellipse: s-maj=162.0km s-min=36.5km az=73.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.99**	**23**	Pn	P	00 02 32.2	-1.0
	0.2nm,0.3s,baz=215,slow=12,SNR=14						
SONM	**Songino Array**	**44.59**	**13**	P	P	00 07 11.8	-1.9
	0.2nm,0.5s,baz=184,slow=7.4,SNR=4.5						
WRA	**Warramunga Arr**	**47.60 122**		P	P	00 07 36.1	-1.9
	0.7nm,0.5s,baz=301,slow=9.4,SNR=5.5						

DJA 14 00:04:25.6±0.9, 9.46S×116.13E, h33km, MD4.7/2, ML4.3/4, 1C-6D, Error ellipse: s-maj=19.5km s-min=11.6km az=154.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATI	**Rata**	**0.94 321**		*e*Pn	Pn	00 04 40.9	-1.8
	1μm,0.2s						
RATI				⇓*e*Sn	Sn	00 04 53.5	-1.5
KEDI	**Kedomdong**	**0.97 359**		⇓*e*Pn	Pn	00 04 41.6	-1.4
	2μm,0.2s						
KEDI				⇓*e*Sn	Sn	00 04 54.4	-1.3
KELI	**Kelakatan**	**2.04 307**		⇓*e*Pn	Pn	00 04 57.6	-0.8
	48nm,0.2s						
KELI				⇑*e*Sn	Sn	00 05 19.2	-3.7
SRDI	**Scrawed**	**2.20 296**		⇓*e*Pn	Pn	00 04 59.1	-1.5
	71nm,0.2s						
SRDI				⇓*e*Sn	Sn	00 05 23.1	-3.8

*IDC **14** 00:04:47.9±1.1, 2.82N×96.46E, mb4.2/10, mb1 4.3/11, mb1mx4.1/20, mbtmp4.1/11, ML3.8/1, MS3.1/1, Ms1 3.3/1, ms1mx2.3/16, Error ellipse: s-maj=52.5km s-min=15.8km az=54.0*
*NEIC **14** 00:04:52.2±0.5, 2.76N×96.45E, h30km, mb4.1/3, Error ellipse: s-maj=13.5km s-min=7.5km az=64.0*
ISC 14 00:04:50.6±0.6, 2.79N±0.07×96.51E±0.08, h30km, n19, σ0°64/20, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.82**	**59**	*e*Pn	Pn	00 06 03.9	+0.8
KULM				*e*Sn	Sn	00 06 58.2	-0.5
CM31	**Chiang Mai Arr**	**15.75**	**9**	P	P	00 08 32.9	+0.6
	2.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**15.75**	**9**	Pn	P	00 08 33.1	+0.8
	0.1nm,0.3s,baz=199,slow=12,SNR=16						
CMAR				LR	LR	00 14 36.7	
	comp=Z,65nm,19.1s,baz=190,slow=37						
FITZ	**Fitzroy Crossi**	**35.42 127**		P	P	00 11 46.3	-0.1
	4.9nm,0.7s,mb4.6,baz=235,slow=2.6,SNR=6.8						
WRA	**Warramunga Arr**	**43.47 123**		P	P	00 12 53.3	+0.1
	4.9nm,0.6s,mb4.4,baz=301,slow=9.1,SNR=25						
WRAB	**Tennant Creek**	**43.47 123**		*e*P	P	00 12 53.4	+0.2
	15nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**44.90 128**		P	P	00 13 05.2	+0.4
	1.4nm,0.7s,mb3.9,baz=302,slow=8.0,SNR=11						
SONM	**Songino Array**	**45.68**	**9**	P	P	00 13 09.6	-0.9
	1.4nm,0.4s,mb4.2,baz=191,slow=9.2,SNR=22						
SONM				PcP	PcP	00 14 48.9	+0.2
	1.3nm,0.6s,baz=191,slow=4.1,SNR=10						
ULN	**Ulaanbaatar**	**45.82**	**10**	*e*P	P	00 13 10.9	-0.8
	2.2nm,0.9s,mb4.1						
ZAL	**Zalesovo**	**51.88 351**		P	P	00 13 57.7	-0.8
	2.3nm,0.5s,mb4.4,baz=304,slow=3.8,SNR=12						
ZAL	**Zalesovo**	**51.88 351**		P	P	00 13 57.7	-0.8
STKA	**Stephens Creek**	**54.93 133**		P	P	00 14 21.5	+0.2
	2.4nm,0.9s,mb4.2,baz=318,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**54.93 133**		*e*P	P	00 14 20.2	-1.1
AKASG	**Malin Array Be**	**73.59 322**		P	P	00 16 22.3	-0.6
	0.6nm,0.3s,mb4.0,baz=85,slow=4.7,SNR=6.2						
AKASG	**Malin Array Be**	**73.59 322**		P	P	00 16 22.3	-0.6
FINES	**FINESS Array B**	**78.28 332**		P	P	00 16 49.0	-0.2
	1.7nm,0.9s,mb4.0,baz=76,slow=5.7,SNR=4.7						
FINES	**FINESS Array B**	**78.28 332**		P	P	00 16 49.0	-0.2
ARCES	**ARCESS Array B**	**80.82 340**		P	P	00 17 03.0	+0.3
	2.7nm,0.8s,mb4.2,baz=76,slow=5.0,SNR=7.1						
GERES	**GERESS Array B**	**83.17 319**		P	P	00 17 16.5	+1.2
	0.3nm,0.6s,mb3.5,baz=90,slow=2.7,SNR=4.7						

WEL 14 00:06:08.5±0.5, 36.71S×177.17E, h246km±6km, ML3.7/11, Error ellipse: s-maj=8.2km s-min=7.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.24 134**		*e*PN	P	00 06 44.1	-0.7
MXZ				SN	S	00 07 12.4	-0.7
URZ	**Urewera**	**1.55 182**		*e*PN	P	00 06 46.7	-0.4
URZ				SN	S	00 07 17.0	-0.1
PUZ	**Puketiti**	**1.61 148**		PN	P	00 06 47.5	-0.1
PUZ				SN	S	00 07 16.9	-1.1
MWZ	**Matawai**	**1.65 170**		PN	P	00 06 47.7	-0.1
MWZ				SN	S	00 07 18.3	-0.1
KNZ	**Kokohu**	**2.34 170**		PN	P	00 06 54.5	+0.3
KNZ				SN	S	00 07 28.8	-1.0
BKZ	**Black Stump Fm**	**2.51 192**		PN	P	00 06 55.0	-1.0
BKZ				SN	S	00 07 31.8	-1.0
MGZ	**Maungaku**	**2.63 209**		*e*PN	P	00 06 58.5	+1.4
OTVZ	**Oturere**	**2.73 205**		*e*PN	P	00 06 58.4	+0.2
NGZ	**Ngauruhoe**	**2.76 206**		*e*PN	P	00 06 59.1	+0.6
TUVZ	**Tukino**	**2.83 205**		*e*PN	P	00 06 59.8	+0.6
WNVZ	**Wahianoa**	**2.90 205**		*e*PN	P	00 07 00.1	+0.2
PWZ	**Pawanui**	**3.33 184**		*e*PN	P	00 07 03.7	-1.1
PWZ				SN	S	00 07 47.3	-1.2
TSZ	**Takapari Road**	**3.48 196**		*e*PN	P	00 07 05.1	-1.4
TSZ				SN	S	00 07 50.4	-1.2
BFZ	**Birch Farm**	**4.03 190**		*e*PN	P	00 07 11.2	-1.8
MRZ	**Mangatainoka R**	**4.14 197**		PN	P	00 07 12.0	-2.3
MRZ				SN	S	00 08 02.8	-2.6
KIW	**Kapiti Island**	**4.51 202**		*e*PN	P	00 07 16.1	-2.6
KIW				SN	S	00 08 10.9	-2.5
MTW	**Mount Morrison**	**4.63 196**		*e*PN	P	00 07 17.6	-2.6
CAW	**Cannon Point**	**4.69 200**		*e*PN	P	00 07 18.1	-2.8
DUWZ	**D'Urville Isla**	**4.81 211**		PN	P	00 07 20.2	-2.2
PAWZ	**Paruwai Farm**	**4.86 196**		SN	S	00 08 17.4	-3.7
MRW	**Makara Radio**	**4.91 202**		*e*PN	P	00 07 20.2	-3.4
MSWZ	**Moikau Station**	**4.93 197**		*e*PN	P	00 07 21.4	-2.4
TUWZ	**Tuamarina**	**5.34 207**		*e*PN	P	00 07 26.0	-3.0
TUWZ				SN	S	00 08 28.5	-3.2
NNZ	**Nelson**	**5.39 212**		*e*PN	P	00 07 25.5	-4.0
NNZ				SN	S	00 08 31.9	-0.8
QRZ	**Quartz Range**	**5.49 220**		*e*PN	P	00 07 26.8	-3.9
QRZ				SN	S	00 08 32.6	-2.2
THZ	**Tophouse**	**6.04 212**		*e*PN	P	00 07 35.1	-2.5
THZ				SN	S	00 08 45.7	-1.6
KHZ	**Kahutara**	**6.36 205**		*e*PN	P	00 07 38.7	-2.9
KHZ				SN	S	00 08 51.8	-2.7
DSZ	**Denniston Nort**	**6.53 218**		*e*PN	P	00 07 40.0	-3.8
LTZ	**Lake Taylor**	**7.15 210**		*e*PN	P	00 07 48.2	-3.4
MQZ	**McQueen's Vall**	**7.80 205**		SN	S	00 09 21.1	-6.1
FOZ	**Fox Glacier**	**8.93 218**		*e*PN	P	00 08 08.5	-5.8

DJA 14 00:15:07.6±0.9, 9.64S×117.38E, h76km±35km, MD4.5/3, ML4.6/3, 4C-4D, Error ellipse: s-maj=68.7km s-min=20.8km az=4.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**1.69 312**		⇑*e*Pn	P	00 15 35.5	-0.4
	337nm,0.2s						
KEDI				⇑*e*Sn	S	00 15 55.9	-0.8
RATI	**Rata**	**2.04 296**		⇓*e*Pn	P	00 15 39.7	-0.8
	323nm,0.2s						
RATI				⇓*e*Sn	S	00 16 04.0	-0.8
KELI	**Kelakatan**	**3.19 296**		⇓*e*Pn	P	00 15 55.9	-0.7
KELI				⇓*e*Sn	S	00 16 31.0	-2.5
SRDI	**Scrawed**	**3.40 290**		⇑*e*Pn	P	00 15 58.8	-0.8
	335nm,0.2s						
SRDI				⇑*e*Sn	S	00 16 35.7	-3.2

JMA 14 00:21:26.2±0.3, 43.94N×147.53E, h1km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.42 247**		P	Pb	00 21 53.0	-0.2
NEM2				*e*S	Sb	00 22 11.9	+0.3
JRA	**Rausu**	**1.74 271**		P	Pn	00 21 57.8	0.0
JRA				*e*S	Sn	00 22 21.0	+0.1
JNK	**Nakash**	**2.07 261**		P	Pn	00 22 02.6	+0.1
JNK				*e*S	Sn	00 22 28.2	-1.0
JAK	**Akkeshi**	**2.27 246**		P	Pn	00 22 05.1	-0.2
JAK				*e*S	Sn	00 22 33.1	-1.2
JTKR	**Abashiri--Toko**	**2.62 272**		P	Pn	00 22 09.5	-0.8
JAR	**Ashorobuto**	**2.81 258**		P	Pn	00 22 13.4	+0.4
JAR				*e*S	Sn	00 22 48.2	+0.2
JOB	**Onbets**	**2.88 250**		P	Pn	00 22 14.4	+0.3
JOB				*e*S	Sn	00 22 49.7	-0.3
JCH	**Churui**	**3.32 248**		P	Pn	00 22 20.1	-0.2
JCH				*e*S	Sn	00 22 59.6	-1.4
JNBK	**Urakawa-nobuka**	**3.87 246**		P	Pn	00 22 28.7	+0.5

MAN 14 00:33:38.3, 11.36N×125.45E, h42km, mb3.9, ML2.6, MS2.3, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**0.24 358**		*e*P	P	00 33 47.7	+1.6
BESP				*e*S	S	00 33 54.3	+2.7
PLP	**Palo**	**0.50 247**		*e*P	P	00 33 51.1	+2.0
PLP				*e*S	S	00 33 59.7	+2.9
MSLP	**Maasin**	**1.35 205**		*e*P	P	00 34 00.7	-0.4
CNP	**Catarman**	**1.38 326**		*e*P	P	00 34 05.5	+4.0
SCPH	**Surigao**	**1.57 179**		*e*P	P	00 34 04.8	+0.6
SCPH						00 34 18.4	

*NEIC **14** 00:38:48.9±1.7, 51.43N×16.16E, h5km, ML3.1(VIE), Error ellipse: s-maj=18.5km s-min=7.1km az=206.0*
*PRU **14** 00:38:49.8, 51.40N×16.14E*
WAR 14 00:38:49.6, 51.45N×16.17E, h1km, ML2.4, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.61 173**		*e*Pg	Pg	00 39 00.8	-1.0
KSP				*e*Sg	Sg	00 39 08.9	-1.1
KSP	**Ksiaz**	**0.61 173**		*e*PG	Pg	00 39 01.0	-0.8
KSP				*e*SG	Sg	00 39 09.0	-1.0
UPC	**Upice**	**0.95 186**		*e*PG	Pg	00 39 07.1	-1.4
DPC	**Dobruska-Polom**	**1.10 175**		*e*PG	Pg	00 39 09.5	-2.1
DPC				*e*SG	Sg	00 39 24.6	-1.8
	17nm,0.4s						
PVCC	**Panska Ves**	**1.37 228**		*e*PG	Pg	00 39 15.1	-1.8
BRG	**Berggiesshubel**	**1.52 249**		*i* Pg	Pg	00 39 17.5	-2.4
BRG				*i* Sg	Sg	00 39 37.8	-2.3
PRU	**Pruhonice**	**1.79 216**		*e*PG	Pg	00 39 22.1	-3.3
PRU				*e*SG	Sg	00 39 44.4	-4.9
MORC	**Moravsky Berou**	**1.89 152**		*e*P	Pn	00 39 21.2	-2.1
CLL	**Collm**	**1.99 267**		*e*PG	Pg	00 39 26.0	-3.3
CLL				*i* SG	Sg	00 39 52.5	-3.4
OKC	**Ostrava-Krasne**	**2.05 141**		*e*PG	Pg	00 39 28.2	-2.3
OKC				*e*SG	Sg	00 39 52.6	-5.1
NKC	**Novy Kostel**	**2.66 244**		*e*PN	Pn	00 39 32.7	-1.6
NKC				*e*SG	Sg	00 40 12.3	-5.7
KHC	**Kasperske Hory**	**2.85 217**		*e*PN	Pn	00 39 35.8	-1.3
KHC				*e*PG	Pg	00 39 41.6	-5.0
KHC				*e*SN	Sn	00 40 09.0	-3.6
KHC				*e*SG	Sg	00 40 18.3	-6.3
MOA	**Molln**	**3.81 200**		⇑*i*PN	Pn	00 39 46.1	-4.6
MOA				*i* SG	Sg	00 40 49.8	-6.6
	4.7nm,0.3s						

IDC 14 01:06:41.2±6.2, 1.21S×102.00E, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=230.4km s-min=29.8km az=65.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.70 123**		P	P	01

0.2nm,0.3s,baz=318,slow=22,SNR=12
STKA Stephens Creek 27.39 146 P **P 01 31 10.6 -0.2**
1.7nm,0.6s,mb3.8,baz=320,slow=7.9,SNR=3.4
STKA Stephens Creek 27.39 146 *eP* **P 01 31 10.2 -0.6**
CASY Casey 57.12 186 P **P 01 35 11.6 +0.9**
5.0nm,0.8s,mb4.6

*IDC **14** 01:26:04.5±1.4, 12.48N×123.86E, mb3.9/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, Error ellipse: s-maj=213.5km s-min=21.6km az=69.0*
*MAN **14** 01:26:06.6, 12.94N×124.72E, h13km, mb4.8, ML3.7, MS3.6*
ISC 14 01:26:07.9±0.8, 12.88N±0.05×124.75E±0.07, h41km±8km, n17, σ0°98°/22, mb3.9/5, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.37**	**193**	*eP*	**P**	**01 26 16.4**	**-0.8**
CNP				*eS*	**S**	**01 26 23.7**	**+0.1**
PVCP	**Virac**	**0.92**	**321**	*eP*	**P**	**01 26 22.2**	**-2.4**
PVCP				*eS*	**S**	**01 26 37.6**	**+0.8**
MMPH	**Masbate**	**1.21**	**245**	⇑*iP*	**P**	**01 26 28.3**	**-0.3**
MMPH				*eS*	**S**	**01 26 43.5**	**-0.7**
BESP	**Borongan**	**1.43**	**152**	*eP*	**P**	**01 26 32.8**	**+0.9**
PLP	**Palo**	**1.71**	**172**	*eP*	**P**	**01 26 36.4**	**+0.5**
PLP				*i* S	**S**	**01 26 56.2**	**-0.5**
AUQP	**San Andres**	**2.07**	**283**	*eP*	**P**	**01 26 45.8**	**+4.9**
RCP	**Roxas**	**2.35**	**237**	⇓*eP*	**P**	**01 26 45.6**	**+0.6**
GQP	**Guinayangan**	**2.46**	**295**	⇑*eP*	**P**	**01 26 47.8**	**+1.2**
GQP				*i* S	**S**	**01 27 24.1**	**+8.4**
BOAC	**Boac**	**2.89**	**282**	*eP*	**P**	**01 26 52.9**	**+0.3**
GUIM	**Jordan**	**3.08**	**224**	*eP*	**P**	**01 26 56.1**	**+0.8**
CUYO	**Cuyo Island**	**4.17**	**242**	*eP*	**P**	**01 27 10.9**	**+0.1**
CAUP	**Cauayan**	**4.94**	**325**	*eP*	**P**	**01 27 20.4**	**-1.2**
ASAR	**Alice Springs**	**37.40**	**166**	P	**P**	**01 33 18.9**	**-0.1**
	1.0nm,0.5s,mb3.9,baz=354,slow=7.0,SNR=7.6						
SONM	**Songino Array**	**38.07**	**340**	P	**P**	**01 33 27.1**	**+2.8**
	0.2nm,0.5s,mb3.1,baz=149,slow=8.4,SNR=2.9						
STKA	**Stephens Creek**	**47.34**	**160**	P	**P**	**01 34 38.8**	**-1.0**
	1.7nm,0.6s,mb4.2,baz=332,slow=6.2,SNR=4.3						
BVAR	**Borovoye Array**	**58.69**	**325**	P	**P**	**01 36 02.3**	**-1.3**
	0.6nm,0.6s,mb3.8,baz=121,slow=8.6,SNR=6.7						
ARCES	**ARCESS Array B**	**81.25**	**339**	P	**P**	**01 38 21.5**	**+0.7**
	4.1nm,1.0s,mb4.3,baz=84,slow=8.2,SNR=3.7						

SKHL 14 01:30:59.0±0.2, 48.64N×141.97E, h10km±2km, mb4.1/5, Ms3.7/1, msh4.1/1, Sakhalin Island

*NEIC **14** 01:34:51.2, 34.54N×24.69E, h19km, MD3.5(ATH), After ATH.*
*CSEM **14** 01:34:51.2, 34.54N×24.69E, h19km, MD3.5/4, After ATH*
ATH 14 01:34:52.8, 34.62N×24.77E, h21km±4km, MD3.5/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.60**	**291**	*ePg*	Pb	01 35 04.4	-0.1
GVD	**Gavdhos**	**0.60**	**291**	*ePN*	Pn	01 35 05.5	-0.5
XRY	**Khrisi**	**0.80**	**71**	*ePB*	Pb	01 35 07.7	-0.2
VAM	**Vamos**	**0.91**	**329**	*ePB*	Pb	01 35 09.5	-0.3
VAM				*eSN*	Sn	01 35 23.0	0.0
NPS	**Neapolis**	**0.94**	**47**	*ePN*	Pn	01 35 10.6	-0.3
NPS				*eSN*	Sn	01 35 24.1	+0.3
NPS	**Neapolis**	**0.94**	**47**	*ePn*	Pn	01 35 10.6	-0.3
NPS				*eSn*	Sn	01 35 25.1	+1.3
KARP	**Karpathos**	**2.17**	**64**	*ePB*	Pb	01 35 29.7	-1.5
KYTH	**Kithira**	**2.18**	**320**	*ePN*	Pn	01 35 31.0	+2.4
VLI	**Veliai**	**2.57**	**325**	*ePN*	Pn	01 35 35.0	+0.8

IDC 14 01:35:25.6±2.0, 1.89S×99.28E, mb3.7/7, mb1 4.0/7, mb1mx3.7/18, mbtmp3.8/7, MS3.6/1, Ms1 3.5/1, ms1mx2.7/15, Error ellipse: s-maj=85.9km s-min=20.0km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.22**	**359**	P	P	01 40 02.6	-2.6
	1.0nm,0.7s,baz=188,slow=10,SNR=7.7						
WRA	**Warramunga Arr**	**38.67**	**120**	P	P	01 42 50.6	-2.4
	0.6nm,0.4s,baz=302,slow=9.3,SNR=4.2						
ASAR	**Alice Springs**	**39.90**	**126**	P	P	01 43 01.9	-1.4
	0.7nm,0.4s,baz=300,slow=7.7,SNR=11						
STKA	**Stephens Creek**	**49.76**	**131**	LR	LR	02 08 06.2	
	comp=Z,62nm,19.0s,baz=344,slow=39						
SONM	**Songino Array**	**49.91**	**6**	P	P	01 44 21.0	-2.0
	0.3nm,0.5s,baz=191,slow=8.8,SNR=5.3						
ZAL	**Zalesovo**	**56.92**	**350**	P	P	01 45 12.4	-2.5
	1.5nm,0.5s,baz=220,slow=2.5,SNR=5.0						
BVAR	**Borovoye Array**	**59.84**	**340**	P	P	01 45 31.7	-3.5
	0.5nm,0.6s,baz=135,slow=8.4,SNR=4.2						
FINES	**FINESS Array B**	**83.68**	**332**	P	P	01 47 56.5	-0.9
	2.4nm,1.1s,baz=117,slow=4.3,SNR=5.8						
TXAR	**Lajitas Array**	**145.04**	**36**	PKPbc	PKPbc	01 55 05.3	-0.6
	0.4nm,0.4s,baz=255,slow=0.5,SNR=10						

*NEIC **14** 01:44:34.9, 35.36S×71.74W, h56km, MD3.6(GUC), After GUC.*
GUC 14 01:44:34.9±0.6, 35.36S×71.74W, h56km±3km, MD3.6, ML3.2, 2C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TALC	**Talca**	**0.10**	**114**	⇑*iP*	P	01 44 43.4	0.0
TALC				*i* S	S	01 44 50.2	+0.5
TALC				AMP		01 44 51.2	
	comp=N,8μm,0.1s						
SFDO	**San Fernando**	**0.95**	**39**	⇓*iP*	P	01 44 52.3	0.0
SFDO				*i* S	S	01 45 05.9	+0.5
CCHI	**Chillan**	**1.27**	**192**	*eP*	P	01 44 56.8	0.0
CCHI				*i* S	S	01 45 13.3	+0.3
CCHI				AMP		01 45 18.9	
	comp=N,361nm,0.4s						
LNV	**Longovilo**	**1.43**	**11**	⇑*iP*	P	01 44 58.9	-0.1
CICH	**Cipreses**	**1.50**	**47**	*eP*	P	01 45 00.6	+0.5
CHCH	**Chadas Angostu**	**1.68**	**33**	*eP*	P	01 45 02.3	-0.3
CHCH				*i* S	S	01 45 23.8	+0.8
LMEL	**Las Melosas**	**1.97**	**41**	⇓*iP*	P	01 45 07.0	+0.5
LMEL				*i* S	S	01 45 30.9	+0.8
LMEL				AMP		01 45 38.4	
	comp=N,201nm,0.3s						
RCDM	**Rinconada Maip**	**2.02**	**23**	*eP*	P	01 45 06.8	-0.5
RCDM				*i* S	S	01 45 31.6	+0.4
RCDM				AMP		01 45 39.5	
	comp=N,276nm,0.1s						

MDD 14 01:56:19.0±0.6, 37.75N×1.69W, h23km±6km, mbLg1.1/5, Error ellipse: s-maj=10.7km s-min=4.9km az=118.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.37**	**75**	Pg	Pb	01 56 26.0	-0.9
	0.7nm,0.3s,SNR=7.9						
EMUR				Lg		01 56 32.6	
	5.7nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**0.88**	**208**	Pg	Pb	01 56 35.3	-0.1
	0.1nm,0.5s,SNR=7.9						
ENIJ				Lg		01 56 46.3	
	5.0nm,0.7s,SNR=7.9						
ETOB	**Tobarra**	**0.91**	**7**	Pg	Pb	01 56 35.3	-0.6
	0.0nm,0.1s,SNR=24						
ETOB				Lg		01 56 47.9	
	6.5nm,0.2s,SNR=8.9						
EBER	**Berja**	**1.28**	**229**	Pg	Pn	01 56 41.3	-0.4
	0.3nm,0.4s,SNR=7.9						
EBER				Lg		01 56 58.9	
	0.5nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.56**	**253**	Pg	Pn	01 56 46.4	+0.7
	0.2nm,0.3s,SNR=7.9						
ECOG				Lg		01 57 07.1	
	1.7nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**2.32**	**281**	Sn	Sn	01 57 21.3	-3.4
	0.2nm,0.1s,SNR=7.9						
EADA				Lg		01 57 28.2	
	0.5nm,0.1s,SNR=7.9						

IDC 14 02:11:39.3±1.7, 0.64N×97.06E, mb3.7/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML4.2/1, Error ellipse: s-maj=70.0km s-min=21.9km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.80**	**6**	P	P	02 15 50.3	0.0
	0.3nm,0.3s,baz=206,slow=12,SNR=5.5						
SHL	**Shillong**	**25.28**	**349**	*eP*	P	02 17 06.2	-2.9
WRA	**Warramunga Arr**	**41.86**	**121**	P	P	02 19 31.7	-1.4
	1.0nm,0.9s,baz=302,slow=8.5,SNR=3.1						
ASAR	**Alice Springs**	**43.17**	**127**	P	P	02 19 42.2	-1.6
	1.2nm,0.7s,baz=299,slow=7.3,SNR=7.7						
SONM	**Songino Array**	**47.70**	**8**	P	P	02 20 17.9	-1.8
	0.2nm,0.3s,baz=187,slow=5.9,SNR=5.1						
ZAL	**Zalesovo**	**54.08**	**351**	P	P	02 21 04.4	-3.5
	0.9nm,0.6s,baz=337,slow=8.6,SNR=5.2						
AKASG	**Malin Array Be**	**75.61**	**323**	P	P	02 23 27.2	-0.7
	0.1nm,0.2s,baz=83,slow=5.6,SNR=4.6						
TXAR	**Lajitas Array**	**144.21**	**32**	PKP	PKPdf	02 31 15.1	-4.6
	0.3nm,0.5s,baz=269,slow=1.8,SNR=5.0						

DJA 14 02:22:25.1±1.0, 1.78S×120.30E, h81km±30km, MD4.4/3, Error ellipse: s-maj=37.2km s-min=27.2km az=20.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUNI	**Buntu Taipa**	**1.87**	**179**	*ePn*	P	02 22 55.3	-0.5
BUNI				*eSn*	S	02 23 16.6	-1.8
TANI	**Tanete Lipujan**	**1.88**	**209**	*ePn*	P	02 22 55.5	-0.5
TANI				*eSn*	S	02 23 16.8	-2.0
NINI	**Niniconang**	**2.68**	**192**	*ePn*	P	02 23 06.0	-1.2
NINI				*eSn*	S	02 23 37.7	-0.9

DJA 14 02:32:57.8±1.0, 9.49S×116.09E, h8km±5km, MD4.8/2, ML3.9/3, 2C-2D, Error ellipse: s-maj=20.0km s-min=12.9km az=151.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.94**	**324**	⇓*ePg*	Pg	02 33 14.1	-2.4
	173nm,0.2s						
RATI				⇓*eSg*	Sg	02 33 26.3	-2.8
KEDI	**Kedomdong**	**1.00**	**2**	*ePn*	Pn	02 33 15.2	-2.7
	344nm,0.3s						
KEDI				*eSn*	Sn	02 33 28.3	-3.9
SRDI	**Scrawed**	**2.17**	**297**	⇑*ePn*	Pn	02 33 32.0	-2.7
	31nm,0.2s						
SRDI				⇑*eSn*	Sn	02 33 56.2	-5.7

IDC 14 02:40:38.4±9.8, 18.52N×146.70E, h83km±89km, mb3.4/6, mb1 3.6/7, mb1mx3.4/21, mbtmp3.8/7, ML4.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.6/23, Error ellipse: s-maj=50.3km s-min=19.3km az=89.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**19.45**	**339**	P	P	02 44 58.7	-2.1
	0.4nm,0.3s,baz=169,slow=10,SNR=4.5						
ASAJ	**Asahikawa**	**25.75**	**353**	LR	LR	02 55 24.0	
	comp=Z,40nm,19.3s,baz=136,slow=34						
CTA	**Charters Tower**	**38.37**	**181**	LR	LR	03 01 50.2	
	comp=Z,58nm,20.1s,baz=227,slow=33						
WRA	**Warramunga Arr**	**40.10**	**198**	P	P	02 48 05.1	-2.4
	0.6nm,0.4s,baz=22,slow=8.4,SNR=4.5						
ASAR	**Alice Springs**	**43.75**	**197**	P	P	02 48 36.6	-0.8
	0.2nm,0.3s,baz=12,slow=7.8,SNR=4.6						
SONM	**Songino Array**	**43.88**	**321**	P	P	02 48 35.0	-3.1
	0.2nm,0.3s,baz=143,slow=8.0,SNR=3.8						
BVAR	**Borovoye Array**	**67.22**	**320**	P	P	02 51 24.6	-1.1
	1.2nm,0.5s,baz=92,slow=7.3,SNR=11						
YKA	**Yellowknife Ar**	**77.70**	**28**	P	P	02 52 25.7	-1.5
	0.5nm,0.7s,baz=287,slow=5.5,SNR=9.3						
FINES	**FINESS Array B**	**87.44**	**336**	P	P	02 53 15.9	-1.4
	0.4nm,0.6s,baz=27,slow=4.3,SNR=3.7						

*BJI **14** 02:52:54.8, 4.02N×95.27E, h67km, mB4.8, mb4.4*
*NEIC **14** 02:52:56.8±0.5, 4.07N×95.78E, mb4.3/10, Error ellipse: s-maj=13.1km s-min=7.5km az=49.0*
NEIC Felt [II] at Banda Aceh.
*IDC **14** 02:52:57.6±0.7, 4.29N×95.96E, h52km±5km, mb3.9/13, mb1 4.1/13, mb1mx3.9/20, mbtmp4.2/13, MS3.5/5, Ms1 3.6/5, ms1mx3.2/25, Error ellipse: s-maj=31.1km s-min=12.4km az=47.0*
ISC 14 02:52:55.3±0.5, 4.06N±0.07×95.81E±0.05, h54km, h54km±1.5km: pP-P, n48, σ1°13/45, mb4.4/26, MS3.7/4, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.98**	**76**	*ePn*	**P**	**02 54 10.6**	**+1.2**
KULM				*eSn*	**S**	**02 55 04.3**	**-1.9**
SNG	**Songkhla**	**5.70**	**57**	P	**P**	**02 54 21.0**	**+1.7**
	400nm,0.9s						
KKTK	**Khon Kaen**	**14.01**	**29**	P	**P**	**02 56 21.0**	**+8.3**
CM31	**Chiang Mai Arr**	**14.63**	**12**	*eP*	**P**	**02 56 22.5**	**+1.7**
	8.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**14.63**	**12**	P	**P**	**02 56 22.5**	**+1.7**
	0.2nm,0.3s,baz=206,slow=12,SNR=13						
CMAR				LR	LR	03 01 35.1	
	comp=Z,83nm,20.1s,baz=195,slow=36						
KSM	**Kuching**	**14.71**	**100**	P	**P**	**02 56 28.7**	**+6.8**
CHG	**Chiang Mai**	**14.98**	**12**	P	**P**	**02 56 27.9**	**+2.6**
PALK	**Pallekele**	**15.37**	**283**	*eP*	**P**	**02 56 37.5**	**+7.1**
	5.5nm,0.7s						
NANT	**Nan**	**15.41**	**18**	P	**P**	**02 56 35.0**	**+4.2**
KKM	**Kota Kinabalu**	**20.42**	**84**	P	**P**	**02 57 27.9**	**-2.7**
HYB	**Hyderabad**	**21.50**	**309**	*eP*	**P**	**02 57 45.0**	**+3.4**
HYB	**Hyderabad**	**21.50**	**309**	*i P*	**P**	**02 57 45.0**	**+3.4**
SHL	**Shillong**	**21.71**	**350**	*e*	**P**	**02 57 40.0**	**-3.6**
GYA	**Guiyang**	**24.58**	**24**	⇑*iP*	**P**	**02 58 12.5**	**+0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
JIRN	**Jiri**	**25.20**	**340**	*eP*	**P**	**02 58 18.0**	**+0.4**
	comp=Z,14nm,0.4s,mb4.9						
PKI	**Pulchoki**	**25.40**	**338**	*eP*	**P**	**02 58 19.3**	**-0.2**
	comp=Z,5.9nm,0.5s,mb4.4						
GUN	**Gumba**	**25.53**	**339**	*eP*	**P**	**02 58 20.9**	**+0.1**
	comp=Z,17nm,0.5s,mb4.9						
DMN	**Daman**	**25.55**	**338**	*eP*	**P**	**02 58 20.7**	**-0.2**
	comp=Z,8.4nm,0.5s,mb4.5						
KKN	**Kakani**	**25.64**	**338**	*eP*	**P**	**02 58 21.9**	**+0.1**
	comp=Z,12nm,0.4s,mb4.8						
LSA	**Lhasa**	**25.88**	**351**	P	**P**	**02 58 23.0**	**-1.0**
	comp=Z,8.4nm,1.0s,mb4.2						
GKN	**Gorkha**	**26.08**	**337**	*eP*	**P**	**02 58 25.6**	**-0.3**
	comp=Z,24nm,0.4s,mb5.1						
KOLN	**Koldanda**	**26.29**	**335**	*eP*	**P**	**02 58 27.9**	**+0.1**
	comp=Z,23nm,0.7s,mb4.8						
GTA	**Gaotai**	**35.37**	**5**	*eP*	**P**	**02 59 47.4**	**-0.4**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**36.74**	**128**	P	**P**	**02 59 59.2**	**-0.4**
	comp=Z,4.8nm,0.8s,mb4.3,baz=118,slow=13,SNR=3.1						
SONM	**Songino Array**	**44.55**	**10**	P	**P**	**03 01 03.2**	**-0.4**
	comp=Z,4.4nm,0.7s,mb4.4,baz=190,slow=8.4,SNR=36						
SONM				PcP	PcP	03 02 46.7	+0.2
	comp=Z,0.9nm,0.4s,baz=201,slow=3.5,SNR=7.1						
SONM				pPcP		03 03 02.7	
	comp=Z,2.8nm,0.8s,baz=191,slow=3.9,SNR=8.8						
SONM				LR	LR	03 19 42.0	
	comp=Z,30nm,20.9s,MS3.2,baz=92,slow=36						
ULN	**Ulaanbaatar**	**44.70**	**11**	*eP*	**P**	**03 01 02.5**	**-2.3**
	comp=Z,4.4nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**44.74**	**124**	P	**P**	**03 01 05.8**	**+0.3**
	comp=Z,5.0nm,0.7s,mb4.4,baz=302,slow=9.2,SNR=16						
WRA				pP	pP	03 01 19.8	+0.1
	comp=Z,7.2nm,0.6s,baz=302,slow=9.2,SNR=10						
WRAB	**Tennant Creek**	**44.75**	**124**	*eP*	**P**	**03 01 05.6**	**+0.1**
	comp=Z,30nm,1.0s,mb5.1						
WB2	**Warramunga Arr**	**44.75**	**124**	*eP*	**P**	**03 01 05.8**	**+0.2**
ASPA	**Alice Springs**	**46.23**	**128**	*eP*	**P**	**03 01 21.1**	**+3.8**
ASAR	**Alice Springs**	**46.23**	**128**	P	**P**	**03 01 17.9**	**+0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=298,slow=7.8,SNR=6.2						
ASAR				pPcP		03 03 10.0	
	comp=Z,0.9nm,0.8s,baz=313,slow=4.2,SNR=4.3						
ZAL	**Zalesovo**	**50.53**	**352**	P	**P**	**03 01 49.4**	**-0.8**
	comp=Z,5.4nm,0.4s,mb4.8,baz=314,slow=6.5,SNR=25						
MJAR	**Matsushiro Arr**	**50.58**	**45**	LR	LR	03 24 08.7	
	comp=Z,62nm,18.6s,MS3.6,baz=210,slow=37						
BVAR	**Borovoye Array**	**53.11**	**341**	P	**P**	**03 02 08.0**	**-1.6**
	comp=Z,1.9nm,0.7s,mb4.1,baz=149,slow=8.6,SNR=13						
CHKZ	**Chkalovo**	**53.59**	**342**	*eP*	**P**	**03 02 12.0**	**-1.1**
	comp=Z,6.7nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**56.30**	**133**	P	**P**	**03 02 34.1**	**+1.0**
	comp=Z,3.6nm,0.7s,mb4.5,baz=283,slow=4.6,SNR=4.8						
STKA	**Stephens Creek**	**56.30**	**133**	*eP*	**P**	**03 02 33.9**	**+0.8**
KMBO	**Kilima Mbogo**	**58.74**	**266**	P	**P**	**03 02 53.6**	**+3.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=59,slow=12,SNR=4.3						
KMBO	**Kilima Mbogo**	**58.74**	**266**	P	**P**	**03 02 51.1**	**+0.5**
	comp=Z,1.0nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**66.17**	**312**	P	**P**	**03 03 39.6**	**0.0**
	comp=Z,0.6nm,0.3s,mb4.0,baz=144,slow=4.7,SNR=7.1						
BRTR				pP	pP	03 03 54.3	-0.3
	comp=Z,1.7nm,0.7s,baz=130,slow=7.9,SNR=6.4						
AKASG	**Malin Array Be**	**72.16**	**322**	P	**P**	**03 04 15.4**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.8,baz=87,slow=4.3,SNR=4.9						
AKASG				pP	pP	03 04 29.5	-1.8
	comp=Z,1.1nm,0.5s,baz=87,slow=5.1,SNR=3.9						
LBTB	**Lobatse**	**73.93**	**243**	LR	LR	03 31 20.3	
	comp=Z,50nm,21.2s,MS3.8,baz=83,slow=31						
JOF	**Joensuu**	**74.98**	**335**	*ep*	**P**	**03 04 31.9**	**-0.5**
FINES	**FINESS Array B**	**76.83**	**332**	P	**P**	**03 04 42.6**	**-0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=110,slow=6.1,SNR=15						
FINES				pP	pP	03 04 58.1	-0.1
	comp=Z,1.0nm,0.5s,baz=111,slow=6.0,SNR=2.9						
ARCES	**ARCESS Array B**	**79.39**	**340**	P	**P**	**03 04 56.5**	**-0.3**
	comp=Z,1.4nm,0.3s,mb4.3,baz=100,slow=7.3,SNR=30						
ARCES				pP	pP	03 05 11.6	-0.6
	comp=Z,4.4nm,0.8s,baz=79,slow=6.2,SNR=2.7						
SUR	**Sutherland**	**79.57**	**236**	LR	LR	03 34 34.6	
	comp=Z,98nm,20.9s,MS4.1,baz=4.7,slow=31						
GERES	**GERESS Array B**	**81.76**	**319**	P	**P**	**03 05 10.3**	**+0.5**
	comp=Z,0.2nm,0.3s,mb3.5,baz=63,slow=3.0,SNR=6.8						
GERES				pP	pP	03 05 27.2	+2.0
	comp=Z,0.7nm,0.7s,baz=90,slow=4.0,SNR=3.8						
TXAR	**Lajitas Array**	**141.90**	**28**	PKP	PKPdf	03 12 24.7	+2.8
	comp=Z,0.1nm,0.4s,baz=176,slow=1.4,SNR=4.0						
TXAR				pPKP		03 12 40.2	
	comp=Z,0.4nm,0.6s,baz=36,slow=0.6,SNR=4.3						

IDC 14 03:09:07.5±13.0, 17.77S×177.89W, h561km±161km, mb2.8/5, mb1 3.2/5, mb1mx3.0/16, mbtmp3.7/5, Error ellipse: s-maj=119.3km s-min=48.2km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.14**	**259**	P	P	03 16 34.5	-1.6
	0.4nm,0.4s,baz=95,slow=6.8,SNR=8.1						
ASAR	**Alice Springs**	**45.30**	**254**	P	P	03 16 35.9	-1.5
	0.6nm,0.4s,baz=91,slow=7.8,SNR=14						
TXAR	**Lajitas Array**	**85.50**	**57**	P	P	03 20 46.8	-1.0
	0.3nm,0.7s,baz=239,slow=7.3,SNR=4.8						
ILAR	**Eielson Array**	**85.64**	**13**	P	P	03 20 46.5	-1.1
	0.4nm,0.4s,baz=219,slow=4.8,SNR=12						
YKA	**Yellowknife Ar**	**94.00**	**25**	P	P	03 21 25.5	-0.8
	0.1nm,0.5s,baz=241,slow=4.4,SNR=4.7						
GERES	**GERESS Array B**	**147.60**	**346**	PKPbc	PKPdf	03 27 48.5	+3.5
	0.4nm,0.5s,baz=27,slow=2.2,SNR=5.2						

*NEIC **14** 03:19:02.4, 16.24N×97.68W, h46km, MD3.8(MEX), After MEX.*
MEX 14 03:19:02.1±0.9, 16.27N×97.70W, h50km±16km, MD3.9, 2C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.43**	**286**	*i P*	P	03 19 11.3	-1.3
PNIG				*i* S	S	03 19 18.6	-1.6
PNIG	**Pinotepa**	**0.43**	**286**	⇑*iP*	P	03 19 11.1	-1.5
PNIG				*i* S	S	03 19 18.6	-1.6
VHO	**Vista Hermosa**	**1.22**	**49**	*eP*	P	03 19 21.1	-1.9
VHO				*eS*	S	03 19 36.2	-2.5
VHO	**Vista Hermosa**	**1.22**	**49**	⇑*iP*	P	03 19 21.1	-2.0
VHO				*i* S	S	03 19 36.1	-2.6
OXX	**Oaxaca**	**1.23**	**49**	*i P*	P	03 19 22.0	-1.3
OXX				*i* S	S	03 19 37.5	-1.6
HUIG	**Huatulco**	**1.61**	**108**	*eP*	P	03 19 27.8	-0.9
HUIG				*eS*	S	03 19 45.4	-2.9
ACX	**Acapulco**	**2.21**	**286**	*eP*	P	03 19 41.0	+3.9
ACX	**Acapulco**	**2.21**	**286**	*eP*	P	03 19 35.0	-2.1
ACX				*i* S	S	03 20 00.0	-3.3
PLIG	**Platanillo**	**2.72**	**321**	*eP*	P	03 19 41.9	-2.6
PLIG				*i* S	S	03 20 14.6	-1.8
CMIG	**Matias Romero**	**2.81**	**73**	*eP*	P	03 19 49.0	+3.2
CMIG				*eS*	S	03 20 16.7	-2.0
CMIG	**Matias Romero**	**2.81**	**73**	*eP*	P	03 19 42.1	-3.7
CMIG				*eS*	S	03 20 16.7	-2.0
PPM	**Popocatepetl**	**2.92**	**342**	*eP*	P	03 19 50.0	+2.8
PPM				*i P*		03 19 51.8	
PPM				*i* S	S	03 20 28.3	+7.1
PPM	**Popocatepetl**	**2.92**	**342**	*eP*	P	03 19 50.0	+2.8
PPM				*eP*		03 19 51.1	
PPM				*i* S	S	03 20 26.6	+5.4

DJA 14 03:28:34.2±1.1, 9.00S×116.31E, h15km, MD4.7/2, ML4.0/2, 4C-2D, Error ellipse: s-maj=28.1km s-min=14.2km az=125.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.55**	**339**	⇑*ePn*	Pn	03 28 44.5	-2.6
	131nm,0.2s						
KEDI				⇓*eSn*	Sn	03 28 52.3	-3.6
RATI	**Rata**

THN	**Thein Dam**	**5.44**	**134**	*eP*	**P**	**03 55 50.1**	**+1.8**
THN				*eS*	**S**	**03 56 50.2**	**+0.1**
DLH	**Dalhousie**	**5.51**	**132**	*eS*	**S**	**03 56 53.0**	**+1.1**
KK31	**Karatay Array**	**6.80**	**356**	⇓P	**P**	**03 56 07.0**	**-0.2**
	2.4nm,0.3s,baz=177,slow=12,SNR=109						
KK31				⇑S	**S**	**03 57 14.5**	**-9.2**
	4.0nm,0.4s,baz=190,slow=26,SNR=7.1						
AAK	**Ala-Archa**	**6.84**	**22**	⇓P	**P**	**03 56 09.2**	**+1.5**
	3.1nm,0.5s						
AAK				⇑S	**S**	**03 57 22.1**	**-2.6**
	9.3nm,0.6s						
SDNR	**Sundarnagar**	**6.85**	**133**	*eP*	**P**	**03 56 12.4**	**+4.6**
SDNR				*eS*	**S**	**03 57 22.6**	**-2.1**
KOLN	**Koldanda**	**13.59**	**125**	*eP*	**P**	**03 57 38.9**	**+0.7**
	2.6nm,0.3s						
GKN	**Gorkha**	**14.14**	**122**	*eP*	**P**	**03 57 44.5**	**-0.8**
	5.7nm,0.2s						
DMN	**Daman**	**14.71**	**122**	*eP*	**P**	**03 57 52.9**	**+0.3**
	4.0nm,0.3s						
KKN	**Kakani**	**14.71**	**121**	*eP*	**P**	**03 57 52.2**	**-0.5**
	8.4nm,0.6s						
PKI	**Pulchoki**	**14.94**	**122**	*eP*	**P**	**03 57 55.0**	**-0.6**
	3.6nm,0.2s						
JIRN	**Jiri**	**15.43**	**120**	*eP*	**P**	**03 58 01.7**	**-0.1**
	5.9nm,0.3s						
ZAL	**Zalesovo**	**20.05**	**24**	P	**P**	**03 58 56.2**	**+0.3**
	1.1nm,0.4s,baz=261,slow=3.2,SNR=4.0						
ZAL	**Zalesovo**	**20.05**	**24**	P	**P**	**03 58 56.2**	**+0.3**
GNI	**Garni**	**21.02**	**289**	P	**P**	**03 59 03.9**	**-2.1**
MALT	**Malatya**	**25.98**	**284**	P	**P**	**03 59 51.5**	**-2.4**
FINES	**FINESS Array B**	**37.68**	**326**	P	**P**	**04 01 36.6**	**+0.8**
	0.5nm,0.3s,mb3.8,baz=118,slow=9.2,SNR=5.9						
ARCES	**ARCESS Array B**	**41.35**	**338**	P	**P**	**04 02 07.2**	**+1.2**
	2.8nm,1.0s,mb4.1,baz=112,slow=8.1,SNR=6.9						
HFS	**Hagfors**	**43.26**	**322**	P	**P**	**04 02 22.7**	**+1.0**
	1.4nm,0.6s,mb3.9,baz=90,slow=10,SNR=6.0						
NB2	**NORSAR Subarra**	**44.58**	**323**	P	**P**	**04 02 32.9**	**+0.6**
	0.6nm,0.5s,mb3.6,baz=98,slow=7.4						
NOA	**NORSAR Array B**	**44.58**	**323**	P	**P**	**04 02 32.9**	**+0.6**
	0.7nm,0.5s,mb3.7,baz=100,slow=7.7,SNR=4.3						
YKA	**Yellowknife Ar**	**81.44**	**3**	P	**P**	**04 06 36.7**	**+0.9**
	0.1nm,0.5s,mb2.9,baz=351,slow=5.3,SNR=7.1						
YKA	**Yellowknife Ar**	**81.44**	**3**	P	**P**	**04 06 36.7**	**+0.9**
WRA	**Warramunga Arr**	**81.83**	**122**	P	**P**	**04 06 37.9**	**-0.8**
	0.2nm,0.3s,mb3.4,baz=325,slow=4.6,SNR=2.8						

MOS ***14*** *03:57:15.2±0.6,51.62N×16.21E,h10km,mb4.0/1,Error ellipse: s-maj=11.6km s-min=5.2km az=81.3*
BGR ***14*** *03:57:17.0±0.6,51.54N×16.13E,h1km,ML3.1/9,Error ellipse: s-maj=5.6km s-min=4.4km az=166.0*
IPEC ***14*** *03:57:16.0±0.3,51.56N×16.25E,ML2.4/3,Error ellipse: s-maj=2.0km s-min=1.5km az=35.0*
NEIC ***14*** *03:57:16.9±0.5,51.55N×16.14E,h5km,ML3.1(SZGRF), ML3.0(VIE),ML2.7(BRG),ML2.6(CLL),Error ellipse: s-maj=5.8km s-min=5.5km az=49.0*
PRU ***14*** *03:57:17.6,51.48N×16.14E*
CSEM ***14*** *03:57:17.7±0.1,51.48N×16.15E,h0km,ML3.4/4,Error ellipse: s-maj=2.3km s-min=1.4km az=10.0*
WAR ***14*** *03:57:18.3,51.48N×16.11E,h1km,ML3.0,Mining Induced*
IDC ***14*** *03:57:18.1±0.7,51.52N×15.86E,mb1 3.3/8, mb1mx3.2/25,mbtmp3.2/8,ML3.2/7,Error ellipse: s-maj=12.5km s-min=6.1km az=101.0*
ISC 14 03:57:15.1±0.4,**51.46N**±0.02×**16.12E**±0.02,**n71,** σ1§**48**/132,**4C-2D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**170**	⇓*iP*	**Pg**	**03 57 30.1**	**+2.5**
KSP				*e*		03 57 38.6	
KSP	**Ksiaz**	**0.63**	**170**	⇓*iPg*	**Pg**	**03 57 30.1**	**+2.5**
KSP				*e*		03 57 31.2	
KSP				*eSg*	**Sg**	**03 57 38.6**	**+2.6**
KSP				*e*		03 57 43.5	
KSP	**Ksiaz**	**0.63**	**170**	*i* PG	**Pg**	**03 57 30.1**	**+2.5**
KSP				*e*SG	**Sg**	**03 57 39.1**	**+3.1**
KSP	**Ksiaz**	**0.63**	**170**	*e*Pg	**Pg**	**03 57 30.1**	**+2.5**
KSP				*e*Sg	**Sg**	**03 57 38.7**	**+2.7**
KSP	**Ksiaz**	**0.63**	**170**	*e*Pg	**Pg**	**03 57 30.0**	**+2.4**
KSP				*e*Sg	**Sg**	**03 57 38.6**	**+2.6**
UPC	**Upice**	**0.96**	**184**	*e*PG	**Pg**	**03 57 36.0**	**+1.8**
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*P	**Pg**	**03 57 38.8**	**+1.4**
DPC				*e*		03 57 53.4	
DPC				smax			
	comp=N,78nm,0.6s						
DPC	**Dobruska-Polom**	**1.12**	**173**	*e*PG	**Pg**	**03 57 38.8**	**+1.4**
DPC				*e*SG	**Sg**	**03 57 53.4**	**+1.1**
	comp=N,78nm,0.6s						
DPC	**Dobruska-Polom**	**1.12**	**173**	Pg	**Pg**	**03 57 38.8**	**+1.4**
DPC				*e*Sg	**Sg**	**03 57 54.1**	**+1.8**
PVCC	**Panska Ves**	**1.35**	**227**	*e*PG	**Pg**	**03 57 43.0**	**+0.9**
PVCC	**Panska Ves**	**1.35**	**227**	*e*Pn	**Pn**	**03 57 43.2**	**+2.0**
PVCC				*e*Sg	**Sg**	**03 58 02.6**	**+2.5**
BRG	**Berggiesshubel**	**1.49**	**248**	*e*Pg	**Pg**	**03 57 44.8**	**0.0**
BRG				*e*Sg	**Sg**	**03 58 06.1**	**+1.3**
BRG	**Berggiesshubel**	**1.49**	**248**	*e*P	**Pn**	**03 57 44.9**	**+1.7**
BRG				*i*		03 58 06.0	
BRG	**Berggiesshubel**	**1.49**	**248**	*e*Pn	**Pn**	**03 57 44.9**	**+1.7**
BRG				*i* Pg	**Pg**	**03 57 45.9**	**+1.0**
BRG				*i* Sg	**Sg**	**03 58 06.0**	**+1.3**
BRG	**Berggiesshubel**	**1.49**	**248**	*i* Pg	**Pg**	**03 57 45.9**	**+1.0**
BRG				Sg	**Sg**	**03 58 06.1**	**+1.4**
PRU	**Pruhonice**	**1.78**	**215**	*e*PG	**Pg**	**03 57 50.4**	**-0.3**
PRU				*e*SG	**Sg**	**03 58 14.2**	**-0.2**
MORC	**Moravsky Berou**	**1.91**	**151**	*e*P	**Pn**	**03 57 50.3**	**+1.1**
MORC	**Moravsky Berou**	**1.91**	**151**	*e*Pn	**Pn**	**03 57 50.2**	**+1.0**
MORC				*e*Sg	**Sg**	**03 58 17.5**	**-1.3**
	comp=N,24nm,0.3s						
CLL	**Collm**	**1.96**	**267**	*e*Pn	**Pn**	**03 57 50.6**	**+0.7**
CLL				*e*Sg	**Sg**	**03 58 19.1**	**-1.2**
CLL	**Collm**	**1.96**	**267**	*i* P	**Pn**	**03 57 50.5**	**+0.6**
CLL				*i*		03 58 20.1	
CLL	**Collm**	**1.96**	**267**	*i* Pn	**Pn**	**03 57 50.5**	**+0.6**
CLL				*i* Pg	**Pg**	**03 57 53.4**	**-0.8**
CLL				*i* Sg	**Sg**	**03 58 20.1**	**-0.2**
CLL	**Collm**	**1.96**	**267**	*i* PN	**Pn**	**03 57 50.5**	**+0.6**
CLL				*i* PG	**Pg**	**03 57 53.4**	**-0.8**
CLL				*i*		03 57 58.2	
CLL				*i*		03 58 08.7	
CLL				*i* SG	**Sg**	**03 58 20.1**	**-0.2**
CLL	**Collm**	**1.96**	**267**	*i* Pg	**Pg**	**03 57 53.4**	**-0.8**
CLL				Sg	**Sg**	**03 58 19.1**	**-1.2**
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*P	**Pn**	**03 57 52.6**	**+1.1**
OKC				*e*		03 58 22.7	
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*PN	**Pn**	**03 57 52.6**	**+1.1**
OKC				*e*PG	**Pg**	**03 57 56.4**	**-0.1**
OKC				*e*SG	**Sg**	**03 58 22.7**	**-1.5**
OKC	**Ostrava-Krasne**	**2.08**	**141**	*e*Pg	**Pg**	**03 57 56.4**	**-0.1**
OKC				*e*Sg	**Sg**	**03 58 22.7**	**-1.5**
VRAC	**Vranov**	**2.18**	**172**	P	**Pn**	**03 57 56.0**	**+3.0**
VRAC						03 58 26.5	
VRAC				pmax	pmax		
	comp=Z,6.0nm,0.3s						
VRAC				pmax	pmax		
	comp=Z,6.0nm,0.3s						
VRAC	**Vranov**	**2.18**	**172**	Pn	**Pn**	**03 57 56.0**	**+3.0**
	comp=Z,6.3nm,0.3s,baz=347,slow=16,SNR=13						
VRAC				Pg	**Pg**	**03 57 59.0**	**+0.5**
	comp=Z,6.3nm,0.3s,baz=346,slow=16,SNR=14						
VRAC				Sn	**Sn**	**03 58 26.5**	**+5.4**
	comp=Z,6.9nm,0.3s,baz=99,slow=17,SNR=8.2						
VRAC				Lg		03 58 29.7	
	comp=Z,6.9nm,0.3s,baz=88,slow=17,SNR=6.9						
VRAC	**Vranov**	**2.18**	**172**	*e*Pn	**Pn**	**03 57 55.3**	**+2.3**
VRAC	**Vranov**	**2.18**	**172**	Pg	**Pg**	**03 57 59.0**	**+0.5**
VRAC				*e*Sg	**Sg**	**03 58 26.8**	**-0.7**
	comp=Z,15nm,0.3s						
KRUC	**Moravsky**	**2.41**	**176**	*e*Pn	**Pn**	**03 57 58.5**	**+2.2**
KRUC				*e*Sg	**Sg**	**03 58 34.5**	**-0.7**
	comp=Z,15nm,0.4s						
TANN	**Tannenbergstha**	**2.54**	**247**	*e*Pn	**Pn**	**03 58 00.3**	**+2.1**
TANN				*e*Sg	**Sg**	**03 58 38.0**	**-1.6**
WERD	**Werda**	**2.62**	**249**	*e*Pn	**Pn**	**03 58 00.6**	**+1.4**
WERD				*e*Sg	**Sg**	**03 58 40.4**	**-1.8**
NKC	**Novy Kostel**	**2.63**	**244**	*e*P	**Pn**	**03 58 01.4**	**+1.9**
NKC				*e*		03 58 42.1	
NKC				smax			
	comp=N,32nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**244**	*e*PN	**Pn**	**03 58 01.4**	**+1.9**
NKC				*e*PG	**Pg**	**03 58 07.5**	**-0.1**
NKC				*e*SG	**Sg**	**03 58 42.1**	**-0.6**
	comp=N,32nm,0.3s						
GUNZ	**Gunzen**	**2.64**	**247**	*e*Pn	**Pn**	**03 58 01.2**	**+1.6**
GUNZ				*e*Sg	**Sg**	**03 58 41.5**	**-1.4**
OJC	**Ojcow**	**2.64**	**117**	*e*PG	**Pg**	**03 58 07.0**	**-0.8**
OJC				*e*SG	**Sg**	**03 58 42.0**	**-1.0**
NEUB	**Neuenburg**	**2.74**	**266**	*e*Sg	**Sg**	**03 58 44.8**	**-1.4**
KHC	**Kasperske Hory**	**2.85**	**216**	*e*P	**Pn**	**03 58 04.1**	**+1.5**
KHC				*e*		03 58 37.5	
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PN	**Pn**	**03 58 04.1**	**+1.5**
KHC				*e*PG	**Pg**	**03 58 10.0**	**-1.9**
KHC				*e*SN	**Sn**	**03 58 37.5**	**-0.6**
KHC				*e*SG	**Sg**	**03 58 48.9**	**-0.9**
KHC	**Kasperske Hory**	**2.85**	**216**	*e*Pg	**Pg**	**03 58 10.0**	**-1.9**
KHC				*e*Sn	**Sn**	**03 58 37.5**	**-0.6**
KHC				*e*S	**Sn**	**03 58 37.5**	**-0.6**
KHC				*e*Sg	**Sg**	**03 58 48.9**	**-0.9**
MOX	**Moxa**	**2.96**	**256**	*e*Pn	**Pn**	**03 58 05.6**	**+1.4**
MOX				*e*Sg	**Sg**	**03 58 51.8**	**-1.7**
MOX	**Moxa**	**2.96**	**256**	*e*Pn	**Pn**	**03 58 05.6**	**+1.4**
MOX				*e*Sg	**Sg**	**03 58 51.8**	**-1.7**
GEC2	**GERESS Array S**	**3.05**	**212**	*e*Pn	**Pn**	**03 58 06.8**	**+1.3**
GEC2				*e*Sg	**Sg**	**03 58 55.7**	**-0.8**
GEC2	**GERESS Array S**	**3.05**	**212**	*e*Pn	**Pn**	**03 58 06.8**	**+1.4**
GEC2				*e*Sg	**Sg**	**03 58 55.7**	**-0.8**
GERES	**GERESS Array B**	**3.05**	**212**	P	**Pn**	**03 58 07.3**	**+1.9**
GERES						03 58 42.0	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GERES	**GERESS Array B**	**3.05**	**212**	Pn	**Pn**	**03 58 07.3**	**+1.9**
	comp=Z,1.4nm,0.3s,baz=27,slow=12,SNR=41						
GERES				Pg	**Pg**	**03 58 14.0**	**-1.8**
	comp=Z,5.1nm,0.3s,baz=34,slow=16,SNR=36						
GERES				Sn	**Sn**	**03 58 42.0**	**-1.1**
	comp=Z,2.6nm,0.3s,baz=34,slow=23,SNR=6.1						
GERES				Lg		03 58 54.7	
	comp=Z,5.0nm,0.3s,baz=36,slow=27,SNR=7.0						
GERES	**GERESS Array B**	**3.05**	**212**	Pn	**Pn**	**03 58 07.3**	**+1.9**
GERES				Pg	**Pg**	**03 58 14.0**	**-1.8**
GERES				Sn	**Sn**	**03 58 42.0**	**-1.1**
GERES				Lg		03 58 54.7	
GERES	**GERESS Array B**	**3.05**	**212**	Pg	**Pg**	**03 58 14.0**	**-1.9**
GERES				S	**Sn**	**03 58 42.0**	**-1.1**
WET	**Wettzell**	**3.11**	**223**	*e*Pn	**Pn**	**03 58 07.5**	**+1.1**
WET				*e*Sg	**Sg**	**03 58 58.0**	**-0.8**
WET	**Wettzell**	**3.11**	**223**	*e*Pn	**Pn**	**03 58 07.5**	**+1.1**
WET				*e*Sg	**Sg**	**03 58 58.0**	**-0.8**
VKA	**Vienna**	**3.20**	**178**	⇑*i*PG	**Pg**	**03 58 17.8**	**-1.2**
VKA				*i* SG	**Sg**	**03 59 01.4**	**-0.3**
NIE	**Niedzica**	**3.37**	**126**	*e*P	**Pg**	**03 58 19.3**	**-3.1**
NIE				*e*S	**Sg**	**03 59 04.7**	**-2.6**
VYHS	**Vyhne**	**3.45**	**148**	*e*PN	**Pn**	**03 58 12.0**	**+0.9**
VYHS				*e*PG	**Pg**	**03 58 20.1**	**-3.8**
GRA1	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**03 58 14.4**	**+1.3**
GRA1				*e*Sg	**Sg**	**03 59 12.6**	**-2.0**
GRA1	**Grafenberg Arr**	**3.59**	**242**	Pn	**Pn**	**03 58 14.4**	**+1.3**
GRA1				Sg	**Sg**	**03 59 12.6**	**-2.0**
GRF	**Grafenberg Arr**	**3.59**	**242**	*e*Pn	**Pn**	**03 58 14.4**	**+1.3**
GRF				*e*Sg	**Sg**	**03 59 12.6**	**-2.0**
BSD	**Bornholm Skovb**	**3.73**	**349**	*i* P	**Pn**	**03 58 13.4**	**-1.7**
BSD				*i* S	**Sn**	**03 58 57.2**	**-3.3**
MOA	**Molln**	**3.81**	**199**	⇑*i*PN	**Pn**	**03 58 17.8**	**+1.5**
MOA				*i* SG	**Sg**	**03 59 21.6**	**-0.3**
	comp=Z,14nm,0.6s						
ARSA	**Arzberg**	**4.23**	**186**	⇑*i*PN	**Pn**	**03 58 25.7**	**+3.4**
ARSA				*i* SG	**Sg**	**03 59 34.3**	**-1.7**
	comp=Z,15nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.28**	**125**	*e*PN	**Pn**	**03 58 23.9**	**+0.9**
KWP	**Kalwaria**	**4.58**	**111**	*e*PG	**Pg**	**03 58 41.0**	**-5.5**
KWP				*e*SG	**Sg**	**03 59 46.0**	**-1.6**
KBA	**Koelnbreinsper**	**4.75**	**204**	⇑*i*PN	**Pn**	**03 58 30.9**	**+1.3**
KBA				*i* SG	**Sg**	**03 59 50.7**	**-2.4**
	comp=Z,9.0nm,0.7s						
DAVOX	**Davos**	**6.22**	**224**	Pn	**Pn**	**03 58 52.0**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=29,slow=10,SNR=2.7						
DAVOX				Lg		04 00 32.7	
	comp=Z,0.4nm,0.3s,baz=335,slow=22,SNR=3.3						
AKASG	**Malin Array Be**	**8.29**	**90**	P	**P**	**03 59 18.6**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**8.29**	**90**	Pn	**P**	**03 59 18.6**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=279,slow=12,SNR=6.4						
HFS	**Hagfors**	**8.80**	**352**	Pn	**P**	**03 59 24.3**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=166,slow=12,SNR=4.3						
HFS	**Hagfors**	**8.80**	**352**	Pn	**P**	**03 59 24.3**	**-2.2**
NOA	**NORSAR Array B**	**9.98**	**346**	Pn	**P**	**03 59 37.4**	**-5.3**
	comp=Z,0.1nm,0.3s,baz=129,slow=21,SNR=3.0						
FINES	**FINESS Array B**	**11.40**	**25**	Pn	**P**	**03 59 58.0**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=5.3						
FINES				Sn	**S**	**04 02 00.5**	**-11**
	comp=Z,0.2nm,0.3s,baz=218,slow=23,SNR=4.5						
ARCES	**ARCESS Array B**	**18.67**	**10**	Pn	**P**	**04 01 31.5**	**-4.7**
	comp=Z,0.2nm,0.3s,baz=196,slow=8.8,SNR=6.0						

IDC ***14*** *04:02:44.2±0.6,18.67N×81.72W,mb4.0/11,mb1 4.3/14, mb1mx4.1/24,mbtmp4.1/14,ML4.0/2,MS3.5/9,Ms1 3.5/9, ms1mx3.3/19,Error ellipse: s-maj=24.7km s-min=13.6km az=58.0*
NEIC ***14*** *04:02:45.6±0.3,18.54N×81.85W,h10km,mb4.3/17,Error ellipse: s-maj=9.2km s-min=5.7km az=56.0*
NEIC Felt at West Bay.
JSN ***14*** *04:02:46.6±0.5,17.17N×81.74W,h19km,MD4.9*
ISC 14 04:02:44.3±2.7,**18.64N**±0.06×**81.69W**±0.05,**h12**km±18km,
n57,σ1§**05**/53,**mb4.2**/24,**MS3.4**/6,**4C,North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJ	**Portland Cotta**	**4.40**	**101**	⇑*e*P	**Pn**	**04 03 51.6**	**-0.8**
STH	**Stony Hill**	**4.67**	**96**	⇑*e*P	**Pn**	**04 03 56.5**	**+0.2**
STH				*e*S	**Sn**	**04 04 49.3**	**-1.7**
HOJ	**Hope**	**4.73**	**97**	⇑*e*P	**Pn**	**04 03 57.9**	**+0.7**
GWJ	**Greenwich**	**4.74**	**96**	⇑*e*P	**Pn**	**04 03 57.7**	**+0.4**
TEIG	**Tepich**	**6.41**	**285**	*e*P	**Pn**	**04 04 16.8**	**-4.1**
	114nm,0.3s						
TEIG				*e*Sn	**Sn**	**04 05 21.5**	**-13**
JTS	**JuntasAbangare**	**8.88**	**201**	Pn	**P**	**04 04 55.5**	**0.0**
	0.7nm,0.3s,baz=73,slow=19,SNR=7.4						
JTS				LR	LR	04 08 20.9	
	comp=Z,340nm,18.1s,baz=31,slow=38						
JTS	**JuntasAbangare**	**8.88**	**201**	*e*Pn	**P**	**04 04 51.8**	**-3.7**
DWPF	**Disney**	**9.43**	**1**	*e*Pn	**P**	**04 05 01.4**	**-1.6**
SDV	**Santo Domingo**	**14.46**	**131**	Pn	**P**	**04 06 10.7**	**-0.2**
	1.3nm,0.3s,baz=336,slow=4.1,SNR=15						
SDV				Sn	**S**	**04 08 48.0**	**-4.1**
	0.2nm,0.3s,baz=114,slow=18,SNR=2.7						
SDV				LR	LR	04 11 52.8	
	comp=Z,127nm,19.3s,baz=341,slow=38						
SDV	**Santo Domingo**	**14.46**	**131**	*e*P	**P**	**04 06 10.4**	**-0.5**
	21nm,0.8s						
SJG	**San Juan**	**14.76**	**90**	Pn	**P**	**04 06 14.8**	**0.0**
	0.5nm,0.3s,baz=268,slow=5.4,SNR=5.4						
SJG	**San Juan**	**14.76**	**90**	*e*P	**P**	**04 06 17.6**	**+2.8**
	90nm,1.7s						
OXF	**Oxford**	**17.23**	**338**	*e*P	**P**	**04 06 45.6**	**-0.9**
WVT	**Waverly**	**18.24**	**344**	*e*P	**P**	**04 06 55.6**	**-3.5**
PCRV	**Puerto La Cruz**	**18.52**	**115**	LR	LR	04 14 04.2	
	comp=Z,186nm,19.8s,baz=303,slow=36						
OTAV	**Otavalo**	**18.57**	**170**	*e*P	**P**	**04 07 02.8**	**-0.4**
	6.9nm,0.9s						
MIAR	**Mount Ida**	**19.05**	**329**	*e*P	**P**	**04 07 07.5**	**-1.3**
	7.7nm,0.8s						
JCT	**Junction City**	**20.22**	**309**	*e*P	**P**	**04 07 21.8**	**-0.2**
	8.4nm,0.6s						
CCM	**Cathedral Cave**	**21.07**	**339**	*e*P	**P**	**04 07 31.7**	**+1.1**
	11nm,0.7s,mb4.3						
SDMD	**Soldier's Deli**	**21.12**	**10**	*e*P	**P**	**04 07 32.5**	**+1.3**
ACSO	**Alum Creek Sta**	**21.54**	**357**	P	**P**	**04 07 37.5**	**+2.0**
WMOK	**Wichita Mounta**	**22.09**	**320**	*e*P	**P**	**04 07 45.9**	**+4.9**
	11nm,1.2s,mb4.2						
LTX	**Lajitas**	**22.69**	**302**	*e*P	**P**	**04 07 46.0**	**-1.0**
	9.4nm,0.9s,mb4.2						
TXAR	**Lajitas Array**	**22.69**	**302**	P	**P**	**04 07 47.0**	**0.0**
	2.6nm,0.8s,mb3.7,baz=108,slow=9.1,SNR=30						
TXAR				PcP	PcP	04 11 41.0	+0.4
	1.2nm,1.0s,baz=135,slow=3.5,SNR=5.3						
SADO	**Sadowa**	**26.14**	**4**	P	**P**	**04 08 21.2**	**+1.3**
	5.7nm,0.9s,mb4.1,baz=217,slow=9.4,SNR=5.7						
SADO				LR	LR	04 19 09.7	
	comp=Z,141nm,19.3s,MS3.5,baz=193,slow=38						
ANMO	**Albuquerque**	**27.32**	**311**	LR	LR	04 19 23.1	
	comp=Z,31nm,21.4s,MS2.8,baz=128,slow=37						
ANMO	**Albuquerque**	**27.32**	**311**	P	**P**	**04 08 30.7**	**-0.2**
	1.4nm,0.9s,mb3.5						
SDCO	**Great Sand Dun**	**28.20**	**317**	*e*P	**P**	**04 08 40.1**	**+1.4**
	20nm,1.7s,mb4.5						
PV10	**Paradox Valley**	**30.86**	**315**	*e*P	**P**	**04 09 07.9**	**+5.3**
SRU	**San Rafael**	**32.24**	**315**	*e*P	**P**	**04 09 14.7**	**+0.1**
SAML	**Samuel**	**32.94**	**145**	*e*P	**P**	**04 09 21.8**	**+0.8**
	6.0nm,1.0s,mb4.5						
ULM	**Lac du Bonnet**	**33.51**	**343**	LR	LR	04 24 01.9	
	comp=Z,73nm,19.4s,MS3.4,baz=17,slow=38						
PDAR	**Pinedale Array**	**33.67**	**322**	P	**P**	**04 09 27.2**	**+0.1**
	0.5nm,0.6s,mb3.6,baz=112,slow=8.0,SNR=5.0						
PDAR				PcP	PcP	04 12 06.0	-1.2
	0.7nm,0.7s,baz=131,slow=3.4,SNR=5.0						
MOOW	**Moose Ponds**	**34.95**	**322**	*e*P	**P**	**04 09 38.3**	**+0.1**
	2.4nm,0.5s,mb4.4						
TPH	**Tonopah**	**36.48**	**310**	P	**P**	**04 09 52.3**	**+1.2**
	8.4nm,1.1s,mb4.6						
MCMT	**McKenzie Canyo**	**36.81**	**322**	P	**P**	**04 09 46.9**	**-6.9**
HLID	**Hailey**	**37.05**	**319**	*e*P	**P**	**04 09 56.8**	**+0.9**
	3.0nm,1.1s,mb4.0						
LPAZ	**La Paz**	**37.19**	**158**	P	**P**	**04 09 58.5**	**+1.2**
	1.5nm,1.0s,mb3.8,baz=341,slow=5.3,SNR=4.0						
LPAZ				PcP	PcP	04 12 18.6	+0.9
	0.7nm,0.6s,baz=33,slow=17,SNR=3.6						
LPAZ				LR	LR	04 26 24.2	
	comp=Z,50nm,21.9s,MS3.3,baz=250,slow=38						
LPAZ	**La Paz**	**37.19**	**158**	*e*P	**P**	**04 09 57.5**	**+0.3**
	3.2nm,1.2s,mb4.0						
NVAR	**Mina Array Bea**	**37.40**	**310**	P	**P**	**04 09 59.0**	**+0.1**
	0.3nm,0.3s,mb3.5,baz=100,slow=5.5,SNR=3.1						
NVAR				PcP	PcP	04 12 18.4	+0.2
	1.5nm,0.8s,baz=126,slow=5.4,SNR=6.3						
SIV	**San Ignacio**	**39.95**	**148**	P	**P**	**04 10 20.8**	**+0.4**
	9.8nm,0.7s,mb4.7,baz=328,slow=8.6,SNR=72						
SIV				PcP	PcP	04 12 26.0	-0.3
	1.1nm,0.7s,baz=285,slow=3.2,SNR=4.5						
BDFB	**Brasilia**	**47.54**	**134**	P	**P**	**04 11 20.9**	**-0.9**
	3.2nm,0.9s,mb4.3,baz=285,slow=7.4,SNR=4.4						
YKA	**Yellowknife Ar**	**49.38**	**341**	P	**P**	**04 11 33.9**	**-1.5**
	0.6nm,0.6s,mb3.8,baz=132,slow=8.4,SNR=24						
YKA				PcP	PcP	04 12 57.1	-1.0
	0.9nm,0.9s,baz=135,slow=4.0,SNR=6.7						
YKA	**Yellowknife Ar**	**49.38**	**341**	P	**P**	**04 11 33.9**	**-1.5**
YKA				PcP	PcP	04 12 57.1	-1.0
RPN	**Rapa Nui**	**52.81**	**211**	P	**P**	**04 11 57.5**	**-4.4**
DLBC	**Dease Lake**	**53.00**	**331**	P	**P**	**04 12 02.7**	**-0.2**
RES	**Resolute Bay**	**56.52**	**356**	*e*P	**P**	**04 12 28.7**	**+0.3**
	1.7nm,0.9s,mb4.1						
INK	**Inuvik**	**59.15**	**340**	*e*P	**P**	**04 12 44.4**	**-2.5**
	3.5nm,1.0s,mb4.3						
SUMG	**Summit**	**59.26**	**14**	*e*P	**P**	**04 12 46.7**	**-1.0**
	11nm,1.3s,mb4.7						
ILAR	**Eielson Array**	**62.77**	**334**	P	**P**	**04 13 10.7**	**-0.8**
	2.6nm,1.0s,mb4.3,baz=109,slow=4.4,SNR=16						
ESK	**Eskdalemuir**	**68.35**	**37**	P	**P**	**04 13 48.5**	**+1.0**
	13nm,1.0s,mb4.9						
ESDC	**Sonseca Array**	**69.05**	**54**	P	**P**	**04 13 53.5**	**+1.5**
	0.2nm,0.3s,mb3.5,baz=280,slow=6.1,SNR=4.5						
NOA

0.6nm,0.5s,mb4.0,baz=90,slow=5.7,SNR=7.9
ARCES ARCESS Array B 86.12 340 P **P 05 36 14.8 +1.2**
4.0nm,0.9s,mb4.7,baz=90,slow=4.5,SNR=7.7
TXAR Lajitas Array 144.55 37 PKP PKPdf 05 43 10.5 +1.6
2.6nm,0.6s,baz=270,slow=1.1,SNR=46
MIAR Mount Ida 145.00 19 *e*PKPdf PKPdf 05 43 10.5 +1.0
CFAA Coronel Fontan 145.01 198 PKPbc PKPbc 05 43 11.4 +1.6
0.5nm,0.5s,baz=146,slow=2.0,SNR=15
JCT Junction City 145.84 31 *e*PKPdf PKPdf 05 43 13.4 +2.3

IDC 14 05:50:47.5±17.0, 21.39S×176.15W, mb4.2/5, mb1 4.4/5, mb1mx3.9/17, mbtmp4.2/5, Error ellipse: s-maj=329.2km s-min=142.0km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.13**	**265**	P	P	05 57 44.4	-0.5
	4.1nm,0.5s,baz=89,slow=7.0,SNR=7.1						
STKA	**Stephens Creek**	**38.97**	**245**	P	P	05 58 14.7	-2.5
	1.7nm,0.6s,baz=78,slow=8.3,SNR=5.1						
ASAR	**Alice Springs**	**46.00**	**257**	P	P	05 59 12.4	-2.2
	1.7nm,0.7s,baz=85,slow=9.7,SNR=16						
WRA	**Warramunga Arr**	**46.19**	**262**	P	P	05 59 13.8	-2.4
	0.9nm,0.4s,baz=96,slow=8.3,SNR=8.0						
FITZ	**Fitzroy Crossi**	**54.62**	**263**	P	P	06 00 18.6	-1.9
	2.0nm,0.4s,baz=138,slow=9.4,SNR=13						

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*IDC **14** 05:55:09.9±1.1, 1.88S×99.62E, mb4.0/10, mb1 4.1/10, mb1mx4.0/19, mbtmp4.0/10, MS3.4/1, Ms1 3.6/1, ms1mx3.1/11, Error ellipse: s-maj=57.1km s-min=15.2km az=54.0*
*NEIC **14** 05:55:14.3±0.7, 1.85S×99.69E, h30km, mb3.9/1, Error ellipse: s-maj=32.3km s-min=8.6km az=56.0*

ISC 14 05:55:11.8±0.7, 2.0S±0.1×99.4E±0.2, h33km, n16, σ1§15/15, mb4.1/9, MS3.2/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.34**	**10**	Pn	Pn	05 56 48.0	-11
CMAR	**Chiang Mai Arr**	**20.33**	**359**	P	P	05 59 46.2	-1.8
	1.2nm,0.5s,baz=186,slow=10.0,SNR=10.0						
CMAR				LR	LR	06 07 41.2	
	comp=Z,102nm,18.1s,MS3.2,baz=57,slow=37						
PALK	**Pallekele**	**20.83**	**296**	P	P	05 59 52.0	-1.3
	5.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**30.29**	**124**	P	P	06 01 22.0	-0.4
	2.5nm,0.6s,mb4.1,baz=277,slow=2.2,SNR=3.8						
LSA	**Lhasa**	**32.50**	**347**	P	P	06 01 41.6	-0.2
NWAO	**Narrogin (SRO)**	**35.02**	**153**	*e*P	P	06 02 00.7	-2.8
WRA	**Warramunga Arr**	**38.48**	**120**	P	P	06 02 32.7	-0.1
	1.1nm,0.4s,mb3.9,baz=303,slow=9.1,SNR=7.2						
ASAR	**Alice Springs**	**39.71**	**126**	P	P	06 02 43.6	+0.7
	0.4nm,0.4s,mb3.5,baz=296,slow=7.9,SNR=3.6						
ASAR				PcP	PcP	06 04 51.2	+1.5
	0.6nm,0.6s,baz=298,slow=2.7,SNR=4.8						
STKA	**Stephens Creek**	**49.58**	**131**	P	P	06 04 03.1	+1.1
	1.2nm,0.6s,mb4.1,baz=332,slow=17,SNR=2.4						
STKA	**Stephens Creek**	**49.58**	**131**	P	P	06 04 01.6	-0.3
SONM	**Songino Array**	**50.00**	**6**	P	P	06 04 05.2	+0.2
	1.3nm,0.7s,mb4.1,baz=187,slow=9.1,SNR=13						
ZAL	**Zalesovo**	**57.05**	**350**	P	P	06 04 57.5	+0.5
	3.0nm,0.5s,mb4.6,baz=297,slow=4.2,SNR=20						
BVAR	**Borovoye Array**	**59.99**	**340**	P	P	06 05 17.2	-0.2
	1.4nm,0.6s,mb4.2,baz=144,slow=9.5,SNR=11						
BRTR	**Keskin Array B**	**72.90**	**313**	P	P	06 06 41.2	+1.5
	0.5nm,0.3s,mb3.9,baz=108,slow=3.9,SNR=3.6						
FINES	**FINESS Array B**	**83.85**	**332**	P	P	06 07 41.5	+2.3
	1.2nm,0.5s,mb4.3,baz=104,slow=5.2,SNR=10						
TXAR	**Lajitas Array**	**145.04**	**37**	PKP	PKPdf	06 14 49.2	+2.8
	1.4nm,0.6s,baz=188,slow=0.8,SNR=29						

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*IDC **14** 07:11:22.3±0.6, 32.53N×76.38E, mb4.4/17, mb1 4.5/17, mb1mx4.4/22, mbtmp4.4/17, MS3.7/7, Ms1 3.7/7, ms1mx3.2/31, Error ellipse: s-maj=17.8km s-min=14.5km az=43.0*
*BJI **14** 07:11:25.2, 32.67N×76.23E, h35km, mB4.7, mb4.6, ML4.5, Ms4.4, Msz4.1*
*MOS **14** 07:11:26.0±1.0, 32.59N×76.31E, h37km, mb4.7/36, Error ellipse: s-maj=8.8km s-min=5.9km az=109.7*
*NEIC **14** 07:11:27.2±1.8, 32.57N×76.36E, h31km±13km, mb4.8/15, Error ellipse: s-maj=7.3km s-min=4.7km az=211.0*
NEIC Slight damage at Chamba.
*NDI **14** 07:11:27.0±5.7, 32.41N×76.31E, h10km, mb4.8, ML4.7, mb4.8(NEIC)*
*NNC **14** 07:11:33.7±15.0, 32.82N×74.80E, h54km±109km, Error ellipse: s-maj=271.2km s-min=123.2km az=80.0*

ISC 14 07:11:24.9±0.6, 32.62N±0.02×76.40E±0.03, h26km±4km, h29km±2.3km: pP-P, n164, σ1§17/182, mb4.5/48, MS3.8/16, 14C-7D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.38**	**258**	*e*P	Pb	07 11 33.0	-0.1
DLH				*e*S	Sb	07 11 39.0	+0.3
THN	**Thein Dam**	**0.61**	**253**	*e*P	Pb	07 11 34.8	-2.1
THN				*e*		07 11 42.9	
PONG	**Pong**	**0.77**	**210**	*e*P	Pb	07 11 39.0	-0.5
PONG				*e*		07 11 59.0	
BHK	**Bhakra**	**1.20**	**179**	*e*	Pn	07 11 51.3	+5.1
BHK				*e*		07 12 15.5	
SDNR	**Sundarnagar**	**1.21**	**157**	*e*P	Pn	07 11 48.0	+1.6
SDNR				*e*S	Sn	07 12 04.0	+1.9
JMU	**Jammu**	**1.27**	**275**	⇓*i*PG	Pn	07 11 51.0	+3.7
JMU				*i* SG	Sn	07 12 09.0	+5.4
SMLA	**Simla**	**1.62**	**156**	*e*P	Px	07 11 52.8	
SMLA				*i* SG	Sx	07 12 15.4	
KLP	**Kalpa**	**1.90**	**124**	⇑*e*PG	Pn	07 12 00.9	+4.6
KLP				*e*		07 12 26.2	
KLP				*e*		07 12 46.0	
	comp=N,28μm,1.1s						
KLP				*e*		07 12 49.8	
	comp=E,26μm,1.0s						
KKR	**Kurukshetra**	**2.67**	**172**	*e*PG	Pn	07 12 11.3	+4.0
KKR				*e*		07 12 42.9	
DDI	**Dehra Dun**	**2.69**	**148**	*e*PN	Pn	07 12 09.0	+1.5
DDI				*e*SG	Sn	07 12 51.2	+12
CHCP	**Chirah Chowk**	**2.83**	**292**	⇓P	Pn	07 12 13.1	+3.6
SARP	**Sargodha**	**3.24**	**259**	P	Pn	07 12 15.9	+0.6
THW	**Thamme Wali**	**3.93**	**274**	⇑P	Pn	07 12 25.1	-0.1
BHGR	**Bahadurgarh**	**3.94**	**173**	*e*PG	Pn	07 12 35.5	+10
CEP	**Cherat**	**3.96**	**289**	⇓P	Pn	07 12 25.8	+0.3
CEP				S	Sn	07 13 23.0	+11
NDI	**New Delhi**	**3.98**	**170**	*e*	Pn	07 12 30.0	+4.1
NDI				*e*SB	Sb	07 13 24.0	+1.6
AYAN	**Aya Nagar**	**4.17**	**171**	*e*P	Pn	07 12 30.0	+1.5
SONA	**Sohna**	**4.39**	**172**	*e*P	Pn	07 12 33.0	+1.3
SONA				*e*		07 13 21.8	
PTH	**Pithoragarh**	**4.48**	**132**	*e*P	Pn	07 12 34.0	+1.1
LGTI	**Lohaghat**	**4.56**	**133**	*e*P	Pn	07 12 35.5	+1.3
LGTI				*e*S	Sn	07 13 25.0	-2.1
SBDP	**Sheikh Budin**	**4.74**	**268**	⇑P	Pn	07 12 37.3	+0.6
DRP	**Derazinda**	**5.33**	**262**	⇑P	Pn	07 12 44.7	-0.2
AJM	**Ajmer**	**6.31**	**195**	*e*P	Pn	07 12 57.7	-1.1
AJM				*e*		07 14 05.3	
AJM				*e*		07 14 48.9	
	comp=E,731nm,0.8s						
AJM				*e*		07 14 49.0	
	comp=N,417nm,0.9s						
KSH	**Kashi**	**6.89**	**357**	*e*P	Pn	07 13 08.6	+1.6
KSH				S	Sn	07 14 26.1	+0.7
KSH				Smax			
	comp=N,130nm,0.6s						
KSH				Smax			
	comp=E,250nm,1.0s						
KOLN	**Koldanda**	**7.88**	**126**	*e*Pn	Pn	07 13 21.0	+0.2
KOLN				*e*Sn	Sn	07 14 47.6	-2.5
	comp=E,159nm,0.6s						
GKN	**Gorkha**	**8.47**	**121**	*e*Pn	P	07 13 28.0	-1.0
GKN				*e*Sn	Sn	07 14 59.1	-5.7
	comp=E,146nm,0.3s						
ALBI	**Allahabad**	**8.68**	**146**	*e*P	P	07 13 28.5	-3.4
ALBI				*e*S	Sn	07 15 00.0	-10
DMN	**Daman**	**9.04**	**121**	*e*Pn	P	07 13 35.7	-1.1
KKN	**Kakani**	**9.06**	**120**	*e*Pn	P	07 13 36.0	-1.2
KKN				*e*Sn	Sn	07 15 13.4	-6.0
	comp=E,145nm,0.5s						
PKI	**Pulchoki**	**9.28**	**120**	*e*Pn	P	07 13 38.4	-1.8
PKI				*e*Sn	Sn	07 15 17.9	-6.9
	comp=E,118nm,0.4s						
BHPL	**Bhopal**	**9.38**	**174**	*e*P	P	07 13 39.5	-2.1
BHPL				*e*		07 15 18.5	
BHPL				*e*		07 16 27.5	
	comp=N,92nm,0.9s						
BHPL				*e*		07 16 28.0	
	comp=E,177nm,1.1s						
GUN	**Gumba**	**9.44**	**117**	*e*Pn	P	07 13 40.7	-1.7
KZA	**Kyzart**	**9.49**	**355**	P	P	07 13 42.5	-0.5
	SNR=9.2						
UCH	**Uchtor**	**9.71**	**352**	P	P	07 13 45.7	-0.4
	SNR=62						
AML	**Almayashu**	**9.74**	**348**	P	P	07 13 46.2	-0.2
	SNR=16						
JIRN	**Jiri**	**9.80**	**118**	*e*Pn	P	07 13 45.9	-1.6
JIRN				*e*Sn	Sn	07 15 30.7	-7.1
	comp=E,138nm,0.5s						
AAK	**Ala-Archa**	**10.11**	**352**	P	P	07 13 51.7	+0.1
	SNR=17						
AAK	**Ala-Archa**	**10.11**	**352**	⇑Pn	P	07 13 51.6	0.0
	comp=E,13nm,0.7s						
AAK				⇑Sn	S	07 15 43.5	-1.7
	comp=E,25nm,0.9s						
AAK	**Ala-Archa**	**10.11**	**352**	P	P	07 13 51.6	0.0
AAK						07 15 43.5	
AAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AAK				smax			
	comp=Z,47nm,1.4s						
EKS2	**Erkin-Say**	**10.24**	**349**	P	P	07 13 55.7	+2.4
	SNR=17						
FRU	**Bishkek**	**10.29**	**353**	*e*P	P	07 13 56.0	+1.9
FRU				pmax	pmax		
	comp=E,160nm,2.1s						
KK31	**Karatay Array**	**11.45**	**338**	⇑Pn	P	07 14 07.8	-2.1
	comp=E,8.0nm,0.5s,baz=143,slow=12,SNR=88						
KK31				⇑Sn	S	07 16 06.0	-12
	comp=E,12nm,0.4s,baz=152,slow=22						
KKAR	**Karatay Array**	**11.45**	**338**	*i* P	P	07 14 07.8	-2.1
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BLSP	**Bilaspur**	**11.62**	**153**	*e*S	S	07 16 11.1	-11
BLSP				*e*		07 17 33.5	
AKL	**Akola**	**11.88**	**177**	*e*	P	07 14 06.6	-9.2
LSA	**Lhasa**	**12.96**	**99**	P	P	07 14 30.8	+0.6
LATR	**Latur**	**14.14**	**179**	*e*	P	07 14 47.6	+1.8
WMQ	**Urumqi**	**14.26**	**35**	⇓P	P	07 14 45.9	-1.3
WMQ				PP	PP	07 14 57.5	-0.9
WMQ				S	S	07 17 26.3	+0.9
WMQ				SS	SS	07 17 42.9	+0.8
WMQ				AMB	AMB		
	comp=Z,77nm,2.5s						
WMQ				LR	LR		
	comp=N,104nm,20.8s						
WMQ				LR	LR		
	comp=E,186nm,19.5s						
WMQ				LR	LR		
	comp=Z,257nm,21.8s						
SHL	**Shillong**	**15.24**	**113**	*e*	P	07 14 54.7	-5.4
SHL				*e*S	S	07 17 37.7	-11
HYB	**Hyderabad**	**15.26**	**172**	*e*P	P	07 14 56.0	-4.5
HYB				*e*S	S	07 17 53.5	+4.3
HYB	**Hyderabad**	**15.26**	**172**	*i* P	P	07 14 56.0	-4.5
HYB				*e*S	S	07 17 47.0	-2.2
KAD	**Karad**	**15.38**	**188**	*e*P	P	07 14 59.0	-3.0
KAD				*e*		07 17 42.0	
WBK	**Wadi Bani Khal**	**18.36**	**241**	P	P	07 15 40.2	+0.6
	SNR=7.2						
ARQ	**Araqi**	**19.82**	**247**	P	P	07 15 58.1	+1.5
	SNR=8.6						
GTA	**Gaotai**	**20.08**	**64**	*e*P	P	07 15 59.5	+0.2
GTA				PP	PP	07 16 19.3	+0.4
GTA				S	S	07 19 42.3	+4.1
GTA				SS	SS	07 20 10.1	+2.9
GTA				AMB	AMB		
	comp=Z,13nm,1.1s						
GTA				AMB	AMB		
	comp=Z,146nm,4.9s						
GTA				LR	LR		
	comp=N,149nm,17.9s,MS3.6						
GTA				LR	LR		
	comp=E,169nm,15.6s,MS3.6						
GTA				LR	LR		
	comp=Z,287nm,12.6s,MS3.8						
BVA0	**Borovoye Array**	**20.85**	**350**	⇑P	P	07 16 06.5	-0.7
	comp=Z,6.8nm,0.9s,baz=162,slow=12,SNR=148						
BVA0	**Borovoye Array**	**20.85**	**350**	*i* P	P	07 16 06.4	-0.8
BVA0				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BVAR	**Borovoye Array**	**20.85**	**350**	P	P	07 16 06.7	-0.5
	comp=Z,27nm,0.7s,baz=159,slow=11,SNR=171						
ZAL	**Zalesovo**	**22.14**	**13**	P	P	07 16 19.4	-0.7
ZAL				pmax	pmax		
	comp=Z,14nm,0.7s						
ZAL				MLR	MLR		
	comp=Z,265nm,18.2s						
ZAL	**Zalesovo**	**22.14**	**13**	P	P	07 16 19.4	-0.7
	comp=Z,14nm,0.7s,mb4.5,baz=251,slow=7.3,SNR=33						
ZAL				LR	LR	07 26 20.7	
	comp=Z,265nm,18.2s,MS3.7,baz=346,slow=40						
NVS	**Novosibirsk**	**22.73**	**10**	*i* P	P	07 16 25.2	-0.7
NVS				*i* S	S	07 20 30.6	+2.3
NVS				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.5						
NVS				pmax	pmax		
	comp=N,25nm,1.3s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.4s						
NVS				smax			
	comp=N,25nm,1.9s						
NVS				smax			
	comp=E,20nm,2.3s						
LZH	**Lanzhou**	**22.89**	**74**	*e*P	P	07 16 29.9	+2.3
LZH				AP		07 16 37.5	
LZH				XP		07 16 41.0	
LZH				AMB	AMB		
	comp=Z,48nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,132nm,4.0s						
LZH				LR	LR		
	comp=N,752nm,15.6s						
LZH				LR	LR		
	comp=Z,992nm,17.0s,MS4.3						
LZH	**Lanzhou**	**22.89**	**74**	*e*P	P	07 16 29.9	+2.3
LZH				*SP		07 16 41.0	
LZH				pmax	pmax		
	comp=Z,48nm,1.3s,mb4.8						
LZH				MLR	MLR		
	comp=Z,990nm,17.0s,MS4.3						
LZH	**Lanzhou**	**22.89**	**74**	*e*P	P	07 16 29.9	+2.3
	comp=Z,48nm,1.3s,mb4.8						
LZH				pP		07 16 37.5	
LZH				sP		07 16 41.0	
LZH				LR	LR		
	comp=Z,990nm,17.0s,MS4.3						
CD2	**Chengdu**	**23.30**	**87**	⇑*i*P	P	07 16 33.0	+1.3
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
KMI	**Kunming**	**24.20**	**101**	P	P	07 16 41.9	+1.4
KMI				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.5						
KMI				LR	LR		
	comp=N,141nm,14.7s,MS3.8						
KMI				LR	LR		
	comp=E,189nm,14.7s,MS3.8						
KMI				LR	LR		
	comp=Z,145nm,17.9s,MS3.5						
KMI	**Kunming**	**24.20**	**101**	P	P	07 16 41.9	+1.4
	comp=Z,18nm,0.8s,mb4.5						
KMI				pP		07 16 45.0	
KMI				sP		07 16 46.9	
KMI				LR	LR		
	comp=Z,150nm,17.9s,MS3.5						
CHG	**Chiang Mai**	**24.45**	**119**	⇓P	P	07 16 43.9	+0.9
	comp=Z,17nm,0.9s,mb4.5						
CM31	**Chiang Mai Arr**	**24.68**	**119**	*e*P	P	07 16 46.0	+0.9
	comp=Z,29nm,0.9s,mb4.8						
CMAR	**Chiang Mai Arr**	**24.68**	**119**	P	P	07 16 46.1	+1.0
CMAR						07 20 23.6	
CMAR				pmax	pmax		
	comp=Z,13nm,0.9s						
CMAR	**Chiang Mai Arr**	**24.68**	**119**	P	P	07 16 46.1	+1.0
	comp=Z,13nm,0.9s,mb4.5,baz=307,slow=9.4,SNR=93						
CMAR				PcP	PcP	07 20 23.6	+0.4
	comp=Z,0.4nm,0.5s,baz=293,slow=4.7,SNR=2.9						
WHFO	**Wadi Hawf**	**25.09**	**240**	P	P	07 16 50.3	+1.2
	SNR=19						
NANT	**Nan**	**25.78**	**116**	P	P	07 16 56.0	+0.5
ABTO	**Aybut**	**25.80**	**239**	P	P	07 16 56.8	+1.1
	SNR=6.8						
MOY	**Mondy**	**26.15**	**36**	*e*P	P	07 17 01.1	+2.5
SVE	**Sverdlovsk**	**26.54**	**340**	*e*P	P	07 17 02.7	+0.5
ZAK	**Zakamensk**	**26.61**	**40**	⇑*i*P	P	07 17 03.6	+0.7
ZAK				*e*		07 20 19.6	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s,mb3.0						
ARU	**Arti**	**26.83**	**338**	⇓*i*P	P	07 17 05.4	+0.6
ARU				*e*PPP	PPP	07 17 53.2	-9.0
ARU				*e*		07 20 25.5	
ARU				*e*S	S	07 21 40.8	+3.1
ARU				*e*SS	SS	07 22 48.3	-2.6
ARU				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.4						
SONM	**Songino Array**	**27.27**	**47**	P	P	07 17 10.6	+1.7
	comp=Z,6.1nm,0.6s,mb4.3,baz=242,slow=9.6,SNR=46						
SONM				LR	LR	07 28 56.9	
	comp=Z,112nm,18.4s,MS3.5,baz=22,slow=39						
TLY	**Talaya**	**27.51**	**38**	*e*P	P	07 17 10.7	-0.4
TLY				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb3.9						
TLY				MLR	MLR		
	comp=Z,305nm,16.0s,MS4.0						
ULN	**Ulaanbaatar**	**27.69**	**48**	*c i*P	P	07 17 13.9	+1.2
ULN	**Ulaanbaatar**	**27.69**	**48**	*e*P	P	07 17 13.2	+0.5
	comp=Z,9.3nm,0.9s,mb4.4						
ENH	**Enshi**	**28.26**	**86**	P	P	07 17 17.7	-0.4
KIV	**Kislovodsk**	**28.60**	**303**	*i* P	P	07 17 18.7	-2.3
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
SOC	**Sochi**	**30.65**	**302**	*e*P	P	07 17 34.4	-4.9
SOC				*e*		07 20 34.2	
SOC				*e*S	S	07 22 33.8	-5.1
SOC				pmax	pmax		
	comp=N,25nm,0.8s						
SOC				pmax	pmax		
	comp=E,21nm,0.8s						
SOC				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.2						
SOC				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.5						
SOC				MLR	MLR		
	comp=N,2μm,21.0s,MS4.7						
SOC				MLR	MLR		
	comp=E,874nm,20.0s,MS4.7						
MALT	**Malatya**	**31.29**	**291**	*e*P	P	07 17 42.9	-2.2
BJI	**Beijing**	**32.68**	**65**	*e*P	P	07 17 58.0	+0.9
BJI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
BJI				LR	LR		
	comp=Z,65nm,22.2s,MS3.3						
BJI	**Beijing**	**32.68**	**65**	*e*P	P	07 17 58.0	+0.9
	comp=Z,9.0nm,0.7s,mb4.8						
BJI				LR	LR		
	comp=Z,70nm,22.2s,MS3.3						
BRTR	**Keskin Array B**	**34.98**	**294**	P	P	07 18 17.0	-0.1
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**34.98**	**294**	P	P	07 18 17.0	-0.1
	comp=Z,2.9nm,0.9s,mb4.2,baz=100,slow=7.5,SNR=9.8						
EIL	**Elat**	**35.44**	**277**	LR	LR	07 36 07.0	
	comp=Z,52nm,18.5s,MS3.3,baz=290,slow=42						
NJ2	**Nanjing**	**35.70**	**79**	*e*P	P	07 18 22.5	-0.7
NJ2				AP	pP	07 18 32.3	+1.4
NJ2				XP	sP	07 18 36.1	+2.0
NJ2				PP	PP	07 19 44.0	-0.2
NJ2				S	S	07 23 57.0	-0.6
NJ2				XS		07 24 13.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2				LR	LR		
	comp=N,910nm,15.6s,MS4.9						
NJ2				LR	LR		
	comp=E,2μm,19.2s,MS4.9						
NJ2				LR	LR		
	comp=Z,770nm,21.8s,MS4.4						
OBN	**Obninsk**	**35.77**	**321**	⇑*e*P	P	07 18 21.3	-2.3
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
BOD	**Bodaibo**	**35.81**	**34**	*e*P	P	07 18 23.8	-0.1
BOD				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SSE	**Sheshan**	**37.86**	**80**	P	P	07 18 40.6	-0.8
SSE				AP	pP	07 18 49.3	+0.2
SSE				XP	sP	07 18 53.3	+1.0
SSE				PP	PP	07 20 07.5	-3.6
SSE				S	S	07 24 30.6	0.0
SSE				XS		07 24 46.8	
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,25nm,4.0s						
SSE				LR	LR		
	comp=N,40nm,22.3s,MS3.3						
SSE				LR	LR		
	comp=E,28nm,22.3s,MS3.3						
SSE				LR	LR		
	comp=Z,53nm,20.7s,MS3.3						
SSE	**Sheshan**	**37.86**	**80**	P	P	07 18 40.6	-0.8
	comp=Z,44nm,0.7s,mb5.3						
SSE				pP	pP	07 18 49.3	+0.2
SSE				sP	sP	07 18 53.3	+1.0
SSE				PP	PP	07 20 07.5	-3.6
SSE				S	S	07 24 30.6	0.0
SSE				sS		07 24 46.7	
SSE				SS	SS	07 27 17.8	+11
SSE				LR	LR		
	comp=Z,50nm,20.7s,MS3.3						
AKASG	**Malin Array Be**	**38.85**	**312**	P	P	07 18 48.2	-1.3
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**38.85**	**312**	P	P	07 18 48.2	-1.3
	comp=Z,1.0nm,0.4s,mb3.9,baz=82,slow=7.4,SNR=6.0						
AKASG	**Malin Array Be**	**38.85**	**312**	P	P	07 18 48.2	-1.3
JOF	**Joensuu**	**41.44**	**331**	*ep*	P	07 19 10.5	-0.2
	comp=Z,5.5nm,0.6s,mb4.4						
JOF	**Joensuu**	**41.44**	**331**	*e*P	P	07 19 10.5	-0.2
JOF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
LVV	**L'vov**	**42.06**	**310**	*e*P	P	07 19 17.3	+1.4
MDJ	**Mudanjiang**	**42.55**	**58**	P	P	07 19 19.9	-0.1
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,48nm,3.9s						
APA	**Apatity**	**42.92**	**337**	⇑*e*P	P	07 19 16.8	-6.0
APA				*i*		07 19 33.0	
APA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
FINES	**FINESS Array B**	**43.17**	**327**	P	P	07 19 25.4	+0.6
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	**FINESS Array B**	**43.17**	**327**	P	P	07 19 25.4	+0.6
	comp=Z,2.5nm,0.5s,mb4.2,baz=110,slow=8.7,SNR=31						
YAK	**Yakutsk**	**44.68**	**33**	*i* P	P	07 19 37.8	+0.7
YAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
JOW	**Kunigami**	**45.05**	**83**	LR	LR	07 39 28.1	
	comp=Z,55nm,21.3s,MS3.5,baz=133,slow=37						
KEV	**Kevo**	**46.05**	**338**	*ep*	P	07 19 47.5	-0.3
ARCES	**ARCESS Array B**	**46.42**	**338

NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
NOA NORSAR Array B 50.13 325 P **P 07 20 19.3 -0.4**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 50.13 325 P **P 07 20 19.3 -0.4**
comp=Z,2.7nm,0.6s,mb4.5,baz=95,slow=7.5,SNR=10.0
MJAR Matsushiro Arr 50.27 67 P **P 07 20 19.7 -1.4**
MJAR pmax pmax
comp=Z,2.0nm,0.6s
MJAR MLR MLR
comp=Z,60nm,18.7s
MJAR Matsushiro Arr 50.27 67 P **P 07 20 19.7 -1.4**
comp=Z,1.8nm,0.6s,mb4.3,baz=284,slow=9.3,SNR=5.2
MJAR LR LR 07 42 59.1
comp=Z,60nm,18.7s,MS3.6,baz=10.0,slow=38
YSS Yuzh-Sakhalins 51.48 53 *e*P **P 07 20 29.5 -0.7**
YSS *e* pP 07 20 36.8 -1.2
PGF Pioggiola 53.05 301 *e*P **P 07 20 41.2 -1.0**
CDF Champ du Feu 53.10 309 *e*P **P 07 20 42.2 -0.1**
SBF Sospel 53.88 303 *e*P **P 07 20 47.8 -0.2**
comp=Z,12nm,0.5s,mb4.7
SBF Sospel 53.88 303 *e*P **P 07 20 47.8 -0.2**
SBF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
LPG La Plagne 54.00 305 *e*P **P 07 20 49.6 +0.7**
comp=Z,15nm,0.9s,mb4.6
LPG La Plagne 54.00 305 *e*P **P 07 20 49.6 +0.7**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
LPL La Plagne 54.01 305 *e*P **P 07 20 49.5 +0.5**
comp=Z,22nm,1.0s,mb4.8
LPL La Plagne 54.01 305 *e*P **P 07 20 49.5 +0.5**
LPL pmax pmax
comp=Z,11nm,1.0s,mb4.7
MBDF Montbardon 54.15 304 *e*P **P 07 20 50.2 +0.2**
comp=Z,19nm,1.1s,mb4.7
MBDF Montbardon 54.15 304 *e*P **P 07 20 50.2 +0.2**
MBDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
ORIF Oris-en-Rattie 54.73 305 *e*P **P 07 20 54.1 -0.2**
SSF Saint Saulge 55.86 308 *e*P **P 07 21 02.1 -0.4**
LASF Ste Croix 56.34 304 *e*P **P 07 21 05.4 -0.5**
comp=Z,9.7nm,0.8s,mb4.6
MTLF Montolieu 57.68 304 *e*P **P 07 21 14.3 -1.1**
BILL Bilibino 60.15 26⇓*e*P **P 07 21 32.0 -0.2**
BILL *e**PP pP 07 21 51.8 +12
BILL *e* 07 23 41.9
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BILL MLR MLR
comp=Z,100nm,20.0s,MS4.0
RES Resolute Bay 72.81 358 *e*P **P 07 22 51.0 -1.5**
RES pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
RES Resolute Bay 72.81 358 *e*P **P 07 22 51.0 -1.4**
comp=Z,1.2nm,0.7s,mb3.9
IMA Indian Mountai 74.40 19 *e*P **P 07 23 02.8 +1.0**
IMA pmax pmax
comp=Z,37nm,1.0s,mb5.3
IMA Indian Mountai 74.40 19 *e*P **P 07 23 02.8 +1.0**
comp=Z,37nm,1.0s,mb5.3
WRA Warramunga Arr 76.14 125 P **P 07 23 12.0 -0.6**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 76.14 125 P **P 07 23 12.0 -0.7**
comp=Z,2.2nm,0.7s,mb4.2,baz=321,slow=4.8,SNR=9.4
WRAB Tennant Creek 76.14 125 P **P 07 23 12.0 -0.7**
COLA College 76.88 18 *i* P **P 07 23 17.0 +1.1**
COLA College 76.88 18 *e*P **P 07 23 16.5 +0.6**
comp=Z,8.4nm,1.0s,mb4.6
INK Inuvik 76.93 11 *e*P **P 07 23 16.4 +0.3**
INK pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 76.93 11 *e*P **P 07 23 16.4 +0.2**
comp=Z,7.7nm,1.0s,mb4.6
ILAR Eielson Array 77.21 18 P **P 07 23 18.0 +0.3**
ILAR 07 26 12.8
ILAR pmax pmax
comp=Z,4.0nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 77.21 18 P **P 07 23 17.9 +0.2**
comp=Z,4.0nm,1.0s,mb4.3,baz=312,slow=5.0,SNR=35
ILAR PP PP 07 26 12.8 -0.5
comp=Z,0.9nm,0.8s,baz=312,slow=7.8,SNR=6.8
BOSA Boshof 77.89 224 P **P 07 23 21.6 -0.6**
BOSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BOSA Boshof 77.89 224 P **P 07 23 21.6 -0.6**
comp=Z,3.7nm,0.9s,mb4.3,baz=61,slow=7.9,SNR=4.2
ASAR Alice Springs 78.37 128 P **P 07 23 23.5 -1.4**
comp=Z,1.5nm,0.8s,mb4.0,baz=324,slow=6.2,SNR=9.1
DBIC Dimbokro 79.09 271 P **P 07 23 28.0 -1.1**
DBIC pmax pmax
comp=Z,2.0nm,0.7s
DBIC Dimbokro 79.09 271 P **P 07 23 27.9 -1.1**
comp=Z,2.2nm,0.7s,mb4.2,baz=60,slow=22,SNR=4.8
DAWY Dawson 79.58 15 *e*P **P 07 23 31.2 +0.5**
YKW3 Yellowknife Ar 84.74 5 *e*P **P 07 23 57.3 0.0**
YKA Yellowknife Ar 84.81 5 P **P 07 23 58.4 +0.7**
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 84.81 5 P **P 07 23 58.4 +0.7**
comp=Z,4.9nm,0.7s,mb4.8,baz=343,slow=5.2,SNR=163
ULM Lac du Bonnet 97.21 355 LR LR 08 11 56.3
comp=Z,37nm,18.8s,MS3.9,baz=27,slow=37
TXAR Lajitas Array 118.39 0 PKP PKPdf 07 30 12.4 -2.7
comp=Z,0.2nm,0.5s,baz=196,slow=1.5,SNR=7.1
TRQA Tornquist 145.83 249 *e*PKP PKPdf 07 31 03.4 -2.6
ARE Arequipa 146.83 291 *e*PKP2 PKPab 07 31 08.0 -0.7
PLCA Paso Flores 152.41 243 PKIKP PKPdf 07 31 19.6 +3.4
PLCA pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 152.41 243 PKPbc PKPdf 07 31 19.6 +3.4
comp=Z,1.7nm,0.7s,baz=64,slow=4.6,SNR=5.2

*NNC **14** 07:32:31.3±4.6, 49.65N×85.11E, Error ellipse: s-maj=32.5km s-min=16.6km az=82.0*
*MOS **14** 07:32:37.3±1.4, 49.53N×84.80E, h33km, mb4.1/9, Error ellipse: s-maj=15.1km s-min=9.3km az=82.8*
*IDC **14** 07:32:39.3±2.4, 49.61N×85.07E, h36km±19km, mb3.7/11, mb1 3.9/14, mb1mx3.7/27, mbtmp3.9/14, ML3.4/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/33, Error ellipse: s-maj=14.7km s-min=13.2km az=26.0*
*NEIC **14** 07:32:40.2±0.8, 49.54N×84.95E, h47km±8km, mb3.7/3, Error ellipse: s-maj=9.8km s-min=7.4km az=162.0*
*BJI **14** 07:32:50.1, 48.92N×85.06E, h33km, mB4.3, mb4.2, ML4.2, Ms4.1, Msz4.2*
ISC 14 07:32:38.4±0.7, 49.54N±0.04×84.83E±0.07, h48km±9km, n50, σ1§22/61, mb3.9/11, MS3.3/4, 6C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**1.97**	**65**	*e*PN	**P**	**07 33 11.0**	**+1.0**
AKAR				*e*S	**S**	**07 33 34.1**	**+0.7**
TASR	**Tashtagol**	**3.75**	**30**	*e*PN	**P**	**07 33 37.4**	**+2.1**
TASR				*e*		07 33 43.8	
TASR				*i* S	**S**	**07 34 31.0**	**+12**
ELT	**Yel'tsovka**	**3.83**	**13**	*e*PN	**P**	**07 33 36.8**	**+0.4**
ELT				*i*		07 33 46.7	
ELT				*e*S	**S**	**07 34 34.9**	**+14**
ZAL	**Zalesovo**	**4.41**	**360**	Pn	**P**	**07 33 44.0**	**-0.5**
	4.3nm,0.3s,baz=304,slow=8.7,SNR=25						
ZAL				Sn	**S**	**07 34 32.1**	**-3.1**
	34nm,0.3s,baz=282,slow=5.3,SNR=12						
ZAL				Lg		07 34 51.5	
	54nm,0.3s,baz=20,slow=16,SNR=13						
CERR	**Cheremushki**	**5.31**	**49**	*i* PN	**P**	**07 34 09.4**	**+12**
CERR				*i* S	**S**	**07 35 19.0**	**+21**
NVS	**Novosibirsk**	**5.40**	**350**	*e*PN	**P**	**07 34 07.4**	**+9.0**
NVS				*i*		07 34 15.5	
NVS				*e*		07 35 24.5	
WMQ	**Urumqi**	**6.05**	**160**	P	**P**	**07 34 12.0**	**+4.5**
WMQ				S	**S**	**07 35 15.0**	**-1.4**
WMQ				Smax			
	comp=N,200nm,0.8s						
WMQ				Smax			
	comp=E,170nm,1.0s						
BVA0	**Borovoye Array**	**9.70**	**297**	⇑Pn	**P**	**07 34 56.9**	**-1.1**
	comp=E,1.0nm,1.2s,baz=117,slow=14,SNR=12						
BVA0				⇑Sn	**S**	**07 36 40.8**	**-5.8**
	comp=E,2.1nm,0.7s,baz=104,slow=23,SNR=10.0						
BVA0				⇑Lg		07 37 43.4	
	comp=E,15nm,1.4s,baz=83,slow=24						
BVA0	**Borovoye Array**	**9.70**	**297**	P	**P**	**07 34 56.8**	**-1.2**
BVA0						07 36 40.7	
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BVA0				smax			
	comp=Z,1.0nm,0.6s						
BVA0				pmax	pmax		
	comp=Z,17nm,1.6s						
BVA0	**Borovoye Array**	**9.70**	**297**	P	**P**	**07 34 56.8**	**-1.2**
	comp=Z,1.0nm,1.2s						
BVA0				*e*		07 36 40.7	
BVAR	**Borovoye Array**	**9.70**	**297**	Pn	**P**	**07 34 56.9**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=117,slow=14,SNR=10						
BVAR				Sn	**S**	**07 36 40.9**	**-5.7**
	comp=Z,4.6nm,0.3s,baz=105,slow=22,SNR=11						
BVAR				Lg		07 37 43.7	
	baz=86,slow=21,SNR=2.2						
AAK	**Ala-Archa**	**9.96**	**230**	⇑Pn	**P**	**07 35 01.6**	**0.0**
	comp=Z,5.2nm,0.9s						
AAK				⇓Sn	**S**	**07 36 54.6**	**+1.7**
	comp=Z,3.9nm,0.6s						
AAK				⇑Lg		07 37 52.8	
	comp=Z,65nm,1.4s						
AAK	**Ala-Archa**	**9.96**	**230**	P	**P**	**07 35 03.4**	**+1.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AAK				pmax	pmax		
	comp=Z,101nm,1.5s						
AAK	**Ala-Archa**	**9.96**	**230**	P	**P**	**07 35 03.4**	**+1.8**
	comp=Z,5.0nm,0.9s						
KK31	**Karatay Array**	**11.80**	**242**	⇑Pn	**P**	**07 35 25.2**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=50,slow=12,SNR=16						
KK31				⇓Sn	**S**	**07 37 51.6**	**+14**
	comp=Z,1.5nm,0.4s,baz=44,slow=27						
KK31				⇓Lg		07 38 51.2	
	comp=Z,9.0nm,0.6s,baz=47,slow=26						
KKAR	**Karatay Array**	**11.80**	**242**	*i* P	**P**	**07 35 25.2**	**-1.4**
KKAR				pmax	pmax		
	comp=Z,25nm,1.0s						
KKAR	**Karatay Array**	**11.80**	**242**	*i* P	**P**	**07 35 25.2**	**-1.4**
	comp=Z,25nm,1.0s						
SONM	**Songino Array**	**14.34**	**89**	Pn	**P**	**07 35 57.2**	**-2.8**
	baz=278,slow=16,SNR=2.8						
SONM				Lg		07 40 02.7	
	comp=Z,0.1nm,0.3s,baz=284,slow=26,SNR=9.6						
SONM				LR	LR	07 41 35.9	
	comp=Z,105nm,20.2s,baz=12,slow=38						
ARU	**Arti**	**17.18**	**304**	P	**P**	**07 36 30.3**	**-5.9**
ARU				pmax	pmax		
	comp=Z,14nm,1.5s						
ARU	**Arti**	**17.18**	**304**	P	**P**	**07 36 30.3**	**-5.9**
	comp=Z,14nm,1.5s						
BOD	**Bodaibo**	**19.04**	**53**	*e*P	**P**	**07 36 56.2**	**-2.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BOD	**Bodaibo**	**19.04**	**53**	*e*P	**P**	**07 36 56.2**	**-2.7**
	comp=Z,3.0nm,1.0s						
LZH	**Lanzhou**	**19.30**	**127**	*e*P	**P**	**07 37 10.8**	**+8.9**
LZH				AP		07 37 18.3	
LZH				XP		07 37 21.5	
LZH				PP	PP	07 37 28.0	+8.2
LZH				*e*S	**S**	**07 40 41.0**	**+9.1**
LZH				XS		07 40 50.5	
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
LZH				AMB	AMB		
	comp=Z,60nm,4.0s						
LZH				LR	LR		
	comp=N,378nm,11.0s						
LZH				LR	LR		
	comp=Z,582nm,12.2s						
LZH	**Lanzhou**	**19.30**	**127**	*e*P	**P**	**07 37 10.7**	**+8.8**
LZH				*e*S	**S**	**07 40 41.0**	**+9.1**
CMAR	**Chiang Mai Arr**	**33.02**	**155**	P	**P**	**07 39 11.2**	**0.0**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**33.02**	**155**	P	**P**	**07 39 11.2**	**0.0**
	comp=Z,1.0nm,0.9s,mb3.7,baz=335,slow=9.3,SNR=6.3						
FINES	**FINESS Array B**	**34.13**	**313**	P	**P**	**07 39 21.2**	**+0.9**
FINES						07 41 56.2	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES				MLR	MLR		
	comp=Z,29nm,18.9s						
FINES	**FINESS Array B**	**34.13**	**313**	P	**P**	**07 39 21.2**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.5,baz=95,slow=15,SNR=4.0						
FINES				PcP	PcP	07 41 56.2	-0.7
	comp=Z,0.5nm,0.3s,baz=95,slow=2.7,SNR=10.0						
FINES				LR	LR	07 54 39.4	
	comp=Z,29nm,18.9s,MS3.0,baz=0.5,slow=39						
FINES	**FINESS Array B**	**34.13**	**313**	P	**P**	**07 39 21.2**	**+0.9**
FINES				PcP	PcP	07 41 56.2	-0.7
FINES				LR	LR	07 54 39.4	
ARCES	**ARCESS Array B**	**34.20**	**327**	P	**P**	**07 39 21.2**	**+0.4**
ARCES						07 41 56.6	
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,69nm,18.2s						
ARCES	**ARCESS Array B**	**34.20**	**327**	P	**P**	**07 39 21.2**	**+0.4**
	comp=Z,5.8nm,1.0s,mb4.5,baz=83,slow=9.8,SNR=6.6						
ARCES				PcP	PcP	07 41 56.6	-0.4
	comp=Z,3.7nm,0.9s,baz=91,slow=1.5,SNR=7.6						
ARCES				LR	LR	07 54 48.9	
	comp=Z,69nm,18.2s,MS3.4,baz=303,slow=39						
BRTR	**Keskin Array B**	**37.08**	**275**	P	**P**	**07 39 47.2**	**+1.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**37.08**	**275**	P	**P**	**07 39 47.2**	**+1.7**
	comp=Z,0.5nm,0.4s,mb3.7,baz=74,slow=9.0,SNR=4.0						
HFS	**Hagfors**	**40.34**	**313**	P	**P**	**07 40 13.3**	**+0.9**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**40.34**	**313**	P	**P**	**07 40 13.3**	**+0.8**
	comp=Z,0.6nm,0.3s,mb3.7,baz=82,slow=10,SNR=7.3						
NB2	**NORSAR Subarra**	**41.22**	**315**	P	**P**	**07 40 20.6**	**+0.9**
	comp=Z,0.6nm,0.4s,mb3.6,baz=68,slow=7.4						
NB2	**NORSAR Subarra**	**41.22**	**315**	P	**P**	**07 40 20.6**	**+0.9**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
NOA	**NORSAR Array B**	**41.22**	**315**	P	**P**	**07 40 20.3**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA				MLR	MLR		
	comp=Z,38nm,20.6s						
NOA	**NORSAR Array B**	**41.22**	**315**	P	**P**	**07 40 20.3**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.5,baz=84,slow=8.0,SNR=3.6						
NOA				LR	LR	07 58 33.8	
	comp=Z,38nm,20.6s,MS3.2,baz=255,slow=38						
NOA	**NORSAR Array B**	**41.22**	**315**	P	**P**	**07 40 20.3**	**+0.6**
NOA				LR	LR	07 58 33.8	
GERES	**GERESS Array B**	**44.87**	**298**	LR	LR	08 00 18.8	
	comp=Z,41nm,19.8s,MS3.4,baz=49,slow=37						
INK	**Inuvik**	**59.05**	**16**	P	**P**	**07 42 34.6**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**59.05**	**16**	P	**P**	**07 42 34.6**	**-0.6**
	comp=Z,0.9nm,0.5s,mb4.1,baz=353,slow=7.3,SNR=14						
ILAR	**Eielson Array**	**59.17**	**23**	P	**P**	**07 42 35.4**	**-0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**59.17**	**23**	P	**P**	**07 42 35.4**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.8,baz=325,slow=5.5,SNR=7.9						
YKA	**Yellowknife Ar**	**67.25**	**10**	P	**P**	**07 43 28.7**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.7,baz=340,slow=6.8,SNR=27						
YKA	**Yellowknife Ar**	**67.25**	**10**	P	**P**	**07 43 28.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**76.43**	**140**	P	**P**	**07 44 23.9**	**-0.7**
	comp=Z,5.8nm,0.9s,mb4.5,baz=172,slow=9.8,SNR=6.3						
WRA	**Warramunga Arr**	**81.91**	**134**	P	**P**	**07 44 54.7**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**81.91**	**134**	P	**P**	**07 44 54.7**	**+0.5**
	comp=Z,0.7nm,0.4s,mb3.9,baz=342,slow=5.7,SNR=8.1						

*BGR **14** 07:34:00.5±0.2, 48.25N×9.22E, h10km, ML2.3/6, Error ellipse: s-maj=2.2km s-min=1.1km az=131.0*
*CSEM **14** 07:34:00.8±0.0, 48.21N×9.20E, h15km, ML2.8/15, Error ellipse: s-maj=0.8km s-min=0.7km az=118.0*
*STR **14** 07:34:01.9±0.2, 48.25N×9.11E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ZUR **14** 07:34:01.1, 48.22N×9.15E, h14km±1km, ML2.6/14*
*NEIC **14** 07:34:01.9, 48.25N×9.11E, h5km, ML2.9(LDG), ML2.5(STR), ML2.4(SZGRF), After STR.*
*LDG **14** 07:34:01.1±0.1, 48.22N×9.19E, h14km, Md3.0/2, Ml2.9/17, Error ellipse: s-maj=1.0km s-min=0.9km az=96.0*
LEDBW 14 07:34:00.8±0.1, 48.22N×9.20E, h13km±1km, ML2.6, 20C-14D, Error ellipse: s-maj=2.4km s-min=1.6km az=101.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUT	**Gutenstein**	**0.16**	**200**	⇑*i*Pg	Pg	07 34 04.8	0.0
GUT				*i* Sg	Sg	07 34 07.6	+0.1
BUCH	**Bad Urach**	**0.25**	**24**	⇓*i*Pg	Pg	07 34 06.2	0.0
BUCH				*i* Sg	Sg	07 34 10.1	+0.2
BUCH				PmP		07 34 10.3	
SPAK	**Spaichingen**	**0.30**	**246**	⇑*i*Pg	Pg	07 34 07.4	+0.1
SPAK				Sg	Sg	07 34 11.7	+0.1
SPAK	**Spaichingen**	**0.30**	**246**	Pg	Pg	07 34 07.2	-0.1
SPAK				Sg	Sg	07 34 11.4	-0.2
LBG	**Lerchenberg**	**0.52**	**329**	⇓*i*Pg	Pg	07 34 11.1	-0.3
LBG				Sg	Sg	07 34 18.0	-0.5
STU	**Stuttgart**	**0.55**	**360**	*e*Pg	Pg	07 34 11.4	-0.6
	SNR=1.5						
STU				*e*Sg	Sg	07 34 17.4	-2.0
	SNR=4.8						
STU	**Stuttgart**	**0.55**	**360**	*e*Pg	Pg	07 34 11.4	-0.6
STU				*e*Sg	Sg	07 34 17.4	-2.1
SISB	**Singen-Sch Ber**	**0.56**	**196**	⇑*i*Pg	Pg	07 34 12.1	-0.2
SISB				⇑*i*PmP		07 34 12.9	
SISB				Sg	Sg	07 34 19.5	-0.4
SISB	**Singen-Sch Ber**	**0.56**	**196**	Pg	Pg	07 34 12.1	-0.1
SISB				Sg	Sg	07 34 19.5	-0.4
BFO	**Black Forest**	**0.59**	**281**	⇑*i*Pg	Pg	07 34 12.4	-0.4
BFO				PmP		07 34 13.6	
BFO				Sg	Sg	07 34 20.1	-0.7
BFO				*i* SmS		07 34 22.5	
BFO	**Black Forest**	**0.59**	**281**	*e*Pg	Pg	07 34 12.2	-0.6
BFO				*e*Sg	Sg	07 34 19.8	-1.0
STEIN	**Stein am Rhein**	**0.60**	**202**	⇑*i*P	Pb	07 34 12.7	+0.1
STEIN				*i* S	Sb	07 34 21.2	+0.6
SLE	**Schleitheim**	**0.66**	**226**	*e*Pg	Pg	07 34 13.6	-0.6
	SNR=24						
SLE				*e*Sg	Sg	07 34 22.4	-0.7
	SNR=15						
SLE	**Schleitheim**	**0.66**	**226**	*i* S	Sb	07 34 22.3	-0.1
SLE	**Schleitheim**	**0.66**	**226**	⇑*i*P	Pb	07 34 13.6	-0.1
TRULL	**Truellikon**	**0.67**	**211**	⇓*i*P	Pb	07 34 13.3	-0.6
TRULL				*e*S	Sb	07 34 22.4	-0.4
WEIN	**Weingarten**	**0.71**	**192**	⇓*i*P	Pb	07 34 14.9	+0.4
WEIN				*e*S	Sb	07 34 24.8	+0.9
HDH	**Heidenheim**	**0.76**	**61**	⇑*i*Pg	Pg	07 34 15.5	-0.7
HDH				Sg	Sg	07 34 25.5	-1.0
HDH				SmS		07 34 26.6	
UBR	**Uberruh**	**0.82**	**131**	⇑*i*P	Pb	07 34 17.1	+0.7
UBR				PmP		07 34 17.6	
UBR				S	Sb	07 34 28.3	+1.2
UBR				SmS		07 34 29.6	
UBR	**Uberruh**	**0.82**	**131**	⇑*i*P	Pb	07 34 17.1	+0.7
UBR				S	Sb	07 34 28.3	+1.3
UBR				S	Sb	07 34 29.6	+2.6
UBR	**Uberruh**	**0.82**	**131**	P	Pb	07 34 17.1	+0.7
UBR				S	Sb	07 34 28.3	+1.3
WILA	**Wila**	**0.83**	**194**	*e*Pg	Pg	07 34 16.9	-0.7
	SNR=35						
WILA				*e*Sg	Sg	07 34 28.4	-0.4
	SNR=15						
WILA	**Wila**	**0.83**	**194**	⇓*i*P	Pb	07 34 17.2	+0.6
WILA				*e*S	Sb	07 34 28.6	+1.1
FELD	**Feldberg**	**0.87**	**247**	⇑*e*P	Pb	07 34 17.7	+0.4
FELD				⇑*i*P		07 34 17.8	
FELD				*e*S	Sb	07 34 29.8	+1.2
FELD	**Feldberg**	**0.87**	**247**	⇑*i*PG	Pg	07 34 17.8	-0.6
FELD	**Feldberg**	**0.87**	**247**	Pg	Pg	07 34 17.5	-0.9
FELD				Sg	Sg	07 34 29.5	-0.7
KIZ	**Kirchzarten**	**0.90**	**253**	Pn	Pn	07 34 17.7	-1.3
KIZ				⇑*i*Pg	Pg	07 34 18.0	-0.9
KIZ				Sg	Sg	07 34 30.4	-0.6
KIZ	**Kirchzarten**	**0.90**	**253**	Pn	Pn	07 34 17.7	-1.3
KIZ				⇑*i*Pg	Pg	07 34 18.0	-0.9
KIZ				Sg	Sg	07 34 30.4	-0.6
KIZ	**Kirchzarten**	**0.90**	**253**	⇑*i*PG	Pg	07 34 18.0	-0.9
KIZ				SG	Sg	07 34 30.4	-0.6
KIZ	**Kirchzarten**	**0.90**	**253**	Pg	Pg	07 34 18.0	-0.9
KIZ				Sg	Sg	07 34 30.4	-0.6
LIENZ	**Alp Oberkamor**	**0.95**	**168**	⇓*e*P	Pb	07 34 19.5	+0.9
ZUR	**Zurich**	**0.95**	**206**	*e*Sg	Sg	07 34 31.9	-0.8
	SNR=10						
SULZ	**Sulz-Cheisache**	**1.01**	**227**	*e*Pg	Pg	07 34 20.1	-0.9
	SNR=5.5						
SULZ				*e*Sg	Sg	07 34 33.4	-1.2
	SNR=21						
SULZ	**Sulz-Cheisache**	**1.01**	**227**	⇓*i*P	Pb	07 34 19.2	-0.4
DAVA	**Damuels**	**1.04**	**154**	⇑*i*PG	Pg	07 34 21.1	-0.7
DAVA				*i* SG	Sg	07 34 36.3	+0.5
LIBD	**Limburg**	**1.07**	**267**	Pg	Pg	07 34 21.3	-1.0
NORI	**Noerdlinger Ri**	**1.07**	**62**	⇓*i*Pg	Pg	07 34 21.2	-1.1
NORI				*i* Sg	Sg	07 34 35.7	-1.0
OBER	**Oberstdorf**	**1.10**	**138**	⇓*i*Pg	Pg	07 34 21.7	-1.2
SIND	**Sindeldorf**	**1.16**	**13**	Pn	Pn	07 34 21.0	-1.7
SIND				Pg	Pg	07 34 23.0	-1.1
SIND				Sg	Sg	07 34 37.5	-2.0
SIND	**Sindeldorf**	**1.16**	**13**	Pg	Pg	07 34 23.0	-1.0
PLONS	**Plons**	**1.18**	**174**	⇓*i*P	Pb	07 34 22.6	0.0
LANF	**Langenberg**	**1.20**	**310**	Pg	Pg	07 34 23.6	-1.2
LANF				Sg	Sg	07 34 39.4	-1.4
LANF	**Langenberg**	**1.20**	**310**	P	Pb	07 34 23.7	+0.9
WLS	**Welschbruch**	**1.25**	**279**	Pg	Pg	07 34 24.3	-1.5
WLS				Sg	Sg	07 34 40.6	-1.9
WLS	**Welschbruch**	**1.25**	**279**	P	Pb	07 34 25.0	+1.3
CDF	**Champ du Feu**	**1.30**	**279**	*e*Pn	Pn	07 34 23.2	-1.5
CDF				*e*Pg	Pg	07 34 25.3	-1.5
CDF				*e*Sn	Sn	07 34 39.1	-2.8
CDF				*e*Sg	Sg	07 34 41.8	-2.4
	37nm,0.2s						
SWS	**Schriesheim**	**1.30**	**346**	Pg	Pg	07 34 26.0	-1.0
SWS				Sg	Sg	07 34 42.9	-1.4
MUO	**Muotathal**	**1.31**	**197**	⇓*i*P	Pb	07 34 24.2	-0.6
BALST	**Balsthal**	**1.35**	**229**	*e*P	Pn	07 34 23.8	-1.6
ECH	**Echery**	**1.36**	**270**	Pg	Pg	07 34 26.4	-1.7
ECH				Sg	Sg	07 34 44.3	-2.1
ECH	**Echery**	**1.36**	**270**	P	Pn	07 34 26.9	+1.2
BBS	**Basel-Blauen**	**1.37**	**237**	⇓*i*Pg	Pg	07 34 27.1	-1.1
LLS	**Linth-Limmern**	**1.38**	**185**	⇓*i*P	Pn	07 34 25.3	-0.6
FUR	**Furstenfeldbru**	**1.39**	**92**	*e*Sg	Sg	07 34 44.4	-2.9
	SNR=2.8						
TOD	**Tromm**	**1.41**	**349**	Pg	Pg	07 34 27.7	-1.2
TOD	**Tromm**	**1.41**	**349**	Pg	Pg	07 34 27.7	-1.3
TOD				Sg	Sg	07 34 46.5

GRF	**Grafenberg Arr**	**1.98**	**41**	*e*Pg	Pg	07 34 36.0	-4.5
GRF				*e*Sg	Sg	07 35 02.7	-4.3
TNS	**Taunus Mts**	**2.06**	**346**	*e*Sg	Sg	07 35 05.7	-3.8
SNR=3.0							
THEF	**They Montfort**	**2.15**	**271**	Pg	Pg	07 34 41.3	-2.4
THEF				Sg	Sg	07 35 09.1	-3.3
THEF	**They Montfort**	**2.15**	**271**	P	Pn	07 34 41.4	+4.5
WLF	**Walferdange**	**2.47**	**307**	*e*Sg	Sg	07 35 19.2	-4.0
RFYF	**Reffroy**	**2.51**	**281**	*e*Pn	Pn	07 34 39.6	-2.5
RFYF				*e*Pg	Pg	07 34 48.0	-3.0
baz=105							
RFYF				*e*Sg	Sg	07 35 19.8	-4.8
19nm,0.2s							
RFYF	**Reffroy**	**2.51**	**281**	*e*Pg	Pg	07 34 48.0	-3.0
RFYF				*e*Sg	Sg	07 35 19.8	-4.8
9.6nm,0.2s							
WET	**Wettzell**	**2.61**	**68**	*e*Pg	Pg	07 34 49.0	-3.9
SNR=3.0							
WET				*e*Sg	Sg	07 35 21.9	-5.7
SNR=2.4							
WET	**Wettzell**	**2.61**	**68**	*e*Pg	Pg	07 34 48.5	-4.4
WET				*e*Sg	Sg	07 35 21.9	-5.7
UBBA	**Unterbreizbach**	**2.65**	**11**	*e*Sg	Sg	07 35 22.4	-6.7
SNR=2.3							
CABF	**La Chapelle**	**2.66**	**234**	*e*Pn	Pn	07 34 41.4	-2.8
CABF				*e*Pg	Pg	07 34 50.8	-3.1
CABF				*e*Sn	Sn	07 35 11.7	-4.8
CABF				*e*Sg	Sg	07 35 24.5	-4.9
10nm,0.3s							
MEZF	**Maizieres J'vi**	**2.78**	**277**	*e*Pn	Pn	07 34 42.8	-3.1
baz=97							
MEZF				*e*Pg	Pg	07 34 52.5	-3.8
MEZF				*e*Sg	Sg	07 35 27.6	-5.8
12nm,0.3s							
SFTF	**Sexfontaines**	**2.78**	**271**	*e*Pn	Pn	07 34 43.1	-2.8
SFTF				*e*Pg	Pg	07 34 52.6	-3.8
baz=96							
SFTF				*e*Sg	Sg	07 35 28.5	-5.0
9.4nm,0.2s							
SFTF	**Sexfontaines**	**2.78**	**271**	*e*Pg	Pg	07 34 52.6	-3.8
SFTF				*e*Sg	Sg	07 35 28.5	-5.0
4.7nm,0.2s							
MOX	**Moxa**	**2.89**	**32**	*e*Sg	Sg	07 35 31.3	-5.8
SNR=4.9							
GUNZ	**Gunzen**	**2.96**	**43**	*e*Sg	Sg	07 35 33.8	-5.7
SNR=6.2							
WERD	**Werda**	**3.01**	**41**	*e*Sg	Sg	07 35 35.4	-5.8
SNR=7.5							
KBA	**Koelnbreinsper**	**3.03**	**111**	⇑*i*PN	Pn	07 34 52.1	+2.7
KBA				*i* SN	Sn	07 35 36.2	+10
GEC2	**GERESS Array S**	**3.06**	**77**	*e*Pn	Pn	07 34 47.7	-2.2
SNR=3.4							
GEC2				*e*Pg	Pg	07 34 57.3	-4.6
SNR=1.5							
GEC2				*e*Sn	Sn	07 35 22.5	-4.1
GEC2	**GERESS Array S**	**3.06**	**77**	*e*Pn	Pn	07 34 48.4	-1.4
GEC2				*e*Sn	Sn	07 35 22.5	-4.1
LPL	**La Plagne**	**3.19**	**213**	*e*Pn	Pn	07 34 49.1	-2.7
LPL				*e*Pg	Pg	07 35 00.4	-4.2
LPL				*e*Sn	Sn	07 35 24.6	-5.5
LPL				*e*Sg	Sg	07 35 41.1	-6.1
1.9nm,0.2s							
MOA	**Molln**	**3.42**	**94**	⇑*i*PN	Pn	07 35 04.4	+9.4
MOA				*i* SG	Sg	07 35 59.1	+4.4
1.5nm,0.1s							
GIVF	**Givet**	**3.43**	**305**	*e*Pn	Pn	07 34 52.1	-3.1
BAIF	**Baives**	**3.76**	**301**	*e*Pg	Pg	07 35 10.6	-5.2
MBDF	**Montbardon**	**3.88**	**207**	*e*Pn	Pn	07 34 58.3	-3.2
MBDF				*e*Sn	Sn	07 35 40.8	-6.6
MBDF				*e*Sg	Sg	07 36 02.7	-7.3
3.0nm,0.4s							
CLL	**Collm**	**3.95**	**37**	*e*SG	Sg	07 36 07.0	-5.4
SMF	**Signal de Mont**	**3.96**	**249**	*e*Pn	Pn	07 34 59.5	-3.2
SMF				*e*Pg	Pg	07 35 14.3	-5.7
SMF				*e*Sg	Sg	07 36 04.7	-8.1
2.7nm,0.2s							
ORIF	**Oris-en-Rattie**	**4.02**	**216**	*e*Pn	Pn	07 35 00.2	-3.3
ORIF				*e*Sn	Sn	07 35 44.3	-6.7
ORIF				*e*Sg	Sg	07 36 06.9	-7.8
4.4nm,0.3s							
SSF	**Saint Saulge**	**4.02**	**255**	*e*Pn	Pn	07 35 00.3	-3.2
SSF				*e*Pg	Pg	07 35 15.3	-5.8
SSF				*e*Sn	Sn	07 35 44.1	-6.9
SSF				*e*Sg	Sg	07 36 06.8	-7.9
3.5nm,0.3s							
AVF	**Avril sur Loir**	**4.21**	**252**	*e*Pn	Pn	07 35 02.7	-3.6
AVF				*e*Pg	Pg	07 35 19.1	-5.9
AVF				*e*Sn	Sn	07 35 49.0	-6.9
AVF				*e*Sg	Sg	07 36 12.2	-8.9
1.6nm,0.3s							
HYF	**Humbligny**	**4.53**	**260**	*e*Pg	Pg	07 35 25.1	-6.1
HYF				*e*Sn	Sn	07 35 56.6	-7.2
VIVF	**Saint-Julien-l**	**4.59**	**224**	*e*Pn	Pn	07 35 07.5	-4.2
VIVF				*e*Pg	Pg	07 35 25.7	-6.8
VIVF				*e*Sg	Sg	07 36 23.8	-10
2.5nm,0.3s							
BGF	**Bois d'Agland**	**4.62**	**251**	*e*Pg	Pg	07 35 26.5	-6.7
BGF				*e*Sg	Sg	07 36 25.2	-10
4.5nm,0.3s							

*IDC **14** 07:36:38.6±0.8, 18.56N×146.96E, mb3.9/8, mb1 4.1/8, mb1mx3.9/20, mbtmp3.9/8, Error ellipse: s-maj=40.7km s-min=18.1km az=107.0*
*NEIC **14** 07:36:45.1±2.0, 18.50N×146.94E, h46km±19km, mb4.4/1, Error ellipse: s-maj=28.1km s-min=14.1km az=95.0*

ISC 14 07:36:44.2±2.5, 18.5N±0.1×146.9E±0.2, h52km±23km, n15, σ0§81/16, mb3.9/9, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.08**	**212**	⇓*e*P	**P**	**07 37 18.4**	**+1.1**
GUMO	**Guam**	**5.24**	**202**	Pn	**P**	**07 38 00.8**	**-1.0**
GUMO				*e*Sn	**S**	**07 39 01.4**	**-0.4**
HIA	**Hailar**	**37.72**	**331**	P	**P**	**07 43 56.5**	**0.0**
4.4nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**40.12**	**199**	P	**P**	**07 44 15.8**	**-0.9**
1.4nm,0.8s,mb3.8,baz=20,slow=8.0,SNR=5.5							
FITZ	**Fitzroy Crossi**	**41.93**	**211**	P	**P**	**07 44 32.8**	**+1.1**
3.6nm,0.8s,mb4.1,baz=21,slow=14,SNR=4.0							
FITZ	**Fitzroy Crossi**	**41.93**	**211**	P	**P**	**07 44 32.8**	**+1.1**
ASAR	**Alice Springs**	**43.77**	**197**	P	**P**	**07 44 47.2**	**+0.6**
0.6nm,0.6s,mb3.5,baz=15,slow=10,SNR=6.1							
SONM	**Songino Array**	**44.05**	**321**	P	**P**	**07 44 48.7**	**+0.2**
0.4nm,0.3s,mb3.6,baz=121,slow=8.4,SNR=3.3							
STKA	**Stephens Creek**	**50.32**	**186**	P	**P**	**07 45 43.5**	**+5.6**
INK	**Inuvik**	**69.13**	**23**	P	**P**	**07 47 45.7**	**-0.9**
baz=232,slow=4.1							
YKA	**Yellowknife Ar**	**77.64**	**28**	P	**P**	**07 48 36.2**	**-0.2**
0.5nm,0.7s,mb3.5,baz=286,slow=5.2,SNR=11							
YKA	**Yellowknife Ar**	**77.64**	**28**	P	**P**	**07 48 36.2**	**-0.2**
NVAR	**Mina Array Bea**	**82.36**	**52**	P	**P**	**07 49 03.4**	**+1.2**
0.8nm,0.7s,mb3.8,baz=274,slow=5.1,SNR=5.1							
ARCES	**ARCESS Array B**	**83.06**	**342**	P	**P**	**07 49 05.5**	**+0.4**
3.4nm,0.9s,mb4.4,baz=39,slow=5.8,SNR=3.6							
FINES	**FINESS Array B**	**87.58**	**336**	P	**P**	**07 49 26.3**	**-1.2**
0.4nm,0.4s,mb4.0,baz=53,slow=6.9,SNR=4.5							

GUC 14 07:39:26.5±0.6, 32.65S×71.57W, h35km±2km, MD3.6, ML2.3, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.16**	**45**	⇓*i*P	P	07 39 33.1	+0.2
PACH				*i* S	S	07 39 37.8	+0.4
ROCH	**El Roble**	**0.57**	**124**	*e*P	P	07 39 38.4	+0.4
ROCH				*i* S	S	07 39 47.2	+0.8
LCCH	**Las Cruces**	**0.82**	**180**	*i* P	P	07 39 41.5	-0.2
JACH	**Jahuel**	**0.83**	**92**	*e*P	P	07 39 41.9	+0.2
JACH				*i* S	S	07 39 53.9	+1.0
STL	**Santa Lucia**	**1.11**	**135**	*e*P	P	07 39 46.4	+0.7
STL				*i* S	S	07 40 01.7	+1.7
DSCH	**Colegio Aleman**	**1.13**	**132**	*e*P	P	07 39 46.8	+0.8
DSCH				*i* S	S	07 40 01.7	+1.3
DSCH				AMP		07 40 02.9	
comp=E,130nm,0.4s							
TACH	**Talagante**	**1.13**	**152**	*e*P	P	07 39 46.4	+0.3
CLCH	**Cerro Calan**	**1.14**	**131**	⇓*i*P	P	07 39 47.2	+1.0
CLCH				*i* S	S	07 40 02.2	+1.3
CLCH				AMP		07 40 04.0	
comp=N,86nm,0.4s							
ANTU	**Antumapu**	**1.21**	**140**	*i* S	S	07 40 04.4	+1.8
ANTU				AMP		07 40 05.2	
comp=N,70nm,0.4s							
FCH	**Farellones**	**1.27**	**122**	*e*P	P	07 39 49.3	+1.2
FCH				*i* S	S	07 40 06.7	+2.5
FCH				AMP		07 40 08.0	
comp=E,87nm,0.2s							
PCH	**Pirque**	**1.31**	**138**	*e*P	P	07 39 49.4	+0.7
PCH				*i* S	S	07 40 07.1	+1.8
LMEL	**Las Melosas**	**1.66**	**137**	*e*P	P	07 39 55.0	+1.4
LMEL				*i* S	S	07 40 16.3	+2.4
LMEL				AMP		07 40 20.7	
comp=N,119nm,0.1s							

*IDC **14** 07:57:55.3±0.6, 9.65N×126.20E, mb4.3/14, mb1 4.4/14, mb1mx4.3/22, mbtmp4.3/14, Error ellipse: s-maj=34.4km s-min=13.0km az=75.0*
*BJI **14** 07:58:00.3, 8.63N×126.20E, h121km, mB4.8, mb4.6*
*MAN **14** 07:58:04.8, 9.56N×126.05E, h33km, mb4.7, ML3.5, MS3.5 MAN Surigao City Intensity I.*
*NEIC **14** 07:58:09.7±2.3, 9.47N×125.97E, h121km±21km, mb4.3/7, Error ellipse: s-maj=16.6km s-min=6.3km az=73.0*
NEIC Felt [I PIVS] at Surigao.

ISC 14 07:58:03.9±0.6, 9.53N±0.03×126.08E±0.06, h82km±5km, n52, σ1§06/59, mb4.2/24, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.63**	**293**	*e*P	**P**	**07 58 17.4**	**-1.8**
SCPH						07 58 25.1	
BUTP	**Butuan**	**0.72**	**219**	*e*P	**P**	**07 58 19.3**	**-0.8**
BUTP				*e*S	**S**	**07 58 30.2**	**-1.9**
MSLP	**Maasin**	**1.34**	**297**	*e*P	**P**	**07 58 28.1**	**+0.4**
CGP	**Cagayan de Oro**	**1.73**	**232**	⇓*e*P	**P**	**07 58 32.7**	**-0.1**
CGP				*i* S	**S**	**07 58 53.8**	**-0.4**
BUKP	**Musuan**	**1.93**	**212**	*e*P	**P**	**07 58 36.4**	**+1.0**
PLP	**Palo**	**1.95**	**326**	*e*P	**P**	**07 58 35.8**	**+0.1**
PLP				*i* S	**S**	**07 59 00.1**	**+1.0**
BESP	**Borongan**	**2.15**	**343**	*e*P	**P**	**07 58 38.8**	**+0.3**
BESP				*e*S	**S**	**07 59 09.8**	**+5.7**
TBP	**Tagbilaran**	**2.19**	**274**	*e*P	**P**	**07 58 39.3**	**+0.2**
TBP				*i* S	**S**	**07 59 05.9**	**+0.8**
TBP	**Tagbilaran**	**2.19**	**274**	*e*P	**P**	**07 58 48.1**	**+9.1**
LLP	**Lapu-Lapu**	**2.22**	**291**	⇓*i*P	**P**	**07 58 40.0**	**+0.5**
LLP				*e*S	**S**	**07 59 05.2**	**-0.6**
KCP	**Kidapawan**	**2.69**	**201**	⇓*e*P	**P**	**07 58 49.6**	**+3.6**
KCP				*i* S	**S**	**07 59 20.3**	**+2.8**
SNPH	**Sibulan**	**2.81**	**266**	⇓*e*P	**P**	**07 58 48.1**	**+0.4**
DCPH	**Dipolog City**	**2.85**	**251**	⇑*i*P	**P**	**07 58 48.5**	**+0.2**
DCPH				*i* S	**S**	**07 59 21.8**	**+0.2**
PAGZ	**Pagadian**	**3.15**	**238**	*e*P	**P**	**07 58 53.2**	**+0.8**
CNP	**Catarman**	**3.27**	**335**	*e*P	**P**	**07 58 53.7**	**-0.4**
GUIM	**Jordan**	**3.60**	**288**	*e*P	**P**	**07 58 58.7**	**0.0**
RCP	**Roxas**	**3.85**	**302**	⇑*e*P	**P**	**07 59 02.7**	**+0.6**
YHNB	**Yeheng**	**15.71**	**344**	*e*P	**P**	**08 01 44.9**	**+3.2**
KAKA	**Kakadu**	**22.98**	**164**	*e*P	**P**	**08 03 03.6**	**+1.3**
13nm,0.9s,mb4.2							
NJ2	**Nanjing**	**23.39**	**344**	*e*P	**P**	**08 03 06.5**	**+0.5**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.3							
NJ2				AMB	AMB		
comp=Z,90nm,6.2s							
NJ2				LR	LR		
comp=N,280nm,15.4s							
NJ2				LR	LR		
comp=E,350nm,20.0s							
NJ2				LR	LR		
comp=Z,140nm,15.3s							
FITZ	**Fitzroy Crossi**	**27.46**	**181**	P	**P**	**08 03 44.9**	**+0.4**
comp=Z,2.9nm,0.7s,mb3.9,slow=9.1,SNR=4.4							
CMAR	**Chiang Mai Arr**	**27.75**	**292**	P	**P**	**08 03 48.0**	**+0.8**
comp=Z,0.9nm,0.8s,mb3.4,baz=103,slow=7.5,SNR=5.9							
CMAR				PcP	PcP	08 07 03.1	+1.1
comp=Z,0.6nm,0.5s,baz=93,slow=1.2,SNR=5.7							
WRAB	**Tennant Creek**	**30.39**	**164**	*e*P	**P**	**08 04 09.2**	**-1.5**
comp=Z,13nm,1.2s,mb4.4							
WRA	**Warramunga Arr**	**30.40**	**165**	P	**P**	**08 04 09.9**	**-0.8**
comp=Z,0.7nm,0.4s,mb3.7,baz=328,slow=11,SNR=12							
WB2	**Warramunga Arr**	**30.40**	**164**	*e*P	**P**	**08 04 09.3**	**-1.4**
ASPA	**Alice Springs**	**33.87**	**167**	*e*P	**P**	**08 04 40.9**	**0.0**
ASAR	**Alice Springs**	**33.87**	**167**	P	**P**	**08 04 40.9**	**0.0**
comp=Z,1.8nm,0.4s,mb4.3,baz=350,slow=7.2,SNR=53							
ASAR				PcP	PcP	08 07 18.9	+0.8
comp=Z,1.0nm,0.7s,baz=1.9,slow=2.0,SNR=7.5							
ASAR				ScP		08 11 03.7	
comp=Z,0.5nm,0.8s,baz=330,slow=2.1,SNR=4.1							
MDJ	**Mudanjiang**	**35.09**	**4**	P	**P**	**08 04 50.6**	**-0.4**
MDJ				AMB	AMB		
comp=Z,6.0nm,1.0s,mb4.4							
MDJ				AMB	AMB		
comp=Z,36nm,2.7s,mb4.7							
SHL	**Shillong**	**36.15**	**301**	*e*P	**P**	**08 04 58.0**	**-2.2**
ULN	**Ulaanbaatar**	**41.45**	**341**	*e*P	**P**	**08 05 41.5**	**-2.5**
comp=Z,2.3nm,0.8s,mb4.1							
SONM	**Songino Array**	**41.64**	**340**	P	**P**	**08 05 46.1**	**+0.5**
comp=Z,0.5nm,0.5s,mb3.5,baz=157,slow=9.3,SNR=3.5							
NWAO	**Narrogin (SRO)**	**43.05**	**191**	P	**P**	**08 05 56.8**	**-0.6**
comp=Z,14nm,1.1s,mb4.6,baz=21,slow=10,SNR=3.5							
NWAO	**Narrogin (SRO)**	**43.05**	**191**	P	**P**	**08 05 57.3**	**-0.1**
STKA	**Stephens Creek**	**43.77**	**161**	*e*P	**P**	**08 06 03.6**	**+0.4**
comp=Z,2.7nm,0.7s,mb4.1							
STKA	**Stephens Creek**	**43.77**	**161**	P	**P**	**08 06 03.8**	**+0.6**
comp=Z,2.9nm,0.6s,mb4.2,baz=350,slow=8.5,SNR=9.2							
PALK	**Palikele**	**44.92**	**271**	*e*P	**P**	**08 06 11.9**	**-0.7**
WMQ	**Urumqi**	**47.69**	**323**	⇑P	**P**	**08 06 32.8**	**-1.3**
WMQ				PP	PP	08 08 23.6	-2.3
WMQ				AMB	AMB		
comp=Z,5.0nm,0.4s,mb4.7							
WMQ				AMB	AMB		
comp=Z,56nm,4.8s							
WMQ				LR	LR		
comp=N,145nm,21.0s							
WMQ				LR	LR		
comp=E,89nm,22.2s							
WMQ				LR	LR		
comp=Z,30nm,16.8s							
ZAL	**Zalesovo**	**55.18**	**332**	P	**P**	**08 07 28.9**	**-1.4**
comp=Z,1.5nm,0.3s,mb4.5,baz=353,slow=8.0,SNR=3.6							
BVAR	**Borovoye Array**	**62.16**	**326**	P	**P**	**08 08 18.3**	**-0.4**
comp=Z,2.6nm,0.5s,mb4.5,baz=129,slow=9.5,SNR=15							
ARU	**Arti**	**69.73**	**327**	*e*P	**P**	**08 09 05.0**	**-2.0**
comp=Z,13nm,0.5s,mb5.0							
ILAR	**Eielson Array**	**80.18**	**26**	P	**P**	**08 10 06.5**	**0.0**
comp=Z,1.0nm,0.7s,mb3.8,baz=240,slow=4.9,SNR=21							
DAWY	**Dawson**	**83.48**	**26**	*e*P	**P**	**08 10 25.5**	**+1.9**
JOF	**Joensuu**	**83.76**	**333**	*e*p	**P**	**08 10 24.4**	**-0.5**
comp=Z,1.9nm,0.4s,mb4.3							
ARCES	**ARCESS Array B**	**84.82**	**340**	P	**P**	**08 10 30.8**	**+0.7**
comp=Z,3.9nm,0.6s,mb4.5,baz=77,slow=6.8,SNR=17							
INK	**Inuvik**	**85.04**	**22**	*e*P	**P**	**08 10 32.4**	**+1.2**
comp=Z,2.6nm,0.8s,mb4.2							
FINES	**FINESS Array B**	**86.45**	**332**	P	**P**	**08 10 38.4**	**+0.2**
comp=Z,1.9nm,0.5s,mb4.3,baz=68,slow=4.8,SNR=31							
FINES	**FINESS Array B**	**86.45**	**332**	P	**P**	**08 10 38.4**	**+0.2**
RES	**Resolute Bay**	**92.25**	**10**	*e*P	**P**	**08 11 06.6**	**+1.2**
comp=Z,2.4nm,0.9s,mb4.4							
NOA	**NORSAR Array B**	**93.33**	**334**	P	**P**	**08 11 10.1**	**-0.5**
comp=Z,1.1nm,0.7s,mb4.3,baz=66,slow=4.5,SNR=3.4							
YKA	**Yellowknife Ar**	**94.50**	**24**	P	**P**	**08 11 17.6**	**+1.7**
comp=Z,0.9nm,0.6s,mb4.3,baz=300,slow=4.3,SNR=42							
YKA	**Yellowknife Ar**	**94.50**	**24**	P	**P**	**08 11 17.6**	**+1.7**
PLCA	**Paso Flores**	**145.60**	**157**	PKPbc	PKPbc	08 17 36.5	+2.8
comp=Z,1.6nm,0.8s,baz=71,slow=2.4,SNR=4.9							

*NIED **14** 08:02:00, 33.10N×137.20E, h17km, Mw4.2 Best double couple: M0:2.5×10^15 NP1:φs=266°, δ59°, λ76°. NP2:φs=111°, δ33°, λ112°.*
*MOS **14** 08:02:34.8±1.4, 33.09N×137.30E, h33km, mb4.3/13, Error ellipse: s-maj=21.0km s-min=8.1km az=84.9*
*JMA **14** 08:02:34.8±0.1, 33.14N×137.16E, h41km±2km, M4.3*
JMA Felt I J1.
*BJI **14** 08:02:35.1, 33.23N×137.15E, h28km, mB4.6, mb4.5, Ms3.8, Msz3.9*
*IDC **14** 08:02:37.4±0.5, 33.09N×137.26E, h35km±3km, mb3.8/16, mb1 4.1/19, mb1mx4.0/25, mbtmp4.1/19, ML4.3/3, MS3.5/10, Ms1 3.5/10, ms1mx3.3/38, Error ellipse: s-maj=16.2km s-min=11.0km az=87.0*
*NEIC **14** 08:02:37.2±0.3, 33.10N×137.11E, mb4.5/12, MW4.2(NIED), Error ellipse: s-maj=10.0km s-min=6.7km az=94.0*
NEIC Recorded [1 JMA] in Nara Prefecture.

ISC 14 08:02:34.9±0.3, 33.14N±0.02×137.17E±0.02, h34km, h34km±1.8km: pP-P, n93, σ1§07/107, mb4.2/30, MS3.6/7, 2C-13D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.72**	**29**	P	**P**	**08 02 48.6**	**0.0**
TK01				S	**S**	**08 02 58.4**	**-0.1**
TK02	**Tokai 2**	**0.95**	**31**	⇓P	**P**	**08 02 51.9**	**+0.1**
TK02				S	**S**	**08 03 03.9**	**-0.4**
TK03	**Tokai 3**	**1.22**	**33**	⇓P	**P**	**08 02 55.9**	**+0.2**
JWZ	**Kozaga**	**1.28**	**288**	⇓P	**P**	**08 02 56.3**	**-0.2**
JWZ				S	**S**	**08 03 11.1**	**-1.7**
JIE	**Ise**	**1.31**	**343**	⇓P	**P**	**08 02 57.6**	**+0.6**
JIE				S	**S**	**08 03 13.7**	**+0.2**
JKN2	**Miekihoku**	**1.33**	**326**	⇓P	**P**	**08 02 57.6**	**+0.3**
JKN2				S	**S**	**08 03 13.1**	**-0.9**
TK04	**Tokai 4**	**1.38**	**25**	⇓P	**P**	**08 02 58.3**	**+0.3**
TK04				S	**S**	**08 03 15.2**	**0.0**
JWM	**Minabe**	**1.68**	**296**	⇓P	**P**	**08 03 02.2**	**0.0**
JWM				S	**S**	**08 03 22.2**	**-0.5**
TSUJ	**Tsu 2**	**1.69**	**339**	⇓P	**P**	**08 03 02.9**	**+0.5**
JWY	**Kouya**	**1.70**	**310**	⇓P	**P**	**08 03 03.3**	**+0.7**
JWY				S	**S**	**08 03 23.2**	**-0.2**
JHE	**Heguri**	**1.95**	**321**	⇓P	**P**	**08 03 06.7**	**+0.5**
JHE				S	**S**	**08 03 29.6**	**-0.2**
SHZ3	**Shizuoka 3**	**2.11**	**24**	⇓P	**P**	**08 03 08.2**	**-0.3**
JIZS	**Izushimoda**	**2.12**	**42**	P	**P**	**08 03 09.2**	**+0.5**
JHJ	**Hachijo jima 2**	**2.19**	**90**	Pn	**P**	**08 03 09.5**	**-0.2**
201nm,0.3s,baz=281,slow=14,SNR=36							
JHJ				Sn	**S**	**08 03 33.1**	**-2.7**
212nm,0.3s,baz=82,slow=19,SNR=8.8							
JHJ				LR	LR	08 04 12.8	
comp=Z,405nm,18.0s,baz=135,slow=44							
JHJ2	**Mitsune**	**2.22**	**90**	P	**P**	**08 03 09.5**	**-0.6**
JHJ2				S	**S**	**08 03 36.4**	**-0.2**
JAI	**Aioi**	**2.36**	**287**	⇑P	**P**	**08 03 12.1**	**0.0**
JAI				S	**S**	**08 03 38.1**	**-2.1**
JIM2	**Oshima 3**	**2.46**	**49**	P	**P**	**08 03 13.9**	**+0.5**
JIM2				S	**S**	**08 03 41.1**	**-1.4**
JGM	**Miyama**	**2.58**	**352**	⇓P	**P**	**08 03 15.6**	**+0.4**
JGM				S	**S**	**08 03 45.2**	**-0.6**
JWT	**Wachi**	**2.59**	**326**	⇓P	**P**	**08 03 15.8**	**+0.4**
JWT				S	**S**	**08 03 45.9**	**-0.2**
JYN	**Shimob**	**2.62**	**25**	P	**P**	**08 03 15.6**	**-0.1**
JOD2	**Odawara 2**	**2.65**	**36**	P	**P**	**08 03 16.5**	**+0.3**
MJAR	**Matsushiro Arr**	**3.50**	**14**	P	**P**	**08 03 28.9**	**+0.6**
MJAR						08 04 09.2	
MJAR				pmax	pmax		
comp=Z,56nm,0.3s							
MJAR	**Matsushiro Arr**	**3.50**	**14**	Pn	**P**	**08 03 28.9**	**+0.6**
comp=Z,56nm,0.3s,baz=192,slow=14,SNR=264							
MJAR				Sn	**S**	**08 04 09.2**	**+0.1**
comp=Z,32nm,0.3s,baz=296,slow=22,SNR=8.3							
MAJO	**Matsushiro**	**3.50**	**14**	*e*Pn	**P**	**08 03 28.9**	**+0.5**
MAJO				*e*Sn	**S**	**08 04 08.7**	**-0.5**
MAT	**Matsushiro**	**3.50**	**14**	*e*P	**P**	**08 03 29.0**	**+0.7**
MAT				*e*S	**S**	**08 04 09.0**	**-0.2**
MAT	**Matsushiro**	**3.50**	**14**	P	**P**	**08 03 28.8**	**+0.5**
MAT				S	**S**	**08 04 09.4**	**+0.2**
CBIJ	**Chichi jima**	**7.42**	**143**	LR	LR	08 06 49.4	
comp=Z,287nm,20.0s,baz=12,slow=34							
KS15	**Wonju Array Si**	**8.72**	**302**	Pn	**P**	**08 04 40.7**	**-0.9**
JOW	**Kunigami**	**9.94**	**233**	LR	LR	08 08 50.4	
comp=Z,122nm,18.6s,baz=314,slow=37							
ASAJ	**Asahikawa**	**11.75**	**20**	P	**P**	**08 05 20.9**	**-2.2**
ASAJ				pmax	pmax		
comp=Z,2.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,167nm,18.1s							
ASAJ	**Asahikawa**	**11.75**	**20**	Pn	**P**	**08 05 20.9**	**-2.2**
comp=Z,1.9nm,0.3s,baz=213,slow=15,SNR=14							
ASAJ				LR	LR	08 10 29.1	
comp=Z,167nm,18.1s,baz=358,slow=40							
MDJ	**Mudanjiang**	**12.89**	**335**	P	**P**	**08 05 36.6**	**-1.7**
MDJ				S	**S**	**08 07 58.8**	**-2.6**
MDJ				XS		08 08 08.3	
MDJ				SS	SS	08 08 17.3	+0.6
MDJ				AMB	AMB		
comp=Z,11nm,1.5s							
MDJ				AMB	AMB		
comp=Z,86nm,4.2s							
MDJ				LR	LR		
comp=N,36nm,19.7s							
MDJ				LR	LR		
comp=E,89nm,18.4s							
MDJ				LR	LR		
comp=Z,94nm,18.9s							
MDJ	**Mudanjiang**	**12.89**	**335**	P	**P**	**08 05 35.4**	**-2.9**
comp=Z,82nm,1.7s							
YSS	**Yuzh-Sakhalins**	**14.44**	**16**	*e*P	**P**	**08 05 56.0**	**-2.7**
YSS				MLR	MLR

comp=Z,5.0nm,0.6s,mb4.7,baz=355,slow=3.9,SNR=7.8
WRAB Tennant Creek 52.84 183 *e*P **P 08 11 47.9 -1.6**
WRAB pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
WRAB Tennant Creek 52.84 183 *e*P **P 08 11 47.9 -1.6**
comp=Z,8.1nm,1.0s,mb4.6
WB2 Warramunga Arr 52.85 183 *e*P **P 08 11 48.5 -1.0**
WRA Warramunga Arr 52.85 183 P **P 08 11 48.7 -0.9**
WRA *PP pP 08 11 59.0 -0.7
WRA pmax pmax
comp=Z,3.0nm,0.7s
WRA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 52.85 183 P **P 08 11 48.7 -0.8**
comp=Z,2.9nm,0.7s,mb4.3,baz=1.5,slow=7.7,SNR=20
WRA pP pP 08 11 59.0 -0.8
comp=Z,2.9nm,0.8s,baz=3.3,slow=7.8,SNR=7.5
CTAO Charters Tower 53.63 169 *e*P **P 08 11 53.9 -1.5**
CTAO pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CTAO Charters Tower 53.63 169 *e*P **P 08 11 53.9 -1.5**
comp=Z,10nm,1.1s,mb4.7
ILAR Eielson Array 54.63 31 P **P 08 12 02.2 +0.1**
ILAR *PP pP 08 12 13.2 +0.8
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 54.63 31 P **P 08 12 02.2 +0.1**
comp=Z,0.5nm,0.8s,mb3.6,baz=288,slow=5.5,SNR=5.8
ILAR pP pP 08 12 13.2 +0.8
comp=Z,0.7nm,0.8s,baz=257,slow=5.2,SNR=5.8
MBWA Marble Bar 56.50 200 *e*P **P 08 12 14.8 -1.4**
comp=Z,3.8nm,0.6s,mb4.6
ASAR Alice Springs 56.57 184 P **P 08 12 16.0 -0.7**
comp=Z,1.5nm,0.7s,mb4.1,baz=17,slow=10,SNR=18
ASAR pP pP 08 12 27.1 +0.2
comp=Z,1.2nm,0.6s,baz=14,slow=9.6,SNR=5.1
ASAR LR LR 08 32 57.8
comp=Z,61nm,20.6s,MS3.7,baz=353,slow=32
PALK Pallekele 58.11 257 *e*P **P 08 12 25.1 -2.6**
comp=Z,4.5nm,0.9s,mb4.5
INK Inuvik 59.42 26 *e*P **P 08 12 36.7 +0.7**
INK pmax pmax
comp=Z,3.0nm,1.1s
INK Inuvik 59.42 26 *e*P **P 08 12 36.7 +0.7**
comp=Z,3.3nm,1.1s,mb4.3
STKA Stephens Creek 64.80 176 P **P 08 13 12.2 -0.3**
comp=Z,3.3nm,0.7s,mb4.5,baz=316,slow=6.0,SNR=7.1
STKA Stephens Creek 64.80 176 *e*P **P 08 13 11.4 -1.0**
ARCES ARCESS Array B 66.40 339 pP pP 08 13 33.2 +0.6
comp=Z,2.8nm,0.9s,baz=60,slow=9.8,SNR=1.6
ARCES LR LR 08 47 48.5
comp=Z,71nm,18.7s,MS3.9,baz=340,slow=41
RES Resolute Bay 67.21 13 *e*P **P 08 13 28.0 +0.9**
RES *e* pP 08 13 38.7 +1.1
RES pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
RES Resolute Bay 67.21 13 *e*P **P 08 13 28.0 +0.9**
comp=Z,4.8nm,0.9s,mb4.5
RES *e* pP 08 13 38.7 +1.1
YKA Yellowknife Ar 68.90 28 P **P 08 13 38.6 +0.8**
YKA *PP pP 08 13 49.3 +0.9
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 68.90 28 P **P 08 13 38.6 +0.8**
comp=Z,0.5nm,0.9s,mb3.4,baz=297,slow=6.3,SNR=4.7
YKA pP pP 08 13 49.3 +0.9
comp=Z,1.0nm,0.9s,baz=302,slow=5.7,SNR=11
YKA Yellowknife Ar 68.90 28 P **P 08 13 38.6 +0.8**
YKA pP pP 08 13 49.3 +0.9
FINES FINESS Array B 70.61 332 P **P 08 13 47.6 -0.7**
FINES *PP pP 08 13 59.9 +1.1
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 70.61 332 P **P 08 13 47.6 -0.6**
comp=Z,1.1nm,0.8s,mb3.9,baz=45,slow=2.0,SNR=3.8
FINES pP pP 08 13 59.9 +1.1
comp=Z,1.3nm,0.7s,baz=34,slow=6.9,SNR=3.6
AKASG Malin Array Be 75.20 321 P **P 08 14 16.3 +0.9**
AKASG *PP pP 08 14 27.4 +1.5
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 75.20 321 P **P 08 14 16.2 +0.8**
comp=Z,1.3nm,0.5s,mb4.1,baz=50,slow=5.8,SNR=7.0
AKASG pP pP 08 14 27.4 +1.4
comp=Z,2.7nm,0.6s,baz=51,slow=6.2,SNR=5.8
NOA NORSAR Array B 76.38 336 P **P 08 14 22.8 +0.9**
NOA *PP pP 08 14 34.0 +1.5
NOA pmax pmax
comp=Z,1.0nm,0.9s
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 76.38 336 P **P 08 14 22.8 +0.9**
comp=Z,0.8nm,0.9s,mb3.7,baz=51,slow=8.7,SNR=2.8
NOA pP pP 08 14 34.0 +1.5
comp=Z,0.9nm,0.7s,baz=44,slow=5.6,SNR=3.0
BRTR Keskin Array B 78.76 310 P **P 08 14 38.2 +2.6**
BRTR *PP pP 08 14 48.5 +2.3
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 78.76 310 P **P 08 14 38.2 +2.6**
comp=Z,1.1nm,0.7s,mb3.9,baz=79,slow=6.3,SNR=4.7
BRTR pP pP 08 14 48.5 +2.3
comp=Z,3.1nm,1.0s,baz=108,slow=3.9,SNR=5.2
NVAR Mina Array Bea 80.13 51 P **P 08 14 47.9 +4.9**
comp=Z,0.3nm,0.7s,mb3.4,baz=342,slow=5.7,SNR=3.0
NVAR pP pP 08 14 56.6 +3.0
comp=Z,0.4nm,0.6s,baz=305,slow=4.1,SNR=3.4
HWUT Hardware Ranch 82.43 45 *e*P **P 08 14 57.6 +2.6**
comp=Z,3.4nm,0.7s,mb4.4
DUG Dugway 82.55 47 P **P 08 14 58.5 +2.9**
DUG pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
DUG Dugway 82.55 47 P **P 08 14 58.5 +2.9**
comp=Z,2.8nm,1.1s,mb4.2
KHC Kasperske Hory 83.96 327 *e*P pP 08 15 16.0 +2.7
GERES GERESS Array B 84.10 326 P **P 08 15 05.8 +2.5**
GERES *PP pP 08 15 16.1 +2.1
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,44nm,19.5s
GERES GERESS Array B 84.10 326 P **P 08 15 05.8 +2.5**
comp=Z,0.4nm,0.2s,mb4.2,baz=34,slow=4.8,SNR=3.8
GERES pP pP 08 15 16.1 +2.1
comp=Z,2.0nm,0.6s,baz=34,slow=4.8,SNR=6.9
GERES LR LR 08 57 04.9
comp=Z,44nm,19.4s,MS3.9,baz=33,slow=39
GRF Grafenberg Ar 84.62 328 *e*P pP 08 15 19.1 +2.5
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
ANMO Albuquerque 89.77 47 LR LR 08 51 12.3
comp=Z,38nm,19.3s,MS3.8,slow=32
TXAR Lajitas Array 95.27 50 P **P 08 15 59.1 +2.5**
comp=Z,0.5nm,0.9s,mb4.0,baz=268,slow=2.6,SNR=5.0
LPAZ La Paz 151.66 60 PKIKP PKPdf 08 22 30.6 +11
LPAZ 08 22 40.1
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 151.66 60 PKPbc PKPdf 08 22 30.6 +11
comp=Z,0.5nm,0.7s,baz=80,slow=3.4,SNR=3.6
LPAZ pPKPbc 08 22 40.1
comp=Z,0.8nm,0.7s,baz=4.1,slow=8.9,SNR=3.1

NEIC ***14*** *08:02:54.2, 37.36S×177.25E, h130km, MG4.0(WEL), After WEL.*
WEL 14 08:02:54.7±0.2, 37.37S×177.25E, h124km±1km, ML3.7/13, 1C, Error ellipse: s-maj=2.4km s-min=2.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.86**	**104**	P	P	08 03 15.9	-0.1
MXZ				S	S	08 03 32.1	-0.1
MXZ	**Matakaoa Point**	**0.86**	**104**	PN	P	08 03 15.8	-0.2
MXZ				SN	S	08 03 31.8	-0.3
URZ	**Urewera**	**0.90**	**187**	P	P	08 03 16.3	-0.1
URZ	**Urewera**	**0.90**	**187**	⇑PN	P	08 03 16.3	0.0
URZ				SN	S	08 03 32.1	-0.6
MWZ	**Matawai**	**0.99**	**167**	P	P	08 03 17.1	-0.2
MWZ				S	S	08 03 34.8	+0.5
MWZ	**Matawai**	**0.99**	**167**	PN	P	08 03 17.1	-0.2
MWZ				SN	S	08 03 34.4	+0.2
PUZ	**Puketiti**	**1.07**	**132**	P	P	08 03 17.6	-0.4
PUZ	**Puketiti**	**1.07**	**132**	PN	P	08 03 17.5	-0.5
KNZ	**Kokohu**	**1.69**	**169**	*e*P	P	08 03 24.4	-0.6
KNZ	**Kokohu**	**1.69**	**169**	PN	P	08 03 24.5	-0.5
BKZ	**Black Stump Fm**	**1.90**	**198**	*e*P	P	08 03 26.9	-0.6
BKZ				S	S	08 03 52.1	-0.2
BKZ	**Black Stump Fm**	**1.90**	**198**	PN	P	08 03 26.6	-0.9
BKZ				SN	S	08 03 51.9	-0.5
MGZ	**Maungaku**	**2.12**	**219**	P	P	08 03 31.2	+0.9
MGZ	**Maungaku**	**2.12**	**219**	*e*PN	P	08 03 30.2	-0.1
WTVZ	**West Tongariro**	**2.18**	**216**	P	P	08 03 31.4	+0.2
WTVZ	**West Tongariro**	**2.18**	**216**	PN	P	08 03 31.3	+0.2
OTVZ	**Oturere**	**2.19**	**214**	PN	P	08 03 31.4	+0.2
TWVZ	**Taurewa**	**2.22**	**219**	P	P	08 03 32.0	+0.3
TWVZ	**Taurewa**	**2.22**	**219**	PN	P	08 03 31.9	+0.2
NGZ	**Ngauruhoe**	**2.23**	**215**	P	P	08 03 32.1	+0.4
NGZ	**Ngauruhoe**	**2.23**	**215**	PN	P	08 03 32.0	+0.3
CNZ	**Chateau**	**2.27**	**216**	P	P	08 03 33.0	+0.7
CNZ	**Chateau**	**2.27**	**216**	*e*PN	P	08 03 32.3	0.0
WPVZ	**Whakapapa**	**2.27**	**216**	*e*P	P	08 03 32.7	+0.3
WPVZ	**Whakapapa**	**2.27**	**216**	*e*PN	P	08 03 32.3	-0.1
TUVZ	**Tukino**	**2.28**	**213**	P	P	08 03 32.2	-0.2
TUVZ	**Tukino**	**2.28**	**213**	*e*PN	P	08 03 32.1	-0.3
FWVZ	**Far West T-bar**	**2.31**	**215**	P	P	08 03 33.0	+0.1
FWVZ	**Far West T-bar**	**2.31**	**215**	PN	P	08 03 32.9	0.0
WNVZ	**Wahianoa**	**2.35**	**213**	P	P	08 03 33.1	-0.3
WNVZ	**Wahianoa**	**2.35**	**213**	PN	P	08 03 33.0	-0.4
MOVZ	**Moawhango**	**2.35**	**209**	P	P	08 03 32.3	-1.1
MOVZ	**Moawhango**	**2.35**	**209**	*e*PN	P	08 03 32.0	-1.4
MOVZ				SN	S	08 04 01.0	-1.7
MTVZ	**Mangateitei**	**2.45**	**214**	PN	P	08 03 34.2	-0.6
PWZ	**Pawanui**	**2.68**	**186**	P	P	08 03 35.6	-2.1
PWZ	**Pawanui**	**2.68**	**186**	PN	P	08 03 35.5	-2.2
PWZ				SN	S	08 04 07.9	-2.4
TSZ	**Takapari Road**	**2.87**	**200**	PN	P	08 03 37.5	-2.8
TSZ				SN	S	08 04 11.5	-3.3
WAZ	**Wanganui**	**2.97**	**216**	P	P	08 03 40.9	-0.7
WAZ	**Wanganui**	**2.97**	**216**	PN	P	08 03 40.8	-0.8
BFZ	**Birch Farm**	**3.40**	**193**	*e*P	P	08 03 44.1	-3.2
BFZ	**Birch Farm**	**3.40**	**193**	PN	P	08 03 44.0	-3.4
MRZ	**Mangatainoka R**	**3.54**	**201**	*e*P	P	08 03 45.7	-3.5
MRZ	**Mangatainoka R**	**3.54**	**201**	PN	P	08 03 45.5	-3.6
MRZ				SN	S	08 04 22.5	-8.2
KIW	**Kapiti Island**	**3.94**	**207**	P	P	08 03 50.7	-3.8
KIW	**Kapiti Island**	**3.94**	**207**	PN	P	08 03 50.6	-3.9
MTW	**Mount Morrison**	**4.02**	**199**	P	P	08 03 51.3	-4.4
MTW	**Mount Morrison**	**4.02**	**199**	PN	P	08 03 51.0	-4.7
CAW	**Cannon Point**	**4.10**	**204**	P	P	08 03 52.5	-4.2
CAW	**Cannon Point**	**4.10**	**204**	PN	P	08 03 52.4	-4.4
PAWZ	**Paruwai Farm**	**4.25**	**199**	PN	P	08 03 54.0	-4.8
DUWZ	**D'Urville Isla**	**4.30**	**216**	*e*PN	P	08 03 55.3	-4.1
MSWZ	**Moikau Station**	**4.33**	**200**	P	P	08 03 55.1	-4.7
MSWZ	**Moikau Station**	**4.33**	**200**	PN	P	08 03 55.0	-4.8
MSWZ				SN	S	08 04 36.7	-13
MRW	**Makara Radio**	**4.34**	**206**	P	P	08 03 55.5	-4.4
MRW	**Makara Radio**	**4.34**	**206**	PN	P	08 03 55.4	-4.5
SNZO	**South Karori**	**4.41**	**206**	P	P	08 03 56.1	-4.7
SNZO	**South Karori**	**4.41**	**206**	PN	P	08 03 56.0	-4.8
TUWZ	**Tuamarina**	**4.80**	**211**	PN	P	08 04 01.2	-4.9
NNZ	**Nelson**	**4.88**	**217**	*e*P	P	08 04 02.9	-4.3
NNZ	**Nelson**	**4.88**	**217**	PN	P	08 04 02.8	-4.3
NNZ				SN	S	08 04 58.0	-5.0
QRZ	**Quartz Range**	**5.04**	**225**	*e*P	P	08 04 05.4	-4.0
QRZ	**Quartz Range**	**5.04**	**225**	PN	P	08 04 05.1	-4.2
THZ	**Tophouse**	**5.53**	**216**	*e*PN	P	08 04 11.1	-4.8
KHZ	**Kahutara**	**5.79**	**208**	*e*PN	P	08 04 14.2	-5.2
LTZ	**Lake Taylor**	**6.62**	**214**	*e*PN	P	08 04 24.4	-6.4
LTZ				SN	S	08 05 36.0	-9.3
MQZ	**McQueen's Vall**	**7.24**	**207**	*e*PN	P	08 04 31.7	-7.4
MQZ				SN	S	08 05 47.5	-13
ODZ	**Otahua Downs**	**9.14**	**211**	*e*PN	P	08 04 57.5	-7.1

IDC 14 08:14:13.3±2.5, 22.70S×63.65E, mb4.0/3, mb1 4.3/3, mb1mx3.8/19, mbtmp4.0/3, Error ellipse: s-maj=72.4km s-min=44.5km az=51.0, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**53.51**	**43**	P	P	08 23 35.9	-2.3
	1.3nm,0.8s,baz=240,slow=8.1,SNR=10.0						
ASAR	**Alice Springs**	**63.95**	**106**	P	P	08 24 48.8	-2.1
	1.4nm,0.7s,baz=251,slow=5.8,SNR=14						
WRA	**Warramunga Arr**	**65.33**	**102**	P	P	08 24 57.9	-2.1
	0.5nm,0.7s,baz=259,slow=5.5,SNR=8.0						
YKA	**Yellowknife Ar**	**140.21**	**359**	PKP	PKPdf	08 33 43.0	-2.6
	0.1nm,0.6s,baz=3.3,slow=2.6,SNR=4.9						
ULM	**Lac du Bonnet**	**148.17**	**335**	PKPbc	PKPdf	08 34 00.5	+1.0
	0.8nm,0.3s,baz=62,slow=3.9,SNR=3.0						

IDC 14 08:30:15.5±2.8, 57.47N×96.93E, mb3.4/2, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=63.5km s-min=16.6km az=146.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAL	**Zalesovo**	**7.71**	**248**	Pn	Pn	08 32 08.8	-3.0
	0.5nm,0.3s,baz=48,slow=14,SNR=3.1						
ZAL				Sn	Sn	08 33 37.8	-3.1
	0.9nm,0.3s,baz=311,slow=13,SNR=3.7						
SONM	**Songino Array**	**11.22**	**145**	Lg		08 35 49.9	
	0.4nm,0.3s,baz=319,slow=28,SNR=5.9						
BVAR	**Borovoye Array**	**15.72**	**265**	Pn	P	08 33 53.9	-5.8
	0.7nm,0.3s,baz=59,slow=12,SNR=9.2						
BVAR				Sn	S	08 36 42.4	-13
	0.5nm,0.3s,baz=52,slow=26,SNR=6.9						
FINES	**FINESS Array B**	**34.61**	**307**	P	P	08 37 04.8	-2.9
	0.5nm,0.4s,baz=76,slow=12,SNR=7.3						
YKA	**Yellowknife Ar**	**57.90**	**17**	P	P	08 40 09.5	-1.4
	0.1nm,0.6s,baz=339,slow=7.1,SNR=4.8						

ISK ***14*** *08:32:21.8, 38.82N×44.63E, h5km, MD3.0*
TIF ***14*** *08:32:21.9, 38.89N×44.65E, h11km±4km*
CSEM ***14*** *08:32:22.1±0.2, 38.81N×44.66E, h2km, MD3.0, Error ellipse: s-maj=6.0km s-min=3.0km az=115.0*
NEIC ***14*** *08:32:23.3, 38.84N×44.59E, h5km, ML3.2(ISK), After ISK.*
ISC 14 08:32:24.0±1.2, 38.81N±0.05×44.59E±0.09, h5km, n11, σ0§94/17, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.62**	**303**	PG	**Pg**	**08 32 34.8**	**-1.7**
CLDR				SG	**Sg**	**08 32 45.5**	**+0.6**
VANB	**Van**	**0.97**	**258**	PG	**Pg**	**08 32 42.7**	**-0.6**
VANB	**Van**	**0.97**	**258**	Pg	**Pg**	**08 32 42.9**	**-0.5**
VANT	**Van**	**1.01**	**249**	*e*PN	**Pn**	**08 32 45.3**	**+0.6**
VANT	**Van**	**1.01**	**249**	Pn	**Pn**	**08 32 46.5**	**+1.8**
GNI	**Garni**	**1.34**	**5**	PN	**Pn**	**08 32 48.1**	**-1.4**
GNI				SN	**Sn**	**08 33 08.4**	**+0.5**
GNI	**Garni**	**1.34**	**5**	Pn	**Pn**	**08 32 49.1**	**-0.4**
GNI				Sg	**Sg**	**08 33 09.1**	**+0.3**
GNI	**Garni**	**1.34**	**5**	Pn	**Pn**	**08 32 49.1**	**-0.4**
GNI				*e*Sn	**Sn**	**08 33 08.4**	**+0.5**
GNI				Sg	**Sg**	**08 33 09.1**	**+0.3**
HKR	**Hakkari**	**1.40**	**209**	PN	**Pn**	**08 32 49.7**	**-0.6**
HKR	**Hakkari**	**1.40**	**209**	Pn	**Pn**	**08 32 51.5**	**+1.2**
DGRG	**David-gareji**	**2.71**	**13**	P	**Pn**	**08 33 13.8**	**+4.9**
DGRG				S	**Sn**	**08 33 52.4**	**+10**

IDC ***14*** *08:32:36.9±1.2, 1.49S×99.75E, mb4.0/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML3.7/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/22, Error ellipse: s-maj=56.4km s-min=18.4km az=61.0*
NEIC ***14*** *08:32:41.1±0.8, 1.48S×99.79E, h30km, mb4.5/1, Error ellipse: s-maj=37.0km s-min=11.7km az=61.0*
ISC 14 08:32:39.7±2.1, 1.4S±0.3×99.8E±0.5, h33km, n15, σ1§03/9, mb4.1/7, MS3.9/2, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.73**	**358**	P	P	**08 37 08.1**	**-1.5**
	0.1nm,0.3s,baz=189,slow=9.9,SNR=4.1						
CMAR				LR	LR	08 44 32.9	
	comp=Z,46nm,18.5s,baz=62,slow=36						
WRA	**Warramunga Arr**	**38.46**	**121**	P	P	**08 40 00.1**	**-0.4**
	1.6nm,0.4s,mb4.1,baz=302,slow=9.3,SNR=18						
WRAB	**Tennant Creek**	**38.47**	**121**	*e*P	P	**08 40 00.1**	**-0.4**
	6.6nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**39.76**	**127**	P	P	**08 40 11.6**	**+0.3**
	0.8nm,0.5s,mb3.7,baz=299,slow=7.8,SNR=11						
ASAR				PcP	PcP	08 42 18.5	+0.6
	0.8nm,0.7s,baz=318,slow=3.5,SNR=5.6						
SONM	**Songino Array**	**49.35**	**6**	P	P	**08 41 30.2**	**+2.3**
	0.5nm,0.5s,mb3.8,baz=191,slow=8.4,SNR=4.4						
STKA	**Stephens Creek**	**49.70**	**132**	P	P	**08 41 31.4**	**+0.6**
	2.0nm,0.7s,mb4.2,baz=340,slow=4.5,SNR=4.5						
STKA	**Stephens Creek**	**49.70**	**132**	*e*P	P	**08 41 30.4**	**-0.3**
ZAL	**Zalesovo**	**56.52**	**349**	P	P	**08 42 21.9**	**+0.9**
	2.4nm,0.4s,mb4.5,baz=342,slow=5.2,SNR=7.9						
BVAR	**Borovoye Array**	**59.55**	**340**	P	P	**08 42 41.5**	**-0.8**
	0.7nm,0.4s,mb4.0,baz=124,slow=5.3,SNR=4.2						
KMBO	**Kilima Mbogo**	**62.55**	**269**	LR	LR	09 03 45.9	
	comp=Z,91nm,20.7s,MS3.9,baz=95,slow=30						
MAW	**Mawson**	**70.83**	**194**	LR	LR	09 08 33.5	
	comp=Z,76nm,19.5s,MS4.0,baz=241,slow=30						
TXAR	**Lajitas Array**	**144.32**	**37**	PKP	PKPdf	08 52 15.3	+2.2
	1.8nm,0.6s,baz=190,slow=0.9,SNR=44						
MIAR	**Mount Ida**	**144.72**	**19**	*e*PKPdf	PKPdf	08 52 15.2	+1.5
CFAA	**Coronel Fontan**	**145.29**	**198**	PKPbc	PKPbc	08 52 15.9	+0.7
	0.6nm,0.6s,baz=172,slow=3.1,SNR=16						
JCT	**Junction City**	**145.59**	**31**	*e*PKPdf	PKPdf	08 52 18.5	+3.2

MEX 14 08:34:06.4±0.8, 16.77N×94.20W, h130km±15km, MD3.8, 2D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.72**	**296**	‖*i*P	P	08 34 26.1	-1.0
CMIG				*i* S	S	08 34 40.5	-2.4
TUIG	**Tuzandepetl**	**1.27**	**351**	‖*e*P	P	08 34 30.8	-1.7
TUIG				*i* S	S	08 34 49.3	-2.8
HUIG	**Huatulco**	**2.08**	**242**	*i* P	P	08 34 39.3	-2.6
HUIG				*i* S	S	08 35 06.8	-2.0
OXX	**Oaxaca**	**2.43**	**278**	*e*P	P	08 34 46.0	-0.4
OXX				*i* S	S	08 35 16.0	-0.8
VHO	**Vista Hermosa**	**2.44**	**277**	*i* P	P	08 34 45.2	-1.3
VHO				*i* S	S	08 35 14.8	-2.1

IDC ***14*** *08:44:12.1±2.6, 36.89N×49.40E, mb3.7/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, ML4.2/1, Error ellipse: s-maj=66.5km s-min=27.9km az=36.0*
THR ***14*** *08:44:13.2±1.2, 36.86N×49.42E, h14km±13km, ML3.8*
CSEM ***14*** *08:44:14.0±0.1, 36.90N×49.42E, h20km, ML3.9, Error ellipse: s-maj=3.4km s-min=1.7km az=28.0*
TEH ***14*** *08:44:16.1, 36.65N×49.23E, h15km, Mn3.9*
ISC 14 08:44:13.8±0.5, 36.71N±0.04×49.28E±0.04, h10km, n33, σ1§40/37, mb3.8/4, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRAZ	**Razeghan**	**1.40**	**158**	Pg	**Pg**	**08 44 39.2**	**-2.6**
IRAZ	**Razeghan**	**1.40**	**158**	Sg	**Sg**	**08 44 58.9**	**-1.6**
IMHD	**Mahdasht**	**1.52**	**132**	Pg	**Pg**	**08 44 40.7**	**-3.4**
IMHD				Sg	**Sg**	**08 45 03.3**	**-1.0**
ISRB	**Sarab**	**1.70**	**311**	Pn	**Pn**	**08 44 43.7**	**-0.1**
IBST	**Bostanabad**	**2.15**	**298**	Pn	**Pn**	**08 44 51.2**	**+1.0**
ASAO	**Ashtian**	**2.24**	**164**	*e*PN	**Pn**	**08 44 53.3**	**+1.9**
ASAO				AML	AML	08 45 30.0	
	comp=N,437nm,0.6s						
SNGE	**Sanandaj**	**2.25**	**225**	*e*PN	**Pn**	**08 44 55.2**	**+3.6**
SNGE				*e*SG	**Sg**	**08 45 29.6**	**+0.9**
IHSH	**Hashtroud**	**2.26**	**315**	Pn	**Pn**	**08 44 45.1**	**-6.7**
IQOM	**Qom**	**2.36**	**141**	Pn	**Pn**	**08 44 53.8**	**+0.6**
IQOM	**Qom**	**2.36**	**141**	Sn	**Sn**	**08 45 21.9**	**-0.6**
GRMI	**Germi**	**2.37**	**333**	*e*PN	**Pn**	**08 44 52.4**	**-1.0**
GRMI				AML	AML	08 45 32.5	
	comp=N,355nm,0.4s						
DAMV	**Damavand**	**2.43**	**115**	*e*PN	**Pn**	**08 44 55.0**	**+0.8**
DAMV				*e*SG	**Sg**	**08 45 28.3**	**-6.4**
DAMV				AML	AML	08 45 31.3	
	comp=N,876nm,0.4s						
IPRN	**Paran-Amol**	**2.43**	**100**	Pn	**Pn**	**08 44 54.5**	**+0.3**
IDMV	**Damavand**	**2.50**	**116**	Pn	**Pn**	**08 44 56.1**	**+0.9**
IVRN	**Varamin**	**2.62**	**130**	Pn	**Pn**	**08 45 00.1**	**+3.2**
IKOM	**Komasi**	**2.91**	**210**	Pn	**Pg**	**08 45 12.3**	**+0.5**
IFIR	**Firoozkooh**	**3.00**	**110**	Pn	**Pn**	**08 45 03.2**	**+0.8**
IFIR				Sn	**Sn**	**08 45 38.1**	**-0.7**
IDHR	**Dehrash**	**3.09**	**230**	Pn	**Pg**	**08 45 13.7**	**-1.8**
IGHG	**Ghaleghazi**	**3.24**	**224**	Pn	**Pg**	**08 45 13.3**	**-5.2**
ILAS	**Lasjerd**	**3.26**	**113**	Pn	**Pn**	**08 45 07.4**	**+1.4**
ISHM	**Shahmirzad**	**3.37**	**104**	Pn	**Pn**	**08 45 09.5**	**+2.0**
IGLO	**Galoogah**	**3.42**	**95**	Pn	**Pn**	**08 45 09.6**	**+1.3**
IKIA	**Kiasar**	**3.58**	**97**	Pn	**Pn**	**08 45 09.3**	**-1.3**
IKLH	**Kalahroud**	**3.87**	**150**	Pn	**Pn**	**08 45 15.8**	**+1.1**
IANJ	**Anjiloo**	**3.95**	**107**	Pn	**Pn**	**08 45 16.5**	**+0.7**
IZEF	**Zefreh**	**4.55**	**146**	Pn	**Pn**	**08 45 24.4**	**0.0**
NASN	**Na'in**	**4.86**	**142**	*e*PN	**Pn**	**08 45 25.5**	**+0.8**
MSL	**Mosul**	**5.00**	**267**	*e*	**Sg**	**08 46 51.5**	**-8.9**
AKASG	**Malin Array Be**	**20.06**	**321**	P	**P**	**08 48 45.2**	**-4.6**
	comp=N,0.7nm,0.3s,baz=126,slow=11,SNR=6.0						
BVAR	**Borovoye Array**	**22.01**	**35**	P	**P**	**08 49 05.6**	**-4.1**
	comp=N,1.9nm,0.6s,mb3.7,baz=231,slow=9.5,SNR=8.3						
ARCES	**ARCESS Array B**	**35.34**	**346**	P	**P**	**08 51 07.0**	**-3.9**
	comp=N,5.1nm,1.1s,mb4.4,baz=138,slow=11,SNR=3.5						
CMAR	**Chiang Mai Arr**	**47.08**	**99**	P	**P**	**08 52 45.0**	**-2.8**
	comp=N,1.5nm,0.6s,mb4.1,baz=299,slow=8.1,SNR=11						
YKA	**Yellowknife Ar**	**80.29**	**352**	P	**P**	**08 56 24.4**	**-1.4**
	comp=N,0.1nm,0.6s,mb2.9,baz=7.2,slow=5.3,SNR=4.1						

IDC ***14*** *08:58:09.5±1.3, 26.97N×128.83E, mb3.4/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=31.2km s-min=10.1km az=168.0*
JMA ***14*** *08:58:13.4±0.1, 27.00N×128.17E, h41km±1km, M3.4*
JMA Felt I J1.
**

ellipse: s-maj=11.3km s-min=7.6km az=214.0

ISC 14 09:22:43.5±0.6, 5.92N±0.09×92.90E±0.07, h30km, n30, σ1§34/29, mb4.2/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.74**	**94**	*e*Pn	**Pn**	**09 24 36.7**	**-0.3**
PALK	**Pallekele**	**12.19**	**277**	*e*P	**P**	**09 25 36.5**	**-1.7**
9.6nm,0.6s							
PALK				*e*S	**S**	**09 27 38.4**	**-16**
CM31	**Chiang Mai Arr**	**13.79**	**25**	*e*P	**P**	**09 25 57.2**	**-2.3**
10.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**13.79**	**25**	Pn	**P**	**09 25 57.5**	**-1.9**
0.4nm,0.3s,baz=228,slow=14,SNR=41							
CMAR				LR	LR	09 32 25.6	
comp=Z,59nm,18.5s,baz=205,slow=43							
VIS	**Vishakhapatnam**	**15.00**	**322**	*e*P	**P**	**09 26 13.6**	**-1.8**
KSM	**Kuching**	**17.92**	**104**	P	**P**	**09 26 52.7**	**+0.2**
HYB	**Hyderabad**	**18.09**	**310**	*e*P	**P**	**09 26 56.5**	**+1.9**
HYB	**Hyderabad**	**18.09**	**310**	*i* P	**P**	**09 26 56.5**	**+1.9**
QIZ	**Qiongzhong**	**21.03**	**50**	P	**P**	**09 27 26.2**	**-1.1**
JIRN	**Jiri**	**22.54**	**344**	*e*P	**P**	**09 27 44.2**	**+1.6**
15nm,0.8s,mb4.5							
PKI	**Pulchoki**	**22.68**	**343**	*e*P	**P**	**09 27 45.2**	**+1.3**
DMN	**Daman**	**22.81**	**342**	*e*P	**P**	**09 27 46.0**	**+0.8**
GUN	**Gumba**	**22.86**	**344**	*e*P	**P**	**09 27 47.3**	**+1.6**
12nm,0.7s,mb4.4							
KKN	**Kakani**	**22.92**	**342**	*e*P	**P**	**09 27 47.8**	**+1.5**
20nm,0.9s,mb4.6							
GKN	**Gorkha**	**23.32**	**341**	*e*P	**P**	**09 27 51.2**	**+1.0**
29nm,0.9s,mb4.7							
KOLN	**Koldanda**	**23.46**	**339**	*e*P	**P**	**09 27 52.8**	**+1.3**
31nm,1.3s,mb4.6							
AAK	**Ala-Archa**	**40.03**	**339**	*e*P	**P**	**09 30 16.5**	**-1.1**
4.4nm,1.0s,mb4.1							
SONM	**Songino Array**	**43.33**	**13**	P	**P**	**09 30 44.4**	**-0.1**
0.3nm,0.6s,mb3.2,baz=196,slow=10,SNR=2.9							
WRA	**Warramunga Arr**	**48.18**	**123**	P	**P**	**09 31 25.0**	**+1.5**
0.8nm,0.6s,mb3.9,baz=303,slow=9.3,SNR=10							
WRAB	**Tennant Creek**	**48.18**	**123**	P	**P**	**09 31 23.0**	**-0.5**
9.3nm,0.9s,mb4.8							
ZAL	**Zalesovo**	**48.32**	**354**	P	**P**	**09 31 24.1**	**-0.1**
2.1nm,0.3s,mb4.6,baz=304,slow=5.3,SNR=8.5							
ASAR	**Alice Springs**	**49.65**	**128**	P	**P**	**09 31 37.7**	**+2.9**
0.3nm,0.5s,mb3.6,baz=296,slow=7.9,SNR=6.4							
BVAR	**Borovoye Array**	**50.45**	**343**	P	**P**	**09 31 39.2**	**-1.3**
1.2nm,0.6s,mb4.0,baz=166,slow=6.1,SNR=5.0							
KMBO	**Kilima Mbogo**	**56.00**	**265**	P	**P**	**09 32 19.8**	**-2.4**
BRTR	**Keskin Array B**	**62.78**	**312**	P	**P**	**09 33 08.0**	**-0.6**
1.2nm,0.7s,mb4.2,baz=125,slow=7.6,SNR=5.5							
FINES	**FINESS Array B**	**73.86**	**333**	P	**P**	**09 34 16.1**	**-1.0**
0.9nm,0.7s,mb3.8,baz=117,slow=4.3,SNR=3.3							
ARCES	**ARCESS Array B**	**76.68**	**341**	P	**P**	**09 34 33.0**	**0.0**
4.1nm,0.8s,mb4.4,baz=90,slow=7.2,SNR=3.9							
GERES	**GERESS Array B**	**78.46**	**319**	P	**P**	**09 34 44.3**	**+1.1**
1.4nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=11							
TXAR	**Lajitas Array**	**141.50**	**24**	PKP	PKPdf	09 42 18.2	+0.6
0.1nm,0.4s,baz=215,slow=1.2,SNR=3.7							
TXAR	**Lajitas Array**	**141.50**	**24**	PKP	PKPdf	09 42 18.2	+0.6

MEX 14 09:31:50.5±0.6, 12.62N×90.86W, h60km±999km, MD4.7
CASC 14 09:31:59.9±2.2, 13.59N×90.92W, h62km±52km, MD4.3, ML4.2, mb4.2(NEIC)
NEIC 14 09:32:04.2±0.9, 13.94N×90.46W, h75km±8km, mb4.2/9, Error ellipse: s-maj=18.1km s-min=8.7km az=213.0
IDC 14 09:32:06.6±3.5, 14.25N×90.15W, h83km±32km, mb3.3/4, mb1 3.7/6, mb1mx3.5/20, mbtmp3.7/6, Error ellipse: s-maj=81.7km s-min=20.4km az=46.0

ISC 14 09:31:59.5±0.8, 13.52N±0.08×90.94W±0.04, h65km±6km, n55, σ1§06/72, mb4.1/10, 8C-8D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.81**	**36**	⇓*e*P	**P**	**09 32 14.1**	**-1.3**
IXG				*e*S	**S**	**09 32 29.1**	**+1.9**
FUG	**Fuego 3**	**0.93**	**6**	⇓*i P*	**P**	**09 32 16.1**	**-0.9**
PCG	**Pacaya**	**0.93**	**211**	*e*P	**P**	**09 32 16.3**	**-0.7**
JAT	**Jato**	**1.04**	**320**	⇓*e*P	**P**	**09 32 17.2**	**-1.3**
JAT				*e*S	**S**	**09 32 32.7**	**+0.1**
RTR	**El Retiro**	**1.31**	**73**	⇓*e*P	**P**	**09 32 21.9**	**-0.4**
RTR				*e*S	**S**	**09 32 39.6**	**+0.3**
SBLS	**San Blas**	**1.32**	**76**	⇓*e*P	**P**	**09 32 21.6**	**-0.9**
SBLS				*e*S	**S**	**09 32 37.7**	**-1.7**
SNJE	**San Jose**	**1.34**	**75**	⇓*e*P	**P**	**09 32 22.1**	**-0.6**
SNJE				*e*S	**S**	**09 32 39.1**	**-0.8**
RBDL	**Robledal**	**1.35**	**64**	⇑*e*P	**P**	**09 32 22.8**	**0.0**
RBDL				*e*S	**S**	**09 32 39.5**	**-0.7**
BOQS	**Boqueron**	**1.63**	**82**	⇑*e*P	**P**	**09 32 26.4**	**-0.2**
BOQS				*e*S	**S**	**09 32 47.8**	**+1.2**
MTO2	**Montecristo 2**	**1.77**	**60**	⇓*e*P	**P**	**09 32 28.7**	**+0.3**
LFU	**La Fuente**	**1.79**	**83**	*e*P	**P**	**09 32 28.9**	**+0.1**
LFRS	**El Faro**	**1.83**	**87**	⇑*e*P	**P**	**09 32 29.6**	**+0.3**
LFRS				*e*S	**S**	**09 32 51.5**	**+0.1**
LBRS	**Las Brisas**	**1.86**	**83**	⇓*e*P	**P**	**09 32 29.6**	**-0.1**
LBRS				*e*S	**S**	**09 32 52.5**	**+0.4**
LCBS	**La Ceiba**	**1.92**	**86**	*e*P	**P**	**09 32 30.3**	**-0.2**
LCBS				*e*S	**S**	**09 32 54.1**	**+0.7**
SNVI	**San Vicente**	**2.05**	**87**	*e*P	**P**	**09 32 32.5**	**+0.1**
SNVI				*e*S	**S**	**09 32 57.6**	**+1.0**
BLLM	**Bellamira**	**2.63**	**91**	*e*P	**P**	**09 32 41.8**	**+1.1**
BLLM				*e*S	**S**	**09 33 12.5**	**+1.0**
CNCH	**Conchagua**	**3.04**	**94**	⇑*e*P	**P**	**09 32 45.9**	**-0.5**
CNCH				*e*S	**S**	**09 33 22.0**	**+0.4**
SCX	**San Cristobal**	**3.59**	**333**	*e*P	**P**	**09 32 55.0**	**+0.9**
SCX				*i* S	**S**	**09 33 44.0**	**+8.5**
CMIG	**Matias Romero**	**5.20**	**314**	*i* P	**P**	**09 33 13.9**	**-2.6**
CMIG				*i* S	**S**	**09 34 06.6**	**-9.3**
CMIG	**Matias Romero**	**5.20**	**314**	*e*P	**P**	**09 33 13.7**	**-2.8**
CMIG				*i* S	**S**	**09 34 21.5**	**+5.6**
EVV	**El Vigia**	**6.48**	**320**	*e*P	**P**	**09 33 36.0**	**+1.6**
OXX	**Oaxaca**	**6.61**	**303**	*e*P	**P**	**09 33 42.0**	**+5.9**
OXX	**Oaxaca**	**6.61**	**303**	*e*P	**P**	**09 33 36.0**	**-0.1**
VHO	**Vista Hermosa**	**6.61**	**303**	*i* P	**P**	**09 33 37.8**	**+1.7**
VHO				*i* S	**S**	**09 34 40.7**	**-10**
VHO	**Vista Hermosa**	**6.61**	**303**	*e*P	**P**	**09 33 34.1**	**-2.0**
VHO				*i* S	**S**	**09 34 54.3**	**+3.5**
JTS	**JuntasAbangare**	**6.68**	**118**	P	**P**	**09 33 37.9**	**+0.7**
1.1nm,0.3s,baz=302,slow=15,SNR=8.6							
JTS				S	**S**	**09 34 51.9**	**-0.7**
baz=278,slow=18,SNR=1.6							
JTS	**JuntasAbangare**	**6.68**	**118**	*e*Pn	**P**	**09 33 37.0**	**-0.2**
21nm,0.8s							
JTS				S	**S**	**09 34 51.9**	**-0.7**
TEIG	**Tepich**	**7.14**	**21**	*e*Pn	**P**	**09 33 39.0**	**-4.5**
43nm,0.4s							
IISM	**Ciudad Serdan**	**8.23**	**312**	*e*P	**P**	**09 33 59.0**	**+0.5**
PPM	**Popocatepetl**	**9.21**	**308**	*e*P	**P**	**09 34 17.0**	**+5.1**
PPM	**Popocatepetl**	**9.21**	**308**	*e*P	**P**	**09 34 13.0**	**+1.1**
TXAR	**Lajitas Array**	**19.67**	**325**	P	**P**	**09 36 27.8**	**+1.9**
0.3nm,0.3s,baz=148,slow=13,SNR=29							
TXAR				PcP	PcP	09 40 44.7	+2.1
0.0nm,0.3s,baz=153,slow=5.6,SNR=3.5							
TXAR	**Lajitas Array**	**19.67**	**325**	P	**P**	**09 36 27.8**	**+1.9**
TXAR				PcP	PcP	09 40 44.7	+2.1
LTX	**Lajitas**	**19.67**	**325**	P	**P**	**09 36 31.5**	**+5.6**
3.0nm,0.7s							
SDV	**Santo Domingo**	**20.44**	**101**	*e*P	**P**	**09 36 27.3**	**-6.8**
4.6nm,0.9s							
MIAR	**Mount Ida**	**21.07**	**354**	*e*P	**P**	**09 36 38.9**	**-1.5**
MNTX	**Cornudas Mount**	**22.43**	**326**	*e*P	**P**	**09 36 55.2**	**+1.4**
8.5nm,0.8s,mb4.2							
ANMO	**Albuquerque**	**25.53**	**329**	*e*P	**P**	**09 37 25.3**	**+1.4**
NVAR	**Mina Array Bea**	**34.69**	**321**	P	**P**	**09 38 48.5**	**+3.4**
2.6nm,0.7s,mb4.3,baz=124,slow=9.6,SNR=20							
NVAR				PcP	PcP	09 41 20.5	+2.5
0.6nm,0.7s,baz=134,slow=4.7,SNR=5.5							
NVAR	**Mina Array Bea**	**34.69**	**321**	P	**P**	**09 38 48.5**	**+3.4**
NVAR				PcP	PcP	09 41 20.5	+2.5
CMB	**Columbia Colle**	**35.77**	**318**	*e*P	**P**	**09 39 04.5**	**+10**
3.0nm,0.9s,mb4.2							
HLID	**Hailey**	**36.09**	**331**	P	**P**	**09 38 56.0**	**-0.9**
WALA	**Waterton Lakes**	**40.18**	**337**	P	**P**	**09 39 35.2**	**+4.3**
SCHQ	**Schefferville**	**45.32**	**19**	P	**P**	**09 40 07.6**	**-5.1**
18nm,1.2s,mb4.8							
YKA	**Yellowknife Ar**	**51.73**	**346**	P	**P**	**09 41 01.2**	**-1.0**
0.1nm,0.3s,mb3.2,baz=152,slow=7.5,SNR=11							
YKA				PcP	PcP	09 42 14.6	-0.2
0.2nm,0.5s,baz=151,slow=3.9,SNR=8.9							
INK	**Inuvik**	**61.19**	**343**	P	**P**	**09 42 08.8**	**-0.7**
0.6nm,0.7s,mb3.8,baz=146,slow=13,SNR=8.2							
INK	**Inuvik**	**61.19**	**343**	*e*P	**P**	**09 42 08.4**	**-1.1**
0.5nm,0.6s,mb3.8							
RES	**Resolute Bay**	**61.20**	**359**	*e*P	**P**	**09 42 07.1**	**-2.4**
1.7nm,0.8s,mb4.2							
ILAR	**Eielson Array**	**63.68**	**337**	P	**P**	**09 42 26.4**	**+0.2**
0.4nm,0.9s,mb3.4,baz=123,slow=5.2,SNR=7.8							
ESLA	**Sonseca Array**	**79.21**	**52**	P	**P**	**09 43 58.7**	**-0.7**
4.0nm,1.3s,mb4.2							
DBIC	**Dimbokro**	**84.68**	**84**	*e*P	**P**	**09 44 27.9**	**-0.4**
7.8nm,1.1s,mb4.8							
VNA3	**Neumayer Olymp**	**99.91**	**161**	⇑*i*	**P**	**09 45 41.8**	**+3.9**
VNA1	**Neumayer--Stat**	**100.24**	**160**	⇑*i*	P	09 45 30.3	-9.1
VNA2	**Neumayer--Watz**	**100.57**	**161**	⇑*i*	P	09 45 34.5	-6.4
CMAR	**Chiang Mai Arr**	**146.76**	**343**	PKPbc	PKPbc	09 51 38.1	+3.4
2.3nm,0.6s,baz=351,slow=3.6,SNR=18							

IDC 14 09:40:33.4±2.2, 1.70S×99.27E, mb4.0/7, mb1 4.2/7, mb1mx3.9/18, mbtmp4.0/7, MS3.5/3, Ms1 3.5/3, ms1mx3.1/27, Error ellipse: s-maj=97.0km s-min=18.4km az=59.0
NEIC 14 09:40:38.5±0.5, 1.62S×99.43E, h30km, mb4.3/2, Error ellipse: s-maj=16.4km s-min=7.6km az=65.0

ISC 14 09:40:37.0±0.8, 1.6S±0.1×99.5E±0.2, h33km, n16, σ0§68/13, mb4.1/8, MS3.6/2, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.92**	**10**	*e*P	**P**	**09 42 18.5**	**-0.2**
CM31	**Chiang Mai Arr**	**19.91**	**359**	*e*P	**P**	**09 45 08.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**19.91**	**359**	P	**P**	**09 45 08.6**	**-0.2**
3.9nm,0.7s,baz=186,slow=10.0,SNR=31							
CMAR				LR	LR	09 53 54.0	
comp=Z,67nm,21.8s,baz=187,slow=40							
SHL	**Shillong**	**27.95**	**345**	*e*P	**P**	**09 46 29.0**	**+2.2**
NWAO	**Narrogin (SRO)**	**35.39**	**154**	LR	LR	10 02 39.9	
comp=Z,71nm,18.7s,MS3.5,baz=150,slow=38							
WRA	**Warramunga Arr**	**38.69**	**121**	P	**P**	**09 47 59.2**	**-0.5**
1.5nm,0.6s,mb3.9,baz=301,slow=9.1,SNR=6.9							
WRAB	**Tennant Creek**	**38.69**	**121**	P	**P**	**09 47 59.6**	**-0.1**
ASAR	**Alice Springs**	**39.95**	**126**	P	**P**	**09 48 10.7**	**+0.5**
0.8nm,0.7s,mb3.6,baz=295,slow=7.7,SNR=6.0							
AAK	**Ala-Archa**	**49.42**	**336**	P	**P**	**09 49 25.6**	**-0.3**
3.5nm,1.1s,mb4.3							
SONM	**Songino Array**	**49.58**	**6**	P	**P**	**09 49 27.5**	**+0.5**
1.1nm,0.7s,mb4.0,baz=187,slow=8.1,SNR=9.3							
STKA	**Stephens Creek**	**49.84**	**132**	P	**P**	**09 49 29.4**	**+0.2**
3.4nm,0.8s,mb4.4,baz=0.3,slow=6.8,SNR=4.3							
STKA				LR	LR	10 09 26.1	
comp=Z,96nm,19.3s,MS3.8,baz=269,slow=35							
ZAL	**Zalesovo**	**56.64**	**350**	P	**P**	**09 50 18.9**	**-0.4**
1.5nm,0.6s,mb4.2,baz=207,slow=0.9,SNR=8.7							
BVAR	**Borovoye Array**	**59.59**	**340**	P	**P**	**09 50 39.0**	**-1.0**
1.2nm,0.7s,mb4.0,baz=146,slow=11,SNR=8.2							
KMBO	**Kilima Mbogo**	**62.18**	**270**	*e*P	**P**	**09 50 58.0**	**0.0**
1.8nm,0.9s,mb4.2							
TXAR	**Lajitas Array**	**144.69**	**36**	PKP	PKPdf	10 00 13.2	+2.1
2.3nm,0.7s,baz=273,slow=1.2,SNR=30							
JCT	**Junction City**	**145.94**	**31**	*e*P	PKPdf	10 00 16.2	+3.0

CSEM 14 09:55:24.6, 42.69N×136.68E, h33km, mb5.6
BGS 14 09:55:58.6±1.7, 41.94N×137.52E, h367km, mb5.2
NIED 14 09:56:00, 43.10N×135.90E, h380km, Mw4.9 Best double couple: M0:2.34×10^16 NP1:φs16°, δ77°, λ-97°. NP2:φs225°, δ15°, λ-61°.
MOS 14 09:56:05.9±0.8, 43.29N×135.40E, h351km, mb5.0/92, Error ellipse: s-maj=7.3km s-min=3.5km az=114.4
BJI 14 09:56:07.8, 43.25N×135.42E, h389km, mB5.0, mb5.1
SKHL 14 09:56:07.3±1.8, 43.42N×135.40E, h351km±7km, mb5.0/10, msh5.5/7
IDC 14 09:56:08.0±0.7, 43.31N×135.40E, h360km±6km, mb4.4/29, mb1 4.5/31, mb1mx4.5/32, mbtmp5.1/31, Error ellipse: s-maj=6.9km s-min=6.7km az=79.0
HRVD 14 09:56:08.5±1.1, 43.11N×135.20E, h372km±6km, MW5.0/14, Centroid moment Tensor Solution. LP body waves: s14,c19; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.30±.43; Mθθ1.24±.54; Mφφ0.05±.55; Mrθ-1.53±.59; Mθφ0.52±.64; Mφr-3.75±.61; Best double couple: M0:4.24×10^16 NP1:φs264°, δ13°, λ-33°. NP2:φs26°, δ83°, λ-101°. Principal axes: T 3.92, Plg37°, Azm126°; N .638, Plg11°, Azm28°; P -4.56, Plg51°, Azm284°; nsta1 refers to body waves, cutoff=40s.
JMA 14 09:56:08.7±0.4, 43.10N×135.95E, h393km, M4.9
NEIC 14 09:56:08.5±0.1, 43.30N×135.40E, mb4.9/128, Error ellipse: s-maj=3.3km s-min=2.8km az=153.0

ISC 14 09:56:05.8±0.2, 43.27N±0.02×135.41E±0.03, h352km±2km, h363km±2.1km: pP-P, n629, σ0§88/662, mb4.9/179, 39C-86D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEY	**Ternei**	**1.96**	**25**	⇓*i P*	**P**	**09 56 59.0**	**+1.6**
TEY				AMB	AMB	09 56 59.6	
925nm,0.3s							
TEY				*e*rx	rx	09 57 21.3	
TEY				*i* S	**S**	**09 57 39.8**	**+2.0**
TEY				A		09 57 40.0	
10μm,4.0s							
TEY				A		09 57 40.0	
10μm,4.0s							
TEY				A		09 57 42.0	
2μm,1.4s							
TEY				A		09 57 42.0	
4μm,1.4s							
JOSM	**Okushiri--Mats**	**3.22**	**110**	P	**P**	**09 57 09.8**	**+2.0**
JKB	**Kayabe**	**4.38**	**106**	P	**P**	**09 57 20.1**	**+0.8**
JKB				*e*S	**S**	**09 58 18.0**	**+1.0**
MDJ	**Mudanjiang**	**4.41**	**290**	P	**P**	**09 57 23.8**	**+4.1**
MDJ				S	**S**	**09 58 24.4**	**+6.7**
MDJ				XP		09 58 26.1	
MDJ				AMB	AMB		
comp=Z,863nm,1.1s							
MDJ				AMB	AMB		
comp=Z,859nm,4.8s							
MDJ	**Mudanjiang**	**4.41**	**290**	*e*Pn	**P**	**09 57 23.9**	**+4.2**
JOT	**Ohata**	**4.58**	**112**	P	**P**	**09 57 22.5**	**+1.0**
JOT				S	**S**	**09 58 21.4**	**+0.4**
JHR	**Hokuryu**	**4.62**	**82**	P	**P**	**09 57 24.3**	**+2.4**
JWK2	**Keihoku**	**5.09**	**64**	P	**P**	**09 57 29.7**	**+2.7**
ASAJ	**Asahikawa**	**5.28**	**78**	P	**P**	**09 57 30.5**	**+1.4**
comp=Z,121nm,0.3s,baz=262,slow=9.2,SNR=598							
ASAJ				S	**S**	**09 58 36.1**	**+1.5**
comp=Z,2.6nm,0.3s,baz=116,slow=30,SNR=10							
ASAJ				ScP		10 06 52.2	
comp=Z,0.1nm,0.3s,baz=56,slow=3.6,SNR=4.4							
JCH	**Churui**	**5.87**	**94**	P	**P**	**09 57 34.7**	**-1.2**
JCH				S	**S**	**09 58 42.3**	**-4.3**
JMK	**Ichinoseki**	**6.15**	**133**	P	**P**	**09 57 38.3**	**-0.8**
JMK				S	**S**	**09 58 50.1**	**-2.2**
JTKR	**Abashiri--Toko**	**6.21**	**81**	P	**P**	**09 57 40.3**	**+0.6**
JTKR				S	**S**	**09 58 52.0**	**-1.5**
YSS	**Yuzh-Sakhalins**	**6.37**	**52**	κ *i P*	**P**	**09 57 42.2**	**+0.6**
YSS				*e*S	**S**	**09 58 57.0**	**+0.2**
YSS				pmax	pmax		
comp=E,60nm,1.0s							
YSS				pmax	pmax		
comp=Z,220nm,1.0s							
YSS				pmax	pmax		
comp=N,80nm,0.8s							
YSS				smax			
comp=N,160nm,1.0s							
YSS	**Yuzh-Sakhalins**	**6.37**	**52**	*e*Pn	**P**	**09 57 42.3**	**+0.7**
comp=N,243nm,1.0s							
YSS	**Yuzh-Sakhalins**	**6.37**	**52**	⇓*i P*	**P**	**09 57 42.2**	**+0.6**
YSS				AMB	AMB	09 57 43.8	
comp=N,80nm,1.0s							
YSS				AMB	AMB	09 57 43.8	
comp=N,60nm,1.0s							
YSS				AMB	AMB	09 57 43.8	
comp=N,220nm,1.0s							
YSS				*e*rx	rx	09 57 59.0	
YSS				*e*S	**S**	**09 58 57.0**	**+0.2**
YSS				A		09 58 58.3	
comp=N,160nm,1.0s							
KLR	**Kul'dur**	**6.48**	**338**	*i* P	**P**	**09 57 42.0**	**-0.9**
KLR				*e*S	**S**	**09 59 00.0**	**+0.9**
KLR				pmax	pmax		
comp=N,100nm,1.2s							
KLR				pmax	pmax		
comp=E,90nm,1.2s							
KLR				pmax	pmax		
comp=Z,150nm,1.2s							
KLR				smax			
comp=N,230nm,1.4s							
KLR				smax			
comp=E,220nm,1.4s							
KLR	**Kul'dur**	**6.48**	**338**	*i* P	**P**	**09 57 42.0**	**-0.9**
KLR				AMB	AMB	09 57 43.2	
comp=E,100nm,1.2s							
KLR				AMB	AMB	09 57 43.2	
comp=E,90nm,1.2s							
KLR				AMB	AMB	09 57 43.2	
comp=E,150nm,1.2s							
KLR				*e*S	**S**	**09 59 00.0**	**+0.9**
KLR				A		09 59 01.9	
comp=E,230nm,1.4s							
KLR				A		09 59 01.9	
comp=E,220nm,1.4s							
MAT	**Matsushiro**	**7.05**	**161**	*e*P	**P**	**09 57 53.0**	**+3.4**
MAT				pmax	pmax		
comp=Z,40nm,1.0s							
MAT	**Matsushiro**	**7.05**	**161**	P	**P**	**09 57 50.5**	**+0.9**
MAT				S	**S**	**09 59 12.9**	**+1.7**
MAT	**Matsushiro**	**7.05**	**161**	P	**P**	**09 57 49.5**	**-0.1**
MAJO	**Matsushiro**	**7.05**	**161**	*e*P	**P**	**09 57 49.1**	**-0.5**
MAJO				pmax	pmax		
comp=Z,61nm,0.8s							
MAJO	**Matsushiro**	**7.05**	**161**	*e*Pn	**P**	**09 57 49.1**	**-0.5**
comp=Z,61nm,0.8s							
MJAR	**Matsushiro Arr**	**7.05**	**161**	P	**P**	**09 57 50.6**	**+1.0**
comp=Z,7.7nm,0.3s,baz=352,slow=9.8,SNR=82							
MJAR				ScP		10 06 53.2	
comp=Z,0.2nm,0.3s,baz=55,slow=0.3,SNR=13							
UGL	**Uglegorsk**	**7.42**	**36**	α *i P*	**P**	**09 57 53.0**	**-0.9**
UGL				*e*S	**S**	**09 59 16.0**	**-2.9**
UGL				pmax	pmax		
comp=N,225nm,1.0s							
UGL				pmax	pmax		
comp=E,427nm,1.0s							
UGL				pmax	pmax		
comp=Z,302nm,1.0s							
UGL				smax			
comp=N,1μm,7.0s							
UGL				smax			
comp=E,2μm,6.0s							
UGL	**Uglegorsk**	**7.42**	**36**	⇓*i P*	**P**	**09 57 53.0**	**-0.9**
UGL				⇓*i P*		09 57 53.0	
UGL				AMB	AMB	09 57 54.0	
comp=E,225nm,1.0s							
UGL				AMB	AMB	09 57 54.0	
comp=E,427nm,1.0s							
UGL				AMB	AMB	09 57 54.0	
comp=E,302nm,1.0s							
UGL				AMB	AMB	09 57 54.0	
comp=E,500nm,2.0s							
UGL				*i* S	**S**	**09 59 17.0**	**-1.9**
UGL				A		09 59 20.0	
comp=E,1μm,7.0s							
UGL				A		09 59 20.0	
comp=E,2μm,7.0s							
GRNR	**Gornyy**	**7.53**	**5**	⇑*i P*	**P**	**09 57 57.0**	**+1.7**
GRNR				AMB	AMB	09 57 57.8	
comp=E,130nm,1.0s							
GRNR				AMB	AMB	09 57 57.8	
comp=E,84nm,1.0s							
GRNR				⇑*e*rx	rx	09 58 24.1	
GRNR				*e*S	**S**	**09 59 21.0**	**-0.4**
GRNR				A		09 59 28.0	
comp=E,60nm,1.0s							
NEM2	**Nemuro 2**	**7.54**	**86**	P	**P**	**09 57 53.3**	**-2.0**
NEM2				S	**S**	**09 59 14.8**	**-6.6**
YUK	**Yuzh-Kuril'sk**	**7.62**	**81**	*e*P	**P**	**09 57 55.8**	**-0.5**
YUK				*i* S	**S**	**09 59 19.5**	**-3.7**
YUK				pmax	pmax		
comp=N,230nm,0.5s							
YUK				pmax	pmax		
comp=Z,210nm,0.5s							
YUK				smax			
comp=N,840nm,0.5s							
YUK				smax			
comp=E,960nm,0.5s							
YUK				smax			
comp=N,6μm,2.0s							
YUK				smax			
comp=E,3μm,3.0s							
YUK	**Yuzh-Kuril'sk**	**7.62**	**81**	⇓*e*P	**P**	**09 57 56.9**	**+0.6**
YUK				AMB	AMB	09 57 57.6	
comp=E,230nm,0.5s							
YUK				AMB	AMB	09 57 57.6	
comp=E,210nm,0.5s							
YUK				*e*S	**S**	**09 59 20.9**	**-2.3**
YUK				A		09 59 25.4	
comp=E,840nm,0.5s							
YUK				A		09 59 25.4	
comp=E,960nm,0.5s							
YUK				A		09 59 26.6	
comp=E,6μm,2.5s							
YUK				A		09 59 26.6	
comp=E,3μm,2.5s							
JRY	**Ryogami san**	**7.73**	**158**	P	**P**	**09 57 57.7**	**+0.2**
JRY				S	**S**	**09 59 25.4**	**-0.1**
KS15	**Wonju Array Si**	**8.18**	**227**	*e*Pn	**P**	**09 58 06.6**	**+3.7**
JHS	**Saijyo**	**8.45**	**193**	P	**P**	**09 58 09.3**	**+3.2**
JOD2	**Odawara 2**	**8.49**	**159**	P	**P**	**09 58 07.0**	**+0.4**
JOD2				S	**S**	**09 59 38.9**	**-2.9**
INCN	**Inchon**	**8.85**	**232**	*e*Pn	**P**	**09 58 14.7**	**+3.8**
comp=E,125nm,0.9s							
JIE	**Ise**	**8.92**	**173**	P	**P**	**09 58 13.3**	**+1.6**
JIE				S	**S**	**09 59 51.7**	**+0.6**
TYV	**Tymovskoe**	**9.06**	**31**	⇓*e*P	**P**	**09 58 12.0**	**-1.4**
TYV				AMB	A

ZEA AMB AMB 09 58 45.2
comp=Z,100nm,0.7s
ZEA AMB AMB 09 58 45.2
comp=Z,60nm,0.7s
ZEA AMB AMB 09 58 45.2
comp=Z,190nm,0.7s
ZEA AMB AMB 09 58 46.0
comp=Z,400nm,2.0s
ZEA eS **S** **10 00 52.0 -0.8**
ZEA A 10 00 57.0
comp=Z,2μm,4.0s
ZEA A 10 00 58.1
comp=Z,130nm,1.2s
BMKR Bomnak 12.23 342⇓ eP **P** **09 58 48.9 -2.3**
BMKR AMB AMB 09 58 50.4
comp=Z,119nm,0.6s
HIA Hailar 12.38 304 eP **P** **09 58 53.7 +0.6**
KROS Kirovskiy 12.47 337 i P **P** **09 58 51.5 -2.6**
KROS AMB AMB 09 58 53.5
comp=Z,14nm,0.5s
KROS AMB AMB 09 58 53.5
comp=Z,7.0nm,0.5s
KROS AMB AMB 09 58 53.5
comp=Z,19nm,0.5s
BJI Beijing 14.74 264 eP **P** **09 59 20.8 +1.0**
BJI S **S** **10 01 57.8 +2.3**
BJI SCS ScS 10 10 39.8 -2.4
BJI AMB AMB
comp=Z,403nm,0.9s
BJI AMB AMB
comp=Z,559nm,2.6s
BJI Beijing 14.74 264 eP **P** **09 59 20.7 +0.9**
BJI S **S** **10 01 57.7 +2.2**
BJI pmax pmax
comp=Z,403nm,0.9s
BJI Beijing 14.74 264 eP **P** **09 59 20.7 +0.9**
comp=Z,403nm,0.9s
BJI sP 10 00 40.4
BJI S **S** **10 01 57.7 +2.2**
BJI ScS ScS 10 10 39.8 -2.4
BJT Baijiatuau 14.75 264 eP **P** **09 59 20.2 +0.3**
BJT pmax pmax
comp=Z,306nm,0.8s
BJT Baijiatuau 14.75 264 eP **P** **09 59 20.2 +0.2**
comp=Z,306nm,0.8s
CLNS Chul'man 15.14 337 eP **P** **09 59 22.0 -2.0**
CLNS eS **S** **10 02 04.2 +0.9**
CLNS pmax pmax
comp=Z,168nm,0.9s
CLNS pmax pmax
comp=N,122nm,1.0s
CLNS pmax pmax
comp=E,22nm,0.6s
CLNS smax
comp=N,80nm,1.3s
CLNS smax
comp=Z,15nm,0.9s
CLNS smax
comp=E,61nm,1.1s
CLNS MLR MLR
comp=Z,100nm,13.0s
CLNS MLR MLR
comp=N,30nm,14.0s
CLNS MLR MLR
comp=E,30nm,11.0s
TIA Tai'an 15.72 250 eP **P** **09 59 28.8 -1.5**
TIA AMB AMB
comp=Z,79nm,1.0s
SKR Severo-Kuril's 15.93 55 eP **P** **09 59 28.1 -4.2**
SSE Sheshan 16.59 228 P **P** **09 59 37.9 -1.5**
SSE XP 10 01 17.4
SSE S **S** **10 02 29.1 -2.2**
SSE AMB AMB
comp=Z,43nm,0.9s
SSE AMB AMB
comp=Z,43nm,3.2s
SSE LR LR
comp=N,45nm,23.3s
SSE LR LR
comp=E,45nm,23.2s
SSE LR LR
comp=Z,32nm,15.8s
SSE Sheshan 16.59 228 P **P** **09 59 37.9 -1.5**
comp=Z,43nm,0.9s
SSE sP 10 01 17.4
SSE S **S** **10 02 29.1 -2.2**
CBIJ Chichi jima 17.05 159 P **P** **09 59 41.7 -2.5**
comp=Z,93nm,0.3s,baz=276,slow=16,SNR=33
CBIJ S **S** **10 02 38.6 -1.4**
comp=Z,9.7nm,0.3s,baz=292,slow=23,SNR=3.8
NJ2 Nanjing 17.21 235 eP **P** **09 59 46.3 +0.6**
NJ2 S **S** **10 02 42.0 -1.0**
NJ2 AMB AMB
comp=Z,110nm,0.8s
NJ2 AMB AMB
comp=Z,870nm,5.6s
NJ2 LR LR
comp=N,170nm,16.6s
NJ2 LR LR
comp=E,400nm,22.2s
NJ2 LR LR
comp=Z,220nm,22.1s
JOW Kunigami 17.40 202 S **S** **10 02 53.0 +6.4**
comp=Z,0.6nm,0.3s,baz=252,slow=20,SNR=5.1
JOW ScP 10 07 09.4
comp=Z,1.6nm,0.3s,baz=245,slow=1.2,SNR=12
HHC Hu-ho-hao-te 17.86 270 eP **P** **09 59 53.3 +1.0**
HHC S **S** **10 02 50.8 -4.4**
HHC AMB AMB
comp=Z,104nm,1.8s
HHC LR LR
comp=N,348nm,10.6s
HHC LR LR
comp=E,202nm,10.4s
HHC LR LR
comp=Z,256nm,12.9s
PET Petropavlovsk 18.25 50 eP **P** **09 59 57.4 +1.3**
PET eS **S** **10 03 06.4 +4.2**
PET smax
comp=E,100nm,16.6s
PET smax
comp=N,100nm,20.4s
PET MLR MLR
comp=Z,100nm,14.0s
MA2 Magadan 18.85 25 eP **P** **10 00 03.5 +1.5**
MA2 eS **S** **10 03 18.6 +5.5**
MA2 pmax pmax
comp=Z,10.0nm,0.7s
MA2 MLR MLR
comp=Z,60nm,17.0s
BTO Baotou 19.06 271 eP **P** **10 00 05.3 +1.1**
BTO AMB AMB
comp=Z,120nm,0.7s
YAK Yakutsk 19.10 352 eP **P** **10 00 01.7 -2.8**
YAK eS **S** **10 03 17.6 0.0**
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.4s
YAK smax
comp=N,71nm,0.9s
YAK smax
comp=Z,21nm,0.9s
YAK smax
comp=E,64nm,0.8s
YAK Yakutsk 19.10 352 eP **P** **10 00 00.9 -3.5**
comp=E,30nm,0.4s
BOD Bodaibo 19.80 325 eP **P** **10 00 10.1 -1.3**
BOD pmax pmax
comp=Z,22nm,0.8s
ULN Ulaanbaatar 20.32 293 eP **P** **10 00 17.0 +0.5**
ULN e 10 04 14.6
ULN pmax pmax
comp=Z,58nm,0.8s
ULN Ulaanbaatar 20.32 293 eP **P** **10 00 17.0 +0.4**
comp=Z,58nm,0.8s
ULN ePcP PcP 10 04 14.6 -1.0
ULN eScP 10 07 14.6
SONM Songino Array 20.76 293 P **P** **10 00 21.7 +0.9**
comp=Z,48nm,0.8s,baz=88,slow=7.1,SNR=144
SONM S **S** **10 03 52.0 +5.2**
comp=Z,2.0nm,0.9s,baz=90,slow=19,SNR=2.4
SONM PcP PcP 10 04 15.3 -1.1
comp=Z,3.9nm,0.5s,baz=152,slow=1.5,SNR=7.2
SONM ScP 10 07 15.6
comp=Z,3.3nm,0.9s,baz=171,slow=3.0,SNR=7.3
WHN Wuhan 21.02 240 ⇑P **P** **10 00 23.0 -0.5**
WHN AMB AMB
comp=Z,52nm,0.5s,mb5.0
TATO Taipei 21.53 217 eP **P** **10 00 29.5 +1.2**
comp=Z,180nm,1.1s,mb5.2
YHNB Yeheng 21.85 216 eP **P** **10 00 31.5 +0.1**
SEY Seymchan 22.04 21 eP **P** **10 00 32.1 -0.9**
XAN Xi'an 22.57 255 P **P** **10 00 37.8 -0.3**
XAN AMB AMB
comp=Z,35nm,0.7s,mb4.7
IRK Irkutsk 22.63 304 eP **P** **10 00 37.8 -0.6**
IRK pmax pmax
comp=Z,105nm,0.7s,mb5.2
QZH Quanzhou 22.90 222 P **P** **10 00 42.1 +0.8**
QZH AMB AMB
comp=Z,60nm,0.7s,mb4.9
TLY Talaya 22.91 303⇓ iP **P** **10 00 41.2 +0.1**
TLY e 10 02 24.8
TLY eS **S** **10 04 18.4 -4.5**
TLY pmax pmax
comp=Z,71nm,0.9s,mb4.9
TLY Talaya 22.91 303 eP **P** **10 00 40.6 -0.4**
comp=Z,106nm,1.1s,mb5.0
ZAK Zakamensk 22.98 299⇑ eP **P** **10 00 41.4 -0.3**
ZAK pmax pmax
comp=Z,46nm,1.0s,mb4.7
ENH Enshi 24.37 246 eP **P** **10 00 53.4 -1.2**
comp=Z,57nm,0.6s,mb5.0
MOY Mondy 24.55 302 eP **P** **10 00 55.9 -0.1**
MOY pmax pmax
comp=Z,41nm,1.7s,mb4.4
LZH Lanzhou 25.23 264 ⇓P **P** **10 01 02.8 +0.5**
LZH AMB AMB
comp=Z,122nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,369nm,4.0s
FX1 Attu Island--F 26.71 56 P **P** **10 01 16.1 +0.5**
FX1 pmax pmax
comp=Z,43nm,0.5s
FX1 Attu Island--F 26.71 56 P **P** **10 01 16.1 +0.5**
comp=Z,43nm,0.5s,mb4.9,baz=305,slow=1.3,SNR=32
FX1 Attu Island--F 26.71 56 eP **P** **10 01 15.8 +0.3**
GTA Gaotai 26.88 274 eP **P** **10 01 17.5 +0.3**
GTA PCP PcP 10 04 29.8 +0.3
GTA S **S** **10 05 26.6 -0.5**
GTA SCP 10 07 32.9
GTA SCS ScS 10 11 23.5 -1.4
GTA AMB AMB
comp=Z,82nm,0.7s,mb5.1
GTA LR LR
comp=N,105nm,18.3s
GTA LR LR
comp=E,167nm,15.6s
GTA LR LR
comp=Z,299nm,12.0s
CD2 Chengdu 27.93 254⇓ iP **P** **10 01 25.0 -1.7**
CD2 AMB AMB
comp=Z,70nm,0.6s,mb5.1
TIXI Tiksi 28.64 356 i P **P** **10 01 30.3 -2.2**
TIXI pmax pmax
comp=Z,28nm,0.7s,mb4.6
TIXI MLR MLR
comp=Z,100nm,21.0s
GYA Guiyang 28.75 244⇓ iP **P** **10 01 32.1 -1.8**
GYA AP 10 02 45.3
GYA PCP PcP 10 04 32.8 -1.5
GYA S **S** **10 05 51.6 -5.1**
GYA SCP 10 07 39.3
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.4
GYA AMB AMB
comp=Z,90nm,3.4s
BILL Bilibino 29.70 23⇓ iP **P** **10 01 41.4 -0.3**
BILL i *PP 10 02 49.6
BILL i S **S** **10 06 09.6 -1.6**
BILL pmax pmax
comp=Z,9.0nm,0.6s,mb4.2
BILL Bilibino 29.70 23 eP **P** **10 01 41.2 -0.6**
comp=Z,9.0nm,0.4s,mb4.3
BILL e 10 02 50.5
SHRR Shira 31.27 307 i P **P** **10 01 53.6 -1.8**
KMI Kunming 32.25 247 P **P** **10 02 03.1 -1.0**
KMI AMB AMB
comp=Z,24nm,1.1s,mb4.3
KMI LR LR
comp=Z,113nm,22.3s
KMI Kunming 32.25 247 P **P** **10 02 03.1 -1.0**
comp=Z,24nm,1.1s,mb4.3
KMI LR LR
comp=Z,110nm,22.3s
QIZ Qiongzhong 32.36 230 P **P** **10 02 05.8 +0.7**
WMQ Urumqi 34.21 288 ⇓P **P** **10 02 21.0 +0.4**
WMQ AP pP 10 03 30.0 +1.3
WMQ PP PP 10 03 55.3 +8.4
WMQ PCP PcP 10 04 49.5 +0.6
WMQ S **S** **10 07 21.6 +0.4**
WMQ SS SS 10 10 02.0 +0.1
WMQ AMB AMB
comp=Z,30nm,0.7s,mb4.6
WMQ AMB AMB
comp=Z,210nm,2.7s,mb4.9
ZAL Zalesovo 34.43 306 P **P** **10 02 22.1 -0.2**
comp=Z,36nm,0.5s,mb4.9,baz=26,slow=8.1,SNR=14
ZAL S **S** **10 07 22.3 -2.1**
comp=Z,1.2nm,0.8s,baz=111,slow=13,SNR=4.5
ZAL ScP 10 07 57.6
comp=Z,16nm,0.4s,baz=19,slow=2.9,SNR=29
NVS Novosibirsk 35.29 308⇓ iP **P** **10 02 28.6 -1.0**
NVS e*PP pP 10 03 39.5 +1.4
NVS eS **S** **10 07 34.9 -2.7**
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,12nm,0.7s
NVS pmax pmax
comp=Z,16nm,0.7s,mb4.4
NVS smax
comp=N,7.0nm,1.1s
NVS smax
comp=E,9.0nm,1.4s
LSA Lhasa 37.65 264 P **P** **10 02 50.8 +1.3**
LSA AMB AMB
comp=Z,30nm,0.7s,mb4.6
LSA Lhasa 37.65 264 eP **P** **10 02 51.1 +1.6**
LSA pmax pmax
comp=Z,23nm,0.6s,mb4.6
LSA Lhasa 37.65 264 eP **P** **10 02 51.1 +1.6**
comp=Z,24nm,0.6s,mb4.6
NANT Nan 38.04 241 ⇓P **P** **10 02 53.0 +0.2**
comp=Z,338nm,0.5s,mb5.8
KKTK Khon Kaen 38.57 236 ⇓P **P** **10 02 57.5 +0.3**
comp=Z,679nm,0.4s
CHG Chiang Mai 39.16 243 ⇓P **P** **10 03 02.1 +0.1**
comp=Z,34nm,0.8s,mb4.6
CMAR Chiang Mai Arr 39.42 243 P **P** **10 03 04.5 +0.3**
comp=Z,9.0nm,0.7s,mb4.1,baz=34,slow=7.3,SNR=65
CMAR PcP PcP 10 05 04.7 -0.3
comp=Z,3.2nm,0.5s,baz=4.1,slow=1.9,SNR=12
CMAR ScP 10 08 17.4
comp=Z,9.9nm,0.7s,baz=17,slow=3.0,SNR=40
SHL Shillong 39.51 258 eP **P** **10 03 05.0 +0.1**
SHL e 10 06 42.5
SHL e 10 08 17.5
JIRN Jiri 42.39 265 eP **P** **10 03 28.8 +0.7**
comp=Z,178nm,0.5s,mb5.5
GUN Gumba 42.48 266 eP **P** **10 03 29.1 +0.3**
comp=Z,474nm,0.5s,mb5.9
ULHL Ulahol 42.66 290 P **P** **10 03 30.9 +0.8**
SNR=6.2
TKM2 Tokmak 2 42.84 291 P **P** **10 03 32.7 +1.1**
SNR=185
KKN Kakani 42.98 266 eP **P** **10 03 32.9 +0.1**
comp=Z,124nm,0.5s,mb5.3
KKN Kakani 42.98 266 eP **P** **10 03 32.9 +0.1**
KKN pmax pmax
comp=Z,62nm,0.5s,mb5.0
PKI Pulchoki 43.01 266 eP **P** **10 03 33.3 +0.2**
comp=Z,158nm,0.6s,mb5.3
PKI Pulchoki 43.01 266 eP **P** **10 03 33.3 +0.2**
PKI pmax pmax
comp=Z,79nm,0.6s,mb5.0
BVA0 Borovoye Array 43.06 307 i P **P** **10 03 33.3 +0.2**
BVAR Borovoye Array 43.06 307 P **P** **10 03 33.3 +0.2**
comp=Z,29nm,0.4s,mb4.7,baz=79,slow=7.6,SNR=131
BVAR PcP PcP 10 05 16.0 -0.6
comp=Z,24nm,0.5s,baz=93,slow=2.8,SNR=16
BVAR ScP 10 08 30.8
comp=Z,2.7nm,0.5s,baz=90,slow=4.0,SNR=6.9
BVAR S **S** **10 09 30.1 -2.2**
comp=Z,2.8nm,0.6s,baz=69,slow=13,SNR=4.3
DMN Daman 43.21 266 eP **P** **10 03 35.0 +0.3**
comp=Z,139nm,0.5s,mb5.4
GKN Gorkha 43.33 267 eP **P** **10 03 35.6 0.0**
comp=Z,341nm,0.5s,mb5.7
KBK Karagaybulak 43.39 291 P **P** **10 03 36.7 +0.8**
SNR=89
CHMS Chumysh 43.39 291 P **P** **10 03 36.1 +0.1**
SNR=12
KZA Kyzart 43.40 290 P **P** **10 03 37.8 +1.7**
SNR=28
USP Ospenovka 43.46 292 P **P** **10 03 36.7 +0.2**
SNR=30
FRU Bishkek 43.55 291⇓ iP **P** **10 03 37.5 +0.3**
FRU pmax pmax
comp=Z,100nm,2.1s,mb4.6
AAK Ala-Archa 43.70 291 P **P** **10 03 38.6 +0.2**
SNR=56
AAK Ala-Archa 43.70 291 eP **P** **10 03 37.5 -0.9**
AAK e 10 05 16.9
AAK e 10 05 30.8
AAK pmax pmax
comp=Z,30nm,0.5s,mb4.7
AAK Ala-Archa 43.70 291 eP **P** **10 03 37.5 -0.9**
comp=Z,30nm,0.5s,mb4.7
AAK ePcP PcP 10 05 16.9 -2.0
AAK ePP PP 10 05 30.8 +4.8
AAK eScP 10 08 31.9
UCH Uchtor 43.85 290 P **P** **10 03 40.3 +0.7**
SNR=24
IMA Indian Mountai 43.86 34 eP **P** **10 03 39.8 +0.4**
IMA pmax pmax
comp=Z,57nm,0.7s,mb4.8
IMA Indian Mountai 43.86 34 eP **P** **10 03 39.8 +0.5**
comp=Z,57nm,0.7s,mb4.8
IMA eScP 10 08 35.7
EKS2 Erkin-Say 44.18 291 P **P** **10 03 42.5 +0.3**
SNR=51
KOLN Koldanda 44.22 267 eP **P** **10 03 43.0 +0.3**
comp=Z,264nm,0.8s,mb5.4
AML Almayashu 44.45 291 P **P** **10 03 45.3 +0.9**
SNR=34
KDAK Kodiak Island 45.77 45 eP **P** **10 03 53.6 -0.8**
comp=Z,24nm,0.6s,mb4.5
KDAK e 10 05 25.0
KLP Kalpa 46.08 275 eP **P** **10 03 57.3 0.0**
KLP e 10 03 59.7
comp=Z,101nm,0.7s
KKAR Karatay Array 46.22 293 i P **P** **10 03 57.7 -0.4**
KKAR pmax pmax
comp=Z,23nm,0.7s,mb4.4
COLA College 46.44 35 eP **P** **10 03 59.9 +0.3**
COLA pmax pmax
comp=Z,51nm,0.8s,mb4.7
COLA College 46.44 35 eP **P** **10 03 59.9 +0.4**
comp=Z,51nm,0.8s,mb4.7
DDI Dehra Dun 46.86 274 e **P** **10 04 01.5 -1.8**
ILAR Eielson Array 46.86 35 P **P** **10 04 02.4 -0.4**
ILAR S **S** **10 10 23.8 -2.1**
ILAR pmax pmax
comp=Z,11nm,0.8s
ILAR Eielson Array 46.86 35 P **P** **10 04 02.4 -0.4**
comp=Z,11nm,0.8s,mb4.2,baz=278,slow=5.5,SNR=99
ILAR ScP 10 08 46.1
comp=Z,1.7nm,0.7s,baz=282,slow=4.4,SNR=6.8
ILAR S **S** **10 10 23.8 -2.1**
comp=Z,0.5nm,0.9s,baz=248,slow=9.7,SNR=3.0
SMLA Simla 47.08 275⇓ i **P** **10 04 01.4 -3.6**
comp=Z,28nm,0.3s,mb5.0
SMLA i 10 10 24.1
SNG Songkhla 47.16 231 P **P** **10 04 06.5 +0.7**
comp=Z,178nm,0.9s,mb5.3
KSM Kuching 47.26 215 eP **P** **10 04 07.2 +0.6**
THN Thein Dam 47.45 278 eP **P** **10 04 06.2 -1.6**
SVE Sverdlovsk 47.47 314⇓ eP **P** **10 04 08.0 +0.4**
SVE e 10 05 30.5
SVE e 10 06 02.7
SVE e 10 10 34.5
SVE pmax pmax
comp=Z,300nm,1.5s,mb5.3
NDI New Delhi 48.37 272 eP **P** **10 04 13.0 -1.9**
AYAN Aya Nagar 48.55 272 eP **P** **10 04 15.1 -1.1**
AYAN e 10 04 17.6
comp=Z,17nm,0.8s
BHGR Bahadurgarh 48.57 273 eP **P** **10 04 15.7 -0.7**
BHGR e 10 04 17.6
comp=Z,170nm,0.3s
SOKR Solikamsk 48.61 318 d iP **P** **10 04 16.3 0.0**
SOKR pmax pmax
comp=Z,60nm,0.9s,mb4.8
AGRA Agra 48.65 270 eP **P** **10 04 15.6 -1.4**
ARU Arti 48.68 314⇓ iP **P** **10 04 16.7 -0.2**
ARU e 10 05 34.2
ARU e 10 06 12.7
ARU eS **S** **10 10 50.8 -0.5**
ARU eSS SS 10 14 25.7 +0.2
ARU pmax pmax
comp=Z,152nm,1.0s,mb5.2
ARU Arti 48.68 314 eP **P** **10 04 16.8 -0.1**
comp=Z,29nm,0.6s,mb4.7
KULM Kulim 48.69 229 eP **P** **10 04 17.8 +0.3**
KULM eScP 10 08 54.7
SONA Sohna 48.71 272 eP **P** **10 04 16.4 -1.1**
SONA e 10 04 17.7
comp=Z,64nm,0.5s
RTK Rohtak 48.76 273 eP **P** **10 04 16.3 -1.6**
DAWY Dawson 50.19 35 eP **P** **10 04 27.3 -0.8**
DAWY eScP 10 09 00.9
INK Inuvik 51.03 29 P **P** **10 04 34.1 -0.1**
INK S **S** **10 11 21.8 -1.4**
INK Inuvik 51.03 29 P **P** **10 04 34.1 -0.1**
comp=Z,3.3nm,0.4s,mb3.9,baz=291,slow=5.8,SNR=103
INK ScP 10 09 04.7
comp=Z,7.9nm,1.0s,baz=313,slow=6.1,SNR=9.9
INK S **S** **10 11 21.8 -1.5**
comp=Z,0.9nm,0.8s,baz=82,slow=27,SNR=6.3
INK Inuvik 51.03 29 eP **P** **10 04 33.8 -0.4**
comp=Z,5.1nm,0.7s,mb3.9
INK eScP 10 09 04.5
BHPL Bhopal 51.38 267 eP **P** **10 04 36.0 -1.5**
BHPL e 10 04 37.5
comp=Z,56nm,1.2s
AJM Ajmer 51.49 272 eP **P** **10 04 37.2 -1.1**
AJM e 10 04 38.3
comp=Z,44nm,0.8s
JASL Jaisalmer 53.97 275 eP **P** **10 04 55.4 -0.9**
HYB Hyderabad 54.24 260 eP **P** **10 04 57.0 -1.3**
APA Apatity 55.08 333⇓ iP **P** **10 05 02.8 -0.8**
APA pmax pmax
comp=Z,27nm,0.7s,mb4.7
KAKA Kakadu 55.77 184 eP **P** **10 05 08.4 -0.8**
comp=Z,14nm,0.6s,mb4.5
KEV Kevo 55.95 337 ep **P** **10 05 08.1 -1.6**
comp=Z,21nm,0.5s,mb4.7
KEV Kevo 55.95 337 eP **P** **10 05 08.1 -1.6**
KEV pmax pmax
comp=Z,21nm,0.5s,mb4.7
ARCES ARCESS Array B 56.50 337 P **P** **10 05 12.8 -0.8**
ARCES 10 06 04.7
ARCES pmax pmax
comp=Z,14nm,0.5s
ARCES ARCESS Array B 56.50 337 P **P** **10 05 12.8 -0.9**
comp=Z,14nm,0.5s,mb4.5,baz=61,slow=9.0,SNR=138
ARCES PcP PcP 10 06 04.7 -1.1
comp=Z,4.3nm,0.5s,baz=47,slow=4.2,SNR=6.4
ARCES ARCESS Array B 56.50 337 P **P** **10 05 12.8 -0.9**
ARCES PcP PcP 10 06 04.7 -1.1
DLBC Dease Lake 56.61 39 P **P** **10 05 15.6 +1.1**
comp=Z,4.6nm,0.6s,mb4.0,baz=278,slow=7.7,SNR=15
DLBC ScP 10 09 31.1
comp=Z,1.4nm,0.7s,baz=184,slow=11,SNR=3.8
DLBC Dease Lake 56.61 39 eP **P** **10 05 15.3 +0.8**
POO Poona 56.92 265⇓ iP **P** **10 05 15.0 -2.2**
comp=Z,150nm,1.0s,mb5.3
KAD Karad 57.47 263 eP **P** **10 05 20.0 -1.0**
KAD e 10 05 20.8
comp=Z,97nm,0.7s
KTK1 Kautokeino 57.47 337 eP **P** **10 05 20.7 +0.4**
RES Resolute Bay 57.69 14 eP **P** **10 05 20.9 -0.9**
RES e 10 06 09.4

RES e*PP pP 10 06 40.2 +2.9
RES pmax pmax
comp=Z,21nm,0.8s,mb4.5
RES Resolute Bay 57.69 14 eP **P 10 05 20.9 -0.9**
comp=Z,21nm,0.8s,mb4.5
RES ePcP PcP 10 06 09.4 -1.1
RES epP pP 10 06 40.2 +2.9
RES eScP 10 09 33.2
JOF Joensuu 58.28 329 ep **P 10 05 24.3 -1.6**
comp=Z,24nm,0.4s,mb4.9
JOF Joensuu 58.28 329 eP **P 10 05 24.3 -1.6**
JOF pmax pmax
comp=Z,24nm,0.4s,mb4.9
MOS Moscow 59.52 319 eP **P 10 05 33.5 -1.0**
MOS e 10 06 19.8
MOS e pP 10 06 48.1 -2.6
MOS pmax pmax
comp=Z,300nm,1.3s,mb5.6
MOS pmax pmax
comp=Z,171nm,1.2s,mb5.3
PALK Pallekele 59.70 250 eP **P 10 05 35.6 -0.6**
comp=Z,42nm,0.9s,mb4.9
OBN Obninsk 60.36 319 d iP **P 10 05 39.4 -0.7**
OBN e 10 07 55.2
OBN eS **S 10 13 25.1 -0.7**
OBN pmax pmax
comp=Z,137nm,1.2s,mb5.3
OBN Obninsk 60.36 319 eP **P 10 05 39.2 -0.9**
comp=Z,61nm,0.8s,mb5.1
YKW3 Yellowknife Ar 60.68 30 eP **P 10 05 41.0 -1.0**
YKA Yellowknife Ar 60.73 30 P **P 10 05 41.6 -0.7**
comp=Z,2.1nm,0.5s,mb3.9,baz=307,slow=6.3,SNR=121
YKA ScP 10 09 47.4
comp=Z,4.0nm,1.0s,baz=313,slow=4.3,SNR=13
FINES FINESS Array B 61.13 329 P **P 10 05 44.5 -0.6**
FINES 10 06 22.8
FINES pmax pmax
comp=Z,79nm,0.6s
FINES FINESS Array B 61.13 329 P **P 10 05 44.5 -0.6**
comp=Z,79nm,0.6s,mb5.3,baz=42,slow=9.3,SNR=391
FINES PcP PcP 10 06 22.8 -1.6
comp=Z,8.5nm,0.3s,baz=61,slow=4.3,SNR=9.7
FINES FINESS Array B 61.13 329 P **P 10 05 44.5 -0.6**
FINES PcP PcP 10 06 22.8 -1.6
MELSS Ber_school_2 61.59 338 eP **P 10 05 47.1 -0.9**
POHA Pohakuloa 61.61 89 eP **P 10 05 45.6 -3.3**
comp=Z,2μm,1.2s
FITZ Fitzroy Crossi 61.72 191 ⇑ iP **P 10 05 49.1 -0.5**
comp=Z,8.2nm,0.8s,mb4.3
FITZ Fitzroy Crossi 61.72 191 P **P 10 05 49.3 -0.2**
comp=Z,13nm,0.9s,mb4.5,baz=326,slow=3.6,SNR=8.1
MOR8 Moi Rana 61.88 337 eP **P 10 05 47.8 -2.1**
comp=Z,116nm,0.7s,mb5.5
MOR8 Moi Rana 61.88 337 eP **P 10 05 47.8 -2.1**
MOR8 AMb AMB 10 05 49.0
comp=Z,116nm,0.7s,mb5.5
WRAB Tennant Creek 62.89 181 d iP **P 10 05 56.4 -0.8**
WRAB Tennant Creek 62.89 181 eP **P 10 05 55.5 -1.7**
comp=Z,25nm,0.9s,mb4.8
WB2 Warramunga Arr 62.90 181 ⇑ iP **P 10 05 56.3 -0.9**
WRA Warramunga Arr 62.90 181 P **P 10 05 56.3 -1.0**
comp=Z,11nm,0.6s,mb4.6,baz=360,slow=7.3,SNR=190
WRA PKPPKP 10 34 58.1
comp=Z,1.5nm,1.0s,baz=196,slow=2.5,SNR=6.9
ZEI Tsey 63.39 305 eP **P 10 05 59.1 -1.0**
ZEI pmax pmax
comp=Z,35nm,1.2s,mb4.8
KIV Kislovodsk 63.43 306 d iP **P 10 06 00.5 +0.2**
KIV i 10 06 32.7
KIV e*PP pP 10 07 19.3 +1.5
KIV pmax pmax
comp=Z,152nm,1.0s,mb5.5
KIV Kislovodsk 63.43 306 eP **P 10 06 01.0 +0.7**
comp=Z,256nm,1.1s,mb5.7
TI2 Plekhanov 63.47 303 eP **P 10 06 08.6 +8.0**
NSS Namsos 63.78 336 eP **P 10 06 00.5 -1.6**
CTA Charters Tower 63.83 169 ⇑ iP **P 10 06 02.6 -0.6**
comp=Z,12nm,0.7s,mb4.6
CTA Charters Tower 63.83 169 ⇑ iP **P 10 06 02.6 -0.6**
CTA pmax pmax
comp=Z,12nm,0.7s
CTA Charters Tower 63.83 169 P **P 10 06 02.9 -0.3**
comp=Z,14nm,0.7s,mb4.7,baz=353,slow=6.9,SNR=14
SUMG Summit 64.38 358 eP **P 10 06 06.4 +0.6**
comp=Z,48nm,0.8s,mb5.2
SUMG epP pP 10 07 24.6 +1.0
GNI Garni 64.40 302 d iP **P 10 06 07.5 +1.0**
GNI pmax pmax
comp=Z,35nm,1.3s
WBK Wadi Bani Khal 65.21 278 P **P 10 06 13.1 +1.1**
SNR=50
SOC Sochi 65.39 307 eP **P 10 06 11.0 -1.7**
SOC e 10 06 37.5
SOC e 10 08 45.8
SOC eSS SS 10 18 55.3 +4.9
SOC pmax pmax
comp=Z,45nm,0.6s,mb5.3
SOC pmax pmax
comp=N,59nm,1.0s
SOC pmax pmax
comp=E,16nm,0.7s
SMDO Samad 65.59 279 P **P 10 06 15.0 +0.6**
SNR=33
HOQ Hoqain 65.80 280 P **P 10 06 16.1 +0.4**
SNR=38
ANN Anapa 65.96 309 eP **P 10 06 17.8 +1.5**
ANN pmax pmax
comp=Z,56nm,0.9s,mb5.3
JMDO Jabal Madar 65.98 279 P **P 10 06 17.4 +0.5**
SNR=64
ASHO Ashiyiah 66.02 282 P **P 10 06 17.6 +0.6**
SNR=29
BSY Bisya 66.40 280 P **P 10 06 20.1 +0.6**
SNR=114
ARQ Araqi 66.52 280 P **P 10 06 20.7 +0.4**
SNR=36
DOMB Dombas 66.53 336 ⇓ iP **P 10 06 19.3 -0.3**
comp=Z,85nm,0.7s,mb5.6
DOMB Dombas 66.53 336 ⇓ iP **P 10 06 19.3 -0.3**
DOMB AMb AMB 10 06 20.4
comp=Z,85nm,0.7s,mb5.6
MOL Molde 66.57 337 eP **P 10 06 20.8 +0.9**
AKASG Malin Array Be 66.57 318 P **P 10 06 19.7 -0.4**
AKASG *PP pP 10 07 40.3 +1.8
AKASG pmax pmax
comp=Z,28nm,0.4s
AKASG Malin Array Be 66.57 318 P **P 10 06 19.6 -0.4**
comp=Z,28nm,0.4s,mb5.4,baz=45,slow=6.7,SNR=131
AKASG pP pP 10 07 40.3 +1.8
comp=Z,1.3nm,0.4s,baz=44,slow=6.5,SNR=5.2
ASAR Alice Springs 66.62 182 P **P 10 06 20.6 -0.2**
comp=Z,13nm,0.9s,mb4.7,baz=357,slow=6.7,SNR=91
ASAR PKPPKP 10 34 44.7
comp=Z,0.6nm,0.9s,baz=188,slow=4.7,SNR=4.9
ASPA Alice Springs 66.62 182 ⇑ iP **P 10 06 20.5 -0.3**
NB2 NORSAR Subarra 66.62 334 P **P 10 06 19.9 -0.3**
comp=Z,42nm,0.6s,mb5.3,baz=39,slow=6.5
NB2 NORSAR Subarra 66.62 334 P **P 10 06 19.9 -0.3**
baz=39,slow=6.5
NOA NORSAR Array B 66.62 334 P **P 10 06 19.8 -0.4**
NOA pmax pmax
comp=Z,47nm,0.7s
NOA NORSAR Array B 66.62 334 P **P 10 06 19.8 -0.4**
comp=Z,47nm,0.7s,mb5.4,baz=39,slow=6.2,SNR=202
ERZM Erzurum 66.62 303 i P **P 10 06 20.1 -0.5**
NAO01 NORSAR Array S 66.87 334 eP **P 10 06 20.9 -0.9**
comp=Z,11nm,0.5s,mb4.8
FMW Mount Fremont 67.33 46 P **P 10 06 25.3 +0.5**
SIM Simferopol' 67.71 311 i P **P 10 06 27.3 +0.1**
SIM pmax pmax
comp=Z,64nm,0.7s,mb5.5
TBM Table Mountain 67.74 46 P **P 10 06 27.5 +0.1**
KONO Kongsberg 68.20 334 eP **P 10 06 29.5 -0.5**
KONO pmax pmax
comp=Z,21nm,0.7s,mb5.0
KONO Kongsberg 68.20 334 eP **P 10 06 29.5 -0.5**
comp=Z,21nm,0.7s,mb5.0
TDH Tom, Dick, Har 68.31 48 P **P 10 06 31.5 +0.7**
GBB Gable Butte 68.61 46 P **P 10 06 33.0 +0.3**
NEW Newport 68.80 43 eP **P 10 06 34.1 +0.3**
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 68.80 43 eP **P 10 06 34.1 +0.3**
comp=Z,4.1nm,0.8s,mb4.2
HAWA Hanford 68.80 46 eP **P 10 06 33.9 0.0**
comp=Z,0.3nm,0.6s

ASK Askoy 68.91 336 eP **P 10 06 34.6 +0.3**
BER Bergen 68.95 336 eP **P 10 06 34.8 +0.3**
EGD Espegrend 69.07 336 eP **P 10 06 33.5 -1.7**
BLS5 Blasjo 69.38 335 eP **P 10 06 38.4 +1.3**
MALT Malatya 69.40 303 eP **P 10 06 38.9 +1.2**
MALT pmax pmax
comp=Z,36nm,1.3s,mb4.9
MALT Malatya 69.40 303 eP **P 10 06 38.9 +1.3**
comp=Z,36nm,1.3s,mb4.9
BOYT Boyabat 69.52 308 i P **P 10 06 39.1 +0.8**
LVV L'vov 69.64 320 eP **P 10 06 39.1 +0.2**
LVV e 10 09 19.3
LVV e 10 11 06.7
IAS Iasi 69.71 316 P **P 10 06 39.5 +0.2**
BSD Bornholm Skovb 69.76 328 ⇓ iP **P 10 06 39.0 -0.5**
BSD pmax pmax
comp=Z,36nm,0.5s,mb5.4
BSD Bornholm Skovb 69.76 328 ⇓ iP **P 10 06 39.0 -0.5**
comp=Z,36nm,0.5s,mb5.4
WALA Waterton Lakes 69.83 41 eP **P 10 06 40.1 +0.1**
comp=Z,6.3nm,0.8s,mb4.4
SFJD Kangerlussuaq 69.97 3 i P **P 10 06 40.2 -0.4**
BUOR Burton Butte 70.01 50 P **P 10 06 41.9 +0.6**
GKP Gorka Klasztor 70.19 326 eP **P 10 06 42.6 +0.5**
COP Copenhagen 70.26 330 ⇓ iP **P 10 06 42.7 +0.2**
COP pmax pmax
comp=Z,54nm,0.7s,mb5.4
COP Copenhagen 70.26 330 ⇓ iP **P 10 06 42.7 +0.2**
comp=Z,54nm,0.7s,mb5.4
BALT Daday 70.31 309 i P **P 10 06 44.2 +1.0**
KWP Kalwaria 70.39 320 eP **P 10 06 44.3 +0.9**
LHEM Herd Peak 70.45 51 P **P 10 06 44.5 +0.6**
SHAO Shalim 70.53 277 P **P 10 06 45.1 +0.3**
SNR=25
GZT Gaziantep 70.54 303 i P **P 10 06 45.3 +0.8**
BURAR Bucovina Array 70.59 318 ⇓ P **P 10 06 45.1 +0.4**
CFR Carcaliu 70.77 314 ⇓ P **P 10 06 45.7 -0.1**
KAHT Ahir Dag 70.78 304 i P **P 10 06 47.0 +1.0**
MUD Monsted U'grnd 70.83 332 i P **P 10 06 45.8 -0.2**
MUD pmax pmax
comp=Z,17nm,0.5s,mb5.0
MUD Monsted U'grnd 70.83 332 i P **P 10 06 45.8 -0.2**
comp=Z,17nm,0.5s,mb5.0
ELDT Eldivan 70.97 308 i P **P 10 06 47.5 +0.4**
CDAG Cicekdag 70.99 307 i P **P 10 06 47.4 +0.2**
BMO Blue Mountains 70.99 46 eP **P 10 06 47.2 +0.1**
comp=Z,6.4nm,0.6s,mb4.5
DZM Mont Dzumac 71.01 150 P **P 10 06 48.7 +1.1**
comp=Z,20nm,0.7s,mb4.9,baz=335,slow=10,SNR=11
VRI Vrincioaia 71.03 316 ⇓ P **P 10 06 47.9 +0.6**
KOLS Kolonicke sedl 71.09 320 eP **P 10 06 47.7 +0.1**
KOLS e 10 09 26.4
KOLS Kolonicke sedl 71.09 320 eP **P 10 06 47.7 +0.1**
KOLS e 10 06 51.6
KOLS ePP PP 10 09 26.4 -5.4
TIRR Tirgusor 71.11 314 ⇓ P **P 10 06 47.8 0.0**
LTIM Timbered Crate 71.16 51 P **P 10 06 48.5 +0.4**
HARR Harsova 71.20 314 ⇓ P **P 10 06 48.6 +0.2**
UZH Uzhgorod 71.29 320 i P **P 10 06 51.0 +2.2**
UZH eS SKS 10 16 11.0 -2.2
OJC Ojcow 71.30 322 ⇓ iP **P 10 06 49.4 +0.5**
BRTR Keskin Array B 71.35 307 P **P 10 06 49.6 +0.3**
BRTR 10 09 30.3
BRTR pmax pmax
comp=Z,16nm,0.7s
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 71.35 307 P **P 10 06 49.6 +0.3**
comp=Z,16nm,0.7s,mb4.8,baz=65,slow=4.2,SNR=61
BRTR PP PP 10 09 30.3 -3.8
comp=Z,1.2nm,0.8s,baz=55,slow=8.0,SNR=3.6
LBCM Butte Creek Ri 71.46 51 P **P 10 06 50.2 +0.2**
CRVS Cervenica-Dubn 71.49 321 eP **P 10 06 50.0 0.0**
CRVS e 10 09 26.5
ISR Istrita 71.64 315 ⇑ iP **P 10 06 51.9 +1.0**
CHMT Chamberlain Mo 71.64 42 P **P 10 06 50.4 -0.5**
NIE Niedzica 71.65 321 ⇓ iP **P 10 06 50.1 -0.8**
MLR Muntele Rosu 71.69 316 ⇓ P **P 10 06 51.5 +0.3**
SGKT Sivrigoynuk 71.70 309 i P **P 10 06 51.6 +0.2**
ANTO Ankara 71.74 308 ⇓ P **P 10 06 52.3 +0.6**
PSN Preselentsi 71.75 313 eP **P 10 06 52.5 +0.9**
COBT Iskenderun 71.88 303 i P **P 10 06 53.0 +0.5**
RBK Rabkut 71.90 277 P **P 10 06 52.5 -0.4**
SNR=13
WVOR Wild Horse Val 71.91 48 eP **P 10 06 52.7 +0.1**
WVOR pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
WVOR Wild Horse Val 71.91 48 eP **P 10 06 52.7 +0.1**
comp=Z,4.2nm,0.8s,mb4.2
WVOR e 10 07 25.1
WHFO Wadi Hawf 71.94 278 P **P 10 06 52.7 -0.4**
SNR=50
SNX Sinaia 72.00 316 P **P 10 06 54.0 +1.0**
VOIR 72.18 316 ⇑ P **P 10 06 55.1 +1.0**
KECS Kecovo 72.24 321 eP **P 10 06 54.2 -0.2**
OKC Ostrava-Krasne 72.31 323 ⇓ iP **P 10 06 55.3 +0.5**
KSP Ksiaz 72.37 324 ⇓ iP **P 10 06 55.7 +0.5**
KSP Ksiaz 72.37 324 eP **P 10 06 55.8 +0.7**
BSEG Bad Segeberg 72.39 329 eP **P 10 06 55.6 +0.4**
BSEG pmax pmax
comp=Z,42nm,0.9s,mb5.2
HRY Holter Researc 72.47 42 eP **P 10 06 56.2 +0.4**
HRY e 10 07 30.1
HRY epP pP 10 08 13.8 -1.6
PRD Provadia 72.50 313 eP **P 10 06 57.0 +1.0**
MORC Moravsky Berou 72.62 323 ⇑ P **P 10 06 57.0 +0.4**
MORC Moravsky Berou 72.62 323 eP **P 10 06 57.0 +0.4**
comp=Z,44nm,0.7s,mb5.3
MORC epP pP 10 08 18.3 +2.1
ABTO Aybut 72.65 278 P **P 10 06 57.1 -0.2**
SNR=21
UPC Upice 72.74 324 ⇓ iP **P 10 06 57.9 +0.6**
PSZ Piszkesteto 72.92 321 eP **P 10 06 58.9 +0.5**
PSZ e*PP pP 10 08 20.7 +2.6
PSZ pmax pmax
comp=Z,24nm,0.9s,mb4.9
PSZ Piszkesteto 72.92 321 eP **P 10 06 58.9 +0.5**
comp=Z,24nm,0.9s,mb4.9
PSZ epP pP 10 08 20.7 +2.6
PSZ Piszkesteto 72.92 321 ⇓ iP **P 10 06 59.2 +0.8**
VYHS Vyhne 72.99 322 i P **P 10 06 59.1 +0.4**
ESKT Eskisehir 73.09 309 i P **P 10 06 59.0 -0.6**
MEST Erdemli 73.11 304 i P **P 10 06 52.3 -7.5**
SZH Strazhica 73.23 314 i P **P 10 07 00.5 +0.2**
MCMT McKenzie Canyo 73.30 44 eP **P 10 07 00.4 -0.2**
BOZ Bozeman (W) 73.33 42 eP **P 10 07 01.3 +0.5**
BOZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
BOZ Bozeman (W) 73.33 42 eP **P 10 07 01.3 +0.5**
comp=Z,6.8nm,0.7s,mb4.5
BRG Berggiesshubel 73.33 326 i P **P 10 07 01.0 +0.3**
BRG pmax pmax
comp=Z,29nm,0.7s,mb5.1
BRG Berggiesshubel 73.33 326 i P **P 10 07 01.0 +0.3**
comp=Z,28nm,0.7s,mb5.1
PVCC Panska Ves 73.34 325 ⇓ iP **P 10 07 01.5 +0.8**
CLL Collm 73.39 326 ⇓ iP **P 10 07 01.0 0.0**
CLL pmax pmax
comp=Z,55nm,0.6s,mb5.5
CLL Collm 73.39 326 ⇓ iP **P 10 07 01.0 0.0**
comp=Z,55nm,0.6s,mb5.5
CLL Collm 73.39 326 ⇓ P **P 10 07 01.0 0.0**
comp=Z,logA/T=2.0,mb5.5
CLL ePCP PcP 10 07 15.0 -0.6
CLL ePP PP 10 09 50.0 -0.8
VRAC Vranov 73.39 323 ⇑ P **P 10 07 01.8 +0.8**
HLID Hailey 73.39 45 eP **P 10 07 01.5 +0.3**
comp=Z,6.2nm,1.1s,mb4.2
WCN Washoe City 73.39 52 eP **P 10 07 01.5 +0.2**
WCN pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
WCN Washoe City 73.39 52 eP **P 10 07 01.5 +0.1**
comp=Z,9.2nm,0.9s,mb4.5
PVL Pavlikeni 73.58 314 eP **P 10 07 03.0 +0.7**
ULDT Uludag 73.64 310 i P **P 10 07 02.6 -0.1**
SRO Srobarova 73.72 321 eP **P 10 07 04.0 +1.0**
PRU Pruhonice 73.76 325 ⇓ iP **P 10 07 03.7 +0.5**
CMB Columbia Colle 73.89 53 eP **P 10 07 04.0 -0.2**
CMB pmax pmax
comp=Z,17nm,1.1s,mb4.7
CMB Columbia Colle 73.89 53 eP **P 10 07 04.0 -0.2**
comp=Z,17nm,1.1s,mb4.7
ZST Bratislava 73.99 322 eP **P 10 07 05.7 +1.1**

FORT Forrest 74.00 187 eP **P 10 07 04.8 -0.2**
comp=Z,214nm,0.5s
CLZ Clausthal 74.01 328 eP **P 10 07 05.1 +0.5**
comp=Z,43nm,0.8s,mb5.2
DIM Dimitrovgrad 74.29 313 eP **P 10 07 07.0 +0.6**
ASF Jabal al Asfar 74.32 299 P **P 10 07 07.4 +0.5**
comp=Z,12nm,0.7s,mb4.7,baz=262,slow=3.3,SNR=14
NKC Novy Kostel 74.44 326 ⇓ eP **P 10 07 07.3 +0.2**
MOX Moxa 74.46 327 eP **P 10 07 07.4 +0.2**
MOX Moxa 74.46 327 i P **P 10 07 07.4 +0.2**
YFT Old Faithful 74.58 43 eP **P 10 07 09.5 +1.5**
WIT Witteveen 74.62 331 eP **P 10 07 08.8 +0.8**
PGB Panagyurishte 74.66 314 i P **P 10 07 09.0 +0.5**
CSS Prodhromos 74.69 304 eP **P 10 07 08.4 -0.4**
comp=Z,33nm,0.9s,mb5.1
PKSM Moragy 74.75 320 ⇑ P **P 10 07 08.7 -0.3**
KHC Kasperske Hory 74.82 325 ⇓ iP **P 10 07 09.8 +0.6**
KHC e 10 07 14.0
KHC Kasperske Hory 74.82 325 ⇓ iP **P 10 07 09.8 +0.6**
KHC x x 10 07 14.0
NVAR Mina Array Bea 74.82 51 P **P 10 07 10.2 +0.7**
comp=Z,17nm,0.7s,mb4.9,baz=306,slow=4.0,SNR=125
MNV Mina 74.90 51 eP **P 10 07 10.2 +0.2**
MNV pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
MNV Mina 74.90 51 eP **P 10 07 10.2 +0.2**
comp=Z,10nm,0.7s,mb4.7
ZAPS Zavoj/Pirot 74.92 316 ⇓ iP **P 10 07 10.3 +0.3**
RZN Rozhen 74.98 313 i P **P 10 07 12.0 +1.7**
GEC2 GERESS Array S 74.98 324 eP **P 10 07 10.4 +0.2**
GEC2 pmax pmax
comp=Z,20nm,0.6s,mb5.0
GEC2 GERESS Array S 74.98 324 eP **P 10 07 10.4 +0.2**
comp=Z,20nm,0.6s,mb5.0
GERES GERESS Array B 74.98 324 P **P 10 07 10.5 +0.3**
comp=Z,16nm,0.6s,mb5.0,baz=37,slow=5.6,SNR=116
GERES PP PP 10 09 57.2 -7.3
comp=Z,0.9nm,0.8s,baz=51,slow=8.5,SNR=3.6
STKA Stephens Creek 75.00 175 ⇑ iP **P 10 07 11.2 +0.6**
comp=Z,7.4nm,0.5s,mb4.7
STKA Stephens Creek 75.00 175 P **P 10 07 11.2 +0.6**
comp=Z,9.9nm,0.6s,mb4.8,baz=343,slow=6.6,SNR=28
WET Wettzell 75.10 325 eP **P 10 07 11.5 +0.6**
WET pmax pmax
comp=Z,25nm,1.0s,mb4.9
WET Wettzell 75.10 325 eP **P 10 07 11.5 +0.6**
comp=Z,25nm,1.0s,mb4.9
VTS Vitosha 75.13 315 i P **P 10 07 12.0 +0.9**
MOOW Moose Ponds 75.13 43 eP **P 10 07 11.7 +0.6**
comp=Z,18nm,1.3s,mb4.7
RRI2 Red Ridge 75.13 44 eP **P 10 07 12.2 +1.1**
comp=Z,11nm,0.9s,mb4.6
WTSB Winterswijk 75.25 330 eP **P 10 07 11.6 -0.1**
comp=Z,52nm,0.8s,mb5.3
LOHW Long Hollow 75.30 43 eP **P 10 07 12.4 +0.3**
comp=Z,20nm,1.7s,mb4.6
SNOW Snow King Moun 75.33 44 eP **P 10 07 13.1 +0.8**
comp=Z,3.2nm,0.5s,mb4.3
GRA1 Grafenberg Arr 75.36 326 eP **P 10 07 13.1 +0.8**
comp=Z,70nm,0.8s,mb5.4
GRA1 epP pP 10 08 36.1 +3.7
GRF Grafenberg Arr 75.36 326 eP **P 10 07 13.1 +0.8**
GRF e*PP pP 10 08 36.1 +3.7
GRF pmax pmax
comp=Z,70nm,0.8s,mb5.4
GRF Grafenberg Arr 75.36 326 eP **P 10 07 13.1 +0.8**
GRF e*PP pP 10 08 36.1 +3.7
GRF pmax pmax
comp=Z,70nm,0.8s,mb5.4
GRF Grafenberg Arr 75.36 326 eP **P 10 07 13.1 +0.8**
comp=Z,70nm,0.8s,mb5.4
GRF epP pP 10 08 36.1 +3.7
ARSA Arzberg 75.40 322 ⇓ iP **P 10 07 13.3 +0.7**
comp=Z,112nm,2.7s,mb5.1
GRUS Gruza 75.45 317 ⇑ iP **P 10 07 13.0 +0.1**
MOA Molln 75.50 323 ⇑ iP **P 10 07 13.4 +0.3**
comp=Z,151nm,3.7s
MMB Musomiste 75.57 314 i P **P 10 07 14.0 +0.3**
DIVS Divcibare 75.66 318 ⇑ iP **P 10 07 13.9 -0.2**
TPH Tonopah 75.68 51 eP **P 10 07 14.3 0.0**
TPH pmax pmax
comp=Z,15nm,0.8s,mb4.8
TPH Tonopah 75.68 51 eP **P 10 07 14.3 -0.1**
comp=Z,15nm,0.8s,mb4.8
KOGS Kog 75.68 321 eP **P 10 07 13.7 -0.5**
KKB Krupnik 75.71 315 i P **P 10 07 15.0 +0.6**
BBH Bruntsheil 75.77 337 ⇓ eP **P 10 07 14.6 +0.1**
BHH Howats Hill 75.89 337 ⇓ eP **P 10 07 15.3 +0.2**
BTA Talkin 75.90 337 ⇓ eP **P 10 07 15.5 +0.3**
BTA AMb AMB 10 07 16.0
comp=Z,66nm,0.6s,mb5.5
BWH Wardlaw 75.94 337 ⇓ eP **P 10 07 15.4 0.0**
TNS Taunus Mts 76.04 328 eP **P 10 07 16.4 +0.3**
TNS pmax pmax
comp=Z,19nm,0.8s,mb4.9
TNS Taunus Mts 76.04 328 eP **P 10 07 16.4 +0.3**
comp=Z,19nm,0.8s,mb4.9
PERS Pernice 76.05 322 i P **P 10 07 16.6 +0.3**
BDL Dobcross Hall 76.06 337 ⇓ eP **P 10 07 15.9 -0.2**
BBLS Bajina Basta - 76.11 318 ⇑ iP **P 10 07 17.1 +0.5**
BBO1 Bothel 76.21 337 ⇓ eP **P 10 07 17.2 +0.2**
BBO1 AMb AMB 10 07 18.2
comp=Z,120nm,1.2s,mb5.5
KLBR Kellerberrin 76.23 195 eP **P 10 07 17.6 0.0**
comp=Z,516nm,1.5s,mb6.0
HWUT Hardware Ranch 76.26 45 eP **P 10 07 17.7 +0.2**
comp=Z,23nm,1.4s,mb4.7
GOLS Golise 76.30 321 i P **P 10 07 17.6 0.0**
GMK Mull of Kintyr 76.33 338 ⇓ eP **P 10 07 17.5 0.0**
TOD Tromm 76.39 327 eP **P 10 07 18.0 0.0**
OBKA Obir 76.40 322 ⇓ iP **P 10 07 18.5 +0.3**
comp=Z,100nm,2.7s,mb5.1
PDAR Pinedale Array 76.44 43 P **P 10 07 18.6 +0.1**
comp=Z,6.6nm,0.5s,mb4.7,baz=31,slow=0.9,SNR=62
SKO Skopje 76.48 316 i P **P 10 07 19.5 +0.8**
comp=Z,0.0nm,0.7s
KBA Koelnbreinsper 76.50 323 ⇑ iP **P 10 07 19.9 +1.2**
comp=Z,50nm,1.2s,mb5.1
KBA Koelnbreinsper 76.50 323 ⇑ iP **P 10 07 19.9 +1.2**
KBA pmax pmax
comp=Z,50nm,1.2s,mb5.1
GAL1 Galloway 76.51 338 ⇓ eP **P 10 07 18.4 -0.1**
PLE Pljevlja 76.52 318 ⇑ iP **P 10 07 19.6 +0.7**
FUR Furstenfeldbru 76.53 325 eP **P 10 07 19.4 +0.6**
FUR pmax pmax
comp=Z,48nm,0.7s,mb5.3
FUR Furstenfeldbru 76.53 325 eP **P 10 07 19.4 +0.6**
comp=Z,48nm,0.7s,mb5.3
HGN Heimansgroeve 76.55 330 eP **P 10 07 18.5 -0.3**
comp=Z,28nm,0.6s,mb5.2
IVA Berane 76.60 317 ⇑ iP **P 10 07 19.3 0.0**
DUG Dugway 76.61 47 eP **P 10 07 20.0 +0.5**
DUG *PP pP 10 08 44.7 +4.9
DUG pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
DUG Dugway 76.61 47 eP **P 10 07 20.0 +0.5**
comp=Z,8.0nm,0.8s,mb4.5
DUG pP pP 10 08 44.7 +4.8
ABH Alteburg 76.66 328 eP **P 10 07 19.8 +0.3**
ULM Lac du Bonnet 76.68 31 P **P 10 07 18.8 -0.9**
comp=Z,5.2nm,0.6s,mb4.5,baz=323,slow=6.0,SNR=6.4
TCUT Toone Canyon 76.69 46 eP **P 10 07 20.7 +0.8**
GCL Cushendall 76.71 338 ⇓ eP **P 10 07 19.7 0.0**
LJU Ljubljana 76.77 322 eP **P 10 07 20.3 +0.1**
PVY Plav 76.77 317 ⇑ iP **P 10 07 19.9 -0.4**
UPM Unac-Piva 76.85 318 ⇑ iP **P 10 07 19.9 -0.8**
BOJS Bojanci 76.85 321 eP **P 10 07 20.5 -0.2**
BOJS e 10 07 26.5
RUP Ruppelstein 76.99 328 eP **P 10 07 21.1 -0.2**
WATA Walderalm 77.05 325 ⇑ iP **P 10 07 22.3 +0.6**
comp=Z,12nm,0.9s,mb4.6
WATA Walderalm 77.05 325 ⇑ iP **P 10 07 22.3 +0.6**
WATA pmax pmax
comp=Z,13nm,0.9s,mb4.7
ROBS Robic 77.07 323 i P **P 10 07 20.8 -1.0**
WTTA Wattenberg 77.08 324 ⇓ iP **P 10 07 22.5 +0.6**
comp=Z,120nm,2.5s,mb5.2
WTTA Wattenberg 77.08 324 ⇓ iP **P 10 07 22.5 +0.6**
WTTA pmax pmax
comp=Z,120nm,2.5s,mb5.2
NKY Niksic 77.09 317 ⇑ iP **P 10 07 21.4 -0.7**
NLU North Lily Min 77.18 47 eP **P 10 07 22.5 -0.1**
EIL Elat 77.24 299 eP **P 10 07 22.8 -0.3**
comp=Z,34nm,1.3s,mb4.9
MOTA Moosalm 77.25 325 ⇑ iP **P 10 07 23.3 +0.5**

comp=Z,0.6nm,0.7s
TTG Podgorica 77.25 317⇑ i P P 10 07 22.3 -0.6
BRY Bratogost 77.25 318⇑ i P P 10 07 22.4 -0.5
LANF Langenberg 77.28 328 e P P 10 07 23.0 +0.1
SQTA Sankt Quirin 77.30 325⇑ i P P 10 07 23.7 +0.6
comp=Z,10nm,1.0s,mb4.5
SQTA Sankt Quirin 77.30 325⇑ i P P 10 07 23.7 +0.6
SQTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
GMM Mts of Mourne 77.41 338⇓ e P P 10 07 23.1 -0.4
OHR Ohrid 77.44 315⇓ i P P 10 07 24.0 +0.1
GIVF Givet 77.50 330 e P P 10 07 23.3 -0.8
comp=Z,22nm,0.6s,mb4.8
GIVF Givet 77.50 330 e P P 10 07 23.3 -0.8
GIVF pmax pmax
comp=Z,11nm,0.6s,mb4.8
BUM Brajici-Budva 77.52 317⇑ i P P 10 07 24.5 +0.2
ULC Ulcinj 77.60 317⇑ i P P 10 07 24.7 -0.1
BFO Black Forest 77.60 327 P P 10 07 24.4 -0.3
comp=Z,195nm,1.1s,mb5.8,SNR=15
BFO Black Forest 77.60 327 e P P 10 07 25.0 +0.3
BFO e*PP pP 10 08 48.7 +3.5
BFO pmax pmax
comp=Z,39nm,1.0s,mb5.1
BFO Black Forest 77.60 327 e P P 10 07 25.0 +0.3
comp=Z,39nm,1.0s,mb5.1
BFO epP pP 10 08 48.7 +3.5
SPAK Spaichingen 77.60 327 e P P 10 07 25.0 +0.3
HCY Herceg Novi 77.61 317⇑ i P P 10 07 24.0 -0.9
BAIF Baives 77.76 330 e P P 10 07 24.7 -0.8
comp=Z,26nm,0.9s,mb4.7
BAIF Baives 77.76 330 e P P 10 07 24.7 -0.8
BAIF pmax pmax
comp=Z,13nm,0.9s,mb4.7
DAVA Damuels 77.80 325⇓ i P P 10 07 26.3 +0.5
comp=Z,32nm,1.1s,mb5.0
SBD1 Bryn Du 77.81 336⇓ e P P 10 07 26.1 +0.4
SBD1 AMb AMB 10 07 26.7
comp=Z,110nm,0.7s,mb5.7
WLS Welschbruch 77.92 328 e P P 10 07 26.7 +0.3
CDF Champ du Feu 77.95 328 e P P 10 07 26.3 -0.2
comp=Z,56nm,1.0s,mb5.0
CDF Champ du Feu 77.95 328 e P P 10 07 26.3 -0.2
CDF pmax pmax
comp=Z,28nm,1.0s,mb5.0
HLM1 Long Mynd 78.03 335⇓ e P P 10 07 26.7 -0.2
CTI Castel Tesino 78.03 324 e P P 10 07 26.4 -0.6
RSSD Black Hills 78.09 39 e P P 10 07 26.7 -0.7
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
RSSD Black Hills 78.09 39 e P P 10 07 26.7 -0.7
comp=Z,3.2nm,0.6s,mb4.2
FELD Feldberg 78.09 327 e P P 10 07 27.3 0.0
ECH Echery 78.15 328 e P P 10 07 27.8 +0.2
MSU Marysvale 78.17 48 e P P 10 07 28.9 +1.0
BRMO Bormio 78.24 325 e P P 10 07 28.8 +0.7
HAE Alders End 78.35 335⇓ e P P 10 07 28.7 +0.1
HAE AMb AMB 10 07 29.4
comp=Z,95nm,0.7s,mb5.6
MOF Molkenrain 78.46 327 e P P 10 07 29.3 0.0
MCH1 Michaelchurch 78.52 335⇓ e P P 10 07 29.5 0.0
MCH1 AMb AMB 10 07 30.3
comp=Z,50nm,0.6s,mb5.4
HTR Trewern Hill 78.53 335⇓ e P P 10 07 29.7 +0.1
HINF Hinteralfeld 78.60 327 e P P 10 07 29.4 -0.6
comp=Z,24nm,0.8s,mb4.7
HINF Hinteralfeld 78.60 327 e P P 10 07 29.4 -0.6
HINF pmax pmax
comp=Z,12nm,0.8s,mb4.7
THEF They Montfort 78.60 328 e P P 10 07 29.9 -0.1
SRU San Rafael 78.62 46 e P P 10 07 30.5 +0.2
SRU e 10 10 36.2
BBS Basel-Blauen 78.62 327 e P P 10 07 30.6 +0.5
HAU Haudompre 78.64 328 e P P 10 07 29.6 -0.6
comp=Z,40nm,0.7s,mb5.0
HAU Haudompre 78.64 328 e P P 10 07 29.6 -0.6
HAU pmax pmax
comp=Z,20nm,0.7s,mb5.0
MEZF Maizieres J'vi 78.73 329 e P P 10 07 30.5 -0.2
comp=Z,82nm,1.1s,mb5.2
HGH Gray Hill 78.77 335⇓ e P P 10 07 30.9 0.0
HGH AMb AMB 10 07 31.5
comp=Z,84nm,0.6s,mb5.6
LOMF Lomont 78.99 327 e P P 10 07 32.3 +0.2
VAI Varese 79.40 325 e P P 10 07 34.2 -0.1
ARV Arcevia 79.45 321 e P P 10 07 35.1 +0.5
SFI Santa Sofia 79.63 322 e P P 10 07 36.9 +1.4
SNTG Esanatoglia 79.64 321 e P P 10 07 36.2 +0.6
MCGN Macugnaga 79.65 326 e P P 10 07 36.3 +0.7
ZCCA Zocca 79.66 323 e P P 10 07 37.8 +2.1
PGD Poggio Sodo 79.71 322 e P P 10 07 38.0 +2.0
VMG Vicchio 79.72 322 e P P 10 07 37.6 +1.6
GSCL Gusciola 79.83 323 e P P 10 07 37.9 +1.3
ERBM Eremo 79.85 323 e P P 10 07 38.3 +1.6
CABF La Chapelle 79.88 327 e P P 10 07 36.5 -0.3
NRCA Norcia 79.89 321 e P P 10 07 38.0 +1.0
ORX Oropa 79.91 326 P P 10 07 36.3 -0.7
ORO Oropa 79.92 326 e P P 10 07 36.9 -0.1
PV10 Paradox Valley 79.94 46 e P P 10 07 38.4 +1.1
PV10 e PcP PcP 10 07 44.3 +0.2
PV10 epP pP 10 09 00.6 +2.2
GRAM 79.95 324 P P 10 07 37.8 +0.6
VALM 79.98 323 P P 10 07 38.0 +0.5
SARO Sassorosso 80.05 323 P P 10 07 38.6 +0.9
TRAV 80.11 326 P P 10 07 37.2 -0.9
BACM 80.11 324 P P 10 07 38.3 +0.2
CODM 80.12 324 P P 10 07 38.5 +0.3
AQU L'Aquila 80.13 320 e P P 10 07 39.1 +0.9
AQU pmax pmax
comp=Z,22nm,0.8s,mb4.9
AQU L'Aquila 80.13 320 e P P 10 07 39.1 +0.9
comp=Z,22nm,0.8s,mb4.9
VINC Vinca 80.19 323 P P 10 07 38.0 -0.5
MRLC Muro Lucano 80.37 318 e P P 10 07 39.9 +0.4
PV01 Paradox Valley 80.37 46 e P P 10 07 40.1 +0.5
PV01 epP pP 10 09 02.9 +2.1
LSD Ceresole Reale 80.40 326 P P 10 07 40.3 +0.8
SDI San Donato 80.44 320 e P P 10 07 40.1 +0.3
SCHQ Schefferville 80.45 13 P P 10 07 39.5 -0.1
comp=Z,4.2nm,0.6s,mb4.4,baz=359,slow=5.6,SNR=11
FLN La Foliniere 80.50 332 e P P 10 07 39.2 -0.8
comp=Z,36nm,0.8s,mb4.8
FLN epP pP 10 09 02.8 +1.6
FLN La Foliniere 80.50 332 e P P 10 07 39.2 -0.8
FLN e*PP pP 10 09 02.8 +1.6
FLN pmax pmax
comp=Z,18nm,0.8s,mb4.8
SSF Saint Saulge 80.51 329 e P P 10 07 39.5 -0.6
SSF pmax pmax
comp=Z,23nm,0.9s,mb4.9
SSF Saint Saulge 80.51 329 e P P 10 07 39.5 -0.6
comp=Z,23nm,0.9s,mb4.9
LPL La Plagne 80.52 326 e P P 10 07 40.5 +0.3
comp=Z,91nm,0.7s,mb5.5
LPL La Plagne 80.52 326 e P P 10 07 40.5 +0.3
LPL pmax pmax
comp=Z,45nm,0.7s,mb5.3
LDF La Druitiere 80.52 332 e P P 10 07 39.2 -0.9
comp=Z,29nm,0.7s,mb4.8
LDF La Druitiere 80.52 332 e P P 10 07 39.2 -0.9
LDF pmax pmax
comp=Z,14nm,0.7s,mb4.8
LPG La Plagne 80.53 326 e P P 10 07 41.0 +0.8
comp=Z,88nm,0.5s,mb5.4
LPG La Plagne 80.53 326 e P P 10 07 41.0 +0.8
LPG pmax pmax
comp=Z,44nm,0.5s,mb5.4
PCP Pian Castagno 80.56 325 P P 10 07 40.0 -0.4
RSP Reno Superiore 80.60 326 P P 10 07 39.9 -0.7
SGO Sicignano 80.60 318 e P P 10 07 41.1 +0.4
ISCO Idaho Springs 80.63 43 e P P 10 07 41.6 +0.7
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ISCO Idaho Springs 80.63 43 e P P 10 07 41.6 +0.7
comp=Z,4.3nm,0.8s,mb4.2
SMF Signal de Mont 80.73 329 e P P 10 07 40.9 -0.3
comp=Z,52nm,0.7s,mb5.0
SMF Signal de Mont 80.73 329 e P P 10 07 40.9 -0.3
SMF pmax pmax
comp=Z,26nm,0.7s,mb5.1
FENE Fenestrelle 80.78 326 P P 10 07 41.9 +0.3
WUAZ Wupatki 80.79 49 e P P 10 07 42.8 +1.0
comp=Z,8.8nm,0.8s,mb4.5
AVF Avril sur Loir 80.79 329 e P P 10 07 41.2 -0.4
comp=Z,103nm,0.8s,mb5.3
AVF epP pP 10 09 05.9 +3.1
AVF Avril sur Loir 80.79 329 e P P 10 07 41.2 -0.4
AVF e*PP pP 10 09 05.9 +3.1
AVF pmax pmax
comp=Z,51nm,0.8s,mb5.3
BHB Bricherasio 80.85 325 P P 10 07 40.3 -1.6
BNI Bardonecchia 80.92 326 e P P 10 07 42.2 -0.1
comp=Z,12nm,0.6s,mb4.8
TIP Timpagrande 80.94 316 e P P 10 07 42.8 +0.3
GRR Gorron 80.95 332 e P P 10 07 41.7 -0.7
comp=Z,26nm,0.6s,mb4.9
GRR epP pP 10 09 06.5 +2.9
FIN Finale Ligure 80.97 325 P P 10 07 41.7 -0.9
RRL Cesana Torines 80.99 326 P P 10 07 43.2 +0.5
ROB Roburent 81.04 325 P P 10 07 42.6 -0.4
MBDF Montbardon 81.15 326 e P P 10 07 43.3 -0.2
comp=Z,44nm,0.6s,mb5.0
BGF Bois d'Agland 81.18 329 e P P 10 07 43.2 -0.4
comp=Z,15nm,0.6s,mb4.6
BGF Bois d'Agland 81.18 329 e P P 10 07 43.2 -0.4
BGF pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
PZZ Prazzo 81.19 325 P P 10 07 42.5 -1.2
MONE Monesi 81.27 325 P P 10 07 43.9 -0.2
ENR Entracque 81.29 325 P P 10 07 42.4 -1.8
STV2 Anna di Valdie 81.31 325 P P 10 07 42.2 -2.1
STV Sta Anna Valdi 81.31 325 P P 10 07 42.4 -1.9
IMI Imperia 81.35 325 P P 10 07 44.2 -0.3
ORIF Oris-en-Rattie 81.36 326 e P P 10 07 44.6 +0.1
comp=Z,28nm,0.8s,mb4.8
ORIF Oris-en-Rattie 81.36 326 e P P 10 07 44.6 +0.1
ORIF pmax pmax
comp=Z,14nm,0.8s,mb4.7
PLDF La Plantade 81.38 328 e P P 10 07 45.2 +0.6
SAOF Saorge 81.43 325 e P P 10 07 44.6 -0.3
AUTN L'Aution 81.47 325 e P P 10 07 44.8 -0.4
NEGI Negi 81.48 325 P P 10 07 44.5 -0.7
AGO Saint Agoulin 81.50 329 e P P 10 07 45.7 +0.5
TOUF Mont Tournerai 81.53 325 e P P 10 07 45.1 -0.4
SBF Sospel 81.58 325 e P P 10 07 44.9 -0.8
comp=Z,55nm,0.8s,mb5.1
SBF Sospel 81.58 325 e P P 10 07 44.9 -0.8
SBF pmax pmax
comp=Z,27nm,0.8s,mb5.1
SGMF Saint Gilles 81.64 333 e P P 10 07 45.6 -0.3
comp=Z,53nm,0.8s,mb5.1
SGMF epP pP 10 09 05.6 -1.7
SGMF Saint Gilles 81.64 333 e P P 10 07 45.6 -0.3
SGMF e*PP pP 10 09 05.6 -1.7
SGMF pmax pmax
comp=Z,27nm,0.8s,mb5.1
TCF Toulx Ste Croi 81.64 329 e P P 10 07 45.8 -0.2
comp=Z,29nm,0.9s,mb4.8
TCF epP pP 10 09 10.9 +3.5
TCF Toulx Ste Croi 81.64 329 e P P 10 07 45.8 -0.2
TCF e*PP pP 10 09 10.9 +3.5
TCF pmax pmax
comp=Z,15nm,0.9s,mb4.8
MVIF Mont Vial 81.67 325 e P P 10 07 45.5 -0.7
PYM Petit Puy Mans 81.80 329 e P P 10 07 47.5 +0.7
ROSF Rostrenen 81.80 334 e P P 10 07 46.6 -0.2
comp=Z,70nm,0.8s,mb5.2
ROSF Rostrenen 81.80 334 e P P 10 07 46.6 -0.2
ROSF pmax pmax
comp=Z,35nm,0.8s,mb5.2
VIVF Saint-Julien-l 81.89 327 e P P 10 07 47.2 -0.1
comp=Z,43nm,0.8s,mb5.0
VIVF epP pP 10 09 12.2 +3.4
VIVF Saint-Julien-l 81.89 327 e P P 10 07 47.2 -0.1
VIVF e*PP pP 10 09 12.2 +3.4
VIVF pmax pmax
comp=Z,22nm,0.8s,mb5.0
CALN Calern 81.90 325 e P P 10 07 46.9 -0.5
PGF Pioggiola 81.97 323 e P P 10 07 47.1 -0.7
comp=Z,30nm,0.9s,mb4.8
PGF Pioggiola 81.97 323 e P P 10 07 47.1 -0.7
PGF pmax pmax
comp=Z,15nm,0.9s,mb4.8
QUIF Quistinic 82.13 333 e P P 10 07 48.0 -0.5
comp=Z,57nm,0.7s,mb5.2
QUIF Quistinic 82.13 333 e P P 10 07 48.0 -0.5
QUIF pmax pmax
comp=Z,29nm,0.7s,mb5.2
FRF La Foret Royal 82.15 325 e P P 10 07 47.9 -0.8
MFF Saint Martin d 82.24 331 e P P 10 07 49.0 0.0
SDCO Great Sand Dun 82.25 44 e P P 10 07 49.8 +0.5
comp=Z,5.8nm,0.8s,mb4.5
SMRF Simiane la Rot 82.26 326 e P P 10 07 49.0 -0.2
VILF Villemus 82.30 326 e P P 10 07 49.4 0.0
TAVF Tavernes 82.35 325 e P P 10 07 48.7 -1.0
MTTG Motta San Giov 82.38 316 e P P 10 07 50.2 +0.3
LMR La Mourre 82.40 325 e P P 10 07 49.2 -0.7
comp=Z,84nm,1.0s,mb5.2
LMR La Mourre 82.40 325 e P P 10 07 49.2 -0.7
LMR pmax pmax
comp=Z,42nm,1.0s,mb5.2
PRAF Pradon 82.56 326 e P P 10 07 50.5 -0.2
PUYF Puyloubier 82.57 326 e P P 10 07 49.4 -1.4
RJF Les Rejaudoux 82.73 329 e P P 10 07 51.5 -0.1
comp=Z,13nm,0.6s,mb4.6
RJF Les Rejaudoux 82.73 329 e P P 10 07 51.5 -0.1
RJF pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
BERF Bertagne 82.75 326 e P P 10 07 51.6 -0.1
CAF Calviac 82.85 329 e P P 10 07 52.6 +0.5
comp=Z,30nm,0.8s,mb4.9
CAF Calviac 82.85 329 e P P 10 07 52.6 +0.5
CAF pmax pmax
comp=Z,15nm,0.8s,mb4.9
LASF Ste Croix 82.86 327 e P P 10 07 52.4 +0.2
comp=Z,35nm,0.9s,mb4.9
LFF La Frestale 83.33 329 e P P 10 07 54.9 +0.3
comp=Z,27nm,0.5s,mb5.0
LFF La Frestale 83.33 329 e P P 10 07 54.9 +0.3
LFF pmax pmax
comp=Z,13nm,0.5s,mb5.0
TUC Tucson 83.47 51 e P P 10 07 55.7 +0.1
TUC pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
TUC Tucson 83.47 51 e P P 10 07 55.7 +0.1
comp=Z,4.2nm,0.7s,mb4.4
MTLF Montolieu 84.13 328 e P P 10 07 58.8 +0.2
comp=Z,20nm,0.7s,mb4.8
MTLF Montolieu 84.13 328 e P P 10 07 58.8 +0.2
MTLF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MLS Moulis 84.89 328 e P P 10 08 03.1 +0.8
EPF Esparros 85.11 329 e P P 10 08 03.2 -0.2
comp=Z,36nm,0.8s,mb5.0
EPF Esparros 85.11 329 e P P 10 08 03.2 -0.2
EPF pmax pmax
comp=Z,18nm,0.8s,mb5.0
ETSF Etsaut 85.57 329 e P P 10 08 06.5 +0.9
comp=Z,34nm,0.7s,mb5.0
ETSF Etsaut 85.57 329 e P P 10 08 06.5 +0.9
ETSF pmax pmax
comp=Z,17nm,0.7s,mb5.0
SJPF Ste Jean 85.63 330 e P P 10 08 06.6 +0.7
comp=Z,22nm,0.8s,mb4.7
SJPF Ste Jean 85.63 330 e P P 10 08 06.6 +0.7
SJPF pmax pmax
comp=Z,11nm,0.8s,mb4.7
MNTX Cornudas Mount 86.94 48 e P P 10 08 12.7 +0.2
comp=Z,2.3nm,0.5s,mb4.3
ESDC Sonseca Array 89.63 330 P P 10 08 24.7 -0.2
comp=Z,2.1nm,0.4s,mb4.4,baz=23,slow=4.3,SNR=9.0
LTX Lajitas 89.71 49 e P P 10 08 25.8 +0.3
LTX pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
LTX Lajitas 89.71 49 e P P 10 08 25.8 +0.3
comp=Z,4.8nm,0.7s,mb4.5
TXAR Lajitas Array 89.71 49 P P 10 08 26.2 +0.7
comp=Z,5.6nm,0.5s,mb4.8,baz=276,slow=2.9,SNR=101
TXAR PP PP 10 12 04.8 -0.4
comp=Z,0.6nm,0.8s,baz=333,slow=5.6,SNR=3.9
JCT Junction City 90.86 45 e P P 10 08 30.9 0.0
JCT pmax pmax
comp=Z,15nm,0.7s,mb5.0
JCT Junction City 90.86 45 e P P 10 08 30.9 0.0
comp=Z,15nm,0.7s,mb5.0
KMBO Kilima Mbogo 96.72 275 i P P 10 08 57.5 -0.6
KMBO pmax pmax
comp=Z,7.0nm,0.7s
KMBO Kilima Mbogo 96.72 275 P P 10 08 58.4 +0.3
comp=Z,6.9nm,0.7s,mb4.9,baz=36,slow=13,SNR=17
KMBO Kilima Mbogo 96.72 275 e P P 10 08 58.5 +0.4
comp=Z,13nm,0.9s,mb5.0
DBIC Dimbokro 118.63 314 PKIKP PKPdf 10 14 12.7 +0.3
DBIC 10 15 32.8
DBIC pmax pmax
comp=Z,5.0nm,0.4s
DBIC pmax pmax
comp=Z,7.0nm,0.9s
DBIC Dimbokro 118.63 314 PKP PKPdf 10 14 12.7 +0.3
comp=Z,5.3nm,0.4s,baz=50,slow=2.8,SNR=22
DBIC PP PP 10 15 32.8 -6.7
comp=Z,7.1nm,0.9s,baz=18,slow=8.7,SNR=4.3
VNDA Vanda 121.62 173 PKP PKPdf 10 14 18.8 +1.9
comp=Z,0.7nm,0.3s,baz=338,slow=5.8,SNR=17
VNDA SKP 10 17 17.1
comp=Z,2.1nm,1.1s,baz=306,slow=2.9,SNR=5.6
MAW Mawson 123.15 206 PKIKP PKPdf 10 14 20.7 +0.8
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW Mawson 123.15 206 PKP PKPdf 10 14 20.7 +0.8
comp=Z,2.8nm,1.0s,baz=56,slow=5.8,SNR=4.0
SNAA Sanae 145.12 202 e PKPdf 10 15 02.8 +2.7
SNAA Sanae 145.12 202 e PKPdf 10 15 08.1 +8.0
SNAA Sanae 145.12 202 PKPbc PKPbc 10 15 01.2 +0.5
comp=Z,1.8nm,0.5s,baz=161,slow=6.9,SNR=42
SNAA SKPbc 10 18 04.9
comp=Z,5.8nm,0.9s,baz=119,slow=2.3,SNR=11
SNAA Sanae 145.12 202⇓ i P PKPdf 10 15 01.1 +1.0
SNAA e 10 15 02.8
SNAA e 10 15 08.1
LPAZ La Paz 146.46 44 PKPbc PKPbc 10 15 08.0 +2.5
comp=Z,4.8nm,0.7s,baz=345,slow=4.0,SNR=23
LPAZ SKPbc 10 18 10.7
comp=Z,3.2nm,0.8s,baz=3.1,slow=3.3,SNR=8.6
LPAZ La Paz 146.46 44 e PKPdf PKPdf 10 15 07.5 +3.6
LPAZ e SKP 10 18 10.1
VNA2 Neumayer--Watz 146.75 201 e PKPdf 10 15 08.9 +6.1
VNA2 Neumayer--Watz 146.75 201⇓ i P PKPdf 10 15 06.3 +3.5
VNA2 e 10 15 08.9
VNA3 Neumayer Olymp 147.14 200 e PKPdf 10 15 09.3 +5.9
VNA3 Neumayer Olymp 147.14 200⇓ i P PKPdf 10 15 07.0 +3.6
VNA3 e 10 15 09.3
VNA1 Neumayer--Stat 147.15 201 e PKPdf 10 15 09.7 +6.3
VNA1 Neumayer--Stat 147.15 201 e PKPdf 10 15 13.3 +10
VNA1 Neumayer--Stat 147.15 201⇑ i P PKPdf 10 15 07.8 +4.4
VNA1 e 10 15 09.7
VNA1 e 10 15 13.3
BAO Brasilia Array 152.31 7 PKPdf PKPdf 10 15 14.5 +1.5
BAO PKPdf PKPdf 10 15 21.0 +8.0
BDFB Brasilia 152.31 7 PKIKP PKPdf 10 15 21.4 +8.4
BDFB 10 15 33.1
BDFB pmax pmax
comp=Z,5.0nm,0.5s
BDFB pmax pmax
comp=Z,4.0nm,0.5s
BDFB Brasilia 152.31 7 PKPbc PKPdf 10 15 21.4 +8.4
comp=Z,5.4nm,0.5s,baz=254,slow=2.6,SNR=8.1
BDFB PKPab PKPab 10 15 33.1 -0.9
comp=Z,3.5nm,0.5s,baz=322,slow=1.7,SNR=5.8
PLCA Paso Flores 160.56 91 PKP2 PKPab 10 16 09.0 +0.5
PLCA pmax pmax
comp=Z,7.0nm,0.9s
PLCA Paso Flores 160.56 91 PKPab PKPab 10 16 09.0 +0.4
comp=Z,7.4nm,0.9s,baz=277,slow=3.0,SNR=14

IDC 14 09:56:25.7±1.9, 10.43N×141.55E, mb4.1/4, mb1 4.5/4, mb1mx4.0/19, mbtmp4.1/4, MS3.2/3, Ms1 3.2/3, ms1mx2.8/29, Error ellipse: s-maj=163.6km s-min=25.4km az=111.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**20.57**	**324**	LR	LR	10 07 48.1	
	comp=Z,63nm,18.5s,baz=95,slow=33						
CTA	**Charters Tower**	**30.68**	**171**	LR	LR	10 14 14.4	
	comp=Z,73nm,20.7s,baz=50,slow=35						
WRA	**Warramunga Arr**	**31.00**	**193**	P	P	10 02 44.4	-2.9
	1.8nm,0.7s,baz=15,slow=9.4,SNR=14						
ASAJ	**Asahikawa**	**33.58**	**1**	LR	LR	10 17 42.0	
	comp=Z,24nm,18.3s,baz=344,slow=38						
ASAR	**Alice Springs**	**34.70**	**192**	P	P	10 03 18.1	-1.5
	1.0nm,0.6s,baz=18,slow=12,SNR=11						
YKA	**Yellowknife Ar**	**87.13**	**27**	P	P	10 09 13.4	-1.1
	1.5nm,0.8s,baz=288,slow=5.3,SNR=9.7						
NVAR	**Mina Array Bea**	**91.42**	**51**	P	P	10 09 34.5	-0.8
	1.9nm,0.9s,baz=260,slow=5.5,SNR=3.7						

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*IDC **14** 10:09:33.5±0.6, 13.65N×146.34E, h44km±5km, mb3.7/11, mb1 3.9/11, mb1mx3.8/21, mbtmp3.9/11, MS3.7/2, Ms1 3.7/2, ms1mx2.8/30, Error ellipse: s-maj=21.4km s-min=13.0km az=111.0*

*NEIC **14** 10:09:33.8±0.5, 13.61N×146.25E, mb4.4/7, Error ellipse: s-maj=15.1km s-min=9.6km az=97.0*

ISC 14 10:09:32.0±0.5, 13.57N±0.07×146.3E±0.1, h45km, h45km±1.6km: pP-P, n30, σ0=96/25, mb4.1/18, MS3.8/2, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.36**	**271**	ePn	P	**10 09 55.5**	**+0.4**
JOW	**Kunigami**	**21.40**	**311**	P	P	**10 14 18.1**	**+0.2**
	11nm,0.7s,mb4.3,baz=152,slow=13,SNR=4.0						
PMG	**Port Moresby**	**22.84**	**178**	pP		10 14 45.6	
	9.6nm,0.8s,baz=250,slow=9.3,SNR=2.3						
PMG	**Port Moresby**	**22.84**	**178**	P	P	**10 14 38.0**	**+5.5**
	132nm,1.8s,mb5.1						
MJAR	**Matsushiro Art**	**23.99**	**344**	P	P	**10 14 45.7**	**+2.3**
	0.5nm,0.5s,mb3.2,baz=80,slow=29,SNR=3.1						
MJAR				pP		10 14 53.8	
	2.0nm,0.9s,baz=156,slow=9.3,SNR=3.8						
WRAB	**Tennant Creek**	**35.29**	**200**	eP	P	**10 16 24.1**	**-0.9**
	35nm,1.6s,mb5.0						
WRAB				e	pP	10 16 36.4	-0.6
WB2	**Warramunga Arr**	**35.30**	**200**	eP	P	**10 16 24.7**	**-0.3**
WRA	**Warramunga Arr**	**35.31**	**200**	P	P	**10 16 24.7**	**-0.3**
	3.7nm,1.0s,mb4.3,baz=20,slow=9.4,SNR=16						
WRA				pP	pP	10 16 37.5	+0.4
	1.7nm,0.7s,baz=27,slow=9.7,SNR=6.0						
FITZ	**Fitzroy Crossi**	**37.47**	**213**	P	P	**10 16 43.1**	**-0.2**
	4.6nm,0.9s,mb4.3,baz=37,slow=9.4,SNR=2.5						
ASAR	**Alice Springs**	**38.93**	**198**	P	P	**10 16 55.6**	**+0.2**
	0.8nm,0.6s,mb3.6,baz=14,slow=11,SNR=10						
ASAR				pP	pP	10 17 09.8	+2.3
	0.8nm,0.6s,baz=14,slow=12,SNR=4.1						
ASPA	**Alice Springs**	**38.93**	**198**	eP	P	**10 16 55.4**	**0.0**
HIA	**Hailar**	**41.75**	**334**	P	P	**10 17 27.8**	**+9.3**
	6.2nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**45.40**	**186**	P	P	**10 17 51.2**	**+2.9**
CMAR	**Chiang Mai Arr**	**45.65**	**283**	P	P	**10 17 50.6**	**+0.2**
	0.8nm,0.7s,mb3.8,baz=84,slow=6.5,SNR=6.6						
CMAR				pP	pP	10 18 03.5	+0.8
	1.4nm,0.8s,baz=84,slow=6.3,SNR=6.3						
ULN	**Ulaanbaatar**	**47.19**	**325**	P	P	**10 18 01.4**	**-0.7**
	3.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**47.54**	**324**	P	P	**10 18 04.3**	**-0.6**
	0.9nm,0.6s,mb4.0,baz=141,slow=7.7,SNR=7.2						
SONM				pP	pP	10 18 17.3	0.0
	0.7nm,0.6s,baz=136,slow=9.4,SNR=4.0						
NWAO	**Narrogin (SRO)**	**53.91**	**210**	LR	LR	10 40 36.6	
	comp=Z,56nm,19.9s,MS3.6,baz=332,slow=34						
ILAR	**Eielson Array**	**68.01**	**25**	P	P	**10 20 28.1**	**-0.3**
	0.7nm,0.6s,mb3.9,baz=261,slow=6.1,SNR=7.3						
ILAR				pP	pP	10 20 39.1	-2.3
	1.2nm,0.7s,baz=270,slow=5.7,SNR=8.6						
INK	**Inuvik**	**73.87**	**22**	P	P	**10 21 03.4**	**-0.2**
	0.9nm,1.0s,mb3.7,baz=215,slow=11,SNR=5.7						
INK				pP	pP	10 21 15.2	-1.4
	3.3nm,1.1s,baz=270,slow=2.0,SNR=6.2						
INK	**Inuvik**	**73.87**	**22**	eP	P	**10 21 01.5**	**-2.1**
	6.9nm,1.3s,mb4.4						
YBH	**Yreka Blue Hor**	**81.86**	**49**	LR	LR	10 51 59.6	
	comp=Z,49nm,19.4s,MS3.9,baz=94,slow=31						
YKA	**Yellowknife Ar**	**82.25**	**28**	P	P	**10 21 49.4**	**-0.3**
	0.2nm,0.5s,mb3.3,baz=284,slow=5.0,SNR=9.2						
YKA				pP	pP	10 22 02.3	-0.7
	0.3nm,0.5s,baz=285,slow=5.2,SNR=5.6						
YKA	**Yellowknife Ar**	**82.25**	**28**	P	P	**10 21 49.4**	**-0.4**
YKA				pP	pP	10 22 02.3	-0.7
RES	**Resolute Bay**	**84.26**	**14**	eP	P	**10 21 60.0**	**+0.3**
	2.0nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**85.87**	**52**	P	P	**10 22 09.8**	**+1.2**
	0.5nm,0.6s,mb4.0,baz=270,slow=3.2,SNR=4.7						

NVAR pP pP 10 22 22.9 +1.1
0.9nm,0.6s,baz=286,slow=4.4,SNR=5.2
NVAR Mina Array Bea 85.87 52 P P 10 22 09.8 +1.2
NVAR pP pP 10 22 22.9 +1.1
ELK Elko 87.57 49 P P 10 22 20.8 +4.1
2.0nm,0.9s,mb4.3
FINES FINESS Array B 91.75 335 P P 10 22 34.5 -1.4
0.8nm,0.6s,mb4.2,baz=90,slow=2.8,SNR=5.0
FINES pP pP 10 22 48.1 -1.3
0.7nm,0.5s,baz=90,slow=3.8,SNR=2.2
DBIC Dimbokro 144.98 303 PKP PKPdf 10 29 07.0 +1.5
6.6nm,1.1s,baz=120,slow=2.1,SNR=3.7
DBIC Dimbokro 144.98 303 PKP PKPdf 10 29 07.0 +1.5

IDC 14 10:22:36.8±4.0, 0.98N×97.28E, mb3.8/3, mb1 4.0/4, mb1mx3.6/19, mbtmp3.7/4, ML3.7/1, MS3.0/1, Ms1 3.2/1, ms1mx2.8/24, Error ellipse: s-maj=139.5km s-min=31.0km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.45**	**5**	P	P	10 26 42.5	-0.9
	0.1nm,0.3s,baz=195,slow=12,SNR=4.7						
CMAR				LR	LR	10 34 45.0	
	comp=Z,46nm,18.4s,baz=21,slow=42						
WRA	**Warramunga Arr**	**41.85**	**122**	P	P	10 30 28.9	-1.7
	0.2nm,0.5s,baz=302,slow=9.2,SNR=3.7						
SONM	**Songino Array**	**47.34**	**8**	P	P	10 31 12.4	-1.9
	0.7nm,0.5s,baz=189,slow=10,SNR=6.9						
ZAL	**Zalesovo**	**53.78**	**351**	P	P	10 32 00.7	-2.5
	0.9nm,0.3s,baz=185,slow=3.1,SNR=2.6						

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*NEIC **14** 10:38:40.5, 18.92N×103.55W, h5km, MD4.3(MEX), After MEX.*

MEX 14 10:38:39.7±1.3, 18.93N×103.50W, h4km±8km, MD4.3, 2C, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLM	**Colima**	**0.31**	**325**	*i* P	Pg	10 38 44.7	-1.3
COLM				*i* S	Sg	10 38 50.3	+0.1
COLM	**Colima**	**0.31**	**325**	⇑*i* P	Pg	10 38 44.7	-1.3
COLM				*i* S	Sg	10 38 50.3	+0.1
CJM	**Chamela**	**1.57**	**292**	*i* P	Pn	10 39 05.5	-3.0
CJM				*i* S	Sb	10 39 25.4	-3.6
CJM	**Chamela**	**1.57**	**292**	⇑*i* P	Pn	10 39 05.8	-2.7
CJM				*i* S	Sb	10 39 23.3	-5.7
SFJM	**Santa Fe**	**1.61**	**15**	*i* P	Pn	10 39 06.5	-2.6
SFJM				*i* S	Sb	10 39 28.0	-2.3
SFJM	**Santa Fe**	**1.61**	**15**	*i* P	Pn	10 39 06.5	-2.6
SFJM				*i* S	Sb	10 39 25.0	-5.3
ZIIG	**Zihuatanejo**	**2.34**	**124**	*i* P	Pn	10 39 15.0	-4.4
ZIIG				*i* S	Sn	10 39 42.4	-6.5
ZIIG	**Zihuatanejo**	**2.34**	**124**	*i* P	Pn	10 39 15.0	-4.4
ZIIG				*i* S	Sn	10 39 43.4	-5.5
CAIG	**El Cayaco**	**3.60**	**121**	*i* P	Pn	10 39 34.0	-3.4
CAIG				*i* S	Sn	10 40 14.8	-6.1
CAIG	**El Cayaco**	**3.60**	**121**	*e* P	Pn	10 39 33.8	-3.7
CAIG				*i* S	Sn	10 40 15.2	-5.7
PLIG	**Platanillo**	**3.83**	**97**	*i* P	Pn	10 39 37.1	-3.6
PLIG				*i* S	Sn	10 40 22.3	-4.4
PLIG	**Platanillo**	**3.83**	**97**	*e* P	Pn	10 39 37.2	-3.4
PLIG				*i* S	Sn	10 40 21.1	-5.5
ZAIG	**Zacatecas**	**3.92**	**13**	*i* P	Pn	10 39 39.1	-2.9
ZAIG				*i* S	Sn	10 40 23.9	-5.2
ZAIG	**Zacatecas**	**3.92**	**13**	*e* P	Pn	10 39 39.2	-2.8
ZAIG				*i* S	Sn	10 40 22.1	-7.0
ACX	**Acapulco**	**3.98**	**120**	*e* P	Pn	10 39 39.0	-3.8
ACX				*i* S	Sn	10 40 24.0	-6.5
PPM	**Popocatepetl**	**4.61**	**87**	*i* P	Pn	10 39 50.1	-1.7
PPM	**Popocatepetl**	**4.61**	**87**	*e* P	Pn	10 39 47.6	-4.2
PPM				*e* P		10 39 50.0	
PPM				*i* S	Sn	10 40 39.6	-7.0
VHO	**Vista Hermosa**	**6.70**	**105**	*i* S	Sn	10 41 32.9	-6.0
OXX	**Oaxaca**	**6.70**	**105**	*e* P	Pn	10 40 20.5	-0.9
CMIG	**Matias Romero**	**8.40**	**101**	*i* P	P	10 40 40.0	-5.1

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*IDC **14** 10:46:55.9±1.1, 7.99S×128.99E, mb4.3/4, mb1 4.6/6, mb1mx4.3/14, mbtmp4.5/6, ML4.7/2, MS3.2/4, Ms1 3.2/4, ms1mx3.0/25, Error ellipse: s-maj=48.2km s-min=23.0km az=74.0*

*NEIC **14** 10:47:01.8±0.7, 8.19S×129.03E, h40km, mb4.6/4, Error ellipse: s-maj=14.4km s-min=10.5km az=58.0*

ISC 14 10:46:58.1±3.0, 8.29S±0.09×129.00E±0.09, h19km±23km, n29, σ1§21/35, mb4.2/5, MS3.2/2, 2C-2D, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.54**	**143**	⇓*i* P	**Pn**	**10 48 26.2**	**+4.4**
	66nm,0.3s						
KAKA				*e* S	**Sn**	**10 49 29.7**	**+4.0**
FITZ	**Fitzroy Crossi**	**10.28**	**198**	⇑*i* P	**P**	**10 49 28.7**	**+0.7**
	29nm,0.4s						
FITZ				*e* S	**S**	**10 51 17.7**	**-6.1**
FITZ	**Fitzroy Crossi**	**10.28**	**198**	Pn	**P**	**10 49 28.7**	**+0.7**
	12nm,0.3s,baz=17,slow=10,SNR=121						
FITZ				Sn	**S**	**10 51 19.3**	**-4.5**
	50nm,0.3s,baz=22,slow=13,SNR=10						
FITZ				LR	LR	10 53 19.1	
	comp=Z,82nm,21.2s,baz=39,slow=36						
WRAB	**Tennant Creek**	**12.68**	**156**	*e* P	**P**	**10 50 00.4**	**0.0**
	43nm,0.6s						
WRAB				*e* S	**S**	**10 52 14.1**	**-7.9**
WRA	**Warramunga Arr**	**12.68**	**157**	Pn	**P**	**10 49 59.7**	**-0.8**
	2.7nm,0.3s,baz=332,slow=11,SNR=192						
WRA				Sn	**S**	**10 52 16.0**	**-6.1**
	6.2nm,0.3s,baz=336,slow=21,SNR=17						
WRA	**Warramunga Arr**	**12.68**	**157**	Pn	**P**	**10 49 59.7**	**-0.8**
WRA				Sn	**S**	**10 52 16.0**	**-6.2**
WB2	**Warramunga Arr**	**12.69**	**156**	⇓*i* P	**P**	**10 50 00.1**	**-0.4**
WB2				*e* S	**S**	**10 52 16.6**	**-5.7**
MBWA	**Marble Bar**	**15.61**	**214**	*e* P	**P**	**10 50 38.0**	**-1.0**
MBWA				*e* S	**S**	**10 53 19.1**	**-13**
ASAR	**Alice Springs**	**15.99**	**163**	Pn	**P**	**10 50 43.2**	**-0.7**
	1.4nm,0.3s,baz=334,slow=9.4,SNR=32						
ASAR				Sn	**S**	**10 53 38.9**	**-1.7**
	4.2nm,0.3s,baz=341,slow=21,SNR=5.8						
ASAR				LR	LR	10 56 35.1	
	comp=Z,55nm,19.0s,baz=22,slow=36						
ASPA	**Alice Springs**	**15.99**	**163**	⇑*i* P	**P**	**10 50 45.1**	**+1.2**
ASPA				*e* S	**S**	**10 53 33.0**	**-7.7**
PMG	**Port Moresby**	**17.97**	**95**	P	**P**	**10 51 08.4**	**-0.5**
	25nm,1.2s						
KKM	**Kota Kinabalu**	**19.12**	**318**	*e* P	**P**	**10 51 12.7**	**-10**
CTA	**Charters Tower**	**20.40**	**127**	LR	LR	10 58 47.5	
	comp=Z,75nm,19.7s,MS3.0,baz=37,slow=35						
KSM	**Kuching**	**21.01**	**297**	P	**P**	**10 51 41.5**	**-1.8**
FORT	**Forrest**	**22.39**	**182**	*e* P	**P**	**10 51 59.7**	**+2.7**
	333nm,0.5s						
KLBR	**Kellerberrin**	**25.44**	**203**	*e* P	**P**	**10 52 27.8**	**+1.2**
	1μm,1.6s						
KLBR				*e* S	S	10 57 11.3	+21
STKA	**Stephens Creek**	**26.23**	**155**	*e* P	**P**	**10 52 35.8**	**+1.9**
	2.3nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**26.23**	**155**	P	**P**	**10 52 35.9**	**+2.0**
	3.2nm,0.5s,mb4.1,baz=315,slow=8.4,SNR=11						
STKA	**Stephens Creek**	**26.23**	**155**	*e* P	**P**	**10 52 35.5**	**+1.6**
NWAO	**Narrogin (SRO)**	**26.83**	**202**	LR	LR	11 03 04.2	
	comp=Z,89nm,20.5s,MS3.3,baz=11,slow=36						
NWAO	**Narrogin (SRO)**	**26.83**	**202**	*e* P	**P**	**10 52 40.3**	**+1.0**
	48nm,1.5s,mb4.8						
SONM	**Songino Array**	**59.36**	**342**	P	**P**	**10 56 57.8**	**-3.7**
	0.1nm,0.4s,baz=153,slow=6.4,SNR=3.0						
VNDA	**Vanda**	**71.29**	**173**	P	**P**	**10 58 18.2**	**+0.1**
	0.7nm,0.6s,mb3.8,baz=304,slow=7.0,SNR=6.7						
VNDA	**Vanda**	**71.29**	**173**	P	**P**	**10 58 18.2**	**+0.1**
MAW	**Mawson**	**73.39**	**201**	P	**P**	**10 58 31.4**	**+0.9**
	2.3nm,0.6s,mb4.3,baz=69,slow=12,SNR=6.1						
MAW	**Mawson**	**73.39**	**201**	P	**P**	**10 58 30.6**	**+0.1**
	2.8nm,0.6s,mb4.4						
OPO	**Ambohidratompo**	**79.69**	**253**	P	**P**	**10 59 06.8**	**0.0**
	0.7nm,0.5s,mb3.9,baz=81,slow=7.3,SNR=4.2						
LVC	**Limon Verde**	**144.62**	**151**	PKP	PKPdf	11 06 36.0	-2.5
	2.6nm,0.6s,baz=280,slow=6.2,SNR=5.9						
LPAZ	**La Paz**	**150.26**	**145**	PKPbc	PKPdf	11 06 51.1	+3.2
	1.5nm,0.5s,baz=140,slow=1.7,SNR=7.2						

IDC 14 10:53:00.3±4.1, 1.58S×99.71E, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=167.3km s-min=29.8km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.45**	**121**	P	P	11 00 24.3	-1.6
	0.5nm,0.5s,baz=298,slow=9.4,SNR=4.1						
SONM	**Songino Array**	**49.56**	**6**	P	P	11 01 53.1	-1.9
	0.3nm,0.4s,baz=187,slow=10.0,SNR=4.3						
ZAL	**Zalesovo**	**56.70**	**350**	P	P	11 02 45.6	-2.3
	1.1nm,0.3s,baz=173,slow=2.1,SNR=3.0						
TXAR	**Lajitas Array**	**144.54**	**37**	PKP	PKPdf	11 12 38.4	-3.0
	0.3nm,0.4s,baz=224,slow=0.8,SNR=8.7						

IDC 14 10:54:23.5±1.8, 7.04N×94.02E, mb3.9/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, Error ellipse: s-maj=86.0km s-min=21.5km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**39.98**	**129**	P	P	11 02 00.3	-1.4
	4.3nm,0.9s,baz=328,slow=9.5,SNR=3.6						
SONM	**Songino Array**	**42.00**	**12**	P	P	11 02 16.6	-1.5
	0.6nm,0.7s,baz=194,slow=7.6,SNR=4.4						
WRA	**Warramunga Arr**	**47.88**	**125**	P	P	11 03 03.2	-2.5
	0.7nm,0.4s,baz=305,slow=8.7,SNR=4.7						
ASAR	**Alice Springs**	**49.48**	**129**	P	P	11 03 15.9	-2.0
	0.6nm,0.4s,baz=303,slow=7.6,SNR=6.8						
FINES	**FINESS Array B**	**73.39**	**332**	P	P	11 05 56.5	-2.5
	0.3nm,0.4s,baz=90,slow=6.9,SNR=5.2						
ARCES	**ARCESS Array B**	**76.00**	**340**	P	P	11 06 13.1	-0.8
	1.5nm,0.8s,baz=100,slow=5.5,SNR=3.5						

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*IDC **14** 11:12:38.2±0.8, 1.72S×99.62E, mb4.1/11, mb1 4.3/11, mb1mx4.0/20, mbtmp4.1/11, MS3.0/1, Ms1 3.2/1, ms1mx2.6/29, Error ellipse: s-maj=36.4km s-min=15.4km az=55.0*

*NEIC **14** 11:12:42.4±0.5, 1.75S×99.65E, h30km, mb4.6/4, Error ellipse: s-maj=13.6km s-min=8.9km az=53.0*

ISC 14 11:12:41.3±0.6, 1.70S±0.09×99.7E±0.1, h33km, n20, σ1§15/18, mb4.2/12, MS2.8/1, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.00**	**8**	*e* Pn	**Pn**	**11 14 24.4**	**+0.1**
KSM	**Kuching**	**11.04**	**73**	P	**P**	**11 15 18.0**	**-2.1**
CM31	**Chiang Mai Arr**	**20.04**	**358**	P	**P**	**11 17 16.7**	**+2.3**
	4.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**20.04**	**358**	P	**P**	**11 17 14.1**	**-0.4**
	2.3nm,0.7s,baz=187,slow=10.0,SNR=5.5						
CMAR				LR	LR	11 24 42.0	
	comp=Z,45nm,19.9s,MS2.8,baz=185,slow=36						
FITZ	**Fitzroy Crossi**	**30.21**	**124**	P	**P**	**11 18 50.7**	**-0.5**
	4.9nm,1.0s,mb4.2,baz=152,slow=18,SNR=5.2						
WRA	**Warramunga Arr**	**38.39**	**121**	P	**P**	**11 20 01.6**	**+0.2**
	2.3nm,0.5s,mb4.2,baz=302,slow=9.2,SNR=42						
WRA				PcP	PcP	11 22 15.6	+0.5
	0.3nm,0.5s,baz=314,slow=2.5,SNR=8.3						
WRAB	**Tennant Creek**	**38.39**	**121**	*e* P	**P**	**11 20 01.1**	**-0.4**
	5.1nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**38.40**	**121**	⇓*i* P	**P**	**11 20 01.7**	**+0.2**
ASAR	**Alice Springs**	**39.66**	**126**	P	**P**	**11 20 12.8**	**+0.9**
	1.5nm,0.7s,mb3.8,baz=301,slow=7.8,SNR=23						
ASAR				PcP	PcP	11 22 19.9	+0.8
	0.4nm,0.5s,baz=297,slow=2.6,SNR=4.4						
STKA	**Stephens Creek**	**49.56**	**132**	P	**P**	**11 21 32.6**	**+1.3**
	1.7nm,0.5s,mb4.3,baz=293,slow=7.7,SNR=3.0						
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**11 21 32.5**	**+0.5**
	0.9nm,0.7s,mb3.9,baz=188,slow=8.7,SNR=9.3						
SONM				PcP	PcP	11 22 53.0	-0.2
	0.6nm,0.5s,baz=192,slow=4.8,SNR=4.8						
ZAL	**Zalesovo**	**56.81**	**350**	P	**P**	**11 22 24.4**	**-0.4**
	3.2nm,0.4s,mb4.7,baz=272,slow=5.1,SNR=9.8						
BVAR	**Borovoye Array**	**59.80**	**340**	P	**P**	**11 22 43.9**	**-1.7**
	0.6nm,0.4s,mb4.0,baz=144,slow=12,SNR=5.3						
KMBO	**Kilima Mbogo**	**62.45**	**270**	P	**P**	**11 23 01.3**	**-2.8**
	6.1nm,1.4s,mb4.5						
CASY	**Casey**	**64.91**	**175**	*e* P	**P**	**11 23 14.6**	**-4.8**
	34nm,0.8s						
MATP	**Matopo**	**71.82**	**249**	P	**P**	**11 24 03.1**	**+0.1**
	2.8nm,1.0s,mb4.1,baz=110,slow=3.4,SNR=4.1						
FINES	**FINESS Array B**	**83.72**	**332**	P	**P**	**11 25 08.1**	**+0.2**
	0.5nm,0.4s,mb4.0,baz=108,slow=6.0,SNR=8.1						
ARCES	**ARCESS Array B**	**86.09**	**340**	P	**P**	**11 25 21.2**	**+1.6**
	5.8nm,1.1s,mb4.7,baz=126,slow=7.8,SNR=2.7						
TXAR	**Lajitas Array**	**144.63**	**37**	PKP	PKPdf	11 32 17.0	+1.7
	2.1nm,0.4s,baz=193,slow=0.8,SNR=67						
JCT	**Junction City**	**145.91**	**31**	*e* PKPdf	PKPdf	11 32 20.0	+2.6

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*IDC **14** 11:18:11.0±5.5, 8.85S×117.12E, mb3.3/2, mb1 3.6/4, mb1mx3.5/17, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=254.8km s-min=27.1km az=58.0*

*DJA **14** 11:18:20.2±1.3, 9.11S×116.99E, h104km±12km, MD4.5/2, ML5.2/2, Error ellipse: s-maj=68.8km s-min=31.8km az=172.0*

ISC 14 11:18:19.4±1.0, 9.2S±0.2×117.0E±0.2, h96km±17km, n8, σ1§05/12, mb3.3/2, 2C-4D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.12**	**306**	⇓*e* Pn	**P**	**11 18 42.0**	**+0.8**
	3μm,0.2s						
KEDI				⇓*e* Sn	**S**	**11 18 57.6**	**+0.1**
RATI	**Rata**	**1.53**	**286**	⇓*e* Pn	**P**	**11 18 46.6**	**+0.3**
	3μm,0.2s						
RATI				⇑*e* Sn	**S**	**11 19 06.2**	**0.0**
KELI	**Kelakatan**	**2.67**	**290**	⇑*e* Pn	**P**	**11 19 01.6**	**0.0**
SRDI	**Scrawed**	**2.92**	**283**	⇓*e* Pn	**P**	**11 19 04.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**12.21**	**138**	Pn	**P**	**11 21 08.7**	**-2.6**
	0.5nm,0.3s,baz=347,slow=13,SNR=7.9						
FITZ				Sn	**S**	**11 23 14.2**	**-11**
	0.3nm,0.3s,baz=180,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**19.88**	**125**	P	**P**	**11 22 45.0**	**-0.6**
	0.1nm,0.3s,baz=302,slow=12,SNR=8.0						
WRA				S	**S**	**11 26 20.5**	**+1.6**
	0.1nm,0.3s,baz=291,slow=21,SNR=3.4						
ASAR	**Alice Springs**	**21.65**	**134**	P	**P**	**11 23 04.8**	**+1.4**
	0.3nm,0.5s,mb2.9,baz=308,slow=9.3,SNR=6.0						
SONM	**Songino Array**	**57.51**	**352**	P	**P**	**11 28 00.1**	**-1.0**
	0.3nm,0.4s,mb3.6,baz=158,slow=6.7,SNR=3.9						

GUC 14 11:22:00.1±0.5, 28.61S×70.67W, h60km±4km, ML3.7, 1C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.09**	**294**	⇑*i* P	P	11 22 09.4	+0.3
VACH				*i* S	S	11 22 16.2	+0.6
VACH				AMP		11 22 16.5	
	comp=N,40μm,0.1s						
LCO	**Las Campanas**	**0.40**	**185**	⇓*i* P	P	11 22 12.0	+0.9
LCO				*i* S	S	11 22 20.8	+1.6
LCO				AMP		11 22 21.6	
	comp=E,3μm,0.2s						
CPCH	**Copiapo**	**1.28**	**13**	*e* P	P	11 22 22.0	-0.3
CPCH				*i* S	S	11 22 39.2	+0.5
CPCH				AMP		11 22 41.5	
	comp=E,6μm,0.1s						
LSCH	**La Serena**	**1.39**	**201**	*e* P		11 24 27.9	
LSCH				*i* S		11 24 45.8	
TLL	**Tololo Astrono**	**1.55**	**184**	*e* P	P	11 22 26.6	+0.5
TLL				*i* S	S	11 22 46.6	+1.3
TLL				AMP		11 22 49.7	
	comp=N,369nm,0.4s						
FCH	**Farellones**	**4.71**	**176**	*e* P	P	11 23 10.3	-0.1

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*DJA **14** 11:29:24.9±1.4, 3.69S×97.20E, h33km, mb5.5/4, MD5.6/3, Error ellipse: s-maj=48.3km s-min=8.4km az=62.0*

*BJI **14** 11:29:50.2, 2.01S×99.94E, h39km, mB5.9, mb5.6, Ms5.9, Msz5.8*

*MOS **14** 11:29:50.9±1.0, 1.81S×100.04E, h31km, mb6.1/83, MS5.4/67, Error ellipse: s-maj=7.4km s-min=3.5km az=126.8*

*IDC **14** 11:29:52.3±2.1, 1.86S×99.99E, h30km±14km, mb5.2/33, mb1 5.2/33, mb1mx5.2/33, mbtmp5.3/33, MS5.4/20, Ms1 5.4/20, ms1mx5.4/26, Error ellipse: s-maj=14.4km s-min=8.0km az=44.0*

*HRVD **14** 11:29:52.5±0.1, 2.06S×99.74E, h23km, MW5.7/72, Centroid moment Tensor Solution. LP body waves: s70,c146; Mantle waves: s72,c182; Half duration: 1§7 Moment tensor: Scale 10^{17}Nm; M_{rr}2.70±.05; $M_{\theta\theta}$-1.49±.04; $M_{\phi\phi}$-1.21±.04; $M_{r\theta}$3.45±.07; $M_{\theta\phi}$1.58±.03; $M_{\phi r}$-2.23±.08; Best double couple: $M_0$4.984×10^{17} NP1: ϕ_s322°, δ18°, λ106°. NP2:ϕ_s124°, δ73°, λ85°. Principal axes: T 4.895, Plg62°, Azm27°; N .176, Plg5°, Azm126°; P -5.072, Plg28°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **14** 11:29:52.5±0.1, 1.92S×99.95E, mb5.8/104, ME5.5, MS5.6/127, MW5.6 Error ellipse: s-maj=4.2km s-min=2.5km az=215.0 Broadband fault plane solution: P waves. NP1:ϕ_s125°, δ60°, λ90°. NP2:ϕ_s305°, δ30°, λ90°. Principal axes: T Plg75°, Azm35°; N Plg0°, Azm0°; P Plg15°, Azm215°; Moment Tensor Solution. s32 Moment tensor: Scale 10^{17} Nm; M_{rr}2.73; $M_{\theta\theta}$0.05; $M_{\phi\phi}$-2.78; $M_{r\theta}$1.64; $M_{\theta\phi}$0.82; $M_{\phi r}$-1.17; Best double couple: $M_0$3.5×10^{17} NP1:ϕ_s4°, δ34°, λ125°. NP2:ϕ_s144°, δ63°, λ69°. Principal axes: T 3.59, Plg66°, Azm16°; N -.17, Plg19°, Azm154°; P -3.42, Plg15°, Azm249°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Padang, Sumatra.

ISC 14 11:29:51.2±0.1, 1.90S±0.02×99.95E±0.02, h35km, h35km±.9km: pP-P, n873, σ1§01/719, mb5.7/173, MS5.5/184, 97C-33D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**4.68**	**347**	*e* Pn	**P**	**11 31 01.3**	**0.0**
KGM	**Kluang**	**5.15**	**41**	P	**P**	**11 31 11.0**	**+3.1**
PENI	**Pendagan**	**6.36**	**125**	⇑*e* P	**P**	**11 31 23.2**	**-1.7**
	2μm,0.5s						
IPM	**Ipoh**	**6.53**	**9**	P	**P**	**11 31 29.0**	**+1.7**
KULM	**Kulim**	**7.18**	**6**	*e* P	**P**	**11 31 36.4**	**-0.1**
PULI	**Pulasari**	**7.46**	**126**	⇑*e* Pn	**P**	**11 31 37.8**	**-2.5**
PULI	**Pulasari**	**7.46**	**126**	⇑*e* P	**P**	**11 31 37.9**	**-2.4**
SNG	**Songkhla**	**9.04**	**4**	P	**P**	**11 32 02.5**	**+0.2**
	1μm,1.0s						
SINI	**Singah**	**9.08**	**124**	⇓*e* P	**P**	**11 32 01.1**	**-1.7**
KSM	**Kuching**	**10.88**	**72**	*e* P	**P**	**11 32 29.6**	**+1.8**
NNT	**Nongplab**	**14.40**	**359**	P	**P**	**11 33 16.5**	**+1.8**
SRDI	**Scrawed**	**15.56**	**115**	⇑*e* P	**P**	**11 33 27.2**	**-2.7**
SRDI	**Scrawed**	**15.56**	**115**	⇑*e* P	**P**	**11 33 27.3**	**-2.6**
KELI	**Kelakatan**	**15.78**	**114**	⇑*e* P	**P**	**11 33 32.3**	**-0.3**
KELI	**Kelakatan**	**15.78**	**114**	⇑*i* P	**P**	**11 33 32.5**	**-0.1**
	128nm,0.2s						
RATI	**Rata**	**16.92**	**114**	⇑*e* P	**P**	**11 33 43.9**	**-3.2**
	573nm,0.2s						
KEDI	**Kedomdong**	**17.37**	**113**	⇓*e* P	**P**	**11 33 48.1**	**-4.6**
KEDI	**Kedomdong**	**17.37**	**113**	⇓*e* P	**P**	**11 33 51.5**	**-1.2**
KKM	**Kota Kinabalu**	**18.06**	**64**	*e* P	**P**	**11 34 02.4**	**+1.1**
KKM	**Kota Kinabalu**	**18.06**	**64**	P	**P**	**11 34 02.8**	**+1.5**
KKTK	**Khon Kaen**	**18.34**	**9**	PG	**P**	**11 34 00.0**	**-4.9**
KKTK				SG	Px	11 34 18.0	
TSM	**Tawau**	**18.94**	**71**	P	**P**	**11 34 13.5**	**+1.4**
BDT	**Bhumibol Dam**	**19.05**	**357**	P	**P**	**11 34 11.0**	**-2.3**
	31nm,0.8s						
TANI	**Tanete Lipujan**	**19.47**	**95**	*e* P	**P**	**11 34 17.6**	**-0.5**
NINI	**Niniconang**	**19.93**	**98**	*e* P	**P**	**11 34 23.3**	**+0.2**
CM31	**Chiang Mai Arr**	**20.25**	**357**	*e* P	**P**	**11 34 24.2**	**-2.3**
	231nm,0.9s						
CM31				LR	LR		
	comp=Z,23μm,19.0s,MS5.6						
CMAR	**Chiang Mai Arr**	**20.25**	**357**	P	**P**	**11 34 22.6**	**-3.9**
	comp=Z,178nm,0.9s,baz=186,slow=9.6,SNR=221						
CMAR				PcP	PcP	11 38 39.6	+0.3
	comp=Z,12nm,0.8s,baz=219,slow=2.6,SNR=6.1						
CMAR				LR	LR	11 42 19.5	
	comp=Z,14μm,20.7s,MS5.3,baz=175,slow=37						
BUNI	**Buntu Taipa**	**20.42**	**95**	*e* P	**P**	**11 34 27.9**	**-0.4**
NANT	**Nan**	**20.58**	**2**	⇓P	**P**	**11 34 28.0**	**-1.9**
	comp=Z,1μm,0.8s						
CHG	**Chiang Mai**	**20.61**	**357**	⇑P	**P**	**11 34 27.0**	**-3.2**
	comp=Z,97nm,0.9s						
CHG				S	**S**	**11 38 23.5**	**+10**
BATP	**Bataraza**	**20.72**	**59**	*e* P	**P**	**11 34 31.5**	**+0.1**
PALK	**Pallekele**	**21.26**	**296**	*e* P	**P**	**11 34 37.0**	**+0.2**
	comp=Z,91nm,0.9s,mb5.1						
PALK				*e* pP		11 34 47.6	
PALK				LR	LR		
	comp=Z,2μm,20.0s,MS4.6						
PPR	**Puerto Princes**	**22.01**	**58**	*e* P	**P**	**11 34 48.0**	**+3.7**
QIZ	**Qiongzhong**	**22.96**	**25**	P	**P**	**11 34 53.6**	**-0.2**
QIZ				S	**S**	**11 39 01.8**	**+4.4**
QIZ				XS		11 39 19.4	
QIZ				AMB	AMB		
	comp=Z,557nm,1.1s,mb5.9						
QIZ				AMB	AMB		
	comp=Z,3μm,3.7s						
QIZ				LR	LR		
	comp=N,16μm,17.0s						
QIZ				LR	LR		
	comp=Z,21μm,17.7s,MS5.6						
QIZ	**Qiongzhong**	**22.96**	**25**	*e* P	**P**	**11 34 54.5**	**+0.7**
	comp=Z,600nm,1.0s,mb6.0						
QIZ				*e* pP		11 35 03.7	
ENPP	**El Nido**	**23.34**	**56**	*e* P	**P**	**11 34 58.8**	**+1.3**
BUSP	**Coron**	**24.41**	**55**	*e* P	**P**	**11 35 09.8**

KMI SS SS 11 41 27.6 +7.2
KMI LR LR
comp=Z,13μm,19.8s,MS5.5
DAV Davao City (W) 27.08 71 *e*P **P 11 35 34.5 +1.5**
MBWA Marble Bar 27.17 136 *e*P **P 11 35 33.3 -0.5**
comp=Z,87nm,1.3s,mb5.1
MBWA LR LR
comp=Z,11μm,20.0s,MS5.4
BCPH Baguio City Da 27.30 48⇑*e*P **P 11 35 34.7 -0.2**
MSLP Maasin 27.53 64 *e*P **P 11 35 37.2 +0.1**
BALP Baler 27.65 50 *e*P **P 11 35 38.0 -0.1**
HKC Hong Kong 27.78 29⇑*i*P **P 11 35 41.0 +1.8**
ABRA Dolores 28.21 46 *e*P **P 11 35 43.7 +0.5**
SHL Shillong 28.40 345 *e*P **P 11 35 44.5 -0.3**
comp=Z,360nm,1.0s,mb6.0
SHL *e* 11 40 27.5
PVCP Virac 28.52 57 *e*P **P 11 35 48.0 +2.1**
HYB Hyderabad 28.52 313 *e*P **P 11 35 45.5 -0.5**
HYB *e*S **S 11 40 28.0 -1.9**
HYB Hyderabad 28.52 313 *i* P **P 11 35 45.5 -0.5**
HYB *e*S **S 11 40 28.0 -1.9**
CAUP Cauayan 28.57 48 *e*P **P 11 35 46.4 0.0**
APYP Conner 28.73 46 *e*P **P 11 35 47.9 +0.1**
GYA Guiyang 28.93 13⇑*i*P **P 11 35 48.9 -0.6**
GYA AP pP 11 35 55.1 -4.3
GYA PP PP 11 36 41.8 -1.7
GYA S **S 11 40 34.4 -2.0**
GYA XS 11 40 58.6
GYA AMB AMB
comp=Z,110nm,1.2s,mb5.5
GYA AMB AMB
comp=Z,750nm,9.9s
GYA LR LR
comp=N,19μm,16.8s,MS5.9
GYA LR LR
comp=E,10μm,14.4s,MS5.9
GYA LR LR
comp=Z,22μm,18.0s,MS5.8
MNGI Mangalore 28.97 301 *e*P **P 11 35 50.3 +0.3**
MNGI *e*S **S 11 40 39.8 +2.6**
BOK Bokaro 28.98 333⇑*i*P **P 11 35 49.5 -0.5**
BOK *i* S **S 11 40 40.5 +3.3**
CVP Callao Caves 29.05 47 *e*P **P 11 35 50.2 -0.5**
LKP Lekhapani 29.30 353 *e*P **P 11 35 54.0 +1.2**
LKP *e* 11 36 07.0
BLSP Bilaspur 29.55 325 *e*P **P 11 35 54.3 -0.8**
FITZ Fitzroy Crossi 29.91 124⇑*i*P **P 11 35 56.4 -1.9**
comp=Z,165nm,0.9s,mb5.8
FITZ *e* 11 36 10.2
FITZ *e*S **S 11 40 50.0 -2.0**
FITZ Fitzroy Crossi 29.91 124 P **P 11 35 56.6 -1.7**
comp=Z,266nm,0.9s,mb6.0,baz=320,slow=4.3,SNR=113
FITZ LR LR 11 49 44.9
comp=Z,5μm,20.1s,MS5.2,baz=287,slow=40
GOA Goa 31.09 305 *e*P **P 11 36 05.4 -3.4**
GOA *e* 11 41 28.0
KAD Karad 31.78 308 *e*P **P 11 36 14.7 -0.1**
KAD *e* 11 36 33.9
comp=Z,144nm,1.3s
QZH Quanzhou 32.23 33⇑*i*P **P 11 36 18.4 -0.4**
QZH S **S 11 41 31.3 +2.9**
QZH AMB AMB
comp=Z,340nm,1.1s,mb6.1
QZH LR LR
comp=N,20μm,14.9s,MS6.1
QZH LR LR
comp=E,20μm,15.7s,MS6.1
QZH LR LR
comp=Z,34μm,16.0s,MS6.1
JIRN Jiri 32.24 337 *e*P **P 11 36 19.1 +0.3**
comp=Z,874nm,1.0s,mb6.5
ALBI Allahabad 32.26 328 *e*P **P 11 36 17.5 -1.5**
PKI Pulchoki 32.47 335 *e*P **P 11 36 20.5 -0.4**
comp=Z,282nm,1.3s,mb5.9
PKI Pulchoki 32.47 335 *e*P **P 11 36 20.5 -0.4**
PKI pmax pmax
comp=Z,141nm,1.3s,mb5.6
LSA Lhasa 32.53 346 P **P 11 36 20.3 -1.0**
LSA AP pP 11 36 31.6 +0.3
LSA XP sP 11 36 37.3 +1.4
LSA PP PP 11 37 34.3 +4.0
LSA PCP PcP 11 39 07.1 -0.5
LSA S **S 11 41 31.1 -2.0**
LSA XS 11 41 53.9
LSA SCP 11 42 47.0
LSA PCS 11 42 50.8
LSA SCS ScS 11 46 45.8 +0.3
LSA AMB AMB
comp=Z,270nm,1.2s,mb6.0
LSA AMB AMB
comp=Z,780nm,6.0s
LSA LR LR
comp=N,4μm,23.8s,MS5.2
LSA LR LR
comp=E,4μm,23.2s,MS5.2
LSA LR LR
comp=Z,6μm,24.4s,MS5.2
LSA Lhasa 32.53 346 *e*P **P 11 36 21.4 +0.1**
LSA pmax pmax
comp=Z,263nm,1.0s,mb6.1
LSA Lhasa 32.53 346 *e*P **P 11 36 21.4 +0.1**
comp=Z,263nm,1.0s,mb6.1
GUN Gumba 32.58 336 *e*P **P 11 36 22.0 +0.2**
comp=Z,747nm,1.0s,mb6.6
DMN Daman 32.63 335 *e*P **P 11 36 21.9 -0.3**
comp=Z,288nm,1.2s,mb6.1
KKN Kakani 32.72 335 *e*P **P 11 36 22.6 -0.4**
comp=Z,460nm,1.1s,mb6.3
KKN Kakani 32.72 335 *e*P **P 11 36 22.6 -0.4**
KKN pmax pmax
comp=Z,230nm,1.1s,mb6.0
POO Poona 32.74 309⇓*i*P **P 11 36 21.0 -2.2**
comp=Z,500nm,1.4s,mb6.2
CD2 Chengdu 32.83 6⇑*i*P **P 11 36 22.3 -1.6**
CD2 S **S 11 41 30.6 -7.1**
CD2 AMB AMB
comp=Z,100nm,1.0s,mb5.7
CD2 LR LR
comp=N,12μm,19.2s
CD2 LR LR
comp=Z,13μm,21.6s,MS5.6
GKN Gorkha 33.18 335 *e*P **P 11 36 27.1 +0.2**
comp=Z,711nm,1.3s,mb6.4
BHPL Bhopal 33.25 320 *e*P **P 11 36 26.6 -1.0**
BHPL *e* 11 36 43.4
comp=Z,116nm,1.0s
BHPL *e* 11 41 41.8
ENH Enshi 33.26 15 *e*P **P 11 36 25.4 -2.2**
comp=Z,281nm,1.0s,mb6.2
NACB Ninganchiao 33.38 38 *e*P **P 11 36 30.1 +1.4**
NACB *e*pP pP 11 36 39.2 +0.5
KOLN Koldanda 33.43 333 *e*P **P 11 36 29.1 0.0**
comp=Z,704nm,1.4s,mb6.4
MUN Mundaring 33.61 155⇑*i*P **P 11 36 32.5 +1.8**
comp=Z,102nm,0.9s,mb5.8
MUN *e* pP 11 36 44.0 +3.3
MUN Mundaring 33.61 155⇑*i*P **P 11 36 32.5 +1.8**
MUN *e* pP 11 36 44.0 +3.3
MUN pmax pmax
comp=Z,102nm,0.9s,mb5.8
YHNB Yeheng 33.61 37 *e*P **P 11 36 31.6 +0.9**
BOM Bombay 33.75 309 *e*S **S 11 41 53.4 +1.3**
TATO Taipei 33.91 37 *e*P **P 11 36 34.5 +1.2**
comp=Z,175nm,1.0s,mb5.9
TATO LR LR
comp=Z,7μm,20.0s,MS5.4
KAKA Kakadu 33.92 110 *e*P **P 11 36 30.1 -3.3**
comp=Z,35nm,0.8s,mb5.3
KAKA *e*PCP PcP 11 39 11.5 -0.1
KLBR Kellerberrin 33.98 152 *e*P **P 11 36 35.2 +1.4**
comp=Z,560nm,1.1s,mb6.4
KLBR *e* pP 11 36 46.6 +2.8
KLBR *e*PCP PcP 11 39 26.3 +15
NWAO Narrogin (SRO) 34.87 154 *e*P **P 11 36 41.7 +0.2**
NWAO *e**PP pP 11 36 53.8 +2.3
NWAO pmax pmax
comp=Z,145nm,1.3s
NWAO MLR MLR
comp=Z,9μm,22.0s
NWAO Narrogin (SRO) 34.87 154 P **P 11 36 41.7 +0.2**
comp=Z,22nm,0.9s,mb5.1,baz=316,slow=10.0,SNR=11
NWAO Narrogin (SRO) 34.87 154 *e*P **P 11 36 41.7 +0.2**
comp=Z,145nm,1.3s,mb5.8
NWAO *e*pP pP 11 36 53.8 +2.3
NWAO LR LR
comp=Z,9μm,22.0s,MS5.5
WHN Wuhan 35.06 22⇓P **P 11 36 43.5 +0.4**
WHN S **S 11 42 19.3 +7.0**
WHN AMB AMB
comp=Z,80nm,1.0s,mb5.6
WHN LR LR
comp=Z,45μm,16.8s,MS6.3
LGTI Lohaghat 36.43 330 *e*P **P 11 36 55.0 +0.3**
PTH Pithoragarh 36.53 330 *e*P **P 11 36 55.3 -0.2**
PTH *e* 11 42 57.3
XAN Xi'an 36.73 13 P **P 11 36 55.4 -1.8**
XAN PP PP 11 38 22.3 -0.5
XAN S **S 11 42 31.1 -6.9**
XAN SS SS 11 45 04.5 -1.9
XAN AMB AMB
comp=Z,298nm,1.1s,mb6.0
XAN AMB AMB
comp=Z,646nm,14.5s
XAN LR LR
comp=N,6μm,20.6s,MS5.8
XAN LR LR
comp=E,15μm,17.7s,MS5.8
XAN LR LR
comp=Z,22μm,16.4s,MS6.0
AJM Ajmer 37.32 321 *e*P **P 11 37 01.0 -1.3**
NDI New Delhi 37.42 326 *e*P **P 11 37 01.5 -1.5**
comp=Z,429nm,1.5s,mb6.1
NDI *e* 11 43 15.0
LZH Lanzhou 37.97 5⇑*i*P **P 11 37 06.8 -0.7**
LZH AP pP 11 37 15.3 -2.3
LZH XP sP 11 37 19.3 -2.8
LZH S **S 11 42 55.5 -1.3**
LZH SCP 11 43 09.0
LZH XS 11 43 11.8
LZH PCS 11 43 13.0
LZH SS SS 11 45 33.0 -1.4
LZH SCS ScS 11 47 16.0 +1.3
LZH AMB AMB
comp=Z,320nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,2μm,4.2s
LZH LR LR
comp=N,18μm,15.3s
LZH LR LR
comp=Z,24μm,17.0s,MS6.1
LZH Lanzhou 37.97 5⇑*i*P **P 11 37 06.7 -0.8**
LZH *PP pP 11 37 15.3 -2.3
LZH *SP sP 11 37 19.2 -2.9
LZH S **S 11 42 55.5 -1.3**
LZH *SS 11 43 11.8
LZH SS SS 11 45 33.0 -1.4
LZH 11 47 16.0
LZH pmax pmax
comp=Z,320nm,1.5s,mb5.8
LZH MLR MLR
comp=Z,24μm,17.0s,MS6.1
LZH Lanzhou 37.97 5⇑*i*P **P 11 37 06.7 -0.8**
comp=Z,320nm,1.5s,mb5.8
LZH pP pP 11 37 15.3 -2.3
LZH sP sP 11 37 19.2 -2.9
LZH S **S 11 42 55.5 -1.3**
LZH ScP 11 43 09.0
LZH sS 11 43 11.8
LZH PcS 11 43 13.0
LZH SS SS 11 45 33.0 -1.4
LZH ScS ScS 11 47 16.0 +1.3
LZH LR LR
comp=Z,24μm,17.0s,MS6.1
WRA Warramunga Arr 38.09 121 P **P 11 37 07.0 -1.6**
comp=Z,186nm,0.9s,mb5.8,baz=297,slow=9.7,SNR=373
WRA S **S 11 42 55.1 -3.7**
comp=Z,36nm,1.0s,baz=292,slow=16,SNR=24
WRAB Tennant Creek 38.09 121 *e*P **P 11 37 07.0 -1.7**
WRAB *e**PP pP 11 37 15.7 -3.1
WRAB *e* 11 43 07.5
WRAB pmax pmax
comp=Z,669nm,1.3s,mb6.2
WRAB MLR MLR
comp=Z,1μm,19.0s,MS4.8
WRAB Tennant Creek 38.09 121 *e*P **P 11 37 07.0 -1.7**
comp=Z,669nm,1.3s,mb6.2
WRAB *e*pP pP 11 37 15.7 -3.1
WRAB *e*ScP 11 43 07.5
WRAB LR LR
comp=Z,1μm,19.0s,MS4.8
WB2 Warramunga Arr 38.09 121⇑*i*P **P 11 37 07.1 -1.7**
WB2 *e*sP sP 11 37 22.0 -1.3
WB2 *e*S **S 11 42 54.0 -4.9**
WB2 *e*SCS ScS 11 47 15.9 +0.3
NJ2 Nanjing 38.23 26 *e*P **P 11 37 10.6 +0.8**
NJ2 AP pP 11 37 20.4 +0.5
NJ2 XP sP 11 37 24.3 0.0
NJ2 PP PP 11 38 42.5 +1.6
NJ2 S **S 11 43 01.0 +0.2**
NJ2 XS 11 43 17.0
NJ2 AMB AMB
comp=Z,90nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,6.1s
NJ2 LR LR
comp=N,12μm,15.4s,MS6.0
NJ2 LR LR
comp=E,15μm,15.6s,MS6.0
NJ2 LR LR
comp=Z,10μm,14.4s,MS5.8
DDI Dehra Dun 38.25 329 *e*P **P 11 37 08.0 -2.0**
DDI *e*S **S 11 43 03.2 +2.0**
SSE Sheshan 38.54 30 P **P 11 37 13.1 +0.8**
SSE AP pP 11 37 24.3 +1.9
SSE XP sP 11 37 29.3 +2.4
SSE PP PP 11 38 42.5 -2.0
SSE S **S 11 43 08.1 +2.6**
SSE XS 11 43 26.9
SSE AMB AMB
comp=Z,170nm,1.2s,mb5.7
SSE AMB AMB
comp=Z,750nm,7.2s
SSE LR LR
comp=N,7μm,17.8s,MS5.8
SSE LR LR
comp=E,10μm,17.8s,MS5.8
SSE LR LR
comp=Z,13μm,19.2s,MS5.8
SSE Sheshan 38.54 30 P **P 11 37 13.1 +0.8**
comp=Z,170nm,1.2s,mb5.7
SSE pP pP 11 37 24.2 +1.8
SSE sP sP 11 37 29.3 +2.4
SSE PP PP 11 38 42.5 -2.0
SSE S **S 11 43 08.1 +2.6**
SSE sS 11 43 26.9
SSE SS SS 11 46 00.5 +13
SSE LR LR
comp=Z,13μm,19.2s,MS5.8
BHJ Bhuj 38.67 312⇑*e* **P 11 37 18.7 +5.2**
comp=Z,1μm,1.0s,mb6.6
BHJ *e* 11 43 20.6
FORT Forrest 39.15 140⇑*i*P **P 11 37 18.2 +0.8**
comp=Z,3μm,0.8s
ASPA Alice Springs 39.35 126⇑*i*P **P 11 37 18.5 -0.6**
ASPA *e* pP 11 37 31.4 +2.1
ASPA *e*S **S 11 43 15.2 -2.6**
ASPA *e*SCS ScS 11 47 22.3 -0.6
ASAR Alice Springs 39.35 126 P **P 11 37 18.4 -0.7**
comp=Z,104nm,0.9s,mb5.6,baz=300,slow=7.8,SNR=208
ASAR PcP PcP 11 39 28.1 +0.3
comp=Z,35nm,1.0s,baz=309,slow=2.3,SNR=6.0
ASAR S **S 11 43 15.9 -2.0**
comp=Z,28nm,1.1s,baz=298,slow=16,SNR=13
ASAR ScS ScS 11 47 24.1 +1.2
comp=Z,3.8nm,1.2s,baz=299,slow=5.6,SNR=4.1
ASAR LR LR 11 55 40.0
comp=Z,4μm,20.5s,MS5.3,baz=299,slow=39
SMLA Simla 39.35 328⇓*i* **P 11 37 16.1 -3.0**
comp=Z,51nm,0.3s,mb5.7
SMLA *i* 11 43 15.7
JOW Kunigami 39.52 42 P **P 11 37 21.5 +0.9**
comp=Z,112nm,1.0s,mb5.6,baz=242,slow=7.3,SNR=35
SDNR Sundarnagar 39.75 329 *e*P **P 11 37 22.2 -0.2**
SDNR *e* 11 43 22.0
BHK Bhakra 39.98 328 *e*P **P 11 37 26.8 +2.5**
MENI Mendum Tagoi 40.44 92 *e*P **P 11 37 24.4 -3.9**
comp=Z,91nm,1.1s,mb5.1
YOMI Yo Mokiole 40.58 92⇑*e*P **P 11 37 25.3 -4.2**
PONG Pong 40.64 328 *e*P **P 11 37 29.0 -0.8**
PONG *e* 11 43 44.0
TIY Taiyuan 41.08 15⇑P **P 11 37 34.0 +0.7**
TIY LR LR
comp=N,10μm,14.0s
TIY LR LR
comp=Z,2μm,12.0s,MS5.1
GTA Gaotai 41.11 360 *e*P **P 11 37 33.8 +0.2**
GTA AP pP 11 37 42.8 -1.0
GTA XP sP 11 37 47.1 -1.0
GTA PP PP 11 39 12.5 +1.1
GTA PCP PcP 11 39 34.1 +0.8
GTA SCP 11 43 20.8
GTA S **S 11 43 43.6 -0.4**
GTA XS 11 43 58.8
GTA SS SS 11 46 41.5 -1.3
GTA SCS ScS 11 47 33.6 +0.5
GTA AMB AMB
comp=Z,99nm,1.2s,mb5.3
GTA AMB AMB
comp=Z,1μm,6.8s
GTA LR LR
comp=N,7μm,14.5s,MS5.8
GTA LR LR
comp=E,7μm,16.3s,MS5.8
GTA LR LR
comp=Z,8μm,16.0s,MS5.7
THN Thein Dam 41.14 328 *e*P **P 11 37 32.6 -1.3**
THN *e* 11 43 41.1
TIA Tai'an 41.16 21 P **P 11 37 33.3 -0.7**
TIA S **S 11 43 41.0 -3.8**
TIA AMB AMB
comp=Z,110nm,1.9s,mb5.2
TIA LR LR
comp=N,10μm,15.4s,MS5.8
TIA LR LR
comp=E,6μm,14.6s,MS5.8
TIA LR LR
comp=N,18μm,15.0s
TIA LR LR
comp=E,13μm,15.0s
HHC Hu-ho-hao-te 43.85 13⇑*i*P **P 11 37 56.3 +0.3**
HHC AP pP 11 38 06.3 +0.1
HHC XP sP 11 38 09.9 -0.6
HHC PP PP 11 39 42.8 +3.1
HHC SCP 11 43 30.6
HHC PCS 11 43 37.1
HHC S **S 11 44 25.8 +1.6**
HHC XS 11 44 43.5
HHC SS SS 11 47 34.3 +1.5
HHC SCS ScS 11 47 52.5 +2.7
HHC AMB AMB
comp=Z,64nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,1μm,5.8s
HHC LR LR
comp=N,11μm,16.1s,MS5.9
HHC LR LR
comp=E,3μm,17.1s,MS5.9
HHC LR LR
comp=Z,9μm,16.9s,MS5.8
BJT Baijiatuau 44.28 18 *e*P **P 11 37 59.7 +0.2**
BJT *e* 11 39 43.1
BJT pmax pmax
comp=Z,217nm,1.3s
BJT Baijiatuau 44.28 18 *e*P **P 11 37 59.7 +0.2**
comp=Z,218nm,1.3s,mb5.7
BJT *e*PP PP 11 39 43.1 -1.0
BJI Beijing 44.30 18 P **P 11 37 59.5 -0.2**
BJI AP pP 11 38 09.0 -0.9
BJI XP sP 11 38 13.6 -0.6
BJI PP PP 11 39 44.4 +0.1
BJI AMB AMB
comp=Z,166nm,1.6s,mb5.5
BJI AMB AMB
comp=Z,2μm,4.4s
BJI LR LR
comp=N,11μm,14.7s,MS5.9
BJI LR LR
comp=E,3μm,15.3s,MS5.9
BJI LR LR
comp=Z,6μm,15.2s,MS5.6
BJI Beijing 44.30 18 P **P 11 37 59.5 -0.2**
comp=Z,166nm,1.6s,mb5.5
BJI pP pP 11 38 09.0 -0.9
BJI sP sP 11 38 13.6 -0.6
BJI PP PP 11 39 44.4 +0.1
BJI S **S 11 44 43.5 +13**
BJI sS 11 45 07.5
BJI SS SS 11 48 09.7 +28
BJI LR LR
comp=Z,6μm,15.2s,MS5.6
MSEY Mahe Island 44.48 265 *e*P **P 11 38 02.0 +0.6**
comp=Z,54nm,1.3s,mb5.1
MSEY *e*pP pP 11 38 11.4 -0.2
MSEY LR LR
comp=Z,1μm,22.0s,MS4.8
DL2 Dalian 45.25 24 P **P 11 38 06.5 -0.7**
DL2 S **S 11 44 45.5 +1.1**
DL2 AMB AMB
comp=Z,190nm,1.3s,mb5.8
DL2 LR LR
comp=N,3μm,17.8s
DL2 LR LR
comp=Z,4μm,19.6s,MS5.4
INCN Inchon 46.34 30 *e*P **P 11 38 14.9 -1.0**
comp=Z,371nm,1.6s,mb6.1
INCN *e*pP pP 11 38 23.8 -2.3
INCN *e*SP sP 11 38 27.6 -2.8
INCN *e*PcP PcP 11 39 50.9 -0.2
INCN LR LR
comp=Z,4μm,20.0s,MS5.4
KSH Kashi 46.72 334 *i* PR 11 38 17.3
KSH AP pP 11 38 28.0 -1.1
KSH XP sP 11 38 32.3 -1.1
KSH PCP PcP 11 39 53.0 +0.6
KSH PP PP 11 40 08.1 -0.4
KSH SCP 11 43 42.0
KSH PCS 11 43 46.1
KSH S **S 11 45 02.3 -3.1**
KSH XS 11 45 21.5
KSH SCS ScS 11 48 08.0 -0.2
KSH SS SS 11 48 23.0 -1.5
KSH AMB AMB
comp=Z,2μm,3.2s
KSH LR LR
comp=N,5μm,20.4s,MS5.5
KSH LR LR
comp=E,2μm,15.5s,MS5.5
WBK Wadi Bani Khal 46.79 304 P **P 11 38 20.2 +0.6**
SNR=12
WMQ Urumqi 46.83 348⇑P **P 11 38 20.5 +0.9**
WMQ AP pP 11 38 30.5 +0.7
WMQ XP sP 11 38 34.5 +0.4
WMQ PCP PcP 11 39 53.9 +1.2
WMQ PP PP 11 40 10.3 +0.8
WMQ S **S 11 45 07.8 +1.0**
WMQ XS 11 45 24.1
WMQ LR LR
comp=N,3μm,19.2s,MS5.3
WMQ LR LR
comp=E,2μm,16.4s,MS5.3
WMQ LR LR
comp=Z,2μm,23.8s
KS15 Wonju Array Si 46.93 31 *e*P **P 11 38 20.0 -0.5**
GUMO Guam 47.12 70 PFAKE 11 38 30.0 +7.7
GUMO LR LR
comp=Z,1μm,20.0s,MS4.9
PMG Port Moresby 47.52 101 *e*P **P 11 38 23.8 -1.7**
PMG *e* 11 39 55.4
PMG pmax pmax
comp=Z,55nm,1.1s
PMG MLR MLR
comp=Z,3μm,21.0s
PMG Port Moresby 47.52 101 P **P 11 38 23.9 -1.6**
comp=Z,34nm,0.8s,mb5.4,baz=284,slow=3.9,SNR=8.2
PMG PcP PcP 11 39 55.5 -0.1
comp=Z,33nm,0.9s,baz=285,slow=4.3,SNR=4.2
PMG Port Moresby 47.52 101 *e*P **P 11 38 23.8 -1.8**
comp=Z,55nm,1.1s,mb5.5
PMG *e*PcP PcP 11 39 55.4 -0.3
PMG LR LR
comp=Z,3μm,21.0s,MS5.2
SMDO Samad 47.75 304 P **P 11 38 27.4 +0.2**
SNR=6.3

BIDO Bidbid 47.89 304 P **P** **11 38 28.8 +0.5**
SNR=6.6
BSY Bisya 48.33 303 P **P** **11 38 32.1 +0.4**
SNR=13
SNY Shenyang 48.51 24⇑ *i*P **P** **11 38 31.0 -1.9**
SNY PCP PcP 11 39 57.3 -1.5
SNY PP PP 11 40 23.1 -2.3
SNY S **S** **11 45 23.9 -6.7**
SNY AMB AMB
comp=Z,130nm,1.4s,mb5.8
SNY AMB AMB
comp=Z,2μm,3.5s
SNY LR LR
comp=E,9μm,14.2s
SNY LR LR
comp=Z,7μm,14.1s,MS5.8
HOQ Hoqain 48.59 304 P **P** **11 38 34.3 +0.6**
SNR=7.6
CTA Charters Tower 48.68 115⇑ *i*P **P** **11 38 33.0 -1.4**
comp=Z,78nm,1.1s,mb5.7
CTA *e* 11 40 13.4
CTA *e*S **S** **11 45 31.5 -1.8**
CTA Charters Tower 48.68 115⇑ *i*P **P** **11 38 33.0 -1.4**
CTA *e*S **S** **11 45 31.5 -1.8**
CTA pmax pmax
comp=Z,79nm,1.1s
CTA Charters Tower 48.68 115 P **P** **11 38 33.9 -0.6**
comp=Z,120nm,1.1s,mb5.8,baz=290,slow=8.9,SNR=29
CTAO Charters Tower 48.68 115 *e*P **P** **11 38 32.9 -1.5**
CTAO *e**PP pP 11 38 42.4 -2.3
CTAO *e**SP sP 11 38 47.5 -1.5
CTAO pmax pmax
comp=Z,238nm,1.3s,mb6.1
CTAO MLR MLR
comp=Z,4μm,21.0s,MS5.4
CTAO Charters Tower 48.68 115 *e*P **P** **11 38 32.9 -1.5**
comp=Z,238nm,1.3s,mb6.1
CTAO *e*pP pP 11 38 42.4 -2.3
CTAO *e*sP sP 11 38 47.5 -1.4
CTAO LR LR
comp=Z,4μm,21.0s,MS5.4
ADE Adelaide 48.78 137 *e*P **P** **11 38 36.5 +1.4**
ULHL Ulahol 48.90 337 P **P** **11 38 36.9 +1.1**
SNR=10
ARQ Araqi 49.14 303 P **P** **11 38 38.2 +0.2**
SNR=12
KZA Kyzart 49.16 336 P **P** **11 38 38.3 +0.4**
SNR=57
STKA Stephens Creek 49.25 132⇑ *i*P **P** **11 38 38.1 -0.6**
comp=Z,70nm,1.0s,mb5.6
STKA *e*S **S** **11 45 40.3 -0.8**
STKA Stephens Creek 49.25 132 P **P** **11 38 39.0 +0.3**
comp=Z,56nm,0.9s,mb5.6,baz=306,slow=7.5,SNR=55
STKA S **S** **11 45 43.4 +2.3**
comp=Z,9.1nm,1.1s,baz=102,slow=20,SNR=3.5
STKA LR LR 12 01 01.0
comp=Z,7μm,20.4s,MS5.6,baz=291,slow=38
AAA Alma-Ata 49.50 338 *e*P **P** **11 38 40.0 -0.4**
AAA *e* 11 40 38.0
AAA *e*S **S** **11 45 46.0 +1.6**
AAA pmax pmax
comp=Z,2μm,4.0s
AAA smax
comp=E,2μm,7.0s
UCH Uchtor 49.59 335 P **P** **11 38 41.5 +0.4**
SNR=116
TKM2 Tokmak 2 49.72 337 P **P** **11 38 42.4 +0.2**
SNR=136
KBK Karagaybulak 49.76 336 P **P** **11 38 43.2 +0.7**
SNR=118
SONM Songino Array 49.85 6 P **P** **11 38 43.0 -0.1**
comp=E,94nm,0.8s,mb5.9,baz=187,slow=8.0,SNR=468
SONM PcP PcP 11 40 03.2 -0.3
comp=E,48nm,0.9s,baz=186,slow=3.8,SNR=5.6
SONM ScP 11 43 56.4
comp=E,5.4nm,1.0s,baz=198,slow=3.9,SNR=3.8
SONM LR LR 12 02 23.1
comp=E,6μm,18.1s,MS5.6,baz=92,slow=39
SONM PKPPKP 12 09 49.7
comp=E,0.5nm,0.9s,baz=45,slow=3.5,SNR=3.6
AML Almayashu 49.85 335 P **P** **11 38 43.6 +0.4**
SNR=60
AAK Ala-Archa 49.93 336 P **P** **11 38 44.0 +0.2**
SNR=53
AAK Ala-Archa 49.93 336 *e*P **P** **11 38 42.8 -1.0**
AAK *e**PP pP 11 38 53.2 -0.8
AAK pmax pmax
comp=Z,617nm,1.9s,mb6.3
AAK MLR MLR
comp=Z,910nm,21.0s,MS4.8
AAK Ala-Archa 49.93 336 *e*P **P** **11 38 42.8 -1.0**
comp=Z,618nm,1.9s,mb6.3
AAK *e*pP pP 11 38 53.2 -0.8
AAK LR LR
comp=Z,910nm,21.0s,MS4.8
ULN Ulaanbaatar 49.95 6 *e*P **P** **11 38 43.3 -0.5**
ULN *e**PP pP 11 38 53.0 -1.1
ULN *e**SP sP 11 38 56.9 -1.5
ULN pmax pmax
comp=Z,123nm,1.0s,mb5.9
ULN MLR MLR
comp=Z,5μm,20.0s,MS5.5
ULN Ulaanbaatar 49.95 6 *e*P **P** **11 38 43.3 -0.5**
comp=Z,123nm,1.0s,mb5.9
ULN *e*pP pP 11 38 53.0 -1.1
ULN *e*sP sP 11 38 56.9 -1.4
ULN *e*ScP 11 44 14.6
ULN LR LR
comp=Z,5μm,20.0s,MS5.5
FRU Bishkek 50.05 336α *i*P **P** **11 38 44.0 -0.6**
FRU *e*S **S** **11 45 55.0 +3.0**
FRU pmax pmax
comp=Z,580nm,1.9s,mb6.3
FRU MLR MLR
comp=Z,3μm,19.0s,MS5.3
ASHO Ashiyiah 50.09 305 P **P** **11 38 45.3 0.0**
SNR=16
CHMS Chumysh 50.13 336 P **P** **11 38 44.9 -0.4**
SNR=64
EKS2 Erkin-Say 50.25 335 P **P** **11 38 46.4 +0.2**
SNR=197
BANOM Banah 50.44 306 P **P** **11 38 48.6 +0.7**
SNR=6.2
USP Osenovka 50.45 336 P **P** **11 38 48.3 +0.6**
SNR=5.2
KKAR Karatay Array 52.04 333 *i*P **P** **11 38 58.9 -0.8**
KKAR pmax pmax
comp=Z,256nm,1.3s,mb6.0
ZAK Zakamensk 52.16 3 *e*P **P** **11 39 00.1 -0.4**
ZAK *e* 11 40 11.1
ZAK pmax pmax
comp=Z,61nm,1.0s,mb5.5
ZAK pmax pmax
comp=Z,29nm,1.2s,mb5.1
MAJO Matsushiro 52.23 39 *e*P **P** **11 38 59.6 -1.6**
MAJO pmax pmax
comp=Z,149nm,1.1s,mb5.8
MAJO MLR MLR
comp=Z,4μm,20.0s,MS5.4
MAJO Matsushiro 52.23 39 *e*P **P** **11 38 59.6 -1.6**
comp=Z,149nm,1.1s,mb5.8
MAJO LR LR
comp=Z,4μm,20.0s,MS5.4
MAT Matsushiro 52.23 39 *e*P **P** **11 39 00.0 -1.2**
MAT *e*S **S** **11 46 23.0 +0.8**
MAT pmax pmax
comp=Z,180nm,1.2s,mb5.9
MAT MLR MLR
comp=Z,2μm,20.0s,MS5.2
MAT Matsushiro 52.23 39 *e*P **P** **11 39 00.0 -1.2**
comp=Z,180nm,1.2s,mb5.9
MAT *e*S **S** **11 46 23.0 +0.8**
MAT LR LR
comp=Z,2μm,20.0s,MS5.2
MAT Matsushiro 52.23 39 P **P** **11 38 59.5 -1.7**
MAT S **S** **11 46 22.0 -0.2**
MJAR Matsushiro Arr 52.23 39 P **P** **11 39 00.5 -0.7**
comp=Z,109nm,1.0s,mb5.8,baz=222,slow=7.4,SNR=194
MJAR ScP 11 44 06.7
comp=Z,4.3nm,1.1s,baz=197,slow=3.2,SNR=4.2
MJAR LR LR 12 02 47.6
comp=Z,4μm,18.7s,MS5.4,baz=235,slow=38
MDJ Mudanjiang 53.32 26 P **P** **11 39 09.3 0.0**
MDJ AP pP 11 39 17.6 -2.0
MDJ XP sP 11 39 22.3 -1.5
MDJ PP PP 11 41 09.4 -1.7
MDJ S **S** **11 46 39.9 +3.0**
MDJ XS 11 46 55.6
MDJ AMB AMB
comp=Z,94nm,1.1s,mb5.6
MDJ AMB AMB
comp=Z,925nm,7.4s
MDJ LR LR
comp=N,7μm,17.8s,MS5.9
MDJ LR LR
comp=E,6μm,17.8s,MS5.9
MDJ LR LR
comp=Z,11μm,16.1s,MS6.0
MDJ Mudanjiang 53.32 26 *e*P **P** **11 39 09.1 -0.1**
comp=Z,85nm,0.9s,mb5.7
MOY Mondy 53.37 1 *e*P **P** **11 39 09.1 -0.4**
MOY pmax pmax
comp=Z,235nm,2.2s,mb5.7
TLY Talaya 53.47 3*c* *i*P **P** **11 39 10.2 -0.1**
TLY *e* 11 41 10.5
TLY *e*S **S** **11 46 36.1 -2.8**
TLY *e* 11 48 49.5
TLY pmax pmax
comp=Z,217nm,1.0s,mb6.0
TLY MLR MLR
comp=Z,8μm,16.0s,MS5.8
HIA Hailar 53.76 16 *e*P **P** **11 39 11.2 -1.2**
HIA *e* 11 40 17.2
HIA pmax pmax
comp=Z,224nm,1.6s
HIA Hailar 53.76 16 *e*P **P** **11 39 11.2 -1.2**
comp=Z,224nm,1.6s,mb5.8
HIA *e*PcP PcP 11 40 17.2 -0.9
IRK Irkutsk 54.07 3 *e*P **P** **11 39 14.4 -0.3**
IRK pmax pmax
comp=Z,348nm,1.6s,mb6.0
OPO Ambohidratompo 54.26 249 P **P** **11 39 16.9 +0.4**
comp=Z,8.1nm,0.9s,mb4.7,baz=82,slow=6.9,SNR=12
TOO Toolangi 54.81 136 *e*P **P** **11 39 21.9 +1.6**
comp=Z,36nm,1.2s,mb5.3
TOO Toolangi 54.81 136 *e*P **P** **11 39 21.9 +1.6**
TOO pmax pmax
comp=Z,37nm,1.2s,mb5.3
CNB Canberra Magne 56.58 132 *e*P **P** **11 39 33.5 +0.4**
comp=Z,1μm,1.3s,mb6.8
ZAL Zalesovo 57.05 349 P **P** **11 39 35.3 -0.9**
comp=Z,148nm,0.9s,mb6.0,baz=299,slow=6.0,SNR=548
ZAL S **S** **11 47 27.6 +0.9**
comp=Z,7.1nm,1.1s,baz=168,slow=20,SNR=11
ZAL LR LR 12 06 40.0
comp=Z,3μm,20.6s,MS5.4,baz=302,slow=39
ZAL PKPPKP 12 09 32.1
comp=Z,1.1nm,0.3s,baz=235,slow=4.1,SNR=3.1
KLR Kul'dur 57.86 24*d* *i*P **P** **11 39 37.5 -4.4**
KLR *e*S **S** **11 47 32.0 -5.3**
KLR *e* 11 49 18.0
KLR *e*SS SS 11 51 35.5 +5.7
KLR pmax pmax
comp=N,900nm,5.5s
KLR pmax pmax
comp=E,600nm,5.5s
KLR pmax pmax
comp=Z,2μm,5.5s
KLR pmax pmax
comp=N,110nm,1.2s
KLR pmax pmax
comp=Z,250nm,1.2s,mb6.1
KLR MLR MLR
comp=Z,12μm,13.0s,MS6.2
NVS Novosibirsk 58.21 349 *e*P **P** **11 39 42.1 -2.2**
NVS *e*S **S** **11 47 40.8 -1.0**
NVS pmax pmax
comp=Z,404nm,1.6s,mb6.2
NVS pmax pmax
comp=N,373nm,1.6s
NVS pmax pmax
comp=E,153nm,1.4s
NVS smax
comp=N,111nm,2.0s
NVS smax
comp=E,70nm,2.0s
ATD Arta Tunnel 58.30 285 LR LR 12 00 27.8
comp=E,3μm,20.9s,MS5.4,baz=45,slow=32
ERM Erimo 58.61 37 PFAKE 11 40 00.0 +13
ERM LR LR
comp=Z,6.0nm,21.0s
TAU Tasmania Unive 58.69 141 PFAKE 11 40 00.0 +12
TAU LR LR
comp=Z,942nm,21.0s,MS4.9
BVA0 Borovoye Array 60.08 340 P **P** **11 39 55.4 -1.8**
BVA0 pmax pmax
comp=Z,54nm,1.4s,mb5.4
BVAR Borovoye Array 60.08 340 P **P** **11 39 55.2 -2.0**
comp=Z,41nm,0.8s,mb5.5,baz=143,slow=7.4,SNR=196
BVAR PKPPKP 12 09 32.0
comp=Z,0.9nm,0.8s,baz=315,slow=2.1,SNR=5.8
HNR Honiara 60.10 100 PFAKE 11 40 10.0 +12
HNR LR LR
comp=Z,1μm,20.0s,MS5.0
BOD Bodaibo 60.59 9 *e*P **P** **11 39 59.6 -1.1**
BOD pmax pmax
comp=Z,389nm,1.1s,mb6.5
YUK Yuzh-Kuril'sk 61.40 36 *e*P **P** **11 40 04.3 -2.0**
YUK S **S** **11 48 36.0 +13**
YUK pmax pmax
comp=Z,5μm,2.0s
YUK MLR MLR
comp=Z,3μm,19.0s,MS5.5
YSS Yuzh-Sakhalins 61.42 32*α* *i*P **P** **11 40 05.3 -1.2**
YSS *e* pP 11 40 14.7 -2.3
YSS *e* pP 11 40 18.0 +1.0
YSS *e* 11 42 17.0
YSS *e*S **S** **11 48 22.0 -1.4**
YSS *e*PS PS 11 48 32.0 -12
YSS *e*PPS PPS 11 48 47.0 -6.1
YSS pmax pmax
comp=N,210nm,1.0s
YSS pmax pmax
comp=Z,650nm,1.0s,mb6.7
YSS pmax pmax
comp=E,100nm,0.9s
YSS MLR MLR
comp=N,4μm,15.0s,MS5.7
YSS MLR MLR
comp=E,2μm,15.0s,MS5.7
YSS MLR MLR
comp=Z,2μm,15.0s,MS5.5
YSS Yuzh-Sakhalins 61.42 32 *e*P **P** **11 40 05.7 -0.8**
comp=Z,796nm,1.1s,mb6.8
YSS *e*pP pP 11 40 15.0 -2.0
YSS LR LR
comp=Z,2μm,19.0s,MS5.3
CLNS Chul'man 61.93 15 *e*P **P** **11 40 09.0 -0.7**
CLNS *e**PP pP 11 40 15.8 -4.4
CLNS *e* 11 40 51.2
CLNS *e* 11 42 24.9
CLNS *e*S **S** **11 48 28.0 -1.7**
CLNS *e* 11 49 53.8
CLNS pmax pmax
comp=N,228nm,1.0s
CLNS pmax pmax
comp=E,173nm,1.0s
CLNS pmax pmax
comp=Z,432nm,1.0s,mb6.5
CLNS pmax pmax
comp=Z,18nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,48nm,1.1s
CLNS pmax pmax
comp=E,30nm,1.0s
CLNS smax
comp=N,213nm,11.7s
CLNS smax
comp=Z,144nm,11.2s
CLNS smax
comp=E,116nm,12.2s
CLNS MLR MLR
comp=Z,8μm,16.0s,MS6.0
CLNS MLR MLR
comp=N,6μm,15.0s,MS5.9
CLNS MLR MLR
comp=E,1μm,13.0s,MS5.9
KMBO Kilima Mbogo 62.68 270 *i*P **P** **11 40 21.0 +5.7**
KMBO pmax pmax
comp=Z,10.0nm,0.9s
KMBO Kilima Mbogo 62.68 270 P **P** **11 40 16.2 +0.9**
comp=Z,7.9nm,0.9s,mb4.8,baz=60,slow=8.2,SNR=20
KMBO LR LR 12 04 16.6
comp=Z,4μm,19.6s,MS5.6,baz=92,slow=33
KMBO Kilima Mbogo 62.68 270 *e*P **P** **11 40 15.8 +0.5**
comp=Z,22nm,1.1s,mb5.2
KMBO LR LR
comp=Z,4μm,20.0s,MS5.6
BHD Baghdad 62.91 309 *i*P **P** **11 40 07.0 -10**
BHD *i* pP pP 11 40 24.0 -3.2
BHD *e*S **S** **11 48 34.0 -8.2**
CASY Casey 64.69 175 PFAKE 11 40 40.0 +12
CASY LR LR
comp=Z,4μm,20.0s,MS5.5
MIR Mirnyy 64.71 183 *e*P **P** **11 40 41.0 +13**
MIR pmax pmax
comp=Z,143nm,2.2s,mb5.6
MAK Makhachkala 64.86 320 *e*P **P** **11 40 28.0 -1.2**
MAK *i* 11 41 04.0
MAK *e* 11 42 49.0
MAK *i*S **S** **11 49 04.0 -2.4**
MAK *i*PS PS 11 49 22.0 -9.0
MAK *i* 11 50 16.0
MAK pmax pmax
comp=Z,2μm,7.0s
MAK smax
comp=N,2μm,6.0s
MSL Mosul 65.04 312 *e*P **P** **11 40 31.0 +0.5**
MSL *e*pP pP 11 40 45.5 +4.3
MSL *e*sP sP 11 41 06.0 +21
MSL *e*S S 11 49 07.0 -1.7
MSL *e*sS 11 49 27.0
HKR Hakkari 65.06 313 *e*P **P** **11 40 29.6 -1.0**
HKR Hakkari 65.06 313 P **P** **11 40 30.0 -0.6**
GNI Garni 65.42 316 *e*P **P** **11 40 30.8 -2.1**
GNI Garni 65.42 316 P **P** **11 40 32.9 0.0**
GNI pmax pmax
comp=Z,100nm,1.1s
GNI Garni 65.42 316 P **P** **11 40 33.0 +0.1**
comp=Z,6.7nm,0.4s,mb5.0,baz=24,slow=21,SNR=17
GNI Garni 65.42 316 P **P** **11 40 31.1 -1.8**
DGRG David-gareji 65.56 318 P **P** **11 40 33.5 -0.2**
DGRG S S 11 49 17.0 +2.0
CLDR Caldiran 65.57 315 *e*P **P** **11 40 32.6 -1.3**
VANB Van 65.73 314 P **P** **11 40 32.7 -2.1**
MTA Mtatsminda 66.06 318 P **P** **11 40 35.9 -1.0**
TI2 Plekhanov 66.10 318⇑ *i*P **P** **11 40 35.8 -1.4**
TI2 *e*S S 11 49 20.6 -1.0
TI2 *e*S S 11 49 21.0 -0.6
SVE Sverdlovsk 66.57 338⇑ *i*P **P** **11 40 38.7 -1.2**
SVE *e* 11 40 53.2
SVE *e* 11 41 04.0
SVE *e*PPP PPP 11 44 46.0 +1.3
SVE *e*S S 11 49 24.0 -3.0
SVE *e*PS PS 11 49 48.0 -5.9
SVE *e* 11 50 30.0
SVE *e*SS SS 11 53 50.0 +4.0
SVE pmax pmax
comp=Z,520nm,2.0s,mb6.2
SVE MLR MLR
comp=N,2μm,18.0s,MS5.4
SVE MLR MLR
comp=E,2μm,18.0s,MS5.4
SVE MLR MLR
comp=Z,3μm,18.0s,MS5.5
BEST Besiri 66.99 313 *i*P **P** **11 40 42.0 -0.8**
ARU Arti 67.10 337⇑ *i*P **P** **11 40 42.0 -1.2**
ARU *e* 11 41 10.4
ARU *e*PPP PPP 11 44 42.8 -7.1
ARU *e*S S 11 49 35.6 +2.3
ARU *e* 11 50 31.6
ARU *e*SS SS 11 53 57.8 +3.5
ARU pmax pmax
comp=Z,322nm,1.2s,mb6.2
ARU MLR MLR
comp=Z,4μm,20.0s,MS5.6
ARU MLR MLR
comp=N,2μm,22.0s,MS5.5
ARU MLR MLR
comp=E,2μm,19.0s,MS5.5
ARU Arti 67.10 337 *e*P **P** **11 40 42.0 -1.2**
comp=E,375nm,1.2s,mb6.3
ARU *e*pP pP 11 40 52.7 -1.2
ARU LR LR
comp=Z,977nm,20.0s,MS5.0
ZEI Tsey 67.13 318 *e*P **P** **11 40 38.4 -5.2**
ZEI *i* *PP pP 11 40 46.7 -7.6
ZEI pmax pmax
comp=Z,49nm,0.9s,mb5.5
DZM Mont Dzumac 67.54 113 *e*P **P** **11 40 45.4 -1.1**
DZM Mont Dzumac 67.54 113 P **P** **11 40 47.1 +0.5**
comp=Z,59nm,1.1s,mb5.5,baz=306,slow=4.4,SNR=11
YAK Yakutsk 67.66 15*c* *i*P **P** **11 40 45.0 -1.6**
YAK *e**PP pP 11 40 53.6 -3.7
YAK *e* 11 41 12.7
YAK *e* 11 43 11.0
YAK *e*PPP PPP 11 44 50.9 -4.0
YAK *i*S S 11 49 37.2 -2.8
YAK *e* 11 50 38.0
YAK *e*SS SS 11 54 02.2 -0.5
YAK pmax pmax
comp=N,218nm,1.0s
YAK pmax pmax
comp=Z,668nm,1.0s,mb6.6
YAK pmax pmax
comp=E,159nm,1.2s
YAK pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,0.8s
YAK smax
comp=E,16nm,1.3s
YAK smax
comp=N,10.0nm,1.2s
YAK MLR MLR
comp=N,3μm,19.0s,MS5.6
YAK MLR MLR
comp=Z,5μm,19.0s,MS5.7
YAK MLR MLR
comp=E,2μm,17.0s,MS5.6
YAK Yakutsk 67.66 15 *e*P **P** **11 40 44.8 -1.8**
comp=E,1μm,0.9s
YAK LR LR
comp=Z,4μm,19.0s
EZM Erzurum 67.69 315 *e*P **P** **11 40 47.6 +0.4**
BINT Bingol 67.93 313 *e*P pP 11 40 58.9 -0.6
KIV Kislovodsk 68.44 319*c* *i*P **P** **11 40 51.5 -0.3**
KIV *e* pP 11 41 01.4 -1.1
KIV *e* 11 41 24.5
KIV *i*S S 11 49 49.2 -0.4
KIV pmax pmax
comp=Z,201nm,1.2s,mb6.0
KIV MLR MLR
comp=Z,800nm,19.0s,MS5.0
KIV Kislovodsk 68.44 319 *e*P **P** **11 40 51.2 -0.6**
comp=Z,193nm,1.1s,mb6.0
KIV *e*pP pP 11 41 01.4 -1.1
KIV LR LR
comp=Z,225nm,20.0s
ASF Jabal al Asfar 68.49 306 P **P** **11 40 52.5 +0.1**
comp=Z,20nm,0.9s,mb5.2,baz=216,slow=0.9,SNR=18
ASF LR LR 12 12 19.1
comp=Z,4μm,18.1s,MS5.7,baz=337,slow=37
GOF Gofitskoye 68.69 320⇓ *i*P **P** **11 40 53.0 -0.4**
GOF *i*S S 11 49 53.0 +0.4
GOF pmax pmax
comp=Z,129nm,1.3s,mb5.7
GOF smax
comp=E,456nm,2.5s
WAKE Wake Island 68.74 69 PFAKE 11 41 10.0 +16
WAKE LR LR
comp=Z,178μm,20.0s
ELZG Elazig 68.89 313 *i*P **P** **11 40 52.0 -2.8**
MBAR Mbarara 69.20 270 P **P** **11 40 56.8 -0.3**
MBAR pmax pmax
comp=Z,63nm,1.6s,mb5.3
MBAR Mbarara 69.20 270 *e*P **P** **11 40 56.5 -0.5**
comp=Z,15nm,1.2s,mb4.8
MBAR LR LR
comp=Z,590nm,20.0s,MS4.8
GUMT Gumushane 69.23 315 *e*P **P** **11 40 56.3 -0.5**
MALT Malatya 69.23 312 *e*P **P** **11 40 56.7 -0.2**
MALT *e**PP pP 11 41 07.9 +0.3
MALT pmax pmax

comp=Z,163nm,0.8s,mb6.0
MALT Malatya 69.23 312 *e*P P 11 40 56.7 -0.1
comp=Z,163nm,0.8s,mb6.0
MALT *e*pP pP 11 41 07.9 +0.4
MYA Malataya 69.24 312 *e*P P 11 40 56.2 -0.7
EIL Elat 69.43 303 P **P 11 40 58.0 -0.1**
comp=Z,18nm,0.8s,mb5.1,baz=113,slow=1.6,SNR=18
EIL PcP PcP 11 41 19.0 -2.6
comp=Z,27nm,1.0s,baz=85,slow=2.6,SNR=6.3
EIL Elat 69.43 303 *e*P **P 11 40 57.9 -0.3**
GZT Gaziantep 69.56 311 *i* P **P 11 40 58.6 -0.2**
GAZ Gaziantep 69.77 311 *e*P **P 11 41 00.4 +0.3**
SOKR Solikamsk 69.95 338*c* *i*P **P 11 41 00.0 -0.9**
SOKR S S 11 50 09.6 +2.3
SOKR pmax pmax
comp=Z,400nm,1.1s,mb6.3
SOKR MLR MLR
comp=Z,3μm,21.0s,MS5.5
KAHT Ahir Dag 70.17 311 *i* P **P 11 41 02.1 -0.5**
SOC Sochi 70.25 318 *e*P **P 11 41 01.5 -1.4**
SOC *e* pP 11 41 14.7 +1.1
SOC *e*PPP PPP 11 45 21.1 +0.4
SOC *i* S S 11 50 08.1 -2.9
SOC *i* 11 50 37.7
SOC *e*SS SS 11 54 48.2 +5.1
SOC *e*SSS SSS 11 57 42.8 -5.6
SOC pmax pmax
comp=N,56nm,1.2s
SOC pmax pmax
comp=Z,135nm,1.2s,mb5.8
SOC pmax pmax
comp=E,80nm,2.1s
SOC Sochi 70.25 318⇑*i*P **P 11 41 01.1 -1.8**
HTY Hatay 70.26 309 *e*P **P 11 41 03.0 -0.1**
COBT Iskenderun 70.29 310 *i* P **P 11 41 01.2 -2.1**
MAW Mawson 70.37 194 *e*P **P 11 41 04.0 +0.8**
comp=E,14nm,1.0s,mb4.8
MAW Mawson 70.37 194 *e*P **P 11 41 04.0 +0.8**
MAW pmax pmax
comp=Z,14nm,1.0s
MAW Mawson 70.37 194 P **P 11 41 06.9 +3.6**
comp=Z,4.9nm,0.7s,baz=32,slow=5.9,SNR=7.9
MAW LR LR 12 05 26.9
comp=Z,5μm,21.0s,MS5.8,baz=31,slow=30
DRV Dumont d'Urvil 70.43 164 S S 11 50 05.0 -7.7
DRV SS SS 11 54 49.0 +3.4
DRV L 11 59 00.0
SKR Severo-Kuril's 70.82 34 *e*P **P 11 41 03.6 -2.7**
SKR *e* pP 11 41 14.8 -2.2
SKR *e* 11 43 48.0
SKR *e*PPP PPP 11 45 30.0 +3.7
SKR *e*S S 11 50 23.0 +5.6
SKR *e*PS PS 11 50 43.0 -6.8
SKR *e* 11 50 57.0
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,450nm,1.0s,mb6.3
SKR pmax pmax
comp=N,160nm,1.2s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax
comp=E,3μm,12.0s
SKR MLR MLR
comp=N,3μm,18.0s,MS5.7
SKR MLR MLR
comp=E,2μm,18.0s,MS5.7
SKR MLR MLR
comp=Z,2μm,18.0s,MS5.5
CEYT Ceyhan 70.83 310 *e*P **P 11 41 06.6 0.0**
TOKT Tokat 71.28 314 P **P 11 41 08.9 -0.4**
BNN Bunyan 71.32 312 *e*P **P 11 41 09.2 -0.3**
LSZ Lusaka 71.91 255 *e*P **P 11 41 13.3 0.0**
LSZ *e**PP pP 11 41 22.8 -1.2
LSZ pmax pmax
comp=Z,29nm,1.3s,mb5.0
LSZ MLR MLR
comp=Z,3μm,19.0s,MS5.5
LSZ Lusaka 71.91 255 *e*P **P 11 41 13.3 0.0**
comp=Z,29nm,1.3s,mb5.0
LSZ *e*pP pP 11 41 22.8 -1.2
LSZ LR LR
comp=Z,3μm,19.0s,MS5.5
MEST Erdemli 71.93 309 *i* P **P 11 41 12.2 -0.9**
MATP Matopo 71.96 249 LR LR 12 07 19.9
comp=Z,5μm,21.9s,MS5.7,baz=100,slow=31
CSS Prodhromos 72.12 308 *e*P **P 11 41 13.9 -0.5**
comp=Z,317nm,1.5s,mb6.0
ANN Anapa 72.23 318 *e*P **P 11 41 10.0 -4.8**
ANN pmax pmax
comp=Z,45nm,1.2s,mb5.3
LEF Lefka 72.51 308 *e*P pP 11 41 28.8 +1.3
CDAG Cicekdag 72.65 313 *i* P **P 11 41 15.2 -2.2**
BOYT Boyabat 72.82 314 *i* P **P 11 41 17.6 -0.8**
BYBT Boyabat 72.93 314 *e*P **P 11 41 17.6 -1.5**
MA2 Magadan 72.96 24*c* *i*P **P 11 41 18.9 0.0**
MA2 *e*PPP PPP 11 45 48.6 +2.0
MA2 *e*S S 11 50 46.3 +4.4
MA2 *e* 11 51 34.7
MA2 pmax pmax
comp=Z,260nm,1.8s,mb5.9
MA2 pmax pmax
comp=N,70nm,1.9s
MA2 pmax pmax
comp=E,80nm,1.7s
MA2 MLR MLR
comp=Z,8μm,20.0s,MS6.0
KAMT Kaman 73.06 312 P **P 11 41 18.7 -1.2**
BR131 Keskin Array S 73.22 312 PFAKE 11 41 30.0 +9.2
BR131 LR LR
comp=Z,772nm,20.0s,MS5.0
BRTR Keskin Array B 73.22 312 P **P 11 41 19.7 -1.1**
comp=Z,16nm,0.8s,mb5.0,baz=133,slow=7.1,SNR=60
PET Petropavlovsk 73.30 33*c* *i*P **P 11 41 20.4 -0.6**
PET *e* pP 11 41 33.9 +2.2
PET *e* 11 51 16.8
PET pmax pmax
comp=Z,240nm,1.1s,mb6.0
PET pmax pmax
comp=N,131nm,1.0s
PET pmax pmax
comp=E,85nm,1.1s
PET pmax pmax
comp=Z,500nm,16.1s
PET pmax pmax
comp=E,200nm,20.4s
PET pmax pmax
comp=N,100nm,14.7s
PET pmax pmax
comp=Z,135nm,1.4s,mb5.7
PET pmax pmax
comp=Z,200nm,23.3s
PET Petropavlovsk 73.30 33 *e*P **P 11 41 20.4 -0.6**
comp=Z,604nm,1.5s,mb6.3
PET LR LR
comp=Z,1μm,20.0s,MS5.2
CANT Cankiri 73.49 313 *e*P **P 11 41 21.8 -0.6**
JCZ Jackson Bay 73.55 136 pP pP 11 41 37.4 +4.1
ELDT Eldivan 73.60 313 *i* P **P 11 41 21.7 -1.3**
BZK Bozkurt 73.63 315 *e*P **P 11 41 22.6 -0.6**
BZK Bozkurt 73.63 315 P **P 11 41 23.0 -0.2**
VOR Voronezh 73.86 326⇑*i*P **P 11 41 23.5 -0.8**
VOR *e**PP pP 11 41 32.0 -3.0
VOR *e* 11 41 38.5
VOR pmax pmax
comp=N,200nm,1.5s
VOR pmax pmax
comp=Z,470nm,1.5s,mb6.2
VOR pmax pmax
comp=E,470nm,1.4s
ANTO Ankara 73.89 312 *e*P **P 11 41 16.9 -7.8**
ANTO Ankara 73.89 312 ⇓P **P 11 41 24.3 -0.4**
ANTO Ankara 73.89 312 P **P 11 41 22.4 -2.2**
BALT Daday 73.94 314 *i* P **P 11 41 24.5 -0.5**
KIZT Kizilcal 74.29 311 *e*P **P 11 41 25.9 -1.2**
KIZT Kizilcal 74.29 311 P **P 11 41 26.2 -0.9**
SAFT Safranbolu 74.36 314 *e*P **P 11 41 26.9 -0.5**
SAFT Safranbolu 74.36 314 P **P 11 41 27.2 -0.2**
SIM Simferopol' 74.49 318 *i* P **P 11 41 27.6 -0.5**
SIM *e* pP 11 41 40.0 +1.2
SIM *e**PP pP 11 41 42.0 +3.2
SIM *e* 11 44 12.0
SIM *e*S S 11 50 58.0 -1.4
SIM *e*PS PS 11 51 30.0 -8.7
SIM *e*SS SS 11 55 53.0 +4.5
SIM pmax pmax
comp=Z,87nm,0.6s,mb5.9
SIM MLR MLR
comp=Z,900nm,21.0s,MS5.0
SIM Simferopol' 74.49 318⇑*i*P **P 11 41 27.6 -0.5**
TUZ Tuapeka 74.59 137 pP pP 11 41 44.0 +4.7
SGKT Sivrigoynuk 74.62 313 *i* P **P 11 41 28.0 -0.9**
WVZ Waitaha Valley 74.72 134 P **P 11 41 29.2 -0.3**
LBTB Lobatse 75.02 245 *e*P **P 11 41 31.1 -0.5**
LBTB *e**PP pP 11 41 41.0 -1.3
LBTB pmax pmax
comp=Z,13nm,0.9s,mb4.9
LBTB MLR MLR
comp=Z,6μm,19.0s,MS5.9
LBTB Lobatse 75.02 245 *e*P **P 11 41 31.1 -0.5**
comp=Z,13nm,0.9s,mb4.8
LBTB *e*pP pP 11 41 41.0 -1.2
LBTB LR LR
comp=Z,6μm,19.0s,MS5.9
ISP Isparta 75.06 310 *e*P **P 11 41 28.7 -2.8**
RPZ Rata Peaks 75.08 135 P **P 11 41 31.4 -0.1**
comp=Z,61nm,0.8s,mb5.6,baz=192,slow=1.7,SNR=24
RPZ Rata Peaks 75.08 135 P **P 11 41 31.5 0.0**
RPZ Rata Peaks 75.08 135 PN **P 11 41 31.5 -0.1**
RPZ pP pP 11 41 45.7 +3.5
MDU Mudurnu 75.21 313 *e*P **P 11 41 31.4 -0.9**
MDU Mudurnu 75.21 313 P **P 11 41 31.7 -0.6**
ESKT Eskisehir 75.23 312 *e*P **P 11 41 31.3 -1.1**
ESKT Eskisehir 75.23 312 P **P 11 41 31.7 -0.8**
ESKT Eskisehir 75.23 312 *i* P **P 11 41 31.0 -1.5**
HENT Hendek 75.54 313 *i* P **P 11 41 32.6 -1.6**
SEY Seymchan 75.55 22 *e*P **P 11 41 32.0 -1.8**
SEY 11 41 46.4
SEY *e*PPP PPP 11 46 11.7 +0.3
SEY *e*S S 11 51 10.5 -0.3
SEY *e*PS PS 11 51 30.6 -22
SEY *e* 11 52 02.3
SEY pmax pmax
comp=Z,160nm,0.9s,mb6.0
QRZ Quartz Range 75.61 132 P **P 11 41 35.3 +0.7**
QRZ Quartz Range 75.61 132 PN **P 11 41 35.3 +0.7**
QRZ pP pP 11 41 49.4 +4.1
BOSA Boshof 75.66 241 *e*P **P 11 41 34.4 -0.7**
BOSA *e**PP pP 11 41 44.9 -1.0
BOSA pmax pmax
comp=Z,18nm,1.0s,mb5.0
BOSA MLR MLR
comp=Z,4μm,20.0s,MS5.8
BOSA Boshof 75.66 241 P **P 11 41 35.2 0.0**
comp=Z,5.0nm,0.9s,baz=111,slow=6.8,SNR=6.1
BOSA LR LR 12 09 57.8
comp=Z,4μm,18.5s,MS5.8,baz=89,slow=32
BOSA Boshof 75.66 241 *e*P **P 11 41 34.4 -0.7**
comp=Z,18nm,1.0s,mb5.0
BOSA *e*pP pP 11 41 44.9 -1.0
BOSA LR LR
comp=Z,4μm,20.0s,MS5.8
ALT Altintas 75.67 311 *e*P **P 11 41 34.2 -0.8**
ALT Altintas 75.67 311 P **P 11 41 34.5 -0.4**
TIXI Tiksi 75.77 9⇑*i*P **P 11 41 33.7 -1.2**
TIXI MLR MLR
comp=Z,7μm,21.0s,MS6.0
THZ Tophouse 76.05 133 P **P 11 41 37.6 +0.5**
THZ Tophouse 76.05 133 PN **P 11 41 36.9 -0.2**
MOS Moscow 76.39 329α *i*P **P 11 41 38.5 -0.2**
MOS *e* pP 11 41 50.2 +0.8
MOS *e* 11 44 30.6
MOS *e*S S 11 51 16.4 -3.7
MOS pmax pmax
comp=Z,700nm,1.4s,mb6.4
MOS pmax pmax
comp=Z,639nm,2.1s,mb6.2
MOS MLR MLR
comp=Z,2μm,21.9s,MS5.3
HRT Hereke 76.44 313 *e*P **P 11 41 37.8 -1.5**
YLV Yalova 76.59 312 P **P 11 41 38.3 -1.9**
ULDT Uludag 76.67 312 *i* P **P 11 41 39.7 -0.9**
OBN Obninsk 76.69 328*ce*P **P 11 41 39.5 -0.9**
OBN *i* 11 41 55.0
OBN *e* 11 44 29.3
OBN *i* S S 11 51 15.8 -7.5
OBN pmax pmax
comp=Z,411nm,1.7s,mb6.1
OBN MLR MLR
comp=Z,2μm,20.0s,MS5.4
OBN Obninsk 76.69 328 *e*P **P 11 41 39.7 -0.7**
comp=Z,594nm,1.4s,mb6.3
OBN LR LR
comp=Z,475nm,21.0s,MS4.8
ISK Istanbul-Kandi 76.95 313 *e*P **P 11 41 41.3 -0.9**
WAZ Wanganui 77.29 130 P **P 11 41 45.2 +1.0**
WAZ Wanganui 77.29 130 PN **P 11 41 44.8 +0.6**
SNZO South Karori 77.31 132 PFAKE 11 42 00.0 +16
SNZO LR LR
comp=Z,7μm,20.0s,MS6.0
BNT Bandirma 77.62 312 *e*P **P 11 41 45.1 -0.8**
BNT Bandirma 77.62 312 P **P 11 41 45.4 -0.5**
KDAG Bornova 77.68 310 *i* P **P 11 41 45.9 -0.5**
IZM Izmir 77.68 310 *e*P **P 11 41 45.4 -0.9**
IZM Izmir 77.68 310 P **P 11 41 46.5 +0.2**
PSN Preselentsi 78.22 315 *e*P **P 11 41 49.0 -0.1**
TIRR Tirgusor 78.25 316 ⇓P **P 11 41 49.1 -0.2**
BFZ Birch Farm 78.38 131 pP pP 11 42 04.7 +3.9
CFR Carcaliu 78.62 317 P **P 11 41 51.2 -0.1**
CFR Carcaliu 78.62 317 ⇑P **P 11 41 51.0 -0.3**
KIS Kishinev 78.63 319α *i*P **P 11 41 48.5 -2.8**
KIS *i* 11 42 04.0
KIS *e*S S 11 51 40.0 -4.4
KIS *i* PS ScS 11 52 06.0 -0.3
KIS pmax pmax
comp=Z,300nm,2.0s,mb5.9
KIS pmax pmax
comp=Z,200nm,2.0s,mb5.7
HARR Harsova 78.64 316 P **P 11 41 51.5 +0.1**
HARR Harsova 78.64 316 ⇓P **P 11 41 51.4 0.0**
PRD Provadia 78.66 315 *i* P **P 11 41 52.0 +0.4**
URZ Urewera 78.75 129 P **P 11 41 51.7 -0.5**
comp=Z,12nm,0.7s,mb4.9,baz=248,slow=3.9,SNR=9.0
URZ LR LR 12 17 51.5
comp=Z,3μm,19.6s,MS5.6,baz=215,slow=37
EDRB Edirne 78.82 313 *e*P **P 11 41 50.1 -2.4**
EDRB Edirne 78.82 313 P **P 11 41 51.4 -1.1**
IDI Anoyia 78.94 306 P **P 11 41 53.6 +0.3**
comp=Z,26nm,0.7s,mb5.3,baz=87,slow=6.1,SNR=14
JMB Yambol 79.08 314 *e*P **P 11 41 54.0 +0.1**
AKASG Malin Array Be 79.38 322 P **P 11 41 54.1 -1.2**
comp=Z,13nm,0.7s,mb4.9,baz=89,slow=4.8,SNR=44
IAS Iasi 79.51 319 P **P 11 41 56.3 +0.2**
ISR Istrita 79.70 316 P **P 11 41 58.7 +1.5**
SZH Strazhica 79.72 314 *i* P **P 11 41 57.0 -0.3**
VRI Vrincioaia 79.75 317 P **P 11 41 58.3 +0.9**
VRI Vrincioaia 79.75 317 ⇓P **P 11 41 58.1 +0.7**
DIM Dimitrovgrad 79.75 313 *e*P **P 11 41 57.0 -0.5**
SUR Sutherland 79.81 238 *e*P **P 11 41 58.9 +0.8**
comp=Z,84nm,1.3s,mb5.5
SUR *e*pP pP 11 42 09.4 +0.6
SUR LR LR
comp=Z,2μm,20.0s,MS5.4
BUC1 Bucharest 79.89 316 P **P 11 41 59.2 +1.0**
PVL Pavlikeni 80.14 314 *e*P **P 11 42 00.0 +0.4**
MLR Muntele Rosu 80.19 317 P **P 11 41 59.6 -0.2**
comp=Z,77nm,1.0s,mb5.6,baz=94,slow=2.2,SNR=77
MLR Muntele Rosu 80.19 317 P **P 11 42 00.6 +0.7**
MLR Muntele Rosu 80.19 317 ⇓P **P 11 42 00.4 +0.6**
RZN Rozhen 80.27 313 *i* P **P 11 42 00.0 -0.3**
PLD Plovdiv 80.36 313 *e*P **P 11 42 00.5 -0.3**
SNX Sinaia 80.46 316 P **P 11 42 01.8 +0.5**
MTUR Matau 80.75 316 P **P 11 42 02.8 0.0**
VOIR 80.80 316 ⇓P **P 11 42 02.0 -1.0**
PGB Panagyurishte 80.84 313 *i* P **P 11 42 03.0 -0.3**
MMB Musomiste 80.98 312 *i* P **P 11 42 03.5 -0.6**
BURAR Bucovina Array 81.15 319 P **P 11 42 05.5 +0.6**
BURAR Bucovina Array 81.15 319 ⇑P **P 11 42 05.4 +0.5**
MNK Minsk 81.24 326 ⇓*i*P **P 11 42 03.0 -2.2**
FX1 Attu Island--F 81.45 36 LR LR 12 21 27.4
comp=Z,44nm,18.2s,baz=278,slow=38
FX1 Attu Island--F 81.45 36 *e*P **P 11 42 06.4 +0.1**
KKB Krupnik 81.51 313 *i* P **P 11 42 06.0 -0.8**
PUL Pulkovo 81.51 331 *e*P **P 11 42 06.8 +0.3**
PUL *e*S S 11 52 12.0 -2.2
PUL pmax pmax
comp=Z,395nm,0.9s,mb6.3
PUL pmax pmax
comp=N,389nm,0.7s
PUL pmax pmax
comp=E,507nm,0.9s
PUL pmax pmax
comp=Z,607nm,1.0s,mb6.5
PUL pmax pmax
comp=N,409nm,0.7s
PUL pmax pmax
comp=E,773nm,1.0s
PUL smax
comp=E,303nm,10.1s
PUL smax
comp=Z,57nm,5.4s
VTS Vitosha 81.55 313 *i* P **P 11 42 06.0 -1.0**
VAY Valandovo 81.79 312⇑*i*P **P 11 42 07.3 -1.0**
VAY ⇓*i* 11 42 22.7
ZAPS Zavoj/Pirot 82.10 314⇓⇑*i*P **P 11 42 08.8 -1.0**
JOF Joensuu 82.11 335 *ep* **P 11 42 08.9 -0.6**
comp=Z,35nm,0.9s,mb5.3
JOF Joensuu 82.11 335 *e*P **P 11 42 08.9 -0.6**
JOF pmax pmax
comp=Z,35nm,0.9s,mb5.3
TSUM Tsumeb 82.17 251 *e*P **P 11 42 11.4 +0.7**
comp=Z,22nm,1.1s,mb5.0
TSUM LR LR
comp=Z,5μm,20.0s,MS5.8
RAO Raoul Island 82.21 119 LR LR 12 19 46.9
comp=Z,2μm,19.0s,MS5.5,baz=180,slow=36
VNDA Vanda 82.27 169 P **P 11 42 10.9 +0.8**
comp=Z,5.5nm,1.1s,baz=302,slow=6.4,SNR=10
VNDA LR LR 12 17 13.6
comp=Z,2μm,18.1s,MS5.5,baz=312,slow=34
LVV L'vov 82.39 321 *e*P **P 11 42 11.9 +0.7**
LVV *e* 11 45 23.9
LVV *e* 11 47 17.7
LVV *e* 11 52 20.3
LVV L'vov 82.39 321 *i* P **P 11 42 11.0 -0.2**
BOLS Boljevac 82.66 314⇓*i*P **P 11 42 12.7 -0.1**
LVZ Lovozero 82.67 340 *e*P **P 11 42 12.9 +0.6**
LVZ *i* 11 45 26.0
LVZ *i* PPP PPP 11 47 15.4 -1.4
LVZ *e*S S 11 52 25.5 -0.4
LVZ *i* SS SS 11 57 47.6 -4.1
LVZ pmax pmax
comp=Z,153nm,1.2s,mb5.9
LVZ pmax pmax
comp=N,34nm,1.6s
LVZ pmax pmax
comp=E,42nm,1.3s
LVZ pmax pmax
comp=Z,2μm,4.7s
LVZ pmax pmax
comp=N,521nm,4.3s
LVZ pmax pmax
comp=E,198nm,2.5s
LVZ smax
comp=N,527nm,15.4s
LVZ smax
comp=Z,90nm,6.2s
LVZ smax
comp=E,421nm,10.7s
LVZ smax
comp=N,1μm,5.2s
LVZ smax
comp=Z,832nm,3.5s
LVZ smax
comp=E,558nm,3.9s
LVZ MLR MLR
comp=Z,2μm,21.0s,MS5.5
LVZ MLR MLR
comp=N,709nm,19.0s,MS5.4
LVZ MLR MLR
comp=E,1μm,20.0s,MS5.4
SKO Skopje 82.73 313⇓*i*P **P 11 42 12.4 -0.7**
SKO ⇓*i* 11 42 27.6
comp=Z,0.1nm,1.1s
APA Apatity 82.98 339⇑*i*P **P 11 42 14.5 +0.6**
APA *i* 11 42 28.6
APA *e*S S 11 52 32.0 +3.0
APA pmax pmax
comp=Z,190nm,1.4s,mb5.9
OHR Ohrid 83.08 312⇑*i*P **P 11 42 13.6 -1.3**
OHR *i* 11 42 29.1
BILL Bilibino 83.08 20⇑*i*P **P 11 42 13.6 -0.8**
BILL pmax pmax
comp=Z,96nm,2.5s,mb5.4
BILL MLR MLR
comp=Z,6μm,19.0s,MS6.0
BILL Bilibino 83.08 20 *e*P **P 11 42 13.4 -0.9**
comp=Z,202nm,2.8s,mb5.7
BILL LR LR
comp=Z,6μm,19.0s,MS6.0
KWP Kalwaria 83.20 320 *e*P **P 11 42 16.2 +0.9**
KWP *e*PcP PcP 11 42 22.8 +2.5
KWP *e*pP pP 11 42 29.2 +3.1
KWP MLR MLR 12 25 03.6
comp=Z,900nm,23.4s,MS5.1
SVIS Svilajnac 83.26 315⇑*i*P **P 11 42 16.0 +0.2**
UZH Uzhgorod 83.28 319 *e*P **P 11 42 17.0 +1.3**
KOLS Kolonicke sedl 83.34 320 *i* P **P 11 42 17.1 +1.0**
KOLS *e*pP pP 11 42 28.3 +1.3
SBA Scott Base 83.36 169 PFAKE 11 42 30.0 +14
SBA LR LR
comp=Z,2μm,20.0s,MS5.5
GRUS Gruza 83.56 314⇑*i*P **P 11 42 17.6 +0.3**
SUW Suwalki 83.78 325 *e*P **P 11 42 18.6 +0.4**
SUW *e**PP pP 11 42 28.4 -0.7
SUW *e* 11 45 32.2
SUW *e*S S 11 52 29.0 -8.2
SUW Suwalki 83.78 325 *e*P **P 11 42 18.6 +0.5**
SUW *e*pP pP 11 42 28.4 -0.7
SUW *e*PP PP 11 45 32.1 -1.1
SUW *e*S S 11 52 29.0 -8.2
SUW MLR MLR 12 27 05.8
comp=Z,1μm,21.5s,MS5.2
CRVS Cervenica-Dubn 83.87 319 *e*P **P 11 42 18.7 -0.1**
PVY Plav 83.90 313⇑*i*P **P 11 42 18.4 -0.7**
IVA Berane 84.00 313⇑*i*P **P 11 42 18.9 -0.7**
FINES FINESS Array B 84.00 332 P **P 11 42 19.8 +0.6**
comp=Z,31nm,0.8s,mb5.5,baz=104,slow=7.9,SNR=84
FINES LR LR 12 27 51.7
comp=Z,1μm,18.1s,MS5.3,baz=285,slow=41
DIVS Divcibare 84.11 315⇓*i*P **P 11 42 19.4 -0.7**
ULC Ulcinj 84.35 312⇑*i*P **P 11 42 20.6 -0.7**
TTG Podgorica 84.40 313⇑*i*P **P 11 42 20.9 -0.8**
PLE Pljevlja 84.43 314⇑*i*P **P 11 42 22.5 +0.7**
KECS Kecovo 84.44 319 *e*P **P 11 42 22.1 +0.5**
BBLS Bajina Basta - 84.49 314⇑*i*P **P 11 42 22.6 +0.6**
NKY Niksic 84.64 313⇑*i*P **P 11 42 21.7 -1.2**
BUM Brajici-Budva 84.65 313⇑*i*P **P 11 42 22.0 -0.9**
NIE Niedzica 84.70 320 *e*P **P 11 42 23.0 +0.1**
WAR Warsaw 84.72 323 *e*P **P 11 42 24.1 +1.1**
WAR MLR MLR
comp=Z,2μm,24.1s,MS5.3
WAR Warsaw 84.72 323 *e*P **P 11 42 24.1 +1.1**
WAR *e*PcP PcP 11 42 28.6 +1.8
WAR LR LR
comp=Z,2μm,24.1s,MS5.3
WAR Warsaw 84.72 323 *e*P **P 11 42 24.1 +1.1**
WAR *e*PcP PcP 11 42 28.6 +1.8
WAR MLR MLR 12 24 34.6
comp=Z,2μm,24.1s,MS5.3
PSZ Piszkesteto 84.74 318⇑P **P 11 42 23.6 +0.4**
PSZ Piszkesteto 84.74 318 *e*P **P 11 42 23.6 +0.4**
comp=Z,90nm,1.2s,mb5.8
PSZ *e*pP pP 11 42 35.0 +0.9
PSZ Piszkesteto 84.74 318⇑*i*P **P 11 42 23.7 +0.5**
UPM Unac-Piva 84.76 314⇑*i*P **P 11 42 23.4 0.0**
HCY Herceg Novi 84.96 313⇑*i*P **P 11 42 23.8 -0.7**
BRY Bratogost 84.99 313⇑*i*P **P 11 42 24.0 -0.6**
OJC Ojcow 85.15 321 *e*P **P 11 42 25.6 +0.4**
OJC *e*S S 11 52 52.9 +2.0
OJC MLR MLR 12 32 05.9
comp=Z,1μm,18.9s,MS5.3
PKSM Moragy 85.34 316 ⇓P **P 11 42 26.9 +0.7**
VYHS Vyhne 85.52 319 *i* P **P 11 42 27.5 +0.5**
VYHS *e*pP pP 11 42 38.6 +0.7
TIP Timpagrande 85.91 309 *e*P **P 11 42 29.4 +0.2**
TIP *e*pP pP 11 42 41.9 +1.9
KEV Kevo 85.92 341 *ep* **P 11 42 28.5 0.0**
comp=Z,59nm,1.0s,mb5.8
KEV Kevo 85.92 341 *e*P **P 11 42 28.5 0.0**

KEV pmax pmax
comp=Z,59nm,1.0s,mb5.8
GRI Girifalco 86.14 309 *e*P **P 11 42 32.0 +1.7**
OKC Ostrava-Krasne 86.15 320 *e*P **P 11 42 31.2 +1.1**
OKC *e*pP pP 11 42 41.6 +0.6
OKC AMS AMS 12 26 00.0
comp=Z,700nm,18.1s
ORI Oriolo Calabro 86.23 310 *e*P **P 11 42 32.7 +2.0**
SOI Samo 86.35 308 *e*P **P 11 42 32.8 +1.4**
ARCES ARCESS Array B 86.36 340 P **P 11 42 31.0 +0.3**
comp=Z,52nm,0.8s,mb5.8,baz=104,slow=5.0,SNR=63
ARCES LR LR 12 24 52.7
comp=Z,2µm,19.8s,MS5.5,baz=110,slow=38
ARE0 ARCESS Array S 86.36 340 *e*P **P 11 42 31.8 +1.1**
ARE0 *e*pP pP 11 42 43.6 +2.0
MORC Moravsky Berou 86.53 320 *e*P **P 11 42 32.8 +0.9**
MORC *e**PP pP 11 42 43.1 +0.2
MORC pmax pmax
comp=Z,113nm,1.5s,mb5.9
MORC Moravsky Berou 86.53 320 *e*P **P 11 42 32.8 +0.9**
comp=Z,113nm,1.5s,mb5.9
MORC *e*pP pP 11 42 43.1 +0.2
MTTG Motta San Giov 86.63 308 *e*P **P 11 42 34.2 +1.5**
ZST Bratislava 86.63 318 *i* P **P 11 42 33.2 +0.7**
ZST *e* pP 11 42 44.4 +1.0
SLCN Sala Consilina 86.89 310 *e*P **P 11 42 35.3 +1.4**
MGR Morigerati 86.92 310 *e*P **P 11 42 34.3 +0.2**
KOGS Kog 87.02 317 *i* P **P 11 42 34.3 -0.1**
KOGS *e* 11 42 50.2
MRLC Muro Lucano 87.03 311 *e*P **P 11 42 35.0 +0.4**
KIWB Kanaga Island 87.09 38 *e*P **P 11 42 34.8 +0.2**
VRAC Vranov 87.09 319 P **P 11 42 36.0 +1.3**
GKP Gorka Klasztor 87.15 323 *e*P **P 11 42 36.0 +1.2**
GKP *e*pP pP 11 42 46.9 +1.1
GKP *e*S S 11 53 10.4 +0.3
GKP LR LR
comp=Z,1µm,20.5s,MS5.3
GKP Gorka Klasztor 87.15 323 *e*P **P 11 42 36.0 +1.1**
GKP *e*pP pP 11 42 46.9 +1.1
GKP *e*S S 11 53 10.4 +0.3
GKP MLR MLR 12 29 28.9
comp=Z,1µm,20.5s,MS5.3
SGO Sicignano 87.15 311 *e*P **P 11 42 36.1 +0.9**
FG2 Serracapriola 87.36 312 *e*P **P 11 42 37.4 +1.2**
DPC Dobruska-Polom 87.38 320 *e*P **P 11 42 37.2 +1.2**
DPC AMS AMS 12 29 20.0
comp=Z,900nm,19.7s
CSSN Cassano Irpino 87.39 311 *e*P **P 11 42 37.2 +0.9**
KSP Ksiaz 87.45 321⇑ *e*P **P 11 42 37.4 +1.0**
KSP *e**PP pP 11 42 47.9 +0.6
KSP *e*S S 11 53 14.0 +1.0
KSP MLR MLR
comp=Z,2µm,23.8s,MS5.5
KSP Ksiaz 87.45 321 *e*P **P 11 42 37.6 +1.2**
KSP *e*PcP PcP 11 42 40.6 +1.9
KSP *e*pP pP 11 42 47.7 +0.4
KSP *e*S S 11 53 13.8 +0.8
KSP *e*sS 11 53 39.7
KSP MLR MLR 12 24 54.0
comp=Z,2µm,24.3s,MS5.3
UPC Upice 87.59 321 *e*P **P 11 42 38.3 +1.2**
UPC *e*pP pP 11 42 49.2 +1.2
ARSA Arzberg 87.59 317⇓ *i*P **P 11 42 37.7 +0.5**
comp=Z,270nm,2.0s,mb6.1
VAE Valguarnera 87.60 307 P **P 11 42 40.2 +2.8**
comp=Z,8.4nm,0.5s,mb5.3,baz=94,slow=1.8,SNR=5.6
BOJS Bojanci 87.62 316 *e*P **P 11 42 37.5 +0.1**
BOJS *e* 11 42 53.2
MAIT Maitri 87.63 199 *e*P **P 11 42 39.3 +2.5**
GSTR Great Sitkin T 87.79 38 *e*P **P 11 42 37.9 -0.1**
NVLJ Novalja 87.81 315 *i* P **P 11 42 37.5 -0.7**
PDKS Podkum 87.85 316 *i* P **P 11 42 38.8 +0.4**
AFI Afiamalu 87.87 104 *e*P **P 11 42 41.6 +2.4**
AFI pmax pmax
comp=Z,162nm,1.1s,mb6.2
AFI Afiamalu 87.87 104 LR LR 12 18 19.3
comp=Z,719nm,21.1s,MS5.1,baz=104,slow=33
AFI Afiamalu 87.87 104 *e*P **P 11 42 41.6 +2.4**
comp=Z,162nm,1.1s,mb6.2
CII Carovilli 88.00 312 *e*P **P 11 42 40.2 +1.0**
QSPA South Pole Qui 88.06 180 PFAKE 11 42 50.0 +11
QSPA LR LR
comp=Z,1.0nm,20.0s
LJU Ljubljana 88.17 316 *e*P **P 11 42 40.4 +0.4**
LJU *e* 11 42 56.0
LJU *e*S S 11 53 19.8 -0.1
LJU *e* 11 53 45.8
OBKA Obir 88.19 316⇑ *i*P **P 11 42 40.4 +0.4**
comp=Z,328nm,2.3s,mb6.2
SDI San Donato 88.36 312 *e*P **P 11 42 41.4 +0.4**
PRU Pruhonice 88.48 320 *e*P **P 11 42 42.4 +1.1**
PRU *e*pP pP 11 42 52.5 +0.2
PRU AMS AMS 12 29 10.0
comp=Z,800nm,20.1s
MOA Molln 88.49 318⇑ *i*P **P 11 42 41.5 +0.1**
comp=Z,135nm,2.0s,mb5.8
PVCC Panska Ves 88.51 320 *e*P **P 11 42 42.8 +1.3**
PVCC *e*pP pP 11 42 53.0 +0.6
PVCC AMS AMS 12 29 50.0
comp=Z,1µm,23.0s
VOY Vojsko 88.61 316 *e*P **P 11 42 42.2 +0.1**
VOY *e* pP 11 42 54.0 +1.0
TRO Tromso 88.64 340 *e*P **P 11 42 41.2 -0.4**
TRO *e*SKSa 11 53 11.1
TRO AMS AMS 12 26 13.5
comp=Z,2µm,20.7s,MS5.4
PTQR Pietraquaria 88.69 312 *e*P **P 11 42 43.5 +0.9**
BSD Bornholm Skovb 88.70 325⇑ *i*P **P 11 42 42.4 +0.2**
BSD *i* S S 11 53 26.2 +1.7
BSD pmax pmax
comp=Z,66nm,0.9s,mb6.0
BSD MLR MLR
comp=Z,1µm,20.0s,MS5.4
BSD Bornholm Skovb 88.70 325⇑ *i*P **P 11 42 42.4 +0.2**
comp=Z,66nm,0.9s,mb6.0
BSD *i* 11 47 52.1
BSD *i* S S 11 53 26.2 +1.7
comp=Z,1µm,20.0s
AQU L'Aquila 88.71 312 ⇓P **P 11 42 43.9 +1.3**
AQU L'Aquila 88.71 312 *e*P **P 11 42 44.0 +1.3**
ROBS Robic 88.89 316 *e*P **P 11 42 43.0 -0.4**
ROBS *e* 11 42 58.8
BRG Berggiesshubel 88.94 321 *i* P **P 11 42 44.2 +0.7**
BRG *i* pP 11 42 55.1 +0.6
BRG *e* 11 46 13.7
BRG *e* 11 53 10.0
BRG *i* S S 11 53 29.0 +2.2
BRG *i* 11 54 36.0
BRG pmax pmax
comp=Z,189nm,1.6s,mb6.2
BRG MLR MLR
comp=N,950nm,15.5s,MS5.5
BRG MLR MLR
comp=E,1µm,15.5s,MS5.5
BRG MLR MLR
comp=Z,1µm,15.5s,MS5.5
BRG Berggiesshubel 88.94 321 *i* P **P 11 42 44.2 +0.7**
comp=Z,189nm,1.6s,mb6.2
BRG *i* pP 11 42 55.1 +0.6
BRG *e*PP PP 11 46 13.7 -1.9
BRG *e*SKS SKS 11 53 10.0 +1.9
BRG *i* S S 11 53 29.0 +2.2
BRG *i* 11 54 36.0
BRG *i* SS SS 11 59 08.0 -15
BRG LR LR
comp=Z,1µm,15.5s,MS5.5
GEC2 GERESS Array S 88.94 319 *e*P **P 11 42 44.5 +0.9**
GEC2 *e*S S 11 53 29.1 +2.1
GEC2 pmax pmax
comp=Z,222nm,1.7s,mb6.2
GEC2 GERESS Array S 88.94 319 *e*P **P 11 42 44.5 +0.9**
comp=Z,222nm,1.7s,mb6.2
GEC2 *e*S S 11 53 29.1 +2.1
GERES GERESS Array B 88.94 319 P **P 11 42 44.8 +1.2**
comp=Z,14nm,0.8s,mb5.3,baz=90,slow=4.0,SNR=94
NRCA Norcia 88.95 313 *e*P **P 11 42 44.6 +0.8**
PTCC Patocco-Chiusa 89.01 316 *e*P **P 11 42 44.8 +0.8**
KHC Kasperske Hory 89.04 319 *e*P **P 11 42 44.2 +0.2**
KHC *e**PP pP 11 42 55.2 +0.2
KHC MLR MLR
comp=Z,900nm,19.7s,MS5.2
KHC Kasperske Hory 89.04 319 *e*P **P 11 42 44.2 +0.2**
KHC *e*pP pP 11 42 55.2 +0.2
KHC *e* 11 43 13.0
KHC LR LR
comp=Z,900nm,19.7s,MS5.2
KHC Kasperske Hory 89.04 319 *e*P **P 11 42 44.2 +0.2**
KHC *e*pP pP 11 42 55.2 +0.2
KHC x x 11 43 13.0
KHC AMS AMS 12 32 50.0
comp=Z,900nm,19.7s
KBA Koelnbreinsper 89.06 317⇑ *i*P **P 11 42 44.2 0.0**
comp=Z,91nm,1.8s,mb5.8
KBA Koelnbreinsper 89.06 317⇑ *i*P **P 11 42 44.2 0.0**
KBA pmax pmax
comp=Z,91nm,1.8s,mb5.8
GMNA Gemona 89.08 316 *e*P **P 11 42 45.3 +1.0**
RUE Ruedersdorf 89.16 322 *e*P **P 11 42 45.6 +1.2**
comp=Z,325nm,1.1s,mb6.6
RUE *e*pP pP 11 42 56.0 +0.5
FSSB Fossombrone 89.25 314 *e*P **P 11 42 46.6 +1.5**
ASS Assisi 89.31 313 *e*P **P 11 42 45.5 +0.1**
RSM Repubblica di 89.50 314 *e*P **P 11 42 48.2 +1.9**
WET Wettzell 89.50 319 *e*P **P 11 42 47.1 +0.9**
WET *e*S S 11 53 34.7 +2.6
WET pmax pmax
comp=Z,186nm,1.7s,mb6.1
WET Wettzell 89.50 319 *e*P **P 11 42 47.1 +0.9**
comp=Z,186nm,1.7s,mb6.1
WET *e*S S 11 53 34.7 +2.6
CLL Collm 89.56 321⇑ *i*P **P 11 42 46.9 +0.5**
CLL *i* pP 11 42 57.5 +0.1
CLL *e*S S 11 53 33.0 +0.4
CLL pmax pmax
comp=Z,99nm,1.4s,mb6.0
CLL MLR MLR
comp=Z,1µm,18.0s,MS5.4
CLL Collm 89.56 321⇑ *i*P **P 11 42 46.9 +0.5**
comp=Z,99nm,1.4s,mb6.0
CLL *i* pP 11 42 57.5 +0.1
CLL *e*S S 11 53 33.0 +0.4
CLL LR LR
comp=Z,1µm,18.0s,MS5.4
CLL Collm 89.56 321⇑ P **P 11 42 46.9 +0.5**
comp=Z,logA/T=1.8,mb5.9
CLL *i* *PP pP 11 42 57.5 +0.1
CLL *i* *SP sP 11 43 02.1 +1.1
CLL *i* 11 43 14.7
CLL *e*S S 11 53 33.0 +0.4
CLL *e*PS PS 11 54 48.0 +2.7
RGN Rugen 89.57 324 *e*P **P 11 42 47.2 +0.8**
comp=Z,288nm,1.8s,mb6.3
HFS Hagfors 89.76 330 P **P 11 42 47.9 +0.8**
comp=Z,37nm,1.1s,mb5.6,baz=90,slow=3.0,SNR=31
NKC Novy Kostel 89.84 320 *e*P **P 11 42 49.1 +1.3**
NKC *e*pP pP 11 42 59.3 +0.5
NKC AMS AMS 12 31 20.0
comp=Z,900nm,18.7s
SFI Santa Sofia 89.94 314 *e*P **P 11 42 50.3 +1.9**
PGD Poggio Sodo 90.02 314 *e*P **P 11 42 50.4 +1.6**
COP Copenhagen 90.15 326 *e*P **P 11 42 52.3 +3.2**
COP *i* S S 11 53 43.3 +5.4
COP MLR MLR
comp=Z,490nm,19.0s,MS5.0
COP Copenhagen 90.15 326 *e*P **P 11 42 52.3 +3.2**
COP *i* S S 11 53 43.3 +5.4
COP *i* 12 05 15.1
COP LR LR
comp=Z,490nm,19.0s,MS5.0
COP Copenhagen 90.15 326 *i* P **P 11 42 52.3 +3.2**
COP Copenhagen 90.15 326 *i* S S 11 53 43.3 +5.4
COP *i* 12 05 15.1
comp=Z,480nm,19.0s
VMG Vicchio 90.16 314 *e*P **P 11 42 50.7 +1.3**
CTI Castel Tesino 90.17 316 *e*P **P 11 42 50.6 +1.2**
WTTA Wattenberg 90.23 317⇑ *i*P **P 11 42 49.3 -0.4**
comp=Z,173nm,1.6s,mb6.1
WTTA Wattenberg 90.23 317⇑ *i*P **P 11 42 49.3 -0.4**
WTTA pmax pmax
comp=Z,173nm,1.6s,mb6.1
WATA Walderalm 90.28 317⇑ *i*P **P 11 42 49.4 -0.5**
comp=Z,110nm,1.7s,mb5.9
WATA Walderalm 90.28 317⇑ *i*P **P 11 42 49.4 -0.5**
WATA pmax pmax
comp=Z,110nm,1.7s,mb5.9
SEI Scarperia 90.30 314 *e*P **P 11 42 52.3 +2.2**
MOX Moxa 90.40 320 *e*P **P 11 42 51.2 +0.8**
MOX *e*S S 11 53 41.5 +1.3
MOX pmax pmax
comp=Z,114nm,1.5s,mb6.0
MOX Moxa 90.40 320 *e*P **P 11 42 51.2 +0.8**
comp=Z,114nm,1.5s,mb6.0
MOX *e*S S 11 53 41.5 +1.3
MOX Moxa 90.40 320 *i* P **P 11 42 51.5 +1.1**
comp=Z,logA/T=1.9,mb6.0
MOX pP pP 11 43 02.0 +0.6
MOX S S 11 53 44.0 +3.8
MOX L 12 31 39.0
FUR Furstenfeldbru 90.52 318 *e*P **P 11 42 51.4 +0.4**
FUR pmax pmax
comp=Z,96nm,1.3s,mb6.0
FUR Furstenfeldbru 90.52 318 *e*P **P 11 42 51.4 +0.4**
comp=Z,96nm,1.3s,mb6.0
SQTA Sankt Quirin 90.53 317⇓ *i*P **P 11 42 51.6 +0.5**
comp=Z,134nm,1.7s,mb6.0
SQTA Sankt Quirin 90.53 317⇓ *i*P **P 11 42 51.6 +0.5**
SQTA pmax pmax
comp=Z,134nm,1.7s,mb6.0
ZCCA Zocca 90.58 314 *e*P **P 11 42 53.8 +2.4**
MOTA Moosalm 90.60 317⇑ *i*P **P 11 42 51.9 +0.5**
comp=Z,1.3nm,1.0s
MOTA Moosalm 90.60 317⇑ *i*P **P 11 42 51.9 +0.5**
MOTA pmax pmax
comp=Z,1.0nm,1.0s
GRA1 Grafenberg Arr 90.61 320 *e*P **P 11 42 52.6 +1.2**
comp=Z,175nm,1.5s,mb6.2
GRA1 *e*pP pP 11 43 04.1 +1.7
GRA1 *e*S S 11 53 44.5 +2.4
GRA1 LR LR
comp=Z,900nm,20.1s,MS5.2
GRF Grafenberg Arr 90.61 320 *e*P **P 11 42 52.6 +1.2**
GRF *e**PP pP 11 43 04.1 +1.7
GRF *e*S S 11 53 44.5 +2.4
GRF pmax pmax
comp=Z,175nm,1.5s,mb6.2
GRF MLR MLR
comp=Z,900nm,20.1s,MS5.2
GRF Grafenberg Arr 90.61 320 *e*P **P 11 42 52.6 +1.2**
comp=Z,175nm,1.5s,mb6.2
GRF *e*pP pP 11 43 04.1 +1.7
GRF *e*S S 11 53 44.5 +2.4
GRF LR LR
comp=Z,900nm,20.1s,MS5.2
NSS Namsos 90.83 334 *e*P **P 11 42 51.7 -0.4**
NSS AMS AMS 12 29 38.6
comp=Z,1µm,19.5s,MS5.4
GSCL Gusciola 90.86 314 *e*P **P 11 42 54.5 +1.8**
SAL Salo 90.94 315 *e*P **P 11 42 54.8 +1.7**
ERBM Eremo 90.99 314 *e*P **P 11 42 55.3 +2.0**
SARO Sassorosso 90.99 314 P **P 11 42 52.8 -0.5**
NOA NORSAR Array B 91.03 331 P **P 11 42 53.2 +0.1**
comp=Z,7.6nm,0.8s,mb5.1,baz=94,slow=4.6,SNR=20
NOA LR LR 12 28 52.6
comp=Z,982nm,20.7s,MS5.2,baz=75,slow=39
BRMO Bormio 91.07 316 *e*P **P 11 42 55.1 +1.4**
VALM 91.10 314 P **P 11 42 54.7 +0.8**
VINC Vinca 91.17 314 P **P 11 42 53.2 -0.9**
NAO01 NORSAR Array S 91.19 331 *e*P **P 11 42 53.7 -0.1**
comp=Z,33nm,1.3s,mb5.5
NAO01 *e*pP pP 11 43 02.7 -2.2
CLZ Clausthal 91.22 322 *e*P **P 11 42 55.0 +0.8**
comp=Z,127nm,1.5s,mb6.0
CLZ *e*S S 11 53 48.7 +1.2
BACM 91.23 314 P **P 11 42 54.1 -0.4**
GRAM 91.24 314 P **P 11 42 54.9 +0.5**
HDH Heidenheim 91.24 318 *e*P **P 11 42 54.7 +0.3**
UBR Uberruh 91.29 317 *e*P **P 11 42 54.9 +0.3**
BSEG Bad Segeberg 91.31 324 *e*P **P 11 42 55.5 +1.0**
BSEG *e*S S 11 53 51.0 +2.8
BSEG pmax pmax
comp=Z,89nm,1.6s,mb5.8
CODM 91.39 314 P **P 11 42 54.7 -0.5**
DAVA Damuels 91.43 317⇓ *i*P **P 11 42 55.5 +0.2**
comp=Z,178nm,1.4s,mb6.2
SIND Sindeldorf 91.65 319 *e*P **P 11 42 56.8 +0.5**
KONO Kongsberg 91.81 329 *i* P **P 11 42 56.4 -0.3**
KONO MLR MLR
comp=Z,2µm,22.0s,MS5.4
KONO Kongsberg 91.81 329 *e*P **P 11 42 57.3 +0.6**
KONO *e*PP PP 11 46 34.0 -4.4
KONO *e*SKSa 11 53 27.2
BUCH Bad Urach 91.81 318 *e*P **P 11 42 57.3 +0.3**
GUT Gutenstein 91.96 318 *e*P **P 11 42 58.2 +0.5**
PGF Pioggiola 91.97 312 *e*P **P 11 42 57.9 0.0**
comp=Z,71nm,1.1s,mb5.6
PGF Pioggiola 91.97 312 *e*P **P 11 42 57.9 0.0**
PGF pmax pmax
comp=Z,36nm,1.1s,mb5.6
MUD Monsted U'grnd 92.00 326 *e*P **P 11 42 58.6 +0.9**
MUD *i* 11 43 12.7
MUD pmax pmax
comp=Z,35nm,1.3s,mb5.5
MUD MLR MLR
comp=Z,1µm,20.0s,MS5.3
MUD Monsted U'grnd 92.00 326 *e*P **P 11 42 58.6 +0.9**
comp=Z,35nm,1.3s,mb5.5
MUD *i* 11 43 12.7
MUD Monsted U'grnd 92.00 326 *i* P **P 11 42 58.6 +0.9**
comp=Z,35nm,1.3s,mb5.5
MUD *i* 11 43 12.7
comp=Z,1µm,20.0s
LBG Lerchenberg 92.18 318 *e*P **P 11 42 59.2 +0.5**
TOD Tromm 92.18 319 *e*P **P 11 42 59.4 +0.7**
TOD Tromm 92.18 319 *e*P **P 11 42 59.1 +0.4**
SPAK Spaichingen 92.18 318 *e*P **P 11 42 59.6 +0.9**
SPAK Spaichingen 92.18 318 *e*P **P 11 42 59.3 +0.6**
SNAA Sanae 92.22 198⇑ *i*P **P 11 42 58.1 -0.3**
SNAA *e* pP 11 43 10.1 +0.7
SNAA *e* 11 43 14.8
SWS Schriesheim 92.25 319 *e*P **P 11 42 59.7 +0.7**
PCP Pian Castagno 92.33 314 P **P 11 43 00.0 +0.5**
TNS Taunus Mts 92.41 320 *e*P **P 11 43 00.6 +0.9**
TNS pmax pmax
comp=Z,68nm,1.2s,mb5.8
TNS Taunus Mts 92.41 320 *e*P **P 11 43 00.6 +0.9**
comp=Z,68nm,1.2s,mb5.8
BFO Black Forest 92.49 318 P **P 11 43 00.4 +0.3**
comp=Z,126nm,1.6s,mb6.0,SNR=8.5
BFO Black Forest 92.49 318 *e*P **P 11 43 00.3 +0.2**
BFO pmax pmax
comp=Z,52nm,1.5s,mb5.6
BFO Black Forest 92.49 318 *e*P **P 11 43 00.3 +0.2**
comp=Z,52nm,1.5s,mb5.6
FIN Finale Ligure 92.56 314 *e*P **P 11 43 01.1 +0.5**
KTD Kalmit 92.65 319 *e*P **P 11 43 01.3 +0.5**
FELD Feldberg 92.71 318 *e*P **P 11 43 01.5 +0.4**
MCGN Macugnaga 92.72 316 *e*P **P 11 43 02.3 +1.1**
ORX Oropa 92.73 315 P **P 11 43 00.3 -1.0**
KIZ Kirchzarten 92.76 318 *e*P **P 11 43 01.5 +0.1**
IMI Imperia 92.80 314 *e*P **P 11 43 02.3 +0.7**
ROB Roburent 92.81 314 P **P 11 43 01.4 -0.3**
LANF Langenberg 92.83 319 *e*P **P 11 43 02.9 +1.2**
MONE Monesi 92.89 314 P **P 11 43 01.4 -0.7**
TRAV 92.89 315 P **P 11 43 02.0 0.0**
NEGI Negi 92.93 314 P **P 11 43 01.4 -0.8**
LIBD Limburg 92.97 318 *e*P **P 11 43 03.5 +1.1**
LIBD Limburg 92.97 318 *e*P **P 11 43 02.9 +0.6**
ABH Alteburg 93.00 320 *e*P **P 11 43 03.7 +1.3**
ABH Alteburg 93.00 320 *e*P **P 11 43 03.2 +0.8**
SAOF Saorge 93.04 314 *e*P **P 11 43 03.6 +0.9**
BBS Basel-Blauen 93.04 317 *e*P **P 11 43 03.1 +0.4**
BBS Basel-Blauen 93.04 317 *e*P **P 11 43 03.2 +0.5**
SBF Sospel 93.12 314 *e*P **P 11 43 02.8 -0.3**
comp=Z,34nm,0.7s,mb5.6
SBF Sospel 93.12 314 *e*P **P 11 43 02.8 -0.3**
SBF pmax pmax
comp=Z,17nm,0.7s,mb5.6
AUTN L'Aution 93.13 314 *e*P **P 11 43 04.4 +1.2**
ENR Entracque 93.13 314 P **P 11 43 03.7 +0.5**
WLS Welschbruch 93.14 318 *e*P **P 11 43 03.7 +0.6**
CDF Champ du Feu 93.19 318 *e*P **P 11 43 02.8 -0.5**
comp=Z,91nm,1.5s,mb5.7
CDF Champ du Feu 93.19 318 *e*P **P 11 43 02.8 -0.5**
CDF pmax pmax
comp=Z,46nm,1.5s,mb5.7
STV2 Anna di Valdie 93.20 314 P **P 11 43 02.4 -1.1**
STV Sta Anna Valdi 93.20 314 P **P 11 43 02.3 -1.2**
BHB Bricherasio 93.24 315 P **P 11 43 03.4 -0.2**
RSP Reno Superiore 93.24 315 P **P 11 43 02.9 -0.7**
TOUF Mont Tournerai 93.26 314 *e*P **P 11 43 04.9 +1.2**
ECH Echery 93.27 318 *e*P **P 11 43 04.4 +0.7**
MOF Molkenrain 93.29 318 *e*P **P 11 43 04.4 +0.6**
LSD Ceresole Reale 93.31 315 P **P 11 43 04.0 +0.1**
RUP Ruppelstein 93.31 319 *e*P **P 11 43 05.1 +1.3**
RUP Ruppelstein 93.31 319 *e*P **P 11 43 04.3 +0.5**
MVIF Mont Vial 93.33 314 *e*P **P 11 43 05.4 +1.3**
PZZ Prazzo 93.36 314 P **P 11 43 04.0 -0.2**
HINF Hinteralfeld 93.48 318 *e*P **P 11 43 03.8 -0.9**
LOMF Lomont 93.51 317 *e*P **P 11 43 05.5 +0.7**
CALN Calern 93.52 314 *e*P **P 11 43 06.2 +1.3**
RRL Cesana Torines 93.58 315 P **P 11 43 04.8 -0.4**
MBDF Montbardon 93.59 315 *e*P **P 11 43 04.3 -0.9**
comp=Z,24nm,1.2s,mb5.2
MBDF Montbardon 93.59 315 *e*P **P 11 43 04.3 -0.9**
MBDF pmax pmax
comp=Z,12nm,1.2s,mb5.2
LPG La Plagne 93.59 315 *e*P **P 11 43 05.3 +0.1**
comp=Z,30nm,0.9s,mb5.5
LPG La Plagne 93.59 315 *e*P **P 11 43 05.3 +0.1**
LPG pmax pmax
comp=Z,15nm,0.9s,mb5.4
LPL La Plagne 93.61 315 *e*P **P 11 43 05.2 -0.1**
comp=Z,26nm,0.7s,mb5.5
LPL La Plagne 93.61 315 *e*P **P 11 43 05.2 -0.1**
LPL pmax pmax
comp=Z,13nm,0.7s,mb5.5
BNI Bardonecchia 93.65 315 P **P 11 43 05.9 +0.4**
BNI *e* 11 43 20.0
BNI pmax pmax
comp=Z,16nm,1.1s,mb5.4
BNI Bardonecchia 93.65 315 *e*P **P 11 43 04.9 -0.6**
comp=Z,11nm,1.0s,mb5.2
FRF La Foret Royal 93.70 313 *e*P **P 11 43 05.5 -0.2**
LMR La Mourre 93.80 313 *e*P **P 11 43 06.0 -0.2**
comp=Z,55nm,1.4s,mb5.5
LMR La Mourre 93.80 313 *e*P **P 11 43 06.0 -0.2**
LMR pmax pmax
comp=Z,27nm,1.4s,mb5.5
HAU Haudompre 93.82 318 *e*P **P 11 43 05.7 -0.5**
comp=Z,46nm,1.0s,mb5.6
HAU *e*R
comp=Z,1µm,21.8s
HAU Haudompre 93.82 318 *e*P **P 11 43 05.7 -0.5**
HAU pmax pmax
comp=Z,23nm,1.0s,mb5.6
HAU MLR MLR
comp=Z,1µm,21.8s,MS5.2
VNA2 Neumayer--Watz 93.83 198⇑ *i*P **P 11 43 05.1 -0.6**
VNA2 *e* pP 11 43 16.1 -0.6
VNA2 *e* 11 43 20.9
BER Bergen 93.93 330 AMS AMS 12 30 56.2
comp=Z,1µm,20.0s,MS5.4
CABF La Chapelle 94.03 316 *e*P **P 11 43 07.2 +0.1**
THEF They Montfort 94.06 318 *e*P **P 11 43 07.9 +0.7**
VNA1 Neumayer--Stat 94.19 199⇑ *i*P **P 11 43 06.2 -1.1**
VNA1 *e* pP 11 43 17.4 -0.9
VNA1 *e* 11 43 21.7
ORIF Oris-en-Rattie 94.22 315 *e*P **P 11 43 08.0 -0.1**
ORIF *e*R
comp=Z,1µm,21.5s
SMRF Simiane la Rot 94.47 314 *e*P **P 11 43 09.5 +0.3**
comp=Z,24nm,1.1s,mb5.2
MEZF Maizieres J'vi 94.67 318 *e*P **P 11 43 09.8 -0.2**
GIVF Givet 94.75 320 *e*P **P 11 43 10.0 -0.3**
VIVF Saint-Julien-l 95.08 315 *e*P **P 11 43 11.7 -0.3**
comp=Z,16nm,0.9s,mb5.1
VIVF Saint-Julien-l 95.08 315 *e*P **P 11 43 11.7 -0.3**
VIVF pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
BAIF Baives 95.14 320 *e*P **P 11 43 12.2 0.0**
SMF Signal de Mont 95.58 317 *e*P **P 11 43 13.8 -0.4**
comp=Z,58nm,1.2s,mb5.6
SMF Signal de Mont 95.58 317 *e*P **P 11 43 13.8 -0.4**
SMF pmax pmax
comp=Z,29nm,1.2s,mb5.6
LASF Ste Croix 95.70 314 *e*P **P 11 43 14.7 -0.1**
comp=Z,24nm,1.2s,mb5.2
PLDF La Plantade 95.77 316 *e*P **P 11 43 16.0 +0.9**
SSF Saint Saulge 95.78 317 *e*P **P 11 43 14.9 -0.2**
SSF pmax pmax
comp=Z,16nm,1.3s,mb5.3

SSF Saint Saulge 95.78 317 *eP* **P 11 43 14.9 -0.2**
comp=Z,16nm,1.3s,mb5.3
AVF Avril sur Loir 95.90 317 *eP* **P 11 43 15.3 -0.4**
comp=Z,49nm,1.4s,mb5.4
AVF Avril sur Loir 95.90 317 *eP* **P 11 43 15.3 -0.4**
AVF pmax pmax
comp=Z,25nm,1.4s,mb5.5
LBL Lubilhac 96.07 315 *eP* **P 11 43 17.8 +1.3**
BGF Bois d'Agland 96.27 316 *eP* **P 11 43 17.3 0.0**
comp=Z,73nm,1.3s,mb5.7
BGF Bois d'Agland 96.27 316 *eP* **P 11 43 17.3 0.0**
BGF pmax pmax
comp=Z,36nm,1.3s,mb5.6
TCF Toulx Ste Croi 96.72 316 *eP* **P 11 43 19.4 0.0**
CAF Calviac 96.93 315 *eP* **P 11 43 20.3 -0.1**
comp=Z,30nm,1.3s,mb5.3
CAF Calviac 96.93 315 *eP* **P 11 43 20.3 -0.1**
CAF pmax pmax
comp=Z,15nm,1.3s,mb5.3
MTLF Montolieu 96.93 313 *eP* **P 11 43 20.2 -0.3**
comp=Z,18nm,1.0s,mb5.2
MTLF Montolieu 96.93 313 *eP* **P 11 43 20.2 -0.3**
MTLF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
RJF Les Rejaudoux 97.28 315 *eP* **P 11 43 22.2 +0.2**
comp=Z,41nm,1.3s,mb5.4
RJF *eR*
comp=Z,888nm,20.5s
RJF Les Rejaudoux 97.28 315 *eP* **P 11 43 22.2 +0.2**
RJF pmax pmax
comp=Z,21nm,1.3s,mb5.4
RJF MLR MLR
comp=Z,890nm,20.5s,MS5.2
JMIC Jan Mayen 97.75 342 AMS AMS 12 35 02.4
comp=Z,951nm,23.0s,MS5.2
LDF La Druitiere 98.09 319 *eP* **P 11 43 25.1 -0.5**
DAG Danmarks Havn 98.18 348⇓ *eP* **P 11 43 24.7 -0.7**
DAG pmax pmax
comp=Z,18nm,0.9s,mb5.6
DAG MLR MLR
comp=N,2μm,20.0s
DAG MLR MLR
comp=Z,2μm,20.0s,MS5.7
DAG Danmarks Havn 98.18 348⇓ *eP* **P 11 43 24.7 -0.7**
comp=Z,18nm,0.9s,mb5.6
DAG LR LR
comp=Z,2μm,20.0s,MS5.7
DAG Danmarks Havn 98.18 348⇓ *iP* **P 11 43 24.7 -0.7**
comp=Z,18nm,0.9s,mb5.6
comp=Z,2μm,20.0s
MFF Saint Martin d 98.32 317 *eP* **P 11 43 26.3 -0.3**
IMA Indian Mountai 98.34 23 *eP* **P 11 43 27.7 +1.4**
SVW2 Sparrevohn 98.63 28 *eP* **P 11 43 29.0 +1.3**
EKA Eskdalemuir Ar 99.01 326 P **P 11 43 30.0 +0.5**
comp=Z,4.3nm,0.9s,mb5.0,baz=90,slow=5.0,SNR=6.3
ESK Eskdalemuir 99.04 326 PFAKE 11 43 40.0 +10
ESK LR LR
comp=Z,300nm,21.0s,MS4.8
SJPF Ste Jean 99.46 313 *eP* **P 11 43 32.0 +0.1**
comp=Z,30nm,1.3s,mb5.4
SJPF Ste Jean 99.46 313 *eP* **P 11 43 32.0 +0.1**
SJPF pmax pmax
comp=Z,15nm,1.3s,mb5.4
SGMF Saint Gilles 99.74 319 *eP* **P 11 43 32.5 -0.6**
KDAK Kodiak Island 100.87 31 *e*Pdif P 11 43 35.4 -2.5
comp=Z,9.9nm,1.1s
KDAK LR LR
comp=Z,635nm,20.0s,MS5.1
COLA College 101.01 24 *i P* P 11 43 37.3 -1.1
COLA MLR MLR
comp=Z,1μm,19.0s,MS5.4
SLKM Skilak Lake 101.33 28 *eP* P 11 43 39.3 -0.6
ILAR Eielson Array 101.44 24 P P 11 43 41.3 +1.0
comp=Z,1.1nm,0.8s,baz=293,slow=4.9,SNR=13
ILAR PKKPbc 11 59 48.6
comp=Z,0.8nm,0.7s,baz=127,slow=2.1,SNR=9.9
PMR Palmer 101.51 27 *eP* P 11 43 40.7 0.0
ESLA Sonseca Array 101.91 310 PFAKE 11 43 50.0 +6.9
ESLA LR LR
comp=Z,4μm,21.0s,MS5.9
INK Inuvik 104.58 18 *eP* Pdif 11 43 53.4 -0.8
INK pmax pmax
comp=Z,10.0nm,1.1s
INK Inuvik 104.58 18 *e*Pdif Pdif 11 43 53.4 -0.7
comp=Z,9.5nm,1.1s
DAWY Dawson 104.70 23 *e*Pdif Pdif 11 43 54.6 -0.1
DBIC Dimbokro 104.92 276 PFAKE 11 44 10.0 +13
DBIC LR LR
comp=Z,2μm,21.0s,MS5.7
RES Resolute Bay 106.77 4 *e*PKPdf 11 48 11.4
TBI Tubuai 108.06 115 *e*PP PP 11 48 35.5 -7.8
TBI *e*PS PS 11 58 05.7 +3.3
TBI *e*SS SS 12 03 56.7 +5.3
TBI *e*LR LR 12 20 15.8
comp=Z,2μm,22.5s
PPT Papeete 108.88 109 *e*PP PP 11 48 37.5 -12
PPT *e*PS PS 11 58 10.7 +0.9
PPT *e*SS SS 12 03 45.4 -17
PPT *e*LR LR 12 20 38.4
comp=Z,1μm,21.2s
SIT Sitka 109.80 29 PFAKE 11 48 30.0
SIT LR LR
comp=Z,1μm,20.0s,MS5.5
DLBC Dease Lake 111.48 26 *e*PKPdf PKPdf 11 48 23.1 +1.5
DLBC *e*PP PP 11 48 59.3 -8.0
SFJD Kangerlussuaq 111.87 348 *i P* PP 11 49 07.4 -2.4
comp=Z,44nm,1.2s
PMSA Palmer Station 112.45 187 PFAKE 11 48 40.0 +17
PMSA LR LR
comp=Z,3μm,20.0s,MS5.9
YKW3 Yellowknife Ar 114.23 17 *e*PKPdf PKPdf 11 48 27.3 +0.3
YKA Yellowknife Ar 114.29 17 PKP PKPdf 11 48 27.8 +0.7
comp=Z,3.7nm,0.9s,baz=321,slow=2.0,SNR=32
YKA PP PP 11 49 13.6 -14
comp=Z,2.8nm,0.8s,baz=324,slow=7.2,SNR=11
YKA PKKPbc 11 59 08.6
comp=Z,0.3nm,0.8s,baz=141,slow=3.7,SNR=5.8
EDM Edmonton 121.91 23 PKIKP PKPdf 11 48 43.2 +1.1
EDM Edmonton 121.91 23 *e*PKPdf PKPdf 11 48 42.8 +0.8
COR Corvallis 122.90 36 PFAKE 11 49 00.0 +16
COR LR LR
comp=Z,314nm,19.0s,MS5.0
EPH Ephrata 123.24 31 P PKPdf 11 48 46.6 +1.8
BROR Big Rock Looko 123.58 36 P PKPdf 11 48 47.5 +2.0
WRD Warden 123.83 31 P PKPdf 11 48 48.1 +2.1
NEW Newport 123.87 29 *e*PKIKP PKPdf 11 48 47.3 +1.3
NEW MLR MLR
comp=Z,1μm,19.0s
HAWA Hanford 123.90 32 *e*PKPdf PKPdf 11 48 48.0 +1.9
HAWA LR LR
comp=Z,95nm,19.0s,MS4.5
HUMO Hull Mountain 124.24 37 *e*PKPdf PKPdf 11 48 49.0 +2.1
HUMO LR LR
comp=Z,1μm,20.0s,MS5.5
VIPM Ingram Point 124.49 34 PKIKP PKPdf 11 48 50.0 +2.7
WALA Waterton Lakes 124.80 27 *e*PKPdf PKPdf 11 48 48.6 +0.8
WALA *e*PP PP 11 50 35.3 -4.7
YBH Yreka Blue Hor 124.89 38 PFAKE 11 49 00.0 +12
YBH LR LR
comp=Z,1μm,19.0s,MS5.6
HOG Hogback Mounta 125.21 37 P PKPdf 11 48 51.3 +2.6
LHEM Herd Peak 125.25 38 P PKPdf 11 48 51.1 +2.2
BSMT Bassoo Peak 125.28 28 P PKPdf 11 48 50.5 +1.8
WDC Whiskeytown Da 125.64 39 PFAKE 11 49 00.0 +10
WDC LR LR
comp=Z,1μm,20.0s,MS5.6
LASM Arnica Sink 125.66 38 P PKPdf 11 48 52.1 +2.5
BMO Blue Mountains 126.09 32 PFAKE 11 49 00.0 +10
BMO LR LR
comp=Z,1μm,22.0s,MS5.5
SCHQ Schefferville 126.14 351 PKP PKPdf 11 48 51.9 +1.7
comp=Z,14nm,0.9s,baz=44,slow=3.5,SNR=9.2
SCHQ PP PP 11 50 51.5 +2.6
comp=Z,20nm,1.2s,baz=13,slow=11,SNR=4.2
SCHQ Schefferville 126.14 351 PKP PKPdf 11 48 51.9 +1.7
SCHQ PP PP 11 50 51.5 +2.6
SCHQ LR LR
comp=Z,3μm,20.0s,MS5.9
HOPS Hopland 126.16 41 PFAKE 11 49 00.0 +9.3
HOPS LR LR
comp=Z,1μm,19.0s,MS5.6
MOD Modoc 126.25 37 *e*PKPdf PKPdf 11 48 52.8 +2.0
MOD LR LR
comp=Z,942nm,20.0s,MS5.5
MSO Missoula 126.41 28 PFAKE 11 49 00.0 +9.0
MSO LR LR
comp=Z,2μm,19.0s,MS5.7
CHMT Chamberlain Mo 126.68 28 *e*PKPdf PKPdf 11 48 52.7 +1.3
WVOR Wild Horse Val 126.91 35 *e*PKIKP PKPdf 11 48 54.3 +2.2
WVOR MLR MLR
comp=Z,1μm,20.0s,MS5.6
HRY Holter Researc 127.48 27 *e*PKPdf PKPdf 11 48 55.1 +2.0
HRY *e*PP PP 11 50 55.3 -2.4
WCN Washoe City 128.13 39 *e*PKIKP PKPdf 11 48 56.8 +2.3
WCN *e* 11 50 56.7
BOZ Bozeman (W) 128.37 28 *e*PKIKP PKPdf 11 48 57.1 +2.3
BOZ *e* 11 49 07.6
BOZ MLR MLR
comp=Z,2μm,20.0s,MS5.8
SAO San Andreas Ge 128.44 43 PFAKE 11 49 10.0 +15
SAO LR LR
comp=Z,1μm,20.0s,MS5.5
CMB Columbia Colle 128.45 41 PFAKE 11 49 10.0 +15
CMB LR LR
comp=Z,935nm,20.0s,MS5.5
HLID Hailey 128.49 32 *e*PKPdf PKPdf 11 48 57.1 +2.1
HLID *e*PP PP 11 50 56.9 -7.8
HLID LR LR
comp=Z,2μm,20.0s,MS5.8
LRV Little Rabbit 128.91 43 *e*PKPdf PKPdf 11 48 59.6 +3.5
BMN Battle Mountai 128.99 36 *e*PKIKP PKPdf 11 48 58.7 +2.6
BMN *e* 11 51 08.1
BMN MLR MLR
comp=Z,525nm,20.0s,MS5.2
QLMT Earthquake Lak 129.07 29 *e*PKPdf PKPdf 11 48 58.1 +2.0
YNR Norris Junctio 129.51 28 *e*PKPdf PKPdf 11 49 00.9 +4.0
NVAR Mina Array Bea 129.56 39 PKP PKPdf 11 48 59.8 +2.6
comp=Z,13nm,0.9s,baz=273,slow=1.2,SNR=44
NVAR PP PP 11 51 10.3 -1.5
comp=Z,5.6nm,1.1s,baz=291,slow=4.4,SNR=4.5
OMM Old Mammoth Mi 129.59 40 *e*PKPdf PKPdf 11 49 00.2 +2.9
YFT Old Faithful 129.64 28 *e*PKPdf PKPdf 11 49 01.2 +4.0
MNV Mina 129.65 39 *e*PKIKP PKPdf 11 49 00.0 +2.6
MNV *e* 11 51 14.1
MNV MLR MLR
comp=Z,1μm,22.0s,MS5.5
LKWY Lake 129.76 28 PFAKE 11 49 10.0 +13
LKWY LR LR
comp=Z,3μm,20.0s,MS6.0
LAO LASA Array 129.90 23 *e*PKPdf PKPdf 11 48 59.7 +2.1
LAO LR LR
comp=Z,2μm,21.0s,MS5.7
ELK Elko 129.94 35 *e*PKPdf PKPdf 11 48 60.0 +2.1
ELK *e*PP PP 11 51 10.7 -3.4
ELK *e*SKP 11 52 19.2
ELK LR LR
comp=Z,1μm,19.0s,MS5.6
ULM Lac du Bonnet 129.99 13 PKP PKPdf 11 48 58.7 +1.0
comp=Z,24nm,1.0s,baz=340,slow=4.1,SNR=17
ULM PP PP 11 51 10.5 -3.6
comp=Z,9.4nm,0.9s,baz=328,slow=5.1,SNR=3.5
ULM Lac du Bonnet 129.99 13 *e*PKPdf PKPdf 11 48 58.4 +0.7
ULM *e*PP PP 11 51 06.3 -7.7
ULM LR LR
comp=Z,2μm,22.0s,MS5.9
MTUM Tungsten Hills 130.02 40 *e*PKPdf PKPdf 11 49 01.6 +3.4
RRI2 Red Ridge 130.22 30 *e*PKPpre 11 48 45.5
RRI2 *e*PKPdf PKPdf 11 49 00.4 +2.1
TPAW Teton Pass 130.30 29 *e*PKPdf PKPdf 11 49 01.4 +3.0
TPAW *e*PP PP 11 51 14.6 -1.8
WUWY Wally Ulrich 130.36 29 *e*PKPdf PKPdf 11 49 01.2 +2.6
LOHW Long Hollow 130.38 29 *e*PKPdf PKPdf 11 49 00.8 +2.2
LOHW *e*PP PP 11 51 14.8 -2.1
LOHW *e*SKP 11 52 20.7
SNOW Snow King Moun 130.41 29 *e*PKPdf PKPdf 11 49 01.0 +2.3
SNOW *e*PP PP 11 51 15.4 -1.8
TPH Tonopah 130.45 39 *e*PKIKP PKPdf 11 49 01.7 +2.8
TPH MLR MLR
comp=Z,920nm,22.0s,MS5.4
TPH Tonopah 130.45 39 *e*PKPdf PKPdf 11 49 01.7 +2.8
TPH *e*SKP 11 52 21.2
TPH LR LR
comp=Z,920nm,22.0s,MS5.4
HVU Hansel Valley 130.60 32 *e*PKIKP PKPdf 11 49 01.4 +2.3
BGU Big Grassy Mou 131.06 33 *e*PKPdf PKPdf 11 49 02.0 +2.0
BGU *e*SKP 11 52 23.8
DAC Darwin (Calif) 131.28 41 PFAKE 11 49 10.0 +9.4
DAC LR LR
comp=Z,851nm,20.0s,MS5.5
TRCR Troy Canyon 131.29 37 *e*PKPdf PKPdf 11 49 02.9 +2.4
TRCR *e*SKP 11 52 24.5
HWUT Hardware Ranch 131.36 31 *e*PKPdf PKPdf 11 49 02.1 +1.5
HWUT *e*PP PP 11 51 20.0 -3.5
HWUT *e*SKP 11 52 24.7
HWUT LR LR
comp=Z,2μm,19.0s,MS5.8
BW06 Boulder Array 131.52 29 PFAKE 11 49 10.0 +9.2
BW06 LR LR
comp=Z,1μm,20.0s,MS5.7
PDAR Pinedale Array 131.52 29 PKP PKPdf 11 49 02.3 +1.5
comp=Z,8.2nm,1.1s,SNR=32
PDAR PP PP 11 51 19.4 -5.0
comp=Z,2.7nm,0.9s,baz=335,slow=2.8,SNR=3.6
DUG Dugway 131.68 34 *e*PKIKP PKPdf 11 49 03.4 +2.2
DUG *e* 11 51 25.7
DUG MLR MLR
comp=Z,612nm,20.0s,MS5.3
DUG Dugway 131.68 34 *e*PKPdf PKPdf 11 49 03.4 +2.2
DUG *e*PP PP 11 51 25.7 +0.2
DUG *e*SKP 11 52 25.3
DUG LR LR
comp=Z,612nm,20.0s,MS5.3
NOQ North Oquirrh 131.74 33 *e*PKPdf PKPdf 11 49 03.8 +2.5
NOQ *e*SKP 11 52 25.7
CTU Camp Tracy 131.91 32 *e*PKPdf PKPdf 11 49 03.4 +1.8
JLU Jordanelle 132.14 32 *e*PKPdf PKPdf 11 49 04.5 +2.5
NLU North Lily Min 132.25 33 *e*PKPdf PKPdf 11 49 04.5 +2.2
NLU *e*SKP 11 52 28.5
DAU Daniels Canyon 132.38 32 *e*PKIKP PKPdf 11 49 04.9 +2.4
MPU Maple Canyon 132.45 33 *e*PKPdf PKPdf 11 49 05.0 +2.3
MPU *e*PP PP 11 51 28.0 -2.2
RSSD Black Hills 132.88 24 *e* PKPdf 11 49 04.5 +1.1
RSSD MLR MLR
comp=Z,486nm,19.0s,MS5.2
ARUT Antelope Range 132.94 37 *e*PKIKP PKPdf 11 49 06.5 +2.8
EYMN Ely 133.08 11 PFAKE 11 49 20.0 +16
EYMN LR LR
comp=Z,2μm,20.0s,MS5.8
MVU Marysvale 133.18 35 *e*PKPdf PKPdf 11 49 06.9 +2.8
MVU LR LR
comp=Z,1μm,21.0s,MS5.6
TMUT Trail Mountain 133.19 33 *e*PKPdf PKPdf 11 49 06.4 +2.3
MSU Marysvale 133.19 35 *e*PKPdf PKPdf 11 49 06.9 +2.7
MSU *e*SKP 11 52 32.4
RWWY Rawlins 133.46 28 *e*PKPdf PKPdf 11 49 01.2 -3.4
RWWY *e*PP PP 11 51 31.1 -5.5
PFO Pinyon Flat Ob 133.59 43 *e*PKIKP PKPdf 11 49 06.8 +1.8
PFO *e* 11 51 33.7
PFO MLR MLR
comp=Z,324nm,20.0s,MS5.0
PFO Pinyon Flat Ob 133.59 43 *e*PKPdf PKPdf 11 49 06.8 +1.8
PFO *e*PP PP 11 51 33.7 -4.0
PFO *e*SKP 11 52 32.7
PFO LR LR
comp=Z,324nm,20.0s,MS5.0
LDFC Landfair 133.62 41 *e*PKPdf PKPdf 11 49 07.1 +2.1
SRU San Rafael 133.70 33 *e*PKIKP PKPdf 11 49 06.2 +1.1
SRU *e* 11 51 40.2
PHWY Pilot Hill 134.58 27 *e*PKPdf PKPdf 11 49 07.6 +1.0
PV10 Paradox Valley 135.03 33 *e*PKPpre 11 48 55.2
PV10 *e*PKPdf PKPdf 11 49 10.3 +2.8
PV10 *e*PP PP 11 51 43.7 -3.0
PV10 *e*SKP 11 52 45.7
RCBR Riachuelo 135.25 260 PFAKE 11 49 20.0 +11
RCBR LR LR
comp=Z,1μm,19.0s,MS5.7
PV01 Paradox Valley 135.46 32 *e*PKPdf PKPdf 11 49 10.3 +2.1
WUAZ Wupatki 135.69 37 *e*PKPpre 11 49 06.5
WUAZ *e*PKPdf PKPdf 11 49 11.4 +2.6
WUAZ LR LR
comp=Z,1μm,20.0s,MS5.6
ISCO Idaho Springs 135.69 28 *e*PKPdf PKPdf 11 49 10.2 +1.6
ISCO LR LR
comp=Z,2μm,21.0s,MS5.7
EMMW East Machias 135.94 347 PFAKE 11 49 20.0 +11
EMMW LR LR
comp=Z,7μm,19.0s,MS6.4
WVL Waterville 136.53 349 PFAKE 11 49 20.0 +10
WVL LR LR
comp=Z,10μm,21.0s,MS6.5
PLCA Paso Flores 136.69 191 PKP PKPdf 11 49 13.8 +3.3
comp=Z,5.6nm,1.1s,baz=228,slow=4.1,SNR=4.9
PLCA Paso Flores 136.69 191 PKP PKPdf 11 49 13.8 +3.2
PLCA LR LR
comp=Z,2μm,20.0s,MS5.9
TRQA Tornquist 136.87 201 PFAKE 11 49 20.0 +9.1
TRQA LR LR
comp=Z,2μm,19.0s,MS5.9
SDCO Great Sand Dun 137.35 30 PFAKE 11 49 30.0 +18
SDCO LR LR
comp=Z,2μm,20.0s,MS5.8
NCB Newcomb 137.79 354 PFAKE 11 49 30.0 +18
NCB LR LR
comp=Z,2μm,20.0s,MS5.8
TUC Tucson 138.16 40 *e*PKIKP PKPdf 11 49 09.9 -3.5
TUC MLR MLR
comp=Z,1μm,19.0s,MS5.7
HRV Harvard--Oak R 138.86 350 PFAKE 11 49 30.0 +16
HRV LR LR
comp=Z,2μm,20.0s,MS5.8
WES Weston 138.94 350 PFAKE 11 49 30.0 +15
WES LR LR
comp=Z,2μm,19.0s,MS6.0
ANMO Albuquerque 138.95 34 *e*PKHKP 11 49 06.0
ANMO *e* 11 49 17.2
ANMO MLR MLR
comp=Z,2μm,20.0s
CBKS Cedar Bluff 139.09 24 *e*PKHKP 11 49 07.7
CBKS *e* 11 49 14.1
CBKS *e* 11 52 06.9
CBKS MLR MLR
comp=Z,2μm,22.0s,MS5.8
BINY Binghamton 139.72 355 *e*PKPdf PKPdf 11 49 17.5 +1.6
BINY LR LR
comp=Z,2μm,20.0s,MS5.8
ERPA Erie 139.96 360 *e*PKPdf PKPdf 11 49 18.1 +1.7
ERPA LR LR
comp=Z,2μm,21.0s,MS5.8
KSU1 Kansas State U 140.01 20 *e*PKPdf PKPdf 11 49 17.6 +1.0
SSPA Standing Stone 141.39 357 *e*PKPpre 11 49 14.9
SSPA LR LR
comp=Z,401nm,20.0s,MS5.2
ACSO Alum Creek Sta 141.75 4 *e*PKPpre 11 49 14.8
ACSO LR LR
comp=Z,3μm,22.0s,MS6.0
MNTX Cornudas Mount 141.93 36 *e*PKPdf PKPdf 11 49 17.5 -2.7
MNTX LR LR
comp=Z,2μm,21.0s,MS5.8
MVL Millersville 141.93 355 *e*PKPpre 11 49 15.5
MVL *e*PKPdf PKPdf 11 49 22.0 +2.1
MCWV Mont Chateau 142.42 360 PFAKE 11 49 30.0 +9.2
MCWV LR LR
comp=Z,4μm,20.0s,MS6.1
CCM Cathedral Cave 142.58 15 *e*PKPpre 11 49 17.5
CCM LR LR
comp=Z,492nm,22.0s,MS5.2
FVM French Village 142.85 14 *e*PKPpre 11 49 17.4
WMOK Wichita Mounta 142.96 26 *e*PKPpre 11 49 18.9
WMOK LR LR
comp=Z,2μm,22.0s,MS5.8
WCI Wyandotte Cave 143.40 8 *e*PKPpre 11 49 20.3
WCI LR LR
comp=Z,652nm,19.0s,MS5.4
CBN Corbin 143.79 356 PFAKE 11 49 40.0 +18
CBN LR LR
comp=Z,2μm,21.0s,MS5.9
BAO Brasilia Array 143.83 240 PKPdf PKPdf 11 49 24.0 +0.2
BAO PKPdf PKPdf 11 49 27.0 +3.2
BDFB Brasilia 143.85 240 PKP PKPdf 11 49 26.3 +2.5
comp=Z,8.6nm,0.9s,baz=75,slow=2.5,SNR=6.4
FWV Forest Hill 144.49 1 *e*PKPdf PKPdf 11 49 23.4 -1.0
LTX Lajitas 144.65 37 *e*PKPdf PKPdf 11 49 25.7 +0.7
LTX LR LR
comp=Z,1μm,20.0s,MS5.7
TXAR Lajitas Array 144.65 37 PKP PKPdf 11 49 25.8 +0.8
comp=Z,111nm,0.8s,baz=276,slow=1.4,SNR=585
GLAT Glass 144.75 13 *e*PKPdf PKPdf 11 49 25.3 +0.3
UTMT University of 144.77 12 *e*PKPdf PKPdf 11 49 25.5 +0.5
CFAA Coronel Fontan 144.84 198 PKP PKPdf 11 49 26.3 +1.0
comp=Z,5.5nm,0.7s,baz=172,slow=2.7,SNR=68
ELN Prospectdale 144.84 1 *e*PKPdf PKPdf 11 49 24.3 -0.8
BLA Blacksburg 144.86 1 *e*PKPdf PKPdf 11 49 25.1 0.0
BLA LR LR
comp=Z,2μm,19.0s,MS6.0
GNAR Gosnell 144.87 14 *e*PKPdf PKPdf 11 49 25.7 +0.6
HALT Halls 145.08 13 *e*PKPdf PKPdf 11 49 26.1 +0.6
HBAR Harrisburg 145.10 15 *e*PKPdf PKPdf 11 49 26.5 +0.9
MIAR Mount Ida 145.16 20 *e*PKPdf PKPdf 11 49 26.3 +0.6
MIAR LR LR
comp=Z,2μm,19.0s,MS6.0
WVT Waverly 145.19 11 *e*PKPdf PKPdf 11 49 25.8 +0.1
WVT LR LR
comp=Z,2μm,19.0s,MS5.9
UALR University of 145.34 18 *e*PKPdf PKPdf 11 49 26.7 +0.7
TZTN Tazewell 145.38 5 *e*PKPdf PKPdf 11 49 26.8 +0.7
MET Memphis--Engin 145.69 14 *e*PKPdf PKPdf 11 49 28.8 +2.2
JCT Junction City 145.97 31 *e*PKPdf PKPdf 11 49 29.4 +2.1
JCT LR LR
comp=Z,1μm,21.0s,MS5.6
PLAL Pickwick Lake 146.25 12 *e*PKPdf PKPdf 11 49 28.4 +0.9
PLAL LR LR
comp=Z,2μm,20.0s,MS5.9
CPCT Cooper Cave 146.36 7 *e*PKPdf PKPdf 11 49 29.3 +1.5
OXF Oxford 146.40 14 *e*PKPdf PKPdf 11 49 29.4 +1.6
OXF LR LR
comp=Z,2μm,21.0s,MS5.9
SWET Sewanee 146.41 9 *e*PKPdf PKPdf 11 49 29.6 +1.7
BBSR BB Station 146.42 336 PFAKE 11 49 40.0 +12
BBSR LR LR
comp=Z,1μm,21.0s,MS5.7
NATX Nacogdoches 147.26 23 *e*PKPdf PKPdf 11 49 31.7 +2.3
NATX *e*PKPbc PKPdf 11 49 33.7 +4.3
NATX LR LR
comp=Z,2μm,21.0s,MS5.9
JSC Jenkinsville 147.77 2 *e*PKPdf PKPdf 11 49 31.7 +1.6
JSC *e*PKPbc PKPdf 11 49 34.3 +4.2
LRAL Lakeview Retre 148.35 11 *e*PKPdf PKPdf 11 49 32.8 +1.7
LRAL *e*PKPbc PKPdf 11 49 35.6 +4.6
LRAL LR LR
comp=Z,3μm,20.0s,MS6.1
GOGA Godfrey 148.49 5 *e*PKPdf PKPdf 11 49 33.6 +2.3
GOGA *e*PKPbc PKPdf 11 49 36.0 +4.7
GOGA LR LR
comp=Z,2μm,21.0s,MS5.9
TWB Tillmans-White 148.95 0 *e*PKPdf PKPdf 11 49 34.3 +2.3
TWB *e*PKPbc PKPdf 11 49 38.4 +6.4
NHSC New Hope 148.96 0 *e*PKPbc PKPdf 11 49 38.1 +6.1
NHSC LR LR
comp=Z,3μm,22.0s,MS6.0
HBF Harts Bluff 149.13 1 *e*PKPdf PKPdf 11 49 34.8 +2.5
HBF *e*PKPbc PKPdf 11 49 37.6 +5.3
ZAIG Zacatecas 149.87 45 *i P* PKPdf 11 49 38.4 +4.6
CJM Chamela 149.94 53 *i P* PKPdf 11 49 41.1 +7.2
SFJM Santa Fe 150.93 49 *eP* PKPdf 11 49 40.0 +4.6
COLM Colima 151.18 52 *i P* PKPdf 11 49 43.6 +7.8
LVC Limon Verde 153.32 203 PKP PKPdf 11 49 41.3 +2.5
comp=Z,1.2nm,0.4s,baz=131,slow=4.6,SNR=4.3
LVC PKPbc PKPdf 11 49 49.6 +11
comp=Z,12nm,0.7s,baz=237,slow=0.4,SNR=13
LVC Limon Verde 153.32 203 PKP PKPdf 11 49 41.3 +2.5
LVC *e*PKPbc PKPdf 11 49 49.6 +11
LVC LR LR
comp=Z,2μm,19.0s,MS5.9
DWPF Disney 153.91 3 *e*PKPab PKPab 11 50 00.4 -2.8
DWPF LR LR
comp=Z,478nm,20.0s,MS5.3
SIV San Ignacio 154.16 226 PKP PKPdf 11 49 41.4 +1.3
comp=Z,2.7nm,0.8s,baz=136,slow=2.7,SNR=12
SIV PKPbc PKPdf 11 49 50.1 +10
comp=Z,4.7nm,0.8s,baz=124,slow=2.8,SNR=3.8
PPM Popocatepetl 155.06 46 *eP* PKPdf 11 49 44.0 +2.8
LPAZ La Paz 158.43 213 PKP PKPdf 11 49 49.2 +3.5
comp=Z,4.8nm,1.0s,baz=69,slow=2.8,SNR=12
LPAZ La Paz 158.43 213 *e*PKPdf PKPdf 11 49 48.5 +2.8
LPAZ LR LR
comp=Z,1μm,19.0s,MS5.8
SJG San Juan 158.89 321 PFAKE 11 50 00.0 +14
SJG LR LR
comp=Z,1μm,21.0s,MS5.7
SAML Samuel 160.03 237 *e*PKPdf PKPdf 11 49 49.5 +1.8
SAML *e*PKPab PKPab 11 50 39.6 +10
SAML LR LR

comp=Z,2μm,19.0s
TEIG Tepich 160.09 23 PFAKE 11 50 00.0 +12
TEIG LR LR
comp=Z,761nm,20.0s
NNA Nana 165.84 193 PFAKE 11 50 10.0 +17
NNA LR LR
comp=Z,306nm,19.0s
SDV Santo Domingo 168.34 307 PKP PKPdf 11 49 55.9 +0.9
comp=Z,7.7nm,0.9s,baz=330,slow=1.3,SNR=8.9
SDV PKPab PKPab 11 51 05.3 -0.6
comp=Z,8.5nm,0.8s,baz=53,slow=6.9,SNR=5.8
SDV PP PP 11 54 58.9 +3.0
comp=Z,7.9nm,0.9s,baz=63,slow=7.6,SNR=4.8
SDV Santo Domingo 168.34 307 *e*PKPdf PKPdf 11 49 56.1 +1.1
SDV *e*PKPab PKPab 11 51 05.1 -0.8
SDV *e*PP PP 11 54 55.0 -1.0
SDV LR LR
comp=Z,2μm,20.0s
PAYG Puerto Ayora 169.45 104 PFAKE 11 50 10.0 +14
PAYG LR LR
comp=Z,955nm,20.0s
JTS JuntasAbangare 170.35 30 PKP PKPdf 11 49 56.7 +0.5
comp=Z,1.4nm,0.3s,baz=314,slow=22,SNR=4.0
JTS JuntasAbangare 170.35 30 PKP PKPdf 11 49 56.7 +0.5
JTS LR LR
comp=Z,384nm,20.0s
ROSC El Rosal 173.58 297 PKP PKPdf 11 49 59.8 +1.9
comp=Z,6.7nm,0.3s,baz=86,slow=23,SNR=9.5
OTAV Otavalo 177.70 224 *e*PKPdf PKPdf 11 50 00.3 +1.4
OTAV *e*PKPab PKPab 11 52 04.5 +17
OTAV LR LR
comp=Z,2μm,21.0s

*IDC **14** 11:53:46.6±1.0, 2.77N×96.58E, mb4.2/10, mb1 4.4/11, mb1mx4.1/21, mbtmp4.2/11, ML3.1/1, Error ellipse: s-maj=48.4km s-min=14.9km az=54.0*
*NEIC **14** 11:53:51.3±0.5, 2.77N×96.56E, h30km, mb4.4/4, Error ellipse: s-maj=13.6km s-min=7.7km az=47.0*
ISC 14 11:53:49.7±0.7, 2.77N±0.09×96.58E±0.10, h33km, n21, σ0§69/20, mb4.2/13, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.77**	**58**	*e*Pn		**Pn**		**11 55 02.1**	**+0.8**
KSM	**Kuching**	**13.78**	**95**	P		**P**		**11 57 06.0**	**+0.8**
CM31	**Chiang Mai Arr**	**15.76**	**8**	P		**P**		**11 57 37.9**	**+6.9**
CMAR	**Chiang Mai Arr**	**15.76**	**8**	Pn		**P**		**11 57 30.5**	**-0.6**
	0.0nm,0.3s,baz=205,slow=13,SNR=3.8								
KKM	**Kota Kinabalu**	**19.84**	**80**	*e*P		**P**		**11 58 20.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**35.35**	**127**	*e*P		**P**		**12 00 43.6**	**-0.8**
	5.5nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**35.35**	**127**	P		**P**		**12 00 43.6**	**-0.8**
	7.2nm,0.6s,mb4.8,baz=271,slow=3.0,SNR=13								
WRA	**Warramunga Arr**	**43.39**	**123**	P		**P**		**12 01 51.2**	**-0.1**
	4.6nm,0.3s,mb4.6,baz=302,slow=9.1,SNR=76								
WRAB	**Tennant Creek**	**43.40**	**123**	*e*P		**P**		**12 01 51.3**	**0.0**
	27nm,1.3s,mb4.8								
WRAB				*e*				12 02 03.5	
WB2	**Warramunga Arr**	**43.40**	**123**	∥*i*P		**P**		**12 01 51.2**	**-0.2**
AAK	**Ala-Archa**	**44.33**	**337**	P		**P**		**12 01 59.3**	**+0.8**
	4.0nm,1.2s,mb4.0								
ASAR	**Alice Springs**	**44.83**	**128**	P		**P**		**12 02 02.8**	**0.0**
	1.7nm,0.8s,mb3.9,baz=302,slow=8.2,SNR=15								
ASAR				PcP		PcP		12 03 44.0	-0.8
	0.8nm,0.7s,baz=312,slow=2.7,SNR=4.7								
SONM	**Songino Array**	**45.69**	**9**	P		**P**		**12 02 09.4**	**+0.1**
	1.1nm,0.3s,mb4.2,baz=191,slow=9.5,SNR=16								
SONM				PcP		PcP		12 03 47.3	-0.1
	1.0nm,0.3s,baz=204,slow=3.5,SNR=9.5								
ULN	**Ulaanbaatar**	**45.83**	**10**	P		**P**		**12 02 09.9**	**-0.6**
	3.5nm,1.3s,mb4.1								
ZAL	**Zalesovo**	**51.92**	**351**	P		**P**		**12 02 57.0**	**-0.3**
	2.2nm,0.4s,mb4.4,baz=291,slow=3.7,SNR=11								
BVAR	**Borovoye Array**	**54.58**	**341**	P		**P**		**12 03 16.0**	**-1.1**
	1.4nm,0.6s,mb4.2,baz=142,slow=9.1,SNR=9.9								
STKA	**Stephens Creek**	**54.86**	**133**	P		**P**		**12 03 19.6**	**+0.1**
	2.4nm,0.8s,mb4.3,baz=314,slow=15,SNR=3.1								
BRTR	**Keskin Array B**	**67.61**	**312**	P		**P**		**12 04 45.4**	**-0.1**
	0.4nm,0.5s,mb3.7,baz=63,slow=6.4,SNR=3.7								
ARCES	**ARCESS Array B**	**80.86**	**340**	P		**P**		**12 06 01.6**	**-0.1**
	3.1nm,1.0s,mb4.2,baz=100,slow=7.4,SNR=5.8								
GERES	**GERESS Array B**	**83.23**	**319**	P		**P**		**12 06 16.4**	**+2.1**
	0.4nm,0.2s,mb4.0,baz=90,slow=4.0,SNR=3.8								
TXAR	**Lajitas Array**	**142.65**	**30**	PKP		PKPdf		12 13 24.5	+4.2
	0.4nm,0.6s,baz=29,slow=0.1,SNR=5.9								

IDC 14 12:01:38.8±2.4, 1.93S×99.43E, mb3.6/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, Error ellipse: s-maj=102.9km s-min=19.8km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.26**	**359**	P		P		12 06 15.8	-3.0
	0.3nm,0.5s,baz=186,slow=10,SNR=4.2								
WRA	**Warramunga Arr**	**38.52**	**120**	P		P		12 09 02.6	-2.3
	0.9nm,0.4s,baz=301,slow=9.7,SNR=15								
ASAR	**Alice Springs**	**39.76**	**126**	P		P		12 09 13.9	-1.3
	0.6nm,0.6s,baz=296,slow=7.8,SNR=9.1								
SONM	**Songino Array**	**49.93**	**6**	P		P		12 10 34.6	-1.8
	0.4nm,0.7s,baz=198,slow=8.3,SNR=2.4								
ZAL	**Zalesovo**	**56.98**	**350**	P		P		12 11 26.6	-1.9
	1.1nm,0.3s,baz=355,slow=6.7,SNR=1.9								
BVAR	**Borovoye Array**	**59.92**	**340**	P		P		12 11 45.5	-3.5
	0.3nm,0.5s,baz=149,slow=8.4,SNR=3.5								
TXAR	**Lajitas Array**	**144.99**	**37**	PKP		PKPdf		12 21 19.7	-0.9
	0.6nm,0.4s,baz=270,slow=1.8,SNR=15								

IDC 14 12:18:09.6±4.3, 1.50N×97.69E, mb3.5/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=149.7km s-min=30.5km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.90**	**4**	Pn		P		12 22 08.8	-0.5
	0.1nm,0.3s,baz=194,slow=11,SNR=6.7								
WRA	**Warramunga Arr**	**41.78**	**123**	P		P		12 26 01.0	-1.7
	0.3nm,0.5s,baz=303,slow=9.1,SNR=4.8								
SONM	**Songino Array**	**46.77**	**8**	P		P		12 26 41.0	-1.5
	0.3nm,0.5s,baz=190,slow=8.8,SNR=4.8								
ZAL	**Zalesovo**	**53.34**	**351**	P		P		12 27 29.9	-2.9
	0.7nm,0.5s,baz=235,slow=3.7,SNR=4.1								

IDC 14 12:20:06.3±4.1, 1.43S×100.26E, mb3.6/4, mb1 3.7/5, mb1mx3.6/17, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=159.4km s-min=22.3km az=60.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.80**	**356**	P		P		12 24 38.8	-2.6
	0.1nm,0.3s,baz=189,slow=9.6,SNR=4.2								
WRA	**Warramunga Arr**	**38.06**	**121**	P		P		12 27 26.5	-2.0
	0.3nm,0.6s,baz=301,slow=9.6,SNR=7.5								
ASAR	**Alice Springs**	**39.38**	**127**	P		P		12 27 38.2	-1.3
	0.2nm,0.5s,baz=301,slow=8.1,SNR=4.6								
SONM	**Songino Array**	**49.36**	**5**	P		P		12 28 57.9	-1.5
	0.2nm,0.3s,baz=191,slow=7.3,SNR=3.7								
ZAL	**Zalesovo**	**56.65**	**349**	P		P		12 29 50.6	-3.0
	0.9nm,0.3s,baz=305,slow=2.3,SNR=3.2								

IDC 14 12:29:31.0±1.5, 4.10S×145.01E, mb3.6/3, mb1 3.8/5, mb1mx3.6/15, mbtmp3.6/5, ML3.2/2, MS3.8/1, Ms1 3.8/1, ms1mx3.0/23, 1D, Error ellipse: s-maj=46.9km s-min=25.4km az=118.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.69**	**158**	Pn		Pn		12 30 57.1	-1.6
	1.5nm,0.3s,baz=339,slow=8.6,SNR=6.5								
PMG				Sn		Sn		12 31 50.0	-16
	2.6nm,0.3s,baz=151,slow=18,SNR=13								
CTA	**Charters Tower**	**15.94**	**176**	LR		LR		12 38 19.0	
	comp=Z,316nm,18.9s,baz=25,slow=33								
WRA	**Warramunga Arr**	**18.88**	**213**	P		P		12 33 52.9	-2.3
	0.1nm,0.3s,baz=34,slow=11,SNR=15								
ASAR	**Alice Springs**	**22.21**	**208**	P		P		12 34 28.4	-2.4
	0.3nm,0.4s,baz=41,slow=7.8,SNR=6.5								
FITZ	**Fitzroy Crossi**	**23.52**	**232**	∥*i*P		P		12 34 43.3	-0.5
	3.3nm,0.5s								
FITZ	**Fitzroy Crossi**	**23.52**	**232**	P		P		12 34 43.4	-0.4
	4.4nm,0.5s,baz=36,slow=3.8,SNR=14								
ILAR	**Eielson Array**	**84.53**	**24**	P		P		12 42 05.8	-1.1
	0.4nm,0.6s,baz=251,slow=5.4,SNR=8.6								

*NEIC **14** 12:32:50.1±0.3, 22.16S×174.58W, h10km, mb4.6/12, Error ellipse: s-maj=14.6km s-min=9.3km az=152.0*
*IDC **14** 12:32:56.5±3.7, 22.06S×174.63W, h54km±32km, mb4.0/12, mb1 4.1/12, mb1mx4.0/20, mbtmp4.2/12, Error ellipse: s-maj=26.3km s-min=15.4km az=154.0*
ISC 14 12:32:50.1±0.8, 21.9S±0.1×174.4W±0.1, h33km, n37, σ1§11/34, mb4.4/20, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.33**	**18**	P		**P**		**12 34 50.1**	**-1.3**
	1.5nm,0.3s,baz=190,slow=6.1,SNR=6.5								
AFI				S		**S**		**12 36 18.5**	**-6.7**
	2.6nm,0.3s,baz=163,slow=19,SNR=3.0								
AFI	**Afiamalu**	**8.33**	**18**	*e*Pn		**P**		**12 34 50.7**	**-0.6**
RAR	**Rarotonga**	**13.66**	**90**	P		**P**		**12 35 55.0**	**-8.9**
	3.7nm,0.3s,baz=69,slow=19,SNR=30								
RAR				S		**S**		**12 38 11.4**	**-24**
	2.3nm,0.3s,baz=79,slow=22,SNR=3.4								
CTA	**Charters Tower**	**36.68**	**265**	P		**P**		**12 39 56.7**	**+0.9**
	4.3nm,0.6s,mb4.4,baz=104,slow=10,SNR=8.8								
CTA	**Charters Tower**	**36.68**	**265**	P		**P**		**12 39 56.7**	**+0.9**
CTAO	**Charters Tower**	**36.68**	**265**	*e*P		**P**		**12 39 56.6**	**+0.8**
	24nm,1.3s,mb4.9								
STKA	**Stephens Creek**	**40.23**	**246**	P		**P**		**12 40 27.4**	**+2.1**
	2.4nm,0.8s,mb4.0,baz=90,slow=14,SNR=4.1								
STKA	**Stephens Creek**	**40.23**	**246**	*e*P		**P**		**12 40 26.9**	**+1.6**
ASAR	**Alice Springs**	**47.45**	**257**	P		**P**		**12 41 23.9**	**+0.1**
	4.6nm,0.8s,mb4.5,baz=96,slow=7.8,SNR=38								
ASAR				S		**S**		**12 48 14.2**	**-0.8**
	0.3nm,0.6s,baz=96,slow=14,SNR=5.4								
WB2	**Warramunga Arr**	**47.70**	**263**	*e*P		**P**		**12 41 25.0**	**-0.8**
WRAB	**Tennant Creek**	**47.70**	**263**	*e*P		**P**		**12 41 24.9**	**-0.9**
	10nm,0.9s,mb4.8								
WRA	**Warramunga Arr**	**47.71**	**262**	P		**P**		**12 41 25.6**	**-0.3**
	1.6nm,0.4s,mb4.4,baz=91,slow=8.3,SNR=86								
KAKA	**Kakadu**	**51.32**	**271**	*e*P		**P**		**12 41 53.9**	**+0.3**
	22nm,1.6s,mb4.8								
FITZ	**Fitzroy Crossi**	**56.14**	**262**	∥*i*P		**P**		**12 42 29.1**	**+0.1**
	5.7nm,1.2s,mb4.5								
FITZ	**Fitzroy Crossi**	**56.14**	**262**	P		**P**		**12 42 29.6**	**+0.6**
	4.4nm,0.6s,mb4.7,baz=176,slow=7.9,SNR=8.5								
SBA	**Scott Base**	**56.74**	**185**	*e*P		**P**		**12 42 31.9**	**-0.8**
	4.0nm,0.9s,mb4.5								
VNDA	**Vanda**	**56.86**	**186**	P		**P**		**12 42 33.4**	**-0.1**
	0.9nm,0.8s,mb3.9,baz=0.3,slow=6.9,SNR=8.7								
VNDA	**Vanda**	**56.86**	**186**	*e*P		**P**		**12 42 32.9**	**-0.5**
	3.9nm,1.0s,mb4.4								
MBWA	**Marble Bar**	**60.80**	**257**	*e*P		**P**		**12 43 00.6**	**-0.9**
	6.3nm,0.8s,mb4.8								
MAJO	**Matsushiro**	**73.32**	**322**	*e*P		**P**		**12 44 24.3**	**+3.9**
	8.8nm,1.2s,mb4.6								
CMB	**Columbia Colle**	**78.28**	**41**	*e*P		**P**		**12 44 52.2**	**+3.7**
	3.5nm,0.8s,mb4.3								
NVAR	**Mina Array Bea**	**79.80**	**42**	P		**P**		**12 45 00.1**	**+3.3**
	1.7nm,0.8s,mb4.0,baz=217,slow=7.7,SNR=9.1								
MAW	**Mawson**	**81.37**	**199**	P		**P**		**12 45 05.7**	**+1.2**
	2.2nm,0.7s,mb4.2,baz=124,slow=7.3,SNR=4.7								
MAW	**Mawson**	**81.37**	**199**	P		**P**		**12 45 03.4**	**-1.1**
	3.3nm,0.8s,mb4.3								
ANMO	**Albuquerque**	**85.71**	**50**	*e*P		**P**		**12 45 31.2**	**+4.0**
	3.2nm,0.9s,mb4.5								
COLA	**College**	**88.88**	**11**	*e*P		**P**		**12 45 45.6**	**+3.8**
	3.5nm,1.0s,mb4.6								
ILAR	**Eielson Array**	**88.96**	**11**	P		**P**		**12 45 45.5**	**+3.3**
	1.4nm,0.9s,mb4.3,baz=213,slow=6.3,SNR=11								
CFAA	**Coronel Fontan**	**91.59**	**125**	P		**P**		**12 45 58.8**	**+3.5**
	0.3nm,0.4s,mb4.0,baz=347,slow=7.1,SNR=7.0								
CMAR	**Chiang Mai Arr**	**93.71**	**288**	P		**P**		**12 46 08.8**	**+3.6**
	0.5nm,0.7s,mb4.0,baz=90,slow=0.9,SNR=3.0								
YKA	**Yellowknife Ar**	**96.40**	**24**	P		**P**		**12 46 19.3**	**+2.9**
	0.2nm,0.7s,mb3.7,baz=241,slow=4.6,SNR=6.6								
YKA	**Yellowknife Ar**	**96.40**	**24**	P		**P**		**12 46 19.3**	**+2.9**
LBTB	**Lobatse**	**129.48**	**204**	*e*PKPdf		PKPdf		12 51 58.8	+2.5
ARCES	**ARCESS Array B**	**130.84**	**351**	PKP		PKPdf		12 52 01.2	+3.6
	5.9nm,1.0s,baz=21,slow=1.7,SNR=12								
FINES	**FINESS Array B**	**137.99**	**345**	PKP		PKPdf		12 52 15.4	+4.2
	0.7nm,0.5s,slow=3.8,SNR=7.2								
AKASG	**Malin Array Be**	**145.79**	**333**	PKPbc		PKPbc		12 52 29.1	+3.2
	1.7nm,0.5s,baz=39,slow=3.9,SNR=7.8								
BRTR	**Keskin Array B**	**150.22**	**313**	PKPbc		PKPdf		12 52 41.4	+8.7
	0.9nm,0.6s,baz=135,slow=1.7,SNR=6.1								
GERES	**GERESS Array B**	**152.33**	**348**	PKPbc		PKPdf		12 52 47.1	+12
	1.2nm,0.7s,baz=27,slow=3.0,SNR=8.2								

*IDC **14** 12:34:58.0±1.5, 20.06S×69.17W, h125km±14km, mb3.8/5, mb1 4.0/8, mb1mx3.8/18, mbtmp4.3/8, Error ellipse: s-maj=26.1km s-min=12.9km az=96.0*
ISC 14 12:34:57.4±1.1, 20.09S±0.07×69.1W±0.2, h135km±11km, n12, σ0§75/10, mb3.9/3, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.51**	**176**	P		**P**		**12 35 39.0**	**+0.4**
	21nm,0.3s,baz=345,slow=9.7,SNR=53								
LVC				S		**S**		**12 36 05.4**	**-4.6**
	216nm,0.3s,baz=340,slow=10,SNR=23								
LPAZ	**La Paz**	**3.89**	**14**	P		**P**		**12 35 57.4**	**+0.5**
	6.1nm,0.3s,baz=189,slow=6.0,SNR=107								
LPAZ				S		**S**		**12 36 42.4**	**0.0**
	1.5nm,0.3s,baz=112,slow=23,SNR=8.3								
SIV	**San Ignacio**	**8.65**	**63**	P		**P**		**12 36 59.5**	**-1.2**
	9.6nm,0.3s,baz=256,slow=11,SNR=272								
BDFB	**Brasilia**	**20.54**	**81**	P		**P**		**12 39 28.2**	**+1.3**
	8.4nm,0.5s,baz=287,slow=11,SNR=9.1								
PLCA	**Paso Flores**	**20.61**	**183**	P		**P**		**12 39 27.6**	**+0.1**
	5.4nm,0.9s,baz=3.8,slow=11,SNR=9.8								
DBIC	**Dimbokro**	**68.50**	**74**	P		**P**		**12 45 47.5**	**-0.2**
	3.7nm,0.8s,mb4.2,baz=61,slow=3.9,SNR=3.0								
NVAR	**Mina Array Bea**	**74.29**	**322**	P		**P**		**12 46 21.6**	**-0.2**
	0.7nm,0.8s,mb3.5,baz=148,slow=8.4,SNR=4.3								
YKA	**Yellowknife Ar**	**89.81**	**341**	P		**P**		**12 47 41.1**	**-0.4**
	1.8nm,0.7s,mb4.1,baz=134,slow=4.7,SNR=37								
YKA				pP		pP		12 48 10.6	-5.6
	0.6nm,0.7s,baz=135,slow=4.9,SNR=6.4								
ASAR	**Alice Springs**	**131.07**	**208**	PKP		PKPdf		12 53 55.0	+1.0
	0.4nm,0.6s,baz=126,slow=1.7,SNR=8.1								
WRA	**Warramunga Arr**	**134.07**	**211**	PKP		PKPdf		12 54 01.2	+1.5
	0.6nm,0.7s,baz=158,slow=1.7,SNR=10								
MJAR	**Matsushiro Arr**	**151.06**	**310**	PKPbc		PKPdf		12 54 35.8	+7.2
	0.9nm,0.7s,baz=117,slow=2.7,SNR=4.7								
SONM	**Songino Array**	**152.09**	**7**	PKPbc		PKPdf		12 54 39.1	+9.3
	0.7nm,0.5s,baz=274,slow=1.5,SNR=8.5								

IDC 14 12:57:19.3±11.0, 0.71N×97.65E, mb3.3/2, mb1 3.6/3, mb1mx3.4/19, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=338.8km s-min=39.6km az=71.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.68**	**4**	P		P		13 01 27.1	-1.7
	0.1nm,0.3s,baz=194,slow=10,SNR=5.2								
WRA	**Warramunga Arr**	**41.40**	**122**	P		P		13 05 07.7	-1.5
	0.1nm,0.4s,baz=300,slow=9.0,SNR=5.8								
ASAR	**Alice Springs**	**42.74**	**127**	P		P		13 05 18.6	-1.7
	0.4nm,0.8s,baz=298,slow=7.2,SNR=4.6								

*NEIC **14** 13:07:00.1±1.0, 1.54S×99.83E, mb4.6/1, Error ellipse: s-maj=37.7km s-min=11.0km az=63.0*
*IDC **14** 13:07:01.5±1.6, 1.24S×100.20E, h38km±6km, mb3.8/7, mb1 3.9/8, mb1mx3.7/18, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=69.7km s-min=13.6km az=57.0*
ISC 14 13:07:00.6±1.2, 1.0S±0.2×100.5E±0.3, h39km, h39km±1.6km: pP-P, n15, σ0§83/13, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.28**	**1**	*e*Pn		**P**		**13 08 39.3**	**+6.2**
KSM	**Kuching**	**10.11**	**76**	P		**P**		**13 09 24.7**	**-1.7**
CMAR	**Chiang Mai Arr**	**19.42**	**356**	P		**P**		**13 11 27.6**	**+1.1**
	0.1nm,0.3s,baz=184,slow=9.7,SNR=6.1								
FITZ	**Fitzroy Crossi**	**29.95**	**126**	P		**P**		**13 13 06.8**	**-0.9**
	6.4nm,0.9s,mb4.4,baz=155,slow=1.5,SNR=4.2								
WRA	**Warramunga Arr**	**38.06**	**122**	P		**P**		**13 14 18.1**	**+0.6**
	1.9nm,0.5s,mb4.1,baz=302,slow=9.2,SNR=25								
WRA				pP		pP		13 14 28.1	-0.3
	1.2nm,0.5s,baz=301,slow=9.1,SNR=7.1								
WRA				PcP		PcP		13 16 31.6	-1.1
	0.2nm,0.5s,baz=314,slow=2.6,SNR=8.0								
WRAB	**Tennant Creek**	**38.06**	**122**	*e*P		**P**		**13 14 17.9**	**+0.4**
	10.0nm,1.0s,mb4.5								
WRAB				*e*pP		pP		13 14 28.2	-0.2
ASAR	**Alice Springs**	**39.42**	**127**	P		**P**		**13 14 29.2**	**+0.5**
	1.1nm,0.7s,mb3.7,baz=300,slow=7.9,SNR=16								
ASAR				pP		pP		13 14 40.3	+0.6
	0.6nm,0.5s,baz=303,slow=8.0,SNR=5.0								
ASAR				PcP		PcP		13 16 36.2	-0.7
	0.6nm,0.8s,baz=298,slow=2.7,SNR=4.1								
SONM	**Songino Array**	**48.93**	**5**	P		**P**		**13 15 45.0**	**0.0**
	0.1nm,0.6s,mb3.0,baz=127,slow=7.2,SNR=2.0								
SONM				pP		pP		13 15 57.1	+1.0
	1.1nm,0.7s,baz=185,slow=7.8,SNR=7.5								
SONM				PcP		PcP		13 17 09.5	+0.3
	0.3nm,0.4s,baz=204,slow=4.3,SNR=2.9								
ZAL	**Zalesovo**	**56.31**	**349**	P		**P**		**13 16 38.8**	**-1.0**
	1.0nm,0.4s,mb4.2,baz=327,slow=9.8,SNR=3.2								
ZAL				pP		pP		13 16 50.6	-0.6
	2.9nm,0.4s,baz=303,slow=5.0,SNR=7.3								
FINES	**FINESS Array B**	**83.49**	**332**	P		**P**		**13 19 24.7**	**-0.8**
	0.5nm,0.5s,mb3.8,baz=63,slow=3.1,SNR=3.2								
FINES	**FINESS Array B**	**83.49**	**332**	P		**P**		**13 19 24.7**	**-0.8**
ARCES	**ARCESS Array B**	**85.74**	**340**	P		**P**		**13 19 37.0**	**+0.5**
	3.5nm,1.0s,mb4.6,baz=90,slow=1.8,SNR=3.7								
ARCES	**ARCESS Array B**	**85.74**	**340**	P		**P**		**13 19 37.0**	**+0.4**
TXAR	**Lajitas Array**	**143.62**	**37**	PKP		PKPdf		13 26 33.7	+1.6
	1.1nm,0.6s,baz=260,slow=0.7,SNR=11								
TXAR	**Lajitas Array**	**143.62**	**37**	PKP		PKPdf		13 26 33.7	+1.6

*NEIC **14** 13:23:31.4±1.1, 23.66S×179.69W, h494km±14km, mb4.4/7, Error ellipse: s-maj=15.1km s-min=11.4km az=152.0*
*IDC **14** 13:23:35.2±9.5, 23.97S×179.76W, h533km±103km, mb3.5/6, mb1 3.6/7, mb1mx3.3/17, mbtmp4.4/7, Error ellipse: s-maj=95.3km s-min=38.6km az=16.0*
ISC 14 13:23:30.3±1.9, 23.7S±0.1×179.8W±0.1, h483km±28km, n23, σ0§78/21, mb4.2/10, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.34**	**39**	*e*P		**P**		**13 26 12.8**	**-1.0**
AFI				*e*S		**S**		**13 28 25.6**	**+0.5**
URZ	**Urewera**	**14.76**	**190**	P		**P**		**13 26 39.4**	**+0.6**
	1.2nm,0.3s,baz=49,slow=1.6,SNR=7.9								
CTA	**Charters Tower**	**31.65**	**270**	*e*P		**P**		**13 29 15.3**	**+1.1**
	8.1nm,0.4s,mb4.5								
CTA	**Charters Tower**	**31.65**	**270**	P		**P**		**13 29 15.5**	**+1.3**
	12nm,0.5s,mb4.6,baz=90,slow=10,SNR=28								
CTAO	**Charters Tower**	**31.65**	**270**	*e*P		**P**		**13 29 15.2**	**+1.0**
	11nm,0.4s,mb4.6								
STKA	**Stephens Creek**	**34.96**	**248**	P		**P**		**13 29 42.9**	**+0.9**
	0.9nm,0.4s,mb3.5,baz=338,slow=21,SNR=3.7								
STKA	**Stephens Creek**	**34.96**	**248**	*e*P		**P**		**13 29 42.7**	**+0.7**
ASAR	**Alice Springs**	**42.24**	**260**	P		**P**		**13 30 41.8**	**+0.3**
	2.5nm,0.4s,mb4.0,baz=96,slow=7.5,SNR=122								
ASPA	**Alice Springs**	**42.24**	**260**	*e*P		**P**		**13 30 41.5**	**0.0**
WB2	**Warramunga Arr**	**42.58**	**266**	∥*i*P		**P**		**13 30 43.9**	**-0.3**
WRAB	**Tennant Creek**	**42.59**	**266**	*e*P		**P**		**13 30 43.7**	**-0.6**
	6.9nm,0.5s,mb4.3								
WRA	**Warramunga Arr**	**42.59**	**266**	P		**P**		**13 30 44.1**	**-0.2**
	3.7nm,0.3s,mb4.2,baz=95,slow=8.4,SNR=262								
FORT	**Forrest**	**46.55**	**249**	*e*P		**P**		**13 31 14.2**	**-0.8**
	370nm,0.6s								
FITZ	**Fitzroy Crossi**	**51.02**	**265**	*e*P		**P**		**13 31 49.0**	**+0.3**
	4.2nm,0.6s,mb4.0								
FITZ	**Fitzroy Crossi**	**51.02**	**265**	P		**P**		**13 31 48.1**	**-0.7**
	4.3nm,0.4s,mb4.1,baz=156,slow=9.6,SNR=12	

0.4nm,0.4s,mb3.8,baz=189,slow=10,SNR=5.6
SONM pP pP 14 34 58.1 -0.2
0.6nm,0.5s,baz=190,slow=8.7,SNR=6.8
ZAL Zalesovo 56.66 350 P **P 14 35 42.3 +1.1**
1.7nm,0.4s,mb4.5,baz=291,slow=2.8,SNR=9.2
ZAL pP pP 14 35 51.5 +0.1
1.9nm,0.4s,baz=316,slow=4.6,SNR=3.9
ZAL Zalesovo 56.66 350 P **P 14 35 42.3 +1.1**
ZAL pP pP 14 35 51.5 +0.1
BVAR Borovoye Array 59.65 340 P **P 14 36 02.1 -0.1**
0.7nm,0.5s,mb4.0,baz=141,slow=9.5,SNR=5.4
CASY Casey 65.06 175 P **P 14 36 35.7 -2.2**
FINES FINESS Array B 83.57 332 P **P 14 38 26.1 +1.3**
0.2nm,0.3s,mb3.7,baz=117,slow=4.3,SNR=5.9
TXAR Lajitas Array 144.52 37 PKP PKPdf 14 45 35.2 +2.6
0.8nm,0.4s,baz=252,slow=0.4,SNR=5.9
TXAR Lajitas Array 144.52 37 PKP PKPdf 14 45 35.2 +2.6

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*GRAL **14** 14:30:08.6±38.0, 35.55N×37.10E, MD3.8*
*ISK **14** 14:30:11.1, 35.84N×36.36E, h14km, MD3.6*
*CSEM **14** 14:30:11.3±0.1, 35.93N×36.42E, h5km, Mw3.2, Error ellipse: s-maj=3.2km s-min=2.0km az=119.0*
*GII **14** 14:30:12.1±0.5, 35.83N×36.29E, h3km±29km, mb4.1/2, ML3.8/4, Mw3.2/2*
ISC 14 14:30:11.4±0.5, 35.85N±0.02×36.39E±0.04, h9km±4km, n39, σ0§74/54, 2D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BTCH	**Batrach**	**0.19**	**18**	*eP*		**Pg**	**14 30 16.5**	**+0.9**
SLNF	**Slenfeh**	**0.29**	**208**	*eP*		**Pg**	**14 30 17.5**	**+0.1**
HTY	**Hatay**	**0.34**	**323**	*i* PG		**Pg**	**14 30 18.7**	**+0.3**
HTY				*i* SG		**Sg**	**14 30 23.5**	**+0.5**
ARNB	**Al Arnab**	**0.34**	**272**	⇑*i*P		**Pg**	**14 30 18.5**	**+0.1**
WRDH	**Warideh**	**0.34**	**177**	*eP*		**Pg**	**14 30 18.6**	**+0.1**
WRDH	**Warideh**	**0.34**	**177**	*eP*		**Pg**	**14 30 18.6**	**+0.1**
COBT	**Iskenderun**	**0.68**	**351**	*i* P		**Pb**	**14 30 24.6**	**-0.3**
COBT				*i* S		**Sb**	**14 30 33.7**	**-0.4**
DRWC	**Darouich**	**0.80**	**16**	*eP*		**Pb**	**14 30 27.4**	**+0.4**
DRWC	**Darouich**	**0.80**	**16**	*eP*		**Pb**	**14 30 27.4**	**+0.3**
DRWC				⇑*i*S		**Sb**	**14 30 38.9**	**+1.2**
CEYT	**Ceyhan**	**1.27**	**336**	PN		**Pn**	**14 30 34.6**	**-0.7**
CEYT				SN		**Sn**	**14 30 53.2**	**+0.7**
SLMH	**Al Salmeh**	**1.30**	**74**	⇓*i*P		**Pb**	**14 30 36.0**	**+0.3**
SLMH				⇓*i*S		**Sb**	**14 30 52.5**	**+0.1**
HAWK	**Haweek**	**1.33**	**179**	⇑*i*P		**Pb**	**14 30 35.5**	**-0.6**
GAZ	**Gaziantep**	**1.48**	**27**	PN		**Pn**	**14 30 38.0**	**-0.3**
RABH	**Abou Rabah**	**1.56**	**154**	⇑*i*P		**Pn**	**14 30 40.1**	**+0.5**
HWQ	**Hawqa**	**1.61**	**193**	*e*PN		**Pn**	**14 30 40.4**	**+0.2**
HWQ				SN		**Sn**	**14 31 02.2**	**+0.9**
FKH	**Fakeheh**	**1.61**	**180**	*e*PN		**Pn**	**14 30 39.9**	**-0.3**
FKH				SN		**Sn**	**14 31 01.9**	**+0.6**
JHLN	**Al Jahlan**	**1.68**	**96**	*eP*		**Pn**	**14 30 41.1**	**-0.2**
JHLN	**Al Jahlan**	**1.68**	**96**	*eP*		**Pn**	**14 30 41.1**	**-0.1**
JHLN				⇑*i*S		**Sn**	**14 31 01.5**	**-1.5**
GZT	**Gaziantep**	**1.77**	**32**	*i* P		**Pn**	**14 30 41.1**	**-1.5**
GZT				*i* S		**Sn**	**14 31 06.5**	**+1.1**
MEST	**Erdemli**	**1.96**	**293**	*i* P		**Pn**	**14 30 44.6**	**-0.6**
MEST				*i* S		**Sn**	**14 31 04.9**	**-5.1**
BHL	**Bhannes**	**2.04**	**197**	*e*PN		**Pn**	**14 30 46.0**	**-0.3**
BHL				SN		**Sn**	**14 31 14.2**	**+2.2**
QASN	**Qassioun**	**2.32**	**182**	*eP*		**Pn**	**14 30 50.2**	**-0.1**
MNKR	**ALMNKUR**	**2.34**	**87**	*eP*		**Pn**	**14 30 50.8**	**+0.1**
TOTH	**TOTAH**	**2.48**	**179**	*eP*		**Pn**	**14 30 53.3**	**+0.6**
MATL	**Matirih**	**2.51**	**201**	*e*PN		**Pn**	**14 30 53.3**	**+0.2**
URFA	**Urfa**	**2.52**	**50**	PN		**Pn**	**14 30 53.6**	**+0.4**
HRI	**Mount Hermon**	**2.64**	**192**	Pn		**Pn**	**14 30 55.4**	**+0.5**
KSDI	**Kefar Szold**	**2.72**	**193**	Pn		**Pn**	**14 30 56.0**	**-0.1**
KSDI				Sn		**Sn**	**14 31 30.1**	**+0.7**
KSHT	**Keshet**	**2.90**	**190**	Pn		**Pn**	**14 30 59.4**	**+0.6**
HNTI	**Hanita**	**2.94**	**200**	Pn		**Pn**	**14 30 58.2**	**-1.0**
HNTI				Sn		**Sn**	**14 31 34.5**	**-0.5**
LEF	**Lefka**	**2.95**	**257**	*e*PN		**Pn**	**14 30 59.0**	**-0.3**
MALT	**Malatya**	**2.95**	**33**	*e*PN		**Pn**	**14 30 59.5**	**+0.1**
MYA	**Malataya**	**2.96**	**33**	*e*PN		**Pn**	**14 30 59.0**	**-0.5**
HDMB	**Hadim**	**3.34**	**291**	*e*PN		**Pn**	**14 31 03.5**	**-1.4**
OFRI	**'Ofer**	**3.43**	**200**	Pn		**Pn**	**14 31 05.5**	**-0.6**
MMLI	**Mount Malkishu**	**3.50**	**194**	Pn		**Pn**	**14 31 07.1**	**-0.1**
MMLI				Sn		**Sn**	**14 31 50.6**	**+1.4**
SLTI	**Sal'it**	**3.77**	**198**	Pn		**Pn**	**14 31 10.2**	**-0.9**
SLTI	**Sal'it**	**3.77**	**198**	Pn		**Pn**	**14 31 10.1**	**-1.0**
AMZI	**Amatzia**	**4.55**	**196**	Pn		**Pn**	**14 31 20.8**	**-1.3**
AMZI				Sn		**Sn**	**14 32 14.8**	**-1.0**

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*IDC **14** 15:00:30.0±2.2, 30.43N×83.38E, mb3.4/4, mb1 3.5/5, mb1mx3.4/23, mbtmp3.3/5, ML3.4/1, Error ellipse: s-maj=66.2km s-min=24.2km az=64.0*
*NDI **14** 15:01:30.6±5.1, 30.32N×78.40E, h39km±999km, ML2.9*
ISC 14 15:00:31.8±0.6, 30.55N±0.08×83.79E±0.05, h10km, n15, σ1§16/20, mb3.3/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.25**	**253**	*eP*		**Pb**	**15 01 29.0**	**-0.4**
PTH				*e*S		**Sb**	**15 02 10.0**	**+0.7**
LGTI	**Lohaghat**	**3.26**	**251**	*eP*		**Pb**	**15 01 32.5**	**+3.0**
LGTI				*e*S		**Sg**	**15 02 20.0**	**-0.5**
KLP	**Kalpa**	**4.86**	**283**	*eP*		**Pn**	**15 01 50.8**	**+4.0**
KLP				*e*S		**Pg**	**15 02 07.1**	**-1.7**
DDI	**Dehra Dun**	**4.96**	**269**	*e*		**Pn**	**15 01 50.2**	**+2.0**
NDI	**New Delhi**	**6.02**	**254**	*eP*		**Pn**	**15 02 03.5**	**+0.4**
NDI				*e*			15 02 22.5	
NDI				*e*			15 03 14.5	
AGRA	**Agra**	**6.10**	**239**	*eP*		**Pb**	**15 02 17.5**	**-0.5**
AGRA				*e*			15 03 12.8	
AGRA				AML		AML	15 03 48.4	
	comp=E,78nm,0.5s							
AGRA				AML		AML	15 03 48.6	
	comp=N,105nm,0.5s							
AYAN	**Aya Nagar**	**6.16**	**252**	*eP*		**Pn**	**15 02 05.3**	**+0.1**
AYAN				*e*S		**Pg**	**15 02 26.5**	**-8.3**
SONA	**Sohna**	**6.28**	**250**	*eP*		**Pn**	**15 02 06.5**	**-0.4**
SHL	**Shillong**	**8.70**	**123**	*eP*		**P**	**15 02 40.0**	**-0.7**
BHPL	**Bhopal**	**9.23**	**219**	*e*		**P**	**15 02 43.9**	**-4.1**
BHPL				*e*S		**Sn**	**15 04 23.6**	**-9.4**
CMAR	**Chiang Mai Arr**	**18.28**	**128**	P		**P**	**15 04 48.4**	**+1.0**
	comp=N,0.0nm,0.3s,baz=308,slow=11,SNR=5.1							
ZAL	**Zalesovo**	**23.38**	**2**	P		**P**	**15 05 40.7**	**-0.7**
	comp=N,0.9nm,0.4s,mb3.5,baz=229,slow=6.9,SNR=3.5							
SONM	**Songino Array**	**24.45**	**39**	P		**P**	**15 05 53.8**	**+2.0**
	comp=N,0.6nm,0.6s,mb3.2,baz=230,slow=11,SNR=4.1							
BVAR	**Borovoye Array**	**24.50**	**340**	P		**P**	**15 05 51.6**	**-0.6**
	comp=N,0.3nm,0.4s,mb3.1,baz=153,slow=9.7,SNR=3.2							
WRA	**Warramunga Arr**	**69.86**	**129**	P		**P**	**15 11 43.7**	**-1.4**
	comp=N,0.3nm,0.7s,mb3.3,baz=324,slow=6.1,SNR=4.7							

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*MOS **14** 15:18:48.4±1.4, 33.24N×141.13E, h33km, mb5.0/4, Error ellipse: s-maj=23.1km s-min=8.8km az=103.1*
*JMA **14** 15:18:51.3±0.1, 33.33N×141.00E, h49km, M4.1*
JMA Felt I J1.
*IDC **14** 15:18:54.4±1.6, 33.24N×140.70E, h66km±14km, mb3.7/11, mb1 3.9/12, mb1mx3.8/22, mbtmp4.0/12, MS2.9/3, Ms1 2.9/3, ms1mx2.5/33, Error ellipse: s-maj=26.7km s-min=11.4km az=85.0*
*NEIC **14** 15:18:54.8±1.3, 33.24N×140.71E, h69km±12km, mb4.5/5, MW4.0(NIED), Error ellipse: s-maj=17.7km s-min=7.2km az=98.0*
NEIC Recorded [1 JMA] on Hachijo-jima.
*NIED **14** 15:19:00, 33.40N×140.90E, h50km, Mw4.0 Best double couple: M_0:1.18×10^15 NP1:ϕ_s=335°, δ=54°, λ=75°. NP2:ϕ_s=180°, δ=38°, λ=110°.*
ISC 14 15:18:51.7±0.8, 33.30N±0.03×140.92E±0.07, h61km±6km, n60, σ1§02/73, mb4.2/18, 3D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.94**	**259**	P		**P**	**15 19 09.5**	**+0.4**
JHJ2				S		**S**	**15 19 23.1**	**+0.9**
JHJ	**Hachijo jima 2**	**0.97**	**260**	P		**P**	**15 19 09.4**	**-0.1**
	902nm,0.3s,baz=101,slow=4.4,SNR=342							
JHJ				S		**S**	**15 19 22.3**	**-0.5**
	1μm,0.3s,baz=66,slow=19,SNR=33							
BSO1	**Boso 1**	**1.35**	**2**	P		**P**	**15 19 14.1**	**-0.8**
JMY	**Miyakejima3**	**1.40**	**304**	P		**P**	**15 19 15.7**	**+0.1**
BSO3	**Boso 3**	**1.54**	**347**	P		**P**	**15 19 16.0**	**-1.4**
BSO3				S		**S**	**15 19 36.3**	**-0.1**
JKO	**Kozu shima**	**1.73**	**301**	P		**P**	**15 19 20.6**	**+0.6**
JKO				S		**S**	**15 19 41.3**	**+0.3**
NJJJ	**Nii jima 2**	**1.75**	**309**	P		**P**	**15 19 20.9**	**+0.6**
NJJJ				S		**S**	**15 19 42.3**	**+0.8**
BSO4	**Boso 4**	**1.75**	**344**	P		**P**	**15 19 20.1**	**-0.3**
BSO4				S		**S**	**15 19 41.8**	**+0.2**
JIM2	**Oshima 3**	**1.88**	**319**	P		**P**	**15 19 21.9**	**-0.2**
JIM2				S		**S**	**15 19 43.6**	**-1.0**
JIZS	**Izushimoda**	**2.21**	**310**	P		**P**	**15 19 27.0**	**+0.3**
JIZS				S		**S**	**15 19 52.8**	**0.0**
KTJJ	**Kamata 2**	**2.23**	**317**	P		**P**	**15 19 27.2**	**+0.1**
KTJJ				*e*S		**S**	**15 19 52.6**	**-0.9**
JOD2	**Odawara 2**	**2.48**	**323**	P		**P**	**15 19 30.0**	**-0.6**
JOD2				S		**S**	**15 19 57.6**	**-2.0**
TK04	**Tokai 4**	**2.75**	**294**	P		**P**	**15 19 35.6**	**+1.1**
TK04				S		**S**	**15 20 07.2**	**+0.5**
SHZ3	**Shizuoka 3**	**2.85**	**309**	P		**P**	**15 19 37.3**	**+1.4**
JYN	**Shimob**	**2.94**	**319**	P		**P**	**15 19 37.9**	**+0.7**
MJAR	**Matsushiro Arr**	**3.93**	**326**	P		**P**	**15 19 51.9**	**+0.9**
MJAR				S		**S**	**15 20 35.2**	**-1.0**
MJAR				pmax		pmax		
	comp=Z,9.0nm,0.3s							
MJAR				MLR		MLR		
	comp=Z,121nm,18.6s							
MJAR	**Matsushiro Arr**	**3.93**	**326**	P		**P**	**15 19 51.9**	**+1.0**
	comp=Z,9.3nm,0.3s,baz=155,slow=12,SNR=52							
MJAR				S		**S**	**15 20 35.2**	**-1.0**
	comp=Z,12nm,0.3s,baz=283,slow=32,SNR=6.1							
MJAR				LR		LR	15 21 33.8	
	comp=Z,121nm,18.6s,baz=85,slow=42							
MJAR	**Matsushiro Arr**	**3.93**	**326**	P		**P**	**15 19 51.9**	**+1.0**
MJAR				S		**S**	**15 20 35.2**	**-1.0**
MJAR				LR		LR	15 21 33.8	
MAJO	**Matsushiro**	**3.93**	**326**	*e*Pn		**P**	**15 19 52.3**	**+1.3**
MAJO				*e*Sn		**S**	**15 20 32.7**	**-3.5**
MAT	**Matsushiro**	**3.93**	**326**	*eP*		**P**	**15 19 52.0**	**+1.0**
MAT				*e*S		**S**	**15 20 36.0**	**-0.2**
MAT	**Matsushiro**	**3.93**	**326**	P		**P**	**15 19 52.0**	**+1.0**
MAT				S		**S**	**15 20 36.2**	**0.0**
CBIJ	**Chichi jima**	**6.28**	**170**	P		**P**	**15 20 20.1**	**-3.7**
	comp=Z,9.6nm,0.3s,baz=283,slow=20,SNR=5.0							
ASAJ	**Asahikawa**	**10.88**	**6**	P		**P**	**15 21 23.3**	**-3.7**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**10.88**	**6**	P		**P**	**15 21 23.2**	**-3.7**
	comp=Z,1.0nm,0.3s,baz=270,slow=17,SNR=8.0							
JOW	**Kunigami**	**12.70**	**243**	LR		LR	15 26 16.2	
	comp=Z,45nm,21.2s,baz=134,slow=35							
YSS	**Yuzh-Sakhalins**	**13.71**	**5**	*eP*		**P**	**15 22 01.4**	**-3.1**
SONM	**Songino Array**	**29.69**	**310**	LR		LR	15 37 21.0	
	comp=Z,33nm,20.1s,baz=280,slow=37							
BOD	**Bodaibo**	**30.54**	**332**	*eP*		**P**	**15 25 01.1**	**-0.2**
ZAK	**Zakamensk**	**32.40**	**313**	*eP*		**P**	**15 25 16.1**	**-1.5**
ZAK				*e*		pP	15 25 30.7	-2.0
ZAK				*e*S		tx	15 26 44.7	
ZAK				pmax		pmax		
	comp=Z,22nm,0.6s,mb5.2							
MOY	**Mondy**	**34.16**	**315**	*eP*		**P**	**15 25 33.0**	**+0.2**
MOY				pmax		pmax		
	comp=Z,29nm,0.5s,mb5.5							
BVAR	**Borovoye Array**	**52.84**	**314**	P		**P**	**15 28 02.0**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=82,slow=5.0,SNR=3.8							
ILAR	**Eielson Array**	**52.88**	**31**	P		**P**	**15 28 03.9**	**+0.7**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ILAR	**Eielson Array**	**52.88**	**31**	P		**P**	**15 28 03.9**	**+0.7**
	comp=Z,0.8nm,0.8s,mb3.7,baz=273,slow=5.5,SNR=7.7							
FITZ	**Fitzroy Crossi**	**53.15**	**198**	⇓*i*P		**P**	**15 28 06.2**	**+0.4**
	comp=Z,2.8nm,0.6s,mb4.4							
WRAB	**Tennant Creek**	**53.30**	**188**	*eP*		**P**	**15 28 05.6**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,7.0nm,0.5s,mb4.8							
WRAB	**Tennant Creek**	**53.30**	**188**	*eP*		**P**	**15 28 05.6**	**-1.3**
	comp=Z,7.4nm,0.5s,mb4.9							
WB2	**Warramunga Arr**	**53.31**	**188**	⇓*i*P		**P**	**15 28 06.2**	**-0.8**
WRA	**Warramunga Arr**	**53.31**	**188**	P		**P**	**15 28 06.2**	**-0.8**
WRA				pmax		pmax		
	comp=Z,9.0nm,0.6s							
WRA	**Warramunga Arr**	**53.31**	**188**	P		**P**	**15 28 06.2**	**-0.7**
	comp=Z,8.6nm,0.6s,mb4.9,baz=4.2,slow=7.6,SNR=267							
ASAR	**Alice Springs**	**57.04**	**188**	P		**P**	**15 28 33.0**	**-0.9**
	comp=Z,2.5nm,0.4s,mb4.6,baz=1.7,slow=6.0,SNR=154							
ASPA	**Alice Springs**	**57.04**	**188**	⇓*i*P		**P**	**15 28 33.5**	**-0.4**
STKA	**Stephens Creek**	**64.83**	**179**	P		**P**	**15 29 24.6**	**-1.9**
	comp=Z,1.5nm,0.6s,mb4.2,baz=352,slow=6.1,SNR=3.4							
STKA	**Stephens Creek**	**64.83**	**179**	*eP*		**P**	**15 29 24.1**	**-2.3**
RES	**Resolute Bay**	**66.31**	**14**	*eP*		**P**	**15 29 35.9**	**+0.6**
RES				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.3							
RES	**Resolute Bay**	**66.31**	**14**	*eP*		**P**	**15 29 35.9**	**+0.6**
	comp=Z,1.7nm,0.7s,mb4.2							
YKA	**Yellowknife Ar**	**67.25**	**29**	P		**P**	**15 29 42.0**	**+0.7**
	comp=Z,0.2nm,0.6s,mb3.3,baz=295,slow=5.8,SNR=4.4							
YKA	**Yellowknife Ar**	**67.25**	**29**	P		**P**	**15 29 42.0**	**+0.7**
NWAO	**Narrogin (SRO)**	**69.55**	**201**	*eP*		**P**	**15 29 55.8**	**-0.3**
NWAO				pmax		pmax		
	comp=Z,7.0nm,0.6s							
NWAO	**Narrogin (SRO)**	**69.55**	**201**	*eP*		**P**	**15 29 55.8**	**-0.2**
	comp=Z,6.6nm,0.6s,mb4.7							
FINES	**FINESS Array B**	**71.93**	**333**	P		**P**	**15 30 09.8**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=63,slow=4.3,SNR=7.1							
AKASG	**Malin Array Be**	**77.01**	**323**	P		**P**	**15 30 39.9**	**+0.5**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**77.01**	**323**	P		**P**	**15 30 39.9**	**+0.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=47,slow=6.3,SNR=10.0							
NOA	**NORSAR Array B**	**77.47**	**337**	P		**P**	**15 30 42.5**	**+0.8**
	comp=Z,0.3nm,0.7s,mb3.3,baz=81,slow=0.6,SNR=2.7							
FCC	**Fort Churchill**	**77.53**	**26**	P		**P**	**15 30 44.0**	**+1.9**
FCC				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5							
FCC	**Fort Churchill**	**77.53**	**26**	P		**P**	**15 30 44.0**	**+1.9**
	comp=Z,5.6nm,1.0s,mb4.5							
NVAR	**Mina Array Bea**	**77.57**	**52**	P		**P**	**15 30 45.2**	**+2.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=274,slow=6.8,SNR=5.4							
NVAR	**Mina Array Bea**	**77.57**	**52**	P		**P**	**15 30 45.2**	**+2.4**
TXAR	**Lajitas Array**	**92.73**	**52**	P		**P**	**15 32 00.9**	**+2.4**
	comp=Z,0.6nm,0.7s,mb4.2,baz=297,slow=2.8,SNR=4.8							
LPAZ	**La Paz**	**148.81**	**64**	PKP2		PKPab	15 38 36.4	-2.5
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.5s							
LPAZ	**La Paz**	**148.81**	**64**	PKPbc		PKPdf	15 38 36.4	+7.6
	comp=Z,1.4nm,0.5s,baz=302,slow=4.2,SNR=6.2							

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*IDC **14** 15:23:50.9±1.2, 44.82N×101.93E, mb3.6/4, mb1 3.9/5, mb1mx3.5/22, mbtmp3.7/5, ML3.9/1, Error ellipse: s-maj=27.8km s-min=18.5km az=120.0*
*BJI **14** 15:24:10.4, 43.35N×101.83E, h9km, ML3.9, Ms3.6, Msz3.3*
ISC 14 15:23:49.4±0.9, 44.97N±0.09×102.1E±0.2, h10km, n7, σ0§97/8, mb3.5/4, Mongolia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**4.11**	**44**	Pn		**Pn**	**15 24 59.0**	**+5.2**
	6.0nm,0.3s,baz=227,slow=15,SNR=94							
SONM				Pg		**Pg**	**15 25 11.1**	**-0.4**
	22nm,0.3s,baz=222,slow=19,SNR=47							
SONM				Lg			15 26 08.0	
	105nm,0.3s,baz=228,slow=33,SNR=24							
GTA	**Gaotai**	**5.82**	**198**	P		**Pn**	**15 25 15.9**	**-2.0**
GTA				Smax				
	comp=N,57nm,0.8s							
GTA				Smax				
	comp=E,118nm,0.8s							
GTA				LR		LR		
	comp=N,128nm,5.7s							
GTA				LR		LR		
	comp=E,350nm,8.4s							
GTA				LR		LR		
	comp=Z,93nm,7.6s							
LZH	**Lanzhou**	**8.97**	**171**	*eP*		**P**	**15 26 02.6**	**+0.6**
LZH				Smax				
	comp=N,62nm,0.8s							
LZH				Smax				
	comp=E,59nm,0.8s							
LZH				LR		LR		
	comp=N,272nm,4.4s							
LZH				LR		LR		
	comp=Z,333nm,5.8s							
BVAR	**Borovoye Array**	**22.18**	**303**	P		**P**	**15 28 47.4**	**+0.3**
	comp=Z,1.8nm,0.6s,mb3.7,baz=104,slow=10,SNR=10							
CMAR	**Chiang Mai Arr**	**26.57**	**187**	P		**P**	**15 29 30.6**	**+1.2**
	comp=Z,0.6nm,0.6s,mb3.3,baz=358,slow=8.6,SNR=7.7							
WRA	**Warramunga Arr**	**70.96**	**148**	P		**P**	**15 35 08.5**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.5,baz=344,slow=6.9,SNR=4.7							
ASAR	**Alice Springs**	**74.21**	**150**	P		**P**	**15 35 29.0**	**+0.8**
	comp=Z,0.2nm,0.3s,mb3.5,baz=350,slow=7.9,SNR=4.4							

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*ATH **14** 15:33:37.8, 35.69N×27.17E, h9km, MD3.5/5*
*NEIC **14** 15:33:37.8, 35.69N×27.17E, h9km, MD3.5(ATH), After ATH.*
*CSEM **14** 15:33:38.1±0.2, 35.58N×27.26E, h15km, MD3.5, Error ellipse: s-maj=7.2km s-min=2.6km az=145.0*
*ISK **14** 15:33:39.4, 35.68N×27.16E, h89km, MD3.5*
ISC 14 15:33:38.3±0.6, 35.64N±0.04×27.14E±0.07, h9km, n15, σ0§89/20, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.09**	**170**	⇓*i*PG		**Pg**	**15 33 40.8**	**+0.1**
KARP				*e*SG		**Sg**	**15 33 43.3**	**+0.9**
ARG	**Arkhangelos**	**0.98**	**54**	*e*PB		**Pb**	**15 33 55.9**	**-1.1**
NPS	**Neapolis**	**1.30**	**254**	*e*PG		**Pg**	**15 34 03.3**	**-1.0**
BODT	**Bodrum**	**1.43**	**5**	PN		**Pn**	**15 34 05.1**	**+0.7**
BODT				SN		**Sn**	**15 34 22.9**	**-0.5**
BDRM	**Kayabasi**	**1.44**	**10**	*i* P		**Pn**	**15 34 06.7**	**+2.0**
BDRM				*i* S		**Sb**	**15 34 23.5**	**+0.3**
DALT	**Dalyan (Mudla)**	**1.65**	**47**	PN		**Pn**	**15 34 08.0**	**+0.3**
MLSB	**Milas**	**1.73**	**17**	PN		**Pn**	**15 34 08.6**	**-0.2**
YER	**Yerkesik**	**1.75**	**31**	PN		**Pn**	**15 34 09.1**	**0.0**
FETY	**Fethiye**	**1.86**	**57**	*e*PN		**Pn**	**15 34 10.0**	**-0.6**
APE	**Apeiranthos**	**1.93**	**318**	*e*PN		**Pn**	**15 34 11.4**	**-0.2**
APE	**Apeiranthos**	**1.93**	**318**	*e*Pn		**Pn**	**15 34 12.1**	**+0.5**
AYDN	**Tasoluk**	**2.10**	**16**	*i* P		**Pn**	**15 34 15.0**	**+0.9**
AYDN				*i* S		**Sn**	**15 34 36.7**	**-3.9**
VAM	**Vamos**	**2.41**	**265**	*e*PG		**Pg**	**15 34 22.5**	**-3.9**
ELL	**Elmali**	**2.50**	**63**	*e*PN		**Pn**	**15 34 18.3**	**-1.5**
DNZL	**Cakiroluk**	**2.56**	**36**	*i* P		**Pn**	**15 34 21.2**	**+0.6**
DNZL				*i* S		**Sn**	**15 34 52.0**	**-0.1**

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*MOS **14** 15:40:03.3±0.9, 55.84N×110.08E, h13km, mb4.4/1, Error ellipse: s-maj=13.6km s-min=8.5km az=60.3*
BYKL 14 15:40:04.4±0.4, 55.80N×110.12E, h8km±5km, 6C-8D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.33**	**266**	*eP*G		Pg	15 40 10.4	-0.7
NIZ				*e*			15 40 15.2	
NIZ				pmax		pmax		
	comp=Z,276nm,0.4s							
NIZ				smax				
	comp=N,2μm,0.5s							
NIZ	**Nizh Angarsk**	**0.33**	**266**	*eP*g		Pg	15 40 10.3	-0.8
NIZ				*e*Sg		Sg	15 40 15.5	-0.1
KMO	**Kumora**	**0.62**	**81**	*eP*G		Pg	15 40 15.3	-1.5
KMO				*e*			15 40 23.7	
KMO				pmax		pmax		
	comp=Z,333nm,0.2s							
KMO				smax				
	comp=N,1μm,1.2s							
KMO	**Kumora**	**0.62**	**81**	*eP*g		Pg	15 40 15.2	-1.6
KMO				*e*Sg		Sg	15 40 22.8	-2.2
KMO				Pmax				
	comp=N,209nm,0.3s							
KMO				Smax				
	comp=N,964nm,1.1s							
YOA	**Uoyan**	**0.96**	**69**	⇑*i*PG		Pg	15 40 21.8	-1.8
YOA	**Uoyan**	**0.96**	**69**	*eP*g		Pg	15 40 22.3	-1.3
YOA				*e*Sg		Sg	15 40 36.4	-0.1
YOA				Pmax				
	comp=N,232nm,0.3s							
YOA				Smax				
	comp=N,1μm,0.3s							
YLYR	**Ulyunkhan**	**1.10**	**147**	⇑*i*PG		Pg	15 40 23.9	-2.5
YLYR				*e*			15 40 38.6	
YLYR				pmax		pmax		
	comp=Z,229nm,0.4s							
YLYR				smax				
	comp=E,723nm,0.4s							
YLYR	**Ulyunkhan**	**1.10**	**147**	⇓*i*Pg		Pg	15 40 23.9	-2.5
	comp=E,166nm,0.9s							
YLYR				⇑*i*Pg		Pg	15 40 23

comp=N,38nm,0.8s
BOD Smax
comp=N,611nm,0.4s
NLYR Nelyaty 3.20 75 *e*PN Pn 15 40 55.3 -0.7
NLYR *e* 15 41 00.9
NLYR *e*S Sn 15 41 33.6 -1.2
NLYR *e* 15 41 43.9
NLYR pmax pmax
comp=Z,51nm,0.6s
NLYR smax
comp=N,346nm,0.9s
NLYR Nelyaty 3.20 75 *e*Pn Pn 15 40 55.5 -0.5
NLYR *e*Pg Pg 15 41 03.0 -5.3
NLYR *e*Sn Sn 15 41 34.3 -0.5
NLYR *i*Sg Sg 15 41 43.9 -7.0
NLYR Pmax
comp=N,71nm,0.7s
NLYR Smax
comp=N,366nm,1.0s
TRG Tyrgan 3.76 218 *e*PN Pn 15 41 02.9 -1.1
TRG *e* 15 41 10.4
TRG *e*S Sn 15 41 45.3 -3.8
TRG *e* 15 41 58.9
TRG pmax pmax
comp=Z,16nm,0.5s
TRG smax
comp=E,179nm,0.5s
TRG Tyrgan 3.76 218 ⇓*i*Pn Pn 15 41 03.5 -0.5
TRG *e*Sn Sn 15 41 46.9 -2.2
TRG *e*Sg Sg 15 42 00.6 -9.1
TRG max
comp=E,39nm,0.5s
TRG Smax
comp=E,176nm,0.5s
TRTB Turuntaevo 3.87 203 *e*Pn Pn 15 41 04.8 -0.7
TRTB *e*Pg Pg 15 41 11.9 -10
TRTB *e*Sn Sn 15 41 47.8 -3.9
TRTB *e*Sg Sg 15 42 01.5 -12
TRTB Pmax
comp=E,20nm,0.5s
TRTB Smax
comp=E,167nm,1.2s
STDB Stepnoy Dvoret 4.26 213 *e*Sg Sg 15 42 18.4 -7.8
STDB Smax
comp=E,523nm,1.0s
KAB Kabansk 4.28 210 *e*PN Pn 15 41 23.1 +12
KAB *e* 15 42 18.2
KAB pmax pmax
comp=Z,40nm,0.5s
KAB smax
comp=E,377nm,0.6s
KAB Kabansk 4.28 210 *e*Pg Pg 15 41 22.8 -7.0
KAB *e*Sg Sg 15 42 18.8 -8.1
KAB Pmax
comp=E,57nm,0.5s
KAB Smax
comp=E,382nm,1.0s
CIT Chita 4.29 150 *e*PN Pn 15 41 09.5 -2.1
CIT *e* 15 41 21.0
CIT *e* 15 42 15.7
CIT pmax pmax
comp=Z,57nm,1.0s
CIT smax
comp=E,221nm,0.9s
CIT Chita 4.29 150 *e*Pn Pn 15 41 11.6 0.0
CIT *e*Pg Pg 15 41 20.8 -9.4
CIT *e*Sg Sg 15 42 15.1 -12
CIT Pmax
comp=E,68nm,1.3s
CIT Smax
comp=E,193nm,0.9s
HRMR Khuramsha 4.58 206 *e*Pn Pn 15 41 14.7 -1.0
HRMR *e*Pg Pg 15 41 25.8 -10
HRMR *e*Sn Sn 15 42 07.6 -2.2
HRMR *e*Sg Sg 15 42 24.4 -13
CRS Chara 4.67 73 *e*PN Pn 15 41 15.6 -1.3
CRS *e*S Sn 15 42 29.1 +17
CRS smax
comp=N,209nm,1.7s
CRS Chara 4.67 73 *e*Pn Pn 15 41 15.6 -1.3
CRS *e*Pg Pg 15 41 28.0 -10
CRS *e* 15 41 33.9
CRS *e*Sg Sg 15 42 28.7 -11
CRS max
comp=N,43nm,0.8s
CRS Smax
comp=N,204nm,1.8s
IRK Irkutsk 4.96 226 *e*PN Pn 15 41 33.8 +13
IRK *e*S Sn 15 42 16.0 -3.3
IRK *e* 15 42 37.1
IRK pmax pmax
comp=Z,62nm,0.1s
IRK smax
comp=N,313nm,0.8s
IRK Irkutsk 4.96 226 *e*Sn Sn 15 42 16.6 -2.7
IRK *e*Sg Sg 15 42 39.4 -10
IRK Smax
comp=N,304nm,0.7s
LSTR Listvyanka 5.03 221 *e*Pn Pn 15 41 20.6 -1.4
LSTR *e*Sn Sn 15 42 16.2 -4.9
LSTR *e*Sg Sg 15 42 39.8 -12
LSTR max
comp=N,10.0nm,0.6s
LSTR Smax
comp=N,124nm,1.1s
TLY Talaya 5.64 226 *e*PN Pn 15 41 28.5 -2.1
TLY *e* 15 41 45.6
TLY *e*S Sn 15 42 31.4 -4.9
TLY *e* 15 42 56.1
TLY pmax pmax
comp=Z,13nm,0.6s
TLY smax
comp=E,124nm,1.0s
TLY Talaya 5.64 226 *e*Pn Pn 15 41 28.3 -2.3
TLY *e*Pg Pg 15 41 47.3 -10
TLY *e*Sn Sn 15 42 32.2 -4.1
TLY *e*Sg Sg 15 43 01.2 -11
TLY Pmax
comp=E,12nm,0.5s
TLY Smax
comp=E,119nm,0.9s
TUP Tupik 5.81 100 *e*PN Pn 15 41 30.9 -2.1
TUP *e* 15 41 48.4
TUP *e*S Sn 15 42 36.9 -3.8
TUP *e* 15 43 04.8
TUP pmax pmax
comp=Z,8.0nm,0.6s
TUP smax
comp=N,119nm,1.0s
TUP Tupik 5.81 100 *e*Pn Pn 15 41 31.3 -1.7
TUP *e*Pg Pg 15 41 50.4 -10
TUP *e*Sg Sg 15 43 05.6 -12
TUP Pmax
comp=N,9.0nm,0.8s
TUP Smax
comp=N,210nm,1.9s
ARS Arshan 5.99 233 *e*Pn Pn 15 41 33.4 -2.1
ARS *e*Sn Sn 15 42 39.6 -5.5
ARS *e*Sg Sg 15 43 08.4 -15
ARS max
comp=N,29nm,0.5s
ARS Smax
comp=N,299nm,0.7s
KPC Khapcheranga 6.26 166 *e*PG Pg 15 41 57.8 -12
KPC *e* 15 43 18.7
KPC pmax pmax
comp=Z,19nm,0.6s
KPC smax
comp=E,69nm,0.9s
KPC Khapcheranga 6.26 166 *e*Pn Pn 15 41 37.1 -2.2
KPC *e*Pg Pg 15 41 57.7 -12
KPC *e*Sg Sg 15 43 18.8 -14
KPC Pmax
comp=E,31nm,2.7s
KPC Smax
comp=E,94nm,1.4s
ZAK Zakamensk 6.81 220 *e*PN Pn 15 41 45.3 -1.8
ZAK *e* 15 42 05.5
ZAK *e*S Sn 15 42 59.4 -6.3
ZAK *e* 15 43 34.4
ZAK pmax pmax
comp=Z,6.0nm,1.0s
ZAK smax
comp=E,84nm,1.1s
ZAK Zakamensk 6.81 220 *e*Pn Pn 15 41 45.0 -2.1
ZAK *e*Sn Sn 15 43 03.4 -2.3
ZAK *e*Sg Sg 15 43 34.4 -17
ZAK max
comp=E,4.0nm,0.9s
ZAK Smax
comp=E,80nm,1.0s
MOY Mondy 6.81 236 *e*PN Pn 15 41 45.7 -1.5
MOY *e* 15 42 07.6
MOY *e*S Sn 15 43 00.7 -5.1
MOY *e* 15 43 35.4
MOY pmax pmax
comp=Z,7.0nm,0.6s
MOY smax
comp=E,117nm,1.7s
MOY Mondy 6.81 236 *e*Pn Pn 15 41 46.0 -1.2
MOY *e*Sn Sn 15 43 01.3 -4.5
MOY *e*Sg Sg 15 43 35.7 -16
MOY Smax
comp=E,115nm,1.9s
ORL Orlik 6.88 246 *e*PN Pn 15 41 46.4 -1.7
ORL *e* 15 42 07.8
ORL *e*S Sn 15 43 00.7 -6.6
ORL *e* 15 43 34.7
ORL pmax pmax
comp=Z,15nm,0.7s
ORL smax
comp=N,44nm,1.4s
ORL Orlik 6.88 246 *e*Pn Pn 15 41 46.2 -1.9
ORL *e*Sn Sn 15 43 02.3 -5.0
ORL *e*Sg Sg 15 43 34.1 -19
ORL max
comp=N,4.0nm,1.0s
ORL Smax
comp=N,50nm,1.6s

*BJI **14** 15:41:04.8, 2.17S×99.93E, h46km, mB5.0, mb4.7, Ms4.6, Msz4.3*
*IDC **14** 15:41:06.5±0.7, 1.86S×99.67E, h35km±4km, mb4.0/15, mb1 4.2/15, mb1mx4.1/20, mbtmp4.2/15, MS4.0/7, Ms1 4.0/7, ms1mx3.6/27, Error ellipse: s-maj=24.9km s-min=10.0km az=49.0*
*NEIC **14** 15:41:06.1±0.5, 1.80S×99.72E, h30km, mb4.5/8, Error ellipse: s-maj=14.4km s-min=8.7km az=50.0*
ISC 14 15:41:03.6±2.5, 1.84S±0.07×99.69E±0.08, h26km±17km**, h35**km±.9km**:pP-P, n43,** σ1$**07**/39**, mb4.**4/22**, MS4.**0/10**, 1D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.14**	**8**	*e*Pn	**Pn**	**15 42 49.1**	**-0.1**
KKM	**Kota Kinabalu**	**18.26**	**65**	*e*P	**P**	**15 45 18.0**	**+0.7**
CM31	**Chiang Mai Arr**	**20.18**	**358**	*e*P	**P**	**15 45 38.1**	**-1.1**
6.4nm,0.7s							
CMAR	**Chiang Mai Arr**	**20.18**	**358**	P	**P**	**15 45 38.1**	**-1.1**
2.2nm,0.6s,baz=191,slow=11,SNR=18							
CMAR				LR	LR	15 53 51.5	
comp=Z,228nm,18.3s,MS3.6,baz=1.8,slow=38							
PALK	**Pallekele**	**21.00**	**296**	*e*P	**P**	**15 45 49.7**	**+1.9**
21nm,1.4s							
SHL	**Shillong**	**28.27**	**345**	*e*P	**P**	**15 46 57.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**30.16**	**124**	*e*P	**P**	**15 47 13.5**	**-0.6**
10nm,1.0s,mb4.5							
FITZ				*e*		15 47 23.7	
FITZ	**Fitzroy Crossi**	**30.16**	**124**	P	**P**	**15 47 13.3**	**-0.9**
9.8nm,0.8s,mb4.6,baz=263,slow=3.0,SNR=8.3							
FITZ				pP	pP	15 47 23.5	+1.8
28nm,0.8s,baz=275,slow=2.1,SNR=11							
LSA	**Lhasa**	**32.40**	**346**	P	**P**	**15 47 39.4**	**+5.7**
LSA	**Lhasa**	**32.40**	**346**	P	**P**	**15 47 31.9**	**-1.8**
5.3nm,0.6s,mb4.5							
ENH	**Enshi**	**33.27**	**16**	*e*P	**P**	**15 47 36.8**	**-4.4**
4.3nm,0.5s,mb4.6							
NJ2	**Nanjing**	**38.29**	**27**	*e*P	**P**	**15 48 25.1**	**+1.2**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**38.34**	**120**	P	**P**	**15 48 23.1**	**-1.3**
comp=Z,2.6nm,0.3s,mb4.4,baz=303,slow=9.1,SNR=54							
WRA				pP	pP	15 48 34.9	+2.8
comp=Z,8.7nm,0.6s,baz=303,slow=9.0,SNR=19							
WRAB	**Tennant Creek**	**38.35**	**120**	*e*P	**P**	**15 48 24.8**	**+0.3**
comp=Z,20nm,0.6s,mb5.0							
WRAB				*e*		15 48 35.0	
WB2	**Warramunga Arr**	**38.35**	**120**	*e*P	**P**	**15 48 24.1**	**-0.4**
WB2				*e*		15 48 35.2	
ASPA	**Alice Springs**	**39.60**	**126**	*e*P	**P**	**15 48 35.8**	**+0.9**
ASPA				*e*		15 48 45.8	
ASAR	**Alice Springs**	**39.60**	**126**	P	**P**	**15 48 35.2**	**+0.3**
comp=Z,3.0nm,0.7s,mb4.1,baz=298,slow=7.7,SNR=36							
ASAR				pP	pP	15 48 45.8	+3.1
comp=Z,8.6nm,0.6s,baz=300,slow=7.8,SNR=22							
ASAR				PcP	PcP	15 50 43.5	+1.1
comp=Z,0.9nm,0.6s,baz=308,slow=3.2,SNR=4.6							
ASAR				pPcP		15 50 53.4	
comp=Z,2.0nm,0.8s,baz=300,slow=2.7,SNR=7.2							
ASAR				S	**S**	**15 54 35.4**	**-0.6**
comp=Z,0.4nm,0.7s,baz=294,slow=15,SNR=4.2							
HHC	**Hu-ho-hao-te**	**43.84**	**13**	*e*P	**P**	**15 49 11.8**	**+2.3**
HHC				AP	pP	15 49 22.9	+5.7
HHC				XP	sP	15 49 26.3	+5.9
HHC				PP	PP	15 50 58.8	+5.5
HHC				SCP		15 54 44.4	
HHC				PCS		15 54 47.4	
HHC				S	**S**	**15 55 42.3**	**+3.9**
HHC				XS		15 55 58.0	
HHC				SS	SS	15 58 50.3	+3.2
HHC				SCS	ScS	15 59 05.8	+1.3
HHC				AMB	AMB		
comp=Z,9.0nm,1.1s,mb4.4							
HHC				AMB	AMB		
comp=Z,176nm,7.6s							
HHC				LR	LR		
comp=N,309nm,14.1s,MS4.5							
HHC				LR	LR		
comp=E,219nm,13.7s,MS4.5							
HHC				LR	LR		
comp=Z,254nm,15.2s,MS4.2							
WMQ	**Urumqi**	**46.71**	**348**	⇓P	**P**	**15 49 34.0**	**+1.7**
WMQ				AP	pP	15 49 44.0	+3.9
WMQ				XP	sP	15 49 48.0	+4.8
WMQ				PCP	PcP	15 51 08.3	+2.2
WMQ				PP	PP	15 51 23.4	+1.5
WMQ				S	**S**	**15 56 19.9**	**+0.3**
WMQ				AMB	AMB		
comp=Z,12nm,1.0s,mb4.8							
WMQ				AMB	AMB		
comp=Z,120nm,5.1s							
WMQ				LR	LR		
comp=N,71nm,20.8s,MS3.8							
WMQ				LR	LR		
comp=E,79nm,19.2s,MS3.8							
WMQ				LR	LR		
comp=Z,65nm,24.1s,MS3.5							
CTA	**Charters Tower**	**48.95**	**115**	LR	LR	16 13 19.5	
comp=Z,166nm,18.3s,MS4.1,baz=308,slow=40							
STKA	**Stephens Creek**	**49.49**	**132**	*e*P	**P**	**15 49 55.0**	**+0.9**
comp=Z,1.9nm,0.4s,mb4.5							
STKA				*e*		15 50 06.5	
STKA	**Stephens Creek**	**49.49**	**132**	P	**P**	**15 49 54.0**	**-0.1**
comp=Z,1.9nm,0.5s,mb4.4,baz=307,slow=6.5,SNR=11							
STKA				LR	LR	16 12 31.8	
comp=Z,143nm,18.4s,MS4.0,baz=110,slow=38							
STKA	**Stephens Creek**	**49.49**	**132**	*e*P	**P**	**15 49 54.7**	**+0.6**
AAK	**Ala-Archa**	**49.76**	**336**	P	**P**	**15 49 53.7**	**-2.4**
comp=Z,2.2nm,0.7s,mb4.3							
SONM	**Songino Array**	**49.81**	**6**	P	**P**	**15 49 56.9**	**+0.5**
comp=Z,2.2nm,0.7s,mb4.3,baz=190,slow=9.3,SNR=14							
SONM				pP	pP	15 50 07.0	+2.7
comp=Z,2.7nm,0.7s,baz=186,slow=8.7,SNR=9.1							
MDJ	**Mudanjiang**	**53.38**	**26**	P	**P**	**15 50 22.9**	**-0.4**
MDJ				AMB	AMB		
comp=Z,5.0nm,2.1s,mb4.1							
MDJ				AMB	AMB		
comp=Z,69nm,3.9s							
MDJ				LR	LR		
comp=N,71nm,28.4s,MS3.8							
MDJ				LR	LR		
comp=E,99nm,26.8s,MS3.8							
MDJ				LR	LR		
comp=Z,88nm,15.8s							
ZAL	**Zalesovo**	**56.95**	**350**	P	**P**	**15 50 48.4**	**-0.7**
comp=Z,5.4nm,0.5s,mb4.8,baz=309,slow=5.9,SNR=23							
ZAL	**Zalesovo**	**56.95**	**350**	P	**P**	**15 50 48.4**	**-0.7**
ATD	**Arta Tunnel**	**58.03**	**285**	LR	LR	16 11 33.4	
comp=Z,89nm,19.1s,MS3.9,baz=84,slow=32							
BVAR	**Borovoye Array**	**59.92**	**340**	P	**P**	**15 51 08.5**	**-1.4**
comp=Z,2.5nm,0.7s,mb4.4,baz=142,slow=8.3,SNR=18							
BVAR				pP	pP	15 51 19.4	+1.5
comp=Z,3.3nm,0.7s,baz=141,slow=9.5,SNR=8.0							
KMBO Kilima Mbogo		**62.42**	**270**	P	**P**	**15 51 27.2**	**0.0**
comp=Z,0.6nm,0.4s,mb4.1,baz=47,slow=24,SNR=4.7							
KMBO Kilima Mbogo		**62.42**	**270**	*e*P	**P**	**15 51 29.2**	**+1.9**
comp=Z,2.7nm,1.0s,mb4.3							
GNI Garni		**65.19**	**316**	LR	LR	16 20 00.9	
comp=Z,40nm,18.9s,MS3.6,baz=111,slow=36							
MATP Matopo		**71.74**	**249**	P	**P**	**15 52 25.7**	**-0.4**
comp=Z,2.1nm,0.7s,mb4.2,baz=114,slow=4.8,SNR=6.3							
BRTR Keskin Array B		**72.98**	**313**	P	**P**	**15 52 32.5**	**-0.7**
comp=Z,1.0nm,0.6s,mb3.9,baz=129,slow=7.5,SNR=4.4							
BOSA Boshof		**75.46**	**241**	LR	LR	16 20 39.6	
comp=Z,104nm,21.7s,MS4.1,baz=166,slow=32							
URZ Urewera		**78.99**	**128**	LR	LR	16 27 02.9	
comp=Z,209nm,18.5s,MS4.5,baz=158,slow=35							
AKASG Malin Array Be		**79.17**	**322**	P	**P**	**15 53 06.9**	**-0.9**
comp=Z,0.3nm,0.2s,mb3.8,baz=93,slow=4.7,SNR=4.3							
FINES FINESS Array B		**83.82**	**332**	P	**P**	**15 53 32.8**	**+0.9**
comp=Z,1.4nm,0.5s,mb4.3,baz=104,slow=6.3,SNR=12							
ARCES ARCESS Array B		**86.22**	**340**	P	**P**	**15 53 44.9**	**+1.1**
comp=Z,4.6nm,0.9s,mb4.7,baz=72,slow=3.8,SNR=5.1							
GERES GERESS Array B		**88.72**	**319**	P	**P**	**15 53 56.0**	**-0.3**
comp=Z,0.7nm,0.7s,mb4.1,baz=90,slow=2.7,SNR=8.4							
TXAR Lajitas Array		**144.76**	**37**	PKP	PKPdf	16 00 40.4	-3.2
comp=Z,1.2nm,0.5s,baz=234,slow=1.2,SNR=11							
TXAR				pPKP		16 00 50.5	
comp=Z,2.7nm,0.6s,baz=262,slow=1.4,SNR=12							
JCT Junction City		**146.04**	**31**	*e*PKPdf	PKPdf	16 00 44.3	-1.5

*NNC **14** 15:57:48.1±23.0, 39.34N×77.15E, mpv3.6, Error ellipse: s-maj=264.9km s-min=236.4km az=17.0*
*BJI **14** 15:57:53.1, 40.06N×77.75E, h21km, ML3.4*
ISC 14 15:57:46.1±2.5, 39.7N±0.1×78.2E±0.1, h10km**, n13,** σ0$**73**/15**, 3C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.70**	**266**	⇑PG	**Pg**	**15 58 20.0**	**0.0**
KSH				SG	**Sg**	**15 58 42.3**	**-0.4**
KSH				Smax			
comp=N,380nm,0.6s							
KSH				Smax			
comp=E,420nm,0.7s							
ULHL	**Ulahol**	**2.96**	**331**	P	**Pn**	**15 58 33.6**	**-0.5**
SNR=20							
KZA	**Kyzart**	**3.27**	**318**	P	**Pn**	**15 58 38.2**	**-0.2**
SNR=42							
UCH	**Uchtor**	**3.76**	**314**	P	**Pn**	**15 58 45.5**	**0.0**
SNR=28							
TKM2	**Tokmak 2**	**3.78**	**330**	P	**Pn**	**15 58 45.6**	**-0.1**
SNR=31							
KBK	**Karagaybulak**	**3.85**	**322**	P	**Pn**	**15 58 46.7**	**+0.1**
SNR=20							
AAK	**Ala-Archa**	**4.05**	**318**	P	**Pn**	**15 58 49.3**	**-0.4**
SNR=15							
AAK	**Ala-Archa**	**4.05**	**318**	⇓Pn	**Pn**	**15 58 49.3**	**-0.4**
comp=E,21nm,0.8s							
AAK				⇑Sn	**Sn**	**15 59 37.6**	**-0.1**
comp=E,157nm,1.1s							
AML	**Almayashu**	**4.18**	**307**	P	**Pn**	**15 58 54.8**	**+3.3**
SNR=5.8							
CHMS	**Chumysh**	**4.20**	**323**	P	**Pn**	**15 58 51.2**	**-0.6**
SNR=10.0							
EKS2	**Erkin-Say**	**4.46**	**314**	P	**Sn**	**15 59 52.9**	**+4.8**
SNR=5.7							
USP	**Ospenovka**	**4.53**	**324**	P	**Pn**	**15 59 01.1**	**+4.8**
SNR=25							
KK31	**Karatay Array**	**6.70**	**303**	⇑Pg	**Pb**	**15 59 44.0**	**+1.4**
comp=E,2.6nm,0.8s,baz=129,slow=16,SNR=8.7							
KK31				⇓Lg		16 00 59.9	
comp=E,15nm,0.9s,baz=122,slow=21							

*LDG **14** 16:03:00.7±0.1, 49.34N×6.78E, h1km, Md2.7/2, Ml2.7/11, Error ellipse: s-maj=1.2km s-min=1.2km az=114.0, Suspected Mining induced.*
*NEIC **14** 16:03:00.7, 49.32N×6.81E, h1km, ML2.7(LDG), ML2.2(STR), After STR.*
*CSEM **14** 16:03:00.8±0.0, 49.33N×6.78E, h2km, ML2.7/10, Error ellipse: s-maj=0.9km s-min=0.7km az=74.0*
*BGR **14** 16:03:01.3±0.3, 49.32N×6.80E, h1km, ML2.0/2, Error ellipse: s-maj=3.3km s-min=2.2km az=94.0*
*BNS **14** 16:03:01.9, 49.36N×6.84E, h1km, ML1.7*
ISC 14 16:02:59.1±0.2, 49.32N±0.01×6.75E±0.02, n48, σ0$**93**/88**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.43**	**28**	*e*Pg	**Pg**	**16 03 08.6**	**+0.9**
SNR=11							
RUP				*e*Sg	**Sg**	**16 03 15.4**	**+2.0**
SNR=4.4							
RUP	**Ruppelstein**	**0.43**	**28**	Pg	**Pg**	**16 03 08.5**	**+0.8**
RUP				Sg	**Sg**	**16 03 14.7**	**+1.2**
RUP	**Ruppelstein**	**0.43**	**28**	Pg	**Pg**	**16 03 08.6**	**+0.9**
SNR=11							
RUP				Sg	**Sg**	**16 03 14.7**	**+1.2**
WLF	**Walferdange**	**0.52**	**312**	*e*Pg	**Pg**	**16 03 12.0**	**+2.6**
SNR=4.8							
WLF				*e*Sg	**Sg**	**16 03 19.3**	**+3.0**
SNR=3.3							
WLF	**Walferdange**	**0.52**	**312**	*e*Pg	**Pg**	**16 03 11.6**	**+2.2**
WLF	**Walferdange**	**0.52**	**312**	*e*Pg	**Pg**	**16 03 11.6**	**+2.2**
WLF	**Walferdange**	**0.52**	**312**	P	**Pg**	**16 03 12.1**	**+2.7**
WLF				Sg	**Sg**	**16 03 19.3**	**+2.9**
SNR=3.3							
ABH	**Alteburg**	**0.77**	**42**	*e*Pg	**Pg**	**16 03 14.3**	**-0.1**
SNR=5.6							
ABH	**Alteburg**	**0.77**	**42**	Pg	**Pg**	**16 03 13.9**	**-0.4**
ABH				Sg	**Sg**	**16 03 24.9**	**+0.3**
ABH	**Alteburg**	**0.77**	**42**	Pg	**Pg**	**16 03 14.3**	**0.0**
SNR=5.6							
ABH				Sg	**Sg**	**16 03 24.9**	**+0.3**
LANF	**Langenberg**	**0.77**	**116**	Pg	**Pg**	**16 03 14.4**	**-0.1**
KTD	**Kalmit**	**0.87**	**89**	*e*Pg	**Pg**	**16 03 17.8**	**+1.3**
SNR=4.1							
KTD				*e*Sg	**Sg**	**16 03 29.7**	**+1.6**
SNR=3.9							
KTD	**Kalmit**	**0.87**	**89**	Pg	**Pg**	**16 03 17.2**	**+0.7**
KTD				Sg	**Sg**	**16 03 29.7**	**+1.6**
SNR=3.9							
BGG	**Burgeitz**	**0.97**	**23**	*e*Pg	**Pg**	**16 03 19.4**	**+1.1**
BGG				*e*Sg	**Sg**	**16 03 31.4**	**+0.2**
32nm,0.3s							
CDF	**Champ du Feu**	**0.97**	**159**	*e*Pg	**Pg**	**16 03 18.9**	**+0.4**
CDF				*e*Pn	**Pn**	**16 03 20.1**	**+0.3**
CDF				*e*Sg	**Sg**	**16 03 31.8**	**+0.3**
49nm,0.2s							
WLS	**Welschbruch**	**0.99**	**156**	*e*Pg	**Pg**	**16 03 19.8**	**+0.9**
SNR=8.1							
WLS				*e*Sg	**Sg**	**16 03 32.6**	**+0.5**
SNR=2.3							
WLS	**Welschbruch**	**0.99**	**156**	Pg	**Pg**	**16 03 19.8**	**+0.9**
WLS				Sg	**Sg**	**16 03 32.3**	**+0.2**
RFYF	**Reffroy**	**1.09**	**231**	*e*Pg	**Pg**	**16 03 22.0**	**+1.2**
baz=48							
RFYF				*e*Sg	**Sg**	**16 03 36.3**	**+1.0**
22nm,0.2s							
ECH	**Echery**	**1.14**	**166**	*e*Pg	**Pg**	**16 03 22.4**	**+0.7**
SNR=11							
ECH				*e*Sg	**Sg**	**16 03 37.1**	**+0.1**
SNR=10							
ECH	**Echery**	**1.14**	**166**	Pg	**Pg**	**16 03 22.2**	**+0.4**
ECH				Sg	**Sg**	**16 03 38.0**	**+1.1**
THEF	**They Montfort**	**1.21**	**205**	*e*Pg	**Pg**	**16 03 23.6**	**+0.5**
SNR=13							
THEF				*e*Sg	**Sg**	**16 03 39.9**	**+0.7**
SNR=7.3							
THEF	**They Montfort**	**1.21**	**205**	Pg	**Pg**	**16 03 23.4**	**+0.3**
STB	**Steinbach**	**1.28**	**3**	*e*Pg	**Pg**	**16 03 25.0**	**+0.4**
STB				*e*Sg	**Sg**	**16 03 40.8**	**-0.8**
9.8nm,0.6s							
LIBD	**Limburg**	**1.30**	**154**	*e*Pg	**Pg**	**16 03 25.8**	**+0.8**
SNR=1.7							
LIBD				*e*Sg	**Sg**	**16 03 42.5**	**+0.1**
SNR=3.2							
LIBD	**Limburg**	**1.30**	**154**	Pg	**Pg**	**16 03 25.9**	**+0.9**
HAU	**Haudompre**	**1.34**	**192**	*e*Pg	**Pg**	**16 03 26.2**	**+0.3**
HAU				*e*Sg	**Sg**	**16 03 43.6**	**-0.1**

20nm,0.2s
KLL Kalltalsperre 1.36 348 *e*Pg **Pg 16 03 25.1 -1.1**
KLL *e*Sg **Sg 16 03 43.5 -0.8**
8.0nm,0.5s
TOD Tromm 1.37 77 *e*Pn **Pn 16 03 25.2 -0.3**
SNR=3.3
TOD *e*Sg **Sg 16 03 43.3 -1.4**
SNR=3.5
TOD Tromm 1.37 77 Pg **Pg 16 03 25.0 -1.4**
TOD Tromm 1.37 77 Pn **Pn 16 03 25.2 -0.3**
SNR=3.3
TOD Sg **Sg 16 03 43.3 -1.4**
SNR=3.5
MEM Membach 1.38 340 P **Pb 16 03 26.8 +1.4**
MEZF Maizieres J'vi 1.39 234 *e*Pn **Pn 16 03 25.9 +0.2**
baz=54
MEZF *e*Pg **Pg 16 03 27.2 +0.4**
baz=60
MEZF *e*Sg **Sg 16 03 45.7 +0.5**
8.4nm,0.3s
MEZF Maizieres J'vi 1.39 234 *e*Pn **Pn 16 03 25.9 +0.2**
MEZF *e*Sg **Sg 16 03 45.7 +0.5**
4.2nm,0.3s
TNS Taunus Mts 1.42 50 *e*Pg **Pg 16 03 27.5 0.0**
SNR=2.2
TNS *e*Sg **Sg 16 03 45.2 -1.3**
SNR=3.7
BFO Black Forest 1.44 133 *e*Pg **Pg 16 03 27.6 -0.2**
SNR=3.5
BFO *e*Sg **Sg 16 03 46.1 -0.9**
SNR=5.6
GIVF Givet 1.48 303 *e*Pg **Pg 16 03 28.1 -0.4**
GIVF *e*Sg **Sg 16 03 47.9 -0.3**
11nm,0.3s
MOF Molkenrain 1.49 170 *e*Pg **Pg 16 03 29.1 +0.3**
SNR=8.6
MOF *e*Sg **Sg 16 03 48.7 0.0**
SNR=6.0
MOF Molkenrain 1.49 170 Pg **Pg 16 03 28.5 -0.3**
MOF Sg **Sg 16 03 48.8 +0.1**
HINF Hinteralfeld 1.51 177 *e*Pg **Pg 16 03 28.9 -0.2**
HINF *e*Sg **Sg 16 03 48.9 -0.3**
22nm,0.2s
HGN Heimansgroeve 1.54 340 *e*Pg **Pg 16 03 29.4 -0.4**
4.2nm,0.2s
HGN *e*Sg **Sg 16 03 48.6 -1.7**
SFTF Sexfontaines 1.59 226 *e*Pn **Pn 16 03 28.8 +0.2**
SFTF *e*Pg **Pg 16 03 30.6 -0.2**
SFTF *e*Sg **Sg 16 03 51.5 -0.5**
11nm,0.3s
DOU Dourbes 1.60 300 P **Pn 16 03 29.8 +1.1**
FELD Feldberg 1.67 150 *e*Sg **Sg 16 03 53.3 -1.3**
SNR=3.1
BAIF Baives 1.81 295 *e*Pn **Pn 16 03 31.6 -0.1**
BAIF *e*Pg **Pg 16 03 34.7 -0.5**
BAIF *e*Sg **Sg 16 03 58.4 -0.9**
5.3nm,0.3s
CABF La Chapelle 2.75 190 *e*Pn **Pn 16 03 44.5 -0.7**
CABF *e*Sg **Sg 16 04 27.6 -2.9**
2.3nm,0.3s
SSF Saint Saulge 3.13 225 *e*Pn **Pn 16 03 49.7 -0.9**
SSF *e*Sg **Sg 16 04 40.1 -3.3**
1.2nm,0.3s
SMF Signal de Mont 3.31 217 *e*Pn **Pn 16 03 52.0 -1.2**
AVF Avril sur Loir 3.41 223 *e*Pn **Pn 16 03 52.7 -1.8**

BJI ***14*** *16:25:09.2, 13.09N×120.49E, h24km, mB4.9, mb4.6, Ms4.7, Msz4.6*
MAN ***14*** *16:25:15.3, 13.62N×119.89E, h12km, mb5.4, ML4.4, MS4.7*
MAN Quezon City Intensity I.
HRVD ***14*** *16:25:16.3±0.3, 13.57N×119.89E, h30km, MW5.2/60, Centroid moment Tensor Solution. LP body waves: s48,c72;Mantle waves: s60,c98; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.83±.19; $M_{\theta\theta}$-1.53±.12; $M_{\phi\phi}$-3.30±.13; $M_{r\theta}$1.97±.16; $M_{\theta\phi}$3.09±.08; $M_{\phi r}$-3.45±.21; Best double couple: $M_0$6.571×10^{16} NP1:ϕ_s317°, δ27°, λ80°. NP2:ϕ_s148°, δ64°, λ95°. Principal axes: T 6.191, Plg71°, Azm69°; N .76, Plg4°, Azm326°; P -6.951, Plg19°, Azm234°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***14*** *16:25:16.3±0.2, 13.72N×120.27E, mb4.8/37, MS4.7/2 Error ellipse: s-maj=6.0km s-min=3.8km az=68.0*
MOS ***14*** *16:25:16.1±1.0, 13.76N×120.37E, h33km, mb5.2/23, MS4.5/14, Error ellipse: s-maj=19.9km s-min=7.9km az=114.5*
IDC ***14*** *16:25:18.5±2.1, 13.73N×120.35E, h41km±18km, mb4.4/23, mb1 4.5/23, mb1mx4.5/25, mbtmp4.6/23, MS4.4/14, Ms1 4.5/14, ms1mx4.2/24, Error ellipse: s-maj=18.6km s-min=9.0km az=68.0*
ISC 14 16:25:14.6±0.2, 13.60N±0.02×119.92E±0.03, h16km, h16km±3.3km:pP-P,n215,σ1$37/231, mb4.8/76, MS4.6/34, 11C-12D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.34**	**68**	*e*P	**Pb**	**16 25 23.4**	**+1.5**
LUBP				*e*S	**Sb**	**16 25 27.4**	**+0.6**
BUSP	**Coron**	**1.61**	**170**	*e*P	**Pn**	**16 25 44.0**	**+1.3**
BUSP				*e*S	**Sn**	**16 26 04.3**	**+1.1**
SJMP	**San Jose**	**1.63**	**134**	*e*P	**Pn**	**16 25 44.5**	**+1.6**
BOAC	**Boac**	**1.88**	**94**	*e*P	**Pn**	**16 25 47.5**	**+1.0**
SCZP	**Santa Cruz**	**2.16**	**360**	*e*P	**Pn**	**16 25 50.7**	**+0.2**
PCPH	**Palayan**	**2.26**	**30**	⇑*i*P	**Pn**	**16 25 51.9**	**0.0**
PCPH				*e*S	**Sn**	**16 26 20.8**	**+1.2**
POLP	**Polilio Island**	**2.26**	**60**	*e*P	**Pn**	**16 25 52.8**	**+0.9**
OTRP	**Odiongan**	**2.39**	**121**	*e*P	**Pn**	**16 25 54.6**	**+0.8**
ENPP	**El Nido**	**2.43**	**191**	*e*P	**Pn**	**16 25 55.3**	**+1.0**
BALP	**Baler**	**2.66**	**37**	*e*P	**Pn**	**16 25 59.5**	**+1.8**
AUQP	**San Andres**	**2.70**	**96**	*e*P	**Pn**	**16 26 02.1**	**+3.9**
BOLP	**Bolinao**	**2.76**	**360**	*e*P	**Pn**	**16 25 58.8**	**-0.3**
BCPH	**Baguio City Da**	**2.83**	**13**	⇑*i*P	**Pn**	**16 26 02.3**	**+2.1**
BCPH				*i* S	**Sn**	**16 26 41.8**	**+7.5**
CUYO	**Cuyo Island**	**2.94**	**158**	*e*P	**Pn**	**16 26 02.2**	**+0.6**
RCP	**Roxas**	**3.43**	**126**	⇓*e*P	**Pn**	**16 26 10.6**	**+2.1**
CAUP	**Cauayan**	**3.80**	**29**	*e*P	**Pn**	**16 26 15.7**	**+1.9**
GUIM	**Jordan**	**3.95**	**138**	*e*P	**Pn**	**16 26 17.6**	**+1.6**
PPR	**Puerto Princes**	**3.98**	**197**	⇑*i*P	**Pn**	**16 26 18.0**	**+1.6**
PPR				*i* S	**Sn**	**16 27 02.5**	**-0.7**
ABRA	**Dolores**	**4.09**	**11**	*e*P	**Pn**	**16 26 19.1**	**+1.0**
PVCP	**Virac**	**4.12**	**90**	*e*P	**Pn**	**16 26 19.2**	**+0.8**
PALP	**Palanan**	**4.21**	**35**	*e*P	**Pn**	**16 26 20.8**	**+1.2**
APYP	**Conner**	**4.42**	**17**	*e*P	**Pn**	**16 26 24.1**	**+1.3**
CVP	**Callao Caves**	**4.47**	**24**	⇑*e*P	**Pn**	**16 26 25.0**	**+1.6**
BATP	**Bataraza**	**5.21**	**204**	*e*P	**Pn**	**16 26 35.0**	**+1.2**
MSLP	**Maasin**	**5.94**	**125**	*e*P	**Pn**	**16 26 46.6**	**+2.5**
DCPH	**Dipolog City**	**6.02**	**146**	⇓*e*P	**Pn**	**16 26 47.2**	**+2.0**
DCPH				*e*S	**Sn**	**16 27 53.2**	**-1.4**
IPIL	**Ipil**	**6.34**	**155**	*e*P	**Pn**	**16 26 50.7**	**+0.9**
PAGZ	**Pagadian**	**6.65**	**149**	*e*P	**Pn**	**16 26 56.3**	**+2.1**
BUKP	**Musuan**	**7.61**	**138**	*e*P	**Pn**	**16 27 11.5**	**+3.9**
MATI	**Mati**	**9.09**	**136**	*e*P	**P**	**16 27 37.3**	**+9.1**
QIZ	**Qiongzhong**	**11.07**	**300**	*e*P	**P**	**16 27 55.3**	**-0.2**
QIZ				LR	LR		
comp=N,808nm,13.7s							
QIZ				LR	LR		
comp=E,2μm,18.4s							
QIZ				LR	LR		
comp=Z,3μm,19.3s							
QIZ	**Qiongzhong**	**11.07**	**300**	P	**P**	**16 27 55.4**	**-0.1**
QZH	**Quanzhou**	**11.35**	**354**	P	**P**	**16 27 59.4**	**+0.1**
QZH				S	**S**	**16 30 08.3**	**+1.5**
QZH				LR	LR		
comp=N,4μm,14.5s							
QZH				LR	LR		
comp=E,3μm,19.1s							
QZH				LR	LR		
comp=Z,5μm,14.7s							
JOW	**Kunigami**	**15.31**	**29**	P	**P**	**16 28 53.7**	**+1.8**
comp=Z,0.3nm,0.3s,baz=190,slow=16,SNR=5.3							
JOW				LR	LR	16 35 26.4	
comp=Z,1μm,19.0s,baz=6.4,slow=40							
KSM	**Kuching**	**15.35**	**219**	*e*P	**P**	**16 28 54.9**	**+2.4**
KKTK	**Khon Kaen**	**16.74**	**281**	P	**P**	**16 29 14.0**	**+3.8**
SSE	**Sheshan**	**17.45**	**4**	P	**P**	**16 29 17.8**	**-1.2**
SSE				S	**S**	**16 32 30.3**	**-0.8**
SSE				AMB	AMB		
comp=Z,30nm,0.7s							
SSE				AMB	AMB		
comp=Z,206nm,10.5s							
SSE				LR	LR		
comp=N,1μm,19.9s							
SSE				LR	LR		
comp=E,549nm,19.9s							
SSE				LR	LR		
comp=Z,2μm,19.5s							
SSE	**Sheshan**	**17.45**	**4**	P	**P**	**16 29 17.8**	**-1.2**
comp=Z,30nm,0.7s							
SSE				pP		16 29 37.2	
SSE				sP		16 29 49.7	
SSE				S	**S**	**16 32 30.2**	**-0.9**
SSE				sS		16 33 05.1	
WHN	**Wuhan**	**17.62**	**344**	*e*P	**P**	**16 29 23.5**	**+2.3**
WHN				S	**S**	**16 32 45.0**	**+10**
WHN				LR	LR		
comp=Z,4μm,20.2s							
GYA	**Guiyang**	**17.83**	**318**	P	**P**	**16 29 26.5**	**+2.7**
GYA				S	**S**	**16 32 52.4**	**+13**
GYA				AMB	AMB		
comp=Z,10.0nm,1.3s							
GYA				AMB	AMB		
comp=Z,130nm,6.0s							
GYA				LR	LR		
comp=N,1μm,16.5s							
GYA				LR	LR		
comp=E,1μm,17.1s							
GYA				LR	LR		
comp=Z,2μm,17.4s							
NJ2	**Nanjing**	**18.39**	**357**	*e*P	**P**	**16 29 32.5**	**+1.7**
NJ2				AP		16 29 36.1	
NJ2				XP		16 29 39.5	
NJ2				PP	PP	16 29 48.1	+1.9
NJ2				S	**S**	**16 32 55.0**	**+2.6**
NJ2				AMB	AMB		
comp=Z,50nm,1.0s							
NJ2				AMB	AMB		
comp=Z,2μm,4.8s							
NJ2				LR	LR		
comp=N,2μm,15.5s							
NJ2				LR	LR		
comp=E,3μm,14.9s							
NJ2				LR	LR		
comp=Z,2μm,16.5s							
NANT	**Nan**	**19.16**	**288**	P	**P**	**16 29 42.5**	**+2.4**
comp=Z,88nm,0.9s							
ENH	**Enshi**	**19.18**	**332**	*e*P	**P**	**16 29 40.7**	**+0.4**
comp=Z,30nm,1.1s							
NST	**Nakhon Sawan**	**19.25**	**279**	P	**P**	**16 29 44.0**	**+2.8**
NNT	**Nongplab**	**19.69**	**269**	P	**P**	**16 29 51.0**	**+4.8**
KMI	**Kunming**	**19.82**	**308**	P	**P**	**16 29 52.6**	**+5.0**
KMI				AP		16 29 57.0	
KMI				XP		16 29 59.0	
KMI				PP	PP	16 30 11.5	+5.1
KMI				S	**S**	**16 33 29.8**	**+5.3**
KMI				AMB	AMB		
comp=Z,5.0nm,1.2s							
KMI				AMB	AMB		
comp=Z,112nm,4.4s							
KMI				LR	LR		
comp=N,685nm,16.6s							
KMI				LR	LR		
comp=E,1μm,15.8s							
KMI				LR	LR		
comp=Z,1μm,17.4s							
KMI	**Kunming**	**19.82**	**308**	P	**P**	**16 29 52.6**	**+5.0**
comp=Z,5.0nm,1.2s							
KMI				pP		16 29 57.0	
KMI				sP		16 29 59.0	
KMI				PP	PP	16 30 11.5	+5.1
KMI				S	**S**	**16 33 29.8**	**+5.3**
KMI				sS		16 33 38.1	
KMI				SS	SS	16 33 56.8	+4.3
KMI				LR	LR		
comp=Z,1μm,17.4s							
KULM	**Kulim**	**20.71**	**248**	*e*P	**P**	**16 29 60.0**	**+3.0**
CM31	**Chiang Mai Arr**	**20.72**	**286**	*e*P	**P**	**16 29 59.1**	**+2.0**
comp=Z,16nm,0.9s							
CMAR	**Chiang Mai Arr**	**20.72**	**286**	P	**P**	**16 29 59.1**	**+2.1**
comp=Z,9.4nm,0.9s,baz=96,slow=9.2,SNR=50							
CMAR				PcP	PcP	16 34 06.8	+0.2
comp=Z,6.0nm,0.9s,baz=64,slow=0.7,SNR=21							
CMAR				ScP		16 37 41.0	
comp=Z,1.5nm,1.0s,baz=82,slow=1.2,SNR=7.7							
CMAR				LR	LR	16 38 35.0	
comp=Z,562nm,18.1s,MS4.0,baz=105,slow=38							
CHG	**Chiang Mai**	**20.79**	**287**	P	**P**	**16 30 00.0**	**+2.2**
TIA	**Tai'an**	**22.65**	**354**	*e*P	**P**	**16 30 15.0**	**-1.4**
XAN	**Xi'an**	**22.66**	**336**	P	**P**	**16 30 15.9**	**-0.7**
XAN				AP		16 30 21.1	
XAN				AMB	AMB		
comp=Z,23nm,1.3s,mb4.5							
CD2	**Chengdu**	**22.76**	**322**	⇑*i*P	**P**	**16 30 16.6**	**-0.9**
CD2				PP	PP	16 30 45.4	-1.1
CD2				S	**S**	**16 34 20.0**	**-1.0**
CD2				AMB	AMB		
comp=Z,110nm,1.0s,mb5.2							
CD2				AMB	AMB		
comp=Z,500nm,7.2s							
CD2				LR	LR		
comp=N,1μm,15.6s							
CD2				LR	LR		
comp=Z,2μm,19.2s,MS4.5							
CBIJ	**Chichi jima**	**24.76**	**54**	LR	LR	16 38 40.6	
comp=Z,1μm,20.1s,MS4.4,baz=250,slow=33							
BJI	**Beijing**	**26.54**	**354**	P	**P**	**16 30 52.5**	**-1.0**
BJI				S	**S**	**16 35 20.8**	**-4.4**
BJI				AMB	AMB		
comp=Z,13nm,1.1s,mb4.4							
BJI				AMB	AMB		
comp=Z,256nm,8.0s							
BJI				LR	LR		
comp=N,1μm,16.6s,MS4.6							
BJI				LR	LR		
comp=E,1μm,17.3s,MS4.6							
BJI				LR	LR		
comp=Z,811nm,17.3s,MS4.3							
BJI	**Beijing**	**26.54**	**354**	P	**P**	**16 30 52.5**	**-1.0**
comp=Z,13nm,1.1s,mb4.4							
BJI				sP	sP	16 30 57.7	-2.5
BJI				S	**S**	**16 35 20.7**	**-4.5**
BJI				sS		16 35 33.4	
BJI				LR	LR		
comp=Z,810nm,17.3s,MS4.3							
JHJ	**Hachijo jima 2**	**26.55**	**40**	LR	LR	16 40 18.6	
comp=Z,661nm,18.0s,MS4.2,baz=315,slow=34							
LZH	**Lanzhou**	**26.64**	**330**	⇓P	**P**	**16 30 55.0**	**+0.5**
LZH				AP	pP	16 31 04.3	+5.2
LZH				XP	sP	16 31 08.5	+7.3
LZH				PP	PP	16 31 39.5	+0.7
LZH				S	**S**	**16 35 26.1**	**-0.8**
LZH				sS		16 35 42.5	
LZH				SS	SS	16 36 37.0	-1.3
LZH				LR	LR		
comp=Z,3μm,16.0s,MS4.9							
LZH	**Lanzhou**	**26.64**	**330**	⇓P	**P**	**16 30 55.0**	**+0.5**
comp=Z,30nm,1.4s,mb4.6							
LZH				pP	pP	16 31 04.2	+5.1
LZH				sP	sP	16 31 08.5	+7.3
LZH				PP	PP	16 31 39.5	+0.7
LZH				S	**S**	**16 35 26.1**	**-0.8**
LZH				sS		16 35 42.5	
LZH				SS	SS	16 36 37.0	-1.3
LZH				LR	LR		
comp=Z,3μm,16.0s,MS4.9							
MJAR	**Matsushiro Arr**	**28.11**	**32**	P	**P**	**16 31 02.8**	**-5.1**
comp=Z,0.8nm,0.6s,baz=198,slow=12,SNR=3.6							
SNY	**Shenyang**	**28.30**	**6**	⇑P	**P**	**16 31 07.3**	**-2.2**
SNY				AP	pP	16 31 10.6	-3.5
SNY				S	**S**	**16 35 49.3**	**-4.3**
SNY				AMB	AMB		
comp=Z,50nm,0.9s,mb5.1							
SNY				LR	LR		
comp=N,920nm,18.1s							
SNY				LR	LR		
comp=Z,850nm,20.1s,MS4.3							
SHL	**Shillong**	**28.90**	**299**	*e*P	**P**	**16 31 15.0**	**-0.1**
KAKA	**Kakadu**	**28.94**	**154**	*e*P	**P**	**16 31 12.0**	**-3.5**
comp=Z,30nm,0.8s,mb5.1							
GTA	**Gaotai**	**31.23**	**329**	*e*P	**P**	**16 31 35.9**	**+0.3**
GTA				AP	pP	16 31 39.5	-0.8
GTA				PP	PP	16 32 39.8	+1.1
GTA				PCP	PcP	16 34 29.8	-0.5
GTA				S	**S**	**16 36 42.3**	**+2.2**
GTA				PCS		16 38 12.8	
GTA				AMB	AMB		
comp=Z,5.0nm,0.9s,mb4.3							
GTA				AMB	AMB		
comp=Z,123nm,5.0s							
GTA				LR	LR		
comp=N,924nm,18.6s,MS4.6							
GTA				LR	LR		
comp=E,1μm,19.8s,MS4.6							
GTA				LR	LR		
comp=Z,1μm,17.9s,MS4.7							
MDJ	**Mudanjiang**	**31.99**	**13**	P	**P**	**16 31 40.3**	**-2.0**
MDJ				AP	pP	16 31 44.0	-3.0
MDJ				XP	sP	16 31 45.9	-3.1
MDJ				S	**S**	**16 36 52.4**	**+0.4**
MDJ				AMB	AMB		
comp=Z,12nm,1.2s,mb4.6							
MDJ				AMB	AMB		
comp=Z,87nm,4.7s							
MDJ				LR	LR		
comp=N,304nm,25.9s,MS4.4							
MDJ				LR	LR		
comp=E,913nm,27.3s,MS4.4							
MDJ				LR	LR		
comp=Z,1μm,20.4s							
FITZ	**Fitzroy Crossi**	**32.00**	**170**	*e*P	**P**	**16 31 42.0**	**-0.6**
comp=Z,19nm,1.0s,mb4.9							
FITZ	**Fitzroy Crossi**	**32.00**	**170**	P	**P**	**16 31 41.8**	**-0.9**
comp=Z,28nm,1.0s,mb5.0,baz=8.2,slow=10,SNR=12							
JIRN	**Jiri**	**34.39**	**299**	*e*P	**P**	**16 32 03.6**	**+0.3**
comp=Z,20nm,0.7s,mb5.1							
MBWA	**Marble Bar**	**34.54**	**180**	P	**P**	**16 32 04.0**	**-0.7**
GUN	**Gumba**	**34.73**	**300**	*e*P	**P**	**16 32 06.6**	**+0.4**
comp=Z,27nm,0.7s,mb5.3							
PKI	**Pulchoki**	**35.03**	**299**	*e*P	**P**	**16 32 08.1**	**-0.7**
comp=Z,18nm,0.7s,mb5.1							
KKN	**Kakani**	**35.20**	**299**	*e*P	**P**	**16 32 09.8**	**-0.4**
comp=Z,12nm,0.7s,mb4.9							
DMN	**Daman**	**35.30**	**299**	*e*P	**P**	**16 32 11.2**	**+0.1**
comp=Z,17nm,0.9s,mb5.0							
HIA	**Hailar**	**35.56**	**360**	*e*P	**P**	**16 32 10.2**	**-2.8**
comp=Z,14nm,0.8s,mb4.9							
ULN	**Ulaanbaatar**	**35.80**	**345**	*i* P	**P**	**16 32 14.4**	**-0.7**
ULN	**Ulaanbaatar**	**35.80**	**345**	*e*P	**P**	**16 32 14.4**	**-0.7**
comp=Z,12nm,1.1s,mb4.7							
GKN	**Gorkha**	**35.81**	**299**	*e*P	**P**	**16 32 15.4**	**0.0**
comp=Z,7.0nm,0.5s,mb4.8							
SONM	**Songino Array**	**35.94**	**344**	P	**P**	**16 32 15.8**	**-0.5**
comp=Z,4.2nm,0.8s,mb4.5,baz=160,slow=9.3,SNR=43							
SONM				PcP	PcP	16 34 42.2	-1.2
comp=Z,4.3nm,0.8s,baz=181,slow=2.2,SNR=9.4							
SONM				ScP		16 38 26.7	
comp=Z,0.3nm,0.9s,baz=162,slow=4.6,SNR=3.7							
SONM				LR	LR	16 47 35.6	
comp=Z,798nm,21.3s,MS4.5,baz=156,slow=37							
ASAJ	**Asahikawa**	**36.07**	**28**	P	**P**	**16 32 13.5**	**-3.9**
comp=Z,3.6nm,0.8s,mb4.3,baz=248,slow=16,SNR=2.3							
WRAB	**Tennant Creek**	**36.23**	**157**	*i* P	**P**	**16 32 16.9**	**-2.1**
WRAB	**Tennant Creek**	**36.23**	**157**	*e*P	**P**	**16 32 16.7**	**-2.3**
comp=Z,185nm,1.0s							
WRA	**Warramunga Arr**	**36.23**	**157**	P	**P**	**16 32 17.0**	**-2.0**
comp=Z,94nm,0.9s,mb5.7,baz=336,slow=9.7,SNR=167							
WRA				S	**S**	**16 37 51.8**	**-6.1**
comp=Z,2.4nm,1.2s,baz=329,slow=15,SNR=4.4							
WB2	**Warramunga Arr**	**36.23**	**157**	⇑*i*P	**P**	**16 32 16.9**	**-2.1**
WB2				*e*S	**S**	**16 37 50.6**	**-7.4**
KOLN	**Koldanda**	**36.63**	**298**	*e*P	**P**	**16 32 22.4**	**+0.1**
comp=Z,12nm,0.8s,mb4.8							
YSS	**Yuzh-Sakhalins**	**38.36**	**25**	*e*P	**P**	**16 32 33.0**	**-3.7**
YSS				*e*		16 32 44.2	
YSS				MLR	MLR		
comp=Z,400nm,18.0s,MS4.3							
YSS				MLR	MLR		
comp=N,400nm,17.0s,MS4.4							
YSS				MLR	MLR		
comp=E,200nm,16.0s,MS4.4							
YSS	**Yuzh-Sakhalins**	**38.36**	**25**	*e*P	**P**	**16 32 33.4**	**-3.3**
comp=E,5.7nm,0.8s,mb4.3							
ZAK	**Zakamensk**	**39.11**	**343**	⇑*e*P	**P**	**16 32 41.8**	**-1.1**
ZAK				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.5							
ASPA	**Alice Springs**	**39.48**	**160**	*e*P	**P**	**16 32 45.5**	**-0.8**
ASAR	**Alice Springs**	**39.48**	**160**	P	**P**	**16 32 45.1**	**-1.1**
comp=Z,34nm,0.8s,mb5.1,baz=338,slow=7.1,SNR=132							
HYB	**Hyderabad**	**39.98**	**281**	*e*P	**P**	**16 32 52.5**	**+2.0**
HYB	**Hyderabad**	**39.98**	**281**	*i* P	**P**	**16 32 52.5**	**+2.0**
TLY	**Talaya**	**40.18**	**344**	*e*P	**P**	**16 32 51.9**	**+0.2**
TLY				*e*S	**S**	**16 38 52.3**	**-5.3**
TLY				pmax	pmax		
comp=Z,23nm,1.0s,mb4.9							
TLY				MLR	MLR		
comp=Z,641nm,22.0s,MS4.4							
IRK	**Irkutsk**	**40.53**	**345**	*e*P	**P**	**16 32 53.9**	**-0.7**
IRK				pmax	pmax		
comp=Z,48nm,1.3s,mb5.0							
WMQ	**Urumqi**	**40.83**	**324**	P	**P**	**16 32 57.5**	**+0.3**
WMQ				AP	pP	16 33 02.0	+0.1
WMQ				XP	sP	16 33 04.8	+1.0
WMQ				PP	PP	16 34 35.5	+0.9
WMQ				PCP	PcP	16 34 58.3	-0.4
WMQ				SCP		16 38 46.0	
WMQ				S	**S**	**16 39 09.0**	**+1.7**
WMQ				AMB	AMB		
comp=Z,5.0nm,0.5s,mb4.4							
WMQ				LR	LR		
comp=N,997nm,19.2s,MS4.7							
WMQ				LR	LR		
comp=E,480nm,21.0s,MS4.7							
WMQ				LR	LR		
comp=Z,752nm,19.2s,MS4.6							
MOY	**Mondy**	**40.92**	**342**	*e*P	**P**	**16 32 57.6**	**-0.2**
MOY				pmax	pmax		
comp=Z,34nm,1.8s,mb4.7							
AGRA	**Agra**	**41.41**	**296**	*e*P	**P**	**16 33 00.1**	**-1.9**
AGRA				AMb	AMB	16 33 01.0	
comp=Z,38nm,0.4s,mb5.3							
AGRA				*e*		16 35 08.8	
DDI	**Dehra Dun**	**41.97**	**300**	*e*P	**P**	**16 33 05.4**	**-1.3**
KLP	**Kalpa**	**42.11**	**302**	*e*P	**P**	**16 33 09.3**	**+1.4**
KLP				AMb	AMB	16 33 11.2	
comp=Z,22nm,1.3s,mb4.6							
CTA	**Charters Tower**	**42.33**	**142**	*e*P	**P**	**16 33 08.3**	**-1.5**
comp=Z,17nm,0.9s,mb4.7							
CTA				*e*		16 33 25.5	
CTA	**Charters Tower**	**42.33**	**142**	P	**P**	**16 33 08.6**	**-1.2**
comp=Z,26nm,0.9s,mb4.8,baz=335,slow=11,SNR=10							
CTAO	**Charters Tower**	**42.33**	**142**	*e*P	**P**	**16 33 08.2**	**-1.6**
comp=Z,24nm,0.9s,mb4.8							
CTAO				*e*		16 33 24.9	
SONA	**Sohna**	**42.35**	**297**	*e*P	**P**	**16 33 09.2**	**-0.6**
AYAN	**Aya Nagar**	**42.36**	**297**	*e*P	**P**	**16 33 09.6**	**-0.4**
AYAN				AMb	AMB	16 33 10.9	
comp=Z,2.8nm,0.8s,mb3.9							
AYAN				*e*		16 35 03.3	
CLNS	**Chul'man**	**43.31**	**4**	*e*P	**P**	**16 33 09.6**	**-7.7**
CLNS				*e**PP	pP	16 33 15.8	-6.2
CLNS				*e*PPP	PP	16 34 58.7	-1.5
CLNS				*e*		16 35 03.2	
CLNS				*e*S	**S**	**16 39 32.3**	**-11**
CLNS				*e*		16 43 06.2	
CLNS				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.2							
CLNS				pmax	pmax		
comp=N,2.0nm,0.7s							
CLNS				pmax	pmax		
comp=E,4.0nm,0.8s							
CLNS				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.1							
CLNS				pmax	pmax		
comp=N,3.0nm,0.7s							
CLNS				pmax	pmax		
comp=E,5.0nm,0.9s							
CLNS				smax			
comp=N,217nm,13.3s							
CLNS				smax			
comp=Z,30nm,12.4s							
CLNS				smax			
comp=E,66nm,12.7s							
CLNS				MLR	MLR		
comp=Z,600nm,18.0s,MS4.5							
CLNS				MLR	MLR		
comp=N,400nm,16.0s,MS4.5							
CLNS				MLR	MLR		

comp=E,100nm,12.0s,MS4.5
BOD Bodaibo 44.36 355 *e*P **P 16 33 23.9 -1.9**
BOD pmax pmax
comp=Z,12nm,1.1s,mb4.5
FORT Forrest 44.81 170 *e*P **P 16 33 28.7 -1.1**
comp=Z,1μm,0.8s
KLBR Kellerberrin 44.98 183 *e*P **P 16 33 31.0 -0.2**
comp=Z,575nm,1.0s
MUN Mundaring 45.46 184 *e*P **P 16 33 34.1 -0.8**
comp=Z,64nm,1.0s,mb5.4
NWAO Narrogin (SRO) 46.34 183 P **P 16 33 42.1 +0.3**
comp=Z,19nm,0.9s,mb5.0,baz=353,slow=11,SNR=8.1
KZA Kyzart 47.87 315 P **P 16 33 55.2 +1.3**
SNR=9.0
TKM2 Tokmak 2 47.97 316 P **P 16 33 55.8 +1.2**
SNR=6.3
KBK Karagaybulak 48.30 316 P **P 16 33 58.5 +1.4**
SNR=10
UCH Uchtor 48.43 315 P **P 16 33 59.7 +1.5**
SNR=12
CHMS Chumysh 48.57 316 P **P 16 33 60.0 +0.8**
SNR=7.2
AAK Ala-Archa 48.60 316 P **P 16 34 01.9 +2.4**
SNR=6.2
AAK Ala-Archa 48.60 316 *i* P **P 16 34 00.1 +0.6**
AAK pmax pmax
comp=Z,12nm,1.3s,mb4.8
AAK Ala-Archa 48.60 316 *e*P **P 16 33 59.4 0.0**
comp=Z,12nm,1.2s,mb4.8
ZAL Zalesovo 48.80 333 P **P 16 33 60.0 -0.9**
comp=Z,4.5nm,0.5s,mb4.7,baz=353,slow=4.6,SNR=18
ZAL LR LR 16 56 07.0
comp=Z,591nm,18.2s,MS4.6,baz=337,slow=38
ZAL Zalesovo 48.80 333 P **P 16 33 60.0 -0.9**
USP Ospenovka 48.84 316 P **P 16 34 01.4 +0.1**
SNR=7.3
YAK Yakutsk 48.86 6 *i* P **P 16 33 58.3 -2.9**
YAK pmax pmax
comp=Z,36nm,1.7s,mb5.1
YAK Yakutsk 48.86 6 *e*P **P 16 33 58.4 -2.9**
comp=Z,18nm,0.8s,mb5.2
EKS2 Erkin-Say 49.10 315 P **P 16 34 03.2 -0.1**
SNR=6.9
STKA Stephens Creek 49.77 156 *e*P **P 16 34 06.8 -1.8**
comp=Z,12nm,0.9s,mb4.9
STKA Stephens Creek 49.77 156 P **P 16 34 07.0 -1.6**
comp=Z,25nm,1.1s,mb5.2,baz=325,slow=7.2,SNR=16
PET Petropavlovsk 49.88 30 *e*P **P 16 34 07.0 -2.2**
PET pmax pmax
comp=Z,100nm,19.0s
NVS Novosibirsk 50.08 333 *e*P **P 16 34 09.3 -1.4**
NVS *e**PP PcP 16 35 28.0 -2.6
NVS *e*S **S 16 41 13.2 -6.8**
NVS pmax pmax
comp=N,18nm,1.4s
NVS pmax pmax
comp=E,18nm,1.4s
NVS pmax pmax
comp=Z,33nm,1.4s,mb5.2
NVS smax
comp=N,24nm,0.0s
MA2 Magadan 51.24 20 *e*P **P 16 34 22.8 +3.4**
MA2 *e*S **S 16 41 34.5 -1.4**
MA2 pmax pmax
comp=Z,20nm,1.8s,mb4.8
MA2 MLR MLR
comp=Z,630nm,18.0s,MS4.7
BVAR Borovoye Array 55.43 326 P **P 16 34 49.4 -1.2**
comp=Z,12nm,0.9s,mb4.9,baz=124,slow=11,SNR=41
TOO Toolangi 56.29 156 *e*P **P 16 34 56.3 -0.7**
comp=Z,15nm,0.9s,mb5.0
TIXI Tiksi 58.27 3 *i* P **P 16 35 06.4 -4.1**
TIXI pmax pmax
comp=Z,19nm,1.3s,mb5.0
TIXI MLR MLR
comp=Z,900nm,20.0s,MS4.9
BILL Bilibino 62.03 18 *e*P **P 16 35 32.5 -3.9**
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
BILL MLR MLR
comp=Z,400nm,22.0s,MS4.5
BILL Bilibino 62.03 18 *e*P **P 16 35 32.0 -4.3**
comp=Z,2.6nm,0.7s,mb4.5
SVE Sverdlovsk 62.08 328 *e*P **P 16 35 35.8 -1.0**
SVE pmax pmax
comp=Z,80nm,1.2s,mb5.7
SVE MLR MLR
comp=N,300nm,16.0s,MS4.7
SVE MLR MLR
comp=E,300nm,16.0s,MS4.7
SVE MLR MLR
comp=Z,400nm,16.0s,MS4.7
ARU Arti 63.05 327 ⇓*i*P **P 16 35 41.6 -1.6**
ARU *e* 16 37 59.3
ARU *e*PPP PPP 16 39 28.2 -6.4
ARU *e*S **S 16 44 06.5 -4.9**
ARU pmax pmax
comp=Z,17nm,0.9s,mb5.2
SOKR Solikamsk 64.86 330 ⇓*i*P **P 16 35 54.3 -0.7**
SOKR pmax pmax
comp=Z,20nm,1.1s,mb5.1
SOKR MLR MLR
comp=Z,440nm,19.0s,MS4.7
GNI Garni 70.08 308 *d i*P **P 16 36 29.7 +1.6**
GNI pmax pmax
comp=Z,23nm,1.3s
GNI Garni 70.08 308 *e*P **P 16 36 29.5 +1.4**
comp=Z,23nm,1.0s,mb5.1
KIV Kislovodsk 71.53 312 *i* P **P 16 36 36.0 -0.8**
KIV *e*S S 16 45 54.8 +1.1
KIV pmax pmax
comp=Z,26nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,200nm,19.0s,MS4.4
KIV Kislovodsk 71.53 312 *e*P **P 16 36 36.2 -0.6**
comp=Z,23nm,0.9s,mb5.1
RPZ Rata Peaks 73.65 144 P **P 16 36 47.9 -1.4**
comp=Z,6.7nm,0.8s,mb4.6,baz=270,slow=3.0,SNR=3.0
SOC Sochi 73.69 312 *e*P **P 16 36 48.1 -1.5**
SOC *e* 16 46 46.3
SOC pmax pmax
comp=N,34nm,1.3s
SOC pmax pmax
comp=Z,54nm,1.3s,mb5.3
SOC pmax pmax
comp=E,59nm,1.4s
SOC MLR MLR
comp=Z,133nm,16.0s,MS4.3
SOC MLR MLR
comp=N,227nm,19.0s,MS4.6
SOC MLR MLR
comp=E,251nm,22.0s,MS4.6
MALT Malatya 75.08 306 ⇑P **P 16 36 59.1 +1.3**
MALT Malatya 75.08 306 *e*P **P 16 36 58.8 +1.0**
comp=E,8.2nm,0.9s,mb4.7
OBN Obninsk 75.17 324 ⇓*e*P **P 16 36 57.2 -0.7**
OBN *e* 16 39 45.5
OBN *e*S S 16 46 30.2 -4.3
OBN pmax pmax
comp=Z,25nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,700nm,23.0s,MS4.9
ANN Anapa 75.25 313 *e*P **P 16 36 56.6 -2.0**
ANN pmax pmax
comp=Z,39nm,1.2s,mb5.2
APA Apatity 76.20 337 ⇓*i*P **P 16 37 02.5 -1.0**
APA *i* 16 37 12.6
APA pmax pmax
comp=Z,54nm,1.6s,mb5.2
APA MLR MLR
comp=Z,2μm,18.0s,MS5.3
IMA Indian Mountai 76.22 25 *e*P **P 16 37 02.2 -1.5**
comp=Z,26nm,1.2s,mb5.0
ASF Jabal al Asfar 77.06 300 P **P 16 37 10.0 +1.0**
comp=Z,7.7nm,0.9s,mb4.6,baz=274,slow=2.9,SNR=7.3
JOF Joensuu 77.37 332 *e*p **P 16 37 08.0 -2.1**
comp=Z,6.9nm,0.8s,mb4.6
JOF Joensuu 77.37 332 *e*P **P 16 37 08.0 -2.1**
JOF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KEV Kevo 78.35 339 *e*p **P 16 37 13.9 -1.5**
MCK McKinley 78.43 27 *e*P **P 16 37 12.3 -3.6**
comp=Z,12nm,0.9s,mb4.8
OPO Ambohidratompo 78.47 248 P **P 16 37 17.4 +0.4**
comp=Z,0.9nm,0.7s,mb3.8,baz=68,slow=5.4,SNR=2.3
BRTR Keskin Array B 78.61 308 P **P 16 37 17.3 -0.1**
comp=Z,2.7nm,0.9s,mb4.2,baz=127,slow=6.2,SNR=12
COLA College 78.75 26 P **P 16 37 14.7 -3.0**
ARCES ARCESS Array B 78.90 339 P **P 16 37 17.2 -1.2**
comp=Z,10nm,0.9s,mb4.8,baz=85,slow=6.4,SNR=19
ARCES LR LR 17 14 32.7
comp=Z,377nm,21.0s,MS4.7,baz=81,slow=37
SML Sawmill 78.96 29 *e*P **P 16 37 15.7 -3.2**
EIL Elat 79.09 298 *e*P **P 16 37 21.3 +1.1**
comp=Z,21nm,1.2s,mb4.9
ILAR Eielson Array 79.17 26 P **P 16 37 16.6 -3.3**
comp=Z,2.3nm,0.9s,mb4.1,baz=250,slow=3.8,SNR=15
ILAR PKKPbc 16 56 10.9
comp=Z,0.9nm,1.0s,baz=52,slow=0.9,SNR=5.6
THY Trims Highway 79.88 27 *e*P **P 16 37 21.4 -2.4**
CASY Casey 79.96 184 *e*P **P 16 37 22.6 -1.6**
comp=Z,25nm,1.1s,mb5.0
FINES FINESS Array B 80.00 331 *i* P **P 16 37 23.4 -1.1**
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 80.00 331 P **P 16 37 23.0 -1.5**
comp=Z,3.5nm,0.9s,mb4.3,baz=48,slow=5.4,SNR=11
FINES LR LR 17 15 54.1
comp=Z,284nm,20.3s,MS4.6,baz=188,slow=38
AKASG Malin Array Be 80.05 320 *i* P **P 16 37 24.1 -0.9**
AKASG Malin Array Be 80.05 320 P **P 16 37 23.7 -1.3**
comp=Z,0.4nm,0.4s,baz=69,slow=4.8,SNR=9.3
EYAK Cordova Ski Ar 80.39 30 *e*P **P 16 37 24.4 -2.2**
DAWY Dawson 82.50 26 *e*P **P 16 37 35.6 -1.9**
VRI Vrincioaia 82.57 315 ⇑P **P 16 37 39.0 +0.7**
KMBO Kilima Mbogo 83.14 267 *i* P **P 16 37 44.0 +2.1**
KMBO pmax pmax
comp=Z,5.0nm,1.1s
KMBO Kilima Mbogo 83.14 267 P **P 16 37 44.0 +2.2**
comp=Z,4.9nm,1.1s,mb4.5,baz=43,slow=8.1,SNR=8.6
KMBO LR LR 17 14 48.9
comp=Z,216nm,19.0s,MS4.5,baz=96,slow=36
KMBO Kilima Mbogo 83.14 267 *e*P **P 16 37 43.8 +1.9**
comp=Z,9.5nm,1.3s,mb4.7
KMBO *e* 16 37 52.5
MLR Muntele Rosu 83.18 315 ⇓P **P 16 37 42.1 +0.6**
BURAR Bucovina Array 83.21 317 ⇓P **P 16 37 41.7 +0.1**
BURAR Bucovina Array 83.21 317 ⇓P **P 16 37 41.7 +0.1**
INK Inuvik 83.46 21 PKKPbc 16 56 00.5
comp=Z,1.6nm,1.0s,baz=70,slow=4.6,SNR=4.5
INK Inuvik 83.46 21 *e*P **P 16 37 40.0 -2.4**
comp=Z,5.4nm,1.0s,mb4.5
LVV L'vov 83.49 320 *e*P **P 16 37 46.7 +3.8**
LVV MLR MLR
comp=N,100nm,19.0s,MS4.7
LVV MLR MLR
comp=E,300nm,19.0s,MS4.7
LVV MLR MLR
comp=Z,200nm,19.0s,MS4.5
KWP Kalwaria 84.36 320 *e*P **P 16 37 47.8 +0.4**
CRVS Cervenica-Dubn 85.34 319 *e*P **P 16 37 54.1 +1.9**
NIE Niedzica 85.93 320 *e*P **P 16 37 55.4 +0.2**
OJC Ojcow 86.02 321 *e*P **P 16 37 55.8 +0.2**
NB2 NORSAR Subarra 87.00 333 P **P 16 37 58.4 -1.7**
comp=Z,9.5nm,0.9s,mb5.0,baz=68,slow=4.6
NB2 NORSAR Subarra 87.00 333 P **P 16 37 58.4 -1.7**
baz=68,slow=4.6
NOA NORSAR Array B 87.00 333 P **P 16 37 58.8 -1.3**
comp=Z,5.8nm,0.8s,mb4.8,baz=68,slow=4.6,SNR=25
NOA LR LR 17 20 41.1
comp=Z,269nm,19.3s,MS4.7,baz=50,slow=38
MORC Moravsky Berou 87.55 321 ⇑P **P 16 38 03.2 +0.2**
DPC Dobruska-Polom 88.11 321 *e*P **P 16 38 06.1 +0.4**
UPC Upice 88.24 322 *e*P **P 16 38 07.3 +0.9**
DLBC Dease Lake 88.66 30 LR LR 17 19 16.4
comp=Z,118nm,18.9s,MS4.3,baz=298,slow=37
BRG Berggiesshubel 89.36 322 *e*P **P 16 38 11.8 +0.1**
BRG pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
BRG Berggiesshubel 89.36 322 *e*P **P 16 38 11.8 +0.1**
comp=Z,6.9nm,1.2s,mb4.9
CLL Collm 89.75 323 *e*P **P 16 38 14.0 +0.5**
CLL Collm 89.75 323 P **P 16 38 14.0 +0.5**
KHC Kasperske Hory 90.20 321 *e*P **P 16 38 14.5 -1.1**
GERES GERESS Array B 90.23 321 P **P 16 38 15.5 -0.3**
comp=Z,2.1nm,0.9s,mb4.5,baz=72,slow=4.2,SNR=12
GRA1 Grafenberg Arr 91.42 322 *e*P **P 16 38 21.5 +0.3**
comp=Z,7.0nm,0.9s,mb5.0
GRA1 *e*S S 16 49 27.5 +10
GRA1 *e*SS SS 16 55 39.8 +13
GRA1 LR LR
comp=Z,300nm,20.1s,MS4.7
GRF Grafenberg Arr 91.42 322 *e*P **P 16 38 21.5 +0.3**
GRF *e*SS SS 16 55 39.8 +13
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
GRF MLR MLR
comp=Z,300nm,20.1s,MS4.7
GRF Grafenberg Arr 91.42 322 *e*P **P 16 38 21.5 +0.3**
comp=Z,7.0nm,0.9s,mb5.0
GRF *e*S S 16 49 27.5 +10
GRF *e*SS SS 16 55 39.8 +13
GRF LR LR
comp=Z,300nm,20.1s,MS4.7
YKW3 Yellowknife Ar 93.11 22 *e*P **P 16 38 26.3 -2.4**
YKA Yellowknife Ar 93.16 22 *i* P **P 16 38 27.2 -1.7**
YKA pmax pmax
comp=Z,4.0nm,0.9s
YKA Yellowknife Ar 93.16 22 P **P 16 38 27.2 -1.7**
comp=Z,3.9nm,0.9s,mb4.8,baz=310,slow=4.4,SNR=64
YKA PKKP PKKP 16 55 35.6 +5.7
comp=Z,0.7nm,0.8s,baz=129,slow=2.5,SNR=12
YKA LR LR 17 29 40.5
comp=Z,172nm,18.1s,MS4.5,baz=240,slow=42
YKA Yellowknife Ar 93.16 22 P **P 16 38 27.2 -1.7**
YKA PKKP PKKP 16 55 35.6 +5.7
VNDA Vanda 94.06 172 P **P 16 38 32.4 -0.4**
comp=Z,5.2nm,1.0s,mb4.9,baz=289,slow=5.9,SNR=16
VNDA LR LR 17 20 27.6
comp=Z,140nm,21.0s,MS4.4,baz=324,slow=35
VNDA Vanda 94.06 172 P **P 16 38 32.4 -0.4**
PPT Papeete 94.49 107 *e*LR LR 17 09 01.5
comp=Z,208nm,22.8s
PPT Papeete 94.49 107 LR LR 17 15 36.0
comp=Z,150nm,19.2s,MS4.5,baz=301,slow=32
TBI Tubuai 95.84 113 *e*LR LR 17 09 40.1
comp=Z,255nm,24.2s
PDAR Pinedale Array 107.89 36 PKKP PKKP 16 55 10.4 +6.1
comp=Z,0.6nm,0.8s,baz=90,slow=3.0,SNR=4.0
DBIC Dimbokro 121.59 287 PKP PKPdf 16 44 09.1 -3.2
comp=Z,2.3nm,0.5s,baz=154,slow=4.5,SNR=3.9
DBIC Dimbokro 121.59 287 PKP PKPdf 16 44 09.1 -3.2
PLCA Paso Flores 151.46 163 PKPbc PKPdf 16 45 09.4 +3.8
comp=Z,3.4nm,0.8s,baz=186,slow=4.0,SNR=10
LPAZ La Paz 171.78 110 PKP PKPdf 16 45 22.0 -4.9
comp=Z,0.8nm,0.8s,baz=225,slow=1.4,SNR=3.1
LPAZ PKPab PKPab 16 46 48.2 +0.9
comp=Z,0.7nm,0.5s,baz=279,slow=3.6,SNR=4.5
LPAZ La Paz 171.78 110 PKP PKPdf 16 45 22.0 -4.9
LPAZ PKPab PKPab 16 46 48.2 +0.9
SIV San Ignacio 177.44 158 PKP PKPdf 16 45 25.9 -2.7
comp=Z,1.8nm,1.1s,baz=175,slow=1.5,SNR=5.1

*IDC **14** 16:48:24.0±0.6, 41.06S×43.03E, mb4.0/8, mb1 4.1/9, mb1mx4.0/20, mbtmp4.0/9, ML3.5/1, Error ellipse: s-maj=40.2km s-min=16.1km az=37.0*
*NEIC **14** 16:48:25.6±0.5, 40.78S×43.22E, h10^{km}, mb4.3/3, Error ellipse: s-maj=18.3km s-min=9.8km az=221.0*
ISC 14 16:48:23.9±0.6, **40.8S**±0.1×**43.2E**±0.1, **h10^{km}, n22, σ1^{s}02/17, mb4.0/10, 2C, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**19.06**	**304**	P		**P**	**16 52 48.9**	**+0.1**
	0.1nm,0.3s,baz=132,slow=12,SNR=2.9							
BOSA	**Boshof**	**19.06**	**304**	*e*P		**P**	**16 52 48.1**	**-0.6**
SUR	**Sutherland**	**19.79**	**288**	*e*P		**P**	**16 52 56.5**	**-0.8**
LBTB	**Lobatse**	**21.51**	**312**	P		**P**	**16 53 15.7**	**+0.6**
	3.1nm,0.9s,mb3.7,baz=164,slow=8.5,SNR=3.7							
LBTB	**Lobatse**	**21.51**	**312**	*e*P		**P**	**16 53 14.6**	**-0.5**
MATP	**Matopo**	**23.85**	**324**	P		**P**	**16 53 40.1**	**+2.0**
	4.1nm,0.9s,mb3.8,baz=166,slow=7.8,SNR=5.5							
LSZ	**Lusaka**	**28.57**	**329**	*e*P		**P**	**16 54 21.6**	**-0.6**
	1.7nm,0.6s,mb4.0							
TSUM	**Tsumeb**	**30.70**	**307**	P		**P**	**16 54 40.7**	**-0.5**
	2.4nm,0.9s,mb4.0,baz=158,slow=7.5,SNR=4.1							
TSUM	**Tsumeb**	**30.70**	**307**	*e*P		**P**	**16 54 40.6**	**-0.5**
	4.8nm,1.0s,mb4.3							
VNA2	**Neumayer–Watz**	**39.37**	**204**	⇑*i*		**P**	**16 55 55.6**	**+0.8**
VNA3	**Neumayer Olymp**	**40.17**	**204**	⇑*i*		**P**	**16 56 02.7**	**+1.2**
VNDA	**Vanda**	**56.23**	**167**	P		**P**	**16 58 03.6**	**-2.3**
	0.8nm,1.0s,mb3.7,baz=214,slow=5.8,SNR=2.5							
FITZ	**Fitzroy Crossi**	**72.80**	**99**	P		**P**	**16 59 56.3**	**+1.6**
	3.7nm,0.9s,mb4.3,baz=182,slow=10,SNR=2.7							
ASAR	**Alice Springs**	**75.46**	**109**	P		**P**	**17 00 09.3**	**-0.8**
	0.6nm,0.8s,mb3.6,baz=225,slow=5.9,SNR=7.4							
STKA	**Stephens Creek**	**75.67**	**120**	P		**P**	**17 00 10.7**	**-0.4**
	1.5nm,0.8s,mb4.0,baz=278,slow=4.2,SNR=3.9							
WRA	**Warramunga Arr**	**78.10**	**106**	P		**P**	**17 00 24.9**	**+0.1**
	1.6nm,0.7s,mb4.0,baz=224,slow=4.3,SNR=19							
WRAB	**Tennant Creek**	**78.11**	**106**	*e*P		**P**	**17 00 24.6**	**-0.3**
	4.5nm,0.8s,mb4.5							
TXAR	**Lajitas Array**	**150.72**	**258**	PKPbc		PKPdf	17 08 18.1	+4.4
	1.5nm,0.8s,baz=132,slow=4.8,SNR=15							
TXAR				PKPab		PKPab	17 08 24.1	-1.5
	2.4nm,0.9s,baz=124,slow=4.5,SNR=12							
INK	**Inuvik**	**152.37**	**357**	PKPbc		PKPdf	17 08 22.2	+7.2
	0.9nm,0.8s,slow=3.0,SNR=2.8							
INK	**Inuvik**	**152.37**	**357**	PKPbc		PKPdf	17 08 22.2	+7.2
YKA	**Yellowknife Ar**	**154.52**	**336**	PKP		PKPdf	17 08 15.2	-2.9
	0.1nm,0.3s,baz=72,slow=2.0,SNR=3.3							
YKA				PKPab		PKPab	17 08 40.8	+0.4
	0.5nm,0.9s,baz=41,slow=4.7,SNR=7.8							
YKA	**Yellowknife Ar**	**154.52**	**336**	PKP		PKPdf	17 08 15.2	-2.9
YKA				PKPab		PKPab	17 08 40.9	+0.4

*IDC **14** 17:18:44.2±1.8, 1.53N×97.71E, mb3.8/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=59.0km s-min=21.2km az=59.0*
*NEIC **14** 17:18:48.0±1.0, 1.44N×97.63E, h30^{km}, mb4.9/1, Error ellipse: s-maj=26.0km s-min=12.6km az=70.0*
ISC 14 17:18:46.2±1.2, **1.5N**±0.1×**97.6E**±0.2, **h30^{km}, n9, σ0^{s}75/9, mb3.9/7, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.86**	**38**	*e*Pn		**Pn**	**17 20 00.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**16.94**	**4**	Pn		**P**	**17 22 42.0**	**-1.0**
	0.1nm,0.3s,baz=194,slow=12,SNR=11							
WRA	**Warramunga Arr**	**41.81**	**122**	P		**P**	**17 26 35.8**	**+0.6**
	1.6nm,0.7s,mb3.8,baz=301,slow=9.1,SNR=15							
WRAB	**Tennant Creek**	**41.82**	**122**	*e*P		**P**	**17 26 34.0**	**-1.3**
	45nm,1.8s,mb4.8							
ASAR	**Alice Springs**	**43.21**	**128**	P		**P**	**17 26 47.1**	**+0.4**
	0.7nm,0.8s,mb3.4,baz=304,slow=8.1,SNR=6.1							
SONM	**Songino Array**	**46.82**	**8**	P		**P**	**17 27 15.4**	**+0.3**
	1.1nm,0.8s,mb3.9,baz=188,slow=9.9,SNR=12							
MJAR	**Matsushiro Arr**	**51.21**	**42**	P		**P**	**17 27 48.6**	**-0.6**
	0.4nm,0.4s,mb3.8,baz=240,slow=6.3,SNR=3.9							
ZAL	**Zalesovo**	**53.37**	**351**	P		**P**	**17 28 05.0**	**-0.2**
	1.5nm,0.5s,mb4.2,baz=282,slow=4.0,SNR=6.3							
FINES	**FINESS Array B**	**79.97**	**332**	P		**P**	**17 30 54.8**	**+0.9**
	0.6nm,0.5s,mb3.8,baz=108,slow=6.0,SNR=7.2							

*JMA **14** 17:21:34.1±0.2, 24.91N×121.95E, h33^{km}, M2.3*
TAP 14 17:21:34.1, 24.83N×121.98E, h6^{km}, ML2.9, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.01**	**111**	P		Pb	17 21 53.0	-0.5
YOJ				S		Sb	17 22 06.5	-0.3
IRIF	**Iriomote-Funau**	**1.67**	**107**	P		Pn	17 22 02.3	-1.7
IRIF				S		Sn	17 22 23.7	-2.2
HATJ	**Hateruma jima**	**1.83**	**114**	P		Pn	17 22 05.3	-1.1
HATJ				S		Sn	17 22 28.1	-2.0
JKRS	**Kuro-shima**	**1.94**	**107**	P		Pn	17 22 06.8	-1.1
JKRS				S		Sn	17 22 30.9	-1.9
JIJ	**Ishigaki jima**	**2.02**	**103**	P		Pn	17 22 08.0	-1.1
JIJ				S		Sn	17 22 32.1	-2.9

*JMA **14** 17:23:29.5±0.1, 24.80N×121.88E, h33^{km}, M2.4*
TAP 14 17:23:29.5, 24.81N×121.99E, h8^{km}, ML3.4, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.99**	**110**	P		Pb	17 23 48.7	+0.1
YOJ				*e*S		Sb	17 24 02.7	+1.1
IRIF	**Iriomote-Funau**	**1.65**	**106**	P		Pn	17 23 58.5	-0.6
IRIF				*e*S		Sn	17 24 19.7	-1.1
JKRS	**Kuro-shima**	**1.93**	**107**	P		Pn	17 24 02.6	-0.4
JKRS				*e*S		Sn	17 24 26.9	-0.8
JIJ	**Ishigaki jima**	**2.01**	**102**	P		Pn	17 24 03.8	-0.4
JIJ				*e*S		Sn	17 24 28.0	-1.8

IDC 14 17:43:26.3±6.0, **20.84S**×**169.46E, h55^{km}**±46^{km}, **mb3.8/5, mb1 4.0/6, mb1mx3.7/16, mbtmp4.0/6, ML2.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/20, Error ellipse: s-maj=115.0km s-min=41.5km az=147.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.06**	**246**	P		P	17 44 12.4	-1.1
	0.7nm,0.3s,baz=116,slow=20,SNR=22							
DZM				S		S	17 44 57.4	+8.2
	0.4nm,0.3s,baz=49,slow=19,SNR=2.6							
STKA	**Stephens Creek**	**27.20**	**240**	P		P	17 49 04.4	-2.7
	1.0nm,0.5s,baz=84,slow=9.2,SNR=2.9							
WRA	**Warramunga Arr**	**32.89**	**265**	P		P	17 49 55.1	-2.5
	0.9nm,0.6s,baz=95,slow=8.1,SNR=19							
ASAR	**Alice Springs**	**32.98**	**258**	P		P	17 49 56.4	-1.9
	4.1nm,0.8s,baz=86,slow=8.9,SNR=52							
ASAR				LR		LR	18 02 23.9	
	comp=Z,85nm,18.3s,baz=245,slow=34							
FITZ	**Fitzroy Crossi**	**41.31**	**266**	P		P	17 51 07.3	-1.1
	4.1nm,0.8s,baz=180,slow=13,SNR=3.2							
ILAR	**Eielson Array**	**91.69**	**17**	P		P	17 56 27.4	-1.3
	0.3nm,0.8s,baz=224,slow=5.4,SNR=4.1							

*IDC **14** 17:44:10.0±2.5, 25.08N×123.54E, mb3.4/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, Error ellipse: s-maj=220.6km s-min=22.1km az=67.0*
*TAP **14** 17:44:09.7, 24.81N×122.02E, h7^{km}, ML3.6*
*JMA **14** 17:44:11.0±0.3, 25.08N×122.14E, h21^{km}, M2.9*
ISC 14 17:44:10.7±0.9, **24.5N**±0.1×**122.01E**±0.06, **h7^{km}, n9, σ1^{s}07/14, mb3.4/4, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.92**	**95**	P		**Pb**	**17 44 29.3**	**+0.7**
YOJ				*e*S		**Sb**	**17 44 42.3**	**+1.5**
IRIF	**Iriomote-Funau**	**1.58**	**97**	P		**Pn**	**17 44 38.6**	**-0.8**
IRIF				*e*S		**Sb**	**17 44 58.9**	**-1.2**
HATJ	**Hateruma jima**	**1.71**	**106**	P		**Pn**	**17 44 41.9**	**+0.7**
HATJ				*e*S		**Sn**	**17 45 05.3**	**+1.8**
JKRS	**Kuro-shima**	**1.85**	**99**	P		**Pn**	**17 44 42.9**	**-0.3**
JKRS				*e*S		**Sn**	**17 45 06.3**	**-0.8**
JIJ	**Ishigaki jima**	**1.96**	**95**	P		**Pn**	**17 44 44.1**	**-0.6**
JIJ				S		**Sn**	**17 45 08.8**	**-0.9**
SONM	**Songino Array**	**26.34**	**336**	P		**P**	**17 49 48.1**	**-0.9**
	0.7nm,0.8s,mb3.2,baz=144,slow=8.3,SNR=5.8							
WRA	**Warramunga Arr**	**45.81**	**164**	P		**P**	**17 52 34.7**	**-0.5**
	0.8nm,0.8s,mb3.7,baz=347,slow=8.7,SNR=5.9							
BVAR	**Borovoye Array**	**47.88**	**320**	P		**P**	**17 52 53.8**	**+2.7**
	0.2nm,0.4s,mb3.5,baz=121,slow=8.4,SNR=2.2							
ASAR	**Alice Springs**	**49.29**	**166**	P		**P**	**17 53 02.3**	**-0.2**
	0.3nm,0.8s,mb3.4,baz=345,slow=10,SNR=2.6							

*JMA **14** 17:46:41.5±0.2, 24.91N×121.98E, h38^{km}, M2.2*
TAP 14 17:46:40.7, 24.82N×121.98E, h8^{km}, ML3.1, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.00**	**111**	P		Pb	17 46 59.9	0.0
YOJ				S		Sb	17 47 13.3	+0.3
IRIF	**Iriomote-Funau**	**1.67**	**107**	P		Pn	17 47 09.2	-1.2
IRIF				S		Sn	17 47 29.8	-2.3
HATJ	**Hateruma jima**	**1.83**	**114**	S		Sn	17 47 34.8	-1.4

JKRS	Kuro-shima	1.94 107	P	Pn	17 47 13.6	-0.7
JKRS			S	Sn	17 47 36.8	-2.2
JIJ	Ishigaki jima	2.02 103	P	Pn	17 47 14.9	-0.6
JIJ			S	Sn	17 47 38.8	-2.3

IDC 14 17:47:23.7±0.8,24.78N×121.91E,mb3.7/8,mb1 3.9/9, mb1mx3.7/22,mbtmp3.7/9,ML2.6/1,MS3.5/4,Ms1 3.6/4, ms1mx3.2/29,Error ellipse: s-maj=28.5km s-min=17.0km az=65.0
TAP 14 17:47:24.1,24.81N×121.99E,h6km,ML4.1
TAP Felt II J, I J at Suao, I J at Nioudou, II J at Nanau.
JMA 14 17:47:24.5±0.2,24.87N×121.96E,h43km,M3.2
NEIC 14 17:47:25.9±1.2,24.76N×121.88E,h15km±8km,Error ellipse: s-maj=12.3km s-min=9.3km az=77.0
ISC 14 17:47:23.9±0.3,24.85N±0.02×122.07E±0.02,h6km,n79, σ1§23/116,mb3.7/8,MS3.5/4,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		0.13	269	⇓iP	Pg	17 47 26.2	-0.4
EGS				S	Sg	17 47 27.3	-1.1
TWB1	Santiao Chiao	0.18	335	iP	Pg	17 47 28.3	+0.7
TWB1				S	Sg	17 47 31.6	+1.6
ILA	Ilan	0.30	254	P	Pg	17 47 29.4	-0.7
ILA				S	Sg	17 47 33.2	-0.9
TWC	Suao	0.31	220	iP	Pg	17 47 29.3	-0.9
TWC				S	Sg	17 47 32.7	-1.7
NWF	Wu-fen Shan	0.34	310	iP	Pg	17 47 30.7	-0.1
NWF				S	Sg	17 47 36.5	+1.1
TWE	Neicheng	0.39	251	iP	Pg	17 47 30.7	-1.0
TWE				S	Sg	17 47 35.1	-1.8
TWA	Mucha	0.46	287	iP	Pg	17 47 33.1	-0.1
TWA				S	Sg	17 47 39.0	-0.4
ENTT	Nioudou	0.50	246	P	Pg	17 47 32.8	-1.2
ENTT				S	Sg	17 47 40.8	+0.1
ENA	Nanau	0.52	216	eP	Pg	17 47 33.2	-1.0
ENA				S	Sg	17 47 39.5	-1.6
TAP1	Taipei	0.53	291	iP	Pg	17 47 34.1	-0.4
TAP1				S	Sg	17 47 41.2	-0.5
TATO	Taipei	0.54	284	ePg	Pg	17 47 34.1	-0.7
TAP	Taipei	0.55	290	iP	Pg	17 47 34.8	-0.1
TAP				S	Sg	17 47 41.8	-0.4
TWY	Chenhua	0.60	315	P	Pg	17 47 36.2	+0.3
TWS1	Kuangyinshan	0.64	293	iP	Pg	17 47 37.2	+0.4
YHNB	Yeheng	0.66	254	ePg	Pg	17 47 35.2	-1.8
YHNB				eSg	Sg	17 47 44.4	-1.4
NSK	Sanguang	0.67	255	iP	Pg	17 47 35.7	-1.6
NSK				S	Sg	17 47 45.4	-0.8
NNS	Nan Shan	0.75	238	P	Pg	17 47 37.5	-1.5
NNS				S	Sg	17 47 46.6	-2.4
PCYT	Pengchaiyu	0.78	0	eP	Pg	17 47 40.5	+1.1
NACB	Ninganchiao	0.80	213	ePg	Pg	17 47 38.6	-1.3
NACB				eSg	Sg	17 47 48.5	-2.0
NCU	National Centr	0.81	279	eP	Pb	17 47 39.6	-0.4
NCU				S	Sg	17 47 50.2	-0.8
YOJ	Yonaguni jima	0.94	114	P	Pb	17 47 42.9	+0.7
YOJ				S	Sb	17 47 56.3	+1.5
HWA	Hwalien	0.97	206	eP	Pb	17 47 42.4	-0.2
NSTT	Nanjuang	1.00	258	P	Pb	17 47 42.6	-0.6
NSTT				S	Sb	17 47 56.9	+0.5
HSN	Hsinchu	1.00	268	eP	Pb	17 47 43.3	0.0
HSN				S	Sb	17 47 57.2	+0.6
TWT	Tachien	1.01	234	P	Pb	17 47 42.1	-1.3
TWT				S	Sb	17 47 56.5	-0.2
WHF	Hehuan Shan	1.01	227	P	Pb	17 47 41.9	-1.6
WHF				S	Sb	17 47 56.3	-0.6
ESL	Shilin	1.18	210	eP	Pb	17 47 45.4	-1.0
ESL				S	Sb	17 48 01.3	-0.5
NSY	Sanyi	1.27	250	eP	Pb	17 47 47.9	+0.1
NSY				S	Sb	17 48 06.0	+1.8
TWQ1	Liyutan	1.28	247	iP	Pb	17 47 48.5	+0.5
TWQ1				S	Sb	17 48 06.3	+1.7
SMLT	Sun Moon Lake	1.44	228	P	Pn	17 47 49.9	-0.7
SMLT				S	Sb	17 48 11.1	+1.9
TCU	Taichung	1.45	242	P	Pn	17 47 51.5	+0.8
TCU				S	Sb	17 48 11.7	+2.1
TYC	Yuchr	1.45	230	eP	Pn	17 47 50.4	-0.4
EHY	Hungye	1.50	207	eP	Pn	17 47 50.5	-1.0
WNT	Mingjian	1.59	233	P	Pn	17 47 53.6	+0.8
WNT				S	Sb	17 48 15.8	+2.2
IRIF	Iriomote-Funau	1.59	108	P	Pn	17 47 52.1	-0.8
IRIF				S	Sb	17 48 12.8	-1.0
TWF1	Yuli	1.65	206	eP	Pn	17 47 53.6	0.0
YUS	Yu-Shan	1.69	217	eP	Pn	17 47 53.9	-0.4
YUS				S	Sn	17 48 17.7	+1.2
ALS	Alishan	1.76	221	eP	Pn	17 47 57.6	+2.3
ALS				S	Sn	17 48 21.3	+3.0
HATJ	Hateruma jima	1.77	116	P	Pn	17 47 55.0	-0.3
HATJ				eS	Sn	17 48 17.0	-1.4
CHN5	Tsauling	1.78	226	eP	Pn	17 47 57.3	+1.8
CHN5				S	Sn	17 48 21.6	+2.8
WGK	Gukeng	1.80	230	eP	Pn	17 47 56.8	+1.0
CHKT	Chengkung	1.86	200	eP	Pn	17 47 56.9	+0.3
CHKT				S	Sn	17 48 21.4	+0.8
JKRS	Kuro-shima	1.87	109	P	Pn	17 47 56.5	-0.2
JKRS				eS	Sn	17 48 19.9	-1.0
ELDTW	Lidau	1.91	210	eP	Pn	17 47 58.4	+1.0
JIJ	Ishigaki jima	1.95	104	P	Pn	17 47 57.8	-0.1
JIJ				S	Sn	17 48 22.2	-0.7
CHN2	Minshiung	1.96	228	eP	Pn	17 47 58.9	+0.8
CHN4	Tsaushan	2.01	222	eP	Pn	17 48 00.4	+1.6
CHN4				S	Sn	17 48 28.5	+4.0
CHY	Chiayi	2.02	229	eP	Pn	17 48 00.4	+1.5
STYT	Tauyuan	2.06	216	eP	Pn	17 48 00.1	+0.6
WSF	Szhu	2.07	235	eP	Pn	17 47 59.3	-0.4
WSF				S	Sn	17 48 27.0	+0.8
WTP	Ta-pu	2.08	220	eP	Pn	17 48 01.4	+1.7
WTP				S	Sn	17 48 28.9	+2.6
TWK	Hsinying	2.14	223	eP	Pn	17 48 02.3	+1.7
CHN1	Nanshi	2.17	221	eP	Pn	17 48 02.6	+1.6
CHN1				S	Sn	17 48 31.7	+3.0
TWG	Pinlang	2.22	205	eP	Pn	17 48 02.4	+0.7
SGST	Jiashian	2.22	218	eP	Pn	17 48 03.5	+1.6
CHN8	Yiju	2.26	229	eP	Pn	17 48 01.6	-0.8
SCLT	Jiali	2.39	226	eP	Pn	17 48 07.2	+3.0
ECL	Taimali	2.46	205	eP	Pn	17 48 03.0	-2.3
SSD	Sandimen	2.47	212	eP	Pn	17 48 06.2	+0.8
TWM1	Shoushan	2.52	217	eP	Pn	17 48 08.0	+1.9
EAST	Anshuo	2.70	205	eP	Pn	17 48 08.3	-0.3
TAW	Tawu	2.70	204	eP	Pn	17 48 11.6	+2.9
WDGT	Dungji	2.71	235	eP	Pn	17 48 05.8	-3.0
SCZT	Fangliau	2.80	209	eP	Pn	17 48 11.8	+1.6
JOW	Kunigami	5.93	69	Pn	Pn	17 48 55.9	+1.4
	comp=Z,3.0nm,3.0s,baz=135,slow=16,SNR=3.0						
JOW				Sn	Sn	17 49 54.4	-9.2
	comp=Z,5.0nm,0.3s,baz=107,slow=19,SNR=2.2						
CMAR	Chiang Mai Arr	22.40	258	P	P	17 52 21.2	-3.5
	comp=Z,0.5nm,0.9s,mb2.9,baz=72,slow=11,SNR=4.3						
ASAJ	Asahikawa	25.48	36	LR	LR	18 03 35.2	
	comp=Z,74nm,19.0s,MS3.2,baz=19,slow=38						
SONM	Songino Array	26.09	336	P	P	17 52 59.8	-0.2
	comp=Z,8.2nm,0.9s,mb3.8,baz=145,slow=6.5,SNR=19						
SONM				LR	LR	18 04 49.3	
	comp=Z,114nm,19.1s,MS3.4,baz=225,slow=40						
YSS	Yuzh-Sakhalins	27.54	32	P	P	17 53 13.7	+0.3
ZAL	Zalesovo	40.14	326	P	P	17 55 01.1	-1.0
	comp=Z,7.0nm,0.5s,mb3.9,baz=12,slow=6.0,SNR=5.5						
WRA	Warramunga Arr	46.09	164	P	P	17 55 48.2	-2.6
	comp=Z,3.7nm,0.8s,mb4.4,baz=347,slow=8.9,SNR=19						
BVAR	Borovoye Array	47.68	320	P	P	17 56 02.2	-0.7
	comp=Z,0.3nm,0.6s,mb3.5,baz=121,slow=8.4,SNR=3.2						
ASAR	Alice Springs	49.57	166	P	P	17 56 16.2	-1.8
	comp=Z,0.5nm,0.7s,mb3.7,baz=341,slow=7.2,SNR=5.7						
STKA	Stephens Creek	59.41	161	P	P	17 57 29.9	+0.1
	comp=Z,1.5nm,0.9s,mb4.0,baz=312,slow=14,SNR=2.6						
STKA	Stephens Creek	59.41	161	P	P	17 57 29.7	-0.1
FINES	FINESS Array B	71.28	330	LR	LR	18 33 54.3	
	comp=Z,46nm,18.4s,MS3.8,baz=25,slow=39						
NOA	NORSAR Array B	78.02	332	LR	LR	18 37 54.4	
	comp=Z,30nm,18.1s,MS3.7,baz=5.0,slow=39						
YKA	Yellowknife Ar	82.05	23	P	P	17 59 44.4	-1.6
	0.6nm,1.0s,mb3.5,baz=314,slow=4.4,SNR=5.6						
YKA	Yellowknife Ar	82.05	23	P	P	17 59 44.4	-1.6

IDC 14 17:47:57.6±1.7, 1.88N×96.84E, h28km±6km, mb3.7/5, mb1 3.9/6, mb1mx3.6/18, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=79.0km s-min=24.8km az=60.0
NEIC 14 17:47:57.2±1.2, 1.90N×97.06E, h30km, mb4.0/2, Error ellipse: s-maj=27.7km s-min=15.8km az=69.0
ISC 14 17:47:55.7±1.2,2.0N±0.1×97.0E±0.2,h30km, (h29km±1km:pP-P),n12,σ0§89/10,mb4.0/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	4.91	47	ePn	Pn	17 49 09.8	+0.2
CM31	Chiang Mai Arr	16.51	6	eP	P	17 51 46.5	-0.5
	4.3nm,0.9s						
CMAR	Chiang Mai Arr	16.51	6	Pn	P	17 51 46.7	-0.3
	0.1nm,0.3s,baz=198,slow=12,SNR=16						
WRAB	Tennant Creek	42.59	123	eP	P	17 55 48.3	-2.9
	8.6nm,0.9s,mb4.5						
ASAR	Alice Springs	43.99	128	P	P	17 56 03.3	+0.8
	0.3nm,0.5s,mb3.2,baz=299,slow=8.0,SNR=9.5						
SONM	Songino Array	46.42	9	P	P	17 56 22.7	+1.1
	0.8nm,0.8s,mb3.7,baz=188,slow=10,SNR=5.1						
SONM				PcP	PcP	17 57 57.4	+0.9
	0.2nm,0.4s,baz=153,slow=3.2,SNR=3.3						
SONM				pPcP		17 58 06.3	
	0.6nm,0.7s,baz=197,slow=3.2,SNR=5.0						
ZAL	Zalesovo	52.78	351	P	P	17 57 10.7	+0.3
	1.6nm,0.5s,mb4.2,baz=309,slow=5.6,SNR=6.9						
ZAL				pP	pP	17 57 19.6	0.0
	1.3nm,0.4s,baz=312,slow=5.3,SNR=3.8						
BVAR	Borovoye Array	55.48	341	P	P	17 57 29.4	-0.8
	0.5nm,0.4s,mb3.9,baz=146,slow=11,SNR=5.6						
BVAR				pP	pP	17 57 38.3	-1.1
	0.6nm,0.7s,baz=134,slow=8.7,SNR=3.7						
FINES	FINESS Array B	79.25	332	pP	pP	18 00 09.0	-0.2
	1.5nm,0.8s,baz=90,slow=7.6,SNR=3.5						
ARCES	ARCESS Array B	81.77	340	P	P	18 00 13.2	+0.4
	6.2nm,1.1s,mb4.5,baz=76,slow=3.7,SNR=3.0						
ARCES				pP	pP	18 00 22.5	+0.1
	5.1nm,1.1s,baz=90,slow=4.9,SNR=1.7						
ARCES	ARCESS Array B	81.77	340	P	P	18 00 13.2	+0.4
ARCES				pP	pP	18 00 22.5	+0.1
GERES	GERESS Array B	84.13	319	pP	pP	18 00 36.4	+1.4
	0.3nm,0.4s,baz=117,slow=6.0,SNR=3.5						

JMA 14 17:48:24.2±0.1,24.93N×121.99E,h36km±3km,M3.3
TAP 14 17:48:23.5,24.82N×121.99E,h7km,ML3.9,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.99	111	P	Pb	17 48 42.6	-0.1
YOJ				S	Sb	17 48 56.0	+0.2
IRIF	Iriomote-Funau	1.66	107	P	Pn	17 48 52.1	-1.2
IRIF				S	Sn	17 49 12.9	-2.1
HATJ	Hateruma jima	1.82	114	P	Pn	17 48 54.8	-0.8
HATJ				eS	Sn	17 49 17.4	-1.8
JKRS	Kuro-shima	1.93	107	P	Pn	17 48 56.2	-0.9
JKRS				eS	Sn	17 49 19.6	-2.3
JIJ	Ishigaki jima	2.01	103	P	Pn	17 48 57.5	-0.8
JIJ				eS	Sn	17 49 21.4	-2.6

JMA 14 17:51:58.4±0.3,24.94N×122.00E,h30km
TAP 14 17:51:57.6,24.81N×122.02E,h11km,ML3.1,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.97	111	P	Pb	17 52 17.0	+1.1
YOJ				eS	Sb	17 52 30.3	+1.8
IRIF	Iriomote-Funau	1.63	107	P	Pn	17 52 26.4	-0.1
IRIF				eS	Sn	17 52 48.2	+0.6
HATJ	Hateruma jima	1.79	114	eS	Sn	17 52 52.1	+0.4
JKRS	Kuro-shima	1.90	107	P	Pn	17 52 30.8	+0.4
JKRS				eS	Sn	17 52 53.9	-0.6
JIJ	Ishigaki jima	1.98	103	P	Pn	17 52 32.0	+0.4
JIJ				eS	Sn	17 52 55.5	-1.1

JMA 14 17:55:03.0±0.3,25.04N×122.13E,h28km,M2.3
TAP 14 17:55:01.5,24.81N×121.99E,h5km,ML3.3,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.99	110	P	Pb	17 55 21.0	+0.2
YOJ				eS	Sb	17 55 33.7	-0.3
IRIF	Iriomote-Funau	1.65	106	P	Pn	17 55 30.2	-1.2
IRIF				eS	Sb	17 55 50.6	-2.6
HATJ	Hateruma jima	1.82	114	eS	Sn	17 55 56.3	-1.1
JKRS	Kuro-shima	1.93	107	P	Pn	17 55 34.3	-1.0
JKRS				eS	Sn	17 55 57.3	-2.8
JIJ	Ishigaki jima	2.01	102	P	Pn	17 55 35.8	-0.7
JIJ				eS	Sn	17 55 59.3	-3.0

JMA 14 17:57:16.9±0.2,24.91N×121.95E,h29km,M2.3
TAP 14 17:57:17.2,24.81N×121.97E,h4km,ML3.1,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.01	110	P	Pb	17 57 35.9	-0.9
YOJ				eS	Sb	17 57 49.6	-0.7
IRIF	Iriomote-Funau	1.67	106	P	Pn	17 57 45.6	-1.8
IRIF				eS	Sb	17 58 06.9	-2.6
HATJ	Hateruma jima	1.83	114	eS	Sn	17 58 11.5	-2.2
JKRS	Kuro-shima	1.94	107	P	Pn	17 57 49.7	-1.6
JKRS				eS	Sn	17 58 12.9	-3.6
JIJ	Ishigaki jima	2.03	102	P	Pn	17 57 51.1	-1.4
JIJ				eS	Sn	17 58 15.5	-3.1

JMA 14 18:05:28.6±0.1,24.90N×122.01E,h34km
TAP 14 18:05:27.3,24.82N×122.01E,h7km,ML2.6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.98	111	P	Pb	18 05 46.6	+0.4
YOJ				eS	Sb	18 05 59.8	+0.7
IRIF	Iriomote-Funau	1.64	107	P	Pn	18 05 56.4	-0.4
IRIF				eS	Sb	18 06 16.7	-1.6
HATJ	Hateruma jima	1.80	115	eS	Sn	18 06 21.4	-1.1
JKRS	Kuro-shima	1.91	107	P	Pn	18 06 00.1	-0.6
JKRS				eS	Sn	18 06 23.5	-1.7
JIJ	Ishigaki jima	1.99	103	P	Pn	18 06 01.7	-0.2
JIJ				eS	Sn	18 06 24.8	-2.5

BJI 14 18:08:17.7, 12.30S×166.60E, h170km, mB4.7, mb4.5
NEIC 14 18:08:17.8±0.6, 12.31S×166.64E, h170km, mb4.4/7, Error ellipse: s-maj=16.1km s-min=10.8km az=86.0
IDC 14 18:08:18.0±4.5, 12.40S×166.66E, h173km±41km, mb3.5/10, mb1 3.7/11, mb1mx3.6/18, mbtmp3.9/11, Error ellipse: s-maj=23.7km s-min=20.3km az=23.0
ISC 14 18:08:18.0±2.6,12.41S±0.09×166.6E±0.1,h188km±24km, h181km±7.1km:pP-P,n27,σ1§08/23,mb3.9/17,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.62	181	P	P	18 10 34.4	+1.1
	1.1nm,0.3s,slow=12,SNR=9.2						
DZM				S	S	18 12 17.9	-1.2
	0.4nm,0.3s,baz=50,slow=16,SNR=3.5						
CTA	Charters Tower	20.97	246	P	P	18 12 49.2	+1.7
	5.5nm,0.8s,baz=56,slow=14,SNR=5.5						
CTAO	Charters Tower	20.97	246	eP	P	18 12 48.1	+0.7
	39nm,1.4s						
STKA	Stephens Creek	30.08	226	eP	P	18 14 14.0	+2.1
RPZ	Rata Peaks	31.43	174	P	P	18 14 22.8	-0.8
	5.6nm,0.6s,mb4.5,baz=162,slow=7.2,SNR=5.3						
WRA	Warramunga Arr	31.85	252	P	P	18 14 26.3	-1.2
	0.3nm,0.5s,mb3.3,baz=82,slow=9.2,SNR=7.5						
ASAR	Alice Springs	32.97	246	P	P	18 14 36.3	-0.9
	1.0nm,0.7s,mb3.7,baz=68,slow=9.4,SNR=16						
ASAR				pP	pP	18 15 10.9	-5.7
	1.3nm,0.8s,baz=76,slow=8.9,SNR=8.4						
GUMO	Guam	33.64	319	eP	P	18 14 41.7	-1.2
	424nm,1.4s						
VNDA	Vanda	65.16	181	P	P	18 18 40.6	+0.2
	0.4nm,0.7s,mb3.4,baz=344,slow=7.8,SNR=2.9						
CASY	Casey	65.43	202	eP	P	18 18 41.9	-0.4
	5.5nm,0.9s,mb4.4						
SBA	Scott Base	65.45	180	P	P	18 18 42.7	+0.4
	9.3nm,1.4s,mb4.4						
MDJ	Mudanjiang	65.94	332	P	P	18 18 44.6	-1.4
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,58nm,4.3s						
CMAR	Chiang Mai Arr	73.43	294	P	P	18 19 33.0	+1.1
	comp=Z,0.7nm,0.8s,mb3.5,baz=120,slow=4.9,SNR=5.6						
ULN	Ulaanbaatar	79.89	324	eP	P	18 20 06.9	-0.3
	comp=Z,3.3nm,0.9s,mb4.0						
BILL	Bilibino	80.23	360	eP	P	18 20 08.2	-0.4
	comp=Z,6.8nm,1.0s,mb4.2						
SONM	Songino Array	80.26	324	P	P	18 20 10.1	+0.9
	comp=Z,0.5nm,0.5s,mb3.4,baz=143,slow=6.2,SNR=6.5						
SONM				pP	pP	18 20 57.0	+1.8
	comp=Z,0.3nm,0.8s,baz=53,slow=6.2,SNR=3.8						
LSA	Lhasa	83.79	302	eP	P	18 20 29.0	+1.2
	comp=Z,2.6nm,0.9s,mb4.0						
ILAR	Eielson Array	84.53	18	P	P	18 20 30.1	-0.6
	comp=Z,1.2nm,0.8s,mb3.7,baz=245,slow=4.9,SNR=12						
WMQ	Urumqi	90.65	315	P	P	18 20 59.4	-0.9
WMQ				AP	pP	18 21 45.0	-2.3
WMQ				XP	sP	18 22 04.4	-3.0
WMQ				PP	PP	18 24 39.3	-0.9
WMQ				SKS	SKS	18 31 12.4	+0.4
WMQ				S	S	18 31 37.4	+0.2
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,22nm,2.9s,mb4.7						
WMQ				LR	LR		
	comp=N,197nm,29.6s						
WMQ				LR	LR		
	comp=E,895nm,30.6s						
WMQ				LR	LR		
	comp=Z,228nm,20.9s						
INK	Inuvik	90.91	19	P	P	18 21 02.0	+1.0
	comp=Z,4.1nm,1.2s,mb4.3						
PDAR	Pinedale Array	93.85	47	P	P	18 21 16.9	+1.9
	comp=Z,0.7nm,0.7s,mb3.9,baz=288,slow=4.7,SNR=4.8						
YKA	Yellowknife Ar	95.78	27	P	P	18 21 22.0	-1.4
	comp=Z,0.1nm,0.5s,mb3.4,baz=257,slow=5.0,SNR=4.2						
ARCES	ARCESS Array B	117.86	346	PKP	PKPdf	18 26 43.0	+1.5
	comp=Z,2.4nm,0.7s,baz=74,slow=2.8,SNR=12						
FINES	FINESS Array B	123.34	339	PKP	PKPdf	18 26 53.6	+1.3
	comp=Z,0.5nm,0.7s,baz=27,slow=4.3,SNR=5.8						
NOA	NORSAR Array B	128.23	345	PKP	PKPdf	18 27 03.0	+1.2
	comp=Z,0.4nm,0.9s,baz=20,slow=15,SNR=2.5						
GERES	GERESS Array B	137.29	334	PKP	PKPdf	18 27 19.4	+0.4
	comp=Z,0.1nm,0.4s,baz=90,slow=1.0,SNR=3.0						
ESDC	Sonseca Array	151.59	345	PKPbc	PKPdf	18 27 52.6	+9.1
	comp=Z,0.2nm,0.3s,slow=1.5,SNR=5.4						
ESDC				PKPab	PKPab	18 28 02.1	+0.5
	comp=Z,0.9nm,0.6s,baz=19,slow=3.1,SNR=3.4						

JMA 14 18:10:04.7±0.3,23.91N×121.58E,h19km,M2.8
TAP 14 18:10:06.5,24.05N×121.64E,h7km,ML3.5
TAP Felt II J at Hualien, I J at Shilin, I J at Hehuanshan, II J at Nanau.
ISC 14 18:10:06.3±0.3,24.05N±0.01×121.70E±0.02,h7km,n57, σ1§05/89,7C-2D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.11	231	⇓iP	Pg	18 10 08.8	-0.2
HWA				S	Sg	18 10 10.8	+0.1
ESL	Shilin	0.34	226	⇓iP	Pg	18 10 12.0	-1.2
ESL				S	Sg	18 10 16.0	-1.7
ENA	Nanau	0.38	6	⇑iP	Pg	18 10 13.8	-0.3
ENA				S	Sg	18 10 19.2	0.0
WHF	Hehuan Shan	0.41	284	⇑iP	Pg	18 10 13.5	-1.1
WHF				S	Sg	18 10 18.5	-1.6
NNS	Nan Shan	0.49	323	⇑iP	Pg	18 10 15.4	-0.8
TWT	Tachien	0.52	293	⇑iP	Pg	18 10 16.2	-0.6
TWT				S	Sg	18 10 22.9	-0.9
TWC	Suao	0.58	14	P	Pg	18 10 17.8	-0.1
TWC				S	Sg	18 10 25.6	0.0
ENTT	Nioudou	0.60	348	⇑iP	Pg	18 10 18.0	-0.4
ENTT				S	Sg	18 10 26.2	-0.3
EHY	Hungye	0.64	213	iP	Pg	18 10 17.9	-1.3
EHY				S	Sg	18 10 25.4	-2.3
TWE	Neicheng	0.67	358	⇑iP	Pg	18 10 19.4	-0.4
TWE				S	Sg	18 10 28.9	+0.1
NSK	Sanguang	0.70	334	⇑iP	Pg	18 10 19.7	-0.7
NSK				S	Sg	18 10 29.4	-0.3
ILA	Ilan	0.72	4	eP	Pb	18 10 20.5	-0.1
SMLT	Sun Moon Lake	0.75	258	iP	Pb	18 10 20.1	-1.2
SMLT				S	Sg	18 10 29.1	-2.2
TYC	Yuchr	0.78	260	eP	Pb	18 10 20.4	-1.4
TYC				S	Sb	18 10 29.8	-2.6
TWF1	Yuli	0.78	208	eP	Pb	18 10 20.8	-1.1
EGS		0.82	15	eP	Pb	18 10 24.4	+1.9
NSTT	Nanjuang	0.86	313	eP	Pb	18 10 22.9	-0.3
NSTT				S	Sb	18 10 32.5	-2.2
YUS	Yu-Shan	0.88	231	eP	Pb	18 10 22.9	-0.6
YUS				S	Sb	18 10 35.2	0.0
TWQ1	Liyutan	0.90	290	eP	Pb	18 10 23.7	-0.1
TWQ1				S	Sb	18 10 36.7	+1.0
NSY	Sanyi	0.93	293	eP	Pb	18 10 24.8	+0.4
TWA	Mucha	0.94	354	eP	Pb	18 10 24.7	+0.3
TWA				S	Sb	18 10 36.9	+0.1
TCU	Taichung	0.94	276	eP	Pb	18 10 25.1	+0.6
TCU				S	Sb	18 10 39.3	+2.4
WNT	Mingjian	0.94	260	eP	Pb	18 10 24.9	+0.4
WNT				S	Sb	18 10 37.9	+0.8
ALS	Alishan	0.98	237	eP	Pb	18 10 24.7	-0.5
ALS				S	Sb	18 10 37.2	-0.8
CHKT	Chengkung	0.99	198	eP	Pb	18 10 24.8	-0.6
CHKT				S	Sb	18 10 39.5	+1.0
TWB1	Santiao Chiao	0.99	15	eP	Pb	18 10 26.1	+0.7
TAP1	Taipei

GSMY	Great Sitkin M	3.36	70	P	Pn	18 13 32.4	-2.5
SMY	Shemya	3.38	302	P	Pn	18 13 32.7	-2.5
FX1	Attu Island--F	3.96	300	P	Pn	18 13 40.5	-2.9
ATKA	Atka Island	4.51	72	P	Pn	18 13 47.5	-3.8

IDC 14 18:18:12.7±1.9, 3.36N×96.85E, h28km±6km, mb3.4/5, mb1 3.6/5, mb1mx3.4/19, mbtmp3.6/5, MS3.2/2, Ms1 3.3/2, ms1mx3.0/14, Error ellipse: s-maj=93.8km s-min=17.9km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.14	8	Pn	P	18 21 48.5	+1.9
	0.1nm,0.3s,baz=199,slow=11,SNR=11						
CMAR				LR	LR	18 28 34.1	
	comp=Z,45nm,18.1s,baz=175,slow=41						
WRA	Warramunga Arr	43.49	124	P	P	18 26 13.7	-2.0
	0.8nm,0.5s,baz=302,slow=9.1,SNR=15						
WRA				pP	pP	18 26 23.0	-1.2
	0.8nm,0.6s,baz=305,slow=9.0,SNR=8.3						
ASAR	Alice Springs	44.99	129	P	P	18 26 25.2	-2.5
	0.1nm,0.5s,baz=295,slow=7.4,SNR=3.8						
ASAR				pP	pP	18 26 34.2	-2.0
	0.3nm,0.6s,baz=301,slow=8.0,SNR=6.9						
SONM	Songino Array	45.06	9	P	P	18 26 26.1	-1.9
	0.6nm,0.7s,baz=192,slow=8.8,SNR=6.9						
ATD	Arta Tunnel	54.08	282	LR	LR	18 46 31.7	
	comp=Z,47nm,19.8s,baz=333,slow=31						
BVAR	Borovoye Array	54.11	341	P	P	18 27 34.6	-2.7
	0.3nm,0.4s,baz=124,slow=10,SNR=4.1						
BVAR				pP	pP	18 27 43.1	-2.8
	0.6nm,0.6s,baz=141,slow=7.7,SNR=4.8						
ARCES	ARCESS Array B	80.39	340	P	P	18 30 21.9	-0.9
	2.2nm,0.9s,baz=90,slow=5.4,SNR=3.6						

WEL 14 18:29:32.1±0.2, 38.74S×175.83E, h140km±1km, ML3.7/14, 3C, Error ellipse: s-maj=1.9km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	Maungaku	0.34	221	PN	P	18 29 51.9	-0.1
MGZ				SN	S	18 30 06.8	-0.6
WTVZ	West Tongariro	0.42	206	PN	P	18 29 52.0	-0.4
WTVZ				SN	S	18 30 06.6	-1.3
OTVZ	Oturere	0.44	197	PN	P	18 29 52.4	-0.1
OTVZ				SN	S	18 30 07.6	-0.5
TWVZ	Taurewa	0.45	223	PN	P	18 29 52.0	-0.5
NGZ	Ngauruhoe	0.47	202	PN	P	18 29 52.2	-0.4
NGZ				SN	S	18 30 07.5	-0.8
CNZ	Chateau	0.51	205	PN	P	18 29 52.2	-0.6
WPVZ	Whakapapa	0.51	205	PN	P	18 29 52.6	-0.3
TUVZ	Tukino	0.54	194	PN	P	18 29 52.9	-0.1
TUVZ				SN	S	18 30 07.7	-1.3
FWVZ	Far West T-bar	0.56	203	PN	P	18 29 52.7	-0.4
FWVZ				SN	S	18 30 08.3	-0.8
WNVZ	Wahianoa	0.61	197	PN	P	18 29 53.2	-0.2
MOVZ	Moawhango	0.67	185	⇑PN	P	18 29 53.2	-0.5
MOVZ				SN	S	18 30 08.1	-2.2
BKZ	Black Stump Fm	0.67	129	PN	P	18 29 53.6	-0.2
BKZ				SN	S	18 30 09.1	-1.3
MTVZ	Mangateitei	0.70	203	PN	P	18 29 53.5	-0.4
HIZ	Hauiti	0.79	286	PN	P	18 29 54.0	-0.6
VRZ	Vera Road	0.92	245	PN	P	18 29 54.9	-0.5
VRZ				SN	S	18 30 12.5	-0.8
URZ	Urewera	1.12	65	PN	P	18 29 56.5	-0.7
URZ				SN	S	18 30 15.1	-1.4
WAZ	Wanganui	1.20	213	PN	P	18 29 57.5	-0.6
RAEZ	Rainy Point	1.24	244	PN	P	18 29 58.5	0.0
TSZ	Takapari Road	1.32	176	PN	P	18 29 58.8	-0.5
MWZ	Matawai	1.40	74	PN	P	18 29 59.8	-0.3
NEZ	North Egmont	1.45	248	PN	P	18 30 00.2	-0.5
KNZ	Kokohu	1.47	101	SN	S	18 30 22.4	-0.6
PKE	Pukeiti	1.50	252	PN	P	18 30 00.4	-0.8
PWZ	Pawanui	1.52	148	PN	P	18 30 01.0	-0.4
NRZ	Ngariki Road	1.59	247	PN	P	18 30 01.2	-1.0
MRZ	Mangatainoka R	1.93	186	⇑PN	P	18 30 04.4	-1.6
BFZ	Birch Farm	1.96	171	PN	P	18 30 05.5	-1.0
KIW	Kapiti Island	2.23	198	PN	P	18 30 07.5	-2.4
MTW	Mount Morrison	2.43	186	PN	P	18 30 09.6	-2.7
CAW	Cannon Point	2.43	194	PN	P	18 30 09.8	-2.6
DUWZ	D'Urville Isla	2.53	215	PN	P	18 30 10.8	-2.9
MRW	Makara Radio	2.63	199	PN	P	18 30 11.9	-3.1
PAWZ	Paruwai Farm	2.65	187	⇑PN	P	18 30 12.4	-2.9
SNZO	South Karori	2.70	198	PN	P	18 30 12.7	-3.2
MSWZ	Moikau Station	2.71	189	PN	P	18 30 12.8	-3.2
BHW	Baring Head	2.76	195	PN	P	18 30 13.4	-3.3
TUWZ	Tuamarina	3.05	208	PN	P	18 30 16.7	-3.7
NNZ	Nelson	3.11	216	PN	P	18 30 17.5	-3.7
QRZ	Quartz Range	3.28	230	PN	P	18 30 19.0	-4.5
BSWZ	Blackbirch Sta	3.32	206	PN	P	18 30 20.2	-3.8
THZ	Tophouse	3.75	216	PN	P	18 30 25.5	-4.2
KHZ	Kahutara	4.06	205	PN	P	18 30 29.4	-4.4
LTZ	Lake Taylor	4.86	213	PN	P	18 30 38.9	-5.4
MQZ	McQueen's Vall	5.51	205	PN	P	18 30 46.9	-6.1
ODZ	Otahua Downs	7.39	210	PN	P	18 31 12.2	-6.1

IDC 14 18:38:27.8±2.5, 2.79N×96.81E, mb3.4/4, mb1 3.5/5, mb1mx3.4/20, mbtmp3.3/5, ML2.9/1, Error ellipse: s-maj=98.1km s-min=24.0km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.71	8	Pn	P	18 42 10.2	-2.1
	0.0nm,0.3s,baz=204,slow=16,SNR=3.1						
WRA	Warramunga Arr	43.22	123	P	P	18 46 31.9	-0.9
	0.4nm,0.4s,baz=302,slow=9.1,SNR=6.8						
ASAR	Alice Springs	44.67	128	P	P	18 46 41.8	-2.7
	0.2nm,0.5s,baz=302,slow=8.5,SNR=3.4						
SONM	Songino Array	45.63	9	P	P	18 46 50.2	-1.6
	0.2nm,0.3s,baz=192,slow=9.7,SNR=7.1						
SONM				PcP	PcP	18 48 27.2	-3.4
	0.2nm,0.5s,baz=201,slow=5.4,SNR=2.6						
BVAR	Borovoye Array	54.63	341	P	P	18 47 58.5	-2.0
	0.6nm,0.6s,baz=153,slow=9.9,SNR=6.6						

*BJI **14** 18:43:12.5, 8.79N×93.12E, h14km, mb4.4*
*NEIC **14** 18:43:12.8±0.7, 8.41N×93.70E, h30km, mb4.2/9, Error ellipse: s-maj=19.3km s-min=9.4km az=46.0*
*IDC **14** 18:43:19.1±6.0, 8.71N×93.79E, h70km±53km, mb3.5/10, mb1 3.7/11, mb1mx3.6/20, mbtmp3.9/11, ML4.3/1, Error ellipse: s-maj=37.8km s-min=20.4km az=58.0*
ISC 14 18:43:12.1±0.9, 8.5N±0.1×93.6E±0.1, h30km, n26, σ0°79/25, mb4.0/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.70	114	Pn	Pn	18 44 59.5	-5.7
CM31	Chiang Mai Arr	11.15	27	ePn	P	18 45 53.7	+0.9
	2.8nm,0.3s						
CMAR	Chiang Mai Arr	11.15	27	P	P	18 45 52.9	0.0
	0.7nm,0.3s,baz=212,slow=15,SNR=34						
JIRN	Jiri	20.28	341	eP	P	18 47 48.4	+0.1
	14nm,0.5s						
PKI	Pulchoki	20.46	339	eP	P	18 47 50.1	-0.1
	15nm,0.9s						
DMN	Daman	20.61	338	eP	P	18 47 51.8	+0.1
	16nm,0.7s						
GUN	Gumba	20.61	340	eP	P	18 47 51.5	-0.2
	16nm,0.6s						
KKN	Kakani	20.71	339	eP	P	18 47 52.7	0.0
	12nm,0.6s						
GKN	Gorkha	21.14	338	eP	P	18 47 56.9	-0.2
	17nm,0.7s,mb4.5						
LSA	Lhasa	21.19	354	P	P	18 47 56.8	-0.8
LSA	Lhasa	21.19	354	eP	P	18 47 56.6	-1.0
	6.3nm,0.5s,mb4.2						
KOLN	Koldanda	21.34	335	eP	P	18 47 59.9	+0.7
	14nm,0.8s,mb4.4						
GYA	Guiyang	21.72	33	P	P	18 48 06.3	+3.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
AAK	Ala-Archa	37.90	337	eP	P	18 50 28.1	-0.3
	comp=Z,3.4nm,1.0s,mb4.0						
SONM	Songino Array	40.65	13	P	P	18 50 49.9	-1.3
	comp=Z,0.4nm,0.9s,mb3.0,baz=195,slow=9.3,SNR=4.2						
ZAL	Zalesovo	45.83	353	P	P	18 51 34.0	+0.8
	comp=Z,2.0nm,0.7s,mb4.2,baz=299,slow=10,SNR=13						
BVAR	Borovoye Array	48.20	341	P	P	18 51 51.2	-0.7
	comp=Z,0.3nm,0.4s,mb3.6,baz=141,slow=9.5,SNR=4.6						
WRA	Warramunga Arr	49.07	126	P	P	18 51 58.4	-0.7
	comp=Z,0.3nm,0.5s,mb3.6,baz=304,slow=8.9,SNR=8.5						
ASAR	Alice Springs	50.74	130	PcP	PcP	18 53 29.5	+0.7
	comp=Z,0.3nm,0.6s,baz=307,slow=4.5,SNR=4.1						
BRTR	Keskin Array B	61.60	311	P	P	18 53 28.7	-0.7
	comp=Z,1.2nm,0.7s,mb4.1,baz=122,slow=6.5,SNR=6.7						
FINES	FINESS Array B	71.89	332	P	P	18 54 33.7	-0.5
	comp=Z,1.0nm,0.8s,mb3.8,baz=117,slow=9.3,SNR=5.4						
ARCES	ARCESS Array B	74.47	340	P	P	18 54 49.7	+0.6
	comp=Z,3.4nm,0.9s,mb4.3,baz=23,slow=9.2,SNR=4.1						
BOSA	Boshof	75.48	238	P	P	18 54 58.7	+2.9
	comp=Z,1.6nm,0.6s,mb4.1,baz=57,slow=6.6,SNR=4.4						
GERES	GERESS Array B	76.99	318	P	P	18 55 04.5	+0.7
	comp=Z,0.7nm,0.7s,mb3.7,baz=90,slow=6.7,SNR=7.8						
NB2	NORSAR Subarra	78.90	331	P	P	18 55 13.8	-0.3
	comp=Z,0.8nm,0.6s,mb3.8,baz=97,slow=5.0						
NOA	NORSAR Array B	78.90	331	P	P	18 55 14.2	+0.2
	comp=Z,0.9nm,0.6s,mb3.9,baz=95,slow=5.0,SNR=5.3						

*NEIC **14** 18:44:28.9±1.0, 8.25N×93.57E, h30km, mb4.3/1, Error ellipse: s-maj=18.6km s-min=14.2km az=214.0*
*IDC **14** 18:44:30.2±2.4, 8.96N×92.99E, mb3.7/7, mb1 3.9/8, mb1mx3.7/21, mbtmp3.7/8, ML4.3/1, MS3.3/2, Ms1 3.4/2, ms1mx3.0/24, Error ellipse: s-maj=72.0km s-min=26.7km az=122.0*
ISC 14 18:44:26.9±1.1, 8.3N±0.1×93.7E±0.1, h30km, n13, σ0°85/12, mb3.7/8, MS3.3/2, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.55	113	P	Pn	18 46 17.5	-0.4
CM31	Chiang Mai Arr	11.35	26	eP	P	18 47 10.2	-0.1
	2.5nm,0.3s						
CMAR	Chiang Mai Arr	11.35	26	Pn	P	18 47 10.5	+0.2
	0.7nm,0.3s,baz=212,slow=15,SNR=12						
LSA	Lhasa	21.44	354	eP	P	18 49 13.4	-1.5
	8.3nm,0.7s,mb4.2						
SONM	Songino Array	40.88	13	P	P	18 52 09.6	+1.6
	0.2nm,0.5s,mb3.0,baz=188,slow=10,SNR=4.9						
SONM				LR	LR	19 11 45.5	
	comp=Z,39nm,18.3s,MS3.3,baz=340,slow=40						
ZAL	Zalesovo	46.09	353	P	P	18 52 50.4	+0.4
	1.6nm,0.7s,mb4.1,baz=281,slow=6.1,SNR=6.7						
ZAL	Zalesovo	46.09	353	P	P	18 52 50.4	+0.4
BVAR	Borovoye Array	48.46	341	P	P	18 53 07.7	-0.9
	0.4nm,0.5s,mb3.8,baz=144,slow=12,SNR=4.0						
BRTR	Keskin Array B	61.81	311	P	P	18 54 45.2	-0.4
	0.7nm,0.7s,mb3.9,baz=132,slow=8.4,SNR=3.8						
FINES	FINESS Array B	72.14	332	P	P	18 55 50.5	0.0
	0.3nm,0.4s,mb3.5,baz=90,slow=7.6,SNR=3.5						
BOSA	Boshof	75.39	238	P	P	18 56 15.5	+5.4
	1.9nm,0.8s,mb4.0,baz=30,slow=8.1,SNR=3.1						
GERES	GERESS Array B	77.21	318	P	P	18 56 21.0	+1.1
	0.1nm,0.4s,mb3.1,baz=76,slow=5.5,SNR=4.4						
NOA	NORSAR Array B	79.15	331	LR	LR	19 34 37.3	
	comp=Z,16nm,18.7s,MS3.4,baz=330,slow=38						

IDC 14 18:47:34.3±16.0, 21.27S×174.43W, mb4.3/5, mb1 4.4/5, mb1mx3.9/19, mbtmp4.3/5, Error ellipse: s-maj=311.5km s-min=142.0km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	36.74	265	eP	P	18 54 44.2	-0.7
	3.6nm,0.3s						
CTA	Charters Tower	36.74	265	P	P	18 54 44.7	-0.7
	4.3nm,0.4s,baz=92,slow=12,SNR=20						
STKA	Stephens Creek	40.49	245	eP	P	18 55 13.7	-2.9
	2.1nm,1.1s						
STKA	Stephens Creek	40.49	245	P	P	18 55 14.0	-2.6
	0.4nm,0.3s,baz=88,slow=10,SNR=6.1						
ASAR	Alice Springs	47.60	257	P	P	18 56 11.4	-2.7
	2.0nm,0.7s,baz=101,slow=6.8,SNR=28						
WB2	Warramunga Arr	47.79	262	eP	P	18 56 12.7	-2.9
WRA	Warramunga Arr	47.80	262	P	P	18 56 13.3	-2.4
	1.2nm,0.3s,baz=92,slow=8.4,SNR=64						
FITZ	Fitzroy Crossi	56.23	262	P	P	18 57 17.6	-1.3
	1.9nm,0.4s,baz=104,slow=5.9,SNR=7.8						

DJA 14 18:49:02.8±0.9, 9.49S×116.09E, h11km±6km, MD4.7/2, ML4.2/3, 4C-3D, Error ellipse: s-maj=21.9km s-min=10.6km az=141.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	0.94	324	⇓ePn	Pn	18 49 19.0	-2.8
	542nm,0.2s						
RATI				⇑eSn	Sn	18 49 31.5	-3.8
KEDI	Kedomdong	0.99	1	⇓ePn	Pn	18 49 19.8	-2.8
	595nm,0.2s						
KEDI	Kedomdong	0.99	1	ePg	Pg	18 49 20.3	-2.4
KEDI				⇑eSn	Sn	18 49 33.3	-3.4
KELI	Kelakatan	2.02	308	⇓ePn	Pn	18 49 35.2	-2.2
KELI				eSn	Sn	18 49 57.2	-5.7
SRDI	Scrawed	2.17	297	⇑ePn	Pn	18 49 36.7	-2.8
	48nm,0.1s						
SRDI				⇑eSn	Sn	18 50 01.2	-5.4

MAN 14 18:55:08.4, 13.65N×119.68E, h1km, mb3.7, ML2.4, MS1.9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.55	82	eP	Pg	18 55 18.2	-1.2
LUBP				eS	Sg	18 55 20.7	-6.2
TGY	Tagaytay City	1.30	70	⇑eP	Pb	18 55 33.4	+0.1
BUSP	Coron	1.72	163	eP	Pn	18 55 41.9	+2.3
BUSP				eS	Sb	18 56 01.7	-0.8
SJMP	San Jose	1.83	130	eP	Pn	18 55 41.6	+0.3
BOAC	Boac	2.11	95	eP	Pn	18 55 42.7	-2.5
ENPP	El Nido	2.44	186	eP	Pn	18 55 50.4	+0.3
CUYO	Cuyo Island	3.08	155	eP	Pn	18 55 59.6	+0.5

DJA 14 19:01:24.6±0.9, 9.54S×116.12E, h15km, MD4.7/2, ML3.9/4, 2C-6D, Error ellipse: s-maj=18.9km s-min=11.6km az=153.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	1.00	324	⇓ePn	Pn	19 01 41.3	-2.6
	330nm,0.2s						
RATI				⇑eSn	Sn	19 01 53.8	-3.9
KEDI	Kedomdong	1.04	360	⇓ePn	Pn	19 01 42.0	-2.6
	243nm,0.2s						
KEDI				⇓eSn	Sn	19 01 55.6	-3.3
KELI	Kelakatan	2.08	309	⇓ePn	Pn	19 01 56.6	-2.8
	27nm,0.2s						
KELI				⇓eSn	Sn	19 02 20.3	-4.9
SRDI	Scrawed	2.22	298	⇑ePn	Pn	19 01 59.2	-2.3
	56nm,0.2s						
SRDI				⇓eSn	Sn	19 02 23.4	-5.4

*IDC **14** 19:06:42.7±1.4, 2.04N×96.71E, h25km±5km, mb3.7/8, mb1 3.9/9, mb1mx3.7/20, mbtmp3.9/9, ML4.0/1, MS3.2/3, Ms1 3.3/3, ms1mx2.8/26, Error ellipse: s-maj=54.3km s-min=15.2km az=57.0*
*NEIC **14** 19:06:43.1±0.7, 1.99N×96.68E, h30km, mb4.0/4, Error ellipse: s-maj=16.6km s-min=11.4km az=64.0*
ISC 14 19:06:41.6±0.9, 2.0N±0.1×96.7E±0.1, h30km, (h25km±7km:pP-P), n16, σ0°96/15, mb3.9/11, MS3.3/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.09	50	ePn	Pn	19 07 58.0	+0.1
CM31	Chiang Mai Arr	16.49	7	eP	P	19 10 34.0	+1.4
	5.8nm,0.8s						
CMAR	Chiang Mai Arr	16.49	7	Pn	P	19 10 31.6	-1.0
	0.2nm,0.3s,baz=197,slow=11,SNR=53						
CMAR				LR	LR	19 18 00.3	
	comp=Z,53nm,19.0s,baz=205,slow=41						
LSA	Lhasa	28.05	350	eP	P	19 12 32.5	-0.1
	4.6nm,0.8s,mb4.2						
NWAO	Narrogin (SRO)	39.79	153	LR	LR	19 29 22.3	
	comp=Z,45nm,21.4s,MS3.3,baz=90,slow=34						
WRA	Warramunga Arr	42.86	122	P	P	19 14 39.3	0.0
	1.6nm,0.7s,mb3.9,baz=300,slow=9.3,SNR=17						
WRA				pP	pP	19 14 46.8	-1.5
	1.4nm,0.6s,baz=301,slow=9.2,SNR=9.2						
ASAR	Alice Springs	44.25	127	P	P	19 14 50.8	+0.2
	0.7nm,0.8s,mb3.4,baz=294,slow=8.0,SNR=6.9						
ASAR				pP	pP	19 14 58.8	-0.8
	0.6nm,0.7s,baz=298,slow=7.6,SNR=4.7						
ASAR				LR	LR	19 35 23.8	
	comp=Z,43nm,19.1s,MS3.4,baz=275,slow=39						
AAK	Ala-Archa	45.08	337	P	P	19 14 59.5	+2.5
	2.0nm,1.0s,mb3.9						
SONM	Songino Array	46.41	9	P	P	19 15 07.2	-0.1
	1.3nm,0.8s,mb3.9,baz=189,slow=8.8,SNR=14						
SONM				pP	pP	19 15 14.1	-2.3
	0.8nm,0.7s,baz=187,slow=9.2,SNR=6.2						
ULN	Ulaanbaatar	46.54	10	eP	P	19 15 08.2	-0.2
	2.9nm,1.3s,mb4.0						
ZAL	Zalesovo	52.68	351	P	P	19 15 55.2	-0.4
	1.8nm,0.7s,mb4.1,baz=273,slow=7.0,SNR=9.7						
ZAL				pP	pP	19 16 02.9	-1.8
	1.7nm,0.5s,baz=277,slow=3.9,SNR=3.9						
ZAL	Zalesovo	52.68	351	P	P	19 15 55.2	-0.4
ZAL				pP	pP	19 16 02.9	-1.8
BVAR	Borovoye Array	55.34	341	P	P	19 16 13.6	-1.4
	1.0nm,0.7s,mb4.0,baz=143,slow=7.4,SNR=9.2						
FINES	FINESS Array B	79.07	332	P	P	19 18 43.0	-1.5
	0.7nm,0.7s,mb3.7,baz=135,slow=2.0,SNR=3.9						
ARCES	ARCESS Array B	81.62	340	P	P	19 18 58.3	+0.3
	3.7nm,1.1s,mb4.2,baz=90,slow=6.3,SNR=4.4						
GERES	GERESS Array B	83.90	319	P	P	19 19 11.1	+1.0
	0.3nm,0.6s,mb3.6,baz=79,slow=5.0,SNR=2.8						

*NEIC **14** 19:14:39.1±0.8, 5.07N×94.12E, h30km, Error ellipse: s-maj=18.9km s-min=11.8km az=58.0*
*IDC **14** 19:14:52.0±11.0, 5.60N×94.70E, h133km±103km, mb3.2/7, mb1 3.4/8, mb1mx3.2/21, mbtmp3.6/8, ML4.0/1, Error ellipse: s-maj=80.8km s-min=16.4km az=57.0*
ISC 14 19:14:37.3±0.9, 5.1N±0.1×94.2E±0.1, h30km, n11, σ1°16/12, mb3.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.45	88	ePn	Pn	19 16 12.2	-0.6
KULM				eSn	Sn	19 17 19.8	-6.4
CM31	Chiang Mai Arr	14.04	19	eP	P	19 17 57.7	+1.0
	1.0nm,0.3s						
CMAR	Chiang Mai Arr	14.04	19	P	P	19 17 57.9	+1.2
	0.2nm,0.3s,baz=208,slow=14,SNR=13						
SONM	Songino Array	43.82	12	P	P	19 22 40.0	-2.4
	0.2nm,0.6s,mb3.0,baz=192,slow=9.4,SNR=3.3						
WRA	Warramunga Arr	46.69	123	P	P	19 23 06.5	+0.9
	0.4nm,0.5s,mb3.6,baz=304,slow=9.0,SNR=9.1						
WRAB	Tennant Creek	46.69	123	eP	P	19 23 04.7	-0.9
ASAR	Alice Springs	48.17	128	P	P	19 23 18.0	+0.8
	0.3nm,0.5s,mb3.6,baz=301,slow=8.1,SNR=12						
ZAL	Zalesovo	49.26	353	P	P	19 23 24.3	-0.9
	1.3nm,0.3s,mb4.5,baz=332,slow=3.8,SNR=3.9						
BVAR	Borovoye Array	51.59	342	P	P	19 23 41.4	-1.5
	0.4nm,0.5s,mb3.6,baz=159,slow=13,SNR=4.2						
FINES	FINESS Array B	75.14	333	P	P	19 26 19.1	+0.8
	0.3nm,0.6s,mb3.4,baz=112,slow=7.5,SNR=3.0						
GERES	GERESS Array B	79.89	319	P	P	19 26 45.9	+1.0
	0.3nm,0.5s,mb3.5,baz=101,slow=6.8,SNR=4.1						

IDC 14 19:19:01.1±2.1, 1.76S×99.65E, h30km±6km, mb3.0/5, mb1 3.2/5, mb1mx3.2/18, mbtmp3.2/5, Error ellipse: s-maj=84.9km s-min=17.5km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.11	358	P	P	19 23 32.4	-3.1
	0.2nm,0.6s,baz=186,slow=9.9,SNR=5.0						
WRA	Warramunga Arr	38.41	120	P	P	19 26 19.7	-2.3
	0.4nm,0.6s,baz=303,slow=9.1,SNR=7.1						
ASAR	Alice Springs	39.67	126	P	P	19 26 30.8	-1.7
	0.2nm,0.5s,baz=305,slow=7.8,SNR=7.0						
ASAR				pP	pP	19 26 39.8	-1.7
	0.5nm,0.6s,baz=301,slow=8.1,SNR=4.4						
SONM	Songino Array	49.75	6	P	P	19 27 51.8	-1.1
	0.1nm,0.4s,baz=196,slow=10,SNR=2.7						
SONM				pP	pP	19 28 00.7	-1.3
	0.5nm,0.7s,baz=196,slow=8.1,SNR=5.1						
BVAR	Borovoye Array	59.84	340	P	P	19 29 03.1	-3.2
	0.2nm,0.5s,baz=153,slow=3.2,SNR=3.0						
BVAR				pP	pP	19 29 12.1	-3.4
	0.4nm,0.5s,baz=135,slow=6.3,SNR=3.8						

*JMA **14** 19:49:28.8±0.2, 23.37N×122.19E, h46km, M2.3*
TAP 14 19:49:26.7, 23.36N×122.10E, h18km±1km, ML2.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.38	37	P	Pn	19 49 51.4	+0.2
YOJ				eS	Sb	19 50 07.6	-1.2
HATJ	Hateruma jima	1.71	66	P	Pn	19 49 55.6	-0.4
HATJ				eS	Sn	19 50 15.7	-1.8
IRIF	Iriomote-Funau	1.78	57	P	Pn	19 49 57.0	0.0
IRIF				eS	Sn	19 50 18.0	-1.3
JKRS	Kuro-shima	1.96	63	P	Pn	19 49 59.3	-0.2
JKRS				eS	Sn	19 50 22.1	-1.6
JIJ	Ishigaki jima	2.12	61	P	Pn	19 50 01.6	-0.2
JIJ				eS	Sn	19 50 25.4	-2.5
JTJ	Tarama	2.70	61	P	Pn	19 50 09.5	-0.6
JTJ				eS	Sn	19 50 40.6	-2.0

*IDC **14** 20:04:29.9±0.7, 1.76S×99.78E, mb4.3/12, mb1 4.5/12, mb1mx4.3/18, mbtmp4.3/12, MS3.2/1, Ms1 3.4/1, ms1mx2.7/27, Error ellipse: s-maj=33.1km s-min=14.6km az=48.0*
*BJI **14** 20:04:31.4, 2.42S×99.82E, h51km, mB5.1, mb4.7, Ms4.0, Msz4.0*
*NEIC **14** 20:04:34.8±0.4, 1.78S×99.84E, h30km, mb4.5/16, Error ellipse: s-maj=14.0km s-

GUN	**Gumba**	**32.46**	**337**	*eP*	**P**	**20 11 03.2**	**+0.3**
	comp=Z,23nm,0.6s,mb5.2						
DMN	**Daman**	**32.51**	**335**	*eP*	**P**	**20 11 02.9**	**-0.4**
	comp=Z,6.5nm,0.9s,mb4.6						
KKN	**Kakani**	**32.59**	**336**	*eP*	**P**	**20 11 03.8**	**-0.3**
	comp=Z,14nm,0.8s,mb5.0						
GKN	**Gorkha**	**33.05**	**335**	*eP*	**P**	**20 11 07.7**	**-0.3**
	comp=Z,8.0nm,0.6s,mb4.8						
KOLN	**Koldanda**	**33.30**	**333**	*eP*	**P**	**20 11 10.3**	**+0.1**
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2	**Nanjing**	**38.24**	**27**	*eP*	**P**	**20 11 51.8**	**-0.2**
NJ2				AP	pP	20 12 01.5	-0.3
NJ2				PP	PP	20 13 23.8	+0.6
NJ2				S	**S**	**20 17 44.0**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,830nm,5.3s						
NJ2				LR	LR		
	comp=N,250nm,21.0s						
NJ2				LR	LR		
	comp=E,140nm,13.5s						
NJ2				LR	LR		
	comp=Z,750nm,19.8s,MS4.5						
WRA	**Warramunga Arr**	**38.25**	**121**	P	**P**	**20 11 52.3**	**0.0**
	comp=Z,4.1nm,0.6s,mb4.4,baz=303,slow=9.0,SNR=66						
WRAB	**Tennant Creek**	**38.26**	**120**	*eP*	**P**	**20 11 52.0**	**-0.3**
	comp=Z,8.2nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**38.26**	**120⇑**	*iP*	**P**	**20 11 52.2**	**-0.1**
ASPA	**Alice Springs**	**39.51**	**126**	*eP*	**P**	**20 12 04.2**	**+1.5**
ASAR	**Alice Springs**	**39.51**	**126**	P	**P**	**20 12 03.3**	**+0.6**
	comp=Z,2.4nm,0.5s,mb4.2,baz=300,slow=7.8,SNR=37						
HHC	**Hu-ho-hao-te**	**43.81**	**13**	*eP*	**P**	**20 12 41.8**	**+3.9**
HHC				AP	pP	20 12 52.8	+5.0
HHC				XP	sP	20 12 54.9	+3.0
HHC				PP	PP	20 14 27.4	+5.8
HHC				PCS		20 18 17.0	
HHC				S	**S**	**20 19 13.4**	**+7.4**
HHC				XS		20 19 29.3	
HHC				SS	SS	20 22 23.8	+9.3
HHC				SCS	ScS	20 22 32.8	+0.8
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,52nm,5.1s						
HHC				LR	LR		
	comp=N,93nm,14.9s,MS4.0						
HHC				LR	LR		
	comp=E,123nm,15.5s,MS4.0						
HHC				LR	LR		
	comp=Z,127nm,14.3s,MS4.0						
BJI	**Beijing**	**44.29**	**18**	*eP*	**P**	**20 12 43.9**	**+2.2**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
BJI				LR	LR		
	comp=Z,31nm,21.7s,MS3.2						
BJI	**Beijing**	**44.29**	**18**	*eP*	**P**	**20 12 43.9**	**+2.2**
	comp=Z,5.0nm,0.7s,mb4.3						
WMQ	**Urumqi**	**46.73**	**348**	P	**P**	**20 13 02.0**	**+1.0**
WMQ				AP	pP	20 13 12.0	+1.1
WMQ				XP	sP	20 13 16.0	+1.0
WMQ				PCP	PcP	20 14 36.3	+1.7
WMQ				PP	PP	20 14 51.5	+0.9
WMQ				S	**S**	**20 19 48.0**	**+0.3**
WMQ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,101nm,3.4s						
WMQ				LR	LR		
	comp=N,70nm,24.2s,MS3.5						
WMQ				LR	LR		
	comp=E,19nm,26.2s,MS3.5						
WMQ				LR	LR		
	comp=Z,30nm,19.6s						
STKA	**Stephens Creek**	**49.41**	**132**	*eP*	**P**	**20 13 23.4**	**+1.3**
	comp=Z,5.2nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**49.41**	**132**	P	**P**	**20 13 22.8**	**+0.7**
	comp=Z,1.8nm,0.4s,mb4.4,baz=285,slow=9.9,SNR=12						
SONM	**Songino Array**	**49.80**	**6**	P	**P**	**20 13 24.6**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.4,baz=189,slow=9.4,SNR=32						
SONM				PcP	PcP	20 14 45.1	-0.5
	comp=Z,0.8nm,0.5s,baz=192,slow=4.2,SNR=4.5						
AAK	**Ala-Archa**	**49.80**	**336**	*eP*	**P**	**20 13 24.6**	**-0.4**
ULN	**Ulaanbaatar**	**49.90**	**6**	*eP*	**P**	**20 13 25.1**	**-0.5**
	comp=Z,1.7nm,0.5s,mb4.3						
MDJ	**Mudanjiang**	**53.33**	**26**	P	**P**	**20 13 51.1**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,118nm,4.5s						
MDJ				LR	LR		
	comp=N,27nm,25.6s,MS3.4						
MDJ				LR	LR		
	comp=E,40nm,25.6s,MS3.4						
MDJ				LR	LR		
	comp=Z,34nm,19.4s						
ZAL	**Zalesovo**	**56.96**	**349**	P	**P**	**20 14 17.2**	**-0.5**
	comp=Z,5.1nm,0.6s,mb4.7,baz=310,slow=5.6,SNR=23						
KMBO	**Kilima Mbogo**	**62.53**	**270**	P	**P**	**20 14 57.0**	**+0.5**
	comp=Z,1.4nm,0.7s,mb4.2,baz=54,slow=10,SNR=7.0						
BRTR	**Keskin Array B**	**73.06**	**312**	P	**P**	**20 16 01.0**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=139,slow=6.4,SNR=7.0						
FINES	**FINESS Array B**	**83.87**	**332**	P	**P**	**20 17 00.8**	**+0.1**
	comp=Z,1.8nm,0.5s,mb4.5,baz=102,slow=6.1,SNR=21						
ARCES	**ARCESS Array B**	**86.25**	**340**	P	**P**	**20 17 11.9**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.5,baz=79,slow=6.2,SNR=4.9						
GERES	**GERESS Array B**	**88.79**	**319**	P	**P**	**20 17 25.1**	**+0.1**
	comp=Z,0.7nm,0.6s,mb4.2,baz=90,slow=4.0,SNR=8.7						
TXAR	**Lajitas Array**	**144.69**	**37**	PKP	PKPdf	20 24 08.6	+1.3
	comp=Z,0.8nm,0.4s,baz=312,slow=0.7,SNR=8.7						

MAN 14 20:15:58.8, 10.23N×122.18E, h1km, mb3.7, ML2.5, MS2.0, 2D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAP	**Anini-y**	**0.30**	**310**	*eP*	Pg	20 16 04.5	-0.3
GUIM	**Jordan**	**0.56**	**45**	*eP*	Pg	20 16 10.3	+0.2
CUYO	**Cuyo Island**	**1.30**	**299**	*eP*	Pb	20 16 24.1	+0.4
RCP	**Roxas**	**1.44**	**23⇓**	*eP*	Pn	20 16 25.6	-0.4
RCP				*eS*	Sb	20 16 45.6	+0.9
DCPH	**Dipolog City**	**2.00**	**145⇓**	*iP*	Pn	20 16 34.8	+0.7
DCPH				*i* S	Sn	20 16 59.5	-0.6
SJMP	**San Jose**	**2.45**	**335**	*eP*	Pn	20 16 56.9	+16
BUSP	**Coron**	**2.63**	**312**	*eP*	Pn	20 16 42.3	-0.7
ENPP	**El Nido**	**2.88**	**290**	*eP*	Pn	20 16 46.6	-0.1
BOAC	**Boac**	**3.23**	**354**	*eP*	Pn	20 16 53.6	+1.9

IDC 14 20:17:15.6±5.2, 1.19S×101.84E, mb3.7/3, mb1 3.7/4, mb1mx3.4/17, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=199.7km s-min=31.4km az=63.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.73**	**352**	P	P	20 21 47.3	-2.6
	0.0nm,0.3s,baz=184,slow=9.2,SNR=4.4						
WRA	**Warramunga Arr**	**36.84**	**123**	P	P	20 24 26.6	-1.1
	0.8nm,0.4s,baz=303,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**38.27**	**128**	P	P	20 24 37.9	-1.7
	0.6nm,0.6s,baz=302,slow=7.9,SNR=18						
STKA	**Stephens Creek**	**48.33**	**133**	P	P	20 25 57.9	-3.3
	0.9nm,0.7s,baz=321,slow=13,SNR=3.2						

*BJI **14** 20:39:35.3, 5.47S×133.27E, h10km, mb4.5*
*IDC **14** 20:39:35.2±4.5, 6.09S×132.80E, h39km±42km, mb3.7/7, mb1 4.1/11, mb1mx4.0/15, mbtmp4.2/11, ML3.9/4, MS3.6/6, Ms1 3.6/6, ms1mx3.3/24, Error ellipse: s-maj=39.3km s-min=16.9km az=70.0*
*NEIC **14** 20:39:35.5±0.6, 5.98S×133.36E, mb4.6/9, Error ellipse: s-maj=19.4km s-min=8.6km az=70.0*
ISC 14 20:39:33.8±0.5, 6.09S±0.05×133.07E±0.09, h33km, (h36km±8km:pP-P), n38, σ1§31/36, mb4.4/15, MS3.7/5, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**13.82**	**175**	P	**P**	**20 42 59.1**	**+9.4**
WRA	**Warramunga Arr**	**13.82**	**175**	Pn	**P**	**20 42 49.3**	**-0.6**
	1.1nm,0.3s,baz=350,slow=14,SNR=3.9						
WRA				Sn	**S**	**20 45 18.4**	**-4.8**
	0.3nm,0.3s,baz=352,slow=24,SNR=2.8						

FITZ	**Fitzroy Crossi**	**13.97**	**211**	Pn	**P**	**20 42 52.9**	**+1.2**
	2.2nm,0.3s,baz=26,slow=11,SNR=2.1						
FITZ				Sn	**S**	**20 45 25.8**	**-0.8**
	3.3nm,0.3s,baz=169,slow=11,SNR=4.4						
PMG	**Port Moresby**	**14.34**	**104**	Pn	**P**	**20 42 59.2**	**+2.5**
	1.3nm,0.3s,baz=241,slow=9.1,SNR=3.5						
PMG				LR	LR	20 49 16.6	
	comp=Z,90nm,18.2s,baz=350,slow=40						
ASAR	**Alice Springs**	**17.49**	**177**	P	**P**	**20 43 37.9**	**+0.9**
	0.9nm,0.3s,baz=1.2,slow=12,SNR=17						
CTA	**Charters Tower**	**18.91**	**139**	P	**P**	**20 43 53.6**	**-0.8**
	0.2nm,0.3s,baz=309,slow=13,SNR=4.4						
CTAO	**Charters Tower**	**18.91**	**139**	P	**P**	**20 43 51.1**	**-3.3**
	11nm,0.8s						
CTAO				*e*		20 44 05.2	
MBWA	**Marble Bar**	**19.78**	**220**	*eP*	**P**	**20 43 55.7**	**-8.5**
KKM	**Kota Kinabalu**	**20.70**	**305**	*eP*	**P**	**20 44 14.2**	**+0.3**
KSM	**Kuching**	**23.94**	**288**	*eP*	**P**	**20 44 50.2**	**+4.1**
FORT	**Forrest**	**25.01**	**190**	*eP*	**P**	**20 45 00.0**	**+3.7**
	817nm,0.6s						
STKA	**Stephens Creek**	**26.86**	**164**	*eP*	**P**	**20 45 14.5**	**+0.9**
	6.9nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**26.86**	**164**	P	**P**	**20 45 13.5**	**-0.1**
	7.8nm,0.6s,mb4.4,baz=337,slow=8.2,SNR=11						
STKA	**Stephens Creek**	**26.86**	**164**	*eP*	**P**	**20 45 14.7**	**+1.1**
NWAO	**Narrogin (SRO)**	**30.50**	**207**	LR	LR	20 59 38.0	
	comp=Z,153nm,20.1s,MS3.6,baz=26,slow=40						
NWAO	**Narrogin (SRO)**	**30.50**	**207**	*eP*	**P**	**20 45 50.6**	**+4.4**
	9.2nm,1.0s,mb4.6						
CM31	**Chiang Mai Arr**	**41.57**	**307**	P	**P**	**20 47 22.4**	**+1.9**
	6.6nm,1.0s,mb4.2						
CMAR	**Chiang Mai Arr**	**41.57**	**307**	P	**P**	**20 47 16.4**	**-4.0**
	0.2nm,0.8s,baz=120,slow=8.5,SNR=3.2						
ENH	**Enshi**	**42.64**	**329**	*eP*	**P**	**20 47 30.2**	**+1.1**
	9.2nm,0.8s,mb4.6						
MJAR	**Matsushiro Arr**	**42.68**	**6**	P	**P**	**20 47 27.9**	**-1.4**
	0.6nm,0.3s,mb3.8,baz=195,slow=7.7,SNR=3.7						
MJAR				LR	LR	21 02 45.8	
	comp=Z,84nm,20.3s,MS3.6,baz=180,slow=33						
MJAR	**Matsushiro Arr**	**42.68**	**6**	P	**P**	**20 47 27.9**	**-1.4**
MJAR				LR	LR	21 02 45.8	
SHL	**Shillong**	**50.90**	**310**	*eP*	**P**	**20 48 35.0**	**+0.9**
LSA	**Lhasa**	**53.71**	**314**	P	**P**	**20 48 54.4**	**-0.8**
LSA	**Lhasa**	**53.71**	**314**	*eP*	**P**	**20 48 57.1**	**+1.9**
	18nm,1.1s,mb4.9						
LSA				*e*pP	pP	20 49 07.4	+2.2
GTA	**Gaotai**	**54.72**	**329**	*eP*	**P**	**20 49 02.9**	**+0.5**
GTA				AP	pP	20 49 13.4	+0.9
GTA				XP	sP	20 49 16.6	+0.2
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**58.41**	**340**	*eP*	**P**	**20 49 27.0**	**-1.6**
	comp=Z,9.0nm,0.9s,mb4.8						
ULN				*e*pP	pP	20 49 38.3	-0.4
SONM	**Songino Array**	**58.61**	**339**	P	**P**	**20 49 28.2**	**-1.8**
	comp=Z,1.0nm,0.9s,mb3.8,baz=152,slow=7.1,SNR=5.2						
SONM				LR	LR	21 17 21.2	
	comp=Z,36nm,18.4s,MS3.5,baz=325,slow=39						
WMQ	**Urumqi**	**64.35**	**325**	*eP*	**P**	**20 50 09.0**	**+0.3**
AAK	**Ala-Archa**	**71.85**	**318**	*eP*	**P**	**20 50 55.4**	**0.0**
	comp=Z,8.2nm,0.9s,mb4.7						
AAK				*e*pP	pP	20 51 06.3	+0.6
ZAL	**Zalesovo**	**72.16**	**332**	P	**P**	**20 50 54.9**	**-2.0**
	comp=Z,1.1nm,0.4s,mb4.1,baz=3.5,slow=5.7,SNR=4.7						
ZAL	**Zalesovo**	**72.16**	**332**	P	**P**	**20 50 54.9**	**-2.1**
VNDA	**Vanda**	**72.99**	**174**	P	**P**	**20 50 59.9**	**-1.7**
	comp=Z,1.4nm,0.8s,mb3.9,baz=314,slow=4.8,SNR=8.0						
BILL	**Bilibino**	**77.56**	**12**	*eP*	**P**	**20 51 29.5**	**+1.7**
	comp=Z,2.3nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**78.95**	**327**	P	**P**	**20 51 35.0**	**-0.8**
	comp=Z,1.5nm,0.9s,mb3.9,baz=214,slow=27,SNR=5.5						
ILAR	**Eielson Array**	**91.23**	**25**	LR	LR	21 32 15.3	
	comp=Z,58nm,18.9s,MS4.0,baz=178,slow=35						
SNAA	**Sanae**	**97.24**	**193**	*eP*	**P**	**20 53 03.3**	**-0.7**
	comp=Z,5.2nm,1.1s,mb4.9						
EIL	**Elat**	**100.03**	**299**	LR	LR	21 41 01.7	
	comp=Z,28nm,20.1s,MS3.8,baz=88,slow=37						
LPAZ	**La Paz**	**149.43**	**137**	PKPbc	PKPdf	20 59 22.0	+6.0
	comp=Z,0.9nm,0.4s,baz=251,slow=2.0,SNR=5.1						

KRSC 14 20:54:42.0±0.7, 49.17N×156.88E, h48km±23km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.30**	**359**	*i* P	P	20 55 17.6	-0.7
PAU				*e*S	S	20 55 43.8	-1.7
PAU				Smax			
	500nm,0.3s						
PAU	**Pauzhetka**	**2.30**	**359**	*eP*	P	20 55 18.3	0.0
PAU				*e*S	S	20 55 44.2	-1.3
PAU				Smax			
	560nm,0.2s						
RUS	**Russkaya**	**3.43**	**17**	*eP*	P	20 55 34.3	0.0
RUS				*e*S	S	20 56 13.0	-1.1
GRL	**Gorelyy**	**3.47**	**12**	*eP*	P	20 55 35.7	+0.8
GRL				*e*S	S	20 56 14.0	-1.2
KRMR	**Karymshinskiy**	**3.75**	**12**	*eP*	P	20 55 40.5	+1.7
KRMR				*e*S	S	20 56 24.1	+1.9
APC	**Apacha**	**3.76**	**3**	*i* P	P	20 55 39.2	+0.1
APC				*e*S	S	20 56 21.1	-1.5
APC				Smax			
	30nm,0.7s						
PET	**Petropavlovsk**	**4.02**	**15**	*eP*	P	20 55 43.7	+1.1
PET				*e*S	S	20 56 28.5	-0.5
AVH	**Avacha**	**4.26**	**15**	*eP*	P	20 55 47.8	+1.7
AVH				*e*S	S	20 56 35.5	+0.3
KOK	**Koryaka**	**4.27**	**14**	*eP*	P	20 55 47.8	+1.6
KOK				*e*S	S	20 56 35.5	+0.1
SMAR	**Somma**	**4.27**	**16**	*eP*	P	20 55 46.4	+0.2
SMAR				*e*S	S	20 56 33.8	-1.6
NLC	**Nalytchevo**	**4.30**	**20**	*eP*	P	20 55 45.6	-1.0
SPN	**Mys Shipunski**	**4.40**	**26**	*eP*	P	20 55 48.7	+0.6
SPN				*e*S	S	20 56 37.3	-1.4
GNL	**Ganaly**	**4.58**	**8**	*eP*	P	20 55 51.4	+0.8
GNL				*e*S	S	20 56 42.2	-1.0
TUMR	**Tumrok**	**6.44**	**17**	*eP*	P	20 56 17.6	+1.0
TUMR				*e*S	S	20 57 26.7	-3.0
KMNR	**Kamenistaya**	**6.91**	**16**	*eP*	P	20 56 24.3	+1.1
KBTR	**Krutoberegovo**	**7.92**	**25**	*eP*	P	20 56 36.3	-0.8
KBTR				*e*S	S	20 58 00.0	-6.3
BKI	**Bering**	**8.22**	**39**	*eP*	P	20 56 36.1	-5.3
BKI				*e*S	S	20 57 59.7	-14

*PRU **14** 20:55:14.9, 51.39N×16.14E*
*CSEM **14** 20:55:15.5±0.2, 51.40N×16.15E, h2km, ML2.6/1, Error ellipse: s-maj=4.0km s-min=1.7km az=11.0*
*NEIC **14** 20:55:16.2±1.6, 51.29N×16.14E, h5km, ML2.8(VIE), Error ellipse: s-maj=16.9km s-min=8.5km az=202.0*
WAR 14 20:55:14.8, 51.45N×16.17E, h1km, ML2.2, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*PG	Pg	20 55 26.0	-1.0
KSP				*e*SG	Sg	20 55 34.0	-1.2
UPC	**Upice**	**0.95**	**186**	*e*PG	Pg	20 55 32.7	-1.0
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	Pg	20 55 34.8	-2.0
DPC				*e*SG	Sg	20 55 49.2	-2.4
	5.9nm,0.2s						
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	Pg	20 55 40.3	-1.8
BRG	**Berggiesshubel**	**1.52**	**249**	*i* Pg	Pg	20 55 42.8	-2.3
BRG				*i* Sg	Sg	20 56 03.2	-2.1
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	Pg	20 55 46.2	-4.4
PRU				*e*SG	Sg	20 56 10.3	-4.2
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	Pn	20 55 46.4	-2.1
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	Pn	20 55 46.4	-2.1
MORC				*e*Sg	Sg	20 56 13.6	-4.1
CLL	**Collm**	**1.99**	**267**	*e*PG	Pg	20 55 51.0	-3.5
CLL				*e*SG	Sg	20 56 18.0	-3.1
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*PG	Pg	20 55 53.2	-2.5
OKC				*e*SG	Sg	20 56 18.9	-4.0
VRAC	**Vranov**	**2.16**	**173**	*e*Sg	Sg	20 56 22.6	-4.1
NKC	**Novy Kostel**	**2.66**	**244**	*e*SG	Sg	20 56 37.7	-5.5
KHC	**Kasperske Hory**	**2.85**	**217**	*e*PG	Pg	20 56 08.0	-3.8
KHC				*e*SN	Sn	20 56 35.2	-2.6
KHC				*e*SG	Sg	20 56 43.3	-6.5
MOA	**Molln**	**3.81**	**200⇑**	*i*PN	Pn	20 56 09.3	-6.6
MOA				*i* SG	Sg	20 57 13.1	-8.5
	4.1nm,0.5s						

*CSEM **14** 21:00:40.0±0.3, 35.25N×4.17W, h5km, MD2.8, Error ellipse: s-maj=7.8km s-min=5.3km az=63.0*
*MDD **14** 21:00:42.2±0.9, 35.23N×4.12W, h5km±9km, mbLg1.8/10, Error ellipse: s-maj=7.7km s-min=5.3km az=112.0, PRXIMO*
*CNRM **14** 21:00:42.5, 35.28N×3.98W, h14km, MD2.8*
*NEIC **14** 21:00:44.2, 35.46N×4.11W, MG2.9(MDD), After MDD.*
ISC 14 21:00:40.4±0.9, 35.27N±0.03×4.20W±0.04, h3km±7km, n31, σ1§07/52, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.21**	**103**	P	**Pg**	**21 00 45.0**	**+0.3**
MPAL				S	**Sg**	**21 00 47.0**	**-0.6**
MPAL	**Palemas**	**0.21**	**103**	*i* P	**Pg**	**21 00 45.0**	**+0.3**
TOU	**Touzarine**	**0.48**	**130**	P	**Pg**	**21 00 49.0**	**-1.0**
TOU				S	**Sg**	**21 00 55.5**	**-0.8**
TOU	**Touzarine**	**0.48**	**130**	*i* P	**Pg**	**21 00 49.0**	**-1.0**
EMEL	**Melilla**	**1.02**	**88**	P	**Pb**	**21 01 00.3**	**+0.1**
	36nm,0.1s,SNR=7.9						
EMEL				S	**Sb**	**21 01 13.2**	**-0.6**
	68nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**1.02**	**88**	P	**Pb**	**21 01 01.2**	**+0.9**
	36nm,0.1s,SNR=7.9						
EMLI				S	**Sb**	**21 01 15.9**	**+2.0**
	68nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.16**	**55**	S	**Sb**	**21 01 18.1**	**+0.2**
	169nm,1.2s,SNR=7.9						
TZK	**Tazeka**	**1.18**	**179**	*i* P	**Pb**	**21 01 03.5**	**+0.4**
TZK				*i* S	**Sb**	**21 01 19.0**	**+0.4**
ZAI	**Zaio**	**1.23**	**104**	*i* P	**Pb**	**21 01 02.0**	**-1.9**
EMIJ	**Mijas**	**1.37**	**340**	P	**Pb**	**21 01 06.3**	**0.0**
EMIJ				S	**Sb**	**21 01 22.6**	**-1.5**
EMIJ	**Mijas**	**1.37**	**340**	P	**Pb**	**21 01 06.8**	**+0.5**
	0.4nm,0.1s,SNR=7.4						
EMIJ				S	**Sb**	**21 01 25.6**	**+1.4**
	2.4nm,0.2s,SNR=8.2						
EMIJ	**Mijas**	**1.37**	**340**	P	**Pb**	**21 01 06.3**	**0.0**
	0.4nm,0.1s,SNR=7.4						
EMIJ				S	**Sb**	**21 01 22.6**	**-1.5**
	2.4nm,0.2s,SNR=8.2						
ELOJ	**Sierra Loja**	**1.87**	**1**	S	**Sn**	**21 01 37.8**	**-0.2**
	2.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.94**	**33**	P	**Pn**	**21 01 13.5**	**-1.1**
EBER				S	**Sn**	**21 01 38.5**	**-1.1**
EBER	**Berja**	**1.94**	**33**	P	**Pn**	**21 01 14.0**	**-0.5**
	0.0nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**21 01 38.5**	**-1.1**
	1.9nm,0.3s,SNR=4.0						
EBER	**Berja**	**1.94**	**33**	P	**Pn**	**21 01 13.5**	**-1.0**
	SNR=7.9						
EBER				S	**Sn**	**21 01 38.5**	**-1.2**
	1.9nm,0.3s,SNR=4.0						
ELUQ	**Luque**	**2.28**	**359**	P	**Pn**	**21 01 22.4**	**+2.9**
ELUQ	**Luque**	**2.28**	**359**	P	**Pn**	**21 01 19.9**	**+0.4**
	0.7nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**21 01 48.6**	**+0.1**
	4.6nm,0.8s,SNR=7.9						
ENIJ	**Nijar**	**2.34**	**43**	P	**Pn**	**21 01 20.4**	**+0.1**
	0.3nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**2.91**	**354**	P	**Pn**	**21 01 30.4**	**+2.0**
EADA				S	**Sn**	**21 02 05.7**	**+1.4**
EADA	**Adamuz**	**2.91**	**354**	P	**Pn**	**21 01 29.2**	**+0.8**
	0.4nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**21 02 03.3**	**-1.0**
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.91**	**354**	P	**Pn**	**21 01 30.4**	**+2.0**
	0.4nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**21 02 05.6**	**+1.4**
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.19**	**322**	P	**Pn**	**21 01 32.8**	**+0.4**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**21 02 10.3**	**-1.1**
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.19**	**322**	P	**Pn**	**21 01 32.8**	**+0.4**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**21 02 10.4**	**-1.0**
EGRO	**El Granado**	**3.48**	**311**	P	**Pn**	**21 01 37.4**	**+0.9**
	0.7nm,0.4s,SNR=7.9						
EGRO				S	**Sn**	**21 02 17.1**	**-1.7**
	6.3nm,0.9s,SNR=7.9						
ETOB	**Tobarra**	**3.98**	**31**	P	**Pn**	**21 01 45.5**	**+1.9**
ETOB	**Tobarra**	**3.98**	**31**	P	**Pn**	**21 01 43.5**	**-0.1**
	0.9nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.98**	**31**	P	**Pn**	**21 01 45.5**	**+1.9**
EBAD	**Badajoz**	**4.14**	**328**	P	**Pn**	**21 01 47.4**	**+1.5**
EBAD				S	**Sn**	**21 02 32.4**	**-3.2**
EBAD	**Badajoz**	**4.14**	**328**	P	**Pn**	**21 01 46.5**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**21 02 32.4**	**-3.2**
	1.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.14**	**328**	P	**Pn**	**21 01 47.4**	**+1.4**
EBAD				S	**Sn**	**21 02 32.4**	**-3.2**

*CSEM **14** 21:04:38.7±0.2, 35.20N×4.01W, h12km, MD2.8, Error ellipse: s-maj=8.2km s-min=5.3km az=65.0*
*CNRM **14** 21:04:39.7, 35.30N×4.00W, h14km, MD2.8*
*MDD **14** 21:04:40.2±0.5, 35.23N×4.04W, h13km±4km, mbLg1.9/11, Error ellipse: s-maj=7.1km

EADA			S		Sn	21 06 02.0	+0.6
	0.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.25 321**	P		**Pn**	**21 05 31.2**	**+0.3**
	0.2nm,0.2s,SNR=7.9						
EMIN			S		**Sn**	**21 06 08.1**	**-1.6**
	0.3nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.25 321**	P		**Pn**	**21 05 31.8**	**+1.0**
	0.2nm,0.2s,SNR=7.9						
EMIN			S		**Sn**	**21 06 08.1**	**-1.6**
	0.3nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.55 311**	P		**Pn**	**21 05 34.9**	**-0.2**
	0.3nm,0.4s,SNR=7.9						
EGRO			S		**Sn**	**21 06 14.1**	**-3.3**
	3.3nm,0.8s,SNR=7.9						
EBAD	**Badajoz**	**4.20 327**	P		**Pn**	**21 05 45.2**	**+1.0**
EBAD			S		**Sn**	**21 06 29.0**	**-4.7**
EBAD	**Badajoz**	**4.20 327**	P		**Pn**	**21 05 44.3**	**0.0**
	0.3nm,0.2s,SNR=4.0						
EBAD			S		**Sn**	**21 06 30.0**	**-3.7**
	1.1nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.20 327**	P		**Pn**	**21 05 45.2**	**+0.9**
	0.3nm,0.2s,SNR=4.0						

DMN 14 21:36:29.0±0.5, 27.66N×83.82E, h10km, Mb3.9/7, Error ellipse: s-maj=33.4km s-min=7.2km az=14.0, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOLN	**Koldanda**	**0.22**	**300**	*eP*	Pg	21 36 34.0	+0.2
	9.5nm,0.6s						
GKN	**Gorkha**	**0.80**	**64**	*eP*	Pb	21 36 45.9	+1.3
	12nm,0.5s						
DMN	**Daman**	**1.14**	**92**	*eP*	Pb	21 36 51.9	+1.5
	6.6nm,0.5s						
KKN	**Kakani**	**1.30**	**84**	*eP*	Pb	21 36 53.6	+0.5
	12nm,0.6s						
PKI	**Pulchoki**	**1.41**	**93**	*eP*	Pn	21 36 55.9	+1.0
	9.7nm,0.7s						
GUN	**Gumba**	**1.84**	**82**	*eP*	Pn	21 36 59.7	-1.3
	36nm,0.7s						
JIRN	**Jiri**	**2.10**	**89**	*eP*	Pn	21 37 04.6	-0.2
	18nm,0.6s						

*IDC **14** 21:56:26.0±0.9, 1.55S×99.63E, mb4.1/9, mb1 4.2/10, mb1mx4.0/18, mbtmp4.0/10, ML4.0/1, Error ellipse: s-maj=44.0km s-min=15.6km az=54.0*
*NEIC **14** 21:56:30.9±0.6, 1.53S×99.79E, h30km, mb4.3/10, Error ellipse: s-maj=22.0km s-min=7.9km az=59.0*
ISC 14 21:56:30.2±4.2, 1.5S±0.2×99.8E±0.2, h38km±34km, n26, σ0§91/24, mb4.3/18, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.79**	**7**	*e*Pn	**P**	**21 58 10.4**	**+0.5**
CM31	**Chiang Mai Arr**	**19.84**	**358**	*eP*	**P**	**22 00 57.2**	**-3.7**
	7.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**19.84**	**358**	P	**P**	**22 00 58.5**	**-2.4**
	0.2nm,0.3s,baz=188,slow=10,SNR=20						
SHL	**Shillong**	**27.98**	**345**	*eP*	**P**	**22 02 20.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**30.24**	**125**	P	**P**	**22 02 39.9**	**-0.1**
	5.3nm,0.9s,mb4.3,baz=269,slow=23,SNR=3.5						
JIRN	**Jiri**	**31.81**	**337**	*eP*	**P**	**22 02 54.2**	**+0.4**
	11nm,0.7s,mb4.8						
LSA	**Lhasa**	**32.10**	**346**	*eP*	**P**	**22 02 56.4**	**+0.1**
	4.1nm,0.7s,mb4.4						
GUN	**Gumba**	**32.16**	**336**	*eP*	**P**	**22 02 57.4**	**+0.6**
	17nm,0.7s,mb5.0						
DMN	**Daman**	**32.21**	**335**	*eP*	**P**	**22 02 57.7**	**+0.4**
	7.3nm,1.0s,mb4.5						
KKN	**Kakani**	**32.30**	**335**	*eP*	**P**	**22 02 57.8**	**-0.2**
	6.7nm,0.7s,mb4.6						
GKN	**Gorkha**	**32.76**	**335**	*eP*	**P**	**22 03 01.9**	**-0.1**
	6.6nm,0.8s,mb4.6						
KOLN	**Koldanda**	**33.01**	**333**	*eP*	**P**	**22 03 04.3**	**+0.1**
	5.1nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**38.40**	**121**	P	**P**	**22 03 50.0**	**+0.1**
	1.5nm,0.6s,mb3.9,baz=303,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	**38.41**	**121**	*eP*	**P**	**22 03 48.7**	**-1.3**
	6.2nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**38.41**	**121**	*eP*	**P**	**22 03 50.6**	**+0.5**
ASAR	**Alice Springs**	**39.69**	**126**	P	**P**	**22 04 01.6**	**+0.9**
	1.0nm,0.6s,mb3.8,baz=307,slow=8.1,SNR=13						
BJT	**Baijiatuau**	**43.93**	**18**	P	**P**	**22 04 35.3**	**-0.1**
SONM	**Songino Array**	**49.46**	**6**	P	**P**	**22 05 18.8**	**+0.1**
	1.6nm,0.7s,mb4.2,baz=186,slow=8.7,SNR=19						
ULN	**Ulaanbaatar**	**49.56**	**6**	*eP*	**P**	**22 05 19.9**	**+0.4**
	2.0nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**49.62**	**132**	P	**P**	**22 05 19.8**	**-0.4**
	1.5nm,0.8s,mb4.0,baz=324,slow=8.7,SNR=3.2						
ZAL	**Zalesovo**	**56.63**	**349**	P	**P**	**22 06 11.5**	**-0.3**
	2.4nm,0.6s,mb4.4,baz=321,slow=7.6,SNR=10						
BRTR	**Keskin Array B**	**72.85**	**312**	P	**P**	**22 07 54.8**	**-2.5**
	0.3nm,0.5s,mb3.5,baz=108,slow=4.6,SNR=2.6						
FINES	**FINESS Array B**	**83.58**	**332**	P	**P**	**22 08 55.9**	**+0.2**
	0.4nm,0.5s,mb3.8,baz=117,slow=4.3,SNR=7.1						
ARCES	**ARCESS Array B**	**85.94**	**340**	P	**P**	**22 09 09.6**	**+2.3**
	3.9nm,1.0s,mb4.6,baz=342,slow=3.8,SNR=4.2						
TXAR	**Lajitas Array**	**144.40**	**37**	PKP	PKPdf	22 16 04.2	+1.1
	0.9nm,0.5s,baz=254,slow=1.1,SNR=8.9						
CFAA	**Coronel Fontan**	**145.19**	**198**	PKPbc	PKPbc	22 16 06.1	+1.3
	0.2nm,0.4s,baz=175,slow=2.4,SNR=8.3						

*NEIC **14** 22:05:25.8±1.6, 21.78S×177.58W, h400km, mb4.2/5, Error ellipse: s-maj=83.5km s-min=15.0km az=151.0*
*IDC **14** 22:05:32.6±11.0, 21.46S×178.06W, h447km±110km, mb3.5/7, mb1 3.7/7, mb1mx3.4/17, mbtmp4.3/7, Error ellipse: s-maj=93.3km s-min=53.9km az=138.0*
ISC 14 22:05:11.1±2.9, 22.8S±0.8×176.9W±0.5, h300km, n18, σ0§73/13, mb4.0/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.37**	**267**	P	**P**	**22 11 32.5**	**+0.4**
	4.5nm,0.5s,mb4.3,baz=86,slow=10,SNR=7.5						
CTAO	**Charters Tower**	**34.37**	**267**	*eP*	**P**	**22 11 32.4**	**+0.3**
	5.8nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**37.80**	**247**	P	**P**	**22 12 06.0**	**+5.2**
	3.5nm,0.6s,mb4.0,baz=80,slow=6.5,SNR=10						
STKA	**Stephens Creek**	**37.80**	**247**	*eP*	**P**	**22 12 06.0**	**+5.2**
ASAR	**Alice Springs**	**45.06**	**259**	P	**P**	**22 13 00.8**	**+1.2**
	3.6nm,0.6s,mb3.8,baz=90,slow=8.4,SNR=30						
WRAB	**Tennant Creek**	**45.35**	**264**	*eP*	**P**	**22 13 00.4**	**-1.5**
	14nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**45.36**	**264**	P	**P**	**22 13 01.3**	**-0.7**
	1.7nm,0.3s,mb3.8,baz=96,slow=7.8,SNR=34						
FITZ	**Fitzroy Crossi**	**53.79**	**264**	P	**P**	**22 14 05.3**	**-0.1**
	3.5nm,0.3s,mb4.1,baz=131,slow=4.0,SNR=14						
MBWA	**Marble Bar**	**58.40**	**258**	*eP*	**P**	**22 14 38.4**	**+0.5**
	8.6nm,0.6s,mb4.4						
CMB	**Columbia Colle**	**80.43**	**42**	P	**P**	**22 16 50.5**	**-0.6**
	2.9nm,0.7s,mb4.1						
MCK	**McKinley**	**88.96**	**12**	*eP*	**P**	**22 17 32.9**	**+0.3**
	4.7nm,1.6s,mb4.1						
ILAR	**Eielson Array**	**90.30**	**12**	P	**P**	**22 17 39.2**	**+0.4**
	0.3nm,0.5s,mb3.4,baz=240,slow=6.9,SNR=4.4						
CMAR	**Chiang Mai Arr**	**91.85**	**289**	P	**P**	**22 17 47.0**	**-0.1**
	0.7nm,0.8s,mb3.6,baz=111,slow=2.6,SNR=5.3						
ARCES	**ARCESS Array B**	**131.34**	**350**	PKP	PKPdf	22 23 49.0	+1.7
	1.8nm,0.8s,baz=333,slow=5.4,SNR=3.8						
AKASG	**Malin Array Be**	**145.50**	**330**	PKP	PKPdf	22 24 13.5	+0.3
	1.1nm,0.4s,baz=44,slow=4.5,SNR=9.0						
BRTR	**Keskin Array B**	**149.12**	**310**	PKPbc	PKPdf	22 24 24.9	+5.5
	0.4nm,0.6s,baz=135,slow=3.5,SNR=3.7						
MLR	**Muntele Rosu**	**150.69**	**326**	PKPbc	PKPdf	22 24 29.3	+7.7
	0.6nm,0.5s,baz=106,slow=9.3,SNR=2.9						
GERES	**GERESS Array B**	**152.66**	**345**	PKPbc	PKPdf	22 24 33.8	+9.3
	0.5nm,0.6s,baz=63,slow=3.0,SNR=5.9						

*LDG **14** 22:09:14.4±0.3, 21.94S×171.79E, h10km, Mb5.7/4, Ms4.4/8, Error ellipse: s-maj=41.1km s-min=19.7km az=9.0*
*BJI **14** 22:09:28.7, 21.59S×171.43E, h102km, mB5.6, mb5.3*
*IDC **14** 22:09:30.1±0.4, 22.21S×171.50E, h122km±3km, mb4.9/20, mb1 5.1/24, mb1mx5.1/25, mbtmp5.3/24, MS4.5/15, Ms1 4.5/15, ms1mx4.3/24, Error ellipse: s-maj=11.6km s-min=9.1km az=164.0*
*MOS **14** 22:09:30.2±1.4, 22.18S×171.43E, h128km, mb5.5/32, Error ellipse: s-maj=8.0km s-min=7.8km az=161.9*
*NEIC **14** 22:09:30.3±0.1, 22.20S×171.45E, mb5.5/59, MW5.6, Error ellipse: s-maj=4.7km s-min=4.1km az=108.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{17} Nm; M_{rr}2.86; $M_{\theta\theta}$-1.30; $M_{\phi\phi}$-1.56; $M_{r\theta}$2.21; $M_{\theta\phi}$1.03; $M_{\phi r}$1.18; Best double couple: $M_0$3.4×10^{17} NP1:ϕ_s334°, δ40°,λ132°. NP2:ϕ_s105°,δ61°,λ61°. Principal axes: T 4.2, Plg62°, Azm328°; N -1.61, Plg25°, Azm120°; P -2.59, Plg12°, Azm215°;*
*HRVD **14** 22:09:30.3±0.1, 22.33S×171.50E, h134km±1km, MW5.6/80, Centroid moment Tensor Solution. LP body waves: s75,c142;Mantle waves: s80,c171; Half duration: 1s6 Moment tensor: Scale 10^{17}Nm; M_{rr}1.95±.04; $M_{\theta\theta}$-1.11±.06; $M_{\phi\phi}$-0.84±.05; $M_{r\theta}$2.06±.04; $M_{\theta\phi}$1.53±.04; $M_{\phi r}$1.13±.04; Best double couple: $M_0$3.17×10^{17} NP1: ϕ_s339°, δ43°, λ143°. NP2:ϕ_s98°, δ66°, λ54°. Principal axes: T 3.647, Plg54°, Azm322°; N -.953, Plg33°, Azm114°; P -2.694, Plg13°, Azm213°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **14** 22:09:33.4±3.2, 22.20S×171.45E, h125km*
ISC 14 22:09:29.1±0.2, 22.25S±0.03×171.42E±0.03, h123km, h123km±.8km: pP-P, n528, σ1§06/239, mb5.4/90, 82C-21D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.62**	**271**	*eP*	**P**	**22 10 39.9**	**+1.9**
DZM				*e*S	**S**	**22 11 32.5**	**+1.4**
DZM	**Mont Dzumac**	**4.62**	**271**	P	**P**	**22 10 39.8**	**+1.8**
	172nm,0.3s,baz=137,slow=4.5,SNR=2035						
DZM				S	**S**	**22 11 31.8**	**+0.8**
	274nm,0.3s,baz=121,slow=22,SNR=14						
DZM				LR	LR	22 11 58.7	
	comp=Z,3μm,21.1s,baz=38,slow=32						
RAO	**Raoul Island**	**11.87**	**128**	LR	LR	22 15 53.0	
	comp=Z,3μm,20.9s,baz=259,slow=32						
HIZ	**Hauiti**	**16.48**	**170**	*eP*	**P**	**22 13 16.1**	**+1.9**
HIZ	**Hauiti**	**16.48**	**170**	PN	**P**	**22 13 16.1**	**+1.9**
URZ	**Urewera**	**16.69**	**164**	P	**P**	**22 13 18.2**	**+1.4**
	6.3nm,0.3s,baz=356,slow=7.8,SNR=43						
URZ				LR	LR	22 18 08.8	
	comp=Z,3μm,21.3s,baz=119,slow=31						
HNR	**Honiara**	**16.84**	**317**	*eP*	**P**	**22 13 20.4**	**+1.6**
HNR				pmax	pmax		
	comp=Z,626nm,1.0s						
HNR	**Honiara**	**16.84**	**317**	P	**P**	**22 13 19.7**	**+0.9**
	comp=Z,17nm,0.3s,baz=220,slow=3.7,SNR=9.9						
HNR	**Honiara**	**16.84**	**317**	*eP*	**P**	**22 13 20.4**	**+1.5**
	comp=Z,626nm,1.0s						
BKZ	**Black Stump Fm**	**17.42**	**167**	*eP*	**P**	**22 13 26.2**	**+0.5**
BKZ	**Black Stump Fm**	**17.42**	**167**	PN	**P**	**22 13 26.2**	**+0.5**
AFI	**Afiamalu**	**17.98**	**65**	*eP*	**P**	**22 13 30.1**	**-2.5**
AFI				pmax	pmax		
	comp=Z,132nm,0.9s						
AFI	**Afiamalu**	**17.98**	**65**	P	**P**	**22 13 30.1**	**-2.5**
	comp=Z,6.4nm,0.3s,baz=39,slow=20,SNR=18						
AFI				LR	LR	22 18 56.1	
	comp=Z,2μm,21.1s,baz=16,slow=32						
AFI	**Afiamalu**	**17.98**	**65**	*eP*	**P**	**22 13 30.1**	**-2.5**
	comp=Z,132nm,0.9s						
TSZ	**Takapari Road**	**18.17**	**169**	*eP*	**P**	**22 13 34.3**	**-0.3**
TSZ	**Takapari Road**	**18.17**	**169**	PN	**P**	**22 13 34.0**	**-0.6**
MRZ	**Mangatainoka R**	**18.70**	**170**	*eP*	**P**	**22 13 38.9**	**-1.4**
MRZ	**Mangatainoka R**	**18.70**	**170**	PN	**P**	**22 13 38.8**	**-1.4**
BFZ	**Birch Farm**	**18.83**	**169**	P	**P**	**22 13 39.9**	**-1.8**
BFZ	**Birch Farm**	**18.83**	**169**	PN	**P**	**22 13 40.1**	**-1.6**
SNZO	**South Karori**	**19.21**	**172**	*eP*	**P**	**22 13 44.5**	**-1.2**
	comp=Z,96nm,0.7s						
THZ	**Tophouse**	**19.50**	**177**	*eP*	**P**	**22 13 48.6**	**-0.2**
THZ	**Tophouse**	**19.50**	**177**	PN	**P**	**22 13 48.9**	**0.0**
KHZ	**Kahutara**	**20.19**	**175**	*eP*	**P**	**22 13 54.9**	**-1.0**
KHZ	**Kahutara**	**20.19**	**175**	PN	**P**	**22 13 54.4**	**-1.6**
LTZ	**Lake Taylor**	**20.49**	**178**	*eP*	**P**	**22 13 58.9**	**-0.1**
LTZ	**Lake Taylor**	**20.49**	**178**	PN	**P**	**22 13 58.8**	**-0.1**
WVZ	**Waitaha Valley**	**20.78**	**181**	*eP*	**P**	**22 14 01.9**	**0.0**
RIV	**Riverview**	**21.24**	**233**	*eP*	**P**	**22 14 09.4**	**+2.8**
RPZ	**Rata Peaks**	**21.41**	**181**	P	**P**	**22 14 09.4**	**+1.2**
	comp=Z,62nm,0.8s,mb5.0,baz=360,slow=5.6,SNR=35						
RPZ				LR	LR	22 21 22.0	
	comp=Z,2μm,18.8s,baz=265,slow=33						
CNB	**Canberra Magne**	**23.25**	**231**	*eP*	**P**	**22 14 28.8**	**+2.7**
	comp=Z,2μm,0.7s						
CTA	**Charters Tower**	**23.56**	**271**	↓*iP*	**P**	**22 14 31.6**	**+2.3**
	comp=Z,68nm,0.8s,mb5.0						
CTA	**Charters Tower**	**23.56**	**271**	↓*iP*	**P**	**22 14 31.6**	**+2.3**
CTA				pmax	pmax		
	comp=Z,68nm,0.8s						
CTA	**Charters Tower**	**23.56**	**271**	P	**P**	**22 14 31.1**	**+1.8**
	comp=Z,77nm,0.7s,mb5.1,baz=92,slow=10,SNR=59						
CTAO	**Charters Tower**	**23.56**	**271**	*eP*	**P**	**22 14 31.7**	**+2.4**
CTAO				pmax	pmax		
	comp=Z,132nm,0.9s,mb5.3						
CTAO	**Charters Tower**	**23.56**	**271**	*eP*	**P**	**22 14 31.7**	**+2.4**
	comp=Z,132nm,0.9s,mb5.3						
PMG	**Port Moresby**	**26.55**	**295**	P	**P**	**22 14 57.8**	**+0.3**
	comp=Z,137nm,0.7s,mb5.6,baz=117,slow=5.2,SNR=32						
RAR	**Rarotonga**	**26.76**	**93**	LR	LR	22 22 35.4	
	comp=Z,1μm,22.0s,baz=263,slow=29						
TOO	**Toolangi**	**27.06**	**230**	*eP*	**P**	**22 15 03.6**	**+1.7**
	comp=Z,15nm,0.8s,mb4.6						
TOO	**Toolangi**	**27.06**	**230**	*eP*	**P**	**22 15 03.6**	**+1.7**
TOO				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**28.16**	**244**	⇑*iP*	**P**	**22 15 12.3**	**+0.3**
	comp=Z,39nm,0.8s,mb5.0						
STKA				*e*PCP	PcP	22 18 22.8	-0.2
STKA				*e*SCP		22 21 55.7	
STKA	**Stephens Creek**	**28.16**	**244**	P	**P**	**22 15 12.0**	**+0.1**
	comp=Z,51nm,0.7s,mb5.2,baz=84,slow=9.3,SNR=91						
STKA				PcP	PcP	22 18 22.9	-0.1
	comp=Z,19nm,0.6s,baz=280,slow=1.2,SNR=8.7						
STKA				ScP		22 21 52.8	
	comp=Z,8.9nm,0.9s,baz=9.6,slow=1.8,SNR=6.9						
TAU	**Tasmania Unive**	**28.76**	**219**	*eP*	**P**	**22 15 16.2**	**-0.9**
TAU				pmax	pmax		
	comp=Z,36nm,1.2s,mb4.9						
TAU	**Tasmania Unive**	**28.76**	**219**	*eP*	**P**	**22 15 16.1**	**-1.0**
	comp=Z,36nm,1.2s,mb4.9						
ADE	**Adelaide**	**31.25**	**239**	*eP*	**P**	**22 15 40.0**	**+0.7**
ASAR	**Alice Springs**	**34.52**	**260**	P	**P**	**22 16 07.0**	**-0.5**
	comp=Z,218nm,0.8s,mb6.0,baz=87,slow=9.0,SNR=591						
ASAR				PcP	PcP	22 18 39.1	-0.9
	comp=Z,15nm,0.7s,baz=99,slow=3.2,SNR=7.1						
ASAR				ScP		22 22 14.2	
	comp=Z,3.8nm,0.8s,baz=103,slow=3.9,SNR=5.5						
ASAR				PKiKP		22 26 01.1	
	comp=Z,0.8nm,0.7s,baz=88,slow=2.3,SNR=4.9						
ASPA	**Alice Springs**	**34.52**	**260**	⇑*iP*	**P**	**22 16 06.9**	**-0.6**
WB2	**Warramunga Arr**	**34.61**	**267**	⇑*iP*	**P**	**22 16 07.0**	**-1.3**
WB2				*e*PCP	PcP	22 18 40.3	0.0
WB2				*e*S	**S**	**22 21 35.2**	**+7.6**
WB2				*e*PCS		22 22 24.5	
WRAB	**Tennant Creek**	**34.61**	**267**	*c iP*	**P**	**22 16 07.5**	**-0.8**
WRAB	**Tennant Creek**	**34.61**	**267**	*eP*	**P**	**22 16 06.6**	**-1.7**
	comp=Z,62nm,0.6s,mb5.6						
WRA	**Warramunga Arr**	**34.62**	**267**	P	**P**	**22 16 07.1**	**-1.3**
	comp=Z,28nm,0.4s,mb5.5,baz=96,slow=8.4,SNR=154						
WRA				PcP	PcP	22 18 39.9	-0.4
	comp=Z,16nm,0.8s,baz=100,slow=2.8,SNR=7.7						
WRA				S	**S**	**22 21 22.2**	**-5.6**
	comp=Z,2.4nm,0.9s,baz=98,slow=14,SNR=2.8						
WRA				ScP		22 22 15.1	
	comp=Z,3.1nm,0.8s,baz=96,slow=4.0,SNR=4.6						
YOMI	**Yo Moklole**	**35.74**	**299**	⇑*eP*	**P**	**22 16 16.1**	**-1.9**
	comp=Z,152nm,0.6s,mb6.1						
MENI	**Mendum Tagoi**	**35.93**	**299**	⇓*eP*	**P**	**22 16 18.5**	**-1.1**
MENI				pmax	pmax		
	comp=Z,134nm,0.8s,mb5.9						
MENI	**Mendum Tagoi**	**35.93**	**299**	⇓*eP*	**P**	**22 16 18.5**	**-1.1**
	comp=Z,134nm,0.8s,mb5.9						
TBI	**Tubuai**	**36.00**	**99**	*e*LQ		22 24 11.4	
TBI				*e*LR	LR	22 26 02.7	
	comp=Z,2μm,29.2s						
PPT	**Papeete**	**36.89**	**90**	*e*LQ		22 24 53.3	
PPT				*e*LR	LR	22 26 30.0	
	comp=Z,2μm,28.5s						
PPT	**Papeete**	**36.89**	**90**	LR	LR	22 27 41.9	
	comp=Z,1μm,18.0s,baz=254,slow=30						
KAKA	**Kakadu**	**38.28**	**278**	⇑*iP*	**P**	**22 16 38.8**	**-0.4**
	comp=Z,122nm,0.6s,mb5.9						
FORT	**Forrest**	**39.53**	**248**	*eP*	**P**	**22 16 49.2**	**-0.2**
	comp=Z,6μm,0.6s						
FITZ	**Fitzroy Crossi**	**43.05**	**267**	⇑*iP*	**P**	**22 17 19.0**	**+0.5**
	comp=Z,752nm,0.7s						
FITZ	**Fitzroy Crossi**	**43.05**	**267**	P	**P**	**22 17 19.0**	**+0.5**
	comp=Z,1μm,0.8s,baz=140,slow=4.7,SNR=440						
MBWA	**Marble Bar**	**47.85**	**261**	*eP*	**P**	**22 17 56.1**	**-0.4**
	comp=Z,252nm,0.8s,mb6.1						
TAOE	**Nuku Hiva Isla**	**48.31**	**82**	*e*LR	LR	22 31 48.3	
KLBR	**Kellerberrin**	**48.35**	**247**	⇑*iP*	**P**	**22 17 59.3**	**-0.9**
	comp=Z,2μm,0.6s						
DRV	**Dumont d'Urvil**	**48.68**	**196**	S	**S**	**22 25 00.0**	**+6.1**
NWAO	**Narrogin (SRO)**	**48.74**	**245**	*eP*	**P**	**22 18 02.1**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,154nm,0.9s						
NWAO	**Narrogin (SRO)**	**48.74**	**245**	LR	LR	22 37 35.2	
	comp=Z,716nm,19.0s,baz=203,slow=34						
NWAO	**Narrogin (SRO)**	**48.74**	**245**	*eP*	**P**	**22 18 02.1**	**-1.1**
	comp=Z,154nm,0.9s,mb5.9						
MUN	**Mundaring**	**49.64**	**246**	⇑*iP*	**P**	**22 18 09.5**	**-0.6**
	comp=Z,590nm,1.3s,mb6.4						
MUN	**Mundaring**	**49.64**	**246**	⇑*iP*	**P**	**22 18 09.5**	**-0.6**
MUN				pmax	pmax		
	comp=Z,590nm,1.3s,mb6.4						
KEDI	**Kedomdong**	**54.78**	**275**	⇑*eP*	**P**	**22 18 47.8**	**-0.8**
KEDI				pmax	pmax		
	comp=Z,88nm,0.5s,mb6.0						
KEDI	**Kedomdong**	**54.78**	**275**	⇑*eP*	**P**	**22 18 47.8**	**-0.8**
	comp=Z,88nm,0.5s,mb6.0						
RATI	**Rata**	**55.23**	**275**	⇓*eP*	**P**	**22 18 52.1**	**+0.2**
	comp=Z,374nm,0.6s						
VNDA	**Vanda**	**55.52**	**183**	P	**P**	**22 18 51.5**	**-1.8**
	comp=Z,5.8nm,0.8s,mb4.7,baz=3.0,slow=7.7,SNR=51						
VNDA				pP	pP	22 19 20.4	-2.2
	comp=Z,3.2nm,0.7s,baz=348,slow=8.3,SNR=2.8						
VNDA				LR	LR	22 38 13.6	
	comp=Z,521nm,19.6s,baz=25,slow=31						
SBA	**Scott Base**	**55.70**	**181**	*eP*	**P**	**22 18 54.2**	**-0.4**
SBA				*e*PP	pP	22 19 22.1	-1.8
SBA				pmax	pmax		
	comp=Z,73nm,1.0s,mb5.7						
SBA	**Scott Base**	**55.70**	**181**	*eP*	**P**	**22 18 54.2**	**-0.4**
	comp=Z,73nm,1.0s,mb5.7						
SBA				*e*pP	pP	22 19 22.1	-1.8
KELI	**Kelakatan**	**56.37**	**275**	⇓*eP*	**P**	**22 18 59.2**	**-0.9**
	comp=Z,623nm,0.3s						
SRDI	**Scrawed**	**56.60**	**275**	⇓*eP*	**P**	**22 19 00.4**	**-1.3**
SRDI				pmax	pmax		
	comp=Z,101nm,0.7s,mb6.0						
SRDI	**Scrawed**	**56.60**	**275**	⇓*eP*	**P**	**22 19 00.4**	**-1.3**
	comp=Z,101nm,0.7s,mb6.0						
CASY	**Casey**	**58.23**	**205**	*eP*	**P**	**22 19 10.6**	**-1.8**
TSM	**Tawau**	**58.61**	**290**	P	**P**	**22 19 16.1**	**+0.4**
KKM	**Kota Kinabalu**	**60.90**	**291**	P	**P**	**22 19 31.9**	**+0.5**
KSM	**Kuching**	**64.04**	**283**	*eP*	**P**	**22 19 52.1**	**-0.3**
KSM				*e*PP	PP	22 22 11.3	-5.0
PULI	**Pulasari**	**64.92**	**273**	⇑*eP*	**P**	**22 19 55.5**	**-2.6**
	comp=Z,196nm,0.8s,mb6.0						
PENI	**Pendagan**	**65.94**	**274**	⇑*eP*	**P**	**22 20 01.2**	**-3.5**
PENI				pmax	pmax		
	comp=Z,153nm,0.6s,mb6.0						
PENI	**Pendagan**	**65.94**	**274**	⇑*eP*	**P**	**22 20 01.2**	**-3.5**
	comp=Z,153nm,0.6s,mb6.0						
MJAR	**Matsushiro Arr**	**66.35**	**331**	P	**P**	**22 20 05.6**	**-1.3**
	comp=Z,36nm,0.6s,mb5.4,baz=167,slow=7.2,SNR=78						
MJAR				pP	pP	22 20 35.7	-1.5
	comp=Z,6.8nm,0.9s,baz=139,slow=4.9,SNR=1.7						
MAJO	**Matsushiro**	**66.36**	**331**	*eP*	**P**	**22 20 04.8**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,49nm,0.6s,mb5.5						
MAJO	**Matsushiro**	**66.36**	**331**	*eP*	**P**	**22 20 04.8**	**-2.1**
	comp=Z,49nm,0.6s,mb5.5						
MAT	**Matsushiro**	**66.36**	**331**	*eP*	**P**	**22 20 06.0**	**-0.9**
MAT				*e*S	S	22 28 49.0	+3.9
MAT				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.4						
MAT	**Matsushiro**	**66.36**	**331**	*eP*	**P**	**22 20 06.0**	**-0.9**
	comp=Z,63nm,1.0s,mb5.4						
MAT				*e*S	S	22 28 49.0	+3.9

MAW pP pP 22 21 38.6 +1.2
comp=Z,23nm,1.1s,baz=133,slow=3.8,SNR=5.1
MAW LR LR 22 53 20.4
comp=Z,361nm,18.8s,baz=327,slow=34
DL2 Dalian 76.63 322 P **P** **22 21 08.3 +0.4**
DL2 S S 22 30 48.1 +5.5
DL2 AMB AMB
comp=Z,60nm,0.9s,mb5.3
DL2 AMB AMB
comp=Z,380nm,5.4s
MDJ Mudanjiang 76.73 331 P **P** **22 21 08.6 +0.3**
MDJ PCP PcP 22 21 18.9 -0.6
MDJ PP PP 22 24 02.5 -1.1
MDJ S S 22 30 46.6 +3.0
MDJ AMB AMB
comp=Z,45nm,1.0s,mb5.2
MDJ AMB AMB
comp=Z,383nm,8.8s
MDJ LR LR
comp=N,300nm,35.6s
MDJ LR LR
comp=E,223nm,38.3s
MDJ LR LR
comp=Z,508nm,39.2s
MDJ Mudanjiang 76.73 331 *eP* **P** **22 21 08.5 +0.2**
comp=Z,40nm,0.9s,mb5.2
NIKO Nikolski 76.84 12 *eP* **P** **22 21 07.6 -1.2**
NIKO *epP* pP 22 21 39.6 -0.4
KKTK Khon Kaen 77.33 294 ⇑P **P** **22 21 13.0 +0.8**
comp=Z,1μm,0.4s
TIA Tai'an 77.53 318 ⇑P **P** **22 21 13.0 0.0**
SNY Shenyang 77.61 325 ⇑P **P** **22 21 11.3 -1.9**
SNY AP pP 22 21 40.3 -4.2
SNY S S 22 30 46.0 -7.1
SNY AMB AMB
comp=Z,40nm,0.9s,mb5.2
SNY LR LR
comp=N,220nm,13.3s
SNY LR LR
comp=Z,160nm,24.6s
NNT Nongplab 78.31 289 P **P** **22 21 19.5 +1.9**
ENH Enshi 79.15 309 *eP* **P** **22 21 21.5 -0.4**
comp=Z,85nm,0.8s,mb5.6
GYA Guiyang 79.20 304 ⇑*iP* **P** **22 21 22.8 +0.5**
GYA AMB AMB
comp=Z,60nm,0.8s,mb5.5
GYA AMB AMB
comp=Z,400nm,6.9s
NST Nakhon Sawan 79.33 292 ⇓P **P** **22 21 24.5 +1.4**
comp=Z,108nm,0.7s,mb5.8
KLR Kul'dur 79.44 335 *d iP* **P** **22 21 21.0 -2.1**
KLR *e* 22 24 19.5
KLR pmax pmax
comp=Z,1.0nm,7.5s
KLR pmax pmax
comp=E,76nm,2.6s
KLR pmax pmax
comp=Z,190nm,2.6s,mb5.5
NANT Nan 80.26 295 ⇑P **P** **22 21 30.0 +1.9**
comp=Z,250nm,0.6s,mb6.2
BJT Baijiatuau 80.54 320 *eP* **P** **22 21 29.2 0.0**
BJT pmax pmax
comp=Z,63nm,0.8s
BJT Baijiatuau 80.54 320 *eP* **P** **22 21 29.2 +0.1**
comp=Z,63nm,0.8s,mb5.5
BJI Beijing 80.55 320 P **P** **22 21 29.6 +0.4**
BJI S S 22 31 28.5 +4.4
BJI AMB AMB
comp=Z,78nm,0.9s,mb5.5
BJI AMB AMB
comp=Z,908nm,9.1s
BJI Beijing 80.55 320 P **P** **22 21 29.6 +0.4**
BJI *PP pP 22 22 02.6 +2.0
BJI *SP sP 22 22 13.4 -0.8
BJI S S 22 31 28.5 +4.4
BJI PS PS 22 32 22.0 -6.0
BJI *SS 22 32 50.9
BJI pmax pmax
comp=Z,78nm,0.9s,mb5.5
BJI Beijing 80.55 320 P **P** **22 21 29.6 +0.4**
comp=Z,78nm,0.9s,mb5.5
BJI pP pP 22 22 02.6 +2.0
BJI sP sP 22 22 13.4 -0.8
BJI PP PP 22 24 53.6 +18
BJI S S 22 31 28.5 +4.4
BJI PS PS 22 32 22.0 -6.0
BJI sS 22 32 50.9
BJI SS SS 22 37 16.9 +35
BDT Bhumibol Dam 81.00 293 P **P** **22 21 33.0 +1.0**
KMI Kunming 81.58 301 P **P** **22 21 36.3 +1.3**
KMI PP PP 22 24 44.1 -0.5
KMI S S 22 31 40.9 +5.8
KMI SS SS 22 36 57.1 -0.5
KMI AMB AMB
comp=Z,50nm,0.7s,mb5.5
KMI AMB AMB
comp=Z,542nm,5.5s
KMI LR LR
comp=N,98nm,22.9s
KMI LR LR
comp=E,151nm,17.9s
KMI LR LR
comp=Z,272nm,33.8s
KMI Kunming 81.58 301 P **P** **22 21 36.3 +1.3**
KMI *PP pP 22 22 10.7 +4.3
KMI 22 24 44.1
KMI PPP PPP 22 26 36.2 -1.0
KMI S S 22 31 40.9 +5.8
KMI *SS 22 32 41.1
KMI SS SS 22 36 57.1 -0.5
KMI SSS SSS 22 40 22.0 +0.4
KMI pmax pmax
comp=Z,50nm,0.7s,mb5.5
KMI MLR MLR
comp=Z,270nm,33.8s
KMI Kunming 81.58 301 P **P** **22 21 36.3 +1.3**
comp=Z,50nm,0.7s,mb5.5
KMI pP pP 22 22 10.7 +4.3
KMI PP PP 22 24 44.1 -0.5
KMI PPP PPP 22 26 36.2 -1.0
KMI S S 22 31 40.9 +5.8
KMI ScS ScS 22 31 53.5 +3.7
KMI sS 22 32 41.1
KMI SS SS 22 36 57.1 -0.5
KMI SSS SSS 22 40 22.0 +0.4
KMI LR LR
comp=Z,270nm,33.8s
CMAR Chiang Mai Arr 81.59 294 P **P** **22 21 36.1 +1.0**
comp=Z,39nm,0.8s,mb5.3,baz=134,slow=4.0,SNR=190
CMAR PKiKP 22 26 57.9
comp=Z,0.4nm,0.5s,baz=198,slow=1.5,SNR=5.8
CMAR PKKPbc 22 40 06.0
comp=Z,0.4nm,0.9s,baz=276,slow=4.0,SNR=4.3
XAN Xi'an 81.63 312 P **P** **22 21 35.3 +0.3**
XAN AMB AMB
comp=Z,38nm,0.9s,mb5.2
CHG Chiang Mai 81.75 294 ⇑P **P** **22 21 37.3 +1.4**
comp=Z,52nm,0.8s,mb5.4
SYO Syowa Base 82.62 196 ⇓P **P** **22 21 36.1 -3.3**
SYO Syowa Base 82.62 196 ⇓PcP PcP 22 21 41.7 -2.7
SYO Syowa Base 82.62 196 ⇓pP pP 22 22 10.7 -0.2
CD2 Chengdu 83.67 307 P **P** **22 21 46.0 +0.5**
CD2 AP pP 22 22 17.9 +0.8
CD2 S S 22 31 57.4 +1.3
CD2 AMB AMB
comp=Z,30nm,1.1s,mb5.0
CD2 AMB AMB
comp=Z,580nm,5.3s
CD2 LR LR
comp=E,200nm,13.8s
CD2 LR LR
comp=Z,240nm,26.4s
HHC Hu-ho-hao-te 83.82 319 ⇑P **P** **22 21 47.1 +1.1**
HHC AP pP 22 22 18.3 +0.7
HHC PP PP 22 25 04.0 +1.8
HHC SKS SKS 22 31 54.6 +1.2
HHC S S 22 31 58.4 +1.1
HHC SS SS 22 37 30.8 +0.8
HHC AMB AMB
comp=Z,90nm,1.2s,mb5.5
HHC AMB AMB
comp=Z,643nm,8.9s
HHC LR LR
comp=N,112nm,17.6s
HHC LR LR
comp=E,161nm,19.4s
HHC LR LR
comp=Z,258nm,21.6s
BTO Baotou 84.63 318 *eP* **P** **22 21 49.5 -0.6**
HIA Hailar 84.73 329 *eP* **P** **22 21 50.1 -0.2**
HIA pmax pmax
comp=Z,12nm,0.7s
HIA Hailar 84.73 329 *eP* **P** **22 21 50.1 -0.2**
comp=Z,12nm,0.7s,mb4.9
MAIT Maitri 86.14 187 *eP* **P** **22 21 56.4 -0.4**
LZH Lanzhou 86.24 311 ⇑P **P** **22 21 59.9 +1.8**
LZH AP pP 22 22 29.0 -1.0
LZH XP sP 22 22 41.5 -1.9
LZH AMB AMB
comp=Z,153nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,700nm,4.0s
LZH Lanzhou 86.24 311 ⇑P **P** **22 21 59.9 +1.8**
LZH *PP pP 22 22 29.0 -1.0
LZH pmax pmax
comp=Z,153nm,1.5s,mb5.7
SNAA Sanae 86.25 182 ⇑*iP* **P** **22 21 55.9 -1.4**
SNAA Sanae 86.25 182 ⇑*i* **P** **22 21 58.3 +1.0**
SNAA Sanae 86.25 182 ⇑*i* pP 22 22 25.8 -3.3
SNAA Sanae 86.25 182 ⇑*i* sP 22 22 42.5 -0.1
VNA3 Neumayer Olymp 86.76 180 ⇑*iP* **P** **22 22 00.5 +0.7**
VNA3 Neumayer Olymp 86.76 180 ⇑*i* **P** **22 22 02.8 +3.0**
VNA3 Neumayer Olymp 86.76 180 ⇑*i* pP 22 22 32.3 +0.6
VNA3 Neumayer Olymp 86.76 180 ⇑*i* sP 22 22 45.1 0.0
KHMM Horse Mountain 86.95 43 *eP* **P** **22 22 02.8 +1.4**
KHMM *epP* pP 22 22 34.7 +1.4
VNA2 Neumayer--Watz 87.08 180 ⇑*iP* **P** **22 22 02.5 +1.2**
VNA2 Neumayer--Watz 87.08 180 ⇑*i* **P** **22 22 04.6 +3.3**
VNA2 Neumayer--Watz 87.08 180 ⇑*i* pP 22 22 33.2 0.0
VNA2 Neumayer--Watz 87.08 180 ⇑*i* sP 22 22 46.4 -0.3
KRMB Red Mountain 87.19 43 *eP* **P** **22 22 03.8 +1.3**
KRMB *epP* pP 22 22 36.3 +1.8
SVW2 Sparrevohn 87.22 15 *eP* **P** **22 22 04.9 +2.7**
VNA1 Neumayer--Stat 87.36 180 ⇑*iP* **P** **22 22 04.8 +2.1**
VNA1 Neumayer--Stat 87.36 180 ⇑*i* **P** **22 22 07.2 +4.5**
VNA1 Neumayer--Stat 87.36 180 ⇑*i* pP 22 22 33.1 -1.5
MWC Mount Wilson 87.40 51 *eP* **P** **22 22 04.1 +0.3**
MWC *e**PP pP 22 22 35.9 +0.2
WDC Whiskeytown Da 87.55 44 *eP* **P** **22 22 04.7 +0.4**
WDC *e**PP pP 22 22 37.0 +0.8
WDC pmax pmax
comp=Z,16nm,0.8s,mb5.1
WDC Whiskeytown Da 87.55 44 *eP* **P** **22 22 04.7 +0.4**
comp=Z,16nm,0.8s,mb5.1
WDC *epP* pP 22 22 37.0 +0.8
CMB Columbia Colle 87.66 47 *eP* **P** **22 22 05.0 +0.1**
CMB *e**PP pP 22 22 36.8 0.0
CMB pmax pmax
comp=Z,54nm,1.2s,mb5.5
CMB Columbia Colle 87.66 47 *eP* **P** **22 22 05.0 +0.1**
comp=Z,54nm,1.2s,mb5.5
CMB *epP* pP 22 22 36.8 0.0
YBH Yreka Blue Hor 88.06 43 *eP* **P** **22 22 07.5 +0.8**
YBH *e**PP pP 22 22 39.6 +0.9
YBH pmax pmax
comp=Z,19nm,0.7s
YBH Yreka Blue Hor 88.06 43 P **P** **22 22 07.3 +0.6**
comp=Z,18nm,0.6s,mb5.3,baz=167,slow=1.2,SNR=44
YBH pP pP 22 22 38.6 -0.1
comp=Z,7.3nm,0.9s,baz=176,slow=4.3,SNR=2.2
YBH Yreka Blue Hor 88.06 43 *eP* **P** **22 22 07.5 +0.8**
comp=Z,19nm,0.7s,mb5.2
YBH *epP* pP 22 22 39.6 +1.0
SLKM Skilak Lake 88.14 18 *eP* **P** **22 22 05.3 -1.3**
SLKM *e**PP pP 22 22 38.4 -0.2
HUMO Hull Mountain 88.37 42 *eP* **P** **22 22 08.9 +0.8**
comp=Z,30nm,0.9s,mb5.3
HUMO *epP* pP 22 22 41.2 +1.0
OMM Old Mammoth Mi 88.40 48 *eP* **P** **22 22 09.0 +0.5**
OMM *epP* pP 22 22 41.7 +1.3
LBCM Butte Creek Ri 88.46 44 P **P** **22 22 09.4 +0.8**
LTIM Timbered Crate 88.54 44 P **P** **22 22 09.9 +0.8**
MTUM Tungsten Hills 88.57 49 *eP* **P** **22 22 10.6 +1.4**
MTUM *epP* pP 22 22 42.9 +1.7
TTA Tatalina 88.71 14 *eP* **P** **22 22 09.9 +0.6**
WCN Washoe City 88.72 46 *eP* **P** **22 22 10.5 +0.6**
WCN *e**PP pP 22 22 43.2 +1.3
WCN pmax pmax
comp=Z,31nm,1.1s,mb5.2
WCN Washoe City 88.72 46 *eP* **P** **22 22 10.5 +0.6**
comp=Z,31nm,1.1s,mb5.2
WCN *epP* pP 22 22 43.2 +1.2
TNA Tin City 88.94 8 *eP* **P** **22 22 09.9 -0.4**
comp=Z,3.6nm,0.9s,mb4.4
MPOR Mary's Peak 89.03 40 P **P** **22 22 13.1 +1.9**
PAHR Pah Rah Range 89.18 46 *eP* **P** **22 22 12.2 +0.2**
comp=Z,7.7nm,0.7s,mb4.8
NVAR Mina Array Bea 89.28 48 P **P** **22 22 13.1 +0.6**
comp=Z,29nm,0.8s,mb5.4,baz=229,slow=8.7,SNR=32
NVAR pP pP 22 22 44.5 -0.1
comp=Z,3.5nm,1.0s,baz=72,slow=18,SNR=2.0
NVAR PKKPbc 22 39 49.9
comp=Z,0.8nm,0.6s,baz=121,slow=0.6,SNR=5.7
NVAR LR LR 22 55 27.5
comp=Z,202nm,21.3s,baz=220,slow=31
PMR Palmer 89.34 18 *eP* **P** **22 22 12.5 +0.3**
MNV Mina 89.38 48 *eP* **P** **22 22 13.3 +0.3**
MNV *e**PP pP 22 22 45.6 +0.5
MOD Modoc 89.68 44 *eP* **P** **22 22 14.8 +0.5**
comp=Z,26nm,0.9s,mb5.4
MOD *epP* pP 22 22 47.0 +0.6
TPH Tonopah 89.85 48 *eP* **P** **22 22 15.9 +0.7**
TPH *e**PP pP 22 22 48.3 +1.0
TPH pmax pmax
comp=Z,39nm,1.0s,mb5.5
TPH Tonopah 89.85 48 *eP* **P** **22 22 15.9 +0.7**
comp=Z,39nm,1.0s,mb5.5
TPH *epP* pP 22 22 48.2 +0.9
LDFC Landfair 89.95 52 *eP* **P** **22 22 16.4 +0.6**
LDFC *epP* pP 22 22 48.5 +0.6
DIV Divide 89.95 19 *eP* **P** **22 22 13.9 -1.2**
comp=Z,59nm,1.0s,mb5.7
DIV *epP* pP 22 22 46.4 -0.8
BILL Bilibino 90.09 358 *c iP* **P** **22 22 15.1 -0.6**
BILL *i* *PP pP 22 22 48.1 +0.3
BILL *e* 22 25 48.5
BILL *eS* S 22 32 40.0 -16
BILL *ePS* PS 22 34 11.1 -11
BILL pmax pmax
comp=Z,29nm,1.2s,mb5.3
BILL Bilibino 90.09 358 *eP* **P** **22 22 15.0 -0.6**
comp=Z,16nm,0.8s,mb5.2
BILL *epP* pP 22 22 47.4 -0.3
YAK Yakutsk 90.34 342 *i P* **P** **22 22 17.0 0.0**
ULN Ulaanbaatar 90.48 323 *eP* **P** **22 22 18.6 +0.6**
ULN pmax pmax
comp=Z,33nm,0.9s,mb5.5
ULN Ulaanbaatar 90.48 323 *eP* **P** **22 22 18.6 +0.6**
comp=Z,33nm,0.9s,mb5.5
SHL Shillong 90.55 297 *eP* **P** **22 22 19.5 +0.7**
GTA Gaotai 90.66 313 ⇑P **P** **22 22 20.0 +1.0**
GTA AP pP 22 22 51.5 +0.4
GTA XP sP 22 23 03.8 -0.7
GTA PP PP 22 25 58.3 +0.3
GTA SKS SKS 22 32 37.8 +0.6
GTA S S 22 33 03.3 +1.6
GTA SS SS 22 39 11.3 +1.5
GTA AMB AMB
comp=Z,27nm,1.1s,mb5.3
GTA AMB AMB
comp=Z,321nm,6.8s
GTA LR LR
comp=N,96nm,18.6s
GTA LR LR
comp=E,119nm,23.9s
GTA LR LR
comp=Z,183nm,28.9s
VIPM Ingram Point 90.81 42 P **P** **22 22 20.1 +0.5**
SONM Songino Array 90.84 322 P **P** **22 22 19.9 +0.3**
comp=Z,18nm,0.5s,mb5.4,baz=144,slow=2.9,SNR=164
SONM pP pP 22 22 50.0 -1.8
comp=Z,4.4nm,1.0s,baz=164,slow=9.4,SNR=1.3
SONM PKKPbc 22 39 44.1
comp=Z,1.0nm,0.8s,baz=232,slow=3.2,SNR=6.9
SONM LR LR 23 01 00.4
comp=Z,94nm,20.6s,baz=105,slow=34
BBB Bella Bella 90.88 32 P **P** **22 22 19.9 +0.2**
comp=Z,15nm,0.7s,mb5.2,baz=193,slow=6.4,SNR=3.2
LMW Ladd Mountain 90.94 39 P **P** **22 22 21.5 +1.4**
BMN Battle Mountai 90.98 46 *eP* **P** **22 22 21.0 +0.5**
BMN *e**PP pP 22 22 53.6 +1.0
BMN pmax pmax
comp=Z,53nm,1.3s,mb5.5
BMN Battle Mountai 90.98 46 *eP* **P** **22 22 21.0 +0.5**
comp=Z,53nm,1.3s,mb5.5
BMN *epP* pP 22 22 53.5 +0.9
WVOR Wild Horse Val 91.02 44 *eP* **P** **22 22 21.0 +0.4**
WVOR *e**PP pP 22 22 52.8 +0.1
WVOR pmax pmax
comp=Z,19nm,0.8s,mb5.3
WVOR Wild Horse Val 91.02 44 *eP* **P** **22 22 21.0 +0.4**
comp=Z,19nm,0.8s,mb5.3
WVOR *epP* pP 22 22 52.8 +0.1
TRCR Troy Canyon 91.12 49 *eP* **P** **22 22 20.8 -0.3**
TRCR *epP* pP 22 22 53.2 -0.1
MCK McKinley 91.12 16 *eP* **P** **22 22 19.1 -1.5**
MCK *e**PP pP 22 22 50.4 -2.3
MCK pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
MCK McKinley 91.12 16 *eP* **P** **22 22 19.1 -1.5**
comp=Z,3.9nm,0.8s,mb4.6
MCK *epP* pP 22 22 50.4 -2.4
THY Trims Highway 91.74 18 *eP* **P** **22 22 21.8 -1.6**
THY *epP* pP 22 22 55.2 -0.4
IMA Indian Mountai 91.93 14 *eP* **P** **22 22 24.1 -0.1**
COLA College 92.33 16 *i* P **P** **22 22 24.7 -1.4**
COLA *i* *PP pP 22 22 56.2 -2.0
COLA College 92.33 16 *eP* **P** **22 22 24.3 -1.8**
HAWA Hanford 92.42 40 *eP* **P** **22 22 27.1 +0.2**
comp=Z,1.3nm,0.8s
HAWA *epP* pP 22 22 57.7 -1.4
ELK Elko 92.46 47 *eP* **P** **22 22 27.7 +0.4**
ELK *e**PP pP 22 22 59.6 +0.2
ELK *e**SP sP 22 23 12.0 -0.8
ELK pmax pmax
comp=Z,2.0nm,0.4s
ELK Elko 92.46 47 *eP* **P** **22 22 27.7 +0.4**
comp=Z,1.6nm,0.4s,mb4.6
ELK *epP* pP 22 22 59.6 +0.1
ELK *es*P sP 22 23 11.9 -0.9
ILAR Eielson Array 92.50 17 P **P** **22 22 25.0 -1.9**
comp=Z,9.7nm,0.8s,mb5.1,baz=236,slow=5.5,SNR=76
ILAR pP pP 22 22 57.3 -1.7
comp=Z,11nm,1.1s,baz=234,slow=6.1,SNR=4.6
ILAR PKKPbc 22 39 38.8
comp=Z,1.5nm,0.8s,baz=347,slow=2.6,SNR=15
ILAR LR LR 23 04 23.0
comp=Z,225nm,18.9s,baz=57,slow=36
LSA Lhasa 92.83 301 P **P** **22 22 30.1 +0.9**
LSA Lhasa 92.83 301 *eP* **P** **22 22 30.1 +0.9**
LSA pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
LSA Lhasa 92.83 301 *eP* **P** **22 22 30.1 +0.8**
comp=Z,8.4nm,0.7s,mb5.2
BOD Bodaibo 92.92 333 *eP* **P** **22 22 26.8 -2.2**
BOD pmax pmax
comp=Z,7.0nm,2.0s,mb4.6
PALK Pallekele 93.38 276 *eP* **P** **22 22 33.2 +1.1**
comp=Z,24nm,1.0s,mb5.5
MSU Marysvale 93.58 50 *eP* **P** **22 22 33.5 +1.0**
MSU *e**PP pP 22 23 05.4 +0.8
ZAK Zakamensk 93.92 323 ⇑*iP* **P** **22 22 33.8 +0.2**
ZAK pmax pmax
comp=Z,16nm,1.3s,mb5.2
DAWY Dawson 94.12 19 *eP* **P** **22 22 34.1 -0.1**
DAWY *epP* pP 22 23 05.4 -1.0
TLY Talaya 94.38 325 *eP* **P** **22 22 35.2 -0.5**
TLY *e* 22 33 01.3
TLY pmax pmax
comp=Z,13nm,0.8s,mb5.3
TLY Talaya 94.38 325 *eP* **P** **22 22 35.4 -0.3**
comp=Z,12nm,0.8s,mb5.3
SPUT South Promonto 94.60 47 *eP* **P** **22 22 35.8 -1.2**
TMUT Trail Mountain 94.60 49 *eP* **P** **22 22 38.7 +1.7**
PLCA Paso Flores 94.94 138 P **P** **22 22 38.1 -0.5**
comp=Z,8.3nm,1.1s,mb5.1,baz=180,slow=3.8,SNR=7.3
PLCA LR LR 22 54 48.6
comp=Z,186nm,21.5s,baz=182,slow=29
SRU San Rafael 95.01 50 *eP* **P** **22 22 38.8 -0.1**
PV10 Paradox Valley 95.77 51 *eP* **P** **22 22 42.8 +0.4**
MOY Mondy 95.81 324 *eP* **P** **22 22 40.5 -1.7**
MOY pmax pmax
comp=Z,54nm,2.7s,mb5.5
JIRN Jiri 96.06 297 *eP* **P** **22 22 44.4 +0.5**
comp=Z,20nm,0.8s,mb5.6
ANMO Albuquerque 96.33 55 P **P** **22 22 45.6 +0.6**
comp=Z,2.7nm,0.8s,mb4.8,baz=230,slow=6.0,SNR=6.4
ANMO pP pP 22 23 17.0 -0.2
comp=Z,1.3nm,0.9s,baz=290,slow=12,SNR=2.3
ANMO Albuquerque 96.33 55 P **P** **22 22 45.6 +0.6**
ANMO pP pP 22 23 17.0 -0.2
GUN Gumba 96.41 297 *eP* **P** **22 22 45.4 -0.1**
comp=Z,25nm,0.8s,mb5.7
TXAR Lajitas Array 96.41 61 P **P** **22 22 45.5 0.0**
comp=Z,0.8nm,0.6s,mb4.4,baz=225,slow=5.3,SNR=8.1
TXAR pP pP 22 23 16.7 -1.0
comp=Z,0.1nm,0.3s,baz=225,slow=51,SNR=1.9
TXAR PKKPbc 22 39 29.8
comp=Z,1.6nm,0.6s,baz=102,slow=4.3,SNR=11
TXAR LR LR 22 56 30.6
comp=Z,300nm,21.2s,baz=225,slow=29
TXAR Lajitas Array 96.41 61 P **P** **22 22 45.5 0.0**
TXAR pP pP 22 23 16.7 -1.1
TXAR PKKPbc 22 39 29.8
TXAR LR LR 22 56 30.6
PKI Pulchoki 96.67 297 *eP* **P** **22 22 46.7 0.0**
comp=Z,28nm,0.8s,mb5.7
PKI Pulchoki 96.67 297 *eP* **P** **22 22 46.7 0.0**
PKI pmax pmax
comp=Z,14nm,0.8s,mb5.4
KKN Kakani 96.86 297 *eP* **P** **22 22 47.6 0.0**
comp=Z,32nm,0.8s,mb5.8
KKN Kakani 96.86 297 *eP* **P** **22 22 47.6 0.0**
KKN pmax pmax
comp=Z,16nm,0.8s,mb5.5
DMN Daman 96.93 297 *eP* **P** **22 22 48.3 +0.3**
comp=Z,44nm,0.8s,mb5.9
PDAR Pinedale Array 97.16 47 P **P** **22 22 48.1 -0.5**
comp=Z,1.6nm,0.7s,mb4.6,baz=204,slow=4.1,SNR=12
PDAR pP pP 22 23 20.6 -0.2
comp=Z,0.9nm,0.8s,baz=256,slow=6.1,SNR=1.2
PDAR PKKPbc 22 39 27.1
comp=Z,0.7nm,0.7s,baz=63,slow=3.3,SNR=7.3
GKN Gorkha 97.46 297 *eP* **P** **22 22 49.8 -0.6**
comp=Z,30nm,0.8s,mb5.8
KOLN Koldanda 98.24 297 *eP* **P** **22 22 53.3 -0.6**
comp=Z,11nm,0.8s,mb5.5
INK Inuvik 98.75 18 P **P** **22 22 53.5 -1.7**
comp=Z,0.9nm,0.7s,mb4.4,baz=261,slow=2.4,SNR=4.0
INK pP pP 22 23 26.2 -1.2
comp=Z,1.9nm,0.6s,baz=217,slow=4.5,SNR=5.3
WMQ Urumqi 100.75 313 P P 22 23 05.8 +1.0
WMQ AP 22 23 38.0
WMQ PP PP 22 27 17.8 +1.7
WMQ SKS SKS 22 33 31.4 +0.6
WMQ S S 22 34 28.8 +1.2
WMQ SS SS 22 41 32.8 +1.3
WMQ AMB AMB
comp=Z,7.0nm,1.0s
WMQ AMB AMB
comp=Z,146nm,5.5s
WMQ LR LR
comp=N,189nm,29.4s
WMQ LR LR
comp=E,35nm,29.4s
WMQ LR LR
comp=Z,201nm,31.8s
YKA Yellowknife Ar 102.39 27 P Pdif 22 23 11.2 -0.4
comp=Z,1.3nm,0.9s,baz=251,slow=4.7,SNR=15
YKA pP 22 23 42.7
comp=Z,0.7nm,0.8s,baz=250,slow=4.3,SNR=2.9
YKA PP PP 22 27 10.2 -18
comp=Z,0.3nm,0.8s,baz=257,slow=8.9,SNR=3.3
YKA Yellowknife Ar 102.39 27 P Pdif 22 23 11.2 -0.4
YKA pP 22 23 42.7
YKA PP PP 22 27 10.2 -18
ZAL Zalesovo 105.74 322 Pdiff Pdif 22 23 25.8 -0.8
comp=Z,2.0nm,0.8s,baz=353,slow=5.4,SNR=10
LPAZ La Paz 110.24 118 PKKPbc 22 38 48.4
comp=Z,0.9nm,0.8s,baz=17,slow=5.4,SNR=4.1
BVAR Borovoye Array 114.02 320 Pdiff Pdif 22 24 04.6 +1.5
comp=Z,1.6nm,0.6s,baz=104,slow=6.1,SNR=9.3
BVAR PKP PKPdf 22 27 53.4 +0.1
comp=Z,2.0nm,0.3s,baz=198,slow=1.2,SNR=22

SMDO Samad 119.02 285 P PKPdf 22 28 05.8 +2.0
SNR=11
BIDO Bidbid 119.06 285 P PKPdf 22 28 05.8 +2.0
SNR=5.3
BOSA Boshof 119.82 214 PKP PKPdf 22 28 06.3 +1.2
comp=Z,7.3nm,0.5s,baz=132,slow=2.2,SNR=34
BOSA Boshof 119.82 214 *e*PKPdf PKPdf 22 28 06.3 +1.1
ARU Arti 120.86 323 *i* PKIKP PKPdf 22 28 07.0 +0.5
ARU *e* 22 29 36.7
ARU *e*SS SS 22 45 59.1 +0.2
ARU Arti 120.86 323 *e*PKPdf PKPdf 22 28 06.1 -0.4
RBK Rabkut 121.12 278 P PKPdf 22 28 09.3 +1.4
SNR=18
ASHO Ashiyiah 121.16 286 P PKPdf 22 28 08.4 +0.5
SNR=24
WHFO Wadi Hawf 121.63 278 P PKPdf 22 28 09.8 +0.9
SNR=21
ABTO Aybut 121.92 277 P PKPdf 22 28 10.9 +1.5
SNR=20
LBTB Lobatse 122.49 217 *e*PKIKP PKPdf 22 28 11.5 +1.1
LBTB *e* 22 28 43.3
FRB Frobisher Bay 122.91 27 PKP PKPdf 22 28 09.2 -1.0
comp=Z,2.9nm,0.5s,baz=338,slow=2.1,SNR=5.0
FRB PKKPbc 22 38 03.0
comp=Z,3.3nm,0.7s,baz=93,slow=5.5,SNR=3.1
BDFB Brasilia 126.05 131 PKP PKPdf 22 28 17.1 -0.4
comp=Z,1.1nm,0.4s,baz=296,slow=3.7,SNR=5.7
LSZ Lusaka 128.15 227 *e*PKIKP PKPdf 22 28 22.7 +1.1
LSZ *e* 22 28 55.6
ARCES ARCESS Array B 128.48 345 PKP PKPdf 22 28 20.0 -0.9
comp=Z,2.8nm,0.6s,SNR=20
KMBO Kilima Mbogo 129.65 249 PKP PKPdf 22 28 26.2 +1.6
comp=Z,6.1nm,0.7s,baz=60,slow=5.1,SNR=24
KMBO pPKP 22 28 59.0
comp=Z,3.9nm,1.1s,baz=32,slow=4.8,SNR=3.1
KMBO Kilima Mbogo 129.65 249 *e*PKPdf PKPdf 22 28 26.4 +1.8
KMBO *e*pPKPdf 22 28 58.7
KMBO *e*SKP 22 31 40.9
JOF Joensuu 131.30 337 *e*p PKPdf 22 28 26.6 +0.2
comp=Z,4.0nm,0.7s
JOF Joensuu 131.30 337 *e*PKIKP PKPdf 22 28 26.6 +0.2
JOF pmax pmax
comp=Z,4.0nm,0.7s
TSUM Tsumeb 131.51 214 *e*PKPdf PKPdf 22 28 28.9 +1.0
TSUM *e*pPKPdf 22 29 01.6
TSUM *e*SKP 22 31 43.9
GNI Garni 131.75 305 *i* PKIKP PKPdf 22 28 30.2 +2.3
GNI Garni 131.75 305 PKP PKPdf 22 28 29.2 +1.3
comp=Z,13nm,0.8s,baz=352,slow=5.0,SNR=11
GNI Garni 131.75 305 *e*PKPdf PKPdf 22 28 29.5 +1.6
ZEI Tsey 132.08 308 *e*PKIKP PKPdf 22 28 29.1 +0.7
GOF Gofitskoye 132.32 311 ⇑*i*PKIKP PKPdf 22 28 29.5 +0.7
GOF pmax pmax
comp=Z,13nm,0.8s
KIV Kislovodsk 132.77 310 *i* PKIKP PKPdf 22 28 30.5 +0.8
KIV *e* 22 30 55.0
KIV pmax pmax
comp=Z,10.0nm,1.3s
KIV Kislovodsk 132.77 310 *i* PKP PKPdf 22 28 30.6 +0.9
OBN Obninsk 133.12 326 ⇓*i*PKIKP PKPdf 22 28 31.4 +1.4
OBN *e*SS SS 22 48 30.6 -1.4
OBN pmax pmax
comp=Z,19nm,1.7s
OBN MLR MLR
comp=Z,100nm,19.0s
FINES FINESS Array B 134.13 338 PKhKP 22 28 19.6
comp=Z,0.2nm,0.3s,baz=63,slow=4.3,SNR=4.6
FINES SKPbc 22 31 49.2
comp=Z,1.8nm,0.7s,baz=117,slow=6.2,SNR=5.7
MBAR Mbarara 135.46 245 *e*PKIKP PKPdf 22 28 36.6 +1.1
MALT Malatya 136.84 303 *e*PKIKP PKPdf 22 28 38.8 +1.5
SIM Simferopol' 138.47 313 ⇓*e*PKIKP PKPdf 22 28 42.2 +2.1
SIM pmax pmax
comp=Z,12nm,0.6s
ASF Jabal al Asfar 138.63 294 PKP PKPdf 22 28 42.2 +1.4
comp=Z,7.1nm,0.7s,baz=240,slow=2.9,SNR=9.1
NB2 NORSAR Subarra138.86 345 PKPdf PKPdf 22 28 32.6 -7.8
comp=Z,4.1nm,1.1s,baz=31,slow=1.9
NOA NORSAR Array B138.86 345 PKhKP 22 28 32.4
comp=Z,1.0nm,0.7s,baz=34,slow=2.2,SNR=8.2
HFS Hagfors 139.02 343 PKhKP 22 28 30.6
comp=Z,1.5nm,0.5s,baz=63,slow=3.3,SNR=8.4
AKASG Malin Array Be 139.11 323 PKhKP 22 28 32.4
comp=Z,1.6nm,0.3s,baz=59,slow=3.1,SNR=19
AKASG pPKP 22 29 13.2
comp=Z,0.3nm,0.3s,baz=47,slow=1.4,SNR=1.1
BRTR Keskin Array B 140.24 306 PKhKP 22 28 37.6
comp=Z,2.5nm,0.6s,baz=133,slow=3.5,SNR=8.4
BRTR PKP PKPdf 22 28 45.2 +1.7
comp=Z,2.7nm,0.6s,baz=135,slow=2.6,SNR=10.0
BRTR pPKP 22 29 16.1
comp=Z,0.6nm,0.5s,baz=89,slow=13,SNR=1.5
SUW Suwalki 140.24 331 *e*PKP PKPdf 22 28 44.2 +1.1
SUW *e* 22 28 46.7
SUW Suwalki 140.24 331 *e*PKP PKPdf 22 28 44.2 +1.1
SUW *e* 22 28 46.7
EIL Elat 140.35 290 *e*PKPpre 22 28 42.4
EIL *e*PKPdf PKPdf 22 28 45.5 +1.6
KIS Kishinev 141.10 319 *e*PKIKP PKPdf 22 28 42.0 -2.8
CSS Prodhromos 141.35 299 *e*PKPpre 22 28 40.5
CRA Chernovtsy 142.19 322 PKIKP PKPdf 22 28 55.0 +8.4
CFR Carcaliu 142.31 316 P PKPdf 22 28 45.7 -1.3
CFR Carcaliu 142.31 316 ⇑P PKPdf 22 28 44.5 -2.4
LVV L'vov 142.40 325 *e*PKHKP 22 28 43.3
LVV *e* 22 31 54.7
PSN Preselentsi 142.90 314 *e*P PKPdf 22 28 48.0 0.0
VRI Vrincioaia 142.90 318 P PKPdf 22 28 46.7 -1.2
VRI Vrincioaia 142.90 318 ⇓P PKPdf 22 28 45.9 -2.0
BURAR Bucovina Array 142.95 321 ⇑P PKPdf 22 28 47.5 -0.5
BURAR Bucovina Array 142.95 321 ⇑P PKPdf 22 28 47.5 -0.4
KWP Kalwaria 143.21 326 *e*PKP PKPdf 22 28 47.1 -1.2
GKP Gorka Klasztor 143.31 334 *e*PKP PKPdf 22 28 47.2 -1.2
ISR Istrita 143.35 317 PKIKP PKPdf 22 28 48.3 -0.4
MLR Muntele Rosu 143.56 318 PKP PKPdf 22 28 48.4 -0.6
comp=Z,57nm,0.5s,baz=326,slow=2.7,SNR=216
MLR Muntele Rosu 143.56 318 P PKPbc 22 28 48.8 +1.0
MLR Muntele Rosu 143.56 318 ⇓P PKPbc 22 28 47.8 0.0
PRD Provadia 143.61 314 *i* P PKPbc 22 28 49.0 +1.0
KOLS Kolonicke sedl 143.85 325 *i* PKP PKPdf 22 28 50.0 +0.6
SNX Sinaia 143.89 318 PKIKP PKPdf 22 28 49.6 0.0
BUC1 Bucharest 144.03 316 PKIKP PKPdf 22 28 49.7 -0.2
VOIR 144.14 318 ⇑P PKPbc 22 28 49.8 +0.3
MTUR Matau 144.23 318 PKIKP PKPdf 22 28 50.4 +0.2
CRVS Cervenica-Dubn 144.30 326 *e*PKP PKPdf 22 28 51.2 +1.0
OJC Ojcow 144.30 328 *e*PKP PKPdf 22 28 49.5 -0.7
JMB Yambol 144.45 313 *i* P PKPbc 22 28 51.5 +1.0
SZH Strazhica 144.56 314 *i* P PKPbc 22 28 51.5 +0.8
NIE Niedzica 144.56 327 *e*PKP PKPdf 22 28 50.5 -0.2
PVL Pavliveni 144.98 315 *e*P PKPdf 22 28 53.0 +1.4
KECS Kecovo 145.06 326 *i* PKP PKPdf 22 28 52.7 +1.1
RAC Raciborz 145.16 329 *e*PKPdf PKPdf 22 28 53.1 +1.4
BSEG Bad Segeberg 145.27 340 *e*PKP2 PKPab 22 28 52.3 -1.9
RUE Ruedersdorf 145.27 336 *e*PKPdf PKPdf 22 28 52.8 +0.9
DIM Dimitrovgrad 145.33 313 *e*P PKPdf 22 28 54.0 +1.7
OKC Ostrava-Krasne 145.35 329 *e*PKP PKPdf 22 28 53.0 +0.9
LIKS Likavka 145.41 327 *e*PKP PKPdf 22 28 54.5 +2.3
ALN Alexandroupoli 145.43 311 *e*P PKPdf 22 28 53.6 +1.1
KSP Ksiaz 145.49 332 *e*PKP PKPdf 22 28 53.8 +1.6
KSP *e*pPKP 22 29 24.7
KSP Ksiaz 145.49 332 *e*PKP PKPdf 22 28 54.2 +2.0
KDZ Kurdzhali 145.57 312 *e*P PKPdf 22 28 54.5 +1.8
MORC Moravsky Berou 145.68 330 ⇑PKP2 PKPab 22 28 54.4 -1.5
MORC Moravsky Berou 145.68 330 *e*PKPdf PKPdf 22 28 53.8 +1.2
PSZ Piszkesteto 145.72 325 ⇑PKP2 PKPab 22 28 54.8 -1.3
PSZ Piszkesteto 145.72 325 *e*PKPdf PKPdf 22 28 53.9 +1.2
PSZ Piszkesteto 145.72 325 ⇑*e*PKP/F PKPdf 22 28 54.8 +2.0
DPC Dobruska-Polom 145.83 331 *e*PKP PKPdf 22 28 54.8 +2.0
UPC Upice 145.85 332 *e*PKP PKPdf 22 28 55.2 +2.3
PLD Plovdiv 145.87 313 *e*P PKPdf 22 28 55.5 +2.3
VYHS Vyhne 145.91 327 *i* PKP PKPdf 22 28 55.2 +2.2
VYHS *e* 22 29 26.1
RZN Rozhen 146.04 313 *i* P PKPdf 22 28 56.0 +2.5
PGB Panagyurishte 146.04 314 *i* P PKPdf 22 28 56.0 +2.5
KOLL Kolacno 146.07 327 *e*PKP PKPdf 22 28 54.7 +1.4
VRAC Vranov 146.45 330 ⇑PKP2 PKPab 22 28 56.7 -2.1
VRAC Vranov 146.45 330 PKPbc PKPbc 22 28 55.7 +0.4
comp=Z,42nm,1.0s,baz=54,slow=4.2,SNR=34
VRAC Vranov 146.45 330 P PKPdf 22 28 57.0 +3.1
BRG Berggiesshubel 146.45 334 *i* PKP2 PKPab 22 28 56.6 -2.2
BRG pmax pmax
comp=Z,45nm,0.9s
BRG Berggiesshubel 146.45 334 *i* PKP PKPdf 22 28 56.6 +2.7
BRG *i* 22 29 06.8
BRG *i* 22 29 28.7
BUD Budapest 146.46 325 ⇑*e*PKP/F PKPdf 22 28 56.7 +2.7
PVCC Panska Ves 146.46 333 *e*PKP PKPdf 22 28 56.5 +2.6
CLL Collm 146.49 335 *i* PKP2 PKPab 22 28 56.1 -2.8
CLL pmax pmax
comp=Z,32nm,0.8s
CLL Collm 146.49 335 ⇑*i*PKIKP PKPdf 22 28 56.1 +2.2
comp=Z,logA/T=1.6
CLL *i* PKP1 PKPbc 22 28 58.3 +3.0
CLL *i* *PPKP 22 29 28.7
CLL *i* *PPKP2 22 29 32.6
CLL *e* 22 29 37.0
CLL *i* 22 29 42.1
CLL Collm 146.49 335 P PKPdf 22 29 06.8 +13
SMOL Smolenice 146.59 328 *e*PKP PKPdf 22 28 58.4 +4.2
SRO Srobarova 146.61 326 *e*PKP PKPdf 22 28 57.5 +3.3
VTS Vitosha 146.65 315 *i* P PKPdf 22 28 58.0 +3.5
SRO1 Iza 146.69 326 *e*PKP PKPdf 22 28 57.4 +3.1
ZAPS Zavoj/Pirot 146.70 316 ⇑*i*PKP PKPdf 22 28 57.9 +3.4
EKA Eskdalemuir Ar 146.71 354 PKPbc PKPbc 22 28 56.1 +0.4
comp=Z,23nm,0.7s,baz=353,slow=2.5,SNR=10.0
MMB Musomiste 146.75 313 *i* P PKPdf 22 28 57.5 +2.8
BOLS Boljevac 146.85 318 ⇑*i*PKP PKPdf 22 28 56.8 +2.0
PRU Pruhonice 146.87 332 *e*PKP PKPdf 22 28 57.6 +3.0
BBH Bruntsheil 146.89 354 *e*P PKPdf 22 28 57.0 +2.6
BWH Wardlaw 146.91 355 *e*P PKPdf 22 28 57.0 +2.6
BHH Howats Hill 146.95 354 ⇑*e*P PKPdf 22 28 57.5 +2.9
ZST Bratislava 146.97 328 *e*PKP PKPdf 22 28 57.7 +2.9
ZST *e* 22 29 29.9
ZST *e* 22 42 23.0
CLZ Clausthal 147.02 338 *e*PKPbc PKPdf 22 28 58.0 +3.3
CLZ *e*pPKPbc 22 29 30.4
SRS Serrai 147.04 312 *e*P PKPdf 22 28 57.6 +2.5
KKB Krupnik 147.06 314 *i* P PKPdf 22 28 58.5 +3.3
BTA Talkin 147.09 354 *e*P PKPdf 22 28 57.9 +3.1
OUR Ouranopolis 147.09 311 *e*P PKPdf 22 28 58.2 +3.0
LCP Cassop 147.12 352 ⇑*e*P PKPdf 22 28 58.3 +3.5
BDL Dobcross Hall 147.21 354 *e*P PKPdf 22 28 57.9 +2.9
BBO1 Bothel 147.31 354 *e*P PKPdf 22 28 58.5 +3.3
BBO1 AMb AMB 22 29 02.7
comp=Z,49nm,1.8s
WIT Witteveen 147.32 343 *e*PKP PKPdf 22 28 58.6 +3.4
SOH Sokhos 147.33 312 *e*P PKPdf 22 28 59.4 +3.7
PKSM Moragy 147.45 324 ⇑PKP2 PKPab 22 28 59.3 -3.6
PAIG Paliouri 147.47 310 *e*P PKPdf 22 28 59.1 +3.2
MOX Moxa 147.55 336 *e*PKPbc PKPdf 22 28 59.4 +3.7
MOX *e*PKPab PKPab 22 29 04.3 +1.2
MOX Moxa 147.55 336 *i* P PKPdf 22 28 59.4 +3.7
NKC Novy Kostel 147.55 335 *e*PKP PKPdf 22 28 59.3 +3.6
GRUS Gruza 147.59 319 ⇓*i*PKP PKPdf 22 28 60.0 +4.0
VAY Valandovo 147.65 313 ⇑*i*PKP PKPdf 22 28 59.4 +3.2
VAY ⇑*i* 22 29 31.6
HPK Haverah Park 147.90 352 ⇑*e*P PKPdf 22 28 59.5 +3.3
DIVS Divcibare 147.91 320 *e*PKP PKPdf 22 28 57.3 +0.8
GRG Griva 147.93 313 *e*P PKPdf 22 29 00.1 +3.4
KHC Kasperske Hory 147.93 332 *e*PKP PKPdf 22 29 00.5 +4.1
KHC *e* 22 29 11.0
KHC *e* 22 29 33.0
KHC Kasperske Hory 147.93 332 *e*PKP PKPdf 22 29 00.5 +4.1
KHC x x 22 29 11.0
KHC pPKP 22 29 33.0
WTSB Winterswijk 148.04 342 *e*PKP PKPdf 22 29 00.1 +3.7
comp=Z,48nm,0.8s
WTSB *e*x x 22 29 32.8
WTSB *e*x x 22 29 45.3
IDI Anoyia 148.07 301 PKPbc PKPdf 22 29 01.6 +4.5
comp=Z,53nm,0.4s,baz=17,slow=3.9,SNR=104
GEC2 GERESS Array S 148.09 332 *e*PKPbc PKPdf 22 29 00.9 +4.3
GEC2 *e*pPKPbc 22 29 33.1
GERES GERESS Array B 148.09 332 PKP PKPdf 22 28 56.8 +0.2
comp=Z,15nm,0.9s,baz=90,slow=2.0,SNR=10
GERES PKPbc PKPdf 22 29 00.7 +4.1
comp=Z,15nm,0.8s,baz=45,slow=1.9,SNR=68
GERES pPKP 22 29 29.7
comp=Z,3.3nm,0.8s,baz=101,slow=5.0,SNR=1.3
SKO Skopje 148.10 315 ⇑*i*PKP PKPdf 22 29 01.6 +4.7
comp=Z,0.2nm,0.8s
SKO *i* 22 29 34.0
WET Wettzell 148.22 333 *e*PKPbc PKPdf 22 29 01.3 +4.5
WET *e*PKPab PKPab 22 29 06.9 +1.1
LIT Litokhoron 148.23 311 *e*P PKPdf 22 29 01.0 +3.9
LHO Holmfirth 148.33 352 ⇑*e*P PKPdf 22 29 00.5 +3.6
DMUB Kingscourt 148.37 358 *e*P PKPdf 22 29 01.0 +4.1
BBLS Bajina Basta - 148.39 320 ⇑*i*PKP PKPdf 22 28 59.0 +1.7
ARSA Arzberg 148.40 328 ⇑*i*P PKPdf 22 28 59.2 +2.0
GRA1 Grafenberg Arr 148.47 335 *e*PKPbc PKPdf 22 29 02.0 +4.8
GRA1 *e*PKPab PKPab 22 29 07.8 +1.0
GRA1 *e*pPKPbc 22 29 33.6
GRA1 *e*PP PP 22 32 35.6 +1.3
GRF Grafenberg Arr 148.47 335 *e*PKP2 PKPab 22 29 07.8 +1.0
GRF *e* 22 32 35.6
GRF Grafenberg Arr 148.47 335 *e*PKP2 PKPab 22 29 02.0 -4.8
GRF *e* 22 32 35.6
GRF Grafenberg Arr 148.47 335 *e*PKP PKPdf 22 29 02.0 +4.8
GRF *e*PKP PKPdf 22 29 07.8 +11
GRF pPKPbc 22 29 33.6
GRF *e*PP PP 22 32 35.6 +1.3
MOA Molln 148.57 330 ⇑*i*P PKPdf 22 28 57.1 -0.3
IVA Berane 148.63 318 ⇑*i*PKP PKPdf 22 29 02.5 +4.8
PLE Pljevlja 148.70 319 ⇑*i*PKP PKPdf 22 29 03.0 +5.2
FNA Florina 148.70 313 *e*P PKPdf 22 29 03.0 +5.1
PVY Plav 148.73 317 ⇑*i*PKP PKPdf 22 29 02.5 +4.6
AGG Agios Georgios 148.78 309 *e*P PKPdf 22 29 02.3 +4.2
OHR Ohrid 148.94 314 ⇑*i*PKP PKPdf 22 29 03.4 +5.2
OHR *i* 22 29 35.5
DCN Croghan 148.94 358 *e*P PKPdf 22 29 03.0 +5.2
DLF Lyons Farm 148.96 358 *e*P PKPdf 22 29 03.0 +5.1
TNS Taunus Mts 149.04 339 *e*PKP2 PKPab 22 29 03.3 -5.8
UPM Unac-Piva 149.06 319 ⇑*i*PKP PKPdf 22 29 03.5 +5.2
SBD1 Bryn Du 149.12 354 *e*P PKPdf 22 29 02.6 +4.4
SBD1 AMb AMB 22 29 06.7
comp=Z,75nm,1.8s
SISC Sisak 149.15 325 *i* PKP PKPdf 22 29 03.4 +5.0
DOBS Dobrina 149.18 326 *i* PKPbc PKPdf 22 29 03.5 +5.0
NKY Niksic 149.22 318 ⇑*i*PKP PKPdf 22 29 03.9 +5.2
TTG Podgorica 149.27 317 ⇑*i*PKP PKPdf 22 29 03.7 +5.0
HGN Heimansgroeve 149.36 342 *e*PKP PKPdf 22 29 02.8 +4.2
comp=Z,43nm,2.4s
HGN *e*x x 22 29 30.5
HGN *e*x x 22 29 35.9
OBKA Obir 149.39 328 ⇑*i*P PKPdf 22 28 59.9 +1.1
TOD Tromm 149.44 338 PKP2 PKPab 22 29 04.6 -6.2
BRY Bratogost 149.45 319 ⇑*i*PKP PKPdf 22 29 04.4 +5.4
HLM1 Long Mynd 149.46 353 *e*P PKPdf 22 29 03.8 +5.2
HLM1 AMb AMB 22 29 07.6
comp=Z,31nm,1.3s
ULC Ulcinj 149.52 317 ⇑*i*PKP PKPdf 22 29 04.3 +5.2
BUM Brajici-Budva 149.56 317 ⇑*i*PKP PKPdf 22 29 03.3 +4.1
KBA Koelnbreinsper 149.56 330 ⇑*i*P PKPdf 22 29 01.1 +2.1
SSP1 Stoney Pound 149.59 353 *e*P PKPdf 22 29 03.8 +4.9
SSP1 AMb AMB 22 29 07.6
comp=Z,39nm,2.1s
ABH Alteburg 149.63 339 PKP PKPdf 22 29 04.6 +5.6
FUR Furstenfeldbru 149.65 333 *e*PKP2 PKPab 22 29 13.2 +1.5
FUR Furstenfeldbru 149.65 333 *e*PKPbc PKPdf 22 29 04.6 +5.5
FUR *e*PKPab PKPab 22 29 13.2 +1.5
FUR *e*pPKPbc 22 29 37.1
BOJS Bojanci 149.72 326 *e*PKPdf PKPdf 22 29 01.0 +1.7
BOJS *e*PKPbc PKPdf 22 29 05.3 +6.0
BOJS *e* 22 29 37.5
LJU Ljubljana 149.73 327 *e*PKIKP PKPdf 22 28 59.9 +0.6
LJU *i* 22 29 35.5
LJU Ljubljana 149.73 327 *e*PKPdf PKPdf 22 28 59.9 +0.6
LJU *i* PKPbc PKPdf 22 29 05.0 +5.7
LJU *i* 22 29 35.5
HCY Herceg Novi 149.73 318 ⇑*i*PKP PKPdf 22 29 04.8 +5.3
HAE Alders End 149.90 353 *e*P PKPdf 22 29 04.3 +4.9
HAE AMb AMB 22 29 05.9
comp=Z,47nm,1.6s
HTR Trewern Hill 149.94 353 *e*P PKPdf 22 29 04.4 +5.0
HTR AMb AMB 22 29 05.9
comp=Z,42nm,1.0s
RUP Ruppelstein 149.94 340 PKP2 PKPab 22 29 06.1 -6.8
IGT Igoumenitsa 149.98 312 *e*P PKPdf 22 29 05.7 +5.8
MCH1 Michaelchurch 149.99 353 *e*P PKPdf 22 29 04.9 +5.4
MCH1 AMb AMB 22 29 07.2
comp=Z,49nm,1.3s
PTCC Patocco-Chiusa 150.05 329 *e*PKP PKPdf 22 29 01.7 +1.9
VOY Vojsko 150.05 328 *e*PKPbc PKPdf 22 29 05.3 +5.5
VOY *e* 22 29 13.1
VOY *e* 22 29 37.5
GMNA Gemona 150.20 329 *e*PKP PKPdf 22 29 02.1 +2.1
WTTA Wattenberg 150.20 332 ⇑*i*P PKPdf 22 29 01.7 +1.7
WTTA *i* 22 29 06.6
GIVF Givet 150.26 342 *e*PKP1 PKPdf 22 29 05.5 +5.5
comp=Z,64nm,0.8s
WLF Walferdange 150.26 341 *e*PKIKP PKPdf 22 29 06.5 +6.5
LANF Langenberg 150.31 338 PKP PKPdf 22 29 07.9 +7.8
HGH Gray Hill 150.32 353 *e*P PKPdf 22 29 03.8 +3.8
HGH AMb AMB 22 29 07.2
comp=Z,75nm,1.0s
TRI Trieste 150.34 327 *e*PKIKP PKPdf 22 29 05.1 +4.9
MOTA Moosalm 150.37 332 ⇑*i*P PKPdf 22 29 02.4 +2.2
SQTA Sankt Quirin 150.42 332 ⇓*i*P PKPdf 22 29 01.7 +1.4
SQTA *i* 22 29 06.6
BAIF Baives 150.47 343 *e*PKP1 PKPdf 22 29 06.0 +5.7
comp=Z,34nm,1.0s
MENF Mencas 150.51 346 PKP PKPdf 22 29 06.3 +6.0
NVLJ Novalja 150.55 325 *i* P PKPdf 22 29 06.5 +5.9
BFO Black Forest 150.68 337 *e*PKPbc PKPdf 22 29 07.3 +6.7
BFO *e*PKPab PKPab 22 29 15.6 -0.4
DAVA Damuels 150.93 334 ⇓*i*P PKPdf 22 29 06.9 +5.8
WLS Welschbruch 150.96 338 PKP PKPdf 22 29 08.7 +7.6
CDF Champ du Feu 150.98 338 *e*PKP1 PKPdf 22 29 07.1 +6.0
comp=Z,30nm,0.8s
CTI Castel Tesino 151.11 330 *e*PKIKP PKPdf 22 29 08.0 +6.6
FELD Feldberg 151.18 337 PKP PKPdf 22 29 08.9 +7.5
ECH Echery 151.19 338 PKP PKPdf 22 29 09.4 +8.0
DAVOX Davos 151.33 333 PKPbc PKPdf 22 29 09.1 +7.5
comp=Z,16nm,0.3s,baz=260,slow=1.4,SNR=3.3
BRMO Bormio 151.36 332 *e*PKP PKPdf 22 29 09.3 +7.6
THEF They Montfort 151.58 339 PKP PKPdf 22 29 10.5 +8.5
MEZF Maizieres J'vi 151.63 341 *e*PKP1 PKPdf 22 29 08.9 +6.8
comp=Z,28nm,0.7s
HINF Hinteralfeld 151.64 338 *e*PKP1 PKPdf 22 29 08.3 +6.2
comp=Z,21nm,0.7s
HAU Haudompre 151.65 339 *e*PKP1 PKPdf 22 29 08.6 +6.5
comp=Z,20nm,0.7s
HAU *e*R
comp=Z,130nm,22.4s
RGNG Rignano Grg 151.95 319 *e*PKP PKPdf 22 29 10.1 +7.3
LOMF Lomont 152.05 337 PKP PKPdf 22 29 12.4 +10
FSSB Fossombrone 152.25 325 *e*PKP PKPdf 22 29 05.9 +2.7
RSM Repubblica di 152.26 326 *e*PKIKP PKPdf 22 29 12.1 +9.0
ARV Arcevia 152.30 325 *e*PKP2 PKPdf 22 29 05.8 +2.6
FG4 Candela 152.31 318 *e*PKIKP PKPdf 22 29 11.3 +8.0
FG5 Orsara di Pugl 152.38 319 *e*PKP PKPab 22 29 24.2 +0.9
SNTG Esanatoglia 152.46 325 *e*PKP PKPdf 22 29 06.1 +2.6
MRLC Muro Lucano 152.55 318 *e*PKP PKPdf 22 29 11.7 +8.0
TIP Timpagrande 152.58 314 *e*PKPdf PKPdf 22 29 05.0 +1.2
TIP *e*PKPbc PKPdf 22 29 12.1 +8.3
TIP *e*PKPab PKPab 22 29 24.1 -0.2
SFI Santa Sofia 152.58 327 *e*PKIKP PKPdf 22 29 06.4 +2.8
SLCN Sala Consilina 152.66 317 *e*PKP PKPdf 22 29 12.2 +8.4
CII Carovilli 152.69 321 *e*PKPdf PKPdf 22 29 04.3 +0.5
CII *e*PKPbc PKPdf 22 29 12.2 +8.4
CII *e*PKP PKPdf 22 29 12.5 +8.7
CII *e*PKPab PKPab 22 29 24.3 -0.3
ZCCA Zocca 152.69 328 *e*PKP PKPdf 22 29 13.4 +10
VMG Vicchio 152.69 327 *e*PKP PKPdf 22 29 05.1 +1.3
ASS Assisi 152.75 325 *e*PKIKP PKPdf 22 29 11.6 +7.7
FLN La Foliniere 152.76 348 *e*PKP1 PKPdf 22 29 10.6 +6.9
comp=Z,41nm,0.9s
FLN *e*R
comp=Z,149nm,21.3s
MCGN Macugnaga 152.77 334 *e*PKP PKPdf 22 29 06.6 +2.8
SGO Sicignano 152.77 318 *e*PKIKP PKPdf 22 29 11.9 +7.9
CSSN Cassano Irpino 152.78 318 *e*PKP PKPdf 22 29 11.3 +7.4
AQU L'Aquila 152.81 323 *e*PKP PKPdf 22 29 13.7 +10
LDF La Druitiere 152.86 348 *e*PKP1 PKPdf 22 29 10.7 +6.9
MGR Morigerati 152.86 317 *e*PKP PKPdf 22 29 11.9 +7.8
ERBM Eremo 152.91 329 *e*PKP PKPdf 22 29 14.9 +11
CABF La Chapelle 152.94 337 *e*PKP1 PKPdf 22 29 12.0 +8.0
comp=Z,13nm,0.8s
SDI San Donato 152.99 321 *e*PKIKP PKPdf 22 29 12.3 +8.1
PTQR Pietraquaria 153.02 322 *e*PKP PKPdf 22 29 06.7 +2.4
MNS Montasola 153.19 323 *e*PKIKP PKPdf 22 29 12.8 +8.3
GRR Gorron 153.19 349 *e*PKP1 PKPdf 22 29 11.0 +6.7
SSF Saint Saulge 153.39 341 *e*PKP1 PKPdf 22 29 12.3 +7.7
SGMF Saint Gilles 153.60 351 *e*PKP1 PKPdf 22 29 13.1 +8.2
comp=Z,33nm,0.9s
SOI Samo 153.61 312 *e*PKIKP PKPdf 22 29 14.7 +9.5
ROSF Rostrenen 153.62 352 *e*PKP1 PKPdf 22 29 12.2 +7.3
LPL La Plagne 153.63 335 *e*PKP1 PKPdf 22 29 13.4 +8.4
comp=Z,7.2nm,0.6s
LPG La Plagne 153.64 335 *e*PKP1 PKPdf 22 29 13.6 +8.6
comp=Z,19nm,0.8s
SMF Signal de Mont 153.66 340 *e*PKP1 PKPdf 22 29 12.7 +7.7
AVF Avril sur Loir 153.68 341 *e*PKP1 PKPdf 22 29 12.7 +7.7
MTTG Motta San Giov 153.89 312 *e*PKP PKPdf 22 29 14.6 +9.0
BNI Bardonecchia 154.04 335 *e*PKPdf PKPdf 22 29 06.9 +1.3
BNI *e*PKPbc PKPdf 22 29 13.6 +8.0
ORIF Oris-en-Rattie 154.46 336 *e*PKP1 PKPdf 22 29 14.9 +8.8
ORIF *e*R
comp=Z,148nm,22.2s
TCF Toulx Ste Croi 154.46 342 *e*PKP1 PKPdf 22 29 14.6 +8.5
TOUF Mont Tournerai 154.65 333 PKP PKPdf 22 29 15.3 +8.9
PGF Pioggiola 154.99 328 *e*PKP1 PKPdf 22 29 16.0 +9.1
comp=Z,12nm,0.7s
VAE Valguarnera 155.03 313 PKPbc PKPdf 22 29 19.9 +13
comp=Z,8.8nm,0.7s,baz=224,slow=10,SNR=3.6
LFF La Frestale 156.10 344 *e*PKP1 PKPdf 22 29 16.3 +8.0
PBRG Braganca 160.44 356 *e*PKPab PKPab 22 29 56.9 -0.8
PVRL Vila Real 161.01 358 *e*PKPab PKPab 22 29 59.7 -0.5
PVIS Viseu 161.58 358 *e*PKPab PKPab 22 30 02.3 -0.4
MTE Manteigas 161.88 357 *e*PKPab PKPab 22 30 03.5 -0.6
ESDC Sonseca Array 162.19 348 PKPab PKPab 22 30 03.7 -1.7
comp=Z,3.2nm,0.7s,baz=12,slow=3.8,SNR=13
PCBR Castelo Branco 162.44 357 *e*PKPab PKPab 22 30 05.9 -0.6
PTOM Tomar 162.68 360 *e*PKPab PKPab 22 30 06.5 -1.1
DBIC Dimbokro 164.10 194 PKP PKPdf 22 29 19.2 +1.1
comp=Z,7.6nm,0.9s,baz=52,slow=1.0,SNR=6.5
DBIC PKPab PKPab 22 30 12.6 -1.9
comp=Z,7.7nm,0.8s,baz=132,slow=6.1,SNR=8.1
PBEJ Beja 164.26 358 *e*PKPab PKPab 22 30 14.1 -0.4

IDC ***14*** *22:45:13.6±5.0, 7.14N×123.50E, h621km±81km, mb3.2/6, mb1 3.4/6, mb1mx3.0/20, mbtmp4.3/6, Error ellipse: s-maj=96.2km s-min=19.9km az=71.0*
NEIC ***14*** *22:45:13.1±3.5, 7.28N×123.78E, h617km±51km, mb4.0/4, Error ellipse: s-maj=36.3km s-min=15.8km az=72.0*
ISC 14 22:45:10.6±0.7, 7.3N±0.1×123.7E±0.3, h600km, n15, σ0°61/15, mb4.1/8, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 2.1nm,0.3s,mb4.2	25.28	176	⇓*i*P	P	22 49 53.1	-0.1
FITZ	Fitzroy Crossi 2.7nm,0.3s,mb4.4,baz=12,slow=6.1,SNR=25	25.28	176	P	P	22 49 52.4	-0.8
WRAB	Tennant Creek 19nm,1.1s,mb4.6	28.98	159	*e*P	P	22 50 24.8	-0.5
WRA	Warramunga Arr 5.3nm,0.4s,mb4.5,baz=336,slow=10.0,SNR=41	28.99	159	P	P	22 50 24.5	-0.9
WB2	Warramunga Arr	28.99	159	⇑*i*P	P	22 50 24.9	-0.5
ASAR	Alice Springs 4.1nm,0.3s,mb4.5,baz=344,slow=6.9,SNR=60	32.32	162	P	P	22 50 54.2	+0.7
ASPA	Alice Springs	32.32	162	⇑*i*P	P	22 50 54.1	+0.6
FORT	Forrest 134nm,0.4s	38.06	174	*e*P	P	22 51 41.7	+0.8
KLBR	Kellerberrin 390nm,1.5s	39.07	188	*e*P	P	22 51 49.4	+0.4
STKA	Stephens Creek 2.8nm,0.4s,mb4.1,baz=330,slow=6.9,SNR=9.5	42.50	157	P	P	22 52 16.3	-0.1
STKA	Stephens Creek	42.50	157	P	P	22 52 16.3	-0.1
SONM	Songino Array 0.6nm,0.7s,baz=159,slow=8.2,SNR=6.4	43.03	343	P	P	22 52 20.9	+0.6
ARU	Arti 1.4nm,0.5s,mb3.6	70.37	328	*e*P	P	22 55 25.6	-1.0
MCK	McKinley 1.6nm,0.7s,mb3.7	82.35	27	*e*P	P	22 56 31.8	+0.3
FINES	FINESS Array B 0.8nm,0.8s,mb3.5,baz=90,slow=5.7,SNR=4.7	87.32	332	P	P	22 56 55.4	-0.2

IDC ***14*** *22:53:40.2±8

DZM	**Mont Dzumac**	**3.29 270**	*e*P	**P**	**22 54 28.7**	**-0.2**
DZM			*e*S	**S**	**22 55 07.3**	**+0.2**
DZM	**Mont Dzumac**	**3.29 270**	P	**P**	**22 54 29.0**	**+0.1**
8.4nm,0.3s,baz=80,slow=21,SNR=190						
DZM			S	**S**	**22 55 07.4**	**+0.2**
14nm,0.3s,baz=109,slow=23,SNR=17						
STKA	**Stephens Creek**	**27.05 243**	P	**P**	**22 59 19.6**	**+0.7**
1.9nm,0.8s,mb3.7,baz=320,slow=7.6,SNR=3.3						
ASAR	**Alice Springs**	**33.23 260**	P	**P**	**23 00 13.3**	**-0.5**
0.5nm,0.8s,mb3.5,baz=97,slow=8.8,SNR=3.4						
WRA	**Warramunga Arr**	**33.30 267**	P	**P**	**23 00 13.2**	**-1.3**
0.3nm,0.5s,mb3.5,baz=99,slow=8.4,SNR=3.8						
CMAR	**Chiang Mai Arr**	**80.31 294**	P	**P**	**23 05 48.1**	**+1.0**
0.9nm,0.9s,mb3.7,baz=126,slow=4.7,SNR=5.7						
SONM	**Songino Array**	**89.90 323**	P	**P**	**23 06 34.0**	**-0.2**
0.9nm,0.9s,mb4.1,baz=146,slow=4.5,SNR=8.0						
DPC	**Dobruska-Polom**	**145.04 330**	*e*P	PKPdf	23 13 11.1	+0.1
UPC	**Upice**	**145.07 331**	*e*P	PKPdf	23 13 11.3	+0.3
CLL	**Collm**	**145.77 334**	⇓P	PKPdf	23 13 13.8	+1.6
logA/T=0.9						
KHC	**Kasperske Hory**	**147.16 331**	*e*P	PKPdf	23 13 18.1	+3.5
GERES	**GERESS Array B**	**147.31 331**	PKPbc	PKPdf	23 13 18.2	+3.4
1.1nm,0.5s,baz=45,slow=3.8,SNR=14						

*INET **14** 22:55:03.3, 15.61N×88.31W, h10km*
*SSS **14** 22:55:26.9, 14.42N×87.43W, h18km, MD3.4*
CASC 14 22:55:28.7±2.2, 14.41N×87.67W, h0km±4km, MD4.1, 8C-2D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAHU	**Cacacuatique**	**0.83**	**220**⇑	*e*P	Pg	22 55 45.0	-0.2
CAHU				*e*S	Sg	22 55 58.5	+2.3
BLLM	**Bellamira**	**1.11**	**210**	*e*P	Pb	22 55 49.5	-0.9
BLLM				*e*S	Sb	22 56 06.8	+1.4
CNCH	**Conchagua**	**1.14**	**188**	*e*P	Pb	22 55 49.2	-1.8
CNCH				*e*S	Sb	22 56 06.6	+0.4
VSM	**San Miguel**	**1.14**	**211**	*e*P	Pb	22 55 49.6	-1.4
VSM				*e*S	Sb	22 56 08.7	+2.5
SNVI	**San Vicente**	**1.39**	**235**	*e*S	Sb	22 56 14.7	+1.4
LCBS	**La Ceiba**	**1.48**	**240**⇑	*e*P	Pn	22 55 55.4	-1.2
LCBS				*e*S	Sb	22 56 17.6	+1.6
LBRS	**Las Brisas**	**1.49**	**244**⇑	*e*P	Pn	22 55 55.8	-1.1
LBRS				*e*S	Sb	22 56 18.4	+2.0
LFRS	**El Faro**	**1.56**	**240**	*e*P	Pn	22 55 55.6	-2.2
LFRS				*e*S	Sb	22 56 19.9	+1.5
MTO2	**Montecristo 2**	**1.64**	**270**⇑	*i*P	Pn	22 55 58.3	-0.6
MTO2				*e*S	Sb	22 56 23.0	+2.3
BOQS	**Boqueron**	**1.70**	**247**⇑	*e*P	Pn	22 55 59.3	-0.6
BOQS				*e*S	Sb	22 56 24.3	+1.8
CRIN	**San Cristobal**	**1.80**	**160**⇓	*e*P	Pn	22 56 00.7	-0.6
CRIN				*e*S	Sn	22 56 26.4	+1.2
SNJE	**San Jose**	**1.96**	**254**	*e*P	Pn	22 56 02.5	-1.0
SNJE				*e*S	Sn	22 56 31.5	+2.4
TELN	**Telica**	**1.97**	**156**	*e*S	Sn	22 56 29.4	-0.1
RBDL	**Robledal**	**1.98**	**262**	*e*P	Pn	22 56 04.2	+0.4
RBDL				*e*S	Sn	22 56 32.1	+2.5
SBLS	**San Blas**	**1.98**	**254**	*e*P	Pn	22 56 04.1	+0.3
SBLS				*e*S	Sn	22 56 32.0	+2.4
RTR	**El Retiro**	**1.98**	**255**⇑	*e*P	Pn	22 56 04.0	+0.1
TEL3	**Telica 3**	**2.00**	**156**⇑	*e*P	Pn	22 56 03.1	-1.0
CNGN	**Cerro Negro**	**2.12**	**153**	*e*P	Pn	22 56 04.9	-0.9
LEON	**Leon**	**2.12**	**159**	*e*P	Pn	22 56 04.2	-1.6
MOMJ	**Momotombo**	**2.27**	**151**	*e*P	Pn	22 56 08.2	+0.2
MOMJ				*e*S	Sn	22 56 39.4	+2.3
PYTN	**Playitas**	**2.43**	**140**	*e*P	Pn	22 56 10.0	-0.3
PYTN				*e*S	Sn	22 56 41.9	+0.7
COPN	**Copaltepe**	**2.45**	**155**⇓	*e*P	Pn	22 56 10.6	0.0
APYN	**Apoyeque**	**2.52**	**149**⇑	*e*P	Pn	22 56 11.1	-0.4
WILN	**Americas 2**	**2.66**	**147**	*e*S	Sn	22 56 49.3	+2.3

*TIR **14** 22:58:29.9, 42.40N×19.91E, h4km*
*PDG **14** 22:58:30.6±0.2, 42.38N×19.98E, h3km±1km*
*NEIC **14** 22:58:30.6, 42.38N×19.98E, h3km, MD2.5(PDG), After PDG.*
ISC 14 22:58:30.3±0.5, 42.37N±0.02×20.00E±0.03, h3km, n18, σ1§00/32, 3C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.05**	**97**	*e*Pg	**Pg**	**22 58 31.7**	**+0.2**
BCI				*i* Sg	**Sg**	**22 58 32.8**	**+0.5**
PVY	**Plav**	**0.22**	**356**⇑	*i*Pg	**Pg**	**22 58 34.5**	**-0.2**
PVY				*e*Sg	**Sg**	**22 58 38.0**	**+0.4**
PUK	**Puka**	**0.34**	**193**	*i* Pg	**Pg**	**22 58 37.1**	**+0.1**
PUK				*i* Sg	**Sg**	**22 58 43.0**	**+1.4**
SDA	**Shkodra**	**0.49**	**229**	*i* Pg	**Pg**	**22 58 39.5**	**-0.5**
IVA	**Berane**	**0.50**	**352**⇓	*i*Pg	**Pg**	**22 58 39.8**	**-0.5**
IVA				*e*Sg	**Sg**	**22 58 47.2**	**+0.2**
TTG	**Podgorica**	**0.55**	**276**⇑	*i*Pg	**Pg**	**22 58 39.8**	**-1.4**
TTG				*e*Sg	**Sg**	**22 58 49.0**	**+0.5**
ULC	**Ulcinj**	**0.69**	**234**	*e*Pg	**Pg**	**22 58 43.4**	**-0.6**
ULC				*e*Sg	**Sg**	**22 58 54.4**	**+1.1**
BUM	**Brajici-Budva**	**0.82**	**265**⇑	*i*Pg	**Pg**	**22 58 45.4**	**-1.2**
BUM				*e*Sg	**Sg**	**22 58 58.2**	**+0.8**
QSH	**Qafa e Shtames**	**0.85**	**185**	*i* pn?	**Pg**	**22 58 54.7**	**+5.8**
NKY	**Niksic**	**0.86**	**301**⇓	*i*Pg	**Pg**	**22 58 45.6**	**-1.8**
NKY				*e*Sg	**Sg**	**22 58 59.6**	**+0.8**
TIR	**Tirane**	**1.03**	**185**	*i* pn?	**Sg**	**22 59 04.0**	**-0.5**
PLE	**Pljevlja**	**1.05**	**335**	*e*Pg	**Pg**	**22 58 50.0**	**-1.3**
PLE				*e*Sg	**Sg**	**22 59 06.4**	**+1.1**
HCY	**Herceg Novi**	**1.11**	**274**⇓	*i*Pg	**Pg**	**22 58 50.8**	**-1.7**
HCY				*e*Sg	**Sg**	**22 59 08.2**	**+1.0**
SKO	**Skopje**	**1.15**	**110**	*i* Pn	**Pn**	**22 58 54.0**	**+0.9**
UPM	**Unac-Piva**	**1.15**	**316**	*e*Pg	**Pg**	**22 58 51.9**	**-1.3**
UPM				*e*Sg	**Sg**	**22 59 09.8**	**+1.2**
BRY	**Bratogost**	**1.19**	**297**	*e*Pg	**Pg**	**22 58 52.1**	**-1.9**
BRY				*e*Sg	**Sg**	**22 59 10.5**	**+0.5**
DIVS	**Divcibare**	**1.72**	**360**⇓	*i*Pn	**Pn**	**22 59 02.9**	**+1.5**
DIVS				Sg	**Sg**	**22 59 22.7**	**-5.0**
STON	**Ston**	**1.77**	**287**	*i* Pn	**Pn**	**22 59 02.1**	**+0.1**
STON				*i* Sn	**Sn**	**22 59 29.7**	**+4.5**

MAN 14 23:00:37.5, 6.00N×124.28E, h15km, mb4.0, ML2.7, MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.29**	**39**	*e*P	Pb	23 00 59.2	-1.8
KCP				*e*S	Sb	23 01 18.6	+1.4
BUKP	**Musuan**	**2.03**	**23**	*e*P	Pn	23 01 12.2	+0.5
PAGZ	**Pagadian**	**2.04**	**334**	*e*P	Pn	23 01 16.4	+4.5
IPIL	**Ipil**	**2.46**	**317**	*e*P	Pn	23 01 18.1	+0.3
IPIL				*e*S	Sn	23 01 48.2	+0.4

IDC 14 23:26:33.6±6.9, 17.84S×177.21W, mb4.2/3, mb1 4.5/3, mb1mx3.8/16, mbtmp4.2/3, Error ellipse: s-maj=297.8km s-min=37.8km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**45.75**	**259**	*e*P	P	23 34 57.0	-1.8
WRA	**Warramunga Arr**	**45.76**	**259**	P	P	23 34 56.9	-2.1
1.5nm,0.5s,baz=96,slow=7.2,SNR=18							
ASAR	**Alice Springs**	**45.90**	**254**	P	P	23 34 58.5	-1.5
7.2nm,0.6s,baz=87,slow=8.6,SNR=123							
ASPA	**Alice Springs**	**45.91**	**254**	*e*P	P	23 34 58.8	-1.2
KAKA	**Kakadu**	**48.72**	**269**	*e*P	P	23 35 19.7	-2.5
3.3nm,0.4s							
ILAR	**Eielson Array**	**85.57**	**13**	P	P	23 39 13.3	-1.2
0.3nm,0.5s,baz=220,slow=5.2,SNR=4.7							

IDC 14 23:27:52.4±7.8, 17.77S×178.65W, h616km±104km, mb3.2/8, mb1 3.5/8, mb1mx3.2/17, mbtmp4.2/8, Error ellipse: s-maj=81.5km s-min=35.4km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.24**	**260**	P	P	23 33 41.0	-1.2
3.7nm,0.5s,baz=90,slow=13,SNR=4.7							
STKA	**Stephens Creek**	**38.50**	**241**	P	P	23 34 23.4	-1.7
1.1nm,0.3s,baz=92,slow=7.2,SNR=6.1							
WRA	**Warramunga Arr**	**44.43**	**259**	P	P	23 35 10.6	-1.7
2.2nm,0.5s,baz=95,slow=7.2,SNR=21							
ASAR	**Alice Springs**	**44.61**	**254**	P	P	23 35 12.1	-1.5
12nm,0.6s,baz=88,slow=8.6,SNR=54							
NVAR	**Mina Array Bea**	**79.48**	**44**	P	P	23 38 57.2	-0.5
0.3nm,0.5s,baz=225,slow=6.4,SNR=4.3							
ILAR	**Eielson Array**	**85.80**	**13**	P	P	23 39 26.9	-1.6
0.3nm,0.4s,baz=214,slow=4.9,SNR=6.7							
TXAR	**Lajitas Array**	**86.11**	**58**	P	P	23 39 29.9	-1.0
0.8nm,0.8s,baz=225,slow=5.3,SNR=5.9							
PDAR	**Pinedale Array**	**87.41**	**44**	P	P	23 39 35.6	-1.0
0.6nm,0.7s,baz=229,slow=2.3,SNR=5.0							
GERES	**GERESS Array B**	**147.42**	**345**	PKPbc	PKPdf	23 46 27.8	+3.5
0.6nm,0.6s,baz=45,slow=1.9,SNR=5.8							

NEIC 14 23:33:26.2±3.0, 42.98N×128.35W, h10km, mb3.2/1, Error ellipse: s-maj=35.1km s-min=10.5km az=81.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.95**	**91**	*e*P	Pn	23 34 12.5	-1.6
HSO	**Harness Mounta**	**3.88**	**80**	P	Pn	23 34 26.1	-1.2
HUMO	**Hull Mountain**	**3.98**	**93**	P	Pn	23 34 26.8	-2.0
BROR	**Big Rock Looko**	**4.47**	**71**	P	Pn	23 34 34.0	-1.7
HBO	**Huckleberry Mo**	**4.48**	**77**	P	Pn	23 34 35.2	-0.6
IRO	**Indian Ridge**	**4.55**	**75**	P	Pn	23 34 35.5	-1.3
SSOR	**Sweet Springs**	**4.65**	**64**	P	Pn	23 34 36.4	-1.8
NLO	**Nicolai Mounta**	**4.68**	**47**	P	Pn	23 34 36.2	-2.5
BKCOR	**Black Crater**	**5.00**	**72**	P	Pn	23 34 42.0	-1.3
VLMM	**Larch Mountain**	**5.20**	**58**	P	Pn	23 34 44.1	-1.9
TDH	**Tom, Dick, Har**	**5.25**	**62**	P	Pn	23 34 45.0	-1.8
VLL	**Laurance Lake**	**5.40**	**60**	P	Pn	23 34 47.2	-1.6
VFP	**Flag Point**	**5.48**	**62**	P	Pn	23 34 48.7	-1.2
KOSW	**Kosmos**	**5.60**	**49**	P	Pn	23 34 49.7	-2.0
ASR	**Mount Adams--S**	**5.77**	**54**	P	Pn	23 34 52.1	-2.0
VIPM	**Ingram Point**	**5.80**	**72**	P	Pn	23 34 52.5	-2.0
LON	**Longmire**	**5.98**	**49**	P	Pn	23 34 54.7	-2.3
FMW	**Mount Fremont**	**6.17**	**48**	P	Pn	23 34 57.4	-2.3
SDCO	**Great Sand Dun**	**18.16**	**99**	P	P	23 37 37.6	-2.5
1.1nm,0.6s							
MNTX	**Cornudas Mount**	**21.38**	**114**	*e*P	P	23 38 14.8	-1.2

*THE **14** 23:48:08.3, 39.25N×20.96E, h10km, ML2.8*
*CSEM **14** 23:48:08.3±0.2, 39.26N×20.94E, h8km, ML2.8, Error ellipse: s-maj=4.4km s-min=3.5km az=42.0*
*ATH **14** 23:48:09.2, 39.38N×21.22E, h5km, MD3.1/3*
ISC 14 23:48:07.9±0.6, 39.25N±0.04×20.96E±0.05, h4km±9km, n11, σ0§92/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.42**	**348**	*e*PG	**Pg**	**23 48 16.5**	**+0.3**
JAN				*e*SB	**Sb**	**23 48 23.0**	**-0.8**
IGT	**Igoumenitsa**	**0.56**	**301**	*e*Pg	**Pg**	**23 48 18.6**	**-0.5**
IGT				*e*Sg	**Sg**	**23 48 27.7**	**+1.0**
LKD	**Levkas**	**0.59**	**204**	*e*Pg	**Pg**	**23 48 19.4**	**-0.3**
LKD				*e*Sg	**Sg**	**23 48 28.4**	**+0.8**
EVR	**Evrytania**	**0.74**	**116**	*e*PB	**Pb**	**23 48 22.0**	**-0.9**
LSK	**Leskovik**	**0.94**	**343**	*i* Pg	**Pg**	**23 48 25.2**	**-1.5**
LSK				*i* Sg	**Sg**	**23 48 39.8**	**+0.5**
SRN	**Sarande**	**0.97**	**311**	*i* Pg	**Pg**	**23 48 26.1**	**-1.3**
SRN				*i* Sg	**Sg**	**23 48 41.3**	**+0.9**
KEK	**Kerkira**	**1.01**	**298**	*e*PB	**Pb**	**23 48 31.3**	**+3.7**
AGG	**Agios Georgios**	**1.09**	**101**	*e*Pg	**Pg**	**23 48 28.6**	**-1.0**
AGG				*e*Sg	**Sg**	**23 48 45.1**	**+1.0**
LIT	**Litokhoron**	**1.46**	**54**	*e*Pb	**Pb**	**23 48 35.5**	**+0.2**
LIT				*e*Sb	**Sb**	**23 48 55.5**	**+1.5**
FNA	**Florina**	**1.57**	**12**	*e*Pb	**Pb**	**23 48 37.0**	**-0.2**
GRG	**Griva**	**2.03**	**32**	*e*Pn	**Pn**	**23 48 43.2**	**-0.1**

*NNC **14** 23:54:29.4±1.8, 41.79N×72.45E, mpv2.7, Error ellipse: s-maj=26.1km s-min=6.7km az=17.0*
KNET 14 23:54:28.1±0.6, 41.74N×72.55E, h1km±2km, ml1.9, 6C-7D, Error ellipse: s-maj=5.2km s-min=3.2km az=156.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.94**	**65**	P	Pb	23 54 46.4	-0.5
12nm,0.1s,SNR=67							
AML				⇓S	Sg	23 55 00.7	+1.3
24nm,0.1s							
EKS2	**Erkin-Say**	**1.29**	**44**	⇓P	Pb	23 54 53.2	+0.2
2.3nm,0.1s,SNR=20							
EKS2				⇓S	Sb	23 55 12.1	+2.1
2.6nm,0.1s							
UCH	**Uchtor**	**1.54**	**71**	⇑P	Pn	23 54 57.1	+0.3
3.1nm,0.2s,SNR=5.5							
AAK	**Ala-Archa**	**1.70**	**58**	⇓P	Pn	23 55 00.7	+1.6
3.8nm,0.2s,SNR=8.5							
AAK				⇑S	Sb	23 55 25.0	+3.4
3.0nm,0.2s							
AAK	**Ala-Archa**	**1.70**	**58**	⇑P	Pn	23 55 00.6	+1.5
2.8nm,0.4s							
AAK				⇑S	Sb	23 55 24.2	+2.5
1.8nm,0.3s							
KBK	**Karagaybulak**	**2.00**	**62**	⇓P	Pn	23 55 06.0	+2.5
4.8nm,0.2s,SNR=8.6							
KBK				⇓S	Sn	23 55 34.9	+5.4
5.3nm,0.1s							
KK31	**Karatay Array**	**2.03**	**313**	⇑Lg		23 55 30.5	
2.4nm,0.3s,baz=132,slow=28							
USP	**Ospenovka**	**2.10**	**43**	⇓P	Pn	23 55 06.7	+1.9
4.1nm,0.2s,SNR=5.4							
USP				⇑S	Sn	23 55 37.5	+5.6
12nm,0.2s							

*NEIC **14** 23:56:16.6, 31.59S×69.57W, h156km, mb4.5/1, After GUC.*
GUC 14 23:56:16.6±0.8, 31.59S×69.57W, h156km±7km, ML3.9, 5C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**1.33**	**240**	*i* P	P	23 56 45.4	+0.1
PTCH				*i* S	S	23 57 06.8	-0.6
PTCH				AMP		23 57 09.6	
comp=E,4μm,0.6s							
ILCH	**Illapel**	**1.36**	**268**	*i* P	P	23 56 46.1	+0.6
ILCH				*i* S	S	23 57 08.1	+0.2
ILCH				AMP		23 57 10.2	
comp=E,1μm,0.2s							
JACH	**Jahuel**	**1.39**	**218**	*i* P	P	23 56 45.9	+0.1
JACH				*i* S	S	23 57 08.6	+0.2
CHNG	**Los Chungos**	**1.67**	**260**	*i* P	P	23 56 49.0	+0.2
CHNG				*i* S	S	23 57 12.9	-0.6
TLL	**Tololo Astrono**	**1.77**	**323**⇑	*i*P	P	23 56 50.4	+0.5
TLL				*i* S	S	23 57 15.9	+0.3
PEL	**Peldehue**	**1.81**	**211**⇑	*i*P	P	23 56 50.2	0.0
PEL				*i* S	S	23 57 15.6	-0.6
PEL				AMP		23 57 17.2	
comp=N,1μm,0.3s							
FCH	**Farellones**	**1.83**	**199**	*i* P	P	23 56 51.0	+0.5
FCH				*i* S	S	23 57 17.6	+0.9
FCH				AMP		23 57 23.4	
comp=E,753nm,0.2s							
ROCH	**El Roble**	**1.84**	**221**⇓	*i*P	P	23 56 50.8	+0.2
ROCH				*i* S	S	23 57 17.3	+0.5
PACH	**Papudo**	**1.84**	**239**	*e*P	P	23 56 50.9	+0.3
PACH				*i* S	S	23 57 16.2	-0.6
CLCH	**Cerro Calan**	**1.97**	**204**⇑	*i*P	P	23 56 52.4	+0.3
CLCH				*i* S	S	23 57 19.7	+0.2
CLCH				AMP		23 57 23.9	
comp=E,636nm,0.5s							
DSCH	**Colegio Aleman**	**1.99**	**205**	*i* P	P	23 56 52.5	+0.2
DSCH				*i* S	S	23 57 19.6	-0.2
DSCH				AMP		23 57 20.5	
comp=E,630nm,0.4s							
FSR	**Penalolen**	**2.04**	**203**	*i* P	P	23 56 53.1	+0.2
FSR				*i* S	S	23 57 21.0	+0.1
FSR				AMP		23 57 26.6	
comp=E,394nm,0.4s							
RCDM	**Rinconada Maip**	**2.16**	**209**⇓	*i*P	P	23 56 54.5	+0.2
RCDM				*i* S	S	23 57 23.9	+0.5
RCDM				AMP		23 57 27.6	
comp=E,778nm,0.1s							
ANTU	**Antumapu**	**2.16**	**204**	*i* P	P	23 56 54.7	+0.3
ANTU				*i* S	S	23 57 23.5	0.0
ANTU				AMP		23 57 29.2	
comp=E,608nm,0.2s							
PCH	**Pirque**	**2.17**	**201**⇑	*i*P	P	23 56 54.9	+0.4
PCH				*i* S	S	23 57 23.9	+0.2
LMEL	**Las Melosas**	**2.31**	**193**	*e*P	P	23 56 56.4	+0.2
LMEL				AMP		23 57 39.4	
comp=N,352nm,0.2s							
TACH	**Talagante**	**2.35**	**209**	*i* P	P	23 56 56.6	-0.2
TACH				*i* S	S	23 57 26.9	-0.7
CHCH	**Chadas Angostu**	**2.50**	**201**	*i* P	P	23 56 58.8	+0.2
CHCH				*i* S	S	23 57 31.1	+0.3
LCCH	**Las Cruces**	**2.52**	**221**	*i* P	P	23 56 58.9	0.0
LCCH				*i* S	S	23 57 30.7	-0.6
CACH	**El Canelo**	**2.66**	**199**⇑	*i*P	P	23 57 01.1	+0.5
CICH	**Cipreses**	**2.81**	**194**⇓	*i*P	P	23 57 02.9	+0.4
SFDO	**San Fernando**	**3.25**	**202**	*i* P	P	23 57 07.7	-0.4
SFDO				*i* S	S	23 57 47.0	-0.5
TRQA	**Tornquist**	**8.97**	**138**	*e*Pn	P	23 58 19.9	-3.8
comp=N,10nm,0.7s							

IDC 15 00:07:49.4±1.3, 8.64N×146.07E, mb3.8/6, mb1 4.1/6, mb1mx3.9/18, mbtmp3.8/6, MS3.6/6, Ms1 3.6/6, ms1mx3.1/29, Error ellipse: s-maj=40.6km s-min=28.9km az=113.0, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**28.55**	**180**	LR	LR	00 23 24.6	
comp=Z,62nm,19.8s,baz=227,slow=33							
MJAR	**Matsushiro Arr**	**28.68**	**347**	LR	LR	00 23 22.5	
comp=Z,63nm,19.3s,baz=195,slow=33							
WRA	**Warramunga Arr**	**30.66**	**202**	P	P	00 14 06.2	-1.9
2.4nm,0.8s,baz=28,slow=9.6,SNR=6.3							
FITZ	**Fitzroy Crossi**	**33.36**	**217**	LR	LR	00 28 12.2	
comp=Z,63nm,18.3s,baz=283,slow=37							
ASAR	**Alice Springs**	**34.24**	**200**	LR	LR	00 27 27.7	
comp=Z,45nm,21.3s,baz=6.7,slow=34							
STKA	**Stephens Creek**	**40.51**	**186**	LR	LR	00 30 59.7	
comp=Z,130nm,19.9s,baz=26,slow=34							
CMAR	**Chiang Mai Arr**	**46.72**	**287**	P	P	00 16 19.1	-3.2
1.1nm,0.8s,baz=85,slow=6.6,SNR=6.3							
SONM	**Songino Array**	**51.46**	**327**	P	P	00 16 58.4	-0.2
0.3nm,0.6s,baz=146,slow=7.6,SNR=3.7							
PPT	**Papeete**	**68.69**	**113**	LR	LR	00 41 51.4	
comp=Z,171nm,20.2s,baz=155,slow=30							
ILAR	**Eielson Array**	**72.54**	**24**	P	P	00 19 17.0	-2.8
0.4nm,0.7s,baz=250,slow=5.8,SNR=5.5							
BVAR	**Borovoye Array**	**74.53**	**323**	P	P	00 19 30.1	-1.6
1.4nm,0.7s,baz=112,slow=8.0,SNR=13							
YKA	**Yellowknife Ar**	**86.69**	**27**	P	P	00 20 35.5	-0.5
0.4nm,0.7s,baz=286,slow=5.2,SNR=7.6							

IDC 15 00:10:48.6±7.2, 8.90S×130.33E, h55km±86km, mb3.1/1, mb1 3.5/4, mb1mx3.3/14, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=47.4km s-min=42.1km az=21.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.22**	**206**	P	P	00 13 13.4	-2.0
0.6nm,0.3s,baz=11,slow=8.9,SNR=17							
FITZ				S	S	00 15 06.9	-2.6
0.8nm,0.3s,baz=177,slow=14,SNR=6.8							
WRA	**Warramunga Arr**	**11.64**	**161**	P	P	00 13 31.2	-3.4
0.2nm,0.3s,baz=338,slow=13,SNR=4.1							
WRA				S	S	00 15 42.6	-1.4
0.6nm,0.3s,baz=335,slow=22,SNR=9.0							
ASAR	**Alice Springs**	**15.08**	**167**	P	P	00 14 17.9	-1.9
0.1nm,0.3s,baz=11,slow=13,SNR=5.0							
ASAR				S	S	00 17 04.8	-1.0
0.1nm,0.3s,baz=348,slow=20,SNR=6.0							
SONM	**Songino Array**	**60.33**	**342**	P	P	00 20 52.0	-2.3
0.3nm,0.6s,baz=159,slow=5.4,SNR=3.7							

*IDC **15** 00:20:30.5±1.8, 2.60N×95.49E, h21km±5km, mb4.0/6, mb1 4.1/7, mb1mx3.8/21, mbtmp4.1/7, ML4.1/1, MS3.0/1, Ms1 3.2/1, ms1mx2.4/28, Error ellipse: s-maj=69.9km s-min=18.4km az=60.0*
*NEIC **15** 00:20:23.0±0.6, 2.56N×95.57E, mb4.3/8, Error ellipse: s-maj=13.6km s-min=6.9km az=51.0*
ISC 15 00:20:29.1±0.8, 2.56N±0.10×95.6E±0.1, h21km, h21km±.7km: pP-P, n18, σ0§76/18, mb4.3/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.73**	**62**	*e*Pn	**Pn**	**00 21 54.5**	**-0.7**
CM31	**Chiang Mai Arr**	**16.14**	**12**	*e*Pn	**P**	**00 24 17.1**	**+0.6**
5.9nm,0.7s							
CM31				*e*pPn		00 24 23.5	
CMAR	**Chiang Mai Arr**	**16.14**	**12**	Pn	**P**	**00 24 17.4**	**+1.0**
0.3nm,0.3s,baz=201,slow=11,SNR=38							
CMAR				pP		00 24 23.5	
0.2nm,0.3s,baz=201,slow=11,SNR=16							
CMAR				LR	LR	00 30 10.0	
comp=Z,56nm,18.5s,baz=210,slow=36							
KKM	**Kota Kinabalu**	**20.85**	**80**	*e*P	**P**	**00 25 12.2**	**-0.1**
JIRN	**Jiri**	**26.53**	**341**	*e*P	**P**	**00 26 07.6**	**+0.2**
13nm,0.6s,mb4.7							
PKI	**Pulchoki**	**26.71**	**340**	*e*P	**P**	**00 26 09.7**	**+0.7**
7.9nm,0.6s,mb4.4							
DMN	**Daman**	**26.85**	**339**	*e*P	**P**	**00 26 10.6**	**+0.3**
4.3nm,0.4s,mb4.4			

comp=Z,313nm,21.7s,baz=168,slow=31
CMAR Chiang Mai Arr 51.15 299 P P 00 51 27.8 +1.0
4.9nm,0.6s,mb4.7,baz=118,slow=6.2,SNR=42
CMAR pP pP 00 51 51.8 +6.6
2.2nm,0.8s,baz=117,slow=6.3,SNR=4.2
SONM Songino Array 62.93 332 P P 00 52 49.2 -0.6
0.5nm,0.5s,mb3.7,baz=158,slow=6.3,SNR=7.8
JIRN Jiri 65.47 304 *e*P **P 00 53 07.1 +0.4**
6.1nm,0.5s,mb4.7
GUN Gumba 65.82 304 *e*P **P 00 53 09.4 +0.5**
21nm,0.6s,mb5.1
PKI Pulchoki 66.09 303 *e*P **P 00 53 10.4 -0.2**
4.7nm,0.5s,mb4.6
KKN Kakani 66.28 303 *e*P **P 00 53 12.0 +0.2**
16nm,0.7s,mb5.0
DMN Daman 66.36 303 *e*P **P 00 53 12.4 +0.1**
15nm,0.6s,mb5.0
GKN Gorkha 66.88 303 *e*P **P 00 53 15.6 0.0**
15nm,0.5s,mb5.1
KOLN Koldanda 67.67 303 *e*P **P 00 53 20.3 -0.2**
15nm,0.6s,mb5.0
VNDA Vanda 72.58 176 P **P 00 53 49.9 +0.5**
3.5nm,0.7s,mb4.3,baz=323,slow=6.6,SNR=20
ZAL Zalesovo 77.45 328 P **P 00 54 17.3 -0.4**
0.7nm,0.3s,mb3.8,baz=325,slow=7.9,SNR=3.2
ZAL pP pP 00 54 42.3 +4.8
0.5nm,0.5s,baz=351,slow=6.4,SNR=2.3
ZAL Zalesovo 77.45 328 P **P 00 54 17.3 -0.5**
ZAL pP pP 00 54 42.3 +4.8
QSPA South Pole Qui 84.50 180 *e*P **P 00 54 54.7 +0.5**
8.2nm,0.8s,mb4.7
QSPA *e*P 00 55 20.9
ILAR Eielson Array 85.82 24 P **P 00 54 59.8 -1.2**
2.6nm,0.7s,mb4.3,baz=251,slow=5.4,SNR=29
ILAR pP pP 00 55 25.5 +4.4
0.4nm,0.6s,baz=244,slow=5.5,SNR=2.8
GERES GERESS Array B 120.27 325 PKP PKPdf 01 01 12.8 +1.2
0.4nm,0.4s,baz=90,slow=1.3,SNR=6.6
LPAZ La Paz 140.83 124 PKP PKPdf 01 01 52.0 +0.6
0.7nm,0.5s,baz=170,slow=8.3,SNR=3.7
DBIC Dimbokro 149.89 274 PKPbc PKPdf 01 02 14.2 +7.5
5.6nm,1.0s,baz=222,slow=8.5,SNR=6.1

IDC ***15*** *01:00:47.0±1.9, 1.00N×97.12E, mb3.9/7, mb1 4.1/8, mb1mx3.8/20, mbtmp3.9/8, ML4.0/1, Error ellipse: s-maj=81.9km s-min=18.4km az=59.0*
NEIC ***15*** *01:00:51.8±0.8, 1.08N×97.23E, h30km, mb4.3/3, Error ellipse: s-maj=21.1km s-min=9.1km az=71.0*
BJI ***15*** *01:00:58.4, 1.99N×98.00E, h30km, mB5.3, mb4.7*
ISC 15 01:00:50.1±0.9, 1.08N±0.10×97.3E±0.2, h30km, n16, σ0^{s}68/16, mb4.1/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.38**	**39**	*e*Pn	**Pn**	**01 02 10.7**	**+0.2**
CM31	**Chiang Mai Arr**	**17.35**	**5**	*e*P	**P**	**01 04 51.9**	**0.0**
	6.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.35**	**5**	P	**P**	**01 04 51.5**	**-0.3**
	0.2nm,0.3s,baz=197,slow=12,SNR=12						
SHL	**Shillong**	**24.89**	**348**	*e*P	**P**	**01 06 13.0**	**+1.0**
ENH	**Enshi**	**31.27**	**21**	*e*P	**P**	**01 07 08.6**	**-1.2**
	5.1nm,0.6s,mb4.5						
GTA	**Gaotai**	**38.22**	**3**	*e*P	**P**	**01 08 10.3**	**+1.1**
GTA				AP	pP	01 08 16.3	-1.9
GTA				XP	sP	01 08 19.8	-2.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**01 08 39.2**	**-0.9**
	comp=Z,1.2nm,0.7s,mb3.7,baz=301,slow=8.9,SNR=9.9						
WRAB	**Tennant Creek**	**41.92**	**122**	*e*P	**P**	**01 08 40.1**	**0.0**
	comp=Z,6.3nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**43.27**	**127**	P	**P**	**01 08 51.5**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.6,baz=308,slow=7.9,SNR=7.9						
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**01 09 22.9**	**+0.5**
	comp=Z,1.8nm,0.8s,mb4.1,baz=186,slow=9.5,SNR=14						
SONM				PcP	PcP	01 10 53.8	+0.1
	comp=Z,0.7nm,0.8s,baz=207,slow=2.8,SNR=4.8						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**01 10 09.0**	**+0.7**
	comp=Z,2.5nm,1.1s,mb4.1,baz=322,slow=16,SNR=3.3						
ZAL	**Zalesovo**	**53.68**	**351**	P	**P**	**01 10 11.3**	**0.0**
	comp=Z,1.7nm,0.5s,mb4.3,baz=310,slow=5.7,SNR=6.8						
ZAL	**Zalesovo**	**53.68**	**351**	P	**P**	**01 10 11.3**	**0.0**
BVAR	**Borovoye Array**	**56.38**	**341**	P	**P**	**01 10 29.9**	**-1.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=101,slow=7.6,SNR=7.8						
ARCES	**ARCESS Array B**	**82.67**	**340**	P	**P**	**01 13 11.5**	**-0.3**
	comp=Z,1.8nm,0.9s,mb4.1,baz=76,slow=5.0,SNR=3.6						
ARCES	**ARCESS Array B**	**82.67**	**340**	P	**P**	**01 13 11.5**	**-0.3**

PRE 15 01:03:29.9±1.9, 26.36S×27.47E, h2km, ML3.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.57**	**190**	*e*P	Pg	01 03 40.2	-1.1
PRYS				*e*S	Sg	01 03 47.7	-1.2
PRYS				*e*		01 03 52.5	
	comp=Z,2μm,0.5s						
KSR	**Koster**	**0.72**	**314**	*e*P	Pg	01 03 43.2	-1.1
KSR				*e*S	Sg	01 03 52.5	-1.5
KSR				*e*		01 04 00.0	
	comp=Z,1μm,0.3s						
SLR	**Silverton**	**0.96**	**50**	*e*P	Pb	01 03 47.3	-1.6
SLR				*e*S	Sg	01 03 59.8	-2.0
SLR				*e*		01 04 07.0	
	comp=Z,1μm,0.2s						
SEK	**Senekal**	**1.96**	**176**	*e*S	Sn	01 04 28.5	-1.5
SEK				*e*		01 04 30.6	
	comp=Z,610nm,0.3s						
SWZ	**Schweizer**	**2.08**	**246**	*e*P	Pn	01 04 05.3	-0.9
SWZ				*e*S	Sn	01 04 31.2	-1.9
SWZ				*e*		01 04 35.0	
	comp=Z,1μm,0.4s						
NWL	**Newcastle**	**2.59**	**122**	*e*P	Pn	01 04 12.1	-1.5
NWL				*e*S	Sn	01 04 44.0	-2.1
NWL				*e*		01 04 52.9	
	comp=Z,276nm,0.5s						
BOSA	**Boshof**	**2.99**	**221**	*e*P	Pn	01 04 17.3	-1.9
BOSA				*e*S	Sn	01 04 52.9	-3.2
POGA	**Pongola**	**3.83**	**106**	*e*P	Pn	01 04 30.2	-1.0
POGA				*e*S	Sn	01 05 13.4	-4.0
MSNA	**Messina**	**4.62**	**31**	*e*P	Pn	01 04 39.0	-3.5
MSNA				*e*S	Sn	01 05 21.0	-17
PKA	**Prieska**	**5.31**	**231**	*e*P	Pn	01 04 48.0	-4.2
PKA				*e*S	Sn	01 05 13.3	-42
PKA				*e*		01 05 16.3	
	comp=Z,17nm,0.2s						
CVNA	**Calvinia**	**8.46**	**231**	*e*P	P	01 05 31.8	-4.7
CVNA				*e*S	Sn	01 06 04.4	-69
CVNA				*e*		01 06 08.4	
	comp=Z,18nm,0.6s						

NEIC ***15*** *01:12:37.2±4.6, 7.20S×128.75E, h81km±49km, Error ellipse: s-maj=58.8km s-min=23.4km az=52.0*
IDC 15 01:12:37.9±8.6, 7.23S×128.77E, h88km±91km, mb3.5/2, mb1 3.9/5, mb1mx3.6/15, mbtmp4.1/5, ML4.0/3, Error ellipse: s-maj=120.0km s-min=31.4km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.23**	**195**	P	P	01 15 14.9	-2.1
	1.2nm,0.3s,baz=19,slow=11,SNR=16						
FITZ				S	S	01 17 07.0	-14
	1.0nm,0.3s,baz=11,slow=10,SNR=3.1						
WRAB	**Tennant Creek**	**13.74**	**157**	*e*Pn	P	01 15 48.6	-1.5
	8.3nm,0.6s						
WRAB				*e*Sn	S	01 18 14.1	-6.8
WRA	**Warramunga Arr**	**13.74**	**157**	P	P	01 15 48.9	-1.3
	1.1nm,0.3s,baz=333,slow=14,SNR=12						
WRA				S	S	01 18 15.6	-5.4
	1.7nm,0.3s,baz=332,slow=22,SNR=7.5						
ASAR	**Alice Springs**	**17.07**	**164**	P	P	01 16 32.8	+0.4
	0.5nm,0.3s,baz=337,slow=10,SNR=52						
ASAR				S	S	01 19 34.4	-3.3
	0.4nm,0.3s,baz=319,slow=15,SNR=5.6						
STKA	**Stephens Creek**	**27.28**	**156**	P	P	01 18 13.8	-2.5
	1.3nm,0.5s,baz=320,slow=9.7,SNR=4.4						
SONM	**Songino Array**	**58.28**	**342**	P	P	01 22 23.5	-2.2
	0.5nm,0.6s,baz=158,slow=9.5,SNR=4.9						

NNC ***15*** *01:44:40.3±2.4, 43.02N×77.15E, mpv2.8, Error ellipse: s-maj=74.7km s-min=15.9km az=163.0*
KNET 15 01:44:40.8±0.8, 42.14N×76.95E, h7km±3km, ml2.6, 11C-7D, Error ellipse: s-maj=6.6km s-min=4.9km az=14.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.54**	**282**	P	Pg	01 44 51.2	-0.4
	53nm,0.1s,SNR=557						
ULHL				⇑S	Sg	01 45 00.4	+1.5
	128nm,0.1s						
KZA	**Kyzart**	**1.27**	**268**	⇑P	Pb	01 45 03.8	-0.8
	37nm,0.4s,SNR=33						
KZA				⇑S	Sb	01 45 23.2	+2.2
	27nm,0.2s						
TKM2	**Tokmak 2**	**1.27**	**308**	⇑P	Pb	01 45 05.1	+0.4
	17nm,0.1s,SNR=40						
TKM2				⇓S	Sb	01 45 24.3	+3.2
	149nm,0.1s						
KBK	**Karagaybulak**	**1.57**	**290**	⇑P	Pn	01 45 10.3	+1.1
	14nm,0.2s,SNR=30						
KBK				⇑S	Sb	01 45 33.5	+3.7
	65nm,0.2s						
UCH	**Uchtor**	**1.82**	**274**	P	Pn	01 45 14.0	+1.3
	4.0nm,0.2s,SNR=20						
CHMS	**Chmysh**	**1.84**	**299**	P	Pn	01 45 14.8	+1.7
	6.9nm,0.2s,SNR=11						
CHMS				⇓S	Sn	01 45 41.0	+4.2
	36nm,0.2s						
AAK	**Ala-Archa**	**1.89**	**286**	⇑P	Pn	01 45 15.6	+1.8
	13nm,0.3s,SNR=23						
AAK				⇓S	Sn	01 45 42.2	+4.1
	34nm,0.2s						
AAK	**Ala-Archa**	**1.89**	**286**	⇓P	Pn	01 45 15.4	+1.6
	2.3nm,0.2s						
AAK				⇑S	Sn	01 45 42.1	+4.0
	13nm,0.3s						
USP	**Ospenovka**	**2.13**	**303**	⇑P	Pn	01 45 19.5	+2.2
	9.6nm,0.2s,SNR=14						
USP				⇓S	Sn	01 45 49.9	+5.6
	52nm,0.2s						
AML	**Almayashu**	**2.42**	**271**	⇑P	Pn	01 45 24.9	+3.5
	11nm,0.3s,SNR=38						
AML				⇓S	Sn	01 45 58.5	+6.8
	60nm,0.4s						
KK31	**Karatay Array**	**4.85**	**284**	⇓Pn	Pn	01 45 57.4	+1.5
	1.0nm,0.7s,slow=0.1,SNR=3.8						
KK31				⇑Lg		01 47 13.3	
	3.9nm,0.6s,baz=208,slow=36,SNR=2.5						

DJA ***15*** *02:06:04.3±1.3, 7.20S×107.46E, h5km±3km, MD5.1/1, Error ellipse: s-maj=31.0km s-min=9.9km az=146.0*
IDC ***15*** *02:06:06.2±0.7, 6.86S×107.49E, mb4.2/10, mb1 4.4/10, mb1mx4.2/20, mbtmp4.2/10, MS3.7/10, Ms1 3.7/10, ms1mx3.6/18, Error ellipse: s-maj=33.7km s-min=15.6km az=48.0*
NEIC ***15*** *02:06:07.8±0.5, 6.89S×107.46E, h10km, mb4.4/5, Error ellipse: s-maj=21.9km s-min=8.7km az=225.0*
NEIC Felt [II] at Bandung.
ISC 15 02:06:05.3±0.4, 6.98S±0.08×107.35E±0.06, h10km, n34, σ1^{s}20/27, mb4.2/13, MS3.7/10, 1C-3D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SINI	**Singah**	**0.15**	**104**	⇓*e*Pg	**Pg**	**02 06 08.1**	**-0.8**
LEM	**Lembang**	**0.30**	**61**	*e*Pn	**Pn**	**02 06 13.7**	**-1.6**
PACI	**Pancar Gunung**	**0.58**	**311**	⇑*i*Pn	**Pn**	**02 06 17.3**	**-2.0**
KALI	**Kaliastana**	**0.70**	**259**	*e*Pn	**Pn**	**02 06 18.7**	**-2.3**
DJA	**Jakarta**	**0.94**	**327**	*e*Pn	**Pn**	**02 06 25.8**	**+1.3**
PULI	**Pulasari**	**1.50**	**295**	⇓*e*Pn	**Pn**	**02 06 31.9**	**-0.6**
PASI	**Pasiripis**	**1.77**	**279**	*e*Pn	**Pn**	**02 06 35.6**	**-0.8**
PENI	**Pendagan**	**2.58**	**303**	⇓*e*Pn	**Pn**	**02 06 48.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**20.97**	**124**	*e*P	**P**	**02 10 50.0**	**-1.3**
	18nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.97**	**124**	P	**P**	**02 10 50.6**	**-0.7**
	21nm,0.9s,baz=284,slow=7.5,SNR=11						
FITZ				LR	LR	02 18 09.8	
	comp=Z,185nm,20.1s,MS3.5,baz=300,slow=35						
KKTK	**Khon Kaen**	**23.59**	**349**	P	**P**	**02 11 22.0**	**+4.6**
	278nm,1.0s,mb5.6						
KAKA	**Kakadu**	**25.36**	**105**	*e*P	**P**	**02 11 35.4**	**+1.0**
	13nm,0.9s,mb4.5						
NANT	**Nan**	**26.44**	**346**	P	**P**	**02 11 48.5**	**+4.0**
CM31	**Chiang Mai Arr**	**26.60**	**342**	*e*P	**P**	**02 11 46.3**	**+0.3**
	4.0nm,0.6s,mb4.1						
CMAR	**Chiang Mai Arr**	**26.60**	**342**	P	**P**	**02 11 45.5**	**-0.4**
	2.5nm,0.8s,mb3.8,baz=177,slow=8.6,SNR=12						
CMAR				LR	LR	02 24 11.2	
	comp=Z,162nm,18.8s,MS3.6,baz=160,slow=41						
CHG	**Chiang Mai**	**26.93**	**342**	P	**P**	**02 11 52.8**	**+3.8**
NWAO	**Narrogin (SRO)**	**27.41**	**162**	LR	LR	02 21 53.2	
	comp=Z,135nm,21.8s,MS3.5,baz=342,slow=34						
WRA	**Warramunga Arr**	**29.18**	**119**	P	**P**	**02 12 09.0**	**-0.3**
	2.3nm,0.7s,mb4.0,baz=295,slow=9.5,SNR=7.7						
WRAB	**Tennant Creek**	**29.18**	**119**	P	**P**	**02 12 09.5**	**+0.2**
	4.5nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**29.19**	**119**	*e*P	**P**	**02 12 09.5**	**+0.1**
ASAR	**Alice Springs**	**30.42**	**126**	P	**P**	**02 12 19.1**	**-1.3**
	2.3nm,0.8s,mb4.0,baz=301,slow=8.3,SNR=13						
ASAR				PcP	PcP	02 15 20.7	+0.7
	0.7nm,0.8s,baz=303,slow=1.5,SNR=5.0						
ASAR				LR	LR	02 25 18.1	
	comp=Z,104nm,19.7s,MS3.5,baz=310,slow=38						
STKA	**Stephens Creek**	**40.40**	**132**	*e*P	**P**	**02 13 45.9**	**+0.5**
	7.1nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**40.40**	**132**	P	**P**	**02 13 46.2**	**+0.9**
	5.9nm,0.6s,mb4.5,baz=308,slow=9.1,SNR=24						
SONM	**Songino Array**	**54.58**	**359**	P	**P**	**02 15 36.8**	**+0.7**
	1.2nm,0.9s,mb3.9,baz=180,slow=6.2,SNR=9.6						
SONM				LR	LR	02 39 46.5	
	comp=Z,76nm,19.0s,MS3.8,baz=191,slow=37						
ZAL	**Zalesovo**	**63.59**	**345**	LR	LR	02 47 22.1	
	comp=Z,56nm,18.6s,MS3.8,baz=102,slow=39						
KMBO	**Kilima Mbogo**	**70.11**	**271**	LR	LR	02 42 24.6	
	comp=Z,92nm,19.9s,MS4.0,baz=94,slow=31						
VNDA	**Vanda**	**75.93**	**169**	P	**P**	**02 17 55.4**	**+1.8**
	1.0nm,0.9s,mb3.8,baz=330,slow=7.8,SNR=2.0						
MATP	**Matopo**	**77.18**	**251**	P	**P**	**02 18 04.1**	**+2.4**
	2.9nm,0.9s,mb4.2,baz=103,slow=8.0,SNR=6.2						
ASF	**Jabal al Asfar**	**77.43**	**305**	P	**P**	**02 18 04.4**	**+1.6**
	3.3nm,0.9s,mb4.2,baz=341,slow=2.2,SNR=5.2						
BOSA	**Boshof**	**79.78**	**242**	LR	LR	02 48 16.7	
	comp=Z,42nm,18.4s,MS3.8,baz=349,slow=32						
BRTR	**Keskin Array B**	**82.07**	**312**	P	**P**	**02 18 27.6**	**0.0**
	1.2nm,0.9s,mb3.8,baz=135,slow=7.0,SNR=6.2						
ARCES	**ARCESS Array B**	**93.64**	**340**	LR	LR	03 06 45.4	
	comp=Z,49nm,18.2s,MS4.0,baz=184,slow=39						
NOA	**NORSAR Array B**	**99.04**	**331**	LR	LR	03 06 57.0	
	comp=Z,27nm,21.6s,MS3.7,baz=260,slow=37						
YKA	**Yellowknife Ar**	**116.72**	**20**	PKP	PKPdf	02 24 51.1	-1.7
	0.2nm,0.8s,baz=329,slow=1.9,SNR=3.2						

IDC ***15*** *02:14:35.2±1.1, 1.74S×99.75E, mb4.2/11, mb1 4.4/11, mb1mx4.1/19, mbtmp4.2/11, Error ellipse: s-maj=61.2km s-min=15.1km az=55.0*
NEIC ***15*** *02:14:39.5±0.5, 1.75S×99.76E, h30km, mb4.6/1, Error ellipse: s-maj=22.1km s-min=7.6km az=60.0*
ISC 15 02:14:38.7±0.8, 1.6S±0.1×99.9E±0.2, h33km, n17, σ0^{s}70/15, mb4.2/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.92**	**6**	Pn	**Pn**	**02 16 20.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**19.99**	**357**	P	**P**	**02 19 11.0**	**-0.3**
	1.1nm,0.6s,baz=184,slow=10.0,SNR=8.6						
FITZ	**Fitzroy Crossi**	**30.09**	**125**	P	**P**	**02 20 46.7**	**-0.9**
	4.3nm,0.7s,mb4.3,baz=330,slow=7.3,SNR=9.4						
WRA	**Warramunga Arr**	**38.26**	**121**	P	**P**	**02 21 57.7**	**-0.1**
	2.9nm,0.4s,mb4.4,baz=301,slow=9.2,SNR=25						
WRA				PcP	PcP	02 24 12.5	+0.3
	0.4nm,0.8s,baz=312,slow=2.5,SNR=5.4						
WRAB	**Tennant Creek**	**38.26**	**121**	P	**P**	**02 21 57.8**	**0.0**
	4.9nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**39.54**	**126**	P	**P**	**02 22 08.7**	**+0.3**
	1.5nm,0.7s,mb3.8,baz=306,slow=8.1,SNR=16						
ASAR				PcP	PcP	02 24 16.6	+0.4
	1.3nm,0.7s,baz=315,slow=3.1,SNR=6.6						
STKA	**Stephens Creek**	**49.46**	**132**	P	**P**	**02 23 28.6**	**+0.7**
	0.7nm,0.4s,mb4.1,baz=292,slow=20,SNR=4.8						
SONM	**Songino Array**	**49.59**	**6**	P	**P**	**02 23 29.6**	**+0.8**
	0.9nm,0.5s,mb4.1,baz=186,slow=9.1,SNR=9.3						
ZAL	**Zalesovo**	**56.79**	**349**	P	**P**	**02 24 21.7**	**-0.2**
	5.1nm,0.5s,mb4.8,baz=316,slow=5.5,SNR=7.1						
BVAR	**Borovoye Array**	**59.81**	**340**	P	**P**	**02 24 41.6**	**-1.5**
	1.6nm,0.6s,mb4.2,baz=143,slow=8.3,SNR=6.3						
FINES	**FINESS Array B**	**83.75**	**332**	P	**P**	**02 27 06.0**	**+0.4**
	0.8nm,0.4s,mb4.2,baz=107,slow=5.6,SNR=16						
FINES	**FINESS Array B**	**83.75**	**332**	P	**P**	**02 27 06.0**	**+0.4**
KAF	**Kangasniemi**	**83.82**	**333**	*e*pkp	**P**	**02 27 04.9**	**-1.0**
ARCES	**ARCESS Array B**	**86.10**	**340**	P	**P**	**02 27 17.9**	**+0.9**
	4.8nm,1.1s,mb4.6,baz=79,slow=6.2,SNR=6.4						
GERES	**GERESS Array B**	**88.72**	**319**	P	**P**	**02 27 30.9**	**+0.8**
	0.1nm,0.3s,mb3.7,baz=124,slow=4.8,SNR=3.9						
TXAR	**Lajitas Array**	**144.47**	**37**	PKP	PKPdf	02 34 13.9	+1.5
	1.8nm,0.4s,baz=200,slow=0.8,SNR=42						
MIAR	**Mount Ida**	**144.92**	**20**	*e*PKPdf	PKPdf	02 34 14.1	+1.1

IDC ***15*** *02:15:60.0±1.0, 42.02N×86.27E, mb3.7/7, mb1 4.0/8, mb1mx3.8/22, mbtmp3.7/8, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/29, Error ellipse: s-maj=46.4km s-min=18.0km az=62.0*
NEIC ***15*** *02:16:01.9±0.8, 41.96N×86.04E, h10km, mb3.5/1, Error ellipse: s-maj=17.8km s-min=13.2km az=212.0*
BJI ***15*** *02:16:02.5, 41.99N×86.04E, h8km, ML4.0*
MOS ***15*** *02:16:03.5±1.8, 42.03N×85.89E, h33km, mb4.4/1, Error ellipse: s-maj=30.9km s-min=21.7km az=92.9*
ISC 15 02:15:59.9±3.4, 42.0N±0.1×86.1E±0.1, h10km±21km, n21, σ0^{s}73/22, mb3.5/7, MS3.1/1, 1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.14**	**32**	⇓*i*P	**Pn**	**02 16 41.3**	**+5.0**
WMQ				SG	**Sg**	**02 17 11.3**	**-0.1**
WMQ				Smax			
	comp=N,809nm,0.8s						
WMQ				Smax			
	comp=E,1μm,0.8s						
AAK	**Ala-Archa**	**8.65**	**278**	*e*P	**P**	**02 18 07.9**	**-0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
AAK	**Ala-Archa**	**8.65**	**278**	*e*Pn	**P**	**02 18 07.9**	**-0.1**
	comp=Z,3.3nm,0.4s						
ZAL	**Zalesovo**	**11.97**	**356**	P	**P**	**02 18 52.5**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**11.97**	**356**	Pn	**P**	**02 18 52.5**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=294,slow=11,SNR=7.1						
BVAR	**Borovoye Array**	**15.28**	**322**	Pn	**P**	**02 19 37.6**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=124,slow=11,SNR=9.6						
SONM	**Songino Array**	**15.47**	**61**	Pn	**P**	**02 19 45.9**	**+6.2**
	comp=Z,0.3nm,0.3s,baz=251,slow=12,SNR=17						
ULN	**Ulaanbaatar**	**15.91**	**61**	*e*P	**P**	**02 19 49.7**	**+4.4**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ULN	**Ulaanbaatar**	**15.91**	**61**	*e*P	**P**	**02 19 49.7**	**+4.3**
	comp=Z,4.8nm,1.1s						
BOD	**Bodaibo**	**23.68**	**39**	*e*P	**P**	**02 21 13.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**25.89**	**151**	P	**P**	**02 21 34.0**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.89**	**151**	P	**P**	**02 21 34.0**	**+0.3**
	comp=Z,1.6nm,0.8s,mb3.6,baz=329,slow=8.9,SNR=9.7						
FINES	**FINESS Array B**	**40.23**	**320**	P	**P**	**02 23 38.2**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.5,baz=330,slow=38,SNR=5.1						
ARCES	**ARCESS Array B**	**41.17**	**332**	P	**P**	**02 23 46.3**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,29nm,20.0s						
ARCES	**ARCESS Array B**	**41.17**	**332**	P	**P**	**02 23 46.3**	**+0.7**
	comp=Z,1.3nm,0.6s,mb3.8,baz=93,slow=7.5,SNR=7.9						
ARCES				LR	LR	02 42 05.1	
	comp=Z,29nm,20.0s,MS3.1,baz=293,slow=38						
NOA	**NORSAR Array B**	**47.40**	**320**	P	**P**	**02 24 35.7**	**0.0**
	comp=Z,0.3nm,0.7s,mb3.4,baz=80,slow=6.8,SNR=3.1						
ILAR	**Eielson Array**	**65.78**	**22**	P	**P**	**02 26 46.0**	**-0.6**
	comp=Z,0.3nm,0.8s,mb3.4,baz=315,slow=3.8,SNR=2.9						
YKA	**Yellowknife Ar**	**74.52**	**10**	P	**P**	**02 27 38.9**	**-0.8**
	comp=Z,0.2nm,0.6s,mb3.3,baz=339,slow=6.0,SNR=6.2						
YKA	**Yellowknife Ar**	**74.52**	**10**	P	**P**	**02 27 38.9**	**-0.8**
WRA	**Warramunga Arr**	**76.04**	**134**	P	**P**	**02 27 48.7**	**-0.7**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**76.04**	**134**	P	**P**	**02 27 48.7**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=329,slow=4.9,SNR=4.5						

ATH ***15*** *02:17:13.7, 39.45N×20.44E, h30km, MD3.2/4*
CSEM ***15*** *02:17:14.7±0.2, 39.41N×20.43E, h2km, ML2.8, Error ellipse: s-maj=5.5km s-min=3.7km az=40.0*
THE ***15*** *02:17:15.3, 39.40N×20.40E, h1km, ML2.8*
ISC 15 02:17:14.0±0.8, 39.35N±0.04×20.30E±0.07, h10km, n11, σ1^{s}09/14, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.18**	**8**	*e*Pg	**Pg**	**02 17 17.5**	**-0.5**
JAN	**Janina**	**0.52**	**54**	*e*PB	**Pb**	**02 17 22.0**	**-2.8**
KEK	**Kerkira**	**0.53**	**313**	*e*PN	**Pn**	**02 17 25.5**	**-1.8**
SRN	**Sarande**	**0.58**	**336**	*i*Pg	**Pg**	**02 17 25.9**	**+0.3**
SRN				*i*Sg	**Sg**	**02 17 34.6**	**+1.2**
LKD	**Levkas**	**0.70**	**157**	*e*Pg	**Pg**	**02 17 29.1**	**+1.0**
LSK

ML3.8(AEIC),After AEIC.
*IDC **15** 02:49:50.2±3.4,52.14N×171.30W,h59km±30km,mb3.7/17, mb1 4.0/19,mb1mx3.9/28,mbtmp4.0/19,ML3.5/2,MS3.4/6, Ms1 3.5/6,ms1mx3.1/37,Error ellipse: s-maj=22.7km s-min=12.0km az=176.0*

ISC 15 02:49:47.1±0.7,52.21N±0.09×171.25W±0.06,h48km±6km, n55,σ0=98/57,mb4.0/20,MS3.5/5,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.65**	**61**	P	**P**	**02 50 13.4**	**-0.8**
NIKO				S	**S**	**02 50 32.8**	**-1.5**
ATKA	**Atka Island**	**1.81**	**271**	P	**P**	**02 50 16.3**	**-0.2**
ATKA				S	**S**	**02 50 39.6**	**+1.3**
GSIG	**Igitkin Island**	**2.89**	**267**	P	**P**	**02 50 31.9**	**+0.1**
GSTR	**Great Sitkin T**	**2.96**	**270**	P	**P**	**02 50 33.7**	**+0.8**
GSMY	**Great Sitkin M**	**2.97**	**269**	P	**P**	**02 50 33.0**	**+0.1**
GSTD	**Great Sitkin T**	**3.02**	**269**	P	**P**	**02 50 33.7**	**0.0**
UNV	**Unalaska Valle**	**3.30**	**58**	*eP*	**P**	**02 50 38.0**	**+0.3**
ADAG	**Mount Adagdak**	**3.31**	**268**	P	**P**	**02 50 37.6**	**-0.2**
KIWB	**Kanaga Island**	**3.66**	**267**	*eP*	**P**	**02 50 41.9**	**-0.8**
KIKV	**Kanaga Island**	**3.67**	**267**	P	**P**	**02 50 42.9**	**+0.1**
KIMD	**Kanaga Island**	**3.73**	**265**	P	**P**	**02 50 43.7**	**0.0**
FX1	**Attu Island--F**	**9.52**	**280**	P	**P**	**02 52 04.9**	**+0.6**
FX1				S	**S**	**02 53 49.8**	**-1.2**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	**Attu Island--F**	**9.52**	**280**	P	**P**	**02 52 04.9**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=109,slow=20,SNR=7.2						
FX1				S	**S**	**02 53 49.8**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=25,slow=10,SNR=2.3						
IMA	**Indian Mountai**	**16.46**	**26**	*eP*	**P**	**02 53 35.1**	**-0.7**
THY	**Trims Highway**	**17.47**	**40**	P	**P**	**02 53 49.9**	**+1.4**
ILAR	**Eielson Array**	**17.74**	**35**	P	**P**	**02 53 52.7**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=237,slow=10.0,SNR=12						
ILAR				LR	LR	03 01 15.4	
	comp=Z,87nm,18.6s,baz=191,slow=38						
BILL	**Bilibino**	**19.23**	**334**	*eP*	**P**	**02 54 11.3**	**+1.8**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s						
BILL	**Bilibino**	**19.23**	**334**	P	**P**	**02 54 10.3**	**+0.7**
	comp=Z,11nm,1.0s						
DLBC	**Dease Lake**	**23.96**	**59**	P	**P**	**02 55 00.5**	**+3.2**
	comp=Z,3.8nm,0.7s,mb3.9,baz=286,slow=11,SNR=12						
DLBC	**Dease Lake**	**23.96**	**59**	P	**P**	**02 55 00.5**	**+3.2**
INK	**Inuvik**	**24.12**	**34**	P	**P**	**02 54 59.9**	**+1.1**
INK						02 58 40.6	
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**24.12**	**34**	P	**P**	**02 54 59.9**	**+1.1**
	comp=Z,1.4nm,0.5s,mb3.7,baz=239,slow=7.5,SNR=14						
INK				PcP	PcP	02 58 40.6	+0.1
	comp=Z,0.4nm,0.3s,baz=161,slow=1.9,SNR=3.7						
YKA	**Yellowknife Ar**	**31.21**	**48**	P	**P**	**02 56 03.9**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.6,baz=275,slow=7.8,SNR=18						
YKA				PcP	PcP	02 58 57.8	+0.3
	comp=Z,0.3nm,0.9s,baz=286,slow=2.3,SNR=4.1						
YKA				LR	LR	03 09 18.0	
	comp=Z,78nm,19.7s,MS3.4,baz=285,slow=37						
ASAJ	**Asahikawa**	**31.37**	**274**	LR	LR	03 07 36.8	
	comp=Z,38nm,18.1s,MS3.1,baz=98,slow=34						
NEW	**Newport**	**34.17**	**75**	P	**P**	**02 56 30.1**	**+0.7**
NEW				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NEW	**Newport**	**34.17**	**75**	P	**P**	**02 56 30.1**	**+0.7**
	comp=Z,1.7nm,0.5s,mb4.2,baz=288,slow=6.4,SNR=5.3						
EDM	**Edmonton**	**34.26**	**65**	P	**P**	**02 56 27.2**	**-3.0**
WVOR	**Wild Horse Val**	**36.24**	**84**	P	**P**	**02 56 46.7**	**-0.4**
MCMT	**McKenzie Canyo**	**38.44**	**77**	*eP*	**P**	**02 57 05.8**	**+0.3**
NVAR	**Mina Array Bea**	**38.82**	**89**	P	**P**	**02 57 10.0**	**+1.3**
	comp=Z,0.7nm,0.5s,mb3.7,baz=301,slow=7.6,SNR=6.2						
BOD	**Bodaibo**	**41.19**	**308**	*eP*	**P**	**02 57 25.3**	**-2.8**
PDAR	**Pinedale Array**	**41.57**	**78**	P	**P**	**02 57 32.1**	**+0.8**
	comp=Z,1.3nm,0.7s,mb3.7,baz=306,slow=3.3,SNR=12						
HIA	**Hailar**	**42.27**	**295**	*eP*	**P**	**02 57 36.8**	**-0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HIA	**Hailar**	**42.27**	**295**	*eP*	**P**	**02 57 36.8**	**-0.2**
	comp=Z,8.5nm,0.6s,mb4.5						
SONM	**Songino Array**	**50.38**	**300**	P	**P**	**02 58 41.5**	**+0.4**
	comp=Z,0.4nm,0.4s,mb3.9,baz=57,slow=6.1,SNR=6.7						
SONM				PcP	PcP	02 59 59.4	+0.1
	comp=Z,0.5nm,0.7s,baz=153,slow=2.8,SNR=3.7						
SONM				LR	LR	03 21 05.0	
	comp=Z,60nm,19.2s,MS3.6,baz=92,slow=37						
TXAR	**Lajitas Array**	**53.91**	**87**	P	**P**	**02 59 07.1**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=296,slow=5.2,SNR=13						
ZAL	**Zalesovo**	**56.77**	**317**	LR	LR	03 23 01.5	
	comp=Z,40nm,19.1s,MS3.5,baz=273,slow=35						
ARCES	**ARCESS Array B**	**57.95**	**353**	P	**P**	**02 59 36.1**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,48nm,18.2s						
ARCES	**ARCESS Array B**	**57.95**	**353**	P	**P**	**02 59 36.0**	**-0.1**
	comp=Z,3.2nm,0.8s,mb4.4,baz=11,slow=7.0,SNR=6.1						
ARCES				LR	LR	03 24 56.1	
	comp=Z,48nm,18.2s,MS3.6,baz=175,slow=36						
BVAR	**Borovoye Array**	**63.15**	**323**	P	**P**	**03 00 11.7**	**-0.1**
	comp=Z,2.1nm,0.6s,mb4.4,baz=53,slow=6.7,SNR=13						
JOF	**Joensuu**	**63.85**	**349**	*ep*	**P**	**03 00 15.0**	**-1.1**
	comp=Z,1.6nm,0.7s,mb4.2						
JOF	**Joensuu**	**63.85**	**349**	*eP*	**P**	**03 00 15.0**	**-1.1**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KAF	**Kangasniemi**	**65.18**	**351**	*ep*	**P**	**03 00 22.4**	**-2.3**
	comp=Z,1.7nm,0.7s,mb4.2						
KAF	**Kangasniemi**	**65.18**	**351**	*eP*	**P**	**03 00 22.4**	**-2.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**65.86**	**351**	P	**P**	**03 00 28.0**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**65.86**	**351**	P	**P**	**03 00 27.9**	**-1.1**
	comp=Z,1.3nm,0.9s,mb4.0,baz=27,slow=4.3,SNR=4.5						
NB2	**NORSAR Subarra**	**67.09**	**359**	P	**P**	**03 00 36.6**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.7,baz=3.0,slow=6.5						
NOA	**NORSAR Array B**	**67.09**	**359**	P	**P**	**03 00 36.9**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=1.1,slow=6.4,SNR=4.4						
CMAR	**Chiang Mai Arr**	**75.52**	**281**	P	**P**	**03 01 28.8**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**75.52**	**281**	P	**P**	**03 01 28.8**	**+0.7**
	comp=Z,2.6nm,0.7s,mb4.3,baz=26,slow=6.3,SNR=21						
GERES	**GERESS Array B**	**79.24**	**357**	P	**P**	**03 01 49.0**	**+0.9**
	comp=Z,0.2nm,0.3s,mb3.5,baz=18,slow=4.2,SNR=5.9						
WRA	**Warramunga Arr**	**86.01**	**230**	P	**P**	**03 02 22.0**	**-1.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**86.01**	**230**	P	**P**	**03 02 22.0**	**-1.5**
	comp=Z,0.5nm,0.6s,mb3.9,baz=37,slow=6.2,SNR=4.7						
ESDC	**Sonseca Array**	**87.83**	**10**	P	**P**	**03 02 33.0**	**+1.2**
	comp=Z,0.5nm,0.5s,mb4.0,baz=340,slow=2.7,SNR=4.8						
ASAR	**Alice Springs**	**89.41**	**229**	P	**P**	**03 02 39.4**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.6,baz=28,slow=5.0,SNR=19						

*NEIC **15** 03:08:53.8±0.7,35.18S×106.88W,h10km,Error ellipse: s-maj=22.8km s-min=13.2km az=81.0*
*IDC **15** 03:08:54.0±1.3,34.90S×106.66W,mb3.9/7,mb1 4.1/7, mb1mx4.0/16,mbtmp3.9/7,MS4.0/10,Ms1 4.0/10, ms1mx3.8/30,Error ellipse: s-maj=39.4km s-min=27.8km az=27.0*

ISC 15 03:08:51.8±0.9,35.2S±0.1×107.0W±0.2,h10km,n33, σ0=99/21,mb3.9/7,MS4.0/9,3C,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**8.31**	**346**	LR	LR	03 13 10.6	
	comp=Z,1μm,20.9s,baz=346,slow=32						
PLCA	**Paso Flores**	**29.13**	**112**	P	**P**	**03 14 54.6**	**-0.3**
	1.5nm,0.8s,mb3.8,baz=258,slow=17,SNR=4.4						
PLCA				LR	LR	03 23 14.6	
	comp=Z,236nm,21.3s,MS3.8,baz=274,slow=30						
USHA	**Ushuaia**	**33.01**	**139**	LR	LR	03 25 31.0	
	comp=Z,946nm,19.2s,MS4.5,baz=247,slow=30						
LVC	**Limon Verde**	**35.45**	**80**	LR	LR	03 26 23.1	
	comp=Z,358nm,19.5s,MS4.1,baz=243,slow=30						
ARE	**Arequipa**	**36.78**	**69**	*eP*	**P**	**03 16 04.0**	**+2.4**
TBI	**Tubuai**	**38.58**	**276**	*eLQ*		03 24 55.2	
TBI				*eLR*	LR	03 26 40.2	
	199nm,26.5s						
LPAZ	**La Paz**	**39.47**	**72**	P	**P**	**03 16 24.0**	**-0.2**
	1.3nm,0.8s,mb3.7,baz=207,slow=6.5,SNR=5.9						
LPAZ				LR	LR	03 28 58.2	
	comp=Z,159nm,21.9s,MS3.8,baz=235,slow=31						
PPT	**Papeete**	**41.61**	**284**	*eS*	**S**	**03 22 39.9**	**-18**
PPT				*eLQ*		03 26 10.4	
PPT				*eLR*	LR	03 27 50.1	
	135nm,22.5s,baz=100						
PPT	**Papeete**	**41.61**	**284**	LR	LR	03 30 11.6	
	comp=Z,28nm,18.2s,MS3.3,baz=117,slow=30						
SIV	**San Ignacio**	**45.20**	**77**	P	**P**	**03 17 09.5**	**-1.5**
	0.8nm,0.6s,mb3.7,baz=202,slow=6.4,SNR=6.1						
ROSC	**El Rosal**	**50.35**	**44**	P	**P**	**03 17 50.9**	**-0.2**
	4.7nm,0.7s,mb4.6,baz=86,slow=22,SNR=5.7						
ROSC				LR	LR	03 35 16.5	
	comp=Z,226nm,19.1s,MS4.2,baz=349,slow=32						
BDFB	**Brasilia**	**55.95**	**85**	LR	LR	03 40 53.1	
	comp=Z,150nm,19.3s,MS4.1,baz=83,slow=34						
VNA3	**Neumayer Olymp**	**59.37**	**158**	*e*	**P**	**03 18 56.5**	**+0.4**
VNA3	**Neumayer Olymp**	**59.37**	**158**	*e*	**P**	**03 19 00.3**	**+4.2**
VNA3	**Neumayer Olymp**	**59.37**	**158**	⇑*iP*	**P**	**03 18 55.4**	**-0.7**
VNA3				*e*		03 18 56.5	
VNA3				*e*	pP	03 19 00.3	+1.1
VNA1	**Neumayer--Stat**	**60.01**	**158**	*e*	**P**	**03 19 02.5**	**+2.0**
VNA1	**Neumayer--Stat**	**60.01**	**158**	*e*	**P**	**03 19 07.3**	**+6.8**
VNA1	**Neumayer--Stat**	**60.01**	**158**	⇑*iP*	**P**	**03 19 01.4**	**+0.9**
VNA1				*e*		03 19 02.5	
VNA1				*e*		03 19 07.3	
VNA2	**Neumayer--Watz**	**60.18**	**158**	*e*	**P**	**03 19 01.4**	**-0.2**
VNA2	**Neumayer--Watz**	**60.18**	**158**	*e*	**P**	**03 19 05.2**	**+3.6**
VNA2	**Neumayer--Watz**	**60.18**	**158**	⇑*iP*	**P**	**03 19 00.4**	**-1.2**
VNA2				*e*		03 19 01.4	
VNA2				*e*	pP	03 19 05.2	+0.5
SNAA	**Sanae**	**61.23**	**160**		**P**	**03 19 08.6**	**-0.2**
SNAA	**Sanae**	**61.23**	**160**	LR	LR	03 41 24.6	
	comp=Z,56nm,21.8s,MS3.7,baz=34,slow=32						
TXAR	**Lajitas Array**	**64.30**	**3**	P	**P**	**03 19 30.4**	**+0.7**
	0.4nm,0.9s,mb3.4,baz=170,slow=5.5,SNR=2.5						
TXAR	**Lajitas Array**	**64.30**	**3**	P	**P**	**03 19 30.4**	**+0.7**
NVAR	**Mina Array Bea**	**74.03**	**351**	P	**P**	**03 20 29.3**	**-0.2**
	2.2nm,1.1s,mb4.0,baz=196,slow=6.6,SNR=4.2						
NVAR	**Mina Array Bea**	**74.03**	**351**	P	**P**	**03 20 29.3**	**-0.2**
DZM	**Mont Dzumac**	**74.89**	**254**	LR	LR	03 45 40.1	
	comp=Z,211nm,18.6s,MS4.5,baz=211,slow=29						
PDAR	**Pinedale Array**	**77.66**	**358**	P	**P**	**03 20 49.2**	**-0.7**
	0.7nm,0.7s,mb3.7,baz=117,slow=6.6,SNR=6.1						
AKASG	**Malin Array Be**	**145.02**	**50**	PKP	PKPdf	03 28 30.0	-1.8
	1.9nm,0.7s,baz=276,slow=3.9,SNR=8.4						
AKASG	**Malin Array Be**	**145.02**	**50**	PKP	PKPdf	03 28 30.0	-1.8
BRTR	**Keskin Array B**	**148.64**	**70**	PKPbc	PKPdf	03 28 41.9	+3.7
	1.4nm,1.0s,baz=297,slow=5.5,SNR=6.0						
CMAR	**Chiang Mai Arr**	**151.56**	**241**	PKPbc	PKPdf	03 28 52.4	+9.1
	1.1nm,0.8s,baz=188,slow=1.5,SNR=7.7						

*NEIC **15** 03:20:47.4,34.86S×72.65W,h18km,ML3.2(GUC),After GUC.*

GUC 15 03:20:47.4±0.7,34.86S×72.65W,h18km±3km,MD3.9, ML3.2,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.36**	**49**	*iP*	Pn	03 21 10.5	-1.2
LNV				*iS*	Sb	03 21 29.0	0.0
SFDO	**San Fernando**	**1.37**	**80**	*eP*	Pn	03 21 11.2	-0.6
SFDO				*iS*	Sb	03 21 28.4	-0.8
LCCH	**Las Cruces**	**1.64**	**33**	*eP*	Pn	03 21 14.9	-0.9
CACH	**El Canelo**	**1.84**	**67**	*eP*	Pn	03 21 18.8	+0.2
CACH				*iS*	Sn	03 21 43.1	+1.4
TACH	**Talagante**	**1.86**	**50**	*eP*	Pn	03 21 18.8	0.0
TACH				*iS*	Sn	03 21 42.8	+0.9
CHCH	**Chadas Angostu**	**1.89**	**61**	*eP*	Pn	03 21 19.4	+0.1
CHCH				*iS*	Sn	03 21 43.2	+0.5
CICH	**Cipreses**	**1.91**	**74**	*eP*	Pn	03 21 19.8	+0.2
CICH				*iS*	Sn	03 21 44.6	+1.2
PCH	**Pirque**	**2.15**	**56**	*eP*	Pn	03 21 23.9	+0.9
PCH				*iS*	Sn	03 21 51.0	+1.5
LMEL	**Las Melosas**	**2.26**	**64**	*eP*	Pn	03 21 25.3	+0.8
LMEL				*iS*	Sn	03 21 53.8	+1.7
LMEL				AMP		03 21 57.7	
	comp=N,182nm,0.4s						
CLCH	**Cerro Calan**	**2.28**	**51**	*eP*	Pn	03 21 25.7	+0.9
CLCH				*iS*	Sn	03 21 54.2	+1.6
CLCH				AMP		03 22 02.5	
	comp=E,172nm,0.7s						
FCH	**Farellones**	**2.48**	**53**	*eP*	Pn	03 21 27.0	-0.8
FCH				*iS*	Sn	03 22 00.0	+2.2

*IDC **15** 03:22:03.9±1.9,5.45S×146.97E,h216km±17km,mb3.8/8, mb1 4.2/11,mb1mx4.1/14,mbtmp4.4/11,Error ellipse: s-maj=22.4km s-min=11.8km az=108.0*
*NEIC **15** 03:22:03.6±1.1,5.41S×146.94E,h214km±11km,mb4.6/10, Error ellipse: s-maj=12.0km s-min=8.3km az=112.0*

ISC 15 03:22:00.4±1.1,5.34S±0.07×146.99E±0.08,h196km±10km, n32,σ0=98/35,mb4.1/12,6D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.04**	**178**	P	**P**	**03 23 04.6**	**+1.4**
PMG				S	**S**	**03 23 51.0**	**-0.7**
	89nm,0.3s,baz=196,slow=22,SNR=5.4						
CTA	**Charters Tower**	**14.68**	**183**	⇓*iP*	**P**	**03 25 21.7**	**+1.7**
	14nm,0.8s						
CTA	**Charters Tower**	**14.68**	**183**	P	**P**	**03 25 21.2**	**+1.2**
	1.1nm,0.3s,baz=2.0,slow=12,SNR=9.0						
CTAO	**Charters Tower**	**14.68**	**183**	*eP*	**P**	**03 25 21.6**	**+1.6**
	45nm,1.1s						
KAKA	**Kakadu**	**16.12**	**242**	*eP*	**P**	**03 25 37.3**	**-0.5**
	63nm,0.6s						
KAKA				*eS*	**S**	**03 28 30.9**	**+0.8**
WRAB	**Tennant Creek**	**19.02**	**219**	*eP*	**P**	**03 26 08.7**	**-0.8**
	74nm,0.6s						
WB2	**Warramunga Arr**	**19.02**	**219**	*eP*	**P**	**03 26 09.1**	**-0.5**
WB2				*eS*	**S**	**03 29 30.5**	**+0.2**
WRA	**Warramunga Arr**	**19.03**	**219**	P	**P**	**03 26 09.1**	**-0.6**
	11nm,0.3s,baz=46,slow=12,SNR=287						
WRA				S	**S**	**03 29 30.6**	**+0.1**
	0.5nm,0.3s,baz=38,slow=20,SNR=7.9						
ASAR	**Alice Springs**	**22.16**	**213**	P	**P**	**03 26 42.0**	**+1.2**
	34nm,0.7s,mb5.0,baz=45,slow=8.4,SNR=259						
ASAR				S	**S**	**03 30 29.1**	**+2.1**
	3.9nm,1.0s,baz=34,slow=16,SNR=4.6						
ASPA	**Alice Springs**	**22.16**	**213**	⇓*iP*	**P**	**03 26 41.9**	**+1.1**
ASPA				*eS*	**S**	**03 30 28.7**	**+1.6**
FITZ	**Fitzroy Crossi**	**24.41**	**237**	⇓*iP*	**P**	**03 27 01.9**	**-0.6**
	100nm,0.4s						
FITZ	**Fitzroy Crossi**	**24.41**	**237**	P	**P**	**03 27 02.0**	**-0.5**
	123nm,0.4s,baz=30,slow=5.9,SNR=157						
ARMA	**Armidale**	**25.33**	**171**	*eP*	**P**	**03 27 10.9**	**0.0**
STKA	**Stephens Creek**	**26.88**	**190**	⇓*iP*	**P**	**03 27 23.5**	**-1.6**
	2.6nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**26.88**	**190**	P	**P**	**03 27 23.7**	**-1.4**
	1.9nm,0.3s,mb4.2,baz=353,slow=12,SNR=14						
MBWA	**Marble Bar**	**30.75**	**237**	*eP*	**P**	**03 27 58.3**	**-1.3**
	5.8nm,0.6s,mb4.4						
FORT	**Forrest**	**30.94**	**213**	⇓*iP*	**P**	**03 27 59.9**	**-1.3**
	514nm,0.5s						
KLBR	**Kellerberrin**	**37.84**	**223**	⇓*iP*	**P**	**03 28 58.5**	**-1.4**
	148nm,0.3s						
MJAR	**Matsushiro Arr**	**42.47**	**350**	P	**P**	**03 29 38.4**	**+0.6**
	1.5nm,0.7s,mb3.5,baz=179,slow=8.4,SNR=4.2						
CMAR	**Chiang Mai Arr**	**52.93**	**298**	pP	pP	03 31 51.2	+8.3
	0.5nm,0.6s,baz=121,slow=5.4,SNR=4.7						
HIA	**Hailar**	**59.33**	**340**	P	**P**	**03 31 44.1**	**+0.2**
	3.5nm,0.4s,mb4.3						
SONM	**Songino Array**	**63.83**	**331**	P	**P**	**03 32 14.5**	**+0.6**
	0.8nm,0.5s,mb3.6,baz=149,slow=5.5,SNR=6.9						
VNDA	**Vanda**	**72.57**	**177**	P	**P**	**03 33 06.6**	**-0.8**
	1.4nm,0.5s,mb3.9,baz=331,slow=6.9,SNR=18						
BILL	**Bilibino**	**74.46**	**7**	*eP*	**P**	**03 33 18.1**	**-0.4**
	1.2nm,0.5s,mb3.8						
QSPA	**South Pole Qui**	**84.62**	**180**	*eP*	**P**	**03 34 11.8**	**-0.6**
	2.5nm,0.2s,mb4.6						
ILAR	**Eielson Array**	**84.88**	**23**	P	**P**	**03 34 13.2**	**-0.8**
	2.4nm,0.6s,mb4.1,baz=252,slow=4.9,SNR=39						
NVAR	**Mina Array Bea**	**96.97**	**52**	P	**P**	**03 35 13.3**	**+2.3**
	0.9nm,0.7s,mb4.1,baz=257,slow=8.6,SNR=6.0						
NVAR	**Mina Array Bea**	**96.97**	**52**	P	**P**	**03 35 13.3**	**+2.3**
YKA	**Yellowknife Ar**	**98.59**	**28**	P	**P**	**03 35 18.1**	**+0.3**
	0.4nm,0.8s,mb3.8,baz=273,slow=5.4,SNR=7.6						
YKA	**Yellowknife Ar**	**98.59**	**28**	P	**P**	**03 35 18.1**	**+0.3**
GERES	**GERESS Array B**	**121.36**	**326**	PKP	PKPdf	03 40 30.9	+0.6
	0.3nm,0.4s,baz=90,slow=1.3,SNR=5.6						
SIV	**San Ignacio**	**145.06**	**128**	PKPbc	PKPbc	03 41 15.6	0.0
	4.4nm,0.5s,baz=244,slow=4.4,SNR=48						

*IDC **15** 03:30:55.7±0.5,10.16N×92.20E,h29km±3km,mb4.0/17, mb1 4.1/18,mb1mx4.0/27,mbtmp4.1/18,ML3.9/1,MS3.4/1, Ms1 3.6/1,ms1mx2.7/26,Error ellipse: s-maj=23.7km s-min=10.0km az=53.0*
*BJI **15** 03:30:56.2,10.30N×92.30E,h30km,mB3.9,mb4.2*
*NEIC **15** 03:30:56.3±0.3,10.30N×92.34E,mb4.3/9,Error ellipse: s-maj=10.6km s-min=5.5km az=56.0*

ISC 15 03:30:53.5±0.4,10.16N±0.06×92.11E±0.06,h30km, h30km±.8km:pP-P,n50,σ0=83/51,mb4.2/21,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.85**	**71**	P	**Pn**	**03 32 51.8**	**+3.1**
KULM	**Kulim**	**9.74**	**119**	*ePn*	**P**	**03 33 14.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**10.57**	**38**	Pn	**P**	**03 33 26.3**	**0.0**
	0.2nm,0.3s,baz=232,slow=15,SNR=14						
CMAR				LR	LR	03 38 27.7	
	comp=Z,183nm,18.9s,baz=230,slow=43						
CMAR	**Chiang Mai Arr**	**10.57**	**38**	Pn	**P**	**03 33 26.3**	**0.0**
CMAR				LR	LR	03 38 27.7	
VIS	**Vishakhapatnam**	**11.36**	**312**	*eP*	**P**	**03 33 35.0**	**-2.1**
VIS				*e*		03 33 45.1	
	comp=Z,169nm,1.3s						
VIS				*eS*	**S**	**03 35 30.9**	**-13**
PALK	**Pallekele**	**11.64**	**257**	*ePn*	**P**	**03 33 45.8**	**+4.9**
	comp=Z,6.4nm,0.8s						
BWNR	**Bhubaneshwar**	**11.77**	**330**	*eP*	**P**	**03 33 41.9**	**-0.6**
BWNR				*e*		03 33 42.5	
	comp=Z,35nm,0.3s						
BWNR				*eS*	**S**	**03 35 39.0**	**-15**
HYB	**Hyderabad**	**15.01**	**300**	*eP*	**P**	**03 34 33.0**	**+7.4**
HYB	**Hyderabad**	**15.01**	**300**	*i P*	**P**	**03 34 33.0**	**+7.4**
HYB				*eS*	**S**	**03 37 11.0**	**-0.5**
BLSP	**Bilaspur**	**15.27**	**322**	*e*	**P**	**03 34 28.1**	**-0.8**
JIRN	**Jiri**	**18.28**	**343**	*eP*	**P**	**03 35 07.6**	**+0.7**
	comp=Z,6.6nm,0.3s						
PKI	**Pulchoki**	**18.43**	**341**	*eP*	**P**	**03 35 09.4**	**+0.6**
	comp=Z,8.9nm,0.4s						
DMN	**Daman**	**18.57**	**340**	*eP*	**P**	**03 35 10.4**	**0.0**
	comp=Z,34nm,0.7s						
GUN	**Gumba**	**18.60**	**342**	*eP*	**P**	**03 35 09.9**	**-1.0**
KKN	**Kakani**	**18.68**	**341**	*eP*	**P**	**03 35 12.7**	**+1.0**
	comp=Z,14nm,0.5s						
KAD	**Karad**	**18.80**	**294**	*eP*	**P**	**03 35 12.3**	**-0.9**
KAD				*e*		03 35 17.1	
	comp=Z,10nm,0.5s						
GKN	**Gorkha**	**19.09**	**339**	*eP*	**P**	**03 35 16.0**	**-0.6**
	comp=Z,16nm,0.5s						
BHPL	**Bhopal**	**19.14**	**315**	*eP*	**P**	**03 35 18.8**	**+1.6**
BHPL				*e*		03 35 30.1	
	comp=Z,32nm,1.0s						
KOLN	**Koldanda**	**19.26**	**337**	*eP*	**P**	**03 35 19.3**	**+0.7**
	comp=Z,23nm,0.7s						
LSA	**Lhasa**	**19.46**	**357**	P	**P**	**03 35 19.8**	**-1.1**
LSA				*e*		03 35 31.6	
POO	**Poona**	**19.54**	**297**	*e*	**P**	**03 35 29.0**	**+7.2**
GYA	**Guiyang**	**21.26**	**38**	P	**P**	**03 35 39.5**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
ENH	**Enshi**	**25.74**	**37**	*eP*	**P**	**03 36 21.9**	**-1.5**
	comp=Z,12nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**35.83**	**338**	*eP*	**P**	**03 37 53.0**	**+0.5**
	comp=Z,5.5nm,1.4s,mb4.3						
AAK				*ep*P	pP	03 38 03.0	+1.6
SONM	**Songino Array**	**39.43**	**15**	P	**P**	**03 38 23.2**	**+0.5**
	comp=Z,0.5nm,0.3s,mb3.7,baz=196,slow=8.9,SNR=8.0						
FITZ	**Fitzroy

mb1 4.5/28,mb1mx4.4/32,mbtmp4.6/28,MS4.2/19,
Ms1 4.3/19,ms1mx4.1/29,Error ellipse: s-maj=22.8km
s-min=9.9km az=48.0

ISC 15 03:33:41.7±0.3,14.13N±0.05×92.04W±0.03,h58km,
h58km±3.8km:pP-P,n307,σ1§36/307,mb4.8/92,MS4.3/23,
14C-5D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TP2	**Tecpan 2**	**1.18**	**57**	*eP*		**P**	**P**	**03 34 04.2**	**+1.9**
TP2					AML		AML	03 34 30.6	
	comp=E,10μm,0.4s								
FUG	**Fuego 3**	**1.21**	**75⇓**	*eP*			**P**	**03 34 03.4**	**+0.7**
PCG	**Pacaya**	**1.42**	**79⇑**	*eP*			**P**	**03 34 06.8**	**+1.1**
IXG	**Ixpaco**	**1.54**	**88**	*eP*			**P**	**03 34 07.5**	**+0.1**
IXG					AML		AML	03 34 35.3	
	comp=N,65μm,0.4s								
RBDL	**Robledal**	**2.29**	**90⇓**	*eP*			**P**	**03 34 18.7**	**+0.9**
RTR	**El Retiro**	**2.34**	**95⇑**	*eP*			**P**	**03 34 19.1**	**+0.5**
SBLS	**San Blas**	**2.37**	**97⇑**	*eP*			**P**	**03 34 19.6**	**+0.6**
SNJE	**San Jose**	**2.38**	**96⇓**	*eP*			**P**	**03 34 19.5**	**+0.3**
MTO2	**Montecristo 2**	**2.61**	**84**	*eP*			**P**	**03 34 23.4**	**+0.9**
SCX	**San Cristobal**	**2.65**	**348**	*iP*			**P**	**03 34 26.0**	**+2.9**
SCX				*iS*			**S**	**03 34 58.0**	**+3.9**
BOQS	**Boqueron**	**2.71**	**98⇑**	*eP*			**P**	**03 34 24.5**	**+0.6**
BOQS				*eS*			**S**	**03 34 59.9**	**+4.4**
SNET	**Serv Nac Est T**	**2.76**	**99**	*eS*			**S**	**03 34 58.8**	**+1.9**
LFU	**La Fuente**	**2.87**	**97⇑**	*eP*			**P**	**03 34 27.4**	**+1.3**
LFU				*eS*			**S**	**03 35 00.8**	**+1.3**
LBRS	**Las Brisas**	**2.94**	**97⇓**	*eP*			**P**	**03 34 27.4**	**+0.3**
LFRS	**El Faro**	**2.94**	**100⇑**	*eP*			**P**	**03 34 27.1**	**0.0**
LCBS	**La Ceiba**	**3.01**	**99⇑**	*eP*			**P**	**03 34 28.5**	**+0.3**
SNVI	**San Vicente**	**3.15**	**99**	*eP*			**P**	**03 34 32.0**	**+1.9**
SNVI				*eS*			**S**	**03 35 12.7**	**+5.9**
VSM	**San Miguel**	**3.73**	**100**	*eP*			**P**	**03 34 39.6**	**+1.4**
BLLM	**Bellamira**	**3.76**	**100⇑**	*eP*			**P**	**03 34 41.0**	**+2.3**
CMIG	**Matias Romero**	**4.02**	**317**	*eP*			**P**	**03 34 39.2**	**-3.1**
CMIG				*eS*			**S**	**03 35 23.8**	**-4.8**
CMIG	**Matias Romero**	**4.02**	**317⇑**	*eP*			**P**	**03 34 39.2**	**-3.1**
CMIG				*eS*			**S**	**03 35 23.8**	**-4.8**
CNCH	**Conchagua**	**4.18**	**101**	*eP*			**P**	**03 34 45.9**	**+1.4**
HUIG	**Huatulco**	**4.25**	**293**	*eP*			**P**	**03 34 40.8**	**-4.8**
HUIG				*iS*			**S**	**03 35 24.7**	**-10**
TUIG	**Tuzandepetl**	**4.51**	**330**	*iP*			**P**	**03 34 46.9**	**-2.2**
TUIG				*iS*			**S**	**03 35 38.1**	**-2.6**
EVV	**El Vigia**	**5.35**	**324**	*eP*			**P**	**03 34 56.5**	**-4.3**
EVV	**El Vigia**	**5.35**	**324**	*eP*			**P**	**03 34 58.0**	**-2.8**
OXX	**Oaxaca**	**5.38**	**304**	*eP*			**P**	**03 35 00.5**	**-0.8**
OXX	**Oaxaca**	**5.38**	**304**	*eP*			**P**	**03 35 00.0**	**-1.3**
OXX				*iS*			**S**	**03 35 55.0**	**-7.7**
VHO	**Vista Hermosa**	**5.38**	**304**	*eP*			**P**	**03 34 58.1**	**-3.2**
VHO				*eS*			**S**	**03 35 56.6**	**-6.1**
VHO	**Vista Hermosa**	**5.38**	**304⇑**	*eP*			**P**	**03 34 58.3**	**-3.0**
VHO				*eS*			**S**	**03 35 55.6**	**-7.1**
PNIG	**Pinotepa**	**6.29**	**292**	*iS*			**S**	**03 36 14.3**	**-11**
LVIG	**Laguna Verde**	**6.96**	**324**	*eP*			**P**	**03 35 19.5**	**-3.8**
LVIG				*eS*			**S**	**03 36 37.2**	**-4.7**
IISM	**Ciudad Serdan**	**7.04**	**314**	*iP*			**P**	**03 35 22.5**	**-1.9**
TEIG	**Tepich**	**7.05**	**30**	*ePn*			**P**	**03 35 24.8**	**+0.2**
	comp=N,308nm,0.8s								
JTS	**JuntasAbangare**	**7.91**	**118**	*iP*			**P**	**03 35 37.6**	**+1.1**
JTS	**JuntasAbangare**	**7.91**	**118**	P			**P**	**03 35 37.3**	**+0.8**
	comp=N,3.9nm,0.3s,baz=313,slow=20,SNR=13								
JTS					S		**S**	**03 37 11.7**	**+6.3**
	comp=N,2.2nm,0.3s,baz=325,slow=20,SNR=1.7								
JTS					LR		LR	03 38 44.4	
	comp=N,2μm,20.1s,baz=303,slow=38								
JTS	**JuntasAbangare**	**7.91**	**118**	*ePn*			**P**	**03 35 36.8**	**+0.4**
	comp=N,116nm,0.8s								
PPM	**Popocatepetl**	**8.00**	**309**	*eP*			**P**	**03 35 37.9**	**+0.2**
PPM				*eS*			**S**	**03 37 02.5**	**-5.0**
PPM	**Popocatepetl**	**8.00**	**309**	*eP*			**P**	**03 35 36.6**	**-1.0**
PPM				*iP*				03 35 39.0	
PPM				*eS*			**S**	**03 37 02.1**	**-5.4**
ACX	**Acapulco**	**8.06**	**291**	*iP*			**P**	**03 35 35.0**	**-3.6**
PLIG	**Platanillo**	**8.32**	**302**	*eP*			**P**	**03 35 40.1**	**-2.0**
PLIG				*eS*			**S**	**03 37 09.1**	**-6.6**
PLIG	**Platanillo**	**8.32**	**302**	*eP*			**P**	**03 35 39.7**	**-2.4**
PLIG				*eS*			**S**	**03 37 08.1**	**-7.6**
CAIG	**El Cayaco**	**8.44**	**291**	*eP*			**P**	**03 35 39.4**	**-4.4**
CAIG				*eS*			**S**	**03 37 06.9**	**-12**
UNM	**Universidad Na**	**8.57**	**308**	*eP*			**P**	**03 35 45.0**	**-0.5**
ZIIG	**Zihuatanejo**	**9.70**	**292**	*iP*			**P**	**03 35 57.9**	**-3.3**
ZIIG				*iS*			**S**	**03 37 37.3**	**-12**
COLM	**Colima**	**12.24**	**296**	*eP*			**P**	**03 36 35.1**	**-0.3**
COLM	**Colima**	**12.24**	**296**	*eP*			**P**	**03 36 33.2**	**-2.2**
COLM				*iS*			**S**	**03 38 40.4**	**-11**
SFJM	**Santa Fe**	**12.25**	**303**	*iP*			**P**	**03 36 34.0**	**-1.7**
ZAIG	**Zacatecas**	**13.17**	**312**	*iP*			**P**	**03 36 48.0**	**+0.3**
ZAIG				*iS*			**S**	**03 39 08.0**	**-5.2**
NATX	**Nacogdoches**	**17.71**	**353**	*eP*			**P**	**03 37 47.2**	**+1.3**
	comp=N,92nm,1.2s								
JCT	**Junction City**	**17.77**	**338**	*eP*			**P**	**03 37 46.3**	**-0.4**
JCT				*e*				03 41 04.9	
JCT					pmax		pmax		
	comp=Z,26nm,0.8s								
JCT	**Junction City**	**17.77**	**338**	*eP*			**P**	**03 37 46.3**	**-0.3**
	comp=Z,26nm,0.8s								
JCT				*eSn*			**S**	**03 41 04.8**	**+4.8**
LTX	**Lajitas**	**18.57**	**326**	*eP*			**P**	**03 37 57.5**	**+1.2**
LTX					pmax		pmax		
	comp=Z,49nm,1.0s								
LTX	**Lajitas**	**18.57**	**326**	*eP*			**P**	**03 37 57.5**	**+1.2**
	comp=Z,49nm,1.0s								
TXAR	**Lajitas Array**	**18.57**	**326**	P			**P**	**03 37 58.0**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=155,slow=12,SNR=224								
TXAR					LR		LR	03 46 27.9	
	comp=Z,380nm,18.4s,baz=180,slow=41								
LRAL	**Lakeview Retre**	**19.37**	**13**	*eP*			**P**	**03 38 05.7**	**+0.3**
	comp=Z,47nm,0.9s								
ROSC	**El Rosal**	**19.73**	**116**	P			**P**	**03 38 10.2**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=49,slow=1.4,SNR=24								
MIAR	**Mount Ida**	**20.37**	**356**	*eP*			**P**	**03 38 15.5**	**-0.5**
MIAR					pmax		pmax		
	comp=Z,64nm,0.9s								
MIAR	**Mount Ida**	**20.37**	**356**	*eP*			**P**	**03 38 15.5**	**-0.5**
	comp=Z,64nm,0.9s								
OXF	**Oxford**	**20.43**	**6**	*eP*			**P**	**03 38 15.2**	**-1.4**
OXF					pmax		pmax		
	comp=Z,144nm,1.1s								
OXF	**Oxford**	**20.43**	**6**	*eP*			**P**	**03 38 15.2**	**-1.4**
	comp=Z,144nm,1.1s								
UALR	**University of**	**20.56**	**359**	*eP*			**P**	**03 38 17.8**	**-0.1**
	comp=Z,189nm,1.0s								
UALR				*e*				03 38 31.3	
GOGA	**Godfrey**	**20.72**	**21**	*eP*			**P**	**03 38 19.9**	**+0.3**
GOGA					pmax		pmax		
	comp=Z,54nm,0.9s								
GOGA	**Godfrey**	**20.72**	**21**	*eP*			**P**	**03 38 19.9**	**+0.3**
	comp=Z,54nm,0.9s								
PLAL	**Pickwick Lake**	**21.07**	**9**	*eP*			**P**	**03 38 21.6**	**-1.6**
	comp=Z,16nm,0.8s,mb4.4								
MNTX	**Cornudas Mount**	**21.34**	**327**	*eP*			**P**	**03 38 26.0**	**+0.2**
	comp=Z,87nm,0.9s,mb5.1								
HBAR	**Harrisburg**	**21.37**	**3**	*eP*			**P**	**03 38 23.4**	**-2.7**
WMOK	**Wichita Mounta**	**21.40**	**345**	*eP*			**P**	**03 38 26.1**	**-0.4**
WMOK				*eS*			**S**	**03 42 19.9**	**+4.4**
WMOK					pmax		pmax		
	comp=Z,38nm,0.9s,mb4.7								
WMOK	**Wichita Mounta**	**21.40**	**345**	*eP*			**P**	**03 38 26.1**	**-0.4**
	comp=Z,38nm,0.9s,mb4.7								
WMOK				*eS*			**S**	**03 42 19.9**	**+4.4**
SDV	**Santo Domingo**	**21.61**	**102**	P			**P**	**03 38 29.0**	**+0.3**
	comp=Z,18nm,0.9s,mb4.5,baz=315,slow=5.4,SNR=11								
SDV	**Santo Domingo**	**21.61**	**102**	*eP*			**P**	**03 38 28.1**	**-0.6**
	comp=Z,14nm,0.7s,mb4.5								
SWET	**Sewanee**	**21.71**	**14**	*eP*			**P**	**03 38 29.7**	**+0.2**
SWET				*e*				03 38 49.8	
COW	**Cow Castle Cre**	**21.76**	**26**	*eP*			**P**	**03 38 30.5**	**+0.4**
GLAT	**Glass**	**22.18**	**6**	*eP*			**P**	**03 38 34.0**	**-0.2**
GLAT				*e*				03 38 53.6	
WVT	**Waverly**	**22.23**	**9**	*eP*			**P**	**03 38 33.4**	**-1.3**
WVT					pmax		pmax		
	comp=Z,20nm,0.8s,mb4.6								
WVT	**Waverly**	**22.23**	**9**	*eP*			**P**	**03 38 33.4**	**-1.3**
	comp=Z,20nm,0.8s,mb4.6								
CPCT	**Cooper Cave**	**22.28**	**16**	*eP*			**P**	**03 38 35.2**	**0.0**
JSC	**Jenkinsville**	**22.31**	**24**	*eP*			**P**	**03 38 36.1**	**+0.6**
AMTX	**Amarillo**	**22.42**	**339**	*eP*			**P**	**03 38 36.6**	**0.0**
	comp=Z,136nm,0.8s,mb5.4								
PARMO	**Parma**	**22.53**	**5**	*eP*			**P**	**03 38 37.6**	**0.0**
TZTN	**Tazewell**	**23.58**	**17**	*eP*			**P**	**03 38 48.5**	**+0.7**
CCM	**Cathedral Cave**	**23.84**	**2**	*eP*			**P**	**03 38 49.2**	**-1.1**
CCM				*e*				03 39 01.1	
CCM					pmax		pmax		
	comp=Z,33nm,1.0s,mb4.7								
CCM	**Cathedral Cave**	**23.84**	**2**	*eP*			**P**	**03 38 49.2**	**-1.1**
	comp=Z,33nm,1.0s,mb4.7								
CCM				*e*				03 39 01.1	
SLM	**Saint Louis**	**24.46**	**3**	*eP*			**P**	**03 38 56.0**	**-0.4**
SLM					pmax		pmax		
	comp=Z,65nm,0.7s,mb5.2								
SLM	**Saint Louis**	**24.46**	**3**	*eP*			**P**	**03 38 56.0**	**-0.4**
	comp=Z,65nm,0.7s,mb5.2								
ANMO	**Albuquerque**	**24.47**	**330**	*ciP*			**P**	**03 38 58.7**	**+2.2**
ANMO	**Albuquerque**	**24.47**	**330**	P			**P**	**03 38 58.6**	**+2.1**
	comp=Z,32nm,0.8s,mb4.8,baz=156,slow=11,SNR=112								
ANMO					LR		LR	03 50 30.2	
	comp=Z,274nm,18.8s,MS3.8,slow=41								
ANMO	**Albuquerque**	**24.47**	**330**	*eP*			**P**	**03 38 58.4**	**+1.8**
	comp=Z,32nm,0.8s,mb4.8								
WCI	**Wyandotte Cave**	**24.54**	**11**	*eP*			**P**	**03 38 56.5**	**-0.6**
WCI					pmax		pmax		
	comp=Z,160nm,0.8s,mb5.6								
WCI	**Wyandotte Cave**	**24.54**	**11**	*eP*			**P**	**03 38 56.5**	**-0.6**
	comp=Z,160nm,0.8s,mb5.6								
TUC	**Tucson**	**24.91**	**320**	*eP*			**P**	**03 39 02.4**	**+1.6**
TUC					pmax		pmax		
	comp=Z,11nm,0.9s,mb4.4								
TUC	**Tucson**	**24.91**	**320**	*eP*			**P**	**03 39 02.4**	**+1.6**
	comp=Z,11nm,0.9s,mb4.4								
ELN	**Prospectdale**	**25.11**	**22**	*eP*			**P**	**03 39 02.3**	**-0.3**
SJG	**San Juan**	**25.18**	**77**	LR			LR	03 46 34.5	
	comp=Z,238nm,20.8s,MS3.7,baz=270,slow=31								
KSU1	**Kansas State U**	**25.20**	**352**	*eP*			**P**	**03 39 02.0**	**-1.4**
FWV	**Forest Hill**	**25.41**	**21**	*eP*			**P**	**03 39 05.2**	**-0.2**
BLO	**Bloomington**	**25.41**	**10**	*eP*			**P**	**03 39 04.7**	**-0.8**
BLO					pmax		pmax		
	comp=Z,69nm,0.8s,mb5.2								
BLO	**Bloomington**	**25.41**	**10**	*eP*			**P**	**03 39 04.7**	**-0.7**
	comp=Z,69nm,0.8s,mb5.2								
SDCO	**Great Sand Dun**	**26.39**	**335**	*eP*			**P**	**03 39 16.0**	**+1.5**
	comp=Z,20nm,1.0s,mb4.6								
WUAZ	**Wupatki**	**27.49**	**324**	*eP*			**P**	**03 39 25.8**	**+1.1**
	comp=Z,18nm,0.9s,mb4.6								
PV01	**Paradox Valley**	**28.04**	**331**	*eP*			**P**	**03 39 31.5**	**+1.8**
ISCO	**Idaho Springs**	**28.21**	**338**	*eP*			**P**	**03 39 32.5**	**+1.4**
ISCO					pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.3								
ISCO	**Idaho Springs**	**28.21**	**338**	*eP*			**P**	**03 39 32.5**	**+1.4**
	comp=Z,7.4nm,0.9s,mb4.3								
PV10	**Paradox Valley**	**28.46**	**331**	*eP*			**P**	**03 39 34.0**	**+0.7**
SSPA	**Standing Stone**	**29.16**	**22**	*eP*			**P**	**03 39 38.1**	**-1.4**
	comp=Z,13nm,0.9s,mb4.7								
SRU	**San Rafael**	**29.75**	**330**	*eP*			**P**	**03 39 46.1**	**+1.3**
MSU	**Marysvale**	**30.12**	**327**	*eP*			**P**	**03 39 49.5**	**+1.4**
MVU	**Marysvale**	**30.13**	**327**	*eP*			**P**	**03 39 48.7**	**+0.5**
	comp=Z,12nm,0.8s,mb4.7								
TMUT	**Trail Mountain**	**30.22**	**330**	*eP*			**P**	**03 39 50.6**	**+1.5**
ARUT	**Antelope Range**	**30.27**	**325**	*eP*			**P**	**03 39 51.3**	**+1.8**
RWWY	**Rawlins**	**30.45**	**337**	*eP*			**P**	**03 39 51.4**	**+0.3**
	comp=Z,19nm,0.9s,mb4.8								
MPU	**Maple Canyon**	**30.99**	**330**	*eP*			**P**	**03 39 56.6**	**+0.8**
MPU				*e*			pP	03 40 06.4	-4.0
MPU				*e*				03 40 18.3	
GENY	**Geneseo**	**31.06**	**21**	*eP*			**P**	**03 39 54.9**	**-1.4**
DAU	**Daniels Canyon**	**31.12**	**331**	*eP*			**P**	**03 39 58.2**	**+1.3**
BINY	**Binghamton**	**31.23**	**23**	*eP*			**P**	**03 39 56.8**	**-1.1**
	comp=Z,32nm,0.9s,mb5.2								
BINY				*e*				03 40 18.7	
CTU	**Camp Tracy**	**31.57**	**331**	*eP*			**P**	**03 40 02.1**	**+1.2**
RSSD	**Black Hills**	**31.60**	**343**	*eP*			**P**	**03 40 00.8**	**-0.3**
RSSD					pmax		pmax		
	comp=Z,11nm,0.8s,mb4.7								
RSSD	**Black Hills**	**31.60**	**343**	*eP*			**P**	**03 40 00.8**	**-0.3**
	comp=Z,11nm,0.8s,mb4.8								
NOQ	**North Oquirrh**	**31.71**	**330**	*eP*			**P**	**03 40 03.0**	**+0.9**
TCUT	**Toone Canyon**	**31.74**	**332**	*eP*			**P**	**03 40 03.9**	**+1.6**
HWUT	**Hardware Ranch**	**32.20**	**332**	*eP*			**P**	**03 40 07.2**	**+0.8**
	comp=Z,26nm,0.9s,mb5.1								
HWUT				*ePcP*			PcP	03 42 54.3	+0.3
BW06	**Boulder Array**	**32.29**	**335**	*eP*			**P**	**03 40 07.0**	**-0.1**
	comp=Z,5.2nm,1.0s,mb4.3								
BW06				*ePcP*			PcP	03 42 55.7	+1.4
PDAR	**Pinedale Array**	**32.29**	**335**	P			**P**	**03 40 07.5**	**+0.4**
	comp=Z,3.7nm,0.9s,mb4.2,baz=135,slow=8.4,SNR=15								
PDAR					PcP		PcP	03 42 54.6	+0.4
	comp=Z,2.1nm,0.7s,baz=150,slow=3.7,SNR=7.5								
BGU	**Big Grassy Mou**	**32.37**	**330**	*eP*			**P**	**03 40 09.1**	**+1.3**
BGU				*ePcP*			PcP	03 42 55.2	+0.7
SPUT	**South Promonto**	**32.38**	**331**	*eP*			**P**	**03 40 09.0**	**+1.0**
SPUT				*ePcP*			PcP	03 42 57.0	+2.4
SADO	**Sadowa**	**32.45**	**17**	P			**P**	**03 40 06.8**	**-1.8**
	comp=Z,14nm,0.8s,mb4.8,baz=218,slow=8.1,SNR=16								
SADO					LR		LR	03 55 06.2	
	comp=Z,888nm,18.8s,MS4.5,baz=210,slow=40								
HVU	**Hansel Valley**	**32.90**	**331**	*eP*			**P**	**03 40 13.6**	**+1.1**
AHID	**Auburn Hatcher**	**32.93**	**334**	*eP*			**P**	**03 40 13.3**	**+0.7**
	comp=Z,18nm,0.8s,mb5.0								
REDW	**Red Top Meadow**	**33.31**	**335**	*eP*			**P**	**03 40 16.8**	**+0.8**
	comp=Z,88nm,1.0s,mb5.7								
REDW				*epP*			pP	03 40 32.3	+1.6
SNOW	**Snow King Moun**	**33.35**	**335**	*eP*			**P**	**03 40 17.3**	**+1.0**
	comp=Z,85nm,0.9s,mb5.7								
ELK	**Elko**	**33.36**	**327**	*eP*			**P**	**03 40 18.3**	**+1.9**
ELK				*e*				03 42 57.5	
ELK					pmax		pmax		
	comp=Z,23nm,0.8s								
ELK	**Elko**	**33.36**	**327**	*eP*			**P**	**03 40 18.3**	**+1.8**
	comp=Z,23nm,0.8s,mb5.2								
ELK				*ePcP*			PcP	03 42 57.5	+0.2
WUWY	**Wally Ulrich**	**33.41**	**335**	*eP*			**P**	**03 40 17.8**	**+1.0**
WUWY				*epP*			pP	03 40 33.4	+1.8
LOHW	**Long Hollow**	**33.41**	**335**	*eP*			**P**	**03 40 17.9**	**+1.0**
	comp=Z,41nm,1.3s,mb5.2								
LOHW				*epP*			pP	03 40 32.1	+0.5
TPAW	**Teton Pass**	**33.45**	**335**	*eP*			**P**	**03 40 18.4**	**+1.1**
	comp=Z,32nm,1.1s,mb5.2								
TPAW				*epP*			pP	03 40 32.4	+0.4
MNV	**Mina**	**33.46**	**321**	*eP*			**P**	**03 40 18.8**	**+1.5**
MNV				*e*				03 42 58.5	
MNV					pmax		pmax		
	comp=Z,21nm,0.9s,mb5.1								
MNV	**Mina**	**33.46**	**321**	*eP*			**P**	**03 40 18.8**	**+1.5**
	comp=Z,22nm,0.9s,mb5.1								
MNV				*ePcP*			PcP	03 42 58.5	+0.9
OMM	**Old Mammoth Mi**	**33.47**	**319**	*eP*			**P**	**03 40 18.9**	**+1.4**
RRI2	**Red Ridge**	**33.49**	**334**	*eP*			**P**	**03 40 18.5**	**+1.0**
	comp=Z,66nm,1.4s,mb5.4								
RRI2				*ePcP*			PcP	03 42 59.8	+2.2
NVAR	**Mina Array Bea**	**33.55**	**321**	P			**P**	**03 40 20.2**	**+2.2**
	comp=Z,22nm,0.8s,mb5.2,baz=130,slow=9.5,SNR=117								
NVAR					PcP		PcP	03 42 58.5	+0.7
	comp=Z,3.7nm,0.8s,baz=127,slow=5.0,SNR=5.4								
NVAR					LR		LR	03 55 46.8	
	comp=Z,676nm,18.7s,MS4.4,baz=140,slow=39								
NVAR	**Mina Array Bea**	**33.55**	**321**	P			**P**	**03 40 20.2**	**+2.2**
NVAR					PcP		PcP	03 42 58.5	+0.7
NVAR					LR		LR	03 55 46.8	
MOOW	**Moose Ponds**	**33.58**	**335**	*eP*			**P**	**03 40 19.0**	**+0.6**
	comp=Z,18nm,1.2s,mb4.9								
MOOW				*ePcP*			PcP	03 42 58.3	+0.5
IMW	**Indian Meadow**	**33.78**	**335**	*eP*			**P**	**03 40 20.5**	**+0.4**
	comp=Z,9.0nm,0.8s,mb4.8								
IMW				*ePcP*			PcP	03 42 59.3	+1.0
BMN	**Battle Mountai**	**34.22**	**325**	*eP*			**P**	**03 40 25.2**	**+1.4**
BMN					pmax		pmax		
	comp=Z,15nm,0.8s,mb5.0								
BMN	**Battle Mountai**	**34.22**	**325**	*eP*			**P**	**03 40 25.2**	**+1.3**
	comp=Z,15nm,0.8s,mb5.0								
LAO	**LASA Array**	**34.57**	**343**	*eP*			**P**	**03 40 26.9**	**+0.2**
	comp=Z,22nm,0.8s,mb5.1								
LAO				*ePcP*			PcP	03 43 01.2	+0.6
CMB	**Columbia Colle**	**34.61**	**319**	*eP*			**P**	**03 40 28.2**	**+1.0**
CMB					pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5								
CMB	**Columbia Colle**	**34.61**	**319**	*eP*			**P**	**03 40 28.2**	**+1.0**
	comp=Z,5.2nm,0.8s,mb4.5								
QLMT	**Earthquake Lak**	**34.75**	**336**	*eP*			**P**	**03 40 29.2**	**+0.9**
QLMT				*ePcP*			PcP	03 43 02.8	+1.7
GCMT	**Greycliff**	**34.89**	**338**	*eP*			**P**	**03 40 30.3**	**+0.8**
HLID	**Hailey**	**35.04**	**331**	*eP*			**P**	**03 40 32.0**	**+1.2**
	comp=Z,28nm,0.9s,mb5.2								
MCMT	**McKenzie Canyo**	**35.34**	**334**	*eP*			**P**	**03 40 35.6**	**+2.3**
BOZ	**Bozeman (W)**	**35.51**	**336**	*eP*			**P**	**03 40 35.6**	**+0.8**
BOZ				*e*				03 43 04.4	
BOZ					pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.7								
BOZ	**Bozeman (W)**	**35.51**	**336**	*eP*			**P**	**03 40 35.6**	**+0.8**
	comp=Z,10.0nm,1.1s,mb4.7								
BOZ				*ePcP*			PcP	03 43 04.4	+1.1
ULM	**Lac du Bonnet**	**36.16**	**356**	P			**P**	**03 40 38.8**	**-1.4**
	comp=Z,1.5nm,0.3s,mb4.4,baz=180,slow=8.0,SNR=3.7								
ULM					PcP		PcP	03 43 03.8	-1.4
	comp=Z,4.1nm,0.8s,baz=194,slow=1.3,SNR=3.8								
WVOR	**Wild Horse Val**	**36.36**	**326**	*eP*			**P**	**03 40 43.4**	**+1.4**
WVOR				*e*				03 43 06.1	
WVOR					pmax		pmax		
	comp=Z,26nm,0.9s,mb5.2								
WVOR	**Wild Horse Val**	**36.36**	**326**	*eP*			**P**	**03 40 43.4**	**+1.3**
	comp=Z,26nm,0.9s,mb5.2								
WVOR				*ePcP*			PcP	03 43 06.0	+0.2
HRY	**Holter Researc**	**36.47**	**337**	*eP*			**P**	**03 40 43.8**	**+0.9**
HRY				*ePcP*			PcP	03 43 07.6	+1.5
SAML	**Samuel**	**36.68**	**127**	*eP*			**P**	**03 40 43.0**	**-2.0**
	comp=Z,8.6nm,1.1s,mb4.5								
SAML				*ePcP*			PcP	03 43 07.8	+0.6
MOD	**Modoc**	**36.94**	**324**	*eP*			**P**	**03 40 47.8**	**+0.9**
	comp=Z,15nm,1.1s,mb4.7								
MOD				*ePcP*			PcP	03 43 08.3	+0.7
CHMT	**Chamberlain Mo**	**37.19**	**336**	*eP*			**P**	**03 40 49.7**	**+0.7**
BMO	**Blue Mountains**	**37.39**	**330**	*eP*			**P**	**03 40 50.8**	**+0.2**
	comp=Z,26nm,1.2s,mb4.9								
MSO	**Missoula**	**37.40**	**335**	*eP*			**P**	**03 40 51.5**	**+0.8**
	comp=Z,32nm,1.5s,mb4.9								
YBH	**Yreka Blue Hor**	**38.24**	**322**	P			**P**	**03 40 57.7**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.1,baz=79,slow=6.5,SNR=8.1								
KHMM	**Horse Mountain**	**38.36**	**320**	*eP*			**P**	**03 41 00.1**	**+1.4**
LPAZ	**La Paz**	**38.36**	**141**	*eP*			**P**	**03 41 00.4**	**+1.4**
LPAZ					pmax		pmax		
	comp=Z,1.0nm,0.6s								
LPAZ	**La Paz**	**38.36**	**141**	P			**P**	**03 40 59.1**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=339,slow=13,SNR=5.0								
LPAZ					LR		LR	03 56 11.7	
	comp=Z,313nm,20.7s,MS4.1,baz=49,slow=35								
LPAZ	**La Paz**	**38.36**	**141**	*eP*			**P**	**03 41 00.4**	**+1.5**
	comp=Z,1.3nm,0.6s,mb3.8								
VIPM	**Ingram Point**	**38.83**	**327

BILL MLR MLR
comp=Z,100nm,18.0s,MS4.2
BILL Bilibino 81.32 338 *e*P **P 03 45 54.1 +1.2**
comp=Z,50nm,1.0s,mb5.4
ETSF Etsaut 81.60 48 *e*P **P 03 45 52.2 -2.7**
RJF Les Rejaudoux 82.57 45 *e*P **P 03 45 56.9 -2.9**
comp=Z,11nm,0.9s,mb4.6
RJF *e*R
comp=Z,260nm,22.5s
RJF Les Rejaudoux 82.57 45 *e*P **P 03 45 56.9 -2.9**
RJF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
RJF MLR MLR
comp=Z,260nm,22.5s,MS4.5
TCF Toulx Ste Croi 82.83 44 *e*P **P 03 45 57.9 -3.2**
BGF Bois d'Agland 83.19 44 *e*P **P 03 46 00.9 -2.1**
comp=Z,39nm,1.0s,mb5.1
BGF Bois d'Agland 83.19 44 *e*P **P 03 46 00.9 -2.1**
BGF pmax pmax
comp=Z,19nm,1.0s,mb5.1
AVF Avril sur Loir 83.48 44 *e*P **P 03 46 01.9 -2.5**
comp=Z,10nm,0.9s,mb4.5
AVF Avril sur Loir 83.48 44 *e*P **P 03 46 01.9 -2.5**
AVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SSF Saint Saulge 83.52 43 *e*P **P 03 46 02.4 -2.2**
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
SSF Saint Saulge 83.52 43 *e*P **P 03 46 02.4 -2.2**
comp=Z,5.3nm,0.8s,mb4.7
SMF Signal de Mont 83.84 44 *e*P **P 03 46 03.9 -2.4**
comp=Z,15nm,0.9s,mb4.8
SMF Signal de Mont 83.84 44 *e*P **P 03 46 03.9 -2.4**
SMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
NB2 NORSAR Subarra 84.05 28 P **P 03 46 07.2 +0.2**
comp=Z,1.7nm,0.8s,mb4.2,baz=290,slow=5.3
NB2 NORSAR Subarra 84.05 28 P **P 03 46 07.2 +0.2**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
NOA NORSAR Array B 84.05 28 P **P 03 46 06.6 -0.3**
comp=Z,2.8nm,0.8s,mb4.4,baz=290,slow=5.2,SNR=11
NOA LR LR 04 20 36.7
comp=Z,112nm,21.4s,MS4.2,baz=285,slow=34
MEZF Maizieres J'vi 84.18 42 *e*P **P 03 46 05.5 -2.4**
VIVF Saint-Julien-l 84.85 45 *e*P **P 03 46 09.4 -1.9**
comp=Z,24nm,1.2s,mb4.9
VIVF Saint-Julien-l 84.85 45 *e*P **P 03 46 09.4 -1.9**
VIVF pmax pmax
comp=Z,12nm,1.2s,mb4.9
HAU Haudompre 85.14 42 *e*P **P 03 46 10.3 -2.4**
comp=Z,14nm,0.8s,mb4.8
HAU *e*R
comp=Z,237nm,20.2s
HAU Haudompre 85.14 42 *e*P **P 03 46 10.3 -2.4**
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
HAU MLR MLR
comp=Z,240nm,20.3s,MS4.6
CABF La Chapelle 85.34 43 *e*P **P 03 46 12.3 -1.5**
HFS Hagfors 85.51 29 P **P 03 46 13.4 -0.9**
comp=Z,4.2nm,0.8s,mb4.7,baz=225,slow=2.1,SNR=9.2
HINF Hinteralfeld 85.52 42 *e*P **P 03 46 12.1 -2.5**
CDF Champ du Feu 85.63 41 *e*P **P 03 46 12.7 -2.4**
ORIF Oris-en-Rattie 85.66 45 *e*P **P 03 46 13.4 -2.0**
comp=Z,16nm,0.9s,mb5.0
ORIF *e*R
comp=Z,333nm,20.2s
DBIC Dimbokro 85.68 84 LR LR 04 22 21.4
comp=Z,104nm,18.3s,MS4.3,baz=318,slow=34
SMRF Simiane la Rot 85.77 46 *e*P **P 03 46 12.6 -3.0**
BSEG Bad Segeberg 85.82 35 *e*P **P 03 46 16.5 +0.6**
TNS Taunus Mts 85.84 39 *e*P **P 03 46 16.1 0.0**
TNS pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
TNS Taunus Mts 85.84 39 *e*P **P 03 46 16.1 0.0**
comp=Z,10.0nm,0.9s,mb5.0
ARCES ARCESS Array B 86.03 18 P **P 03 46 15.6 -1.0**
comp=Z,1.7nm,0.7s,mb4.4,baz=350,slow=21,SNR=6.4
ARCES LR LR 04 23 37.7
comp=Z,196nm,21.2s,MS4.5,baz=335,slow=35
LPL La Plagne 86.08 44 *e*P **P 03 46 15.3 -2.1**
LPG La Plagne 86.09 44 *e*P **P 03 46 15.2 -2.3**
MBDF Montbardon 86.32 45 *e*P **P 03 46 16.8 -1.8**
BFO Black Forest 86.32 41 *e*P **P 03 46 17.5 -1.0**
BFO pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
BFO Black Forest 86.32 41 *e*P **P 03 46 17.5 -1.0**
comp=Z,6.0nm,1.1s,mb4.7
CLZ Clausthal 86.51 37 *e*P **P 03 46 19.5 +0.2**
CLZ pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
CLZ Clausthal 86.51 37 *e*P **P 03 46 19.5 +0.2**
comp=Z,9.0nm,0.9s,mb5.0
LMR La Mourre 86.52 46 *e*P **P 03 46 16.3 -3.3**
FRF La Foret Royal 86.56 46 *e*P **P 03 46 16.9 -2.9**
comp=Z,59nm,1.3s,mb5.3
FRF La Foret Royal 86.56 46 *e*P **P 03 46 16.9 -2.9**
FRF pmax pmax
comp=Z,30nm,1.3s,mb5.4
SBF Sospel 87.02 46 *e*P **P 03 46 19.5 -2.6**
MOX Moxa 87.64 38 *e*P **P 03 46 24.9 0.0**
MOX pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
MOX Moxa 87.64 38 *e*P **P 03 46 24.9 0.0**
comp=Z,3.0nm,0.8s,mb4.6
GRA1 Grafenberg Arr 87.71 39 *e*P **P 03 46 25.3 +0.1**
comp=Z,9.0nm,0.9s,mb5.0
GRF Grafenberg Arr 87.71 39 *e*P **P 03 46 25.3 +0.1**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
GRF Grafenberg Arr 87.71 39 *e*P **P 03 46 25.3 +0.1**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
GRF Grafenberg Arr 87.71 39 *e*P **P 03 46 25.3 +0.1**
comp=Z,9.0nm,0.9s,mb5.0
DAVOX Davos 87.79 42 P **P 03 46 25.3 -0.4**
comp=Z,5.8nm,0.8s,mb4.8,baz=329,slow=7.0,SNR=6.7
PGF Pioggiola 88.50 47 *e*P **P 03 46 26.4 -2.8**
comp=Z,22nm,1.0s,mb5.2
PGF Pioggiola 88.50 47 *e*P **P 03 46 26.4 -2.8**
PGF pmax pmax
comp=Z,11nm,1.0s,mb5.1
WET Wettzell 88.92 39 *e*P **P 03 46 31.6 +0.6**
WET pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
WET Wettzell 88.92 39 *e*P **P 03 46 31.6 +0.6**
comp=Z,4.0nm,1.0s,mb4.7
GEC2 GERESS Array S 89.53 39 *e*P **P 03 46 33.9 0.0**
GEC2 pmax pmax
comp=Z,3.0nm,1.2s,mb4.5
GEC2 GERESS Array S 89.53 39 *e*P **P 03 46 33.9 0.0**
comp=Z,3.0nm,1.2s,mb4.5
GERES GERESS Array B 89.53 39 P **P 03 46 33.8 -0.1**
comp=Z,1.2nm,0.8s,mb4.3,baz=315,slow=1.9,SNR=9.1
GERES LR LR 04 27 42.6
comp=Z,137nm,18.4s,MS4.4,baz=27,slow=36
PET Petropavlovsk 90.02 325 *e*P **P 03 46 43.3 +7.2**
PET *e*S S 03 57 28.8 +6.7
PET pmax pmax
comp=Z,100nm,10.3s
PET MLR MLR
comp=Z,100nm,21.0s,MS4.2
TIXI Tiksi 90.12 348 *i* P **P 03 46 36.7 +0.6**
FINES FINESS Array B 90.40 25 P **P 03 46 37.1 -0.6**
comp=Z,1.6nm,0.8s,mb4.4,SNR=5.5
FINES LR LR 04 29 32.0
comp=Z,101nm,19.3s,MS4.3,baz=185,slow=37
ULN Ulaanbaatar 115.97 346 *i* PKIKP PKPdf 03 52 19.9 +1.8
ULN Ulaanbaatar 115.97 346 *i* P PKPdf 03 52 19.0 +0.9
SONM Songino Array 116.16 346 PKP PKPdf 03 52 20.8 +2.3
comp=Z,1.1nm,0.8s,baz=326,slow=1.2,SNR=9.6
BOSA Boshof 120.45 115 *e*PKIKP PKPdf 03 52 29.0 +1.8
BOSA Boshof 120.45 115 PKP PKPdf 03 52 29.3 +2.1
comp=Z,5.2nm,0.8s,baz=192,slow=3.3,SNR=7.9
AAK Ala-Archa 122.18 12 *e*PKIKP PKPdf 03 52 32.4 +2.2
WMQ Urumqi 122.33 0 PKP PKPdf 03 52 32.6 +2.1
WMQ PP PP 03 54 12.8 +1.4
WMQ PP PP
comp=Z,49nm,5.0s
WMQ LR LR
comp=N,215nm,23.4s,MS4.7
WMQ LR LR
comp=E,71nm,27.2s,MS4.7
WMQ LR LR
comp=Z,109nm,22.8s,MS4.4

SSE Sheshan 124.85 325 *e*PKP PKPdf 03 52 36.5 +0.7
NJ2 Nanjing 125.37 328 *e*PKP PKPdf 03 52 42.9 +6.2
GTA Gaotai 125.60 349 *e*PKP PKPdf 03 52 41.0 +4.1
STKA Stephens Creek 128.09 241 PKP PKPdf 03 52 43.6 +1.6
comp=Z,2.8nm,0.8s,baz=97,slow=5.0,SNR=5.8
ENH Enshi 131.23 335 *e*PKPdf PKPdf 03 52 49.7 +1.7
KMI Kunming 138.41 340 PKP PKPdf 03 53 02.9 +1.5
POO Poona 144.69 24 ⇑*i*P PKPbc 03 53 12.0 -0.6
comp=Z,20nm,1.0s
CHG Chiang Mai 145.52 341 ⇑P PKPdf 03 53 15.7 +1.6
comp=Z,21nm,0.8s
CM31 Chiang Mai Arr 145.86 341 *e*PKPbc PKPbc 03 53 17.6 +2.0
CMAR Chiang Mai Arr 145.86 341 PKPbc PKPbc 03 53 16.9 +1.2
comp=Z,39nm,0.8s,baz=341,slow=3.8,SNR=91
KAD Karad 145.93 24 *e*P PKPdf 03 53 17.0 +2.2
NST Nakhon Sawan 148.04 337 P PKPdf 03 53 24.0 +5.7

IDC ***15*** *03:46:16.3±3.4, 7.33S×107.08E, h37km±27km, mb4.4/25, mb1 4.5/25, mb1mx4.5/25, mbtmp4.6/25, MS3.8/3, Ms1 3.9/3, ms1mx3.3/25, Error ellipse: s-maj=16.3km s-min=11.0km az=60.0*
DJA ***15*** *03:46:17.9±0.4, 7.57S×107.00E, h73km±6km, MD5.5/1, Error ellipse: s-maj=29.1km s-min=5.8km az=18.0*
BJI ***15*** *03:46:19.6, 7.40S×107.00E, h66km, mB4.8, mb4.8, Ms4.2, Msz4.0*
NEIC ***15*** *03:46:19.6±0.6, 7.43S×106.97E, h67km±5km, mb4.7/32, Error ellipse: s-maj=8.4km s-min=4.9km az=222.0*
NEIC Felt [II] at Purwakarta and Serpong.
ISC 15 03:46:18.1±0.5,**7.43S**±0.05×**107.05E**±0.04,**h71**km±4km,
n175, σ1§**18**/119,**mb4.6**/56,**21C-6D,Jawa**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KALI	**Kaliastana**	**0.51**	**309**	*e*Pn		**P**		**03 46 31.4**	**+0.3**
KALI				*e*Sn		**S**		**03 46 40.5**	**-0.2**
SIN1	**Singah**	**0.60**	**47**	⇓*e*Pg		**P**		**03 46 33.5**	**+1.3**
LEM	**Lembang**	**0.82**	**43**	*e*Pg		**P**		**03 46 39.0**	**+4.4**
PACI	**Pancar Gunung**	**0.84**	**350**	⇑*i*Pg		**P**		**03 46 29.7**	**-5.2**
PULI	**Pulasari**	**1.52**	**315**	⇓*e*Pn		**P**		**03 46 43.9**	**0.0**
PASI	**Pasiripis**	**1.63**	**297**	*e*Pn		**P**		**03 46 44.8**	**-0.6**
PENI	**Pendagan**	**2.63**	**315**	⇓*e*Pn		**P**		**03 46 58.7**	**-0.6**
SRDI	**Scrawed**	**7.10**	**99**	⇑*e*Pn		**P**		**03 48 01.6**	**+0.2**
KELI	**Kelakatan**	**7.41**	**97**	⇑*e*Pn		**P**		**03 48 08.9**	**+3.2**
RATI	**Rata**	**8.49**	**99**	⇑*e*P		**P**		**03 48 21.1**	**+0.5**
	3μm,0.2s								
KEDI	**Kedomdong**	**9.03**	**97**	⇑*e*P		**P**		**03 48 27.8**	**-0.1**
	343nm,0.2s								
KSM	**Kuching**	**9.42**	**20**	*e*Pn		**P**		**03 48 36.0**	**+2.8**
KULM	**Kulim**	**14.16**	**333**	*e*Pn		**P**		**03 49 34.6**	**-2.1**
KKM	**Kota Kinabalu**	**16.21**	**35**	*e*P		**P**		**03 50 04.8**	**+1.9**
MBWA	**Marble Bar**	**18.34**	**139**	*e*P		**P**		**03 50 27.2**	**-2.1**
	12nm,0.6s								
FITZ	**Fitzroy Crossi**	**20.98**	**122**	⇓*i*P		**P**		**03 50 57.8**	**+0.1**
	35nm,0.8s								
FITZ				*e*S		**S**		**03 54 40.5**	**-1.7**
FITZ	**Fitzroy Crossi**	**20.98**	**122**	P		**P**		**03 50 57.9**	**+0.2**
	20nm,0.7s,baz=93,slow=23,SNR=28								
KAKA	**Kakadu**	**25.53**	**104**	⇑*i*P		**P**		**03 51 41.4**	**-0.6**
	27nm,0.6s,mb4.8								
KLBR	**Kellerberrin**	**26.03**	**159**	*e*P		**P**		**03 51 45.0**	**-1.6**
	74nm,0.5s,mb5.4								
CMAR	**Chiang Mai Arr**	**26.94**	**343**	P		**P**		**03 51 53.2**	**-1.8**
	4.3nm,0.6s,mb4.1,baz=177,slow=8.8,SNR=35								
CMAR					LR	LR		04 01 38.4	
	comp=Z,134nm,21.4s,baz=170,slow=34								
NWAO	**Narrogin (SRO)**	**27.07**	**161**	P		**P**		**03 51 55.0**	**-1.2**
	4.8nm,0.6s,mb4.2,baz=345,slow=4.9,SNR=6.4								
NWAO					LR	LR		04 00 40.1	
	comp=Z,361nm,21.7s,baz=288,slow=32								
NWAO	**Narrogin (SRO)**	**27.07**	**161**	*e*P		**P**		**03 51 54.7**	**-1.5**
	3.0nm,0.5s,mb4.1								
WRA	**Warramunga Arr**	**29.22**	**118**	P		**P**		**03 52 15.0**	**-0.6**
	7.0nm,0.4s,mb4.6,baz=289,slow=11,SNR=84								
WRA					PcP	PcP		03 55 20.5	-0.8
	2.7nm,0.5s,baz=307,slow=2.0,SNR=8.0								
WRAB	**Tennant Creek**	**29.23**	**118**	*e*P		**P**		**03 52 15.0**	**-0.6**
	16nm,0.5s,mb4.9								
WB2	**Warramunga Arr**	**29.23**	**118**	⇑*i*P		**P**		**03 52 15.2**	**-0.5**
ASPA	**Alice Springs**	**30.39**	**125**	*e*P		**P**		**03 52 25.6**	**-0.4**
ASAR	**Alice Springs**	**30.40**	**125**	P		**P**		**03 52 25.8**	**-0.2**
	2.5nm,0.4s,mb4.2,baz=301,slow=8.1,SNR=36								
ASAR					PcP	PcP		03 55 24.6	+0.3
	2.4nm,0.4s,baz=306,slow=1.5,SNR=10								
ASAR					LR	LR		04 04 02.8	
	comp=Z,204nm,18.4s,baz=279,slow=35								
FORT	**Forrest**	**30.43**	**142**	*e*P		**P**		**03 52 25.0**	**-1.2**
	271nm,0.6s,mb6.0								
KMI	**Kunming**	**32.63**	**353**	P		**P**		**03 52 51.3**	**+5.8**
KMI					AMB	AMB			
	comp=Z,9.0nm,0.9s,mb4.6								
GYA	**Guiyang**	**33.69**	**359**	PKP		**P**		**03 52 54.0**	**-0.6**
GYA					XPKP			03 53 20.4	
GYA					PKS			03 56 28.9	
GYA					PP	PP			
	comp=Z,120nm,3.0s								
GYA					LR	LR			
	comp=N,210nm,20.4s								
GYA					LR	LR			
	comp=E,180nm,19.5s								
GYA					LR	LR			
	comp=Z,150nm,20.8s								
LSA	**Lhasa**	**39.96**	**338**	*e*P		**P**		**03 53 50.4**	**+3.1**
	comp=Z,8.4nm,0.6s,mb4.8								
CTA	**Charters Tower**	**39.98**	**112**	*e*P		**P**		**03 53 49.0**	**+1.4**
	comp=Z,8.6nm,1.1s,mb4.5								
CTAO	**Charters Tower**	**39.98**	**112**	*e*P		**P**		**03 53 49.0**	**+1.4**
	comp=Z,24nm,1.3s,mb4.9								
JIRN	**Jiri**	**40.30**	**331**	*e*P		**P**		**03 53 48.2**	**-2.0**
	comp=Z,18nm,0.6s,mb5.1								
STKA	**Stephens Creek**	**40.31**	**132**	⇑*i*P		**P**		**03 53 51.1**	**+0.9**
	comp=Z,18nm,0.3s,mb5.4								
STKA	**Stephens Creek**	**40.31**	**132**	P		**P**		**03 53 51.1**	**+0.9**
	comp=Z,21nm,0.3s,mb5.4,baz=310,slow=7.0,SNR=90								
STKA					PcP	PcP		03 55 53.5	+0.2
	comp=Z,5.7nm,0.4s,baz=295,slow=1.6,SNR=4.7								
PKI	**Pulchoki**	**40.61**	**330**	*e*P		**P**		**03 53 48.4**	**-4.3**
	comp=Z,12nm,0.8s,mb4.8								
GUN	**Gumba**	**40.66**	**331**	*e*P		**P**		**03 53 51.7**	**-1.4**
	comp=Z,26nm,0.7s,mb5.2								
DMN	**Daman**	**40.80**	**329**	*e*P		**P**		**03 53 49.6**	**-4.6**
NJ2	**Nanjing**	**40.84**	**15**	*e*P		**P**		**03 54 00.3**	**+5.7**
NJ2					AMB	AMB			
	comp=Z,20nm,0.8s,mb5.0								
KKN	**Kakani**	**40.86**	**330**	*e*P		**P**		**03 53 50.4**	**-4.3**
	comp=Z,8.3nm,0.5s,mb4.8								
GKN	**Gorkha**	**41.35**	**329**	*e*P		**P**		**03 53 56.3**	**-2.5**
	comp=Z,10nm,0.3s,mb5.1								
KOLN	**Koldanda**	**41.70**	**328**	*e*P		**P**		**03 53 59.3**	**-2.5**
	comp=Z,20nm,0.6s,mb5.0								
NDI	**New Delhi**	**46.01**	**323**	*e*		**P**		**03 54 34.0**	**-2.5**
GTA	**Gaotai**	**47.08**	**352**	*e*P		**P**		**03 54 46.4**	**+1.6**
GTA					PCP	PcP		03 56 16.8	+0.6
GTA					PP	PP		03 56 39.1	+3.3
GTA					S	**S**		**04 01 32.3**	**+1.7**
GTA					SCS	ScS		04 04 31.4	+1.9
GTA					SS	SS		04 04 54.1	+2.5
GTA					AMB	AMB			
	comp=Z,5.0nm,1.0s,mb4.2								
GTA					AMB	AMB			
	comp=Z,45nm,5.0s								
GTA					LR	LR			
	comp=N,145nm,18.7s								
GTA					LR	LR			
	comp=E,122nm,19.1s								
GTA					LR	LR			
	comp=Z,133nm,22.2s								
MJAR	**Matsushiro Arr**	**52.60**	**32**	P		**P**		**03 55 24.8**	**-2.3**
	comp=Z,2.6nm,0.7s,mb4.4,baz=218,slow=7.1,SNR=8.4								
WMQ	**Urumqi**	**53.94**	**343**	P		**P**		**03 55 36.8**	**-0.1**
WMQ					AP	pP		03 55 59.8	+4.8
WMQ					PCP	PcP		03 56 40.1	-1.2
WMQ					PP	PP		03 57 41.1	+0.9
WMQ				*e*S		**S**		**04 03 03.9**	**-1.4**
WMQ					AMB	AMB			
	comp=Z,4.0nm,0.7s,mb4.6								
WMQ					AMB	AMB			
	comp=Z,47nm,3.5s								
WMQ					LR	LR			
	comp=N,901nm,28.6s								
WMQ					LR	LR			
	comp=E,790nm,30.0s								
WMQ					LR	LR			
	comp=Z,238nm,23.5s								

SONM Songino Array 55.03 359 P **P 03 55 44.1 -0.7**
comp=Z,1.1nm,0.5s,mb4.2,baz=185,slow=9.0,SNR=14
SONM ScP 04 00 39.5
comp=Z,1.0nm,0.8s,baz=165,slow=4.3,SNR=4.5
ULN Ulaanbaatar 55.05 360 *e*P **P 03 55 44.8 -0.1**
comp=Z,4.0nm,0.7s,mb4.6
MDJ Mudanjiang 55.65 19 P **P 03 55 51.3 +2.0**
MDJ AMB AMB
comp=Z,5.0nm,0.9s,mb4.5
MDJ AMB AMB
comp=Z,64nm,6.0s
BIDO Bidbid 56.83 304 P **P 03 55 58.7 +0.7**
SNR=12
BSY Bisya 57.26 303 P **P 03 56 01.2 +0.2**
SNR=14
HOQ Hoqain 57.53 304 P **P 03 56 03.5 +0.6**
SNR=9.0
HIA Hailar 57.54 10 *e*P **P 03 56 01.5 -1.2**
comp=Z,2.9nm,0.4s,mb4.7
RBK Rabkut 57.78 296 P **P 03 56 05.4 +0.6**
SNR=21
ARQ Araqi 58.08 303 P **P 03 56 06.8 0.0**
SNR=10
WHFO Wadi Hawf 58.32 296 P **P 03 56 08.1 -0.4**
SNR=15
ABTO Aybut 58.54 295 P **P 03 56 10.1 0.0**
SNR=9.7
CASY Casey 58.80 178 *e*P **P 03 56 09.8 -1.4**
comp=Z,8.5nm,0.8s,mb4.8
ASHO Ashiyiah 59.04 304 P **P 03 56 13.4 +0.1**
SNR=20
OPO Ambohidratompo 59.14 253 P **P 03 56 15.2 +1.1**
comp=Z,2.3nm,0.5s,mb4.5,baz=83,slow=2.5,SNR=7.5
BANOM Banah 59.39 306 P **P 03 56 15.6 -0.3**
SNR=6.2
ASAJ Asahikawa 60.52 29 P **P 03 56 22.4 -1.0**
comp=Z,8.5nm,0.6s,mb4.9,baz=219,slow=6.5,SNR=8.5
YSS Yuzh-Sakhalins 62.73 27 *e*P **P 03 56 37.4 -0.7**
comp=Z,12nm,0.4s,mb5.2
ZAL Zalesovo 63.95 346 P **P 03 56 44.1 -2.0**
comp=Z,2.0nm,0.4s,mb4.3,baz=343,slow=1.5,SNR=5.4
MAW Mawson 66.97 197 P **P 03 57 04.8 -0.3**
comp=Z,3.4nm,0.5s,mb4.4,baz=90,slow=8.9,SNR=8.2
BVAR Borovoye Array 67.78 337 P **P 03 57 08.7 -1.7**
comp=Z,6.1nm,0.4s,mb4.8,baz=139,slow=9.2,SNR=43
URZ Urewera 69.79 128 P **P 03 57 24.1 +1.0**
comp=Z,5.1nm,0.6s,mb4.6,baz=192,slow=8.8,SNR=3.7
KMBO Kilima Mbogo 69.83 272 P **P 03 57 24.5 +0.8**
comp=Z,0.8nm,0.4s,mb3.9,baz=72,slow=15,SNR=6.8
KMBO Kilima Mbogo 69.83 272 *e*P **P 03 57 23.2 -0.5**
comp=Z,2.3nm,0.7s,mb4.1
ARU Arti 75.03 334 *e*P **P 03 57 53.1 -0.5**
comp=Z,12nm,0.5s,mb4.9
VNDA Vanda 75.54 169 P **P 03 57 56.3 +0.1**
comp=Z,1.8nm,0.4s,mb4.1,baz=300,slow=5.7,SNR=20
MBAR Mbarara 76.35 271 *e*P **P 03 58 02.1 0.0**
comp=Z,2.6nm,0.8s,mb4.0
KIV Kislovodsk 77.23 318 *e*P **P 03 58 06.4 0.0**
comp=Z,11nm,0.6s,mb4.8
LSZ Lusaka 77.38 256 *e*P **P 03 58 08.0 +0.3**
comp=Z,7.2nm,0.6s,mb4.6
ASF Jabal al Asfar 77.44 305 P **P 03 58 09.2 +1.4**
comp=Z,11nm,0.7s,mb4.7,baz=194,slow=4.4,SNR=14
MALT Malatya 78.17 312 *e*P **P 03 58 11.8 +0.2**
comp=Z,2.0nm,0.6s,mb4.0
EIL Elat 78.35 302 *e*P **P 03 58 13.3 +0.5**
comp=Z,7.1nm,0.7s,mb4.5
GZT Gaziantep 78.51 310 *i* P **P 03 58 13.8 +0.3**
LBTB Lobatse 79.18 246 *e*P **P 03 58 16.3 -1.2**
comp=Z,3.3nm,0.8s,mb4.2
BOSA Boshof 79.31 242 P **P 03 58 18.9 +0.8**
comp=Z,1.0nm,0.4s,mb4.0,baz=125,slow=6.2,SNR=10
BOSA Boshof 79.31 242 *e*P **P 03 58 18.2 +0.1**
comp=Z,1.5nm,0.4s,mb4.2
CSS Prodhromos 81.08 307 *e*P **P 03 58 27.6 +0.2**
comp=Z,18nm,0.8s,mb4.9
BOYT Boyabat 81.72 314 *i* P **P 03 58 30.1 -0.6**
BRTR Keskin Array B 82.15 312 P **P 03 58 32.8 -0.1**
comp=Z,5.7nm,0.6s,mb4.6,baz=135,slow=7.7,SNR=22
ELDT Eldivan 82.52 312 *i* P **P 03 58 35.2 +0.4**
BALT Daday 82.85 313 *i* P **P 03 58 48.1 +12**
ESKT Eskisehir 84.17 311 *i* P **P 03 58 43.6 +0.4**
ULDT Uludag 85.61 311 *i* P **P 03 58 51.1 +0.8**
CFR Carcaliu 87.48 316 ⇑P **P 03 59 00.1 +0.8**
CFR Carcaliu 87.48 316 ⇑P **P 03 59 00.1 +0.8**
HARR Harsova 87.51 315 ⇑P **P 03 59 01.3 +1.9**
HARR Harsova 87.51 315 ⇑P **P 03 59 01.3 +1.9**
AKASG Malin Array Be 88.06 322 P **P 03 59 02.7 +0.8**
comp=Z,3.4nm,0.5s,mb4.6,baz=84,slow=4.4,SNR=20
AKASG Malin Array Be 88.06 322 P **P 03 59 02.7 +0.8**
VRI Vrincioaia 88.59 316 ⇑P **P 03 59 05.9 +1.3**
VRI Vrincioaia 88.59 316 ⇑P **P 03 59 05.9 +1.3**
MLR Muntele Rosu 89.05 316 P **P 03 59 08.2 +1.4**
comp=Z,4.9nm,0.5s,mb4.8,baz=14,slow=6.1,SNR=24
MLR Muntele Rosu 89.05 316 ⇓P **P 03 59 08.2 +1.4**
MLR Muntele Rosu 89.05 316 ⇓P **P 03 59 08.1 +1.4**
SNAA Sanae 89.14 197 ⇑*i* **P 03 59 08.4 +1.9**
BURAR Bucovina Array 89.96 318 ⇑P **P 03 59 12.5 +1.6**
BURAR Bucovina Array 89.96 318 ⇑P **P 03 59 12.5 +1.6**
JOF Joensuu 90.14 334 *ep* **P 03 59 10.9 -0.5**
comp=Z,1.0nm,0.4s,mb4.3
VNA2 Neumayer--Watz 90.78 197 ⇑*i* **P 03 59 17.6 +3.3**
VNA1 Neumayer--Stat 91.16 198 ⇑*i* **P 03 59 19.5 +3.5**
VNA3 Neumayer Olymp 91.30 197 ⇑*i* **P 03 59 19.4 +2.7**
FINES FINESS Array B 92.17 332 P **P 03 59 21.4 +0.5**
comp=Z,1.1nm,0.5s,mb4.3,baz=118,slow=3.7,SNR=11
KAF Kangasniemi 92.20 332 *ep* **P 03 59 21.2 +0.2**
comp=Z,2.4nm,0.5s,mb4.7
KEV Kevo 93.48 340 *ep* **P 03 59 23.6 -3.1**
comp=Z,0.3nm,0.4s,mb4.0
ARCES ARCESS Array B 93.96 340 P **P 03 59 28.8 -0.1**
comp=Z,2.0nm,0.6s,mb4.7,baz=97,slow=5.4,SNR=26
PKSM Moragy 94.21 316 ⇑P **P 03 59 31.1 +0.6**
GERES GERESS Array B 97.75 318 P **P 03 59 48.8 +2.3**
comp=Z,0.3nm,0.6s,mb4.0,baz=63,slow=3.0,SNR=4.3
NOA NORSAR Array B 99.28 331 P **P 03 59 53.9 +0.6**
comp=Z,0.3nm,0.6s,mb4.0,baz=79,slow=6.8,SNR=3.0
NOA NORSAR Array B 99.28 331 P **P 03 59 53.9 +0.6**
DAWY Dawson 106.84 25 *e*PKP 04 04 37.0
INK Inuvik 107.48 20 *e*PKP 04 04 38.0
RES Resolute Bay 111.61 6 *e*PKP PKPdf 04 04 45.9 +2.0
YKA Yellowknife Ar 117.25 20 PKP PKPdf 04 04 56.4 +1.3
comp=Z,1.3nm,0.5s,baz=324,slow=1.6,SNR=64
FRB Frobisher Bay 123.70 358 PKP PKPdf 04 05 09.0 +1.4
comp=Z,1.4nm,0.5s,baz=61,slow=4.0,SNR=12
EDM Edmonton 123.83 28 *e*PKPdf PKPdf 04 05 10.2 +2.1
HUMO Hull Mountain 123.86 43 *e*PKPdf PKPdf 04 05 11.3 +2.8
NEW Newport 124.81 35 PKP PKPdf 04 05 13.3 +3.2
comp=Z,1.5nm,0.6s,baz=63,slow=2.3,SNR=4.1
WDC Whiskeytown Da 124.95 45 *e*PKPdf PKPdf 04 05 12.8 +2.1
MOD Modoc 125.94 43 *e*PKPdf PKPdf 04 05 15.4 +3.0
FCC Fort Churchill 126.28 13 *e*PKPdf PKPdf 04 05 14.6 +2.0
BMO Blue Mountains 126.49 38 *e*PKPdf PKPdf 04 05 15.6 +2.2
NVAR Mina Array Bea 128.82 46 PKP PKPdf 04 05 21.9 +3.8
comp=Z,1.1nm,0.7s,baz=303,slow=0.8,SNR=7.9
HLID Hailey 128.93 38 *e*PKPdf PKPdf 04 05 21.4 +3.2
MCMT McKenzie Canyo 129.17 36 *e*PKPdf PKPdf 04 05 21.7 +3.1
BOZ Bozeman (W) 129.39 35 *e*PKPdf PKPdf 04 05 22.1 +3.1
ELK Elko 129.86 42 *e*PKPdf PKPdf 04 05 22.8 +2.7
TPAW Teton Pass 131.06 36 *e*PKPdf PKPdf 04 05 25.7 +3.5
LOHW Long Hollow 131.19 36 *e*PKPdf PKPdf 04 05 25.5 +3.0
SNOW Snow King Moun 131.19 36 *e*PKPdf PKPdf 04 05 25.9 +3.4
HWUT Hardware Ranch 131.76 39 *e*PKPdf PKPdf 04 05 26.2 +2.6
BW06 Boulder Array 132.31 36 *e*PKPdf PKPdf 04 05 27.0 +2.3
PDAR Pinedale Array 132.31 36 PKP PKPdf 04 05 27.6 +2.9
comp=Z,1.1nm,0.5s,baz=341,slow=1.6,SNR=12
SCHQ Schefferville 132.48 355 PKP PKPdf 04 05 26.9 +2.2
comp=Z,

CCM	**Cathedral Cave**	**145.30**	**26**	*e*PKPdf	PKPdf	04 05 49.8	+1.6
JCT	**Junction City**	**145.96**	**44**	*e*PKPdf	PKPdf	04 05 52.4	+2.8
ACSO	**Alum Creek Sta**	**146.13**	**14**	*e*PKPdf	PKPdf	04 05 52.1	+2.6
BAO	**Brasilia Array**	**146.29**	**227**	P	PKPdf	04 05 53.0	+2.5
BDFB	**Brasilia**	**146.31**	**227**	PKPbc	PKPbc	04 05 54.4	+2.7
	comp=Z,10nm,0.6s,baz=125,slow=2.1,SNR=21						
SSPA	**Standing Stone**	**146.64**	**7**	*e*PKPdf	PKPdf	04 05 53.7	+3.3
MIAR	**Mount Ida**	**147.00**	**32**	*e*PKPbc	PKPbc	04 05 55.5	+2.7
WCI	**Wyandotte Cave**	**147.05**	**20**	*e*PKPdf	PKPdf	04 05 54.9	+3.7
MCWV	**Mont Chateau**	**147.32**	**10**	*e*PKPbc	PKPdf	04 05 56.3	+4.8
MVL	**Millersville**	**147.43**	**5**	*e*PKPdf	PKPdf	04 05 55.3	+3.6
UALR	**University of**	**147.46**	**31**	*e*PKPdf	PKPdf	04 05 55.4	+3.5
WVT	**Waverly**	**148.36**	**23**	*e*PKPbc	PKPdf	04 05 58.8	+5.5
NATX	**Nacogdoches**	**148.44**	**37**	*e*PKPbc	PKPdf	04 06 00.6	+7.0
OXF	**Oxford**	**149.07**	**27**	*e*PKPbc	PKPdf	04 06 01.1	+6.6
PLAL	**Pickwick Lake**	**149.25**	**25**	*e*PKPbc	PKPdf	04 06 00.4	+5.6
TZTN	**Tazewell**	**149.45**	**17**	*e*PKPbc	PKPdf	04 06 01.6	+6.6
LVC	**Limon Verde**	**149.88**	**187**	*e*PKPbc	PKPdf	04 06 04.6	+8.5
SWET	**Sewanee**	**149.88**	**22**	*e*PKPbc	PKPdf	04 06 02.1	+6.3
CPCT	**Cooper Cave**	**150.16**	**19**	*e*PKPbc	PKPdf	04 06 03.6	+7.4
CPCT				*e*PKPab	PKPab	04 06 09.3	-0.5
LRAL	**Lakeview Retre**	**151.38**	**25**	*e*PKPdf	PKPdf	04 06 01.5	+3.4
LRAL				*e*PKPbc	PKPdf	04 06 06.5	+8.4
LPAZ	**La Paz**	**155.96**	**191**	PKPab	PKPab	04 06 36.0	+1.2
	comp=Z,1.7nm,0.8s,baz=190,slow=6.1,SNR=6.1						

WEL 15 03:47:36.8±0.1, 42.73S×171.75E, h6km±1km, ML3.5/9, 1C-1D, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.39**	**99**	⇓PG	Pg	03 47 44.8	+0.2
LTZ				SG	Sg	03 47 50.1	+0.2
DSZ	**Denniston Nort**	**0.98**	**2**	P*	Pb	03 47 55.3	-0.5
DSZ				S*	Sb	03 48 08.6	-0.1
CRLZ	**Canterbury Las**	**1.06**	**143**	P*	Pb	03 47 57.1	-0.2
CRLZ				S*	Sb	03 48 10.6	-0.7
RPZ	**Rata Peaks**	**1.11**	**207**	⇑P*	Pb	03 47 57.9	-0.2
RPZ				S*	Sb	03 48 13.7	+1.0
MQZ	**McQueen's Vall**	**1.18**	**146**	P*	Pb	03 47 58.5	-0.9
MQZ				S*	Sb	03 48 14.7	0.0
THZ	**Tophouse**	**1.29**	**42**	P*	Pb	03 47 59.7	-1.4
THZ				S*	Sb	03 48 19.0	+1.2
KHZ	**Kahutara**	**1.36**	**78**	PN	Pn	03 48 02.0	-0.4
FOZ	**Fox Glacier**	**1.73**	**240**	PN	Pn	03 48 05.4	-2.2
FOZ				SN	Sn	03 48 28.0	-2.2
BSWZ	**Blackbirch Sta**	**1.88**	**58**	PN	Pn	03 48 10.1	+0.3
BSWZ				*e*SN	Sn	03 48 35.2	+1.1
NNZ	**Nelson**	**1.94**	**39**	PN	Pn	03 48 09.8	-0.8
QRZ	**Quartz Range**	**1.98**	**17**	PN	Pn	03 48 10.5	-0.8
LBZ	**Lake Benmore**	**2.01**	**214**	PN	Pn	03 48 10.4	-1.3
TUWZ	**Tuamarina**	**2.08**	**52**	PN	Pn	03 48 12.9	+0.1
ODZ	**Otahua Downs**	**2.45**	**199**	PN	Pn	03 48 15.7	-2.4
DUWZ	**D'Urville Isla**	**2.52**	**41**	PN	Pn	03 48 18.7	-0.3
JCZ	**Jackson Bay**	**2.56**	**237**	PN	Pn	03 48 18.1	-1.6
SNZO	**South Karori**	**2.62**	**58**	PN	Pn	03 48 19.3	-1.1
MRW	**Makara Radio**	**2.66**	**57**	PN	Pn	03 48 20.1	-0.9
CAW	**Cannon Point**	**2.96**	**58**	PN	Pn	03 48 23.7	-1.6
KIW	**Kapiti Island**	**3.01**	**53**	PN	Pn	03 48 25.0	-0.9
EAZ	**Earnscleugh**	**3.06**	**214**	PN	Pn	03 48 24.1	-2.6
MRZ	**Mangatainoka R**	**3.53**	**56**	PN	Pn	03 48 31.2	-2.2
TUZ	**Tuapeka**	**3.57**	**204**	PN	Pn	03 48 31.1	-2.8

*IDC **15** 04:11:12.6±6.8, 9.10S×130.23E, h88km±83km, mb3.1/1, mb1 3.7/4, mb1mx3.4/13, mbtmp3.7/4, ML3.6/3, MS3.4/1, Ms1 3.3/1, ms1mx2.7/22, Error ellipse: s-maj=49.6km s-min=41.2km az=25.0*

*NEIC **15** 04:11:12.3±3.9, 9.07S×130.44E, h87km±48km, mb3.6/1, Error ellipse: s-maj=41.0km s-min=29.5km az=191.0*

ISC 15 04:11:09.4±2.0, 9.01S±0.08×130.4E±0.1, h77km±24km, n10, σ1§14/15, mb3.5/2, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**4.21**	**151**	*e*P	**P**	**04 12 14.0**	**+1.3**
	25nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.14**	**206**	*e*P	**P**	**04 13 34.8**	**+0.6**
	6.7nm,0.6s						
FITZ				*e*S	**S**	**04 15 28.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**10.14**	**206**	P	**P**	**04 13 34.4**	**+0.1**
	1.0nm,0.3s,baz=26,slow=12,SNR=48						
FITZ				S	**S**	**04 15 24.6**	**-2.4**
	1.9nm,0.3s,baz=184,slow=14,SNR=4.8						
WRAB	**Tennant Creek**	**11.53**	**161**	*e*Pn	**P**	**04 13 52.1**	**-0.8**
WRAB				*e*Sn	**S**	**04 15 59.4**	**-1.1**
WRA	**Warramunga Arr**	**11.53**	**161**	P	**P**	**04 13 52.0**	**-1.0**
	0.5nm,0.3s,baz=342,slow=13,SNR=29						
WRA				S	**S**	**04 16 00.2**	**-0.4**
	1.1nm,0.3s,baz=336,slow=22,SNR=5.5						
WB2	**Warramunga Arr**	**11.54**	**161**	*e*P	**P**	**04 13 51.8**	**-1.2**
WB2				*e*S	**S**	**04 16 01.0**	**+0.3**
ASAR	**Alice Springs**	**14.97**	**167**	P	**P**	**04 14 39.4**	**+1.3**
	0.3nm,0.3s,baz=349,slow=9.5,SNR=9.9						
ASAR				S	**S**	**04 17 24.9**	**+2.7**
	0.3nm,0.3s,baz=341,slow=16,SNR=4.8						
STKA	**Stephens Creek**	**25.03**	**157**	*e*P	**P**	**04 16 35.3**	**+7.3**
	4.1nm,1.8s,mb3.6						
STKA	**Stephens Creek**	**25.03**	**157**	LR	LR	04 26 35.1	
	comp=Z,80nm,19.2s,baz=8.8,slow=37						
SONM	**Songino Array**	**60.45**	**342**	P	**P**	**04 21 13.4**	**0.0**
	0.2nm,0.5s,mb3.4,baz=149,slow=7.2,SNR=3.5						

*BJI **15** 04:17:50.9, 6.10S×104.70E, h26km, mB5.4, mb5.4, Ms5.0, Msz4.7*

*NEIC **15** 04:17:51.0±0.1, 6.08S×104.75E, mb5.4/76, MS4.5/8, Error ellipse: s-maj=5.2km s-min=3.3km az=223.0*

NEIC Felt [III] in Lampung and [II] at Kaliandak, Sumatra. Also felt [II] at Anyer Kidul, Jakarta and Tangerang, Java.

*HRVD **15** 04:17:51.0±0.2, 6.61S×104.73E, h50km, MW5.4/69, Centroid moment Tensor Solution. LP body waves: s63,c119;Mantle waves: s69,c119; Half duration: 1§2 Moment tensor: Scale 10^17^Nm; M_{rr}1.09±.03; $M_{\theta\theta}$-1.12±.02; $M_{\phi\phi}$0.03±.03; $M_{r\theta}$0.42±.02; $M_{\theta\phi}$0.63±.02; $M_{\phi r}$-0.34±.02; Best double couple: M_0=1.361×10^17^ NP1: ϕ_s=284°, δ34°, λ75°. NP2:ϕ_s=122°, δ57°, λ100°. Principal axes: T 1.219, Plg76°, Azm62°; N .291, Plg9°, Azm296°; P -1.503, Plg11°, Azm205°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **15** 04:17:51.1±0.8, 5.80S×105.00E, h33km, mb5.8/30, MS4.7/7 Error ellipse: s-maj=17.9km s-min=6.5km az=122.6*

*DJA **15** 04:17:52.4±1.2, 6.14S×104.73E, h89km±3km, mb6.0/4, MD5.1/1, Error ellipse: s-maj=46.5km s-min=11.4km az=46.0*

*IDC **15** 04:17:53.8±1.1, 6.06S×104.81E, h47km±8km, mb5.1/28, mb1 5.1/28, mb1mx5.1/29, mbtmp5.3/28, MS4.6/22, Ms1 4.6/22, ms1mx4.5/24, Error ellipse: s-maj=13.8km s-min=7.5km az=45.0*

*CSEM **15** 04:18:01.7, 5.43S×104.79E, h100km, mb5.6*

ISC 15 04:17:52.8±0.1, 6.05S±0.03×104.81E±0.03, h53km, h53km±2.5km: pP-P, n510, σ1§08/412, mb5.5/125, MS4.6/52, 69C-17D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**0.60**	**37**	⇓*i*P	**P**	**04 18 09.1**	**+3.7**
PENI	**Pendagan**	**0.60**	**37**	*e*Pn	**P**	**04 18 09.1**	**+3.7**
PULI	**Pulasari**	**1.20**	**104**	⇓*i*P	**P**	**04 18 14.7**	**+1.3**
PULI	**Pulasari**	**1.20**	**104**	*e*Pn	**P**	**04 18 14.7**	**+1.3**
PACI	**Pancar Gunung**	**2.16**	**105**	*e*Pn	**P**	**04 18 25.6**	**-1.4**
SINI	**Singah**	**2.84**	**110**	*e*Pn	**P**	**04 18 37.5**	**+0.7**
SINI				*e*Sn	**S**	**04 19 12.9**	**+3.0**
KGM	**Kluang**	**8.15**	**349**	P	**P**	**04 19 55.7**	**+4.7**
KSM	**Kuching**	**9.27**	**36**	*e*Pn	**P**	**04 20 07.3**	**+0.8**
SRDI	**Scrawed**	**9.57**	**105**	⇓*e*P	**P**	**04 20 11.2**	**+0.6**
SRDI	**Scrawed**	**9.57**	**105**	*e*P	**P**	**04 20 11.2**	**+0.6**
SRDI				*e*S	**S**	**04 21 57.1**	**-0.6**
KELI	**Kelakatan**	**9.85**	**103**	*e*P	**P**	**04 20 16.2**	**+1.8**
	3μm,0.3s						
RATI	**Rata**	**10.96**	**105**	*e*P	**P**	**04 20 28.7**	**-0.9**
	6μm,0.2s						
IPM	**Ipoh**	**11.22**	**340**	P	**P**	**04 20 34.0**	**+1.0**
KEDI	**Kedomdong**	**11.47**	**103**	⇓*e*P	**P**	**04 20 34.7**	**-1.8**
	2μm,0.2s						
KEDI	**Kedomdong**	**11.47**	**103**	*e*pP		04 20 35.5	
KEDI	**Kedomdong**	**11.47**	**103**	*e*P	**P**	**04 20 34.8**	**-1.7**
	3μm,0.3s						
KULM	**Kulim**	**12.01**	**340**	*e*Pn	**P**	**04 20 43.9**	**+0.2**
SNG	**Songkhla**	**13.79**	**342**	P	**P**	**04 21 14.0**	**+6.6**
	152nm,0.9s						
KKM	**Kota Kinabalu**	**16.55**	**44**	⇑*i*P	**P**	**04 21 47.3**	**+4.4**
KKM	**Kota Kinabalu**	**16.55**	**44**	P	**P**	**04 21 47.5**	**+4.7**
TSM	**Tawau**	**16.61**	**52**	P	**P**	**04 21 43.9**	**+0.3**
NNT	**Nongplab**	**19.19**	**345**	P	**P**	**04 22 15.0**	**-0.1**
BATP	**Bataraza**	**19.63**	**41**	*e*P	**P**	**04 22 22.4**	**+2.5**
BATP	**Bataraza**	**19.63**	**41**	*i* P	**P**	**04 22 22.5**	**+2.7**
MBWA	**Marble Bar**	**20.85**	**138**	⇑*i*P	**P**	**04 22 31.3**	**-1.3**
	89nm,0.9s						
MBWA				*e*S	**S**	**04 26 09.1**	**-7.9**
MBWA				LR	LR		
	comp=Z,2μm,20.0s,MS4.4						
PPR	**Puerto Princes**	**20.97**	**42**	⇓*e*P	**P**	**04 22 36.8**	**+3.0**
NST	**Nakhon Sawan**	**22.07**	**348**	P	**P**	**04 22 44.2**	**-0.6**
KKTK	**Khon Kaen**	**22.33**	**355**	P	**P**	**04 22 47.0**	**-0.4**
	comp=Z,1μm,0.5s,mb6.5						
ENPP	**El Nido**	**22.48**	**40**	*e*P	**P**	**04 22 51.8**	**+2.9**
ENPP	**El Nido**	**22.48**	**40**	*e*P	**P**	**04 22 52.0**	**+3.1**
PAGZ	**Pagadian**	**23.10**	**54**	*e*P	**P**	**04 22 59.3**	**+4.2**
CUYO	**Cuyo Island**	**23.29**	**44**	*e*P	**P**	**04 23 00.2**	**+3.4**
DCPH	**Dipolog City**	**23.52**	**52**	⇑*i*P	**P**	**04 23 04.1**	**+5.0**
BUSP	**Coron**	**23.58**	**40**	*e*P	**P**	**04 23 03.2**	**+3.5**
BUSP	**Coron**	**23.58**	**40**	*e*P	**P**	**04 23 03.7**	**+4.1**
FITZ	**Fitzroy Crossi**	**23.59**	**122**	*e*P	**P**	**04 22 59.6**	**-0.1**
	comp=Z,21nm,0.4s,mb4.9						
FITZ				*e*S	**S**	**04 27 07.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.59**	**122**	P	**P**	**04 22 59.7**	**-0.1**
	comp=Z,56nm,0.5s,mb5.2,baz=309,slow=4.5,SNR=52						
FITZ				S	**S**	**04 27 12.1**	**+5.2**
	comp=Z,26nm,0.9s,baz=340,slow=17,SNR=3.5						
FITZ				LR	LR	04 32 12.2	
	comp=Z,954nm,18.7s,MS4.3,baz=288,slow=36						
SNPH	**Sibulan**	**23.90**	**50**	⇑*e*P	**P**	**04 23 06.0**	**+3.3**
KCP	**Kidapawan**	**24.04**	**58**	⇑*e*P	**P**	**04 23 10.1**	**+5.9**
DAV	**Davao City (W)**	**24.48**	**58**	⇓*e*P	**P**	**04 23 12.0**	**+3.5**
BUKP	**Musuan**	**24.49**	**56**	*e*P	**P**	**04 23 11.5**	**+3.0**
TBP	**Tagbilaran**	**24.59**	**51**	*e*P	**P**	**04 23 12.0**	**+2.4**
LUBP	**Lubang**	**24.92**	**38**	*e*P	**P**	**04 23 14.6**	**+1.8**
MATI	**Mati**	**24.99**	**59**	*e*P	**P**	**04 23 17.3**	**+3.9**
CM31	**Chiang Mai Arr**	**25.03**	**347**	*e*P	**P**	**04 23 12.5**	**-1.2**
	comp=Z,19nm,0.6s,mb4.8						
CMAR	**Chiang Mai Arr**	**25.03**	**347**	P	**P**	**04 23 12.4**	**-1.3**
	comp=Z,20nm,0.7s,mb4.7,baz=180,slow=8.3,SNR=115						
CMAR				PcP	PcP	04 26 48.5	+0.2
	comp=Z,5.5nm,0.9s,baz=221,slow=2.5,SNR=5.1						
CMAR				S	**S**	**04 27 35.9**	**+4.5**
	comp=Z,4.0nm,1.1s,baz=191,slow=14,SNR=4.1						
CMAR				ScP		04 30 22.1	
	comp=Z,4.4nm,1.0s,baz=201,slow=3.6,SNR=11						
CMAR				LR	LR	04 34 34.6	
	comp=Z,1μm,18.1s,MS4.4,baz=170,slow=40						
QIZ	**Qiongzhong**	**25.41**	**11**	P	**P**	**04 23 18.1**	**+0.8**
QIZ				AP	pP	04 23 30.8	+0.4
QIZ				S	**S**	**04 27 36.8**	**-0.9**
QIZ				XS		04 27 58.4	
QIZ				AMB	AMB		
	comp=Z,34nm,1.0s,mb4.8						
QIZ				LR	LR		
	comp=N,3μm,17.7s						
QIZ				LR	LR		
	comp=Z,3μm,17.7s,MS4.9						
QIZ	**Qiongzhong**	**25.41**	**11**	*e*P	**P**	**04 23 19.0**	**+1.7**
	comp=Z,75nm,1.2s,mb5.1						
PALK	**Pallekele**	**27.45**	**298**	⇑*e*P	**P**	**04 23 37.8**	**+1.6**
	comp=Z,14nm,0.8s,mb4.6						
PALK				LR	LR		
	comp=Z,256nm,20.0s,MS3.8						
KAKA	**Kakadu**	**28.03**	**106**	⇑*i*P	**P**	**04 23 39.5**	**-1.9**
	comp=Z,171nm,0.6s,mb5.8						
KAKA				*e*S	**S**	**04 28 31.4**	**+11**
KLBR	**Kellerberrin**	**28.15**	**156**	*e*P	**P**	**04 23 41.3**	**-1.0**
	comp=Z,285nm,0.9s,mb5.9						
NWAO	**Narrogin (SRO)**	**29.14**	**158**	P	**P**	**04 23 51.2**	**+0.2**
	comp=Z,9.9nm,0.9s,mb4.5,baz=344,slow=11,SNR=5.7						
NWAO				LR	LR	04 34 18.9	
	comp=Z,3μm,21.2s,MS4.8,baz=330,slow=34						
NWAO	**Narrogin (SRO)**	**29.14**	**158**	*e*P	**P**	**04 23 51.2**	**+0.1**
	comp=Z,14nm,1.0s,mb4.6						
GZH	**Guangzhou**	**30.14**	**16**	P	**P**	**04 24 06.1**	**+6.0**
GZH				S	**S**	**04 29 04.1**	**+10**
GZH				LR	LR		
	comp=N,843nm,22.8s,MS4.4						
GZH				LR	LR		
	comp=E,592nm,23.1s,MS4.4						
GZH				LR	LR		
	comp=Z,1μm,21.6s,MS4.5						
KMI	**Kunming**	**31.05**	**356**	P	**P**	**04 24 08.9**	**+0.8**
KMI				AP	pP	04 24 23.8	+2.1
KMI				PP	PP	04 25 13.8	+2.2
KMI				S	**S**	**04 29 09.3**	**+1.0**
KMI				SS	SS	04 30 57.6	+2.0
KMI				AMB	AMB		
	comp=Z,69nm,1.1s,mb5.4						
KMI				AMB	AMB		
	comp=Z,135nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,16.1s						
KMI				LR	LR		
	comp=E,2μm,23.4s						
KMI				LR	LR		
	comp=Z,3μm,17.0s,MS5.0						
TRD	**Trivandrum**	**31.31**	**297**	⇓*e*P	**P**	**04 24 05.2**	**-5.3**
TRD				*e*		04 28 51.2	
VIS	**Vishakhapatnam**	**31.75**	**318**	*e*P	**P**	**04 24 14.2**	**-0.1**
VIS				*e*		04 24 16.1	
	comp=Z,106nm,1.0s						
WRA	**Warramunga Arr**	**31.84**	**118**	P	**P**	**04 24 13.9**	**-1.2**
	comp=Z,45nm,0.9s,mb5.3,baz=294,slow=10,SNR=173						
WRA				PcP	PcP	04 27 04.3	-0.7
	comp=Z,7.9nm,0.5s,baz=306,slow=2.1,SNR=6.7						
WRA				S	**S**	**04 29 23.8**	**+3.2**
	comp=Z,9.1nm,1.0s,baz=300,slow=15,SNR=6.5						
WRA				ScP		04 30 42.3	
	comp=Z,11nm,1.1s,baz=306,slow=2.4,SNR=7.8						
WRAB	**Tennant Creek**	**31.84**	**118**	*i* P	**P**	**04 24 14.2**	**-0.9**
WRAB	**Tennant Creek**	**31.84**	**118**	⇑*e*P	**P**	**04 24 13.7**	**-1.4**
	comp=Z,93nm,0.8s,mb5.7						
WRAB				LR	LR		
	comp=Z,314nm,19.0s,MS4.0						
WB2	**Warramunga Arr**	**31.85**	**118**	⇑*i*P	**P**	**04 24 14.0**	**-1.1**
WB2				*e*S	**S**	**04 29 19.3**	**-1.5**
GYA	**Guiyang**	**32.37**	**3**	⇑*i*P	**P**	**04 24 19.6**	**0.0**
GYA				AP	pP	04 24 34.4	+1.1
GYA				PP	PP	04 25 27.6	-1.0
GYA				S	**S**	**04 29 26.4**	**-2.4**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,190nm,5.7s						
GYA				LR	LR		
	comp=N,2μm,19.1s,MS5.0						
GYA				LR	LR		
	comp=E,3μm,16.4s,MS5.0						
GYA				LR	LR		
	comp=Z,2μm,17.9s,MS4.8						
FORT	**Forrest**	**32.89**	**141**	*e*P	**P**	**04 24 23.4**	**-0.7**
	comp=Z,669nm,0.7s						
ASPA	**Alice Springs**	**33.01**	**125**	⇑*i*P	**P**	**04 24 24.2**	**-1.0**
ASPA				*e*S	**S**	**04 29 34.5**	**-4.3**
ASPA				*e*SCS	ScS	04 34 46.8	+1.3
ASAR	**Alice Springs**	**33.01**	**125**	P	**P**	**04 24 24.4**	**-0.9**
	comp=Z,22nm,0.6s,mb5.3,baz=301,slow=7.9,SNR=130						
ASAR				PcP	PcP	04 27 08.0	-0.3
	comp=Z,11nm,0.6s,baz=311,slow=1.9,SNR=8.9						
ASAR				S	**S**	**04 29 37.0**	**-1.9**
	comp=Z,29nm,1.0s,baz=290,slow=15,SNR=12						
ASAR				ScP		04 30 47.5	
	comp=Z,7.2nm,1.0s,baz=299,slow=3.1,SNR=5.6						
ASAR				LR	LR	04 39 46.3	
	comp=Z,835nm,18.3s,MS4.5,baz=294,slow=40						
SHL	**Shillong**	**33.85**	**339**	*e*P	**P**	**04 24 30.0**	**-2.4**
SHL				*e*		04 29 48.0	
NACB	**Ninganchiao**	**34.21**	**28**	*e*P	**P**	**04 24 35.8**	**+0.2**
YHNB	**Yeheng**	**34.54**	**27**	*e*P	**P**	**04 24 39.2**	**+0.8**
HYB	**Hyderabad**	**34.88**	**312**	*e*P	**P**	**04 24 40.5**	**-0.9**
	comp=Z,40nm,1.0s,mb5.3						
HYB	**Hyderabad**	**34.88**	**312**	⇑*i*P	**P**	**04 24 40.5**	**-0.9**
	comp=Z,40nm,1.0s,mb5.3						
HYB				*e*S	**S**	**04 30 08.0**	**+0.1**
MENI	**Mendum Tagoi**	**35.67**	**86**	*e*P	**P**	**04 24 44.5**	**-3.7**
	comp=Z,42nm,1.0s,mb5.0						
BLSP	**Bilaspur**	**35.75**	**322**	*e*P	**P**	**04 24 47.9**	**-0.8**
BLSP				*e*		04 24 50.0	
	comp=Z,52nm,1.2s						
YOMI	**Yo Moklole**	**35.80**	**86**	*e*P	**P**	**04 24 44.6**	**-4.7**
	comp=Z,139nm,0.6s,mb6.1						
YOMI	**Yo Moklole**	**35.80**	**86**	*e*P	**P**	**04 24 45.2**	**-4.1**
	comp=Z,278nm,0.7s,mb6.0						
ENH	**Enshi**	**36.39**	**7**	*e*P	**P**	**04 24 53.0**	**-1.1**
	comp=Z,42nm,0.7s,mb5.5						
ENH				*e*PcP	PcP	04 27 17.1	-0.8
CD2	**Chengdu**	**36.77**	**358**	P	**P**	**04 24 56.3**	**-0.9**
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.1						
WHN	**Wuhan**	**37.52**	**14**	⇑P	**P**	**04 25 05.3**	**+1.8**
WHN				S	**S**	**04 30 49.0**	**+0.8**
WHN				LR	LR		
	comp=Z,2μm,19.7s,MS5.0						
LSA	**Lhasa**	**37.89**	**340**	P	**P**	**04 25 06.3**	**-0.3**
LSA				AP	pP	04 25 13.5	-7.0
LSA				XP	sP	04 25 19.0	-7.9
LSA				PCP	PcP	04 27 22.9	+0.4
LSA				S	**S**	**04 30 50.6**	**-3.3**
LSA				XS		04 31 08.6	
LSA				SS	SS	04 33 38.3	+6.0
LSA				SCS	ScS	04 35 16.6	+4.7
LSA				LR	LR		
	comp=N,490nm,22.3s,MS4.6						
LSA				LR	LR		
	comp=E,980nm,23.7s,MS4.6						
LSA				LR	LR		
	comp=Z,800nm,22.3s,MS4.5						
LSA	**Lhasa**	**37.89**	**340**	*e*P	**P**	**04 25 06.2**	**-0.4**
	comp=Z,78nm,0.6s,mb5.6						
JIRN	**Jiri**	**38.04**	**333**	*e*P	**P**	**04 25 07.2**	**-0.7**
	comp=Z,203nm,0.6s,mb6.0						
KAD	**Karad**	**38.14**	**308**	*e*P	**P**	**04 25 09.4**	**+0.7**
KAD				*e*		04 25 10.6	
	comp=Z,88nm,0.7s						
PKI	**Pulchoki**	**38.33**	**332**	*e*P	**P**	**04 25 09.4**	**-0.9**
	comp=Z,55nm,0.7s,mb5.4						
GUN	**Gumba**	**38.40**	**332**	*e*P	**P**	**04 25 10.5**	**-0.3**
	comp=Z,291nm,0.6s,mb6.2						
DMN	**Daman**	**38.50**	**331**	*e*P	**P**	**04 25 10.9**	**-0.8**
	comp=Z,237nm,1.1s,mb5.8						
KKN	**Kakani**	**38.57**	**332**	*e*P	**P**	**04 25 11.4**	**-0.9**
	comp=Z,178nm,0.9s,mb5.8						
GKN	**Gorkha**	**39.06**	**331**	*e*P	**P**	**04 25 15.7**	**-0.6**
	comp=Z,331nm,0.9s,mb6.1						
POO	**Poona**	**39.10**	**309**	⇑*i*P	**P**	**04 25 15.5**	**-1.3**
	comp=Z,188nm,1.1s,mb5.7						
POO				*i*		04 31 12.0	
KOLN	**Koldanda**	**39.37**	**330**	*e*P	**P**	**04 25 18.5**	**-0.5**
	comp=Z,236nm,0.7s,mb6.0						
BHPL	**Bhopal**	**39.54**	**318**	*e*P	**P**	**04 25 20.4**	**0.0**
BHPL				*e*		04 25 21.4	
	comp=Z,136nm,0.6s						
JOW	**Kunigami**	**39.81**	**34**	P	**P**	**04 25 23.2**	**+0.6**
	comp=Z,37nm,1.0s,mb5.1,baz=234,slow=8.6,SNR=7.4						
JOW				LR	LR	04 41 17.6	
	comp=Z,754nm,21.4s,MS4.5,baz=317,slow=35						
SSE	**Sheshan**	**40.12**	**22**	*e*P	**P**	**04 25 23.1**	**-2.0**
SSE				AP	pP	04 25 32.5	-6.5
SSE				XP	sP	04 25 35.3	-10
SSE				S	**S**	**04 31 27.5**	**0.0**
SSE				XS		04 31 42.5	
SSE				SS	SS	04 34 27.3	+6.2
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,50nm,4.3s						
SSE				LR	LR		
	comp=N,214nm,24.5s,MS4.3						
SSE				LR	LR		
	comp=E,564nm,24.4s,MS4.3						
SSE				LR	LR		
	comp=Z,409nm,22.8s,MS4.2						
SSE	**Sheshan**	**40.12**	**22**	*e*P	**P**	**04 25 23.1**	**-2.0**
	comp=Z,28nm,0.7s,mb5.1						
SSE				pP	pP	04 25 32.5	-6.5
SSE				sP	sP	04 25 35.2	-10
SSE				PcP	PcP	04 27 25.5	-4.0
SSE				S	**S**	**04 31 27.5**	**0.0**
SSE				sS		04 31 42.5	
SSE				SS	SS	04 34 27.2	+6.1
SSE				ScS	ScS	04 35 16.6	-8.2
SSE				LR	LR		
	comp=Z,410nm,22.8s,MS4.2						
NJ2	**Nanjing**	**40.19**	**19**	*e*P	**P**	**04 25 28.4**	**+2.7**
NJ2				PP	PP	04 27 05.4	+3.1
NJ2				S	**S**	**04 31 33.0**	**+4.5**
NJ2				A

comp=Z,303nm,4.2s
GTA LR LR
comp=N,1μm,20.1s,MS4.9
GTA LR LR
comp=E,877nm,20.5s,MS4.9
GTA LR LR
comp=Z,1μm,24.3s,MS4.7
SDNR Sundarnagar 45.83 326 *e*P **P 04 26 10.4 -1.2**
SDNR *e* 04 32 48.0
BHK Bhakra 46.08 326 *e* **P 04 26 17.8 +4.2**
BTO Baotou 46.67 5 *e*P **P 04 26 17.0 -1.1**
BJT Baijiatuau 47.02 12⇑ *e*P **P 04 26 21.1 +0.2**
comp=Z,125nm,1.1s,mb5.8
BJT *e*PcP PcP 04 27 52.1 -0.7
BJI Beijing 47.05 12 P **P 04 26 21.3 +0.3**
BJI AP pP 04 26 27.8 -7.3
BJI XP sP 04 26 30.1 -11
BJI PCP PcP 04 27 52.5 -0.4
BJI PP PP 04 28 11.8 +0.1
BJI S **S 04 33 09.9 +1.8**
BJI XS 04 33 24.6
BJI AMB AMB
comp=Z,83nm,0.8s,mb5.7
BJI AMB AMB
comp=Z,257nm,4.1s
BJI LR LR
comp=N,734nm,24.7s,MS4.6
BJI LR LR
comp=E,341nm,22.4s,MS4.6
BJI LR LR
comp=Z,1μm,28.9s
BJI Beijing 47.05 12 P **P 04 26 21.2 +0.2**
comp=Z,83nm,0.8s,mb5.7
BJI pP pP 04 26 27.7 -7.4
BJI sP sP 04 26 30.1 -11
BJI PcP PcP 04 27 52.5 -0.4
BJI PP PP 04 28 11.7 0.0
BJI S **S 04 33 09.9 +1.8**
BJI sS 04 33 24.6
BJI SS SS 04 36 40.8 +12
BJI LR LR
comp=Z,1μm,28.9s,MS4.7
HHC Hu-ho-hao-te 47.08 7 *e*P **P 04 26 21.8 +0.5**
HHC PCP PcP 04 27 52.8 -0.2
HHC PP PP 04 28 16.9 +4.9
HHC SCP 04 31 39.9
HHC S **S 04 33 09.1 +0.5**
HHC SCS ScS 04 36 09.4 +1.4
HHC SS SS 04 36 34.5 +5.4
HHC AMB AMB
comp=Z,32nm,1.3s,mb5.1
HHC AMB AMB
comp=Z,256nm,6.3s
HHC LR LR
comp=N,1μm,22.2s,MS4.8
HHC LR LR
comp=E,843nm,22.9s,MS4.8
HHC LR LR
comp=Z,1μm,21.6s,MS4.8
DLH Dalhousie 47.18 326 *e*P **P 04 26 22.0 -0.2**
THN Thein Dam 47.23 326 *e*P **P 04 26 20.6 -2.1**
THN *e* 04 33 07.9
KS15 Wonju Array Si 48.33 25 *e*P **P 04 26 31.3 +0.2**
KS15 *e*PcP PcP 04 27 57.2 -0.3
TOO Toolangi 48.48 136 *e*P **P 04 26 33.3 +1.0**
comp=Z,8.9nm,0.8s,mb4.8
ARMA Armidale 50.16 125 *e*P **P 04 26 46.2 +0.9**
SNY Shenyang 50.64 18 ⇑P **P 04 26 47.8 -1.0**
SNY AMB AMB
comp=Z,30nm,1.7s,mb5.0
SNY LR LR
comp=N,340nm,20.6s,MS4.7
SNY LR LR
comp=E,650nm,22.0s,MS4.7
SNY LR LR
comp=Z,640nm,19.2s,MS4.7
WMQ Urumqi 51.99 344 P **P 04 26 59.4 +0.4**
WMQ PCP PcP 04 28 10.9 0.0
WMQ PP PP 04 28 58.9 +0.9
WMQ S **S 04 34 16.9 0.0**
WMQ SCS ScS 04 36 40.5 -0.5
WMQ AMB AMB
comp=Z,155nm,0.7s,mb6.0
WMQ AMB AMB
comp=Z,399nm,4.0s
WMQ LR LR
comp=N,349nm,23.6s,MS4.4
WMQ LR LR
comp=E,215nm,21.2s,MS4.4
WMQ LR LR
comp=Z,449nm,21.1s,MS4.5
TAU Tasmania Unive 52.44 141 *e*P **P 04 27 02.1 -0.1**
comp=Z,33nm,0.9s,mb5.3
KSH Kashi 52.59 332⇑ *i*P **P 04 27 03.1 -0.4**
KSH AP pP 04 27 18.1 +0.4
KSH PCP PcP 04 28 13.3 +0.2
KSH PP PP 04 29 03.4 -0.6
KSH SCP 04 32 03.6
KSH PCS 04 32 10.0
KSH S **S 04 34 21.6 -3.5**
KSH XS 04 34 49.1
KSH AMB AMB
comp=Z,850nm,1.8s,mb6.4
KSH LR LR
comp=N,430nm,5.4s
KSH LR LR
comp=E,540nm,4.4s
MAJO Matsushiro 52.66 34⇑ *e*P **P 04 27 02.4 -1.7**
comp=E,50nm,0.8s,mb5.5
MAJO LR LR
comp=Z,385nm,20.0s,MS4.4
MAT Matsushiro 52.66 34 *e*P **P 04 27 02.0 -2.1**
comp=Z,72nm,1.0s,mb5.6
MAT S **S 04 34 40.0 +14**
MAT Matsushiro 52.66 34 P **P 04 27 02.1 -2.0**
MAT *e*S **S 04 34 39.6 +14**
MJAR Matsushiro Arr 52.66 34 P **P 04 27 02.6 -1.5**
comp=Z,44nm,0.7s,mb5.5,baz=212,slow=7.5,SNR=106
MJAR PcP PcP 04 28 12.2 -1.2
comp=Z,28nm,0.8s,baz=201,slow=4.2,SNR=12
MJAR ScP 04 32 08.8
comp=Z,7.5nm,0.9s,baz=208,slow=4.8,SNR=8.4
MJAR LR LR 04 49 43.9
comp=Z,318nm,20.7s,MS4.3,baz=235,slow=36
MJAR Matsushiro Arr 52.66 34 P **P 04 27 02.6 -1.5**
MJAR PcP PcP 04 28 12.2 -1.2
MJAR ScP 04 32 08.8
MJAR LR LR 04 49 43.9
WBK Wadi Bani Khal 53.12 304 P **P 04 27 08.3 +0.6**
SNR=20
SONM Songino Array 53.67 1 P **P 04 27 11.4 0.0**
comp=Z,14nm,0.4s,mb5.2,baz=179,slow=8.2,SNR=179
SONM PcP PcP 04 28 16.8 -0.3
comp=Z,35nm,0.6s,baz=181,slow=4.2,SNR=18
SONM ScP 04 32 11.9
comp=Z,7.7nm,0.8s,baz=179,slow=4.2,SNR=9.8
SONM LR LR 04 53 29.1
comp=Z,768nm,18.7s,MS4.8,baz=308,slow=40
ULN Ulaanbaatar 53.72 2 *c i*P **P 04 27 11.3 -0.5**
ULN Ulaanbaatar 53.72 2 *e*P **P 04 27 11.6 -0.1**
comp=Z,19nm,0.7s,mb5.1
ULN *e*ScP 04 32 10.9
ULN LR LR
comp=Z,1μm,19.0s,MS5.0
JMDO Jabal Madar 53.73 303 P **P 04 27 12.3 +0.2**
SNR=11
SMDO Samad 54.08 304 P **P 04 27 15.2 +0.5**
SNR=32
BIDO Bidbid 54.22 305 P **P 04 27 16.8 +1.0**
SNR=13
BSY Bisya 54.64 303 P **P 04 27 19.4 +0.6**
SNR=22
ULHL Ulahol 54.66 334 P **P 04 27 18.3 -0.5**
SNR=19
HNR Honiara 54.70 97 *e*P **P 04 27 17.9 -1.4**
comp=Z,261nm,0.7s,mb6.4
HOQ Hoqain 54.91 304 P **P 04 27 21.5 +0.7**
SNR=26
KZA Kyzart 54.96 333 P **P 04 27 20.6 -0.3**
SNR=35
MDJ Mudanjiang 55.14 21 P **P 04 27 21.5 -0.7**
MDJ AP pP 04 27 38.0 +1.4
MDJ PP PP 04 29 26.8 -0.5
MDJ PCS 04 32 18.4
MDJ S **S 04 35 05.1 +5.7**
MDJ AMB AMB
comp=Z,28nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,142nm,7.0s
MDJ LR LR
comp=N,220nm,23.0s,MS4.4
MDJ LR LR
comp=E,288nm,25.8s,MS4.4
MDJ LR LR
comp=Z,445nm,24.9s,MS4.4
MDJ Mudanjiang 55.14 21 *e*P **P 04 27 21.4 -0.8**
comp=Z,18nm,0.8s,mb5.1
UCH Uchtor 55.41 333 P **P 04 27 23.9 -0.3**
SNR=9.7
ARQ Araqi 55.46 304 P **P 04 27 25.0 +0.3**
SNR=34
TKM2 Tokmak 2 55.49 334 P **P 04 27 23.8 -0.9**
SNR=69
KBK Karagaybulak 55.56 334 P **P 04 27 23.6 -1.6**
SNR=14
AML Almayashu 55.71 332 P **P 04 27 25.9 -0.4**
SNR=26
AAK Ala-Archa 55.74 333 P **P 04 27 26.4 -0.2**
SNR=32
AAK Ala-Archa 55.74 333 *i* P **P 04 27 25.1 -1.5**
AAK pmax pmax
comp=Z,46nm,1.3s,mb5.3
AAK Ala-Archa 55.74 333⇑ *i*P **P 04 27 24.4 -2.2**
comp=Z,46nm,1.0s,mb5.5
FRU Bishkek 55.85 333⇑ *i*P **P 04 27 26.0 -1.3**
FRU *e* 04 35 09.0
FRU pmax pmax
comp=Z,140nm,1.6s,mb5.7
CHMS Chumysh 55.92 334 P **P 04 27 26.8 -1.0**
SNR=16
EKS2 Erkin-Say 56.09 333 P **P 04 27 28.2 -0.8**
SNR=129
ZAK Zakamensk 56.22 359⇓ *i*P **P 04 27 29.2 -0.6**
ZAK *e* 04 28 25.9
ZAK pmax pmax
comp=Z,16nm,1.1s,mb5.0
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
USP Ospenovka 56.24 334 P **P 04 27 28.9 -1.2**
SNR=12
ASHO Ashiyiah 56.43 305 P **P 04 27 31.9 +0.2**
SNR=50
HIA Hailar 56.61 12⇑ *i*P **P 04 27 31.2 -1.5**
comp=Z,51nm,1.0s,mb5.5
HIA *e*PcP PcP 04 28 27.9 -0.4
BANOM Banah 56.78 306 P **P 04 27 35.1 +0.9**
SNR=9.7
TLY Talaya 57.51 359 *e*P **P 04 27 39.2 +0.2**
TLY *e*S **S 04 35 33.0 +2.3**
TLY *e* 04 37 19.6
TLY *e*SS SS 04 39 26.5 +4.0
TLY pmax pmax
comp=Z,43nm,0.9s,mb5.5
TLY MLR MLR
comp=Z,1μm,19.0s,MS5.0
TLY Talaya 57.51 359 *e*P **P 04 27 39.0 0.0**
comp=Z,37nm,0.7s,mb5.5
MOY Mondy 57.58 357 *e*P **P 04 27 39.0 -0.5**
MOY pmax pmax
comp=Z,62nm,2.2s,mb5.2
KKAR Karatay Array 57.97 331 *i* P **P 04 27 40.1 -2.2**
KKAR pmax pmax
comp=Z,25nm,0.7s,mb5.3
KLR Kul'dur 59.86 20⇓ *i*P **P 04 27 50.8 -4.6**
KLR *e* 04 28 37.0
KLR *e*S **S 04 36 17.5 +16**
KLR pmax pmax
comp=N,32nm,1.0s
KLR pmax pmax
comp=E,56nm,1.0s
KLR pmax pmax
comp=Z,76nm,1.0s,mb5.7
ASAJ Asahikawa 60.43 30 P **P 04 27 58.7 -0.6**
comp=Z,72nm,0.7s,mb5.8,baz=244,slow=11,SNR=48
DZM Mont Dzumac 61.48 112 *e*P **P 04 28 04.2 -2.6**
DZM Mont Dzumac 61.48 112 *e*P **P 04 28 04.2 -2.6**
ZAL Zalesovo 62.09 347 S **S 04 36 28.1 -1.6**
comp=Z,1.9nm,0.6s,baz=205,slow=23,SNR=10.0
YSS Yuzh-Sakhalins 62.55 28⇑ *i*P **P 04 28 12.8 -0.7**
YSS *e* 04 28 49.0
YSS pmax pmax
comp=Z,270nm,0.9s,mb6.4
YSS Yuzh-Sakhalins 62.55 28⇑ *i*P **P 04 28 12.9 -0.7**
comp=Z,204nm,0.8s,mb6.3
NVS Novosibirsk 63.29 346 *i* P **P 04 28 15.5 -2.8**
NVS *e*PP pP 04 28 29.2 -3.8
NVS *e* 04 28 52.1
NVS *e*S **S 04 36 40.8 -3.8**
NVS *e* 04 38 00.2
NVS pmax pmax
comp=N,50nm,1.4s
NVS pmax pmax
comp=E,36nm,1.4s
NVS pmax pmax
comp=Z,61nm,1.4s,mb5.5
NVS smax
comp=N,17nm,1.4s
NVS smax
comp=E,21nm,1.3s
ATD Arta Tunnel 64.06 286 LR LR 04 53 14.5
comp=E,155nm,18.6s,MS4.2,baz=78,slow=33
BOD Bodaibo 64.09 5 *e*P **P 04 28 22.3 -1.2**
BOD pmax pmax
comp=Z,26nm,0.8s,mb5.3
CLNS Chul'man 64.80 12 *e*P **P 04 28 26.5 -1.6**
CLNS *e*PP pP 04 28 34.3 -8.5
CLNS *e* 04 29 00.1
CLNS *e*S **S 04 37 01.9 -1.4**
CLNS *e* 04 38 12.0
CLNS pmax pmax
comp=Z,59nm,0.8s,mb5.7
CLNS pmax pmax
comp=N,32nm,0.9s
CLNS pmax pmax
comp=E,23nm,0.7s
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=E,73nm,12.9s
CLNS smax
comp=Z,95nm,11.7s
CLNS smax
comp=N,114nm,12.6s
CLNS MLR MLR
comp=N,300nm,15.0s,MS4.7
CLNS MLR MLR
comp=Z,500nm,15.0s,MS4.8
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.7
DRV Dumont d'Urvil 65.18 165 P **P 04 28 31.0 +0.6**
BVAR Borovoye Array 65.66 338 P **P 04 28 32.3 -1.4**
comp=E,98nm,0.7s,mb6.0,baz=135,slow=8.4,SNR=366
BVAR PcP PcP 04 29 04.4 -0.3
comp=E,17nm,0.8s,baz=146,slow=5.3,SNR=4.6
KMBO Kilima Mbogo 67.56 271 P **P 04 28 46.0 -0.4**
comp=E,0.9nm,0.6s,baz=52,slow=7.7,SNR=4.0
KMBO LR LR 04 52 52.7
comp=E,628nm,21.1s,MS4.8,baz=94,slow=31
KMBO Kilima Mbogo 67.56 271 *e*P **P 04 28 46.0 -0.4**
comp=E,6.6nm,1.1s,mb4.6
KMBO LR LR
comp=Z,736nm,20.0s,MS4.9
MAW Mawson 67.65 196 LR LR 04 52 47.2
comp=Z,962nm,18.9s,MS5.0,baz=74,slow=31
BHD Baghdad 69.27 309 *e*P **P 04 28 50.0 -6.7**
YAK Yakutsk 70.55 12 *c i*P **P 04 29 02.8 -1.1**
YAK pmax pmax
comp=Z,420nm,1.3s,mb6.2
YAK Yakutsk 70.55 12⇑ *i*P **P 04 29 02.7 -1.2**
comp=Z,195nm,0.8s,mb6.1
YAK LR LR
comp=Z,274nm,20.0s,MS4.5
MSL Mosul 71.40 311 *e*P **P 04 29 11.5 +2.0**
SKR Severo-Kuril's 71.66 32 *e*P **P 04 29 06.5 -4.3**
SKR *e* 04 29 11.7
SKR pmax pmax
comp=Z,140nm,0.8s,mb5.9
SKR pmax pmax
comp=N,70nm,0.7s
GNI Garni 71.75 316 *c i*P **P 04 29 11.6 +0.1**
GNI pmax pmax
comp=Z,51nm,1.3s
GNI Garni 71.75 316 P **P 04 29 12.1 +0.6**
comp=Z,8.4nm,0.4s,mb5.0,baz=120,slow=6.3,SNR=16
GNI Garni 71.75 316⇑ *i*P **P 04 29 11.4 -0.1**
comp=Z,60nm,1.0s,mb5.5
GNI *e*PP PP 04 31 52.9 -0.3
DGRG David-gareji 71.88 317 P **P 04 29 13.0 +0.8**
SVE Sverdlovsk 72.26 336⇑ *e*P **P 04 29 14.5 +0.3**
SVE *e* pP 04 29 30.5 +1.3
SVE pmax pmax
comp=Z,532nm,1.3s,mb6.3
SVE MLR MLR
comp=N,300nm,23.0s,MS4.5
SVE MLR MLR
comp=E,100nm,23.0s,MS4.5
SVE MLR MLR
comp=Z,400nm,23.0s,MS4.6
MTA Mtatsminda 72.37 317 P **P 04 29 15.3 +0.1**
TBLG Delisi 72.42 317 P **P 04 29 15.6 +0.1**
ARU Arti 72.84 335⇑ *i*P **P 04 29 17.2 -0.5**
ARU *e* pP 04 29 34.5 +1.9
ARU *e* 04 31 54.5
ARU *e*S S 04 38 37.7 -0.8
ARU *e* 04 39 19.5
ARU *e*SS SS 04 43 15.9 -5.8
ARU pmax pmax
comp=Z,264nm,1.0s,mb6.1
ARU MLR MLR
comp=Z,500nm,22.0s,MS4.8
ARU MLR MLR
comp=N,300nm,21.0s,MS4.6
ARU MLR MLR
comp=E,200nm,22.5s,MS4.6
ARU Arti 72.84 335⇑ *i*P **P 04 29 17.2 -0.5**
comp=E,200nm,0.9s,mb6.0
BEST Besiri 73.35 312 *i* P **P 04 29 19.7 -1.3**
ZEI Tsey 73.43 318 *e*P **P 04 29 20.8 -0.6**
ZEI *i* *PP pP 04 29 27.4 -9.0
ZEI *i* 04 32 03.8
ZEI *e*S S 04 38 48.2 +2.8
ZEI pmax pmax
comp=Z,37nm,0.8s,mb5.4
ONI Oni 73.65 318 P **P 04 29 23.0 +0.3**
ERZM Erzurum 74.03 314 *i* P **P 04 29 23.6 -1.4**
MBAR Mbarara 74.10 271 *e*P **P 04 29 25.0 -0.9**
comp=Z,12nm,1.0s,mb4.8
PET Petropavlovsk 74.28 30⇑ *i*P **P 04 29 25.6 -0.5**
PET pmax pmax
comp=Z,306nm,0.6s,mb6.4
PET pmax pmax
comp=Z,100nm,12.3s
PET MLR MLR
comp=Z,200nm,15.0s,MS4.5
PET Petropavlovsk 74.28 30⇑ *i*P **P 04 29 25.5 -0.7**
comp=Z,177nm,0.6s,mb6.2
KIV Kislovodsk 74.73 319 *c i*P **P 04 29 28.6 -0.3**
KIV *e* pP 04 29 43.1 -0.8
KIV *e* 04 32 17.3
KIV pmax pmax
comp=Z,77nm,1.2s,mb5.5
KIV Kislovodsk 74.73 319⇑ *i*P **P 04 29 28.4 -0.5**
comp=Z,49nm,0.9s,mb5.4
ASF Jabal al Asfar 74.83 305 P **P 04 29 30.9 +1.2**
comp=Z,63nm,0.9s,mb5.6,baz=342,slow=4.1,SNR=77
GOF Gofitskoye 74.96 320⇓ *i*P **P 04 29 28.8 -1.4**
GOF *i* S S 04 39 02.6 +0.2
GOF pmax pmax
comp=Z,110nm,1.3s,mb5.6
GOF smax
comp=E,80nm,1.3s
ELZG Elazig 75.25 312 *i* P **P 04 29 31.2 -0.8**
LSZ Lusaka 75.55 256 *e*P **P 04 29 33.1 -1.0**
comp=E,7.0nm,0.9s,mb4.6
MALT Malatya 75.59 312 ⇑P **P 04 29 34.6 +0.6**
MALT Malatya 75.59 312⇑ *i*P **P 04 29 34.3 +0.3**
comp=E,57nm,1.0s,mb5.5
SOKR Solikamsk 75.61 337 *c i*P **P 04 29 33.8 +0.2**
SOKR pmax pmax
comp=Z,320nm,1.0s,mb6.2
SOKR MLR MLR
comp=Z,530nm,24.0s,MS4.8
SYO Syowa Base 75.65 200 ⇓P **P 04 29 32.0 -1.7**
EIL Elat 75.73 303 P **P 04 29 35.4 +0.4**
comp=Z,43nm,0.8s,mb5.4,baz=85,slow=2.6,SNR=36
EIL Elat 75.73 303⇑ *i*P **P 04 29 35.1 +0.1**
comp=Z,75nm,1.0s,mb5.6
GZT Gaziantep 75.92 311 *i* P **P 04 29 35.1 -0.8**
KAHT Ahir Dag 76.53 311 *i* P **P 04 29 38.0 -1.4**
SOC Sochi 76.56 317 *i* P **P 04 29 38.2 -1.2**
SOC *e*PPP PPP 04 34 16.3 -4.9
SOC *e*S S 04 39 24.4 +4.4
SOC *e*SS SS 04 44 25.9 +7.2
SOC *e*SSS SSS 04 47 32.6 -2.0
SOC pmax pmax
comp=Z,73nm,1.2s,mb5.5
SOC pmax pmax
comp=N,5.0nm,0.7s
SOC pmax pmax
comp=E,9.0nm,0.9s
SVST Sivas 77.16 313 *i* P **P 04 29 42.7 -0.1**
VNDA Vanda 77.30 169 P **P 04 29 42.2 -0.7**
comp=E,4.9nm,0.9s,mb4.5,baz=309,slow=4.8,SNR=12
VNDA LR LR 04 58 15.6
comp=E,481nm,21.8s,MS4.8,baz=319,slow=31
VNDA Vanda 77.30 169 P **P 04 29 42.2 -0.7**
VNDA LR LR 04 58 15.6
SEY Seymchan 77.65 20 *i* P **P 04 29 44.0 -1.1**
SEY *e* 04 39 56.2
SEY pmax pmax
comp=Z,20nm,0.6s,mb5.2
LBTB Lobatse 77.71 246 LR LR 04 56 45.2
comp=Z,465nm,20.8s,MS4.8,baz=122,slow=30
LBTB Lobatse 77.71 246 *e*P **P 04 29 45.7 -0.4**
comp=Z,4.7nm,0.8s,mb4.5
BOSA Boshof 77.97 242 P **P 04 29 46.7 -0.8**
comp=Z,5.8nm,0.9s,mb4.5,baz=95,slow=4.9,SNR=12
BOSA LR LR 04 59 31.0
comp=Z,360nm,22.0s,MS4.7,baz=72,slow=32
BOSA Boshof 77.97 242 *e*P **P 04 29 46.4 -1.1**
comp=Z,8.5nm,0.8s,mb4.7
MEST Erdemli 78.29 309 *i* P **P 04 29 47.5 -1.6**
AVNT Avonos 78.40 311 *i* P **P 04 29 47.5 -2.1**
CSS Prodhromos 78.48 307 ⇑P **P 04 29 50.7 +0.5**
comp=Z,3.4nm,0.8s
CSS Prodhromos 78.48 307⇑ *i*P **P 04 29 50.7 +0.5**
comp=Z,3.4nm,0.8s
ANN Anapa 78.53 318 *e*P **P 04 29 46.9 -3.4**
ANN *e*S S 04 39 35.6 -5.6
ANN pmax pmax
comp=Z,69nm,1.2s,mb5.5
SZAC Souni-Zanaja 78.78 307 ⇑P **P 04 29 52.3 +0.5**
comp=Z,1.9nm,0.7s
SZAC Souni-Zanaja 78.78 307⇑ *i*P **P 04 29 52.3 +0.5**
CTKT Corum 79.00 313 *i* P **P 04 29 50.4 -2.5**
CDAG Cicekdag 79.01 312 *i* P **P 04 29 49.5 -3.5**
BRTR Keskin Array B 79.58 312 P **P 04 29 55.6 -0.4**
comp=Z,48nm,0.7s,mb5.5,baz=132,slow=7.0,SNR=279
SIM Simferopol' 80.81 317 *c e*P **P 04 30 02.8 +0.3**
SIM pmax pmax
comp=Z,81nm,0.8s,mb5.7
SIM Simferopol' 80.81 317⇑ *i*P **P 04 30 02.7 +0.2**
SUR Sutherland 81.73 238 LR LR 04 58 40.8
comp=Z,716nm,22.0s,MS5.0,baz=353,slow=30
SUR Sutherland 81.73 238 *e*P **P 04 30 08.1 +0.4**
comp=Z,15nm,1.0s,mb4.9
AFI Afiamalu 82.20 103 *e*P **P 04 30 11.5 +1.2**
comp=Z,101nm,1.3s,mb5.6
MOS Moscow 82.43 328 *i* P **P 04 30 11.5 +0.8**
MOS *e* pP 04 30 27.6 +1.7
MOS *e*S S 04 40 21.1 -0.3
MOS pmax pmax
comp=Z,121nm,0.7s,mb5.9
OBN Obninsk 82.75 327 *c i*P **P 04 30 12.6 +0.2**
OBN *e* 04 30 18.7
OBN pmax pmax
comp=Z,150nm,1.0s,mb6.0
OBN Obninsk 82.75 327⇑ *i*P **P 04 30 12.3 -0.1**
comp=Z,107nm,0.8s,mb5.9
QSPA South Pole Qui 83.93 180 *e*P **P 04 30 17.4 -0.4**
comp=Z,28nm,1.3s,mb5.2
PSN Preselentsi 84.56 315 *e*P **P 04 30 23.0 +1.2**

KIS Kishinev 84.93 318α iP P 04 30 22.0 -1.5
KIS e pP 04 30 35.0 -3.8
KIS e 04 33 38.0
KIS eS S 04 40 47.0 +0.5
KIS pmax pmax
comp=Z,170nm,1.4s,mb6.0
CFR Carcaliu 84.94 316 ⇓P P 04 30 24.5 +0.9
CFR Carcaliu 84.94 316 P P 04 30 24.6 +1.0
HARR Harsova 84.97 316 P P 04 30 25.0 +1.2
PRD Provadia 85.00 314 eP P 04 30 24.0 0.0
IDI Anoyia 85.29 306 P P 04 30 26.6 +1.0
comp=Z,29nm,0.7s,mb5.5,baz=92,slow=5.9,SNR=16
BILL Bilibino 85.31 19⇑iP P 04 30 24.6 -0.3
BILL i 04 30 30.1
BILL pmax pmax
comp=Z,41nm,0.7s,mb5.7
BILL MLR MLR
comp=Z,300nm,22.0s,MS4.6
BILL Bilibino 85.31 19⇑iP P 04 30 24.6 -0.4
comp=Z,41nm,0.8s,mb5.6
JMB Yambol 85.43 313 iP P 04 30 27.5 +1.4
ALN Alexandroupoli 85.49 312 eP P 04 30 26.9 +0.5
AKASG Malin Array Be 85.61 322 P P 04 30 26.5 -0.2
comp=Z,14nm,0.6s,mb5.4,baz=83,slow=4.4,SNR=84
AKASG Malin Array Be 85.61 322 P P 04 30 26.5 -0.2
IAS Iasi 85.81 318 P P 04 30 28.8 +1.0
ISR Istrita 86.03 316 P P 04 30 31.5 +2.5
SZH Strazhica 86.06 314 eP P 04 30 30.0 +0.8
VRI Vrincioaia 86.07 317 ⇑P P 04 30 30.6 +1.5
VRI Vrincioaia 86.07 317 P P 04 30 30.7 +1.6
DIM Dimitrovgrad 86.10 313 eP P 04 30 30.0 +0.6
BUC1 Bucharest 86.22 315 P P 04 30 31.3 +1.4
PVL Pavlikeni 86.48 314 eP P 04 30 32.0 +0.8
MLR Muntele Rosu 86.52 316 ⇑P P 04 30 32.8 +1.4
MLR Muntele Rosu 86.52 316 P P 04 30 32.6 +1.2
comp=Z,88nm,1.1s,mb5.9,baz=116,slow=1.6,SNR=76
MLR PP PP 04 33 54.5 -1.0
comp=Z,17nm,1.0s,baz=68,slow=4.1,SNR=4.9
MLR Muntele Rosu 86.52 316 P P 04 30 32.7 +1.4
RZN Rozhen 86.63 312 iP P 04 30 33.0 +1.0
PLD Plovdiv 86.72 313 eP P 04 30 33.5 +1.1
SNX Sinaia 86.79 316 ⇓P P 04 30 34.1 +1.4
SNX Sinaia 86.79 316 P P 04 30 34.1 +1.4
MTUR Matau 87.08 316 P P 04 30 35.1 +1.0
PAIG Paliouri 87.08 310 eP P 04 30 34.8 +0.6
VOIR 87.13 316 ⇑P P 04 30 34.9 +0.5
PGB Panagyurishte 87.19 313 iP P 04 30 35.5 +0.8
MMB Musomiste 87.34 312 iP P 04 30 36.0 +0.5
SRS Serrai 87.36 312 eP P 04 30 34.8 -0.7
KIWB Kanaga Island 87.38 37 eP P 04 30 35.4 0.0
MNK Minsk 87.38 325⇑eP P 04 30 33.0 -2.3
BURAR Bucovina Array 87.45 318 P P 04 30 37.6 +1.7
PUL Pulkovo 87.47 331 eP P 04 30 35.7 +0.1
PUL pmax pmax
comp=Z,73nm,0.6s,mb6.1
PUL pmax pmax
comp=N,72nm,0.7s
PUL pmax pmax
comp=E,152nm,0.9s
PUL Pulkovo 87.47 331 iP P 04 30 35.4 -0.2
KKB Krupnik 87.86 312 iP P 04 30 38.5 +0.5
VTS Vitosha 87.90 313 iP P 04 30 39.0 +0.9
JOF Joensuu 87.93 334 ep P 04 30 37.1 -0.6
comp=E,17nm,0.8s,mb5.3
JOF Joensuu 87.93 334 eP P 04 30 37.1 -0.6
JOF pmax pmax
comp=Z,17nm,0.8s,mb5.3
VAY Valandovo 88.15 312⇑iP P 04 30 39.4 0.0
LVZ Lovozero 88.23 339 eP P 04 30 38.8 -0.3
LVZ eS 04 41 03.3
LVZ pmax pmax
comp=Z,38nm,0.9s,mb5.6
LVZ pmax pmax
comp=N,5.0nm,1.4s
LVZ pmax pmax
comp=E,5.0nm,0.7s
LVZ smax
comp=N,140nm,17.2s
LVZ smax
comp=Z,98nm,15.7s
LVZ smax
comp=E,115nm,15.0s
LVZ Lovozero 88.23 339 iP P 04 30 39.1 0.0
ZAPS Zavoj/Pirot 88.45 314⇑iP P 04 30 41.2 +0.5
APA Apatity 88.57 339⇑iP P 04 30 40.5 -0.2
APA i pP 04 30 57.2 +1.1
APA pmax pmax
comp=Z,100nm,1.6s,mb5.9
LVV L'vov 88.66 320 iP P 04 30 41.8 +0.3
LVV i 04 47 17.4
BOLS Boljevac 89.01 314⇑iP P 04 30 43.8 +0.4
SKO Skopje 89.09 312 iP P 04 30 43.5 -0.3
KWP Kalwaria 89.47 320 eP P 04 30 46.3 +0.9
SVIS Svilajnac 89.61 314⇑iP P 04 30 46.7 +0.5
KOLS Kolonicke sedl 89.63 319 iP P 04 30 47.7 +1.5
SNAA Sanae 89.77 198 e P 04 30 48.2 +1.9
SNAA Sanae 89.77 198 e P 04 30 52.6 +6.3
SNAA Sanae 89.77 198 e pP 04 31 00.6 -1.2
SNAA Sanae 89.77 198 e sP 04 31 05.3 -1.9
SNAA Sanae 89.77 198 iP P 04 30 47.6 +1.3
SNAA Sanae 89.77 198⇑iP P 04 30 47.1 +0.8
SNAA e 04 30 52.6
SNAA e pP 04 31 00.6 -1.2
SNAA e pP 04 31 05.3 +3.5
GRUS Gruza 89.91 314⇓iP P 04 30 48.2 +0.7
FINES FINESS Array B 89.91 332 P P 04 30 47.5 +0.4
comp=Z,13nm,0.7s,mb5.4,baz=104,slow=7.9,SNR=56
FINES LR LR 05 16 22.5
comp=Z,196nm,19.8s,MS4.5,baz=103,slow=39
SUW Suwalki 89.95 324 eP P 04 30 47.3 -0.2
KAF Kangasniemi 89.95 333 ep P 04 30 46.7 -0.7
comp=Z,27nm,0.8s,mb5.6,baz=96,slow=4.3
KAF Kangasniemi 89.95 333 eP P 04 30 46.7 -0.7
KAF pmax pmax
comp=Z,27nm,0.8s,mb5.6
CRVS Cervenica-Dubn 90.15 319 eP P 04 30 51.8 +3.2
DIVS Divcibare 90.45 314⇓iP P 04 30 50.8 +0.7
KECS Kecovo 90.73 319 eP P 04 30 52.1 +0.8
KECS e 04 31 01.3
BBLS Bajina Basta - 90.84 314 eP P 04 30 52.3 +0.4
NIE Niedzica 90.97 319 eP P 04 30 52.9 +0.4
PSZ Piszkesteto 91.04 318 ⇑P P 04 30 53.7 +0.9
PSZ Piszkesteto 91.04 318 eP P 04 30 52.8 -0.1
comp=Z,53nm,1.6s,mb5.6
PSZ ePP PP 04 34 30.3 -1.8
PSZ Piszkesteto 91.04 318⇓ePcP PcP 04 30 53.8 -0.2
VNA2 Neumayer--Watz 91.41 198 e P 04 30 56.0 +2.0
VNA2 Neumayer--Watz 91.41 198 e P 04 31 00.5 +6.5
VNA2 Neumayer--Watz 91.41 198 e pP 04 31 08.4 -1.1
VNA2 Neumayer--Watz 91.41 198 e sP 04 31 13.0 -1.9
VNA2 Neumayer--Watz 91.41 198⇑iP P 04 30 55.0 +1.0
VNA2 e 04 31 00.5
VNA2 e pP 04 31 08.4 -1.1
VNA2 e pP 04 31 13.0 +3.5
VNA2 e 04 35 44.9
VNA2 e 04 35 58.5
OJC Ojcow 91.42 320 eP P 04 30 55.1 +0.6
KEV Kevo 91.43 340 ep P 04 30 52.5 -1.6
comp=Z,5.6nm,0.7s,mb5.0
KEV Kevo 91.43 340 eP P 04 30 52.5 -1.6
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
PKSM Moragy 91.67 316 ⇑P P 04 30 56.3 +0.5
VNA1 Neumayer--Stat 91.79 198 e P 04 30 58.8 +3.1
VNA1 Neumayer--Stat 91.79 198 e P 04 31 03.3 +7.6
VNA1 Neumayer--Stat 91.79 198 e pP 04 31 10.3 -0.9
VNA1 Neumayer--Stat 91.79 198⇑iP P 04 30 57.9 +2.2
VNA1 e 04 31 03.3
VNA1 e pP 04 31 10.3 -0.9
VNA1 e 04 35 44.1
VNA1 e 04 35 57.6
VYHS Vyhne 91.82 318 eP P 04 30 56.8 +0.4
VYHS esP sP 04 31 09.8 -7.5
VYHS ePP PP 04 34 35.6 -2.7
ARCES ARCESS Array B 91.90 340 P P 04 30 56.2 -0.1
comp=Z,8.8nm,0.7s,mb5.2,baz=100,slow=6.0,SNR=35
ARCES LR LR 05 19 39.7
comp=Z,201nm,18.4s,MS4.6,baz=109,slow=40
ARCES ARCESS Array B 91.90 340 P P 04 30 56.2 -0.1
ARCES LR LR 05 19 39.7
ARE0 ARCESS Array S 91.90 340 eP P 04 30 55.6 -0.7
VNA3 Neumayer Olymp 91.96 197 e P 04 30 58.3 +1.8
VNA3 Neumayer Olymp 91.96 197 e P 04 31 02.6 +6.1
VNA3 Neumayer Olymp 91.96 197 e pP 04 31 10.6 -1.4
VNA3 Neumayer Olymp 91.96 197 e sP 04 31 15.0 -2.4
VNA3 Neumayer Olymp 91.96 197⇑iP P 04 30 57.1 +0.6
VNA3 e pP 04 31 10.6 -1.4
VNA3 e pP 04 31 15.0 +3.0
VNA3 e 04 35 44.2
VNA3 e 04 35 57.8
SRO Srobarova 92.08 318 eP P 04 30 58.9 +1.3
TIP Timpagrande 92.27 309 eP P 04 30 59.4 +0.7
OKC Ostrava-Krasne 92.42 320 eP P 04 30 58.8 -0.3
NIKO Nikolski 92.58 37 eP P 04 30 59.4 -0.4
MORC Moravsky Berou 92.81 320 ⇑P P 04 31 01.8 +0.9
MORC Moravsky Berou 92.81 320 eP P 04 31 01.4 +0.5
comp=Z,7.0nm,0.8s,mb5.1
ZST Bratislava 92.94 318 eP P 04 31 01.8 +0.3
ZST ePP PP 04 34 44.2 -3.0
VRAC Vranov 93.38 319 PP PP 04 34 47.7 -3.0
comp=Z,2.5nm,0.5s,baz=164,slow=23,SNR=5.6
DPC Dobruska-Polom 93.65 320 eP P 04 31 05.7 +1.0
KSP Ksiaz 93.71 321 eP P 04 31 05.8 +0.9
GCIS Gornji Cirnik 93.73 316 iP P 04 31 05.9 +0.8
GCIS ePP PP 04 34 52.5 -1.1
UPC Upice 93.86 320 eP P 04 31 06.4 +0.8
BOJS Bojanci 93.96 315 iP P 04 31 06.9 +0.7
TNA Tin City 94.33 25⇑iP P 04 31 07.5 0.0
comp=Z,7.2nm,0.8s,mb5.2
LJU Ljubljana 94.50 316 iP P 04 31 09.6 +0.9
PRU Pruhonice 94.76 320 eP P 04 31 10.3 +0.5
PVCC Panska Ves 94.78 320 eP P 04 31 09.7 -0.1
JAVS Javornik 94.82 316 eP P 04 31 10.2 +0.1
BRG Berggiesshubel 95.19 320 iP P 04 31 12.6 +0.9
BRG e 04 35 01.5
BRG pmax pmax
comp=Z,11nm,1.6s,mb5.0
BRG MLR MLR
comp=N,210nm,16.8s,MS4.8
BRG MLR MLR
comp=E,180nm,16.8s,MS4.8
BRG MLR MLR
comp=Z,280nm,16.8s,MS4.8
BRG Berggiesshubel 95.19 320 iP P 04 31 12.6 +0.9
comp=Z,11nm,1.5s,mb5.1
BRG e 04 35 01.5
BRG LR LR
comp=Z,280nm,16.8s,MS4.8
GEC2 GERESS Array S 95.24 318 eP P 04 31 12.5 +0.5
GEC2 e 04 35 01.2
GEC2 pmax pmax
comp=Z,25nm,1.6s,mb5.4
GEC2 GERESS Array S 95.24 318 eP P 04 31 12.5 +0.5
comp=Z,25nm,1.6s,mb5.4
GEC2 ePP PP 04 35 01.2 -3.4
GERES GERESS Array B 95.24 318 P P 04 31 12.4 +0.5
comp=Z,2.0nm,0.7s,mb4.7,baz=90,slow=4.0,SNR=18
GERES PP PP 04 35 01.9 -2.7
comp=Z,1.9nm,0.9s,baz=90,slow=6.7,SNR=6.3
GERES LR LR 05 23 21.8
comp=Z,186nm,18.6s,MS4.6,baz=67,slow=41
KHC Kasperske Hory 95.34 319 eP P 04 31 12.4 0.0
KHC ex x 04 31 30.0
HFS Hagfors 95.76 330 P P 04 31 14.1 +0.1
comp=Z,7.6nm,0.7s,mb5.2,baz=207,slow=3.3,SNR=17
HFS PP PP 04 35 04.1 -4.4
comp=Z,7.2nm,0.8s,baz=104,slow=6.1,SNR=4.5
HFS LR LR 05 18 20.3
comp=Z,218nm,19.8s,MS4.6,baz=311,slow=38
HFS Hagfors 95.76 330 P P 04 31 14.1 +0.1
HFS PP PP 04 35 04.1 -4.4
HFS LR LR 05 18 20.3
WET Wettzell 95.80 319 eP P 04 31 15.1 +0.6
WET pmax pmax
comp=Z,22nm,1.6s,mb5.3
WET Wettzell 95.80 319 eP P 04 31 15.1 +0.6
comp=Z,22nm,1.6s,mb5.3
CLL Collm 95.81 321 eP P 04 31 16.0 +1.5
CLL Collm 95.81 321 P P 04 31 16.0 +1.5
NKC Novy Kostel 96.12 320 eP P 04 31 16.4 +0.5
MOX Moxa 96.66 320 eP P 04 31 18.8 +0.4
MOX e 04 35 12.1
MOX pmax pmax
comp=Z,16nm,1.5s,mb5.2
MOX Moxa 96.66 320 eP P 04 31 18.8 +0.4
comp=Z,16nm,1.5s,mb5.2
MOX ePP PP 04 35 12.1 -3.9
MOX Moxa 96.66 320 eP P 04 31 19.0 +0.6
MOX PP PP 04 35 13.0 -3.0
FUR Furstenfeldbru 96.82 318 eP P 04 31 20.4 +1.2
FUR pmax pmax
comp=Z,12nm,0.6s,mb5.5
FUR Furstenfeldbru 96.82 318 eP P 04 31 20.4 +1.2
comp=Z,12nm,0.6s,mb5.5
GRA1 Grafenberg Arr 96.89 319 eP P 04 31 20.2 +0.7
comp=Z,8.0nm,0.9s,mb5.2
GRA1 ePP PP 04 35 13.9 -3.9
GRF Grafenberg Arr 96.89 319 eP P 04 31 20.2 +0.7
GRF e 04 35 13.9
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
GRF Grafenberg Arr 96.89 319 eP P 04 31 20.2 +0.7
comp=Z,8.0nm,0.9s,mb5.2
GRF ePP PP 04 35 13.9 -3.9
NB2 NORSAR Subarra 97.00 331 P P 04 31 19.3 -0.4
comp=Z,8.9nm,1.2s,mb5.1,baz=93,slow=4.5
NB2 NORSAR Subarra 97.00 331 P P 04 31 19.3 -0.4
baz=93,slow=4.4
NOA NORSAR Array B 97.00 331 P P 04 31 19.5 -0.2
comp=Z,2.6nm,0.9s,mb4.7,baz=92,slow=4.5,SNR=6.1
NOA PP PP 04 35 16.9 -1.5
comp=Z,5.0nm,0.9s,baz=87,slow=7.8,SNR=7.4
NOA LR LR 05 20 53.1
comp=Z,172nm,20.0s,MS4.5,baz=65,slow=39
NOA NORSAR Array B 97.00 331 P P 04 31 19.5 -0.2
NOA PP PP 04 35 16.9 -1.5
NOA LR LR 05 20 53.1
CLZ Clausthal 97.46 321 eP P 04 31 22.2 +0.2
comp=Z,10.0nm,1.3s,mb5.1
CLZ ePP PP 04 35 18.4 -3.9
BSEG Bad Segeberg 97.50 324 eP P 04 31 23.1 +1.0
BSEG e 04 35 16.3
BSEG pmax pmax
comp=Z,6.0nm,0.6s,mb5.2
DAVOX Davos 97.75 316 P P 04 31 23.9 +0.5
comp=Z,4.1nm,0.9s,mb5.0,baz=93,slow=13,SNR=4.1
DAVOX LR LR 05 22 16.0
comp=Z,176nm,20.1s,MS4.5,baz=268,slow=40
TNS Taunus Mts 98.69 320 eP P 04 31 28.3 +0.7
TNS pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
TNS Taunus Mts 98.69 320 eP P 04 31 28.3 +0.7
comp=Z,9.0nm,1.0s,mb5.2
BFO Black Forest 98.79 318 eP P 04 31 28.8 +0.7
BFO pmax pmax
comp=Z,5.0nm,0.9s,mb5.0
BFO Black Forest 98.79 318 eP P 04 31 28.8 +0.7
comp=Z,5.0nm,0.9s,mb5.0
TTA Tatalina 99.54 27 eP P 04 31 32.2 +1.1
LPG La Plagne 99.93 315 eP P 04 31 25.9 -7.5
comp=Z,11nm,1.0s,mb5.0
IMA Indian Mountai 100.17 24 eP P 04 31 34.3 +0.3
PWA Palmer West 102.56 28 eP Pdif 04 31 43.8 -0.9
MCK McKinley 102.57 26 ePdif Pdif 04 31 44.2 -0.5
comp=Z,7.1nm,0.9s
ILAR Eielson Array 103.21 25 Pdiff Pdif 04 31 46.1 -1.4
comp=Z,0.9nm,0.8s,baz=288,slow=4.8,SNR=10
ILAR PP PP 04 35 58.7 -7.1
comp=Z,0.9nm,0.9s,baz=272,slow=5.5,SNR=4.3
ILAR PKKPbc 04 47 42.9
comp=Z,0.9nm,0.7s,baz=125,slow=1.7,SNR=12
SML Sawmill 103.25 28 ePdif Pdif 04 31 48.2 +0.4
EYAK Cordova Ski Ar 104.75 29 ePdif Pdif 04 31 55.4 +1.0
INK Inuvik 106.94 19 Pdiff Pdif 04 32 03.7 -0.1
comp=Z,1.3nm,0.8s,baz=278,slow=4.5,SNR=5.3
INK PKiKP 04 36 13.2
comp=Z,2.9nm,1.0s,baz=298,slow=5.0,SNR=4.4
INK PP PP 04 36 30.4 -3.4
comp=Z,3.2nm,0.9s,baz=308,slow=8.0,SNR=4.5
INK PKKPbc 04 47 31.7
comp=Z,1.1nm,0.6s,baz=68,slow=3.0,SNR=14
INK PKKPab 04 47 47.5
comp=Z,1.1nm,0.8s,baz=124,slow=5.2,SNR=8.5
INK Inuvik 106.94 19 Pdif Pdif 04 32 03.7 -0.1
INK PKPdf 04 36 13.2
INK PP PP 04 36 30.4 -3.4
INK PKKPbc 04 47 31.7
INK PKKPab 04 47 47.5
ESDC Sonseca Array 108.28 310 PP PP 04 36 40.3 -3.9
comp=Z,1.2nm,0.7s,baz=64,slow=7.3,SNR=4.1
DLBC Dease Lake 112.97 28 PKiKP 04 36 25.0
comp=Z,2.2nm,1.0s,baz=318,slow=8.0,SNR=3.2
YKA Yellowknife Ar 116.71 19 Pdiff Pdif 04 32 51.3 +4.4
comp=Z,0.2nm,0.8s,baz=323,slow=4.6,SNR=6.4
YKA PKP PKPdf 04 36 31.5 +0.5
comp=Z,2.7nm,0.8s,baz=320,slow=1.9,SNR=31
YKA PP PP 04 37 37.9 -6.5
comp=Z,1.0nm,0.9s,baz=319,slow=7.4,SNR=5.2
YKA PKKPbc 04 46 58.9
comp=Z,0.7nm,0.7s,baz=128,slow=3.6,SNR=13
YKA PKKPab 04 47 03.6
comp=Z,1.4nm,0.8s,baz=123,slow=4.5,SNR=21
YKA PKKP PKKP 04 47 20.9 +4.8
comp=Z,0.7nm,0.8s,baz=123,slow=4.5,SNR=5.3
YKA Yellowknife Ar 116.71 19 Pdif Pdif 04 32 51.4 +4.4
YKA PKP PKPdf 04 36 31.5 +0.5
YKA PP PP 04 37 37.9 -6.4
YKA PKKPbc 04 46 58.9
YKA PKKPab 04 47 03.6
YKA PKKP PKKP 04 47 20.9 +4.8
FRB Frobisher Bay 122.22 357 PKP PKPdf 04 36 42.1 +0.5
comp=Z,1.7nm,0.6s,baz=136,slow=2.6,SNR=4.7
EDM Edmonton 123.63 27 ePKPdf PKPdf 04 36 45.7 +1.1
HUMO Hull Mountain 124.34 41 ePKPdf PKPdf 04 36 48.3 +2.1
KHMM Horse Mountain 124.58 44 ePKPdf PKPdf 04 36 49.3 +2.4
YBH Yreka Blue Hor 124.90 42 PKP PKPdf 04 36 48.7 +1.3
comp=Z,3.0nm,0.8s,baz=262,slow=1.3,SNR=6.5
YBH Yreka Blue Hor 124.90 42 ePKPdf PKPdf 04 36 48.9 +1.5
NEW Newport 124.91 33 PKP PKPdf 04 36 49.7 +2.5
comp=Z,5.8nm,1.0s,baz=83,slow=0.8,SNR=7.4
MOD Modoc 126.41 41 ePKPdf PKPdf 04 36 52.4 +2.0
WVOR Wild Horse Val 127.22 40 ePKPdf PKPdf 04 36 54.2 +2.3
MSO Missoula 127.49 33 ePKPdf PKPdf 04 36 53.6 +1.4
WCN Washoe City 128.01 44 ePKPdf PKPdf 04 36 55.9 +2.4
HRY Holter Researc 128.69 32 ePKPdf PKPdf 04 36 56.4 +1.8
HLID Hailey 129.19 36 ePKPdf PKPdf 04 36 58.3 +2.7
MCMT McKenzie Canyo 129.33 34 ePKPdf PKPdf 04 36 58.0 +2.2
NVAR Mina Array Bea 129.42 44 PKP PKPdf 04 36 58.5 +2.3
comp=Z,4.5nm,0.8s,baz=325,slow=0.7,SNR=16
NVAR PP PP 04 39 05.9 -4.7
comp=Z,3.9nm,1.0s,baz=282,slow=5.8,SNR=7.1
NVAR SKPbc 04 40 15.9
comp=Z,1.9nm,0.7s,baz=296,slow=2.4,SNR=5.0
MTUM Tungsten Hills 129.74 45 ePKPdf PKPdf 04 36 59.7 +2.9
QLMT Earthquake Lak 130.12 33 ePKPdf PKPdf 04 36 59.9 +2.6
QLMT eSKPab 04 40 17.8
ELK Elko 130.28 40 ePKPdf PKPdf 04 36 59.6 +1.8
ELK ePP PP 04 39 11.6 -4.3
ELK eSKPbc 04 40 18.4
YMR Madison River 130.47 33 ePKPdf PKPdf 04 37 00.2 +2.2
YMR eSKPbc 04 40 19.1
LKWY Lake 130.85 33 ePKPdf PKPdf 04 37 00.1 +1.4
LKWY eSKPbc 04 40 21.0
SCHQ Schefferville 130.90 354 PKP PKPdf 04 36 59.7 +1.2
comp=Z,3.6nm,0.6s,baz=11,slow=2.6,SNR=3.7
SCHQ SKPbc 04 40 20.6
comp=Z,4.6nm,0.6s,baz=52,slow=5.1,SNR=6.8
TRCR Troy Canyon 131.32 43 ePKPdf PKPdf 04 37 02.3 +2.5
BGU Big Grassy Mou 131.56 38 ePKPdf PKPdf 04 37 02.3 +2.1
BGU eSKPbc 04 40 22.8
HWUT Hardware Ranch 132.05 37 ePKPdf PKPdf 04 37 02.9 +1.8
HWUT ePP PP 04 39 23.2 -3.9
HWUT eSKPbc 04 40 24.9
PDAR Pinedale Array 132.48 34 PKhKP 04 36 55.2
comp=Z,0.6nm,0.8s,baz=45,slow=4.2,SNR=4.3
PDAR PKP PKPdf 04 37 04.1 +2.2
comp=Z,2.1nm,0.7s,SNR=13
PDAR SKPbc 04 40 26.2
comp=Z,3.9nm,0.6s,baz=28,slow=1.2,SNR=14
ULM Lac du Bonnet 132.66 18 PKP PKPdf 04 37 03.1 +1.2
comp=Z,7.4nm,0.8s,baz=329,slow=4.4,SNR=9.0
ULM SKPbc 04 40 25.2
comp=Z,17nm,0.9s,baz=333,slow=4.2,SNR=11
DAU Daniels Canyon 132.96 38 ePKPdf PKPdf 04 37 04.8 +1.9
DAU eSKPbc 04 40 28.3
PLCA Paso Flores 133.25 185 PKP PKPdf 04 37 06.3 +2.9
comp=Z,1.7nm,0.7s,baz=241,slow=3.0,SNR=7.2
PLCA SKPbc 04 40 26.9
comp=Z,12nm,1.1s,baz=156,slow=6.2,SNR=9.6
PLCA Paso Flores 133.25 185 ePKPdf PKPdf 04 37 04.7 +1.3
LDFC Landfair 133.28 46 ePKPdf PKPdf 04 37 05.7 +2.1
MSU Marysvale 133.48 41 ePKPdf PKPdf 04 37 05.8 +1.9
MSU eSKPbc 04 40 29.6
MSU eSKPdf 04 40 35.6
SRU San Rafael 134.19 39 ePKPdf PKPdf 04 37 06.0 +0.8
SRU eSKPbc 04 40 32.0
TRQA Tornquist 134.43 195 ePKPdf PKPdf 04 37 06.6 +1.0
RSSD Black Hills 134.43 29 ePKPpre 04 36 58.1
RSSD ePKPdf PKPdf 04 37 06.7 +1.2
RWWY Rawlins 134.50 34 ePKPdf PKPdf 04 37 07.2 +1.5
RWWY eSKPbc 04 40 32.6
PV10 Paradox Valley 135.56 39 ePKPdf PKPdf 04 37 10.1 +2.4
WUAZ Wupatki 135.68 44 ePKPpre 04 37 02.3
WUAZ ePKPdf PKPdf 04 37 11.0 +3.0
PV01 Paradox Valley 136.00 39 ePKPdf PKPdf 04 37 11.0 +2.5
PV01 eSKPbc 04 40 37.8
ANMO Albuquerque 139.29 41 PKP PKPdf 04 37 17.6 +3.0
comp=Z,5.5nm,0.7s,baz=279,slow=2.7,SNR=9.8
ANMO SKPbc 04 40 47.7
comp=Z,9.4nm,1.1s,baz=254,slow=2.6,SNR=9.1
ANMO Albuquerque 139.29 41 PKP PKPdf 04 37 17.6 +3.0
ANMO SKPbc 04 40 47.7
SADO Sadowa 141.28 4 PKhKP 04 37 10.2
comp=Z,1.9nm,0.4s,baz=320,slow=5.6,SNR=3.1
SADO SKPbc 04 40 51.7
comp=Z,5.3nm,0.8s,baz=198,slow=2.9,SNR=3.2
SADO Sadowa 141.28 4 PKP 04 37 10.2
SADO SKPbc 04 40 51.7
KSU1 Kansas State U 141.83 27 ePKPpre 04 37 15.1
MNTX Cornudas Mount 141.95 44 ePKPpre 04 37 17.1
MNTX ePKPdf PKPdf 04 37 22.1 +2.6
MNTX eSKPbc 04 40 54.5
CFAA Coronel Fontan 141.97 190 PKhKP 04 37 16.2
comp=Z,0.4nm,0.5s,baz=198,slow=6.4,SNR=6.8
CFAA SKPbc 04 40 53.6
comp=Z,0.7nm,1.1s,baz=227,slow=1.4,SNR=3.6
AMTX Amarillo 142.31 37 ePKPpre 04 37 17.1
GENY Geneseo 143.36 3 ePKPpre 04 37 18.9
HRV Harvard--Oak R 143.55 355 ePKPpre 04 37 19.7
ERPA Erie 143.83 6 ePKPpre 04 37 21.1
QUA2 Belchertown 143.84 356 ePKPpre 04 37 21.2
BINY Binghamton 144.00 1 ePKPpre 04 37 21.5
WMOK Wichita Mounta 144.09 34 ePKPpre 04 37 22.2
BRYW Bryant College 144.14 355 ePKPpre 04 37 21.5
ALLY Alegheny Colle 144.28 6 ePKPpre 04 37 22.2
LTX Lajitas 144.52 46 ePKPdf PKPdf 04 37 25.1 +1.1
TXAR Lajitas Array 144.52 46 PKP PKPdf 04 37 25.2 +1.3
comp=Z,115nm,0.8s,baz=283,slow=1.6,SNR=801
SLM Saint Louis 144.81 21 ePKPdf PKPdf 04 37 24.0 -0.3
CCM Cathedral Cave 144.96 22 ePKPdf PKPdf 04 37 24.8 +0.3
PAL Palisades 145.18 358 ePKPdf PKPdf 04 37 25.5 +0.7
ACSO Alum Creek Sta 145.26 10 ePKPdf PKPdf 04 37 25.9 +0.9
FVM French Village 145.33 21 ePKPdf PKPdf 04 37 26.0 +0.9
CPNY Central Park 145.39 358 ePKPdf PKPdf 04 37 26.1 +1.0
BLO Bloomington 145.47 16 ePKPdf PKPdf 04 37 26.5 +1.2
SSPA Standing Stone 145.48 4 ePKPdf PKPdf 04 37 26.5 +1.2
BAO Brasilia Array 145.50 231 PKPdf PKPdf 04 37 28.0 +2.0
BRNJ Basking Ridge 145.51 359 ePKPbc PKPbc 04 37 27.4 +1.3
BDFB Brasilia 145.52 231 PKPbc PKPbc 04 37 28.1 +1.4
comp=Z,26nm,0.8s,baz=127,slow=1.7,SNR=46
MVL Millersville 146.19 2 ePKPbc PKPbc 04 37 28.6 +0.9
MCWV Mont Chateau 146.28 6 ePKPbc PKPbc 04 37 29.2 +1.2
WCI Wyandotte Cave 146.42 16 ePKPdf PKPdf 04 37 28.4 +1.5
WCI ePKPbc PKPbc 04 37 29.5 +1.2
JCT Junction City 146.45 41 ePKPdf PKPdf 04 37 29.3 +2.0
JCT ePKPbc PKPbc 04 37 31.1 +2.5
PARMO Parma 146.74 22 ePKPbc PKPbc 04 37 30.9 +1.8
SDMD Soldier's Deli 146.76 2 ePKPdf PKPdf 04 37 29.7 +2.2
MIAR Mount Ida 146.94 29 ePKPdf PKPdf 04 37 29.7 +1.7
MIAR ePKPbc PKPbc 04 37 31.8 +2.2
GNAR Gosnell 147.26 23 ePKPbc PKPdf 04 37 32.3 +3.8
GLAT Glass 147.26 21 ePKPdf PKPdf 04 37 29.2 +0.7
GLAT ePKPbc PKPdf 04 37 32.6 +4.2
UALR University of 147.32 27 ePKPdf PKPdf 04 37 30.0 +1.4
UALR ePKPbc PKPdf 04 37 32.4 +3.8
UTMT University of 147.35 21 ePKPbc PKPdf 04 37 32.6 +4.0
HBAR Harrisburg 147.37 24 ePKPdf PKPdf 04 37 30.1 +1.5
HBAR ePKPbc PKPdf 04 37 33.0 +4.4
HALT Halls 147.56 22 ePKPdf PKPdf 04 37 29.5 +0.6
HALT ePKPbc PKPdf 04 37 33.0 +4.0

WVT	Waverly	147.90	19	*e*PKPdf	PKPdf	04 37 30.5	+1.1
WVT				*e*PKPbc	PKPdf	04 37 33.9	+4.4
CBN	Corbin	147.93	3	*e*PKPbc	PKPdf	04 37 34.1	+4.6
FWV	Forest Hill	148.20	8	*e*PKPbc	PKPdf	04 37 33.8	+3.9
ELN	Prospectdale	148.56	9	*e*PKPbc	PKPdf	04 37 34.6	+4.1
NATX	Nacogdoches	148.60	33	*e*PKPdf	PKPdf	04 37 32.4	+1.7
NATX				*e*PKPbc	PKPdf	04 37 36.5	+5.7
BLA	Blacksburg	148.62	8	*e*PKPbc	PKPdf	04 37 35.4	+4.8
TZTN	Tazewell	148.70	13	*e*PKPbc	PKPdf	04 37 35.8	+5.0
OXF	Oxford	148.78	23	*e*PKPbc	PKPdf	04 37 35.9	+5.0
PLAL	Pickwick Lake	148.85	21	*e*PKPdf	PKPdf	04 37 31.5	+0.5
PLAL				*e*PKPbc	PKPdf	04 37 35.7	+4.7
SWET	Sewanee	149.33	17	*e*PKPdf	PKPdf	04 37 32.9	+1.1
SWET				*e*PKPbc	PKPdf	04 37 37.0	+5.1
CPCT	Cooper Cave	149.51	15	*e*PKPdf	PKPdf	04 37 34.0	+2.0
CPCT				*e*PKPbc	PKPdf	04 37 38.0	+5.9
LVC	Limon Verde	150.86	192	PKPbc	PKPdf	04 37 43.4	+8.8
	comp=Z,55nm,0.9s,baz=245,slow=1.7,SNR=41						
LVC	Limon Verde	150.86	192	*e*PKPdf	PKPdf	04 37 37.0	+2.5
LVC				*e*PKPbc	PKPdf	04 37 43.1	+8.6
LVC				PKPbc	PKPdf	04 37 43.4	+8.8
LRAL	Lakeview Retre	150.99	21	*e*PKPdf	PKPdf	04 37 36.0	+1.6
LRAL				*e*PKPbc	PKPdf	04 37 41.1	+6.7
JSC	Jenkinsville	151.35	11	*e*PKPbc	PKPdf	04 37 42.1	+7.2
GOGA	Godfrey	151.71	15	*e*PKPbc	PKPdf	04 37 43.2	+7.7
COW	Cow Castle Cre	152.33	10	*e*PKPbc	PKPdf	04 37 44.7	+8.3
SIV	San Ignacio	154.02	212	PKP	PKPdf	04 37 40.7	+1.5
	comp=Z,4.4nm,0.9s,baz=110,slow=3.2,SNR=20						
SIV				PKPbc	PKPdf	04 37 49.1	+10
	comp=Z,8.5nm,1.0s,baz=113,slow=2.7,SNR=13						
LPAZ	La Paz	156.73	197	PKP	PKPdf	04 37 46.0	+3.2
	comp=Z,4.8nm,0.9s,baz=95,slow=1.2,SNR=15						
LPAZ	La Paz	156.73	197	*e*PKPdf	PKPdf	04 37 45.2	+2.5
SAML	Samuel	160.89	219	*e*PKPdf	PKPdf	04 37 49.2	+1.5
SAML				*e*PKPab	PKPab	04 38 31.3	-1.5
TEIG	Tepich	161.03	41	*e*PKPab	PKPab	04 38 32.6	-0.6
NNA	Nana	162.00	175	*e*PKPdf	PKPdf	04 37 51.1	+2.3
JTS	JuntasAbangare	169.46	66	PKPab	PKPab	04 39 10.2	0.0
	comp=Z,20nm,0.9s,baz=301,slow=5.3,SNR=15						
JTS	JuntasAbangare	169.46	66	*e*PKPab	PKPab	04 39 09.9	-0.3
OTAV	Otavalo	173.37	150	*e*PKPdf	PKPdf	04 37 58.9	+1.8
OTAV				*e*PKPab	PKPab	04 39 27.5	-0.1
SDV	Santo Domingo	174.68	302	PKP	PKPdf	04 37 58.5	+1.0
	comp=Z,4.2nm,0.5s,baz=313,slow=4.0,SNR=6.3						
SDV				PKPab	PKPab	04 39 32.5	-0.9
	comp=Z,5.2nm,0.8s,baz=36,slow=5.3,SNR=4.7						
SDV	Santo Domingo	174.68	302	*e*PKPdf	PKPdf	04 37 58.5	+1.0
SDV				*e*PKPab	PKPab	04 39 32.6	-0.8
ROSC	El Rosal	178.54	216	PKP	PKPdf	04 38 00.3	+2.1
	comp=Z,3.9nm,0.6s,baz=270,slow=8.1,SNR=5.5						

IDC 15 04:18:48.4±10.0, 13.62N×144.80E, mb3.7/3, mb1 4.0/3, mb1mx3.8/19, mbtmp3.7/3, Error ellipse: s-maj=376.1km s-min=39.1km az=161.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	44.24	283	P	P	04 26 59.8	-1.8
	2.0nm,0.7s,baz=85,slow=7.9,SNR=4.4						
ILAR	Eielson Array	68.58	25	P	P	04 29 52.5	-2.3
	0.2nm,0.4s,baz=251,slow=5.6,SNR=9.8						
YKA	Yellowknife Ar	82.87	27	P	P	04 31 15.0	-0.9
	0.1nm,0.4s,baz=287,slow=5.2,SNR=6.3						

PRU 15 04:25:54.9, 51.47N×16.13E
NEIC 15 04:25:58.8±1.4, 51.26N×15.94E, h5km, MG2.5(WAR), Error ellipse: s-maj=16.1km s-min=6.8km az=28.0

WAR 15 04:25:56.1, 51.46N×16.10E, h1km, ML2.7, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	168	*e*Pg	Pg	04 26 07.5	-1.1
KSP				*e*Sg	Sg	04 26 16.0	-1.0
KSP	Ksiaz	0.63	168	*e*PG	Pg	04 26 07.0	-1.6
KSP				*e*SG	Sg	04 26 16.0	-1.0
UPC	Upice	0.95	183	*e*PG	Pg	04 26 13.7	-1.4
DPC	Dobruska-Polom	1.12	173	*e*PG	Pg	04 26 16.2	-2.2
DPC				*e*SG	Sg	04 26 31.1	-2.2
	20nm,0.5s						
PVCC	Panska Ves	1.34	227	*e*PG	Pg	04 26 20.7	-2.1
BRG	Berggiesshubel	1.48	248	*i* Pg	Pg	04 26 23.5	-2.1
BRG				*i* Sg	Sg	04 26 43.3	-1.9
PRU	Pruhonice	1.77	214	*e*PG	Pg	04 26 27.4	-4.0
PRU				*e*SG	Sg	04 26 51.3	-3.7
CLL	Collm	1.94	267	*i* Pg	Pg	04 26 31.1	-3.8
CLL				*e*Sg	Sg	04 26 56.0	-4.8
CLL	Collm	1.94	267	*i* PG	Pg	04 26 31.1	-3.8
CLL				*e*		04 26 35.0	
CLL				*e*SG	Sg	04 26 56.0	-4.8
OKC	Ostrava-Krasne	2.08	140	*e*PG	Pg	04 26 33.7	-4.0
OKC				*e*SG	Sg	04 26 59.7	-5.7
NKC	Novy Kostel	2.62	244	*e*SG	Sg	04 27 19.3	-3.9
OJC	Ojcow	2.65	116	*e*PG	Pg	04 26 44.0	-5.1
OJC				*e*SG	Sg	04 27 20.0	-4.5
KHC	Kasperske Hory	2.83	216	*e*PN	Pn	04 26 41.8	-1.5
KHC				*e*PG	Pg	04 26 47.3	-5.3
KHC				*e*SN	Sn	04 27 15.5	-3.1
KHC				*e*SG	Sg	04 27 26.9	-3.5

MAN 15 04:31:34.5, 15.37N×120.13E, h1km, mb3.9, ML2.6, MS2.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	Santa Cruz	0.46	332	*e*P	Pg	04 31 43.0	-0.6
SCZP				*e*S	Sg	04 31 50.3	+0.5
PCPH	Palayan	0.95	78	⇑*e*P	Pb	04 31 53.2	-0.2
PCPH				*i* S	Sg	04 32 08.7	+2.7
BOLP	Bolinao	1.03	348	*e*P	Pb	04 31 50.8	-4.0
BALP	Baler	1.44	75	*e*P	Pn	04 32 01.1	-0.6
CAUP	Cauayan	2.26	46	*e*P	Pn	04 32 13.4	0.0
APYP	Conner	2.70	23	*e*P	Pn	04 32 20.8	+1.1

IDC 15 04:45:27.6±7.6, 0.07N×98.01E, mb3.6/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=247.4km s-min=25.4km az=67.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.29	3	P	P	04 49 43.8	-1.0
	0.1nm,0.3s,baz=195,slow=12,SNR=10						
WRA	Warramunga Arr	40.76	121	P	P	04 53 10.9	-1.4
	1.0nm,0.9s,baz=301,slow=9.2,SNR=3.9						
ASAR	Alice Springs	42.08	127	P	P	04 53 21.2	-1.9
	1.1nm,0.7s,baz=295,slow=7.6,SNR=8.7						
SONM	Songino Array	48.13	8	P	P	04 54 09.1	-2.2
	0.2nm,0.4s,baz=191,slow=7.3,SNR=2.9						

MAN 15 05:29:10.6, 12.32N×124.80E, h75km, mb3.6, ML2.3, MS2.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Catarman	0.23	324	*e*P	P	05 29 23.2	+1.3
CNP				*e*S	S	05 29 33.1	+2.7
BESP	Borongan	0.95	139	*e*P	P	05 29 29.6	+0.7
PLP	Palo	1.16	171	*i* P	P	05 29 31.9	+0.3
PLP				*i* S	S	05 29 48.8	+1.3
PVCP	Virac	1.41	334	*e*P	P	05 29 35.8	+0.7

IDC 15 05:37:33.2±0.8, 53.07N×167.14W, mb4.0/12, mb1 4.2/14, mb1mx4.1/25, mbtmp4.0/14, ML3.6/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/37, Error ellipse: s-maj=26.7km s-min=13.0km az=170.0
NEIC 15 05:37:39.6±0.8, 53.24N×167.16W, h46km±6km, mb4.0/2, ML3.8(AEIC), Error ellipse: s-maj=14.2km s-min=6.0km az=158.0

ISC 15 05:37:39.1±0.8, 53.2N±0.1×167.07W±0.09, h55km±6km, n36, σ0$88/37, mb3.9/14, MS3.3/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCE	Okmok Cone E	0.69	288	P	P	05 37 53.4	+0.4
OKCE				S	S	05 38 04.7	+1.4
UNV	Unalaska Valle	0.72	28	P	P	05 37 52.6	-0.7
UNV				S	S	05 38 03.6	-0.3
MSW	Makushin Switc	0.72	14	P	P	05 37 53.7	+0.3
NIKO	Nikolski	1.10	258	P	P	05 37 57.6	-1.0
NIKO				S	S	05 38 12.2	-0.9
AHB	Akutan Harbor	1.17	39	P	P	05 37 59.1	-0.3
AKUT	Akutan	1.20	40	P	P	05 37 59.4	-0.5
AKA	Akutan	1.20	40	P	P	05 37 59.5	-0.4
WESS	West Dahl Sout	1.88	47	P	P	05 38 09.5	0.0
WFAR	Faris Peak	1.90	45	P	P	05 38 09.9	+0.2
SSLN	Shishaldin Nor	2.42	47	P	P	05 38 17.5	+0.4
FALS	False Pass	2.71	51	P	P	05 38 21.5	+0.3
FX1	Attu Island--F	11.90	276	Pn	P	05 40 29.4	+1.2
	1.5nm,0.3s,baz=242,slow=5.2,SNR=7.6						
IMA	Indian Mountai	14.51	22	P	P	05 41 04.0	+1.7
	21nm,1.1s						
ILAR	Eielson Array	15.47	34	Pn	P	05 41 14.6	-0.2
	0.1nm,0.3s,baz=234,slow=10,SNR=6.5						
ILAR				Sn	S	05 44 13.7	+9.0
	0.1nm,0.3s,baz=142,slow=27,SNR=4.4						
ILAR				LR	LR	05 47 53.8	
	comp=Z,89nm,18.8s,baz=356,slow=40						
DAWY	Dawson	17.87	42	*e*P	P	05 41 44.8	-0.2
DLBC	Dease Lake	21.25	61	P	P	05 42 23.7	+1.5
	3.1nm,0.8s,mb3.7,baz=250,slow=11,SNR=6.5						
DLBC				LR	LR	05 49 15.0	
	comp=Z,92nm,21.8s,MS3.1,baz=108,slow=33						
DLBC	Dease Lake	21.25	61	P	P	05 42 23.7	+1.4
DLBC				LR	LR	05 49 15.0	
INK	Inuvik	21.87	33	P	P	05 42 26.2	-2.1
	2.2nm,0.5s,mb3.9,baz=241,slow=9.2,SNR=18						
INK				PcP	PcP	05 46 26.7	-0.4
	0.2nm,0.4s,baz=360,slow=1.1,SNR=3.8						
INK				LR	LR	05 51 55.9	
	comp=Z,143nm,18.6s,MS3.4,baz=283,slow=39						
INK	Inuvik	21.87	33	*e*P	P	05 42 25.8	-2.6
	4.8nm,0.8s,mb4.0						
YKA	Yellowknife Ar	28.63	50	P	P	05 43 31.7	-0.2
	0.7nm,0.6s,mb3.6,baz=277,slow=7.9,SNR=40						
YKA				PcP	PcP	05 46 41.2	-0.7
	0.4nm,0.7s,baz=283,slow=2.6,SNR=9.1						
YKA	Yellowknife Ar	28.63	50	P	P	05 43 31.8	-0.2
YKA				PcP	PcP	05 46 41.2	-0.7
YBH	Yreka Blue Hor	31.61	93	LR	LR	05 53 49.9	
	comp=Z,85nm,19.0s,MS3.4,baz=20,slow=31						
NVAR	Mina Array Bea	36.31	94	P	P	05 44 40.0	+1.0
	0.4nm,0.6s,mb3.5,baz=319,slow=9.6,SNR=3.2						
PDAR	Pinedale Array	38.89	82	P	P	05 45 01.8	+1.3
	0.5nm,0.6s,mb3.4,baz=307,slow=3.0,SNR=4.3						
TXAR	Lajitas Array	51.35	91	P	P	05 46 39.4	-0.5
	0.7nm,0.6s,mb3.8,baz=305,slow=5.7,SNR=8.5						
SONM	Songino Array	52.06	301	P	P	05 46 44.3	-0.6
	1.0nm,1.1s,mb3.7,baz=53,slow=6.2,SNR=4.5						
SONM				PcP	PcP	05 47 56.7	+0.2
	0.7nm,0.5s,baz=70,slow=2.4,SNR=7.2						
SCHQ	Schefferville	53.86	45	P	P	05 46 57.8	-0.4
	4.8nm,1.0s,mb4.4,baz=211,slow=8.7,SNR=4.0						
KAF	Kangasniemi	64.53	353	*e*p	P	05 48 10.1	-1.5
	0.5nm,0.3s,mb4.0						
FINES	FINESS Array B	65.21	353	P	P	05 48 15.3	-0.8
	0.5nm,0.4s,mb3.9,baz=34,slow=6.9,SNR=11						
FINES	FINESS Array B	65.21	353	P	P	05 48 15.3	-0.8
CMAR	Chiang Mai Arr	77.78	284	P	P	05 49 31.7	-0.1
	3.2nm,0.9s,mb4.2,baz=24,slow=6.1,SNR=18						
BRTR	Keskin Array B	85.71	344	P	P	05 50 14.3	+1.6
	2.4nm,0.8s,mb4.5,baz=45,slow=3.5,SNR=9.8						
WRA	Warramunga Arr	88.63	233	P	P	05 50 26.9	-0.2
	1.4nm,0.9s,mb4.3,baz=39,slow=5.7,SNR=9.7						
ASAR	Alice Springs	92.01	232	P	P	05 50 42.7	-0.2
	1.2nm,0.9s,mb4.2,baz=32,slow=3.9,SNR=5.9						
MATP	Matopo	145.14	334	PKPbc	PKPbc	05 57 11.3	+0.9
	4.5nm,0.6s,baz=22,slow=3.9,SNR=9.9						
MATP	Matopo	145.14	334	PKPbc	PKPbc	05 57 11.3	+0.9

MAN 15 05:47:03.5, 19.12N×121.10E, h3km, mb4.3, ML3.1, MS2.8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	1.25	134	*e*P	Pb	05 47 27.3	-0.2
APYP	Conner	1.26	174	*e*P	Pb	05 47 27.9	+0.3
APYP				*e*S	Sb	05 47 56.5	+12
ABRA	Dolores	1.51	194	*e*P	Pn	05 47 29.6	-2.0
CVP	Callao Caves	1.57	154	*e*P	Pn	05 47 32.2	-0.3
CVP				*i* S	Sb	05 47 53.0	-0.1

GUC 15 05:52:33.8±1.0, 29.88S×71.31W, h55km±15km, ML4.0, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.06	115	⇑*i*P		05 54 59.6	
LSCH				*i* S		05 55 05.4	
TLL	Tololo Astrono	0.52	123	*e*P	P	05 52 46.9	+1.2
TLL				*i* S	S	05 52 56.4	+2.0
TLL				AMP		05 53 00.3	
	comp=E,10μm,0.6s						
OVCH	Ovalle	0.73	172	*e*P	P	05 52 48.4	+0.1
OVCH				*i* S	S	05 52 59.1	+0.2
OVCH				AMP		05 53 03.0	
	comp=E,4μm,0.2s						
LCO	Las Campanas	1.02	32	⇓*i*P	P	05 52 52.9	+0.7
LCO				*i* S	S	05 53 07.0	+1.3
LCO				AMP		05 53 07.4	
	comp=E,5μm,0.4s						
VACH	Vallenar	1.39	21	⇓*i*P	P	05 52 57.6	+0.2
VACH				*i* S	S	05 53 15.3	+0.5
VACH				AMP		05 53 20.9	
	comp=E,6μm,0.2s						
ILCH	Illapel	1.75	176	*e*P	P	05 53 03.0	+0.6
ILCH				*i* S	S	05 53 23.9	+0.3
CHNG	Los Chungos	2.00	185	⇓*i*P	P	05 53 05.7	-0.2
CHNG				*i* S	S	05 53 29.7	0.0
PTCH	Petorca	2.40	172	*e*P	P	05 53 12.2	+0.7
PTCH				AMP		05 53 48.1	
	comp=N,2μm,0.3s						
CPCH	Copiapo	2.65	19	⇓*i*P	P	05 53 16.8	+1.6
JACH	Jahuel	2.86	168	*e*P	P	05 53 19.6	+1.6
FCH	Farellones	3.54	166	*e*P	P	05 53 29.6	+1.8
CLCH	Cerro Calan	3.57	170	*e*P	P	05 53 28.8	+0.8
FSR	Penalolen	3.65	170	*e*P	P	05 53 29.8	+0.6

IDC 15 06:12:59.2±4.7, 2.24S×100.13E, mb3.4/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=182.8km s-min=24.5km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.60	357	P	P	06 17 42.1	-0.6
	0.7nm,0.8s,baz=190,slow=8.6,SNR=4.8						
WRA	Warramunga Arr	37.76	120	P	P	06 20 16.9	-2.0
	0.4nm,0.5s,baz=303,slow=9.1,SNR=8.1						
ASAR	Alice Springs	39.01	126	P	P	06 20 27.9	-1.4
	0.4nm,0.8s,baz=297,slow=8.2,SNR=2.7						
ZAL	Zalesovo	57.42	349	P	P	06 22 48.3	-3.6
	1.3nm,0.4s,baz=289,slow=13,SNR=4.0						

MOS 15 06:24:36.0±1.6, 32.99N×32.99E, h10km, mb4.3/11, Error ellipse: s-maj=14.9km s-min=7.2km az=107.1
HLW 15 06:24:38.0, 33.37N×32.87E, h33km, Mb4.5
NIC 15 06:24:39.0±0.3, 32.89N×32.79E, h25km, mb4.2, ML3.9, MW3.9
CSEM 15 06:24:39.9±0.1, 33.13N×32.74E, h40km, mb4.1/5, Mw3.8, Error ellipse: s-maj=1.5km s-min=1.2km az=107.0
NEIC 15 06:24:39.9±1.7, 33.08N×32.76E, h24km±13km, mb4.3/7, MD4.1(ISK), ML3.9(NIC), Error ellipse: s-maj=6.8km s-min=5.1km az=202.0
GRAL 15 06:24:40.2±1.4, 33.17N×32.85E, h14km±22km, MD4.1
SNSN 15 06:24:41.3, 32.73N×32.62E, Ml4.0
IDC 15 06:24:41.2±2.3, 33.06N×32.71E, h39km±23km, mb3.5/7, mb1 3.7/10, mb1mx3.6/21, mbtmp3.7/10, ML4.1/5, MS2.9/2, Ms1 2.9/2, ms1mx2.6/22, Error ellipse: s-maj=22.7km s-min=15.8km az=37.0
GII 15 06:24:42.2±0.2, 33.09N×32.83E, h25km±30km, mb4.2/15, ML4.1/15, Mw3.8/6

ISC 15 06:24:39.8±0.2, 33.11N±0.02×32.79E±0.02, h39km±6km, n154, σ1$06/180, mb3.9/15, MS2.9/1, 8C-20D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	Souni-Zanaja	1.64	3	⇓P	P	06 25 08.5	+1.9
SZAC	Souni-Zanaja	1.64	3	⇓*i*P	P	06 25 08.5	+1.9
SZAC	Souni-Zanaja	1.64	3	*i* Pg	P	06 25 08.5	+1.9
PPCY	Paphos	1.80	348	⇓P	P	06 25 10.2	+1.2
PPCY	Paphos	1.80	348	⇓*e*P	P	06 25 10.2	+1.2
PPCY	Paphos	1.80	348	*i* Pg	P	06 25 10.2	+1.2
CSS	Prodhromos	1.90	14	P	P	06 25 11.4	+1.1
	33nm,0.2s						
CSS				S	S	06 25 36.9	+3.7
CSS	Prodhromos	1.90	14	*i* PG	P	06 25 11.4	+1.1
HAF	Haifa	1.91	99	Pn	P	06 25 10.6	+0.2
OFRI	'Ofer	1.91	104	Pn	P	06 25 10.4	+0.1
AKMC	Akamas	1.95	349	⇓*i*P	P	06 25 12.1	+1.1
LEF	Lefka	2.00	2	PN	P	06 25 13.3	+1.5
LEF	Lefka	2.00	2	Pn	P	06 25 13.2	+1.4
LEF	Lefka	2.00	2	Pn	P	06 25 13.2	+1.4
HNTI	Hanita	2.00	90	Pn	P	06 25 12.6	+0.7
HNTI				Sn	S	06 25 34.8	-1.1
HNTI	Hanita	2.00	90	Pn	P	06 25 12.5	+0.7
HNTI				Sn	S	06 25 34.8	-1.0
ALFC	Alevga	2.04	356	*i* PG	P	06 25 13.1	+0.7
ALFC	Alevga	2.04	356	⇓*e*P	P	06 25 13.1	+0.7
	54nm,0.2s						
ALFC				S	S	06 25 40.2	+3.4
MAMC	Mammari	2.08	10	*i* PG	P	06 25 13.7	+0.8
SLTI	Sal'it	2.09	114	Pn	P	06 25 13.3	+0.3
SLTI				Sn	S	06 25 37.6	-0.4
PHNC	Paralimni	2.15	28	*i* PG	P	06 25 14.5	+0.6
PHNC	Paralimni	2.15	28	⇓*e*P	P	06 25 14.5	+0.6
PHNC				S	S	06 25 39.7	+0.2
MATL	Matirih	2.16	79	*e*PN	P	06 25 14.3	+0.2
HRSH	Kfar Ka'horesh	2.29	159	⇓P	P	06 25 16.1	+0.2
RSH		2.29	159	P	P	06 25 16.1	+0.2
MMLI	Mount Malkishu	2.32	106	Pn	P	06 25 16.4	+0.1
KSDI	Kefar Szold	2.41	87	Pn	P	06 25 18.5	+0.9
AMAG	Maghara	2.49	172	⇓P	P	06 25 19.4	+0.6
BHL	Bhannes	2.52	71	*e*PN	P	06 25 18.3	-0.9
BHL				SN	S	06 25 47.9	-1.1
KSHT	Keshet	2.54	92	Pn	P	06 25 20.9	+1.3
KZIT	Kziot	2.59	148	Pn	P	06 25 21.1	+0.9
KZIT				Sn	S	06 25 50.4	-0.4
RTMM	Retamin	2.61	141	Pn	P	06 25 21.3	+0.8
BRBR	Barbar	2.67	83	⇑*i*P	P	06 25 22.1	+0.8
BRBR				⇑*i*S	S	06 25 49.9	-2.8
DRGI	Dragot	2.68	124	Pn	P	06 25 22.2	+0.8
MASH	Mash'abbe Sade	2.71	141	Pn	P	06 25 22.5	+0.6
TCHB	Talchebab	2.71	99	⇑*i*P	P	06 25 23.4	+1.4
TCHB				⇑*i*S	S	06 25 51.8	-2.1
MZDA	Masada	2.83	129	Pn	P	06 25 24.5	+0.9
MZDA				Sn	S	06 25 55.9	-0.9
MKRJ	Makawir	2.87	122	Pn	P	06 25 25.5	+1.2
HWQ	Hawqa	2.88	65	*e*PN	P	06 25 23.5	-0.9
HWQ				SN	S	06 25 55.6	-2.5
QASN	Qassioun	2.95	81	⇓*i*P	P	06 25 27.1	+1.8
QASN				⇓*i*S	S	06 25 56.1	-3.8
AANS		3.05	203	⇓P	P	06 25 27.4	+0.6
TOTH	TOTAH	3.06	84	⇓*i*P	P	06 25 28.0	+1.1
HHAG	Hagoal	3.21	191	⇑P	P	06 25 29.6	+0.7
SUZ		3.26	179	P	P	06 25 30.4	+0.7
ZFRI	Zfri	3.26	141	Pn	P	06 25 29.5	-0.2
HAWK	Haweek	3.32	64	⇑*i*P	P	06 25 31.1	+0.5
PRNI	Paran	3.34	145	Pn	P	06 25 30.9	0.0
PRNI				Sn	S	06 26 08.5	-1.3
SALA	Sala	3.34	96	⇑*i*P	P	06 25 32.6	+1.7
SALA				⇑*i*S	S	06 26 06.7	-3.2
KMTI	Karmit	3.42	151	Pn	P	06 25 32.0	-0.1
HLW	Helwan	3.47	201	P	P	06 25 33.2	+0.5
HLW	Helwan	3.47	201	P	P	06 25 33.1	+0.4
SQR		3.50	203	P	P	06 25 33.5	+0.4
HBRG	Burj al 'Arab	3.56	226	⇓P	P	06 25 34.8	+0.8
HBRG				S	S	06 26 15.1	-0.3
ASF	Jabal al Asfar	3.59	104	Pn	P	06 25 35.2	+0.8
	11nm,0.3s,baz=157,slow=7.0,SNR=43						
ASF				Sn	S	06 26 16.5	+0.3
	56nm,0.3s,baz=269,slow=16,SNR=7.0						
ASF				LR	LR	06 27 21.7	
	comp=Z,122nm,18.6s,baz=165,slow=44						
HSAF	As Saff	3.64	197	⇑P	P	06 25 35.2	+0.1
MEST	Erdemli	3.64	17	*i* P	P	06 25 36.4	+1.3
MEST				*i* S	S	06 26 15.7	-1.7
GLL	Jalalah	3.64	195	⇑P	P	06 25 35.4	+0.3
AYT	Al 'Ayyat	3.67	203	⇑P	P	06 25 36.0	+0.5
AYT	Al 'Ayyat	3.67	203	P	P	06 25 36.0	+0.4
FYM	Al Fayyum	3.72	204	⇓P	P	06 25 36.7	+0.5
ZNM		3.73	179	⇓P	P	06 25 36.6	+0.3
SLNF	Slenfeh	3.77	48	⇓*i*P	P	06 25 36.2	-0.7
MBH	Mount Berech	3.78	151	Pn	P	06 25 37.4	+0.3
ZAF		3.83	183	P	P	06 25 38.1	+0.4
WRDH	Warideh	3.83	50	⇑*i*P	P	06 25 37.1	-0.8
HDMB	Hadim	3.85	356	PN	P	06 25 38.9	+0.8
AQBJ	Aqaba	3.89	150	Pn	P	06 25 39.0	+0.3
EIL	Elat	3.90	151	Pn	P	06 25 38.8	0.0
	74nm,0.3s,baz=324,slow=5.9,SNR=542						
EIL				Sn	S	06 26 22.0	-2.0
	44nm,0.3s,baz=123,slow=35,SNR=6.2						
EIL	Elat	3.90	151	*e*P	P	06 25 38.6	-0.2
EIL	Elat	3.90	151	Pn	P	06

KIV pmax pmax
comp=Z,18nm,1.5s
KIV Kislovodsk 13.30 33 *e*P **P 06 27 50.2 +1.9**
comp=Z,18nm,1.5s
TIP Timpagrande 14.29 300 *e*P **P 06 27 55.6 -5.8**
AKASG Malin Array Be 17.77 353 P **P 06 28 45.9 +0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 17.77 353 P **P 06 28 45.9 +0.3**
comp=Z,0.6nm,0.3s,baz=177,slow=9.7,SNR=2.6
GERES GERESS Array B 21.23 323 P **P 06 29 24.2 -0.1**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 21.23 323 P **P 06 29 24.2 -0.1**
comp=Z,0.8nm,0.6s,mb3.2,baz=140,slow=10,SNR=5.8
KHC Kasperske Hory 21.48 324 *e*P **P 06 29 30.5 +3.7**
PRU Pruhonice 21.60 327 *e*P **P 06 29 32.5 +4.5**
OBN Obninsk 22.16 6 *e*P **P 06 29 35.7 +2.2**
OBN *e* 06 29 42.3
OBN pmax pmax
comp=Z,4.0nm,1.2s,mb3.7
OBN Obninsk 22.16 6 *e*P **P 06 29 35.7 +2.2**
comp=Z,4.0nm,1.2s,mb3.7
SBF Sospel 22.48 306 *e*P **P 06 29 38.0 +1.3**
BRG Berggiesshubel 22.50 328 *e*P **P 06 29 45.4 +8.5**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
BRG Berggiesshubel 22.50 328 *e*P **P 06 29 45.4 +8.5**
comp=Z,5.8nm,0.9s,mb4.0
CLL Collm 23.22 327 *i*P **P 06 29 50.5 +6.6**
CLL pmax pmax
comp=Z,14nm,1.1s,mb4.3
CLL Collm 23.22 327 *i*P **P 06 29 50.5 +6.6**
comp=Z,14nm,1.1s,mb4.3
MBDF Montbardon 23.22 308 *e*P **P 06 29 47.3 +3.3**
comp=Z,15nm,0.9s,mb4.2
MBDF Montbardon 23.22 308 *e*P **P 06 29 47.3 +3.3**
MBDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
LPG La Plagne 23.52 309 *e*P **P 06 29 51.9 +5.0**
comp=Z,16nm,0.8s,mb4.2
LPG La Plagne 23.52 309 *e*P **P 06 29 51.9 +5.0**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
LPL La Plagne 23.54 309 *e*P **P 06 29 51.6 +4.5**
comp=Z,12nm,0.8s,mb4.1
LPL La Plagne 23.54 309 *e*P **P 06 29 51.6 +4.5**
LPL pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
CABF La Chapelle 24.39 311 *e*P **P 06 29 57.1 +1.7**
SMF Signal de Mont 25.83 310 *e*P **P 06 30 10.7 +1.6**
comp=Z,18nm,0.8s,mb4.3
SMF Signal de Mont 25.83 310 *e*P **P 06 30 10.7 +1.6**
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
SSF Saint Saulge 26.20 311 *e*P **P 06 30 15.4 +2.9**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
SSF Saint Saulge 26.20 311 *e*P **P 06 30 15.4 +2.9**
comp=Z,7.0nm,0.8s,mb4.2
FINES FINESS Array B 28.68 353 P **P 06 30 34.2 -0.6**
comp=Z,0.2nm,0.3s,mb3.3,baz=199,slow=34,SNR=3.0
NOA NORSAR Array B 31.26 340 LR LR 06 46 35.2
comp=Z,23nm,18.7s,MS2.9,baz=295,slow=42
ARCES ARCESS Array B 36.70 356 P **P 06 31 43.8 -0.7**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 36.70 356 P **P 06 31 43.8 -0.7**
comp=Z,2.3nm,0.8s,mb4.0,baz=180,slow=7.2,SNR=2.6
DBIC Dimbokro 43.71 241 P **P 06 32 42.2 -0.8**
DBIC pmax pmax
comp=Z,5.0nm,1.0s
DBIC Dimbokro 43.71 241 P **P 06 32 42.2 -0.8**
comp=Z,4.9nm,1.0s,mb4.2,baz=19,slow=10,SNR=4.5
SONM Songino Array 55.85 51 P **P 06 34 15.3 -0.1**
comp=Z,0.4nm,0.6s,mb3.6,baz=293,slow=8.4,SNR=4.1
CMAR Chiang Mai Arr 60.45 86 P **P 06 34 47.7 -0.4**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 60.45 86 P **P 06 34 47.6 -0.4**
comp=Z,0.9nm,0.6s,mb4.0,baz=291,slow=8.3,SNR=7.3
YKA Yellowknife Ar 81.18 345 P **P 06 36 52.8 +0.5**
comp=Z,0.2nm,0.7s,mb3.2,baz=31,slow=5.6,SNR=8.7
YKA Yellowknife Ar 81.18 345 P **P 06 36 52.8 +0.5**

BJI 15 06:34:15.4, 42.15N×127.71E, h10km, ML3.9, 1C-1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDJ	**Mudanjiang**	**2.82**	**28**	P	Pn	06 35 01.8	+0.4
MDJ				PG	Pg	06 35 07.8	-4.0
MDJ				SG	Sg	06 35 47.5	-1.9
MDJ				Smax			
	comp=N,327nm,0.7s						
MDJ				Smax			
	comp=E,619nm,0.8s						
SNY	**Shenyang**	**3.10**	**265**	⇑P	Pn	06 35 03.9	-1.4
SNY				⇓PG	Pg	06 35 11.3	-6.0
SNY				SG	Sg	06 35 53.8	-4.7
SNY				Smax			
	comp=N,250nm,1.2s						
SNY				Smax			
	comp=E,340nm,0.4s						
DL2	**Dalian**	**5.65**	**237**	*e*PG	Pg	06 35 54.8	-13
DL2				SG	Sg	06 37 07.9	-16
DL2				Smax			
	comp=N,100nm,0.5s						
DL2				Smax			
	comp=E,70nm,0.6s						

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*KRSC **15** 06:39:51.0±1.0, 52.98N×153.95E, h535km±7km, ML3.8*
*MOS **15** 06:39:53.5±0.8, 53.32N×153.63E, h483km, mb4.2/1, Error ellipse: s-maj=48.1km s-min=28.4km az=139.6*
*IDC **15** 06:40:12.8±20.0, 52.43N×156.95E, h689km±256km, mb2.1/3, mb1 2.4/3, mb1mx2.2/22, mbtmp3.2/3, Error ellipse: s-maj=421.7km s-min=29.3km az=114.0*
ISC 15 06:39:56.3±0.9, 53.1N±0.1×154.7E±0.3, h499km±8km, n25, σ1⇟10/43, mb3.1/2, 1D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.50**	**95**	*i*P	**P**	**06 40 58.8**	**-0.8**
APC				*e*S	**S**	**06 41 48.4**	**-1.4**
GNL	**Ganaly**	**2.04**	**72**	*i*P	**P**	**06 41 01.9**	**-0.2**
GNL				*e*S	**S**	**06 41 54.0**	**-0.1**
GRL	**Gorelyy**	**2.13**	**103**	*e*P	**P**	**06 41 01.1**	**-1.4**
GRL				*e*S	**S**	**06 41 52.4**	**-2.5**
KOK	**Koryaka**	**2.39**	**84**	*e*P	**P**	**06 41 04.8**	**+0.8**
KOK				*e*S	**S**	**06 41 58.4**	**+0.9**
PET	**Petropavlovsk**	**2.40**	**90**	P	**P**	**06 41 05.0**	**+0.9**
PET	**Petropavlovsk**	**2.40**	**90**	⇓*i*PN	**P**	**06 41 04.7**	**+0.6**
PET				*e*S	**S**	**06 42 02.2**	**+4.6**
PET				pmax	pmax		
	comp=Z,49nm,0.5s						
PET				smax			
	comp=E,13nm,0.5s						
PET	**Petropavlovsk**	**2.40**	**90**	*e*P	**P**	**06 41 04.9**	**+0.8**
PET				*e*S	**S**	**06 41 59.0**	**+1.4**
RUS	**Russkaya**	**2.42**	**104**	P	**P**	**06 41 03.3**	**-0.9**
RUS				S	**S**	**06 41 56.6**	**-1.3**
RUS	**Russkaya**	**2.42**	**104**	*e*P	**P**	**06 41 03.1**	**-1.1**
RUS				*e*S	**S**	**06 41 56.6**	**-1.3**
AVH	**Avacha**	**2.45**	**84**	*e*P	**P**	**06 41 05.3**	**+1.0**
AVH				*e*S	**S**	**06 41 59.6**	**+1.4**
UGLR	**Uglovaya**	**2.50**	**86**	*e*P	**P**	**06 41 06.0**	**+1.4**
UGLR				*e*S	**S**	**06 42 00.9**	**+2.2**
NLC	**Nalytchevo**	**2.81**	**87**	*i*P	**P**	**06 41 07.7**	**+1.1**
NLC				*e*S	**S**	**06 42 04.0**	**+1.8**
SPN	**Mys Shipunski**	**3.22**	**88**	P	**P**	**06 41 09.3**	**-0.1**
SPN				S	**S**	**06 42 05.7**	**-1.5**
SPN	**Mys Shipunski**	**3.22**	**88**	*e*P	**P**	**06 41 09.5**	**+0.1**
SPN				*e*S	**S**	**06 42 05.9**	**-1.3**
ESO	**Esso**	**3.68**	**38**	*i*P	**P**	**06 41 13.1**	**+0.3**
ESO				*i*S	**S**	**06 42 13.6**	**+0.3**
TUMR	**Tumrok**	**3.89**	**53**	*e*P	**P**	**06 41 14.9**	**+0.5**
TUMR				*e*S	**S**	**06 42 16.2**	**-0.1**
KMNR	**Kamenistaya**	**4.20**	**48**	*e*P	**P**	**06 41 16.9**	**-0.1**
KMNR				*e*S	**S**	**06 42 19.5**	**-1.4**
SRDR	**Sredinnyy**	**4.35**	**40**	*i*P	**P**	**06 41 18.0**	**-0.3**
SRDR				*e*S	**S**	**06 42 19.0**	**-4.2**
KBTR	**Krutoberegovo**	**5.66**	**53**	*e*P	**P**	**06 41 30.1**	**-0.1**
KBTR				*e*S	**S**	**06 42 42.8**	**-1.8**
BKI	**Bering**	**6.96**	**68**	*e*S	**S**	**06 42 58.7**	**-9.1**
FX1	**Attu Island--F**	**11.14**	**84**	PN	**P**	**06 42 31.4**	**+4.6**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1	**Attu Island--F**	**11.14**	**84**	P	**P**	**06 42 31.4**	**+4.7**
	comp=Z,3.3nm,0.3s,baz=57,slow=11,SNR=8.0						
ILAR	**Eielson Array**	**31.13**	**45**	P	**P**	**06 45 35.0**	**+1.0**
	comp=Z,0.3nm,0.5s,mb3.0,baz=275,slow=7.5,SNR=5.7						
YKA	**Yellowknife Ar**	**45.33**	**41**	P	**P**	**06 47 29.7**	**+0.1**
	comp=Z,0.0nm,0.4s,baz=302,slow=6.9,SNR=3.7						
ASAR	**Alice Springs**	**78.54**	**199**	P	**P**	**06 51 05.2**	**-1.0**
	comp=Z,0.4nm,0.6s,mb3.1,baz=11,slow=5.1,SNR=6.0						

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*TEH **15** 06:53:23.2, 31.74N×50.49E, h12km, Mn3.1*
*CSEM **15** 06:53:23.1±0.1, 31.86N×50.90E, h30km, ML3.7/3, Error ellipse: s-maj=3.2km s-min=2.3km az=21.0*
*THR **15** 06:53:24.0±1.5, 32.01N×50.85E, h16km±16km, ML2.8*
ISC 15 06:53:24.2±0.6, 31.84N±0.05×50.91E±0.05, h16km, n17, σ1⇟47/24, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGO	**Shushtar**	**1.81**	**279**	*e*PG	**Pn**	**06 53 55.5**	**+0.3**
SHGR	**Shooshtar-Gavs**	**1.81**	**279**	*e*PG	**Pn**	**06 53 55.5**	**+0.3**
SHGR				*e*SG	**Sn**	**06 54 19.9**	**+1.9**
SHGR				AML	AML	06 54 29.7	
	comp=N,190nm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.81**	**279**	*e*Pg	**Pn**	**06 53 55.5**	**+0.3**
	SNR=91						
SHGR				*e*Sg	**Sn**	**06 54 19.9**	**+1.9**
	comp=N,190nm,0.7s,SNR=91						
NASN	**Na'in**	**1.87**	**59**	*e*PG	**Pn**	**06 53 57.1**	**+1.1**
NASN				*e*SG	**Sn**	**06 54 22.9**	**+3.5**
NASN				AML	AML	06 54 36.1	
	comp=N,47nm,0.3s						
NASN	**Na'in**	**1.87**	**59**	*e*Pg	**Pn**	**06 53 57.1**	**+1.1**
	SNR=91						
NASN				*e*Sg	**Sn**	**06 54 22.9**	**+3.6**
	comp=N,47nm,0.3s,SNR=91						
IPAR	**Pars**	**2.71**	**137**	Pn	**Pn**	**06 54 07.0**	**-1.1**
ASAO	**Ashtian**	**2.80**	**345**	*e*PN	**Pn**	**06 54 08.0**	**-1.3**
ASAO				*e*SG	**Sn**	**06 54 46.0**	**+3.0**
ASAO				AML	AML	06 55 00.1	
	comp=N,38nm,0.5s						
ASAO	**Ashtian**	**2.80**	**345**	*e*Pn	**Pn**	**06 54 08.0**	**-1.3**
	SNR=52						
ASAO				*e*Sg	**Sn**	**06 54 46.0**	**+3.0**
	comp=N,38nm,0.5s,SNR=90						
ICHK	**Chekchek**	**2.99**	**81**	Pn	**Pn**	**06 54 10.7**	**-1.4**
IQOM	**Qom**	**3.00**	**2**	Pn	**Pn**	**06 54 10.2**	**-1.9**
IMEH	**Mehriz**	**3.19**	**97**	Pn	**Pn**	**06 54 17.5**	**+2.7**
IMOK	**Mook**	**3.19**	**150**	Pn	**Pn**	**06 54 14.2**	**-0.7**
IVRN	**Varamin**	**3.22**	**12**	Sn	**Sn**	**06 54 54.7**	**+1.1**
IVRN	**Varamin**	**3.22**	**12**	Pn	**Pn**	**06 54 15.8**	**+0.5**
IRAZ	**Razeghan**	**3.65**	**347**	Pn	**Pn**	**06 54 19.4**	**-1.9**
IRAZ				Sn	**Sn**	**06 55 01.3**	**-3.2**
IDMV	**Damavand**	**3.84**	**14**	Pn	**Pn**	**06 54 24.2**	**+0.1**
IBAF	**Bafgh**	**3.97**	**92**	Pn	**Pn**	**06 54 26.3**	**+0.3**

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*IDC **15** 06:53:29.3±2.9, 29.49S×177.32W, h43km±15km, mb3.9/4, mb1 4.0/5, mb1mx3.7/16, mbtmp4.1/5, ML3.4/1, Error ellipse: s-maj=32.8km s-min=22.8km az=101.0*
*NEIC **15** 06:53:29.1±3.2, 29.47S×177.24W, h47km±16km, mb4.2/2, Error ellipse: s-maj=43.5km s-min=21.4km az=73.0*
ISC 15 06:53:29.0±4.8, 29.83S±0.08×177.6W±0.7, h43km, n10, σ1⇟10/10, mb4.0/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.66**	**332**	P	**P**	**06 53 41.6**	**-0.3**
	1μm,0.3s,baz=113,slow=4.4,SNR=39						
RAO				S	**S**	**06 53 51.5**	**+0.1**
	2μm,0.3s,baz=117,slow=22,SNR=29						
URZ	**Urewera**	**9.50**	**206**	P	**P**	**06 55 49.4**	**+3.3**
	0.4nm,0.3s,baz=256,slow=17,SNR=6.5						
URZ				S	**S**	**06 57 28.1**	**-4.5**
	0.7nm,0.3s,baz=126,slow=7.3,SNR=9.1						
CTA	**Charters Tower**	**34.09**	**278**	P	**P**	**07 00 12.9**	**+1.2**
	3.2nm,0.5s,mb4.5,baz=107,slow=8.4,SNR=7.1						
CTAO	**Charters Tower**	**34.09**	**278**	*e*P	**P**	**07 00 12.5**	**+0.8**
	3.5nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**34.98**	**256**	P	**P**	**07 00 20.5**	**+1.3**
	1.1nm,0.4s,mb4.1,baz=121,slow=8.1,SNR=5.6						
ASAR	**Alice Springs**	**43.52**	**266**	P	**P**	**07 01 30.2**	**-0.1**
	1.2nm,0.6s,mb3.8,baz=101,slow=7.5,SNR=22						
WRAB	**Tennant Creek**	**44.45**	**271**	*e*P	**P**	**07 01 36.5**	**-1.3**
	1.5nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**44.46**	**271**	P	**P**	**07 01 36.9**	**-1.0**
	1.5nm,0.6s,mb3.9,baz=111,slow=7.8,SNR=29						
FINES	**FINESS Array B**	**144.74**	**341**	PKP	PKPdf	07 12 59.7	-0.7
	2.2nm,0.5s,baz=45,slow=3.9,SNR=18						
FINES	**FINESS Array B**	**144.74**	**341**	PKP	PKPdf	07 12 59.7	-0.7

IDC 15 07:22:44.6±1.8, 9.26N×94.52E, mb3.5/2, mb1 3.9/3, mb1mx3.5/20, mbtmp3.5/3, ML3.8/1, MS2.8/1, Ms1 3.0/1, ms1mx2.8/16, Error ellipse: s-maj=58.2km s-min=35.0km az=52.0, Low Confidence, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.10**	**25**	Pn	P	07 25 11.4	-2.7
	0.2nm,0.3s,baz=211,slow=15,SNR=13						
CMAR				LR	LR	07 29 25.1	
	comp=Z,54nm,18.7s,baz=190,slow=40						
WRA	**Warramunga Arr**	**48.77**	**127**	P	P	07 31 31.9	-1.6
	0.2nm,0.5s,baz=306,slow=8.6,SNR=4.6						
GERES	**GERESS Array B**	**77.06**	**318**	P	P	07 34 39.5	-1.8
	0.3nm,0.2s,baz=90,slow=5.3,SNR=4.3						

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*CSEM **15** 07:25:27.5±0.2, 37.59N×24.63W, h10km, ML2.9, Error ellipse: s-maj=7.4km s-min=2.5km az=54.0, After PDA*
*PDA **15** 07:25:27.5±1.1, 37.59N×24.63W, h10km, MD2.7, ML2.9, Error ellipse: s-maj=6.7km s-min=3.0km az=62.0*
SVSA 15 07:25:27.5±1.1, 37.59N×24.63W, h10km, MD2.7, ML2.9, Error ellipse: s-maj=6.7km s-min=3.0km az=62.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIRA	**Miradouro**	**0.55**	**291**	*e*P	Pg	07 25 36.7	-1.9
MIRA				*e*S	Sg	07 25 43.6	-2.4
FRA1	**Furnas**	**0.59**	**285**	*e*P	Pg	07 25 37.4	-2.1
FRA1				*e*S	Sg	07 25 44.4	-3.1
PFAD	**Fenais da Ajud**	**0.60**	**294**	*e*P	Pg	07 25 37.2	-2.4
PFAD				*e*S	Sg	07 25 44.5	-3.2
PCNG	**Congro**	**0.63**	**286**	*e*P	Pb	07 25 37.6	-2.5
PCNG				*e*S	Sg	07 25 45.4	-3.3
	241nm,0.3s						
VIF	**Vila Franca**	**0.66**	**284**	*e*P	Pb	07 25 37.8	-2.8
VIF				*e*S	Sb	07 25 46.2	-3.4
	169nm,0.3s						
MESC	**Monte Escuro**	**0.68**	**288**	*e*P	Pb	07 25 38.1	-2.8
MESC				*e*S	Sb	07 25 46.9	-3.2
PSMN	**Pico do Norte,**	**0.68**	**211**	*e*P	Pb	07 25 38.6	-2.4
PSMN				*i*S	Sb	07 25 46.3	-3.9
PRCH	**Ribeira Ch**	**0.69**	**282**	*e*P	Pb	07 25 38.2	-2.9
PRCH				*e*S	Sb	07 25 46.7	-3.7
	457nm,0.3s						
LFA	**Lagoa do Fogo**	**0.70**	**285**	*i*P	Pb	07 25 38.6	-2.7
PVER	**Pico Vermelho**	**0.73**	**287**	*e*P	Pb	07 25 39.3	-2.5
CML	**Cha da Macela**	**0.75**	**284**	*e*P	Pb	07 25 39.0	-3.1
CML				*e*S	Sb	07 25 48.4	-3.7
FAC	**Faja de Cima**	**0.83**	**283**	*e*P	Pb	07 25 41.0	-2.5
FAC				*e*S	Sb	07 25 50.1	-4.4
PSAN	**Santo Antonio**	**0.91**	**287**	*e*P	Pb	07 25 41.5	-3.3
PSAN				*e*S	Sb	07 25 52.1	-4.6
PFET	**Feteiras**	**0.94**	**284**	*e*P	Pb	07 25 42.0	-3.5
PFET				*e*S	Sb	07 25 53.1	-4.8
SET2	**Ginetes**	**0.96**	**285**	*e*P	Pb	07 25 42.5	-3.4
SET4	**Mosteiros**	**0.97**	**287**	*e*P	Pb	07 25 42.5	-3.4
PFAV	**Pico das Favas**	**2.23**	**301**	*e*S	Sn	07 26 24.2	-8.8
	13nm,0.1s						
RIB2	**Ribeirinha**	**2.27**	**299**	*e*S	Sn	07 26 24.7	-9.4
	21nm,0.2s						
PVNV	**Vila Nova**	**2.31**	**301**	*e*S	Sn	07 26 25.4	-9.5
	12nm,0.2s						
PPAD	**Pico dos Padre**	**2.37**	**299**	*e*S	Sn	07 26 27.6	-8.8
	8.4nm,0.2s						
ASBA	**Santa Barbara**	**2.40**	**299**	*e*S	Sn	07 26 28.6	-8.7
	12nm,0.2s						
PSBA	**Serra de Santa**	**2.42**	**300**	*e*S	Sn	07 26 29.1	-8.8
	38nm,0.4s						
PICO	**Pico**	**3.13**	**288**	*e*P	Pn	07 26 13.3	-4.6
PICO				*e*S	Sn	07 26 46.6	-9.1
CALA	**Caldeira**	**3.36**	**288**	*e*P	Pn	07 26 15.9	-5.3
CALA				*e*S	Sn	07 26 52.8	-8.7
PCED	**Cedros**	**3.37**	**289**	*e*P	Pn	07 26 16.1	-5.3
PCED				*e*S	Sn	07 26 52.0	-10
	36nm,0.3s						

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*ROM **15** 07:41:32.2±0.1, 39.71N×15.66E, h5km, MD3.4/10, ML3.3/11, Error ellipse: s-maj=2.2km s-min=0.9km az=90.0*
*NEIC **15** 07:41:32.2, 39.71N×15.66E, h5km, MD3.4(ROM), After ROM.*
*CSEM **15** 07:41:35.5±0.1, 39.73N×15.71E, h35km, ML3.3/11, Error ellipse: s-maj=2.7km s-min=1.5km az=98.0*
*IDC **15** 07:41:38.2±2.3, 39.70N×15.81E, h51km±30km, mb3.0/3, mb1 3.4/6, mb1mx3.3/23, mbtmp3.5/6, ML3.6/3, MS2.5/1, Ms1 2.5/1, ms1mx2.2/19, Error ellipse: s-maj=29.4km s-min=22.8km az=39.0*
ISC 15 07:41:31.5±0.3, 39.66N±0.01×15.75E±0.04, h5km, n72, σ1⇟21/93, mb3.3/3, 4D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGR	**Morigerati**	**0.50**	**342**	⇓*i*PG	**Pg**	**07 41 41.0**	**-0.4**
MGR				SG	**Sg**	**07 41 48.8**	**+0.8**
MGR	**Morigerati**	**0.50**	**342**	⇓*i*Pg	**Pg**	**07 41 41.0**	**-0.4**
MGR				*e*Sg	**Sg**	**07 41 48.8**	**+0.7**
ORI	**Oriolo Calabro**	**0.67**	**53**	*e*PG	**Pg**	**07 41 46.2**	**+1.3**
ORI				SG	**Sg**	**07 41 58.1**	**+4.3**
ORI	**Oriolo Calabro**	**0.67**	**53**	*e*Pg	**Pg**	**07 41 46.2**	**+1.3**
ORI				*e*Sg	**Sg**	**07 41 58.1**	**+4.2**
SLCN	**Sala Consilina**	**0.73**	**353**	*e*PG	**Pg**	**07 41 45.9**	**-0.2**
SLCN				SG	**Sg**	**07 41 57.4**	**+1.6**
SLCN	**Sala Consilina**	**0.73**	**353**	*e*Pg	**Pg**	**07 41 45.9**	**-0.2**
SLCN				*e*Sg	**Sg**	**07 41 57.4**	**+1.6**
TIP	**Timpagrande**	**0.92**	**121**	*e*Pn	**Pn**	**07 41 50.9**	**+0.1**
TIP	**Timpagrande**	**0.92**	**121**	*e*Pn	**Pn**	**07 41 50.9**	**0.0**
SGO	**Sicignano**	**0.96**	**339**	*e*PG	**Pg**	**07 41 49.2**	**-1.4**
SGO				SG	**Sg**	**07 42 03.6**	**+0.2**
SGO	**Sicignano**	**0.96**	**339**	*e*Pg	**Pg**	**07 41 49.2**	**-1.4**
SGO				*e*Sg	**Sg**	**07 42 03.6**	**+0.2**
GRI	**Girifalco**	**0.99**	**148**	*e*PG	**Pg**	**07 41 52.4**	**+1.2**
CLLN	**Colliano**	**1.10**	**343**	*e*PG	**Pg**	**07 41 52.6**	**-0.9**
MRLC	**Muro Lucano**	**1.11**	**350**	*e*PG	**Pg**	**07 41 52.9**	**-0.7**
MRLC				SG	**Sg**	**07 42 09.1**	**+0.7**
MRLC	**Muro Lucano**	**1.11**	**350**	*e*Pg	**Pg**	**07 41 52.9**	**-0.7**
MRLC				*e*Sg	**Sg**	**07 42 09.1**	**+0.7**
LTRZ	**Laterza**	**1.25**	**41**	*e*PN	**Pn**	**07 41 56.3**	**+0.8**
	605nm,0.5s						
LTRZ	**Laterza**	**1.25**	**41**	*e*Pg	**Pg**	**07 41 56.3**	**-0.1**
LTRZ	**Laterza**	**1.25**	**41**	*e*Pn	**Pn**	**07 41 56.3**	**+0.8**
	605nm,0.5s						
SLNA	**Salina**	**1.31**	**213**	*e*PN	**Pn**	**07 41 56.2**	**-0.2**
SLNA	**Salina**	**1.31**	**213**	*e*Pg	**Pg**	**07 41 56.2**	**-1.4**
CSSN	**Cassano Irpino**	**1.32**	**335**	*e*PN	**Pn**	**07 41 56.9**	**+0.4**
	431nm,0.4s						
CSSN	**Cassano Irpino**	**1.32**	**335**	*e*Pg	**Pg**	**07 41 56.9**	**-0.8**
CSSN	**Cassano Irpino**	**1.32**	**335**	*e*Pn	**Pn**	**07 41 56.9**	**+0.4**
	431nm,0.4s						
SNAL	**S. Angelo Dei**	**1.33**	**342**	*e*PN	**Pn**	**07 41 57.2**	**+0.5**
SNAL				SN	**Sn**	**07 42 15.9**	**+1.0**
SG1	**Sgolgore (BA)**	**1.37**	**31**	*e*Pg	**Pg**	**07 41 58.2**	**-0.7**
SG1				*e*Sg	**Sg**	**07 42 18.2**	**+1.0**
SCLL	**Scilla**	**1.41**	**181**	*e*PN	**Pn**	**07 41 58.1**	**+0.3**
SCLL	**Scilla**	**1.41**	**181**	*e*Pg	**Pg**	**07 41 58.1**	**-1.4**
MSRU	**Castanea**	**1.41**	**188**	⇓*i*PN	**Pn**	**07 41 58.1**	**+0.2**
CDT	**Castel del Mon**	**1.47**	**16**	*e*Pg	**Pg**	**07 41 59.3**	**-1.6**
CDT				*e*Sg	**Sg**	**07 42 19.3**	**-1.2**
FG4	**Candela**	**1.48**	**353**	*e*PN	**Pn**	**07 42 00.2**	**+1.4**
	159nm,0.5s						
FG4	**Candela**	**1.48**	**353**	*e*Pg	**Pg**	**07 42 00.2**	**-0.8**
FG4	**Candela**	**1.48**	**353**	*e*Pn	**Pn**	**07 42 00.2**	**+1.4**
	159nm,0.5s						
SOI	**Samo**	**1.61**	**171**	*e*PN	**Pn**	**07 42 01.6**	**+0.9**
SOI				SN	**Sn**	**07 42 23.6**	**+1.6**
SOI	**Samo**	**1.61**	**171**	*e*Pg	**Pg**	**07 42 01.6**	**-1.9**
SOI				*e*Sg	**Sg**	**07 42 23.6**	**-1.4**
BRT	**Bari-Castellan**	**1.65**	**42**	*e*PN	**Pn**	**07 42 01.9**	**+0.7**
BRT				SN	**Sn**	**07 42 23.4**	**+0.4**
	16nm,0.5s						
BRT	**Bari-Castellan**	**1.65**	**42**	*e*Pg	**Pg**	**07 42 01.9**	**-2.5**
BRT				*e*Sg	**Sn**	**07 42 23.4**	**+0.4**
BRT	**Bari-Castellan**	**1.65**	**42**	*e*Pn	**Pn**	**07 42 01.9**	**+0.7**
	16nm,0.5s						
BRT				Sn	**Sn**	**07 42 23.4**	**+0.4**
MTTG	**Motta San Giov**	**1.66**	**181**	*e*PN	**Pn**	**07 42 01.9**	**+0.5**
MTTG				SN	**Sn**	**07 42 23.7**	**+0.3**
	1μm,0.5s						
MTTG	**Motta San Giov**	**1.66**	**181**	*e*Pg	**Pg**	**07 42 01.9**	**-2.8**
MTTG				*e*Sg	**Sg**	**07 42 23.7**	**-3.1**
MTTG	**Motta San Giov**	**1.66**	**181**	*e*Pn	**Pn**	**07 42 01.9**	**+0.5**
	1μm,0.5s						
MTTG				Sn	**Sn**	**07 42 23.7**	**+0.3**
PE1	**Pezze di Greco**	**1.71**	**48**	*e*Pg	**Pg**	**07 42 02.6**	**-3.1**
MMME	**Mongiuffi-Meli**	**1.77**	**193**	⇓*i*PN	**Pn**	**07 42 03.3**	**+0.3**
MNO	**Monte Soro**	**1.92**	**206**	*e*PN	**Pn**	**07 42 06.5**	**+1.4**
	517nm,0.5s						
MNO	**Monte Soro**	**1.92**	**206**	*e*Pn	**Pn**	**07 42 06.5**	**+1.4**
	517nm,0.5s						
LCI	**Lecce**	**1.94**	**69**	*e*PN	**Pn**	**07 42 07.4**	**+2.0**
	204nm,0.4s						
LCI	**Lecce**	**1.94**	**69**	*e*Pg	**Pg**	**07 42 07.4**	**-2.7**
LCI	**Lecce**	**1.94**	**69**	*e*Pn	**Pn**	**07 42 07.4**	**+2.0**
	204nm,0.4s						
RGNG	**Rignano Grg**	**2.01**	**357**	*e*PN	**Pn**	**07 42 06.3**	**-0.2**

ISC 15 07:50:52.3±0.8, 2.61N±0.09×95.3E±0.1, h26km, h26km±.4km: pP-P, n21, σ0§77/20, mb4.3/14, MS3.7/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.95**	**63**	*e*Pn	**Pn**	**07 52 19.3**	**-1.8**
KKTK	**Khon Kaen**	**15.51**	**28**	P	**P**	**07 54 34.0**	**+2.8**
309nm,1.0s							
CM31	**Chiang Mai Arr**	**16.14**	**12**	*e*P	**P**	**07 54 39.8**	**+0.4**
8.3nm,0.8s							
CM31				*e*pP		07 54 47.2	
CMAR	**Chiang Mai Arr**	**16.14**	**12**	Pn	**P**	**07 54 39.8**	**+0.5**
0.3nm,0.3s,baz=201,slow=11,SNR=62							
CMAR				pP		07 54 46.9	
0.2nm,0.3s,baz=200,slow=9.7,SNR=11							
CMAR				LR	LR	08 01 04.3	
comp=Z,74nm,18.1s,baz=214,slow=38							
CHG	**Chiang Mai**	**16.49**	**12**	P	**P**	**07 54 43.8**	**+0.1**
JIRN	**Jiri**	**26.39**	**342**	*e*P	**P**	**07 56 29.0**	**+0.3**
12nm,0.6s,mb4.6							
PKI	**Pulchoki**	**26.56**	**340**	*e*P	**P**	**07 56 30.4**	**+0.1**
5.4nm,0.6s,mb4.3							
GUN	**Gumba**	**26.72**	**341**	*e*P	**P**	**07 56 31.7**	**0.0**
13nm,0.6s,mb4.6							
KKN	**Kakani**	**26.81**	**340**	*e*P	**P**	**07 56 32.3**	**-0.2**
21nm,0.8s,mb4.7							
GKN	**Gorkha**	**27.23**	**339**	*e*P	**P**	**07 56 37.0**	**+0.6**
KOLN	**Koldanda**	**27.41**	**337**	*e*P	**P**	**07 56 38.1**	**+0.1**
14nm,0.8s,mb4.5							
FITZ	**Fitzroy Crossi**	**36.28**	**126**	P	**P**	**07 57 55.9**	**+0.1**
5.3nm,0.9s,mb4.5,baz=292,slow=2.1,SNR=3.6							
BJT	**Baijiatuau**	**41.76**	**24**	P	**P**	**07 58 41.0**	**-0.3**
8.0nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**44.38**	**122**	P	**P**	**07 59 03.2**	**+0.4**
1.6nm,0.9s,mb3.8,baz=302,slow=8.7,SNR=9.4							
WRA				pP	pP	07 59 11.5	+0.8
1.1nm,0.6s,baz=300,slow=9.2,SNR=7.8							
WRAB	**Tennant Creek**	**44.38**	**122**	*e*P	**P**	**07 59 03.1**	**+0.2**
5.5nm,0.9s,mb4.3							
ASAR	**Alice Springs**	**45.75**	**127**	P	**P**	**07 59 14.3**	**+0.6**
0.7nm,0.8s,mb3.6,baz=303,slow=8.3,SNR=6.9							
ASAR				pP	pP	07 59 22.1	+0.5
0.6nm,0.7s,baz=302,slow=8.1,SNR=5.0							
SONM	**Songino Array**	**46.05**	**10**	P	**P**	**07 59 15.0**	**-0.8**
3.1nm,0.7s,mb4.3,baz=190,slow=8.9,SNR=31							
SONM				pP	pP	07 59 22.4	-1.2
1.7nm,0.8s,baz=190,slow=7.5,SNR=7.9							
SONM				PcP	PcP	08 00 52.1	-0.3
0.6nm,0.5s,baz=217,slow=6.2,SNR=3.9							
ZAL	**Zalesovo**	**51.88**	**352**	P	**P**	**08 00 00.1**	**-0.7**
5.2nm,0.6s,mb4.7,baz=315,slow=6.7,SNR=9.5							
ZAL				pP	pP	08 00 07.9	-0.9
3.1nm,0.6s,baz=338,slow=4.4,SNR=2.3							
BVAR	**Borovoye Array**	**54.31**	**342**	P	**P**	**08 00 17.6**	**-1.1**
1.5nm,0.6s,mb4.1,baz=142,slow=7.5,SNR=12							
BVAR				pP	pP	08 00 25.9	-0.9
1.5nm,0.8s,baz=143,slow=7.4,SNR=6.7							
HNR	**Honiara**	**65.49**	**102**	LR	LR	08 31 00.8	
comp=Z,49nm,19.9s,MS3.7,baz=291,slow=37							
FINES	**FINESS Array B**	**77.88**	**333**	P	**P**	**08 02 48.8**	**-0.5**
0.7nm,0.6s,mb3.8,baz=90,slow=7.6,SNR=4.2							
FINES				pP	pP	08 02 57.3	-0.2
0.6nm,0.6s,baz=90,slow=3.8,SNR=2.4							

*NEIC **15** 08:11:47.4±0.9, 2.23N×128.79E, h35km, mb4.1/2, Error ellipse: s-maj=57.4km s-min=13.8km az=76.0*
*IDC **15** 08:11:48.5±2.9, 2.05N×128.10E, h44km±22km, mb3.7/5, mb1 4.0/5, mb1mx3.7/17, mbtmp4.0/5, Error ellipse: s-maj=86.8km s-min=21.2km az=75.0*

ISC 15 08:11:45.6±1.2, 2.1N±0.2×128.4E±0.5, h33km, n8, σ0§41/8, mb4.0/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.29**	**188**	*e*P	**P**	**08 16 22.1**	**+0.7**
3.2nm,0.6s							
FITZ	**Fitzroy Crossi**	**20.29**	**188**	P	**P**	**08 16 20.6**	**-0.7**
3.8nm,0.6s,baz=358,slow=10,SNR=8.3							
WRAB	**Tennant Creek**	**22.70**	**165**	*e*P	**P**	**08 16 46.4**	**+0.6**
6.6nm,0.4s,mb4.4							
WRA	**Warramunga Arr**	**22.71**	**165**	P	**P**	**08 16 45.7**	**-0.1**
4.4nm,0.4s,mb4.2,baz=344,slow=11,SNR=34							
WRA				ScP		08 24 11.6	
0.2nm,0.5s,baz=336,slow=3.0,SNR=4.8							
WB2	**Warramunga Arr**	**22.71**	**165**	*e*P	**P**	**08 16 46.1**	**+0.2**
ASAR	**Alice Springs**	**26.20**	**168**	P	**P**	**08 17 18.9**	**-0.4**
1.7nm,0.8s,mb3.7,baz=351,slow=6.5,SNR=20							
ASAR				PcP	PcP	08 20 44.6	-1.6
0.4nm,0.5s,baz=353,slow=1.9,SNR=6.8							
ASAR				ScP		08 24 21.3	
0.6nm,0.7s,baz=339,slow=2.5,SNR=8.6							
STKA	**Stephens Creek**	**36.08**	**161**	P	**P**	**08 18 46.0**	**-0.2**
1.9nm,0.5s,mb4.3,baz=335,slow=7.8,SNR=12							
SONM	**Songino Array**	**49.33**	**341**	P	**P**	**08 20 33.7**	**0.0**
0.2nm,0.5s,mb3.4,baz=149,slow=8.4,SNR=3.0							

*NEIC **15** 08:28:05.5, 36.74N×20.62E, h44km, MD3.5(ATH), After ATH.*
*CSEM **15** 08:28:05.5, 36.74N×20.62E, h44km, MD3.6/4, After ATH*

ATH 15 08:28:05.5, 36.74N×20.62E, h44km, MD3.5/4, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**1.14**	**67**	*e*P	P	08 28 26.5	+1.3
ITM				*e*S	S	08 28 41.0	+1.2
VLS	**Valsamata**	**1.44**	**359**	*e*P	P	08 28 30.5	+1.0
VLI	**Veliai**	**1.86**	**90**	*e*P	P	08 28 36.5	+1.0
KYTH	**Kithira**	**2.00**	**103**	*e*P	P	08 28 38.0	+0.5

*NEIC **15** 08:49:36.7±1.9, 16.05S×174.12W, h84km±15km, mb4.1/2, Error ellipse: s-maj=82.7km s-min=11.8km az=146.0*
*IDC **15** 08:49:39.3±20.0, 16.05S×174.13W, h107km±181km, mb3.5/6, mb1 3.8/6, mb1mx3.5/16, mbtmp3.8/6, Error ellipse: s-maj=115.7km s-min=30.3km az=146.0*

ISC 15 08:49:35.2±2.6, 16.0S±0.7×174.2W±0.5, h82km±22km, n10, σ0§46/11, mb3.7/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.13**	**49**	*e*Pn	**P**	**08 50 23.6**	**+0.1**
AFI				*e*Sn	**S**	**08 50 55.0**	**-4.9**
STKA	**Stephens Creek**	**43.07**	**240**	P	**P**	**08 57 29.0**	**+0.2**
0.9nm,0.6s,mb3.7,baz=80,slow=6.1,SNR=3.0							
WRAB	**Tennant Creek**	**48.94**	**257**	P	**P**	**08 58 15.7**	**+0.3**
0.5nm,0.3s,mb3.9							
WRA	**Warramunga Arr**	**48.95**	**257**	P	**P**	**08 58 15.9**	**+0.5**
0.4nm,0.3s,mb3.8,baz=90,slow=6.8,SNR=22							
WRA				PcP	PcP	08 59 37.9	-0.8
0.3nm,0.4s,baz=95,slow=3.7,SNR=5.2							
ASAR	**Alice Springs**	**49.19**	**252**	P	**P**	**08 58 16.8**	**-0.5**
1.8nm,0.5s,mb4.2,baz=88,slow=8.0,SNR=37							
MBWA	**Marble Bar**	**62.45**	**254**	P	**P**	**08 59 51.7**	**-0.7**
1.0nm,0.4s,mb4.2							
NVAR	**Mina Array Bea**	**75.28**	**42**	P	**P**	**09 01 11.3**	**+0.1**
0.1nm,0.6s,mb2.8,baz=209,slow=9.2,SNR=4.4							
NVAR	**Mina Array Bea**	**75.28**	**42**	P	**P**	**09 01 11.3**	**+0.1**
ILAR	**Eielson Array**	**83.17**	**11**	P	**P**	**09 01 53.2**	**0.0**
0.3nm,0.5s,mb3.4,baz=208,slow=5.3,SNR=8.5							
PDAR	**Pinedale Array**	**83.22**	**42**	P	**P**	**09 01 54.0**	**+0.1**
0.9nm,0.8s,mb3.6,baz=187,slow=3.3,SNR=7.3							

*HEL **15** 09:06:37.4±0.3, 64.71N×30.76E, ML2.1, ML1.7(UPP), Explosion*
*IDC **15** 09:06:39.5±1.4, 64.67N×30.48E, mb1 3.0/5, mb1mx2.9/23, mbtmp3.0/5, ML2.7/4, Error ellipse: s-maj=18.7km s-min=8.3km az=101.0*

ISC 15 09:06:36.1±0.7, 64.71N±0.02×30.6E±0.1, n29, σ1§21/46, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.37**	**332**	*e*P	**Pb**	**09 07 02.1**	**-0.2**
MSF				*e*S	**Sb**	**09 07 20.8**	**+0.5**
KJN	**Kajaani**	**1.40**	**245**	*e*P	**Pb**	**09 07 04.1**	**+1.2**
KJN				*e*S	**Sb**	**09 07 22.2**	**+1.0**
KU4	**Liikasenvaara**	**1.71**	**346**	*e*P	**Pn**	**09 07 07.7**	**+0.2**
KU4				*e*S	**Sb**	**09 07 30.5**	**+0.2**
JOF	**Joensuu**	**1.83**	**170**	*e*P	**Pn**	**09 07 08.8**	**-0.3**
JOF				*e*S	**Sn**	**09 07 33.4**	**+0.2**
OUL	**Oulu**	**2.04**	**283**	*e*P	**Pn**	**09 07 14.7**	**+2.6**
OUL				*e*S	**Sn**	**09 07 41.0**	**+2.3**
SUF	**Sumiainen**	**2.81**	**227**	*e*P	**Pn**	**09 07 24.4**	**+1.2**
SUF				*e*S	**Sn**	**09 07 59.6**	**+1.3**
SUF				*e*SB	**Sb**	**09 08 02.2**	**0.0**
SUF				MSG		09 08 04.9	
comp=Z,4.4nm,0.4s							
KAF	**Kangasniemi**	**3.25**	**218**	*e*P	**Pn**	**09 07 30.3**	**+1.0**
KAF				*e*S	**Sn**	**09 08 09.6**	**+0.4**
KEF	**Keuruu**	**3.62**	**228**	*e*P	**Pn**	**09 07 35.8**	**+1.1**
KEF				*e*S	**Sn**	**09 08 17.2**	**-1.6**
PAJU	**Pajala**	**3.85**	**310**	*e*P	**Pn**	**09 07 39.1**	**+1.3**
FIA0	**FINESS Array S**	**3.87**	**214**	*e*P	**Pn**	**09 07 39.4**	**+1.2**
FIA0				*e*S	**Sn**	**09 08 22.4**	**-2.7**
FIA0				*e*SG	**Sg**	**09 08 37.4**	**-7.6**
FIA0				MSG		09 08 40.5	
comp=Z,4.3nm,0.4s							
FINES	**FINESS Array B**	**3.87**	**214**	Pn	**Pn**	**09 07 38.3**	**+0.1**
comp=Z,0.2nm,0.3s,baz=30,slow=15,SNR=5.1							
FINES				Pg	**Pg**	**09 07 46.2**	**-7.2**
comp=Z,0.5nm,0.3s,baz=32,slow=14,SNR=12							
FINES				Lg		09 08 37.2	
comp=Z,1.7nm,0.3s,baz=30,slow=27,SNR=12							
FINES				Rg		09 08 55.7	
comp=Z,33nm,1.1s,baz=42,slow=31,SNR=12							
SJUU	**Sjulsmark**	**3.89**	**286**	*e*P	**Pn**	**09 07 38.5**	**+0.1**
VAF	**Ylistaro**	**3.89**	**248**	*e*P	**Pn**	**09 07 39.4**	**+1.0**
VAF				*e*S	**Sn**	**09 08 24.2**	**-1.2**
ERTU	**Ertsjaerv**	**3.94**	**302**	*e*P	**Pn**	**09 07 40.3**	**+1.1**
UMAU	**Umeaa**	**4.40**	**264**	*e*P	**Pn**	**09 07 44.6**	**-1.1**
MASU	**Masugnsbyn**	**4.45**	**312**	*e*P	**Pn**	**09 07 47.9**	**+1.4**
SVAU	**Svanoeiden**	**4.75**	**272**	*e*P	**Pn**	**09 07 49.9**	**-0.8**
DUNU	**Dundret**	**4.77**	**305**	*e*P	**Pn**	**09 07 51.1**	**+0.2**
DUNU				*e*S	**Sn**	**09 08 46.5**	**-1.3**
HUSU	**Husum**	**5.19**	**260**	*e*P	**Pn**	**09 07 55.9**	**-1.0**
ARCES	**ARCESS Array B**	**5.24**	**340**	Pn	**Pn**	**09 07 56.1**	**-1.4**
comp=Z,0.4nm,0.3s,baz=156,slow=14,SNR=22							
ARCES				Sn	**Sn**	**09 08 56.8**	**-2.7**
comp=Z,0.5nm,0.3s,baz=156,slow=24,SNR=5.5							
ARCES				Lg		09 09 18.1	
comp=Z,1.1nm,0.3s,baz=154,slow=31,SNR=12							
KUA	**Kurravaara**	**5.26**	**313**	*e*P	**Pn**	**09 07 58.7**	**+0.9**
BREU	**Bredtraesk**	**5.30**	**267**	*e*P	**Pn**	**09 07 57.1**	**-1.3**
SALU	**Saltoluokta**	**5.61**	**304**	*e*P	**Pn**	**09 08 02.4**	**-0.4**
NIKU	**Nikkaluokta**	**5.64**	**309**	*e*P	**Pn**	**09 08 03.1**	**-0.1**
HEMU	**Hemsoen**	**5.95**	**256**	*e*P	**Pn**	**09 08 05.8**	**-1.8**
ARNU	**Arnoeviken**	**6.70**	**249**	*e*P	**Pn**	**09 08 17.6**	**-0.6**
HFS	**Hagfors**	**9.07**	**247**	Pn	**P**	**09 08 48.3**	**-3.0**
comp=Z,0.0nm,0.3s,baz=68,slow=16,SNR=4.3							
HFS				Sn	**Sn**	**09 10 22.3**	**-13**
comp=Z,0.0nm,0.3s,baz=51,slow=20,SNR=3.5							
NOA	**NORSAR Array B**	**9.57**	**256**	Pn	**P**	**09 08 54.3**	**-3.7**
comp=Z,0.1nm,0.3s,baz=63,slow=12,SNR=2.3							
NOA				Sn	**Sn**	**09 10 37.4**	**-10**
comp=Z,0.1nm,0.3s,baz=7.1,slow=22,SNR=2.8							
AKASG	**Malin Array Be**	**14.07**	**184**	Pn	**P**	**09 09 51.8**	**-6.8**
comp=Z,1.0nm,0.3s,baz=342,slow=15,SNR=6.3							

WEL 15 09:21:07.6±0.3, 45.12S×167.53E, h119km±2km, ML3.5/10, 3C, Error ellipse: s-maj=3.2km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.51**	**117**	↑PN	P	09 21 25.1	-0.5
MLZ				SN	S	09 21 38.7	-0.5
MSZ	**Milford Sound**	**0.53**	**33**	PN	P	09 21 25.3	-0.4
MSZ				SN	S	09 21 38.8	-0.7
WHZ	**Wether Hill Ro**	**0.83**	**159**	PN	P	09 21 27.6	-0.6
WHZ				SN	S	09 21 42.7	-0.9
WKZ	**Wanaka**	**1.10**	**75**	PN	P	09 21 30.8	0.0
WKZ				SN	S	09 21 47.9	-0.3
EAZ	**Earnscleugh**	**1.26**	**96**	↑PN	P	09 21 32.3	-0.3
EAZ				SN	S	09 21 50.2	-1.3
JCZ	**Jackson Bay**	**1.36**	**41**	↑PN	P	09 21 33.2	-0.6
JCZ				SN	S	09 21 52.3	-1.4
TUZ	**Tuapeka**	**1.70**	**120**	PN	P	09 21 37.4	-0.3
TUZ				SN	S	09 21 57.7	-2.8
LBZ	**Lake Benmore**	**2.03**	**70**	PN	P	09 21 40.3	-1.5
LBZ				SN	S	09 22 04.7	-2.9
FOZ	**Fox Glacier**	**2.19**	**46**	PN	P	09 21 42.9	-1.1
FOZ				SN	S	09 22 10.1	-1.3
ODZ	**Otahua Downs**	**2.21**	**89**	PN	P	09 21 43.1	-1.1
ODZ				SN	S	09 22 08.5	-3.3
RPZ	**Rata Peaks**	**2.89**	**62**	PN	P	09 21 50.7	-2.5
RPZ				*e*SN	S	09 22 24.1	-3.7
LTZ	**Lake Taylor**	**4.14**	**57**	PN	P	09 22 08.7	-1.5
LTZ				SN	S	09 22 53.1	-4.9
DSZ	**Denniston Nort**	**4.59**	**44**	PN	P	09 22 12.6	-3.5
THZ	**Tophouse**	**5.15**	**51**	*e*PN	P	09 22 19.9	-3.8

IDC 15 09:39:19.9±30.0, 16.12S×176.34W, mb3.8/4, mb1 4.0/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=579.2km s-min=148.9km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.23**	**240**	P	P	09 47 07.1	-1.2
0.4nm,0.3s,baz=96,slow=12,SNR=6.5							
WRA	**Warramunga Arr**	**46.93**	**258**	P	P	09 47 52.2	-2.2
0.1nm,0.3s,baz=94,slow=7.6,SNR=3.0							
ASAR	**Alice Springs**	**47.20**	**253**	P	P	09 47 54.4	-2.1
1.6nm,0.6s,baz=88,slow=8.1,SNR=42							
FITZ	**Fitzroy Crossi**	**55.30**	**259**	P	P	09 48 55.9	-2.0
2.2nm,0.9s,baz=104,slow=4.2,SNR=2.5							

IDC 15 09:53:40.7±6.2, 2.65S×102.49W, mb3.7/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.7/6, MS3.7/5, Ms1 3.7/5, ms1mx3.3/20, Error ellipse: s-maj=192.3km s-min=132.8km az=80.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**31.82**	**358**	LR	LR	10 10 56.8	
comp=Z,90nm,18.3s,baz=200,slow=33							
NVAR	**Mina Array Bea**	**43.41**	**342**	P	P	10 01 43.9	-3.0
0.1nm,0.3s,baz=170,slow=10,SNR=3.0							
NVAR				LR	LR	10 17 38.4	
comp=Z,23nm,18.3s,baz=110,slow=33							
PDAR	**Pinedale Array**	**45.65**	**353**	P	P	10 02 05.0	0.0
0.4nm,0.8s,baz=166,slow=7.4,SNR=3.0							
PLCA	**Paso Flores**	**47.62**	**147**	LR	LR	10 16 54.2	
comp=Z,154nm,20.9s,baz=216,slow=29							
YBH	**Yreka Blue Hor**	**47.84**	**340**	LR	LR	10 17 59.7	
comp=Z,79nm,20.6s,baz=197,slow=30							
NEW	**Newport**	**52.29**	**348**	P	P	10 02 54.1	-2.1
1.1nm,0.8s,baz=161,slow=12,SNR=2.5							
ULM	**Lac du Bonnet**	**53.00**	**5**	LR	LR	10 26 47.6	
comp=Z,139nm,18.0s,baz=268,slow=38							
YKA	**Yellowknife Ar**	**65.62**	**354**	P	P	10 04 25.8	-2.7
1.9nm,0.8s,baz=163,slow=6.2,SNR=13							
INK	**Inuvik**	**74.00**	**348**	P	P	10 05 18.4	-1.3
2.4nm,1.0s,baz=142,slow=3.8,SNR=12							
ILAR	**Eielson Array**	**74.67**	**342**	P	P	10 05 21.5	-2.1
1.2nm,0.8s,baz=155,slow=5.3,SNR=14							

*IDC **15** 10:02:12.3±0.7, 1.05N×98.07E, mb4.2/16, mb1 4.3/17, mb1mx4.2/22, mbtmp4.2/17, ML4.3/1, MS3.5/4, Ms1 3.5/4, ms1mx3.3/20, Error ellipse: s-maj=34.1km s-min=14.2km az=50.0*
*BJI **15** 10:02:14.9, 1.19N×98.13E, h23km, mB5.3, mb4.8*
*NEIC **15** 10:02:16.6±0.4, 0.97N×98.05E, h30km, mb4.7/10, Error ellipse: s-maj=14.8km s-min=7.2km az=56.0*

ISC 15 10:02:15.4±0.5, 1.01N±0.08×98.1E±0.1, h33km, n35, σ0§81/34, mb4.4/27, MS3.5/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.95**	**31**	*e*Pn	**Pn**	**10 03 31.3**	**+1.8**
CMAR	**Chiang Mai Arr**	**17.36**	**3**	P	**P**	**10 06 15.5**	**-1.5**
0.4nm,0.3s,baz=194,slow=11,SNR=11							
CMAR				LR	LR	10 12 59.0	
comp=Z,80nm,19.4s,baz=189,slow=37							
JIRN	**Jiri**	**28.86**	**338**	*e*P	**P**	**10 08 13.8**	**+0.5**
23nm,0.6s,mb5.1							
PKI	**Pulchoki**	**29.09**	**336**	*e*P	**P**	**10 08 15.0**	**-0.3**
6.5nm,0.5s,mb4.7							
GUN	**Gumba**	**29.20**	**337**	*e*P	**P**	**10 08 16.6**	**+0.3**
42nm,0.5s,mb5.4							
DMN	**Daman**	**29.24**	**336**	*e*P	**P**	**10 08 16.5**	**-0.2**
LSA	**Lhasa**	**29.30**	**348**	*e*P	**P**	**10 08 17.7**	**+0.6**
7.1nm,0.4s,mb4.8							
KKN	**Kakani**	**29.33**	**336**	*e*P	**P**	**10 08 17.3**	**-0.2**
15nm,0.5s,mb5.0							
GKN	**Gorkha**	**29.78**	**335**	*e*P	**P**	**10 08 21.0**	**-0.5**
14nm,0.6s,mb4.8							
KOLN	**Koldanda**	**30.03**	**334**	*e*P	**P**	**10 08 23.8**	**+0.2**
24nm,0.7s,mb5.0							
FITZ	**Fitzroy Crossi**	**33.08**	**126**	P	**P**	**10 08 49.3**	**-1.3**
3.8nm,0.9s,mb4.3,baz=288,slow=3.0,SNR=3.6							
FITZ				LR	LR	10 23 09.4	
comp=Z,93nm,20.2s,MS3.5,baz=262,slow=38							
LZH	**Lanzhou**	**35.31**	**8**	*e*P	**P**	**10 09 09.0**	**-0.5**
LZH				AP	pP	10 09 20.0	+0.7
LZH				AMB	AMB		
comp=Z,15nm,1.0s,mb4.9							
LZH	**Lanzhou**	**35.31**	**8**	*e*P	**P**	**10 09 09.0**	**-0.5**
comp=Z,15nm,1.0s,mb4.9							
LZH				pP	pP	10 09 20.0	+0.7
GTA	**Gaotai**	**38.25**	**2**	*e*P	**P**	**10 09 34.3**	**0.0**
GTA				AP	pP	10 09 38.8	-5.3
GTA				XP	sP	10 09 41.5	-6.8
GTA				AMB	AMB		
comp=Z,5.0nm,1.2s,mb4.1							
WRA	**Warramunga Arr**	**41.16**	**122**	P	**P**	**10 09 58.2**	**-0.4**
comp=Z,1.2nm,0.8s,mb3.6,baz=303,slow=9.1,SNR=7.3							
WRAB	**Tennant Creek**	**41.16**	**122**	*e*P	**P**	**10 09 58.2**	**-0.4**
comp=Z,3.7nm,0.7s,mb4.1							
ASAR	**Alice Springs**	**42.55**	**128**	P	**P**	**10 10 10.2**	**+0.1**
comp=Z,1.1nm,0.8s,mb3.6,baz=299,slow=8.0,SNR=14							
ASAR				PcP	PcP	10 12 03.9	+1.1
comp=Z,0.5nm,0.8s,baz=333,slow=2.0,SNR=4.0							
ASAR				LR	LR	10 29 41.5	
comp=Z,56nm,21.4s,MS3.4,baz=93,slow=39							
SONM	**Songino Array**	**47.19**	**8**	P	**P**	**10 10 47.2**	**+0.3**
comp=Z,2.8nm,0.4s,mb4.6,baz=188,slow=9.4,SNR=43							
SONM				PcP	PcP	10 12 18.7	+0.2
comp=Z,0.8nm,0.7s,baz=186,slow=4.4,SNR=3.7							
ULN	**Ulaanbaatar**	**47.31**	**8**	*e*P	**P**	**10 10 47.8**	**0.0**
comp=Z,2.5nm,0.7s,mb4.2							
STKA	**Stephens Creek**	**52.55**	**132**	P	**P**	**10 11 29.2**	**+1.1**
comp=Z,2.6nm,0.6s,mb4.3,baz=322,slow=9.5,SNR=5.8							
ZAL	**Zalesovo**	**53.89**	**350**	P	**P**	**10 11 37.2**	**-0.5**
comp=Z,4.8nm,0.5s,mb4.7,baz=321,slow=4.3,SNR=18							
ZAL	**Zalesovo**	**53.89**	**350**	P	**P**	**10 11 37.2**	**-0.5**
BVAR	**Borovoye Array**	**56.73**	**340**	P	**P**	**10 11 57.0**	**-1.4**
comp=Z,2.4nm,0.6s,mb4.4,baz=101,slow=7.6,SNR=12							
KMBO	**Kilima Mbogo**	**60.89**	**268**	P	**P**	**10 12 28.3**	**+0.5**
comp=Z,1.9nm,0.9s,mb4.2,baz=94,slow=14,SNR=3.2							
BRTR	**Keskin Array B**	**69.92**	**312**	P	**P**	**10 13 24.6**	**-0.8**
comp=Z,1.1nm,0.7s,mb3.9,baz=119,slow=6.3,SNR=6.2							
AKASG	**Malin Array Be**	**75.97**	**322**	P	**P**	**10 13 59.1**	**-1.7**
comp=Z,0.2nm,0.3s,mb3.6,baz=88,slow=4.7,SNR=5.1							
FINES	**FINESS Array B**	**80.59**	**332**	P	**P**	**10 14 26.0**	**0.0**
comp=Z,0.8nm,0.4s,mb4.0,baz=95,slow=5.8,SNR=12							
FINES				LR	LR	10 55 35.0	
comp=Z,32nm,18.6s,MS3.7,baz=351,slow=40							
ARCES	**ARCESS Array B**	**83.02**	**340**	P	**P**	**10 14 39.0**	**+0.5**
comp=Z,1.2nm,0.5s,mb4.2,baz=100,slow=4.7,SNR=17							
GERES	**GERESS Array B**	**85.56**	**319**	P	**P**	**10 14 52.8**	**+1.2**
comp=Z,0.3nm,0.4s,mb3.9,baz=100,slow=6.0,SNR=7.8							
HFS	**Hagfors**	**86.34**	**330**	P	**P**	**10 14 56.0**	**+0.9**
comp=Z,1.4nm,0.4s,mb4.5,baz=124,slow=5.3,SNR=7.7							
HFS	**Hagfors**	**86.34**	**330**	P	**P**	**10 14 56.0**	**+0.9**
NB2	**NORSAR Subarra**	**87.62**	**331**	P	**P**	**10 15 01.7**	**+0.3**
comp=Z,0.1nm,0.6s,baz=87,slow=6.5							
NOA	**NORSAR Array B**	**87.62**	**331**	P	**P**	**10 15 01.6**	**+0.2**
comp=Z,1.0nm,0.7s,mb4.2,baz=92,slow=5.3,SNR=4.0							
DAVOX	**Davos**	**88.06**	**317**	P	**P**	**10 15 05.2**	**+1.4**
comp=Z,2.1nm,0.4s,mb4.7,baz=156,slow=11,SNR=4.2							
NVAR	**Mina Array Bea**	**128.40**	**37**	PKP	PKPdf	10 21 23.3	+3.8
comp=Z,0.3nm,0.8s,baz=236,slow=3.3,SNR=4.1							

IDC 15 10:05:35.7±5.3, 4.84S×145.25E, h65km±55km, mb3.5/5, mb1 3.7/7, mb1mx3.6/15, mbtmp3.8/7, ML3.3/2, Error ellipse: s-maj=34.9km s-min=26.4km az=128.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.92**	**157**	P	P	10 06 47.

STKA	Stephens Creek	24.51	156	P		P	10 43 08.7	-0.5
	0.9nm,0.5s,baz=326,slow=12,SNR=4.1							

DJA 15 10:45:19.8±0.8, 8.70S×115.05E, h114km±7km, MD5.2/4, ML3.5/2, 4C-4D, Error ellipse: s-maj=34.4km s-min=7.5km az=8.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	0.47	93	⇓iPn	P	10 45 37.0	0.0
	213nm,0.2s						
RATI				⇓iSn	S	10 45 49.3	-0.7
KELI	Kelakatan	0.74	311	⇑iPn	P	10 45 39.0	0.0
	85nm,0.2s						
KELI				⇓iSn	S	10 45 53.0	-0.4
SRDI	Scrawed	0.93	284	⇑iPn	P	10 45 40.4	-0.5
	59nm,0.2s						
SRDI				⇓iSn	S	10 45 54.6	-2.0
KEDI	Kedomdong	1.07	79	⇑iPn	P	10 45 41.5	-0.8
	81nm,0.2s						
KEDI				⇑iSn	S	10 45 57.0	-2.2

IDC 15 10:55:36.1±2.0, 5.29N×92.83E, mb3.5/2, mb1 3.8/3, mb1mx3.4/20, mbtmp3.5/3, ML3.6/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/33, Error ellipse: s-maj=79.6km s-min=33.9km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.38	24	Pn	P	10 59 02.1	-1.1
	0.1nm,0.3s,baz=204,slow=11,SNR=8.7						
FITZ	Fitzroy Crossi	39.84	126	LR	LR	11 20 08.3	
	comp=Z,83nm,18.8s,baz=85,slow=37						
WRA	Warramunga Arr	47.89	123	P	P	11 04 16.3	-2.0
	0.3nm,0.5s,baz=304,slow=9.0,SNR=7.7						
FINES	FINESS Array B	74.39	333	P	P	11 07 15.5	-1.8
	0.4nm,0.4s,baz=90,slow=7.6,SNR=6.0						

*JMA **15** 11:02:31.0±0.1, 22.91N×121.76E, M3.2*

TAP 15 11:02:31.2, 22.96N×121.39E, h37km, ML3.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	2.11	45	P	P	11 03 05.7	+1.0
YOJ				S	S	11 03 30.5	+0.6
HATJ	Hateruma jima	2.47	63	P	P	11 03 09.5	-0.4
HATJ				eS	S	11 03 37.9	-1.3
IRIF	Iriomote-Funau	2.54	57	P	P	11 03 11.1	+0.1
IRIF				S	S	11 03 40.7	-0.3
JKRS	Kuro-shima	2.72	62	P	P	11 03 13.3	-0.2
JKRS				eS	S	11 03 43.8	-1.7
JIJ	Ishigaki jima	2.88	60	P	P	11 03 15.6	-0.2
JIJ				S	S	11 03 48.1	-1.6
JTJ	Tarama	3.46	60	P	P	11 03 24.0	-0.1
JTJ				eS	S	11 04 03.1	-1.3

*IDC **15** 11:10:00.2±1.1, 5.61N×93.21E, mb4.1/8, mb1 4.2/9, mb1mx3.9/22, mbtmp4.0/9, ML3.8/1, Error ellipse: s-maj=50.6km s-min=17.3km az=56.0*

*NEIC **15** 11:10:04.9±0.5, 5.64N×93.23E, h30km, mb4.6/1, Error ellipse: s-maj=15.1km s-min=7.6km az=57.0*

ISC 15 11:10:03.5±0.8, 5.7N±0.1×93.3E±0.1, h33km, n16, σ0§34/15, mb4.2/9, 1C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.35	93	ePn	Pn	11 11 51.7	+0.4
KULM				eSn	Sn	11 13 08.5	-6.1
CMAR	Chiang Mai Arr	13.87	23	Pn	P	11 13 19.8	-0.3
	0.2nm,0.3s,baz=219,slow=12,SNR=7.1						
FITZ	Fitzroy Crossi	39.72	127	P	P	11 17 34.3	-0.3
	4.1nm,0.6s,mb4.3,baz=334,slow=12,SNR=6.6						
SONM	Songino Array	43.50	13	P	P	11 18 05.4	-0.1
	2.0nm,0.8s,mb3.9,baz=198,slow=8.3,SNR=15						
SONM				PcP	PcP	11 19 53.6	0.0
	0.5nm,0.5s,baz=203,slow=3.6,SNR=5.2						
WRA	Warramunga Arr	47.73	123	P	P	11 18 39.2	-0.3
	6.0nm,0.7s,mb4.8,baz=302,slow=9.1,SNR=73						
WRAB	Tennant Creek	47.73	123	eP	P	11 18 39.8	+0.2
	2.4nm,0.4s,mb4.6						
WB2	Warramunga Arr	47.74	123	⇓iP	P	11 18 39.6	0.0
ZAL	Zalesovo	48.62	353	P	P	11 18 46.5	+0.5
	1.6nm,0.9s,mb4.0,baz=297,slow=6.5,SNR=7.2						
ASPA	Alice Springs	49.20	128	⇑iP	P	11 18 51.1	+0.3
ASAR	Alice Springs	49.20	128	P	P	11 18 50.8	-0.1
	2.3nm,0.8s,mb4.3,baz=297,slow=7.8,SNR=39						
BVAR	Borovoye Array	50.81	342	P	P	11 19 02.1	-0.6
	0.8nm,0.6s,mb3.8,baz=143,slow=7.4,SNR=4.0						
STKA	Stephens Creek	59.24	132	eP	P	11 20 03.9	-0.3
ARCES	ARCESS Array B	77.05	340	P	P	11 21 55.0	+0.4
	2.2nm,0.9s,mb4.1,baz=104,slow=5.0,SNR=6.3						
GERES	GERESS Array B	78.90	319	P	P	11 22 05.4	+0.2
	0.7nm,0.8s,mb3.6,baz=124,slow=3.5,SNR=3.4						
NVAR	Mina Array Bea	127.25	31	PKP	PKPdf	11 29 08.5	+3.2
	0.5nm,0.7s,baz=327,slow=1.3,SNR=4.6						
TXAR	Lajitas Array	141.58	24	PKP	PKPdf	11 29 35.0	+2.8
	0.2nm,0.6s,baz=183,slow=1.3,SNR=4.5						

*NEIC **15** 11:11:22.7, 16.00N×97.56W, h16km, MD3.8(MEX), After MEX.*

MEX 15 11:11:23.0±0.8, 16.02N×97.54W, h16km±10km, MD3.9, 2C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.67	303	eP	Pb	11 11 33.0	-2.8
PNIG				eS	Sb	11 11 41.9	-2.8
PNIG	Pinotepa	0.67	303	⇑iP	Pb	11 11 33.8	-2.0
PNIG				eS	Sb	11 11 41.9	-2.8
VHO	Vista Hermosa	1.30	37	eP	Pb	11 11 43.0	-3.6
VHO				eS	Sb	11 11 58.1	-4.8
VHO	Vista Hermosa	1.30	37	⇑iP	Pb	11 11 42.9	-3.7
VHO				eS	Sb	11 11 58.1	-4.8
OXX	Oaxaca	1.31	37	iP	Pn	11 11 44.0	-2.8
OXX				iS	Sb	11 11 59.0	-4.3
HUIG	Huatulco	1.40	100	eP	Pn	11 11 44.7	-3.4
HUIG				eS	Sb	11 12 00.2	-5.7
ACX	Acapulco	2.43	291	eP	Pn	11 12 02.5	-0.2
ACX	Acapulco	2.43	291	eP	Pn	11 12 00.0	-2.7
ACX				iS	Sn	11 12 33.0	+0.7
CMIG	Matias Romero	2.76	67	eP	Pn	11 12 03.1	-4.4
CMIG				eS	Sn	11 12 35.6	-5.2
IISM	Ciudad Serdan	2.95	3	eP	Pn	11 12 10.5	+0.3
IISM	Ciudad Serdan	2.95	3	ePn	P	11 12 07.0	-3.2
IISM				iS	Sn	11 12 50.0	+4.4
PLIG	Platanillo	3.01	322	eP	Pn	11 12 08.0	-3.0
PLIG				eS	Sn	11 12 40.8	-6.2
PPM	Popocatepetl	3.20	341	eP	Pn	11 12 11.5	-2.2
PPM	Popocatepetl	3.20	341	eP	Pn	11 12 11.1	-2.7
PPM				eP		11 12 11.5	
PPM				iS	Sn	11 12 47.3	-4.5

*NEIC **15** 11:11:53.0±1.2, 17.97S×177.23W, h312km±16km, mb4.2/9, Error ellipse: s-maj=18.4km s-min=12.2km az=168.0*

*IDC **15** 11:12:02.1±7.7, 18.20S×177.32W, h404km±82km, mb3.6/7, mb1 3.8/8, mb1mx3.4/20, mbtmp4.4/8, Error ellipse: s-maj=43.8km s-min=25.4km az=17.0*

ISC 15 11:11:53.0±1.6, 17.9S±0.2×177.2W±0.1, h328km±22km, n20, σ0§77/20, mb3.9/10, 2C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.58	54	ePn	P	11 13 30.1	-0.4
	68nm,0.5s						
DZM	Mont Dzumac	15.89	252	P	P	11 15 22.9	+2.1
	0.4nm,0.3s,baz=76,slow=18,SNR=6.2						
URZ	Urewera	20.90	193	P	P	11 16 11.5	+0.4
	4.4nm,0.6s,baz=309,slow=14,SNR=3.7						
CTA	Charters Tower	34.55	260	⇓iP	P	11 18 13.9	+0.8
	9.2nm,0.8s,mb4.1						
CTA	Charters Tower	34.55	260	P	P	11 18 13.7	+0.6
	11nm,0.8s,mb4.2,baz=92,slow=9.3,SNR=11						
CTAO	Charters Tower	34.55	260	eP	P	11 18 13.5	+0.5
	14nm,0.8s,mb4.2						
STKA	Stephens Creek	39.62	241	eP	P	11 18 55.8	+0.7
	3.3nm,0.9s,mb3.6						
STKA	Stephens Creek	39.62	241	P	P	11 18 54.6	-0.5
	3.2nm,0.7s,mb3.6,baz=79,slow=11,SNR=8.9						
WB2	Warramunga Arr	45.72	259	eP	P	11 19 43.7	-0.5
WRAB	Tennant Creek	45.72	259	eP	P	11 19 43.5	-0.7
	3.3nm,0.6s,mb3.6						
WRA	Warramunga Arr	45.73	259	P	P	11 19 43.7	-0.6
	2.6nm,0.6s,mb3.5,baz=96,slow=6.7,SNR=23						
ASAR	Alice Springs	45.87	254	P	P	11 19 45.1	-0.1
	12nm,0.5s,mb4.3,baz=90,slow=8.2,SNR=180						
ASPA	Alice Springs	45.87	254	⇑iP	P	11 19 44.9	-0.4
KAKA	Kakadu	48.69	269	⇓iP	P	11 20 07.3	+0.2
	7.9nm,0.5s,mb4.2						
FORT	Forrest	51.02	245	eP	P	11 20 23.6	-0.7
	485nm,0.7s						
FITZ	Fitzroy Crossi	54.13	260	⇑iP	P	11 20 47.3	+0.2
	6.1nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	54.13	260	P	P	11 20 47.5	+0.3
	7.4nm,0.6s,mb4.2,baz=83,slow=3.9,SNR=15						
MBWA	Marble Bar	59.16	256	eP	P	11 21 21.6	-0.6
	7.3nm,0.9s,mb4.1						
QSPA	South Pole Qui	72.17	180	P	P	11 22 43.0	-0.6
	1.3nm,0.7s,mb3.8						
TXAR	Lajitas Array	85.05	57	P	P	11 23 55.1	+1.4
	0.4nm,0.8s,mb3.3,baz=211,slow=7.3,SNR=4.9						

IDC 15 11:20:14.3±8.1, 0.35S×96.86E, mb3.3/3, mb1 3.6/4, mb1mx3.5/17, mbtmp3.4/4, ML3.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/12, Error ellipse: s-maj=255.4km s-min=26.2km az=67.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.80	6	P	P	11 24 35.7	-1.9
	0.1nm,0.3s,baz=198,slow=11,SNR=7.9						
WRA	Warramunga Arr	41.53	120	P	P	11 28 03.4	-2.1
	0.3nm,0.9s,baz=299,slow=8.8,SNR=3.7						
ASAR	Alice Springs	42.76	126	P	P	11 28 14.2	-1.2
	0.2nm,0.6s,baz=296,slow=8.0,SNR=4.9						
SONM	Songino Array	48.70	9	P	P	11 29 00.4	-2.0
	0.4nm,0.7s,baz=202,slow=7.8,SNR=3.4						
MJAR	Matsushiro Arr	53.06	42	LR	LR	11 53 39.2	
	comp=Z,40nm,19.4s,baz=95,slow=38						

*IDC **15** 11:39:16.9±1.0, 1.71S×77.57E, mb3.6/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, MS3.1/1, Ms1 3.3/1, ms1mx2.9/22, Error ellipse: s-maj=35.9km s-min=29.7km az=156.0*

*NEIC **15** 11:39:18.5±0.5, 1.75S×77.58E, h10km, mb4.2/2, Error ellipse: s-maj=18.2km s-min=9.8km az=128.0*

ISC 15 11:39:16.6±0.7, 1.8S±0.1×77.6E±0.1, h10km, n13, σ0§88/10, mb3.7/7, MS3.0/1, Maldive Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	Diego Garcia	7.60	222	ePn	Pn	11 41 08.8	-1.4
	147nm,0.5s						
PALK	Pallekele	9.49	19	ePn	P	11 41 35.2	-1.3
	16nm,0.4s						
PALK				eSn	Sn	11 43 09.9	-14
CMAR	Chiang Mai Arr	29.07	45	P	P	11 45 19.6	+0.1
	0.2nm,0.4s,mb3.2,baz=242,slow=9.2,SNR=4.3						
CMAR				LR	LR	11 55 30.5	
	comp=Z,36nm,20.7s,MS3.0,baz=12,slow=34						
AAK	Ala-Archa	44.28	357	P	P	11 47 29.3	+1.0
	3.4nm,1.1s,mb4.0						
LSZ	Lusaka	50.53	252	eP	P	11 48 18.2	+0.6
	2.6nm,0.7s,mb4.3						
MATP	Matopo	51.36	245	P	P	11 48 24.5	+0.6
	2.1nm,0.8s,mb4.1,baz=74,slow=9.4,SNR=4.2						
SONM	Songino Array	55.42	23	P	P	11 48 53.5	-0.1
	0.6nm,0.6s,mb3.8,baz=215,slow=7.2,SNR=4.9						
WRA	Warramunga Arr	58.26	112	P	P	11 49 13.4	-0.7
	0.4nm,0.7s,mb3.5,baz=288,slow=7.3,SNR=6.8						
ASAR	Alice Springs	58.63	117	P	P	11 49 17.8	+1.1
	0.2nm,0.7s,mb3.3,baz=294,slow=7.5,SNR=2.7						
YKA	Yellowknife Ar	118.73	6	PKP	PKPdf	11 58 05.1	-2.9
	0.2nm,0.6s,baz=333,slow=2.3,SNR=7.3						
YKA	Yellowknife Ar	118.73	6	PKP	PKPdf	11 58 05.1	-2.9
PDAR	Pinedale Array	138.68	8	PKP	PKPdf	11 58 45.0	-1.5
	0.4nm,0.6s,slow=3.0,SNR=5.3						
TXAR	Lajitas Array	152.55	2	PKPbc	PKPdf	11 59 15.7	+5.7
	0.4nm,0.5s,baz=10,slow=1.0,SNR=8.6						

IDC 15 11:40:29.8±5.8, 4.04S×102.96W, mb3.8/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.8/3, MS3.8/9, Ms1 3.8/9, ms1mx3.5/27, Error ellipse: s-maj=325.0km s-min=87.9km az=101.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	33.19	359	LR	LR	11 58 08.5	
	comp=Z,147nm,21.0s,baz=195,slow=32						
LPAZ	La Paz	36.30	112	LR	LR	12 00 19.6	
	comp=Z,68nm,21.4s,baz=262,slow=33						
ANMO	Albuquerque	38.92	355	LR	LR	12 01 45.4	
	comp=Z,98nm,19.1s,slow=33						
NVAR	Mina Array Bea	44.58	343	LR	LR	12 02 27.8	
	comp=Z,43nm,21.5s,baz=120,slow=30						
PLCA	Paso Flores	46.73	146	LR	LR	12 04 16.8	
	comp=Z,180nm,19.8s,baz=12,slow=30						
PPT	Papeete	47.57	250	eLR	LR	11 49 38.1	
	201nm,27.0s						
TBI	Tubuai	48.80	242	eLR	LR	11 50 00.6	
	212nm,28.0s						
YBH	Yreka Blue Hor	48.98	340	LR	LR	12 06 53.1	
	comp=Z,84nm,18.2s,baz=183,slow=32						
NEW	Newport	53.54	348	LR	LR	12 09 58.8	
	comp=Z,150nm,18.9s,baz=211,slow=33						
ULM	Lac du Bonnet	54.42	6	LR	LR	12 11 55.5	
	comp=Z,117nm,20.9s,baz=202,slow=35						
YKA	Yellowknife Ar	66.94	354	P	P	11 51 25.1	-1.0
	0.9nm,0.8s,baz=163,slow=6.5,SNR=14						
YKA				LR	LR	12 19 16.8	
	comp=Z,106nm,19.3s,baz=70,slow=35						
INK	Inuvik	75.26	349	P	P	11 52 14.1	-2.0
	1.1nm,1.0s,baz=146,slow=3.5,SNR=2.9						
ILAR	Eielson Array	75.84	342	P	P	11 52 15.8	-3.6
	0.6nm,0.9s,baz=146,slow=3.3,SNR=4.4						
CMAR	Chiang Mai Arr	154.23	305	PKPbc	PKPdf	12 00 33.2	+7.1
	0.8nm,1.0s,baz=45,slow=1.3,SNR=4.2						

IDC 15 12:02:36.1±3.9, 0.05S×96.63E, mb3.5/4, mb1 3.7/5, mb1mx3.6/18, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=134.9km s-min=23.7km az=63.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.54	7	P	P	12 06 55.0	-1.2
	0.1nm,0.3s,baz=198,slow=10,SNR=5.9						
WRA	Warramunga Arr	41.88	120	P	P	12 10 28.5	-1.6
	0.3nm,0.7s,baz=301,slow=8.8,SNR=3.6						
ASAR	Alice Springs	43.11	126	P	P	12 10 38.4	-1.8
	0.3nm,0.9s,baz=302,slow=7.3,SNR=4.2						
SONM	Songino Array	48.45	9	P	P	12 11 19.9	-2.3
	0.3nm,0.7s,baz=194,slow=12,SNR=2.8						
ZAL	Zalesovo	54.69	351	P	P	12 12 06.9	-2.3
	1.8nm,0.3s,baz=314,slow=6.3,SNR=4.8						

IDC 15 12:32:58.7±16.0, 0.89S×101.16E, mb3.2/3, mb1 3.4/3, mb1mx3.3/16, mbtmp3.2/3, Error ellipse: s-maj=599.9km s-min=33.5km az=64.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	37.58	122	P	P	12 40 15.3	-1.7
	0.1nm,0.4s,baz=304,slow=9.1,SNR=3.4						
ASAR	Alice Springs	38.99	128	P	P	12 40 27.1	-1.7
	0.3nm,0.6s,baz=300,slow=7.7,SNR=4.0						
SONM	Songino Array	48.74	5	P	P	12 41 45.2	-1.9
	0.3nm,0.7s,baz=183,slow=7.6,SNR=3.9						

*NEIC **15** 12:41:27.1, 28.88S×71.45W, h41km, MD3.8(GUC), After GUC.*

GUC 15 12:41:27.1±0.4, 28.88S×71.45W, h41km±2km, MD3.8, ML3.5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.67	102	eP	P	12 41 40.8	+0.7
LCO				iS	S	12 41 51.3	+1.7
LCO				AMP		12 41 53.0	
	comp=E,2μm,0.2s						
VACH	Vallenar	0.67	64	⇑iP	P	12 41 40.5	+0.3
VACH				iS	S	12 41 50.6	+0.8
VACH				AMP		12 41 51.9	
	comp=N,6μm,0.1s						
TLL	Tololo Astrono	1.40	157	eP	P	12 41 51.9	+1.2
TLL				iS	S	12 42 10.7	+2.5
CPCH	Copiapo	1.79	33	eP	P	12 41 56.4	+0.3
CPCH				iS	S	12 42 19.1	+1.2
CPCH				AMP		12 42 24.5	
	comp=N,2μm,0.1s						

*IDC **15** 13:08:50.1±0.4, 2.97N×96.28E, mb5.1/29, mb1 5.1/30, mb1mx5.1/31, mbtmp5.0/30, ML4.9/1, MS4.9/30, Ms1 4.9/30, ms1mx4.8/39, Error ellipse: s-maj=15.8km s-min=10.1km az=42.0*

*BJI **15** 13:08:51.5, 2.60N×96.27E, h41km, mB5.2, mb5.1, Ms5.5, Msz5.3*

*HRVD **15** 13:08:54.5±0.2, 2.88N×96.34E, h12km, MW5.3/72, Centroid moment Tensor Solution. LP body waves: s59,c109;Mantle waves: s72,c140; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.95±.02; $M_{\theta\theta}$-0.06±.01; $M_{\phi\phi}$-0.89±.01; $M_{r\theta}$0.10±.04; $M_{\theta\phi}$-0.16±.01; $M_{\phi r}$0.59±.04; Best double couple: $M_0$1.115×10^{17} NP1: ϕ_s191°,δ29°,λ91°. NP2:ϕ_s10°,δ61°,λ89°. Principal axes: T 1.127, Plg74°, Azm279°; N -.025, Plg0°, Azm10°; P -1.102, Plg16°, Azm100°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **15** 13:08:54.5±0.1, 2.93N×96.34E, mb5.4/95, MS4.9/21 Error ellipse: s-maj=4.4km s-min=2.8km az=215.0*

NEIC Felt [II] at Banda Aceh and Padang, Sumatra.

*MOS **15** 13:08:57.0±0.9, 3.55N×96.23E, h33km, mb5.6/35, MS5.0/20, Error ellipse: s-maj=15.0km s-min=5.7km az=120.0*

*CSEM **15** 13:08:59.2, 3.23N×95.49E, h33km, mb5.6*

ISC 15 13:08:52.9±0.2, 2.96N±0.03×96.35E±0.02, h26km, h26km±7km; pP-P, n496, σ1§10/473, mb5.3/145, MS5.1/76, 48C-40D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	2.73	337	ePn	Pn	13 09 38.0	+1.9
KULM	Kulim	4.88	61	ePn	Pn	13 10 08.7	+2.2
IPM	Ipoh	4.94	71	P	Pn	13 10 09.6	+2.2
PPI	Padang Panjang	5.28	130	ePn	Pn	13 10 12.0	-0.2
KGM	Kluang	7.03	98	P	Pn	13 10 37.8	+1.0
PBA	Port Blair	9.35	338	e	P	13 11 13.7	+4.6
PBA				e		13 13 18.2	
NNT	Nongplab	10.14	19	P	P	13 11 26.0	+5.9
PENI	Pendagan	12.22	134	⇑iP	P	13 11 42.1	-6.3
	406nm,0.4s						
PASI	Pasiripis	13.30	136	eP	P	13 11 55.3	-7.5
PULI	Pulasari	13.34	134	⇓iP	P	13 11 56.6	-6.6
	277nm,0.6s						
PULI				iP		13 11 58.3	
KSM	Kuching	14.03	96	⇓ePn	P	13 12 13.1	+0.6
CM31	Chiang Mai Arr	15.61	9	ePn	P	13 12 32.6	-0.5
	77nm,0.8s						
CMAR	Chiang Mai Arr	15.61	9	Pn	P	13 12 33.3	+0.2
	1.7nm,0.3s,baz=197,slow=11,SNR=56						
CMAR				Sn	S	13 15 34.7	+9.2
	baz=248,slow=33,SNR=2.6						
CMAR				Lg		13 17 16.8	
	0.2nm,0.3s,baz=189,slow=28,SNR=4.4						
CMAR				LR	LR	13 19 26.6	
	comp=Z,6μm,21.3s,baz=200,slow=41						
CMAR				ScP		13 21 09.4	
	0.1nm,0.3s,baz=239,slow=2.9,SNR=4.2						
CHG	Chiang Mai	15.96	9	P	P	13 12 29.0	-8.6
	20nm,0.9s						
PALK	Pallekele	16.16	286	eP	P	13 12 38.7	-1.4
	158nm,1.0s						
NANT	Nan	16.31	15	⇓P	P	13 12 45.0	+3.0
	850nm,0.6s						
MDRS	Chennai	18.83	303	eP	P	13 13 11.4	-1.9
VIS	Vishakhapatnam	19.45	320	⇑iP	P	13 13 19.8	-0.8
VIS				e		13 13 24.9	
	comp=Z,315nm,0.9s						
VIS				e		13 17 04.9	
KKM	Kota Kinabalu	20.04	81	eP	P	13 13 26.5	-0.5
KKM	Kota Kinabalu	20.04	81	P	P	13 13 27.0	-0.1
TRD	Trivandrum	20.06	287	⇓e	P	13 13 22.2	-5.0
TRD				eS	S	13 17 12.2	+6.3
BWNR	Bhubaneshwar	20.07	330	eP	P	13 13 28.2	+0.9
BWNR				e		13 13 39.2	
	comp=Z,222nm,1.0s						
BWNR				e		13 17 16.3	
QIZ	Qiongzhong	20.72	39	eP	P	13 13 34.3	+0.2
QIZ				S	S	13 17 21.0	+1.7
QIZ				LR	LR		
	comp=N,7μm,14.4s,MS5.4						
QIZ				LR	LR		
	comp=E,8μm,15.2s,MS5.4						
QIZ				LR	LR		
	comp=Z,6μm,12.2s,MS5.2						
QIZ	Qiongzhong	20.72	39	eP	P	13 13 33.7	-0.4
	comp=Z,114nm,1.1s						
CAL	Calcutta	20.96	339	eP	P	13 13 36.7	+0.2
CAL				e		13 16 48.3	
TSM	Tawau	21.52	86	P	P	13 13 42.9	+0.7
RATI	Rata	22.37	121	⇓iP	P	13 13 46.9	-3.8
HYB	Hyderabad	22.62	311	⇑eP	P	13 13 54.0	+0.8
	comp=Z,160nm,1.0s,mb5.4						
HYB				eS	S	13 18 12.0	+17
HYB	Hyderabad	22.62	311	⇑iP	P	13 13 54.0	+0.8
	comp=Z,160nm,1.0s,mb5.4						
HYB				ePP	PP	13 14 21.0	-0.7
HYB				eS	S	13 18 10.0	+15
HYB				LR	LR		
	comp=Z,4.9nm,20.0s						
KEDI	Kedomdong	22.75	120	⇓iP	P	13 13 52.2	-2.4
KEDI				iP		13 13 55.0	
KMI	Kunming	22.88	15	P	P	13 13 57.6	+1.8
KMI				AP		13 14 07.1	
KMI				PP	PP	13 14 29.0	+3.7
KMI				S	S	13 18 02.8	+3.5
KMI				XS		13 18 20.4	
KMI				SS	SS	13 18 47.6	+4.1
KMI				AMB	AMB		
	comp=Z,34nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,466nm,4.4s						
KMI				LR	LR		
	comp=N,10μm,15.0s,MS5.5						
KMI				LR	LR		
	comp=E,6μm,15.6s,MS5.5						
KMI				LR	LR		
	comp=Z,9μm,13.9s,MS5.4						
KMI	Kunming	22.88	15	P	P	13 13 57.6	+1.8
	comp=Z,34nm,1.1s,mb4.7						
KMI				pP		13 14 07.1	
KMI				PP	PP	13 14 29.0	+3.7
KMI				S	S	13 18 02.7	+3.4
KMI				sS		13 18 20.4	
KMI				SS	SS	13 18 47.6	+4.1
KMI				LR	LR		
	comp=Z,9μm,13.9s,MS5.4						
SHL	Shillong	22.88	350	eP	P	13 13 54.0	-1.8
SHL				e		13 17 02.0	
BOK	Bokaro

GYA				LR	LR		
	comp=Z,5μm,14.7s,MS5.2						
GOA	**Goa**	**25.44**	**301**⇓	*e*	Px	13 14 09.2	
GOA				*e*S	**S**	**13 18 49.4**	**+6.2**
AKL	**Akola**	**25.81**	**315**⇓	*i*P	**P**	**13 14 25.0**	**+1.1**
GZH	**Guangzhou**	**25.91**	**38**	P	**P**	**13 14 29.0**	**+4.1**
GZH				S	**S**	**13 18 57.6**	**+6.6**
GZH				LR	LR		
	comp=N,6μm,21.3s,MS5.3						
GZH				LR	LR		
	comp=E,7μm,19.0s,MS5.3						
GZH				LR	LR		
	comp=Z,4μm,12.0s						
KAD	**Karad**	**26.01**	**305**⇓	*i*	Px	13 14 26.0	
ALBI	**Allahabad**	**26.26**	**329**	*e*P	**P**	**13 14 27.5**	**-0.6**
JIRN	**Jiri**	**26.41**	**339**	*e*P	**P**	**13 14 29.5**	**+0.1**
	comp=Z,319nm,0.7s,mb6.0						
PKI	**Pulchoki**	**26.61**	**338**	*e*P	**P**	**13 14 31.1**	**-0.2**
	comp=Z,233nm,1.0s,mb5.7						
GUN	**Gumba**	**26.75**	**339**	*e*P	**P**	**13 14 32.5**	**-0.1**
	comp=Z,328nm,0.7s,mb6.0						
DMN	**Daman**	**26.76**	**337**	*e*P	**P**	**13 14 32.5**	**-0.2**
	comp=Z,198nm,0.7s,mb5.8						
KKN	**Kakani**	**26.86**	**338**	*e*P	**P**	**13 14 33.5**	**-0.1**
	comp=Z,329nm,0.8s,mb5.9						
POO	**Poona**	**26.92**	**307**⇓	*i*P	**P**	**13 14 34.0**	**-0.2**
	comp=Z,250nm,1.5s,mb5.5						
POO				*i*		13 19 32.0	
LSA	**Lhasa**	**27.05**	**350**	P	**P**	**13 14 34.6**	**-0.7**
LSA				AP	pP	13 14 42.9	0.0
LSA				XP	sP	13 14 46.8	+0.4
LSA				PCP	PcP	13 17 51.5	-5.0
LSA				S	**S**	**13 19 08.9**	**-0.7**
LSA				XS		13 19 29.3	
LSA				SCP		13 21 29.3	
LSA				PCS		13 21 33.1	
LSA				SCS	ScS	13 25 21.4	-2.0
LSA				AMB	AMB		
	comp=Z,120nm,0.9s,mb5.4						
LSA				LR	LR		
	comp=N,1μm,19.3s,MS4.9						
LSA				LR	LR		
	comp=E,3μm,20.7s,MS4.9						
LSA				LR	LR		
	comp=Z,3μm,20.0s,MS4.8						
LSA	**Lhasa**	**27.05**	**350**	*e*P	**P**	**13 14 34.4**	**-0.9**
	comp=Z,97nm,0.8s,mb5.4						
LSA				LR	LR		
	comp=Z,3μm,21.0s,MS4.8						
BHPL	**Bhopal**	**27.24**	**319**⇑	*i*P	**P**	**13 14 36.8**	**-0.3**
BHPL				*e*		13 14 40.4	
	comp=Z,104nm,1.6s						
BHPL				*i*		13 24 54.2	
GKN	**Gorkha**	**27.30**	**337**	*e*P	**P**	**13 14 37.4**	**-0.2**
	comp=Z,470nm,0.9s,mb6.0						
KOLN	**Koldanda**	**27.51**	**335**	*e*P	**P**	**13 14 38.6**	**-0.9**
	comp=Z,562nm,0.7s,mb6.3						
BOM	**Bombay**	**27.95**	**306**	*e*	Px	13 14 59.5	
BOM				*e*		13 19 37.8	
CD2	**Chengdu**	**28.67**	**13**⇑	*i*P	**P**	**13 14 49.5**	**-0.4**
CD2				AP	pP	13 15 00.6	+3.0
CD2				XP	sP	13 15 06.6	+5.6
CD2				S	**S**	**13 19 34.9**	**-0.8**
CD2				XS		13 19 54.9	
CD2				SS	SS	13 21 04.0	+1.3
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
CD2				AMB	AMB		
	comp=Z,120nm,3.4s						
CD2				LR	LR		
	comp=N,9μm,12.5s						
CD2				LR	LR		
	comp=Z,8μm,12.9s,MS5.5						
DAV	**Davao City (W)**	**29.40**	**81**⇑	*e*P	**P**	**13 15 05.8**	**+9.2**
ENH	**Enshi**	**29.88**	**23**	*e*P	**P**	**13 14 59.4**	**-1.4**
	comp=Z,63nm,0.9s,mb5.3						
LGTI	**Lohaghat**	**30.46**	**332**	*e*P	**P**	**13 15 05.7**	**-0.2**
PTH	**Pithoragarh**	**30.56**	**332**	*e*P	**P**	**13 15 05.0**	**-1.8**
PTH				*e*S	**S**	**13 20 05.4**	**-0.4**
QZH	**Quanzhou**	**30.61**	**42**	P	**P**	**13 15 03.6**	**-3.7**
QZH				*e*S	**S**	**13 20 01.6**	**-5.0**
QZH				LR	LR		
	comp=N,6μm,12.6s,MS5.7						
QZH				LR	LR		
	comp=E,9μm,13.0s,MS5.7						
QZH				LR	LR		
	comp=Z,13μm,13.6s,MS5.7						
AJM	**Ajmer**	**31.31**	**320**⇑	*i*P	**P**	**13 15 13.0**	**-0.4**
NDI	**New Delhi**	**31.41**	**326**	*e*P	**P**	**13 15 13.5**	**-0.8**
NDI				*e*S	**S**	**13 20 23.0**	**+4.0**
DDI	**Dehra Dun**	**32.26**	**329**	*e*P	**P**	**13 15 19.2**	**-2.5**
DDI				*e*S	**S**	**13 20 33.8**	**+1.5**
WHN	**Wuhan**	**32.29**	**30**	*e*P	**P**	**13 15 22.6**	**+0.6**
WHN				LR	LR		
	comp=Z,11μm,13.8s,MS5.7						
BHJ	**Bhuj**	**32.78**	**310**⇓	*e*	Px	13 15 34.6	
BHJ				*e*		13 21 20.3	
XAN	**Xi'an**	**33.07**	**19**	P	**P**	**13 15 26.8**	**-2.0**
XAN				AP	pP	13 15 35.0	-1.5
XAN				AMB	AMB		
	comp=Z,54nm,0.8s,mb5.5						
MBWA	**Marble Bar**	**33.15**	**137**	*e*P	**P**	**13 15 28.3**	**-1.2**
	comp=Z,57nm,0.9s,mb5.5						
MBWA				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
SMLA	**Simla**	**33.36**	**329**⇓	*i*P	**P**	**13 15 23.6**	**-7.7**
	comp=Z,74nm,0.3s,mb6.1						
SMLA				*i*S	**S**	**13 20 44.7**	**-4.7**
LZH	**Lanzhou**	**33.69**	**11**	⇓P	**P**	**13 15 34.0**	**-0.1**
LZH				AP	pP	13 15 42.5	+0.7
LZH				XP	sP	13 15 48.0	+2.8
LZH				AMB	AMB		
	comp=Z,89nm,1.7s,mb5.4						
LZH				AMB	AMB		
	comp=Z,300nm,4.0s						
LZH				LR	LR		
	comp=E,6μm,11.4s						
LZH				LR	LR		
	comp=Z,7μm,13.3s,MS5.6						
LZH	**Lanzhou**	**33.69**	**11**	⇓P	**P**	**13 15 34.0**	**-0.1**
	comp=Z,89nm,1.7s,mb5.4						
LZH				pP	pP	13 15 42.5	+0.7
LZH				sP	sP	13 15 48.0	+2.8
LZH				PP	PP	13 16 34.2	-13
LZH				*e*S	**S**	**13 20 40.5**	**-14**
LZH				sS		13 20 54.0	
LZH				SS	SS	13 22 30.0	-30
LZH				LR	LR		
	comp=Z,7μm,13.3s,MS5.6						
SDNR	**Sundarnagar**	**33.76**	**329**	*e*P	**P**	**13 15 34.4**	**-0.3**
BHK	**Bhakra**	**33.98**	**329**	*e*	Px	13 15 39.3	
PONG	**Pong**	**34.64**	**329**	*e*P	**P**	**13 15 42.0**	**-0.4**
PONG				*e*		13 18 23.0	
DLH	**Dalhousie**	**35.10**	**329**	*e*P	**P**	**13 15 44.0**	**-2.3**
THN	**Thein Dam**	**35.14**	**329**	*e*P	**P**	**13 15 44.6**	**-2.0**
FITZ	**Fitzroy Crossi**	**35.65**	**127**⇓	*i*P	**P**	**13 15 48.9**	**-2.2**
	comp=Z,50nm,0.7s,mb5.6						
FITZ				*e*pP	pP	13 15 56.1	-2.8
FITZ	**Fitzroy Crossi**	**35.65**	**127**	P	**P**	**13 15 49.0**	**-2.1**
	comp=Z,67nm,0.7s,mb5.7,baz=307,slow=3.3,SNR=63						
FITZ				LR	LR	13 31 38.3	
	comp=Z,2μm,20.5s,MS4.8,baz=292,slow=38						
NJ2	**Nanjing**	**35.85**	**34**	*e*P	**P**	**13 15 53.1**	**+0.5**
NJ2				AP	pP	13 16 04.0	+3.6
NJ2				XP	sP	13 16 10.6	+6.8
NJ2				PP	PP	13 17 15.3	+1.2
NJ2				S	**S**	**13 21 25.0**	**-3.0**
NJ2				XS		13 21 46.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,190nm,3.6s						
NJ2				LR	LR		
	comp=N,11μm,19.4s,MS5.9						
NJ2				LR	LR		
	comp=E,18μm,18.2s,MS5.9						
NJ2				LR	LR		
	comp=Z,3μm,17.8s,MS5.1						
GTA	**Gaotai**	**36.42**	**5**	*e*P	**P**	**13 15 57.3**	**0.0**
GTA				AP	pP	13 16 10.8	+5.7
GTA				XP	sP	13 16 18.1	+10
GTA				PP	PP	13 17 22.5	+1.2
GTA				PCP	PcP	13 18 23.0	+1.4
GTA				S	**S**	**13 21 34.4**	**-2.2**
GTA				XS		13 21 56.6	
GTA				AMB	AMB		
	comp=Z,101nm,0.8s,mb5.8						
GTA				AMB	AMB		
	comp=Z,328nm,3.8s						
GTA				LR	LR		
	comp=N,2μm,16.1s,MS5.1						
GTA				LR	LR		
	comp=E,2μm,16.1s,MS5.1						
GTA				LR	LR		
	comp=Z,2μm,14.5s,MS5.0						
SSE	**Sheshan**	**36.50**	**37**	*e*P	**P**	**13 15 55.6**	**-2.5**
SSE				AP	pP	13 16 05.4	-0.5
SSE				XP	sP	13 16 09.8	+0.5
SSE				S	**S**	**13 21 37.8**	**-0.2**
SSE				XS		13 21 54.1	
SSE				SCS	ScS	13 26 09.3	-1.2
SSE				AMB	AMB		
	comp=Z,46nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,32nm,3.5s						
SSE				LR	LR		
	comp=N,4μm,20.1s,MS5.3						
SSE				LR	LR		
	comp=E,4μm,20.2s,MS5.3						
SSE				LR	LR		
	comp=Z,2μm,13.8s						
SSE	**Sheshan**	**36.50**	**37**	*e*P	**P**	**13 15 55.6**	**-2.5**
	comp=Z,46nm,0.7s,mb5.4						
SSE				pP	pP	13 16 05.4	-0.5
SSE				sP	sP	13 16 09.8	+0.5
SSE				S	**S**	**13 21 37.8**	**-0.2**
SSE				sS		13 21 54.1	
SSE				SS	SS	13 24 23.4	+19
SSE				ScS	ScS	13 26 09.3	-1.2
SSE				LR	LR		
	comp=Z,2μm,13.8s,MS5.1						
TIA	**Tai'an**	**38.25**	**28**	*e*P	**P**	**13 16 08.6**	**-4.2**
JOW	**Kunigami**	**38.70**	**49**	P	**P**	**13 16 17.4**	**+0.7**
	comp=Z,13nm,0.7s,mb4.8,baz=261,slow=8.1,SNR=4.7						
JOW				LR	LR	13 35 34.4	
	comp=Z,1μm,18.0s,MS4.7,baz=41,slow=41						
KAKA	**Kakadu**	**39.08**	**114**⇓	*i*P	**P**	**13 16 17.7**	**-2.2**
	comp=Z,52nm,0.6s,mb5.4						
KAKA				*e*pP	pP	13 16 24.1	-3.6
BTO	**Baotou**	**39.46**	**16**	*e*P	**P**	**13 16 21.8**	**-1.0**
BTO				S	**S**	**13 22 21.1**	**-1.8**
BTO				AMB	AMB		
	comp=Z,31nm,2.0s,mb4.7						
BTO				LR	LR		
	comp=N,4μm,12.2s						
BTO				LR	LR		
	comp=E,8μm,19.1s						
MUN	**Mundaring**	**39.54**	**153**	*e*P	**P**	**13 16 24.0**	**+0.5**
	comp=E,63nm,0.6s,mb5.5						
MUN				*e*pP	pP	13 16 32.4	+1.0
KLBR	**Kellerberrin**	**39.94**	**151**	*e*P	**P**	**13 16 27.6**	**+0.7**
	comp=E,392nm,0.9s,mb6.1						
KLBR				*e*pP	pP	13 16 35.3	+0.6
HHC	**Hu-ho-hao-te**	**40.14**	**18**	⇑P	**P**	**13 16 29.0**	**+0.6**
HHC				AP	pP	13 16 36.1	-0.2
HHC				XP	sP	13 16 39.8	+0.2
HHC				PP	PP	13 18 00.4	-4.1
HHC				PCP	PcP	13 18 33.3	+0.1
HHC				SCP		13 22 19.8	
HHC				PCS		13 22 23.8	
HHC				S	**S**	**13 22 34.5**	**+1.4**
HHC				SS	SS	13 25 24.9	-0.4
HHC				SCS	ScS	13 26 31.5	+0.3
HHC				AMB	AMB		
	comp=Z,35nm,1.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,333nm,4.4s						
HHC				LR	LR		
	comp=N,4μm,14.2s,MS5.5						
HHC				LR	LR		
	comp=E,3μm,16.4s,MS5.5						
HHC				LR	LR		
	comp=Z,3μm,14.0s,MS5.3						
NWAO	**Narrogin (SRO)**	**40.80**	**153**	P	**P**	**13 16 34.4**	**+0.4**
	comp=Z,19nm,0.8s,mb4.8,baz=315,slow=9.1,SNR=13						
NWAO				LR	LR	13 33 31.4	
	comp=Z,2μm,20.3s,MS5.0,baz=337,slow=36						
NWAO	**Narrogin (SRO)**	**40.80**	**153**	*e*P	**P**	**13 16 34.0**	**0.0**
	comp=Z,63nm,0.9s,mb5.2						
KSH	**Kashi**	**40.83**	**336**	P	**P**	**13 16 34.0**	**-0.1**
KSH				*e*AP	pP	13 16 41.0	-0.9
KSH				*e*PP	PP	13 18 11.3	0.0
KSH				PCP	PcP	13 18 35.3	-0.1
KSH				*e*SCP		13 22 22.3	
KSH				*e*PCS		13 22 25.0	
KSH				AMB	AMB		
	comp=Z,880nm,2.8s,mb5.9						
KSH				LR	LR		
	comp=N,3μm,15.3s,MS5.3						
KSH				LR	LR		
	comp=E,2μm,13.4s,MS5.3						
BJT	**Baijiatuau**	**41.03**	**23**	*e*P	**P**	**13 16 35.4**	**-0.3**
	comp=E,123nm,1.0s,mb5.5						
BJT				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
BJI	**Beijing**	**41.05**	**23**	P	**P**	**13 16 37.4**	**+1.5**
BJI				AP	pP	13 16 46.3	+2.5
BJI				XP	sP	13 16 50.3	+3.3
BJI				S	**S**	**13 22 45.6**	**-1.0**
BJI				XS		13 23 03.6	
BJI				AMB	AMB		
	comp=Z,64nm,0.7s,mb5.4						
BJI				AMB	AMB		
	comp=Z,471nm,4.3s						
BJI				LR	LR		
	comp=N,2μm,21.0s,MS5.2						
BJI				LR	LR		
	comp=E,3μm,21.0s,MS5.2						
BJI				LR	LR		
	comp=Z,2μm,19.9s,MS4.9						
BJI	**Beijing**	**41.05**	**23**	P	**P**	**13 16 37.4**	**+1.5**
	comp=Z,64nm,0.7s,mb5.4						
BJI				pP	pP	13 16 46.2	+2.4
BJI				sP	sP	13 16 50.2	+3.2
BJI				PP	PP	13 18 28.6	+15
BJI				S	**S**	**13 22 45.6**	**-1.0**
BJI				sS		13 23 03.6	
BJI				SS	SS	13 26 03.1	+18
BJI				LR	LR		
	comp=Z,2μm,19.9s,MS4.9						
WBK	**Wadi Bani Khal**	**41.16**	**302**	P	**P**	**13 16 39.6**	**+2.6**
	SNR=35						
WMQ	**Urumqi**	**41.41**	**351**	⇓P	**P**	**13 16 39.3**	**+0.5**
WMQ				AP	pP	13 16 46.8	+0.2
WMQ				XP	sP	13 16 50.3	+0.4
WMQ				PP	PP	13 18 18.5	+1.0
WMQ				PCP	PcP	13 18 37.8	+0.6
WMQ				SCP		13 22 24.8	
WMQ				S	**S**	**13 22 52.3**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,53nm,1.1s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,274nm,2.6s,mb5.4						
WMQ				LR	LR		
	comp=N,2μm,18.6s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,20.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,1μm,20.7s,MS4.8						
MSEY	**Mahe Island**	**41.53**	**260**	*e*P	**P**	**13 16 39.8**	**-0.4**
	comp=Z,19nm,0.8s,mb4.8						
SMDO	**Samad**	**42.11**	**302**	P	**P**	**13 16 47.7**	**+2.8**
	SNR=28						
BIDO	**Bidbid**	**42.22**	**302**	P	**P**	**13 16 48.8**	**+3.0**
	SNR=18						
DL2	**Dalian**	**42.55**	**30**	P	**P**	**13 16 49.8**	**+1.5**
DL2				S	**S**	**13 23 12.3**	**+3.4**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
DL2				LR	LR		
	comp=N,1μm,18.3s,MS5.3						
DL2				LR	LR		
	comp=E,3μm,18.6s,MS5.3						
DL2				LR	LR		
	comp=Z,1μm,20.2s,MS4.7						
SHAO	**Shalim**	**42.61**	**294**	P	**P**	**13 16 51.3**	**+2.2**
	SNR=12						
HOQ	**Hoqain**	**42.94**	**302**	P	**P**	**13 16 54.5**	**+2.8**
	SNR=10						
ULHL	**Ulahol**	**43.05**	**338**	P	**P**	**13 16 52.7**	**+0.3**
	SNR=47						
KZA	**Kyzart**	**43.29**	**337**	P	**P**	**13 16 55.0**	**+0.7**
	SNR=82						
ARQ	**Araqi**	**43.52**	**301**	P	**P**	**13 16 58.2**	**+1.8**
	SNR=32						
WRA	**Warramunga Arr**	**43.69**	**123**	P	**P**	**13 16 56.3**	**-1.4**
	comp=Z,34nm,0.7s,mb5.2,baz=299,slow=9.4,SNR=98						
WRA				S	**S**	**13 23 20.9**	**-4.8**
	comp=Z,4.3nm,1.1s,baz=295,slow=16,SNR=5.5						
AAA	**Alma-Ata**	**43.69**	**339**	*e*P	**P**	**13 16 57.0**	**-0.5**
WRAB	**Tennant Creek**	**43.70**	**123***c*	*i*P	**P**	**13 16 57.8**	**0.0**
WRAB	**Tennant Creek**	**43.70**	**123**	*e*P	**P**	**13 16 56.0**	**-1.8**
	comp=Z,121nm,0.8s,mb5.7						
WRAB				LR	LR		
	comp=Z,811nm,22.0s,MS4.6						
WB2	**Warramunga Arr**	**43.70**	**123**⇓	*i*P	**P**	**13 16 55.5**	**-2.4**
WB2				*e*pP	pP	13 17 04.4	-1.3
UCH	**Uchtor**	**43.71**	**336**	P	**P**	**13 16 58.5**	**+0.8**
	SNR=217						
TKM2	**Tokmak 2**	**43.88**	**338**	P	**P**	**13 16 59.3**	**+0.3**
	SNR=131						
KBK	**Karagaybulak**	**43.90**	**337**	P	**P**	**13 17 00.2**	**+1.0**
	SNR=103						
AML	**Almayashu**	**43.96**	**336**	P	**P**	**13 17 00.5**	**+0.9**
	SNR=187						
AAK	**Ala-Archa**	**44.06**	**337**	P	**P**	**13 17 03.0**	**+2.5**
	SNR=77						
AAK	**Ala-Archa**	**44.06**	**337***c*	*i*P	**P**	**13 17 00.0**	**-0.5**
AAK				pmax	pmax		
	comp=Z,170nm,1.7s,mb5.5						
AAK				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.1						
AAK	**Ala-Archa**	**44.06**	**337**	*e*P	**P**	**13 16 59.5**	**-0.9**
	comp=Z,192nm,1.4s,mb5.6						
FRU	**Bishkek**	**44.18**	**337**⇓	*i*P	**P**	**13 17 03.0**	**+1.5**
FRU				*e*		13 17 19.0	
FRU				pmax	pmax		
	comp=Z,480nm,2.2s,mb5.8						
FRU				MLR	MLR		
	comp=N,2μm,19.0s,MS5.2						
FRU				MLR	MLR		
	comp=E,2μm,19.0s,MS5.2						
FRU				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.2						
CHMS	**Chumysh**	**44.27**	**337**	P	**P**	**13 17 02.1**	**0.0**
	SNR=40						
WHFO	**Wadi Hawf**	**44.29**	**293**	P	**P**	**13 17 04.2**	**+1.5**
	SNR=45						
EKS2	**Erkin-Say**	**44.37**	**336**	P	**P**	**13 17 03.8**	**+0.8**
	SNR=70						
MENI	**Mendum Tagoi**	**44.38**	**97**⇑	*i*P	**P**	**13 17 03.8**	**+0.3**
	comp=Z,12nm,1.0s,mb4.6						
ASHO	**Ashiyiah**	**44.42**	**303**	P	**P**	**13 17 05.7**	**+2.1**
	SNR=33						
YOMI	**Yo Moklole**	**44.54**	**97**⇑	*i*P	**P**	**13 17 05.7**	**+0.9**
	comp=Z,56nm,0.8s,mb5.5						
ABTO	**Aybut**	**44.59**	**292**	P	**P**	**13 17 06.8**	**+1.7**
	SNR=11						
USP	**Ospenovka**	**44.59**	**337**	P	**P**	**13 17 04.5**	**-0.3**
	SNR=245						
KS15	**Wonju Array Si**	**44.88**	**36**	P	**P**	**13 17 06.2**	**-1.1**
ASPA	**Alice Springs**	**45.13**	**128**⇓	*i*P	**P**	**13 17 08.3**	**-1.1**
ASPA				*e*pP	pP	13 17 16.6	-0.6
ASAR	**Alice Springs**	**45.13**	**128**	P	**P**	**13 17 08.4**	**-1.0**
	comp=Z,17nm,0.6s,mb5.0,baz=298,slow=6.8,SNR=134						
FORT	**Forrest**	**45.16**	**140**⇓	*i*P	**P**	**13 17 09.7**	**+0.2**
	comp=Z,1μm,0.6s						
FORT				*e*pP	pP	13 17 18.1	+0.7
SONM	**Songino Array**	**45.54**	**9**	P	**P**	**13 17 11.7**	**-0.5**
	comp=Z,43nm,0.8s,mb5.5,baz=191,slow=7.6,SNR=232						
SONM				PcP	PcP	13 18 51.4	+0.3
	comp=Z,15nm,0.7s,baz=189,slow=3.1,SNR=6.2						
SONM				ScP		13 22 44.2	
	comp=Z,1.9nm,1.0s,baz=225,slow=4.1,SNR=4.6						
SONM				LR	LR	13 39 33.1	
	comp=Z,2μm,18.5s,MS5.2,baz=191,slow=40						
ULN	**Ulaanbaatar**	**45.68**	**10***c*	*i*P	**P**	**13 17 12.8**	**-0.6**
ULN	**Ulaanbaatar**	**45.68**	**10**	*e*P	**P**	**13 17 12.3**	**-1.0**
	comp=Z,47nm,1.0s,mb5.4						
ULN				LR	LR		
	comp=Z,2μm,21.0s,MS5.1						
SNY	**Shenyang**	**45.75**	**29**	⇑P	**P**	**13 17 09.9**	**-4.1**
SNY				AMB	AMB		
	comp=Z,130nm,12.6s						
SNY				LR	LR		
	comp=N,2μm,18.6s,MS5.4						
SNY				LR	LR		
	comp=E,4μm,20.0s,MS5.4						
SNY				LR	LR		
	comp=Z,2μm,14.3s						
ZAK	**Zakamensk**	**47.62**	**6**⇑	*i*P	**P**	**13 17 27.7**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
MOY	**Mondy**	**48.70**	**4**	*e*P	**P**	**13 17 37.5**	**+0.5**
MOY				pmax	pmax		
	comp=Z,63nm,2.2s,mb5.3						
TLY	**Talaya**	**48.94**	**6**	*e*P	**P**	**13 17 38.6**	**-0.2**
TLY				*e*		13 19 23.9	
TLY				*e*S	**S**	**13 24 39.1**	**-1.0**
TLY				*e*SS	ScS	13 27 29.8	+3.4
TLY				pmax	pmax		
	comp=Z,55nm,0.9s,mb5.6						
TLY				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.2						
TLY	**Talaya**	**48.94**	**6**	*e*P	**P**	**13 17 38.5**	**-0.3**
	comp=Z,46nm,0.8s,mb5.5						
IRK	**Irkutsk**	**49.56**	**6**	*e*P	**P**	**13 17 43.4**	**-0.2**
IRK				pmax	pmax		
	comp=Z,454nm,0.8s						
HIA	**Hailar**	**50.27**	**20**	*e*P	**P**	**13 17 48.0**	**-1.1**
	comp=Z,90nm,1.2s,mb5.7						
HIA				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
MDJ	**Mudanjiang**	**50.77**	**30**	P	**P**	**13 17 53.5**	**+0.5**
MDJ				AP	pP	13 17 59.9	-1.1
MDJ				PCP	PcP	13 19 09.9	-0.1
MDJ				PCS		13 23 07.3	
MDJ				S	**S**	**13 25 09.3**	**+3.7**
MDJ				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,100nm,4.3s						
MDJ				LR	LR		
	comp=N,3μm,19.7s,MS5.5						
MDJ				LR	LR		
	comp=E,3μm,18.7s,MS5.5						
MDJ				LR	LR		
	comp=Z,3μm,11.8s						
MDJ	**Mudanjiang**	**50.77**	**30**	*e*P	**P**	**13 17 51.8**	**-1.2**
	comp=Z,35nm,1.1s,mb5.2						
MAJO	**Matsushiro**	**50.99**	**44**	*e*P	**P**	**13 17 53.6**	**-1.2**
	comp=Z,23nm,1.2s,mb5.0						
MAT	**Matsushiro**	**50.99**	**44**	P	**P**	**13 17 57.0**	**+2.2**
MAT				S	**S**	**13 25 02.0**	**-6.8**
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
MAT	**Matsushiro**	**50.99**	**44**	P	**P**	**13 17 57.4**	**+2.6**
MAT				*e*S	**S**	**13 25 06.0**	**-2.8**
MJAR	**Matsushiro Arr**	**50.99**	**44**	P	**P**	**13 17 55.0**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=230,slow=6.1,SNR=5.0						
MJAR				PcP	PcP	13 19 12.0	+1.1
	comp=Z,4.6nm,0.9s,baz=255,slow=3.9,SNR=6.3						
MJAR				LR	LR	13 39 57.9	
	comp=Z,1μm,19.8s,MS4.8,baz=260,slow=37						
MJAR	**Matsushiro Arr**	**50.99**	**44**	P	**P**	**13 17 55.0**	**+0.2**
MJAR				PcP	PcP	13 19 12.0	+1.1
MJAR				LR	LR	13 39 57.9	
ZAL	**Zalesovo**	**51.69**	**351**	P	**P**	**13 17 58.5**	**-1.4**
	comp=Z,24nm,0.6s,mb5.3,baz=292,slow=6.9,SNR=119						
ZAL				LR	LR	13 45 32.5	
	comp=Z,2μm,18.0s,MS5.1,baz=117,slow=43						
ZAL	**Zalesovo**	**51.69**	**351**	P	**P**	**13 17 58.5**	**-1.4**
ZAL				L

OPO Ambohidratompo 52.90 244 P **P 13 18 08.5 -0.9**
comp=E,5.5nm,0.7s,mb4.6,baz=37,slow=8.0
ATD Arta Tunnel 53.67 282 LR LR 13 39 21.4
comp=E,527nm,18.4s,MS4.6,baz=32,slow=34
CTA Charters Tower 54.05 117 *e*P **P 13 18 17.9 +0.1**
comp=E,21nm,0.9s,mb5.1
CTA *e*pP pP 13 18 24.3 -1.5
CTA Charters Tower 54.05 117 P **P 13 18 17.6 -0.2**
comp=E,24nm,0.8s,mb5.2,baz=288,slow=8.5,SNR=16
CTA LR LR 13 44 20.6
comp=E,2μm,19.3s,MS5.1,baz=280,slow=39
CTAO Charters Tower 54.05 117 *e*P **P 13 18 17.2 -0.6**
comp=E,48nm,0.8s,mb5.5
CTAO LR LR
comp=Z,2μm,20.0s,MS5.1
BVA0 Borovoye Array 54.32 341 *i* P **P 13 18 17.5 -1.8**
BVA0 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BVAR Borovoye Array 54.32 341 P **P 13 18 17.6 -1.7**
comp=Z,34nm,0.7s,mb5.4,baz=142,slow=8.3,SNR=3.8
ADE Adelaide 54.77 137 P **P 13 18 23.2 +0.3**
KLR Kul'dur 55.09 28 *e*P **P 13 18 21.2 -3.8**
KLR *e* 13 20 29.0
KLR *e*S **S 13 26 05.0 +0.8**
KLR *e* 13 28 03.5
KLR MLR MLR
comp=E,2μm,13.5s
KLR MLR MLR
comp=Z,7μm,13.5s,MS5.9
STKA Stephens Creek 55.16 133 *e*P **P 13 18 25.5 -0.3**
comp=Z,19nm,0.8s,mb5.2
STKA *e*pP pP 13 18 32.5 -1.4
STKA Stephens Creek 55.16 133 P **P 13 18 25.4 -0.4**
comp=Z,21nm,0.8s,mb5.2,baz=314,slow=7.1,SNR=45
STKA LR LR 13 44 28.7
comp=Z,2μm,21.0s,MS5.2,baz=118,slow=39
BOD Bodaibo 56.45 11 *e*P **P 13 18 33.3 -1.4**
BOD pmax pmax
comp=Z,44nm,1.1s,mb5.4
BHD Baghdad 57.08 308 *e*P **P 13 18 30.0 -10**
ASAJ Asahikawa 57.79 38 LR LR 13 46 19.6
comp=Z,1μm,18.5s,MS5.1,baz=246,slow=39
CLNS Chul'man 58.33 18 *e*P **P 13 18 47.4 -0.6**
CLNS *e**PP pP 13 18 56.0 -0.1
CLNS *e* 13 19 37.9
CLNS *e* 13 20 53.9
CLNS *e*PPP PPP 13 22 15.8 -6.4
CLNS *e*S **S 13 26 47.3 +0.3**
CLNS *e*SSS SSS 13 32 48.6 -14
CLNS pmax pmax
comp=Z,40nm,0.7s,mb5.6
CLNS pmax pmax
comp=N,24nm,0.8s
CLNS pmax pmax
comp=E,16nm,0.7s
CLNS pmax pmax
comp=Z,13nm,1.2s,mb4.8
CLNS pmax pmax
comp=N,15nm,1.0s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS smax
comp=E,7.0nm,1.3s
CLNS smax
comp=N,16nm,1.2s
CLNS smax
comp=Z,3.0nm,1.2s
CLNS MLR MLR
comp=Z,4μm,14.0s,MS5.6
CLNS MLR MLR
comp=N,2μm,13.0s,MS5.5
CLNS MLR MLR
comp=E,800nm,13.0s,MS5.5
MAK Makhachkala 58.85 320 *e*P **P 13 18 52.0 +0.2**
MAK *e*S **S 13 27 09.5 +16**
MAK *e* 13 28 42.0
MAK pmax pmax
comp=Z,600nm,3.0s
MAK smax
comp=N,800nm,5.0s
MAK smax
comp=E,500nm,5.0s
MSL Mosul 59.14 311 *e*P **P 13 18 55.5 +1.5**
KMBO Kilima Mbogo 59.22 267 P **P 13 18 54.1 -0.7**
comp=E,29nm,0.9s,mb5.3,baz=65,slow=11,SNR=38
KMBO LR LR 13 41 38.0
comp=E,1μm,19.4s,MS5.0,baz=283,slow=33
KMBO Kilima Mbogo 59.22 267 *e*P **P 13 18 54.1 -0.7**
comp=E,37nm,1.0s,mb5.4
KMBO LR LR
comp=Z,1μm,20.0s,MS5.0
YSS Yuzh-Sakhalins 59.40 35⇑*e*P **P 13 18 55.0 -0.6**
YSS *e* pP 13 19 03.0 -0.7
YSS *e* 13 19 08.0
YSS *e*S **S 13 27 04.0 +3.0**
YSS *e*PS PS 13 27 19.0 -0.2
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.3
YSS MLR MLR
comp=E,2μm,18.0s
YSS MLR MLR
comp=Z,2μm,18.0s,MS5.2
YSS Yuzh-Sakhalins 59.40 35 *e*P **P 13 18 54.6 -0.9**
comp=Z,84nm,1.3s,mb5.6
GNI Garni 59.45 316 *e*P **P 13 18 53.7 -2.3**
GNI Garni 59.45 316*c i*P **P 13 18 55.2 -0.8**
GNI pmax pmax
comp=Z,102nm,1.7s
GNI MLR MLR
comp=Z,400nm,20.0s
GNI Garni 59.45 316 P **P 13 18 55.5 -0.5**
comp=Z,29nm,0.7s,mb5.4,baz=155,slow=12,SNR=15
GNI LR LR 13 49 48.0
comp=Z,404nm,19.1s,MS4.6,baz=123,slow=41
GNI Garni 59.45 316 *e*P **P 13 18 55.7 -0.3**
comp=Z,117nm,1.2s,mb5.8
GNI LR LR
comp=Z,496nm,19.0s,MS4.7
DGRG David-gareji 59.57 317 P **P 13 18 56.2 -0.6**
CLDR Caldiran 59.62 314 *e*P **P 13 18 55.0 -2.2**
MTA Mtatsminda 60.06 317 P **P 13 19 00.2 0.0**
TI2 Plekhanov 60.11 317 *i* P **P 13 19 00.2 -0.3**
TBLG Delisi 60.12 317 P **P 13 19 00.5 -0.1**
SVE Sverdlovsk 60.75 338⇑*e*P **P 13 19 03.0 -1.7**
SVE *e* 13 19 49.3
SVE *e* 13 28 41.0
SVE pmax pmax
comp=Z,160nm,1.5s,mb5.9
SVE MLR MLR
comp=N,500nm,16.0s,MS5.0
SVE MLR MLR
comp=E,600nm,16.0s,MS5.0
SVE MLR MLR
comp=Z,1μm,16.0s,MS5.1
TOO Toolangi 60.79 136 *e*P **P 13 19 07.2 +2.0**
comp=Z,11nm,0.9s,mb5.0
TOO *e*pP pP 13 19 13.4 0.0
BTMT Batman 61.02 313 *e*P **P 13 19 05.5 -1.3**
ZEI Tsey 61.13 318 *e*P **P 13 19 01.5 -5.9**
ZEI *i **PP pP 13 19 10.7 -4.9
ZEI pmax pmax
comp=Z,19nm,0.8s,mb5.3
ARU Arti 61.24 337⇑*i*P **P 13 19 06.2 -1.8**
ARU *e* 13 19 46.1
ARU *e* 13 21 20.5
ARU *e*S **S 13 27 25.0 +0.5**
ARU *e*SS SS 13 31 26.3 -0.1
ARU pmax pmax
comp=Z,42nm,1.4s,mb5.4
ARU MLR MLR
comp=Z,1μm,17.0s,MS5.1
ARU MLR MLR
comp=N,500nm,18.0s,MS5.0
ARU MLR MLR
comp=E,900nm,18.0s,MS5.0
ARU Arti 61.24 337 *e*P **P 13 19 05.6 -2.4**
comp=E,34nm,1.0s,mb5.4
ONI Oni 61.34 318 P **P 13 19 07.4 -1.5**
ERZM Erzurum 61.73 314 *i* P **P 13 19 12.3 +0.7**
EZM Erzurum 61.73 314 *e*P **P 13 19 11.4 -0.2**
KIV Kislovodsk 62.43 319*ce*P **P 13 19 14.8 -1.4**
KIV *i* pP 13 19 23.6 -0.8
KIV *i* S **S 13 27 48.8 +9.1**
KIV pmax pmax
comp=Z,90nm,1.0s,mb5.8
KIV Kislovodsk 62.43 319 *e*P **P 13 19 14.9 -1.3**
comp=Z,139nm,1.3s,mb5.9
KIV LR
comp=Z,109nm,20.0s
CNB Canberra Magne 62.49 133 *e*P **P 13 19 17.0 +0.3**
comp=Z,450nm,0.9s
GOF Gofitskoye 62.67 320⇑*i*P **P 13 19 16.4 -1.4**
GOF *e* 13 21 40.2
GOF *e*PPP PPP 13 23 02.9 -4.9
GOF *i* S **S 13 27 41.0 -1.8**
GOF *e*SS SS 13 31 41.6 -7.8
GOF *e*SSS SSS 13 34 27.6 -5.7
GOF pmax pmax
comp=Z,120nm,1.7s,mb5.8
GOF smax
comp=E,50nm,1.0s
URFA Urfa 62.75 311 *e*P **P 13 19 17.4 -0.9**
ASF Jabal al Asfar 62.76 305 P **P 13 19 18.1 -0.4**
comp=E,12nm,0.8s,mb5.1,baz=351,slow=3.6,SNR=16
ASF LR LR 13 48 32.6
comp=E,520nm,18.0s,MS4.7,baz=163,slow=38
PTK Pertek 62.80 313 *e*P **P 13 19 18.1 -0.7**
ELZG Elazig 62.97 312 *i* P **P 13 19 19.3 -0.5**
GUMT Gumushane 63.28 314 *e*P **P 13 19 20.4 -1.5**
MALT Malatya 63.33 312 *e*P **P 13 19 19.7 -2.5**
MALT Malatya 63.33 312⇓P **P 13 19 22.7 +0.5**
MALT Malatya 63.33 312 *e*P **P 13 19 21.1 -1.1**
comp=E,36nm,0.8s,mb5.5
KELT Kelkit 63.33 314 *i* P **P 13 19 22.5 +0.4**
MYA Malataya 63.33 312 *e*P **P 13 19 21.6 -0.6**
GZT Gaziantep 63.68 311 *i* P **P 13 19 21.8 -2.8**
EIL Elat 63.81 302 P **P 13 19 24.5 -1.1**
comp=E,22nm,0.7s,mb5.3,baz=92,slow=4.5,SNR=27
EIL LR LR 13 47 41.3
comp=E,993nm,18.2s,MS5.0,baz=112,slow=37
EIL Elat 63.81 302 *e*P **P 13 19 23.6 -2.0**
comp=E,32nm,0.8s,mb5.4
YAK Yakutsk 63.98 17*de*P **P 13 19 24.9 -1.2**
YAK *i **PP pP 13 19 34.0 -0.3
YAK *e* 13 21 52.5
YAK *i* S **S 13 27 58.8 -0.1**
YAK pmax pmax
comp=Z,106nm,0.9s,mb5.9
YAK pmax pmax
comp=N,21nm,1.0s
YAK pmax pmax
comp=E,18nm,0.9s
YAK smax
comp=N,12nm,1.2s
YAK smax
comp=E,11nm,1.2s
YAK MLR MLR
comp=N,1μm,14.0s,MS5.4
YAK MLR MLR
comp=Z,2μm,14.0s,MS5.5
YAK MLR MLR
comp=E,2μm,15.0s,MS5.4
YAK Yakutsk 63.98 17 *e*P **P 13 19 24.7 -1.4**
comp=E,269nm,1.0s,mb6.2
SOKR Solikamsk 64.15 339*d i*P **P 13 19 27.0 -0.2**
SOKR S **S 13 28 19.5 +19**
SOKR pmax pmax
comp=Z,80nm,1.1s,mb5.7
SOKR MLR MLR
comp=Z,1μm,17.0s,MS5.1
BHL Bhannes 64.21 306 *e*P **P 13 19 27.3 -0.8**
SOC Sochi 64.25 318*c i*P **P 13 19 25.8 -2.4**
SOC *e* 13 19 57.3
SOC *e* 13 21 46.8
SOC *e*PPP PPP 13 23 14.4 -9.5
SOC *i* S **S 13 28 03.7 +1.1**
SOC *e* 13 29 14.1
SOC *e*SS SS 13 32 10.6 -3.2
SOC pmax pmax
comp=Z,70nm,0.8s,mb5.7
SOC pmax pmax
comp=N,14nm,0.7s
SOC pmax pmax
comp=E,23nm,0.8s
SOC Sochi 64.25 318⇑*i*P **P 13 19 25.9 -2.3**
KAHT Ahir Dag 64.28 311 *i* P **P 13 19 29.0 +0.5**
COBT Iskenderun 64.44 309 *i* P **P 13 19 30.3 +0.7**
HNR Honiara 64.55 102 LR LR 13 49 45.8
comp=E,352nm,19.8s,MS4.5,baz=255,slow=38
BNN Bunyan 65.42 312 *e*P **P 13 19 34.2 -1.6**
MBAR Mbarara 65.68 268 *e*P **P 13 19 36.5 -1.5**
comp=E,33nm,1.1s,mb5.3
MEST Erdemli 66.09 309 *i* P **P 13 19 40.0 -0.1**
ANN Anapa 66.23 318 *e*P **P 13 19 50.5 +10**
ANN pmax pmax
comp=Z,65nm,1.2s,mb5.5
CSS Prodhromos 66.33 307 *e*P **P 13 19 41.4 -0.4**
comp=Z,34nm,1.1s,mb5.3
CORM Corum 66.70 313 *e*P **P 13 19 41.6 -2.4**
CTKT Corum 66.72 313 *i* P **P 13 19 44.0 0.0**
CDAG Cicekdag 66.74 312 *i* P **P 13 19 42.0 -2.2**
BOYT Boyabat 66.87 314 *i* P **P 13 19 43.8 -1.3**
BRTR Keskin Array B 67.31 312 P **P 13 19 46.0 -1.9**
comp=Z,16nm,0.7s,mb5.1,baz=128,slow=6.8,SNR=76
CANT Cankiri 67.56 313 *e*P **P 13 19 48.9 -0.6**
ELDT Eldivan 67.67 313 *i* P **P 13 19 49.5 -0.7**
BZK Bozkurt 67.67 314 *e*P **P 13 19 48.6 -1.5**
VOR Voronezh 67.85 326 *e*P **P 13 19 50.0 -1.0**
VOR *e**PP pP 13 19 56.5 -2.7
VOR pmax pmax
comp=E,80nm,1.0s
VOR pmax pmax
comp=Z,170nm,1.0s,mb6.0
ANTO Ankara 67.97 312 *e*P **P 13 19 49.5 -2.6**
ANTO Ankara 67.97 312⇑P **P 13 19 50.7 -1.4**
KIZT Kizilcal 68.41 311 *e*P **P 13 19 53.3 -1.4**
SAFT Safranbolu 68.42 313 *e*P **P 13 19 53.0 -1.8**
SIM Simferopol' 68.50 318*de*P **P 13 19 55.4 +0.2**
SIM *e*S S 13 29 09.0 +15
SIM pmax pmax
comp=Z,63μm,0.8s
SIM Simferopol' 68.50 318⇓*i*P **P 13 19 55.4 +0.2**
SGKT Sivrigoynuk 68.70 313 *i* P **P 13 19 55.3 -1.2**
ESKT Eskisehir 69.34 311 *e*P **P 13 19 58.6 -1.8**
ESKT Eskisehir 69.34 311 *i* P **P 13 19 58.5 -2.0**
LSZ Lusaka 69.81 253 *e*P **P 13 20 02.6 -1.1**
comp=Z,296nm,1.0s,mb6.2
CASY Casey 69.83 174 *e*P **P 13 20 01.8 -1.2**
CASY *e*pP pP 13 20 10.2 -1.0
MOS Moscow 70.39 329 *e*P **P 13 20 06.9 +0.3**
MOS *e* pP 13 20 14.0 -0.8
MOS *e* 13 20 28.3
MOS *e* 13 22 41.7
MOS *e*S S 13 29 12.2 -4.0
MOS pmax pmax
comp=Z,168nm,0.8s,mb6.0
MOS MLR MLR
comp=Z,1μm,20.5s,MS5.2
MOS Moscow 70.39 329 *e*P **P 13 20 05.5 -1.1**
OBN Obninsk 70.68 328*c i*P **P 13 20 06.7 -1.7**
OBN *i* 13 20 24.6
OBN *e* 13 22 43.6
OBN pmax pmax
comp=Z,78nm,0.9s,mb5.6
OBN Obninsk 70.68 328 *e*P **P 13 20 07.5 -0.9**
comp=Z,78nm,0.8s,mb5.7
YLV Yalova 70.68 312 *e*P **P 13 20 05.0 -3.7**
ULDT Uludag 70.77 312 *i* P **P 13 20 08.8 -0.3**
PET Petropavlovsk 71.26 34 *e*P **P 13 20 12.1 +0.2**
PET *e*S S 13 29 26.5 +0.2
PET pmax pmax
comp=Z,30nm,1.2s,mb5.1
PET pmax pmax
comp=Z,100nm,11.4s
PET smax
comp=N,200nm,11.1s
PET MLR MLR
comp=Z,900nm,20.0s,MS5.0
BTOK Tokmak 71.51 311 *i* P **P 13 20 13.1 -0.6**
TIXI Tiksi 71.62 10⇓*i*P **P 13 20 12.2 -1.6**
TIXI pmax pmax
comp=Z,32nm,1.3s,mb5.1
TIXI MLR MLR
comp=Z,2μm,21.0s,MS5.3
TIXI Tiksi 71.62 10⇓*i*P **P 13 20 12.3 -1.5**
TLCR 72.17 317⇑P **P 13 20 17.6 +0.1**
TIRR Tirgusor 72.28 316⇑P **P 13 20 17.4 -0.7**
SEY Seymchan 72.49 23 *e*P **P 13 20 21.3 +2.2**
SEY 13 20 35.4
SEY *e*S S 13 29 41.9 +1.7
SEY *e* 13 30 22.1
SEY pmax pmax
comp=Z,80nm,1.2s,mb5.5
SEY MLR MLR
comp=Z,4μm,18.0s,MS5.7
SEY MLR MLR
comp=N,4μm,21.0s,MS5.7
SEY MLR MLR
comp=E,800nm,17.0s,MS5.7
KIS Kishinev 72.62 318 *e*P **P 13 20 18.0 -2.2**
KIS *e* pP 13 20 25.0 -3.4
KIS *e*S S 13 29 48.0 +6.0
KIS *e*PS PS 13 30 14.0 -3.0
CFR Carcaliu 72.64 317 P **P 13 20 20.4 +0.1**
CFR Carcaliu 72.64 317⇑P **P 13 20 20.5 +0.2**
HARR Harsova 72.66 316 P **P 13 20 20.1 -0.4**
HARR Harsova 72.66 316⇑P **P 13 20 20.9 +0.5**
DZM Mont Dzumac 72.77 114 LR LR 13 55 51.2
comp=E,716nm,20.0s,MS5.0,baz=75,slow=39
PPE Popeni 73.09 318⇓P **P 13 20 20.8 -2.1**
IDI Anoyia 73.18 306 LR LR 13 56 34.1
comp=E,415nm,20.3s,MS4.7,baz=260,slow=39
AKASG Malin Array Be 73.35 322 P **P 13 20 22.2 -2.1**
comp=E,8.5nm,0.5s,mb5.0,baz=92,slow=4.5,SNR=75
AKASG PP PP 13 23 06.9 -2.9
comp=E,3.0nm,0.7s,baz=99,slow=6.8,SNR=4.2
ISR Istrita 73.72 316 P **P 13 20 28.9 +2.3**
VRI Vrincioaia 73.76 317 P **P 13 20 26.6 -0.2**
VRI Vrincioaia 73.76 317⇓P **P 13 20 26.8 0.0**
LBTB Lobatse 73.91 243 *e*P **P 13 20 27.1 -1.0**
comp=E,17nm,0.7s,mb5.1
LBTB LR LR
comp=Z,1μm,20.0s,MS5.1
MLR Muntele Rosu 74.21 316 P **P 13 20 28.6 -0.8**
comp=Z,34nm,1.0s,mb5.2,baz=147,slow=1.6,SNR=44
MLR Muntele Rosu 74.21 316 P **P 13 20 29.4 0.0**
MLR Muntele Rosu 74.21 316⇑P **P 13 20 29.0 -0.4**
MAW Mawson 74.22 193 LR LR 13 47 01.2
comp=Z,522nm,21.3s,MS4.8,baz=272,slow=31
RZN Rozhen 74.36 312 *i* P **P 13 20 30.5 +0.2**
SNX Sinaia 74.48 316 P **P 13 20 31.7 +0.7**
MTUR Matau 74.77 316 P **P 13 20 32.6 0.0**
MTUR Matau 74.77 316⇓P **P 13 20 33.0 +0.3**
VOIR 74.82 316⇑P **P 13 20 32.3 -0.6**
VOIR 74.82 316⇑P **P 13 20 32.3 -0.6**
PGB Panagyurishte 74.91 313 *e*P **P 13 20 34.0 +0.5**
BOSA Boshof 74.92 239 P **P 13 20 32.8 -1.1**
comp=Z,14nm,0.7s,mb5.0,baz=86,slow=5.1,SNR=19
BOSA LR LR 13 50 46.1
comp=Z,587nm,18.6s,MS4.9,baz=80,slow=34
MMB Musomiste 75.07 312 *i* P **P 13 20 34.0 -0.5**
BURAR Bucovina Array 75.15 319 P **P 13 20 35.5 +0.7**
BURAR Bucovina Array 75.15 319⇓P **P 13 20 35.0 +0.2**
MNK Minsk 75.23 326⇑*e*P **P 13 20 31.0 -4.1**
PUL Pulkovo 75.55 331 *e*P **P 13 20 37.2 +0.4**
PUL *i* 13 23 26.7
PUL *i* PPP PPP 13 25 14.0 -0.3
PUL *e*S S 13 30 16.8 +2.3
PUL pmax pmax
comp=Z,126nm,0.5s,mb6.1
PUL pmax pmax
comp=N,452nm,0.8s
PUL pmax pmax
comp=E,317nm,0.8s
PUL pmax pmax
comp=Z,166nm,0.5s,mb6.2
PUL smax
comp=E,242nm,12.6s
PUL smax
comp=Z,44nm,8.3s
PUL smax
comp=N,107nm,10.2s
KKB Krupnik 75.59 312 *e*P **P 13 20 37.0 -0.4**
VTS Vitosha 75.61 313 *e*P **P 13 20 37.0 -0.6**
ZAPS Zavoj/Pirot 76.16 314⇑*i*P **P 13 20 40.3 -0.3**
JOF Joensuu 76.20 335 *e*p **P 13 20 40.4 -0.1**
comp=N,1.8nm,0.4s,mb4.3
JOF Joensuu 76.20 335 *e*P **P 13 20 40.4 -0.1**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
LVV L'vov 76.38 321 *i* P **P 13 20 42.4 +0.7**
LVV *e*S S 13 30 22.2 -1.5
LVV L'vov 76.38 321 *i* Pr 13 20 42.5
BOLS Boljevac 76.71 314⇓*i*P **P 13 20 42.6 -1.1**
SKO Skopje 76.82 312 *e*P **P 13 20 40.0 -4.3**
LVZ Lovozero 76.90 340*de*P **P 13 20 44.1 -0.2**
LVZ *i* 13 23 40.1
LVZ *i* PPP PPP 13 25 20.5 -6.2
LVZ *e*S S 13 30 24.4 -4.6
LVZ pmax pmax
comp=Z,51nm,0.8s,mb5.5
LVZ pmax pmax
comp=N,8.0nm,0.7s
LVZ pmax pmax
comp=E,9.0nm,0.7s
LVZ pmax pmax
comp=Z,515nm,3.3s
LVZ pmax pmax
comp=N,245nm,4.1s
LVZ pmax pmax
comp=E,343nm,3.2s
LVZ smax
comp=E,121nm,12.1s
LVZ smax
comp=Z,24nm,5.1s
LVZ smax
comp=N,194nm,11.6s
LVZ MLR MLR
comp=Z,1μm,20.0s,MS5.1
LVZ MLR MLR
comp=N,427nm,19.0s,MS5.0
LVZ MLR MLR
comp=E,684nm,20.0s,MS5.0
LVZ Lovozero 76.90 340 *i* Pr 13 20 44.2
KWP Kalwaria 77.18 320 *e*P **P 13 20 47.0 +0.8**
KWP *e*pP pP 13 20 52.4 -2.1
KWP *e*PcP PcP 13 20 55.4 -1.9
KWP Kalwaria 77.18 320 *e*P **P 13 20 47.0 +0.8**
KWP *e*pP pP 13 20 52.4 -2.0
KWP *e*PcP PcP 13 20 55.4 -1.9
APA Apatity 77.19 339⇑*i*P **P 13 20 46.0 +0.1**
APA *i* pP 13 20 53.6 -0.6
APA *e* 13 23 40.0
APA *e*S S 13 30 36.0 +3.8
APA *e*PS PS 13 31 21.0 +6.1
APA pmax pmax
comp=Z,46nm,0.9s,mb5.4
APA MLR MLR
comp=Z,1μm,19.0s,MS5.3
UZH Uzhgorod 77.27 319 *e*P **P 13 20 48.0 +1.3**
UZH *e*S S 13 30 31.0 -2.4
KOLS Kolonicke sedl 77.33 319 *e*P **P 13 20 48.1 +1.1**
KOLS *e*pP pP 13 20 56.5 +1.2
SUW Suwalki 77.76 325 *e*P **P 13 20 48.4 -0.8**
SUW *e*PcP PcP 13 20 57.4 -2.3
CRVS Cervenica-Dubn 77.86 319 *e*P **P 13 20 51.5 +1.6**
CRVS *e* pP 13 21 00.4 +2.2
FINES FINESS Array B 78.06 332 P **P 13 20 49.7 -1.0**
comp=Z,22nm,0.7s,mb5.2,baz=90,slow=5.7,SNR=92
FINES LR LR 14 01 41.4
comp=Z,646nm,18.2s,MS5.0,baz=9.9,slow=41
FINES FINESS Array B 78.06 332 P **P 13 20 49.7 -1.0**
FINES LR LR 14 01 41.4
KAF Kangasniemi 78.14 333 *ep* **P 13 20 50.1 -1.1**
comp=Z,23nm,0.8s,mb5.2,baz=104,slow=5.2
KAF Kangasniemi 78.14 333 *e*P **P 13 20 50.1 -1.1**
KAF pmax pmax
comp=Z,23nm,0.8s,mb5.2
KECS Kecovo 78.43 319 *e*P **P 13 20 53.8 +0.7**
KECS *e*pP pP 13 21 01.6 +0.2
BBLS Bajina Basta - 78.54 314 *e*P **P 13 20 46.3 -7.4**
NIE Niedzica 78.68 320 *e*P **P 13 20 55.0 +0.6**
PSZ Piszkesteto 78.74 318⇑P **P 13 20 55.3 +0.5**
PSZ Piszkesteto 78.74 318 *e*P **P 13 20 54.4 -0.3**
comp=Z,37nm,0.8s,mb5.4
PSZ Piszkesteto 78.74 318 *i* Pd 13 20 55.8
OJC Ojcow 79.13 320 *e*P **P 13 20 58.0 +1.1**
PKSM Moragy 79.36 316⇑P **P 13 20 58.8 +0.6**
VYHS Vyhne 79.52 319 *e*P **P 13 20 58.9 -0.1**
VYHS *e*pP pP 13 21 07.1 -0.2
BILL Bilibino 79.84 21*d i*P **P 13 21 00.2 -0.1**
BILL *i* pP 13 21 08.5 -0.2
BILL *i* 13 21 14.9

BILL pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BILL MLR MLR
comp=Z,1μm,17.0s,MS5.3
BILL Bilibino 79.84 21 *e*P **P 13 21 00.2 -0.2**
comp=Z,26nm,1.4s,mb5.0
BILL LR LR
comp=Z,1μm,19.0s,MS5.3
TIP Timpagrande 80.07 309 *e*P **P 13 21 01.6 -0.6**
OKC Ostrava-Krasne 80.14 320 *e*P **P 13 21 03.4 +1.1**
OKC *e*S S 13 31 17.2 +13
OKC Ostrava-Krasne 80.14 320 *e*P **P 13 21 03.4 +1.1**
OKC *e*SKS SKS 13 31 17.2 -3.7
OKC AMS AMS 14 04 30.0
comp=Z,300nm,17.0s
KEV Kevo 80.17 341 *e*p **P 13 21 01.7 -0.4**
comp=Z,0.9nm,0.4s
KEV Kevo 80.17 341 *e*P **P 13 21 01.7 -0.4**
KEV pmax pmax
comp=Z,1.0nm,0.4s
ORI Oriolo Calabro 80.37 310 *e*P **P 13 21 04.7 +1.0**
TSUM Tsumeb 80.38 250 *e*P **P 13 21 03.8 -0.4**
comp=Z,16nm,1.3s,mb4.8
MORC Moravsky Berou 80.52 320 ⇑P **P 13 21 04.9 +0.6**
MORC Moravsky Berou 80.52 320 *e*P **P 13 21 03.8 -0.5**
comp=Z,13nm,0.8s,mb4.9
ARCES ARCESS Array B 80.60 340 P **P 13 21 03.9 -0.5**
comp=Z,12nm,0.5s,mb5.1,baz=96,slow=6.4,SNR=111
ARCES PP PP 13 24 06.2 -3.9
comp=Z,7.4nm,0.9s,baz=98,slow=8.6,SNR=3.8
ARCES LR LR 14 00 52.8
comp=Z,1μm,19.9s,MS5.2,baz=110,slow=39
ARE0 ARCESS Array S 80.60 340 *e*P **P 13 21 04.2 -0.2**
ZST Bratislava 80.63 318 *e*P **P 13 21 04.5 -0.5**
ZST *e* pP 13 21 13.7 +0.4
MTTG Motta San Giov 80.82 308 *e*P **P 13 21 07.4 +1.3**
MGR Morigerati 81.06 310 *e*P **P 13 21 07.7 +0.3**
VRAC Vranov 81.08 319 P **P 13 21 07.6 +0.3**
comp=Z,2.6nm,0.6s,mb4.3,baz=109,slow=10,SNR=4.4
KTK1 Kautokeino 81.24 340 *e*P **P 13 21 09.6 +1.9**
KTK1 AMb AMB 13 21 10.9
comp=Z,64nm,1.5s,mb5.3
SGO Sicignano 81.27 310 *e*P **P 13 21 09.4 +0.9**
DPC Dobruska-Polom 81.36 320 *e*P **P 13 21 08.9 +0.2**
DPC MLR MLR
comp=Z,500nm,19.1s,MS4.9
DPC Dobruska-Polom 81.36 320 *e*P **P 13 21 08.9 +0.2**
DPC *e*SKS SKS 13 31 29.7 +0.1
DPC AMS AMS 14 05 20.0
comp=Z,500nm,19.1s
KSP Ksiaz 81.43 321 *e*P **P 13 21 09.6 +0.5**
KSP *e*pP pP 13 21 18.1 +0.7
KSP *e*SKS SKS 13 31 33.5 +3.4
KSP Ksiaz 81.43 321 *e*P **P 13 21 09.5 +0.4**
KSP *e*pP pP 13 21 18.8 +1.3
CSSN Cassano Irpino 81.51 311 *e*P **P 13 21 10.5 +0.8**
UPC Upice 81.58 320 *e*P **P 13 21 11.3 +1.5**
ARSA Arzberg 81.60 317 ⇑*i*P **P 13 21 10.1 0.0**
comp=Z,251nm,2.6s,mb5.7
BOJS Bojanci 81.65 315 *e*P **P 13 21 10.1 -0.2**
comp=Z,129nm,1.4s,mb5.7
CII Carovilli 82.10 312 P **P 13 21 12.6 -0.1**
LJU Ljubljana 82.20 316 *e*P **P 13 21 13.3 +0.2**
OBKA Obir 82.21 316 ⇑*i*P **P 13 21 13.4 +0.2**
comp=Z,324nm,3.0s
SDI San Donato 82.47 312 *e*P **P 13 21 15.1 +0.4**
PRU Pruhonice 82.47 320 *e*P **P 13 21 15.6 +1.1**
PRU *e*S S 13 31 25.0 -2.9
PRU AMS AMS 14 06 00.0
comp=Z,400nm,17.4s
PVCC Panska Ves 82.50 320 *e*P **P 13 21 16.0 +1.4**
PVCC AMS AMS 14 03 00.0
comp=Z,400nm,17.5s
MOA Molln 82.50 318 ⇑*i*P **P 13 21 13.8 -0.9**
comp=Z,234nm,3.4s
JAVS Javornik 82.51 316 *e*P **P 13 21 14.5 -0.3**
comp=Z,258nm,2.9s,mb5.8
VOY Vojsko 82.64 316 *e*P **P 13 21 16.3 +0.8**
VOY *e* pP 13 21 24.3 +0.5
VOY *e* 13 21 44.2
PTQR Pietraquaria 82.79 312 *e*P **P 13 21 17.4 +1.1**
AQU L'Aquila 82.80 312 P **P 13 21 18.5 +2.1**
AQU L'Aquila 82.80 312 *e*P **P 13 21 16.6 +0.2**
ROBS Robic 82.92 316 *e*P **P 13 21 16.7 -0.2**
BRG Berggiesshubel 82.92 321 *i* P **P 13 21 18.5 +1.7**
BRG *e* 13 24 31.4
BRG pmax pmax
comp=Z,67nm,1.9s,mb5.3
BRG MLR MLR
comp=N,320nm,21.4s,MS4.9
BRG MLR MLR
comp=E,400nm,21.4s,MS4.9
BRG MLR MLR
comp=Z,490nm,21.4s,MS4.8
BRG Berggiesshubel 82.92 321 *i* P **P 13 21 18.5 +1.7**
comp=Z,67nm,1.9s,mb5.3
BRG *e* 13 24 31.4
BRG *e*S Sx 13 31 50.0
BRG *e*SS Sx 13 38 05.0
BRG LR LR
comp=Z,490nm,21.4s,MS4.8
GEC2 GERESS Array S 82.94 319 *e*P **P 13 21 16.9 -0.1**
GEC2 *e*S S 13 31 31.9 -0.8
GEC2 pmax pmax
comp=Z,50nm,1.2s,mb5.4
GEC2 GERESS Array S 82.94 319 *e*P **P 13 21 16.9 -0.1**
comp=Z,50nm,1.2s,mb5.4
GEC2 *e*S S 13 31 31.9 -0.8
GERES GERESS Array B 82.94 319 P **P 13 21 16.5 -0.5**
comp=Z,13nm,0.9s,mb5.0,baz=90,slow=5.3,SNR=60
GERES LR LR 14 05 16.4
comp=Z,365nm,19.4s,MS4.8,baz=220,slow=41
PTCC Patocco-Chiusa 83.03 316 *e*P **P 13 21 17.4 -0.1**
NRCA Norcia 83.03 313 *e*P **P 13 21 17.3 -0.3**
KHC Kasperske Hory 83.04 319 *e*P **P 13 21 17.2 -0.3**
KHC *e* pP 13 21 26.0 +0.2
KHC *e*S S 13 31 36.5 +2.8
KHC MLR MLR
comp=Z,400nm,19.3s,MS4.8
KHC Kasperske Hory 83.04 319 *e*P **P 13 21 17.2 -0.3**
KHC pP pP 13 21 26.0 +0.2
KHC *e*S S 13 31 36.5 +2.8
KHC AMS AMS 14 07 50.0
comp=Z,400nm,19.3s
KBA Koelnbreinsper 83.08 317 ⇑*i*P **P 13 21 17.2 -0.5**
comp=Z,58nm,2.2s,mb5.2
SNTG Esanatoglia 83.18 313 *e*P **P 13 21 19.4 +1.0**
ARV Arcevia 83.19 313 *e*P **P 13 21 18.7 +0.3**
FSSB Fossombrone 83.31 313 *e*P **P 13 21 20.1 +1.1**
MNS Montasola 83.34 312 *e*P **P 13 21 18.9 -0.3**
WET Wettzell 83.50 319 *e*P **P 13 21 19.7 -0.1**
WET *e*S S 13 31 39.3 +1.0
WET pmax pmax
comp=Z,26nm,1.2s,mb5.1
WET Wettzell 83.50 319 *e*P **P 13 21 19.7 -0.1**
comp=Z,26nm,1.2s,mb5.1
WET *e*S S 13 31 39.3 +1.0
CLL Collm 83.54 321 ⇓*i*P **P 13 21 20.7 +0.7**
CLL *i* 13 21 33.5
CLL *e* 13 22 05.0
CLL Collm 83.54 321 ⇓P **P 13 21 20.7 +0.7**
CLL *i* *SP sP 13 21 33.5 +2.4
CLL *e* 13 22 28.0
RSM Repubblica di 83.56 314 *e*P **P 13 21 21.6 +1.4**
HFS Hagfors 83.78 330 LR LR 14 04 17.3
comp=Z,778nm,18.6s,MS5.1,baz=345,slow=40
NKC Novy Kostel 83.83 320 *e*P **P 13 21 22.5 +1.0**
NKC AMS AMS 14 04 10.0
comp=Z,500nm,19.6s
SFI Santa Sofia 84.00 314 *e*P **P 13 21 23.8 +1.3**
PGD Poggio Sodo 84.09 314 *e*P **P 13 21 25.1 +2.1**
CTI Castel Tesino 84.20 316 *e*P **P 13 21 24.5 +1.0**
VMG Vicchio 84.22 314 *e*P **P 13 21 25.6 +2.0**
WTTA Wattenberg 84.25 317 ⇑*i*P **P 13 21 23.9 +0.2**
comp=Z,51nm,1.4s,mb5.5
WATA Walderalm 84.29 317 ⇓*i*P **P 13 21 24.2 +0.3**
comp=Z,15nm,1.2s,mb5.0
SEI Scarperia 84.35 314 *e*P **P 13 21 26.3 +2.0**
MOX Moxa 84.38 320 *e*P **P 13 21 25.5 +1.2**
MOX pmax pmax
comp=Z,38nm,1.8s,mb5.2
MOX Moxa 84.38 320 *e*P **P 13 21 25.5 +1.2**
comp=Z,38nm,1.8s,mb5.2
MOX Moxa 84.38 320 *i* P **P 13 21 24.9 +0.6**
comp=Z,logA/T=1.1,mb5.0
MOX L 14 06 55.0
SQTA Sankt Quirin 84.54 317 ⇓*i*P **P 13 21 25.8 +0.7**
comp=Z,12nm,1.0s,mb5.0
URZ Urewera 84.57 129 LR LR 14 01 28.4
comp=Z,926nm,18.2s,MS5.2,baz=236,slow=37
GRA1 Grafenberg Arr 84.60 319 *e*P **P 13 21 25.7 +0.3**
comp=Z,41nm,1.1s,mb5.5
GRA1 LR LR
comp=Z,500nm,18.9s,MS4.9
GRF Grafenberg Arr 84.60 319 *e*P **P 13 21 25.7 +0.3**
comp=Z,41nm,1.1s,mb5.5
GRF LR LR
comp=Z,500nm,18.9s,MS4.9
MOTA Moosalm 84.61 317 ⇑*i*P **P 13 21 25.3 -0.2**
NB2 NORSAR Subarra 85.06 331 P **P 13 21 26.6 -0.8**
comp=Z,34nm,1.1s,mb5.4,baz=91,slow=5.0
NB2 NORSAR Subarra 85.06 331 P **P 13 21 26.6 -0.8**
baz=91,slow=5.3
NOA NORSAR Array B 85.06 331 P **P 13 21 26.8 -0.7**
comp=Z,11nm,1.0s,mb5.0,baz=93,slow=5.3,SNR=17
NOA PP PP 13 24 41.0 -5.2
comp=Z,2.2nm,0.7s,baz=96,slow=7.6,SNR=5.2
NOA LR LR 14 05 25.8
comp=Z,456nm,19.1s,MS4.9,baz=100,slow=40
BRMO Bormio 85.09 316 *e*P **P 13 21 29.4 +1.5**
CLZ Clausthal 85.20 322 *e*P **P 13 21 29.5 +1.2**
comp=Z,24nm,1.2s,mb5.2
NAO01 NORSAR Array S 85.22 331 *e*P **P 13 21 28.2 0.0**
comp=Z,11nm,0.9s,mb5.0
BSEG Bad Segeberg 85.28 324 *e*P **P 13 21 30.4 +1.7**
BSEG pmax pmax
comp=Z,35nm,1.2s,mb5.4
DAVOX Davos 85.44 317 P **P 13 21 29.6 0.0**
comp=Z,22nm,0.6s,mb5.5,baz=106,slow=5.7,SNR=17
DAVA Damuels 85.44 317 ⇑*i*P **P 13 21 29.6 0.0**
comp=Z,75nm,1.6s,mb5.6
PGF Pioggiola 86.06 312 *e*P **P 13 21 33.6 +0.8**
comp=Z,84nm,1.4s,mb5.5
TNS Taunus Mts 86.40 320 *e*P **P 13 21 35.8 +1.5**
TNS pmax pmax
comp=Z,15nm,1.0s,mb5.2
TNS Taunus Mts 86.40 320 *e*P **P 13 21 35.8 +1.5**
comp=Z,15nm,1.0s,mb5.2
BFO Black Forest 86.49 318 *e*P **P 13 21 34.6 -0.2**
BFO pmax pmax
comp=Z,12nm,0.9s,mb5.1
BFO Black Forest 86.49 318 *e*P **P 13 21 34.6 -0.2**
comp=Z,12nm,0.9s,mb5.1
BFO *e*S S 13 32 25.3 +18
FIN Finale Ligure 86.62 314 *e*P **P 13 21 36.4 +0.9**
MOL Molde 86.84 332 *e*P **P 13 21 38.4 +2.3**
SBF Sospel 87.19 314 *e*P **P 13 21 38.8 +0.5**
comp=Z,42nm,0.8s,mb5.4
CDF Champ du Feu 87.19 318 *e*P **P 13 21 38.5 +0.3**
comp=Z,6.1nm,0.5s,mb4.8
LPG La Plagne 87.63 315 *e*P **P 13 21 41.4 +1.0**
comp=Z,32nm,0.8s,mb5.3
MBDF Montbardon 87.64 314 *e*P **P 13 21 40.5 +0.1**
comp=Z,17nm,0.8s,mb5.0
LPL La Plagne 87.64 315 *e*P **P 13 21 41.4 +1.0**
comp=Z,32nm,0.9s,mb5.2
BNI Bardonecchia 87.69 315 *e*P **P 13 21 40.3 -0.4**
comp=Z,10nm,0.8s,mb5.1
VNDA Vanda 87.71 169 P **P 13 21 41.0 +1.0**
comp=Z,1.9nm,0.7s,mb4.4,baz=283,slow=5.6,SNR=7.5
VNDA Vanda 87.71 169 *e*P **P 13 21 40.7 +0.6**
comp=Z,4.9nm,0.8s,mb4.8
RAO Raoul Island 87.71 119 LR LR 14 02 54.0
comp=Z,548nm,20.1s,MS5.0,baz=142,slow=37
FRF La Foret Royal 87.77 313 *e*P **P 13 21 41.8 +0.7**
HAU Haudompre 87.82 318 *e*P **P 13 21 41.7 +0.5**
comp=Z,35nm,0.8s,mb5.3
HAU *e*R
comp=Z,379nm,17.8s
CABF La Chapelle 88.05 316 *e*P **P 13 21 43.3 +0.9**
comp=Z,34nm,1.0s,mb5.2
ORIF Oris-en-Rattie 88.27 315 *e*P **P 13 21 44.4 +1.0**
ORIF *e*R
comp=Z,423nm,22.5s
MEZF Maizieres J'vi 88.67 318 *e*P **P 13 21 46.0 +0.7**
GIVF Givet 88.73 320 *e*P **P 13 21 46.5 +0.9**
VIVF Saint-Julien-l 89.12 315 *e*P **P 13 21 48.3 +0.7**
BAIF Baives 89.13 320 *e*P **P 13 21 48.6 +1.1**
comp=Z,56nm,1.0s,mb5.5
SMF Signal de Mont 89.59 317 *e*P **P 13 21 50.3 +0.6**
comp=Z,34nm,1.0s,mb5.3
SSF Saint Saulge 89.80 317 *e*P **P 13 21 50.6 -0.1**
AVF Avril sur Loir 89.92 317 *e*P **P 13 21 51.9 +0.7**
comp=Z,18nm,1.0s,mb5.1
BGF Bois d'Agland 90.29 316 *e*P **P 13 21 54.2 +1.3**
comp=Z,41nm,1.0s,mb5.4
TCF Toulx Ste Croi 90.75 316 *e*P **P 13 21 56.2 +1.1**
MTLF Montolieu 91.00 313 *e*P **P 13 21 57.4 +1.1**
RJF Les Rejaudoux 91.32 315 *e*P **P 13 21 59.2 +1.5**
comp=Z,11nm,0.7s,mb5.0
RJF *e*R
comp=Z,392nm,20.5s
JMIC Jan Mayen 92.04 342 LR LR 14 09 48.3
comp=Z,440nm,20.6s,MS4.9,baz=246,slow=40
LDF La Druitiere 92.08 319 *e*P **P 13 22 02.1 +0.9**
comp=Z,53nm,1.0s,mb5.5
FLN La Foliniere 92.30 319 *e*P **P 13 22 03.2 +1.1**
comp=Z,21nm,0.7s,mb5.3
FLN *e*R
comp=Z,540nm,20.2s
MFF Saint Martin d 92.33 317 *e*P **P 13 22 03.4 +1.0**
comp=Z,45nm,1.1s,mb5.4
GRR Gorron 92.60 319 *e*P **P 13 22 04.7 +1.2**
comp=Z,25nm,1.0s,mb5.3
ETSF Etsaut 93.07 313 *e*P **P 13 22 06.4 +0.6**
comp=Z,37nm,1.0s,mb5.5
SJPF Ste Jean 93.52 313 *e*P **P 13 22 09.4 +1.5**
comp=Z,38nm,1.1s,mb5.4
IMA Indian Mountai 95.30 23 *e*P **P 13 22 16.8 +1.3**
TTA Tatalina 95.33 26 *e*P **P 13 22 16.5 +0.8**
ESDC Sonseca Array 96.05 310 P **P 13 22 19.9 +0.3**
comp=Z,0.5nm,0.4s,mb4.3,baz=34,slow=4.6,SNR=3.4
COLA College 98.00 23 *i* P **P 13 22 28.1 +0.3**
ILAR Eielson Array 98.42 23 P **P 13 22 29.1 -0.6**
comp=Z,0.6nm,0.8s,baz=295,slow=5.0,SNR=9.5
ILAR PP PP 13 26 24.4 -8.2
comp=Z,0.8nm,0.7s,baz=296,slow=7.0,SNR=4.9
ILAR PKKPbc 13 38 58.7
comp=Z,1.0nm,0.8s,baz=156,slow=2.4,SNR=7.3
ILAR LR LR 14 13 11.5
comp=Z,539nm,19.3s,MS5.0,baz=142,slow=39
PWA Palmer West 98.46 26 *e*P **P 13 22 30.5 +0.6**
BORG Borgarnes 98.78 337 LR LR 14 14 03.6
comp=Z,594nm,19.1s,MS5.1,baz=265,slow=40
MENT Mentasta 100.50 24 *e*P P 13 22 40.9 +1.7
INK Inuvik 101.05 17 PKKPbc 13 38 51.4
comp=Z,1.6nm,1.1s,baz=316,slow=10,SNR=3.2
YKA Yellowknife Ar 110.62 15 Pdiff Pdif 13 23 25.5 +1.7
comp=Z,0.4nm,0.8s,baz=323,slow=4.0,SNR=9.6
YKA PKiKP 13 27 25.5
comp=Z,0.3nm,0.6s,baz=331,slow=3.2,SNR=3.9
YKA PP PP 13 27 55.2 -8.8
comp=Z,0.5nm,0.7s,baz=328,slow=7.2,SNR=5.0
YKA PKKPbc 13 38 23.0
comp=Z,0.4nm,0.8s,baz=142,slow=3.0,SNR=6.9
YKA Yellowknife Ar 110.62 15 Pdif Pdif 13 23 25.5 +1.7
YKA PKPdf PKPdf 13 27 25.5 -2.1
YKA PP PP 13 27 55.2 -8.8
YKA PKKPbc 13 38 23.0
TBI Tubuai 113.35 114 *e*PP PP 13 28 19.1 -6.0
TBI *e*PS PS 13 37 56.9 +1.1
TBI *e*LR LR 14 01 33.3
comp=Z,487nm,23.8s
PPT Papeete 113.83 108 *e*PP PP 13 28 10.1 -18
PPT *e*PS PS 13 37 58.9 -1.3
PPT *e*LR LR 14 01 46.6
comp=Z,509nm,23.2s
SCHQ Schefferville 120.75 349 PKP PKPdf 13 27 44.5 -3.0
comp=Z,4.4nm,0.8s,baz=14,slow=7.5,SNR=6.3
NEW Newport 121.23 26 *e*PKPdf PKPdf 13 27 45.4 -3.2
MSO Missoula 123.70 25 *e*PKPdf PKPdf 13 27 49.8 -3.6
MOD Modoc 124.33 33 *e*PKPdf PKPdf 13 27 51.9 -2.9
WVOR Wild Horse Val 124.84 31 *e*PKPdf PKPdf 13 27 52.7 -3.1
BOZ Bozeman (W) 125.60 24 *e*PKPdf PKPdf 13 27 54.5 -2.6
MCMT McKenzie Canyo 125.76 25 *e*PKPdf PKPdf 13 27 54.3 -3.1
ULM Lac du Bonnet 125.97 10 PKP PKPdf 13 27 54.0 -3.7
comp=Z,12nm,0.8s,baz=348,slow=2.6,SNR=14
ULM Lac du Bonnet 125.97 10 *e*PKPdf PKPdf 13 27 53.7 -4.0
HLID Hailey 126.06 27 *e*PKPdf PKPdf 13 27 54.8 -3.3
QLMT Earthquake Lak 126.35 24 *e*PKPdf PKPdf 13 27 55.8 -2.7
LAO LASA Array 126.70 19 *e*PKPdf PKPdf 13 27 55.2 -3.9
LKWY Lake 126.99 24 *e*PKPdf PKPdf 13 27 57.1 -2.7
MOOW Moose Ponds 127.52 25 *e*PKPdf PKPdf 13 27 58.4 -2.5
TPAW Teton Pass 127.64 25 *e*PKPdf PKPdf 13 27 58.2 -2.9
LOHW Long Hollow 127.69 25 *e*PKPdf PKPdf 13 27 59.3 -1.9
SNOW Snow King Moun 127.75 25 *e*PKPdf PKPdf 13 27 58.7 -2.6
NVAR Mina Array Bea 127.84 34 PKP PKPdf 13 27 58.4 -3.3
comp=Z,3.6nm,0.9s,baz=332,slow=0.6,SNR=18
MNV Mina 127.93 34 *e*PKPdf PKPdf 13 27 59.5 -2.3
BW06 Boulder Array 128.82 24 *e*PKPdf PKPdf 13 28 00.7 -2.7
PDAR Pinedale Array 128.82 24 PKP PKPdf 13 28 00.2 -3.2
comp=Z,1.3nm,0.7s,baz=101,slow=1.1,SNR=11
RSSD Black Hills 129.69 19 *e*PKPdf PKPdf 13 28 02.2 -2.8
DAU Daniels Canyon 129.99 28 PKPdf PKPdf 13 28 03.1 -2.6
MSU Marysvale 131.04 30 *e*PKPdf PKPdf 13 28 06.6 -1.1
PV10 Paradox Valley 132.64 27 *e*PKPdf PKPdf 13 28 08.3 -2.5
PV01 Paradox Valley 133.06 27 PKPdf PKPdf 13 28 08.0 -3.6
WUAZ Wupatki 133.75 32 *e*PKPdf PKPdf 13 28 10.8 -2.1
SDCO Great Sand Dun 134.71 25 *e*PKPdf PKPdf 13 28 11.6 -3.1
ANMO Albuquerque 136.63 28 *e*PKPdf PKPdf 13 28 14.3 -3.9
MNTX Cornudas Mount 139.82 29 *e*PKPdf PKPdf 13 28 20.7 -3.4
WMOK Wichita Mounta 139.90 19 *e*PKPpre 13 28 13.9
PLCA Paso Flores 140.58 196 PKhKP 13 28 16.6
comp=Z,1.1nm,0.5s,baz=180,slow=11,SNR=2.5
WVT Waverly 140.92 5 *e*PKPdf PKPdf 13 28 22.4 -3.6
TXAR Lajitas Array 142.60 29 PKhKP 13 28 22.2
comp=Z,1.2nm,0.6s,baz=222,slow=0.8,SNR=10.0
TXAR PP PP 13 31 35.2 -1.1
comp=Z,0.7nm,0.9s,baz=45,slow=1.3,SNR=2.4
TXAR SKP 13 31 59.4
comp=Z,2.9nm,0.9s,baz=333,slow=2.8,SNR=5.9
TXAR Lajitas Array 142.60 29 PKP PKPdf 13 28 22.2 -6.9
TXAR PP PP 13 31 35.2 -1.1
TXAR SKP 13 31 59.4
BAO Brasilia Array 142.70 248 PKPdf PKPdf 13 28 23.0 -6.6
BDFB Brasilia 142.72 248 PKhKP 13 28 23.2
comp=Z,7.1nm,0.9s,baz=177,slow=7.7,SNR=5.6
JCT Junction City 143.35 24 *e*PKPdf PKPdf 13 28 25.2 -5.2
TEIG Tepich 156.52 11 *e*PKPab PKPab 13 29 16.9 -0.5
SAML Samuel 158.80 253 *e*PKPdf PKPdf 13 28 50.3 -3.7
SAML *e*PKPab PKPab 13 29 26.6 -0.8
LPAZ La Paz 159.79 228 PKP PKPdf 13 28 52.6 -2.3
comp=Z,2.6nm,0.7s,baz=93,slow=1.3,SNR=9.5
LPAZ PKPab PKPab 13 29 31.9 +0.3
comp=Z,5.3nm,0.7s,baz=180,slow=6.2,SNR=7.9
LPAZ La Paz 159.79 228 *e*PKPdf PKPdf 13 28 52.1 -2.9
OTAV Otavalo 173.91 301 *e*PKPdf PKPdf 13 29 02.5 -3.2

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*IDC **15** 13:21:12.5±0.6, 41.96N×82.06E, mb4.3/16, mb1 4.4/19, mb1mx4.3/28, mbtmp4.2/19, ML3.9/3, Error ellipse: s-maj=18.4km s-min=12.1km az=53.0*
*MOS **15** 13:21:15.8±0.7, 41.99N×81.94E, h33km, mb4.6/18, Error ellipse: s-maj=15.1km s-min=8.8km az=119.4*
*BJI **15** 13:21:16.0, 41.89N×81.98E, h31km, mB4.8, mb4.0, ML4.7, Ms4.5, Msz4.3*
*NEIC **15** 13:21:17.0±2.2, 41.99N×81.96E, h29km±16km, mb4.4/10, Error ellipse: s-maj=8.9km s-min=5.1km az=202.0*
*NNC **15** 13:21:18.1±0.8, 42.18N×81.64E, mpv4.3, Error ellipse: s-maj=10.2km s-min=6.6km az=159.0*
ISC 15 13:21:16.1±0.9, **41.88N**±0.04×**81.94E**±0.06, **h39**km±8km, **n84**, σ1°**14**/**89**, **mb4.2**/25, **4C-6D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAA	**Alma-Ata**	**3.94**	**292**	*e*PN	**P**	**13 22 26.1**	**+10**
AAA				*e*		13 23 15.1	
AAA				pmax	pmax		
	comp=Z,500nm,0.4s						
AAA				smax			
	comp=E,1μm,1.1s						
AAA				MLR	MLR		
	comp=Z,2μm,8.0s						
ULHL	**Ulahol**	**4.26**	**277**	P	**P**	**13 22 20.6**	**+0.4**
	SNR=110						
TKM2	**Tokmak 2**	**4.81**	**285**	P	**P**	**13 22 29.1**	**+1.0**
	SNR=135						
KZA	**Kyzart**	**4.99**	**275**	P	**P**	**13 22 32.0**	**+1.5**
	SNR=44						
KSH	**Kashi**	**5.11**	**244**	*e*P	**P**	**13 22 34.8**	**+2.5**
KSH				S	**S**	**13 23 38.6**	**+7.8**
KSH				Smax			
	comp=N,320nm,0.5s						
KSH				Smax			
	comp=E,880nm,1.2s						
KBK	**Karagaybulak**	**5.25**	**281**	P	**P**	**13 22 35.0**	**+0.8**
	SNR=56						
CHMS	**Chumysh**	**5.43**	**284**	P	**P**	**13 22 36.8**	**0.0**
	SNR=8.5						
FRU	**Bishkek**	**5.51**	**282**	*i* PN	Px	13 22 58.0	
FRU				pmax	pmax		
	comp=Z,560nm,1.8s						
UCH	**Uchtor**	**5.54**	**276**	P	**P**	**13 22 39.9**	**+1.7**
	SNR=11						
AAK	**Ala-Archa**	**5.58**	**280**	P	**P**	**13 22 39.3**	**+0.6**
	SNR=23						
AAK	**Ala-Archa**	**5.58**	**280**	⇑Pn	**P**	**13 22 38.9**	**+0.1**
	comp=Z,8.0nm,0.3s						
AAK				⇓Lg		13 24 07.6	
	comp=Z,500nm,0.9s						
AAK	**Ala-Archa**	**5.58**	**280**	PN	**P**	**13 22 38.8**	**+0.1**
AAK						13 24 07.5	
AAK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
AAK				pmax	pmax		
	comp=Z,460nm,0.9s						
AAK	**Ala-Archa**	**5.58**	**280**	*e*Pn	**P**	**13 22 38.0**	**-0.7**
USP	**Ospenovka**	**5.67**	**287**	P	**P**	**13 22 39.7**	**-0.2**
	SNR=28						
AML	**Almayashu**	**6.15**	**275**	P	**P**	**13 22 48.8**	**+2.1**
	SNR=9.5						
KK02	**Karatay Array**	**8.53**	**282**	⇓Pn	**P**	**13 23 19.2**	**-0.9**
	comp=Z,2.1nm,0.6s						
KK02				⇓Pg	Px	13 23 48.7	
	comp=Z,88nm,1.2s						
KK02				⇑Lg		13 25 39.9	
	comp=Z,74nm,0.8s						
DLH	**Dalhousie**	**10.46**	**209**	*e*P	**P**	**13 23 48.0**	**+1.4**
DLH				*e*S	**S**	**13 25 39.0**	**-4.6**
THN	**Thein Dam**	**10.65**	**210**	*e*P	**P**	**13 23 47.7**	**-1.5**
THN				*e*S	**S**	**13 25 42.4**	**-5.8**
CHCP	**Chirah Chowk**	**10.69**	**223**	⇓P	**P**	**13 23 48.2**	**-1.6**
CEP	**Cherat**	**11.29**	**228**	P	**P**	**13 23 55.6**	**-2.2**
CEP				S	**S**	**13 26 02.0**	**-1.6**
BHK	**Bhakra**	**11.34**	**205**	*e*S	**S**	**13 25 57.3**	**-7.7**
SMLA	**Simla**	**11.39**	**201**	⇓*i*P	**P**	**13 23 50.3**	**-8.9**
SMLA				*i* S	**S**	**13 25 51.1**	**-15**
	comp=Z,249nm,0.5s						
THW	**Thamme Wali**	**12.16**	**225**	P	**P**	**13 24 06.8**	**-2.8**
ZAL	**Zalesovo**	**12.21**	**8**	Pn	**P**	**13 24 07.8**	**-2.4**
	comp=Z,1.8nm,0.3s,baz=280,slow=11,SNR=11						
ZAL				Sn	**S**	**13 26 20.7**	**-5.3**
	comp=Z,2.2nm,0.3s,baz=141,slow=23,SNR=6.8						
ZAL				Lg		13 27 32.6	
	comp=Z,0.2nm,0.3s,baz=103,slow=12,SNR=1.7						
NVS	**Novosibirsk**	**13.00**	**3**	*e*P	**P**	**13 24 25.0**	**+4.3**
NVS				*e*		13 26 41.5	
BVA0	**Borovoye Array**	**13.59**	**329**	⇑Pn	**P**	**13 24 27.2**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=139,slow=13,SNR=33						
BVA0				⇑Lg		13 28 17.5	
	comp=Z,38nm,1.8s						
BVA0	**Borovoye Array**	**13.59**	**329**	*i* P	**P**	**13 24 27.2**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVA0				pmax	pmax		
	comp=Z,44nm,1.4s						
BVAR	**Borovoye Array**	**13.59**	**329**	Pn	**P**	**13 24 25.7**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=139,slow=13,SNR=8.0						
BVAR				Lg		13 28 18.4	
	comp=Z,0.8nm,0.3s,baz=120,slow=24,SNR=3.5						
MOY	**Mondy**	**16.27**	**47**	*e*P	**P**	**13 25 06.6**	**+3.5**
ZAK	**Zakamensk**	**17.02**	**53**	*e*P	**P**	**13 25 12.3**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**18.29**	**63**	P	**P**	**13 25 27.2**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=269,slow=8.9,SNR=19						
ULN	**Ulaanbaatar**	**18.74**	**63**	*e*P	**P**	**13 25 33.9**	**0.0**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ULN	**Ulaanbaatar**	**18.74**	**63**	*e*P	**P**	**13 25 33.9**	**+0.1**
	comp=Z,5.8nm,0.8s						
ARU	**Arti**	**20.96**	**322**	*e*P	**P**	**13 25 56.7**	**-1.2**
ARU				pmax	pmax		
	comp=Z,23nm,0.8s						

ARU	Arti	20.96	322	*e*P	P	13 25 56.7	-1.2
	comp=Z,23nm,0.8s						
ENH	Enshi	24.99	109	*e*P	P	13 26 39.3	+1.7
	comp=Z,15nm,0.7s,mb4.6						
ENH				*e*		13 26 46.0	
BOD	Bodaibo	25.78	41	*e*P	P	13 26 40.1	-4.6
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
CMAR	Chiang Mai Arr	27.48	143	P	P	13 27 00.9	+0.1
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
CMAR	Chiang Mai Arr	27.48	143	P	P	13 27 00.8	0.0
	comp=Z,0.8nm,0.7s,mb3.3,baz=316,slow=7.5,SNR=5.2						
JOF	Joensuu	36.08	323	*e*p	P	13 28 15.0	-0.6
	comp=Z,2.6nm,0.5s,mb4.4						
JOF	Joensuu	36.08	323	*e*P	P	13 28 15.0	-0.6
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
BRTR	Keskin Array B	36.24	283	P	P	13 28 18.1	+0.9
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRTR	Keskin Array B	36.24	283	P	P	13 28 18.1	+0.9
	comp=Z,2.0nm,0.5s,mb4.3,baz=94,slow=7.9,SNR=11						
AKASG	Malin Array Be	36.78	302	P	P	13 28 22.0	+0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	36.78	302	P	P	13 28 22.0	+0.5
	comp=Z,1.4nm,0.4s,mb4.1,baz=63,slow=10,SNR=4.1						
KAF	Kangasniemi	38.26	321	*e*p	P	13 28 32.6	-1.3
	comp=Z,0.5nm,0.4s,mb3.6						
KAF	Kangasniemi	38.26	321	*e*P	P	13 28 32.6	-1.3
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
FINES	FINESS Array B	38.31	320	P	P	13 28 33.7	-0.6
FINES						13 30 48.0	
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	38.31	320	P	P	13 28 33.7	-0.6
	comp=Z,1.9nm,0.6s,mb4.0,baz=93,slow=7.0,SNR=11						
FINES				PcP	PcP	13 30 48.0	-0.3
	comp=Z,0.8nm,0.5s,baz=107,slow=5.1,SNR=6.2						
KEV	Kevo	39.39	333	*e*p	P	13 28 41.8	-1.4
	comp=Z,0.6nm,0.4s,mb3.7						
KEV	Kevo	39.39	333	*e*P	P	13 28 41.8	-1.4
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
ARCES	ARCESS Array B	39.84	333	P	P	13 28 47.3	+0.4
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARCES	ARCESS Array B	39.84	333	P	P	13 28 47.3	+0.4
	comp=Z,3.6nm,0.6s,mb4.3,baz=91,slow=8.9,SNR=24						
MLR	Muntele Rosu	39.96	295	P	P	13 28 49.5	+1.4
MLR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MLR	Muntele Rosu	39.96	295	P	P	13 28 49.5	+1.4
	comp=Z,3.1nm,0.5s,mb4.3,baz=41,slow=2.0,SNR=9.8						
IDI	Anoyia	44.38	281	P	P	13 29 25.2	+0.8
	comp=Z,5.6nm,0.4s,mb4.7,baz=32,slow=13,SNR=5.7						
HFS	Hagfors	44.41	318	P	P	13 29 24.5	+0.2
HFS				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HFS	Hagfors	44.41	318	P	P	13 29 24.5	+0.2
	comp=Z,6.6nm,0.5s,mb4.6,baz=112,slow=8.0,SNR=31						
NB2	NORSAR Subarra	45.49	320	P	P	13 29 32.7	-0.3
	comp=Z,5.7nm,0.6s,mb4.6,baz=81,slow=7.9						
NB2	NORSAR Subarra	45.49	320	P	P	13 29 32.7	-0.3
NB2				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
NOA	NORSAR Array B	45.49	320	P	P	13 29 33.0	0.0
NOA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NOA	NORSAR Array B	45.49	320	P	P	13 29 33.0	0.0
	comp=Z,5.1nm,0.5s,mb4.6,baz=81,slow=7.9,SNR=29						
CLL	Collm	46.67	306	⇓P	P	13 29 42.9	+0.6
CLL				*e*PPP	PPP	13 32 12.0	-6.1
GERES	GERESS Array B	46.98	303	P	P	13 29 45.0	+0.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	GERESS Array B	46.98	303	P	P	13 29 45.0	+0.1
	comp=Z,0.9nm,0.5s,mb4.0,baz=59,slow=7.8,SNR=5.7						
SMF	Signal de Mont	53.97	304	*e*P	P	13 30 38.2	+0.1
AVF	Avril sur Loir	54.21	304	*e*P	P	13 30 39.9	0.0
	comp=Z,2.7nm,0.5s,mb4.2						
AVF	Avril sur Loir	54.21	304	*e*P	P	13 30 39.9	0.0
AVF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
TCF	Toulx Ste Croi	55.14	304	*e*P	P	13 30 46.8	+0.2
	comp=Z,2.2nm,0.3s,mb4.3						
TCF	Toulx Ste Croi	55.14	304	*e*P	P	13 30 46.8	+0.2
TCF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
IMA	Indian Mountai	64.20	22	*e*P	P	13 31 48.5	0.0
IMA				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
IMA	Indian Mountai	64.20	22	*e*P	P	13 31 48.5	0.0
	comp=Z,7.0nm,0.5s,mb5.0						
FITZ	Fitzroy Crossi	72.05	136	P	P	13 32 38.5	+0.4
	comp=Z,3.7nm,0.6s,mb4.5,baz=295,slow=6.1,SNR=8.7						
YKA	Yellowknife Ar	75.13	8	P	P	13 32 55.0	-0.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	75.13	8	P	P	13 32 55.0	-0.2
	comp=Z,1.2nm,0.6s,mb4.0,baz=341,slow=6.1,SNR=22						
YKA	Yellowknife Ar	75.13	8	P	P	13 32 55.0	-0.2
WRAB	Tennant Creek	78.28	130	*e*P	P	13 33 14.4	+0.7
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
WRAB	Tennant Creek	78.28	130	*e*P	P	13 33 14.4	+0.7
	comp=Z,5.1nm,0.7s,mb4.6						
WRA	Warramunga Arr	78.28	130	P	P	13 33 14.3	+0.5
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	Warramunga Arr	78.28	130	P	P	13 33 14.3	+0.5
	comp=Z,2.4nm,0.6s,mb4.3,baz=329,slow=5.6,SNR=55						
ASAR	Alice Springs	81.00	133	P	P	13 33 29.4	+1.0
	comp=Z,1.7nm,0.7s,mb4.1,baz=322,slow=5.2,SNR=37						
DBIC	Dimbokro	83.21	273	P	P	13 33 40.0	+0.1
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
DBIC	Dimbokro	83.21	273	P	P	13 33 40.0	+0.1
	comp=Z,1.9nm,0.7s,mb4.2,baz=57,slow=16,SNR=5.7						
PDAR	Pinedale Array	95.10	8	P	P	13 34 36.1	+0.3
	comp=Z,0.5nm,0.6s,mb4.1,baz=5.0,slow=4.2,SNR=4.7						

IDC 15 13:24:39.0±13.0, 35.45N×80.96E, mb3.6/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.6/4, Error ellipse: s-maj=330.0km s-min=39.0km az=177.0, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	22.56	49	P	P	13 29 41.4	-0.6
	1.4nm,1.1s,baz=256,slow=12,SNR=3.0						
HFS	Hagfors	48.87	322	P	P	13 33 26.3	-1.7
	1.2nm,0.5s,baz=100,slow=9.0,SNR=4.3						
NB2	NORSAR Subarra	50.06	323	P	P	13 33 35.4	-1.8
	0.7nm,0.5s,baz=81,slow=7.9						
NOA	NORSAR Array B	50.06	323	P	P	13 33 35.3	-1.9
	0.8nm,0.6s,baz=81,slow=8.0,SNR=3.7						
YKA	Yellowknife Ar	81.59	7	P	P	13 36 57.7	-1.9
	0.3nm,0.8s,baz=341,slow=6.2,SNR=3.5						

*IDC **15** 13:27:30.4±1.1, 2.84N×96.19E, mb4.0/11, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, Error ellipse: s-maj=56.3km s-min=16.0km az=51.0*
*NEIC **15** 13:27:34.9±0.5, 2.74N×96.13E, h30km, mb4.2/2, Error ellipse: s-maj=13.3km s-min=7.5km az=50.0*
ISC 15 13:27:35.3±5.4, 2.8N±0.2×96.2E±0.2, h48km±44km, n18, σ0§74/18, mb4.0/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.05	61	*e*Pn	P	13 28 50.1	-0.4
CMAR	Chiang Mai Arr	15.78	10	Pn	P	13 31 17.0	+1.0
	0.2nm,0.3s,baz=199,slow=11,SNR=5.6						
KKM	Kota Kinabalu	20.18	80	*e*P	P	13 32 09.0	+0.3
FITZ	Fitzroy Crossi	35.65	127	P	P	13 34 30.4	-0.6
	3.3nm,0.7s,mb4.4,baz=320,slow=7.1,SNR=3.9						
WRA	Warramunga Arr	43.71	123	P	P	13 35 37.7	-0.2
	1.3nm,0.5s,mb4.0,baz=300,slow=9.2,SNR=11						
WRAB	Tennant Creek	43.71	123	*e*P	P	13 35 38.1	+0.1
	7.5nm,0.9s,mb4.4						
WB2	Warramunga Arr	43.72	123	*e*P	P	13 35 38.5	+0.5
AAK	Ala-Archa	44.15	337	P	P	13 35 41.8	+0.7
	1.7nm,0.8s,mb3.8						
ASAR	Alice Springs	45.13	128	P	P	13 35 49.2	-0.1
	0.4nm,0.5s,mb3.5,baz=299,slow=7.7,SNR=7.9						
SONM	Songino Array	45.70	10	P	P	13 35 53.1	-0.4
	1.8nm,0.7s,mb4.1,baz=191,slow=8.8,SNR=12						
SONM				PcP	PcP	13 37 31.7	+0.4
	1.0nm,0.6s,baz=196,slow=3.9,SNR=5.3						
ZAL	Zalesovo	51.82	351	P	P	13 36 39.6	-1.0
	1.9nm,0.5s,mb4.3,baz=324,slow=4.7,SNR=5.8						
BVAR	Borovoye Array	54.42	341	P	P	13 36 58.9	-1.0
	1.1nm,0.5s,mb4.0,baz=143,slow=11,SNR=6.9						
STKA	Stephens Creek	55.15	132	P	P	13 37 05.9	+0.4
	0.9nm,0.7s,mb3.9,baz=293,slow=13,SNR=3.0						
BRTR	Keskin Array B	67.32	312	P	P	13 38 26.5	-1.1
	0.7nm,0.5s,mb4.0,baz=135,slow=8.7,SNR=4.2						
FINES	FINESS Array B	78.13	332	P	P	13 39 30.8	-0.1
	0.6nm,0.6s,mb3.7,baz=90,slow=5.7,SNR=5.4						
FINES	FINESS Array B	78.13	332	P	P	13 39 30.8	-0.1
ARCES	ARCESS Array B	80.70	340	P	P	13 39 45.0	+0.3
	0.8nm,0.4s,mb4.0,baz=90,slow=5.5,SNR=18						
GERES	GERESS Array B	82.97	319	P	P	13 39 58.7	+1.9
	0.3nm,0.4s,mb3.7,baz=117,slow=6.0,SNR=3.8						

IDC 15 13:28:18.8±4.0, 51.40N×177.64E, h49km±37km, mb3.5/7, mb1 3.7/8, mb1mx3.5/24, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=87.9km s-min=23.0km az=18.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	3.13	300	P	P	13 29 05.6	-1.3
	19nm,0.3s,baz=200,slow=5.9,SNR=32						
FX1				S	S	13 29 44.4	+1.1
	8.1nm,0.3s,baz=278,slow=23,SNR=3.8						
YKA	Yellowknife Ar	36.82	46	P	P	13 35 21.2	-2.2
	0.2nm,0.5s,baz=281,slow=9.1,SNR=3.6						
NVAR	Mina Array Bea	45.75	80	P	P	13 36 35.0	-1.8
	0.6nm,0.6s,baz=313,slow=6.6,SNR=4.9						
PDAR	Pinedale Array	48.41	70	P	P	13 36 55.9	-1.7
	0.6nm,0.8s,baz=315,slow=4.2,SNR=3.7						
BVAR	Borovoye Array	59.40	318	P	P	13 38 15.5	-2.6
	1.2nm,0.5s,baz=64,slow=5.9,SNR=6.7						
TXAR	Lajitas Array	60.84	79	P	P	13 38 26.4	-1.9
	0.5nm,0.6s,baz=301,slow=5.0,SNR=5.4						
NB2	NORSAR Subarra	67.38	353	P	P	13 39 08.9	-1.3
	0.6nm,0.6s,baz=8.0,slow=6.2						
NOA	NORSAR Array B	67.38	353	P	P	13 39 08.7	-1.5
	0.7nm,0.6s,baz=9.3,slow=6.3,SNR=3.8						
HFS	Hagfors	68.06	351	P	P	13 39 12.5	-2.0
	1.0nm,0.7s,baz=27,slow=6.6,SNR=5.7						
CMAR	Chiang Mai Arr	68.79	273	pP	pP	13 39 29.8	-4.0
	0.6nm,0.8s,baz=32,slow=7.3,SNR=4.6						
ASAR	Alice Springs	84.04	220	pP	pP	13 40 56.2	-3.4
	0.3nm,0.7s,baz=20,slow=4.3,SNR=2.4						

IDC 15 13:41:31.6±2.3, 2.84N×96.21E, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=103.7km s-min=23.0km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.75	10	Pn	P	13 45 19.1	+2.4
	0.1nm,0.3s,baz=199,slow=13,SNR=4.1						
WRA	Warramunga Arr	43.74	123	P	P	13 49 38.8	-1.9
	0.5nm,0.5s,baz=301,slow=9.1,SNR=9.7						
ASAR	Alice Springs	45.16	128	P	P	13 49 50.6	-1.6
	0.4nm,0.6s,baz=297,slow=8.0,SNR=9.6						
SONM	Songino Array	45.68	10	P	P	13 49 54.3	-1.7
	0.4nm,0.6s,baz=190,slow=8.7,SNR=5.9						
BVAR	Borovoye Array	54.39	341	P	P	13 51 00.0	-2.5
	0.2nm,0.3s,baz=135,slow=10,SNR=3.3						
ARCES	ARCESS Array B	80.67	340	P	P	13 53 46.3	-1.3
	3.2nm,1.0s,baz=90,slow=4.5,SNR=4.7						

*HLW **15** 13:43:30.9, 34.87N×32.50E, h28km, Mb3.3*
*NIC **15** 13:43:33.4±0.3, 34.25N×32.14E, h25km, ML2.9, MW3.0*
*CSEM **15** 13:43:33.2±0.1, 34.36N×32.36E, h8km, ML2.9, Error ellipse: s-maj=3.7km s-min=1.4km az=113.0*
ISC 15 13:43:33.6±1.2, 34.33N±0.04×32.25E±0.08, h9km±9km, n10, σ0§64/16, 5C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZAC	Souni-Zanaja	0.68	51	P	Pb	13 43 46.8	-0.3
	26nm,0.2s						
SZAC				S	Sg	13 43 57.9	+1.6
ALFC	Alevga	0.88	19	⇑*i*P	Pb	13 43 49.9	-0.6
	7.1nm,0.2s						
ALFC				S	Sb	13 44 02.6	+0.5
LEF	Lefka	0.95	34	PG	Pg	13 43 51.6	-1.1
LEF				SG	Sg	13 44 05.2	-0.2
CSS	Prodhromos	1.10	54	⇑*i*P	Pb	13 43 53.5	-0.7
	2.0nm,0.2s						
CSS				S	Sb	13 44 08.6	+0.2
HRSH	Kfar Ka'horesh	3.58	159	⇓P	Pn	13 44 30.1	-0.4
HRSH				S	Sn	13 45 13.3	-0.1
RSH		3.58	159	P	Pn	13 44 30.1	-0.4
RSH				S	Sn	13 45 13.3	-0.1
AMAG	Maghara	3.76	167	⇑P	Pn	13 44 33.1	0.0
HBRG	Burj al 'Arab	4.26	209	⇑P	Pn	13 44 41.1	+1.0
SUZ		4.50	173	⇑P	Pn	13 44 44.0	+0.5
DABA	Dabaa	4.70	226	⇓P	Pn	13 44 46.7	+0.3

*IDC **15** 13:45:31.2±1.6, 2.91N×96.31E, mb3.7/7, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, ML3.2/1, Error ellipse: s-maj=72.1km s-min=19.7km az=56.0*
*NEIC **15** 13:45:34.7±0.9, 2.67N×95.99E, h30km, mb4.0/1, Error ellipse: s-maj=24.7km s-min=14.4km az=48.0*
ISC 15 13:45:33.1±1.0, 2.8N±0.1×96.0E±0.2, h30km, n10, σ1§20/10, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.23	61	*e*Pn	Pn	13 46 53.0	+1.6
CMAR	Chiang Mai Arr	15.84	10	Pn	P	13 49 13.8	-2.0
	0.0nm,0.3s,baz=198,slow=11,SNR=2.9						
WRA	Warramunga Arr	43.86	123	P	P	13 53 38.3	-0.5
	0.5nm,0.4s,mb3.6,baz=301,slow=9.2,SNR=13						
WRAB	Tennant Creek	43.86	123	*e*P	P	13 53 38.5	-0.4
	1.2nm,0.4s,mb4.0						
ASAR	Alice Springs	45.27	128	P	P	13 53 49.7	-0.5
	0.3nm,0.5s,mb3.4,baz=299,slow=7.8,SNR=11						
SONM	Songino Array	45.76	10	P	P	13 53 53.7	-0.1
	0.8nm,0.7s,mb3.7,baz=189,slow=8.8,SNR=9.3						
ZAL	Zalesovo	51.82	352	P	P	13 54 38.8	-1.7
	0.9nm,0.5s,mb4.0,baz=311,slow=7.0,SNR=4.6						
BVAR	Borovoye Array	54.38	341	P	P	13 54 59.8	+0.3
	0.7nm,0.5s,mb3.8,baz=135,slow=10,SNR=6.1						
FINES	FINESS Array B	78.07	333	P	P	13 57 31.9	+1.4
	0.9nm,0.8s,mb3.8,baz=117,slow=4.3,SNR=4.0						
ARCES	ARCESS Array B	80.66	340	P	P	13 57 46.1	+1.7
	3.1nm,1.0s,mb4.2,baz=90,slow=4.9,SNR=8.6						

WEL 15 13:46:41.4±0.4, 38.26S×176.03E, h172km±3km, ML3.5/14, Error ellipse: s-maj=3.4km s-min=3.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	Maungaku	0.84	207	PN	P	13 47 07.5	+0.2
URZ	Urewera	0.85	90	PN	P	13 47 06.9	-0.5
URZ				SN	S	13 47 26.4	-1.1
NGZ	Ngauruhoe	0.98	200	PN	P	13 47 08.4	+0.2
BKZ	Black Stump Fm	0.98	158	PN	P	13 47 08.3	0.0
BKZ				SN	S	13 47 28.6	-0.3
CNZ	Chateau	1.01	202	PN	P	13 47 08.5	0.0
WPVZ	Whakapapa	1.02	202	PN	P	13 47 08.5	0.0
TUVZ	Tukino	1.05	196	PN	P	13 47 09.0	+0.1
FWVZ	Far West T-bar	1.06	200	PN	P	13 47 09.3	+0.3
WNVZ	Wahianoa	1.12	197	PN	P	13 47 09.3	-0.2
MOVZ	Moawhango	1.17	191	PN	P	13 47 09.3	-0.6
MWZ	Matawai	1.18	94	PN	P	13 47 10.0	0.0
MWZ				SN	S	13 47 31.4	-0.7
KNZ	Kokohu	1.50	121	PN	P	13 47 13.1	+0.1
WAZ	Wanganui	1.70	208	PN	P	13 47 14.4	-0.7
PUZ	Puketiti	1.77	85	PN	P	13 47 15.2	-0.5
PUZ				SN	S	13 47 41.1	-1.1
TSZ	Takapari Road	1.80	182	PN	P	13 47 15.4	-0.7
PWZ	Pawanui	1.88	160	PN	P	13 47 16.8	-0.1
MXZ	Matakaoa Point	1.93	70	PN	P	13 47 17.2	-0.3

IDC 15 13:52:18.8±9.4, 0.20S×97.41E, mb3.5/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.4/3, ML3.4/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/26, Error ellipse: s-maj=274.5km s-min=35.3km az=70.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.60	5	P	P	13 56 37.9	-1.9
	0.1nm,0.3s,baz=198,slow=11,SNR=8.0						
WRA	Warramunga Arr	41.13	121	P	P	14 00 04.9	-1.7
	0.4nm,0.8s,baz=298,slow=8.8,SNR=7.3						
ASAR	Alice Springs	42.40	126	P	P	14 00 15.4	-1.7
	0.6nm,0.4s,baz=298,slow=7.8,SNR=15						
PMG	Port Moresby	50.35	102	LR	LR	14 22 21.6	
	comp=Z,133nm,21.7s,baz=76,slow=36						

ISC 15 13:54:40.4±1.2, 46.24N±0.06×15.88E±0.09, n5, σ0§55/7, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLS	Golise	0.28	218	*e*Pg	Pg	13 54 46.1	0.0
	comp=Z,151nm,0.7s						
DOBS	Dobrina	0.30	253	*i* Pg	Pg	13 54 46.9	+0.6
KOGS	Kog	0.34	51	*e*Pg	Pg	13 54 46.4	-0.7
OBKA	Obir	0.96	287	⇑*i*PG	Pg	13 54 59.6	0.0
OBKA				*i* SG	Sg	13 55 11.5	-0.8
	comp=Z,27nm,0.7s						
ARSA	Arzberg	1.04	347	⇑*i*PG	Pg	13 55 01.9	+0.7
ARSA				*i* SG	Sg	13 55 15.4	+0.2
	comp=Z,8.4nm,0.5s						

IDC 15 13:58:36.0±3.7, 1.13N×97.97E, mb3.6/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=133.0km s-min=23.4km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.25	3	P	P	14 02 38.0	-2.0
	0.1nm,0.3s,baz=192,slow=12,SNR=7.6						
WRA	Warramunga Arr	41.35	122	P	P	14 06 24.1	-1.3
	0.3nm,0.5s,baz=302,slow=9.4,SNR=11						
ASAR	Alice Springs	42.74	128	P	P	14 06 35.0	-1.9
	0.3nm,0.5s,baz=297,slow=8.0,SNR=5.5						
SONM	Songino Array	47.09	8	P	P	14 07 10.3	-1.2
	0.3nm,0.4s,baz=188,slow=8.7,SNR=5.4						
ZAL	Zalesovo	53.74	350	P	P	14 07 59.2	-2.9
	0.9nm,0.4s,baz=292,slow=6.9,SNR=3.9						

*IDC **15** 13:59:22.3±1.1, 1.78S×99.55E, mb4.2/11, mb1 4.3/11, mb1mx4.1/19, mbtmp4.2/11, MS3.9/1, Ms1 3.9/1, ms1mx2.8/29, Error ellipse: s-maj=54.6km s-min=14.9km az=54.0*
*NEIC **15** 13:59:26.9±0.7, 1.67S×99.67E, h30km, mb4.3/3, Error ellipse: s-maj=30.4km s-min=7.9km az=56.0*
ISC 15 13:59:25.3±0.9, 1.7S±0.1×99.6E±0.2, h33km, n20, σ1§16/18, mb4.3/11, MS3.8/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.05	9	Pn	Pn	14 01 11.6	+2.6
CM31	Chiang Mai Arr	20.07	358	*e*P	P	14 03 56.8	-2.0
	3.2nm,0.6s						
CMAR	Chiang Mai Arr	20.07	358	P	P	14 03 56.7	-2.1
	1.0nm,0.5s,baz=188,slow=11,SNR=8.3						
FITZ	Fitzroy Crossi	30.30	124	*e*P	P	14 05 35.2	-0.9
	5.3nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	30.30	124	P	P	14 05 34.5	-1.5
	7.8nm,0.9s,mb4.4,baz=298,slow=6.3,SNR=5.7						
NWAO	Narrogin (SRO)	35.18	154	LR	LR	14 21 47.0	
	comp=Z,155nm,18.1s,MS3.8,baz=154,slow=38						
WRA	Warramunga Arr	38.48	120	P	P	14 06 45.8	-0.4
	3.9nm,0.6s,mb4.3,baz=302,slow=9.1,SNR=36						
WRA				PcP	PcP	14 08 59.9	+0.4
	0.8nm,0.5s,baz=318,slow=2.6,SNR=12						
WRAB	Tennant Creek	38.49	120	*e*P	P	14 06 46.1	-0.2
	5.8nm,0.6s,mb4.5						
WB2	Warramunga Arr	38.49	120	*e*P	P	14 06 46.3	0.0
ASPA	Alice Springs	39.74	126	*e*P	P	14 06 57.5	+0.9
ASAR	Alice Springs	39.74	126	P	P	14 06 57.1	+0.4
	2.8nm,0.8s,mb4.0,baz=307,slow=7.9,SNR=24						
ASAR				PcP	PcP	14 09 04.7	+1.3
	1.3nm,0.7s,baz=311,slow=3.5,SNR=8.0						
CTA	Charters Tower	49.08	115	P	P	14 08 11.8	0.0
	1.8nm,0.3s,mb4.5,baz=275,slow=11,SNR=2.7						
STKA	Stephens Creek	49.63	132	P	P	14 08 16.0	+0.1
	2.9nm,0.8s,mb4.4,baz=291,slow=8.2,SNR=7.3						
STKA	Stephens Creek	49.63	132	P	P	14 08 16.0	+0.1
SONM	Songino Array	49.72	6	P	P	14 08 17.2	+0.9
	1.4nm,0.7s,mb4.1,baz=188,slow=9.5,SNR=12						
SONM				PcP	PcP	14 09 37.6	+0.3
	1.1nm,0.5s,baz=187,slow=4.6,SNR=6.2						
ZAL	Zalesovo	56.82	350	P	P	14 09 08.5	-0.4
	2.6nm,0.5s,mb4.5,baz=305,slow=5.4,SNR=12						
BRTR	Keskin Array B	72.84	313	P	P	14 10 52.1	-0.7
	0.3nm,0.5s,mb3.5,baz=104,slow=5.1,SNR=3.7						
FINES	FINESS Array B	83.69	332	P	P	14 11 52.6	+0.8
	0.7nm,0.4s,mb4.1,baz=104,slow=7.9,SNR=9.4						
ARCES	ARCESS Array B	86.08	340	P	P	14 12 06.0	+2.4
	2.

JFK Kawauchi 4.63 34 P P 14 07 03.9 -0.4

IDC 15 14:10:50.4±6.9, 4.55S×152.50E, mb3.9/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, Error ellipse: s-maj=144.7km s-min=43.1km az=93.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.39**	**228**	P	P	14 16 00.8	-1.2
	1.8nm,0.4s,baz=53,slow=10.0,SNR=9.0						
ASAR	**Alice Springs**	**26.13**	**222**	P	P	14 16 27.8	-0.5
	0.5nm,0.5s,baz=59,slow=9.2,SNR=4.2						
FITZ	**Fitzroy Crossi**	**29.52**	**241**	P	P	14 16 56.0	-3.1
	2.3nm,0.3s,baz=44,slow=7.7,SNR=8.8						
CMAR	**Chiang Mai Arr**	**57.51**	**295**	P	P	14 20 42.1	-2.2
	0.2nm,0.7s,baz=129,slow=5.8,SNR=5.0						

IDC 15 14:11:10.9±9.1, 2.98N×96.74E, mb3.4/3, mb1 3.6/3, mb1mx3.5/18, mbtmp3.4/3, Error ellipse: s-maj=311.8km s-min=30.4km az=68.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.37**	**123**	P	P	14 19 15.4	-1.7
	0.5nm,0.5s,baz=299,slow=9.4,SNR=7.3						
ASAR	**Alice Springs**	**44.84**	**128**	P	P	14 19 27.1	-1.8
	0.3nm,0.5s,baz=302,slow=8.0,SNR=8.3						
SONM	**Songino Array**	**45.46**	**9**	P	P	14 19 31.7	-1.8
	0.2nm,0.4s,baz=191,slow=7.3,SNR=3.3						

*NEIC **15** 14:16:18.7±1.7, 5.61S×149.37E, h158km±15km, mb4.8/9, Error ellipse: s-maj=12.9km s-min=10.6km az=96.0*
*IDC **15** 14:16:20.0±1.4, 5.71S×149.37E, h166km±12km, mb3.9/12, mb1 4.0/14, mb1mx3.9/19, mbtmp4.4/14, Error ellipse: s-maj=16.0km s-min=8.8km az=113.0*
ISC 15 14:16:15.1±1.3, 5.48S±0.07×149.40E±0.10, h139km±11km, n33, σ1§09/36, mb4.1/15, 6D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.49**	**210**	P	P	**14 17 23.1**	**+0.7**
	22nm,0.3s,baz=28,slow=6.5,SNR=50						
PMG				S	S	**14 18 15.4**	**+1.2**
	114nm,0.3s,baz=147,slow=19,SNR=15						
PMG	**Port Moresby**	**4.49**	**210**	*eP*	P	**14 17 22.6**	**+0.1**
CTA	**Charters Tower**	**14.84**	**192**	*eP*	P	**14 19 41.9**	**+2.8**
	8.6nm,0.8s						
CTA	**Charters Tower**	**14.84**	**192**	P	P	**14 19 39.6**	**+0.5**
	0.3nm,0.3s,baz=16,slow=13,SNR=3.9						
CTAO	**Charters Tower**	**14.84**	**192**	*eP*	P	**14 19 39.2**	**+0.1**
	14nm,0.9s						
KAKA	**Kakadu**	**18.21**	**246**	⇓*iP*	P	**14 20 18.5**	**-1.7**
	92nm,0.4s						
WRAB	**Tennant Creek**	**20.51**	**224**	*eP*	P	**14 20 43.4**	**-0.6**
	69nm,0.6s						
WB2	**Warramunga Arr**	**20.51**	**224**	⇓*iP*	P	**14 20 43.7**	**-0.4**
WB2				*eS*	S	**14 24 22.2**	**+1.6**
WRA	**Warramunga Arr**	**20.52**	**224**	P	P	**14 20 43.7**	**-0.5**
	35nm,0.5s,baz=50,slow=10,SNR=112						
WRA				S	S	**14 24 22.8**	**+2.0**
	3.9nm,0.8s,baz=47,slow=18,SNR=8.2						
WRA				ScP		14 28 12.9	
	0.6nm,0.6s,baz=49,slow=2.6,SNR=6.1						
DZM	**Mont Dzumac**	**23.32**	**137**	P	P	**14 21 12.3**	**+0.6**
	11nm,0.7s,mb4.4,baz=152,slow=18,SNR=9.2						
ASAR	**Alice Springs**	**23.44**	**218**	P	P	**14 21 13.6**	**+0.7**
	14nm,0.3s,mb4.8,baz=49,slow=8.4,SNR=678						
ASAR				S	S	**14 25 13.1**	**+0.6**
	0.7nm,0.6s,baz=45,slow=13,SNR=4.1						
ASPA	**Alice Springs**	**23.44**	**218**	⇓*iP*	P	**14 21 13.7**	**+0.8**
ASPA				*eS*	S	**14 25 14.4**	**+1.9**
FITZ	**Fitzroy Crossi**	**26.38**	**240**	⇓*iP*	P	**14 21 39.7**	**-0.8**
	87nm,0.6s						
FITZ	**Fitzroy Crossi**	**26.38**	**240**	P	P	**14 21 39.7**	**-0.8**
	73nm,0.3s,baz=49,slow=6.6,SNR=497						
STKA	**Stephens Creek**	**27.25**	**195**	P	P	**14 21 46.2**	**-2.2**
	0.7nm,0.4s,mb3.7,baz=17,slow=11,SNR=4.2						
FORT	**Forrest**	**32.18**	**216**	⇓*iP*	P	**14 22 30.8**	**-1.3**
	502nm,0.6s						
MBWA	**Marble Bar**	**32.71**	**239**	*eP*	P	**14 22 35.4**	**-1.3**
	33nm,0.7s,mb5.2						
KLBR	**Kellerberrin**	**39.40**	**225**	⇓*iP*	P	**14 23 31.5**	**-1.5**
	300nm,1.0s						
MUN	**Mundaring**	**40.71**	**226**	*eP*	P	**14 23 43.2**	**-0.5**
	21nm,0.6s,mb5.0						
RPZ	**Rata Peaks**	**42.59**	**157**	P	P	**14 23 58.7**	**-0.2**
	5.3nm,0.5s,mb4.4,baz=5.6,slow=2.1,SNR=6.7						
RPZ	**Rata Peaks**	**42.59**	**157**	P	P	**14 23 58.7**	**-0.2**
MJAR	**Matsushiro Arr**	**43.10**	**347**	P	P	**14 24 06.3**	**+3.1**
	1.6nm,0.6s,mb3.8,baz=169,slow=6.9,SNR=6.1						
ASAJ	**Asahikawa**	**49.75**	**354**	P	P	**14 24 58.6**	**+3.3**
	5.5nm,0.6s,mb4.3,baz=210,slow=9.4,SNR=8.1						
CMAR	**Chiang Mai Arr**	**55.13**	**297**	P	P	**14 25 35.5**	**-0.1**
	0.8nm,0.7s,mb3.5,baz=122,slow=5.8,SNR=10						
ULN	**Ulaanbaatar**	**64.83**	**330**	*eP*	P	**14 26 41.6**	**+0.2**
	1.6nm,0.7s,mb4.0						
SONM	**Songino Array**	**65.14**	**330**	P	P	**14 26 44.6**	**+1.2**
	1.3nm,0.6s,mb3.9,baz=142,slow=3.9,SNR=13						
ZAL	**Zalesovo**	**79.87**	**327**	P	P	**14 28 09.7**	**0.0**
	1.4nm,0.4s,mb4.0,baz=328,slow=4.2,SNR=6.2						
MCK	**McKinley**	**82.81**	**23**	*eP*	P	**14 28 24.2**	**-0.6**
	1.5nm,0.9s,mb3.7						
ILAR	**Eielson Array**	**84.08**	**23**	P	P	**14 28 30.9**	**-0.3**
	0.7nm,0.8s,mb3.5,baz=252,slow=5.5,SNR=8.7						
QSPA	**South Pole Qui**	**84.48**	**180**	*eP*	P	**14 28 32.9**	**0.0**
INK	**Inuvik**	**90.31**	**21**	P	P	**14 29 01.8**	**+0.7**
	0.6nm,1.0s,mb3.5,baz=225,slow=2.9,SNR=3.3						
ARCES	**ARCESS Array B**	**106.50**	**342**	Pdiff	Pdif	14 30 15.1	+1.0
	0.9nm,0.7s,baz=69,slow=10,SNR=4.4						
BDFB	**Brasilia**	**152.84**	**141**	PKPbc	PKPdf	14 35 57.1	+8.0
	2.0nm,0.5s,baz=181,slow=7.6,SNR=3.1						

*IDC **15** 14:40:23.5±0.8, 10.01N×93.42E, mb3.9/10, mb1 4.1/11, mb1mx4.0/21, mbtmp4.0/11, ML3.7/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/33, Error ellipse: s-maj=33.5km s-min=17.3km az=55.0*
*BJI **15** 14:40:28.3, 10.00N×93.50E, h30km, mB4.6, mb4.1, Ms3.9, Msz3.7*
*NEIC **15** 14:40:28.4±0.5, 10.01N×93.53E, h30km, mb4.3/12, Error ellipse: s-maj=10.4km s-min=8.1km az=50.0*
ISC 15 14:40:27.4±1.9, 10.07N±0.09×93.59E±0.07, h38km±16km, n51, σ0§90/50, mb4.1/16, MS3.7/3, 2C-5D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**6.52**	**67**	P	P	**14 42 02.0**	**-1.4**
CM31	**Chiang Mai Arr**	**9.82**	**31**	*ePn*	P	**14 42 48.9**	**-0.4**
	15nm,0.9s						
CMAR	**Chiang Mai Arr**	**9.82**	**31**	Pn	P	**14 42 49.3**	**+0.1**
	0.2nm,0.3s,baz=222,slow=15,SNR=32						
CHG	**Chiang Mai**	**10.12**	**30**	P	P	**14 42 56.2**	**+2.8**
NANT	**Nan**	**11.08**	**38**	P	P	**14 43 12.0**	**+5.6**
VIS	**Vishakhapatnam**	**12.53**	**308**	*eP*	P	**14 43 24.8**	**-1.3**
VIS				*eS*	S	**14 45 32.8**	**-13**
SHL	**Shillong**	**15.50**	**354**	*eP*	P	**14 44 08.0**	**+3.0**
HYB	**Hyderabad**	**16.33**	**298**	*eP*	P	**14 44 17.0**	**+1.4**
HYB				*eS*	S	**14 47 20.0**	**+5.0**
HYB	**Hyderabad**	**16.33**	**298**	*i P*	P	**14 44 17.0**	**+1.4**
HYB				*e*		14 47 06.0	
HYB				*eS*	S	**14 47 20.0**	**+5.0**
KMI	**Kunming**	**17.31**	**29**	P	P	**14 44 31.8**	**+3.9**
KMI				AP		14 44 39.4	
KMI				AMB	AMB		
	comp=Z,11nm,1.5s						
KMI	**Kunming**	**17.31**	**29**	P	P	**14 44 31.8**	**+3.9**
	comp=Z,11nm,1.5s						
KMI				pP		14 44 39.4	
JIRN	**Jiri**	**18.84**	**339**	*eP*	P	**14 44 46.3**	**-0.5**
	comp=Z,31nm,0.7s						
PKI	**Pulchoki**	**19.04**	**337**	*eP*	P	**14 44 49.9**	**+0.7**
	comp=Z,32nm,0.9s						
GUN	**Gumba**	**19.18**	**339**	*eP*	P	**14 44 49.5**	**-1.2**
	comp=Z,34nm,0.6s						
DMN	**Daman**	**19.19**	**337**	*eP*	P	**14 44 51.0**	**+0.1**
	comp=Z,26nm,0.7s						
KKN	**Kakani**	**19.29**	**337**	*eP*	P	**14 44 50.9**	**-1.0**
LSA	**Lhasa**	**19.67**	**354**	P	P	**14 44 54.4**	**-1.6**
LSA	**Lhasa**	**19.67**	**354**	*eP*	P	**14 44 54.5**	**-1.5**
	comp=Z,18nm,0.8s						
GKN	**Gorkha**	**19.73**	**336**	*eP*	P	**14 44 56.4**	**-0.4**
	comp=Z,16nm,0.5s						
KOLN	**Koldanda**	**19.96**	**333**	*eP*	P	**14 44 59.6**	**+0.3**
	comp=Z,25nm,0.8s						
GYA	**Guiyang**	**20.46**	**35**	⇓*iP*	P	**14 45 05.0**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				AMB	AMB		
	comp=Z,120nm,6.3s						
GYA				LR	LR		
	comp=N,210nm,13.8s,MS3.7						
GYA				LR	LR		
	comp=E,120nm,12.9s,MS3.7						
GYA				LR	LR		
	comp=Z,190nm,14.1s,MS3.6						
POO	**Poona**	**20.88**	**296**	*eP*	P	**14 45 10.0**	**+1.1**
POO				*e*		14 48 54.0	
CD2	**Chengdu**	**22.79**	**23**	P	P	**14 45 28.4**	**+0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
ENH	**Enshi**	**24.97**	**34**	*eP*	P	**14 45 48.8**	**-0.3**
	comp=Z,18nm,0.8s,mb4.7						
GTA	**Gaotai**	**29.74**	**10**	*eP*	P	**14 46 32.8**	**+0.3**
GTA				AP	pP	14 46 39.3	-3.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
WMQ	**Urumqi**	**34.02**	**352**	*eP*	P	**14 47 10.5**	**+0.7**
AAK	**Ala-Archa**	**36.49**	**336**	*eP*	P	**14 47 30.5**	**-0.4**
	comp=Z,5.2nm,1.0s,mb4.4						
SONM	**Songino Array**	**39.16**	**14**	P	P	**14 47 53.3**	**+0.1**
	comp=Z,2.1nm,0.9s,mb3.9,baz=198,slow=7.8,SNR=12						
SONM				PcP	PcP	14 50 03.1	+0.4
	comp=Z,0.8nm,0.6s,baz=187,slow=3.8,SNR=5.5						
ZAL	**Zalesovo**	**44.32**	**353**	P	P	**14 48 35.5**	**+0.1**
	comp=Z,4.6nm,0.4s,mb4.6,baz=305,slow=6.0,SNR=18						
BVAR	**Borovoye Array**	**46.75**	**341**	P	P	**14 48 54.4**	**-0.3**
	comp=Z,1.0nm,0.4s,mb4.1,baz=135,slow=8.4,SNR=11						
ATD	**Arta Tunnel**	**49.82**	**277**	LR	LR	15 08 33.6	
	comp=Z,41nm,19.5s,MS3.4,baz=143,slow=34						
WRA	**Warramunga Arr**	**49.98**	**127**	P	P	**14 49 20.5**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=306,slow=8.5,SNR=13						
WRAB	**Tennant Creek**	**49.99**	**127**	P	P	**14 49 20.9**	**+0.6**
	comp=Z,1.6nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**51.74**	**131**	P	P	**14 49 33.1**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=303,slow=6.4,SNR=12						
KIV	**Kislovodsk**	**55.35**	**317**	P	P	**14 50 00.1**	**+0.2**
	comp=Z,9.8nm,0.8s,mb4.9						
BRTR	**Keskin Array B**	**60.60**	**310**	P	P	**14 50 35.9**	**-1.0**
	comp=Z,1.2nm,0.7s,mb4.1,baz=118,slow=8.6,SNR=7.6						
AKASG	**Malin Array Be**	**66.11**	**321**	P	P	**14 51 11.3**	**-1.6**
	comp=Z,0.2nm,0.3s,mb3.7,baz=71,slow=5.8,SNR=3.3						
AKASG	**Malin Array Be**	**66.11**	**321**	P	P	**14 51 11.3**	**-1.6**
VRI	**Vrincioaia**	**66.76**	**316**	⇓*P*	P	**14 51 17.4**	**+0.3**
VRI	**Vrincioaia**	**66.76**	**316**	⇓*P*	P	**14 51 17.4**	**+0.3**
MLR	**Muntele Rosu**	**67.24**	**315**	⇑*P*	P	**14 51 20.7**	**+0.6**
MLR	**Muntele Rosu**	**67.24**	**315**	⇑*P*	P	**14 51 20.7**	**+0.6**
BURAR	**Bucovina Array**	**68.07**	**317**	⇓*P*	P	**14 51 25.8**	**+0.5**
BURAR	**Bucovina Array**	**68.07**	**317**	⇓*P*	P	**14 51 25.8**	**+0.5**
FINES	**FINESS Array B**	**70.53**	**332**	P	P	**14 51 39.4**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=108,slow=6.0,SNR=5.0						
ARCES	**ARCESS Array B**	**73.03**	**340**	P	P	**14 51 55.2**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.8,baz=100,slow=7.3,SNR=17						
ARCES				LR	LR	15 25 50.7	
	comp=Z,77nm,20.4s,MS4.0,baz=110,slow=37						
ARCES	**ARCESS Array B**	**73.03**	**340**	P	P	**14 51 55.2**	**+0.3**
ARCES				LR	LR	15 25 50.7	
GERES	**GERESS Array B**	**75.84**	**318**	P	P	**14 52 11.9**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.8,baz=79,slow=6.8,SNR=5.8						
NVAR	**Mina Array Bea**	**123.31**	**30**	PKP	PKPdf	14 59 24.4	+3.5
	comp=Z,0.5nm,0.6s,baz=20,slow=2.1,SNR=6.2						
PDAR	**Pinedale Array**	**123.32**	**20**	PKP	PKPdf	14 59 22.9	+2.0
	comp=Z,0.5nm,0.7s,slow=1.5,SNR=5.2						
PLCA	**Paso Flores**	**146.39**	**202**	PKPbc	PKPbc	15 00 06.7	+2.1
	comp=Z,2.3nm,1.0s,baz=155,slow=9.1,SNR=4.2						

*IDC **15** 14:47:09.2±1.5, 5.51N×93.09E, mb4.1/7, mb1 4.2/8, mb1mx3.9/22, mbtmp4.0/8, ML2.7/1, Error ellipse: s-maj=64.6km s-min=17.4km az=60.0*
*NEIC **15** 14:47:14.0±0.8, 5.55N×93.16E, h30km, mb4.5/1, Error ellipse: s-maj=24.8km s-min=8.5km az=67.0*
ISC 15 14:47:12.1±1.2, 5.6N±0.1×93.2E±0.2, h30km, n12, σ0§27/12, mb4.2/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.99**	**23**	Pn	P	**14 50 30.9**	**+0.1**
	0.0nm,0.3s,baz=214,slow=14,SNR=4.3						
FITZ	**Fitzroy Crossi**	**39.73**	**127**	P	P	**14 54 43.7**	**-0.3**
	1.6nm,0.4s,mb4.1,baz=182,slow=8.8,SNR=6.3						
SONM	**Songino Array**	**43.61**	**13**	P	P	**14 55 15.2**	**-0.3**
	1.7nm,0.9s,mb3.8,baz=195,slow=9.2,SNR=11						
SONM				PcP	PcP	14 57 03.4	+0.3
	0.5nm,0.4s,baz=200,slow=4.0,SNR=6.6						
WRA	**Warramunga Arr**	**47.75**	**123**	P	P	**14 55 48.8**	**0.0**
	4.2nm,0.6s,mb4.6,baz=302,slow=9.1,SNR=57						
WRAB	**Tennant Creek**	**47.75**	**123**	*eP*	P	**14 55 48.6**	**-0.2**
	1.5nm,0.3s,mb4.5						
WB2	**Warramunga Arr**	**47.76**	**123**	*eP*	P	**14 55 48.9**	**0.0**
ZAL	**Zalesovo**	**48.71**	**353**	P	P	**14 55 56.2**	**+0.5**
	1.6nm,0.4s,mb4.4,baz=305,slow=4.6,SNR=7.7						
ZAL	**Zalesovo**	**48.71**	**353**	P	P	**14 55 56.2**	**+0.5**
ASPA	**Alice Springs**	**49.21**	**128**	*eP*	P	**14 56 00.3**	**+0.2**
ASAR	**Alice Springs**	**49.21**	**128**	P	P	**14 56 00.2**	**+0.2**
	1.3nm,0.5s,mb4.2,baz=300,slow=8.2,SNR=36						
ASAR				PcP	PcP	14 57 22.3	-0.9
	0.5nm,0.6s,baz=303,slow=4.7,SNR=5.1						
BVAR	**Borovoye Array**	**50.87**	**342**	P	P	**14 56 11.9**	**-0.5**
	0.6nm,0.5s,mb3.8,baz=146,slow=11,SNR=6.2						
ARCES	**ARCESS Array B**	**77.11**	**341**	P	P	**14 59 04.3**	**+0.2**
	0.8nm,0.5s,mb4.0,baz=104,slow=5.0,SNR=11						

*IDC **15** 14:49:41.9±1.3, 22.11S×65.82W, h254km±12km, mb3.0/3, mb1 3.3/8, mb1mx3.2/19, mbtmp3.6/8, Error ellipse: s-maj=26.1km s-min=17.3km az=154.0*
*NEIC **15** 14:49:42.1±0.7, 22.07S×65.81W, h256km±8km, mb3.7/2, Error ellipse: s-maj=12.2km s-min=10.2km az=119.0*
ISC 15 14:49:41.0±0.8, 22.10S±0.05×65.8W±0.1, h261km±10km, n12, σ1§00/16, mb3.2/3, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.92**	**259**	P	P	**14 50 35.0**	**+1.3**
	11nm,0.3s,baz=71,slow=7.2,SNR=33						
LVC				S	S	**14 51 14.9**	**+0.2**
	18nm,0.3s,baz=229,slow=18,SNR=16						
LPAZ	**La Paz**	**6.18**	**339**	P	P	**14 51 13.4**	**+1.2**
	0.5nm,0.3s,baz=166,slow=5.2,SNR=5.7						
LPAZ				S	S	**14 52 21.6**	**-2.0**
	0.4nm,0.3s,baz=23,slow=23,SNR=6.7						
SIV	**San Ignacio**	**7.54**	**37**	P	P	**14 51 30.4**	**+1.1**
	0.8nm,0.3s,baz=236,slow=9.1,SNR=24						
ARE	**Arequipa**	**7.76**	**315**	*eP*	P	**14 51 31.0**	**-1.1**
ARE				*eS*	S	**14 52 54.0**	**-5.2**
CFAA	**Coronel Fontan**	**9.71**	**192**	P	P	**14 51 57.1**	**+0.5**
	0.1nm,0.3s,baz=27,slow=9.0,SNR=6.4						
CFAA				S	S	**14 53 41.8**	**-1.5**
	0.2nm,0.3s,baz=134,slow=16,SNR=6.8						
SAML	**Samuel**	**13.32**	**11**	*eP*	P	**14 52 41.5**	**0.0**
	1.2nm,0.6s						
NNA	**Nana**	**14.57**	**312**	*eP*	P	**14 52 57.1**	**0.0**
	2.9nm,0.3s						
BDFB	**Brasilia**	**18.01**	**72**	P	P	**14 53 34.0**	**-1.2**
	0.4nm,0.3s,baz=225,slow=7.1,SNR=3.7						
PDAR	**Pinedale Array**	**76.10**	**328**	P	P	**15 01 02.1**	**+0.5**
	0.2nm,0.5s,mb3.0,baz=117,slow=8.1,SNR=3.4						
NVAR	**Mina Array Bea**	**77.77**	**320**	P	P	**15 01 11.5**	**+0.6**
	0.3nm,0.4s,mb3.4,baz=144,slow=7.8,SNR=3.6						
YKA	**Yellowknife Ar**	**92.73**	**340**	P	P	**15 02 24.6**	**+0.3**
	0.2nm,0.6s,mb3.2,baz=127,slow=4.3,SNR=7.5						
YKA	**Yellowknife Ar**	**92.73**	**340**	P	P	**15 02 24.6**	**+0.3**

*IDC **15** 14:49:41.4±1.0, 1.21N×96.91E, mb4.2/13, mb1 4.3/14, mb1mx4.2/22, mbtmp4.2/14, ML4.4/1, MS3.6/1, Ms1 3.8/1, ms1mx2.9/28, Error ellipse: s-maj=37.2km s-min=16.6km az=49.0*
*BJI **15** 14:49:44.8, 1.14N×97.19E, h38km, mB4.9, mb4.7, Ms4.2, Msz3.9*
*NEIC **15** 14:49:46.4±0.5, 1.29N×97.08E, h30km, mb4.6/15, Error ellipse: s-maj=12.7km s-min=8.0km az=48.0*
ISC 15 14:49:45.3±0.6, 1.32N±0.08×97.13E±0.08, h33km, n40, σ0§93/43, mb4.4/30, MS4.1/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.29**	**42**	*ePn*	Pn	**14 51 04.1**	**0.0**
CM31	**Chiang Mai Arr**	**17.13**	**6**	*eP*	P	**14 53 42.5**	**-1.3**
	12nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.13**	**6**	P	P	**14 53 43.1**	**-0.7**
	0.5nm,0.3s,baz=195,slow=11,SNR=21						
CMAR				LR	LR	15 00 51.9	
	comp=Z,197nm,19.8s,baz=190,slow=39						
KKM	**Kota Kinabalu**	**19.61**	**76**	*eP*	P	**14 54 14.0**	**+0.1**
KMI	**Kunming**	**24.28**	**12**	P	P	**14 55 03.1**	**+2.2**
KMI				AP		14 55 11.8	
KMI				XP		14 55 15.6	
KMI				PP	PP	14 55 38.8	+2.5
KMI				S	S	**14 59 24.5**	**+10**
KMI				AMB	AMB		
	comp=Z,22nm,1.4s,mb4.4						
KMI				AMB	AMB		
	comp=Z,113nm,4.0s						
KMI				LR	LR		
	comp=N,365nm,15.7s,MS4.1						
KMI				LR	LR		
	comp=E,291nm,16.2s,MS4.1						
KMI				LR	LR		
	comp=Z,485nm,13.0s,MS4.2						
KMI	**Kunming**	**24.28**	**12**	P	P	**14 55 03.1**	**+2.2**
	comp=Z,22nm,1.4s,mb4.4						
KMI				pP		14 55 11.7	
KMI				sP		14 55 15.6	
KMI				PP	PP	14 55 38.8	+2.5
KMI				S	S	**14 59 24.5**	**+10**
KMI				sS		14 59 38.9	
KMI				SS	SS	15 00 28.2	+20
KMI				LR	LR		
	comp=Z,490nm,13.0s,MS4.2						
SHL	**Shillong**	**24.63**	**349**	*eP*	P	**14 55 05.0**	**+0.7**
GYA	**Guiyang**	**26.63**	**19**	P	P	**14 55 22.3**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
JIRN	**Jiri**	**28.21**	**339**	*eP*	P	**14 55 38.1**	**+0.7**
	comp=Z,31nm,0.8s,mb5.0						
PKI	**Pulchoki**	**28.42**	**338**	*eP*	P	**14 55 41.0**	**+1.8**
	comp=Z,7.3nm,0.4s,mb4.6						
GUN	**Gumba**	**28.55**	**339**	*eP*	P	**14 55 41.2**	**+0.8**
	comp=Z,32nm,0.8s,mb5.1						
KKN	**Kakani**	**28.67**	**338**	*eP*	P	**14 55 41.9**	**+0.5**
	comp=Z,20nm,0.9s,mb4.9						
LSA	**Lhasa**	**28.80**	**349**	P	P	**14 55 42.0**	**-0.5**
LSA	**Lhasa**	**28.80**	**349**	*eP*	P	**14 55 42.4**	**-0.1**
	comp=Z,6.6nm,0.7s,mb4.5						
GKN	**Gorkha**	**29.11**	**337**	*eP*	P	**14 55 45.3**	**0.0**
	comp=Z,20nm,0.6s,mb5.0						
KOLN	**Koldanda**	**29.32**	**335**	*eP*	P	**14 55 48.0**	**+0.8**
	comp=Z,26nm,0.7s,mb5.0						
ENH	**Enshi**	**31.10**	**21**	*eP*	P	**14 56 01.4**	**-1.7**
	comp=Z,22nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**34.05**	**126**	P	P	**14 56 27.9**	**-1.0**
	comp=Z,3.5nm,0.8s,mb4.4,baz=327,slow=8.2,SNR=3.8						
XAN	**Xi'an**	**34.38**	**17**	P	P	**14 56 36.1**	**+4.6**
XAN				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
GTA	**Gaotai**	**37.99**	**3**	*eP*	P	**14 57 02.8**	**+0.8**
GTA				AP	pP	14 57 11.8	0.0
GTA				XP	sP	14 57 15.1	-0.9
GTA				PP	PP	14 58 32.9	+0.5
GTA				S	S	**15 02 49.3**	**-2.3**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,65nm,4.6s						
GTA				LR	LR		
	comp=N,136nm,11.8s,MS4.1						
GTA				LR	LR		
	comp=E,121nm,14.1s,MS4.1						
GTA				LR	LR		
	comp=Z,165nm,13.0s,MS4.0						
JOW	**Kunigami**	**39.22**	**47**	P	P	**14 57 13.2**	**+0.9**
	comp=Z,18nm,0.7s,mb4.9,baz=265,slow=2.9,SNR=5.8						
WRA	**Warramunga Arr**	**42.16**	**122**	P	P	**14 57 37.2**	**+0.4**
	comp=Z,2.8nm,0.8s,mb3.9,baz=300,slow=9.1,SNR=8.4						
WRAB	**Tennant Creek**	**42.16**	**122**	*eP*	P	**14 57 36.5**	**-0.3**
	comp=Z,6.3nm,0.8s,mb4.3						
BJT	**Baijiatuau**	**42.24**	**22**	*eP*	P	**14 57 36.8**	**-0.3**
	comp=Z,16nm,0.6s,mb4.8						
BJI	**Beijing**	**42.26**	**22**	*eP*	P	**14 57 38.4**	**+1.1**
BJI				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.8						
BJI	**Beijing**	**42.26**	**22**	*eP*	P	**14 57 38.4**	**+1.1**
	comp=Z,18nm,0.8s,mb4.8						
WMQ	**Urumqi**	**43.15**	**350**	*eP*	P	**14 57 45.6**	**+1.0**
ASAR	**Alice Springs**	**43.52**	**127**	P	P	**14 57 48.5**	**+0.6**
	comp=Z,1.9nm,0.9s,mb3.8,baz=303,slow=7.6,SNR=8.5						
AAK	**Ala-Archa**	**45.86**	**337**	*eP*	P	**14 58 05.2**	**-1.2**
	comp=Z,2.8nm,0.9s,mb4.2						
SONM	**Songino Array**	**47.03**	**9**	P

KMI	**Kunming**	**23.81**	**13**	⇓P	**P**	**15 18 02.6**	**+1.9**
KMI				*PP		15 18 10.1	
KMI				*SP		15 18 18.7	
KMI						15 18 37.0	
KMI				PPP	PPP	15 18 47.2	+1.9
KMI				S	**S**	**15 22 15.0**	**+4.9**
KMI				*SS		15 22 29.9	
KMI				SS	SS	15 23 05.7	+3.7
KMI				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.5						
KMI				MLR	MLR		
	comp=Z,350nm,13.1s,MS4.0						
KMI	**Kunming**	**23.81**	**13**	⇓P	**P**	**15 18 02.6**	**+1.9**
	comp=Z,18nm,0.9s,mb4.5						
KMI				pP		15 18 10.1	
KMI				sP		15 18 18.7	
KMI				PP	PP	15 18 37.0	+2.0
KMI				PPP	PPP	15 18 47.2	+1.9
KMI				S	**S**	**15 22 15.0**	**+4.9**
KMI				sS		15 22 29.9	
KMI				SS	SS	15 23 05.7	+3.7
KMI				LR	LR		
	comp=Z,350nm,13.1s,MS4.0						
SHL	**Shillong**	**24.19**	**348**	*e*P	**P**	**15 18 05.0**	**+0.6**
GYA	**Guiyang**	**26.17**	**20**	P	**P**	**15 18 22.9**	**-0.3**
GYA				AP	pP	15 18 31.3	-3.6
GYA				XP	sP	15 18 35.8	-4.6
GYA				PP	PP	15 19 05.8	-0.2
GYA				S	**S**	**15 22 48.5**	**-1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s,mb4.8						
GYA				LR	LR		
	comp=N,180nm,15.8s,MS3.9						
GYA				LR	LR		
	comp=E,210nm,16.0s,MS3.9						
GYA				LR	LR		
	comp=Z,310nm,16.2s,MS3.9						
GZH	**Guangzhou**	**26.35**	**35**	P	**P**	**15 18 19.3**	**-5.5**
JIRN	**Jiri**	**27.80**	**339**	*e*P	**P**	**15 18 38.3**	**+0.2**
	comp=Z,42nm,1.0s,mb5.0						
PKI	**Pulchoki**	**28.01**	**337**	*e*P	**P**	**15 18 40.8**	**+0.8**
	comp=Z,12nm,0.7s,mb4.7						
PKI	**Pulchoki**	**28.01**	**337**	*e*P	**P**	**15 18 40.8**	**+0.8**
PKI				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
GUN	**Gumba**	**28.14**	**338**	*e*P	**P**	**15 18 41.1**	**0.0**
	comp=Z,25nm,0.5s,mb5.1						
DMN	**Daman**	**28.16**	**337**	*e*P	**P**	**15 18 41.4**	**+0.1**
KKN	**Kakani**	**28.26**	**337**	*e*P	**P**	**15 18 41.8**	**-0.4**
	comp=Z,15nm,0.7s,mb4.7						
KKN	**Kakani**	**28.26**	**337**	*e*P	**P**	**15 18 41.8**	**-0.4**
KKN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
LSA	**Lhasa**	**28.35**	**349**	P	**P**	**15 18 44.0**	**+1.0**
LSA	**Lhasa**	**28.35**	**349**	*e*P	**P**	**15 18 42.5**	**-0.5**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.4						
LSA	**Lhasa**	**28.35**	**349**	*e*P	**P**	**15 18 42.5**	**-0.5**
	comp=Z,4.5nm,0.4s,mb4.5						
GKN	**Gorkha**	**28.70**	**336**	*e*P	**P**	**15 18 45.4**	**-0.7**
	comp=Z,24nm,0.8s,mb5.0						
KOLN	**Koldanda**	**28.93**	**335**	*e*P	**P**	**15 18 48.0**	**-0.1**
	comp=Z,18nm,0.7s,mb4.9						
ENH	**Enshi**	**30.64**	**21**	*e*P	**P**	**15 19 01.4**	**-1.9**
	comp=Z,22nm,0.6s,mb5.2						
WHN	**Wuhan**	**32.91**	**28**	⇑P	**P**	**15 19 23.0**	**-0.2**
XAN	**Xi'an**	**33.91**	**18**	P	**P**	**15 19 30.6**	**-1.2**
XAN				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.4						
FITZ	**Fitzroy Crossi**	**34.28**	**126**	P	**P**	**15 19 34.4**	**-0.8**
	comp=Z,3.9nm,0.7s,mb4.5,baz=341,slow=3.9,SNR=5.6						
FITZ				LR	LR	15 32 22.6	
	comp=Z,153nm,21.0s,MS3.7,baz=277,slow=34						
LZH	**Lanzhou**	**34.68**	**10**	*e*P	**P**	**15 19 38.4**	**0.0**
LZH				AP	pP	15 19 49.1	-1.6
LZH				XP	sP	15 19 52.8	-3.6
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
LZH	**Lanzhou**	**34.68**	**10**	*e*P	**P**	**15 19 38.4**	**0.0**
LZH				*PP	pP	15 19 49.1	-1.6
LZH				*SP	sP	15 19 52.7	-3.7
LZH				pmax	pmax		
	comp=Z,26nm,1.2s,mb5.0						
LZH	**Lanzhou**	**34.68**	**10**	*e*P	**P**	**15 19 38.4**	**0.0**
	comp=Z,26nm,1.2s,mb5.0						
LZH				pP	pP	15 19 49.1	-1.6
LZH				sP	sP	15 19 52.7	-3.7
NJ2	**Nanjing**	**36.38**	**32**	*e*P	**P**	**15 19 53.5**	**+0.6**
NJ2				AP	pP	15 20 02.9	-2.2
NJ2				XP	sP	15 20 05.6	-5.2
NJ2				PP	PP	15 21 18.3	+1.1
NJ2				S	**S**	**15 25 37.0**	**+6.7**
NJ2				AMB	AMB		
	comp=Z,100nm,0.6s,mb5.9						
NJ2				AMB	AMB		
	comp=Z,90nm,5.1s						
NJ2				LR	LR		
	comp=N,520nm,17.1s,MS4.5						
NJ2				LR	LR		
	comp=E,380nm,16.6s,MS4.5						
NJ2				LR	LR		
	comp=Z,360nm,16.7s,MS4.2						
GTA	**Gaotai**	**37.52**	**3**	*e*P	**P**	**15 20 02.6**	**+0.2**
GTA				AP	pP	15 20 11.5	-3.2
GTA				XP	sP	15 20 14.9	-5.5
GTA				PP	PP	15 21 32.9	+1.6
GTA				S	**S**	**15 25 50.9**	**+3.1**
GTA				XS		15 26 03.6	
GTA				SS	SS	15 28 24.4	+1.6
GTA				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.7						
GTA				AMB	AMB		
	comp=Z,90nm,5.3s						
GTA				LR	LR		
	comp=N,107nm,14.5s,MS3.8						
GTA				LR	LR		
	comp=E,83nm,17.2s,MS3.8						
GTA				LR	LR		
	comp=Z,157nm,14.5s,MS4.0						
KAKA	**Kakadu**	**37.84**	**113**	*e*P	**P**	**15 20 04.0**	**-1.3**
	comp=Z,6.9nm,0.6s,mb4.6						
JOW	**Kunigami**	**38.85**	**47**	P	**P**	**15 20 14.3**	**+0.7**
	comp=Z,6.5nm,0.5s,mb4.6,baz=182,slow=12,SNR=6.3						
HHC	**Hu-ho-hao-te**	**41.00**	**17**	*e*P	**P**	**15 20 31.4**	**+0.1**
HHC				AP	pP	15 20 40.9	-2.8
HHC				XP	sP	15 20 45.6	-3.6
HHC				PP	PP	15 22 10.3	+1.2
HHC				PCP	PcP	15 22 30.8	-0.5
HHC				SCP		15 26 16.9	
HHC				PCS		15 26 25.8	
HHC				S	**S**	**15 26 42.1**	**+2.0**
HHC				XS		15 26 58.5	
HHC				SS	SS	15 29 41.3	+2.3
HHC				SCS	ScS	15 30 33.3	+3.5
HHC				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,123nm,5.4s						
HHC				LR	LR		
	comp=N,271nm,17.1s,MS4.2						
HHC				LR	LR		
	comp=E,177nm,17.2s,MS4.2						
HHC				LR	LR		
	comp=Z,201nm,14.1s,MS4.1						
BJT	**Baijiatuau**	**41.78**	**22**	*e*P	**P**	**15 20 38.1**	**+0.4**
BJT				pmax	pmax		
	comp=Z,24nm,0.6s						
BJT	**Baijiatuau**	**41.78**	**22**	*e*P	**P**	**15 20 38.1**	**+0.4**
	comp=Z,24nm,0.6s,mb5.0						
BJI	**Beijing**	**41.80**	**22**	P	**P**	**15 20 38.8**	**+0.9**
BJI				AMB	AMB		
	comp=Z,48nm,0.8s,mb5.2						
BJI				LR	LR		
	comp=N,153nm,17.5s,MS4.1						
BJI				LR	LR		
	comp=E,154nm,15.2s,MS4.1						
BJI				LR	LR		
	comp=Z,124nm,23.0s						
BJI	**Beijing**	**41.80**	**22**	P	**P**	**15 20 38.8**	**+0.9**
	comp=Z,48nm,0.8s,mb5.2						
BJI				S	**S**	**15 27 05.3**	**+13**
BJI				LR	LR		
	comp=Z,120nm,23.0s,MS3.7						
KSH	**Kashi**	**42.23**	**335**	*e*P	**P**	**15 20 46.1**	**+4.7**
KSH				*e*AP	pP	15 20 56.0	+2.1
KSH				*e*XP	sP	15 20 59.1	-0.3
KSH				*e*PP	PP	15 22 28.0	+5.5
KSH				*e*PCP	PcP	15 22 37.1	+1.6
KSH				*e*SCP		15 26 24.1	
KSH				*e*PCS		15 26 28.1	
KSH				*e*S	**S**	**15 27 07.3**	**+9.0**
KSH				*e*XS		15 27 23.1	
KSH				*e*SCS	ScS	15 30 42.3	+5.1
KSH				AMB	AMB		
	comp=Z,100nm,2.9s,mb4.9						
KSH				LR	LR		
	comp=N,370nm,7.2s						
KSH				LR	LR		
	comp=E,320nm,4.4s						
WRA	**Warramunga Arr**	**42.36**	**123**	P	**P**	**15 20 42.5**	**-0.2**
	comp=E,3.0nm,0.6s,mb4.1,baz=302,slow=9.1,SNR=42						
WRAB	**Tennant Creek**	**42.36**	**122**	*e*P	**P**	**15 20 42.4**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**42.36**	**122**	*e*P	**P**	**15 20 42.4**	**-0.4**
	comp=Z,10nm,0.9s,mb4.5						
WB2	**Warramunga Arr**	**42.37**	**123**	*e*P	**P**	**15 20 42.7**	**-0.1**
WMQ	**Urumqi**	**42.70**	**350**	⇑P	**P**	**15 20 45.3**	**+0.1**
WMQ				AP	pP	15 20 55.3	-2.3
WMQ				XP	sP	15 20 59.3	-3.8
WMQ				PP	PP	15 22 27.3	+0.2
WMQ				PCP	PcP	15 22 37.4	+0.5
WMQ				S	**S**	**15 27 06.4**	**+1.4**
WMQ				XS		15 27 22.5	
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,134nm,4.9s						
WMQ				LR	LR		
	comp=N,75nm,21.6s						
WMQ				LR	LR		
	comp=Z,48nm,21.6s,MS3.4						
FORT	**Forrest**	**43.73**	**140**	*e*P	**P**	**15 20 55.6**	**+1.8**
	comp=Z,223nm,0.6s,mb6.1						
ASAR	**Alice Springs**	**43.76**	**128**	P	**P**	**15 20 54.2**	**+0.1**
	comp=Z,1.5nm,0.6s,mb3.9,baz=300,slow=7.8,SNR=31						
UCH	**Uchtor**	**45.11**	**336**	P	**P**	**15 21 05.8**	**+1.1**
	SNR=18						
TKM2	**Tokmak 2**	**45.27**	**338**	P	**P**	**15 21 06.7**	**+0.7**
	SNR=17						
KBK	**Karagaybulak**	**45.30**	**337**	P	**P**	**15 21 07.5**	**+1.3**
	SNR=13						
KS15	**Wonju Array Si**	**45.35**	**35**	*e*P	**P**	**15 21 07.3**	**+0.7**
AML	**Almayashu**	**45.37**	**335**	P	**P**	**15 21 07.8**	**+1.1**
	SNR=15						
AAK	**Ala-Archa**	**45.46**	**336**	P	**P**	**15 21 08.6**	**+1.1**
	SNR=5.2						
AAK	**Ala-Archa**	**45.46**	**336**	*c i*P	**P**	**15 21 07.6**	**+0.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,2.0s,mb4.2						
AAK	**Ala-Archa**	**45.46**	**336**	*e*P	**P**	**15 21 07.4**	**0.0**
	comp=Z,3.0nm,0.6s,mb4.3						
EKS2	**Erkin-Say**	**45.77**	**336**	P	**P**	**15 21 11.0**	**+1.0**
	SNR=14						
USP	**Ospenovka**	**45.99**	**337**	P	**P**	**15 21 12.2**	**+0.5**
	SNR=32						
SONM	**Songino Array**	**46.56**	**9**	P	**P**	**15 21 16.6**	**+0.6**
	comp=Z,9.1nm,0.5s,mb5.0,baz=190,slow=9.8,SNR=132						
SONM				PcP	PcP	15 22 50.0	-0.2
	comp=Z,1.7nm,0.5s,baz=189,slow=4.4,SNR=7.3						
ULN	**Ulaanbaatar**	**46.69**	**9**	*e*P	**P**	**15 21 17.2**	**+0.1**
ULN				*e*		15 22 49.6	
ULN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
ULN	**Ulaanbaatar**	**46.69**	**9**	*e*P	**P**	**15 21 17.2**	**+0.1**
	comp=Z,5.3nm,0.5s,mb4.7						
ULN				*e*PcP	PcP	15 22 49.6	-1.0
ZAK	**Zakamensk**	**48.70**	**5**	*e*P	**P**	**15 21 31.9**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MOY	**Mondy**	**49.81**	**3**	*e*P	**P**	**15 21 41.9**	**+0.6**
TLY	**Talaya**	**50.02**	**5**	*e*P	**P**	**15 21 42.3**	**-0.6**
TLY				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
TLY				MLR	MLR		
	comp=Z,119nm,20.0s,MS3.9						
HIA	**Hailar**	**51.09**	**19**	*e*P	**P**	**15 21 50.4**	**-0.7**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HIA	**Hailar**	**51.09**	**19**	*e*P	**P**	**15 21 50.4**	**-0.7**
	comp=Z,7.8nm,0.7s,mb4.8						
MAT	**Matsushiro**	**51.27**	**43**	*e*P	**P**	**15 21 52.0**	**-0.6**
MAT	**Matsushiro**	**51.27**	**43**	P	**P**	**15 21 51.7**	**-0.9**
MJAR	**Matsushiro Arr**	**51.27**	**43**	P	**P**	**15 21 52.4**	**-0.2**
	comp=Z,4.7nm,0.7s,mb4.5,baz=218,slow=6.2,SNR=12						
MDJ	**Mudanjiang**	**51.37**	**29**	P	**P**	**15 21 53.0**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,66nm,6.0s						
ZAL	**Zalesovo**	**52.97**	**351**	P	**P**	**15 22 05.0**	**-0.1**
	comp=Z,24nm,0.5s,mb5.4,baz=316,slow=5.7,SNR=20						
STKA	**Stephens Creek**	**53.76**	**132**	*e*P	**P**	**15 22 11.9**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**53.76**	**132**	P	**P**	**15 22 11.9**	**+0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=329,slow=7.9,SNR=5.5						
NVS	**Novosibirsk**	**54.10**	**350**	*e*P	**P**	**15 22 11.9**	**-1.5**
NVS				pmax	pmax		
	comp=N,14nm,1.1s						
NVS				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
KLR	**Kul'dur**	**55.74**	**27**	*e*P	**P**	**15 22 22.4**	**-3.0**
BOD	**Bodaibo**	**57.44**	**11**	*e*P	**P**	**15 22 36.1**	**-1.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**59.88**	**34**	*d i*P	**P**	**15 22 53.4**	**-1.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
GNI	**Garni**	**60.86**	**316**	*e*P	**P**	**15 23 04.1**	**+2.8**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
ARU	**Arti**	**62.64**	**337**	⇓*i*P	**P**	**15 23 11.8**	**-1.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.4						
KIV	**Kislovodsk**	**63.86**	**319**	⇓*i*P	**P**	**15 23 21.0**	**-0.2**
KIV				*e*		15 23 40.0	
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
YAK	**Yakutsk**	**64.86**	**16**	*c i*P	**P**	**15 23 26.6**	**-0.8**
YAK				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.5						
YAK	**Yakutsk**	**64.86**	**16**	*e*P	**P**	**15 23 26.4**	**-1.1**
	comp=Z,58nm,1.0s,mb5.6						
BRTR	**Keskin Array B**	**68.71**	**312**	P	**P**	**15 23 50.8**	**-1.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=130,slow=7.3,SNR=9.4						
OBN	**Obninsk**	**72.11**	**328**	⇓*i*P	**P**	**15 24 11.6**	**-0.8**
OBN				*e*		15 24 31.7	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
TIXI	**Tiksi**	**72.61**	**10**	⇑*i*P	**P**	**15 24 14.2**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
AKASG	**Malin Array Be**	**74.79**	**322**	P	**P**	**15 24 26.1**	**-2.1**
	comp=Z,2.8nm,0.6s,mb4.4,baz=88,slow=5.2,SNR=13						
VRI	**Vrincioaia**	**75.18**	**317**	⇑P	**P**	**15 24 30.5**	**0.0**
MLR	**Muntele Rosu**	**75.63**	**317**	⇑P	**P**	**15 24 33.7**	**+0.6**
BURAR	**Bucovina Array**	**76.58**	**319**	⇓P	**P**	**15 24 39.2**	**+0.8**
BURAR	**Bucovina Array**	**76.58**	**319**	⇓P	**P**	**15 24 39.2**	**+0.8**
FINES	**FINESS Array B**	**79.47**	**332**	P	**P**	**15 24 53.8**	**-0.3**
	comp=Z,2.8nm,0.6s,mb4.4,baz=101,slow=6.2,SNR=21						
MORC	**Moravsky Berou**	**81.95**	**320**	*e*P	**P**	**15 25 07.8**	**+0.4**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MORC	**Moravsky Berou**	**81.95**	**320**	*e*P	**P**	**15 25 07.8**	**+0.4**
	comp=Z,3.5nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	**81.98**	**340**	P	**P**	**15 25 07.6**	**+0.4**
	comp=Z,4.0nm,0.4s,mb4.7,baz=96,slow=5.0,SNR=80						
ARCES	**ARCESS Array B**	**81.98**	**340**	P	**P**	**15 25 07.6**	**+0.4**
GERES	**GERESS Array B**	**84.37**	**319**	P	**P**	**15 25 20.3**	**+0.6**
	comp=Z,1.4nm,0.5s,mb4.3,baz=104,slow=5.5,SNR=17						
NB2	**NORSAR Subarra**	**86.49**	**331**	P	**P**	**15 25 29.5**	**-0.4**
	comp=Z,0.2nm,0.8s,mb3.4,baz=95,slow=5.3						
NOA	**NORSAR Array B**	**86.49**	**331**	P	**P**	**15 25 30.0**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.4,baz=95,slow=4.8,SNR=6.4						
NOA	**NORSAR Array B**	**86.49**	**331**	P	**P**	**15 25 30.0**	**+0.1**

IDC 15 15:18:23.1±46.0, 16.25S×173.25W, mb4.0/3, mb1 4.2/3, mb1mx3.7/18, mbtmp4.0/3, Error ellipse: s-maj=877.1km s-min=178.0km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.74**	**241**	P	P	15 26 30.4	-1.6
	0.5nm,0.3s,baz=77,slow=14,SNR=3.5						
WRA	**Warramunga Arr**	**49.79**	**257**	P	P	15 27 17.7	-2.2
	0.6nm,0.5s,baz=94,slow=6.9,SNR=27						
ASAR	**Alice Springs**	**49.99**	**253**	P	P	15 27 19.6	-1.8
	4.2nm,0.5s,baz=88,slow=8.5,SNR=137						
ASPA	**Alice Springs**	**49.99**	**253**	*e*P	P	15 27 19.1	-2.3

*IDC **15** 15:23:48.4±10.0, 57.73N×156.87W, h114km±87km, mb3.3/3, mb1 3.8/5, mb1mx3.4/23, mbtmp3.9/5, ML4.5/2, Error ellipse: s-maj=79.6km s-min=35.9km az=8.0*

*NEIC **15** 15:23:49.0, 57.42N×156.67W, h106km, MG3.5(AEIC), After AEIC.*

ISC 15 15:23:46.1±0.4, 57.42N±0.05×156.64W±0.08, h127km±5km, nT, σ0 85/81, mb3.5/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCK	**Angle Creek**	**0.99**	**38**	P	**P**	**15 24 09.3**	**+0.4**
ANCK				S	**S**	**15 24 24.9**	**-1.2**
KAHC	**Katmai Hardscr**	**1.50**	**34**	P	**P**	**15 24 14.7**	**+0.3**
KAHC				S	**S**	**15 24 35.5**	**-0.6**
KAPH	**Katmai Pasha**	**1.69**	**45**	P	**P**	**15 24 17.5**	**+0.9**
MCNL	**McNeil River**	**2.14**	**33**	P	**P**	**15 24 22.7**	**+0.5**
KDAK	**Kodiak Island**	**2.21**	**79**	P	**P**	**15 24 23.8**	**+0.7**
KDAK				S	**S**	**15 24 49.8**	**-1.4**
SYI	**Shuyak Island**	**2.55**	**60**	P	**P**	**15 24 28.5**	**+0.9**
AUI	**Augustine Isla**	**2.56**	**40**	P	**P**	**15 24 28.4**	**+0.8**
AUW	**Augustine West**	**2.57**	**39**	P	**P**	**15 24 28.6**	**+0.9**
AUE	**Augustine Isla**	**2.59**	**40**	P	**P**	**15 24 29.1**	**+1.0**
OPT	**Oil Point**	**2.86**	**37**	P	**P**	**15 24 32.6**	**+0.9**
SDPT	**Sand Point**	**2.98**	**227**	P	**P**	**15 24 32.6**	**-0.6**
ILW	**Iliamna West**	**3.21**	**33**	P	**P**	**15 24 37.0**	**+0.7**
INE	**Iliamna NE**	**3.23**	**34**	P	**P**	**15 24 37.4**	**+0.8**
ILIM	**Iliamna**	**3.28**	**34**	P	**P**	**15 24 38.2**	**+1.0**
XLV	**Seldovia**	**3.29**	**50**	P	**P**	**15 24 38.1**	**+0.8**
BLHA	**Black Hill**	**3.46**	**242**	P	**P**	**15 24 39.9**	**+0.2**
PVV	**Pavlof Volcano**	**3.52**	**237**	P	**P**	**15 24 40.5**	**0.0**
CNPM	**China Poot**	**3.53**	**51**	P	**P**	**15 24 40.9**	**+0.3**
HAG	**Hague Volcano**	**3.61**	**236**	P	**P**	**15 24 41.6**	**0.0**
NCT	**North Crescent**	**3.69**	**30**	P	**P**	**15 24 43.1**	**+0.5**
RDN	**Redoubt North**	**3.69**	**31**	P	**P**	**15 24 43.4**	**+0.8**
SVW2	**Sparrevohn**	**3.73**	**8**	P	**P**	**15 24 42.8**	**-0.3**
DFR	**Drift River**	**3.78**	**31**	P	**P**	**15 24 44.4**	**+0.6**
NNL	**Ninilchik**	**3.83**	**44**	P	**P**	**15 24 45.8**	**+1.4**
NKA	**Nikishka**	**4.34**	**38**	P	**P**	**15 24 53.6**	**+2.3**
CKL	**Chakachamna La**	**4.38**	**28**	P	**P**	**15 24 53.0**	**+1.1**
CKN	**Chakachatna No**	**4.44**	**29**	P	**P**	**15 24 53.3**	**+0.6**
SLKM	**Skilak Lake**	**4.54**	**44**	P	**P**	**15 24 54.7**	**+0.7**
STLK	**Strandline Lak**	**4.76**	**29**	P	**P**	**15 24 57.8**	**+0.7**
VOGL	**Vogel Lake**	**4.80**	**39**	P	**P**	**15 24 59.0**	**+1.6**
MPA	**Moose Pass**	**4.86**	**48**	P	**P**	**15 24 58.9**	**+0.6**
FIB	**Fire Island**	**5.00**	**39**	P	**P**	**15 25 01.1**	**+0.8**
RC01	**Rabbit Creek A**	**5.10**	**41**	P	**P**	**15 25 01.1**	**-0.5**
PWA	**Palmer West**	**5.46**	**36**	P	**P**	**15 25 05.9**	**-0.4**
TT01	**Tatalina**	**5.51**	**3**	P	**P**	**15 25 07.5**	**+0.4**
TTA	**Tatalina**	**5.54**	**3**	*e*P	**P**	**15 25 07.6**	**+0.2**
PMR	**Palmer**	**5.66**	**39**	*e*P	**P**	**15 25 07.7**	**-1.4**
MID	**Middleton Isla**	**5.77**	**65**	P	**P**	**15 25 10.2**	**-0.4**
KNK	**Knik Glacier**	**5.78**	**43**	P	**P**	**15 25 10.0**	**-0.7**
CUT	**Chulitna**	**5.93**	**30**	P	**P**	**15 25 12.1**	**-0.6**
HIN	**Hinchinbrook I**	**6.04**	**56**	P	**P**	**15 25 14.1**	**0.0**
SML	**Sawmill**	**6.09**	**40**	*e*P	**P**	**15 25 13.2**	**-1.6**
EYAK	**Cordova Ski Ar**	**6.44**	**56**	P	**P**	**15 25 19.1**	**-0.6**
VLZ	**Valdez**	**6.46**	**51**	P	**P**	**15 25 19.2**	**-0.7**
SCM	**Sheep Creek Mo**	**6.46**	**43**	P	**P**	**15 25 19.0**	**-1.0**
UNV	**Unalaska Valle**	**6.64**	**241**	P	**P**	**15 25 21.9**	**-0.4**
DIV	**Divide**	**6.69**	**52**	P	**P**	**15 25 22.7**	**-0.4**
MNAT	**Makushin Natee**	**6.70**	**242**	P	**P**	**15 25 22.9**	**-0.3**
MSW	**Makushin Switc**	**6.73**	**243**	P	**P**	**15 25 23.2**	**-0.5**
KTH	**Kantishna Hill**	**6.76**	**22**	P	**P**	**15 25 23.8**	**-0.3**
TRF	**Thorofare Moun**	**6.81**	**25**	P	**P**	**15 25 24.0**	**-0.7**
KAIM	**Kayak Island**	**6.85**	**63**	P	**P**	**15 25 25.2**	**-0.1**
RAGM	**Ragged Mountai**	**6.87**	**59**	P	**P**	**15 25 25.3**	**-0.2**
RND	**Reindeer**	**7.13**	**29**	P	**P**	**15 25 27.9**	**-1.1**
TZL	**Tazlina**	**7.32**	**46**	P	**P**	**15 25 31.1**	**-0.4**
MCK	**McKinley**	**7.37**	**28**	P	**P**	**15 25 31.2**	**-1.1**
BWN	**Browne**	**7.62**	**24**	P	**P**	**15 25 34.6**	**-1.1**
GLB	**Gilahina Butte**	**7.68**	**53**	P	**P**	**15 25 36.1**	**-0.3**
PAX	**Paxson**	**7.86**	**40**	P	**P**	**15 25 37.4**	**-1.5**
THY	**Trims Highway**	**8.06**	**37**	P	**P**	**15 25 40.8**	**-0.8**
MLY	**Manley**	**8.14**	**18**	P	**P**	**15 25 41.7**	**-1.0**
BALM	**Baldy**	**8.17**	**58**	P	**P**	**15 25 43.0**	**-0.1**
DDM	**Donnelly Dome**	**8.29**	**35**	P	**P**	**15 25 44.9**	**+0.3**
MENT	**Mentasta**	**8.47**	**44**	P	**P**	**15 25 46.5**	**-0.6**
COLA	**College**	**8.59**	**26**	P	**P**	**15 25 46.7**	**-2.0**
CTGM	**Chitina Glacie**	**8.61**	**59**	P	**P**	**15 25 49.1**	**+0.2**
IM3	**Indian Mountai**	**8.70**	**8**	P	**P**	**15 25 49.8**	**-0.3**
ILAR	**Eielson Array**	**8.74**	**29**	P	**P**	**15 25 48.7**	**-2.0**
	3.9nm,0.3s,baz=217,slow=13,SNR=312						
ILAR				S	**S**	**15 27 21.8**	**-6.2**
	0.5nm,0.3s,baz=211,slow=24,SNR=8.4						
PCA	**Pinnacle**	**8.92**	**66**	P

Plg17°, Azm26°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*IDC **15** 16:03:05.2±2.9, 3.25S×139.72E, h42km±28km, mb4.4/10, mb1 4.6/13, mb1mx4.6/16, mbtmp4.7/13, ML4.5/3, MS4.2/15, Ms1 4.2/15, ms1mx4.1/24 Error ellipse: s-maj=21.5km s-min=11.6km az=93.0*
ISC 15 16:03:01.6±0.3, 3.26S±0.03×139.75E±0.05, h33km, (h24km±7.9km:pP-P), n102, σ1§25/97, mb4.8/39, MS4.1/21, 6C-5D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MENI	**Mendum Tagoi**	**1.00**	**42**	⇑*i*pP	**P**	**16 03 17.5**	**-1.9**
MENI	**Mendum Tagoi**	**1.00**	**42**	⇓*i*P	**P**	**16 03 16.7**	**-2.7**
YOMI	**Yo Mokiole**	**1.02**	**53**	⇓*i*P	**P**	**16 03 16.8**	**-2.8**
JAY	**Jayapura**	**1.21**	**52**	*e*P	**P**	**16 03 20.6**	**-1.7**
PMG	**Port Moresby**	**9.57**	**130**	*e*P	**P**	**16 05 21.1**	**+0.9**
PMG	comp=Z,92nm,0.9s			pmax	pmax		
PMG	**Port Moresby**	**9.57**	**130**	P	**P**	**16 05 21.2**	**+1.1**
PMG	comp=Z,5.9nm,0.3s,baz=318,slow=12,SNR=22			S	**S**	**16 07 09.2**	**+1.5**
PMG	comp=Z,0.2nm,0.3s,baz=303,slow=15,SNR=2.5			LR	LR	16 09 06.8	
PMG	**Port Moresby**	**9.57**	**130**	*e*P	**P**	**16 05 21.1**	**+0.9**
KAKA	**Kakadu**	**11.85**	**217**	*e*P	**P**	**16 05 49.9**	**-1.4**
KAKA	comp=Z,200nm,0.4s			*e*S	**S**	**16 07 59.0**	**-4.4**
WRAB	**Tennant Creek**	**17.39**	**197**	⇓*i*P	**P**	**16 07 02.3**	**-1.1**
WRAB	**Tennant Creek**	**17.39**	**197**	*e*P	**P**	**16 07 01.3**	**-2.1**
WB2	**Warramunga Arr**	**17.40**	**197**	*e*P	**P**	**16 07 01.5**	**-2.0**
WB2	comp=Z,108nm,0.6s			*e*S	**S**	**16 10 09.2**	**-5.0**
WRA	**Warramunga Arr**	**17.40**	**197**	P	**P**	**16 07 03.5**	**-0.1**
WRA	comp=Z,3.9nm,0.3s,baz=21,slow=12,SNR=84			S	**S**	**16 10 12.6**	**-1.7**
CTA	**Charters Tower**	**17.89**	**160**	*e*P	**P**	**16 07 13.3**	**+3.6**
CTA	comp=Z,1.2nm,0.3s,baz=18,slow=22,SNR=3.7			pmax	pmax		
CTA	**Charters Tower**	**17.89**	**160**	*e*P	**P**	**16 07 13.3**	**+3.6**
CTA	**Charters Tower**	**17.89**	**160**	P	**P**	**16 07 12.1**	**+2.3**
CTA	comp=Z,1.2nm,0.3s,baz=337,slow=12,SNR=11			LR	LR	16 14 55.6	
CTAO	**Charters Tower**	**17.89**	**160**	*e*P	**P**	**16 07 11.9**	**+2.2**
CTAO	comp=Z,24nm,0.8s			pmax	pmax		
CTAO	**Charters Tower**	**17.89**	**160**	*e*P	**P**	**16 07 11.9**	**+2.2**
BUNI	**Buntu Taipa**	**19.39**	**268**	*e*P	**P**	**16 07 32.1**	**+4.3**
NINI	**Niniconang**	**19.98**	**266**	*e*P	**P**	**16 07 37.6**	**+3.4**
FITZ	**Fitzroy Crossi**	**20.21**	**222**	*e*P	**P**	**16 07 36.4**	**-0.2**
FITZ	comp=Z,59nm,0.7s **Fitzroy Crossi**	**20.21**	**222**	P	**P**	**16 07 37.0**	**+0.4**
FITZ	comp=Z,103nm,1.0s,baz=30,slow=9.2,SNR=54			S	**S**	**16 11 17.8**	**+1.1**
FITZ	comp=Z,67nm,0.7s,baz=190,slow=13,SNR=4.9			LR	LR	16 16 22.7	
TANI	**Tanete Lipujan**	**20.33**	**269**	*e*P	**P**	**16 07 41.2**	**+3.3**
ASAR	**Alice Springs**	**21.06**	**195**	P	**P**	**16 07 45.2**	**-0.1**
ASAR	comp=Z,55nm,0.7s,mb5.0,baz=28,slow=9.5,SNR=171			S	**S**	**16 11 39.7**	**+6.8**
ASAR	comp=Z,15nm,0.8s,baz=10,slow=25,SNR=4.4			LR	LR	16 16 44.8	
ASPA	**Alice Springs**	**21.06**	**195**	*e*P	**P**	**16 07 45.2**	**-0.1**
KEDI	**Kedomdong**	**24.07**	**257**	⇑*i*P	**P**	**16 08 17.0**	**+1.8**
KKM	**Kota Kinabalu**	**25.25**	**291**	P	**P**	**16 08 23.2**	**-3.4**
MBWA	**Marble Bar**	**26.38**	**226**	*e*P	**P**	**16 08 36.0**	**-1.0**
STKA	**Stephens Creek**	**28.52**	**177**	*e*P	**P**	**16 08 56.3**	**-0.1**
STKA	comp=Z,4.0nm,0.6s,mb4.3 **Stephens Creek**	**28.52**	**177**	P	**P**	**16 08 55.9**	**-0.5**
STKA	comp=Z,1.8nm,0.5s,mb4.1,baz=349,slow=9.5,SNR=7.1			LR	LR	16 21 23.9	
FORT	**Forrest**	**29.51**	**201**	*e*P	**P**	**16 09 05.4**	**+0.1**
KSM	**Kuching**	**29.80**	**279**	*e*P	**P**	**16 09 04.6**	**-3.4**
CBIJ	**Chichi jima**	**30.27**	**4**	LR	LR	16 20 07.6	
JOW	**Kunigami**	**31.90**	**340**	LR	LR	16 20 04.0	
KLBR	**Kellerberrin**	**34.97**	**214**	*e*P	**P**	**16 09 52.4**	**-0.5**
JHJ	**Hachijo jima 2**	**36.18**	**0**	LR	LR	16 22 33.2	
NWAO	**Narrogin (SRO)**	**36.27**	**213**	*e*P	**P**	**16 10 03.8**	**-0.1**
NWAO	comp=Z,17nm,1.2s			pmax	pmax		
NWAO	**Narrogin (SRO)**	**36.27**	**213**	P	**P**	**16 10 04.0**	**+0.1**
NWAO	comp=Z,7.1nm,0.9s,mb4.6,baz=91,slow=1.2,SNR=5.0			LR	LR	16 26 23.1	
NWAO	**Narrogin (SRO)**	**36.27**	**213**	*e*P	**P**	**16 10 03.8**	**-0.2**
SSE	**Sheshan**	**38.47**	**334**	*e*P	**P**	**16 10 28.8**	**+6.4**
SSE				AP	pP	16 10 37.5	+5.3
SSE				PP	PP	16 12 00.0	+5.7
SSE				PCP	PcP	16 12 35.8	+0.1
SSE	comp=Z,39nm,0.7s,mb5.2			AMB	AMB		
SSE	comp=Z,38nm,5.1s			AMB	AMB		
SSE	comp=N,172nm,23.3s,MS3.8			LR	LR		
SSE	comp=E,50nm,23.3s,MS3.8			LR	LR		
SSE	comp=Z,279nm,22.1s,MS4.0			LR	LR		
MJAR	**Matsushiro Arr**	**39.62**	**358**	LR	LR	16 25 07.3	
NJ2	comp=Z,137nm,21.1s,MS3.8,baz=130,slow=33 **Nanjing**	**40.34**	**332**	*e*P	**P**	**16 10 37.1**	**-0.8**
NJ2				PP	PP	16 12 12.8	-1.5
NJ2				S	**S**	**16 16 46.0**	**+2.7**
NJ2	comp=Z,10.0nm,0.6s,mb4.7			AMB	AMB		
NJ2	comp=Z,80nm,6.6s			AMB	AMB		
NJ2	comp=N,700nm,23.7s,MS4.5			LR	LR		
NJ2	comp=E,530nm,23.1s,MS4.5			LR	LR		
NJ2	comp=Z,310nm,15.2s			LR	LR		
GYA	**Guiyang**	**43.54**	**315**	P	**P**	**16 11 01.9**	**-2.4**
GYA	comp=Z,10.0nm,0.6s,mb4.7			AMB	AMB		
CM31	**Chiang Mai Arr**	**45.61**	**300**	P	**P**	**16 11 17.9**	**-3.1**
CMAR	comp=Z,3.2nm,0.7s,mb4.4 **Chiang Mai Arr**	**45.61**	**300**	P	**P**	**16 11 22.0**	**+1.0**
CMAR	comp=Z,2.4nm,0.9s,mb4.1,baz=122,slow=6.2,SNR=11			LR	LR	16 30 07.8	
KMI	comp=Z,90nm,21.4s,MS3.7,baz=110,slow=36 **Kunming**	**45.66**	**310**	P	**P**	**16 11 21.0**	**-0.4**
KMI				PP	PP	16 13 07.1	-1.6
KMI				S	**S**	**16 18 01.6**	**+0.4**
KMI	comp=Z,5.0nm,0.7s,mb4.5			AMB	AMB		
KMI	comp=Z,61nm,4.7s			AMB	AMB		
KMI	comp=N,90nm,10.9s			LR	LR		
KMI	comp=E,193nm,17.9s			LR	LR		
KMI	comp=Z,236nm,19.5s			LR	LR		
KMI	**Kunming**	**45.66**	**310**	P	**P**	**16 11 21.0**	**-0.4**
KMI	comp=Z,5.0nm,0.7s,mb4.5			pP	pP	16 11 23.4	-7.9
KMI				PP	PP	16 13 07.1	-1.6
KMI				S	**S**	**16 18 01.6**	**+0.4**
KMI				sS		16 18 06.7	
KMI				SS	SS	16 21 15.7	-1.3
KMI				LR	LR		
SNY	comp=Z,240nm,19.5s,MS4.2 **Shenyang**	**47.22**	**344**	⇑P	**P**	**16 11 30.3**	**-3.1**
SNY				S	**S**	**16 18 31.6**	**+8.4**
SNY	comp=N,160nm,18.1s			LR	LR		
SNY	comp=Z,240nm,19.2s,MS4.2			LR	LR		
ASAJ	**Asahikawa**	**47.23**	**3**	P	**P**	**16 11 34.5**	**+1.1**
BJI	comp=Z,2.5nm,0.4s,mb4.5,baz=206,slow=10,SNR=6.9 **Beijing**	**48.21**	**336**	*e*P	**P**	**16 11 50.1**	**+8.9**
BJI				*PP	pP	16 11 59.0	+7.9
BJI				*SP	sP	16 12 03.0	+7.8
BJI				SS	SS	16 22 03.5	+2.0
BJI	comp=Z,13nm,0.7s,mb5.1			pmax	pmax		
BJI	comp=Z,270nm,20.8s,MS4.2			MLR	MLR		
MDJ	**Mudanjiang**	**48.52**	**350**	P	**P**	**16 11 42.8**	**-0.7**
MDJ				PCP	PcP	16 13 07.0	-2.5
MDJ				SCP		16 17 01.5	
MDJ				PCS		16 17 02.9	
MDJ				S	**S**	**16 18 44.4**	**+2.9**
MDJ				SCS	ScS	16 21 34.1	+3.5
MDJ	comp=Z,8.0nm,1.1s,mb4.7			AMB	AMB		
MDJ	comp=Z,88nm,4.6s			AMB	AMB		
MDJ	comp=N,86nm,23.0s,MS3.7			LR	LR		
MDJ	comp=E,51nm,23.7s,MS3.7			LR	LR		
MDJ	comp=Z,151nm,23.4s,MS3.9			LR	LR		
YSS	**Yuzh-Sakhalins**	**50.07**	**3**	*e*P	**P**	**16 11 56.0**	**+0.6**
LZH	**Lanzhou**	**51.54**	**323**	*e*P	pP	16 12 16.2	-0.4
LZH				*SP	sP	16 12 26.2	+5.5
KLR	**Kul'dur**	**52.74**	**353**	*e*P	**P**	**16 12 13.3**	**-2.1**
GTA	**Gaotai**	**56.12**	**323**	*e*P	**P**	**16 12 41.6**	**+1.2**
GTA				PP	PP	16 14 51.5	+4.5
GTA				S	**S**	**16 20 35.8**	**+10**
GTA	comp=Z,2.0nm,0.8s,mb4.2			AMB	AMB		
GTA	comp=Z,48nm,5.4s			AMB	AMB		
GTA	comp=N,143nm,19.5s,MS4.2			LR	LR		
GTA	comp=E,110nm,16.8s,MS4.2			LR	LR		
GTA	comp=Z,75nm,17.2s,MS3.8			LR	LR		
ULN	**Ulaanbaatar**	**58.40**	**335**	*e*P	**P**	**16 13 01.0**	**+4.7**
ULN	**Ulaanbaatar**	**58.40**	**335**	P	**P**	**16 12 53.8**	**-2.6**
SONM	comp=Z,3.3nm,0.6s,mb4.5 **Songino Array**	**58.66**	**334**	P	**P**	**16 12 58.7**	**+0.6**
SONM	comp=Z,0.3nm,0.5s,baz=146,slow=5.9,SNR=5.8			LR	LR	16 36 32.6	
JIRN	comp=Z,228nm,22.0s,MS4.2,baz=103,slow=34 **Jiri**	**60.00**	**305**	*e*P	**P**	**16 13 08.6**	**+0.9**
GUN	comp=Z,13nm,0.6s,mb5.1 **Gumba**	**60.35**	**305**	*e*P	**P**	**16 13 11.0**	**+0.9**
PKI	comp=Z,42nm,1.1s,mb5.4 **Pulchoki**	**60.61**	**304**	*e*P	**P**	**16 13 12.4**	**+0.5**
KKN	**Kakani**	**60.80**	**304**	*e*P	**P**	**16 13 13.8**	**+0.6**
KKN	comp=Z,18nm,0.8s,mb5.3 **Kakani**	**60.80**	**304**	*e*P	**P**	**16 13 13.8**	**+0.6**
KKN	comp=Z,9.0nm,0.8s,mb5.0			pmax	pmax		
DMN	**Daman**	**60.88**	**304**	*e*P	**P**	**16 13 13.8**	**+0.1**
GKN	comp=Z,16nm,0.7s,mb5.2 **Gorkha**	**61.41**	**304**	*e*P	**P**	**16 13 17.9**	**+0.7**
ZAK	comp=Z,30nm,0.8s,mb5.5 **Zakamensk**	**61.92**	**334**	*e*P	**P**	**16 13 20.1**	**-0.3**
ZAK	comp=Z,3.0nm,1.1s,mb4.3			pmax	pmax		
KOLN	**Koldanda**	**62.18**	**304**	*e*P	**P**	**16 13 23.2**	**+0.8**
BOD	comp=Z,12nm,0.9s,mb5.0 **Bodaibo**	**64.31**	**345**	*e*P	**P**	**16 13 34.3**	**-1.7**
BOD	comp=Z,4.0nm,0.8s,mb4.5			pmax	pmax		
YAK	**Yakutsk**	**65.57**	**355**	⇑*i*P	**P**	**16 13 45.0**	**+1.0**
YAK	comp=Z,15nm,0.8s,mb5.1			pmax	pmax		
WMQ	**Urumqi**	**66.08**	**321**	⇑P	**P**	**16 13 46.8**	**-0.9**
WMQ				PCP	PcP	16 14 17.8	-0.1
WMQ				PP	PP	16 16 13.8	-1.7
WMQ				SCP		16 18 18.9	
WMQ				PCS		16 18 20.8	
WMQ				S	S	16 22 31.3	-0.7
WMQ	comp=Z,4.0nm,0.5s,mb4.7			AMB	AMB		
WMQ	comp=Z,49nm,4.3s			AMB	AMB		
WMQ	comp=N,98nm,22.0s,MS4.0			LR	LR		
WMQ	comp=E,11nm,18.4s,MS4.0			LR	LR		
WMQ	comp=Z,42nm,18.5s,MS3.7			LR	LR		
CASY	**Casey**	**66.16**	**192**	*e*P	**P**	**16 13 48.0**	**+0.2**
PPT	**Papeete**	**70.61**	**107**	*e*LR	LR	16 37 05.8	
PPT	comp=Z,186nm,27.0s **Papeete**	**70.61**	**107**	LR	LR	16 39 26.7	
TBI	comp=Z,279nm,18.4s,MS4.5,baz=270,slow=31 **Tubuai**	**71.09**	**113**	*e*LR	LR	16 37 19.1	
ZAL	comp=Z,94nm,31.2s **Zalesovo**	**72.93**	**330**	P	**P**	**16 14 29.6**	**+0.1**
ZAL	comp=Z,1.2nm,0.3s,mb4.3,baz=311,slow=3.0,SNR=2.9			LR	LR	16 46 39.8	
BILL	comp=Z,117nm,19.8s,MS4.2,baz=357,slow=36 **Bilibino**	**73.52**	**10**	⇓*i*P	**P**	**16 14 32.5**	**-0.1**
BILL				*e*		16 14 47.4	
BILL	comp=Z,8.0nm,1.2s,mb4.5			pmax	pmax		
BILL	**Bilibino**	**73.52**	**10**	*e*P	**P**	**16 14 33.0**	**+0.4**
NVS	comp=Z,5.8nm,1.1s,mb4.4 **Novosibirsk**	**74.18**	**330**	*e*P	pP	16 14 49.1	+2.1
AAK	**Ala-Archa**	**74.32**	**316**	*e*P	**P**	**16 14 45.1**	**+7.4**
AAK	comp=Z,3.0nm,1.0s,mb4.2			pmax	pmax		
AAK	**Ala-Archa**	**74.32**	**316**	P	**P**	**16 14 36.6**	**-1.1**
TIXI	comp=Z,2.7nm,0.8s,mb4.2 **Tiksi**	**75.11**	**356**	*e*P	**P**	**16 14 42.6**	**+0.8**
TIXI	comp=Z,5.0nm,1.6s,mb4.2			pmax	pmax		
VNDA	**Vanda**	**75.14**	**175**	P	**P**	**16 14 42.9**	**+1.0**
VNDA	comp=Z,7.4nm,0.7s,mb4.7,baz=325,slow=5.8,SNR=15			LR	LR	16 49 21.3	
SBA	comp=Z,382nm,18.1s,MS4.7,baz=322,slow=37 **Scott Base**	**75.90**	**174**	*e*P	**P**	**16 14 47.5**	**+1.3**
SBA	comp=Z,101nm,1.9s,mb5.4			pmax	pmax		
SBA	**Scott Base**	**75.90**	**174**	*e*P	**P**	**16 14 47.5**	**+1.4**
BVAR	comp=Z,102nm,1.9s,mb5.4 **Borovoye Array**	**80.35**	**325**	P	**P**	**16 15 12.0**	**+0.8**
IMA	comp=Z,1.9nm,0.4s,mb4.3,baz=113,slow=8.3,SNR=22 **Indian Mountai**	**83.67**	**22**	*e*P	**P**	**16 15 29.1**	**+1.1**
IMA	comp=Z,32nm,1.3s,mb5.3			pmax	pmax		
IMA	**Indian Mountai**	**83.67**	**22**	*e*P	**P**	**16 15 29.1**	**+1.2**
SML	comp=Z,32nm,1.3s,mb5.3 **Sawmill**	**84.41**	**27**	*e*P	**P**	**16 15 31.7**	**-0.1**
MCK	**McKinley**	**84.74**	**25**	*e*P	**P**	**16 15 32.3**	**-1.1**
MCK	comp=Z,6.0nm,1.2s,mb4.6			pmax	pmax		
MCK	**McKinley**	**84.74**	**25**	*e*P	**P**	**16 15 32.3**	**-1.1**
DIV	comp=Z,5.9nm,1.2s,mb4.6 **Divide**	**85.40**	**28**	*e*P	**P**	**16 15 36.9**	**+0.2**
COLA	comp=Z,42nm,0.8s,mb5.6 **College**	**85.54**	**24**	⇑*i*P	**P**	**16 15 36.3**	**-1.1**
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**16 15 39.1**	**0.0**
QSPA	comp=Z,4.5nm,0.9s,mb4.7,baz=269,slow=4.9,SNR=32 **South Pole Qui**	**86.69**	**180**	⇓*i*P	**P**	**16 15 45.1**	**+2.4**
KIV	comp=Z,38nm,0.7s,mb5.7 **Kislovodsk**	**97.34**	**314**	*i*P	**P**	**16 16 38.4**	**+5.5**
YKA	**Yellowknife Ar**	**100.08**	**27**	P	P	16 16 44.8	-0.1
	comp=Z,0.3nm,0.8s,baz=284,slow=4.9,SNR=4.9						
ARCES	**ARCESS Array B**	**101.36**	**341**	P	P	16 16 50.3	-0.2
	comp=Z,3.1nm,0.8s,baz=346,slow=25,SNR=2.8						
NVAR	**Mina Array Bea**	**101.38**	**52**	P	P	16 16 53.0	+1.7
	comp=Z,0.4nm,0.7s,baz=207,slow=2.0,SNR=3.7						
DBIC	**Dimbokro**	**144.58**	**277**	*e*PKIKP	PKPdf	16 22 36.7	+0.8
DBIC	**Dimbokro**	**144.58**	**277**	PKP	PKPdf	16 22 37.2	+1.2
	comp=Z,9.7nm,0.7s,baz=63,slow=4.6,SNR=17						
LPAZ	**La Paz**	**146.29**	**126**	*e*PKP2	PKPab	16 22 42.8	0.0
LPAZ	**La Paz**	**146.29**	**126**	PKPbc	PKPbc	16 22 43.5	+3.6
	comp=Z,3.1nm,0.9s,baz=342,slow=1.2,SNR=8.5						
SDV	**Santo Domingo**	**149.29**	**78**	*e*PKPdf	PKPdf	16 22 46.2	+2.4
SDV				*e*PKPbc	PKPdf	16 22 50.0	+6.2

IDC 15 16:05:37.9±2.2, 1.57S×99.60E, mb4.0/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=128.8km s-min=46.4km az=92.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.91**	**358**	P	P	16 10 12.1	-2.1
THN	comp=Z,0.1nm,0.3s,baz=192,slow=11,SNR=12 **Thein Dam**	**40.67**	**328**	*e*	P	16 13 44.1	+22
THN				*e*		16 14 44.8	
SONM	**Songino Array**	**49.56**	**6**	P	P	16 14 30.7	-2.0
	comp=Z,0.7nm,0.7s,baz=188,slow=11,SNR=3.5						
ZAL	**Zalesovo**	**56.67**	**350**	P	P	16 15 23.1	-2.3
	comp=Z,2.6nm,0.3s,baz=305,slow=6.1,SNR=4.9						
FINES	**FINESS Array B**	**83.55**	**332**	P	P	16 18 06.9	-2.0
	comp=Z,0.5nm,0.4s,baz=101,slow=7.1,SNR=6.6						
TXAR	**Lajitas Array**	**144.60**	**37**	PKP	PKPdf	16 25 15.0	-4.0
	comp=Z,0.4nm,0.4s,baz=270,slow=1.3,SNR=6.1						
LPAZ	**La Paz**	**158.51**	**214**	PKP	PKPdf	16 25 40.3	+0.4
	comp=Z,0.5nm,0.4s,baz=315,slow=4.3,SNR=4.1						

*IDC **15** 16:14:50.8±1.0, 5.46N×94.36E, mb4.1/11, mb1 4.2/11, mb1mx4.0/22, mbtmp4.1/11, Error ellipse: s-maj=41.7km s-min=15.3km az=54.0*
*NEIC **15** 16:14:54.5±0.6, 5.24N×94.14E, h30km, mb4.2/8, Error ellipse: s-maj=15.2km s-min=7.6km az=52.0*
ISC 15 16:14:53.1±0.7, 5.25N±0.09×94.2E±0.1, h30km, n24, σ0§80/24, mb4.2/19, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.38**	**89**	*e*Pn	**Pn**	**16 16 27.1**	**-0.5**
CM31	**Chiang Mai Arr**	**13.91**	**19**	*e*Pn	**P**	**16 18 11.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**13.91**	**19**	Pn	**P**	**16 18 12.1**	**+1.4**
	0.9nm,0.3s,baz=210,slow=15,SNR=54						
JIRN	**Jiri**	**23.57**	**342**	*e*P	**P**	**16 20 02.8**	**+0.6**
	8.2nm,0.5s,mb4.4						
PKI	**Pulchoki**	**23.74**	**340**	*e*P	**P**	**16 20 04.6**	**+0.8**
	9.6nm,0.5s,mb4.5						
DMN	**Daman**	**23.88**	**340**	*e*P	**P**	**16 20 05.6**	**+0.4**
	4.0nm,0.2s,mb4.5						
GUN	**Gumba**	**23.90**	**341**	*e*P	**P**	**16 20 05.5**	**+0.1**
	6.4nm,0.4s,mb4.4						
KKN	**Kakani**	**23.98**	**340**	*e*P	**P**	**16 20 06.1**	**-0.1**
	4.0nm,0.4s,mb4.2						
GKN	**Gorkha**	**24.40**	**339**	*e*P	**P**	**16 20 10.0**	**-0.3**
	9.8nm,0.3s,mb4.7						
KOLN	**Koldanda**	**24.58**	**337**	*e*P	**P**	**16 20 11.9**	**-0.1**
	6.7nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**38.70**	**128**	P	**P**	**16 22 16.5**	**+0.1**
	3.3nm,0.6s,mb4.2,baz=331,slow=10,SNR=2.6						
JOW	**Kunigami**	**38.90**	**53**	P	**P**	**16 22 16.7**	**-1.3**
	5.1nm,0.4s,mb4.6,baz=8.4,slow=6.7,SNR=6.6						
SONM	**Songino Array**	**43.69**	**12**	P	**P**	**16 22 55.4**	**-1.8**
	0.8nm,0.4s,mb3.8,baz=192,slow=9.3,SNR=12						
SONM				PcP	PcP	16 24 43.7	-0.8
	0.3nm,0.5s,baz=177,slow=5.2,SNR=4.0						
WRA	**Warramunga Arr**	**46.70**	**124**	P	**P**	**16 23 21.9**	**+0.4**
	1.2nm,0.4s,mb4.2,baz=306,slow=9.2,SNR=11						
WRAB	**Tennant Creek**	**46.70**	**124**	*e*P	**P**	**16 23 21.5**	**0.0**
	3.4nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**48.19**	**128**	P	**P**	**16 23 33.6**	**+0.5**
	0.8nm,0.5s,mb4.0,baz=301,slow=7.8,SNR=9.8						
ZAL	**Zalesovo**	**49.15**	**353**	P	**P**	**16 23 39.4**	**-0.8**
	2.7nm,0.3s,mb4.8,baz=289,slow=6.0,SNR=7.9						
BVAR	**Borovoye Array**	**51.49**	**342**	P	**P**	**16 23 57.1**	**-1.0**
	1.7nm,0.5s,mb4.3,baz=138,slow=11,SNR=21						
STKA	**Stephens Creek**	**58.25**	**133**	P	**P**	**16 24 48.2**	**+0.8**
	0.9nm,0.6s,mb4.0,baz=315,slow=11,SNR=2.3						
STKA	**Stephens Creek**	**58.25**	**133**	P	**P**	**16 24 48.2**	**+0.8**
FINES	**FINESS Array B**	**75.07**	**333**	P	**P**	**16 26 32.9**	**-0.8**
	0.6nm,0.6s,mb3.7,baz=101,slow=5.7,SNR=6.9						
FINES	**FINESS Array B**	**75.07**	**333**	P	**P**	**16 26 32.9**	**-0.8**
ARCES	**ARCESS Array B**	**77.75**	**340**	P	**P**	**16 26 48.1**	**-0.5**
	0.4nm,0.3s,mb3.8,baz=100,slow=6.3,SNR=8.5						
GERES	**GERESS Array B**	**79.84**	**319**	P	**P**	**16 27 01.5**	**+1.1**
	0.8nm,0.5s,mb3.9,baz=90,slow=6.7,SNR=7.7						

*NEIC **15** 16:15:03.3±5.2, 1.74N×127.63E, h250km±52km, mb4.5/3, Error ellipse: s-maj=45.2km s-min=11.3km az=46.0*
*IDC **15** 16:15:05.4±9.8, 1.63N×127.53E, h264km±101km, mb3.7/5, mb1 3.8/6, mb1mx3.4/18, mbtmp4.3/6, Error ellipse: s-maj=64.2km s-min=18.6km az=52.0*
ISC 15 16:15:00.9±4.4, 1.8N±0.3×127.6E±0.3, h239km±42km, n11, σ0§49/12, mb4.1/6, 2C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.16**	**162**	*e*P	**P**	**16 18 25.2**	**+0.3**
	24nm,0.5s						
KSM	**Kuching**	**17.27**	**269**	*e*P	**P**	**16 18 48.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**19.82**	**185**	P	**P**	**16 19 15.6**	**+0.5**
	2.0nm,0.3s,baz=9.4,slow=9.8,SNR=22						
WRAB	**Tennant Creek**	**22.55**	**163**	*e*P	**P**	**16 19 41.8**	**-0.1**
	5.2nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**22.56**	**163**	P	**P**	**16 19 41.9**	**-0.1**
	6.2nm,0.4s,mb4.5,baz=334,slow=11,SNR=87						
WB2	**Warramunga Arr**	**22.56**	**163**	⇑*i*P	**P**	**16 19 41.9**	**-0.1**
WB2				*i*		16 19 53.6	
WB2				*e*S	**S**	**16 23 22.0**	**-6.4**
ASAR	**Alice Springs**	**26.01**	**167**	P	**P**	**16 20 13.2**	**-0.7**
	0.7nm,0.3s,mb3.7,baz=344,slow=7.7,SNR=27						
CMAR	**Chiang Mai Arr**	**32.62**	**302**	P	**P**	**16 21 13.0**	**+0.6**
	1.0nm,0.9s,mb3.3,baz=110,slow=5.7,SNR=6.6						
NWAO	**Narrogin (SRO)**	**35.85**	**195**	P	**P**	**16 21 40.4**	**+0.7**
	6.4nm,1.0s,mb4.1,baz=284,slow=8.3,SNR=6.2						
STKA	**Stephens Creek**	**35.99**	**159**	⇑*i*P	**P**	**16 21 40.6**	**-0.3**
	10nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**35.99**	**159**	P	**P**	**16 21 40.6**	**-0.3**
	12nm,0.6s,mb4.6,baz=338,slow=9.3,SNR=35						

*HLW **15** 16:32:40.9, 27.79N×34.47E, h14km, Mb3.2*
*CSEM **15** 16:32:40.1±0.1, 27.78N×34.45E, h20km, ML3.2, Error ellipse: s-maj=2.3km s-min=1.5km az=107.0*
*SNSN **15** 16:32:42.5, 27.97N×34.47E, h15km, Ml2.5*
ISC 15 16:32:39.7±0.4, 27.76N±0.03×34.51E±0.04, h10km, n18, σ0§94/24, 3D, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHRM		**0.36**	**292**	P	**Pg**	**16 32 47.9**	**+0.9**
SHRM				S	**Sg**	**16 32 52.0**	**0.0**
TR1		**0.55**	**297**	⇓P	**Pg**	**16 32 51.2**	**+0.4**
AYUS	**'Ayunuah**	**0.80**	**57**	P	**Pb**	**16 32 56.7**	**+1.5**
AYUS				S	**Sb**	**16 33 07.3**	**+1.4**
BDAS	**Al Bad'**	**0.85**	**38**	P	**Pb**	**16 32 56.8**	**+0.7**
ZEIT		**0.86**	**278**	⇓P	**Pb**	**16 32 57.2**	**+0.9**
HKAT	**Jabal Katrina**	**0.89**	**329**	⇓P	**Pb**	**16 32 57.2**	**+0.5**
HDHB	**Dhahab**	**0.97**	**6**	P	**Pb**	**16 32 58.4**	**+0.3**
HHRG	**Al Ghardaqah**	**0.99**	**237**	P	**Pb**	**16 32 58.9**	**+0.4**
HSFG		**1.29**	**204**	P	**Pb**	**16 33 03.4**	**-

ARRY	**Arrayan**	**2.23**	**93**	⇓P	P	16 33 17.8	+0.3
ULBA	**Ulba**	**2.28**	**92**	P	P	16 33 19.2	+1.1
PISA	**Pisayambo**	**2.32**	**82**	P	P	16 33 20.1	+1.3
NAS1	**Nasa**	**2.33**	**71**	P	P	16 33 20.4	+1.5
NAS1				S	S	16 33 55.3	+8.8
JUA2	**San Juan 2**	**2.39**	**61**	P	P	16 33 20.4	+0.7
JUA2				S	S	16 33 53.3	+5.5
VC1	**Cotopaxi 1**	**2.40**	**72**	P	P	16 33 22.2	+2.3
VC1				S	S	16 33 58.8	+11
TERV	**Terraza Guagua**	**2.41**	**60**	P	P	16 33 19.3	-0.7
TERV				S	S	16 33 55.1	+6.8
PINO	**Pino**	**2.41**	**60**	⇑P	P	16 33 20.3	+0.3
PINO				S	S	16 33 55.5	+7.0
GGP	**Refugio Guagua**	**2.41**	**60**	⇓P	P	16 33 20.9	+0.8
TAMB	**Tambo**	**2.42**	**73**	P	P	16 33 21.7	+1.6
YANA	**Yana**	**2.46**	**59**	P	P	16 33 20.9	+0.2
YANA				S	S	16 33 55.4	+5.6
JOR1	**San Jorge 1**	**2.47**	**56**	P	P	16 33 18.8	-2.0
ANTI	**Antisana**	**2.69**	**70**	P	P	16 33 26.7	+2.7
COTA	**Cotacachi**	**2.91**	**54**	P	P	16 33 27.8	+0.8
COTA				S	S	16 34 07.9	+6.8
CAYA	**Cayambe**	**3.06**	**62**	P	P	16 33 32.4	+3.1
ECEN	**Cerro Negro**	**3.49**	**51**	P	P	16 33 37.1	+1.8
ECEN				S	S	16 34 23.5	+7.6

*MOS **15** 16:37:59.3±0.9,36.66N×71.02E,h218km,mb3.9/12, Error ellipse: s-maj=17.7km s-min=8.8km az=105.4*
*BJI **15** 16:38:00.1,36.60N×71.10E,h215km*
*NEIC **15** 16:38:00.1±1.0,36.63N×71.11E,h216km±12km,mb4.3/15, Error ellipse: s-maj=11.7km s-min=5.0km az=61.0*
*IDC **15** 16:38:01.0±5.3,36.57N×71.13E,h225km±49km,mb3.5/10, mb1 3.7/12,mb1mx3.4/25,mbtmp4.1/12, Error ellipse: s-maj=26.4km s-min=15.8km az=130.0*
*NNC **15** 16:38:03.5±2.7,37.14N×71.04E,mpv4.5, Error ellipse: s-maj=23.6km s-min=22.1km az=85.0*

ISC 15 16:37:59.5±0.4,36.63N±0.02×71.13E±0.06,h225km±5km, n82,σ0²86/96,mb3.8/16,4C-6D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.87**	**167**	⇓P	**P**	**16 38 50.9**	**+1.4**
CHCP	**Chirah Chowk**	**3.44**	**149**	P	**P**	**16 38 57.9**	**+1.8**
CHCP				S	**S**	**16 39 36.0**	**-4.0**
THW	**Thamme Wali**	**3.86**	**172**	⇓P	**P**	**16 39 02.1**	**+1.0**
THW				S	**S**	**16 39 48.0**	**-0.8**
SBDP	**Sheikh Budin**	**4.33**	**184**	⇑P	**P**	**16 39 07.2**	**+0.4**
KSH	**Kashi**	**4.79**	**52**	P	**P**	**16 39 14.0**	**+1.5**
KSH				S	**S**	**16 40 08.9**	**-0.4**
KSH				Smax			
	comp=N,250nm,0.5s						
KSH				Smax			
	comp=E,330nm,0.5s						
SARP	**Sargodha**	**4.87**	**164**	⇓P	**P**	**16 39 13.9**	**+0.4**
SARP				S	**S**	**16 40 09.0**	**-2.0**
DRP	**Derazinda**	**4.93**	**189**	P	**P**	**16 39 14.8**	**+0.5**
THN	**Thein Dam**	**5.64**	**137**	*e*P	**P**	**16 39 23.9**	**+0.6**
THN				*e*S	**S**	**16 40 27.8**	**-0.8**
DLH	**Dalhousie**	**5.70**	**134**	*e*P	**P**	**16 39 26.0**	**+1.9**
DLH				*e*		16 40 31.0	
AML	**Almayashu**	**5.84**	**19**	P	**P**	**16 39 25.8**	**-0.1**
	SNR=213						
PONG	**Pong**	**6.14**	**138**	*e*S	**S**	**16 40 38.0**	**-1.8**
UCH	**Uchtor**	**6.17**	**24**	P	**P**	**16 39 30.5**	**+0.4**
	SNR=121						
KZA	**Kyzart**	**6.31**	**29**	P	**P**	**16 39 31.7**	**-0.1**
	SNR=31						
EKS2	**Erkin-Say**	**6.36**	**18**	P	**P**	**16 39 32.5**	**0.0**
	SNR=70						
KK31	**Karatay Array**	**6.49**	**356**	P	**P**	**16 39 33.2**	**-0.8**
	comp=E,21nm,0.6s,baz=173,slow=12,SNR=258						
KK31				⇑S	**S**	**16 40 43.3**	**-4.5**
	comp=E,55nm,0.4s						
KK31	**Karatay Array**	**6.49**	**356**	⇑Pn	PcP	16 46 08.8	+2.3
	comp=E,0.1nm,0.2s,baz=127,slow=16,SNR=2.6						
KK31				⇑Lg		16 46 41.8	
	comp=E,0.2nm,0.2s,baz=142,slow=28,SNR=5.3						
KKAR	**Karatay Array**	**6.49**	**356**	*e*PN	**P**	**16 39 33.2**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.2s						
AAK	**Ala-Archa**	**6.54**	**22**	P	**P**	**16 39 35.0**	**+0.3**
	SNR=93						
AAK	**Ala-Archa**	**6.54**	**22**	⇓P	**P**	**16 39 34.8**	**+0.1**
	comp=Z,32nm,0.5s						
AAK				⇓S	**S**	**16 40 46.9**	**-2.1**
	comp=Z,111nm,0.8s						
AAK	**Ala-Archa**	**6.54**	**22**	PN	**P**	**16 39 34.8**	**+0.1**
AAK				S	**S**	**16 40 46.8**	**-2.2**
AAK				pmax	pmax		
	comp=Z,16nm,0.4s						
AAK				smax			
	comp=Z,106nm,0.8s						
AAK	**Ala-Archa**	**6.54**	**22**	*e*Pn	**P**	**16 39 33.8**	**-0.9**
	comp=Z,50nm,0.6s						
AAK				*e*Sn	**S**	**16 40 42.0**	**-7.0**
KBK	**Karagaybulak**	**6.70**	**25**	P	**P**	**16 39 37.2**	**+0.4**
	SNR=26						
BHK	**Bhakra**	**6.80**	**138**	*e*S	**S**	**16 40 54.5**	**-0.6**
ULHL	**Ulahol**	**6.86**	**34**	P	**P**	**16 39 39.0**	**+0.1**
	SNR=21						
CHMS	**Chumysh**	**6.95**	**23**	P	**P**	**16 39 40.2**	**+0.3**
	SNR=8.7						
SDNR	**Sundarnagar**	**7.04**	**135**	*e*P	**P**	**16 39 41.2**	**0.0**
SDNR				*e*S	**S**	**16 40 55.2**	**-5.5**
USP	**Ospenovka**	**7.12**	**20**	P	**P**	**16 39 42.3**	**+0.1**
	SNR=16						
TKM2	**Tokmak 2**	**7.16**	**27**	P	**P**	**16 39 43.0**	**+0.2**
	SNR=11						
SMLA	**Simla**	**7.43**	**136**	⇓*i*P	**P**	**16 39 39.7**	**-6.6**
SMLA				*i* S	**S**	**16 41 00.9**	**-8.8**
KLP	**Kalpa**	**7.79**	**129**	*e*P	**P**	**16 39 49.4**	**-1.5**
KLP				*e*		16 41 11.3	
DDI	**Dehra Dun**	**8.54**	**135**	*e*	**P**	**16 40 01.5**	**+1.0**
NDI	**New Delhi**	**9.44**	**145**	*e*P	**P**	**16 40 11.5**	**-0.5**
NDI				*e*S	**S**	**16 41 51.0**	**-4.7**
AYAN	**Aya Nagar**	**9.57**	**146**	*e*P	**P**	**16 40 13.3**	**-0.4**
AYAN				*e*S	**S**	**16 41 53.9**	**-4.8**
JASL	**Jaisalmer**	**9.68**	**181**	*e*P	**P**	**16 40 14.7**	**-0.4**
SONA	**Sohna**	**9.75**	**147**	*e*P	**P**	**16 40 15.5**	**-0.5**
SONA				*e*S	**S**	**16 41 57.8**	**-5.1**
SONA				*e*		16 41 59.2	
	comp=N,21nm,0.5s						
SONA				*e*		16 42 01.5	
	comp=E,64nm,1.2s						
AGRA	**Agra**	**11.01**	**146**	*e*P	**P**	**16 40 31.2**	**-1.0**
AGRA				*e*S	**S**	**16 42 27.1**	**-4.9**
AGRA				*e*		16 42 43.6	
	comp=E,54nm,0.3s						
AGRA				*e*		16 42 43.7	
	comp=N,66nm,0.2s						
KOLN	**Koldanda**	**13.76**	**126**	*e*P	**P**	**16 41 06.7**	**+0.2**
	comp=N,9.0nm,0.3s						
GKN	**Gorkha**	**14.29**	**123**	*e*P	**P**	**16 41 13.6**	**+0.6**
	comp=N,35nm,0.4s						
BHPL	**Bhopal**	**14.41**	**156**	*e*	**P**	**16 41 17.9**	**+3.3**
DMN	**Daman**	**14.86**	**123**	*e*P	**P**	**16 41 20.5**	**+0.4**
	comp=N,31nm,0.6s						
KKN	**Kakani**	**14.86**	**122**	*e*P	**P**	**16 41 20.4**	**+0.3**
	comp=N,34nm,0.5s						
KKN	**Kakani**	**14.86**	**122**	*e*P	**P**	**16 41 20.4**	**+0.3**
KKN				pmax	pmax		
	comp=Z,17nm,0.5s						
PKI	**Pulchoki**	**15.09**	**123**	*e*P	**P**	**16 41 23.4**	**+0.5**
	comp=Z,24nm,0.4s						
PKI	**Pulchoki**	**15.09**	**123**	*e*P	**P**	**16 41 23.4**	**+0.5**
PKI				pmax	pmax		
	comp=Z,12nm,0.4s						
GUN	**Gumba**	**15.19**	**121**	*e*P	**P**	**16 41 24.4**	**+0.2**
	comp=Z,15nm,0.5s						
JIRN	**Jiri**	**15.56**	**121**	*e*P	**P**	**16 41 29.0**	**+0.3**
	comp=Z,17nm,0.4s						
BVA0	**Borovoye Array**	**16.41**	**358**	P	**P**	**16 41 37.9**	**-0.6**
BVAR	**Borovoye Array**	**16.41**	**358**	P	**P**	**16 41 37.7**	**-0.8**
	comp=Z,1.8nm,0.3s,baz=162,slow=13,SNR=39						
LSA	**Lhasa**	**18.11**	**107**	*e*P	**P**	**16 42 00.4**	**+3.3**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LSA	**Lhasa**	**18.11**	**107**	*e*P	**P**	**16 42 00.4**	**+3.3**
	comp=Z,1.6nm,0.4s						
ZAL	**Zalesovo**	**19.74**	**24**	P	**P**	**16 42 14.2**	**+0.7**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**19.74**	**24**	P	**P**	**16 42 14.2**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=255,slow=8.1,SNR=8.7						
NVS	**Novosibirsk**	**20.03**	**21**	*e*P	**P**	**16 42 16.3**	**-0.1**
NVS				*e*		16 45 47.1	
ARU	**Arti**	**21.55**	**341**	*e*P	**P**	**16 42 32.6**	**+1.3**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
ARU	**Arti**	**21.55**	**341**	*e*P	**P**	**16 42 32.6**	**+1.3**
	comp=Z,2.7nm,0.6s,mb4.0						
ZEI	**Tsey**	**21.78**	**295**	*e*P	**P**	**16 42 26.7**	**-7.0**
ZEI				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.5						
BRTR	**Keskin Array B**	**29.49**	**288**	P	**P**	**16 43 45.5**	**+0.7**
	comp=Z,0.4nm,0.2s,mb3.6,baz=113,slow=9.3,SNR=5.1						
AKASG	**Malin Array Be**	**32.95**	**309**	P	**P**	**16 44 14.2**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**32.95**	**309**	P	**P**	**16 44 14.2**	**-0.4**
	comp=Z,1.1nm,0.4s,mb3.8,baz=80,slow=7.6,SNR=8.5						
JOF	**Joensuu**	**35.81**	**330**	*e*p	**P**	**16 44 38.3**	**-0.5**
	comp=Z,2.0nm,0.3s,mb4.1						
JOF	**Joensuu**	**35.81**	**330**	*e*P	**P**	**16 44 38.3**	**-0.5**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.1						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**16 44 52.5**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**37.44**	**326**	P	**P**	**16 44 52.5**	**+0.1**
	comp=Z,1.9nm,0.4s,mb4.0,baz=121,slow=8.8,SNR=33						
KAF	**Kangasniemi**	**37.58**	**327**	*e*p	**P**	**16 44 52.9**	**-0.6**
	comp=Z,0.4nm,0.3s,mb3.4,baz=112,slow=8.5						
KEV	**Kevo**	**40.72**	**338**	*e*p	**P**	**16 45 18.5**	**-0.9**
	comp=Z,0.4nm,0.3s,mb3.3						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**16 45 22.8**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**16 45 22.8**	**+0.6**
	comp=Z,2.1nm,0.5s,mb3.8,baz=114,slow=8.1,SNR=28						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**16 45 48.0**	**-0.6**
	comp=Z,4.2nm,0.5s,mb4.0,baz=97,slow=7.4						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**16 45 48.0**	**-0.6**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**16 45 48.3**	**-0.3**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**16 45 48.3**	**-0.3**
	comp=Z,3.5nm,0.5s,mb4.0,baz=96,slow=7.7,SNR=21						
SUMG	**Summit**	**60.98**	**341**	*e*P	**P**	**16 47 49.4**	**-1.0**
	comp=Z,5.3nm,0.8s,mb4.2						
MATP	**Matopo**	**69.57**	**223**	P	**P**	**16 48 45.6**	**-0.4**
	comp=Z,2.2nm,0.5s,mb4.0,baz=32,slow=6.6,SNR=9.5						
INK	**Inuvik**	**73.76**	**9**	*e*P	**P**	**16 49 10.4**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**73.76**	**9**	P	**P**	**16 49 10.8**	**+0.8**
	comp=Z,2.0nm,0.5s,mb4.0,baz=7.4,slow=6.9,SNR=17						
INK	**Inuvik**	**73.76**	**9**	*e*P	**P**	**16 49 10.4**	**+0.4**
	comp=Z,2.2nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**74.63**	**16**	P	**P**	**16 49 14.8**	**-0.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	**Eielson Array**	**74.63**	**16**	P	**P**	**16 49 14.8**	**-0.3**
	comp=Z,0.5nm,1.0s,mb3.1,baz=314,slow=3.3,SNR=4.1						
TSUM	**Tsumeb**	**75.08**	**232**	P	**P**	**16 49 18.2**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.6,baz=45,slow=4.3,SNR=3.4						
TSUM	**Tsumeb**	**75.08**	**232**	P	**P**	**16 49 18.2**	**-0.3**
YKA	**Yellowknife Ar**	**81.11**	**3**	P	**P**	**16 49 51.1**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**81.11**	**3**	P	**P**	**16 49 51.1**	**+0.7**
	comp=Z,0.8nm,0.5s,mb3.6,baz=350,slow=5.4,SNR=26						

*IDC **15** 16:39:28.8±0.5,3.01N×96.32E,mb4.5/19,mb1 4.6/19, mb1mx4.5/24,mbtmp4.5/19,MS3.8/3,Ms1 3.9/3, ms1mx3.3/26, Error ellipse: s-maj=22.8km s-min=11.8km az=49.0*
*MOS **15** 16:39:32.4±0.9,3.15N×96.41E,h33km,mb4.9/17, Error ellipse: s-maj=21.4km s-min=9.5km az=110.9*
*BJI **15** 16:39:33.0,2.83N×96.44E,h53km,mB4.7,mb4.8,Ms4.2, Msz4.1*
*NEIC **15** 16:39:34.8±1.2,2.98N×96.31E,h44km±11km,mb4.8/35, Error ellipse: s-maj=8.2km s-min=5.2km az=225.0*

ISC 15 16:39:32.3±0.3,2.89N±0.04×96.30E±0.04,h39km, h39km±3.0km:pP-P,n145,σ1§17/147,mb4.7/68,MS4.0/14, 15C-4D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.95**	**61**	*e*P	**P**	**16 40 47.1**	**+0.9**
SNG	**Songkhla**	**6.05**	**45**	P	**P**	**16 41 02.5**	**+0.9**
	230nm,1.0s						
NNT	**Nongplab**	**10.22**	**19**	P	**P**	**16 42 08.0**	**+8.4**
CM31	**Chiang Mai Arr**	**15.69**	**9**	*e*P	**P**	**16 43 12.2**	**0.0**
	7.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**15.69**	**9**	Pn	**P**	**16 43 15.2**	**+2.9**
	1.5nm,0.3s,baz=199,slow=12,SNR=119						
CMAR				LR	LR	16 50 06.6	
	comp=Z,333nm,19.1s,baz=190,slow=41						
CHG	**Chiang Mai**	**16.04**	**9**	P	**P**	**16 43 19.2**	**+2.5**
PALK	**Pallekele**	**16.13**	**286**	P	**P**	**16 43 16.4**	**-1.5**
	20nm,1.2s						
NANT	**Nan**	**16.39**	**15**	P	**P**	**16 43 23.0**	**+1.8**
KKM	**Kota Kinabalu**	**20.10**	**80**	*e*P	**P**	**16 44 04.7**	**-0.9**
QIZ	**Qiongzhong**	**20.81**	**39**	*e*P	**P**	**16 44 12.1**	**-0.8**
QIZ				LR	LR		
	comp=N,386nm,15.3s,MS4.0						
QIZ				LR	LR		
	comp=E,367nm,15.6s,MS4.0						
QIZ				LR	LR		
	comp=Z,200nm,11.9s,MS3.7						
HYB	**Hyderabad**	**22.62**	**311**	*e*P	**P**	**16 44 32.0**	**+0.8**
HYB	**Hyderabad**	**22.62**	**311**	*i* P	**P**	**16 44 32.0**	**+0.8**
KMI	**Kunming**	**22.96**	**15**	⇑P	**P**	**16 44 36.5**	**+2.1**
KMI				AP		16 44 45.9	
KMI				XP		16 44 49.6	
KMI				PP	PP	16 45 06.8	+2.1
KMI				S	**S**	**16 48 41.8**	**+4.1**
KMI				XS		16 48 56.3	
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.1						
KMI				AMB	AMB		
	comp=Z,101nm,4.3s						
KMI				LR	LR		
	comp=N,481nm,14.0s,MS4.2						
KMI				LR	LR		
	comp=E,274nm,13.0s,MS4.2						
KMI				LR	LR		
	comp=Z,443nm,13.5s,MS4.1						
KMI	**Kunming**	**22.96**	**15**	⇑P	**P**	**16 44 36.5**	**+2.1**
	comp=Z,7.0nm,0.9s,mb4.1						
KMI				pP		16 44 45.9	
KMI				sP		16 44 49.6	
KMI				PP	PP	16 45 06.7	+2.0
KMI				PPP	PPP	16 45 18.5	+3.6
KMI				S	**S**	**16 48 41.7**	**+4.0**
KMI				sS		16 48 56.2	
KMI				SS	SS	16 49 28.4	+5.1
KMI				LR	LR		
	comp=Z,440nm,13.5s,MS4.1						
GYA	**Guiyang**	**25.46**	**22**	⇑*i*P	**P**	**16 44 58.3**	**-0.2**
GYA				AP	pP	16 45 10.3	+1.4
GYA				XP	sP	16 45 15.6	+2.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
GYA				AMB	AMB		
	comp=Z,110nm,6.0s						
GYA				LR	LR		
	comp=N,300nm,13.2s,MS4.0						
GYA				LR	LR		
	comp=E,190nm,14.1s,MS4.0						
GYA				LR	LR		
	comp=Z,330nm,14.1s,MS4.0						
JIRN	**Jiri**	**26.46**	**340**	*e*P	**P**	**16 45 07.8**	**0.0**
	comp=Z,52nm,0.6s,mb5.2						
PKI	**Pulchoki**	**26.66**	**338**	*e*P	**P**	**16 45 10.2**	**+0.5**
	comp=Z,17nm,0.5s,mb4.9						
GUN	**Gumba**	**26.79**	**339**	*e*P	**P**	**16 45 10.6**	**-0.3**
	comp=Z,81nm,0.7s,mb5.3						
DMN	**Daman**	**26.80**	**338**	*e*P	**P**	**16 45 10.4**	**-0.6**
	comp=Z,28nm,0.6s,mb5.0						
KKN	**Kakani**	**26.90**	**338**	*e*P	**P**	**16 45 10.8**	**-1.1**
	comp=Z,51nm,0.9s,mb5.1						
LSA	**Lhasa**	**27.11**	**350**	P	**P**	**16 45 13.3**	**-0.5**
LSA	**Lhasa**	**27.11**	**350**	*e*P	**P**	**16 45 13.4**	**-0.4**
	comp=Z,22nm,0.8s,mb4.7						
GKN	**Gorkha**	**27.34**	**337**	*e*P	**P**	**16 45 15.0**	**-0.9**
	comp=Z,95nm,0.9s,mb5.3						
KOLN	**Koldanda**	**27.55**	**335**	*e*P	**P**	**16 45 17.5**	**-0.4**
	comp=Z,93nm,0.7s,mb5.5						
ENH	**Enshi**	**29.96**	**23**	*e*P	**P**	**16 45 37.0**	**-2.3**
	comp=Z,6.3nm,0.6s,mb4.5						
SONA	**Sohna**	**31.17**	**326**	*e*P	**P**	**16 45 49.6**	**-0.5**
SONA				*e*		16 45 54.9	
	comp=Z,16nm,0.5s						
KALG	**Kalgarh**	**31.27**	**330**	*e*	Px	16 45 32.6	
AYAN	**Aya Nagar**	**31.32**	**326**	*e*P	**P**	**16 45 50.4**	**-1.1**
AYAN				*e*		16 45 51.6	
	comp=Z,2.4nm,0.6s						
JOSI	**Joshimath**	**31.75**	**332**	*e*	Px	16 45 40.1	
JOSI				*e*		16 50 51.6	
DDI	**Dehra Dun**	**32.29**	**330**	*e*P	**P**	**16 45 58.0**	**-1.9**
XAN	**Xi'an**	**33.15**	**19**	P	**P**	**16 46 05.3**	**-2.0**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.9						
KLP	**Kalpa**	**33.18**	**331**	*e*P	**P**	**16 46 07.5**	**-0.1**
KLP				*e*		16 51 30.8	
SDNR	**Sundarnagar**	**33.79**	**329**	*e*P	**P**	**16 46 12.6**	**-0.2**
JASL	**Jaisalmer**	**34.09**	**317**	*e*P	**P**	**16 46 17.6**	**+2.1**
THN	**Thein Dam**	**35.17**	**329**	*e*	Px	16 45 15.6	
THN				*e*P		16 46 23.8	
FITZ	**Fitzroy Crossi**	**35.65**	**127**	*e*P	**P**	**16 46 27.9**	**-1.0**
	comp=Z,9.7nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**35.65**	**127**	P	**P**	**16 46 28.2**	**-0.7**
	comp=Z,9.6nm,0.7s,mb4.8,baz=235,slow=4.1,SNR=18						
FITZ				LR	LR	17 03 05.0	
	comp=Z,98nm,18.2s,MS3.6,baz=127,slow=40						
NJ2	**Nanjing**	**35.94**	**34**	*e*P	**P**	**16 46 32.0**	**+0.8**
NJ2				AP	pP	16 46 40.9	-1.2
NJ2				XP	sP	16 46 46.3	-0.7
NJ2				PP	PP	16 47 54.9	+1.5
NJ2				S	**S**	**16 52 08.0**	**+1.9**
NJ2				XS		16 52 22.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,100nm,10.0s						
NJ2				LR	LR		
	comp=N,460nm,25.8s,MS4.3						
NJ2				LR	LR		
	comp=E,340nm,21.8s,MS4.3						
NJ2				LR	LR		
	comp=Z,430nm,22.9s,MS4.2						
GTA	**Gaotai**	**36.49**	**5**	*e*P	**P**	**16 46 35.6**	**-0.2**
GTA				AP	pP	16 46 44.6	-2.1
GTA				PP	PP	16 48 01.5	+1.1
GTA				S	**S**	**16 52 16.9**	**+2.3**
GTA				SS	SS	16 54 45.8	+4.2
GTA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
GTA				AMB	AMB		
	comp=Z,72nm,3.8s						
GTA				LR	LR		
	comp=N,83nm,13.8s,MS3.9						
GTA				LR	LR		
	comp=E,123nm,16.4s,MS3.9						
GTA				LR	LR		
	comp=Z,132nm,13.4s,MS3.9						
SSE	**Sheshan**	**36.59**	**37**	*e*P	**P**	**16 46 33.8**	**-2.9**
SSE				PCP	PcP	16 48 55.1	-4.7
SSE				S	**S**	**16 52 15.4**	**-0.8**
SSE				AMB	AMB		
	comp=Z,38nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,29nm,4.2s						
SSE				LR	LR		
	comp=N,188nm,19.7s,MS4.0						
SSE				LR	LR		
	comp=E,163nm,19.7s,MS4.0						
SSE				LR	LR		
	comp=Z,144nm,13.6s						
SSE	**Sheshan**	**36.59**	**37**	*e*P	**P**	**16 46 33.7**	**-3.0**
	comp=Z,38nm,0.6s,mb5.4						
SSE				pP	pP	16 46 42.1	-5.5
SSE				sP	sP	16 46 46.8	-5.7
SSE				PcP	PcP	16 48 55.1	-4.7
SSE				S	**S**	**16 52 15.4**	**-0.8**
SSE				sS		16 52 31.3	
SSE				SS	SS	16 55 00.2	+16
SSE				ScS	ScS	16 56 57.2	+10
SSE				LR	LR		
	comp=Z,140nm,13.6s,MS3.9						
KAKA	**Kakadu**	**39.10**	**114**	*e*P	**P**	**16 46 57.1**	**-0.7**
	comp=Z,16nm,0.6s,mb4.9						
HHC	**Hu-ho-hao-te**	**40.22**	**18**	*e*P	**P**	**16 47 09.8**	**+2.9**
HHC				AP	pP	16 47 22.5	+4.7
HHC				XP	sP	16 47 26.3	+3.7
HHC				PP	PP	16 48 46.4	+3.2
HHC				PCP	PcP	16 49 11.5	+0.5
HHC				SCP		16 52 52.5	
HHC				PCS		16 53 01.6	
HHC				S	**S**	**16 53 16.4**	**+5.3**
HHC				XS		16 53 35.5	
HHC				SCS	ScS	16 57 09.9	+1.9
HHC				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.4						
HHC				AMB	AMB		
	comp=Z,205nm,5.3s						
HHC				LR	LR		
	comp=N,135nm,15.3s,MS4.2						
HHC				LR	LR		
	comp=E,195nm,15.3s,MS4.2						
HHC				LR	LR		
	comp=Z,195nm,14.4s,MS4.1						
NWAO	**Narrogin (SRO)**	**40.77**	**153**	P	**P**	**16 47 13.6**	**+2.2**
	comp=Z,7.6nm,0.9s,mb4.3,baz=323,slow=11,SNR=4.5						
KSH	**Kashi**	**40.87**	**336**	*e*P	**P**	**16 47 15.1**	**+2.9**
KSH				*e*AP	pP	16 47 27.0	+3.8
KSH				*e*XP	sP	16 47 32.3	+4.3
KSH				*e*PP	PP	16 48 53.3	+3.6
KSH				*e*PCP	PcP	16 49 15.0	+1.9
KSH				*e*SCP		16 52 59.0	
KSH				*e*PCS		16 53 04.1	
KSH				*e*S	**S**	**16 53 23.5**	**+2.8**
KSH				*e*XS		16 53 44.1	
KSH				*e*SS	SS	16 56 22.1	+3.7
KSH				*e*SCS	ScS

WRAB Tennant Creek 43.70 123 *eP* **P 16 47 36.8 +1.0**
WRAB Tennant Creek 43.70 123 *eP* **P 16 47 35.1 -0.7**
comp=Z,22nm,0.8s,mb4.9
WB2 Warramunga Arr 43.71 123 *eP* **P 16 47 35.7 -0.1**
UCH Uchtor 43.75 337 P **P 16 47 37.1 +1.2**
SNR=37
TKM2 Tokmak 2 43.92 338 P **P 16 47 38.0 +0.8**
SNR=25
KBK Karagaybulak 43.94 337 P **P 16 47 38.6 +1.3**
SNR=30
AML Almayashu 44.00 336 P **P 16 47 39.2 +1.3**
SNR=31
AAK Ala-Archa 44.10 337 P **P 16 47 40.1 +1.5**
SNR=13
AAK Ala-Archa 44.10 337*c i*P **P 16 47 38.2 -0.4**
AAK pmax pmax
comp=Z,29nm,1.7s,mb4.7
AAK Ala-Archa 44.10 337 *eP* **P 16 47 38.2 -0.5**
FRU Bishkek 44.22 337 *eP* **P 16 47 41.0 +1.4**
CHMS Chumysh 44.31 337 P **P 16 47 40.6 +0.3**
SNR=7.5
EKS2 Erkin-Say 44.41 336 P **P 16 47 42.2 +1.1**
SNR=23
USP Ospenovka 44.63 337 P **P 16 47 43.5 +0.6**
SNR=47
ASAR Alice Springs 45.13 128 P **P 16 47 47.4 +0.2**
comp=Z,1.6nm,0.6s,mb4.1,baz=297,slow=7.7,SNR=26
FORT Forrest 45.15 140 *eP* **P 16 47 48.7 +1.5**
comp=Z,339nm,0.6s
SONM Songino Array 45.61 10 P **P 16 47 50.6 -0.1**
comp=Z,11nm,0.7s,mb4.9,baz=190,slow=9.2,SNR=113
SONM PcP PcP 16 49 29.4 +0.3
comp=Z,4.3nm,0.6s,baz=188,slow=3.6,SNR=15
ULN Ulaanbaatar 45.75 10⇓*i*P **P 16 47 51.8 0.0**
ULN Ulaanbaatar 45.75 10 *eP* **P 16 47 51.4 -0.5**
comp=Z,16nm,1.3s,mb4.8
KKAR Karatay Array 46.15 334 *i* P **P 16 47 54.5 -0.5**
KKAR pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ZAK Zakamensk 47.69 6⇑*i*P **P 16 48 06.4 -0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
TLY Talaya 49.01 6⇑*i*P **P 16 48 17.3 +0.1**
TLY *e* 16 55 17.7
TLY pmax pmax
comp=Z,12nm,0.8s,mb5.0
TLY MLR MLR
comp=Z,97nm,15.0s,MS3.9
HIA Hailar 50.35 20 *eP* **P 16 48 26.7 -0.9**
comp=Z,17nm,1.0s,mb5.0
MDJ Mudanjiang 50.86 30 P **P 16 48 31.5 +0.1**
MDJ AMB AMB
comp=Z,5.0nm,0.6s,mb4.6
MDJ AMB AMB
comp=Z,54nm,5.5s
MDJ LR LR
comp=N,86nm,19.1s,MS4.0
MDJ LR LR
comp=E,121nm,20.3s,MS4.0
MDJ LR LR
comp=Z,55nm,19.1s,MS3.6
ZAL Zalesovo 51.75 351 P **P 16 48 37.5 -0.5**
comp=Z,12nm,0.4s,mb5.2,baz=294,slow=4.5,SNR=36
ZAL Zalesovo 51.75 351 P **P 16 48 37.5 -0.6**
NVS Novosibirsk 52.87 351 *eP* **P 16 48 44.5 -1.9**
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=E,13nm,1.2s
NVS pmax pmax
comp=Z,20nm,1.2s,mb4.9
CTA Charters Tower 54.07 117 P **P 16 48 55.5 -0.3**
comp=Z,3.2nm,0.8s,mb4.3,baz=288,slow=6.6
CTA Charters Tower 54.07 117 P **P 16 48 55.5 -0.3**
BVA0 Borovoye Array 54.37 341 P **P 16 48 54.8 -2.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BVAR Borovoye Array 54.37 341 P **P 16 48 56.3 -1.2**
comp=Z,5.0nm,0.5s,mb4.7,baz=140,slow=10,SNR=33
STKA Stephens Creek 55.16 133 *eP* **P 16 49 04.5 +1.0**
comp=Z,4.4nm,0.9s,mb4.5
STKA Stephens Creek 55.16 133 P **P 16 49 04.8 +1.3**
comp=Z,3.8nm,0.8s,mb4.5,baz=323,slow=7.9,SNR=12
KLR Kul'dur 55.17 28 *eP* **P 16 49 02.2 -1.2**
BOD Bodaibo 56.53 11 *eP* **P 16 49 10.7 -2.3**
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
KMBO Kilima Mbogo 59.16 267 *i* P **P 16 49 33.8 +1.7**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 59.16 267 P **P 16 49 33.3 +1.2**
comp=Z,3.3nm,0.8s,mb4.4,baz=44,slow=8.5,SNR=9.4
KMBO Kilima Mbogo 59.16 267 *eP* **P 16 49 32.5 +0.4**
comp=Z,3.6nm,0.9s,mb4.4
GNI Garni 59.46 316*d i*P **P 16 49 34.0 +0.2**
GNI pmax pmax
comp=Z,24nm,1.7s
GNI Garni 59.46 316 P **P 16 49 34.6 +0.8**
comp=Z,4.6nm,0.5s,mb4.8,baz=165,slow=8.6,SNR=4.3
GNI Garni 59.46 316 *eP* **P 16 49 33.0 -0.8**
comp=Z,15nm,1.1s,mb4.9
SVE Sverdlovsk 60.79 338 *eP* **P 16 49 42.0 -0.7**
SVE pmax pmax
comp=Z,20nm,1.5s,mb5.0
ARU Arti 61.28 337⇑*i*P **P 16 49 44.4 -1.6**
ARU *e* 16 50 23.4
ARU *e* 16 51 56.3
ARU *e*S **S 16 58 03.7 +1.9**
ARU *e*SS SS 17 02 07.8 +4.0
ARU pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
ARU Arti 61.28 337 *eP* **P 16 49 44.1 -1.9**
comp=Z,12nm,1.4s,mb4.8
KIV Kislovodsk 62.44 319*c i*P **P 16 49 53.5 -0.5**
KIV pmax pmax
comp=Z,18nm,1.0s,mb5.2
KIV Kislovodsk 62.44 319 *eP* **P 16 49 53.4 -0.6**
comp=Z,14nm,0.9s,mb5.1
GOF Gofitskoye 62.69 320 *eP* **P 16 49 51.6 -4.0**
MALT Malatya 63.33 312 *eP* **P 16 49 59.6 -0.4**
comp=Z,5.8nm,1.0s,mb4.7
YAK Yakutsk 64.06 17⇓*i*P **P 16 50 03.5 -0.8**
YAK pmax pmax
comp=Z,34nm,1.0s,mb5.3
YAK Yakutsk 64.06 17 *eP* **P 16 50 02.4 -1.9**
comp=Z,17nm,0.6s,mb5.3
SOC Sochi 64.27 318 *eP* **P 16 50 02.6 -3.4**
SOC *e* 16 50 47.5
SOC *e* 16 52 23.3
SOC *e*PPP PPP 16 53 56.2 -5.7
SOC *e*S **S 16 58 34.7 -4.7**
SOC *e* 16 59 52.6
SOC *e*SS SS 17 02 47.8 -3.0
SOC pmax pmax
comp=Z,16nm,1.0s,mb5.0
SOC pmax pmax
comp=N,8.0nm,0.8s
SOC pmax pmax
comp=E,12nm,0.9s
MBAR Mbarara 65.62 268 *eP* **P 16 50 15.2 0.0**
comp=E,5.6nm,1.4s,mb4.4
BRTR Keskin Array B 67.31 312 P **P 16 50 24.6 -0.8**
comp=E,2.8nm,0.8s,mb4.3,baz=130,slow=7.0,SNR=15
LSZ Lusaka 69.74 253 *eP* **P 16 50 40.9 0.0**
MOS Moscow 70.43 329 *eP* **P 16 50 43.9 -0.5**
MOS *e* pP 16 50 55.8 -0.2
MOS pmax pmax
comp=Z,52nm,0.7s,mb5.6
OBN Obninsk 70.71 328*c i*P **P 16 50 45.4 -0.8**
OBN *e* 16 51 09.1
OBN pmax pmax
comp=Z,21nm,1.0s,mb5.0
TIXI Tiksi 71.69 10⇑*i*P **P 16 50 50.1 -1.7**
TIXI pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
AKASG Malin Array Be 73.38 322 *i* P **P 16 51 01.2 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 73.38 322 P **P 16 51 01.1 -0.9**
comp=Z,1.1nm,0.3s,mb4.2,baz=90,slow=4.8,SNR=19
VRI Vrincioaia 73.77 317⇓P **P 16 51 05.0 +0.5**
MLR Muntele Rosu 74.22 316⇑P **P 16 51 07.8 +0.7**
BOSA Boshof 74.84 239 P **P 16 51 11.7 +0.6**
comp=Z,1.9nm,0.6s,mb4.2,baz=81,slow=9.4,SNR=5.6
BURAR Bucovina Array 75.17 319⇑P **P 16 51 13.4 +0.9**
BURAR Bucovina Array 75.17 319⇑P **P 16 51 13.4 +0.9**

JOF Joensuu 76.24 335 *ep* **P 16 51 16.7 -1.6**
comp=Z,0.8nm,0.4s,mb4.0
JOF Joensuu 76.24 335 *eP* **P 16 51 16.7 -1.6**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KWP Kalwaria 77.20 320 *eP* **P 16 51 24.5 +0.5**
APA Apatity 77.24 339⇑*i*P **P 16 51 24.6 +0.7**
APA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
APA MLR MLR
comp=Z,500nm,20.0s,MS4.8
SUW Suwalki 77.78 325 *eP* **P 16 51 26.8 -0.3**
FINES FINESS Array B 78.09 332 P **P 16 51 28.6 -0.1**
comp=Z,5.0nm,0.7s,mb4.5,baz=94,slow=5.6,SNR=25
KAF Kangasniemi 78.17 333 *ep* **P 16 51 26.2 -2.9**
comp=Z,0.8nm,0.4s,mb4.0,baz=103,slow=5.2
KAF Kangasniemi 78.17 333 *eP* **P 16 51 26.2 -2.9**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
SUR Sutherland 79.33 236 P **P 16 51 38.4 +2.3**
comp=Z,7.5nm,0.9s,mb4.6,baz=168,slow=9.3,SNR=4.1
BILL Bilibino 79.92 21 *eP* **P 16 51 37.9 -0.6**
BILL pmax pmax
comp=Z,5.0nm,1.6s,mb4.2
KEV Kevo 80.22 341 *ep* **P 16 51 39.2 -0.9**
comp=Z,0.4nm,0.3s,mb3.8
MORC Moravsky Berou 80.53 320 *eP* **P 16 51 42.4 +0.2**
comp=Z,1.5nm,0.4s,mb4.3
ARCES ARCESS Array B 80.65 340 P **P 16 51 42.8 +0.4**
comp=Z,4.4nm,0.5s,mb4.7,baz=95,slow=5.3,SNR=93
ARCES LR LR 17 31 30.7
comp=Z,75nm,19.6s,MS4.0,baz=207,slow=39
ARE0 ARCESS Array S 80.65 340 P **P 16 51 41.8 -0.6**
BOJS Bojanci 81.66 315 *eP* **P 16 51 48.6 +0.4**
PDKS Podkum 81.88 316 *i* P **P 16 51 50.6 +1.3**
GERES GERESS Array B 82.95 319 P **P 16 51 56.0 +1.3**
comp=Z,2.6nm,0.9s,mb4.3,baz=104,slow=5.5,SNR=21
GRA1 Grafenberg Arr 84.62 319 *eP* **P 16 52 04.7 +1.6**
comp=Z,6.0nm,1.0s,mb4.7
GRF Grafenberg Arr 84.62 319 *eP* **P 16 52 04.7 +1.6**
GRF pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
GRF Grafenberg Arr 84.62 319 *eP* **P 16 52 04.7 +1.6**
comp=Z,6.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 85.10 331 P **P 16 52 04.8 -0.4**
comp=Z,14nm,1.4s,mb4.9,baz=97,slow=5.3
NOA NORSAR Array B 85.10 331 P **P 16 52 05.2 -0.1**
comp=Z,2.2nm,0.9s,mb4.3,baz=94,slow=5.2,SNR=4.6
LPG La Plagne 87.64 315 *eP* **P 16 52 15.8 -2.2**
comp=Z,6.4nm,0.8s,mb4.6
NVAR Mina Array Bea 127.93 34 PKP PKPdf 16 58 38.2 +3.5
comp=Z,0.8nm,0.7s,baz=131,slow=1.6,SNR=5.6
NVAR Mina Array Bea 127.93 34 PKP PKPdf 16 58 38.2 +3.5
PDAR Pinedale Array 128.90 24 PKP PKPdf 16 58 38.7 +2.3
comp=Z,0.4nm,0.5s,baz=116,slow=3.1,SNR=6.5
TXAR Lajitas Array 142.68 29 PKhKP 16 58 59.5
comp=Z,0.3nm,0.4s,baz=153,slow=35,SNR=3.4
TXAR PKP PKPdf 16 59 04.3 +2.1
comp=Z,0.6nm,0.5s,baz=49,slow=1.3,SNR=3.8
TXAR Lajitas Array 142.68 29 PKP PKPdf 16 59 04.3 +2.1
SIV San Ignacio 154.20 238 PKPbc PKPdf 16 59 30.8 +10
comp=Z,0.8nm,0.8s,baz=253,slow=3.2,SNR=4.6

IDC 15 16:52:02.6±7.5, 1.19S×102.57E, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=270.9km s-min=30.2km az=64.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**28.21**	**128**	P	P	16 57 57.2	-2.2
	4.6nm,1.0s,baz=310,slow=7.9,SNR=2.4						
WRA	**Warramunga Arr**	**36.23**	**123**	P	P	16 59 08.2	-1.3
	0.7nm,0.5s,baz=303,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**37.70**	**129**	P	P	16 59 19.5	-2.3
	0.4nm,0.6s,baz=301,slow=8.0,SNR=8.4						
SONM	**Songino Array**	**48.94**	**3**	P	P	17 00 50.6	-1.8
	0.4nm,0.8s,baz=180,slow=7.2,SNR=3.6						

GUC 15 16:56:53.7±0.8, 33.60S×70.57W, h26km±4km, MD3.5, ML2.2, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTU	**Antumapu**	**0.07**	**300**	*eP*	Pb	16 56 58.5	+0.4
ANTU				*i* S	Sb	16 57 01.9	+0.6
ANTU				AMP		16 57 02.2	
	comp=N,473nm,0.2s						
CLCH	**Cerro Calan**	**0.21**	**7**	*i* S	Sb	16 57 04.3	+0.9
CLCH				AMP		16 57 05.3	
	comp=N,177nm,0.1s						
CHCH	**Chadas Angostu**	**0.34**	**192**	*eP*	Pb	16 57 01.4	+0.1
CHCH				*i* S	Sb	16 57 06.7	+0.2
FCH	**Farellones**	**0.36**	**40**	*eP*	Pb	16 57 02.3	+0.7
FCH				*i* S	Sb	16 57 08.3	+1.3
FCH				AMP		16 57 08.5	
	comp=N,997nm,0.2s						
LMEL	**Las Melosas**	**0.39**	**129**⇑	*i*P	Pb	16 57 02.7	+0.6
LMEL				*i* S	Sb	16 57 08.7	+0.8
LMEL				AMP		16 57 09.4	
	comp=N,593nm,0.1s						
CACH	**El Canelo**	**0.51**	**183**	*eP*	Pb	16 57 04.7	+0.6
CACH				*i* S	Sb	16 57 12.3	+1.0
CICH	**Cipreses**	**0.73**	**170**	*eP*	Pb	16 57 07.6	-0.1
CICH				*i* S	Sb	16 57 17.7	+0.5
LNV	**Longovilo**	**0.79**	**243**⇑	*i*P	Pb	16 57 07.7	-1.0
LNV				*i* S	Sb	16 57 17.8	-1.2

*NEIC **15** 17:00:08.2, 19.21N×64.71W, h23km, MD3.6(RSPR), After RSPR.*
RSPR 15 17:00:08.2, 19.21N×64.71W, h23km±29km, MD3.6/12, MD3.6/12, 6C-8D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.89**	**196**⇓	*e*P	Pb	17 00 22.2	-2.7
STVI				*e*S	Sb	17 00 33.9	-2.4
MTP	**Monte Pirata**	**1.37**	**216**⇓	*e*P	Pn	17 00 29.6	-2.7
MTP				*e*S	Sn	17 00 46.4	-3.5
CDVI	**St. Croix**	**1.46**	**182**⇓	*e*P	Pn	17 00 31.5	-2.0
CDVI	**St. Croix**	**1.46**	**182**	*e*S	Sn	17 00 48.8	-3.2
HUMP	**Col San Antoni**	**1.52**	**226**⇑	*e*P	Pn	17 00 31.8	-2.5
HUMP				*e*S	Sn	17 00 50.1	-3.4
CPD	**Cerro la Pandu**	**1.64**	**225**⇓	*e*P	Pn	17 00 33.7	-2.4
CPD				*e*S	Sn	17 00 53.6	-2.9
SJG	**San Juan**	**1.75**	**231**⇑	*e*P	Pn	17 00 34.5	-3.2
SJG				*e*S	Sn	17 00 55.9	-3.6
SJG	**San Juan**	**1.75**	**231**⇑	*e*P	Pn	17 00 34.4	-3.3
SJG				*e*S	Sn	17 00 55.1	-4.4
CELP	**Cerrillos**	**2.10**	**238**⇓	*e*P	Pn	17 00 40.4	-2.4
CELP				*e*S	Sn	17 01 04.8	-3.7
AOPR	**Arecibo Observ**	**2.12**	**246**⇑	*e*P	Pn	17 00 40.4	-2.6
AOPR				*e*S	Sn	17 01 04.3	-4.5
PORP	**Portuguez**	**2.16**	**238**⇓	*e*P	Pn	17 00 40.9	-2.7
PORP				*e*S	Sn	17 01 05.6	-4.3
ICM	**Isla Caja Muer**	**2.16**	**233**⇑	*e*P	Pn	17 00 40.8	-2.8
ICM				*e*S	Sn	17 01 06.5	-3.4
LRS	**Lares**	**2.22**	**246**⇓	*e*P	Pn	17 00 42.5	-1.9
MGP	**Maguayo**	**2.56**	**242**⇑	*e*P	Pn	17 00 45.5	-3.7
CRPR	**Cabo Rojo, PR**	**2.58**	**243**⇓	*e*P	Pn	17 00 47.0	-2.4
CRPR				*e*S	Sn	17 01 16.8	-3.6

*IDC **15** 17:01:48.7±2.3, 15.47S×70.47W, h192km±26km, mb3.3/4, mb1 3.5/8, mb1mx3.3/22, mbtmp3.7/8, Error ellipse: s-maj=39.1km s-min=20.5km az=95.0*
*NEIC **15** 17:01:48.4±0.6, 15.43S×70.44W, h189km±8km, mb3.8/2, Error ellipse: s-maj=12.2km s-min=10.2km az=53.0*
ISC 15 17:01:47.5±0.6, 15.43S±0.08×70.56W±0.06, h196km±8km, n14, σ19=12/18, mb3.5/4, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.36**	**221**⇑	*i*P	P	**17 02 20.9**	**+0.8**
ARE				*e*S	**S**	**17 02 53.0**	**+7.8**
LPAZ	**La Paz**	**2.49**	**110**	P	**P**	**17 02 32.7**	**+1.1**
	5.6nm,0.3s,baz=302,slow=9.5,SNR=368						
LPAZ				S	**S**	**17 03 05.3**	**-0.3**
	3.5nm,0.3s,baz=46,slow=23,SNR=8.9						
NNA	**Nana**	**6.99**	**298**	*e*Pn	**P**	**17 03 29.2**	**+0.8**
NNA				*e*Sn	**S**	**17 04 46.2**	**-1.0**

LVC Limon Verde 7.32 168 P **P 17 03 31.2 -1.5**
4.5nm,0.3s,baz=352,slow=11,SNR=46
LVC S **S 17 04 47.7 -7.1**
7.0nm,0.3s,baz=94,slow=23,SNR=16
SIV San Ignacio 9.16 95 P **P 17 03 54.0 -2.6**
0.4nm,0.3s,baz=287,slow=12,SNR=12
SIV S **S 17 05 39.7 +2.0**
0.1nm,0.3s,baz=246,slow=18,SNR=2.1
SAML Samuel 9.66 49 *e*Pn **P 17 04 02.0 -1.3**
3.2nm,0.7s
CFAA Coronel Fontan 16.25 173 P **P 17 05 27.1 +0.8**
0.1nm,0.3s,baz=357,slow=11,SNR=6.0
OTAV Otavalo 17.41 333 *eP* **P 17 05 40.6 +0.8**
2.6nm,0.6s
PLCA Paso Flores 25.22 180 P **P 17 06 56.3 -0.6**
1.4nm,0.6s,mb3.7,baz=354,slow=9.4,SNR=3.3
TXAR Lajitas Array 54.79 324 P **P 17 10 59.0 -0.3**
0.4nm,0.7s,mb3.1,baz=148,slow=8.2,SNR=4.4
PDAR Pinedale Array 68.09 330 P **P 17 12 28.8 +0.7**
0.4nm,0.4s,mb3.4,baz=120,slow=9.5,SNR=4.4
YKA Yellowknife Ar 84.96 341 P **P 17 14 01.8 +0.3**
1.4nm,0.7s,mb3.8,baz=135,slow=5.1,SNR=34
YKA Yellowknife Ar 84.96 341 P **P 17 14 01.8 +0.3**
SONM Songino Array 147.59 4 PKPbc PKPdf 17 21 10.7 +5.2
0.9nm,0.4s,baz=324,slow=2.2,SNR=12

*CSEM **15** 17:02:10.4±0.9, 38.33N×28.58W, h10km, ML1.8, Error ellipse: s-maj=7.4km s-min=4.2km az=16.0, After PDA*
*PDA **15** 17:02:10.4±0.9, 38.33N×28.58W, h10km, MD3.0, ML1.8, Error ellipse: s-maj=7.4km s-min=4.2km az=16.0*
SVSA 15 17:02:10.4±0.9, 38.33N×28.58W, h10km, MD3.0, ML1.8, Error ellipse: s-maj=7.4km s-min=4.2km az=16.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.20**	**348**	*eP*	Pg	17 02 14.5	-0.3
HOR				*e*S	Sg	17 02 17.2	-0.6
PICO	**Pico**	**0.21**	**35**	*eP*	Pg	17 02 14.8	-0.2
PICO				*e*S	Sg	17 02 17.9	-0.1
CALA	**Caldeira**	**0.27**	**339**	*eP*	Pg	17 02 15.2	-0.9
CALA				*e*S	Sg	17 02 19.1	-0.8
PCED	**Cedros**	**0.32**	**342**	*eP*	Pg	17 02 15.8	-1.1
PCED				*e*S	Sg	17 02 20.2	-1.1
	30nm,0.1s						
PCED	**Cedros**	**0.32**	**342**	*eP*	Pg	17 02 15.8	-1.1
PCED				*e*S	Sg	17 02 20.2	-1.1
	30nm,0.1s						
PMAN	**Manadas**	**0.49**	**51**	*e*S	Sg	17 02 24.3	-2.7
	32nm,0.2s						

IDC 15 17:02:53.9±4.2, 0.40N×98.81E, mb3.6/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=149.3km s-min=28.3km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.94**	**0**	P	P	17 07 03.4	-3.3
	0.0nm,0.3s,baz=196,slow=12,SNR=9.2						
WRA	**Warramunga Arr**	**40.25**	**122**	P	P	17 10 32.5	-2.0
	0.5nm,0.5s,baz=303,slow=9.1,SNR=6.9						
SONM	**Songino Array**	**47.70**	**7**	P	P	17 11 33.9	-0.4
	0.7nm,0.6s,baz=192,slow=7.2,SNR=7.6						
ZAL	**Zalesovo**	**54.60**	**350**	P	P	17 12 23.1	-3.3
	0.7nm,0.3s,baz=297,slow=12,SNR=3.6						

*IDC **15** 17:21:44.8±1.7, 2.23N×97.03E, mb3.9/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=76.0km s-min=22.0km az=57.0*
*NEIC **15** 17:21:49.2±0.8, 2.21N×96.99E, h30km, mb4.2/1, Error ellipse: s-maj=19.1km s-min=10.9km az=65.0*
ISC 15 17:21:47.5±1.0, 2.2N±0.1×97.0E±0.2, h30km, n9, σ09=54/9, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.75**	**50**	*e*Pn	**Pn**	**17 22 59.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**16.25**	**7**	Pn	**P**	**17 25 35.4**	**0.0**
	0.1nm,0.3s,baz=198,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**42.75**	**123**	P	**P**	**17 29 43.5**	**-0.7**
	0.5nm,0.4s,mb3.6,baz=302,slow=9.1,SNR=16						
WRAB	**Tennant Creek**	**42.76**	**123**	*eP*	**P**	**17 29 44.7**	**+0.5**
	3.2nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**44.17**	**128**	P	**P**	**17 29 55.8**	**0.0**
	0.3nm,0.6s,mb3.2,baz=290,slow=8.1,SNR=4.7						
SONM	**Songino Array**	**46.16**	**9**	P	**P**	**17 30 10.8**	**-0.5**
	0.5nm,0.5s,mb3.7,baz=190,slow=9.9,SNR=6.0						
SONM				PcP	PcP	17 31 47.5	+0.2
	0.3nm,0.6s,baz=168,slow=2.8,SNR=2.8						
ZAL	**Zalesovo**	**52.52**	**351**	P	**P**	**17 30 59.3**	**-0.8**
	1.0nm,0.3s,mb4.2,baz=337,slow=5.9,SNR=3.7						
FINES	**FINESS Array B**	**79.00**	**332**	P	**P**	**17 33 50.3**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=90,slow=9.5,SNR=5.7						
ARCES	**ARCESS Array B**	**81.51**	**340**	P	**P**	**17 34 04.1**	**+0.9**
	3.2nm,1.0s,mb4.2,baz=90,slow=3.6,SNR=5.7						

*CSEM **15** 17:29:37.3±0.1, 35.07N×3.77W, h15km, MD3.1, Error ellipse: s-maj=3.3km s-min=3.0km az=97.0*
*NEIC **15** 17:29:38.5, 35.08N×3.85W, MG3.3(MDD), After MDD.*
*CNRM **15** 17:29:38.8, 35.06N×3.76W, h1km, MD3.1*
*MDD **15** 17:29:38.8±0.3, 35.04N×3.78W, h4km±3km, mbLg2.0/9, Error ellipse: s-maj=3.8km s-min=2.8km az=79.0, PRXIMO*
ISC 15 17:29:38.0±0.5, 35.07N±0.02×3.81W±0.03, h11km±3km, n32, σ09=88/61, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**157**	P	**Pg**	**17 29 40.0**	**-1.1**
TOU				S	**Sg**	**17 29 42.0**	**-1.1**
TOU	**Touzarine**	**0.12**	**157**	*i* P	**Pg**	**17 29 40.0**	**-1.1**
MPAL	**Palemas**	**0.19**	**325**	P	**Pg**	**17 29 43.0**	**+0.8**
MPAL				S	**Sg**	**17 29 46.5**	**+1.5**
MPAL	**Palemas**	**0.19**	**325**	*i* P	**Pg**	**17 29 43.0**	**+0.8**
EMEL	**Melilla**	**0.73**	**72**	P	**Pb**	**17 29 52.5**	**+0.2**
	206nm,0.1s,SNR=12						
EMEL				S	**Sb**	**17 30 02.5**	**+0.4**
	470nm,0.2s,SNR=7.1						
EMLI	**Melilla**	**0.74**	**72**	P	**Pb**	**17 29 52.5**	**+0.1**
	206nm,0.1s,SNR=12						
EMLI				S	**Sb**	**17 30 03.1**	**+0.9**
	470nm,0.2s,SNR=7.1						
ZAI	**Zaio**	**0.88**	**96**	*e*P	**Pb**	**17 29 53.5**	**-1.2**
ZAI				*i* S	**Sb**	**17 30 06.5**	**+0.2**
TZK	**Tazeka**	**1.03**	**198**	*i* P	**Pb**	**17 29 57.0**	**-0.3**
TZK				*i* S	**Sb**	**17 30 12.0**	**+1.4**
TAF	**Taforalt**	**1.18**	**102**	P	**Pb**	**17 29 59.0**	**-0.8**
TAF				S	**Sb**	**17 30 16.0**	**+1.2**
DKH	**Dar Kharkhour**	**1.33**	**289**	*i* P	**Pb**	**17 30 02.5**	**0.0**
DKH				*i* S	**Sb**	**17 30 21.0**	**+1.5**
TGT	**Taghat**	**1.43**	**226**	*e*P	**Pn**	**17 30 04.5**	**+0.5**
TGT				*i* S	**Sb**	**17 30 23.5**	**+1.2**
EMIJ	**Mijas**	**1.68**	**333**	P	**Pn**	**17 30 06.4**	**-1.1**
EMIJ				S	**Sn**	**17 30 28.6**	**-0.7**
EMIJ	**Mijas**	**1.68**	**333**	P	**Pn**	**17 30 08.3**	**+0.7**
	1.2nm,0.3s,SNR=6.3						
EMIJ				S	**Sn**	**17 30 30.4**	**+1.2**
	5.8nm,0.2s,SNR=4.5						
EMIJ	**Mijas**	**1.68**	**333**	P	**Pn**	**17 30 06.4**	**-1.2**
	1.2nm,0.3s,SNR=6.3						
EMIJ				S	**Sn**	**17 30 28.5**	**-0.7**
	5.8nm,0.2s,SNR=4.5						
EJIF	**Jimena Fronter**	**1.93**	**316**	P	**Pn**	**17 30 11.3**	**+0.2**
	2.6nm,0.8s,SNR=7.9						
EJIF				S	**Sn**	**17 30 35.8**	**+0.3**
	13nm,0.8s,SNR=7.9						
ERON	**Agron**	**1.94**	**0**	P	**Pn**	**17 30 11.9**	**+0.6**
	0.1nm,0.4s,SNR=7.9						
ERON				S	**Sn**	**17 30 36.4**	**+0.6**
	9.1nm,1.8s,SNR=7.9						
EBER	**Berja**	**1.97**	**22**	P	**Pn**	**17 30 11.9**	**+0.2**
	1.1nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 30 36.8**	**+0.3**
	4.0nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.97**	**22**	P	**Pn**	**17 30 11.9**	**+0.2**
	1.1nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**17 30 36.8**	**+0.3**
	4.0nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**2.03**	**216**	*e*P	**Pn**	**17 30 13.0**	**+0.4**
MIF				*i* S	**Sn**	**17 30 38.0**	**-0.1**

CZD	**Col de Zad**	**2.28 207**	*e*P		**Pn**	**17 30 16.5**	**+0.4**
CZD			*i* S		**Sn**	**17 30 44.5**	**+0.2**
KIB	**El Ksiba**	**3.10 217**	*e*P		**Pn**	**17 30 27.0**	**-0.9**
KIB			*e*S		**Sn**	**17 31 04.0**	**-1.3**
EADA	**Adamuz**	**3.15 349**	P		**Pn**	**17 30 28.0**	**-0.5**
1.2nm,0.4s,SNR=7.9							
EADA			S		**Sn**	**17 31 05.8**	**-0.7**
0.5nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.15 349**	P		**Pn**	**17 30 28.0**	**-0.5**
1.2nm,0.4s,SNR=7.9							
EADA			S		**Sn**	**17 31 05.8**	**-0.7**
0.5nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**3.27 337**	P		**Pn**	**17 30 30.3**	**+0.1**
1.7nm,0.6s,SNR=7.9							
ECAB			S		**Sn**	**17 31 07.8**	**-1.6**
3.1nm,0.5s,SNR=7.9							
ECAB	**El Cabril**	**3.27 337**	P		**Pn**	**17 30 30.3**	**+0.1**
1.7nm,0.6s,SNR=7.9							
ECAB			S		**Sn**	**17 31 07.8**	**-1.6**
3.1nm,0.5s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.54 320**	P		**Pn**	**17 30 33.2**	**-0.9**
EMIN			S		**Sn**	**17 31 12.8**	**-3.7**
EMIN	**Mina Concepcio**	**3.54 320**	P		**Pn**	**17 30 33.2**	**-0.9**
0.3nm,0.1s,SNR=7.2							
EMIN			S		**Sn**	**17 31 14.1**	**-2.4**
0.7nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.54 320**	P		**Pn**	**17 30 33.2**	**-0.9**
0.3nm,0.1s,SNR=7.2							
EMIN			S		**Sn**	**17 31 12.8**	**-3.7**
0.7nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**3.85 311**	P		**Pn**	**17 30 38.2**	**-0.3**
EGRO			S		**Sn**	**17 31 20.7**	**-3.6**
EGRO	**El Granado**	**3.85 311**	P		**Pn**	**17 30 38.2**	**-0.3**
1.7nm,0.3s,SNR=7.9							
EGRO			S		**Sn**	**17 31 21.3**	**-2.9**
1.2nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**3.85 311**	P		**Pn**	**17 30 38.2**	**-0.3**
1.7nm,0.3s,SNR=7.9							
EGRO			S		**Sn**	**17 31 20.7**	**-3.5**
1.2nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**4.00 26**	P		**Pn**	**17 30 40.6**	**0.0**
0.8nm,0.2s,SNR=7.9							

*IDC **15** 17:34:32.9±0.9, 62.32S×158.29W, mb4.1/5, mb1 4.3/6, mb1mx4.3/11, mbtmp4.1/6, ML4.1/1, MS4.3/14, Ms1 4.3/14, ms1mx4.3/17, Error ellipse: s-maj=44.8km s-min=21.0km az=10.0*

*NEIC **15** 17:34:34.2±0.7, 62.49S×158.20W, h10km, mb4.5/3, Error ellipse: s-maj=17.2km s-min=14.7km az=50.0*

ISC 15 17:34:33.3±0.6, 62.65S±0.08×158.5W±0.3, h10km, n26, σ1§16/14, mb4.2/6, MS4.4/13, 2C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**18.70 202**		*e*P	**P**	**17 38 53.9**	**+0.4**
40nm,1.7s							
VNDA	**Vanda**	**19.43 205**		P	**P**	**17 39 04.3**	**+2.2**
0.5nm,0.3s,baz=74,slow=17,SNR=30							
VNDA				LR	LR	17 44 30.1	
comp=Z,1μm,21.8s,baz=65,slow=30							
RPZ	**Rata Peaks**	**25.92 303**		LR	LR	17 47 25.6	
comp=Z,345nm,21.6s,MS3.9,baz=322,slow=30							
QSPA	**South Pole Qui**	**27.47 180**		*e*P	**P**	**17 40 20.6**	**-0.2**
8.7nm,0.9s,mb4.3							
URZ	**Urewera**	**28.60 317**		LR	LR	17 48 52.8	
comp=Z,880nm,18.1s,MS4.4,baz=218,slow=30							
TBI	**Tubuai**	**39.76 13**		*e*S	**S**	**17 48 12.4**	**+1.1**
TBI				*e*LQ		17 51 10.7	
TBI				*e*LR	LR	17 52 41.8	
1μm,28.2s,baz=184							
RKT	**Rikitea**	**42.59 33**		*e*LQ		17 52 06.5	
RKT				*e*LR	LR	17 54 14.8	
524nm,28.0s							
SNAA	**Sanae**	**44.90 169**	⇑	*i*	**P**	**17 42 48.8**	**-0.2**
VNA2	**Neumayer--Watz**	**45.19 167**	⇑	*i*	**P**	**17 42 51.3**	**0.0**
PPT	**Papeete**	**45.46 12**		*e*S	**S**	**17 49 36.9**	**+1.9**
PPT				*e*LQ		17 53 05.3	
PPT				*e*LR	LR	17 55 17.2	
2μm,27.5s,baz=190							
PPT	**Papeete**	**45.46 12**		LR	LR	17 56 33.2	
comp=Z,606nm,18.9s,MS4.6,baz=193,slow=29							
MAW	**Mawson**	**46.66 200**		LR	LR	18 01 46.1	
comp=Z,506nm,20.7s,MS4.5,baz=240,slow=35							
DZM	**Mont Dzumac**	**47.01 313**		LR	LR	17 58 55.0	
comp=Z,420nm,21.4s,MS4.4,baz=184,slow=31							
STKA	**Stephens Creek**	**48.48 280**		P	**P**	**17 43 18.5**	**+0.8**
3.7nm,0.8s,mb4.5,baz=157,slow=7.9,SNR=8.4							
STKA				LR	LR	18 01 30.2	
comp=Z,301nm,19.1s,MS4.3,baz=58,slow=33							
PLCA	**Paso Flores**	**53.89 110**		P	**P**	**17 43 57.2**	**-1.3**
1.7nm,0.8s,mb4.1,baz=187,slow=12,SNR=5.0							
PLCA				LR	LR	18 01 11.9	
comp=Z,337nm,21.1s,MS4.4,baz=211,slow=30							
CTA	**Charters Tower**	**56.63 292**		LR	LR	18 04 47.6	
comp=Z,187nm,20.6s,MS4.2,baz=152,slow=32							
ASAR	**Alice Springs**	**58.99 278**		P	**P**	**17 44 34.0**	**-1.2**
1.8nm,0.9s,mb4.1,baz=152,slow=7.2,SNR=16							
ASAR				LR	LR	18 05 59.7	
comp=Z,319nm,21.1s,MS4.4,baz=148,slow=32							
ASAR	**Alice Springs**	**58.99 278**		P	**P**	**17 44 34.0**	**-1.2**
ASAR				LR	LR	18 05 59.7	
WRA	**Warramunga Arr**	**62.02 281**		P	**P**	**17 44 53.9**	**-2.1**
1.8nm,1.0s,mb4.2,baz=162,slow=6.3,SNR=8.3							
LPAZ	**La Paz**	**75.84 98**		P	**P**	**17 46 21.9**	**+0.7**
2.2nm,0.8s,mb4.2,baz=196,slow=4.3,SNR=8.2							
LPAZ				LR	LR	18 12 02.7	
comp=Z,64nm,21.5s,MS3.9,baz=324,slow=30							
LPAZ	**La Paz**	**75.84 98**		*e*P	**P**	**17 46 21.1**	**-0.1**
8.0nm,1.3s,mb4.5							
LPAZ				LR	LR	18 12 02.7	
BDFB	**Brasilia**	**85.29 115**		LR	LR	18 22 22.2	
comp=Z,479nm,19.3s,MS4.9,baz=201,slow=34							
BOSA	**Boshof**	**89.00 183**		LR	LR	18 22 27.2	
comp=Z,387nm,21.8s,MS4.8,baz=187,slow=32							
ROSC	**El Rosal**	**91.58 83**		LR	LR	18 19 17.8	
comp=Z,79nm,19.9s,MS4.2,baz=194,slow=29							
ILAR	**Eielson Array**	**127.41 6**		PKP	PKPdf	17 53 37.1	-2.9
0.5nm,0.8s,baz=208,slow=1.5,SNR=6.0							
BVAR	**Borovoye Array**	**152.93 272**		PKPbc	PKPdf	17 54 30.5	+5.6
0.4nm,0.7s,baz=117,slow=3.2,SNR=3.3							

*IDC **15** 17:42:06.5±1.9, 13.86N×124.83E, mb3.3/4, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, Error ellipse: s-maj=81.0km s-min=22.9km az=57.0*

ISC 15 17:42:05.7±1.9, 14.09N±0.09×124.75E±0.08, h3km±12km, n11, σ1§09/13, mb3.3/4, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.76 230**		*e*P	**Pg**	**17 42 20.3**	**-0.6**
CNP	**Cataman**	**1.57 183**		*e*P	**Pn**	**17 42 36.5**	**+1.9**
AUQP	**San Andres**	**2.15 249**		*e*P	**Pn**	**17 42 46.8**	**+3.8**
GQP	**Guinayangan**	**2.24 266**		*e*P	**Pn**	**17 42 43.8**	**-0.5**
GQP				*i* S	**Sn**	**17 43 13.0**	**+0.2**
POLP	**Polilio Island**	**2.79 283**		*e*P	**Pn**	**17 42 52.7**	**+0.5**
BOAC	**Boac**	**2.89 258**		*e*P	**Pn**	**17 42 54.1**	**+0.6**
BOAC				*e*S	**Sn**	**17 43 28.4**	**-0.8**
CAUP	**Cauayan**	**4.00 316**		*e*P	**Pn**	**17 43 08.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**25.14 283**		P	**P**	**17 47 34.8**	**+1.0**
0.4nm,0.7s,mb3.1,baz=99,slow=7.9,SNR=4.9							
WRA	**Warramunga Arr**	**35.11 164**		P	**P**	**17 48 58.9**	**-3.7**
0.3nm,0.8s,mb3.2,baz=344,slow=9.2,SNR=3.1							
ASAR	**Alice Springs**	**38.58 166**		P	**P**	**17 49 30.0**	**-1.8**
0.3nm,0.5s,mb3.3,baz=346,slow=6.7,SNR=7.7							
BVAR	**Borovoye Array**	**57.70 324**		P	**P**	**17 52 00.5**	**+0.5**
0.2nm,0.3s,mb3.6,baz=108,slow=4.6,SNR=3.3							

IDC 15 17:48:43.8±3.0, 24.67S×176.72W, mb4.1/5, mb1 4.2/5, mb1mx3.9/18, mbtmp4.1/5, MS4.3/2, Ms1 4.4/2, ms1mx3.5/24, Error ellipse: s-maj=130.7km s-min=45.9km az=154.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**15.98 81**		LR	LR	17 57 00.4	
comp=Z,928nm,18.8s,baz=296,slow=31							
CTA	**Charters Tower**	**34.47 270**		P	P	17 55 35.1	-0.5
1.4nm,0.3s,baz=98,slow=11,SNR=7.5							
STKA	**Stephens Creek**	**37.24 249**		P	P	17 55 56.6	-2.4
0.8nm,0.9s,baz=75,slow=12,SNR=3.1							
ASAR	**Alice Springs**	**44.87 261**		P	P	17 56 59.4	-2.5
0.6nm,0.3s,baz=94,slow=7.1,SNR=36							
WRA	**Warramunga Arr**	**45.34 266**		P	P	17 57 03.2	-2.6
1.6nm,0.6s,baz=103,slow=6.7,SNR=33							
WRA				PcP	PcP	17 58 44.1	-1.8
0.2nm,0.6s,baz=103,slow=3.1,SNR=3.1							
FITZ	**Fitzroy Crossi**	**53.75 265**		P	P	17 58 08.3	-2.0
6.8nm,0.8s,baz=143,slow=5.1,SNR=9.3							
ILAR	**Eielson Array**	**92.10 12**		LR	LR	18 38 21.9	
comp=Z,157nm,20.2s,baz=65,slow=32							
AKASG	**Malin Array Be**	**147.20 329**		PKPbc	PKPdf	18 08 28.1	-0.2
1.0nm,0.5s,baz=44,slow=4.4,SNR=9.8							

*IDC **15** 18:29:25.4±0.8, 24.08S×66.83W, h181km±7km, mb4.2/15, mb1 4.4/20, mb1mx4.3/23, mbtmp4.7/20, Error ellipse: s-maj=11.5km s-min=9.3km az=68.0*

*BJI **15** 18:29:26.3, 24.00S×66.80W, h190km, mB4.9*

*GUC **15** 18:29:26.5±0.9, 24.10S×67.41W, h218km±12km, ML5.1*

*NEIC **15** 18:29:26.4±0.5, 24.03S×66.84W, h190km±4km, mb4.6/28, Error ellipse: s-maj=7.4km s-min=5.7km az=72.0*

ISC 15 18:29:24.4±0.5, 24.13S±0.04×66.94W±0.06, h187km±5km, n90, σ1§22/80, mb4.5/34, 3C-7D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.68 316**	⇓	*i*P	**P**	**18 30 02.2**	**+3.2**
SPCH				*i* S	**S**	**18 30 30.2**	**+4.6**
SPCH				AMP		18 30 31.5	
comp=E,4μm,0.3s							
LVC	**Limon Verde**	**2.36 309**		P	**P**	**18 30 08.5**	**+2.2**
comp=E,183nm,0.3s,baz=127,slow=6.6,SNR=1913							
LVC				S	**S**	**18 30 40.1**	**+1.4**
comp=E,608nm,0.3s,baz=319,slow=20,SNR=78							
LVC	**Limon Verde**	**2.36 309**		*e*Pn	**P**	**18 30 08.2**	**+1.9**
LVC				*e*Sn	**S**	**18 30 40.3**	**+1.6**
LVC	**Limon Verde**	**2.36 309**	⇑	*i*P	**P**	**18 30 08.6**	**+2.2**
LVC				*i* S	**S**	**18 30 40.2**	**+1.6**
LVC				AMP		18 30 41.8	
comp=E,6μm,0.5s							
CPN1	**Cerro Paranal**	**3.20 260**	⇑	*i*P	**P**	**18 30 17.2**	**+0.9**
CPN1				*i* S	**S**	**18 30 55.4**	**-1.0**
CPN1				AMP		18 30 56.3	
comp=E,9μm,0.6s							
ANCH	**Antofagasta**	**3.21 277**	⇑	*i*P	**P**	**18 30 18.6**	**+2.2**
ANCH				*i* S	**S**	**18 30 56.2**	**-0.5**
CPCH	**Copiapo**	**4.45 223**		*e*P	**P**	**18 30 30.9**	**-1.3**
CPCH				*i* S	**S**	**18 31 21.8**	**-2.8**
CFAA	**Coronel Fontan**	**7.54 188**		P	**P**	**18 31 11.8**	**-0.6**
comp=E,0.7nm,0.3s,baz=12,slow=13,SNR=46							
CFAA				S	**S**	**18 32 31.1**	**-5.6**
comp=E,2.9nm,0.3s,baz=123,slow=16,SNR=16							
CFAA	**Coronel Fontan**	**7.54 188**		P	**P**	**18 31 11.8**	**-0.6**
CFAA				S	**S**	**18 32 31.1**	**-5.6**
LPAZ	**La Paz**	**7.88 352**		P	**P**	**18 31 18.2**	**+1.3**
comp=E,7.7nm,0.3s,baz=156,slow=7.9,SNR=51							
LPAZ				S	**S**	**18 32 43.5**	**-1.3**
comp=E,1.6nm,0.3s,baz=190,slow=7.0,SNR=4.1							
LPAZ	**La Paz**	**7.88 352**		*e*Pn	**P**	**18 31 17.9**	**+1.0**
comp=E,17nm,0.4s							
ARE	**Arequipa**	**8.74 330**		*e*P	**P**	**18 31 26.0**	**-2.2**
ARE				*e*S	**S**	**18 32 59.0**	**-6.0**
SIV	**San Ignacio**	**9.79 35**		P	**P**	**18 31 40.9**	**-1.1**
comp=E,11nm,0.3s,baz=216,slow=14,SNR=54							
SIV				S	**S**	**18 33 17.1**	**-12**
comp=E,0.7nm,0.3s,baz=240,slow=17,SNR=4.0							
TRQA	**Tornquist**	**14.52 164**		*e*Pn	**P**	**18 32 40.7**	**-1.5**
comp=E,37nm,0.7s							
NNA	**Nana**	**15.30 320**		*e*P	**P**	**18 32 52.4**	**+0.3**
comp=E,23nm,0.8s							
SAML	**Samuel**	**15.51 14**		*e*P	**P**	**18 32 53.5**	**-1.2**
comp=E,6.8nm,0.6s							
PLCA	**Paso Flores**	**16.83 190**		P	**P**	**18 33 10.0**	**-0.6**
comp=E,1.6nm,0.3s,baz=8.1,slow=13,SNR=36							
PLCA				PcP	PcP	18 37 47.4	-0.1
comp=E,0.2nm,0.3s,baz=303,slow=3.7,SNR=4.1							
PLCA	**Paso Flores**	**16.83 190**		*e*P	**P**	**18 33 09.7**	**-0.8**
comp=E,25nm,0.8s							
BDFB	**Brasilia**	**19.68 68**		P	**P**	**18 33 40.4**	**-0.6**
comp=E,5.2nm,0.3s,baz=244,slow=11,SNR=55							
BDFB				S	**S**	**18 37 10.5**	**+2.8**
comp=E,0.1nm,0.3s,baz=70,slow=16,SNR=2.2							
BAO	**Brasilia Array**	**19.70 68**		P	**P**	**18 33 40.5**	**-0.8**
USHA	**Ushuaia**	**30.69 182**		P	**P**	**18 35 22.1**	**-1.4**
comp=E,8.3nm,0.6s,mb4.7,baz=357,slow=7.5,SNR=4.6							
RCBR	**Riachuelo**	**34.93 64**		*e*P	**P**	**18 35 59.1**	**-1.2**
comp=E,12nm,0.6s,mb4.7							
VNA3	**Neumayer Olymp**	**57.01 161**	⇓	*i*P	**P**	**18 38 53.5**	**+1.1**
VNA1	**Neumayer--Stat**	**57.21 160**	⇓	*i*P	**P**	**18 38 55.2**	**+1.5**
VNA2	**Neumayer--Watz**	**57.58 160**	⇓	*i*P	**P**	**18 38 57.4**	**+1.1**
SNAA	**Sanae**	**59.21 161**	⇓	*i*P	**P**	**18 39 07.3**	**-0.3**
SNAA	**Sanae**	**59.21 161**		P	**P**	**18 39 07.3**	**-0.3**
comp=E,6.2nm,0.6s,mb4.6,baz=285,slow=7.9,SNR=53							
SNAA				PcP	PcP	18 39 53.4	-0.3
comp=E,2.4nm,0.6s,baz=284,slow=8.2,SNR=6.4							
JCT	**Junction City**	**62.78 328**		*e*P	**P**	**18 39 30.6**	**-1.6**
comp=E,11nm,0.7s,mb4.8							
WVT	**Waverly**	**63.10 341**		*e*P	**P**	**18 39 32.1**	**-2.1**
comp=E,17nm,0.6s,mb5.0							
MAIT	**Maitri**	**63.71 159**	⇓	*i*P	**P**	**18 39 38.0**	**+0.4**
TXAR	**Lajitas Array**	**63.81 324**		P	**P**	**18 39 38.8**	**-0.2**
comp=E,1.7nm,0.7s,mb4.0,baz=152,slow=8.3,SNR=11							
FVM	**French Village**	**65.61 340**		*e*P	**P**	**18 39 48.4**	**-1.9**
comp=E,10nm,0.6s,mb4.8							
WMOK	**Wichita Mounta**	**65.88 332**		*e*P	**P**	**18 39 50.7**	**-1.5**
comp=E,1.9nm,0.6s,mb4.1							
CCM	**Cathedral Cave**	**65.93 339**		*e*P	**P**	**18 39 51.0**	**-1.4**
comp=E,14nm,0.6s,mb5.0							
MNTX	**Cornudas Mount**	**66.58 325**		*e*P	**P**	**18 39 55.5**	**-1.2**
comp=E,5.2nm,0.8s,mb4.4							
AMTX	**Amarillo**	**67.31 329**		*e*P	**P**	**18 40 00.3**	**-0.9**
comp=E,2.7nm,0.4s,mb4.4							
DBIC	**Dimbokro**	**67.79 71**		P	**P**	**18 40 04.2**	**-0.3**
comp=E,1.9nm,0.3s,mb4.3,baz=212,slow=8.7,SNR=8.0							
DBIC	**Dimbokro**	**67.79 71**		*e*P	**P**	**18 40 02.5**	**-2.0**
comp=E,5.4nm,0.8s,mb4.3							
ANMO	**Albuquerque**	**69.69 326**		P	**P**	**18 40 16.4**	**+0.7**
comp=E,5.9nm,0.8s,mb4.3,baz=135,slow=6.1,SNR=9.1							
ANMO	**Albuquerque**	**69.69 326**		*e*P	**P**	**18 40 16.0**	**+0.2**
comp=E,5.1nm,0.8s,mb4.3							
SDCO	**Great Sand Dun**	**71.42 329**		*e*P	**P**	**18 40 26.9**	**+0.8**
comp=E,3.5nm,0.6s,mb4.3							
WUAZ	**Wupatki**	**72.72 323**		*e*P	**P**	**18 40 34.5**	**+0.7**
comp=E,9.5nm,0.9s,mb4.5							
PV01	**Paradox Valley**	**73.23 327**		*e*P	**P**	**18 40 37.6**	**+0.8**
SYO	**Syowa Base**	**73.41 159**	⇓	P	**P**	**18 40 36.5**	**-0.7**
SBA	**Scott Base**	**73.58 190**		*e*P	**P**	**18 40 39.5**	**+1.4**
comp=E,10nm,1.2s,mb4.4							
VNDA	**Vanda**	**74.59 190**		P	**P**	**18 40 45.5**	**+1.6**
comp=E,4.0nm,0.9s,mb4.1,baz=128,slow=3.8,SNR=14							
VNDA	**Vanda**	**74.59 190**		*e*P	**P**	**18 40 45.4**	**+1.6**
comp=E,5.1nm,1.0s,mb4.1							
SUR	**Sutherland**	**75.70 119**		*e*P	**P**	**18 40 50.6**	**-0.4**
comp=E,6.8nm,0.6s,mb4.5							
ULM	**Lac du Bonnet**	**78.36 342**		P	**P**	**18 41 04.5**	**-0.8**
comp=E,8.9nm,0.5s,mb4.6,baz=152,slow=5.8,SNR=13							
LOHW	**Long Hollow**	**78.42 329**		*e*P	**P**	**18 41 04.8**	**-1.0**
comp=E,13nm,0.7s,mb4.7							
ELK	**Elko**	**78.61 325**		*e*P	**P**	**18 41 07.4**	**+0.6**
comp=E,5.0nm,0.9s,mb4.1							
SCHQ	**Schefferville**	**78.63 0**		P	**P**	**18 41 05.8**	**-0.9**
comp=E,2.2nm,0.6s,mb4.0,baz=222,slow=18,SNR=7.8							
NVAR	**Mina Array Bea**	**78.67 321**		P	**P**	**18 41 08.6**	**+1.3**
comp=E,1.3nm,0.6s,mb3.8,baz=177,slow=6.9,SNR=9.4							
YMR	**Madison River**	**79.40 330**		*e*P	**P**	**18 41 12.6**	**+1.6**
HLID	**Hailey**	**80.22 327**		*e*P	**P**	**18 41 17.2**	**+1.7**
comp=E,12nm,1.0s,mb4.5							
BOSA	**Boshof**	**80.62 117**		P	**P**	**18 41 18.2**	**+0.3**
comp=E,5.0nm,0.4s,mb4.5,baz=234,slow=4.1,SNR=24							
BOSA	**Boshof**	**80.62 117**		*e*P	**P**	**18 41 18.1**	**+0.2**
comp=E,6.5nm,0.8s,mb4.3							
MAW	**Mawson**	**81.30 163**		P	**P**	**18 41 21.5**	**+0.9**
comp=E,17nm,0.6s,mb4.9,baz=244,slow=7.2,SNR=12							
HRY	**Holter Researc**	**81.35 331**		*e*P	**P**	**18 41 22.2**	**+0.9**
LBTB	**Lobatse**	**82.28 114**		*e*P	**P**	**18 41 27.0**	**+0.4**
comp=E,7.5nm,0.6s,mb4.5							
YBH	**Yreka Blue Hor**	**83.39 321**		P	**P**	**18 41 31.4**	**-0.5**
comp=E,1.8nm,0.7s,mb3.9,baz=95,slow=5.6,SNR=5.1							
FCC	**Fort Churchill**	**85.60 346**		*e*P	**P**	**18 41 42.4**	**0.0**
comp=E,12nm,0.7s,mb4.8							
ESDC	**Sonseca Array**	**86.45 44**		P	**P**	**18 41 47.7**	**+0.6**
comp=E,1.5nm,0.6s,mb3.9,baz=236,slow=4.3,SNR=6.0							
LSZ	**Lusaka**	**88.42 106**		*e*P	**P**	**18 41 57.6**	**+0.8**
comp=E,19nm,1.4s,mb4.7							
CASY	**Casey**	**89.86 179**		*e*P	**P**	**18 42 04.0**	**+1.5**
comp=E,22nm,1.0s,mb5.0							
YKA	**Yellowknife Ar**	**94.26 340**		P	**P**	**18 42 23.0**	**+0.2**
comp=E,3.4nm,0.5s,mb4.7,baz=133,slow=4.5,SNR=126							
DLBC	**Dease Lake**	**97.36 332**		P	**P**	**18 42 38.2**	**+1.1**
comp=E,1.7nm,0.6s,mb4.6,baz=207,slow=7.0,SNR=4.7							
AKASG	**Malin Array Be**	**112.09 43**		PKiKP		18 47 37.8	
comp=E,0.3nm,0.3s,baz=265,slow=3.4,SNR=5.7							
CTA	**Charters Tower**	**125.44 219**		PKP	PKPdf	18 48 05.2	+1.4
comp=E,3.8nm,0.6s,baz=121,slow=5.6,SNR=5.6							
CTAO	**Charters Tower**	**125.44 219**		*e*PKPdf	PKPdf	18 48 05.4	+1.6
ASAR	**Alice Springs**	**128.37 205**		PKP	PKPdf	18 48 10.4	+1.0
comp=E,5.8nm,0.7s,baz=134,slow=1.9,SNR=25							
ASPA	**Alice Springs**	**128.37 205**		*e*P	PKPdf	18 48 10.5	+1.1
WB2	**Warramunga Arr**	**131.53 207**		*e*P	PKPdf	18 48 16.7	+1.2
WRA	**Warramunga Arr**	**131.54 207**		PKP	PKPdf	18 48 16.7	+1.2
comp=E,3.9nm,0.4s,baz=154,slow=1.9,SNR=50							
WRA				SKPbc		18 51 23.9	
comp=E,0.7nm,0.6s,baz=157,slow=3.8,SNR=7.5							
WRAB	**Tennant Creek**	**131.54 207**		*e*PKPdf	PKPdf	18 48 16.4	+0.9
FITZ	**Fitzroy Crossi**	**136.27 197**		PKP	PKPdf	18 48 27.0	+2.7
comp=E,5.0nm,0.5s,baz=236,slow=2.0,SNR=7.7							
ZAL	**Zalesovo**	**143.48 28**		PKP	PKPdf	18 48 35.6	-0.5
comp=E,6.2nm,0.6s,baz=174,slow=3.5,SNR=36							
ZAL				SKPbc		18 51 59.5	
comp=E,0.9nm,0.4s,baz=222,slow=7.0,SNR=3.3							
ZAL	**Zalesovo**	**143.48 28**		PKP	PKPdf	18 48 35.6	-0.5
ZAL				SKPbc		18 51 59.5	
HYB	**Hyderabad**	**147.11 95**		*e*P	PKPdf	18 48 47.5	+4.1
HYB	**Hyderabad**	**147.11 95**		*i* PKP	PKPdf	18 48 47.5	+4.1
WMQ	**Urumqi**	**151.41 40**		PKP	PKPdf	18 48 49.9	+0.5
WMQ				PKP2	PKPab	18 49 06.8	-0.2
WMQ				APKP		18 49 35.4	
WMQ				XPKP		18 49 54.9	
WMQ				PP	PP	18 52 39.0	-0.5
WMQ				SKS	SKS	18 55 39.6	+3.1
WMQ				PP	PP		
comp=Z,104nm,8.2s							
WMQ				LR	LR		
comp=N,89nm,22.3s							
WMQ				LR	LR		
comp=E,89nm,18.5s							
WMQ				LR	LR		
comp=Z,57nm,23.4s							
MJAR	**Matsushiro Arr**	**155.10 306**		PKPab	PKPab	18 49 22.6	-0.2
comp=Z,4.2nm,0.9s,baz=59,slow=3.0,SNR=7.1							
MAT	**Matsushiro**	**155.10 306**		*e*PKP	PKPdf	18 49 05.0	+10
MAT	**Matsushiro**	**155.10 306**		PKP	PKPdf	18 48 55.6	+0.9
MDJ	**Mudanjiang**	**155.52 331**		PKP	PKPdf	18 48 54.3	-0.7
SONM	**Songino Array**	**155.75 11**		PKP	PKPdf	18 48 57.9	+2.7
comp=Z,1.1nm,0.8s,baz=274,slow=1.3,SNR=6.9							
SONM				PKPbc	PKPdf	18 49 07.1	+12
comp=Z,1.3nm,0.8s,baz=224,slow=0.5,SNR=6.1							
SONM				PKPab	PKPab	18 49 24.4	-0.8
comp=Z,1.5nm,0.7s,baz=325,slow=4.5,SNR=9.0							
GTA	**Gaotai**	**161.09 33**		*e*PKP	PKPdf	18 49 04.6	+2.8
GTA				APKP		18 49 52.0	
GTA				XPKP		18 50 08.0	
GTA				PKS	PKS	18 52 36.8	+2.8
GTA				PP	PP	18 53 38.6	+5.6
GTA				SKS	SKS	18 55 48.0	+1.3
GTA				SKKS		19 00 05.3	
GTA				PP	PP		
comp=Z,70nm,6.1s							
GTA				LR	LR		
comp=N,76nm,18.0s							
GTA				LR	LR		
comp=E,99nm,17.6s							
GTA				LR	LR		
comp=Z,155nm,16.8s							
CMAR	**Chiang Mai Arr**	**165.69 111**		PKPab	PKPab

13nm,0.6s,baz=239,slow=18,SNR=6.5
RPZ Rata Peaks 22.90 207 *e*P **P 18 37 15.7 +1.2**
RPZ Rata Peaks 22.90 207 P* **P 18 37 16.3 +1.8**
FOZ Fox Glacier 23.36 209 *e*P **P 18 37 19.4 +0.4**
FOZ Fox Glacier 23.36 209 P* **P 18 37 19.4 +0.4**
TBI Tubuai 23.43 94 *e*P **P 18 37 18.1 -1.8**
55nm,0.8s,mb5.1
TBI *e*LQ 18 41 47.1
TBI *e*LR LR 18 42 31.4
6μm,27.0s,baz=264
PPT Papeete 24.59 80 *e*P **P 18 37 28.2 -3.0**
33nm,0.9s,mb4.8
PPT Papeete 24.59 80 *e*LQ 18 42 10.5
PPT *e*LR LR 18 42 57.3
3μm,21.0s,baz=248
PPT Papeete 24.59 80 LR LR 18 45 28.7
comp=Z,4μm,18.6s,MS4.9,baz=260,slow=32
TIAR Tiarei 24.80 80 *e*P **P 18 37 30.3 -2.9**
149nm,0.9s,mb5.5
TVO Taravao 24.82 81 *e*P **P 18 37 30.2 -3.2**
185nm,1.2s,mb5.5
MSZ Milford Sound 25.02 210 P* **P 18 37 37.0 +1.9**
CNB Canberra Magne 32.85 241 *e*P **P 18 38 46.3 +0.8**
275nm,0.9s,mb6.2
CTA Charters Tower 36.03 268 ⇓*i*P **P 18 39 11.9 -1.0**
30nm,0.5s,mb5.5
CTA Charters Tower 36.03 268 P **P 18 39 12.2 -0.7**
29nm,0.4s,mb5.5,baz=95,slow=11,SNR=49
CTAO Charters Tower 36.03 268 *e*P **P 18 39 11.9 -1.0**
42nm,0.6s,mb5.5
TOO Toolangi 36.34 238 *e*P **P 18 39 18.3 +3.0**
14nm,0.8s,mb5.0
TAOE Nuku Hiva Isla 36.50 72 *e*LR LR 18 48 23.2
RKT Rikitea 36.66 97 *e*S **S 18 44 54.5 -3.3**
RKT *e*LR LR 18 48 36.5
4μm,31.2s,baz=262
PMG Port Moresby 38.82 285*d i*P **P 18 39 35.2 -1.1**
PMG Port Moresby 38.82 285 P **P 18 39 35.3 -1.0**
115nm,0.8s,mb5.6,baz=112,slow=5.0,SNR=17
PMG Port Moresby 38.82 285 *e*P **P 18 39 34.8 -1.5**
107nm,0.8s,mb5.6
PMG LR LR
comp=Z,2μm,19.0s,MS4.9
STKA Stephens Creek 38.98 248 ⇓*i*P **P 18 39 37.3 -0.1**
comp=Z,10nm,0.7s,mb4.7
STKA Stephens Creek 38.98 248 P **P 18 39 37.3 -0.1**
comp=Z,10nm,0.6s,mb4.7,baz=85,slow=11,SNR=20
STKA LR LR 18 54 53.9
comp=Z,4μm,19.1s,MS5.2,baz=77,slow=35
ASAR Alice Springs 46.53 259 P **P 18 40 37.5 -1.5**
comp=Z,48nm,0.9s,mb5.4,baz=98,slow=7.8,SNR=195
ASAR S **S 18 47 21.0 -2.5**
comp=Z,5.5nm,0.9s,baz=98,slow=14,SNR=8.8
ASAR LR LR 18 59 44.6
comp=Z,3μm,18.6s,MS5.2,baz=106,slow=36
ASPA Alice Springs 46.53 259 ⇓*i*P **P 18 40 38.0 -1.0**
ASPA *e*PCS 18 46 08.2
ASPA *e*S **S 18 47 20.9 -2.6**
WB2 Warramunga Arr 46.94 264 ⇑*i*P **P 18 40 39.9 -2.3**
WB2 *e*S **S 18 47 24.7 -4.6**
WRAB Tennant Creek 46.94 264*c i*P **P 18 40 40.8 -1.4**
WRAB Tennant Creek 46.94 264 *e*P **P 18 40 40.1 -2.1**
comp=Z,89nm,0.8s,mb5.8
WRAB LR LR
comp=Z,1μm,19.0s,MS4.8
WRA Warramunga Arr 46.95 264 P **P 18 40 40.4 -1.9**
comp=Z,54nm,0.8s,mb5.5,baz=96,slow=8.3,SNR=332
WRA S **S 18 47 25.0 -4.5**
comp=Z,5.5nm,0.9s,baz=102,slow=14,SNR=5.0
YOMI Yo Moklole 47.79 289 ⇑*i*P **P 18 40 46.2 -2.8**
comp=Z,57nm,0.7s,mb5.7
FORT Forrest 50.59 249 ⇑*i*P **P 18 41 09.3 -1.1**
comp=Z,2μm,0.7s
KAKA Kakadu 50.84 273 ⇑*i*P **P 18 41 09.8 -2.7**
comp=Z,88nm,0.8s,mb5.7
KAKA *e*S **S 18 48 20.2 -3.8**
SBA Scott Base 54.77 185 *e*P **P 18 41 43.2 +2.3**
comp=Z,32nm,0.9s,mb5.4
VNDA Vanda 54.88 186 P **P 18 41 43.7 +2.1**
comp=Z,15nm,0.9s,mb5.0,baz=11,slow=7.2,SNR=26
VNDA LR LR 19 01 17.2
comp=Z,677nm,19.3s,MS4.7,baz=346,slow=32
VNDA Vanda 54.88 186 P **P 18 41 43.7 +2.1**
VNDA LR LR 19 01 17.2
FITZ Fitzroy Crossi 55.37 264 ⇓*i*P **P 18 41 44.9 -1.0**
comp=Z,65nm,0.8s,mb5.7
FITZ *e*S **S 18 49 26.7 +1.4**
FITZ Fitzroy Crossi 55.37 264 P **P 18 41 44.5 -1.4**
comp=Z,94nm,0.9s,mb5.8,baz=114,slow=3.3,SNR=68
FITZ S **S 18 49 25.7 +0.4**
comp=Z,4.8nm,0.9s,baz=7.2,slow=20,SNR=3.8
FITZ LR LR 19 05 20.8
comp=Z,3μm,18.5s,MS5.3,baz=95,slow=36
KLBR Kellerberrin 59.20 246 *e*P **P 18 42 12.0 -0.9**
comp=Z,471nm,0.6s
KLBR *e*pP pP 18 42 26.7 +1.3
NWAO Narrogin (SRO) 59.40 245 P **P 18 42 14.2 -0.1**
comp=Z,14nm,1.0s,mb5.0,baz=80,slow=7.9,SNR=8.3
NWAO LR LR 19 05 21.0
comp=Z,675nm,21.9s,MS4.7,baz=227,slow=33
NWAO Narrogin (SRO) 59.40 245 *e*P **P 18 42 14.5 +0.3**
comp=Z,31nm,1.4s,mb5.2
NWAO LR LR
comp=Z,1μm,19.0s,MS5.1
MBWA Marble Bar 59.86 259 *e*P **P 18 42 15.9 -1.6**
comp=Z,47nm,0.9s,mb5.5
MBWA LR LR
comp=Z,1μm,19.0s,MS5.1
MUN Mundaring 60.42 246 *e*P **P 18 42 21.4 +0.1**
comp=Z,46nm,0.6s,mb5.7
MUN *e* pP 18 42 36.4 +2.6
CASY Casey 62.17 206 *e*P **P 18 42 33.5 +0.9**
CBIJ Chichi jima 65.34 318 LR LR 19 08 14.2
comp=Z,1μm,19.3s,MS5.2,baz=218,slow=33
KEDI Kedomdong 67.32 271 ⇑*i*P **P 18 43 07.2 +0.6**
comp=Z,52nm,0.9s,mb5.6
RATI Rata 67.76 270 ⇑*i*P **P 18 43 09.7 +0.3**
comp=Z,193nm,0.8s,mb6.2
MIR Mirnyy 69.17 205*c i*P **P 18 43 18.0 +0.8**
MIR pmax pmax
comp=Z,50nm,1.2s,mb5.3
JOW Kunigami 74.40 309 LR LR 19 14 45.6
comp=Z,947nm,19.3s,MS5.1,baz=128,slow=34
MJAR Matsushiro Arr 74.51 322 P **P 18 43 48.7 -0.9**
comp=Z,6.6nm,0.7s,mb4.7,baz=156,slow=5.3,SNR=17
MJAR LR LR 19 17 23.6
comp=Z,374nm,18.2s,MS4.7,baz=130,slow=36
MAJO Matsushiro 74.51 322 *e*P **P 18 43 49.1 -0.5**
comp=Z,13nm,0.8s,mb4.9
MAT Matsushiro 74.51 322 *e*P **P 18 43 48.0 -1.6**
comp=Z,12nm,0.7s,mb4.9
MAT *e*S S 18 53 20.0 -0.2
MAT LR LR
comp=Z,710nm,20.0s,MS5.0
MAT Matsushiro 74.51 322 P **P 18 43 47.7 -1.9**
MAT S S 18 53 20.0 -0.2
KSM Kuching 76.59 278 *e*P **P 18 44 02.4 +0.4**
PULI Pulasari 77.42 269 ⇑*i*P **P 18 44 08.7 +2.1**
UNV Unalaska Valle 77.70 5 *e*P **P 18 44 05.6 -1.7**
PENI Pendagan 78.45 269 ⇓*i*P **P 18 44 10.7 -1.6**
comp=Z,106nm,0.9s,mb5.8
MAW Mawson 79.36 199 *e*P **P 18 44 18.3 +2.1**
comp=Z,22nm,0.9s,mb5.1
MAW Mawson 79.36 199 P **P 18 44 18.3 +2.1**
comp=Z,26nm,0.8s,mb5.2,baz=113,slow=6.3,SNR=6.5
MAW LR LR 19 20 24.0
comp=Z,715nm,18.1s,MS5.0,baz=120,slow=36
USHA Ushuaia 79.84 146 P **P 18 44 20.1 +1.1**
comp=Z,51nm,0.8s,mb5.5,baz=228,slow=4.8,SNR=15
USHA LR LR 19 13 06.9
comp=Z,686nm,19.0s,MS5.0,baz=115,slow=31
PET Petropavlovsk 79.88 344 *e*P **P 18 44 18.3 -0.9**
PET *e* 18 44 26.6
PET *e*S S 18 54 17.7 -0.1
PET pmax pmax
comp=Z,19nm,0.9s,mb5.0
PET pmax pmax
comp=Z,100nm,9.7s
PET pmax pmax
comp=Z,17nm,0.9s,mb5.0
PET smax
comp=N,300nm,11.2s
PET Petropavlovsk 79.88 344 *e*P **P 18 44 18.1 -1.1**
comp=N,7.8nm,0.6s,mb4.8
PET LR LR
comp=Z,1μm,19.0s,MS5.2
YSS Yuzh-Sakhalins 80.10 332 ⇓*i*P **P 18 44 20.9 +0.4**
YSS *e*S S 18 54 26.0 +5.8
YSS *e*PS PS 18 55 10.0 -1.2
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.2
YSS MLR MLR
comp=N,500nm,18.0s,MS5.0
YSS MLR MLR
comp=Z,500nm,18.0s,MS4.9
YSS MLR MLR
comp=E,500nm,19.0s,MS5.0
YSS Yuzh-Sakhalins 80.10 332 *e*P **P 18 44 20.8 +0.3**
comp=E,31nm,0.8s,mb5.3
QZH Quanzhou 80.52 303 ⇑*i*P **P 18 44 26.3 +3.1**
QZH S S 18 54 28.8 +3.7
QZH AMB AMB
comp=Z,770nm,7.9s
QZH LR LR
comp=N,1μm,16.8s,MS5.5
QZH LR LR
comp=E,2μm,18.9s,MS5.5
QZH LR LR
comp=Z,2μm,23.8s,MS5.3
OMM Old Mammoth Mi 80.67 42 *e*P **P 18 44 23.6 -0.1**
MTUM Tungsten Hills 80.77 42 *e*P **P 18 44 24.1 -0.2**
KS15 Wonju Array Si 81.21 317 *e*P **P 18 44 27.4 +0.8**
KS15 *e* pP 18 44 39.3 -0.3
YBH Yreka Blue Hor 81.22 37 P **P 18 44 26.7 +0.1**
comp=Z,8.1nm,0.8s,mb4.7,baz=250,slow=0.4,SNR=18
YBH LR LR 19 14 18.6
comp=Z,802nm,20.8s,MS5.1,baz=254,slow=31
NVAR Mina Array Bea 81.61 42 P **P 18 44 28.5 -0.1**
comp=Z,7.1nm,0.7s,mb4.7,baz=224,slow=8.3,SNR=35
NVAR Mina Array Bea 81.61 42 P **P 18 44 28.5 -0.1**
MNV Mina 81.70 42 *e*P **P 18 44 28.5 -0.6**
comp=Z,20nm,1.4s,mb4.9
SSE Sheshan 81.92 309 *e*P **P 18 44 28.6 -1.8**
SSE AP pP 18 44 38.4 -5.0
SSE XP sP 18 44 42.0 -6.2
SSE PP PP 18 47 35.1 -5.1
SSE S S 18 54 38.6 -0.8
SSE XS 18 54 55.4
SSE AMB AMB
comp=Z,15nm,0.8s,mb5.0
SSE AMB AMB
comp=Z,36nm,3.9s
SSE LR LR
comp=N,50nm,20.1s,MS4.5
SSE LR LR
comp=E,222nm,20.0s,MS4.5
SSE LR LR
comp=Z,333nm,20.5s,MS4.7
SSE Sheshan 81.92 309 *e*P **P 18 44 28.6 -1.8**
comp=Z,15nm,0.8s,mb5.0
SSE PcP PcP 18 44 34.2 -2.1
SSE pP pP 18 44 38.4 -5.0
SSE sP sP 18 44 42.0 -6.2
SSE PP PP 18 47 35.1 -5.1
SSE S S 18 54 38.6 -0.8
SSE sS 18 54 55.4
SSE SS SS 18 59 56.1 -5.6
SSE LR LR
comp=Z,330nm,20.5s,MS4.7
INCN Inchon 82.01 317 *e*P **P 18 44 31.1 +0.4**
comp=Z,47nm,1.0s,mb5.4
TPH Tonopah 82.05 42 *e*P **P 18 44 30.3 -0.6**
comp=Z,11nm,1.1s,mb4.7
TPH LR LR
comp=Z,778nm,20.0s,MS5.1
TUC Tucson 82.92 50 *e*P **P 18 44 35.2 -0.3**
comp=Z,5.8nm,0.6s,mb4.8
BMN Battle Mountai 83.52 41 *e*P **P 18 44 38.3 -0.1**
comp=Z,7.3nm,1.0s,mb4.8
BMN LR LR
comp=Z,977nm,19.0s,MS5.2
GZH Guangzhou 83.73 298 P **P 18 44 39.5 -0.4**
WVOR Wild Horse Val 83.96 38 *e*P **P 18 44 40.4 -0.2**
comp=Z,15nm,1.1s,mb5.0
SYO Syowa Base 84.08 192 ⇑P **P 18 44 42.0 +1.4**
SYO Syowa Base 84.08 192 ⇓PcP PcP 18 44 45.0 +0.2
NJ2 Nanjing 84.11 309 *e*P **P 18 44 46.4 +4.8**
NJ2 AMB AMB
comp=Z,70nm,1.1s,mb5.7
NJ2 AMB AMB
comp=Z,440nm,7.7s
NJ2 LR LR
comp=N,700nm,30.5s,MS5.1
NJ2 LR LR
comp=E,1μm,29.7s,MS5.1
NJ2 LR LR
comp=Z,910nm,39.0s
ARUT Antelope Range 84.25 44 *e*P **P 18 44 42.2 0.0**
WUAZ Wupatki 84.31 47 *e*P **P 18 44 42.8 +0.3**
comp=Z,13nm,0.9s,mb5.1
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.4
SNAA Sanae 84.61 178 ⇑*i*P **P 18 44 44.6 +1.5**
SNAA Sanae 84.61 178 ⇑*i* **P 18 44 47.4 +4.3**
SNAA Sanae 84.61 178 ⇑*i* **P 18 44 53.5 +10**
SNAA Sanae 84.61 178*d i*P **P 18 44 44.1 +1.0**
SNAA Sanae 84.61 178 P **P 18 44 44.3 +1.2**
comp=Z,18nm,1.0s,mb5.2,baz=191,slow=2.6,SNR=33
SNAA LR LR 19 20 09.7
comp=Z,656nm,18.3s,MS5.0,baz=26,slow=34
VNA3 Neumayer Olymp 84.64 175 ⇓*i*P **P 18 44 45.5 +2.2**
VNA3 Neumayer Olymp 84.64 175 ⇓*i* **P 18 44 48.0 +4.7**
QIZ Qiongzhong 84.71 293 P **P 18 44 46.4 +1.5**
QIZ AP pP 18 44 57.8 -0.2
QIZ S S 18 55 08.5 +0.8
QIZ AMB AMB
comp=Z,28nm,1.2s,mb5.3
QIZ AMB AMB
comp=Z,241nm,6.2s
QIZ LR LR
comp=E,353nm,18.1s
QIZ LR LR
comp=Z,506nm,18.9s,MS4.9
MDJ Mudanjiang 84.81 324 P **P 18 44 45.6 +0.8**
MDJ AP pP 18 44 57.6 -0.3
MDJ PP PP 18 48 04.8 +1.8
MDJ AMB AMB
comp=Z,17nm,1.0s,mb5.1
MDJ AMB AMB
comp=Z,387nm,7.0s
MDJ LR LR
comp=N,179nm,19.4s,MS4.6
MDJ LR LR
comp=E,164nm,19.4s,MS4.6
MDJ LR LR
comp=Z,394nm,20.5s,MS4.8
ELK Elko 84.90 41 *e*P **P 18 44 45.1 -0.3**
comp=Z,13nm,1.4s,mb4.9
ELK LR LR
comp=Z,927nm,19.0s,MS5.2
PLCA Paso Flores 85.00 132 P **P 18 44 47.2 +1.4**
comp=Z,17nm,0.8s,mb5.2,baz=230,slow=5.0,SNR=47
PLCA LR LR 19 15 40.9
comp=Z,348nm,20.1s,MS4.7,baz=241,slow=31
PLCA Paso Flores 85.00 132 *e*P **P 18 44 46.8 +0.9**
comp=Z,16nm,0.8s,mb5.2
PLCA *e*pP pP 18 45 00.6 +1.7
VNA2 Neumayer--Watz 85.11 176 ⇓*i*P **P 18 44 48.2 +2.5**
VNA2 Neumayer--Watz 85.11 176 ⇑*i* **P 18 44 51.3 +5.6**
VNA2 Neumayer--Watz 85.11 176 ⇑*i* **P 18 44 59.9 +14**
VNA1 Neumayer--Stat 85.32 176 ⇓*i*P **P 18 44 49.5 +2.8**
VNA1 Neumayer--Stat 85.32 176 **P 18 44 52.3 +5.6**
MVU Marysvale 85.46 44 *e*P **P 18 44 48.8 +0.7**
comp=Z,37nm,1.6s,mb5.3
MVU *e*pP pP 18 45 02.5 +1.2
MSU Marysvale 85.49 44 *e*P **P 18 44 49.1 +0.8**
MAT Maitri 85.54 182 *e*P **P 18 44 49.0 +1.2**
NVL N'lazarevskaya 85.54 182 ⇓*i*P **P 18 44 48.1 +0.3**
NVL *e*S S 18 55 20.2 +5.6
NVL pmax pmax
comp=Z,22nm,1.0s,mb5.3
BBB Bella Bella 86.07 27 LR LR 19 18 01.4
comp=Z,605nm,19.7s,MS5.0,baz=240,slow=32
SVW2 Sparrevohn 86.08 9 *e*P **P 18 44 50.0 -0.6**
SLKM Skilak Lake 86.43 12 *e*P **P 18 44 52.1 -0.3**
SLKM *e*pP pP 18 45 05.6 +0.1
MNTX Cornudas Mount 86.48 53 *e*P **P 18 44 53.2 -0.1**
MNTX LR LR
comp=Z,971nm,19.0s,MS5.2
SNY Shenyang 86.51 319 ⇑P **P 18 44 54.8 +1.6**
SNY SKS SKS 18 55 19.3 +6.0
SNY S S 18 55 37.8 +13
SNY AMB AMB
comp=Z,220nm,11.0s
SNY LR LR
comp=N,290nm,17.4s,MS4.8
SNY LR LR
comp=E,280nm,19.6s,MS4.8
SNY LR LR
comp=Z,430nm,17.4s,MS4.9
TMUT Trail Mountain 86.55 44 *e*P **P 18 44 54.0 +0.5**
LTX Lajitas 86.57 56 *e*P **P 18 44 53.8 -0.1**
comp=Z,295nm,2.3s,mb6.1
LTX *e*pP pP 18 45 07.0 +0.1
LTX LR LR
comp=Z,1μm,20.0s,MS5.3
TXAR Lajitas Array 86.57 56 P **P 18 44 53.7 -0.1**
comp=Z,8.1nm,0.8s,mb5.0,baz=207,slow=8.4,SNR=34
TXAR LR LR 19 16 35.4
comp=Z,890nm,20.0s,MS5.2,baz=190,slow=31
WHN Wuhan 86.61 305 *e*P **P 18 44 55.5 +1.5**
KLR Kul'dur 86.78 328 *e*P **P 18 44 52.0 -2.4**
KLR *e*S S 18 55 20.0 -7.1
KULM Kulim 86.94 277 *e*P **P 18 44 57.8 +1.8**
KULM *e*pP pP 18 45 11.4 +2.3
HLID Hailey 87.09 39 *e*P **P 18 44 55.8 -0.2**
comp=Z,3.2nm,1.0s,mb4.5
HLID LR LR
comp=Z,534nm,20.0s,MS5.0
ANMO Albuquerque 87.38 50*d i*P **P 18 44 57.6 0.0**
ANMO Albuquerque 87.38 50 P **P 18 44 57.6 0.0**
comp=Z,4.3nm,0.8s,mb4.7,baz=225,slow=4.8,SNR=14
ANMO LR LR 19 17 42.3
comp=Z,1μm,19.3s,MS5.4,slow=31
ANMO Albuquerque 87.38 50 *e*P **P 18 44 57.6 0.0**
ANMO LR LR
comp=Z,2μm,20.0s,MS5.5
TIA Tai'an 87.53 311 *e*P **P 18 44 59.5 +1.2**
TTA Tatalina 87.77 9 *e*P **P 18 44 59.1 +0.3**
DIV Divide 87.91 14 *e*P **P 18 44 58.9 -0.6**
comp=Z,45nm,1.0s,mb5.7
DIV LR LR
comp=Z,3μm,22.0s,MS5.6
SML Sawmill 87.99 12 *e*P **P 18 45 00.1 +0.3**
NEW Newport 88.50 34 P **P 18 45 03.8 +1.2**
comp=Z,2.3nm,0.5s,mb4.7,baz=215,slow=6.5,SNR=4.9
NEW LR LR 19 19 11.7
comp=Z,1μm,20.2s,MS5.2,baz=230,slow=32
REDW Red Top Meadow 89.08 41 *e*P **P 18 45 05.8 +0.3**
TPAW Teton Pass 89.09 41 *e*P **P 18 45 05.6 0.0**
comp=Z,20nm,1.4s,mb5.3
TNA Tin City 89.27 3 *e*P **P 18 45 05.5 -0.4**
comp=Z,5.7nm,0.8s,mb5.0
TNA LR LR
comp=Z,433nm,20.0s,MS4.9
MOOW Moose Ponds 89.36 41 *e*P **P 18 45 06.6 -0.2**
comp=Z,47nm,2.0s,mb5.5
LOHW Long Hollow 89.37 41 *e*P **P 18 45 06.8 -0.1**
comp=Z,16nm,1.5s,mb5.1
SDCO Great Sand Dun 89.48 48 *e*P **P 18 45 07.3 -0.2**
comp=Z,5.6nm,1.0s,mb4.8
SDCO LR LR
comp=Z,2μm,19.0s,MS5.5
PDAR Pinedale Array 89.53 42 P **P 18 45 07.0 -0.6**
comp=Z,2.7nm,0.7s,mb4.7,baz=225,slow=2.1,SNR=10
KKTK Khon Kaen 89.55 288 P **P 18 45 11.0 +2.7**
comp=Z,741nm,0.7s
QLMT Earthquake Lak 89.57 40 *e*P **P 18 45 08.9 +1.1**
MCK McKinley 89.64 11 *e*P **P 18 45 06.8 -0.9**
comp=Z,9.3nm,0.9s,mb5.1
MCK LR LR
comp=Z,629nm,22.0s,MS5.0
MENT Mentasta 89.96 14 *e*P **P 18 45 09.2 0.0**
THY Trims Highway 89.96 13 *e*P **P 18 45 09.1 -0.1**
DLBC Dease Lake 90.06 22 P **P 18 45 08.6 -1.1**
comp=Z,5.3nm,0.8s,mb4.9,baz=201,slow=7.6,SNR=6.1
DLBC Dease Lake 90.06 22 *e*P **P 18 45 09.6 -0.2**
JCT Junction City 90.07 57 *e*P **P 18 45 09.7 -0.8**
comp=Z,29nm,1.3s,mb5.4
JCT *e*pP pP 18 45 23.6 -0.1
BJT Baijiatuau 90.17 314 P **P 18 45 11.0 +0.3**
comp=Z,17nm,1.0s,mb5.3
BJI Beijing 90.18 314 P **P 18 45 11.9 +1.1**
BJI PP PP 18 48 46.5 -0.6
BJI SS SS 19 02 08.6 +6.3
BJI AMB AMB
comp=Z,17nm,1.0s,mb5.3
BJI AMB AMB
comp=Z,266nm,5.1s
BJI LR LR
comp=N,248nm,18.9s,MS4.9
BJI LR LR
comp=E,394nm,19.9s,MS4.9
BJI LR LR
comp=Z,504nm,28.5s
BJI Beijing 90.18 314 P **P 18 45 11.9 +1.1**
comp=Z,17nm,1.0s,mb5.3
BJI sP sP 18 45 28.1 -0.4
BJI PP PP 18 48 46.5 -0.6
BJI S 18 55 36.8
BJI PS PS 18 57 20.2 +6.1
BJI SS SS 19 02 08.6 +6.3
BJI LR LR
comp=Z,500nm,28.5s,MS4.8
SEY Seymchan 90.24 346 *e*P **P 18 45 11.8 +1.3**
SEY *e* 18 55 39.2
SEY *e*S S 18 56 05.7 +6.9
SEY *e*SS SS 19 02 08.6 +6.0
SEY *e*SSS SSS 19 05 34.8 -3.5
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.6
SEY pmax pmax
comp=N,20nm,1.1s
SEY smax
comp=N,940nm,18.5s
SEY smax
comp=E,750nm,23.4s
SEY MLR MLR
comp=Z,990nm,20.0s,MS5.2
SEY MLR MLR
comp=N,1μm,22.0s,MS5.4
SEY MLR MLR
comp=E,600nm,18.0s,MS5.4
ISCO Idaho Springs 90.46 46 *e*P **P 18 45 12.6 +0.4**
comp=E,14nm,1.6s,mb5.0
ISCO LR LR
comp=Z,1μm,21.0s,MS5.3
GYA Guiyang 90.67 299 P **P 18 45 15.3 +1.9**
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.5
GYA AMB AMB
comp=Z,350nm,8.1s
GYA LR LR
comp=N,870nm,17.4s,MS5.4
GYA LR LR
comp=E,760nm,18.0s,MS5.4
GYA LR LR
comp=Z,690nm,18.2s,MS5.1
NNT Nongplab 90.73 283 P **P 18 45 16.0 +2.1**
COLA College 90.88 11*d i*P **P 18 45 12.6 -0.9**
COLA College 90.88 11 *e*P **P 18 45 13.0 -0.5**
CFAA Coronel Fontan 90.93 125 P **P 18 45 14.6 0.0**
comp=Z,1.6nm,0.8s,mb4.4,baz=261,slow=3.8,SNR=23
CFAA LR LR 19 17 50.3
comp=Z,117nm,19.7s,MS4.3,baz=223,slow=30
ILAR Eielson Array 90.97 12 P **P 18 45 13.0 -0.9**
comp=Z,6.9nm,0.8s,mb5.0,baz=219,slow=5.4,SNR=40
ILAR PP PP 18 48 43.2 -10
comp=Z,1.1nm,0.9s,baz=208,slow=6.7,SNR=4.3
ILAR PKiKP 18 50 07.0
comp=Z,0.6nm,0.9s,baz=194,slow=3.7,SNR=4.0
IMA Indian Mountai 91.08 9 *e*P **P 18 45 14.1 -0.3**
NST Nakhon Sawan 91.63 286 P **P 18 45 21.4 +3.3**
DAWY Dawson 91.92 15 *e*P **P 18 45 18.4 +0.1**
DAWY *e*pP pP 18 45 31.6 0.0
TRQA Tornquist 92.09 133 *e*P **P 18 45 20.4 +0.7**
comp=Z,8.2nm,0.9s,mb5.1
TRQA LR LR
comp=Z,1μm,20.0s,MS5.4
XAN Xi'an 92.32 306 P **P 18 45 22.4 +1.5**
XAN AMB AMB
comp=Z,21nm,0.7s,mb5.6
NANT Nan 92.41 289 ⇑P **P 18 45 24.0 +2.4**
comp=Z,262nm,0.6s
BILL Bilibino 92.63 353 ⇓*i*P **P 18 45 21.2 -0.3**
BILL *i* 18 45 24.5
BILL *i* 18 45 28.5
BILL pmax pmax

comp=Z,6.0nm,1.1s,mb4.9
BILL MLR MLR
comp=Z,800nm,20.0s,MS5.2
BILL Biiibino 92.63 353 *e*P **P** **18 45 20.4 -1.1**
comp=Z,6.0nm,0.8s,mb5.1
BILL LR LR
comp=Z,874nm,21.0s,MS5.2
WMOK Wichita Mounta 92.78 53 *e*P **P** **18 45 22.1 -0.9**
comp=Z,4.2nm,0.7s,mb5.0
WMOK LR LR
comp=Z,810nm,20.0s,MS5.2
KMI Kunming 93.29 296 P **P** **18 45 27.5 +2.0**
KMI AMB AMB
comp=Z,21nm,1.0s,mb5.5
KMI AMB AMB
comp=Z,214nm,4.9s
KMI LR LR
comp=N,149nm,16.8s,MS4.9
KMI LR LR
comp=E,353nm,18.2s,MS4.9
KMI LR LR
comp=Z,494nm,30.8s
KMI Kunming 93.29 296 P **P** **18 45 27.5 +2.0**
comp=Z,21nm,1.0s,mb5.5
KMI pP pP 18 45 40.1 +1.3
KMI sP sP 18 45 45.2 +2.0
KMI PP PP 18 49 14.0 +1.7
KMI SKS SKS 18 55 56.6 +2.2
KMI S S 18 56 25.9 -0.7
KMI sS SS 18 56 51.0
KMI PS PS 18 57 49.0 -1.5
KMI SS SS 19 02 45.1 -2.1
KMI LR LR
comp=Z,490nm,30.8s,MS4.8
EDM Edmonton 93.42 32 *e*P **P** **18 45 24.2 -1.2**
HHC Hu-ho-hao-te 93.63 313 *e*P **P** **18 45 30.9 +4.2**
HHC SKS SKS 18 56 01.5 +5.6
HHC S S 18 56 38.8 +10
HHC AMB AMB
comp=Z,11nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,210nm,6.4s
HHC LR LR
comp=N,121nm,20.4s,MS4.7
HHC LR LR
comp=E,272nm,22.9s,MS4.7
HHC LR LR
comp=Z,511nm,20.7s,MS5.0
CM31 Chiang Mai Arr 93.80 288 *e*P **P** **18 45 30.0 +2.1**
comp=Z,24nm,0.8s,mb5.7
CMAR Chiang Mai Arr 93.80 288 *i* P **P** **18 45 30.4 +2.5**
CMAR pmax pmax
comp=Z,24nm,0.9s
CMAR Chiang Mai Arr 93.80 288 P **P** **18 45 30.0 +2.1**
comp=Z,24nm,0.9s,mb5.6,baz=131,slow=3.1,SNR=91
CMAR PKKPbc 19 02 32.4
comp=Z,0.7nm,0.7s,baz=286,slow=2.6,SNR=8.1
CMAR LR LR 19 28 20.1
comp=Z,259nm,18.9s,MS4.7,baz=110,slow=36
CHG Chiang Mai 93.94 289 ⇓P **P** **18 45 30.3 +1.8**
comp=Z,24nm,0.8s,mb5.7
JTS JuntasAbangare 94.16 81 ⇑*i*P **P** **18 45 30.1 +0.5**
JTS JuntasAbangare 94.16 81 LR LR 19 16 27.1
comp=Z,240nm,19.8s,MS4.7,baz=255,slow=28
JTS JuntasAbangare 94.16 81 *e*P **P** **18 45 30.1 +0.5**
comp=Z,15nm,1.0s,mb5.4
LVC Limon Verde 94.67 117 P **P** **18 45 34.1 +2.3**
comp=Z,11nm,0.9s,mb5.3,baz=263,slow=5.6,SNR=11
LVC LR LR 19 19 09.7
comp=Z,771nm,19.2s,MS5.2,baz=235,slow=30
LVC Limon Verde 94.67 117 *e*P **P** **18 45 34.1 +2.3**
comp=Z,12nm,0.9s,mb5.3
LVC LR LR
comp=Z,834nm,21.0s,MS5.2
YAK Yakutsk 96.22 337 ⇑*i*P **P** **18 45 36.8 -1.1**
YAK pmax pmax
comp=Z,11nm,0.8s,mb5.3
YAK Yakutsk 96.22 337 *e*P **P** **18 45 36.8 -1.1**
comp=Z,9.7nm,0.8s,mb5.3
YAK LR LR
comp=Z,306nm,19.0s,MS4.8
LPAZ La Paz 98.26 112 P **P** **18 45 49.4 +1.1**
comp=Z,2.0nm,0.7s,mb4.8,baz=225,slow=4.6,SNR=10
LPAZ LR LR 19 22 49.7
comp=Z,516nm,18.3s,MS5.1,baz=167,slow=31
LPAZ La Paz 98.26 112 *e*P **P** **18 45 48.7 +0.5**
comp=Z,2.5nm,0.8s,mb4.8
LPAZ LR LR
comp=Z,648nm,20.0s,MS5.1
YKA Yellowknife Ar 98.39 24 P **P** **18 45 46.7 -1.0**
comp=Z,1.0nm,0.8s,mb4.4,baz=238,slow=4.2,SNR=16
YKA PP PP 18 49 38.9 -12
comp=Z,0.1nm,0.4s,baz=236,slow=6.7,SNR=3.3
YKA PKiKP 18 50 19.5
comp=Z,0.4nm,0.6s,baz=251,slow=1.0,SNR=8.0
YKA PKKPbc 19 02 18.6
comp=Z,1.6nm,0.8s,baz=41,slow=2.7,SNR=20
YKA Yellowknife Ar 98.39 24 P **P** **18 45 46.7 -1.0**
YKA PP PP 18 49 38.9 -12
ULN Ulaanbaatar 99.67 318 *e*P **P** **18 45 50.9 -3.0**
ULN Ulaanbaatar 99.67 318 Pdif **P** **18 45 53.7 -0.2**
comp=Z,4.2nm,0.8s,mb4.9
SONM Songino Array 100.06 318 P P 18 45 56.9 +1.2
comp=Z,1.0nm,0.7s,baz=129,slow=3.1,SNR=8.0
SONM PP PP 18 49 51.8 -12
comp=Z,0.7nm,0.9s,baz=127,slow=7.2,SNR=2.7
SONM PKKPbc 19 02 13.4
comp=Z,0.7nm,0.9s,baz=315,slow=1.7,SNR=4.7
SONM PKKPab 19 02 40.7
comp=Z,1.0nm,0.9s,baz=290,slow=3.8,SNR=5.4
GTA Gaotai 101.19 308 *e*P P 18 46 02.3 +1.3
GTA AMB AMB
comp=Z,1.0nm,0.6s
GTA AMB AMB
comp=Z,90nm,5.3s
GTA LR LR
comp=N,212nm,18.7s,MS4.9
GTA LR LR
comp=E,271nm,18.3s,MS4.9
GTA LR LR
comp=Z,410nm,19.1s,MS5.0
ZAK Zakamensk 102.94 319 *e*P Pdif 18 46 11.8 +3.3
ZAK pmax pmax
comp=Z,1.0nm,1.2s
TLY Talaya 103.20 321 *e*P Pdif 18 46 11.5 +1.9
TLY *e* 18 56 42.4
TLY *e*S S 18 57 50.4 +0.9
TLY *e*PS PS 18 59 40.0 +5.3
TLY *e*SS SS 19 05 10.9 +5.8
TLY pmax pmax
comp=Z,6.0nm,2.4s
ZAL Zalesovo 114.81 320 *i* PKIKP PKPdf 18 50 50.1 +0.7
ZAL pmax pmax
comp=Z,2.0nm,0.6s
ZAL Zalesovo 114.81 320 PKP PKPdf 18 50 50.1 +0.7
comp=Z,1.6nm,0.6s,baz=165,slow=1.4,SNR=5.0
SCHQ Schefferville 119.54 39 PKP PKPdf 18 50 59.7 +1.2
comp=Z,4.0nm,0.8s,baz=39,slow=2.7,SNR=4.1
SCHQ Schefferville 119.54 39 PKP PKPdf 18 50 59.7 +1.2
AAK Ala-Archa 120.50 307 ⇑*i*PKIKP PKPdf 18 51 01.1 +0.4
AAK MLR MLR
comp=Z,400nm,18.0s,MS5.1
AAK Ala-Archa 120.50 307 *e*PKPdf PKPdf 18 51 00.7 -0.1
SUR Sutherland 122.10 196 PKP PKPdf 18 51 07.0 +3.0
comp=Z,20nm,0.7s,baz=210,slow=2.1,SNR=6.6
SUR Sutherland 122.10 196 *e*PKPdf PKPdf 18 51 06.9 +2.8
BOSA Boshof 124.32 202 PKP PKPdf 18 51 11.5 +3.0
comp=Z,13nm,0.9s,baz=173,slow=2.9,SNR=14
BOSA Boshof 124.32 202 *e*PKPdf PKPdf 18 51 11.1 +2.7
SFJD Kangerlussuaq 124.94 23 *i* PKIKP PKPdf 18 51 08.9 +0.3
SFJD pmax pmax
comp=Z,11nm,0.7s
SFJD Kangerlussuaq 124.94 23 *i* P PKPdf 18 51 08.9 +0.3
comp=Z,11nm,0.7s
SUMG Summit 125.69 15 *e*PKPdf PKPdf 18 51 10.7 +0.7
LBTB Lobatse 127.49 204 *e*PKPdf PKPdf 18 51 17.4 +2.7
SVE Sverdlovsk 128.28 325 ⇑*e*PKIKP PKPdf 18 51 16.5 +1.2
SVE pmax pmax
comp=Z,40nm,2.0s
SVE MLR MLR
comp=N,400nm,17.0s,MS5.3
SVE MLR MLR
comp=E,400nm,17.0s,MS5.3
SVE MLR MLR
comp=Z,500nm,17.0s,MS5.3
ARU Arti 129.49 325 *i* PKIKP PKPdf 18 51 19.2 +1.6
ARU *e* 18 53 29.9
ARU *e*SS SS 19 10 56.0 +7.9
ARU Arti 129.49 325 *e*PKPdf PKPdf 18 51 18.9 +1.2
KEV Kevo 132.23 350 *e*pkp PKPdf 18 51 22.2 -0.3
ARCES ARCESS Array B 132.66 350 PKP PKPdf 18 51 24.1 +0.8
comp=Z,11nm,0.7s,baz=19,slow=1.7,SNR=22
ARE0 ARCESS Array S 132.66 350 *e*PKPdf PKPdf 18 51 24.1 +0.8
LSZ Lusaka 135.00 213 *e*PKPdf PKPdf 18 51 31.8 +2.7
TSUM Tsumeb 135.50 197 PKP PKPdf 18 51 30.9 +1.0
comp=Z,1.9nm,0.4s,baz=148,slow=3.0,SNR=7.1
TSUM PP PP 18 54 08.2 -2.9
comp=Z,7.8nm,1.0s,baz=163,slow=14,SNR=4.3
TSUM Tsumeb 135.50 197 PKP PKPdf 18 51 30.9 +1.0
TSUM PP PP 18 54 08.2 -2.9
JOF Joensuu 137.12 343 *e*pkp PKPdf 18 51 23.9 -7.8
KAF Kangasniemi 139.08 345 *e*pkp PKPdf 18 51 26.9 -8.4
FINES FINESS Array B 139.71 344 *i* PKHKP 18 51 30.7
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 139.71 344 PKhKP 18 51 27.8
comp=Z,1.5nm,0.7s,baz=27,slow=4.3,SNR=7.6
FINES PKP PKPdf 18 51 36.6 +0.2
comp=Z,5.5nm,0.7s,baz=63,slow=4.3,SNR=15
KMBO Kilima Mbogo 140.02 236 *i* PKHKP 18 51 33.4
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 140.02 236 PKhKP 18 51 34.3
comp=Z,4.0nm,0.8s,baz=67,slow=4.6,SNR=18
OBN Obninsk 140.98 331 *e*PKIKP PKPdf 18 51 38.3 -0.6
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.9
NB2 NORSAR Subarra 142.56 355 PKPabc PKPdf 18 51 38.0 -3.4
comp=Z,4.2nm,0.9s,baz=17,slow=2.6
NOA NORSAR Array B 142.56 355 PKhKP 18 51 36.5
comp=Z,2.8nm,0.7s,baz=3.9,slow=2.2,SNR=15
GOF Gofitskoye 142.60 314 ⇑*i*PKIKP PKPdf 18 51 41.5 -0.5
GOF pmax pmax
comp=Z,40nm,1.7s
ZEI Tsey 142.79 310 *i* P Pdif 18 49 09.8 +5.8
ZEI *e* 18 51 43.3
ZEI *i* 18 54 52.1
GNI Garni 142.89 306 ⇑*i*PKIKP PKPdf 18 51 44.0 +1.4
GNI MLR MLR
comp=Z,200nm,21.0s
ONI Oni 143.16 310 P PKPbc 18 51 42.4 +1.3
KIV Kislovodsk 143.23 312 *de*PKIKP PKPdf 18 51 43.7 +0.6
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 143.23 312 *e*PKPdf PKPdf 18 51 43.7 +0.6
BHD Baghdad 144.30 294 *e*PKP PKPdf 18 51 39.0 -6.3
BCA Borcka 144.81 309 *e*P PKPdf 18 51 47.4 +1.5
MNK Minsk 144.93 337 ⇓*e*PKIKP PKPdf 18 51 45.0 -0.7
MSL Mosul 144.96 300 *e*PKP PKPdf 18 51 50.5 +4.1
MBAR Mbarara 145.13 229 *d i*PKIKP PKPdf 18 51 49.1 +1.8
MBAR Mbarara 145.13 229 *e*PKPdf PKPdf 18 51 49.1 +1.8
SOC Sochi 145.36 313 *d*KP2 PKPab 18 51 47.8 -1.1
SOC *e*SS SS 19 13 55.4 -0.3
SOC *e*SSS SSS 19 19 22.1 -2.7
SOC pmax pmax
comp=N,8.0nm,0.7s
SOC pmax pmax
comp=E,4.0nm,0.7s
SOC pmax pmax
comp=Z,42nm,0.7s
EZM Erzurum 145.46 306 P PKPdf 18 51 50.4 +3.3
BTMT Batman 145.82 303 P PKPdf 18 51 51.1 +3.3
ANN Anapa 146.32 316 *i* PKP2 PKPab 18 51 50.5 -2.1
ANN pmax pmax
comp=Z,76nm,0.7s
BINT Bingol 146.40 305 P PKPdf 18 51 53.5 +4.7
GUMT Gumushane 146.66 308 P PKPdf 18 51 53.7 +4.6
SUW Suwalki 146.90 340 *e*PKP PKPdf 18 51 52.4 +3.3
PTK Pertek 147.22 305 P PKPdf 18 51 55.7 +5.7
AKASG Malin Array Be 147.24 331 PKPbc PKPdf 18 51 52.4 +2.7
comp=Z,57nm,0.7s,baz=40,slow=3.9,SNR=310
MUD Monsted U'grnd 147.26 356 *e*PKP2 PKPab 18 51 53.4 -2.5
MUD pmax pmax
comp=Z,18nm,0.5s
MUD MLR MLR
comp=Z,470nm,20.0s,MS5.3
MUD Monsted U'grnd 147.26 356 *e*P PKPdf 18 51 53.4 +3.8
MUD *i* 19 05 29.1
MUD Monsted U'grnd 147.26 356 *i* P PKPdf 18 51 53.4 +3.8
comp=Z,18nm,0.5s
MUD *i* 19 05 29.1
comp=Z,470nm,20.0s
COP Copenhagen 147.71 352 *e*PKP2 PKPab 18 51 56.6 -1.0
COP pmax pmax
comp=Z,36nm,0.9s
COP Copenhagen 147.71 352 *i* P PKPdf 18 51 56.6 +6.3
comp=Z,36nm,0.9s
GCL Cushendall 147.72 12 *e*P PKPdf 18 51 56.0 +5.7
ESK Eskdalemuir 147.97 9 *e*PKPbc PKPdf 18 51 55.0 +4.3
URFA Urfa 148.05 303 *e*P PKPdf 18 51 56.6 +5.1
MALT Malatya 148.11 305 ⇑PKP2 PKPab 18 51 58.1 -1.7
MALT Malatya 148.11 305 P PKPdf 18 51 50.5 -1.1
MALT *e*PKPbc PKPdf 18 51 56.9 +5.4
GAL1 Galloway 148.17 11 *e*P PKPdf 18 51 55.8 +4.7
SIM Simferopol' 148.30 319 ⇓*e*PKP2 PKPab 18 51 57.3 -3.0
SIM *e* 18 55 35.0
SIM pmax pmax
comp=Z,200nm,11.0s
SIM pmax pmax
comp=Z,38nm,0.7s
SIM pmax pmax
comp=Z,100nm,10.0s
GMM Mts of Mourne 148.54 12 *e*P PKPdf 18 51 56.9 +5.2
DMUB Kingscourt 148.67 14 *e*P PKPdf 18 51 56.0 +4.1
WIM Isle of Man 148.87 11 *e*P PKPdf 18 51 57.6 +5.3
WIM AMb AMB 18 52 01.2
comp=Z,129nm,2.0s
WAR Warsaw 149.09 341 *e*PKP PKPdf 18 52 00.4 +7.8
DCN Croghan 149.10 14 *e*P PKPdf 18 51 56.9 +4.3
GKP Gorka Klasztor 149.17 346 *e*PKP PKPdf 18 51 58.9 +6.2
DLF Lyons Farm 149.31 14 *e*P PKPdf 18 51 57.1 +4.1
GAZ Gaziantep 149.36 303 *e*P PKPdf 18 52 00.7 +7.1
WCB1 Church Bay 149.62 11 ⇓*e*P PKPdf 18 51 58.9 +5.4
WCB1 AMb AMB 18 51 59.4
comp=Z,48nm,0.8s
BSEG Bad Segeberg 149.67 354 *e*PKP2 PKPab 18 52 00.2 -5.5
WLF1 Llynfaes 149.74 11 *e*P PKPdf 18 51 59.4 +5.7
WPM1 Penmaenmawr 149.85 11 *e*P PKPdf 18 51 59.7 +5.9
KIS Kishinev 150.02 326 *e*PKIKP PKPdf 18 51 55.0 +0.7
KIS *e* 18 51 59.0
KIS *e* 18 52 08.0
KIS *e* 18 55 32.0
KIS MLR MLR
comp=N,400nm,20.0s
KIS MLR MLR
comp=Z,400nm,20.0s,MS5.2
KIS MLR MLR
comp=Z,400nm,20.0s
LVV L'vov 150.08 335 *i* PKHKP 18 52 00.4
LVV *i* 18 52 04.5
LVV MLR MLR
comp=Z,270nm,19.0s,MS5.1
LVV MLR MLR
comp=N,160nm,18.0s,MS4.9
LVV MLR MLR
comp=E,70nm,17.0s,MS4.9
CORM Corum 150.21 310 P PKPdf 18 52 02.7 +7.8
SBD1 Bryn Du 150.30 10 ⇓*e*P PKPdf 18 52 01.0 +6.5
SBD1 AMb AMB 18 52 05.3
comp=Z,117nm,2.4s
CEYT Ceyhan 150.53 304 *e*P PKPdf 18 52 03.0 +7.6
RUE Ruedersdorf 150.61 349 *e*PKPbc PKPdf 18 52 02.0 +7.0
ASF Jabal al Asfar 150.69 294 PKPbc PKPdf 18 52 03.6 +7.8
comp=Z,19nm,0.8s,baz=338,slow=2.0,SNR=28
CANT Cankiri 150.73 312 *e*P PKPdf 18 52 03.8 +8.2
HLM1 Long Mynd 150.73 10 *e*P PKPdf 18 52 01.8 +6.5
HLM1 AMb AMB 18 52 06.4
comp=Z,121nm,1.0s
KWP Kalwaria 150.73 336 *e*PKP PKPdf 18 52 02.9 +7.6
SSP1 Stoney Pound 150.79 10 ⇓*e*P PKPdf 18 52 01.9 +6.6
SSP1 AMb AMB 18 52 06.5
comp=Z,89nm,1.0s
SAFT Safranbolu 151.07 314 P PKPdf 18 52 04.2 +8.1
BRTR Keskin Array B 151.09 310 PKP PKPdf 18 51 57.7 +1.5
comp=Z,0.8nm,0.8s,baz=45,slow=2.0,SNR=4.4
BRTR PKPbc PKPdf 18 52 03.5 +7.3
comp=Z,13nm,0.7s,baz=140,slow=3.7,SNR=61
HTR Trewern Hill 151.09 11 *e*P PKPdf 18 52 02.0 +6.3
HTR AMb AMB 18 52 09.2
comp=Z,80nm,1.6s
KAMT Kaman 151.19 309 P PKPdf 18 52 04.0 +7.7
TLCR 151.21 324 ⇓P PKPdf 18 52 03.8 +7.7
MCH1 Michaelchurch 151.22 10 ⇓*e*P PKPdf 18 52 02.3 +6.4
MCH1 AMb AMB 18 52 03.7
comp=Z,77nm,0.8s
OJC Ojcow 151.23 340 *e*PKP PKPdf 18 52 03.9 +7.9
HAE Alders End 151.25 10 ⇓*e*P PKPdf 18 52 02.5 +6.5
HAE AMb AMB 18 52 06.5
comp=Z,89nm,1.9s
BURAR Bucovina Array 151.30 331 ⇑P PKPdf 18 52 04.9 +8.7
KOLS Kolonicke sedl 151.47 336 *e*PKP PKPdf 18 51 59.4 +3.0
KOLS *e* 18 52 05.4
KOLS *e* 18 52 13.4
KOLS *e* 18 52 24.7
CFR Carcaliu 151.58 324 ⇑P PKPdf 18 52 05.0 +8.3
HGH Gray Hill 151.60 10 ⇓*e*P PKPdf 18 52 03.1 +6.6
HGH AMb AMB 18 52 10.4
comp=Z,98nm,1.2s
ANTO Ankara 151.62 311 *e*P PKPdf 18 52 04.8 +7.9
ANTO Ankara 151.62 311 ⇓PKIKP PKPdf 18 52 05.3 +8.4
LOD Lodumlu 151.63 311 *e*P PKPdf 18 52 05.3 +8.3
KSP Ksiaz 151.64 345 *i* PKIKP PKPdf 18 52 05.0 +8.4
KSP *e* 18 52 08.1
KSP Ksiaz 151.64 345 *e*PKP PKPdf 18 51 58.1 +1.5
KSP *e*PKPdf PKPdf 18 52 05.0 +8.4
KSP *e* 18 52 08.1
KSP Ksiaz 151.64 345 *e*PKP PKPdf 18 52 05.3 +8.7
CLZ Clausthal 151.72 353 *e*PKPbc PKPdf 18 52 05.2 +8.5
NIE Niedzica 151.76 339 *e*PKP PKPdf 18 52 05.0 +8.2
CRVS Cervenica-Dubn 151.79 337 *e*PKIKP PKPdf 18 52 06.2 +9.3
CRVS Cervenica-Dubn 151.79 337 *e* PKPdf 18 52 06.2 +9.3
VRI Vrincioaia 151.84 327 ⇓P PKPdf 18 52 05.5 +8.4
WTSB Winterswijk 151.87 358 *e*PKP PKPdf 18 52 05.0 +8.1
comp=Z,72nm,0.7s
CLL Collm 151.87 349 *e*PKIKP PKPdf 18 51 59.0 +2.1
CLL *i* 18 52 05.3
CLL MLR MLR
comp=Z,500nm,21.3s,MS5.3
CLL Collm 151.87 349 *e*PKP PKPdf 18 51 59.0 +2.1
CLL *i* PKP PKPdf 18 52 05.3 +8.4
CLL *i* 18 52 08.3
CLL LR LR
comp=Z,500nm,21.3s,MS5.3
CLL Collm 151.87 349 *e*PKIKP PKPdf 18 51 59.0 +2.1
CLL *i* PKP1 PKPdf 18 52 05.3 +8.4
CLL *i* *PPKP 18 52 08.3
CLL *e*PKP2 PKPab 18 52 16.0 +1.0
CLL *e* 18 52 25.0
CLL *e* 18 52 44.0
TIRR Tirgusor 151.89 323 ⇑P PKPdf 18 52 05.7 +8.5
BRD Bordesti 151.91 326 ⇑P PKPdf 18 52 07.3 +10
HARR Harsova 152.01 324 ⇑P PKPdf 18 52 06.1 +8.7
UPC Upice 152.02 345 *e*PKPbc PKPdf 18 52 05.7 +8.5
UPC *e*pPKP 18 52 18.4
OKC Ostrava-Krasne 152.06 342 *e*PKP PKPdf 18 52 05.7 +8.4
OKC Ostrava-Krasne 152.06 342 *e*PKPbc PKPdf 18 52 05.7 +8.4
OKC AMS AMS 20 07 50.0
comp=Z,400nm,19.7s
DPC Dobruska-Polom 152.09 344 *e*PKPdf PKPdf 18 51 59.2 +1.9
DPC *e*PKPbc PKPdf 18 52 06.3 +9.0
DPC AMS AMS 20 05 10.0
comp=Z,300nm,17.4s
BRG Berggiesshubel 152.12 348 *e*PKIKP PKPdf 18 51 59.5 +2.2
BRG *i* 18 52 05.9
BRG *i* 18 52 09.7
BRG pmax pmax
comp=Z,42nm,0.7s
BRG Berggiesshubel 152.12 348 *e*PKP PKPdf 18 51 59.5 +2.2
BRG *i* 18 52 05.9
BRG *i* 18 52 09.7
BRG *i* 18 52 20.1
BRG *e* 18 54 55.0
MORC Moravsky Berou 152.29 342 ⇓PKIKP PKPdf 18 52 06.2 +8.6
MORC Moravsky Berou 152.29 342 *e*PKPdf PKPdf 18 51 59.2 +1.6
MORC *e*PKPbc PKPdf 18 52 06.2 +8.6
PVCC Panska Ves 152.32 347 *e*PKPbc PKPdf 18 52 06.3 +8.7
PVCC AMS AMS 20 09 00.0
comp=Z,600nm,18.6s
MDU Mudurnu 152.42 313 P PKPdf 18 52 07.2 +9.1
KECS Kecovo 152.50 337 *e*PKP PKPdf 18 52 04.5 +6.6
KECS *e* 18 52 10.2
MLR Muntele Rosu 152.50 327 ⇑P PKPdf 18 52 04.0 +6.0
EIL Elat 152.65 289 *e*PKPbc PKPdf 18 52 07.2 +8.4
KIZT Kizilcal 152.69 310 P PKPdf 18 52 07.4 +8.9
MOX Moxa 152.74 351 *e*PKIKP PKPdf 18 52 07.2 +9.0
MOX Moxa 152.74 351 *i* P PKPdf 18 52 07.1 +8.9
comp=Z,logA/T=1.2
PRU Pruhonice 152.84 346 *e*PKP PKPdf 18 52 00.8 +2.4
PRU *e* 18 52 06.9
PRU LR LR
comp=Z,500nm,17.6s,MS5.4
PRU Pruhonice 152.84 346 *e*PKPdf PKPdf 18 52 00.8 +2.4
PRU *e*PKPbc PKPdf 18 52 06.9 +8.5
PRU AMS AMS 20 07 10.0
comp=Z,500nm,17.6s
VRAC Vranov 152.97 343 ⇑P PKPab 18 52 19.0 -0.7
VOIR 152.98 328 ⇓P PKPdf 18 52 15.7 +17
NKC Novy Kostel 153.00 349 AMS AMS 20 10 30.0
comp=Z,400nm,19.4s
VYHS Vyhne 153.04 339 *e*PKP PKPdf 18 52 00.5 +1.8
VYHS *e* 18 52 08.3
VYHS *e* 18 52 17.5
HGN Heimansgroeve 153.10 359 *e*PKP PKPdf 18 52 07.7 +9.0
comp=Z,24nm,1.0s
ESKT Eskisehir 153.11 312 *e*P PKPdf 18 52 08.2 +9.1
PSZ Piszkesteto 153.19 337 *e*PKPdf PKPdf 18 52 00.6 +1.7
PSZ *e*pPKPdf 18 52 14.4
PSZ Piszkesteto 153.19 337 *e*PKP/p PKPdf 18 52 14.5 +16
SMOL Smolenice 153.46 341 *e*PKP PKPdf 18 52 09.6 +10
SMOL *e* 18 52 20.0
TNS Taunus Mts 153.51 355 *e*PKIKP PKPdf 18 52 09.0 +10
GRA1 Grafenberg Arr 153.72 351 *e*PKPdf PKPdf 18 52 01.8 +2.2
GRA1 *e*PKPbc PKPdf 18 52 09.8 +10
GRA1 LR LR
comp=Z,600nm,19.2s,MS5.4
GRF Grafenberg Arr 153.72 351 *e*PKP PKPdf 18 52 01.8 +2.2
GRF *e*PKP PKPdf 18 52 09.8 +10
GRF LR LR
comp=Z,600nm,19.2s,MS5.4
GIVF Givet 153.77 0 *e*PKIKP PKPdf 18 52 08.8 +9.2
comp=Z,38nm,0.7s
BAIF Baives 153.81 1 *e*PKIKP PKPdf 18 52 08.9 +9.2
comp=Z,32nm,0.9s
ZST Bratislava 153.84 341 *e*PKP PKPdf 18 52 01.6 +1.8
ZST *e* 18 52 21.4
KHC Kasperske Hory 153.85 347 *e*PKP PKPdf 18 52 01.5 +1.7
KHC *e* 18 52 09.6
KHC LR LR
comp=Z,400nm,18.7s,MS5.3
KHC Kasperske Hory 153.85 347 *e*PKPdf PKPdf 18 52 01.5 +1.7
KHC *e*PKPbc PKPdf 18 52 09.6 +10
KHC AMS AMS 20 07 00.0
comp=Z,400nm,18.7s
GEC2 GERESS Array S 154.10 347 *e*PKIKP PKPdf 18 52 10.3 +10
GERES GERESS Array B 154.10 347 PKP PKPdf 18 52 01.7 +1.6
comp=Z,2.2nm,0.8s,slow=1.3,SNR=10
WLF Walferdange 154.19 358 *e*PKPbc PKPdf 18 52 10.5 +10
EDRB Edirne 154.48 320 *e*P PKPab 18 52 26.2 0.0
ROSF Rostrenen 154.68 13 *e*PKIKP PKPdf 18 52 10.8 +10
comp=Z,23nm,0.8s
FLN La Foliniere 154.74 8 *e*PKIKP PKPdf 18 52 10.5 +10
comp=Z,32nm,0.7s
FLN *e*R
comp=Z,644nm,20.0s
SGMF Saint Gilles 154.90 12 *e*PKIKP PKPdf 18 52 10.6 +9.4
comp=Z,39nm,0.9s
LDF La Druitiere 154.96 8 *e*PKIKP PKPdf 18 52 10.9 +10
comp=Z,34nm,0.9s
ELL Elmali 154.99 307 *e*P PKPdf 18 52 02.9 +1.2
GRR Gorron 155.06 9 *e*PKIKP PKPdf 18 52 11.3 +10
comp=Z,34nm,0.7s
PKSM Moragy 155.09 337 ⇑PKIKP PKPdf 18 52 02.6 +1.1
QUIF Quistinic 155.10 13 *e*PKIKP PKPdf 18 52 11.0 +10
comp=Z,32nm,1.0s
CDF Champ du Feu 155.40 356 *e*PKIKP PKPdf 18 52 12.3 +10
comp=Z,16nm,1.0s
BFO Black Forest 155.40 355 *e*PKPdf PKPdf 18 52 05.0 +3.1
BFO *e*PKPbc PKPdf 18 52 13.1 +11
HAU Haudompre 155.85 358 *e*PKIKP PKPdf 18 52 13.1 +11
comp=Z,12nm,0.8s
HAU *e*R

comp=Z,348nm,21.5s
KBA **Koelnbreinsper 155.85 346**⇑iP PKPdf 18 52 02.1 -0.4
WTTA **Wattenberg 156.01 349**⇑iP PKPdf 18 52 04.6 +1.9
SQTA **Sankt Quirin 156.13 349**⇓iP PKPdf 18 52 04.5 +1.7
BLCB **Balcova 156.26 313** eP PKPab 18 52 34.9 +0.9
DIVS **Divcibare 156.32 332** ePKP PKPdf 18 52 05.1 +1.9
LJU **Ljubljana 156.53 343** ePKPdf PKPdf 18 52 05.6 +2.2
VISS **Visnje 156.66 342** ePKPab PKPab 18 52 34.0 -1.5
DAVOX **Davos 156.76 351** PKP PKPdf 18 52 05.6 +1.9
comp=Z,7.4nm,0.8s,baz=22,slow=7.2,SNR=2.8
BOJS **Bojanci 156.82 341** ePKPdf PKPdf 18 52 05.6 +1.8
CEY **Cerknica 156.84 343** ePKPdf PKPdf 18 52 06.4 +2.5
CEY i PKPab PKPab 18 52 35.1 -1.1
SKO **Skopje 157.30 327** ePKP PKPdf 18 52 10.5 +5.9
DBIC **Dimbokro 160.50 149** PKP PKPdf 18 52 10.9 +1.7
comp=Z,9.7nm,0.9s,baz=100,slow=6.5,SNR=4.8
DBIC PKPab PKPab 18 52 52.2 -0.7
comp=Z,9.4nm,0.7s,baz=171,slow=5.0,SNR=5.8
DBIC **Dimbokro 160.50 149** PKP PKPdf 18 52 10.9 +1.7
DBIC PKPab PKPab 18 52 52.2 -0.7
EVO **Evora 161.64 34** ePKIKP PKPdf 18 52 11.9 +2.3
comp=Z,29nm,0.9s
EVO eR
comp=Z,694nm,22.2s
ESDC **Sonseca Array 162.49 23** PKP PKPdf 18 52 12.8 +2.5
comp=Z,1.5nm,0.7s,baz=340,slow=2.3,SNR=6.9
ESDC PKPab PKPab 18 52 59.1 -1.7
comp=Z,1.5nm,0.7s,baz=333,slow=3.3,SNR=5.3

*IDC **15** 18:50:20.2±1.1, 1.59S×99.71E, mb3.8/8, mb1 3.9/9, mb1mx3.7/19, mbtmp3.7/9, ML3.7/1, Error ellipse: s-maj=55.2km s-min=15.9km az=57.0*
*NEIC **15** 18:50:24.5±0.7, 1.69S×99.62E, h30km, mb4.3/1, Error ellipse: s-maj=26.4km s-min=9.3km az=65.0*
ISC 15 18:50:22.6±1.2, 1.7S±0.1×99.6E±0.3, h33km, n15, σ0 73/11, mb3.8/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.00**	**9**	ePn	**Pn**	**18 52 06.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**20.02**	**358**	P	**P**	**18 54 55.4**	**-0.2**
0.1nm,0.3s,baz=187,slow=10,SNR=14							
FITZ	**Fitzroy Crossi**	**30.35**	**124**	P	**P**	**18 56 32.8**	**-1.0**
2.2nm,0.9s,mb3.9,baz=272,slow=8.3,SNR=2.5							
WRA	**Warramunga Arr**	**38.53**	**121**	P	**P**	**18 57 43.2**	**-0.7**
0.6nm,0.5s,mb3.6,baz=303,slow=9.1,SNR=13							
WRAB	**Tennant Creek**	**38.53**	**121**	eP	**P**	**18 57 44.1**	**+0.1**
3.0nm,0.6s,mb4.2							
ASAR	**Alice Springs**	**39.79**	**126**	P	**P**	**18 57 54.5**	**+0.1**
0.4nm,0.4s,mb3.5,baz=302,slow=8.0,SNR=14							
SONM	**Songino Array**	**49.67**	**6**	P	**P**	**18 59 13.6**	**+0.4**
0.5nm,0.7s,mb3.7,baz=190,slow=9.5,SNR=5.7							
SONM				PcP	PcP	19 00 34.9	+0.4
0.2nm,0.5s,baz=270,slow=1.4,SNR=2.1							
STKA	**Stephens Creek**	**49.69**	**132**	P	**P**	**18 59 15.3**	**+1.7**
0.4nm,0.5s,mb3.7,baz=315,slow=7.1,SNR=2.6							
ZAL	**Zalesovo**	**56.77**	**350**	P	**P**	**19 00 05.2**	**-0.5**
1.0nm,0.5s,mb4.2,baz=346,slow=9.5,SNR=3.9							
BVAR	**Borovoye Array**	**59.73**	**340**	P	**P**	**19 00 25.7**	**-0.8**
0.4nm,0.5s,mb3.7,baz=135,slow=8.4,SNR=4.4							
FINES	**FINESS Array B**	**83.63**	**332**	P	**P**	**19 02 49.5**	**+0.7**
0.7nm,0.6s,mb4.0,baz=108,slow=6.0,SNR=5.5							
TXAR	**Lajitas Array**	**144.71**	**37**	PKP	PKPdf	19 09 59.2	+2.5
0.3nm,0.5s,baz=181,slow=1.3,SNR=4.6							
TXAR	**Lajitas Array**	**144.71**	**37**	PKP	PKPdf	19 09 59.2	+2.5
CFAA	**Coronel Fontan**	**144.93**	**198**	PKPbc	PKPbc	19 09 59.7	+2.5
0.2nm,0.5s,baz=180,slow=2.0,SNR=5.5							
CFAA	**Coronel Fontan**	**144.93**	**198**	PKPbc	PKPbc	19 09 59.7	+2.5

IDC 15 18:53:53.3±11.0, 2.47N×128.03E, h295km±108km, mb2.9/5, mb1 3.0/5, mb1mx2.9/17, mbtmp3.5/5, Error ellipse: s-maj=98.3km s-min=21.3km az=53.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.58**	**186**	P	P	18 58 11.0	+0.1
3.5nm,0.9s,baz=6.3,slow=9.2,SNR=3.5							
WRA	**Warramunga Arr**	**23.12**	**165**	P	P	18 58 34.0	-1.4
0.4nm,0.4s,baz=344,slow=10,SNR=7.2							
ASAR	**Alice Springs**	**26.60**	**168**	P	P	18 59 04.7	-2.5
0.3nm,0.4s,baz=351,slow=6.7,SNR=6.9							
ASAR				PcP	PcP	19 02 21.1	-2.2
0.1nm,0.4s,baz=342,slow=1.6,SNR=3.9							
CMAR	**Chiang Mai Arr**	**32.63**	**301**	P	P	18 59 58.2	-1.9
0.3nm,0.6s,baz=120,slow=7.5,SNR=4.2							
STKA	**Stephens Creek**	**36.51**	**160**	P	P	19 00 31.2	-1.5
0.6nm,0.4s,baz=349,slow=10,SNR=4.7							

*NIED **15** 19:25:00, 33.80N×130.20E, h8km, Mw3.6 Best double couple: M0=2.42×10^14 NP1:φs60°, δ87°, λ175°. NP2:φs151°, δ85°, λ3°.*
JMA 15 19:25:25.9, 33.77N×130.17E, h11km, M3.8, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.37**	**274**	⇓P	Pg	19 25 33.3	-0.2
JII				S	Sg	19 25 38.3	-0.2
JFI	**Itaya**	**0.39**	**152**	⇑P	Pg	19 25 33.6	-0.3
JFI				S	Sg	19 25 39.0	-0.2
JFA	**Akaike**	**0.52**	**96**	⇓P	Pg	19 25 36.0	-0.5
JUR	**Ureshino**	**0.70**	**195**	⇑P	Pb	19 25 39.0	-0.6
JUR				S	Sb	19 25 48.7	-0.3
JTA	**Tamana**	**0.86**	**159**	⇑P	Pb	19 25 42.1	-0.3
JTA				S	Sb	19 25 53.2	-0.4
JTU	**Tsushima**	**0.99**	**320**	P	Pb	19 25 44.5	-0.1
JTU				S	Sb	19 25 57.5	+0.1

*NIED **15** 19:26:00, 34.40N×141.70E, h32km, Mw4.2 Best double couple: M0=2.1×10^15 NP1:φs286°, δ82°, λ-107°. NP2: φs170°, δ19°, λ-27°.*
*IDC **15** 19:26:06.8±0.7, 34.41N×141.61E, mb3.8/14, mb1 4.0/17, mb1mx3.9/27, mbtmp3.8/17, ML3.7/1, MS3.5/2, Ms1 3.5/2, ms1mx2.6/42, Error ellipse: s-maj=18.1km s-min=13.3km az=110.0*
*JMA **15** 19:26:06.8±0.4, 34.36N×141.74E, h24km±2km, M3.8*
*MOS **15** 19:26:08.8±1.3, 34.21N×141.56E, h33km, mb4.1/13, Error ellipse: s-maj=20.1km s-min=10.0km az=127.0*
*BJI **15** 19:26:12.4, 34.40N×141.50E, h38km, mB4.7, mb3.7*
*NEIC **15** 19:26:12.4±1.4, 34.40N×141.50E, h38km±11km, mb4.4/9, Error ellipse: s-maj=11.4km s-min=9.3km az=121.0*
ISC 15 19:26:08.3±1.3, 34.38N±0.04×141.67E±0.06, h25km±8km, n66, σ0 93/73, mb4.0/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.63**	**295**	P	**Pb**	**19 26 20.0**	**-0.6**
BSO2	**Boso 2**	**0.84**	**296**	eS	**Sb**	**19 26 36.0**	**+1.0**
BSO3	**Boso 3**	**1.05**	**294**	P	**Pn**	**19 26 26.8**	**-0.7**
BSO4	**Boso 4**	**1.25**	**299**	P	**Pn**	**19 26 31.1**	**+0.6**
KTR	**Katsuura**	**1.35**	**305**	P	**Pn**	**19 26 32.5**	**+0.6**
CHOJ	**Chosi**	**1.48**	**333**	P	**Pn**	**19 26 33.2**	**-0.5**
CHOJ				eS	**Sn**	**19 26 51.2**	**-1.1**
JCN	**Nagara**	**1.59**	**311**	P	**Pn**	**19 26 36.0**	**+0.7**
JIM2	**Oshima 3**	**1.88**	**281**	P	**Pn**	**19 26 39.2**	**-0.2**
JHJ2	**Mitsune**	**2.00**	**231**	P	**Pn**	**19 26 41.8**	**+0.7**
JHJ	**Hachijo jima 2**	**2.02**	**232**	Pn	**Pn**	**19 26 41.7**	**+0.3**
60nm,0.3s,baz=189,slow=3.3,SNR=37							
JHJ				Sn	**Sn**	**19 27 07.5**	**+1.5**
127nm,0.3s,baz=233,slow=22,SNR=16							
JOD2	**Odawara 2**	**2.30**	**293**	P	**Pn**	**19 26 44.6**	**-0.9**
JOD2				eS	**Sn**	**19 27 13.2**	**-0.1**
JIZS	**Izushimoda**	**2.33**	**279**	P	**Pn**	**19 26 45.6**	**-0.3**
MJAR	**Matsushiro Arr**	**3.55**	**308**	P	**Pn**	**19 27 03.8**	**+0.5**
MJAR						19 27 46.0	
MJAR				pmax	pmax		
comp=Z,7.0nm,0.3s							
MJAR	**Matsushiro Arr**	**3.55**	**308**	Pn	**Pn**	**19 27 03.8**	**+0.5**
comp=Z,6.7nm,0.3s,baz=249,slow=24,SNR=45							
MJAR				Sn	**Sn**	**19 27 46.0**	**+1.0**
comp=Z,10nm,0.3s,baz=240,slow=33,SNR=8.5							
MAJO	**Matsushiro**	**3.56**	**308**	eP	**Pn**	**19 27 03.5**	**+0.2**
MAT	**Matsushiro**	**3.56**	**308**	eP	**Pn**	**19 27 03.0**	**-0.3**
MAT				S	**Sn**	**19 27 45.0**	**0.0**
MAT	**Matsushiro**	**3.56**	**308**	P	**Pn**	**19 27 03.1**	**-0.2**
MAT				eS	**Sn**	**19 27 44.5**	**-0.5**
CBIJ	**Chichi jima**	**7.28**	**176**	Pn	**Pn**	**19 27 54.1**	**-1.7**
comp=Z,3.5nm,0.3s,baz=268,slow=21,SNR=2.8							
CBIJ				Sn	**Sn**	**19 29 12.6**	**-5.9**
comp=Z,4.3nm,0.3s,baz=317,slow=23,SNR=2.2							
ASAJ	**Asahikawa**	**9.75**	**4**	Pn	**P**	**19 28 25.9**	**-4.2**
comp=Z,1.0nm,0.3s,baz=330,slow=4.6,SNR=7.2							
ASAJ				Sn	**Sn**	**19 30 08.6**	**-11**
comp=Z,0.6nm,0.3s,baz=202,slow=34,SNR=2.8							
ASAJ				LR	LR	19 31 58.5	
comp=Z,212nm,18.2s,baz=152,slow=36							
YSS	**Yuzh-Sakhalins**	**12.59**	**3**	eP	**P**	**19 29 03.0**	**-5.6**
YSS				pmax	pmax		
comp=Z,20nm,0.8s							
YSS	**Yuzh-Sakhalins**	**12.59**	**3**	ePn	**P**	**19 29 02.7**	**-5.9**
comp=Z,14nm,0.9s							
JOW	**Kunigami**	**13.77**	**240**	LR	LR	19 34 22.6	
comp=Z,244nm,19.0s,baz=336,slow=36							
ULN	**Ulaanbaatar**	**29.09**	**308**	eP	**P**	**19 32 09.2**	**+0.3**
ULN				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.6							
ULN	**Ulaanbaatar**	**29.09**	**308**	eP	**P**	**19 32 09.2**	**+0.3**
comp=Z,1.4nm,0.8s,mb3.7							
SONM	**Songino Array**	**29.51**	**308**	P	**P**	**19 32 12.6**	**-0.1**
comp=Z,1.2nm,0.8s,mb3.7,baz=98,slow=6.8,SNR=10							
BOD	**Bodaibo**	**29.91**	**330**	eP	**P**	**19 32 19.1**	**+3.0**
BOD				pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.4							
ZAK	**Zakamensk**	**32.13**	**312**	eP	**P**	**19 32 35.1**	**-0.7**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.2s,mb3.8							
CMAR	**Chiang Mai Arr**	**41.10**	**258**	P	**P**	**19 33 51.2**	**-0.7**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**41.10**	**258**	P	**P**	**19 33 51.2**	**-0.7**
comp=Z,1.1nm,0.7s,mb3.6,baz=50,slow=7.5,SNR=15							
WMQ	**Urumqi**	**42.27**	**300**	eP	**P**	**19 34 02.1**	**+0.8**
ZAL	**Zalesovo**	**43.90**	**314**	P	**P**	**19 34 15.1**	**+0.8**
ZAL				pmax	pmax		
comp=Z,2.0nm,1.1s							
ZAL	**Zalesovo**	**43.90**	**314**	P	**P**	**19 34 15.1**	**+0.7**
comp=Z,2.2nm,1.1s,mb3.8,baz=19,slow=8.3,SNR=4.0							
ZAL	**Zalesovo**	**43.90**	**314**	P	**P**	**19 34 15.1**	**+0.7**
JIRN	**Jiri**	**47.52**	**278**	eP	**P**	**19 34 41.5**	**-2.1**
comp=Z,13nm,0.8s,mb5.0							
GUN	**Gumba**	**47.68**	**278**	eP	**P**	**19 34 44.2**	**-0.6**
comp=Z,17nm,1.0s,mb5.0							
PKI	**Pulchoki**	**48.20**	**278**	eP	**P**	**19 34 44.8**	**-4.0**
comp=Z,9.1nm,1.1s,mb4.7							
PKI	**Pulchoki**	**48.20**	**278**	eP	**P**	**19 34 44.8**	**-4.0**
PKI				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.5							
KKN	**Kakani**	**48.22**	**278**	eP	**P**	**19 34 46.0**	**-3.0**
DMN	**Daman**	**48.43**	**278**	eP	**P**	**19 34 46.3**	**-4.3**
GKN	**Gorkha**	**48.66**	**279**	eP	**P**	**19 34 51.8**	**-0.6**
comp=Z,13nm,0.9s,mb5.0							
ILAR	**Eielson Array**	**51.63**	**31**	P	**P**	**19 35 14.8**	**+0.2**
ILAR				pmax	pmax		
comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**51.63**	**31**	P	**P**	**19 35 14.8**	**+0.2**
comp=Z,1.1nm,0.8s,mb3.8,baz=274,slow=6.6,SNR=11							
AAK	**Ala-Archa**	**51.97**	**300**	eP	**P**	**19 35 16.6**	**-0.8**
AAK				pmax	pmax		
comp=Z,3.0nm,1.3s,mb4.1							
AAK	**Ala-Archa**	**51.97**	**300**	eP	**P**	**19 35 16.6**	**-0.9**
comp=Z,2.8nm,1.3s,mb4.0							
BVAR	**Borovoye Array**	**52.53**	**314**	P	**P**	**19 35 20.5**	**-1.0**
comp=Z,0.5nm,0.5s,mb3.8,baz=90,slow=7.4,SNR=7.5							
FITZ	**Fitzroy Crossi**	**54.38**	**199**	P	**P**	**19 35 36.0**	**+0.5**
comp=Z,2.6nm,0.6s,mb4.3,baz=174,slow=15,SNR=4.2							
WRA	**Warramunga Arr**	**54.47**	**188**	P	**P**	**19 35 35.8**	**-0.4**
WRA				pmax	pmax		
comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**54.47**	**188**	P	**P**	**19 35 35.8**	**-0.4**
comp=Z,1.8nm,0.8s,mb4.0,baz=5.8,slow=7.6,SNR=18							
INK	**Inuvik**	**56.66**	**26**	P	**P**	**19 35 51.7**	**+0.3**
INK				pmax	pmax		
comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**56.66**	**26**	P	**P**	**19 35 51.7**	**+0.3**
comp=Z,0.8nm,0.5s,mb4.0,baz=296,slow=8.0,SNR=5.1							
INK	**Inuvik**	**56.66**	**26**	P	**P**	**19 35 51.7**	**+0.3**
ASAR	**Alice Springs**	**58.20**	**188**	P	**P**	**19 36 03.2**	**+0.4**
comp=Z,0.6nm,0.7s,mb3.7,baz=16,slow=11,SNR=7.7							
ARU	**Arti**	**58.50**	**320**	eP	**P**	**19 36 03.8**	**-0.7**
ARU				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.6							
ARU	**Arti**	**58.50**	**320**	eP	**P**	**19 36 03.8**	**-0.7**
comp=Z,3.7nm,0.7s,mb4.5							
RES	**Resolute Bay**	**65.11**	**14**	eP	**P**	**19 36 48.3**	**-0.3**
RES				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.2							
RES	**Resolute Bay**	**65.11**	**14**	eP	**P**	**19 36 48.3**	**-0.3**
comp=Z,2.4nm,0.9s,mb4.2							
YKA	**Yellowknife Ar**	**66.00**	**30**	P	**P**	**19 36 54.2**	**-0.2**
comp=Z,0.2nm,0.7s,mb3.3,baz=294,slow=6.2,SNR=4.3							
YKA	**Yellowknife Ar**	**66.00**	**30**	P	**P**	**19 36 54.2**	**-0.2**
FINES	**FINESS Array B**	**71.26**	**333**	P	**P**	**19 37 27.6**	**+0.6**
FINES				pmax	pmax		
comp=Z,1.0nm,0.8s							
FINES	**FINESS Array B**	**71.26**	**333**	P	**P**	**19 37 27.6**	**+0.5**
comp=Z,0.8nm,0.8s,mb3.7,baz=37,slow=9.5,SNR=4.4							
NVAR	**Mina Array Bea**	**76.42**	**53**	P	**P**	**19 37 59.3**	**+1.9**
comp=Z,0.9nm,0.7s,mb3.8,baz=266,slow=6.0,SNR=6.1							
NB2	**NORSAR Subarra**	**76.71**	**338**	P	**P**	**19 38 00.2**	**+1.7**
comp=Z,0.6nm,0.7s,mb3.6,baz=41,slow=5.8							
NB2	**NORSAR Subarra**	**76.71**	**338**	P	**P**	**19 38 00.2**	**+1.7**
NB2				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.9							
NOA	**NORSAR Array B**	**76.71**	**338**	P	**P**	**19 37 58.8**	**+0.3**
NOA				pmax	pmax		
comp=Z,1.0nm,0.8s							
NOA	**NORSAR Array B**	**76.71**	**338**	P	**P**	**19 37 58.8**	**+0.2**
comp=Z,0.8nm,0.8s,mb3.7,baz=40,slow=5.9,SNR=4.5							
PDAR	**Pinedale Array**	**79.38**	**45**	P	**P**	**19 38 15.2**	**+1.6**
comp=Z,0.3nm,0.6s,mb3.4,baz=282,slow=8.3,SNR=3.0							

*JMA **15** 19:32:51.5±0.4, 34.27N×141.84E, h27km±3km, M3.4*
*IDC **15** 19:32:53.3±1.2, 34.41N×141.56E, mb3.8/5, mb1 4.0/7, mb1mx3.7/24, mbtmp3.8/7, ML3.7/2, Error ellipse: s-maj=24.8km s-min=18.8km az=94.0*
*MOS **15** 19:32:55.4±0.7, 34.43N×141.60E, h33km, mb4.4/2, Error ellipse: s-maj=40.4km s-min=24.3km az=102.6*
*NEIC **15** 19:32:58.2±0.7, 34.44N×141.57E, h35km, mb4.4/1, Error ellipse: s-maj=15.3km s-min=10.9km az=74.0*
ISC 15 19:32:54.7±1.2, 34.41N±0.04×141.71E±0.06, h30km±8km, n26, σ0 84/35, mb3.8/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.65**	**292**	P	**Pb**	**19 33 06.4**	**-1.2**
BSO1				eS	**Sb**	**19 33 17.8**	**+1.4**
BSO3	**Boso 3**	**1.06**	**292**	P	**Pn**	**19 33 13.3**	**-0.5**
BSO3				eS	**Sn**	**19 33 28.9**	**+1.3**
BSO4	**Boso 4**	**1.27**	**297**	P	**Pn**	**19 33 16.9**	**+0.2**
CHOJ	**Chosi**	**1.47**	**332**	P	**Pn**	**19 33 19.6**	**+0.1**
CHOJ				eS	**Sn**	**19 33 38.5**	**+0.7**
JIM2	**Oshima 3**	**1.91**	**280**	P	**Pn**	**19 33 25.1**	**-0.7**
JHJ2	**Mitsune**	**2.04**	**231**	P	**Pn**	**19 33 28.3**	**+0.5**
JHJ	**Hachijo jima 2**	**2.06**	**232**	Pn	**Pn**	**19 33 28.6**	**+0.5**
42nm,0.3s,baz=75,slow=19,SNR=59							
JHJ				Sn	**Sn**	**19 33 53.6**	**+0.7**
110nm,0.3s,baz=63,slow=22,SNR=14							
JOD2	**Odawara 2**	**2.32**	**292**	P	**Pn**	**19 33 30.6**	**-1.1**
JIZS	**Izushimoda**	**2.36**	**278**	P	**Pn**	**19 33 32.2**	**-0.1**
JIZS				eS	**Sn**	**19 33 59.3**	**-1.2**
MJAR	**Matsushiro Arr**	**3.56**	**308**	P	**Pn**	**19 33 49.1**	**-0.3**
MJAR						19 34 30.4	
MJAR				pmax	pmax		
comp=Z,4.0nm,0.3s							
MJAR	**Matsushiro Arr**	**3.56**	**308**	Pn	**Pn**	**19 33 49.1**	**-0.3**
comp=Z,3.9nm,0.3s,baz=238,slow=4.0,SNR=44							
MJAR				Sn	**Sn**	**19 34 30.4**	**-0.6**
comp=Z,2.7nm,0.3s,baz=140,slow=12,SNR=6.0							
MAJO	**Matsushiro**	**3.56**	**308**	eP	**Pn**	**19 33 50.2**	**+0.8**
MAT	**Matsushiro**	**3.56**	**308**	eP	**Pn**	**19 33 50.0**	**+0.6**
MAT				S	**Sn**	**19 34 30.0**	**-1.0**
MAT	**Matsushiro**	**3.56**	**308**	P	**Pn**	**19 33 50.4**	**+1.0**
MAT				eS	**Sn**	**19 34 30.2**	**-0.8**
CBIJ	**Chichi jima**	**7.30**	**177**	Pn	**Pn**	**19 34 40.6**	**-1.5**
comp=Z,5.5nm,0.3s,baz=267,slow=21,SNR=5.4							
CBIJ				Sn	**Sn**	**19 35 58.4**	**-6.5**
comp=Z,4.8nm,0.3s,baz=280,slow=21,SNR=3.2							
ASAJ	**Asahikawa**	**9.72**	**4**	P	**P**	**19 35 10.3**	**-5.3**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**9.72**	**4**	Pn	**P**	**19 35 10.3**	**-5.3**
comp=Z,0.6nm,0.3s,baz=294,slow=12,SNR=4.4							
YSS	**Yuzh-Sakhalins**	**12.55**	**3**	eP	**P**	**19 35 53.5**	**-0.6**
SONM	**Songino Array**	**29.52**	**308**	P	**P**	**19 38 58.9**	**+0.4**
comp=Z,0.8nm,0.8s,mb3.5,baz=108,slow=7.9,SNR=6.3							
CMAR	**Chiang Mai Arr**	**41.14**	**258**	P	**P**	**19 40 36.9**	**-1.1**
comp=Z,0.5nm,0.7s,mb3.2,baz=60,slow=8.3,SNR=5.9							
ILAR	**Eielson Array**	**51.59**	**31**	P	**P**	**19 42 01.1**	**+1.1**
comp=Z,0.3nm,0.6s,mb3.4,baz=286,slow=6.6,SNR=3.9							
FITZ	**Fitzroy Crossi**	**54.42**	**199**	P	**P**	**19 42 22.6**	**+1.1**
comp=Z,4.2nm,0.8s,mb4.4,baz=19,slow=7.0,SNR=3.8							
WRA	**Warramunga Arr**	**54.51**	**189**	P	**P**	**19 42 22.6**	**+0.4**
WRA				pmax	pmax		
comp=Z,1.0nm,0.3s							
WRA	**Warramunga Arr**	**54.51**	**189**	P	**P**	**19 42 22.6**	**+0.4**
comp=Z,0.5nm,0.3s,mb4.0,baz=3.5,slow=7.6,SNR=8.3							
ARU	**Arti**	**58.50**	**320**	eP	**P**	**19 42 49.9**	**-0.3**
ARU				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.4							
ARU	**Arti**	**58.50**	**320**	eP	**P**	**19 42 49.9**	**-0.3**
comp=Z,1.9nm,0.5s,mb4.4							

IDC 15 19:33:57.5±1.7, 8.62S×130.71E, mb3.8/2, mb1 3.8/5, mb1mx3.6/14, mbtmp3.6/5, ML3.1/3, Error ellipse: s-maj=65.3km s-min=25.7km az=78.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.64**	**207**	Pn	P	19 36 29.4	-4.9
0.4nm,0.3s,baz=26,slow=11,SNR=7.2							
FITZ				Sn	S	19 38 21.8	-14
1.3nm,0.3s,baz=185,slow=8.6,SNR=7.8							
WRA	**Warramunga Arr**	**11.79**	**163**	Pn	P	19 36 47.2	-2.8
0.1nm,0.3s,baz=349,slow=13,SNR=3.3							
WRA				Sn	S	19 38 51.2	-12
0.1nm,0.3s,baz=340,slow=20,SNR=3.4							
ASAR	**Alice Springs**	**15.27**	**169**	Pn	P	19 37 34.1	-2.1
0.1nm,0.3s,baz=344,slow=9.2,SNR=4.5							
ASAR				Sn	S	19 40 14.7	-12
0.0nm,0.3s,baz=195,slow=34,SNR=2.8							
STKA	**Stephens Creek**	**25.25**	**158**	P	P	19 39 26.1	-0.8
1.6nm,1.0s,baz=339,slow=8.6,SNR=2.2							
SONM	**Songino Array**	**60.19**	**341**	P	P	19 44 07.3	-2.3
0.3nm,0.6s,baz=154,slow=6.4,SNR=4.7							

*CSEM **15** 19:58:32.6±0.6, 45.62N×26.52E, h144km±5km, MD3.9/5, Error ellipse: s-maj=4.4km s-min=3.0km az=12.0, After BUC*
*NEIC **15** 19:58:33.5, 45.59N×26.51E, h137km, MG3.1(BUC), After BUC.*
BUC 15 19:58:32.6±0.6, 45.62N×26.52E, h144km±5km, MD3.9/5, 17C-1D, Error ellipse: s-maj=4.4km s-min=3.0km az=12.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.29**	**30**	P	P	19 58 52.5	-0.4
VRI	**Vrincioaia**	**0.29**	**30**	⇑iP	P	19 58 52.4	-0.5
VRI				i S	S	19 59 07.5	-0.9
BRD	**Bordesti**	**0.36**	**100**	⇑P	P	19 58 54.0	+0.8
BRD	**Bordesti**	**0.36**	**100**	⇑iP	P	19 58 54.0	+0.8
BRD				S	S	19 59 11.1	+2.2
MLR	**Muntele Rosu**	**0.42**	**253**	P	P	19 58 53.2	-0.3
MLR	**Muntele Rosu**	**0.42**	**253**	⇑iP	P	19 58 53.1	-0.3
MLR				i S	S	19 59 08.8	-0.6
ISR	**Istrita**	**0.50**	**178**	P	P	19 58 54.0	+0.2
ISR	**Istrita**	**0.50**	**178**	⇑iP	P	19 58 53.9	+0.1
ISR				i S	S	19 59 10.0	0.0
SNX	**Sinaia**	**0.75**	**250**	P	P	19 58 55.4	+0.1
SNX	**Sinaia**	**0.75**	**250**	⇑iP	P	19 58 55.3	+0.1
SNX				i S	S	19 59 13.1	+0.5
VOIR		**1.05**	**261**	⇑P	P	19 58 56.8	-0.6
VOIR				S	S	19 59 14.8	-1.8
VOIR		**1.05**	**261**	⇑iP	P	19 58 56.8	-0.6
VOIR				S	S	19 59 14.9	-1.6
MTUR	**Matau**	**1.10**	**250**	P	P	19 58 57.9	0.0
MTUR	**Matau**	**1.10**	**250**	⇑iP	P	19 58 57.9	0.0
MTUR				S	S	19 59 16.8	-0.6
CFR	**Carcaliu**	**1.22**	**111**	P	P	19 58 59.1	-0.1
CFR	**Carcaliu**	**1.22**	**111**	⇑iP	P	19 58 59.0	-0.2
CFR				i S	S	19 59 18.7	-0.9
BUC	**Bucharest**	**1.24**	**194**	i S	S	19 59 20.9	+0.9
BUC1	**Bucharest**	**1.32**	**196**	P	P	19 59 00.2	+0.1
BUC1	**

GKN	Gorkha	16.16	333	*e*P		P	20 34 08.5	-1.3
	comp=E,3.6nm,0.2s							
KOLN	Koldanda	16.44	330	*e*P		P	20 34 12.2	-1.1
	comp=E,17nm,0.7s							
BHPL	Bhopal	17.37	306	*e*P		P	20 34 27.4	+2.3
BHPL				*e*S		S	20 37 26.6	-9.0
ENH	Enshi	22.64	40	*e*P		P	20 35 23.3	+0.2
	comp=E,4.4nm,0.6s,mb4.1							
SONM	Songino Array	35.93	16	P		P	20 37 23.5	+0.7
	comp=E,0.4nm,0.7s,mb3.5,baz=196,slow=9.0,SNR=5.1							
SONM				PcP		PcP	20 39 50.5	+0.9
	comp=E,0.1nm,0.6s,baz=208,slow=3.4,SNR=4.0							
ZAL	Zalesovo	40.68	353	P		P	20 38 03.0	+0.7
	comp=E,1.5nm,0.6s,mb3.8,baz=315,slow=6.1,SNR=8.3							
BVAR	Borovoye Array	43.12	340	P		P	20 38 23.0	+0.7
	comp=E,0.9nm,0.8s,mb3.5,baz=108,slow=9.1,SNR=6.0							
FITZ	Fitzroy Crossi	45.25	133	P		P	20 38 39.1	-1.0
	comp=E,1.7nm,0.5s,mb4.2,baz=324,slow=8.7,SNR=5.4							
WRA	Warramunga Arr	52.81	128	P		P	20 39 37.8	-0.5
	comp=E,1.3nm,0.5s,mb4.1,baz=300,slow=9.9,SNR=42							
WRAB	Tennant Creek	52.81	128	*e*P		P	20 39 37.2	-1.1
	comp=E,3.5nm,0.6s,mb4.5							
WB2	Warramunga Arr	52.82	128	*e*P		P	20 39 37.9	-0.5
ASAR	Alice Springs	54.73	132	P		P	20 39 52.0	-0.3
	comp=E,0.5nm,0.5s,mb3.8,baz=310,slow=7.0,SNR=19							
BRTR	Keskin Array B	57.71	308	P		P	20 40 13.5	0.0
	comp=E,1.1nm,0.7s,mb4.0,baz=135,slow=7.0,SNR=7.7							
MLR	Muntele Rosu	64.15	314	P		P	20 40 58.4	+1.3
	comp=E,0.8nm,0.4s,mb4.1,baz=134,slow=6.0,SNR=4.8							
FINES	FINESS Array B	67.01	331	P		P	20 41 15.2	0.0
	comp=E,1.4nm,0.6s,mb4.2,baz=104,slow=7.9,SNR=12							
ARCES	ARCESS Array B	69.41	340	P		P	20 41 30.2	+0.2
	comp=E,1.5nm,0.7s,mb4.0,baz=101,slow=6.2,SNR=5.9							
GERES	GERESS Array B	72.66	317	P		P	20 41 50.9	+1.0
	comp=E,1.2nm,0.6s,mb4.0,baz=90,slow=5.3,SNR=13							
HFS	Hagfors	72.82	329	P		P	20 41 51.0	+0.4
	comp=E,2.3nm,0.7s,mb4.2,baz=90,slow=10,SNR=5.5							
NB2	NORSAR Subarra	74.07	330	P		P	20 41 57.7	-0.1
	comp=E,1.1nm,0.6s,mb4.0,baz=90,slow=5.8							
NOA	NORSAR Array B	74.07	330	P		P	20 41 57.5	-0.4
	comp=E,0.8nm,0.7s,mb3.8,baz=92,slow=5.4,SNR=4.5							
BOSA	Boshof	77.55	236	P		P	20 42 20.6	+2.3
	comp=E,0.7nm,0.4s,mb3.9,baz=48,slow=13,SNR=4.0							

*IDC **15** 20:36:21.2±1.0, 49.25S×161.34E, mb4.4/6, mb1 4.6/7, mb1mx4.4/12, mbtmp4.4/7, ML4.4/1, MS3.6/2, Ms1 3.6/2, ms1mx3.2/16, Error ellipse: s-maj=30.0km s-min=23.3km az=55.0*

*NEIC **15** 20:36:22.6±0.5, 49.32S×161.13E, h10km, mb4.7/4, Error ellipse: s-maj=10.9km s-min=5.8km az=162.0*

ISC 15 20:36:20.9±0.5, 49.28S±0.08×161.35E±0.07, h10km, n45, σ1§27/51, mb4.5/9, MS3.5/2, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	5.60	55	P	Pn	20 37 47.7	+1.4
WHZ	Wether Hill Ro	5.60	55	PN	Pn	20 37 47.8	+1.5
WHZ				SN	Sn	20 38 50.3	-1.2
MLZ	Mavora Lakes	6.08	52	P	Pn	20 37 54.8	+1.7
MLZ				S	Sn	20 39 03.5	0.0
MLZ	Mavora Lakes	6.08	52	PN	Pn	20 37 54.4	+1.3
MLZ				SN	Sn	20 39 02.7	-0.8
MSZ	Milford Sound	6.44	47	PN	Pn	20 38 00.0	+1.9
TUZ	Tuapeka	6.51	62	P	Pn	20 38 00.0	+0.8
TUZ				S	Sn	20 39 13.3	-1.0
TUZ	Tuapeka	6.51	62	PN	Pn	20 38 00.1	+0.9
TUZ				SN	Sn	20 39 13.3	-1.0
EAZ	Earnscleugh	6.76	56	*e*P	Pn	20 38 03.6	+0.9
EAZ				S	Sn	20 39 19.8	-0.7
EAZ	Earnscleugh	6.76	56	PN	Pn	20 38 03.9	+1.3
EAZ				SN	Sn	20 39 19.9	-0.6
WKZ	Wanaka	6.87	53	*e*P	Pn	20 38 06.5	+2.3
WKZ	Wanaka	6.87	53	PN	Pn	20 38 06.1	+1.8
WKZ				SN	Sn	20 39 23.4	+0.1
JCZ	Jackson Bay	7.28	47	*e*P	Pn	20 38 12.5	+2.5
JCZ				S	Sn	20 39 34.3	+0.7
JCZ	Jackson Bay	7.28	47	PN	Pn	20 38 12.0	+2.0
JCZ				SN	Sn	20 39 33.8	+0.2
ODZ	Otahua Downs	7.62	60	*e*P	Pn	20 38 14.0	-0.7
ODZ	Otahua Downs	7.62	60	PN	Pn	20 38 14.0	-0.7
ODZ				SN	Sn	20 39 39.4	-2.6
LBZ	Lake Benmore	7.79	54	*e*P	Pn	20 38 16.5	-0.5
LBZ				S	Sn	20 39 42.5	-3.6
LBZ	Lake Benmore	7.79	54	PN	Pn	20 38 16.8	-0.3
LBZ				SN	Sn	20 39 42.5	-3.7
FOZ	Fox Glacier	8.11	48	*e*P	P	20 38 23.9	+2.3
FOZ	Fox Glacier	8.11	48	PN	P	20 38 23.9	+2.3
RPZ	Rata Peaks	8.70	54	Pn	P	20 38 28.1	-1.6
	4.5nm,0.3s,baz=224,slow=5.4,SNR=18						
RPZ				Sn	Sn	20 40 07.2	-1.8
	1.2nm,0.3s,baz=96,slow=20,SNR=3.4						
WVZ	Waitaha Valley	8.99	50	*e*P	P	20 38 34.9	+1.1
DSZ	Denniston Nort	10.51	48	*e*P	P	20 38 54.8	+0.2
DSZ	Denniston Nort	10.51	48	PN	P	20 38 54.8	+0.2
TAU	Tasmania Unive	11.63	298	*e*Pn	P	20 39 05.0	-4.9
	39nm,0.6s						
STKA	Stephens Creek	22.85	312	*e*P	P	20 41 25.6	+0.4
	2.9nm,0.8s,mb3.8						
STKA	Stephens Creek	22.85	312	P	P	20 41 26.5	+1.3
	3.6nm,0.7s,mb3.9,baz=132,slow=12,SNR=8.6						
STKA				LR	LR	20 49 06.8	
	comp=Z,198nm,21.9s,MS3.5,baz=204,slow=34						
VNDA	Vanda	28.35	180	P	P	20 42 16.3	-0.2
	1.6nm,0.7s,mb3.8,baz=8.0,slow=9.9,SNR=9.9						
VNDA	Vanda	28.35	180	P	P	20 42 16.3	-0.2
ASAR	Alice Springs	33.43	310	P	P	20 43 01.6	-0.4
	6.8nm,0.7s,mb4.7,baz=145,slow=8.4,SNR=91						
ASAR				LR	LR	20 57 03.2	
	comp=Z,80nm,19.2s,MS3.5,baz=179,slow=37						
ASPA	Alice Springs	33.44	310	*e*P	P	20 43 01.3	-0.6
WB2	Warramunga Arr	36.37	314	*e*P	P	20 43 26.1	-1.0
WRA	Warramunga Arr	36.38	314	P	P	20 43 25.7	-1.4
	9.5nm,0.7s,mb4.8,baz=145,slow=8.2,SNR=85						
WRAB	Tennant Creek	36.38	314	*e*P	P	20 43 25.9	-1.2
	20nm,0.8s,mb5.1						
QSPA	South Pole Qui	40.84	180	*e*P	P	20 44 04.2	+0.5
	20nm,1.2s,mb4.6						
FITZ	Fitzroy Crossi	42.34	304	P	P	20 44 16.2	-0.4
	8.6nm,1.0s,mb4.3,baz=185,slow=8.9,SNR=4.0						
SNAA	Sanae	58.83	186	*e*P	P	20 46 19.2	-2.0
	7.1nm,1.0s,mb4.7						
CMAR	Chiang Mai Arr	87.13	303	P	P	20 49 09.8	+1.5
	2.5nm,1.0s,mb4.4,baz=157,slow=3.2,SNR=15						
AKASG	Malin Array Be	149.61	291	PKPbc	PKPdf	20 56 10.8	+2.8
	0.6nm,0.5s,baz=70,slow=3.2,SNR=5.2						
AKASG	Malin Array Be	149.61	291	PKPbc	PKPdf	20 56 10.8	+2.8
MLR	Muntele Rosu	149.90	280	PKPbc	PKPdf	20 56 12.7	+4.0
	1.4nm,0.9s,baz=353,slow=12,SNR=2.9						
ARCES	ARCESS Array B	150.77	330	PKPbc	PKPdf	20 56 14.3	+5.0
	1.9nm,0.6s,baz=63,slow=2.7,SNR=10.0						
ARCES	ARCESS Array B	150.77	330	PKPbc	PKPdf	20 56 14.3	+5.0
FINES	FINESS Array B	152.41	313	PKPbc	PKPdf	20 56 17.2	+5.4
	0.7nm,0.5s,baz=117,slow=4.3,SNR=7.9						
GERES	GERESS Array B	158.88	281	PKPab	PKPab	20 56 55.8	-0.5
	0.2nm,0.3s,baz=90,slow=5.3,SNR=5.8						
LFA	Lagoa do Fogo	167.48	154	*e*	PKPdf	20 56 38.8	+9.5

DJA 15 20:41:42.4±0.8, 9.46S×113.37E, h33km, MD4.7/4, ML4.6/4, 4C-5D, Error ellipse: s-maj=16.8km s-min=14.0km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.24	38	⇓*i*Pn	Pn	20 42 02.5	-1.2
	456nm,0.2s						
SRDI	Scrawed	1.24	38	⇑*i*P	P	20 42 02.9	-0.5
SRDI				⇓*i*Sn	Sn	20 42 15.8	-3.6
KELI	Kelakatan	1.66	42	⇓*i*Pn	Pn	20 42 09.1	-0.6
	470nm,0.2s						
KELI				⇑*i*Sn	Sn	20 42 28.1	-2.0
RATI	Rata	2.26	71	⇓*i*Pn	Pn	20 42 17.1	-1.2
	1μm,0.2s						
RATI	Rata	2.26	71	*e*P	P	20 42 17.4	-0.7
RATI				⇑*i*Sn	Sn	20 42 41.2	-4.1
KEDI	Kedomdong	2.88	71	⇓*i*Pn	Pn	20 42 25.6	-1.5
	138nm,0.2s						
KEDI				⇑*i*Sn	Sn	20 42 57.3	-3.7

*MOS **15** 20:48:38.7±2.3, 43.23N×47.21E, h19km, mb4.1/1, Error ellipse: s-maj=15.9km s-min=8.9km az=83.0*

*CSEM **15** 20:48:38.7±0.2, 43.23N×47.21E, h19km, mb4.1, Error ellipse: s-maj=5.2km s-min=3.2km az=1.0, After OBN*

*TIF **15** 20:48:41.1, 42.99N×47.11E, h8km±1km*

ISC 15 20:48:41.6±0.8, 43.03N±0.05×47.09E±0.04, h8km, n17, σ1§34/26, 1C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	Dubki	0.19	267	*i*PG	Pg	20 48 45.0	-0.7
DBC				*i*S	Sg	20 48 50.0	+1.6
DBC				pmax	pmax		
	comp=Z,433nm,0.1s						
DBC	Dubki	0.19	267	*i*Pg	Pg	20 48 45.0	-0.7
	comp=Z,433nm,0.1s						
DBC				*i*Sg	Sg	20 48 50.0	+1.6
BUJR	Buynaksk	0.21	176	⇓*i*PG	Pg	20 48 44.2	-1.7
BUJR				pmax	pmax		
	comp=Z,262nm,0.3s						
KRNR	Karanay	0.24	214	⇑*i*PG	Pg	20 48 47.5	+0.8
KRNR				pmax	pmax		
	comp=Z,349nm,0.2s						
MAK	Makhachkala	0.31	103	⇓*i*PG	Pg	20 48 48.7	+0.7
MAK				*i*		20 48 54.0	
MAK				pmax	pmax		
	comp=Z,175nm,0.5s						
MAK				smax			
	comp=N,3μm,0.4s						
MAK				smax			
	comp=E,5μm,0.4s						
MAK	Makhachkala	0.31	103	*i*Pg	Pg	20 48 48.7	+0.7
	comp=E,175nm,0.5s						
MAK				*i*Sg	Sg	20 48 54.0	+1.7
ARKR	Arakani	0.43	189	⇓*i*PG	Pg	20 48 48.8	-1.6
ARKR				*i*S	Sg	20 48 57.0	+0.8
ARKR				pmax	pmax		
	comp=Z,264nm,0.3s						
BTLR	Botlikh	0.74	240	⇓*i*PG	Pg	20 48 55.4	-1.0
BTLR				*i*S	Sb	20 49 07.0	+0.8
BTLR				pmax	pmax		
	comp=Z,96nm,0.5s						
URKR	Urkarakh	0.95	155	*e*PG	Pg	20 48 59.0	-1.7
URKR				*i*S	Sb	20 49 14.0	+1.5
AKT	Akhty	1.62	163	*e*PN	Pn	20 49 10.0	-0.7
AKT				pmax	pmax		
	comp=Z,59nm,0.4s						
KSMR	Kasumkent	1.62	151	*e*PN	Pn	20 49 09.0	-1.7
KSMR				pmax	pmax		
	comp=Z,156nm,0.2s						
DGRG	David-gareji	2.03	220	P	Pn	20 49 21.6	+5.1
DGRG				S	Sn	20 49 52.4	+10
MTA	Mtatsminda	2.16	233	P	Pn	20 49 23.0	+4.6
MTA				S	Sn	20 49 53.7	+7.9
TI2	Plekhanov	2.17	234	*e*PN	Pg	20 49 28.6	+3.8
TBLG	Delisi	2.17	234	P	Pn	20 49 24.6	+6.0
TBLG				S	Sn	20 49 53.4	+7.4
ZEI	Tsey	2.36	265	*e*PN	Pn	20 49 20.1	-1.2
ZEI				*e*		20 50 00.3	
KIV	Kislovodsk	3.33	288	*e*PN	Pn	20 49 35.8	+0.6
KIV				*e*		20 49 49.3	
KIV				*e*		20 50 30.8	
KIV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KIV				smax			
	comp=Z,15nm,0.2s						

*NEIC **15** 21:08:06.6±0.6, 15.87S×174.30W, h65km, mb4.3/2, Error ellipse: s-maj=27.6km s-min=10.7km az=146.0*

*IDC **15** 21:08:13.1±3.5, 15.34S×173.10W, h222km±200km, mb3.9/4, mb1 4.0/4, mb1mx3.4/18, mbtmp4.4/4, MS4.0/1, Ms1 4.0/1, ms1mx3.2/30, Error ellipse: s-maj=297.8km s-min=35.2km az=66.0*

ISC 15 21:08:01.3±0.8, 15.7S±0.2×174.3W±0.2, h33km, n11, σ0§28/12, mb4.4/5, MS4.1/1, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.04	55	P	P	21 08 53.5	+5.4
	114nm,0.3s,baz=171,slow=1.6,SNR=86						
AFI				LR	LR	21 09 14.4	
	comp=Z,1μm,19.8s,baz=5.5,slow=32						
AFI				S	S	21 09 23.7	0.0
	142nm,0.3s,baz=84,slow=18,SNR=10						
AFI	Afiamalu	3.04	55	P	P	21 08 53.5	+5.4
AFI				LR	LR	21 09 14.4	
AFI				S	S	21 09 23.7	0.0
URZ	Urewera	23.72	197	P	P	21 13 11.3	0.0
	3.9nm,0.3s,mb4.3,baz=225,slow=7.0,SNR=8.9						
STKA	Stephens Creek	43.12	240	*e*P	P	21 16 00.3	-0.1
	2.4nm,0.5s,mb4.2						
STKA	Stephens Creek	43.12	240	P	P	21 16 00.8	+0.4
	2.8nm,0.4s,mb4.3,baz=88,slow=7.3,SNR=11						
WB2	Warramunga Arr	48.90	257	*e*P	P	21 16 46.6	+0.3
WRAB	Tennant Creek	48.90	257	*e*P	P	21 16 46.5	+0.2
	1.9nm,0.4s,mb4.5						
WRA	Warramunga Arr	48.91	257	P	P	21 16 46.6	+0.2
	0.8nm,0.4s,mb4.1,baz=91,slow=6.8,SNR=18						
ASAR	Alice Springs	49.17	252	P	P	21 16 48.1	-0.3
	6.1nm,0.6s,mb4.8,baz=86,slow=7.9,SNR=50						
ASPA	Alice Springs	49.17	252	*e*P	P	21 16 47.9	-0.5
DLBC	Dease Lake	82.29	22	LR	LR	21 52 11.6	
	comp=Z,83nm,19.7s,MS4.1,baz=274,slow=32						

IDC 15 21:08:33.9±2.0, 22.96S×170.97E, mb3.8/4, mb1 4.1/5, mb1mx3.9/14, mbtmp3.8/5, ML3.9/1, MS3.5/2, Ms1 3.5/2, ms1mx3.2/24, Error ellipse: s-maj=95.2km s-min=27.4km az=170.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.28	281	Pn	Pn	21 09 41.3	-0.5
	7.0nm,0.3s,baz=126,slow=14,SNR=65						
DZM				Sn	Sn	21 10 32.1	-1.2
	6.2nm,0.3s,baz=315,slow=22,SNR=3.9						
URZ	Urewera	16.14	162	LR	LR	21 17 25.3	
	comp=Z,270nm,18.8s,baz=126,slow=33						
CTA	Charters Tower	23.17	272	LR	LR	21 19 43.1	
	comp=Z,94nm,21.9s,baz=128,slow=29						
ASAR	Alice Springs	33.99	261	P	P	21 15 19.9	-1.7
	0.8nm,0.8s,baz=95,slow=9.6,SNR=7.1						
WRA	Warramunga Arr	34.17	268	P	P	21 15 20.3	-2.9
	0.3nm,0.3s,baz=97,slow=8.4,SNR=14						
CMAR	Chiang Mai Arr	81.50	294	P	P	21 20 54.6	-0.4
	0.7nm,0.6s,baz=128,slow=2.9,SNR=5.3						
NVAR	Mina Array Bea	90.06	48	P	P	21 21 36.7	-0.4
	0.8nm,0.7s,baz=225,slow=8.4,SNR=4.4						
GERES	GERESS Array B	148.51	331	PKPbc	PKPdf	21 28 20.8	+0.2
	1.6nm,0.8s,baz=45,slow=1.9,SNR=12						

*NEIC **15** 21:10:33.0, 15.70N×93.89W, h20km, MD4.0(MEX), After MEX.*

MEX 15 21:10:31.8±1.0, 15.65N×93.85W, h16km±15km, MD4.0, 2C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	San Cristobal	1.59	47	*e*P	Pn	21 10 57.0	-2.6
SCX				*e*S	Sn	21 11 16.5	-3.4
SCX	San Cristobal	1.59	47	*e*P	Pn	21 10 56.8	-2.8
SCX				*e*S	Sn	21 11 16.0	-3.9
CMIG	Matias Romero	1.74	325	*i*P	Pn	21 10 57.6	-4.2
CMIG				*i*S	Sn	21 11 18.4	-5.3
CMIG	Matias Romero	1.74	325	⇑*i*P	Pn	21 10 57.6	-4.1
CMIG				*i*S	Sn	21 11 18.4	-5.3
CCIG	Comitan	1.76	69	*i*P	Pn	21 10 58.2	-3.8
CCIG				*i*S	Sn	21 11 18.1	-6.2
HUIG	Huatulco	2.18	273	*i*P	Pn	21 11 04.5	-3.5
HUIG				*e*S	Sn	21 11 30.2	-4.6
HUIG	Huatulco	2.18	273	⇑*i*P	Pn	21 11 04.5	-3.5
HUIG				*i*S	Sn	21 11 29.4	-5.4
OXX	Oaxaca	3.10	298	*e*P	Pn	21 11 19.0	-2.2
OXX				*e*S	Sn	21 11 53.0	-5.2
VHO	Vista Hermosa	3.11	297	*i*P	Pn	21 11 18.5	-2.8
VHO				*e*S	Sn	21 11 52.7	-5.6
VHO	Vista Hermosa	3.11	297	*i*P	Pn	21 11 18.5	-2.8
VHO				*i*S	Sn	21 11 54.0	-4.4
TEIG	Tepich	6.99	49	*e*Pn	Pn	21 12 05.0	-11
	11nm,0.4s						

*MOS **15** 21:14:57.7±2.5, 41.12N×46.36E, h11km, mb4.1/1, Error ellipse: s-maj=47.9km s-min=32.0km az=49.5*

*TIF **15** 21:15:07.6, 41.35N×46.89E, h10km±3km*

*CSEM **15** 21:15:07.5±0.4, 41.39N×46.94E, h2km, mb4.1, Error ellipse: s-maj=11.8km s-min=5.0km az=149.0*

ISC 15 21:15:07.4±0.9, 41.37N±0.09×47.02E±0.05, h10km, n10, σ0§97/18, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKT	Akhty	0.54	78	⇓*i*PG	Pg	21 15 18.0	-0.4
AKT				pmax	pmax		
	comp=Z,103nm,0.3s						
AKT	Akhty	0.54	78	*i*Pg	Pg	21 15 18.0	-0.4
	comp=Z,103nm,0.3s						
KSMR	Kasumkent	0.86	74	*i*PG	Pg	21 15 25.0	+0.2
KSMR				*i*S	Sg	21 15 41.0	+4.7
KSMR				pmax	pmax		
	comp=Z,104nm,0.2s						
KSMR	Kasumkent	0.86	74	*i*Pg	Pg	21 15 25.0	+0.2
	comp=Z,104nm,0.2s						
KSMR				*i*Sg	Sg	21 15 41.0	+4.7
URKR	Urkarakh	0.92	30	*e*Pg	Pg	21 15 25.0	-0.9
URKR				*e*Sg	Sg	21 15 49.0	+11
DGRG	David-gareji	1.25	274	P	Pb	21 15 30.2	-0.4
DGRG				S	Sb	21 15 48.3	+1.9
DBC	Dubki	1.66	355	*e*PN	Pn	21 15 36.0	-0.8
DBC				*e*S	Sn	21 15 59.0	+0.7
MTA	Mtatsminda	1.71	282	P	Pn	21 15 37.4	-0.1
MTA				S	Sn	21 15 59.2	-0.3
TI2	Plekhanov	1.75	283	*i*P	Pn	21 15 38.2	+0.2
	comp=Z,20nm,0.2s						
TI2				*i*S	Sn	21 16 00.2	-0.3
	comp=Z,110nm,0.4s						
TBLG	Delisi	1.75	283	P	Pn	21 15 38.2	0.0
TBLG				S	Sn	21 16 00.4	-0.3

MAN 15 21:26:25.9, 12.20N×123.86E, h8km, mb4.1, ML3.0, MS2.7, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.28	305	*i*P	Pg	21 26 32.0	+0.2
MMPH				*i*S	Sg	21 26 36.0	+0.3
CNP	Cataman	0.84	68	*e*P	Pb	21 26 42.2	-0.2
RCP	Roxas	1.26	240	⇑*i*P	Pb	21 26 49.4	-0.2
RCP				*e*S	Sb	21 27 07.1	+1.3
PVCP	Virac	1.42	11	*e*P	Pn	21 26 50.9	-1.2
PLP	Palo	1.50	133	*e*P	Pn	21 26 52.9	-0.3
PLP				*e*S	Sb	21 27 15.7	+3.1
BESP	Borongan	1.65	111	*e*P	Pn	21 26 54.8	-0.6
LLP	Lapu-Lapu	1.87	177	⇑*i*P	Pn	21 26 57.8	-0.7
LLP				*e*S	Sn	21 27 21.4	-1.2

*BJI **15** 21:26:42.3, 50.15N×87.82E, h11km, mB4.6, mb3.9, ML4.6, Ms4.2, Msz3.9*

*MOS **15** 21:26:44.1±1.9, 49.95N×88.09E, h15km, mb3.9/10, Error ellipse: s-maj=12.4km s-min=6.7km az=102.1*

*NEIC **15** 21:26:46.4±0.5, 50.06N×88.01E, h10km, mb4.0/10, Error ellipse: s-maj=11.3km s-min=7.8km az=57.0*

*IDC **15** 21:26:48.0±2.4, 50.02N×88.14E, h23km±15km, mb3.5/9, mb1 3.7/11, mb1mx3.6/23, mbtmp3.7/11, ML4.2/2, MS3.4/1, Ms1 3.4/1, ms1mx2.8/19, Error ellipse: s-maj=18.0km s-min=10.1km az=40.0*

*NNC **15** 21:26:51.1±3.5, 50.80N×86.36E, Error ellipse: s-maj=116.7km s-min=29.4km az=136.0*

ISC 15 21:26:44.3±1.1, 49.98N±0.03×88.10E±0.06, h7km±7km, n62, σ1§25/73, mb3.9/17, 3C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	Aktash	0.47	318	*i*PG	Pg	21 26 53.0	-0.6
AKAR				*i*S	Sg	21 27 00.0	+0.1
KTNR	Kaitanak	1.71	277	*e*PN	Pn	21 27 14.8	+0.1
KTNR				*e*S	Sn	21 27 37.9	+1.0
ELDR	Elanda	1.79	315	*e*PN	Pn	21 27 16.9	+1.1
ELDR				*e*S	Sn	21 27 40.4	+1.5
ARTR	Artybash	1.90	344	*e*PN	Pn	21 27 18.8	+1.4
ARTR				*e*S	Sn	21 27 46.8	+5.0
ELT	Yel'tsovka	3.49	341	*e*PN	Pn	21 27 43.3	+3.2
ELT				*e*S	Sn	21 28 31.2	+9.1
CERR	Cheremushki	3.55	34	*i*PN	Pn	21 27 50.3	+9.4
CERR				*i*S	Sn	21 28 35.2	+12
ZAL	Zalesovo	4.46	334	PN	Pn	21 27 54.6	+0.7
ZAL						21 28 06.5	
ZAL						21 28 46.6	
ZAL				pmax	pmax		
	comp=Z,21nm,0.3s						
ZAL				pmax	pmax		
	comp=Z,39nm,0.3s						
ZAL	Zalesovo	4.46	334	Pn	Pn	21 27 54.5	+0.6
	comp=Z,21nm,0.3s,baz=323,slow=11,SNR=134						
ZAL				Pg	Pg	21 28 06.5	-6.9
	comp=Z,38nm,0.3s,baz=324,slow=13,SNR=30						
ZAL				Sn	Sn	21 28 46.6	-0.1
	comp=Z,26nm,0.3s,baz=259,slow=15,SNR=4.9						
ZAL				Lg		21 29 07.0	
	comp=Z,23nm,0.3s,baz=269,slow=20,SNR=3.7						
NVS	Novosibirsk	5.71	330	*e*PN	Pn	21 28 12.3	+0.8
NVS				*e*		21 28 27.6	
NVS				*e*		21 29 17.4	
NVS				*e*S	Sn	21 29 42.6	+24
WMQ	Urumqi	6.16	183	*e*P	Pn	21 28 19.0	+1.1
WMQ				Smax			
	comp=N,168nm,1.0s						
WMQ				Smax			
	comp=E,201nm,1.0s						
MOY	Mondy	8.34	73	*e*P	P	21 28 54.4	+6.0
MOY				pmax	pmax		
	comp=Z,25nm,1.5s						
TKM2	Tokmak 2	11.14	235	P	P	21 29 26.0	-0.8
	SNR=12						
ULHL	Ulahol	11.28	231	P	P	21 29 29.5	+0.6
	SNR=12						
BVAR	Borovoye Array	11.45	292	Pn	P	21 29 28.4	-2.8

LZH			AMB	AMB		
	comp=Z,120nm,4.0s					
LZH			LR	LR		
	comp=N,775nm,12.1s					
LZH			LR	LR		
	comp=Z,999nm,13.0s					
LZH	**Lanzhou**	**17.98**	**135**	*e*P	**P**	**21 30 59.5 +3.4**
	comp=Z,28nm,1.5s					
LZH				pP		21 31 08.3
LZH				sP		21 31 14.5
ARU	**Arti**	**18.74**	**301**	*e*P	**P**	**21 31 05.0 -0.4**
ARU				*e*S	**S**	**21 34 23.4 -7.9**
ARU	**Arti**	**18.74**	**301**	*e*P	**P**	**21 31 04.4 -1.0**
	comp=Z,4.2nm,0.6s					
LSA	**Lhasa**	**20.38**	**172**	P	**P**	**21 31 27.0 +2.9**
LSA	**Lhasa**	**20.38**	**172**	*e*P	**P**	**21 31 26.1 +2.0**
LSA				pmax	pmax	
	comp=Z,2.0nm,0.4s					
LSA	**Lhasa**	**20.38**	**172**	*e*P	**P**	**21 31 26.1 +2.0**
	comp=Z,1.5nm,0.4s					
GUN	**Gumba**	**22.10**	**185**	*e*P	**P**	**21 31 44.7 +3.1**
	comp=Z,18nm,0.5s,mb4.7					
GKN	**Gorkha**	**22.10**	**188**	*e*P	**P**	**21 31 44.5 +2.9**
	comp=Z,5.8nm,0.4s,mb4.4					
KKN	**Kakani**	**22.26**	**187**	*e*P	**P**	**21 31 42.9 -0.3**
	comp=Z,7.7nm,0.6s,mb4.3					
KKN	**Kakani**	**22.26**	**187**	*e*P	**P**	**21 31 42.9 -0.3**
KKN				pmax	pmax	
	comp=Z,4.0nm,0.6s,mb4.0					
JIRN	**Jiri**	**22.33**	**184**	*e*P	**P**	**21 31 43.6 -0.3**
	comp=Z,7.2nm,0.4s,mb4.4					
DMN	**Daman**	**22.45**	**187**	*e*P	**P**	**21 31 41.1 -4.0**
	comp=Z,7.4nm,0.6s,mb4.3					
PKI	**Pulchoki**	**22.47**	**186**	*e*P	**P**	**21 31 41.0 -4.3**
CMAR	**Chiang Mai Arr**	**32.62**	**161**	P	**P**	**21 33 19.1 +0.4**
CMAR				pmax	pmax	
	comp=Z,1.0nm,0.8s					
CMAR	**Chiang Mai Arr**	**32.62**	**161**	P	**P**	**21 33 19.1 +0.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=344,slow=10,SNR=7.2					
JOF	**Joensuu**	**32.78**	**315**	*e*p	**P**	**21 33 11.3 -8.2**
	comp=Z,0.1nm,0.2s,mb3.4					
KAF	**Kangasniemi**	**35.17**	**314**	*e*p	**P**	**21 33 37.2 -3.1**
	comp=Z,0.7nm,0.6s,mb3.8					
KAF	**Kangasniemi**	**35.17**	**314**	*e*P	**P**	**21 33 37.2 -3.1**
KAF				pmax	pmax	
	comp=Z,1.0nm,0.6s,mb3.9					
FINES	**FINESS Array B**	**35.39**	**313**	P	**P**	**21 33 41.0 -1.1**
FINES				pmax	pmax	
	comp=Z,1.0nm,0.4s					
FINES	**FINESS Array B**	**35.39**	**313**	P	**P**	**21 33 41.0 -1.2**
	comp=Z,0.5nm,0.3s,mb3.9,baz=72,slow=9.4,SNR=17					
AKASG	**Malin Array Be**	**36.72**	**294**	P	**P**	**21 33 52.8 -0.6**
	comp=Z,0.4nm,0.3s,mb3.7,baz=59,slow=9.3,SNR=5.2					
BRTR	**Keskin Array B**	**39.15**	**276**	P	**P**	**21 34 13.9 -0.1**
BRTR				pmax	pmax	
	comp=Z,1.0nm,0.4s					
BRTR	**Keskin Array B**	**39.15**	**276**	P	**P**	**21 34 13.9 -0.1**
	comp=Z,0.9nm,0.4s,mb3.8,baz=76,slow=5.1,SNR=7.8					
NB2	**NORSAR Subarra**	**42.41**	**315**	P	**P**	**21 34 39.3 -1.1**
	comp=Z,0.7nm,0.6s,mb3.5,baz=64,slow=7.4					
NOA	**NORSAR Array B**	**42.41**	**315**	P	**P**	**21 34 39.7 -0.7**
NOA				pmax	pmax	
	comp=Z,1.0nm,0.6s					
NOA	**NORSAR Array B**	**42.41**	**315**	P	**P**	**21 34 39.6 -0.7**
	comp=Z,0.8nm,0.6s,mb3.5,baz=64,slow=7.8,SNR=5.6					
ILAR	**Eielson Array**	**57.91**	**24**	P	**P**	**21 36 37.0 -1.7**
	comp=Z,0.4nm,0.7s,mb3.6,baz=314,slow=5.2,SNR=7.5					
INK	**Inuvik**	**58.03**	**17**	P	**P**	**21 36 38.8 -0.6**
INK				pmax	pmax	
	comp=Z,1.0nm,0.5s					
INK	**Inuvik**	**58.03**	**17**	P	**P**	**21 36 38.8 -0.6**
	comp=Z,0.8nm,0.5s,mb4.0					
YKA	**Yellowknife Ar**	**66.44**	**11**	P	**P**	**21 37 35.2 -0.3**
	comp=Z,0.1nm,0.5s,mb3.1,baz=342,slow=6.6,SNR=4.2					
WRA	**Warramunga Arr**	**80.72**	**136**	P	**P**	**21 38 58.9 -0.6**
WRA				pmax	pmax	
	comp=Z,1.0nm,0.7s					
WRA	**Warramunga Arr**	**80.72**	**136**	P	**P**	**21 38 58.9 -0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=341,slow=5.7,SNR=9.5					
ASAR	**Alice Springs**	**83.80**	**139**	P	**P**	**21 39 15.1 -0.3**
	comp=Z,0.5nm,0.7s,mb3.8,baz=328,slow=5.4,SNR=6.6					

BJI ***15*** *21:32:29.3, 0.88N×97.32E, h33km, mB5.0, mb5.1, Ms4.8, Msz4.6*

IDC ***15*** *21:32:31.2±0.4, 1.21N×97.18E, h20km±2km, mb4.4/19, mb1 4.5/20, mb1mx4.5/22, mbtmp4.5/20, ML5.0/1, MS4.1/11, Ms1 4.1/11, ms1mx3.9/30, Error ellipse: s-maj=16.5km s-min=9.4km az=45.0*

HRVD ***15*** *21:32:31.3±1.0, 0.98N×96.73E, h24km±2km, MW4.7/31, Centroid moment Tensor Solution. LP body waves: s11,c14;Mantle waves: s31,c47; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.99±.16; $M_{\theta\theta}$-0.27±.09; $M_{\phi\phi}$-0.72±.11; $M_{r\theta}$0.37±.13; $M_{\theta\phi}$0.56±.06; $M_{\phi r}$-0.93±.16; Best double couple: $M_0$1.449×10^{16} NP1:ϕ_s316°, δ24°, λ73°. NP2:ϕ_s155°, δ67°, λ98°. Principal axes: T 1.406, Plg67°, Azm79°; N .088, Plg7°, Azm332°; P -1.493, Plg22°, Azm239°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***15*** *21:32:31.3±0.3, 1.10N×97.11E, mb5.0/42 Error ellipse: s-maj=7.3km s-min=5.4km az=47.0*

MOS ***15*** *21:32:35.2±1.9, 1.63N×97.97E, h33km, mb5.1/20, MS4.6/6, Error ellipse: s-maj=21.2km s-min=10.3km az=98.5*

ISC 15 21:32:29.6±0.3, 1.08N±0.04×97.21E±0.04, h23km, h23km±.4km: pP-P, n167, σ1§15/159, mb4.9/77, MS4.4/31, 27C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.16**	**48**	P	**Pn**	**21 33 48.6**	**+1.1**
KULM	**Kulim**	**5.41**	**39**	*e*Pn	**Pn**	**21 33 51.4**	**+0.3**
KGM	**Kluang**	**6.17**	**81**	P	**Pn**	**21 34 03.3**	**+1.4**
SNG	**Songkhla**	**6.94**	**29**	P	**Pn**	**21 34 11.0**	**-1.7**
	484nm,0.8s						
KSM	**Kuching**	**13.10**	**88**	*e*Pn	**P**	**21 35 37.6**	**+0.4**
NST	**Nakhon Sawan**	**14.78**	**11**	P	**P**	**21 36 02.5**	**+3.1**
CM31	**Chiang Mai Arr**	**17.35**	**6**	*e*P	**P**	**21 36 30.8**	**-1.4**
	18nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.35**	**6**	P	**P**	**21 36 30.5**	**-1.7**
	1.9nm,0.3s,baz=194,slow=10.0,SNR=85						
CMAR				LR	LR	21 44 42.5	
	comp=Z,546nm,18.6s,baz=185,slow=42						
PALK	**Pallekele**	**17.57**	**291**	*e*P	**P**	**21 36 32.7**	**-2.3**
	35nm,1.2s						
CHG	**Chiang Mai**	**17.70**	**5**	⇑P	**P**	**21 36 34.9**	**-1.7**
	14nm,0.8s						
NANT	**Nan**	**17.94**	**11**	⇓P	**P**	**21 36 42.0**	**+2.5**
	688nm,0.5s						
KKM	**Kota Kinabalu**	**19.59**	**75**	*e*P	**P**	**21 36 58.9**	**-0.5**
KKM	**Kota Kinabalu**	**19.59**	**75**	P	**P**	**21 36 58.6**	**-0.7**
VIS	**Vishakhapatnam**	**21.44**	**321**	*e*P	**P**	**21 37 21.6**	**+3.0**
QIZ	**Qiongzhong**	**21.71**	**34**	P	**P**	**21 37 21.1**	**-0.2**
QIZ				AP		21 37 27.4	
QIZ				S	**S**	**21 41 15.9**	**+0.5**
QIZ				XS		21 41 29.6	
QIZ				AMB	AMB		
	comp=Z,44nm,1.3s,mb4.7						
QIZ				LR	LR		
	comp=E,950nm,14.7s						
QIZ				LR	LR		
	comp=Z,974nm,12.5s,MS4.4						
QIZ	**Qiongzhong**	**21.71**	**34**	*e*P	**P**	**21 37 21.3**	**0.0**
	comp=Z,50nm,1.1s,mb4.9						
KMI	**Kunming**	**24.49**	**12**	⇑P	**P**	**21 37 50.3**	**+1.7**
KMI				AP		21 37 56.9	
KMI				XP		21 37 59.8	
KMI				PP	PP	21 38 27.3	+2.8
KMI				S	**S**	**21 42 08.1**	**+3.5**
KMI				XS		21 42 18.3	
KMI				SS	SS	21 43 05.6	+5.6
KMI				AMB	AMB		
	comp=Z,124nm,1.0s,mb5.3						
KMI				AMB	AMB		
	comp=Z,344nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,14.5s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,14.5s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,14.5s,MS4.7						
KMI	**Kunming**	**24.49**	**12**	⇑P	**P**	**21 37 50.3**	**+1.7**
	comp=Z,124nm,1.0s,mb5.3						
KMI				pP		21 37 56.9	
KMI				sP		21 37 59.7	
KMI				PP	PP	21 38 27.3	+2.8
KMI				S	**S**	**21 42 08.1**	**+3.5**
KMI				sS		21 42 18.3	
KMI				SS	SS	21 43 05.6	+5.6
KMI				LR	LR		
	comp=Z,2μm,14.5s,MS4.7						
HYB	**Hyderabad**	**24.50**	**313**	*i* P	**P**	**21 37 51.0**	**+2.3**
HYB				*e*		21 37 56.0	
SHL	**Shillong**	**24.88**	**348**	⇑*i*P	**P**	**21 37 53.0**	**+0.7**
SHL				*e*S	**S**	**21 42 13.0**	**+1.8**
LKP	**Lekhapani**	**26.13**	**358**	*e*P	**P**	**21 38 05.0**	**+1.0**
LKP				*e*	pP	21 38 12.0	+1.2
GYA	**Guiyang**	**26.82**	**19**	⇑*i*P	**P**	**21 38 10.0**	**-0.4**
GYA				AP	pP	21 38 17.4	+0.2
GYA				XP	sP	21 38 20.3	+0.1
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,200nm,5.4s						
GYA				LR	LR		
	comp=N,430nm,16.8s,MS4.5						
GYA				LR	LR		
	comp=E,1μm,17.1s,MS4.5						
GYA				LR	LR		
	comp=Z,2μm,13.2s,MS4.8						
JIRN	**Jiri**	**28.46**	**339**	*e*P	**P**	**21 38 26.0**	**+0.8**
	comp=Z,110nm,0.9s,mb5.5						
PKI	**Pulchoki**	**28.67**	**338**	*e*P	**P**	**21 38 27.2**	**+0.1**
	comp=Z,90nm,1.1s,mb5.4						
GUN	**Gumba**	**28.80**	**339**	*e*P	**P**	**21 38 29.0**	**+0.7**
	comp=Z,170nm,1.1s,mb5.7						
DMN	**Daman**	**28.82**	**337**	*e*P	**P**	**21 38 28.7**	**+0.3**
	comp=Z,45nm,0.8s,mb5.2						
KKN	**Kakani**	**28.91**	**338**	*e*P	**P**	**21 38 29.4**	**+0.1**
	comp=Z,88nm,1.0s,mb5.5						
LSA	**Lhasa**	**29.04**	**349**	P	**P**	**21 38 31.4**	**+1.0**
LSA	**Lhasa**	**29.04**	**349**	*e*P	**P**	**21 38 31.2**	**+0.8**
	comp=Z,24nm,0.9s,mb4.9						
GKN	**Gorkha**	**29.35**	**337**	*e*P	**P**	**21 38 33.4**	**+0.1**
	comp=Z,81nm,0.9s,mb5.5						
KOLN	**Koldanda**	**29.57**	**335**	*e*P	**P**	**21 38 35.5**	**+0.3**
	comp=Z,56nm,0.7s,mb5.4						
CD2	**Chengdu**	**30.31**	**11**	⇑*i*P	**P**	**21 38 40.4**	**-1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.3s,mb5.0						
ENH	**Enshi**	**31.29**	**21**	*e*P	**P**	**21 38 48.7**	**-1.7**
	comp=Z,68nm,0.9s,mb5.5						
ENH				*e*pP	pP	21 38 55.3	-1.9
QZH	**Quanzhou**	**31.46**	**39**	P	**P**	**21 38 51.3**	**-0.6**
QZH				*e*S	**S**	**21 43 56.0**	**-1.3**
QZH				LR	LR		
	comp=N,910nm,9.5s						
QZH				LR	LR		
	comp=E,1μm,14.1s						
QZH				LR	LR		
	comp=Z,2μm,15.1s,MS4.9						
LGTI	**Lohaghat**	**32.52**	**332**	*e*P	**P**	**21 39 02.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**33.85**	**126**	P	**P**	**21 39 12.2**	**-0.6**
	comp=Z,16nm,0.7s,mb5.0,baz=324,slow=2.9,SNR=18						
FITZ				pP	pP	21 39 19.2	-0.5
	comp=Z,14nm,0.8s,baz=329,slow=4.3,SNR=6.9						
XAN	**Xi'an**	**34.57**	**17**	P	**P**	**21 39 17.6**	**-1.3**
XAN				AP	pP	21 39 24.9	-0.9
XAN				AMB	AMB		
	comp=Z,46nm,0.8s,mb5.5						
LZH	**Lanzhou**	**35.37**	**9**	⇑P	**P**	**21 39 25.5**	**-0.2**
LZH				AP	pP	21 39 32.4	-0.2
LZH				XP	sP	21 39 36.0	+0.4
LZH				AMB	AMB		
	comp=Z,55nm,1.2s,mb5.4						
LZH				AMB	AMB		
	comp=Z,190nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,15.0s						
LZH				LR	LR		
	comp=Z,2μm,16.0s,MS4.9						
SMLA	**Simla**	**35.40**	**330**	⇓*i*	**P**	**21 39 18.6**	**-7.4**
SDNR	**Sundarnagar**	**35.80**	**330**	*e*P	**P**	**21 39 30.4**	**+1.0**
NJ2	**Nanjing**	**36.96**	**31**	*e*P	**P**	**21 39 40.1**	**+1.0**
NJ2				AP	pP	21 39 47.5	+1.4
NJ2				XP	sP	21 39 50.4	+1.4
NJ2				PP	PP	21 41 07.4	+1.9
NJ2				S	**S**	**21 45 26.0**	**+3.6**
NJ2				XS		21 45 40.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,140nm,10.2s						
NJ2				LR	LR		
	comp=N,1μm,13.6s,MS4.8						
NJ2				LR	LR		
	comp=E,670nm,16.5s,MS4.8						
NJ2				LR	LR		
	comp=Z,720nm,12.2s,MS4.7						
THN	**Thein Dam**	**37.19**	**329**	*e*	**P**	**21 39 45.1**	**+4.1**
SSE	**Sheshan**	**37.50**	**35**	*e*P	**P**	**21 39 39.3**	**-4.4**
SSE				PP	PP	21 41 08.1	-4.0
SSE				PCP	PcP	21 41 59.4	-2.8
SSE				S	**S**	**21 45 21.3**	**-9.5**
SSE				SS	SS	21 48 09.4	+5.2
SSE				SCS	ScS	21 49 54.9	+1.2
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,35nm,3.5s						
SSE				LR	LR		
	comp=N,418nm,13.4s,MS4.4						
SSE				LR	LR		
	comp=E,138nm,13.5s,MS4.4						
SSE				LR	LR		
	comp=Z,591nm,13.7s,MS4.5						
SSE	**Sheshan**	**37.50**	**35**	*e*P	**P**	**21 39 39.2**	**-4.5**
	comp=Z,39nm,0.7s,mb5.2						
SSE				pP	pP	21 39 48.2	-2.5
SSE				PP	PP	21 41 08.1	-4.0
SSE				PcP	PcP	21 41 59.4	-2.8
SSE				S	**S**	**21 45 21.2**	**-10**
SSE				sS		21 45 37.7	
SSE				SS	SS	21 48 09.4	+5.2
SSE				ScS	ScS	21 49 54.9	+1.2
SSE				LR	LR		
	comp=Z,590nm,13.7s,MS4.5						
KAKA	**Kakadu**	**37.55**	**113**	⇑*i*P	**P**	**21 39 43.0**	**-1.2**
	comp=Z,21nm,0.9s,mb4.9						
KLBR	**Kellerberrin**	**37.89**	**151**	*e*P	**P**	**21 39 55.6**	**+8.7**
	comp=Z,255nm,1.2s,mb5.8						
GTA	**Gaotai**	**38.22**	**3**	*e*P	**P**	**21 39 49.9**	**+0.2**
GTA				AP	pP	21 39 56.6	0.0
GTA				XP	sP	21 40 00.3	+0.8
GTA				PP	PP	21 41 21.1	+0.5
GTA				PCP	PcP	21 42 05.0	+0.6
GTA				S	**S**	**21 45 43.8**	**+2.2**
GTA				SS	SS	21 48 22.5	+2.0
GTA				AMB	AMB		
	comp=Z,58nm,0.8s,mb5.4						
GTA				AMB	AMB		
	comp=Z,147nm,5.7s						
GTA				LR	LR		
	comp=N,354nm,15.3s,MS4.4						
GTA				LR	LR		
	comp=E,331nm,14.9s,MS4.4						
GTA				LR	LR		
	comp=Z,446nm,16.4s,MS4.4						
NWAO	**Narrogin (SRO)**	**38.74**	**153**	P	**P**	**21 39 57.1**	**+3.0**
	comp=Z,4.9nm,0.9s,mb4.2,baz=18,slow=6.4,SNR=2.6						
HHC	**Hu-ho-hao-te**	**41.67**	**16**	*e*P	**P**	**21 40 19.3**	**+1.1**
HHC				AP	pP	21 40 27.8	+2.6
HHC				XP	sP	21 40 31.0	+2.9
HHC				PP	PP	21 42 00.5	+2.8
HHC				PCP	PcP	21 42 11.3	-4.1
HHC				SCP		21 46 04.9	
HHC				PCS		21 46 08.3	
HHC				S	**S**	**21 46 35.8**	**+2.5**
HHC				XS		21 46 46.9	
HHC				SS	SS	21 49 34.8	+1.0
HHC				SCS	ScS	21 50 17.8	-0.1
HHC				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,108nm,5.6s						
HHC				LR	LR		
	comp=N,570nm,15.9s,MS4.7						
HHC				LR	LR		
	comp=E,470nm,15.3s,MS4.7						
HHC				LR	LR		
	comp=Z,583nm,16.4s,MS4.5						
WRA	**Warramunga Arr**	**41.96**	**122**	P	**P**	**21 40 20.8**	**-0.1**
	comp=Z,9.1nm,0.7s,mb4.5,baz=300,slow=9.1,SNR=88						
WRA				pP	pP	21 40 27.8	0.0
	comp=Z,9.0nm,0.7s,baz=302,slow=9.0,SNR=17						
WRAB	**Tennant Creek**	**41.97**	**122**	*d i*P	**P**	**21 40 21.6**	**+0.7**
WRAB	**Tennant Creek**	**41.97**	**122**	*e*P	**P**	**21 40 21.0**	**+0.1**
	comp=Z,15nm,0.7s,mb4.7						
WRAB				*e*pP	pP	21 40 28.4	+0.5
WB2	**Warramunga Arr**	**41.97**	**122**	*e*P	**P**	**21 40 20.9**	**0.0**
BJT	**Baijiatuau**	**42.42**	**22**	*e*P	**P**	**21 40 25.1**	**+0.7**
	comp=Z,35nm,0.6s,mb5.2						
BJT				*e*pP	pP	21 40 32.0	+0.6
BJI	**Beijing**	**42.45**	**22**	*e*P	**P**	**21 40 25.3**	**+0.7**
BJI				XP	sP	21 40 37.9	+3.5
BJI				PP	PP	21 42 07.3	+1.5
BJI				AMB	AMB		
	comp=Z,58nm,1.0s,mb5.2						
BJI				LR	LR		
	comp=N,342nm,15.7s,MS4.4						
BJI				LR	LR		
	comp=E,268nm,16.4s,MS4.4						
BJI				LR	LR		
	comp=Z,203nm,16.6s,MS4.1						
KSH	**Kashi**	**42.88**	**336**	*e*P	**P**	**21 40 28.0**	**-0.2**
KSH				*e*AP	pP	21 40 35.3	+0.1
KSH				*e*PP	PP	21 42 10.1	-0.1
KSH				*e*PCP	PcP	21 42 19.0	-0.4
KSH				*e*SCP		21 46 07.1	
KSH				*e*PCS		21 46 10.0	
KSH				*e*S	**S**	**21 46 50.0**	**-1.1**
KSH				*e*SS	SS	21 49 55.1	-1.5
KSH				*e*SCS	ScS	21 50 25.0	-0.3
KSH				AMB	AMB		
	comp=Z,120nm,2.7s,mb5.2						
KSH				LR	LR		
	comp=N,280nm,5.7s						
KSH				LR	LR		
	comp=E,390nm,4.8s						
FORT	**Forrest**	**43.18**	**140**	*e*P	**P**	**21 40 32.7**	**+2.0**
	comp=E,196nm,0.5s						
FORT				*i*	pP	21 40 40.1	+2.5
ASPA	**Alice Springs**	**43.31**	**127**	*e*P	**P**	**21 40 31.7**	**-0.1**
ASAR	**Alice Springs**	**43.31**	**127**	P	**P**	**21 40 32.6**	**+0.8**
	comp=E,9.3nm,0.9s,mb4.5,baz=304,slow=7.5,SNR=71						
ASAR				pP	pP	21 40 39.5	+0.6
	comp=E,15nm,0.9s,baz=300,slow=8.0,SNR=29						
ASAR				PcP	PcP	21 42 22.2	+1.2
	comp=E,1.1nm,0.9s,baz=315,slow=10,SNR=3.5						
ASAR				ScP		21 46 11.5	
	comp=E,1.3nm,0.9s,baz=298,slow=3.6,SNR=5.0						
WMQ	**Urumqi**	**43.39**	**350**	P	**P**	**21 40 33.0**	**+0.8**
WMQ				AP	pP	21 40 40.5	+1.3
WMQ				XP	sP	21 40 43.8	+1.7
WMQ				PP	PP	21 42 16.0	+0.8
WMQ				PCP	PcP	21 42 22.1	+1.0
WMQ				SCP		21 46 10.5	
WMQ				S	**S**	**21 46 58.6**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,28nm,1.1s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,83nm,2.6s,mb5.0						
WMQ				LR	LR		
	comp=N,141nm,19.6s,MS4.1						
WMQ				LR	LR		
	comp=E,198nm,24.2s,MS4.1						
WMQ				LR	LR		
	comp=Z,116nm,20.7s,MS3.8						
DL2	**Dalian**	**43.78**	**28**	P	**P**	**21 40 36.5**	**+1.1**
DL2				*e*S	**S**	**21 47 02.4**	**-1.7**
DL2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
DL2				LR	LR		
	comp=N,200nm,14.3s						
DL2				LR	LR		
	comp=Z,240nm,13.3s,MS4.3						
ULHL	**Ulahol**	**45.11**	**338**	P	**P**	**21 40 46.8**	**+0.7**
	SNR=15						
KZA	**Kyzart**	**45.35**	**337**	P	**P**	**21 40 49.2**	**+1.2**
	SNR=6.1						
UCH	**Uchtor**	**45.76**	**336**	P	**P**	**21 40 52.5**	**+1.2**
	SNR=24						
KS15	**Wonju Array Si**	**45.91**	**34**	*e*P	**P**	**21 40 52.3**	**-0.2**
KS15				*e*pP	pP	21 40 59.2	-0.3
TKM2	**Tokmak 2**	**45.93**	**338**	P	**P**	**21 40 53.4**	**+0.8**
	SNR=16						
KBK	**Karagaybulak**	**45.95**	**337**	P	**P**	**21 40 54.7**	**+1.9**
	SNR=14						
AML	**Almayashu**	**46.02**	**336**	P	**P**	**21 40 54.4**	**+1.1**
	SNR=20						
AAK	**Ala-Archa**	**46.11**	**337**	⇓*i*P	**P**	**21 40 57.5**	**+3.5**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**46.11**	**337**	*e*P	**P**	**21 40 53.8**	**-0.2**
	comp=Z,10nm,0.9s,mb4.8						
CHMS	**Chumysh**	**46.32**	**337**	P	**P**	**21 40 56.1**	**+0.4**
	SNR=5.5						
EKS2	**Erkin-Say**	**46.42**	**336**	P	**P**	**21 40 57.6**	**+1.1**
	SNR=18						
USP	**Ospenovka**	**46.65**	**337**	P	**P**	**21 40 58.8**	**+0.6**
	SNR=47						
SNY	**Shenyang**	**47.00**	**27**	⇑P	**P**	**21 41 00.9**	**-0.2**
SNY				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
SNY				LR	LR		
	comp=N,480nm,17.3s,MS4.6						
SNY				LR	LR		
	comp=E,330nm,15.9s,MS4.6						
SNY				LR	LR		
	comp=Z,630nm,15.3s,MS4.7						
SONM	**Songino Array**	**47.25**	**8**	P	**P**	**21 41 02.7**	**-0.2**
	comp=Z,15nm,0.8s,mb5.0,baz=191,slow=9.8,SNR=72						
SONM				PcP	PcP	21 42 34.0	-0.4
	comp=Z,4.6nm,0.8s,baz=196,slow=4.5,SNR=5.3						
ULN	**Ulaanbaatar**	**47.38**	**9**	*c i*P	**P**	**21 41 04.0**	**0.0**
ULN	**Ulaanbaatar**	**47.38**	**9**	*e*P	**P**	**21 41 03.8**	**-0.2**
	comp=Z,11nm,0.8s,mb4.8						
ZAK	**Zakamensk**	**49.39**	**5**	*e*P	**P**	**21 41 19.5**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
MOY	**Mondy**	**50.51**	**3**	*e*P	**P**	**21 41 28.3**	**+0.3**
TLY	**Talaya**	**50.71**	**5**	⇑*i*P	**P**	**21 41 29.9**	**+0.3**
TLY				*e*		21 41 41.6	
TLY				*e*		21 43 27.3	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
TLY				MLR	MLR		
	comp=Z,333nm,17.0s,MS4.4						
TLY	**Talaya**	**50.71**	**5**	*e*P	**P**	**21 41 29.9**	**+0.3**
	comp=Z,51nm,0.9s,mb5.5						
PMG	**Port Moresby**	**50.82**	**103**	LR	LR	22 06 32.8	
	comp=Z,149nm,19.1s,MS4.0,baz=193,slow=40						
HIA	**Hailar**	**51.75**	**19**	*e*P	**P**	**21 41 37.2**	**-0.3**
	comp=Z,28nm,0.8s,mb5.2						
MAT	**Matsushiro**	**51.77**	**42**	*e*P	**P**	**21 41 36.0**	**-1.9**
MAT	**Matsushiro**	**51.77**	**42**	P	**P**	**21 41

CTA	**Charters Tower**	**52.44**	**116**	*eP*	**P**	**21 41 43.9**	**+0.8**
	comp=Z,6.5nm,1.1s,mb4.5						
CTA				*i*	pP	21 41 50.3	+0.1
CTA	**Charters Tower**	**52.44**	**116**	P	**P**	**21 41 43.5**	**+0.4**
	comp=Z,5.5nm,0.8s,mb4.5,baz=351,slow=7.2,SNR=3.2						
CTA				pP	pP	21 41 50.6	+0.4
	comp=Z,12nm,0.9s,baz=302,slow=9.0,SNR=5.2						
CTAO	**Charters Tower**	**52.44**	**116**	*eP*	**P**	**21 41 43.7**	**+0.6**
	comp=Z,15nm,0.9s,mb4.9						
CTAO				*ep*P	pP	21 41 50.4	+0.2
OPO	**Ambohidratompo**	**52.89**	**246**	P	**P**	**21 41 46.5**	**+0.1**
	comp=Z,7.7nm,0.9s,mb4.6,baz=74,slow=6.7,SNR=7.5						
STKA	**Stephens Creek**	**53.27**	**132**	⇑*i*P	**P**	**21 41 50.0**	**+0.9**
	comp=Z,9.0nm,0.8s,mb4.8						
STKA				*i*	pP	21 41 57.1	+0.9
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**21 41 49.9**	**+0.8**
	comp=Z,11nm,0.8s,mb4.8,baz=314,slow=7.7,SNR=32						
ZAL	**Zalesovo**	**53.67**	**351**	P	**P**	**21 41 51.3**	**-0.5**
	comp=Z,14nm,0.8s,mb4.9,baz=306,slow=5.4,SNR=70						
NVS	**Novosibirsk**	**54.80**	**350**	⇑*i*P	**P**	**21 41 58.5**	**-1.5**
NVS				*eS*	**S**	**21 49 37.2**	**-0.5**
NVS				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
NVS				pmax	pmax		
	comp=N,16nm,1.1s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
NVS				smax			
	comp=N,12nm,1.7s						
KLR	**Kul'dur**	**56.35**	**27**	*eP*	**P**	**21 42 08.6**	**-2.7**
KLR				pmax	pmax		
	comp=E,20nm,0.9s						
KLR				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.2						
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s,MS5.1						
BVAR	**Borovoye Array**	**56.37**	**341**	P	**P**	**21 42 10.0**	**-1.4**
	comp=Z,9.4nm,0.7s,mb4.9,baz=139,slow=8.7,SNR=69						
BVAR				pP	pP	21 42 16.5	-2.1
	comp=Z,12nm,0.7s,baz=150,slow=10,SNR=21						
BOD	**Bodaibo**	**58.12**	**10**	*eP*	**P**	**21 42 22.6**	**-1.1**
BOD				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
CLNS	**Chul'man**	**59.85**	**17**	*eP*	**P**	**21 42 34.3**	**-1.4**
CLNS				pmax	pmax		
	comp=N,12nm,0.8s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
CLNS				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,400nm,18.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,200nm,14.0s,MS4.7						
KMBO	**Kilima Mbogo**	**60.00**	**268**	P	**P**	**21 42 37.9**	**+0.6**
	comp=E,1.8nm,0.8s,mb4.2,baz=64,slow=8.3,SNR=7.7						
KMBO				pP	pP	21 42 44.7	+0.1
	comp=E,1.9nm,0.8s,baz=69,slow=22,SNR=3.9						
KMBO				LR	LR	22 06 53.4	
	comp=E,126nm,18.0s,MS4.1,baz=93,slow=34						
KMBO	**Kilima Mbogo**	**60.00**	**268**	*eP*	**P**	**21 42 34.5**	**-2.8**
	comp=E,2.7nm,0.9s,mb4.3						
KMBO				pP	pP	21 42 44.7	+0.1
KMBO				LR	LR	22 06 53.4	
YSS	**Yuzh-Sakhalins**	**60.44**	**34**	⇑*i*P	**P**	**21 42 39.8**	**-0.1**
YSS				*e*	pP	21 42 46.5	-0.6
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**60.44**	**34**	*eP*	**P**	**21 42 39.8**	**-0.1**
	comp=Z,24nm,0.9s,mb5.2						
YSS				*ep*P	pP	21 42 46.6	-0.5
ARMA	**Armidale**	**60.45**	**126**	*eP*	pP	21 42 49.1	+1.6
GNI	**Garni**	**61.39**	**316**	⇓*i*P	**P**	**21 42 51.9**	**+5.5**
GNI				pmax	pmax		
	comp=Z,13nm,1.7s						
GNI	**Garni**	**61.39**	**316**	LR	LR	22 13 35.3	
	comp=Z,67nm,19.0s,MS3.8,baz=340,slow=40						
SVE	**Sverdlovsk**	**62.80**	**338**	*eP*	**P**	**21 42 53.7**	**-1.9**
SVE				*e*		21 43 43.6	
SVE				MLR	MLR		
	comp=N,200nm,16.0s						
SVE				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.4						
ARU	**Arti**	**63.30**	**337**	⇑*i*P	**P**	**21 43 03.6**	**+4.7**
ARU				*e*		21 45 25.0	
ARU				*e*S	**S**	**21 51 36.2**	**+8.3**
ARU				*e*SS	SS	21 55 42.1	+5.7
ARU				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
ARU				MLR	MLR		
	comp=N,100nm,19.0s,MS4.2						
ARU				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.3						
ARU				MLR	MLR		
	comp=E,100nm,18.0s,MS4.2						
ARU	**Arti**	**63.30**	**337**	*eP*	**P**	**21 42 56.8**	**-2.1**
	comp=E,13nm,0.9s,mb5.1						
ARU				*ep*P	pP	21 43 03.7	-2.5
KIV	**Kislovodsk**	**64.41**	**319**	⇑*i*P	**P**	**21 43 11.4**	**+5.0**
KIV				*e*		21 43 45.9	
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**64.41**	**319**	*eP*	**P**	**21 43 03.5**	**-2.8**
	comp=Z,12nm,1.0s,mb4.9						
KIV				*ep*P	pP	21 43 11.3	-2.3
GOF	**Gofitskoye**	**64.66**	**321**	⇑*i*P	pP	21 43 18.8	+3.5
GOF				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.9						
MALT	**Malatya**	**65.22**	**312**	*eP*	**P**	**21 43 08.2**	**-3.5**
	comp=Z,2.7nm,0.8s,mb4.3						
YAK	**Yakutsk**	**65.53**	**16**	*d*iP	**P**	**21 43 12.0**	**-1.3**
YAK				pmax	pmax		
	comp=Z,73nm,1.0s,mb5.7						
YAK	**Yakutsk**	**65.53**	**16**	*eP*	**P**	**21 43 11.7**	**-1.7**
	comp=Z,72nm,1.0s,mb5.7						
YAK				*ep*P	pP	21 43 19.0	-1.6
SOKR	**Solikamsk**	**66.20**	**339**	⇓*i*P	**P**	**21 43 17.1**	**-0.5**
SOKR				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
SOC	**Sochi**	**66.22**	**318**	*eP*	**P**	**21 43 22.2**	**+4.2**
SOC				*e*		21 43 49.9	
SOC				*e*		21 45 45.9	
SOC				*e*PPP	PPP	21 47 21.8	+0.3
SOC				*e*S	S	21 52 07.7	+3.6
SOC				*e*		21 53 16.6	
SOC				*e*SS	SS	21 56 27.5	+5.8
SOC				pmax	pmax		
	comp=N,8.0nm,0.8s						
SOC				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
SOC				pmax	pmax		
	comp=E,10.0nm,0.9s						
MBAR	**Mbarara**	**66.49**	**269**	⇑*i*P	**P**	**21 43 20.4**	**+0.1**
MBAR	**Mbarara**	**66.49**	**269**	*eP*	**P**	**21 43 20.0**	**-0.3**
	comp=E,4.3nm,1.2s,mb4.3						
MBAR				*ep*P	pP	21 43 27.8	+0.2
ANN	**Anapa**	**68.20**	**319**	*eP*	**P**	**21 43 25.8**	**-4.7**
BRTR	**Keskin Array B**	**69.20**	**312**	P	**P**	**21 43 35.9**	**-1.0**
	comp=E,0.9nm,0.7s,mb3.8,baz=131,slow=7.8,SNR=4.4						
BRTR				pP	pP	21 43 42.1	-1.9
	comp=E,2.3nm,0.7s,baz=136,slow=6.9,SNR=8.7						
LSZ	**Lusaka**	**70.09**	**253**	*eP*	**P**	**21 43 41.6**	**-1.0**
	comp=E,15nm,1.6s,mb4.7						
MATP	**Matopo**	**70.49**	**248**	LR	LR	22 08 20.5	
	comp=E,172nm,19.7s,MS4.3,baz=56,slow=30						
MAW	**Mawson**	**72.60**	**193**	LR	LR	22 11 38.4	
	comp=E,263nm,19.1s,MS4.5,baz=261,slow=32						
OBN	**Obninsk**	**72.73**	**328**	*eP*	**P**	**21 44 03.6**	**+5.8**
OBN				*e*	pP	21 44 10.5	+5.4
OBN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
TIXI	**Tiksi**	**73.30**	**10**	⇑*i*P	**P**	**21 43 59.5**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
SEY	**Seymchan**	**73.87**	**23**	*eP*	**P**	**21 44 01.5**	**-2.8**
SEY				*e*	pP	21 44 07.9	-3.7
SEY				pmax	pmax		
	comp=N,10.0nm,0.8s						
SEY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
TIRR	**Tirgusor**	**74.22**	**316**	⇑P	**P**	**21 44 10.8**	**+4.1**
BOSA	**Boshof**	**74.73**	**240**	P	**P**	**21 44 09.8**	**-0.2**
	comp=Z,4.0nm,0.8s,mb4.4,baz=79,slow=7.0,SNR=7.8						
BOSA				pP	pP	21 44 17.2	-0.1
	comp=Z,4.5nm,0.9s,baz=89,slow=8.0,SNR=3.7						
BOSA				LR	LR	22 15 07.3	
	comp=Z,166nm,19.0s,MS4.3,baz=165,slow=34						
BOSA	**Boshof**	**74.73**	**240**	*eP*	**P**	**21 44 09.5**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.4						
AKASG	**Malin Array Be**	**75.36**	**322**	P	**P**	**21 44 11.6**	**-1.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=89,slow=5.2,SNR=9.1						
AKASG				pP	pP	21 44 18.3	-2.1
	comp=Z,5.6nm,0.8s,baz=88,slow=5.1,SNR=7.9						
MLR	**Muntele Rosu**	**76.16**	**317**	⇑P	**P**	**21 44 20.1**	**+2.3**
BURAR	**Bucovina Array**	**77.12**	**319**	⇑P	pP	21 44 30.1	-0.4
BURAR	**Bucovina Array**	**77.12**	**319**	⇑P	pP	21 44 30.0	-0.5
JOF	**Joensuu**	**78.26**	**335**	*ep*	**P**	**21 44 28.2**	**-0.8**
	comp=Z,1.5nm,0.6s,mb4.1						
JOF	**Joensuu**	**78.26**	**335**	*eP*	**P**	**21 44 28.2**	**-0.8**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
APA	**Apatity**	**79.24**	**339**	⇑*i*P	**P**	**21 44 34.0**	**-0.3**
APA				*i*	pP	21 44 40.6	-1.1
APA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
FINES	**FINESS Array B**	**80.11**	**333**	P	**P**	**21 44 38.1**	**-1.0**
	comp=Z,2.1nm,0.7s,mb4.2,baz=90,slow=7.6,SNR=13						
FINES				pP	pP	21 44 45.6	-0.9
	comp=Z,2.3nm,0.6s,baz=98,slow=4.7,SNR=8.1						
FINES				LR	LR	22 25 59.0	
	comp=Z,82nm,20.8s,MS4.1,baz=297,slow=40						
KAF	**Kangasniemi**	**80.19**	**333**	*ep*	**P**	**21 44 38.9**	**-0.6**
	comp=Z,3.1nm,0.7s,mb4.3						
KAF	**Kangasniemi**	**80.19**	**333**	*eP*	**P**	**21 44 38.9**	**-0.6**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BILL	**Bilibino**	**81.27**	**21**	⇑*eP*	**P**	**21 44 45.4**	**+0.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
BILL				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.7						
KEV	**Kevo**	**82.22**	**341**	*ep*	**P**	**21 44 46.6**	**-3.4**
	comp=Z,2.6nm,0.9s,mb4.2						
KEV	**Kevo**	**82.22**	**341**	*eP*	**P**	**21 44 46.6**	**-3.4**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MORC	**Moravsky Berou**	**82.50**	**320**	⇑P	**P**	**21 44 46.0**	**-5.9**
ARCES	**ARCESS Array B**	**82.65**	**340**	P	**P**	**21 44 52.5**	**+0.2**
	comp=Z,4.2nm,0.9s,mb4.5,baz=104,slow=5.0,SNR=11						
ARCES				pP	pP	21 44 58.6	-1.1
	comp=Z,6.5nm,0.9s,baz=90,slow=3.6,SNR=5.8						
ARCES				LR	LR	22 26 00.1	
	comp=Z,118nm,18.8s,MS4.3,baz=322,slow=39						
BRG	**Berggiesshubel**	**84.91**	**321**	*eP*	pP	21 45 11.4	-0.2
BRG				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
BRG	**Berggiesshubel**	**84.91**	**321**	*eP*	pP	21 45 11.4	-0.2
	comp=Z,4.7nm,1.0s						
GERES	**GERESS Array B**	**84.91**	**319**	P	**P**	**21 45 04.8**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.9,baz=108,slow=4.2,SNR=6.8						
KHC	**Kasperske Hory**	**85.01**	**319**	*eP*	**P**	**21 45 05.0**	**+0.4**
CLL	**Collm**	**85.53**	**321**	*e**PP	pP	21 45 14.0	-0.7
NB2	**NORSAR Subarra**	**87.12**	**331**	P	**P**	**21 45 14.7**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.3,baz=95,slow=4.6						
NOA	**NORSAR Array B**	**87.12**	**331**	P	**P**	**21 45 14.8**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.5,baz=94,slow=4.8,SNR=10.0						
NOA				LR	LR	22 30 05.2	
	comp=Z,83nm,19.5s,MS4.2,baz=95,slow=40						
LPG	**La Plagne**	**89.56**	**315**	*eP*	**P**	**21 45 26.4**	**-0.4**
	comp=Z,13nm,0.9s,mb5.0						
ILAR	**Eielson Array**	**99.80**	**23**	PP	PP	21 50 16.6	-3.7
	comp=Z,0.7nm,0.9s,baz=282,slow=6.9,SNR=5.2						
TBI	**Tubuai**	**111.79**	**115**	*e*LR	LR	22 24 23.7	
	comp=Z,90nm,23.5s						
YKA	**Yellowknife Ar**	**112.20**	**15**	PP	PP	21 51 46.3	-6.2
	comp=Z,0.8nm,0.8s,baz=331,slow=7.2,SNR=7.3						
PPT	**Papeete**	**112.43**	**108**	*e*LR	LR	22 24 41.9	
	comp=Z,106nm,23.8s						
RKT	**Rikitea**	**124.87**	**118**	*e*LR	LR	22 30 26.9	
	comp=Z,94nm,30.2s						
ULM	**Lac du Bonnet**	**127.65**	**11**	PKP	PKPdf	21 51 34.6	-3.3
	comp=Z,1.4nm,0.4s,baz=303,slow=6.9,SNR=3.2						
NVAR	**Mina Array Bea**	**128.87**	**36**	PKP	PKPdf	21 51 39.3	-1.3
	comp=Z,0.8nm,0.8s,baz=78,slow=2.7,SNR=6.0						
NVAR				pPKP		21 51 46.2	
	comp=Z,1.6nm,0.8s,baz=261,slow=2.1,SNR=8.9						
NVAR	**Mina Array Bea**	**128.87**	**36**	PKP	PKPdf	21 51 39.3	-1.3
NVAR				pPKP		21 51 46.2	
PDAR	**Pinedale Array**	**130.14**	**26**	PKP	PKPdf	21 51 38.0	-4.9
	comp=Z,0.5nm,0.7s,baz=90,slow=3.0,SNR=5.1						
ANMO	**Albuquerque**	**137.86**	**29**	⇑*i*PKIKP	PKPdf	21 51 58.2	+0.7
FWV	**Forest Hill**	**141.49**	**357**	*e*PKPdf	PKPdf	21 52 00.1	-3.9
TXAR	**Lajitas Array**	**143.76**	**32**	PKP	PKPdf	21 52 03.5	-4.6
	comp=Z,1.6nm,0.8s,baz=270,slow=1.3,SNR=9.6						
LRAL	**Lakeview Retre**	**145.84**	**6**	*e*PKPdf	PKPdf	21 52 08.6	-3.0
LRAL				*ep*PKPdf		21 52 15.9	

*IDC **15** 21:36:59.5±1.5, 2.27N×96.28E, mb4.0/7, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, ML4.2/1, MS3.9/1, Ms1 3.9/1, ms1mx3.4/30, Error ellipse: s-maj=67.4km s-min=17.9km az=56.0*

*NEIC **15** 21:37:04.0±0.5, 2.27N×96.29E, h30km, mb4.3/5, Error ellipse: s-maj=12.7km s-min=7.4km az=57.0*

ISC 15 21:37:02.3±0.8, 2.3N±0.1×96.3E±0.1, h30km, n17, σ0 42/17, mb4.1/13, MS3.9/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.24**	**55**	*e*Pn	**Pn**	**21 38 20.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**16.28**	**9**	Pn	**P**	**21 40 50.8**	**+0.1**
	0.3nm,0.3s,baz=198,slow=11,SNR=18						
KKM	**Kota Kinabalu**	**20.18**	**79**	*eP*	**P**	**21 41 37.1**	**-0.3**
KMI	**Kunming**	**23.54**	**15**	P	**P**	**21 42 25.6**	**+15**
LSA	**Lhasa**	**27.71**	**350**	*eP*	**P**	**21 42 49.6**	**-0.6**
	4.4nm,0.9s,mb4.1						
FITZ	**Fitzroy Crossi**	**35.26**	**126**	P	**P**	**21 43 56.0**	**-0.7**
	2.9nm,0.7s,mb4.3,baz=346,slow=8.3,SNR=3.1						
BJT	**Baijiatuan**	**41.66**	**23**	*eP*	**P**	**21 44 50.4**	**+0.5**
	8.2nm,0.6s,mb4.5						
BJI	**Beijing**	**41.68**	**23**	*eP*	**P**	**21 44 50.5**	**+0.5**
	13nm,0.7s,mb4.7						
BJI				LR	LR		
	comp=Z,110nm,18.1s,MS3.8						
WRA	**Warramunga Arr**	**43.34**	**122**	P	**P**	**21 45 04.2**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.5,baz=301,slow=9.3,SNR=6.9						
WRAB	**Tennant Creek**	**43.34**	**122**	*eP*	**P**	**21 45 03.9**	**0.0**
	comp=Z,2.0nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**44.73**	**127**	P	**P**	**21 45 15.4**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.4,baz=302,slow=8.2,SNR=4.0						
SONM	**Songino Array**	**46.21**	**9**	P	**P**	**21 45 26.0**	**-0.4**
	comp=Z,1.0nm,0.3s,mb4.2,baz=190,slow=9.3,SNR=11						
SONM				PcP	PcP	21 47 02.8	+0.5
	comp=Z,1.1nm,0.7s,baz=191,slow=3.5,SNR=5.6						
ZAL	**Zalesovo**	**52.36**	**351**	P	**P**	**21 46 13.2**	**-0.6**
	comp=Z,3.0nm,0.4s,mb4.5,baz=306,slow=4.2,SNR=9.6						
ZAL				LR	LR	22 10 15.0	
	comp=Z,134nm,20.6s,MS4.0,baz=300,slow=38						
JOF	**Joensuu**	**76.81**	**335**	*ep*	**P**	**21 48 44.3**	**-8.4**
	comp=Z,0.4nm,0.3s,mb3.8						
FINES	**FINESS Array B**	**78.65**	**333**	P	**P**	**21 49 02.9**	**0.0**
	comp=Z,0.6nm,0.4s,mb3.8,baz=102,slow=6.7,SNR=12						
KAF	**Kangasniemi**	**78.73**	**333**	*ep*	**P**	**21 49 03.5**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.8						
ARCES	**ARCESS Array B**	**81.23**	**340**	P	**P**	**21 49 17.2**	**+0.6**
	comp=Z,1.0nm,0.4s,mb4.1,baz=89,slow=5.2,SNR=22						

IDC 15 21:56:07.4±1.7, 1.09N×97.19E, mb4.1/6, mb1 4.2/7, mb1mx3.9/19, mbtmp4.0/7, ML3.2/1, Error ellipse: s-maj=71.5km s-min=20.6km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.34**	**6**	Pn	P	22 00 10.2	-2.4
	0.0nm,0.3s,baz=194,slow=12,SNR=9.6						
WRA	**Warramunga Arr**	**41.99**	**122**	P	P	22 04 00.5	-1.8
	1.6nm,0.7s,baz=300,slow=9.2,SNR=5.6						
ASAR	**Alice Springs**	**43.34**	**127**	P	P	22 04 11.6	-1.7
	0.7nm,0.6s,baz=288,slow=8.6,SNR=4.5						
SONM	**Songino Array**	**47.24**	**8**	P	P	22 04 42.5	-1.6
	1.5nm,0.5s,baz=198,slow=9.1,SNR=8.6						
BVAR	**Borovoye Array**	**56.34**	**341**	P	P	22 05 49.1	-3.4
	1.6nm,0.6s,baz=143,slow=7.2,SNR=6.9						
GERES	**GERESS Array B**	**84.88**	**319**	P	P	22 08 44.8	-0.7
	0.8nm,0.8s,baz=127,slow=6.7,SNR=3.1						

*BJI **15** 21:56:13.5, 1.24N×97.37E, h24km, mB5.0, mb4.6, Ms4.0, Msz3.8*

*NEIC **15** 21:56:14.7±0.4, 1.31N×97.35E, mb4.5/17, Error ellipse: s-maj=10.1km s-min=6.6km az=50.0*

*IDC **15** 21:56:15.2±0.7, 1.25N×97.28E, h21km±4km, mb4.0/12, mb1 4.1/13, mb1mx4.0/21, mbtmp4.1/13, ML3.6/1, Error ellipse: s-maj=33.0km s-min=12.5km az=54.0*

ISC 15 21:56:13.1±0.5, 1.30N±0.06×97.36E±0.07, h22km, h22km±4km: pP-P, n57, σ1 9 04/60, mb4.4/29, MS4.0/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.15**	**40**	*e*Pn	**Pn**	**21 57 31.1**	**+0.1**
CM31	**Chiang Mai Arr**	**17.12**	**5**	*eP*	**P**	**22 00 13.0**	**+0.1**
	6.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.12**	**5**	Pn	**P**	**22 00 13.2**	**+0.2**
	0.1nm,0.3s,baz=199,slow=12,SNR=10						
CMAR	**Chiang Mai Arr**	**17.12**	**5**	Pn	**P**	**22 00 13.2**	**+0.2**
PALK	**Pallekele**	**17.63**	**290**	*eP*	**P**	**22 00 19.4**	**0.0**
KKM	**Kota Kinabalu**	**19.39**	**75**	*eP*	**P**	**22 00 38.4**	**-2.3**
KMI	**Kunming**	**24.25**	**12**	P	**P**	**22 01 30.8**	**+0.9**
KMI				AP		22 01 34.5	
KMI				XP		22 01 37.1	
KMI				PP	PP	22 02 05.8	+0.8
KMI				S	**S**	**22 05 44.3**	**+0.1**
KMI				SS	SS	22 06 39.8	+2.2
KMI				LR	LR		
	comp=N,338nm,16.1s,MS4.0						
KMI				LR	LR		
	comp=E,207nm,13.2s,MS4.0						
KMI				LR	LR		
	comp=Z,370nm,13.8s,MS4.0						
KMI	**Kunming**	**24.25**	**12**	P	**P**	**22 01 30.8**	**+0.9**
KMI				pP		22 01 34.5	
KMI				sP		22 01 37.1	
KMI				PP	PP	22 02 05.7	+0.7
KMI				S	**S**	**22 05 44.3**	**+0.1**
KMI				sS		22 05 50.5	
KMI				SS	SS	22 06 39.7	+2.1
KMI				LR	LR		
	comp=Z,370nm,13.8s,MS4.0						
HYB	**Hyderabad**	**24.46**	**312**	*eP*	**P**	**22 01 44.0**	**+12**
HYB	**Hyderabad**	**24.46**	**312**	*i* P	**P**	**22 01 44.0**	**+12**
SHL	**Shillong**	**24.70**	**348**	*eP*	**P**	**22 01 33.0**	**-1.2**
GYA	**Guiyang**	**26.57**	**19**	P	**P**	**22 01 52.4**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**28.31**	**339**	*eP*	**P**	**22 02 05.7**	**-1.8**
	comp=Z,17nm,0.8s,mb4.7						
PKI	**Pulchoki**	**28.52**	**337**	*eP*	**P**	**22 02 09.4**	**0.0**
	comp=Z,26nm,1.1s,mb4.9						
GUN	**Gumba**	**28.65**	**338**	*eP*	**P**	**22 02 09.2**	**-1.4**
	comp=Z,43nm,0.9s,mb5.2						
DMN	**Daman**	**28.68**	**337**	*eP*	**P**	**22 02 11.0**	**+0.2**
	comp=Z,16nm,0.8s,mb4.8						
KKN	**Kakani**	**28.77**	**337**	*eP*	**P**	**22 02 10.7**	**-0.9**
	comp=Z,26nm,1.0s,mb4.9						
LSA	**Lhasa**	**28.86**	**349**	P	**P**	**22 02 11.8**	**-0.6**
LSA	**Lhasa**	**28.86**	**349**	*eP*	**P**	**22 02 11.9**	**-0.5**
	comp=Z,3.8nm,0.7s,mb4.2						
GKN	**Gorkha**	**29.21**	**336**	*eP*	**P**	**22 02 14.9**	**-0.7**
	comp=Z,15nm,0.8s,mb4.8						
KOLN	**Koldanda**	**29.44**	**335**	*eP*	**P**	**22 02 19.0**	**+1.3**
	comp=Z,21nm,0.8s,mb4.9						
ENH	**Enshi**	**31.03**	**21**	*eP*	**P**	**22 02 32.2**	**+0.4**
	comp=Z,7.6nm,0.5s,mb4.8						
ENH				*ep*P	pP	22 02 38.8	+0.5
FITZ	**Fitzroy Crossi**	**33.85**	**126**	P	**P**	**22 02 56.0**	**-0.5**
	comp=Z,4.1nm,0.8s,mb4.4,baz=230,slow=5.2,SNR=3.5						
FITZ				pP	pP	22 03 02.3	-0.8
	comp=Z,2.5nm,0.7s,baz=295,slow=5.0,SNR=2.2						
XAN	**Xi'an**	**34.32**	**17**	P	**P**	**22 03 00.9**	**+0.5**
GTA	**Gaotai**	**38.00**	**3**	*eP*	**P**	**22 03 30.3**	**-1.1**
GTA				PP	PP	22 05 01.4	-0.2
GTA				S	**S**	**22 09 23.3**	**+1.4**
GTA				XS		22 09 33.9	
GTA				SS	SS	22 12 02.8	+3.6
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
GTA				AMB	AMB		
	comp=Z,53nm,5.7s						
GTA				LR	LR		
	comp=N,107nm,13.8s,MS4.0						
GTA				LR	LR		
	comp=E,124nm,14.5s,MS4.0						
GTA				LR	LR		
	comp=Z,141nm,17.6s,MS3.8						
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**22 04 04.5**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.0,baz=301,slow=9.1,SNR=32						
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**22 04 04.5**	**+0.1**
WRAB	**Tennant Creek**	**41.95**	**122**	*eP*	**P**	**22 04 04.4**	**0.0**

NB2 NORSAR Subarra 87.00 331 P P 22 08 58.8 +1.0
comp=Z,0.5nm,0.7s,mb3.9,baz=94,slow=4.6
NOA NORSAR Array B 87.00 331 P P 22 08 59.2 +1.4
comp=Z,0.4nm,0.7s,mb3.8,baz=4.7,slow=9.1,SNR=3.4

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*NEIC **15** 22:04:23.6±13.0, 11.58S×165.64E, h45km, mb4.2/1, Error ellipse: s-maj=241.0km s-min=17.8km az=50.0*
IDC 15 22:04:24.4±16.0, 11.99S×164.95E, mb4.3/4, mb1 4.4/5, mb1mx3.9/16, mbtmp4.2/5, ML3.4/1, MS3.5/2, Ms1 3.5/2, ms1mx3.0/28, Error ellipse: s-maj=283.5km s-min=44.4km az=50.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.13**	**172**	Pn	P	22 06 51.0	-3.3
	0.3nm,0.3s,baz=326,slow=24,SNR=5.0						
DZM				Sn	S	22 08 29.3	-21
	baz=222,slow=18,SNR=2.4						
DZM				LR	LR	22 10 19.8	
	comp=Z,148nm,19.4s,baz=56,slow=35						
CTA	**Charters Tower**	**19.67**	**243**	pP		22 09 03.9	
	0.1nm,0.3s,baz=58,slow=13,SNR=2.7						
STKA	**Stephens Creek**	**29.22**	**224**	P	P	22 10 28.7	-1.4
	0.8nm,0.6s,baz=62,slow=12,SNR=4.8						
WB2	**Warramunga Arr**	**30.42**	**251**	*e*P	P	22 10 38.9	-2.0
WRAB	**Tennant Creek**	**30.42**	**251**	*e*P	P	22 10 38.4	-2.5
	3.5nm,0.8s						
WRA	**Warramunga Arr**	**30.43**	**251**	P	P	22 10 38.9	-2.1
	2.7nm,0.8s,baz=82,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**31.67**	**244**	P	P	22 10 49.4	-2.6
	2.9nm,0.8s,baz=75,slow=9.4,SNR=31						
ASAR				LR	LR	22 22 12.6	
	comp=Z,165nm,18.4s,baz=332,slow=34						
FITZ	**Fitzroy Crossi**	**38.39**	**256**	P	P	22 11 47.6	-1.8
	5.6nm,0.7s,baz=124,slow=7.2,SNR=11						

IDC 15 22:20:53.6±5.5, 48.47S×123.64E, mb3.6/2, mb1 3.8/2, mb1mx3.6/11, mbtmp3.6/2, Error ellipse: s-maj=339.1km s-min=67.0km az=99.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.06**	**22**	P	P	22 26 28.9	-1.5
	1.0nm,0.5s,baz=192,slow=9.4,SNR=12						
WRA	**Warramunga Arr**	**29.74**	**21**	P	P	22 27 01.5	-2.3
	0.2nm,0.5s,baz=197,slow=8.5,SNR=3.0						
YKA	**Yellowknife Ar**	**145.45**	**44**	PKPbc	PKPbc	22 40 31.4	-1.3
	1.1nm,0.7s,baz=269,slow=3.5,SNR=31						

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*ATH **15** 22:26:27.2, 39.25N×27.93E, h10km, MD3.3/3*
*ISK **15** 22:26:28.6, 39.21N×27.71E, h15km, MD3.1*
*NEIC **15** 22:26:28.6, 39.22N×27.69E, h14km, MD3.3(ATH), MD3.1(ISK), After ISK.*
*CSEM **15** 22:26:28.4±0.0, 39.23N×27.70E, h12km, MD3.3/2, Error ellipse: s-maj=0.9km s-min=0.6km az=111.0*
ISC 15 22:26:28.9±0.4, 39.22N±0.03×27.74E±0.06, h10km, n45, σ0°61/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.43**	**15**	PG	**Pg**	**22 26 38.3**	**+0.5**
BALB	**Balikesir**	**0.43**	**15**	Pg	**Pg**	**22 26 38.5**	**+0.7**
DST	**Dursunbey**	**0.79**	**60**	PG	**Pg**	**22 26 44.4**	**-0.4**
DST	**Dursunbey**	**0.79**	**60**	Pg	**Pg**	**22 26 44.4**	**-0.4**
IZM	**Izmir**	**0.90**	**204**	PG	**Pg**	**22 26 45.9**	**-1.1**
IZM				SG	**Sg**	**22 26 58.5**	**-0.5**
IZM	**Izmir**	**0.90**	**204**	Pg	**Pg**	**22 26 46.0**	**-1.0**
IZM				Sg	**Sg**	**22 26 59.0**	**-0.1**
IZM	**Izmir**	**0.90**	**204**	Pg	**Pg**	**22 26 46.0**	**-1.0**
IZM				Sg	**Sg**	**22 26 59.0**	**0.0**
BLCB	**Balcova**	**0.99**	**213**	PG	**Pg**	**22 26 47.8**	**-1.1**
BLCB	**Balcova**	**0.99**	**213**	Pg	**Pg**	**22 26 47.8**	**-1.0**
EDC	**Edincik**	**1.13**	**5**	PN	**Pn**	**22 26 50.7**	**-0.1**
EDC	**Edincik**	**1.13**	**5**	Pn	**Pn**	**22 26 50.7**	**-0.1**
PRK	**Paraskevi**	**1.14**	**272**	*e*PB	**Pb**	**22 26 51.5**	**+1.2**
BNT	**Bandirma**	**1.15**	**7**	PN	**Pn**	**22 26 50.6**	**-0.4**
BNT	**Bandirma**	**1.15**	**7**	Pn	**Pn**	**22 26 50.7**	**-0.3**
BNT	**Bandirma**	**1.15**	**7**	Pn	**Pn**	**22 26 50.7**	**-0.3**
KCT	**Karacabey**	**1.15**	**24**	PN	**Pn**	**22 26 51.0**	**-0.1**
ORLT	**Orhaneli**	**1.22**	**47**	PN	**Pn**	**22 26 52.2**	**+0.2**
ORLT	**Orhaneli**	**1.22**	**47**	Pn	**Pn**	**22 26 52.3**	**+0.2**
EZN	**Ezine**	**1.25**	**300**	PN	**Pn**	**22 26 52.0**	**-0.5**
LPK	**Lapseki**	**1.38**	**327**	PN	**Pn**	**22 26 53.8**	**-0.5**
LPK	**Lapseki**	**1.38**	**327**	Pn	**Pn**	**22 26 53.8**	**-0.5**
MRMT	**Marmara Adasi**	**1.39**	**356**	*e*PN	**Pn**	**22 26 54.3**	**-0.2**
MRMT	**Marmara Adasi**	**1.39**	**356**	Pn	**Pn**	**22 26 54.4**	**-0.1**
MFT	**Murefte**	**1.60**	**348**	*e*PN	**Pn**	**22 26 57.2**	**-0.4**
MFT	**Murefte**	**1.60**	**348**	Pn	**Pn**	**22 26 57.2**	**-0.4**
SMG	**Samos**	**1.67**	**205**	*e*PN	**Pn**	**22 27 00.0**	**+1.6**
YLV	**Yalova**	**1.84**	**43**	*e*PN	**Pn**	**22 27 00.3**	**-0.7**
YLV	**Yalova**	**1.84**	**43**	Pn	**Pn**	**22 27 00.3**	**-0.6**
ALT	**Altintas**	**1.85**	**94**	*e*PN	**Pn**	**22 27 01.5**	**+0.4**
ALT	**Altintas**	**1.85**	**94**	Pn	**Pn**	**22 27 01.6**	**+0.5**
MLSB	**Milas**	**1.92**	**179**	Pn	**Pn**	**22 27 02.2**	**+0.2**
MLSB	**Milas**	**1.92**	**179**	Pn	**Pn**	**22 27 02.2**	**+0.1**
ISK	**Istanbul-Kandi**	**2.10**	**28**	Pn	**Pn**	**22 27 04.7**	**-0.1**
ISK	**Istanbul-Kandi**	**2.10**	**28**	Pn	**Pn**	**22 27 04.7**	**0.0**
BODT	**Bodrum**	**2.18**	**189**	Pn	**Pn**	**22 27 05.8**	**0.0**
BODT	**Bodrum**	**2.18**	**189**	Pn	**Pn**	**22 27 05.8**	**0.0**
HRT	**Hereke**	**2.18**	**42**	*e*PN	**Pn**	**22 27 05.9**	**+0.1**
HRT	**Hereke**	**2.18**	**42**	Pn	**Pn**	**22 27 05.5**	**-0.4**
ESKT	**Eskisehir**	**2.43**	**82**	*e*PN	**Pn**	**22 27 09.7**	**+0.3**
ESKT	**Eskisehir**	**2.43**	**82**	Pn	**Pn**	**22 27 09.8**	**+0.4**
RDO	**Rodhopi**	**2.56**	**320**	*e*PN	**Pn**	**22 27 12.2**	**+1.0**
EDRB	**Edirne**	**2.73**	**344**	Pn	**Pn**	**22 27 13.4**	**-0.3**
EDRB	**Edirne**	**2.73**	**344**	Pn	**Pn**	**22 27 13.4**	**-0.3**
KIZT	**Kizilcal**	**3.24**	**95**	Pn	**Pn**	**22 27 21.4**	**+0.4**
KIZT	**Kizilcal**	**3.24**	**95**	Pn	**Pn**	**22 27 21.4**	**+0.4**

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*IDC **15** 22:26:48.3±2.0, 1.24N×97.14E, mb4.0/7, mb1 4.1/8, mb1mx3.8/19, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=82.9km s-min=18.1km az=61.0*
*BJI **15** 22:26:53.1, 1.30N×97.30E, h30km, mB4.9, mb4.5, Ms4.2, Msz4.0*
*NEIC **15** 22:26:53.1±0.6, 1.29N×97.25E, h30km, mb4.6/12, Error ellipse: s-maj=16.8km s-min=7.7km az=57.0*
ISC 15 22:26:52.2±2.1, 1.30N±0.08×97.3E±0.1, h36km±17km, n33, σ0°92/35, mb4.4/21, MS4.1/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.19**	**40**	*e*Pn	**P**	**22 28 10.3**	**+0.7**
SNG	**Songkhla**	**6.72**	**29**	P	**P**	**22 28 30.5**	**-0.5**
	204nm,0.5s						
CM31	**Chiang Mai Arr**	**17.13**	**5**	*e*Pn	**P**	**22 30 46.4**	**-4.3**
	10nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.13**	**5**	P	**P**	**22 30 49.0**	**-1.6**
	0.1nm,0.3s,baz=199,slow=11,SNR=14						
NANT	**Nan**	**17.71**	**11**	P	**P**	**22 31 00.0**	**+2.1**
KMI	**Kunming**	**24.26**	**12**	P	**P**	**22 32 07.0**	**-0.4**
KMI				XP		22 32 23.0	
KMI				PP	PP	22 32 42.8	0.0
KMI				S	**S**	**22 36 21.0**	**+0.1**
KMI				XS		22 36 39.8	
KMI				SS	SS	22 37 18.0	+3.0
KMI				AMB	AMB		
	comp=Z,97nm,4.2s						
KMI				LR	LR		
	comp=N,362nm,14.6s,MS4.0						
KMI				LR	LR		
	comp=E,269nm,17.3s,MS4.0						
KMI				LR	LR		
	comp=Z,407nm,15.8s,MS4.0						
KMI	**Kunming**	**24.26**	**12**	P	**P**	**22 32 07.0**	**-0.4**
	comp=Z,0.1nm,4.2s						
KMI				sP		22 32 23.0	
KMI				PP	PP	22 32 42.8	0.0
KMI				S	**S**	**22 36 21.0**	**+0.1**
KMI				sS		22 36 39.8	
KMI				SS	SS	22 37 18.0	+3.0
KMI				LR	LR		
	comp=Z,410nm,15.8s,MS4.0						
SHL	**Shillong**	**24.68**	**348**	*e*P	**P**	**22 32 12.0**	**+0.6**
GYA	**Guiyang**	**26.59**	**19**	P	**P**	**22 32 30.1**	**+0.8**
GYA				AP	pP	22 32 37.8	-1.4
GYA				XP	sP	22 32 40.5	-3.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
GYA				AMB	AMB		
	comp=Z,130nm,5.4s						
GYA				LR	LR		
	comp=N,370nm,15.2s,MS4.1						
GYA				LR	LR		
	comp=E,160nm,13.6s,MS4.1						
GYA				LR	LR		
	comp=Z,550nm,16.5s,MS4.2						
JIRN	**Jiri**	**28.29**	**339**	*e*P	**P**	**22 32 46.6**	**+1.9**
	comp=Z,81nm,1.1s,mb5.3						
PKI	**Pulchoki**	**28.50**	**337**	*e*P	**P**	**22 32 46.0**	**-0.6**
	comp=Z,14nm,0.6s,mb4.7						
GUN	**Gumba**	**28.63**	**339**	*e*P	**P**	**22 32 49.0**	**+1.3**
	comp=Z,40nm,0.7s,mb5.3						
DMN	**Daman**	**28.65**	**337**	*e*P	**P**	**22 32 46.5**	**-1.4**
KKN	**Kakani**	**28.75**	**337**	*e*P	**P**	**22 32 48.3**	**-0.5**
	comp=Z,57nm,1.2s,mb5.2						
LSA	**Lhasa**	**28.84**	**349**	P	**P**	**22 32 50.4**	**+0.8**
LSA	**Lhasa**	**28.84**	**349**	*e*P	**P**	**22 32 49.7**	**+0.1**
	comp=Z,4.0nm,0.8s,mb4.2						
GKN	**Gorkha**	**29.19**	**337**	*e*P	**P**	**22 32 52.2**	**-0.5**
	comp=Z,28nm,0.9s,mb5.0						
KOLN	**Koldanda**	**29.41**	**335**	*e*P	**P**	**22 32 54.0**	**-0.7**
	comp=Z,17nm,0.7s,mb4.9						
ENH	**Enshi**	**31.06**	**21**	*e*P	**P**	**22 33 08.1**	**-1.2**
	comp=Z,9.1nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.91**	**126**	P	**P**	**22 33 33.9**	**-0.4**
	comp=Z,4.9nm,1.1s,mb4.3,baz=333,slow=11,SNR=2.5						
XAN	**Xi'an**	**34.34**	**17**	P	**P**	**22 33 36.5**	**-1.3**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
GTA	**Gaotai**	**38.00**	**3**	*e*P	**P**	**22 34 08.8**	**+0.1**
GTA				AP	pP	22 34 22.3	+3.3
GTA				XP	sP	22 34 26.9	+3.3
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**42.01**	**122**	P	**P**	**22 34 42.3**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.6,baz=301,slow=9.1,SNR=6.6						
WB2	**Warramunga Arr**	**42.02**	**122**	*e*P	**P**	**22 34 42.0**	**-0.3**
BJT	**Baijiatuao**	**42.19**	**22**	*e*P	**P**	**22 34 44.8**	**+1.3**
	comp=Z,10nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**43.38**	**127**	P	**P**	**22 34 53.6**	**+0.2**
	comp=Z,0.9nm,0.8s,mb3.6,baz=299,slow=8.3,SNR=10						
AAK	**Ala-Archa**	**45.95**	**337**	*e*P	**P**	**22 35 13.2**	**-0.4**
	comp=Z,4.6nm,0.8s,mb4.5						
SONM	**Songino Array**	**47.02**	**8**	P	**P**	**22 35 22.5**	**+0.5**
	comp=Z,2.5nm,0.8s,mb4.2,baz=189,slow=8.5,SNR=26						
ULN	**Ulanbaatar**	**47.15**	**9**	*e*P	**P**	**22 35 22.4**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.8						
ULN				*e*		22 35 37.4	
STKA	**Stephens Creek**	**53.35**	**132**	P	**P**	**22 36 10.5**	**-0.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=352,slow=18,SNR=5.0						
ZAL	**Zalesovo**	**53.47**	**351**	P	**P**	**22 36 10.5**	**-0.6**
	comp=Z,1.8nm,0.5s,mb4.3,baz=287,slow=7.0,SNR=13						
CLL	**Collm**	**85.41**	**321**	P	**P**	**22 39 29.0**	**+1.7**
NOA	**NORSAR Array B**	**86.97**	**331**	P	**P**	**22 39 34.8**	**+0.1**
	comp=Z,0.6nm,1.0s,mb3.8,baz=58,slow=5.6,SNR=3.3						

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*IDC **15** 22:27:10.8±0.7, 1.85N×96.88E, h25km, 3km, mb4.1/16, mb1 4.3/17, mb1mx4.2/22, mbtmp4.3/17, ML4.1/1, Error ellipse: s-maj=26.5km s-min=11.5km az=47.0*
*NEIC **15** 22:27:10.7±0.3, 1.87N×96.91E, mb4.5/16, Error ellipse: s-maj=8.3km s-min=5.1km az=50.0*
ISC 15 22:27:10.5±3.0, 1.88N±0.10×97.0E±0.1, h37km±24km, h24km±2.4km: pP-P, n47, σ0°83/46, mb4.4/29, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.98**	**47**	*e*Pn	**P**	**22 28 25.1**	**+0.2**
CM31	**Chiang Mai Arr**	**16.59**	**6**	*e*P	**P**	**22 31 02.0**	**0.0**
	8.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.59**	**6**	Pn	**P**	**22 31 01.4**	**-0.7**
	0.3nm,0.3s,baz=196,slow=12,SNR=21						
KKM	**Kota Kinabalu**	**19.61**	**77**	*e*P	**P**	**22 31 38.8**	**+0.1**
LSA	**Lhasa**	**28.23**	**349**	*e*P	**P**	**22 33 01.9**	**-0.4**
	5.2nm,0.6s,mb4.3						
ENH	**Enshi**	**30.62**	**22**	*e*P	**P**	**22 33 22.0**	**-1.7**
	11nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.48**	**126**	P	**P**	**22 33 57.4**	**0.0**
	2.7nm,0.7s,mb4.3,baz=190,slow=2.5,SNR=6.2						
KAKA	**Kakadu**	**38.05**	**113**	*e*P	**P**	**22 34 26.4**	**-1.1**
	6.7nm,0.5s,mb4.6						
JOW	**Kunigami**	**38.93**	**48**	P	**P**	**22 34 35.4**	**+0.6**
	6.8nm,0.4s,mb4.7,baz=225,slow=13,SNR=6.3						
BJT	**Baijiatuao**	**41.77**	**22**	*e*P	**P**	**22 34 58.2**	**+0.1**
	18nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**42.56**	**122**	P	**P**	**22 35 05.3**	**+0.4**
	1.8nm,0.5s,mb4.1,baz=301,slow=9.1,SNR=13						
WRA				pP	pP	22 35 12.5	-3.0
	2.8nm,0.7s,baz=301,slow=9.1,SNR=6.1						
WRAB	**Tennant Creek**	**42.57**	**122**	*e*P	**P**	**22 35 04.2**	**-0.8**
	6.1nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**42.57**	**122**	*e*P	**P**	**22 35 05.2**	**+0.2**
ASAR	**Alice Springs**	**43.96**	**128**	P	**P**	**22 35 16.9**	**+0.7**
	1.5nm,0.6s,mb3.9,baz=298,slow=7.6,SNR=14						
ASAR				pP	pP	22 35 25.5	-1.4
	0.8nm,0.5s,baz=306,slow=8.2,SNR=4.4						
ULHL	**Ulahol**	**44.30**	**338**	P	**P**	**22 35 19.6**	**+0.9**
	SNR=6.0						
TKM2	**Tokmak 2**	**45.12**	**338**	P	**P**	**22 35 26.4**	**+1.1**
	SNR=6.5						
KBK	**Karagaybulak**	**45.15**	**337**	P	**P**	**22 35 29.5**	**+4.0**
	SNR=5.9						
AML	**Almayashu**	**45.21**	**335**	P	**P**	**22 35 27.7**	**+1.7**
	SNR=5.1						
AAK	**Ala-Archa**	**45.30**	**337**	*e*P	**P**	**22 35 26.9**	**+0.1**
	2.0nm,0.6s,mb4.1						
KS15	**Wonju Array Si**	**45.38**	**35**	*e*P	**P**	**22 35 27.2**	**-0.3**
EKS2	**Erkin-Say**	**45.62**	**336**	P	**P**	**22 35 30.8**	**+1.5**
	SNR=7.0						
USP	**Ospenovka**	**45.84**	**337**	P	**P**	**22 35 31.8**	**+0.7**
	SNR=6.4						
SONM	**Songino Array**	**46.50**	**9**	P	**P**	**22 35 36.5**	**+0.4**
	4.8nm,0.8s,mb4.5,baz=190,slow=9.4,SNR=17						
SONM				pP	pP	22 35 44.9	-1.8
	2.4nm,0.7s,baz=192,slow=9.0,SNR=5.4						
SONM				PcP	PcP	22 37 11.1	+0.5
	1.5nm,0.5s,baz=188,slow=4.2,SNR=8.5						
SONM				pPcP		22 37 18.4	
	1.5nm,0.7s,baz=186,slow=4.3,SNR=6.6						
TLY	**Talaya**	**49.94**	**5**	*e*P	**P**	**22 36 03.0**	**+0.1**
	3.7nm,0.7s,mb4.5						
MJAR	**Matsushiro Arr**	**51.33**	**43**	P	**P**	**22 36 13.7**	**+0.1**
	3.6nm,0.8s,mb4.4,baz=215,slow=6.4,SNR=11						
ZAL	**Zalesovo**	**52.86**	**351**	P	**P**	**22 36 24.5**	**-0.3**
	16nm,0.7s,mb5.1,baz=306,slow=5.3,SNR=50						
CTA	**Charters Tower**	**52.98**	**117**	*e*P	**P**	**22 36 27.1**	**+0.9**
	5.6nm,0.8s,mb4.5						
CTA	**Charters Tower**	**52.98**	**117**	P	**P**	**22 36 26.9**	**+0.7**
	2.9nm,0.6s,mb4.4,baz=297,slow=3.7,SNR=5.5						
CTAO	**Charters Tower**	**52.98**	**117**	*e*P	**P**	**22 36 26.7**	**+0.6**
	7.0nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**53.95**	**132**	*e*P	**P**	**22 36 33.4**	**+0.2**
	2.3nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**53.95**	**132**	P	**P**	**22 36 33.5**	**+0.3**
	1.5nm,0.6s,mb4.1,baz=306,slow=13,SNR=5.3						
YSS	**Yuzh-Sakhalins**	**59.91**	**35**	*e*P	**P**	**22 37 15.3**	**0.0**
	12nm,0.6s,mb5.1						
KIV	**Kislovodsk**	**63.67**	**319**	*e*P	**P**	**22 37 39.2**	**-1.4**
	3.7nm,1.0s,mb4.4						
YAK	**Yakutsk**	**64.83**	**16**	*e*P	**P**	**22 37 46.6**	**-1.2**
	17nm,0.5s,mb5.3						
EIL	**Elat**	**64.93**	**302**	*e*P	**P**	**22 37 47.9**	**-1.1**
	6.1nm,1.1s,mb4.5						
BRTR	**Keskin Array B**	**68.51**	**312**	P	**P**	**22 38 09.7**	**-1.8**
	0.5nm,0.6s,mb3.6,baz=138,slow=6.7,SNR=4.2						
BRTR				pP	pP	22 38 19.3	-3.3
	1.2nm,0.8s,baz=130,slow=8.1,SNR=8.0						
AKASG	**Malin Array Be**	**74.61**	**322**	P	**P**	**22 38 46.8**	**-0.9**
	1.4nm,0.6s,mb4.1,baz=90,slow=5.1,SNR=9.4						
MLR	**Muntele Rosu**	**75.44**	**317**	P	**P**	**22 38 53.6**	**+0.9**
	1.1nm,0.4s,mb4.2,baz=231,slow=5.4,SNR=4.6						
JOF	**Joensuu**	**77.45**	**335**	*ep*	**P**	**22 39 03.1**	**-0.5**
	0.9nm,0.6s,mb3.9						
FINES	**FINESS Array B**	**79.31**	**332**	P	**P**	**22 39 13.9**	**+0.1**
	1.4nm,0.5s,mb4.1,baz=93,slow=5.7,SNR=17						
FINES				pP	pP	22 39 21.8	-3.3
	1.8nm,0.8s,baz=86,slow=5.1,SNR=4.0						
FINES	**FINESS Array B**	**79.31**	**332**	P	**P**	**22 39 13.9**	**+0.1**
FINES				pP	pP	22 39 21.8	-3.3
KAF	**Kangasniemi**	**79.39**	**333**	*ep*	**P**	**22 39 13.3**	**-1.0**
	0.5nm,0.4s,mb3.8						
ARCES	**ARCESS Array B**	**81.84**	**340**	P	**P**	**22 39 27.6**	**+0.5**
	1.4nm,0.5s,mb4.2,baz=98,slow=5.4,SNR=22						
GERES	**GERESS Array B**	**84.18**	**319**	P	**P**	**22 39 40.5**	**+1.1**
	1.2nm,0.7s,mb4.1,baz=104,slow=5.5,SNR=11						
GERES				pP	pP	22 39 47.4	-3.4
	0.6nm,0.6s,baz=108,slow=4.2,SNR=4.8						
NB2	**NORSAR Subarra**	**86.32**	**331**	P	**P**	**22 39 49.1**	**-0.6**
	0.2nm,0.7s,mb3.5,baz=94,slow=5.6						
NOA	**NORSAR Array B**	**86.32**	**331**	P	**P**	**22 39 50.4**	**+0.7**
	1.1nm,0.7s,mb4.2,baz=94,slow=5.0,SNR=5.6						
PDAR	**Pinedale Array**	**129.52**	**25**	PKP	PKPdf	22 46 17.4	+1.3
	0.4nm,0.6s,baz=294,slow=0.6,SNR=5.0						

IDC 15 22:32:11.5±2.5, 22.56S×171.08E, mb3.6/4, mb1 3.8/5, mb1mx3.7/14, mbtmp3.6/5, ML3.3/1, 1C, Error ellipse: s-maj=110.4km s-min=37.4km az=167.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.32**	**276**	Pn	Pn	22 33 19.4	-0.5
	1.6nm,0.3s,baz=128,slow=20,SNR=25						
DZM				Sn	Sn	22 34 09.1	-2.7
	0.6nm,0.3s,baz=278,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**34.15**	**261**	P	P	22 38 58.8	-1.7
	0.2nm,0.7s,baz=99,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**34.29**	**267**	P	P	22 38 58.2	-3.5
	0.2nm,0.4s,baz=96,slow=8.4,SNR=2.6						
FITZ	**Fitzroy Crossi**	**42.72**	**267**	P	P	22 40 10.7	-1.5
	3.5nm,0.9s,baz=121,slow=4.6,SNR=4.0						
CMAR	**Chiang Mai Arr**	**81.42**	**294**	P	P	22 44 32.4	+0.1
	0.4nm,0.6s,baz=141,slow=4.4,SNR=5.8						
SYO	**Syowa Base**	**82.23**	**196**	⇑P	P	22 44 27.7	-7.8
KHC	**Kasperske Hory**	**148.06**	**332**	*e*P	PKPdf	22 51 58.5	+1.0
GERES	**GERESS Array B**	**148.22**	**331**	PKPbc	PKPdf	22 51 57.9	+0.1
	0.6nm,0.6s,baz=45,slow=1.9,SNR=7.4						

IDC 15 22:53:31.8±5.7, 9.36S×130.37E, mb3.6/1, mb1 3.7/4, mb1mx3.5/13, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=67.1km s-min=48.9km az=152.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.83**	**207**	Pn	P	22 55 55.0	-2.6
	0.6nm,0.3s,baz=12,slow=12,SNR=13						
FITZ				Sn	Sn	22 57 47.8	-2.2
	0.9nm,0.3s,baz=176,slow=13,SNR=6.6						
WRA	**Warramunga Arr**	**11.20**	**160**	Pn	P	22 56 12.9	-3.4
	0.3nm,0.3s,baz=343,slow=13,SNR=7.0						
WRA				Sn	S	22 58 19.9	-3.5
	0.6nm,0.3s,baz=336,slow=22,SNR=8.1						
ASAR	**Alice Springs**	**14.62**	**167**	Pn	P	22 56 60.0	-2.1
	0.1nm,0.3s,baz=11,slow=13,SNR=6.8						
ASAR				Sn	S	22 59 45.6	-0.3
	0.1nm,0.3s,baz=335,slow=15,SNR=5.0						
STKA	**Stephens Creek**	**24.71**	**157**	P	P	22 58 54.7	-1.3
	1.2nm,0.7s,baz=326,slow=11,SNR=4.2						

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*ATH **15** 22:54:49.1, 38.14N×22.71E, h10km±2km, MD3.4/14, ML3.1*
*NEIC **15** 22:54:49.3, 38.15N×22.73E, h21km, ML3.1(ATH), After ATH.*
*CSEM **15** 22:54:49.4±0.1, 38.15N×22.71E, h8km, ML3.1, Error ellipse: s-maj=2.7km s-min=1.6km az=53.0*
*THE **15** 22:54:52.8, 38.36N×22.74E, h12km, ML3.3*
ISC 15 22:54:49.9±0.4, 38.18N±0.03×22.76E±0.03, h15km±7km, n33, σ0°88/41, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGER	**Gerania Oros**	**0.44**	**116**	*e*PB	**Pb**	**22 54 58.5**	**-0.3**
MGER				*e*SB	**Sb**	**22 55 04.5**	**-0.3**
NSAL	**Nisos Salamina**	**0.62**	**116**	*e*PB	**Pb**	**22 55 01.3**	**-0.6**
NSAL				*e*SB	**Sb**	**22 55 10.2**	**+0.2**
NSAL	**Nisos Salamina**	**0.62**	**116**	*e*Pn	**Pb**	**22 55 01.0**	**-0.9**
NAIG	**Nisos Aigina**	**0.71**	**126**	*e*PB	**Pb**	**22 55 03.7**	**+0.2**
NAIG	**Nisos Aigina**	**0.71**	**126**	*e*Pn	**Pn**	**22 55 04.0**	**-1.2**
MPAR	**Parnis Oros**	**0.77**	**92**	*e*PB	**Pb**	**22 55 05.0**	**+0.6**
MPAR				*e*SB	**Sb**	**22 55 15.3**	**+0.9**
ATH	**Athens Observa**	**0.78**	**105**	*e*PB	**Pb**	**22 55 05.0**	**+0.3**
ATH				*e*SB	**Sb**	**22 55 16.0**	**+1.2**
PTL	**Penteli**	**0.88**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.61**	**148**	Pn	P	23 18 49.2	-1.3
	0.2nm,0.3s,baz=337,slow=15,SNR=3.5						
FITZ				Sn	S	23 20 57.5	-4.6
	0.1nm,0.3s,baz=152,slow=3.7,SNR=3.3						
WRA	**Warramunga Arr**	**18.67**	**130**	P	P	23 20 21.0	-1.2
	0.2nm,0.3s,baz=307,slow=13,SNR=5.6						
WB2	**Warramunga Arr**	**18.68**	**130**	*eP*	P	23 20 19.5	-2.8
ASAR	**Alice Springs**	**20.80**	**139**	P	P	23 20 43.2	-2.7
	2.8nm,0.4s,baz=314,slow=8.8,SNR=36						
STKA	**Stephens Creek**	**31.38**	**142**	P	P	23 22 22.6	-2.8
	0.7nm,0.4s,baz=336,slow=8.6,SNR=6.4						

IDC ***15*** *23:28:19.6±1.3, 10.24N×92.42E, mb3.9/6, mb1 4.1/7, mb1mx3.8/21, mbtmp3.8/7, ML3.4/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/31, Error ellipse: s-maj=47.2km s-min=20.7km az=58.0*

NEIC ***15*** *23:28:24.4±0.8, 10.32N×92.57E, h30km, mb4.4/2, Error ellipse: s-maj=21.3km s-min=11.9km az=69.0*

ISC 15 23:28:22.6±1.0, 10.4N±0.1×92.7E±0.2, h30km, n11, σ0^{6}79/10, mb4.0/8, MS3.7/1, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.08**	**36**	Pn	**P**	**23 30 47.9**	**-0.7**
	0.1nm,0.3s,baz=234,slow=14,SNR=4.4						
ENH	**Enshi**	**25.25**	**36**	*eP*	**P**	**23 33 42.0**	**-5.8**
	4.2nm,0.6s,mb4.2						
SONM	**Songino Array**	**39.09**	**15**	P	**P**	**23 35 51.0**	**+2.1**
	0.6nm,0.8s,mb3.4,baz=202,slow=6.7,SNR=4.9						
FITZ	**Fitzroy Crossi**	**43.14**	**131**	P	**P**	**23 36 23.1**	**+0.7**
	11nm,0.7s,mb4.7,baz=335,slow=3.0,SNR=12						
WRA	**Warramunga Arr**	**50.90**	**126**	P	**P**	**23 37 23.2**	**-0.2**
	2.6nm,0.6s,mb4.3,baz=305,slow=8.5,SNR=8.8						
WRAB	**Tennant Creek**	**50.91**	**126**	*eP*	**P**	**23 37 23.2**	**-0.3**
	4.3nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**50.91**	**126**	*eP*	**P**	**23 37 23.3**	**-0.2**
ASAR	**Alice Springs**	**52.64**	**130**	P	**P**	**23 37 36.5**	**0.0**
	0.9nm,0.6s,mb3.9,baz=307,slow=6.9,SNR=9.7						
ASAJ	**Asahikawa**	**54.54**	**43**	LR	LR	00 04 38.6	
	comp=Z,61nm,18.1s,MS3.7,baz=100,slow=40						
FINES	**FINESS Array B**	**69.83**	**332**	P	**P**	**23 39 31.3**	**-0.9**
	0.3nm,0.6s,mb3.4,baz=98,slow=9.8,SNR=3.7						
GERES	**GERESS Array B**	**75.00**	**318**	P	**P**	**23 40 03.0**	**0.0**
	0.2nm,0.2s,mb3.7,baz=63,slow=9.0,SNR=3.6						

LDG ***15*** *23:29:03.8±0.3, 13.05S×166.77E, h10km, Mb4.4/2, Error ellipse: s-maj=39.2km s-min=11.3km az=86.0*

IDC ***15*** *23:29:04.0±5.3, 13.71S×166.75E, h16km±29km, mb4.1/11, mb1 4.3/11, mb1mx4.2/16, mbtmp4.2/11, MS3.8/10, Ms1 3.8/10, ms1mx3.6/29, Error ellipse: s-maj=43.6km s-min=18.2km az=130.0*

BJI ***15*** *23:29:08.4, 13.50S×166.50E, h43km, mB5.1, mb4.8*

NEIC ***15*** *23:29:08.4±2.1, 13.48S×166.53E, h43km±19km, mb4.4/10, Error ellipse: s-maj=14.3km s-min=14.0km az=193.0*

ISC 15 23:29:05.6±5.9, 13.54S±0.07×166.5E±0.1, h32km±41km, n59, σ0^{6}06/25, mb4.4/20, MS3.9/8, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.48**	**180**	Pn	**P**	**23 31 09.9**	**+0.5**
	1.0nm,0.3s,baz=264,slow=14,SNR=17						
DZM				Sn	**Sn**	**23 32 44.4**	**-0.6**
	baz=129,slow=23,SNR=1.7						
DZM				LR	LR	23 33 42.0	
	comp=Z,110nm,18.8s,baz=21,slow=33						
PMG	**Port Moresby**	**19.39**	**280**	LR	LR	23 38 56.2	
	comp=Z,137nm,18.8s,baz=60,slow=30						
CTA	**Charters Tower**	**20.43**	**249**	*eP*	**P**	**23 33 43.0**	**-0.2**
	8.5nm,0.9s						
CTA	**Charters Tower**	**20.43**	**249**	P	**P**	**23 33 44.4**	**+1.2**
	5.1nm,0.8s,baz=89,slow=14,SNR=4.0						
CTA				LR	LR	23 40 43.7	
	comp=Z,365nm,18.2s,MS3.8,baz=57,slow=34						
AFI	**Afiamalu**	**21.11**	**94**	LR	LR	23 40 05.1	
	comp=Z,241nm,20.6s,MS3.6,baz=48,slow=32						
STKA	**Stephens Creek**	**29.22**	**227**	*eP*	**P**	**23 35 10.0**	**+3.2**
	7.5nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**29.22**	**227**	P	**P**	**23 35 07.0**	**+0.2**
	1.6nm,0.7s,mb3.9,baz=73,slow=9.7,SNR=4.8						
RPZ	**Rata Peaks**	**30.32**	**173**	LR	LR	23 46 16.8	
	comp=Z,134nm,18.1s,MS3.6,baz=359,slow=34						
WRAB	**Tennant Creek**	**31.40**	**254**	P	**P**	**23 35 25.0**	**-1.2**
	1.6nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**31.41**	**254**	P	**P**	**23 35 24.9**	**-1.5**
	2.4nm,0.9s,mb4.0,baz=85,slow=9.0,SNR=8.5						
ASAR	**Alice Springs**	**32.42**	**247**	P	**P**	**23 35 34.0**	**-1.1**
	1.7nm,0.7s,mb4.0,baz=74,slow=9.4,SNR=18						
ASAR				PcP	PcP	23 38 21.5	-0.6
	0.4nm,0.7s,baz=90,slow=2.7,SNR=4.4						
ASAR				ScP		23 42 04.6	
	0.6nm,0.8s,baz=94,slow=3.4,SNR=4.5						
ASAR				LR	LR	23 47 56.3	
	comp=Z,168nm,18.7s,MS3.8,baz=93,slow=35						
PPT	**Papeete**	**42.44**	**101**	*eLR*	LR	23 49 11.4	
	154nm,26.5s						
TBI	**Tubuai**	**42.76**	**110**	*eLR*	LR	23 49 19.5	
	130nm,25.5s						
RKT	**Rikitea**	**56.06**	**109**	*eLR*	LR	23 55 29.5	
	79nm,28.8s						
MJAR	**Matsushiro Arr**	**56.51**	**333**	P	**P**	**23 38 46.3**	**-1.1**
	1.0nm,0.4s,mb4.2,baz=159,slow=7.4,SNR=6.8						
ASAJ	**Asahikawa**	**61.38**	**341**	P	**P**	**23 39 21.4**	**+0.4**
	8.3nm,0.5s,mb5.1,baz=220,slow=13,SNR=5.7						
SBA	**Scott Base**	**64.31**	**180**	*eP*	**P**	**23 39 41.0**	**+1.0**
	59nm,2.0s,mb5.3						
FX1	**Attu Island--F**	**66.40**	**4**	P	**P**	**23 39 54.3**	**+0.6**
	15nm,0.3s,mb5.5,baz=252,slow=16,SNR=14						
CMAR	**Chiang Mai Arr**	**73.79**	**294**	P	**P**	**23 40 40.3**	**+0.9**
	1.3nm,0.8s,mb3.9,baz=114,slow=4.4,SNR=8.4						
HIA	**Hailar**	**74.89**	**330**	*eP*	**P**	**23 40 45.4**	**+0.2**
	12nm,1.2s,mb4.7						
QSPA	**South Pole Qui**	**76.48**	**180**	⇓*iP*	**P**	**23 40 54.6**	**+1.0**
	13nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**80.74**	**324**	*eP*	**P**	**23 41 18.3**	**+0.9**
	8.5nm,1.1s,mb4.6						
SONM	**Songino Array**	**81.10**	**324**	P	**P**	**23 41 20.5**	**+1.2**
	1.3nm,0.7s,mb4.0,baz=124,slow=4.5,SNR=12						
GTA	**Gaotai**	**81.31**	**314**	*eP*	**P**	**23 41 22.5**	**+1.9**
GTA				AP	pP	23 41 30.5	-0.2
GTA				XP	sP	23 41 34.3	+0.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
BILL	**Bilibino**	**81.36**	**360**	*eP*	**P**	**23 41 20.5**	**+0.3**
	comp=Z,3.0nm,0.8s,mb4.3						
MCK	**McKinley**	**84.27**	**18**	*eP*	**P**	**23 41 34.2**	**-1.0**
	comp=Z,6.2nm,1.0s,mb4.3						
TLY	**Talaya**	**84.59**	**326**	*eP*	**P**	**23 41 37.6**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**85.64**	**18**	P	**P**	**23 41 40.5**	**-1.5**
	comp=Z,2.5nm,0.8s,mb4.5,baz=239,slow=5.7,SNR=19						
ILAR				LR	LR	00 16 05.0	
	comp=Z,72nm,19.2s,MS4.1,baz=183,slow=33						
BBB	**Bella Bella**	**86.22**	**34**	LR	LR	00 13 04.5	
	comp=Z,86nm,21.2s,MS4.1,baz=248,slow=31						
NVAR	**Mina Array Bea**	**87.07**	**49**	LR	LR	00 13 06.9	
	comp=Z,61nm,19.1s,MS4.0,baz=200,slow=30						
INK	**Inuvik**	**92.01**	**19**	LR	LR	00 20 36.6	
	comp=Z,128nm,18.5s,MS4.4,baz=279,slow=34						
ZAL	**Zalesovo**	**96.01**	**324**	P	**P**	**23 42 30.1**	**-0.8**
	comp=Z,1.1nm,0.8s,mb4.3,baz=358,slow=5.4,SNR=11						
YKA	**Yellowknife Ar**	**96.84**	**27**	P	**P**	**23 42 32.6**	**-1.9**
	comp=Z,0.3nm,0.8s,mb3.8,baz=255,slow=4.2,SNR=4.8						
ARCES	**ARCESS Array B**	**118.92**	**345**	PKP	PKPdf	23 47 51.5	-4.5
	comp=Z,3.6nm,0.7s,baz=50,slow=1.2,SNR=19						
ARCES	**ARCESS Array B**	**118.92**	**345**	PKP	PKPdf	23 47 51.5	-4.5
JOF	**Joensuu**	**121.51**	**338**	*ep*	PKPdf	23 47 55.6	-5.5
	comp=Z,1.8nm,0.6s						
KAF	**Kangasniemi**	**123.83**	**339**	*ep*	PKPdf	23 47 59.6	-6.0
	comp=Z,1.4nm,0.6s						
FINES	**FINESS Array B**	**124.35**	**338**	PKP	PKPdf	23 48 01.8	-4.8
	comp=Z,1.9nm,0.9s,baz=90,slow=5.7,SNR=9.7						
MALT	**Malatya**	**127.98**	**308**	*ePKPdf*	PKPdf	23 48 10.6	-3.6
NB2	**NORSAR Subarra**	**129.29**	**345**	PKPdf	PKPdf	23 48 11.7	-4.4
	comp=Z,1.1nm,0.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.29**	**345**	PKP	PKPdf	23 48 11.8	-4.3
	comp=Z,1.5nm,0.7s,baz=32,slow=2.0,SNR=8.6						
NOA	**NORSAR Array B**	**129.29**	**345**	PKP	PKPdf	23 48 11.8	-4.3
AKASG	**Malin Array Be**	**129.34**	**326**	PKP	PKPdf	23 48 12.1	-4.3
	comp=Z,0.5nm,0.5s,baz=67,slow=2.2,SNR=6.2						
PSZ	**Piszkesteto**	**135.92**	**328**	*ePKPdf*	PKPdf	23 48 25.4	-3.5
KHC	**Kasperske Hory**	**138.09**	**333**	*ePKPdf*	PKPdf	23 48 27.0	-5.8
GERES	**GERESS Array B**	**138.25**	**333**	PKP	PKPdf	23 48 29.7	-3.5
	comp=Z,0.9nm,0.7s,baz=90,slow=1.0,SNR=9.1						
LPL	**La Plagne**	**143.81**	**336**	*ePKP1*	PKPbc	23 48 38.9	+2.2
	comp=Z,9.8nm,0.9s						
LPG	**La Plagne**	**143.82**	**336**	*ePKP1*	PKPbc	23 48 39.0	+2.3
	comp=Z,7.4nm,0.8s						
ORIF	**Oris-en-Rattie**	**144.64**	**336**	*ePKP1*	PKPbc	23 48 40.3	+1.3
	comp=Z,20nm,0.8s						
TCF	**Toulx Ste Croi**	**144.77**	**341**	*ePKP1*	PKPbc	23 48 40.1	+0.7
	comp=Z,7.7nm,0.9s						
SBF	**Sospel**	**144.85**	**333**	*ePKP1*	PKPbc	23 48 40.3	+0.6
	comp=Z,87nm,1.0s						
PGF	**Pioggiola**	**145.16**	**330**	*ePKP1*	PKPbc	23 48 40.7	+0.2
	comp=Z,42nm,1.0s						
VIVF	**Saint-Julien-l**	**145.16**	**337**	*ePKP1*	PKPbc	23 48 41.9	+1.4
	comp=Z,16nm,0.8s						
MFF	**Saint Martin d**	**145.18**	**344**	*ePKP1*	PKPbc	23 48 41.4	+1.0
	comp=Z,20nm,0.8s						
FRF	**La Foret Royal**	**145.44**	**334**	*ePKP1*	PKPbc	23 48 42.3	+1.1
LMR	**La Mourre**	**145.68**	**334**	*ePKP1*	PKPbc	23 48 43.2	+1.4
LASF	**Ste Croix**	**146.13**	**337**	*ePKP1*	PKPbc	23 48 44.8	+1.9
	comp=Z,21nm,1.0s						
MTLF	**Montolieu**	**147.37**	**338**	*ePKP1*	PKPdf	23 48 48.4	-0.8
ESDC	**Sonseca Array**	**152.65**	**344**	PKPbc	PKPdf	23 49 01.1	+3.7
	comp=Z,1.9nm,0.7s,baz=5.5,slow=3.6,SNR=5.6						
ESDC				PKPab	PKPab	23 49 12.4	+0.2
	comp=Z,0.9nm,0.6s,baz=3.7,slow=5.0,SNR=5.2						

MOS ***15*** *23:48:57.9±2.6, 42.55N×46.34E, h8km, mb3.9/1, Error ellipse: s-maj=11.2km s-min=8.6km az=26.3*

CSEM ***15*** *23:48:57.9±0.4, 42.55N×46.34E, h8km, mb3.9, Error ellipse: s-maj=17.6km s-min=8.2km az=11.0, After OBN*

TIF ***15*** *23:48:59.4, 42.90N×46.14E, h0km±2km*

ISC 15 23:49:03.3±0.5, 42.63N±0.05×46.27E±0.04, h8km, n20, σ1^{9}29/30, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.05**	**313**	*i*PG	**Pg**	**23 49 04.0**	**-1.1**
BTLR				*e*S	**Sg**	**23 49 10.0**	**+3.7**
BTLR				pmax	pmax		
	comp=Z,128nm,0.8s						
BTLR	**Botlikh**	**0.05**	**313**	*i* Pg	**Pg**	**23 49 04.0**	**-1.1**
	comp=Z,128nm,0.8s						
BTLR				*e*Sg	**Sg**	**23 49 10.0**	**+3.7**
KRNR	**Karanay**	**0.51**	**67**	*e*PG	**Pg**	**23 49 13.0**	**-0.6**
KRNR				*i* S	**Sg**	**23 49 21.5**	**+1.1**
KRNR				pmax	pmax		
	comp=Z,40nm,0.2s						
KRNR	**Karanay**	**0.51**	**67**	*e*Pg	**Pg**	**23 49 13.0**	**-0.6**
	comp=Z,40nm,0.2s						
KRNR				*i* Sg	**Sg**	**23 49 21.5**	**+1.1**
DBC	**Dubki**	**0.57**	**46**	*e*PG	**Pg**	**23 49 06.5**	**-8.2**
BUJR	**Buynaksk**	**0.65**	**72**	*e*PG	**Pg**	**23 49 11.0**	**-5.3**
BUJR				*e*S	**Sg**	**23 49 22.8**	**-2.2**
BUJR				pmax	pmax		
	comp=Z,65nm,0.2s						
BUJR	**Buynaksk**	**0.65**	**72**	*e*Pg	**Pg**	**23 49 11.0**	**-5.3**
	comp=Z,65nm,0.2s						
BUJR				*e*Sg	**Sg**	**23 49 22.8**	**-2.2**
MAK	**Makhachkala**	**0.96**	**69**	*e*Pg	**Pg**	**23 49 22.6**	**-0.1**
MAK				*e*Sg	**Sg**	**23 49 37.0**	**+1.4**
URKR	**Urkarakh**	**1.11**	**114**	*e*Pg	**Pg**	**23 49 24.0**	**-1.5**
DGRG	**David-gareji**	**1.35**	**210**	P	**Pg**	**23 49 32.9**	**+2.5**
DGRG				S	**Sg**	**23 49 55.1**	**+6.7**
TI2	**Plekhanov**	**1.44**	**232**	*e*Pg	**Pg**	**23 49 32.0**	**-0.2**
TBLG	**Delisi**	**1.45**	**232**	P	**Pg**	**23 49 31.6**	**-0.7**
TBLG				S	**Sg**	**23 49 56.2**	**+4.5**
AKT	**Akhty**	**1.58**	**136**	*e*PG	**Pg**	**23 49 34.0**	**-0.9**
AKT				pmax	pmax		
	comp=Z,30nm,0.4s						
AKT	**Akhty**	**1.58**	**136**	*e*Pg	**Pg**	**23 49 34.0**	**-0.9**
	comp=Z,30nm,0.4s						
KSMR	**Kasumkent**	**1.72**	**126**	*e*Pn	**Pn**	**23 49 35.5**	**+1.7**
ZEI	**Tsey**	**1.76**	**275**	*e*Pn	**Pn**	**23 49 30.1**	**-4.3**
ONI	**Oni**	**2.08**	**270**	P	**Sn**	**23 50 04.8**	**-0.7**
KIV	**Kislovodsk**	**2.94**	**298**	*e*PN	**Pn**	**23 49 43.5**	**-7.7**
KIV				*e*		23 50 31.5	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KIV	**Kislovodsk**	**2.94**	**298**	*e*Pn	**Pn**	**23 49 43.5**	**-7.7**
	comp=Z,3.0nm,0.3s						
KIV				*e*Sb	**Sb**	**23 50 31.5**	**-0.3**
GOF	**Gofitskoye**	**3.38**	**317**	*e*Pn	**Pn**	**23 49 58.8**	**+1.3**

NEIC ***15*** *23:52:23.0, 19.01N×64.61W, h58km, MD3.7(RSPR), After RSPR.*

RSPR 15 23:52:23.0, 19.01N×64.61W, h58km±3km, MD3.7/14, MD3.7/14, 10C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.74**	**207**	⇑*eP*	P	23 52 36.6	-1.0
STVI				*e*S	S	23 52 47.6	-0.9
MTP	**Monte Pirata**	**1.28**	**225**	⇑*eP*	P	23 52 44.0	-1.1
MTP				*e*S	S	23 52 59.9	-1.6
CBYP	**Canovanas**	**1.40**	**238**	⇓*eP*	P	23 52 45.2	-1.5
CBYP				*e*S	S	23 53 03.0	-1.3
HUMP	**Col San Antoni**	**1.46**	**234**	⇑*eP*	P	23 52 46.5	-1.2
HUMP				*e*S	S	23 53 04.1	-1.8
CPD	**Cerro la Pandu**	**1.57**	**232**	⇓*eP*	P	23 52 48.1	-1.1
SJG	**San Juan**	**1.72**	**239**	⇑*eP*	P	23 52 49.8	-1.3
SJG				*e*S	S	23 53 11.2	-0.7
SJG	**San Juan**	**1.72**	**239**	⇑*eP*	P	23 52 49.7	-1.4
SJG				*e*S	S	23 53 10.1	-1.8
CELP	**Cerrillos**	**2.09**	**244**	⇑*eP*	P	23 52 55.7	-0.6
CELP				*e*S	S	23 53 19.2	-1.9
ICM	**Isla Caja Muer**	**2.13**	**239**	⇓*eP*	P	23 52 55.8	-1.1
ICM				*e*S	S	23 53 21.0	-1.2
AOPR	**Arecibo Observ**	**2.14**	**252**	⇑*eP*	P	23 52 54.8	-2.2
AOPR				*e*S	S	23 53 22.0	-0.4
PORP	**Portuguez**	**2.15**	**244**	⇑*eP*	P	23 52 56.4	-0.8
LRS	**Lares**	**2.24**	**252**	⇑*eP*	P	23 52 57.5	-1.0
LSP	**Las Mesas**	**2.49**	**251**	⇑*eP*	P	23 53 01.5	-0.6
LSP				*e*S	S	23 53 29.9	-1.5
MGP	**Maguayo**	**2.56**	**247**	⇓*eP*	P	23 53 02.2	-0.8
MGP				*e*S	S	23 53 31.7	-1.3
CRPR	**Cabo Rojo, PR**	**2.58**	**248**	⇓*eP*	P	23 53 02.0	-1.3
CRPR				*e*S	S	23 53 32.2	-1.3

NIED ***15*** *23:52:00, 33.30N×137.00E, h5km, Mw4.0 Best double couple: M0 1.09×10^{15} NP1:φs 149°, δ83°, λ-153°. NP2: φs 55°, δ63°, λ-8°.*

IDC ***15*** *23:52:41.7±0.8, 33.32N×137.09E, mb3.7/10, mb1 3.9/12, mb1mx3.8/24, mbtmp3.7/12, ML4.0/2, Error ellipse: s-maj=19.2km s-min=18.2km az=65.0*

JMA ***15*** *23:52:42.9±0.1, 33.27N×137.01E, h36km±3km, M3.7*

MOS ***15*** *23:52:44.5±0.8, 33.29N×137.09E, h33km, mb4.3/4, Error ellipse: s-maj=26.2km s-min=11.0km az=83.8*

NEIC ***15*** *23:52:44.8±0.4, 33.34N×137.02E, h20km, mb4.2/5, Error ellipse: s-maj=11.3km s-min=6.8km az=110.0*

ISC 15 23:52:43.1±0.7, 33.34N±0.03×136.99E±0.03, h23km±5km, n45, σ0^{6}79/62, mb3.7/14, 8D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.66**	**50**	P	**Pb**	**23 52 56.0**	**+0.2**
TK01				S	**Sb**	**23 53 05.5**	**+0.9**
TK02	**Tokai 2**	**0.88**	**47**	P	**Pb**	**23 52 59.6**	**0.0**
TK02				S	**Sb**	**23 53 11.8**	**+0.8**
JIE	**Ise**	**1.07**	**348**	⇓P	**Pn**	**23 53 03.5**	**+0.7**
JKN2	**Miekihoku**	**1.07**	**327**	⇓P	**Pn**	**23 53 03.0**	**+0.1**
JKN2				S	**Sb**	**23 53 16.6**	**+0.1**
JWZ	**Kozaga**	**1.08**	**280**	⇓P	**Pn**	**23 53 02.3**	**-0.6**
JWZ				S	**Sb**	**23 53 16.0**	**-0.7**
TK03	**Tokai 3**	**1.16**	**44**	⇓P	**Pn**	**23 53 03.5**	**-0.6**
TK03				S	**Sb**	**23 53 17.9**	**-1.0**
TK04	**Tokai 4**	**1.28**	**35**	P	**Pn**	**23 53 05.6**	**-0.2**
TK04				S	**Sn**	**23 53 22.0**	**-0.3**
TSUJ	**Tsu 2**	**1.45**	**341**	⇓P	**Pn**	**23 53 08.7**	**+0.6**
TSUJ				*e*S	**Sn**	**23 53 26.2**	**-0.3**
JWM	**Minabe**	**1.45**	**291**	P	**Pn**	**23 53 08.2**	**-0.1**
JWM				S	**Sn**	**23 53 25.9**	**-0.8**
JWY	**Kouya**	**1.45**	**307**	P	**Pn**	**23 53 08.8**	**+0.5**
JWY				*e*S	**Sn**	**23 53 26.6**	**-0.1**
JHE	**Heguri**	**1.70**	**321**	⇓P	**Pn**	**23 53 12.0**	**+0.2**
SHZ3	**Shizuoka 3**	**2.00**	**30**	P	**Pn**	**23 53 15.4**	**-0.7**
SHZ3				*e*S	**Sn**	**23 53 39.9**	**-0.7**
JIZS	**Izushimoda**	**2.09**	**48**	P	**Pn**	**23 53 18.1**	**+0.7**
JIZS				*e*S	**Sn**	**23 53 43.5**	**+0.7**
JAI	**Aioi**	**2.16**	**283**	P	**Pn**	**23 53 18.2**	**-0.2**
JAI				S	**Sn**	**23 53 43.0**	**-1.8**
JWT	**Wachi**	**2.34**	**326**	⇓P	**Pn**	**23 53 21.6**	**+0.6**
JHJ	**Hachijo jima 2**	**2.35**	**95**	Pn	**Pn**	**23 53 20.4**	**-0.8**
	85nm,0.3s,baz=83,slow=14,SNR=23						
JHJ				Sn	**Sn**	**23 53 48.8**	**-0.8**
	47nm,0.3s,baz=234,slow=21,SNR=4.1						
JGM	**Miyama**	**2.36**	**355**	⇓P	**Pn**	**23 53 21.9**	**+0.6**
JGM				*e*S	**Sn**	**23 53 50.0**	**+0.1**
JHJ2	**Mitsune**	**2.38**	**95**	P	**Pn**	**23 53 20.5**	**-1.1**
MJAR	**Matsushiro Arr**	**3.35**	**17**	P	**Pn**	**23 53 35.3**	**0.0**
MJAR						23 54 11.8	
MJAR				pmax	pmax		
	comp=Z,13nm,0.3s						
MJAR	**Matsushiro Arr**	**3.35**	**17**	Pn	**Pn**	**23 53 35.3**	**0.0**
	comp=Z,13nm,0.3s,baz=204,slow=14,SNR=68						
MJAR				Sn	**Sn**	**23 54 11.8**	**-3.0**
	comp=Z,4.3nm,0.3s,baz=207,slow=15,SNR=5.9						
MAJO	**Matsushiro**	**3.35**	**17**	*e*P	**Pn**	**23 53 35.4**	**+0.1**
MAT	**Matsushiro**	**3.35**	**17**	*e*P	**Pn**	**23 53 36.0**	**+0.7**
MAT				*e*S	**Sn**	**23 54 14.0**	**-0.8**
MAT	**Matsushiro**	**3.35**	**17**	P	**Pn**	**23 53 35.6**	**+0.3**
MAT				S	**Sn**	**23 54 13.9**	**-0.9**
HIA	**Hailar**	**20.44**	**326**	*e*P	**P**	**23 57 20.2**	**-1.2**
HIA				pmax	pmax		
	comp=Z,11nm,1.1s						
HIA	**Hailar**	**20.44**	**326**	*e*P	**P**	**23 57 20.2**	**-1.2**
	comp=Z,11nm,1.1s						
ENH	**Enshi**	**23.54**	**270**	*e*P	**P**	**23 57 54.4**	**+1.8**
	comp=Z,6.5nm,0.8s,mb4.1						
SONM	**Songino Array**	**27.16**	**311**	P	**P**	**23 58 27.0**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.3,baz=114,slow=9.1,SNR=7.8						
CMAR	**Chiang Mai Arr**	**37.07**	**256**	P	**P**	**23 59 54.6**	**+1.3**
	comp=Z,0.2nm,0.3s,mb3.4,baz=45,slow=8.9,SNR=2.6						
ZAL	**Zalesovo**	**41.87**	**316**	P	**P**	**00 00 33.5**	**+0.6**
	comp=Z,0.6nm,0.4s,mb3.6,baz=19,slow=9.1,SNR=6.6						
ZAL				PcP	PcP	00 02 29.0	0.0
	comp=Z,0.5nm,0.7s,baz=107,slow=3.5,SNR=4.3						
ZAL	**Zalesovo**	**41.87**	**316**	P	**P**	**00 00 33.5**	**+0.6**
ZAL				PcP	PcP	00 02 29.0	0.0
AAK	**Ala-Archa**	**49.12**	**300**	*e*P	**P**	**00 01 30.9**	**+0.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**49.12**	**300**	*e*P	**P**	**00 01 30.9**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.1						
WRAB	**Tennant Creek**	**53.03**	**183**	*e*P	**P**	**00 01 59.8**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**53.03**	**183**	*e*P	**P**	**00 01 59.8**	**-1.0**
	comp=Z,5.5nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**53.04**	**183**	P	**P**	**00 01 59.7**	**-1.1**
	comp=Z,1.6nm,0.9s,mb4.0,baz=360,slow=7.7,SNR=6.8						
ILAR	**Eielson Array**	**54.53**	**31**	P	**P**	**00 02 11.4**	**+0.3**
	comp=Z,0.2nm,0.6s,mb3.3,baz=282,slow=6.2,SNR=4.7						
ARU	**Arti**	**56.76**	**319**	*e*P	**P**	**00 02 26.9**	**-0.4**
ASAR	**Alice Springs**	**56.76**	**183**	P	**P**	**00 02 28.0**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=16,slow=11,SNR=6.9						
ARCES	**ARCESS Array B**	**66.16**	**339**	P	**P**	**00 03 31.1**	**+0.8**
	comp=Z,1.5nm,0.7s,mb4.1,baz=67,slow=9.2,SNR=8.8						
RES	**Resolute Bay**	**67.04**	**13**	*e*P	**P**	**00 03 36.6**	**+0.7**
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
RES	**Resolute Bay**	**67.04**	**13**

*IDC **16** 00:25:27.5±7.3, 11.07S×166.43E, h269km±77km, mb3.5/6, mb1 3.7/7, mb1mx3.5/16, mbtmp4.1/7, Error ellipse: s-maj=68.3km s-min=23.4km az=156.0*
*NEIC **16** 00:25:28.1±4.9, 11.10S×166.46E, h275km±52km, mb4.0/2, Error ellipse: s-maj=48.9km s-min=15.0km az=162.0*
ISC 16 00:25:28.8±1.0, 11.2S±0.1×166.5E±0.2, h300km, n12, σ0°78/10, mb3.8/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.80**	**180**	P	**P**	**00 27 57.9**	**+0.1**
	0.5nm,0.3s,baz=23,slow=18,SNR=7.7						
CTA	**Charters Tower**	**21.36**	**243**	P	**P**	**00 29 55.4**	**+1.7**
	7.8nm,0.6s,mb4.2,baz=73,slow=7.8,SNR=3.9						
STKA	**Stephens Creek**	**30.82**	**224**	P	**P**	**00 31 19.2**	**-0.3**
	1.5nm,0.4s,mb3.9,baz=57,slow=12,SNR=6.4						
WRAB	**Tennant Creek**	**32.09**	**250**	P	**P**	**00 31 29.8**	**-0.7**
	2.0nm,0.4s,mb4.0						
WB2	**Warramunga Arr**	**32.10**	**250**	*e*P	**P**	**00 31 30.3**	**-0.3**
WRA	**Warramunga Arr**	**32.11**	**250**	P	**P**	**00 31 30.3**	**-0.4**
	2.2nm,0.7s,mb3.8,baz=84,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**33.37**	**244**	P	**P**	**00 31 40.4**	**-1.0**
	0.7nm,0.4s,mb3.5,baz=72,slow=9.9,SNR=9.1						
FITZ	**Fitzroy Crossi**	**40.04**	**255**	*e*P	**P**	**00 32 37.9**	**+0.9**
	5.4nm,0.7s,mb4.0						
ILAR	**Eielson Array**	**83.44**	**18**	P	**P**	**00 37 24.4**	**+0.7**
	0.9nm,0.7s,mb3.7,baz=239,slow=4.8,SNR=10						
YKA	**Yellowknife Ar**	**94.79**	**27**	P	**P**	**00 38 16.8**	**-0.6**
	0.2nm,0.5s,mb3.5,baz=258,slow=4.8,SNR=12						
ARCES	**ARCESS Array B**	**116.67**	**346**	PKP	PKPdf	00 43 38.9	+1.9
	0.6nm,0.5s,baz=63,slow=2.7,SNR=5.6						
FINES	**FINESS Array B**	**122.19**	**339**	PKP	PKPdf	00 43 50.3	+2.4
	0.8nm,0.7s,baz=135,slow=2.7,SNR=5.9						

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*NIED **16** 00:28:00, 42.20N×140.90E, h135km, Mw4.3 Best double couple: M=2.79×10^15 NP1:φs=240°, δ77°, λ28°. NP2:φs=143°, δ63°, λ165°.*
*IDC **16** 00:28:36.1±1.4, 42.10N×140.75E, h112km±11km, mb3.7/16, mb1 4.0/18, mb1mx3.9/23, mbtmp4.2/18, Error ellipse: s-maj=15.5km s-min=11.7km az=131.0*
*MOS **16** 00:28:36.4±1.0, 42.24N×140.83E, h130km, mb4.3/15, Error ellipse: s-maj=11.7km s-min=6.7km az=82.7*
*NEIC **16** 00:28:38.7±0.6, 42.19N×140.69E, h134km±6km, mb4.6/14, MW4.2(NIED), Error ellipse: s-maj=7.6km s-min=5.2km az=133.0*
NEIC Recorded [1 JMA] in Iwate Prefecture, Honshu.
*JMA **16** 00:28:38.1±0.1, 42.16N×140.89E, h124km±1km, M3.8 Broadband fault plane solution: P waves. NP1:φs139°, δ68°, λ163°. NP2:φs235°, δ74°, λ23°. Principal axes: T Plg27°, Azm98°; N Plg63°, Azm268°; P Plg4°, Azm6°;*
JMA Felt I J1.
*BJI **16** 00:28:39.1, 42.63N×140.91E, h147km, mB4.6, mb4.5*
ISC 16 00:28:36.9±0.2, 42.17N±0.03×140.87E±0.04, h131km±1km, n130, σ1°00/141, mb4.2/39, 11C-11D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKB	**Kayabe**	**0.30**	**156**	⇑P	**P**	**00 28 55.5**	**+0.4**
JKB				S	**S**	**00 29 08.4**	**-0.8**
JNB	**Noboribetsu**	**0.33**	**22**	⇑P	**P**	**00 28 55.5**	**+0.2**
JNB				S	**S**	**00 29 08.5**	**-0.9**
JYM2	**Yakumo 2**	**0.38**	**263**	⇑P	**P**	**00 28 55.9**	**+0.4**
JYM2				*e*S	**S**	**00 29 09.8**	**+0.1**
JSR	**Shiriuchi**	**0.72**	**208**	⇓P	**P**	**00 28 58.1**	**+0.5**
JSR				S	**S**	**00 29 12.5**	**-0.9**
JSH	**Shimam**	**0.78**	**308**	⇑P	**P**	**00 28 58.9**	**+0.9**
JSH				*e*S	**S**	**00 29 14.7**	**+0.5**
JOT	**Ohata**	**0.79**	**170**	⇓P	**P**	**00 28 58.5**	**+0.3**
JEW	**Eniwo**	**0.80**	**32**	⇓P	**P**	**00 28 59.0**	**+0.8**
JEW				*e*S	**S**	**00 29 14.7**	**+0.2**
JOSM	**Okushiri--Mats**	**1.04**	**266**	⇑P	**P**	**00 29 00.9**	**+0.4**
JOSM				S	**S**	**00 29 18.1**	**-0.2**
JSK	**Shakotan**	**1.22**	**346**	⇓P	**P**	**00 29 03.1**	**+0.8**
JSK				S	**S**	**00 29 22.3**	**+0.7**
JBT2	**Biratori 2**	**1.26**	**60**	⇓P	**P**	**00 29 03.2**	**+0.4**
JBT2				*e*S	**S**	**00 29 22.4**	**-0.1**
JTM	**Tenmabayashi**	**1.39**	**174**	⇓P	**P**	**00 29 04.4**	**+0.2**
JTM				*e*S	**S**	**00 29 24.3**	**-0.7**
JNBK	**Urakawa-nobuka**	**1.40**	**85**	⇑P	**P**	**00 29 04.6**	**+0.2**
JNBK				S	**S**	**00 29 25.1**	**-0.2**
JFR	**Furan**	**1.62**	**51**	P	**P**	**00 29 06.5**	**-0.2**
JFR				*e*S	**S**	**00 29 29.9**	**+0.4**
JHR	**Hokuryu**	**1.70**	**21**	⇓P	**P**	**00 29 09.1**	**+1.4**
JANG	**Nango**	**1.85**	**165**	⇓P	**P**	**00 29 08.9**	**-0.6**
JANG				*e*S	**S**	**00 29 33.0**	**-1.4**
JCH	**Churui**	**1.90**	**76**	P	**P**	**00 29 10.5**	**+0.4**
JCH				*e*S	**S**	**00 29 34.3**	**-1.1**
ASAJ	**Asahikawa**	**2.32**	**32**	PN	**P**	**00 29 16.1**	**+0.6**
ASAJ				S	**S**	**00 29 44.7**	**-0.1**
ASAJ				pmax	pmax		
	comp=Z,138nm,0.3s						
ASAJ	**Asahikawa**	**2.32**	**32**	P	**P**	**00 29 16.1**	**+0.6**
	comp=Z,138nm,0.3s,baz=243,slow=10,SNR=148						
ASAJ				S	**S**	**00 29 44.6**	**-0.2**
	comp=Z,34nm,0.3s,baz=286,slow=32,SNR=11						
YUK	**Yuzh-Kuril'sk**	**4.11**	**61**	PN	**P**	**00 29 38.0**	**-1.0**
YUK				*e*S	**S**	**00 30 22.8**	**-3.9**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,350nm,0.4s						
YUK				pmax	pmax		
	comp=Z,980nm,0.4s						
YUK				pmax	pmax		
	comp=E,190nm,0.3s						
YUK				smax			
	comp=N,4μm,0.7s						
YUK				smax			
	comp=E,2μm,0.7s						
YUK				smax			
	comp=N,1μm,0.4s						
YUK				smax			
	comp=E,770nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.97**	**15**	⇓*i*PN	**P**	**00 29 51.0**	**+0.3**
YSS				*e*		00 30 48.7	
YSS				pmax	pmax		
	comp=N,220nm,0.9s						
YSS				pmax	pmax		
	comp=Z,150nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.97**	**15**	*e*P	**P**	**00 29 51.2**	**+0.5**
KUR	**Kuril'sk**	**5.93**	**56**	*e*PN	**P**	**00 30 00.5**	**-2.9**
KUR				*e*S	**S**	**00 31 07.2**	**-3.4**
KUR				pmax	pmax		
	comp=Z,80nm,0.5s						
KUR				smax			
	comp=N,90nm,0.5s						
KUR				smax			
	comp=E,110nm,0.5s						
MAJO	**Matsushiro**	**5.98**	**201**	*e*PN	**P**	**00 30 04.4**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,84nm,0.5s						
MAJO	**Matsushiro**	**5.98**	**201**	*e*P	**P**	**00 30 04.4**	**+0.3**
	comp=Z,84nm,0.5s						
MAT	**Matsushiro**	**5.98**	**201**	*e*PN	**P**	**00 30 05.0**	**+0.8**
MAT				S	**S**	**00 31 14.0**	**+2.1**
MAT				pmax	pmax		
	comp=Z,79nm,0.5s						
MAT	**Matsushiro**	**5.98**	**201**	*e*P	**P**	**00 30 05.0**	**+0.8**
	comp=Z,79nm,0.5s						
MAT				S	**S**	**00 31 14.0**	**+2.1**
MAT	**Matsushiro**	**5.98**	**201**	P	**P**	**00 30 04.5**	**+0.3**
MAT				*e*S	**S**	**00 31 13.8**	**+1.9**
MJAR	**Matsushiro Arr**	**5.98**	**201**	P	**P**	**00 30 04.5**	**+0.4**
	comp=Z,12nm,0.3s,baz=12,slow=15,SNR=54						
MDJ	**Mudanjiang**	**8.57**	**290**	P	**P**	**00 30 38.1**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,114nm,5.6s						
JHJ	**Hachijo jima 2**	**9.07**	**186**	P	**P**	**00 30 41.2**	**-4.5**
	comp=Z,44nm,0.3s,baz=264,slow=23,SNR=26						
JHJ				S	**S**	**00 32 17.0**	**-9.5**
	comp=Z,16nm,0.3s,baz=66,slow=19,SNR=4.3						
CN2	**Changchun**	**11.42**	**283**	*e*P	**P**	**00 31 14.9**	**-1.9**
CN2				*e*S	**S**	**00 33 18.3**	**-3.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s						
CBIJ	**Chichi jima**	**15.07**	**175**	P	**P**	**00 31 60.0**	**-4.1**
	comp=Z,8.0nm,0.3s,baz=287,slow=20,SNR=14						
CBIJ				S	**S**	**00 34 38.9**	**-8.6**
	comp=Z,2.9nm,0.3s,baz=288,slow=20,SNR=3.2						
PET	**Petropavlovsk**	**16.13**	**42**	P	**P**	**00 32 19.8**	**+2.7**
SSE	**Sheshan**	**19.23**	**241**	*e*P	**P**	**00 32 57.8**	**+4.7**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s						
SSE	**Sheshan**	**19.23**	**241**	*e*P	**P**	**00 32 57.7**	**+4.6**
	comp=Z,20nm,0.7s						
NJ2	**Nanjing**	**20.20**	**247**	*e*P	**P**	**00 33 07.8**	**+4.7**
NJ2				S	**S**	**00 36 41.0**	**+3.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,70nm,11.6s						
NJ2				LR	LR		
	comp=N,270nm,19.5s						
NJ2				LR	LR		
	comp=E,230nm,20.0s						
NJ2				LR	LR		
	comp=Z,170nm,18.9s						
YAK	**Yakutsk**	**20.99**	**345**	*e*P	**P**	**00 33 07.8**	**-3.1**
YAK				pmax	pmax		
	comp=Z,39nm,0.8s						
YAK	**Yakutsk**	**20.99**	**345**	*e*P	**P**	**00 33 07.8**	**-3.1**
	comp=Z,39nm,0.8s						
SEY	**Seymchan**	**21.88**	**14**	*e*P	**P**	**00 33 17.2**	**-2.4**
SEY				*e*		00 33 44.3	
SEY				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
BOD	**Bodaibo**	**23.09**	**322**	*e*P	**P**	**00 33 29.7**	**-1.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**24.45**	**295**	*e*P	**P**	**00 33 44.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
ULN	**Ulaanbaatar**	**24.45**	**295**	*e*P	**P**	**00 33 44.7**	**+0.3**
	comp=Z,1.5nm,0.4s,mb3.9						
SONM	**Songino Array**	**24.89**	**295**	P	**P**	**00 33 48.2**	**-0.4**
	comp=Z,2.5nm,0.5s,mb4.0,baz=86,slow=8.0,SNR=39						
TLY	**Talaya**	**26.89**	**304**	⇑*i*P	**P**	**00 34 07.2**	**+0.2**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
ZAK	**Zakamensk**	**27.01**	**301**	*e*P	**P**	**00 34 07.5**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
ENH	**Enshi**	**27.81**	**255**	P	**P**	**00 34 14.3**	**-1.4**
TIXI	**Tiksi**	**30.15**	**352**	⇓*i*P	**P**	**00 34 32.7**	**-3.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.9						
TNA	**Tin City**	**36.68**	**33**	*e*P	**P**	**00 35 32.5**	**+0.3**
ZAL	**Zalesovo**	**38.31**	**308**	P	**P**	**00 35 46.2**	**+0.3**
	comp=Z,17nm,0.4s,mb5.0,baz=22,slow=7.2,SNR=81						
ZAL	**Zalesovo**	**38.31**	**308**	P	**P**	**00 35 46.2**	**+0.3**
WMQ	**Urumqi**	**38.37**	**291**	⇓P	**P**	**00 35 46.9**	**+0.3**
WMQ				AP	pP	00 36 17.4	+1.5
WMQ				XP	sP	00 36 32.4	+1.0
WMQ				PP	PP	00 37 21.6	+2.2
WMQ				PPP	PPP	00 37 47.1	+1.9
WMQ				PCP	PcP	00 37 59.3	+1.2
WMQ				*e*S	**S**	**00 41 29.4**	**-1.7**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,115nm,4.6s						
WMQ				LR	LR		
	comp=N,15nm,17.5s						
WMQ				LR	LR		
	comp=E,12nm,16.7s						
WMQ				LR	LR		
	comp=Z,17nm,16.7s						
LSA	**Lhasa**	**41.59**	**269**	P	**P**	**00 36 12.2**	**-1.0**
IMA	**Indian Mountai**	**42.56**	**33**	*e*P	**P**	**00 36 20.6**	**0.0**
IMA				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.9						
IMA	**Indian Mountai**	**42.56**	**33**	*e*P	**P**	**00 36 20.6**	**0.0**
	comp=Z,28nm,0.8s,mb5.0						
CMAR	**Chiang Mai Arr**	**42.65**	**249**	P	**P**	**00 36 22.2**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.5,baz=32,slow=8.3,SNR=4.6						
CMAR				ScP		00 41 52.1	
	comp=Z,0.7nm,0.8s,baz=5.5,slow=1.8,SNR=6.4						
COLA	**College**	**45.04**	**35**	*e*P	**P**	**00 36 41.5**	**+0.9**
ILAR	**Eielson Array**	**45.46**	**35**	P	**P**	**00 36 44.3**	**+0.4**
	comp=Z,2.7nm,0.8s,mb3.9,baz=274,slow=6.4,SNR=28						
JIRN	**Jiri**	**46.36**	**270**	*e*P	**P**	**00 36 53.6**	**+2.1**
	comp=Z,12nm,0.4s,mb4.9						
GUN	**Gumba**	**46.46**	**271**	*e*P	**P**	**00 36 53.2**	**+0.9**
	comp=Z,44nm,0.4s						
BVA0	**Borovoye Array**	**46.92**	**309**	*i* P	**P**	**00 36 55.5**	**0.0**
KKN	**Kakani**	**46.97**	**271**	*e*P	**P**	**00 36 57.5**	**+1.2**
	comp=Z,12nm,0.4s,mb4.8						
TKM2	**Tokmak 2**	**46.98**	**294**	P	**P**	**00 36 57.1**	**+1.0**
	SNR=20						
PKI	**Pulchoki**	**46.99**	**270**	*e*P	**P**	**00 36 57.1**	**+0.6**
	comp=Z,8.8nm,0.4s,mb4.7						
DMN	**Daman**	**47.20**	**271**	*e*P	**P**	**00 36 59.3**	**+1.2**
	comp=Z,12nm,0.4s,mb4.9						
GKN	**Gorkha**	**47.33**	**271**	*e*P	**P**	**00 36 59.6**	**+0.5**
	comp=Z,17nm,0.4s,mb5.0						
KBK	**Karagaybulak**	**47.52**	**294**	P	**P**	**00 37 01.1**	**+0.7**
	SNR=13						
KZA	**Kyzart**	**47.55**	**293**	P	**P**	**00 37 02.4**	**+1.8**
	SNR=12						
USP	**Ospenovka**	**47.59**	**295**	P	**P**	**00 37 01.4**	**+0.5**
	SNR=5.8						
AAK	**Ala-Archa**	**47.84**	**294**	P	**P**	**00 37 03.2**	**+0.4**
	SNR=6.0						
AAK	**Ala-Archa**	**47.84**	**294**	*e*P	**P**	**00 37 01.7**	**-1.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**47.84**	**294**	*e*P	**P**	**00 37 01.7**	**-1.2**
	comp=Z,1.8nm,0.4s,mb4.0						
KOLN	**Koldanda**	**48.23**	**272**	*e*P	**P**	**00 37 06.0**	**-0.1**
	comp=Z,6.1nm,0.3s,mb4.7						
EKS2	**Erkin-Say**	**48.32**	**295**	P	**P**	**00 37 06.8**	**+0.3**
	SNR=6.5						
INK	**Inuvik**	**50.06**	**29**	*e*P	**P**	**00 37 19.4**	**-0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	**Inuvik**	**50.06**	**29**	P	**P**	**00 37 20.0**	**+0.4**
	comp=Z,2.7nm,0.4s,mb4.3,baz=303,slow=7.2,SNR=61						
INK	**Inuvik**	**50.06**	**29**	*e*P	**P**	**00 37 19.4**	**-0.2**
	comp=Z,3.1nm,0.5s,mb4.2						
KKAR	**Karatay Array**	**50.33**	**296**	*i* P	**P**	**00 37 21.3**	**-0.7**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
ARU	**Arti**	**52.31**	**316**	⇑*i*P	**P**	**00 37 34.8**	**-1.9**
ARU				*e*		00 39 32.0	
ARU				*e*PPP	PPP	00 40 37.3	-8.2
ARU				*i* S	**S**	**00 44 43.7**	**-6.4**
ARU				*e*SS	SS	00 48 21.4	-6.8
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
ARU	**Arti**	**52.31**	**316**	*e*P	**P**	**00 37 34.0**	**-2.8**
	comp=Z,5.8nm,0.9s,mb4.2						
RES	**Resolute Bay**	**57.75**	**15**	*e*P	**P**	**00 38 14.3**	**-1.4**
RES				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.7						
RES	**Resolute Bay**	**57.75**	**15**	*e*P	**P**	**00 38 14.3**	**-1.4**
	comp=Z,8.7nm,0.8s,mb4.6						
ARCES	**ARCESS Array B**	**59.07**	**338**	P	**P**	**00 38 23.6**	**-1.4**
	comp=Z,1.0nm,0.4s,mb4.0,baz=56,slow=7.3,SNR=18						
YKA	**Yellowknife Ar**	**59.62**	**31**	P	**P**	**00 38 28.5**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.6,baz=307,slow=6.7,SNR=20						
JOF	**Joensuu**	**61.27**	**331**	*e*p	**P**	**00 38 36.0**	**-4.0**
	comp=Z,4.5nm,0.4s,mb4.7						
WRA	**Warramunga Arr**	**62.09**	**187**	P	**P**	**00 38 44.3**	**-1.7**
	comp=Z,0.3nm,0.4s,mb3.5,baz=7.9,slow=6.8,SNR=5.2						
KAF	**Kangasniemi**	**63.58**	**331**	*e*p	**P**	**00 38 52.6**	**-2.6**
	comp=Z,4.8nm,0.5s,mb4.6,baz=47,slow=6.3						
KAF	**Kangasniemi**	**63.58**	**331**	*e*P	**P**	**00 38 52.6**	**-2.6**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
FINES	**FINESS Array B**	**64.11**	**331**	P	**P**	**00 38 57.7**	**-0.9**
	comp=Z,8.3nm,0.6s,mb4.8,baz=46,slow=8.4,SNR=119						
ASAR	**Alice Springs**	**65.81**	**187**	P	**P**	**00 39 08.8**	**-1.5**
	comp=Z,0.3nm,0.6s,mb3.3,baz=8.9,slow=7.6,SNR=4.3						
NEW	**Newport**	**66.78**	**45**	P	**P**	**00 39 16.0**	**0.0**
KIV	**Kislovodsk**	**67.28**	**309**	*e*P	**P**	**00 39 19.2**	**0.0**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
KIV	**Kislovodsk**	**67.28**	**309**	*e*P	**P**	**00 39 19.2**	**0.0**
	comp=Z,8.5nm,0.9s,mb4.6						
NB2	**NORSAR Subarra**	**69.31**	**336**	P	**P**	**00 39 30.8**	**-0.6**
	comp=Z,4.7nm,0.6s,mb4.4,baz=36,slow=6.2						
NB2	**NORSAR Subarra**	**69.31**	**336**	P	**P**	**00 39 30.8**	**-0.6**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
NOA	**NORSAR Array B**	**69.31**	**336**	P	**P**	**00 39 30.9**	**-0.5**
	comp=Z,3.9nm,0.6s,mb4.3,baz=38,slow=6.2,SNR=25						
WVOR	**Wild Horse Val**	**69.55**	**51**	P	**P**	**00 39 33.7**	**+0.5**
FCC	**Fort Churchill**	**69.62**	**27**	P	**P**	**00 39 33.5**	**+0.2**
ANN	**Anapa**	**69.72**	**312**	*e*P	**P**	**00 39 24.0**	**-10**
AKASG	**Malin Array Be**	**70.02**	**321**	P	**P**	**00 39 35.1**	**-0.8**
	comp=Z,1.5nm,0.3s,mb4.2,baz=45,slow=7.0,SNR=14						
HRY	**Holter Researc**	**70.54**	**44**	*e*P	**P**	**00 39 39.5**	**+0.4**
HLID	**Hailey**	**71.22**	**48**	P	**P**	**00 39 43.7**	**+0.5**
NVAR	**Mina Array Bea**	**72.29**	**54**	P	**P**	**00 39 50.8**	**+1.2**
	comp=Z,3.1nm,0.7s,mb4.2,baz=306,slow=4.1,SNR=25						
BW06	**Boulder Array**	**74.39**	**46**	*e*P	**P**	**00 40 01.8**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**74.39**	**46**	P	**P**	**00 40 02.5**	**+0.8**
	comp=Z,2.0nm,0.6s,mb4.0,baz=304,slow=2.0,SNR=21						
NLU	**North Lily Min**	**74.92**	**50**	*e*P	**P**	**00 40 05.9**	**+1.1**
MPU	**Maple Canyon**	**75.13**	**49**	*e*P	**P**	**00 40 06.3**	**+0.3**
BRTR	**Keskin Array B**	**75.17**	**310**	P	**P**	**00 40 06.2**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.5,baz=62,slow=4.1,SNR=5.4						
SRU	**San Rafael**	**76.37**	**49**	*e*P	**P**	**00 40 13.5**	**+0.5**
CLL	**Collm**	**76.46**	**329**	*e*P	**P**	**00 40 13.0**	**-0.2**
CLL	**Collm**	**76.46**	**329**	P	**P**	**00 40 13.0**	**-0.2**
PV10	**Paradox Valley**	**77.72**	**49**	*e*P	**P**	**00 40 21.7**	**+1.3**
GERES	**GERESS Array B**	**78.15**	**327**	P	**P**	**00 40 21.3**	**-1.3**
	comp=Z,0.2nm,0.3s,mb3.2,baz=18,slow=4.2,SNR=4.4						
SDCO	**Great Sand Dun**	**80.13**	**47**	P	**P**	**00 40 34.7**	**+1.1**
TXAR	**Lajitas Array**	**87.31**	**52**	P	**P**	**00 41 11.3**	**+1.4**
	comp=Z,0.4nm,0.5s,mb3.5,baz=317,slow=1.7,SNR=7.2						
SNAA	**Sanae**	**145.49**	**199**	*e*	PKPdf	00 48 02.0	+4.1
SNAA	**Sanae**	**145.49**	**199**	*e*	PKPdf	00 48 03.1	+5.2
SNAA	**Sanae**	**145.49**	**199**	*e*	PKPdf	00 48 05.9	+8.0
SNAA	**Sanae**	**145.49**	**199**	*e*	PKPdf	00 48 43.8	+46
SNAA	**Sanae**	**145.49**	**199**	*e*	PKPdf	00 48 49.7	+52
SNAA	**Sanae**	**145.49**	**199**	⇑*i*PKPdf	PKPdf	00 48 00.4	+2.5
SNAA				*e*		00 48 02.0	
SNAA				*e*		00 48 03.1	
SNAA				*e*		00 48 05.9	
SNAA				*e*		00 48 43.8	
SNAA				*e*		00 48 49.7	
SNAA				*e*		00 49 05.2	
SNAA				*e*		00 49 09.5	
VNA2	**Neumayer--Watz**	**147.09**	**199**	*e*	PKPdf	00 48 04.7	+4.1
VNA2	**Neumayer--Watz**	**147.09**	**199**	*e*	PKPdf	00 48 09.0	+8.4
VNA2	**Neumayer--Watz**	**147.09**	**199**	*e*	PKPdf	00 48 49.2	+49
VNA2	**Neumayer--Watz**	**147.09**	**199**	*e*	PKPdf	00 48 51.9	+51
VNA2	**Neumayer--Watz**	**147.09**	**199**	⇑*i*PKPdf	PKPdf	00 48 03.3	+2.7
VNA2				*e*		00 48 04.7	
VNA2				*e*		00 48 09.0	
VNA2				*e*		00 48 49.2	
VNA2				*e*		00 48 51.9	
VNA2				*e*		00 48 53.8	
VNA2				*e*		00 49 14.5	
VNA3	**Neumayer Olymp**	**147.38**	**197**	*e*	PKPdf	00 48 07.6	+6.5
VNA3	**Neumayer Olymp**	**147.38**	**197**	*e*	PKPdf	00 48 10.7	+10
VNA3	**Neumayer Olymp**	**147.38**	**197**	*e*	PKPdf	00 48 50.0	+49
VNA3	**Neumayer Olymp**	**147.38**	**197**	*e*	PKPdf	00 48 52.3	+51
VNA3	**Neumayer Olymp**	**147.38**	**197**	⇑*i*PKPdf	PKPdf	00 48 05.9	+4.8
VNA3				*e*		00 48 07.6	
VNA3				*e*		00 48 10.7	
VNA3				*e*		00 48 50.0	
VNA3				*e*		00 48 52.3	
VNA3				*e*		00 48 54.0	
VNA3				*e*		00 49 14.6	

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*BJI **16** 01:35:30.8, 13.66N×120.92E, h153km, mB4.8, mb4.7*
*MOS **16** 01:35:31.6±1.0, 13.64N×120.93E, h168km, mb4.5/13, Error ellipse: s-maj=18.9km s-min=8.3km az=117.8*
*MAN **16** 01:35:32.3, 13.64N×120.66E, h126km, mb4.8, ML3.7, MS3.7*
*NEIC **16** 01:35:32.1±1.9, 13.61N×120.90E, h158km±18km, mb4.3/16, Error ellipse: s-maj=11.1km s-min=5.2km az=65.0*
*IDC **16** 01:35:32.8±3.9, 13.63N×120.87E, h162km±35km, mb4.0/26, mb1 4.1/26, mb1mx4.1/29, mbtmp4.4/26, Error ellipse: s-maj=19.0km s-min=8.7km az=64.0*
ISC 16 01:35:30.4±0.2, 13.54N±0.03×120.74E±0.03, h150km, n122, σ1°11/125, mb4.3/53, 9C-13D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.52**	**291**	*e*P	**P**	**01 35 51.9**	**-0.5**
TGY	**Tagaytay City**	**0.59**	**19**	⇑*e*P	**P**	**01 35 52.8**	**+0.1**
TGY				*i* S	**S**	**01 36 01.6**	**-8.2**
BOAC	**Boac**	**1.08**	**94**	*e*P	**P**	**01 35 56.7**	**+0.6**
BOAC				*e*S	**S**	**01 36 17.9**	**+2.1**
POLP	**Polilio Island**	**1.65**	**45**	*e*P	**P**	**01 36 03.2**	**+1.2**
POLP				*e*S	**S**	**01 36 26.8**	**+0.5**
GQP	**Guinayangan**	**1.70**	**78**	⇓*e*P	**P**	**01 36 03.8**	**+1.3**
GQP				*e*S	**S**	**01 36 27.5**	**+0.4**
PCPH	**Palayan**	**2.04**	**10**	⇑*i*P	**S**	**01 36 35.5**	**+1.6**
BALP	**Baler**	**2.33**	**20**	*e*P	**P**	**01 36

comp=Z,2.0nm,0.4s,mb4.1
ULN Ulaanbaatar 36.07 344 *e*P **P 01 42 18.4 -0.8**
comp=Z,2.1nm,0.4s,mb4.1
SONM Songino Array 36.22 344 P **P 01 42 19.8 -0.6**
comp=Z,3.7nm,0.6s,mb4.2,baz=161,slow=9.8,SNR=33
SONM PcP PcP 01 44 41.7 -1.1
comp=Z,0.5nm,0.4s,baz=169,slow=4.4,SNR=5.0
GKN Gorkha 36.53 299 *e*P **P 01 42 23.3 0.0**
comp=Z,29nm,0.5s,mb5.2
KOLN Koldanda 37.36 298 *e*P **P 01 42 30.5 +0.2**
comp=Z,33nm,0.8s,mb5.0
ASAR Alice Springs 39.16 161 P **P 01 42 44.6 -0.7**
comp=Z,3.7nm,0.4s,mb4.3,baz=338,slow=6.4,SNR=41
ASAR PcP PcP 01 44 52.1 -0.1
comp=Z,1.0nm,0.5s,baz=348,slow=3.6,SNR=6.3
ASPA Alice Springs 39.16 161 *e*P **P 01 42 44.7 -0.6**
ZAK Zakamensk 39.40 342 *e*P **P 01 42 46.0 -1.0**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.4
WMQ Urumqi 41.35 323 *e*P **P 01 43 06.0 +2.9**
CTA Charters Tower 41.80 143 ⇓*i*P **P 01 43 07.9 +0.8**
comp=Z,4.9nm,0.4s,mb4.5
CTA Charters Tower 41.80 143 ⇓*i*P **P 01 43 07.9 +0.8**
CTA pmax pmax
comp=Z,5.0nm,0.4s
CTA Charters Tower 41.80 143 P **P 01 43 08.1 +1.1**
comp=Z,7.0nm,0.5s,mb4.5,baz=307,slow=9.7,SNR=8.8
FORT Forrest 44.62 171 *e*P **P 01 43 29.2 -0.5**
comp=Z,293nm,0.7s
KLBR Kellerberrin 44.97 184 *e*P **P 01 43 31.8 -0.6**
comp=Z,576nm,1.0s
NWAO Narrogin (SRO) 46.33 184 P **P 01 43 42.9 -0.3**
comp=Z,11nm,0.6s,mb4.7,baz=9.9,slow=7.0,SNR=7.2
ULHL Ulahol 47.86 315 P **P 01 43 56.0 +1.0**
SNR=6.8
KZA Kyzart 48.48 315 P **P 01 44 01.3 +1.5**
SNR=5.3
TKM2 Tokmak 2 48.56 316 P **P 01 44 00.9 +0.5**
SNR=9.6
YAK Yakutsk 48.84 6 *e*P **P 01 44 00.6 -1.7**
YAK pmax pmax
comp=Z,12nm,0.6s,mb4.7
YAK Yakutsk 48.84 6 P **P 01 44 00.0 -2.2**
KBK Karagaybulak 48.90 315 P **P 01 44 04.1 +1.1**
SNR=6.9
UCH Uchtor 49.04 315 P **P 01 44 05.6 +1.5**
SNR=5.5
CHMS Chumysh 49.16 316 P **P 01 44 05.0 0.0**
SNR=5.3
AAK Ala-Archa 49.20 315 *e*P **P 01 44 04.1 -1.2**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
AAK Ala-Archa 49.20 315 *e*P **P 01 44 03.4 -1.9**
comp=Z,3.1nm,0.8s,mb4.0
ZAL Zalesovo 49.21 333 P **P 01 44 04.3 -1.0**
comp=Z,7.5nm,0.4s,mb4.7,baz=353,slow=5.2,SNR=33
STKA Stephens Creek 49.39 156 *e*P **P 01 44 05.8 -1.1**
comp=Z,1.6nm,0.4s,mb4.0
STKA Stephens Creek 49.39 156 P **P 01 44 05.8 -1.1**
comp=Z,1.5nm,0.3s,mb4.1,baz=332,slow=8.3,SNR=11
USP Ospenovka 49.44 316 P **P 01 44 07.3 +0.2**
SNR=11
AML Almayashu 49.57 314 P **P 01 44 09.2 +1.1**
SNR=6.1
KKAR Karatay Array 52.11 314 *i*P **P 01 44 26.9 -0.4**
KKAR pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
BVA0 Borovoye Array 55.92 326 *i*P **P 01 44 53.9 -1.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
BVAR Borovoye Array 55.92 326 P **P 01 44 54.0 -1.0**
comp=Z,3.0nm,0.6s,mb4.3,baz=110,slow=7.9,SNR=28
BVAR PcP PcP 01 45 50.5 -1.0
comp=Z,1.2nm,0.6s,baz=108,slow=4.7,SNR=4.4
TIXI Tiksi 58.28 3 ⇓*i*P **P 01 45 08.8 -2.5**
TIXI pmax pmax
comp=Z,22nm,1.3s,mb4.8
JMDO Jabal Madar 59.88 288 P **P 01 45 21.7 -1.2**
SNR=6.8
SHAO Shalim 62.55 283 P **P 01 45 40.9 -0.1**
SNR=15
ARU Arti 63.53 327 *i*P **P 01 45 45.1 -1.8**
ARU Arti 63.53 327 *e*P **P 01 45 44.7 -2.2**
comp=Z,4.9nm,0.6s,mb4.5
RBK Rabkut 63.95 283 P **P 01 45 49.9 -0.3**
SNR=6.5
WHFO Wadi Hawf 64.32 284 P **P 01 45 51.5 -1.1**
SNR=8.2
ABTO Aybut 64.83 283 P **P 01 45 55.4 -0.6**
SNR=11
GNI Garni 70.74 308 *e*P **P 01 46 33.7 +1.4**
GNI pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 72.16 312k *i*P **P 01 46 40.7 +0.1**
KIV *e* 01 46 51.0
KIV pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
MALT Malatya 75.76 306 *e*P **P 01 47 02.0 +0.5**
MALT pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
MALT Malatya 75.76 306 *e*P **P 01 47 02.0 +0.5**
comp=Z,1.3nm,0.6s,mb3.7
IMA Indian Mountai 75.93 25 *e*P **P 01 47 01.6 -0.3**
IMA pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
IMA Indian Mountai 75.93 25 *e*P **P 01 47 01.6 -0.3**
comp=Z,8.8nm,0.8s,mb4.4
ASF Jabal al Asfar 77.77 300 P **P 01 47 13.0 +0.2**
comp=Z,2.7nm,0.5s,mb4.2,baz=342,slow=16,SNR=7.0
JOF Joensuu 77.80 332 *ep* **P 01 47 10.3 -2.0**
comp=Z,4.5nm,0.5s,mb4.3
MCK McKinley 78.11 27 *e*P **P 01 47 12.6 -1.4**
MCK pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
MCK McKinley 78.11 27 *e*P **P 01 47 12.6 -1.4**
comp=Z,4.4nm,0.8s,mb4.1
KEV Kevo 78.69 339 *ep* **P 01 47 15.3 -1.7**
comp=Z,2.0nm,0.5s,mb4.0
KEV Kevo 78.69 339 *e*P **P 01 47 15.3 -1.7**
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
ILAR Eielson Array 78.87 26 P **P 01 47 16.6 -1.5**
comp=Z,0.6nm,0.6s,mb3.4,baz=281,slow=3.4,SNR=8.7
OPO Ambohidratompo 79.19 248 P **P 01 47 21.4 +0.7**
comp=Z,2.0nm,0.6s,mb3.9,baz=53,slow=4.1,SNR=7.8
ARCES ARCESS Array B 79.24 339 P **P 01 47 19.4 -0.7**
comp=Z,2.8nm,0.5s,mb4.2,baz=80,slow=6.5,SNR=32
BRTR Keskin Array B 79.28 308 P **P 01 47 20.6 -0.2**
comp=Z,1.3nm,0.8s,mb3.6,baz=129,slow=4.2,SNR=8.0
EIL Elat 79.82 298 P **P 01 47 24.4 +0.5**
comp=Z,7.5nm,0.9s,mb4.3,baz=23,slow=7.7,SNR=5.4
KAF Kangasniemi 80.21 332 *ep* **P 01 47 23.0 -2.4**
comp=Z,1.3nm,0.6s,mb3.7
KAF Kangasniemi 80.21 332 *e*P **P 01 47 23.0 -2.4**
KAF pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
FINES FINESS Array B 80.44 331 P **P 01 47 25.5 -1.1**
comp=Z,0.7nm,0.4s,mb3.6,baz=45,slow=5.2,SNR=20
AKASG Malin Array Be 80.61 320 P **P 01 47 26.1 -1.5**
comp=Z,0.2nm,0.3s,baz=62,slow=5.7,SNR=5.0
DAWY Dawson 82.20 26 P **P 01 47 35.6 -0.1**
VRI Vrincioaia 83.17 315 ⇑P **P 01 47 43.7 +2.7**
INK Inuvik 83.23 21 *e*P **P 01 47 39.9 -1.0**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 83.23 21 P **P 01 47 40.6 -0.3**
comp=Z,4.8nm,0.9s,mb4.2,baz=292,slow=5.2,SNR=27
INK Inuvik 83.23 21 *e*P **P 01 47 39.9 -1.0**
comp=Z,5.1nm,1.0s,mb4.2
MLR Muntele Rosu 83.79 315 P **P 01 47 44.6 +0.5**
comp=Z,3.4nm,0.6s,mb4.2,baz=153,slow=2.3,SNR=8.6
MLR Muntele Rosu 83.79 315 ⇓P **P 01 47 44.6 +0.5**
MLR Muntele Rosu 83.79 315 ⇓P **P 01 47 44.6 +0.4**
BURAR Bucovina Array 83.80 317 ⇓P **P 01 47 44.5 +0.4**
BURAR Bucovina Array 83.80 317 ⇓P **P 01 47 44.5 +0.3**
KMBO Kilima Mbogo 83.93 267 P **P 01 47 47.4 +1.8**
comp=Z,2.6nm,0.8s,mb4.0,baz=43,slow=9.1,SNR=9.7
HFS Hagfors 86.63 331 P **P 01 47 56.8 -1.0**
comp=Z,1.6nm,0.5s,mb4.1,baz=117,slow=3.2,SNR=7.4
NB2 NORSAR Subarra 87.42 333 P **P 01 48 00.1 -1.4**
comp=Z,1.3nm,0.6s,mb3.9,baz=66,slow=4.6
NOA NORSAR Array B 87.42 333 P **P 01 48 00.5 -1.1**
comp=Z,2.5nm,0.8s,mb4.1,baz=68,slow=4.5,SNR=12
GERES GERESS Array B 90.78 321 P **P 01 48 17.3 -0.4**
comp=Z,0.8nm,0.8s,mb3.8,baz=45,slow=1.9,SNR=7.6
YKA Yellowknife Ar 92.90 22 P **P 01 48 27.4 +0.3**
comp=Z,1.4nm,0.5s,mb4.3,baz=308,slow=4.5,SNR=73
YKA PKiKP 01 53 13.8
comp=Z,0.1nm,0.5s,baz=321,slow=1.7,SNR=4.4
YKA Yellowknife Ar 92.90 22 P **P 01 48 27.4 +0.3**
VNDA Vanda 93.88 172 P **P 01 48 30.5 -0.8**
comp=Z,0.7nm,0.6s,mb4.0,baz=309,slow=5.6,SNR=6.1
PLCA Paso Flores 151.17 162 PKPbc PKPdf 01 55 07.0 +7.1
comp=Z,1.3nm,0.7s,baz=194,slow=8.3,SNR=4.8

*IDC **16** 01:47:57.4±1.0,36.58N×27.52E,mb3.7/6,mb1 3.8/11, mb1mx3.7/26,mbtmp3.7/11,ML3.7/5,MS2.7/1,Ms1 2.7/1, ms1mx2.3/25,Error ellipse: s-maj=17.4km s-min=13.9km az=156.0*
*CSEM **16** 01:47:57.2±0.1,36.45N×27.40E,h10km,MD3.9,Error ellipse: s-maj=2.1km s-min=1.3km az=81.0*
*ATH **16** 01:47:58.3,36.63N×27.36E,h23km±1km,MD3.9/12*
*ISK **16** 01:47:58.4,36.57N×27.32E,h12km, MD3.9*
*NEIC **16** 01:47:58.4,36.63N×27.37E,h23km,mb3.5/1, MD3.9(ATH),ML3.9(NIC),After ATH.*
*HLW **16** 01:48:00.6,36.61N×27.50E,h27km,Mb3.9*
*NIC **16** 01:48:00.3±0.3,36.75N×27.35E,h25km,mb4.4,ML3.9, MW3.6*

ISC 16 01:47:58.3±0.5,36.47N±0.02×27.40E±0.03,h19km±6km, n108,σ1°23/120,mb3.6/6,6C-3D,Dodecanese Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
NISR Nisiros 0.26 302 *e*PB **Pb 01 48 04.0 -0.3**
BDRM Kayabasi 0.59 3 *i*P **Pb 01 48 08.5 -1.3**
BDRM *i*S **Sb 01 48 15.1 -2.6**
BODT Bodrum 0.59 353 *i*PG **Pb 01 48 08.2 -1.7**
ARG Arkhangelos 0.64 113 *e*PN **Pn 01 48 13.0 +0.8**
MLSB Milas 0.88 20 *i*PG **Pb 01 48 14.6 0.0**
MLSB *i*SG **Sb 01 48 26.2 +0.3**
KARP Karpathos 0.94 192 *e*PN **Pn 01 48 19.0 +2.4**
YER Yerkesik 0.97 47 *i*PG **Pb 01 48 16.5 +0.3**
DALT Dalyan (Mudla) 1.04 73 PN **Pn 01 48 19.2 +1.3**
AYDN Tasoluk 1.25 18 *i*P **Pn 01 48 20.6 -0.3**
AYDN *i*S rx 01 49 20.3
SMG Samos 1.31 340 *e*PN **Pn 01 48 20.5 -1.4**
FETY Fethiye 1.36 83 PN **Pn 01 48 25.0 +2.4**
FETY SN **Sn 01 48 43.8 +3.5**
SANT Santorini 1.57 267 *e*P **Pn 01 48 25.8 +0.3**
SANT *e*S **Sn 01 48 50.3 +4.8**
SANT Santorini 1.57 267 *e*P **Pn 01 48 25.8 +0.3**
SANT *e*S **Sn 01 48 50.3 +4.8**
THR1 Thera Island 1.57 267 *e*P **Pn 01 48 26.8 +1.3**
THR3 Thira Island, 1.61 268 *e*P **Pn 01 48 27.6 +1.4**
APE Apeiranthos 1.62 292 PN **Pn 01 48 26.0 -0.2**
APE Apeiranthos 1.62 292 *e*Pn **Pn 01 48 21.5 -4.7**
DNZL Cakiroluk 1.79 47 *i*P **Pn 01 48 30.1 +1.4**
DNZL *i*S **Sn 01 48 54.7 +3.6**
KSL Kastellorizon 1.79 100 *e*PN **Pn 01 48 31.0 +2.3**
DENT Denizli 1.83 45 PN **Pn 01 48 30.5 +1.3**
NPS Neapolis 1.89 231 *e*PN **Pn 01 48 31.5 +1.4**
IZM Izmir 1.93 357 *e*PN **Pn 01 48 30.4 -0.2**
BLCB Balcova 1.93 352 *e*PN **Pn 01 48 29.8 -0.9**
ELL Elmali 2.04 81 PN **Pn 01 48 34.9 +2.7**
XRY Khrisi 2.11 222 *e*PB **Pb 01 48 36.5 +0.7**
IDI Anoyia 2.36 241 Pn **Pn 01 48 38.3 +1.5**
9.3nm,0.3s,baz=57,slow=12,SNR=68
IDI Sn **Sn 01 49 10.0 +4.5**
15nm,0.3s,baz=343,slow=15,SNR=6.4
IDI Lg 01 49 16.8
22nm,0.3s,baz=309,slow=20,SNR=6.7
KHL Karahalli 2.50 42 *e*PN **Pn 01 48 39.2 +0.3**
ANTB Antalya 2.65 80 *e*PN **Pn 01 48 43.3 +2.3**
BCK Bucak 2.74 68 PN **Pn 01 48 44.6 +2.4**
VAM Vamos 2.81 249 *e*Pb **Pb 01 48 48.0 +0.4**
VAM Vamos 2.81 249 *e*PN **Pn 01 48 45.5 +2.3**
ISP Isparta 2.83 60 *e*PN **Pn 01 48 45.1 +1.5**
ISP Isparta 2.83 60 *e*P **Pn 01 48 44.9 +1.3**
PRK Paraskevi 2.91 342 *e*PN **Pn 01 48 43.0 -1.7**
GVD Gavdhos 3.15 240 *e*P **Pn 01 48 49.3 +1.2**
GVD Gavdhos 3.15 240 *e*P **Pn 01 48 49.3 +1.2**
BALB Balikesir 3.19 7 *e*PN **Pn 01 48 49.1 +0.5**
DST Dursunbey 3.27 17 PN **Pn 01 48 50.3 +0.4**
ALT Altintas 3.35 39 *e*PN **Pn 01 48 51.4 +0.4**
KYTH Kithira 3.53 268 *e*PN **Pn 01 48 54.6 +1.1**
VLI Veliai 3.60 275 *e*PN **Pn 01 48 54.5 0.0**
ORLT Orhaneli 3.76 18 *e*PN **Pn 01 48 57.8 +1.1**
BNT Bandirma 3.90 6 *e*PN **Pn 01 48 58.9 +0.2**
ESKT Eskisehir 4.08 41 *e*PN **Pn 01 49 02.2 +0.8**
HDMB Hadim 4.11 82 *e*PN **Pn 01 49 04.4 +2.6**
MRMT Marmara Adasi 4.13 2 *e*PN **Pn 01 49 02.6 +0.6**
AKMC Akamas 4.26 108 P **Pn 01 49 04.6 +0.7**
KIZT Kizilcal 4.29 55 *e*PN **Pn 01 49 05.5 +1.2**
PPCY Paphos 4.33 110 ⇑*i*P **Pn 01 49 05.8 +1.0**
YLV Yalova 4.37 20 *e*PN **Pn 01 49 06.5 +1.1**
GPA Golpazari 4.44 30 *e*PN **Pn 01 49 07.5 +1.0**
PAIG Paliouri 4.53 321 *e*P **Pn 01 49 06.5 -1.1**
ALN Alexandroupoli 4.54 347 *e*P **Pn 01 49 06.3 -1.6**
HRT Hereke 4.69 22 *e*PN **Pn 01 49 10.7 +0.7**
OUR Ouranopolis 4.70 326 *e*P **Pn 01 49 08.7 -1.4**
OUR Ouranopolis 4.70 326 *e*P **Pn 01 49 08.6 -1.5**
AGG Agios Georgios 4.76 304 *e*P **Pn 01 49 12.0 +1.1**
SZAC Souni-Zanaja 4.78 109 P **Pn 01 49 11.9 +0.6**
5.5nm,0.3s
SZAC S **Sn 01 50 07.5 +0.6**
MAMC Mammari 4.90 104 P **Pn 01 49 12.9 -0.1**
CSS Prodhromos 5.05 106 ⇑*i*P **Pn 01 49 15.2 +0.1**
2.1nm,0.4s
CSS S **Sn 01 50 15.0 +1.3**
SLUM 5.29 201 ⇓P **Pn 01 49 19.4 +1.0**
SLUM S **Sn 01 50 17.0 -2.6**
SOH Sokhos 5.38 325 *e*P **Pn 01 49 18.6 -1.0**
EDRB Edirne 5.39 355 *e*PN **Pn 01 49 19.7 -0.2**
ANTO Ankara 5.44 50 *e*PN **Pn 01 49 21.6 +1.1**
DABA Dabaa 5.50 172 ⇑P **Pn 01 49 21.9 +0.5**
SRS Serrai 5.51 328 *e*P **Pn 01 49 20.2 -1.4**
BRTR Keskin Array B 5.89 55 Pn **Pn 01 49 27.5 +0.6**
1.4nm,0.3s,baz=239,slow=16,SNR=61
BRTR Sn **Sn 01 50 32.4 -2.4**
0.3nm,0.3s,baz=235,slow=28,SNR=2.5
BRTR Lg 01 51 06.4
baz=114,slow=31,SNR=1.8
HNTI Hanita 7.23 116 P **Pn 01 49 45.8 0.0**
HNAT Natroun 7.33 158 P **Pn 01 49 47.1 -0.1**
KSDI Kefar Szold 7.54 113 P **Pn 01 49 49.0 -1.0**
AMAG Maghara 7.57 139 ⇑P **Pn 01 49 49.7 -0.8**
HRSH Kfar Ka'horesh 7.61 134 ⇑P **Pn 01 49 50.0 -1.1**
RSH 7.61 134 P **Pn 01 49 50.0 -1.1**
HSAF As Saff 7.67 152 P **Pn 01 49 51.6 -0.3**
KSHT Keshet 7.75 114 P **Pn 01 49 52.2 -0.8**
GLL Jalalah 7.77 151 ⇓P **Pn 01 49 52.9 -0.3**
SUZ 8.03 144 P **P 01 49 56.3 -0.6**
KZIT Kziot 8.05 132 P **P 01 49 55.8 -1.4**
RTMM Retamin 8.12 130 P **P 01 49 56.9 -1.3**
MASH Mash'abbe Sade 8.22 129 P **P 01 49 57.7 -1.9**
DRGI Dragot 8.22 124 P **P 01 49 58.6 -1.0**
ZAF 8.37 147 ⇓P **P 01 50 01.2 -0.5**
MZDA Masada 8.38 126 P **P 01 50 00.8 -1.0**
ZNM 8.44 145 ⇑P **P 01 50 02.2 -0.4**
PRNI Paran 8.81 132 P **P 01 50 05.6 -2.1**
TIP Timpagrande 8.84 291 *e*P **P 01 50 07.7 -0.5**
TIP Timpagrande 8.84 291 *e*P **P 01 50 07.7 -0.5**
ASF Jabal al Asfar 8.95 116 Pn **P 01 50 08.3 -1.4**
1.4nm,0.3s,baz=179,slow=8.0,SNR=14
ASF Sn **Sn 01 51 50.4 -0.6**
0.7nm,0.3s,baz=336,slow=18,SNR=2.8
MALT Malatya 8.97 75 P **P 01 50 07.2 -2.7**
1.2nm,0.6s
MALT Malatya 8.97 75 P **P 01 50 07.2 -2.7**
1.2nm,0.6s
MLR Muntele Rosu 9.08 353 Pn **P 01 50 10.3 -1.2**
0.2nm,0.3s,baz=207,slow=4.5,SNR=3.3
MLR Muntele Rosu 9.08 353 Pn **P 01 50 10.3 -1.2**
MBH Mount Berech 9.16 134 P **P 01 50 10.9 -1.8**
EIL Elat 9.28 135 Pn **P 01 50 12.7 -1.5**
1.5nm,0.3s,baz=341,slow=11,SNR=18
EIL Sn **Sn 01 51 51.5 -7.7**
3.1nm,0.3s,baz=341,slow=20,SNR=6.5
EIL Elat 9.28 135 *e*P **P 01 50 10.2 -4.1**
5.6nm,0.5s
EIL Elat 9.28 135 P **P 01 50 12.3 -1.9**
HBST Basata 9.50 137 P **P 01 50 16.1 -1.3**
ASUT 9.71 158 P **P 01 50 19.8 -0.4**
GNI Garni 14.10 70 LR LR 01 56 41.3
comp=Z,32nm,18.6s,baz=298,slow=38
GERES GERESS Array B 15.92 325 Pn **P 01 51 42.8 -0.1**
0.1nm,0.3s,baz=145,slow=12,SNR=2.3
KHC Kasperske Hory 16.18 326 *e*P **P 01 51 54.5 +8.3**
ESDC Sonseca Array 24.83 287 P **P 01 53 23.4 +2.6**
1.8nm,0.6s,mb3.8,baz=84,slow=10.0,SNR=10.0
FINES FINESS Array B 25.01 358 P **P 01 53 20.9 -1.2**
0.8nm,0.8s,mb3.3,baz=162,slow=8.8,SNR=3.3
HFS Hagfors 25.27 344 P **P 01 53 24.2 -0.4**
3.0nm,1.0s,mb3.8,baz=135,slow=12,SNR=5.2
NB2 NORSAR Subarra 26.65 342 P **P 01 53 36.1 -1.4**
0.7nm,0.6s,mb3.4,baz=159,slow=8.6
NOA NORSAR Array B 26.65 342 P **P 01 53 36.5 -1.0**
0.8nm,0.8s,mb3.3,baz=144,slow=9.5,SNR=2.9
BVAR Borovoye Array 34.12 47 P **P 01 54 43.1 -0.8**
0.4nm,0.5s,mb3.6,baz=248,slow=8.0,SNR=3.8
CMAR Chiang Mai Arr 64.63 85 P **P 01 58 35.9 -1.3**
0.7nm,0.7s,mb3.8,baz=300,slow=8.6,SNR=5.8

*BJI **16** 02:05:50.9,21.60S×68.40W,h109km*
*NEIC **16** 02:05:51.9±0.5,21.59S×68.38W,h110km±5km,mb4.3/8, Error ellipse: s-maj=8.5km s-min=6.0km az=91.0*
*IDC **16** 02:05:52.2±0.7,21.66S×68.37W,h110km±7km,mb3.8/7, mb1 3.9/11,mb1mx3.7/18,mbtmp4.1/11,Error ellipse: s-maj=18.7km s-min=10.7km az=102.0*
*GUC **16** 02:05:53.2±0.5,21.82S×68.78W,h127km±5km,ML3.7*

ISC 16 02:05:51.0±0.5,21.71S±0.04×68.44W±0.07,h120km±5km, n43,σ1°23/45,mb4.2/13,2C,Chile-Bolivia border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
LVC Limon Verde 1.00 206 P **P 02 06 14.6 +1.3**
145nm,0.3s,baz=17,slow=8.3,SNR=2448
LVC S **S 02 06 31.4 +1.5**
209nm,0.3s,baz=174,slow=18,SNR=18
LVC Limon Verde 1.00 206 *e*P **P 02 06 14.0 +0.7**
LVC *e*S **S 02 06 30.0 +0.1**
LVC Limon Verde 1.00 206 ⇑*i*P **P 02 06 14.7 +1.4**
LVC *i*S **S 02 06 31.5 +1.6**
LVC AMP 02 06 33.0
comp=E,1μm,0.3s
SPCH San Pedro de A 1.21 169 ⇑*i*P **P 02 06 19.1 +3.6**
SPCH *i*S **S 02 06 38.3 +4.4**
SPCH AMP 02 06 53.9
comp=N,1μm,0.4s
ANCH Antofagasta 2.67 222 *i*P **P 02 06 34.4 +0.6**
ANCH *i*S **S 02 07 04.2 -2.0**
CPN1 Cerro Paranal 3.42 212 *e*P **P 02 06 43.8 0.0**
CPN1 *i*S **S 02 07 22.4 -1.4**
CPN1 AMP 02 07 33.1
comp=E,355nm,0.6s
LPAZ La Paz 5.40 3 P **P 02 07 11.2 +0.7**
comp=E,2.9nm,0.3s,baz=206,slow=8.3,SNR=108
LPAZ S **S 02 08 12.8 +0.8**
comp=E,0.3nm,0.3s,baz=270,slow=19,SNR=2.2
LPAZ La Paz 5.40 3 *e*P **P 02 07 10.0 -0.5**
comp=E,12nm,0.5s
ARE Arequipa 5.96 331 *e*P **P 02 07 22.0 +3.9**
ARE *e*S **S 02 08 19.0 -6.6**
SIV San Ignacio 9.00 52 P **P 02 07 56.5 -2.7**
comp=E,3.4nm,0.3s,baz=246,slow=13,SNR=165
CFAA Coronel Fontan 9.86 179 P **P 02 08 09.0 -1.6**
comp=E,0.1nm,0.3s,baz=355,slow=14,SNR=13
CPUP Villa Florida 11.15 117 P **P 02 08 28.0 +0.2**
comp=E,0.1nm,0.3s,baz=312,slow=12,SNR=3.0
SAML Samuel 13.66 23 *e*P **P 02 08 58.8 -2.0**
comp=E,3.2nm,0.7s
TRQA Tornquist 17.22 163 P **P 02 09 45.7 +0.2**
PLCA Paso Flores 19.05 185 P **P 02 10 06.4 +0.2**
comp=E,0.1nm,0.3s,baz=332,slow=15,SNR=2.9
PLCA Paso Flores 19.05 185 P **P 02 10 06.6 +0.4**
BDFB Brasilia 20.26 76 P **P 02 10 18.7 -0.3**
comp=E,2.4nm,0.6s,baz=239,slow=6.1,SNR=5.2
OTAV Otavalo 23.90 335 *e*P **P 02 10 56.8 +1.9**
comp=E,1.7nm,0.7s,mb3.5
SDV Santo Domingo 30.48 356 P **P 02 11 52.9 -2.1**
PMSA Palmer Station 43.14 177 P **P 02 13 41.3 +0.5**
comp=E,68nm,0.5s,mb5.6
MIAR Mount Ida 60.84 336 *e*P **P 02 15 50.9 -2.1**
comp=E,3.8nm,0.5s,mb4.7
SNAA Sanae 61.94 161 P **P 02 16 00.5 +0.6**
comp=E,0.7nm,0.7s,mb3.8,baz=270,slow=9.1,SNR=4.9
MNTX Cornudas Mount 63.82 325 *e*P **P 02 16 10.5 -2.5**
comp=E,5.6nm,1.4s,mb4.2
ANMO Albuquerque 66.92 327 *e*P **P 02 16 32.5 -0.3**
comp=E,2.6nm,1.1s,mb4.0
DBIC Dimbokro 68.38 73 P **P 02 16 41.5 -0.6**
comp=E,3.2nm,0.6s,mb4.3,baz=289,slow=17,SNR=4.9
SDCO Great Sand Dun 68.65 329 *e*P **P 02 16 42.9 -0.5**
comp=E,3.4nm,0.7s,mb4.3
MSU Marysvale 72.60 325 *e*P **P 02 17 08.1 +0.9**
ARUT Antelope Range 72.75 324 *e*P **P 02 17 08.2 +0.2**
BW06 Boulder Array 74.51 330 P **P 02 17 18.2 0.0**
PDAR Pinedale Array 74.51 330 P **P 02 17 18.4 +0.2**
comp=E,0.5nm,0.5s,mb3.5,baz=135,slow=6.8,SNR=5.1
NVAR Mina Array Bea 75.93 322 P **P 02 17 27.4 +1.2**
comp=E,0.4nm,0.4s,mb3.5,baz=187,slow=8.1,SNR=5.2
NVAR Mina Array Bea 75.93 322 P **P 02 17 27.4 +1.2**
HLID Hailey 77.45 328 *e*P **P 02 17 36.0 +1.3**
comp=E,4.6nm,0.9s,mb4.2
MCMT McKenzie Canyo 77.62 329 P **P 02 17 36.5 +0.9**
BOSA Boshof 82.97 118 P **P 02 18 05.9 +1.7**
comp=E,2.1nm,0.7s,mb4.0,baz=235,slow=6.0,SNR=4.6
YKA Yellowknife Ar 91.53 340 P **P 02 18 45.2 +0.4**
comp=E,3.7nm,0.7s,mb4.7,baz=134,slow=4.5,SNR=151
YKA Yellowknife Ar 91.53 340 P **P 02 18 45.2 +0.4**
ASAR Alice Springs 129.93 207 PKP PKPdf 02 24 50.0 +2.8
comp=E,1.1nm,0.7s,baz=141,slow=2.0,SNR=11
WRA Warramunga Arr 132.99 210 PKP PKPdf 02 24 55.6 +2.6
comp=E,1.2nm,0.6s,baz=160,slow=1.7,SNR=20
BVAR Borovoye Array 135.72 35 PKP PKPdf 02 24 59.2 +2.0
comp=E,0.4nm,0.6s,baz=225,slow=4.2,SNR=3.6
WMQ Urumqi 150.38 36 PKP PKPdf 02 25 22.6 -0.1
WMQ PKP2 PKPab 02 25 36.1 -1.1
WMQ APKP 02 25 50.1
WMQ XPKP 02 26 01.8
SONM Songino Array 153.61 8 PKP PKPdf 02 25 30.4 +3.2
comp=E,0.3nm,0.5s,baz=297,slow=2.8,SNR=3.9
SONM PKPbc PKPdf 02 25 37.8 +11
comp=E,0.5nm,0.7s,baz=351,slow=1.3,SNR=4.4
SONM PKPab PKPab 02 25 50.8 +0.2
comp=E,0.2nm,0.4s,baz=328,slow=3.9,SNR=4.2
CN2 Changchun 155.13 336 *e*PKP PKPdf 02 25 31.3 +1.9

IDC 16 02:22:16.5±5.2,10.33S×116.78E,h190km±44km,mb3.0/2, mb1 3.1/4,mb1mx2.9/16,mbtmp3.5/4,Error ellipse: s-maj=132.7km s-min=39.1km az=30.0,South of Sumbawa

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
FITZ Fitzroy Crossi 11.55 133 P **P 02 24 55.7 -1.1**
0.1nm,0.3s,SNR=3.3
FITZ S **S 02 27 03.3 +0.6**
0.5nm,0.3s,baz=344,slow=23,SNR=6.2
WRA Warramunga Arr 19.44 121 P **P 02 26 28.6 -2.0**
0.2nm,0.3s,baz=300,slow=12,SNR=20
WRA S **S 02 29 59.3 +4.2**
0.0nm,0.3s,baz=296,slow=19,SNR=2.6
ASAR Alice Springs 21.04 131 P **P 02 26 47.5 +1.0**
0.4nm,0.5s,baz=312,slow=9.2,SNR=10
STKA Stephens Creek 31.41 137 P **P 02 28 18.5 -3.5**
0.5nm,0.6s,baz=315,slow=14,SNR=3.5

*NEIC **16** 02:35:48.9±2.0,26.17S×178.78E,h660km±23km,mb4.3/3, Error ellipse: s-maj=31.0km s-min=14.9km az=48.0*
*IDC **16** 02:35:50.5±2.5,26.37S×178.63E,h670km±32km,mb3.3/5, mb1 3.5/8,mb1mx3.2/18,mbtmp4.5/8,Error ellipse: s-maj=33.7km s-min=23.8km az=41.0*

ISC 16 02:35:51.0±2.4,26.55±0.2×178.4E±0.4,h674km±29km, n28,σ0°82/26,mb4.1/7,3D,South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
DZM Mont Dzumac 11.75 289 P **P 02 38 27.1 -0.2**
1.1nm,0.3s,baz=78,slow=13,SNR=9.7
URZ Urewera 11.78 185 P **P 02 38 28.3 +0.8**
1.2nm,0.3s,baz=357,slow=2.6,SNR=12
URZ S **S 02 40 31.6 -1.6**
0.7nm,0.3s,baz=81,slow=23,SNR=6.1
MRZ Mangatainoka R 14.32 189 PN **P 02 38 49.7 -1.9**
KIW Kapiti Island 14.62 191 *e*PN **P 02 38 53.9 -0.5**
MRW Makara Radio 15.01 191 PN **P 02 38 57.8 -0.2**
QRZ Quartz Range 15.10 197 PN **P 02 39 00.5 +1.7**
NNZ Nelson 15.26 194 PN **P 02 39 00.7 +0.3**

TUWZ	Tuamarina	15.34 193	PN	P	02 39 01.2	0.0
THZ	Tophouse	15.89 195	PN	P	02 39 06.7	+0.5
DSZ	Denniston Nort	16.15 198	PN	P	02 39 10.4	+1.8
KHZ	Kahutara	16.38 193	PN	P	02 39 11.0	+0.4
RPZ	Rata Peaks	18.19 197	P	P	02 39 27.3	+0.1
	1.4nm,0.3s,baz=17,slow=7.4,SNR=6.2					
JCZ	Jackson Bay	19.20 202	*e*PN	P	02 39 36.0	-0.4
CTA	Charters Tower	30.14 275	⇓*i*P	P	02 41 12.3	+0.3
	5.9nm,0.4s,mb4.5					
CTA	Charters Tower	30.14 275	P	P	02 41 12.3	+0.4
	7.1nm,0.4s,mb4.5,baz=95,slow=12,SNR=19					
STKA	Stephens Creek	32.46 252	P	P	02 41 31.9	+0.6
	0.9nm,0.4s,mb3.6,baz=102,slow=9.4,SNR=4.5					
ASAR	Alice Springs	40.24 264	P	P	02 42 35.0	+0.3
	2.7nm,0.4s,mb4.0,baz=93,slow=7.6,SNR=74					
ASAR			S	S	02 47 58.5	+0.7
	1.0nm,1.0s,baz=104,slow=15,SNR=4.6					
ASPA	Alice Springs	40.24 264	*e*P	P	02 42 34.8	+0.1
WB2	Warramunga Arr	40.84 270	⇓*i*P	P	02 42 39.1	-0.3
WRAB	Tennant Creek	40.84 270	*e*P	P	02 42 38.9	-0.6
	4.3nm,0.3s,mb4.4					
WRA	Warramunga Arr	40.85 270	P	P	02 42 39.1	-0.4
	3.2nm,0.3s,mb4.2,baz=103,slow=7.7,SNR=55					
KAKA	Kakadu	45.17 279	⇓*i*P	P	02 43 11.8	-1.3
	3.5nm,0.2s,mb4.3					
FITZ	Fitzroy Crossi	49.23 268	*e*P	P	02 43 43.4	+0.1
	3.9nm,0.6s,mb3.9					
FITZ	Fitzroy Crossi	49.23 268	P	P	02 43 43.4	+0.1
	4.5nm,0.5s,mb4.1,baz=130,slow=5.6,SNR=21					
FINES	FINESS Array B	140.39 339	PKhKP		02 54 00.8	
	0.8nm,0.9s,baz=45,slow=5.9,SNR=9.3					
FINES			PKP	PKPdf	02 54 03.9	-1.1
	0.6nm,0.8s,baz=90,slow=4.2,SNR=3.9					
FINES	FINESS Array B	140.39 339	PKP	PKPdf	02 54 00.8	-4.2
FINES			PKP	PKPdf	02 54 03.9	-1.1
NB2	NORSAR Subarra	144.38 349	PKPabc	PKPdf	02 54 14.2	+2.4
	0.5nm,0.5s,baz=19,slow=2.9					
NOA	NORSAR Array B	144.38 349	PKP	PKPdf	02 54 10.8	-1.1
	0.7nm,0.8s,baz=20,slow=1.6,SNR=3.6					

OMAN ***16*** *02:35:42.2±238.0, 28.85N×53.75E, h30km, Error ellipse: s-maj=35.2km s-min=2.7km az=343.0*
IDC ***16*** *02:35:52.8±4.7, 27.64N×54.45E, mb3.8/5, mb1 3.9/5, mb1mx3.5/22, mbtmp3.8/5, Error ellipse: s-maj=96.7km s-min=50.4km az=171.0*
THR ***16*** *02:35:56.3±0.8, 27.73N×54.43E, h14km±10km, ML3.6*
CSEM ***16*** *02:35:56.7±0.5, 27.70N×54.34E, h45km, ML4.4/2, Error ellipse: s-maj=14.6km s-min=9.4km az=28.0*

ISC 16 02:35:53.9±0.5, 27.82N±0.04×54.44E±0.04, h14km, n21, σ1§35/26, mb3.9/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	1.37	290	*e*PG	Pg	02 36 22.2	+0.8
GHIR				*e*SG	Sg	02 36 40.5	+0.8
GHIR				AML	AML	02 36 45.2	
	comp=N,1μm,0.5s						
GHIR	Ghir-Karzin	1.37	290	*e*Pg	Pg	02 36 22.2	+0.8
	SNR=90						
GHIR				*e*Sg	Sg	02 36 40.5	+0.8
	comp=N,1μm,0.5s,SNR=90						
BNDS	Bandar-Abbas	1.59	105	*e*PG	Pg	02 36 25.1	-0.7
BNDS				*e*SG	Sg	02 36 46.8	-0.2
BANOM	Banah	2.51	138	P	Pn	02 36 37.0	+1.9
	SNR=35						
KRBR	Kerman	2.96	43	*e*PN	Pn	02 36 46.7	+5.2
KRBR				*e*SG	Sg	02 37 31.1	-1.6
KRBR				AML	AML	02 37 40.1	
	comp=N,136nm,0.5s						
KRBR	Kerman	2.96	43	*e*Pn	Pn	02 36 46.7	+5.2
	SNR=52						
KRBR				*e*Sg	Sg	02 37 31.0	-1.7
	comp=N,136nm,0.5s,SNR=90						
ASHO	Ashiyiah	3.44	155	P	Pn	02 36 50.3	+2.0
	SNR=30						
ARQ	Araqi	4.84	157	P	Pn	02 37 09.2	+1.1
	SNR=8.7						
ARQ	Araqi	4.84	157	P	Pn	02 37 09.2	+1.1
	SNR=8.7						
HASS	Wahat al Ahsa'	5.00	239	P	Pn	02 37 10.6	+0.3
SMDO	Samad	5.75	145	P	Pn	02 37 22.6	+1.6
	SNR=12						
WHFO	Wadi Hawf	9.87	184	P	P	02 38 16.5	-2.1
	SNR=10						
RBK	Rabkut	10.27	181	P	P	02 38 23.2	-0.8
	SNR=8.4						
ABTO	Aybut	10.47	186	P	P	02 38 24.1	-2.6
	SNR=11						
AFFS	'Afif	11.01	252	P	P	02 38 31.6	-2.5
KBRS	Khaybar	13.71	265	P	P	02 39 08.4	-2.0
BRTR	Keskin Array B	20.92	310	P	P	02 40 38.7	+0.2
	comp=N,1.3nm,0.7s,baz=131,slow=14,SNR=7.7						
IDI	Anoyia	26.20	294	P	P	02 41 30.0	+0.1
	comp=N,5.6nm,0.9s,mb4.1,baz=121,slow=11,SNR=6.5						
FINES	FINESS Array B	38.59	339	P	P	02 43 18.0	+0.1
	comp=N,0.5nm,0.4s,mb3.6,baz=141,slow=9.7,SNR=11						
ARCES	ARCESS Array B	44.99	346	P	P	02 44 11.3	+1.0
	comp=N,2.7nm,0.9s,mb4.1,baz=130,slow=7.0,SNR=4.4						
YKA	Yellowknife Ar	89.58	355	P	P	02 48 52.8	+1.0
	comp=N,0.2nm,0.5s,mb3.7,baz=6.9,slow=5.2,SNR=12						

NEIC ***16*** *03:09:28.9, 32.42S×71.82W, h28km, ML3.7(GUC), After GUC.*

GUC 16 03:09:28.9±0.7, 32.42S×71.82W, h28km±2km, MD4.0, ML3.7, 13C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.35	111	⇓*i*P	Pb	03 09 36.7	-0.2
IHA	Instituto Hidr	0.63	166	⇑*i*P	Pb	03 09 40.4	-0.9
IHA				*i* S	Sb	03 09 49.7	-0.1
PTCH	Petorca	0.77	79	⇑*i*P	Pb	03 09 43.5	-0.2
PTCH				*i* S	Sb	03 09 53.8	0.0
ROCH	El Roble	0.88	129	⇑*i*P	Pn	03 09 44.9	-0.6
ROCH				*i* S	Sb	03 09 57.0	+0.1
ILCH	Illapel	0.95	36	⇑*i*P	Pn	03 09 46.4	-0.2
ILCH				*i* S	Sb	03 09 59.2	+0.2
ILCH				AMP		03 10 03.7	
	comp=E,2μm,0.2s						
JACH	Jahuel	1.07	105	⇑*i*P	Pn	03 09 47.9	-0.3
JACH				*i* S	Sn	03 10 02.8	+0.5
LCCH	Las Cruces	1.08	169	⇓*i*P	Pn	03 09 47.8	-0.6
LCCH				*i* S	Sn	03 10 01.4	-1.0
PEL	Peldehue	1.20	127	⇑*i*P	Pn	03 09 50.3	+0.3
PEL				*i* S	Sn	03 10 06.0	+0.4
PEL	Peldehue	1.20	127	⇑*i*P	Pn	03 09 50.2	+0.2
PEL				⇑*i*P		03 09 50.3	
PEL				*i* S	Sn	03 10 06.0	+0.4
PEL				*i* S	Sn	03 10 06.4	+0.8
PUEX	Pudahuel	1.36	139	⇓*i*P	Pn	03 09 53.7	+1.3
PUEX				*i* S	Sn	03 10 11.5	+1.9
PUEX				AMP		03 10 13.3	
	comp=E,6μm,0.5s						
SAN	Santiago	1.42	137	⇑*i*P	Pn	03 09 53.8	+0.5
SAN				*i* S	Sn	03 10 12.1	+0.9
SAN				AMP		03 10 14.2	
	comp=N,2μm,0.4s						
STL	Santa Lucia	1.42	136	⇑*i*P	Pn	03 09 53.4	+0.2
STL				*i* S	Sn	03 10 12.1	+0.9
STL				AMP		03 10 12.5	
	comp=N,1μm,0.2s						
DSCH	Colegio Aleman	1.44	133	⇑*i*P	Pn	03 09 53.9	+0.4
DSCH				*i* S	Sn	03 10 12.6	+1.0
DSCH				AMP		03 10 13.0	
	comp=E,2μm,0.3s						
TACH	Talagante	1.44	149	⇓*i*P	Pn	03 09 53.7	+0.2
TACH				*i* S	Sn	03 10 12.7	+1.0
CLCH	Cerro Calan	1.46	132	⇓*i*P	Pn	03 09 53.9	+0.2
CLCH				*i* S	Sn	03 10 13.3	+1.2
CLCH				AMP		03 10 21.5	
	comp=E,2μm,0.5s						
CLCH				AMP		03 10 22.1	
	comp=E,2μm,0.6s						
FSR	Penalolen	1.52	135	⇑*i*P	Pn	03 09 55.4	+0.7
FSR				*i* S	Sn	03 10 14.8	+1.2
FSR				AMP		03 10 17.4	
	comp=E,2μm,0.6s						
ANTU	Antumapu	1.52	139	⇓*i*P	Pn	03 09 55.2	+0.6
ANTU				*i* S	Sn	03 10 14.7	+1.0
ANTU				AMP		03 10 20.4	
	comp=E,2μm,0.5s						
FCH	Farellones	1.58	126	⇓*i*P	Pn	03 09 55.8	+0.3
FCH				*i* S	Sn	03 10 16.8	+1.7
FCH				AMP		03 10 19.7	
	comp=E,1μm,0.3s						
PCH	Pirque	1.63	138	⇓*i*P	Pn	03 09 56.8	+0.6
CHCH	Chadas Angostu	1.81	147	*e*P	Pn	03 09 59.5	+0.8
CHCH				*i* S	Sn	03 10 23.4	+2.5
LMEL	Las Melosas	1.97	137	⇑*i*P	Pn	03 10 02.1	+1.0
LMEL				*i* S	Sn	03 10 27.1	+2.0
LMEL				AMP		03 10 33.1	
	comp=N,1μm,0.2s						
CACH	El Canelo	1.98	149	⇓*i*P	Pn	03 10 02.7	+1.5
CACH				*i* S	Sn	03 10 28.7	+3.3
CICH	Cipreses	2.23	149	⇓*i*P	Pn	03 10 05.7	+0.8
SFDO	San Fernando	2.29	163	*e*P	Pn	03 10 05.8	+0.1
TLL	Tololo Astrono	2.40	22	⇓*i*P	Pn	03 10 08.1	+0.8
TLL				AMP		03 10 46.7	
	comp=E,2μm,0.4s						

IDC 16 03:14:40.8±5.7, 1.94S×100.42E, mb3.8/5, mb1 4.0/5, mb1mx3.6/17, mbtmp3.8/5, Error ellipse: s-maj=162.0km s-min=88.4km az=113.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.32	356	P	P	03 19 19.6	-1.9
	0.9nm,0.5s,baz=185,slow=10,SNR=6.2						
SONM	Songino Array	49.85	5	P	P	03 23 35.7	-2.0
	0.4nm,0.5s,baz=188,slow=8.9,SNR=6.1						
ZAL	Zalesovo	57.19	349	P	P	03 24 28.2	-3.7
	0.8nm,0.5s,baz=3.7,slow=6.4,SNR=3.3						
BVAR	Borovoye Array	60.28	340	P	P	03 24 50.8	-2.6
	0.7nm,0.5s,baz=142,slow=8.4,SNR=7.3						
ARCES	ARCESS Array B	86.56	340	P	P	03 27 26.3	-0.4
	1.4nm,0.8s,baz=90,slow=3.6,SNR=5.4						

IDC 16 03:20:10.2±4.3, 15.30N×93.81E, mb3.3/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=81.0km s-min=36.7km az=115.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	5.83	57	Pn	Pn	03 21 37.9	-2.14
	0.4nm,0.3s,baz=243,slow=15,SNR=18						
CMAR				Sn	Sn	03 22 47.1	-1.5
	0.4nm,0.3s,baz=241,slow=21,SNR=4.2						
WRA	Warramunga Arr	53.05	130	P	P	03 29 29.8	-1.9
	0.2nm,0.3s,baz=318,slow=8.3,SNR=3.4						
ASAR	Alice Springs	55.10	134	P	P	03 29 44.0	-2.7
	0.2nm,0.5s,baz=307,slow=7.5,SNR=5.1						

BJI ***16*** *03:23:43.0, 35.55S×70.24W, h3km, mB4.4, Ms4.6, Msz4.4*
GUC ***16*** *03:23:47.1±1.0, 35.13S×70.38W, h3km±3km, MD4.1, ML4.2*
NEIC ***16*** *03:23:47.1, 35.13S×70.38W, h3km, mb4.6/13, ML4.2(GUC), After GUC.*
IDC ***16*** *03:23:51.2±2.7, 35.06S×70.11W, h31km±19km, mb4.3/7, mb1 4.3/13, mb1mx4.2/19, mbtmp4.3/13, ML4.0/5, MS3.8/3, Ms1 3.8/3, ms1mx3.3/19, Error ellipse: s-maj=27.6km s-min=12.3km az=97.0*

ISC 16 03:23:44.2±0.8, 35.19S±0.03×70.21W±0.04, h0km±5km, n85, σ1§09/90, mb4.6/18, MS4.0/2, 12C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.86	282	⇓*i*P	Pg	03 24 00.8	-0.5
NICH				*i* S	Sg	03 24 12.8	+0.1
SFDO	San Fernando	0.87	311	⇑*i*P	Pg	03 24 00.6	-1.0
CICH	Cipreses	0.88	349	⇓*i*P	Pg	03 24 01.7	-0.1
CACH	El Canelo	1.11	343	*i* P	Pb	03 24 05.5	-0.5
CACH				*i* S	Sb	03 24 19.8	-1.1
TALC	Talca	1.19	259	⇑*i*P	Pb	03 24 06.8	-0.4
TALC				*i* S	Sb	03 24 21.7	-1.2
CHCH	Chadas Angostu	1.30	344	⇓*i*P	Pb	03 24 09.2	0.0
LNCH	Linares	1.31	239	⇑*i*P	Pb	03 24 15.2	+5.8
LNCH				*i* S	Sb	03 24 33.1	+6.5
LNCH				AMP		03 24 43.5	
	comp=E,7μm,0.8s						
LNV	Longovilo	1.58	321	*e*P	Pn	03 24 12.6	-0.8
PCH	Pirque	1.58	351	*i* P	Pn	03 24 14.2	+0.6
TACH	Talagante	1.64	338	*e*P	Pn	03 24 14.6	+0.2
TACH				*i* S	Sb	03 24 35.2	-1.0
ANTU	Antumapu	1.65	348	*e*P	Pn	03 24 15.2	+0.7
ANTU				*i* S	Sb	03 24 36.8	+0.3
ANTU				AMP		03 24 47.0	
	comp=E,6μm,0.4s						
FSR	Penalolen	1.72	351	*e*P	Pn	03 24 16.8	+1.2
FSR				*i* S	Sb	03 24 39.1	+0.5
FSR				AMP		03 24 46.9	
	comp=E,4μm,0.6s						
SAN	Santiago	1.77	348	⇑*i*P	Pn	03 24 17.5	+1.3
SAN				*i* S	Sn	03 24 40.0	+0.3
SAN				AMP		03 24 48.4	
	comp=E,5μm,0.3s						
STL	Santa Lucia	1.78	348	*e*P	Pn	03 24 17.6	+1.2
STL				*i* S	Sn	03 24 40.3	+0.3
STL				AMP		03 24 48.5	
	comp=E,2μm,0.5s						
CLCH	Cerro Calan	1.81	351	⇑*i*P	Pn	03 24 18.0	+1.3
CLCH				*i* S	Sn	03 24 41.4	+0.8
CLCH				AMP		03 24 56.8	
	comp=N,6μm,0.7s						
DSCH	Colegio Aleman	1.81	350	*e*P	Pn	03 24 17.9	+1.1
DSCH				AMP		03 24 46.6	
	comp=N,8μm,0.7s						
FCH	Farellones	1.86	358	⇑*i*P	Pn	03 24 19.2	+1.8
FCH				*i* S	Sn	03 24 43.8	+1.9
FCH				AMP		03 24 46.0	
	comp=E,2μm,0.2s						
CNCO	Chanco	1.98	253	⇑*i*P	Pn	03 24 20.1	+1.0
CNCO				*i* S	Sn	03 24 44.8	-0.2
CNCO				AMP		03 24 56.7	
	comp=N,6μm,0.9s						
CCHI	Chillan	2.07	226	⇑*i*P	Pn	03 24 24.1	+3.5
CCHI				*i* S	Sn	03 24 50.7	+3.2
CCHI				AMP		03 24 56.7	
	comp=E,2μm,1.0s						
PEL	Peldehue	2.08	349	*e*P	Pn	03 24 22.4	+1.8
CFAA	Coronel Fontan	3.93	25	Pn	Pn	03 24 48.1	+1.1
	comp=E,1.4nm,0.3s,baz=208,slow=14,SNR=104						
CFAA				Pg	Pg	03 25 01.1	-1.6
	comp=E,2.4nm,0.3s,baz=202,slow=17,SNR=20						
CFAA				Lg		03 25 50.6	
	comp=E,4.2nm,0.3s,baz=250,slow=13,SNR=8.7						
TLL	Tololo Astrono	5.03	354	*e*P	Pn	03 25 03.8	+1.2
PLCA	Paso Flores	5.54	183	Pn	Pn	03 25 14.0	+4.1
	comp=E,0.6nm,0.3s,baz=346,slow=14,SNR=23						
PLCA				Lg		03 26 51.6	
	comp=E,2.1nm,0.3s,baz=130,slow=17,SNR=3.1						
PLCA	Paso Flores	5.54	183	*e*P	Pn	03 25 13.6	+3.7
	comp=E,44nm,0.9s						
TRQA	Tornquist	7.21	116	*e*P	Pn	03 25 33.6	+0.3
	comp=E,55nm,0.7s						
LVC	Limon Verde	12.58	6	Pn	P	03 26 47.5	+0.3
	comp=E,0.2nm,0.3s,baz=150,slow=8.1,SNR=3.5						
LVC				Lg		03 30 23.6	
	comp=E,0.3nm,0.3s,baz=183,slow=21,SNR=3.7						
LVC	Limon Verde	12.58	6	P	P	03 26 48.5	+1.3
CPUP	Villa Florida	14.15	55	Pn	P	03 27 07.2	-0.8
	comp=E,0.3nm,0.3s,baz=238,slow=14,SNR=7.9						
CPUP				LR	LR	03 33 26.3	
	comp=E,191nm,19.9s,baz=54,slow=41						
LPAZ	La Paz	18.91	6	P	P	03 28 09.1	+0.4
	comp=E,0.3nm,0.3s,baz=166,slow=9.9,SNR=24						
LPAZ	La Paz	18.91	6	*e*P	P	03 28 08.9	+0.2
	comp=E,14nm,1.0s						
USHA	Ushuaia	19.68	177	P	P	03 28 18.8	+1.3
	comp=E,0.3nm,0.3s,baz=337,slow=7.7,SNR=3.0						
SIV	San Ignacio	20.79	25	P	P	03 28 28.1	-1.4
	comp=E,9.5nm,0.8s,baz=221,slow=12,SNR=20						
NNA	Nana	23.87	344	P	P	03 29 00.6	+0.5
SAML	Samuel	26.89	15	*e*P	P	03 29 26.3	-2.5
	comp=E,7.1nm,1.2s,mb4.3						
BDFB	Brasilia	27.82	51	P	P	03 29 35.2	-2.0
	comp=E,4.7nm,0.9s,mb4.3,baz=238,slow=9.5,SNR=5.3						
BDFB				LR	LR	03 42 02.0	
	comp=E,204nm,19.8s,MS3.7,baz=52,slow=39						
BAO	Brasilia Array	27.84	51	P	P	03 29 37.0	-0.4
OTAV	Otavalo	36.07	346	*e*P	P	03 30 48.3	-1.2
	comp=E,10nm,1.3s,mb4.5						
SDV	Santo Domingo	43.83	359	P	P	03 31 51.7	-2.1
VNA3	Neumayer Olymp	47.69	158	*e*	P	03 32 27.7	+3.9
VNA3	Neumayer Olymp	47.69	158	*e*	P	03 32 33.7	+10
VNA3	Neumayer Olymp	47.69	158	⇑*i*P	P	03 32 24.7	+0.9
VNA3				*e*		03 32 27.7	
VNA3				*e*		03 32 33.7	
VNA1	Neumayer--Stat	47.99	157	*e*	P	03 32 30.3	+4.1
VNA1	Neumayer--Stat	47.99	157	*e*	P	03 32 35.8	+10
VNA1	Neumayer--Stat	47.99	157	⇑*i*P	P	03 32 27.4	+1.2
VNA1				*e*		03 32 30.3	
VNA1				*e*		03 32 35.8	
VNA2	Neumayer--Watz	48.33	157	*e*	P	03 32 32.4	+3.6
VNA2	Neumayer--Watz	48.33	157	*e*	P	03 32 38.0	+9.2
VNA2	Neumayer--Watz	48.33	157	⇑*i*P	P	03 32 29.2	+0.4
VNA2				*e*		03 32 32.4	
VNA2				*e*		03 32 38.0	
SNAA	Sanae	49.92	158	*e*	P	03 32 44.3	+3.3
SNAA	Sanae	49.92	158	*e*	P	03 32 49.0	+8.0
SNAA	Sanae	49.92	158	P	P	03 32 42.6	+1.7
	comp=E,1.6nm,0.8s,mb4.0,baz=319,slow=12,SNR=4.9						
SNAA	Sanae	49.92	158	⇑*i*P	P	03 32 41.6	+0.6
SNAA				*e*		03 32 44.3	
SNAA				*e*		03 32 49.0	
JCT	Junction City	71.01	333	*e*P	P	03 35 04.8	-0.9
	comp=E,5.6nm,0.3s,mb5.2						
SWET	Sewanee	71.56	346	*e*P	P	03 35 07.1	-1.8
MIAR	Mount Ida	72.73	340	*e*P	P	03 35 14.3	-1.7
WVT	Waverly	72.83	345	*e*P	P	03 35 14.4	-2.1
	comp=E,53nm,1.3s,mb5.5						
DBIC	Dimbokro	74.15	70	P	P	03 35 24.5	-0.1
	comp=E,8.7nm,0.8s,mb4.8,baz=209,slow=6.7,SNR=6.2						
DBIC	Dimbokro	74.15	70	*e*P	P	03 35 23.9	-0.7
MNTX	Cornudas Mount	74.29	329	*e*P	P	03 35 23.5	-1.5
	comp=E,4.3nm,0.8s,mb4.5						
WMOK	Wichita Mounta	74.51	336	*e*P	P	03 35 25.1	-1.2
ANMO	Albuquerque	77.56	330	*e*P	P	03 35 43.1	-0.4
	comp=E,3.3nm,0.9s,mb4.5						
BOSA	Boshof	78.19	117	P	P	03 35 47.7	+0.6
	comp=E,8.3nm,0.8s,mb4.9,baz=258,slow=2.9,SNR=10						
BOSA				LR	LR	04 07 38.4	
	comp=E,114nm,18.1s,MS4.2,baz=168,slow=34						
BOSA	Boshof	78.19	117	P	P	03 35 47.7	+0.6
BOSA				LR	LR	04 07 38.4	
SDCO	Great Sand Dun	79.61	332	*e*P	P	03 35 54.5	-0.1
	comp=E,2.2nm,0.7s,mb4.2						
PV10	Paradox Valley	81.55	330	*e*P	P	03 36 04.5	-0.4
SRU	San Rafael	82.79	330	*e*P	P	03 36 11.1	-0.2
MSU	Marysvale	82.99	328	*e*P	P	03 36 13.1	+0.7
DAU	Daniels Canyon	84.19	330	*e*P	P	03 36 18.4	0.0
BW06	Boulder Array	85.51	332	*e*P	P	03 36 24.4	-0.5
	comp=E,1.4nm,0.6s,mb4.3						
PDAR	Pinedale Array	85.51	332	P	P	03 36 24.9	-0.1
	comp=E,2.2nm,0.7s,mb4.4,baz=159,slow=4.6,SNR=18						
NVAR	Mina Array Bea	85.72	324	P	P	03 36 27.5	+1.4
	comp=E,2.7nm,0.7s,mb4.5,baz=142,slow=6.4,SNR=21						
ELK	Elko	86.17	327	*e*P	P	03 36 28.3	+0.1
	comp=E,6.3nm,1.0s,mb4.7						
IMW	Indian Meadow	87.00	332	*e*P	P	03 36 32.5	+0.2
LAO	LASA Array	87.71	336	*e*P	P	03 36 35.0	-0.6
	comp=E,15nm,1.3s,mb5.2						
HLID	Hailey	88.11	330	*e*P	P	03 36 38.0	+0.4
	comp=E,8.1nm,1.4s,mb4.9						
WDC	Whiskeytown Da	89.45	323	*e*P	P	03 36 43.3	-0.8
	comp=E,6.3nm,0.7s,mb5.0						
BMO	Blue Mountains	90.38	329	*e*P	P	03 36 47.9	-0.4
YKA	Yellowknife Ar	103.67	340	Pdiff	Pdif	03 37 47.3	-0.8
	comp=E,0.1nm,0.7s,baz=144,slow=4.9,SNR=6.0						
ASAR	Alice Springs	117.16	205	PKP	PKPdf	03 42 32.2	-1.2
	comp=E,0.4nm,0.7s,baz=163,slow=2.8,SNR=4.5						
WRA	Warramunga Arr	120.43	207	PKP	PKPdf	03 42 39.0	-0.8
	comp=E,0.4nm,0.4s,baz=169,slow=1.6,SNR=8.2						
BVAR	Borovoye Array	147.09	45	PKPbc	PKPdf	03 43 30.5	+2.4
	comp=E,1.7nm,0.5s,baz=287,slow=2.0,SNR=14						
ZAL	Zalesovo	154.37	35	PKPbc	PKPdf	03 43 47.1	+8.1
	comp=E,0.8nm,0.4s,baz=194,slow=3.7,SNR=5.6						
ZAL				PKPab	PKPab	03 44 02.2	+0.1
	comp=E,0.7nm,0.3s,baz=14,slow=8.3,SNR=3.7						
ZAL	Zalesovo	154.37	35	PKPbc	PKPdf	03 43 47.1	+8.1
ZAL				PKPab	PKPab	03 44 02.2	+0.1
WMQ	Urumqi	160.94	56	PKP	PKPdf	03 43 46.0	-1.4
WMQ				PKP2	PKPab	03 44 30.8	+0.3
WMQ				PP	PP		
	comp=Z,18nm,8.8s						
WMQ				LR	LR		
	comp=N,24nm,22.3s						
WMQ				LR	LR		
	comp=E,28nm,20.9s						
WMQ				LR	LR		
	comp=Z,30nm,19.5s						
CN2	Changchun	165.18	310	*e*PKP	PKPdf	03 43 52.8	+1.2
SONM	Songino Array	167.11	10	PKPab	PKPab	03 44 57.3	0.0
	comp=Z,0.9nm,1.0s,baz=304,slow=4.5,SNR=5.2						

NEIC ***16*** *03:27:31.4, 35.14S×70.44W, h10km, ML3.2(GUC), After GUC.*

GUC 16 03:27:31.4±0.5, 35.14S×70.44W, h10km, MD3.6, ML3.2, 4C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.67	282	⇓*i*P	Pb	03 27 44.2	-0.5
NICH				*i* S	Sb	03 27 54.1	+0.4
SFDO	San Fernando	0.71	318	⇑*i*P	Pb	03 27 44.0	-1.3
SFDO				*i* S	Sb	03 27 54.1	-0.9
CACH	El Canelo	1.03	352	⇓*i*P	Pb	03 27 49.2	-

MRW	Makara Radio	2.07 185	PN	P		03 35 05.2	-1.1
SNZO	South Karori	2.15 185	PN	P		03 35 05.8	-1.3
MWZ	Matawai	2.17 68	PN	P		03 35 05.3	-2.0
PAWZ	Paruwai Farm	2.25 171	PN	P		03 35 06.7	-1.4
MSWZ	Moikau Station	2.26 175	PN	P		03 35 07.0	-1.2
NNZ	Nelson	2.38 210	⇑PN	P		03 35 07.8	-1.8
TUWZ	Tuamarina	2.40 199	PN	P		03 35 08.4	-1.3
QRZ	Quartz Range	2.50 228	PN	P		03 35 08.0	-2.9
BSWZ	Blackbirch Sta	2.68 198	*e*PN	P		03 35 11.7	-1.2

JMA 16 03:35:24.4±0.5, 25.47N×122.67E, h238km, M3.5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.05	163	P	P	03 35 58.5	-0.1
YOJ				S	S	03 36 26.7	+1.4
IRIF	Iriomote-Funau	1.48	139	P	P	03 36 01.4	-0.4
IRIF				*e*S	S	03 36 29.8	-1.0
JKRS	Kuro-shima	1.73	135	P	P	03 36 03.8	0.0
JKRS				S	S	03 36 34.1	-0.1
JIJ	Ishigaki jima	1.73	129	P	P	03 36 02.5	-1.3
JIJ				S	S	03 36 32.9	-1.4
HATJ	Hateruma jima	1.75	144	P	P	03 36 04.2	+0.3
HATJ				*e*S	S	03 36 34.1	-0.4
JTJ	Tarama	2.02	114	P	P	03 36 06.7	+0.3
JTJ				*e*S	S	03 36 38.7	-0.1
JMJ	Miyako jima 2	2.47	105	P	P	03 36 11.2	+0.3
JMJ				*e*S	S	03 36 46.3	-0.6
JOGS	Gusukube	2.58	105	P	P	03 36 12.4	+0.4
JOGS				*e*S	S	03 36 48.7	-0.3
JKE	Kume jima 2	3.80	76	P	P	03 36 24.4	-1.5

*IDC **16** 03:37:48.8±1.1, 35.13S×70.35W, mb4.1/5, mb1 4.2/6, mb1mx4.1/13, mbtmp4.0/6, ML3.2/2, MS3.2/3, Ms1 3.2/3, ms1mx2.7/22, Error ellipse: s-maj=35.6km s-min=15.3km az=103.0*

*GUC **16** 03:37:50.3±0.8, 35.10S×70.45W, h2km±3km, MD3.9, ML3.6*

*NEIC **16** 03:37:50.3, 35.10S×70.45W, h2km, ML3.6(GUC), After GUC.*

ISC 16 03:37:48.5±0.5, 35.14S±0.03×70.32W±0.04, h2km, n34, σ0§99/41, mb4.0/4, MS3.2/1, 6C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.76	280	⇓*i*P	Pg	03 38 03.2	-0.4
NICH				*i* S	Sg	03 38 13.1	-0.5
SFDO	San Fernando	0.78	313	⇑*i*P	Pg	03 38 03.1	-0.9
CICH	Cipreses	0.82	354	*e*P	Pg	03 38 04.1	-0.8
CACH	El Canelo	1.05	347	*e*P	Pb	03 38 08.2	-0.7
TALC	Talca	1.10	256	⇓*i*P	Pb	03 38 09.2	-0.6
TALC				*i* S	Sb	03 38 23.9	-0.6
TALC				AMP		03 38 25.1	
	comp=E,7μm,0.5s						
CHCH	Chadas Angostu	1.24	347	*e*P	Pb	03 38 12.0	-0.1
LNCH	Linares	1.26	236	⇓*i*P	Pb	03 38 12.2	-0.3
LNCH				*i* S	Sb	03 38 29.3	+0.3
LNCH				AMP		03 38 39.4	
	comp=E,3μm,0.7s						
LMEL	Las Melosas	1.30	4	⇑*i*P	Pb	03 38 12.5	-0.7
LMEL				AMP		03 38 47.3	
	comp=N,489nm,0.1s						
LNV	Longovilo	1.49	323	*e*P	Pn	03 38 15.1	-1.1
LNV				*i* S	Sb	03 38 34.6	-1.0
PCH	Pirque	1.53	354	⇓*i*P	Pn	03 38 17.1	+0.3
TACH	Talagante	1.57	341	*e*P	Pn	03 38 17.3	-0.1
CLCH	Cerro Calan	1.75	354	*e*P	Pn	03 38 20.7	+0.7
CLCH				*i* S	Sn	03 38 43.2	+0.1
CLCH				AMP		03 38 53.5	
	comp=E,1μm,0.7s						
DSCH	Colegio Aleman	1.75	353	*e*P	Pn	03 38 21.2	+1.1
DSCH				AMP		03 39 00.1	
	comp=E,2μm,0.6s						
FCH	Farellones	1.81	1	⇑*i*P	Pn	03 38 21.8	+0.9
FCH				AMP		03 39 01.3	
	comp=N,439nm,0.5s						
CNCO	Chanco	1.90	251	⇑*i*P	Pn	03 38 22.5	+0.3
CNCO				*i* S	Sn	03 38 46.5	-0.4
CNCO				AMP		03 38 49.3	
	comp=N,2μm,1.0s						
LCCH	Las Cruces	1.96	328	⇓*i*P	Pn	03 38 23.2	+0.3
PEL	Peldehue	2.02	351	*i* P	Pn	03 38 24.9	+1.1
CCHI	Chillan	2.04	224	⇑*i*P	Pn	03 38 26.4	+2.3
CCHI				*i* S	Sn	03 38 53.0	+2.6
CCHI				AMP		03 38 58.5	
	comp=E,1μm,0.6s						
ROCH	El Roble	2.24	345	⇑*i*P	Pn	03 38 28.8	+1.7
JACH	Jahuel	2.46	355	*e*P	Pn	03 38 32.2	+2.0
PACH	Papudo	2.76	340	*e*P	Pn	03 38 35.9	+1.4
CFAA	Coronel Fontan	3.94	27	Pn	Pn	03 38 52.5	+1.3
	comp=E,0.2nm,0.3s,baz=213,slow=14,SNR=18						
CFAA				Pg	Pg	03 38 59.3	-7.8
	comp=E,0.6nm,0.3s,baz=212,slow=12,SNR=22						
CFAA				Lg		03 39 53.0	
	comp=E,0.9nm,0.3s,baz=303,slow=3.6,SNR=6.6						
CFAA	Coronel Fontan	3.94	27	Pn	Pn	03 38 52.5	+1.4
CFAA				Pg	Pg	03 38 59.3	-7.8
CFAA				Lg		03 39 53.0	
PLCA	Paso Flores	5.58	182	Pn	Pn	03 39 14.4	0.0
	comp=E,0.1nm,0.3s,baz=13,slow=18,SNR=4.7						
PLCA				Lg		03 40 48.3	
	comp=E,1.3nm,0.3s,baz=131,slow=14,SNR=4.7						
TRQA	Tornquist	7.31	116	*e*P	Pn	03 39 36.8	-2.0
CPUP	Villa Florida	14.20	55	LR	LR	03 47 10.9	
	comp=E,131nm,18.3s,baz=217,slow=40						
LPAZ	La Paz	18.88	7	P	P	03 42 12.0	-0.3
	comp=E,0.2nm,0.3s,baz=190,slow=6.9,SNR=7.2						
LPAZ				LR	LR	03 48 54.1	
	comp=E,35nm,20.2s,baz=138,slow=35						
SIV	San Ignacio	20.80	26	P	P	03 42 32.6	-0.9
	comp=E,3.7nm,0.9s,baz=221,slow=11,SNR=10						
BDFB	Brasilia	27.87	51	P	P	03 43 40.9	-0.7
	comp=E,2.7nm,0.8s,mb3.9,baz=240,slow=8.3,SNR=3.9						
BDFB				LR	LR	03 56 36.7	
	comp=E,55nm,18.7s,MS3.2,baz=50,slow=40						
SDV	Santo Domingo	43.79	360	P	P	03 45 57.6	+0.1
BOSA	Boshof	78.29	117	P	P	03 49 50.3	-1.3
	comp=E,2.9nm,1.0s,mb4.2,baz=212,slow=8.6,SNR=5.1						
PDAR	Pinedale Array	85.42	332	P	P	03 50 27.2	-1.2
	comp=E,0.5nm,0.8s,mb3.7,baz=126,slow=7.8,SNR=4.7						
NVAR	Mina Array Bea	85.63	324	P	P	03 50 29.4	-0.2
	comp=E,0.8nm,0.7s,mb4.0,baz=153,slow=6.0,SNR=5.1						
BVAR	Borovoye Array	147.12	45	PKPbc	PKPdf	03 57 32.1	-0.2
	comp=E,0.7nm,0.5s,baz=303,slow=2.2,SNR=4.8						

*IDC **16** 03:38:39.0±1.1, 6.32N×93.27E, mb3.9/9, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, ML3.5/1, Error ellipse: s-maj=50.0km s-min=16.7km az=57.0*

*NEIC **16** 03:38:43.7±0.6, 6.38N×93.41E, h30km, mb4.4/1, Error ellipse: s-maj=21.7km s-min=9.3km az=61.0*

ISC 16 03:38:42.0±0.8, 6.4N±0.1×93.5E±0.2, h30km, n13, σ0§61/13, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.10	24	Pn	P	03 41 48.2	-0.6
	0.1nm,0.3s,baz=243,slow=14,SNR=2.4						
FITZ	Fitzroy Crossi	40.02	128	P	P	03 46 16.0	-0.3
	4.4nm,0.9s,mb4.2,baz=17,slow=7.0,SNR=7.8						
SONM	Songino Array	42.72	13	P	P	03 46 38.7	+0.6
	0.3nm,0.8s,mb3.1,baz=194,slow=5.9,SNR=2.6						
ZAL	Zalesovo	47.89	353	P	P	03 47 20.6	+1.3
	2.2nm,0.3s,mb4.6,baz=294,slow=6.6,SNR=7.2						
WRA	Warramunga Arr	47.99	124	P	P	03 47 20.3	-0.2
	1.3nm,0.7s,mb4.1,baz=304,slow=9.0,SNR=8.3						
WRAB	Tennant Creek	47.99	124	*e*P	P	03 47 20.3	-0.3
	2.1nm,0.5s,mb4.4						
WB2	Warramunga Arr	48.00	124	*e*P	P	03 47 20.9	+0.3
ASAR	Alice Springs	49.52	129	P	P	03 47 32.9	+0.6
	1.5nm,0.6s,mb4.2,baz=300,slow=7.5,SNR=26						
ASAR				PcP	PcP	03 48 55.0	+0.9
	0.7nm,0.7s,baz=308,slow=3.4,SNR=6.4						
BVAR	Borovoye Array	50.15	342	P	P	03 47 36.6	-0.1
	0.3nm,0.6s,mb3.5,baz=153,slow=6.4,SNR=3.2						
FINES	FINESS Array B	73.68	332	P	P	03 50 13.3	-1.2
	0.8nm,0.9s,mb3.7,baz=90,slow=3.8,SNR=4.8						
FINES	FINESS Array B	73.68	332	P	P	03 50 13.3	-1.2
ARCES	ARCESS Array B	76.40	340	P	P	03 50 29.9	-0.1
	1.2nm,0.9s,mb3.8,baz=100,slow=5.5,SNR=3.8						
GERES	GERESS Array B	78.46	318	P	P	03 50 41.9	+0.1
	0.5nm,0.8s,mb3.5,baz=90,slow=5.3,SNR=4.2						

*CASC **16** 03:42:34.8±2.2, 11.11N×85.92W, h169km±10km, MD3.8, mb0.4(NEIC)*

*IDC **16** 03:42:34.3±0.8, 11.58N×85.44W, h154km±11km, mb3.3/7, mb1 3.6/7, mb1mx3.4/19, mbtmp3.7/7, Error ellipse: s-maj=48.1km s-min=14.8km az=59.0*

*NEIC **16** 03:42:34.8±1.1, 11.59N×85.45W, h159km±14km, mb3.3/1, Error ellipse: s-maj=49.6km s-min=14.7km az=57.0*

ISC 16 03:42:34.4±0.6, 11.4N±0.1×85.7W±0.1, h181km±3km, n43, σ1§02/53, mb3.5/8, 10C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.20	6	⇑*i*P	P	03 42 58.1	-0.6
APON	Apoyo	0.69	323	⇑*e*P	P	03 43 00.0	-0.5
APON				*e*S	S	03 43 21.1	+0.4
TICN	Ticuantepe	0.88	319	⇓*e*P	P	03 43 02.0	+0.5
TICN				*e*S	S	03 43 22.1	-0.5
WILN	Americas 2	0.95	326	⇑*e*P	P	03 43 02.0	0.0
WILN				*e*S	S	03 43 23.0	-0.4
MGAN	Managua	0.97	323	⇑*e*P	P	03 43 02.3	+0.1
MGAN				*e*S	S	03 43 23.8	+0.1
XAVN	Gruta Xavier	1.02	320	⇑*e*P	P	03 43 02.6	+0.1
XAVN				*e*S	S	03 43 26.0	+1.6
APYN	Apoyeque	1.10	322	⇓*e*P	P	03 43 04.0	+0.7
APYN				*e*S	S	03 43 27.7	+2.2
PYTN	Playitas	1.23	341	*e*P	P	03 43 05.2	+0.8
JTS	JuntasAbangare	1.27	147	P	P	03 43 04.0	-0.6
	32nm,0.3s,baz=332,slow=6.7,SNR=238						
JTS				S	S	03 43 24.7	-3.3
	217nm,0.3s,baz=220,slow=19,SNR=20						
JTS	JuntasAbangare	1.27	147	*e*P	P	03 43 04.0	-0.7
JTS				*e*S	S	03 43 23.1	-4.9
MOMJ	Momotombo	1.36	320	⇑*e*P	P	03 43 05.4	-0.1
MOMJ				*e*S	S	03 43 28.9	-0.6
LEON	Leon	1.61	311	⇑*e*P	P	03 43 07.6	-0.3
LEON				*e*S	S	03 43 31.6	-2.1
TEL3	Telica 3	1.68	316	⇑*e*P	P	03 43 08.9	+0.3
TEL3				*e*S	S	03 43 34.6	-0.3
TELN	Telica	1.69	317	*e*S	S	03 43 35.1	0.0
CRIN	San Cristobal	1.91	314	*e*P	P	03 43 11.2	+0.3
CRIN				*e*S	S	03 43 37.5	-1.5
BLLM	Bellamira	3.27	309	*e*S	S	03 44 07.9	+0.4
SNVI	San Vicente	3.83	306	*e*S	S	03 44 19.1	-1.2
LCBS	La Ceiba	3.97	305	*e*P	P	03 43 36.8	+1.0
RTR	El Retiro	4.64	303	*e*P	P	03 43 45.8	+1.2
LPAZ	La Paz	32.48	147	P	P	03 48 52.4	+2.3
	0.5nm,0.3s,mb3.7,baz=283,slow=11,SNR=5.6						
SIV	San Ignacio	36.47	138	P	P	03 49 24.5	+0.6
	1.4nm,0.5s,mb3.8,baz=324,slow=10,SNR=9.7						
PDAR	Pinedale Array	37.57	331	P	P	03 49 32.4	-0.4
	0.2nm,0.5s,mb3.0,baz=135,slow=8.9,SNR=2.4						
NVAR	Mina Array Bea	39.68	318	P	P	03 49 53.0	+2.6
	0.8nm,0.6s,mb3.5,baz=138,slow=6.3,SNR=7.3						
HLID	Hailey	40.59	327	P	P	03 49 57.7	-0.1
	0.3nm,0.4s,mb3.3						
SCHQ	Schefferville	45.83	15	P	P	03 50 39.5	-0.3
	2.9nm,0.6s,mb4.1,baz=197,slow=7.1,SNR=6.6						
SCHQ	Schefferville	45.83	15	P	P	03 50 39.5	-0.3
YKA	Yellowknife Ar	55.12	344	P	P	03 51 48.4	-1.3
	0.3nm,0.3s,mb3.4,baz=132,slow=8.2,SNR=19						
YKA	Yellowknife Ar	55.12	344	P	P	03 51 48.4	-1.3
ILAR	Eielson Array	67.72	336	P	P	03 53 12.8	-1.2
	0.3nm,0.6s,mb3.2,baz=123,slow=4.0,SNR=4.2						
VNA3	Neumayer Olymp	96.22	162		P	03 55 36.1	-6.3
VNA3	Neumayer Olymp	96.22	162	*e*	P	03 55 36.7	-5.7
VNA3	Neumayer Olymp	96.22	162	*e*	P	03 55 39.0	-3.4
VNA1	Neumayer--Stat	96.50	161		P	03 55 34.4	-9.3
VNA1	Neumayer--Stat	96.50	161	*e*	P	03 55 34.9	-8.8
VNA1	Neumayer--Stat	96.50	161	*e*	P	03 55 36.8	-6.9
VNA2	Neumayer--Watz	96.85	161	⇑*i*	P	03 55 39.2	-6.1
VNA2	Neumayer--Watz	96.85	161	*e*	P	03 55 39.8	-5.5
VNA2	Neumayer--Watz	96.85	161	*e*	P	03 55 42.2	-3.1
SNAA	Sanae	98.45	161	⇑*i*	P	03 56 00.3	+7.8
SNAA	Sanae	98.45	161	*e*	P	03 56 00.9	+8.4
SNAA	Sanae	98.45	161	*e*	P	03 56 02.7	+10
ASAR	Alice Springs	140.48	247	PKhKP		04 01 39.6	
	0.2nm,0.5s,baz=115,slow=3.7,SNR=5.5						
ASAR				PKP	PKPdf	04 01 46.0	+3.3
	0.9nm,0.6s,baz=94,slow=1.7,SNR=16						
WRA	Warramunga Arr	140.65	252	PKhKP		04 01 39.6	
	0.4nm,0.5s,baz=92,slow=3.4,SNR=6.8						
WRA				PKP	PKPdf	04 01 46.6	+3.4
	1.1nm,0.5s,baz=99,slow=2.2,SNR=17						

*NEIC **16** 03:50:39.2, 35.10S×70.40W, h10km, ML3.1(GUC), After GUC.*

GUC 16 03:50:39.2±0.9, 35.10S×70.40W, h10km±10km, MD3.7, ML3.1, 5C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.69	278	⇓*i*P	Pb	03 50 52.0	-0.8
NICH				*i* S	Sb	03 51 02.3	+0.3
SFDO	San Fernando	0.70	314	⇑*i*P	Pb	03 50 51.9	-1.1
SFDO				*i* S	Sb	03 51 01.9	-0.5
CICH	Cipreses	0.78	359	⇑*i*P	Pb	03 50 52.9	-1.4
CICH				*i* S	Sb	03 51 03.9	-0.8
CACH	El Canelo	0.99	350	⇓*i*P	Pb	03 50 57.0	-1.1
CACH				*i* S	Sb	03 51 10.8	-0.1
TALC	Talca	1.05	253	⇓*i*P	Pb	03 50 58.2	-0.9
TALC				*i* S	Sb	03 51 12.8	+0.1
TALC				AMP		03 51 13.5	
	comp=N,4μm,0.1s						
CHCH	Chadas Angostu	1.18	350	⇑*i*P	Pb	03 51 01.1	-0.2
CHCH				*i* S	Sb	03 51 16.8	+0.4
LMEL	Las Melosas	1.26	7	⇑*i*P	Pb	03 51 01.2	-1.4
LMEL				AMP		03 51 20.1	
	comp=N,236nm,0.3s						
LNV	Longovilo	1.41	323	⇓*i*P	Pn	03 51 03.9	-1.2
LNV				*i* S	Sb	03 51 23.0	-0.2
PCH	Pirque	1.48	356	*e*P	Pn	03 51 05.5	-0.5
TACH	Talagante	1.51	343	⇑*i*P	Pn	03 51 05.9	-0.5
CLCH	Cerro Calan	1.70	356	*e*P	Pn	03 51 08.9	-0.3
CLCH				*i* S	Sn	03 51 31.0	-0.2
CLCH				AMP		03 51 46.9	
	comp=E,404nm,0.9s						
FCH	Farellones	1.77	3	*e*P	Pn	03 51 10.6	+0.4
FCH				*i* S	Sn	03 51 34.4	+1.5
FCH				AMP		03 51 49.2	
	comp=N,265nm,0.2s						
LCCH	Las Cruces	1.89	329	*e*P	Pn	03 51 11.8	0.0
LCCH				*i* S	Sn	03 51 36.2	+0.4
PEL	Peldehue	1.96	353	*e*P	Pn	03 51 14.4	+1.5
PEL				*i* S	Sn	03 51 40.9	+3.0
ROCH	El Roble	2.18	346	*e*P	Pn	03 51 17.5	+1.4
JACH	Jahuel	2.42	356	*e*P	Pn	03 51 21.0	+1.5
TRQA	Tornquist	7.39	116	*e*P	Pn	03 52 25.1	-4.7

*IDC **16** 04:12:34.3±0.7, 0.74S×90.92W, mb4.4/19, mb1 4.5/19, mb1mx4.4/25, mbtmp4.4/19, MS4.7/20, Ms1 4.7/20, ms1mx4.5/31, Error ellipse: s-maj=27.0km s-min=12.3km az=53.0*

*BJI **16** 04:12:35.3, 0.80S×90.90W, h10km, mB4.9, Ms5.3, Msz5.0*

*NEIC **16** 04:12:35.3±0.3, 0.81S×90.95W, h10km, mb4.6/15, Error ellipse: s-maj=10.4km s-min=4.2km az=49.0*

ISC 16 04:12:34.0±0.4, 0.72S±0.07×90.85W±0.07, h10km, n72, σ0§87/52, mb4.3/33, MS4.7/21, Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	12.41	28	LR	LR	04 18 42.5	
	comp=Z,305nm,18.3s,baz=222,slow=30						
OTAV	Otavalo	12.44	86	*e*P	P	04 15 35.2	+1.1
	1μm,3.9s						
ROSC	El Rosal	17.41	71	Pn	P	04 16 45.7	+6.8
	0.4nm,0.3s,baz=275,slow=17,SNR=2.9						
NNA	Nana	17.85	129	P	P	04 16 44.1	-0.2
SDV	Santo Domingo	22.29	64	P	P	04 17 35.8	+2.6
	11nm,0.9s,mb4.3,baz=264,slow=8.9,SNR=14						
SDV	Santo Domingo	22.29	64	*e*P	P	04 17 34.9	+1.7
	13nm,1.0s,mb4.3						
LPAZ	La Paz	27.22	126	P	P	04 18 21.6	+1.3
	0.4nm,0.4s,mb3.3,baz=319,slow=11,SNR=3.6						
LPAZ				LR	LR	04 28 15.3	
	comp=Z,4μm,21.8s,MS5.0,baz=306,slow=34						
LPAZ	La Paz	27.22	126	P	P	04 18 21.1	+0.8
PCRV	Puerto La Cruz	28.24	67	P	P	04 18 36.7	+7.1
	20nm,1.1s,mb4.7,baz=288,slow=11,SNR=3.4						
SAML	Samuel	28.73	107	*e*P	P	04 18 33.9	-0.2
	61nm,2.4s,mb4.9						
LVC	Limon Verde	30.48	137	LR	LR	04 28 22.9	
	comp=Z,2μm,18.8s,MS4.8,baz=328,slow=31						
LVC	Limon Verde	30.48	137	P	P	04 18 47.8	-1.8
SJG	San Juan	30.67	51	P	P	04 18 51.3	0.0
	8.0nm,0.9s,mb4.6,baz=358,slow=8.4,SNR=4.3						
RPN	Rapa Nui	31.69	213	LR	LR	04 28 04.6	
	comp=Z,2μm,18.8s,MS4.8,baz=227,slow=29						
SIV	San Ignacio	33.06	119	P	P	04 19 11.4	-0.8
	2.8nm,1.1s,mb4.1,baz=292,slow=12,SNR=5.5						
MNTX	Cornudas Mount	35.06	338	*e*P	P	04 19 29.3	-0.1
	2.3nm,0.8s,mb4.2						
WMOK	Wichita Mounta	36.05	349	*e*P	P	04 19 37.2	-0.5
	17nm,1.3s,mb4.8						
CFAA	Coronel Fontan	37.43	147	P	P	04 19 50.2	+0.9
	0.6nm,1.1s,mb3.4,baz=297,slow=6.8,SNR=5.1						
ANMO	Albuquerque	38.37	339	P	P	04 19 58.5	+1.3
	3.8nm,0.8s,mb4.2,baz=163,slow=7.8,SNR=11						
ANMO				LR	LR	04 34 47.5	
	comp=Z,3μm,19.3s,MS5.2,baz=348,slow=35						
ANMO	Albuquerque	38.37	339	*e*P	P	04 19 57.9	+0.7
	3.8nm,0.9s,mb4.1						
SDCO	Great Sand Dun	40.60	342	*e*P	P	04 20 16.5	+0.8
	6.8nm,0.9s,mb4.3						
WUAZ	Wupatki	40.82	334	*e*P	P	04 20 18.4	+0.9
	17nm,0.9s,mb4.7						
PV10	Paradox Valley	42.36	339	*e*P	P	04 20 29.8	-0.3
ISCO	Idaho Springs	42.53	343	*e*P	P	04 20 32.4	+0.8
	10nm,0.9s,mb4.5						
PLCA	Paso Flores	43.88	158	P	P	04 20 43.1	+0.6
	1.1nm,0.9s,mb3.6,baz=346,slow=7.0,SNR=4.6						
PLCA				LR	LR	04 35 16.8	
	comp=Z,2μm,18.1s,MS5.1,baz=349,slow=31						
PLCA	Paso Flores	43.88	158	P	P	04 20 41.2	-1.3
BDFB	Brasilia	44.78	112	P	P	04 20 50.3	+0.1
	6.9nm,1.0s,mb4.4,baz=273,slow=10.0,SNR=5.5						
BDFB				LR	LR	04 39 39.0	
	comp=Z,3μm,18.3s,MS5.3,baz=122,slow=36						
TRQA	Tornquist	45.66	148	P	P	04 20 56.2	-0.6
MNV	Mina	46.36	330	*e*P	P	04 21 03.3	+0.9
	3.7nm,0.9s,mb4.3						
NVAR	Mina Array Bea	46.44	330	P	P	04 21 03.8	+0.9
	3.9nm,0.8s,mb4.4,baz=153,slow=8.1,SNR=30						
NVAR				PcP	PcP	04 22 38.2	+0.1
	1.1nm,0.9s,baz=135,slow=2.6,SNR=3.8						
BW06	Boulder Array	46.45	341	*e*P	P	04 21 02.5	-0.4
PDAR	Pinedale Array	46.45	341	P	P	04 21 03.0	0.0
	1.8nm,0.9s,mb4.0,baz=141,slow=7.4,SNR=12						
SADO	Sadowa	46.48	12	P	P	04 21 03.9	+0.7
	6.7nm,0.9s,mb4.5,baz=241,slow=9.1,SNR=5.2						
ELK	Elko	46.86	335	*e*P	P	04 21 07.4	+1.2
	2.7nm,0.9s,mb4.2						
ELK				*e*		04 21 18.5	
REDW	Red Top Meadow	47.41	340	*e*P	P	04 21 09.9	-0.7
RKT	Rikitea	48.26	239	*e*LR	LR	04 34 59.9	
	319nm,25.0s						
HLID	Hailey	48.88	337	*e*P	P	04 21 21.5	-0.4
	6.2nm,1.0s,mb4.6						
MOD	Modoc	50.08	331	*e*P	P	04 21 31.6	+0.4
	8.3nm,1.3s,mb4.6						
ULM	Lac du Bonnet	50.96	356	P	P	04 21 37.5	-0.3
	5.0nm,0.9s,mb4.5,baz=174,slow=6.1,SNR=5.3						
ULM				LR	LR	04 43 44.0	
	comp=Z,625nm,20.8s,MS4.6,baz=66,slow=37						
YBH	Yreka Blue Hor	51.14	330	P	P	04 21 39.6	+0.2
	3.1nm,1.0s,mb4.2,baz=186,slow=7.0,SNR=4.1						
NEW	Newport	53.85	339	P	P	04 21 59.7	+0.2
	2.1nm,0.8s,mb4.1,baz=138,slow=9.9,SNR=3.8						
EDM	Edmonton	56.94	344	*e*P	P	04 22 20.3	-1.5
SCHQ	Schefferville	58.79	16	LR	LR	04 47 57.4	
	comp=Z,404nm,18.6s,MS4.6,baz=230,slow=36						
FCC	Fort Churchill	59.36	358	*e*P	P	04 22 37.3	-1.4
	5.1nm,0.9s,mb4.5						
PPT	Papeete	60.07	250	*e*S	S	04 30 57.0	+1.8
PPT				*e*LQ		04 37 55.4	
PPT				*e*LR	LR	04 40 26.1	
	94nm,20.5s,baz=57						
PPT	Papeete	60.07	250	LR	LR	04 42 55.6	
	comp=Z,376nm,20.5s,MS4.5,baz=57,slow=30						
TBI	Tubuai	61.08	244	*e*S	S	04 31 09.4	+1.3
TBI				*e*LQ		04 38 13.3	
TBI				*e*LR	LR	04 40 50.9	
	195nm,28.0s						
YKA	Yellowknife Ar	65.55	348	P	P	04 23 18.1	-1.7
	2.3nm,0.8s,mb4.3,baz=148,slow=6.2,SNR=41						
YKA				LR	LR	04 52 34.4	
	comp=Z,445nm,19.1s,MS4.7,baz=155,slow=37						
YKA	Yellowknife Ar	65.55	348	P	P	04 23 18.1	-1.7
YKA				LR	LR	04 52 34.4	
FRB	Frobisher Bay	66.41	11	P	P	04 23

WRAB Tennant Creek 47.88 123 *eP* **P 04 40 07.8 -0.3**
2.1nm,0.5s,mb4.4
ZAL Zalesovo 48.68 354 P **P 04 40 12.9 -1.0**
1.0nm,0.4s,mb4.2,baz=310,slow=3.1,SNR=4.3
ASAR Alice Springs 49.33 128 P **P 04 40 19.4 +0.1**
0.4nm,0.5s,mb3.7,baz=297,slow=8.0,SNR=6.5
BVAR Borovoye Array 50.82 343 P **P 04 40 31.0 +0.7**
0.4nm,0.5s,mb3.6,baz=90,slow=7.2,SNR=3.3

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*BJI **16** 04:39:30.2, 53.53N×93.95E, h28km, mB4.4, mb4.2, ML4.2, Ms4.1, Msz3.5*
*IDC **16** 04:39:35.5±0.8, 52.58N×94.08E, mb3.7/9, mb1 3.8/12, mb1mx3.7/23, mbtmp3.6/12, ML3.4/2, Error ellipse: s-maj=30.2km s-min=10.6km az=22.0*
*NEIC **16** 04:39:37.3±0.5, 52.64N×94.02E, h10km, mb3.9/2, Error ellipse: s-maj=15.7km s-min=6.6km az=195.0*
*MOS **16** 04:39:39.3±2.5, 52.89N×93.82E, h15km, mb4.3/2, Error ellipse: s-maj=20.2km s-min=10.8km az=24.5*
ISC 16 04:39:37.1±2.2, 52.87N±0.09×93.96E±0.06, h10km±16km, n30, σ1°22/38, mb3.7/10, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERR	**Cheremushki**	**1.55**	**270**	*e*PG	**Pb**	**04 40 05.6**	**+0.3**
CERR				*i* S	**Sb**	**04 40 25.6**	**+0.8**
TASR	**Tashtagol**	**3.69**	**271**	*e*PN	**Pn**	**04 40 36.4**	**+0.9**
TASR				*e*		04 40 44.0	
TASR				*e*S	**Sb**	**04 41 30.7**	**+3.5**
MOY	**Mondy**	**4.48**	**103**	*e*PN	**Pn**	**04 40 51.0**	**+4.3**
MOY				*e*		04 41 51.3	
MOY				pmax	pmax		
	comp=Z,95nm,0.5s						
MOY				smax			
	comp=E,1μm,1.4s						
ELT	**Yel'tsovka**	**4.68**	**278**	*e*PN	**Pn**	**04 40 49.6**	**+0.2**
ELT				*e*		04 41 01.0	
AKAR	**Aktash**	**4.71**	**240**	*e*PN	**Pn**	**04 40 48.6**	**-1.3**
AKAR				*e*		04 41 05.7	
AKAR				*e*S	**Sb**	**04 42 02.6**	**+6.0**
ZAL	**Zalesovo**	**5.59**	**285**	Pn	**Pn**	**04 41 03.3**	**+1.0**
	comp=E,2.7nm,0.3s,baz=15,slow=10.0,SNR=17						
ZAL				Pg	**Pb**	**04 41 13.6**	**-0.9**
	comp=E,1.9nm,0.3s,baz=11,slow=10,SNR=9.3						
ZAL				Sn	**Sn**	**04 42 08.8**	**+1.5**
	comp=E,5.2nm,0.3s,baz=34,slow=12,SNR=5.5						
ZAL				Lg		04 42 31.8	
	comp=E,12nm,0.3s,baz=253,slow=9.9,SNR=12						
ZAL	**Zalesovo**	**5.59**	**285**	Pn	**Pn**	**04 41 03.3**	**+1.0**
ZAL				*e*		04 42 08.8	
TLY	**Talaya**	**6.06**	**97**	PN	**Pn**	**04 41 06.6**	**-2.4**
TLY				pmax	pmax		
	comp=Z,12nm,0.5s						
ZAK	**Zakamensk**	**6.31**	**110**	*e*PN	**Pb**	**04 41 27.1**	**+0.2**
ZAK				*e*S	**Sb**	**04 42 48.7**	**+5.4**
ZAK				pmax	pmax		
	comp=Z,22nm,0.8s						
ZAK				smax			
	comp=N,134nm,1.7s						
IRK	**Irkutsk**	**6.32**	**92**	*e*PN	**Pb**	**04 41 28.3**	**+1.3**
IRK				*e*	**Sb**	**04 42 47.4**	**+4.0**
IRK				pmax	pmax		
	comp=Z,120nm,0.1s						
IRK				smax			
	comp=N,436nm,1.4s						
NVS	**Novosibirsk**	**6.65**	**292**	*e*PN	**Pb**	**04 41 39.8**	**+7.2**
NVS				*e*S	**Sb**	**04 43 01.3**	**+8.3**
SONM	**Songino Array**	**9.41**	**117**	Pn	**P**	**04 41 51.4**	**-4.3**
	comp=N,0.3nm,0.3s,baz=281,slow=7.3,SNR=3.2						
SONM				Pg	P	04 42 23.7	+28
	comp=N,0.7nm,0.3s,baz=296,slow=18,SNR=12						
SONM				Lg		04 44 27.8	
	comp=N,1.2nm,0.3s,baz=298,slow=26,SNR=12						
WMQ	**Urumqi**	**9.97**	**207**	*e*P	**P**	**04 42 03.8**	**+0.5**
GTA	**Gaotai**	**14.05**	**161**	P	**P**	**04 42 58.8**	**+0.6**
GTA				AP		04 43 06.6	
GTA				XP		04 43 09.8	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s						
GTA				AMB	AMB		
	comp=Z,76nm,10.7s						
GTA				LR	LR		
	comp=N,389nm,10.3s						
GTA				LR	LR		
	comp=E,315nm,10.7s						
GTA				LR	LR		
	comp=Z,179nm,11.0s						
GTA	**Gaotai**	**14.05**	**161**	P	**P**	**04 42 58.8**	**+0.6**
	comp=Z,4.0nm,0.9s						
GTA				pP		04 43 06.6	
GTA				sP		04 43 09.8	
BVAR	**Borovoye Array**	**14.20**	**280**	Pn	**P**	**04 42 58.2**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=79,slow=15,SNR=4.1						
ARU	**Arti**	**20.64**	**294**	P	**P**	**04 44 18.1**	**-0.9**
ARCES	**ARCESS Array B**	**34.64**	**325**	P	**P**	**04 46 28.6**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=349,slow=6.2,SNR=4.7						
FINES	**FINESS Array B**	**36.18**	**311**	P	**P**	**04 46 40.8**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=76,slow=7.9,SNR=8.1						
BRTR	**Keskin Array B**	**42.46**	**277**	P	**P**	**04 47 33.6**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.4,baz=74,slow=5.7,SNR=4.0						
NB2	**NORSAR Subarra**	**42.95**	**315**	P	**P**	**04 47 36.8**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.5,baz=60,slow=7.9						
NB2	**NORSAR Subarra**	**42.95**	**315**	P	**P**	**04 47 36.8**	**-0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
NOA	**NORSAR Array B**	**42.95**	**315**	P	**P**	**04 47 37.3**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.5,baz=62,slow=8.0,SNR=6.3						
GERES	**GERESS Array B**	**48.33**	**299**	P	**P**	**04 48 20.8**	**+0.6**
	comp=Z,0.4nm,0.8s,mb3.5,baz=45,slow=3.8,SNR=3.6						
YKA	**Yellowknife Ar**	**62.79**	**14**	P	**P**	**04 50 04.2**	**-0.2**
	comp=Z,0.3nm,0.8s,mb3.5,baz=339,slow=7.2,SNR=7.5						
ESDC	**Sonseca Array**	**63.82**	**302**	P	**P**	**04 50 09.5**	**-1.8**
	comp=Z,0.9nm,0.6s,mb4.0,baz=33,slow=7.8,SNR=4.1						
WRAB	**Tennant Creek**	**80.51**	**142**	*e*P	**P**	**04 51 47.5**	**-3.2**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
WRAB	**Tennant Creek**	**80.51**	**142**	*e*P	**P**	**04 51 47.5**	**-3.2**
	comp=Z,1.5nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**80.51**	**142**	P	**P**	**04 51 47.7**	**-3.0**
	comp=Z,1.2nm,0.6s,mb4.0,baz=342,slow=6.1,SNR=17						
ASAR	**Alice Springs**	**83.76**	**144**	P	**P**	**04 52 04.3**	**-3.2**
	comp=Z,0.7nm,0.7s,mb3.9,baz=327,slow=5.1,SNR=8.1						

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*IDC **16** 04:51:00.6±1.8, 7.26S×128.64E, mb3.8/2, mb1 4.1/4, mb1mx3.9/14, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=187.6km s-min=26.7km az=70.0*
ISC 16 04:51:13.7±4.1, 7.3S±0.2×129.7E±0.6, h151km±49km, n10, σ0°73/12, mb4.4/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.36**	**161**	Pn	**P**	**04 54 17.3**	**-1.0**
	1.2nm,0.3s,baz=330,slow=14,SNR=28						
WRA				Sn	**S**	**04 56 38.7**	**-4.9**
	3.2nm,0.3s,baz=337,slow=22,SNR=17						
ASAR	**Alice Springs**	**16.78**	**167**	P	**P**	**04 55 02.5**	**+1.3**
	0.5nm,0.3s,baz=337,slow=8.9,SNR=30						
ASAR				S	**S**	**04 58 01.2**	**-0.2**
	0.8nm,0.3s,baz=350,slow=26,SNR=10.0						
STKA	**Stephens Creek**	**26.86**	**157**	P	**P**	**04 56 46.4**	**+4.3**
	0.7nm,0.4s,mb3.7,baz=340,slow=14,SNR=3.5						
JIRN	**Jiri**	**54.57**	**311**	*e*P	**P**	**05 00 28.9**	**+0.2**
	6.7nm,0.5s,mb4.6						
GUN	**Gumba**	**54.94**	**311**	*e*P	**P**	**05 00 32.1**	**+0.7**
	14nm,0.5s,mb5.0						
PKI	**Pulchoki**	**55.11**	**311**	*e*P	**P**	**05 00 33.0**	**+0.4**
	5.5nm,0.5s,mb4.5						
KKN	**Kakani**	**55.32**	**311**	*e*P	**P**	**05 00 34.0**	**-0.1**
	6.9nm,0.5s,mb4.6						
GKN	**Gorkha**	**55.92**	**311**	*e*P	**P**	**05 00 38.0**	**-0.4**
	10nm,0.5s,mb4.9						
KOLN	**Koldanda**	**56.58**	**310**	*e*P	**P**	**05 00 41.9**	**-1.2**
	4.3nm,0.4s,mb4.6						
SONM	**Songino Array**	**58.62**	**342**	P	**P**	**05 00 57.1**	**+0.1**
	0.5nm,0.5s,mb3.6,baz=151,slow=6.0,SNR=4.6						

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*BJI **16** 04:58:09.7, 0.27N×97.22E, h10km, mB4.9, mb4.6, Ms4.7, Msz4.5*
*IDC **16** 04:58:15.4±1.0, 0.93N×97.05E, mb4.0/12, mb1 4.2/13, mb1mx4.1/20, mbtmp4.0/13, ML4.3/1, MS4.1/4, Ms1 4.2/4, ms1mx3.8/20, Error ellipse: s-maj=49.5km s-min=15.1km az=53.0*
*NEIC **16** 04:58:20.2±0.5, 1.07N×97.23E, h30km, mb4.7/8, Error ellipse: s-maj=13.2km s-min=6.9km az=61.0*
ISC 16 04:58:18.4±0.5, 1.04N±0.06×97.23E±0.06, h28km, h28km±1.5km: pP-P, n50, σ0°99/57, mb4.4/31, MS4.4/14, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.17**	**47**	P	**Pn**	**04 59 36.6**	**+0.6**
KULM	**Kulim**	**5.42**	**39**	*e*P	**Pn**	**04 59 39.6**	**-0.1**
KGM	**Kluang**	**6.16**	**81**	P	**Pn**	**04 59 51.5**	**+1.5**
CM31	**Chiang Mai Arr**	**17.39**	**5**	*e*P	**P**	**05 02 19.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**17.39**	**5**	P	**P**	**05 02 19.9**	**-1.0**
	0.3nm,0.3s,baz=195,slow=12,SNR=20						
CMAR				LR	LR	05 09 50.0	
	comp=Z,439nm,18.3s,baz=190,slow=40						
KKM	**Kota Kinabalu**	**19.58**	**75**	*e*P	**P**	**05 02 45.9**	**-1.6**
KKM	**Kota Kinabalu**	**19.58**	**75**	P	**P**	**05 02 49.3**	**+1.8**
TSM	**Tawau**	**20.86**	**81**	P	**P**	**05 03 01.6**	**+0.6**
QIZ	**Qiongzhong**	**21.73**	**34**	P	**P**	**05 03 10.0**	**+0.3**
QIZ				*e*S	**S**	**05 07 03.4**	**-0.2**
QIZ				LR	LR		
	comp=E,703nm,15.2s						
QIZ				LR	LR		
	comp=Z,523nm,12.2s,MS4.2						
KMI	**Kunming**	**24.52**	**12**	P	**P**	**05 03 37.5**	**+0.4**
KMI				AP		05 03 44.8	
KMI				XP		05 03 48.1	
KMI				PP	PP	05 04 14.3	+1.2
KMI				S	**S**	**05 07 57.3**	**+4.4**
KMI				XS		05 08 10.6	
KMI				SS	SS	05 08 56.6	+7.9
KMI				AMB	AMB		
	comp=Z,38nm,1.5s,mb4.7						
KMI				AMB	AMB		
	comp=Z,188nm,3.3s						
KMI				LR	LR		
	comp=N,1μm,15.0s,MS4.6						
KMI				LR	LR		
	comp=E,549nm,14.4s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,14.7s,MS4.5						
KMI	**Kunming**	**24.52**	**12**	P	**P**	**05 03 37.5**	**+0.4**
	comp=Z,38nm,1.5s,mb4.7						
KMI				pP		05 03 44.8	
KMI				sP		05 03 48.1	
KMI				PP	PP	05 04 14.3	+1.2
KMI				S	**S**	**05 07 57.2**	**+4.3**
KMI				sS		05 08 10.6	
KMI				SS	SS	05 08 56.6	+7.9
KMI				LR	LR		
	comp=Z,1μm,14.7s,MS4.5						
SHL	**Shillong**	**24.92**	**348**	*e*P	**P**	**05 03 40.7**	**-0.2**
GYA	**Guiyang**	**26.85**	**19**	P	**P**	**05 03 58.9**	**+0.1**
GYA				AP	pP	05 04 07.8	+0.9
GYA				XP	sP	05 04 11.5	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.2						
GYA				AMB	AMB		
	comp=Z,110nm,5.7s						
GYA				LR	LR		
	comp=N,420nm,15.9s,MS4.4						
GYA				LR	LR		
	comp=E,730nm,16.8s,MS4.4						
GYA				LR	LR		
	comp=Z,650nm,13.5s,MS4.3						
JIRN	**Jiri**	**28.50**	**339**	*e*P	**P**	**05 04 15.0**	**+1.2**
	comp=Z,40nm,1.3s,mb5.0						
PKI	**Pulchoki**	**28.71**	**338**	*e*P	**P**	**05 04 18.1**	**+2.5**
	comp=Z,55nm,1.5s,mb5.1						
GUN	**Gumba**	**28.84**	**339**	*e*P	**P**	**05 04 17.8**	**+1.0**
	comp=Z,89nm,1.4s,mb5.3						
KKN	**Kakani**	**28.96**	**338**	*e*P	**P**	**05 04 18.8**	**+0.9**
LSA	**Lhasa**	**29.08**	**349**	*e*P	**P**	**05 04 18.3**	**-0.7**
GKN	**Gorkha**	**29.39**	**337**	*e*P	**P**	**05 04 22.2**	**+0.4**
	comp=Z,94nm,1.5s,mb5.3						
KOLN	**Koldanda**	**29.61**	**335**	*e*P	**P**	**05 04 24.4**	**+0.6**
	comp=Z,72nm,1.6s,mb5.2						
CD2	**Chengdu**	**30.34**	**11**	*e*P	**P**	**05 04 29.9**	**-0.3**
CD2				S	**S**	**05 09 29.0**	**+1.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				LR	LR		
	comp=E,1μm,14.4s						
CD2				LR	LR		
	comp=Z,1μm,13.2s,MS4.7						
ENH	**Enshi**	**31.31**	**21**	*e*P	**P**	**05 04 36.3**	**-2.4**
	comp=Z,3.7nm,0.5s,mb4.5						
ENH				*e*	pP	05 04 42.8	-4.1
FITZ	**Fitzroy Crossi**	**33.81**	**126**	P	**P**	**05 05 00.5**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.3,baz=336,slow=12,SNR=4.4						
XAN	**Xi'an**	**34.60**	**17**	P	**P**	**05 05 05.8**	**-1.5**
XAN				AP	pP	05 05 12.6	-3.0
XAN				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.6						
XAN				LR	LR		
	comp=N,186nm,15.5s,MS4.3						
XAN				LR	LR		
	comp=E,446nm,16.1s,MS4.3						
XAN				LR	LR		
	comp=Z,614nm,18.7s,MS4.4						
LZH	**Lanzhou**	**35.40**	**9**	*e*P	**P**	**05 05 12.5**	**-1.6**
LZH				AP	pP	05 05 20.1	-2.3
LZH				XP	sP	05 05 23.3	-2.6
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,89nm,4.5s						
LZH				LR	LR		
	comp=N,256nm,13.1s						
LZH				LR	LR		
	comp=Z,393nm,17.0s,MS4.2						
LZH	**Lanzhou**	**35.40**	**9**	*e*P	**P**	**05 05 12.5**	**-1.6**
	comp=Z,23nm,1.3s,mb5.0						
LZH				pP	pP	05 05 20.1	-2.3
LZH				sP	sP	05 05 23.2	-2.7
LZH				LR	LR		
	comp=Z,390nm,17.0s,MS4.2						
KAKA	**Kakadu**	**37.51**	**112**	*e*P	**P**	**05 05 30.7**	**-1.4**
	comp=Z,11nm,1.3s,mb4.4						
GTA	**Gaotai**	**38.26**	**3**	P	**P**	**05 05 38.3**	**+0.2**
GTA				AP	pP	05 05 45.3	-1.1
GTA				XP	sP	05 05 48.3	-1.6
GTA				SCS	ScS	05 15 51.0	+5.6
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,114nm,6.1s						
GTA				LR	LR		
	comp=N,313nm,19.0s,MS4.3						
GTA				LR	LR		
	comp=E,271nm,16.7s,MS4.3						
GTA				LR	LR		
	comp=Z,371nm,17.1s,MS4.3						
HHC	**Hu-ho-hao-te**	**41.70**	**16**	*e*P	**P**	**05 06 08.8**	**+2.2**
HHC				AP	pP	05 06 17.9	+3.0
HHC				S	**S**	**05 12 19.8**	**-1.6**
HHC				XS		05 12 37.8	
HHC				SS	SS	05 15 26.9	+4.7
HHC				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.4						
HHC				AMB	AMB		
	comp=Z,114nm,5.6s						
HHC				LR	LR		
	comp=N,460nm,14.7s,MS4.8						
HHC				LR	LR		
	comp=E,929nm,17.2s,MS4.8						
HHC				LR	LR		
	comp=Z,479nm,15.9s,MS4.5						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**05 06 08.3**	**-0.4**
	comp=Z,1.8nm,0.8s,mb3.7,baz=300,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**41.93**	**122**	*e*P	**P**	**05 06 08.4**	**-0.3**
	comp=Z,28nm,1.4s,mb4.7						
WB2	**Warramunga Arr**	**41.93**	**122**	*e*P	**P**	**05 06 08.8**	**0.0**
BJI	**Beijing**	**42.47**	**22**	*e*P	**P**	**05 06 13.9**	**+1.0**
BJI				S	**S**	**05 12 39.8**	**+7.0**
BJI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.6						
BJI				LR	LR		
	comp=N,295nm,17.1s,MS4.5						
BJI				LR	LR		
	comp=E,368nm,16.2s,MS4.5						
BJI				LR	LR		
	comp=Z,222nm,24.5s						
KSH	**Kashi**	**42.93**	**336**	*e*P	**P**	**05 06 16.3**	**-0.4**
KSH				*e*AP	pP	05 06 25.0	0.0
KSH				*e*XP	sP	05 06 29.3	+0.8
KSH				*e*PP	PP	05 07 58.0	-0.7
KSH				*e*PCP	PcP	05 08 07.0	-0.6
KSH				*e*SCP		05 11 54.1	
KSH				*e*PCS		05 11 58.1	
KSH				*e*S	**S**	**05 12 37.4**	**-2.1**
KSH				*e*XS		05 12 53.0	
KSH				*e*SCS	ScS	05 16 12.0	-1.1
KSH				AMB	AMB		
	comp=Z,260nm,7.6s						
KSH				LR	LR		
	comp=N,330nm,6.0s						
KSH				LR	LR		
	comp=E,390nm,8.6s						
ASAR	**Alice Springs**	**43.27**	**127**	P	**P**	**05 06 19.7**	**0.0**
	comp=E,2.5nm,0.9s,mb4.0,baz=301,slow=7.1,SNR=19						
WMQ	**Urumqi**	**43.43**	**350**	⇑P	**P**	**05 06 22.3**	**+1.6**
WMQ				AP	pP	05 06 32.3	+3.3
WMQ				PP	PP	05 08 05.4	+1.7
WMQ				PCP	PcP	05 08 10.8	+1.5
WMQ				PPP	PPP	05 08 40.3	+0.5
WMQ				S	**S**	**05 12 57.4**	**+11**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,111nm,4.4s						
WMQ				LR	LR		
	comp=N,344nm,25.6s						
WMQ				LR	LR		
	comp=E,101nm,20.3s						
WMQ				LR	LR		
	comp=Z,250nm,24.5s,MS4.0						
SONM	**Songino Array**	**47.28**	**8**	P	**P**	**05 06 51.6**	**+0.2**
	comp=Z,1.9nm,0.5s,mb4.3,baz=191,slow=7.8,SNR=14						
SONM				PcP	PcP	05 08 23.1	+0.5
	comp=Z,1.4nm,0.7s,baz=184,slow=4.8,SNR=4.2						
ULN	**Ulaanbaatar**	**47.41**	**9**	*e*P	**P**	**05 06 52.4**	**0.0**
	comp=Z,11nm,1.5s,mb4.6						
CN2	**Changchun**	**49.43**	**27**	*e*P	**P**	**05 07 08.1**	**0.0**
CN2				*e*AP	pP	05 07 18.1	+1.6
CN2				*e*S	**S**	**05 14 10.3**	**-1.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CN2				LR	LR		
	comp=N,400nm,17.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,17.0s,MS4.6						
CN2				LR	LR		
	comp=Z,500nm,17.0s,MS4.6						
CTA	**Charters Tower**	**52.40**	**116**	LR	LR	05 31 11.4	
	comp=Z,210nm,19.3s,MS4.2,baz=54,slow=38						
STKA	**Stephens Creek**	**53.23**	**132**	*e*P	**P**	**05 07 37.6**	**+0.6**
	comp=Z,3.5nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**05 07 36.8**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=325,slow=8.5,SNR=6.2						
ZAL	**Zalesovo**	**53.71**	**351**	P	**P**	**05 07 40.2**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=310,slow=4.9,SNR=14						
BVAR	**Borovoye Array**	**56.41**	**341**	P	**P**	**05 07 59.0**	**-0.8**
	comp=Z,1.2nm,0.7s,mb4.1,baz=153,slow=9.7,SNR=7.2						
BRTR	**Keskin Array B**	**69.24**	**312**	P	**P**	**05 09 25.2**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=106,slow=9.0,SNR=3.0						
BOSA	**Boshof**	**74.73**	**240**	LR	LR	05 38 56.0	
	comp=Z,160nm,18.2s,MS4.3,baz=280,slow=33						
FINES	**FINESS Array B**	**80.15**	**333**	P	**P**	**05 10 27.4**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=158,slow=7.5,SNR=3.7						
ARCES	**ARCESS Array B**	**82.69**	**340**	P	**P**	**05 10 41.1**	**+0.5**
	comp=Z,2.2nm,1.0s,mb4.2,baz=101,slow=6.2,SNR=4.3						
ARCES				LR	LR	05 51 40.5	
	comp=Z,105nm,18.9s,MS4.2,baz=116,slow=39						
GERES	**GERESS Array B**	**84.95**	**319**	P	**P**	**05 10 51.1**	**-1.4**
	comp=Z,0.4nm,0.8s,mb3.6,baz=72,slow=4.2,SNR=5.2						
NOA	**NORSAR Array B**	**87.16**	**331**	P	**P**	**05 11 02.4**	**-0.6**
	comp=Z,0.3nm,0.7s,mb3.6,baz=95,slow=4.9,SNR=3.3						

IDC 16 05:11:56.7±2.3, 0.68S×100.09E, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=107.5km s-min=22.7km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.60**	**122**	P	P	05 19 21.4	-2.1
	0.5nm,0.3s,baz=299,slow=11,SNR=12						
ASAR	**Alice Springs**	**39.97**	**127**	P	P	05 19 33.5	-1.2
	0.4nm,0.8s,baz=301,slow=6.8,SNR=4.5						
SONM	**Songino Array**	**48.63**	**6**	P	P	05 20 43.3	-0.9
	0.2nm,0.6s,baz=198,slow=4.6,SNR=2.7						
BVAR	**Borovoye Array**	**58.99**	**340**	P	P	05 21 57.8	-2.6
	0.7nm,0.5s,baz=132,slow=9.2,SNR=6.2						
ARCES	**ARCESS Array B**	**85.27**	**340**	P	P	05 24 34.2	-2.0
	2.0nm,0.9s,baz=90,slow=7.3,SNR=4.6						

WEL 16 05:13:50.4±0.3, 45.03S×167.50E, h89km±2km, ML3.6/10, 1C-3D, Error ellipse: s-maj=2.1km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.47**	**40**	⇑PN	P	05 14 04.7	-0.2
MSZ				SN	S	05 14 15.4	-0.4
DCZ	**Deep Cove**	**0.51**	**209**	PN	P	05 14 04.7	-0.6
DCZ				SN	S	05 14 15.8	-0.5
MLZ	**Mavora Lakes**	**0.57**	**124**	⇓PN	P	05 14 05.3	-0.5
MLZ				SN	S	05 14 16.1	-1.1
WHZ	**Wether Hill Ro**	**0.92**	**160**	⇓PN	P	05 14 09.0	-0.3
WHZ				SN	S	05 14 22.6	-0.8
WKZ	**Wanaka**	**1.09**	**80**	PN	P	05 14 11.3	-0.1
WKZ				SN	S	05 14 26.3	-0.9
EAZ	**Earnscleugh**	**1.29**	**100**	PN	P	05 14 13.5	-0.5
EAZ				SN	S	05 14 30.0	-1.5
JCZ	**Jackson Bay**	**1.31**	**44**	PN	P	05 14 13.4	-0.8
JCZ				SN	S	05 14 30.6	-1.2
TUZ	**Tuapeka**	**1.76**	**122**	PN	P	05 14 19.3	-0.6
TUZ				SN	S	05 14 39.3	-2.4
LBZ	**Lake Benmore**	**2.02**	**72**	PN	P	05 14 21.6	-1.6
LBZ				SN	S	05 14 44.6	-2.9
FOZ	**Fox Glacier**	**2.15**	**48**	PN	P	05 14 24.3	-0.8
FOZ				SN	S	05 14 50.4	-0.4
ODZ	**Otahua Downs**	**2.23**	**91**	⇓PN	P	05 14 24.6	-1.6
RPZ	**Rata Peaks**	**2.87**	**64**	PN	P	05 14 32.0	-3.1
RPZ				SN	S	05 15 04.2	-4.4

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*BJI **16** 05:44:01.2, 1.60N×97.00E, h38km, mB4.5, mb4.5, Ms3.8, Msz3.6*
*IDC **16** 05:44:01.8±1.1, 1.54N×96.96E, h28km±4km, mb3.8/9, mb1 4.0/10, mb1mx3.8/20, mbtmp4.0/10, ML4.0/1, Error ellipse: s-maj=49.3km s-min=13.3km az=54.0*
*NEIC **16** 05:44:01.7±0.6, 1.57N×96.96E, mb4.5/3, Error ellipse: s-maj=16.8km s-min=9.4km az=64.0*
ISC 16 05:44:00.0±0.8, 1.60N±0.09×97.0E±0.1, h28km, h28km±.9km: pP-P, n19, σ0°81/18, mb4.2/15, MS4.2/1, Off west coast of northern Sumatera

| Code | Station Name | Δ° | AZ° |

comp=N,185nm,15.2s,MS4.5
HHC LR LR
comp=E,465nm,19.0s,MS4.5
HHC LR LR
comp=Z,132nm,15.3s,MS3.9
BJI Beijing 42.05 22 *e*P **P 05 51 52.8 +1.8**
BJI AMB AMB
comp=Z,23nm,0.6s,mb5.0
BJI Beijing 42.05 22 *e*P **P 05 51 52.8 +1.8**
comp=Z,23nm,0.6s,mb5.0
BJI sP sP 05 52 00.2 -2.8
WRA Warramunga Arr 42.42 122 P **P 05 51 54.0 -0.3**
comp=Z,0.6nm,0.4s,mb3.5,baz=301,slow=9.2,SNR=6.5
WRA pP pP 05 52 02.4 -0.5
comp=Z,0.9nm,0.4s,baz=303,slow=9.1,SNR=7.8
WRAB Tennant Creek 42.43 122 *e*P **P 05 51 54.4 0.0**
comp=Z,1.8nm,0.6s,mb3.9
ASAR Alice Springs 43.80 127 P **P 05 52 06.2 +0.6**
comp=Z,0.7nm,0.6s,mb3.5,baz=300,slow=8.0,SNR=9.9
ASAR pP pP 05 52 13.3 -0.7
comp=Z,0.9nm,0.8s,baz=298,slow=7.7,SNR=6.4
SONM Songino Array 46.77 9 P **P 05 52 29.3 +0.5**
comp=Z,3.0nm,0.7s,mb4.4,baz=190,slow=9.0,SNR=21
SONM pP pP 05 52 37.2 -0.2
comp=Z,1.3nm,0.4s,baz=188,slow=9.2,SNR=8.7
SONM pPcP 05 54 09.8
comp=Z,0.5nm,0.5s,baz=180,slow=5.8,SNR=3.7
ZAL Zalesovo 53.12 351 P **P 05 53 17.6 +0.2**
comp=Z,3.6nm,0.5s,mb4.6,baz=304,slow=7.5,SNR=19
ZAL pP pP 05 53 26.1 +0.1
comp=Z,5.3nm,0.5s,baz=306,slow=6.7,SNR=9.3
STKA Stephens Creek 53.78 132 pP pP 05 53 31.7 +0.5
comp=Z,2.2nm,0.6s,baz=320,slow=9.8,SNR=2.9
BVAR Borovoye Array 55.80 341 P **P 05 53 35.8 -1.2**
comp=Z,1.0nm,0.4s,mb4.2,baz=145,slow=9.0,SNR=6.4
BVAR pP pP 05 53 46.2 +0.5
comp=Z,1.8nm,0.6s,baz=146,slow=10,SNR=7.4
FINES FINESS Array B 79.55 332 P **P 05 56 05.8 0.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=117,slow=4.3,SNR=6.2
FINES pP pP 05 56 14.6 -0.1
comp=Z,0.8nm,0.6s,baz=104,slow=7.9,SNR=2.5
ARCES ARCESS Array B 82.09 340 P **P 05 56 19.8 +0.8**
comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=6.1,SNR=11
ARCES pP pP 05 56 29.0 +0.9
comp=Z,1.3nm,0.5s,baz=90,slow=4.9,SNR=2.4
GERES GERESS Array B 84.38 319 P **P 05 56 31.5 +0.4**
comp=Z,0.2nm,0.3s,mb3.8,baz=108,slow=4.2,SNR=4.0

GUC 16 05:47:04.6±0.8, 28.32S×69.58W, h132km±22km, ML4.0, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.07**	**256**	*e*P	P	05 47 29.0	+0.3
VACH				*i* S	S	05 47 46.9	0.0
VACH				AMP		05 47 49.6	
	comp=E,6μm,0.2s						
CPCH	**Copiapo**	**1.18**	**324**	*e*P	P	05 47 30.2	+0.4
CPCH				*i* S	S	05 47 48.5	-0.3
CPCH				AMP		05 47 49.4	
	comp=E,13μm,0.2s						
LCO	**Las Campanas**	**1.20**	**235**	*i* P	P	05 47 30.5	+0.5
LCO				*i* S	S	05 47 50.1	+0.8
LCO				AMP		05 47 50.4	
	comp=N,2μm,0.4s						
TLL	**Tololo Astrono**	**2.13**	**210**	⇑*i*P	P	05 47 41.2	+0.4
TLL				*i* S	S	05 48 09.1	+0.8
TLL				AMP		05 48 14.6	
	comp=E,265nm,0.3s						
CPN1	**Cerro Paranal**	**3.75**	**348**	*e*P	P	05 48 02.2	+0.1
CPN1				*i* S	S	05 48 46.6	+0.4
CHNG	**Los Chungos**	**3.92**	**205**	*e*P	P	05 48 02.9	-1.4
FCH	**Farellones**	**5.03**	**187**	*e*P	P	05 48 18.7	-0.4

*JMA **16** 06:00:40.0, 38.78N×141.63E, h67km±1km, M3.4*
Broadband fault plane solution: P waves. NP1:φ=331°, δ21°, λ48°. NP2:φ=195°, δ74°, λ104°. Principal axes: T Plg58°, Azm124°; N Plg14°, Azm11°; P Plg28°, Azm273°;
JMA Felt I J1.
*IDC **16** 06:00:43.5±4.8, 38.64N×141.62E, h98km±44km, mb3.1/3, mb1 3.4/4, mb1mx3.1/21, mbtmp3.4/4 Error ellipse: s-maj=45.0km s-min=30.8km az=72.0*
ISC 16 06:00:39.3±0.8, 38.76N±0.05×141.69E±0.09, h68km±5km, n15, σ0=63/24, mb3.2/3, 6C-2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.32**	**357**	⇑P	P	**06 00 50.9**	**+0.4**
OFUJ				S	S	**06 00 58.8**	**+0.1**
JIO	**Ouri**	**0.41**	**221**	⇑P	P	**06 00 51.6**	**+0.4**
JIO				S	S	**06 00 59.8**	**-0.2**
JMK	**Ichinoseki**	**0.41**	**297**	⇑P	P	**06 00 51.3**	**+0.1**
JMK				S	S	**06 00 59.6**	**-0.5**
JOM	**Ohasama**	**0.77**	**336**	⇑P	P	**06 00 55.3**	**+0.2**
JOM				S	S	**06 01 06.6**	**-0.2**
JOU	**Okura**	**0.90**	**244**	⇑P	P	**06 00 56.8**	**+0.2**
JOU				*e*S	S	**06 01 09.3**	**-0.2**
JYK	**Kaneyama**	**1.05**	**279**	⇑P	P	**06 00 58.6**	**0.0**
JYK				S	S	**06 01 12.5**	**-0.5**
JMM	**Marumori**	**1.14**	**219**	⇓P	P	**06 00 59.6**	**-0.2**
JMM				S	S	**06 01 14.6**	**-0.5**
JYS	**Shiratake**	**1.39**	**248**	P	P	**06 01 02.5**	**-0.7**
JFK	**Kawauchi**	**1.54**	**205**	⇓P	P	**06 01 05.4**	**+0.2**
JFK				S	S	**06 01 24.0**	**-0.4**
JYA	**Atsumi**	**1.56**	**264**	P	P	**06 01 05.5**	**0.0**
MAT	**Matsushiro**	**3.54**	**232**	P	P	**06 01 33.9**	**+0.7**
MAT				*e*S	S	**06 02 15.1**	**+0.9**
MJAR	**Matsushiro Arr**	**3.54**	**232**	P	P	**06 01 34.6**	**+1.4**
	3.1nm,0.3s,baz=39,slow=12,SNR=26						
SONM	**Songino Array**	**27.04**	**301**	P	P	**06 06 16.8**	**0.0**
	0.4nm,0.8s,mb3.0,baz=83,slow=12,SNR=2.3						
WRA	**Warramunga Arr**	**58.80**	**188**	P	P	**06 10 30.4**	**-2.4**
	0.1nm,0.4s,mb3.2,baz=6.0,slow=7.1,SNR=5.2						
PDAR	**Pinedale Array**	**76.30**	**46**	P	P	**06 12 22.6**	**+0.4**
	0.4nm,0.6s,mb3.3,baz=315,slow=1.3,SNR=4.0						

*IDC **16** 06:21:03.4±1.4, 39.19N×74.49E, mb3.6/7, mb1 3.8/8, mb1mx3.6/22, mbtmp3.6/8, ML2.8/1, Error ellipse: s-maj=48.8km s-min=19.6km az=50.0*
*NNC **16** 06:21:04.1±17.0, 39.49N×74.66E, mpv3.8, Error ellipse: s-maj=180.7km s-min=84.4km az=127.0*
*NEIC **16** 06:21:05.1±1.0, 39.25N×74.48E, h10km, Error ellipse: s-maj=27.8km s-min=12.9km az=56.0*
*MOS **16** 06:21:06.2±0.3, 39.08N×74.28E, h33km, mb3.9/1, Error ellipse: s-maj=54.7km s-min=16.6km az=109.5*
ISC 16 06:21:07.2±2.4, 39.1N±0.2×74.3E±0.1, h41km±19km, n24, σ0=66/24, mb3.4/7, 3C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**3.02**	**13**	P	P	**06 21 53.8**	**-0.1**
	SNR=34						
AML	**Almayashu**	**3.03**	**351**	P	P	**06 21 53.8**	**-0.2**
	SNR=245						
UCH	**Uchtor**	**3.09**	**3**	P	P	**06 21 54.6**	**-0.2**
	SNR=82						
ULHL	**Ulahol**	**3.43**	**24**	P	P	**06 22 02.6**	**+3.0**
	SNR=32						
AAK	**Ala-Archa**	**3.50**	**2**	P	P	**06 22 00.8**	**+0.2**
	SNR=30						
AAK	**Ala-Archa**	**3.50**	**2**	⇑Pg	P	**06 22 00.7**	**+0.1**
	42nm,0.7s						
AAK				⇑Lg		06 22 42.3	
	102nm,0.9s						
AAK	**Ala-Archa**	**3.50**	**2**	PN	P	**06 22 00.6**	**0.0**
AAK				pmax	pmax		
	comp=Z,27nm,0.7s						
AAK				pmax	pmax		
	comp=Z,97nm,1.0s						
AAK	**Ala-Archa**	**3.50**	**2**	*e*P	P	**06 21 59.5**	**-1.1**
EKS2	**Erkin-Say**	**3.55**	**353**	P	P	**06 22 01.6**	**+0.3**
	SNR=26						
CHMS	**Chumysh**	**3.88**	**5**	P	P	**06 22 05.7**	**-0.2**
	SNR=8.5						
TKM2	**Tokmak 2**	**3.90**	**14**	P	P	**06 22 05.7**	**-0.6**
	SNR=38						
USP	**Ospenovka**	**4.13**	**2**	P	P	**06 22 15.6**	**+6.1**
	SNR=6.1						
KK31	**Karatay Array**	**4.90**	**325**	Pn	P	**06 22 20.4**	**0.0**
	comp=Z,2.6nm,0.3s,baz=130,slow=14,SNR=104						
KK31				⇑Lg		06 23 36.6	
	comp=Z,10nm,0.6s,baz=143,slow=28,SNR=4.1						
KKAR	**Karatay Array**	**4.90**	**325**	*i* PN	P	**06 22 20.3**	**-0.1**
KKAR						06 23 36.5	
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BVAR	**Borovoye Array**	**14.16**	**350**	Pn	P	**06 24 22.7**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=158,slow=8.0,SNR=4.4						
SONM	**Songino Array**	**24.70**	**59**	P	P	**06 26 25.1**	**-0.4**
	comp=Z,0.4nm,0.8s,mb3.0,baz=258,slow=13,SNR=2.7						
CMAR	**Chiang Mai Arr**	**29.66**	**127**	P	P	**06 27 11.1**	**-0.1**
	comp=Z,0.3nm,0.4s,mb3.4,baz=322,slow=8.4,SNR=4.1						
FINES	**FINESS Array B**	**36.86**	**323**	P	P	**06 28 12.7**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.6,baz=108,slow=11,SNR=5.1						
ARCES	**ARCESS Array B**	**39.78**	**336**	P	P	**06 28 37.1**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.6,baz=117,slow=8.1,SNR=4.8						
NB2	**NORSAR Subarra**	**43.92**	**321**	P	P	**06 29 11.7**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.6,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**43.92**	**321**	P	P	**06 29 13.1**	**+1.8**
	comp=Z,0.7nm,0.6s,mb3.5,baz=91,slow=7.9,SNR=4.5						
YKA	**Yellowknife Ar**	**78.47**	**4**	P	P	**06 33 04.8**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=348,slow=5.6,SNR=9.8						
YKA	**Yellowknife Ar**	**78.47**	**4**	P	P	**06 33 04.8**	**0.0**
WRA	**Warramunga Arr**	**81.22**	**124**	P	P	**06 33 20.6**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=328,slow=5.1,SNR=4.9						

*IDC **16** 06:23:13.0±1.1, 51.75N×175.42E, mb3.8/12, mb1 3.9/12, mb1mx3.8/25, mbtmp3.8/12, Error ellipse: s-maj=24.5km s-min=13.1km az=15.0*
*NEIC **16** 06:23:14.6±0.7, 51.80N×175.29E, h10km, mb4.6/1, Error ellipse: s-maj=15.1km s-min=8.8km az=186.0*
ISC 16 06:23:15.3±4.7, 51.8N±0.1×175.4E±0.1, h28km±32km, n22, σ0=75/24, mb3.8/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.23**	**321**	*e*P	**Pn**	**06 23 36.6**	**-0.3**
FX1	**Attu Island--F**	**1.74**	**310**	Pn	**Pn**	**06 23 44.2**	**-0.1**
	295nm,0.3s,baz=194,slow=7.5,SNR=152						
FX1				Sn	**Sn**	**06 24 06.3**	**+0.6**
	279nm,0.3s,baz=291,slow=23,SNR=19						
FX1	**Attu Island--F**	**1.74**	**310**	*e*P	**Pn**	**06 23 44.2**	**-0.1**
FX1				*e*S	**Sn**	**06 24 06.1**	**+0.3**
IMA	**Indian Mountai**	**21.13**	**36**	*e*P	P	**06 28 00.8**	**+0.8**
	24nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**23.29**	**42**	P	P	**06 28 21.4**	**+0.2**
	0.6nm,0.6s,mb3.2,baz=245,slow=9.2,SNR=9.7						
DAWY	**Dawson**	**26.35**	**45**	*e*P	P	**06 28 51.1**	**+0.7**
INK	**Inuvik**	**29.26**	**36**	P	P	**06 29 17.0**	**+0.2**
	0.8nm,0.5s,mb3.7,baz=248,slow=4.6,SNR=15						
YKA	**Yellowknife Ar**	**37.58**	**46**	P	P	**06 30 29.0**	**+0.3**
	0.3nm,0.6s,mb3.2,baz=286,slow=8.0,SNR=9.8						
YKA				PcP	PcP	06 32 46.9	+0.2
	0.1nm,0.6s,baz=290,slow=3.6,SNR=4.4						
SONM	**Songino Array**	**43.17**	**293**	P	P	**06 31 15.2**	**+0.3**
	0.4nm,0.5s,mb3.4,baz=56,slow=4.5,SNR=4.1						
ELK	**Elko**	**47.50**	**75**	P	P	**06 31 48.8**	**-0.9**
FRB	**Frobisher Bay**	**54.53**	**29**	P	P	**06 32 41.6**	**-0.9**
	1.2nm,0.4s,mb4.3,baz=346,slow=8.3,SNR=8.1						
ARCES	**ARCESS Array B**	**57.00**	**348**	P	P	**06 32 59.0**	**-1.3**
	2.1nm,0.8s,mb4.2,baz=34,slow=8.7,SNR=4.3						
ARCES	**ARCESS Array B**	**57.00**	**348**	P	P	**06 32 59.0**	**-1.3**
BVAR	**Borovoye Array**	**58.16**	**317**	P	P	**06 33 07.9**	**-0.7**
	0.9nm,0.4s,mb4.1,baz=56,slow=6.2,SNR=9.2						
SCHQ	**Schefferville**	**61.87**	**35**	P	P	**06 33 34.3**	**+0.3**
	2.2nm,0.7s,mb4.4,baz=339,slow=6.4,SNR=5.0						
FINES	**FINESS Array B**	**64.50**	**344**	P	P	**06 33 49.9**	**-1.2**
	0.2nm,0.4s,mb3.5,baz=126,slow=26,SNR=3.0						
FINES	**FINESS Array B**	**64.50**	**344**	P	P	**06 33 49.9**	**-1.2**
NB2	**NORSAR Subarra**	**66.82**	**352**	P	P	**06 34 05.8**	**-0.2**
	0.6nm,0.5s,mb3.9,baz=10.0,slow=6.2						
NOA	**NORSAR Array B**	**66.82**	**352**	P	P	**06 34 05.9**	**-0.1**
	0.6nm,0.5s,mb3.9,baz=12,slow=6.4,SNR=5.3						
WB2	**Warramunga Arr**	**79.90**	**219**	*e*P	P	**06 35 35.6**	**+12**
WRA	**Warramunga Arr**	**79.91**	**219**	P	P	**06 35 23.6**	**+0.4**
	0.4nm,0.7s,mb3.4,baz=34,slow=6.4,SNR=5.7						
BRTR	**Keskin Array B**	**82.95**	**331**	P	P	**06 35 40.5**	**+1.8**
	0.9nm,0.6s,mb4.0,baz=77,slow=4.4,SNR=4.8						

*BJI **16** 06:46:41.1, 0.40N×97.38E, h10km, mB4.8, mb4.9, Ms4.4, Msz4.1*
*IDC **16** 06:46:47.3±0.8, 1.20N×97.11E, mb4.3/15, mb1 4.4/16, mb1mx4.3/22, mbtmp4.3/16, ML4.7/1, MS3.6/2, Ms1 3.8/2, ms1mx3.2/22, Error ellipse: s-maj=32.1km s-min=14.0km az=51.0*
*MOS **16** 06:46:50.2±1.0, 1.16N×97.16E, h33km, mb4.8/10, Error ellipse: s-maj=19.5km s-min=9.4km az=91.5*
*NEIC **16** 06:46:51.8±0.5, 1.22N×97.19E, h30km, mb4.6/13, Error ellipse: s-maj=12.8km s-min=7.3km az=61.0*
ISC 16 06:46:51.5±1.5, 1.22N±0.06×97.25E±0.08, h40km±11km, h25km±3.5km; pP-P, n76, σ1=05/81, mb4.6/42, MS4.0/10, 3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.04**	**48**	P	P	**06 48 07.3**	**+0.8**
KULM	**Kulim**	**5.28**	**40**	*e*P	P	**06 48 09.7**	**-0.3**
KGM	**Kluang**	**6.12**	**82**	P	P	**06 48 23.1**	**+1.5**
SNG	**Songkhla**	**6.80**	**29**	P	P	**06 48 30.0**	**-1.4**
	160nm,0.9s						
KKTK	**Khon Kaen**	**15.99**	**20**	P	P	**06 50 37.5**	**+2.1**
CM31	**Chiang Mai Arr**	**17.21**	**5**	*e*P	P	**06 50 47.9**	**-2.7**
	8.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.21**	**5**	P	P	**06 50 49.4**	**-1.3**
	0.9nm,0.3s,baz=194,slow=13,SNR=25						
CMAR				LR	LR	06 57 37.8	
	comp=Z,152nm,21.6s,baz=190,slow=38						
CHG	**Chiang Mai**	**17.57**	**5**	P	P	**06 50 54.5**	**-0.6**
NANT	**Nan**	**17.80**	**11**	⇑P	P	**06 50 58.0**	**0.0**
	194nm,0.9s						
QIZ	**Qiongzhong**	**21.58**	**34**	*e*P	P	**06 51 40.8**	**+1.0**
QIZ				*e*S	S	**06 55 31.3**	**-0.3**
QIZ				LR	LR		
	comp=N,230nm,13.4s,MS4.0						
QIZ				LR	LR		
	comp=E,299nm,13.1s,MS4.0						
QIZ				LR	LR		
	comp=Z,214nm,12.8s,MS3.7						
KMI	**Kunming**	**24.35**	**12**	P	P	**06 52 09.0**	**+2.0**
KMI				AP		06 52 16.3	
KMI				XP		06 52 19.8	
KMI				PP	PP	06 52 45.6	+2.6
KMI				S	S	**06 56 25.6**	**+4.7**
KMI				XS		06 56 38.3	
KMI				AMB	AMB		
	comp=Z,34nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,82nm,3.1s						
KMI				LR	LR		
	comp=N,536nm,16.6s,MS4.2						
KMI				LR	LR		
	comp=E,220nm,14.3s,MS4.2						
KMI				LR	LR		
	comp=Z,548nm,15.7s,MS4.1						
KMI	**Kunming**	**24.35**	**12**	P	P	**06 52 09.0**	**+2.0**
KMI				*PP		06 52 16.3	
KMI				*SP		06 52 19.8	
KMI						06 52 45.6	
KMI				S	S	**06 56 25.6**	**+4.7**
KMI				*SS		06 56 38.2	
KMI				SS	SS	06 57 12.9	-3.2
KMI				pmax	pmax		
	comp=Z,34nm,1.2s,mb4.7						
KMI				MLR	MLR		
	comp=Z,550nm,15.7s,MS4.2						
KMI	**Kunming**	**24.35**	**12**	P	P	**06 52 09.0**	**+2.0**
	comp=Z,34nm,1.2s,mb4.7						
KMI				pP		06 52 16.3	
KMI				sP		06 52 19.8	
KMI				PP	PP	06 52 45.6	+2.6
KMI				S	S	**06 56 25.6**	**+4.7**
KMI				sS		06 56 38.2	
KMI				SS	SS	06 57 12.9	-3.2
KMI				LR	LR		
	comp=Z,550nm,15.7s,MS4.2						
SHL	**Shillong**	**24.75**	**348**	*e*P	P	**06 52 11.0**	**0.0**
GYA	**Guiyang**	**26.68**	**19**	⇓*i*P	P	**06 52 27.8**	**-1.2**
GYA				AP	pP	06 52 34.6	-5.1
GYA				XP	sP	06 52 37.9	-6.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,90nm,5.7s						
GYA				LR	LR		
	comp=N,360nm,16.2s,MS4.1						
GYA				LR	LR		
	comp=E,230nm,15.1s,MS4.1						
GYA				LR	LR		
	comp=Z,920nm,14.1s,MS4.5						
PKI	**Pulchoki**	**28.56**	**338**	*e*P	P	**06 52 46.4**	**+0.5**
	comp=Z,23nm,0.9s,mb4.9						
GUN	**Gumba**	**28.69**	**339**	*e*P	P	**06 52 48.1**	**+1.0**
	comp=Z,60nm,0.7s,mb5.4						
DMN	**Daman**	**28.71**	**337**	*e*P	P	**06 52 47.4**	**+0.1**
	comp=Z,42nm,1.1s,mb5.1						
KKN	**Kakani**	**28.80**	**338**	*e*P	P	**06 52 48.6**	**+0.5**
	comp=Z,29nm,0.7s,mb5.1						
LSA	**Lhasa**	**28.91**	**349**	*e*P	P	**06 52 50.6**	**+1.5**
GKN	**Gorkha**	**29.24**	**337**	*e*P	P	**06 52 52.8**	**+0.7**
	comp=Z,29nm,0.8s,mb5.1						
KOLN	**Koldanda**	**29.46**	**335**	*e*P	P	**06 52 54.9**	**+0.9**
	comp=Z,29nm,0.7s,mb5.1						
ENH	**Enshi**	**31.14**	**21**	*e*P	P	**06 53 07.6**	**-1.4**
	comp=Z,22nm,0.6s,mb5.2						
ENH				*e*pP	pP	06 53 14.9	-5.0
FITZ	**Fitzroy Crossi**	**33.90**	**126**	*e*P	P	**06 53 32.4**	**-0.6**
	comp=Z,4.1nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.90**	**126**	P	P	**06 53 32.5**	**-0.5**
	comp=Z,5.9nm,0.9s,mb4.5,baz=292,slow=5.3,SNR=11						
XAN	**Xi'an**	**34.43**	**17**	P	P	**06 53 36.3**	**-1.1**
XAN				AP	pP	06 53 40.3	-8.2
XAN				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2	**Nanjing**	**36.82**	**31**	*e*P	P	**06 53 54.9**	**-2.8**
NJ2				AP	pP	06 54 04.9	-4.0
NJ2				XP	sP	06 54 08.8	-5.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,70nm,10.6s						
NJ2				LR	LR		
	comp=N,490nm,19.7s,MS4.4						
NJ2				LR	LR		
	comp=E,340nm,19.3s,MS4.4						
NJ2				LR	LR		
	comp=Z,240nm,14.2s						
SSE	**Sheshan**	**37.37**	**35**	*e*P	P	**06 53 58.8**	**-3.5**
SSE				AP	pP	06 54 07.3	-6.2
SSE				XP	sP	06 54 11.3	-7.2
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,57nm,7.7s						
SSE				LR	LR		
	comp=N,130nm,17.4s,MS3.8						
SSE				LR	LR		
	comp=E,46nm,17.4s,MS3.8						
SSE				LR	LR		
	comp=Z,196nm,14.5s,MS4.0						
SSE	**Sheshan**	**37.37**	**35**	*e*P	P	**06 53 58.8**	**-3.5**
	comp=Z,39nm,0.7s,mb5.3						
SSE				pP	pP	06 54 07.3	-6.2
SSE				sP	sP	06 54 11.2	-7.3
SSE				S	S	**06 59 39.0**	**-8.1**
SSE				sS		06 59 53.0	
SSE				SS	SS	07 02 20.7	+0.2
SSE				LR	LR		
	comp=Z,200nm,14.5s,MS4.0						
KAKA	**Kakadu**	**37.56**	**113**	*e*P	P	**06 54 02.8**	**-1.3**
	comp=Z,4.1nm,0.6s,mb4.3						
GTA	**Gaotai**	**38.08**	**3**	P	P	**06 54 09.0**	**+0.8**
GTA				AP	pP	06 54 16.3	-3.1
GTA				XP	sP	06 54 19.8	-4.6
GTA				PP	PP	06 55 36.5	-2.5
GTA				SCS	ScS	07 04 20.4	+5.9
GTA				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,55nm,8.0s						
GTA				LR	LR		
	comp=N,249nm,16.3s,MS4.3						
GTA				LR	LR		
	comp=E,283nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=Z,170nm,21.7s						
JOW	**Kunigami**	**39.19**	**47**	P	P	**06 54 17.6**	**+0.1**
	comp=Z,20nm,0.7s,mb4.9,baz=244,slow=7.4,SNR=6.1						
HHC	**Hu-ho-hao-te**	**41.53**	**16**	*e*P	P	**06 54 38.1**	**+1.3**
HHC				AP	pP	06 54 47.6	-0.4
HHC				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.3						
HHC				AMB	AMB		
	comp=Z,86nm,5.4s						
WRA	**Warramunga Arr**	**42.00**	**122**	P	P	**06 54 40.7**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.2,baz=301,slow=9.1,SNR=79						
WRAB	**Tennant Creek**	**42.01**	**122**	*e*P	P	**06 54 41.0**	**0.0**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**42.01**	**122**	*e*P	P	**06 54 41.0**	**+0.1**
	comp=Z,7.2nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**42.01**	**122**	⇓*i*P	P	**06 54 41.1**	**+0.1**
BJT	**Baijiatuau**	**42.28**	**22**	*e*P	P	**06 54 43.8**	**+0.8**
BJT				pmax	pmax		
	comp=Z,14nm,0.7s						
BJT	**Baijiatuau**	**42.28**	**22**	*e*P	P	**06 54 43.8**	**+0.8**
	comp=Z,14nm,0.7s,mb4.7						
BJI	**Beijing**	**42.30**	**22**	*e*P	P	**06 54 44.0**	**+0.8**
BJI				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.7						
BJI	**Beijing**	**42.30**	**22**	*e*P	P	**06 54 44.0**	**+0.8**
	comp=Z,16nm,0.8s,mb4.7						
WMQ	**Urumqi**	**43.26**	**350**	⇑P	P	**06 54 52.3**	**+1.3**
WMQ				AP	pP	06 55 02.3	+0.1
WMQ				PP	PP	06 56 35.1	+1.4
WMQ				PCP	PcP	06 56 41.9	+1.8
WMQ				*e*S	S	**07 01 16.4**	**+1.5**
WMQ				XS		07 01 32.8	
WMQ				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,86nm,4.7s						
WMQ				LR	LR		
	comp=N,63nm,24.0s,MS3.7						
WMQ				LR	LR		
	comp=E,97nm,25.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,49nm,23.0s,MS3.3						
ASAR	**Alice Springs**	**43.37**	**127**	P	P	**06 54 52.6**	**+0.6**
	comp=Z,1.5nm,0.5s,mb4.0,baz=302,slow=7.7,SNR=23						
KS15	**Wonju Array Si**	**45.77**	**34**	*e*P	P	**06 55 11.5**	**+0.3**
AAK	**Ala-Archa**	**46.00**	**337**	*e*P	P	**06 55 12.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**46.00**	**337**	*e*P	P	**06 55 12.9**	**0.0**
	comp=Z,5.5nm,1.1s,mb4.4						
SONM	**Songino Array**	**47.11**	**8**	P	P	**06 55 21.8**	**+0.3**
	comp=Z,4.9nm,0.8s,mb4.5,baz=188,slow=8.7,SNR=30						
SONM				PcP	PcP	06 56 53.8	+0.5
	comp=Z,1.3nm,0.6s,baz=182,slow=3.6,

BOD	**Bodaibo**	**57.98**	**10**	*e*P		**P**	**06 56 41.8**	**-0.6**
BOD				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.7							
YSS	**Yuzh-Sakhalins**	**60.30**	**34**	P		**P**	**06 56 58.6**	**0.0**
YSS				*e*			06 57 07.1	
ARU	**Arti**	**63.19**	**337**	*i* P		**P**	**06 57 15.3**	**-2.5**
KIV	**Kislovodsk**	**64.33**	**319**	*i* P		**P**	**06 57 32.0**	**+6.6**
KIV				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.6							
YAK	**Yakutsk**	**65.39**	**16**	*i* P		**P**	**06 57 31.5**	**-0.5**
YAK				pmax		pmax		
	comp=Z,29nm,0.9s,mb5.3							
YAK				MLR		MLR		
	comp=Z,100nm,24.0s,MS3.9							
ANN	**Anapa**	**68.12**	**318**	*e*P		**P**	**06 57 36.6**	**-13**
BRTR	**Keskin Array B**	**69.14**	**312**	P		**P**	**06 57 54.6**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=129,slow=7.9,SNR=3.8							
OBN	**Obninsk**	**72.63**	**328**	*e*P		**P**	**06 58 23.1**	**+6.4**
OBN				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
TIXI	**Tiksi**	**73.16**	**10**	*i* P		**P**	**06 58 19.1**	**-0.4**
AKASG	**Malin Array Be**	**75.28**	**322**	P		**P**	**06 58 31.4**	**-0.8**
	comp=Z,0.5nm,0.4s,mb3.8,baz=88,slow=4.8,SNR=5.1							
FINES	**FINESS Array B**	**80.01**	**332**	P		**P**	**06 58 58.5**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=90,slow=5.7,SNR=6.2							
ARCES	**ARCESS Array B**	**82.54**	**340**	P		**P**	**06 59 11.4**	**+0.2**
	comp=Z,2.6nm,0.9s,mb4.2,baz=304,slow=4.4,SNR=4.9							
ARCES				LR		LR	07 44 11.4	
	comp=Z,52nm,18.0s,MS3.9,baz=230,slow=42							
GERES	**GERESS Array B**	**84.83**	**319**	P		**P**	**06 59 24.1**	**+0.8**
	comp=Z,0.3nm,0.4s,mb3.8,baz=127,slow=6.7,SNR=5.7							
NB2	**NORSAR Subarra**	**87.02**	**331**	P		**P**	**06 59 33.6**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.9,baz=96,slow=5.0							
NB2	**NORSAR Subarra**	**87.02**	**331**	P		**P**	**06 59 33.6**	**-0.1**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.2							
NOA	**NORSAR Array B**	**87.02**	**331**	P		**P**	**06 59 33.4**	**-0.3**
	comp=Z,1.0nm,0.8s,mb4.1,baz=93,slow=4.7,SNR=4.8							
NOA	**NORSAR Array B**	**87.02**	**331**	P		**P**	**06 59 33.4**	**-0.3**
JCT	**Junction City**	**144.54**	**26**	*e*PKPdf		PKPdf	07 06 25.8	+1.4

IDC 16 06:48:53.5±2.6, 6.71N×74.35W, h179km±19km, mb2.7/2, mb1 3.0/2, mb1mx2.8/18, mbtmp3.1/2, Error ellipse: s-maj=117.2km s-min=25.3km az=75.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.84**	**179**	P		P	06 49 30.4	+1.3
	16nm,0.3s,baz=68,slow=7.8,SNR=83							
ROSC				S		S	06 49 57.2	+0.6
	12nm,0.3s,baz=103,slow=15,SNR=11							
LPAZ	**La Paz**	**23.66**	**165**	P		P	06 53 49.4	-0.6
	0.4nm,0.4s,baz=8.1,slow=7.1,SNR=4.4							
YKA	**Yellowknife Ar**	**62.95**	**340**	P		P	06 59 00.3	-2.6
	0.1nm,0.5s,baz=132,slow=6.6,SNR=6.8							
WRA	**Warramunga Arr**	**149.21**	**242**	PKPbc		PKPdf	07 08 21.6	+4.5
	0.1nm,0.4s,baz=108,slow=2.8,SNR=7.0							

*IDC **16** 07:08:52.8±0.7, 49.04S×124.49E, mb4.3/12, mb1 4.5/12, mb1mx4.4/15, mbtmp4.3/12, MS4.1/10, Ms1 4.1/10, ms1mx3.9/15, Error ellipse: s-maj=34.6km s-min=14.8km az=112.0*

*NEIC **16** 07:08:54.5±0.4, 49.08S×124.70E, h10km, mb4.3/4, Error ellipse: s-maj=19.8km s-min=7.8km az=105.0*

ISC 16 07:08:52.5±0.5, 49.10S±0.07×124.8E±0.2, h10km, n43, σ1§09/39, mb4.2/14, MS4.0/9, 5C, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.11**	**338**	Pn		**P**	**07 12 55.0**	**+1.7**
	0.7nm,0.3s,baz=161,slow=14,SNR=5.5							
NWAO				LR		LR	07 17 55.9	
	comp=Z,515nm,18.2s,baz=74,slow=32							
FORT	**Forrest**	**18.46**	**9**	*e*P		**P**	**07 13 11.9**	**+1.7**
	439nm,0.7s							
STKA	**Stephens Creek**	**21.35**	**43**	*e*P		**P**	**07 13 43.1**	**+1.1**
	8.8nm,0.9s,mb4.1							
STKA	**Stephens Creek**	**21.35**	**43**	P		**P**	**07 13 43.1**	**+1.1**
	6.6nm,0.7s,mb4.0,baz=199,slow=12,SNR=14							
STKA				LR		LR	07 20 31.0	
	comp=Z,545nm,22.0s,MS3.9,baz=208,slow=33							
ASPA	**Alice Springs**	**26.38**	**19**	*e*P		**P**	**07 14 29.9**	**-0.8**
ASAR	**Alice Springs**	**26.38**	**19**	P		**P**	**07 14 30.2**	**-0.5**
	6.2nm,0.9s,mb4.2,baz=190,slow=9.5,SNR=46							
ASAR				PcP		PcP	07 17 56.3	-0.7
	0.8nm,0.9s,baz=191,slow=2.5,SNR=4.5							
ASAR				LR		LR	07 23 40.3	
	comp=Z,552nm,21.1s,MS4.1,baz=189,slow=34							
WRA	**Warramunga Arr**	**30.08**	**18**	P		**P**	**07 15 02.7**	**-1.6**
	1.2nm,0.8s,mb3.6,baz=197,slow=8.5,SNR=5.7							
WRA				PcP		PcP	07 18 05.2	-0.9
	1.4nm,0.9s,baz=204,slow=2.8,SNR=6.5							
WRAB	**Tennant Creek**	**30.09**	**18**	P		**P**	**07 15 03.1**	**-1.2**
	5.4nm,1.1s,mb4.2							
FITZ	**Fitzroy Crossi**	**30.93**	**2**	*e*P		**P**	**07 15 10.8**	**-0.9**
	5.1nm,0.8s,mb4.4							
FITZ	**Fitzroy Crossi**	**30.93**	**2**	P		**P**	**07 15 10.6**	**-1.0**
	8.2nm,0.9s,mb4.5,baz=180,slow=14,SNR=6.6							
FITZ				LR		LR	07 26 48.8	
	comp=Z,319nm,18.2s,MS4.0,baz=136,slow=35							
VNDA	**Vanda**	**31.83**	**166**	P		**P**	**07 15 20.0**	**+0.9**
	0.9nm,0.8s,mb3.7,baz=305,slow=10.0,SNR=4.6							
CTA	**Charters Tower**	**33.67**	**38**	P		**P**	**07 15 35.7**	**0.0**
	5.0nm,0.9s,mb4.4,baz=211,slow=12,SNR=3.2							
CTA				LR		LR	07 29 08.7	
	comp=Z,404nm,18.0s,MS4.2,baz=224,slow=36							
MAW	**Mawson**	**35.44**	**216**	P		**P**	**07 15 48.9**	**-1.5**
	3.6nm,0.6s,mb4.5,baz=180,slow=5.1,SNR=6.0							
MAW				LR		LR	07 27 52.3	
	comp=Z,178nm,19.1s,MS3.8,baz=78,slow=32							
KAKA	**Kakadu**	**36.83**	**13**	*e*P		**P**	**07 16 01.6**	**-1.0**
	5.3nm,0.8s,mb4.4							
PMG	**Port Moresby**	**43.77**	**33**	LR		LR	07 34 12.3	
	comp=Z,156nm,19.1s,MS3.9,baz=308,slow=35							
SNAA	**Sanae**	**53.99**	**198**	⇑*i*		**P**	**07 18 18.1**	**-0.1**
SNAA	**Sanae**	**53.99**	**198**	*e*		**P**	**07 18 19.4**	**+1.2**
SNAA	**Sanae**	**53.99**	**198**	*e*		**P**	**07 18 24.7**	**+6.5**
SNAA	**Sanae**	**53.99**	**198**	*e*		**P**	**07 18 26.0**	**+7.8**
SNAA	**Sanae**	**53.99**	**198**	*e*		**P**	**07 18 33.5**	**+15**
SNAA	**Sanae**	**53.99**	**198**	P		**P**	**07 18 17.6**	**-0.6**
	3.4nm,0.8s,mb4.3,baz=155,slow=8.7,SNR=13							
SNAA				LR		LR	07 39 58.6	
	comp=Z,162nm,21.6s,MS4.0,baz=140,slow=35							
SNAA	**Sanae**	**53.99**	**198**	⇑*i*P		**P**	**07 18 18.1**	**-0.1**
VNA2	**Neumayer--Watz**	**55.48**	**197**	⇑*i*		**P**	**07 18 28.6**	**-0.6**
VNA2	**Neumayer--Watz**	**55.48**	**197**	*e*		**P**	**07 18 30.2**	**+1.0**
VNA2	**Neumayer--Watz**	**55.48**	**197**	*e*		**P**	**07 18 36.0**	**+6.8**
VNA2	**Neumayer--Watz**	**55.48**	**197**	*e*		**P**	**07 18 37.1**	**+7.9**
VNA2	**Neumayer--Watz**	**55.48**	**197**	*e*		**P**	**07 18 44.6**	**+15**
VNA3	**Neumayer Olymp**	**55.65**	**196**	⇑*i*		**P**	**07 18 30.0**	**-0.4**
VNA3	**Neumayer Olymp**	**55.65**	**196**	*e*		**P**	**07 18 31.6**	**+1.2**
VNA3	**Neumayer Olymp**	**55.65**	**196**	*e*		**P**	**07 18 37.2**	**+6.8**
VNA1	**Neumayer--Stat**	**55.88**	**197**	*e*		**P**	**07 18 34.8**	**+2.8**
VNA1	**Neumayer--Stat**	**55.88**	**197**	*e*		**P**	**07 18 39.3**	**+7.3**
VNA1	**Neumayer--Stat**	**55.88**	**197**	*e*		**P**	**07 18 40.2**	**+8.2**
VNA1	**Neumayer--Stat**	**55.88**	**197**	*e*		**P**	**07 18 47.9**	**+16**
VNA1	**Neumayer--Stat**	**55.88**	**197**	⇑*i*P		**P**	**07 18 33.2**	**+1.2**
VNA1				*e*		pP	07 18 34.8	-0.3
CMAR	**Chiang Mai Arr**	**71.07**	**334**	P		**P**	**07 20 12.7**	**-0.2**
	2.1nm,1.0s,mb4.0,baz=184,slow=4.8,SNR=14							
CMAR				LR		LR	07 50 08.8	
	comp=Z,73nm,18.0s,MS4.0,baz=155,slow=35							
BOSA	**Boshof**	**74.72**	**244**	P		**P**	**07 20 33.5**	**-0.6**
	1.8nm,0.6s,mb4.2,baz=118,slow=7.8,SNR=4.2							
BOSA				LR		LR	07 47 21.6	
	comp=Z,155nm,18.2s,MS4.3,baz=298,slow=31							
MJAR	**Matsushiro Arr**	**86.09**	**11**	P		**P**	**07 21 35.0**	**+0.5**
	4.9nm,0.9s,mb4.7,baz=191,slow=6.3,SNR=10							
MJAR	**Matsushiro Arr**	**86.09**	**11**	P		**P**	**07 21 35.0**	**+0.5**
SONM	**Songino Array**	**97.85**	**348**	P		**P**	**07 22 30.1**	**+1.3**
	0.2nm,0.4s,mb4.0,baz=170,slow=7.5,SNR=3.8							
YKA	**Yellowknife Ar**	**145.38**	**45**	PKPbc		PKPbc	07 28 31.6	+1.8
	5.3nm,0.9s,baz=268,slow=3.3,SNR=86							
YKA	**Yellowknife Ar**	**145.38**	**45**	PKPbc		PKPbc	07 28 31.6	+1.8
RES	**Resolute Bay**	**149.43**	**19**	*e*PKPdf		PKPdf	07 28 42.4	+3.7

*CSEM **16** 07:21:42.8±0.1, 40.83N×27.89E, h26km, MD2.7, Error ellipse: s-maj=3.3km s-min=2.4km az=116.0*

ISK 16 07:21:42.7, 40.82N×27.84E, h23km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MRMT	**Marmara Adasi**	**0.28**	**221**	PG		Pb	07 21 49.0	-0.3
BNT	**Bandirma**	**0.46**	**172**	PG		Pb	07 21 53.1	+0.9
EDC	**Edincik**	**0.47**	**178**	PG		Pb	07 21 53.1	+0.9
EDC				SG		Sb	07 21 59.5	+0.7
CTT	**Catalca**	**0.56**	**53**	*e*PG		Pb	07 21 54.0	+0.3
KCT	**Karacabey**	**0.68**	**144**	PG		Pb	07 21 56.9	+1.2
LPK	**Lapseki**	**0.93**	**242**	*e*PG		Pb	07 22 01.1	+1.0
ISK	**Istanbul-Kandi**	**0.96**	**74**	*e*PG		Pb	07 22 01.0	+0.5
ISK				*e*SG		Sb	07 22 14.5	+1.8
BALB	**Balikesir**	**1.17**	**178**	*e*PN		Pn	07 22 05.1	+1.2
YLV	**Yalova**	**1.19**	**102**	*e*PN		Pn	07 22 04.4	+0.2
EDRB	**Edirne**	**1.32**	**322**	*e*PN		Pn	07 22 06.5	+0.5
DST	**Dursunbey**	**1.35**	**153**	*e*PN		Pn	07 22 06.8	+0.4
HRT	**Hereke**	**1.39**	**89**	*e*PN		Pn	07 22 06.9	-0.1

*NIED **16** 07:21:00, 43.90N×148.30E, h35km, Mw4.1 Best double couple: $M_0$1.75×10^{15} NP1:φs46°, δ76°, λ88°. NP2:φs236°, δ14°, λ100°.*

*SKHL **16** 07:21:51.4±3.7, 44.11N×148.70E, h33km±9km, mb4.9/3*

*MOS **16** 07:21:52.0±1.5, 44.14N×148.61E, h35km, mb4.8/6, Error ellipse: s-maj=14.0km s-min=10.2km az=80.2*

*JMA **16** 07:21:52.6±0.3, 43.93N×148.27E, M4.7*

*IDC **16** 07:21:55.6±6.1, 44.30N×148.35E, h38km±59km, mb3.8/14, mb1 4.0/15, mb1mx3.9/24, mbtmp4.0/15, ML3.9/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/36, Error ellipse: s-maj=42.2km s-min=18.0km az=171.0*

*NEIC **16** 07:21:55.8±1.6, 44.17N×148.40E, h49km±15km, mb4.4/6, Error ellipse: s-maj=17.5km s-min=11.6km az=157.0*

ISC 16 07:21:53.8±1.0, 44.24N±0.05×148.43E±0.08, h43km±9km, n63, σ1§20/76, mb4.1/20, MS3.9/1, 6C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.07**	**338**	*i* S		**S**	**07 22 25.6**	**-1.0**
KUR				A			07 22 26.4	
	9μm,1.6s							
KUR				A			07 22 26.4	
	5μm,1.6s							
KUR				A			07 22 33.0	
	1μm,0.5s							
KUR				A			07 22 33.0	
	433nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.86**	**265**	⇑*i*PN		**P**	**07 22 22.6**	**-1.1**
YUK				S		**S**	**07 22 46.0**	**-0.1**
YUK				pmax		pmax		
	comp=Z,1μm,0.5s							
YUK				pmax		pmax		
	comp=Z,1μm,0.3s							
YUK				pmax		pmax		
	comp=N,610nm,0.2s							
YUK				pmax		pmax		
	comp=E,450nm,0.4s							
YUK				smax				
	comp=N,3μm,0.5s							
YUK				smax				
	comp=E,2μm,0.7s							
YUK				smax				
	comp=N,3μm,0.4s							
YUK				smax				
	comp=E,2μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.86**	**265**	⇑*i*P		**P**	**07 22 22.6**	**-1.1**
YUK				AMB		AMB	07 22 27.9	
	comp=E,1μm,0.5s							
YUK				AMB		AMB	07 22 29.1	
	comp=E,610nm,0.1s							
YUK				AMB		AMB	07 22 29.1	
	comp=E,1μm,0.3s							
YUK				AMB		AMB	07 22 29.1	
	comp=E,450nm,0.3s							
YUK				*e*S		**S**	**07 22 46.0**	**-0.1**
YUK				A			07 22 51.4	
	comp=E,2μm,0.7s							
YUK				A			07 22 51.4	
	comp=E,3μm,0.5s							
YUK				A			07 22 51.8	
	comp=E,2μm,0.5s							
YUK				A			07 22 51.8	
	comp=E,3μm,0.4s							
NEM2	**Nemuro 2**	**2.13**	**247**	P		**P**	**07 22 27.1**	**-0.5**
NEM2				*e*S		**S**	**07 22 51.9**	**-1.0**
JRA	**Rausu**	**2.40**	**264**	P		**P**	**07 22 32.3**	**+0.8**
JRA				*e*S		**S**	**07 23 01.5**	**+1.7**
JNK	**Nakash**	**2.76**	**258**	P		**P**	**07 22 36.7**	**+0.1**
JNK				*e*S		**S**	**07 23 08.9**	**0.0**
JAK	**Akkeshi**	**2.98**	**247**	P		**P**	**07 22 38.8**	**-0.9**
JAK				*e*S		**S**	**07 23 12.9**	**-1.6**
JTKR	**Abashiri--Toko**	**3.27**	**267**	P		**P**	**07 22 44.4**	**+0.6**
JAR	**Ashorobuto**	**3.50**	**256**	P		**P**	**07 22 47.5**	**+0.4**
JAR				*e*S		**S**	**07 23 27.5**	**-0.3**
JCH	**Churui**	**4.03**	**248**	P		**P**	**07 22 54.6**	**0.0**
JCH				*e*S		**S**	**07 23 40.3**	**-0.8**
JKK2	**Kamakawa 2**	**4.11**	**267**	P		**P**	**07 22 57.9**	**+2.2**
ASAJ	**Asahikawa**	**4.20**	**270**	PN		**P**	**07 22 59.5**	**+2.6**
ASAJ							07 23 53.5	
ASAJ				pmax		pmax		
	comp=Z,7.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,397nm,19.7s							
ASAJ	**Asahikawa**	**4.20**	**270**	Pn		**P**	**07 22 59.5**	**+2.6**
	comp=Z,7.2nm,0.3s,baz=89,slow=14,SNR=18							
ASAJ				Sn		**S**	**07 23 53.5**	**+8.2**
	comp=Z,4.2nm,0.3s,baz=334,slow=32,SNR=2.9							
ASAJ				LR		LR	07 24 42.0	
	comp=Z,397nm,19.7s,baz=70,slow=40							
JSE	**Soyaes**	**4.24**	**282**	P		**P**	**07 22 59.7**	**+2.2**
JFR	**Furan**	**4.36**	**258**	P		**P**	**07 23 01.3**	**+2.0**
JFR				*e*S		**S**	**07 23 51.9**	**+2.4**
JNBK	**Urakawa-nobuka**	**4.58**	**247**	P		**P**	**07 23 02.4**	**0.0**
JNBK				*e*S		**S**	**07 23 55.6**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.82**	**306**	*e*PN		**P**	**07 23 06.9**	**+1.1**
YSS	**Yuzh-Sakhalins**	**4.82**	**306**	*e*P		**P**	**07 23 06.8**	**+1.0**
YSS				AMB		AMB	07 23 08.6	
	comp=Z,20nm,0.5s							
YSS				*e*S		**S**	**07 23 58.9**	**-2.2**
YSS				A			07 23 59.8	
	comp=Z,30nm,1.0s							
YSS				*e*L			07 24 37.0	
JKB	**Kayabe**	**5.90**	**249**	P		**P**	**07 23 20.4**	**-0.5**
JKB				*e*S		**S**	**07 24 24.3**	**-3.9**
JOT	**Ohata**	**6.13**	**245**	P		**P**	**07 23 23.1**	**-1.0**
JOT				*e*S		**S**	**07 24 29.5**	**-4.3**
JANG	**Nango**	**6.41**	**235**	P		**P**	**07 23 25.2**	**-2.9**
JANG				*e*S		**S**	**07 24 32.1**	**-8.8**
SKR	**Severo-Kuril's**	**8.29**	**36**	*e*P		**P**	**07 23 50.0**	**-4.2**
MJAR	**Matsushiro Arr**	**10.94**	**229**	Pn		**P**	**07 24 27.5**	**-3.0**
	comp=Z,0.9nm,0.3s,baz=30,slow=14,SNR=7.8							
ZEA	**Zeya**	**16.78**	**312**	*e*P		**P**	**07 25 45.8**	**-1.1**
ZEA				AMB		AMB	07 25 47.8	
	comp=Z,12nm,1.0s							
CBIJ	**Chichi jima**	**17.83**	**198**	LR		LR	07 31 39.1	
	comp=Z,69nm,20.3s,baz=324,slow=33							
SONM	**Songino Array**	**29.14**	**292**	P		**P**	**07 27 53.1**	**+0.5**
	comp=Z,0.7nm,0.3s,mb3.8,baz=80,slow=7.8,SNR=7.8							
IMA	**Indian Mountai**	**37.76**	**34**	*e*P		**P**	**07 29 07.5**	**+0.6**
IMA				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.7							
IMA	**Indian Mountai**	**37.76**	**34**	*e*P		**P**	**07 29 07.5**	**+0.6**
	comp=Z,10nm,0.6s,mb4.7							
MCK	**McKinley**	**39.69**	**38**	P		**P**	**07 29 22.0**	**-0.9**
MCK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb3.8							
MCK	**McKinley**	**39.69**	**38**	P		**P**	**07 29 22.0**	**-0.8**
	comp=Z,1.8nm,1.0s,mb3.8							
COLA	**College**	**40.14**	**36**	P		**P**	**07 29 27.4**	**+0.8**
INK	**Inuvik**	**45.52**	**31**	*e*P		**P**	**07 30 10.7**	**+0.4**
INK				pmax		pmax		
	comp=Z,2.0nm,0.5s							
INK	**Inuvik**	**45.52**	**31**	P		**P**	**07 30 11.0**	**+0.7**
	comp=Z,1.4nm,0.3s,mb4.3,baz=297,slow=5.4,SNR=38							
INK	**Inuvik**	**45.52**	**31**	*e*P		**P**	**07 30 10.7**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.2							
CMAR	**Chiang Mai Arr**	**48.54**	**254**	P		**P**	**07 30 35.6**	**+1.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=45,slow=7.1,SNR=3.0							
DLBC	**Dease Lake**	**49.70**	**43**	P		**P**	**07 30 44.7**	**+1.7**
	comp=Z,3.2nm,1.0s,mb4.3,baz=263,slow=8.2,SNR=5.1							
BVAR	**Borovoye Array**	**49.91**	**309**	P		**P**	**07 30 45.0**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.8,baz=76,slow=5.9,SNR=3.8							
RES	**Resolute Bay**	**54.24**	**17**	*e*P		**P**	**07 31 15.9**	**-1.0**
YKA	**Yellowknife Ar**	**54.89**	**34**	P		**P**	**07 31 21.4**	**-0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=299,slow=6.9,SNR=33							
YKA				PcP		PcP	07 32 22.6	-0.7
	comp=Z,0.2nm,0.4s,baz=304,slow=3.6,SNR=4.3							
YKA	**Yellowknife Ar**	**54.89**	**34**	P		**P**	**07 31 21.4**	**-0.3**
YKA				PcP		PcP	07 32 22.6	-0.7
ARCES	**ARCESS Array B**	**59.11**	**340**	P		**P**	**07 31 50.5**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=49,slow=7.5,SNR=8.3							
NEW	**Newport**	**61.32**	**49**	LR		LR	07 56 59.3	
	comp=Z,75nm,18.8s,MS3.9,baz=64,slow=34							
JOF	**Joensuu**	**62.09**	**333**	*ep*		**P**	**07 32 09.4**	**-2.5**
	comp=Z,1.5nm,0.4s,mb4.5							
KAF	**Kangasniemi**	**64.29**	**334**	*ep*		**P**	**07 32 23.6**	**-2.7**
	comp=Z,1.1nm,0.5s,mb4.1,baz=41,slow=6.2							
KAF	**Kangasniemi**	**64.29**	**334**	*e*P		**P**	**07 32 23.6**	**-2.7**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
FINES	**FINESS Array B**	**64.86**	**333**	P		**P**	**07 32 29.1**	**-0.9**
	comp=Z,1.7nm,0.6s,mb4.3,baz=37,slow=9.5,SNR=13							
FCC	**Fort Churchill**	**65.14**	**31**	*e*P		**P**	**07 32 30.8**	**-1.1**
FCC				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.6							
FCC	**Fort Churchill**	**65.14**	**31**	*e*P		**P**	**07 32 30.8**	**-1.1**
	comp=Z,4.4nm,0.6s,mb4.7							
NVAR	**Mina Array Bea**	**66.54**	**59**	P		**P**	**07 32 42.0**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.9,baz=276,slow=3.5,SNR=7.1							
PDAR	**Pinedale Array**	**68.89**	**51**	P		**P**	**07 32 55.5**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=286,slow=1.5,SNR=4.5							
NB2	**NORSAR Subarra**	**69.48**	**339**	P		**P**	**07 32 58.4**	**-0.6**
	comp=Z,2.6nm,0.5s,mb4.4,baz=30,slow=6.2							
NOA	**NORSAR Array B**	**69.48**	**339**	P		**P**	**07 32 58.5**	**-0.5**
	comp=Z,3.4nm,0.6s,mb4.4,baz=31,slow=6.3,SNR=19							
AKASG	**Malin Array Be**	**71.73**	**324**	P		**P**	**07 33 12.3**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.1,baz=38,slow=6.0,SNR=11							
DPC	**Dobruska-Polom**	**77.00**	**331**	*e*P		**P**	**07 33 43.5**	**+0.3**
DPC				*ex*		x	07 34 12.5	
CLL	**Collm**	**77.31**	**333**	⇑*i*P		**P**	**07 33 45.0**	**+0.1**
CLL				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.7							
CLL	**Collm**	**77.31**	**333**	⇑*i*P		**P**	**07 33 45.0**	**+0.1**
	comp=Z,7.0nm,0.7s,mb4.7							
CLL	**Collm**	**77.31**	**333**	⇑P		**P**	**07 33 45.0**	**+0.1**
	comp=Z,logA/T=1.0,mb4.7							
BRTR	**Keskin Array B**	**77.87**	**314**	P		**P**	**07 33 49.2**	**+0.9**
	comp=Z,1.6nm,0.8s,mb4.0,baz=71,slow=3.7,SNR=3.8							
PRU	**Pruhonice**	**77.92**	**332**	*e*P		**P**	**07 33 48.9**	**+0.6**
KHC	**Kasperske Hory**	**78.98**	**332**	*e*P		**P**	**07 33 55.0**	**+0.8**
KHC				*ex*		x	07 34 19.3	
GERES	**GERESS Array B**	**79.18**	**331**	P		**P**	**07 33 56.0**	**+0.7**
	comp=Z,1.1nm,0.4s,mb4.1,baz=38,slow=5.8,SNR=11							
GERES	**GERESS Array B**	**79.18**	**331**	P		**P**	**07 33 56.0**	**+0.7**
PKSM	**Moragy**	**79.58**	**327**	⇑⇑P		**P**	**07 34 00.4**	**+2.9**

*MOS **16** 07:22:07.4±1.1, 4.82N×95.16E, h29km, mb5.0/14, Error ellipse: s-maj=13.8km s-min=7.5km az=111.7*

*BJI **16** 07:22:08.5, 4.64N×95.15E, h50km, mB4.9, mb5.0, Ms4.4, Msz4.1*

*IDC **16** 07:22:11.5±0.6, 4.82N×95.17E, h47km±5km, mb4.4/19, mb1 4.5/19, mb1mx4.3/25, mbtmp4.6/19, MS3.4/2, Ms1 3.5/2, ms1mx3.1/26, Error ellipse: s-maj=18.4km s-min=12.0km az=50.0*

*NEIC **16** 07:22:11.2±0.3, 4.74N×95.11E, mb4.8/15, Error ellipse: s-maj=9.2km s-min=5.8km az=31.0*

ISC 16 07:22:09.3±0.3, 4.69N±0.06×95.13E±0.05, h46km, h46km±1.8km: pP-P, n124, σ1§10/119, mb4.7/51, MS3.9/2, 9C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.53**	**84**	*e*P		**P**	**07 23 32.8**	**+1.6**
SNG	**Songkhla**	**5.99**	**65**	P		**P**	**07 23 39.0**	**+1.4**
	218nm,0.8s							
CM31	**Chiang Mai Arr**	**14.18**	**15**	*e*P		**P**	**07 25 35.3**	**+5.9**
	23nm,0.6s							
CMAR

BJI AMB AMB
comp=Z,33nm,0.8s,mb5.1
BJI Beijing 39.99 25 *eP* **P 07 29 42.4 +1.2**
comp=Z,33nm,0.8s,mb5.1
KAKA Kakadu 40.91 115 *eP* **P 07 29 47.8 -1.3**
comp=Z,5.0nm,0.6s,mb4.3
ULHL Ulahol 41.01 339 P **P 07 29 50.7 +1.1**
SNR=20
KZA Kyzart 41.23 337 P **P 07 29 53.1 +1.6**
SNR=19
UCH Uchtor 41.65 337 P **P 07 29 56.4 +1.5**
SNR=45
TKM2 Tokmak 2 41.83 338 P **P 07 29 57.7 +1.2**
SNR=18
KBK Karagaybulak 41.84 338 P **P 07 29 58.4 +1.9**
SNR=7.7
AML Almayashu 41.89 336 P **P 07 29 58.6 +1.6**
SNR=58
AAK Ala-Archa 42.00 337 *i* P **P 07 29 57.8 0.0**
AAK pmax pmax
comp=Z,14nm,0.6s,mb4.8
AAK Ala-Archa 42.00 337 *eP* **P 07 29 58.1 +0.3**
comp=Z,16nm,0.7s,mb4.8
FRU Bishkek 42.12 337 *eP* **P 07 30 01.0 +2.2**
CHMS Chumysh 42.21 338 P **P 07 30 00.4 +0.8**
SNR=5.6
EKS2 Erkin-Say 42.30 336 P **P 07 30 01.9 +1.6**
SNR=23
USP Ospenovka 42.54 338 P **P 07 30 03.0 +0.7**
SNR=51
KKAR Karatay Array 44.03 334 *i* P **P 07 30 14.9 +0.5**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
SONM Songino Array 44.06 11 P **P 07 30 13.5 -1.0**
comp=Z,1.5nm,0.6s,mb3.9,baz=188,slow=8.8,SNR=8.0
SONM pP pP 07 30 25.5 -1.5
comp=Z,1.3nm,0.7s,baz=189,slow=7.6,SNR=3.9
SONM PcP PcP 07 31 59.7 -0.1
comp=Z,2.5nm,0.6s,baz=190,slow=3.8,SNR=8.9
WRA Warramunga Arr 45.65 124 P **P 07 30 28.1 +0.5**
comp=Z,23nm,0.6s,mb5.3,baz=302,slow=9.2,SNR=310
WRAB Tennant Creek 45.66 124 *eP* **P 07 30 28.1 +0.4**
WRAB pmax pmax
comp=Z,38nm,0.6s,mb5.5
WRAB Tennant Creek 45.66 124 *eP* **P 07 30 28.1 +0.4**
comp=Z,38nm,0.6s,mb5.5
WB2 Warramunga Arr 45.66 124⇑ *iP* **P 07 30 28.2 +0.5**
ZAK Zakamensk 46.05 7 *eP* **P 07 30 24.4 -6.0**
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
ASPA Alice Springs 47.15 128⇑ *iP* **P 07 30 39.7 +0.3**
ASAR Alice Springs 47.15 128 P **P 07 30 39.7 +0.3**
comp=Z,5.5nm,0.7s,mb4.6,baz=299,slow=7.9,SNR=54
ASAR PcP PcP 07 32 11.1 +0.2
comp=Z,1.6nm,0.6s,baz=305,slow=3.7,SNR=5.3
ASAR LR LR 07 51 56.8
comp=Z,64nm,18.6s,MS3.6,baz=98,slow=38
HIA Hailar 49.08 21 *eP* **P 07 30 53.7 -0.4**
HIA pmax pmax
comp=Z,6.0nm,0.4s
HIA Hailar 49.08 21 *eP* **P 07 30 53.7 -0.3**
comp=Z,6.3nm,0.4s,mb5.0
ZAL Zalesovo 49.81 352 P **P 07 30 58.7 -1.0**
comp=Z,6.2nm,0.5s,mb4.9,baz=301,slow=5.4,SNR=31
ZAL Zalesovo 49.81 352 P **P 07 30 58.7 -1.0**
MDJ Mudanjiang 49.93 32 P **P 07 31 00.1 -0.5**
MDJ AMB AMB
comp=Z,11nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,82nm,4.2s
MDJ Mudanjiang 49.93 32 *eP* **P 07 31 00.8 +0.2**
MJAR Matsushiro Arr 50.62 45 P **P 07 31 04.7 -1.3**
comp=Z,0.8nm,0.4s,mb4.0,baz=144,slow=10,SNR=4.4
BVA0 Borovoye Array 52.30 341 P **P 07 31 17.4 -1.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BVAR Borovoye Array 52.30 341 P **P 07 31 17.9 -0.5**
comp=Z,18nm,0.6s,mb5.2,baz=142,slow=8.7,SNR=108
BVAR pP pP 07 31 30.4 -0.7
comp=Z,4.7nm,0.6s,baz=135,slow=8.4,SNR=5.5
KLR Kul'dur 54.15 29 *eP* **P 07 31 29.2 -3.0**
BOD Bodaibo 55.02 12 *eP* **P 07 31 36.6 -1.8**
BOD pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
STKA Stephens Creek 57.22 133 *eP* **P 07 31 54.2 -0.4**
comp=Z,3.2nm,1.3s,mb4.2
STKA Stephens Creek 57.22 133 P **P 07 31 54.3 -0.3**
comp=Z,1.7nm,0.7s,mb4.2,baz=320,slow=9.9,SNR=4.5
GNI Garni 57.37 315 P **P 07 31 55.1 -0.4**
comp=Z,5.0nm,0.5s,mb4.8,baz=36,slow=8.7,SNR=2.7
YSS Yuzh-Sakhalins 58.71 36 *eP* **P 07 32 04.0 -0.8**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
ARU Arti 59.19 337⇓ *iP* **P 07 32 05.9 -2.0**
ARU *e* 07 32 52.7
ARU *e* 07 34 14.4
ARU *e*S **S 07 40 12.9 +2.4**
ARU *e*SS SS 07 44 11.3 +4.4
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
KIV Kislovodsk 60.33 319 *i* P **P 07 32 13.9 -2.1**
KIV pmax pmax
comp=Z,14nm,1.4s,mb4.8
YAK Yakutsk 62.70 18 *i* P **P 07 32 31.3 -0.4**
ANN Anapa 64.14 318 *eP* **P 07 32 40.2 -1.1**
BRTR Keskin Array B 65.25 312 P **P 07 32 47.8 -0.9**
comp=Z,5.5nm,0.7s,mb4.7,baz=133,slow=7.2,SNR=29
BRTR pP pP 07 33 01.8 -0.1
comp=Z,2.6nm,0.6s,baz=118,slow=7.3,SNR=8.9
OBN Obninsk 68.58 328 *c iP* **P 07 33 08.1 -1.3**
OBN *e* pP 07 33 20.5 -2.1
OBN pmax pmax
comp=Z,11nm,0.6s,mb5.0
TIXI Tiksi 70.15 11 *i* P **P 07 33 18.8 +0.1**
TIRR Tirgusor 70.19 316 P **P 07 33 19.1 -0.3**
CFR Carcaliu 70.55 316 P **P 07 33 21.6 0.0**
AKASG Malin Array Be 71.25 322 P **P 07 33 24.2 -1.5**
comp=Z,5.6nm,0.5s,mb4.7,baz=88,slow=5.6,SNR=36
AKASG Malin Array Be 71.25 322 P **P 07 33 24.2 -1.5**
VRI Vrincioaia 71.67 317 P **P 07 33 28.9 +0.6**
VRI Vrincioaia 71.67 317⇓ **P 07 33 28.8 +0.5**
VRI Vrincioaia 71.67 317⇓ *iP* **P 07 33 28.8 +0.5**
MLR Muntele Rosu 72.13 316 P **P 07 33 31.8 +0.8**
MLR Muntele Rosu 72.13 316⇑ **P 07 33 31.6 +0.6**
MLR Muntele Rosu 72.13 316⇑ *iP* **P 07 33 31.6 +0.6**
BURAR Bucovina Array 73.06 318⇑ **P 07 33 37.2 +0.7**
BURAR Bucovina Array 73.06 318⇑ *iP* **P 07 33 37.2 +0.7**
JOF Joensuu 74.13 335 *ep* **P 07 33 40.5 -1.9**
comp=Z,6.9nm,0.6s,mb4.8
BOSA Boshof 74.76 239 P **P 07 33 48.4 +1.6**
comp=Z,2.1nm,0.8s,mb4.1,baz=153,slow=4.5,SNR=2.2
BOSA pP pP 07 34 01.7 +1.6
comp=Z,3.4nm,0.8s,baz=90,slow=3.9,SNR=2.9
KWP Kalwaria 75.08 320 *eP* **P 07 33 48.5 +0.3**
KOLS Kolonicke sedl 75.24 319 *eP* **P 07 33 50.9 +1.8**
SUW Suwalki 75.65 325 *eP* **P 07 33 50.9 -0.4**
CRVS Cervenica-Dubn 75.76 319 *eP* **P 07 33 53.4 +1.3**
FINES FINESS Array B 75.97 332 P **P 07 33 52.5 -0.5**
comp=Z,4.3nm,0.3s,mb4.8,baz=102,slow=5.0,SNR=39
FINES pP pP 07 34 06.8 +0.4
comp=Z,2.9nm,0.5s,baz=102,slow=5.4,SNR=6.2
KAF Kangasniemi 76.06 333 *ep* **P 07 33 52.4 -1.1**
comp=Z,6.3nm,0.5s,mb4.8,baz=104,slow=5.2
KAF Kangasniemi 76.06 333 *eP* **P 07 33 52.4 -1.1**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
OJC Ojcow 77.03 320 *eP* **P 07 33 59.6 +0.3**
ZST Bratislava 78.54 318 *eP* **P 07 34 07.5 -0.1**
ARCES ARCESS Array B 78.57 340 P **P 07 34 07.5 +0.1**
comp=Z,4.0nm,0.4s,mb4.7,baz=95,slow=6.0,SNR=67
ARE0 ARCESS Array S 78.57 340 P **P 07 34 07.1 -0.3**
FX1 Attu Island--F 79.06 37 P **P 07 34 10.7 +0.3**
comp=Z,20nm,0.6s,mb5.2,baz=39,slow=6.5,SNR=7.1
GERES GERESS Array B 80.84 319 P **P 07 34 20.8 +0.8**
comp=Z,3.3nm,0.6s,mb4.5,baz=100,slow=6.0,SNR=22
GERES pP pP 07 34 35.4 +2.0
comp=Z,0.8nm,0.3s,baz=90,slow=5.3,SNR=3.4
GERES GERESS Array B 80.84 319 pP pP 07 34 35.4 +2.0
CLL Collm 81.44 321 P **P 07 34 23.0 0.0**
NB2 NORSAR Subarra 82.97 331 P **P 07 34 30.3 -0.4**
comp=Z,0.9nm,0.6s,mb4.0,baz=98,slow=4.8
NB2 NORSAR Subarra 82.97 331 P **P 07 34 30.3 -0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
NOA NORSAR Array B 82.97 331 P **P 07 34 30.1 -0.6**
comp=Z,2.5nm,0.9s,mb4.2,baz=95,slow=5.3,SNR=4.9
NOA pP pP 07 34 44.4 +0.2
comp=Z,0.8nm,0.7s,baz=91,slow=5.6,SNR=3.2
LPG La Plagne 85.55 315 *eP* **P 07 34 44.6 +0.6**
comp=Z,7.9nm,0.7s,mb4.7
LPG La Plagne 85.55 315 *eP* **P 07 34 44.6 +0.6**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
SDPT Sand Point 94.29 34 P **P 07 35 26.5 +1.6**
INK Inuvik 99.75 16 *eP* **P 07 35 48.0 -1.4**
INK pmax pmax
comp=Z,3.0nm,1.3s
INK Inuvik 99.75 16 P **P 07 35 49.6 +0.2**
comp=Z,0.5nm,0.5s,mb4.2,baz=353,slow=4.2,SNR=6.6
INK Inuvik 99.75 16 *ePdif* **P 07 35 48.0 -1.4**
comp=Z,2.7nm,1.3s,mb4.5
SCHQ Schefferville 118.82 348 PKP PKPdf 07 40 54.1 +1.4
comp=Z,1.4nm,0.8s,baz=27,slow=6.8,SNR=3.8
NVAR Mina Array Bea 127.09 33 PKP PKPdf 07 41 11.1 +1.9
comp=Z,0.7nm,0.8s,baz=270,slow=2.7,SNR=4.5
NVAR Mina Array Bea 127.09 33 PKP PKPdf 07 41 11.1 +1.9
PDAR Pinedale Array 127.73 23 PKP PKPdf 07 41 12.5 +2.2
comp=Z,0.8nm,0.7s,baz=90,slow=1.5,SNR=4.3
BDFB Brasilia 142.19 251 PKP PKPdf 07 41 37.4 -0.4
comp=Z,1.8nm,0.7s,baz=225,slow=4.3,SNR=4.2
CPUP Villa Florida 145.99 228 PKPbc PKPbc 07 41 46.8 +1.7
comp=Z,1.5nm,0.5s,baz=159,slow=5.5,SNR=6.5

*BJI **16** 07:33:37.0, 61.40N×151.80W, h80km, mb4.8, Ms4.6, Msz4.4*
*IDC **16** 07:33:38.1±1.1, 61.57N×151.88W, h92km±9km, mb3.6/12, mb1 3.9/15, mb1mx3.7/23, mbtmp4.0/15, MS3.0/2, Ms1 2.9/2, ms1mx2.7/27, Error ellipse: s-maj=15.8km s-min=13.3km az=77.0*
*NEIC **16** 07:33:39.6, 61.39N×151.75W, h80km, mb4.4/3, After AEIC.*
NEIC Felt [III] at Anchorage and Eagle River. Also felt at Girdwood, Kenai, Palmer, Seward, Soldotna and Sterling.
ISC 16 07:33:37.2±0.2, 61.45N±0.02×151.71W±0.05, h86km, h86km±4.4km: pP-P, n104, σ1§13/117, mb4.0/17, 1C-1D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.08**	**313**	P	**P**	**07 33 50.7**	**+1.2**
SPU	**Mount Spurr**	**0.31**	**212**⇓	*iP*	**P**	**07 33 51.3**	**+0.9**
CKN	**Chakachatna No**	**0.32**	**225**	P	**P**	**07 33 51.4**	**+1.0**
CKL	**Chakachamna La**	**0.39**	**231**	P	**P**	**07 33 51.7**	**+0.8**
NKA	**Nikishka**	**0.74**	**162**	P	**P**	**07 33 56.4**	**+2.3**
VOGL	**Vogel Lake**	**0.77**	**125**	P	**P**	**07 33 56.6**	**+2.2**
FIB	**Fire Island**	**0.79**	**110**	P	**P**	**07 33 56.7**	**+2.0**
FIB				S	**S**	**07 34 11.5**	**+4.0**
PWA	**Palmer West**	**0.90**	**76**	P	**P**	**07 33 57.6**	**+1.9**
DFR	**Drift River**	**0.98**	**209**	P	**P**	**07 33 57.1**	**+0.4**
RC01	**Rabbit Creek A**	**1.02**	**110**	P	**P**	**07 33 58.3**	**+1.1**
RC01				S	**S**	**07 34 14.3**	**+2.2**
RDN	**Redoubt North**	**1.07**	**209**	P	**P**	**07 33 58.0**	**+0.3**
NCT	**North Crescent**	**1.07**	**214**	P	**P**	**07 33 58.3**	**+0.6**
REF	**Redoubt East F**	**1.07**	**207**	P	**P**	**07 33 58.0**	**+0.3**
RSO	**Redoubt South**	**1.11**	**208**	P	**P**	**07 33 58.6**	**+0.4**
SLKM	**Skilak Lake**	**1.19**	**142**	P	**P**	**07 33 59.6**	**+0.4**
PMR	**Palmer**	**1.25**	**82**	P	**P**	**07 34 00.8**	**+0.8**
PMR				S	**S**	**07 34 18.1**	**+1.0**
GHO	**Glory Hole Cre**	**1.37**	**75**	P	**P**	**07 34 02.6**	**+0.9**
ILIM	**Iliamna**	**1.50**	**205**	P	**P**	**07 34 03.1**	**-0.2**
INE	**Iliamna NE**	**1.54**	**206**	P	**P**	**07 34 03.5**	**-0.3**
ILW	**Iliamna West**	**1.56**	**207**	P	**P**	**07 34 03.9**	**-0.1**
IVE	**Iliamna Volcan**	**1.57**	**205**	P	**P**	**07 34 04.0**	**-0.1**
IVS	**Iliamna South**	**1.59**	**206**	P	**P**	**07 34 04.4**	**0.0**
SML	**Sawmill**	**1.66**	**76**	P	**P**	**07 34 05.7**	**+0.5**
SML				S	**S**	**07 34 27.2**	**+1.2**
BRLK	**Bradley Lake**	**1.74**	**166**	P	**P**	**07 34 06.2**	**-0.2**
HUR	**Hurricane**	**1.82**	**31**	P	**P**	**07 34 09.2**	**+1.8**
SVW2	**Sparrevohn**	**1.90**	**261**	P	**P**	**07 34 08.4**	**-0.1**
CNPM	**China Poot**	**1.94**	**173**	P	**P**	**07 34 08.8**	**-0.3**
OPT	**Oil Point**	**1.95**	**203**	P	**P**	**07 34 09.3**	**+0.2**
XLV	**Seldovia**	**2.00**	**180**	P	**P**	**07 34 09.7**	**-0.1**
TRF	**Thorofare Moun**	**2.12**	**18**	P	**P**	**07 34 12.7**	**+1.2**
TRF				S	**S**	**07 34 38.8**	**+1.9**
SCM	**Sheep Creek Mo**	**2.13**	**78**	P	**P**	**07 34 11.8**	**+0.2**
KTH	**Kantishna Hill**	**2.15**	**10**	P	**P**	**07 34 13.1**	**+1.2**
KTH				S	**S**	**07 34 38.7**	**+1.2**
AUL	**Augustine Lava**	**2.24**	**203**	P	**P**	**07 34 13.6**	**+0.4**
AUE	**Augustine Isla**	**2.25**	**202**	P	**P**	**07 34 13.2**	**-0.2**
AUW	**Augustine West**	**2.26**	**203**	P	**P**	**07 34 13.7**	**+0.2**
AGU	**Augustine-Summ**	**2.26**	**203**	P	**P**	**07 34 13.8**	**+0.4**
AUI	**Augustine Isla**	**2.28**	**203**	P	**P**	**07 34 13.7**	**-0.1**
TT01	**Tatalina**	**2.50**	**308**	P	**P**	**07 34 16.8**	**0.0**
TTA	**Tatalina**	**2.51**	**308**	*eP*	**P**	**07 34 16.7**	**-0.2**
MCNL	**McNeil River**	**2.62**	**211**	P	**P**	**07 34 18.0**	**-0.4**
MCK	**McKinley**	**2.63**	**28**	P	**P**	**07 34 19.6**	**+1.0**
HIN	**Hinchinbrook I**	**2.75**	**110**	P	**P**	**07 34 18.6**	**-1.8**
SYI	**Shuyak Island**	**2.87**	**187**	P	**P**	**07 34 21.7**	**-0.2**
DIV	**Divide**	**2.89**	**94**	P	**P**	**07 34 21.0**	**-1.1**
DIV				S	**S**	**07 34 55.1**	**-0.8**
BWN	**Browne**	**2.92**	**20**	P	**P**	**07 34 23.4**	**+0.7**
EYAK	**Cordova Ski Ar**	**3.04**	**105**	P	**P**	**07 34 22.4**	**-1.9**
KAPH	**Katmai Pasha**	**3.15**	**206**	P	**P**	**07 34 25.6**	**-0.2**
KAHC	**Katmai Hardscr**	**3.26**	**212**	P	**P**	**07 34 27.0**	**-0.3**
KAHC				S	**S**	**07 35 04.5**	**-0.5**
KAHG	**Katmai Hook Gl**	**3.29**	**207**	P	**P**	**07 34 27.4**	**-0.3**
PAX	**Paxson**	**3.30**	**60**	P	**P**	**07 34 28.9**	**+0.9**
MID	**Middleton Isla**	**3.35**	**125**	*eP*	**P**	**07 34 27.0**	**-1.5**
NEA	**Nenana**	**3.37**	**20**	P	**P**	**07 34 28.5**	**-0.3**
THY	**Trims Highway**	**3.41**	**52**	P	**P**	**07 34 30.9**	**+1.6**
THY				S	**S**	**07 35 09.8**	**+1.0**
CCB	**Clear Creek Bu**	**3.67**	**27**	P	**P**	**07 34 32.7**	**-0.4**
KOAK	**Kodiak Island**	**3.70**	**187**	P	**P**	**07 34 31.4**	**-2.1**
ANCK	**Angle Creek**	**3.77**	**212**	P	**P**	**07 34 34.2**	**-0.2**
GLB	**Gilahina Butte**	**3.80**	**87**	P	**P**	**07 34 33.6**	**-1.1**
COLA	**College**	**3.86**	**25**	P	**P**	**07 34 35.1**	**-0.5**
MDM	**Murphy Dome**	**3.86**	**23**	P	**P**	**07 34 35.5**	**-0.1**
IL1	**Eielson Array**	**3.99**	**31**	P	**P**	**07 34 37.1**	**-0.3**
ILAR	**Eielson Array**	**3.99**	**31**	P	**P**	**07 34 37.0**	**-0.5**
ILAR				S	**S**	**07 35 22.1**	**-1.2**
MENT	**Mentasta**	**4.03**	**65**	*eP*	**P**	**07 34 37.8**	**-0.2**
GCSA	**Galena City Sc**	**4.06**	**327**	P	**P**	**07 34 38.3**	**-0.1**
DOT	**Dot Lake**	**4.17**	**55**	P	**P**	**07 34 40.1**	**+0.1**
BALM	**Baldy**	**4.55**	**91**	P	**P**	**07 34 43.6**	**-1.6**
IM3	**Indian Mountai**	**4.64**	**350**	P	**P**	**07 34 46.0**	**-0.5**
IMA	**Indian Mountai**	**4.72**	**350**	*eP*	**P**	**07 34 47.2**	**-0.3**
BCA3	**Beaver Creek A**	**4.92**	**66**	P	**P**	**07 34 49.9**	**-0.3**
CTGM	**Chitina Glacie**	**5.04**	**91**	P	**P**	**07 34 51.3**	**-0.7**
COLD	**Coldfoot**	**5.84**	**6**	P	**P**	**07 35 03.0**	**+0.2**
COLD				S	**S**	**07 36 07.6**	**-1.6**
BM3	**Burnt Mountain**	**6.74**	**24**	P	**P**	**07 35 14.6**	**-0.7**
WHY	**Whitehorse**	**8.20**	**88**	P	**P**	**07 35 33.4**	**-2.0**
TNA	**Tin City**	**8.33**	**307**	P	**P**	**07 35 37.1**	**0.0**
SIT	**Sitka**	**9.47**	**110**	P	**P**	**07 35 50.3**	**-2.3**
INK	**Inuvik**	**10.31**	**40**	P	**P**	**07 36 02.2**	**-1.6**
INK				S	**S**	**07 37 56.6**	**-1.6**
INK	**Inuvik**	**10.31**	**40**	*eP*	**P**	**07 36 02.0**	**-1.7**
INK				*eS*	**S**	**07 37 43.8**	**-14**
DLBC	**Dease Lake**	**11.27**	**96**	P	**P**	**07 36 15.4**	**-1.2**
DLBC				LR	LR	07 40 33.6	
YKW3	**Yellowknife Ar**	**17.30**	**70**	*eP*	**P**	**07 37 33.2**	**-0.9**
YKA	**Yellowknife Ar**	**17.32**	**70**	P	**P**	**07 37 33.2**	**-1.2**
YKA				LR	LR	07 44 46.1	
YKA	**Yellowknife Ar**	**17.32**	**70**	P	**P**	**07 37 33.2**	**-1.2**
YKA				LR	LR	07 44 46.1	
YKA				ScP		07 45 36.9	
EDM	**Edmonton**	**21.99**	**95**	*eP*	**P**	**07 38 25.7**	**+0.8**
NEW	**Newport**	**23.54**	**108**	P	**P**	**07 38 41.9**	**+2.1**
RES	**Resolute Bay**	**23.74**	**34**	*eP*	**P**	**07 38 41.3**	**-0.2**
NVAR	**Mina Array Bea**	**30.92**	**123**	P	**P**	**07 39 48.5**	**+0.9**
NVAR				pP	pP	07 40 09.2	+1.6
PDAR	**Pinedale Array**	**31.17**	**107**	P	**P**	**07 39 49.5**	**-0.3**
PDAR				pP	pP	07 40 08.8	-0.9
ULM	**Lac du Bonnet**	**32.26**	**84**	P	**P**	**07 39 56.0**	**-3.1**
ULM				pP	pP	07 40 19.0	-0.3
PV01	**Paradox Valley**	**35.34**	**111**	*eP*	**P**	**07 40 26.2**	**+0.5**
MNTX	**Cornudas Mount**	**42.15**	**113**	P	**P**	**07 41 22.5**	**+0.3**
WMOK	**Wichita Mounta**	**42.61**	**104**	*eP*	**P**	**07 41 26.0**	**0.0**
ARCES	**ARCESS Array B**	**49.29**	**1**	P	**P**	**07 42 14.7**	**-3.7**
CN2	**Changchun**	**49.59**	**289**	*eP*	**P**	**07 42 22.0**	**+1.0**
SONM	**Songino Array**	**54.45**	**306**	P	**P**	**07 42 53.9**	**-3.5**
JOF	**Joensuu**	**55.93**	**358**	*ep*	**P**	**07 43 01.3**	**-6.6**
ZAL	**Zalesovo**	**56.60**	**324**	P	**P**	**07 43 11.4**	**-1.3**
NOA	**NORSAR Array B**	**57.14**	**10**	P	**P**	**07 43 13.6**	**-2.9**
FINES	**FINESS Array B**	**57.42**	**1**	P	**P**	**07 43 15.7**	**-2.8**
BVAR	**Borovoye Array**	**61.08**	**332**	P	**P**	**07 43 40.9**	**-2.8**
NJ2	**Nanjing**	**62.15**	**286**	*eP*	**P**	**07 43 53.4**	**+2.2**
NJ2				AMB	AMB		
WMQ	**Urumqi**	**64.65**	**316**⇑	P	**P**	**07 44 08.8**	**+1.4**
WMQ				AP	pP	07 44 30.8	+1.3
WMQ				XP	sP	07 44 40.3	+1.3
WMQ				PCP	PcP	07 44 41.8	+1.5
WMQ				PP	PP	07 46 33.3	+0.9
WMQ				AMB	AMB		
LZH	**Lanzhou**	**65.34**	**300**	*eP*	**P**	**07 44 13.5**	**+1.6**
LZH				AP	pP	07 44 33.5	-0.6
LZH				XP	sP	07 44 42.6	-1.0
LZH				AMB	AMB		
AKASG	**Malin Array Be**	**68.20**	**359**	P	**P**	**07 44 27.0**	**-2.6**
CMAR	**Chiang Mai Arr**	**82.82**	**295**	P	**P**	**07 45 50.9**	**-2.2**

*IDC **16** 07:49:29.9±0.4, 15.14S×172.67W, mb4.9/20, mb1 5.1/20, mb1mx5.0/22, mbtmp4.9/20, MS4.6/24, Ms1 4.6/24, ms1mx4.5/33, Error ellipse: s-maj=17.6km s-min=10.2km az=126.0*
*HRVD **16** 07:49:31.2±0.2, 15.39S×172.28W, h38km±1km, MW5.4/74, Centroid moment Tensor Solution. LP body waves: s61,c116;Mantle waves: s74,c146; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.44±.03; $M_{\theta\theta}$0.63±.02; $M_{\phi\phi}$-1.07±.02; $M_{r\theta}$0.70±.04; $M_{\theta\phi}$0.52±.02; $M_{\phi r}$0.42±.03; Best double couple: $M_0$1.336×10^{17} NP1:ϕ_s127°, δ56°, λ24°. NP2:ϕ_s23°, δ70°, λ144°. Principal axes: T 1.424, Plg39°, Azm341°; N -.173, Plg49°, Azm178°; P -1.248, Plg9°, Azm78°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 07:49:31.2±0.1, 15.25S×172.64W, h10km, mb5.3/63, MS5.0/11 Error ellipse: s-maj=6.3km s-min=3.2km az=127.0*
*MOS **16** 07:49:33.6±1.4, 15.23S×172.74W, h33km, mb5.5/26, MS4.9/9, Error ellipse: s-maj=10.8km s-min=8.5km az=58.3*
*CSEM **16** 07:49:35.1, 15.05S×173.25W, h33km, mb5.6*
*BJI **16** 07:49:35.4, 14.27S×173.03W, h10km, mB5.6, mb5.3, Ms5.1, Msz4.7*
ISC 16 07:49:30.2±0.1, 15.29S±0.03×172.59W±0.04, h14km, h14km±1.4km: pP-P, n465, σ1§06/261, mb5.2/97, MS4.7/43, 68C-10D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.58**	**30**	Pn	**Pn**	**07 49 57.6**	**-0.5**
AFI	1μm,0.3s,baz=205,slow=1.5,SNR=1147			Sn	**Sn**	**07 50 14.7**	**-3.9**
AFI	4μm,0.3s,baz=143,slow=20,SNR=44			LR	LR	07 50 25.5	
AFI	**Afiamalu**	**1.58**	**30**	*eP*	**Pn**	**07 49 57.6**	**-0.5**
AFI				*e*S	**Sn**	**07 50 13.1**	**-5.4**
RAR	**Rarotonga**	**13.52**	**118**	Pn	**P**	**07 52 38.0**	**-6.3**
RAR	32nm,0.3s,baz=259,slow=5.8,SNR=12 15nm,0.3s,baz=126,slow=18,SNR=3.2			Sn	**S**	**07 54 58.0**	**-17**
RAR	comp=Z,3μm,18.7s,baz=311,slow=31			LR	LR	07 56 35.0	
RAR	**Rarotonga**	**13.52**	**118**	*eP*	**P**	**07 52 37.5**	**-6.8**
RAO	**Raoul Island**	**14.74**	**199**	Pn	**P**	**07 52 56.7**	**-3.5**
RAO	195nm,0.8s 129nm,0.3s,baz=90,slow=20,SNR=2.5 152nm,0.3s,baz=62,slow=23,SNR=5.6			Sn	**S**	**07 55 32.5**	**-12**
RAO	comp=Z,2μm,20.0s,baz=51,slow=35			LR	LR	07 58 03.6	
DZM	**Mont Dzumac**	**20.96**	**248**	*eP*	**P**	**07 54 16.0**	**+0.5**
DZM	**Mont Dzumac**	**20.96**	**248**	P	**P**	**07 54 16.3**	**+0.8**
PAE	**Paea**	**22.19**	**99**	*eP*	**P**	**07 54 27.2**	**-0.6**
PPT	**Papeete**	**22.19**	**99**	*eP*	**P**	**07 54 27.4**	**-0.4**
PPT	**Papeete**	**22.19**	**99**	*e*LR	LR	07 59 17.2	
PPT	**Papeete**	**22.19**	**99**	P	**P**	**07 54 27.6**	**-0.2**
PPT	17nm,0.5s,mb4.8,baz=238,slow=4.9,SNR=5.0			LR	LR	08 00 35.4	
TIAR	**Tiarei**	**22.41**	**99**	*eP*	**P**	**07 54 29.5**	**-0.5**
TVO	**Taravao**	**22.50**	**100**	*eP*	**P**	**07 54 30.5**	**-0.6**
TBI	**Tubuai**	**23.23**	**114**	*e*LR	LR	07 59 51.6	
OUZ	**Omahuta**	**23.40**	**209**	*eP*	**P**	**07 54 39.5**	**-0.1**
OUZ	**Omahuta**	**23.40**	**209**	P*	**P**	**07 54 39.5**	**-0.2**
KUZ	**Kuaotunu**	**23.77**	**204**	*eP*	**P**	**07 54 44.6**	**+1.4**
KUZ	**Kuaotunu**	**23.77**	**204**	P*	**P**	**07 54 44.6**	**+1.4**
PMOR	**Pomariorio Ree**	**23.84**	**93**	*eP*	**P**	**07 54 42.3**	**-1.8**
VAH	**Vaihoa**	**24.08**	**93**	*eP*	**P**	**07 54 44.2**	**-2.2**
PUZ	**Puketiti**	**24.09**	**198**	*eP*	**P**	**07 54 47.3**	**+1.0**
PUZ	**Puketiti**	**24.09**	**198**	P*	**P**	**07 54 47.3**	**+0.9**
PUZ				S*	**S**	**07 59 06.9**	**+6.6**
MWZ	**Matawai**	**24.55**	**199**	*eP*	**P**	**07 54 51.7**	**+0.8**
MWZ	**Matawai**	**24.55**	**199**	P*	**P**	**07 54 51.7**	**+0.8**
URZ	**Urewera**	**24.62**	**200**	P	**P**	**07 54 53.2**	**+1.7**
URZ	285nm,0.6s,mb6.0,baz=11,slow=4.7,SNR=201 28nm,0.7s,baz=123,slow=18,SNR=9.6			S	**S**	**07 59 17.8**	**+8.5**
URZ	comp=Z,1μm,18.9s,MS4.4,baz=189,slow=34			LR	LR	08 03 20.8	
URZ	**Urewera**	**24.62**	**200**	*eP*	**P**	**07 54 52.3**	**+0.8**
URZ	**Urewera**	**24.62**	**200**	P*	**P**	**07 54 50.2**	**-1.3**
KNZ	**Kokohu**	**25.14**	**198**	*eP*	**P**	**07 55 01.4**	**+5.0**
KNZ	**Kokohu**	**25.14**	**198**	P*	**P**	**07 55 01.4**	**+5.0**
BKZ	**Black Stump Fm**	**25.64**	**200**	*eP*	**P**	**07 55 00.9**	**-0.3**
BKZ	**Black Stump Fm**	**25.64**	**200**	P*	**P**	**07 55 00.9**	**-0.3**
BKZ				*e*S*	**S**	**07 59 33.7**	**+7.2**
HIZ	**Hauiti**	**25.64**	**203**	*eP*	**P**	**07 55 03.8**	**+2.6**
HIZ	**Hauiti**	**25.64**	**203**	P*	**P**	**07 55 03.8**	**+2.7**
NGZ	**Ngauruhoe**	**25.95**	**201**	*eP*	**P**	**07 55 05.3**	**+1.2**
NGZ	**Ngauruhoe**	**25.95**	**201**	P*	**P**	**07 55 05.3**	**+1.2**
TUVZ	**Tukino**	**26.02**	**201**	P	**P**	**07 55 03.4**	**-1.3**
**TUVZ

VRZ Vera Road 26.21 203 eP P 07 55 10.1 +3.6
VRZ Vera Road 26.21 203 P* P 07 55 10.1 +3.6
TSZ Takapari Road 26.63 200 eP P 07 55 12.0 +1.7
TSZ Takapari Road 26.63 200 P* P 07 55 10.3 0.0
BFZ Birch Farm 27.10 199 eP P 07 55 16.2 +1.6
BFZ Birch Farm 27.10 199 P* P 07 55 16.2 +1.6
MRZ Mangatainoka R 27.29 200 eP P 07 55 16.5 +0.1
MRZ Mangatainoka R 27.29 200 P* P 07 55 16.5 +0.1
QRZ Quartz Range 28.54 204 eP P 07 55 28.8 +1.2
QRZ Quartz Range 28.54 204 P* P 07 55 28.8 +1.1
THZ Tophouse 29.20 203 eP P 07 55 33.7 +0.1
THZ Tophouse 29.20 203 P* P 07 55 33.7 +0.1
DSZ Denniston Nort 29.61 204 eP P 07 55 36.6 -0.7
DSZ Denniston Nort 29.61 204 P* P 07 55 36.6 -0.7
LTZ Lake Taylor 30.32 202 eP P 07 55 43.3 -0.3
LTZ Lake Taylor 30.32 202 P* P 07 55 43.3 -0.3
WVZ Waitaha Valley 31.16 204 eP P 07 55 52.0 +1.1
RPZ Rata Peaks 31.58 203 P P 07 55 55.0 +0.3
19nm,0.7s,mb5.0,baz=289,slow=2.8,SNR=9.8
RPZ LR LR 08 05 52.5
comp=Z,623nm,22.0s,MS4.2,baz=192,slow=31
TAOE Nuku Hiva Isla 32.33 82 eLR LR 08 04 12.6
JCZ Jackson Bay 32.78 205 eP P 07 56 04.8 -0.3
JCZ Jackson Bay 32.78 205 P* P 07 56 04.8 -0.3
ARMA Armidale 36.07 239⇓iP P 07 56 31.9 -1.6
RKT Rikitea 36.28 108 eLQ 08 04 37.4
RKT eLR LR 08 05 51.8
3µm,27.2s,baz=278
CTA Charters Tower 39.43 257 eP P 07 56 59.1 -2.7
9.1nm,0.9s,mb4.5
CTA Charters Tower 39.43 257 eP P 07 56 59.1 -2.7
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTA Charters Tower 39.43 257 LR LR 08 11 32.5
comp=Z,1µm,19.2s,MS4.7,baz=87,slow=34
CTAO Charters Tower 39.43 257 eP P 07 56 58.9 -2.9
CNB Canberra Magne 39.44 233 eP P 07 57 00.5 -1.2
comp=Z,1µm,1.0s
PMG Port Moresby 39.71 274 P P 07 57 02.4 -1.7
comp=Z,15nm,1.0s,mb4.7,baz=138,slow=12,SNR=3.2
PMG LR LR 08 11 57.0
comp=Z,546nm,18.3s,MS4.4,baz=299,slow=34
TOO Toolangi 43.14 231 eP P 07 57 31.1 -1.0
comp=Z,64nm,1.1s,mb5.3
TOO Toolangi 43.14 231 eP P 07 57 31.1 -1.0
TOO pmax pmax
comp=Z,64nm,1.1s,mb5.3
STKA Stephens Creek 44.77 240⇓iP P 07 57 44.3 -1.1
comp=Z,60nm,0.9s,mb5.4
STKA Stephens Creek 44.77 240 P P 07 57 44.4 -1.0
comp=Z,86nm,0.9s,mb5.6,baz=89,slow=8.7,SNR=159
STKA LR LR 08 14 31.3
comp=Z,341nm,19.8s,MS4.3,baz=69,slow=34
ADE Adelaide 47.73 236 eP P 07 58 07.8 -1.0
WB2 Warramunga Arr 50.62 257 eP P 07 58 29.0 -2.2
WB2 eS S 08 05 40.8 -3.3
WRAB Tennant Creek 50.62 257 eP P 07 58 28.8 -2.4
WRAB pmax pmax
comp=Z,104nm,1.4s,mb5.6
WRAB Tennant Creek 50.62 257 eP P 07 58 28.8 -2.4
comp=Z,104nm,1.4s,mb5.6
WRA Warramunga Arr 50.63 257 P P 07 58 29.3 -2.0
comp=Z,12nm,0.9s,mb4.8,baz=91,slow=7.6,SNR=88
ASAR Alice Springs 50.89 252 P P 07 58 32.4 -0.8
comp=Z,96nm,0.9s,mb5.7,baz=86,slow=8.2,SNR=341
ASAR S S 08 05 45.6 -2.1
comp=Z,4.4nm,0.9s,baz=90,slow=15,SNR=9.1
ASAR LR LR 08 18 52.8
comp=Z,1µm,19.0s,MS4.9,baz=92,slow=35
ASPA Alice Springs 50.89 252⇓iP P 07 58 31.6 -1.6
ASPA eS S 08 05 45.6 -2.2
KAKA Kakadu 53.29 265 eP P 07 58 49.2 -2.1
comp=Z,8.0nm,0.5s,mb4.9
FORT Forrest 56.16 243 eP P 07 59 10.0 -2.1
comp=Z,2µm,0.9s
FITZ Fitzroy Crossi 59.00 258 eP P 07 59 29.9 -2.4
comp=Z,7.4nm,0.8s,mb4.8
FITZ Fitzroy Crossi 59.00 258 P P 07 59 30.3 -2.0
comp=Z,5.3nm,0.7s,mb4.7,baz=99,slow=2.8,SNR=8.7
FITZ LR LR 08 23 18.1
comp=Z,1µm,19.7s,MS5.0,baz=95,slow=34
SBA Scott Base 63.42 185 eP P 08 00 01.6 +0.2
SBA pmax pmax
comp=Z,17nm,1.0s,mb5.1
SBA Scott Base 63.42 185 eP P 08 00 01.6 +0.2
comp=Z,17nm,1.0s,mb5.1
VNDA Vanda 63.56 186 P P 08 00 02.7 +0.5
comp=Z,3.2nm,1.0s,mb4.3,baz=359,slow=6.0,SNR=9.5
VNDA Vanda 63.56 186 P P 08 00 02.7 +0.5
MBWA Marble Bar 64.14 254 eP P 08 00 05.0 -1.9
comp=Z,21nm,1.0s,mb5.1
KLBR Kellerberrin 64.98 242⇓iP P 08 00 11.1 -1.1
comp=Z,2µm,1.3s
NWAO Narrogin (SRO) 65.35 241 eP P 08 00 13.7 -0.9
NWAO pmax pmax
comp=Z,72nm,1.4s
NWAO Narrogin (SRO) 65.35 241 LR LR 08 29 12.7
comp=Z,362nm,19.5s,MS4.6,baz=92,slow=36
NWAO Narrogin (SRO) 65.35 241 eP P 08 00 13.7 -0.9
comp=Z,72nm,1.4s,mb5.5
MUN Mundaring 66.27 242 eP P 08 00 20.0 -0.5
comp=Z,134nm,1.3s,mb5.8
MUN Mundaring 66.27 242 eP P 08 00 20.0 -0.5
MUN pmax pmax
comp=Z,134nm,1.3s,mb5.8
MJAR Matsushiro Arr 69.36 319 P P 08 00 39.5 -0.3
comp=Z,13nm,1.0s,mb4.8,baz=152,slow=5.6,SNR=26
MJAR LR LR 08 25 27.1
comp=Z,752nm,21.7s,MS4.9,baz=135,slow=31
MAJO Matsushiro 69.37 319 eP P 08 00 39.9 +0.1
MAJO e 08 00 50.8
MAJO pmax pmax
comp=Z,11nm,0.9s,mb4.8
MAJO Matsushiro 69.37 319 eP P 08 00 39.9 +0.1
comp=Z,11nm,0.9s,mb4.8
MAJO e 08 00 50.8
MAT Matsushiro 69.37 319 eP P 08 00 40.0 +0.2
MAT S S 08 09 50.0 +5.2
MAT pmax pmax
comp=Z,23nm,1.1s,mb5.0
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.9
MAT Matsushiro 69.37 319 eP P 08 00 40.0 +0.2
comp=Z,23nm,1.1s,mb5.0
MAT S S 08 09 50.0 +5.2
MAT LR LR
comp=Z,710nm,20.0s,MS4.9
MAT Matsushiro 69.37 319 P P 08 00 39.8 0.0
MAT eS S 08 09 50.0 +5.2
JOW Kunigami 71.06 306 LR LR 08 26 13.8
comp=Z,528nm,21.4s,MS4.8,baz=72,slow=31
SDPT Sand Point 71.11 7 eP P 08 00 48.9 -1.2
SKR Severo-Kuril's 71.19 340 eP P 08 00 42.9 -7.8
SKR pmax pmax
comp=Z,90nm,0.7s,mb5.8
MWC Mount Wilson 71.50 45 eP P 08 00 52.0 -0.8
CMB Columbia Colle 72.17 41 eP P 08 00 56.0 -0.7
CMB pmax pmax
comp=Z,26nm,1.1s,mb5.1
CMB Columbia Colle 72.17 41 eP P 08 00 56.0 -0.7
comp=Z,26nm,1.1s,mb5.1
PET Petropavlovsk 72.41 342 eP P 08 01 04.8 +6.9
WDC Whiskeytown Da 72.41 38 eP P 08 00 57.6 -0.5
WDC pmax pmax
comp=Z,25nm,1.4s,mb5.0
WDC Whiskeytown Da 72.41 38 eP P 08 00 57.6 -0.5
comp=Z,26nm,1.4s,mb5.0
MTUM Tungsten Hills 72.94 42 eP P 08 01 01.3 0.0
YBH Yreka Blue Hor 73.04 37 P P 08 01 02.1 +0.3
comp=Z,13nm,0.9s,mb4.9,baz=221,slow=2.6,SNR=30
YBH Yreka Blue Hor 73.04 37 eP P 08 01 02.0 +0.1
comp=Z,25nm,1.3s,mb5.0
WCN Washoe City 73.32 40 eP P 08 01 03.2 -0.3
comp=Z,33nm,1.1s,mb5.2
HUMO Hull Mountain 73.46 36 eP P 08 01 04.5 +0.2
comp=Z,15nm,1.2s,mb4.8
NVAR Mina Array Bea 73.73 42 P P 08 01 05.8 0.0
comp=Z,18nm,0.9s,mb5.0,baz=216,slow=7.4,SNR=72
NVAR LR LR 08 29 20.9
comp=Z,653nm,18.3s,MS5.0,baz=245,slow=32
YSS Yuzh-Sakhalins 73.78 330αiP P 08 01 07.1 +1.1
YSS e 08 01 16.8
YSS Yuzh-Sakhalins 73.78 330 eP P 08 01 06.5 +0.4
comp=Z,91nm,0.9s,mb5.7
MNV Mina 73.82 42 eP P 08 01 05.9 -0.5
MNV pmax pmax
comp=Z,41nm,1.2s,mb5.2
MNV Mina 73.82 42 eP P 08 01 05.9 -0.5
comp=Z,41nm,1.2s,mb5.2
LDFC Landfair 74.00 46 eP P 08 01 07.6 0.0
TPH Tonopah 74.22 42 eP P 08 01 08.7 -0.1
comp=Z,57nm,1.1s,mb5.4
MOD Modoc 74.56 38 eP P 08 01 10.4 -0.2
comp=Z,28nm,1.2s,mb5.1
KDAK Kodiak Island 74.67 11 eP P 08 01 11.0 +0.1
QSPA South Pole Qui 74.75 180 eP P 08 01 11.2 +0.2
comp=Z,38nm,1.0s,mb5.3
BMN Battle Mountai 75.56 40 eP P 08 01 16.3 -0.1
BMN pmax pmax
comp=Z,26nm,1.1s,mb5.1
BMN Battle Mountai 75.56 40 eP P 08 01 16.3 -0.1
comp=Z,26nm,1.1s,mb5.1
WVOR Wild Horse Val 75.86 38 eP P 08 01 17.9 -0.2
WVOR pmax pmax
comp=Z,26nm,1.1s,mb5.1
WVOR Wild Horse Val 75.86 38 eP P 08 01 17.9 -0.2
comp=Z,26nm,1.1s,mb5.1
ARUT Antelope Range 76.58 44 eP P 08 01 22.4 +0.2
KS15 Wonju Array Si 76.65 315 eP P 08 01 23.9 +1.3
WUAZ Wupatki 76.85 47 eP P 08 01 23.8 0.0
comp=Z,20nm,1.3s,mb4.9
ELK Elko 76.99 41 eP P 08 01 24.3 -0.1
ELK pmax pmax
comp=Z,19nm,1.1s
ELK Elko 76.99 41 eP P 08 01 24.3 -0.1
comp=Z,19nm,1.1s,mb4.9
SVW2 Sparrevohn 77.34 8 eP P 08 01 25.3 -0.6
INCN Inchon 77.53 315 eP P 08 01 26.4 -1.1
comp=Z,74nm,1.1s,mb5.5
SLKM Skilak Lake 77.65 11 eP P 08 01 27.6 -0.1
HAWA Hanford 77.74 34 eP P 08 01 28.3 -0.1
comp=Z,1.2nm,1.2s
MVU Marysvale 77.77 44 eP P 08 01 29.5 +0.7
comp=Z,27nm,1.0s,mb5.1
MSU Marysvale 77.80 44 eP P 08 01 29.6 +0.6
KSM Kuching 77.96 275 eP P 08 01 30.6 +0.3
SSE Sheshan 78.52 307 eP P 08 01 31.8 -1.3
SSE PCP PcP 08 01 39.8 -2.9
SSE AP pP 08 01 41.1 +3.7
SSE XP sP 08 01 44.5 +5.7
SSE PP PP 08 04 30.0 -2.7
SSE S S 08 11 29.1 +1.5
SSE SCS ScS 08 11 51.0 +0.6
SSE AMB AMB
comp=Z,27nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,46nm,5.2s
SSE LR LR
comp=N,118nm,25.1s,MS4.5
SSE LR LR
comp=E,244nm,25.2s,MS4.5
SSE LR LR
comp=Z,340nm,26.0s,MS4.6
SSE Sheshan 78.52 307 eP P 08 01 31.7 -1.4
comp=Z,27nm,0.8s,mb5.2
SSE PcP PcP 08 01 39.8 -2.9
SSE pP pP 08 01 41.1 +3.7
SSE sP sP 08 01 44.5 +5.7
SSE PP PP 08 04 30.0 -2.7
SSE S S 08 11 29.1 +1.5
SSE sS 08 11 45.3
SSE ScS ScS 08 11 51.0 +0.6
SSE SS SS 08 16 34.8 +0.7
SSE LR LR
comp=Z,340nm,26.0s,MS4.6
EYAK Cordova Ski Ar 78.60 13 eP P 08 01 32.0 -0.9
NLU North Lily Min 78.61 43 eP P 08 01 31.8 -1.5
PWA Palmer West 78.78 11 eP P 08 01 32.8 -1.0
TMUT Trail Mountain 78.85 44 eP P 08 01 35.1 +0.4
PMR Palmer 78.86 11 eP P 08 01 33.7 -0.6
NOQ North Oquirrh 78.94 42 eP P 08 01 34.6 -0.6
TTA Tatalina 79.04 8 eP P 08 01 35.4 +0.1
HLID Hailey 79.05 39 eP P 08 01 36.0 +0.2
comp=Z,20nm,1.0s,mb5.0
SPUT South Promonto 79.07 42 eP P 08 01 35.6 -0.2
HVU Hansel Valley 79.11 41 eP P 08 01 36.0 0.0
DIV Divide 79.12 13 eP P 08 01 35.4 -0.3
comp=Z,278nm,1.0s,mb6.1
CTU Camp Tracy 79.20 43 eP P 08 01 36.3 -0.3
SML Sawmill 79.21 11 eP P 08 01 35.7 -0.5
SRU San Rafael 79.22 44 eP P 08 01 36.8 +0.1
JLU Jordanelle 79.35 43 eP P 08 01 37.6 +0.2
DAU Daniels Canyon 79.38 43 eP P 08 01 38.0 +0.4
MDJ Mudanjiang 79.42 322 P P 08 01 38.5 +0.8
MDJ AP pP 08 01 41.6 -0.4
MDJ PCP PcP 08 01 46.3 0.0
MDJ PP PP 08 04 37.1 -2.5
MDJ S S 08 11 40.1 +3.2
MDJ AMB AMB
comp=Z,16nm,1.3s,mb4.8
MDJ AMB AMB
comp=Z,121nm,6.2s
MDJ LR LR
comp=N,294nm,20.9s,MS4.9
MDJ LR LR
comp=E,459nm,21.9s,MS4.9
MDJ LR LR
comp=Z,756nm,20.9s,MS5.0
TCUT Toone Canyon 79.64 42 eP P 08 01 39.3 +0.4
PV10 Paradox Valley 79.87 46 eP P 08 01 40.2 -0.1
LTX Lajitas 79.90 56 eP P 08 01 41.2 +0.6
comp=Z,40nm,1.3s,mb5.2
PV01 Paradox Valley 80.08 46 eP P 08 01 41.4 0.0
ANMO Albuquerque 80.13 50 iP P 08 01 39.2 -2.5
ANMO Albuquerque 80.13 50 eP P 08 01 41.7 -0.1
comp=Z,11nm,1.3s,mb4.6
ANMO LR LR
comp=Z,451nm,20.0s,MS4.8
MCMT McKenzie Canyo 80.68 39 eP P 08 01 44.6 +0.2
TNA Tin City 80.69 2 eP P 08 01 44.8 +0.7
comp=Z,53nm,1.2s,mb5.3
NJ2 Nanjing 80.73 307 eP P 08 01 45.8 +0.9
NJ2 AP pP 08 01 50.3 +1.0
NJ2 XP sP 08 01 52.8 +2.1
NJ2 PP PP 08 04 51.8 +0.7
NJ2 S S 08 11 52.0 +1.2
NJ2 XS 08 12 00.0
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,160nm,5.8s
NJ2 LR LR
comp=N,1µm,23.0s,MS5.3
NJ2 LR LR
comp=E,1µm,24.8s,MS5.3
NJ2 LR LR
comp=Z,500nm,24.9s,MS4.8
RRI2 Red Ridge 80.84 40 eP P 08 01 45.7 +0.4
comp=Z,25nm,1.0s,mb5.1
KLR Kul'dur 80.86 327 eP P 08 01 43.2 -2.0
MCK McKinley 80.88 10 eP P 08 01 44.8 -0.2
MCK pmax pmax
comp=Z,45nm,0.9s,mb5.4
MCK McKinley 80.88 10 eP P 08 01 44.8 -0.3
comp=Z,45nm,0.9s,mb5.4
MSO Missoula 81.13 36 eP P 08 01 45.4 -1.3
comp=Z,15nm,1.3s,mb4.8
REDW Red Top Meadow 81.14 41 eP P 08 01 46.8 -0.1
comp=Z,35nm,1.4s,mb5.1
TPAW Teton Pass 81.15 40 eP P 08 01 47.3 +0.4
comp=Z,23nm,1.0s,mb5.1
MENT Mentasta 81.17 13 eP P 08 01 46.7 +0.1
THY Trims Highway 81.18 12 eP P 08 01 46.6 0.0
SNOW Snow King Moun 81.25 41 eP P 08 01 47.6 +0.2
comp=Z,21nm,0.9s,mb5.1
WUWY Wally Ulrich 81.30 40 eP P 08 01 48.0 +0.3
IMW Indian Meadow 81.36 40 eP P 08 01 48.4 +0.4
comp=Z,57nm,1.5s,mb5.3
LOHW Long Hollow 81.43 40 eP P 08 01 48.4 0.0
comp=Z,18nm,1.3s,mb4.8
CN2 Changchun 81.51 320 eP P 08 01 50.0 +1.2
CN2 eXP sP 08 01 59.0 +4.5
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,21.0s,MS4.8
CN2 LR LR
comp=E,400nm,21.0s,MS4.8
CN2 LR LR
comp=Z,400nm,24.0s,MS4.7
QLMT Earthquake Lak 81.54 39 eP P 08 01 50.1 +1.2
CHMT Chamberlain Mo 81.57 37 eP P 08 01 48.6 -0.4
BW06 Boulder Array 81.67 42 eP P 08 01 49.1 -0.5
comp=Z,18nm,1.4s,mb4.8
PDAR Pinedale Array 81.67 42 P P 08 01 49.3 -0.3
comp=Z,4.6nm,0.9s,mb4.4,baz=218,slow=3.1,SNR=34
YMR Madison River 81.74 39 eP P 08 01 50.8 +0.9
BOZ Bozeman (W) 81.85 38 eP P 08 01 50.9 +0.4
comp=Z,39nm,1.6s,mb5.1
YNR Norris Junctio 81.94 39 eP P 08 01 53.7 +2.7
LKWY Lake 82.04 40 eP P 08 01 53.3 +1.8
comp=Z,15nm,1.1s,mb4.8
SDCO Great Sand Dun 82.06 47 eP P 08 01 52.5 +0.7
comp=Z,28nm,1.5s,mb5.0
SDCO LR LR
comp=Z,357nm,20.0s,MS4.7
COLA College 82.11 10d iP P 08 01 50.8 -0.7
COLA College 82.11 10 eP P 08 01 51.0 -0.5
ILAR Eielson Array 82.19 11 P P 08 01 51.5 -0.3
comp=Z,16nm,0.8s,mb5.0,baz=210,slow=5.6,SNR=150
ILAR LR LR 08 33 18.7
comp=Z,191nm,19.4s,MS4.5,baz=35,slow=32
HRY Holter Researc 82.29 37 eP P 08 01 52.7 0.0
IMA Indian Mountai 82.35 8 eP P 08 01 53.4 +0.7
WALA Waterton Lakes 82.38 35 eP P 08 01 53.2 +0.1
comp=Z,20nm,1.4s,mb4.8
SEY Seymchan 82.62 345 eP P 08 01 53.2 -0.9
SEY e 08 02 00.6
SEY e 08 05 01.7
SEY pmax pmax
comp=Z,30nm,1.0s,mb5.3
RWWY Rawlins 82.68 43 eP P 08 01 55.1 +0.2
comp=Z,73nm,1.3s,mb5.5
ISCO Idaho Springs 82.89 46 eP P 08 01 56.3 +0.2
comp=Z,31nm,1.6s,mb5.1
ISCO LR LR
comp=Z,508nm,19.0s,MS4.9
JCT Junction City 83.44 56 eP P 08 01 58.1 -1.0
comp=Z,11nm,1.0s,mb4.9
QIZ Qiongzhong 83.59 292 P P 08 02 02.3 +2.2
QIZ S S 08 12 22.8 +2.4
QIZ XS 08 12 30.1
QIZ LR LR
comp=Z,345nm,23.3s,MS4.7
PHWY Pilot Hill 83.67 44 eP P 08 01 59.6 -0.4
PHWY e 08 02 09.9
BILL Bilibino 84.51 352 eP P 08 02 04.1 +0.5
BILL pmax pmax
comp=Z,83nm,1.4s,mb5.7
BILL Bilibino 84.51 352 eP P 08 02 04.1 +0.5
comp=Z,83nm,1.4s,mb5.7
EDM Edmonton 84.99 31 eP P 08 02 05.8 -0.6
LAO LASA Array 85.63 39 eP P 08 02 10.3 +0.6
comp=Z,64nm,1.4s,mb5.7
RSSD Black Hills 85.85 42 eP P 08 02 10.1 -0.8
comp=Z,33nm,1.4s,mb5.4
BJT Baijiatuau 85.96 313 eP P 08 02 13.4 +1.9
BJT pmax pmax
comp=Z,26nm,1.2s
BJT Baijiatuau 85.96 313 eP P 08 02 13.4 +1.8
comp=Z,26nm,1.2s,mb5.3
BJI Beijing 85.97 313 P P 08 02 13.3 +1.7
BJI XP sP 08 02 24.6 +7.3
BJI AMB AMB
comp=Z,41nm,1.3s,mb5.5
BJI AMB AMB
comp=Z,355nm,4.5s
BJI LR LR
comp=N,180nm,23.4s,MS4.6
BJI LR LR
comp=E,198nm,21.1s,MS4.6
BJI LR LR
comp=Z,316nm,24.9s,MS4.6
ENH Enshi 87.53 302 eP P 08 02 20.9 +1.5
comp=Z,113nm,1.8s,mb5.8
HIA Hailar 87.58 323 eP P 08 02 20.2 +1.0
HIA pmax pmax
comp=Z,22nm,1.3s
HIA Hailar 87.58 323 eP P 08 02 20.2 +0.9
comp=Z,22nm,1.3s,mb5.2
INK Inuvik 87.98 14 eP P 08 02 20.3 -0.4
INK pmax pmax
comp=Z,58nm,1.2s
INK Inuvik 87.98 14 eP P 08 02 20.3 -0.4
comp=Z,58nm,1.2s,mb5.7
MAW Mawson 88.14 198 eP P 08 02 23.4 +2.0
MAW pmax pmax
comp=Z,45nm,1.3s
MAW Mawson 88.14 198 P P 08 02 23.6 +2.2
comp=Z,14nm,1.0s,mb5.1,baz=279,slow=2.9,SNR=4.7
MAW LR LR 08 37 28.4
comp=Z,643nm,19.4s,MS5.0,baz=110,slow=33
MAW Mawson 88.14 198 eP P 08 02 23.4 +1.9
comp=Z,45nm,1.3s,mb5.5
CLNS Chul'man 88.52 331 eP P 08 02 23.9 +0.4
CLNS pmax pmax
comp=Z,32nm,0.8s,mb5.7
CLNS pmax pmax
comp=N,12nm,1.2s
CLNS pmax pmax
comp=E,10.0nm,0.9s
GYA Guiyang 88.69 298⇑iP P 08 02 27.6 +2.6
GYA AP pP 08 02 31.8 +2.4
GYA XP sP 08 02 34.6 +3.8
GYA SKS SKS 08 12 51.0 -6.4
GYA S S 08 13 13.3 +4.0
GYA PS PS 08 14 22.6 +5.2
GYA AMB AMB
comp=Z,20nm,1.7s,mb5.2
GYA AMB AMB
comp=Z,230nm,6.9s
GYA LR LR
comp=N,670nm,18.5s,MS5.3
GYA LR LR
comp=E,940nm,18.0s,MS5.3
GYA LR LR
comp=Z,870nm,17.8s,MS5.2
PLCA Paso Flores 89.00 132 P P 08 02 29.2 +3.0
comp=Z,1.2nm,1.0s,mb4.2,baz=220,slow=7.9,SNR=2.2
PLCA LR LR 08 32 09.3
comp=Z,637nm,21.6s,MS5.0,baz=207,slow=29
XAN Xi'an 89.21 306 P P 08 02 29.0 +1.6
XAN AMB AMB
comp=Z,24nm,1.7s,mb5.2
XAN LR LR
comp=N,107nm,21.4s,MS4.5
XAN LR LR
comp=E,182nm,23.6s,MS4.5
XAN LR LR
comp=Z,215nm,22.1s,MS4.5
YAK Yakutsk 89.33 337⇑iP P 08 02 26.6 -0.6
HHC Hu-ho-hao-te 89.53 313 ⇑P P 08 02 30.8 +2.1
HHC AP pP 08 02 36.3 +3.2
HHC XP sP 08 02 39.6 +5.1
HHC PP PP 08 06 05.1 +2.5
HHC XS 08 13 30.3
HHC AMB AMB
comp=Z,33nm,1.2s,mb5.5
HHC AMB AMB
comp=Z,306nm,6.6s
HHC LR LR
comp=N,182nm,20.2s,MS4.9
HHC LR LR
comp=E,393nm,19.9s,MS4.9
HHC LR LR
comp=Z,235nm,21.2s,MS4.6
YKA Yellowknife Ar 89.69 23 P P 08 02 28.8 -0.1
comp=Z,16nm,0.9s,mb5.3,baz=236,slow=4.3,SNR=236
YKA LR LR 08 40 06.6
comp=Z,250nm,18.1s,MS4.7,baz=215,slow=34
YKW3 Yellowknife Ar 89.72 23 eP P 08 02 28.8 -0.3
BTO Baotou 90.55 312 eP P 08 02 36.1 +2.7
BTO AMB AMB
comp=Z,25nm,0.9s,mb5.5
KMI Kunming 91.69 295 P P 08 02 40.9 +1.9
KMI AP pP 08 02 44.3 +0.9
KMI PP PP 08 06 21.8 +1.5
KMI SKS SKS 08 13 13.0 -2.3
KMI S S 08 13 39.6 +3.2
KMI XS 08 13 44.9
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
KMI AMB AMB
comp=Z,81nm,3.1s

KMI LR LR
comp=N,103nm,16.0s
KMI LR LR
comp=E,190nm,25.0s
KMI LR LR
comp=Z,315nm,28.9s
KMI Kunming 91.69 295 P **P** **08 02 40.9 +1.9**
comp=Z,10.0nm,0.8s,mb5.2
KMI pP pP 08 02 44.3 +0.9
KMI PP PP 08 06 21.7 +1.4
KMI SKS SKS 08 13 13.0 -2.3
KMI S S 08 13 39.6 +3.2
KMI sS 08 13 44.9
KMI PS tx 08 13 53.6
KMI SS SS 08 19 51.3 +4.1
KMI LR LR
comp=Z,320nm,28.9s,MS4.6
NANT Nan 91.81 289 P **P** **08 02 40.0 +0.3**
VNA3 Neumayer Olymp 92.89 175 *e* **P** **08 02 44.5 +1.0**
VNA3 Neumayer Olymp 92.89 175 *e* **P** **08 02 47.7 +4.2**
VNA3 Neumayer Olymp 92.89 175 *e* **P** **08 02 50.2 +6.7**
VNA3 Neumayer Olymp 92.89 175 ⇑*i*P **P** **08 02 43.4 -0.1**
VNA3 *e* pP 08 02 47.7 -0.2
VNA3 *e* 08 02 50.2
SNAA Sanae 92.97 177 *e* **P** **08 02 45.1 +1.2**
SNAA Sanae 92.97 177 *e* **P** **08 02 48.8 +5.0**
SNAA Sanae 92.97 177 *e* **P** **08 02 50.9 +7.0**
SNAA Sanae 92.97 177 LR LR 08 39 41.4
comp=Z,167nm,20.9s,MS4.5,baz=164,slow=32
SNAA Sanae 92.97 177 ⇑*i*P **P** **08 02 43.6 -0.2**
SNAA *e* pP 08 02 48.8 +0.6
SNAA *e* 08 02 50.9
CM31 Chiang Mai Arr 93.33 288 *e*P **P** **08 02 48.8 +2.1**
comp=Z,4.9nm,0.7s,mb5.0
CMAR Chiang Mai Arr 93.33 288 P **P** **08 02 48.2 +1.5**
comp=Z,5.2nm,1.1s,mb4.9,baz=105,slow=2.5,SNR=28
ULM Lac du Bonnet 93.36 39 P **P** **08 02 44.8 -1.3**
comp=Z,5.7nm,1.0s,mb5.0,baz=241,slow=6.2,SNR=4.9
ULM LR LR 08 37 26.4
comp=Z,421nm,21.9s,MS4.8,baz=52,slow=31
VNA2 Neumayer--Watz 93.39 175 *e* **P** **08 02 46.2 +0.4**
VNA2 Neumayer--Watz 93.39 175 *e* **P** **08 02 49.4 +3.6**
VNA2 Neumayer--Watz 93.39 175 *e* **P** **08 02 51.7 +5.9**
VNA2 Neumayer--Watz 93.39 175 ⇑*i*P **P** **08 02 45.1 -0.7**
VNA2 *e* pP 08 02 49.4 -0.8
VNA2 *e* 08 02 51.7
CHG Chiang Mai 93.42 288 P **P** **08 02 49.2 +2.1**
VNA1 Neumayer--Stat 93.59 175 *e* **P** **08 02 47.9 +1.2**
VNA1 Neumayer--Stat 93.59 175 *e* **P** **08 02 51.2 +4.5**
VNA1 Neumayer--Stat 93.59 175 *e* **P** **08 02 53.5 +6.8**
VNA1 Neumayer--Stat 93.59 175 ⇑*i*P **P** **08 02 46.7 0.0**
VNA1 *e* pP 08 02 51.2 +0.1
VNA1 *e* 08 02 53.5
LZH Lanzhou 93.79 306 ⇑P **P** **08 02 51.0 +2.5**
LZH AP pP 08 02 54.3 +1.5
LZH XP sP 08 02 55.6 +1.4
LZH SKS SKS 08 13 23.8 -3.1
LZH *e*S S 08 13 57.9 +3.4
LZH XS 08 14 05.8
LZH AMB AMB
comp=Z,46nm,1.4s,mb5.7
LZH AMB AMB
comp=Z,165nm,6.0s
LZH LR LR
comp=E,439nm,15.4s
LZH LR LR
comp=Z,737nm,18.1s,MS5.2
LZH Lanzhou 93.79 306 ⇑P **P** **08 02 51.0 +2.5**
comp=Z,46nm,1.4s,mb5.7
LZH pP pP 08 02 54.3 +1.5
LZH sP sP 08 02 55.6 +1.4
LZH PP PP 08 06 40.2 +3.3
LZH SKS SKS 08 13 23.8 -3.1
LZH *e*S S 08 13 57.9 +3.4
LZH sS 08 14 05.8
LZH SS SS 08 20 21.5 +4.1
LZH LR LR
comp=Z,740nm,18.1s,MS5.2
CFAA Coronel Fontan 93.86 124 LR LR 08 34 33.5
comp=Z,68nm,21.8s,MS4.1,baz=194,slow=29
BOD Bodaibo 94.24 329 *e*P **P** **08 02 48.8 -1.2**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
ULN Ulaanbaatar 94.87 318*c* *i*P **P** **08 02 54.0 +0.9**
ULN Ulaanbaatar 94.87 318 *e*P **P** **08 02 54.2 +1.1**
comp=Z,12nm,1.3s,mb5.2
TIXI Tiksi 95.11 344 *i*P **P** **08 02 53.7 0.0**
SONM Songino Array 95.29 318 P **P** **08 02 56.0 +0.9**
comp=Z,2.4nm,1.0s,mb4.6,baz=108,slow=3.9,SNR=11
SONM PP PP 08 06 44.5 -3.0
comp=Z,0.6nm,0.8s,baz=112,slow=6.7,SNR=4.3
LVC Limon Verde 96.35 115 LR LR 08 35 30.4
comp=Z,245nm,21.3s,MS4.7,baz=248,slow=29
GTA Gaotai 97.72 309 P **P** **08 03 08.0 +1.7**
GTA AP pP 08 03 12.0 +1.3
GTA XP sP 08 03 15.1 +3.0
GTA PP PP 08 07 07.8 +0.6
GTA PPP PPP 08 09 14.8 +0.8
GTA SKS SKS 08 13 44.3 -3.6
GTA S S 08 14 28.4 +0.6
GTA XS 08 14 36.0
GTA SS SS 08 21 04.6 -7.7
GTA AMB AMB
comp=Z,7.0nm,1.7s,mb4.9
GTA AMB AMB
comp=Z,136nm,9.9s
GTA LR LR
comp=N,168nm,23.6s,MS4.9
GTA LR LR
comp=E,402nm,24.0s,MS4.9
GTA LR LR
comp=Z,395nm,23.2s,MS4.8
ZAK Zakamensk 97.94 320 *e*P **P** **08 03 07.3 +0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.5
LPAZ La Paz 99.11 110 LR LR 08 38 34.9
comp=Z,154nm,21.9s,MS4.5,baz=245,slow=30
ROSC El Rosal 99.22 87 LR LR 08 38 04.7
comp=Z,246nm,21.9s,MS4.7,baz=330,slow=29
WMQ Urumqi 107.38 312 PDIF Pdif 08 03 49.1 -0.2
WMQ PP PP 08 08 19.8 -0.2
WMQ *e*S 08 15 50.1
WMQ PP PP
comp=Z,97nm,4.7s
WMQ LR LR
comp=N,243nm,16.0s,MS4.8
WMQ LR LR
comp=E,121nm,20.0s,MS4.8
WMQ LR LR
comp=Z,110nm,20.0s,MS4.4
AAK Ala-Archa 117.01 310 *i* PKIKP PKPdf 08 08 13.4 -5.1
ARU Arti 123.66 329 *i* PKIKP PKPdf 08 08 26.6 -4.4
ARU *e* 08 10 10.6
ARU *e* 08 15 35.4
ARU *e*SS SS 08 26 56.4 -2.3
ARU Arti 123.66 329 *e*PKPdf PKPdf 08 08 27.3 -3.7
KEV Kevo 124.21 352 *e*pkp PKPdf 08 08 26.6 -5.2
comp=Z,13nm,0.9s
ARCES ARCESS Array B 124.61 352 PKP PKPdf 08 08 29.7 -2.8
comp=Z,13nm,0.8s,slow=1.2,SNR=26
APA Apatity 125.10 348 ⇑*i*PKIKP PKPdf 08 08 30.0 -3.5
APA pmax pmax
comp=Z,18nm,1.2s
APA MLR MLR
comp=Z,600nm,20.0s,MS5.3
JOF Joensuu 129.56 346 *e*pkp PKPdf 08 08 36.0 -6.2
comp=Z,7.6nm,0.7s
KAF Kangasniemi 131.35 348 *e*pkp PKPdf 08 08 38.2 -7.4
comp=Z,3.5nm,0.7s
KAF Kangasniemi 131.35 348 *e*PKIKP PKPdf 08 08 38.2 -7.4
KAF pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 132.00 348 PKP PKPdf 08 08 44.0 -2.8
comp=Z,4.7nm,0.8s,baz=90,slow=1.9,SNR=16
NB2 NORSAR Subarra134.24 357 PKPabc PKPdf 08 08 47.8 -3.2
comp=Z,1.5nm,0.7s,baz=37,slow=2.6
NB2 NORSAR Subarra134.24 357 ⇑PKPab PKPdf 08 08 47.8 -3.2
NOA NORSAR Array B 134.24 357 PKP PKPdf 08 08 48.0 -2.9
comp=Z,3.1nm,0.9s,baz=13,slow=4.0,SNR=8.8
OBN Obninsk 134.33 337 *i* PKIKP PKPdf 08 08 48.9 -2.4
OBN 08 11 22.0
OBN pmax pmax
comp=Z,17nm,1.0s
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.9
OBN Obninsk 134.33 337 *i* PKP PKPdf 08 08 48.1 -3.2
HFS Hagfors 134.99 356 PKP PKPdf 08 08 51.5 -0.9
baz=180,slow=1.4
KIV Kislovodsk 138.62 321 *i* PKIKP PKPdf 08 08 57.4 -2.1
KIV 08 11 46.0
KIV pmax pmax
comp=Z,12nm,1.3s
KIV MLR MLR
comp=Z,300nm,22.0s,MS5.0
KIV Kislovodsk 138.62 321 *i* PKP PKPdf 08 08 56.5 -3.0
SUW Suwalki 139.44 346 *e*PKP PKPdf 08 08 50.6 -10
AKASG Malin Array Be 140.54 338 PKIKP PKPdf 08 09 00.0 -2.8
AKASG 08 11 54.7
AKASG Malin Array Be 140.54 338 PKhKP 08 08 52.9
comp=Z,0.7nm,0.4s,baz=33,slow=4.2,SNR=8.5
AKASG PKP PKPdf 08 08 60.0 -2.8
comp=Z,5.6nm,0.8s,baz=25,slow=2.4,SNR=18
AKASG PP PP 08 11 54.7 -7.7
comp=Z,0.1nm,0.3s,baz=25,slow=5.3,SNR=4.8
AKASG Malin Array Be 140.54 338 PKP PKPdf 08 08 60.0 -2.8
AKASG PP PP 08 11 54.7 -7.7
LVV L'vov 143.00 342 *e*PKIKP PKPdf 08 09 01.1 -6.0
LSZ Lusaka 143.34 215 *e*PKPpre 08 09 02.6
KWP Kalwaria 143.55 343 *e*PKP PKPdf 08 09 03.0 -5.0
KWP Kalwaria 143.55 343 *e*PKP PKPdf 08 09 03.0 -5.0
OJC Ojcow 143.74 347 *e*PKP PKPdf 08 09 03.8 -4.5
CLL Collm 143.80 354 *i* PKIKP PKPdf 08 09 03.7 -4.7
CLL *i* 08 09 08.9
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 143.80 354 ⇓*i*PKIKP PKPdf 08 09 03.7 -4.7
comp=Z,logA/T=1.2
CLL *i* *PPKP 08 09 08.9
CLL *i* 08 09 27.8
CLL *i* PP PP 08 12 22.6 +0.7
KSP Ksiaz 143.82 350 *e*PKP PKPdf 08 09 03.7 -4.7
KSP *e*PKPdf PKPdf 08 09 08.7 +0.3
KSP Ksiaz 143.82 350 *e*PKP PKPdf 08 09 03.9 -4.5
BRG Berggiesshubel 144.12 353 *e*PKIKP PKPdf 08 09 04.9 -4.1
BRG *e* 08 09 11.1
BRG pmax pmax
comp=Z,12nm,1.0s
UPC Upice 144.19 351 *e*PKP PKPdf 08 09 05.6 -3.5
RAC Raciborz 144.21 348 *e*PKPdf PKPdf 08 09 05.9 -3.2
TSUM Tsumeb 144.29 197 *e*PKPpre 08 09 06.4
DPC Dobruska-Polom 144.30 350 *e*PKP PKPdf 08 09 06.0 -3.3
DPC AMS AMS 09 08 20.0
comp=Z,300nm,21.4s
KOLS Kolonicke sedl 144.31 343 *e*PKP PKPdf 08 09 06.1 -3.3
KOLS *e* 08 09 15.6
MALT Malatya 144.34 316 ⇑PKIKP PKPdf 08 09 07.7 -2.1
MALT Malatya 144.34 316 *e*PKPdf PKPdf 08 09 07.5 -2.2
NIE Niedzica 144.37 346 *e*PKP PKPdf 08 09 04.5 -5.0
PVCC Panska Ves 144.38 352 *e*PKP PKPdf 08 09 06.2 -3.2
PVCC AMS AMS 09 10 40.0
comp=Z,300nm,19.4s
OKC Ostrava-Krasne 144.46 348 *e*PKP PKPdf 08 09 06.2 -3.4
OKC AMS AMS 09 12 30.0
comp=Z,200nm,21.6s
BURAR Bucovina Array 144.56 339 ⇑P PKPbc 08 09 06.5 +0.3
BURAR Bucovina Array 144.56 339 ⇑P PKPbc 08 09 06.4 +0.2
CRVS Cervenica-Dubn 144.56 344 *e*PKP PKPdf 08 09 08.1 -1.7
MENF Mencas 144.57 6 PKP PKPdf 08 09 06.2 -3.6
MOX Moxa 144.58 355 *e*PKIKP PKPdf 08 09 06.3 -3.5
MOX Moxa 144.58 355 *i* P PKPbc 08 09 06.7 +0.6
comp=Z,logA/T=1.7
HGN Heimansgroeve 144.60 2 *e*PKP PKPdf 08 09 06.3 -3.6
comp=Z,66nm,1.6s
MORC Moravsky Berou 144.63 349 ⇑PKIKP PKPdf 08 09 06.7 -3.2
MORC Moravsky Berou 144.63 349 *e*PKPpre 08 09 06.6
NKC Novy Kostel 144.91 354 *e*PKP PKPdf 08 09 07.6 -2.8
PRU Pruhonice 144.91 352 *e*PKP PKPdf 08 09 07.5 -2.9
PRU AMS AMS 09 16 30.0
comp=Z,200nm,21.2s
LIKS Likavka 145.00 347 *e*PKP PKPdf 08 09 09.3 -1.3
TNS Taunus Mts 145.15 359 *e*PKIKP PKPdf 08 09 08.5 -2.3
KECS Kecovo 145.20 345 *e*PKP PKPdf 08 09 09.1 -1.8
KECS *e* 08 09 28.3
GIVF Givet 145.22 3 ⇑*i*PKP1 PKPbc 08 09 08.6 +0.7
comp=Z,187nm,1.3s
BAIF Baives 145.23 4 ⇑*i*PKP1 PKPbc 08 09 08.9 +1.0
comp=Z,320nm,1.3s
VRAC Vranov 145.26 349 ⇑PKIKP PKPdf 08 09 08.7 -2.3
VRAC Vranov 145.26 349 P PKPbc 08 09 09.2 +1.1
CFR Carcaliu 145.46 334 ⇑P PKPbc 08 09 09.7 +1.1
VRI Vrincioaia 145.47 336 ⇓P PKPbc 08 09 09.2 +0.5
ABH Alteburg 145.50 360 ⇑*e*P PKPbc 08 09 09.6 +1.0
GRF Grafenberg Arr 145.55 356 *e*PKIKP PKPdf 08 09 09.9 -1.6
VYHS Vyhne 145.58 347 *e*PKP PKPdf 08 09 10.4 -1.2
VYHS *e* 08 09 22.4
VYHS *e* 08 09 29.7
KOLL Kolacno 145.60 347 *e*PKP PKPdf 08 09 10.8 -0.8
RUP Ruppelstein 145.68 0 PKP PKPdf 08 09 10.4 -1.3
RUP Ruppelstein 145.68 0 *e*P PKPbc 08 09 10.5 +1.4
WLF Walferdange 145.71 1 *e*PKPdf PKPdf 08 09 10.7 -1.1
TOD Tromm 145.76 358 PKP PKPdf 08 09 10.3 -1.6
TOD Tromm 145.76 358 *e*P PKPbc 08 09 10.5 +1.2
SMOL Smolenice 145.86 348 *e*PKP PKPdf 08 09 11.5 -0.6
PSZ Piszkesteto 145.87 345 ⇑PKPab PKPab 08 09 10.6 -1.2
PSZ Piszkesteto 145.87 345 *e*PKPdf PKPdf 08 09 10.7 -1.4
PSZ Piszkesteto 145.87 345 ⇑PKP/p PKPdf 08 09 11.2 -0.9
KHC Kasperske Hory 145.88 353 *e*PKP2 PKPab 08 09 10.5 -1.3
KHC MLR MLR
comp=Z,300nm,17.7s,MS5.1
KHC Kasperske Hory 145.88 353 *e*PKP PKPdf 08 09 10.5 -1.6
KHC *e* 08 09 17.0
KHC *e* 08 09 28.5
KHC LR LR
comp=Z,300nm,17.7s,MS5.1
KHC Kasperske Hory 145.88 353 *e*PKP PKPdf 08 09 10.5 -1.6
KHC pPKP 08 09 17.0
KHC x x 08 09 28.5
KHC AMS AMS 09 17 30.0
comp=Z,300nm,17.7s
SWS Schriesheim 145.89 359 *e*P PKPbc 08 09 10.8 +1.2
ROSF Rostrenen 145.89 13 ⇑*i*PKP1 PKPbc 08 09 11.0 +1.4
comp=Z,142nm,1.2s
TIRR Tirgusor 145.91 333 ⇓P PKPbc 08 09 10.4 +0.6
HARR Harsova 145.93 333 PKP2 PKPab 08 09 10.9 -1.3
HARR Harsova 145.93 333 ⇑P PKPbc 08 09 11.3 +1.5
HARR Harsova 145.93 333 ⇑P PKPbc 08 09 11.4 +1.5
WET Wettzell 145.95 354 *e*PKP2 PKPab 08 09 11.0 -1.1
SIND Sindeldorf 145.99 357 *e*P PKPbc 08 09 10.9 +1.1
FLN La Foliniere 146.00 9 *e*PKP1 PKPbc 08 09 10.8 +0.9
comp=Z,238nm,1.1s
FLN *e*R
comp=Z,272nm,21.8s
KTD Kalmit 146.06 359 *e*P PKPbc 08 09 11.5 +1.5
MLR Muntele Rosu 146.09 336 PKPbc PKPbc 08 09 12.3 +2.1
comp=Z,37nm,1.0s,baz=172,slow=0.4,SNR=36
MLR Muntele Rosu 146.09 336 ⇑P PKPbc 08 09 10.9 +0.7
SGMF Saint Gilles 146.12 12 ⇑*i*PKP1 PKPbc 08 09 11.1 +0.9
comp=Z,234nm,1.3s
GEC2 GERESS Array S 146.15 353 *e*PKP2 PKPab 08 09 11.9 -1.0
GERES GERESS Array B 146.15 353 PKPbc PKPbc 08 09 10.9 +0.7
comp=Z,24nm,1.2s,baz=236,slow=4.8,SNR=42
LDF La Druitiere 146.22 9 ⇑*i*PKP1 PKPbc 08 09 11.3 +0.9
comp=Z,129nm,1.0s
ZST Bratislava 146.23 348 *e*PKP PKPdf 08 09 12.3 -0.4
ZST *e* 08 09 22.5
ZST *e* 08 09 34.2
ZST *e*L 08 11 21.8
KMBO Kilima Mbogo 146.28 244 PKPbc PKPbc 08 09 12.9 +1.3
comp=Z,7.9nm,1.0s,baz=44,slow=3.6,SNR=11
KMBO Kilima Mbogo 146.28 244 *e*PKPdf PKPdf 08 09 13.3 -0.6
GRR Gorron 146.30 10 ⇑*i*PKP1 PKPbc 08 09 11.8 +1.2
comp=Z,220nm,1.3s
QUIF Quistinic 146.31 13 ⇑*i*PKP1 PKPbc 08 09 11.7 +1.1
comp=Z,187nm,1.2s
SNX Sinaia 146.37 337 PKHKP 08 09 03.4
LANF Langenberg 146.41 360 PKP PKPdf 08 09 12.5 -0.5
BRTR Keskin Array B 146.56 322 PKPbc PKPbc 08 09 13.8 +2.3
comp=Z,52nm,0.9s,baz=137,slow=1.8,SNR=110
STU Stuttgart 146.58 358 *e*PKPdf PKPdf 08 09 12.1 -1.2
LBG Lerchenberg 146.70 358 *e*P PKPbc 08 09 13.4 +1.9
HDH Heidenheim 146.72 357 *e*P PKPbc 08 09 13.4 +1.8
MEZF Maizieres J'vi 146.83 3 *e*PKP1 PKPbc 08 09 13.1 +1.3
comp=Z,78nm,1.1s
BUCH Bad Urach 146.90 358 *e*P PKPbc 08 09 14.2 +2.2
ANTO Ankara 146.97 323 ⇑PKP2 PKPab 08 09 15.1 -1.3
WLS Welschbruch 146.97 0 PKP PKPdf 08 09 14.2 +0.2
CDF Champ du Feu 146.97 0 ⇑*i*PKP1 PKPbc 08 09 14.1 +2.0
comp=Z,66nm,1.0s
MOA Molln 147.05 352 ⇑*i*P PKPdf 08 09 14.2 +0.1
BFO Black Forest 147.05 359 *e*PKP2 PKPab 08 09 14.2 -2.2
FUR Furstenfeldbru 147.07 355 *e*PKP2 PKPab 08 09 14.5 -2.0
THEF They Montfort 147.14 2 PKP PKPdf 08 09 14.5 +0.3
ECH Echery 147.17 0 PKP PKPdf 08 09 14.3 0.0
LIBD Limburg 147.24 360 *e*P PKPdf 08 09 15.0 +0.6
SPAK Spaichingen 147.27 358 PKP PKPdf 08 09 14.9 +0.4
SPAK Spaichingen 147.27 358 *e*P PKPdf 08 09 15.0 +0.5
GUT Gutenstein 147.29 358 *e*P PKPdf 08 09 14.6 +0.1
PRD Provadia 147.35 332 *e*P PKPdf 08 09 16.0 +1.2
HAU Haudompre 147.37 1 ⇑*i*PKP1 PKPdf 08 09 15.2 +0.6
comp=Z,69nm,0.8s
HAU *e*R
comp=Z,258nm,18.0s
KIZ Kirchzarten 147.43 359 *e*P PKPdf 08 09 15.1 +0.4
FELD Feldberg 147.51 359 ⇑*e*P PKPdf 08 09 15.5 +0.7
MOF Molkenrain 147.54 0 PKP PKPdf 08 09 15.4 +0.5
HINF Hinteralfeld 147.57 1 ⇑*i*PKP1 PKPdf 08 09 15.5 +0.6
UBR Uberruh 147.63 357 *e*P PKPdf 08 09 15.8 +0.8
PKSM Moragy 147.77 345 ⇑PKP2 PKPab 08 09 15.6 -3.7
HYF Humbligny 147.87 6 *e*PKP1 PKPdf 08 09 16.8 +1.3
MOTA Moosalm 147.90 355 ⇑*i*P PKPdf 08 09 16.6 +1.1
BBS Basel-Blauen 147.92 360 PKP PKPdf 08 09 18.2 +2.7
BBS Basel-Blauen 147.92 360 *e*P PKPdf 08 09 17.6 +2.1
KBA Koelnbreinsper 147.93 352 ⇑*i*P PKPdf 08 09 15.9 +0.4
WTTA Wattenberg 147.93 355 ⇑*i*P PKPdf 08 09 16.9 +1.4
SZH Strazhica 147.93 334 *e*P PKPdf 08 09 17.0 +1.3
SQTA Sankt Quirin 148.01 355 ⇑*i*P PKPdf 08 09 17.4 +1.7
DAVA Damuels 148.04 357 ⇑*i*P PKPdf 08 09 17.1 +1.4
KOGS Kog 148.07 348 *e*PKPdf PKPdf 08 09 16.6 +0.8
MFF Saint Martin d 148.15 10 ⇑*i*PKP1 PKPdf 08 09 17.1 +1.2
comp=Z,111nm,1.3s
SSF Saint Saulge 148.16 5 ⇑*i*PKP1 PKPdf 08 09 17.5 +1.6
comp=Z,63nm,1.0s
AVF Avril sur Loir 148.42 5 ⇑*i*PKP1 PKPdf 08 09 17.8 +1.5
comp=Z,55nm,1.0s
BEO Belgrade 148.56 342 ⇓*i*PKP PKPdf 08 09 35.4 +19
BGF Bois d'Agland 148.60 6 ⇑*i*PKP1 PKPdf 08 09 18.4 +1.8
comp=Z,32nm,0.8s
SMF Signal de Mont 148.60 5 ⇑*i*PKP1 PKPdf 08 09 18.3 +1.7
comp=Z,23nm,0.8s
CABF La Chapelle 148.76 2 ⇑*i*PKP1 PKPdf 08 09 19.5 +2.6
comp=Z,118nm,1.1s
LJU Ljubljana 148.77 350 *e*PKPdf PKPdf 08 09 18.5 +1.5
TCF Toulx Ste Croi 148.79 7 ⇑*i*PKP1 PKPdf 08 09 18.7 +1.7
SVIS Svilajnac 148.80 341 ⇑*i*PKP PKPdf 08 09 18.6 +1.6
JAVS Javornik 148.99 351 *e*PKPdf PKPdf 08 09 18.7 +1.4
AGO Saint Agoulin 149.13 6 PKP PKPdf 08 09 19.7 +2.2
BOJS Bojanci 149.17 349 *e*PKPdf PKPdf 08 09 19.9 +2.3
PLDF La Plantade 149.25 5 PKP PKPdf 08 09 20.4 +2.7
PGB Panagyurishte 149.25 335 *e*P PKPdf 08 09 20.0 +2.2
STS Santiago 149.28 23 P PKPdf 08 09 19.4 +1.5
GRUS Gruza 149.33 341 ⇑*i*PKP PKPdf 08 09 16.1 -1.8
DIVS Divcibare 149.36 342 ⇑*i*PKP PKPdf 08 09 16.0 -1.9
EPON Pontenova 149.41 21 P PKPdf 08 09 19.3 +1.2
CSS Prodhromos 149.59 315 *e*PKPbc PKPdf 08 09 21.3 +2.6
VTS Vitosha 149.60 337 *e*P PKPdf 08 09 21.5 +3.1
RJF Les Rejaudoux 149.67 8 ⇑*i*PKP1 PKPdf 08 09 21.2 +2.8
comp=Z,49nm,1.1s
RJF *e*R
comp=Z,318nm,21.2s
BBLS Bajina Basta - **149.74 343** ⇓*i*PKP PKPdf 08 09 21.5 +3.0
RZN Rozhen 149.74 334 *e*P PKPdf 08 09 21.0 +2.4
EZAM Zamans 149.85 24 P PKPdf 08 09 21.6 +2.8
LPL La Plagne 149.87 1 ⇑*i*PKP1 PKPdf 08 09 22.8 +4.1
comp=Z,53nm,1.0s
LPG La Plagne 149.89 1 ⇑*i*PKP1 PKPdf 08 09 23.0 +4.3
comp=Z,40nm,0.9s
LFF La Frestale 149.91 9 ⇑*i*PKP1 PKPdf 08 09 21.8 +3.0
comp=Z,86nm,1.0s
LBL Lubilhac 149.95 6 PKP PKPdf 08 09 22.6 +3.8
CAF Calviac 150.12 8 ⇑*i*PKP1 PKPdf 08 09 22.4 +3.3
comp=Z,40nm,1.1s
MMB Musomiste 150.24 335 *e*P PKPdf 08 09 22.0 +2.6
KKB Krupnik 150.26 336 *e*P PKPdf 08 09 23.0 +3.6
BNI Bardonecchia 150.33 1 *e*PKPdf PKPdf 08 09 19.1 -0.3
ELOB Lobios 150.34 24 P PKPdf 08 09 22.9 +3.3
ORIF Oris-en-Rattie 150.44 2 ⇑*i*PKP1 PKPdf 08 09 23.7 +4.1
comp=Z,52nm,1.1s
ORIF *e*R
comp=Z,313nm,21.2s
MBDF Montbardon 150.66 1 ⇑*i*PKP1 PKPdf 08 09 24.3 +4.4
SKO Skopje 150.79 338 *i* PKP PKPdf 08 09 24.0 +3.8
comp=Z,0.0nm,1.0s
PBRG Braganca 150.89 22 *e*PKPbc PKPdf 08 09 24.7 +4.3
EIL Elat 150.91 304 *e*PKPbc PKPdf 08 09 24.9 +4.1
PVRL Vila Real 150.98 24 *e*PKPbc PKPdf 08 09 24.7 +4.2
LASF Ste Croix 151.15 5 ⇑*i*PKP1 PKPdf 08 09 25.3 +4.6
comp=Z,143nm,1.2s
SJPF Ste Jean 151.30 13 *e*PKP1 PKPdf 08 09 25.4 +4.5
SMRF Simiane la Rot 151.37 3 ⇑*i*PKP1 PKPdf 08 09 26.2 +5.2
comp=Z,131nm,1.3s
PVIS Viseu 151.38 25 *e*PKPbc PKPdf 08 09 25.4 +4.3
SBF Sospel 151.53 360 *e*PKP1 PKPdf 08 09 26.0 +4.7
ETSF Etsaut 151.65 12 ⇑*i*PKP1 PKPdf 08 09 26.4 +4.9
comp=Z,108nm,1.1s
MTLF Montolieu 151.70 8 ⇑*i*PKP1 PKPdf 08 09 26.2 +4.7
comp=Z,31nm,1.0s
EPF Esparros 151.70 11 *e*PKP1 PKPdf 08 09 26.5 +5.0
comp=Z,38nm,1.1s
MTE Manteigas 151.79 25 *e*PKPbc PKPdf 08 09 26.5 +4.7
FRF La Foret Royal 151.82 1 *e*PKP1 PKPdf 08 09 26.2 +4.5
comp=Z,53nm,1.2s
LMR La Mourre 152.04 1 ⇑*i*PKP1 PKPdf 08 09 26.8 +4.8
comp=Z,43nm,1.0s
PTOM Tomar 152.09 27 *e*PKPbc PKPdf 08 09 27.4 +5.2
PCBR Castelo Branco 152.29 25 *e*PKPbc PKPdf 08 09 27.4 +4.9
PGF Pioggiola 152.81 357 ⇑*i*PKP1 PKPdf 08 09 28.3 +5.2
comp=Z,64nm,1.0s
EVO Evora 153.16 28 *e*PKP1 PKPdf 08 09 29.1 +5.3
comp=Z,58nm,1.2s
EVO *e*R
comp=Z,357nm,22.2s
PBEJ Beja 153.63 28 *e*PKPbc PKPdf 08 09 31.2 +6.8
ESDC Sonseca Array 153.75 20 PKP PKPdf 08 09 22.6 -1.9
comp=Z,0.3nm,0.4s,baz=341,slow=2.3,SNR=4.9
ESDC PKPbc PKPdf 08 09 30.5 +6.0
comp=Z,6.0nm,0.9s,baz=339,slow=2.5,SNR=15
EMIN Mina Concepcio 154.38 26 P PKPab 08 09 46.7 -0.4
EADA Adamuz 154.88 23 P PKPab 08 09 49.0 -0.1
ESPR Espera 155.48 26 P PKPab 08 09 50.7 -1.1
ELOJ Sierra Loja 155.93 23 P PKPab 08 09 54.5 +0.8
EJIF Jimena Fronter 156.00 26 P PKPab 08 09 54.2 +0.2
ECOG Cogollos-Vega 156.03 22 P PKPab 08 09 53.9 -0.2
ERON Agron 156.18 23 P PKPab 08 09 55.9 +1.2

IDC 16 08:09:31.1±12.0, 4.29N×94.16E, mb3.4/2, mb1 3.7/3, mb1mx3.5/20, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=312.7km s-min=49.9km az=83.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.83**	**18**	Pn	P	08 13 02.5	-1.7
	0.1nm,0.3s,baz=213,slow=11,SNR=11						
WRA	**Warramunga Arr**	**46.24**	**123**	P	P	08 17 58.2	-2.1
	0.7nm,0.6s,baz=302,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**47.67**	**128**	P	P	08 18 09.8	-1.7
	0.3nm,0.6s,baz=302,slow=8.2,SNR=3.6						

IDC 16 08:16:29.1±31.0, 3.08N×97.25E, mb3.6/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.6/3, MS4.3/2, Ms1 4.3/2, ms1mx3.4/25, Error ellipse: s-maj=599.4km s-min=242.4km az=142.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.01**	**124**	P	P	08 24 31.2	-1.1
	0.1nm,0.4s,baz=299,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**44.51**	**129**	P	P	08 24 42.1	-2.2
	0.5nm,0.8s,baz=295,slow=7.4,SNR=5.0						
ZAL	**Zalesovo**	**51.71**	**351**	LR	LR	08 49 50.7	
	comp=Z,365nm,21.8s,baz=28,slow=39						
STKA	**Stephens Creek**	**54.59**	**133**	P	P	08 25 59.1	-2.6
	1.3nm,0.7s,baz=320,slow=7.9,SNR=3.7						
GERES	**GERESS Array B**	**83.44**	**319**	LR	LR	09 07 26.2	
	comp=Z,185nm,21.9s,baz=200,slow=37						

IDC 16 08:25:48.4±1.2, 29.21S×75.01E, mb3.9/6, mb1 4.2/6, mb1mx3.9/17, mbtmp3.9/6, 1C, Error ellipse:

s-maj=39.2km s-min=27.0km az=57.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**52.56**	**99**	P	P	08 35 03.8	-2.4
	0.7nm,0.7s,baz=250,slow=6.3,SNR=8.9						
CMAR	**Chiang Mai Arr**	**52.72**	**29**	P	P	08 35 05.2	-2.1
	0.2nm,0.5s,baz=203,slow=6.9,SNR=2.9						
WRA	**Warramunga Arr**	**54.26**	**94**	P	P	08 35 17.1	-1.5
	1.5nm,0.7s,baz=249,slow=7.2,SNR=19						
STKA	**Stephens Creek**	**56.59**	**111**	⇑P	P	08 35 33.9	-1.5
	2.9nm,1.1s						
STKA	**Stephens Creek**	**56.59**	**111**	P	P	08 35 32.6	-2.8
	2.2nm,0.8s,baz=279,slow=5.0,SNR=5.5						
VNDA	**Vanda**	**61.03**	**166**	P	P	08 36 03.5	-2.2
	1.8nm,0.9s,baz=268,slow=8.1,SNR=7.3						
MLR	**Muntele Rosu**	**86.68**	**328**	P	P	08 38 34.5	-0.6
	0.9nm,0.6s,baz=157,slow=15,SNR=2.3						
YKA	**Yellowknife Ar**	**146.12**	**8**	PKPbc	PKPbc	08 45 27.8	-2.0
	0.7nm,0.8s,baz=332,slow=3.4,SNR=16						

*BJI **16** 08:28:23.8, 18.88N×148.57E, h26km, mB5.0, mb4.7, Ms4.5, Msz4.4*
*IDC **16** 08:28:23.8±0.6, 19.00N×148.28E, mb4.2/15, mb1 4.4/18, mb1mx4.3/24, mbtmp4.3/18, ML4.1/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/25, Error ellipse: s-maj=19.2km s-min=15.0km az=107.0*
*NEIC **16** 08:28:25.3±0.4, 18.99N×148.33E, h10km, mb4.5/10, Error ellipse: s-maj=10.8km s-min=6.6km az=103.0*
*MOS **16** 08:28:26.8±1.2, 18.96N×148.30E, h33km, mb4.9/6, Error ellipse: s-maj=19.3km s-min=11.1km az=101.7*

ISC 16 08:28:25.9±3.0, 19.00N±0.04×148.23E±0.09, h24km±21km, h32km±1.3km: pP-P, n52, σ0s92/52, mb4.3/27, MS4.4/1, 1C-3D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**3.27**	**226**	⇑*e*P	**Pn**	**08 29 17.7**	**+0.7**
SARN				*e*S	**Sn**	**08 29 54.8**	**-0.8**
ANA2	**Anatahan**	**3.57**	**223**	*e*P	**Pn**	**08 29 22.5**	**+1.3**
ANA2				*e*S	**Sn**	**08 30 03.2**	**+0.1**
GUMO	**Guam**	**6.27**	**211**	*e*P	**Pn**	**08 29 57.8**	**-1.7**
CBIJ	**Chichi jima**	**9.79**	**327**	Pn	**P**	**08 30 48.3**	**-0.2**
	16nm,0.3s,baz=145,slow=20,SNR=17						
CBIJ				Sn	**Sn**	**08 32 34.5**	**-4.2**
	15nm,0.3s,baz=303,slow=23,SNR=8.7						
MJAR	**Matsushiro Arr**	**19.57**	**335**	P	**P**	**08 32 54.5**	**-0.6**
	0.2nm,0.3s,baz=164,slow=10,SNR=7.4						
MAJO	**Matsushiro**	**19.57**	**335**	*e*P	**P**	**08 32 55.4**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,13nm,0.9s						
MAJO	**Matsushiro**	**19.57**	**335**	*e*P	**P**	**08 32 55.4**	**+0.2**
	comp=Z,14nm,0.9s						
MAT	**Matsushiro**	**19.57**	**335**	*e*P	**P**	**08 32 55.0**	**-0.2**
MAT	**Matsushiro**	**19.57**	**335**	P	**P**	**08 32 54.8**	**-0.4**
JOW	**Kunigami**	**19.95**	**297**	P	**P**	**08 32 58.1**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=105,slow=16,SNR=2.5						
JOW				LR	LR	08 40 08.6	
	comp=Z,149nm,18.2s,baz=81,slow=35						
BJI	**Beijing**	**34.61**	**314**	*e*P	**P**	**08 35 15.6**	**+0.3**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.3s,mb4.5						
BJI	**Beijing**	**34.61**	**314**	*e*P	**P**	**08 35 15.6**	**+0.3**
	comp=Z,9.0nm,1.3s,mb4.5						
KAKA	**Kakadu**	**35.14**	**207**	*e*P	**P**	**08 35 19.5**	**-0.6**
	comp=Z,2.6nm,0.6s,mb4.3						
ENH	**Enshi**	**36.79**	**295**	P	**P**	**08 35 34.1**	**+0.2**
	comp=Z,5.2nm,0.9s,mb4.4						
HIA	**Hailar**	**37.88**	**329**	*e*P	**P**	**08 35 43.0**	**+0.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA	**Hailar**	**37.88**	**329**	*e*P	**P**	**08 35 43.0**	**+0.1**
	comp=Z,9.2nm,0.8s,mb4.6						
HHC	**Hu-ho-hao-te**	**38.13**	**313**	*e*P	**P**	**08 35 45.9**	**+0.9**
HHC				XP	sP	08 35 59.6	+4.5
HHC				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5						
WRAB	**Tennant Creek**	**41.01**	**200**	*e*P	**P**	**08 36 11.1**	**+2.0**
WRAB				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.6						
WRAB	**Tennant Creek**	**41.01**	**200**	*e*P	**P**	**08 36 11.1**	**+2.0**
	comp=Z,19nm,1.3s,mb4.6						
WB2	**Warramunga Arr**	**41.02**	**200**	*e*P	**P**	**08 36 09.0**	**-0.2**
WRA	**Warramunga Arr**	**41.03**	**200**	P	**P**	**08 36 08.4**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.0,baz=23,slow=8.8,SNR=13						
LZH	**Lanzhou**	**42.48**	**303**	⇓P	**P**	**08 36 22.4**	**+1.4**
LZH				AP	pP	08 36 32.3	+4.1
LZH				XP	sP	08 36 36.3	+5.2
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,98nm,4.0s						
LZH				LR	LR		
	comp=N,319nm,12.9s						
LZH				LR	LR		
	comp=Z,392nm,17.0s,MS4.4						
LZH	**Lanzhou**	**42.48**	**303**	⇓P	**P**	**08 36 22.4**	**+1.4**
LZH				*PP	pP	08 36 32.2	+4.0
LZH				*SP	sP	08 36 36.3	+5.2
LZH				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.7						
LZH				MLR	MLR		
	comp=Z,390nm,17.0s,MS4.4						
LZH	**Lanzhou**	**42.48**	**303**	⇓P	**P**	**08 36 22.4**	**+1.4**
	comp=Z,27nm,1.3s,mb4.7						
LZH				pP	pP	08 36 32.2	+4.0
LZH				sP	sP	08 36 36.3	+5.2
LZH				LR	LR		
	comp=Z,390nm,17.0s,MS4.4						
FITZ	**Fitzroy Crossi**	**43.03**	**212**	*e*P	**P**	**08 36 24.9**	**-0.8**
	comp=Z,4.9nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**43.03**	**212**	P	**P**	**08 36 24.5**	**-1.3**
	comp=Z,2.3nm,0.4s,mb4.3,baz=18,slow=12,SNR=8.3						
ULN	**Ulaanbaatar**	**44.04**	**320**	*e*P	**P**	**08 36 34.3**	**+0.7**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**44.04**	**320**	*e*P	**P**	**08 36 34.2**	**+0.7**
	comp=Z,9.4nm,0.8s,mb4.6						
SONM	**Songino Array**	**44.43**	**320**	P	**P**	**08 36 37.4**	**+0.7**
	comp=Z,5.8nm,0.6s,mb4.5,baz=139,slow=7.5,SNR=41						
ASAR	**Alice Springs**	**44.65**	**199**	P	**P**	**08 36 39.9**	**+1.1**
	comp=Z,0.6nm,0.6s,mb3.6,baz=12,slow=7.5,SNR=7.6						
ASAR				PcP	PcP	08 38 20.8	-0.9
	comp=Z,0.6nm,0.7s,baz=28,slow=2.7,SNR=4.7						
GTA	**Gaotai**	**46.28**	**307**	P	**P**	**08 36 52.3**	**+0.8**
GTA				AP	pP	08 37 01.0	+2.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
CMAR	**Chiang Mai Arr**	**46.55**	**278**	P	**P**	**08 36 54.0**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.3,baz=66,slow=6.8,SNR=29						
ZAK	**Zakamensk**	**47.36**	**322**	*e*P	**P**	**08 37 00.3**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
WMQ	**Urumqi**	**55.93**	**310**	P	**P**	**08 38 05.3**	**+0.8**
WMQ				AP	pP	08 38 15.4	+3.6
WMQ				XP	sP	08 38 20.3	+5.7
ZAL	**Zalesovo**	**59.25**	**322**	P	**P**	**08 38 26.6**	**-1.2**
	comp=Z,3.8nm,0.7s,mb4.5,baz=8.6,slow=7.7,SNR=24						
ILAR	**Eielson Array**	**62.32**	**26**	P	**P**	**08 38 47.1**	**-1.3**
	comp=Z,2.2nm,0.9s,mb4.3,baz=258,slow=5.9,SNR=22						
BVAR	**Borovoye Array**	**67.77**	**320**	P	**P**	**08 39 22.9**	**-0.9**
	comp=Z,2.1nm,0.6s,mb4.4,baz=101,slow=6.1,SNR=4.1						
INK	**Inuvik**	**68.16**	**23**	P	**P**	**08 39 25.2**	**-0.8**
	comp=Z,2.0nm,0.7s,mb4.3,baz=275,slow=5.9,SNR=19						
INK	**Inuvik**	**68.16**	**23**	P	**P**	**08 39 25.2**	**-0.8**
ARU	**Arti**	**74.21**	**325**	*e*P	**P**	**08 40 02.0**	**-0.4**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ARU	**Arti**	**74.21**	**325**	*e*P	**P**	**08 40 01.9**	**-0.5**
	comp=Z,5.5nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**76.60**	**28**	P	**P**	**08 40 15.5**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=285,slow=5.6,SNR=36						
NVAR	**Mina Array Bea**	**81.06**	**53**	P	**P**	**08 40 41.6**	**+0.9**
	comp=Z,2.4nm,0.7s,mb4.2,baz=267,slow=4.2,SNR=18						
ARCES	**ARCESS Array B**	**82.93**	**343**	P	**P**	**08 40 51.6**	**+1.8**
	comp=Z,1.2nm,0.6s,mb4.1,baz=56,slow=8.7,SNR=5.1						
JOF	**Joensuu**	**84.74**	**336**	*e*p	**P**	**08 40 57.7**	**-1.3**
	comp=Z,4.6nm,0.6s,mb4.8						
PDAR	**Pinedale Array**	**85.90**	**46**	P	**P**	**08 41 05.9**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.9,baz=270,slow=4.4,SNR=4.6						
FINES	**FINESS Array B**	**87.60**	**336**	P	**P**	**08 41 11.9**	**-1.2**
	comp=Z,1.1nm,0.5s,mb4.3,baz=66,slow=4.7,SNR=13						
PV10	**Paradox Valley**	**87.93**	**50**	*e*P	**P**	**08 41 16.2**	**+1.0**
ULM	**Lac du Bonnet**	**90.99**	**35**	P	**P**	**08 41 28.4**	**-1.0**
	comp=Z,2.7nm,0.7s,mb4.7,baz=256,slow=0.7,SNR=3.3						
CFAA	**Coronel Fontan**	**144.89**	**118**	PKP	PKPdf	08 48 01.5	-4.5
	comp=Z,0.7nm,0.8s,baz=258,slow=4.1,SNR=14						
CFAA	**Coronel Fontan**	**144.89**	**118**	PKP	PKPdf	08 48 01.5	-4.5
SIV	**San Ignacio**	**151.91**	**88**	PKPbc	PKPdf	08 48 23.3	+5.6
	comp=Z,6.8nm,0.3s,baz=241,slow=11,SNR=92						

*IDC **16** 08:35:30.3±1.4, 2.60N×95.43E, h20km±4km, mb4.0/7, mb1 4.2/8, mb1mx3.9/19, mbtmp4.2/8, ML4.1/1, Error ellipse: s-maj=55.3km s-min=17.0km az=57.0*
*NEIC **16** 08:35:30.2±0.7, 2.57N×95.46E, mb4.3/5, Error ellipse: s-maj=16.8km s-min=8.7km az=64.0*
*BJI **16** 08:35:31.0, 3.03N×95.53E, h21km, mb4.7, Ms4.1, Msz3.6*

ISC 16 08:35:28.1±0.8, 2.58N±0.08×95.5E±0.1, h22km, h22km±1.3km: pP-P, n29, σ0s96/26, mb4.5/17, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.85**	**62**	*e*P	**Pn**	**08 36 55.2**	**-0.6**
KKTK	**Khon Kaen**	**15.48**	**27**	⇓PN	**P**	**08 39 11.0**	**+3.9**
KKTK				SG	rx	08 39 17.0	
CM31	**Chiang Mai Arr**	**16.15**	**12**	*e*P	**P**	**08 39 17.2**	**+1.5**
	10nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.15**	**12**	Pn	**P**	**08 39 16.8**	**+1.1**
	0.3nm,0.3s,baz=202,slow=11,SNR=48						
CHG	**Chiang Mai**	**16.50**	**12**	P	**P**	**08 39 20.9**	**+0.8**
KKM	**Kota Kinabalu**	**20.99**	**80**	*e*P	**P**	**08 40 12.5**	**-0.2**
GYA	**Guiyang**	**26.07**	**23**	P	**P**	**08 41 01.3**	**-0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**26.47**	**341**	*e*P	**P**	**08 41 06.4**	**+0.6**
	comp=Z,42nm,1.2s,mb4.8						
GUN	**Gumba**	**26.80**	**341**	*e*P	**P**	**08 41 09.7**	**+0.9**
	comp=Z,19nm,0.6s,mb4.8						
KKN	**Kakani**	**26.89**	**340**	*e*P	**P**	**08 41 08.8**	**-0.9**
	comp=Z,26nm,0.9s,mb4.8						
GKN	**Gorkha**	**27.31**	**339**	*e*P	**P**	**08 41 12.3**	**-1.2**
	comp=Z,25nm,0.7s,mb4.8						
KOLN	**Koldanda**	**27.50**	**337**	*e*P	**P**	**08 41 10.8**	**-4.4**
	comp=Z,20nm,0.9s,mb4.6						
ENH	**Enshi**	**30.59**	**24**	*e*P	**P**	**08 41 41.0**	**-1.9**
	comp=Z,10nm,0.9s,mb4.7						
XAN	**Xi'an**	**33.73**	**20**	P	**P**	**08 42 08.6**	**-1.7**
XAN				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**36.15**	**126**	*e*P	**P**	**08 42 31.2**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**36.15**	**126**	P	**P**	**08 42 31.2**	**+0.1**
	comp=Z,4.2nm,0.7s,mb4.5,baz=192,slow=4.7,SNR=6.4						
KAKA	**Kakadu**	**39.75**	**113**	*e*P	**P**	**08 43 00.6**	**-0.7**
	comp=Z,2.8nm,0.7s,mb4.1						
BJI	**Beijing**	**41.76**	**24**	*e*P	**P**	**08 43 18.8**	**+1.2**
BJI				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.8						
BJI	**Beijing**	**41.76**	**24**	*e*P	**P**	**08 43 18.8**	**+1.2**
	comp=Z,19nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**44.24**	**122**	P	**P**	**08 43 38.6**	**+0.5**
	comp=Z,1.9nm,0.7s,mb3.9,baz=299,slow=9.3,SNR=20						
WB2	**Warramunga Arr**	**44.25**	**122**	*e*P	**P**	**08 43 38.2**	**0.0**
ASAR	**Alice Springs**	**45.61**	**127**	P	**P**	**08 43 50.1**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=300,slow=7.9,SNR=11						
SONM	**Songino Array**	**46.07**	**10**	P	**P**	**08 43 52.0**	**-0.2**
	comp=Z,2.4nm,0.9s,mb4.2,baz=188,slow=8.7,SNR=12						
SONM				pP	pP	08 43 58.8	0.0
	comp=Z,4.2nm,0.8s,baz=188,slow=8.8,SNR=17						
SONM				PcP	PcP	08 45 29.5	+0.6
	comp=Z,0.9nm,0.7s,baz=193,slow=2.5,SNR=4.0						
SONM				pPcP		08 45 36.9	
	comp=Z,1.3nm,0.7s,baz=184,slow=4.4,SNR=4.5						
ZAL	**Zalesovo**	**51.94**	**352**	P	**P**	**08 44 37.3**	**-0.3**
	comp=Z,3.1nm,0.7s,mb4.4,baz=296,slow=7.1,SNR=19						
ZAL				pP	pP	08 44 44.5	+0.3
	comp=Z,3.8nm,0.6s,baz=293,slow=5.0,SNR=9.7						
BVAR	**Borovoye Array**	**54.39**	**342**	P	**P**	**08 44 55.1**	**-0.6**
	comp=Z,3.1nm,0.8s,mb4.3,baz=127,slow=7.4,SNR=6.8						
BVAR				pP	pP	08 45 02.3	-0.1
	comp=Z,3.4nm,0.7s,baz=149,slow=8.6,SNR=5.7						
BRTR	**Keskin Array B**	**66.90**	**312**	pP	pP	08 46 27.9	0.0
	comp=Z,0.3nm,0.4s,baz=135,slow=4.1,SNR=2.5						
AKASG	**Malin Array Be**	**73.11**	**323**	pP	pP	08 47 05.5	-0.2
	comp=Z,0.4nm,0.4s,baz=94,slow=5.1,SNR=2.5						
FINES	**FINESS Array B**	**77.98**	**333**	P	**P**	**08 47 26.9**	**+0.7**
	comp=Z,1.3nm,0.9s,mb3.9,baz=104,slow=5.7,SNR=3.3						
FINES				pP	pP	08 47 32.5	-0.6
	comp=Z,0.7nm,0.9s,baz=90,slow=7.6,SNR=2.1						
ARCES	**ARCESS Array B**	**80.66**	**340**	pP	pP	08 47 48.0	+0.5
	comp=Z,4.6nm,1.1s,baz=90,slow=6.1,SNR=1.5						

*DJA **16** 08:42:51.2±3.7, 2.26S×98.45E, h33km, mb5.5/3, Error ellipse: s-maj=108.6km s-min=10.8km az=84.0*
*BJI **16** 08:43:05.5, 2.22S×100.03E, h50km, mB5.2, mb5.0, Ms5.2, Msz5.0*
*MOS **16** 08:43:06.6±0.8, 1.71S×100.03E, h33km, mb5.7/38, MS4.7/15, Error ellipse: s-maj=9.7km s-min=5.0km az=125.6*
*HRVD **16** 08:43:07.8±0.3, 1.79S×99.72E, h13km±1km, MW5.0/62, Centroid moment Tensor Solution. LP body waves: s31,c50;Mantle waves: s62,c105; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.36±.20; $M_{\theta\theta}$-4.86±.14; $M_{\phi\phi}$2.50±.18; $M_{r\theta}$0.95±.30; $M_{\theta\phi}$0.59±.13; $M_{\phi r}$0.80±.42; Best double couple: M_0=4.195×10^{16} NP1: ϕ_s=312°, δ55°, λ151°. NP2:ϕ_s=60°, δ66°, λ38°. Principal axes: T 3.375, Plg43°, Azm280°; N 1.639, Plg46°, Azm87°; P -5.015, Plg7°, Azm184°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 08:43:07.8±0.1, 1.77S×99.94E, mb5.4/67, MS4.8/8 Error ellipse: s-maj=4.3km s-min=2.8km az=38.0*
NEIC Felt [III] at Padang and Pariaman; [II] at Pandangpanjang, Sumatra.
*IDC **16** 08:43:08.1±0.3, 1.71S×100.02E, h31km±2km, mb4.7/30, mb1 4.8/30, mb1mx4.8/31, mbtmp4.9/30, MS4.4/15, Ms1 4.5/15, ms1mx4.3/25, Error ellipse: s-maj=11.9km s-min=6.8km az=46.0*
*CSEM **16** 08:43:11.5, 0.73S×100.01E, h33km, mb5.7*

ISC 16 08:43:06.2±0.2, 1.77S±0.03×99.99E±0.03, h31km, h31km±.4km: pP-P, n403, σ0s93/372, mb5.3/119, MS4.7/46, 35C-22D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.37**	**17**	*e*Pn	**Pn**	**08 43 31.0**	**+1.5**
KGM	**Kluang**	**5.02**	**42**	P	**Pn**	**08 44 25.8**	**+4.3**
IPM	**Ipoh**	**6.39**	**9**	P	**Pn**	**08 44 43.2**	**+2.4**
PENI	**Pendagan**	**6.40**	**126**	⇓*i*P	**Pn**	**08 44 40.6**	**-0.4**
PENI				pmax	pmax		
	comp=Z,2μm,0.6s						
PENI	**Pendagan**	**6.40**	**126**	⇓*i*P	**Pn**	**08 44 40.6**	**-0.4**
	comp=Z,2μm,0.5s						
KULM	**Kulim**	**7.04**	**5**	*e*P	**Pn**	**08 44 50.7**	**+0.7**
PASI	**Pasiripis**	**7.42**	**131**	*e*P	**Pn**	**08 44 53.9**	**-1.4**
PULI	**Pulasari**	**7.50**	**127**	⇓*i*pP		08 44 57.8	
PULI	**Pulasari**	**7.50**	**127**	⇓*i*P	**Pn**	**08 44 56.0**	**-0.4**
SNG	**Songkhla**	**8.91**	**4**	P	**P**	**08 45 15.0**	**-1.0**
	comp=Z,874nm,1.0s						
KSM	**Kuching**	**10.81**	**73**	P	**P**	**08 45 42.4**	**+0.2**
NNT	**Nongplab**	**14.27**	**359**	P	**P**	**08 46 33.5**	**+5.0**
SRDI	**Scrawed**	**15.58**	**116**	⇓*i*P	**P**	**08 46 45.4**	**-0.3**
SRDI				pmax	pmax		
	comp=Z,116nm,0.2s						
SRDI	**Scrawed**	**15.58**	**116**	⇓*i*P	**P**	**08 46 45.4**	**-0.3**
	comp=Z,233nm,0.2s						
KELI	**Kelakatan**	**15.79**	**114**	⇓*i*P	**P**	**08 46 49.3**	**+0.9**
RATI	**Rata**	**16.94**	**115**	⇓*i*P	**P**	**08 47 00.8**	**-2.1**
	comp=Z,275nm,0.2s						
NST	**Nakhon Sawan**	**17.33**	**0**	P	**P**	**08 47 01.0**	**-6.8**
KEDI	**Kedomdong**	**17.38**	**113**	⇓*i*P	**P**	**08 47 04.9**	**-3.5**
KKM	**Kota Kinabalu**	**17.96**	**64**	*e*P	**P**	**08 47 17.5**	**+1.8**
KKM	**Kota Kinabalu**	**17.96**	**64**	P	**P**	**08 47 20.9**	**+5.2**
KKTK	**Khon Kaen**	**18.21**	**9**	P	**P**	**08 47 20.0**	**+1.3**
TSM	**Tawau**	**18.86**	**71**	P	**P**	**08 47 29.9**	**+3.3**
TANI	**Tanete Lipujan**	**19.44**	**95**	*e*P	**P**	**08 47 34.2**	**+0.8**
NINI	**Niniconang**	**19.91**	**98**	*e*P	**P**	**08 47 40.0**	**+1.4**
CM31	**Chiang Mai Arr**	**20.13**	**357**	*e*P	**P**	**08 47 38.2**	**-2.5**
	comp=Z,59nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.13**	**357**	P	**P**	**08 47 39.0**	**-1.7**
	comp=Z,21nm,0.8s,baz=189,slow=10.0,SNR=122						
CMAR				PcP	PcP	08 51 55.9	+1.2
	comp=Z,3.6nm,0.9s,baz=214,slow=2.9,SNR=5.2						
CMAR				ScP		08 55 30.9	
	comp=Z,0.6nm,0.8s,baz=212,slow=3.5,SNR=4.1						
CMAR				LR	LR	08 55 34.1	
	comp=Z,1μm,19.1s,MS4.2,baz=195,slow=37						
NANT	**Nan**	**20.45**	**2**	⇑P	**P**	**08 47 41.0**	**-3.1**
	comp=Z,456nm,0.8s						
CHG	**Chiang Mai**	**20.48**	**357**	⇑P	**P**	**08 47 41.9**	**-2.5**
	comp=Z,13nm,0.8s						
PALK	**Pallekele**	**21.24**	**295**	*e*P	**P**	**08 47 52.1**	**-0.1**
	comp=Z,132nm,1.1s,mb5.2						
QIZ	**Qiongzhong**	**22.82**	**25**	*e*P	**P**	**08 48 09.0**	**+0.9**
QIZ				AP		08 48 17.6	
QIZ				S	**S**	**08 52 13.4**	**+2.6**
QIZ				XS		08 52 28.5	
QIZ				AMB	AMB		
	comp=Z,53nm,0.8s,mb5.0						
QIZ				LR	LR		
	comp=N,2μm,13.0s,MS4.8						
QIZ				LR	LR		
	comp=E,2μm,13.3s,MS4.8						
QIZ				LR	LR		
	comp=Z,3μm,12.5s,MS5.0						
QIZ	**Qiongzhong**	**22.82**	**25**	*e*P	**P**	**08 48 08.7**	**+0.6**
	comp=Z,71nm,1.0s,mb5.0						
TRD	**Trivandrum**	**25.13**	**294**	⇓*e*P	**P**	**08 48 32.2**	**+1.8**
TRD				*e*S	**S**	**08 52 52.2**	**+1.7**
VIS	**Vishakhapatnam**	**25.39**	**320**	*e*P	**P**	**08 48 33.3**	**+0.5**
VIS				*e*		08 48 45.9	
	comp=Z,231nm,1.4s						
VIS				*e*S	**S**	**08 53 03.4**	**+8.6**
BWNR	**Bhubaneshwar**	**25.97**	**328**	*e*P	**P**	**08 48 40.6**	**+2.4**
BWNR				*e*		08 48 53.6	
	comp=Z,355nm,1.5s						
BWNR				*e*S	**S**	**08 53 10.6**	**+6.2**
KMI	**Kunming**	**26.86**	**6**	P	**P**	**08 48 49.1**	**+2.7**
KMI				AP	pP	08 49 00.1	+4.7
KMI				XP	sP	08 49 02.8	+3.4
KMI				PP	PP	08 49 37.3	+5.4
KMI				S	**S**	**08 53 23.9**	**+4.8**
KMI				XS		08 53 40.3	
KMI				SS	SS	08 54 38.8	+6.1
KMI				SSS	SSS	08 54 55.8	+4.9
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.4						
KMI				AMB	AMB		
	comp=Z,52nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,14.9s,MS4.8						
KMI				LR	LR		
	comp=E,2μm,13.9s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,16.6s,MS4.7						
KMI	**Kunming**	**26.86**	**6**	P	**P**	**08 48 49.1**	**+2.7**
KMI				*PP	pP	08 49 00.1	+4.7
KMI				*SP	sP	08 49 02.7	+3.3
KMI						08 49 37.3	
KMI				S	**S**	**08 53 23.9**	**+4.8**
KMI				*SS		08 53 40.2	
KMI				SSS	SSS	08 54 55.7	+4.8
KMI				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.4						
KMI				MLR	MLR		
	comp=Z,2μm,16.6s,MS4.7						
KMI	**Kunming**	**26.86**	**6**	P	**P**	**08 48 49.1**	**+2.7**
	comp=Z,9.0nm,0.7s,mb4.4						
KMI				pP	pP	08 49 00.1	+4.7
KMI				sP	sP	08 49 02.7	+3.3
KMI				PP	PP	08 49 37.3	+5.4
KMI				S	**S**	**08 53 23.9**	**+4.8**
KMI				sS		08 53 40.2	
KMI				SS	SS	08 54 38.8	+6.1
KMI				SSS	SSS	08 54 55.7	+4.8
KMI				LR	LR		
	comp=Z,2μm,16.6s,MS4.7						
AGT	**Agartala**	**26.88**	**342**	⇑*i*P	**P**	**08 48 47.0**	**+0.5**
AGT				*i* S	tx	08 49 06.0	
MBWA	**Marble Bar**	**27.23**	**136**	*e*P	**P**	**08 48 49.7**	**-0.1**
	comp=Z,64nm,1.0s,mb5.1						
SHL	**Shillong**	**28.29**	**344**	*e*P	**P**	**08 48 58.3**	**-1.0**
SHL				*e*S	**S**	**08 53 40.5**	**-1.5**
HYB	**Hyderabad**	**28.46**	**313**	*e*P	**P**	**08 49 01.0**	**+0.1**
HYB	**Hyderabad**	**28.46**	**313**	*i* P	**P**	**08 49 01.0**	**+0.1**
GYA	**Guiyang**	**28.79**	**12**	⇑*i*P	**P**	**08 49 03.3**	**-0.5**
GYA				AP	pP	08 49 12.8	0.0
GYA				PP	PP	08 49 57.4	+0.3
GYA				S	**S**	**08 53 50.8**	**+0.7**
GYA				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.0						
GYA				AMB	AMB		
	comp=Z,970nm,3.8s						
GYA		

NWAO				LR	LR	09 03 27.6	
	comp=Z,546nm,18.4s,MS4.3,baz=333,slow=35						
NWAO	Narrogin (SRO)	34.97	154	eP	P	08 49 58.2	+0.3
	comp=Z,127nm,1.2s,mb5.7						
LGTI	Lohaghat	36.34	330	eP	P	08 50 09.7	+0.2
PTH	Pithoragarh	36.44	330	eP	P	08 50 09.0	-1.3
XAN	Xi'an	36.60	12	P	P	08 50 10.3	-1.4
XAN				S	S	08 55 54.1	+2.3
XAN				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.2						
XAN				LR	LR		
	comp=N,2µm,12.9s						
XAN				LR	LR		
	comp=Z,3µm,13.1s,MS5.3						
AJM	Ajmer	37.25	321	⇑iP	P	08 50 12.0	-5.2
NDI	New Delhi	37.33	326	eP	P	08 50 16.0	-1.9
LZH	Lanzhou	37.83	5	⇓P	P	08 50 22.5	+0.5
LZH				AP	pP	08 50 32.3	+1.1
LZH				XP	sP	08 50 36.5	+1.5
LZH				PP	PP	08 51 51.8	+0.1
LZH				PCP	PcP	08 52 38.0	-0.6
LZH				eS	S	08 56 12.5	+1.8
LZH				SS	SS	08 58 49.6	+2.6
LZH				SCS	ScS	09 00 30.0	0.0
LZH				AMB	AMB		
	comp=Z,49nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,248nm,6.1s						
LZH				LR	LR		
	comp=N,2µm,13.2s						
LZH				LR	LR		
	comp=Z,2µm,17.3s,MS4.9						
LZH	Lanzhou	37.83	5	⇓P	P	08 50 22.5	+0.5
LZH				*PP	pP	08 50 32.3	+1.1
LZH				*SP	sP	08 50 36.5	+1.5
LZH						08 51 51.7	
LZH						08 52 38.0	
LZH				eS	S	08 56 12.5	+1.8
LZH				*SS		08 56 28.5	
LZH				SS	SS	08 58 49.6	+2.6
LZH						09 00 30.0	
LZH				pmax	pmax		
	comp=Z,49nm,1.5s,mb5.0						
LZH				MLR	MLR		
	comp=Z,2µm,17.3s,MS4.9						
LZH	Lanzhou	37.83	5	⇓P	P	08 50 22.5	+0.5
	comp=Z,49nm,1.5s,mb5.0						
LZH				pP	pP	08 50 32.3	+1.1
LZH				sP	sP	08 50 36.5	+1.5
LZH				PP	PP	08 51 51.7	0.0
LZH				PcP	PcP	08 52 38.0	-0.6
LZH				eS	S	08 56 12.5	+1.8
LZH				sS		08 56 28.5	
LZH				SS	SS	08 58 49.6	+2.6
LZH				ScS	ScS	09 00 30.0	0.0
LZH				LR	LR		
	comp=Z,2µm,17.3s,MS4.9						
NJ2	Nanjing	38.09	26	eP	P	08 50 25.1	+0.8
NJ2				AP	pP	08 50 34.9	+1.5
NJ2				XP	sP	08 50 38.8	+1.5
NJ2				PP	PP	08 51 55.4	+0.5
NJ2				S	S	08 56 13.0	-1.7
NJ2				XS		08 56 37.0	
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,190nm,6.1s						
NJ2				LR	LR		
	comp=N,2µm,27.7s,MS4.8						
NJ2				LR	LR		
	comp=E,530nm,25.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,290nm,20.3s						
WRA	Warramunga Arr	38.12	121	P	P	08 50 24.6	0.0
WRA				*PP	pP	08 50 33.3	-0.4
WRA				S	S	08 56 13.0	-2.1
WRA	Warramunga Arr	38.12	121	P	P	08 50 24.6	0.0
	comp=Z,9.9nm,0.5s,mb4.8,baz=303,slow=9.0,SNR=173						
WRA				pP	pP	08 50 33.3	-0.4
	comp=Z,44nm,0.8s,baz=298,slow=9.4,SNR=39						
WRA				pPcP		08 52 50.6	
	comp=Z,10nm,0.7s,baz=315,slow=2.5,SNR=9.7						
WRA				S	S	08 56 13.0	-2.1
	comp=Z,5.8nm,1.1s,baz=295,slow=16,SNR=5.7						
WRA	Warramunga Arr	38.12	121	P	P	08 50 24.6	0.0
WRA				pP	pP	08 50 33.3	-0.4
WRA				pPcP		08 52 50.6	
WRA				S	S	08 56 13.0	-2.1
WRAB	Tennant Creek	38.12	121	i P	P	08 50 23.7	-0.9
WRAB	Tennant Creek	38.12	121	eP	P	08 50 24.0	-0.6
	comp=Z,96nm,0.9s,mb5.5						
WB2	Warramunga Arr	38.13	121	⇓iP	P	08 50 24.7	+0.1
WB2				i	pP	08 50 35.1	+1.3
WB2				ePCP	PcP	08 52 50.6	+11
WB2				eS	S	08 56 13.6	-1.7
WB2				ePCS		08 56 37.3	
SSE	Sheshan	38.40	30	eP	P	08 50 25.4	-1.5
SSE				S	S	08 56 19.8	+0.5
SSE				SCS	ScS	09 00 30.3	-3.1
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,40nm,6.6s						
SSE				LR	LR		
	comp=N,751nm,14.3s,MS4.9						
SSE				LR	LR		
	comp=E,985nm,14.4s,MS4.9						
SSE				LR	LR		
	comp=Z,2µm,13.3s,MS5.0						
SSE	Sheshan	38.40	30	eP	P	08 50 25.4	-1.5
	comp=Z,39nm,0.7s,mb5.2						
SSE				pP	pP	08 50 34.5	-1.5
SSE				sP	sP	08 50 37.7	-2.2
SSE				S	S	08 56 19.8	+0.5
SSE				sS		08 56 36.8	
SSE				SS	SS	08 59 13.7	+14
SSE				ScS	ScS	09 00 30.2	-3.2
SSE				LR	LR		
	comp=Z,2µm,13.3s,MS5.0						
FORT	Forrest	39.22	140	eP	P	08 50 43.6	+10
	comp=Z,3µm,0.8s						
ASPA	Alice Springs	39.39	126	eP	P	08 50 35.8	+0.6
ASPA				i	pP	08 50 43.6	-0.8
ASPA				ePCP	PcP	08 52 54.9	+11
ASPA				eS	S	08 56 33.3	-1.1
ASPA	Alice Springs	39.39	126	eP	P	08 50 35.8	+0.6
ASPA				i	pP	08 50 43.6	-0.8
ASPA				eS	S	08 56 33.3	-1.1
ASAR	Alice Springs	39.39	126	P	P	08 50 35.8	+0.5
	comp=Z,9.9nm,0.7s,mb4.7,baz=301,slow=7.9,SNR=140						
ASAR				pP	pP	08 50 44.0	-0.4
	comp=Z,90nm,0.8s,baz=297,slow=7.8,SNR=49						
ASAR				PcP	PcP	08 52 44.5	+0.9
	comp=Z,7.3nm,0.9s,baz=288,slow=2.9,SNR=5.0						
ASAR				pPcP		08 52 54.3	
	comp=Z,25nm,0.7s,baz=301,slow=2.5,SNR=13						
ASAR				S	S	08 56 33.0	-1.4
	comp=Z,3.5nm,1.0s,baz=300,slow=16,SNR=6.0						
ASAR				LR	LR	09 07 36.8	
	comp=Z,285nm,19.7s,MS4.1,baz=294,slow=37						
ASAR	Alice Springs	39.39	126	P	P	08 50 35.8	+0.5
ASAR				pP	pP	08 50 44.0	-0.4
ASAR				PcP	PcP	08 52 44.5	+0.9
ASAR				pPcP		08 52 54.3	
ASAR				S	S	08 56 33.0	-1.4
ASAR				LR	LR	09 07 36.8	
JOW	Kunigami	39.40	42	P	P	08 50 35.8	+0.6
	comp=Z,15nm,0.7s,mb4.8,baz=89,slow=9.8,SNR=4.4						
SDNR	Sundarnagar	39.66	328	eP	P	08 50 37.0	-0.3
BHK	Bhakra	39.89	328	e	Px	08 50 58.6	
PONG	Pong	40.55	328	eP	P	08 50 44.0	-0.7
GTA	Gaotai	40.98	360	P	P	08 50 48.5	+0.4
GTA				AP	pP	08 50 58.3	+1.0
GTA				XP	sP	08 51 02.5	+1.4
GTA				PP	PP	08 52 27.5	+2.0
GTA				PCP	PcP	08 52 48.3	-0.2
GTA				PPP	PPP	08 52 57.3	+1.9
GTA				SCP		08 56 34.5	
GTA				PCS		08 56 37.8	
GTA				S	S	08 56 59.4	+1.5
GTA				SS	SS	08 59 56.9	+0.9
GTA				SCS	ScS	09 00 49.3	+1.0
GTA				AMB	AMB		

	comp=Z,11nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,116nm,9.9s						
GTA				LR	LR		
	comp=N,1µm,14.8s,MS5.0						
GTA				LR	LR		
	comp=E,1µm,16.4s,MS5.0						
GTA				LR	LR		
	comp=Z,1µm,14.1s,MS5.0						
THN	Thein Dam	41.05	328	eP	P	08 50 47.2	-1.5
BTO	Baotou	43.16	11	eP	P	08 51 05.4	-0.5
BTO				AMB	AMB		
	comp=Z,9.0nm,0.4s,mb4.8						
HHC	Hu-ho-hao-te	43.71	13	eP	P	08 51 10.3	-0.1
HHC				AP	pP	08 51 20.4	+0.8
HHC				XP	sP	08 51 24.4	+1.0
HHC				PP	PP	08 52 54.4	+0.5
HHC				SCP		08 56 43.8	
HHC				PCS		08 56 48.3	
HHC				S	S	08 57 38.3	+0.3
HHC				SS	SS	09 00 51.3	+5.0
HHC				SCS	ScS	09 01 07.1	+2.1
HHC				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,130nm,4.3s						
HHC				LR	LR		
	comp=N,2µm,13.2s,MS5.1						
HHC				LR	LR		
	comp=E,893nm,14.2s,MS5.1						
HHC				LR	LR		
	comp=Z,1µm,13.8s,MS5.0						
BJT	Baijiatuau	44.15	18	eP	P	08 51 13.5	-0.5
BJT				pmax	pmax		
	comp=Z,77nm,1.0s						
BJT	Baijiatuau	44.15	18	eP	P	08 51 13.5	-0.5
	comp=Z,76nm,1.0s,mb5.4						
KSH	Kashi	46.62	334	eP	P	08 51 34.0	+0.3
KSH				eAP	pP	08 51 43.0	+0.1
KSH				ePCP	PcP	08 53 08.3	+0.6
KSH				ePP	PP	08 53 23.3	+0.3
KSH				eSCP		08 56 57.0	
KSH				ePCS		08 57 01.1	
KSH				eS	S	08 58 19.5	-0.4
KSH				eSCS	ScS	09 01 23.0	-0.6
KSH				eSS	SS	09 01 38.0	-0.6
KSH				LR	LR		
	comp=N,450nm,9.6s						
KSH				LR	LR		
	comp=E,390nm,4.8s						
WMQ	Urumqi	46.71	348	⇑P	P	08 51 35.3	+1.0
WMQ				AP	pP	08 51 43.8	+0.3
WMQ				PCP	PcP	08 53 09.4	+1.5
WMQ				PP	PP	08 53 24.8	+1.0
WMQ				PPP	PPP	08 54 10.3	+0.4
WMQ				S	S	08 58 21.4	+0.3
WMQ				LR	LR		
	comp=N,635nm,15.6s,MS4.8						
WMQ				LR	LR		
	comp=E,358nm,13.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,345nm,20.0s						
KS15	Wonju Array Si	46.80	31	eP	P	08 51 35.3	+0.2
PMG	Port Moresby	47.51	101	pP	pP	08 51 50.3	0.0
	comp=Z,24nm,0.9s,baz=244,slow=5.5,SNR=7.2						
BSY	Bisya	48.29	303	P	P	08 51 47.8	+0.8
	SNR=5.8						
HOQ	Hoqain	48.55	304	P	P	08 51 49.3	+0.3
	SNR=6.5						
CTA	Charters Tower	48.70	115	eP	P	08 51 50.0	-0.2
	comp=Z,13nm,1.2s,mb4.8						
CTA				e	pP	08 51 58.4	-1.1
CTA				i PCP	PcP	08 53 26.4	+11
CTA	Charters Tower	48.70	115	eP	P	08 51 50.0	-0.2
CTA				e	pP	08 51 58.4	-1.1
CTA				pmax	pmax		
	comp=Z,13nm,1.2s						
CTA	Charters Tower	48.70	115	P	P	08 51 50.0	-0.2
	comp=Z,21nm,1.1s,mb5.1,baz=303,slow=8.1,SNR=5.1						
CTA				pP	pP	08 51 59.0	-0.6
	comp=Z,67nm,0.9s,baz=289,slow=9.4,SNR=28						
CTA				LR	LR	09 16 32.1	
	comp=Z,387nm,18.3s,MS4.4,baz=279,slow=41						
CTAO	Charters Tower	48.70	115	eP	P	08 51 49.6	-0.6
CTAO				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.6						
CTAO				MLR	MLR		
	comp=Z,736nm,21.0s,MS4.7						
CTAO	Charters Tower	48.70	115	eP	P	08 51 49.6	-0.6
	comp=Z,62nm,0.9s,mb5.6						
CTAO				LR	LR		
	comp=Z,736nm,21.0s,MS4.7						
ULHL	Ulahol	48.79	337	P	P	08 51 51.4	+0.8
	SNR=18						
ADE	Adelaide	48.85	137	P	P	08 51 55.3	+4.1
RBK	Rabkut	49.01	295	P	P	08 51 52.8	+0.3
	SNR=9.9						
KZA	Kyzart	49.05	336	P	P	08 51 53.3	+0.6
	SNR=23						
ARQ	Araqi	49.10	303	P	P	08 51 53.8	+0.5
	SNR=6.5						
STKA	Stephens Creek	49.31	132	⇑iP	P	08 51 55.4	+0.7
	comp=Z,31nm,0.7s,mb5.4						
STKA				i	pP	08 52 05.8	+1.7
STKA	Stephens Creek	49.31	132	P	P	08 51 55.5	+0.7
	comp=Z,5.9nm,0.5s,mb4.9,baz=309,slow=7.6,SNR=35						
STKA				pP	pP	08 52 04.5	+0.4
	comp=Z,130nm,0.6s,baz=304,slow=8.4,SNR=78						
STKA				LR	LR	09 10 52.6	
	comp=Z,688nm,21.8s,MS4.6,baz=286,slow=34						
UCH	Uchtor	49.48	335	P	P	08 51 56.6	+0.7
	SNR=32						
WHFO	Wadi Hawf	49.53	295	P	P	08 51 56.2	-0.4
	SNR=16						
TKM2	Tokmak 2	49.62	337	P	P	08 51 57.4	+0.4
	SNR=57						
KBK	Karagaybulak	49.66	336	P	P	08 51 57.8	+0.6
	SNR=7.6						
SONM	Songino Array	49.72	6	P	P	08 51 57.8	+0.2
	comp=Z,25nm,0.8s,mb5.3,baz=186,slow=8.9,SNR=141						
SONM				PcP	PcP	08 53 18.0	-0.7
	comp=Z,12nm,0.9s,baz=193,slow=4.0,SNR=4.1						
SONM				pPcP		08 53 28.3	
	comp=Z,25nm,0.8s,baz=181,slow=3.2,SNR=8.5						
SONM				LR	LR	09 17 14.1	
	comp=Z,357nm,18.4s,MS4.4,baz=226,slow=41						
AML	Almayashu	49.76	334	P	P	08 51 58.7	+0.7
	SNR=24						
ABTO	Aybut	49.78	294	P	P	08 51 58.5	-0.1
	SNR=15						
ULN	Ulaanbaatar	49.81	6	eP	P	08 51 58.2	-0.2
ULN				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
ULN	Ulaanbaatar	49.81	6	eP	P	08 51 58.2	-0.2
	comp=Z,28nm,0.9s,mb5.3						
AAK	Ala-Archa	49.83	335	P	P	08 51 59.2	+0.7
	SNR=14						
AAK	Ala-Archa	49.83	335	P	P	08 51 59.1	+0.5
AAK				pmax	pmax		
	comp=Z,179nm,1.9s,mb5.8						
AAK	Ala-Archa	49.83	335	eP	P	08 51 57.8	-0.8
	comp=Z,88nm,1.5s,mb5.6						
FRU	Bishkek	49.94	336	eP	P	08 51 59.5	+0.1
FRU				i	pP	08 52 09.5	+0.7
FRU				pmax	pmax		
	comp=Z,192nm,1.8s,mb5.8						
CHMS	Chumysh	50.02	336	P	P	08 51 60.0	-0.1
	SNR=16						
ASHO	Ashiyiah	50.05	305	P	P	08 52 00.5	-0.1
	SNR=11						
EKS2	Erkin-Say	50.15	335	P	P	08 52 01.6	+0.6
	SNR=53						
USP	Ospenovka	50.35	336	P	P	08 52 02.4	-0.2
	SNR=64						
CN2	Changchun	50.78	24	eP	P	08 52 05.4	-0.4
CN2				eAP	pP	08 52 15.0	-0.2
CN2				eS	S	08 59 18.8	+0.8
CN2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,700nm,15.0s,MS5.0						
CN2				LR	LR		
	comp=E,900nm,15.0s,MS5.0						
CN2				LR	LR		

	comp=Z,1µm,15.0s,MS5.0						
ZAK	Zakamensk	52.03	3	eP	P	08 52 14.8	-0.4
ZAK				e		08 53 27.3	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
MAJO	Matsushiro	52.10	39	eP	P	08 52 14.8	-1.1
MAJO				e	pP	08 52 24.7	-0.6
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
MAJO				MLR	MLR		
	comp=Z,291nm,19.0s,MS4.3						
MAJO	Matsushiro	52.10	39	eP	P	08 52 14.8	-1.2
	comp=Z,4.9nm,0.8s,mb4.5						
MAJO				e	pP	08 52 24.6	-0.7
MAJO				LR	LR		
	comp=Z,291nm,19.0s,MS4.3						
MAT	Matsushiro	52.10	39	eP	P	08 52 15.0	-0.9
MAT	Matsushiro	52.10	39	P	P	08 52 15.1	-0.8
MJAR	Matsushiro Arr	52.10	39	P	P	08 52 15.5	-0.4
	comp=Z,7.1nm,0.9s,mb4.6,baz=221,slow=7.2,SNR=24						
MJAR				pP	pP	08 52 25.1	-0.2
	comp=Z,4.0nm,0.5s,baz=229,slow=7.7,SNR=15						
MDJ	Mudanjiang	53.19	26	P	P	08 52 23.8	-0.1
MDJ				AP	pP	08 52 32.8	-0.5
MDJ				PCP	PcP	08 53 30.3	-1.3
MDJ				PP	PP	08 54 24.4	-1.0
MDJ				S	S	08 59 55.0	+4.0
MDJ				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,125nm,4.8s						
MDJ				LR	LR		
	comp=N,646nm,11.6s,MS5.0						
MDJ				LR	LR		
	comp=E,692nm,13.1s,MS5.0						
MDJ				LR	LR		
	comp=Z,1µm,13.1s,MS5.1						
MDJ	Mudanjiang	53.19	26	eP	P	08 52 23.6	-0.3
	comp=Z,23nm,1.0s,mb5.1						
MOY	Mondy	53.24	1	eP	P	08 52 24.1	-0.1
MOY				pmax	pmax		
	comp=Z,51nm,2.4s,mb5.0						
TLY	Talaya	53.34	3c	iP	P	08 52 24.8	-0.1
TLY				e		08 54 21.4	
TLY				eS	S	08 59 53.9	+0.9
TLY				e		09 02 13.6	
TLY				eSS	SS	09 03 33.9	+1.6
TLY				eSSS	SSS	09 05 24.5	+2.0
TLY				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.9						
TLY				MLR	MLR		
	comp=Z,829nm,14.0s,MS4.9						
HIA	Hailar	53.62	16	eP	P	08 52 26.4	-0.6
HIA				pmax	pmax		
	comp=Z,19nm,1.1s						
HIA	Hailar	53.62	16	eP	P	08 52 26.4	-0.6
	comp=Z,19nm,1.1s,mb4.9						
IRK	Irkutsk	53.94	3	eP	P	08 52 28.0	-1.2
IRK				e		08 53 38.1	
IRK				pmax	pmax		
	comp=Z,53nm,2.2s,mb5.1						
OPO	Ambohidratompo	54.34	248	P	P	08 52 33.0	+0.3
	comp=Z,5.1nm,1.0s,mb4.4,baz=25,slow=7.0,SNR=5.8						
OPO				pP	pP	08 52 42.7	+0.6
	comp=Z,4.2nm,0.9s,baz=112,slow=4.1,SNR=5.4						
TOO	Toolangi	54.88	136	eP	P	08 52 46.2	+10
	comp=Z,22nm,0.8s,mb5.2						
ARMA	Armidale	56.54	126	eP	P	08 52 51.2	+2.7
ARMA				i	pP	08 53 00.2	+2.3
CNB	Canberra Magne	56.64	132	eP	P	08 52 59.3	+10
	comp=Z,565nm,0.9s						
ZAL	Zalesovo	56.93	349	P	P	08 52 50.4	-0.6
	comp=Z,63nm,0.9s,mb5.6,baz=304,slow=6.3,SNR=298						
ZAL				S	S	09 00 40.9	-0.1
	comp=Z,2.0nm,0.7s,baz=187,slow=18,SNR=11						
ZAL	Zalesovo	56.93	349	P	P	08 52 50.4	-0.6
ZAL				S	S	09 00 40.9	-0.1
RIV	Riverview	57.40	130	eP	P	08 53 05.6	+11
KLR	Kul'dur	57.73	24	eP	P	08 52 52.5	-4.1
KLR				e	pP	08 53 02.7	-3.4
KLR				MLR	MLR		
	comp=N,1µm,13.0s,MS5.3						
KLR				MLR	MLR		
	comp=E,900nm,13.0s,MS5.3						
KLR				MLR	MLR		
	comp=Z,2µm,13.0s,MS5.3						
ASAJ	Asahikawa	59.43	34	P	P	08 53 08.2	-0.3
	comp=Z,9.3nm,0.7s,mb4.9,baz=246,slow=11,SNR=6.9						
ASAJ				pP	pP	08 53 17.9	-0.1
	comp=Z,27nm,0.8s,baz=277,slow=4.9,SNR=11						
BVA0	Borovoye Array	59.97	340	i P	P	08 53 10.5	-1.6
BVA0				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.1						
BVAR	Borovoye Array	59.97	340	P	P	08 53 10.5	-1.6
	comp=Z,31nm,0.8s,mb5.4,baz=143,slow=7.4,SNR=142						
BVAR				S	S	09 01 21.4	+0.8
	comp=Z,0.7nm,0.8s,baz=151,slow=15,SNR=3.0						
BOD	Bodaibo	60.46	9	eP	P	08 53 14.3	-1.1
BOD				e	pP	08 53 23.2	-1.7
BOD				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
BOD				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
YSS	Yuzh-Sakhalins	61.29	32	⇑eP	P	08 53 21.0	-0.2
YSS				e	pP	08 53 31.0	+0.2
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.7						
YSS				MLR	MLR		
	comp=N,500nm,15.0s,MS4.9						
YSS				MLR	MLR		
	comp=E,400nm,15.0s,MS4.9						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.7						
YSS	Yuzh-Sakhalins	61.29	32	eP	P	08 53 21.1	-0.1
	comp=Z,172nm,1.3s,mb6.0						
CLNS	Chul'man	61.79	15	eP	P	08 53 23.1	-1.4
CLNS				e*PP	pP	08 53 31.5	-2.5
CLNS				e		08 55 39.5	
CLNS				ePPP	PPP	08 57 06.7	-4.8
CLNS				eS	S	09 01 46.4	+2.6
CLNS				ePS	PS	09 02 06.3	+1.9
CLNS				e		09 03 16.5	
CLNS				eSS	SS	09 05 40.9	-6.6
CLNS				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.1						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.6s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.0						
CLNS				smax			
	comp=N,4.0nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,800nm,13.0s,MS5.1						
CLNS				MLR	MLR		
	comp=N,500nm,12.0s,MS4.8						
CLNS				MLR	MLR		
	comp=E,100nm,15.0s,MS4.8						
KMBO	Kilima Mbogo	62.72	270	P	P	08 53 30.9	-0.3
	comp=E,9.6nm,0.9s,mb4.9,baz=61,slow=8.2,SNR=22						
KMBO				LR	LR	09 17 17.6	
	comp=E,416nm,19.1s,MS4.6,baz=274,slow=33						
KMBO	Kilima Mbogo	62.72	270	eP	P	08 53 30.9	-0.4
	comp=E,10nm,0.9s,mb5.0						
KMBO				LR	LR		
	comp=Z,449nm,20.0s,MS4.6						
BHD	Baghdad	62.86	309	eP	P	08 53 34.0	+2.1
MSL	Mosul	64.98	312	eP	P	08 53 47.0	+1.2
GNI	Garni	65.35	316	eP	P	08 53 47.1	-1.0
GNI				pmax	pmax		
	comp=Z,47nm,1.1s						
GNI	Garni	65.35	316	P	P	08 53 47.5	-0.6
	comp=Z,2.8nm,0.3s,mb4.7,baz=159,slow=13,SNR=8.4						
GNI	Garni	65.35	316	eP	P	08 53 47.1	-1.0
	comp=Z,47nm,1.1s,mb5.4						
DGRG	David-gareji	65.49	318	P	P	08 53 48.9	-0.1
TBLG	Delisi	66.04	318	P	P	08 53 52.2	-0.3
SVE	Sverdlovsk	66.47	338	⇑iP	P	08 53 53.9	-1.0
SVE				i	pP	08 54 04.0	-0.5
SVE				e		08 54 22.0	
SVE				eS	ScS	09 03 51.0	+5.5

SVE pmax pmax
comp=Z,164nm,1.3s,mb5.9
SVE pmax pmax
comp=Z,360nm,1.7s,mb6.1
SVE MLR MLR
comp=N,200nm,18.0s,MS4.5
SVE MLR MLR
comp=E,200nm,18.0s,MS4.5
SVE MLR MLR
comp=Z,400nm,18.0s,MS4.7
ARU Arti 66.99 336⇑ *i*P **P 08 53 57.0 -1.3**
ARU *e* 08 54 22.9
ARU *e* 08 56 21.4
ARU *e*S S 09 02 50.8 +2.7
ARU *e*SS SS 09 07 08.3 -0.4
ARU pmax pmax
comp=Z,109nm,1.1s,mb5.8
ARU Arti 66.99 336 *e*P **P 08 53 56.9 -1.4**
comp=Z,141nm,1.2s,mb5.9
ZEI Tsey 67.06 318 *e*P **P 08 53 53.7 -5.2**
ZEI *i* *PP pP 08 54 09.8 +1.3
ZEI pmax pmax
comp=Z,22nm,0.9s,mb5.2
ONI Oni 67.27 318 P **P 08 54 00.1 -0.2**
YAK Yakutsk 67.52 15 *e*P **P 08 54 00.2 -1.3**
YAK *i* pP 08 54 09.5 -1.6
YAK *e* 08 56 29.0
YAK *e*S S 09 02 54.9 +0.6
YAK *e*SS SS 09 07 16.1 -0.4
YAK pmax pmax
comp=Z,67nm,1.0s,mb5.6
YAK pmax pmax
comp=N,28nm,1.1s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax
comp=N,6.0nm,1.5s
YAK smax
comp=Z,2.0nm,0.9s
YAK smax
comp=E,2.0nm,1.0s
YAK MLR MLR
comp=Z,367nm,16.0s,MS4.7
YAK MLR MLR
comp=N,243nm,15.0s,MS4.6
YAK MLR MLR
comp=E,142nm,16.0s,MS4.6
YAK Yakutsk 67.52 15 *e*P **P 08 53 59.6 -1.9**
comp=E,106nm,0.9s,mb5.9
DZM Mont Dzumac 67.55 113 *e*P **P 08 54 10.4 +8.0**
BCHG Becho 68.05 318 P **P 08 54 04.7 -0.4**
KIV Kislovodsk 68.36 319α *i*P **P 08 54 06.3 -0.8**
KIV *e* *PP pP 08 54 16.0 -0.7
KIV pmax pmax
comp=Z,91nm,1.2s,mb5.7
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
KIV Kislovodsk 68.36 319 *e*P **P 08 54 06.2 -1.0**
comp=Z,87nm,1.0s,mb5.7
ASF Jabal al Asfar 68.45 306 P **P 08 54 07.7 -0.2**
comp=Z,24nm,1.0s,mb5.2,baz=349,slow=2.5,SNR=15
GOF Gofitskoye 68.61 320⇓ *i*P **P 08 54 06.4 -2.2**
GOF *i* pP 08 54 16.7 -1.5
GOF pmax pmax
comp=Z,70nm,1.3s,mb5.4
MALT Malatya 69.18 312 *e*P **P 08 54 11.7 -0.5**
comp=Z,37nm,1.3s,mb5.2
EIL Elat 69.39 303 P **P 08 54 13.2 -0.5**
comp=Z,23nm,1.0s,mb5.1,baz=193,slow=4.3,SNR=14
EIL pP pP 08 54 22.9 -0.4
comp=Z,19nm,0.8s,baz=27,slow=4.6,SNR=10
EIL Elat 69.39 303 *e*P **P 08 54 13.1 -0.5**
comp=Z,22nm,0.8s,mb5.1
SOKR Solikamsk 69.85 338d *i*P **P 08 54 15.9 0.0**
SOKR *e* 08 54 23.1
SOKR pmax pmax
comp=Z,80nm,1.0s,mb5.6
SOKR MLR MLR
comp=Z,320nm,21.0s,MS4.5
SOC Sochi 70.18 318c *i*P **P 08 54 16.1 -2.1**
SOC pmax pmax
comp=Z,75nm,1.2s,mb5.5
SOC pmax pmax
comp=N,14nm,0.8s
SOC pmax pmax
comp=E,16nm,1.0s
MAW Mawson 70.50 194 LR LR 09 19 19.0
comp=E,424nm,18.8s,MS4.7,baz=62,slow=31
SKR Severo-Kuril's 70.69 34 *e*P **P 08 54 16.9 -4.3**
SKR pmax pmax
comp=E,30nm,0.6s
SKR pmax pmax
comp=Z,60nm,0.6s,mb5.7
LSZ Lusaka 71.98 255 *e*P **P 08 54 29.1 -0.4**
comp=Z,22nm,1.4s,mb4.9
ANN Anapa 72.16 318 *e*P **P 08 54 41.3 +11**
ANN *e*S S 09 04 13.6 +25
ANN pmax pmax
comp=Z,113nm,7.4s
BRTR Keskin Array B 73.16 312 P **P 08 54 34.6 -1.5**
comp=Z,15nm,1.0s,mb4.9,baz=135,slow=7.0,SNR=52
BRTR pP pP 08 54 44.5 -1.3
comp=Z,6.7nm,0.8s,baz=135,slow=7.0,SNR=10
PET Petropavlovsk 73.17 33 *e*P **P 08 54 36.4 +0.5**
PET *e*S S 09 04 03.7 +3.4
PET pmax pmax
comp=Z,73nm,1.0s,mb5.6
PET MLR MLR
comp=Z,200nm,13.0s,MS4.6
PET Petropavlovsk 73.17 33 *i*P **P 08 54 36.3 +0.4**
VOR Voronezh 73.78 326 *e*P **P 08 54 39.0 -0.5**
VOR *e* pP 08 54 49.0 -0.1
VOR pmax pmax
comp=E,130nm,1.3s
VOR pmax pmax
comp=Z,150nm,1.3s,mb5.8
SIM Simferopol' 74.42 318⇑ *e*P **P 08 54 42.7 -0.7**
SIM *e* pP 08 54 52.9 -0.1
SIM pmax pmax
comp=Z,39nm,0.8s,mb5.4
TUZ Tuapeka 74.66 137 *e*PN **P 08 54 46.6 +1.9**
TUZ pP pP 08 54 56.5 +2.1
ISP Isparta 75.01 310 P **P 08 54 46.0 -1.0**
LBTB Lobatse 75.12 245 *e*P **P 08 54 47.6 -0.2**
comp=Z,10.0nm,1.1s,mb4.7
RPZ Rata Peaks 75.15 135 *e*PN **P 08 54 48.7 +1.2**
RPZ pP pP 08 54 59.0 +1.7
DSZ Denniston Nort 75.30 133 pP pP 08 54 58.3 +0.2
SEY Seymchan 75.42 22 *e*P **P 08 54 49.4 +0.7**
SEY *e*S S 09 04 29.8 +4.6
SEY 09 05 00.4
SEY *e*SS SS 09 09 11.3 -7.0
SEY *e*SSS SSS 09 12 35.6 +2.9
SEY pmax pmax
comp=E,90nm,1.1s
SEY pmax pmax
comp=Z,400nm,1.1s,mb6.3
SEY pmax pmax
comp=N,60nm,0.9s
SEY MLR MLR
comp=Z,800nm,22.0s,MS5.0
SEY MLR MLR
comp=N,1μm,23.0s,MS5.2
SEY MLR MLR
comp=E,600nm,21.0s,MS5.2
TIXI Tiksi 75.63 9⇑ *i*P **P 08 54 48.9 -0.9**
BOSA Boshof 75.76 241 P **P 08 54 51.4 0.0**
comp=E,4.3nm,0.7s,mb4.5,baz=124,slow=4.2,SNR=8.2
THZ Tophouse 76.11 133 *e*PN **P 08 54 54.7 +1.6**
THZ pP pP 08 55 05.2 +2.4
MOS Moscow 76.30 329 *e*P **P 08 54 53.6 -0.2**
MOS *e* pP 08 55 03.8 +0.3
MOS *e* 08 55 06.1
MOS *e* 08 57 43.8
MOS pmax pmax
comp=Z,179nm,1.6s,mb5.8
OBN Obninsk 76.59 328α *i*P **P 08 54 54.8 -0.7**
OBN *e* pP 08 55 03.2 -2.0
OBN *e* *PP pP 08 55 05.0 -0.2
OBN 08 57 47.0
OBN pmax pmax
comp=Z,99nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.5
OBN Obninsk 76.59 328 *e*P **P 08 54 54.9 -0.6**
comp=Z,222nm,1.4s,mb5.9
OBN *e*pP pP 08 55 03.4 -1.8
TSZ Takapari Road 78.13 130 *e*PN **P 08 55 05.2 +0.9**
TSZ pP pP 08 55 15.6 +1.5
TIRR Tirgusor 78.18 316 P **P 08 55 04.0 -0.5**
BKZ Black Stump Fm 78.42 130 PN **P 08 55 06.9 +0.9**
BKZ pP pP 08 55 16.8 +1.1
CFR Carcaliu 78.55 317 P **P 08 55 06.5 0.0**
KIS Kishinev 78.56 319 *e*P **P 08 55 04.0 -2.5**
KIS *e* pP 08 55 14.0 -2.2
KIS *e* 08 58 10.0
HARR Harsova 78.57 316 P **P 08 55 06.7 0.0**
PRD Provadia 78.59 315 *e*P **P 08 55 07.0 +0.2**
SANT Santorini 78.64 307 *e*P **P 08 55 05.4 -1.8**
comp=Z,45nm,1.1s,mb5.3
URZ Urewera 78.79 129 LR LR 09 31 26.8
comp=Z,339nm,18.7s,MS4.7,baz=288,slow=37
IDI Anoyia 78.89 306 P **P 08 55 08.3 -0.4**
comp=Z,30nm,1.0s,mb5.2,baz=110,slow=9.7,SNR=6.3
AKASG Malin Array Be 79.30 322 P **P 08 55 09.2 -1.3**
comp=Z,5.3nm,0.8s,mb4.5,baz=87,slow=4.7,SNR=32
AKASG *e*pP pP 08 55 19.9 -0.3
comp=Z,7.4nm,0.8s,baz=84,slow=5.1,SNR=12
SZH Strazhica 79.65 314 *e*P **P 08 55 12.0 -0.6**
VRI Vrincioaia 79.68 317 P **P 08 55 13.1 +0.5**
VRI Vrincioaia 79.68 317⇓ P **P 08 55 12.9 +0.3**
VRI Vrincioaia 79.68 317⇓ P **P 08 55 12.9 +0.3**
MLR Muntele Rosu 80.13 317 P **P 08 55 15.5 +0.5**
comp=Z,54nm,1.0s,mb5.4,baz=142,slow=2.0,SNR=45
MLR Muntele Rosu 80.13 317⇑ P **P 08 55 15.5 +0.5**
MLR Muntele Rosu 80.13 317⇑ P **P 08 55 15.5 +0.5**
RZN Rozhen 80.21 313 *e*P **P 08 55 15.0 -0.6**
MTUR Matau 80.68 316 P **P 08 55 18.3 +0.3**
PGB Panagyurishte 80.78 313 *e*P **P 08 55 18.0 -0.6**
MMB Musomiste 80.92 312 *e*P **P 08 55 18.0 -1.3**
BURAR Bucovina Array 81.08 319⇑ P **P 08 55 20.9 +0.9**
BURAR Bucovina Array 81.08 319⇑ P **P 08 55 20.9 +0.9**
MNK Minsk 81.16 326 *e*P **P 08 55 18.0 -2.3**
KKB Krupnik 81.45 313 *e*P **P 08 55 21.0 -1.1**
VTS Vitosha 81.48 313 *e*P **P 08 55 22.0 -0.3**
JOF Joensuu 82.01 334 *e*p **P 08 55 24.1 -0.4**
comp=Z,59nm,0.8s,mb5.6
JOF Joensuu 82.01 334 *e*P **P 08 55 24.1 -0.4**
JOF pmax pmax
comp=Z,59nm,0.8s,mb5.6
TSUM Tsumeb 82.25 251 *e*P **P 08 55 26.7 0.0**
comp=Z,13nm,1.0s,mb4.8
LVV L'vov 82.32 321 *e*P **P 08 55 26.5 +0.1**
VNDA Vanda 82.39 169 P **P 08 55 27.1 +0.8**
comp=Z,2.0nm,1.0s,baz=305,slow=6.0,SNR=5.7
VNDA LR LR 09 29 18.2
comp=Z,199nm,20.6s,MS4.5,baz=334,slow=34
LVZ Lovozero 82.56 340 *e*P **P 08 55 27.8 +0.5**
LVZ pmax pmax
comp=Z,83nm,0.8s,mb5.8
LVZ pmax pmax
comp=N,4.0nm,0.7s
LVZ pmax pmax
comp=E,8.0nm,0.6s
LVZ MLR MLR
comp=Z,343nm,21.0s,MS4.7
LVZ Lovozero 82.56 340 *i*P **P 08 55 26.7 -0.6**
BOLS Boljevac 82.60 314⇑ *i*P **P 08 55 27.4 -0.6**
SKO Skopje 82.67 313 *e*P **P 08 55 26.5 -1.9**
APA Apatity 82.87 339⇑ *i*P **P 08 55 29.5 +0.6**
APA *i* pP 08 55 39.0 +0.3
APA *e*S S 09 05 39.0 -4.9
APA pmax pmax
comp=Z,54nm,1.2s,mb5.5
APA MLR MLR
comp=Z,500nm,20.0s,MS4.9
BILL Bilibino 82.94 20 *e*P **P 08 55 29.1 -0.2**
BILL pmax pmax
comp=Z,33nm,1.3s,mb5.2
BILL Bilibino 82.94 20 *e*P **P 08 55 29.1 -0.3**
comp=Z,33nm,1.3s,mb5.2
KWP Kalwaria 83.12 320 *e*P **P 08 55 31.4 +0.8**
SVIS Svilajnac 83.20 315⇑ *i*P **P 08 55 31.3 +0.2**
KOLS Kolonicke sedl 83.27 320 *i*P **P 08 55 32.5 +1.1**
KOLS *e*pP pP 08 55 40.9 -0.3
SBA Scott Base 83.48 169 *e*P **P 08 55 33.5 +1.6**
SBA pmax pmax
comp=Z,20nm,0.9s,mb5.2
SBA Scott Base 83.48 169 *e*P **P 08 55 33.5 +1.5**
comp=Z,20nm,0.9s,mb5.2
GRUS Gruza 83.50 314⇑ *i*P **P 08 55 33.0 +0.4**
SUW Suwalki 83.69 325 *e*P **P 08 55 33.6 +0.2**
CRVS Cervenica-Dubn 83.79 319 *e*sP sP 08 55 47.2 +0.1
FINES FINESS Array B 83.91 332 P **P 08 55 34.8 +0.5**
comp=Z,6.8nm,0.4s,mb5.1,baz=110,slow=5.4,SNR=82
FINES pP pP 08 55 43.7 -0.5
comp=Z,34nm,0.9s,baz=90,slow=7.6,SNR=30
FINES LR LR 09 37 24.9
comp=Z,154nm,18.9s,MS4.4,baz=156,slow=39
KAF Kangasniemi 83.97 333 *e*p **P 08 55 33.6 -1.0**
comp=Z,69nm,0.8s,mb5.8,baz=101,slow=4.7
KAF Kangasniemi 83.97 333 *e*P **P 08 55 33.6 -1.0**
KAF pmax pmax
comp=Z,69nm,0.8s,mb5.8
DIVS Divcibare 84.04 314⇓ *i*P **P 08 55 35.4 0.0**
PSZ Piszkesteto 84.67 318⇓ P **P 08 55 39.0 +0.5**
PSZ Piszkesteto 84.67 318 *e*P **P 08 55 38.7 +0.2**
comp=Z,45nm,1.5s,mb5.4
PSZ *e* pP 08 55 46.9 -1.4
PSZ Piszkesteto 84.67 318⇑ *e*P **P 08 55 38.9 +0.4**
OJC Ojcow 85.07 321 *e*P **P 08 55 40.9 +0.5**
VYHS Vyhne 85.45 319 *e*P **P 08 55 42.6 +0.3**
VYHS *e* 08 55 49.5
KEV Kevo 85.81 341 *e*p **P 08 55 42.9 -0.8**
comp=Z,68nm,0.9s,mb5.9
KEV Kevo 85.81 341 *e*P **P 08 55 42.9 -0.8**
KEV pmax pmax
comp=Z,68nm,0.9s,mb5.9
OKC Ostrava-Krasne 86.08 320 *e*P **P 08 55 46.1 +0.7**
OKC *e*pP pP 08 55 54.1 -1.2
ARCES ARCESS Array B 86.25 340 P **P 08 55 46.7 +0.8**
comp=Z,38nm,0.9s,mb5.6,baz=104,slow=5.0,SNR=59
ARCES pP pP 08 55 55.0 -0.7
comp=Z,75nm,0.8s,baz=101,slow=6.2,SNR=30
ARCES LR LR 09 38 26.3
comp=Z,298nm,20.5s,MS4.7,baz=114,slow=38
ARCES ARCESS Array B 86.25 340 P **P 08 55 46.7 +0.8**
ARCES pP pP 08 55 55.0 -0.7
ARCES LR LR 09 38 26.4
ARE0 ARCESS Array S 86.25 340 *e*P **P 08 55 46.6 +0.7**
ARE0 *e*pP pP 08 55 55.0 -0.7
MORC Moravsky Berou 86.46 320 P **P 08 55 48.5 +1.2**
MORC Moravsky Berou 86.46 320 *e*P **P 08 55 48.0 +0.7**
MORC *e*pP pP 08 55 58.1 +0.9
ZST Bratislava 86.56 318 *e*P **P 08 55 48.7 +0.8**
ZST *e*pP pP 08 55 58.8 +1.1
VRAC Vranov 87.02 319 P **P 08 55 50.7 +0.7**
comp=Z,2.0nm,0.8s,mb4.4,baz=125,slow=17,SNR=3.5
DPC Dobruska-Polom 87.30 320 *e*P **P 08 55 52.5 +1.1**
DPC *e*pP pP 08 56 00.7 -0.5
KSP Ksiaz 87.37 321 *e*P **P 08 55 52.4 +0.7**
KSP *e* *PP pP 08 56 02.4 +0.8
KSP Ksiaz 87.37 321 *e*P **P 08 55 53.1 +1.4**
GROS Grobnik 87.47 316 *e*P **P 08 55 52.8 +0.5**
UPC Upice 87.52 321 *e*P **P 08 55 53.5 +1.1**
UPC *e*pP pP 08 56 03.7 +1.4
BOJS Bojanci 87.56 315 *i*P **P 08 55 53.2 +0.5**
BOJS *i* pP 08 56 03.5 +0.9
PERS Pernice 87.75 317 *e*P **P 08 55 54.1 +0.5**
PERS *e* pP 08 56 05.0 +1.5
LJU Ljubljana 88.11 316 *e*P **P 08 55 56.6 +1.3**
QSPA South Pole Qui 88.19 180 *e*P sP 08 56 07.3 -0.7
PRU Pruhonice 88.41 320 *e*P **P 08 55 57.4 +0.7**
PRU *e*pP pP 08 56 05.8 -0.8
PVCC Panska Ves 88.44 320 *e*P **P 08 55 57.4 +0.6**
PVCC *e*pP pP 08 56 07.2 +0.5
AQU L'Aquila 88.65 312 *e*P **P 08 55 58.8 +0.8**
comp=Z,72nm,1.2s,mb5.9
ROBS Robic 88.83 316 *e*P **P 08 55 58.9 +0.1**
ROBS *e* pP 08 56 09.3 +0.7
BRG Berggiesshubel 88.86 321 *e*P **P 08 55 59.9 +1.1**
comp=Z,99nm,2.1s,mb5.8
BRG *e* pP 08 56 08.2 -0.5
GEC2 GERESS Array S 88.87 319 *e*P **P 08 55 59.7 +0.7**
GEC2 pmax pmax
comp=Z,52nm,1.5s,mb5.6
GEC2 GERESS Array S 88.87 319 *e*P **P 08 55 59.7 +0.7**
comp=Z,52nm,1.5s,mb5.6
GERES GERESS Array B 88.87 319 P **P 08 55 59.5 +0.5**
comp=Z,9.7nm,0.9s,mb5.1,baz=90,slow=5.3,SNR=19
KHC Kasperske Hory 88.97 319 *e*P **P 08 55 59.8 +0.4**
KHC *e*pP pP 08 56 08.2 -1.1
WET Wettzell 89.43 319 *e*P **P 08 56 02.2 +0.6**
WET pmax pmax
comp=Z,27nm,1.2s,mb5.5
WET Wettzell 89.43 319 *e*P **P 08 56 02.2 +0.6**
comp=Z,27nm,1.2s,mb5.5
CLL Collm 89.48 321⇑ *i*P **P 08 56 02.1 +0.3**
CLL *i* pP 08 56 12.8 +1.2
CLL pmax pmax
comp=Z,25nm,1.1s,mb5.5
CLL Collm 89.48 321⇑ *i*P **P 08 56 02.1 +0.3**
comp=Z,25nm,1.1s,mb5.5
CLL *i* pP 08 56 12.8 +1.2
CLL Collm 89.48 321 ⇑P **P 08 56 02.1 +0.3**
comp=Z,logA/T=1.4,mb5.5
CLL *i* *PP pP 08 56 12.8 +1.2
HFS Hagfors 89.67 330 P **P 08 56 02.9 +0.5**
comp=Z,9.7nm,0.8s,mb5.2,baz=135,slow=4.2,SNR=13
HFS pP pP 08 56 11.8 -0.5
comp=Z,15nm,0.9s,baz=117,slow=6.6,SNR=4.9
HFS LR LR 09 41 13.0
comp=Z,183nm,18.7s,MS4.5,baz=140,slow=39
NKC Novy Kostel 89.77 320 *e*P **P 08 56 04.0 +0.8**
NKC *e*pP pP 08 56 14.1 +1.1
MOX Moxa 90.32 320 *e*P **P 08 56 06.4 +0.7**
MOX pmax pmax
comp=Z,33nm,1.4s,mb5.5
MOX Moxa 90.32 320 *e*P **P 08 56 06.4 +0.7**
comp=Z,33nm,1.4s,mb5.5
MOX Moxa 90.32 320 *i*P **P 08 56 06.4 +0.7**
comp=Z,logA/T=1.3,mb5.4
FUR Furstenfeldbru 90.45 318 *e*P **P 08 56 06.6 +0.3**
GRA1 Grafenberg Arr 90.54 320 *e*P **P 08 56 07.7 +1.0**
comp=Z,33nm,1.0s,mb5.6
GRA1 *e*pP pP 08 56 18.1 +1.5
GRF Grafenberg Arr 90.54 320 *e*P **P 08 56 07.7 +1.0**
GRF *e* *PP pP 08 56 18.1 +1.5
GRF pmax pmax
comp=Z,33nm,1.0s,mb5.6
GRF Grafenberg Arr 90.54 320 *e*P **P 08 56 07.7 +1.0**
comp=Z,33nm,1.0s,mb5.6
GRF *e*pP pP 08 56 18.1 +1.5
NB2 NORSAR Subarra 90.94 331 P **P 08 56 08.2 -0.1**
comp=Z,14nm,1.0s,mb5.2,baz=93,slow=4.6
NB2 NORSAR Subarra 90.94 331 P **P 08 56 08.2 -0.1**
baz=93,slow=4.8
NOA NORSAR Array B 90.94 331 P **P 08 56 08.2 -0.1**
comp=Z,3.9nm,0.9s,mb4.7,baz=94,slow=4.7,SNR=9.0
NOA pP pP 08 56 18.4 +0.3
comp=Z,3.7nm,0.8s,baz=95,slow=5.3,SNR=12
NOA LR LR 09 41 45.2
comp=Z,201nm,21.6s,MS4.5,baz=100,slow=39
NOA NORSAR Array B 90.94 331 P **P 08 56 08.2 -0.1**
NOA pP pP 08 56 18.4 +0.3
NOA LR LR 09 41 45.2
CLZ Clausthal 91.14 322 *e*P **P 08 56 10.3 +0.9**
comp=Z,28nm,1.3s,mb5.4
BSEG Bad Segeberg 91.22 324 *e*P **P 08 56 10.6 +0.8**
DAVOX Davos 91.35 317 P **P 08 56 11.5 +0.9**
comp=Z,24nm,0.9s,mb5.5,baz=121,slow=5.5,SNR=14
DAVOX pP pP 08 56 21.5 +1.1
comp=Z,23nm,0.7s,baz=96,slow=6.8,SNR=14
TNS Taunus Mts 92.34 320 *e*P **P 08 56 15.8 +0.8**
TNS pmax pmax
comp=Z,26nm,1.2s,mb5.4
TNS Taunus Mts 92.34 320 *e*P **P 08 56 15.8 +0.8**
comp=Z,26nm,1.2s,mb5.4
SNAA Sanae 92.36 198⇑ *i*P **P 08 56 13.9 -0.7**
SNAA *e* pP 08 56 24.0 -0.4
BFO Black Forest 92.42 318 *e*P **P 08 56 15.7 +0.3**
BFO pmax pmax
comp=Z,12nm,1.0s,mb5.2
BFO Black Forest 92.42 318 *e*P **P 08 56 15.7 +0.3**
comp=Z,12nm,1.0s,mb5.2
TNA Tin City 92.47 25 *e*P **P 08 56 15.5 +0.3**
comp=Z,7.9nm,0.9s,mb5.0
CDF Champ du Feu 93.12 318 *e*P **P 08 56 18.4 -0.2**
comp=Z,12nm,0.9s,mb5.0
HINF Hinteralfeld 93.41 318 *e*P **P 08 56 19.8 -0.2**
LPG La Plagne 93.53 315 *e*P **P 08 56 20.6 0.0**
comp=Z,26nm,1.0s,mb5.3
MBDF Montbardon 93.53 315 *e*P **P 08 56 20.5 -0.1**
comp=Z,22nm,1.2s,mb5.2
LPL La Plagne 93.54 315 *e*P **P 08 56 20.6 0.0**
comp=Z,28nm,1.1s,mb5.3
HAU Haudompre 93.75 318 *e*P **P 08 56 21.2 -0.3**
comp=Z,26nm,1.1s,mb5.3
HAU *e*R
comp=Z,180nm,18.0s
CABF La Chapelle 93.96 316 *e*P **P 08 56 22.6 +0.1**
VNA2 Neumayer--Watz 93.97 198⇑ *i*P **P 08 56 17.8 -4.2**
VNA2 *e* pP 08 56 28.1 -3.8
VNA2 *e* 08 56 31.1
ORIF Oris-en-Rattie 94.16 315 *e*P **P 08 56 23.3 -0.2**
comp=Z,37nm,1.1s,mb5.4
ORIF *e*R
comp=Z,267nm,20.8s
VNA3 Neumayer Olymp 94.58 198 *e* **P 08 56 28.3 +3.5**
VNA3 Neumayer Olymp 94.58 198 *e* **P 08 56 31.8 +7.0**
VNA3 Neumayer Olymp 94.58 198⇑ *i*P **P 08 56 19.2 -5.6**
VNA3 *e* pP 08 56 28.3 -6.4
VNA3 *e* 08 56 31.8
MEZF Maizieres J'vi 94.60 318 *e*P **P 08 56 25.2 -0.2**
BAIF Baives 95.07 320 *e*P **P 08 56 27.6 +0.1**
comp=Z,23nm,1.2s,mb5.2
SMF Signal de Mont 95.51 317 *e*P **P 08 56 29.1 -0.6**
comp=Z,30nm,1.2s,mb5.3
SSF Saint Saulge 95.71 317 *e*P **P 08 56 30.2 -0.4**
AVF Avril sur Loir 95.84 317 *e*P **P 08 56 30.7 -0.5**
comp=Z,18nm,1.2s,mb5.1
BGF Bois d'Agland 96.20 316 *e*P **P 08 56 32.7 -0.1**
JMIC Jan Mayen 97.64 342 LR LR 09 41 58.8
comp=Z,136nm,19.4s,MS4.5,baz=73,slow=36
IMA Indian Mountai 98.20 23 *e*P **P 08 56 42.2 +0.8**
comp=Z,117nm,1.1s,mb6.3
MCK McKinley 100.80 25 *e*P P 08 56 53.6 +0.4
comp=Z,11nm,1.1s
ILAR Eielson Array 101.30 24 P P 08 56 55.6 +0.2
comp=Z,0.2nm,0.6s,baz=267,slow=3.5,SNR=4.4
ILAR pP 08 57 05.3
comp=Z,1.0nm,0.8s,baz=304,slow=4.9,SNR=7.2
ILAR PKKPbc 09 13 04.9
comp=Z,0.7nm,0.9s,baz=165,slow=2.9,SNR=5.7
TBI Tubuai 108.08 115 *e*LR LR 09 33 09.7
comp=Z,224nm,24.8s
PPT Papeete 108.89 109 *e*LR LR 09 01 04.5
comp=Z,132nm,24.8s
PPT Papeete 108.89 109 *e*LR LR 09 33 32.7
comp=Z,220nm,25.2s
YKA Yellowknife Ar 114.15 17 PKP PKPdf 09 01 43.4 -4.2
comp=Z,1.2nm,0.9s,baz=334,slow=1.7,SNR=18
YKA PKKPbc 09 12 24.2
comp=Z,0.2nm,0.9s,baz=128,slow=3.3,SNR=3.7
YKA Yellowknife Ar 114.15 17 PKP PKPdf 09 01 43.4 -4.2
YKA PKKPbc 09 12 24.2
RKT Rikitea 121.08 118 *e*LR LR 09 39 10.8
comp=Z,167nm,29.0s
EDM Edmonton 121.78 23 *e*P PKPdf 09 01 58.9 -3.7
SCHQ Schefferville 126.02 351 PKP PKPdf 09 02 07.1 -3.6
comp=Z,4.4nm,0.8s,baz=73,slow=1.6,SNR=6.0
SCHQ pPKP 09 02 18.0
comp=Z,3.9nm,0.6s,baz=51,slow=4.9,SNR=10
MOD Modoc 126.12 37 *e*P PKPdf 09 02 08.2 -3.0
MOD *e*pP 09 02 19.4
CHMT Chamberlain Mo 126.54 28 *e*P PKPdf 09 02 08.3 -3.7
WVOR Wild Horse Val 126.78 35 *e*PKPdf PKPdf 09 02 07.5 -5.0
BOZ Bozeman (W) 128.24 28 *e*PKPdf PKPdf 09 02 12.4 -2.9
BOZ LR LR
comp=Z,486nm,22.0s,MS5.1
MCMT McKenzie Canyo 128.25 29 *e*PKPdf PKPdf 09 02 13.3 -2.1
QLMT Earthquake Lak 128.94 28 *e*PKP PKPdf 09 02 13.1 -3.6
NVAR Mina Array Bea 129.43 39 PKP PKPdf 09 02 15.5 -2.3
comp=Z,2.9nm,0.9s,baz=257,slow=4.9,SNR=17
NVAR pPKP 09 02 25.2
comp=Z,2.2nm,0.6s,baz=299,slow=0.6,SNR=4.3
NVAR Mina Array Bea 129.43 39 PKP PKPdf 09 02 15.5 -2.3
NVAR pPKP 09 02 25.2

LAO	LASA Array	129.76	23	*e*PKP	PKPdf	09 02 15.9	-2.3
ULM	Lac du Bonnet	129.85	13	PKP	PKPdf	09 02 14.1	-4.2
	comp=Z,5.3nm,0.8s,baz=346,slow=2.3,SNR=5.5						
SNOW	Snow King Moun	130.28	29	*e*PKPdf	PKPdf	09 02 16.9	-2.4
BW06	Boulder Array	131.38	29	*e*PKP	PKPdf	09 02 18.5	-2.9
PDAR	Pinedale Array	131.38	29	PKP	PKPdf	09 02 17.9	-3.5
	comp=Z,1.5nm,1.0s,baz=270,slow=1.5,SNR=8.5						
PDAR				pPKP		09 02 27.6	
	comp=Z,1.4nm,0.6s,baz=99,slow=1.5,SNR=8.2						
PDAR				PP	PP	09 04 37.4	-1.8
	comp=Z,1.6nm,1.0s,slow=3.0,SNR=4.9						
PDAR				SKPbc		09 05 41.5	
	comp=Z,1.3nm,1.0s,baz=270,slow=1.5,SNR=4.5						
DAU	Daniels Canyon	132.24	32	*e*PKPdf	PKPdf	09 02 21.1	-2.0
RSSD	Black Hills	132.75	24	*e*PKPdf	PKPdf	09 02 20.1	-3.9
EYMN	Ely	132.94	11	*e*PKP	PKPdf	09 02 19.9	-4.3
EYMN				LR	LR		
	comp=Z,182nm,19.0s,MS4.8						
MVU	Marysvale	133.05	35	*e*PKP	PKPdf	09 02 21.1	-3.5
MSU	Marysvale	133.06	35	*e*PKP	PKPdf	09 02 22.3	-2.4
RWWY	Rawlins	133.33	28	*e*PKPdf	PKPdf	09 02 22.5	-2.6
SRU	San Rafael	133.57	33	*e*PKP	PKPdf	09 02 21.9	-3.7
PV10	Paradox Valley	134.90	33	*e*PKP	PKPdf	09 02 25.8	-2.3
PLCA	Paso Flores	136.83	191	PKP	PKPdf	09 02 27.5	-4.0
	comp=Z,0.8nm,0.6s,baz=220,slow=21,SNR=2.9						
SDCO	Great Sand Dun	137.22	30	*e*PKP	PKPdf	09 02 28.0	-4.3
ACSO	Alum Creek Sta	141.62	4	*e*PKPdf	PKPdf	09 02 37.9	-2.3
WMOK	Wichita Mounta	142.82	26	*e*PKPpre		09 02 35.0	
WMOK				LR	LR		
	comp=Z,273nm,20.0s,MS5.0						
WCI	Wyandotte Cave	143.26	8	*e*PKPpre		09 02 35.8	
BAO	Brasilia Array	143.93	240	PKPdf	PKPdf	09 02 39.0	-5.8
BDFB	Brasilia	143.95	240	PKP	PKPdf	09 02 40.3	-4.5
	comp=Z,7.0nm,1.0s,baz=68,slow=4.3,SNR=6.2						
FWV	Forest Hill	144.35	1	*e*PKPpre		09 02 38.6	
LTX	Lajitas	144.53	37	*e*PKPdf	PKPdf	09 02 41.9	-3.7
ELN	Prospectdale	144.71	1	*e*PKPpre		09 02 39.9	
CFAA	Coronel Fontan	144.98	198	PKPbc	PKPbc	09 02 43.0	+1.7
	comp=Z,2.2nm,0.6s,baz=174,slow=3.2,SNR=57						
CFAA				pPKPbc		09 02 53.0	
	comp=Z,5.9nm,0.8s,baz=183,slow=3.1,SNR=21						
MIAR	Mount Ida	145.02	20	*e*PKPdf	PKPdf	09 02 42.2	-4.0
WVT	Waverly	145.05	11	*e*PKP	PKPdf	09 02 41.5	-4.8
UALR	University of	145.21	18	*e*PKPdf	PKPdf	09 02 42.7	-3.9
UALR				*ep*PKPdf		09 02 50.5	
TZTN	Tazewell	145.24	5	*e*PKPdf	PKPdf	09 02 42.2	-4.4
MET	Memphis--Engin	145.56	14	PKP	PKPdf	09 02 43.8	-3.4
JCT	Junction City	145.83	31	*e*PKPdf	PKPdf	09 02 45.0	-2.8
JCT				*ep*PKPdf		09 02 53.7	
PLAL	Pickwick Lake	146.11	12	*e*PKPdf	PKPdf	09 02 44.6	-3.5
PLAL				*ep*PKPdf		09 02 54.9	
CPCT	Cooper Cave	146.23	7	*e*PKPdf	PKPdf	09 02 45.5	-2.8
OXF	Oxford	146.26	14	*e*PKPdf	PKPdf	09 02 45.5	-3.0
OXF				*ep*PKPdf		09 02 54.3	
SWET	Sewanee	146.27	9	*e*PKPdf	PKPdf	09 02 44.8	-3.6
SWET				*ep*PKPdf		09 02 55.1	
NATX	Nacogdoches	147.12	23	*e*PKPbc	PKPdf	09 02 49.5	-0.5
NATX				*ep*PKPdf		09 02 59.2	
JSC	Jenkinsville	147.63	2	*e*PKPbc	PKPdf	09 02 49.7	-1.0
LRAL	Lakeview Retre	148.21	11	*e*PKPbc	PKPdf	09 02 51.0	-0.7
LRAL				LR	LR		
	comp=Z,245nm,20.0s,MS5.0						
GOGA	Godfrey	148.36	6	*e*PKPbc	PKPdf	09 02 51.8	-0.1
NHSC	New Hope	148.83	0	*e*PKPbc	PKPdf	09 02 53.4	+0.8
LPAZ	La Paz	158.56	213	PKP	PKPdf	09 03 05.4	-1.3
	comp=Z,3.2nm,1.1s,baz=96,slow=3.4,SNR=6.1						
LPAZ				PKPab	PKPab	09 03 39.9	+0.9
	comp=Z,2.6nm,1.0s,baz=144,slow=4.5,SNR=4.7						
ROSC	El Rosal	173.56	299	PKP	PKPdf	09 03 15.8	-2.9
	comp=Z,3.3nm,0.4s,baz=284,slow=24,SNR=5.0						

GUC 16 08:46:22.8±0.8, 21.90S×68.61W, h137km±9km, ML3.5, 2C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	0.77	202	⇑*i*P	P	08 46 44.9	+0.1
LVC				*i* S	S	08 47 02.6	+1.0
LVC				AMP		08 47 04.0	
	comp=E,829nm,0.5s						
SPCH	San Pedro de A	1.08	160	⇑*i*P	P	08 46 48.0	+0.8
SPCH				AMP		08 47 21.2	
	comp=N,328nm,0.5s						
ANCH	Antofagasta	2.44	223	*e*P	P	08 47 06.0	+2.9
ANCH				*i* S	S	08 47 36.3	+2.4
CPN1	Cerro Paranal	3.18	211	⇓*i*P	P	08 47 14.3	+1.5
CPN1				*e*S	S	08 47 52.9	+1.9
CPN1				AMP		08 48 05.9	
	comp=E,395nm,0.6s						

MOS ***16*** *08:51:32.2±1.4, 51.65N×16.10E, h12km, mb4.0/1, Error ellipse: s-maj=12.0km s-min=6.7km az=82.0*
IPEC ***16*** *08:51:32.9±0.3, 51.57N×16.15E, ML2.4/4, Error ellipse: s-maj=1.8km s-min=1.3km az=19.0*
NEIC ***16*** *08:51:33.1±0.5, 51.57N×16.15E, h5km, ML3.2(VIE), ML3.1(SZGRF), ML2.8(BRG), Error ellipse: s-maj=6.4km s-min=5.2km az=27.0*
PRU ***16*** *08:51:34.5, 51.48N×16.06E, Felt In Harrachov*
IDC ***16*** *08:51:34.5±0.8, 51.45N×16.06E, mb1 3.2/5, mb1mx3.2/21, mbtmp3.2/5, ML3.1/5, Error ellipse: s-maj=14.0km s-min=7.9km az=109.0*
BGR ***16*** *08:51:35.2±0.7, 51.46N×16.05E, h1km, ML3.1/9, Error ellipse: s-maj=7.8km s-min=6.7km az=159.0*
CSEM ***16*** *08:51:35.0±0.2, 51.46N×16.08E, h0km, ML3.5/5, Error ellipse: s-maj=3.1km s-min=1.7km az=7.0*

WAR 16 08:51:34.9, 51.46N×16.11E, h1km, ML3.0, 3C-2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.63	169	⇓*i*Pg	Pg	08 51 47.1	-0.4
KSP				*e*		08 51 54.8	
KSP				*e*Sg	Sg	08 51 56.2	+0.3
KSP	Ksiaz	0.63	169	*i* PG	Pg	08 51 47.1	-0.4
KSP				*e*SG	Sg	08 51 56.1	+0.2
KSP	Ksiaz	0.63	169	*e*Pg	Pg	08 51 47.1	-0.4
KSP				*e*Sg	Sg	08 51 56.4	+0.5
KSP	Ksiaz	0.63	169	*e*Pg	Pg	08 51 47.1	-0.4
KSP				*e*		08 51 54.8	
KSP				*e*Sg	Sg	08 51 56.2	+0.3
KSP	Ksiaz	0.63	169	⇓*i*Pg	Pg	08 51 47.1	-0.4
KSP				*e*Sg	Sg	08 51 56.2	+0.3
UPC	Upice	0.96	184	*e*PG	Pg	08 51 52.9	-1.1
DPC	Dobruska-Polom	1.12	173	*e*P	Pb	08 51 55.6	-1.2
DPC				*e*		08 52 10.0	
DPC				smax			
	comp=N,39nm,0.2s						
DPC	Dobruska-Polom	1.12	173	*e*PG	Pg	08 51 55.6	-1.7
DPC				*e*SG	Sg	08 52 10.0	-2.3
	comp=N,39nm,0.2s						
DPC	Dobruska-Polom	1.12	173	Pg	Pg	08 51 55.6	-1.7
DPC				*e*Sg	Sg	08 52 10.8	-1.5
PVCC	Panska Ves	1.35	227	*e*PG	Pg	08 51 59.7	-2.1
PVCC	Panska Ves	1.35	227	Pg	Pg	08 51 59.7	-2.1
PVCC				*e*Sg	Sg	08 52 18.5	-1.3
BRG	Berggiesshubel	1.49	247	*e*Pg	Pg	08 52 02.0	-2.5
BRG				*e*Sg	Sg	08 52 22.1	-2.2
BRG	Berggiesshubel	1.49	247	*e*P	Pn	08 52 00.6	-2.2
BRG				*i*		08 52 22.0	
BRG	Berggiesshubel	1.49	247	*e*Pn	Pn	08 52 00.6	-2.2
BRG				*i* Pg	Pg	08 52 01.9	-2.7
BRG				*i* Sg	Sg	08 52 22.0	-2.4
BRG	Berggiesshubel	1.49	247	Pg	Pg	08 52 02.0	-2.6
BRG				Sg	Sg	08 52 22.1	-2.3
RUE	Ruedersdorf	1.76	306	P	Pn	08 52 03.8	-3.0
RUE	Ruedersdorf	1.76	306	P	Pn	08 52 03.8	-3.0
PRU	Pruhonice	1.78	215	*e*P	Pn	08 52 05.3	-1.8
PRU				*e*		08 52 30.2	
PRU	Pruhonice	1.78	215	*e*PN	Pn	08 52 05.3	-1.8
PRU				*e*PG	Pg	08 52 07.0	-3.5
PRU				*e*SG	Sg	08 52 30.2	-4.0
PRU	Pruhonice	1.78	215	Pg	Pg	08 52 07.0	-3.5
PRU				Sg	Sg	08 52 30.2	-4.0
MORC	Moravsky Berou	1.92	151	*e*P	Pn	08 52 07.6	-1.4
MORC	Moravsky Berou	1.92	151	*e*Pn	Pn	08 52 07.7	-1.3
MORC				*e*Sg	Sg	08 52 35.5	-3.3
	comp=N,36nm,0.2s						
CLL	Collm	1.95	267	*e*Pn	Pn	08 52 07.0	-2.5
CLL				*e*Sg	Sg	08 52 36.7	-3.2
CLL	Collm	1.95	267	*e*P	Pn	08 52 07.0	-2.5
CLL				*i*		08 52 35.6	
CLL	Collm	1.95	267	*e*Pn	Pn	08 52 07.0	-2.5
CLL				*i* Pg	Pg	08 52 10.0	-3.9
CLL				*i* Sg	Sg	08 52 35.6	-4.3
CLL	Collm	1.95	267	*e*PN	Pn	08 52 07.0	-2.5
CLL				*i* PG	Pg	08 52 10.0	-3.9
CLL				*i*		08 52 14.2	
CLL				*i* SG	Sg	08 52 35.6	-4.3
CLL				*i*		08 52 44.0	
CLL	Collm	1.95	267	*i* Pg	Pg	08 52 10.0	-3.9
CLL				*i* S	Sn	08 52 35.6	+0.6
CLL				Sg	Sg	08 52 36.7	-3.2
OKC	Ostrava-Krasne	2.08	141	*e*PG	Pg	08 52 12.9	-3.6
OKC				*e*SG	Sg	08 52 40.2	-4.0
OKC	Ostrava-Krasne	2.08	141	Pg	Pg	08 52 12.9	-3.6
OKC				*e*Sg	Sg	08 52 40.4	-3.8
VRAC	Vranov	2.18	172	Pn	Pn	08 52 11.6	-1.1
	comp=N,2.9nm,0.3s,baz=328,slow=17,SNR=20						
VRAC				Lg		08 52 43.4	
	comp=N,5.9nm,0.3s,baz=83,slow=21,SNR=9.3						
VRAC	Vranov	2.18	172	Pn	Pn	08 52 11.6	-1.2
VRAC				*e*Sg	Sg	08 52 43.9	-3.6
	comp=N,16nm,0.2s						
KRUC	Moravsky	2.41	176	*e*Pn	Pn	08 52 15.6	-0.5
KRUC				*e*Sg	Sg	08 52 51.8	-3.4
	comp=N,13nm,0.2s						
TANN	Tannenbergstha	2.53	247	*e*Pn	Pn	08 52 16.7	-1.1
TANN				*e*Sg	Sg	08 52 55.4	-3.8
WERD	Werda	2.61	249	*e*Pn	Pn	08 52 16.9	-2.1
WERD				*e*Sg	Sg	08 52 56.3	-5.5
NKC	Novy Kostel	2.63	243	*e*P	Pn	08 52 17.3	-1.9
NKC				*e*		08 52 57.2	
NKC				smax			
	comp=N,72nm,0.4s						
NKC	Novy Kostel	2.63	243	*e*PN	Pn	08 52 17.3	-1.9
NKC				*e*PG	Pg	08 52 22.6	-4.7
NKC				*e*SG	Sg	08 52 57.2	-5.1
	comp=N,72nm,0.4s						
OJC	Ojcow	2.65	117	*e*PN	Pn	08 52 16.0	-3.5
OJC				*e*PG	Pg	08 52 25.0	-2.8
OJC				*e*SG	Sg	08 53 01.0	-2.1
OJC	Ojcow	2.65	117	*e*Pg	Pg	08 52 25.1	-2.7
OJC				*e*Sg	Sg	08 53 00.7	-2.4
KHC	Kasperske Hory	2.84	216	*e*P	Pn	08 52 20.1	-2.1
KHC				*e*		08 52 54.6	
KHC	Kasperske Hory	2.84	216	*e*PN	Pn	08 52 20.1	-2.1
KHC				*e*PG	Pg	08 52 25.9	-5.8
KHC				*e*PN	Sn	08 52 54.6	-3.0
KHC				*e*SG	Sg	08 53 03.9	-5.6
KHC	Kasperske Hory	2.84	216	*e*Pg	Pg	08 52 25.9	-5.8
KHC				*e*S	Sn	08 52 54.6	-3.0
KHC				*e*Sg	Sg	08 53 03.9	-5.6
MOX	Moxa	2.95	256	*e*Pn	Pn	08 52 21.3	-2.5
MOX				*e*Sg	Sg	08 53 08.8	-4.4
MOX	Moxa	2.95	256	*e*Pn	Pn	08 52 21.3	-2.5
MOX				*e*Sg	Sg	08 53 08.8	-4.3
MOX	Moxa	2.95	256	*i* P	Pn	08 52 21.3	-2.5
MOX				Pg	Pg	08 52 29.0	-4.8
MOX				Sg	Sg	08 53 09.0	-4.1
NOTT	Nottersdorf	3.03	238	*e*Pn	Pn	08 52 23.0	-1.9
NOTT				*e*Sg	Sg	08 53 10.3	-5.4
GEC2	GERESS Array S	3.04	211	*e*Pn	Pn	08 52 24.2	-0.9
GEC2				*e*Sg	Sg	08 53 10.8	-5.5
GEC2	GERESS Array S	3.04	211	*e*Pn	Pn	08 52 24.2	-0.9
GEC2				*e*Sg	Sg	08 53 10.8	-5.4
GERES	GERESS Array B	3.04	211	Pn	Pn	08 52 23.6	-1.5
	comp=N,1.9nm,0.3s,baz=30,slow=12,SNR=31						
GERES				Pg	Pg	08 52 30.0	-5.6
	comp=N,3.7nm,0.3s,baz=30,slow=17,SNR=24						
GERES				Lg		08 53 07.6	
	comp=N,5.8nm,0.3s,baz=32,slow=39,SNR=11						
GERES	GERESS Array B	3.04	211	Pg	Pg	08 52 30.0	-5.7
SMOL	Smolenice	3.07	163	*e*SG	Sg	08 53 14.2	-3.0
WET	Wettzell	3.11	223	*e*Pn	Pn	08 52 24.1	-2.0
WET				*e*Sg	Sg	08 53 12.7	-5.8
WET	Wettzell	3.11	223	*e*Pn	Pn	08 52 24.1	-2.0
WET				*e*Sg	Sg	08 53 12.6	-5.9
WET	Wettzell	3.11	223	Pn	Pn	08 52 24.1	-2.0
WET				Sg	Sg	08 53 12.6	-5.9
NIE	Niedzica	3.38	126	*e*P	Pg	08 52 37.5	-4.8
NIE				*e*S	Sg	08 53 26.0	-1.4
VYHS	Vyhne	3.45	148	*e*PN	Pn	08 52 29.8	-1.1
GRA1	Grafenberg Arr	3.58	242	Sg	Sg	08 53 29.1	-5.1
GRF	Grafenberg Arr	3.58	242	*e*Sg	Sg	08 53 29.1	-5.1
MOA	Molln	3.81	199	⇑*i*PN	Pn	08 52 34.5	-1.5
MOA				*i* SG	Sg	08 53 37.7	-4.0
	comp=N,20nm,0.6s						
ARSA	Arzberg	4.23	185	⇑*i*PN	Pn	08 52 41.4	-0.6
ARSA				*i* SG	Sg	08 53 49.7	-6.2
	comp=N,12nm,0.6s						
CRVS	Cervenica-Dubn	4.29	125	*e*Pn	Pn	08 52 41.6	-1.2
KWP	Kalwaria	4.59	111	*e*Pn	Pn	08 52 47.6	+0.5
KWP				*e*Pg	Pg	08 53 10.1	+3.6
KWP	Kalwaria	4.59	111	*e*Pn	Pn	08 52 47.6	+0.5
KWP				*e*Pg	Pg	08 53 10.1	+3.5
KBA	Koelnbreinsper	4.75	203	⇑*i*PN	Pn	08 52 47.7	-1.6
KBA				*i* SG	Sg	08 54 07.6	-5.3
	comp=N,6.1nm,0.5s						
AKASG	Malin Array Be	8.30	90	P	P	08 53 32.2	-7.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	8.30	90	Pn	P	08 53 32.2	-7.0
	comp=Z,0.9nm,0.3s,baz=281,slow=12,SNR=3.2						
HFS	Hagfors	8.80	352	Pn	P	08 53 39.5	-6.7
	comp=Z,0.0nm,0.3s,baz=166,slow=12,SNR=4.4						
FINES	FINESS Array B	11.41	25	Pn	P	08 54 15.2	-6.7
	comp=Z,0.2nm,0.3s,baz=219,slow=11,SNR=8.4						

IDC ***16*** *09:13:45.1±3.8, 2.98N×95.62E, mb3.8/3, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=127.2km s-min=29.2km az=64.0*

ISC 16 09:13:49.9±1.5, 3.1N±0.2×96.0E±0.3, h33km, n10, σ0°83/10, mb4.3/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	15.57	11	Pn	P	09 17 29.4	+0.7
	0.1nm,0.3s,baz=199,slow=11,SNR=8.6						
JIRN	Jiri	26.18	340	*e*P	P	09 19 24.3	+0.8
	31nm,0.8s,mb4.9						
PKI	Pulchoki	26.38	338	*e*P	P	09 19 26.4	+1.1
	7.4nm,0.5s,mb4.5						
GUN	Gumba	26.52	340	*e*P	P	09 19 27.0	+0.4
	22nm,0.8s,mb4.7						
KKN	Kakani	26.63	338	*e*P	P	09 19 27.1	-0.5
GKN	Gorkha	27.06	338	*e*P	P	09 19 31.4	-0.2
KOLN	Koldanda	27.27	335	*e*P	P	09 19 33.4	0.0
WRA	Warramunga Arr	44.06	123	P	P	09 21 57.3	+0.4
	0.6nm,0.8s,mb3.4,baz=301,slow=9.2,SNR=7.4						
SONM	Songino Array	45.49	10	P	P	09 22 07.1	-0.9
	1.5nm,0.7s,mb4.0,baz=191,slow=9.1,SNR=10						
ZAL	Zalesovo	51.53	352	P	P	09 22 52.7	-1.9
	1.4nm,0.5s,mb4.1,baz=299,slow=4.7,SNR=6.0						

IDC ***16*** *09:19:22.4±2.0, 23.18N×142.65E, h105km±17km, mb3.9/17, mb1 4.0/19, mb1mx3.9/24, mbtmp4.2/19, Error ellipse: s-maj=21.4km s-min=11.3km az=91.0*
NEIC ***16*** *09:19:25.8±2.1, 23.15N×142.60E, h137km±18km, mb4.2/1, Error ellipse: s-maj=18.9km s-min=8.9km az=90.0*

ISC 16 09:19:21.1±1.6, 23.15N±0.07×142.6E±0.2, h108km±14km, n30, σ0°74/29, mb4.1/19, 1C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	Chichi jima	3.95	354	P	P	09 20 22.3	+1.4
	8.3nm,0.3s,baz=112,slow=23,SNR=13						
CBIJ				S	S	09 21 05.4	-1.2
	78nm,0.3s,baz=283,slow=23,SNR=21						
MJAR	Matsushiro Arr	13.88	345	P	P	09 22 34.2	+0.1
	0.4nm,0.3s,baz=147,slow=6.0,SNR=5.1						
MAJO	Matsushiro	13.89	345	*e*P	P	09 22 39.0	+4.8
SONM	Songino Array	37.90	320	P	P	09 26 30.4	+1.2
	0.6nm,0.5s,mb3.7,baz=132,slow=7.2,SNR=4.7						
WB2	Warramunga Arr	43.58	191	⇑*i*P	P	09 27 16.2	-0.1
WRA	Warramunga Arr	43.59	191	P	P	09 27 16.5	+0.2
	1.0nm,0.4s,mb3.9,baz=9.0,slow=7.9,SNR=49						
WRA				pP	pP	09 27 41.4	-0.1
	1.5nm,0.9s,baz=14,slow=8.8,SNR=5.5						
FITZ	Fitzroy Crossi	44.23	203	P	P	09 27 21.9	+0.3
	1.8nm,0.4s,mb4.2,baz=293,slow=2.4,SNR=6.7						
ASAR	Alice Springs	47.30	191	P	P	09 27 45.1	-0.6
	0.2nm,0.4s,mb3.2,baz=16,slow=9.1,SNR=9.3						
ZAL	Zalesovo	52.77	321	P	P	09 28 26.3	-0.7
	1.0nm,0.4s,mb4.2,baz=29,slow=5.8,SNR=5.1						
ZAL				PcP	PcP	09 29 33.9	-1.1
	1.3nm,0.3s,baz=8.9,slow=4.3,SNR=4.2						
ZAL	Zalesovo	52.77	321	P	P	09 28 26.3	-0.7
ZAL				PcP	PcP	09 29 33.9	-1.1
STKA	Stephens Creek	54.72	181	P	P	09 28 40.5	-1.1
	0.6nm,0.4s,mb4.0,baz=36,slow=8.6,SNR=6.6						
ILAR	Eielson Array	60.99	28	P	P	09 29 23.9	-1.1
	1.5nm,0.7s,mb4.1,baz=259,slow=5.9,SNR=19						
BVAR	Borovoye Array	61.24	319	P	P	09 29 27.1	+0.3
	11nm,0.4s,mb5.2,baz=90,slow=7.0,SNR=57						
INK	Inuvik	66.45	24	*e*P	P	09 30 00.3	-0.4
YKA	Yellowknife Ar	75.42	28	P	P	09 30 54.2	-0.1
	1.6nm,0.5s,mb4.0,baz=292,slow=5.9,SNR=87						
YKA	Yellowknife Ar	75.42	28	P	P	09 30 54.2	-0.1
ARCES	ARCESS Array B	77.39	341	P	P	09 31 05.7	+0.4
	1.8nm,0.6s,mb4.0,baz=72,slow=8.0,SNR=16						
JOF	Joensuu	78.79	334	*ep*	P	09 31 12.9	-0.1
	6.7nm,0.4s,mb4.8						
KAF	Kangasniemi	81.19	335	*ep*	P	09 31 25.0	-0.9
	1.7nm,0.4s,mb4.2						
FINES	FINESS Array B	81.66	334	P	P	09 31 28.4	+0.1
	4.0nm,0.5s,mb4.5,baz=66,slow=5.4,SNR=86						
FINES	FINESS Array B	81.66	334	P	P	09 31 28.4	+0.1
NVAR	Mina Array Bea	82.64	51	P	P	09 31 34.9	+0.9
	1.4nm,0.8s,mb3.9,baz=271,slow=7.3,SNR=12						
AKASG	Malin Array Be	86.03	324	P	P	09 31 50.7	+0.2
	1.0nm,0.4s,mb4.1,baz=54,slow=5.0,SNR=8.3						
PDAR	Pinedale Array	86.73	45	P	P	09 31 55.5	+1.4
	0.3nm,0.4s,mb3.6,baz=233,slow=7.4,SNR=4.3						
HFS	Hagfors	87.20	337	P	P	09 31 55.6	-0.3
	2.9nm,0.5s,mb4.5,baz=90,slow=3.0,SNR=25						
NB2	NORSAR Subarra	87.41	339	P	P	09 31 56.8	-0.1
	0.7nm,0.5s,mb3.9,baz=58,slow=5.0						
NOA	NORSAR Array B	87.41	339	P	P	09 31 56.0	-1.0
	0.3nm,0.7s,mb3.3,baz=48,slow=4.1,SNR=5.6						
BRTR	Keskin Array B	88.98	313	P	P	09 32 05.6	+0.7
	1.2nm,0.9s,mb3.9,baz=31,slow=7.2,SNR=4.1						
PLCA	Paso Flores	147.09	130	PKPbc	PKPdf	09 38 52.9	+3.7
	1.9nm,0.6s,baz=228,slow=5.2,SNR=13						
LPAZ	La Paz	150.29	82	PKPbc	PKPdf	09 39 03.2	+8.3
	2.3nm,0.6s,baz=277,slow=3.3,SNR=16						

JMA ***16*** *09:28:32.8±0.2, 22.15N×121.73E, h56km, M3.6*

TAP 16 09:28:31.0, 22.23N×121.38E, h16km±1km, ML3.8, 6C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	Lan-yu	0.25	140	⇑*i*P	Pb	09 28 36.5	-0.1
TAW	Tawu	0.47	286	⇑*i*P	Pb	09 28 40.0	-0.3
TAW				S	Sb	09 28 46.3	-0.4
EAST	Anshuo	0.52	287	⇑*i*P	Pb	09 28 40.8	-0.3
EAST				S	Sb	09 28 47.7	-0.4
ECL	Taimali	0.54	313	⇑*i*P	Pb	09 28 41.0	-0.6
ECL				S	Sb	09 28 48.2	-0.6
TSEB	Hengchuen, Pin	0.55	234	P	Pb	09 28 42.0	+0.2
TSEB				S	Sb	09 28 50.3	+1.1
TTN	Taitung	0.56	338	*e*P	Pb	09 28 42.6	+0.6
TWK1	Hengchun	0.60	242	*i* P	Pb	09 28 42.4	-0.2
TWK1				S	Sb	09 28 50.5	-0.2
HEN	Hengchun	0.64	250	*i* P	Pb	09 28 43.0	-0.2
HEN				S	Sb	09 28 51.5	-0.1
TWG	Pinlang	0.65	334	⇑*i*P	Pb	09 28 42.8	-0.8
SCZT	Fangliau	0.72	281	⇑*i*P	Pb	09 28 44.1	-0.5
SSD	Sandimen	0.86	307	*e*P	Pb	09 28 46.0	-1.1
CHKT	Chengkung	0.86	359	*e*P	Pb	09 28 46.2	-0.9
CHKT				S	Sb	09 28 58.0	-0.3
TWP	Hsiaoliuchiu	0.95	277	*e*P	Pb	09 28 50.0	+1.4
TWP				S	Sb	09 29 03.9	+3.2
KAU	Kaohsiung	1.05	289	*e*P	Pb	09 28 49.4	-0.9
TWM1	Shoushan	1.06	304	*e*P	Pb	09 28 51.9	+1.3
STYT	Tauyuan	1.09	328	*e*P	Pb	09 28 49.8	-1.2
TWF1	Yuli	1.12	356	*e*P	Pb

WB2	**Warramunga Arr**	**13.17 159**	⇓*i*P		**P**	**09 35 35.9**	**+0.1**
WB2			*e*S		**S**	**09 37 57.8**	**-0.7**
MBWA	**Marble Bar**	**16.32 214**	*e*P		**P**	**09 36 17.1**	**+1.9**
5.8nm,0.3s							
ASAR	**Alice Springs**	**16.53 165**	P	P	**P**	**09 36 21.2**	**+3.4**
1.0nm,0.3s,baz=340,slow=9.9,SNR=64							
ASAR			S		**S**	**09 39 18.6**	**+4.0**
2.3nm,0.3s,baz=321,slow=18,SNR=6.4							
ASPA	**Alice Springs**	**16.53 165**	*e*P		**P**	**09 36 22.0**	**+4.3**
ASPA			*e*S		**S**	**09 39 16.5**	**+1.9**
PMG	**Port Moresby**	**17.73 97**	P	P	**P**	**09 36 38.2**	**+6.7**
1.3nm,0.3s,baz=315,slow=18,SNR=4.7							
FORT	**Forrest**	**23.05 183**	*e*P		**P**	**09 37 30.6**	**+5.7**
298nm,0.6s							
STKA	**Stephens Creek**	**26.69 156**	P		**P**	**09 38 03.0**	**+4.1**
2.3nm,1.0s,mb3.8,baz=344,slow=9.3,SNR=3.2							
STKA	**Stephens Creek**	**26.69 156**	P		**P**	**09 38 03.0**	**+4.1**
CMAR	**Chiang Mai Arr**	**39.63 311**	P		**P**	**09 39 50.3**	**0.0**
1.2nm,0.6s,mb3.7,baz=144,slow=7.1,SNR=9.4							
JIRN	**Jiri**	**54.50 312**	*e*P		**P**	**09 41 45.7**	**-0.2**
7.3nm,0.4s,mb4.7							
GUN	**Gumba**	**54.87 312**	*e*P		**P**	**09 41 48.4**	**-0.1**
15nm,0.4s,mb5.0							
PKI	**Pulchoki**	**55.03 311**	*e*P		**P**	**09 41 49.3**	**-0.4**
6.3nm,0.5s,mb4.6							
DMN	**Daman**	**55.28 311**	*e*P		**P**	**09 41 51.5**	**0.0**
7.3nm,0.3s,mb5.0							
GKN	**Gorkha**	**55.84 311**	*e*P		**P**	**09 41 54.9**	**-0.6**
14nm,0.3s,mb5.2							
KOLN	**Koldanda**	**56.49 310**	*e*P		**P**	**09 41 59.8**	**-0.3**
8.3nm,0.5s,mb4.8							
ZAL	**Zalesovo**	**71.86 334**	P		**P**	**09 43 38.8**	**-0.5**
0.9nm,0.4s,mb3.9,baz=18,slow=5.0,SNR=3.1							
BVAR	**Borovoye Array**	**78.24 328**	P		**P**	**09 44 15.7**	**+0.2**
0.5nm,0.5s,baz=135,slow=6.3,SNR=4.1							

*NEIC **16** 09:44:58.9, 18.22N×64.40W, h135km, MD3.7(RSPR), After RSPR.*

RSPR 16 09:44:58.9, 18.22N×64.40W, h135km±1km, MD3.7/13, MD3.7/13, 14C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.55**	**284**	⇑*i*P	P	09 45 18.4	-0.9
STVI				*e*S	S	09 45 33.4	-1.6
CDVI	**St. Croix**	**0.58**	**217**	⇑*e*P	P	09 45 18.4	-1.1
CDVI	**St. Croix**	**0.58**	**217**	*e*S	S	09 45 33.9	-1.4
MTP	**Monte Pirata**	**1.10**	**264**	⇑*i*P	P	09 45 23.1	-0.4
MTP				*e*S	S	09 45 41.7	-0.6
HUMP	**Col San Antoni**	**1.38**	**267**	⇑*e*P	P	09 45 26.0	-0.3
HUMP				*e*S	S	09 45 47.2	-0.2
CBYP	**Canovanas**	**1.38**	**272**	⇑*e*P	P	09 45 25.7	-0.7
CBYP				*e*S	S	09 45 46.7	-0.8
CPD	**Cerro la Pandu**	**1.45**	**263**	⇑*e*P	P	09 45 26.8	-0.4
CPD				*e*S	S	09 45 48.4	-0.3
SJG	**San Juan**	**1.66**	**267**	⇑*e*P	P	09 45 29.3	-0.3
SJG				*e*S	S	09 45 52.5	-0.5
ICM	**Isla Caja Muer**	**2.04**	**261**	*e*S	S	09 46 00.2	-0.6
CELP	**Cerrillos**	**2.07**	**266**	⇑*e*P	P	09 45 34.0	-0.4
CELP				*e*S	S	09 46 00.7	-0.9
PORP	**Portuguez**	**2.13**	**266**	⇑*e*P	P	09 45 34.4	-0.8
PORP				*e*S	S	09 46 02.3	-0.5
AOPR	**Arecibo Observ**	**2.23**	**274**	⇑*e*P	P	09 45 35.4	-1.1
AOPR				*e*S	S	09 46 04.9	-0.2
LRS	**Lares**	**2.32**	**272**	⇓*e*P	P	09 45 36.5	-1.1
LRS				*e*S	S	09 46 06.0	-1.1
LSP	**Las Mesas**	**2.55**	**269**	⇑*e*P	P	09 45 40.2	-0.4
LSP				*e*S	S	09 46 12.4	+0.1
MGP	**Maguayo**	**2.56**	**266**	⇑*e*P	P	09 45 39.6	-1.1
MGP				*e*S	S	09 46 12.2	-0.4
CRPR	**Cabo Rojo, PR**	**2.58**	**266**	⇑*e*P	P	09 45 39.5	-1.5
CRPR				*e*S	S	09 46 12.1	-1.0
AGPR	**Aguadilla, PR**	**2.58**	**276**	⇑*e*P	P	09 45 39.5	-1.5
AGPR				*e*S	S	09 46 11.5	-1.6

IDC 16 09:48:51.5±4.2, 1.10N×97.70E, mb3.7/3, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, ML3.9/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/28, Error ellipse: s-maj=144.5km s-min=29.6km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.30**	**4**	P	P	09 52 56.1	0.0
0.1nm,0.3s,baz=192,slow=11,SNR=9.8							
NWAO	**Narrogin (SRO)**	**38.54**	**153**	LR	LR	10 11 39.6	
comp=Z,89nm,21.1s,baz=116,slow=36							
WRA	**Warramunga Arr**	**41.56**	**122**	P	P	09 56 41.3	-1.5
0.2nm,0.4s,baz=301,slow=9.0,SNR=5.3							
SONM	**Songino Array**	**47.16**	**8**	P	P	09 57 24.9	-2.6
0.3nm,0.4s,baz=180,slow=7.2,SNR=3.9							
ZAL	**Zalesovo**	**53.73**	**351**	P	P	09 58 15.4	-2.1
1.5nm,0.4s,baz=302,slow=5.0,SNR=5.3							

*IDC **16** 09:58:59.6±1.1, 2.84N×96.36E, mb3.7/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, ML3.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/28, Error ellipse: s-maj=35.1km s-min=23.0km az=49.0*

*NEIC **16** 09:59:04.0±0.7, 2.88N×96.46E, h30km, mb4.3/1, Error ellipse: s-maj=15.0km s-min=10.9km az=67.0*

ISC 16 09:59:02.1±0.9, 2.9N±0.1×96.4E±0.1, h30km, n10, σ0°50/9, mb3.9/6, MS3.4/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.83**	**60**	*e*P	**Pn**	**10 00 14.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**15.67**	**9**	Pn	**P**	**10 02 43.0**	**+0.3**
0.0nm,0.3s,baz=204,slow=11,SNR=2.3							
WRA	**Warramunga Arr**	**43.57**	**123**	P	**P**	**10 07 06.0**	**+0.4**
0.7nm,0.5s,mb3.7,baz=300,slow=9.4,SNR=15							
WRAB	**Tennant Creek**	**43.58**	**123**	*e*P	**P**	**10 07 04.9**	**-0.7**
4.9nm,0.8s,mb4.3							
WB2	**Warramunga Arr**	**43.58**	**123**	*e*P	**P**	**10 07 06.1**	**+0.4**
ASAR	**Alice Springs**	**45.01**	**128**	P	**P**	**10 07 17.6**	**+0.4**
0.5nm,0.7s,mb3.5,baz=300,slow=7.9,SNR=9.3							
SONM	**Songino Array**	**45.59**	**9**	P	**P**	**10 07 21.8**	**+0.4**
0.6nm,0.7s,mb3.6,baz=189,slow=8.4,SNR=4.3							
MJAR	**Matsushiro Arr**	**50.98**	**44**	LR	LR	10 33 05.5	
comp=Z,38nm,19.6s,MS3.4,baz=55,slow=40							
ZAL	**Zalesovo**	**51.78**	**351**	P	**P**	**10 08 09.3**	**+0.1**
0.9nm,0.3s,mb4.2,baz=12,slow=2.9,SNR=3.0							
KMBO	**Kilima Mbogo**	**59.31**	**267**	P	**P**	**10 09 03.5**	**-0.6**
0.5nm,0.3s,mb4.0,baz=45,slow=7.1,SNR=3.4							

IDC 16 10:03:49.6±3.8, 1.93N×96.75E, mb3.6/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, ML3.7/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/25, Error ellipse: s-maj=135.7km s-min=23.4km az=64.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.56**	**7**	Pn	P	10 07 43.8	-1.2
0.1nm,0.3s,baz=197,slow=12,SNR=18							
WRA	**Warramunga Arr**	**42.80**	**122**	P	P	10 11 49.5	-1.7
0.4nm,0.5s,baz=301,slow=9.2,SNR=8.0							
ASAR	**Alice Springs**	**44.19**	**127**	P	P	10 12 00.6	-1.8
0.3nm,0.6s,baz=298,slow=7.7,SNR=4.5							
SONM	**Songino Array**	**46.48**	**9**	P	P	10 12 18.7	-1.6
0.6nm,0.4s,baz=188,slow=9.6,SNR=5.3							
ZAL	**Zalesovo**	**52.76**	**351**	P	P	10 13 05.8	-2.7
0.8nm,0.4s,baz=265,slow=6.4,SNR=4.4							
KMBO	**Kilima Mbogo**	**59.57**	**268**	LR	LR	10 35 02.4	
comp=Z,60nm,20.7s,baz=78,slow=31							

*IDC **16** 10:07:23.6±1.0, 0.73N×96.77E, mb4.0/11, mb1 4.2/12, mb1mx4.0/20, mbtmp4.0/12, ML4.1/1, MS3.7/5, Ms1 3.7/5, ms1mx3.4/26, Error ellipse: s-maj=48.6km s-min=15.1km az=51.0*

*BJI **16** 10:07:28.0, 0.90N×96.90E, h30km, mb4.7*

*NEIC **16** 10:07:28.6±0.6, 0.86N×96.91E, h30km, mb4.3/1, Error ellipse: s-maj=16.5km s-min=9.3km az=58.0*

ISC 16 10:07:27.3±0.6, 0.87N±0.08×97.02E±0.10, h30km, n32, σ0°97/30, mb4.2/16, MS3.8/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.70**	**39**	*e*P	**Pn**	**10 08 51.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**17.58**	**6**	P	**P**	**10 11 30.4**	**-1.5**
0.3nm,0.3s,baz=196,slow=13,SNR=11							
CMAR				LR	LR	10 19 36.9	
comp=Z,171nm,19.3s,baz=188,slow=41							
KKM	**Kota Kinabalu**	**19.84**	**75**	*e*P	**P**	**10 12 00.6**	**+1.7**
SHL	**Shillong**	**25.05**	**349**	*e*	**P**	**10 12 50.0**	**-0.7**
GYA	**Guiyang**	**27.08**	**19**	P	**P**	**10 13 10.4**	**+0.9**
GYA				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.5							
JIRN	**Jiri**	**28.59**	**340**	*e*P	**P**	**10 13 24.0**	**+0.9**
comp=Z,26nm,1.0s,mb4.9							
PKI	**Pulchoki**	**28.79**	**338**	*e*P	**P**	**10 13 25.5**	**+0.6**
GUN	**Gumba**	**28.93**	**339**	*e*P	**P**	**10 13 26.8**	**+0.6**
comp=Z,30nm,0.8s,mb5.1							
KKN	**Kakani**	**29.04**	**338**	*e*P	**P**	**10 13 28.0**	**+0.8**
LSA	**Lhasa**	**29.21**	**350**	P	**P**	**10 13 29.8**	**+1.1**
GKN	**Gorkha**	**29.47**	**337**	*e*P	**P**	**10 13 31.8**	**+0.7**
KOLN	**Koldanda**	**29.68**	**335**	*e*P	**P**	**10 13 33.3**	**+0.3**
ENH	**Enshi**	**31.55**	**21**	*e*P	**P**	**10 13 47.8**	**-1.7**
FITZ	**Fitzroy Crossi**	**33.89**	**125**	P	**P**	**10 14 08.8**	**-1.1**
comp=Z,3.7nm,0.6s,mb4.5,baz=319,slow=2.2,SNR=8.4							
GTA	**Gaotai**	**38.44**	**3**	P	**P**	**10 14 49.0**	**+0.7**
GTA				AMB	AMB		
comp=Z,6.0nm,0.9s,mb4.3							
WRA	**Warramunga Arr**	**42.02**	**122**	P	**P**	**10 15 18.3**	**+0.2**
comp=Z,2.2nm,0.6s,mb3.9,baz=302,slow=9.0,SNR=12							
WRAB	**Tennant Creek**	**42.02**	**122**	*e*P	**P**	**10 15 18.5**	**+0.4**
comp=Z,6.5nm,1.0s,mb4.2							
WB2	**Warramunga Arr**	**42.03**	**122**	*e*P	**P**	**10 15 18.8**	**+0.7**
BJT	**Baijiatuau**	**42.69**	**22**	P	**P**	**10 15 23.0**	**-0.3**
ASAR	**Alice Springs**	**43.34**	**127**	P	**P**	**10 15 29.8**	**+0.9**
comp=Z,1.9nm,1.0s,mb3.8,baz=311,slow=8.3,SNR=12							
SONM	**Songino Array**	**47.48**	**9**	P	**P**	**10 16 01.9**	**+0.4**
comp=Z,0.8nm,0.5s,mb3.9,baz=189,slow=9.0,SNR=5.4							
CTA	**Charters Tower**	**52.52**	**116**	LR	LR	10 42 43.8	
comp=Z,108nm,18.4s,MS3.9,baz=44,slow=40							
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**10 16 43.9**	**-1.9**
comp=Z,1.0nm,0.6s,mb4.0,baz=324,slow=7.4,SNR=5.0							
STKA	**Stephens Creek**	**53.27**	**132**	*e*P	**P**	**10 16 44.0**	**-1.9**
ZAL	**Zalesovo**	**53.85**	**351**	P	**P**	**10 16 49.3**	**-0.4**
comp=Z,5.1nm,0.5s,mb4.7,baz=310,slow=4.8,SNR=19							
ZAL				LR	LR	10 41 38.8	
comp=Z,55nm,18.2s,MS3.6,baz=102,slow=38							
BVAR	**Borovoye Array**	**56.50**	**341**	P	**P**	**10 17 07.6**	**-1.5**
comp=Z,1.1nm,0.6s,mb4.1,baz=146,slow=11,SNR=6.7							
ASF	**Jabal al Asfar**	**64.50**	**305**	LR	LR	10 46 52.6	
comp=Z,43nm,18.4s,MS3.7,baz=127,slow=37							
BRTR	**Keskin Array B**	**69.20**	**312**	P	**P**	**10 18 31.6**	**-1.8**
comp=Z,0.5nm,0.4s,mb3.8,baz=135,slow=4.1,SNR=3.3							
ARCES	**ARCESS Array B**	**82.78**	**340**	P	**P**	**10 19 50.0**	**+0.4**
comp=Z,2.4nm,1.0s,mb4.2,baz=76,slow=5.0,SNR=6.1							
GERES	**GERESS Array B**	**84.94**	**319**	P	**P**	**10 20 00.6**	**-0.3**
comp=Z,0.3nm,0.3s,mb3.9,baz=135,slow=4.2,SNR=2.5							
GERES				LR	LR	11 02 51.3	
comp=Z,54nm,19.6s,MS4.0,baz=48,slow=39							
NOA	**NORSAR Array B**	**87.20**	**331**	P	**P**	**10 20 12.1**	**+0.3**
comp=Z,1.1nm,0.8s,mb4.1,baz=93,slow=4.8,SNR=3.9							
NOA	**NORSAR Array B**	**87.20**	**331**	P	**P**	**10 20 12.1**	**+0.3**

*IDC **16** 10:13:11.4±0.9, 12.92N×91.88E, mb3.9/12, mb1 4.0/13, mb1mx3.9/23, mbtmp3.9/13, ML3.9/1, Error ellipse: s-maj=39.5km s-min=14.0km az=61.0*

*NEIC **16** 10:13:16.0±0.5, 12.89N×91.92E, h30km, mb4.6/4, Error ellipse: s-maj=14.6km s-min=8.8km az=69.0*

ISC 16 10:13:13.6±0.6, 13.01N±0.08×91.9E±0.1, h30km, n29, σ0°92/30, mb4.0/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**8.65**	**50**	P	**P**	**10 15 19.5**	**-0.3**
7.6nm,0.8s							
CMAR	**Chiang Mai Arr**	**8.65**	**50**	Pn	**P**	**10 15 19.8**	**-0.1**
0.3nm,0.3s,baz=240,slow=14,SNR=15							
VIS	**Vishakhapatnam**	**9.54**	**301**	*e*P	**P**	**10 15 24.6**	**-7.6**
VIS				*e*S	**Sn**	**10 17 06.3**	**-13**
JIRN	**Jiri**	**15.54**	**341**	*e*P	**P**	**10 16 51.7**	**-0.7**
25nm,0.6s							
PKI	**Pulchoki**	**15.72**	**338**	*e*P	**P**	**10 16 53.7**	**-1.1**
GUN	**Gumba**	**15.87**	**340**	*e*P	**P**	**10 16 56.9**	**+0.2**
GKN	**Gorkha**	**16.40**	**337**	*e*P	**P**	**10 17 02.6**	**-0.8**
14nm,0.3s							
KOLN	**Koldanda**	**16.63**	**333**	*e*P	**P**	**10 17 04.6**	**-1.7**
39nm,0.8s							
LSA	**Lhasa**	**16.63**	**358**	*e*P	**P**	**10 17 10.4**	**+4.1**
ENH	**Enshi**	**23.63**	**41**	P	**P**	**10 18 27.9**	**+4.7**
7.9nm,0.8s,mb4.2							
SONM	**Songino Array**	**36.76**	**16**	P	**P**	**10 20 22.0**	**+1.7**
0.4nm,0.5s,mb3.5,baz=194,slow=12,SNR=2.7							
ZAL	**Zalesovo**	**41.22**	**354**	P	**P**	**10 20 57.2**	**-0.1**
0.6nm,0.7s,mb3.3,baz=268,slow=7.8,SNR=3.6							
BVAR	**Borovoye Array**	**43.46**	**341**	P	**P**	**10 21 16.2**	**+0.6**
0.3nm,0.5s,mb3.3,baz=135,slow=2.0,SNR=2.7							
FITZ	**Fitzroy Crossi**	**45.40**	**132**	*e*P	**P**	**10 21 31.2**	**-0.5**
11nm,1.3s,mb4.5							
FITZ	**Fitzroy Crossi**	**45.40**	**132**	P	**P**	**10 21 31.6**	**-0.1**
3.8nm,0.6s,mb4.4,baz=342,slow=11,SNR=12							
NWAO	**Narrogin (SRO)**	**51.67**	**153**	P	**P**	**10 22 20.5**	**+0.4**
7.6nm,0.7s,mb4.8,baz=324,slow=9.7,SNR=5.9							
NWAO	**Narrogin (SRO)**	**51.67**	**153**	*e*P	**P**	**10 22 20.3**	**+0.2**
5.5nm,0.7s,mb4.6							
WRA	**Warramunga Arr**	**53.04**	**127**	P	**P**	**10 22 30.0**	**-0.5**
1.6nm,0.5s,mb4.2,baz=307,slow=8.1,SNR=31							
WRAB	**Tennant Creek**	**53.04**	**127**	*e*P	**P**	**10 22 29.9**	**-0.7**
5.0nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**53.05**	**127**	*e*P	**P**	**10 22 30.1**	**-0.5**
ASAR	**Alice Springs**	**54.88**	**131**	P	**P**	**10 22 43.6**	**-0.4**
1.0nm,0.5s,mb4.1,baz=307,slow=6.8,SNR=28							
STKA	**Stephens Creek**	**65.21**	**134**	P	**P**	**10 23 54.8**	**0.0**
1.4nm,0.6s,mb4.2,baz=301,slow=5.1,SNR=7.5							
STKA	**Stephens Creek**	**65.21**	**134**	*e*P	**P**	**10 23 54.5**	**-0.3**
JOF	**Joensuu**	**65.31**	**334**	*e*p	**P**	**10 23 55.0**	**+0.2**
2.2nm,0.6s,mb4.4							
FINES	**FINESS Array B**	**67.19**	**332**	P	**P**	**10 24 07.6**	**+0.7**
0.5nm,0.6s,mb3.7,baz=90,slow=5.6,SNR=3.3							
FINES	**FINESS Array B**	**67.19**	**332**	P	**P**	**10 24 07.6**	**+0.7**
ARCES	**ARCESS Array B**	**69.73**	**340**	P	**P**	**10 24 22.8**	**+0.3**
2.3nm,0.8s,mb4.2,baz=311,slow=9.6,SNR=3.0							
NOA	**NORSAR Array B**	**74.23**	**330**	P	**P**	**10 24 51.1**	**+1.8**
0.1nm,0.4s,mb3.1,baz=99,slow=3.9,SNR=2.6							
ILAR	**Eielson Array**	**90.81**	**22**	P	**P**	**10 26 17.9**	**+2.9**
0.2nm,0.7s,mb3.6,baz=303,slow=5.1,SNR=4.4							

IDC 16 10:29:59.0±2.6, 1.09N×97.04E, mb3.6/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=98.1km s-min=21.6km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.36**	**6**	P	P	10 34 02.3	-2.2
0.1nm,0.3s,baz=196,slow=10,SNR=8.3							
WRA	**Warramunga Arr**	**42.11**	**122**	P	P	10 37 52.9	-2.0
0.6nm,0.6s,baz=301,slow=9.1,SNR=11							
ASAR	**Alice Springs**	**43.46**	**127**	P	P	10 38 04.5	-1.4
0.3nm,0.4s,baz=298,slow=7.8,SNR=4.7							
SONM	**Songino Array**	**47.27**	**9**	P	P	10 38 34.3	-1.6
0.4nm,0.4s,baz=191,slow=7.3,SNR=3.4							
ZAL	**Zalesovo**	**53.63**	**351**	P	P	10 39 22.6	-1.8
0.7nm,0.6s,baz=306,slow=7.5,SNR=5.3							
BVAR	**Borovoye Array**	**56.30**	**341**	P	P	10 39 40.8	-3.0
0.7nm,0.7s,baz=124,slow=5.2,SNR=4.6							

*IDC **16** 10:36:39.4±0.8, 0.98N×97.29E, mb4.2/14, mb1 4.4/15, mb1mx4.3/21, mbtmp4.3/15, ML4.8/1, MS3.8/3, Ms1 3.9/3, ms1mx3.4/29, Error ellipse: s-maj=36.8km s-min=14.4km az=50.0*

*BJI **16** 10:36:40.9, 0.74N×97.63E, h32km, mB5.0, mb4.9, Ms4.3, Msz4.1*

*MOS **16** 10:36:41.5±1.1, 0.92N×97.29E, h33km, mb4.7/9, Error ellipse: s-maj=23.8km s-min=10.1km az=88.5*

*NEIC **16** 10:36:43.7±0.5, 1.01N×97.35E, h30km, mb4.5/13, Error ellipse: s-maj=12.3km s-min=7.3km az=59.0*

ISC 16 10:36:41.5±1.9, 0.99N±0.06×97.38E±0.06, h27km±12km, h28km±1.9km: pP-P, n79, σ1°07/80, mb4.5/41, MS3.9/5, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.10**	**46**	P	**Pn**	**10 37 59.7**	**+1.5**
KULM	**Kulim**	**5.38**	**37**	*e*P	**Pn**	**10 38 03.0**	**+0.8**
KGM	**Kluang**	**6.03**	**80**	P	**Pn**	**10 38 12.7**	**+1.4**
SNG	**Songkhla**	**6.95**	**28**	P	**Pn**	**10 38 23.0**	**-1.2**
160nm,0.9s							
CM31	**Chiang Mai Arr**	**17.43**	**5**	*e*P	**P**	**10 40 43.7**	**-0.9**
24nm,0.8s							
CMAR	**Chiang Mai Arr**	**17.43**	**5**	*i*P	**P**	**10 40 44.2**	**-0.4**
CMAR				pmax	pmax		
comp=Z,21nm,0.7s							
CMAR	**Chiang Mai Arr**	**17.43**	**5**	P	**P**	**10 40 43.5**	**-1.1**
comp=Z,1.2nm,0.3s,baz=193,slow=11,SNR=42							
CMAR				LR	LR	10 48 14.0	
comp=Z,252nm,19.5s,baz=190,slow=40							
CHG	**Chiang Mai**	**17.78**	**5**	P	**P**	**10 40 48.3**	**-0.7**
NANT	**Nan**	**18.00**	**10**	⇑P	**P**	**10 40 51.5**	**-0.2**
comp=Z,152nm,0.8s							
KKM	**Kota Kinabalu**	**19.46**	**75**	*e*P	**P**	**10 41 08.6**	**-0.7**
KMI	**Kunming**	**24.55**	**12**	P	**P**	**10 42 02.3**	**+1.8**
KMI				AP		10 42 09.6	
KMI				AMB	AMB		
comp=Z,24nm,1.1s,mb4.6							
KMI	**Kunming**	**24.55**	**12**	P	**P**	**10 42 02.2**	**+1.7**
KMI				*PP		10 42 09.6	
KMI				pmax	pmax		
comp=Z,24nm,1.1s,mb4.6							
KMI	**Kunming**	**24.55**	**12**	P	**P**	**10 42 02.2**	**+1.7**
comp=Z,24nm,1.1s,mb4.6							
KMI				pP		10 42 09.6	
HYB	**Hyderabad**	**24.68**	**312**	*e*P		10 42 13.0	
HYB	**Hyderabad**	**24.68**	**312**	*i*P		10 42 13.0	
SHL	**Shillong**	**25.00**	**348**	*e*P	**P**	**10 42 05.5**	**+0.6**
JIRN	**Jiri**	**28.61**	**339**	*e*P	**P**	**10 42 39.3**	**+1.4**
comp=Z,25nm,0.9s,mb5.0							
PKI	**Pulchoki**	**28.82**	**338**	*e*P	**P**	**10 42 40.3**	**+0.5**
GUN	**Gumba**	**28.95**	**339**	*e*P	**P**	**10 42 42.2**	**+1.2**
comp=Z,24nm,0.6s,mb5.1							
KKN	**Kakani**	**29.06**	**338**	*e*P	**P**	**10 42 43.2**	**+1.2**
comp=Z,12nm,0.6s,mb4.8							
GKN	**Gorkha**	**29.50**	**337**	*e*P	**P**	**10 42 47.4**	**+1.4**
comp=Z,7.8nm,0.4s,mb4.8							
KOLN	**Koldanda**	**29.72**	**335**	*e*P	**P**	**10 42 49.0**	**+1.0**
comp=Z,14nm,0.6s,mb4.9							
ENH	**Enshi**	**31.31**	**20**	*e*P	**P**	**10 43 00.9**	**-1.1**
comp=Z,22nm,0.8s,mb5.0							
FITZ	**Fitzroy Crossi**	**33.66**	**126**	*e*P	**P**	**10 43 22.3**	**-0.3**
comp=Z,5.8nm,1.5s,mb4.3							
FITZ	**Fitzroy Crossi**	**33.66**	**126**	P	**P**	**10 43 22.0**	**-0.5**
comp=Z,2.6nm,0.5s,mb4.4,baz=327,slow=8.5,SNR=11							
XAN	**Xi'an**	**34.61**	**17**	P	**P**	**10 43 29.6**	**-1.0**
XAN				AP	pP	10 43 35.8	-2.7
XAN				AMB	AMB		
comp=Z,18nm,1.0s,mb5.0							
NJ2	**Nanjing**	**36.95**	**31**	*e*P	**P**	**10 43 48.3**	**-2.1**
NJ2				AP	pP	10 43 57.4	-1.0
NJ2				XP	sP	10 44 01.3	-0.4
NJ2				PP	PP	10 45 15.0	-1.9
NJ2				S	**S**	**10 49 34.0**	**+0.6**
NJ2				XS		10 49 50.0	
NJ2				AMB	AMB		
comp=Z,30nm,0.7s,mb5.2							
NJ2				AMB	AMB		
comp=Z,150nm,4.5s							
NJ2				LR	LR		
comp=N,280nm,19.9s,MS4.2							
NJ2				LR	LR		
comp=E,260nm,21.5s,MS4.2							
NJ2				LR	LR		
comp=Z,220nm,17.8s,MS4.0							
KAKA	**Kakadu**	**37.36**	**113**	*e*P	**P**	**10 43 52.8**	**-1.2**
comp=Z,4.5nm,0.7s,mb4.4							
SSE	**Sheshan**	**37.48**	**35**	*e*P	**P**	**10 43 54.4**	**-0.5**
SSE				AP	pP	10 44 03.1	+0.2
SSE				XP	sP	10 44 07.5	+1.3
SSE				S	**S**	**10 49 42.6**	**+1.0**
SSE				XS		10 49 58.0	
SSE				AMB	AMB		
comp=Z,35nm,0.7s,mb5.3							
SSE				AMB	AMB		
comp=Z,44nm,5.4s							
SSE				LR	LR		
comp=N,48nm,15.5s,MS3.9							
SSE				LR	LR		
comp=E,136nm,15.5s,MS3.9							
SSE				LR	LR		
comp=Z,200nm,14.1s,MS4.1							
SSE	**Sheshan**	**37.48**	**35**	*e*P	**P**	**10 43 54.4**	**-0.5**
comp=Z,35nm,0.7s,mb5.3							
SSE				pP	pP	10 44 03.1	+0.2
SS

comp=Z,8.0nm,0.9s
HIA Hailar 51.78 18 *e*P **P 10 45 49.0 -0.1**
comp=Z,7.9nm,0.9s,mb4.6
MDJ Mudanjiang 51.97 29 P **P 10 45 49.9 -0.7**
MDJ AMB AMB
comp=Z,8.0nm,0.6s,mb4.8
MDJ AMB AMB
comp=Z,59nm,5.9s
STKA Stephens Creek 53.08 132 *e*P **P 10 46 00.3 +1.2**
comp=Z,1.4nm,0.5s,mb4.2
STKA Stephens Creek 53.08 132 P **P 10 46 00.4 +1.2**
comp=Z,4.3nm,1.0s,mb4.3,baz=278,slow=6.3,SNR=5.0
ZAL Zalesovo 53.78 351 P **P 10 46 04.3 +0.4**
comp=Z,10nm,0.5s,mb5.0,baz=317,slow=5.7,SNR=49
ZAL Zalesovo 53.78 351 P **P 10 46 04.3 +0.4**
KLR Kul'dur 56.36 26 *e*P **P 10 46 20.2 -2.6**
BVAR Borovoye Array 56.51 341 P **P 10 46 22.8 -0.9**
comp=Z,5.2nm,0.7s,mb4.7,baz=138,slow=9.0,SNR=34
BOD Bodaibo 58.18 10 *e*P **P 10 46 35.5 0.0**
BOD pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
YSS Yuzh-Sakhalins 60.42 34 *e*P **P 10 46 50.6 -0.5**
SVE Sverdlovsk 62.95 338 *e*P **P 10 47 03.0 -4.9**
ARU Arti 63.45 337 *e*P **P 10 47 09.3 -1.9**
KIV Kislovodsk 64.58 319 *e*P **P 10 47 18.2 -0.7**
KIV *e* 10 47 34.2
KIV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
YAK Yakutsk 65.57 16 *i* P **P 10 47 24.3 -0.6**
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ANN Anapa 68.37 318 *e*P **P 10 47 40.6 -2.4**
BRTR Keskin Array B 69.38 312 P **P 10 47 49.1 -0.2**
comp=Z,0.5nm,0.4s,mb3.8,baz=149,slow=9.7,SNR=3.2
TIXI Tiksi 73.36 10 *i* P **P 10 48 11.7 -0.8**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AKASG Malin Array Be 75.53 322 *i* P **P 10 48 24.6 -0.9**
AKASG Malin Array Be 75.53 322 P **P 10 48 25.1 -0.3**
comp=Z,0.3nm,0.3s,mb3.7,baz=91,slow=4.5,SNR=5.3
FINES FINESS Array B 80.27 332 P **P 10 48 51.6 +0.3**
comp=Z,1.4nm,0.8s,mb4.0,baz=108,slow=6.0,SNR=6.8
KAF Kangasniemi 80.35 333 *ep* **P 10 48 51.9 +0.2**
comp=Z,2.0nm,0.7s,mb4.2
KAF Kangasniemi 80.35 333 *e*P **P 10 48 51.9 +0.2**
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ARCES ARCESS Array B 82.79 340 P **P 10 49 03.9 -0.4**
comp=Z,1.9nm,0.7s,mb4.2,baz=90,slow=7.3,SNR=7.6
ARCES ARCESS Array B 82.79 340 P **P 10 49 03.9 -0.4**
GERES GERESS Array B 85.09 319 P **P 10 49 17.9 +1.6**
comp=Z,1.6nm,0.9s,mb4.2,baz=117,slow=6.0,SNR=4.9
NB2 NORSAR Subarra 87.28 331 P **P 10 49 27.7 +0.9**
comp=Z,1.0nm,0.8s,mb4.1,baz=95,slow=4.6
NOA NORSAR Array B 87.28 331 P **P 10 49 27.4 +0.5**
comp=Z,1.4nm,0.8s,mb4.2,baz=94,slow=4.8,SNR=6.3
JCT Junction City 144.69 26 *e*PKPdf PKPdf 10 56 16.6 -4.7

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*IDC **16** 11:01:48.8±3.4, 15.45S×173.48W, mb3.7/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.7/5, MS3.2/2, Ms1 3.2/2, ms1mx3.0/23, Error ellipse: s-maj=187.7km s-min=25.5km az=146.0*
*NEIC **16** 11:01:51.6±0.6, 15.06S×173.77W, h10km, mb4.1/1, Error ellipse: s-maj=30.8km s-min=13.5km az=144.0*
ISC 16 11:01:53.5±0.9, 15.0S±0.2×173.9W±0.2, h33km, n13, σ0 42/11, mb3.8/6, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.29**	**62**	Pn	**Pn**	**11 02 20.8**	**-9.0**
	60nm,0.3s,baz=187,slow=2.0,SNR=84						
AFI				Sn	**Sn**	**11 02 41.9**	**-15**
	165nm,0.3s,baz=131,slow=20,SNR=32						
AFI				LR	LR	11 02 56.3	
	comp=Z,660nm,18.8s,baz=207,slow=30						
DZM	**Mont Dzumac**	**19.95**	**246**	LR	LR	11 12 12.9	
	comp=Z,54nm,19.2s,baz=151,slow=31						
WB2	**Warramunga Arr**	**49.49**	**256**	*e*P	**P**	**11 10 43.2**	**+0.1**
WRAB	**Tennant Creek**	**49.49**	**256**	*e*P	**P**	**11 10 43.5**	**+0.4**
	1.3nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**49.51**	**256**	P	**P**	**11 10 43.2**	**0.0**
	0.7nm,0.6s,mb3.9,baz=92,slow=7.0,SNR=25						
ASAR	**Alice Springs**	**49.81**	**252**	P	**P**	**11 10 45.1**	**-0.4**
	5.7nm,0.6s,mb4.8,baz=86,slow=8.0,SNR=137						
ASPA	**Alice Springs**	**49.82**	**252**	*e*P	**P**	**11 10 45.3**	**-0.3**
NVAR	**Mina Array Bea**	**74.33**	**42**	P	**P**	**11 13 29.6**	**-0.1**
	0.3nm,0.7s,mb3.4,baz=225,slow=6.4,SNR=2.7						
QSPA	**South Pole Qui**	**75.05**	**180**	P	**P**	**11 13 33.2**	**+0.2**
ILAR	**Eielson Array**	**82.13**	**11**	P	**P**	**11 14 12.8**	**+0.8**
	0.2nm,0.6s,mb3.2,baz=209,slow=5.7,SNR=6.3						
YKA	**Yellowknife Ar**	**89.90**	**24**	P	**P**	**11 14 49.4**	**-0.7**
	0.1nm,0.7s,mb3.3,baz=238,slow=4.7,SNR=5.2						
BVAR	**Borovoye Array**	**117.29**	**322**	PKP	PKPdf	11 20 37.5	+2.0
	0.7nm,0.8s,baz=76,slow=5.0,SNR=4.0						
BRTR	**Keskin Array B**	**145.56**	**321**	PKPbc	PKPbc	11 21 32.4	+3.1
	0.5nm,0.4s,baz=117,slow=2.8,SNR=5.3						

IDC 16 11:06:58.2±8.0, 0.50N×100.25E, mb3.4/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=282.5km s-min=24.9km az=65.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.89**	**356**	P	P	11 11 06.7	-3.5
	baz=196,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**39.10**	**123**	P	P	11 14 27.7	-1.5
	0.4nm,0.4s,baz=303,slow=9.0,SNR=9.5						
ASAR	**Alice Springs**	**40.56**	**129**	P	P	11 14 39.2	-2.0
	0.3nm,0.6s,baz=303,slow=7.8,SNR=10						
SONM	**Songino Array**	**47.45**	**6**	P	P	11 15 35.4	-1.2
	0.3nm,0.5s,baz=180,slow=10,SNR=3.2						

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*IDC **16** 11:08:39.5±1.2, 31.11N×41.40W, mb3.9/8, mb1 4.2/8, mb1mx3.9/23, mbtmp3.9/8, MS3.9/17, Ms1 3.9/17, ms1mx3.8/26, Error ellipse: s-maj=34.5km s-min=22.4km az=169.0*
*NEIC **16** 11:08:41.0±0.7, 31.11N×41.39W, h10km, mb4.5/1, Error ellipse: s-maj=21.4km s-min=13.5km az=149.0*
ISC 16 11:08:39.1±0.8, 31.2N±0.2×41.4W±0.2, h10km, n23, σ0 63/11, mb4.0/9, MS3.9/17, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**25.91**	**246**	LR	LR	11 22 15.8	
	comp=Z,102nm,19.4s,MS3.4,baz=86,slow=32						
SCHQ	**Schefferville**	**29.81**	**330**	LR	LR	11 25 45.5	
	comp=Z,247nm,18.3s,MS3.9,baz=105,slow=34						
PCRV	**Puerto La Cruz**	**30.02**	**231**	LR	LR	11 23 35.2	
	comp=Z,270nm,21.3s,MS3.9,baz=78,slow=30						
SADO	**Sadowa**	**32.42**	**305**	LR	LR	11 27 30.0	
	comp=Z,240nm,18.4s,MS3.9,baz=300,slow=35						
SDV	**Santo Domingo**	**35.09**	**237**	*e*P	**P**	**11 15 34.6**	**-0.2**
	6.0nm,0.8s,mb4.6						
DBIC	**Dimbokro**	**41.95**	**118**	LR	LR	11 31 29.9	
	comp=Z,235nm,20.5s,MS4.0,baz=211,slow=33						
DAVOX	**Davos**	**42.05**	**53**	LR	LR	11 31 35.9	
	comp=Z,57nm,20.1s,MS3.5,baz=272,slow=33						
ULM	**Lac du Bonnet**	**44.41**	**312**	LR	LR	11 32 26.6	
	comp=Z,118nm,21.5s,MS3.8,baz=21,slow=32						
GERES	**GERESS Array B**	**44.72**	**50**	LR	LR	11 35 23.9	
	comp=Z,88nm,18.4s,MS3.7,baz=20,slow=36						
BDFB	**Brasilia**	**46.95**	**189**	LR	LR	11 34 57.6	
	comp=Z,106nm,18.0s,MS3.8,baz=254,slow=34						
FINES	**FINESS Array B**	**52.47**	**34**	LR	LR	11 35 49.7	
	comp=Z,50nm,19.1s,MS3.6,baz=186,slow=31						
MLR	**Muntele Rosu**	**53.26**	**54**	P	**P**	**11 18 00.8**	**+0.8**
	3.9nm,0.8s,mb4.4,baz=24,slow=1.3,SNR=6.3						
MLR				LR	LR	11 39 27.8	
	comp=Z,72nm,18.4s,MS3.8,baz=44,slow=35						
MLR	**Muntele Rosu**	**53.26**	**54**	P	**P**	**11 18 00.8**	**+0.7**
MLR				LR	LR	11 39 27.8	
LPAZ	**La Paz**	**53.71**	**212**	P	**P**	**11 18 03.9**	**+0.1**
	0.9nm,0.7s,mb3.8,baz=29,slow=9.6,SNR=4.5						
LPAZ				LR	LR	11 40 13.2	
	comp=Z,74nm,21.4s,MS3.7,baz=101,slow=35						
PDAR	**Pinedale Array**	**54.34**	**303**	P	**P**	**11 18 08.2**	**+0.1**
	2.2nm,1.0s,mb4.0,baz=79,slow=7.6,SNR=10						
AKASG	**Malin Array Be**	**54.68**	**47**	P	**P**	**11 18 08.9**	**-1.5**
	0.3nm,0.3s,mb3.8,baz=268,slow=7.1,SNR=5.5						
YKA	**Yellowknife Ar**	**55.20**	**327**	P	**P**	**11 18 13.9**	**-0.1**
	0.7nm,1.0s,mb3.6,baz=88,slow=7.5,SNR=8.9						
YKA				LR	LR	11 40 48.6	
	comp=Z,213nm,20.9s,MS4.2,baz=85,slow=35						
YKA	**Yellowknife Ar**	**55.20**	**327**	P	**P**	**11 18 13.9**	**-0.1**
YKA				LR	LR	11 40 48.6	
BRTR	**Keskin Array B**	**60.10**	**59**	P	**P**	**11 18 49.3**	**+0.4**
	1.5nm,0.8s,mb4.0,baz=297,slow=6.4,SNR=6.8						
NVAR	**Mina Array Bea**	**61.90**	**300**	P	**P**	**11 19 00.8**	**-0.4**
	0.7nm,0.8s,mb3.9,baz=82,slow=8.2,SNR=5.3						
NVAR				LR	LR	11 45 54.1	
	comp=Z,380nm,20.2s,MS4.5,baz=100,slow=36						
GNI	**Garni**	**67.98**	**56**	LR	LR	11 44 58.7	
	comp=Z,28nm,20.2s,MS3.5,baz=347,slow=32						
ILAR	**Eielson Array**	**68.48**	**334**	P	**P**	**11 19 43.9**	**+0.7**
	0.9nm,0.9s,mb3.8,baz=56,slow=4.4,SNR=10						
ILAR				LR	LR	11 50 18.6	
	comp=Z,119nm,19.3s,MS4.1,baz=174,slow=36						
KMBO	**Kilima Mbogo**	**80.86**	**97**	LR	LR	11 56 34.8	
	comp=Z,249nm,18.7s,MS4.6,baz=75,slow=36						

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*ORF **16** 11:21:32.5, 30.36N×17.99E, h30km, mb4.6*
*ROM **16** 11:23:38.1±0.4, 39.50N×15.08E, h307km±7km, Ml3.8/13, Error ellipse: s-maj=5.5km s-min=5.3km az=6.0*
*CSEM **16** 11:23:38.1±0.1, 39.54N×14.85E, h311km, mb3.8/6, ML4.2/5, Error ellipse: s-maj=1.6km s-min=1.3km az=8.0*
*BJI **16** 11:23:39.6, 39.75N×14.21E, h363km, mB4.2, mb4.4*
*BGS **16** 11:23:39.5±1.9, 39.63N×14.94E, h325km, mb4.1*
*IDC **16** 11:23:39.7±1.1, 39.71N×14.87E, h312km±11km, mb3.6/15, mb1 3.7/25, mb1mx3.6/33, mbtmp4.3/25, Error ellipse: s-maj=15.1km s-min=9.7km az=31.0*
*CRAAG **16** 11:23:40.6, 39.73N×14.76E, Mb3.9*
*MOS **16** 11:23:40.1±1.1, 39.73N×14.85E, h334km, mb3.6/5, Error ellipse: s-maj=5.6km s-min=3.0km az=114.6*
*NEIC **16** 11:23:40.5±0.3, 39.63N×14.94E, h325km±3km, mb4.4/65, Error ellipse: s-maj=5.0km s-min=3.0km az=75.0*
*LDG **16** 11:23:43.5±1.4, 40.16N×14.76E, h340km, Mb4.5/36, Error ellipse: s-maj=35.4km s-min=17.7km az=136.0*
ISC 16 11:23:38.5±0.2, 39.59N±0.02×14.91E±0.02, h317km±2km, n361, σ1 20/369, mb3.9/22, 27C-34D, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGR	**Morigerati**	**0.74**	**42**	Pg	**P**	**11 24 19.9**	**0.0**
MGR				Sg	**S**	**11 24 51.5**	**-0.9**
	273nm,0.8s						
SLCN	**Sala Consilina**	**0.97**	**34**	↓*i*Pg	**P**	**11 24 20.9**	**+0.1**
	66nm,0.2s						
SGO	**Sicignano**	**1.02**	**17**	↓*i*Pg	**P**	**11 24 21.3**	**+0.3**
	36nm,0.2s						
SLNA	**Salina**	**1.02**	**183**	↓*i*Pg	**P**	**11 24 21.1**	**+0.1**
	473nm,0.5s						
TDS	**Terranova Siba**	**1.10**	**86**	↓*i*Pg	**P**	**11 24 22.1**	**+0.7**
CLLN	**Colliano**	**1.17**	**15**	↓*i*Pg	**P**	**11 24 22.0**	**+0.2**
	160nm,0.8s						
MRLC	**Muro Lucano**	**1.25**	**21**	↓*i*Pg	**P**	**11 24 22.4**	**+0.2**
	19nm,0.4s						
CSSN	**Cassano Irpino**	**1.27**	**4**	↓*i*Pg	**P**	**11 24 22.8**	**+0.5**
	32nm,0.4s						
ORI	**Oriolo Calabro**	**1.28**	**68**	↓*i*Pg	**P**	**11 24 22.1**	**-0.3**
	188nm,0.3s						
GRI	**Girifalco**	**1.40**	**123**	↓*e*Pg	**P**	**11 24 22.0**	**-1.1**
GRI				Sg	**S**	**11 24 56.1**	**-1.8**
	537nm,0.4s						
MSRU	**Castanea**	**1.40**	**160**	↓*i*Pg	**P**	**11 24 21.9**	**-1.2**
MSRU				Sg	**S**	**11 24 56.3**	**-1.6**
	350nm,0.4s						
MSI	**Messina ING**	**1.47**	**160**	↓*i*Pg	**P**	**11 24 22.1**	**-1.4**
	1μm,0.6s						
SCLL	**Scilla**	**1.47**	**154**	↓*e*Pg	**P**	**11 24 22.0**	**-1.5**
SCLL				Sg	**S**	**11 24 56.4**	**-2.3**
	282nm,0.3s						
TIP	**Timpagrande**	**1.49**	**105**	↓*i*P	**P**	**11 24 22.8**	**-0.8**
TIP	**Timpagrande**	**1.49**	**105**	↓*i*Pg	**P**	**11 24 22.9**	**-0.7**
TIP				Sg	**S**	**11 24 55.8**	**-3.1**
	339nm,0.5s						
CEL	**Celeste**	**1.53**	**150**	Pg	**P**	**11 24 22.5**	**-1.4**
	354nm,0.6s						
MNO	**Monte Soro**	**1.66**	**186**	↓*i*Pg	**P**	**11 24 25.5**	**+0.8**
VENT	**Ventotene**	**1.66**	**317**	↑*i*Pg	**P**	**11 24 25.3**	**+0.6**
	184nm,0.7s						
MMME	**Monguiffi-Meli**	**1.67**	**171**	↓*i*Pg	**P**	**11 24 24.4**	**-0.4**
	233nm,0.4s						
MTTG	**Motta San Giov**	**1.70**	**159**	↓*i*Pg	**P**	**11 24 24.1**	**-0.8**
	527nm,0.6s						
PLLN	**Pollina**	**1.70**	**201**	↓*e*Pg	**P**	**11 24 24.7**	**-0.3**
GIB	**Gibilmanna**	**1.74**	**204**	*e*Pg	**P**	**11 24 25.1**	**-0.1**
GIB				Sg	**S**	**11 25 01.4**	**-0.3**
	637nm,0.6s						
SOI	**Samo**	**1.76**	**149**	↓*i*Pg	**P**	**11 24 24.0**	**-1.3**
LTRZ	**Laterza**	**1.78**	**55**	↓*i*Pg	**P**	**11 24 24.1**	**-1.4**
SGG	**Gregorio Mates**	**1.84**	**347**	↑*e*Pg	**P**	**11 24 26.7**	**+0.8**
VAGA	**Valle Agricola**	**1.90**	**344**	↑*i*Pg	**P**	**11 24 27.1**	**+0.8**
	136nm,1.4s						
MIDA	**Miranda**	**2.11**	**347**	Pg	**P**	**11 24 29.3**	**+1.3**
	53nm,0.7s						
VAE	**Valguarnera**	**2.14**	**191**	P	**P**	**11 24 28.8**	**+0.6**
	21nm,0.3s,baz=112,slow=3.7,SNR=14						
VAE				S	**S**	**11 25 12.7**	**+5.6**
	8.9nm,0.3s,baz=308,slow=12,SNR=5.1						
VAE	**Valguarnera**	**2.14**	**191**	P	**P**	**11 24 28.9**	**+0.7**
BRT	**Bari-Castellan**	**2.18**	**53**	↑*i*Pg	**P**	**11 24 27.3**	**-1.2**
PE1	**Pezze di Greco**	**2.28**	**57**	*e*Pg	**P**	**11 24 28.0**	**-1.4**
SDI	**San Donato**	**2.28**	**339**	↑*i*Pg	**P**	**11 24 30.1**	**+0.7**
	72nm,0.4s						
AGST	**Augusta-Monte**	**2.34**	**174**	↓*e*Pg	**P**	**11 24 28.5**	**-1.4**
	473nm,0.5s						
ERC	**Erice**	**2.38**	**230**	Pg	**P**	**11 24 30.6**	**+0.3**
	508nm,1.1s						
CLTB	**Caltabellotta**	**2.41**	**214**	Pg	**P**	**11 24 30.5**	**+0.1**
	152nm,0.5s						
SSY	**Sortino**	**2.43**	**177**	↓*i*Pg	**P**	**11 24 29.8**	**-0.9**
	202nm,0.2s						
FAVR	**Favara**	**2.51**	**203**	Pg	**P**	**11 24 32.5**	**+1.1**
	124nm,0.3s						
PZI	**Palazzolo**	**2.53**	**179**	Pg	**P**	**11 24 31.1**	**-0.4**
	112nm,0.2s						
LCI	**Lecce**	**2.57**	**72**	↓*i*Pg	**P**	**11 24 30.7**	**-1.2**
FAGN	**Fagnano**	**2.86**	**340**	Pg	**P**	**11 24 36.7**	**+2.2**
	54nm,0.5s						
AQU	**L'Aquila**	**2.99**	**338**	Pg	**P**	**11 24 37.4**	**+1.7**
	22nm,0.3s						
AQU	**L'Aquila**	**2.99**	**338**	*e*P	**P**	**11 24 35.9**	**+0.2**
AQU	**L'Aquila**	**2.99**	**338**	Pg	**P**	**11 24 37.4**	**+1.7**
	22nm,0.3s						
MNS	**Montasola**	**3.27**	**330**	↑*i*Pg	**P**	**11 24 39.3**	**+0.8**
	44nm,0.7s						
IGT	**Igoumenitsa**	**4.19**	**89**	*e*P	**P**	**11 24 47.8**	**-0.4**
LKD	**Levkas**	**4.55**	**99**	*e*P	**P**	**11 24 51.4**	**-0.7**
LKD	**Levkas**	**4.55**	**99**	*e*P	**P**	**11 24 51.3**	**-0.8**
MEV	**Metsovon**	**4.88**	**86**	*e*P	**P**	**11 24 56.9**	**+1.1**
FNA	**Florina**	**5.09**	**74**	*e*P	**P**	**11 24 58.6**	**+0.4**
PGF	**Pioggiola**	**5.36**	**305**	*e*P	**P**	**11 25 00.3**	**-1.0**
	85nm,1.0s						
BBLS	**Bajina Basta -**	**5.44**	**37**	↓*i*Pn	**P**	**11 25 02.1**	**-0.2**
SKO	**Skopje**	**5.50**	**62**	*e*Pn	**P**	**11 25 03.5**	**+0.5**
SARO	**Sassorosso**	**5.69**	**325**	P	**P**	**11 25 08.7**	**+3.4**
VINC	**Vinca**	**5.77**	**324**	P	**P**	**11 25 08.0**	**+1.8**
VINC	**Vinca**	**5.77**	**324**	P	**P**	**11 25 08.0**	**+1.8**
VINC	**Vinca**	**5.77**	**324**	P	**P**	**11 25 08.0**	**+1.8**
AGG	**Agios Georgios**	**5.78**	**93**	*e*P	**P**	**11 25 07.5**	**+1.2**
LIT	**Litokhoron**	**5.86**	**83**	*e*P	**P**	**11 25 07.7**	**+0.5**
GRG	**Griva**	**5.89**	**74**	*e*P	**P**	**11 25 07.7**	**+0.1**
DIVS	**Divcibare**	**5.89**	**38**	↓*i*Pn	**P**	**11 25 06.6**	**-1.0**
VALM		**5.89**	**325**	P	**P**	**11 25 07.8**	**+0.2**
VALM		**5.89**	**325**	P	**P**	**11 25 07.8**	**+0.2**
BACM		**5.91**	**324**	P	**P**	**11 25 08.5**	**+0.7**
BACM		**5.91**	**324**	P	**P**	**11 25 08.5**	**+0.6**
BOJS	**Bojanci**	**5.92**	**2**	*i* Pn	**P**	**11 25 08.0**	**+0.1**
GRAM		**6.08**	**325**	P	**P**	**11 25 11.2**	**+1.3**
CODM		**6.10**	**323**	P	**P**	**11 25 10.0**	**-0.1**
CODM		**6.10**	**323**	P	**P**	**11 25 10.0**	**-0.1**
CRES	**Cresnjev**	**6.25**	**4**	*i* Pn	**P**	**11 25 11.4**	**-0.4**
JAVS	**Javornik**	**6.33**	**355**	*i* Pn	**P**	**11 25 12.3**	**-0.6**
LJU	**Ljubljana**	**6.46**	**358**	*e*Pn	**P**	**11 25 14.2**	**-0.2**
PDKS	**Podkum**	**6.47**	**1**	*i* Pn	**P**	**11 25 14.3**	**-0.2**
VOY	**Vojsko**	**6.48**	**354**	*e*Pn	**P**	**11 25 14.0**	**-0.7**
VOY				*e*		11 25 17.8	
VOY				*e*		11 25 32.8	
GENL	**Genova Univers**	**6.54**	**319**	P	**P**	**11 25 15.7**	**+0.4**
KKB	**Krupnik**	**6.61**	**67**	*e*P	**P**	**11 25 16.0**	**-0.2**
ROBS	**Robic**	**6.73**	**352**	*e*Pn	**P**	**11 25 18.8**	**+1.2**
IMI	**Imperia**	**6.80**	**312**	P	**P**	**11 25 19.8**	**+1.3**
IMI	**Imperia**	**6.80**	**312**	P	**P**	**11 25 19.8**	**+1.4**
FIN	**Finale Ligure**	**6.80**	**315**	P	**P**	**11 25 20.9**	**+2.4**
SRS	**Serrai**	**6.80**	**74**	*e*P	**P**	**11 25 18.3**	**-0.3**
PCP	**Pian Castagno**	**6.85**	**318**	P	**P**	**11 25 19.6**	**+0.5**
NEGI	**Negi**	**6.87**	**311**	P	**P**	**11 25 22.5**	**+3.2**
OBKA	**Obir**	**6.92**	**358**	↑*i*P	**P**	**11 25 19.9**	**-0.1**
	8.2nm,0.5s						
VTS	**Vitosha**	**6.95**	**62**	*e*P	**P**	**11 25 21.0**	**+0.7**
MONE	**Monesi**	**6.98**	**312**	P	**P**	**11 25 22.5**	**+1.9**
MONE	**Monesi**	**6.98**	**312**	P	**P**	**11 25 22.5**	**+1.9**
MMB	**Musomiste**	**7.00**	**71**	*e*P	**P**	**11 25 21.0**	**+0.1**
SBF	**Sospel**	**7.04**	**310**	*e*P	**P**	**11 25 24.0**	**+2.7**
	31nm,0.6s						
ROB	**Roburent**	**7.05**	**314**	P	**P**	**11 25 22.7**	**+1.3**
ROB	**Roburent**	**7.05**	**314**	P	**P**	**11 25 22.6**	**+1.2**
PERS	**Pernice**	**7.05**	**1**	*e*Pn	**P**	**11 25 20.6**	**-0.8**
CKFL	**Kef-Lekhel**	**7.21**	**246**	P	**P**	**11 25 25.0**	**+1.6**
ENR	**Entracque**	**7.26**	**312**	P	**P**	**11 25 25.2**	**+1.2**
STV	**Sta Anna Valdi**	**7.32**	**312**	P	**P**	**11 25 27.0**	**+2.2**
STV2	**Anna di Valdie**	**7.32**	**312**	P	**P**	**11 25 26.9**	**+2.1**
STV2	**Anna di Valdie**	**7.32**	**312**	P	**P**	**11 25 26.9**	**+2.1**
LMR	**La Mourre**	**7.34**	**303**	*e*P	**P**	**11 25 22.0**	**-2.9**
	8.3nm,0.5s						
FRF	**La Foret Royal**	**7.36**	**305**	*e*P	**P**	**11 25 23.4**	**-1.8**
	8.3nm,0.4s						
CASM	**Ain Smara**	**7.44**	**246**	P	**P**	**11 25 28.0**	**+1.8**
KBA	**Koelnbreinsper**	**7.57**	**352**	↓*i*P	**P**	**11 25 25.8**	**-2.0**
	20nm,0.9s						
KBA	**Koelnbreinsper**	**7.57**	**352**	↓*i*P	**P**	**11 25 25.8**	**-2.0**
KBA				pmax	pmax		
	comp=Z,20nm,0.9s						
CTEI	**Djebel Teioual**	**7.59**	**245**	P	**P**	**11 25 30.0**	**+2.0**
PZZ	**Prazzo**	**7.61**	**313**	P	**P**	**11 25 28.4**	**+0.2**
BHB	**Bricherasio**	**7.73**	**315**	P	**P**	**11 25 28.8**	**-0.9**
DFRA	**Djebel Bou Aff**	**7.75**	**250**	P	**P**	**11 25 32.0**	**+2.1**
RZN	**Rozhen**	**7.75**	**71**	*e*P	**P**	**11 25 30.0**	**+0.1**
ORX	**Oropa**	**7.91**	**322**	P	**P**	**11 25 30.3**	**-1.6**
MBDF	**Montbardon**	**7.93**	**313**	*e*P	**P**	**11 25 33.0**	**+0.9**
	comp=Z,136nm,0.8s						
RSP	**Reno Superiore**	**7.94**	**317**	P	**P**	**11 25 31.1**	**-1.1**
TRAV		**7.94**	**321**	P	**P**	**11 25 29.7**	**-2.5**
WTTA	**Wattenberg**	**8.03**	**344**	↑*i*P	**P**	**11 25 34.8**	**+1.4**
	comp=Z,39nm,0.5s						
WTTA	**Wattenberg**	**8.03**	**344**	↑*i*P	**P**	**11 25 34.8**	**+1.4**
WTTA				pmax	pmax		
	comp=Z,39nm,0.5s						
RRL	**Cesana Torines**	**8.04**	**314**	P	**P**	**11 25 32.6**	**-0.9**
DAVOX	**Davos**	**8.07**	**335**	P	**P**	**11 25 34.7**	**+0.8**
	comp=Z,3.9nm,0.3s,baz=166,slow=9.5,SNR=40						
SQTA	**Sankt Quirin**	**8.09**	**342**	↑*i*P	**P**	**11 25 35.3**	**+1.2**
	comp=Z,55nm,1.3s						
SQTA	**Sankt Quirin**	**8.09**	**342**	↑*i*P	**P**	**11 25 35.3**	**+1.2**
SQTA				pmax	pmax		
	comp=Z,55nm,1.3s						
WATA	**Walderalm**	**8.12**	**344**	↑*i*P	**P**	**11 25 35.1**	**+0.7**
	comp=Z,32nm,0.7s						
WATA	**Walderalm**	**8.12**	**344**	↑*i*P	**P**	**11 25 35.1**	**+0.7**
WATA				pmax	pmax		
	comp=Z,32nm,0.7s						
BNI	**Bardonecchia**	**8.18**	**315**	*e*P	**P**	**11 25 36.4**	**+1.2**
BNI				pmax	pmax		
	comp=Z,23nm,0.8s						
BNI	**Bardonecchia**	**8.18**	**315**	*e*P	**P**	**11 25 36.4**	**+1.2**
	comp=Z,23nm,0.8s						
LSD	**Ceresole Reale**	**8.20**	**318**	P	**P**	**11 25 34.5**	**-0.8**
SMRF	**Simiane la Rot**	**8.24**	**305**	*e*P	**P**	**11 25 37.1**	**+1.2**
MOA	**Molln**	**8.27**	**357**	↑*i*P	**P**	**11 25 36.3**	**0.0**
	comp=Z,12nm,0.6s						
LPG	**La Plagne**	**8.43**	**317**	*e*P	**P**	**11 25 39.9**	**+1.7**
	comp=Z,109nm,0.8s						
LPL	**La Plagne**	**8.46**	**317**	*e*P	**P**	**11 25 39.9**	**+1.4**
	comp=Z,52nm,0.6s						
DAVA	**Damuels**	**8.52**	**336**	↑*i*P	**P**	**11 25 39.9**	**+0.6**
	comp=Z,20nm,0.6s						
ORIF	**Oris-en-Rattie**	**8.55**	**311**	*e*P	**P**	**11 25 39.7**	**0.0**
	comp=Z,25nm,0.5s						
SANT	**Santorini**	**8.93**	**108**	*e*P	**P**	**11 25 44.4**	**+0.1**
SANT	**Santorini**	**8.93**	**108**	*e*P	**P**	**11 25 44.4**	**+0.2**
IDI	**Anoyia**	**9.02**	**115**	P	**P**	**11 25 46.5**	**+1.2**
	comp=Z,2.4nm,0.

ERTA	Horta de San J	11.22 282	P	P	11 26 15.7	+3.4
	comp=Z,9.4nm,0.5s					
BGF	Bois d'Agland	11.23 312	eP	P	11 26 11.2	-1.2
	comp=Z,47nm,0.6s					
BGF	Bois d'Agland	11.23 312	eP	P	11 26 11.2	-1.2
BGF			pmax	pmax		
	comp=Z,24nm,0.6s					
CFR	Carcaliu	11.26 56	⇑P	P	11 26 13.0	+0.3
MOX	Moxa	11.30 349	eP	P	11 26 13.4	+0.2
MOX			pmax	pmax		
	comp=Z,20nm,0.7s					
MOX	Moxa	11.30 349	i P	P	11 26 13.0	-0.1
	comp=Z,logA/T=1.5					
MOX	Moxa	11.30 349	eP	P	11 26 13.4	+0.2
	comp=Z,20nm,0.7s					
BRG	Berggiesshubel	11.31 357	i P	P	11 26 13.7	+0.4
BRG			pmax	pmax		
	comp=Z,22nm,1.0s					
BRG	Berggiesshubel	11.31 357	i P	P	11 26 13.7	+0.4
	comp=Z,22nm,0.9s					
BRG			i		11 26 16.7	
BRG			e		11 28 39.4	
MEZF	Maizieres J'vi	11.38 325	eP	P	11 26 13.4	-0.8
	comp=Z,62nm,0.7s					
RJF	Les Rejaudoux	11.42 304	eP	P	11 26 16.6	+1.9
	comp=Z,48nm,0.8s					
RJF	Les Rejaudoux	11.42 304	eP	P	11 26 16.6	+1.9
RJF			pmax	pmax		
	comp=Z,24nm,0.8s					
TCF	Toulx Ste Croi	11.46 310	eP	P	11 26 15.2	0.0
	comp=Z,45nm,1.0s					
TCF	Toulx Ste Croi	11.46 310	eP	P	11 26 15.2	0.0
TCF			pmax	pmax		
	comp=Z,23nm,1.0s					
KWP	Kalwaria	11.47 26	eP	P	11 26 10.4	-4.9
KWP			pmax	pmax		
	comp=Z,72nm,0.5s					
KWP	Kalwaria	11.47 26	eP	P	11 26 10.4	-4.9
	comp=Z,72nm,0.5s					
EPF	Esparros	11.49 292	eP	P	11 26 16.2	+0.7
	comp=Z,6.1nm,0.4s					
EPF	Esparros	11.49 292	eP	P	11 26 16.2	+0.7
EPF			pmax	pmax		
	comp=Z,3.0nm,0.4s					
RUP	Ruppelstein	11.55 334	eP	P	11 26 17.7	+1.5
EBIE	Bielsa	11.56 290	P	P	11 26 19.1	+2.7
	comp=Z,24nm,0.5s					
TNS	Taunus Mts	11.57 339	eP	P	11 26 17.0	+0.5
TNS			pmax	pmax		
	comp=Z,20nm,0.9s					
TNS	Taunus Mts	11.57 339	eP	P	11 26 17.0	+0.5
	comp=Z,20nm,0.9s					
TLCR		11.70 57	⇓P	P	11 26 20.3	+2.2
LFF	La Frestale	11.78 302	eP	P	11 26 21.3	+2.2
	comp=Z,95nm,0.9s					
LFF	La Frestale	11.78 302	eP	P	11 26 21.3	+2.2
LFF			pmax	pmax		
	comp=Z,48nm,0.9s					
EBEN	Beniarda	11.79 271	P	P	11 26 22.1	+2.9
	comp=Z,1.5nm,0.6s					
CLL	Collm	11.80 354	⇑i P	P	11 26 20.1	+0.8
CLL			pmax	pmax		
	comp=Z,19nm,1.0s					
CLL	Collm	11.80 354	⇑i P	P	11 26 20.1	+0.8
	comp=Z,19nm,1.0s					
CLL	Collm	11.80 354	⇑P	P	11 26 20.1	+0.8
	comp=Z,logA/T=1.3					
CLL	Collm	11.80 354	⇑i P	P	11 26 20.1	+0.8
	comp=Z,19nm,1.0s					
EMOS	Mosqueruela	11.83 279	P	P	11 26 22.6	+2.8
	comp=Z,22nm,1.1s					
ESAC	San Caprasio	11.88 285	P	P	11 26 21.9	+1.6
	comp=Z,74nm,0.7s					
ESAC	San Caprasio	11.88 285	P	P	11 26 21.8	+1.5
	comp=Z,74nm,0.7s,SNR=8.3					
ETSF	Etsaut	12.11 291	eP	P	11 26 24.7	+1.6
	comp=Z,43nm,0.5s					
ETSF	Etsaut	12.11 291	eP	P	11 26 24.7	+1.6
ETSF			pmax	pmax		
	comp=Z,22nm,0.5s					
ECHE	Chera	12.25 275	P	P	11 26 27.1	+2.2
SJPF	Ste Jean	12.63 291	eP	P	11 26 30.5	+1.1
	comp=Z,66nm,0.6s					
SJPF	Ste Jean	12.63 291	eP	P	11 26 30.5	+1.1
SJPF			pmax	pmax		
	comp=Z,33nm,0.6s					
CLZ	Clausthal	12.65 347	eP	P	11 26 29.8	+0.1
	comp=Z,13nm,0.8s					
GIVF	Givet	12.71 329	eP	P	11 26 28.8	-1.5
	comp=Z,9.6nm,0.4s					
GIVF	Givet	12.71 329	eP	P	11 26 28.8	-1.5
GIVF			pmax	pmax		
	comp=Z,5.0nm,0.4s					
EALK	Alkurruntz	12.85 292	P	P	11 26 33.6	+1.5
	comp=Z,18nm,0.6s					
EALK	Alkurruntz	12.85 292	P	P	11 26 33.6	+1.5
	comp=Z,18nm,0.6s,SNR=8.0					
ELIZ	Elizondo	12.85 291	P	P	11 26 31.9	-0.2
ELIZ			pmax	pmax		
	comp=Z,24nm,0.5s					
ELIZ	Elizondo	12.85 291	P	P	11 26 31.9	-0.2
	comp=Z,24nm,0.5s					
ELIZ	Elizondo	12.85 291	P	P	11 26 31.9	-0.2
	comp=Z,24nm,0.5s,SNR=10					
BAIF	Baives	12.92 328	eP	P	11 26 31.1	-1.8
	comp=Z,24nm,0.8s					
BAIF	Baives	12.92 328	eP	P	11 26 31.1	-1.8
BAIF			pmax	pmax		
	comp=Z,12nm,0.8s					
MFF	Saint Martin d	13.04 307	eP	P	11 26 34.8	+0.5
	comp=Z,30nm,0.5s					
MFF	Saint Martin d	13.04 307	eP	P	11 26 34.8	+0.5
MFF			pmax	pmax		
	comp=Z,15nm,0.5s					
LDF	La Druitiere	14.04 315	eP	P	11 26 44.2	-2.0
	comp=Z,62nm,0.7s					
LDF	La Druitiere	14.04 315	eP	P	11 26 44.2	-2.0
LDF			pmax	pmax		
	comp=Z,31nm,0.7s					
ELAN	Lanestosa	14.24 291	P	P	11 26 47.1	-1.4
	comp=Z,2.7nm,0.5s					
ELAN	Lanestosa	14.24 291	P	P	11 26 47.1	-1.4
	comp=Z,2.7nm,0.5s,SNR=7.9					
FLN	La Foliniere	14.33 315	eP	P	11 26 47.3	-2.2
	comp=Z,62nm,0.8s					
FLN	La Foliniere	14.33 315	eP	P	11 26 47.3	-2.2
FLN			pmax	pmax		
	comp=Z,31nm,0.8s					
GRR	Gorron	14.34 313	eP	P	11 26 47.5	-2.1
	comp=Z,28nm,0.7s					
GRR	Gorron	14.34 313	eP	P	11 26 47.5	-2.1
GRR			pmax	pmax		
	comp=Z,14nm,0.7s					
BRTR	Keskin Array B	14.43 83	P	P	11 26 51.5	+0.9
	comp=Z,1.3nm,0.3s,baz=266,slow=9.3,SNR=47					
ESDC	Sonseca Array	14.55 276	P	P	11 26 51.5	-0.5
	comp=Z,2.2nm,0.3s,baz=74,slow=11,SNR=18					
ESDC	Sonseca Array	14.55 276	P	P	11 26 51.4	-0.6
	comp=Z,2.2nm,0.3s					
ESDC	Sonseca Array	14.55 276	P	P	11 26 51.4	-0.6
	comp=Z,2.2nm,0.3s,SNR=9.3					
ESLA	Sonseca Array	14.55 276	eP	P	11 26 51.4	-0.6
GUD	Guadarrama	14.63 280	P	P	11 26 52.7	-0.2
GUD			pmax	pmax		
	comp=Z,12nm,0.7s					
GUD	Guadarrama	14.63 280	P	P	11 26 52.7	-0.2
	comp=Z,12nm,0.7s					
GUD	Guadarrama	14.63 280	P	P	11 26 52.7	-0.2
	comp=Z,12nm,0.7s,SNR=8.3					
ECOG	Cogollos-Vega	14.67 267	P	P	11 26 53.3	0.0
ECOG			pmax	pmax		
	comp=Z,3.0nm,0.3s					
ECOG	Cogollos-Vega	14.67 267	P	P	11 26 53.3	0.0
	comp=Z,3.0nm,0.3s,SNR=7.9					
BSEG	Bad Segeberg	14.69 349	eP	P	11 26 53.5	0.0
BSEG			pmax	pmax		
	comp=Z,46nm,1.2s					
BSEG	Bad Segeberg	14.69 349	eP	P	11 26 53.5	0.0
	comp=Z,46nm,1.2s					
AKASG	Malin Array Be	14.99 37	P	P	11 26 54.5	-2.3
	comp=Z,4.3nm,0.3s,baz=231,slow=10,SNR=41					
AKASG			S	S	11 29 32.8	-2.6
	comp=Z,0.9nm,0.3s,baz=229,slow=19,SNR=6.0					
ELUQ	Luque	15.14 268	P	P	11 26 58.8	+0.2
ELUQ			pmax	pmax		
	comp=Z,17nm,0.4s					
ELUQ	Luque	15.14 268	P	P	11 26 58.8	+0.2
	comp=Z,17nm,0.4s					
ELUQ	Luque	15.14 268	P	P	11 26 58.8	+0.2
	comp=Z,17nm,0.4s,SNR=13					
EADA	Adamuz	15.25 271	P	P	11 27 00.2	+0.5
	comp=Z,0.6nm,0.8s					
EADA	Adamuz	15.25 271	P	P	11 27 00.3	+0.5
	comp=Z,0.6nm,0.8s,SNR=7.9					
SGMF	Saint Gilles	15.25 310	eP	P	11 26 57.9	-1.9
	comp=Z,30nm,0.6s					
SGMF	Saint Gilles	15.25 310	eP	P	11 26 57.9	-1.9
SGMF			pmax	pmax		
	comp=Z,15nm,0.6s					
QUIF	Quistinic	15.46 308	eP	P	11 27 00.6	-1.5
	comp=Z,26nm,0.6s					
QUIF	Quistinic	15.46 308	eP	P	11 27 00.6	-1.5
QUIF			pmax	pmax		
	comp=Z,13nm,0.6s					
EARI	Arriondas	15.53 290	P	P	11 27 02.9	+0.1
	comp=Z,10nm,0.6s					
EARI	Arriondas	15.53 290	P	P	11 27 02.9	0.0
	comp=Z,10nm,0.6s,SNR=6.6					
ROSF	Rostrenen	15.72 310	eP	P	11 27 03.0	-1.8
	comp=Z,32nm,0.6s					
ROSF	Rostrenen	15.72 310	eP	P	11 27 03.0	-1.8
ROSF			pmax	pmax		
	comp=Z,16nm,0.6s					
EMIJ	Mijas	15.79 265	P	P	11 27 04.7	-1.0
	comp=Z,18nm,0.6s					
EMIJ	Mijas	15.79 265	P	P	11 27 04.7	-1.0
	comp=Z,18nm,0.6s,SNR=7.2					
EJIF	Jimena Fronter	16.36 265	P	P	11 27 10.1	-1.7
EJIF			pmax	pmax		
	comp=Z,4.0nm,0.4s					
EJIF	Jimena Fronter	16.36 265	P	P	11 27 10.1	-1.6
	comp=Z,4.3nm,0.4s					
EJIF	Jimena Fronter	16.36 265	P	P	11 27 10.1	-1.7
	comp=Z,4.3nm,0.4s,SNR=7.9					
ESPR	Espera	16.54 267	P	P	11 27 11.9	-1.7
	comp=Z,7.9nm,0.5s					
ESPR	Espera	16.54 267	P	P	11 27 11.9	-1.8
	comp=Z,7.9nm,0.5s,SNR=5.4					
ECAL	Calabor	16.57 285	P	P	11 27 13.5	-0.4
	comp=Z,2.4nm,0.3s					
ECAL	Calabor	16.57 285	P	P	11 27 13.5	-0.4
	comp=Z,2.4nm,0.3s,SNR=7.9					
ERUA	La Rua	16.88 287	P	P	11 27 16.9	-0.3
ERUA			pmax	pmax		
	comp=Z,2.0nm,0.4s					
ERUA	La Rua	16.88 287	P	P	11 27 16.9	-0.3
	comp=Z,1.5nm,0.4s					
ERUA	La Rua	16.88 287	P	P	11 27 16.9	-0.3
	comp=Z,1.5nm,0.4s,SNR=7.9					
EPON	Pontenova	16.94 290	P	P	11 27 16.2	-1.6
	comp=Z,2.2nm,0.4s					
EPON	Pontenova	16.94 290	P	P	11 27 16.2	-1.6
	comp=Z,2.2nm,0.4s,SNR=7.9					
EMIN	Mina Concepcio	16.95 271	P	P	11 27 17.3	-0.6
	comp=Z,26nm,0.9s					
EMIN	Mina Concepcio	16.95 271	P	P	11 27 17.3	-0.6
	comp=Z,26nm,0.9s,SNR=15					
EBAD	Badajoz	17.02 274	P	P	11 27 17.5	-1.2
	comp=Z,1.3nm,0.3s					
EBAD	Badajoz	17.02 274	P	P	11 27 17.5	-1.1
	comp=Z,1.3nm,0.3s,SNR=7.9					
HGH	Gray Hill	17.23 320	eP	P	11 27 19.2	-1.5
HAE	Alders End	17.35 322	eP	P	11 27 20.3	-1.7
HAE			AMb	AMB	11 27 20.7	
	comp=Z,30nm,0.8s					
MCH1	Michaelchurch	17.55 321	eP	P	11 27 22.3	-1.6
EGRO	El Granado	17.63 270	P	P	11 27 21.5	-3.4
	comp=Z,2.8nm,0.4s					
HTR	Trewern Hill	17.73 321	eP	P	11 27 24.4	-1.4
HTR			AMb	AMB	11 27 26.5	
	comp=Z,62nm,2.0s					
HLM1	Long Mynd	17.82 322	eP	P	11 27 25.0	-1.7
HLM1			AMb	AMB	11 27 25.6	
	comp=Z,66nm,0.8s					
SSP1	Stoney Pound	17.86 322	eP	P	11 27 25.8	-1.4
SSP1			AMb	AMB	11 27 26.7	
	comp=Z,49nm,0.5s					
SBD1	Bryn Du	18.24 323	eP	P	11 27 29.8	-1.1
SBD1			AMb	AMB	11 27 30.9	
	comp=Z,72nm,1.1s					
GOTU	Gotland	18.27 6	P	P	11 27 29.8	-1.4
MALT	Malatya	18.33 86	eP	P	11 27 32.0	0.0
MALT			pmax	pmax		
	comp=Z,7.0nm,0.8s					
MALT	Malatya	18.33 86	eP	P	11 27 32.0	+0.1
	comp=Z,6.7nm,0.8s					
MALT	Malatya	18.33 86	eP	P	11 27 32.0	0.0
	comp=Z,7.0nm,0.8s					
YLL	Llanberis	18.82 322	eP	P	11 27 35.8	-0.9
YLL			AMb	AMB	11 27 38.2	
	comp=Z,38nm,1.0s					
YRE	Yr Eifl	18.84 322	eP	P	11 27 36.6	-0.4
YRE			AMb	AMB	11 27 39.5	
	comp=Z,72nm,2.3s					
SOC	Sochi	18.96 70	eP	P	11 27 37.5	-0.7
SOC			pmax	pmax		
	comp=Z,48nm,1.0s					
SOC			pmax	pmax		
	comp=N,12nm,0.5s					
SOC			pmax	pmax		
	comp=E,50nm,1.0s					
SOC	Sochi	18.96 70	eP	P	11 27 37.5	-0.7
	comp=E,12nm,0.5s					
WLF1	Llynfaes	19.02 322	eP	P	11 27 37.9	-0.8
YRC	Rhoscolyn	19.07 322	eP	P	11 27 38.7	-0.6
YRC			AMb	AMB	11 27 40.5	
	comp=Z,66nm,1.5s					
WCB1	Church Bay	19.14 323	⇑eP	P	11 27 39.6	-0.4
WCB1			AMb	AMB	11 27 40.4	
	comp=Z,74nm,1.0s					
EIL	Elat	19.20 115	P	P	11 27 41.9	+1.2
	comp=Z,0.7nm,0.3s,baz=339,slow=15,SNR=8.9					
ASF	Jabal al Asfar	19.26 106	P	P	11 27 42.9	+1.5
	comp=Z,1.0nm,0.3s,baz=172,slow=10,SNR=11					
ESK	Eskdalemuir	19.84 328	eP	P	11 27 45.5	-1.4
ESK			pmax	pmax		
	comp=Z,29nm,0.6s					
ESK	Eskdalemuir	19.84 328	eP	P	11 27 45.5	-1.4
	comp=Z,29nm,0.6s					
ESK	Eskdalemuir	19.84 328	eP	P	11 27 45.5	-1.4
	comp=Z,29nm,0.6s					
DLF	Lyons Farm	20.05 320	eP	P	11 27 48.3	-0.6
DCN	Croghan	20.45 320	eP	P	11 27 52.5	-0.3
HFS	Hagfors	20.58 358	P	P	11 27 52.9	-1.2
	comp=Z,3.5nm,0.3s,baz=174,slow=11,SNR=50					
KIV	Kislovodsk	21.12 69	eP	P	11 28 00.6	+1.1
KIV			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0					
KIV	Kislovodsk	21.12 69	eP	P	11 28 00.6	+1.1
	comp=Z,5.0nm,0.7s,mb4.0					
OBN	Obninsk	21.23 36	eP	P	11 27 59.7	-0.7
OBN			eS	S	11 31 35.4	+3.4
OBN			pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.2					
OBN	Obninsk	21.23 36	eP	P	11 27 59.7	-0.7
	comp=Z,7.0nm,0.5s,mb4.2					
OBN			eS	S	11 31 35.4	+3.4
NAO01	NORSAR Array S	21.43 355	eP	P	11 28 01.6	-0.7
	comp=Z,5.1nm,0.5s,mb4.1					
NB2	NORSAR Subarra	21.60 355	P	P	11 28 03.0	-0.9
	comp=Z,0.7nm,0.6s,mb3.2,baz=166,slow=11					
NB2	NORSAR Subarra	21.60 355	P	P	11 28 03.0	-0.9
NB2			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3					
NOA	NORSAR Array B	21.60 355	P	P	11 28 02.8	-1.2
	comp=Z,4.2nm,0.7s,mb3.9,baz=191,slow=10,SNR=16					
ONI	Oni	21.68 73	P	P	11 28 06.9	+2.1
ZEI	Tsey	22.00 72	eP	P	11 28 09.3	+1.4
ZEI			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.6					
ZEI	Tsey	22.00 72	eP	P	11 28 09.3	+1.4
	comp=Z,2.0nm,0.7s,mb3.6					
GNI	Garni	22.86 79	P	P	11 28 17.0	+1.1
	comp=Z,5.6nm,0.4s,mb4.2,baz=321,slow=4.1,SNR=6.9					
GNI	Garni	22.86 79	P	P	11 28 17.1	+1.1
FINES	FINESS Array B	22.94 14	P	P	11 28 15.4	-1.1
	comp=Z,5.8nm,0.3s,mb4.3,baz=191,slow=8.8,SNR=118					
KAF	Kangasniemi	23.60 13	ep	P	11 28 20.9	-1.8
	comp=Z,2.1nm,0.7s,mb3.6					
KAF	Kangasniemi	23.60 13	eP	P	11 28 20.9	-1.8
KAF			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.6					
ARCES	ARCESS Array B	30.54 7	P	P	11 29 22.6	-2.0
	comp=Z,2.1nm,0.5s,mb3.9,baz=187,slow=8.9,SNR=27					
BANOM	Banah	37.06 99	P	P	11 30 20.8	+0.5
	SNR=11					
ASHO	Ashiyiah	37.54 101	P	P	11 30 24.7	+0.4
	SNR=9.5					
ARQ	Araqi	38.64 102	P	P	11 30 34.5	+1.1
	SNR=7.8					
BVAR	Borovoye Array	39.61 51	P	P	11 30 41.7	+0.6
	comp=Z,2.3nm,0.5s,mb3.7,baz=270,slow=7.0,SNR=21					
SMDO	Samad	39.95 101	P	P	11 30 44.8	+0.6
	SNR=8.1					
RBK	Rabkut	40.50 111	P	P	11 30 49.4	+0.8
	SNR=6.7					
AAK	Ala-Archa	44.19 66	eP	P	11 31 17.9	-0.2
AAK			pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.6					
AAK	Ala-Archa	44.19 66	eP	P	11 31 17.9	-0.2
	comp=Z,1.8nm,0.5s,mb3.6					
AAK	Ala-Archa	44.19 66	eP	P	11 31 17.9	-0.2
	comp=Z,2.0nm,0.5s,mb3.6					
ZAL	Zalesovo	48.01 48	P	P	11 31 46.9	-0.8
	comp=Z,3.7nm,0.3s,mb4.2,baz=181,slow=6.0,SNR=10					
FRB	Frobisher Bay	52.58 326	P	P	11 32 20.8	-0.8
	comp=Z,2.2nm,0.5s,mb3.7,baz=87,slow=6.4,SNR=5.8					
FRB	Frobisher Bay	52.58 326	P	P	11 32 20.8	-0.8
WMQ	Urumqi	52.88 60	P	P	11 32 26.5	+2.5
WMQ			PCP	PcP	11 33 31.5	+2.8
WMQ			PP	PP	11 34 31.4	+3.0
WMQ			PPP	PPP	11 35 48.5	+3.6
WMQ			S	S	11 39 28.6	+1.5
WMQ			AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.0					
WMQ			AMB	AMB		
	comp=Z,43nm,4.0s					
WMQ			LR	LR		
	comp=N,61nm,18.6s					
WMQ			LR	LR		
	comp=E,25nm,20.0s					
WMQ			LR	LR		
	comp=Z,28nm,17.0s					
SCHQ	Schefferville	54.42 315	P	P	11 32 33.7	-1.2
	comp=Z,3.7nm,0.7s,mb3.9,baz=74,slow=8.9,SNR=9.5					
SONM	Songino Array	62.90 49	P	P	11 33 32.6	-0.3
	comp=Z,0.4nm,0.7s,mb3.2,baz=288,slow=7.8,SNR=3.6					
SADO	Sadowa	66.01 309	P	P	11 33 52.5	-0.3
	comp=Z,1.1nm,0.4s,mb4.0,baz=121,slow=3.5,SNR=3.1					
YKA	Yellowknife Ar	70.50 338	P	P	11 34 20.4	+0.3
	comp=Z,1.9nm,0.5s,mb4.1,baz=40,slow=5.8,SNR=125					
ULM	Lac du Bonnet	71.91 321	P	P	11 34 27.8	-0.9
	comp=Z,2.7nm,0.6s,mb4.1,baz=63,slow=5.1,SNR=4.3					
ULM	Lac du Bonnet	71.91 321	P	P	11 34 27.8	-0.9
DAWY	Dawson	74.70 349	eP	P	11 34 45.6	+0.9
ILAR	Eielson Array	75.00 352	P	P	11 34 47.2	+0.9
ILAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
ILAR	Eielson Array	75.00 352	P	P	11 34 47.2	+0.9
	comp=Z,0.6nm,0.6s,mb3.4,baz=351,slow=4.2,SNR=12					
CN2	Changchun	76.03 44	eP	P	11 34 50.8	-1.7
BOZ	Bozeman (W)	82.55 325	eP	P	11 35 29.0	+1.9
	comp=Z,1.1nm,0.6s,mb3.9					
PDAR	Pinedale Array	83.84 322	P	P	11 35 34.6	+1.0
	comp=Z,0.6nm,0.4s,mb3.7,baz=56,slow=5.7,SNR=8.5					
VNDA	Vanda	139.50 169	PKIKP	PKPdf	11 42 28.9	+1.8
VNDA			pmax	pmax		
	comp=Z,1.0nm,0.4s					
VNDA	Vanda	139.50 169	PKP	PKPdf	11 42 28.9	+1.8
	comp=Z,0.5nm,0.4s,baz=236,slow=3.6,SNR=5.4					
VNDA	Vanda	139.50 169	PKP	PKPdf	11 42 28.9	+1.8

BJI ***16*** *11:40:38.7, 1.54N×97.25E, h28km, mB4.9, mb5.2, Ms4.8, Msz4.7*

IDC ***16*** *11:40:40.2±0.5, 1.67N×97.05E, h23km±3km, mb4.5/15, mb1 4.7/16, mb1mx4.5/20, mbtmp4.7/16, ML4.6/1, MS4.1/6, Ms1 4.1/6, ms1mx3.7/37, Error ellipse: s-maj=21.4km s-min=10.6km az=43.0*

MOS ***16*** *11:40:40.3±1.0, 1.69N×97.16E, h33km, mb5.2/31, Error ellipse: s-maj=10.9km s-min=6.5km az=105.2*

NEIC ***16*** *11:40:40.9±0.3, 1.64N×97.11E, mb4.9/36, Error ellipse: s-maj=7.0km s-min=5.1km az=211.0*

ISC 16 11:40:39.4±0.3, 1.63N±0.04×97.15E±0.04, h28km, h28km±.7km:pP-P, n180, σ0°97/185, mb5.0/73, MS4.4/21, 18C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	4.85	53	P	Pn	11 41 54.2	+1.6
KULM	Kulim	5.04	44	eP	Pn	11 41 56.5	+1.3
KGM	Kluang	6.18	86	P	Pn	11 42 13.7	+2.4
SNG	Songkhla	6.51	32	P	Pn	11 42 17.0	+1.1
	430nm,1.0s						
NNT	Nongplab	11.19	13	P	P	11 43 20.0	-0.8
KSM	Kuching	13.15	90	P	P	11 43 48.2	+1.1
NST	Nakhon Sawan	14.26	12	P	P	11 43 58.0	-3.9
CM31	Chiang Mai Arr	16.82	6	eP	P	11 44 33.4	-1.4
	23nm,0.8s						
CMAR	Chiang Mai Arr	16.82	6	i P	P	11 44 34.0	-0.8
CMAR				pmax	pmax		
	comp=Z,19nm,0.9s						
CMAR	Chiang Mai Arr	16.82	6	Pn	P	11 44 33.0	-1.7
	comp=Z,0.7nm,0.3s,baz=192,slow=12,SNR=37						
CMAR				LR	LR	11 52 21.8	
	comp=Z,1μm,18.0s,baz=185,slow=42						
CMAR	Chiang Mai Arr	16.82	6	Pn	P	11 44 33.0	-1.7
CMAR				LR	LR	11 52 21.8	
PALK	Pallekele	17.33	289	P	P	11 44 41.0	-0.2
	comp=Z,22nm,1.1s						
NANT	Nan	17.42	11	⇓P	P	11 44 41.0	-1.3
	comp=Z,212nm,0.7s						
KKM	Kota Kinabalu	19.52	76	eP	P	11 45 07.0	-0.7
KKM	Kota Kinabalu	19.52	76	P	P	11 45 08.1	+0.4
TSM	Tawau	20.86	82	P	P	11 45 22.7	+0.8
VIS	Vishakhapatnam	20.98	321	eP	P	11 45 23.9	+0.7
VIS				e		11 45 25.6	
	comp=Z,52nm,1.0s						
QIZ	Qiongzhong	21.30	35	P	P	11 45 25.5	-0.8
QIZ				XP		11 45 35.8	
QIZ				S	S	11 49 16.0	-0.5
QIZ				XS		11 49 29.1	
QIZ				AMB	AMB		
	comp=Z,27nm,1.1s,mb4.5						
QIZ				LR	LR		
	comp=N,570nm,14.0s,MS4.3						
QIZ				LR	LR		
	comp=E,818nm,15.3s,MS4.3						
QIZ				LR	LR		
	comp=Z,727nm,14.5s,MS4.2						
QIZ	Qiongzhong	21.30	35	eP	P	11 45 25.6	-0.7
	comp=Z,47nm,1.1s,mb4.7						
BWNR	Bhubaneshwar	21.61	330	e	P	11 45 34.6	+5.1
KMI	Kunming	23.97	13	P	P	11 45 55.8	+3.1
KMI				AP		11 46 02.1	
KMI				XP		11 46 05.0	
KMI				S	S	11 50 13.3	+8.7
KMI				AMB	AMB		
	comp=Z,41nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,245nm,3.4s						
KMI				LR	LR		
	comp=N,1μm,15.6s,MS4.6						
KMI				LR	LR		
	comp=E,889nm,13.8s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,16.0s,MS4.5						
HYB	Hyderabad	24.09	312	eP	P	11 45 56.0	+2.0
HYB	Hyderabad	24.09	312	i P	P	11 45 56.0	+2.0
SHL	Shillong	24.34	348	eP	P	11 45 56.5	+0.2
SHL				e		11 50 12.5	
BOK	Bokaro	24.59	335	eP	P	11 45 59.6	+0.8
BO

comp=N,1μm,15.2s,MS4.7
GYA LR LR
comp=E,470nm,15.5s,MS4.7
GYA LR LR
comp=Z,2μm,15.0s,MS4.8
JIRN Jiri 27.93 339 *e*P **P 11 46 30.4 +0.7**
comp=Z,49nm,0.7s,mb5.2
PKI Pulchoki 28.14 337 *e*P **P 11 46 31.5 0.0**
comp=Z,73nm,1.3s,mb5.2
GUN Gumba 28.27 339 *e*P **P 11 46 33.3 +0.6**
comp=Z,84nm,0.7s,mb5.5
DMN Daman 28.30 337 *e*P **P 11 46 33.5 +0.6**
KKN Kakani 28.39 337 *e*P **P 11 46 33.8 +0.1**
comp=Z,64nm,1.0s,mb5.2
LSA Lhasa 28.50 349 P **P 11 46 35.4 +0.7**
LSA Lhasa 28.50 349 *e*P **P 11 46 35.5 +0.8**
LSA pmax pmax
comp=Z,14nm,0.7s,mb4.7
LSA Lhasa 28.50 349 *e*P **P 11 46 35.5 +0.8**
comp=Z,14nm,0.7s,mb4.7
BHPL Bhopal 28.77 320 *e* **P 11 46 37.8 +0.6**
GKN Gorkha 28.83 337 *e*P **P 11 46 37.9 +0.2**
comp=Z,117nm,1.1s,mb5.5
KOLN Koldanda 29.05 335 *e*P **P 11 46 40.1 +0.4**
comp=Z,51nm,0.8s,mb5.3
CD2 Chengdu 29.79 11 P **P 11 46 45.0 -1.3**
CD2 PP PP 11 47 44.1 +0.6
CD2 PPP PPP 11 47 58.5 +1.2
CD2 S **S 11 51 39.1 -0.6**
CD2 SS SS 11 53 17.4 +1.9
CD2 AMB AMB
comp=Z,40nm,0.7s,mb5.3
CD2 AMB AMB
comp=Z,170nm,8.4s
CD2 LR LR
comp=E,1μm,15.6s
CD2 LR LR
comp=Z,1μm,19.2s,MS4.5
ENH Enshi 30.80 21 *e*P **P 11 46 53.7 -1.5**
comp=Z,76nm,1.0s,mb5.5
WHN Wuhan 33.06 28 *e*P **P 11 47 15.0 0.0**
XAN Xi'an 34.07 18 P **P 11 47 22.6 -1.2**
XAN AMB AMB
comp=Z,82nm,1.0s,mb5.6
XAN LR LR
comp=N,679nm,15.9s,MS4.6
XAN LR LR
comp=E,573nm,14.4s,MS4.6
XAN LR LR
comp=Z,1μm,15.5s,MS4.8
FITZ Fitzroy Crossi 34.22 126 *e*P **P 11 47 24.4 -0.7**
comp=Z,10nm,0.8s,mb4.8
FITZ Fitzroy Crossi 34.22 126 P **P 11 47 24.5 -0.6**
comp=Z,14nm,0.8s,mb4.9,baz=282,slow=2.8,SNR=15
FITZ pP pP 11 47 32.3 -1.1
comp=Z,8.3nm,0.8s,baz=328,slow=4.2,SNR=4.9
LZH Lanzhou 34.84 10 ⇑P **P 11 47 30.0 -0.4**
LZH *e*S **S 11 52 58.0 -0.6**
LZH SS SS 11 55 09.8 -3.2
LZH AMB AMB
comp=Z,72nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,198nm,5.2s
LZH LR LR
comp=N,1μm,13.5s
LZH LR LR
comp=Z,2μm,17.7s,MS4.9
LZH Lanzhou 34.84 10 ⇑P **P 11 47 30.0 -0.4**
LZH 11 49 06.5
LZH *e*S **S 11 52 58.0 -0.6**
LZH SS SS 11 55 09.8 -3.2
LZH pmax pmax
comp=Z,72nm,1.5s,mb5.4
LZH MLR MLR
comp=Z,2μm,17.7s,MS4.9
THN Thein Dam 36.69 329 *e*P **P 11 47 43.9 -2.1**
SSE Sheshan 37.09 35 *e*P **P 11 47 47.5 -1.9**
SSE AP pP 11 47 56.4 -1.3
SSE XP sP 11 48 00.0 -1.2
SSE PP PP 11 49 13.4 -3.0
SSE S **S 11 53 32.8 -0.5**
SSE XS 11 53 49.0
SSE AMB AMB
comp=Z,37nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,44nm,3.5s
SSE LR LR
comp=N,153nm,14.7s,MS4.6
SSE LR LR
comp=E,676nm,14.7s,MS4.6
SSE LR LR
comp=Z,781nm,16.6s,MS4.6
GTA Gaotai 37.68 3 P **P 11 47 54.3 0.0**
GTA AP pP 11 48 06.4 +3.8
GTA XP sP 11 48 11.8 +5.7
GTA AMB AMB
comp=Z,33nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,136nm,6.8s
GTA LR LR
comp=N,368nm,14.1s,MS4.5
GTA LR LR
comp=E,324nm,14.1s,MS4.5
GTA LR LR
comp=Z,403nm,15.2s,MS4.3
KAKA Kakadu 37.81 113 *e*P **P 11 47 54.4 -1.2**
comp=Z,13nm,0.9s,mb4.7
JOW Kunigami 38.99 47 P **P 11 48 05.2 -0.1**
comp=Z,38nm,0.9s,mb5.1,baz=237,slow=11,SNR=8.2
JOW LR LR 12 04 14.6
comp=Z,210nm,19.5s,MS4.0,baz=109,slow=36
NWAO Narrogin (SRO) 39.26 153 LR LR 12 03 45.1
comp=Z,392nm,19.0s,MS4.3,baz=146,slow=35
BTO Baotou 40.52 15 *e*P **P 11 48 18.3 +0.5**
BTO AMB AMB
comp=Z,20nm,0.9s,mb4.8
HHC Hu-ho-hao-te 41.16 17 ⇑P **P 11 48 24.3 +1.1**
HHC AP pP 11 48 34.0 +2.5
HHC XP sP 11 48 38.3 +3.3
HHC PCP PcP 11 50 23.4 +0.7
HHC PCS 11 54 15.0
HHC S **S 11 54 34.0 -0.5**
HHC XS 11 54 52.0
HHC SS SS 11 57 32.8 -0.4
HHC SCS ScS 11 58 22.3 -1.1
HHC AMB AMB
comp=Z,181nm,5.5s
HHC LR LR
comp=N,924nm,15.3s,MS4.8
HHC LR LR
comp=E,440nm,15.3s,MS4.8
HHC LR LR
comp=Z,746nm,15.4s,MS4.7
BJT Baijiatuau 41.94 22 *e*P **P 11 48 30.4 +0.8**
BJT pmax pmax
comp=Z,120nm,1.0s
BJT Baijiatuau 41.94 22 *e*P **P 11 48 30.4 +0.9**
comp=Z,120nm,1.0s,mb5.5
BJI Beijing 41.96 22 *e*P **P 11 48 30.8 +1.0**
BJI AP pP 11 48 39.8 +1.7
BJI XP sP 11 48 43.8 +2.2
BJI PP PP 11 50 14.5 +4.5
BJI AMB AMB
comp=Z,96nm,1.0s,mb5.4
BJI AMB AMB
comp=Z,242nm,3.4s
BJI LR LR
comp=N,406nm,16.1s,MS4.5
BJI LR LR
comp=E,366nm,15.4s,MS4.5
BJI LR LR
comp=Z,328nm,16.7s,MS4.3
WRA Warramunga Arr 42.30 122 P **P 11 48 33.0 +0.2**
comp=Z,5.2nm,0.9s,mb4.2,baz=305,slow=9.0,SNR=32
WRA pP pP 11 48 40.0 -1.2
comp=Z,4.4nm,0.6s,baz=321,slow=11,SNR=14
WRAB Tennant Creek 42.31 122 *i* P **P 11 48 33.0 +0.2**
WRAB Tennant Creek 42.31 122 *e*P **P 11 48 32.6 -0.2**
comp=Z,15nm,0.8s,mb4.7
WB2 Warramunga Arr 42.31 122 *e*P **P 11 48 32.6 -0.3**
WMQ Urumqi 42.85 350 ⇑P **P 11 48 38.3 +1.3**
WMQ AP pP 11 48 48.3 +3.0
WMQ XP sP 11 48 52.3 +3.5
WMQ PP PP 11 50 20.4 +1.6
WMQ PCP PcP 11 50 29.8 +1.5
WMQ S **S 11 54 59.8 +0.5**
WMQ XS 11 55 16.3
WMQ AMB AMB
comp=Z,27nm,1.1s,mb4.9
WMQ AMB AMB
comp=Z,47nm,4.9s
WMQ LR LR
comp=N,122nm,20.0s,MS4.0
WMQ LR LR
comp=E,140nm,21.2s,MS4.0
WMQ LR LR
comp=Z,107nm,17.4s,MS3.8
ASPA Alice Springs 43.69 127 *e*P **P 11 48 44.6 +0.6**
ASAR Alice Springs 43.69 127 P **P 11 48 44.0 -0.1**
comp=Z,5.4nm,0.9s,mb4.3,baz=305,slow=7.6,SNR=35
ASAR PcP PcP 11 50 31.1 -0.4
comp=Z,1.5nm,0.8s,baz=309,slow=5.3,SNR=5.3
ASAR pPcP 11 50 39.3
comp=Z,2.5nm,0.9s,baz=298,slow=6.3
ASAR ScP 11 54 21.9
comp=Z,1.1nm,1.0s,baz=306,slow=4.2,SNR=4.5
ASAR LR LR 12 09 36.9
comp=Z,204nm,19.7s,MS4.0,baz=290,slow=40
ULHL Ulahol 44.58 338 P **P 11 48 52.0 +0.9**
SNR=14
KZA Kyzart 44.82 337 P **P 11 48 54.3 +1.3**
SNR=11
UCH Uchtor 45.24 336 P **P 11 48 57.3 +1.0**
SNR=51
TKM2 Tokmak 2 45.41 338 P **P 11 48 58.6 +1.0**
SNR=18
KBK Karagaybulak 45.43 337 P **P 11 48 59.2 +1.4**
SNR=19
AML Almayashu 45.50 335 P **P 11 48 59.6 +1.3**
SNR=34
KS15 Wonju Array Si 45.50 35 *e*P **P 11 48 58.8 +0.5**
AAK Ala-Archa 45.59 337 P **P 11 49 00.2 +1.2**
SNR=10
AAK Ala-Archa 45.59 337 *e*P **P 11 48 58.9 -0.2**
AAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
AAK Ala-Archa 45.59 337 *e*P **P 11 48 58.9 -0.2**
comp=Z,14nm,1.0s,mb4.8
CHMS Chumysh 45.80 337 P **P 11 49 01.1 +0.4**
SNR=6.0
EKS2 Erkin-Say 45.90 336 P **P 11 49 02.9 +1.4**
SNR=6.7
USP Ospenovka 46.12 337 P **P 11 49 04.1 +0.8**
SNR=41
SNY Shenyang 46.55 27 ⇑P **P 11 49 06.0 -0.6**
SONM Songino Array 46.72 9 P **P 11 49 08.4 +0.5**
comp=Z,33nm,0.8s,mb5.3,baz=189,slow=8.1,SNR=264
ULN Ulaanbaatar 46.85 9 *e*P **P 11 49 09.1 +0.2**
ULN pmax pmax
comp=Z,18nm,0.8s,mb5.0
ULN Ulaanbaatar 46.85 9 *e*P **P 11 49 09.1 +0.1**
comp=Z,18nm,0.8s,mb5.0
KKAR Karatay Array 47.65 334 *i* P **P 11 49 15.0 -0.4**
KKAR pmax pmax
comp=Z,17nm,1.0s,mb5.0
ZAK Zakamensk 48.85 5 ⇑*i*P **P 11 49 24.8 +0.3**
ZAK pmax pmax
comp=Z,556nm,0.8s
CN2 Changchun 48.95 27 *e*P **P 11 49 25.0 -0.3**
CN2 *e*S **S 11 56 26.5 0.0**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.6
CN2 LR LR
comp=E,300nm,15.0s,MS4.6
CN2 LR LR
comp=Z,300nm,16.0s,MS4.4
MOY Mondy 49.97 3 *e*P **P 11 49 33.5 +0.4**
MOY pmax pmax
comp=Z,17nm,1.0s,mb5.0
TLY Talaya 50.17 5 ⇑*i*P **P 11 49 35.5 +0.8**
TLY *e* 11 51 29.8
TLY *e*S 11 56 56.7
TLY pmax pmax
comp=Z,24nm,0.9s,mb5.2
TLY MLR MLR
comp=Z,431nm,18.0s,MS4.5
TLY Talaya 50.17 5 *e*P **P 11 49 34.3 -0.4**
comp=Z,23nm,0.8s,mb5.3
IRK Irkutsk 50.79 6 *e*P **P 11 49 39.2 -0.1**
IRK pmax pmax
comp=Z,22nm,1.6s,mb4.8
HIA Hailar 51.25 19 *e*P **P 11 49 42.4 -0.5**
HIA *e**PP pP 11 49 51.7 +0.3
HIA pmax pmax
comp=Z,15nm,0.8s
HIA Hailar 51.25 19 *e*P **P 11 49 42.4 -0.5**
comp=Z,15nm,0.8s,mb5.0
HIA *e*pP pP 11 49 51.7 +0.3
MAJO Matsushiro 51.41 43 *e*P **P 11 49 44.3 +0.1**
MAJO pmax pmax
comp=Z,20nm,1.3s,mb4.9
MAJO Matsushiro 51.41 43 *e*P **P 11 49 44.3 +0.1**
comp=Z,20nm,1.3s,mb4.9
MAT Matsushiro 51.41 43 *e*P **P 11 49 43.0 -1.2**
MAT S **S 11 57 02.0 +1.3**
MAT pmax pmax
comp=Z,14nm,1.1s,mb4.8
MAT Matsushiro 51.41 43 *e*P **P 11 49 43.0 -1.2**
comp=Z,14nm,1.1s,mb4.8
MAT S **S 11 57 02.0 +1.3**
MAT Matsushiro 51.41 43 P **P 11 49 43.1 -1.1**
MAT *e*S **S 11 57 01.6 +0.9**
MJAR Matsushiro Arr 51.41 43 P **P 11 49 43.3 -1.0**
comp=Z,8.9nm,0.8s,mb4.7,baz=214,slow=6.1,SNR=32
MDJ Mudanjiang 51.52 29 P **P 11 49 45.3 +0.3**
MDJ AMB AMB
comp=Z,18nm,1.1s,mb4.9
MDJ AMB AMB
comp=Z,82nm,4.2s
MDJ Mudanjiang 51.52 29 *e*P **P 11 49 45.7 +0.7**
comp=Z,21nm,1.0s,mb5.0
CTA Charters Tower 52.73 117 ⇓*i*P **P 11 49 55.2 +0.7**
comp=Z,8.9nm,1.0s,mb4.7
CTA Charters Tower 52.73 117 ⇓*i*P **P 11 49 55.2 +0.7**
CTA pmax pmax
comp=Z,9.0nm,1.0s
CTAO Charters Tower 52.73 117 *e*P **P 11 49 55.1 +0.6**
ZAL Zalesovo 53.12 351 P **P 11 49 56.7 -0.1**
comp=Z,25nm,0.9s,mb5.2,baz=303,slow=7.0,SNR=149
ZAL Zalesovo 53.12 351 P **P 11 49 56.7 -0.1**
STKA Stephens Creek 53.68 132 ⇑*i*P **P 11 50 01.7 +0.5**
comp=Z,8.6nm,1.1s,mb4.6
STKA Stephens Creek 53.68 132 P **P 11 50 01.4 +0.2**
comp=Z,8.0nm,0.9s,mb4.7,baz=307,slow=6.7,SNR=18
STKA pP pP 11 50 09.5 -0.2
comp=Z,9.5nm,0.9s,baz=301,slow=8.1,SNR=9.5
BVA0 Borovoye Array 55.83 341 *i* P **P 11 50 14.9 -1.8**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KLR Kul'dur 55.90 27 *e*P **P 11 50 14.3 -2.9**
KLR pmax pmax
comp=E,24nm,1.0s
KLR pmax pmax
comp=Z,32nm,1.0s,mb5.3
BOD Bodaibo 57.60 11 ⇓*i*P **P 11 50 28.5 -0.7**
BOD pmax pmax
comp=Z,16nm,1.0s,mb5.0
CLNS Chul'man 59.35 17 *e*P **P 11 50 40.4 -1.0**
CLNS *e**PP pP 11 50 47.3 -2.8
CLNS *e* 11 52 53.7
CLNS *e*PPP PPP 11 54 19.2 -0.1
CLNS *e*S 11 59 03.1
CLNS pmax pmax
comp=Z,29nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,14nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CLNS MLR MLR
comp=Z,900nm,15.0s,MS5.0
CLNS MLR MLR
comp=N,600nm,14.0s,MS4.9
CLNS MLR MLR
comp=E,100nm,14.0s,MS4.9
KMBO Kilima Mbogo 59.96 268 *i* P **P 11 50 47.5 +1.3**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 59.96 268 P **P 11 50 44.8 -1.3**
comp=Z,1.1nm,0.6s,mb4.0,baz=61,slow=10.0,SNR=4.6
KMBO pP pP 11 50 53.4 -1.4
comp=Z,3.8nm,0.9s,baz=48,slow=11,SNR=6.6
KMBO Kilima Mbogo 59.96 268 *e*P **P 11 50 46.1 -0.1**
comp=Z,5.7nm,1.0s,mb4.6
KMBO *e*pP pP 11 50 55.1 +0.2
YSS Yuzh-Sakhalins 60.02 34 ⇑*e*P **P 11 50 46.0 -0.2**
YSS *e* pP 11 50 54.9 0.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS MLR MLR
comp=E,300nm,16.0s
YSS MLR MLR
comp=Z,400nm,16.0s,MS4.7
YSS Yuzh-Sakhalins 60.02 34 *e*P **P 11 50 46.3 +0.1**
comp=Z,70nm,1.1s,mb5.6
SVE Sverdlovsk 62.28 338 *e*P **P 11 50 57.2 -4.1**
SVE *e* pP 11 51 06.0 -4.0
SVE *e* 11 51 46.0
SVE pmax pmax
comp=Z,40nm,1.0s,mb5.5
ARU Arti 62.77 337 ⇓*i*P **P 11 51 03.5 -1.1**
ARU *e* 11 51 35.6
ARU *e* 11 53 20.2
ARU *e*S **S 11 59 31.5 +1.5**
ARU *e*SS SS 12 03 37.8 +0.8
ARU pmax pmax
comp=Z,14nm,1.1s,mb5.0
ARU Arti 62.77 337 *e*P **P 11 51 03.0 -1.6**
comp=Z,14nm,1.0s,mb5.0
KIV Kislovodsk 63.95 319 *c i*P **P 11 51 11.6 -1.0**
KIV *i* 11 51 27.4
KIV *i* 11 51 41.1
KIV S **S 11 59 50.0 +5.0**
KIV pmax pmax
comp=Z,22nm,1.2s,mb5.1
KIV Kislovodsk 63.95 319 *e*P **P 11 51 11.4 -1.1**
comp=Z,20nm,1.0s,mb5.1
MALT Malatya 64.81 312 *e*P **P 11 51 18.0 -0.2**
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MALT Malatya 64.81 312 *e*P **P 11 51 18.0 -0.2**
comp=Z,5.8nm,1.0s,mb4.6
YAK Yakutsk 65.03 16 *e*P **P 11 51 18.2 -1.0**
YAK pmax pmax
comp=Z,139nm,1.1s,mb5.9
YAK Yakutsk 65.03 16 *e*P **P 11 51 18.1 -1.0**
comp=Z,139nm,1.1s,mb5.9
SOKR Solikamsk 65.67 339 ⇑*i*P **P 11 51 23.4 0.0**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.2
SOC Sochi 65.77 318 *e*P **P 11 51 22.2 -2.1**
SOC *e*S S 12 00 08.1 +0.7
SOC *e*SS SS 12 04 26.8 +3.3
SOC pmax pmax
comp=Z,15nm,0.8s,mb5.1
SOC pmax pmax
comp=N,16nm,0.9s
SOC pmax pmax
comp=E,9.0nm,0.8s
BRTR Keskin Array B 68.79 312 P **P 11 51 40.8 -2.6**
comp=E,4.7nm,0.8s,mb4.5,baz=132,slow=7.4,SNR=21
BRTR pP pP 11 51 48.8 -3.3
comp=E,3.6nm,0.7s,baz=136,slow=6.9,SNR=9.5
PET Petropavlovsk 71.91 34 *e*P **P 11 52 01.9 -0.2**
PET pmax pmax
comp=Z,16nm,0.7s,mb5.1
PET Petropavlovsk 71.91 34 *e*P **P 11 52 01.9 -0.2**
comp=Z,16nm,0.7s,mb5.1
MOS Moscow 71.94 329 *e*P **P 11 51 54.1 -8.1**
MOS pmax pmax
comp=Z,43nm,0.6s,mb5.6
OBN Obninsk 72.23 328 *i* P **P 11 52 03.4 -0.6**
OBN *e* pP 11 52 11.8 -0.9
OBN *e* 11 52 18.3
OBN *e* 11 52 21.1
OBN SS SS 12 05 58.0 -5.4
OBN pmax pmax
comp=Z,25nm,1.3s,mb5.0
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
TIXI Tiksi 72.78 10 ⇑*i*P **P 11 52 05.0 -1.9**
SEY Seymchan 73.39 23 *e*P **P 11 52 11.7 +1.1**
SEY *e* 11 52 23.3
SEY *e* 12 02 12.5
SEY pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TIRR Tirgusor 73.78 316 ⇑P **P 11 52 12.4 -0.9**
KIS Kishinev 74.15 319 *e*P **P 11 52 13.0 -2.3**
IDI Anoyia 74.61 306 LR LR 12 28 26.0
comp=Z,68nm,18.7s,MS4.0,baz=272,slow=38
AKASG Malin Array Be 74.89 322 P **P 11 52 18.2 -1.4**
comp=Z,2.2nm,0.5s,mb4.4,baz=90,slow=4.9,SNR=23
AKASG pP pP 11 52 25.9 -2.5
comp=Z,6.4nm,0.7s,baz=90,slow=4.8,SNR=9.8
VRI Vrincioaia 75.27 317 ⇓P **P 11 52 22.2 +0.3**
MLR Muntele Rosu 75.73 317 ⇑P **P 11 52 24.6 +0.2**
BURAR Bucovina Array 76.67 319 ⇑P **P 11 52 30.4 +0.7**
BURAR Bucovina Array 76.67 319 ⇑P **P 11 52 30.4 +0.7**
JOF Joensuu 77.74 335 *e*p **P 11 52 30.3 -5.0**
comp=Z,6.2nm,0.9s,mb4.5
APA Apatity 78.71 339 ⇑*i*P **P 11 52 40.4 -0.1**
APA pmax pmax
comp=Z,13nm,0.9s,mb4.9
KOLS Kolonicke sedl 78.86 320 *e*P **P 11 52 43.2 +1.5**
KOLS *e* 11 52 49.9
FINES FINESS Array B 79.60 332 P **P 11 52 44.8 -0.7**
comp=Z,4.2nm,0.8s,mb4.4,baz=76,slow=7.9,SNR=18
KAF Kangasniemi 79.68 333 *e*p **P 11 52 44.8 -1.1**
comp=Z,7.8nm,0.8s,mb4.7,baz=104,slow=5.0
KAF Kangasniemi 79.68 333 *e*P **P 11 52 44.8 -1.1**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PSZ Piszkesteto 80.26 318 *e*P **P 11 52 49.1 -0.2**
PSZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PSZ Piszkesteto 80.26 318 *e*P **P 11 52 49.1 -0.2**
comp=Z,8.8nm,0.8s,mb4.7
OJC Ojcow 80.67 321 *e*P **P 11 52 51.6 +0.2**
BILL Bilibino 80.78 21 *e*P **P 11 52 50.9 -0.8**
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BILL Bilibino 80.78 21 *e*P **P 11 52 50.9 -0.8**
comp=Z,3.5nm,0.9s,mb4.3
ARCES ARCESS Array B 82.12 340 P **P 11 52 57.7 -0.9**
comp=Z,7.9nm,0.8s,mb4.7,baz=90,slow=2.4,SNR=17
ARCES ARCESS Array B 82.12 340 P **P 11 52 57.7 -0.9**
ZST Bratislava 82.15 318 *e*P **P 11 52 59.7 +0.5**
ZST *e*pP pP 11 53 07.9 -0.2
PRU Pruhonice 84.00 320 *e*P **P 11 53 09.2 +0.5**
PRU *e*pP pP 11 53 18.0 +0.4
BRG Berggiesshubel 84.45 321 *e*P **P 11 53 17.6 +6.7**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
BRG Berggiesshubel 84.45 321 P **P 11 53 17.6 +6.7**
comp=Z,3.3nm,0.8s,mb4.5
GERES GERESS Array B 84.46 319 P **P 11 53 11.5 +0.5**
comp=Z,5.0nm,1.0s,mb4.6,baz=104,slow=5.5,SNR=9.2
KHC Kasperske Hory 84.56 319 *e*P **P 11 53 11.0 -0.5**
KHC *e* pP 11 53 19.5 -0.9
KHC Kasperske Hory 84.56 319 *e*P **P 11 53 11.0 -0.5**
KHC pP pP 11 53 19.5 -0.9
CLL Collm 85.07 321 *e*P **P 11 53 14.0 0.0**
CLL *e* pP 11 53 23.0 +0.1
CLL Collm 85.07 321 P **P 11 53 14.0 0.0**
CLL *e**PP pP 11 53 23.0 +0.1
GRA1 Grafenberg Arr 86.13 320 *e*P **P 11 53 20.0 +0.7**
comp=Z,6.0nm,0.7s,mb4.9
GRA1 *e*pP pP 11 53 29.2 +1.0
GRF Grafenberg Arr 86.13 320 *e*P **P 11 53 20.0 +0.7**
GRF *e**PP pP 11 53 29.2 +1.0
GRF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
GRF Grafenberg Arr 86.13 320 *e*P **P 11 53 20.0 +0.7**
GRF *e**PP pP 11 53 29.2 +1.0
GRF pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
GRF Grafenberg Arr 86.13 320 *e*P **P 11 53 20.0 +0.7**
comp=Z,6.0nm,0.7s,mb4.9
GRF *e*pP pP 11 53 29.2 +1.0
NB2 NORSAR Subarra 86.61 331 P **P 11 53 21.0 -0.4**
comp=Z,3.8nm,0.8s,mb4.7,baz=94,slow=4.8
NB2 NORSAR Subarra 86.61 331 P **P 11 53 21.0 -0.4**

NB2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
NOA NORSAR Array B 86.61 331 P **P** **11 53 21.1 -0.3**
comp=Z,3.8nm,0.9s,mb4.6,baz=94,slow=4.9,SNR=11
NOA pP pP 11 53 28.8 -1.6
comp=Z,2.9nm,0.8s,baz=96,slow=5.0,SNR=8.9
NOA LR LR 12 37 51.3
comp=Z,62nm,21.2s,MS4.0,baz=260,slow=40
NOA NORSAR Array B 86.61 331 P **P** **11 53 21.1 -0.2**
NOA pP pP 11 53 28.8 -1.6
NOA LR LR 12 37 51.3
IMA Indian Mountai 96.21 23 *e*P **P** **11 54 06.6 +0.6**
IMA pmax pmax
comp=Z,32nm,1.3s,mb5.6
IMA Indian Mountai 96.21 23 *e*P **P** **11 54 06.6 +0.6**
comp=Z,32nm,1.3s,mb5.6
ILAR Eielson Array 99.33 23 PP PP 11 58 19.3 -6.3
comp=Z,0.5nm,0.8s,baz=294,slow=7.1,SNR=5.2
YKA Yellowknife Ar 111.69 15 PP PP 11 59 48.8 -9.1
comp=Z,0.6nm,0.9s,baz=331,slow=7.6,SNR=6.1
YKA PKKPbc 12 10 14.4
comp=Z,0.2nm,0.8s,baz=142,slow=3.3,SNR=7.0
NVAR Mina Array Bea 128.47 36 PKP PKPdf 11 59 46.9 -2.5
comp=Z,1.1nm,1.0s,baz=249,slow=2.9,SNR=5.4
PDAR Pinedale Array 129.68 25 PKP PKPdf 11 59 48.5 -3.0
comp=Z,0.3nm,0.4s,baz=180,slow=1.5,SNR=4.0
PDAR PP PP 12 01 59.3 -2.3
comp=Z,0.6nm,0.8s,baz=333,slow=3.3,SNR=4.1
SWET Sewanee 143.24 4 *e*PKPdf PKPdf 12 00 12.6 -3.9
JCT Junction City 144.22 26 *e*PKPdf PKPdf 12 00 13.2 -5.1
LPAZ La Paz 159.45 224 PKP PKPdf 12 00 39.4 -1.7
comp=Z,0.3nm,0.4s,baz=199,slow=23,SNR=3.6

MAN 16 11:48:36.0,17.66N×119.83E,h10km,mb3.8,ML2.5, MS2.1,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.84**	**91**	*e*P	Pb	11 48 52.2	0.0
ABRA				*e*S	Sb	11 49 06.3	+2.9
BOLP	**Bolinao**	**1.27**	**176**	*e*P	Pb	11 48 58.2	-1.4
APYP	**Conner**	**1.36**	**81**	*e*P	Pn	11 49 00.2	-1.0
BCPH	**Baguio City Da**	**1.46**	**150**	‖*e*P	Pn	11 49 02.1	-0.5
CAUP	**Cauayan**	**2.03**	**110**	*e*P	Pn	11 49 13.0	+2.3

*IDC **16** 12:02:11.2±0.9,47.87S×102.43E,mb4.0/7,mb1 4.1/7, mb1mx4.0/13,mbtmp3.9/7,MS3.8/1,Ms1 3.8/1, ms1mx3.3/20,Error ellipse: s-maj=34.9km s-min=22.0km az=110.0*
*NEIC **16** 12:02:12.7±0.6,47.88S×102.48E,h10km,mb4.5/1,Error ellipse: s-maj=22.0km s-min=13.3km az=118.0*
ISC 16 12:02:10.9±0.9,47.9S±0.1×102.5E±0.3,h10km,n15, σ0§50/10,mb4.1/8,MS3.8/1,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.58**	**76**	P	**P**	**12 08 52.7**	**-0.5**
	0.7nm,0.3s,mb4.0,baz=148,slow=0.8,SNR=2.9						
STKA	**Stephens Creek**	**33.58**	**76**	P	**P**	**12 08 52.7**	**-0.5**
ASAR	**Alice Springs**	**34.73**	**57**	P	**P**	**12 09 03.0**	**0.0**
	3.9nm,1.1s,mb4.2,baz=215,slow=8.0,SNR=10						
FITZ	**Fitzroy Crossi**	**35.21**	**40**	LR	LR	12 23 28.9	
	comp=Z,147nm,18.2s,MS3.8,baz=268,slow=36						
VNDA	**Vanda**	**37.19**	**162**	P	**P**	**12 09 23.4**	**0.0**
	2.2nm,0.9s,mb4.0,baz=273,slow=9.2,SNR=7.6						
VNDA	**Vanda**	**37.19**	**162**	P	**P**	**12 09 23.4**	**0.0**
WRA	**Warramunga Arr**	**37.94**	**54**	P	**P**	**12 09 30.7**	**+0.4**
	4.6nm,1.1s,mb4.1,baz=215,slow=8.2,SNR=18						
WRAB	**Tennant Creek**	**37.95**	**54**	*e*P	**P**	**12 09 30.5**	**+0.2**
	10.0nm,1.2s,mb4.4						
SNAA	**Sanae**	**49.81**	**204**	P	**P**	**12 11 05.2**	**0.0**
	3.8nm,1.3s,mb4.3,baz=162,slow=3.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**66.12**	**356**	P	**P**	**12 12 59.6**	**-0.9**
	0.4nm,0.6s,mb3.6,baz=188,slow=5.0,SNR=7.8						
SONM	**Songino Array**	**95.41**	**3**	P	**P**	**12 15 37.1**	**+0.9**
	0.2nm,0.6s,mb3.7,baz=198,slow=4.6,SNR=3.0						
INK	**Inuvik**	**145.74**	**33**	PKPbc	PKPbc	12 21 48.9	-0.1
	5.1nm,1.3s,baz=237,slow=5.9,SNR=3.9						
NVAR	**Mina Array Bea**	**149.08**	**93**	PKPbc	PKPdf	12 22 01.6	+4.0
	3.4nm,1.0s,baz=178,slow=3.6,SNR=16						
YKA	**Yellowknife Ar**	**154.73**	**41**	PKP	PKPdf	12 22 04.9	-0.1
	0.1nm,0.8s,baz=292,slow=3.3,SNR=2.8						
YKA				PKPbc	PKPdf	12 22 11.5	+6.4
	0.1nm,0.6s,baz=288,slow=2.5,SNR=4.6						
YKA				PKPab	PKPab	12 22 28.2	+0.2
	0.6nm,1.0s,baz=294,slow=4.0,SNR=6.0						
YKA	**Yellowknife Ar**	**154.73**	**41**	PKP	PKPdf	12 22 05.0	-0.1
YKA				PKPbc	PKPdf	12 22 11.5	+6.4
YKA				PKPab	PKPab	12 22 28.2	+0.2

*IDC **16** 12:13:47.9±1.7,6.57S×144.69E,mb3.6/2,mb1 4.0/5, mb1mx3.8/14,mbtmp3.8/5,ML3.0/3,Error ellipse: s-maj=42.5km s-min=29.4km az=130.0*
ISC 16 12:13:48.3±5.8,6.7S±0.1×144.7E±0.1,h12km±37km,n8, σ0§71/9,mb3.6/2,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.64**	**138**	Pn	**Pn**	**12 14 45.7**	**0.0**
	1.7nm,0.3s,baz=333,slow=14,SNR=7.5						
PMG				Sn	**Sn**	**12 15 28.8**	**-0.3**
	2.3nm,0.3s,baz=117,slow=23,SNR=7.8						
KAKA	**Kakadu**	**13.47**	**243**	*e*P	**P**	**12 16 58.5**	**-3.4**
	5.9nm,0.6s						
WB2	**Warramunga Arr**	**16.56**	**216**	*e*P	**P**	**12 17 42.4**	**+0.3**
WRA	**Warramunga Arr**	**16.57**	**216**	Pn	**P**	**12 17 41.9**	**-0.4**
	0.1nm,0.3s,baz=34,slow=13,SNR=12						
ASAR	**Alice Springs**	**19.81**	**210**	P	**P**	**12 18 22.6**	**+0.9**
	0.2nm,0.3s,baz=34,slow=11,SNR=43						
ASPA	**Alice Springs**	**19.81**	**210**	*e*P	**P**	**12 18 22.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.76**	**237**	P	**P**	**12 18 41.5**	**-0.3**
	1.9nm,0.6s,mb3.7,baz=36,slow=14,SNR=3.4						
ILAR	**Eielson Array**	**87.02**	**24**	P	**P**	**12 26 34.6**	**+0.1**
	0.2nm,0.7s,mb3.5,baz=254,slow=5.5,SNR=5.3						

*IDC **16** 12:18:30.1±0.5,54.93S×132.34W,mb4.5/13,mb1 4.6/13, mb1mx4.6/15,mbtmp4.5/13,MS5.5/23,Ms1 5.5/23, ms1mx5.4/28,Error ellipse: s-maj=28.0km s-min=14.3km az=164.0*
*MOS **16** 12:18:30.9±2.1,54.93S×132.29W,h10km,mb5.3/8, MS5.3/9,Error ellipse: s-maj=27.8km s-min=17.6km az=69.9*
*BJI **16** 12:18:31.7,55.00S×132.10W,h10km,mB5.7,Ms5.7, Msz5.5*
*NEIC **16** 12:18:31.7±0.3,54.99S×132.10W,h10km,mb5.1/20, MS5.6/135,MW5.9,Error ellipse: s-maj=17.6km s-min=9.2km az=160.0,Moment Tensor Solution. s4 Moment tensor: Scale 10^17^Nm; M_{rr}-0.74; $M_{\theta\theta}$6.36; $M_{\phi\phi}$-5.62; $M_{r\theta}$0.58; $M_{\theta\phi}$4.53; $M_{\phi r}$0.76; Best double couple: $M_0$7.6×10^17^ NP1:ϕ_s117°,δ83°,λ0°. NP2:ϕ_s26°,δ90°, λ173°. Principal axes: T 7.95, Plg5°, Azm341°; N -.76, Plg83°, Azm204°; P -7.19, Plg5°, Azm72°;*
*HRVD **16** 12:18:31.7±0.1,54.41S×132.31W,h12km,MW5.9/85, Centroid moment Tensor Solution. LP body waves: s76,c174;Mantle waves: s85,c301; Half duration: 2§2 Moment tensor: Scale 10^18^Nm; M_{rr}-0.07±.01; $M_{\theta\theta}$0.65±.01; $M_{\phi\phi}$-0.58±.01; $M_{r\theta}$0.04±.02; $M_{\theta\phi}$0.64±.01; $M_{\phi r}$0.19±.02; Best double couple: M_0.909×10^18^ NP1: ϕ_s112°,δ78°,λ-3°. NP2:ϕ_s202°,δ87°,λ-168°. Principal axes: T .933, Plg6°, Azm336°; N -.049, Plg77°, Azm216°; P -.884, Plg11°, Azm68°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
ISC 16 12:18:29.8±0.3,54.40S±0.07×132.5W±0.1,h10km,n250, σ1§34/65,mb4.9/32,MS5.6/157,12C,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCN	**Pitcairn Islan**	**29.35**	**4**	PFAKE		12 24 50.0	+15
PTCN				LR	LR		
	comp=Z,19μm,20.0s,MS5.7						
RKT	**Rikitea**	**31.30**	**356**	*e*S	**S**	**12 29 53.9**	**-3.8**
RKT				*e*LQ		12 31 38.4	
RKT				*e*LR	LR	12 32 41.8	
	comp=Z,37μm,26.2s,baz=176						
SBA	**Scott Base**	**31.43**	**201**	PFAKE		12 25 00.0	+7.3
SBA				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
RPN	**Rapa Nui**	**32.09**	**41**	LR	LR	12 34 35.3	
	comp=Z,8μm,21.7s,MS5.4,baz=210,slow=30						
RPN	**Rapa Nui**	**32.09**	**41**	PFAKE		12 25 10.0	+11
RPN				LR	LR		
	comp=Z,3μm,22.0s,MS4.9						
VNDA	**Vanda**	**32.42**	**202**	*e*P	**P**	**12 24 58.5**	**-2.9**
VNDA				pmax	pmax		
	comp=Z,31nm,1.4s						
VNDA				MLR	MLR		
	comp=Z,4μm,21.0s						
VNDA	**Vanda**	**32.42**	**202**	P	**P**	**12 24 58.9**	**-2.5**
	comp=Z,0.7nm,0.3s,mb3.9,baz=103,slow=18,SNR=12						
VNDA				LR	LR	12 34 18.0	
	comp=Z,5μm,20.9s,MS5.2,baz=82,slow=30						
VNDA	**Vanda**	**32.42**	**202**	*e*P	**P**	**12 24 58.5**	**-2.9**
	comp=Z,32nm,1.4s,mb5.0						
VNDA				LR	LR		
	comp=Z,4μm,21.0s,MS5.1						
TBI	**Tubuai**	**33.54**	**331**	*e*S	**S**	**12 30 31.7**	**-0.8**
TBI				*e*LQ		12 32 40.3	
TBI				*e*LR	LR	12 33 35.5	
	comp=Z,41μm,29.8s,baz=163						
PMSA	**Palmer Station**	**34.39**	**135**	PFAKE		12 25 30.0	+11
PMSA				LR	LR		
	comp=Z,12μm,21.0s,MS5.6						
QSPA	**South Pole Qui**	**35.77**	**180**	⇑*i*P	**P**	**12 25 32.7**	**+2.4**
	comp=Z,24nm,0.6s,mb5.3						
USHA	**Ushuaia**	**35.91**	**118**	LR	LR	12 35 08.1	
	comp=Z,1μm,19.0s,MS4.8,baz=225,slow=28						
SNZO	**South Karori**	**36.92**	**269**	PFAKE		12 25 50.0	+10
SNZO				LR	LR		
	comp=Z,12μm,20.0s,MS5.7						
URZ	**Urewera**	**37.50**	**274**	LR	LR	12 37 32.8	
	comp=Z,11μm,19.8s,MS5.7,baz=39,slow=30						
RPZ	**Rata Peaks**	**37.56**	**263**	LR	LR	12 38 02.7	
	comp=Z,15μm,18.1s,MS5.8,baz=119,slow=31						
PAE	**Paea**	**38.98**	**333**	*e*P	**P**	**12 25 57.6**	**-0.2**
	comp=Z,69nm,1.2s,mb5.2						
RAR	**Rarotonga**	**39.06**	**317**	PFAKE		12 26 20.0	+22
RAR				LR	LR		
	comp=Z,6μm,21.0s,MS5.4						
PPT	**Papeete**	**39.07**	**334**	*e*P	**P**	**12 25 58.7**	**+0.1**
	comp=Z,49nm,1.5s,mb5.0						
PPT	**Papeete**	**39.07**	**334**	*e*S	**S**	**12 31 56.2**	**-1.3**
PPT				*e*LQ		12 34 51.8	
PPT				*e*LR	LR	12 36 08.6	
	comp=Z,41μm,25.8s,baz=170						
PPT	**Papeete**	**39.07**	**334**	LR	LR	12 38 20.6	
	comp=Z,16μm,19.3s,MS5.8,baz=117,slow=30						
VAH	**Vaihoa**	**40.84**	**337**	*e*P	**P**	**12 26 12.3**	**-0.9**
	comp=Z,83nm,1.2s,mb5.2						
RAO	**Raoul Island**	**41.18**	**289**	PFAKE		12 26 30.0	+14
RAO				LR	LR		
	comp=Z,5μm,22.0s,MS5.3						
PLCA	**Paso Flores**	**42.55**	**98**	*e*P	**P**	**12 26 27.2**	**+0.3**
PLCA				pmax	pmax		
	comp=Z,26nm,1.4s						
PLCA				MLR	MLR		
	comp=Z,4μm,22.0s						
PLCA	**Paso Flores**	**42.55**	**98**	P	**P**	**12 26 27.3**	**+0.4**
	comp=Z,5.4nm,1.0s,mb4.2,baz=218,slow=9.9,SNR=7.6						
PLCA				LR	LR	12 39 39.6	
	comp=Z,4μm,19.5s,MS5.3,baz=227,slow=30						
PLCA	**Paso Flores**	**42.55**	**98**	*e*P	**P**	**12 26 27.2**	**+0.3**
	comp=Z,26nm,1.4s,mb4.8						
PLCA				LR	LR		
	comp=Z,4μm,22.0s,MS5.3						
TAOE	**Nuku Hiva Isla**	**45.84**	**349**	*e*S	**S**	**12 33 34.2**	**-2.8**
TAOE				*e*LQ		12 37 28.9	
TAOE				*e*LR	LR	12 39 24.3	
	baz=187						
VNA3	**Neumayer Olymp**	**48.30**	**159**	⇑*i*	**P**	**12 27 15.3**	**+3.0**
VNA3	**Neumayer Olymp**	**48.30**	**159**	⇑*i*	**P**	**12 27 27.8**	**+15**
VNA2	**Neumayer--Watz**	**49.02**	**159**	⇑*i*	**P**	**12 27 19.3**	**+1.4**
VNA2	**Neumayer--Watz**	**49.02**	**159**	⇑*i*	**P**	**12 27 30.0**	**+12**
TRQA	**Tornquist**	**49.28**	**101**	*e*P	**P**	**12 27 17.5**	**-2.9**
	comp=Z,34nm,1.2s,mb5.3						
TRQA				LR	LR		
	comp=Z,6μm,22.0s,MS5.6						
SNAA	**Sanae**	**49.33**	**161**	⇑*i*	**P**	**12 27 20.3**	**0.0**
SNAA	**Sanae**	**49.33**	**161**	P	**P**	**12 27 20.4**	**0.0**
	comp=Z,1.8nm,1.0s,mb4.0,baz=224,slow=14,SNR=6.4						
SNAA				LR	LR	12 46 09.8	
	comp=Z,5μm,21.7s,MS5.4,baz=248,slow=34						
SNAA	**Sanae**	**49.33**	**161**	⇑*i*P	**P**	**12 27 20.3**	**0.0**
CFAA	**Coronel Fontan**	**50.20**	**90**	P	**P**	**12 27 26.2**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=240,slow=5.5,SNR=5.0						
CFAA	**Coronel Fontan**	**50.20**	**90**	P	**P**	**12 27 26.2**	**-1.3**
AFI	**Afiamalu**	**50.73**	**307**	PFAKE		12 27 50.0	+18
AFI				LR	LR		
	comp=Z,9μm,22.0s,MS5.8						
TAU	**Tasmania Unive**	**51.45**	**248**	PFAKE		12 27 50.0	+13
TAU				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
CNB	**Canberra Magne**	**55.62**	**256**	*e*P	**P**	**12 28 09.1**	**+1.3**
	comp=Z,1μm,1.3s						
TOO	**Toolangi**	**56.17**	**251**	*e*P	**P**	**12 28 12.5**	**+0.8**
	comp=Z,13nm,1.2s,mb4.8						
TOO	**Toolangi**	**56.17**	**251**	*e*P	**P**	**12 28 12.5**	**+0.8**
TOO				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
LVC	**Limon Verde**	**56.57**	**82**	*e*P	**P**	**12 28 13.6**	**-1.2**
	comp=Z,16nm,1.1s,mb5.0						
LVC				LR	LR		
	comp=Z,3μm,22.0s,MS5.3						
SYO	**Syowa Base**	**56.76**	**177**	⇑X		12 28 18.5	
MAW	**Mawson**	**57.77**	**187**	P	**P**	**12 28 17.6**	**-5.1**
	comp=Z,4.2nm,0.9s,mb4.5,baz=143,slow=10,SNR=2.6						
MAW				LR	LR	12 49 40.9	
	comp=Z,3μm,20.8s,MS5.4,baz=162,slow=33						
ARE	**Arequipa**	**59.94**	**76**	*e*P	**P**	**12 28 38.0**	**-0.4**
CPUP	**Villa Florida**	**60.48**	**95**	LR	LR	12 50 35.3	
	comp=Z,5μm,20.9s,MS5.7,baz=243,slow=32						
NNA	**Nana**	**60.62**	**68**	PFAKE		12 29 00.0	+17
NNA				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
LPAZ	**La Paz**	**62.00**	**79**	*e*P	**P**	**12 28 51.9**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,37nm,1.3s						
LPAZ				MLR	MLR		
	comp=Z,1μm,20.0s						
LPAZ	**La Paz**	**62.00**	**79**	P	**P**	**12 28 52.1**	**-0.3**
	comp=Z,8.9nm,1.1s,mb4.8,baz=212,slow=4.3,SNR=22						
LPAZ				LR	LR	12 49 59.3	
	comp=Z,819nm,19.4s,MS4.9,baz=184,slow=30						
LPAZ	**La Paz**	**62.00**	**79**	*e*P	**P**	**12 28 51.9**	**-0.5**
	comp=Z,37nm,1.3s,mb5.3						
LPAZ				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
STKA	**Stephens Creek**	**62.52**	**253**	*e*P	**P**	**12 28 56.3**	**+0.6**
	comp=Z,12nm,1.0s,mb5.0						
STKA	**Stephens Creek**	**62.52**	**253**	P	**P**	**12 28 54.5**	**-1.2**
	comp=Z,4.9nm,0.8s,mb4.7,baz=135,slow=6.0,SNR=11						
CTA	**Charters Tower**	**68.89**	**265**	*e*P	**P**	**12 29 44.1**	**+7.4**
	comp=Z,14nm,0.9s,mb4.9						
CTA	**Charters Tower**	**68.89**	**265**	P	**P**	**12 29 37.4**	**+0.7**
	comp=Z,7.4nm,1.0s,mb4.5,baz=197,slow=11,SNR=2.4						
CTA				LR	LR	12 54 58.6	
	comp=Z,3μm,19.2s,MS5.6,baz=132,slow=32						
CTAO	**Charters Tower**	**68.89**	**265**	P	**P**	**12 29 37.7**	**+1.0**
CTAO				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.6						
HNR	**Honiara**	**69.40**	**283**	PFAKE		12 29 50.0	+10
HNR				LR	LR		
	comp=Z,2μm,22.0s,MS5.3						
OTAV	**Otavalo**	**70.10**	**59**	*e*P	**P**	**12 29 45.1**	**+0.9**
	comp=Z,42nm,1.3s,mb5.2						
OTAV				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
SAML	**Samuel**	**70.74**	**78**	*e*P	**P**	**12 29 46.4**	**-1.6**
	comp=Z,21nm,1.2s,mb5.0						
SAML				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
ASAR	**Alice Springs**	**73.16**	**253**	P	**P**	**12 30 01.3**	**-1.0**
	comp=Z,5.2nm,0.9s,mb4.5,baz=140,slow=6.2,SNR=31						
ASAR				LR	LR	12 57 46.7	
	comp=Z,5μm,19.9s,MS5.8,baz=146,slow=32						
ASPA	**Alice Springs**	**73.16**	**253**	*e*P	**P**	**12 30 02.0**	**-0.3**
BDFB	**Brasilia**	**74.22**	**95**	P	**P**	**12 30 07.8**	**-0.7**
	comp=Z,1.7nm,0.6s,mb4.1,baz=162,slow=9.6,SNR=2.8						
BDFB				LR	LR	13 02 08.2	
	comp=Z,1μm,18.1s,MS5.3,baz=89,slow=35						
BAO	**Brasilia Array**	**74.23**	**95**	P	**P**	**12 30 08.0**	**-0.6**
NWAO	**Narrogin (SRO)**	**74.45**	**235**	LR	LR	12 54 36.2	
	comp=Z,3μm,21.1s,MS5.5,baz=152,slow=29						
NWAO	**Narrogin (SRO)**	**74.45**	**235**	PFAKE		12 30 20.0	+10
NWAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.5						
JTS	**JuntasAbangare**	**75.83**	**48**	LR	LR	12 55 46.5	
	comp=Z,5μm,20.2s,MS5.8,baz=192,slow=29						
JTS	**JuntasAbangare**	**75.83**	**48**	PFAKE		12 30 30.0	+12
JTS				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
WB2	**Warramunga Arr**	**75.86**	**256**	*e*P	**P**	**12 30 16.6**	**-1.3**
WRA	**Warramunga Arr**	**75.86**	**256**	P	**P**	**12 30 17.1**	**-0.9**
	comp=Z,5.2nm,0.9s,mb4.5,baz=145,slow=5.3,SNR=61						
WRAB	**Tennant Creek**	**75.87**	**256**	*e*P	**P**	**12 30 17.0**	**-0.9**
WRAB				*e*		12 30 24.4	
WRAB				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
WRAB				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.4						
WRAB	**Tennant Creek**	**75.87**	**256**	*e*P	**P**	**12 30 17.0**	**-0.9**
	comp=Z,30nm,1.1s,mb5.1						
WRAB				*e*		12 30 24.4	
WRAB				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
ROSC	**El Rosal**	**76.14**	**61**	P	**P**	**12 30 21.2**	**+1.5**
	comp=Z,7.1nm,0.4s,mb4.9,baz=106,slow=20,SNR=5.9						
ROSC				LR	LR	12 57 28.5	
	comp=Z,2μm,20.7s,MS5.5,baz=195,slow=31						
POHA	**Pohakuloa**	**76.47**	**338**	PFAKE		12 30 40.0	+19
POHA				LR	LR		
	comp=Z,68μm,19.0s						
PMG	**Port Moresby**	**76.82**	**272**	LR	LR	12 59 43.1	
	comp=Z,4μm,18.5s,MS5.8,baz=328,slow=32						
PMG	**Port Moresby**	**76.82**	**272**	PFAKE		12 30 40.0	+17
PMG				LR	LR		
	comp=Z,4μm,19.0s,MS5.8						
KIP	**Kipapa**	**78.65**	**336**	PFAKE		12 30 50.0	+17
KIP				LR	LR		
	comp=Z,9μm,20.0s,MS6.1						
KWAJ	**Kwajalein Atol**	**80.44**	**300**	PFAKE		12 31 00.0	+17
KWAJ				LR	LR		
	comp=Z,589nm,21.0s,MS4.9						
SDV	**Santo Domingo**	**81.47**	**62**	LR	LR	13 02 15.8	
	comp=Z,2μm,19.6s,MS5.4,baz=224,slow=32						
SDV	**Santo Domingo**	**81.47**	**62**	*e*P	**P**	**12 30 47.3**	**-1.3**
	comp=Z,2.2nm,0.4s,mb4.4						
SDV				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
FITZ	**Fitzroy Crossi**	**82.20**	**250**	*e*P	**P**	**12 30 52.8**	**+0.5**
	comp=Z,13nm,1.2s,mb4.7						
FITZ	**Fitzroy Crossi**	**82.20**	**250**	P	**P**	**12 30 52.8**	**+0.6**
	comp=Z,10nm,1.1s,mb4.7,baz=161,slow=5.9,SNR=6.2						
MBWA	**Marble Bar**	**82.87**	**244**	PFAKE		12 31 10.0	+14
MBWA				LR	LR		
	comp=Z,4μm,21.0s,MS5.8						
TEIG	**Tepich**	**83.39**	**41**	PFAKE		12 31 10.0	+12
TEIG				LR	LR		
	comp=Z,536nm,22.0s,MS4.9						
LTX	**Lajitas**	**87.02**	**25**	P	**P**	**12 31 19.9**	**+3.6**
	comp=Z,20nm,1.3s,mb5.2						
LTX				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
TUC	**Tucson**	**88.36**	**18**	*e*P	**P**	**12 31 26.6**	**+4.0**
	comp=Z,26nm,1.4s,mb5.3						
TUC				LR	LR		
	comp=Z,3μm,20.0s,MS5.7						
PFO	**Pinyon Flat Ob**	**88.73**	**13**	PFAKE		12 31 40.0	+16
PFO				LR	LR		
	comp=Z,825nm,19.0s,MS5.2						
MNTX	**Cornudas Mount**	**88.88**	**23**	*e*P	**P**	**12 31 28.0**	**+2.9**
	comp=Z,21nm,1.4s,mb5.3						
MNTX				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
JCT	**Junction City**	**89.11**	**28**	*e*P	**P**	**12 31 28.2**	**+2.0**
	comp=Z,116nm,2.0s,mb5.9						
JCT				LR	LR		
	comp=Z,658nm,19.0s,MS5.1						
RCBR	**Riachuelo**	**89.11**	**99**	PFAKE		12 31 40.0	+13
RCBR				LR	LR		
	comp=Z,2μm,21.0s,MS5.6						
WAKE	**Wake Island**	**89.87**	**304**	PFAKE		12 31 40.0	+10
WAKE				LR	LR		
	comp=Z,70μm,20.0s						
SUR	**Sutherland**	**90.54**	**158**	PFAKE		12 31 40.0	+7.1
SUR				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
MIDW	**Midway**	**90.93**	**321**	PFAKE		12 31 50.0	+15
MIDW				LR	LR		
	comp=Z,5μm,21.0s,MS5.9						
DAC	**Darwin (Calif)**	**91.22**	**12**	PFAKE		12 31 50.0	+14
DAC				LR	LR		
	comp=Z,4μm,20.0s,MS5.9						
SAO	**San Andreas Ge**	**91.29**	**9**	PFAKE		12 31 50.0	+14
SAO				LR	LR		
	comp=Z,6μm,19.0s,MS6.0						
WUAZ	**Wupatki**	**91.38**	**17**	PFAKE		12 31 50.0	+13
WUAZ				LR	LR		
	comp=Z,5μm,21.0s,MS6.0						
SJG	**San Juan**	**91.55**	**61**	LR	LR	13 09 00.9	
	comp=Z,1μm,18.6s,MS5.3,baz=24,slow=33						
SJG	**San Juan**	**91.55**	**61**	PFAKE		12 31 50.0	+12
SJG				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
ANMO	**Albuquerque**	**91.77**	**21**	*e*P	**P**	**12 31 39.8**	**+1.3**
ANMO				pmax	pmax		
	comp=Z,13nm,1.2s						
ANMO				MLR	MLR		
	comp=Z,2μm,21.0s						
ANMO	**Albuquerque**	**91.77**	**21**	LR	LR	13 04 11.4	
	comp=Z,2μm,21.7s,MS5.5,baz=162,slow=30						
ANMO	**Albuquerque**	**91.77**	**21**	*e*P	**P**	**12 31 39.8**	**+1.3**
	comp=Z,13nm,1.2s,mb5.1						
ANMO				LR	LR		
	comp=Z,2μm,21.0s,MS5.5						
NATX	**Nacogdoches**	**91.80**	**31**	PFAKE		12 31 50.0	+11
NATX				LR	LR		
	comp

ELK Elko 95.92 13 PFAKE 12 32 10.0 +13
ELK LR LR
comp=Z,2μm,21.0s,MS5.7
OXF Oxford 96.01 35 PFAKE 12 32 10.0 +12
OXF LR LR
comp=Z,818nm,20.0s,MS5.2
YBH Yreka Blue Hor 96.12 7 PFAKE 12 32 10.0 +12
YBH LR LR
comp=Z,5μm,19.0s,MS6.0
MOD Modoc 96.49 9 PFAKE 12 32 10.0 +10
MOD LR LR
comp=Z,4μm,20.0s,MS5.9
ISCO Idaho Springs 96.62 20 PFAKE 12 32 10.0 +9.4
ISCO LR LR
comp=Z,3μm,21.0s,MS5.8
GUMO Guam 96.72 284 PFAKE 12 32 10.0 +8.4
GUMO LR LR
comp=Z,1μm,21.0s,MS5.4
PLAL Pickwick Lake 96.88 35 PFAKE 12 32 20.0 +18
PLAL LR LR
comp=Z,828nm,19.0s,MS5.2
HUMO Hull Mountain 96.98 7 PFAKE 12 32 20.0 +18
HUMO LR LR
comp=Z,3μm,19.0s,MS5.8
CBKS Cedar Bluff 97.01 25 PFAKE 12 32 20.0 +18
CBKS LR LR
comp=Z,991nm,21.0s,MS5.3
GOGA Godfrey 97.10 39 PFAKE 12 32 20.0 +17
GOGA LR LR
comp=Z,1μm,22.0s,MS5.3
WVOR Wild Horse Val 97.18 10 PFAKE 12 32 20.0 +17
WVOR LR LR
comp=Z,6μm,20.0s,MS6.1
WVT Waverly 98.01 35 PFAKE 12 32 20.0 +13
WVT LR LR
comp=Z,941nm,21.0s,MS5.3
NHSC New Hope 98.09 42 PFAKE 12 32 20.0 +13
NHSC LR LR
comp=Z,1μm,20.0s,MS5.3
AHID Auburn Hatcher 98.50 16 PFAKE 12 32 20.0 +11
AHID LR LR
comp=Z,2μm,22.0s,MS5.5
CCM Cathedral Cave 98.67 32 PFAKE 12 32 20.0 +10
CCM LR LR
comp=Z,745nm,19.0s,MS5.2
LBTB Lobatse 98.68 160 PFAKE 12 32 20.0 +10
LBTB LR LR
comp=Z,3μm,21.0s,MS5.8
BW06 Boulder Array 98.75 17 PFAKE 12 32 20.0 +10
BW06 LR LR
comp=Z,4μm,20.0s,MS5.9
PDAR Pinedale Array 98.75 17 P **P 12 32 14.7 +4.5**
comp=Z,0.3nm,0.5s,mb4.1,baz=180,slow=0.9,SNR=2.7
HLID Hailey 98.80 13 PFAKE 12 32 20.0 +10
HLID LR LR
comp=Z,3μm,19.0s,MS5.8
COR Corvallis 98.92 7 PFAKE 12 32 30.0 +19
COR LR LR
comp=Z,4μm,21.0s,MS5.9
BMO Blue Mountains 99.72 11 PFAKE 12 32 30.0 +16
BMO LR LR
comp=Z,3μm,19.0s,MS5.9
LKWY Lake 100.37 16 PFAKE 12 32 30.0 +13
LKWY LR LR
comp=Z,2μm,19.0s,MS5.7
WCI Wyandotte Cave 100.42 35 PFAKE 12 32 30.0 +12
WCI LR LR
comp=Z,882nm,19.0s,MS5.3
HAWA Hanford 101.02 9 PFAKE 12 32 30.0 +10
HAWA LR LR
comp=Z,201nm,20.0s,MS4.6
RSSD Black Hills 101.09 20 PFAKE 12 32 40.0 +19
RSSD LR LR
comp=Z,3μm,22.0s,MS5.8
BOZ Bozeman (W) 101.23 15 PFAKE 12 32 40.0 +19
BOZ LR LR
comp=Z,3μm,19.0s,MS5.8
BLA Blacksburg 101.61 40 PFAKE 12 32 40.0 +17
BLA LR LR
comp=Z,1μm,20.0s,MS5.4
MSO Missoula 102.07 13 PFAKE 12 32 40.0 +15
MSO LR LR
comp=Z,3μm,20.0s,MS5.8
TSUM Tsumeb 102.32 151 PFAKE 12 32 40.0 +13
TSUM LR LR
comp=Z,3μm,22.0s,MS5.7
NEW Newport 103.11 10 PFAKE 12 32 40.0 +10
NEW LR LR
comp=Z,2μm,19.0s,MS5.7
LAO LASA Array 103.14 18 PFAKE 12 32 40.0 +10
LAO LR LR
comp=Z,3μm,21.0s,MS5.7
ACSO Alum Creek Sta 103.36 37 PFAKE 12 32 40.0 +9.1
ACSO LR LR
comp=Z,1μm,22.0s,MS5.3
CBN Corbin 103.65 42 PFAKE 12 32 50.0 +18
CBN LR LR
comp=Z,2μm,20.0s,MS5.6
MCWV Mont Chateau 103.98 39 PFAKE 12 32 50.0 +16
MCWV LR LR
comp=Z,1μm,20.0s,MS5.5
SSPA Standing Stone 105.56 40 PFAKE 12 37 10.0
SSPA LR LR
comp=Z,1μm,19.0s,MS5.4
ERPA Erie 106.08 38 PFAKE 12 37 10.0
ERPA LR LR
comp=Z,1μm,20.0s,MS5.5
EYMN Ely 107.68 28 PFAKE 12 37 10.0
EYMN LR LR
comp=Z,1μm,21.0s,MS5.5
LSCT Lakeside 108.26 43 PFAKE 12 37 10.0
LSCT LR LR
comp=Z,6.0nm,21.0s
LSZ Lusaka 108.66 160 PFAKE 12 37 10.0
LSZ LR LR
comp=Z,3μm,22.0s,MS5.8
ULM Lac du Bonnet 108.70 24 PFAKE 12 37 10.0
ULM LR LR
comp=Z,2μm,20.0s,MS5.6
WES Weston 109.61 44 PFAKE 12 37 10.0
WES LR LR
comp=Z,2μm,21.0s,MS5.6
HRV Harvard--Oak R 109.62 43 PFAKE 12 37 10.0
HRV LR LR
comp=Z,2μm,22.0s,MS5.6
SIT Sitka 111.12 358 PFAKE 12 37 20.0 +15
SIT LR LR
comp=Z,5μm,19.0s,MS6.1
UNV Unalaska Valle 111.50 339 PFAKE 12 37 20.0 +14
UNV LR LR
comp=Z,24μm,21.0s
WVL Waterville 112.10 43 PFAKE 12 37 20.0 +12
WVL LR LR
comp=Z,6μm,21.0s,MS6.2
KDAK Kodiak Island 113.02 348 PFAKE 12 37 20.0 +11
KDAK LR LR
comp=Z,1μm,20.0s,MS5.5
EMMW East Machias 113.11 45 PFAKE 12 37 20.0 +10
EMMW LR LR
comp=Z,7μm,20.0s,MS6.2
PQI Presque Isle 114.49 43 PFAKE 12 37 20.0 +7.7
PQI LR LR
comp=Z,7μm,21.0s,MS6.3
DGAR Diego Garcia 114.96 207 PFAKE 12 37 20.0 +6.1
DGAR LR LR
comp=Z,314nm,20.0s,MS4.9
SMY Shemya 115.61 327 PFAKE 12 37 30.0 +16
SMY LR LR
comp=Z,2μm,20.0s,MS5.8
DIV Divide 115.67 353 PFAKE 12 37 30.0 +16
DIV LR LR
comp=Z,18μm,20.0s
FIB Fire Island 116.08 351 PFAKE 12 37 30.0 +15
FIB LR LR
comp=Z,2μm,21.0s,MS5.6
DBIC Dimbokro 116.61 118 PFAKE 12 37 30.0 +13
DBIC LR LR
comp=Z,709nm,21.0s,MS5.3
YKA Yellowknife Ar 117.39 9 PKP PKPdf 12 37 18.9 +1.4
comp=Z,0.3nm,1.0s,baz=214,slow=2.2,SNR=3.4
YKA PP PP 12 38 32.3 +1.4
comp=Z,0.2nm,0.8s,baz=186,slow=5.6,SNR=4.5
YKA Yellowknife Ar 117.39 9 PKP PKPdf 12 37 18.9 +1.4
YKA PP PP 12 38 32.3 +1.4
MAJO Matsushiro 118.40 294 PFAKE 12 37 30.0 +10
MAJO LR LR
comp=Z,1μm,21.0s,MS5.5
MCK McKinley 118.49 352 PFAKE 12 37 30.0 +10
MCK LR LR
comp=Z,2μm,20.0s,MS5.8
TATO Taipei 119.18 273 PFAKE 12 37 30.0 +8.1
TATO LR LR
comp=Z,1μm,22.0s,MS5.5
ILAR Eielson Array 119.36 353 PKP PKPdf 12 37 23.0 +1.7
comp=Z,0.9nm,0.6s,baz=214,slow=2.1,SNR=8.5
COLA College 119.53 353 PFAKE 12 37 30.0 +8.4
COLA LR LR
comp=Z,4μm,20.0s,MS6.1
ERM Erimo 119.90 301 PFAKE 12 37 30.0 +7.1
ERM LR LR
comp=Z,4.0nm,20.0s
MSEY Mahe Island 120.77 189 PFAKE 12 37 30.0 +4.7
MSEY LR LR
comp=Z,656nm,20.0s,MS5.3
PET Petropavlovsk 121.29 319 PFAKE 12 37 40.0 +15
PET LR LR
comp=Z,4μm,20.0s,MS6.1
QIZ Qiongzhong 121.34 259 PFAKE 12 37 40.0 +14
QIZ LR LR
comp=Z,783nm,21.0s,MS5.3
SCHQ Schefferville 121.47 38 PFAKE 12 37 40.0 +14
SCHQ LR LR
comp=Z,2μm,20.0s,MS5.7
TNA Tin City 122.66 343 PFAKE 12 37 40.0 +12
TNA LR LR
comp=Z,2μm,20.0s,MS5.9
MBAR Mbarara 123.45 160 PFAKE 12 37 40.0 +10
MBAR LR LR
comp=Z,1μm,22.0s,MS5.5
YSS Yuzh-Sakhalins 123.69 305 PFAKE 12 37 40.0 +10
YSS LR LR
comp=Z,1μm,19.0s,MS5.6
KMBO Kilima Mbogo 124.01 168 PFAKE 12 37 40.0 +8.4
KMBO LR LR
comp=Z,3μm,21.0s,MS6.0
INCN Inchon 125.43 287 PFAKE 12 37 40.0 +6.3
INCN LR LR
comp=Z,1μm,21.0s,MS5.5
PALK Pallekele 125.99 222 PFAKE 12 37 50.0 +15
PALK LR LR
comp=Z,285nm,19.0s,MS5.0
CM31 Chiang Mai Arr 126.99 248 PFAKE 12 37 50.0 +13
CM31 LR LR
comp=Z,1μm,20.0s,MS5.7
CMAR Chiang Mai Arr 126.99 248 PKP PKPdf 12 37 39.0 +1.9
comp=Z,0.8nm,0.9s,baz=207,slow=2.0,SNR=4.3
MDJ Mudanjiang 128.73 295 PKP PKPdf 12 37 39.4 -0.5
MDJ PKS PKS 12 41 15.9 +3.7
MDJ SS SS 12 57 09.6 +7.5
MDJ PP PP
comp=Z,126nm,4.4s
MDJ LR LR
comp=N,214nm,30.7s,MS5.3
MDJ LR LR
comp=E,897nm,27.9s,MS5.3
MDJ LR LR
comp=Z,1μm,30.7s,MS5.5
MDJ Mudanjiang 128.73 295 PFAKE 12 37 50.0 +10
MDJ LR LR
comp=Z,1μm,20.0s,MS5.6
ENH Enshi 130.16 267 PFAKE 12 37 50.0 +7.0
ENH LR LR
comp=Z,920nm,22.0s,MS5.4
KMI Kunming 130.18 257 PKP PKPdf 12 37 46.3 +3.2
KMI PP PP 12 40 00.3 +3.1
KMI SKS SKS 12 44 51.3 -0.6
KMI SKKS 12 46 49.8
KMI SS SS 12 57 28.6 +8.4
KMI SSS SSS 13 02 12.0 +1.3
KMI LR LR
comp=N,823nm,20.5s,MS5.5
KMI LR LR
comp=E,505nm,19.1s,MS5.5
KMI LR LR
comp=Z,929nm,21.9s,MS5.4
KMI Kunming 130.18 257 PKIKP PKPdf 12 37 46.3 +3.2
KMI 12 40 00.3
KMI 12 44 51.2
KMI SS SS 12 57 28.6 +8.4
KMI SSS SSS 13 02 12.0 +1.3
KMI MLR MLR
comp=Z,930nm,21.9s,MS5.4
KMI Kunming 130.18 257 PKP PKPdf 12 37 46.3 +3.2
KMI PP PP 12 40 00.3 +3.1
KMI SKS SKS 12 44 51.2 -0.7
KMI SKKS 12 46 49.8
KMI SS SS 12 57 28.6 +8.4
KMI SSS SSS 13 02 12.0 +1.3
KMI LR LR
comp=Z,930nm,21.9s,MS5.4
BILL Biiibino 130.24 334 PFAKE 12 37 50.0 +7.9
BILL LR LR
comp=Z,3μm,20.0s,MS5.9
CN2 Changchun 130.42 292 *e*PKP PKPdf 12 37 44.9 +1.8
CN2 LR LR
comp=N,800nm,21.0s,MS5.5
CN2 LR LR
comp=E,800nm,21.0s,MS5.5
CN2 LR LR
comp=Z,700nm,21.0s,MS5.3
BJT Baijiatuau 133.11 282 PFAKE 12 38 00.0 +12
BJT LR LR
comp=Z,953nm,20.0s,MS5.5
CD2 Chengdu 133.96 263 PKP PKPdf 12 37 45.3 -4.7
CD2 PP PP 12 40 23.4 +1.8
CD2 SS SS 12 58 10.3 +3.9
CD2 PP PP
comp=Z,340nm,7.2s
CD2 LR LR
comp=E,690nm,21.6s
CD2 LR LR
comp=Z,1μm,25.2s,MS5.5
HIA Hailar 136.90 294 PFAKE 12 38 10.0 +15
HIA LR LR
comp=Z,2μm,21.0s,MS5.7
LZH Lanzhou 137.61 268 *e*PKP PKPdf 12 38 02.1 +5.4
LZH LR LR
comp=N,725nm,18.0s
LZH LR LR
comp=Z,847nm,20.1s,MS5.5
YAK Yakutsk 138.87 315 PFAKE 12 38 10.0 +12
YAK LR LR
comp=Z,2μm,19.0s,MS5.8
LSA Lhasa 140.20 250 PFAKE 12 38 10.0 +8.4
LSA LR LR
comp=Z,965nm,21.0s,MS5.5
GTA Gaotai 142.21 269 PKP PKPdf 12 37 59.6 -5.1
GTA PP PP 12 41 11.9 +0.2
GTA PKS PKS 12 41 34.8 -1.4
GTA PP PP
comp=Z,198nm,7.6s
GTA LR LR
comp=N,393nm,25.5s,MS5.4
GTA LR LR
comp=E,673nm,22.4s,MS5.4
GTA LR LR
comp=Z,1μm,24.0s,MS5.5
ESLA Sonseca Array 142.81 92 PFAKE 12 38 20.0 +14
ESLA LR LR
comp=Z,7μm,21.0s,MS6.4
TIXI Tiksi 142.89 329 PFAKE 12 38 20.0 +15
TIXI LR LR
comp=Z,2μm,20.0s,MS5.9
ULN Ulaanbaatar 143.09 285 *e*PKIKP PKPdf 12 38 01.8 -4.1
ULN MLR MLR
comp=Z,1μm,20.0s,MS5.6
SONM Songino Array 143.45 285 PKhKP 12 38 02.2
comp=Z,4.7nm,1.1s,baz=153,slow=2.8,SNR=16
BOD Bodaibo 144.13 303 *e*PKHKP 12 38 02.3
BOD pmax pmax
comp=Z,11nm,1.9s
AJM Ajmer 145.72 226 ⇑ *i* PKPbc 12 38 04.0 -4.9
NDI New Delhi 146.49 232 *e*P PKPbc 12 38 12.0 +1.3
ZAK Zakamensk 146.51 286 ⇑ *e*PKP2 PKPab 12 38 11.9 -1.3
ZAK pmax pmax
comp=Z,14nm,1.6s
ZAK pmax pmax
comp=Z,4.0nm,1.8s
SJPF Ste Jean 146.57 89 *e*PKP1 PKPbc 12 38 09.1 -1.3
IRK Irkutsk 146.83 290 *e*PKIKP PKPdf 12 38 12.1 -0.1
IRK pmax pmax
comp=Z,58nm,2.1s
ETSF Etsaut 146.83 90 *e*PKP1 PKPbc 12 38 10.6 -0.4
comp=Z,58nm,1.1s
TLY Talaya 146.92 289 *i* PKP2 PKPab 12 38 13.9 -0.9
TLY *e*PPS PPS 12 54 18.4 -1.0
TLY *e*SS SS 13 00 37.6 +0.7
TLY pmax pmax
comp=Z,14nm,1.0s
TLY Talaya 146.92 289 *e*PKPbc PKPbc 12 38 13.9 +2.9
TLY LR LR
comp=Z,271nm,20.0s,MS5.0
DAG Danmarks Havn 147.54 23 ⇑ *e*PKP2 PKPab 12 38 21.6 +5.0
DAG pmax pmax
comp=Z,20nm,1.2s
DAG MLR MLR
comp=Z,4μm,19.0s,MS6.2
DAG Danmarks Havn 147.54 23 ⇑ *i P* PKPab 12 38 21.6 +5.0
comp=Z,20nm,1.2s
comp=Z,4μm,19.0s
MOY Mondy 148.39 287 *e*PKP2 PKPab 12 38 20.4 -0.2
MOY pmax pmax
comp=Z,58nm,3.1s
JMIC Jan Mayen 150.86 34 *e*SS SS 13 01 27.5 +7.7
JMIC AMS AMS 13 39 25.0
comp=Z,1μm,16.3s,MS5.8
ESK Eskdalemuir 151.29 67 PFAKE 12 38 30.0 +11
ESK LR LR
comp=Z,310nm,20.0s,MS5.1
SMF Signal de Mont 151.54 88 *e*PKP1 PKPdf 12 38 18.6 -1.2
comp=Z,81nm,1.5s
WMQ Urumqi 152.04 264 PKP PKPdf 12 38 18.6 -2.0
WMQ APKP 12 38 23.6
WMQ XPKP 12 38 26.1
WMQ PKP2 PKPab 12 38 37.4 +1.4
WMQ PP PP 12 42 10.3 +1.7
WMQ SKS SKS 12 45 22.6 -4.7
WMQ SKKS 12 48 54.9
WMQ PP PP
comp=Z,264nm,6.5s
WMQ LR LR
comp=N,439nm,24.5s,MS5.5
WMQ LR LR
comp=E,896nm,24.5s,MS5.5
WMQ LR LR
comp=Z,2μm,26.0s,MS5.7
BER Bergen 156.81 58 *e*SS SS 13 02 21.6 -3.1
BER *e* 13 03 53.2
BER AMS AMS 13 41 25.9
comp=Z,765nm,21.5s,MS5.5
ZAL Zalesovo 158.35 284 PKPab PKPab 12 39 01.2 -1.3
comp=Z,1.5nm,0.7s,baz=336,slow=4.8,SNR=7.6
KHC Kasperske Hory 158.46 90 *e*PKPab PKPab 12 39 06.5 +3.3
AAK Ala-Archa 158.77 247 *e*PKPab PKPab 12 39 03.0 -1.7
AAK LR LR
comp=Z,353nm,19.0s,MS5.2
FRU Bishkek 158.84 248 *e*PKP2 PKPab 12 38 56.0 -9.0
KONO Kongsberg 158.91 60 PFAKE 12 38 40.0 +11
KONO LR LR
comp=Z,2μm,22.0s,MS5.9
CLL Collm 159.03 84 *e*PKP2 PKPab 12 39 08.0 +2.4
CLL MLR MLR
comp=Z,1μm,18.4s,MS5.8
CLL Collm 159.03 84 *e* Px 12 38 58.0
CLL *e*PKP2 PKPab 12 39 08.0 +2.4
CLL *e* 12 39 34.0
CLL *e* 13 13 03.0
PRU Pruhonice 159.41 89 *e*PKPab PKPab 12 39 08.3 +1.1
BRG Berggiesshubel 159.42 86 *e*PKP2 PKPab 12 39 06.5 -0.7
BRG *i* 13 03 01.0
NAO01 NORSAR Array S 159.55 57 PFAKE 12 38 40.0 +10
NAO01 LR LR
comp=Z,2μm,20.0s,MS6.0
NSS Namsos 159.57 46 AMS AMS 13 44 09.8
comp=Z,1μm,23.6s,MS5.8
TRO Tromso 159.98 29 *e*SS SS 13 03 07.9 +10
TRO AMS AMS 13 41 29.6
comp=Z,1μm,24.4s,MS5.6
KEV Kevo 162.01 23 PFAKE 12 38 40.0 +7.8
KEV LR LR
comp=Z,2μm,20.0s
BR131 Keskin Array S 162.57 142 PFAKE 12 38 40.0 +6.3
BR131 LR LR
comp=Z,1μm,20.0s
BRTR Keskin Array B 162.57 142 PKP PKPdf 12 38 35.6 +2.0
comp=Z,0.8nm,0.9s,SNR=3.3
BRTR PKPab PKPab 12 39 13.6 -7.7
comp=Z,2.3nm,1.1s,baz=135,slow=4.1,SNR=3.5
MALT Malatya 162.74 155 *e*PKIKP PKPdf 12 38 36.2 +2.3
MLR Muntele Rosu 163.53 114 PKP PKPdf 12 38 33.5 -1.0
comp=Z,0.9nm,0.4s,baz=62,slow=3.1,SNR=3.9
MLR Muntele Rosu 163.53 114 PKP PKPdf 12 38 33.5 -1.0
GNI Garni 165.61 171 PFAKE 12 38 50.0 +13
GNI LR LR
comp=Z,2μm,20.0s
AKASG Malin Array Be 168.25 101 PKP PKPdf 12 38 37.9 -0.2
comp=Z,0.2nm,0.3s,baz=290,slow=2.0,SNR=4.5
KIV Kislovodsk 169.07 161 PFAKE 12 38 50.0 +11
KIV LR LR
comp=Z,453nm,19.0s
ARU Arti 173.41 292 PFAKE 12 38 50.0 +9.2
ARU LR LR
comp=Z,808nm,21.0s
OBN Obninsk 173.60 79 PFAKE 12 38 50.0 +9.1
OBN LR LR
comp=Z,599nm,22.0s

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*IDC **16** 12:36:07.3±1.1, 0.34S×96.34E, h27km±5km, mb3.7/8, mb1 3.8/9, mb1mx3.7/18, mbtmp3.8/9, ML4.1/1, Error ellipse: s-maj=44.5km s-min=15.5km az=53.0*
*NEIC **16** 12:36:08.0±0.8, 0.11S×96.63E, mb4.4/1, Error ellipse: s-maj=22.2km s-min=14.2km az=61.0*
ISC 16 12:36:05.7±0.8, 0.2S±0.1×96.5E±0.2, h27km, h27km±.6km:pP-P, n15, σ0§65/15, mb3.8/9, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.87**	**37**	*e*P	**Pn**	**12 37 42.8**	**-4.6**
CMAR	**Chiang Mai Arr**	**18.71**	**7**	P	**P**	**12 40 24.4**	**-0.3**
	0.2nm,0.3s,baz=198,slow=11,SNR=16						
WRA	**Warramunga Arr**	**41.93**	**120**	P	**P**	**12 43 56.2**	**0.0**
	0.5nm,0.7s,mb3.2,baz=300,slow=9.1,SNR=8.1						
ASAR	**Alice Springs**	**43.15**	**125**	P	**P**	**12 44 06.2**	**+0.1**
	0.3nm,0.5s,mb3.3,baz=300,slow=8.1,SNR=7.7						
ASAR				pP	pP	12 44 14.3	+0.2
	0.6nm,0.6s,baz=300,slow=7.8,SNR=4.1						
SONM	**Songino Array**	**48.62**	**9**	P	**P**	**12 44 50.3**	**+1.0**
	1.1nm,0.9s,mb3.9,baz=188,slow=8.7,SNR=7.1						
SONM				pP	pP	12 44 57.9	+0.5
	0.8nm,0.6s,baz=185,slow=8.0,SNR=6.7						
STKA	**Stephens Creek**	**52.97**	**131**	P	**P**	**12 45 22.2**	**-0.3**
	0.4nm,0.5s,mb3.6,baz=241,slow=10,SNR=3.6						
STKA	**Stephens Creek**	**52.97**	**131**	*e*P	**P**	**12 45 22.4**	**-0.1**
ZAL	**Zalesovo**	**54.83**	**352**	P	**P**	**12 45 36.0**	**+0.2**
	1.8nm,0.3s,mb4.5,baz=310,slow=6.0,SNR=4.8						
ZAL				pP	pP	12 45 44.4	+0.4
	2.8nm,0.4s,baz=316,slow=3.7,SNR=6.0						
ZAL	**Zalesovo**	**54.83**	**352**	P	**P**	**12 45 36.0**	**+0.2**
ZAL				pP	pP	12 45 44.4	+0.4
BRTR	**Keskin Array B**	**69.53**	**313**	P	**P**	**12 47 13.5**	**-0.9**
	0.9nm,0.8s,mb3.8,baz=108,slow=3.9,SNR=4.1						
AKASG	**Malin Array Be**	**75.94**	**323**	P	**P**	**12 47 51.9**	**0.0**
	1.0nm,0.5s,mb4.0,baz=86,slow=5.4,SNR=5.4						
AKASG	**Malin Array Be**	**75.94**	**323**	P	**P**	**12 47 51.9**	**0.0**
FINES	**FINESS Array B**	**80.91**	**333**	P	**P**	**12 48 19.0**	**+0.1**
	1.5nm,0.7s,mb4.0,baz=108,slow=6.0,SNR=7.8						
FINES				pP	pP	12 48 27.8	+0.4
	0.4nm,0.5s,baz=117,slow=8.5,SNR=1.7						
FINES	**FINESS Array B**	**80.91**	**333**	P	**P**	**12 48 19.0**	**+0.1**
FINES				pP	pP	12 48 27.8	+0.4
KAF	**Kangasniemi**	**81.01**	**333**	*e*p	**P**	**12 48 19.8**	**+0.4**
	2.6nm,0.7s,mb4.3						

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*IDC **16** 12:54:23.1±0.7, 6.78N×73.03W, h156km±10km, mb3.5/5, mb1 3.8/7, mb1mx3.5/20, mbtmp4.0/7, Error ellipse: s-maj=32.2km s-min=7.6km az=130.0*
*FUNV **16** 12:54:23.5, 6.80N×73.17W, h168km, MW3.3*
ISC 16 12:54:23.6±0.7, 6.94N±0.06×72.96W±0.06, h174km±6km, n21, σ1§07/27, mb3.7/5, 7C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.12**	**35⇑**	*iP*	**P**	**12 54 52.5**	**+0.6**
CAPV				*eS*	**S**	**12 55 14.2**	**+0.4**
VIGV	**El Vigia**	**2.47**	**40⇑**	*iP*	**P**	**12 55 07.0**	**+0.9**
VIGV				*eS*	**S**	**12 55 39.0**	**+0.3**
ROSC	**El Rosal**	**2.47**	**213**	P	**P**	**12 55 04.2**	**-1.9**
	65nm,0.3s,baz=334,slow=2.7,SNR=100						
ROSC				S	**S**	**12 55 33.0**	**-5.9**
	47nm,0.3s,baz=82,slow=20,SNR=8.5						
SOCV	**Socops**	**2.48**	**57⇑**	*iP*	**P**	**12 55 07.2**	**+1.0**
SOCV				*eS*	**S**	**12 55 39.5**	**+0.4**
SDV	**Santo Domingo**	**3.01**	**50**	P	**P**	**12 55 13.9**	**+1.2**
	40nm,0.3s,baz=240,slow=5.1,SNR=136						
SDV				S	**S**	**12 55 51.9**	**+1.4**
	37nm,0.3s,baz=259,slow=22,SNR=25						
ELOV	**Elorza**	**3.46**	**89⇑**	*iP*	**P**	**12 55 18.6**	**+0.4**
ELOV				*eS*	**S**	**12 55 59.9**	**-0.5**
VIRV	**Villa del Rosa**	**3.58**	**9⇑**	*iP*	**P**	**12 55 19.4**	**-0.6**
VIRV				*eS*	**S**	**12 56 01.6**	**-1.7**
QARV	**Quebrada Arrib**	**4.05**	**36⇑**	*iP*	**P**	**12 55 26.8**	**+1.0**
QARV				*eS*	**S**	**12 56 13.2**	**-0.6**
CURV	**Curarigua**	**4.26**	**44⇑**	*iP*	**P**	**12 55 29.1**	**+0.5**
CURV				*eS*	**S**	**12 56 17.6**	**-1.2**
DABV	**Dabajuro**	**4.58**	**30**	*eP*	**P**	**12 55 33.4**	**+0.7**
DABV				*eS*	**S**	**12 56 24.8**	**-1.3**
BAUV	**El Baul**	**5.27**	**67**	*eS*	**S**	**12 56 40.2**	**-2.0**
CAOV	**Caicara del Or**	**6.60**	**86**	*eS*	**S**	**12 57 09.8**	**-3.9**
LPAZ	**La Paz**	**23.57**	**168**	pP		12 59 51.5	
	0.7nm,0.3s,baz=335,slow=12,SNR=7.0						
SIV	**San Ignacio**	**25.64**	**153**	pP	pP	13 00 11.5	-2.7
	0.8nm,0.7s,baz=347,slow=14,SNR=4.4						
ULM	**Lac du Bonnet**	**47.23**	**340**	P	**P**	**13 02 39.5**	**-1.1**
	2.8nm,0.6s,mb4.1,baz=149,slow=8.8,SNR=3.3						
SCHQ	**Schefferville**	**48.01**	**5**	P	**P**	**13 02 47.0**	**+0.3**
	1.0nm,0.5s,mb3.7,baz=265,slow=11,SNR=4.0						
PDAR	**Pinedale Array**	**48.08**	**324**	P	**P**	**13 02 48.0**	**+0.7**
	0.6nm,0.6s,mb3.4,baz=122,slow=8.9,SNR=5.7						
NVAR	**Mina Array Bea**	**51.51**	**314**	P	**P**	**13 03 14.6**	**+1.1**
	0.8nm,0.8s,mb3.4,baz=130,slow=5.6,SNR=5.6						
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**13 04 34.9**	**-0.3**
	1.3nm,0.6s,mb4.0,baz=133,slow=6.6,SNR=75						
ASAR	**Alice Springs**	**149.31**	**234**	PKPbc	PKPdf	13 13 53.0	+5.3
	0.3nm,0.6s,baz=117,slow=3.2,SNR=4.3						
WRA	**Warramunga Arr**	**150.53**	**241**	PKPbc	PKPdf	13 13 56.2	+6.4
	0.3nm,0.4s,baz=107,slow=2.7,SNR=23						
WRA				PKPab	PKPab	13 14 05.1	+0.2
	0.3nm,0.8s,baz=107,slow=2.8,SNR=6.4						

*STR **16** 13:04:35.8±0.4,47.02N×0.24W,h5km±1km,MI3.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **16** 13:04:35.5,47.01N×0.06W,h3km,ML3.0(LDG), ML2.8(STR),After LDG.*
*CSEM **16** 13:04:35.7±0.1,47.01N×0.05W,h5km,ML3.1/24,Error ellipse: s-maj=1.9km s-min=1.8km az=35.0*

LDG 16 13:04:35.5±0.1,47.01N×0.06W,h3km,Md3.0/3,MI3.0/28, Error ellipse: s-maj=1.6km s-min=1.5km az=145.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFF	**Saint Martin d**	**0.41**	**188**	*ePg*	Pg	13 04 43.2	-0.5
MFF				*eSg*	Sg	13 04 47.9	-1.3
	148nm,0.2s						
LCHF	**La Chataignera**	**0.58**	**234**	Pg	Pg	13 04 45.1	-1.9
CHIF	**Chize**	**0.91**	**195**	Pg	Pg	13 04 52.7	-0.9
CHIF				Sg	Sg	13 05 04.9	-0.8
LRYF	**La Roche-sur-Y**	**1.11**	**248**	Pg	Pg	13 04 54.4	-3.2
LRYF				Sg	Sg	13 05 08.7	-3.7
OLEF	**Ile d'Oleron**	**1.39**	**220**	Pg	Pg	13 05 01.0	-2.2
OLEF				Sg	Sg	13 05 20.0	-1.7
GRR	**Gorron**	**1.48**	**339**	*ePn*	Pn	13 05 00.5	-2.6
GRR				*eSn*	Sn	13 05 18.4	-4.8
	46nm,0.3s						
LDF	**La Druitiere**	**1.59**	**359**	*ePn*	Pn	13 05 02.9	-1.7
LDF				*eSn*	Sn	13 05 23.0	-2.9
	105nm,0.3s						
TCF	**Toulx Ste Croi**	**1.72**	**114**	*ePg*	Pg	13 05 07.7	-2.2
TCF				*eSg*	Sg	13 05 30.9	-2.0
	16nm,0.2s						
FLN	**La Foliniere**	**1.78**	**351**	*ePn*	Pn	13 05 05.0	-2.4
	baz=176						
FLN				*eSn*	Sn	13 05 28.2	-2.6
	36nm,0.3s						
HYF	**Humbligny**	**1.86**	**81**	*ePn*	Pn	13 05 06.8	-1.8
HYF				*eSg*	Sg	13 05 34.7	-2.8
RJF	**Les Rejaudoux**	**2.03**	**147**	*ePn*	Pn	13 05 09.0	-2.0
RJF				*ePg*	Pg	13 05 12.4	-3.6
RJF				*eSg*	Sg	13 05 39.6	-3.4
	32nm,0.2s						
BGF	**Bois d'Agland**	**2.05**	**102**	*ePg*	Pg	13 05 13.3	-3.1
BGF				*eSg*	Sg	13 05 39.4	-4.3
	65nm,0.3s						
SGMF	**Saint Gilles**	**2.10**	**307**	*ePn*	Pn	13 05 10.1	-1.9
SGMF				*eSn*	Sn	13 05 35.4	-3.5
	20nm,0.3s						
LFF	**La Frestale**	**2.14**	**165**	*ePn*	Pn	13 05 11.7	-0.9
LFF				*ePg*	Pg	13 05 15.5	-2.8
LFF				*eSn*	Sn	13 05 35.6	-4.5
LFF				*eSg*	Sg	13 05 43.5	-3.4
	23nm,0.2s						
QUIF	**Quistinic**	**2.29**	**294**	*ePn*	Pn	13 05 12.8	-2.0
QUIF				*eSn*	Sn	13 05 41.1	-2.8
	19nm,0.2s						
AVF	**Avril sur Loir**	**2.35**	**94**	*ePn*	Pn	13 05 13.7	-1.9
AVF				*eSg*	Sg	13 05 48.0	-5.8
	9.3nm,0.2s						
SSF	**Saint Saulge**	**2.44**	**87**	*ePn*	Pn	13 05 14.7	-2.2
SSF				*ePg*	Pg	13 05 21.4	-2.8
SSF				*eSg*	Sg	13 05 50.8	-6.0
	15nm,0.2s						
SSF	**Saint Saulge**	**2.44**	**87**	*ePg*	Pg	13 05 21.4	-2.8
SSF				*eSg*	Sg	13 05 50.8	-6.0
	7.6nm,0.2s						
ROSF	**Rostrenen**	**2.54**	**303**	*ePn*	Pn	13 05 17.1	-1.3
ROSF				*eSn*	Sn	13 05 43.8	-6.5
	12nm,0.3s						
CAF	**Calviac**	**2.56**	**144**	*ePn*	Pn	13 05 17.7	-0.8
CAF				*ePg*	Pg	13 05 24.4	-2.2
CAF				*eSn*	Sn	13 05 46.7	-3.9
CAF				*eSg*	Sg	13 05 55.7	-4.9
	19nm,0.2s						
SMF	**Signal de Mont**	**2.70**	**96**	*ePg*	Pg	13 05 25.6	-3.9
SMF				*eSg*	Sg	13 05 58.8	-6.7
	9.7nm,0.2s						
LBL	**Lubilhac**	**2.91**	**126**	Pn	Pn	13 05 22.9	-0.6
MEZF	**Maizieres J'vi**	**3.76**	**65**	*ePg*	Pg	13 05 45.2	-5.3
MEZF				*eSg*	Sg	13 06 33.1	-7.6
	8.8nm,0.4s						
VIVF	**Saint-Julien-l**	**3.94**	**121**	*ePg*	Pg	13 05 48.7	-5.5
VIVF				*eSg*	Sg	13 06 40.1	-6.7
	4.1nm,0.3s						
SJPF	**Ste Jean**	**3.98**	**192**	*ePn*	Pn	13 05 35.7	-3.1
SJPF				*ePg*	Pg	13 05 48.8	-6.2
SJPF				*eSn*	Sn	13 06 19.5	-7.1
SJPF				*eSg*	Sg	13 06 40.6	-7.5
	6.5nm,0.3s						
EPF	**Esparros**	**3.99**	**176**	*ePn*	Pn	13 05 35.1	-3.8
EPF				*eSn*	Sn	13 06 19.6	-7.2
EPF				*eSg*	Sg	13 06 40.6	-7.7
	7.8nm,0.4s						
MTLF	**Montolieu**	**4.01**	**155**	*ePn*	Pn	13 05 37.4	-1.7
MTLF				*ePg*	Pg	13 05 49.4	-6.1
MTLF				*eSg*	Sg	13 06 41.9	-7.0
	7.8nm,0.5s						
LASF	**Ste Croix**	**4.02**	**135**	*ePn*	Pn	13 05 36.0	-3.4
LASF				*ePg*	Pg	13 05 50.0	-5.8
LASF				*eSg*	Sg	13 06 41.8	-7.6
	3.5nm,0.3s						
ETSF	**Etsaut**	**4.12**	**185**	*ePg*	Pg	13 05 51.9	-6.0
ETSF				*eSn*	Sn	13 06 20.4	-10
ETSF				*eSg*	Sg	13 06 44.5	-8.3
	6.3nm,0.5s						
CABF	**La Chapelle**	**4.24**	**93**	*ePg*	Pg	13 05 55.6	-4.6
CABF				*eSn*	Sn	13 06 26.0	-7.2
CABF				*eSg*	Sg	13 06 47.0	-10
	6.8nm,0.5s						
HAU	**Haudompre**	**4.46**	**75**	*eSn*	Sn	13 06 31.1	-7.6
HAU				*eSg*	Sg	13 06 55.3	-8.6
	7.5nm,0.3s						
ORIF	**Oris-en-Rattie**	**4.64**	**115**	*eSg*	Sg	13 06 59.3	-11
	0.7nm,0.3s						
HINF	**Hinteralfeld**	**4.76**	**78**	*eSn*	Sn	13 06 38.1	-8.4
HINF				*eSg*	Sg	13 07 05.0	-9.1
	7.3nm,0.4s						
CDF	**Champ du Feu**	**5.15**	**71**	*eSg*	Sg	13 07 16.4	-11
	3.9nm,0.5s						

*NEIC **16** 13:27:38.8,15.68N×98.78W,h10km,MD3.8(MEX),After MEX.*

MEX 16 13:27:39.4±0.5,15.70N×98.72W,h17km±32km,MD3.9,2C, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.90**	**40⇑**	*iP*	Pb	13 27 53.6	-2.5
PNIG				*eS*	Sb	13 28 06.5	-1.1
PNIG	**Pinotepa**	**0.90**	**40⇑**	*iP*	Pb	13 27 53.6	-2.5
PNIG				*i S*	Sb	13 28 04.2	-3.3
ACX	**Acapulco**	**1.63**	**316**	*eP*	Pn	13 28 04.0	-3.7
ACX				*eS*	Sn	13 28 23.0	-5.4
VHO	**Vista Hermosa**	**2.35**	**54**	*eP*	Pn	13 28 17.0	-0.9
VHO				*eS*	Sn	13 28 43.8	-2.8
VHO	**Vista Hermosa**	**2.35**	**54**	*eP*	Pn	13 28 15.0	-2.9
VHO				*eS*	Sn	13 28 42.4	-4.2
OXX	**Oaxaca**	**2.36**	**54**	*eP*	Pn	13 28 17.0	-1.1
OXX				*eS*	Sn	13 28 45.0	-1.9
OXX	**Oaxaca**	**2.36**	**54**	*eP*	Pn	13 28 16.5	-1.6
OXX				*eS*	Sn	13 28 45.0	-1.9
PLIG	**Platanillo**	**2.78**	**345**	*eP*	Pn	13 28 23.8	-0.3
PLIG				*eS*	Sn	13 28 48.7	-8.9
PLIG	**Platanillo**	**2.78**	**345**	*eP*	Pn	13 28 21.1	-3.0
PLIG				*i S*	Sn	13 28 53.0	-4.6
PPM	**Popocatepetl**	**3.35**	**2**	*eP*	Pn	13 28 29.4	-2.8
PPM				*i S*	Sn	13 29 08.5	-3.5

IDC 16 13:29:04.5±6.7,5.92S×147.09E,h216km±33km,mb3.4/3, mb1 3.5/4,mb1mx3.1/14,mbtmp3.8/4,1C,Error ellipse: s-maj=76.3km s-min=47.6km az=43.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.47**	**179**	P	P	13 29 59.9	-1.0
	0.5nm,0.3s,baz=45,slow=2.9,SNR=3.6						
PMG				S	S	13 30 45.2	+0.6
	2.9nm,0.3s,baz=130,slow=7.0,SNR=12						
WB2	**Warramunga Arr**	**18.65**	**220⇑**	*iP*	P	13 33 06.2	-2.2
WRA	**Warramunga Arr**	**18.66**	**220**	P	P	13 33 06.3	-2.2
	0.4nm,0.3s,baz=44,slow=11,SNR=33						
ASAR	**Alice Springs**	**21.74**	**214**	P	P	13 33 38.9	-0.3
	0.4nm,0.4s,baz=46,slow=7.7,SNR=10						
FITZ	**Fitzroy Crossi**	**24.19**	**238**	*eP*	P	13 34 00.1	-2.7
	5.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**24.19**	**238**	P	P	13 34 01.8	-1.0
	6.1nm,0.4s,baz=30,slow=9.5,SNR=32						
STKA	**Stephens Creek**	**26.34**	**191**	P	P	13 34 20.4	-2.1
	1.5nm,0.8s,baz=60,slow=8.1,SNR=3.7						

IDC 16 13:32:31.6±6.8,5.22S×151.46E,h125km±45km,mb3.5/4, mb1 3.6/5,mb1mx3.4/15,mbtmp3.9/5,Error ellipse: s-maj=88.4km s-min=32.2km az=107.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.96**	**226**	P	P	13 33 58.5	0.0
	2.4nm,0.3s,baz=50,slow=6.4,SNR=12						
PMG				S	S	13 35 04.4	-1.7
	1.5nm,0.3s,baz=196,slow=20,SNR=5.3						
WB2	**Warramunga Arr**	**22.17**	**227**	*eP*	P	13 37 17.1	-1.0
WRA	**Warramunga Arr**	**22.17**	**227**	P	P	13 37 17.3	-0.9
	1.9nm,0.5s,baz=54,slow=9.8,SNR=21						
ASAR	**Alice Springs**	**24.95**	**221**	P	P	13 37 44.1	-0.9
	1.3nm,0.7s,baz=54,slow=9.1,SNR=14						
FITZ	**Fitzroy Crossi**	**28.29**	**241**	*eP*	P	13 38 13.3	-2.4
	4.9nm,1.4s						
FITZ	**Fitzroy Crossi**	**28.29**	**241**	P	P	13 38 13.3	-2.3
	2.8nm,0.8s,baz=39,slow=3.2,SNR=8.0						
SONM	**Songino Array**	**65.98**	**329**	P	P	13 43 04.6	-2.2
	0.1nm,0.3s,baz=136,slow=5.1,SNR=4.1						

DJA 16 13:34:34.9±0.9,9.61S×116.17E,h33km,MD4.5/1, ML4.0/2,3C,Error ellipse: s-maj=22.1km s-min=12.2km az=155.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.08**	**324⇑**	*ePn*	Pn	13 34 52.9	-1.1
	152nm,0.2s						
RATI				*eSn*	Sn	13 35 05.2	-2.8
KEDI	**Kedomdong**	**1.12**	**357⇑**	*ePn*	Pn	13 34 53.6	-0.8
	279nm,0.2s						
KEDI	**Kedomdong**	**1.12**	**357**	*eP*	P	13 34 54.0	-0.2
KEDI				*eSn*	Sn	13 35 07.1	-1.7
SRDI	**Scrawed**	**2.30**	**299⇑**	*ePn*	Pn	13 35 09.8	-1.6
SRDI				*eSn*	Sn	13 35 35.5	-3.3

*IDC **16** 13:37:12.4±0.8,1.63S×99.56E,h28km±4km,mb4.2/12, mb1 4.3/12,mb1mx4.0/20,mbtmp4.4/12,ML3.8/1,Error ellipse: s-maj=24.8km s-min=12.4km az=58.0*
*NEIC **16** 13:37:12.6±0.4,1.66S×99.59E,mb4.4/7,Error ellipse: s-maj=15.4km s-min=7.3km az=66.0*

ISC 16 13:37:11.0±0.5,1.59S±0.07×99.7E±0.1,h30km, h30km±.8km:pP-P,n31,σ0§93/28,mb4.4/17,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.90**	**8**	*eP*	**Pn**	**13 38 53.4**	**+0.5**
CM31	**Chiang Mai Arr**	**19.93**	**358**	*eP*	**P**	**13 41 42.7**	**-1.0**
	3.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.93**	**358**	P	**P**	**13 41 43.7**	**+0.1**
	0.1nm,0.3s,baz=189,slow=10,SNR=12						
FITZ	**Fitzroy Crossi**	**30.33**	**124**	*eP*	**P**	**13 43 21.3**	**-1.2**
	5.7nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**30.33**	**124**	P	**P**	**13 43 21.5**	**-1.0**
	10nm,0.9s,mb4.6,baz=320,slow=3.7,SNR=8.7						
FITZ				pP	pP	13 43 30.4	-0.9
	6.2nm,0.9s,baz=313,slow=3.7,SNR=2.6						
LSA	**Lhasa**	**32.16**	**346**	*eP*	**P**	**13 43 39.8**	**+1.3**
	6.5nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**38.49**	**121**	P	**P**	**13 44 31.9**	**-0.7**
	5.4nm,0.6s,mb4.5,baz=297,slow=9.6,SNR=78						
WRA				pP	pP	13 44 41.1	-0.4
	2.4nm,0.5s,baz=303,slow=9.1,SNR=8.6						
WRA				PcP	PcP	13 46 46.1	+0.4
	1.2nm,0.6s,baz=313,slow=2.5,SNR=12						
WRA	**Warramunga Arr**	**38.49**	**121**	P	**P**	**13 44 31.9**	**-0.7**
WRA				pP	pP	13 44 41.1	-0.4
WRA				PcP	PcP	13 46 46.1	+0.4
WRAB	**Tennant Creek**	**38.50**	**121**	*eP*	**P**	**13 44 31.7**	**-1.0**
	10nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**38.51**	**121**	*eP*	**P**	**13 44 31.8**	**-0.9**
FORT	**Forrest**	**39.58**	**140**	*eP*	**P**	**13 44 43.3**	**+1.7**
	320nm,0.7s						
ASPA	**Alice Springs**	**39.77**	**126**	*eP*	**P**	**13 44 43.4**	**+0.2**
ASAR	**Alice Springs**	**39.77**	**126**	P	**P**	**13 44 43.2**	**0.0**
	2.4nm,0.5s,mb4.2,baz=302,slow=7.9,SNR=38						
ASAR				pP	pP	13 44 52.2	+0.1
	2.9nm,0.7s,baz=307,slow=7.6,SNR=10						
ASAR				PcP	PcP	13 46 50.4	+0.7
	1.5nm,0.7s,baz=294,slow=2.4,SNR=8.7						
SONM	**Songino Array**	**49.57**	**6**	P	**P**	**13 46 01.1**	**-0.3**
	1.0nm,0.7s,mb4.0,baz=190,slow=7.9,SNR=12						
SONM				pP	pP	13 46 09.3	-1.2
	3.2nm,0.7s,baz=191,slow=9.2,SNR=21						
ULN	**Ulaanbaatar**	**49.67**	**7**	P	**P**	**13 46 03.5**	**+1.4**
	2.1nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**49.68**	**132**	*eP*	**P**	**13 46 02.8**	**+0.3**
	4.1nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**49.68**	**132**	P	**P**	**13 46 02.9**	**+0.4**
	4.7nm,0.7s,mb4.6,baz=307,slow=8.5,SNR=10						
STKA				pP	pP	13 46 12.2	+0.7
	1.1nm,0.4s,baz=320,slow=6.1,SNR=3.2						
ZAL	**Zalesovo**	**56.69**	**350**	P	**P**	**13 46 53.9**	**-0.3**
	4.0nm,0.4s,mb4.8,baz=318,slow=4.6,SNR=14						
BVAR	**Borovoye Array**	**59.68**	**340**	P	**P**	**13 47 13.5**	**-1.6**
	1.0nm,0.6s,mb4.0,baz=153,slow=9.9,SNR=6.3						
MATP	**Matopo**	**71.80**	**249**	P	**P**	**13 48 33.1**	**-0.2**
	2.8nm,0.7s,mb4.3,baz=102,slow=7.1,SNR=6.9						
RPZ	**Rata Peaks**	**75.51**	**135**	P	**P**	**13 48 54.9**	**+0.3**
	5.4nm,0.5s,mb4.7,baz=267,slow=5.6,SNR=6.1						
BOSA	**Boshof**	**75.56**	**241**	P	**P**	**13 48 53.7**	**-1.4**
	2.9nm,0.9s,mb4.2,baz=67,slow=3.0,SNR=3.3						
BOSA	**Boshof**	**75.56**	**241**	P	**P**	**13 48 53.7**	**-1.5**
VNDA	**Vanda**	**82.63**	**169**	*eP*	**P**	**13 49 33.2**	**+0.7**
FINES	**FINESS Array B**	**83.59**	**332**	P	**P**	**13 49 37.9**	**+0.3**
	0.4nm,0.4s,mb3.9,baz=117,slow=8.5,SNR=6.0						
KAF	**Kangasniemi**	**83.66**	**333**	*ep*	**P**	**13 49 37.4**	**-0.6**
	1.9nm,0.7s,mb4.3						
SBA	**Scott Base**	**83.73**	**169**	*eP*	**P**	**13 49 40.0**	**+2.0**
	2.1nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	**85.97**	**340**	P	**P**	**13 49 50.0**	**+0.6**
	3.1nm,1.0s,mb4.5,baz=90,slow=3.6,SNR=4.7						
CPUP	**Villa Florida**	**144.45**	**217**	PKP	PKPdf	13 56 44.8	-5.5
	4.4nm,0.8s,baz=144,slow=2.4,SNR=9.8						
MIAR	**Mount Ida**	**144.96**	**19**	*e*PKPdf	PKPdf	13 56 46.9	-4.2
JCT	**Junction City**	**145.85**	**31**	*e*PKPdf	PKPdf	13 56 50.2	-2.5

*IDC **16** 14:07:49.9±0.6,13.81S×63.58E,mb4.3/14,mb1 4.5/15, mb1mx4.3/19,mbtmp4.3/15,ML4.6/1,Error ellipse: s-maj=22.6km s-min=14.9km az=4.0*
*BJI **16** 14:07:51.1,13.70S×63.50E,h30km,mB5.0,mb4.3*
*NEIC **16** 14:07:51.1±0.4,13.73S×63.54E,h10km,mb4.6/12,Error ellipse: s-maj=12.7km s-min=8.5km az=181.0*

ISC 16 14:07:49.2±0.4,13.76S±0.09×63.57E±0.06,h10km,n45, σ1§04/41,mb4.4/27,1C,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSEY	**Mahe Island**	**12.05**	**318**	*eP*	**P**	**14 10 40.3**	**-3.8**
	63nm,1.1s						
OPO	**Ambohidratompo**	**16.44**	**251**	Pn	**P**	**14 11 42.1**	**+0.3**
	2.2nm,0.3s,baz=64,slow=13,SNR=30						
OPO				Sn	**S**	**14 14 41.6**	**-2.4**
	3.3nm,0.3s,baz=349,slow=22,SNR=4.0						
KMBO	**Kilima Mbogo**	**28.91**	**294**	P	**P**	**14 13 51.1**	**+0.4**
	4.0nm,0.9s,mb4.2,baz=72,slow=12,SNR=11						
KMBO	**Kilima Mbogo**	**28.91**	**294**	*eP*	**P**	**14 13 50.6**	**-0.2**
	5.2nm,1.1s,mb4.2						
LSZ	**Lusaka**	**34.26**	**263**	*eP*	**P**	**14 14 37.6**	**-0.2**
	9.2nm,1.1s,mb4.6						
LBTB	**Lobatse**	**37.41**	**247**	P	**P**	**14 15 05.2**	**+0.9**
	5.3nm,0.8s,mb4.4,baz=85,slow=7.2,SNR=6.4						
LBTB	**Lobatse**	**37.41**	**247**	*eP*	**P**	**14 15 04.9**	**+0.5**
	6.4nm,0.9s,mb4.5						
BOSA	**Boshof**	**38.47**	**241**	P	**P**	**14 15 13.1**	**-0.2**
	3.3nm,0.9s,mb4.1,baz=84,slow=8.2,SNR=3.0						
BOSA	**Boshof**	**38.47**	**241**	*eP*	**P**	**14 15 12.9**	**-0.3**
	9.7nm,1.2s,mb4.4						
KULM	**Kulim**	**41.38**	**65**	*eP*	**P**	**14 15 38.3**	**+0.8**
CM31	**Chiang Mai Arr**	**47.34**	**48**	*eP*	**P**	**14 16 25.5**	**0.0**
	1.9nm,0.6s,mb4.2						
CMAR	**Chiang Mai Arr**	**47.34**	**48**	P	**P**	**14 16 25.8**	**+0.3**
	2.5nm,0.9s,mb4.2,baz=242,slow=9.2,SNR=12						
LSA	**Lhasa**	**50.74**	**31**	*eP*	**P**	**14 16 55.9**	**+4.3**
	2.6nm,0.4s,mb4.5						
AAK	**Ala-Archa**	**57.01**	**10**	*eP*	**P**	**14 17 35.9**	**-1.7**
	7.1nm,1.0s,mb4.7						
GYA	**Guiyang**	**57.91**	**46⇑**	*iP*	**P**	**14 17 43.4**	**-0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**59.61**	**103**	*eP*	**P**	**14 17 56.2**	**+0.2**
	comp=Z,7.6nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**59.61**	**103**	P	**P**	**14 17 56.4**	**+0.3**
	comp=Z,12nm,1.0s,mb4.9,baz=260,slow=2.1,SNR=7.7						
BRTR	**Keskin Array B**	**60.07**	**334**	P	**P**	**14 17 58.2**	**-0.7**
	comp=Z,1.2nm,1.0s,mb3.9,baz=146,slow=8.9,SNR=4.6						
WMQ	**Urumqi**	**61.40**	**20**	*eP*	**P**	**14 18 07.3**	**-0.6**
ENH	**Enshi**	**62.21**	**45**	*eP*	**P**	**14 18 11.6**	**-2.0**
	comp=Z,8.1nm,0.8s,mb4.9						
GTA	**Gaotai**	**62.77**	**31**	P	**P**	**14 18 16.0**	**-1.1**
GTA				AP	pP	14 18 25.4	+5.1
GTA				XP	sP	14 18 30.1	+8.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.5						
XAN	**Xi'an**	**64.19**	**41**	P	**P**	**14 18 25.5**	**-1.2**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
ASPA	**Alice Springs**	**66.78**	**110**	*eP*	**P**	**14 18 43.0**	**-0.5**
ASAR	**Alice Springs**	**66.78**	**110**	P	**P**	**14 18 43.1**	**-0.3**
	comp=Z,3.4nm,0.7s,mb4.5,baz=270,slow=6.0,SNR=40						
KAKA	**Kakadu**	**66.83**	**98**	*eP*	**P**	**14 18 43.8**	**-0.1**
	comp=Z,11nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**67.59**	**106**	P	**P**	**14 18 49.1**	**+0.5**
	comp=Z,7.6nm,0.9s,mb4.8,baz=271,slow=5.4,SNR=54						
WB2	**Warramunga Arr**	**67.60**	**106**	*eP*	**P**	**14 18 48.8**	**+0.1**
WRAB	**Tennant Creek**	**67.60**	**106**	*eP*	**P**	**14 18 48.6**	**-0.1**
	comp=Z,30nm,1.1s,mb5.2			

3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.38**	**56**	*e*P	**Pn**	**14 24 13.9**	**+0.3**
SNG	**Songkhla**	**6.59**	**42**	P	**Pn**	**14 24 24.5**	**-6.1**
	200nm,0.8s						
KSM	**Kuching**	**14.14**	**93**	P	**P**	**14 26 17.4**	**+3.6**
PALK	**Pallekele**	**16.21**	**288**	P	**P**	**14 26 38.0**	**-2.7**
	38nm,1.1s						
CM31	**Chiang Mai Arr**	**16.33**	**9**	*e*P	**P**	**14 26 43.4**	**+1.2**
	6.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.33**	**9**	Pn	**P**	**14 26 41.9**	**-0.3**
	0.3nm,0.3s,baz=197,slow=11,SNR=20						
CMAR				LR	LR	14 33 52.5	
	comp=Z,680nm,18.2s,baz=200,slow=40						
NANT	**Nan**	**17.03**	**15**	P	**P**	**14 26 52.0**	**+1.0**
KKM	**Kota Kinabalu**	**20.33**	**79**	*e*P	**P**	**14 27 30.3**	**+0.3**
HYB	**Hyderabad**	**22.96**	**312**	*e*P	**P**	**14 27 59.0**	**+2.4**
HYB	**Hyderabad**	**22.96**	**312**	*i*P	**P**	**14 27 59.0**	**+2.4**
SHL	**Shillong**	**23.55**	**350**	*e*P	**P**	**14 28 04.0**	**+1.8**
SHL				*e*S	**S**	**14 32 12.5**	**+1.3**
KMI	**Kunming**	**23.60**	**15**	P	**P**	**14 28 01.6**	**-1.1**
KMI				AP		14 28 09.6	
KMI				XP		14 28 12.9	
KMI				PP	PP	14 28 38.6	+3.2
KMI				S	**S**	**14 32 18.9**	**+6.8**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.1						
KMI				AMB	AMB		
	comp=Z,127nm,5.2s						
KMI				LR	LR		
	comp=N,542nm,14.1s,MS4.2						
KMI				LR	LR		
	comp=E,357nm,14.5s,MS4.2						
KMI				LR	LR		
	comp=Z,660nm,13.1s,MS4.3						
GYA	**Guiyang**	**26.09**	**22**	P	**P**	**14 28 24.8**	**-1.7**
GYA				AP	pP	14 28 33.8	+0.3
GYA				XP	sP	14 28 35.3	-1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,100nm,5.4s						
GYA				LR	LR		
	comp=N,400nm,14.3s,MS4.2						
GYA				LR	LR		
	comp=E,420nm,15.8s,MS4.2						
GYA				LR	LR		
	comp=Z,640nm,14.0s,MS4.3						
JIRN	**Jiri**	**27.01**	**340**	*e*P	**P**	**14 28 35.8**	**+0.9**
	comp=Z,83nm,0.7s,mb5.4						
PKI	**Pulchoki**	**27.21**	**339**	*e*P	**P**	**14 28 37.9**	**+1.2**
	comp=Z,29nm,0.7s,mb4.9						
GUN	**Gumba**	**27.35**	**340**	*e*P	**P**	**14 28 38.5**	**+0.5**
	comp=Z,91nm,0.7s,mb5.4						
KKN	**Kakani**	**27.45**	**339**	*e*P	**P**	**14 28 39.2**	**+0.3**
	comp=Z,40nm,0.8s,mb5.0						
LSA	**Lhasa**	**27.71**	**351**	P	**P**	**14 28 42.3**	**+1.0**
LSA	**Lhasa**	**27.71**	**351**	*e*P	**P**	**14 28 41.6**	**+0.3**
LSA				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.7						
LSA	**Lhasa**	**27.71**	**351**	*e*P	**P**	**14 28 41.6**	**+0.4**
	comp=Z,17nm,0.9s,mb4.7						
GKN	**Gorkha**	**27.88**	**338**	*e*P	**P**	**14 28 43.4**	**+0.6**
	comp=Z,48nm,0.8s,mb5.2						
KOLN	**Koldanda**	**28.08**	**336**	*e*P	**P**	**14 28 45.2**	**+0.6**
	comp=Z,52nm,1.0s,mb5.1						
ENH	**Enshi**	**30.59**	**23**	*e*P	**P**	**14 29 04.8**	**-2.2**
	comp=Z,4.1nm,0.5s,mb4.5						
MBWA	**Marble Bar**	**32.75**	**136**	P	**P**	**14 29 26.9**	**+0.8**
	comp=Z,3.6nm,0.8s,mb4.3						
XAN	**Xi'an**	**33.79**	**19**	P	**P**	**14 29 33.4**	**-1.6**
XAN				AP	pP	14 29 39.3	-2.8
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.9						
LZH	**Lanzhou**	**34.41**	**11**	⇑P	**P**	**14 29 38.9**	**-1.4**
LZH				AP	pP	14 29 46.5	-0.9
LZH				XP	sP	14 29 49.6	-0.9
LZH				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,86nm,4.5s						
LZH				LR	LR		
	comp=N,317nm,12.8s						
LZH				LR	LR		
	comp=Z,442nm,16.9s,MS4.3						
LZH	**Lanzhou**	**34.41**	**11**	⇑P	**P**	**14 29 38.9**	**-1.4**
LZH				*SP	sP	14 29 49.6	-0.9
LZH				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.9						
LZH				MLR	MLR		
	comp=Z,440nm,16.9s,MS4.3						
LZH	**Lanzhou**	**34.41**	**11**	⇑P	**P**	**14 29 38.9**	**-1.4**
	comp=Z,24nm,1.4s,mb4.9						
LZH				pP	pP	14 29 46.5	-0.9
LZH				sP	sP	14 29 49.6	-0.9
LZH				LR	LR		
	comp=Z,440nm,16.9s,MS4.3						
FITZ	**Fitzroy Crossi**	**35.36**	**126**	*e*P	**P**	**14 29 48.2**	**-0.4**
	comp=Z,7.9nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**35.36**	**126**	P	**P**	**14 29 48.3**	**-0.4**
	comp=Z,6.2nm,0.6s,mb4.7,baz=349,slow=5.7,SNR=12						
FITZ				pP	pP	14 29 55.4	-0.4
	comp=Z,11nm,0.7s,baz=223,slow=2.6,SNR=8.0						
NJ2	**Nanjing**	**36.53**	**33**	*e*P	**P**	**14 29 57.5**	**-0.8**
NJ2				AP	pP	14 30 07.1	+1.6
NJ2				XP	sP	14 30 10.9	+2.4
NJ2				PP	PP	14 31 24.3	+1.6
NJ2				S	**S**	**14 35 40.0**	**+1.5**
NJ2				XS		14 35 56.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,240nm,10.0s						
NJ2				LR	LR		
	comp=N,640nm,11.1s,MS4.8						
NJ2				LR	LR		
	comp=E,750nm,14.8s,MS4.8						
NJ2				LR	LR		
	comp=Z,410nm,16.4s,MS4.3						
GTA	**Gaotai**	**37.13**	**5**	P	**P**	**14 30 03.1**	**-0.2**
GTA				AP	pP	14 30 10.4	-0.1
GTA				XP	sP	14 30 13.0	-0.5
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
SSE	**Sheshan**	**37.16**	**37**	*e*P	**P**	**14 30 01.4**	**-2.3**
SSE				AP	pP	14 30 09.9	-1.0
SSE				S	**S**	**14 35 48.6**	**+0.3**
SSE				XS		14 36 05.3	
SSE				SCS	ScS	14 40 07.9	-6.6
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,89nm,11.2s						
SSE				LR	LR		
	comp=N,179nm,15.0s,MS4.3						
SSE				LR	LR		
	comp=E,366nm,15.0s,MS4.3						
SSE				LR	LR		
	comp=Z,352nm,16.1s,MS4.2						
SSE	**Sheshan**	**37.16**	**37**	*e*P	**P**	**14 30 01.4**	**-2.3**
	comp=Z,26nm,0.7s,mb5.2						
SSE				pP	pP	14 30 09.9	-1.0
SSE				S	**S**	**14 35 48.6**	**+0.3**
SSE				sS		14 36 05.2	
SSE				ScS	ScS	14 40 07.9	-6.6
SSE				LR	LR		
	comp=Z,350nm,16.1s,MS4.2						
KAKA	**Kakadu**	**38.95**	**113**	*e*P	**P**	**14 30 18.2**	**-0.6**
	comp=Z,13nm,0.6s,mb4.8						
HHC	**Hu-ho-hao-te**	**40.86**	**18**	*e*P	**P**	**14 30 35.1**	**+0.8**
HHC				AP	pP	14 30 45.8	+4.3
HHC				XP	sP	14 30 49.4	+4.9
HHC				PP	PP	14 32 11.8	+0.1
HHC				SCP		14 36 25.4	
HHC				S	**S**	**14 36 40.0**	**-4.0**
HHC				SCS	ScS	14 40 39.1	+3.4
HHC				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.5						
HHC				AMB	AMB		
	comp=Z,184nm,6.3s						
HHC				LR	LR		
	comp=N,304nm,14.3s,MS4.4						
HHC				LR	LR		
	comp=E,299nm,16.7s,MS4.4						
HHC				LR	LR		
	comp=Z,199nm,14.9s,MS4.1						
BJT	**Baijiatuau**	**41.74**	**23**	P	**P**	**14 30 42.6**	**+1.0**
BJT				pmax	pmax		
	comp=Z,21nm,0.6s						
BJT	**Baijiatuau**	**41.74**	**23**	P	**P**	**14 30 42.6**	**+1.0**
	comp=Z,21nm,0.6s,mb4.9						
BJI	**Beijing**	**41.76**	**23**	*e*P	**P**	**14 30 42.5**	**+0.7**
BJI				AMB	AMB		
	comp=Z,27nm,0.6s,mb5.0						
BJI				LR	LR		
	comp=Z,124nm,15.4s,MS3.9						
BJI	**Beijing**	**41.76**	**23**	*e*P	**P**	**14 30 42.5**	**+0.7**
	comp=Z,27nm,0.6s,mb5.0						
BJI				LR	LR		
	comp=Z,120nm,15.4s,MS3.9						
WMQ	**Urumqi**	**42.07**	**351**	P	**P**	**14 30 45.3**	**+1.0**
WMQ				AP	pP	14 30 55.3	+3.8
WMQ				XP	sP	14 30 59.3	+4.8
WMQ				PP	PP	14 32 26.3	+1.5
WMQ				PCP	PcP	14 32 40.5	+1.0
WMQ				S	**S**	**14 37 01.8**	**-0.1**
WMQ				XS		14 37 18.1	
WMQ				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,23nm,3.3s						
WMQ				LR	LR		
	comp=N,125nm,19.0s,MS4.0						
WMQ				LR	LR		
	comp=E,179nm,22.7s,MS4.0						
WMQ				LR	LR		
	comp=Z,77nm,22.0s,MS3.5						
WRA	**Warramunga Arr**	**43.45**	**122**	P	**P**	**14 30 56.1**	**+0.2**
	comp=Z,1.1nm,0.3s,mb4.0,baz=302,slow=9.1,SNR=24						
WRAB	**Tennant Creek**	**43.46**	**122**	*e*P	**P**	**14 30 56.4**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**43.46**	**122**	*e*P	**P**	**14 30 56.4**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.1						
WB2	**Warramunga Arr**	**43.46**	**122**	*e*P	**P**	**14 30 56.3**	**+0.4**
AAK	**Ala-Archa**	**44.64**	**337**	*i*P	**P**	**14 31 06.2**	**+1.0**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
AAK	**Ala-Archa**	**44.64**	**337**	*e*P	**P**	**14 31 05.3**	**+0.1**
	comp=Z,14nm,1.4s,mb4.6						
ASPA	**Alice Springs**	**44.83**	**127**	*e*P	**P**	**14 31 07.5**	**+0.5**
ASAR	**Alice Springs**	**44.84**	**127**	P	**P**	**14 31 07.3**	**+0.3**
	comp=Z,1.0nm,0.5s,mb3.9,baz=303,slow=8.0,SNR=18						
ASAR				pP	pP	14 31 14.9	+0.7
	comp=Z,1.6nm,0.6s,baz=302,slow=7.6,SNR=11						
ASAR				PcP	PcP	14 32 49.0	-0.1
	comp=Z,0.7nm,0.9s,baz=297,slow=4.0,SNR=3.3						
ASAR				pPcP		14 32 56.4	
	comp=Z,0.5nm,0.6s,baz=324,slow=3.8,SNR=4.1						
SONM	**Songino Array**	**46.26**	**10**	P	**P**	**14 31 17.8**	**-0.1**
	comp=Z,2.9nm,0.6s,mb4.4,baz=190,slow=8.7,SNR=26						
SONM				pP	pP	14 31 25.0	-0.1
	comp=Z,6.6nm,0.7s,baz=191,slow=9.4,SNR=23						
SONM				PcP	PcP	14 32 53.9	+0.2
	comp=Z,1.0nm,0.6s,baz=193,slow=3.9,SNR=5.9						
SONM				pPcP		14 33 01.4	
	comp=Z,1.0nm,0.7s,baz=188,slow=4.5,SNR=3.0						
SONM				LR	LR	14 53 05.9	
	comp=Z,329nm,18.5s,MS4.3,baz=214,slow=39						
ULN	**Ulaanbaatar**	**46.40**	**10**	*e*P	**P**	**14 31 18.6**	**-0.4**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
ULN	**Ulaanbaatar**	**46.40**	**10**	*e*P	**P**	**14 31 18.6**	**-0.4**
	comp=Z,8.2nm,1.1s,mb4.6						
ZAK	**Zakamensk**	**48.33**	**6**	⇓*i*P	**P**	**14 31 34.7**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.2						
CN2	**Changchun**	**48.84**	**28**	*e*P	**P**	**14 31 40.4**	**+2.2**
MOY	**Mondy**	**49.41**	**4**	*e*P	**P**	**14 31 42.6**	**+0.1**
HIA	**Hailar**	**50.99**	**20**	*e*P	**P**	**14 31 55.3**	**+0.8**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HIA	**Hailar**	**50.99**	**20**	*e*P	**P**	**14 31 55.3**	**+0.7**
	comp=Z,6.2nm,1.0s,mb4.5						
MJAR	**Matsushiro Arr**	**51.62**	**43**	P	**P**	**14 31 58.0**	**-1.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=251,slow=8.5,SNR=3.7						
MJAR				LR	LR	14 56 22.8	
	comp=Z,140nm,19.0s,MS4.0,baz=240,slow=39						
PMG	**Port Moresby**	**52.09**	**104**	P	**P**	**14 32 02.3**	**-1.1**
	comp=Z,6.8nm,0.9s,mb4.6,baz=324,slow=8.7,SNR=3.1						
PMG				pP	pP	14 32 09.9	-0.8
	comp=Z,11nm,0.7s,baz=333,slow=1.6,SNR=4.4						
ZAL	**Zalesovo**	**52.36**	**352**	P	**P**	**14 32 04.4**	**-0.5**
	comp=Z,6.2nm,0.4s,mb4.8,baz=304,slow=5.0,SNR=28						
ZAL				pP	pP	14 32 11.2	-1.1
	comp=Z,8.5nm,0.5s,baz=332,slow=2.8,SNR=16						
CTA	**Charters Tower**	**53.88**	**117**	P	**P**	**14 32 17.1**	**+0.5**
	comp=Z,10nm,1.2s,mb4.6,baz=311,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**54.81**	**132**	P	**P**	**14 32 23.6**	**+0.3**
	comp=Z,1.0nm,0.6s,mb4.1,baz=310,slow=19,SNR=6.4						
STKA				pP	pP	14 32 31.4	+0.7
	comp=Z,2.8nm,0.7s,baz=297,slow=9.3,SNR=5.3						
STKA	**Stephens Creek**	**54.81**	**132**	*e*P	**P**	**14 32 24.3**	**+1.0**
BVAR	**Borovoye Array**	**54.93**	**341**	P	**P**	**14 32 22.6**	**-1.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=158,slow=8.0,SNR=11						
BVAR				pP	pP	14 32 29.4	-1.8
	comp=Z,3.2nm,0.6s,baz=153,slow=9.9,SNR=13						
BOD	**Bodaibo**	**57.17**	**11**	*e*P	**P**	**14 32 38.4**	**-1.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
KMBO	**Kilima Mbogo**	**59.02**	**267**	P	**P**	**14 32 54.0**	**+0.6**
	comp=Z,0.9nm,0.5s,mb4.1,baz=72,slow=11,SNR=4.3						
ARU	**Arti**	**61.83**	**337**	⇓*i*P	**P**	**14 33 11.8**	**-0.2**
ARU				*e*		14 35 29.5	
ARU				*e*S	**S**	**14 41 39.7**	**+7.6**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
KIV	**Kislovodsk**	**62.85**	**319**	*i*P	**P**	**14 33 18.5**	**-0.4**
KIV				*e*		14 33 35.7	
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
YAK	**Yakutsk**	**64.70**	**17**	*i*P	**P**	**14 33 29.4**	**-1.4**
YAK				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.2						
BRTR	**Keskin Array B**	**67.66**	**312**	P	**P**	**14 33 49.2**	**-0.8**
	comp=Z,0.7nm,0.5s,mb3.9,baz=141,slow=7.9,SNR=7.1						
BRTR				pP	pP	14 33 57.5	0.0
	comp=Z,0.9nm,0.7s,baz=127,slow=6.2,SNR=3.1						
OBN	**Obninsk**	**71.20**	**328**	*e*P	**P**	**14 34 11.1**	**-0.4**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
TIXI	**Tiksi**	**72.34**	**10**	*i*P	**P**	**14 34 17.1**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
AKASG	**Malin Array Be**	**73.81**	**322**	P	**P**	**14 34 26.2**	**-0.8**
	comp=Z,0.6nm,0.4s,mb3.9,baz=83,slow=4.7,SNR=7.2						
FINES	**FINESS Array B**	**78.60**	**333**	P	**P**	**14 34 53.3**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.9,baz=101,slow=5.1,SNR=13						
FINES				pP	pP	14 35 01.7	+0.3
	comp=Z,1.8nm,0.8s,baz=72,slow=6.0,SNR=3.6						
KAF	**Kangasniemi**	**78.69**	**333**	*e*p	**P**	**14 34 53.0**	**-1.2**
	comp=Z,3.0nm,0.9s,mb4.2						
KAF	**Kangasniemi**	**78.69**	**333**	*e*P	**P**	**14 34 53.0**	**-1.2**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
ARCES	**ARCESS Array B**	**81.21**	**340**	P	**P**	**14 35 08.1**	**+0.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=93,slow=4.7,SNR=19						
GERES	**GERESS Array B**	**83.36**	**319**	P	**P**	**14 35 19.8**	**+0.7**
	comp=Z,1.8nm,0.8s,mb4.2,baz=130,slow=10,SNR=6.3						
GERES				pP	pP	14 35 27.9	+1.1
	comp=Z,0.6nm,0.4s,baz=108,slow=4.2,SNR=2.4						
NOA	**NORSAR Array B**	**85.60**	**331**	LR	LR	15 17 46.6	
	comp=Z,64nm,16.8s,MS4.0,baz=90,slow=38						
YKA	**Yellowknife Ar**	**111.35**	**15**	PP	PP	14 42 07.7	-1.5
	comp=Z,0.2nm,0.9s,baz=326,slow=6.7,SNR=4.4						

KRSC 16 14:28:40.9±1.8, 55.53N×163.77E, h56km±15km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.87**	**322**	*e*P	P	14 28 58.3	+1.2
KBTR				*e*S	S	14 29 10.6	+1.3
BKI	**Bering**	**1.30**	**104**	*e*P	P	14 29 00.7	-2.5
BKI				*e*S	S	14 29 21.0	+1.2
BKI				Smax			
	30nm,0.3s						
MKZ	**Mys Kozlova**	**1.53**	**231**	*i*P	P	14 29 05.3	-1.1
MKZ				*e*S	S	14 29 24.6	-0.7
ZLN	**Zelenaya**	**1.75**	**287**	*e*P	P	14 29 10.2	+0.8
ZLN				*e*S	S	14 29 31.4	+0.8
LGNR	**Loginova**	**1.82**	**289**	*e*P	P	14 29 09.6	-0.9
LGNR				*e*S	S	14 29 32.7	+0.2
KLY	**Klyuchi**	**1.92**	**295**	*e*P	P	14 29 10.7	-1.2
KLY				*e*S	S	14 29 32.8	-2.1
KRSR	**Krestovskiy**	**1.93**	**292**	*e*P	P	14 29 11.4	-0.6
KRSR				*e*S	S	14 29 33.4	-1.7
KMNR	**Kamenistaya**	**2.02**	**278**	*e*P	P	14 29 13.3	+0.1
KMNR				*e*S	S	14 29 36.8	-0.4
KPT	**Kopyto**	**2.05**	**284**	*e*P	P	14 29 14.3	+0.6
KPT				*e*S	S	14 29 39.3	+1.2
TUMR	**Tumrok**	**2.08**	**265**	*e*P	P	14 29 14.0	-0.1
TUMR				*i*S	S	14 29 37.9	-0.9
KOZ	**Kozyrevsk**	**2.26**	**285**	*i*P	P	14 29 18.3	+1.6
KOZ				*i*S	S	14 29 45.4	+1.9
SRDR	**Sredinnyy**	**2.41**	**291**	*i*P	P	14 29 19.6	+0.7
SRDR				*e*S	S	14 29 48.2	+0.9
ESO	**Esso**	**2.90**	**280**	*e*P	P	14 29 27.5	+1.8
ESO				*e*S	S	14 30 01.3	+1.8
ESO				Smax			
	40nm,0.9s						
SPN	**Mys Shipunski**	**3.28**	**224**	*e*P	P	14 29 32.6	+1.5
SPN				*e*S	S	14 30 09.0	-0.2
NLC	**Nalytchevo**	**3.51**	**229**	*e*P	P	14 29 34.3	0.0
NLC				*e*S	S	14 30 12.9	-2.0
UGLR	**Uglovaya**	**3.71**	**233**	*e*P	P	14 29 39.1	+1.9
UGLR				*e*S	S	14 30 19.8	-0.3
AVH	**Avacha**	**3.71**	**234**	*e*P	P	14 29 38.0	+0.8
AVH				*e*S	S	14 30 19.0	-1.1
KOK	**Koryaka**	**3.75**	**235**	*e*P	P	14 29 38.8	+1.1
KOK				*e*S	S	14 30 20.9	0.0
GNL	**Ganaly**	**3.85**	**244**	*e*P	P	14 29 39.3	+0.1
GNL				*e*S	S	14 30 21.1	-2.6
PET	**Petropavlovsk**	**3.91**	**232**	*e*P	P	14 29 42.2	+2.2
PET				*e*S	S	14 30 26.2	+1.1
GRL	**Gorelyy**	**4.49**	**231**	*e*P	P	14 29 49.1	+0.9
GRL				*e*S	S	14 30 38.7	-1.0
APC	**Apacha**	**4.67**	**239**	*e*P	P	14 29 50.0	-0.7
APC				*e*S	S	14 30 40.1	-4.2

IDC 16 15:09:34.6±2.4, 1.21N×97.10E, mb3.8/5, mb1 3.9/6, mb1mx3.7/20, mbtmp3.7/6, ML3.8/1, MS3.5/1, Ms1 3.5/1, ms1mx2.9/33, Error ellipse: s-maj=94.5km s-min=20.7km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.24**	**6**	P	P	15 13 36.0	-2.5
	0.1nm,0.3s,baz=197,slow=11,SNR=7.9						
NWAO	**Narrogin (SRO)**	**38.91**	**153**	LR	LR	15 31 31.0	
	comp=Z,58nm,18.6s,baz=327,slow=34						
WRA	**Warramunga Arr**	**42.12**	**122**	P	P	15 17 29.9	-0.7
	0.6nm,0.6s,baz=303,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**43.48**	**127**	P	P	15 17 38.7	-2.9
	0.5nm,0.9s,baz=296,slow=7.0,SNR=4.1						
SONM	**Songino Array**	**47.14**	**9**	P	P	15 18 09.0	-1.5
	1.3nm,0.7s,baz=190,slow=9.3,SNR=14						
ZAL	**Zalesovo**	**53.52**	**351**	P	P	15 18 57.5	-1.6
	1.5nm,0.4s,baz=298,slow=6.2,SNR=5.7						
BVAR	**Borovoye Array**	**56.21**	**341**	P	P	15 19 15.6	-3.1
	0.9nm,0.7s,baz=141,slow=9.5,SNR=7.7						

*IDC **16** 15:28:24.4±1.4, 0.43N×127.35E, mb3.8/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=87.6km s-min=19.4km az=80.0*
*NEIC **16** 15:28:25.4±0.7, 0.40N×126.98E, h10km, mb4.1/1, Error ellipse: s-maj=27.4km s-min=10.8km az=70.0*

ISC 16 15:28:26.8±0.8, 0.4N±0.1×127.0E±0.2, h33km, n10, σ0§88/10, mb3.8/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**21.45**	**161**	*e*P	**P**	**15 33 14.1**	**-0.4**
	6.5nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**21.46**	**161**	P	**P**	**15 33 14.1**	**-0.4**
	1.7nm,0.4s,mb3.7,baz=340,slow=11,SNR=34						
WB2	**Warramunga Arr**	**21.46**	**161**	*e*P	**P**	**15 33 14.4**	**-0.2**
ASAR	**Alice Springs**	**24.84**	**165**	P	**P**	**15 33 48.1**	**+0.3**
	0.9nm,0.4s,mb3.7,baz=342,slow=11,SNR=17						
ASPA	**Alice Springs**	**24.84**	**165**	*e*P	**P**	**15 33 49.4**	**+1.6**
KULM	**Kulim**	**26.73**	**281**	P	**P**	**15 34 04.9**	**-0.7**
STKA	**Stephens Creek**	**34.95**	**158**	P	**P**	**15 35 17.2**	**-0.7**
	1.5nm,0.7s,mb4.0,baz=300,slow=11,SNR=3.7						
MJAR	**Matsushiro Arr**	**37.45**	**15**	P	**P**	**15 35 38.1**	**-0.9**
	0.7nm,0.4s,mb3.8,baz=184,slow=9.5,SNR=6.3						
BJT	**Baijiatuau**	**40.65**	**347**	P	**P**	**15 36 10.1**	**+4.5**
SONM	**Songino Array**	**50.52**	**342**	P	**P**	**15 37 25.4**	**+1.4**
	0.5nm,1.0s,mb3.4,baz=135,slow=2.0,SNR=3.7						

IDC 16 15:43:25.6±4.9, 1.84S×100.13E, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=195.0km s-min=24.8km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.96**	**121**	P	P	15 50 45.0	-2.1
	0.4nm,0.4s,baz=301,slow=9.1,SNR=9.3						
ASAR	**Alice Springs**	**39.24**	**126**	P	P	15 50 56.4	-1.4
	0.4nm,0.6s,baz=302,slow=7.5,SNR=9.1						
SONM	**Songino Array**	**49.77**	**6**	P	P	15 52 21.1	-0.9
	0.4nm,0.8s,baz=184,slow=9.2,SNR=4.6						
ZAL	**Zalesovo**	**57.03**	**349**	P	P	15 53 12.2	-3.4
	0.8nm,0.5s,baz=222,slow=3.1,SNR=4.1						

IDC 16 15:57:56.2±4.6, 5.14S×150.10E, mb3.4/4, mb1 3.7/4, mb1mx3.5/14, mbtmp3.5/4, Error ellipse: s-maj=72.0km s-min=61.9km az=96.0, New Britain region

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

ISC 16 16:08:22.5±0.3,36.52N±0.02×71.33E±0.03,h231km±3km, h234km±1.5km:pP-P,n206,c0°93/232,mb4.2/70,15C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.74**	**170**	⇑P	**P**	**16 09 12.4**	**+1.0**
CHCP	**Chirah Chowk**	**3.27**	**150**	⇑P	**P**	**16 09 19.9**	**+2.5**
THW	**Thamme Wali**	**3.74**	**175**	⇑P	**P**	**16 09 23.6**	**+0.7**
SBDP	**Sheikh Budin**	**4.24**	**186**	⇓P	**P**	**16 09 27.9**	**-1.0**
SARP	**Sargodha**	**4.72**	**166**	⇑P	**P**	**16 09 35.0**	**+0.1**
SARP				S	**S**	**16 10 28.0**	**-3.2**
KSH	**Kashi**	**4.73**	**49**	⇓*i*P	**P**	**16 09 36.3**	**+1.3**
KSH				S	**S**	**16 10 31.5**	**+0.1**
KSH				Smax			
	comp=N,610nm,0.6s						
KSH				Smax			
	comp=E,690nm,0.6s						
JMU	**Jammu**	**4.81**	**141**	*e*S	**S**	**16 10 31.0**	**-2.0**
DRP	**Derazinda**	**4.86**	**191**	P	**P**	**16 09 36.9**	**+0.3**
THN	**Thein Dam**	**5.46**	**137**	*e*P	**P**	**16 09 44.6**	**+0.5**
THN				*e*S	**S**	**16 10 47.3**	**-0.3**
DLH	**Dalhousie**	**5.52**	**135**	*e*P	**P**	**16 09 46.0**	**+1.2**
DLH				*e*S	**S**	**16 10 49.0**	**0.0**
AML	**Almayashu**	**5.89**	**17**	P	**P**	**16 09 49.6**	**0.0**
	SNR=644						
PONG	**Pong**	**5.95**	**139**	*e*P	**P**	**16 09 50.0**	**-0.3**
PONG				*e*S	**S**	**16 10 58.0**	**-0.8**
UCH	**Uchtor**	**6.21**	**22**	P	**P**	**16 09 53.8**	**+0.2**
	SNR=901						
KZA	**Kyzart**	**6.33**	**28**	P	**P**	**16 09 54.8**	**-0.3**
	SNR=186						
EKS2	**Erkin-Say**	**6.42**	**16**	P	**P**	**16 09 56.6**	**+0.3**
	SNR=53						
AAK	**Ala-Archa**	**6.57**	**21**	P	**P**	**16 09 58.6**	**+0.3**
	SNR=219						
AAK	**Ala-Archa**	**6.57**	**21**	⇓Pn	**P**	**16 09 58.4**	**+0.2**
	comp=E,69nm,0.5s						
AAK				⇑Sn	**S**	**16 11 10.4**	**-2.6**
	comp=E,149nm,0.8s						
AAK	**Ala-Archa**	**6.57**	**21**	*e*PN	**P**	**16 09 57.3**	**-1.0**
AAK				pmax	pmax		
	comp=Z,112nm,0.4s						
AAK	**Ala-Archa**	**6.57**	**21**	*e*Pn	**P**	**16 09 57.3**	**-0.9**
	comp=Z,112nm,0.4s						
AAK				*e*Sn	**S**	**16 11 04.3**	**-8.8**
KK31	**Karatay Array**	**6.60**	**355**	⇑Pn	**P**	**16 09 57.6**	**-1.0**
	comp=Z,37nm,0.6s,baz=172,slow=12,SNR=262						
KK31				⇑Pg	**P**	**16 10 11.9**	**+13**
	comp=Z,46nm,0.8s,baz=160,slow=14,SNR=4.2						
KK31				⇓Sn	**S**	**16 11 08.8**	**-4.8**
	comp=Z,134nm,0.7s,baz=178,slow=22,SNR=5.8						
KK31				⇓Lg		16 11 30.3	
	comp=Z,69nm,0.5s,baz=170,slow=29						
KKAR	**Karatay Array**	**6.60**	**355**	*e*PN	**P**	**16 09 57.6**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.2s						
KKAR				pmax	pmax		
	comp=Z,12nm,0.3s						
BHK	**Bhakra**	**6.62**	**139**	*e*PN	**P**	**16 10 04.6**	**+5.8**
BHK				*e*SN	**S**	**16 11 14.8**	**+0.7**
KBK	**Karagaybulak**	**6.73**	**23**	P	**P**	**16 10 00.7**	**+0.4**
	SNR=172						
FRU	**Bishkek**	**6.79**	**21**	*e*PN	**P**	**16 10 01.0**	**0.0**
FRU				*e*S	**S**	**16 11 16.5**	**-1.6**
FRU				pmax	pmax		
	comp=Z,90nm,1.5s						
FRU				smax			
	comp=E,670nm,1.6s						
SDNR	**Sundarnagar**	**6.86**	**135**	*e*P	**P**	**16 10 01.6**	**-0.3**
SDNR				*e*		16 11 14.4	
ULHL	**Ulahol**	**6.87**	**32**	P	**P**	**16 10 01.7**	**-0.3**
	SNR=70						
CHMS	**Chumysh**	**6.98**	**21**	P	**P**	**16 10 05.1**	**+1.6**
	SNR=13						
USP	**Ospenovka**	**7.16**	**19**	P	**P**	**16 10 06.3**	**+0.5**
	SNR=8.0						
TKM2	**Tokmak 2**	**7.19**	**26**	P	**P**	**16 10 06.3**	**+0.2**
	SNR=235						
SMLA	**Simla**	**7.25**	**136**	⇓*i*	**P**	**16 10 00.6**	**-6.3**
	comp=E,2μm,0.3s						
SMLA				*i*		16 11 19.1	
KLP	**Kalpa**	**7.60**	**129**	*e*P	**P**	**16 10 12.1**	**+0.6**
KLP				*e*		16 11 29.4	
KKR	**Kurukshetra**	**8.00**	**143**	*e*P	**P**	**16 10 16.6**	**+0.1**
KKR				*e*S	**S**	**16 11 42.7**	**-3.0**
DDI	**Dehra Dun**	**8.36**	**136**	*e*	**P**	**16 10 19.0**	**-2.1**
BHGR	**Bahadurgarh**	**9.13**	**147**	*e*P	**P**	**16 10 30.9**	**-0.2**
NDI	**New Delhi**	**9.26**	**146**	*e*P	**P**	**16 10 31.8**	**-0.9**
	comp=E,40nm,0.6s						
NDI				*e*S	**S**	**16 12 10.0**	**-4.7**
AYAN	**Aya Nagar**	**9.39**	**147**	*e*P	**P**	**16 10 34.4**	**0.0**
AYAN				*e*S	**S**	**16 12 14.7**	**-3.0**
SONA	**Sohna**	**9.57**	**148**	*e*P	**P**	**16 10 36.3**	**-0.4**
SONA				*e*S	**S**	**16 12 16.0**	**-5.9**
JASL	**Jaisalmer**	**9.58**	**182**	*e*	**P**	**16 10 36.0**	**-0.7**
PTH	**Pithoragarh**	**10.20**	**130**	*e*P	**P**	**16 10 44.6**	**-0.1**
PTH				*e*		16 12 30.8	
LGTI	**Lohaghat**	**10.29**	**131**	*e*P	**P**	**16 10 45.0**	**-0.8**
LGTI				*e*S	**S**	**16 12 36.5**	**-1.7**
AJM	**Ajmer**	**10.40**	**163**	*e*P	**P**	**16 10 47.1**	**-0.3**
AJM				*e*		16 11 00.5	
	comp=Z,47nm,0.5s						
AJM				*e*S	**S**	**16 12 33.5**	**-7.4**
AJM				*e*		16 12 54.4	
	comp=N,77nm,0.4s						
AJM				*e*		16 12 54.7	
	comp=E,121nm,0.9s						
AGRA	**Agra**	**10.84**	**147**	*e*P	**P**	**16 10 52.5**	**-0.3**
AGRA				*e*		16 12 44.8	
KOLN	**Koldanda**	**13.56**	**127**	*e*P	**P**	**16 11 27.3**	**+0.3**
	comp=E,39nm,0.3s						
KOLN				*e*S	**S**	**16 13 52.6**	**-0.2**
GKN	**Gorkha**	**14.10**	**123**	*e*P	**P**	**16 11 34.3**	**+0.8**
	comp=E,131nm,0.4s						
GKN				*e*S	**S**	**16 14 04.0**	**-0.6**
BHPL	**Bhopal**	**14.25**	**157**	*e*P	**P**	**16 11 38.4**	**+2.9**
BHPL				*e*P		16 11 38.7	
BHPL				*e*		16 11 40.6	
	comp=Z,73nm,1.1s						
BHPL				*e*		16 14 08.5	
WMQ	**Urumqi**	**14.47**	**55**	P	**P**	**16 11 37.8**	**-0.3**
WMQ				XP		16 12 35.8	
WMQ				S	**S**	**16 14 12.8**	**-0.1**
WMQ				PCP	PcP	16 16 38.0	+1.2
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.4s						
WMQ				AMB	AMB		
	comp=Z,21nm,3.3s						
DMN	**Daman**	**14.67**	**123**	*e*P	**P**	**16 11 41.2**	**+0.6**
	comp=Z,102nm,0.4s						
DMN				*e*S	**S**	**16 14 17.5**	**+0.1**
KKN	**Kakani**	**14.67**	**122**	*e*P	**P**	**16 11 41.1**	**+0.5**
	comp=Z,132nm,0.6s						
KKN				*e*S	**S**	**16 14 17.2**	**-0.2**
PKI	**Pulchoki**	**14.90**	**123**	*e*P	**P**	**16 11 43.9**	**+0.5**
	comp=Z,73nm,0.4s						
PKI				*e*S	**S**	**16 14 24.0**	**+1.5**
GUN	**Gumba**	**15.00**	**121**	*e*P	**P**	**16 11 45.1**	**+0.4**
	comp=Z,81nm,0.4s						
GUN				*e*S	**S**	**16 14 25.0**	**+0.2**
JIRN	**Jiri**	**15.37**	**121**	*e*P	**P**	**16 11 50.2**	**+1.0**
	comp=Z,167nm,0.5s						
JIRN				*e*S	**S**	**16 14 34.6**	**+1.4**
BVA0	**Borovoye Array**	**16.51**	**358**	⇑Pn	**P**	**16 12 01.5**	**-1.0**
	comp=Z,2.1nm,0.4s,baz=169,slow=9.1,SNR=60						
BVA0				⇑Sn	**S**	**16 15 02.5**	**+4.5**
	comp=Z,1.3nm,0.9s,baz=166,slow=23,SNR=4.8						
BVA0	**Borovoye Array**	**16.51**	**358**	*i* P	**P**	**16 12 01.4**	**-1.1**
BVA0				*i*		16 14 57.9	
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVA0				smax			
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**16.51**	**358**	P	**P**	**16 12 01.8**	**-0.6**
	comp=Z,4.7nm,0.3s,baz=164,slow=11,SNR=56						
BVAR				S	**S**	**16 15 00.3**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=164,slow=21,SNR=5.8						
BANOM	**Banah**	**16.62**	**235**	P	**P**	**16 12 04.0**	**+0.1**
	SNR=12						
BLSP	**Bilaspur**	**17.14**	**144**	*e*	**P**	**16 12 10.6**	**+1.0**
BLSP				*e*		16 12 12.4	
	comp=Z,50nm,1.2s						
BLSP				*e*		16 15 13.7	
WBK	**Wadi Bani Khal**	**17.52**	**221**	P	**P**	**16 12 14.3**	**+0.8**
	SNR=5.2						
ASHO	**Ashiyiah**	**17.64**	**232**	P	**P**	**16 12 14.5**	**-0.3**
	SNR=5.6						
SMDO	**Samad**	**17.66**	**224**	⇑P	**P**	**16 12 15.6**	**+0.5**
LSA	**Lhasa**	**17.93**	**107**	*e*P	**P**	**16 12 21.0**	**+3.2**
LSA	**Lhasa**	**17.93**	**107**	*e*P	**P**	**16 12 20.4**	**+2.6**
LSA				pmax	pmax		
	comp=Z,24nm,0.8s						
LSA	**Lhasa**	**17.93**	**107**	*e*P	**P**	**16 12 20.4**	**+2.6**
	comp=Z,24nm,0.8s						
POO	**Poona**	**18.06**	**172**	⇓*i*	**P**	**16 12 19.0**	**-0.2**
	comp=Z,40nm,1.0s						
POO				*e*		16 16 10.0	
JMDO	**Jabal Madar**	**18.18**	**223**	P	**P**	**16 12 21.1**	**+0.7**
	SNR=16						
BSY	**Bisya**	**18.39**	**226**	P	**P**	**16 12 23.4**	**+0.9**
	SNR=8.4						
KAD	**Karad**	**19.31**	**172**	*e*	**P**	**16 12 32.0**	**+0.1**
ZAL	**Zalesovo**	**19.77**	**24**	P	**P**	**16 12 36.3**	**-0.1**
	comp=Z,4.7nm,0.3s,baz=255,slow=10,SNR=52						
ZAL				S	**S**	**16 16 03.7**	**+2.2**
	baz=169,slow=20,SNR=5.3						
ZAL	**Zalesovo**	**19.77**	**24**	P	**P**	**16 12 36.3**	**-0.1**
ZAL				S	**S**	**16 16 03.7**	**+2.2**
HYB	**Hyderabad**	**20.08**	**160**	*e*P	**P**	**16 12 42.0**	**+2.3**
HYB				pmax	pmax		
	comp=Z,39nm,0.8s						
HYB	**Hyderabad**	**20.08**	**160**	*e*P	**P**	**16 12 42.0**	**+2.3**
	comp=Z,38nm,0.8s						
HYB	**Hyderabad**	**20.08**	**160**	*i* P	**P**	**16 12 42.0**	**+2.3**
	comp=Z,38nm,0.8s						
HYB				*e*S	**S**	**16 16 12.5**	**+5.2**
SHL	**Shillong**	**20.68**	**116**	*e*	**P**	**16 12 48.0**	**+2.3**
GNI	**Garni**	**21.14**	**288**	*e*P	**P**	**16 12 52.5**	**+2.5**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GNI	**Garni**	**21.14**	**288**	*e*P	**P**	**16 12 52.5**	**+2.5**
	comp=Z,6.5nm,0.7s,mb4.3						
SVE	**Sverdlovsk**	**21.54**	**344**	⇓*e*P	**P**	**16 12 52.0**	**-1.9**
SVE				*e*		16 14 04.0	
SVE				pmax	pmax		
	comp=Z,44nm,1.5s,mb4.8						
ARU	**Arti**	**21.70**	**341**	⇑*i*P	**P**	**16 12 56.4**	**+1.1**
ARU				*e*S	**S**	**16 16 42.8**	**+7.0**
ARU				pmax	pmax		
	comp=Z,29nm,0.8s,mb4.9						
ARU	**Arti**	**21.70**	**341**	*e*P	**P**	**16 12 56.1**	**+0.8**
	comp=Z,28nm,0.8s,mb4.8						
ARU				*e*		16 14 03.4	
ZEI	**Tsey**	**21.97**	**295**	*e*P	**P**	**16 12 58.9**	**+0.8**
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
GTA	**Gaotai**	**22.61**	**74**	P	**P**	**16 13 03.8**	**-0.5**
GTA				PP	PP	16 13 51.3	+10
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.0						
GOF	**Gofitskoye**	**22.96**	**301**	⇑*i*P	**P**	**16 13 08.8**	**+1.1**
GOF				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.5						
KIV	**Kislovodsk**	**23.01**	**298**	*i* P	**P**	**16 13 07.8**	**-0.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
KIV	**Kislovodsk**	**23.01**	**298**	P	**P**	**16 13 15.3**	**+7.2**
WHFO	**Wadi Hawf**	**24.16**	**225**	P	**P**	**16 13 19.6**	**+0.5**
	SNR=9.7						
RBK	**Rabkut**	**24.25**	**223**	P	**P**	**16 13 20.5**	**+0.5**
	SNR=11						
ABTO	**Aybut**	**24.88**	**225**	P	**P**	**16 13 26.8**	**+1.0**
	SNR=14						
ZAK	**Zakamensk**	**26.78**	**49**	*e*P	**P**	**16 13 44.0**	**+1.1**
ZAK				*e*	pP	16 14 30.1	+2.1
ZAK				*e*		16 15 00.2	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.2						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.4						
TLY	**Talaya**	**27.43**	**46**	*e*P	**P**	**16 13 50.2**	**+1.4**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
TLY	**Talaya**	**27.43**	**46**	*e*P	**P**	**16 13 50.2**	**+1.4**
	comp=Z,1.7nm,0.6s,mb3.9						
SONM	**Songino Array**	**28.11**	**55**	P	**P**	**16 13 55.5**	**+0.6**
	comp=Z,1.5nm,0.9s,mb3.6,baz=268,slow=9.3,SNR=12						
SONM				pP	pP	16 14 41.7	+1.1
	comp=Z,0.7nm,0.7s,baz=254,slow=10,SNR=3.9						
ULN	**Ulaanbaatar**	**28.55**	**55**	*e*P	**P**	**16 13 57.7**	**-1.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
ULN	**Ulaanbaatar**	**28.55**	**55**	*e*P	**P**	**16 13 57.7**	**-1.1**
	comp=Z,2.2nm,0.9s,mb3.8						
KMI	**Kunming**	**29.15**	**104**	P	**P**	**16 14 04.8**	**+0.4**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.1						
KMI	**Kunming**	**29.15**	**104**	P	**P**	**16 14 04.7**	**+0.3**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
KMI	**Kunming**	**29.15**	**104**	P	**P**	**16 14 04.7**	**+0.3**
	comp=Z,5.0nm,1.1s,mb4.1						
BRTR	**Keskin Array B**	**29.68**	**288**	P	**P**	**16 14 09.2**	**+0.4**
	comp=Z,1.6nm,0.6s,mb3.8,baz=98,slow=9.7,SNR=10						
BRTR				pP	pP	16 14 56.1	+1.0
	comp=Z,0.7nm,0.7s,baz=208,slow=40,SNR=1.4						
OBN	**Obninsk**	**30.09**	**319**	*e*/*i*P	**P**	**16 14 11.7**	**-0.6**
OBN				*i*		16 15 25.1	
OBN				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.8						
OBN	**Obninsk**	**30.09**	**319**	*e*P	**P**	**16 14 11.7**	**-0.6**
	comp=Z,20nm,0.6s,mb4.9						
CM31	**Chiang Mai Arr**	**30.24**	**119**	*e*P	**P**	**16 14 14.1**	**+0.1**
	comp=Z,3.4nm,0.6s,mb4.2						
CMAR	**Chiang Mai Arr**	**30.24**	**119**	P	**P**	**16 14 14.6**	**+0.6**
	comp=Z,5.0nm,0.9s,mb4.1,baz=301,slow=8.3,SNR=39						
CMAR				pP	pP	16 15 02.8	+2.4
	comp=Z,2.0nm,1.0s,baz=310,slow=9.1,SNR=3.5						
PALK	**Pallekele**	**30.35**	**161**	*e*P	**P**	**16 14 15.5**	**+0.5**
	comp=Z,8.9nm,0.7s,mb4.5						
CSS	**Prodhromos**	**30.75**	**279**	P	**P**	**16 14 16.7**	**-1.6**
	comp=Z,14nm,0.9s,mb4.6						
HHC	**Hu-ho-hao-te**	**31.51**	**70**	*e*P	**P**	**16 14 31.3**	**+6.5**
HHC				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,87nm,5.1s						
ENH	**Enshi**	**32.31**	**90**	P	**P**	**16 14 32.3**	**+0.4**
	comp=Z,15nm,1.2s,mb4.4						
AKASG	**Malin Array Be**	**33.13**	**309**	P	**P**	**16 14 38.0**	**-0.8**
	comp=Z,1.3nm,0.3s,mb3.9,baz=80,slow=8.0,SNR=10.0						
AKASG				pP	pP	16 15 25.2	-0.7
	comp=Z,0.9nm,0.6s,baz=81,slow=8.5,SNR=2.3						
AKASG				PP	PP	16 15 57.1	-1.5
	comp=Z,3.0nm,0.7s,baz=88,slow=9.4,SNR=10						
AKASG	**Malin Array Be**	**33.13**	**309**	P	**P**	**16 14 38.0**	**-0.8**
AKASG				pP	pP	16 15 25.2	-0.7
AKASG				PP	PP	16 15 57.1	-1.5
MLR	**Muntele Rosu**	**35.00**	**299**	P	**P**	**16 14 55.6**	**+1.0**
	comp=Z,4.0nm,0.8s,mb4.0,baz=126,slow=0.9,SNR=8.2						
BOD	**Bodaibo**	**35.17**	**39**	*e*P	**P**	**16 14 54.4**	**-1.5**
JOF	**Joensuu**	**35.98**	**330**	*e*p	**P**	**16 15 02.1**	**-0.6**
	comp=Z,9.2nm,0.4s,mb4.7						
KWP	**Kalwaria**	**37.21**	**306**	*e*P	**P**	**16 15 13.5**	**+0.4**
KWP				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
KWP	**Kalwaria**	**37.21**	**306**	*e*P	**P**	**16 15 13.5**	**+0.4**
	comp=Z,4.0nm,0.6s,mb4.1						
FINES	**FINESS Array B**	**37.61**	**326**	P	**P**	**16 15 16.3**	**0.0**
	comp=Z,5.4nm,0.5s,mb4.3,baz=114,slow=9.9,SNR=72						
FINES				pP	pP	16 16 03.3	-1.1
	comp=Z,0.5nm,0.4s,baz=107,slow=14,SNR=3.8						
FINES				PP	PP	16 16 42.9	-5.7
	comp=Z,1.3nm,0.6s,baz=106,slow=14,SNR=3.4						
FINES	**FINESS Array B**	**37.61**	**326**	P	**P**	**16 15 16.3**	**0.0**
FINES				pP	pP	16 16 03.3	-1.1
FINES				PP	PP	16 16 42.9	-5.7
KAF	**Kangasniemi**	**37.75**	**327**	*e*p	**P**	**16 15 16.7**	**-0.8**
	comp=Z,2.6nm,0.5s,mb4.0,baz=111,slow=8.3						
KAF	**Kangasniemi**	**37.75**	**327**	*e*P	**P**	**16 15 16.7**	**-0.8**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.1						
ARCES	**ARCESS Array B**	**41.22**	**337**	P	**P**	**16 15 46.6**	**+0.6**
	comp=Z,9.5nm,0.6s,mb4.4,baz=112,slow=8.4,SNR=56						
ARCES				pP	pP	16 16 35.1	+0.5
	comp=Z,3.2nm,0.8s,baz=120,slow=7.3,SNR=2.8						
ARE0	**ARCESS Array S**	**41.22**	**337**	*e*P	**P**	**16 15 43.9**	**-2.1**
SSE	**Sheshan**	**41.41**	**83**	*e*P	**P**	**16 15 46.4**	**-1.5**
SSE				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.5						
SSE				AMB	AMB		
	comp=Z,33nm,3.5s						
SSE	**Sheshan**	**41.41**	**83**	*e*P	**P**	**16 15 46.4**	**-1.5**
	comp=Z,16nm,0.8s,mb4.5						
HFS	**Hagfors**	**43.21**	**322**	P	**P**	**16 16 02.0**	**-0.1**
	comp=Z,7.9nm,0.5s,mb4.4,baz=98,slow=10,SNR=33						
YAK	**Yakutsk**	**43.80**	**35**	*e*P	**P**	**16 16 05.0**	**-1.7**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.3						
YAK	**Yakutsk**	**43.80**	**35**	*e*P	**P**	**16 16 05.0**	**-1.7**
	comp=Z,15nm,0.9s,mb4.3						
NB2	**NORSAR Subarra**	**44.52**	**323**	P	**P**	**16 16 11.8**	**-0.6**
	comp=Z,6.7nm,0.7s,mb4.1,baz=94,slow=7.4						
NB2	**NORSAR Subarra**	**44.52**	**323**	P	**P**	**16 16 11.8**	**-0.6**
NB2				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.1						
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**16 16 12.0**	**-0.4**
	comp=Z,6.3nm,0.8s,mb4.0,baz=96,slow=7.7,SNR=30						
NOA				pP	pP	16 17 01.0	-0.7
	comp=Z,1.8nm,0.7s,baz=90,slow=7.3,SNR=1.9						
NOA				PP	PP	16 17 56.4	-3.4
	comp=Z,2.4nm,0.8s,baz=100,slow=8.2,SNR=4.0						
NOA	**NORSAR Array B**	**44.52**	**323**	P	**P**	**16 16 12.0**	**-0.4**
NOA				pP	pP	16 17 01.0	-0.7
NOA				PP	PP	16 17 56.4	-3.4
NAO01	**NORSAR Array S**	**44.66**	**323**	*e*P	**P**	**16 16 12.0**	**-1.6**
	comp=Z,12nm,1.0s,mb4.2						
KONO	**Kongsberg**	**45.23**	**321**	P	**P**	**16 16 13.1**	**-5.0**
KONO				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.1						
KONO	**Kongsberg**	**45.23**	**321**	P	**P**	**16 16 13.1**	**-5.0**
	comp=Z,13nm,1.2s,mb4.1						
TIXI	**Tiksi**	**45.66**	**22**	⇑*i*P	**P**	**16 16 21.3**	**0.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.0						
CDF	**Champ du Feu**	**47.41**	**306**	*e*P	**P**	**16 16 36.3**	**+1.1**
HINF	**Hinteralfeld**	**47.80**	**305**	*e*P	**P**	**16 16 37.9**	**-0.4**
WLF	**Walferdange**	**47.92**	**307**	P	**P**	**16 16 39.3**	**+0.1**
WLF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.2						
WLF	**Walferdange**	**47.92**	**307**	P	**P**	**16 16 39.3**	**+0.1**
	comp=Z,12nm,1.0s,mb4.2						
HAU	**Haudompre**	**48.10**	**305**	*e*P	**P**	**16 16 40.4**	**-0.1**
LPG	**La Plagne**	**48.36**	**302**	*e*P	**P**	**16 16 43.5**	**+0.9**
	comp=Z,7.2nm,0.7s,mb3.8						
LPG	**La Plagne**	**48.36**	**302**	*e*P	**P**	**16 16 43.5**	**+0.9**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb3.9						
LPL	**La Plagne**	**48.37**	**302**	*e*P	**P**	**16 16 43.1**	**+0.5**
	comp=Z,4.5nm,0.6s,mb3.7						
LPL	**La Plagne**	**48.37**	**302**	*e*P	**P**	**16 16 43.1**	**+0.5**
LPL				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
MBDF	**Montbardon**	**48.52**	**301**	*e*P	**P**	**16 16 43.3**	**-0.5**
	comp=Z,7.8nm,0.5s,mb4.0						
MBDF	**Montbardon**	**48.52**	**301**	*e*P	**P**	**16 16 43.3**	**-0.5**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
CABF	**La Chapelle**	**48.56**	**303**	*e*P	**P**	**16 16 44.6**	**+0.5**
	comp=Z,20nm,1.0s,mb4.1						
CABF	**La Chapelle**	**48.56**	**303**	*e*P	**P**	**16 16 44.6**	**+0.5**
CABF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.1						
MEZF	**Maizieres J'vi**	**48.85**	**306**	*e*P	**P**	**16 16 45.3**	**-0.9**
	comp=Z,6.6nm,0.5s,mb3.9						
KMBO	**Kilima Mbogo**	**49.04**	**228**	*e*P	**P**	**16 16 49.3**	**+1.1**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMBO	**Kilima Mbogo**	**49.04**	**228**	P	**P**	**16 16 49.3**	**+1.1**
	comp=Z,2.1nm,0.6s,mb3.6,baz=37,slow=12,SNR=7.9						
KMBO	**Kilima Mbogo**	**49.04**	**228**	*e*P	**P**	**16 16 49.3**	**+1.1**
	comp=Z,3.1nm,0.8s,mb3.7						
VIVF	**Saint-Julien-l**	**49.94**	**301**	*e*P	**P**	**16 16 54.5**	**-0.1**
SMF	**Signal de Mont**	**50.06**	**304**	*e*P	**P**	**16 16 55.1**	**-0.3**
	comp=Z,4.0nm,0.5s,mb3.7						
SMF	**Signal de Mont**	**50.06**	**304**	*e*P	**P**	**16 16 55.1**	**-0.3**
SMF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
SSF	**Saint Saulge**	**50.18**	**304**	*e*P	**P**	**16 16 55.9**	**-0.5**
AVF	**Avril sur Loir**	**50.35**	**304**	*e*P	**P**	**16 16 57.2**	**-0.4**
	comp=Z,16nm,0.9s,mb4.0						
AVF	**Avril sur Loir**	**50.35**	**304**	*e*P	**P**	**16 16 57.2**	**-0.4**
AVF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.0						
TCF	**Toulx Ste Croi**	**51.24**	**304**	*e*P	**P**	**16 17 04.3**	**0.0**
MBAR	**Mbarara**	**52.73**	**235**	*e*P	**P**	**16 17 14.0**	**-1.8**
MBAR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
MBAR	**Mbarara**	**52.73**	**235**	*e*P	**P**	**16 17 14.0**	**-1.7**
	comp=Z,6.6nm,0.8s,mb4.1						
ETSF	**Etsaut**	**54.13**	**300

comp=Z,2.9nm,0.6s,mb4.1
MCK McKinley 75.10 17 *e*P **P 16 19 39.7 -0.4**
MCK *e**PP pP 16 20 35.8 +1.0
MCK pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
MCK McKinley 75.10 17 *e*P **P 16 19 39.7 -0.4**
comp=Z,1.0nm,0.6s,mb3.6
MCK *e*pP pP 16 20 35.8 +1.0
FRB Frobisher Bay 75.12 343 P **P 16 19 39.8 -0.5**
comp=Z,1.4nm,0.5s,mb3.9,baz=47,slow=8.1,SNR=5.4
TSUM Tsumeb 75.14 232 *e*P **P 16 19 40.7 -0.5**
comp=Z,2.9nm,0.8s,mb4.0
KAKA Kakadu 75.51 118 *e*P **P 16 19 42.9 -0.5**
comp=Z,5.0nm,0.6s,mb4.3
BOSA Boshof 77.93 220 *e*P **P 16 19 55.6 -1.0**
BOSA pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
BOSA Boshof 77.93 220 P **P 16 19 56.3 -0.3**
comp=Z,1.1nm,0.5s,mb3.8,baz=276,slow=20,SNR=5.3
BOSA Boshof 77.93 220 *e*P **P 16 19 55.6 -0.9**
comp=Z,7.2nm,1.0s,mb4.3
YKW3 Yellowknife Ar 81.14 3 *e*P **P 16 20 12.7 -0.2**
YKW3 *e*pP pP 16 21 09.7 +1.2
YKA Yellowknife Ar 81.21 3 P **P 16 20 13.8 +0.5**
comp=Z,1.7nm,0.5s,mb4.0,baz=351,slow=5.4,SNR=109
YKA pP pP 16 21 09.8 +0.9
comp=Z,1.3nm,0.7s,baz=350,slow=5.6,SNR=8.8
WRA Warramunga Arr 81.78 122 P **P 16 20 16.6 -0.4**
comp=Z,3.8nm,0.4s,mb4.4,baz=324,slow=4.9,SNR=267
WRAB Tennant Creek 81.78 122 *e*P **P 16 20 16.6 -0.4**
WRAB *e**PP pP 16 21 15.1 +2.4
WRAB pmax pmax
comp=Z,11nm,0.7s,mb4.6
WRAB Tennant Creek 81.78 122 *e*P **P 16 20 16.6 -0.5**
comp=Z,10nm,0.7s,mb4.6
WRAB *e*pP pP 16 21 15.1 +2.4
WB2 Warramunga Arr 81.79 122 ||*i*P **P 16 20 16.6 -0.5**
ASPA Alice Springs 84.05 125 *e*P **P 16 20 27.9 -0.7**
ASAR Alice Springs 84.05 125 P **P 16 20 28.1 -0.4**
comp=Z,6.1nm,0.7s,mb4.5,baz=310,slow=5.0,SNR=111
CTAO Charters Tower 90.31 115 *e*P **P 16 21 07.7 +9.1**
CTAO pmax pmax
comp=Z,57nm,1.6s,mb5.2
CTAO Charters Tower 90.31 115 *e*P **P 16 21 07.7 +9.0**
comp=Z,57nm,1.6s,mb5.2
STKA Stephens Creek 94.59 127 P **P 16 21 17.8 -0.3**
comp=Z,1.2nm,0.9s,mb4.0,baz=326,slow=7.3,SNR=3.1
STKA Stephens Creek 94.59 127 *e*P **P 16 21 17.6 -0.5**
PPT Papeete 139.34 73 *e*LR LR 16 25 17.7
comp=Z,191nm,26.5s
TBI Tubuai 142.57 81 *e*LR LR 16 24 48.4
comp=Z,254nm,26.8s
CFAA Coronel Fontan 146.32 266 PKPbc PKPbc 16 27 36.3 +0.5
comp=Z,0.2nm,0.5s,baz=97,slow=2.8,SNR=4.0
PLCA Paso Flores 150.08 250 PKIKP PKPdf 16 27 47.1 +7.1
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA Paso Flores 150.08 250 PKPbc PKPdf 16 27 47.0 +7.0
comp=Z,1.8nm,0.9s,baz=58,slow=14,SNR=5.5

IDC 16 16:10:36.4±1.8, 23.08S×114.77W, mb3.8/3, mb1 4.2/3, mb1mx3.8/16, mbtmp3.8/3, MS3.7/5, Ms1 3.8/5, ms1mx3.5/25, Error ellipse: s-maj=103.6km s-min=52.7km az=103.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.36**	**130**	LR	LR	16 14 00.9	
	comp=Z,484nm,19.1s,baz=144,slow=32						
PPT	**Papeete**	**33.05**	**273**	LR	LR	16 27 22.1	
	comp=Z,347nm,18.4s,baz=114,slow=30						
CFAA	**Coronel Fontan**	**41.94**	**112**	LR	LR	16 31 42.6	
	comp=Z,30nm,20.0s,baz=271,slow=30						
LPAZ	**La Paz**	**44.28**	**90**	LR	LR	16 33 25.1	
	comp=Z,103nm,21.6s,baz=294,slow=31						
CPUP	**Villa Florida**	**51.92**	**106**	LR	LR	16 36 37.0	
	comp=Z,118nm,19.1s,baz=205,slow=30						
NVAR	**Mina Array Bea**	**61.27**	**357**	P	P	16 20 55.0	-0.9
	0.8nm,0.3s,baz=180,slow=8.1,SNR=5.1						
PDAR	**Pinedale Array**	**65.69**	**4**	P	P	16 21 21.2	-3.7
	0.5nm,0.9s,baz=214,slow=3.3,SNR=3.5						
YKA	**Yellowknife Ar**	**85.27**	**0**	P	P	16 23 14.9	-0.9
	1.1nm,1.0s,baz=173,slow=5.0,SNR=8.4						
CMAR	**Chiang Mai Arr**	**148.19**	**268**	PKPbc	PKPdf	16 30 23.6	+0.1
	0.7nm,0.8s,baz=117,slow=1.7,SNR=6.3						
BRTR	**Keskin Array B**	**148.54**	**51**	PKPbc	PKPdf	16 30 25.2	+1.7
	1.6nm,0.9s,baz=225,slow=1.7,SNR=7.0						
BVAR	**Borovoye Array**	**149.84**	**354**	PKPbc	PKPdf	16 30 28.9	+3.8
	0.4nm,0.5s,baz=45,slow=2.1,SNR=4.8						

IDC 16 16:17:25.2±4.0, 22.35S×111.92W, mb3.6/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.6/3, Error ellipse: s-maj=179.2km s-min=30.6km az=48.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**39.79**	**113**	P	P	16 24 60.0	-1.8
	0.7nm,0.3s,baz=302,slow=9.5,SNR=34						
NVAR	**Mina Array Bea**	**60.75**	**354**	P	P	16 27 39.8	-1.4
	0.3nm,0.5s,baz=180,slow=9.0,SNR=3.8						
YKA	**Yellowknife Ar**	**84.58**	**359**	P	P	16 29 58.3	-2.9
	0.4nm,0.8s,baz=174,slow=5.1,SNR=8.1						
BRTR	**Keskin Array B**	**146.05**	**51**	PKPbc	PKPbc	16 37 07.6	+0.2
	0.8nm,0.7s,baz=315,slow=3.5,SNR=4.2						
BVAR	**Borovoye Array**	**149.33**	**357**	PKPbc	PKPdf	16 37 15.5	+2.4
	0.2nm,0.5s,baz=18,slow=4.6,SNR=2.5						

*CSEM **16** 16:27:06.4±0.1, 34.82N×4.14W, h15km, MD3.4, Error ellipse: s-maj=3.3km s-min=2.1km az=101.0*
*MDD **16** 16:27:07.4±0.5, 34.81N×4.10W, h4km±5km, mbLg2.0/19, Error ellipse: s-maj=5.5km s-min=3.1km az=110.0, PRXIMO*
*CNRM **16** 16:27:07.5, 34.80N×4.10W, h1km, MD3.4*
*NEIC **16** 16:27:08.4, 34.89N×4.06W, MG3.3(MDD), After MDD.*

ISC 16 16:27:05.2±0.3, 34.84N±0.02×4.22W±0.03, h4km, n61, σ1§26/112, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.40**	**72**	P	**Pg**	**16 27 13.0**	**-0.3**
TOU				S	**Sg**	**16 27 18.0**	**-0.7**
TOU	**Touzarine**	**0.40**	**72**	*i* P	**Pg**	**16 27 13.0**	**-0.3**
MPAL	**Palemas**	**0.45**	**31**	P	**Pg**	**16 27 15.0**	**+0.8**
MPAL				S	**Sg**	**16 27 22.0**	**+1.8**
MPAL	**Palemas**	**0.45**	**31**	*i* P	**Pg**	**16 27 15.0**	**+0.8**
TZK	**Tazeka**	**0.75**	**178**	P	**Pg**	**16 27 21.0**	**+0.9**
TZK				S	**Sg**	**16 27 30.0**	**-0.1**
TZK	**Tazeka**	**0.75**	**178**	*i* P	**Pg**	**16 27 21.0**	**+0.9**
ZAI	**Zaio**	**1.22**	**83**	*i* P	**Pb**	**16 27 28.0**	**-0.5**
ZAI				*i* S	**Sb**	**16 27 44.0**	**-0.4**
EALB	**Alboran**	**1.47**	**41**	P	**Pn**	**16 27 32.6**	**+0.1**
	13nm,0.1s,SNR=4.0						
EALB				S	**Sb**	**16 27 50.8**	**-0.8**
	25nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.47**	**41**	P	**Pn**	**16 27 32.6**	**+0.1**
	13nm,0.1s,SNR=4.0						
EALB				S	**Sb**	**16 27 50.8**	**-0.8**
	25nm,0.2s,SNR=7.9						
TAF	**Taforalt**	**1.49**	**90**	P	**Pn**	**16 27 33.0**	**+0.2**
TAF				S	**Sb**	**16 27 52.0**	**-0.2**
EMIJ	**Mijas**	**1.78**	**346**	P	**Pn**	**16 27 37.3**	**+0.2**
EMIJ				S	**Sn**	**16 27 57.6**	**-2.7**
EMIJ	**Mijas**	**1.78**	**346**	P	**Pn**	**16 27 37.7**	**+0.7**
	0.9nm,0.3s,SNR=12						
EMIJ				S	**Sn**	**16 27 57.6**	**-2.7**
	10nm,0.2s,SNR=5.6						
EMIJ	**Mijas**	**1.78**	**346**	P	**Pn**	**16 27 37.3**	**+0.3**
	0.9nm,0.3s,SNR=12						
EMIJ				S	**Sn**	**16 27 57.6**	**-2.8**
	10nm,0.2s,SNR=5.6						
EJIF	**Jimena Fronter**	**1.91**	**328**	P	**Pn**	**16 27 43.5**	**+4.7**
	1.0nm,0.3s,SNR=4.0						
EJIF				S	**Sn**	**16 28 04.8**	**+1.3**
	1.9nm,0.2s,SNR=4.0						
CZD	**Col de Zad**	**1.92**	**201**	*i* P	**Pn**	**16 27 40.0**	**+0.9**
CZD				*i* S	**Sn**	**16 28 03.0**	**-1.0**
ERON	**Agron**	**2.20**	**9**	P	**Pn**	**16 27 45.0**	**+1.9**
ERON				S	**Sn**	**16 28 10.7**	**-0.4**
ERON	**Agron**	**2.20**	**9**	P	**Pn**	**16 27 43.8**	**+0.7**
	1.3nm,0.3s,SNR=4.0						
ERON				S	**Sn**	**16 28 10.7**	**-0.4**

2005 APR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	3.2nm,0.2s,SNR=4.0						
ERON	**Agron**	**2.20**	**9**	P	**Pn**	**16 27 45.0**	**+1.9**
	1.3nm,0.3s,SNR=4.0						
ERON				S	**Sn**	**16 28 10.7**	**-0.4**
	3.2nm,0.2s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.31**	**1**	P	**Pn**	**16 27 44.5**	**-0.1**
	6.3nm,0.3s,SNR=7.9						
ELOJ				S	**Sn**	**16 28 13.6**	**-0.1**
	1.5nm,0.2s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.31**	**1**	S	**Sn**	**16 28 16.9**	**+3.2**
	1.5nm,0.2s,SNR=4.0						
EBER	**Berja**	**2.32**	**27**	P	**Pn**	**16 27 44.3**	**-0.5**
	1.6nm,0.2s,SNR=7.5						
EBER				S	**Sn**	**16 28 12.8**	**-1.4**
	4.2nm,0.2s,SNR=5.6						
EBER	**Berja**	**2.32**	**27**	P	**Pn**	**16 27 44.3**	**-0.5**
	1.6nm,0.2s,SNR=7.5						
EBER				S	**Sn**	**16 28 12.8**	**-1.4**
	4.2nm,0.2s,SNR=5.6						
ESPR	**Espera**	**2.42**	**327**	P	**Pn**	**16 27 48.7**	**+2.5**
ESPR				S	**Sn**	**16 28 15.6**	**-1.2**
ESPR	**Espera**	**2.42**	**327**	P	**Pn**	**16 27 48.4**	**+2.2**
	1.3nm,0.2s,SNR=4.0						
ESPR				S	**Sn**	**16 28 17.2**	**+0.5**
	2.2nm,0.2s,SNR=4.0						
ESPR	**Espera**	**2.42**	**327**	P	**Pn**	**16 27 48.7**	**+2.5**
	1.3nm,0.2s,SNR=4.0						
ESPR				S	**Sn**	**16 28 15.6**	**-1.1**
ECOG	**Cogollos-Vega**	**2.49**	**12**	P	**Pn**	**16 27 49.2**	**+1.9**
ECOG				S	**Sn**	**16 28 18.3**	**-0.2**
ECOG	**Cogollos-Vega**	**2.49**	**12**	P	**Pn**	**16 27 47.5**	**+0.3**
	3.1nm,0.2s,SNR=4.0						
ECOG				S	**Sn**	**16 28 18.3**	**-0.2**
	2.6nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**2.49**	**12**	P	**Pn**	**16 27 49.2**	**+2.0**
	3.1nm,0.2s,SNR=4.0						
ECOG				S	**Sn**	**16 28 18.3**	**-0.2**
	2.6nm,0.2s,SNR=4.0						
ENIJ	**Nijar**	**2.69**	**37**	P	**Pn**	**16 27 49.6**	**-0.4**
	9.5nm,0.4s,SNR=7.9						
ENIJ				S	**Sn**	**16 28 20.5**	**-2.9**
	15nm,0.9s,SNR=7.9						
KIB	**El Ksiba**	**2.72**	**214**	*e*P	**Pn**	**16 27 51.0**	**+0.6**
KIB				*i* S	**Sn**	**16 28 24.0**	**-0.1**
ELUQ	**Luque**	**2.72**	**359**	P	**Pn**	**16 27 52.6**	**+2.2**
ELUQ				S	**Sn**	**16 28 27.6**	**+3.4**
ELUQ	**Luque**	**2.72**	**359**	P	**Pn**	**16 27 50.8**	**+0.3**
	3.4nm,0.2s,SNR=4.0						
ELUQ				S	**Sn**	**16 28 23.6**	**-0.6**
	1.8nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**2.72**	**359**	P	**Pn**	**16 27 52.6**	**+2.2**
	3.4nm,0.2s,SNR=4.0						
ELUQ				S	**Sn**	**16 28 27.6**	**+3.4**
	1.8nm,0.2s,SNR=4.0						
ZFT	**Errachidia**	**2.80**	**182**	*e*P	**Pn**	**16 27 52.0**	**+0.4**
ZFT				*i* S	**Sn**	**16 28 24.0**	**-2.2**
AVE	**Averroes**	**3.06**	**241**	S	**Sn**	**16 28 31.0**	**-1.9**
EADA	**Adamuz**	**3.34**	**355**	P	**Pn**	**16 28 01.2**	**+1.9**
EADA				S	**Sn**	**16 28 39.0**	**-0.9**
EADA	**Adamuz**	**3.34**	**355**	P	**Pn**	**16 28 00.3**	**+1.1**
	0.8nm,0.2s,SNR=11						
EADA				S	**Sn**	**16 28 39.0**	**-0.9**
	1.8nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**3.34**	**355**	P	**Pn**	**16 28 01.2**	**+2.0**
	0.8nm,0.2s,SNR=11						
EADA				S	**Sn**	**16 28 39.0**	**-0.8**
	1.8nm,0.2s,SNR=5.0						
EMIN	**Mina Concepcio**	**3.53**	**327**	P	**Pn**	**16 28 03.1**	**+1.1**
EMIN				S	**Sn**	**16 28 42.0**	**-2.8**
EMIN	**Mina Concepcio**	**3.53**	**327**	P	**Pn**	**16 28 03.6**	**+1.6**
	0.7nm,0.1s,SNR=12						
EMIN				S	**Sn**	**16 28 44.1**	**-0.7**
	0.9nm,0.2s,SNR=6.9						
EMIN	**Mina Concepcio**	**3.53**	**327**	P	**Pn**	**16 28 03.2**	**+1.2**
	0.7nm,0.1s,SNR=12						
EMIN				S	**Sn**	**16 28 42.0**	**-2.8**
	0.9nm,0.2s,SNR=6.9						
PALC	**Alcoutim**	**3.72**	**316**	*e*Sn	**Sn**	**16 28 48.7**	**-0.8**
	5.7nm,0.5s						
PALC	**Alcoutim**	**3.72**	**316**	*e*Sn	**Sn**	**16 28 48.7**	**-0.8**
	5.7nm,0.5s						
EGRO	**El Granado**	**3.77**	**317**	P	**Pn**	**16 28 06.7**	**+1.3**
EGRO				S	**Sn**	**16 28 48.2**	**-2.6**
EGRO	**El Granado**	**3.77**	**317**	P	**Pn**	**16 28 08.2**	**+2.8**
	0.4nm,0.1s,SNR=8.2						
EGRO				S	**Sn**	**16 28 50.4**	**-0.4**
	0.9nm,0.1s,SNR=5.3						
EGRO	**El Granado**	**3.77**	**317**	P	**Pn**	**16 28 06.7**	**+1.3**
	0.4nm,0.1s,SNR=8.2						
EGRO				S	**Sn**	**16 28 48.2**	**-2.6**
EMUR	**La Murta**	**3.84**	**38**	S	**Sn**	**16 28 48.0**	**-4.7**
	0.9nm,0.2s,SNR=4.0						
EMUR	**La Murta**	**3.84**	**38**	S	**Sn**	**16 28 47.3**	**-5.4**
	0.9nm,0.2s,SNR=4.0						
PBEJ	**Beja**	**4.33**	**318**	*e*Pn	**Pn**	**16 28 15.7**	**+2.3**
PBEJ				*e*Sn	**Sn**	**16 29 04.2**	**-0.9**
	4.6nm,0.7s						
PBEJ	**Beja**	**4.33**	**318**	P	**Pn**	**16 28 15.7**	**+2.3**
PBEJ				S	**Sn**	**16 29 04.2**	**-0.9**
	2.3nm,0.7s						
ETOB	**Tobarra**	**4.37**	**29**	P	**Pn**	**16 28 15.0**	**+1.2**
ETOB				S	**Sn**	**16 28 60.0**	**-5.9**
ETOB	**Tobarra**	**4.37**	**29**	P	**Pn**	**16 28 13.1**	**-0.7**
	1.2nm,0.3s,SNR=6.0						
ETOB				S	**Sn**	**16 29 01.7**	**-4.2**
	0.5nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.37**	**29**	P	**Pn**	**16 28 15.0**	**+1.2**
EBAD	**Badajoz**	**4.51**	**331**	P	**Pn**	**16 28 16.7**	**+0.8**
EBAD				S	**Sn**	**16 29 06.0**	**-3.5**
EBAD	**Badajoz**	**4.51**	**331**	P	**Pn**	**16 28 16.7**	**+0.8**
	0.4nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**16 29 07.0**	**-2.5**
	2.4nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**4.51**	**331**	P	**Pn**	**16 28 16.7**	**+0.8**
EBAD				S	**Sn**	**16 29 06.0**	**-3.5**
PTEO	**Sao Teotonio**	**4.54**	**308**	*e*Pn	**Pn**	**16 28 17.9**	**+1.6**
PTEO				*e*Sn	**Sn**	**16 29 08.6**	**-1.6**
	7.9nm,0.6s						
PTEO	**Sao Teotonio**	**4.54**	**308**	P	**Pn**	**16 28 17.9**	**+1.6**
PTEO				S	**Sn**	**16 29 08.6**	**-1.6**
	4.0nm,0.6s						
ESDC	**Sonseca Array**	**4.83**	**2**	P	**Pn**	**16 28 21.2**	**+0.8**
ESDC				S	**Sn**	**16 29 15.9**	**-1.8**
ESDC	**Sonseca Array**	**4.83**	**2**	P	**Pn**	**16 28 20.3**	**-0.2**
	0.6nm,0.1s,baz=179,slow=12,SNR=8.2						
ESDC				S	**Sn**	**16 29 13.7**	**-4.0**
	baz=190,slow=22,SNR=4.0						
ESDC	**Sonseca Array**	**4.83**	**2**	P	**Pn**	**16 28 21.2**	**+0.7**
ESDC				S	**Sn**	**16 29 15.9**	**-1.8**

*IDC **16** 16:31:10.7±1.1, 1.01N×126.37E, mb3.7/5, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=99.0km s-min=19.3km az=71.0*
*NEIC **16** 16:31:11.8±0.7, 1.06N×126.52E, h10km, mb4.0/2, Error ellipse: s-maj=23.0km s-min=9.9km az=63.0*

ISC 16 16:31:13.3±0.8, 1.0N±0.1×126.5E±0.2, h33km, n12, σ0§85/12, mb3.8/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.88**	**157**	*e*P	**P**	**16 34 35.2**	**-7.9**
	2.4nm,0.6s						
KSM	**Kuching**	**16.16**	**272**	P	**P**	**16 34 59.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.02**	**182**	P	**P**	**16 35 34.5**	**-0.7**
	0.1nm,0.3s,baz=84,slow=21,SNR=3.4						
WRAB	**Tennant Creek**	**22.21**	**160**	*e*P	**P**	**16 36 08.2**	**-0.3**
	5.3nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**22.22**	**160**	P	**P**	**16 36 08.9**	**+0.3**
	3.4nm,0.7s,mb3.9,baz=337,slow=11,SNR=36						
WB2	**Warramunga Arr**	**22.22**	**160**	*e*P	**P**	**16 36 08.7**	**+0.1**
ASAR	**Alice Springs**	**25.58**	**164**	P	**P**	**16 36 43.4**	**+2.1**
	1.1nm,0.3s,mb3.9,baz=346,slow=12,SNR=40						
ASAR				PcP	PcP	16 40 12.7	+0.1
	0.2nm,0.6s,baz=349,slow=2.5,SNR=4.2						
STKA	**Stephens Creek**	**35.72**	**158**	P	**P**	**16 38 09.9**	**-1.0**
	0.9nm,0.7s,mb3.8,baz=337,slow=14,SNR=2.6						
STKA	**Stephens Creek**	**35.72**	**158**	*e*P	**P**	**16 38 09.8**	**-1.1**
ULN	**Ulaanbaatar**	**49.60**	**343**	*e*P	**P**	**16 40 02.5**	**-0.9**
	0.8nm,0.5s,mb4.0						
SONM	**Songino Array**	**49.77**	**342**	P	**P**	**16 40 05.6**	**+0.9**
	0.5nm,0.9s,mb3.5,baz=135,slow=7.0,SNR=4.1						
BVAR	**Borovoye Array**	**69.44**	**328**	P	**P**	**16 42 20.0**	**-0.1**
	0.3nm,0.4s,mb3.6,baz=104,slow=5.9,SNR=4.4						

*ROM **16** 16:35:43.7±0.2, 46.05N×7.42E, h12km, Md2.2/3, Ml1.9/1, Error ellipse: s-maj=6.4km s-min=2.5km az=176.0*
*CSEM **16** 16:35:43.9±0.1, 46.02N×7.47E, h5km, ML2.8/18, Error ellipse: s-maj=1.2km s-min=0.9km az=94.0*
*ZUR **16** 16:35:44.7, 46.10N×7.44E, h6km, ML2.4/22*
*NEIC **16** 16:35:44.7, 46.10N×7.40E, h6km, ML2.9(LDG), ML2.8(STR), ML2.4(ZUR), After ZUR.*
*STR **16** 16:35:45.6±0.4, 46.10N×7.35E, h10km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **16** 16:35:45.2±0.1, 46.06N×7.44E, h2km, Md3.0/3, Ml2.9/22, Error ellipse: s-maj=2.0km s-min=1.3km az=121.0*

ISC 16 16:35:43.8±0.2, 46.07N±0.01×7.35E±0.02, h8km±2km, n103, σ1§30/181, 17C-5D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIX	**Grande Dixence**	**0.04**	**80**	||*i*P	**Pg**	**16 35 46.4**	**+0.9**
DIX				*e*S	**Sg**	**16 35 47.4**	**+0.9**
GRYON	**Gryon**	**0.24**	**316**	⇑*i*P	**Pg**	**16 35 50.2**	**+1.3**
GRYON				*i* S	**Sg**	**16 35 53.8**	**+1.5**
SALAN	**Lac Salanfe**	**0.27**	**285**	⇑*i*P	**Pg**	**16 35 51.2**	**+1.7**
SALAN				*i* S	**Sg**	**16 35 55.4**	**+2.1**
SENIN	**Lac Senin**	**0.29**	**353**	*i* S	**Sg**	**16 35 54.5**	**+0.7**
SENIN	**Lac Senin**	**0.29**	**353**	⇑*i*P	**Pg**	**16 35 50.5**	**+0.7**
SENIN	**Lac Senin**	**0.29**	**353**	⇑*i*P	**Pg**	**16 35 50.5**	**+0.7**
EMV	**Vieux Emosson**	**0.32**	**268**	*e*S	**Sg**	**16 35 56.8**	**+2.2**
EMV	**Vieux Emosson**	**0.32**	**268**	⇑*i*P	**Pg**	**16 35 52.0**	**+1.7**
EMV	**Vieux Emosson**	**0.32**	**268**	Pg	**Pg**	**16 35 52.0**	**+1.7**
EMV				Sg	**Sg**	**16 35 56.8**	**+2.2**
LKBD	**Leukerbad**	**0.37**	**31**	⇑*i*P	**Pg**	**16 35 51.2**	**-0.1**
AIGLE	**Aigle**	**0.39**	**314**	⇑*i*P	**Pg**	**16 35 52.8**	**+1.1**
MMK	**Mattmark**	**0.43**	**93**	Pg	**Pg**	**16 35 52.1**	**-0.4**
MMK				Sg	**Sg**	**16 35 56.8**	**-1.4**
MMK	**Mattmark**	**0.43**	**93**	*e*P	**Pg**	**16 35 52.1**	**-0.4**
MCGN	**Macugnaga**	**0.46**	**104**	Pg	**Pg**	**16 35 52.7**	**-0.4**
MCGN				Sg	**Sg**	**16 35 58.0**	**-1.2**
	83nm,0.2s						
OG01	**Vacheresse**	**0.53**	**299**	Pg	**Pg**	**16 35 56.2**	**+1.7**
WIMIS	**Wimmis**	**0.62**	**17**	⇑*i*P	**Pg**	**16 35 56.1**	**-0.2**
ORX	**Oropa**	**0.62**	**135**	P	**Pg**	**16 35 55.8**	**-0.6**
ORX				S	**Sg**	**16 36 03.6**	**-1.1**
ORX	**Oropa**	**0.62**	**135**	P	**Pg**	**16 35 55.8**	**-0.5**
ORX				S	**Sg**	**16 36 03.6**	**-1.1**
TRAV		**0.62**	**154**	P	**Pg**	**16 35 55.9**	**-0.5**
TRAV				S	**Sg**	**16 36 03.8**	**-1.0**
TRAV		**0.62**	**154**	P	**Pg**	**16 35 55.9**	**-0.5**
TRAV				S	**Sg**	**16 36 03.8**	**-1.0**
LSD	**Ceresole Reale**	**0.63**	**193**	P	**Pg**	**16 35 56.8**	**+0.3**
LSD				S	**Sg**	**16 36 05.5**	**+0.5**
RSL	**Roselend**	**0.64**	**233**	Pg	**Pg**	**16 35 57.6**	**+0.9**
RSL				Sg	**Sg**	**16 36 06.1**	**+0.9**
LPL	**La Plagne**	**0.71**	**218**	*e*Pg	**Pg**	**16 35 58.7**	**+0.7**
LPL				*e*Sg	**Sg**	**16 36 07.5**	**0.0**
	50nm,0.3s						
LPG	**La Plagne**	**0.71**	**216**	*e*Pg	**Pg**	**16 35 58.8**	**+0.6**
LPG				*e*Sg	**Sg**	**16 36 08.3**	**+0.6**
	51nm,0.2s						
TORNY	**Torny**	**0.75**	**339**	||*i*P	**Pb**	**16 36 00.0**	**+1.2**
HASLI	**Hasliberg**	**0.88**	**39**	⇑*i*P	**Pb**	**16 36 00.4**	**-0.5**
RSP	**Reno Superiore**	**0.92**	**184**	P	**Pb**	**16 36 01.9**	**+0.2**
FUSIO	**Fusio**	**0.98**	**67**	*e*P	**Pb**	**16 36 01.9**	**-0.8**
CABF	**La Chapelle**	**1.03**	**302**	*e*Pg	**Pg**	**16 36 05.8**	**+1.4**
CABF				*e*Sg	**Sg**	**16 36 20.2**	**+2.0**
	31nm,0.4s						
BRANT	**Les Verrieres**	**1.06**	**325**	||*i*P	**Pb**	**16 36 05.8**	**+1.8**
BNALP	**Bannalp**	**1.09**	**42**	⇑*i*P	**Pb**	**16 36 04.4**	**-0.1**
BNI	**Bardonecchia**	**1.13**	**205**	Pg	**Pg**	**16 36 06.1**	**-0.3**
BNI				Sg	**Sg**	**16 36 22.2**	**+0.8**
	87nm,1.7s						
MUGIO	**Muggio**	**1.19**	**97**	*e*P	**Pb**	**16 36 06.1**	**-0.1**
RRL	**Cesana Torines**	**1.22**	**199**	P	**Pb**	**16 36 07.5**	**+0.7**
RRL				S	**Sb**	**16 36 23.9**	**+1.4**
RRL	**Cesana Torines**	**1.22**	**199**	P	**Pb**	**16 36 07.5**	**+0.7**
RRL				S	**Sb**	**16 36 23.9**	**+1.4**
BHB	**Bricherasio**	**1.23**	**183**	P	**Pb**	**16 36 07.3**	**+0.3**
BHB				S	**Sb**	**16 36 23.2**	**+0.3**
BHB	**Bricherasio**	**1.23**	**183**	P	**Pb**	**16 36 07.3**	**+0.3**
BHB				S	**Sb**	**16 36 23.2**	**+0.3**
MUO	**Muotathal**	**1.26**	**44**	⇑*i*P	**Pb**	**16 36 07.9**	**+0.5**
BALST	**Balsthal**	**1.28**	**10**	*e*P	**Pb**	**16 36 08.9**	**+1.0**
OG22	**Abries**	**1.28**	**193**	Pn	**Pn**	**16 36 08.5**	**+0.4**
OG05	**Jujurieux**	**1.32**	**269**	Pg	**Pg**	**16 36 11.2**	**+1.0**
LOMF	**Lomont**	**1.33**	**344**	Pg	**Pg**	**16 36 10.2**	**-0.2**
LLS	**Linth-Limmern**	**1.38**	**55**	*e*P	**Pn**	**16 36 09.4**	**-0.1**
BBS	**Basel-Blauen**	**1.40**	**4**	Pg	**Pg**	**16 36 11.7**	**0.0**
BBS				S

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LARI	**Lau Rambong**	**1.14**	**25**	*e*P	**P**	**16 38 27.2**	**+4.2**
HUTI	**Huta Ginjang**	**1.37**	**70**	*e*P	**P**	**16 38 33.1**	**+6.7**
SIMI	**Simarbalatuk**	**1.51**	**56**	*e*P	**P**	**16 38 34.4**	**+5.9**
MRPI	**Mariponipon**	**1.65**	**98**	*e*P	**P**	**16 38 33.0**	**+2.6**
IPM	**Ipoh**	**4.30**	**51**	P	**P**	**16 39 11.9**	**+3.7**
KULM	**Kulim**	**4.52**	**41**	*e*P	**P**	**16 39 14.2**	**+2.9**
KGM	**Kluang**	**5.63**	**88**	P	**P**	**16 39 30.1**	**+3.3**
SNG	**Songkhla**	**6.05**	**29**	P	**P**	**16 39 34.5**	**+1.9**
	2μm,1.0s						
PENI	**Pendagan**	**10.49**	**135**⇑	*e*P	**P**	**16 40 29.8**	**-4.7**
PENI				pmax	pmax		
	comp=Z,1μm,0.5s						
PENI	**Pendagan**	**10.49**	**135**⇑	*e*P	**P**	**16 40 29.8**	**-4.7**
	comp=Z,1μm,0.5s						
PENI	**Pendagan**	**10.49**	**135**⇑	*e*P	**P**	**16 40 29.6**	**-4.9**
	comp=Z,2μm,0.6s						
NNT	**Nongplab**	**10.87**	**11**	P	**P**	**16 40 41.5**	**+1.9**
PBA	**Port Blair**	**10.91**	**334**	*e*P	**P**	**16 40 34.2**	**-6.0**
PBA				*e*		16 42 16.1	
PASI	**Pasiripis**	**11.58**	**137**	*e*P	**P**	**16 40 43.4**	**-5.9**
PACI	**Pancar Gunung**	**12.45**	**132**⇑	*e*P	**P**	**16 41 06.7**	**+5.7**
KSM	**Kuching**	**12.62**	**91**⇑	*e*P	**P**	**16 41 05.7**	**+2.4**
KSM				*e*S	**S**	**16 43 38.6**	**+15**
NST	**Nakhon Sawan**	**13.95**	**10**	⇓P	**P**	**16 41 21.5**	**+0.7**
	comp=Z,333nm,0.8s						
KKTK	**Khon Kaen**	**15.26**	**19**	⇑P	**P**	**16 41 38.3**	**+0.3**
	comp=Z,7μm,0.8s						
CM31	**Chiang Mai Arr**	**16.55**	**4**	*e*P	**P**	**16 41 55.0**	**+0.6**
	comp=Z,367nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.55**	**4**	P	**P**	**16 41 55.4**	**+1.0**
	comp=Z,13nm,0.3s,baz=195,slow=11,SNR=354						
CMAR				S	**S**	**16 45 08.2**	**+12**
	baz=208,slow=25,SNR=2.3						
CMAR				LR	LR	16 48 53.6	
	comp=Z,171μm,18.6s,baz=190,slow=39						
CMAR				ScP		16 50 16.9	
	comp=Z,0.1nm,0.3s,baz=202,slow=4.8,SNR=4.7						
CMAR				P3KP		17 17 44.6	
	comp=Z,0.0nm,0.3s,baz=283,slow=4.6,SNR=4.3						
CHG	**Chiang Mai**	**16.91**	**4**	⇑P	**P**	**16 41 59.6**	**+0.8**
	comp=Z,150nm,0.8s						
CHG				S	**S**	**16 45 18.6**	**+14**
NANT	**Nan**	**17.11**	**10**	⇑P	**P**	**16 42 01.0**	**-0.3**
	comp=Z,2μm,0.9s						
PALK	**Pallekele**	**17.76**	**288**	*e*P	**P**	**16 42 10.6**	**+1.0**
	comp=Z,421nm,1.1s						
PALK				*e*S	**S**	**16 45 09.3**	**-14**
KKM	**Kota Kinabalu**	**18.95**	**77**⇑	*e*P	**P**	**16 42 24.9**	**+0.7**
KKM	**Kota Kinabalu**	**18.95**	**77**	P	**P**	**16 42 25.1**	**+0.9**
SRDI	**Scrawed**	**19.35**	**122**⇓	*e*P	**P**	**16 42 30.4**	**+1.7**
SRDI	**Scrawed**	**19.35**	**122**⇓	*e*P	**P**	**16 42 29.4**	**+0.7**
	comp=Z,715nm,1.0s						
KELI	**Kelakatan**	**19.51**	**121**⇑	*e*P	**P**	**16 42 33.2**	**+2.7**
	comp=Z,397nm,1.0s						
KELI	**Kelakatan**	**19.51**	**121**⇑	*e*P	**P**	**16 42 32.1**	**+1.6**
KELI				*e*S	**S**	**16 46 06.6**	**+3.4**
TSM	**Tawau**	**20.30**	**83**	P	**P**	**16 42 39.0**	**+0.1**
RATI	**Rata**	**20.66**	**121**⇑	*e*P	**P**	**16 42 42.0**	**-0.6**
RATI	**Rata**	**20.66**	**121**⇑	*e*P	**P**	**16 42 41.6**	**-1.0**
RATI				*e*S	**S**	**16 46 28.1**	**+1.7**
QIZ	**Qiongzhong**	**20.82**	**34**⇑	*i*P	**P**	**16 42 44.3**	**+0.1**
QIZ				PP	PP	16 43 02.8	-4.1
QIZ				PPP	PPP	16 43 14.4	-1.6
QIZ				S	**S**	**16 46 31.0**	**+1.5**
QIZ				XS		16 46 45.6	
QIZ				SS	SS	16 47 06.5	+4.5
QIZ				AMB	AMB		
	comp=Z,362nm,1.0s						
QIZ				AMB	AMB		
	comp=Z,11μm,10.4s						
QIZ				LR	LR		
	comp=N,66μm,19.6s,MS6.1						
QIZ				LR	LR		
	comp=E,33μm,17.1s,MS6.1						
QIZ				LR	LR		
	comp=Z,81μm,20.2s,MS6.1						
QIZ	**Qiongzhong**	**20.82**	**34**⇑	*e*P	**P**	**16 42 43.8**	**-0.5**
	comp=Z,403nm,1.0s						
KEDI	**Kedomdong**	**21.05**	**119**⇓	*i*P	**P**	**16 42 49.7**	**+3.1**
KEDI				pmax	pmax		
	comp=Z,210nm,0.5s,mb5.7						
KEDI	**Kedomdong**	**21.05**	**119**⇓	*i*P	**P**	**16 42 49.7**	**+3.1**
	comp=Z,210nm,0.5s,mb5.7						
VIS	**Vishakhapatnam**	**21.16**	**319**	*e*P	**P**	**16 42 49.0**	**+1.3**
VIS				*e*		16 42 54.2	
	comp=Z,1μm,1.3s						
VIS				*e*		16 46 36.5	
BATP	**Bataraza**	**21.18**	**70**	*e*P	**P**	**16 42 47.8**	**-0.1**
SALM	**Salem**	**21.64**	**298**	*e*P	**P**	**16 42 51.0**	**-1.5**
TRD	**Trivandrum**	**21.66**	**289**⇓	*e*	**P**	**16 43 03.2**	**+10**
TRD				*e*		16 46 57.2	
BWNR	**Bhubaneshwar**	**21.70**	**328**	*e*P	**P**	**16 42 55.0**	**+1.9**
BWNR				*e*		16 42 59.5	
	comp=Z,895nm,1.0s						
BWNR				*e*		16 46 48.2	
BWNR				*e*		16 53 10.0	
TANI	**Tanete Lipujan**	**22.32**	**104**	*e*P	**P**	**16 42 58.2**	**-1.1**
AGT	**Agartala**	**22.77**	**345**⇓	*i*P	**P**	**16 43 04.0**	**+0.2**
AGT				*i*		16 44 16.0	
NINI	**Niniconang**	**22.92**	**106**	*e*P	**P**	**16 43 05.7**	**+0.4**
BUNI	**Buntu Taipa**	**23.28**	**104**	*e*P	**P**	**16 43 10.0**	**+1.2**
ENPP	**El Nido**	**23.49**	**66**	*e*P	**P**	**16 43 11.7**	**+0.8**
KMI	**Kunming**	**23.65**	**11**	⇑P	**P**	**16 43 14.3**	**+2.0**
KMI				AP		16 43 26.4	
KMI				XP		16 43 31.8	
KMI				PP	PP	16 43 49.8	+4.2
KMI				PPP	PPP	16 43 58.3	+2.6
KMI				S	**S**	**16 47 25.0**	**+3.9**
KMI				XS		16 47 45.3	
KMI				SS	SS	16 48 16.8	+5.8
KMI				AMB	AMB		
	comp=Z,463nm,1.4s,mb5.7						
KMI				AMB	AMB		
	comp=Z,15μm,5.5s						
KMI				LR	LR		
	comp=N,223μm,15.0s,MS6.8						
KMI				LR	LR		
	comp=E,85μm,14.5s,MS6.8						
KMI				LR	LR		
	comp=Z,256μm,17.2s,MS6.8						
KMI	**Kunming**	**23.65**	**11**	⇑P	**P**	**16 43 14.3**	**+2.0**
KMI				*PP		16 43 26.4	
KMI						16 43 49.7	
KMI				PPP	PPP	16 43 58.3	+2.6
KMI				S	**S**	**16 47 25.0**	**+3.9**
KMI				SS	SS	16 48 16.8	+5.8
KMI				pmax	pmax		
	comp=Z,463nm,1.4s,mb5.7						
KMI				MLR	MLR		
	comp=Z,256μm,17.2s,MS6.8						
KMI	**Kunming**	**23.65**	**11**	⇑P	**P**	**16 43 14.3**	**+2.0**
	comp=Z,463nm,1.4s,mb5.7						
KMI				pP		16 43 26.4	
KMI				sP		16 43 31.8	
KMI				PP	PP	16 43 49.7	+4.1
KMI				PPP	PPP	16 43 58.3	+2.6
KMI				S	**S**	**16 47 25.0**	**+3.9**
KMI				sS		16 47 45.2	
KMI				SS	SS	16 48 16.8	+5.8
KMI				LR	LR		
	comp=Z,256μm,17.2s,MS6.8						
SHL	**Shillong**	**24.24**	**347**	*e*P	**P**	**16 43 18.2**	**+0.2**
SHL				*e*S	**S**	**16 47 39.0**	**+7.8**
HYB	**Hyderabad**	**24.35**	**311**⇑	*e*P	**P**	**16 43 20.0**	**+0.8**
HYB				*e*S	**S**	**16 47 36.0**	**+2.8**
HYB				pmax	pmax		
	comp=Z,800nm,1.0s,mb6.1						
HYB	**Hyderabad**	**24.35**	**311**⇑	*e*P	**P**	**16 43 20.0**	**+0.8**
	comp=Z,800nm,1.0s,mb6.1						
HYB				*e*S	**S**	**16 47 36.0**	**+2.8**
HYB	**Hyderabad**	**24.35**	**311**⇑	*i*P	**P**	**16 43 20.0**	**+0.8**
	comp=Z,800nm,1.0s,mb6.1						
HYB				*e*S	**S**	**16 47 36.0**	**+2.8**
HYB				LR	LR		
	comp=Z,96nm,18.0s						
BUSP	**Coron**	**24.50**	**65**	*e*P	**P**	**16 43 20.7**	**+0.1**
BOK	**Bokaro**	**24.63**	**333**	*e*P	**P**	**16 43 20.5**	**-1.4**
BOK				⇑*i*P		16 43 21.4	
BOK				*e*S	**S**	**16 47 40.5**	**+2.6**
BOK				*i* S	**S**	**16 47 42.4**	**+4.5**
BOK				*e*		16 53 27.5	
	comp=Z,62μm,20.9s						
CUYO	**Cuyo Island**	**24.83**	**68**	*e*P	**P**	**16 43 24.2**	**+0.3**
BLSP	**Bilaspur**	**25.20**	**324**	*e*P	**P**	**16 43 28.8**	**+1.4**
BLSP				*e*		16 43 31.8	
	comp=Z,936nm,1.3s						
BLSP				*e*		16 47 48.1	
LUBP	**Lubang**	**25.25**	**61**⇑	*e*P	**P**	**16 43 28.1**	**+0.3**
LKP	**Lekhapani**	**25.39**	**357**	*e*P	**P**	**16 43 30.0**	**+0.9**
LKP				*e*		16 43 37.0	
SJMP	**San Jose**	**25.50**	**64**	*e*P	**P**	**16 43 29.8**	**-0.4**
HKC	**Hong Kong**	**25.89**	**37**⇑	*i*P	**P**	**16 43 34.0**	**+0.2**
HKC				*i* S	**S**	**16 48 06.0**	**+7.1**
SCZP	**Santa Cruz**	**25.91**	**56**	*e*P	**P**	**16 43 32.2**	**-1.9**
GYA	**Guiyang**	**25.95**	**19**⇑	*i*P	**P**	**16 43 33.8**	**-0.5**
GYA				AP	pP	16 43 45.6	+1.0
GYA				XP	sP	16 43 50.3	+1.2
GYA				AMB	AMB		
	comp=Z,210nm,1.2s,mb5.5						
GYA				AMB	AMB		
	comp=Z,9μm,9.9s						
GYA				LR	LR		
	comp=N,117μm,15.3s,MS6.6						
GYA				LR	LR		
	comp=E,65μm,17.7s,MS6.6						
GYA				LR	LR		
	comp=Z,173μm,16.2s,MS6.7						
TGY	**Tagaytay City**	**26.01**	**61**⇓	*i*P	**P**	**16 43 28.2**	**-6.8**
TGY				*i* S	pP	16 43 38.4	-6.9
GZH	**Guangzhou**	**26.01**	**35**	P	**P**	**16 43 39.3**	**+4.4**
PAGZ	**Pagadian**	**26.28**	**76**	*e*P	**P**	**16 43 37.7**	**+0.2**
OTRP	**Odiongan**	**26.28**	**65**	*e*P	**P**	**16 43 37.4**	**-0.1**
DCPH	**Dipolog City**	**26.41**	**74**	*e*P	**P**	**16 43 39.5**	**+0.8**
LATR	**Latur**	**26.46**	**310**	*e*P	**P**	**16 43 41.0**	**+1.8**
BOAC	**Boac**	**26.54**	**63**	*e*P	**P**	**16 43 38.6**	**-1.3**
RCP	**Roxas**	**26.67**	**68**⇑	*i*P	**P**	**16 43 41.6**	**+0.5**
BCPH	**Baguio City Da**	**26.77**	**56**⇑	*e*P	**P**	**16 43 41.5**	**-0.5**
DGAR	**Diego Garcia**	**26.80**	**250**	*e*P	**P**	**16 43 39.7**	**-2.6**
POLP	**Polilio Island**	**27.15**	**61**	*e*P	**P**	**16 43 44.2**	**-1.3**
GOA	**Goa**	**27.16**	**301**⇓	*e*	**P**	**16 43 36.4**	**-9.2**
GOA				*e*		16 48 13.1	
TBP	**Tagbilaran**	**27.17**	**72**⇑	*e*P	**P**	**16 43 45.4**	**-0.3**
BALP	**Baler**	**27.30**	**58**	*e*P	**P**	**16 43 46.1**	**-0.7**
LLP	**Lapu-Lapu**	**27.43**	**71**⇑	*e*P	**P**	**16 43 47.2**	**-0.8**
AKL	**Akola**	**27.53**	**314**	*e*P	**P**	**16 43 48.0**	**-0.9**
CGP	**Cagayan de Oro**	**27.68**	**75**	*e*P	**P**	**16 44 00.0**	**+10**
KAD	**Karad**	**27.74**	**305**	*e*P	**P**	**16 43 51.2**	**+0.3**
KAD				*e*	pP	16 44 03.0	+1.7
	comp=Z,235nm,1.3s						
KAD				*e*S	**S**	**16 48 31.9**	**+2.8**
KAD				*e*		16 54 49.1	
	comp=Z,71μm,20.5s						
BUKP	**Musuan**	**27.92**	**77**	*e*P	**P**	**16 43 52.6**	**+0.1**
JIRN	**Jiri**	**27.93**	**338**	*e*P	**P**	**16 43 52.6**	**+0.2**
	comp=Z,3μm,1.3s,mb6.8						
PKI	**Pulchoki**	**28.15**	**336**	*e*P	**P**	**16 43 54.1**	**-0.3**
	comp=Z,3μm,1.4s,mb6.8						
MSLP	**Maasin**	**28.23**	**72**	*e*P	**P**	**16 43 54.4**	**-0.8**
GUN	**Gumba**	**28.27**	**338**	*e*P	**P**	**16 43 55.3**	**-0.2**
	comp=Z,1μm,0.7s,mb6.7						
DAV	**Davao City (W)**	**28.28**	**79**⇑	*e*P	**P**	**16 43 56.5**	**+0.8**
DMN	**Daman**	**28.31**	**336**	*e*P	**P**	**16 43 55.4**	**-0.4**
	comp=Z,938nm,0.8s,mb6.5						
LSA	**Lhasa**	**28.39**	**348**⇑	*i*P	**P**	**16 43 57.1**	**+0.6**
LSA				AP	pP	16 44 13.3	+6.3
LSA				S	**S**	**16 48 36.4**	**-2.9**
LSA				AMB	AMB		
	comp=Z,220nm,1.2s,mb5.7						
LSA				AMB	AMB		
	comp=Z,82μm,10.0s						
LSA				LR	LR		
	comp=N,48μm,23.6s,MS6.2						
LSA				LR	LR		
	comp=E,43μm,23.6s,MS6.2						
LSA				LR	LR		
	comp=Z,130μm,23.6s,MS6.5						
LSA	**Lhasa**	**28.39**	**348**⇑	*e*P	**P**	**16 43 57.1**	**+0.6**
LSA				pmax	pmax		
	comp=Z,414nm,0.9s,mb6.1						
LSA	**Lhasa**	**28.39**	**348**⇑	*e*P	**P**	**16 43 57.1**	**+0.6**
	comp=Z,414nm,0.9s,mb6.1						
KKN	**Kakani**	**28.40**	**336**	*e*P	**P**	**16 43 55.0**	**-1.6**
	comp=Z,2μm,1.1s,mb6.7						
VLK	**Valmikinagar**	**28.58**	**334**	*i*	**P**	**16 44 12.0**	**+14**
VLK				*i*	pP	16 44 23.0	+14
POO	**Poona**	**28.65**	**307**⇑	*i*P	**P**	**16 43 58.0**	**-1.0**
	comp=Z,71nm,1.5s,mb5.2						
POO				*i* S	**S**	**16 48 49.0**	**+5.4**
PVCP	**Virac**	**28.66**	**65**	*e*P	**P**	**16 43 56.7**	**-2.4**
CNP	**Catarman**	**28.75**	**67**	*e*P	**P**	**16 43 59.4**	**-0.5**
GKN	**Gorkha**	**28.85**	**336**	*e*P	**P**	**16 44 00.0**	**-0.6**
	comp=Z,3μm,1.2s,mb6.8						
BHPL	**Bhopal**	**28.95**	**319**	*e*P	**P**	**16 44 02.7**	**+1.1**
BHPL				*e*		16 44 09.5	
	comp=Z,323nm,1.6s						
BHPL				*e*		16 48 48.5	
BHPL				*e*		16 58 29.1	
	comp=Z,28μm,17.5s						
KOLN	**Koldanda**	**29.09**	**334**	*e*P	**P**	**16 44 02.1**	**-0.7**
	comp=Z,4μm,1.6s,mb6.9						
CD2	**Chengdu**	**29.47**	**11**⇑	*i*P	**P**	**16 44 04.9**	**-1.3**
CD2				AP	pP	16 44 16.8	+0.1
CD2				XP	sP	16 44 24.4	+2.9
CD2				S	**S**	**16 48 50.9**	**-5.7**
CD2				AMB	AMB		
	comp=Z,120nm,0.6s,mb5.8						
CD2				AMB	AMB		
	comp=Z,8μm,8.4s						
CD2				LR	LR		
	comp=N,176μm,18.6s						
CD2				LR	LR		
	comp=Z,207μm,18.0s,MS6.8						
BOM	**Bombay**	**29.68**	**306**	*e*P	**P**	**16 44 09.5**	**+1.4**
	comp=Z,1μm,3.7s						
BOM				*e*		16 47 43.1	
JHNI	**Jhansi**	**29.86**	**323**⇓	*i*P	**P**	**16 44 07.0**	**-2.7**
JHNI				*e*		16 44 22.0	
ENH	**Enshi**	**30.41**	**20**	*e*P	**P**	**16 44 12.8**	**-1.7**
	comp=Z,377nm,0.9s,mb6.1						
QZH	**Quanzhou**	**30.57**	**40**⇑	*i*P	**P**	**16 44 15.3**	**-0.7**
QZH				AMB	AMB		
	comp=Z,260nm,1.0s,mb6.0						
QZH				AMB	AMB		
	comp=Z,8μm,6.6s						
QZH				LR	LR		
	comp=N,147μm,14.6s,MS6.8						
QZH				LR	LR		
	comp=E,31μm,11.2s,MS6.8						
QZH				LR	LR		
	comp=Z,193μm,19.8s						
MBWA	**Marble Bar**	**31.44**	**138**	*e*P	**P**	**16 44 22.4**	**-1.2**
	comp=Z,949nm,2.0s,mb6.3						
BHV	**Bhavnagar**	**31.77**	**310**	*e*	**P**	**16 44 30.0**	**+3.4**
NACB	**Ninganchiao**	**32.05**	**44**	*e*P	**P**	**16 44 27.8**	**-1.2**
LGTI	**Lohaghat**	**32.08**	**331**	*e*P	**P**	**16 44 30.5**	**+1.3**
LGTI				*e*		16 45 50.0	
PTH	**Pithoragarh**	**32.17**	**331**	*e*P	**P**	**16 44 30.0**	**-0.1**
PTH				*e*S	**S**	**16 49 43.2**	**+4.1**
TATO	**Taipei**	**32.50**	**43**	*e*P	**P**	**16 44 32.0**	**-1.0**
	comp=Z,175nm,1.0s,mb5.9						
WHN	**Wuhan**	**32.62**	**27**	⇓P	**P**	**16 44 34.0**	**0.0**
WHN				PP	PP	16 45 44.0	+0.6
WHN				LR	LR		
	comp=N,11μm,13.7s,MS6.6						
WHN				LR	LR		
	comp=E,77μm,13.0s,MS6.6						
WHN				LR	LR		
	comp=Z,126μm,20.0s						
AJM	**Ajmer**	**33.01**	**320**	*e*P	**P**	**16 44 38.5**	**+1.1**
AJM				*e*	pP	16 44 47.2	-0.9
	comp=Z,499nm,2.0s						
AJM				*e*S	**S**	**16 49 52.6**	**+0.4**
AJM				*e*		17 02 40.5	
	comp=Z,11μm,19.0s						
NDI	**New Delhi**	**33.07**	**326**	*e*P	**P**	**16 44 36.0**	**-1.8**
NDI				*e*		16 49 50.0	
XAN	**Xi'an**	**33.71**	**17**	P	**P**	**16 44 41.8**	**-1.5**
XAN				S	**S**	**16 50 03.1**	**+0.2**
XAN				AMB	AMB		
	comp=Z,628nm,1.1s,mb6.5						
XAN				LR	LR		
	comp=N,57μm,15.6s,MS6.5						
XAN				LR	LR		
	comp=E,54μm,18.9s,MS6.5						
XAN				LR	LR		
	comp=Z,90μm,15.4s,MS6.6						
DDI	**Dehra Dun**	**33.89**	**329**	*e*P	**P**	**16 44 44.2**	**-0.7**
DDI				*e*S	**S**	**16 50 06.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**33.92**	**127**⇑	*i*P	**P**	**16 44 42.4**	**-2.9**
	comp=Z,156nm,0.7s,mb6.0						
FITZ				*e*S	**S**	**16 49 58.1**	**-8.2**
FITZ	**Fitzroy Crossi**	**33.92**	**127**	P	**P**	**16 44 42.5**	**-2.8**
	comp=Z,274nm,0.9s,mb6.2,baz=304,slow=4.8,SNR=174						
FITZ				S	**S**	**16 49 58.6**	**-7.7**
	comp=Z,53nm,1.1s,baz=147,slow=21,SNR=5.1						
FITZ				LR	LR	16 58 59.8	
	comp=Z,35μm,20.5s,MS6.1,baz=304,slow=37						
BHJ	**Bhuj**	**34.51**	**310**	*e*S	**S**	**16 50 18.8**	**+3.3**
LZH	**Lanzhou**	**34.54**	**9**⇑	*i*P	**P**	**16 44 50.0**	**-0.5**
LZH				AP	pP	16 45 02.0	+0.9
LZH				XP	sP	16 45 07.3	+1.3
LZH				PP	PP	16 46 07.5	+0.1
LZH				PCP	PcP	16 47 23.8	-1.2
LZH				S	**S**	**16 50 16.0**	**+0.1**
LZH				XS		16 50 35.8	
LZH				SCP		16 51 04.1	
LZH				SS	SS	16 52 31.3	+2.7
LZH				SCS	ScS	16 55 06.5	-0.9
LZH				AMB	AMB		
	comp=Z,1μm,1.2s,mb6.7						
LZH				AMB	AMB		
	comp=Z,6μm,6.5s						
LZH				LR	LR		
	comp=N,103μm,15.2s						
LZH				LR	LR		
	comp=Z,132μm,18.3s,MS6.7						
LZH	**Lanzhou**	**34.54**	**9**⇑	*i*P	**P**	**16 44 50.0**	**-0.5**
LZH				*PP	pP	16 45 02.0	+0.9
LZH						16 46 07.5	
LZH						16 47 23.8	
LZH				S	**S**	**16 50 16.0**	**+0.1**
LZH				SS	SS	16 52 31.2	+2.6
LZH						16 55 06.5	
LZH				pmax	pmax		
	comp=Z,1μm,1.2s,mb6.7						
LZH				MLR	MLR		
	comp=Z,132μm,18.3s,MS6.7						
LZH	**Lanzhou**	**34.54**	**9**⇑	*i*P	**P**	**16 44 50.0**	**-0.5**
	comp=Z,1μm,1.2s,mb6.7						
LZH				pP	pP	16 45 02.0	+0.9
LZH				sP	sP	16 45 07.2	+1.2
LZH				PP	PP	16 46 07.5	+0.1
LZH				PcP	PcP	16 47 23.8	-1.2
LZH				S	**S**	**16 50 16.0**	**+0.1**
LZH				sS		16 50 35.7	

BJI ***16*** *16:38:01.8, 1.58N×97.74E, h41km, mB6.5, mb5.9, Ms6.7, Msz6.6*

DJA ***16*** *16:38:01.2±1.1, 1.72N×97.19E, h58km±6km, mb6.0/3, Error ellipse: s-maj=26.7km s-min=13.7km az=60.0*

MOS ***16*** *16:38:01.4±1.1, 1.88N×97.69E, h22km, mb6.3/64, MS6.2/41, Error ellipse: s-maj=7.6km s-min=4.1km az=122.3*

HRVD ***16*** *16:38:03.9±0.1, 1.67N×97.46E, h34km, MW6.4/86, Centroid moment Tensor Solution. LP body waves: s86,c222;Mantle waves: s77,c328; Half duration: 4s4 Moment tensor: Scale 10^18^Nm; Mrr2.00±.02; Mθθ-0.61±.02; Mφφ-1.38±.02; Mrθ3.11±.03; Mrφ1.39±.02; Mθr-1.85±.04; Best double couple: M0=4.26×10^18^ NP1: φs344°, δ19°, λ129°. NP2:φs124°, δ75°, λ78°. Principal axes: T 4.188, Plg58°, Azm17°; N .149, Plg12°, Azm127°; P -4.333, Plg29°, Azm224°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***16*** *16:38:03.9±0.1, 1.81N×97.66E, h31km, mb6.0/120, ME5.9, MS6.2/18, MW6.3 Error ellipse: s-maj=4.3km s-min=2.6km az=214.0 Broadband fault plane solution: P waves. NP1: φs130°, δ80°, λ90°. NP2:φs310°, δ10°, λ90°. Principal axes: T Plg55°, Azm40°; N Plg0°, Azm0°; P Plg35°, Azm220°; Moment Tensor Solution. s36 Moment tensor: Scale 10^18^ Nm; Mrr1.74; Mθθ-0.15; Mφφ-1.60; Mrθ2.42; Mrφ0.23; Mθr-1.35; Best double couple: M0=3.2×10^18^ NP1: φs0°, δ21°, λ138°. NP2:φs130°, δ76°, λ74°. Principal axes: T 3.59, Plg56°, Azm20°; N -.87, Plg15°, Azm134°; P -2.73, Plg30°, Azm233°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] on Nias. Felt [III] at Sibolga and [II] at Medan and Padang, Sumatra. Felt at Padangsidempuan and Sidikalang, Sumatra. Also felt at Georgetown and Kuala Lumpur, Malaysia and in Singapore.

BGS ***16*** *16:38:04.7, 1.81N×97.66E, h30km, mb5.9*

CRAAG ***16*** *16:38:04.1, 2.83N×97.75E, Mb6.1*

SVSA ***16*** *16:38:04.1, 2.80N×97.70E, h10km, Mb6.1*

DHMR ***16*** *16:38:07.8±2.7, 1.91N×97.61E, h49km±999km, mb6.4*

IDC ***16*** *16:38:08.3±1.4, 1.76N×97.79E, h70km±11km, mb5.3/37, mb1 5.3/38, mb1mx5.3/38, mbtmp5.6/38, MS6.3/20, Ms1 6.3/20, ms1mx6.1/22, Error ellipse: s-maj=10.1km s-min=6.3km az=46.0*

ISC 16 16:38:03.4±0.1, 1.85N±0.02×97.68E±0.02, h38km, h38km±1.4km:pP-P, n999, σ1º04/895, mb6.0/198, MS6.4/83, 234C-40D, Northern Sumatera

LZH ScP 16 51 04.1
LZH SS SS 16 52 31.2 +2.6
LZH ScS ScS 16 55 06.5 -0.9
LZH LR LR
comp=Z,132µm,18.3s,MS6.7
SDNR Sundarnagar 35.39 329 *e*P **P 16 44 58.4 +0.6**
SDNR *e*S **S 16 50 30.0 +1.0**
BHK Bhakra 35.62 328 *e* **P 16 45 04.7 +5.0**
BHK *e* 16 50 39.5
NJ2 Nanjing 36.06 31 *e*P **P 16 45 04.0 +0.5**
NJ2 AP pP 16 45 16.1 +1.9
NJ2 XP sP 16 45 21.4 +2.4
NJ2 PP PP 16 46 26.8 +0.7
NJ2 S **S 16 50 36.0 -3.3**
NJ2 AMB AMB
comp=Z,130nm,0.8s,mb5.9
NJ2 AMB AMB
comp=Z,5µm,9.9s
NJ2 LR LR
comp=N,112µm,25.2s,MS6.7
NJ2 LR LR
comp=E,75µm,20.2s,MS6.7
NJ2 LR LR
comp=Z,36µm,26.6s
PONG Pong 36.28 328 *e*P **P 16 45 05.0 -0.3**
PONG *e* 16 50 51.0
SSE Sheshan 36.61 35 ⇑P **P 16 45 07.8 -0.3**
SSE AP pP 16 45 16.9 -1.9
SSE XP sP 16 45 20.4 -3.2
SSE PP PP 16 46 31.3 -1.9
SSE PCP PcP 16 47 32.3 +1.2
SSE S **S 16 50 48.8 +1.0**
SSE XS 16 51 04.3
SSE AMB AMB
comp=Z,169nm,0.9s,mb5.9
SSE AMB AMB
comp=Z,5µm,8.6s
SSE LR LR
comp=N,81µm,18.7s,MS6.5
SSE LR LR
comp=E,24µm,18.7s,MS6.5
SSE LR LR
comp=Z,97µm,17.0s,MS6.7
SSE Sheshan 36.61 35 ⇑P **P 16 45 07.8 -0.3**
comp=Z,169nm,0.9s,mb5.9
SSE pP pP 16 45 16.9 -1.9
SSE sP sP 16 45 20.4 -3.2
SSE PP PP 16 46 31.3 -1.9
SSE PcP PcP 16 47 32.2 +1.1
SSE S **S 16 50 48.7 +0.9**
SSE sS 16 51 04.3
SSE SS SS 16 53 30.6 +15
SSE ScS ScS 16 55 23.4 +4.7
SSE LR LR
comp=Z,97µm,17.0s,MS6.7
THN Thein Dam 36.78 328 *e*P **P 16 45 08.6 -0.9**
THN *e*S **S 16 50 50.2 -0.2**
KAKA Kakadu 37.41 114⇑*i*P **P 16 45 12.3 -2.6**
comp=Z,182nm,0.6s,mb6.1
KAKA *e*S **S 16 50 54.7 -5.4**
GTA Gaotai 37.44 3⇑*i*P **P 16 45 15.0 +0.1**
GTA AP pP 16 45 27.6 +1.9
GTA XP sP 16 45 32.1 +1.6
GTA PP PP 16 46 42.8 -0.6
GTA PCP PcP 16 47 33.8 +0.3
GTA S **S 16 50 59.3 -1.0**
GTA XS 16 51 18.8
GTA SCS ScS 16 55 22.9 -0.3
GTA AMB AMB
comp=Z,516nm,1.0s,mb6.3
GTA AMB AMB
comp=Z,7µm,9.1s
GTA LR LR
comp=N,39µm,16.3s,MS6.4
GTA LR LR
comp=E,36µm,16.0s,MS6.4
GTA LR LR
comp=Z,43µm,23.2s
MUN Mundaring 37.95 154 *e*P **P 16 45 21.1 +1.8**
comp=Z,671nm,1.0s,mb6.3
MUN *i* pP 16 45 32.8 +2.7
MUN Mundaring 37.95 154 *e*P **P 16 45 21.1 +1.8**
MUN *i* pP 16 45 32.8 +2.7
MUN pmax pmax
comp=Z,671nm,1.0s,mb6.3
TIY Taiyuan 38.18 19 ⇓P **P 16 45 19.0 -2.2**
TIY LR LR
comp=N,87µm,15.0s
KLBR Kellerberrin 38.33 152 *e*P **P 16 45 22.9 +0.4**
comp=N,4µm,1.3s,mb7.0
KLBR *i* pP 16 45 35.1 +1.9
KLBR *e*S **S 16 51 14.1 +0.1**
JOW Kunigami 38.45 47 P **P 16 45 24.2 +0.7**
comp=N,87nm,0.6s,mb5.6,baz=250,slow=7.8,SNR=23
JOW LR LR 17 01 02.9
comp=N,39µm,21.4s,MS6.2,baz=245,slow=36
TIA Tai'an 38.64 26 P **P 16 45 24.5 -0.5**
TIA PP PP 16 46 59.0 +1.5
TIA AMB AMB
comp=Z,40nm,0.5s,mb5.4
TIA LR LR
comp=N,42µm,13.0s,MS6.6
TIA LR LR
comp=E,44µm,13.0s,MS6.6
NWAO Narrogin (SRO) 39.21 154 P **P 16 45 31.0 +1.2**
NWAO pP pP 16 45 42.0 +1.5
NWAO S **S 16 51 28.7 +1.4**
NWAO Narrogin (SRO) 39.21 154 *e*P **P 16 45 30.6 +0.8**
NWAO *e* pP 16 45 42.8 +2.3
NWAO pmax pmax
comp=Z,399nm,1.0s
NWAO Narrogin (SRO) 39.21 154 P **P 16 45 30.6 +0.8**
comp=Z,79nm,0.9s,mb5.4,baz=328,slow=9.4,SNR=40
NWAO LR LR 17 03 14.7
comp=Z,42µm,18.8s,MS6.3,baz=330,slow=38
NWAO Narrogin (SRO) 39.21 154 *e*P **P 16 45 30.6 +0.9**
comp=Z,399nm,1.0s,mb6.1
NWAO *e* pP 16 45 42.8 +2.3
BTO Baotou 40.17 15 *e*P **P 16 45 38.1 +0.5**
BTO AMB AMB
comp=Z,260nm,1.3s,mb5.8
HHC Hu-ho-hao-te 40.80 16⇑*i*P **P 16 45 44.1 +1.2**
HHC AP pP 16 45 58.1 +4.4
HHC XP sP 16 46 01.3 +2.9
HHC PP PP 16 47 21.9 +1.7
HHC PCP PcP 16 47 44.5 +0.4
HHC SCP 16 51 28.9
HHC PCS 16 51 35.5
HHC S **S 16 51 52.1 +1.1**
HHC XS 16 52 14.4
HHC SS SS 16 54 49.3 +1.0
HHC SCS ScS 16 55 40.5 -2.2
HHC AMB AMB
comp=Z,328nm,1.5s,mb5.7
HHC AMB AMB
comp=Z,9µm,8.7s
HHC LR LR
comp=N,98µm,16.2s,MS6.7
HHC LR LR
comp=E,24µm,18.1s,MS6.7
HHC LR LR
comp=Z,81µm,16.8s,MS6.7
BJT Baijiatuau 41.54 22⇑*e*P **P 16 45 49.8 +0.8**
BJT pmax pmax
comp=Z,332nm,0.7s
BJT Baijiatuau 41.54 22⇑*e*P **P 16 45 49.8 +0.8**
comp=Z,332nm,0.7s,mb6.1
BJI Beijing 41.56 22 P **P 16 45 50.1 +0.9**
BJI AP pP 16 46 01.3 +1.3
BJI XP sP 16 46 07.3 +2.6
BJI PP PP 16 47 25.1 -3.3
BJI S **S 16 51 53.5 -8.9**
BJI SCS ScS 16 55 48.9 +1.6
BJI AMB AMB
comp=Z,438nm,0.9s,mb6.1
BJI AMB AMB
comp=Z,11µm,7.4s
BJI LR LR
comp=N,43µm,16.5s,MS6.5
BJI LR LR
comp=E,26µm,14.2s,MS6.5
BJI LR LR
comp=Z,37µm,18.2s,MS6.3
BJI Beijing 41.56 22 P **P 16 45 50.1 +0.9**
BJI *PP pP 16 46 01.3 +1.3
BJI 16 47 25.1
BJI 16 55 48.9
BJI pmax pmax
comp=Z,438nm,0.9s,mb6.1
BJI MLR MLR
comp=Z,37µm,18.2s,MS6.3
BJI Beijing 41.56 22 P **P 16 45 50.1 +0.9**
comp=Z,438nm,0.9s,mb6.1
BJI pP pP 16 46 01.3 +1.3
BJI sP sP 16 46 07.2 +2.5
BJI PP PP 16 47 25.1 -3.3
BJI S **S 16 51 53.5 -8.9**
BJI sS 16 52 14.4
BJI SS SS 16 55 22.1 +19
BJI ScS ScS 16 55 48.9 +1.6
BJI LR LR
comp=Z,37µm,18.2s,MS6.3
WRA Warramunga Arr 41.97 123 P **P 16 45 51.2 -1.6**
comp=Z,117nm,0.6s,mb5.7,baz=301,slow=9.2,SNR=435
WRA S **S 16 52 03.3 -5.4**
comp=Z,87nm,1.2s,baz=295,slow=15,SNR=12
WRAB Tennant Creek 41.98 123*c i*P **P 16 45 51.4 -1.4**
WRAB Tennant Creek 41.98 123 *e*P **P 16 45 51.2 -1.6**
comp=Z,508nm,0.8s,mb6.2
WB2 Warramunga Arr 41.98 123⇑*i*P **P 16 45 51.1 -1.8**
WB2 *i* S **S 16 52 01.8 -7.0**
KSH Kashi 42.39 335⇑*i*P **P 16 45 57.1 +1.1**
KSH AP pP 16 46 09.0 +2.2
KSH XP sP 16 46 14.3 +2.8
KSH PP PP 16 47 38.0 +0.9
KSH PCP PcP 16 47 50.1 +0.7
KSH PPP PPP 16 48 11.0 +0.6
KSH SCP 16 51 35.0
KSH PCS 16 51 40.0
KSH S **S 16 52 14.3 -0.2**
KSH XS 16 52 35.4
KSH SS SS 16 55 19.3 +1.0
KSH SCS ScS 16 55 52.1 -0.2
KSH AMB AMB
comp=Z,11µm,4.4s
KSH LR LR
comp=N,30µm,16.1s,MS6.5
KSH LR LR
comp=E,34µm,15.8s,MS6.5
MSEY Mahe Island 42.66 261⇓*e*P **P 16 45 59.0 +0.4**
comp=E,87nm,1.2s,mb5.4
WMQ Urumqi 42.73 349 P **P 16 46 00.3 +1.6**
WMQ AP pP 16 46 10.3 +0.7
WMQ XP sP 16 46 14.3 +0.1
WMQ PP PP 16 47 42.5 +2.1
WMQ PCP PcP 16 47 51.8 +1.4
WMQ SCP 16 51 38.9
WMQ PCS 16 51 42.8
WMQ S **S 16 52 21.8 +2.4**
WMQ XS 16 52 38.1
WMQ AMB AMB
comp=Z,256nm,1.3s,mb5.8
WMQ AMB AMB
comp=Z,12µm,5.0s
WMQ LR LR
comp=N,37µm,18.5s,MS6.5
WMQ LR LR
comp=E,35µm,18.5s,MS6.5
WMQ LR LR
comp=Z,41µm,23.0s,MS6.3
WBK Wadi Bani Khal 42.87 302 P **P 16 46 02.4 +2.2**
SNR=15
DL2 Dalian 42.88 28⇑*i*P **P 16 46 00.3 +0.3**
DL2 SCP 16 51 33.8
DL2 PCS 16 51 40.8
DL2 S **S 16 52 27.6 +5.9**
DL2 AMB AMB
comp=Z,210nm,0.8s,mb5.9
DL2 AMB AMB
comp=Z,3µm,6.4s
DL2 LR LR
comp=N,20µm,18.8s,MS6.2
DL2 LR LR
comp=E,18µm,17.1s,MS6.2
DL2 LR LR
comp=Z,30µm,18.2s,MS6.2
MENI Mendum Tagoi 42.94 96⇑*e*P **P 16 45 58.2 -2.6**
comp=Z,123nm,1.0s,mb5.6
MENI Mendum Tagoi 42.94 96⇑*e*P **P 16 45 57.9 -3.0**
comp=Z,246nm,1.0s,mb5.6
YOMI Yo Moklole 43.09 96⇑*e*P **P 16 45 58.1 -4.0**
YOMI Yo Moklole 43.09 96⇑*e*P **P 16 45 57.9 -4.2**
ASPA Alice Springs 43.40 128 *e*P **P 16 46 03.5 -1.0**
ASPA *e*S **S 16 52 21.7 -7.8**
ASPA *e* 16 55 59.5
ASAR Alice Springs 43.40 128 P **P 16 46 02.9 -1.6**
comp=Z,61nm,0.7s,mb5.4,baz=298,slow=7.2,SNR=289
ASAR S **S 16 52 24.2 -5.3**
comp=Z,40nm,1.2s,baz=294,slow=15,SNR=9.0
ASAR LR LR 17 07 35.5
comp=Z,17µm,19.9s,MS6.0,baz=298,slow=41
FORT Forrest 43.46 141 *e*P **P 16 46 05.0 +0.1**
comp=Z,8µm,0.6s
FORT *e*S **S 16 52 29.2 -1.1**
JMDO Jabal Madar 43.52 301 P **P 16 46 06.8 +1.4**
SNR=12
INCN Inchon 44.34 33⇑*e*P **P 16 46 10.7 -1.2**
comp=Z,82nm,0.7s,mb5.6
BSY Bisya 44.43 301 P **P 16 46 14.5 +1.7**
SNR=30
ULHL Ulahol 44.59 337 P **P 16 46 14.5 +0.8**
SNR=281
HOQ Hoqain 44.66 302 P **P 16 46 15.9 +1.3**
SNR=8.6
KZA Kyzart 44.83 336 P **P 16 46 17.2 +1.4**
SNR=149
KS15 Wonju Array Si 45.01 34 *e*P **P 16 46 16.8 -0.5**
AAA Alma-Ata 45.20 339 *i* P **P 16 46 19.0 +0.3**
AAA *i* S **S 16 52 58.0 +2.8**
AAA *i* SS SS 16 56 10.0 +0.6
AAA pmax pmax
comp=Z,13µm,6.0s
AAA smax
comp=E,12µm,8.0s
AAA MLR MLR
comp=Z,15µm,18.0s,MS6.0
UCH Uchtor 45.26 336 P **P 16 46 20.6 +1.4**
SNR=492
TKM2 Tokmak 2 45.41 337 P **P 16 46 21.4 +1.0**
SNR=268
KBK Karagaybulak 45.44 336 P **P 16 46 22.2 +1.6**
SNR=513
AML Almayashu 45.52 335 P **P 16 46 23.1 +1.8**
SNR=25
AAK Ala-Archa 45.60 336 P **P 16 46 23.0 +1.1**
SNR=133
AAK Ala-Archa 45.60 336*c i*P **P 16 46 22.5 +0.6**
AAK pmax pmax
comp=Z,359nm,1.3s,mb6.1
AAK MLR MLR
comp=Z,37µm,20.0s,MS6.3
AAK Ala-Archa 45.60 336 *e*P **P 16 46 22.1 +0.2**
comp=Z,721nm,1.4s,mb6.4
FRU Bishkek 45.72 336⇑*i*P **P 16 46 23.5 +0.7**
FRU *i* pP 16 46 36.0 +2.3
FRU *e* 16 47 56.0
FRU *e*S **S 16 53 05.0 +2.3**
FRU pmax pmax
comp=Z,4µm,3.0s
FRU pmax pmax
comp=Z,10µm,8.4s
FRU smax
comp=E,9µm,9.0s
FRU MLR MLR
comp=Z,29µm,20.0s,MS6.2
CHMS Chumysh 45.81 337 P **P 16 46 24.1 +0.6**
SNR=128
EKS2 Erkin-Say 45.92 335 P **P 16 46 25.7 +1.2**
SNR=354
WHFO Wadi Hawf 45.95 293 P **P 16 46 25.4 +0.5**
SNR=69
SNY Shenyang 46.11 27⇑*i*P **P 16 46 25.0 -0.9**
SNY S **S 16 53 03.0 -5.2**
SNY AMB AMB
comp=Z,7µm,9.0s
SNY LR LR
comp=N,36µm,17.0s,MS6.7
SNY LR LR
comp=E,62µm,14.0s,MS6.7
USP Ospenovka 46.13 336 P **P 16 46 26.9 +0.8**
SNR=421
ASHO Ashiyiah 46.14 303 P **P 16 46 27.6 +1.3**
SNR=31
ABTO Aybut 46.24 292 P **P 16 46 27.8 +0.5**
SNR=38
SONM Songino Array 46.43 8 P **P 16 46 29.0 +0.7**
comp=E,505nm,0.8s,mb6.5,baz=192,slow=8.6,SNR=624
SONM LR LR 17 08 21.1
comp=E,90µm,18.7s,MS6.8,baz=186,slow=39
SONM PKPPKP 17 17 47.1
comp=E,1.3nm,1.1s,slow=1.2,SNR=5.6
BANOM Banah 46.43 305 P **P 16 46 30.3 +1.7**
SNR=5.6
ULN Ulaanbaatar 46.55 9 P **P 16 46 29.8 +0.5**
ULN Ulaanbaatar 46.55 9⇑*e*P **P 16 46 29.7 +0.4**
ULN pmax pmax
comp=Z,366nm,0.8s,mb6.4
ULN Ulaanbaatar 46.55 9⇑*e*P **P 16 46 29.7 +0.4**
comp=Z,366nm,0.8s,mb6.4
TAS Tashkent 46.90 331*ce*P **P 16 46 30.0 -2.1**
TAS *e*S **S 16 53 16.0 -3.4**
TAS pmax pmax
comp=Z,10µm,8.0s
CN2 Changchun 48.51 27 *e*P **P 16 46 43.8 -0.9**
CN2 *e*AP pP 16 46 56.8 +1.2
CN2 PCP PcP 16 48 10.3 -0.3
CN2 PP PP 16 48 35.0 -2.2
CN2 *e*S **S 16 53 40.6 -1.6**
CN2 SS SS 16 57 09.9 +2.5
CN2 AMB AMB
comp=Z,80nm,1.1s,mb5.7
CN2 LR LR
comp=N,66µm,16.0s,MS6.8
CN2 LR LR
comp=E,40µm,16.0s,MS6.8
CN2 LR LR
comp=Z,79µm,16.0s,MS6.8
ZAK Zakamensk 48.59 5⇓*i*P **P 16 46 45.1 -0.1**
ZAK *e* 16 53 47.9
ZAK pmax pmax
comp=Z,124nm,1.4s,mb5.8
CBIJ Chichi jima 49.46 55 P **P 16 46 50.8 -1.4**
comp=Z,599nm,0.8s,mb6.7,baz=236,slow=3.5,SNR=29
SARN Sarigan 49.53 70 *e*P **P 16 46 53.7 +0.8**
MOY Mondy 49.72 3 *e*P **P 16 46 54.4 +0.5**
MOY pmax pmax
comp=Z,36nm,3.2s
TLY Talaya 49.91 5*c i*P **P 16 46 56.0 +0.7**
TLY *e* 16 48 14.8
TLY *e* 16 48 46.2
TLY *e*S **S 16 54 01.6 0.0**
TLY *e* 16 56 36.8
TLY *e*SSS SSS 16 58 57.0 -3.8
TLY pmax pmax
comp=Z,282nm,1.5s,mb6.1
TLY MLR MLR
comp=Z,99µm,19.0s,MS6.8
TLY Talaya 49.91 5⇑*e*P **P 16 46 56.1 +0.8**
comp=Z,10nm,2.4s
TLY *e* pP 16 47 07.6 +1.3
JHJ Hachijo jima 2 50.23 47 P **P 16 46 57.4 -0.7**
comp=Z,342nm,0.9s,mb6.4,baz=208,slow=11,SNR=6.7
IRK Irkutsk 50.52 5 *e*P **P 16 46 59.8 -0.2**
IRK *e*S **S 16 54 03.4 -6.6**
IRK pmax pmax
comp=Z,707nm,3.2s
PMG Port Moresby 50.53 104 P **P 16 46 59.3 -1.3**
PMG pmax pmax
comp=Z,94nm,0.8s
PMG Port Moresby 50.53 104 P **P 16 47 00.2 -0.3**
comp=Z,93nm,0.8s,mb5.8,baz=308,slow=3.5,SNR=32
PMG Port Moresby 50.53 104⇑*e*P **P 16 46 58.8 -1.8**
comp=Z,94nm,0.8s,mb5.8
HIA Hailar 50.88 18⇑*e*P **P 16 47 02.2 -0.5**
HIA pmax pmax
comp=Z,239nm,0.8s
HIA Hailar 50.88 18⇑*e*P **P 16 47 02.2 -0.5**
comp=Z,239nm,0.8s,mb6.2
HIA *e*ScP 16 52 30.6
MAJO Matsushiro 50.89 42⇑*e*P **P 16 47 01.6 -1.4**
MAJO pmax pmax
comp=Z,274nm,1.0s,mb6.1
MAJO Matsushiro 50.89 42⇑*e*P **P 16 47 01.6 -1.4**
comp=Z,274nm,1.0s,mb6.1
MAJO *e*ScP 16 52 14.1
MAT Matsushiro 50.89 42 *e*P **P 16 47 02.0 -1.0**
MAT *e*S **S 16 54 24.0 +8.7**
MAT pmax pmax
comp=Z,250nm,1.0s,mb6.1
MAT MLR MLR
comp=Z,34µm,20.0s,MS6.4
MAT Matsushiro 50.89 42 *e*P **P 16 47 02.0 -1.0**
comp=Z,250nm,1.0s,mb6.1
MAT *e*S **S 16 54 24.0 +8.7**
MAT LR LR
comp=Z,34µm,20.0s,MS6.4
MAT Matsushiro 50.89 42 P **P 16 47 01.5 -1.5**
MAT S **S 16 54 23.0 +7.7**
MJAR Matsushiro Arr 50.89 42 P **P 16 47 02.1 -0.9**
comp=Z,179nm,0.8s,mb6.0,baz=221,slow=5.8,SNR=182
MJAR LR LR 17 09 27.4
comp=Z,30µm,21.1s,MS6.3,baz=230,slow=37
ASH Ashkhabad 50.90 320⇑*i*P **P 16 47 03.0 0.0**
ASH S **S 16 54 16.0 +0.6**
MDJ Mudanjiang 51.07 29 P **P 16 47 04.3 +0.1**
MDJ AP pP 16 47 18.0 +2.8
MDJ PP PP 16 49 01.5 -0.2
MDJ S **S 16 54 21.3 +3.6**
MDJ AMB AMB
comp=Z,175nm,1.1s,mb5.9
MDJ AMB AMB
comp=Z,7µm,8.4s
MDJ LR LR
comp=N,64µm,16.4s,MS6.8
MDJ LR LR
comp=E,15µm,15.7s,MS6.8
MDJ LR LR
comp=Z,79µm,16.4s,MS6.8
MDJ Mudanjiang 51.07 29⇑*e*P **P 16 47 03.9 -0.3**
comp=Z,190nm,1.1s,mb5.9
CTA Charters Tower 52.36 117⇑*i*P **P 16 47 12.8 -1.4**
comp=Z,75nm,0.8s,mb5.7
CTA *e*S **S 16 54 33.6 -2.1**
CTA *i* 16 56 59.9
CTA Charters Tower 52.36 117⇑*i*P **P 16 47 12.8 -1.4**
CTA *e*S **S 16 54 33.6 -2.1**
CTA *i* 16 56 59.9
CTA pmax pmax
comp=Z,75nm,0.8s
CTA Charters Tower 52.36 117 P **P 16 47 13.2 -1.0**
comp=Z,89nm,1.0s,mb5.7,baz=288,slow=8.3,SNR=42
CTA S **S 16 54 35.0 -0.7**
comp=Z,15nm,1.1s,baz=43,slow=22,SNR=15
CTAO Charters Tower 52.36 117 P **P 16 47 13.3 -1.0**
CTAO S **S 16 54 35.2 -0.5**
CTAO Charters Tower 52.36 117 *e*P **P 16 47 13.3 -0.9**
CTAO *e*S **S 16 54 34.5 -1.2**
CTAO pmax pmax
comp=Z,343nm,1.4s,mb6.1
CTAO Charters Tower 52.36 117 *e*P **P 16 47 13.3 -0.9**
comp=Z,342nm,1.4s,mb6.1
CTAO *e*S **S 16 54 34.5 -1.2**
BDHA Al Bayda' 52.88 286 *e*P **P 16 47 18.6 +0.4**
BDHA *i* S **S 16 54 44.3 +1.5**
ZAL Zalesovo 52.99 350 P **P 16 47 19.1 +0.5**
comp=Z,379nm,0.6s,mb6.5,baz=311,slow=5.0,SNR=864
ZAL S **S 16 54 45.8 +1.9**
comp=Z,5.6nm,0.7s,baz=209,slow=23,SNR=11
ADE Adelaide 53.06 138 *e*P **P 16 47 19.3 0.0**
LBOS 53.17 286⇑*e*P **P 16 47 20.8 +0.4**
LBOS AMb AMB 16 47 24.6
comp=Z,1µm,1.5s,mb6.6
STKA Stephens Creek 53.43 133 *e*P **P 16 47 20.9 -1.2**
comp=Z,74nm,0.6s,mb5.8
STKA *i* S **S 16 54 47.5 -2.6**
STKA Stephens Creek 53.43 133 P **P 16 47 20.6 -1.5**
comp=Z,46nm,0.8s,mb5.5,baz=307,slow=7.1,SNR=102
STKA S **S 16 54 49.0 -1.1**
comp=Z,12nm,1.1s,baz=165,slow=17,SNR=3.6
STKA LR LR 17 13 13.1
comp=Z,22µm,19.2s,MS6.2,baz=299,slow=40
OPO Ambohidratompo 53.63 245 P **P 16 47 24.2 +0.5**
comp=Z,87nm,1.1s,mb5.6,baz=64,slow=6.6,SNR=41
DHBB Dhamar BB 54.10 287⇑*e*P **P 16 47 28.4 +1.2**

DHBB				AMb	AMB	16 47 31.9
	comp=Z,2μm,1.4s,mb6.8					
DHBB				*i* S	**S**	**16 55 01.0 +1.6**
TRBA	**At Turbah**	**54.18**	**285⇑**	*e*P	**P**	**16 47 27.8 0.0**
TRBA				*i* S	**S**	**16 55 02.0 +1.5**
UDYN	**Al 'Udayn**	**54.42**	**286⇑**	*e*P	**P**	**16 47 29.6 0.0**
ATD	**Arta Tunnel**	**55.22**	**283**	P	**P**	**16 47 36.0 +0.7**
	comp=Z,26nm,1.2s,mb5.2,baz=269,slow=20,SNR=4.7					
ATD				LR	LR	17 09 20.1
	comp=Z,11μm,18.1s,MS6.0,baz=221,slow=34					
KLR	**Kul'dur**	**55.46**	**26⇓**	*i*P	**P**	**16 47 33.7 -3.0**
KLR				*e*		16 48 30.4
KLR				*e*PPP	PPP	16 50 51.5 -5.1
KLR				*e*S	**S**	**16 55 27.5 +10**
KLR				*e*SS	SS	16 59 07.0 +5.0
KLR				pmax	pmax	
	comp=N,560nm,2.0s					
KLR				pmax	pmax	
	comp=E,960nm,2.0s					
KLR				pmax	pmax	
	comp=Z,1μm,2.0s,mb6.7					
KLR				pmax	pmax	
	comp=N,4μm,7.5s					
KLR				pmax	pmax	
	comp=E,3μm,7.5s					
KLR				pmax	pmax	
	comp=Z,10μm,7.5s					
KLR				MLR	MLR	
	comp=Z,42μm,15.0s,MS6.7					
BVA0	**Borovoye Array**	**55.80**	**340**	P	**P**	**16 47 38.0 -1.1**
BVA0				pmax	pmax	
	comp=Z,256nm,1.7s,mb6.0					
BVAR	**Borovoye Array**	**55.80**	**340**	P	**P**	**16 47 38.0 -1.0**
	comp=Z,97nm,0.5s,mb6.1,baz=143,slow=9.4,SNR=638					
BVAR				S	**S**	**16 55 22.0 +0.3**
	comp=Z,6.0nm,0.8s,baz=122,slow=14,SNR=6.3					
BVAR				PKP2bc		17 17 53.2
	comp=Z,0.9nm,0.6s,baz=315,slow=4.1,SNR=4.5					
BVAR	**Borovoye Array**	**55.80**	**340**	P	**P**	**16 47 38.0 -1.0**
BVAR				S	**S**	**16 55 22.0 +0.3**
BVAR				⇑*e*		17 17 53.2
BOD	**Bodaibo**	**57.29**	**10**	*e*P	**P**	**16 47 49.3 -0.4**
BOD				pmax	pmax	
	comp=Z,265nm,0.9s,mb6.3					
ASAJ	**Asahikawa**	**57.86**	**37**	P	**P**	**16 47 53.8 0.0**
	comp=Z,183nm,0.7s,mb6.2,baz=254,slow=13,SNR=44					
ASAJ				LR	LR	17 12 39.6
	comp=Z,27μm,21.0s,MS6.3,baz=254,slow=36					
BHD	**Baghdad**	**58.81**	**308**	*i* P	**P**	**16 47 53.0 -7.6**
BHD				*i* pP	pP	16 48 03.0 -8.8
BHD				*e*S	S	16 55 41.0 -21
CLNS	**Chul'man**	**58.98**	**17***c*	*i*P	**P**	**16 48 02.3 +0.8**
CLNS				*e**PP	pP	16 48 08.3 -4.4
CLNS				*e*		16 48 42.9
CLNS				*i* S	**S**	**16 56 06.2 +2.7**
CLNS				*e*PS	PS	16 56 20.2 -2.8
CLNS				*e*		16 57 45.7
CLNS				*e*SS	SS	17 00 03.6 +4.3
CLNS				*e*SSS	SSS	17 02 26.6 +1.7
CLNS				pmax	pmax	
	comp=N,116nm,0.8s					
CLNS				pmax	pmax	
	comp=E,135nm,0.8s					
CLNS				pmax	pmax	
	comp=Z,323nm,0.8s,mb6.4					
CLNS				pmax	pmax	
	comp=Z,43nm,1.0s,mb5.4					
CLNS				pmax	pmax	
	comp=N,24nm,0.8s					
CLNS				pmax	pmax	
	comp=E,55nm,1.2s					
CLNS				smax		
	comp=N,64nm,1.5s					
CLNS				smax		
	comp=Z,9.0nm,1.2s					
CLNS				smax		
	comp=E,16nm,1.1s					
CLNS				MLR	MLR	
	comp=Z,77μm,16.0s,MS6.9					
CLNS				MLR	MLR	
	comp=N,40μm,14.0s,MS6.7					
CLNS				MLR	MLR	
	comp=E,14μm,15.0s,MS6.7					
TOO	**Toolangi**	**59.07**	**137⇓**	*i*P	**P**	**16 48 03.8 +1.4**
	comp=E,32nm,0.8s,mb5.4					
TOO				*e*	pP	16 48 16.7 +3.1
TOO				*i* S	**S**	**16 56 09.8 +4.9**
TOO	**Toolangi**	**59.07**	**137⇓**	*i*P	**P**	**16 48 03.8 +1.4**
TOO				*e*	pP	16 48 16.7 +3.1
TOO				*i* S	**S**	**16 56 09.8 +4.9**
TOO				pmax	pmax	
	comp=Z,32nm,0.8s,mb5.4					
YSS	**Yuzh-Sakhalins**	**59.55**	**34**α	*i*P	**P**	**16 48 05.5 0.0**
YSS				*e**SP	sP	16 48 15.7 -5.4
YSS				*e*		16 48 54.0
YSS				*e*		16 50 19.0
YSS				*e*S	**S**	**16 56 12.0 +1.1**
YSS				*e*PS	PS	16 56 31.0 0.0
YSS				*e*		16 57 49.0
YSS				pmax	pmax	
	comp=N,430nm,1.0s					
YSS				pmax	pmax	
	comp=E,370nm,1.0s					
YSS				pmax	pmax	
	comp=Z,1μm,1.0s,mb7.0					
YSS				pmax	pmax	
	comp=Z,340nm,1.0s,mb6.3					
YSS				pmax	pmax	
	comp=N,460nm,1.4s					
YSS				pmax	pmax	
	comp=E,210nm,1.0s					
YSS				smax		
	comp=N,3μm,11.0s					
YSS				MLR	MLR	
	comp=Z,26μm,17.0s,MS6.4					
YSS				MLR	MLR	
	comp=N,12μm,18.0s,MS6.5					
YSS				MLR	MLR	
	comp=E,24μm,16.0s,MS6.5					
YSS	**Yuzh-Sakhalins**	**59.55**	**34⇑**	*e*P	**P**	**16 48 05.3 -0.2**
	comp=E,1μm,1.0s,mb7.0					
YUK	**Yuzh-Kuril'sk**	**59.81**	**38⇑**	*i*P	**P**	**16 48 06.0 -1.4**
YUK				*e*S	**S**	**16 56 08.0 -6.3**
YUK				pmax	pmax	
	comp=Z,10μm,3.0s					
YUK				pmax	pmax	
	comp=N,5μm,4.0s					
YUK				pmax	pmax	
	comp=E,5μm,3.2s					
YUK				pmax	pmax	
	comp=Z,900nm,1.0s,mb6.8					
YUK				smax		
	comp=N,6μm,7.0s					
YUK				smax		
	comp=E,5μm,6.5s					
YUK				MLR	MLR	
	comp=N,13μm,15.5s,MS6.5					
YUK				MLR	MLR	
	comp=Z,36μm,15.5s,MS6.6					
YUK				MLR	MLR	
	comp=E,27μm,15.0s,MS6.5					
KMBO	**Kilima Mbogo**	**60.50**	**268**	P	**P**	**16 48 13.2 +0.7**
KMBO				pP	pP	16 48 24.2 +0.5
KMBO				S	**S**	**16 56 26.5 +3.0**
KMBO	**Kilima Mbogo**	**60.50**	**268**	P	**P**	**16 48 13.2 +0.7**
KMBO				pmax	pmax	
	comp=Z,550nm,2.1s					
KMBO	**Kilima Mbogo**	**60.50**	**268**	P	**P**	**16 48 13.1 +0.6**
	comp=Z,12nm,0.9s,mb4.9,baz=66,slow=8.2,SNR=26					
KMBO				LR	LR	17 09 44.2
	comp=Z,29μm,21.2s,MS6.4,baz=82,slow=31					
KMBO				PKP2bc		17 17 45.8
	comp=Z,0.4nm,0.4s,baz=244,slow=4.7,SNR=9.2					
KMBO	**Kilima Mbogo**	**60.50**	**268⇓**	*e*P	**P**	**16 48 13.0 +0.5**
	comp=Z,552nm,2.1s,mb6.2					
ARMA	**Armidale**	**60.52**	**127⇓**	*i*P	**P**	**16 48 13.8 +1.3**
ARMA				*i* S	**S**	**16 56 27.9 +4.2**
MAK	**Makhachkala**	**60.55**	**320***d*	*i*P	**P**	**16 48 12.0 -0.5**
MAK				*i*		16 48 55.0
MAK				*i* PPP	PPP	16 51 59.0 +3.7
MAK				*i* S	**S**	**16 56 22.0 -1.9**
MAK				*i* PS	PS	16 56 45.0 +0.5
MAK				*i*		16 57 59.0
MAK				pmax	pmax	
	comp=N,1μm,8.0s					
MAK				pmax	pmax	
	comp=E,3μm,8.0s					
MAK				pmax	pmax	
	comp=Z,6μm,8.0s					
MAK				smax		
	comp=N,10μm,10.0s					
MAK				smax		
	comp=E,6μm,10.0s					
MAK				MLR	MLR	
	comp=Z,9μm,17.0s,MS6.0					
CNB	**Canberra Magne**	**60.76**	**133⇑**	*i*P	**P**	**16 48 13.3 -0.7**
	comp=Z,1μm,1.1s,mb6.9					
CNB				*i*	pP	16 48 27.1 +1.9
HKR	**Hakkari**	**60.87**	**313**	P	**P**	**16 48 13.6 -1.1**
MSL	**Mosul**	**60.88**	**311**	*e*P	**P**	**16 48 15.5 +0.7**
MSL				*e*pP	pP	16 48 29.0 +3.0
MSL				*e*PP	PP	16 50 37.0 +5.9
MSL				*e*S	**S**	**16 56 26.5 -1.6**
MSL				*e*SP	SP	16 56 46.0 +2.9
MSL				*e*SPP	SPP	16 57 08.5 +16
GNI	**Garni**	**61.17**	**316**	P	**P**	**16 48 15.8 -0.9**
GNI	**Garni**	**61.17**	**316**	P	**P**	**16 48 16.4 -0.3**
GNI				pmax	pmax	
	comp=Z,280nm,1.2s					
GNI	**Garni**	**61.17**	**316**	P	**P**	**16 48 16.9 +0.3**
	comp=Z,68nm,1.0s,mb5.7,baz=196,slow=0.8,SNR=21					
DGRG	**David-gareji**	**61.28**	**317**	P	Px	16 48 37.0
DGRG				S	**S**	**16 56 34.7 +1.5**
CLDR	**Caldiran**	**61.34**	**314**	P	**P**	**16 48 17.0 -0.9**
TVAN	**Van**	**61.47**	**314**	*i* P	**P**	**16 48 19.9 +1.1**
RIV	**Riverview**	**61.48**	**130**	*e*P	**P**	**16 48 19.4 +0.5**
RIV				*i*	pP	16 48 32.4 +2.3
RIV				*i* S	**S**	**16 56 39.7 +3.9**
VANB	**Van**	**61.51**	**314**	P	**P**	**16 48 16.5 -2.5**
MTA	**Mtatsminda**	**61.78**	**317**	P	**P**	**16 48 17.5 -3.3**
TBLG	**Delisi**	**61.84**	**317**	P	**P**	**16 48 20.7 -0.4**
SVE	**Sverdlovsk**	**62.27**	**338**α	*i*P	**P**	**16 48 20.0 -3.8**
SVE				*e*		16 50 44.0
SVE				*e*S	**S**	**16 56 42.0 -3.5**
SVE				*e*PS	PS	16 57 04.0 -3.7
SVE				pmax	pmax	
	comp=Z,1μm,2.5s,mb6.5					
SVE				pmax	pmax	
	comp=N,2μm,7.0s					
SVE				pmax	pmax	
	comp=E,2μm,7.0s					
SVE				pmax	pmax	
	comp=Z,6μm,7.0s					
SVE				MLR	MLR	
	comp=N,13μm,19.0s,MS6.2					
SVE				MLR	MLR	
	comp=E,12μm,19.0s,MS6.2					
SVE				MLR	MLR	
	comp=Z,23μm,19.0s,MS6.4					
BTMT	**Batman**	**62.75**	**313**	P	**P**	**16 48 26.4 -0.9**
ARU	**Arti**	**62.78**	**337⇑**	*i*P	**P**	**16 48 26.1 -1.2**
ARU				*e*		16 49 04.1
ARU				*i* PPP	PPP	16 52 11.0 -6.8
ARU				*i* S	**S**	**16 56 50.9 -1.0**
ARU				*i*		16 58 13.8
ARU				pmax	pmax	
	comp=Z,151nm,0.9s,mb6.1					
ARU				MLR	MLR	
	comp=Z,23μm,19.0s,MS6.4					
ARU				MLR	MLR	
	comp=N,11μm,18.0s,MS6.3					
ARU				MLR	MLR	
	comp=E,16μm,19.0s,MS6.3					
ARU	**Arti**	**62.78**	**337⇑**	*e*P	**P**	**16 48 25.8 -1.5**
	comp=E,242nm,1.0s,mb6.3					
ARU				*e*S	**S**	**16 56 49.9 -2.0**
BEST	**Besiri**	**62.80**	**312**	*i* P	**P**	**16 48 26.6 -1.0**
ZEI	**Tsey**	**62.84**	**318**	*e*P	**P**	**16 48 27.3 -0.5**
ZEI				*i*		16 50 46.7
ZEI				*i* S	**S**	**16 56 49.6 -3.2**
ZEI				pmax	pmax	
	comp=Z,60nm,0.8s,mb5.8					
TAU	**Tasmania Unive**	**63.01**	**141**	P	**P**	**16 48 31.0 +2.0**
TAU				pmax	pmax	
	comp=Z,97nm,1.1s,mb5.8					
TAU	**Tasmania Unive**	**63.01**	**141**	*e*P	**P**	**16 48 31.2 +2.3**
	comp=Z,97nm,1.1s,mb5.8					
HNR	**Honiara**	**63.02**	**101**	*e*P	**P**	**16 48 28.1 -1.3**
HNR				pmax	pmax	
	comp=Z,450nm,1.0s,mb6.5					
HNR	**Honiara**	**63.02**	**101⇑**	*e*P	**P**	**16 48 27.5 -1.9**
	comp=Z,455nm,0.9s,mb6.6					
ONI	**Oni**	**63.06**	**318**	P	**P**	**16 48 28.6 -0.8**
ERZM	**Erzurum**	**63.46**	**314**	*i* P	**P**	**16 48 31.7 -0.3**
EZM	**Erzurum**	**63.46**	**314**	P	**P**	**16 48 31.5 -0.5**
BINT	**Bingol**	**63.73**	**313**	P	**P**	**16 48 34.3 +0.6**
KIV	**Kislovodsk**	**64.14**	**319**α	*i*P	**P**	**16 48 35.8 -0.5**
KIV				*i*	pP	16 48 47.7 0.0
KIV				*e*		16 49 06.0
KIV				*i*		16 51 03.4
KIV				*i* S	**S**	**16 57 08.1 -0.9**
KIV				*i*		16 57 30.3
KIV				*i*		16 58 26.6
KIV				*i* SS	SS	17 01 23.4 +3.4
KIV				pmax	pmax	
	comp=Z,2μm,3.6s					
KIV				pmax	pmax	
	comp=Z,251nm,1.3s,mb6.1					
KIV				MLR	MLR	
	comp=Z,13μm,20.0s,MS6.1					
KIV	**Kislovodsk**	**64.14**	**319⇑**	*e*P	**P**	**16 48 35.4 -0.9**
	comp=Z,218nm,0.8s,mb6.2					
GOF	**Gofitskoye**	**64.38**	**320⇑**	*i*P	**P**	**16 48 32.4 -5.5**
GOF				*i* S	**S**	**16 57 10.4 -1.6**
GOF				pmax	pmax	
	comp=Z,190nm,1.4s,mb5.9					
GOF				pmax	pmax	
	comp=Z,270nm,2.1s,mb5.9					
URFA	**Urfa**	**64.48**	**311**	P	**P**	**16 48 38.3 -0.4**
ASF	**Jabal al Asfar**	**64.49**	**305**	P	**P**	**16 48 39.3 +0.4**
	comp=Z,16nm,0.6s,mb5.2,baz=336,slow=3.2,SNR=21					
PTK	**Pertek**	**64.53**	**313**	P	**P**	**16 48 37.3 -1.7**
YAK	**Yakutsk**	**64.67**	**16***c*	*i*P	**P**	**16 48 38.6 -0.9**
YAK				*e**PP	pP	16 48 42.8 -8.0
YAK				*i* S	**S**	**16 57 13.1 -2.1**
YAK				pmax	pmax	
	comp=Z,495nm,1.0s,mb6.5					
YAK				pmax	pmax	
	comp=N,209nm,1.2s					
YAK				pmax	pmax	
	comp=E,126nm,1.2s					
YAK				pmax	pmax	
	comp=Z,782nm,9.5s					
YAK				pmax	pmax	
	comp=N,96nm,5.1s					
YAK				pmax	pmax	
	comp=E,170nm,7.8s					
YAK				smax		
	comp=N,31nm,1.1s					
YAK				smax		
	comp=Z,9.0nm,1.1s					
YAK				smax		
	comp=E,42nm,4.5s					
YAK				MLR	MLR	
	comp=N,20μm,15.0s,MS6.5					
YAK				MLR	MLR	
	comp=E,16μm,15.0s,MS6.5					
YAK				MLR	MLR	
	comp=Z,29μm,15.0s,MS6.6					
YAK	**Yakutsk**	**64.67**	**16⇑**	*e*P	**P**	**16 48 38.4 -1.0**
	comp=Z,808nm,0.9s,mb6.8					
ELZG	**Elazig**	**64.70**	**312**	*i* P	**P**	**16 48 39.0 -1.1**
GUMT	**Gumushane**	**65.01**	**314**	P	**P**	**16 48 41.7 -0.4**
MALT	**Malatya**	**65.06**	**312**	P	**P**	**16 48 41.6 -0.8**
MALT	**Malatya**	**65.06**	**312⇓**	P	**P**	**16 48 42.9 +0.5**
MALT	**Malatya**	**65.06**	**312⇓**	*e*P	**P**	**16 48 41.7 -0.7**
	comp=Z,79nm,0.9s,mb5.7					
KELT	**Kelkit**	**65.06**	**314**	*i* P	**P**	**16 48 43.3 +0.9**
MYA	**Malataya**	**65.06**	**312**	P	**P**	**16 48 43.2 +0.8**
GZT	**Gaziantep**	**65.41**	**311**	*i* P	**P**	**16 48 44.5 -0.2**
EIL	**Elat**	**65.53**	**302⇑**	*e*P	**P**	**16 48 45.0 -0.6**
	comp=Z,174nm,1.2s,mb6.0					
GAZ	**Gaziantep**	**65.62**	**310**	P	**P**	**16 48 46.1 0.0**
SOKR	**Solikamsk**	**65.66**	**339***c*	*i*P	**P**	**16 48 45.2 -0.7**
SOKR						16 51 09.3
SOKR				S	S	16 57 25.9 -1.5
SOKR				pmax	pmax	
	comp=Z,380nm,0.9s,mb6.4					
SOKR				MLR	MLR	
	comp=Z,32μm,19.0s,MS6.5					
SOC	**Sochi**	**65.97**	**318***c*	*i*P	**P**	**16 48 46.7 -1.5**
SOC				*e*		16 49 13.0
SOC				*e*		16 51 11.6
SOC				*e*PPP	PPP	16 52 50.1 -0.8
SOC				*i* S	S	16 57 28.8 -2.7
SOC				pmax	pmax	
	comp=Z,273nm,0.9s,mb6.3					
SOC				pmax	pmax	
	comp=N,169nm,1.4s					
SOC				pmax	pmax	
	comp=E,228nm,1.5s					
SOC				pmax	pmax	
	comp=Z,2μm,3.1s					
KAHT	**Ahir Dag**	**66.02**	**311**	*i* P	**P**	**16 48 48.2 -0.3**
COBT	**Iskenderun**	**66.17**	**309**	*i* P	**P**	**16 48 50.2 +0.7**
CEYT	**Ceyhan**	**66.70**	**310**	P	**P**	**16 48 53.4 +0.5**
MBAR	**Mbarara**	**66.98**	**269**	P	**P**	**16 48 54.7 -0.3**
MBAR				pmax	pmax	
	comp=Z,170nm,1.5s,mb5.8					
MBAR	**Mbarara**	**66.98**	**269**	*e*P	**P**	**16 48 54.5 -0.6**
	comp=Z,174nm,1.5s,mb5.9					
TOKT	**Tokat**	**67.08**	**313**	P	**P**	**16 48 54.6 -0.5**
BNN	**Bunyan**	**67.15**	**312**	P	**P**	**16 48 55.0 -0.7**
MEST	**Erdemli**	**67.82**	**309**	*i* P	**P**	**16 48 58.4 -1.6**
AVNT	**Avonos**	**67.87**	**311**	*i* P	**P**	**16 48 59.4 -0.8**
ANN	**Anapa**	**67.94**	**318***c*	*i*P	**P**	**16 48 55.6 -4.9**
ANN				*i*		16 49 21.9
ANN				*i*		16 51 30.8
ANN				*i* S	S	16 57 51.4 -3.8
ANN				*i*		16 58 52.0
ANN				pmax	pmax	
	comp=Z,2μm,7.3s					
CSS	**Prodhromos**	**68.06**	**307⇑**	*e*P	**P**	**16 49 00.7 -0.8**
	comp=Z,132nm,1.0s,mb5.9					
MIR	**Mirnyy**	**68.33**	**182**	*e*P	**P**	**16 49 10.0 +7.4**
MIR				*e*PPP	PPP	16 53 18.0 +5.0
MIR				*e*S	S	16 57 59.0 -0.4
MIR				*e*S	S	16 57 59.0 -0.4
MIR				pmax	pmax	
	comp=Z,3μm,11.0s					
MIR				pmax	pmax	
	comp=N,1μm,10.0s					
MIR				pmax	pmax	
	comp=E,900nm,4.0s					
MIR				smax		
	comp=N,8μm,22.0s					
MIR				smax		
	comp=E,3μm,8.0s					
MIR				MLR	MLR	
	comp=Z,24μm,20.0s,MS6.4					
CORM	**Corum**	**68.43**	**313**	P	**P**	**16 49 03.1 -0.6**
CTKT	**Corum**	**68.44**	**313**	*i* P	**P**	**16 49 03.1 -0.6**
LEF	**Lefka**	**68.45**	**307**	P	**P**	**16 49 05.1 +1.1**
CDAG	**Cicekdag**	**68.47**	**312**	*i* P	**P**	**16 49 02.9 -1.1**
BOYT	**Boyabat**	**68.60**	**314**	*i* P	**P**	**16 49 03.9 -0.8**
BYBT	**Boyabat**	**68.71**	**314**	P	**P**	**16 49 04.5 -0.9**
KAMT	**Kaman**	**68.89**	**312**	P	**P**	**16 49 01.7 -4.8**
BRTR	**Keskin Array B**	**69.04**	**312**	P	**P**	**16 49 06.2 -1.3**
	comp=Z,33nm,0.9s,mb5.3,baz=130,slow=7.0,SNR=67					
BRTR				PKP2bc		17 17 20.0
	comp=Z,3.9nm,1.2s,baz=270,slow=1.2,SNR=9.7					
BRTR	**Keskin Array B**	**69.04**	**312**	P	**P**	**16 49 06.2 -1.3**
BRTR				⇑*e*		17 17 20.0
SKR	**Severo-Kuril's**	**69.05**	**35**	*e*P	**P**	**16 49 05.5 -1.8**
SKR				*e*		16 49 08.5
SKR				*e*		16 49 13.6
SKR				*e*S	S	16 58 13.0 +4.7
SKR				*e*		16 58 50.0
SKR				pmax	pmax	
	comp=N,110nm,1.0s					
SKR				pmax	pmax	
	comp=E,220nm,1.0s					
SKR				pmax	pmax	
	comp=Z,490nm,1.0s,mb6.4					
SKR				pmax	pmax	
	comp=N,2μm,4.0s					
SKR				pmax	pmax	
	comp=E,6μm,4.0s					
SKR				pmax	pmax	
	comp=Z,10μm,4.0s					
SKR				pmax	pmax	
	comp=N,5μm,10.0s					
SKR				pmax	pmax	
	comp=E,5μm,8.0s					
SKR				MLR	MLR	
	comp=N,12μm,18.0s,MS6.3					
SKR				MLR	MLR	
	comp=E,11μm,18.0s,MS6.3					
SKR				MLR	MLR	
	comp=Z,16μm,18.0s,MS6.3					
PECR	**Pechory**	**69.08**	**331***d*	*i*P	**P**	**16 49 06.4 -1.0**
PECR				*e*		16 49 26.0
PECR				*e*		16 51 38.0
PECR				*i* S	S	16 58 04.0 -4.6
PECR				*e*		16 59 02.6
PECR				pmax	pmax	
	comp=Z,2μm,1.2s,mb7.0					
PECR				pmax	pmax	
	comp=E,3μm,9.0s					
PECR				smax		
	comp=E,6μm,10.5s					
PECR				MLR	MLR	
	comp=E,12μm,21.0s					
TOS	**Tosya**	**69.12**	**313**	P	**P**	**16 49 07.6 -0.4**
HDMB	**Hadim**	**69.21**	**309**	P	**P**	**16 49 07.5 -1.0**
CANT	**Cankiri**	**69.29**	**313**	P	**P**	**16 49 08.5 -0.5**
BZK	**Bozkurt**	**69.40**	**314**	P	**P**	**16 49 08.4 -1.2**
ELDT	**Eldivan**	**69.40**	**313**	*i* P	**P**	**16 49 08.9 -0.7**
VOR	**Voronezh**	**69.51**	**326⇑**	*i*P	**P**	**16 49 09.0 -1.1**
VOR				*e*		16 51 41.0
VOR				*e*S	S	16 58 10.0 -3.7
VOR				pmax	pmax	
	comp=N,240nm,1.4s					
VOR				pmax	pmax	
	comp=E,380nm,1.4s					
VOR				pmax	pmax	
	comp=Z,400nm,1.4s,mb6.2					
VOR				pmax	pmax	
	comp=N,60nm,1.4s					
VOR				pmax	pmax	
	comp=Z,110nm,1.4s,mb5.6					
VOR				pmax	pmax	
	comp=E,80nm,1.3s					
VOR				smax		
	comp=N,140nm,2.0s					
VOR				smax		
	comp=Z,80nm,2.0s					
VOR				smax		
	comp=E,70nm,1.7s					
KONT	**Konya--Tatoy**	**69.54**	**310**	P	**P**	**16 49 10.5 -0.1**
ANTO	**Ankara**	**69.70**	**312**	P	**P**	**16 49 09.3 -2.2**
ANTO	**Ankara**	**69.70**	**312**	⇓P	**P**	**16 49 11.4 -0.1**
BALT	**Daday**	**69.72**	**314**	*i* P	**P**	**16 49 10.8 -0.8**
LOD	**Lodumlu**	**69.73**	**312**	P	**P**	**16 49 10.9 -0.8**
KIZT	**Kizilcal**	**70.14**	**311**	P	**P**	**16 49 12.6 -1.6**
SAFT	**Safranbolu**	**70.15**	**313**	P	**P**	**16 49 13.2 -0.9**
SIM	**Simferopol'**	**70.22**	**317***ce*	P	**P**	**16 49 14.1 -0.4**
SIM				*e*	pP	16 49 26.3 +0.3
SIM				*e*		16 51 47.5
SIM				PPP	PPP	16 53 36.0 +3.7
SIM				*e*S	S	16 58 20.2 -1.9
SIM				pmax	pmax	
	comp=Z,1μm,10.0s					
SGKT	**Sivrigoynuk**	**70.43**	**313**	*i* P	**P**	**16 49 08.6 -7.4**
ANTB	**Antalya**	**70.62**	**309**	P	**P**	**16 49 16.2 -1.0**
LSZ	**Lusaka**	**70.76**	**253**	P	**P**	**16 49 18.7 +0.3**
LSZ				pP	pP	16 49 30.4 +0.7
LSZ				S	S	16 58 30.4 +1.5
LSZ				SKSac		16 59 16.7
LSZ	**Lusaka**	**70.76**	**253**	P	**P**	**16 49 18.5 +0.2**
LSZ				pmax	pmax	
	comp=Z,210nm,1.5s,mb5.8					
LSZ	**Lusaka**	**70.76**	**253**	*e*P	**P**	**16 49 18.4 +0.1**
	comp=Z,210nm,1.5s,mb5.8					
BCK	**Bucak**	**70.80**	**309**	*e*P	pP	16 49 30.8 +1.2
ISP	**Isparta**	**70.94**	**309**	P	**P**	**16 49 17.4 -1.7**
ISP	**Isparta**	**70.94**	**309**	P	**P**	**16 49 18.7 -0.4**
ISP				pmax	pmax	
	comp=Z,250nm,1.3s,mb6.0					
MDU	**Mudurnu**	**71.03**	**312**	P	**P**	**16 49 18.6 -0.9**
ESKT	**Eskisehir**	**71.07**	**311**	P	**P**	**16 49 18.5 -1.3**
ESKT	**Eskisehir**	**71.07**	**311**	*i* P	**P**	**16 49 18.3 -1.6**
DZM	**Mont Dzumac**	**71.10**	**114**	*e*P	**P**	**16 49 20.2 -0.1**
DZM	**Mont Dzumac**	**71.10**	**114**	P	**P**	**16 49 18.4 -1.8**

comp=Z,35nm,0.9s,mb5.3,baz=272,slow=5.7,SNR=10
DZM Mont Dzumac 71.10 114 *e*P **P 16 49 20.2 -0.1**
ELL Elmali 71.17 308 P **P 16 49 20.1 -0.3**
AKAS Kas 71.31 308 *i* P **P 16 49 19.1 -2.2**
HENT Hendek 71.35 313 *i* P **P 16 49 19.0 -2.4**
PET Petropavlovsk 71.43 34*c i*P **P 16 49 21.8 +0.1**
PET *e* 16 52 08.7
PET *i* S S 16 58 40.6 +4.6
PET pmax pmax
comp=N,2μm,4.9s
PET pmax pmax
comp=Z,8μm,5.6s
PET pmax pmax
comp=E,3μm,5.7s
PET pmax pmax
comp=Z,476nm,0.8s,mb6.5
PET pmax pmax
comp=Z,6μm,11.4s
PET pmax pmax
comp=Z,3μm,16.3s
PET smax
comp=E,4μm,26.5s
PET smax
comp=N,48nm,1.4s
PET MLR MLR
comp=Z,17μm,18.0s,MS6.4
PET MLR MLR
comp=Z,16μm,18.0s
PET Petropavlovsk 71.43 34⇑*e*P **P 16 49 21.4 -0.3**
comp=Z,603nm,1.0s,mb6.5
ALT Altintas 71.52 311 P **P 16 49 21.3 -1.3**
GOLH Golhisar 71.55 309 *i* P **P 16 49 17.8 -4.9**
FETY Fethiye 71.80 308 P **P 16 49 21.7 -2.5**
KHL Karahalli 71.81 310 P **P 16 49 20.0 -4.2**
MOS Moscow 72.03 329α *i*P **P 16 49 24.7 -0.5**
MOS *e* 16 49 42.1
MOS *e* 16 52 05.2
MOS *e*PPP PPP 16 53 50.6 +1.4
MOS *i* S S 16 58 39.9 -3.0
MOS *e* 16 59 21.5
MOS *e*SS SS 17 03 27.0 +5.0
MOS pmax pmax
comp=Z,317nm,1.1s,mb6.2
MOS MLR MLR
comp=Z,18μm,21.1s,MS6.3
MOS MLR MLR
comp=N,13μm,20.0s,MS6.3
MOS MLR MLR
comp=E,10μm,19.4s,MS6.3
DNZL Cakiroluk 72.04 309 *i* P **P 16 49 22.9 -2.7**
DENT Denizli 72.07 309 P **P 16 49 24.2 -1.5**
DALT Dalyan (Mudla) 72.18 308 P **P 16 49 25.3 -1.1**
HRT Hereke 72.25 312 P **P 16 49 24.6 -2.2**
OBN Obninsk 72.33 328α *i*P **P 16 49 26.1 -0.9**
OBN *e* pP 16 49 35.3 -3.1
OBN *i* 16 52 07.2
OBN *i*PPP PPP 16 53 54.3 +2.1
OBN *i* S S 16 58 42.3 -4.0
OBN *i* 16 59 21.5
OBN *i* 16 59 38.0
OBN *i* SS SS 17 03 29.7 +2.9
OBN *e*SSS SSS 17 06 37.4 +1.2
OBN pmax pmax
comp=Z,3μm,3.4s
OBN pmax pmax
comp=Z,342nm,1.3s,mb6.1
OBN Obninsk 72.33 328⇑*e*P **P 16 49 26.1 -0.9**
comp=Z,298nm,1.2s,mb6.1
YLV Yalova 72.42 312 *e*P **P 16 49 26.9 -0.9**
TIXI Tiksi 72.47 10⇑*i*P **P 16 49 26.0 -1.6**
ARG Arkhangelos 72.47 307 *e*P **P 16 49 30.0 +1.8**
ULDT Uludag 72.50 312 *i* P **P 16 49 27.2 -1.0**
YER Yerkesik 72.53 308 *e*P **P 16 49 28.8 +0.2**
MANT Manisa 72.58 310 *i* P **P 16 49 28.2 -0.7**
ISK Istanbul-Kandi 72.76 313 *e*P **P 16 49 28.7 -1.2**
MLSB Milas 72.95 308 *e*P **P 16 49 29.4 -1.8**
SEY Seymchan 72.98 23 *i* P **P 16 49 32.7 +2.0**
SEY *e* 16 49 51.4
SEY *e* 16 52 12.7
SEY *e*PPP PPP 16 53 55.5 -3.1
SEY *e*S S 16 58 56.1 +2.5
SEY 16 59 26.1
SEY *e*SSS SSS 17 06 49.9 +2.8
SEY pmax pmax
comp=E,320nm,1.2s
SEY pmax pmax
comp=Z,420nm,1.2s,mb6.2
SEY pmax pmax
comp=N,270nm,0.8s
SEY smax
comp=N,10μm,9.6s
SEY smax
comp=E,3μm,8.1s
KARP Karpathos 73.12 307 *e*P **P 16 49 32.0 -0.2**
CTT Catalca 73.24 312 *e*P **P 16 49 31.7 -1.1**
BTOK Tokmak 73.25 311 *i* P **P 16 49 31.3 -1.5**
BODT Bodrum 73.28 308 *e*P **P 16 49 31.1 -1.9**
BALB Balikesir 73.33 311 *e*P **P 16 49 32.1 -1.2**
MAW Mawson 73.45 193 *e*P **P 16 49 33.6 +0.2**
comp=E,20nm,0.9s,mb5.1
MAW *i* pP 16 49 46.3 +1.5
MAW *i* S S 16 59 00.2 +1.4
MAW Mawson 73.45 193 P **P 16 49 33.9 +0.5**
comp=E,24nm,0.9s,mb5.2,baz=38,slow=8.2,SNR=21
MAW LR LR 17 15 30.7
comp=E,30μm,20.8s,MS6.5,baz=23,slow=31
BNT Bandirma 73.45 312 *e*P **P 16 49 33.2 -0.8**
IZM Izmir 73.56 309 *e*P **P 16 49 34.3 -0.4**
BLCB Balcova 73.73 309 *e*P **P 16 49 35.0 -0.6**
MRMT Marmara Adasi 73.74 312 *e*P **P 16 49 33.2 -2.4**
SMG Samos 73.77 309 *e*P **P 16 49 37.2 +1.3**
TLCR 73.89 317 ⇑P **P 16 49 36.3 -0.1**
PSN Preselentsi 73.98 315 *e*P **P 16 49 37.0 0.0**
TIRR Tirgusor 74.00 316 ⇓P **P 16 49 36.8 -0.2**
XRY Khrisi 74.20 306 *e*P **P 16 49 38.0 -0.4**
NPS Neapolis 74.33 306 *e*P **P 16 49 40.5 +1.4**
KIS Kishinev 74.34 318α *i*P **P 16 49 35.0 -3.9**
KIS *i* 16 49 52.0
KIS *i* 16 52 20.0
KIS *i*PPP PPP 16 54 14.0 +1.9
KIS *i* S S 16 59 03.0 -6.1
KIS *i* SS SS 17 04 02.0 +4.3
KIS pmax pmax
comp=Z,600nm,3.5s
KIS pmax pmax
comp=Z,3μm,12.0s
KIS pmax pmax
comp=N,500nm,4.0s
KIS pmax pmax
comp=E,2μm,12.0s
KIS pmax pmax
comp=Z,3μm,16.0s
KIS pmax pmax
comp=Z,1μm,10.0s
KIS pmax pmax
comp=Z,1μm,10.0s
KIS smax
comp=N,4μm,13.0s
KIS smax
comp=E,2μm,12.0s
KIS MLR MLR
comp=Z,7μm,20.0s,MS5.9
KIS MLR MLR
comp=N,6μm,22.0s,MS6.0
KIS MLR MLR
comp=E,7μm,20.0s,MS6.0
KIS MLR MLR
comp=Z,5μm,2.0s
CFR Carcaliu 74.36 317 ⇑P **P 16 49 39.3 +0.2**
HARR Harsova 74.39 316 ⇑P **P 16 49 39.7 +0.4**
PRD Provadia 74.43 314 *e*P **P 16 49 39.0 -0.6**
PRK Paraskevi 74.48 310 *e*P **P 16 49 40.0 0.0**
LBTB Lobatse 74.61 244 *e*P **P 16 49 41.6 +0.6**
LBTB Lobatse 74.61 244 *e*P **P 16 49 40.6 -0.4**
SANT Santorini 74.62 307⇑*e*P **P 16 49 39.0 -1.8**
comp=Z,167nm,1.0s,mb5.9
EDRB Edirne 74.62 313 P **P 16 49 39.9 -0.9**
APE Apeiranthos 74.68 308 P **P 16 49 38.5 -2.7**
BOZC Bozcaada 74.76 311 *i* P **P 16 49 41.2 -0.3**
PPE Popeni 74.80 318 ⇑P **P 16 49 41.4 -0.3**
JMB Yambol 74.87 314 *e*P **P 16 49 41.0 -1.1**
IDI Anoyia 74.91 306 P **P 16 49 41.6 -0.9**
comp=Z,23nm,0.6s,mb5.3,baz=102,slow=7.1,SNR=22
AKASG Malin Array Be 75.05 322 P **P 16 49 41.7 -1.3**
comp=Z,14nm,0.5s,mb5.2,baz=88,slow=4.9,SNR=93
KIEV Kiev 75.05 322 P **P 16 49 41.8 -1.2**
KIEV S S 16 59 12.7 -4.3
KIEV pS 16 59 34.9
KIEV SS SS 17 04 10.6 +2.2
IAS Iasi 75.22 318 P **P 16 49 43.6 -0.4**
RDO Rodhopi 75.38 312 *e*P **P 16 49 44.7 -0.4**
ISR Istrita 75.44 316 ⇑P **P 16 49 48.1 +2.7**
VRI Vrincioaia 75.48 317 ⇓P **P 16 49 46.2 +0.7**
VAM Vamos 75.49 306 *e*P **P 16 49 45.2 -0.6**
SZH Strazhica 75.49 314 *e*P **P 16 49 46.0 +0.3**
BOSA Boshof 75.52 240 P **P 16 49 46.3 +0.2**
comp=Z,38nm,1.0s,mb5.3,baz=89,slow=6.1,SNR=18
BOSA LR LR 17 17 44.1
comp=Z,30μm,20.5s,MS6.6,baz=65,slow=31
BOSA Boshof 75.52 240⇓*e*P **P 16 49 46.1 0.0**
comp=Z,160nm,1.4s,mb5.8
DIM Dimitrovgrad 75.55 313 *e*P **P 16 49 45.0 -1.0**
KDZ Kurdzhali 75.56 313 *e*P **P 16 49 47.0 +0.9**
BUC1 Bucharest 75.64 315 P **P 16 49 47.6 +1.1**
PVL Pavlikeni 75.91 314 *e*P **P 16 49 49.0 +0.9**
MLR Muntele Rosu 75.93 316 P **P 16 49 48.2 +0.1**
comp=Z,72nm,1.0s,mb5.5,baz=103,slow=2.2,SNR=56
MLR Muntele Rosu 75.93 316 ⇑P **P 16 49 48.5 +0.3**
ZIMR 75.97 315 ⇓P **P 16 49 48.0 -0.4**
ZIMR 75.97 315 ⇓P **P 16 49 48.0 -0.4**
RZN Rozhen 76.08 312 *e*P **P 16 49 49.0 -0.1**
PTL Penteli 76.14 309 *e*P **P 16 49 48.5 -1.0**
PLD Plovdiv 76.17 313 *e*P **P 16 49 50.0 +0.4**
MPAR Parnis Oros 76.26 309 *e*P **P 16 49 49.5 -0.7**
OUR Ouranopolis 76.41 311 *e*P **P 16 49 51.7 +0.7**
NSAL Nisos Salamina 76.43 308 *e*P **P 16 49 50.5 -0.7**
MTUR Matau 76.49 316 P **P 16 49 50.7 -0.6**
PAIG Paliouri 76.57 311 *e*P **P 16 49 50.5 -1.4**
MGER Gerania Oros 76.60 309 *e*P **P 16 49 51.7 -0.4**
PGB Panagyurishte 76.64 313 *e*P **P 16 49 51.0 -1.2**
MMB Musomiste 76.80 312 *e*P **P 16 49 51.0 -2.2**
PLG Polygyros 76.82 311 *e*P **P 16 49 49.0 -4.3**
SRS Serrai 76.82 312 *e*P **P 16 49 51.7 -1.6**
BURAR Bucovina Array 76.86 319 ⇑P **P 16 49 54.1 +0.7**
BURAR Bucovina Array 76.86 319 ⇑P **P 16 49 54.1 +0.7**
MNK Minsk 76.89 326⇓*e*P **P 16 49 51.0 -2.4**
SOH Sokhos 76.95 311 *e*P **P 16 49 52.7 -1.4**
PUL Pulkovo 77.16 331*ce*P **P 16 49 54.7 -0.1**
PUL *i* 16 52 54.0
PUL *i*PPP PPP 16 54 40.9 +2.5
PUL *e*S S 16 59 38.4 -1.5
PUL *i* 17 00 03.0
PUL *i* SS SS 17 04 49.1 +8.3
PUL pmax pmax
comp=N,94nm,0.8s
PUL pmax pmax
comp=Z,202nm,0.8s,mb6.1
PUL pmax pmax
comp=E,334nm,1.1s
PUL pmax pmax
comp=Z,3μm,3.6s
PUL pmax pmax
comp=N,316nm,2.7s
PUL pmax pmax
comp=E,662nm,1.7s
PUL smax
comp=N,3μm,11.8s
PUL smax
comp=Z,455nm,13.0s
PUL smax
comp=E,2μm,9.9s
PUL smax
comp=E,6μm,7.9s
PUL smax
comp=N,3μm,4.4s
PUL Pulkovo 77.16 331 *i* P **P 16 49 54.0 -0.8**
KKB Krupnik 77.32 312 *e*P **P 16 49 55.0 -1.1**
VTS Vitosha 77.34 313 *e*P **P 16 49 55.0 -1.2**
MSZ Milford Sound 77.37 137 PN **P 16 49 58.6 +2.3**
LIT Litokhoron 77.50 311 *e*P **P 16 49 55.1 -2.0**
ITM Ithomi 77.55 308 *e*P **P 16 49 56.5 -0.9**
VAY Valandovo 77.62 312⇑*i*P **P 16 49 56.4 -1.3**
GRG Griva 77.69 311 *e*P **P 16 49 56.8 -1.3**
IDID Didziasalis 77.71 326 *e*P **P 16 49 58.1 +0.1**
JOF Joensuu 77.77 335 *e*p **P 16 49 56.0 -2.1**
comp=N,36nm,0.6s,mb5.5
JOF Joensuu 77.77 335 *e*P **P 16 49 56.0 -2.1**
JOF pmax pmax
comp=Z,36nm,0.6s,mb5.5
EVR Evrytania 77.86 309 *e*P **P 16 49 59.2 +0.1**
ZAPS Zavoj/Pirot 77.88 314⇑*i*P **P 16 49 58.1 -1.1**
IIGN Ignalina 78.01 326 *e*P **P 16 49 59.5 0.0**
IIGN AMPb AMB 16 50 02.8
comp=Z,53nm,1.1s,mb5.4
LVV L'vov 78.08 321⇑*i*P **P 16 49 59.7 -0.3**
LVV *e* 16 50 08.1
LVV *e*S S 16 59 47.7 -2.3
LVV *e* 17 00 11.3
LVV *e* 17 04 52.3
IZAR Zarasai 78.09 327 *e*P **P 16 49 59.7 -0.3**
IZAR AMPb AMB 16 50 03.1
comp=Z,40nm,1.1s,mb5.2
ISAL Salakas 78.12 327 *e*P **P 16 49 59.9 -0.2**
ISAL AMPb AMB 16 50 03.3
comp=Z,36nm,1.1s,mb5.2
LVZ Lovozero 78.40 340*ce*P **P 16 50 00.8 -0.6**
LVZ *i* 16 53 03.0
LVZ *i*PPP PPP 16 54 47.9 -2.3
LVZ *e*S S 16 59 53.0 0.0
LVZ *i* 17 00 16.6
LVZ *i* SS SS 17 04 57.8 -1.4
LVZ *i* SSS SSS 17 08 20.6 +3.0
LVZ pmax pmax
comp=Z,94nm,0.8s,mb5.8
LVZ pmax pmax
comp=N,28nm,1.2s
LVZ pmax pmax
comp=E,61nm,1.3s
LVZ pmax pmax
comp=Z,2μm,3.8s
LVZ pmax pmax
comp=N,300nm,2.7s
LVZ pmax pmax
comp=E,974nm,3.8s
LVZ smax
comp=N,2μm,10.3s
LVZ smax
comp=Z,496nm,9.4s
LVZ smax
comp=E,2μm,9.9s
LVZ smax
comp=N,3μm,4.2s
LVZ smax
comp=Z,900nm,4.6s
LVZ smax
comp=E,2μm,4.8s
LVZ MLR MLR
comp=Z,27μm,22.0s,MS6.5
LVZ MLR MLR
comp=N,13μm,20.0s,MS6.4
LVZ MLR MLR
comp=E,16μm,22.0s,MS6.4
LVZ Lovozero 78.40 340⇑*i*P **P 16 50 01.3 -0.1**
MEV Metsovon 78.42 310 *e*P **P 16 50 00.6 -1.6**
FNA Florina 78.44 311 *e*P **P 16 50 02.0 -0.3**
BOLS Boljevac 78.44 314⇑*i*P **P 16 50 01.2 -1.0**
SKO Skopje 78.55 312 *i* P **P 16 50 01.0 -1.8**
comp=E,52nm,1.0s,mb5.4
SKO *i* 16 50 21.0
SKO Skopje 78.55 312 *i* P **P 16 50 01.0 -1.8**
SKO ⇑*i* 16 50 21.0
comp=Z,0.1nm,1.0s
JAN Janina 78.69 310 *e*P **P 16 50 03.0 -0.6**
APA Apatity 78.70 339⇑*i*P **P 16 50 03.6 +0.5**
APA *i* 16 50 11.4
APA *i* pP 16 50 16.4 +1.8
APA *i* 16 53 00.0
APA *i*PPP PPP 16 54 52.0 -0.9
APA *i* S S 16 59 56.0 -0.2
APA *i* PS PS 17 00 40.0 -3.9
APA pmax pmax
comp=Z,140nm,1.0s,mb5.8
APA pmax pmax
comp=Z,4μm,10.0s
APA MLR MLR
comp=Z,20μm,19.0s,MS6.5
APA MLR MLR
comp=Z,1μm,20.0s
VLS Valsamata 78.72 308 *e*P **P 16 50 04.0 +0.2**
KWP Kalwaria 78.89 320⇑*e*P **P 16 50 04.7 +0.2**
KWP *e*PcP PcP 16 50 10.6 -2.8
KWP *e*pP pP 16 50 13.3 -2.7
KWP *e*PP PP 16 53 04.7 -0.4
KWP *e*S S 16 59 58.1 -0.5
KWP *e*sS 17 00 20.9
KWP MLR MLR 17 31 50.1
comp=Z,10μm,22.7s,MS6.1
OHR Ohrid 78.91 311⇑*i*P **P 16 50 03.0 -1.8**
OHR ⇓*i* pP 16 50 14.5 -1.8
WVZ Waitaha Valley 78.95 134 P **P 16 50 05.0 0.0**
UZH Uzhgorod 78.98 319*c i*P **P 16 50 06.0 +1.0**
UZH *i* S S 17 00 01.0 +1.4
SVIS Svilajnac 79.03 315⇓*i*P **P 16 50 04.9 -0.5**
KOLS Kolonicke sedl 79.04 319 *e*P **P 16 50 05.7 +0.3**
KOLS *e*S S 17 00 01.0 +0.7
IGT Igoumenitsa 79.07 310 *e*P **P 16 50 05.0 -0.7**
RPZ Rata Peaks 79.32 135 *e*P **P 16 50 07.1 +0.1**
RPZ Rata Peaks 79.32 135 PN **P 16 50 07.1 +0.1**
GRUS Gruza 79.34 314⇓*i*P **P 16 50 06.5 -0.6**
SUW Suwalki 79.43 325⇑*e*P **P 16 50 06.6 -0.8**
SUW *e**PP pP 16 50 15.2 -3.7
SUW *e*S S 17 00 01.4 -2.8
SUW *e**SS 17 00 24.4
SUW MLR MLR
comp=Z,9μm,20.4s,MS6.1
SUW Suwalki 79.43 325⇑*e*P **P 16 50 06.6 -0.8**
SUW *e*pP pP 16 50 15.2 -3.6
SUW *e*S S 17 00 01.4 -2.8
SUW *e*sS 17 00 24.4
SUW MLR MLR 17 31 01.4
comp=Z,9μm,20.4s,MS6.1
DSZ Denniston Nort 79.43 133 P **P 16 50 07.8 +0.2**
DSZ Denniston Nort 79.43 133 PN **P 16 50 07.8 +0.2**
CRVS Cervenica-Dubn 79.57 319 *e*P **P 16 50 11.0 +2.8**
CRVS *e*S S 17 00 03.2 -2.6
CRVS *e*SCS ScS 17 00 28.2 +2.7
FINES FINESS Array B 79.65 332 *i* P **P 16 50 08.0 -0.4**
FINES pmax pmax
comp=Z,21nm,0.4s
FINES FINESS Array B 79.65 332 P **P 16 50 08.0 -0.4**
comp=Z,21nm,0.4s,mb5.4,baz=101,slow=5.4,SNR=196
FINES PKKPbc 17 08 57.5
comp=Z,0.5nm,0.5s,baz=225,slow=2.0,SNR=6.6
FINES LR LR 17 32 59.9
comp=Z,11μm,20.6s,MS6.2,baz=290,slow=41
FINES FINESS Array B 79.65 332 P **P 16 50 08.0 -0.4**
FINES PKKPbc 17 08 57.5
FINES LR LR 17 32 59.9
PVY Plav 79.71 313⇑*i*P **P 16 50 08.2 -0.9**
KAF Kangasniemi 79.73 333 *ep* **P 16 50 08.0 -0.8**
comp=Z,87nm,0.8s,mb5.7,baz=101,slow=5.0
KAF Kangasniemi 79.73 333 *e*P **P 16 50 08.0 -0.8**
KAF pmax pmax
comp=Z,87nm,0.8s,mb5.7
QRZ Quartz Range 79.78 132 P **P 16 50 10.1 +0.6**
QRZ Quartz Range 79.78 132 PN **P 16 50 10.1 +0.6**
FX1 Attu Island--F 79.79 37 P **P 16 50 09.5 +0.2**
comp=Z,92nm,0.6s,mb5.9,baz=21,slow=14,SNR=20
FX1 Attu Island--F 79.79 37⇑*e*P **P 16 50 09.5 +0.2**
IVA Berane 79.80 313⇑*i*P **P 16 50 08.9 -0.6**
DIVS Divcibare 79.88 314⇓*i*P **P 16 50 09.7 -0.3**
SUR Sutherland 79.92 237 *e*P **P 16 50 11.7 +1.2**
comp=Z,197nm,1.4s,mb5.8
KECS Kecovo 80.14 319 *e*P **P 16 50 12.6 +1.3**
KECS *e* 16 50 32.8
ULC Ulcinj 80.17 312⇑*i*P **P 16 50 11.1 -0.5**
TTG Podgorica 80.21 313⇑*i*P **P 16 50 10.9 -0.9**
PLE Pljevlja 80.22 314⇑*i*P **P 16 50 11.9 +0.1**
THZ Tophouse 80.24 133 *e*P **P 16 50 11.7 -0.3**
THZ Tophouse 80.24 133 PN **P 16 50 11.7 -0.3**
THZ pP pP 16 50 23.6 +0.1
BBLS Bajina Basta - 80.27 314⇑*i*P **P 16 50 06.1 -6.0**
WCZ Waipu Caves 80.30 127 *e*PN **P 16 50 14.7 +2.2**
SMY Shemya 80.32 37 P **P 16 50 13.1 +0.9**
SMY pmax pmax
comp=Z,310nm,1.0s,mb6.2
SMY Shemya 80.32 37 *e*P **P 16 50 11.2 -1.0**
comp=Z,306nm,1.0s,mb6.2
WAR Warsaw 80.38 323⇑*e*P **P 16 50 13.2 +0.6**
WAR *e*PcP PcP 16 50 18.4 -1.4
WAR *e*pP pP 16 50 20.8 -3.3
WAR *e*S S 17 00 14.7 +0.4
WAR *e*SKS SKS 17 00 25.7 +3.3
WAR MLR MLR 17 30 56.2
comp=Z,12μm,22.3s,MS6.2
NIE Niedzica 80.39 320 *e*P **P 16 50 12.5 -0.1**
BILL Bilibino 80.39 21 P **P 16 50 11.4 -0.9**
BILL S tx 16 54 12.3
BILL Bilibino 80.39 21*c i*P **P 16 50 12.3 0.0**
BILL pmax pmax
comp=Z,88nm,2.1s,mb5.3
BILL MLR MLR
comp=Z,30μm,18.0s,MS6.7
BILL Bilibino 80.39 21⇑*e*P **P 16 50 10.5 -1.8**
comp=Z,56nm,0.9s,mb5.5
NKY Niksic 80.45 313⇑*i*P **P 16 50 12.5 -0.6**
PSZ Piszkesteto 80.45 318 ⇑P **P 16 50 15.7 +2.7**
PSZ Piszkesteto 80.45 318 *e*P **P 16 50 12.6 -0.4**
comp=Z,225nm,1.4s,mb5.9
PSZ Piszkesteto 80.45 318⇑*e*P **P 16 50 13.1 +0.1**
BUM Brajici-Budva 80.46 312⇑*i*P **P 16 50 12.1 -1.1**
NNZ Nelson 80.49 132 PN **P 16 50 13.4 +0.1**
UPM Unac-Piva 80.55 313⇑*i*P **P 16 50 12.0 -1.6**
SYO Syowa Base 80.76 198 ⇑P **P 16 50 14.2 0.0**
SYO Syowa Base 80.76 198 ⇓pP pP 16 50 24.8 -1.0
HCY Herceg Novi 80.77 313⇑*i*P **P 16 50 13.8 -1.0**
BRY Bratogost 80.79 313⇑*i*P **P 16 50 13.8 -1.1**
KHZ Kahutara 80.83 133 P **P 16 50 12.2 -2.9**
KHZ Kahutara 80.83 133 PN **P 16 50 14.8 -0.3**
OJC Ojcow 80.83 320⇑*i*P **P 16 50 14.7 -0.2**
OJC *e*PP PP 16 53 16.8 -4.7
OJC *i* S S 17 00 17.8 -1.2
OJC MLR MLR 17 36 03.2
comp=Z,7μm,18.4s,MS6.0
PKSM Moragy 81.09 316 ⇓P **P 16 50 16.8 +0.4**
HIZ Hauiti 81.13 129 *e*P **P 16 50 16.1 -0.6**
HIZ Hauiti 81.13 129 PN **P 16 50 18.0 +1.3**
VYHS Vyhne 81.23 319 *e*P **P 16 50 17.2 +0.1**
VYHS *e*S S 17 00 18.5 -4.6
VYHS Vyhne 81.23 319 *e*P **P 16 50 17.2 +0.1**
VYHS *e* 16 50 38.6
VYHS *e* 16 52 54.0
VYHS *e*S S 17 00 18.5 -4.6
VYHS *e*SCS ScS 17 00 43.5 +4.4
TSUM Tsumeb 81.26 250 *e*P **P 16 50 18.9 +1.1**
comp=Z,110nm,1.3s,mb5.6
TSUM *e* pP 16 50 28.8 -0.6
WAZ Wanganui 81.43 130 *e*P **P 16 50 20.1 +1.8**
WAZ Wanganui 81.43 130 PN **P 16 50 19.7 +1.4**
SRO2 Moca 81.44 318 *e*P **P 16 50 20.0 +1.9**
SRO2 *e* 16 50 41.8
SNZO South Karori 81.48 132 *e*P **P 16 50 17.2 -1.3**
comp=Z,131nm,1.1s,mb5.8
SRO Srobarova 81.50 318 *e*P **P 16 50 20.2 +1.7**
SRO *e* 16 50 41.6
KOLL Kolacno 81.53 319 *e*P **P 16 50 20.2 +1.6**
KOLL *e* 16 50 41.7
SRO1 Iza 81.54 318 *e*P **P 16 50 19.5 +0.8**
SRO1 *e* 16 50 42.7
KEV Kevo 81.66 341 *ep* **P 16 50 15.7 -3.2**
comp=Z,61nm,0.9s,mb5.5
KEV Kevo 81.66 341 P **P 16 50 19.8 +0.9**
KEV pmax pmax
comp=Z,84nm,1.0s,mb5.6
TIP Timpagrande 81.80 309⇑*e*P **P 16 50 20.3 +0.1**
OKC Ostrava-Krasne 81.84 320 *e*P **P 16 50 19.9 -0.3**
OKC *e*S S 17 00 25.8 -3.6
OKC AMS AMS 17 35 00.0
comp=Z,6μm,19.8s
RAC Raciborz 81.84 320 *e*P **P 16 50 20.8 +0.6**
RAC *e*S S 17 00 29.6 +0.3
RAC MLR MLR
comp=N,21μm,24.1s,MS6.5
RAC MLR MLR
comp=E,10μm,20.3s,MS6.5
RAC MLR MLR
comp=Z,8μm,19.6s,MS6.1
ARCES ARCESS Array B 82.09 340 P **P 16 50 21.3 +0.2**
comp=Z,71nm,0.9s,mb5.6,baz=90,slow=3.6,SNR=84
ARCES LR LR 17 32 43.5

comp=Z,17µm,20.5s,MS6.4,baz=110,slow=40
ARE0 ARCESS Array S 82.09 340⇑ eP P 16 50 21.4 +0.3
TSZ Takapari Road 82.22 131 eP P 16 50 22.2 -0.2
TSZ Takapari Road 82.22 131 PN P 16 50 22.2 -0.2
MORC Moravsky Berou 82.22 320 ⇑P P 16 50 23.6 +1.4
MORC Moravsky Berou 82.22 320 P P 16 50 22.7 +0.6
ZST Bratislava 82.34 318 eP P 16 50 23.2 +0.4
ZST eS S 17 00 33.8 -0.7
ZST Bratislava 82.34 318 eP P 16 50 23.2 +0.4
ZST e 16 50 45.1
ZST e 16 53 17.3
ZST eS S 17 00 33.8 -0.7
ZST e 17 00 56.4
ZST eL 17 35 37.3
BKZ Black Stump Fm 82.49 130 eP P 16 50 23.5 -0.3
BKZ Black Stump Fm 82.49 130 PN P 16 50 23.5 -0.2
SISC Sisak 82.59 315 i P P 16 50 24.1 -0.1
SOP Sopron 82.66 318 eP P 16 50 24.5 +0.1
KTK1 Kautokeino 82.74 340⇑ iP P 16 50 25.5 +1.1
KTK1 AMb AMB 16 50 28.6
comp=Z,214nm,1.3s,mb6.0
KOGS Kog 82.76 316 i P P 16 50 25.2 +0.3
KOGS e pP 16 50 37.0 +0.4
VRAC Vranov 82.79 319 P P 16 50 25.3 +0.2
comp=Z,7.6nm,0.9s,baz=54,slow=3.7,SNR=12
VRAC Vranov 82.79 319 P P 16 50 26.6 +1.5
GKP Gorka Klasztor 82.81 323⇑ eP P 16 50 25.2 +0.1
GKP ePcP PcP 16 50 28.5 -1.8
GKP epP pP 16 50 33.2 -3.5
GKP eS S 17 00 38.2 -0.8
GKP MLR MLR 17 33 38.4
comp=Z,11µm,21.1s,MS6.2
VKA Vienna 82.87 318⇑ iP P 16 50 25.6 +0.1
comp=Z,1µm,3.0s
VKA LR LR
comp=Z,6µm,20.0s,MS6.0
DPC Dobruska-Polom 83.06 320 eP P 16 50 27.1 +0.7
DPC e 17 00 42.3
DPC MLR MLR
comp=Z,8µm,18.2s,MS6.2
DPC Dobruska-Polom 83.06 320 eP P 16 50 27.1 +0.7
DPC esP sP 16 50 44.8 +2.7
DPC eSKS SKS 17 00 42.3 +1.1
DPC AMS AMS 17 33 40.0
comp=Z,8µm,18.2s
KSP Ksiaz 83.13 321⇑ eP P 16 50 27.2 +0.4
KSP e pP 16 50 36.3 -2.1
KSP e 16 53 34.5
KSP eS S 17 00 41.5 -0.9
KSP MLR MLR
comp=Z,16µm,27.4s,MS6.2
KSP Ksiaz 83.13 321⇑ eP P 16 50 27.2 +0.4
KSP e pP 16 50 36.3 -2.1
KSP epP pP 16 50 48.7 +10
KSP ePP PP 16 53 34.5 -5.5
KSP eS S 17 00 41.5 -0.9
KSP LR LR
comp=Z,16µm,27.4s,MS6.2
KSP Ksiaz 83.13 321⇑ eP P 16 50 27.5 +0.7
KSP epP pP 16 50 35.4 -3.0
KSP eS S 17 00 41.2 -1.2
KSP esS 17 01 03.4
KSP MLR MLR 17 31 41.5
comp=Z,14µm,27.4s,MS6.2
MWZ Matawai 83.17 129 eP P 16 50 26.6 -0.7
MWZ Matawai 83.17 129 PN P 16 50 26.6 -0.7
UPC Upice 83.28 320 eP P 16 50 28.1 +0.6
ARSA Arzberg 83.32 317⇑ iP P 16 50 28.3 +0.5
comp=Z,2µm,3.6s
BOJS Bojanci 83.38 315 eP P 16 50 28.4 +0.3
BOJS e pP 16 50 40.2 +0.4
PERS Pernice 83.55 317 eP P 16 50 29.4 +0.3
PERS e pP 16 50 41.0 +0.4
NVLJ Novalja 83.58 314⇑ iP P 16 50 28.6 -0.6
PUZ Puketiti 83.71 128 eP P 16 50 28.9 -1.2
PUZ Puketiti 83.71 128 PN P 16 50 28.9 -1.1
CII Carovilli 83.83 312 P P 16 50 31.6 +1.1
comp=Z,251nm,1.4s,mb6.2
LJU Ljubljana 83.92 316 eP P 16 50 31.4 +0.5
LJU e pP 16 50 43.5 +1.0
OBKA Obir 83.94 316⇑ iP P 16 50 31.5 +0.5
comp=Z,2µm,3.5s
PRU Pruhonice 84.18 320 eP P 16 50 32.2 +0.1
PRU e 16 53 44.4
PRU e 17 00 51.6
PRU MLR MLR
comp=Z,7µm,18.3s,MS6.1
PRU Pruhonice 84.18 320 eP P 16 50 32.2 +0.1
PRU esP sP 16 50 50.3 +2.5
PRU ePP PP 16 53 44.4 -4.0
PRU eSKS SKS 17 00 51.6 +2.9
PRU AMS AMS 17 35 00.0
comp=Z,7µm,18.3s
PVCC Panska Ves 84.20 320 eP P 16 50 32.5 +0.3
PVCC eSKS SKS 17 00 52.0 +3.2
PVCC AMS AMS 17 34 30.0
comp=Z,8µm,18.9s
MOA Molln 84.21 318⇑ iP P 16 50 32.2 -0.2
comp=Z,2µm,5.9s
PRA Prague 84.25 320 P P 16 50 34.0 +1.5
VOY Vojsko 84.36 316 eP P 16 50 33.2 +0.1
VOY e pP 16 50 47.8 +3.0
TRO Tromso 84.36 340⇑ iP P 16 50 31.2 -1.4
TRO AMb AMB 16 50 43.8
comp=Z,145nm,1.5s,mb5.9
TRO ePP PP 16 53 49.4 -0.1
TRO eSKSa 17 00 49.6
TRO eSKSa 17 00 51.4
TRO AMS AMS 17 31 56.9
comp=Z,12µm,19.5s,MS6.3
CADS Cadrg 84.48 316 eP P 16 50 33.8 +0.1
AQU L'Aquila 84.53 312 P P 16 50 36.4 +2.3
AQU L'Aquila 84.53 312 eP P 16 50 34.2 +0.1
comp=Z,589nm,1.5s,mb6.5
BRG Berggiesshubel 84.62 321 i P P 16 50 34.9 +0.6
BRG i pP 16 50 44.0 -1.9
BRG e 16 53 46.0
BRG i S S 17 00 56.0 -1.2
BRG e 17 00 59.6
BRG pmax pmax
comp=Z,254nm,2.2s,mb6.0
BRG MLR MLR
comp=N,4µm,19.9s,MS6.2
BRG MLR MLR
comp=E,9µm,19.9s,MS6.2
BRG MLR MLR
comp=Z,11µm,19.9s,MS6.2
BRG Berggiesshubel 84.62 321 i P P 16 50 34.9 +0.6
comp=Z,254nm,2.1s,mb6.0
BRG i pP 16 50 44.0 -1.9
BRG i 16 50 57.5
BRG ePP PP 16 53 46.0 -5.9
BRG i S S 17 00 56.0 -1.2
BRG e 17 00 59.6
BRG i SS SS 17 06 07.0 -25
BRG LR LR
comp=Z,11µm,19.9s,MS6.2
ROBS Robic 84.64 316 eP P 16 50 34.3 -0.2
ROBS e pP 16 50 46.3 +0.1
GEC2 GERESS Array S 84.65 319 eP P 16 50 34.5 0.0
GEC2 pmax pmax
comp=Z,411nm,2.4s,mb6.1
GEC2 GERESS Array S 84.65 319 eP P 16 50 34.5 0.0
comp=Z,411nm,2.4s,mb6.1
GERES GERESS Array B 84.65 319 P P 16 50 35.0 +0.5
comp=Z,28nm,0.9s,mb5.4,baz=90,slow=2.7,SNR=66
KHC Kasperske Hory 84.75 319 eP P 16 50 33.3 -1.7
KHC e pP 16 50 42.5 -4.1
KHC e 17 00 57.9
KHC MLR MLR
comp=Z,6µm,18.6s,MS6.0
KHC Kasperske Hory 84.75 319 eP P 16 50 33.3 -1.7
KHC e pP 16 50 42.5 -4.1
KHC e 16 50 49.5
KHC eSKS SKS 17 00 57.9 +5.3
KHC LR LR
comp=Z,6µm,18.6s,MS6.0
KHC Kasperske Hory 84.75 319 eP P 16 50 33.3 -1.7
KHC pP pP 16 50 42.5 -4.1
KHC sP sP 16 50 49.5 -1.2
KHC eSKS SKS 17 00 57.9 +5.3
KHC AMS AMS 17 36 50.0
comp=Z,6µm,18.6s

KBA Koelnbreinsper 84.79 317⇑ iP P 16 50 34.9 -0.4
comp=Z,2µm,7.7s
RUE Ruedersdorf 84.82 322 eP P 16 50 35.8 +0.5
comp=Z,277nm,0.9s,mb6.4
WET Wettzell 85.21 319 eP P 16 50 37.2 -0.1
WET pmax pmax
comp=Z,316nm,2.5s,mb6.0
WET Wettzell 85.21 319 eP P 16 50 37.2 -0.1
comp=Z,316nm,2.5s,mb6.0
CLL Collm 85.23 321⇑ iP P 16 50 37.0 -0.4
CLL i 16 50 45.6
CLL eS S 17 00 58.0 -5.2
CLL pmax pmax
comp=Z,66nm,1.4s,mb5.6
CLL MLR MLR
comp=Z,11µm,18.9s,MS6.3
CLL Collm 85.23 321⇑ iP P 16 50 37.0 -0.4
comp=Z,66nm,1.4s,mb5.6
CLL i 16 50 45.6
CLL eS S 17 00 58.0 -5.2
CLL LR LR
comp=Z,11µm,18.9s,MS6.3
CLL Collm 85.23 321 ⇑ P P 16 50 37.0 -0.4
comp=Z,logA/T=1.7,mb5.6
CLL i *PP pP 16 50 45.6 -3.4
CLL i 16 50 55.3
CLL i 16 50 59.3
CLL i 16 51 18.7
CLL i 16 51 25.6
CLL ePP PP 16 53 59.0 +2.2
CLL ePPP PPP 16 55 47.0 -6.1
CLL eS S 17 00 58.0 -5.2
CLL ePS PS 17 01 59.0 -6.2
CLL eSSS SSS 17 10 12.0 +2.6
HFS Hagfors 85.41 330 P P 16 50 38.5 +0.5
comp=Z,71nm,1.0s,mb5.8,baz=117,slow=3.3,SNR=44
HFS PP PP 16 53 59.6 +1.6
comp=Z,18nm,0.8s,baz=102,slow=13,SNR=3.6
HFS LR LR 17 36 12.7
comp=Z,11µm,18.6s,MS6.3,baz=94,slow=41
NKC Novy Kostel 85.54 320 eP P 16 50 39.3 +0.4
NKC e 17 01 07.0
NKC MLR MLR
comp=Z,9µm,18.9s,MS6.2
NKC Novy Kostel 85.54 320 eP P 16 50 39.3 +0.4
NKC esP sP 16 50 56.6 +2.1
NKC eSKS SKS 17 01 07.0 +9.2
NKC AMS AMS 17 35 00.0
comp=Z,9µm,18.9s
KIWB Kanaga Island 85.56 38 eP P 16 50 40.4 +1.5
MOR8 Moi Rana 85.58 336⇑ iP P 16 50 38.4 -0.3
MOR8 AMb AMB 16 50 59.5
comp=Z,179nm,1.4s,mb6.1
COP Copenhagen 85.80 326⇑ iP P 16 50 41.4 +1.4
COP i 16 54 05.3
COP i S S 17 01 10.0 +1.4
COP pmax pmax
comp=Z,22nm,0.6s,mb5.6
COP MLR MLR
comp=Z,5µm,19.0s,MS5.9
COP Copenhagen 85.80 326⇑ iP P 16 50 41.4 +1.4
comp=Z,22nm,0.6s,mb5.6
COP i 16 54 05.3
COP i S S 17 01 10.0 +1.4
comp=Z,5µm,19.0s
WTTA Wattenberg 85.97 317⇑ iP P 16 50 40.8 -0.2
comp=Z,851nm,3.3s
WATA Walderalm 86.01 317⇑ iP P 16 50 40.7 -0.5
comp=Z,152nm,2.1s,mb5.9
MOX Moxa 86.08 320 eP P 16 50 41.6 +0.1
MOX pmax pmax
comp=Z,225nm,2.3s,mb6.0
MOX Moxa 86.08 320 eP P 16 50 41.6 +0.1
comp=Z,225nm,2.3s,mb6.0
MOX Moxa 86.08 320 i P P 16 50 41.6 +0.1
comp=Z,logA/T=1.6,mb5.6
MOX S S 17 01 13.0 +1.5
MOX SS SS 17 06 30.0 -24
MOX SSS tx 17 09 50.0
MOX LR LR 17 19 30.0
MOX L 17 35 36.0
LOF Lofoten 86.11 338 eP P 16 50 44.3 +3.1
FUR Furstenfeldbru 86.23 318 eP P 16 50 41.8 -0.5
SQTA Sankt Quirin 86.26 317⇓ iP P 16 50 42.5 0.0
comp=Z,67nm,1.2s,mb5.8
GRA1 Grafenberg Arr 86.31 319 eP P 16 50 43.0 +0.4
comp=Z,448nm,2.5s,mb6.2
GRA1 epP pP 16 50 51.5 -2.8
GRA1 ePP PP 16 54 06.9 +1.1
GRA1 eS S 17 01 16.6 +2.9
GRA1 eSS SS 17 07 05.7 +8.8
GRA1 eSSS SSS 17 10 30.7 +4.1
GRA1 LR LR
comp=Z,10µm,19.2s,MS6.2
GRF Grafenberg Arr 86.31 319 eP P 16 50 43.0 +0.4
GRF e*PP pP 16 50 51.5 -2.8
GRF e 16 54 06.9
GRF eS S 17 01 16.6 +2.9
GRF eSSS SSS 17 10 30.7 +4.1
GRF pmax pmax
comp=Z,448nm,2.5s,mb6.2
GRF MLR MLR
comp=Z,10µm,19.2s,MS6.2
GRF Grafenberg Arr 86.31 319 eP P 16 50 43.0 +0.4
comp=Z,448nm,2.5s,mb6.2
GRF epP pP 16 50 51.5 -2.8
GRF ePP PP 16 54 06.9 +1.1
GRF eS S 17 01 16.6 +2.9
GRF eSS SS 17 07 05.7 +8.8
GRF eSSS SSS 17 10 30.7 +4.1
GRF LR LR
comp=Z,10µm,19.2s,MS6.2
MOTA Moosalm 86.33 317⇑ iP P 16 50 42.3 -0.5
VNDA Vanda 86.36 169 P P 16 50 43.6 +1.2
comp=Z,9.0nm,0.9s,mb5.0,baz=299,slow=5.2,SNR=16
VNDA LR LR 17 26 32.5
comp=Z,17µm,18.8s,MS6.5,baz=306,slow=34
VNDA Vanda 86.36 169 eP P 16 50 43.4 +1.1
comp=Z,139nm,1.4s,mb6.0
HSP Hornsund 86.44 347 eP P 16 50 42.5 -0.2
NSS Namsos 86.50 334⇑ iP P 16 50 42.4 -0.8
NSS AMb AMB 16 50 53.3
comp=Z,134nm,1.0s,mb6.1
NSS eS S 17 01 16.6 +1.5
NSS AMS AMS 17 36 31.6
comp=Z,15µm,19.2s,MS6.4
NB2 NORSAR Subarra 86.68 331 P P 16 50 43.9 -0.3
comp=Z,100nm,1.0s,mb6.0,baz=95,slow=4.8
NB2 NORSAR Subarra 86.68 331 P P 16 50 43.9 -0.3
baz=95,slow=5.1
NOA NORSAR Array B 86.68 331 P P 16 50 44.2 0.0
comp=Z,50nm,0.9s,mb5.8,baz=94,slow=4.9,SNR=105
NOA PP PP 16 54 09.7 +0.8
comp=Z,10nm,0.9s,baz=90,slow=7.8,SNR=4.3
NOA LR LR 17 36 36.0
comp=Z,11µm,19.2s,MS6.3,baz=95,slow=40
NOA NORSAR Array B 86.68 331 P P 16 50 44.2 0.0
NOA PP PP 16 54 09.7 +0.8
NOA LR LR 17 36 36.0
NAO01 NORSAR Array S 86.83 331 eP P 16 50 45.0 +0.1
comp=Z,47nm,0.8s,mb5.8
OSL Oslo 86.89 330 eP P 16 50 48.1 +2.9
CLZ Clausthal 86.89 322 eP P 16 50 45.7 +0.2
comp=Z,346nm,2.3s,mb6.2
FUORN Ofenpass 86.89 316⇑ iP P 16 50 46.3 +0.7
HDH Heidenheim 86.95 318 eP P 16 50 45.8 0.0
BSEG Bad Segeberg 86.96 324 eP P 16 50 46.2 +0.4
BSEG pmax pmax
comp=Z,508nm,2.4s,mb6.3
UBR Uberruh 87.01 317 eP P 16 50 46.7 +0.6
BERNI Berninapass 87.06 316⇑ iP P 16 50 47.1 +0.7
DAVOX Davos 87.16 317⇑ iP P 16 50 47.6 +0.7
DAVA Damuels 87.16 317⇑ iP P 16 50 47.3 +0.4
comp=Z,2µm,4.4s
SIND Sindeldorf 87.36 319⇑ eP P 16 50 48.0 +0.2
LIENZ Alp Oberkamor 87.42 317⇑ iP P 16 50 48.6 +0.5
VDL Val di Lei 87.44 316⇑ iP P 16 50 48.7 +0.5
KONO Kongsberg 87.45 329 P P 16 50 48.7 +0.7
KONO pmax pmax
comp=Z,130nm,1.2s,mb6.0
KONO Kongsberg 87.45 329⇑ eP P 16 50 48.2 +0.2
comp=Z,129nm,1.2s,mb6.0
KONO Kongsberg 87.45 329⇑ iP P 16 50 48.7 +0.8
KONO eSKSa 17 01 10.3

SBA Scott Base 87.46 169 P P 16 50 49.5 +1.8
SBA pmax pmax
comp=Z,2.0nm,0.3s
SBA Scott Base 87.46 169 eP P 16 50 49.3 +1.6
comp=Z,1.5nm,0.3s
PLONS Plons 87.50 317⇑ iP P 16 50 48.8 +0.3
BUCH Bad Urach 87.52 318⇑ eP P 16 50 48.7 +0.1
STU Stuttgart 87.62 319 P P 16 50 52.2 +3.1
STU pmax pmax
comp=Z,33nm,0.9s,mb5.6
STU Stuttgart 87.62 319 eP P 16 50 49.4 +0.3
comp=Z,32nm,0.8s,mb5.6
MUD Monsted U'grnd 87.65 326⇑ iP P 16 50 50.4 +1.4
MUD eS S 17 01 21.0 -5.2
MUD i 17 01 29.9
MUD pmax pmax
comp=Z,68nm,1.0s,mb5.8
MUD MLR MLR
comp=Z,6µm,20.0s,MS6.0
MUD Monsted U'grnd 87.65 326⇑ iP P 16 50 50.4 +1.4
comp=Z,68nm,1.0s,mb5.8
MUD eS S 17 01 21.0 -5.2
MUD i 17 01 29.9
MUD Monsted U'grnd 87.65 326⇑ iP P 16 50 50.4 +1.4
comp=Z,68nm,1.0s,mb5.8
MUD Monsted U'grnd 87.65 326 eS S 17 01 21.0 -5.2
MUD i 17 01 29.9
comp=Z,6µm,20.0s
GUT Gutenstein 87.68 318⇑ eP P 16 50 49.4 0.0
MUGIO Muggio 87.74 316⇑ iP P 16 50 48.9 -0.8
LLS Linth-Limmern 87.76 317⇑ iP P 16 50 50.2 +0.4
WEIN Weingarten 87.77 317⇑ iP P 16 50 49.8 0.0
PGF Pioggiola 87.79 312 eP P 16 50 50.6 +0.6
comp=Z,222nm,1.4s,mb5.9
WILA Wila 87.82 317⇑ iP P 16 50 50.4 +0.3
TOD Tromm 87.88 319⇑ eP P 16 50 50.8 +0.5
LBG Lerchenberg 87.89 318 eP P 16 50 50.4 +0.1
SPAK Spaichingen 87.90 318⇑ eP P 16 50 50.8 +0.4
SWS Schriesheim 87.95 319 eP P 16 50 50.6 0.0
TRULL Truellikon 87.97 317⇑ iP P 16 50 49.9 -0.9
FUSIO Fusio 88.00 316⇑ iP P 16 50 50.8 -0.1
MUO Muotathal 88.01 317⇑ iP P 16 50 51.5 +0.5
ZUR Zurich 88.05 317⇑ iP P 16 50 51.2 +0.1
SLE Schleitheim 88.10 318⇑ iP P 16 50 51.3 -0.1
TNS Taunus Mts 88.10 320 eP P 16 50 51.7 +0.4
TNS pmax pmax
comp=Z,323nm,2.4s,mb6.1
TNS Taunus Mts 88.10 320 eP P 16 50 51.7 +0.4
comp=Z,323nm,2.4s,mb6.1
BNALP Bannalp 88.16 317⇑ iP P 16 50 52.2 +0.5
BFO Black Forest 88.20 318 eP P 16 50 51.4 -0.4
BFO pmax pmax
comp=Z,182nm,2.5s,mb5.9
BFO Black Forest 88.20 318 eP P 16 50 51.4 -0.4
comp=Z,182nm,2.5s,mb5.9
HASLI Hasliberg 88.35 317⇑ iP P 16 50 52.9 +0.3
KTD Kalmit 88.35 319 eP P 16 50 53.0 +0.5
SULZ Sulz-Cheisache 88.36 317⇑ iP P 16 50 52.5 -0.1
FELD Feldberg 88.43 318⇑ eP P 16 50 53.0 +0.1
MOL Molde 88.44 332⇓ iP P 16 50 55.1 +2.5
KIZ Kirchzarten 88.48 318 eP P 16 50 52.9 -0.3
MMK Mattmark 88.49 316⇑ iP P 16 50 53.9 +0.6
LANF Langenberg 88.54 319⇑ eP P 16 50 53.9 +0.5
BALST Balsthal 88.65 317⇑ iP P 16 50 54.1 +0.1
ABH Alteburg 88.69 320 eP P 16 50 54.8 +0.7
LIBD Limburg 88.69 318 eP P 16 50 55.1 +0.9
LIBD Limburg 88.69 318 eP P 16 50 54.7 +0.5
WIMIS Wimmis 88.71 316⇑ iP P 16 50 54.8 +0.5
BBS Basel-Blauen 88.77 317 eP P 16 50 54.5 -0.1
BBS Basel-Blauen 88.77 317⇑ eP P 16 50 54.7 +0.1
WLS Welschbruch 88.85 318⇑ eP P 16 50 54.9 -0.1
DIX Grande Dixence 88.87 316⇑ iP P 16 50 56.2 +1.1
CDF Champ du Feu 88.90 318 eP P 16 50 55.2 0.0
comp=Z,44nm,1.1s,mb5.4
SBF Sospel 88.91 314 eP P 16 50 55.5 +0.1
comp=Z,188nm,1.0s,mb6.1
AUTN L'Aution 88.92 314 eP P 16 50 56.0 +0.6
BOURR Bourrignon 88.96 317⇑ iP P 16 50 55.5 0.0
ECH Echery 88.99 318 eP P 16 50 55.8 +0.2
RUP Ruppelstein 89.01 320 eP P 16 50 56.4 +0.7
MOF Molkenrain 89.02 318⇑ eP P 16 50 55.4 -0.3
TOUF Mont Tournerai 89.05 314 eP P 16 50 53.2 -2.8
BLS5 Blasjo 89.05 329 eP P 16 50 58.9 +3.3
BLS5 AMb AMB 16 51 11.4
comp=Z,52nm,1.4s,mb5.7
GRYON Gryon 89.08 316⇑ iP P 16 50 56.4 +0.3
WTSB Winterswijk 89.11 322 eP P 16 50 56.7 +0.6
comp=Z,156nm,2.1s,mb6.0
WTSB ex x 16 51 18.7
MVIF Mont Vial 89.12 314 eP P 16 50 54.8 -1.5
WIT Witteveen 89.16 323 eP P 16 50 56.4 +0.1
WIT ex x 16 51 19.5
TORNY Torny 89.17 317⇑ iP P 16 50 56.8 +0.3
SALAN Lac Salanfe 89.18 316⇑ iP P 16 50 57.0 +0.4
AIGLE Aigle 89.18 316⇑ iP P 16 50 57.0 +0.4
HINF Hinteralfeld 89.20 318 eP P 16 50 56.3 -0.3
EMV Vieux Emosson 89.23 316⇑ iP P 16 50 57.5 +0.7
LPG La Plagne 89.35 315 eP P 16 50 58.0 +0.6
comp=Z,88nm,0.8s,mb5.8
MBDF Montbardon 89.36 315 eP P 16 50 58.2 +0.7
LPL La Plagne 89.36 315 eP P 16 50 58.1 +0.6
comp=Z,192nm,1.0s,mb6.1
OG01 Vacheresse 89.37 316 eP P 16 50 58.0 +0.5
BNI Bardonecchia 89.42 315 P P 16 50 59.5 +1.8
BNI pmax pmax
comp=Z,25nm,0.9s,mb5.5
BNI Bardonecchia 89.42 315 eP P 16 50 59.5 +1.8
comp=Z,25nm,0.8s,mb5.6
RSL Roselend 89.43 316 eP P 16 50 58.0 +0.2
BRANT Les Verrieres 89.49 317⇑ iP P 16 50 58.5 +0.5
FRF La Foret Royal 89.50 313 eP P 16 50 58.5 +0.4
comp=Z,64nm,0.7s,mb5.7
HAU Haudompre 89.54 318 eP P 16 50 58.2 0.0
comp=Z,162nm,1.1s,mb6.0
HAU eR
comp=Z,9µm,22.2s
BER Bergen 89.58 330 eP P 16 50 59.4 +1.4
BER ePP PP 16 54 33.7 +1.4
BER eSKSa 17 01 23.5
BER AMS AMS 17 39 25.7
comp=Z,16µm,25.1s,MS6.3
WLF Walferdange 89.60 319 P P 16 50 59.3 +0.8
WLF pmax pmax
comp=Z,160nm,1.3s,mb6.2
WLF Walferdange 89.60 319⇑ eP P 16 50 59.2 +0.8
comp=Z,161nm,1.4s,mb6.2
LMR La Mourre 89.60 313 eP P 16 50 59.1 +0.5
comp=Z,216nm,1.5s,mb6.0
GIMEL Gimel 89.65 316⇑ iP P 16 50 59.3 +0.5
CKFL Kef-Lekhel 89.69 306 P P 16 51 12.0 +13
HGN Heimansgroeve 89.70 321 ex x 16 51 11.7
HGN ex x 16 51 19.9
HGN ePP PP 16 54 33.5 0.0
HGN eS S 17 01 46.1 +0.7
THEF They Montfort 89.77 318 eP P 16 50 59.4 +0.1
CABF La Chapelle 89.77 316 eP P 16 50 59.9 +0.6
comp=Z,87nm,0.9s,mb5.8
OG25 Le Caire 89.88 314 eP P 16 51 00.7 +0.8
CASM Ain Smara 89.89 306 P P 16 51 10.0 +10
CTEI Djebel Teioual 89.96 306 P P 16 51 04.0 +3.5
TNA Tin City 90.16 25⇑ eP P 16 51 00.7 +0.1
comp=Z,14nm,0.8s,mb5.3
OG05 Jujurieux 90.23 316 eP P 16 51 02.0 +0.5
SMRF Simiane la Rot 90.25 314 eP P 16 51 01.8 +0.1
comp=Z,188nm,1.4s,mb5.9
NVL N'lazarevskaya 90.36 199⇓ iP P 16 51 16.8 +15
NVL i 16 51 21.4
NVL i *PP pP 16 51 28.8 +15
NVL i PPP PPP 16 56 39.8 +2.0
NVL i 17 01 52.7
NVL eSS SS 17 07 56.5 +1.4
NVL pmax pmax
comp=Z,124nm,0.9s,mb6.2
DFRA Djebel Bou Aff 90.37 306 P P 16 51 11.0 +8.6
MEZF Maizieres J'vi 90.38 318 eP P 16 51 02.6 +0.5
comp=Z,222nm,1.4s,mb6.0
CMER Merouana 90.39 305 P P 16 51 04.0 +1.5
MAIT Maitri 90.39 199 eP P 16 51 04.2 +2.5
GIVF Givet 90.44 320 eP P 16 51 02.9 +0.5
comp=Z,90nm,1.0s,mb5.8
CKHR Kef el Ahmar 90.69 306 P P 16 51 09.0 +5.1
SET Setif 90.77 306 P P 16 51 08.0 +3.7
BAIF Baives 90.84 320 eP P 16 51 05.0 +0.8

comp=Z,193nm,1.0s,mb6.1
VIVF Saint-Julien-I 90.85 315 *e*P **P 16 51 04.8 +0.3**
comp=Z,162nm,1.4s,mb5.9
AFI Afiamalu 90.96 104 P **P 16 51 05.2 -0.4**
comp=Z,76nm,0.9s,mb6.0,baz=354,slow=4.5,SNR=6.9
AFI Afiamalu 90.96 104 P **P 16 51 05.2 -0.4**
SMF Signal de Mont 91.31 317 *e*P **P 16 51 06.8 +0.2**
comp=Z,136nm,0.9s,mb6.0
LASF Ste Croix 91.48 314 *e*P **P 16 51 08.0 +0.6**
comp=Z,118nm,1.2s,mb5.8
SSF Saint Saulge 91.52 317 *e*P **P 16 51 07.9 +0.4**
comp=Z,232nm,1.4s,mb6.0
AVF Avril sur Loir 91.64 317 *e*P **P 16 51 08.3 +0.2**
comp=Z,149nm,1.1s,mb5.9
ATAF Djebel Tarf 91.69 306 P **P 16 51 09.6 +1.0**
QSPA South Pole Qui 91.78 180 *e*P **P 16 51 09.2 +1.2**
comp=Z,296nm,2.1s,mb6.2
AKET Djebel Ketaf 92.00 306 P **P 16 51 08.3 -1.7**
BGF Bois d'Agland 92.01 317 *e*P **P 16 51 10.5 +0.8**
comp=Z,374nm,1.5s,mb6.2
HYF Humbligny 92.09 317 *e*P **P 16 51 11.0 +0.9**
MENF Mencas 92.11 321⇑*e*P **P 16 51 10.5 +0.4**
VERF Verneugheol 92.33 316 *e*P **P 16 51 08.9 -2.3**
TCF Toulx Ste Croi 92.47 316 *e*P **P 16 51 12.5 +0.6**
comp=Z,185nm,1.5s,mb5.9
ABA Alger-Bouzarea 92.63 307 P **P 16 51 16.0 +3.1**
CAF Calviac 92.69 315 *e*P **P 16 51 13.8 +0.9**
comp=Z,58nm,1.0s,mb5.7
MTLF Montolieu 92.73 313 *e*P **P 16 51 13.6 +0.5**
comp=Z,169nm,1.4s,mb6.0
RJF Les Rejaudoux 93.05 315 *e*P **P 16 51 15.4 +0.9**
RJF *e*R
comp=Z,7μm,21.2s
JMIC Jan Mayen 93.51 342 LR LR 17 37 02.8
comp=Z,7μm,21.9s,MS6.1,baz=82,slow=38
JMIC Jan Mayen 93.51 342 *e*P **P 16 51 19.2 +3.1**
JMIC *e*PP PP 16 55 01.9 -1.6
JMIC AMS AMS 17 36 42.4
comp=Z,7μm,20.2s,MS6.1
LFF La Frestale 93.63 315 *e*P **P 16 51 18.1 +0.9**
comp=Z,87nm,1.0s,mb5.8
LCP Cassop 93.80 325 *e*P **P 16 51 19.1 +1.4**
LCP AMb AMB 16 51 20.8
comp=Z,230nm,1.3s,mb6.4
LDF La Druitiere 93.80 319 *e*P **P 16 51 18.1 +0.3**
HPK Haverah Park 94.00 324 *e*P **P 16 51 19.8 +1.2**
HPK AMb AMB 16 51 21.4
comp=Z,232nm,2.8s,mb6.1
FLN La Foliniere 94.01 319 *e*P **P 16 51 19.1 +0.3**
comp=Z,111nm,1.2s,mb5.8
FLN *e*R
comp=Z,12μm,20.2s
KBI1 Birley Grange 94.05 324 *e*P **P 16 51 20.8 +2.0**
KBI1 AMb AMB 16 51 24.6
comp=Z,132nm,1.8s,mb6.1
MFF Saint Martin d 94.06 317 *e*P **P 16 51 19.5 +0.4**
comp=Z,204nm,1.5s,mb6.0
DAG Danmarks Havn 94.07 348⇓*i*P **P 16 51 18.5 0.0**
DAG pmax pmax
comp=Z,49nm,0.7s,mb6.0
DAG Danmarks Havn 94.07 348⇓*i*P **P 16 51 18.5 0.0**
comp=Z,49nm,0.7s,mb6.0
EPF Esparros 94.12 313 *e*P **P 16 51 19.9 +0.4**
comp=Z,28nm,1.1s,mb5.3
LHO Holmfirth 94.20 324 *e*P **P 16 51 21.3 +1.8**
LHO AMb AMB 16 51 30.6
comp=Z,48nm,1.2s,mb5.8
EBR Ebro Roquetas 94.25 311 *e*Ts 16 51 36.0
KWE Weaver Farm 94.27 323 *e*P **P 16 51 20.8 +1.0**
KWE AMb AMB 16 51 24.9
comp=Z,58nm,1.8s,mb5.7
GRR Gorron 94.31 319 *e*P **P 16 51 20.6 +0.4**
ESK Eskdalemuir 94.69 326 *e*P **P 16 51 23.2 +1.4**
ESK AMb AMB 16 51 32.2
comp=Z,58nm,1.4s,mb5.8
ETSF Etsaut 94.80 313 *e*P **P 16 51 23.4 +0.8**
comp=Z,34nm,0.8s,mb5.5
SNAA Sanae 95.06 198 P **P 16 51 26.2 +3.1**
SNAA Sanae 95.06 198⇑*i* **P 16 51 39.0 +16**
SNAA Sanae 95.06 198 PKKPbc 17 08 18.5
comp=Z,1.4nm,1.0s,baz=20,slow=3.0,SNR=5.7
SDPT Sand Point 95.21 34 *e*P **P 16 51 24.1 0.0**
TTA Tatalina 95.73 26 *e*P **P 16 51 28.4 +2.1**
IMA Indian Mountai 95.80 23 P **P 16 51 27.4 +0.8**
IMA pmax pmax
comp=Z,180nm,1.0s,mb6.5
IMA Indian Mountai 95.80 23 *e*P **P 16 51 27.4 +0.8**
QUIF Quistinic 95.91 318 *e*P **P 16 51 27.9 +0.5**
ROSF Rostrenen 95.91 319 *e*P **P 16 51 27.6 +0.1**
comp=Z,64nm,1.3s,mb5.6
VNA2 Neumayer--Watz 96.64 199⇑*i*P **P 16 51 34.0 +3.7**
VNA2 Neumayer--Watz 96.64 199⇑*i* **P 16 51 44.5 +14**
VNA2 Neumayer--Watz 96.64 199⇑*i* **P 16 51 48.9 +19**
VNA2 Neumayer--Watz 96.64 199⇑*i* PP 16 55 26.0 -1.7
DLF Lyons Farm 96.99 324 *e*P pP 16 51 45.0 +0.9
DCN Croghan 97.42 324 *e*P **P 16 51 44.0 +10**
ESDC Sonseca Array 97.78 310 P **P 16 51 36.1 -0.1**
comp=Z,0.3nm,0.4s,baz=62,slow=4.4,SNR=6.2
ESDC PP PP 16 55 36.6 -0.9
comp=Z,1.7nm,0.7s,baz=69,slow=7.4,SNR=4.8
ESLA Sonseca Array 97.78 310 P **P 16 51 37.9 +1.7**
comp=Z,3.4nm,1.1s
SPU Mount Spurr 98.03 27 *e*P **P 16 51 37.2 +0.5**
COLA College 98.50 23 *e*PP PP 16 55 31.0 -11
comp=Z,13nm,1.2s
MCK McKinley 98.50 24 P **P 16 51 39.3 +0.5**
MCK *e* 16 55 36.8
MCK pmax pmax
comp=Z,17nm,1.0s,mb5.5
MCK McKinley 98.50 24⇑*e*P **P 16 51 38.8 0.0**
comp=Z,17nm,1.1s,mb5.5
KDAK Kodiak Island 98.84 31 P **P 16 51 40.9 +0.4**
PWA Palmer West 98.86 27 *e*P **P 16 51 41.0 +0.5**
ILAR Eielson Array 98.92 23 P **P 16 51 40.1 -0.6**
comp=Z,2.4nm,0.9s,baz=279,slow=4.4,SNR=12
ILAR PP PP 16 55 32.2 -13
comp=Z,32nm,1.2s,baz=288,slow=7.8,SNR=9.6
ILAR S 17 02 13.9
comp=Z,1.3nm,1.1s,baz=291,slow=7.7,SNR=4.6
ILAR PKKPbc 17 08 07.8
comp=Z,1.3nm,0.8s,baz=141,slow=2.1,SNR=7.6
ILAR LR LR 17 42 27.7
comp=Z,11μm,19.4s,MS6.4,baz=316,slow=39
SLKM Skilak Lake 99.10 28 P **P 16 51 42.5 +0.9**
SLKM Skilak Lake 99.10 28 *e*P **P 16 51 42.3 +0.7**
SML Sawmill 99.48 26 P **P 16 51 44.7 +1.4**
SML Sawmill 99.48 26 *e*P **P 16 51 44.5 +1.1**
SUMG Summit 100.75 348 *e*Pdif P 16 51 50.1 +1.1
comp=Z,34nm,1.1s
SUMG *e*PP PP 16 55 57.0 -2.5
DIV Divide 100.88 26 *e*Pdif P 16 51 50.8 +1.0
comp=Z,37nm,1.1s
MENT Mentasta 100.97 24 *e*P P 16 51 51.9 +1.8
INK Inuvik 101.72 17 P P 16 51 53.7 +0.4
comp=Z,6.7nm,1.0s,baz=318,slow=4.9,SNR=19
INK PP PP 16 55 54.2 -12
comp=Z,6.7nm,1.0s,baz=332,slow=10,SNR=3.8
INK Inuvik 101.72 17 *e*Pdif P 16 51 53.1 -0.3
DAWY Dawson 102.13 22 *e*Pdif Pdif 16 51 55.1 -0.1
DBIC Dimbokro 102.23 277 P Pdif 16 51 56.9 0.0
comp=Z,3.1nm,1.0s,baz=175,slow=9.8,SNR=2.5
RES Resolute Bay 103.20 3 P Pdif 16 52 00.8 +1.0
RES pmax pmax
comp=Z,17nm,1.1s
RES Resolute Bay 103.20 3⇑*e*P Pdif 16 51 59.3 -0.5
comp=Z,17nm,1.1s
SFJD Kangerlussuaq 107.75 347 *i*P PP 16 56 48.5 -3.3
comp=Z,32nm,1.0s
SFJD *i* 17 02 57.2
SFJD *i*S 17 04 16.6
SFJD *i* 17 12 03.1
comp=Z,19μm,21.0s
YKA Yellowknife Ar 111.34 15 Pdiff Pdif 16 52 37.1 +1.3
comp=Z,0.7nm,0.9s,baz=325,slow=3.6,SNR=8.4
YKA PKiKP 16 56 34.3
comp=Z,0.4nm,0.5s,baz=311,slow=0.5,SNR=9.9
YKA PP PP 16 57 09.6 -8.5
comp=Z,3.2nm,0.8s,baz=331,slow=7.1,SNR=4.7
YKA PKKPbc 17 07 30.7
comp=Z,0.5nm,0.7s,baz=146,slow=3.1,SNR=7.7
YKA PKKPab 17 07 39.2
comp=Z,2.3nm,1.1s,baz=146,slow=3.2,SNR=7.2
YKA Yellowknife Ar 111.34 15 Pdif Pdif 16 52 37.1 +1.3
YKA PKPdf PKPdf 16 56 34.3 +1.2
YKA PP PP 16 57 09.6 -8.5
YKA PKKPbc 17 07 30.7
YKA PKKPab 17 07 39.2
TBI Tubuai 111.68 114 *e*PP PP 16 57 14.0 -7.4
TBI *e*SS SS 17 12 56.0 +5.0
TBI *e*LR LR 17 29 49.9
comp=Z,11μm,23.8s
PPT Papeete 112.22 108 *e*PP PP 16 57 16.9 -8.6
PPT *e*LR LR 17 30 04.1
comp=Z,16μm,27.5s
PDA Ponta Delgada 114.58 313 *e*PP PP 16 57 40.0 -2.4
PDA *e*x 17 07 26.0
PDA Ponta Delgada 114.58 313 *e*LQ 17 25 12.0
ADH Angra Heroismo 115.34 315 *e*x 17 09 16.0
ADH Angra Heroismo 115.34 315 *e*LR LR 17 35 10.0
EDM Edmonton 119.30 21 PKIKP PKPdf 16 56 50.3 +1.5
EDM Edmonton 119.30 21 *e*PKPdf PKPdf 16 56 49.5 +0.7
NEW Newport 121.64 27 PKIKP PKPdf 16 56 56.2 +2.8
NEW Newport 121.64 27 PKP PKPdf 16 56 55.4 +1.9
comp=Z,6.7nm,0.9s,baz=236,slow=1.9,SNR=8.4
NEW PP PP 16 58 27.1 -3.4
comp=Z,9.0nm,1.1s,baz=313,slow=5.9,SNR=5.5
NEW Newport 121.64 27 *e*PKPdf PKPdf 16 56 54.8 +1.4
HAWA Hanford 121.86 30 *e*PKPdf PKPdf 16 56 56.2 +2.3
TAOE Nuku Hiva Isla 122.06 99 *e*PP PP 16 58 22.1 -12
TAOE *e*SP SP 17 08 28.8 +8.9
TAOE *e*SS SS 17 15 05.4 -1.7
TAOE *e*LR LR 17 34 38.9
SCHQ Schefferville 122.09 349 PKP PKPdf 16 56 56.1 +2.0
comp=Z,3.8nm,0.5s,baz=63,slow=2.2,SNR=21
SCHQ PP PP 16 58 27.3 -6.1
comp=Z,15nm,0.9s,baz=22,slow=5.7,SNR=5.3
HUMO Hull Mountain 122.57 35 *e*PKPdf PKPdf 16 56 57.9 +2.5
KHMM Horse Mountain 123.20 37 *e*PKPdf PKPdf 16 56 59.2 +2.6
YBH Yreka Blue Hor 123.27 35 PKP PKPdf 16 56 59.0 +2.2
comp=Z,1.9nm,0.7s,slow=7.1,SNR=3.5
YBH Yreka Blue Hor 123.27 35 *e*PKPdf PKPdf 16 56 59.4 +2.6
YBH *e*PP PP 16 58 36.4 -5.7
WDC Whiskeytown Da 124.09 36 PKIKP PKPdf 16 57 00.5 +2.1
WDC Whiskeytown Da 124.09 36 *e*PKPdf PKPdf 16 56 59.5 +1.1
MSO Missoula 124.13 26 *e*PKPdf PKPdf 16 56 59.0 +0.7
CHMT Chamberlain Mo 124.36 25 *e*PKPdf PKPdf 16 57 00.2 +1.4
MOD Modoc 124.53 34 *e*PKPdf PKPdf 16 57 01.7 +2.5
HOPS Hopland 124.75 38 *e*PKPdf PKPdf 16 57 01.7 +1.9
RKT Rikitea 124.80 117 *e*PP PP 16 58 46.4 -6.1
RKT *e*PS PS 17 08 50.8 +2.8
RKT *e*SS SS 17 15 47.0 +5.4
RKT *e*LR LR 17 35 52.5
comp=Z,13μm,27.8s
WVOR Wild Horse Val 125.08 32 PKIKP PKPdf 16 57 02.9 +2.6
WVOR Wild Horse Val 125.08 32 *e*PKPdf PKPdf 16 57 02.3 +2.0
HRY Holter Researc 125.12 24 PKPdf PKPdf 16 57 04.4 +4.2
NSHM Saint Helena R 125.32 38 *e*PKPdf PKPdf 16 57 04.0 +3.1
BOZ Bozeman (W) 126.05 25 *e*PKIKP PKPdf 16 56 53.4 -8.6
MCMT McKenzie Canyo 126.17 27 *e*PKPdf PKPdf 16 57 04.9 +2.6
HLID Hailey 126.41 29 *e*PKPdf PKPdf 16 57 04.4 +1.6
WCN Washoe City 126.55 36 PKIKP PKPdf 16 57 06.9 +3.7
WCN Washoe City 126.55 36 *e*PKPdf PKPdf 16 57 05.9 +2.7
QLMT Earthquake Lak 126.79 26 *e*PKPdf PKPdf 16 57 06.7 +3.2
QLMT *e*PP PP 16 59 03.8 -1.1
ULM Lac du Bonnet 126.81 11 PKP PKPdf 16 57 04.6 +1.2
comp=Z,8.8nm,0.6s,baz=320,slow=2.0,SNR=11
ULM PP PP 16 58 58.7 -6.2
comp=Z,12nm,1.0s,baz=342,slow=6.9,SNR=3.7
ULM Lac du Bonnet 126.81 11 *e*PKPdf PKPdf 16 57 04.2 +0.8
CMB Columbia Colle 126.99 38 PKIKP PKPdf 16 57 06.9 +2.8
CMB Columbia Colle 126.99 38 *e*PKPdf PKPdf 16 57 06.6 +2.5
YMR Madison River 127.12 25 *e*PKPdf PKPdf 16 57 07.5 +3.3
YNR Norris Junctio 127.20 25 *e*PKPdf PKPdf 16 57 08.1 +3.7
BMN Battle Mountai 127.23 33 PKIKP PKPdf 16 57 08.1 +3.6
BMN Battle Mountai 127.23 33 *e*PKPdf PKPdf 16 57 07.3 +2.8
LAO LASA Array 127.29 21 *e*PKPdf PKPdf 16 57 06.7 +2.2
YFT Old Faithful 127.35 25 *e*PKPdf PKPdf 16 57 08.7 +4.1
YFT *e*PP PP 16 59 03.2 -5.4
LKWY Lake 127.44 25 PKIKP PKPdf 16 57 09.6 +4.8
LKWY Lake 127.44 25 *e*PKPdf PKPdf 16 57 08.4 +3.6
IMW Indian Meadow 127.74 26 *e*PKPdf PKPdf 16 57 07.0 +1.6
IMW *e*PP PP 16 59 09.4 -2.0
MOOW Moose Ponds 127.95 26 *e*PKPdf PKPdf 16 57 06.8 +1.0
MOOW *e*PP PP 16 59 11.4 -1.4
NVAR Mina Array Bea 127.98 36 PKP PKPdf 16 57 07.7 +1.7
comp=Z,2.4nm,0.9s,baz=234,slow=4.1,SNR=4.8
NVAR PP PP 16 59 11.2 -2.0
comp=Z,11nm,0.9s,baz=289,slow=5.7,SNR=4.9
NVAR Mina Array Bea 127.98 36 PKP PKPdf 16 57 07.7 +1.7
NVAR PP PP 16 59 11.2 -2.0
RRI2 Red Ridge 128.01 27 *e*PKPdf PKPdf 16 57 08.2 +2.3
TPAW Teton Pass 128.06 26 *e*PKPdf PKPdf 16 57 07.5 +1.5
MNV Mina 128.06 36 PKIKP PKPdf 16 57 03.1 -3.1
MNV Mina 128.06 36 *e*PKPdf PKPdf 16 57 08.0 +1.8
ELK Elko 128.07 32 *e*PKPdf PKPdf 16 57 08.1 +2.0
OMM Old Mammoth Mi 128.10 37 *e*PKPdf PKPdf 16 57 08.4 +2.1
WUWY Wally Ulrich 128.11 26 *e*PKPdf PKPdf 16 57 07.8 +1.7
WUWY *e*PP PP 16 59 11.1 -2.9
LOHW Long Hollow 128.12 26 *e*PKPdf PKPdf 16 57 08.1 +2.0
LOHW *e*PP PP 16 59 07.0 -7.0
SNOW Snow King Moun 128.17 26 *e*PKPdf PKPdf 16 57 08.0 +1.8
REDW Red Top Meadow 128.21 26 *e*PKPdf PKPdf 16 57 08.3 +2.0
MTUM Tungsten Hills 128.53 37 *e*PKPdf PKPdf 16 57 10.4 +3.3
HVU Hansel Valley 128.55 29 PKIKP PKPdf 16 57 09.0 +2.0
HVU Hansel Valley 128.55 29 *e*PKPdf PKPdf 16 57 08.4 +1.4
TPH Tonopah 128.85 35 PKIKP PKPdf 16 57 11.4 +3.7
TPH Tonopah 128.85 35 *e*PKPdf PKPdf 16 57 09.3 +1.7
SPUT South Promonto 129.06 29 *e*PKPdf PKPdf 16 57 08.8 +0.8
BGU Big Grassy Mou 129.07 30 *e*PKPdf PKPdf 16 57 09.2 +1.2
PDAR Pinedale Array 129.25 26 PKP PKPdf 16 57 08.1 -0.2
comp=Z,6.5nm,1.1s,baz=119,slow=2.8,SNR=8.6
PDAR PP PP 16 59 18.8 -3.0
comp=Z,31nm,1.1s,baz=315,slow=2.1,SNR=11
TRCR Troy Canyon 129.59 34 *e*PKPdf PKPdf 16 57 11.0 +1.9
TCUT Toone Canyon 129.71 29 *e*PKPdf PKPdf 16 57 11.8 +2.5
NOQ North Oquirrh 129.72 29 *e*PKPdf PKPdf 16 57 10.5 +1.2
EYMN Ely 129.77 8 *e*PKPdf PKPdf 16 57 10.7 +1.5
EYMN *e*PP PP 16 59 15.6 -9.1
DAC Darwin (Calif) 129.83 37 *e*PKPdf PKPdf 16 57 11.9 +2.3
CTU Camp Tracy 129.88 29 *e*PKPdf PKPdf 16 57 11.7 +2.1
JLU Jordanelle 130.09 29 *e*PKPdf PKPdf 16 57 11.4 +1.5
NLU North Lily Min 130.28 30 *e*PKPdf PKPdf 16 57 11.8 +1.5
NLU *e*SKP 17 00 28.9
RSSD Black Hills 130.28 20 *e*PKPpre 16 57 07.6
RSSD *e*PKPdf PKPdf 16 57 12.4 +2.2
DAU Daniels Canyon 130.33 29 PKIKP PKPdf 16 57 14.1 +3.7
DAU Daniels Canyon 130.33 29 *e*PKPdf PKPdf 16 57 12.9 +2.5
MPU Maple Canyon 130.45 30 *e*PKPdf PKPdf 16 57 12.8 +2.2
MWC Mount Wilson 130.87 40 *e*PKPpre 16 57 06.9
RWWY Rawlins 131.14 25 *e*PKPdf PKPdf 16 57 12.5 +0.6
ARUT Antelope Range 131.17 33 PKIKP PKPdf 16 57 15.8 +3.7
ARUT Antelope Range 131.17 33 *e*PKPdf PKPdf 16 57 12.6 +0.5
TMUT Trail Mountain 131.21 30 *e*PKPdf PKPdf 16 57 14.9 +2.8
TMUT *e*PP PP 16 59 25.2 -9.3
MVU Marysvale 131.30 31 *e*PKPdf PKPdf 16 57 15.6 +3.2
MVU *e*SKP 17 00 36.6
MSU Marysvale 131.31 31 PKIKP PKPdf 16 57 15.8 +3.5
MSU Marysvale 131.31 31 *e*PKPdf PKPdf 16 57 15.4 +3.1
SRU San Rafael 131.69 30 PKIKP PKPdf 16 57 15.2 +2.2
SRU San Rafael 131.69 30 *e*PKPdf PKPdf 16 57 14.6 +1.6
PHWY Pilot Hill 132.18 24 *e*PKPdf PKPdf 16 57 16.7 +2.8
PFO Pinyon Flat Ob 132.28 39 PKIKP PKPdf 16 57 11.5 -2.8
PFO Pinyon Flat Ob 132.28 39 *e*PKPpre 16 57 06.6
PFO *e*PKPdf PKPdf 16 57 17.4 +3.0
BAR Barrett 132.74 40 *e*PKPdf PKPdf 16 57 18.4 +3.2
PV10 Paradox Valley 132.99 29 *e*PKPdf PKPdf 16 57 19.0 +3.4
ISCO Idaho Springs 133.38 25 PKIKP PKPdf 16 57 19.5 +3.3
ISCO Idaho Springs 133.38 25 *e*PKPpre 16 57 11.0
ISCO *e*PKPdf PKPdf 16 57 19.2 +2.9
ISCO *e*PP PP 16 59 42.5 -5.5
PV01 Paradox Valley 133.41 29 *e*PKPdf PKPdf 16 57 18.7 +2.4
PV01 *e*PP PP 16 59 40.5 -7.7
PV01 *e*SKP 17 00 44.5
RW3 Ridgway 133.73 28 PKIKP PKPdf 16 57 21.0 +4.1
RW3 Ridgway 133.73 28 *e*PKPdf PKPdf 16 57 19.3 +2.4
RW3 *e*PP PP 16 59 42.2 -8.3
RW3 *e*SKP 17 00 54.0
NCB Newcomb 133.81 352 *e*PKPdf PKPdf 16 57 18.3 +1.4
WUAZ Wupatki 133.97 33 *e*PKPdf PKPdf 16 57 20.7 +3.3
WUAZ *e*PP PP 16 59 48.2 -3.9
WUAZ *e*SKP 17 00 46.8
SDCO Great Sand Dun 135.14 26 *e*PKPpre 16 57 11.9
SDCO *e*PKPdf PKPdf 16 57 21.1 +1.6
SDCO *e*PP PP 16 59 53.5 -5.6
SDCO *e*SKP 17 01 04.8
ERPA Erie 136.19 357 *e*PKPdf PKPdf 16 57 22.9 +1.6
CAM4 Nova Friburgo 136.34 239 (P) PKPdf 16 57 36.5 +14
CAM4 *i* 16 57 37.4
CAM4 *i* 16 57 39.3
CAM4 *i* 16 57 52.6
CBKS Cedar Bluff 136.47 20 PKIKP PKPdf 16 57 21.1 -0.8
CBKS Cedar Bluff 136.47 20 *e*PKPpre 16 57 20.8
TUC Tucson 136.63 36 PKHKP 16 57 16.2
TUC Tucson 136.63 36 *e*PKPpre 16 57 15.7
TUC *e*PKPdf PKPdf 16 57 25.7 +3.3
ANMO Albuquerque 136.97 29 PKPdf PKPdf 16 57 25.0 +2.0
ANMO PP PP 17 00 09.6 -0.6
ANMO Albuquerque 136.97 29 PKHKP 16 57 14.3
ANMO Albuquerque 136.97 29 PKhKP 16 57 14.4
ANMO PKP PKPdf 16 57 23.9 +0.9
comp=Z,7.1nm,1.0s,baz=68,slow=2.0
ANMO PP PP 17 00 07.7 -2.5
comp=Z,6.6nm,1.1s,baz=346,slow=7.4,SNR=3.0
ANMO Albuquerque 136.97 29 *e*PKPpre 16 57 13.7
ANMO *e*PKPdf PKPdf 16 57 23.3 +0.3
ANMO PKP PKPdf 16 57 23.9 +0.9
ANMO PP PP 17 00 07.7 -2.5
KSU1 Kansas State U 137.18 16 *e*PKPdf PKPdf 16 57 24.9 +1.6
SSPA Standing Stone 137.53 355 *e*PKPdf PKPdf 16 57 26.9 +3.0
ACSO Alum Creek Sta 138.12 1 *e*PKPdf PKPdf 16 57 24.9 -0.1
SLM Saint Louis 139.06 9 P PKPdf 16 57 26.4 -0.2
AMTX Amarillo 139.20 25 *e*PKPdf PKPdf 16 57 29.1 +2.1
AMTX *e*PP PP 17 00 18.4 -6.2
CCM Cathedral Cave 139.45 11 *e*PKPpre 16 57 22.4
CCM *e*PP PP 17 00 17.8 -8.1
PLCA Paso Flores 139.85 194 PKP PKPdf 16 57 27.1 -0.9
comp=Z,3.0nm,0.8s,baz=237,slow=3.3,SNR=7.4
WCI Wyandotte Cave 139.96 5 PKHKP 16 57 23.5
WCI Wyandotte Cave 139.96 5 *e*PKPpre 16 57 22.9
MNTX Cornudas Mount 140.10 31 *e*PKPpre 16 57 20.6
WMOK Wichita Mounta 140.46 22 PKHKP 16 57 23.3
WMOK Wichita Mounta 140.46 22 *e*PKPpre 16 57 22.3
WMOK *e*PP PP 17 00 23.9 -8.3
TZTN Tazewell 141.79 2 *e*PKPpre 16 57 26.9
WVT Waverly 141.87 7 *e*PKPpre 16 57 27.6
MIAR Mount Ida 142.29 15 PKIKP PKPdf 16 57 29.6 -2.9
MIAR Mount Ida 142.29 15 *e*PKPpre 16 57 29.3
UALR University of 142.38 14 *e*PKPpre 16 57 30.1
CPCT Cooper Cave 142.84 3 *e*PKPpre 16 57 29.1
LTX Lajitas 142.87 32 PKIKP PKPdf 16 57 32.1 -1.6
LTX Lajitas 142.87 32 *e*PKPpre 16 57 30.9
PLAL Pickwick Lake 142.97 8 *e*PKPpre 16 57 30.0
SWET Sewanee 142.98 5 *e*PKPpre 16 57 31.0
OXF Oxford 143.22 10 PKIKP PKPdf 16 57 33.3 -0.8
OXF Oxford 143.22 10 *e*PKPpre 16 57 30.5
BAO Brasilia Array 143.50 246 PKPdf PKPdf 16 57 35.0 -0.1
BDFB Brasilia 143.52 246 PKP PKPdf 16 57 34.4 -0.7
comp=Z,6.4nm,0.5s,baz=123,slow=2.7,SNR=11
BDFB PP PP 17 00 49.2 -1.9
comp=Z,26nm,1.0s,baz=108,slow=6.8,SNR=4.8
JCT Junction City 143.79 26 *e*PKPpre 16 57 33.9
JSC Jenkinsville 144.05 359 PKIKP PKPdf 16 57 37.4 +1.9
JSC Jenkinsville 144.05 359 *e*PKPdf PKPdf 16 57 35.4 -0.1
NATX Nacogdoches 144.58 18 *e*PKPdf PKPdf 16 57 36.9 +0.3
GOGA Godfrey 144.91 2 PKIKP PKPdf 16 57 38.0 +0.9
GOGA Godfrey 144.91 2 *e*PKPdf PKPdf 16 57 37.6 +0.5
LRAL Lakeview Retre 145.03 7 *e*PKPdf PKPdf 16 57 37.1 -0.2
TWB Tillmans-White 145.16 357 *e*PKPdf PKPdf 16 57 38.7 +1.1
NHSC New Hope 145.18 357 *e*PKPdf PKPdf 16 57 39.7 +2.1
CSU Charleston Sou 145.29 357 *e*PKPdf PKPdf 16 57 39.8 +2.0
LMEL Las Melosas 146.21 198 *e*P PKPdf 16 57 42.4 +3.1
FCH Farellones 146.72 199 *e*P PKPdf 16 57 44.2 +4.0
CFAA Coronel Fontan 147.55 203 PKPbc PKPdf 16 57 45.6 +4.0
comp=Z,5.4nm,0.6s,baz=168,slow=2.7,SNR=39
TLL Tololo Astrono 149.79 200 *e*P PKPdf 16 57 51.9 +6.7
DWPF Disney 150.20 358 PKPdf PKPdf 16 57 50.5 +4.5
IIC Rita Coyotepec 152.84 37 *e*P PKPdf 16 57 43.5 -6.5
MDVM Presa Madin 153.02 37 *e*P PKPdf 16 57 55.1 +4.8
PTVM Pico Tres Padr 153.06 37 *e*P PKPdf 16 57 45.6 -4.7
SZVM Salazar 153.10 38 *e*P PKPdf 16 57 55.8 +5.4
IIZ Mezontepec 153.29 38 *e*P PKPdf 16 57 45.6 -5.1
IIO Organos 153.29 36 *e*P PKPdf 16 57 43.5 -7.1
CHVM Chichinautzin 153.42 38 *e*P PKPdf 16 57 45.9 -4.9
PPM Popocatepetl 153.75 37 *i*P PKPdf 16 57 54.1 +2.8
ACX Acapulco 154.56 42 *e*P PKPdf 16 57 51.2 -1.2
SJG San Juan 154.57 322 PKP PKPdf 16 57 53.5 +1.0
comp=Z,5.0nm,0.3s,baz=74,slow=5.1,SNR=2.7
SJG PKPab PKPab 16 58 16.1 -1.9
comp=Z,9.0nm,0.4s,baz=254,slow=1.0,SNR=5.6
SIV San Ignacio 154.79 235 PKP PKPdf 16 57 55.3 +2.6
comp=Z,4.8nm,1.0s,baz=149,slow=3.7,SNR=13
SIV PKPab PKPab 16 58 16.2 -2.8
comp=Z,12nm,0.9s,baz=141,slow=2.2,SNR=11
LVC Limon Verde 155.59 211 PKP PKPdf 16 57 56.3 +2.7
comp=Z,3.0nm,0.9s,baz=112,slow=4.6,SNR=3.7
LVC PKPab PKPab 16 58 20.1 -2.2
comp=Z,17nm,0.7s,baz=277,slow=2.4,SNR=6.8
LVC Limon Verde 155.59 211 *e*PKPdf PKPdf 16 57 56.0 +2.4
PCRV Puerto La Cruz 158.73 304 PKP PKPdf 16 57 59.5 +1.6
comp=Z,16nm,1.1s,baz=254,slow=0.5,SNR=3.4
SAML Samuel 159.70 249 *e*PKPdf PKPdf 16 58 00.1 +1.1
SAML *e*PKPab PKPab 16 58 39.7 -0.5
LPAZ La Paz 159.97 223 PKP PKPdf 16 58 02.4 +3.2
comp=Z,5.5nm,0.9s,baz=57,slow=9.9,SNR=19
LPAZ PKPab PKPab 16 58 39.0 -2.3
comp=Z,17nm,1.1s,baz=86,slow=7.4,SNR=4.3
LPAZ La Paz 159.97 223 *e*PKPdf PKPdf 16 58 01.5 +2.2
SDV Santo Domingo 164.21 313 PKP PKPdf 16 58 06.3 +2.7
comp=Z,1.6nm,0.3s,baz=310,slow=15,SNR=3.9
SDV PKPab PKPab 16 58 57.8 -2.0
comp=Z,9.5nm,0.9s,baz=61,slow=6.5,SNR=3.0
SDV PP PP 17 02 45.4 -1.7
comp=Z,7.8nm,0.9s,baz=17,slow=4.0,SNR=3.4
SDV Santo Domingo 164.21 313 PKPdf PKPdf 16 58 04.6 +1.0
ROSC El Rosal 169.61 310 PKP PKPdf 16 58 10.8 +3.2
comp=Z,4.6nm,0.3s,baz=259,slow=23,SNR=7.1
OTAV Otavalo 175.62 298 *e*PKPdf PKPdf 16 58 10.9 +0.6
OTAV *e*PP PP 17 03 46.1 +2.0

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*NEIC **16** 16:46:13.6,31.00S×71.55W,h47km,MD4.0(GUC),After GUC.*

GUC 16 16:46:13.6±0.9,31.00S×71.55W,h47km±16km,MD4.0, ML3.4,4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.49**	**38**	*e*P	P	16 46 24.8	+0.2
OVCH				*i*S	S	16 46 33.5	+1.0
OVCH				AMP		16 46 33.8	
comp=E,7μm,0.2s							
ILCH	**Illapel**	**0.71**	**153**⇓	*i*P	P	16 46 28.3	+0.8
ILCH				*i*S	S	16 46 38.8	+1.2
ILCH				AMP		16 46 39.6	
comp=E,2μm,0.2s							
CHNG	**Los Chungos**	**0.88**	**177**⇑	*i*P	P	16 46 30.4	+0.7
CHNG				*i*S	S	16 46 42.7	+0.9
CHNG				AMP		16 46 45.5	
comp=E,265nm,0.1s							
TLL	**Tololo Astrono**	**1.05**	**38**	*i*P	P	16 46 31.8	-0.4
TLL				*i*S	S	16 46 45.4	-0.6
TLL				AMP		16 46 47.5	
comp=N,4μm,0.5s							
PACH	**Papudo**	**1.54**	**176**⇑	*i*P	P	16 46 39.2	+0.1
PACH				*i*S	S	16 46 58.3	+0.3
JACH	**Jahuel**	**1.86**	**154**⇓	*i*P	P	16 46 43.9	+0.2
JACH				*i*S	S	16 47 06.6	+0.5
LCO	**Las Campanas**	**2.12**	**21**	*i*P	P	16 46 46.0	-1.3
LCO				*i*S	S	16 47 11.7	-0.7
LCO				AMP		16 47 13.7	
comp=E,324nm,0.3s							
PEL	**Peldehue**	**2.26**	**161**	*i*S	S	16 47 16.0	-0.1
PEL				AMP		16 47 19.7	
comp=N,241nm,0.2s							
PEL				AMP		16 47 35.2	
comp=Z,204nm,0.5s							
VACH	**Vallenar**	**2.51**	**16**	*i*S	S	16 47 22.1

CHCH			*i* S	S	16 47 34.4	-1.0
LMEL	**Las Melosas**	**3.06 158**	*e*P	P	16 47 00.8	+0.1
LMEL			*i* S	S	16 47 36.1	-0.3
LMEL			AMP		16 47 38.6	
	comp=N,184nm,0.2s					
CICH	**Cipreses**	**3.44 164⇑**	*i* P	P	16 47 05.8	-0.3
CICH			*i* S	S	16 47 45.6	-0.6

*IDC **16** 16:50:23.9±0.7, 14.58N×92.30E, mb4.3/14, mb1 4.4/15, mb1mx4.2/23, mbtmp4.2/15, ML3.5/1, Error ellipse: s-maj=26.7km s-min=14.3km az=52.0*
*NEIC **16** 16:50:29.1±0.7, 14.66N×92.49E, h30km, mb4.7/2, Error ellipse: s-maj=19.6km s-min=9.1km az=66.0*
ISC 16 16:50:26.7±0.4, 14.73N±0.06×92.40E±0.06, h33km, n38, σ1§17/38, mb4.3/16, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**7.28**	**59**	*e*Pn	**Pn**	**16 52 12.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**7.28**	**59**	Pn	**Pn**	**16 52 15.5**	**+1.9**
	0.2nm,0.3s,baz=245,slow=15,SNR=5.3						
CMAR				Sn	**Sn**	**16 53 35.5**	**-0.5**
	0.6nm,0.3s,baz=244,slow=27,SNR=5.1						
KULM	**Kulim**	**12.40**	**138**	P	**P**	**16 53 22.5**	**-1.4**
PALK	**Pallekele**	**13.66**	**238**	P	**P**	**16 53 49.6**	**+9.0**
	24nm,1.3s						
JIRN	**Jiri**	**14.10**	**337**	*e*P	**P**	**16 53 47.2**	**+0.9**
PKI	**Pulchoki**	**14.34**	**334**	*e*P	**P**	**16 53 47.8**	**-1.6**
	26nm,0.4s						
GUN	**Gumba**	**14.45**	**336**	*e*P	**P**	**16 53 50.7**	**-0.1**
	28nm,0.5s						
DMN	**Daman**	**14.50**	**333**	*e*P	**P**	**16 53 50.2**	**-1.3**
	59nm,0.7s						
KKN	**Kakani**	**14.58**	**334**	*e*P	**P**	**16 53 51.5**	**-1.1**
	26nm,0.5s						
LSA	**Lhasa**	**14.94**	**356**	*e*P	**P**	**16 54 05.5**	**+8.2**
	18nm,0.6s						
GKN	**Gorkha**	**15.05**	**333**	*e*P	**P**	**16 53 57.6**	**-1.1**
	49nm,0.4s						
KOLN	**Koldanda**	**15.34**	**329**	*e*P	**P**	**16 54 01.0**	**-1.4**
KSM	**Kuching**	**22.05**	**125**	P	**P**	**16 55 21.7**	**+1.3**
SONM	**Songino Array**	**34.99**	**17**	P	**P**	**16 57 19.9**	**+2.0**
	2.3nm,0.7s,mb4.2,baz=203,slow=7.0,SNR=9.3						
ZAL	**Zalesovo**	**39.57**	**353**	P	**P**	**16 57 58.4**	**+2.1**
	4.3nm,0.7s,mb4.3,baz=290,slow=6.7,SNR=7.4						
ZAL	**Zalesovo**	**39.57**	**353**	P	**P**	**16 57 58.4**	**+2.1**
BVAR	**Borovoye Array**	**41.99**	**340**	P	**P**	**16 58 17.6**	**+1.3**
	1.0nm,0.5s,mb3.7,baz=159,slow=10,SNR=5.7						
FITZ	**Fitzroy Crossi**	**46.24**	**134**	P	**P**	**16 58 50.7**	**-0.2**
	7.1nm,0.5s,mb4.9,baz=319,slow=7.1,SNR=24						
WRA	**Warramunga Arr**	**53.74**	**129**	P	**P**	**16 59 47.8**	**-0.5**
	2.0nm,0.7s,mb4.2,baz=300,slow=9.8,SNR=24						
WRAB	**Tennant Creek**	**53.74**	**129**	*e*P	**P**	**16 59 47.0**	**-1.3**
	11nm,0.7s,mb4.9						
WB2	**Warramunga Arr**	**53.75**	**129**	*e*P	**P**	**16 59 47.5**	**-0.9**
ASAR	**Alice Springs**	**55.70**	**133**	P	**P**	**17 00 02.0**	**-0.5**
	0.7nm,0.3s,mb4.1,baz=312,slow=7.4,SNR=22						
BRTR	**Keskin Array B**	**56.78**	**308**	P	**P**	**17 00 10.1**	**0.0**
	2.4nm,0.7s,mb4.4,baz=122,slow=8.4,SNR=8.6						
AKASG	**Malin Array Be**	**61.79**	**320**	P	**P**	**17 00 43.9**	**-0.6**
	0.2nm,0.2s,mb3.8,baz=81,slow=6.0,SNR=5.0						
AKASG	**Malin Array Be**	**61.79**	**320**	P	**P**	**17 00 43.9**	**-0.6**
MLR	**Muntele Rosu**	**63.16**	**314**	P	**P**	**17 00 55.0**	**+1.3**
	6.0nm,0.9s,mb4.7,baz=275,slow=15,SNR=4.3						
JOF	**Joensuu**	**63.97**	**334**	*e*p	**P**	**17 00 55.8**	**-2.9**
	6.4nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**65.90**	**331**	P	**P**	**17 01 11.5**	**+0.4**
	1.8nm,0.4s,mb4.4,baz=88,slow=6.4,SNR=19						
FINES	**FINESS Array B**	**65.90**	**331**	P	**P**	**17 01 11.5**	**+0.3**
STKA	**Stephens Creek**	**66.10**	**135**	P	**P**	**17 01 13.7**	**+0.7**
ARCES	**ARCESS Array B**	**68.28**	**340**	P	**P**	**17 01 27.1**	**+1.1**
	1.9nm,0.6s,mb4.3,baz=90,slow=7.3,SNR=9.7						
GERES	**GERESS Array B**	**71.64**	**317**	P	**P**	**17 01 48.1**	**+1.3**
	1.6nm,0.6s,mb4.2,baz=79,slow=6.8,SNR=7.7						
NB2	**NORSAR Subarra**	**72.97**	**330**	P	**P**	**17 01 54.2**	**-0.3**
	0.9nm,0.5s,mb4.0,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**72.97**	**330**	P	**P**	**17 01 54.7**	**+0.2**
	1.0nm,0.6s,mb3.9,baz=90,slow=5.9,SNR=5.4						
NOA	**NORSAR Array B**	**72.97**	**330**	P	**P**	**17 01 54.7**	**+0.2**
BOSA	**Boshof**	**77.88**	**236**	P	**P**	**17 02 24.3**	**+1.1**
	2.8nm,0.7s,mb4.3,baz=75,slow=6.8,SNR=6.1						
BOSA	**Boshof**	**77.88**	**236**	P	**P**	**17 02 24.3**	**+1.1**
SWET	**Sewanee**	**130.30**	**358**	*e*PKPdf	PKPdf	17 09 37.9	+3.6

*IDC **16** 17:26:39.1±1.2, 1.98S×99.23E, mb3.7/7, mb1 3.9/7, mb1mx3.7/17, mbtmp3.7/7, Error ellipse: s-maj=57.4km s-min=19.2km az=54.0*
*NEIC **16** 17:26:43.6±1.1, 1.91S×99.42E, h30km, Error ellipse: s-maj=36.0km s-min=14.3km az=62.0*
ISC 16 17:26:42.5±1.1, 1.8S±0.1×99.5E±0.2, h33km, n10, σ1§21/9, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.14**	**9**	*e*Pn	**Pn**	**17 28 27.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**20.14**	**358**	P	**P**	**17 31 15.9**	**-0.7**
	0.5nm,0.5s,baz=186,slow=10,SNR=13						
WRA	**Warramunga Arr**	**38.52**	**120**	P	**P**	**17 34 03.2**	**-0.5**
	0.4nm,0.4s,mb3.5,baz=303,slow=9.1,SNR=9.6						
WRA				PcP	PcP	17 36 17.2	+0.5
	0.1nm,0.6s,baz=312,slow=2.6,SNR=4.9						
WRAB	**Tennant Creek**	**38.53**	**120**	*e*P	**P**	**17 34 02.4**	**-1.4**
WRAB				*e*	pP	17 34 11.8	-1.8
ASAR	**Alice Springs**	**39.77**	**126**	P	**P**	**17 34 15.8**	**+1.7**
	0.3nm,0.6s,mb3.2,baz=303,slow=7.8,SNR=6.8						
ASAR				PcP	PcP	17 36 21.5	+0.8
	0.4nm,0.6s,baz=308,slow=2.4,SNR=5.0						
SONM	**Songino Array**	**49.80**	**6**	P	**P**	**17 35 35.1**	**+1.0**
	0.4nm,0.5s,mb3.7,baz=193,slow=9.4,SNR=5.3						
ZAL	**Zalesovo**	**56.88**	**350**	P	**P**	**17 36 26.9**	**+0.6**
	2.7nm,0.4s,mb4.7,baz=315,slow=3.7,SNR=14						
BRTR	**Keskin Array B**	**72.82**	**313**	P	**P**	**17 38 08.0**	**-2.0**
	0.5nm,0.6s,mb3.6,baz=121,slow=7.2,SNR=3.8						
FINES	**FINESS Array B**	**83.71**	**332**	P	**P**	**17 39 10.8**	**+1.7**
	0.6nm,0.5s,mb4.0,baz=104,slow=4.8,SNR=14						
TXAR	**Lajitas Array**	**144.85**	**37**	PKPbc	PKPbc	17 46 19.0	+2.1
	0.6nm,0.4s,baz=315,slow=1.8,SNR=5.3						

IDC 16 17:49:40.2±3.6, 30.39S×73.95E, mb3.6/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=102.4km s-min=44.8km az=47.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**53.31**	**98**	P	P	17 59 01.1	-2.3
	0.3nm,0.6s,baz=248,slow=6.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**54.20**	**30**	P	P	17 59 08.0	-2.0
	0.3nm,0.8s,baz=205,slow=6.0,SNR=4.8						
WRA	**Warramunga Arr**	**55.09**	**94**	P	P	17 59 14.4	-2.2
	0.8nm,0.6s,baz=249,slow=7.1,SNR=8.0						
YKA	**Yellowknife Ar**	**147.41**	**7**	PKPbc	PKPdf	18 09 24.3	-0.3
	0.2nm,0.7s,baz=328,slow=3.3,SNR=6.2						

IDC 16 17:57:34.8±3.0, 8.18S×146.92E, mb4.3/2, mb1 4.2/4, mb1mx3.8/13, mbtmp4.0/4, ML3.9/2, Error ellipse: s-maj=56.9km s-min=21.2km az=62.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**1.25**	**169**	Pn	Pn	17 58 00.6	+1.2
	8.0nm,0.3s,baz=25,slow=2.4,SNR=47						
PMG				Sn	Sn	17 58 18.2	+1.1
	31nm,0.3s,baz=36,slow=9.2,SNR=21						
WB2	**Warramunga Arr**	**16.88**	**225**	*e*P	P	18 01 33.9	-0.4
WRA	**Warramunga Arr**	**16.89**	**225**	Pn	P	18 01 33.9	-0.5
	0.8nm,0.3s,baz=54,slow=11,SNR=22						
ASAR	**Alice Springs**	**19.82**	**218**	P	P	18 02 05.8	-4.2
	0.3nm,0.3s,baz=57,slow=8.9,SNR=19						
ASPA	**Alice Springs**	**19.82**	**218**	*e*P	P	18 02 05.2	-4.9
FITZ	**Fitzroy Crossi**	**22.93**	**242**	*e*P	P	18 02 39.9	-2.0
	16nm,0.4s						
FITZ	**Fitzroy Crossi**	**22.93**	**242**	P	P	18 02 40.3	-1.5
	17nm,0.4s,baz=63,slow=7.9,SNR=60						
CMAR	**Chiang Mai Arr**	**54.23**	**300**	P	P	18 07 02.7	-2.3
	0.6nm,0.6s,baz=124,slow=5.8,SNR=6.1						

*JMA **16** 18:17:08.8±0.1, 24.36N×121.52E, h91km*
TAP 16 18:17:07.1, 24.10N×121.39E, h69km±1, ML3.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.52**	**76**	P	P	18 17 33.2	+0.3
YOJ				*e*S	S	18 17 51.6	-0.3
IRIF	**Iriomote-Funau**	**2.15**	**83**	P	P	18 17 41.8	+0.3
IRIF				*e*S	S	18 18 06.3	-0.7
HATJ	**Hateruma jima**	**2.21**	**91**	*e*S	S	18 18 09.0	+0.6
JKRS	**Kuro-shima**	**2.40**	**86**	P	P	18 17 45.2	+0.2
JKRS				*e*S	S	18 18 12.8	-0.4
JIJ	**Ishigaki jima**	**2.53**	**83**	P	P	18 17 46.9	+0.1
JIJ				*e*S	S	18 18 15.0	-1.5
JTJ	**Tarama**	**3.07**	**79**	*e*S	S	18 18 29.1	-1.0

*IDC **16** 18:22:04.8±1.4, 0.76N×97.26E, mb3.7/7, mb1 3.9/8, mb1mx3.7/18, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=61.0km s-min=20.4km az=53.0*
*NEIC **16** 18:22:09.9±0.6, 0.87N×97.41E, h30km, mb3.8/3, Error ellipse: s-maj=14.1km s-min=10.0km az=217.0*
ISC 16 18:22:09.1±2.9, 0.9N±0.1×97.5E±0.1, h37km±25km, n13, σ0§56/13, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.40**	**36**	*e*Pn	**P**	**18 23 29.5**	**+0.2**
CM31	**Chiang Mai Arr**	**17.50**	**5**	*e*P	**P**	**18 26 18.9**	**+6.7**
	3.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.50**	**5**	P	**P**	**18 26 11.1**	**-1.1**
	0.1nm,0.3s,baz=193,slow=11,SNR=6.6						
PALK	**Pallekele**	**17.86**	**291**	*e*P	**P**	**18 26 17.0**	**+0.4**
	6.1nm,1.0s						
KKM	**Kota Kinabalu**	**19.41**	**74**	*e*P	**P**	**18 26 35.8**	**+0.6**
WRA	**Warramunga Arr**	**41.67**	**122**	P	**P**	**18 29 55.8**	**-0.3**
	0.6nm,0.6s,mb3.4,baz=305,slow=8.8,SNR=6.5						
WRAB	**Tennant Creek**	**41.67**	**122**	*e*P	**P**	**18 29 56.0**	**-0.2**
	13nm,1.4s,mb4.4						
ASAR	**Alice Springs**	**43.02**	**127**	P	**P**	**18 30 07.0**	**-0.1**
	0.3nm,0.3s,mb3.4,baz=296,slow=7.7,SNR=11						
SONM	**Songino Array**	**47.38**	**8**	P	**P**	**18 30 42.3**	**+0.6**
	0.2nm,0.4s,mb3.4,baz=191,slow=9.2,SNR=5.9						
ZAL	**Zalesovo**	**53.88**	**351**	P	**P**	**18 31 30.9**	**0.0**
	1.0nm,0.4s,mb4.1,baz=326,slow=9.1,SNR=4.5						
AKASG	**Malin Array Be**	**75.64**	**322**	P	**P**	**18 33 51.4**	**-0.9**
	0.3nm,0.4s,mb3.6,baz=82,slow=5.0,SNR=3.4						
FINES	**FINESS Array B**	**80.37**	**332**	P	**P**	**18 34 18.1**	**-0.1**
	0.8nm,0.7s,mb3.8,baz=108,slow=6.0,SNR=6.3						
ARCES	**ARCESS Array B**	**82.90**	**340**	P	**P**	**18 34 31.9**	**+0.8**
	2.3nm,1.0s,mb4.2,baz=90,slow=7.3,SNR=3.7						

IDC 16 19:02:01.7±3.0, 13.19N×143.24E, mb3.5/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=151.4km s-min=22.2km az=87.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**23.68**	**350**	P	P	19 07 14.3	-1.6
	0.9nm,0.6s,baz=160,slow=9.4,SNR=6.4						
WRA	**Warramunga Arr**	**34.07**	**195**	P	P	19 08 47.7	-2.5
	0.9nm,0.6s,baz=16,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**37.75**	**194**	P	P	19 09 19.8	-1.6
	0.2nm,0.5s,baz=17,slow=12,SNR=7.6						
SONM	**Songino Array**	**46.16**	**326**	P	P	19 10 28.9	-0.9
	0.3nm,0.7s,baz=153,slow=8.4,SNR=3.6						

*BJI **16** 19:18:11.0, 34.98N×119.62W, h2km, mB5.6, mb4.9, Ms5.0, Msz5.0*
*IDC **16** 19:18:11.9±0.6, 34.89N×119.28W, mb4.3/20, mb1 4.5/25, mb1mx4.4/30, mbtmp4.3/25, ML4.1/5, MS4.1/8, Ms1 4.1/8, ms1mx3.8/32, Error ellipse: s-maj=13.1km s-min=9.1km az=67.0*
*HRVD **16** 19:18:13.0±0.9, 35.03N×119.18W, h12km, MW5.2/29, Centroid moment Tensor Solution. LP body waves: s13,c17;Mantle waves: s29,c33; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.57±.47; Mθθ-2.81±.32; Mφφ0.23±.46; Mrθ3.02±.94; Mrφ-1.57±.33; Mθφ4.85±1.23; Best double couple: Mo6.507×10^16 NP1:φ=274°, δ21°, λ145°. NP2:φ=37°, δ78°, λ72°. Principal axes: T 6.622, Plg54°, Azm286°; N -.234, Plg17°, Azm41°; P -6.392, Plg31°, Azm141°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **16** 19:18:13.0, 35.03N×119.18W, h11km, mb4.9/26, MS4.9/2, ML5.2(PAS), MW4.6(BRK), After PAS.*
NEIC Felt [IV] at Bakersfield, Frazier Park, Lake Hughes and Maricopa; [III] at Acton, Arcadia, Arvin, Bellflower, Burbank, Castaic, Cerritos, Chatsworth, Encino, Glendale, Lake Isabella, Lancaster, Lebec, Los Angeles, Manhattan Beach, Mojave, Northridge, North Hills, Palmdale, Pasadena, Porterville, Redondo Beach, Rosamond, Santa Clarita, Santa Monica, Sierra Madre, Stevenson Ranch, Taft, Tehachapi, Temple City, Torrance, Valencia, Valley Village, Van Nuys, Ventura and Winnetka.
*MOS **16** 19:18:14.8±2.5, 35.02N×119.26W, h10km, mb5.1/8, Error ellipse: s-maj=12.1km s-min=8.7km az=70.6*
ISC 16 19:18:12.5±0.3, 35.09N±0.03×119.09W±0.03, h11km, n199, σ1§37/193, mb4.6/43, MS4.8/6, 2C, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWC	**Mount Wilson**	**1.21 135⇑**		*e*P	**Pb**	**19 18 34.7**	**-0.2**
MWC				*e*S	**Sb**	**19 18 51.9**	**+1.5**
DAC	**Darwin (Calif)**	**1.70**	**45**	*e*P	**Pn**	**19 18 44.0**	**+1.7**
DAC				*e*S	**Sn**	**19 19 08.7**	**+4.5**
LRV	**Little Rabbit**	**2.06**	**311**	*e*Pn	**Pn**	**19 18 46.2**	**-1.2**
MTUM	**Tungsten Hills**	**2.30**	**10**	Pn	**Pn**	**19 18 52.9**	**+2.0**
OMM	**Old Mammoth Mi**	**2.52**	**2**	*e*Pn	**Pn**	**19 18 56.0**	**+1.8**
SAO	**San Andreas Ge**	**2.54**	**312**	*e*Pn	**Pn**	**19 18 52.3**	**-2.1**
PFO	**Pinyon Flat Ob**	**2.63**	**123**	*e*P	**Pn**	**19 18 55.3**	**-0.4**
CMB	**Columbia Colle**	**3.12**	**341**	*e*Pn	**Pn**	**19 19 02.5**	**-0.1**
BAR	**Barrett**	**3.13**	**139**	*e*Pn	**Pn**	**19 19 01.4**	**-1.4**
LDFC	**Landfair**	**3.26**	**89**	*e*Pn	**Pn**	**19 19 03.1**	**-1.5**
TPH	**Tonopah**	**3.34**	**26**	*e*Pn	**Pn**	**19 19 08.2**	**+2.5**
NVAR	**Mina Array Bea**	**3.39**	**10**	Pn	**Pn**	**19 19 08.8**	**+2.3**
	11nm,0.3s,baz=196,slow=14,SNR=236						
NVAR				Pg	**Pg**	**19 19 16.9**	**-3.3**
	91nm,0.3s,baz=194,slow=18,SNR=102						
NVAR				Lg		19 20 00.7	
	133nm,0.3s,baz=261,slow=31,SNR=5.8						
NVAR	**Mina Array Bea**	**3.39**	**10**	Pn	**Pn**	**19 19 08.8**	**+2.3**
NVAR				Pg	**Pg**	**19 19 16.9**	**-3.3**
NVAR				Lg		19 20 00.7	
MNV	**Mina**	**3.42**	**12**	*e*Pn	**Pn**	**19 19 08.4**	**+1.6**
SAC	**San Andreas**	**3.66**	**314**	*e*Pn	**Pn**	**19 19 09.1**	**-1.2**
WCN	**Washoe City**	**4.24**	**353**	*e*Pn	**Pn**	**19 19 19.0**	**+0.5**
TRCR	**Troy Canyon**	**4.30**	**40**	Pn	**Pn**	**19 19 19.3**	**-0.1**
NSHM	**Saint Helena R**	**4.44**	**322**	*e*Pn	**Pn**	**19 19 19.1**	**-2.2**
PAHR	**Pah Rah Range**	**4.62**	**357**	*e*Pn	**Pn**	**19 19 24.1**	**+0.3**
HOPS	**Hopland**	**5.03**	**322**	*e*Pn	**Pn**	**19 19 28.1**	**-1.7**
ARUT	**Antelope Range**	**5.29**	**58**	*e*P	**Pn**	**19 19 34.3**	**+0.9**
BMN	**Battle Mountai**	**5.53**	**15**	*e*Pn	**Pn**	**19 19 37.0**	**+0.2**
WDC	**Whiskeytown Da**	**6.12**	**335**	*e*Pn	**Pn**	**19 19 43.0**	**-2.2**
WUAZ	**Wupatki**	**6.32**	**84**	*e*Pn	**Pn**	**19 19 47.7**	**-0.3**
ELK	**Elko**	**6.41**	**27**	P	**Pn**	**19 19 49.4**	**+0.2**
MVU	**Marysvale**	**6.48**	**56**	Pn	**Pn**	**19 19 50.8**	**+0.6**
MSU	**Marysvale**	**6.51**	**56**	*e*P	**Pn**	**19 19 51.1**	**+0.5**
KHMM	**Horse Mountain**	**6.84**	**329**	*e*Pn	**Pn**	**19 19 53.5**	**-1.7**
MOD	**Modoc**	**6.87**	**352**	*e*Pn	**Pn**	**19 19 54.8**	**-0.9**
YBH	**Yreka Blue Hor**	**7.21**	**338**	Pn	**Pn**	**19 20 02.1**	**+1.5**
	1.0nm,0.3s,baz=135,slow=6.8,SNR=17						
YBH				Lg		19 22 01.3	
	0.8nm,0.3s,baz=246,slow=13,SNR=4.6						
YBH				LR	LR	19 22 45.0	
	comp=Z,915nm,20.9s,baz=305,slow=37						
YBH	**Yreka Blue Hor**	**7.21**	**338**	Pn	**Pn**	**19 19 59.5**	**-1.0**
WVOR	**Wild Horse Val**	**7.34**	**3**	*e*P	**Pn**	**19 20 03.1**	**+0.8**
NLU	**North Lily Min**	**7.39**	**47**	Pn	**Pn**	**19 20 03.0**	**0.0**
TUC	**Tucson**	**7.45**	**109**	*e*P	**Pn**	**19 20 00.6**	**-3.3**
BGU	**Big Grassy Mou**	**7.53**	**38**	Pn	**Pn**	**19 20 09.0**	**+4.0**
TMUT	**Trail Mountain**	**7.56**	**54**	*e*Pn	**Pn**	**19 20 04.8**	**-0.5**
MPU	**Maple Canyon**	**7.69**	**48**	*e*Pn	**Pn**	**19 20 07.8**	**+0.5**
SRU	**San Rafael**	**7.93**	**57**	*e*Pn	**Pn**	**19 20 09.6**	**-0.9**
CTU	**Camp Tracy**	**8.05**	**44**	Pn	**P**	**19 20 10.8**	**-1.5**
HUMO	**Hull Mountain**	**8.09**	**339**	*e*Pn	**P**	**19 20 11.9**	**-0.8**
SPUT	**South Promonto**	**8.11**	**38**	*e*Pn	**P**	**19 20 13.0**	**-0.1**
DAU	**Daniels Canyon**	**8.16**	**47**	Pn	**P**	**19 20 13.9**	**+0.1**
JLU	**Jordanelle**	**8.17**	**45**	Pn	**P**	**19 20 13.5**	**-0.3**
HVU	**Hansel Valley**	**8.31**	**35**	Pn	**P**	**19 20 15.1**	**-0.8**
TCUT	**Toone Canyon**	**8.53**	**43**	Pn	**P**	**19 20 18.4**	**-0.5**
PV10	**Paradox Valley**	**8.71**	**65**	Pn	**P**	**19 20 20.0**	**-1.3**
PV01	**Paradox Valley**	**8.98**	**67**	Pn	**P**	**19 20 25.1**	**-0.1**
HLID	**Hailey**	**9.20**	**22**	Pn	**P**	**19 20 28.0**	**-0.1**
VIPM	**Ingram Point**	**9.48**	**353**	P	**P**	**19 20 41.9**	**+10**
RW3	**Ridgway**	**9.69**	**68**	Pn	**P**	**19 20 34.8**	**0.0**
BMO	**Blue Mountains**	**9.85**	**7**	Pn	**P**	**19 20 38.1**	**+1.1**
AHID	**Auburn Hatcher**	**9.87**	**37**	*e*Pn	**P**	**19 20 34.6**	**-2.7**
COR	**Corvallis**	**10.02**	**342**	Pn	**P**	**19 20 41.6**	**+2.1**
SSOR	**Sweet Springs**	**10.09**	**346**	P	**P**	**19 20 48.6**	**+8.2**
VBEM	**Beaver Butte**	**10.14**	**350**	P	**P**	**19 20 50.8**	**+10**
RRI2	**Red Ridge**	**10.21**	**34**	Pn	**P**	**19 20 41.6**	**-0.4**
ANMO	**Albuquerque**	**10.36**	**87**	*i* P	**P**	**19 20 46.7**	**+2.6**
ANMO	**Albuquerque**	**10.36**	**87**	Pn	**P**	**19 20 46.1**	**+2.1**
	baz=264,slow=12,SNR=8.4						
ANMO				Lg		19 23 44.0	
	baz=154,slow=14,SNR=5.2						
ANMO				LR	LR	19 25 16.7	
	comp=Z,854nm,18.2s,baz=2.3,slow=40						
ANMO	**Albuquerque**	**10.36**	**87**	*e*Pn	**P**	**19 20 43.5**	**-0.6**
REDW	**Red Top Meadow**	**10.44**	**35**	Pn	**P**	**19 20 41.4**	**-3.7**
TPAW	**Teton Pass**	**10.49**	**34**	Pn	**P**	**19 20 43.6**	**-2.2**
SNOW	**Snow King Moun**	**10.56**	**35**	*e*Pn	**P**	**19 20 43.7**	**-3.1**
WUWY	**Wally Ulrich**	**10.62**	**35**	*e*Pn	**P**	**19 20 46.4**	**-1.3**
BW06	**Boulder Array**	**10.66**	**41**	Pn	**P**	**19 20 49.0**	**+0.8**
PDAR	**Pinedale Array**	**10.66**	**41**	Pn	**P**	**19 20 52.9**	**+4.6**
	0.1nm,0.3s,baz=214,slow=9.8,SNR=24						
PDAR				Lg		19 23 47.3	
	baz=153,slow=9.9,SNR=2.3						
LOHW	**Long Hollow**	**10.74**	**35**	Pn	**P**	**19 20 47.0**	**-2.4**
MOOW	**Moose Ponds**	**10.78**	**34**	*e*Pn	**P**	**19 20 49.1**	**-0.8**
IMW	**Indian Meadow**	**10.81**	**33**	Pn	**P**	**19 20 51.7**	**+1.5**
MCMT	**McKenzie Canyo**	**10.84**	**24**	*e*Pn	**P**	**19 20 51.9**	**+1.3**
YPT	**Yellepit**	**10.95**	**0**	P	**P**	**19 21 03.6**	**+11**
SDCO	**Great Sand Dun**	**11.26**	**72**	*e*Pn	**P**	**19 20 53.0**	**-3.5**
YFT	**Old Faithful**	**11.29**	**32**	*e*Pn	**P**	**19 20 55.4**	**-1.5**
HAWA	**Hanford**	**11.30**	**358**	*e*Pn	**P**	**19 20 54.1**	**-2.8**
QLMT	**Earthquake Lak**	**11.36**	**29**	*e*Pn	**P**	**19 20 56.6**	**-1.1**
RWWY	**Rawlins**	**11.41**	**51**	Pn	**P**	**19 20 58.1**	**-0.3**
YMR	**Madison River**	**11.41**	**31**	Pn	**P**	**19 20 57.6**	**-0.8**
YNR	**Norris Junctio**	**11.57**	**31**	*e*Pn	**P**	**19 20 57.6**	**-3.0**
WPW	**White Pass**	**11.74**	**352**	P	**P**	**19 21 11.0**	**+8.0**
MNTX	**Cornudas Mount**	**11.94**	**103**	*e*Pn	**P**	**19 21 04.0**	**-1.7**
BOZ	**Bozeman (W)**	**11.97**	**26**	Pn	**P**	**19 21 06.0**	**-0.1**
TBM	**Table Mountain**	**12.12**	**355**	P	**P**	**19 21 14.4**	**+6.4**
MSO	**Missoula**	**12.35**	**17**	Pn	**P**	**19 21 11.0**	**-0.1**
PHWY	**Pilot Hill**	**12.38**	**56**	Pn	**P**	**19 21 10.2**	**-1.3**
CHMT	**Chamberlain Mo**	**12.60**	**19**	*e*Pn	**P**	**19 21 15.5**	**+1.0**
HRY	**Holter Researc**	**12.83**	**23**	Pn	**P**	**19 21 15.4**	**-2.2**
GCMT	**Greycliff**	**12.86**	**31**	Pn	**P**	**19 21 20.3**	**+2.4**
BSMT	**Bassoo Peak**	**13.15**	**13**	P	**P**	**19 21 26.0**	**+4.2**
NEW	**Newport**	**13.24**	**6**	Pn	**P**	**19 21 27.7**	**+4.7**
	0.3nm,0.3s,baz=189,slow=16,SNR=8.8						
NEW				Lg		19 25 17.5	
	0.2nm,0.3s,baz=91,slow=18,SNR=3.0						
NEW				LR	LR	19 27 12.6	
	comp=Z,520nm,20.8s,baz=219,slow=40						
NEW	**Newport**	**13.24**	**6**	Pn	**P**	**19 21 27.7**	**+4.7**
NEW				Lg		19 25 17.5	
NEW				LR	LR	19 27 12.6	
LTX	**Lajitas**	**14.25**	**109**	Pn	**P**	**19 21 35.7**	**-0.7**
TXAR	**Lajitas Array**	**14.25**	**109**	Pn	**P**	**19 21 36.9**	**+0.5**
	0.6nm,

MDJ AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
MDJ AMB AMB
comp=Z,426nm,6.3s
FINES FINESS Array B 79.72 16 P **P 19 30 22.5 +1.1**
comp=Z,2.0nm,0.8s,mb4.1,slow=1.9,SNR=7.7
BAIF Baives 81.53 33 *eP* **P 19 30 27.2 -3.9**
CN2 Changchun 81.99 319 *eP* **P 19 30 32.3 -1.3**
EVO Evora 82.89 48 *eP* **P 19 30 34.0 -4.5**
comp=Z,20nm,1.1s,mb4.8
MEZF Maizieres J'vi 83.04 34 *eP* **P 19 30 35.6 -3.4**
SSF Saint Saulge 83.36 35 *eP* **P 19 30 36.9 -3.8**
AVF Avril sur Loir 83.48 36 *eP* **P 19 30 37.1 -4.2**
comp=Z,17nm,1.1s,mb4.7
SMF Signal de Mont 83.82 36 *eP* **P 19 30 38.9 -4.1**
HAU Haudompre 83.99 33 *eP* **P 19 30 40.1 -3.7**
CDF Champ du Feu 84.10 33 *eP* **P 19 30 40.7 -3.6**
comp=Z,4.9nm,0.8s,mb4.4
MOX Moxa 84.22 29 *eP* **P 19 30 48.0 +3.1**
CLL Collm 84.23 28 *eP* **P 19 30 47.0 +2.0**
CLL Collm 84.23 28 P **P 19 30 47.0 +2.0**
HINF Hinteralfeld 84.36 33 *eP* **P 19 30 41.7 -4.0**
comp=Z,8.5nm,0.8s,mb4.6
ESDC Sonseca Array 84.54 45 P **P 19 30 49.3 +2.6**
comp=Z,1.3nm,0.7s,mb4.1,baz=306,slow=4.7,SNR=5.8
GRA1 Grafenberg Arr 84.80 30 *eP* **P 19 30 52.5 +4.7**
comp=Z,46nm,1.7s,mb5.3
GRF Grafenberg Arr 84.80 30 *eP* **P 19 30 52.5 +4.7**
GRF pmax pmax
comp=Z,46nm,1.7s,mb5.3
GRF Grafenberg Arr 84.80 30 *eP* **P 19 30 52.5 +4.7**
comp=Z,46nm,1.7s,mb5.3
NKC Novy Kostel 84.87 29 *eP* **P 19 30 49.9 +1.8**
BRG Berggiesshubel 84.94 28 *eP* **P 19 30 53.6 +5.1**
BRG pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
BRG Berggiesshubel 84.94 28 *eP* **P 19 30 53.6 +5.1**
comp=Z,9.6nm,1.1s,mb4.8
PVCC Panska Ves 85.46 28 *eP* **P 19 30 56.0 +4.9**
TLY Talaya 85.83 335 *eP* **P 19 30 54.8 +1.9**
TLY pmax pmax
comp=Z,12nm,1.4s,mb4.9
TLY Talaya 85.83 335 *eP* **P 19 30 53.6 +0.7**
comp=Z,12nm,1.4s,mb5.0
PRU Pruhonice 85.88 28 *eP* **P 19 30 58.0 +4.8**
UPC Upice 86.01 27 *eP* **P 19 30 57.7 +3.8**
KHC Kasperske Hory 86.19 29 *eP* **P 19 30 55.9 +1.1**
DPC Dobruska-Polom 86.26 27 *eP* **P 19 30 59.7 +4.6**
GERES GERESS Array B 86.47 29 P **P 19 30 58.8 +2.7**
comp=Z,0.2nm,0.4s,mb3.7,baz=247,slow=7.5,SNR=3.4
GERES LR LR 20 10 41.8
comp=Z,224nm,18.0s,MS4.6,baz=202,slow=36
MOY Mondy 86.74 336 *eP* **P 19 30 59.6 +2.2**
ZAK Zakamensk 87.04 334 *eP* **P 19 31 00.7 +1.8**
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb4.3
PLCA Paso Flores 87.67 145 P **P 19 31 03.2 +1.0**
comp=Z,1.2nm,0.8s,mb4.2,baz=320,slow=6.1,SNR=8.5
ULN Ulaanbaatar 87.68 331 *i P* **P 19 31 04.6 +2.6**
ULN Ulaanbaatar 87.68 331 *eP* **P 19 31 00.8 -1.2**
comp=Z,12nm,1.5s,mb4.9
OBN Obninsk 87.76 14 *eP* **P 19 31 07.1 +4.9**
OBN pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
SONM Songino Array 87.97 331 P **P 19 31 05.6 +2.2**
comp=Z,2.7nm,0.9s,mb4.5,baz=27,slow=2.6,SNR=12
SVE Sverdlovsk 88.44 0 *eP* **P 19 31 06.8 +1.4**
ARU Arti 88.82 1⇑ *iP* **P 19 31 07.8 +0.5**
ARU *eS* S 19 41 32.3 -20
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
ARU Arti 88.82 1 *eP* **P 19 31 07.4 +0.1**
comp=Z,5.9nm,0.9s,mb4.9
ZAL Zalesovo 88.96 346 P **P 19 31 08.6 +0.6**
comp=Z,0.9nm,0.6s,mb4.3,baz=44,slow=3.8,SNR=6.4
BJI Beijing 89.55 321 *eP* **P 19 31 11.0 -0.1**
BJI LR LR
comp=N,221nm,17.3s,MS4.8
BJI LR LR
comp=E,257nm,21.4s,MS4.8
BJI LR LR
comp=Z,266nm,21.4s,MS4.6
AKASG Malin Array Be 90.12 20 P **P 19 31 16.5 +3.0**
comp=Z,0.1nm,0.2s,mb3.7,baz=316,slow=4.1,SNR=6.4
BVAR Borovoye Array 91.86 354 P **P 19 31 23.0 +1.5**
comp=Z,3.7nm,0.8s,mb4.7,slow=3.0,SNR=16
SSE Sheshan 93.14 312 *eP* **P 19 31 28.6 +0.7**
SSE AMB AMB
comp=Z,31nm,0.7s
SSE AMB AMB
comp=Z,273nm,12.0s
SSE Sheshan 93.14 312 *eP* **P 19 31 28.6 +0.7**
comp=Z,31nm,0.7s
NJ2 Nanjing 93.87 314 *eP* **P 19 31 29.8 -1.4**
NJ2 AP pP 19 31 34.8 +0.1
NJ2 XP sP 19 31 36.8 +1.0
NJ2 SKS SKS 19 42 03.0 -6.5
NJ2 S S 19 42 37.0 -0.9
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,190nm,6.0s
NJ2 LR LR
comp=N,770nm,19.2s,MS5.3
NJ2 LR LR
comp=E,780nm,19.9s,MS5.3
NJ2 LR LR
comp=Z,550nm,22.5s,MS5.0
WMQ Urumqi 97.76 341 P **P 19 31 49.3 +0.6**
WMQ AP pP 19 31 54.3 +2.1
WMQ XP sP 19 31 56.3 +3.0
WMQ PP PP 19 35 50.3 +0.6
WMQ SKS SKS 19 42 25.0 -5.1
WMQ S S 19 43 11.3 +0.6
WMQ AMB AMB
comp=Z,4.0nm,0.5s,mb5.2
WMQ LR LR
comp=N,221nm,31.0s
WMQ LR LR
comp=E,75nm,23.4s
WMQ LR LR
comp=Z,2μm,29.2s,MS5.3
LZH Lanzhou 98.67 326 *eP* **P 19 31 52.8 -0.2**
LZH PP PP 19 35 55.6 -0.9
LZH AMB AMB
comp=Z,26nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,124nm,6.2s
LZH LR LR
comp=N,623nm,16.2s
LZH LR LR
comp=Z,768nm,18.5s,MS5.2
LZH Lanzhou 98.67 326 *eP* **P 19 31 52.7 -0.3**
comp=Z,26nm,1.5s,mb5.5
LZH sP sP 19 31 53.2 -4.4
LZH PP PP 19 35 55.6 -0.9
LZH LR LR
comp=Z,770nm,18.5s,MS5.2
KMI Kunming 108.20 320 P 19 36 40.4
WRA Warramunga Arr 114.46 262 PKP PKPdf 19 36 53.5 -2.5
comp=Z,0.8nm,0.8s,baz=56,slow=2.1,SNR=6.9
CMAR Chiang Mai Arr 115.66 320 PKP PKPdf 19 36 56.5 -1.9
comp=Z,0.2nm,0.4s,baz=225,slow=32,SNR=3.7
ASAR Alice Springs 116.64 259 PKP PKPdf 19 36 57.4 -2.9
comp=Z,0.9nm,0.9s,baz=97,slow=3.0,SNR=6.0
KMBO Kilima Mbogo 139.66 38 PKP PKPdf 19 37 41.5 -2.6
comp=Z,0.9nm,0.8s,baz=55,slow=23,SNR=3.2
MAW Mawson 147.42 181 PKPbc PKPdf 19 37 55.2 -0.8
comp=Z,9.3nm,0.9s,baz=264,slow=5.6,SNR=8.6
LBTB Lobatse 147.97 81 PKPbc PKPdf 19 37 59.4 +1.2
comp=Z,9.7nm,1.0s,baz=328,slow=4.9,SNR=9.2
MATP Matopo 147.98 71 PKPbc PKPdf 19 37 58.6 +0.3
comp=Z,8.4nm,1.1s,baz=212,slow=0.6,SNR=9.0
BOSA Boshof 149.15 88 PKPbc PKPdf 19 38 01.3 +1.3
comp=Z,7.5nm,1.0s,baz=197,slow=1.0,SNR=5.9

*ATH **16** 19:26:09.9, 36.96N×28.23E, h19km, MD3.3/4*
*ISK **16** 19:26:09.6, 37.00N×28.35E, h14km, MD3.2*
*CSEM **16** 19:26:09.5±0.1, 37.00N×28.35E, h14km±1km, MD3.2, Error ellipse: s-maj=2.9km s-min=1.5km az=34.0*
ISC 16 19:26:10.6±0.5, 36.95N±0.03×28.31E±0.04, h18km±8km, n20, σ0°92/27, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.18**	**353**	*i* PG	**Pb**	**19 26 13.7**	**-1.6**
DALT	**Dalyan (Mudla)**	**0.32**	**125**	PG	**Pb**	**19 26 16.6**	**-0.9**
DALT				SG	**Sb**	**19 26 21.9**	**-0.2**
MLSB	**Milas**	**0.55**	**309**	PG	**Pb**	**19 26 21.1**	**-0.2**
FETY	**Fethiye**	**0.70**	**117**	PG	**Pb**	**19 26 23.5**	**-0.4**
BDRM	**Kayabasi**	**0.70**	**279**	*i* P	**Pb**	**19 26 23.8**	**-0.1**
BDRM				*i* S	**Sb**	**19 26 35.2**	**+2.1**
ARG	**Arkhangelos**	**0.75**	**191**	*e*PN	**Pn**	**19 26 24.5**	**-1.6**
AYDN	**Tasoluk**	**0.79**	**334**	*i* P	**Pb**	**19 26 25.0**	**-0.4**
AYDN				*i* S	**Sb**	**19 26 36.3**	**+0.7**
BODT	**Bodrum**	**0.81**	**278**	PG	**Pb**	**19 26 25.9**	**+0.1**
DNZL	**Cakiroluk**	**0.94**	**38**	*i* P	**Pb**	**19 26 27.5**	**-0.5**
DNZL				*i* S	**Sb**	**19 26 41.9**	**+1.9**
DENT	**Denizli**	**0.98**	**36**	PG	**Pb**	**19 26 27.9**	**-0.9**
GOLH	**Golhisar**	**1.04**	**74**	*i* P	**Pb**	**19 26 30.4**	**+0.6**
GOLH				*i* S	**Sb**	**19 26 49.0**	**+6.1**
AKAS	**Kas**	**1.27**	**124**	*i* P	**Pb**	**19 26 35.1**	**+1.6**
AKAS				*i* S	**Sb**	**19 26 56.0**	**+6.6**
ELL	**Elmali**	**1.30**	**99**	*e*PN	**Pn**	**19 26 34.1**	**+0.1**
KSL	**Kastellorizon**	**1.30**	**128**	*e*PN	**Pn**	**19 26 35.5**	**+1.5**
SMG	**Samos**	**1.40**	**303**	*e*PN	**Pn**	**19 26 35.2**	**-0.2**
MANT	**Manisa**	**1.55**	**7**	*i* P	**Pn**	**19 26 37.4**	**-0.1**
MANT				*i* S	**Sn**	**19 26 57.5**	**+0.3**
IZM	**Izmir**	**1.66**	**330**	PN	**Pn**	**19 26 38.8**	**-0.4**
KARP	**Karpathos**	**1.68**	**214**	*e*PN	**Pn**	**19 26 40.0**	**+0.5**
BLCB	**Balcova**	**1.75**	**325**	*e*PN	**Pn**	**19 26 39.9**	**-0.5**
ALT	**Altintas**	**2.54**	**34**	*e*PN	**Pn**	**19 26 50.8**	**-0.8**

IDC 16 19:48:43.6±4.1, 28.58S×177.47W, mb3.8/3, mb1 4.0/3, mb1mx3.8/13, mbtmp3.8/3, Error ellipse: s-maj=79.9km s-min=24.0km az=98.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**211**	Pn	Pn	19 49 02.4	+0.8
	541nm,0.3s,baz=90,slow=23,SNR=10						
RAO				Sn	Sn	19 49 14.1	0.0
	559nm,0.3s,baz=264,slow=22,SNR=5.3						
STKA	**Stephens Creek**	**35.38**	**254**	P	P	19 55 40.4	-2.7
	0.9nm,0.6s,baz=103,slow=14,SNR=2.5						
ASAR	**Alice Springs**	**43.70**	**265**	P	P	19 56 50.6	-1.7
	0.7nm,0.7s,baz=105,slow=7.5,SNR=9.6						
WRA	**Warramunga Arr**	**44.53**	**270**	P	P	19 56 57.8	-1.2
	1.0nm,0.7s,baz=110,slow=8.0,SNR=19						
FINES	**FINESS Array B**	**143.59**	**341**	PKP	PKPdf	20 08 17.9	-3.6
	1.0nm,0.8s,baz=45,slow=2.7,SNR=6.4						

*NIC **16** 19:54:48.7±0.4, 29.65N×32.50E, h41km, mb4.7, ML4.2, MW3.5*
*BJI **16** 19:55:05.6, 28.95N×31.44E, h10km, mb4.5, Ms4.9, Msz4.3*
*IDC **16** 19:55:11.8±1.7, 29.71N×31.96E, mb3.9/8, mb1 4.0/12, mb1mx3.9/25, mbtmp3.9/12, ML3.3/4, MS3.9/1, Ms1 3.9/1, ms1mx2.7/35, Error ellipse: s-maj=34.3km s-min=13.3km az=8.0*
*NEIC **16** 19:55:12.9±0.3, 29.62N×31.91E, h10km, mb4.4/9, ML4.2(HLW), Error ellipse: s-maj=5.8km s-min=4.3km az=186.0*
NEIC Felt at Cairo.
*CSEM **16** 19:55:12.0±0.1, 29.59N×31.86E, h10km, mb4.5/5, Error ellipse: s-maj=2.6km s-min=1.4km az=178.0*
*SNSN **16** 19:55:20.6, 29.36N×32.58E, Ml4.5*
ISC 16 19:55:11.2±0.5, 29.75N±0.03×31.91E±0.02, h5km±4km, n104, σ1°21/112, mb4.1/18, MS4.2/2, 1C-3D, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLL	**Jalalah**	**0.25**	**226**	P	**Pg**	**19 55 16.6**	**+0.3**
HHAG	**Hagoal**	**0.26**	**38**	P	**Sg**	**19 55 20.6**	**+0.6**
HSAF	**As Saff**	**0.34**	**248**	P	**Pg**	**19 55 18.7**	**+0.6**
HLW	**Helwan**	**0.51**	**282**	P	**Pg**	**19 55 22.8**	**+1.4**
AYT	**Al 'Ayyat**	**0.66**	**266**	P	**Pg**	**19 55 24.9**	**+0.4**
ZAF		**0.72**	**130**	P	**Pg**	**19 55 25.5**	**-0.2**
FYM	**Al Fayyum**	**0.76**	**266**	P	**Pg**	**19 55 26.8**	**+0.4**
ZNM		**0.92**	**114**	P	**Pb**	**19 55 30.2**	**+1.0**
HBNS	**Bani Suwayf**	**1.00**	**218**	P	**Pb**	**19 55 29.9**	**-0.8**
HNAT	**Natroun**	**1.14**	**264**	P	**Pb**	**19 55 33.6**	**+0.6**
HRDS	**Abu Rudays**	**1.59**	**130**	P	**Pn**	**19 55 39.7**	**-0.5**
GRB	**Gharib**	**1.66**	**152**	P	**Pn**	**19 55 40.2**	**-1.0**
ASUT		**2.36**	**188**	P	**Pn**	**19 55 50.3**	**-1.0**
KZIT	**Kziot**	**2.44**	**61**	Pn	**Pn**	**19 55 53.5**	**+1.2**
KZIT	**Kziot**	**2.44**	**61**	P	**Pn**	**19 55 53.7**	**+1.4**
KZIT				Sn	**Sn**	**19 56 23.4**	**+0.5**
KMTI	**Karmit**	**2.47**	**81**	Pn	**Pn**	**19 55 53.2**	**+0.5**
KMTI				Sn	**Sn**	**19 56 22.4**	**-1.2**
MBH	**Mount Berech**	**2.61**	**88**	Pn	**Pn**	**19 55 55.3**	**+0.5**
EIL	**Elat**	**2.64**	**91**	Pn	**Pn**	**19 55 55.5**	**+0.2**
	16nm,0.3s,baz=281,slow=11,SNR=231						
EIL				Pg	**Pg**	**19 56 02.3**	**-1.7**
	64nm,0.3s,baz=285,slow=12,SNR=70						
EIL				Sn	**Sn**	**19 56 28.0**	**-0.1**
	72nm,0.3s,baz=349,slow=19,SNR=5.1						
EIL				Lg		19 56 35.1	
	171nm,0.3s,baz=70,slow=33,SNR=7.0						
EIL	**Elat**	**2.64**	**91**	*e*Pn	**Pn**	**19 55 55.3**	**0.0**
EIL	**Elat**	**2.64**	**91**	*e*Pn	**Pn**	**19 55 55.3**	**0.0**
HAQS	**Haql**	**2.72**	**104**	P	**Pn**	**19 55 56.6**	**+0.2**
RTMM	**Retamin**	**2.72**	**61**	Pn	**Pn**	**19 55 57.4**	**+1.0**
PRNI	**Paran**	**2.75**	**77**	Pn	**Pn**	**19 55 57.5**	**+0.7**
MASH	**Mash'abbe Sade**	**2.77**	**63**	Pn	**Pn**	**19 55 58.1**	**+0.9**
ALWS	**Ilw as Safayha**	**2.78**	**98**	P	**Pn**	**19 55 57.7**	**+0.5**
JMOS	**Jabal al Moall**	**2.85**	**101**	P	**Pn**	**19 55 58.4**	**+0.2**
ZFRI	**Zfri**	**2.94**	**73**	Pn	**Pn**	**19 55 59.9**	**+0.4**
MRSJ	**Marsad**	**2.96**	**90**	*e*P	**Pn**	**19 55 51.1**	**-8.8**
	SNR=33						
MRSJ				*e*S	**Sn**	**19 56 38.1**	**+1.8**
	SNR=33						
BDAS	**Al Bad'**	**3.08**	**114**	P	**Pn**	**19 56 00.7**	**-0.9**
AYUS	**'Aynunah**	**3.33**	**117**	P	**Pn**	**19 56 03.9**	**-1.1**
MZDA	**Masada**	**3.36**	**62**	Pn	**Pn**	**19 56 05.9**	**+0.5**
DABA	**Dabaa**	**3.38**	**293**	P	**Pn**	**19 56 06.0**	**+0.2**
DRGI	**Dragot**	**3.52**	**58**	Pn	**Pn**	**19 56 08.3**	**+0.6**
JMQS	**Jabal Moqyreh**	**3.57**	**103**	P	**Pn**	**19 56 08.7**	**+0.3**
SLTI	**Sal'it**	**3.66**	**46**	Pn	**Pn**	**19 56 10.6**	**+0.9**
SLTI				Sn	**Sn**	**19 56 52.9**	**-0.9**
MMLI	**Mount Malkishu**	**4.03**	**47**	Pn	**Pn**	**19 56 16.1**	**+1.1**
QRNJ	**Al-Qirein**	**4.06**	**50**	*e*P	**Pn**	**19 56 07.2**	**-8.3**
	SNR=33						
TBKS	**Tabuk**	**4.33**	**109**	P	**Pn**	**19 56 18.9**	**-0.4**
HNTI	**Hanita**	**4.34**	**39**	Pn	**Pn**	**19 56 19.4**	**0.0**
TCHB	**Talchebab**	**4.53**	**49**⇓ *iP*		**Pn**	**19 56 22.9**	**+0.8**
MATL	**Matirih**	**4.73**	**37**	*e*PN	**Pn**	**19 56 25.2**	**+0.3**
MATL	**Matirih**	**4.73**	**37**	*e*Pn	**Pn**	**19 56 25.2**	**+0.2**
ASF	**Jabal al Asfar**	**4.91**	**59**	Pn	**Pn**	**19 56 27.5**	**-0.1**
	7.1nm,0.3s,baz=105,slow=6.7,SNR=20						
ASF				Sn	**Sn**	**19 57 22.7**	**-2.9**
	16nm,0.3s,baz=102,slow=22,SNR=3.6						
ASF				Lg		19 57 47.4	
	29nm,0.3s,baz=241,slow=20,SNR=6.0						
BRBR	**Barbar**	**5.02**	**42**⇓ *iP*		**Pn**	**19 56 28.6**	**-0.4**
SALA	**Sala**	**5.07**	**53**⇑ *iP*		**Pn**	**19 56 30.6**	**+0.8**
BHL	**Bhannes**	**5.22**	**37**	*e*PN	**Pn**	**19 56 32.6**	**+0.7**
TOTH	**TOTAH**	**5.27**	**46**⇓ *iP*		**Pn**	**19 56 32.9**	**+0.3**
CSS	**Prodhromos**	**5.33**	**13**	*e*P	**Pn**	**19 56 33.1**	**-0.4**
	36nm,0.4s						
LEF	**Lefka**	**5.42**	**9**	*e*P	**Pn**	**19 56 36.3**	**+1.6**
HWQ	**Hawqa**	**5.67**	**36**	*e*PN	**Pn**	**19 56 38.4**	**+0.2**
UMJS	**Umm Lajj**	**6.57**	**132**	P	**Pn**	**19 56 48.6**	**-2.4**
AKAS	**Kas**	**6.75**	**344**	*i* P	**Pn**	**19 56 54.7**	**+1.2**
MEST	**Erdemli**	**7.07**	**15**	*i* P	**Pn**	**19 56 57.3**	**-0.6**
ELL	**Elmali**	**7.18**	**347**	*e*P	**Pn**	**19 56 58.9**	**-0.6**
HDMB	**Hadim**	**7.21**	**4**	*e*P	**Pn**	**19 57 00.4**	**+0.5**
FETY	**Fethiye**	**7.26**	**342**	P	**Pn**	**19 56 58.6**	**-2.1**
DALT	**Dalyan (Mudla)**	**7.52**	**339**	*e*P	**Pn**	**19 57 02.7**	**-1.6**
YNBS	**Yanbu' al Bahr**	**7.64**	**133**	P	**Pn**	**19 57 04.5**	**-1.5**
BCK	**Bucak**	**7.77**	**352**	*e*P	**Pn**	**19 57 06.9**	**-0.8**
YER	**Yerkesik**	**7.96**	**339**	P	**Pn**	**19 57 09.0**	**-1.5**
IDI	**Anoyia**	**8.10**	**315**	Pn	**P**	**19 57 10.5**	**-1.9**
	3.5nm,0.3s,baz=136,slow=9.7,SNR=23						
IDI				Sn	**Sn**	**19 58 38.9**	**-6.5**
	5.6nm,0.3s,baz=351,slow=21,SNR=8.8						
ISP	**Isparta**	**8.16**	**352**	*e*P	**P**	**19 57 12.2**	**-1.0**
BODT	**Bodrum**	**8.24**	**333**	*e*P	**P**	**19 57 11.5**	**-2.9**
MLSB	**Milas**	**8.28**	**336**	*e*P	**P**	**19 57 12.3**	**-2.6**
DENT	**Denizli**	**8.34**	**344**	*e*P	**P**	**19 57 14.2**	**-1.4**
SANT	**Santorini**	**8.54**	**322**	*e*Pn	**P**	**19 57 11.1**	**-7.4**
APE	**Apeiranthos**	**9.04**	**326**	*e*P	**P**	**19 57 21.4**	**-4.0**
ALT	**Altintas**	**9.40**	**351**	*e*P	**P**	**19 57 28.5**	**-1.9**
IZM	**Izmir**	**9.45**	**337**	*e*P	**P**	**19 57 27.9**	**-3.2**
BLCB	**Balcova**	**9.51**	**336**	*e*P	**P**	**19 57 29.0**	**-2.9**
BRTR	**Keskin Array B**	**10.05**	**8**	Pn	**P**	**19 57 37.4**	**-2.0**
	0.1nm,0.3s,baz=194,slow=15,SNR=2.6						
TIP	**Timpagrande**	**15.62**	**311**	*e*P	**P**	**19 58 49.6**	**-4.2**
MLR	**Muntele Rosu**	**16.40**	**345**	Pn	**P**	**19 59 09.8**	**+6.1**
	0.2nm,0.3s,baz=138,slow=10.0,SNR=4.2						
PSZ	**Piszkesteto**	**20.37**	**336**	*e*P	**P**	**19 59 49.6**	**-1.8**
	15nm,1.2s						
PSZ	**Piszkesteto**	**20.37**	**336**⇑ *e*P		**P**	**19 59 50.8**	**-0.6**
AKASG	**Malin Array Be**	**21.03**	**355**	P	**P**	**19 59 57.3**	**-0.8**
	3.4nm,0.6s,mb3.9,baz=181,slow=10,SNR=17						
KWP	**Kalwaria**	**21.05**	**343**	*e*P	**P**	**19 59 58.6**	**+0.2**
	11nm,1.0s,mb4.2						
KWP	**Kalwaria**	**21.05**	**343**	*e*P	**P**	**19 59 58.6**	**+0.2**
	11nm,1.0s,mb4.2						
GERES	**GERESS Array B**	**23.60**	**329**	P	**P**	**20 00 25.9**	**+2.2**
	2.2nm,0.7s,mb3.7,baz=146,slow=9.6,SNR=10						
GERES				PcP	PcP	20 04 07.8	-2.6
	0.5nm,0.5s,baz=180,slow=2.7,SNR=4.5						
GERES	**GERESS Array B**	**23.60**	**329**	PcP	PcP	20 04 07.8	-2.6
DAVOX	**Davos**	**24.13**	**321**	P	**P**	**20 00 31.0**	**+2.2**
	6.4nm,0.7s,mb4.2,baz=141,slow=12,SNR=10						
DAVOX				LR	LR	20 12 29.9	
	comp=Z,260nm,18.6s,MS3.7,baz=58,slow=43						
MBDF	**Montbardon**	**24.85**	**314**	*e*P	**P**	**20 00 38.8**	**+3.0**
	15nm,0.7s,mb4.3						
LPG	**La Plagne**	**25.24**	**315**	*e*P	**P**	**20 00 42.0**	**+2.5**
	18nm,1.0s,mb4.2						
LPL	**La Plagne**	**25.26**	**315**	*e*P	**P**	**20 00 41.0**	**+1.3**
STU	**Stuttgart**	**25.72**	**324**	*e*P	**P**	**20 00 44.9**	**+0.8**
	18nm,0.9s,mb4.6						
STU	**Stuttgart**	**25.72**	**324**	*e*P	**P**	**20 00 44.9**	**+0.9**
	18nm,0.9s,mb4.6						
CLL	**Collm**	**25.75**	**332**	P	**P**	**20 00 44.0**	**-0.2**
CABF	**La Chapelle**	**26.20**	**317**	*e*P	**P**	**20 00 51.8**	**+3.3**
HINF	**Hinteralfeld**	**26.41**	**320**	*e*P	**P**	**20 00 54.1**	**+3.7**
CDF	**Champ du Feu**	**26.52**	**322**	*e*P	**P**	**20 00 54.4**	**+3.0**
	15nm,0.9s,mb4.2						
MEZF	**Maizieres J'vi**	**27.79**	**320**	*e*P	**P**	**20 01 03.6**	**+0.6**
AVF	**Avril sur Loir**	**27.93**	**315**	*e*P	**P**	**20 01 06.7**	**+2.4**
LFF	**La Frestale**	**28.84**	**310**	*e*P	**P**	**20 01 14.7**	**+2.2**
	16nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**31.93**	**355**	P	**P**	**20 01 39.1**	**-0.7**
	1.4nm,0.6s,mb4.0,baz=150,slow=11,SNR=8.3						
KAF	**Kangasniemi**	**32.58**	**355**	*e*p	**P**	**20 01 43.9**	**-1.5**
	2.4nm,0.6s,mb4.3						
EVO	**Evora**	**33.97**	**296**	*e*P	**P**	**20 02 00.8**	**+3.0**
	4.6nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**40.00**	**356**	P	**P**	**20 02 47.9**	**-0.3**
	3.2nm,1.0s,mb4.0,baz=170,slow=7.4,SNR=9.7						
DBIC	**Dimbokro**	**41.50**	**244**	P	**P**	**20 02 59.1**	**-2.2**
	23nm,1.4s,mb4.6						
WMQ	**Urumqi**	**46.00**	**56**	P	**P**	**20 03 37.9**	**+0.7**
WMQ				AP	pP	20 03 42.4	+3.7
WMQ				XP	sP	20 03 44.9	+5.6
WMQ				PCP	PcP	20 05 14.0	-0.4
WMQ				PP	PP	20 05 26.4	+0.9
WMQ				PPP	PPP	20 06 10.4	+1.8
WMQ				*e*S	**S**	**20 10 23.0**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,1.0nm,0.6s,mb3.9						
WMQ				AMB	AMB		
	comp=Z,120nm,3.3s						
WMQ				LR	LR		
	comp=N,635nm,15.6s,MS4.8						
WMQ				LR	LR		
	comp=E,358nm,13.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,345nm,20.0s						
SONM	**Songino Array**	**58.56**	**50**	P	**P**	**20 05 11.0**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.5,baz=252,slow=7.8,SNR=4.6						
CN2	**Changchun**	**72.44**	**49**	*e*P	**P**	**20 06 41.3**	**+0.8**
YKA	**Yellowknife Ar**	**84.23**	**345**	P	**P**	**20 07 44.9**	**+0.4**
	comp=Z,0.9nm,0.7s,mb4.0,baz=29,slow=5.2,SNR=19						
YKA	**Yellowknife Ar**	**84.23**	**345**	P	**P**	**20 07 44.9**	**+0.4**
ILAR	**Eielson Array**	**85.79**	**359**	P	**P**	**20 07 53.0**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.6,baz=326,slow=4.8,SNR=5.5						

*NEIC **16** 20:02:24.7, 37.92S×176.27E, h176km, MG4.1(WEL), After WEL.*
WEL 16 20:02:24.6±0.3, 37.88S×176.25E, h173km±2km, ML4.0/16, 6C, Error ellipse: s-maj=2.4km s-min=2.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.61**	**284**	*e*PN	P	20 02 48.8	-0.6
URZ	**Urewera**	**0.78**	**120**	⇑PN	P	20 02 50.2	0.0
URZ				SN	S	20 03 09.4	-0.6
MWZ	**Matawai**	**1.10**	**115**	*e*P	P	20 02 52.8	+0.2
MWZ	**Matawai**	**1.10**	**115**	PN	P	20 02 52.6	0.0
MWZ				SN	S	20 03 13.9	-0.3
MGZ	**Maungaku**	**1.25**	**206**	PN	P	20 02 53.3	-0.6
BKZ	**Black Stump Fm**	**1.30**	**172**	P	P	20 02 54.0	-0.4
BKZ				S	S	20 03 16.7	-0.7
BKZ	**Black Stump Fm**	**1.30**	**172**	⇑PN	P	20 02 54.0	-0.3
BKZ				SN	S	20 03 16.7	-0.7
WTVZ	**West Tongariro**	**1.34**	**203**	P	P	20 02 54.6	-0.1
WTVZ	**West Tongariro**	**1.34**	**203**	PN	P	20 02 54.6	-0.1
TWVZ	**Taurewa**	**1.35**	**208**	P	P	20 02 54.8	-0.1
TWVZ	**Taurewa**	**1.35**	**208**	⇑PN	P	20 02 54.8	0.0
OTVZ	**Oturere**	**1.36**	**200**	⇑PN	P	20 02 55.2	+0.3
NGZ	**Ngauruhoe**	**1.39**	**201**	P	P	20 02 55.5	+0.3
NGZ	**Ngauruhoe**	**1.39**	**201**	PN	P	20 02 55.5	+0.3
CNZ	**Chateau**	**1.43**	**203**	P	P	20 02 55.5	-0.1
CNZ	**Chateau**	**1.43**	**203**	PN	P	20 02 55.5	-0.1
WPVZ	**Whakapapa**	**1.44**	**203**	PN	P	20 02 55.5	-0.2
TUVZ	**Tukino**	**1.47**	**199**	P	P	20 02

South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.77	158	⇑*i*	P	20 11 34.3	+1.1
VNA1	Neumayer--Stat	16.77	158	⇑*i*	P	20 11 38.2	+5.0
VNA3	Neumayer Olymp	16.96	160	⇑*i*	P	20 11 35.2	-0.4
VNA3	Neumayer Olymp	16.96	160	⇑*i*	P	20 11 38.4	+2.8
VNA2	Neumayer--Watz	17.16	158	⇑*i*	P	20 11 39.1	+0.9
VNA2	Neumayer--Watz	17.16	158	⇑*i*	P	20 11 41.2	+3.0
SNAA	Sanae	18.71	156	⇑*i*	P	20 11 55.4	-1.1
SNAA	Sanae	18.71	156	⇑*i*	P	20 11 57.2	+0.7
SNAA	Sanae	18.71	156	⇑*i*	P	20 11 59.9	+3.4
SNAA	Sanae	18.71	156	P	P	20 11 55.2	-1.3
	5.5nm,0.3s,baz=307,slow=10.0,SNR=471						
SNAA				S	S	20 15 17.3	-1.2
	0.1nm,0.3s,baz=108,slow=20,SNR=2.8						
SNAA	Sanae	18.71	156	⇑*iP*	P	20 11 55.4	-1.1
PMSA	Palmer Station	19.88	229	*eP*	P	20 12 10.1	+1.1
	217nm,1.1s						
MAIT	Maitri	22.21	147	*eP*	P	20 12 32.8	+0.3
TRQA	Tornquist	29.33	293	*eP*	P	20 13 37.8	-1.3
	2.2nm,0.7s,mb3.9						
SYO	Syowa Base	31.56	141	⇓*iP*	P	20 13 57.0	-1.3
QSPA	South Pole Qui	34.17	180	⇑*iP*	P	20 14 21.0	+0.2
CPUP	Villa Florida	36.83	311	P	P	20 14 43.3	-0.6
	3.6nm,0.8s,mb4.3,baz=148,slow=8.0,SNR=7.2						
CPUP				pP	pP	20 15 06.0	-0.2
	4.5nm,0.7s,baz=168,slow=8.1,SNR=7.4						
CFAA	Coronel Fontan	37.57	293	P	P	20 14 48.4	-1.6
	0.2nm,0.5s,mb3.2,baz=164,slow=7.5,SNR=5.8						
CFAA				pP	pP	20 15 11.5	-0.9
	0.4nm,0.6s,baz=140,slow=6.4,SNR=3.5						
CFAA	Coronel Fontan	37.57	293	P	P	20 14 48.4	-1.6
CFAA				pP	pP	20 15 11.5	-0.9
MAW	Mawson	40.12	144	P	P	20 15 10.7	0.0
	12nm,0.7s,mb4.9,baz=244,slow=7.0,SNR=21						
MAW	Mawson	40.12	144	*eP*	P	20 15 10.9	+0.2
	15nm,0.7s,mb4.9						
SUR	Sutherland	40.65	75	P	P	20 15 18.1	+2.7
	18nm,1.1s,mb4.8						
LVC	Limon Verde	45.31	300	*eP*	P	20 15 54.2	+0.8
	8.8nm,0.6s,mb4.7						
BOSA	Boshof	45.98	76	P	P	20 15 58.7	+0.2
	1.7nm,0.8s,mb3.9,baz=221,slow=9.3,SNR=3.5						
BOSA	Boshof	45.98	76	P	P	20 15 57.7	-0.8
	20nm,1.5s,mb4.6						
SBA	Scott Base	46.05	184	*eP*	P	20 15 58.9	+0.4
	9.2nm,1.0s,mb4.5						
VNDA	Vanda	46.54	183	P	P	20 16 01.9	-0.5
	5.9nm,0.7s,mb4.5,baz=179,slow=8.0,SNR=36						
LBTB	Lobatse	49.02	73	P	P	20 16 22.2	-0.1
	4.6nm,0.7s,mb4.5,baz=223,slow=9.7,SNR=8.8						
LBTB	Lobatse	49.02	73	*eP*	P	20 16 23.1	+0.8
	6.1nm,0.8s,mb4.6						
TSUM	Tsumeb	49.70	61	*eP*	P	20 16 25.9	-1.7
	3.7nm,0.8s,mb4.4						
LPAZ	La Paz	50.39	305	P	P	20 16 33.5	+0.6
	5.0nm,0.6s,mb4.6,baz=164,slow=7.2,SNR=19						
LPAZ				pP	pP	20 16 57.8	+1.7
	2.4nm,0.5s,baz=144,slow=7.9,SNR=2.0						
LPAZ	La Paz	50.39	305	*eP*	P	20 16 33.8	+0.9
	4.6nm,0.6s,mb4.6						
LPAZ				*ep*P	pP	20 16 58.2	+2.1
SAML	Samuel	54.82	315	*eP*	P	20 17 05.1	-0.8
	3.1nm,0.9s,mb4.3						
SAML				*ep*P	pP	20 17 28.4	-1.0
NNA	Nana	58.26	299	*eP*	P	20 17 30.6	+0.3
	52nm,1.4s,mb5.4						
LSZ	Lusaka	58.39	69	*eP*	P	20 17 31.7	+0.6
	5.9nm,0.8s,mb4.7						
DBIC	Dimbokro	65.20	25	P	P	20 18 16.5	-0.3
	6.3nm,0.7s,mb4.6,baz=172,slow=5.6,SNR=12						
DBIC	Dimbokro	65.20	25	*eP*	P	20 18 17.6	+0.9
	9.2nm,0.8s,mb4.7						
DBIC				pP	pP	20 18 40.0	-1.1
OTAV	Otavalo	69.67	304	*eP*	P	20 18 46.3	+1.6
	2.2nm,0.7s,mb4.1						
STKA	Stephens Creek	91.87	170	P	P	20 20 41.5	-0.2
	0.9nm,0.3s,mb4.5,baz=301,slow=13,SNR=4.7						
STKA	Stephens Creek	91.87	170	*eP*	P	20 20 41.6	-0.1
ASAR	Alice Springs	98.96	162	P	P	20 21 13.2	-1.0
	1.3nm,0.6s,mb4.6,baz=183,slow=4.2,SNR=13						
WRA	Warramunga Arr	102.68	162	P	Pdif	20 21 29.5	-1.3
	0.5nm,0.6s,baz=193,slow=4.5,SNR=6.6						
FINES	FINESS Array B	124.41	28	PKP	PKPdf	20 26 30.6	+0.3
	1.0nm,0.8s,baz=180,slow=5.7,SNR=8.8						
CMAR	Chiang Mai Arr	125.06	111	PKP	PKPdf	20 26 33.0	+0.5
	0.6nm,0.8s,baz=224,slow=2.5,SNR=5.9						
ARCES	ARCESS Array B	130.97	22	PKP	PKPdf	20 26 44.1	+1.5
	1.2nm,0.7s,baz=18,slow=2.9,SNR=3.3						
YKA	Yellowknife Ar	136.19	318	PKP	PKPdf	20 26 53.2	+0.8
	0.3nm,0.5s,baz=126,slow=2.4,SNR=13						
YKA				SKPbc		20 30 11.3	
	0.2nm,0.6s,baz=131,slow=3.9,SNR=5.5						
YKA	Yellowknife Ar	136.19	318	PKP	PKPdf	20 26 53.2	+0.8
YKA				SKPbc		20 30 11.3	
WMQ	Urumqi	137.91	78	PKP	PKPdf	20 26 57.5	+1.4
WMQ				XPKP		20 27 35.0	
WMQ				PP	PP	20 29 50.9	+2.5
WMQ				PP	PP		
	comp=Z,184nm,5.4s						
WMQ				LR	LR		
	comp=N,57nm,24.0s						
WMQ				LR	LR		
	comp=E,117nm,28.6s						
WMQ				LR	LR		
	comp=Z,32nm,25.4s						
INK	Inuvik	145.82	321	PKPbc	PKPbc	20 27 11.2	+1.1
	comp=Z,5.1nm,0.7s,baz=101,slow=2.1,SNR=25						
INK	Inuvik	145.82	321	*e*PKPdf	PKPdf	20 27 11.6	+2.5
DAWY	Dawson	146.81	312	*e*PKPdf	PKPdf	20 27 14.1	+3.2
HHC	Hu-ho-hao-te	149.24	102	*e*PKP	PKPdf	20 27 22.6	+7.0
ILAR	Eielson Array	150.13	312	PKPbc	PKPdf	20 27 23.1	+6.9
	comp=Z,3.9nm,0.8s,baz=135,slow=1.8,SNR=40						
ILAR				pPKPbc		20 27 50.4	
	comp=Z,2.3nm,0.7s,baz=136,slow=2.1,SNR=4.3						
SONM	Songino Array	150.73	87	PKPbc	PKPdf	20 27 24.9	+7.3
	comp=Z,1.2nm,0.6s,baz=221,slow=2.7,SNR=15						
SONM				pPKPbc		20 27 53.6	
	comp=Z,0.8nm,0.5s,baz=226,slow=3.1,SNR=3.9						
MCK	McKinley	150.79	309	*e*PKPbc	PKPdf	20 27 24.5	+7.3

CASC 16 20:27:34.5±3.0, 15.24N×90.73W, MD3.8, 2C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TP2	Tecpan 2	0.54	212	⇓*iP*	Pg	20 27 46.1	+0.9
TP2				*e*S	Sg	20 27 55.5	+3.2
IXG	Ixpaco	1.09	166	⇑*eP*	Pb	20 27 55.6	-0.4
IXG				*e*S	Sb	20 28 11.2	+0.5
JAT	Jato	1.27	224	*eP*	Pb	20 27 60.0	+1.0
RBDL	Robledal	1.51	138	⇓*eP*	Pn	20 28 01.8	-1.1
RBDL				*e*S	Sb	20 28 25.7	+3.0
MTO2	Montecristo 2	1.57	122	⇑*eP*	Pn	20 28 01.8	-1.9
MTO2				*e*S	Sb	20 28 24.0	-0.4
RTR	El Retiro	1.70	142	*eP*	Pn	20 28 05.2	-0.4
SNJE	San Jose	1.75	141	*eP*	Pn	20 28 05.8	-0.5
SNJE				*e*S	Sn	20 28 32.2	+2.6
SBLS	San Blas	1.76	142	*eP*	Pn	20 28 06.0	-0.5
SBLS				*e*S	Sn	20 28 32.0	+2.1
BOQS	Boqueron	2.05	137	*eP*	Pn	20 28 10.7	0.0
BOQS				*e*S	Sn	20 28 40.0	+2.6
LFRS	El Faro	2.28	135	*eP*	Pn	20 28 14.3	+0.4
LFRS				*e*S	Sn	20 28 45.3	+2.1
LCBS	La Ceiba	2.32	133	*eP*	Pn	20 28 14.6	+0.2
LCBS				*e*S	Sn	20 28 44.5	+0.4
SNVI	San Vicente	2.45	131	*eP*	Pn	20 28 18.2	+1.9
VSM	San Miguel	2.99	127	*eP*	Pn	20 28 21.6	-2.4

*NEIC **16** 20:36:51.5, 11.53N×61.50W, h90km, MD2.8(TRN), After TRN.*
*FUNV **16** 20:36:51.5, 11.58N×61.65W, h10km, MW2.4*
*TRN **16** 20:36:51.5, 11.48N×61.51W, h5km, MD2.8*

ISC 16 20:36:51.5±1.4, 11.49N±0.05×61.61W±0.05, h94km±13km, n11, σ0°88/20, 1C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	Mount Saint Ca	0.67	356	*eP*	P	20 37 09.0	+0.7
GRW				*e*S	S	20 37 21.3	+0.5
GRHS	Sauteurs	0.73	358	*eP*	P	20 37 09.1	+0.2
GRHS				*e*S	S	20 37 21.6	-0.2
TRN	Trinidad (W)	0.86	166	⇑*iP*	P	20 37 11.5	+1.3
TRN				*e*S	S	20 37 24.8	+0.7
TPR	Prospect	0.87	110	⇓*iP*	P	20 37 09.1	-1.3
TPR				*e*S	S	20 37 23.9	-0.4
BOT	Bacolet	0.94	110	*eP*	P	20 37 10.5	-0.4
GUIV	Guiria	1.03	216	*eP*	P	20 37 11.3	-0.7
GUIV				*e*S	S	20 37 25.9	-1.6
TPP	Pointe-a-Pierr	1.17	172	*eP*	P	20 37 19.0	+5.1
ITEV	Isla Los Testi	1.49	265	*eP*	P	20 37 17.7	-0.2
ITEV				*e*S	S	20 37 36.8	-0.5
CRUV	Carupano	1.79	243	*eP*	P	20 37 22.0	+0.4
CRUV				*e*S	S	20 37 44.3	+0.6
GUNV	Guanoco	1.85	225	*eP*	P	20 37 23.3	+0.8
GUNV				*e*S	S	20 37 47.2	+1.9
PCRV	Puerto La Cruz	3.24	247	*eP*	P	20 37 41.1	-0.4
PCRV				*e*S	S	20 38 17.9	-1.3

*IDC **16** 20:45:46.2±1.5, 2.58N×95.79E, mb3.9/7, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, ML4.0/1, Error ellipse: s-maj=67.4km s-min=20.8km az=56.0*
*NEIC **16** 20:45:51.4±0.9, 2.72N×96.07E, h30km, mb4.1/3, Error ellipse: s-maj=21.8km s-min=12.1km az=55.0*

ISC 16 20:45:49.9±0.8, 2.7N±0.1×96.1E±0.1, h30km, n17, σ0°94/17, mb4.0/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.18	60	*e*Pn	Pn	20 47 06.7	-0.7
CMAR	Chiang Mai Arr	15.88	10	Pn	P	20 49 34.7	+1.6
	0.2nm,0.3s,baz=200,slow=12,SNR=19						
JIRN	Jiri	26.56	340	*eP*	P	20 51 28.2	+0.9
	5.8nm,0.7s,mb4.2						
GUN	Gumba	26.90	340	*eP*	P	20 51 30.5	+0.1
	4.9nm,0.5s,mb4.3						
KKN	Kakani	27.00	338	*eP*	P	20 51 32.8	+1.4
LSA	Lhasa	27.25	350	P	P	20 51 31.7	-1.8
	2.3nm,0.5s,mb4.0						
GKN	Gorkha	27.43	338	*eP*	P	20 51 35.3	0.0
	3.6nm,0.4s,mb4.3						
KOLN	Koldanda	27.64	336	*eP*	P	20 51 38.5	+1.3
	10nm,0.7s,mb4.6						
WRA	Warramunga Arr	43.74	123	P	P	20 53 54.8	+0.1
	0.6nm,0.4s,mb3.7,baz=300,slow=9.3,SNR=6.6						
WRAB	Tennant Creek	43.75	123	*eP*	P	20 53 54.9	+0.1
	5.1nm,1.0s,mb4.2						
AAK	Ala-Archa	44.19	337	P	P	20 53 57.6	-0.5
	2.1nm,1.0s,mb3.8						
ASAR	Alice Springs	45.16	128	P	P	20 54 07.1	+1.0
	0.4nm,0.7s,mb3.4,baz=302,slow=8.0,SNR=5.6						
SONM	Songino Array	45.81	10	P	P	20 54 10.5	-0.4
	1.0nm,0.6s,mb3.9,baz=191,slow=10,SNR=12						
SONM				PcP	PcP	20 55 48.9	+0.5
	0.6nm,0.7s,baz=190,slow=3.0,SNR=5.1						
ZAL	Zalesovo	51.89	352	P	P	20 54 57.6	-0.3
	1.2nm,0.4s,mb4.2,baz=273,slow=3.3,SNR=6.4						
BVAR	Borovoye Array	54.47	341	P	P	20 55 16.3	-0.6
	0.8nm,0.5s,mb3.9,baz=140,slow=10.0,SNR=9.6						
FINES	FINESS Array B	78.17	333	P	P	20 57 46.6	-1.2
	1.6nm,0.9s,mb3.9,baz=101,slow=9.7,SNR=5.8						
ARCES	ARCESS Array B	80.75	340	P	P	20 58 00.5	-1.1
	0.9nm,0.5s,mb4.0,baz=95,slow=5.5,SNR=12						

DJA 16 20:46:28.5±1.0, 9.56S×116.15E, h47km±89km, MD4.6/3, ML4.0/2, 2C-1D, Error ellipse: s-maj=55.8km s-min=16.2km az=174.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	1.03	324	⇑*e*Pn	P	20 46 45.9	-0.9
	202nm,0.2s						
RATI				*e*Sn	S	20 46 58.3	-2.0
KEDI	Kedomdong	1.07	358	⇓*e*Pn	P	20 46 46.4	-0.9
	222nm,0.2s						
KEDI				*e*Sn	S	20 46 59.6	-1.6
SRDI	Scrawed	2.25	298	⇑*e*Pn	P	20 47 02.8	-1.4
SRDI				*e*Sn	S	20 47 28.2	-2.7

*IDC **16** 20:51:47.8±1.1, 12.28N×92.81E, mb3.7/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, ML4.3/1, Error ellipse: s-maj=38.5km s-min=20.0km az=65.0*
*NEIC **16** 20:51:52.0±1.0, 12.24N×92.74E, h30km, mb4.5/2, Error ellipse: s-maj=22.4km s-min=14.2km az=86.0*

ISC 16 20:51:50.4±0.9, 12.28N±0.09×92.8E±0.1, h30km, n10, σ0°67/11, mb3.9/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	8.50	43	*eP*	P	20 53 56.4	+1.9
	8.9nm,0.8s						
CMAR	Chiang Mai Arr	8.50	43	Pn	P	20 53 54.1	-0.4
	1.0nm,0.3s,baz=234,slow=15,SNR=37						
CMAR				Sn	Sn	20 55 30.0	-0.5
	baz=232,slow=21,SNR=2.5						
ENH	Enshi	23.63	38	*eP*	P	20 56 59.8	-0.2
	6.9nm,0.8s,mb4.1						
SONM	Songino Array	37.21	15	P	P	20 59 00.4	-0.4
	0.3nm,0.3s,mb3.5,baz=198,slow=7.8,SNR=5.1						
FITZ	Fitzroy Crossi	44.26	132	P	P	20 59 59.7	+0.3
	2.7nm,0.8s,mb4.0,baz=247,slow=7.7,SNR=4.5						
WRA	Warramunga Arr	51.90	128	P	P	21 00 57.8	-1.0
	0.3nm,0.5s,mb3.5,baz=307,slow=8.3,SNR=7.4						
WRA				PcP	PcP	21 02 11.6	+0.3
	0.2nm,0.5s,baz=318,slow=2.9,SNR=9.2						
WRAB	Tennant Creek	51.90	128	P	P	21 00 59.1	+0.3
	11nm,1.3s,mb4.6						
ASAR	Alice Springs	53.75	132	P	P	21 01 12.6	+0.1
	0.2nm,0.6s,mb3.3,baz=308,slow=6.5,SNR=5.7						
FINES	FINESS Array B	68.25	332	P	P	21 02 50.2	0.0
	0.9nm,0.8s,mb3.9,baz=162,slow=6.0,SNR=5.1						
ARCES	ARCESS Array B	70.71	340	P	P	21 03 05.3	+0.1
	2.5nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=4.8						

IDC 16 21:05:30.4±3.7, 1.08N×97.12E, mb3.8/3, mb1 4.0/4, mb1mx3.6/19, mbtmp3.7/4, ML3.8/1, MS3.4/2, Ms1 3.5/2, ms1mx3.0/29, Error ellipse: s-maj=127.9km s-min=28.9km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.36	6	P	P	21 09 33.8	-2.2
	0.1nm,0.3s,baz=198,slow=12,SNR=12						
CMAR				LR	LR	21 17 21.0	
	comp=Z,148nm,19.1s,baz=190,slow=41						
WRA	Warramunga Arr	42.04	122	P	P	21 13 23.9	-1.9
	0.5nm,0.7s,baz=300,slow=9.1,SNR=6.0						
SONM	Songino Array	47.26	9	P	P	21 14 06.1	-1.3
	1.7nm,0.9s,baz=189,slow=9.1,SNR=11						
ZAL	Zalesovo	53.66	351	P	P	21 14 53.3	-2.6
	1.2nm,0.6s,baz=287,slow=6.5,SNR=9.4						
ZAL				LR	LR	21 39 31.5	
	comp=Z,33nm,19.9s,baz=283,slow=38						

*ISK **16** 21:13:34.1, 39.36N×40.94E, h16km, MD3.6*
*CSEM **16** 21:13:34.3±0.1, 39.34N×40.91E, h15km, MD3.6, Error ellipse: s-maj=2.6km s-min=1.6km az=112.0*

ISC 16 21:13:34.6±0.5, 39.40N±0.04×40.87E±0.06, h10km, n17, σ1°05/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.60	210	*i* PG	Pg	21 13 46.2	-0.6
EZM	Erzurum	0.63	37	*i* PG	Pg	21 13 47.0	-0.3
ERZM	Erzurum	0.63	37	*i* P	Pb	21 13 47.1	-0.2
ERZM				*i* S	Sg	21 13 56.4	+0.6
PTK	Pertek	1.26	247	PN	Pn	21 13 58.2	-0.1
PTK				SN	Sn	21 14 15.5	+0.2
BTMT	Batman	1.30	158	PN	Pn	21 13 57.9	-0.9
KELT	Kelkit	1.45	301	*i* P	Pn	21 14 02.8	+1.7
KELT				*i* S	Sb	21 14 27.8	+8.1
GUMT	Gumushane	1.50	315	*e*PN	Pn	21 14 02.5	+0.7
BEST	Besiri	1.54	168	*i* P	Pn	21 14 03.3	+1.0
BEST				*i* S	Sb	21 14 23.0	+0.8
DIY	Diyarbakir	1.59	199	*e*PN	Pn	21 14 02.3	-0.7
ELZG	Elazig	1.73	239	*i* P	Pn	21 14 06.3	+1.4
ELZG				*i* S	Sg	21 14 37.2	+5.0
TVAN	Van	2.16	113	*i* P	Pn	21 14 14.6	+3.4
TVAN				*i* S	Sn	21 14 47.1	+8.9
MYA	Malataya	2.19	241	*e*PN	Pn	21 14 11.4	-0.2
MALT	Malatya	2.20	241	*e*PN	Pn	21 14 11.5	-0.2
URFA	Urfa	2.54	220	*e*PN	Pn	21 14 15.8	-0.7
GZT	Gaziantep	3.31	233	*i* P	Pg	21 14 39.1	-1.5
KAHT	Ahir Dag	3.60	242	*i* P	Pg	21 14 42.9	-3.6
ONI	Oni	3.73	31	P	Sg	21 15 35.8	-2.8

NEIC 16 21:29:06.1, 38.23N×117.87W, h6km, ML3.5(REN), After REN., Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNV	Mina	0.30	313	*e*P	Pg	21 29 11.8	-0.4
TPH	Tonopah	0.53	106	*e*P	Pg	21 29 16.4	-0.5
MTUM	Tungsten Hills	1.03	212	*e*P	Pb	21 29 25.5	-0.4
OMM	Old Mammoth Mi	1.07	236	*e*P	Pb	21 29 26.4	-0.3
WCN	Washoe City	1.82	307	*e*P	Pn	21 29 37.5	-0.7
PAHR	Pah Rah Range	1.89	322	*e*P	Pn	21 29 39.0	-0.3
DAC	Darwin (Calif)	1.96	173	*e*Pn	Pn	21 29 38.8	-1.4
CMB	Columbia Colle	1.99	265	*e*Pn	Pn	21 29 39.4	-1.3
BMN	Battle Mountai	2.26	13	*e*Pn	Pn	21 29 43.0	-1.6
ELK	Elko	3.24	38	*e*Pn	Pn	21 29 56.9	-1.6
ARUT	Antelope Range	3.53	96	Pn	Pn	21 30 02.4	-0.2
LDFC	Landfair	3.85	144	Pn	Pn	21 30 05.6	-1.5
MOD	Modoc	4.12	334	Pn	Pn	21 30 09.4	-1.6
WVOR	Wild Horse Val	4.25	352	Pn	Pn	21 30 10.3	-2.4
MVU	Marysvale	4.46	85	Pn	Pn	21 30 15.4	-0.4
MSU	Marysvale	4.49	85	Pn	Pn	21 30 15.4	-0.8
BGU	Big Grassy Mou	4.61	53	*e*Pn	Pn	21 30 15.2	-2.8
SPUT	South Promonto	5.19	52	Pn	Pn	21 30 24.6	-1.6
HVU	Hansel Valley	5.28	46	Pn	Pn	21 30 26.8	-0.7
TMUT	Trail Mountain	5.32	76	Pn	PcP	21 30 27.1	-0.9
SRU	San Rafael	5.82	79	Pn	Pn	21 30 32.9	-2.1
WUAZ	Wupatki	5.87	115	*e*Pn	Pn	21 30 35.0	-0.8
HLID	Hailey	5.94	25	*e*Pn	Pn	21 30 31.8	-4.9
RRI2	Red Ridge	7.13	42	Pn	Pn	21 30 53.7	+0.1

*BJI **16** 21:40:03.8, 21.88N×143.13E, h297km, mB4.5, mb4.0*
*IDC **16** 21:40:04.5±1.7, 21.94N×143.00E, h264km±15km, mb3.6/16, mb1 3.7/18, mb1mx3.7/26, mbtmp4.2/18, Error ellipse: s-maj=16.6km s-min=10.8km az=97.0*
*NEIC **16** 21:40:06.8±1.9, 21.92N×143.00E, h290km±18km, mb4.0/13, Error ellipse: s-maj=12.3km s-min=7.6km az=98.0*

ISC 16 21:40:03.3±1.2, 21.88N±0.06×143.06E±0.09, h268km±10km, n56, σ0°99/55, mb4.0/36, 1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.26	351	P	P	21 41 24.4	+1.1
	23nm,0.3s,baz=117,slow=23,SNR=21						
CBIJ				S	S	21 42 24.9	-1.0
	32nm,0.3s,baz=256,slow=23,SNR=11						
MJAR	Matsushiro Arr	15.21	345	P	P	21 43 24.9	-1.7
	0.7nm,0.3s,baz=167,slow=10,SNR=7.6						
MAJO	Matsushiro	15.21	345	*eP*	P	21 43 26.6	0.0
	4.2nm,0.5s						
MAT	Matsushiro	15.21	345	*eP*	P	21 43 26.0	-0.7
MAT				S	rx	21 45 32.0	
MAT	Matsushiro	15.21	345	P	P	21 43 26.4	-0.3
MAT				*e*S	S	21 46 10.7	+2.4
TATO	Taipei	20.03	283	P	P	21 44 28.3	+11
KS15	Wonju Array Si	20.32	323	*eP*	P	21 44 21.6	+1.6
YSS	Yuzh-Sakhalins	25.02	360	*eP*	P	21 45 04.9	+0.3
SONM	Songino Array	39.13	320	P	P	21 47 06.8	+0.4
	1.5nm,0.4s,mb3.8,baz=130,slow=7.5,SNR=55						
CMAR	Chiang Mai Arr	41.45	273	P	P	21 47 26.6	+0.8
	0.4nm,0.6s,mb2.9,baz=59,slow=6.8,SNR=6.7						
WRAB	Tennant Creek	42.42	192	*eP*	P	21 47 33.6	-0.1
	3.2nm,0.4s,mb3.9						
WB2	Warramunga Arr	42.42	192	⇓*iP*	P	21 47 33.7	0.0
WRA	Warramunga Arr	42.43	192	P	P	21 47 33.5	-0.2
	1.3nm,0.4s,mb3.5,baz=16,slow=9.7,SNR=56						
FITZ	Fitzroy Crossi	43.24	205	P	P	21 47 40.5	+0.3
	1.5nm,0.3s,mb3.7,baz=61,slow=4.1,SNR=6.4						
ASAR	Alice Springs	46.14	192	P	P	21 48 02.6	-0.4
	0.3nm,0.4s,mb3.0,baz=13,slow=7.7,SNR=9.2						
LSA	Lhasa	47.07	291	*eP*	P	21 48 11.8	+1.6
	4.8nm,0.5s,mb4.1						
BILL	Bilibino	48.37	11	*eP*	P	21 48 20.3	+0.7
	2.0nm,0.7s,mb3.6						
WMQ	Urumqi	50.38	309	P	P	21 48 33.5	-1.7
WMQ				AP	pP	21 49 38.8	+5.8
WMQ				PCP	PcP	21 49 48.5	-1.4
WMQ				XP	sP	21 50 14.1	+11
WMQ				PP	PP	21 50 33.8	-0.3
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb3.9						
WMQ				AMB	AMB		
	comp=Z,65nm,4.4s						
JIRN	Jiri	51.59	289	*eP*	P	21 48 45.1	+0.8
	comp=Z,24nm,0.6s,mb4.7						
GUN	Gumba	51.83	289	*eP*	P	21 48 46.7	+0.6
	comp=Z,8.0nm,0.4s,mb4.4						
PKI	Pulchoki	52.28	289	*eP*	P	21 48 49.4	-0.1
	comp=Z,9.6nm,0.5s,mb4.4						
KKN	Kakani	52.37	289	*eP*	P	21 48 50.3	+0.2
	comp=Z,5.5nm,0.2s,mb4.5

s-maj=114.1km s-min=28.0km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.91**	**359**	P	P	22 08 42.7	-1.7
	0.0nm,0.3s,baz=189,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**39.93**	**123**	P	P	22 12 08.3	-1.7
	0.2nm,0.7s,baz=302,slow=8.7,SNR=3.5						
SONM	**Songino Array**	**47.62**	**7**	P	P	22 13 10.1	-1.7
	0.3nm,0.4s,baz=188,slow=9.5,SNR=5.3						
BVAR	**Borovoye Array**	**57.64**	**340**	P	P	22 14 23.8	-2.6
	0.2nm,0.5s,baz=135,slow=10,SNR=2.7						

*IDC **16** 22:09:09.5±1.0, 1.11N×97.16E, mb4.0/12, mb1 4.2/13, mb1mx4.0/21, mbtmp4.0/13, ML4.3/1, MS3.3/1, Ms1 3.5/1, ms1mx2.8/31, Error ellipse: s-maj=41.6km s-min=15.1km az=53.0*

*BJI **16** 22:09:10.9, 0.78N×97.43E, h36km, mB5.1, mb4.7, Ms4.1, Msz3.8*

*NEIC **16** 22:09:14.2±0.5, 1.14N×97.27E, h30km, mb4.3/9, Error ellipse: s-maj=12.5km s-min=7.9km az=55.0*

ISC 16 22:09:13.8±1.8, 1.15N±0.08×97.28E±0.08, h40km±15km, n44, σ0=93/46, mb4.3/29, MS3.8/1, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.06**	**48**	P	P	22 10 29.8	+0.6
KULM	**Kulim**	**5.32**	**39**	*e*Pn	P	22 10 32.8	0.0
KGM	**Kluang**	**6.10**	**82**	P	P	22 10 45.1	+1.3
CM31	**Chiang Mai Arr**	**17.28**	**5**	*e*P	P	22 13 11.7	-2.1
	3.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.28**	**5**	P	P	22 13 12.5	-1.3
	0.4nm,0.3s,baz=196,slow=11,SNR=18						
CMAR				LR	LR	22 21 23.6	
	comp=Z,89nm,18.7s,baz=190,slow=42						
PALK	**Pallekele**	**17.61**	**291**	P	P	22 13 17.7	-0.2
	7.2nm,1.0s						
KKM	**Kota Kinabalu**	**19.51**	**75**	P	P	22 13 37.8	-2.9
KMI	**Kunming**	**24.41**	**12**	P	P	22 14 31.9	+2.0
KMI				AP		22 14 38.4	
KMI				XP		22 14 41.3	
KMI				S	S	22 18 50.9	+6.7
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,125nm,3.2s						
KMI				LR	LR		
	comp=N,231nm,15.2s,MS3.9						
KMI				LR	LR		
	comp=E,116nm,12.9s,MS3.9						
KMI				LR	LR		
	comp=Z,200nm,15.6s,MS3.7						
KMI	**Kunming**	**24.41**	**12**	P	P	22 14 31.9	+2.0
	comp=Z,20nm,1.0s,mb4.5						
KMI				pP		22 14 38.4	
KMI				sP		22 14 41.3	
KMI				S	S	22 18 50.9	+6.7
KMI				LR	LR		
	comp=Z,200nm,15.6s,MS3.7						
SHL	**Shillong**	**24.83**	**348**	*e*P	P	22 14 34.0	+0.1
JIRN	**Jiri**	**28.42**	**339**	*e*P	P	22 15 07.0	0.0
	comp=Z,17nm,0.9s,mb4.7						
PKI	**Pulchoki**	**28.63**	**338**	*e*P	P	22 15 08.9	0.0
GUN	**Gumba**	**28.76**	**339**	*e*P	P	22 15 10.8	+0.8
	comp=Z,45nm,1.0s,mb5.2						
DMN	**Daman**	**28.78**	**337**	*e*P	P	22 15 09.8	-0.4
	comp=Z,17nm,1.1s,mb4.7						
KKN	**Kakani**	**28.88**	**338**	*e*P	P	22 15 11.3	+0.2
	comp=Z,11nm,0.8s,mb4.7						
LSA	**Lhasa**	**28.99**	**349**	P	P	22 15 12.5	+0.5
	comp=Z,4.4nm,0.8s,mb4.2						
GKN	**Gorkha**	**29.32**	**337**	*e*P	P	22 15 15.4	+0.4
	comp=Z,6.2nm,0.4s,mb4.7						
KOLN	**Koldanda**	**29.54**	**335**	*e*P	P	22 15 17.1	+0.2
	comp=Z,10nm,0.5s,mb4.8						
ENH	**Enshi**	**31.20**	**21**	*e*P	P	22 15 30.2	-1.5
	comp=Z,7.0nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.84**	**126**	P	P	22 15 53.4	-1.3
	comp=Z,3.9nm,0.9s,mb4.3,baz=292,slow=16,SNR=4.4						
XAN	**Xi'an**	**34.49**	**17**	P	P	22 15 58.9	-1.3
XAN				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.8						
KAKA	**Kakadu**	**37.51**	**113**	*e*P	P	22 16 31.0	+5.1
	comp=Z,6.8nm,0.6s,mb4.5						
GTA	**Gaotai**	**38.15**	**3**	P	P	22 16 31.3	+0.3
GTA				AP	pP	22 16 38.3	-4.0
GTA				XP	sP	22 16 42.5	-4.9
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**41.94**	**122**	P	P	22 17 02.7	0.0
	comp=Z,2.0nm,0.6s,mb3.9,baz=301,slow=9.1,SNR=39						
WRAB	**Tennant Creek**	**41.95**	**122**	*e*P	P	22 17 02.5	-0.3
	comp=Z,4.9nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**41.95**	**122**	*e*P	P	22 17 03.0	+0.2
BJI	**Beijing**	**42.36**	**22**	*e*P	P	22 17 07.3	+1.4
BJI				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
BJI	**Beijing**	**42.36**	**22**	*e*P	P	22 17 07.3	+1.4
	comp=Z,10.0nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**43.30**	**127**	P	P	22 17 13.8	0.0
	comp=Z,1.7nm,1.0s,mb3.7,baz=308,slow=7.3,SNR=9.7						
WMQ	**Urumqi**	**43.34**	**350**	⇓P	P	22 17 15.3	+1.5
WMQ				AP	pP	22 17 25.3	+0.1
WMQ				XP	sP	22 17 29.3	-0.8
WMQ				PP	PP	22 18 58.3	+1.6
WMQ				PCP	PcP	22 19 04.3	+1.7
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,49nm,3.2s						
KS15	**Wonju Array Si**	**45.82**	**34**	*e*P	P	22 17 34.0	+0.2
AAK	**Ala-Archa**	**46.08**	**337**	*e*P	P	22 17 36.4	+0.6
	comp=Z,3.7nm,1.2s,mb4.2						
SONM	**Songino Array**	**47.17**	**8**	P	P	22 17 44.8	+0.5
	comp=Z,1.2nm,0.4s,mb4.2,baz=190,slow=9.3,SNR=21						
SONM				PcP	PcP	22 19 16.1	+0.3
	comp=Z,1.0nm,0.7s,baz=178,slow=5.0,SNR=5.3						
ULN	**Ulaanbaatar**	**47.30**	**9**	*e*P	P	22 17 45.5	+0.2
	comp=Z,1.5nm,0.6s,mb4.1						
MJAR	**Matsushiro Arr**	**51.68**	**42**	P	P	22 18 18.3	-0.8
	comp=Z,0.6nm,0.5s,mb3.8,baz=216,slow=7.8,SNR=4.5						
STKA	**Stephens Creek**	**53.27**	**132**	P	P	22 18 32.1	+1.1
	comp=Z,1.4nm,0.5s,mb4.1,baz=323,slow=10,SNR=5.7						
STKA	**Stephens Creek**	**53.27**	**132**	*e*P	P	22 18 31.6	+0.6
ZAL	**Zalesovo**	**53.61**	**351**	P	P	22 18 33.2	-0.1
	comp=Z,2.9nm,0.3s,mb4.7,baz=287,slow=5.9,SNR=18						
BVAR	**Borovoye Array**	**56.32**	**341**	P	P	22 18 51.9	-1.0
	comp=Z,1.2nm,0.6s,mb4.1,baz=140,slow=9.1,SNR=14						
BRTR	**Keskin Array B**	**69.20**	**312**	P	P	22 20 16.9	-1.7
	comp=Z,0.5nm,0.8s,mb3.5,baz=127,slow=7.2,SNR=3.2						
FINES	**FINESS Array B**	**80.08**	**332**	P	P	22 21 20.4	-0.4
	comp=Z,1.0nm,0.9s,mb3.7,baz=92,slow=4.5,SNR=9.5						
FINES	**FINESS Array B**	**80.08**	**332**	P	P	22 21 20.4	-0.4
ARCES	**ARCESS Array B**	**82.61**	**340**	P	P	22 21 34.4	+0.5
	comp=Z,2.5nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=9.7						
GERES	**GERESS Array B**	**84.90**	**319**	P	P	22 21 46.8	+0.9
	comp=Z,0.6nm,0.8s,mb3.8,baz=149,slow=7.8,SNR=3.4						

*NEIC **16** 22:23:07.4±1.2, 1.79S×99.83E, h30km, mb4.3/1, Error ellipse: s-maj=41.4km s-min=10.2km az=63.0*

*IDC **16** 22:23:09.0±2.2, 1.65S×100.04E, h34km±6km, mb3.3/6, mb1 3.6/6, mb1mx3.4/18, mbtmp3.5/6, Error ellipse: s-maj=92.4km s-min=15.8km az=57.0*

ISC 16 22:23:05.8±1.6, 1.8S±0.2×99.8E±0.3, h33km, (h34km±2.8km: pP-P), n11, σ0=74/10, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.04**	**7**	*e*P	P	22 24 50.2	+1.0
CMAR	**Chiang Mai Arr**	**20.09**	**358**	P	P	22 27 38.1	-1.4
	0.3nm,0.5s,baz=186,slow=10,SNR=3.7						
WRA	**Warramunga Arr**	**38.30**	**121**	P	P	22 30 24.7	-0.6
	1.0nm,0.4s,mb3.9,baz=303,slow=9.0,SNR=20						
WRA				pP	pP	22 30 35.0	0.0
	0.4nm,0.4s,baz=303,slow=9.1,SNR=4.5						
WRAB	**Tennant Creek**	**38.30**	**121**	*e*P	P	22 30 25.0	-0.3
	3.0nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**38.30**	**121**	*e*P	P	22 30 25.3	0.0
ASAR	**Alice Springs**	**39.56**	**126**	P	P	22 30 36.7	+0.9
	0.4nm,0.6s,mb3.3,baz=301,slow=7.8,SNR=5.8						
ASAR				pP	pP	22 30 46.1	+0.6
	1.2nm,0.8s,baz=300,slow=7.5,SNR=8.0						
SONM	**Songino Array**	**49.71**	**6**	P	P	22 31 56.5	-0.4
	0.2nm,0.4s,mb3.5,baz=181,slow=9.7,SNR=5.3						
SONM				pP	pP	22 32 08.5	+1.7
	0.2nm,0.4s,baz=187,slow=10.0,SNR=2.8						
ZAL	**Zalesovo**	**56.88**	**349**	P	P	22 32 49.7	0.0
	0.7nm,0.4s,mb4.1,baz=179,slow=2.4,SNR=4.1						
ZAL	**Zalesovo**	**56.88**	**349**	P	P	22 32 49.7	0.0
BVAR	**Borovoye Array**	**59.88**	**340**	P	P	22 33 11.5	+0.8
	0.2nm,0.3s,mb3.6,baz=141,slow=8.5,SNR=4.4						
BVAR				pP	pP	22 33 20.7	-0.1
	0.2nm,0.3s,baz=140,slow=9.1,SNR=2.5						
TXAR	**Lajitas Array**	**144.62**	**37**	PKP	PKPdf	22 42 42.0	+2.2
	0.3nm,0.5s,baz=270,slow=1.3,SNR=4.1						

GUC 16 22:32:58.2±0.6, 35.13S×70.33W, h10km, MD3.8, ML2.4, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.76**	**312**	*e*P	Pb	22 33 11.5	-1.6
SFDO				*i* S	Sb	22 33 22.2	-1.1
CICH	**Cipreses**	**0.81**	**355**	*e*P	Pb	22 33 13.0	-1.0
CICH				*i* S	Sb	22 33 24.6	-0.1
CACH	**El Canelo**	**1.04**	**348**	⇑*i*P	Pb	22 33 17.2	-0.6
CACH				*i* S	Sb	22 33 31.3	+0.1
CHCH	**Chadas Angostu**	**1.22**	**347**	*i* S	Sb	22 33 36.9	+0.2
LMEL	**Las Melosas**	**1.28**	**5**	*e*P	Pb	22 33 21.4	-0.6
LMEL				*i* S	Sb	22 33 38.5	+0.1
LMEL				AMP		22 33 40.0	
	comp=N,126nm,0.2s						
LNV	**Longovilo**	**1.47**	**322**	⇓*i*P	Pn	22 33 23.4	-1.5
LNV				*i* S	Sb	22 33 43.6	-0.3
TACH	**Talagante**	**1.56**	**341**	*i* P	Pn	22 33 26.1	-0.1
TACH				*i* S	Sb	22 33 47.1	+0.7
LCCH	**Las Cruces**	**1.94**	**328**	*e*P	Pn	22 33 32.3	+0.6
LCCH				*i* S	Sn	22 33 57.5	+1.2

*IDC **16** 22:35:09.1±1.6, 1.84S×99.85E, h29km±5km, mb3.8/7, mb1 4.0/7, mb1mx3.7/17, mbtmp4.0/7, Error ellipse: s-maj=70.9km s-min=13.7km az=56.0*

*NEIC **16** 22:35:09.2±1.1, 1.86S×99.90E, h30km, mb4.5/1, Error ellipse: s-maj=38.1km s-min=8.8km az=64.0*

ISC 16 22:35:07.4±1.4, 1.8S±0.2×100.0E±0.3, h30km, h30km±.8km: pP-P, n12, σ0=65/12, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.06**	**5**	*e*Pn	Pn	22 36 52.5	+0.9
CMAR	**Chiang Mai Arr**	**20.14**	**357**	P	P	22 39 41.5	-0.8
	0.4nm,0.6s,baz=185,slow=10,SNR=4.1						
FITZ	**Fitzroy Crossi**	**29.95**	**124**	P	P	22 41 15.0	-0.7
	5.7nm,0.9s,mb4.3,baz=178,slow=11,SNR=6.1						
FITZ				pP	pP	22 41 24.1	-0.3
	2.2nm,0.5s,baz=188,slow=15,SNR=2.4						
WRA	**Warramunga Arr**	**38.12**	**121**	P	P	22 42 26.0	+0.1
	1.9nm,0.4s,mb4.2,baz=303,slow=9.0,SNR=38						
WRA				pP	pP	22 42 35.2	+0.3
	1.4nm,0.5s,baz=303,slow=9.0,SNR=8.4						
WRAB	**Tennant Creek**	**38.13**	**121**	*e*P	P	22 42 25.3	-0.7
	4.3nm,0.5s,mb4.4						
WB2	**Warramunga Arr**	**38.13**	**121**	*e*P	P	22 42 25.7	-0.3
ASAR	**Alice Springs**	**39.40**	**126**	P	P	22 42 37.2	+0.7
	1.4nm,0.6s,mb3.9,baz=302,slow=8.0,SNR=39						
ASAR				pP	pP	22 42 46.2	+0.7
	0.8nm,0.5s,baz=306,slow=7.2,SNR=5.6						
STKA	**Stephens Creek**	**49.31**	**132**	P	P	22 43 57.2	+1.1
	1.9nm,0.7s,mb4.2,baz=296,slow=11,SNR=3.8						
SONM	**Songino Array**	**49.74**	**6**	P	P	22 43 59.1	0.0
	0.4nm,0.7s,mb3.6,baz=186,slow=7.9,SNR=5.0						
SONM				pP	pP	22 44 08.9	+0.7
	0.4nm,0.7s,baz=186,slow=8.6,SNR=3.3						
ZAL	**Zalesovo**	**56.95**	**349**	P	P	22 44 51.8	-0.6
	0.9nm,0.5s,mb4.0,baz=312,slow=8.6,SNR=4.0						
ZAL				pP	pP	22 45 00.8	-0.8
	1.1nm,0.4s,baz=299,slow=8.5,SNR=3.4						
ZAL	**Zalesovo**	**56.95**	**349**	P	P	22 44 51.8	-0.6
ZAL				pP	pP	22 45 00.8	-0.8
FINES	**FINESS Array B**	**83.91**	**332**	P	P	22 47 36.1	+0.4
	0.8nm,0.9s,mb3.9,baz=122,slow=4.7,SNR=7.0						
FINES				pP	pP	22 47 44.5	-0.7
	1.0nm,0.9s,baz=56,slow=5.0,SNR=2.0						

GUC 16 22:38:51.3±1.0, 22.61S×68.65W, h118km±9km, ML3.8, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.24**	**268**	⇑*i*P	P	22 39 08.8	+1.0
LVC				*i* S	S	22 39 21.6	+1.2
LVC				AMP		22 39 22.7	
	comp=E,4μm,0.2s						
SPCH	**San Pedro de A**	**0.51**	**126**	⇑*i*P	P	22 39 09.8	+0.6
SPCH				*i* S	S	22 39 24.3	+1.6
SPCH				AMP		22 39 25.1	
	comp=N,1μm,0.7s						
ANCH	**Antofagasta**	**1.94**	**236**	*e*P	P	22 39 26.8	+2.4
ANCH				*i* S	S	22 39 52.9	+3.6
ANCH				AMP		22 39 54.4	
	comp=E,1μm,0.2s						
CPN1	**Cerro Paranal**	**2.58**	**218**	⇑*i*P	P	22 39 33.5	+0.7
CPN1				*i* S	S	22 40 05.8	+1.8
CPN1				AMP		22 40 08.2	
	comp=E,606nm,0.2s						

*CRAAG **16** 22:41:14.3, 16.78S×69.50W, Mb5.7*

*BGS **16** 22:41:15.2, 17.65S×69.66W, h119km, mb5.4*

*MOS **16** 22:41:15.8±1.0, 17.25S×69.57W, h116km, mb5.6/48, Error ellipse: s-maj=10.9km s-min=6.0km az=111.4*

*BJI **16** 22:41:16.9, 16.71S×69.36W, h116km, mB5.6*

*NEIC **16** 22:41:16.0±0.1, 17.65S×69.66W, mb5.6/194, MW5.7, Error ellipse: s-maj=3.8km s-min=2.8km az=69.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}=1.62; $M_{\theta\theta}$=0.04; $M_{\phi\phi}$=1.67; $M_{r\theta}$=3.05; $M_{\theta\phi}$=-0.69; $M_{\phi r}$=-3.74; Best double couple: M_0=5.1×10^{17} NP1:ϕ_s=181°, δ=12°, λ=-52°. NP2:ϕ_s=322°, δ=81°, λ=-98°. Principal axes: T 5.17, Plg35°, Azm58°; N -.07, Plg7°, Azm323°; P -5.11, Plg54°, Azm223°;*

NEIC Felt [IV] at Arica, Camarones and Cuya; [III] at Camina, Huara, Pisagua and Pozo Almonte; [II] at Iquique. Also felt [IV] at Tacna and [II] at Arequipa, Peru.

*HRVD **16** 22:41:16.0±0.1, 17.77S×69.95W, h130km, MW5.8/78, Centroid moment Tensor Solution. LP body waves: s75,c171;Mantle waves: s78,c238; Half duration: 2s0 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.65±.07; $M_{\theta\theta}$=-0.97±.08; $M_{\phi\phi}$=3.62±.09; $M_{r\theta}$=3.66±.05; $M_{\theta\phi}$=-1.02±.08; $M_{\phi r}$=-3.76±.06; Best double couple: M_0=6.252×10^{17} NP1: ϕ_s=197°, δ=24°, λ=-36°. NP2:ϕ_s=320°, δ=76°, λ=-110°. Principal axes: T 6.321, Plg29°, Azm66°; N -.136, Plg19°, Azm325°; P -6.183, Plg54°, Azm206°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*IDC **16** 22:41:16.6±0.3, 17.56S×69.67W, h119km±2km, mb5.1/24, mb1 5.3/26, mb1mx5.3/26, mbtmp5.5/26, MS4.9/22, Ms1 4.9/22, ms1mx4.7/35 Error ellipse: s-maj=9.3km s-min=7.0km az=67.0*

*LDG **16** 22:41:18.4±0.5, 17.05S×69.48W, h128km, Mb5.5/38, Ms4.8/7, Error ellipse: s-maj=34.1km s-min=15.5km az=16.0*

ISC 16 22:41:14.7±0.1, 17.62S±0.02×69.70W±0.03, h119km, h119km±.6km: pP-P, n654, σ1=08/512, mb5.6/231, 93C-61D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.01**	**49**	P	P	22 41 53.7	+5.2
	682nm,0.3s,baz=230,slow=7.8,SNR=8241						
LPAZ				S	S	22 42 20.5	+6.3
	140nm,0.3s,baz=157,slow=9.0,SNR=3.4						
LPAZ	**La Paz**	**2.01**	**49**	⇑*i*P	P	22 41 53.8	+5.2
ARE	**Arequipa**	**2.06**	**304**	⇑*i*P	P	22 41 50.1	+0.8
ARE				S	S	22 42 16.0	+0.5
LVC	**Limon Verde**	**5.02**	**172**	P	P	22 42 27.7	-1.3
	642nm,0.3s,baz=345,slow=8.5,SNR=126						
LVC				S	S	22 43 21.3	-5.1
	1μm,0.3s,baz=258,slow=22,SNR=38						
LVC	**Limon Verde**	**5.02**	**172**	⇓*i*P	P	22 42 27.8	-1.3
LVC				*i* S	S	22 43 20.8	-5.5
SPCH	**San Pedro de A**	**5.45**	**165**	*e*P	P	22 42 35.0	+0.2
ANCH	**Antofagasta**	**6.07**	**186**	⇑*i*P	P	22 42 38.6	-4.5
ANCH				*e*S	S	22 43 38.6	-13
CPN1	**Cerro Paranal**	**7.00**	**185**	⇑*i*P	P	22 42 50.8	-5.2
CPN1				*e*S	S	22 44 01.6	-13
SIV	**San Ignacio**	**8.42**	**80**	P	P	22 43 14.4	-0.7
	698nm,0.3s,baz=272,slow=9.9,SNR=520						
NNA	**Nana**	**8.89**	**308**	*e*P	P	22 43 17.4	-3.9
	180nm,0.6s						
SAML	**Samuel**	**10.70**	**37**	⇑*i*P	P	22 43 44.2	-1.5
	33nm,0.6s						
TLL	**Tololo Astrono**	**12.53**	**184**	*i* P	P	22 44 08.0	-1.8
TLL				*i* S	S	22 46 16.0	-11
ZON	**Zonda**	**13.89**	**176**	*e*P	P	22 44 32.9	+5.5
ZON				*e*S	rx	22 49 22.5	
CFAA	**Coronel Fontan**	**13.99**	**175**	P	P	22 44 28.5	-0.1
	3.2nm,0.3s,baz=347,slow=13,SNR=91						
CFAA				S	S	22 47 03.0	+1.9
	0.8nm,0.3s,baz=289,slow=13,SNR=2.5						
CFAA				ScP		22 53 06.0	
	0.1nm,0.3s,baz=10,slow=1.4,SNR=3.9						
CPUP	**Villa Florida**	**14.37**	**129**	P	P	22 44 32.7	-0.9
	2.1nm,0.3s,baz=329,slow=15,SNR=58						
CPUP				S	S	22 47 10.5	+0.2
	1.5nm,0.3s,baz=327,slow=9.9,SNR=1.9						
PACH	**Papudo**	**14.94**	**186**	*e*P	P	22 44 37.5	-3.3
PEL	**Peldehue**	**15.48**	**183**	*i* P	P	22 44 45.6	-2.0
PEL				⇑*i*P		22 44 45.6	
FCH	**Farellones**	**15.65**	**182**	⇓*i*P	P	22 44 48.9	-0.9
CLCH	**Cerro Calan**	**15.73**	**183**	⇓*i*P	P	22 44 48.8	-1.9
DSCH	**Colegio Aleman**	**15.73**	**183**	*e*P	P	22 44 49.0	-1.7
LCCH	**Las Cruces**	**15.88**	**186**	⇑*i*P	P	22 44 50.2	-2.3
TACH	**Talagante**	**16.00**	**184**	*e*P	P	22 44 51.6	-2.5
LMEL	**Las Melosas**	**16.17**	**181**	⇓*i*P	P	22 44 55.1	-1.1
CHCH	**Chadas Angostu**	**16.27**	**183**	*e*P	P	22 44 55.3	-2.2
CACH	**El Canelo**	**16.45**	**183**	*i* P	P	22 44 58.4	-1.3
CICH	**Cipreses**	**16.64**	**182**	⇓*i*P	P	22 45 01.3	-0.8
SFDO	**San Fernando**	**16.96**	**184**	⇑*i*P	P	22 45 04.1	-1.9
CCHI	**Chillan**	**19.02**	**186**	⇓*i*P	P	22 45 28.7	-1.1
OTAV	**Otavalo**	**19.72**	**333**	⇑*i*P	P	22 45 37.6	+0.3
	182nm,1.1s						
OTAV				*e*S	S	22 49 23.2	+15
LPA	**La Plata**	**20.17**	**151**	*de*P	P	22 45 41.0	-0.7
LPA				*e*pP		22 46 09.0	
LPA				*e*S	S	22 49 25.0	+8.7
LPA				*e*sS		22 50 13.0	
BDFB	**Brasilia**	**20.88**	**88**	P	P	22 45 48.0	-0.9
	271nm,0.4s,baz=264,slow=8.1,SNR=216						
BDFB				S	S	22 49 37.4	+7.6
	42nm,1.0s,baz=34,slow=18,SNR=2.0						
BAO	**Brasilia Array**	**20.90**	**88**	P	P	22 45 48.0	-1.2
TRQA	**Tornquist**	**21.46**	**163**	⇓*i*P	P	22 45 53.6	-1.0
	912nm,1.3s,mb6.0						
TRQA				*e*S	S	22 49 43.0	+2.7
ROSC	**El Rosal**	**22.80**	**348**	P	P	22 46 08.1	+0.1
	10nm,0.5s,mb4.4,baz=98,slow=16,SNR=14						
ROSC				S	S	22 50 11.2	+7.0
	30nm,1.1s,baz=270,slow=22,SNR=3.3						
ROSC				ScP		22 53 26.2	
	6.1nm,0.4s,baz=266,slow=23,SNR=3.7						
ROSC				LR	LR	22 56 20.7	
	comp=Z,3μm,18.5s,baz=189,slow=40						
PLCA	**Paso Flores**	**23.04**	**182**	*e*P	P	22 46 10.2	+0.1
PLCA				pmax	pmax		
	comp=Z,2μm,1.8s						
PLCA	**Paso Flores**	**23.04**	**182**	P	P	22 46 10.3	+0.2
	comp=Z,150nm,0.6s,mb5.5,baz=358,slow=11,SNR=266						
PLCA				S	S	22 50 16.9	+8.6
	comp=Z,3.0nm,0.8s,baz=182,slow=18,SNR=1.2						
PLCA				ScP		22 53 25.9	
	comp=Z,23nm,1.2s,baz=339,slow=2.2,SNR=5.5						
PLCA	**Paso Flores**	**23.04**	**182**	*e*P	P	22 46 10.2	+0.1
	comp=Z,2μm,1.8s,mb6.2						
CAM4	**Nova Friburgo**	**25.92**	**105**	⇓*i*P	P	22 46 37.3	-0.3
CAM4				*i*		22 46 39.8	
CAM4				*i*		22 46 42.0	
SDV	**Santo Domingo**	**26.35**	**358**	P	P	22 46 39.2	-2.5
	comp=Z,21nm,0.4s,mb4.9,baz=210,slow=7.1,SNR=32						
SDV				LR	LR	22 57 13.6	
	comp=Z,3μm,21.3s,baz=201,slow=36						
SDV	**Santo Domingo**	**26.35**	**358**	*e*P	P	22 46 39.1	-2.6
	comp=Z,194nm,1.4s,mb5.3						
CAM3	**Guarapari**	**27.72**	**101**	⇓*i*P	P	22 46 53.0	-1.0
CAM3				*i*		22 46 56.1	
CAM3				*i*		22 47 00.4	
PCRV	**Puerto La Cruz**	**28.07**	**11**	P	P	22 46 56.0	-1.3
	comp=Z,16nm,0.5s,mb4.8,baz=251,slow=1.5,SNR=14						
PCRV				LR	LR	23 00 07.6	
	comp=Z,6μm,18.7s,baz=14,slow=40						
JTS	**JuntasAbangare**	**31.56**	**330**	*e*P	P	22 47 28.6	+0.4
JTS				pmax	pmax		
	comp=Z,168nm,1.4s						
JTS	**JuntasAbangare**	**31.56**	**330**	ScP		22 53 51.9	
	comp=Z,5.3nm,0.5s,baz=311,slow=18,SNR=4.4						
JTS	**JuntasAbangare**	**31.56**	**330**	*e*P	P	22 47 28.6	+0.4
	comp=Z,168nm,1.4s,mb5.6						
SVB	**Belmont**	**31.81**	**16**	*e*P	P	22 47 28.7	-1.7
SLB	**Belfond**	**32.40**	**16**	*e*P	P	22 47 34.8	-0.7
CS6B	**J

PLAL **Pickwick Lake 55.15 342** eP P **22 50 34.4 -2.8**
comp=Z,210nm,1.3s,mb6.0
TZTN **Tazewell 55.44 346** eP P **22 50 36.8 -2.5**
BLA **Blacksburg 55.46 350** eP P **22 50 38.0 -1.4**
BLA e*PP pP 22 51 07.8 -0.1
BLA pmax pmax
comp=Z,100nm,1.2s,mb5.7
BLA **Blacksburg 55.46 350** eP P **22 50 38.0 -1.4**
comp=Z,100nm,1.2s,mb5.7
BLA epP pP 22 51 07.8 0.0
ELN **Prospectdale 55.54 349** eP P **22 50 38.6 -1.3**
ELN epP pP 22 51 07.0 -1.4
MET **Memphis--Engin 55.86 340** eP P **22 50 39.2 -3.1**
FWV **Forest Hill 55.89 349** epP P **22 50 40.8 -1.7**
FWV epP pP 22 51 10.7 -0.3
JCT **Junction City 55.91 328** P P **22 50 41.9 -0.8**
JCT pmax pmax
comp=Z,77nm,1.0s,mb5.7
JCT **Junction City 55.91 328**⇓eP P **22 50 41.9 -0.8**
comp=Z,77nm,1.0s,mb5.7
JCT epP pP 22 51 10.5 -0.8
WVT **Waverly 56.14 342** P P **22 50 41.6 -2.7**
WVT pmax pmax
comp=Z,100nm,0.7s,mb6.0
WVT **Waverly 56.14 342**⇑eP P **22 50 41.5 -2.8**
comp=Z,100nm,0.6s,mb6.0
UALR **University of 56.38 338** eP P **22 50 44.4 -1.6**
comp=Z,255nm,1.1s,mb6.2
UALR epP pP 22 51 14.7 +0.2
HALT **Halls 56.39 341** eP P **22 50 43.5 -2.6**
HBAR **Harrisburg 56.49 340** eP P **22 50 44.9 -1.9**
MIAR **Mount Ida 56.63 336** P P **22 50 46.2 -1.6**
MIAR pmax pmax
comp=Z,70nm,0.7s,mb5.8
MIAR **Mount Ida 56.63 336**⇑eP P **22 50 46.1 -1.6**
comp=Z,70nm,0.7s,mb5.8
MIAR epP pP 22 51 16.9 +0.6
UTMT **University of 56.65 342** eP P **22 50 46.1 -1.7**
comp=Z,684nm,1.2s,mb6.6
GNAR **Gosnell 56.66 340**⇑eP P **22 50 46.0 -2.0**
GNAR epP pP 22 51 16.2 -0.3
GLAT **Glass 56.71 341**⇑eP P **22 50 46.2 -2.1**
PVMO **Portageville 56.97 341** eP P **22 50 47.6 -2.5**
LTX **Lajitas 57.04 324** P P **22 50 49.9 -0.8**
LTX pmax pmax
comp=Z,26nm,1.0s,mb5.2
LTX **Lajitas 57.04 324** eP P **22 50 50.0 -0.8**
comp=Z,26nm,1.0s,mb5.2
TXAR **Lajitas Array 57.04 324** P P **22 50 49.9 -0.8**
comp=Z,11nm,0.6s,mb5.1,baz=150,slow=9.4,SNR=61
TXAR pP pP 22 51 18.9 -0.4
comp=Z,8.4nm,0.7s,baz=156,slow=9.9,SNR=5.7
TXAR S S **22 58 36.0 +1.9**
comp=Z,2.0nm,1.2s,baz=135,slow=20,SNR=5.4
PARMO **Parma 57.22 341** eP P **22 50 50.3 -1.5**
PARMO epP pP 22 51 19.8 -0.7
MVL **Millersville 57.65 354** eP P **22 50 52.7 -2.1**
MVL epP pP 22 51 23.1 -0.4
WCI **Wyandotte Cave 57.70 345** P P **22 50 52.5 -2.7**
WCI pmax pmax
comp=Z,350nm,1.3s,mb6.2
WCI **Wyandotte Cave 57.70 345**⇑eP P **22 50 52.5 -2.6**
comp=Z,347nm,1.4s,mb6.2
WCI epP pP 22 51 22.7 -1.2
SSPA **Standing Stone 58.45 353** eP P **22 50 58.1 -2.3**
comp=Z,222nm,1.9s,mb5.9
FVM **French Village 58.64 341** P P **22 51 00.0 -1.8**
FVM pmax pmax
comp=Z,560nm,0.9s,mb6.6
FVM **French Village 58.64 341**⇑eP P **22 51 00.1 -1.7**
comp=Z,556nm,0.9s,mb6.6
FVM epP pP 22 51 29.2 -1.4
BLO **Bloomington 58.65 345** P P **22 50 59.2 -2.6**
BLO pmax pmax
comp=Z,260nm,1.2s,mb6.1
BLO **Bloomington 58.65 345** eP P **22 50 59.3 -2.4**
comp=Z,256nm,1.3s,mb6.1
ACSO **Alum Creek Sta 58.87 348** eP P **22 51 01.0 -2.3**
comp=Z,262nm,1.3s,mb6.1
ACSO epP pP 22 51 30.3 -1.8
WMOK **Wichita Mounta 58.95 332** P P **22 51 02.6 -1.4**
WMOK pmax pmax
comp=Z,76nm,1.3s,mb5.6
WMOK **Wichita Mounta 58.95 332**⇓eP P **22 51 02.6 -1.4**
comp=Z,76nm,1.4s,mb5.5
WMOK epP pP 22 51 32.2 -0.5
WMOK eScP 22 55 43.2
WMOK **Wichita Mounta 58.95 332** eP S **22 58 57.9 -1.0**
comp=Z,63nm,1.6s
CCM **Cathedral Cave 58.96 340** P P **22 51 02.1 -1.9**
CCM pmax pmax
comp=Z,340nm,1.1s,mb6.3
CCM **Cathedral Cave 58.96 340**⇑eP P **22 51 02.1 -1.9**
comp=Z,340nm,1.1s,mb6.3
SLM **Saint Louis 59.18 341** P P **22 51 02.8 -2.7**
SLM pmax pmax
comp=Z,90nm,0.7s,mb5.9
SLM **Saint Louis 59.18 341** eP P **22 51 03.0 -2.5**
comp=Z,90nm,0.7s,mb5.9
BRYW **Bryant College 59.26 358** eP P **22 51 01.5 -4.5**
comp=Z,437nm,1.2s,mb6.4
BRYW epP pP 22 51 32.8 -2.0
QUA2 **Belchertown 59.65 358**⇑eP P **22 51 05.9 -2.7**
comp=Z,33nm,0.9s,mb5.4
WES **Weston 59.72 359** P P **22 51 07.1 -2.0**
WES pmax pmax
comp=Z,140nm,1.2s,mb5.9
WES **Weston 59.72 359**⇑eP P **22 51 07.0 -2.2**
comp=Z,140nm,1.2s,mb5.9
ALLY **Alegheny Colle 59.76 351**⇑eP P **22 51 07.6 -1.8**
ALLY epP pP 22 51 37.7 -0.6
MNTX **Cornudas Mount 59.80 325**⇓eP P **22 51 08.4 -1.5**
comp=Z,49nm,1.1s,mb5.5
HRV **Harvard--Oak R 59.85 358** P P **22 51 08.2 -1.8**
HRV pmax pmax
comp=Z,160nm,1.2s,mb5.9
HRV **Harvard--Oak R 59.85 358**⇑eP P **22 51 08.2 -1.8**
comp=Z,164nm,1.2s,mb5.9
ERPA **Erie 60.19 351** eP P **22 51 10.1 -2.3**
comp=Z,125nm,0.6s,mb6.1
ERPA epP pP 22 51 39.3 -2.0
AMTX **Amarillo 60.41 330** eP P **22 51 12.7 -1.2**
comp=Z,29nm,0.5s,mb5.6
AMTX epP pP 22 51 42.1 -0.8
GENY **Geneseo 60.55 353**⇑eP P **22 51 13.0 -1.8**
GENY epP pP 22 51 43.5 -0.3
ACCN **Adirondack Com 60.81 357**⇑eP P **22 51 14.8 -1.8**
FFD **Franklin Falls 60.81 358** eP P **22 51 10.3 -6.3**
comp=Z,71nm,0.8s,mb5.8
RKT **Rikitea 61.00 253** eP P **22 51 18.0 -0.1**
comp=Z,232nm,1.3s,mb6.1
RKT epP pP 22 51 44.5 -2.6
comp=Z,145nm,1.1s
RKT **Rikitea 61.00 253** eLQ 23 06 54.3
RKT eLR LR 23 09 21.9
comp=Z,2μm,25.8s,baz=103
HNH **Hanover 61.07 358**⇓eP P **22 51 17.1 -1.2**
comp=Z,30nm,1.8s,mb5.0
NCB **Newcomb 61.43 356**⇑eP P **22 51 18.8 -1.9**
comp=Z,26nm,0.8s,mb5.3
KSU1 **Kansas State U 61.79 336**⇑eP P **22 51 21.7 -1.5**
WVL **Waterville 61.88 0** eP P **22 51 22.2 -1.6**
comp=Z,312nm,1.3s,mb6.2
WVL epP pP 22 51 55.1 +2.3
EMMW **East Machias 62.06 2**⇑eP P **22 51 23.3 -1.6**
comp=Z,484nm,1.3s,mb6.4
MSNY **Massena 62.49 356** eP P **22 51 25.9 -1.9**
SADO **Sadowa 62.68 352** LR LR 23 20 07.2
comp=Z,708nm,21.2s,baz=309,slow=37
CBKS **Cedar Bluff 62.79 334** P P **22 51 29.6 -0.3**
CBKS pmax pmax
comp=Z,270nm,1.2s,mb6.0
CBKS **Cedar Bluff 62.79 334** eP P **22 51 29.0 -0.9**
comp=Z,270nm,1.2s,mb6.0
CBKS epP pP 22 51 57.7 -1.3
CBKS esP sP 22 52 09.7 -2.4
CBKS **Cedar Bluff 62.79 334** P S **22 59 49.8 +2.2**
comp=Z,124nm,1.5s
ANMO **Albuquerque 62.87 326** P P **22 51 30.2 -0.2**
ANMO pmax pmax
comp=Z,69nm,1.5s
ANMO **Albuquerque 62.87 326** P P **22 51 30.2 -0.2**
comp=Z,7.2nm,0.4s,mb4.9,baz=133,slow=7.1,SNR=30
ANMO pP pP 22 51 59.1 -0.4
comp=Z,5.2nm,0.5s,baz=139,slow=10,SNR=3.2
ANMO LR LR 23 20 33.7
comp=Z,326nm,18.1s,baz=65,slow=38
ANMO **Albuquerque 62.87 326**⇓eP P **22 51 30.1 -0.3**
comp=Z,69nm,1.5s,mb5.4
ANMO epP pP 22 51 58.5 -1.0
TUC **Tucson 63.34 321** P P **22 51 33.3 -0.3**
TUC pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
TUC **Tucson 63.34 321**⇓eP P **22 51 33.2 -0.4**
comp=Z,9.7nm,0.8s,mb4.8
TUC epP pP 22 52 02.2 -0.6
VNA3 **Neumayer Olymp 63.97 162**⇓iP P **22 51 37.4 +0.3**
VNA1 **Neumayer--Stat 64.17 161**⇓iP P **22 51 39.0 +0.6**
VNA2 **Neumayer--Watz 64.54 161**⇓iP P **22 51 40.8 0.0**
SDCO **Great Sand Dun 64.55 329** eP P **22 51 41.5 +0.1**
comp=Z,72nm,1.0s,mb5.5
SDCO epP pP 22 52 10.1 -0.5
WUAZ **Wupatki 65.97 324** eP P **22 51 51.2 +0.6**
comp=Z,125nm,1.4s,mb5.5
WUAZ epP pP 22 52 19.4 -0.6
RW3 **Ridgway 66.03 328** P P **22 51 51.4 +0.5**
RW3 **Ridgway 66.03 328** eP P **22 51 51.3 +0.4**
RW3 epP pP 22 52 19.6 -0.6
SNAA **Sanae 66.17 161**⇓iP P **22 51 50.6 -0.7**
SNAA **Sanae 66.17 161** P P **22 51 50.7 -0.6**
SNAA pmax pmax
comp=Z,290nm,1.4s
ISCO **Idaho Springs 66.22 330** P P **22 51 52.4 +0.3**
ISCO pmax pmax
comp=Z,33nm,1.0s,mb5.1
ISCO **Idaho Springs 66.22 330**⇓eP P **22 51 52.4 +0.3**
comp=Z,33nm,1.0s,mb5.1
ISCO epP pP 22 52 21.1 -0.3
PV01 **Paradox Valley 66.39 327**⇓eP P **22 51 53.7 +0.5**
PV01 epP pP 22 52 22.4 -0.1
PV10 **Paradox Valley 66.81 327**⇑eP P **22 51 55.8 0.0**
BAR **Barrett 67.22 318** eP P **22 51 58.9 +0.4**
BAR epP pP 22 52 27.8 -0.1
PHWY **Pilot Hill 67.34 332** eP P **22 51 59.0 -0.1**
PHWY epP pP 22 52 27.9 -0.6
CHIE **El Hierro 67.41 49** P P **22 51 59.6 -0.1**
comp=Z,91nm,0.9s,mb5.6
PFO **Pinyon Flat Ob 67.69 319** P P **22 52 01.9 +0.5**
PFO pmax pmax
comp=Z,18nm,0.8s,mb5.0
PFO **Pinyon Flat Ob 67.69 319**⇓eP P **22 52 02.0 +0.5**
comp=Z,18nm,0.8s,mb5.0
PFO epP pP 22 52 31.0 +0.1
LDFC **Landfair 67.85 321** eP P **22 52 03.4 +1.0**
EYMN **Ely 68.12 344** eP P **22 52 02.3 -1.5**
comp=Z,191nm,1.1s,mb5.8
SRU **San Rafael 68.13 327** P P **22 52 04.4 +0.4**
SRU **San Rafael 68.13 327**⇓eP P **22 52 04.3 +0.3**
SRU epP pP 22 52 32.2 -1.3
EGOM **La Gomera 68.20 49** P P **22 52 03.7 -1.0**
comp=Z,358nm,0.8s,mb6.2
DBIC **Dimbokro 68.41 75** P P **22 52 05.6 -0.6**
DBIC pmax pmax
comp=Z,360nm,0.8s
DBIC **Dimbokro 68.41 75** P P **22 52 05.5 -0.6**
comp=Z,293nm,0.7s,mb6.2,baz=226,slow=6.6,SNR=276
DBIC pP pP 22 52 36.3 +0.6
comp=Z,152nm,0.7s,baz=225,slow=6.0,SNR=5.6
DBIC S S 23 00 57.0 +0.5
comp=Z,38nm,1.2s,baz=215,slow=9.3,SNR=4.5
DBIC LR LR 23 21 28.9
comp=Z,1μm,18.4s,baz=223,slow=35
DBIC **Dimbokro 68.41 75**⇑eP P **22 52 05.6 -0.6**
comp=Z,360nm,0.8s,mb6.2
DBIC epP pP 22 52 36.8 +1.1
RWWY **Rawlins 68.45 331**⇓eP P **22 52 06.4 +0.5**
comp=Z,280nm,1.7s,mb5.8
RWWY pP pP 22 52 32.9 -2.6
MSU **Marysvale 68.58 325**⇓eP P **22 52 07.8 +1.0**
MSU epP pP 22 52 37.7 +1.4
MVU **Marysvale 68.59 325**⇓eP P **22 52 08.0 +1.1**
comp=Z,36nm,0.8s,mb5.3
MVU epP pP 22 52 37.4 +1.0
TMUT **Trail Mountain 68.63 326**⇓eP P **22 52 07.8 +0.7**
CCAN **Las Canadas 68.67 49** P P **22 52 07.2 -0.3**
comp=Z,43nm,0.8s,mb5.3
ARUT **Antelope Range 68.76 324**⇓eP P **22 52 09.2 +1.3**
ARUT epP pP 22 52 37.8 +0.3
RSSD **Black Hills 68.99 334** P P **22 52 09.6 +0.4**
RSSD pmax pmax
comp=Z,36nm,0.8s,mb5.2
RSSD **Black Hills 68.99 334**⇓eP P **22 52 09.6 +0.3**
comp=Z,36nm,0.8s,mb5.2
RSSD epP pP 22 52 38.6 -0.2
EBAJ **Bajamar 69.04 49** P P **22 52 09.2 -0.6**
comp=Z,255nm,1.1s,mb6.0
MWC **Mount Wilson 69.10 318** P P **22 52 10.7 +0.6**
MWC **Mount Wilson 69.10 318** eP P **22 52 10.8 +0.7**
MWC epP pP 22 52 39.3 -0.4
EOSO **Osorio 69.35 50** P P **22 52 12.4 +0.7**
comp=Z,516nm,1.7s,mb6.1
MPU **Maple Canyon 69.38 327**⇓eP P **22 52 12.3 +0.6**
DAU **Daniels Canyon 69.47 327** eP P **22 52 13.0 +0.8**
DAU epP pP 22 52 42.2 +0.4
NLU **North Lily Min 69.56 326**⇓eP P **22 52 13.7 +0.9**
NLU epP pP 22 52 42.3 -0.2
JLU **Jordanelle 69.71 327**⇓eP P **22 52 14.6 +0.9**
JLU epP pP 22 52 43.7 +0.4
CTU **Camp Tracy 69.93 327** eP P **22 52 15.8 +0.8**
CTU epP pP 22 52 43.2 -1.5
TCUT **Toone Canyon 70.07 328** eP P **22 52 15.4 -0.4**
DUG **Dugway 70.13 326**⇓eP P **22 52 17.1 +0.8**
comp=Z,128nm,1.4s,mb5.6
DUG epP pP 22 52 46.0 +0.1
DAC **Darwin (Calif) 70.15 320** P P **22 52 17.9 +1.5**
DAC pmax pmax
comp=Z,44nm,1.0s,mb5.2
DAC **Darwin (Calif) 70.15 320** eP P **22 52 17.9 +1.4**
comp=Z,44nm,1.0s,mb5.2
DAC epP pP 22 52 46.3 +0.2
TRCR **Troy Canyon 70.36 323** eP P **22 52 19.1 +1.4**
TRCR epP pP 22 52 48.0 +0.6
PDAR **Pinedale Array 70.39 330** P P **22 52 17.5 -0.3**
comp=Z,9.1nm,0.5s,mb4.9,baz=126,slow=7.7,SNR=61
PDAR pP pP 22 52 47.1 -0.4
comp=Z,12nm,0.7s,baz=129,slow=8.2,SNR=5.1
CFTV **Fuerteventura 70.61 50** P P **22 52 18.8 -0.6**
comp=Z,39nm,0.8s,mb5.3
MAIT **Maitri 70.68 160**⇓iP P **22 52 19.3 +0.3**
NVL **N'lazarevskaya 70.71 160**⇓iP P **22 52 15.5 -3.7**
NVL i *PP pP 22 52 46.9 -2.0
NVL i 22 54 59.4
NVL eS S 23 01 19.3 -3.1
NVL i 23 02 10.3
NVL eSS SS 23 06 01.6 +2.9
NVL pmax pmax
comp=Z,402nm,2.1s,mb5.9
SPUT **South Promonto 70.75 327**⇓eP P **22 52 20.3 +0.4**
SPUT epP pP 22 52 49.5 -0.2
BGU **Big Grassy Mou 70.77 327**⇓eP P **22 52 20.4 +0.4**
BGU epP pP 22 52 49.4 -0.4
TPH **Tonopah 71.12 322** P P **22 52 23.2 +1.0**
TPH pmax pmax
comp=Z,70nm,1.3s,mb5.3
TPH **Tonopah 71.12 322** eP P **22 52 23.1 +0.9**
comp=Z,70nm,1.3s,mb5.3
TPH epP pP 22 52 49.7 -2.3
AHID **Auburn Hatcher 71.14 329** eP P **22 52 21.6 -0.6**
comp=Z,18nm,0.6s,mb5.1
AHID epP pP 22 52 51.4 -0.6
HVU **Hansel Valley 71.25 327** P P **22 52 23.0 +0.1**
HVU **Hansel Valley 71.25 327** eP P **22 52 23.2 +0.3**
HVU epP pP 22 52 51.1 -1.6
EFAM **Famara 71.41 50** P P **22 52 24.4 +0.3**
comp=Z,125nm,0.8s,mb5.8
ULM **Lac du Bonnet 71.41 343** P P **22 52 22.5 -1.2**
comp=Z,48nm,0.5s,mb5.6,baz=153,slow=5.9,SNR=75
ULM pP pP 22 52 53.8 +0.3
comp=Z,60nm,0.7s,baz=157,slow=5.9,SNR=5.3
ULM S S 23 01 29.0 -1.7
comp=Z,9.3nm,1.0s,baz=331,slow=16,SNR=10
ULM LR LR 23 25 40.1
comp=Z,348nm,19.3s,baz=177,slow=37
ULM **Lac du Bonnet 71.41 343** eP P **22 52 22.6 -1.1**
comp=Z,62nm,0.6s,mb5.6
ULM epP pP 22 52 52.7 -0.8
MTUM **Tungsten Hills 71.44 321**⇓eP P **22 52 25.1 +1.0**
MTUM epP pP 22 52 54.3 +0.4
REDW **Red Top Meadow 71.46 330** eP P **22 52 23.6 -0.5**
comp=Z,78nm,1.3s,mb5.4
REDW epP pP 22 52 53.6 -0.4
SNOW **Snow King Moun 71.49 330** eP P **22 52 23.7 -0.6**
comp=Z,25nm,0.7s,mb5.2
LOHW **Long Hollow 71.53 330** eP P **22 52 24.8 +0.3**
comp=Z,24nm,0.7s,mb5.1
LOHW epP pP 22 52 53.3 -1.0
WUWY **Wally Ulrich 71.54 330**⇓eP P **22 52 25.2 +0.6**
TPAW **Teton Pass 71.61 330**⇓eP P **22 52 25.6 +0.6**
comp=Z,38nm,0.9s,mb5.2
TPAW epP pP 22 52 51.7 -3.1
PMPS **Porto Santo 71.67 45** eP P **22 52 25.6 0.0**
comp=Z,538nm,1.7s,mb6.1
RRI2 **Red Ridge 71.68 329** eP P **22 52 26.2 +0.8**
comp=Z,96nm,1.0s,mb5.6
RRI2 epP pP 22 52 54.9 -0.4
MOOW **Moose Ponds 71.70 330** eP P **22 52 25.8 +0.3**
comp=Z,66nm,1.4s,mb5.3
MOOW epP pP 22 52 54.8 -0.6
ELK **Elko 71.82 325** P P **22 52 27.0 +0.7**
ELK pmax pmax
comp=Z,85nm,1.4s
ELK **Elko 71.82 325** eP P **22 52 27.0 +0.6**
comp=Z,86nm,1.5s,mb5.4
ELK epP pP 22 52 55.7 -0.4
OMM **Old Mammoth Mi 71.88 321** eP P **22 52 28.1 +1.3**
OMM epP pP 22 52 56.5 0.0
IMW **Indian Meadow 71.91 330** eP P **22 52 27.7 +0.9**
comp=Z,22nm,0.6s,mb5.2
IMW epP pP 22 52 56.2 -0.5
MNV **Mina 71.91 322** P P **22 52 27.6 +0.7**
MNV pmax pmax
comp=Z,41nm,1.3s,mb5.1
MNV **Mina 71.91 322**⇓eP P **22 52 27.5 +0.6**
comp=Z,41nm,1.3s,mb5.1
LAO **LASA Array 71.98 334** eP P **22 52 26.2 -0.9**
comp=Z,91nm,1.0s,mb5.6
LAO epP pP 22 52 56.2 -0.8
NVAR **Mina Array Bea 72.00 322** P P **22 52 28.4 +1.1**
comp=Z,17nm,0.9s,mb4.9,baz=153,slow=6.6,SNR=86
NVAR pP pP 22 52 57.3 +0.1
comp=Z,15nm,0.8s,baz=148,slow=7.1,SNR=6.0
LKWY **Lake 72.16 331** P P **22 52 30.2 +2.0**
LKWY pmax pmax
comp=Z,54nm,1.0s,mb5.3
LKWY **Lake 72.16 331**⇓eP P **22 52 30.1 +1.9**
comp=Z,54nm,1.0s,mb5.3
LKWY epP pP 22 52 58.0 -0.1
SCHQ **Schefferville 72.20 2** P P **22 52 27.1 -1.3**
comp=Z,41nm,0.7s,mb5.3,baz=185,slow=4.5,SNR=50
SCHQ pP pP 22 52 59.1 +0.9
comp=Z,13nm,0.6s,baz=184,slow=5.7,SNR=2.5
SCHQ **Schefferville 72.20 2**⇑eP P **22 52 27.2 -1.1**
comp=Z,134nm,1.1s,mb5.7
SCHQ epP pP 22 52 57.4 -0.8
YFT **Old Faithful 72.27 330** eP P **22 52 30.3 +1.3**
LRV **Little Rabbit 72.37 319** eP P **22 52 29.9 +0.3**
LRV epP pP 22 52 58.1 -1.4
YNR **Norris Junctio 72.40 331**⇑eP P **22 52 31.5 +1.9**
YMR **Madison River 72.50 330** eP P **22 52 31.4 +1.2**
QSPA **South Pole Qui 72.55 180**⇓iP P **22 52 30.6 +0.7**
comp=Z,113nm,0.8s,mb5.8
GCMT **Greycliff 72.75 332** eP P **22 52 32.0 +0.3**
GCMT epP pP 22 53 01.5 -0.1
QLMT **Earthquake Lak 72.84 330**⇓eP P **22 52 33.8 +1.6**
QLMT epP pP 22 53 02.7 +0.5
SAO **San Andreas Ge 72.85 319** P P **22 52 33.8 +1.3**
SAO pmax pmax
comp=Z,41nm,1.2s,mb5.1
SAO **San Andreas Ge 72.85 319**⇑eP P **22 52 33.6 +1.2**
comp=Z,41nm,1.3s,mb5.1
CMB **Columbia Colle 72.99 320** P P **22 52 33.8 +0.5**
CMB pmax pmax
comp=Z,52nm,1.3s,mb5.2
CMB **Columbia Colle 72.99 320** eP P **22 52 33.5 +0.2**
comp=Z,52nm,1.4s,mb5.2
HLID **Hailey 73.38 328**⇓eP P **22 52 36.5 +1.0**
comp=Z,59nm,1.3s,mb5.3
HLID epP pP 22 53 04.9 -0.5
WCN **Washoe City 73.42 322** P P **22 52 37.4 +1.6**
WCN pmax pmax
comp=Z,41nm,1.2s,mb5.1
WCN **Washoe City 73.42 322** eP P **22 52 37.3 +1.5**
comp=Z,41nm,1.2s,mb5.1
PAHR **Pah Rah Range 73.47 322** eP P **22 52 37.0 +1.0**
comp=Z,42nm,1.0s,mb5.2
PAHR epP pP 22 53 06.2 +0.2
MCMT **McKenzie Canyo 73.52 330** eP P **22 52 37.3 +1.1**
BOZ **Bozeman (W) 73.54 331** eP P **22 52 36.8 +0.5**
BOZ pmax pmax
comp=Z,110nm,1.6s,mb5.3
BOZ **Bozeman (W) 73.54 331**⇑eP P **22 52 36.7 +0.4**
comp=Z,106nm,1.6s,mb5.3
MEH **Mehetia 74.04 256** eP P **22 52 40.8 +1.0**
comp=Z,146nm,1.3s,mb5.5
MEH epP pP 22 53 08.6 -1.2
comp=Z,110nm,1.3s
TBI **Tubuai 74.07 250** eP P **22 52 40.8 +0.9**
comp=Z,188nm,1.0s,mb5.8
TBI epP pP 22 53 08.8 -1.1
comp=Z,228nm,1.0s
TBI ePP PP 22 55 15.3 -13
TBI eLQ 23 12 15.2
TBI eLR LR 23 15 25.8
comp=Z,2μm,37.2s,baz=102
VAH **Vaihoa 74.27 259** eP P **22 52 42.2 +1.1**
comp=Z,431nm,1.1s,mb6.1
VAH epP pP 22 53 10.0 -1.2
comp=Z,338nm,1.5s
HRY **Holter Researc 74.43 331** eP P **22 52 41.9 +0.4**
HRY epP pP 22 53 11.5 -0.1
PMOR **Pomariorio Ree 74.57 259** eP P **22 52 44.1 +1.2**
comp=Z,279nm,1.1s,mb5.9
PMOR epP pP 22 53 12.0 -1.0
comp=Z,113nm,0.9s
NSHM **Saint Helena R 74.66 320** eP P **22 52 44.0 +1.1**
NSHM epP pP 22 53 13.5 +0.5
WVOR **Wild Horse Val 74.84 325** P P **22 52 44.5 +0.6**
WVOR pmax pmax
comp=Z,60nm,1.5s,mb5.1
WVOR **Wild Horse Val 74.84 325** eP P **22 52 44.4 +0.6**
comp=Z,60nm,1.5s,mb5.1
TVO **Taravao 75.16 256** eP P **22 52 47.5 +1.4**
comp=Z,420nm,1.5s,mb6.0
TVO epP pP 22 53 15.4 -0.9
comp=Z,286nm,1.3s
CHMT **Chamberlain Mo 75.24 331**⇓eP P **22 52 47.0 +0.9**
CHMT epP pP 22 53 16.4 +0.3
TIAR **Tiarei 75.30 256** eP P **22 52 48.0 +1.1**
comp=Z,79nm,1.0s,mb5.4
LBCM **Butte Creek Ri 75.34 322** P P **22 52 47.4 +0.6**
MOD **Modoc 75.42 323** eP P **22 52 47.4 +0.2**
comp=Z,56nm,0.8s,mb5.3
MOD epP pP 22 53 18.7 +1.4
PAE **Paea 75.49 256** eP P **22 52 49.3 +1.3**
comp=Z,326nm,1.2s,mb5.9
PAE epP pP 22 53 17.2 -1.0
comp=Z,248nm,1.4s
MSO **Missoula 75.50 330** eP P **22 52 48.5 +1.0**
comp=Z,83nm,1.6s,mb5.2
MSO epP pP 22 53 18.4 +0.7
PPT **Papeete 75.51 256** eP P **22 52 49.5 +1.4**
comp=Z,192nm,1.5s,mb5.6
PPT epP pP 22 53 17.8 -0.5
comp=Z,99nm,1.5s
PPT ePP PP 22 55 33.1 -7.4
PPT eLQ 23 13 05.0
PPT eLR LR 23 15 56.4
comp=Z,672nm,21.5s,baz=114
PPT **Papeete 75.51 256** P P **22 52 48.9 +0.7**
comp=Z,17nm,0.3s,mb5.2,baz=57,slow=4.9,SNR=8.5
PPT LR LR 23 19 47.1
comp=Z,674nm,18.1s,baz=4.4,slow=31
BMO **Blue Mountains 75.76 327** P P **22 52 49.9 +0.9**
BMO pmax pmax
comp=Z,32nm,0.8s,mb5.1
BMO **Blue Mountains 75.76 327**⇓eP P **22 52 49.8 +0.8**
comp=Z,32nm,0.8s,mb5.1
BMO epP pP 22 53 17.7 -1.5
WDC **Whiskeytown Da 75.89 321** P P **22 52 48.9 -0.9**
WDC pmax pmax
comp=Z,21nm,0.7s,mb5.0
WDC **Whiskeytown Da 75.89 321**⇓eP P **22 52 48.8 -1.0**
comp=Z,21nm,0.7s,mb5.0
WDC epP pP 22 53 18.4 -1.6
HOG **Hogback Mounta 76.44 323** P P **22 52 54.3 +1.3**

YBH Yreka Blue Hor 76.70 322 P **P 22 52 54.6 +0.2**
YBH pmax pmax
comp=Z,15nm,0.8s
YBH Yreka Blue Hor 76.70 322 P **P 22 52 54.5 +0.1**
comp=Z,14nm,1.0s,mb4.6,baz=137,slow=4.4,SNR=15
YBH pP pP 22 53 24.8 +0.2
comp=Z,10nm,0.6s,baz=15,slow=3.1,SNR=4.4
YBH LR LR 23 24 50.7
comp=Z,321nm,20.5s,baz=131,slow=34
YBH Yreka Blue Hor 76.70 322 *eP* **P 22 52 54.0 -0.4**
comp=Z,15nm,0.8s,mb4.8
YBH *ep*P pP 22 53 22.1 -2.6
WALA Waterton Lakes 77.11 332⇓*eP* **P 22 52 56.9 +0.4**
comp=Z,35nm,1.0s,mb5.0
WALA *ep*P pP 22 53 25.6 -1.2
KRMB Red Mountain 77.28 321 *eP* **P 22 52 58.7 +1.1**
KRMB *ep*P pP 22 53 28.6 +0.7
VIPM Ingram Point 77.29 325 P **P 22 52 59.2 +1.6**
HUMO Hull Mountain 77.39 323 *eP* **P 22 52 57.9 -0.3**
comp=Z,9.8nm,0.6s,mb4.7
HUMO *ep*P pP 22 53 28.4 0.0
BBOR Butler Butte 77.41 323 P **P 22 52 58.1 -0.1**
HBO Huckleberry Mo 77.80 324 P **P 22 53 01.6 +1.1**
H2OWA Water 77.90 327 P **P 22 53 02.5 +1.6**
HAWA Hanford 77.96 327⇓*eP* **P 22 53 02.3 +1.1**
comp=Z,15nm,1.8s,mb4.4
HAWA *ep*P pP 22 53 31.8 +0.3
NEW Newport 78.03 330 P **P 22 53 02.2 +0.6**
NEW pmax pmax
comp=Z,12nm,0.8s
NEW Newport 78.03 330 P **P 22 53 01.8 +0.2**
comp=Z,4.7nm,0.6s,mb4.4,baz=171,slow=5.2,SNR=7.5
NEW pP pP 22 53 33.1 +1.2
comp=Z,11nm,0.7s,baz=90,slow=5.1,SNR=3.2
NEW LR LR 23 29 24.1
comp=Z,371nm,18.1s,baz=129,slow=37
NEW Newport 78.03 330 *eP* **P 22 53 01.9 +0.3**
comp=Z,12nm,0.8s,mb4.7
NEW *ep*P pP 22 53 30.3 -1.6
FCC Fort Churchill 78.70 347 P **P 22 53 05.0 0.0**
FCC pmax pmax
comp=Z,54nm,1.0s,mb5.3
FCC Fort Churchill 78.70 347⇑*eP* **P 22 53 05.0 -0.1**
comp=Z,54nm,1.0s,mb5.3
FCC Fort Churchill 78.70 347 *eP* S 23 02 51.0 +0.1
PTEO Sao Teotonio 79.33 45 *eP* **P 22 53 09.9 +1.0**
comp=Z,741nm,1.4s,mb6.3
PTEO *ep*P pP 22 53 39.8 +0.6
PTEO *es*P sP 22 53 55.1 +2.7
SBA Scott Base 79.49 190 P **P 22 53 10.4 +1.4**
SBA pmax pmax
comp=Z,170nm,1.3s,mb5.7
SBA Scott Base 79.49 190⇓*eP* **P 22 53 10.4 +1.4**
comp=Z,173nm,1.4s,mb5.7
PLOU Loures 79.76 44 *eP* **P 22 53 11.8 +0.6**
comp=Z,174nm,1.5s,mb5.7
EDM Edmonton 79.95 335 P **P 22 53 11.4 -0.5**
EDM Edmonton 79.95 335⇑*iP* **P 22 53 11.2 -0.7**
EDM *ep*P pP 22 53 41.4 -0.8
PALC Alcoutim 80.13 46 *eP* **P 22 53 14.3 +1.1**
comp=Z,229nm,1.6s,mb5.8
PALC *ep*P pP 22 53 46.4 +2.8
PALC *es*P sP 22 53 59.0 +2.2
PBEJ Beja 80.16 45 *eP* **P 22 53 14.2 +0.8**
comp=Z,171nm,1.4s,mb5.7
PBEJ *ep*P pP 22 53 46.1 +2.4
PBEJ *es*P sP 22 53 58.5 +1.6
EGRO El Granado 80.16 46 P **P 22 53 14.3 +0.9**
comp=Z,328nm,1.7s,mb5.9
EVO Evora 80.33 44⇑*iP* **P 22 53 14.6 +0.4**
comp=Z,597nm,1.4s,mb5.9
EVO *e*R
comp=Z,997nm,22.0s
SYO Syowa Base 80.38 160 ⇑P **P 22 53 13.5 -0.4**
SYO Syowa Base 80.38 160 ⇓PcP PcP 22 53 19.4 -1.5
SYO Syowa Base 80.38 160 ⇓pP pP 22 53 39.9 -4.4
VNDA Vanda 80.52 190 P **P 22 53 15.8 +1.2**
comp=Z,50nm,1.1s,mb5.2,baz=138,slow=4.6,SNR=98
VNDA pP pP 22 53 45.0 0.0
comp=Z,12nm,0.9s,baz=137,slow=5.1,SNR=2.5
VNDA LR LR 23 26 15.5
comp=Z,204nm,18.3s,baz=134,slow=34
VNDA Vanda 80.52 190 P **P 22 53 15.8 +1.2**
VNDA pP pP 22 53 45.0 0.0
VNDA LR LR 23 26 15.5
PTOM Tomar 80.63 43 *eP* **P 22 53 16.4 +0.6**
comp=Z,317nm,1.6s,mb5.9
PTOM *ep*P pP 22 53 48.3 +2.0
EMIN Mina Concepcio 80.84 46 P **P 22 53 17.9 +0.9**
comp=Z,522nm,1.6s,mb6.1
ESPR Espera 80.95 47 P **P 22 53 18.6 +1.1**
comp=Z,695nm,1.9s,mb6.2
EBAD Badajoz 81.11 45 P **P 22 53 19.2 +0.9**
comp=Z,877nm,2.4s,mb6.2
SUR Sutherland 81.19 121 *eP* **P 22 53 20.3 +1.4**
comp=Z,234nm,1.8s,mb5.7
PCBR Castelo Branco 81.36 44 *eP* **P 22 53 19.7 0.0**
comp=Z,94nm,1.2s,mb5.5
PCBR *ep*P pP 22 53 51.5 +1.4
PGC Sidney 81.44 327 *eP* **P 22 53 20.8 +0.9**
comp=Z,257nm,1.2s,mb5.9
PGC *ep*P pP 22 53 50.3 0.0
PVIS Viseu 81.55 43 *eP* **P 22 53 20.8 +0.2**
comp=Z,161nm,1.7s,mb5.6
PVIS *ep*P pP 22 53 52.5 +1.4
PVIS *es*P sP 22 54 04.8 +0.5
EMIJ Mijas 81.55 47 P **P 22 53 20.9 +0.1**
comp=Z,104nm,1.0s,mb5.6
MTE Manteigas 81.61 43 *iP* **P 22 53 21.5 +0.6**
comp=Z,148nm,1.0s,mb5.8
MTE *ep*P pP 22 53 51.7 +0.3
MTE *e*S S 23 03 26.0 +4.4
MTE Manteigas 81.61 43⇑*eP* **P 22 53 21.2 +0.2**
comp=Z,97nm,1.1s,mb5.5
EZAM Zamans 81.80 41 P **P 22 53 22.2 +0.3**
comp=Z,30nm,0.7s,mb5.2
TSUM Tsumeb 81.89 108⇑*eP* **P 22 53 23.5 +0.7**
comp=Z,53nm,0.9s,mb5.4
PVRL Vila Real 81.96 42 *eP* **P 22 53 23.3 +0.6**
comp=Z,153nm,1.5s,mb5.6
PVRL *ep*P pP 22 53 55.2 +2.0
ELOB Lobios 82.05 42 P **P 22 53 23.6 +0.4**
comp=Z,527nm,1.9s,mb6.0
EMAZ Mazaricos 82.06 40 P **P 22 53 23.4 +0.2**
comp=Z,724nm,2.4s,mb6.1
ELOJ Sierra Loja 82.27 47 P **P 22 53 25.8 +1.4**
comp=Z,72nm,0.7s,mb5.6
STS Santiago 82.29 41 P **P 22 53 25.3 +0.9**
comp=Z,44nm,0.8s,mb5.3
ELUQ Luque 82.39 47 P **P 22 53 26.3 +1.3**
comp=Z,51nm,0.7s,mb5.5
ERON Agron 82.45 47 P **P 22 53 27.0 +1.7**
comp=Z,41nm,0.8s,mb5.3
EADA Adamuz 82.47 46 P **P 22 53 26.0 +0.5**
comp=Z,586nm,2.1s,mb6.0
ECOG Cogollos-Vega 82.74 47 P **P 22 53 28.4 +1.6**
comp=Z,25nm,0.6s,mb5.2
PBRG Braganca 82.86 42 *eP* **P 22 53 27.9 +0.6**
comp=Z,234nm,1.8s,mb5.7
PBRG *ep*P pP 22 54 00.0 +2.1
ERUA La Rua 82.91 41 P **P 22 53 28.3 +0.8**
comp=Z,414nm,1.5s,mb6.0
ECAL Calabor 82.93 42 P **P 22 53 29.1 +1.4**
comp=Z,954nm,2.1s,mb6.3
EBER Berja 83.04 48 P **P 22 53 29.4 +1.0**
comp=Z,1µm,2.6s,mb6.2
EPON Pontenova 83.39 41 P **P 22 53 30.5 +0.5**
comp=Z,1µm,2.1s,mb6.3
ENIJ Nijar 83.56 48 P **P 22 53 31.2 +0.2**
comp=Z,78nm,0.6s,mb5.7
ESDC Sonseca Array 83.62 45 P **P 22 53 32.1 +0.9**
comp=Z,16nm,0.6s,mb5.0,baz=251,slow=5.2,SNR=118
ESDC pP pP 22 54 02.7 +0.9
comp=Z,4.0nm,0.6s,baz=256,slow=4.9,SNR=2.4
ESDC PKKPbc 23 11 50.3
comp=Z,0.5nm,0.7s,baz=221,slow=32,SNR=4.1
ESLA Sonseca Array 83.62 45⇑*eP* **P 22 53 32.1 +0.9**
comp=Z,294nm,1.9s,mb5.8
RAR Rarotonga 83.85 250 LR LR 23 22 16.5
comp=Z,1µm,18.9s,baz=107,slow=29
GUD Guadarrama 83.96 44 P **P 22 53 34.0 +1.1**
comp=Z,42nm,0.8s,mb5.3
EARI Arriondas 84.59 41 P **P 22 53 37.4 +1.4**
comp=Z,859nm,2.6s,mb6.2
EMUR La Murta 84.64 48 P **P 22 53 37.3 +0.9**
comp=Z,68nm,0.9s,mb5.6

ETOB Tobarra 84.79 47 P **P 22 53 37.9 +0.8**
comp=Z,284nm,1.0s,mb6.2
ETRT Tiaret 85.40 51 P **P 22 53 42.0 +1.8**
EANR 'Ain N'Sour 85.49 50 P **P 22 53 42.0 +1.4**
SFJD Kangerlussuaq 85.55 7⇑*iP* **P 22 53 39.7 -0.5**
SFJD *i* pP 22 54 11.3 +0.3
SFJD pmax pmax
comp=Z,59nm,1.3s,mb5.4
SFJD Kangerlussuaq 85.55 7⇑*iP* **P 22 53 39.7 -0.5**
comp=Z,59nm,1.3s,mb5.4
SFJD *i* pP 22 54 11.3 +0.3
ECHE Chera 85.62 46 P **P 22 53 43.3 +2.1**
comp=Z,81nm,0.8s,mb5.7
ELAN Lanestosa 85.69 42 P **P 22 53 42.5 +1.1**
comp=Z,730nm,2.8s,mb6.1
EBEN Beniarda 85.74 47 P **P 22 53 43.5 +1.7**
comp=Z,722nm,2.2s,mb6.2
ECHA Ech Chlef 85.77 50 P **P 22 53 43.0 +1.0**
BOSA Boshof 85.94 119 *eP* **P 22 53 43.8 +0.8**
BOSA *e**PP pP 22 54 13.8 0.0
BOSA pmax pmax
comp=Z,16nm,0.6s,mb5.1
BOSA Boshof 85.94 119 P **P 22 53 44.1 +1.2**
comp=Z,4.9nm,0.4s,mb4.8,baz=258,slow=3.7,SNR=39
BOSA pP pP 22 54 14.9 +1.1
comp=Z,7.5nm,0.6s,baz=262,slow=4.1,SNR=2.7
BOSA LR LR 23 31 28.9
comp=Z,777nm,18.2s,baz=254,slow=35
BOSA Boshof 85.94 119 *eP* **P 22 53 43.8 +0.9**
comp=Z,16nm,0.6s,mb5.1
BOSA *ep*P pP 22 54 13.8 0.0
EBNR Beni Rached 85.95 50 P **P 22 53 45.0 +2.1**
ECRI Cripan 85.99 43 P **P 22 53 44.3 +1.4**
comp=Z,52nm,0.5s,mb5.7
EMOS Mosqueruela 86.31 46 P **P 22 53 46.8 +2.3**
comp=Z,135nm,1.1s,mb5.8
ESAC San Caprasio 86.92 45 P **P 22 53 49.3 +1.8**
comp=Z,98nm,0.8s,mb5.8
EMHD Djebel Mahouad 86.96 51 P **P 22 53 48.0 +0.2**
SJPF Ste Jean 87.06 43⇑*iP* **P 22 53 48.9 +0.8**
comp=Z,92nm,0.9s,mb5.4
SJPF *ep*P pP 22 54 22.1 +3.1
ERTA Horta de San J 87.13 45 P **P 22 53 48.8 +0.4**
comp=Z,601nm,2.1s,mb6.2
EBR Ebro Roquetas 87.17 46 *eP* **P 22 53 49.0 +0.3**
LARF Larrau 87.18 43 *eP* **P 22 53 49.4 +0.8**
ABA Alger-Bouzarea 87.27 50 P **P 22 53 52.5 +3.3**
YKA Yellowknife Ar 87.30 341 P **P 22 53 49.1 +0.4**
comp=Z,31nm,0.6s,mb5.5,baz=134,slow=4.9,SNR=728
YKA pP pP 22 54 19.8 +0.2
comp=Z,36nm,0.7s,baz=135,slow=5.0,SNR=6.0
YKA S S 23 04 03.8 -13
comp=Z,1.2nm,1.1s,baz=127,slow=7.0,SNR=5.3
YKA PKKPbc 23 11 38.8
comp=Z,0.2nm,0.6s,baz=322,slow=3.5,SNR=6.6
YKA LR LR 23 36 53.7
comp=Z,371nm,18.4s,baz=105,slow=38
LBTB Lobatse 87.33 115 *eP* **P 22 53 50.7 +0.9**
LBTB pmax pmax
comp=Z,21nm,0.6s,mb5.2
LBTB Lobatse 87.33 115 *eP* **P 22 53 50.7 +0.9**
comp=Z,21nm,0.6s,mb5.2
YKW3 Yellowknife Ar 87.35 341⇑*eP* **P 22 53 49.4 +0.4**
YKW3 *ep*P pP 22 54 20.0 +0.1
ETSF Etsaut 87.40 43⇑*iP* **P 22 53 50.5 +0.8**
comp=Z,67nm,0.9s,mb5.3
REYF Montagne du Re 87.58 43 *eP* **P 22 53 51.5 +0.9**
EBIE Bielsa 87.76 44 P **P 22 53 52.4 +1.0**
comp=Z,296nm,2.0s,mb6.0
VIEF Viey 87.77 44 *eP* **P 22 53 52.3 +0.8**
EPOB Poblet 87.81 45 P **P 22 53 52.0 +0.4**
comp=Z,221nm,1.5s,mb6.0
LABF Labassere 87.88 44 *eP* **P 22 53 52.9 +0.9**
RESF Ens 87.95 44 *eP* **P 22 53 53.3 +1.0**
EPF Esparros 88.05 44⇑*iP* **P 22 53 53.3 +0.5**
comp=Z,62nm,1.0s,mb5.3
EPF *ep*P pP 22 54 26.7 +2.9
QUIF Quistinic 88.12 38⇑*iP* **P 22 53 52.4 -0.6**
comp=Z,46nm,0.9s,mb5.2
QUIF *ep*P pP 22 54 25.6 +1.6
MAW Mawson 88.24 164⇓*iP* **P 22 53 53.8 +0.7**
comp=Z,43nm,1.2s,mb5.4
MAW *ep*P pP 22 54 23.0 -1.1
MAW Mawson 88.24 164⇓*iP* **P 22 53 53.8 +0.7**
MAW *e**PP pP 22 54 23.0 -1.1
MAW pmax pmax
comp=Z,43nm,1.2s
MAW Mawson 88.24 164 P **P 22 53 54.1 +0.9**
comp=Z,57nm,1.1s,mb5.5,baz=218,slow=7.0,SNR=29
MAW pP pP 22 54 23.8 -0.4
comp=Z,24nm,0.9s,baz=204,slow=4.3,SNR=3.8
MAW LR LR 23 30 50.1
comp=Z,493nm,19.6s,baz=227,slow=34
MELF Melles 88.25 44 *eP* **P 22 53 54.7 +0.9**
ROSF Rostrenen 88.26 38⇑*iP* **P 22 53 53.2 -0.5**
comp=Z,78nm,1.0s,mb5.4
MLS Moulis 88.51 44 *eP* **P 22 53 55.5 +0.5**
DCN Croghan 88.63 32 *eP* **P 22 53 49.3 -6.0**
DCN Croghan 88.63 32⇑*iP* **P 22 53 54.5 -0.8**
SGMF Saint Gilles 88.64 38⇑*iP* **P 22 53 54.7 -0.8**
comp=Z,36nm,1.0s,mb5.1
DLF Lyons Farm 88.98 32 *eP* **P 22 53 49.8 -7.1**
DLF Lyons Farm 88.98 32⇑*iP* **P 22 53 54.8 -2.1**
LCHF La Chataignera 88.99 40 *eP* **P 22 53 57.5 +0.4**
LFF La Frestale 89.14 42⇑*iP* **P 22 53 57.8 -0.1**
comp=Z,142nm,1.1s,mb5.6
HEX Exmoor 89.30 35 *eP* **P 22 53 58.0 -0.5**
FILF Fillols 89.32 45 *eP* **P 22 53 59.0 +0.2**
MFF Saint Martin d 89.33 40⇑*iP* **P 22 53 58.4 -0.3**
comp=Z,75nm,1.1s,mb5.3
MFF *ep*P pP 22 54 31.6 +1.8
MTLF Montolieu 89.42 44⇑*iP* **P 22 53 59.0 -0.2**
comp=Z,88nm,0.9s,mb5.5
EJON La Jonquera 89.49 45 P **P 22 53 59.7 +0.1**
comp=Z,17nm,0.8s,mb5.1
GRR Gorron 89.70 38⇑*iP* **P 22 53 59.7 -0.8**
comp=Z,45nm,0.5s,mb5.5
RJF Les Rejaudoux 89.80 42⇑*iP* **P 22 54 00.7 -0.3**
comp=Z,77nm,1.1s,mb5.5
RJF *e*R
comp=Z,1µm,20.5s
CAF Calviac 89.99 42⇑*iP* **P 22 54 01.8 -0.1**
comp=Z,89nm,1.0s,mb5.5
BORG Borgarnes 90.00 19 P **P 22 54 01.9 +0.5**
comp=Z,136nm,1.4s,mb5.9,baz=297,slow=5.2
BORG LR LR 23 29 18.9
comp=Z,484nm,19.1s,baz=245,slow=32
FLN La Foliniere 90.10 38⇑*iP* **P 22 54 01.8 -0.5**
comp=Z,75nm,0.9s,mb5.5
FLN *e*R
comp=Z,514nm,22.2s
LDF La Druitiere 90.23 38⇑*iP* **P 22 54 02.3 -0.6**
comp=Z,98nm,1.0s,mb5.6
DLBC Dease Lake 90.43 333⇓*eP* **P 22 54 04.9 +1.3**
TCF Toulx Ste Croi 90.66 41⇑*iP* **P 22 54 04.4 -0.6**
comp=Z,22nm,0.8s,mb5.0
TCF *ep*P pP 22 54 37.7 +1.6
LASF Ste Croix 90.80 44⇑*iP* **P 22 54 05.9 +0.2**
comp=Z,87nm,1.1s,mb5.5
BGF Bois d'Agland 91.17 41⇑*iP* **P 22 54 06.9 -0.5**
comp=Z,35nm,0.6s,mb5.3
BGF *ep*P pP 22 54 40.3 +1.8
KWE Weaver Farm 91.30 34 *eP* **P 22 54 06.6 -1.2**
KWE AMb AMB 22 54 11.0
comp=Z,76nm,1.8s,mb5.5
LHO Holmfirth 91.54 34 *eP* **P 22 54 08.4 -0.5**
LHO AMb AMB 22 54 12.3
comp=Z,80nm,1.7s,mb5.7
KBI1 Birley Grange 91.57 34 *eP* **P 22 54 08.3 -0.8**
KBI1 AMb AMB 22 54 12.3
comp=Z,58nm,1.6s,mb5.5
AVF Avril sur Loir 91.58 41⇑*iP* **P 22 54 08.6 -0.7**
comp=Z,18nm,0.8s,mb5.1
AVF *ep*P pP 22 54 41.9 +1.5
VIVF Saint-Julien-l 91.65 43⇑*iP* **P 22 54 09.9 +0.3**
comp=Z,73nm,0.9s,mb5.6
ESK Eskdalemuir 91.69 32 *eP* **P 22 54 09.2 -0.3**
ESK AMb AMB 22 54 16.1
comp=Z,38nm,1.9s,mb5.3
SSF Saint Saulge 91.79 41⇑*iP* **P 22 54 09.3 -0.9**
SMF Signal de Mont 91.83 41⇑*iP* **P 22 54 10.1 -0.3**
comp=Z,64nm,1.0s,mb5.5
HPK Haverah Park 91.85 33 *eP* **P 22 54 10.2 -0.1**
HPK AMb AMB 22 54 16.0
comp=Z,161nm,1.8s,mb5.9
SMRF Simiane la Rot 91.90 44⇑*iP* **P 22 54 11.4 +0.6**

comp=Z,134nm,1.3s,mb5.7
LMR La Mourre 92.29 45⇑*iP* **P 22 54 12.7 +0.1**
comp=Z,116nm,1.2s,mb5.7
SUMG Summit 92.36 9 *eP*cP PcP 22 54 13.9 +0.8
comp=Z,44nm,1.1s
OG25 Le Caire 92.39 44 *eP* **P 22 54 13.9 +0.9**
FRF La Foret Royal 92.46 45⇑*iP* **P 22 54 13.4 0.0**
comp=Z,118nm,1.4s,mb5.6
OG05 Jujurieux 92.62 42 *eP* **P 22 54 14.1 0.0**
LSZ Lusaka 92.73 107 P **P 22 54 17.1 +1.9**
LSZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
LSZ Lusaka 92.73 107 *eP*cP PcP 22 54 17.1 +1.2
comp=Z,2.9nm,0.6s
MBDF Montbardon 92.98 44⇑*iP* **P 22 54 16.3 +0.5**
comp=Z,111nm,1.3s,mb5.7
TOUF Mont Tournerai 93.04 45 *eP* **P 22 54 16.5 +0.5**
RRL Cesana Torines 93.06 44 P **P 22 54 17.7 +1.6**
SBF Sospel 93.11 45⇑*iP* **P 22 54 17.5 +1.2**
comp=Z,47nm,0.8s,mb5.5
PZZ Prazzo 93.12 44 P **P 22 54 17.1 +0.7**
STV Sta Anna Valdi 93.17 45 P **P 22 54 17.1 +0.5**
STV2 Anna di Valdie 93.17 45 P **P 22 54 17.1 +0.5**
ENR Entracque 93.23 45 P **P 22 54 17.6 +0.7**
SAOF Saorge 93.23 45 *eP* **P 22 54 16.6 -0.3**
CABF La Chapelle 93.24 42⇑*iP* **P 22 54 16.9 0.0**
comp=Z,70nm,1.4s,mb5.5
RSL Roselend 93.24 43 *eP* **P 22 54 17.5 +0.6**
LPL La Plagne 93.25 43⇑*iP* **P 22 54 17.8 +0.9**
comp=Z,99nm,1.0s,mb5.8
LPG La Plagne 93.25 43⇑*iP* **P 22 54 18.0 +1.0**
comp=Z,79nm,0.9s,mb5.7
LPG *ep*P pP 22 54 51.2 +3.0
NEGI Negi 93.28 45 P **P 22 54 17.0 -0.2**
MEZF Maizieres J'vi 93.32 40⇑*iP* **P 22 54 16.7 -0.5**
comp=Z,16nm,0.6s,mb5.2
MEZF *ep*P pP 22 54 50.0 +1.6
BHB Bricherasio 93.35 44 P **P 22 54 17.3 -0.1**
MONE Monesi 93.40 45 P **P 22 54 17.1 -0.5**
BAIF Baives 93.42 38⇑*iP* **P 22 54 17.0 -0.6**
IMI Imperia 93.43 45 P **P 22 54 18.6 +0.7**
RSP Reno Superiore 93.46 44 P **P 22 54 18.2 +0.3**
RES Resolute Bay 93.48 353 P **P 22 54 18.3 +0.9**
RES pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
RES Resolute Bay 93.48 353 *eP*cP PcP 22 54 18.4 +0.3
comp=Z,6.4nm,0.7s
LSD Ceresole Reale 93.50 43 P **P 22 54 19.1 +1.0**
ROB Roburent 93.56 45 P **P 22 54 17.8 -0.5**
PGF Pioggiola 93.71 47⇑*iP* **P 22 54 19.5 +0.4**
comp=Z,61nm,1.0s,mb5.6
FIN Finale Ligure 93.75 45 P **P 22 54 18.7 -0.5**
THEF They Montfort 93.79 40 *eP* **P 22 54 19.6 +0.3**
GIVF Givet 93.80 38⇑*iP* **P 22 54 19.0 -0.3**
comp=Z,78nm,1.2s,mb5.6
TRAV 93.91 43 P **P 22 54 20.3 +0.4**
HAU Haudompre 93.93 41⇑*iP* **P 22 54 19.5 -0.4**
comp=Z,28nm,1.0s,mb5.2
HAU *e*R
comp=Z,1µm,21.8s
LOMF Lomont 93.99 42 *eP* **P 22 54 19.4 -0.8**
PCP Pian Castagno 94.10 45 P **P 22 54 21.6 +0.8**
ORX Oropa 94.11 43 P **P 22 54 20.2 -0.6**
HINF Hinteralfeld 94.18 41⇑*iP* **P 22 54 20.5 -0.6**
comp=Z,36nm,1.2s,mb5.3
MOF Molkenrain 94.36 41 *eP* **P 22 54 21.5 -0.4**
ECH Echery 94.51 41 *eP* **P 22 54 22.0 -0.6**
CDF Champ du Feu 94.66 41⇑*iP* **P 22 54 22.9 -0.4**
comp=Z,52nm,1.2s,mb5.5
WLS Welschbruch 94.71 41 *eP* **P 22 54 23.1 -0.4**
HGN Heimansgroeve 94.71 38 *eP* **P 22 54 22.4 -1.1**
comp=Z,40nm,2.2s,mb5.5
HGN Heimansgroeve 94.71 38 *e*S 23 04 53.2
CODM 94.92 45 P **P 22 54 25.0 +0.4**
FELD Feldberg 94.92 41 *eP* **P 22 54 24.3 -0.2**
RUP Ruppelstein 94.99 39 *eP* **P 22 54 24.9 +0.1**
BACM 95.03 45 P **P 22 54 24.5 -0.6**
VINC Vinca 95.04 45 P **P 22 54 24.8 -0.4**
GRAM 95.10 45 P **P 22 54 25.8 +0.4**
LANF Langenberg 95.19 40 *eP* **P 22 54 25.3 -0.4**
SARO Sassorosso 95.22 45 P **P 22 54 23.6 -2.4**
BFO Black Forest 95.28 41 *eP* **P 22 54 25.6 -0.5**
BFO pmax pmax
comp=Z,19nm,1.3s,mb5.4
BFO Black Forest 95.28 41 *eP* **P 22 54 25.6 -0.5**
comp=Z,19nm,1.3s,mb5.4
ABH Alteburg 95.35 39 *eP* **P 22 54 26.3 -0.1**
SPAK Spaichingen 95.49 41 *eP* **P 22 54 27.0 -0.1**
WTSB Winterswijk 95.66 37 *eP* **P 22 54 27.7 -0.1**
comp=Z,78nm,1.8s,mb5.8
DAVOX Davos 95.74 43 P **P 22 54 28.8 +0.5**
comp=Z,18nm,1.0s,mb5.5,baz=232,slow=5.3,SNR=14
DAVOX pP pP 22 55 00.7 +1.2
comp=Z,3.6nm,0.6s,baz=5.9,slow=2.4,SNR=1.7
DAVOX PP PP 22 58 19.2 -4.1
comp=Z,4.3nm,1.1s,baz=181,slow=2.1,SNR=4.5
DAVOX PKKPbc 23 11 21.0
comp=Z,2.0nm,0.8s,baz=52,slow=8.6,SNR=4.2
DAVOX LR LR 23 36 32.6
comp=Z,608nm,20.2s,baz=250,slow=35
DAVOX Davos 95.74 43 P **P 22 54 28.8 +0.5**
DAVOX pP pP 22 55 00.7 +1.2
DAVOX PP PP 22 58 19.2 -4.1
DAVOX PKKPbc 23 11 21.0
DAVOX LR LR 23 36 32.6
DAVA Damuels 95.91 42⇑*iP* **P 22 54 29.4 +0.4**
comp=Z,297nm,3.5s
STU Stuttgart 95.98 41 P **P 22 54 29.2 0.0**
STU pmax pmax
comp=Z,34nm,1.0s,mb5.7
STU Stuttgart 95.98 41 *eP*cP PcP 22 54 29.3 -0.3
comp=Z,34nm,0.9s
TNS Taunus Mts 96.02 39 *eP* **P 22 54 29.5 +0.1**
TNS pmax pmax
comp=Z,30nm,1.2s,mb5.6
TNS Taunus Mts 96.02 39 *eP* **P 22 54 29.5 +0.1**
comp=Z,30nm,1.2s,mb5.6
URZ Urewera 96.32 227 LR LR 23 29 50.1
comp=Z,545nm,18.1s,baz=208,slow=30
MOTA Moosalm 96.72 43⇑*iP* **P 22 54 32.7 0.0**
SQTA Sankt Quirin 96.75 43⇓*iP* **P 22 54 33.1 +0.3**
comp=Z,55nm,1.3s,mb5.8
AFI Afiamalu 97.00 253 LR LR 23 31 30.1
comp=Z,508nm,19.5s,baz=65,slow=31
WATA Walderalm 97.02 43⇑*iP* **P 22 54 34.2 +0.1**
comp=Z,25nm,1.2s,mb5.5
WTTA Wattenberg 97.04 43⇑*iP* **P 22 54 34.5 +0.4**
comp=Z,278nm,2.2s,mb6.3
INK Inuvik 97.06 340 P **P 22 54 34.1 +0.3**
comp=Z,3.0nm,0.6s,mb4.9,baz=114,slow=9.2,SNR=14
INK pP pP 22 55 05.0 0.0
comp=Z,8.9nm,0.8s,baz=102,slow=4.6,SNR=7.1
INK S 23 04 59.5
comp=Z,1.1nm,1.0s,baz=276,slow=28,SNR=7.7
INK PKKPbc 23 11 15.2
comp=Z,2.1nm,1.1s,baz=309,slow=2.9,SNR=3.9
INK LR LR 23 38 28.0
comp=Z,412nm,18.5s,baz=112,slow=35
INK Inuvik 97.06 340 *eP* **P 22 54 34.1 +0.4**
comp=Z,22nm,1.2s,mb5.5
INK *ep*P pP 22 55 02.1 -2.8
FUR Furstenfeldbru 97.09 42 *eP* **P 22 54 34.4 +0.1**
FUR pmax pmax
comp=Z,60nm,1.5s,mb5.8
FUR Furstenfeldbru 97.09 42 *eP* **P 22 54 34.4 +0.1**
comp=Z,60nm,1.5s,mb5.8
DAWY Dawson 97.16 335 *eP* **P 22 54 34.5 +0.2**
RPZ Rata Peaks 97.50 220 LR LR 23 30 52.4
comp=Z,575nm,18.9s,baz=53,slow=30
GRA1 Grafenberg Arr 97.53 40 *eP* **P 22 54 36.5 +0.2**
comp=Z,27nm,0.8s,mb5.8
GRA1 *ep*P pP 22 55 08.5 +1.0
GRA1 *es*P sP 22 55 22.0 +1.7
GRF Grafenberg Arr 97.53 40 *eP* **P 22 54 36.5 +0.2**
GRF *e**PP pP 22 55 08.5 +1.0
GRF *e**SP sP 22 55 22.0 +1.7
GRF pmax pmax
comp=Z,27nm,0.8s,mb5.8
GRF Grafenberg Arr 97.53 40 *eP* **P 22 54 36.5 +0.2**
comp=Z,27nm,0.8s,mb5.8
GRF *ep*P pP 22 55 08.5 +1.0
GRF *es*P sP 22 55 22.0 +1.7
CLZ Clausthal 97.70 38 *eP* **P 22 54 37.4 +0.4**
ROBS Robic 97.95 44 *iP* **P 22 54 38.6 +0.3**
BER Bergen 97.98 29 *e*SKSa 23 05 06.0

BER AMS AMS 23 35 50.7
comp=Z,330nm,16.1s
MOX Moxa 98.07 39 *e*P **P 22 54 38.8 +0.1**
MOX pmax pmax
comp=Z,20nm,1.5s,mb5.4
MOX Moxa 98.07 39 *e*P **P 22 54 39.3 +0.6**
MOX LR LR
comp=Z,700nm,22.0s
MOX Moxa 98.07 39 *i* P **P 22 54 39.3 +0.6**
MOX L 23 05 12.0
KBA Koelnbreinsper 98.09 43⇓ *i*P **P 22 54 39.2 +0.3**
comp=Z,18nm,1.6s,mb5.4
BSEG Bad Segeberg 98.33 36 *e*P **P 22 54 40.0 +0.2**
BSEG pmax pmax
comp=Z,21nm,0.9s,mb5.7
WET Wettzell 98.40 41 *e*P **P 22 54 40.4 +0.2**
WET pmax pmax
comp=Z,20nm,1.2s,mb5.5
WET Wettzell 98.40 41 *e*P **P 22 54 40.4 +0.2**
comp=Z,20nm,1.2s,mb5.5
CEY Cerknica 98.42 45 *e*P **P 22 54 41.0 +0.6**
NKC Novy Kostel 98.45 40 *e*P **P 22 54 41.1 +0.6**
NKC *e*pP pP 22 55 12.5 +0.8
NKC *e*SKS SKS 23 05 12.1 +6.2
NKC AMS AMS 23 35 10.0
comp=Z,800nm,20.7s
MUD Monsted U'grnd 98.52 33⇑ *i*P **P 22 54 41.2 +0.6**
MUD pmax pmax
comp=Z,29nm,1.1s,mb5.7
MUD MLR MLR
comp=Z,470nm,21.0s
MUD Monsted U'grnd 98.52 33⇑ *i*P **P 22 54 41.2 +0.6**
comp=Z,29nm,1.1s,mb5.7
MUD *e* 22 55 02.9
MUD *i* S 23 05 12.3
GEC2 GERESS Array S 98.83 42 *e*P **P 22 54 42.1 -0.1**
GEC2 pmax pmax
comp=Z,14nm,1.1s,mb5.4
GEC2 GERESS Array S 98.83 42 *e*P **P 22 54 42.1 -0.1**
comp=Z,14nm,1.1s,mb5.4
GERES GERESS Array B 98.83 42 P **P 22 54 42.2 0.0**
comp=Z,9.0nm,1.0s,mb5.3,baz=243,slow=3.0,SNR=34
GERES pP pP 22 55 13.9 +0.4
comp=Z,0.5nm,0.7s,baz=207,slow=2.2,SNR=1.8
GERES S 23 05 08.5
comp=Z,0.3nm,0.3s,baz=43,slow=26,SNR=4.1
GERES PKKPbc 23 11 10.1
comp=Z,1.4nm,0.9s,SNR=5.6
KHC Kasperske Hory 98.83 41 *e*P **P 22 54 42.1 -0.2**
KHC *e*pP pP 22 55 13.4 -0.1
KHC *e*SKS SKS 23 05 10.0 +2.1
KHC *e*S S 23 06 02.0 +4.0
KHC AMS AMS 23 33 50.0
comp=Z,400nm,16.7s
BOJS Bojanci 98.91 45 *e*P **P 22 54 43.8 +1.1**
CLL Collm 99.10 39 *i* P **P 22 54 43.8 +0.4**
CLL *i* pP 22 55 15.9 +1.3
CLL *e* 23 05 13.0
CLL *e*S S 23 06 08.0 +7.8
CLL pmax pmax
comp=Z,38nm,1.6s,mb5.7
CLL MLR MLR
comp=Z,800nm,20.7s
CLL Collm 99.10 39 *i* P **P 22 54 43.8 +0.4**
comp=Z,38nm,1.6s,mb5.7
CLL *i* pP 22 55 15.9 +1.3
CLL *e*SKS SKS 23 05 13.0 +3.9
CLL *e*SKKS 23 05 44.0
CLL *e*S S 23 06 08.0 +7.8
CLL LR LR
comp=Z,800nm,20.7s
CLL Collm 99.10 39 P **P 22 54 43.8 +0.4**
comp=Z,logA/T=1.4,mb5.7
CLL *i* *PP pP 22 55 15.9 +1.3
CLL *e* 22 58 33.0
CLL *e*PP PP 22 58 43.0 -6.0
CLL *e*S S 23 06 08.0 +7.8
CLL *e*SP SP 23 07 27.0 -5.4
CLL *e* 23 30 51.3
CLL *e* 00 05 44.0
CLL *e* 00 17 54.0
PERS Pernice 99.13 44 *e*P **P 22 54 44.0 +0.3**
BRG Berggiesshubel 99.55 40 *e*P **P 22 54 45.8 +0.3**
BRG *e**PP pP 22 55 18.5 +1.8
BRG *e* 22 58 46.0
BRG *i* 23 05 17.0
BRG *i* S S 23 06 07.0 +3.0
BRG *i* 23 07 38.0
BRG *e*SS SS 23 12 53.0 -8.1
BRG pmax pmax
comp=Z,33nm,1.7s,mb5.7
BRG MLR MLR
comp=N,410nm,23.7s
BRG MLR MLR
comp=E,530nm,23.7s
BRG MLR MLR
comp=Z,900nm,23.7s
BRG Berggiesshubel 99.55 40 *e*P **P 22 54 45.8 +0.3**
comp=Z,33nm,1.7s,mb5.7
BRG *e*pP pP 22 55 18.5 +1.8
BRG *e* 22 58 35.3
BRG *e*PP PP 22 58 46.0 -6.6
BRG *i* SKS SKS 23 05 17.0 +5.7
BRG *i* S S 23 06 07.0 +3.0
BRG *i* 23 07 38.0
BRG *e*SS SS 23 12 53.0 -8.1
BRG LR LR
comp=Z,900nm,23.7s
PRU Pruhonice 99.68 41 *e*P **P 22 54 46.3 +0.2**
PRU *e*pP pP 22 55 19.4 +2.1
PRU *e*SKS SKS 23 05 16.6 +4.6
PRU *e*S S 23 06 09.1 +4.0
PRU AMS AMS 23 35 50.0
comp=Z,500nm,20.4s
KONO Kongsberg 99.75 30 *i* P **P 22 54 43.9 -2.2**
KONO Kongsberg 99.75 30 *e*SKSa 23 05 14.5
KONO *e* 23 07 39.4
PVCC Panska Ves 99.84 40 *e*P **P 22 54 46.8 0.0**
PVCC AMS AMS 23 36 20.0
comp=Z,700nm,20.1s
COP Copenhagen 100.03 35 *i* P SP 23 07 40.5 -1.0
comp=Z,180nm,19.0s
ILAR Eielson Array 100.44 335 P P 22 54 49.8 +0.7
comp=Z,1.0nm,0.8s,baz=110,slow=2.4,SNR=7.0
ILAR pP 22 55 20.2
comp=Z,0.8nm,0.8s,baz=139,slow=3.2,SNR=3.1
ILAR PP PP 22 58 52.4 -6.9
comp=Z,1.4nm,0.8s,baz=101,slow=6.9,SNR=8.4
UPC Upice 100.72 40 *e*P P 22 54 50.8 +0.1
UPC *e*pP 22 55 22.6
ZST Bratislava 100.84 43 *e*P P 22 54 50.2 -1.1
ZST *e* 22 58 56.7
ZST *e* 23 07 45.3
ZST Bratislava 100.84 43 PDIF P 22 54 50.2 -1.1
ZST *e*PP PP 22 58 56.7 -6.2
ZST *e*SP SP 23 07 45.3 -5.3
ZST *e*L 23 36 03.0
COLA College 100.86 335 *i* P P 22 54 48.0 -3.0
DPC Dobruska-Polom 100.88 41 *e*P P 22 54 52.0 +0.6
DPC *e* 23 05 21.6
DPC *e*S S 23 06 18.6 +3.5
DPC MLR MLR
comp=Z,500nm,19.5s
DPC Dobruska-Polom 100.88 41 *e*P P 22 54 52.0 +0.6
DPC *e*pP 22 55 24.0
DPC *e*SKS SKS 23 05 21.6 +3.8
DPC *e*S S 23 06 18.6 +3.5
DPC AMS AMS 23 36 30.0
comp=Z,500nm,19.5s
NB2 NORSAR Subarra100.93 29 P P 22 54 50.9 -0.5
comp=Z,28nm,1.7s,baz=246,slow=4.3
NB2 NORSAR Subarra100.93 29 P P 22 54 50.9 -0.5
baz=246,slow=4.4
NOA NORSAR Array B 100.93 29 P P 22 54 50.8 -0.6
comp=Z,0.8nm,0.6s,baz=56,slow=3.3,SNR=4.5
NOA PP PP 22 59 00.0 -3.3
comp=Z,5.6nm,1.2s,baz=251,slow=7.9,SNR=3.3
KSP Ksiaz 100.98 40 *e*P P 22 54 52.7 +0.8
KSP *e* 23 05 21.5
KSP *e*S S 23 06 20.5 +4.5
KSP *e*SP SP 23 07 46.5 -5.6
SMOL Smolenice 101.13 43 *e*P P 22 54 51.8 -0.8
SMOL *e* 22 59 00.8
SMOL Smolenice 101.13 43 PDIF P 22 54 51.8 -0.8
SMOL *e*PP PP 22 59 00.8 -4.3
OKC Ostrava-Krasne 101.89 41 *e*P P 22 54 56.1 +0.2
OKC *e*SKS SKS 23 05 24.7 +2.0
OKC AMS AMS 23 35 20.0
comp=Z,300nm,21.2s
VYHS Vyhne 102.03 43 *e*P Pdif 22 54 57.3 +0.7
VYHS *e* 23 05 25.8
VYHS Vyhne 102.03 43 PDIF Pdif 22 54 57.3 +0.7
KWP Kalwaria 104.75 42 *e*Pdif Pdif 22 55 10.6 +2.0
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 105.80 96 PP PP 22 59 39.1 -1.5
comp=Z,1.8nm,0.8s,baz=232,slow=5.7,SNR=4.5
TRO Tromso 105.89 21 *e*PP PP 22 59 34.7 -5.3
TRO *e*SKSa 23 05 38.8
TRO *e* 23 08 39.6
TRO AMS AMS 23 42 30.0
comp=Z,186nm,21.8s
FINES FINESS Array B 108.06 30 PP PP 22 59 52.3 -4.1
comp=Z,14nm,1.4s,baz=297,slow=6.2,SNR=6.6
FINES PKKPbc 23 10 41.8
comp=Z,0.8nm,0.5s,baz=98,slow=4.1,SNR=12
ARCES ARCESS Array B 108.19 22 PKKPbc 23 10 41.1
comp=Z,1.2nm,0.4s,baz=92,slow=3.9,SNR=14
ARCES PKKPab 23 10 54.6
comp=Z,6.3nm,1.1s,baz=63,slow=8.1,SNR=5.4
AKASG Malin Array Be 109.05 42 PP PP 22 59 57.0 -7.5
comp=Z,0.6nm,0.6s,baz=261,slow=7.8,SNR=7.3
AKASG PKKPbc 23 10 39.1
comp=Z,0.6nm,0.6s,baz=64,slow=2.7,SNR=7.3
AKASG PKKPab 23 10 51.2
comp=Z,0.1nm,0.3s,baz=72,slow=4.1,SNR=5.7
TNA Tin City 109.29 334 *e*PP PP 23 00 01.5 -4.3
BRTR Keskin Array B 111.18 54 PKiKP 22 59 36.3
comp=Z,0.6nm,0.7s,baz=222,slow=2.7,SNR=3.6
BRTR PP PP 23 00 14.0 -5.7
comp=Z,0.9nm,0.7s,baz=232,slow=6.7,SNR=4.2
BRTR PKKPbc 23 10 32.1
comp=Z,0.9nm,1.0s,baz=76,slow=5.1,SNR=3.6
BRTR PKKPab 23 10 42.1
comp=Z,2.0nm,0.9s,baz=135,slow=5.2,SNR=10
ASF Jabal al Asfar 112.98 62 PKiKP 22 59 40.3
comp=Z,1.1nm,0.4s,baz=308,slow=1.3,SNR=3.3
ASF PP PP 23 00 26.6 -6.9
comp=Z,2.2nm,0.5s,baz=126,slow=6.8,SNR=3.9
OBN Obninsk 113.56 37 PKIKP PKPdf 22 59 41.0 +2.4
OBN *i* 23 00 28.6
OBN *i* 23 02 53.8
OBN *i* 23 06 14.2
OBN *e*PS PS 23 10 00.7 -9.0
OBN *e* 23 11 02.4
OBN MLR MLR
comp=Z,500nm,19.0s
MALT Malatya 114.78 55 PKIKP PKPdf 22 59 44.0 +2.5
MALT Malatya 114.78 55 *e*PKPdf PKPdf 22 59 43.9 +2.5
KIV Kislovodsk 118.06 49 *e*PKIKP PKPdf 22 59 49.3 +1.8
KIV *i* 23 01 09.7
KIV *i* 23 06 34.0
KIV *e*PS PS 23 10 55.8 +4.5
KIV pmax pmax
comp=Z,5.0nm,0.9s
BILL Biiibino 118.65 339 *i* PKIKP PKPdf 22 59 47.1 -1.1
BILL Biiibino 118.65 339 *e*PP PP 23 01 06.3 -6.0
ONI Oni 118.67 51 P PP 23 01 05.9 -7.1
ZEI Tsey 119.00 50 *e*PKIKP PKPdf 22 59 51.5 +2.1
GNI Garni 119.72 53 PKIKP PKPdf 22 59 54.6 +3.7
GNI Garni 119.72 53 PKP PKPdf 22 59 52.4 +1.6
comp=Z,2.2nm,0.4s,baz=350,slow=8.7,SNR=6.4
GNI pPKP 23 00 24.0
comp=Z,3.5nm,0.6s,baz=314,slow=9.4,SNR=2.3
GNI PP PP 23 01 15.5 -4.2
comp=Z,1.9nm,0.5s,baz=184,slow=11,SNR=4.9
GNI Garni 119.72 53 *e*PKPdf PKPdf 22 59 53.0 +2.1
STKA Stephens Creek 122.36 212 *e*PKP PKPdf 22 59 57.0 +0.8
comp=Z,7.0nm,1.2s
STKA *e*pPKP 23 00 28.4
STKA Stephens Creek 122.36 212 PKP PKPdf 22 59 57.8 +1.6
comp=Z,7.2nm,0.9s,baz=94,slow=3.2,SNR=8.0
STKA pPKP 23 00 29.5
comp=Z,5.6nm,0.6s,baz=326,slow=2.0,SNR=5.1
STKA PP PP 23 01 32.5 -5.6
comp=Z,8.2nm,1.2s,baz=126,slow=8.8,SNR=3.8
STKA PKKPbc 23 09 54.8
comp=Z,1.6nm,0.6s,baz=313,slow=1.9,SNR=5.7
ARU Arti 125.33 32 *i* PKIKP PKPdf 22 59 57.4 -3.9
ARU *e* 23 01 57.0
ARU Arti 125.33 32 *e*PKPdf PKPdf 23 00 03.4 +2.1
SVE Sverdlovsk 126.21 31 *i* PKIKP PKPdf 23 00 00.0 -2.9
SVE *e* 23 00 35.0
SEY Seymchan 126.25 338 *e*PKIKP PKPdf 23 00 05.5 +2.6
SEY *e* 23 00 36.8
SEY *e* 23 01 57.5
SEY *e* 23 18 46.5
SEY pmax pmax
comp=Z,20nm,0.8s
CTA Charters Tower 128.52 225 *e*PKP PKPdf 23 00 09.8 +1.3
comp=Z,21nm,1.1s
CTA *e*pPKP 23 00 40.8
CTA Charters Tower 128.52 225 PKP PKPdf 23 00 10.5 +2.1
comp=Z,25nm,1.0s,baz=355,slow=0.7,SNR=9.0
CTA pPKP 23 00 41.3
comp=Z,8.3nm,0.6s,baz=75,slow=2.6,SNR=3.4
CTAO Charters Tower 128.52 225 *e*PKIKP PKPdf 23 00 09.0 +0.5
FORT Forrest 128.94 200 *e*PKP PKPdf 23 00 08.0 -1.0
comp=Z,529nm,1.0s
FORT *e*pPKP 23 00 40.6
NWAO Narrogin (SRO) 129.30 188 PKP PKPdf 23 00 11.2 +1.6
comp=Z,32nm,1.1s,baz=146,slow=1.9,SNR=4.6
NWAO pPKP 23 00 43.0
comp=Z,11nm,0.8s,baz=150,slow=3.6,SNR=2.3
NWAO Narrogin (SRO) 129.30 188 *e*PKPdf PKPdf 23 00 11.6 +2.0
KLBR Kellerberrin 130.55 188 *e*PKP PKPdf 23 00 13.4 +1.4
comp=Z,2μm,1.2s
KLBR *e*pPKP 23 00 44.1
ASAR Alice Springs 132.93 210 PKhKP 23 00 00.7
comp=Z,0.9nm,0.8s,baz=142,slow=2.6,SNR=8.2
ASAR PKP PKPdf 23 00 17.6 +0.8
comp=Z,14nm,1.0s,baz=133,slow=1.8,SNR=16
ASAR pPKP 23 00 50.1
comp=Z,5.8nm,0.6s,baz=141,slow=2.1,SNR=4.2
ASAR PP PP 23 02 41.2 -6.0
comp=Z,15nm,1.2s,baz=151,slow=6.7,SNR=12
ASAR SKPbc 23 03 35.2
comp=Z,8.7nm,1.1s,baz=152,slow=4.3,SNR=6.9
ASPA Alice Springs 132.93 210 *e*PKP PKPdf 23 00 17.6 +0.8
ASPA *e* 23 02 40.2
ASPA *e*PKS PKS 23 03 44.7 -7.3
ASPA *e*pPKS 23 04 14.7
YAK Yakutsk 133.59 348 *e*PKPdf PKPdf 23 00 18.8 +1.9
YAK *e*SKP 23 03 37.8
PMG Port Moresby 134.75 236 PKP PKPdf 23 00 21.7 +1.4
comp=Z,11nm,0.8s,baz=57,slow=7.2,SNR=7.0
PMG PP PP 23 02 54.3 -4.8
comp=Z,6.3nm,0.6s,baz=122,slow=6.5,SNR=3.5
PMG SKPbc 23 03 40.8
comp=Z,17nm,1.0s,baz=285,slow=3.8,SNR=3.9
WB2 Warramunga Arr 135.83 213 *e*PKP PKPdf 23 00 23.4 +1.2
WB2 *e*pPKP 23 00 54.2
WB2 *e*PKS PKS 23 03 54.3 -3.1
WB2 *e*pPKS 23 04 24.8
WRA Warramunga Arr 135.84 213 PKhKP 23 00 08.8
comp=Z,2.3nm,0.7s,baz=138,slow=3.2,SNR=17
WRA PKP PKPdf 23 00 24.7 +2.5
comp=Z,21nm,0.8s,baz=154,slow=1.5,SNR=38
WRA SKPbc 23 03 44.6
comp=Z,16nm,1.2s,baz=156,slow=2.8,SNR=8.8
WRAB Tennant Creek 135.84 213 *e*PKIKP PKPdf 23 00 23.1 +0.9
ZAL Zalesovo 138.73 23 PKhKP 23 00 20.1
comp=Z,1.4nm,0.4s,baz=160,slow=3.7,SNR=7.4
ZAL PKP PKPdf 23 00 28.1 +1.5
comp=Z,13nm,0.7s,baz=170,slow=2.8,SNR=28
ZAL pPKP 23 01 00.8
comp=Z,15nm,0.7s,baz=156,slow=2.3,SNR=6.4
ZAL SKPbc 23 03 53.5
comp=Z,16nm,0.9s,baz=167,slow=2.4,SNR=15
BOD Bodaibo 139.77 357 *e*PKHKP 23 00 20.4
BOD pmax pmax
comp=Z,7.0nm,1.6s
MBWA Marble Bar 140.37 194 *e*PKPpre 23 00 24.6
FRU Bishkek 140.68 43 *e*PKIKP PKPdf 23 00 32.5 +2.1
AAK Ala-Archa 140.70 43 PKIKP PKPdf 23 00 27.7 -2.8
AAK Ala-Archa 140.70 43 *e*PKPpre 23 00 27.4
FITZ Fitzroy Crossi 141.43 204 *e*PKP PKPdf 23 00 26.7 -5.7
comp=Z,34nm,1.0s
FITZ *e*PKS PKS 23 04 11.5 +4.4
FITZ Fitzroy Crossi 141.43 204 PKhKP 23 00 26.9
comp=Z,21nm,0.7s,baz=180,slow=4.8,SNR=13
FITZ PKP PKPdf 23 00 33.3 +0.8
comp=Z,42nm,1.0s,baz=218,slow=1.8,SNR=11
FITZ Fitzroy Crossi 141.43 204 *e*PKP PKPdf 23 00 26.7 -5.7
FITZ PKP PKPdf 23 00 33.3 +0.8
FITZ *e*PKS PKS 23 04 11.5 +4.4
ASAJ Asahikawa 142.12 321 PKP PKPdf 23 00 35.1 +2.2
comp=Z,11nm,0.9s,baz=291,slow=12,SNR=3.0
KAKA Kakadu 142.77 217 *e*PKP PKPdf 23 00 32.2 -2.6
comp=Z,35nm,1.0s
KAKA *e*pPKP 23 01 02.7
KSH Kashi 143.12 47 *e*PKP PKPdf 23 00 34.0 -0.7
KSH *e*PKS PKS 23 04 08.0 -1.4
KSH *e*SKS SKS 23 07 32.0 +1.5
KSH LR LR
comp=N,400nm,10.5s
KSH LR LR
comp=E,410nm,6.0s
KLR Kul'dur 144.00 336 *e*PKHKP 23 00 33.5
KLR *e* 23 03 49.0
IRK Irkutsk 145.13 6 *e*PKIKP PKPdf 23 00 39.3 +1.5
IRK *e* 23 01 11.1
IRK *e* 23 03 53.3
IRK pmax pmax
comp=Z,145nm,1.7s
MOY Mondy 145.24 10 *e*PKIKP PKPdf 23 00 41.0 +3.0
MOY *e* 23 01 12.1
MOY *e* 23 03 57.0
MOY pmax pmax
comp=Z,158nm,2.7s
POO Poona 145.38 83⇑ *i*P PKPdf 23 00 40.0 +0.8
THN Thein Dam 145.55 58 *e*P PKPdf 23 00 40.2 +1.0
KAD Karad 145.58 85 *e*P PKPdf 23 00 40.8 +1.1
TLY Talaya 145.61 7*c i*PKIKP PKPdf 23 00 40.8 +2.1
TLY *e* 23 01 12.9
TLY *e*SSS SSS 23 28 15.9 +1.0
TLY pmax pmax
comp=Z,128nm,2.0s
TLY MLR MLR
comp=Z,310nm,23.0s
TLY Talaya 145.61 7 *e*PKPdf PKPdf 23 00 42.0 +3.3
AJM Ajmer 145.89 69 *e* Px 23 00 45.5
comp=Z,68nm,1.6s
BHK Bhakra 146.41 59 *e* Px 23 01 00.9
GUMO Guam 146.49 268 *e*PKIKP PKPdf 23 00 44.4 +3.2
SDNR Sundarnagar 146.84 59 *e* PKPdf 23 00 45.4 +4.1
ZAK Zakamensk 146.84 8‖ *e*PKP2 PKPab 23 00 45.2 -1.3
ZAK pmax pmax
comp=Z,46nm,1.2s
SMLA Simla 147.10 60⇑ *i*P PKPdf 23 00 39.4 -2.4
SMLA *i* 23 01 15.7
HIA Hailar 147.52 348 *e*PKIKP PKPdf 23 00 44.5 +2.6
WMQ Urumqi 147.66 31 PKP PKPdf 23 00 45.0 +2.7
WMQ PKP2 PKPab 23 00 51.3 +1.3
WMQ APKP 23 01 13.5
WMQ XPKP 23 01 27.5
WMQ PP PP 23 04 17.4 +1.1
WMQ SKS SKS 23 07 40.0 +3.1
WMQ SKKS 23 10 53.5
WMQ PP PP
comp=Z,475nm,5.7s
WMQ LR LR
comp=N,242nm,24.2s
WMQ LR LR
comp=E,448nm,22.4s
WMQ LR LR
comp=Z,572nm,21.8s
AYAN Aya Nagar 147.72 64 *e*P PKPdf 23 00 44.0 +1.1
SONA Sohna 147.73 65 *e*P PKPdf 23 00 45.1 +2.2
SONA *e* 23 04 45.6
NDI New Delhi 147.75 64 *e*P PKPdf 23 00 44.0 +1.0
KLP Kalpa 147.87 58 *e*P PKPdf 23 00 44.8 +1.7
LATR Latur 147.93 83 *e* Px 23 00 48.0
DDI Dehra Dun 148.06 61 *e* Px 23 00 40.2
AKL Akola 148.44 79 *e* Px 23 00 50.0
MDJ Mudanjiang 148.59 333 PKP PKPdf 23 00 45.6 +1.8
MDJ PP PP 23 04 19.4 -1.9
MDJ SKS SKS 23 07 43.3 +5.1
MDJ SS SS 23 23 16.8 -1.9
MDJ PP PP
comp=Z,22nm,13.7s
MDJ LR LR
comp=N,279nm,39.5s
MDJ LR LR
comp=E,192nm,39.5s
MDJ LR LR
comp=Z,375nm,39.5s
MDJ Mudanjiang 148.59 333 *e*PKPdf PKPdf 23 00 46.8 +3.0
BHPL Bhopal 148.74 74 *e*P PKPdf 23 00 47.4 +2.7
BHPL *e* 23 01 01.1
comp=Z,62nm,2.0s
BHPL *e* 23 04 13.6
MJAR Matsushiro Arr 148.99 313 PKP PKPdf 23 00 46.0 +1.3
comp=Z,20nm,1.1s,baz=289,slow=1.2,SNR=12
MJAR PKPbc PKPdf 23 00 51.1 +6.5
comp=Z,30nm,0.8s,baz=89,slow=0.8,SNR=68
MJAR pPKPbc 23 01 22.0
comp=Z,46nm,0.8s,baz=84,slow=1.6,SNR=9.5
MAJO Matsushiro 148.99 313 *e*PKIKP PKPdf 23 00 47.1 +2.4
MAT Matsushiro 148.99 313 *e*PKHKP 23 00 46.0
MAT Matsushiro 148.99 313 PKP PKPdf 23 00 46.4 +1.7
PALK Pallekele 149.37 106 *e*PKPdf PKPdf 23 00 48.2 +2.3
SONM Songino Array 149.70 5 PKP PKPdf 23 00 48.4 +3.0
comp=Z,18nm,0.6s,baz=320,slow=2.2,SNR=32
SONM PKPbc PKPdf 23 00 53.3 +7.9
comp=Z,18nm,0.6s,baz=314,slow=1.7,SNR=90
SONM pPKP 23 01 20.4
comp=Z,7.4nm,0.7s,baz=326,slow=1.9,SNR=1.4
SONM pPKPbc 23 01 24.5
comp=Z,24nm,0.6s,baz=325,slow=1.6,SNR=4.4
SONM PP PP 23 04 21.5 -6.0
comp=Z,3.3nm,1.0s,baz=315,slow=6.1,SNR=4.6
ULN Ulaanbaatar 149.72 4 *e*PKPdf PKPdf 23 00 48.5 +3.0
HYB Hyderabad 149.75 86 *e*PKHKP 23 00 49.0
HYB Hyderabad 149.75 86 *i* PKP PKPdf 23 00 49.0 +2.6
comp=Z,40nm,1.0s
HYB *e* 23 01 24.5
HYB *e*sPKP 23 01 59.0
PTH Pithoragarh 150.08 61 *e* Px 23 00 54.0
LGTI Lohaghat 150.13 61 *e* Px 23 00 54.0
LGTI *e* 23 01 26.5
CN2 Changchun 150.93 337 *e*PKP PKPdf 23 00 54.3 +6.9
CN2 PP PP
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,800nm,21.0s
CN2 LR LR
comp=E,700nm,21.0s
CN2 LR LR
comp=Z,700nm,22.0s
JBP Jabalpur 151.09 74 *e* Px 23 01 26.8
JBP *e* 23 05 03.2
BLSP Bilaspur 153.16 76 *e*P PKPdf 23 00 52.8 +1.5
BLSP *e* 23 11 24.7
KOLN Koldanda 153.43 63 *e*P PKPdf 23 01 00.9 +9.4
GKN Gorkha 154.24 62 *e*P PKPdf 23 01 02.7 +10
VIS Vishakhapatnam 154.31 86 *e* Px 23 00 57.0
DMN Daman 154.76 62 *e*P PKPdf 23 01 05.1 +12
KKN Kakani 154.85 62 *e*P PKPdf 23 01 04.6 +11
KS15 Wonju Array Si 154.92 325 *e*PKPdf PKPdf 23 00 54.8 +1.5
PKI Pulchoki 155.02 62 *e*P PKPdf 23 01 06.7 +13
JIRN Jiri 155.65 61 *e*P PKPdf 23 01 07.4 +13
GTA Gaotai 156.45 21 PKP PKPdf 23 00 58.4 +3.2
GTA PKP2 PKPab 23 01 26.8 -0.1
GTA XPKP 23 01 39.8
GTA PKS PKS 23 04 31.1 +2.8
GTA PP PP 23 04 59.8 -6.0
GTA SKS SKS 23 07 53.8 +6.2
GTA SKKS 23 11 35.8
GTA PP PP
comp=Z,219nm,11.0s
GTA LR LR
comp=N,116nm,28.5s
GTA LR LR
comp=E,223nm,25.5s
DL2 Dalian 156.60 337 *e*PKP PKPdf 23 01 01.0 +5.6
DL2 APKP 23 01 31.9
DL2 *e*PP PP 23 05 06.6 +0.1
DL2 SS SS 23 24 43.9 -1.9
DL2 PP PP
comp=Z,140nm,8.6s
HHC Hu-ho-hao-te 156.82 358 *e*PKP PKPdf 23 00 56.5 +0.9
HHC APKP 23 01 23.3

HHC				PKP2	PKPab	23 01 28.3	-0.1
HHC				PKS	PKS	23 04 27.3	-1.3
HHC				PP	PP	23 05 05.3	-2.3
HHC				SKS	SKS	23 07 50.8	+2.8
HHC				SKKS		23 11 42.8	
HHC				SS	SS	23 24 43.8	-4.1
HHC				LR	LR		
	comp=N,211nm,21.8s						
HHC				LR	LR		
	comp=E,205nm,20.6s						
HHC				LR	LR		
	comp=Z,313nm,21.4s						
BJI	**Beijing**	**157.09**	**348**	*e*PKP	PKPdf	23 00 59.5	+3.5
BJI				LR	LR		
	comp=N,414nm,15.3s						
BJI				LR	LR		
	comp=E,316nm,17.4s						
BJI				LR	LR		
	comp=Z,216nm,25.8s						
LSA	**Lhasa**	**158.77**	**52**	*e*PKPdf	PKPdf	23 01 02.6	+4.2
LZH	**Lanzhou**	**160.74**	**16**	*e*PKP	PKPdf	23 01 03.5	+3.1
LZH				APKP		23 01 35.6	
LZH				XPKP		23 01 48.1	
LZH				*e*PP	PP	23 05 28.0	-1.1
LZH				SKKS		23 12 02.3	
LZH				*e*SS	SS	23 25 23.5	-5.4
LZH				PP	PP		
	comp=Z,195nm,7.2s						
LZH				LR	LR		
	comp=N,725nm,18.2s						
LZH				LR	LR		
	comp=Z,787nm,20.0s						
SHL	**Shillong**	**161.16**	**62**	*e*P	PKPdf	23 01 04.0	+2.9
SSE	**Sheshan**	**163.33**	**326**	PKP	PKPdf	23 00 59.1	-4.0
SSE				PP	PP	23 05 45.3	+2.5
SSE				PP	PP		
	comp=Z,98nm,7.0s						
SSE				LR	LR		
	comp=N,78nm,23.6s						
SSE				LR	LR		
	comp=E,194nm,23.6s						
SSE				LR	LR		
	comp=Z,238nm,21.8s						
XAN	**Xi'an**	**163.60**	**4**	PKP	PKPdf	23 01 06.3	+3.0
NJ2	**Nanjing**	**163.68**	**333**	*e*PKP	PKPdf	23 01 06.4	+3.0
NJ2				APKP		23 01 33.4	
NJ2				XPKP		23 01 43.9	
NJ2				PKP2	PKPab	23 02 00.8	+2.4
NJ2				PP	PP	23 05 48.0	+3.2
NJ2				SKS	SKS	23 08 01.0	+6.7
NJ2				PP	PP		
	comp=Z,200nm,9.9s						
NJ2				LR	LR		
	comp=N,2μm,30.0s						
NJ2				LR	LR		
	comp=E,880nm,31.2s						
NJ2				LR	LR		
	comp=Z,800nm,28.7s						
KSM	**Kuching**	**163.95**	**180**	*e*PKPdf	PKPdf	23 01 07.0	+2.8
KSM				*e*PKPab	PKPab	23 01 59.9	-0.2
KULM	**Kulim**	**164.53**	**141**	*e*PKPdf	PKPdf	23 01 07.3	+2.5
CD2	**Chengdu**	**165.50**	**23**	PKP	PKPdf	23 01 05.1	-0.1
CD2				PKP2	PKPab	23 02 03.9	-2.4
CD2				PP	PP	23 05 50.6	-3.7
CD2				SKS	SKS	23 07 58.3	+2.7
CD2				SKKS		23 12 26.3	
CD2				PP	PP		
	comp=Z,440nm,5.9s						
CD2				LR	LR		
	comp=N,290nm,16.8s						
CD2				LR	LR		
	comp=Z,590nm,20.4s						
KKM	**Kota Kinabalu**	**167.12**	**207**	*e*PKPdf	PKPdf	23 01 09.9	+3.0
ENH	**Enshi**	**167.38**	**3**	*e*PKPdf	PKPdf	23 01 09.5	+2.9
CHG	**Chiang Mai**	**169.15**	**82**	⇓P	PKPdf	23 01 10.2	+2.2
	comp=Z,13nm,1.1s						
CM31	**Chiang Mai Arr**	**169.17**	**84**	*e*PKPdf	PKPdf	23 01 10.9	+2.9
CMAR	**Chiang Mai Arr**	**169.17**	**84**	PKP	PKPdf	23 01 10.3	+2.3
	comp=Z,3.8nm,1.1s,baz=273,slow=1.5,SNR=23						
CMAR				PKPab	PKPab	23 02 22.4	-0.3
	comp=Z,8.0nm,1.0s,baz=275,slow=6.1,SNR=16						
CMAR				PP	PP	23 06 18.1	+5.2
	comp=Z,6.6nm,1.1s,baz=292,slow=5.8,SNR=7.9						
KMI	**Kunming**	**169.74**	**42**	PKP	PKPdf	23 01 09.6	+1.4
KMI				APKP		23 01 42.9	
KMI				XPKP		23 01 53.0	
KMI				PKP2	PKPab	23 02 24.8	-0.2
KMI				PP	PP	23 06 12.8	-2.9
KMI				SKS	SKS	23 07 58.9	+0.6
KMI				SKKS		23 12 48.3	
KMI				PP	PP		
	comp=Z,249nm,11.7s						
KMI				LR	LR		
	comp=N,184nm,24.5s						
KMI				LR	LR		
	comp=E,214nm,26.1s						
KMI				LR	LR		
	comp=Z,622nm,49.1s						
KMI	**Kunming**	**169.74**	**42**	PKP	PKPdf	23 01 09.6	+1.4
KMI				pPKP		23 01 42.9	
KMI				sPKP		23 01 53.0	
KMI				PKPab	PKPab	23 02 24.7	-0.3
KMI				PP	PP	23 06 12.7	-3.0
KMI				SKS	SKS	23 07 58.9	+0.6
KMI				SKKS		23 12 48.3	
KMI				SS	SS	23 26 59.1	-2.1
KMI				LR	LR		
	comp=Z,620nm,49.1s						
NST	**Nakhon Sawan**	**170.07**	**100**	P	PKPdf	23 01 09.0	+0.4
GYA	**Guiyang**	**170.58**	**20**	PKP	PKPdf	23 01 10.8	+2.1
GYA				APKP		23 01 41.6	
GYA				PKP2	PKPab	23 02 28.5	-0.3
GYA				PP	PP	23 06 18.6	-1.2
GYA				SKKS		23 12 54.8	
GYA				PP	PP		
	comp=Z,240nm,6.6s						
GYA				LR	LR		
	comp=N,380nm,22.4s						
GYA				LR	LR		
	comp=E,540nm,24.0s						
GYA				LR	LR		
	comp=Z,870nm,25.0s						
NANT	**Nan**	**170.80**	**81**	P	PKPdf	23 01 09.0	0.0
QIZ	**Qiongzhong**	**178.53**	**17**	PKPR		23 01 14.4	
QIZ				PKP2	PKPab	23 03 04.8	+0.6
QIZ				PP	PP	23 06 58.1	-0.7
QIZ				PP	PP		
	comp=Z,969nm,8.9s						

*NEIC **16** 22:55:24.8, 19.43N×98.97W, h12km, MD3.8(MEX), After MEX.*

MEX 16 22:55:25.1±1.8, 19.43N×99.00W, h16km±5km, MD3.8, 1C-5D, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNM	**Universidad Na**	**0.20**	**241**	*e*P	Pb	22 55 29.6	-0.3
UNM				*i* S	Sb	22 55 31.8	-1.3
UNM	**Universidad Na**	**0.20**	**241**	⇓*i*P	Pb	22 55 29.6	-0.3
UNM				*e*P		22 55 29.8	
UNM				*i* S	Sb	22 55 31.8	-1.3
UNM				*i* S	Sb	22 55 33.1	0.0
PTVM	**Pico Tres Padr**	**0.20**	**326**	⇓*i*P	Pb	22 55 29.0	-0.9
PTVM				*i* S	Sb	22 55 33.4	+0.2
MDVM	**Presa Madin**	**0.26**	**295**	*i* P	Pb	22 55 30.3	-0.7
MDVM				*i* S	Sb	22 55 34.3	-0.6
MDVM	**Presa Madin**	**0.26**	**295**	⇓*i*P	Pb	22 55 30.3	-0.7
MDVM				*i* S	Sb	22 55 34.3	-0.6
IIO	**Organos**	**0.31**	**57**	*i* P	Pb	22 55 30.3	-1.4
IIO				*i* S	Sb	22 55 35.8	-0.4
IIZ	**Mezontepec**	**0.33**	**224**	*e*P	Pb	22 55 31.3	-0.9
IIZ				*i* S	Sb	22 55 35.0	-1.9
CHVM	**Chichinautzin**	**0.37**	**203**	*i* P	Pb	22 55 32.1	-0.6
CHVM				*i* S	Sb	22 55 36.8	-1.1
SZVM	**Salazar**	**0.38**	**254**	*e*P	Pb	22 55 32.2	-0.8
SZVM				*i* S	Sb	22 55 39.1	+0.8
IIC	**Rita Coyotepec**	**0.42**	**324**	*i* P	Pb	22 55 32.5	-1.2
IIC				*i* S	Sb	22 55 38.4	-1.1
PPM	**Popocatepetl**	**0.50**	**136**	*i* S	Sb	22 55 44.7	+2.9
PPM				*e*P		22 55 33.9	
PPM				⇓*i*P		22 55 35.0	
PPM				⇓*e*P		22 55 35.3	
PPM				*i* S	Sb	22 55 40.3	-1.5
PPM				*i* S	Sb	22 55 41.0	-0.8
POHV	**Veracruz**	**1.66**	**102**	⇑*e*P	Pn	22 55 58.0	+4.1

*IDC **16** 23:12:10.3±0.7, 17.02N×62.14W, h97km±8km, mb3.5/9, mb1 3.7/11, mb1mx3.4/27, mbtmp3.9/11, Error ellipse: s-maj=14.8km s-min=8.4km az=41.0*
*TRN **16** 23:12:10.1, 17.04N×62.11W, h94km, MD4.0, M3.8(FDF)*
*NEIC **16** 23:12:11.2±0.5, 17.05N×62.13W, h105km±4km, MD4.0(TRN), Error ellipse: s-maj=12.8km s-min=7.9km az=71.0*

ISC 16 23:12:10.1±0.5, 17.10N±0.06×62.14W±0.06, h108km±3km, n25, σ1°06/38, mb3.9/10, 1C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.27**	**100**	⇓*i*P	P	23 12 25.6	0.0
BPA				*e*S	S	23 12 35.0	-2.3
NVRH	**Round Hill, Ne**	**0.45**	**281**	*e*P	P	23 12 26.6	0.0
NVRH				*e*S	S	23 12 37.9	-1.0
NVBH	**Bath Hotel, Ne**	**0.46**	**273**	*e*P	P	23 12 26.9	+0.2
NVBH				*e*S	S	23 12 38.4	-0.6
SKTB	**Turtle Beach**	**0.47**	**284**	*e*P	P	23 12 26.1	-0.6
SKTB				*e*S	S	23 12 35.4	-3.8
CPB	**Codrington**	**0.62**	**29**	⇓*i*P	P	23 12 28.6	+0.9
CPB				*e*S	S	23 12 41.0	-0.1
SKI	**Saint Kitts**	**0.62**	**293**	*e*P	P	23 12 28.0	+0.2
SKI				*e*S	S	23 12 40.2	-0.9
BSK	**Brimstone Hill**	**0.71**	**291**	*e*P	P	23 12 29.3	+0.7
BSK				*e*S	S	23 12 42.2	-0.3
SABS	**Saba**	**1.18**	**297**	*e*P	P	23 12 34.8	+1.3
SABS				*e*S	S	23 12 54.3	+3.3
SABT	**Saba**	**1.18**	**297**	*e*P	P	23 12 34.8	+1.3
SABT				*e*S	S	23 12 54.3	+3.3
STMA	**St. Maarten, A**	**1.32**	**316**	*e*P	P	23 12 36.0	+0.8
STMA				*e*S	S	23 12 53.5	-0.4
BBL	**Barber's Block**	**1.69**	**158**	⇑*i*P	P	23 12 40.9	+1.4
BBL				*e*S	S	23 13 03.0	+1.5
SJG	**San Juan**	**3.96**	**285**	P	P	23 13 09.9	-0.2
	8.5nm,0.3s,baz=187,slow=8.1,SNR=7.2						
SJG				S	S	23 13 55.1	-0.7
	31nm,0.3s,baz=294,slow=20,SNR=19						
SJG	**San Juan**	**3.96**	**285**	*e*Pn	P	23 12 58.0	-12
SJG				*e*Sn	S	23 13 54.8	-1.0
ROSC	**El Rosal**	**17.05**	**226**	P	P	23 16 04.2	+0.9
	0.6nm,0.3s,baz=94,slow=19,SNR=3.7						
SIV	**San Ignacio**	**32.89**	**178**	P	P	23 18 34.0	-2.2
	0.6nm,0.5s,mb3.7,baz=1.3,slow=12,SNR=6.1						
SCHQ	**Schefferville**	**37.84**	**356**	P	P	23 19 19.2	+1.5
	1.3nm,0.6s,mb4.0,baz=202,slow=11,SNR=5.3						
ULM	**Lac du Bonnet**	**42.73**	**328**	P	P	23 19 57.7	-0.4
	3.3nm,0.4s,mb4.4,baz=132,slow=7.3,SNR=4.4						
CPUP	**Villa Florida**	**43.42**	**174**	P	P	23 20 02.6	-1.4
	1.3nm,0.9s,mb3.6,baz=11,slow=13,SNR=2.2						
RSSD	**Black Hills**	**44.33**	**317**	P	P	23 20 16.7	+5.6
	36nm,1.7s,mb4.8						
FRB	**Frobisher Bay**	**46.82**	**356**	P	P	23 20 31.1	+0.5
	1.8nm,0.7s,mb3.9,baz=162,slow=10.0,SNR=5.3						
PDAR	**Pinedale Array**	**47.61**	**313**	P	P	23 20 36.9	-0.1
	0.3nm,0.4s,mb3.4,baz=119,slow=9.3,SNR=2.9						
YKA	**Yellowknife Ar**	**58.04**	**334**	P	P	23 21 53.0	-0.9
	0.5nm,0.5s,mb3.8,baz=105,slow=7.4,SNR=17						
YKA	**Yellowknife Ar**	**58.04**	**334**	P	P	23 21 53.0	-0.9
INK	**Inuvik**	**67.37**	**338**	P	P	23 22 55.0	-0.6
	0.5nm,0.6s,mb3.6,baz=92,slow=3.7,SNR=5.2						
ILAR	**Eielson Array**	**72.45**	**333**	P	P	23 23 26.1	-0.3
	0.3nm,0.5s,mb3.4,baz=86,slow=4.5,SNR=6.2						

MAN 16 23:18:10.4, 12.99N×121.05E, h12km, mb3.9, ML2.7, MS2.3, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.53**	**172**	*e*P	Pb	23 18 21.1	0.0
BOAC	**Boac**	**0.91**	**59**	*e*P	Pb	23 18 27.4	-0.2
LUBP	**Lubang**	**1.08**	**314**	⇑*e*P	Pb	23 18 30.9	+0.4
TGY	**Tagaytay City**	**1.11**	**354**	⇑*i*P	Pb	23 18 24.4	-6.8
TGY				*i* S	Sb	23 18 32.5	-13
OTRP	**Odiongan**	**1.13**	**123**	*e*P	Pb	23 18 30.8	-0.7
BUSP	**Coron**	**1.28**	**220**	*e*P	Pb	23 18 33.6	-0.4
BUSP				*e*S	Sb	23 18 51.8	+1.6
ENPP	**El Nido**	**2.38**	**222**	*e*P	Pn	23 18 48.9	-0.9

IDC 16 23:19:51.6±4.7, 30.15S×178.59W, mb3.6/2, mb1 3.8/2, mb1mx3.6/14, mbtmp3.6/2, MS4.2/1, Ms1 4.2/1, ms1mx2.9/19, Error ellipse: s-maj=255.7km s-min=70.7km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.62**	**267**	P	P	23 27 49.8	-1.7
	0.3nm,0.5s,baz=106,slow=7.4,SNR=6.0						
WRA	**Warramunga Arr**	**43.58**	**272**	P	P	23 27 57.6	-1.7
	0.5nm,0.4s,baz=113,slow=8.0,SNR=18						
FITZ	**Fitzroy Crossi**	**51.85**	**270**	LR	LR	23 50 35.7	
	comp=Z,246nm,21.5s,baz=95,slow=36						
FINES	**FINESS Array B**	**144.74**	**340**	PKP	PKPdf	23 39 29.2	-2.3
	1.1nm,0.8s,baz=63,slow=4.3,SNR=6.7						

IDC 16 23:25:22.9±2.1, 1.88S×99.77E, mb3.8/7, mb1 4.0/7, mb1mx3.7/18, mbtmp3.8/7, MS4.2/1, Ms1 4.2/1, ms1mx3.3/26, Error ellipse: s-maj=90.2km s-min=18.9km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.23**	**358**	P	P	23 29 59.9	-2.7
	0.2nm,0.5s,baz=155,slow=15,SNR=3.1						
FITZ	**Fitzroy Crossi**	**30.07**	**124**	P	P	23 31 33.8	-2.6
	1.2nm,0.5s,baz=311,slow=9.3,SNR=3.8						
WRA	**Warramunga Arr**	**38.25**	**120**	P	P	23 32 44.9	-1.9
	1.3nm,0.4s,baz=303,slow=9.0,SNR=27						
WB2	**Warramunga Arr**	**38.26**	**120**	*e*P	P	23 32 44.6	-2.3
ASAR	**Alice Springs**	**39.51**	**126**	P	P	23 32 56.1	-1.1
	1.0nm,0.6s,baz=302,slow=7.8,SNR=21						
SONM	**Songino Array**	**49.85**	**6**	P	P	23 34 17.9	-2.0
	0.4nm,0.7s,baz=189,slow=10,SNR=4.5						
ZAL	**Zalesovo**	**57.01**	**350**	P	P	23 35 10.3	-2.4
	0.5nm,0.3s,baz=255,slow=2.9,SNR=3.8						
ASAJ	**Asahikawa**	**59.65**	**35**	LR	LR	00 03 09.9	
	comp=Z,196nm,18.5s,baz=148,slow=38						
FINES	**FINESS Array B**	**83.90**	**332**	P	P	23 37 54.5	-1.3
	0.7nm,0.8s,baz=135,slow=5.4,SNR=6.0						
TXAR	**Lajitas Array**	**144.75**	**37**	PKP	PKPdf	23 45 01.9	-2.5
	0.5nm,0.6s,baz=288,slow=1.1,SNR=4.8						

*ISK **16** 23:44:49.0, 34.93N×32.46E, h61km, MD4.0*
*CSEM **16** 23:44:50.6±0.1, 35.19N×32.45E, h60km, Mw3.4, Error ellipse: s-maj=1.8km s-min=1.1km az=54.0*
*NIC **16** 23:44:52.5±0.2, 35.24N×32.54E, h42km, mb4.0, ML3.8, MW3.6*
*NEIC **16** 23:44:52.5, 35.24N×32.54E, h42km, mb4.3/1, After NIC.*
*IDC **16** 23:44:53.4±1.6, 35.17N×32.47E, h72km±21km, mb3.5/4, mb1 3.5/10, mb1mx3.3/24, mbtmp3.6/10, MS3.0/1, Ms1 3.0/1, ms1mx2.8/25, Error ellipse: s-maj=22.7km s-min=10.5km az=72.0*
*GRAL **16** 23:44:54.6±3.2, 35.14N×32.59E, h31km±15km, MD3.8*
*HLW **16** 23:44:54.4, 34.99N×32.39E, h19km, Mb3.8*
*GII **16** 23:44:56.4±0.6, 34.94N×32.65E, h25km±30km, ML3.3/5, Mw3.4/6*

ISC 16 23:44:51.4±0.2, 35.13N±0.02×32.47E±0.03, h65km±4km, n116, σ0°90/140, mb3.5/4, 10C-10D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alevga**	**0.11**	**77**	⇑P	P	23 44 59.4	-1.7
ALFC	**Alevga**	**0.11**	**77**	⇑*i*P	P	23 44 59.4	-1.7
ALFC	**Alevga**	**0.11**	**77**	*i* Pg	P	23 44 59.4	-1.7
AKMC	**Akamas**	**0.15**	**227**	⇓P	P	23 45 00.8	-0.4
AKMC	**Akamas**	**0.15**	**227**	⇓*i*P	P	23 45 00.8	-0.4
AKMC	**Akamas**	**0.15**	**227**	*i* Pg	P	23 45 00.8	-0.4
PPCY	**Paphos**	**0.27**	**202**	⇓P	P	23 45 02.0	+0.1
PPCY				S	S	23 45 08.7	-0.9
PPCY	**Paphos**	**0.27**	**202**	⇓*i*P	P	23 45 02.0	+0.1
PPCY				S	S	23 45 08.7	-0.9
PPCY	**Paphos**	**0.27**	**202**	*i* Pg	P	23 45 02.0	+0.1
LEF	**Lefka**	**0.35**	**92**	*i* PG	P	23 45 00.8	-1.7
LEF	**Lefka**	**0.35**	**92**	Pg	P	23 45 00.9	-1.6
LEF	**Lefka**	**0.35**	**92**	Pg	P	23 45 00.9	-1.6
SZAC	**Souni-Zanaja**	**0.51**	**138**	⇑P	P	23 45 04.4	+0.5
SZAC	**Souni-Zanaja**	**0.51**	**138**	⇑*i*P	P	23 45 04.4	+0.5
SZAC	**Souni-Zanaja**	**0.51**	**138**	*i* Pg	P	23 45 04.4	+0.5
MAMC	**Mammari**	**0.62**	**86**	⇑P	P	23 45 04.3	-0.8
MAMC	**Mammari**	**0.62**	**86**	⇑*i*P	P	23 45 04.3	-0.8
MAMC	**Mammari**	**0.62**	**86**	*i* Pg	P	23 45 04.3	-0.8
CSS	**Prodhromos**	**0.73**	**103**	⇑P	P	23 45 05.9	-0.5
	32nm,0.3s						
CSS				S	S	23 45 16.6	-1.0
CSS	**Prodhromos**	**0.73**	**103**	⇑*i*P	P	23 45 05.9	-0.5
CSS				S	S	23 45 16.6	-1.0
CSS	**Prodhromos**	**0.73**	**103**	*i* Pg	P	23 45 05.9	-0.5
CSS				S	S	23 45 16.6	-1.0
PHNC	**Paralimni**	**1.29**	**95**	P	P	23 45 15.3	+1.5
PHNC				S	S	23 45 30.6	+0.1
PHNC	**Paralimni**	**1.29**	**95**	*i* Pg	P	23 45 15.3	+1.5
PHNC				S	S	23 45 30.6	+0.1
HDMB	**Hadim**	**1.83**	**0**	PN	P	23 45 22.4	+1.2
HDMB				SN	S	23 45 46.5	+3.3
MEST	**Erdemli**	**1.99**	**43**	*i* P	P	23 45 23.3	-0.1
ANTB	**Antalya**	**2.30**	**321**	*e*PN	P	23 45 27.6	-0.2
AKAS	**Kas**	**2.58**	**296**	*i* P	P	23 45 31.6	-0.1
ELL	**Elmali**	**2.63**	**309**	*e*PN	P	23 45 33.1	+0.6
BCK	**Bucak**	**2.78**	**327**	PN	P	23 45 34.5	-0.1
BCK	**Bucak**	**2.78**	**327**	*e*PN	P	23 45 34.9	+0.3
KONT	**Konya--Tatoy**	**2.81**	**358**	PN	P	23 45 36.0	+1.0
MATL	**Matirih**	**2.88**	**124**	*e*PN	P	23 45 40.0	+4.0
BHL	**Bhannes**	**2.90**	**114**	*e*PN	P	23 45 35.0	-1.4
BHL				SN	S	23 46 05.8	-4.3
BHL	**Bhannes**	**2.90**	**114**	*e*Pn	P	23 45 35.0	-1.3
BHL				Sn	S	23 46 05.8	-4.3
HWQ	**Hawqa**	**2.99**	**106**	*e*PN	P	23 45 37.8	+0.3
HWQ				SN	S	23 46 10.5	-1.9
HNTI	**Hanita**	**3.04**	**132**	P	P	23 45 38.3	+0.1
HNTI	**Hanita**	**3.04**	**132**	Pn	P	23 45 38.0	-0.2
HNTI				Sn	S	23 46 11.9	-1.6
FETY	**Fethiye**	**3.13**	**300**	*e*PN	P	23 45 39.3	-0.2
ISP	**Isparta**	**3.13**	**330**	*e*PN	P	23 45 38.9	-0.7
HTY	**Hatay**	**3.15**	**71**	*e*PN	P	23 45 39.1	-0.7
GOLH	**Golhisar**	**3.15**	**313**	*i* P	P	23 45 41.9	+2.1
WRDH	**Warideh**	**3.25**	**82**	⇑*i*P	P	23 45 40.8	-0.4
CEYT	**Ceyhan**	**3.25**	**54**	*e*PN	P	23 45 41.0	-0.2
OFRI	**'Ofer**	**3.27**	**139**	Pn	P	23 45 41.3	-0.1
KSDI	**Kefar Szold**	**3.28**	**125**	Pn	P	23 45 41.5	-0.1
BRBR	**Barbar**	**3.36**	**120**	⇑*i*P	P	23 45 43.3	+0.6
FKH	**Fakeheh**	**3.36**	**104**	*e*PN	P	23 45 43.2	+0.4
FKH				SN	S	23 46 20.7	-1.0
COBT	**Iskenderun**	**3.38**	**65**	*i* P	P	23 45 43.7	+0.7
DALT	**Dalyan (Mudla)**	**3.51**	**299**	*e*PN	P	23 45 44.5	-0.4
QASN	**Qassioun**	**3.53**	**116**	⇑*i*P	P	23 45 46.0	+0.8
SLTI	**Sal'it**	**3.59**	**143**	Pn	P	23 45 46.1	0.0
SLTI				Sn	S	23 46 24.3	-3.2
MMLI	**Mount Malkishu**	**3.64**	**137**	Pn	P	23 45 46.8	+0.1
TOTH	**TOTAH**	**3.73**	**117**	⇓*i*P	P	23 45 48.8	+0.9
DNZL	**Cakiroluk**	**3.76**	**314**	*i* P	P	23 45 48.6	+0.2
KIZT	**Kizilcal**	**3.77**	**353**	*e*PN	P	23 45 49.3	+0.8
TCHB	**Talchebab**	**3.81**	**129**	⇓*i*P	P	23 45 50.2	+1.2
DENT	**Denizli**	**3.81**	**314**	*e*PN	P	23 45 49.4	+0.4
YER	**Yerkesik**	**3.93**	**302**	*e*PN	P	23 45 51.1	+0.3
SALA	**Sala**	**4.29**	**123**	⇓*i*P	P	23 45 57.2	+1.4
DRGI	**Dragot**	**4.29**	**144**	Pn	P	23 45 56.4	+0.6
GAZ	**Gaziantep**	**4.34**	**61**	*e*PN	P	23 45 55.9	-0.6
KAMT	**Kaman**	**4.34**	**13**	*e*PN	P	23 45 58.2	+1.7
ALT	**Altintas**	**4.35**	**335**	*e*PN	P	23 45 57.9	+1.4
MLSB	**Milas**	**4.36**	**301**	*e*PN	P	23 45 56.5	-0.3
MKRJ	**Makawir**	**4.45**	**142**	Pn	P	23 45 59.0	+1.1
RTMM	**Retamin**	**4.47**	**155**	Pn	P	23 45 58.8	+0.5
AYDN	**Tasoluk**	**4.48**	**306**	*i* P	P	23 45 58.1	-0.3
BDRM	**Kayabasi**	**4.50**	**297**	*i* P	P	23 45 57.1	-1.7
KZIT	**Kziot**	**4.51**	**158**	Pn	P	23 45 59.0	+0.1
MZDA	**Masada**	**4.52**	**147**	Pn	P	23 45 59.9	+0.9
AMAG	**Maghara**	**4.52**	**172**	⇓P	P	23 45 59.7	+0.7
ESKT	**Eskisehir**	**4.57**	**344**	*e*PN	P	23 46 01.1	+1.5
ESKT	**Eskisehir**	**4.57**	**344**	*i* P	P	23 46 00.6	+1.0
MANT	**Manisa**	**4.59**	**318**	*i* P	P	23 46 00.4	+0.4
BNN	**Bunyan**	**4.59**	**35**	*e*PN	P	23 46 00.3	+0.3
BODT	**Bodrum**	**4.60**	**296**	*e*PN	P	23 45 59.4	-0.7
BRTR	**Keskin Array B**	**4.68**	**11**	P	P	23 46 01.4	+0.2
	1.0nm,0.3s,baz=187,slow=16,SNR=29						
BRTR				S	S	23 46 53.7	-1.0
	0.5nm,0.3s,baz=183,slow=24,SNR=9.2						
BRTR	**Keskin Array B**	**4.68**	**11**	P	P	23 46 01.4	+0.2
BRTR				S	S	23 46 53.7	-1.0
ASF	**Jabal al Asfar**	**4.73**	**127**	P	P	23 46 03.3	+1.4
	3.3nm,0.3s,baz=194,slow=6.3,SNR=29						
ASF				S	S	23 46 57.9	+2.0
	8.0nm,0.3s,baz=54,slow=19,SNR=10						
CDAG	**Cicekdag**	**4.73**	**18**	*i* P	P	23 46 02.3	+0.4
HBRG	**Burj al 'Arab**	**5.05**	**207**	⇓P	P	23 46 06.3	-0.1
HBRG				S	S	23 46 59.9	-4.2
ZFRI	**Zfri**	**5.10**	**153**	Pn	P	23 46 07.1	0.0
HHAG	**Hagoal**	**5.17**	**184**	P	P	23 46 08.4	+0.4
PRNI	**Paran**	**5.22**	**155**	Pn	P	23 46 09.2	+0.4
PRNI	**Paran**	**5.22**	**155**	Pn	P	23 46 09.1	+0.4
SUZ		**5.29**	**177**	⇓P	P	23 46 09.9	+0.4
KMTI	**Karmit**	**5.36**	**159**	Pn	P	23 46 10.7	0.0
DABA	**Dabaa**	**5.41**	**222**	P	P	23 46 11.1	-0.2
SGKT	**Sivrigoynuk**	**5.44**	**357**	*i* P	P	23 46 11.9	+0.1
GLL	**Jalalah**	**5.58**	**187**	P	P	23 46 13.6	0.0
HNAT	**Natroun**	**5.70**	**196**

KAB				*e*		23 52 33.1	
KAB				pmax	pmax		
	comp=Z,271nm,0.3s						
KAB				smax			
	comp=N,1μm,0.2s						
TLY	**Talaya**	**2.42**	**242**	*e*PN	Pn	23 52 45.7	-0.5
TLY				*e*		23 52 48.9	
TLY				*e*		23 53 20.8	
TLY				pmax	pmax		
	comp=Z,14nm,0.1s						
TLY				smax			
	comp=E,144nm,1.0s						
ARS	**Arshan**	**3.01**	**253**	*e*PN	Pn	23 52 59.5	+4.9
ARS				*e*		23 53 38.7	
ARS				pmax	pmax		
	comp=Z,21nm,0.2s						
ARS				smax			
	comp=E,277nm,0.4s						
NIZ	**Nizh Angarsk**	**3.25**	**25**	*e*PN	Pn	23 52 58.4	+0.4
NIZ				*e*		23 53 06.1	
NIZ				*e*		23 53 47.1	
NIZ				pmax	pmax		
	comp=Z,37nm,0.3s						
NIZ				smax			
	comp=N,104nm,0.5s						
KMO	**Kumora**	**3.87**	**37**	*e*PN	Pn	23 53 05.4	-1.3
KMO				*e*		23 53 14.6	
KMO				*e*S	Sn	23 53 48.1	-4.5
KMO				*e*		23 54 03.7	
KMO				pmax	pmax		
	comp=Z,17nm,0.5s						
KMO				smax			
	comp=N,84nm,1.2s						

*IDC **16** 23:58:43.6±0.9, 44.23S×169.48E, mb4.1/4, mb1 4.2/5, mb1mx4.0/11, mbtmp4.1/5, ML3.8/1, Error ellipse: s-maj=35.3km s-min=12.0km az=163.0*
*NEIC **16** 23:58:43.6, 44.37S×169.53E, h8km, mb4.6/5, ML5.0(WEL), After WEL.*
NEIC Felt at Ohau.
*WEL **16** 23:58:44.0±0.2, 44.35S×169.53E, h12km±1km, ML4.9/19, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0*
WEL Felt from Canterbury to Otago, maximum reported intensity MM 4.

ISC 16 23:58:43.2±1.0, 44.34S±0.03×169.55E±0.03, h11km±7km, n54, σ0°97/60, mb4.3/7, 4C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	**Lake Benmore**	**0.46**	**97**	P	**Pg**	**23 58 53.2**	**+0.6**
LBZ	**Lake Benmore**	**0.46**	**97**	P*	**Pb**	**23 58 53.2**	**+0.4**
LBZ				S*	**Sb**	**23 58 59.9**	**+0.6**
WKZ	**Wanaka**	**0.62**	**217**	P	**Pb**	**23 58 55.1**	**-0.5**
WKZ	**Wanaka**	**0.62**	**217**	⇑P*	**Pb**	**23 58 55.1**	**-0.5**
WKZ				S*	**Sb**	**23 59 04.4**	**+0.4**
JCZ	**Jackson Bay**	**0.62**	**294**	P	**Pb**	**23 58 55.7**	**0.0**
JCZ	**Jackson Bay**	**0.62**	**294**	⇓P*	**Pb**	**23 58 55.7**	**+0.1**
JCZ				S*	**Sb**	**23 59 04.2**	**0.0**
FOZ	**Fox Glacier**	**0.78**	**8**	P	**Pb**	**23 58 59.3**	**+1.0**
FOZ	**Fox Glacier**	**0.78**	**8**	⇑P*	**Pb**	**23 58 59.3**	**+1.0**
FOZ				S*	**Sb**	**23 59 09.8**	**+1.2**
EAZ	**Earnscleugh**	**0.91**	**191**	P	**Pb**	**23 59 00.1**	**-0.5**
EAZ	**Earnscleugh**	**0.91**	**191**	⇑P*	**Pb**	**23 59 00.1**	**-0.5**
EAZ				S*	**Sb**	**23 59 12.8**	**+0.3**
ODZ	**Otahua Downs**	**1.05**	**133**	P	**Pb**	**23 59 03.1**	**+0.1**
ODZ				S	**Sb**	**23 59 16.2**	**-0.5**
ODZ	**Otahua Downs**	**1.05**	**133**	⇓P*	**Pb**	**23 59 03.1**	**+0.1**
ODZ				S*	**Sb**	**23 59 16.2**	**-0.4**
MSZ	**Milford Sound**	**1.21**	**253**	P*	**Pb**	**23 59 05.9**	**+0.3**
MSZ				S*	**Sb**	**23 59 21.4**	**+0.3**
RPZ	**Rata Peaks**	**1.25**	**61**	Pg	**Pg**	**23 59 07.5**	**-0.7**
	2μm,0.3s,baz=223,slow=5.3,SNR=572						
RPZ				Lg		23 59 23.0	
	1μm,0.3s,baz=105,slow=20,SNR=29						
RPZ	**Rata Peaks**	**1.25**	**61**	P	**Pb**	**23 59 07.6**	**+1.2**
RPZ	**Rata Peaks**	**1.25**	**61**	P*	**Pb**	**23 59 07.6**	**+1.3**
RPZ				S*	**Sb**	**23 59 23.3**	**+0.9**
MLZ	**Mavora Lakes**	**1.41**	**224**	P	**Pn**	**23 59 09.9**	**+1.0**
MLZ	**Mavora Lakes**	**1.41**	**224**	PN	**Pn**	**23 59 09.9**	**+1.0**
MLZ				SN	**Sn**	**23 59 30.0**	**+2.4**
TUZ	**Tuapeka**	**1.62**	**178**	P	**Pn**	**23 59 11.5**	**-0.5**
TUZ	**Tuapeka**	**1.62**	**178**	PN	**Pn**	**23 59 11.5**	**-0.5**
TUZ				SN	**Sn**	**23 59 31.6**	**-1.4**
WHZ	**Wether Hill Ro**	**1.93**	**215**	P	**Pn**	**23 59 15.8**	**-0.5**
WHZ	**Wether Hill Ro**	**1.93**	**215**	PN	**Pn**	**23 59 15.8**	**-0.6**
DCZ	**Deep Cove**	**2.05**	**235**	PN	**Pn**	**23 59 18.0**	**-0.1**
MQZ	**McQueen's Vall**	**2.33**	**75**	*e*P	**Pn**	**23 59 22.2**	**+0.1**
MQZ	**McQueen's Vall**	**2.33**	**75**	PN	**Pn**	**23 59 22.2**	**+0.1**
CRLZ	**Canterbury Las**	**2.34**	**72**	*e*P	**Pn**	**23 59 22.9**	**+0.6**
CRLZ	**Canterbury Las**	**2.34**	**72**	PN	**Pn**	**23 59 22.8**	**+0.5**
LTZ	**Lake Taylor**	**2.51**	**53**	P	**Pn**	**23 59 25.1**	**+0.3**
LTZ	**Lake Taylor**	**2.51**	**53**	PN	**Pn**	**23 59 25.1**	**+0.3**
DSZ	**Denniston Nort**	**3.07**	**33**	PN	**Pn**	**23 59 32.3**	**-0.4**
KHZ	**Kahutara**	**3.48**	**58**	*e*P	**Pn**	**23 59 34.9**	**-3.7**
THZ	**Tophouse**	**3.56**	**45**	*e*PN	**Pn**	**23 59 39.2**	**-0.4**
QRZ	**Quartz Range**	**4.14**	**33**	PN	**Pn**	**23 59 47.9**	**0.0**
NNZ	**Nelson**	**4.20**	**43**	*e*P	**Pn**	**23 59 48.1**	**-0.7**
NNZ	**Nelson**	**4.20**	**43**	PN	**Pn**	**23 59 48.1**	**-0.6**
CAW	**Cannon Point**	**5.19**	**53**	P	**Pn**	**00 00 00.6**	**-2.1**
KIW	**Kapiti Island**	**5.26**	**51**	P	**Pn**	**00 00 02.8**	**-1.0**
URZ	**Urewera**	**8.32**	**46**	Pn	**P**	**00 00 46.5**	**-0.2**
	1.1nm,0.3s,baz=257,slow=4.1,SNR=7.5						
URZ				Sn	**Sn**	**00 02 13.0**	**-8.6**
	3.0nm,0.3s,baz=114,slow=18,SNR=3.7						
TAU	**Tasmania Unive**	**16.16**	**267**	*e*P	**P**	**00 02 32.1**	**+0.4**
	27nm,1.2s						
STKA	**Stephens Creek**	**25.14**	**290**	P	**P**	**00 04 11.4**	**+1.7**
	2.2nm,0.8s,mb3.8,baz=120,slow=8.1,SNR=3.0						
SBA	**Scott Base**	**33.65**	**181**	*e*P	**P**	**00 05 27.1**	**+1.6**
	7.3nm,1.1s,mb4.5						
ASAR	**Alice Springs**	**35.64**	**294**	P	**P**	**00 05 41.8**	**-1.3**
	1.0nm,0.6s,mb3.9,baz=129,slow=7.0,SNR=24						
WB2	**Warramunga Arr**	**38.02**	**298**	⇑*i*P	**P**	**00 06 01.7**	**-1.4**
WRA	**Warramunga Arr**	**38.03**	**298**	P	**P**	**00 06 01.7**	**-1.5**
	2.5nm,0.5s,mb4.2,baz=136,slow=7.9,SNR=82						
WRAB	**Tennant Creek**	**38.03**	**298**	*e*P	**P**	**00 06 01.6**	**-1.6**
	9.3nm,0.8s,mb4.6						
QSPA	**South Pole Qui**	**45.79**	**180**	⇓*i*P	**P**	**00 07 07.4**	**+1.4**
	12nm,1.1s,mb4.7						
MAW	**Mawson**	**55.64**	**206**	P	**P**	**00 08 20.9**	**-0.1**
	4.9nm,0.9s,mb4.5,baz=112,slow=11,SNR=4.6						
MAW	**Mawson**	**55.64**	**206**	*e*P	**P**	**00 08 18.8**	**-2.1**
	11nm,1.0s,mb4.8						
INK	**Inuvik**	**120.06**	**21**	PKP	PKPdf	00 17 36.2	0.0
	0.3nm,0.5s,baz=203,slow=4.8,SNR=3.6						
YKA	**Yellowknife Ar**	**122.37**	**32**	PKP	PKPdf	00 17 41.2	+0.4
	0.2nm,0.7s,baz=261,slow=1.5,SNR=4.5						
BRTR	**Keskin Array B**	**147.23**	**278**	PKPbc	PKPdf	00 18 26.9	-0.2
	0.6nm,0.6s,baz=120,slow=3.4,SNR=5.2						
ARCES	**ARCESS Array B**	**148.90**	**336**	PKPbc	PKPdf	00 18 31.2	+2.4
	2.1nm,0.7s,baz=63,slow=2.7,SNR=9.4						
FINES	**FINESS Array B**	**152.61**	**322**	PKPbc	PKPdf	00 18 39.9	+5.3
	1.4nm,0.8s,baz=90,slow=2.8,SNR=5.3						
AKASG	**Malin Array Be**	**152.71**	**298**	PKPbc	PKPdf	00 18 40.0	+5.0
	0.2nm,0.3s,baz=71,slow=2.3,SNR=4.2						

*IDC **17** 00:32:25.6±1.0, 36.60N×26.28E, mb3.8/5, mb1 3.8/9, mb1mx3.6/23, mbtmp3.7/9, ML3.5/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/30, Error ellipse: s-maj=21.0km s-min=17.5km az=118.0*
*ATH **17** 00:32:26.9, 36.62N×26.39E, h6km±2km, MD3.7/14, ML4.0*
*ISK **17** 00:32:27.9, 36.64N×26.37E, h24km, MD3.8, ML3.9*
*THE **17** 00:32:27.4, 36.50N×26.67E, h20km*
*NEIC **17** 00:32:27.6, 36.57N×26.44E, h5km, mb4.0/1, ML4.0(ATH), After ATH.*
*CSEM **17** 00:32:28.0±0.1, 36.71N×26.48E, h12km, ML4.0, Error ellipse: s-maj=1.5km s-min=0.9km az=5.0*

ISC 17 00:32:26.9±0.4, 36.69N±0.02×26.43E±0.02, h5km±4km, n76, σ1°37/100, mb3.8/6, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.56**	**97**	*e*PB	**Pb**	**00 32 38.5**	**-0.3**
BODT	**Bodrum**	**0.80**	**62**	PG	**Pg**	**00 32 44.2**	**+1.4**
APE	**Apeiranthos**	**0.82**	**298**	PG	**Pg**	**00 32 43.8**	**+0.5**
APE				SG	**Sg**	**00 32 55.7**	**+1.5**
APE	**Apeiranthos**	**0.82**	**298**	*e*Pb	**Pb**	**00 32 43.0**	**-0.2**
APE				*e*Sb	**Sb**	**00 32 56.6**	**+2.3**
APE	**Apeiranthos**	**0.82**	**298**	*e*PB	**Pb**	**00 32 43.0**	**-0.2**
APE				*e*SB	**Sb**	**00 32 55.0**	**+0.7**
APE	**Apeiranthos**	**0.82**	**298**	*e*Pg	**Pg**	**00 32 43.8**	**+0.5**
APE				*e*Sg	**Sg**	**00 32 55.7**	**+1.5**
APE				*e*Sb	**Sb**	**00 32 56.6**	**+2.3**
SANT	**Santorini**	**0.85**	**249**	*e*P	**Pb**	**00 32 43.4**	**-0.3**
SANT				*e*S	**Sg**	**00 32 56.4**	**+1.3**
SANT	**Santorini**	**0.85**	**249**	*e*P	**Pb**	**00 32 43.4**	**-0.3**
SANT				*e*S	**Sg**	**00 32 56.4**	**+1.3**
THR1	**Thera Island**	**0.85**	**249**	*e*Pg	**Pg**	**00 32 43.9**	**+0.1**
THR1				*e*Sg	**Sg**	**00 32 56.9**	**+1.8**
THR4	**Thira Island,**	**0.86**	**255**	*e*Pg	**Pg**	**00 32 44.9**	**+0.7**
THR4				*e*Sg	**Sg**	**00 32 58.3**	**+2.6**
THR3	**Thira Island,**	**0.88**	**252**	*e*Pg	**Pg**	**00 32 44.5**	**0.0**
THR3				*e*Sg	**Sg**	**00 32 59.2**	**+3.1**
BDRM	**Kayabasi**	**0.89**	**65**	*i*P	**Pb**	**00 32 44.9**	**+0.5**
BDRM				*i*S	**Sb**	**00 32 58.0**	**+1.5**
THR5	**Thira Island,**	**0.92**	**253**	*e*Pg	**Pg**	**00 32 45.7**	**+0.5**
THR5				*e*Sg	**Sg**	**00 32 58.5**	**+1.1**
SMG	**Samos**	**1.07**	**17**	*e*PG	**Pg**	**00 32 47.7**	**-0.6**
MLSB	**Milas**	**1.23**	**60**	*e*PN	**Pn**	**00 32 51.2**	**+0.4**
MLSB				*e*SN	**Sn**	**00 33 08.1**	**+0.1**
KARP	**Karpathos**	**1.28**	**152**	*e*PB	**Pb**	**00 32 50.5**	**-0.6**
KARP				*e*SB	**Sb**	**00 33 07.5**	**-0.2**
AYDN	**Tasoluk**	**1.51**	**49**	*i*P	**Pn**	**00 32 55.7**	**+1.0**
AYDN				*i*S	**Sb**	**00 33 17.0**	**+2.6**
YER	**Yerkesik**	**1.55**	**73**	PN	**Pn**	**00 32 55.5**	**+0.3**
NPS	**Neapolis**	**1.57**	**205**	*e*PB	**Pb**	**00 32 54.5**	**-1.5**
NPS				*e*SB	**Sb**	**00 33 14.5**	**-1.6**
BLCB	**Balcova**	**1.77**	**16**	PN	**Pn**	**00 32 58.8**	**+0.5**
DALT	**Dalyan (Mudla)**	**1.77**	**87**	*e*PN	**Pn**	**00 32 58.8**	**+0.4**
IZM	**Izmir**	**1.83**	**21**	*e*PN	**Pn**	**00 33 00.1**	**+0.8**
IDI	**Anoyia**	**1.87**	**222**	Pn	**Pn**	**00 32 58.9**	**-1.0**
	10.0nm,0.3s,baz=35,slow=10,SNR=16						
IDI				Sn	**Sn**	**00 33 20.7**	**-3.5**
	32nm,0.3s,baz=107,slow=21,SNR=12						
XRY	**Khrisi**	**1.90**	**199**	*e*PN	**Pn**	**00 33 00.5**	**+0.2**
FETY	**Fethiye**	**2.13**	**91**	PN	**Pn**	**00 33 03.9**	**+0.3**
VAM	**Vamos**	**2.21**	**236**	*e*PN	**Pn**	**00 33 06.0**	**+1.2**
VAM	**Vamos**	**2.21**	**236**	*e*Pn	**Pn**	**00 33 07.0**	**+2.2**
DNZL	**Cakiroluk**	**2.31**	**64**	*i*P	**Pn**	**00 33 05.3**	**-0.9**
DNZL				*i*S	**Sn**	**00 33 39.3**	**+3.9**
PTL	**Penteli**	**2.46**	**304**	*e*PN	**Pn**	**00 33 10.0**	**+1.7**
PTL	**Penteli**	**2.46**	**304**	*e*Pg	**Pg**	**00 33 14.0**	**-2.0**
MANT	**Manisa**	**2.47**	**42**	*i*P	**Pn**	**00 33 09.1**	**+0.6**
MANT				*i*S	**Sg**	**00 33 49.5**	**+0.4**
ATH	**Athens Observa**	**2.52**	**301**	*e*PN	**Pn**	**00 33 11.2**	**+2.1**
ATH	**Athens Observa**	**2.52**	**301**	*e*Pg	**Pg**	**00 33 15.7**	**-1.5**
PRK	**Paraskevi**	**2.56**	**357**	*e*PN	**Pn**	**00 33 12.0**	**+2.3**
PRK	**Paraskevi**	**2.56**	**357**	*e*Pg	**Pg**	**00 33 17.0**	**-1.0**
GOLH	**Golhisar**	**2.56**	**77**	*i*P	**Pn**	**00 33 12.5**	**+2.7**
GOLH				*i*S	**Sg**	**00 33 53.0**	**+0.7**
NAIG	**Nisos Aigina**	**2.58**	**295**	*e*PN	**Pn**	**00 33 12.0**	**+1.9**
NAIG	**Nisos Aigina**	**2.58**	**295**	*e*Pg	**Pg**	**00 33 16.5**	**-2.0**
AKAS	**Kas**	**2.59**	**99**	*i*P	**Pg**	**00 33 15.6**	**-3.1**
AKAS				*i*S	**Sb**	**00 33 49.3**	**+3.4**
MPAR	**Parnis Oros**	**2.60**	**305**	*e*PN	**Pn**	**00 33 12.5**	**+2.2**
MPAR	**Parnis Oros**	**2.60**	**305**	*e*Pg	**Pg**	**00 33 16.2**	**-2.6**
NSAL	**Nisos Salamina**	**2.67**	**298**	*e*PB	**Pb**	**00 33 12.0**	**-2.8**
NSAL	**Nisos Salamina**	**2.67**	**298**	*e*Pg	**Pg**	**00 33 19.5**	**-0.6**
VLI	**Veliai**	**2.81**	**272**	*e*PB	**Pb**	**00 33 13.5**	**-3.8**
MGER	**Gerania Oros**	**2.84**	**298**	*e*Pg	**Pg**	**00 33 21.0**	**-2.7**
EZN	**Ezine**	**3.14**	**358**	*e*PN	**Pn**	**00 33 17.1**	**-0.8**
BALB	**Balikesir**	**3.16**	**21**	*e*PN	**Pn**	**00 33 18.6**	**+0.3**
BTOK	**Tokmak**	**3.32**	**22**	*i*P	**Pn**	**00 33 30.1**	**-3.0**
BTOK				*i*S	**Sg**	**00 34 15.0**	**-2.4**
BCK	**Bucak**	**3.41**	**76**	*e*PN	**Pn**	**00 33 22.3**	**+0.5**
PAIG	**Paliouri**	**3.90**	**327**	*e*Pn	**Pn**	**00 33 27.9**	**-0.8**
AGG	**Agios Georgios**	**4.00**	**307**	*e*Pn	**Pn**	**00 33 30.1**	**0.0**
AGG	**Agios Georgios**	**4.00**	**307**	*e*Pn	**Pn**	**00 33 30.1**	**-0.1**
SART	**Tekirdag**	**4.04**	**8**	*i*P	**Pn**	**00 33 22.9**	**-7.8**
ULDT	**Uludag**	**4.05**	**31**	*i*P	**Pn**	**00 33 32.3**	**+1.3**
ULDT				*i*S	**Sb**	**00 34 32.4**	**+4.2**
ALN	**Alexandroupoli**	**4.22**	**356**	*e*Pn	**Pn**	**00 33 31.5**	**-1.8**
ESKT	**Eskisehir**	**4.49**	**50**	*i*P	**Pg**	**00 33 51.9**	**-4.6**
LIT	**Litokhoron**	**4.61**	**319**	*e*Pn	**Pn**	**00 33 38.2**	**-0.6**
SOH	**Sokhos**	**4.78**	**331**	*e*Pn	**Pn**	**00 33 41.3**	**0.0**
CSS	**Prodhromos**	**5.86**	**105**	*e*P	**Pn**	**00 33 57.1**	**+0.6**
CSS	**Prodhromos**	**5.86**	**105**	*e*P	**Pn**	**00 33 57.1**	**+0.6**
SGKT	**Sivrigoynuk**	**5.87**	**47**	*i*P	**Pn**	**00 34 03.4**	**+6.8**
SGKT				*i*S	rx	00 34 26.7	
BRTR	**Keskin Array B**	**6.43**	**60**	Pn	**Pn**	**00 34 04.2**	**-0.4**
	0.2nm,0.3s,baz=244,slow=15,SNR=9.8						
BRTR	**Keskin Array B**	**6.43**	**60**	Pn	**Pn**	**00 34 04.2**	**-0.4**
TIP	**Timpagrande**	**8.04**	**291**	*e*P	**P**	**00 34 25.6**	**-1.6**
MLR	**Muntele Rosu**	**8.80**	**358**	Pn	**P**	**00 34 38.5**	**+0.7**
	0.1nm,0.3s,baz=193,slow=8.0,SNR=2.5						
MLR				LR	LR	00 38 28.6	
	comp=Z,107nm,18.2s,baz=177,slow=41						
ASF	**Jabal al Asfar**	**9.74**	**114**	Pn	**P**	**00 34 49.9**	**-0.9**
	0.2nm,0.3s,baz=4.1,slow=14,SNR=1.9						
EIL	**Elat**	**9.99**	**132**	Pn	**P**	**00 34 49.1**	**-5.0**
	1.1nm,0.3s,baz=333,slow=2.3,SNR=5.8						
EIL				Sn	**Sn**	**00 36 35.0**	**-13**
	0.9nm,0.3s,baz=326,slow=18,SNR=7.0						
GERES	**GERESS Array B**	**15.31**	**327**	Pn	**P**	**00 36 11.0**	**+5.9**
	0.1nm,0.3s,baz=144,slow=12,SNR=6.6						
KHC	**Kasperske Hory**	**15.57**	**327**	*e*P	**P**	**00 36 06.0**	**-2.6**
FINES	**FINESS Array B**	**24.78**	**360**	P	**P**	**00 37 50.3**	**-0.3**
	1.7nm,0.8s,mb3.6,baz=180,slow=6.9,SNR=4.5						
ARCES	**ARCESS Array B**	**32.91**	**359**	P	**P**	**00 39 02.0**	**-1.8**
	1.1nm,0.7s,mb3.9,baz=195,slow=10,SNR=3.3						
ZAL	**Zalesovo**	**43.20**	**47**	P	**P**	**00 40 29.1**	**-1.0**
	0.8nm,0.6s,mb3.6,baz=192,slow=8.8,SNR=4.1						
SONM	**Songino Array**	**57.73**	**52**	P	**P**	**00 42 19.1**	**-1.7**
	0.2nm,0.5s,mb3.4,baz=288,slow=7.8,SNR=3.9						
SCHQ	**Schefferville**	**62.70**	**319**	P	**P**	**00 42 50.0**	**-4.7**
	2.6nm,1.0s,mb4.3,baz=96,slow=10,SNR=3.5						
SCHQ	**Schefferville**	**62.70**	**319**	*e*P	**P**	**00 42 50.2**	**-4.5**
	0.6nm,0.5s,mb4.0						
CMAR	**Chiang Mai Arr**	**65.39**	**85**	P	**P**	**00 43 10.7**	**-2.1**
	0.6nm,0.6s,mb3.8,baz=304,slow=8.8,SNR=5.1						

IDC 17 00:58:22.6±2.5, 14.34S×176.28E, mb4.4/4, mb1 4.5/4, mb1mx3.9/17, mbtmp4.4/4, MS3.9/2, Ms1 3.9/2, ms1mx3.1/23, 1C-1D, Error ellipse: s-maj=133.1km s-min=37.8km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**29.22**	**254**	P	P	01 04 25.4	-3.0
	2.3nm,0.3s,baz=108,slow=9.6,SNR=3.3						
STKA	**Stephens Creek**	**36.16**	**235**	P	P	01 05 25.7	-3.0
	2.6nm,0.6s,baz=98,slow=9.6,SNR=5.7						
STKA				LR	LR	01 17 38.2	
	comp=Z,268nm,19.2s,baz=293,slow=32						
WB2	**Warramunga Arr**	**40.38**	**256**	⇓*i*P	P	01 06 03.4	-0.7
WRA	**Warramunga Arr**	**40.39**	**256**	P	P	01 06 03.8	-0.4
	1.2nm,0.3s,baz=84,slow=8.2,SNR=39						
ASAR	**Alice Springs**	**41.00**	**250**	P	P	01 06 08.1	-1.1
	5.0nm,0.6s,baz=83,slow=8.6,SNR=32						
ASAR				LR	LR	01 23 18.8	
	comp=Z,125nm,19.7s,baz=98,slow=36						
ASPA	**Alice Springs**	**41.01**	**250**	⇑*i*P	P	01 06 08.0	-1.2
FITZ	**Fitzroy Crossi**	**48.66**	**258**	*e*P	P	01 07 15.2	+4.6
	5.0nm,0.6s						
FINES	**FINESS Array B**	**128.31**	**342**	PKP	PKPdf	01 17 29.3	-3.6
	0.6nm,0.6s,slow=2.8,SNR=5.2						
NB2	**NORSAR Subarra**	**132.12**	**350**	PKPabc	PKPdf	01 17 40.0	-0.1
	0.7nm,0.8s,baz=16,slow=3.1						
NOA	**NORSAR Array B**	**132.12**	**350**	PKP	PKPdf	01 17 39.8	-0.3
	0.5nm,0.5s,baz=13,slow=4.4,SNR=3.4						
AKASG	**Malin Array Be**	**135.00**	**331**	PKP	PKPdf	01 17 47.6	+1.9
	1.1nm,0.6s,baz=40,slow=2.5,SNR=5.0						
BRTR	**Keskin Array B**	**138.66**	**315**	PKP	PKPdf	01 17 56.6	+3.8
	0.7nm,0.5s,baz=146,slow=5.4,SNR=5.9						

IDC 17 00:59:03.0±53.0, 14.88S×170.39W, mb4.0/3, mb1 4.2/3, mb1mx3.6/18, mbtmp4.0/3, Error ellipse: s-maj=1055.0km s-min=203.1km az=79.0, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.81**	**240**	P	P	01 07 34.7	-1.8
	1.4nm,0.7s,baz=95,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**52.79**	**256**	P	P	01 08 20.3	-2.2
	0.4nm,0.5s,baz=92,slow=6.9,SNR=3.9						
ASAR	**Alice Springs**	**53.03**	**251**	P	P	01 08 22.1	-2.2
	2.5nm,0.4s,baz=90,slow=7.6,SNR=23						

IDC 17 01:10:27.6±3.6, 1.09N×97.11E, mb3.7/4, mb1 4.0/5, mb1mx3.7/19, mbtmp3.7/5, ML3.8/1, MS2.8/1, Ms1 3.0/1, ms1mx2.6/26, Error ellipse: s-maj=130.3km s-min=22.4km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.35**	**6**	P	P	01 14 32.1	-0.9
	0.1nm,0.3s,baz=197,slow=11,SNR=8.8						
CMAR				LR	LR	01 22 00.5	
	comp=Z,330nm,20.5s,baz=202,slow=40						
WRA	**Warramunga Arr**	**42.05**	**122**	P	P	01 18 21.3	-1.8
	0.8nm,0.5s,baz=300,slow=9.1,SNR=17						
WB2	**Warramunga Arr**	**42.06**	**122**	*e*P	P	01 18 21.5	-1.6
WB2				*i*		01 18 27.7	
ASAR	**Alice Springs**	**43.40**	**127**	P	P	01 18 32.5	-1.6
	0.4nm,0.4s,baz=300,slow=8.3,SNR=6.5						
SONM	**Songino Array**	**47.25**	**9**	P	P	01 19 02.4	-2.0
	0.6nm,0.5s,baz=190,slow=9.5,SNR=9.4						
ZAL	**Zalesovo**	**53.64**	**351**	P	P	01 19 50.6	-2.4
	1.3nm,0.5s,baz=243,slow=1.6,SNR=7.3						

*NEIC **17** 01:11:16.4±2.2, 25.12S×179.59E, h420km±31km, mb4.0/2, Error ellipse: s-maj=42.8km s-min=17.5km az=175.0*
*IDC **17** 01:11:21.2±8.5, 25.39S×179.50E, h479km±110km, mb3.3/5, mb1 3.7/6, mb1mx3.3/16, mbtmp4.3/6, Error ellipse: s-maj=70.0km s-min=24.5km az=9.0*

ISC 17 01:11:15.6±1.5, 25.2S±0.1×179.5E±0.1, h423km±18km, n12, σ0°63/13, mb3.7/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.64**	**151**	*e*P	**P**	**01 12 35.7**	**-0.1**
URZ	**Urewera**	**13.17**	**188**	P	**P**	**01 14 09.9**	**0.0**
	2.5nm,0.3s,baz=26,slow=3.7,SNR=12						
URZ				S	**S**	**01 16 29.6**	**+0.1**
	0.9nm,0.3s,baz=84,slow=23,SNR=8.2						
CTA	**Charters Tower**	**31.06**	**273**	P	**P**	**01 17 00.1**	**+1.7**
	1.9nm,0.6s,mb3.6,baz=106,slow=12,SNR=7.7						
CTAO	**Charters Tower**	**31.06**	**273**	*e*P	**P**	**01 17 00.1**	**+1.7**
	4.7nm,0.7s,mb3.9						
ASAR	**Alice Springs**	**41.40**	**262**	P	**P**	**01 18 24.6**	**+0.2**
	1.9nm,0.5s,mb3.7,baz=91,slow=7.2,SNR=31						
ASAR	**Alice Springs**	**41.40**	**262**	P	**P**	**01 18 24.6**	**+0.2**
WRAB	**Tennant Creek**	**41.88**	**268**	*e*P	**P**	**01 18 27.7**	**-0.7**
	4.2nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**41.89**	**268**	P	**P**	**01 18 27.9**	**-0.6**
	2.5nm,0.6s,mb3.7,baz=104,slow=7.8,SNR=24						
WRA	**Warramunga Arr**	**41.89**	**268**	P	**P**	**01 18 27.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**50.29**	**267**	*e*P	**P**	**01 19 32.8**	**-0.7**
	3.8nm,0.5s,mb4.0						
NVAR	**Mina Array Bea**	**86.00**	**44**	P	**P**	**01 23 10.8**	**+0.1**
	0.9nm,0.7s,mb3.6,baz=225,slow=7.7,SNR=5.0						
TXAR	**Lajitas Array**	**91.50**	**58**	P	**P**	**01 23 36.7**	**0.0**
	0.5nm,0.7s,mb3.5,baz=196,slow=6.6,SNR=5.7						

*ATH **17** 01:23:32.0, 38.37N×26.84E, h39km, MD3.1/3*
*ISK **17** 01:23:32.0, 38.45N×26.75E, h5km, MD3.2*
*CSEM **17** 01:23:32.2±0.1, 38.43N×26.75E, h10km, MD3.2, Error ellipse: s-maj=2.8km s-min=1.7km az=66.0*

**ISC 17 01:23:31.1±1.3, 38.39N±0.04×26.65E±0.06,

PMG epP pP 01 57 56.4 +1.0
STKA Stephens Creek 38.88 246⇑iP P 01 57 45.1 +0.7
9.8nm,0.4s,mb5.0
STKA Stephens Creek 38.88 246 P P 01 57 45.2 +0.9
17nm,0.7s,mb5.0,baz=101,slow=11,SNR=27
STKA LR LR 02 12 47.7
comp=Z,116nm,20.4s,baz=27,slow=34
ASAR Alice Springs 46.02 258 P P 01 58 41.9 -0.7
39nm,0.7s,mb5.2,baz=94,slow=7.3,SNR=191
ASAR PcP PcP 02 00 19.4 +1.4
4.0nm,0.8s,baz=103,slow=3.8,SNR=7.2
ASAR ScP 02 04 05.7
0.8nm,0.9s,baz=118,slow=3.6,SNR=3.9
ASAR LR LR 02 15 18.9
comp=Z,108nm,19.0s,baz=282,slow=32
ASPA Alice Springs 46.03 258 eP **P 01 58 42.2 -0.4**
WB2 Warramunga Arr 46.25 263⇓iP P 01 58 43.5 -0.9
WRAB Tennant Creek 46.26 263 eP **P 01 58 43.5 -1.0**
65nm,0.8s,mb5.4
WRA Warramunga Arr 46.26 263 P P 01 58 43.7 -0.8
36nm,0.8s,mb5.2,baz=100,slow=5.6,SNR=91
WRA PcP PcP 02 00 18.3 -0.6
5.4nm,1.0s,baz=94,slow=3.7,SNR=4.0
WRA ScP 02 04 05.9
2.5nm,1.2s,baz=93,slow=3.9,SNR=5.7
KAKA Kakadu 49.87 272⇓iP P 01 59 11.5 -1.1
21nm,0.6s,mb5.2
FORT Forrest 50.46 248 eP **P 01 59 15.8 -1.1**
2μm,0.6s
FITZ Fitzroy Crossi 54.69 263⇓iP P 01 59 47.5 -1.0
26nm,0.6s,mb5.4
SBA Scott Base 56.59 184 eP **P 02 00 03.9 +2.4**
4.6nm,0.7s,mb4.6
VNDA Vanda 56.68 186 P P 02 00 02.9 +0.9
0.8nm,0.8s,mb3.8,baz=7.6,slow=7.7,SNR=2.9
MBWA Marble Bar 59.37 258 eP **P 02 00 20.6 -0.9**
33nm,0.6s,mb5.5
QSPA South Pole Qui 68.16 180⇓iP P 02 01 19.7 +1.7
9.6nm,0.9s,mb4.6
MJAR Matsushiro Arr 72.46 323 P P 02 01 43.5 -1.3
4.0nm,0.8s,mb4.3,baz=157,slow=5.4,SNR=12
MAT Matsushiro 72.46 323 P P 02 01 43.5 -1.2
MAT eS tx 02 09 09.4
ASAJ Asahikawa 75.86 331 P P 02 02 05.2 +1.0
16nm,1.0s,mb4.7,baz=162,slow=16
CMB Columbia Colle 79.26 42 eP **P 02 02 22.2 -0.9**
6.2nm,0.8s,mb4.5
CMB epP pP 02 02 46.8 -1.6
YBH Yreka Blue Hor 80.25 38 eP **P 02 02 28.5 +0.1**
7.2nm,0.8s,mb4.5
NVAR Mina Array Bea 80.79 42 P P 02 02 31.2 -0.1
4.9nm,0.7s,mb4.5,baz=222,slow=8.6,SNR=38
NVAR LR LR 02 34 25.8
comp=Z,29nm,19.2s,baz=160,slow=33
MAW Mawson 80.86 199 P P 02 02 32.6 +1.5
4.3nm,0.7s,mb4.4,baz=172,slow=8.1,SNR=8.1
LDFC Landfair 80.90 47 eP **P 02 02 32.1 +0.1**
MOD Modoc 81.74 39 eP **P 02 02 36.0 -0.3**
2.8nm,0.5s,mb4.3
MOD epP pP 02 03 01.8 +0.1
NJ2 Nanjing 82.22 309 eP **P 02 02 40.0 +1.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
MDJ Mudanjiang 82.75 324 P P 02 02 43.3 +2.0
MDJ AMB AMB
comp=Z,12nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,63nm,4.1s
WVOR Wild Horse Val 83.04 39 eP **P 02 02 42.8 0.0**
comp=Z,8.8nm,0.9s,mb4.6
WVOR epP pP 02 03 07.6 -0.7
ARUT Antelope Range 83.54 45 eP **P 02 02 45.9 +0.4**
ELK Elko 84.07 42 eP **P 02 02 47.9 -0.2**
comp=Z,7.4nm,1.0s,mb4.5
CN2 Changchun 84.56 322 eP **P 02 02 52.8 +2.4**
MVU Marysvale 84.74 45 eP **P 02 02 51.8 +0.3**
comp=Z,17nm,1.5s,mb4.7
MVU epP pP 02 03 17.2 +0.1
MSU Marysvale 84.77 45 eP **P 02 02 52.3 +0.7**
BMO Blue Mountains 85.28 38 eP **P 02 02 53.4 -0.6**
comp=Z,2.9nm,0.9s,mb4.2
SYO Syowa Base 85.75 192⇑P P 02 02 51.5 -4.2
TMUT Trail Mountain 85.83 45 eP **P 02 02 57.5 +0.7**
MNTX Cornudas Mount 86.07 54 eP **P 02 02 58.1 0.0**
comp=Z,16nm,1.1s,mb4.8
SRU San Rafael 86.18 45 eP **P 02 02 58.6 +0.1**
HLID Hailey 86.20 40 eP **P 02 02 58.6 +0.1**
comp=Z,2.6nm,1.0s,mb4.1
TXAR Lajitas Array 86.27 56 P P 02 02 59.2 0.0
comp=Z,8.0nm,0.8s,mb4.7,baz=216,slow=8.4,SNR=85
TXAR LR LR 02 31 20.3
comp=Z,55nm,20.2s,baz=190,slow=28
TXAR Lajitas Array 86.27 56 P P 02 02 59.2 0.0
TXAR LR LR 02 31 20.3
LTX Lajitas 86.27 56 eP **P 02 02 58.8 -0.4**
comp=Z,14nm,1.1s,mb4.8
SNAA Sanae 86.54 178 P P 02 03 00.3 +0.8
comp=Z,0.5nm,0.6s,baz=225,slow=7.1,SNR=3.7
SNAA Sanae 86.54 178⇑iP P 02 03 01.1 +1.6
SNAA e 02 03 16.7
VNA3 Neumayer Olymp 86.60 176 P P 02 03 00.4 +0.5
VNA3 e 02 03 18.0
PLCA Paso Flores 86.95 133 P P 02 03 03.4 +1.1
comp=Z,17nm,1.4s,mb4.8,baz=232,slow=4.4,SNR=7.1
VNA2 Neumayer--Watz 87.06 176 P P 02 03 01.5 -0.6
VNA2 e 02 03 20.4
MCK McKinley 87.96 12 eP **P 02 03 05.6 -1.0**
comp=Z,2.2nm,0.9s,mb4.2
MCK epP pP 02 03 32.4 0.0
BW06 Boulder Array 88.73 42 eP **P 02 03 09.7 -1.0**
comp=Z,1.7nm,0.8s,mb4.1
PDAR Pinedale Array 88.73 42 P P 02 03 10.5 -0.2
comp=Z,1.6nm,0.8s,mb4.1,baz=226,slow=2.7,SNR=14
CHMT Chamberlain Mo 88.78 38 eP **P 02 03 10.3 -0.6**
BOZ Bozeman (W) 89.01 39 P P 02 03 11.1 -0.8
comp=Z,3.3nm,0.8s,mb4.4
COLA College 89.20 12 P P 02 03 11.3 -1.1
comp=Z,2.7nm,0.7s,mb4.4
ILAR Eielson Array 89.29 12 P P 02 03 12.1 -0.8
comp=Z,1.2nm,1.0s,mb3.9,baz=214,slow=5.1,SNR=12
ILAR LR LR 02 39 58.0
comp=Z,38nm,18.9s,baz=359,slow=33
AMTX Amarillo 90.29 52 eP **P 02 03 17.8 -0.5**
comp=Z,5.4nm,0.7s,mb4.8
DAWY Dawson 90.32 15 eP **P 02 03 18.1 +0.4**
CMAR Chiang Mai Arr 92.34 289 P P 02 03 29.5 +1.4
comp=Z,2.2nm,0.9s,mb4.4,baz=121,slow=3.0,SNR=13
CFAA Coronel Fontan 92.76 126 P P 02 03 30.2 +0.4
comp=Z,0.2nm,0.4s,mb3.8,baz=253,slow=11,SNR=3.0
RSSD Black Hills 92.89 43 eP **P 02 03 29.3 -0.7**
comp=Z,10.0nm,0.9s,mb5.2
LZH Lanzhou 95.11 307 eP **P 02 03 40.5 +0.2**
LZH AP pP 02 04 06.5 +0.1
LZH AMB AMB
comp=Z,22nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,86nm,5.0s
LZH LR LR
comp=E,175nm,14.9s
LZH LR LR
comp=Z,297nm,17.8s
LZH Lanzhou 95.11 307 eP **P 02 03 40.5 +0.2**
comp=Z,22nm,1.5s,mb5.4
LZH pP pP 02 04 06.5 +0.1
LZH sP sP 02 04 16.7 +0.3
LZH LR LR
comp=Z,300nm,17.8s
YKA Yellowknife Ar 97.03 24 P P 02 03 48.2 -0.2
comp=Z,0.5nm,0.7s,mb4.1,baz=239,slow=4.2,SNR=17
YKA Yellowknife Ar 97.03 24 P P 02 03 48.2 -0.2
SONM Songino Array 98.04 318 P P 02 03 53.9 +0.6
comp=Z,0.2nm,0.4s,mb4.0,baz=90,slow=1.4,SNR=2.5
WMQ Urumqi 109.26 310 PDIF Pdif 02 04 44.9 +1.7
WMQ PP PP 02 09 23.0 +2.3
WMQ SKS SKS 02 15 47.4 +35
WMQ PP PP
comp=Z,45nm,4.6s
WMQ LR LR
comp=N,33nm,19.5s
WMQ LR LR
comp=E,76nm,19.5s
WMQ LR LR
comp=Z,16nm,19.5s
BVAR Borovoye Array 121.36 320 PKhKP 02 09 09.2
comp=Z,1.7nm,0.5s,baz=116,slow=2.1,SNR=6.2
BVAR PKP PKPdf 02 09 12.2 +3.6
comp=Z,1.7nm,0.5s,baz=126,slow=1.4,SNR=6.1
ARCES ARCESS Array B 130.64 350 PKP PKPdf 02 09 26.3 +0.3
comp=Z,4.3nm,0.9s,baz=342,slow=3.8,SNR=5.1
FINES FINESS Array B 137.64 344 PKP PKPdf 02 09 40.9 +1.7
comp=Z,1.5nm,0.8s,SNR=5.3
KMBO Kilima Mbogo 140.27 239 PKhKP 02 09 44.6
comp=Z,0.8nm,0.7s,baz=121,slow=5.9,SNR=2.8
NB2 NORSAR Subarra 140.59 354 PKPabc PKPdf 02 09 39.4 -5.1
comp=Z,0.5nm,0.7s,baz=14,slow=3.2
NOA NORSAR Array B 140.59 354 PKhKP 02 09 39.2
comp=Z,0.7nm,0.7s,baz=65,slow=4.3,SNR=3.6
AKASG Malin Array Be 145.15 332 PKPbc PKPbc 02 09 52.8 -0.3
comp=Z,15nm,0.5s,baz=42,slow=4.3,SNR=88
MBAR Mbarara 145.62 233 ePKP PKPdf 02 09 56.3 +1.7
MBAR e 02 10 04.0
ELZG Elazig 145.79 307 iP PKPdf 02 09 57.7 +3.5
MALT Malatya 146.27 307 ePKP PKPdf 02 09 58.0 +3.0
GZT Gaziantep 147.22 306 iP PKPdf 02 09 59.8 +3.2
BOYT Boyabat 147.54 314 iP PKPdf 02 10 01.8 +4.8
KWP Kalwaria 148.63 336 ePKPbc PKPdf 02 10 03.8 +5.3
AVNT Avronos 148.71 309 iP PKPdf 02 10 04.6 +5.6
ELDT Eldivan 148.97 313 iP PKPdf 02 10 05.2 +5.9
BRTR Keskin Array B 149.17 312 PKPbc PKPdf 02 10 05.0 +5.3
comp=Z,4.0nm,0.8s,baz=139,slow=4.7,SNR=20
BURAR Bucovina Array 149.20 331⇑P PKPdf 02 10 05.9 +6.5
BURAR Bucovina Array 149.20 331⇑P PKPdf 02 10 05.9 +6.4
CFR Carcaliu 149.51 325⇓P PKPdf 02 10 05.2 +5.2
KSP Ksiaz 149.57 345 ePKP PKPdf 02 10 06.2 +6.3
KSP ePKPdf PKPdf 02 10 12.7 +13
ANTO Ankara 149.68 313⇑P PKPdf 02 10 05.9 +5.4
VRI Vrincioaia 149.76 328⇑P PKPdf 02 10 04.1 +3.7
VRI Vrincioaia 149.76 328⇑P PKPdf 02 10 04.1 +3.7
CLL Collm 149.84 349 iPKP PKPdf 02 10 06.7 +6.3
CLL iPKP 02 10 33.6
CLL Collm 149.84 349 iPKP1 PKPdf 02 10 06.7 +6.3
CLL iPKP2 PKPab 02 10 14.5 +1.3
CLL i*PKP 02 10 33.6
UPC Upice 149.95 345 ePKPbc PKPdf 02 10 06.6 +6.0
OKC Ostrava-Krasne 149.98 342 ePKPbc PKPdf 02 10 06.7 +6.1
DPC Dobruska-Polom 150.01 344 ePKPbc PKPdf 02 10 07.8 +7.1
MEST Erdemli 150.06 306 iP PKPdf 02 10 07.5 +6.3
BRG Berggiesshubel 150.07 347 eP PKPdf 02 10 07.6 +6.9
BRG e 02 10 34.5
PVCC Panska Ves 150.26 346 ePKPbc PKPdf 02 10 07.7 +6.7
PVCC epPKP 02 10 37.3
MLR Muntele Rosu 150.42 328⇓P PKPdf 02 10 07.8 +6.3
MLR Muntele Rosu 150.42 328⇓P PKPdf 02 10 07.8 +6.4
HENT Hendek 150.47 316 iP PKPdf 02 10 02.0 +0.3
PRU Pruhonice 150.78 346 ePKPbc PKPdf 02 10 08.9 +7.1
PRU epPKP 02 10 37.8
EIL Elat 151.15 292 ePKPbc PKPdf 02 10 10.8 +7.8
KHC Kasperske Hory 151.80 347 ePKPbc PKPdf 02 10 09.8 +6.4
GERES GERESS Array B 152.04 346 PKPbc PKPdf 02 10 10.9 +7.1
comp=Z,2.2nm,0.7s,slow=1.3,SNR=15
PKSM Moragy 152.99 337⇑P PKPdf 02 10 13.8 +8.6

*IDC **17** 02:02:48.2±1.9,21.64N×143.37E,h242km±17km, mb3.6/14,mb1 3.8/16,mb1mx3.7/25,mbtmp4.2/16,Error ellipse: s-maj=18.9km s-min=10.6km az=94.0*
*NEIC **17** 02:02:51.2±1.8,21.61N×143.31E,h275km±17km,mb4.2/3, Error ellipse: s-maj=15.7km s-min=7.3km az=92.0*
ISC 17 02:02:47.5±1.5,21.61N±0.08×143.3E±0.2,h252km±12km, n30,σ0°64/28,mb3.9/17,1C,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**		**5.56 349**	P	**P**	**02 04 11.3**	**+0.6**
	10nm,0.3s,baz=245,slow=19,SNR=22						
CBIJ				S	**S**	**02 05 15.2**	**-0.6**
	16nm,0.3s,baz=287,slow=19,SNR=6.8						
MJAR	**Matsushiro Arr**		**15.53 344**	P	**P**	**02 06 15.7**	**+0.4**
	0.6nm,0.3s,baz=151,slow=6.5,SNR=11						
MAJO	**Matsushiro**		**15.53 344**	eP	**P**	**02 06 15.2**	**-0.1**
	6.1nm,0.6s						
MAT	**Matsushiro**		**15.53 344**	eP	**P**	**02 06 15.0**	**-0.2**
MAT				S	**S**	**02 09 09.0**	**+8.5**
MAT	**Matsushiro**		**15.53 344**	P	**P**	**02 06 15.1**	**-0.1**
SONM	**Songino Array**		**39.49 320**	P	**P**	**02 09 56.8**	**+1.7**
	0.5nm,0.6s,mb3.2,baz=125,slow=6.6,SNR=5.6						
SONM				PcP	PcP	02 11 58.0	-0.1
	0.8nm,0.7s,baz=120,slow=2.9,SNR=7.1						
WB2	**Warramunga Arr**		**42.22 193**⇑iP		**P**	**02 10 17.3**	**-0.5**
WRA	**Warramunga Arr**		**42.23 193**	P	**P**	**02 10 17.6**	**-0.2**
	1.3nm,0.5s,mb3.6,baz=16,slow=9.5,SNR=31						
FITZ	**Fitzroy Crossi**		**43.11 205**	P	**P**	**02 10 24.7**	**-0.2**
	7.1nm,0.7s,mb4.2,baz=10,slow=8.8,SNR=22						
ASAR	**Alice Springs**		**45.93 192**	P	**P**	**02 10 47.5**	**+0.3**
	0.3nm,0.5s,mb2.9,baz=15,slow=12,SNR=4.5						
ZAL	**Zalesovo**		**54.37 322**	P	**P**	**02 11 50.1**	**+0.1**
	1.8nm,0.8s,mb3.7,baz=4.4,slow=8.4,SNR=12						
ZAL				PcP	PcP	02 12 49.8	-1.0
	1.1nm,0.5s,baz=358,slow=7.3,SNR=4.7						
ILAR	**Eielson Array**		**62.05 27**	P	**P**	**02 12 41.8**	**-1.2**
	4.2nm,0.7s,mb4.2,baz=259,slow=5.2,SNR=51						
BVAR	**Borovoye Array**		**62.82 320**	P	**P**	**02 12 48.4**	**+0.2**
	4.0nm,0.6s,mb4.2,baz=76,slow=6.1,SNR=13						
INK	**Inuvik**		**67.59 24**	eP	**P**	**02 13 17.9**	**-0.4**
	2.3nm,0.8s,mb3.9						
YKA	**Yellowknife Ar**		**76.47 28**	P	**P**	**02 14 10.7**	**+0.1**
	1.8nm,0.4s,mb4.0,baz=292,slow=5.8,SNR=76						
YKA	**Yellowknife Ar**		**76.47 28**	P	**P**	**02 14 10.7**	**0.0**
KEV	**Kevo**		**78.48 341**	ep	**P**	**02 14 21.6**	**0.0**
ARCES	**ARCESS Array B**		**79.04 342**	P	**P**	**02 14 25.0**	**+0.4**
	1.8nm,0.6s,mb3.9,baz=72,slow=7.7,SNR=15						
JOF	**Joensuu**		**80.45 335**	ep	**P**	**02 14 31.8**	**-0.3**
	5.9nm,0.5s,mb4.5						
KAF	**Kangasniemi**		**82.85 335**	ep	**P**	**02 14 43.7**	**-0.9**
	3.9nm,0.6s,mb4.3,baz=55,slow=4.7						
NVAR	**Mina Array Bea**		**83.09 52**	P	**P**	**02 14 47.8**	**+1.5**
	2.7nm,0.6s,mb4.1,baz=282,slow=4.8,SNR=22						
FINES	**FINESS Array B**		**83.31 335**	P	**P**	**02 14 46.5**	**-0.4**
	5.1nm,0.5s,mb4.5,baz=68,slow=5.2,SNR=87						
PDAR	**Pinedale Array**		**87.36 45**	P	**P**	**02 15 07.8**	**+0.6**
	0.3nm,0.5s,mb3.2,baz=137,slow=1.9,SNR=4.3						
NB2	**NORSAR Subarra**		**89.07 339**	P	**P**	**02 15 14.0**	**-0.8**
	1.1nm,0.7s,mb3.8,baz=55,slow=4.8						
NOA	**NORSAR Array B**		**89.07 339**	P	**P**	**02 15 14.4**	**-0.3**
	1.4nm,0.7s,mb3.9,baz=45,slow=4.4,SNR=6.5						
BRTR	**Keskin Array B**		**90.50 313**	P	**P**	**02 15 21.9**	**0.0**
	0.5nm,0.7s,mb3.5,baz=79,slow=5.2,SNR=3.7						
PLCA	**Paso Flores**		**145.60 131**	PKPbc	PKPbc	02 21 58.4	+1.8
	3.2nm,0.6s,baz=218,slow=2.7,SNR=16						
PLCA	**Paso Flores**		**145.60 131**	PKPbc	PKPbc	02 21 58.4	+1.8
LPAZ	**La Paz**		**149.81 85**	PKPbc	PKPdf	02 22 11.3	+8.2
	4.9nm,0.6s,baz=349,slow=4.5,SNR=40						
LPAZ	**La Paz**		**149.81 85**	ePKPbc	PKPdf	02 22 11.0	+7.9

*IDC **17** 02:19:35.8±1.1,65.81S×134.68E,mb3.8/3,mb1 4.1/4, mb1mx3.9/14,mbtmp3.9/4,ML4.0/1,MS3.2/1,Ms1 3.2/1, ms1mx2.8/20,Error ellipse: s-maj=68.6km s-min=22.3km az=95.0*
*NEIC **17** 02:19:36.8±0.5,65.82S×134.92E,h10km,mb4.2/2,Error ellipse: s-maj=25.0km s-min=8.9km az=83.0*
ISC 17 02:19:34.3±0.7,65.87S±0.07×136.2E±0.4,h10km,n14, σ1°09/12,mb3.9/4,MS3.1/1,3C,South of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**		**13.98 157**	Pn	**P**	**02 22 58.5**	**+4.2**
	0.6nm,0.3s,baz=308,slow=12,SNR=22						
VNDA				Sn	**S**	**02 25 29.7**	**-0.8**
	0.3nm,0.3s,baz=178,slow=9.5,SNR=4.1						
SBA	**Scott Base**		**15.01 155**	eP	**P**	**02 23 10.9**	**+3.3**
	7.7nm,1.1s						
QSPA	**South Pole Qui**		**24.20 180**	eP	**P**	**02 24 54.6**	**+3.4**
QSPA				e		02 25 00.9	
SNZO	**South Karori**		**32.66 60**	P	**P**	**02 26 07.9**	**-0.4**
NWAO	**Narrogin (SRO)**		**34.90 331**	LR	LR	02 35 51.8	
	comp=Z,34nm,19.4s,MS3.1,baz=175,slow=28						
SNAA	**Sanae**		**39.96 199**⇑i		**P**	**02 27 09.2**	**-0.7**
SNAA	**Sanae**		**39.96 199**	P	**P**	**02 27 09.5**	**-0.4**
	0.6nm,0.4s,mb3.6,baz=145,slow=17,SNR=12						
VNA3	**Neumayer Olymp**		**41.20 196**⇑i		**P**	**02 27 19.5**	**-0.5**
VNA2	**Neumayer--Watz**		**41.23 197**⇑i		**P**	**02 27 20.2**	**-0.1**
ASAR	**Alice Springs**		**42.23 357**	P	**P**	**02 27 29.8**	**+0.9**
	0.9nm,0.6s,mb3.6,baz=173,slow=9.4,SNR=10						
WRA	**Warramunga Arr**		**45.92 358**	P	**P**	**02 27 58.6**	**-0.2**
	1.1nm,0.5s,mb4.0,baz=183,slow=6.8,SNR=28						
WRAB	**Tennant Creek**		**45.93 358**	P	**P**	**02 27 58.1**	**-0.7**
	3.0nm,0.7s,mb4.3						
GERES	**GERESS Array B**		**146.13 268**	PKPbc	PKPbc	02 39 14.7	+1.2
	0.2nm,0.3s,baz=166,slow=4.0,SNR=3.7						
YKA	**Yellowknife Ar**		**150.47 63**	PKPbc	PKPdf	02 39 28.7	+6.8
	0.1nm,0.4s,baz=256,slow=1.9,SNR=4.0						

*FUNV **17** 02:37:17.5,6.96N×73.19W,h173km,MW2.6*
*IDC **17** 02:37:19.7±5.8,6.78N×75.92W,h128km±67km,mb2.7/1, mb1 3.0/3,mb1mx2.8/21,mbtmp3.3/3,MS3.2/1,Ms1 3.2/1, ms1mx2.7/4,Error ellipse: s-maj=94.6km s-min=26.8km az=95.0*
ISC 17 02:37:16.8±0.8,7.00N±0.06×72.95W±0.06,h175km±8km, n12,σ1°17/17,mb2.9/1,1C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**		**1.07 36**⇑iP		**P**	**02 37 46.0**	**+1.3**
CAPV				eS	**S**	**02 38 06.7**	**+0.4**
VIGV	**El Vigia**		**2.41 40**	eP	**P**	**02 38 00.4**	**+1.8**
VIGV				eS	**S**	**02 38 31.8**	**+0.9**
ROSC	**El Rosal**		**2.53 213**	P	**P**	**02 38 00.7**	**+0.6**
	1.9nm,0.3s,baz=277,slow=23,SNR=16						
ROSC				S	**S**	**02 38 31.6**	**-1.8**
	13nm,0.3s,baz=59,slow=20,SNR=15						
SDV	**Santo Domingo**		**2.96 51**	P	**S**	**02 38 42.2**	**-0.4**
	2.0nm,0.3s,baz=288,slow=20,SNR=12						
VIRV	**Villa del Rosa**		**3.52 9**	eP	**P**	**02 38 11.6**	**-0.8**
VIRV				eS	**S**	**02 38 52.8**	**-2.4**
CURV	**Curarigua**		**4.21 44**	eP	**P**	**02 38 22.6**	**+1.5**
CURV				eS	**S**	**02 39 09.7**	**-1.1**
BAUV	**El Baul**		**5.23 68**	eP	**P**	**02 38 34.9**	**+0.5**
BAUV				eS	**S**	**02 39 33.1**	**-1.5**
PAYV	**Puerto Ayacuch**		**5.49 106**	eP	**P**	**02 38 39.0**	**+1.2**
PAYV				eS	**S**	**02 39 39.4**	**-1.3**
CAOV	**Caicara del Or**		**6.58 87**	eP	**P**	**02 38 52.7**	**+0.5**
JTS	**JuntasAbangare**		**12.31 286**	LR	LR	02 43 12.9	
	comp=Z,152nm,20.1s,baz=32,slow=37						
YKA	**Yellowknife Ar**		**63.16 340**	P	**P**	**02 47 28.0**	**0.0**
	0.1nm,0.5s,mb2.9,baz=131,slow=6.7,SNR=7.2						
WRA	**Warramunga Arr**		**150.57 241**	PKPbc	PKPdf	02 56 50.4	+7.5
	0.4nm,1.1s,baz=107,slow=2.5,SNR=6.6						

*IDC **17** 03:36:22.2±2.4,1.11N×97.13E,mb3.9/6,mb1 4.1/7, mb1mx3.8/21,mbtmp3.9/7,ML4.1/1,MS3.2/1,Ms1 3.4/1, ms1mx3.0/17,Error ellipse: s-maj=95.0km s-min=18.9km az=59.0*
*NEIC **17** 03:36:26.8±0.9,1.15N×97.18E,h30km,mb4.0/1,Error ellipse: s-maj=23.5km s-min=9.9km az=69.0*
ISC 17 03:36:24.9±1.1,1.2N±0.1×97.2E±0.2,h30km,n10, σ0°54/10,mb3.9/7,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**		**5.38 40**⇑iP		**Pn**	**03 37 45.3**	**+0.1**
KULM				e		03 37 51.4	
CMAR	**Chiang Mai Arr**		**17.28 6**	P	**P**	**03 40 25.2**	**-0.7**
	0.2nm,0.3s,baz=195,slow=10,SNR=9.9						
CMAR				LR	LR	03 48 34.2	
	comp=Z,69nm,18.1s,baz=190,slow=42						
SHL	**Shillong**		**24.80 349**	eP	**P**	**03 41 46.8**	**+0.8**
FITZ	**Fitzroy Crossi**		**33.92 126**	P	**P**	**03 43 07.1**	**-0.7**
	4.1nm,0.9s,mb4.3,baz=350,slow=6.1,SNR=3.9						
WRA	**Warramunga Arr**		**42.03 122**	P	**P**	**03 44 15.7**	**-0.1**
	0.9nm,0.6s,mb3.6,baz=301,slow=9.1,SNR=18						
WRAB	**Tennant Creek**		**42.04 122**	eP	**P**	**03 44 16.1**	**+0.3**
	1.4nm,0.5s,mb3.9						
WRAB				e	pP	03 44 23.8	-1.1
ASAR	**Alice Springs**		**43.39 127**	P	**P**	**03 44 27.2**	**+0.5**
	0.5nm,0.5s,mb3.5,baz=297,slow=7.7,SNR=5.6						
SONM	**Songino Array**		**47.18 8**	P	**P**	**03 44 57.3**	**+0.5**
	0.5nm,0.4s,mb3.8,baz=195,slow=9.7,SNR=6.8						
ZAL	**Zalesovo**		**53.59 351**	P	**P**	**03 45 45.5**	**+0.1**
	1.4nm,0.3s,mb4.4,baz=289,slow=7.2,SNR=7.1						
BVAR	**Borovoye Array**		**56.28 341**	P	**P**	**03 46 04.3**	**-0.8**
	0.9nm,0.7s,mb3.9,baz=143,slow=7.2,SNR=7.2						

TRN 17 03:37:01.6,14.52N×61.00W,h183km,M3.5(FDF), Windward Islands

*NEIC **17** 03:37:11.8±0.9,31.86N×141.84E,h10km,Error ellipse: s-maj=30.4km s-min=15.9km az=66.0*
*JMA **17** 03:37:13.7±0.4,31.95N×141.81E,h86km,M3.3*
*IDC **17** 03:37:16.7±2.6,31.89N×141.60E,h51km±25km,mb3.5/7, mb1 3.7/9,mb1mx3.5/21,mbtmp3.7/9,ML3.7/2,Error ellipse: s-maj=27.6km s-min=13.7km az=71.0*
ISC 17 03:37:13.0±0.6,31.89N±0.05×141.8E±0.1,h33km,n20, σ1°08/26,mb3.7/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**		**2.05 307**	P	**P**	**03 37 46.6**	**+0.8**
JHJ	**Hachijo jima 2**		**2.08 307**	P	**P**	**03 37 46.6**	**+0.4**
	15nm,0.3s,baz=63,slow=20,SNR=6.0						
JHJ				S	**S**	**03 38 11.2**	**0.0**
	25nm,0.3s,baz=75,slow=20,SNR=3.7						
BSO1	**Boso 1**		**2.84 347**	P	**P**	**03 37 57.7**	**+0.7**
BSO1				eS	**S**	**03 38 28.6**	**-1.8**
JYN	**Shimob**		**4.49 324**	P	**P**	**03 38 21.2**	**+0.7**
JRY	**Ryogami san**		**4.76 331**	P	**P**	**03 38 23.6**	**-0.7**
CBIJ	**Chichi jima**		**4.79 176**	P	**P**	**03 38 24.6**	**-0.1**
	9.5nm,0.3s,baz=94,slow=24,SNR=11						
CBIJ				S	**S**	**03 39 15.2**	**-4.6**
	7.8nm,0.3s,baz=90,slow=20,SNR=2.5						
CBIJ	**Chichi jima**		**4.79 176**	P	**P**	**03 38 24.7**	**-0.1**
CBIJ				eS	**S**	**03 39 18.7**	**-1.1**
MJAR	**Matsushiro Arr**		**5.50 329**	P	**P**	**03 38 33.7**	**-1.0**
	0.9nm,0.3s,baz=158,slow=11,SNR=9.7						
MAJO	**Matsushiro**		**5.50 329**	eP	**P**	**03 38 34.0**	**-0.7**
	7.6nm,0.6s						
MAT	**Matsushiro**		**5.50 329**	P	**P**	**03 38 36.0**	**+1.3**
	7.0nm,0.5s						
MAT				S	**S**	**03 39 38.0**	**+0.3**
MAT	**Matsushiro**		**5.50 329**	P	**P**	**03 38 35.6**	**+0.9**
MAT				eS	**S**	**03 39 37.7**	**0.0**
SONM	**Songino Array**		**31.15 311**	P	**P**	**03 43 33.7**	**+2.8**
	0.5nm,0.6s,mb3.5,baz=115,slow=9.3,SNR=5.2						
WRA	**Warramunga Arr**		**52.02 189**	P	**P**	**03 46 21.5**	**-0.2**
	1.2nm,0.5s,mb4.1,baz=6.5,slow=7.7,SNR=23						
ILAR	**Eielson Array**		**53.73 30**	P	**P**	**03 46 33.8**	**0.0**
	0.6nm,0.8s,mb3.6,baz=266,slow=5.6,SNR=7.2						
ASAR	**Alice Springs**		**55.75 189**	P	**P**	**03 46 48.6**	**-0.4**
	0.3nm,0.5s,mb3.6,baz=6.4,slow=7.8,SNR=6.3						
YKA	**Yellowknife Ar**		**68.13 29**	P	**P**	**03 48 12.5**	**+1.2**
	0.2nm,0.6s,mb3.3,baz=298,slow=5.9,SNR=5.3						
FINES	**FINESS Array B**		**73.51 333**	P	**P**	**03 48 41.4**	**-2.3**
	1.0nm,0.9s,mb3.7,baz=98,slow=9.8,SNR=3.7						
FINES	**FINESS Array B**		**73.51 333**	P	**P**	**03 48 41.4**	**-2.3**
NOA	**NORSAR Array B**		**79.05 338**	P	**P**	**03 49 13.

PLIG				*i* S	Sn	03 48 10.4	-4.7
ACX	**Acapulco**	**3.17**	**119**	*e*P	Pn	03 47 39.0	+1.1
ACX	**Acapulco**	**3.17**	**119**	*e*P	Pn	03 47 35.0	-2.9
ACX				*i* S	Sn	03 48 10.0	-5.9
PPM	**Popocatepetl**	**4.01**	**80**	*e*P	Pn	03 47 43.0	-6.8
PPM				*e*P		03 47 46.2	
PPM				*i* S	Sn	03 48 32.8	-4.4
ZAIG	**Zacatecas**	**4.31**	**3**	*i* S	Sn	03 48 40.3	-4.5
VHO	**Vista Hermosa**	**5.95**	**102**	*i* S	Sn	03 49 26.6	+0.7

*IDC **17** 04:01:23.0±1.7, 30.44N×83.73E, mb3.6/3, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.6/1, Error ellipse: s-maj=58.0km s-min=27.5km az=55.0*

ISC 17 04:01:34.2±1.2, 30.6N±0.2×83.8E±0.2, h100km, n5, σ0.90/6, mb3.3/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.26**	**250**	*e*P	**P**	**04 02 25.0**	**+0.5**
LGTI				*e*S	**S**	**04 03 12.5**	**+10**
CMAR	**Chiang Mai Arr**	**18.33**	**128**	P	**P**	**04 05 35.9**	**-7.2**
	0.1nm,0.3s,baz=305,slow=14,SNR=2.2						
SONM	**Songino Array**	**24.42**	**39**	P	**P**	**04 06 45.2**	**+0.8**
	0.3nm,0.6s,mb2.8,baz=225,slow=10,SNR=4.8						
FINES	**FINESS Array B**	**48.27**	**327**	P	**P**	**04 10 05.8**	**-0.8**
	0.7nm,0.8s,mb3.5,baz=104,slow=7.9,SNR=6.2						
WRA	**Warramunga Arr**	**69.91**	**129**	P	**P**	**04 12 36.3**	**-0.4**
	0.3nm,0.5s,mb3.4,baz=326,slow=6.5,SNR=11						

*ATH **17** 04:02:28.8, 40.58N×24.34E, h26km±2km, MD2.7/4*
*THE **17** 04:02:29.8, 40.63N×24.34E, h10km, ML2.3*
*NEIC **17** 04:02:29.0, 40.60N×24.32E, h30km, MD2.7(ATH), After ATH.*
*CSEM **17** 04:02:29.7±0.3, 40.62N×24.35E, h2km, ML2.3, Error ellipse: s-maj=5.7km s-min=4.3km az=109.0*

ISC 17 04:02:30.0±0.6, 40.58N±0.04×24.28E±0.04, h30km±6km, n10, σ0.65/17, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.33**	**223**	*e*Pg	**Pb**	**04 02 37.6**	**-0.3**
OUR				*e*Sg	**Sb**	**04 02 43.0**	**-0.4**
PLG	**Polygyros**	**0.67**	**252**	⇓*i*PN	**Pn**	**04 02 43.0**	**-0.4**
PLG				*e*SN	**Sn**	**04 02 52.3**	**-0.5**
SOH	**Sokhos**	**0.74**	**289**	*e*Pg	**Pb**	**04 02 43.7**	**-0.7**
SOH				*e*Sg	**Sb**	**04 02 55.3**	**+1.1**
SRS	**Serrai**	**0.75**	**316**	*e*Pg	**Pb**	**04 02 43.2**	**-1.3**
SRS				*e*Sg	**Sb**	**04 02 54.6**	**+0.2**
PAIG	**Paliouri**	**0.80**	**215**	*e*Pg	**Pb**	**04 02 45.8**	**+0.5**
NVR	**Nevrokopi**	**0.83**	**338**	*e*PN	**Pn**	**04 02 45.4**	**-0.3**
NVR				*e*SN	**Sn**	**04 02 57.3**	**+0.3**
RDO	**Rodhopi**	**1.11**	**59**	*e*PN	**Pn**	**04 02 49.0**	**-0.7**
RDO				*e*SN	**Sn**	**04 03 04.3**	**+0.2**
ALN	**Alexandroupoli**	**1.38**	**76**	*e*Pb	**Pb**	**04 02 55.0**	**-0.1**
ALN				*e*Sb	**Sb**	**04 03 12.9**	**+0.5**
GRG	**Griva**	**1.47**	**285**	*e*Pb	**Pb**	**04 02 57.5**	**+0.8**
NEO	**Neokhori**	**1.51**	**213**	*e*PN	**Pn**	**04 02 56.5**	**+1.1**

*IDC **17** 04:21:42.3±0.6, 1.55S×99.53E, mb4.2/15, mb1 4.3/15, mb1mx4.2/20, mbtmp4.2/15, MS3.3/1, Ms1 3.3/1, ms1mx3.0/20, Error ellipse: s-maj=24.5km s-min=14.1km az=43.0*
*BJI **17** 04:21:44.2, 2.11S×99.45E, h39km, mB5.0, mb4.8, Ms4.1, Msz4.0*
*NEIC **17** 04:21:48.0±1.7, 1.62S×99.56E, h38km±14km, mb4.7/2, Error ellipse: s-maj=13.7km s-min=7.1km az=224.0*

ISC 17 04:21:45.9±0.4, 1.62S±0.08×99.57E±0.08, h33km, n39, σ0.97/32, mb4.2/18, MS3.6/3, 4C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.95**	**9**	*e*P	**P**	**04 23 27.2**	**-0.7**
PALK	**Pallekele**	**20.80**	**295**	*e*P	**P**	**04 26 26.5**	**-0.5**
	4.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.38**	**124**	P	**P**	**04 27 56.3**	**-1.0**
	4.5nm,0.7s,mb4.3,baz=268,slow=10.0,SNR=9.5						
LZH	**Lanzhou**	**37.72**	**6**	*e*P	**P**	**04 29 02.5**	**+2.2**
LZH				AP	pP	04 29 10.1	0.0
LZH				XP	sP	04 29 13.3	-1.0
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,82nm,4.5s						
LZH				LR	LR		
	comp=E,192nm,12.9s						
LZH				LR	LR		
	comp=Z,343nm,17.0s,MS4.2						
LZH	**Lanzhou**	**37.72**	**6**	*e*P	**P**	**04 29 02.5**	**+2.2**
	comp=Z,19nm,1.3s,mb4.7						
LZH				pP	pP	04 29 10.1	0.0
LZH				sP	sP	04 29 13.2	-1.1
LZH				LR	LR		
	comp=Z,340nm,17.0s,MS4.2						
WRA	**Warramunga Arr**	**38.55**	**121**	P	**P**	**04 29 06.8**	**-0.6**
	comp=Z,3.3nm,0.6s,mb4.3,baz=302,slow=9.2,SNR=42						
WRAB	**Tennant Creek**	**38.56**	**121**	*e*P	**P**	**04 29 06.7**	**-0.8**
	comp=Z,4.2nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**38.56**	**121**	*e*P	**P**	**04 29 06.8**	**-0.7**
ASAR	**Alice Springs**	**39.82**	**126**	P	**P**	**04 29 18.3**	**+0.4**
	comp=Z,2.5nm,0.6s,mb4.2,baz=303,slow=7.9,SNR=40						
WMQ	**Urumqi**	**46.47**	**348**	P	**P**	**04 30 13.3**	**+1.6**
WMQ				AP	pP	04 30 20.8	-0.8
WMQ				XP	sP	04 30 24.3	-1.4
WMQ				PCP	PcP	04 31 47.8	+1.4
WMQ				PP	PP	04 32 02.3	+1.6
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,33nm,3.2s						
WMQ				LR	LR		
	comp=N,35nm,22.0s,MS3.3						
WMQ				LR	LR		
	comp=E,12nm,25.4s,MS3.3						
WMQ				LR	LR		
	comp=Z,26nm,19.6s						
CTA	**Charters Tower**	**49.15**	**115**	P	**P**	**04 30 33.9**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.3,baz=265,slow=11,SNR=2.3						
SONM	**Songino Array**	**49.61**	**6**	P	**P**	**04 30 35.8**	**-0.3**
	comp=Z,0.8nm,0.6s,mb4.0,baz=186,slow=10,SNR=10						
SONM				PcP	PcP	04 31 56.7	-0.9
	comp=Z,1.1nm,0.6s,baz=185,slow=4.3,SNR=5.0						
STKA	**Stephens Creek**	**49.72**	**132**	P	**P**	**04 30 37.7**	**+0.6**
	comp=Z,2.3nm,0.6s,mb4.4,baz=307,slow=8.4,SNR=6.4						
STKA	**Stephens Creek**	**49.72**	**132**	P	**P**	**04 30 37.7**	**+0.6**
CN2	**Changchun**	**50.81**	**24**	*e*P	**P**	**04 30 47.9**	**+2.6**
MJAR	**Matsushiro Arr**	**52.25**	**39**	LR	LR	04 51 48.5	
	comp=Z,27nm,19.3s,MS3.3,baz=260,slow=35						
MDJ	**Mudanjiang**	**53.24**	**26**	P	**P**	**04 31 03.1**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,90nm,3.9s						
ZAL	**Zalesovo**	**56.71**	**350**	P	**P**	**04 31 27.4**	**-1.2**
	comp=Z,2.1nm,0.4s,mb4.5,baz=310,slow=3.9,SNR=16						
BVAR	**Borovoye Array**	**59.68**	**340**	P	**P**	**04 31 47.2**	**-2.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=149,slow=8.6,SNR=8.8						
KMBO	**Kilima Mbogo**	**62.30**	**270**	P	**P**	**04 32 08.1**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.8,baz=52,slow=10.0,SNR=6.2						
MATP	**Matopo**	**71.71**	**249**	P	**P**	**04 33 07.1**	**+0.1**
	comp=Z,2.9nm,0.8s,mb4.3,baz=75,slow=7.6,SNR=7.8						
BRTR	**Keskin Array B**	**72.75**	**312**	P	**P**	**04 33 11.3**	**-1.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=131,slow=7.0,SNR=5.8						
BOSA	**Boshof**	**75.47**	**241**	P	**P**	**04 33 28.7**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=220,slow=13,SNR=4.7						
SYO	**Syowa Base**	**78.09**	**199**	⇓P	**P**	**04 33 44.0**	**+1.2**
VRI	**Vrincioaia**	**79.28**	**317**	⇓P	**P**	**04 33 50.0**	**+0.2**
MLR	**Muntele Rosu**	**79.73**	**317**	⇑P	**P**	**04 33 52.3**	**+0.1**
MLR	**Muntele Rosu**	**79.73**	**317**	⇑P	**P**	**04 33 52.3**	**+0.1**
BURAR	**Bucovina Array**	**80.69**	**319**	⇑P	**P**	**04 33 58.1**	**+0.8**
BURAR	**Bucovina Array**	**80.69**	**319**	⇑P	**P**	**04 33 58.1**	**+0.8**
FINES	**FINESS Array B**	**83.58**	**332**	P	**P**	**04 34 11.8**	**-0.1**
	comp=Z,1.0nm,0.4s,mb4.3,baz=98,slow=6.0,SNR=19						
KAF	**Kangasniemi**	**83.65**	**333**	*e*p	**P**	**04 34 12.5**	**+0.3**
ARCES	**ARCESS Array B**	**85.97**	**340**	P	**P**	**04 34 23.9**	**+0.3**
	comp=Z,3.4nm,0.9s,mb4.6,baz=79,slow=6.2,SNR=3.8						
GERES	**GERESS Array B**	**88.48**	**319**	P	**P**	**04 34 35.7**	**-0.6**
	comp=Z,0.2nm,0.6s,mb3.5,baz=56,slow=4.8,SNR=5.0						
TXAR	**Lajitas Array**	**144.66**	**37**	PKP	PKPdf	04 41 20.9	+1.0
	comp=Z,2.4nm,0.7s,baz=259,slow=1.1,SNR=32						
TXAR	**Lajitas Array**	**144.66**	**37**	PKP	PKPdf	04 41 20.9	+1.0
MIAR	**Mount Ida**	**145.02**	**19**	*e*PKP	PKPdf	04 41 21.2	+0.8
TZTN	**Tazewell**	**145.13**	**4**	*e*PKP	PKPdf	04 41 21.0	+0.5
JCT	**Junction City**	**145.92**	**31**	*e*PKP	PKPdf	04 41 24.6	+2.5
CPCT	**Cooper Cave**	**146.12**	**6**	*e*PKP	PKPdf	04 41 24.2	+2.0

*IGIL **17** 04:50:05.8, 36.80N×13.20W, h2km, ML2.9*
*NEIC **17** 04:50:09.0, 36.91N×13.16W, h19km, MG4.1(MDD), After MDD.*
*CSEM **17** 04:50:10.5±0.3, 37.00N×13.06W, h40km, ML3.7/15, Error ellipse: s-maj=5.8km s-min=4.1km az=51.0*
*LDG **17** 04:50:11.2±0.3, 36.90N×12.97W, h10km, Ml3.5/5, Error ellipse: s-maj=6.4km s-min=5.4km az=58.0*
*INMG **17** 04:50:11.4±0.9, 36.72N×13.24W, h10km, ML2.9, Error ellipse: s-maj=6.2km s-min=3.9km az=128.0*

MDD 17 04:50:10.2±1.6, 36.93N×12.84W, mbLg3.0/34, Error ellipse: s-maj=14.4km s-min=11.7km az=59.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**3.34**	**78**	*e*Pn	Pn	04 51 03.0	-1.8
PTEO				*e*Sn	Sn	04 51 41.2	-4.6
	12nm,0.2s						
PTEO	**Sao Teotonio**	**3.34**	**78**	P	Pn	04 51 03.0	-1.8
PTEO				S	Sn	04 51 41.2	-4.6
	5.8nm,0.2s						
LIS	**Lisbon**	**3.42**	**57**	*e*S	Sn	04 51 43.6	-4.3
LIS				*e*S	Sn	04 51 43.6	-4.3
PLOU	**Loures**	**3.51**	**55**	*e*Pn	Pn	04 51 05.5	-1.7
PLOU				*e*Sn	Sn	04 51 45.7	-4.4
	39nm,0.2s						
PLOU	**Loures**	**3.51**	**55**	P	Pn	04 51 05.5	-1.7
PLOU				S	Sn	04 51 45.7	-4.4
	19nm,0.2s						
MOE	**Montemor**	**3.90**	**65**	*e*Pn	Pn	04 51 10.6	-2.1
MOE				*e*Sn	Sn	04 51 55.2	-4.7
ALMR	**Almeirim**	**4.03**	**55**	*e*P	Pn	04 51 12.7	-1.9
ALMR				AML	AML	04 51 20.8	
	comp=Z,23nm,0.9s						
ALMR				*e*S	Sn	04 51 57.5	-5.9
ALMR				*e*S	Sn	04 51 57.5	-5.9
ALMR	**Almeirim**	**4.03**	**55**	*e*P	Pn	04 51 12.7	-1.9
ALMR				*e*S	Sn	04 51 57.5	-5.8
	comp=Z,23nm,0.9s						
ALMR	**Almeirim**	**4.03**	**55**	*e*P	Pn	04 51 12.7	-1.9
	comp=Z,23nm,0.9s						
PBEJ	**Beja**	**4.11**	**73**	*e*Pn	Pn	04 51 13.5	-2.2
PBEJ				*e*Sn	Sn	04 51 59.2	-5.9
	comp=Z,7.5nm,0.3s						
PBEJ	**Beja**	**4.11**	**73**	P	Pn	04 51 13.5	-2.2
PBEJ				S	Sn	04 51 59.2	-5.9
	comp=Z,3.8nm,0.3s						
EVO	**Evora**	**4.15**	**66**	*e*Pn	Pn	04 51 11.8	-4.5
EVO				*e*Sn	Sn	04 51 57.8	-8.4
	comp=Z,13nm,0.2s						
PALC	**Alcoutim**	**4.32**	**81**	*e*Pn	Pn	04 51 16.3	-2.4
PALC				*e*Sn	Sn	04 52 03.8	-6.7
	comp=Z,8.4nm,0.1s						
PALC	**Alcoutim**	**4.32**	**81**	P	Pn	04 51 16.3	-2.4
PALC				S	Sn	04 52 03.8	-6.7
	comp=Z,4.2nm,0.1s						
EGRO	**El Granado**	**4.32**	**80**	Pn	Pn	04 51 16.5	-2.1
EGRO				Sn	Sn	04 52 05.2	-5.3
EGRO	**El Granado**	**4.32**	**80**	P	Pn	04 51 15.6	-3.1
	comp=Z,2.7nm,0.2s,SNR=12						
EGRO				S	Sn	04 52 03.4	-7.1
	comp=Z,10nm,0.2s,SNR=6.5						
EGRO	**El Granado**	**4.32**	**80**	Pn	Pn	04 51 16.5	-2.2
	comp=Z,2.7nm,0.2s,SNR=12						
EGRO				Sn	Sn	04 52 05.2	-5.3
	comp=Z,10nm,0.2s,SNR=6.5						
PTOM	**Tomar**	**4.40**	**51**	*e*Pn	Pn	04 51 17.6	-2.2
PTOM				*e*Sn	Sn	04 52 06.8	-5.8
	comp=Z,24nm,0.2s						
PTOM	**Tomar**	**4.40**	**51**	P	Pn	04 51 17.6	-2.2
PTOM				S	Sn	04 52 06.8	-5.8
	comp=Z,12nm,0.2s						
EBAD	**Badajoz**	**4.96**	**67**	P	Pn	04 51 24.6	-3.2
	comp=Z,0.4nm,0.0s,SNR=9.8						
EBAD				S	Sn	04 52 19.2	-7.6
	comp=Z,13nm,0.2s,SNR=6.0						
EBAD	**Badajoz**	**4.96**	**67**	Pn	Pn	04 51 24.6	-3.2
	comp=Z,0.4nm,0.0s,SNR=9.8						
EBAD				Sn	Sn	04 52 19.2	-7.5
	comp=Z,13nm,0.2s,SNR=6.0						
EMIN	**Mina Concepcio**	**4.99**	**78**	P	Pn	04 51 25.1	-3.0
	comp=Z,1.1nm,0.1s,SNR=21						
EMIN				S	Sn	04 52 20.2	-7.1
	comp=Z,1.8nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.99**	**78**	Pn	Pn	04 51 25.1	-3.1
	comp=Z,1.1nm,0.1s,SNR=21						
EMIN				Sn	Sn	04 52 20.2	-7.2
	comp=Z,1.8nm,0.4s,SNR=7.9						
PCBR	**Castelo Branco**	**5.12**	**54**	*e*Pn	Pn	04 51 27.4	-2.6
PCBR				*e*Sn	Sn	04 52 23.5	-7.2
	comp=Z,5.4nm,0.4s						
PCBR	**Castelo Branco**	**5.12**	**54**	P	Pn	04 51 27.4	-2.6
PCBR				S	Sn	04 52 23.5	-7.2
	comp=Z,2.7nm,0.4s						
MTE	**Manteigas**	**5.40**	**48**	*e*Pn	Pn	04 51 31.3	-2.7
MTE				*e*Sn	Sn	04 52 30.1	-7.8
	comp=Z,16nm,0.3s						
MTE	**Manteigas**	**5.40**	**48**	P	Pn	04 51 31.3	-2.7
MTE				S	Sn	04 52 30.1	-7.8
	comp=Z,8.1nm,0.3s						
PVIS	**Viseu**	**5.41**	**44**	*e*Pn	Pn	04 51 31.0	-3.1
PVIS				*e*Sn	Sn	04 52 29.9	-8.0
	comp=Z,12nm,0.1s						
PVIS	**Viseu**	**5.41**	**44**	P	Pn	04 51 31.0	-3.1
PVIS				S	Sn	04 52 29.9	-8.0
	comp=Z,6.0nm,0.1s						
ESPR	**Espera**	**5.60**	**89**	Pn	Pn	04 51 34.0	-2.8
ESPR				Sn	Sn	04 52 35.8	-7.0
ESPR	**Espera**	**5.60**	**89**	P	Pn	04 51 32.4	-4.4
	comp=Z,2.3nm,0.1s,SNR=18						
ESPR				S	Sn	04 52 34.1	-8.7
	comp=Z,18nm,0.3s,SNR=5.0						
ESPR	**Espera**	**5.60**	**89**	Pn	Pn	04 51 33.9	-2.9
	comp=Z,2.3nm,0.1s,SNR=18						
ESPR				Sn	Sn	04 52 35.8	-7.0
	comp=Z,18nm,0.3s,SNR=5.0						
PVRL	**Vila Real**	**5.89**	**41**	*e*Pn	Pn	04 51 37.9	-3.0
PVRL				*e*Sn	Sn	04 52 41.5	-8.7
	comp=Z,10nm,0.2s						
PVRL	**Vila Real**	**5.89**	**41**	P	Pn	04 51 37.9	-3.0
PVRL				S	Sn	04 52 41.5	-8.7
	comp=Z,5.1nm,0.2s						
EZAM	**Zamans**	**6.12**	**30**	P	Pn	04 51 40.7	-3.4
	comp=Z,2.3nm,0.3s,SNR=7.9						
EZAM				S	Sn	04 52 46.2	-10
	comp=Z,7.3nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**6.12**	**30**	Sn	Sn	04 52 45.9	-10
	comp=Z,7.3nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**6.17**	**35**	P	Pn	04 51 41.4	-3.4
	comp=Z,0.1nm,0.1s,SNR=10.0						
ELOB				S	Sn	04 52 48.2	-8.8
	comp=Z,6.0nm,0.2s,SNR=7.3						
ELOB	**Lobios**	**6.17**	**35**	Pn	Pn	04 51 41.4	-3.4
	comp=Z,0.1nm,0.1s,SNR=10.0						
ELOB				Sn	Sn	04 52 48.2	-8.8
	comp=Z,6.0nm,0.2s,SNR=7.3						
EMIJ	**Mijas**	**6.49**	**91**	Pn	Pn	04 51 45.3	-4.1
EMIJ				Sn	Sn	04 52 58.0	-7.0
EMIJ	**Mijas**	**6.49**	**91**	P	Pn	04 51 45.3	-4.1
	comp=Z,0.4nm,0.3s,SNR=4.0						
EMIJ				S	Sn	04 52 55.4	-10
	comp=Z,1.8nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**6.49**	**91**	Pn	Pn	04 51 45.3	-4.1
	SNR=4.0						
EMIJ				Sn	Sn	04 52 58.0	-7.1
	comp=Z,1.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**6.68**	**77**	Pn	Pn	04 51 48.6	-3.5
EADA				Sn	Sn	04 53 02.4	-7.5
EADA	**Adamuz**	**6.68**	**77**	P	Pn	04 51 48.6	-3.5
	comp=Z,0.2nm,0.0s,SNR=11						
EADA				S	Sn	04 52 59.6	-10
	comp=Z,3.6nm,0.2s,SNR=4.8						
EADA	**Adamuz**	**6.68**	**77**	Pn	Pn	04 51 48.6	-3.5
	comp=Z,0.2nm,0.0s,SNR=11						
EADA				Sn	Sn	04 53 02.4	-7.5
	comp=Z,3.6nm,0.2s,SNR=4.8						
EMAZ	**Mazaricos**	**6.71**	**25**	Pn	Pn	04 51 48.5	-3.9
EMAZ				Sn	Sn	04 52 57.2	-13
EMAZ	**Mazaricos**	**6.71**	**25**	P	Pn	04 51 48.5	-3.9
	comp=Z,0.2nm,0.0s,SNR=4.0						
EMAZ				S	Sn	04 52 59.6	-11
	comp=Z,17nm,0.2s,SNR=18						
EMAZ	**Mazaricos**	**6.71**	**25**	Pn	Pn	04 51 48.5	-3.9
	comp=Z,0.2nm,0.0s,SNR=4.0						
PBRG	**Braganca**	**6.78**	**42**	*e*Pn	Pn	04 51 49.7	-3.8
PBRG				*e*Sn	Sn	04 53 03.3	-9.2
	comp=Z,4.5nm,0.3s						
PBRG	**Braganca**	**6.78**	**42**	P	Pn	04 51 49.7	-3.8
PBRG				S	Sn	04 53 03.3	-9.2
	comp=Z,2.2nm,0.3s						
STS	**Santiago**	**6.80**	**28**	Pn	Pn	04 51 48.3	-5.5
STS				Sn	Sn	04 53 00.9	-12
STS	**Santiago**	**6.80**	**28**	P	Pn	04 51 49.7	-4.1
	comp=Z,1.3nm,0.2s,SNR=4.0						
STS				S	Sn	04 53 02.4	-10
	comp=Z,2.9nm,0.2s,SNR=7.9						
STS	**Santiago**	**6.80**	**28**	Pn	Pn	04 51 48.3	-5.5
	comp=Z,1.3nm,0.2s,SNR=4.0						
STS				Sn	Sn	04 53 00.9	-12
	comp=Z,2.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**6.87**	**82**	Pn	Pn	04 51 50.1	-4.7
ELUQ				Sn	Sn	04 53 08.2	-6.4
ELUQ	**Luque**	**6.87**	**82**	P	Pn	04 51 50.1	-4.7
	comp=Z,0.6nm,0.2s,SNR=4.0						
ELUQ				S	Sn	04 53 04.6	-10
	comp=Z,1.4nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**6.87**	**82**	Pn	Pn	04 51 50.1	-4.6
	comp=Z,0.6nm,0.2s,SNR=4.0						
ELUQ				Sn	Sn	04 53 08.2	-6.4
	comp=Z,1.4nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.88**	**41**	P	Pn	04 51 51.6	-3.3
	comp=Z,0.9nm,0.1s,SNR=4.6						
ECAL				S	Sn	04 53 05.7	-9.2
	comp=Z,12nm,0.4s,SNR=5.0						
ECAL	**Calabor**	**6.88**	**41**	Pn	Pn	04 51 51.6	-3.3
	comp=Z,0.9nm,0.1s,SNR=4.6						
ECAL				Sn	Sn	04 53 05.7	-9.2
	comp=Z,12nm,0.4s,SNR=5.0						
ERUA	**La Rua**	**7.01**	**37**	Pn	Pn	04 51 52.2	-4.4
ERUA				Sn	Sn	04 53 09.9	-8.1
ERUA	**La Rua**	**7.01**	**37**	P	Pn	04 51 52.2	-4.4
	comp=Z,0.7nm,0.2s,SNR=7.9						
ERUA				S	Sn	04 53 07.5	-11
	comp=Z,2.3nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**7.01**	**37**	Pn	Pn	04 51 52.2	-4.4
	comp=Z,0.7nm,0.2s,SNR=7.9						
ERUA				Sn	Sn	04 53 09.9	-8.1
	SNR=7.9						
EBAN	**Banos Encina**	**7.30**	**78**	Sn	Sn	04 53 18.2	-7.2
	comp=Z,0.2nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**7.42**	**85**	S	Sn	04 53 18.2	-10
	comp=Z,1.1nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**7.50**	**66**	Pn	Pn	04 51 59.5	-4.0
ESDC				Sn	Sn	04 53 21.8	-8.5
ESDC	**Sonseca Array**	**7.50**	**66**	P	Pn	04 51 59.5	-4.0
	comp=Z,3.3nm,0.2s,baz=254,slow=13,SNR=13						
ESDC				S	Sn	04 53 20.1	-10
	comp=Z,2.1nm,0.3s,baz=254,slow=23,SNR=4.0						
ESDC	**Sonseca Array**	**7.50**	**66**	Pn	Pn	04 51 59.5	-4.1
	comp=Z,3.3nm,0.2s,SNR=13						
ESDC				Sn	Sn	04 53 21.8	-8.6
	comp=Z,2.1nm,0.3s,SNR=4.0						
GUD	**Guadarrama**	**7.73**	**59**	Pn	Pn	04 52 02.5	-4.3
GUD				Sn	Sn	04 53 27.3	-8.8
GUD	**Guadarrama**	**7.73**	**59**	P	Pn	04 52 02.5	-4.3
	comp=Z,0.7nm,0.2s,SNR=6.1						
GUD				S	Sn	04 53 26.0	-10
	comp=Z,1.5nm,0.2s,SNR=5.5						
GUD	**Guadarrama**	**7.73**	**59**	Pn	Pn	04 52 02.5	-4.3
	comp=Z,0.7nm,0.2s,SNR=6.1						
GUD				Sn	Sn	04 53 27.3	-8.8
	comp=Z,1.5nm,0.2s,SNR=5.5						
EPON	**Pontenova**	**7.73**	**33**	P	Pn	04 52 02.9	-4.0
	comp=Z,0.4nm,0.2s,SNR=4.6						
EPON				S	Sn	04 53 24.5	-12
	comp=Z,112nm,1.8s						
EPON	**Pontenova**	**7.73**	**33**	Pn	Pn	04 52 01.4	-5.4
	comp=Z,0.4nm,0.2s,SNR=4.6						
EPON				Sn	Sn	04 53 24.5	-12
	comp=Z,112nm,1.8s						
EBER	**Berja**	**7.97**	**87**	P	Pn	04 52 05.6	-4.6
	comp=Z,0.9nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**8.64**	**40**	P	P	04 52 15.0	-4.4
	comp=Z,0.4nm,0.4s,SNR=7.9						
EARI				S	Sn	04 53 47.4	-11
	comp=Z,7.6nm,0.9s,SNR=7.9						
ETOB	**Tobarra**	**9.10**	**76**	P	P	04 52 21.0	-4.9
	comp=Z,0.4nm,0.3s,SNR=7.9						
ETOB				S	Sn	04 53 58.5	-12
	comp=Z,5.2nm,1.0s,SNR=7.9						
ETOB	**Tobarra**	**9.10**	**76**	Pn	P	04 52 21.0	-4.9

FITZ	**Fitzroy Crossi**	**32.96**	**125**	P	**P**	**05 02 36.3**	**-0.8**
	comp=Z,9.7nm,0.7s,mb4.8,baz=312,slow=2.1,SNR=20						
FITZ				pP	pP	05 02 42.9	-1.6
	comp=Z,6.8nm,0.8s,baz=237,slow=2.9,SNR=4.8						
FITZ				LR	LR	05 17 25.7	
	comp=Z,101nm,19.1s,MS3.5,baz=63,slow=39						
WRA	**Warramunga Arr**	**41.10**	**121**	P	**P**	**05 03 44.9**	**-0.7**
	comp=Z,4.1nm,0.7s,mb4.2,baz=304,slow=9.0,SNR=36						
WRA				pP	pP	05 03 52.8	-0.4
	comp=Z,6.3nm,0.6s,baz=301,slow=9.0,SNR=21						
WRAB	**Tennant Creek**	**41.10**	**121**	*e*P	**P**	**05 03 45.1**	**-0.5**
	comp=Z,10nm,0.6s,mb4.6						
WRAB				*e*	pP	05 03 53.1	-0.2
WB2	**Warramunga Arr**	**41.11**	**121**	⇓*i*P	**P**	**05 03 45.8**	**+0.1**
BTO	**Baotou**	**41.69**	**14**	*e*P	**P**	**05 03 54.3**	**+4.0**
ASPA	**Alice Springs**	**42.41**	**127**	⇓*i*P	**P**	**05 03 57.3**	**+0.8**
ASAR	**Alice Springs**	**42.42**	**127**	P	**P**	**05 03 57.0**	**+0.4**
	comp=Z,3.7nm,0.6s,mb4.2,baz=299,slow=8.1,SNR=48						
ASAR				pP	pP	05 04 04.3	+0.2
	comp=Z,7.1nm,0.7s,baz=298,slow=7.9,SNR=25						
WMQ	**Urumqi**	**44.29**	**350**	P	**P**	**05 04 12.9**	**+1.4**
WMQ				AP	pP	05 04 22.9	+3.8
WMQ				XP	sP	05 04 26.9	+4.7
WMQ				PP	PP	05 05 57.5	+1.4
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.4s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,69nm,4.6s						
WMQ				LR	LR		
	comp=N,57nm,18.0s,MS3.5						
WMQ				LR	LR		
	comp=E,22nm,19.6s,MS3.5						
WMQ				LR	LR		
	comp=Z,31nm,19.4s,MS3.2						
SONM	**Songino Array**	**47.98**	**8**	P	**P**	**05 04 41.5**	**+0.8**
	comp=Z,0.8nm,0.4s,mb4.1,baz=190,slow=10,SNR=8.4						
ULN	**Ulaanbaatar**	**48.11**	**8**	*e*P	**P**	**05 04 39.7**	**-1.9**
	comp=Z,1.8nm,0.8s,mb4.2						
PMG	**Port Moresby**	**50.14**	**102**	P	**P**	**05 04 57.8**	**+0.1**
	comp=Z,15nm,0.7s,mb5.1,baz=304,slow=5.4,SNR=8.6						
PMG				pP	pP	05 05 05.1	-0.4
	comp=Z,15nm,0.7s,baz=306,slow=5.8,SNR=6.3						
CTA	**Charters Tower**	**51.62**	**116**	LR	LR	05 30 43.9	
	comp=Z,142nm,19.3s,MS4.0,baz=231,slow=40						
MJAR	**Matsushiro Arr**	**52.04**	**42**	LR	LR	05 29 36.4	
	comp=Z,44nm,18.9s,MS3.5,baz=80,slow=39						
STKA	**Stephens Creek**	**52.34**	**132**	P	**P**	**05 05 15.2**	**+1.0**
	comp=Z,1.2nm,0.5s,mb4.1,baz=358,slow=21,SNR=4.7						
MDJ	**Mudanjiang**	**52.44**	**28**	P	**P**	**05 05 13.3**	**-1.4**
ZAL	**Zalesovo**	**54.56**	**351**	P	**P**	**05 05 30.2**	**0.0**
	comp=Z,4.0nm,0.3s,mb4.9,baz=309,slow=5.0,SNR=14						
BVAR	**Borovoye Array**	**57.30**	**341**	P	**P**	**05 05 48.7**	**-1.3**
	comp=Z,1.9nm,0.7s,mb4.3,baz=135,slow=8.4,SNR=15						
BVAR				pP	pP	05 05 56.3	-1.6
	comp=Z,2.7nm,0.7s,baz=143,slow=9.1,SNR=13						
BRTR	**Keskin Array B**	**70.13**	**312**	P	**P**	**05 07 13.1**	**-1.4**
	comp=Z,1.2nm,0.7s,mb3.9,baz=139,slow=6.9,SNR=7.6						
BRTR				pP	pP	05 07 20.7	-1.6
	comp=Z,1.1nm,0.8s,baz=143,slow=6.2,SNR=5.4						
MATP	**Matopo**	**70.66**	**248**	P	**P**	**05 07 17.9**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=42,slow=3.0,SNR=6.1						
MATP	**Matopo**	**70.66**	**248**	P	**P**	**05 07 17.9**	**-0.1**
AKASG	**Malin Array Be**	**76.32**	**322**	P	**P**	**05 07 48.1**	**-2.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=85,slow=5.7,SNR=5.0						
AKASG				pP	pP	05 07 55.8	-2.7
	comp=Z,0.7nm,0.5s,baz=82,slow=4.7,SNR=2.8						
MLR	**Muntele Rosu**	**77.11**	**317**	P	**P**	**05 07 54.7**	**-0.3**
	comp=Z,2.7nm,0.7s,mb4.3,baz=113,slow=3.0,SNR=8.9						
FINES	**FINESS Array B**	**81.07**	**333**	P	**P**	**05 08 15.6**	**-0.5**
	comp=Z,1.8nm,1.0s,mb4.0,baz=117,slow=8.5,SNR=6.7						
ARCES	**ARCESS Array B**	**83.59**	**340**	P	**P**	**05 08 29.6**	**+0.5**
	comp=Z,3.3nm,0.9s,mb4.5,baz=76,slow=5.0,SNR=5.1						
VNDA	**Vanda**	**84.81**	**169**	P	**P**	**05 08 35.4**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.6,baz=284,slow=4.2,SNR=3.1						
VNDA	**Vanda**	**84.81**	**169**	P	**P**	**05 08 35.4**	**+0.4**
GERES	**GERESS Array B**	**85.86**	**319**	P	**P**	**05 08 40.9**	**+0.1**
	comp=Z,0.7nm,0.7s,mb4.0,baz=90,slow=4.0,SNR=5.3						
GERES				pP	pP	05 08 48.7	-0.3
	comp=Z,0.5nm,0.6s,baz=108,slow=4.2,SNR=4.1						
NOA	**NORSAR Array B**	**88.08**	**331**	P	**P**	**05 08 52.4**	**+1.1**
	comp=Z,0.8nm,0.8s,mb4.0,baz=300,slow=9.8,SNR=2.7						
TXAR	**Lajitas Array**	**144.18**	**33**	PKP	PKPdf	05 15 39.5	-1.5
	comp=Z,0.9nm,0.8s,baz=251,slow=0.9,SNR=3.8						
TXAR	**Lajitas Array**	**144.18**	**33**	PKP	PKPdf	05 15 39.5	-1.5
JCT	**Junction City**	**145.18**	**27**	*e*PKP	PKPdf	05 15 39.8	-2.9
JCT				*e*		05 15 47.4	
CFAA	**Coronel Fontan**	**146.11**	**202**	PKPbc	PKPbc	05 15 41.6	+1.0
	comp=Z,0.2nm,0.4s,baz=95,slow=4.1,SNR=4.4						

IDC 17 04:58:52.6±2.4, 10.99N×97.03E, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=105.4km s-min=23.2km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**37.56**	**10**	P	P	05 06 08.7	-1.7
	0.7nm,0.7s,baz=191,slow=7.3,SNR=2.5						
BVAR	**Borovoye Array**	**47.08**	**338**	P	P	05 07 26.0	-1.9
	0.3nm,0.6s,baz=117,slow=9.7,SNR=2.4						
WRA	**Warramunga Arr**	**47.89**	**130**	P	P	05 07 32.8	-1.9
	1.4nm,0.6s,baz=308,slow=7.9,SNR=26						
ASAR	**Alice Springs**	**49.86**	**134**	P	P	05 07 47.9	-2.1
	0.8nm,0.6s,baz=310,slow=6.8,SNR=9.2						

*NEIC **17** 05:00:21.6, 18.00N×68.20W, h94km, MD3.5(RSPR), After RSPR.*

RSPR 17 05:00:21.6, 18.00N×68.20W, h94km±1km, MD3.5/14, MD3.5/14, 13C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.04**	**90**	⇑*i*P	P	05 00 41.5	-0.8
CRPR				*e*S	S	05 00 57.2	-0.6
MGP	**Maguayo**	**1.06**	**90**	⇓*e*P	P	05 00 41.7	-0.8
MGP				*e*S	S	05 00 57.0	-1.2
LSP	**Las Mesas**	**1.07**	**81**	⇑*e*P	P	05 00 41.8	-0.9
AGPR	**Aguadilla, PR**	**1.13**	**66**	⇑*i*P	P	05 00 42.5	-0.9
AGPR				*e*S	S	05 00 59.4	-0.3
LRS	**Lares**	**1.32**	**77**	⇑*e*P	P	05 00 44.6	-1.1
LRS				*e*S	S	05 01 02.8	-0.8
AOPR	**Arecibo Observ**	**1.42**	**76**	⇑*e*P	P	05 00 45.9	-1.1
AOPR				*e*S	S	05 01 04.3	-1.5
PORP	**Portuguez**	**1.49**	**88**	⇓*e*P	P	05 00 47.1	-0.8
PORP				*e*S	S	05 01 06.7	-0.5
CELP	**Cerrillos**	**1.54**	**87**	⇑*e*P	P	05 00 47.7	-0.9
CELP				*e*S	S	05 01 08.2	-0.2
ICM	**Isla Caja Muer**	**1.60**	**94**	*e*S	S	05 01 09.2	-0.5
SJG	**San Juan**	**1.95**	**87**	⇑*e*P	P	05 00 53.5	-0.3
SJG				*e*S	S	05 01 17.6	0.0
SJG	**San Juan**	**1.95**	**87**	⇑*e*P	P	05 00 53.4	-0.4
SJG	**San Juan**	**1.95**	**87**	⇑*e*P	P	05 00 53.4	-0.4
SJG				*e*S	S	05 01 17.1	-0.4
CPD	**Cerro la Pandu**	**2.17**	**89**	⇑*e*P	P	05 00 55.7	-1.1
CPD				*e*S	S	05 01 21.4	-1.5
HUMP	**Col San Antoni**	**2.24**	**86**	⇑*e*P	P	05 00 56.9	-0.9
HUMP				*e*S	S	05 01 23.9	-0.6
CBYP	**Canovanas**	**2.24**	**83**	⇑*e*P	P	05 00 56.3	-1.6
CBYP				*e*S	S	05 01 23.1	-1.6
MTP	**Monte Pirata**	**2.52**	**88**	⇑*e*P	P	05 01 00.8	-0.8
MTP				*e*S	S	05 01 30.6	-0.7

*NEIC **17** 05:03:54.9±0.8, 50.35N×18.77E, h5km, ML2.6(VIE), Error ellipse: s-maj=13.8km s-min=6.3km az=193.0*
*IPEC **17** 05:03:54.7±0.2, 50.26N×18.90E, h4km±1km, ML2.3/3, Error ellipse: s-maj=2.3km s-min=0.8km az=167.0*
*PRU **17** 05:03:55.4, 50.27N×18.82E*
*CSEM **17** 05:03:55.6±0.2, 50.30N×18.84E, h2km, ML3.3/3, Error ellipse: s-maj=4.3km s-min=2.5km az=31.0*

WAR 17 05:03:54.8, 50.26N×18.91E, h0km, ML2.6, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.49**	**249**	*e*Pg	Pg	05 04 04.9	+0.2
RAC				*e*Sg	Sg	05 04 12.4	+1.1
OJC	**Ojcow**	**0.57**	**94**	*e*PG	Pg	05 04 06.0	-0.2
OJC				*e*SG	Sg	05 04 14.0	+0.2
OKC	**Ostrava-Krasne**	**0.65**	**230**	*e*PG	Pg	05 04 07.3	-0.5
OKC				*e*SG	Sg	05 04 15.2	-1.2
MORC	**Moravsky Berou**	**1.01**	**242**	*e*Pg	Pg	05 04 13.4	-1.5
MORC				*e*Sg	Sg	05 04 26.1	-2.2
	43nm,0.3s						
LIKS	**Likavka**	**1.22**	**174**	*e*PN	Pn	05 04 18.4	-0.6
LIKS				*e*SN	Sn	05 04 35.4	-0.9
NIE	**Niedzica**	**1.24**	**132**	*e*PG	Pg	05 04 18.0	-1.5
NIE				*e*SG	Sg	05 04 34.0	-2.0
DPC	**Dobruska-Polom**	**1.66**	**274**	*e*PG	Pg	05 04 24.1	-3.9
DPC				*e*SG	Sg	05 04 46.3	-3.9
	27nm,0.3s						
DPC	**Dobruska-Polom**	**1.66**	**274**	*e*Pn	Pn	05 04 24.0	-1.3
DPC				Sg	Sg	05 04 46.3	-3.9
	27nm,0.3s						
KOLL	**Kolacno**	**1.72**	**191**	*e*SN	Sn	05 04 49.3	+0.3
VYHS	**Vyhne**	**1.77**	**182**	*e*PN	Pn	05 04 25.9	-0.9
VYHS				*e*SN	Sn	05 04 49.0	-1.3
KSP	**Ksiaz**	**1.77**	**290**	*e*Pn	Pn	05 04 25.6	-1.3
KSP				*i* Pg	Pg	05 04 27.6	-2.5
KSP				*e*Sg	Sg	05 04 50.3	-3.4
KSP	**Ksiaz**	**1.77**	**290**	*e*Pn	Pn	05 04 25.6	-1.3
KSP				*e*Pg	Pg	05 04 27.7	-2.4
KSP				*e*Sn	Sn	05 04 49.9	-0.5
KSP				*e*Sg	Sg	05 04 52.3	-1.4
KSP	**Ksiaz**	**1.77**	**290**	*i* Pg	Pg	05 04 27.6	-2.5
KSP				*e*Sg	Sg	05 04 50.3	-3.4
VRAC	**Vranov**	**1.78**	**239**	*e*Pn	Pn	05 04 26.0	-1.0
VRAC				*e*Sg	Sg	05 04 49.9	-4.2
	33nm,0.3s						
UPC	**Upice**	**1.87**	**279**	*e*PG	Pg	05 04 27.8	-4.4
UPC				*e*SG	Sg	05 04 53.4	-3.8
KRUC	**Moravsky**	**2.03**	**235**	*e*Pn	Pn	05 04 29.3	-1.3
KRUC				*e*Sn	Sn	05 04 56.3	-0.6
	12nm,0.2s						
CRVS	**Cervenica-Dubn**	**2.14**	**128**	*e*PN	Pn	05 04 35.2	+3.0
PSZ	**Piszkesteto**	**2.43**	**164**	*e*S	Sn	05 05 09.9	+2.7
KWP	**Kalwaria**	**2.53**	**103**	*e*Pn	Pn	05 04 39.5	+1.8
KWP				*e*Pg	Pg	05 04 46.3	+1.0
KWP				*e*Sg	Sg	05 05 20.8	+1.8
KWP	**Kalwaria**	**2.53**	**103**	*e*Pn	Pn	05 04 39.5	+1.8
KWP				*e*Pg	Pg	05 04 46.2	+0.9
KWP				*e*Sg	Sg	05 05 20.8	+1.7
KWP	**Kalwaria**	**2.53**	**103**	*e*Pg	Pg	05 04 46.3	+1.0
KWP				*e*Sg	Sg	05 05 20.8	+1.8
PVCC	**Panska Ves**	**2.79**	**277**	*e*PG	Pg	05 04 46.5	-4.1
PRU	**Pruhonice**	**2.83**	**266**	*e*SG	Sg	05 05 20.9	-8.0
BRG	**Berggiesshubel**	**3.23**	**283**	*e*Pg	Pg	05 04 54.1	-5.1
BRG				*e*Sg	Sg	05 05 36.9	-5.4
KHC	**Kasperske Hory**	**3.64**	**254**	*e*PN	Pn	05 04 52.0	-1.6
KHC				*e*PG	Pg	05 05 01.5	-6.0
KHC				*e*SG	Sg	05 05 49.3	-6.8
KHC	**Kasperske Hory**	**3.64**	**254**	*e*Pg	Pg	05 05 01.5	-6.0
KHC				*e*Sg	Sg	05 05 49.3	-6.8
MOA	**Molln**	**3.89**	**233**	⇑*i*PN	Pn	05 04 56.0	-1.1
MOA				*i* SG	Sg	05 05 55.5	-8.9
	10nm,0.8s						
CLL	**Collm**	**3.90**	**288**	*e*SG	Sg	05 05 59.0	-5.5

*NEIC **17** 05:11:48.4±1.4, 12.33S×166.65E, h114km±11km, mb4.3/8, Error ellipse: s-maj=14.4km s-min=9.5km az=217.0*
*IDC **17** 05:11:51.4±5.3, 12.50S×166.70E, h143km±51km, mb4.0/7, mb1 4.1/9, mb1mx3.8/19, mbtmp4.4/9, MS3.0/3, Ms1 3.0/3, ms1mx2.8/29, Error ellipse: s-maj=33.6km s-min=19.1km az=2.0*

ISC 17 05:11:47.9±2.1, 12.49S±0.09×166.5E±0.1, h116km±18km, n25, σ1§00/23, mb4.3/10, 1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.15**	**295**	*e*P	**P**	**05 13 30.9**	**-0.5**
	171nm,0.8s						
DZM	**Mont Dzumac**	**9.53**	**181**	P	**P**	**05 14 04.0**	**+0.7**
	4.5nm,0.3s,baz=24,slow=21,SNR=25						
DZM				S	**S**	**05 15 47.5**	**-1.6**
	baz=130,slow=24,SNR=2.1						
DZM				LR	LR	05 17 06.3	
	comp=Z,64nm,21.9s,baz=19,slow=33						
PMG	**Port Moresby**	**19.27**	**277**	P	**P**	**05 16 08.7**	**+2.7**
	0.8nm,0.3s,baz=80,slow=7.2,SNR=5.2						
PMG	**Port Moresby**	**19.27**	**277**	*e*P	**P**	**05 16 06.5**	**+0.5**
	8.1nm,0.6s						
CTA	**Charters Tower**	**20.87**	**246**	*e*P	**P**	**05 16 24.4**	**+2.0**
	11nm,0.8s						
CTA	**Charters Tower**	**20.87**	**246**	P	**P**	**05 16 24.3**	**+1.9**
	14nm,0.7s,baz=78,slow=10.0,SNR=14						
CTAO	**Charters Tower**	**20.87**	**246**	*e*P	**P**	**05 16 23.7**	**+1.2**
	11nm,0.8s						
AFI	**Afiamalu**	**21.16**	**96**	LR	LR	05 22 33.1	
	comp=Z,30nm,19.9s,baz=263,slow=31						
RAO	**Raoul Island**	**22.07**	**141**	P	**P**	**05 16 35.8**	**+1.7**
	460nm,0.4s,baz=63,slow=21,SNR=4.2						
STKA	**Stephens Creek**	**29.97**	**226**	P	**P**	**05 17 48.7**	**+1.1**
	3.4nm,0.6s,mb4.2,baz=65,slow=9.7,SNR=7.2						
STKA	**Stephens Creek**	**29.97**	**226**	*e*P	**P**	**05 17 48.5**	**+1.0**
WB2	**Warramunga Arr**	**31.74**	**252**	*e*P	**P**	**05 18 02.6**	**-0.7**
WRAB	**Tennant Creek**	**31.74**	**252**	*e*P	**P**	**05 18 02.2**	**-1.0**
	4.6nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**31.75**	**252**	P	**P**	**05 18 02.7**	**-0.6**
	2.8nm,0.7s,mb4.1,baz=83,slow=8.9,SNR=38						
ASAR	**Alice Springs**	**32.88**	**246**	P	**P**	**05 18 12.5**	**-0.5**
	6.7nm,0.6s,mb4.7,baz=68,slow=9.8,SNR=79						
ASAR				LR	LR	05 32 09.1	
	comp=Z,72nm,19.5s,baz=335,slow=37						
ASPA	**Alice Springs**	**32.88**	**246**	*e*P	**P**	**05 18 12.7**	**-0.4**
KAKA	**Kakadu**	**33.27**	**266**	⇓*i*P	**P**	**05 18 16.5**	**0.0**
	24nm,1.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**39.78**	**257**	*e*P	**P**	**05 19 12.0**	**+0.8**
	8.7nm,1.2s,mb4.5						
FITZ	**Fitzroy Crossi**	**39.78**	**257**	P	**P**	**05 19 11.9**	**+0.7**
	10nm,0.5s,mb4.9,baz=53,slow=4.5,SNR=34						
MBWA	**Marble Bar**	**45.49**	**253**	*e*P	**P**	**05 19 58.5**	**+0.9**
	5.0nm,0.6s,mb4.4						
SBA	**Scott Base**	**65.36**	**180**	*e*P	**P**	**05 22 19.3**	**-0.3**
	4.1nm,1.1s,mb4.2						
CMAR	**Chiang Mai Arr**	**73.40**	**294**	P	**P**	**05 23 08.8**	**-0.8**
	1.3nm,0.8s,mb3.8,baz=116,slow=4.7,SNR=8.0						
ILAR	**Eielson Array**	**84.63**	**18**	P	**P**	**05 24 08.1**	**-1.2**
	0.4nm,0.5s,mb3.6,baz=245,slow=4.9,SNR=13						
ARCES	**ARCESS Array B 117.92**	**346**		PKP	PKPdf	05 30 19.7	-0.6
	1.7nm,0.8s,baz=62,slow=1.9,SNR=7.1						
ARCES	**ARCESS Array B 117.92**	**346**		PKP	PKPdf	05 30 19.7	-0.6

*TRN **17** 05:13:52.0, 18.47N×62.92W, h24km, MD3.4, M4.3(FDF)*
*RSPR **17** 05:13:53.3, 18.54N×62.72W, h25km±46km, MD3.9/12, MD3.9/12*
*NEIC **17** 05:13:54.9±1.1, 18.42N×62.88W, h50km, MD3.9(RSPR), MD3.7(TRN), Error ellipse: s-maj=17.6km s-min=4.6km az=211.0*

ISC 17 05:13:51.9±1.2, 18.59N±0.05×62.82W±0.04, h25km±6km, n23, σ0§88/44, 12C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STMA	**St. Maarten, A**	**0.61**	**207**	⇓*i*P	**Pb**	**05 14 04.8**	**+0.9**
STMA				*e*S	**Sb**	**05 14 11.2**	**-0.8**
SABS	**Saba**	**1.04**	**203**	*e*P	**Pn**	**05 14 11.3**	**+0.2**
SABS				*e*S	**Sb**	**05 14 24.9**	**+0.4**
SABT	**Saba**	**1.04**	**203**	*e*P	**Pn**	**05 14 11.3**	**+0.2**
SABT				*e*S	**Sb**	**05 14 24.9**	**+0.4**
SKDB	**Saint Kitts 2**	**1.18**	**180**	*e*P	**Pn**	**05 14 12.5**	**-0.7**
SKDB				*e*S	**Sn**	**05 14 30.3**	**+1.7**
BSK	**Brimstone Hill**	**1.23**	**181**	*e*P	**Pn**	**05 14 14.0**	**+0.1**
BSK				*e*S	**Sn**	**05 14 30.2**	**+0.4**
SKI	**Saint Kitts**	**1.25**	**177**	*e*P	**Pn**	**05 14 13.6**	**-0.5**
SKI				*e*S	**Sn**	**05 14 30.6**	**+0.4**
CPB	**Codrington**	**1.33**	**135**	*e*P	**Pn**	**05 14 16.4**	**+1.1**
CPB				*e*S	**Sn**	**05 14 36.0**	**+3.6**
SKTB	**Turtle Beach**	**1.38**	**172**	*e*P	**Pn**	**05 14 15.8**	**-0.3**
SKTB				*e*S	**Sn**	**05 14 32.5**	**-1.1**
NVRH	**Round Hill, Ne**	**1.41**	**172**	*e*P	**Pn**	**05 14 15.9**	**-0.5**
NVRH				*e*S	**Sn**	**05 14 31.9**	**-2.4**
NVBH	**Bath Hotel, Ne**	**1.47**	**173**	*e*P	**Pn**	**05 14 16.6**	**-0.7**
NVBH				*e*S	**Sn**	**05 14 35.0**	**-0.9**
BPA	**Boggy Peak**	**1.78**	**149**	*e*P	**Pn**	**05 14 21.9**	**+0.2**
BPA				*e*S	**Sn**	**05 14 45.5**	**+1.7**
STVI	**Saint Thomas**	**2.05**	**264**	⇑*e*P	**Pn**	**05 14 25.0**	**-0.6**
STVI				*e*S	**Sn**	**05 14 50.0**	**-0.6**
MTP	**Monte Pirata**	**2.65**	**260**	⇑*e*P	**Pn**	**05 14 33.6**	**-0.5**
MTP				*e*S	**Sn**	**05 15 04.4**	**-1.4**
CBYP	**Canovanas**	**2.90**	**264**	⇑*e*P	**Pn**	**05 14 37.1**	**-0.6**
CBYP				*e*S	**Sn**	**05 15 13.3**	**+1.1**
HUMP	**Col San Antoni**	**2.91**	**262**	⇑*e*P	**Pn**	**05 14 37.6**	**-0.3**
HUMP				*e*S	**Sn**	**05 15 12.8**	**+0.3**
CPD	**Cerro la Pandu**	**2.99**	**260**	⇑*e*P	**Pn**	**05 14 38.8**	**-0.2**
CPD				*e*S	**Sn**	**05 15 14.0**	**-0.5**
SJG	**San Juan**	**3.20**	**262**	⇑*e*P	**Pn**	**05 14 42.7**	**+0.7**
SJG				*e*S	**Sn**	**05 15 19.9**	**+0.1**
SJG	**San Juan**	**3.20**	**262**	⇑*e*P	**Pn**	**05 14 42.8**	**+0.8**
SJG				*e*S	**Sn**	**05 15 18.8**	**-0.9**
CELP	**Cerrillos**	**3.61**	**262**	⇑*e*P	**Pn**	**05 14 47.9**	**+0.1**
CELP				*e*S	**Sn**	**05 15 32.5**	**+2.4**
PORP	**Portuguez**	**3.67**	**262**	⇑*e*P	**Pn**	**05 14 48.0**	**-0.5**
AOPR	**Arecibo Observ**	**3.74**	**267**	⇑*e*P	**Pn**	**05 14 49.6**	**-0.1**
AOPR				*e*S	**Sn**	**05 15 34.5**	**+1.1**
LRS	**Lares**	**3.83**	**266**	⇑*e*P	**Pn**	**05 14 50.3**	**-0.7**
LRS				*e*S	**Sn**	**05 15 36.5**	**+0.7**
MGP	**Maguayo**	**4.10**	**263**	⇑*e*P	**Pn**	**05 14 54.8**	**0.0**

*NERS **17** 05:32:22.3, 59.78N×151.68E, h6km*
*IDC **17** 05:32:23.1±1.2, 60.16N×151.55E, mb3.7/12, mb1 4.0/12, mb1mx3.8/23, mbtmp3.7/12, MS3.3/1, Ms1 3.4/1, ms1mx2.7/29, Error ellipse: s-maj=32.6km s-min=20.1km az=180.0*
*MOS **17** 05:32:24.7±2.0, 59.87N×151.32E, h33km, mb4.0/6, Error ellipse: s-maj=36.0km s-min=13.2km az=78.9*

ISC 17 05:32:24.9±0.9, 59.73N±0.07×151.3E±0.1, h41km±7km, n30, σ1§11/44, mb3.6/12, MS3.3/1, 3C-1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MA2	**Magadan**	**0.30**	**239**	*c i*P	**P**	**05 32 33.5**	**+0.2**
MA2				*i*		05 32 41.0	
MA2				pmax	pmax		
	comp=N,510nm,0.2s						
MA2				pmax	pmax		
	comp=E,640nm,0.2s						
MA2				pmax	pmax		
	comp=Z,4μm,0.2s						
MA2				smax			
	comp=N,49μm,0.4s						
MA2				smax			
	comp=E,48μm,0.4s						
MGD	**Magadan 1**	**0.42**	**319**	⇑*i*Pg	**P**	**05 32 33.4**	**-1.2**
MGD				Pgmax		05 32 33.9	
	comp=E,4μm,0.2s						
MGD				*e*Sg	**S**	**05 32 40.9**	**-0.5**
MGD				Sgmax		05 32 41.6	
	comp=E,39μm,0.4s						
MGD				Sgmax		05 32 41.6	
	comp=E,48μm,0.4s						
TLAR	**Talaya**	**1.51**	**21**	*e*Pg	**P**	**05 32 51.3**	**+1.4**
TLAR				Pgmax		05 32 53.3	
	comp=E,650nm,0.7s						
TLAR				*e*Sg	**S**	**05 33 09.7**	**+1.2**
TLAR				Sgmax		05 33 12.4	
	comp=E,10μm,0.5s						
TLAR				Sgmax		05 33 12.4	
	comp=E,5μm,0.3s						
OCHR	**Omchak**	**2.56**	**321**	⇑*i*P	**P**	**05 33 06.2**	**+1.3**
OCHR				*e*Pg	**P**	**05 33 09.9**	**+5.0**
OCHR				Pgmax		05 33 15.6	
	comp=E,2μm,0.6s						
OCHR				*e*S	**S**	**05 33 33.8**	**-1.3**
OCHR				*e*Sg	**S**	**05 33 45.2**	**+10**
OCHR				Sgmax		05 33 51.8	
	comp=E,5μm,0.6s						
OCHR				Sgmax		05 33 51.8	
	comp=E,2μm,0.6s						
SEY	**Seymchan**	**3.26**	**9**	*e*P	**P**	**05 33 15.6**	**+0.8**
SEY				*e*S	**S**	**05 33 46.6**	**-6.1**
SEY				pmax	pmax		
	comp=N,120nm,0.2s						
SEY				pmax	pmax		
	comp=Z,120nm,0.2s						
SEY				pmax	pmax		
	comp=N,1μm,0.3s						
SEY				pmax	pmax		
	comp=E,240nm,0.3s						
SEY				smax			
	comp=N,5μm,0.2s						
SEY				smax			
	comp=E,20μm,0.3s						
SEY	**Seymchan**	**3.26**	**9**	*e*P	**P**	**05 33 15.6**	**+0.8**
SEY				Pmax		05 33 17.4	
	comp=E,40nm,0.3s						
SEY				*e*Pg	**P**	**05 33 23.8**	**+9.0**
SEY				Pgmax		05 33 25.1	
	comp=E,140nm,0.3s						
SEY				*e*		05 33 45.4

NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA NORSAR Array B 55.66 338 P P 05 41 57.2 -1.2
comp=Z,1.3nm,0.8s,mb4.0,baz=23,slow=7.3,SNR=3.9
PDAR Pinedale Array 58.41 59 P P 05 42 17.9 -0.3
comp=Z,0.6nm,0.7s,mb3.7,baz=353,slow=3.5,SNR=5.9
AKASG Malin Array Be 60.37 322 P P 05 42 31.4 -0.2
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 60.37 322 P P 05 42 31.4 -0.2
comp=Z,0.8nm,0.5s,mb4.0,baz=28,slow=7.2,SNR=4.9
GERES GERESS Array B 66.41 331 P P 05 43 12.2 +1.1
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 66.41 331 P P 05 43 12.2 +1.0
comp=Z,0.6nm,0.7s,mb3.7,baz=27,slow=6.0,SNR=6.9
TXAR Lajitas Array 72.22 62 P P 05 43 47.2 +0.1
comp=Z,0.3nm,0.6s,mb3.4,baz=297,slow=5.6,SNR=4.3
ESDC Sonseca Array 78.86 341 P P 05 44 25.1 +0.4
comp=Z,0.3nm,0.5s,mb3.5,baz=350,slow=7.8,SNR=3.1
ASAR Alice Springs 84.31 196 P P 05 44 58.9 +5.5
comp=Z,0.2nm,0.7s,mb3.4,baz=3.9,slow=5.0,SNR=5.8

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*NIED **17** 05:41:00,39.20N×142.40E,h29km,Mw3.6 Best double couple: M₀2.93×10¹⁴ NP1:φs285°,δ69°,λ-123°. NP2: φs166°,δ38°,λ-35°.*
*IDC **17** 05:41:13.7±1.0,38.80N×143.19E,mb3.7/5,mb1 3.9/5, mb1mx3.6/22,mbtmp3.7/5,Error ellipse: s-maj=63.6km s-min=21.7km az=104.0*
*NEIC **17** 05:41:15.3±0.7,38.77N×143.09E,h10km,mb4.2/1,Error ellipse: s-maj=20.3km s-min=11.2km az=137.0*
NEIC Recorded [1 JMA] in Iwate Prefecture.
*JMA **17** 05:41:15.3±0.1,39.25N×142.43E,h30km±1km,M3.8*
JMA Felt I J1.
ISC 17 05:41:13.7±1.6,**39.23N**±0.04×**142.5E**±0.1,**h16**km±12km, **n19**,σ1§**12**/29,**mb3.8**/5,**4C-1D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.65**	**303**	P	**Pb**	**05 41 26.7**	**+0.5**
MIYJ				S	**Sb**	**05 41 34.6**	**-0.2**
OFUJ	**Ofunato**	**0.68**	**258**	⇑P	**Pb**	**05 41 27.4**	**+0.6**
OFUJ				eS	**Sb**	**05 41 35.6**	**-0.1**
JTH	**Tanohata**	**0.88**	**325**	P	**Pb**	**05 41 30.6**	**+0.5**
JTH				eS	**Sb**	**05 41 41.7**	**+0.3**
JOM	**Ohasama**	**0.99**	**285**	⇑P	**Pb**	**05 41 32.3**	**+0.3**
JOM				S	**Sb**	**05 41 44.3**	**-0.3**
JMK	**Ichinoseki**	**1.05**	**255**	⇑P	**Pb**	**05 41 33.1**	**0.0**
JMK				eS	**Sb**	**05 41 45.8**	**-0.6**
JKZ	**Kuzumaki**	**1.20**	**310**	⇓P	**Pb**	**05 41 35.6**	**+0.1**
JKZ				eS	**Sb**	**05 41 50.4**	**-0.2**
JIO	**Ouri**	**1.20**	**230**	⇑P	**Pb**	**05 41 35.0**	**-0.6**
JIO				eS	**Sb**	**05 41 49.1**	**-1.5**
JANG	**Nango**	**1.39**	**326**	P	**Pn**	**05 41 38.6**	**0.0**
MAJO	**Matsushiro**	**4.34**	**233**	eP	**Pn**	**05 42 22.5**	**+1.8**
MAT	**Matsushiro**	**4.34**	**233**	eP	**Pn**	**05 42 23.0**	**+2.3**
MAT				S	**Sn**	**05 43 20.0**	**+8.5**
MAT	**Matsushiro**	**4.34**	**233**	P	**Pn**	**05 42 22.6**	**+1.9**
MAT				eS	**Sn**	**05 43 12.9**	**+1.4**
ASAJ	**Asahikawa**	**4.89**	**1**	Pn	**Pn**	**05 42 27.8**	**-0.7**
0.7nm,0.3s,baz=229,slow=16,SNR=7.6							
ASAJ				Sn	**Sn**	**05 43 22.7**	**-2.6**
0.6nm,0.3s,baz=71,slow=27,SNR=2.6							
BJT	**Baijiatuan**	**20.30**	**281**	P	**P**	**05 45 57.4**	**+5.9**
ILAR	**Eielson Array**	**47.18**	**33**	P	**P**	**05 49 47.5**	**+0.6**
0.6nm,0.9s,mb3.5,baz=242,slow=6.5,SNR=4.4							
INK	**Inuvik**	**52.04**	**28**	P	**P**	**05 50 25.9**	**+1.7**
0.6nm,0.9s,mb3.5,baz=281,slow=5.2,SNR=2.6							
INK	**Inuvik**	**52.04**	**28**	eP	**P**	**05 50 27.0**	**+2.8**
4.9nm,1.5s,mb4.2							
WRA	**Warramunga Arr**	**59.35**	**189**	P	**P**	**05 51 15.1**	**-2.4**
1.2nm,0.5s,mb4.2,baz=6.4,slow=7.0,SNR=32							
ASAR	**Alice Springs**	**63.08**	**189**	P	**P**	**05 51 40.9**	**-1.8**
0.5nm,0.7s,mb3.7,baz=13,slow=7.6,SNR=5.8							
FINES	**FINESS Array B**	**67.29**	**332**	P	**P**	**05 52 13.7**	**+4.5**
0.9nm,0.8s,mb3.9,baz=90,slow=1.9,SNR=4.4							

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*ATH **17** 05:42:03.7,37.39N×28.91E,h10km±3km,MD3.2/3*
*CSEM **17** 05:42:05.6±0.1,37.28N×28.84E,h8km,MD3.1,Error ellipse: s-maj=1.9km s-min=1.4km az=166.0*
*ISK **17** 05:42:06.3,37.22N×28.78E,h21km,MD3.1*
ISC 17 05:42:06.8±0.5,**37.23N**±0.03×**28.80E**±0.04,**h8**km±5km, **n21**,σ1§**09**/31,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.42**	**258**	i PG	**Pg**	**05 42 15.2**	**-0.2**
YER				i SG	**Sg**	**05 42 21.7**	**+0.6**
DALT	**Dalyan (Mudla)**	**0.47**	**196**	PG	**Pg**	**05 42 16.5**	**+0.2**
DNZL	**Cakiroluk**	**0.50**	**23**	i P	**Pg**	**05 42 17.1**	**+0.1**
DNZL				i S	**Sg**	**05 42 25.0**	**+1.3**
DENT	**Denizli**	**0.56**	**19**	i PG	**Pg**	**05 42 18.3**	**+0.3**
DENT				i SG	**Sg**	**05 42 26.6**	**+1.1**
GOLH	**Golhisar**	**0.61**	**89**	i P	**Pg**	**05 42 19.5**	**+0.5**
GOLH				i S	**Sg**	**05 42 31.4**	**+4.3**
FETY	**Fethiye**	**0.63**	**159**	PG	**Pg**	**05 42 19.1**	**-0.3**
MLSB	**Milas**	**0.82**	**275**	ePG	**Pg**	**05 42 22.6**	**-0.6**
AYDN	**Tasoluk**	**0.85**	**301**	i P	**Pb**	**05 42 23.3**	**-0.2**
AYDN				i S	**Sb**	**05 42 34.3**	**-0.5**
ELL	**Elmali**	**1.00**	**118**	ePG	**Pg**	**05 42 25.6**	**-1.3**
BDRM	**Kayabasi**	**1.10**	**262**	i P	**Pb**	**05 42 27.3**	**-0.3**
BDRM				i S	**Sb**	**05 42 43.7**	**+1.8**
ARG	**Arkhangelos**	**1.14**	**209**	ePG	**Pg**	**05 42 28.5**	**-1.2**
ARG	**Arkhangelos**	**1.14**	**209**	ePn	**Pn**	**05 42 28.7**	**-0.4**
AKAS	**Kas**	**1.18**	**147**	i P	**Pb**	**05 42 31.1**	**+2.0**
AKAS				i S	**Sb**	**05 42 52.0**	**+7.7**
BODT	**Bodrum**	**1.20**	**263**	ePN	**Pn**	**05 42 28.7**	**-1.2**
KHL	**Karahalli**	**1.24**	**27**	ePN	**Pn**	**05 42 29.2**	**-1.2**
MANT	**Manisa**	**1.28**	**351**	i P	**Pb**	**05 42 31.4**	**+0.7**
MANT				i S	**Sb**	**05 42 38.1**	**-9.1**
ISP	**Isparta**	**1.49**	**65**	ePN	**Pn**	**05 42 32.6**	**-1.4**
SMG	**Samos**	**1.64**	**288**	ePB	**Pb**	**05 42 35.4**	**-1.4**
SMG				eSB	**Sb**	**05 42 58.0**	**+0.4**
IZM	**Izmir**	**1.69**	**314**	ePN	**Pn**	**05 42 35.4**	**-1.5**
KARP	**Karpathos**	**2.13**	**219**	ePN	**Pn**	**05 42 44.7**	**+1.5**
KARP				eSN	**Sn**	**05 43 13.5**	**+3.3**
PRK	**Paraskevi**	**2.84**	**316**	ePB	**Pb**	**05 42 50.3**	**-7.1**

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*IDC **17** 05:47:25.8±0.5, 12.49N×146.45E,mb4.4/20,mb1 4.6/21, mb1mx4.5/26,mbtmp4.4/21,ML4.0/1,MS3.9/14,Ms1 3.9/14, ms1mx3.7/28,Error ellipse: s-maj=19.9km s-min=12.2km az=90.0*
*BJI **17** 05:47:30.7, 11.55N×146.32E,h42km,mB4.9,mb4.8, Ms4.3,Msz3.8*
*NEIC **17** 05:47:30.5±0.2, 12.44N×146.40E,mb4.8/23,Error ellipse: s-maj=6.6km s-min=4.6km az=92.0*
ISC 17 05:47:29.1±0.3,**12.44N**±0.04×**146.32E**±0.05,**h31**km, **h31**km±1.4km:**pP-P**,**n107**,σ0§**92**/90,**mb4.7**/50,**MS3.9**/18, **3C-4D**,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.82**	**309**	⇑i P	**Pn**	**05 48 00.3**	**+1.5**
GUMO				eS	**Sn**	**05 48 20.6**	**-0.3**
ANA2	**Anatahan**	**3.92**	**351**	eP	**Pn**	**05 48 30.3**	**+1.6**
ANA2				eS	**Sn**	**05 49 13.3**	**-0.9**
SARN	**Sarigan**	**4.26**	**353**	⇓eP	**Pn**	**05 48 34.8**	**+1.1**
SARN				eS	**Sn**	**05 49 19.2**	**-3.8**
CBIJ	**Chichi jima**	**15.09**	**346**	Pn	**P**	**05 50 59.1**	**-2.8**
2.4nm,0.3s,baz=277,slow=19,SNR=2.7							
JHJ	**Hachijo jima 2**	**21.43**	**345**	LR	LR	05 59 09.9	
comp=Z,223nm,20.7s,MS3.5,baz=130,slow=33							
PMG	**Port Moresby**	**21.72**	**178**	P	**P**	**05 52 18.7**	**-1.2**
24nm,0.6s,mb4.8,baz=318,slow=6.3,SNR=5.1							
PMG	**Port Moresby**	**21.72**	**178**	eP	**P**	**05 52 18.8**	**-1.1**
JOW	**Kunigami**	**22.18**	**313**	P	**P**	**05 52 24.3**	**0.0**
baz=151,slow=19							
JOW				LR	LR	05 59 05.5	
comp=Z,243nm,21.9s,MS3.6,baz=85,slow=32							
MAJO	**Matsushiro**	**25.08**	**344**	P	**P**	**05 52 48.7**	**-3.8**
18nm,0.9s,mb4.6							
MAT	**Matsushiro**	**25.08**	**344**	P	**P**	**05 52 49.0**	**-3.5**
6.7nm,0.6s,mb4.3							
MAT	**Matsushiro**	**25.08**	**344**	P	**P**	**05 52 48.8**	**-3.7**
KAKA	**Kakadu**	**28.53**	**209**	⇓i P	**P**	**05 53 23.8**	**-0.6**
22nm,0.7s,mb5.0							
SSE	**Sheshan**	**29.70**	**313**	P	**P**	**05 53 39.6**	**+4.9**

SSE				XP	sP	05 53 52.1	+4.3
SSE				PCP	PcP	05 56 44.8	+6.3
SSE				S	**S**	**05 58 32.6**	**+5.3**
SSE				AMB	AMB		
comp=Z,44nm,0.7s,mb5.3							
SSE				AMB	AMB		
comp=Z,67nm,5.8s							
SSE				LR	LR		
comp=N,94nm,32.2s,MS3.4							
SSE				LR	LR		
comp=E,95nm,32.1s,MS3.4							
SSE				LR	LR		
comp=Z,90nm,26.8s							
NJ2	**Nanjing**	**31.89**	**312**	eP	**P**	**05 54 00.6**	**+6.6**
NJ2				AP	pP	05 54 10.1	+7.0
NJ2				PP	PP	05 55 05.5	+5.4
NJ2				S	**S**	**05 59 06.0**	**+4.3**
NJ2				AMB	AMB		
comp=Z,20nm,0.6s,mb5.1							
NJ2				AMB	AMB		
comp=Z,340nm,4.2s							
NJ2				LR	LR		
comp=N,1μm,18.2s,MS4.8							
NJ2				LR	LR		
comp=E,842nm,16.4s,MS4.8							
NJ2				LR	LR		
comp=Z,2μm,19.2s,MS4.8							
CTA	**Charters Tower**	**32.33**	**180**	P	**P**	**05 53 58.5**	**+0.6**
comp=Z,4.7nm,1.1s,mb4.2,baz=335,slow=5.2,SNR=3.0							
CTA				LR	LR	06 04 50.6	
comp=Z,143nm,21.4s,MS3.6,baz=225,slow=32							
CTAO	**Charters Tower**	**32.33**	**180**	P	**P**	**05 53 58.6**	**+0.7**
comp=Z,2.1nm,0.6s,mb4.1							
WRAB	**Tennant Creek**	**34.26**	**200**	eP	**P**	**05 54 14.8**	**0.0**
comp=Z,22nm,0.6s,mb5.3							
WB2	**Warramunga Arr**	**34.27**	**200**	⇓i P	**P**	**05 54 14.7**	**-0.1**
WRA	**Warramunga Arr**	**34.27**	**200**	P	**P**	**05 54 14.4**	**-0.5**
comp=Z,12nm,0.7s,mb5.0,baz=24,slow=9.6,SNR=151							
WHN	**Wuhan**	**34.60**	**306**	eP	**P**	**05 54 26.8**	**+9.3**
FITZ	**Fitzroy Crossi**	**36.58**	**214**	⇓i P	**P**	**05 54 34.6**	**+0.2**
comp=Z,14nm,0.7s,mb4.9							
FITZ	**Fitzroy Crossi**	**36.58**	**214**	P	**P**	**05 54 34.7**	**+0.3**
comp=Z,19nm,0.7s,mb5.0,baz=16,slow=9.2,SNR=33							
KSM	**Kuching**	**37.31**	**256**	eP	**P**	**05 54 41.1**	**+0.5**
KSM				e	pP	05 54 49.1	-0.8
ASAR	**Alice Springs**	**37.89**	**199**	P	**P**	**05 54 45.7**	**+0.3**
comp=Z,4.3nm,0.7s,mb4.3,baz=20,slow=7.5,SNR=31							
ASAR				LR	LR	06 09 13.3	
comp=Z,114nm,21.9s,MS3.6,baz=18,slow=34							
ASPA	**Alice Springs**	**37.89**	**199**	eP	**P**	**05 54 45.8**	**+0.4**
ENH	**Enshi**	**38.40**	**303**	eP	**P**	**05 54 50.0**	**+0.4**
comp=Z,17nm,0.9s,mb4.8							
DZM	**Mont Dzumac**	**39.58**	**150**	P	**P**	**05 54 57.2**	**-2.3**
comp=Z,12nm,1.0s,mb4.6,baz=32,slow=15,SNR=2.9							
GYA	**Guiyang**	**39.73**	**296**	P	**P**	**05 55 07.8**	**+7.0**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
HHC	**Hu-ho-hao-te**	**41.56**	**319**	eP	**P**	**05 55 23.3**	**+7.7**
HHC				AP	pP	05 55 33.3	+8.4
HHC				XP	sP	05 55 37.8	+9.1
HHC				PP	PP	05 57 02.3	+7.6
HHC				S	**S**	**06 01 28.8**	**-0.5**
HHC				SCS	ScS	06 05 22.0	+7.4
HHC				AMB	AMB		
comp=Z,22nm,1.2s,mb4.7							
HHC				AMB	AMB		
comp=Z,100nm,5.1s							
HHC				LR	LR		
comp=N,107nm,15.9s,MS4.2							
HHC				LR	LR		
comp=E,216nm,15.3s,MS4.2							
HHC				LR	LR		
comp=Z,114nm,17.7s,MS3.8							
BTO	**Baotou**	**42.42**	**318**	eP	**P**	**05 55 30.0**	**+7.3**
BTO				AMB	AMB		
comp=Z,22nm,0.9s,mb4.8							
HIA	**Hailar**	**42.78**	**334**	eP	**P**	**05 55 24.9**	**-0.6**
comp=Z,10.0nm,0.8s,mb4.6							
HIA				e	pP	05 55 32.8	-1.9
CD2	**Chengdu**	**43.30**	**302**	P	**P**	**05 55 34.0**	**+4.0**
NANT	**Nan**	**44.29**	**284**	⇑P	**P**	**05 55 38.0**	**-0.2**
comp=Z,90nm,0.8s,mb5.5							
STKA	**Stephens Creek**	**44.30**	**186**	P	**P**	**05 55 37.6**	**-0.5**
comp=Z,2.2nm,0.6s,mb4.1,baz=341,slow=7.0,SNR=4.0							
STKA				LR	LR	06 13 09.6	
comp=Z,135nm,19.9s,MS3.9,baz=21,slow=35							
LZH	**Lanzhou**	**44.84**	**309**	⇑P	**P**	**05 55 49.5**	**+7.1**
LZH				AP	pP	05 55 59.5	+7.9
LZH				XP	sP	05 56 03.6	+8.1
LZH				AMB	AMB		
comp=Z,39nm,1.5s,mb5.0							
LZH				AMB	AMB		
comp=Z,78nm,5.5s							
LZH				LR	LR		
comp=N,319nm,12.7s							
LZH				LR	LR		
comp=Z,397nm,16.9s,MS4.4							
NST	**Nakhon Sawan**	**44.85**	**280**	P	**P**	**05 55 41.5**	**-1.3**
CM31	**Chiang Mai Arr**	**45.95**	**284**	eP	**P**	**05 55 52.3**	**+0.9**
comp=Z,21nm,0.7s,mb5.2							
CM31				e		05 56 08.8	
CMAR	**Chiang Mai Arr**	**45.95**	**284**	P	**P**	**05 55 52.5**	**+1.1**
comp=Z,9.5nm,0.6s,mb4.9,baz=83,slow=6.4,SNR=62							
CMAR				LR	LR	06 12 49.1	
comp=Z,45nm,19.0s,MS3.4,baz=105,slow=33							
ULN	**Ulaanbaatar**	**48.12**	**325**	eP	**P**	**05 56 08.4**	**+0.3**
comp=Z,5.8nm,0.8s,mb4.7							
ULN				e	pP	05 56 16.1	-1.4
SONM	**Songino Array**	**48.48**	**325**	P	**P**	**05 56 11.0**	**+0.1**
comp=Z,1.7nm,0.6s,mb4.3,baz=134,slow=7.6,SNR=19							
GTA	**Gaotai**	**48.99**	**312**	P	**P**	**05 56 15.8**	**+0.9**
GTA				AMB	AMB		
comp=Z,5.0nm,0.9s,mb4.5							
AFI	**Afiamalu**	**49.09**	**121**	LR	LR	06 12 02.1	
comp=Z,134nm,20.8s,MS3.9,baz=61,slow=30							
TLY	**Talaya**	**52.07**	**328**	eP	**P**	**05 56 37.6**	**-0.6**
comp=Z,12nm,1.1s,mb4.7							
SHL	**Shillong**	**52.77**	**293**	eP	**P**	**05 56 44.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**52.98**	**211**	LR	LR	06 19 40.2	
comp=Z,142nm,18.4s,MS4.0,baz=246,slow=36							
LSA	**Lhasa**	**53.78**	**298**	eP	**P**	**05 56 53.1**	**+1.9**
LSA	**Lhasa**	**53.78**	**298**	eP	**P**	**05 56 52.6**	**+1.5**
comp=Z,14nm,0.7s,mb5.0							
BILL	**Billbino**	**57.06**	**9**	eP	**P**	**05 57 13.1**	**-1.4**
comp=Z,16nm,1.0s,mb5.0							
JIRN	**Jiri**	**57.97**	**295**	eP	**P**	**05 57 21.8**	**+0.4**
comp=Z,20nm,0.6s,mb5.3							
GUN	**Gumba**	**58.26**	**295**	eP	**P**	**05 57 23.6**	**+0.2**
comp=Z,37nm,0.6s,mb5.6							
PKI	**Pulchoki**	**58.66**	**295**	eP	**P**	**05 57 25.5**	**-0.7**
comp=Z,7.7nm,0.5s,mb5.0							
WMQ	**Urumqi**	**58.95**	**314**	P	**P**	**05 57 35.8**	**+7.8**
WMQ				AP	pP	05 57 45.8	+8.2
WMQ				XP	sP	05 57 50.3	+9.2
GKN	**Gorkha**	**59.36**	**295**	eP	**P**	**05 57 30.5**	**-0.5**
KOLN	**Koldanda**	**60.27**	**295**	eP	**P**	**05 57 37.0**	**-0.3**
ZAL	**Zalesovo**	**63.38**	**324**	P	**P**	**05 57 57.6**	**-0.2**
comp=Z,1.1nm,0.4s,mb4.3,baz=340,slow=3.2,SNR=3.1							
ZAL				LR	LR	06 26 50.3	
comp=Z,86nm,18.4s,MS4.0,baz=279,slow=37							
HYB	**Hyderabad**	**65.38**	**284**	eP	**P**	**05 58 11.0**	**-0.4**
HYB	**Hyderabad**	**65.38**	**284**	i P	**P**	**05 58 11.0**	**-0.4**
ULHL	**Ulahol**	**67.01**	**311**	P	pP	05 58 30.2	-0.9
SNR=9.9							
TKM2	**Tokmak 2**	**67.53**	**311**	P	pP	05 58 34.0	-0.4
SNR=7.2							
SML	**Sawmill**	**67.55**	**28**	eP	**P**	**05 58 23.0**	**-1.5**
KZA	**Kyzart**	**67.74**	**310**	P	pP	05 58 36.3	+0.7
SNR=9.6							
UCH	**Uchtor**	**68.29**	**311**	P	pP	05 58 39.7	+0.6
SNR=12							
AAK	**Ala-Archa**	**68.33**	**311**	P	pP	05 58 38.6	-0.6
SNR=5.7							
AAK	**Ala-Archa**	**68.33**	**311**	eP	pP	05 58 36.6	-2.6
comp=Z,7.3nm,1.0s							
USP	**Uspenovka**	**68.36**	**312**	P	pP	05 58 38.7	-0.8
SNR=7.1							
AML	**Almayashu**	**68.90**	**310**	P	pP	05 58 43.2	+0.4
SNR=9.6							
ILAR	**Eielson Array**	**69.00**	**25**	P	**P**	**05 58 31.5**	**-1.9**
comp=Z,1.2nm,0.5s,mb4.1,baz=252,slow=6.0,SNR=34							
ILAR				LR	LR	06 27 57.7	
comp=Z,55nm,19.3s,MS3.8,baz=191,slow=35							
THY	**Trims Highway**	**69.12**	**27**	eP	**P**	**05 58 32.5**	**-1.7**
POO	**Poona**	**69.71**	**285**	e	**P**	**05 58 31.0**	**-7.5**
MENT	**Mentasta**	**69.91**	**27**	eP	**P**	**05 58 39.6**	**+0.6**

PPT	**Papeete**	**69.95**	**114**	eLR	LR	06 19 12.8	
comp=Z,296nm,26.8s							
PPT	**Papeete**	**69.95**	**114**	LR	LR	06 23 34.2	
comp=Z,260nm,19.5s,MS4.5,baz=323,slow=31							
BVAR	**Borovoye Array**	**71.70**	**322**	P	**P**	**05 58 49.4**	**-0.6**
comp=Z,1.6nm,0.4s,mb4.3,baz=90,slow=5.9,SNR=7.3							
DAWY	**Dawson**	**72.03**	**26**	eP	**P**	**05 58 52.0**	**+0.3**
INK	**Inuvik**	**74.88**	**22**	P	**P**	**05 59 08.1**	**-0.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=270,slow=6.0,SNR=8.5							
INK	**Inuvik**	**74.88**	**22**	eP	**P**	**05 59 07.3**	**-0.9**
comp=Z,9.9nm,1.1s,mb4.7							
INK				e	pP	05 59 18.9	+0.8
INK				e		05 59 25.0	
YKA	**Yellowknife Ar**	**83.22**	**27**	P	**P**	**05 59 53.5**	**-0.1**
comp=Z,1.7nm,0.6s,mb4.2,baz=286,slow=5.2,SNR=55							
YKA				LR	LR	06 36 36.3	
comp=Z,101nm,20.4s,MS4.2,baz=5.0,slow=36							
YKA	**Yellowknife Ar**	**83.22**	**27**	P	**P**	**05 59 53.5**	**-0.1**
YKA				LR	LR	06 36 36.3	
MOD	**Modoc**	**84.29**	**48**	eP	**P**	**06 00 00.2**	**+0.8**
comp=Z,6.3nm,0.9s,mb4.8							
RKT	**Rikitea**	**84.69**	**115**	eLR	LR	06 26 03.8	
comp=Z,166nm,29.0s							
NEW	**Newport**	**85.14**	**42**	eP	**P**	**06 00 04.2**	**+0.7**
comp=Z,2.6nm,0.6s,mb4.5							
RES	**Resolute Bay**	**85.33**	**14**	eP	**P**	**06 00 04.0**	**+0.1**
comp=Z,6.3nm,1.1s,mb4.7							
NVAR	**Mina Array Bea**	**86.52**	**52**	P	**P**	**06 00 11.7**	**+1.1**
comp=Z,3.1nm,0.7s,mb4.6,baz=262,slow=7.5,SNR=17							
HLID	**Hailey**	**88.13**	**46**	eP	**P**	**06 00 19.1**	**+0.9**
comp=Z,4.3nm,0.9s,mb4.7							
ELK	**Elko**	**88.27**	**49**	eP	**P**	**06 00 20.0**	**+1.1**
comp=Z,9.0nm,0.9s,mb5.0							
ARCES	**ARCESS Array B**	**88.60**	**342**	P	**P**	**06 00 21.2**	**+1.3**
comp=Z,3.1nm,0.8s,mb4.7,baz=60,slow=12,SNR=2.9							
HRY	**Holter Researc**	**89.01**	**42**	eP	**P**	**06 00 23.1**	**+0.7**
JOF	**Joensuu**	**89.92**	**335**	ep	pP	06 00 35.6	-0.6
DUG	**Dugway**	**90.20**	**49**	eP	**P**	**06 00 28.8**	**+0.7**
comp=Z,3.4nm,0.8s,mb4.7							
MSU	**Marysvale**	**91.15**	**50**	eP	**P**	**06 00 33.4**	**+0.8**
PDAR	**Pinedale Array**	**91.76**	**46**	P	**P**	**06 00 35.5**	**+0.3**
comp=Z,0.6nm,0.7s,mb4.0,baz=270,slow=1.5,SNR=5.9							
SRU	**San Rafael**	**92.20**	**49**	eP	**P**	**06 00 38.3**	**+0.9**
KAF	**Kangasniemi**	**92.34**	**336**	ep	pP	06 00 46.2	-1.1
WUAZ	**Wupatki**	**92.64**	**53**	eP	**P**	**06 00 39.2**	**-0.3**
comp=Z,3.0nm,0.8s,mb4.8							
LAO	**LASA Array**	**92.66**	**41**	eP	**P**	**06 00 40.2**	**+1.0**
comp=Z,6.6nm,0.8s,mb5.1							
FINES	**FINESS Array B**	**92.79**	**335**	P	**P**	**06 00 38.2**	**-1.3**
comp=Z,0.7nm,0.7s,mb4.2,baz=90,slow=3.8,SNR=6.7							
FINES				LR	LR	06 47 14.2	
comp=Z,66nm,18.9s,MS4.1,baz=325,slow=39							
FINES	**FINESS Array B**	**92.79**	**335**	P	**P**	**06 00 38.2**	**-1.3**
FINES				LR	LR	06 47 14.2	
PV01	**Paradox Valley**	**93.96**	**50**	eP	**P**	**06 00 45.6**	**+0.1**
ULM	**Lac du Bonnet**	**97.38**	**35**	LR	LR	06 41 52.1	
comp=Z,78nm,19.3s,MS4.2,baz=1.4,slow=34							
NB2	**NORSAR Subarra**	**98.61**	**340**	P	pP	06 01 15.4	-0.6
comp=Z,0.5nm,0.7s,baz=56,slow=5.0							
NOA	**NORSAR Array B**	**98.61**	**340**	P	**P**	**06 01 05.5**	**-0.6**
comp=Z,0.1nm,0.5s,mb3.6,baz=53,slow=4.2,SNR=2.3							
BRTR	**Keskin Array B**	**98.87**	**314**	P	**P**	**06 01 06.8**	**-0.9**
comp=Z,0.3nm,0.4s,mb4.1,baz=90,slow=2.9,SNR=2.3							
DBIC	**Dimbokro**	**145.63**	**302**	PKPbc	PKPbc	06 07 06.2	+0.1
comp=Z,2.5nm,0.6s,baz=292,slow=5.6,SNR=3.6							
DBIC	**Dimbokro**	**145.63**	**302**	ePKP	PKPdf	06 07 07.3	-3.3
LPAZ	**La Paz**	**146.43**	**101**	PKPbc	PKPbc	06 07 10.8	+2.8
comp=Z,3.0nm,0.5s,baz=263,slow=4.2,SNR=18							
LPAZ	**La Paz**	**146.43**	**101**	ePKPbc	PKPbc	06 07 10.0	+2.1
SAML	**Samuel**	**150.81**	**86**	ePKPbc	PKPdf	06 07 20.4	+1.5
SAML				ePKPab	PKPab	06 07 27.3	-1.5

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*FUNV **17** 06:09:14.0, 11.65N×61.57W,h14km,MW2.7*
*NEIC **17** 06:09:15.8, 11.65N×61.46W,h70km,MD3.2(TRN),After TRN.*
*TRN **17** 06:09:15.3, 11.67N×61.44W,h75km,MD3.2*
ISC 17 06:09:13.7±1.0,**11.65N**±0.04×**61.60W**±0.04,**h96**km±9km, **n14**,σ1§**05**/26,**2C**,**Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRW	**Mount Saint Ca**	**0.51**	**354**	eP	**P**	**06 09 30.3**	**+0.9**
GRW				eS	**S**	**06 09 41.6**	**+0.6**
GRHS	**Sauteurs**	**0.57**	**356**	⇑i P	**P**

3.3nm,0.7s,mb4.5,baz=135,slow=8.4,SNR=21

IDC 17 06:25:30.8±3.7,3.49N×122.48E,h608km±28km,mb3.1/4, mb1 3.3/4,mb1mx2.8/19,mbtmp4.2/4,Error ellipse: s-maj=115.2km s-min=44.1km az=68.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.68**	**172**	P	P	06 29 38.9	-2.1
	1.6nm,0.5s,baz=360,slow=6.7,SNR=3.8						
WRA	**Warramunga Arr**	**26.04**	**154**	P	P	06 30 17.4	-2.3
	3.9nm,0.3s,baz=336,slow=9.5,SNR=64						
ASAR	**Alice Springs**	**29.20**	**158**	P	P	06 30 46.0	-0.9
	2.3nm,0.6s,baz=334,slow=7.0,SNR=36						
ASAR				S	S	06 34 57.4	-2.0
	0.6nm,0.7s,baz=321,slow=12,SNR=4.7						
ASAR				ScP		06 36 16.9	
	0.5nm,0.7s,baz=342,slow=2.7,SNR=5.3						
STKA	**Stephens Creek**	**39.59**	**154**	P	P	06 32 11.7	-1.3
	1.6nm,0.5s,baz=323,slow=10,SNR=3.2						

*IDC **17** 07:15:02.8±5.2,5.92S×147.06E,h92km±49km,mb3.6/4, mb1 4.0/6,mb1mx3.7/14,mbtmp4.1/6,Error ellipse: s-maj=48.4km s-min=29.1km az=135.0*
*NEIC **17** 07:15:02.1±2.9,5.70S×146.84E,h86km±25km,mb4.0/3, Error ellipse: s-maj=27.6km s-min=20.2km az=157.0*
ISC 17 07:15:02.1±3.2,5.9S±0.2×147.0E±0.2,h97km±27km,n14, σ0∓77/17,mb3.7/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.45**	**177**	P	**P**	**07 15 55.8**	**+0.8**
	53nm,0.3s,baz=346,slow=12,SNR=154						
PMG				S	**S**	**07 16 34.9**	**-0.1**
	24nm,0.3s,baz=87,slow=20,SNR=8.3						
PMG	**Port Moresby**	**3.45**	**177**	*e*P	**P**	**07 15 56.0**	**+1.0**
PMG				*e*S	**S**	**07 16 32.3**	**-2.8**
PMG				S	**S**	**07 16 34.9**	**-0.1**
CTA	**Charters Tower**	**14.09**	**183**	P	**P**	**07 18 23.1**	**+4.6**
	0.6nm,0.3s,baz=3.3,slow=15,SNR=3.0						
KAKA	**Kakadu**	**15.83**	**244**	*e*P	**P**	**07 18 40.5**	**-0.2**
	2.8nm,0.5s						
WRAB	**Tennant Creek**	**18.55**	**220**	*e*P	**P**	**07 19 12.8**	**-1.0**
	10nm,0.7s						
WB2	**Warramunga Arr**	**18.55**	**220**	*e*P	**P**	**07 19 13.3**	**-0.6**
WRA	**Warramunga Arr**	**18.56**	**220**	P	**P**	**07 19 13.4**	**-0.6**
	0.7nm,0.3s,baz=42,slow=12,SNR=46						
ASAR	**Alice Springs**	**21.65**	**214**	P	**P**	**07 19 46.9**	**+0.8**
	2.5nm,0.4s,mb3.9,baz=53,slow=9.0,SNR=37						
ASPA	**Alice Springs**	**21.65**	**214**	*e*P	**P**	**07 19 46.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**24.07**	**238**	*e*P	**P**	**07 20 10.8**	**+1.1**
	4.6nm,0.8s,mb3.9						
FITZ	**Fitzroy Crossi**	**24.07**	**238**	P	**P**	**07 20 10.6**	**+1.0**
	7.9nm,0.9s,mb4.1,baz=41,slow=8.0,SNR=11						
STKA	**Stephens Creek**	**26.29**	**190**	P	**P**	**07 20 30.4**	**-0.1**
	1.4nm,0.4s,mb3.7,baz=15,slow=12,SNR=3.9						
STKA	**Stephens Creek**	**26.29**	**190**	*e*P	**P**	**07 20 30.4**	**-0.1**
ILAR	**Eielson Array**	**85.44**	**23**	P	**P**	**07 27 29.2**	**-0.5**
	0.3nm,0.6s,mb3.4,baz=254,slow=4.8,SNR=7.4						

*NEIC **17** 07:20:34.1,39.40N×0.03E,h10km,ML2.8(LDG), MN2.1(MDD),After MDD.*
*CSEM **17** 07:20:34.1±0.1,39.40N×0.01W,h10km,ML3.0/2,Error ellipse: s-maj=3.0km s-min=1.4km az=123.0*
*LDG **17** 07:20:38.7±0.4,39.62N×0.09E,h11km,Ml2.8/4,Error ellipse: s-maj=7.5km s-min=6.2km az=54.0*
MDD 17 07:20:34.2±0.4,39.40N×0.02E,h11km,mbLg2.0/21, Error ellipse: s-maj=4.1km s-min=2.7km az=116.0, PRXIMO,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBEN	**Beniarda**	**0.72**	**196**	Pg	Pg	07 20 47.6	-1.1
	5.5nm,0.1s,SNR=7.9						
EBEN				Lg		07 20 58.0	
	31nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**0.72**	**196**	Pg	Pg	07 20 47.6	-1.1
	5.5nm,0.1s,SNR=7.9						
ECHE	**Chera**	**0.79**	**285**	Pg	Pg	07 20 48.5	-1.6
	3.2nm,0.2s,SNR=7.9						
ECHE				Lg		07 20 59.5	
	5.7nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**1.04**	**339**	Pg	Pg	07 20 53.4	-1.7
EMOS				Lg		07 21 06.2	
EMOS	**Mosqueruela**	**1.04**	**339**	Pg	Pg	07 20 53.4	-1.7
	3.7nm,0.1s,SNR=7.9						
EMOS				Lg		07 21 06.8	
	13nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**1.04**	**339**	Pg	Pg	07 20 53.4	-1.6
	3.7nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**1.09**	**109**	Pg	Pg	07 20 53.4	-2.7
EIBI				Lg		07 21 07.6	
EIBI	**Ibiza**	**1.09**	**109**	Pg	Pg	07 20 53.4	-2.7
	2.7nm,0.2s,SNR=7.9						
EIBI				Lg		07 21 08.8	
	11nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**1.09**	**109**	Pg	Pg	07 20 53.4	-2.7
	2.7nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**1.44**	**239**	Pn	Pn	07 20 58.6	-1.8
ETOB				Lg		07 21 16.6	
ETOB	**Tobarra**	**1.44**	**239**	Pn	Pn	07 20 58.6	-1.8
	4.6nm,0.1s,SNR=7.9						
ETOB				Pg	Pg	07 21 00.2	-2.7
	15nm,0.2s,SNR=7.9						
ETOB				Lg		07 21 19.8	
	6.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**1.44**	**239**	Pn	Pn	07 20 58.6	-1.8
	4.6nm,0.1s,SNR=7.9						
EBR	**Ebro Roquetas**	**1.47**	**14**	*e*Rs		07 21 25.0	
EBR				*e*S*S*		07 21 26.5	
ERTA	**Horta de San J**	**1.58**	**9**	Pn	Pn	07 21 01.1	-1.3
ERTA				Pg	Pg	07 21 03.8	-2.0
ERTA				Lg		07 21 22.8	
ERTA	**Horta de San J**	**1.58**	**9**	Pn	Pn	07 21 01.1	-1.3
	1.9nm,0.1s,SNR=7.9						
ERTA				Pg	Pg	07 21 03.0	-2.7
	6.2nm,0.1s,SNR=7.9						
ERTA				Lg		07 21 23.8	
	7.2nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**1.58**	**9**	Pn	Pn	07 21 01.1	-1.3
	1.9nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.58**	**9**	Pg	Pg	07 21 03.8	-2.0
	6.2nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**1.84**	**213**	Pn	Pn	07 21 04.0	-2.2
EMUR				Pg	Pg	07 21 08.9	-2.2
EMUR				Lg		07 21 29.5	
EMUR	**La Murta**	**1.84**	**213**	Pn	Pn	07 21 04.0	-2.2
	0.4nm,0.1s,SNR=7.9						
EMUR				Pg	Pg	07 21 08.1	-2.9
	1.3nm,0.3s,SNR=7.9						
EMUR				Lg		07 21 32.7	
	2.7nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**1.84**	**213**	Pn	Pn	07 21 04.0	-2.2
	0.4nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**1.84**	**213**	Pg	Pg	07 21 08.9	-2.1
	1.3nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.11**	**22**	Pn	Pn	07 21 08.3	-1.8
EPOB				Pg	Pg	07 21 13.4	-3.1
EPOB				Sn	Sn	07 21 33.0	-3.6
EPOB				Lg		07 21 40.3	
EPOB	**Poblet**	**2.11**	**22**	Pn	Pn	07 21 08.3	-1.8
	0.4nm,0.1s,SNR=7.9						
EPOB				Pg	Pg	07 21 12.7	-3.8
	6.3nm,0.3s,SNR=7.9						
EPOB				Sn	Sn	07 21 34.1	-2.4
	3.8nm,0.2s,SNR=7.9						
EPOB				Lg		07 21 41.1	
	0.2nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**2.11**	**22**	Pn	Pn	07 21 08.3	-1.8
	0.4nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.11**	**22**	Pg	Pg	07 21 13.4	-3.1
	6.3nm,0.3s,SNR=7.9						
EPOB				Sn	Sn	07 21 33.0	-3.6
	SNR=7.9						
ETOS	**Mallorca**	**2.19**	**79**	Pn	Pn	07 21 08.7	-2.5
	0.5nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.19**	**79**	Pn	Pn	07 21 08.7	-2.5
	0.5nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**2.35**	**351**	Pg	Pg	07 21 18.4	-2.8
ESAC				Sn	Sn	07 21 39.0	-3.7
ESAC				Lg		07 21 49.2	
ESAC	**San Caprasio**	**2.35**	**351**	Pg	Pg	07 21 17.2	-4.1
	4.4nm,0.1s,SNR=7.9						
ESAC				Sn	Sn	07 21 39.0	-3.7
	7.7nm,0.2s,SNR=7.9						
ESAC				Lg		07 21 49.2	
	48nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**2.35**	**351**	Pg	Pg	07 21 18.4	-2.8
	4.4nm,0.1s,SNR=7.9						
ESAC				Sn	Sn	07 21 39.0	-3.6
	7.7nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**3.09**	**276**	Pn	Pn	07 21 21.3	-2.8
ESDC				Pg	Pg	07 21 30.6	-5.5
ESDC				Sn	Sn	07 21 55.8	-5.7
ESDC				Lg		07 22 07.9	
ESDC	**Sonseca Array**	**3.09**	**276**	Pn	Pn	07 21 21.3	-2.8
	6.4nm,0.1s,baz=87,slow=14,SNR=25						
ESDC				Pg	Pg	07 21 30.6	-5.5
	1.3nm,0.3s,baz=93,slow=17,SNR=8.8						
ESDC				Sn	Sn	07 21 56.9	-4.5
	baz=91,slow=24,SNR=7.9						
ESDC				Lg		07 22 13.2	
	3.1nm,0.6s,baz=94,slow=30,SNR=4.7						
ESDC	**Sonseca Array**	**3.09**	**276**	Pn	Pn	07 21 21.3	-2.8
	6.4nm,0.1s,slow=14,SNR=25						
ESDC	**Sonseca Array**	**3.09**	**276**	Pg	Pg	07 21 30.6	-5.4
	1.3nm,0.3s,baz=93,slow=17,SNR=8.8						
ESDC				Sn	Sn	07 21 55.8	-5.6
	slow=24,SNR=7.9						
ESLA	**Sonseca Array**	**3.09**	**276**	*e*Pn	Pn	07 21 21.2	-2.9
EBAN	**Banos Encina**	**3.22**	**249**	Pn	Pn	07 21 22.6	-3.2
EBAN				Pg	Pg	07 21 33.2	-5.4
EBAN				Sn	Sn	07 21 58.7	-5.9
EBAN				Lg		07 22 13.8	
EBAN	**Banos Encina**	**3.22**	**249**	Pn	Pn	07 21 22.8	-3.0
	1.1nm,0.1s,SNR=7.9						
EBAN				Pg	Pg	07 21 33.2	-5.4
	2.3nm,0.2s,SNR=7.9						
EBAN				Sn	Sn	07 21 59.4	-5.2
	4.5nm,0.7s,SNR=7.9						
EBAN				Lg		07 22 13.8	
	0.1nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**3.22**	**249**	Pn	Pn	07 21 22.6	-3.3
	1.1nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.22**	**249**	Pg	Pg	07 21 33.2	-5.3
	SNR=7.9						
EBAN				Sn	Sn	07 21 58.7	-5.9
	SNR=7.9						
EBIE	**Bielsa**	**3.29**	**2**	Pn	Pn	07 21 24.1	-2.7
EBIE				Pg	Pg	07 21 32.4	-7.5
EBIE				Lg		07 22 19.6	
EBIE	**Bielsa**	**3.29**	**2**	Pn	Pn	07 21 24.1	-2.7
	0.1nm,0.1s,SNR=4.0						
EBIE				Pg	Pg	07 21 33.3	-6.6
	0.1nm,0.1s,SNR=4.0						
EBIE				Lg		07 22 19.6	
	1.3nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**3.29**	**2**	Pn	Pn	07 21 24.1	-2.7
	0.1nm,0.1s,SNR=4.0						
EBIE	**Bielsa**	**3.29**	**2**	Pg	Pg	07 21 32.4	-7.5
	0.1nm,0.1s,SNR=4.0						
EBER	**Berja**	**3.39**	**224**	Pg	Pg	07 21 36.0	-5.9
	0.8nm,0.2s,SNR=7.9						
EBER				Lg		07 22 22.0	
	5.1nm,0.5s,SNR=7.9						
GUD	**Guadarrama**	**3.44**	**293**	Pn	Pn	07 21 26.7	-2.3
GUD				Lg		07 22 23.3	
GUD	**Guadarrama**	**3.44**	**293**	Pn	Pn	07 21 26.7	-2.3
	2.5nm,0.2s,SNR=7.9						
GUD				Lg		07 22 23.3	
	1.1nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.53**	**234**	Pn	Pn	07 21 28.3	-1.9
	0.6nm,0.1s,SNR=7.9						
ECOG				Sn	Sn	07 22 08.2	-4.2
	1.4nm,0.3s,SNR=7.9						
ECOG				Lg		07 22 25.6	
	4.0nm,0.4s,SNR=7.9						
ETSF	**Etsaut**	**3.53**	**353**	*e*Pn	Pn	07 21 29.1	-1.1
ETSF				*e*Pg	Pg	07 21 40.6	-4.0
ETSF				*e*Sg	Sg	07 22 21.3	-10
	5.1nm,0.3s						
EPF	**Esparros**	**3.64**	**4**	*e*Pn	Pn	07 21 30.6	-1.2
EPF				*e*Pg	Pg	07 21 41.8	-5.1
EPF				*e*Sg	Sg	07 22 25.8	-10
	9.9nm,0.4s						
ECRI	**Cripan**	**3.74**	**330**	Pn	Pn	07 21 30.7	-2.5
	0.5nm,0.1s,SNR=7.9						
ECRI				Lg		07 22 32.5	
	5.4nm,0.5s,SNR=7.9						
EJON	**La Jonquera**	**3.74**	**35**	Pg	Pg	07 21 42.4	-6.5
	1.4nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.80**	**253**	Pn	Pn	07 21 30.1	-4.0
EADA				Pg	Pg	07 21 43.4	-6.6
EADA				Sn	Sn	07 22 13.3	-5.9
EADA				Lg		07 22 31.9	
EADA	**Adamuz**	**3.80**	**253**	Pn	Pn	07 21 30.3	-3.8
	0.6nm,0.2s,SNR=7.9						
EADA				Pg	Pg	07 21 43.4	-6.6
	1.1nm,0.3s,SNR=7.9						
EADA				Sn	Sn	07 22 13.3	-5.9
	9.3nm,0.7s,SNR=7.9						
EADA				Lg		07 22 34.8	
	2.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.80**	**253**	Pn	Pn	07 21 30.1	-4.0
	SNR=7.9						
EADA	**Adamuz**	**3.80**	**253**	Pg	Pg	07 21 43.4	-6.7
	1.1nm,0.3s,SNR=7.9						
EADA				Sn	Sn	07 22 13.3	-5.9
	SNR=7.9						
SJPF	**Ste Jean**	**3.83**	**346**	*e*Pn	Pn	07 21 32.5	-2.0
SJPF				*e*Sg	Sg	07 22 32.3	-9.5
	16nm,0.7s						
ELUQ	**Luque**	**3.83**	**243**	Pn	Pn	07 21 31.9	-2.6
ELUQ				Sn	Sn	07 22 15.9	-4.2
ELUQ				Lg		07 22 35.7	
ELUQ	**Luque**	**3.83**	**243**	Pn	Pn	07 21 31.9	-2.6
	4.9nm,0.4s,SNR=7.9						
ELUQ				Sn	Sn	07 22 14.8	-5.3
	4.7nm,0.3s,SNR=7.9						
ELUQ				Lg		07 22 35.7	
	0.2nm,0.4s,SNR=7.9						
ELUQ	**Luque**	**3.83**	**243**	Pn	Pn	07 21 31.9	-2.6
	SNR=7.9						
ELUQ				Sn	Sn	07 22 15.9	-4.2
	SNR=7.9						
ELIZ	**Elizondo**	**3.94**	**343**	Pn	Pn	07 21 34.8	-1.3
ELIZ				Lg		07 22 40.8	
ELIZ	**Elizondo**	**3.94**	**343**	Pn	Pn	07 21 33.7	-2.4
	1.5nm,0.2s,SNR=7.9						
ELIZ				Lg		07 22 39.5	
	0.0nm,0.3s,SNR=4.0						
ELIZ	**Elizondo**	**3.94**	**343**	Pn	Pn	07 21 34.8	-1.3
	SNR=7.9						
ELOJ	**Sierra Loja**	**3.98**	**237**	Pn	Pn	07 21 34.6	-2.0
ELOJ				Sn	Sn	07 22 20.5	-3.4
ELOJ				Lg		07 22 41.8	
ELOJ	**Sierra Loja**	**3.98**	**237**	Pn	Pn	07 21 34.6	-2.0
	0.1nm,0.2s,SNR=7.9						
ELOJ				Sn	Sn	07 22 18.0	-5.8
	1.1nm,0.2s,SNR=7.9						
ELOJ				Lg		07 22 40.4	
	1.7nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**3.98**	**237**	Pn	Pn	07 21 34.6	-2.0
	0.1nm,0.2s,SNR=7.9						
ELOJ				Sn	Sn	07 22 20.5	-3.3
	SNR=7.9						
EALK	**Alkurruntz**	**3.99**	**344**	Pn	Pn	07 21 35.4	-1.3
EALK				Lg		07 22 39.7	
EALK	**Alkurruntz**	**3.99**	**344**	Pn	Pn	07 21 35.1	-1.7
	0.3nm,0.2s,SNR=7.9						
EALK				Lg		07 22 40.9	
	0.8nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**3.99**	**344**	Pn	Pn	07 21 35.4	-1.4
	0.3nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**4.27**	**22**	*e*Pn	Pn	07 21 38.6	-2.2
MTLF				*e*Pg	Pg	07 21 53.5	-6.1
MTLF				*e*Sg	Sg	07 22 46.1	-10
	4.3nm,0.5s						
ELAN	**Lanestosa**	**4.63**	**327**	Pn	Pn	07 21 43.8	-2.1
ELAN				Lg		07 23 02.4	
ELAN	**Lanestosa**	**4.63**	**327**	Pn	Pn	07 21 43.8	-2.1
	1.9nm,0.2s,SNR=7.9						
ELAN				Lg		07 23 01.5	
	2.8nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**4.63**	**327**	Pn	Pn	07 21 43.8	-2.1
EMIJ	**Mijas**	**4.73**	**235**	Sn	Sn	07 22 35.9	-6.9
	2.9nm,0.6s,SNR=7.9						
ESPR	**Espera**	**5.28**	**243**	Pn	Pn	07 21 50.6	-4.4
ESPR	**Espera**	**5.28**	**243**	Pn	Pn	07 21 51.6	-3.4
	0.4nm,0.2s,SNR=4.0						
ESPR	**Espera**	**5.28**	**243**	Pn	Pn	07 21 50.6	-4.4
EMIN	**Mina Concepcio**	**5.49**	**255**	Pn	Pn	07 21 54.2	-3.8
	0.5nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	07 22 54.8	-7.2
	0.8nm,1.3s,SNR=7.9						
EMIN				Lg		07 23 25.9	
	6.0nm,0.7s,SNR=7.9						
EBAD	**Badajoz**	**5.51**	**266**	Sn	Sn	07 22 55.3	-7.2
	0.9nm,0.9s,SNR=7.9						
EBAD				Lg		07 23 29.0	
	1.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**5.54**	**316**	Lg		07 23 30.0	
	4.4nm,0.8s,SNR=7.9						
LFF	**La Frestale**	**5.56**	**5**	*e*Pn	Pn	07 21 56.2	-2.9
CAF	**Calviac**	**5.73**	**15**	*e*Pn	Pn	07 21 58.1	-3.3
ECAL	**Calabor**	**5.73**	**298**	Pn	Pn	07 21 58.2	-3.3
ECAL	**Calabor**	**5.73**	**298**	Pn	Pn	07 21 57.9	-3.6
	6.6nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**5.73**	**298**	Pn	Pn	07 21 58.2	-3.2
SMRF	**Simiane la Rot**	**6.18**	**40**	*e*Pn	Pn	07 22 05.0	-2.8
ERUA	**La Rua**	**6.20**	**301**	Pn	Pn	07 22 04.7	-3.4
	1.4nm,0.2s,SNR=7.9						
ERUA				Sn	Sn	07 23 11.7	-8.0
	4.4nm,1.3s,SNR=7.9						
ELOB	**Lobios**	**6.62**	**294**	Pn	Pn	07 22 10.1	-3.9
	0.1nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**6.67**	**308**	Pn	Pn	07 22 10.9	-3.8
	0.1nm,0.2s,SNR=7.9						
PGF	**Pioggiola**	**7.49**	**62**	*e*Pn	Pn	07 22 22.6	-3.5

*IDC **17** 07:42:21.8±2.1,0.95N×97.12E,mb3.9/6,mb1 4.1/7, mb1mx3.8/19,mbtmp3.9/7,ML4.1/1,Error ellipse: s-maj=90.6km s-min=18.8km az=60.0*
*NEIC **17** 07:42:26.4±0.9,0.99N×97.20E,h30km,mb4.4/4,Error ellipse: s-maj=25.9km s-min=10.3km az=72.0*
ISC 17 07:42:25.3±1.1,1.01N±0.10×97.2E±0.2,h33km,n16, σ0∓95/14,mb4.1/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.45**	**39**	*e*P	**P**	**07 43 46.1**	**-0.2**
CM31	**Chiang Mai Arr**	**17.42**	**5**	P	**P**	**07 46 27.5**	**0.0**
	5.3nm,1.0s						
CM31				*e*		07 46 35.5	
CMAR	**Chiang Mai Arr**	**17.42**	**5**	P	**P**	**07 46 26.6**	**-1.0**
	0.2nm,0.3s,baz=196,slow=12,SNR=13						
KMI	**Kunming**	**24.56**	**12**	P	**P**	**07 47 45.5**	**+2.0**
	16nm,1.1s,mb4.5						
SHL	**Shillong**	**24.96**	**348**	*e*P	**P**	**07 47 48.0**	**+0.6**
ENH	**Enshi**	**31.34**	**21**	*e*P	**P**	**07 48 43.4**	**-1.8**
	3.4nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**41.90**	**122**	P	**P**	**07 50 14.4**	**-0.2**
	0.8nm,0.7s,mb3.4,baz=300,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**41.91**	**122**	*e*P	**P**	**07 50 14.8**	**+0.1**
ASAR	**Alice Springs**	**43.25**	**127**	P	**P**	**07 50 25.9**	**+0.3**
	0.9nm,0.7s,mb3.6,baz=301,slow=7.9,SNR=8.4						
SONM	**Songino Array**	**47.31**	**8**	P	**P**	**07 50 58.1**	**+0.4**
	1.6nm,0.5s,mb4.2,baz=188,slow=9.6,SNR=16						
SONM				PcP	PcP	07 52 28.5	-0.2
	0.9nm,0.7s,baz=182,slow=3.3,SNR=5.7						
ULN	**Ulaanbaatar**	**47.44**	**9**	*e*P	**P**	**07 51 00.6**	**+1.9**
	1.5nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**53.20**	**132**	P	**P**	**07 51 42.6**	**-0.2**
	1.6nm,0.8s,mb4.0,baz=321,slow=6.5,SNR=3.0						
ZAL	**Zalesovo**	**53.74**	**351**	P	**P**	**07 51 46.1**	**-0.4**
	1.5nm,0.4s,mb4.3,baz=283,slow=3.5,SNR=9.3						
BVAR	**Borovoye Array**	**56.44**	**341**	P	**P**	**07 52 05.0**	**-1.1**
	0.9nm,0.8s,mb3.9,baz=135,slow=8.2,SNR=5.5						
TXAR	**Lajitas Array**	**143.81**	**32**	PKP	PKPdf	08 01 58.2	+0.4
	0.1nm,0.7s,baz=270,slow=0.9,SNR=4.0						
TXAR	**Lajitas Array**	**143.81**	**32**	PKP	PKPdf	08 01 58.2	+0.4

*BJI **17** 07:48:07.4,0.96N×97.36E,h33km,mB5.1,mb5.0,Ms4.6, Msz4.5*
*MOS **17** 07:48:09.8±0.9,1.37N×97.31E,h33km,mb5.1/11,Error ellipse: s-maj=22.8km s-min=10.5km az=97.3*
*NEIC **17** 07:48:09.5±0.4,1.24N×97.12E,mb4.8/22,Error ellipse: s-maj=9.2km s-min=6.4km az=43.0*
*IDC **17** 07:48:11.5±2.8,1.18N×97.13E,h39km±22km,mb4.3/15, mb1 4.4/15,mb1mx4.3/20,mbtmp4.6/15,MS3.9/3, Ms1 3.9/3,ms1mx3.4/20,Error ellipse: s-maj=29.4km s-min=11.1km az=48.0*
ISC 17 07:48:10.0±1.0,1.26N±0.05×97.22E±0.05,h37km±7km, h20km±2.9km:pP-P,n119,σ1∓02/125,mb4.9/59,MS4.2/14, 19C-5D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.04**	**49**	P	**P**	**07 49 25.9**	**+0.8**
KULM	**Kulim**	**5.27**	**40**	*e*P	**P**	**07 49 28.4**	**0.0**
KGM	**Kluang**	**6.15**	**83**	P	**P**	**07 49 42.2**	**+1.5**
SNG	**Songkhla**	**6.79**	**30**	P	**P**	**07 49 49.0**	**-0.7**
	346nm,0.9s						
KSM	**Kuching**	**13.09**	**89**	P	**P**	**07 51 18.0**	**+1.9**
KSM				*e*		07 51 28.0	
NST	**Nakhon Sawan**	**14.61**	**11**	P	**P**	**07 51 31.5**	**-4.7**
KKTK	**Khon Kaen**	**15.97**	**20**	P	**P**	**07 51 56.0**	**+2.2**
	309nm,0.8s						
CM31	**Chiang Mai Arr**	**17.18**	**6**	*e*P	**P**	**07 52 05.9**	**-3.1**
	9.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.18**	**6**	*i* P	**P**	**07 52 07.5**	**-1.4**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.18**	**6**	P	**P**	**07 52 07.0**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=195,sl

comp=Z,84nm,0.7s,mb5.6
DMN Daman 28.66 337 *e*P **P 07 54 06.0 +0.3**
comp=Z,59nm,0.9s,mb5.3
KKN Kakani 28.75 338 *e*P **P 07 54 06.8 +0.3**
comp=Z,62nm,1.0s,mb5.3
LSA Lhasa 28.87 349 *e*P **P 07 54 08.6 +1.1**
comp=Z,18nm,0.8s,mb4.9
GKN Gorkha 29.19 337 *e*P **P 07 54 10.6 +0.2**
comp=Z,86nm,0.9s,mb5.5
KOLN Koldanda 29.41 335 *e*P **P 07 54 12.9 +0.5**
comp=Z,41nm,0.7s,mb5.2
ENH Enshi 31.12 21 *e*P **P 07 54 26.0 -1.5**
comp=Z,45nm,0.6s,mb5.5
ENH *e* 07 54 32.9
WHN Wuhan 33.36 28 *e*P **P 07 54 46.5 -0.5**
FITZ Fitzroy Crossi 33.95 126 *e*P **P 07 54 51.7 -0.5**
comp=Z,6.6nm,0.4s,mb4.9
FITZ Fitzroy Crossi 33.95 126 P **P 07 54 51.5 -0.7**
comp=Z,12nm,0.7s,mb5.0,baz=310,slow=3.1,SNR=24
FITZ LR LR 08 07 47.4
comp=Z,201nm,21.8s,MS3.8,baz=284,slow=35
XAN Xi'an 34.40 17 P **P 07 54 54.9 -1.1**
XAN AP pP 07 55 01.3 -5.2
XAN AMB AMB
comp=Z,35nm,1.0s,mb5.2
LZH Lanzhou 35.20 9 ⇑P **P 07 55 02.5 -0.3**
LZH AP pP 07 55 08.5 -4.8
LZH XP sP 07 55 11.6 -6.4
LZH PP PP 07 56 22.1 -0.2
LZH AMB AMB
comp=Z,30nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,97nm,5.3s
LZH LR LR
comp=N,573nm,12.8s
LZH LR LR
comp=Z,786nm,16.9s,MS4.5
LZH Lanzhou 35.20 9 ⇑P **P 07 55 02.5 -0.3**
comp=Z,30nm,1.4s,mb5.0
LZH pP pP 07 55 08.5 -4.8
LZH sP sP 07 55 11.6 -6.4
LZH PP PP 07 56 22.1 -0.2
LZH LR LR
comp=Z,790nm,16.9s,MS4.5
NJ2 Nanjing 36.81 32 *e*P **P 07 55 14.8 -1.6**
NJ2 AP pP 07 55 23.6 -3.4
NJ2 XP sP 07 55 27.9 -3.8
NJ2 PP PP 07 56 40.8 -1.7
NJ2 S **S 08 00 56.0 -1.6**
NJ2 XS 08 01 12.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
NJ2 AMB AMB
comp=Z,724nm,4.4s
NJ2 LR LR
comp=N,1μm,15.6s,MS4.7
NJ2 LR LR
comp=E,412nm,18.4s,MS4.7
NJ2 LR LR
comp=Z,2μm,17.4s,MS5.0
SSE Sheshan 37.36 35 P **P 07 55 19.8 -1.3**
SSE AMB AMB
comp=Z,16nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,79nm,5.5s
SSE Sheshan 37.36 35 P **P 07 55 19.8 -1.3**
comp=Z,16nm,0.8s,mb4.9
KAKA Kakadu 37.61 113 ⇑*i*P **P 07 55 22.4 -0.9**
comp=Z,10nm,0.8s,mb4.6
JOW Kunigami 39.19 47 P **P 07 55 36.5 +0.2**
comp=Z,52nm,0.7s,mb5.4,baz=246,slow=9.4,SNR=16
WRA Warramunga Arr 42.05 122 P **P 07 56 00.0 -0.2**
comp=Z,8.2nm,0.6s,mb4.5,baz=301,slow=9.1,SNR=129
WRA PcP PcP 07 57 55.3 0.0
comp=Z,1.3nm,0.8s,baz=304,slow=3.0,SNR=4.3
WRA S **S 08 02 15.4 -1.2**
comp=Z,1.0nm,1.2s,baz=191,slow=12,SNR=3.5
WRAB Tennant Creek 42.05 122*c i*P **P 07 56 00.5 +0.3**
WRAB Tennant Creek 42.05 122 *e*P **P 07 56 00.6 +0.3**
comp=Z,11nm,0.6s,mb4.7
WB2 Warramunga Arr 42.06 122⇓*i*P **P 07 56 00.8 +0.5**
BJT Baijiatuau 42.26 22 *e*P **P 07 56 02.6 +1.0**
comp=Z,25nm,0.7s,mb5.0
BJT *e* 07 56 09.2
BJI Beijing 42.28 22 P **P 07 56 02.8 +1.0**
BJI AMB AMB
comp=Z,38nm,0.7s,mb5.1
BJI AMB AMB
comp=Z,184nm,4.5s
BJI LR LR
comp=N,148nm,17.1s,MS4.1
BJI LR LR
comp=E,184nm,17.1s,MS4.1
BJI LR LR
comp=Z,113nm,20.8s,MS3.7
BJI Beijing 42.28 22 P **P 07 56 02.8 +1.0**
comp=Z,38nm,0.7s,mb5.1
BJI S **S 08 02 37.3 +18**
BJI SS SS 08 06 01.5 +38
BJI LR LR
comp=Z,110nm,20.8s,MS3.7
WMQ Urumqi 43.22 350 ⇓P **P 07 56 11.0 +1.5**
WMQ AP pP 07 56 17.0 -3.1
WMQ XP sP 07 56 20.0 -4.7
WMQ PP PP 07 57 53.5 +1.4
WMQ PCP PcP 07 58 01.5 +2.7
WMQ PPP PPP 07 58 28.0 +0.2
WMQ S **S 08 02 36.1 +2.7**
WMQ AMB AMB
comp=Z,26nm,1.1s,mb4.9
WMQ LR LR
comp=N,93nm,22.7s,MS3.8
WMQ LR LR
comp=E,103nm,22.7s,MS3.8
WMQ LR LR
comp=Z,100nm,25.0s,MS3.6
ASPA Alice Springs 43.41 127⇑*i*P **P 07 56 11.9 +0.6**
ASAR Alice Springs 43.41 127 P **P 07 56 11.4 +0.1**
comp=Z,4.8nm,0.7s,mb4.3,baz=297,slow=8.0,SNR=49
ASAR PcP PcP 07 58 00.2 +0.4
comp=Z,1.9nm,0.8s,baz=313,slow=3.1,SNR=7.7
ASAR ScP 08 01 50.3
comp=Z,1.0nm,1.0s,baz=315,slow=3.8,SNR=4.5
ASAR S **S 08 02 36.7 +0.2**
comp=Z,1.0nm,1.1s,baz=303,slow=14,SNR=3.1
ULHL Ulahol 44.95 338 P **P 07 56 24.2 +0.9**
SNR=8.2
UCH Uchtor 45.60 336 P **P 07 56 30.0 +1.3**
SNR=15
KS15 Wonju Array Si 45.76 35 *e*P **P 07 56 30.2 +0.3**
KS15 *e* 07 56 35.7
TKM2 Tokmak 2 45.77 338 P **P 07 56 30.9 +0.9**
SNR=8.7
AML Almayashu 45.86 336 P **P 07 56 31.9 +1.2**
SNR=11
AAK Ala-Archa 45.95 337 P **P 07 56 37.2 +5.8**
SNR=5.1
AAK Ala-Archa 45.95 337⇑*e*P **P 07 56 31.4 0.0**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK MLR MLR
comp=Z,200nm,22.0s,MS4.0
AAK Ala-Archa 45.95 337 *e*P **P 07 56 30.7 -0.7**
comp=Z,6.6nm,0.9s,mb4.6
EKS2 Erkin-Say 46.27 336 P **P 07 56 35.0 +1.2**
SNR=9.5
USP Ospenovka 46.49 337 P **P 07 56 35.9 +0.3**
SNR=14
SONM Songino Array 47.07 8 P **P 07 56 40.0 -0.1**
comp=Z,13nm,0.7s,mb4.9,baz=189,slow=8.9,SNR=127
SONM PcP PcP 07 58 12.1 0.0
comp=Z,2.4nm,0.6s,baz=196,slow=2.8,SNR=4.7
ULN Ulaanbaatar 47.20 9*c i*P **P 07 56 41.5 +0.4**
ULN Ulaanbaatar 47.20 9 *e*P **P 07 56 41.3 +0.2**
comp=Z,8.3nm,0.9s,mb4.7
ULN *e* 07 56 48.3
ZAK Zakamensk 49.22 5 *e*P **P 07 56 56.8 +0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
CN2 Changchun 49.25 27 *e*P **P 07 56 56.3 -0.8**
CN2 *e*AP pP 07 57 02.6 -5.2
CN2 *e*S **S 08 04 01.1 +1.8**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,18.0s,MS4.5
CN2 LR LR
comp=E,300nm,18.0s,MS4.5
CN2 LR LR
comp=Z,500nm,16.0s,MS4.6
MOY Mondy 50.33 3 *e*P **P 07 57 05.6 +0.3**
TLY Talaya 50.54 5 *e*P **P 07 57 07.2 +0.4**
TLY pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
TLY MLR MLR
comp=Z,193nm,17.0s,MS4.2
TLY Talaya 50.54 5 *e*P **P 07 57 07.3 +0.5**
comp=Z,7.6nm,0.7s,mb4.7
HIA Hailar 51.58 19 *e*P **P 07 57 14.5 -0.3**
comp=Z,17nm,0.9s,mb5.0
MDJ Mudanjiang 51.81 29 P **P 07 57 15.8 -0.7**
MDJ AP pP 07 57 22.3 -5.0
MDJ PCP PcP 07 58 28.3 -1.1
MDJ PP PP 07 59 12.3 -2.8
MDJ SCP 08 02 24.9
MDJ PCS 08 02 27.5
MDJ S **S 08 04 39.3 +4.6**
MDJ AMB AMB
comp=Z,12nm,1.5s,mb4.6
MDJ AMB AMB
comp=Z,151nm,4.2s
MDJ LR LR
comp=N,52nm,29.2s
MDJ LR LR
comp=E,58nm,20.2s
MDJ LR LR
comp=Z,119nm,18.0s
CTA Charters Tower 52.51 117 *e*P **P 07 57 30.3 +8.2**
comp=Z,8.7nm,1.5s,mb4.5
CTAO Charters Tower 52.51 117 *e*P **P 07 57 30.6 +8.4**
comp=Z,4.4nm,0.7s,mb4.5
STKA Stephens Creek 53.38 132⇑*i*P **P 07 57 29.5 +1.0**
comp=Z,4.0nm,0.6s,mb4.5
STKA Stephens Creek 53.38 132 P **P 07 57 28.1 -0.4**
comp=Z,6.1nm,0.7s,mb4.6,baz=287,slow=4.5,SNR=10.0
ZAL Zalesovo 53.50 351 P **P 07 57 28.6 -0.4**
comp=Z,12nm,0.6s,mb5.0,baz=305,slow=6.0,SNR=57
ZAL LR LR 08 25 41.1
comp=Z,106nm,18.6s,MS3.9,baz=112,slow=42
KLR Kul'dur 56.20 27 *e*P **P 07 57 45.8 -2.9**
BVAR Borovoye Array 56.20 341 P **P 07 57 47.0 -1.6**
comp=Z,11nm,0.7s,mb5.0,baz=141,slow=8.9,SNR=73
BOD Bodaibo 57.95 11 *e*P **P 07 58 00.0 -1.0**
BOD pmax pmax
comp=Z,19nm,0.9s,mb5.1
CLNS Chul'man 59.68 17 *e*P **P 07 58 12.4 -0.7**
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=Z,22nm,0.8s,mb5.2
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS MLR MLR
comp=Z,200nm,18.0s,MS4.3
CLNS MLR MLR
comp=N,200nm,15.0s,MS4.4
CLNS MLR MLR
comp=E,30nm,11.0s,MS4.4
YSS Yuzh-Sakhalins 60.29 34⇓*e*P **P 07 58 17.9 +0.5**
YSS pmax pmax
comp=Z,46nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 60.29 34 *e*P **P 07 58 17.8 +0.4**
comp=Z,16nm,1.0s,mb5.0
YSS *e* 07 58 24.5
GNI Garni 61.26 316 *i*P **P 07 58 25.9 +1.8**
SVE Sverdlovsk 62.64 338 *e*P **P 07 58 29.0 -4.0**
SVE pmax pmax
comp=Z,24nm,1.3s,mb5.2
ARU Arti 63.14 337⇑*i*P **P 07 58 34.8 -1.6**
ARU *e* 08 00 53.9
ARU *e*S **S 08 07 04.5 +1.4**
ARU *e*SS SS 08 11 07.3 -4.1
ARU pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
ARU Arti 63.14 337 *e*P **P 07 58 34.4 -1.9**
comp=Z,14nm,1.3s,mb4.9
KIV Kislovodsk 64.28 319*α i*P **P 07 58 43.4 -0.6**
KIV *i* *SP sP 07 58 54.5 -4.8
KIV *e* 07 59 18.4
KIV *i* S **S 08 07 33.9 +16**
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
KIV Kislovodsk 64.28 319 *e*P **P 07 58 42.9 -1.1**
YAK Yakutsk 65.36 16*c i*P **P 07 58 49.8 -0.9**
YAK *e* 07 58 56.1
YAK pmax pmax
comp=Z,31nm,1.0s,mb5.3
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.2
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK Yakutsk 65.36 16 *e*P **P 07 58 49.6 -1.1**
comp=E,75nm,1.0s,mb5.7
YAK *e* 07 58 56.5
SOKR Solikamsk 66.04 339⇓*i*P **P 07 58 54.9 -0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SOC Sochi 66.09 318 *e*P **P 07 58 51.0 -4.6**
SOC *e* 07 59 21.2
SOC *e*S S 08 07 35.8 -3.9
SOC *e* 08 08 49.7
SOC *e*SS SS 08 11 57.8 +0.8
SOC pmax pmax
comp=N,5.0nm,0.5s
SOC pmax pmax
comp=Z,12nm,0.5s,mb5.2
SOC pmax pmax
comp=E,10.0nm,0.7s
ANN Anapa 68.07 318 *e*P **P 07 59 03.6 -4.5**
ANN *i* *PP pP 07 59 13.0 -6.3
ANN *i* 07 59 27.6
ANN *e*S S 08 08 00.2 -3.3
ANN pmax pmax
comp=Z,108nm,1.6s,mb5.6
BRTR Keskin Array B 69.09 312 P **P 07 59 12.9 -1.6**
comp=Z,1.5nm,0.8s,mb4.0,baz=126,slow=7.7,SNR=7.8
OBN Obninsk 72.58 328⇑*e*P **P 07 59 34.4 -0.8**
OBN *i* 07 59 42.2
OBN pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
TIXI Tiksi 73.13 10⇑*e*P **P 07 59 37.4 -0.8**
TIXI pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
TIRR Tirgusor 74.09 316 ⇑P **P 07 59 44.2 -0.1**
AKASG Malin Array Be 75.22 322 P **P 07 59 49.3 -1.4**
comp=Z,1.8nm,0.6s,mb4.2,baz=88,slow=5.4,SNR=9.2
MLR Muntele Rosu 76.04 317 ⇑P **P 07 59 56.3 +0.8**
BURAR Bucovina Array 76.99 319 ⇓P **P 08 00 01.8 +0.9**
JOF Joensuu 78.10 335 *ep* **P 08 00 06.4 -0.2**
FINES FINESS Array B 79.96 332 *i*P **P 08 00 16.6 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 79.96 332 P **P 08 00 16.3 -0.5**
comp=Z,1.4nm,0.6s,mb4.1,baz=90,slow=5.7,SNR=9.7
KAF Kangasniemi 80.04 333 *ep* **P 08 00 16.8 -0.4**
comp=Z,2.1nm,0.5s,mb4.3,baz=120,slow=5.5
KAF Kangasniemi 80.04 333 *e*P **P 08 00 16.8 -0.4**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
BILL Bilibino 81.11 21⇑*e*P **P 08 00 22.4 -0.4**
BILL *e* 08 00 29.0
BILL *e*SS SS 08 15 43.1 -3.5
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
ARCES ARCESS Array B 82.49 340 P **P 08 00 30.2 +0.3**
comp=Z,5.3nm,0.9s,mb4.5,baz=98,slow=4.8,SNR=10
GERES GERESS Array B 84.78 319 P **P 08 00 42.4 +0.5**
comp=Z,2.1nm,0.9s,mb4.3,baz=108,slow=4.2,SNR=15
KHC Kasperske Hory 84.88 319 *e*P **P 08 00 37.5 -4.9**
VNDA Vanda 85.88 169 P **P 08 00 44.8 -1.9**
comp=Z,1.2nm,0.9s,mb4.1,baz=297,slow=6.8,SNR=5.2
NB2 NORSAR Subarra 86.97 331 P **P 08 00 52.3 0.0**
comp=Z,2.6nm,0.8s,mb4.5,baz=93,slow=5.0
NOA NORSAR Array B 86.97 331 P **P 08 00 52.0 -0.3**
comp=Z,1.5nm,0.8s,mb4.3,baz=96,slow=5.3,SNR=6.6
IMA Indian Mountai 96.52 23 *e*P **P 08 01 38.0 +1.4**
comp=Z,13nm,1.0s,mb5.3
YKA Yellowknife Ar 112.03 15 PP PP 08 07 21.1 -8.5
comp=Z,0.3nm,0.7s,baz=328,slow=7.5,SNR=6.7
NVAR Mina Array Bea 128.73 36 PKP PKPdf 08 07 16.5 +2.3
comp=Z,1.0nm,0.9s,baz=30,SNR=6.1
PDAR Pinedale Array 129.98 26 PKP PKPdf 08 07 18.6 +2.2
comp=Z,0.7nm,0.8s,baz=90,slow=1.5,SNR=5.4
TXAR Lajitas Array 143.61 32 PKP PKPdf 08 07 41.2 -0.5
comp=Z,1.2nm,0.8s,baz=140,slow=0.5,SNR=14

BJI ***17*** *07:58:25.1, 34.50N×36.80W, h10km, mB5.1, mb4.8, Ms4.3, Msz4.2*
IDC ***17*** *07:58:25.6±0.6, 34.57N×36.74W, mb4.3/23, mb1 4.5/23, mb1mx4.4/28, mbtmp4.3/23, MS4.0/14, Ms1 4.0/14, ms1mx3.8/22, Error ellipse: s-maj=17.6km s-min=12.1km az=152.0*
MOS ***17*** *07:58:25.3±0.8, 34.44N×36.72W, h10km, mb5.1/12, MS4.2/7, Error ellipse: s-maj=27.4km s-min=9.6km az=46.4*
NEIC ***17*** *07:58:27.1±0.2, 34.51N×36.75W, h10km, mb4.7/28, MS4.0/1, Error ellipse: s-maj=7.6km s-min=3.4km az=169.0*
CSEM ***17*** *07:58:28.8±0.1, 34.53N×36.83W, h33km, mb4.7/34, Ms4.0, Error ellipse: s-maj=4.0km s-min=2.0km az=167.0*
ISC 17 07:58:25.6±0.4, 34.54N±0.08×36.78W±0.05, h10km, n151, σ0977/144, mb4.6/56, MS4.1/21, 7C-9D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**26.57**	**69**	P	P	P	**08 04 04.4**	**-1.1**
0.2nm,0.3s,mb3.1,baz=283,slow=8.8,SNR=5.6								
SCHQ	**Schefferville**	**29.10**	**323**	P	P	P	**08 04 28.5**	**+0.2**
3.3nm,0.7s,mb4.2,baz=163,slow=8.5,SNR=3.6								
SCHQ				LR	LR	LR	08 14 31.6	
comp=Z,426nm,21.4s,MS4.0,baz=292,slow=33								
SCHQ	**Schefferville**	**29.10**	**323**	*e*P	P	P	**08 04 28.5**	**+0.3**
9.9nm,1.0s,mb4.5								
SCHQ				*e*			08 04 33.5	
SCHQ	**Schefferville**	**29.10**	**323**	*e*P	P	P	**08 04 28.5**	**+0.2**
GRA1	**Grafenberg Arr**	**38.01**	**52**	*e*P	P	P	**08 05 45.8**	**+0.5**
30nm,1.7s,mb4.8								
GRF	**Grafenberg Arr**	**38.01**	**52**	*e*P	P	P	**08 05 45.8**	**+0.5**
GRF				pmax	pmax			
comp=Z,30nm,1.7s,mb4.8								
GRF	**Grafenberg Arr**	**38.01**	**52**	*e*P	P	P	**08 05 45.8**	**+0.5**
comp=Z,30nm,1.7s,mb4.8								
SUMG	**Summit**	**38.11**	**359**	*e*P	P	P	**08 05 46.6**	**+0.6**
comp=Z,34nm,1.1s,mb5.0								
MOX	**Moxa**	**38.35**	**50**	*e*P	P	P	**08 05 48.8**	**+0.6**
comp=Z,36nm,1.9s,mb4.8								
MOX				LR	LR			
comp=Z,200nm,17.0s,MS4.0								
MOX	**Moxa**	**38.35**	**50**	*i* P	P	P	**08 05 48.8**	**+0.6**
comp=Z,logA/T=1.3,mb4.8								
MOX				L			08 20 43.0	
NKC	**Novy Kostel**	**38.84**	**51**	*e*P	P	P	**08 05 53.2**	**+0.9**
NKC				AMS	AMS		08 20 10.0	
comp=Z,300nm,14.5s								
CLL	**Collm**	**39.29**	**49**	*i* P	P	P	**08 05 56.2**	**+0.1**
CLL				pmax	pmax			
comp=Z,22nm,1.6s,mb4.6								
CLL	**Collm**	**39.29**	**49**	P	P	P	**08 05 56.2**	**+0.1**
comp=Z,logA/T=1.1,mb4.6								
CLL	**Collm**	**39.29**	**49**	*i* P	P	P	**08 05 56.2**	**+0.1**
comp=Z,22nm,1.6s,mb4.6								
KHC	**Kasperske Hory**	**39.51**	**53**	⇓*e*P	P	P	**08 05 58.1**	**+0.2**
KHC	**Kasperske Hory**	**39.51**	**53**	*e*P	P	P	**08 05 57.3**	**-0.6**
GERES	**GERESS Array B**	**39.58**	**53**	P	P	P	**08 05 58.6**	**+0.2**
comp=Z,2.1nm,0.8s,mb3.9,baz=270,slow=6.7,SNR=19								
BRG	**Berggiesshubel**	**39.84**	**50**	*e*P	P	P	**08 06 01.2**	**+0.5**
BRG				pmax	pmax			
comp=Z,17nm,1.5s,mb4.5								
BRG				MLR	MLR			
comp=N,100nm,16.7s,MS4.0								
BRG				MLR	MLR			
comp=E,170nm,16.7s,MS4.0								
BRG				MLR	MLR			
comp=Z,350nm,16.7s,MS4.3								
BRG	**Berggiesshubel**	**39.84**	**50**	*e*P	P	P	**08 06 01.2**	**+0.5**
comp=Z,17nm,1.5s,mb4.5								
BRG				LR	LR			
comp=Z,350nm,16.7s,MS4.3								
BRG	**Berggiesshubel**	**39.84**	**50**	*e*P	P	P	**08 06 01.2**	**+0.5**
comp=Z,17nm,1.5s,mb4.5								
PRU	**Pruhonice**	**40.17**	**51**	*e*P	P	P	**08 06 04.3**	**+0.9**
PRU				AMS	AMS		08 21 10.0	
comp=Z,200nm,14.8s								
SDV	**Santo Domingo**	**40.18**	**239**	P	P	P	**08 06 05.2**	**+1.4**
comp=Z,5.0nm,0.7s,mb4.3,baz=94,slow=2.9,SNR=7.0								
SDV	**Santo Domingo**	**40.18**	**239**	*e*P	P	P	**08 06 05.2**	**+1.3**
comp=Z,11nm,1.0s,mb4.6								
SDV	**Santo Domingo**	**40.18**	**239**	*e*P	P	P	**08 06 05.2**	**+1.4**
comp=Z,11nm,1.0s,mb4.6								
PVCC	**Panska Ves**	**40.22**	**51**	*e*P	P	P	**08 06 04.5**	**+0.8**
NB2	**NORSAR Subarra**	**40.36**	**34**	P	P	P	**08 06 05.2**	**+0.4**
comp=Z,16nm,1.2s,mb4.6,baz=251,slow=8.6								
NOA	**NORSAR Array B**	**40.36**	**34**	P	P	P	**08 06 04.7**	**-0.2**
comp=Z,3.9nm,0.9s,mb4.1,baz=252,slow=8.5,SNR=7.4								
DBIC	**Dimbokro**	**40.44**	**126**	LR	LR	LR	08 20 22.4	
comp=Z,243nm,19.8s,MS4.1,baz=309,slow=33								
UPC	**Upice**	**41.14**	**51**	*e*P	P	P	**08 06 11.4**	**+0.1**
DPC	**Dobruska-Polom**	**41.33**	**51**	*e*P	P	P	**08 06 13.0**	**+0.1**
DPC				AMS	AMS		08 21 20.0	
comp=Z,200nm,18.2s								
VRAC	**Vranov**	**41.49**	**52**	*e*P	P	P	**08 06 14.6**	**+0.4**
MORC	**Moravsky Berou**	**42.11**	**52**	*e*P	P	P	**08 06 20.0**	**+0.8**
OKC	**Ostrava-Krasne**	**42.50**	**52**	*e*P	P	P	**08 06 23.0**	**+0.6**
OXF	**Oxford**	**42.94**	**286**	*e*P	P	P	**08 06 26.7**	**+0.5**
comp=Z,36nm,1.2s,mb5.0								
OXF	**Oxford**	**42.94**	**286**	*e*P	P	P	**08 06 26.7**	**+0.4**
comp=Z,36nm,1.2s,mb5.0								
VYHS	**Vyhne**	**42.98**	**54**	*e*P	P	P	**08 06 26.0**	**-0.4**
CCM	**Cathedral Cave**	**43.52**	**291**	*e*P	P	P	**08 06 31.2**	**+0.3**
CCM	**Cathedral Cave**	**43.52**	**291**	*e*P	P	P	**08 06 31.2**	**+0.3**
FCC	**Fort Churchill**	**44.43**	**321**	*e*P	P	P	**08 06 38.4**	**+0.4**
comp=Z,9.2nm,1.2s,mb4.4								
FCC	**Fort Churchill**	**44.43**	**321**	*e*P	P	P	**08 06 38.4**	**+0.4**
comp=Z,9.1nm,1.2s,mb4.4								
CRVS	**Cervenica-Dubn**	**44.70**	**53**	*e*P	sP	sP	08 06 45.9	+1.4
CRVS	**Cervenica-Dubn**	**44.70**	**53**	*es*P	sP	sP	08 06 45.9	+1.4
ULM	**Lac du Bonnet**	**45.18**	**309**	P	P	P	**08 06 43.2**	**-0.8**
comp=Z,4.6nm,0.7s,mb4.4,baz=90,slow=7.0,SNR=7.2								
ULM				LR	LR	LR	08 25 18.6	
comp=Z,257nm,18.9s,MS4.2,baz=61,slow=36								
ULM	**Lac du Bonnet**	**45.18**	**309**	P	P	P	**08 06 43.2**	**-0.9**
KOLS	**Kolonicke sedl**	**45.23**	**53**	*e*P	P	P	**08 06 45.4**	**+0.9**
BURAR	**Bucovina Array**	**47.32**	**54**	⇓P	P	P	**08 07 02.2**	**+1.1**
KSU1	**Kansas State U**	**47.37**	**294**	*e*P	P	P	**08 07 01.3**	**-0.3**
KSU1	**Kansas State U**	**47.37**	**294**	*e*P	P	P	**08 07 01.3**	**-0.3**
FINES	**FINESS Array B**	**47.47**	**35**	P	P	P	**08 07 01.2**	**-0.9**
comp=Z,1.9nm,0.9s,mb4.0,baz=230,slow=15,SNR=4.6								
FINES				LR	LR	LR	08 23 58.3	
comp=Z,68nm,21.0s,MS3.6,baz=180,slow=32								
FINES	**FINESS Array B**	**47.47**	**35**	P	P	P	**08 07 01.2**	**-0.9**
FINES				LR	LR	LR	08 23 58.3	
MLR	**Muntele Rosu**	**48.14**	**57**	⇓P	P	P	**08 07 08.0**	**+0.5**
ARCES	**ARCESS Array B**	**48.44**	**25**	P	P	P	**08 07 08.4**	**-1.1**
comp=Z,4.9nm,1.0s,mb4.5,baz=256,slow=10.0,SNR=9.9								
ARCES				LR	LR	LR	08 24 02.4	
comp=Z,83nm,18.9s,MS3.7,baz=193,slow=32								
RES	**Resolute Bay**	**48.70**	**343**	*e*P	P	P	**08 07 11.9**	**+0.4**
comp=Z,17nm,1.4s,mb4.9								
RES	**Resolute Bay**	**48.70**	**343**	*e*P	P	P	**08 07 11.9**	**+0.4**
comp=Z,17nm,1.4s,mb4.9								
AKASG	**Malin Array Be**	**49.52**	**50**	P	P	P	**08 07 17.0**	**-1.1**
comp=Z,12nm,0.9s,mb5.0,baz=274,slow=7.4,SNR=40								
HARR	**Harsova**	**49.67**	**58**	⇑P	P	P	**08 07 17.9**	**-1.5**
CFR	**Carcaliu**	**49.72**	**57**	⇑P	P	P	**08 07 18.4**	**-1.3**
KIS	**Kishinev**	**49.84**	**55**	*e*P	P	P	**08 07 17.0**	**-3.6**
TIRR	**Tirgusor**	**50.06**	**58**	⇓P	P	P	**08 07 20.9**	**-1.4**
WMOK	**Wichita Mounta**	**50.26**	**289**	*e*P	P	P	**08 07 23.6**	**-0.4**
comp=Z,4.2nm,0.8s,mb4.5								
BDFB	**Brasilia**	**51.04**	**194**	P	P	P	**08 07 29.8**	**-0.4**
comp=Z,4.5nm,0.9s,mb4.4,baz=344,slow=4.2,SNR=6.7								
BDFB				LR	LR	LR	08 25 40.8	
comp=Z,171nm,21.2s,MS4.0,baz=211,slow=32								
AMTX	**Amarillo**	**52.47**	**290**	*e*P	P	P	**08 07 40.4**	**-0.4**

comp=Z,9.0nm,0.8s,mb4.8
AMTX Amarillo 52.47 290 *e*P **P 08 07 40.4 -0.3**
comp=Z,9.0nm,0.8s,mb4.8
JCT Junction City 52.55 284 *e*P **P 08 07 40.9 -0.5**
comp=Z,13nm,0.8s,mb4.9
JCT Junction City 52.55 284 *e*P **P 08 07 40.8 -0.6**
comp=Z,13nm,0.8s,mb4.9
OBN Obninsk 53.28 43 *d i*P **P 08 07 45.7 -0.8**
OBN *e* 08 08 55.4
OBN *e* 08 09 42.6
OBN *e*S **S 08 15 12.2 -4.0**
OBN *e*SS SS 08 18 51.8 -3.5
OBN pmax pmax
comp=Z,53nm,1.5s,mb5.2
OBN Obninsk 53.28 43 *i* P **P 08 07 45.7 -0.8**
comp=Z,53nm,1.5s,mb5.2
OBN *e*S **S 08 15 12.2 -4.0**
ISCO Idaho Springs 53.88 297 *e*P **P 08 07 51.5 +0.4**
comp=Z,2.8nm,0.6s,mb4.4
ISCO Idaho Springs 53.88 297 *e*P **P 08 07 51.5 +0.4**
comp=Z,2.8nm,0.6s,mb4.4
YKA Yellowknife Ar 54.50 326 *i* P **P 08 07 54.8 -0.5**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 54.50 326 P **P 08 07 54.6 -0.7**
comp=Z,2.5nm,0.8s,mb4.2,baz=82,slow=7.4,SNR=60
YKA PcP PcP 08 08 57.3 -1.4
comp=Z,0.7nm,0.8s,baz=82,slow=4.5,SNR=6.8
YKA LR LR 08 30 00.9
comp=Z,236nm,19.8s,MS4.3,baz=75,slow=35
YKA Yellowknife Ar 54.50 326 P **P 08 07 54.6 -0.7**
YKA PcP PcP 08 08 57.3 -1.4
YKA LR LR 08 30 00.9
YKA Yellowknife Ar 54.50 326 PcP PcP 08 08 57.3 -1.4
BRTR Keskin Array B 55.06 62 P **P 08 07 59.5 -0.3**
comp=Z,4.1nm,0.9s,mb4.5,baz=281,slow=6.3,SNR=18
VOR Voronezh 55.50 47 P **P 08 08 00.0 -2.8**
VOR pmax pmax
comp=Z,50nm,1.7s,mb5.3
PDAR Pinedale Array 55.82 302 P **P 08 08 04.4 -0.8**
comp=Z,2.7nm,0.9s,mb4.3,baz=74,slow=7.2,SNR=13
LTX Lajitas 56.08 285 *e*P **P 08 08 06.8 -0.5**
LTX Lajitas 56.08 285 *e*P **P 08 08 06.8 -0.5**
TXAR Lajitas Array 56.08 285 P **P 08 08 07.2 0.0**
comp=Z,3.5nm,0.9s,mb4.4,baz=90,slow=7.5,SNR=11
TXAR LR LR 08 30 59.5
comp=Z,210nm,18.7s,MS4.2,baz=355,slow=35
TXAR Lajitas Array 56.08 285 P **P 08 08 07.2 0.0**
TXAR LR LR 08 30 59.5
ANMO Albuquerque 56.13 292⇑ *e*P **P 08 08 08.6 +1.1**
ANMO Albuquerque 56.13 292 *e*P **P 08 08 08.6 +1.1**
IMW Indian Meadow 56.44 303 *e*P **P 08 08 09.7 0.0**
comp=Z,7.6nm,1.1s,mb4.6
IMW Indian Meadow 56.44 303 *e*P **P 08 08 09.6 0.0**
comp=Z,7.6nm,1.1s,mb4.6
SNOW Snow King Moun 56.44 303 *e*P **P 08 08 09.1 -0.6**
comp=Z,6.0nm,1.0s,mb4.6
SNOW Snow King Moun 56.44 303 *e*P **P 08 08 09.1 -0.6**
comp=Z,6.0nm,1.0s,mb4.6
TPAW Teton Pass 56.57 303 *e*P **P 08 08 10.2 -0.4**
comp=Z,15nm,1.5s,mb4.8
TPAW Teton Pass 56.57 303 *e*P **P 08 08 10.2 -0.4**
comp=Z,15nm,1.5s,mb4.8
RRI2 Red Ridge 56.87 303 *e*P **P 08 08 12.0 -0.7**
comp=Z,3.9nm,0.8s,mb4.5
RRI2 Red Ridge 56.87 303 *e*P **P 08 08 12.0 -0.7**
comp=Z,3.9nm,0.8s,mb4.5
SRU San Rafael 57.70 298 *e*P **P 08 08 17.9 -0.7**
JLU Jordanelle 57.86 300 *e*P **P 08 08 19.3 -0.4**
JLU Jordanelle 57.86 300 *e*P **P 08 08 19.3 -0.4**
LPAZ La Paz 58.69 216 P **P 08 08 25.9 +0.1**
comp=Z,6.7nm,1.0s,mb4.6,baz=34,slow=8.2,SNR=16
LPAZ LR LR 08 33 04.1
comp=Z,82nm,20.4s,MS3.8,baz=264,slow=35
LPAZ La Paz 58.69 216 *e*P **P 08 08 25.5 -0.3**
comp=Z,19nm,1.4s,mb4.9
LPAZ La Paz 58.69 216 *e*P **P 08 08 25.5 -0.3**
comp=Z,19nm,1.4s,mb4.9
HLID Hailey 58.93 304 *e*P **P 08 08 27.1 0.0**
HLID Hailey 58.93 304 *e*P **P 08 08 27.1 -0.1**
DUG Dugway 58.97 300 *e*P **P 08 08 27.4 -0.2**
comp=Z,4.8nm,0.9s,mb4.5
DUG Dugway 58.97 300 *e*P **P 08 08 27.4 -0.1**
comp=Z,4.8nm,0.9s,mb4.5
MALT Malatya 59.05 62 *e*P **P 08 08 27.2 -0.9**
comp=Z,12nm,1.1s,mb4.8
MALT Malatya 59.05 62 *e*P **P 08 08 27.2 -0.9**
comp=Z,12nm,1.1s,mb4.8
MVU Marysvale 59.15 298 *e*P **P 08 08 29.4 +0.6**
comp=Z,3.4nm,0.9s,mb4.4
MVU Marysvale 59.15 298 *e*P **P 08 08 29.4 +0.6**
comp=Z,3.4nm,0.9s,mb4.4
NEW Newport 59.17 310 *e*P **P 08 08 27.0 -1.8**
comp=Z,5.0nm,0.9s,mb4.5
NEW Newport 59.17 310 *e*P **P 08 08 27.0 -1.8**
comp=Z,5.0nm,0.9s,mb4.5
WUAZ Wupatki 59.65 294 *e*P **P 08 08 33.2 +0.9**
comp=Z,5.5nm,0.9s,mb4.6
WUAZ Wupatki 59.65 294 *e*P **P 08 08 33.2 +0.9**
comp=Z,5.5nm,0.9s,mb4.6
KIV Kislovodsk 60.04 55⇑ *i*P **P 08 08 35.0 +0.2**
KIV *i* 08 08 41.7
KIV *e*S **S 08 16 41.2 -4.6**
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,100nm,22.0s,MS3.9
KIV Kislovodsk 60.04 55 *i* P **P 08 08 35.0 +0.2**
comp=Z,7.0nm,1.0s,mb4.7
ASF Jabal al Asfar 60.27 70 P **P 08 08 35.7 -0.9**
comp=Z,1.2nm,0.3s,mb4.4,baz=7,3,slow=2.1,SNR=3.2
ARUT Antelope Range 60.31 297 *e*P **P 08 08 37.3 +0.5**
ARUT Antelope Range 60.31 297 *e*P **P 08 08 37.3 +0.5**
INK Inuvik 60.79 335 P **P 08 08 39.0 -0.7**
comp=Z,4.2nm,0.9s,mb4.6,baz=51,slow=7.7,SNR=18
INK Inuvik 60.79 335 *e*P **P 08 08 39.4 -0.2**
comp=Z,9.2nm,1.2s,mb4.8
LDFC Landfair 62.62 295 P **P 08 08 52.6 +0.2**
LDFC Landfair 62.62 295 P **P 08 08 52.6 +0.2**
GNI Garni 62.88 58 *d i*P **P 08 08 54.5 +0.5**
GNI pmax pmax
comp=Z,32nm,1.8s
GNI Garni 62.88 58 *i* P **P 08 08 54.5 +0.5**
comp=Z,32nm,1.8s,mb5.2
MNV Mina 63.47 300 *e*P **P 08 08 57.4 -0.5**
comp=Z,4.8nm,0.9s,mb4.6
MNV Mina 63.47 300 *e*P **P 08 08 57.4 -0.6**
comp=Z,4.8nm,0.9s,mb4.6
NVAR Mina Array Bea 63.58 300 P **P 08 08 58.0 -0.6**
comp=Z,2.4nm,0.8s,mb4.3,baz=77,slow=6.8,SNR=16
NVAR LR LR 08 37 13.4
comp=Z,136nm,18.2s,MS4.2,baz=110,slow=37
DAWY Dawson 64.68 332 *e*P **P 08 09 06.1 +0.7**
DAWY Dawson 64.68 332 *e*P **P 08 09 06.1 +0.7**
ARU Arti 64.74 38⇓ *i*P **P 08 09 05.2 -0.7**
ARU *e* 08 11 30.1
ARU *e*S **S 08 17 43.6 -1.2**
ARU pmax pmax
comp=Z,18nm,1.1s,mb5.0
ARU Arti 64.74 38 *i* P **P 08 09 05.2 -0.7**
comp=Z,18nm,1.1s,mb5.0
ARU *e*S **S 08 17 43.6 -1.2**
ILAR Eielson Array 67.15 334 P **P 08 09 21.4 +0.2**
comp=Z,0.9nm,0.8s,mb3.8,baz=54,slow=5.5,SNR=12
ILAR LR LR 08 37 37.5
comp=Z,86nm,19.2s,MS4.0,baz=360,slow=35
IMA Indian Mountai 68.72 337 *e*P **P 08 09 32.1 +1.1**
IMA Indian Mountai 68.72 337 *e*P **P 08 09 32.1 +1.1**
BVAR Borovoye Array 72.38 37 P **P 08 09 53.7 +0.3**
comp=Z,6.6nm,0.8s,mb4.6,baz=304,slow=5.3,SNR=35
TIXI Tiksi 73.62 5⇓ *e*P **P 08 10 00.7 +0.5**
TIXI pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
TIXI Tiksi 73.62 5 *e*P **P 08 10 00.7 +0.5**
comp=Z,10.0nm,1.1s,mb4.7
BILL Bilibino 76.27 351⇑ *e*P **P 08 10 16.3 +0.8**
BILL *i* S S 08 19 53.9 -4.8
BILL pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
BILL MLR MLR
comp=Z,200nm,15.0s,MS4.5
BILL Bilibino 76.27 351 *e*P **P 08 10 16.3 +0.8**
comp=Z,9.0nm,1.5s,mb4.5
ZAL Zalesovo 78.48 31 P **P 08 10 28.4 +0.4**
comp=Z,2.6nm,0.8s,mb4.2,baz=185,slow=6.7,SNR=22
ZAL LR LR 08 44 35.2
comp=Z,57nm,18.4s,MS3.9,baz=71,slow=35
AAK Ala-Archa 80.80 44⇑ *e*P **P 08 10 41.4 +0.7**
AAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
AAK MLR MLR
comp=Z,100nm,15.0s,MS4.3
AAK Ala-Archa 80.80 44 *e*P **P 08 10 41.4 +0.7**
comp=Z,100nm,15.0s
PLCA Paso Flores 81.11 205 P **P 08 10 42.6 +0.2**
comp=Z,4.3nm,0.9s,mb4.4,baz=18,slow=8.5,SNR=6.6
MATP Matopo 82.65 121 LR LR 08 44 23.7
comp=Z,135nm,19.3s,MS4.3,baz=235,slow=33
YAK Yakutsk 83.14 6 *c i*P **P 08 10 53.5 +1.0**
YAK pmax pmax
comp=Z,12nm,0.7s,mb5.0
YAK Yakutsk 83.14 6 *i* P **P 08 10 53.5 +1.0**
comp=Z,12nm,0.7s,mb5.0
BOSA Boshof 85.90 129 LR LR 08 44 24.1
comp=Z,103nm,20.8s,MS4.2,baz=343,slow=32
WMQ Urumqi 87.06 37⇓ P **P 08 11 13.9 +1.5**
WMQ AP pP 08 11 18.9 +3.3
WMQ PP PP 08 14 39.9 +1.6
WMQ SKS SKS 08 21 38.1 -3.8
WMQ S S 08 21 50.9 +1.2
WMQ AMB AMB
comp=Z,4.0nm,0.5s,mb4.9
WMQ AMB AMB
comp=Z,50nm,3.4s
WMQ LR LR
comp=N,60nm,18.5s,MS4.1
WMQ LR LR
comp=E,20nm,17.8s,MS4.1
WMQ LR LR
comp=Z,56nm,17.8s,MS4.0
SONM Songino Array 91.61 24 P **P 08 11 34.3 +0.6**
comp=Z,1.5nm,0.9s,mb4.3,baz=333,slow=5.5,SNR=10
GTA Gaotai 96.18 32 P **P 08 11 56.1 +1.2**
GTA AP pP 08 12 00.5 +2.3
GTA S S 08 23 09.6 -1.2
GTA SS SS 08 29 41.6 -5.0
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,29nm,10.3s
GTA LR LR
comp=Z,113nm,16.8s,MS4.4
CN2 Changchun 100.36 13 *e*P P 08 12 13.0 -0.7
NJ2 Nanjing 109.90 22 *e*PDIF Pdif 08 12 54.5 -1.7
NJ2 PP PP 08 17 32.0 -2.5
SSE Sheshan 111.49 20 P PKPdf 08 17 05.9 +2.8
VNDA Vanda 136.15 186 PKP PKPdf 08 17 46.5 -2.8
comp=Z,1.0nm,0.9s,baz=307,slow=1.5,SNR=4.7
WRA Warramunga Arr 163.46 31 PKPab PKPab 08 19 20.2 -1.9
comp=Z,2.0nm,1.1s,baz=343,slow=4.8,SNR=8.9
ASAR Alice Springs 166.45 39 PKPab PKPab 08 19 34.4 -0.7
comp=Z,1.3nm,1.0s,baz=349,slow=4.0,SNR=5.9

*IDC **17** 08:05:15.6±2.8, 42.10N×141.27E, h114km±26km, mb3.4/5, mb1 3.6/6, mb1mx3.2/24, mbtmp3.8/6, Error ellipse: s-maj=35.5km s-min=24.1km az=82.0*
*JMA **17** 08:05:16.3±0.1, 42.15N×141.18E, h109km±2km, M2.8*
ISC 17 08:05:14.8±0.5,**42.10N**±0.04×**141.20E**±0.07,**h119**km±4km, **n21**,σ0**961**/30,**mb3.7**/5,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.24**	**211**	P	**P**	**08 05 31.7**	**+0.2**
JKB				*e*S	**S**	**08 05 43.4**	**-0.8**
JNB	**Noboribetsu**	**0.39**	**342**	P	**P**	**08 05 32.1**	**-0.1**
JNB				*e*S	**S**	**08 05 44.2**	**-1.2**
JYM2	**Yakumo 2**	**0.62**	**272**	P	**P**	**08 05 33.8**	**+0.2**
JOT	**Ohata**	**0.72**	**189**	P	**P**	**08 05 35.1**	**+0.7**
JEW	**Eniwo**	**0.77**	**14**	P	**P**	**08 05 35.0**	**+0.2**
JSR	**Shiriuchi**	**0.81**	**226**	P	**P**	**08 05 35.8**	**+0.6**
JSR				*e*S	**S**	**08 05 50.4**	**-0.2**
JSH	**Shimam**	**1.01**	**303**	P	**P**	**08 05 37.4**	**+0.1**
JNBK	**Urakawa-nobuka**	**1.17**	**80**	P	**P**	**08 05 39.3**	**+0.4**
JNBK				*e*S	**S**	**08 05 57.4**	**+0.5**
JOSM	**Okushiri--Mats**	**1.28**	**270**	P	**P**	**08 05 40.1**	**-0.1**
JSK	**Shakotan**	**1.36**	**337**	P	**P**	**08 05 41.2**	**+0.1**
JFR	**Furan**	**1.48**	**43**	P	**P**	**08 05 42.0**	**-0.5**
JCH	**Churui**	**1.69**	**71**	P	**P**	**08 05 45.4**	**+0.6**
JCH				*e*S	**S**	**08 06 07.0**	**-0.5**
JHR	**Hokuryu**	**1.69**	**13**	P	**P**	**08 05 45.9**	**+1.0**
JHR				*e*S	**S**	**08 06 08.6**	**+0.9**
JANG	**Nango**	**1.74**	**172**	P	**P**	**08 05 45.9**	**+0.5**
JANG				*e*S	**S**	**08 06 08.2**	**-0.4**
JKK2	**Kamakawa 2**	**2.11**	**32**	P	**P**	**08 05 50.6**	**+0.5**
JKK2				*e*S	**S**	**08 06 16.0**	**-0.8**
ASAJ	**Asahikawa**	**2.27**	**26**	P	**P**	**08 05 52.5**	**+0.4**
ASAJ				S	**S**	**08 06 19.7**	**-0.7**
ZAL	**Zalesovo**	**38.54**	**308**	P	**P**	**08 12 27.8**	**+0.9**
BVAR	**Borovoye Array**	**47.15**	**309**	P	**P**	**08 13 36.3**	**-0.2**
INK	**Inuvik**	**50.00**	**29**	P	**P**	**08 13 58.1**	**-0.2**
WRA	**Warramunga Arr**	**62.05**	**187**	P	**P**	**08 15 23.9**	**-1.0**
FINES	**FINESS Array B**	**64.29**	**331**	P	**P**	**08 15 37.8**	**-1.2**

comp=Z,7.6nm,1.1s,mb4.6,baz=90,slow=8.9,SNR=8.9
comp=Z,1.3nm,1.0s,baz=349,slow=4.0,SNR=5.9

*IDC **17** 08:05:15.6±2.8, 42.10N×141.27E, h114km±26km, mb3.4/5, mb1 3.6/6, mb1mx3.2/24, mbtmp3.8/6, Error ellipse: s-maj=35.5km s-min=24.1km az=82.0*
*JMA **17** 08:05:16.3±0.1, 42.15N×141.18E, h109km±2km, M2.8*
ISC 17 08:05:14.8±0.5,**42.10N**±0.04×**141.20E**±0.07,**h119**km±4km, **n21**,σ0**961**/30,**mb3.7**/5,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.24**	**211**	P	**P**	**08 05 31.7**	**+0.2**
JKB				*e*S	**S**	**08 05 43.4**	**-0.8**
JNB	**Noboribetsu**	**0.39**	**342**	P	**P**	**08 05 32.1**	**-0.1**
JNB				*e*S	**S**	**08 05 44.2**	**-1.2**
JYM2	**Yakumo 2**	**0.62**	**272**	P	**P**	**08 05 33.8**	**+0.2**
JOT	**Ohata**	**0.72**	**189**	P	**P**	**08 05 35.1**	**+0.7**
JEW	**Eniwo**	**0.77**	**14**	P	**P**	**08 05 35.0**	**+0.2**
JSR	**Shiriuchi**	**0.81**	**226**	P	**P**	**08 05 35.8**	**+0.6**
JSR				*e*S	**S**	**08 05 50.4**	**-0.2**
JSH	**Shimam**	**1.01**	**303**	P	**P**	**08 05 37.4**	**+0.1**
JNBK	**Urakawa-nobuka**	**1.17**	**80**	P	**P**	**08 05 39.3**	**+0.4**
JNBK				*e*S	**S**	**08 05 57.4**	**+0.5**
JOSM	**Okushiri--Mats**	**1.28**	**270**	P	**P**	**08 05 40.1**	**-0.1**
JSK	**Shakotan**	**1.36**	**337**	P	**P**	**08 05 41.2**	**+0.1**
JFR	**Furan**	**1.48**	**43**	P	**P**	**08 05 42.0**	**-0.5**
JCH	**Churui**	**1.69**	**71**	P	**P**	**08 05 45.4**	**+0.6**
JCH				*e*S	**S**	**08 06 07.0**	**-0.5**
JHR	**Hokuryu**	**1.69**	**13**	P	**P**	**08 05 45.9**	**+1.0**
JHR				*e*S	**S**	**08 06 08.6**	**+0.9**
JANG	**Nango**	**1.74**	**172**	P	**P**	**08 05 45.9**	**+0.5**
JANG				*e*S	**S**	**08 06 08.2**	**-0.4**
JKK2	**Kamakawa 2**	**2.11**	**32**	P	**P**	**08 05 50.6**	**+0.5**
JKK2				*e*S	**S**	**08 06 16.0**	**-0.8**
ASAJ	**Asahikawa**	**2.27**	**26**	P	**P**	**08 05 52.5**	**+0.4**
ASAJ				S	**S**	**08 06 19.7**	**-0.7**
ZAL	**Zalesovo**	**38.54**	**308**	P	**P**	**08 12 27.8**	**+0.9**
BVAR	**Borovoye Array**	**47.15**	**309**	P	**P**	**08 13 36.3**	**-0.2**
INK	**Inuvik**	**50.00**	**29**	P	**P**	**08 13 58.1**	**-0.2**
WRA	**Warramunga Arr**	**62.05**	**187**	P	**P**	**08 15 23.9**	**-1.0**
FINES	**FINESS Array B**	**64.29**	**331**	P	**P**	**08 15 37.8**	**-1.2**

MEX 17 08:09:38.4±0.8,**15.95N**×**98.73W**,**h16**km±22km,**MD3.8**,**1C**, **Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.73**	**52**⇑	*i*P	Pb	08 09 49.8	-2.5
PNIG				*e*S	Sb	08 09 59.1	-2.7
ACX	**Acapulco**	**1.46**	**309**	*e*P	Pn	08 10 00.5	-3.8
ACX				*e*S	Sb	08 10 18.0	-5.0
VHO	**Vista Hermosa**	**2.22**	**59**	*e*P	Pn	08 10 12.4	-2.9
VHO				*i* S	Sn	08 10 37.8	-4.7
OXX	**Oaxaca**	**2.23**	**59**	*e*P	Pn	08 10 13.0	-2.4
OXX				*e*S	Sn	08 10 38.5	-4.3
PPM	**Popocatepetl**	**3.11**	**2**	*e*P	Pn	08 10 25.0	-2.8
PPM				*e*P		08 10 25.1	
PPM				*i* S	Sn	08 11 01.0	-4.0
PPM				*i* S	Sn	08 11 02.0	-3.0

IDC 17 08:14:20.9±1.5,**13.52N**×**93.41E**,**mb3.7**/3,**mb1 3.9**/4, **mb1mx3.6**/19,**mbtmp3.6**/4,**ML3.3**/1,**Error ellipse: s-maj=38.1km s-min=29.9km az=57.0**,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.25**	**47**	Pn	Pn	08 16 08.3	-2.3
	0.1nm,0.3s,baz=237,slow=15,SNR=4.2						
CMAR				Sn	Sn	08 17 30.6	-4.1
	0.1nm,0.3s,baz=242,slow=27,SNR=3.1						
WRA	**Warramunga Arr**	**52.22**	**129**	P	P	08 23 34.0	-2.2
	0.8nm,0.7s,baz=304,slow=9.6,SNR=6.9						
ASAR	**Alice Springs**	**54.16**	**133**	P	P	08 23 48.4	-2.1
	0.9nm,0.5s,baz=306,slow=6.9,SNR=4.5						
GERES	**GERESS Array B**	**73.19**	**317**	P	P	08 25 53.8	-1.7
	0.5nm,0.8s,baz=63,slow=3.0,SNR=4.1						

IDC 17 08:22:42.5±3.2,**1.24S**×**100.35E**,**mb3.7**/3,**mb1 3.9**/3, **mb1mx3.5**/15,**mbtmp3.7**/3,**Error ellipse: s-maj=177.2km s-min=32.4km az=49.0**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.08**	**121**	P	P	08 30 03.3	-1.7
	0.2nm,0.4s,baz=303,slow=9.0,SNR=5.1						
ZAL	**Zalesovo**	**56.48**	**349**	P	P	08 32 27.4	-1.2
	1.0nm,0.4s,baz=2.0,slow=4.1,SNR=3.7						
FINES	**FINESS Array B**	**83.60**	**332**	P	P	08 35 11.6	-2.3
	0.2nm,0.4s,baz=124,slow=6.9,SNR=4.5						
TXAR	**Lajitas Array**	**143.89**	**37**	PKP	PKPdf	08 42 19.6	-2.7
	0.2nm,0.4s,baz=193,slow=0.9,SNR=5.0						

*JMA **17** 08:25:56.9±0.2, 23.97N×122.50E, h5km, M2.2*
TAP 17 08:25:56.3, 23.96N×122.26E, h19km, ML2.9, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.85**	**54**	P	Pb	08 26 10.2	-1.9
YOJ				S	Sb	08 26 19.6	-3.5
IRIF	**Iriomote-Funau**	**1.39**	**74**	P	Pn	08 26 19.7	-1.3
IRIF				S	Sb	08 26 35.1	-3.8
HATJ	**Hateruma jima**	**1.42**	**86**	*e*S	Sb	08 26 34.6	-4.9
JKRS	**Kuro-shima**	**1.62**	**80**	P	Pn	08 26 22.8	-1.5
JKRS				*e*S	Sn	08 26 42.1	-2.7
JIJ	**Ishigaki jima**	**1.77**	**76**	S	Sn	08 26 45.9	-2.6

*IDC **17** 09:05:40.9±1.3, 5.43N×94.57E, mb4.0/8, mb1 4.2/8, mb1mx3.9/19, mbtmp4.0/8, MS2.6/1, Ms1 2.8/1, ms1mx2.7/26, Error ellipse: s-maj=61.1km s-min=20.3km az=54.0*
*NEIC **17** 09:05:45.6±0.8, 5.44N×94.50E, h30km, mb4.3/2, Error ellipse: s-maj=20.8km s-min=11.6km az=51.0*
ISC 17 09:05:44.2±0.8,**5.5N**±0.1×**94.58E**±0.08,**h33**km,**n15**, σ0**972**/15,**mb4.1**/10,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.05**	**91**	*e*P	**P**	**09 07 15.7**	**+2.1**
KULM				*e*S	**S**	**09 08 22.3**	**-0.4**
CM31	**Chiang Mai Arr**	**13.60**	**18**	P	**P**	**09 08 56.6**	**-0.7**
	4.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**13.60**	**18**	Pn	**P**	**09 09 03.5**	**+6.2**
	0.7nm,0.3s,baz=209,slow=14,SNR=10.0						
CMAR				LR	LR	09 15 36.9	
	comp=Z,23nm,18.0s,baz=210,slow=44						
SONM	**Songino Array**	**43.41**	**12**	P	**P**	**09 13 45.5**	**-0.1**
	1.2nm,0.6s,mb3.8,baz=190,slow=8.4,SNR=12						
SONM				PcP	PcP	09 15 32.9	-1.3
	0.3nm,0.4s,baz=196,slow=4.0,SNR=4.4						
ULN	**Ulaanbaatar**	**43.58**	**12**	*e*P	**P**	**09 13 46.8**	**-0.1**
	1.3nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**46.54**	**124**	P	**P**	**09 14 10.5**	**-0.4**
	2.1nm,0.6s,mb4.3,baz=304,slow=9.1,SNR=9.2						
WRAB	**Tennant Creek**	**46.55**	**124**	*e*P	**P**	**09 14 10.5**	**-0.5**
	5.7nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**48.06**	**129**	P	**P**	**09 14 22.4**	**-0.5**
	0.6nm,0.6s,mb3.8,baz=302,slow=7.0,SNR=5.8						
ZAL	**Zalesovo**	**48.98**	**352**	P	**P**	**09 14 29.9**	**+0.5**
	2.1nm,0.2s,mb4.7,baz=300,slow=4.4,SNR=8.9						
BVAR	**Borovoye Array**	**51.40**	**342**	P	**P**	**09 14 47.9**	**-0.1**
	0.7nm,0.3s,mb4.1,baz=135,slow=8.4,SNR=9.1						
FINES	**FINESS Array B**	**75.03**	**332**	P	**P**	**09 17 23.4**	**-0.7**
	0.6nm,0.5s,mb3.8,baz=90,slow=3.8,SNR=6.3						
FINES	**FINESS Array B**	**75.03**	**332**	P	**P**	**09 17 23.4**	**-0.7**
ARCES	**ARCESS Array B**	**77.67**	**340**	P	**P**	**09 17 39.0**	**+0.2**
	3.1nm,0.9s,mb4.2,baz=90,slow=6.1,SNR=5.1						
GERES	**GERESS Array B**	**79.90**	**319**	P	**P**	**09 17 52.5**	**+1.0**
	0.6nm,0.5s,mb3.8,baz=104,slow=5.5,SNR=8.0						
TXAR	**Lajitas Array**	**141.21**	**26**	PKP	PKPdf	09 25 16.3	+4.0
	0.2nm,0.4s,baz=110,slow=0.1,SNR=6.5						

IDC 17 09:31:25.4±4.1,**1.44N**×**97.02E**,**mb3.6**/4,**mb1 3.8**/5, **mb1mx3.6**/18,**mbtmp3.6**/5,**ML3.7**/1,**Error ellipse: s-maj=146.0km s-min=24.2km az=64.0**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.02**	**6**	P	P	09 35 25.3	-1.2
	0.1nm,0.3s,baz=199,slow=13,SNR=4.6						
WRA	**Warramunga Arr**	**42.31**	**122**	P	P	09 39 21.0	-2.0
	0.4nm,0.7s,baz=301,slow=9.3,SNR=4.1						
ASAR	**Alice Springs**	**43.68**	**127**	P	P	09 39 32.6	-1.4
	0.2nm,0.7s,baz=304,slow=8.5,SNR=4.0						
SONM	**Songino Array**	**46.92**	**9**	P	P	09 39 57.7	-1.9
	1.2nm,0.5s,baz=190,slow=8.6,SNR=11						
ZAL	**Zalesovo**	**53.29**	**351**	P	P	09 40 45.9	-2.4
	0.8nm,0.3s,baz=321,slow=8.5,SNR=3.1						

IDC 17 10:01:17.4±3.6,**0.68N**×**96.95E**,**mb3.7**/4,**mb1 3.9**/5, **mb1mx3.7**/17,**mbtmp3.6**/5,**ML3.9**/1,**Error ellipse: s-maj=129.3km s-min=23.3km az=63.0**,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.77**	**6**	P	P	10 05 27.9	-0.1
	0.2nm,0.3s,baz=192,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**41.98**	**121**	P	P	10 09 10.2	-2.0
	0.4nm,0.7s,baz=301,slow=9.2,SNR=6.5						
ASAR	**Alice Springs**	**43.29**	**126**	P	P	10 09 21.6	-1.2
	0.5nm,0.6s,baz=294,slow=7.6,SNR=6.3						
SONM	**Songino Array**	**47.68**	**9**	P	P	10 09 55.2	-2.4
	0.2nm,0.4s,baz=197,slow=8.8,SNR=4.1						
ZAL	**Zalesovo**	**54.02**	**351**	P	P	10 10 43.1	-2.4
	2.3nm,0.4s,baz=291,slow=5.3,SNR=7.8						

*IDC **17** 10:15:04.3±1.1, 21.20S×68.31W, h125km±12km, mb3.4/2, mb1 3.5/5, mb1mx3.3/17, mbtmp3.9/5, Error ellipse: s-maj=31.5km s-min=15.1km az=117.0*
*NEIC **17** 10:15:04.1±0.8, 21.14S×68.36W, h126km±10km, mb3.4/1, Error ellipse: s-maj=16.4km s-min=9.5km az=100.0*
ISC 17 10:15:03.0±0.7,**21.21S**±0.06×**68.3W**±0.1,**h135**km±10km, **n14**,σ1**919**/15,**mb3.5**/1,**1C**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.50**	**201**	P	**P**	**10 15 33.2**	**+1.3**
	46nm,0.3s,baz=20,slow=8.7,SNR=600						
LVC				S	**S**	**10 15 54.0**	**+0.1**
	65nm,0.3s,baz=104,slow=22,SNR=22						
LVC	**Limon Verde**	**1.50**	**201**⇑	*i*P	**P**	**10 15 33.1**	**+1.3**
LVC				*e*S	**S**	**10 15 54.0**	**+0.1**
LPAZ	**La Paz**	**4.90**	**2**	P	**P**	**10 16 17.4**	**+1.5**
	4.1nm,0.3s,baz=170,slow=8.1,SNR=104						
LPAZ	**La Paz**	**4.90**	**2**	*e*P	**P**	**10 16 17.2**	**+1.4**
**AR

*BJI **17** 10:29:33.9, 34.16N×80.87E, h20km, mb4.1, ML3.8*
ISC 17 10:29:32.7±1.3, 33.83N±0.07×80.68E±0.09, h48km±13km, n32, σ1§20/32, mb3.8/15, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**3.90**	**234**	*eP*	**P**	**10 30 32.0**	**+0.3**
SMLA	**Simla**	**4.01**	**229**	*i P*	**P**	**10 30 37.1**	**+3.9**
SMLA				*i*		10 31 22.2	
	178nm,0.6s						
BHK	**Bhakra**	**4.33**	**237**	*e*	**P**	**10 30 55.8**	**+18**
KSH	**Kashi**	**6.82**	**328**	*eP*	**P**	**10 31 12.5**	**-0.2**
AAK	**Ala-Archa**	**10.04**	**333**	*eP*	**P**	**10 31 55.5**	**-1.6**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AAK	**Ala-Archa**	**10.04**	**333**	*eP*	**P**	**10 31 55.5**	**-1.6**
	comp=Z,6.1nm,0.9s						
FRU	**Bishkek**	**10.17**	**334**	*eP*	**P**	**10 32 06.0**	**+7.2**
WMQ	**Urumqi**	**11.37**	**27**	*eP*	**P**	**10 32 13.0**	**-2.1**
GTA	**Gaotai**	**16.33**	**65**	P	**P**	**10 33 20.5**	**+0.5**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s						
ZAL	**Zalesovo**	**20.31**	**7**	P	**P**	**10 34 08.7**	**+1.7**
	comp=Z,3.6nm,0.7s,baz=282,slow=11,SNR=5.3						
BVAR	**Borovoye Array**	**20.55**	**342**	P	**P**	**10 34 06.9**	**-2.6**
	comp=Z,2.3nm,0.6s,baz=153,slow=9.3,SNR=9.9						
CMAR	**Chiang Mai Arr**	**22.37**	**129**	P	**P**	**10 34 27.3**	**-0.7**
	comp=Z,1.9nm,0.9s,mb3.5,baz=310,slow=10,SNR=11						
ZAK	**Zakamensk**	**23.41**	**38**	*eP*	**P**	**10 34 38.0**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.4						
SONM	**Songino Array**	**23.82**	**46**	P	**P**	**10 34 43.3**	**+1.5**
	comp=Z,2.3nm,0.8s,mb3.6,baz=245,slow=8.5,SNR=17						
ULN	**Ulaanbaatar**	**24.23**	**47**	P	**P**	**10 34 46.3**	**+0.4**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
ULN	**Ulaanbaatar**	**24.23**	**47**	P	**P**	**10 34 46.2**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.4						
OBN	**Obninsk**	**37.16**	**319**	*eP*	**P**	**10 36 39.5**	**-1.0**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
JOF	**Joensuu**	**42.20**	**329**	*ep*	**P**	**10 37 21.6**	**-0.5**
FINES	**FINESS Array B**	**44.14**	**326**	P	**P**	**10 37 37.5**	**-0.3**
	comp=Z,1.2nm,0.4s,mb4.0,baz=112,slow=9.7,SNR=9.2						
KAF	**Kangasniemi**	**44.19**	**327**	*ep*	**P**	**10 37 41.7**	**+3.4**
ARCES	**ARCESS Array B**	**46.69**	**337**	P	**P**	**10 37 59.1**	**+1.0**
	comp=Z,4.3nm,0.9s,mb4.4,baz=68,slow=6.5,SNR=4.9						
GERES	**GERESS Array B**	**50.87**	**308**	P	**P**	**10 38 30.4**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=104,slow=5.5,SNR=4.1						
NOA	**NORSAR Array B**	**51.23**	**324**	P	**P**	**10 38 34.1**	**+0.9**
	comp=Z,0.7nm,0.8s,mb3.7,baz=315,slow=5.7,SNR=4.0						
WRA	**Warramunga Arr**	**73.96**	**128**	P	**P**	**10 41 03.7**	**-1.4**
	comp=Z,1.1nm,0.9s,mb3.8,baz=325,slow=6.0,SNR=7.3						
ILAR	**Eielson Array**	**74.93**	**19**	P	**P**	**10 41 10.4**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.4,baz=321,slow=6.1,SNR=6.9						
INK	**Inuvik**	**75.02**	**12**	*eP*	**P**	**10 41 11.8**	**+1.6**
INK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
INK	**Inuvik**	**75.02**	**12**	P	**P**	**10 41 11.7**	**+1.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=312,slow=7.2,SNR=6.5						
INK	**Inuvik**	**75.02**	**12**	*eP*	**P**	**10 41 11.8**	**+1.6**
	comp=Z,4.3nm,1.3s,mb4.2						
ASAR	**Alice Springs**	**76.36**	**131**	P	**P**	**10 41 17.9**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.5,baz=318,slow=5.9,SNR=10						
BOSA	**Boshof**	**81.30**	**227**	P	**P**	**10 41 45.1**	**-0.4**
	comp=Z,3.6nm,1.0s,mb4.2,baz=90,slow=5.4,SNR=4.1						
YKA	**Yellowknife Ar**	**83.23**	**7**	P	**P**	**10 41 53.9**	**-0.8**
	comp=Z,0.4nm,0.6s,mb3.6,baz=338,slow=5.4,SNR=9.1						
YKA	**Yellowknife Ar**	**83.23**	**7**	P	**P**	**10 41 53.9**	**-0.8**

*IDC **17** 10:37:59.2±1.2, 0.98N×97.11E, mb4.2/10, mb1 4.3/11, mb1mx4.1/20, mbtmp4.2/11, ML4.2/1, MS4.1/4, Ms1 4.1/4, ms1mx3.3/31, Error ellipse: s-maj=58.2km s-min=15.4km az=55.0*
*BJI **17** 10:38:00.9, 1.08N×97.46E, h16km, mB4.9, mb4.6, Ms4.0, Msz4.0*
*NEIC **17** 10:38:02.3±0.6, 1.03N×97.17E, mb4.5/7, Error ellipse: s-maj=16.2km s-min=8.0km az=70.0*
ISC 17 10:38:02.7±0.7, 1.06N±0.07×97.23E±0.09, h33km, n35, σ0§84/30, mb4.3/18, MS4.2/4, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.16**	**47**	P	**P**	**10 39 19.8**	**+0.3**
KULM	**Kulim**	**5.41**	**39**	⇑*iP*	**P**	**10 39 22.9**	**-0.2**
KGM	**Kluang**	**6.16**	**81**	P	**P**	**10 39 34.4**	**+0.7**
CM31	**Chiang Mai Arr**	**17.37**	**5**	*eP*	**P**	**10 42 04.1**	**-0.1**
	13nm,1.1s						
CMAR	**Chiang Mai Arr**	**17.37**	**5**	P	**P**	**10 42 03.0**	**-1.2**
	0.3nm,0.3s,baz=194,slow=12,SNR=26						
CMAR				LR	LR	10 49 59.5	
	comp=Z,244nm,18.3s,baz=203,slow=41						
TSM	**Tawau**	**20.87**	**81**	P	**P**	**10 42 48.3**	**+3.8**
KMI	**Kunming**	**24.50**	**12**	P	**P**	**10 43 22.4**	**+2.0**
KMI				AP		10 43 28.9	
KMI				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.6						
KMI				LR	LR		
	comp=N,302nm,16.8s,MS3.9						
KMI				LR	LR		
	comp=E,123nm,14.2s,MS3.9						
KMI				LR	LR		
	comp=Z,308nm,13.9s,MS4.0						
KMI	**Kunming**	**24.50**	**12**	P	**P**	**10 43 22.4**	**+2.0**
	comp=Z,26nm,1.2s,mb4.6						
KMI				pP		10 43 28.9	
KMI				S	S	10 47 57.8	+22
KMI				LR	LR		
	comp=Z,310nm,13.9s,MS4.0						
ENH	**Enshi**	**31.30**	**21**	*eP*	**P**	**10 44 21.6**	**-0.6**
	comp=Z,5.8nm,0.6s,mb4.6						
ENH				*e*		10 44 26.7	
FITZ	**Fitzroy Crossi**	**33.83**	**126**	P	**P**	**10 44 43.2**	**-1.0**
	comp=Z,2.4nm,0.7s,mb4.2,baz=308,slow=12,SNR=4.0						
XAN	**Xi'an**	**34.58**	**17**	P	**P**	**10 44 49.5**	**-1.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
GTA	**Gaotai**	**38.24**	**3**	P	**P**	**10 45 21.9**	**+0.5**
GTA				AP	pP	10 45 25.5	-5.7
GTA				XP	sP	10 45 28.1	-7.3
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**41.94**	**122**	P	**P**	**10 45 52.0**	**-0.4**
	comp=Z,1.7nm,0.7s,mb3.8,baz=300,slow=9.1,SNR=19						
WRAB	**Tennant Creek**	**41.95**	**122**	*eP*	**P**	**10 45 52.0**	**-0.4**
	comp=Z,5.5nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**43.29**	**127**	P	**P**	**10 46 03.5**	**+0.1**
	comp=Z,2.0nm,0.9s,mb3.9,baz=303,slow=7.6,SNR=14						
ASAR				LR	LR	11 08 10.2	
	comp=Z,55nm,18.0s,MS3.5,baz=342,slow=42						
WMQ	**Urumqi**	**43.41**	**350**	*eP*	**P**	**10 46 05.6**	**+1.5**
KS15	**Wonju Array Si**	**45.91**	**34**	*eP*	**P**	**10 46 24.1**	**-0.2**
KS15				*e*		10 46 30.4	
SONM	**Songino Array**	**47.26**	**8**	P	**P**	**10 46 35.3**	**+0.6**
	comp=Z,3.7nm,0.6s,mb4.5,baz=192,slow=8.6,SNR=30						
SONM				PcP	PcP	10 48 06.5	+0.6
	comp=Z,1.2nm,0.7s,baz=187,slow=4.9,SNR=5.7						
ULN	**Ulaanbaatar**	**47.39**	**9**	*eP*	**P**	**10 46 34.8**	**-0.8**
	comp=Z,3.5nm,0.8s,mb4.3						
HIA	**Hailar**	**51.76**	**19**	*eP*	**P**	**10 47 09.4**	**+0.2**
	comp=Z,5.3nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**53.25**	**132**	P	**P**	**10 47 21.4**	**+0.9**
	comp=Z,1.4nm,0.6s,mb4.1,baz=285,slow=7.0,SNR=4.3						
STKA	**Stephens Creek**	**53.25**	**132**	P	**P**	**10 47 21.4**	**+0.9**
ZAL	**Zalesovo**	**53.69**	**351**	P	**P**	**10 47 23.6**	**+0.1**
	comp=Z,4.4nm,1.0s,mb4.3,baz=290,slow=7.5,SNR=20						
BVAR	**Borovoye Array**	**56.39**	**341**	P	**P**	**10 47 42.5**	**-0.5**
	comp=Z,1.5nm,0.8s,mb4.1,baz=135,slow=8.4,SNR=9.7						
YAK	**Yakutsk**	**65.54**	**16**	P	**P**	**10 48 43.3**	**-1.6**
	comp=Z,12nm,0.7s,mb5.0						
RPZ	**Rata Peaks**	**79.09**	**135**	LR	LR	11 23 42.2	
	comp=Z,281nm,20.1s,MS4.6,baz=180,slow=35						
FINES	**FINESS Array B**	**80.13**	**333**	P	**P**	**10 50 10.8**	**0.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=153,slow=4.3,SNR=4.2						
FINES	**FINESS Array B**	**80.13**	**333**	P	**P**	**10 50 10.8**	**-0.1**
ARCES	**ARCESS Array B**	**82.67**	**340**	P	**P**	**10 50 24.7**	**+0.8**
	comp=Z,6.1nm,1.0s,mb4.6,baz=90,slow=3.6,SNR=4.8						
ARCES	**ARCESS Array B**	**82.67**	**340**	P	**P**	**10 50 24.7**	**+0.7**
GERES	**GERESS Array B**	**84.93**	**319**	P	**P**	**10 50 36.0**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.8,baz=101,slow=6.8,SNR=5.1						
RAO	**Raoul Island**	**86.02**	**119**	LR	LR	11 25 22.9	
	comp=Z,369nm,21.2s,MS4.8,baz=104,slow=33						
TXAR	**Lajitas Array**	**143.77**	**32**	PKP	PKPdf	10 57 35.2	+0.1
	comp=Z,0.3nm,0.7s,baz=67,slow=0.1,SNR=4.3						
TXAR	**Lajitas Array**	**143.77**	**32**	PKP	PKPdf	10 57 35.2	+0.1
JCT	**Junction City**	**144.69**	**26**	*e*PKP	PKPdf	10 57 38.2	+1.5
JCT				*e*		10 57 45.5	

*CSEM **17** 10:46:58.8±0.1, 43.27N×12.52E, h10km, ML3.5/3, Error ellipse: s-maj=1.4km s-min=1.2km az=51.0*
ROM 17 10:46:59.0±0.1, 43.27N×12.52E, h9km±1km, Md2.5/17, Ml2.5/12, Error ellipse: s-maj=1.2km s-min=1.0km az=112.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.01**	**120**	Pg	Pg	10 47 01.0	+0.4
MURB				Sg	Sg	10 47 02.1	+0.4
	50μm,0.2s						
ASS	**Assisi**	**0.23**	**154**	Pg	Pg	10 47 04.4	+0.6
ASS				Sg	Sg	10 47 08.7	+1.7
SNTG	**Esanatoglia**	**0.31**	**92**	Pg	Pg	10 47 06.2	+0.8
SNTG				Sg	Sg	10 47 11.5	+1.8
BADI	**Badiali**	**0.31**	**321**	Pg	Pg	10 47 05.8	+0.4
BADI				Sg	Sg	10 47 11.6	+1.8
	709nm,0.2s						
ARV	**Arcevia**	**0.39**	**53**	Pg	Pg	10 47 07.5	+0.6
ARV				Sg	Sg	10 47 13.5	+1.3
FSSB	**Fossombrone**	**0.47**	**24**	Pg	Pg	10 47 08.8	+0.4
FSSB				Sg	Sg	10 47 15.9	+1.2
	167nm,0.3s						
CING	**Cingoli**	**0.51**	**77**	Pg	Pg	10 47 09.7	+0.4
CING				Sg	Sg	10 47 18.0	+1.9
	171nm,0.3s						
CRE	**Caprese Michel**	**0.54**	**311**	Pg	Pg	10 47 09.8	-0.1
CRE				Sg	Sg	10 47 18.7	+1.5
	190nm,0.5s						
SACS	**San Casciano d**	**0.61**	**227**	Pg	Pg	10 47 11.6	+0.3
SACS				Sg	Sg	10 47 21.8	+2.3
	149nm,0.3s						
NRCA	**Norcia**	**0.62**	**134**	Pg	Pg	10 47 11.4	0.0
NRCA				Sg	Sg	10 47 21.2	+1.5
	45nm,0.2s						
RSM	**Repubblica di**	**0.67**	**356**	Pg	Pg	10 47 13.2	+0.8
	23nm,0.2s						
PESA	**Pesaro**	**0.71**	**19**	Pn	Pn	10 47 13.7	-1.3
PESA				Sn	Sn	10 47 25.0	-1.1
	673nm,0.2s						
SFI	**Santa Sofia**	**0.80**	**323**	Pg	Pg	10 47 14.7	-0.4
	54nm,0.6s						
PGD	**Poggio Sodo**	**0.84**	**317**	Pn	Pn	10 47 15.5	-1.3
PGD				Sn	Sn	10 47 29.3	+0.1
	24nm,0.3s						
AOI	**Ancona**	**0.84**	**70**	Pn	Pn	10 47 15.9	-0.9
AOI				Sn	Sn	10 47 29.7	+0.4
	43nm,0.2s						
MNS	**Montasola**	**0.89**	**172**	Pn	Pn	10 47 16.9	-0.6
	83nm,0.7s						
VMG	**Vicchio**	**0.99**	**315**	Pn	Pn	10 47 18.8	-0.1
	157nm,0.8s						
TERO	**Teramo**	**1.03**	**128**	Pn	Pn	10 47 18.6	-0.9
	71nm,0.7s						
FIAM	**Fiamignano**	**1.09**	**156**	Pn	Pn	10 47 20.0	-0.4
	60nm,0.5s						
FAGN	**Fagnano**	**1.27**	**141**	Pn	Pn	10 47 23.6	+0.6
	91nm,0.5s						
PTQR	**Pietraquaria**	**1.41**	**152**	Pn	Pn	10 47 28.8	+3.9
	11nm,0.4s						

*NIED **17** 11:09:00, 35.20N×140.00E, h68km, Mw4.2 Best double couple: M0:2.59×10^15 NP1:φs89°, δ88°, λ-173°. NP2: φs359°, δ83°, λ-2°.*
*BJI **17** 11:09:02.4, 35.20N×140.00E, h49km, mB4.9, mb4.6, Ms3.8, Msz3.5*
*MOS **17** 11:09:03.1±1.1, 35.14N×140.15E, h62km, mb4.7/7, Error ellipse: s-maj=18.2km s-min=8.8km az=101.3*
*IDC **17** 11:09:05.1±1.8, 35.13N×139.82E, h57km±18km, mb3.7/15, mb1 3.9/18, mb1mx3.8/27, mbtmp4.1/18, ML4.6/3, Error ellipse: s-maj=19.3km s-min=12.0km az=89.0*
*JMA **17** 11:09:05.0±0.1, 35.16N×139.97E, h69km±1km, M4.4 Broadband fault plane solution: P waves. NP1:φs80°, δ76°, λ-174°. NP2:φs349°, δ84°, λ-14°. Principal axes: T Plg6°, Azm35°; N Plg75°, Azm148°; P Plg14°, Azm304°; JMA Felt III J1.*
*NEIC **17** 11:09:06.4±1.2, 35.18N×140.03E, h70km±10km, mb4.4/7 Error ellipse: s-maj=13.2km s-min=8.8km az=107.0*
NEIC Felt at Higashi-yamato, Musashino, Nakamura, Tokyo and Yokosuka. Recorded [3 JMA] in Kanagawa; [2 JMA] in Chiba, Saitama, Shizuoka and Tokyo; [1 JMA] in Ibaraki, Tochigi and Yamanashi Prefectures. Also recorded [1 JMA] on Miyake-jima and O-shima.
ISC 17 11:09:04.7±0.3, 35.14N±0.03×139.99E±0.04, h72km±2km, n67, σ1§06/87, mb4.0/24, 6C-12D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.13**	**218**	⇑P	**P**	**11 09 15.7**	**+0.5**
TATJ				S	**S**	**11 09 23.5**	**+0.5**
KTR	**Katsuura**	**0.27**	**87**	⇓P	**P**	**11 09 16.1**	**+0.2**
KTR				S	**S**	**11 09 23.6**	**-0.7**
JYO	**Yokosk**	**0.28**	**288**	⇓P	**P**	**11 09 16.3**	**+0.3**
JYO				S	**S**	**11 09 24.7**	**+0.3**
BSO4	**Boso 4**	**0.32**	**117**	⇓P	**P**	**11 09 16.9**	**+0.6**
BSO4				S	**S**	**11 09 25.9**	**+1.0**
JCN	**Nagara**	**0.33**	**32**	⇑P	**P**	**11 09 16.9**	**+0.5**
JCN				S	**S**	**11 09 25.7**	**+0.7**
BSO3	**Boso 3**	**0.54**	**128**	⇓P	**P**	**11 09 18.4**	**+0.2**
JIM2	**Oshima 3**	**0.62**	**228**	⇑P	**P**	**11 09 18.7**	**-0.3**
JIM2				S	**S**	**11 09 28.4**	**-1.2**
JOD2	**Odawara 2**	**0.75**	**280**	⇓P	**P**	**11 09 20.0**	**-0.4**
JOD2				S	**S**	**11 09 30.8**	**-1.3**
BSO1	**Boso 1**	**0.94**	**120**	⇓P	**P**	**11 09 22.3**	**-0.5**
JIZS	**Izushimoda**	**1.00**	**246**	⇑P	**P**	**11 09 23.6**	**0.0**
JIZS				S	**S**	**11 09 36.9**	**-0.7**
JMY	**Miyakejima3**	**1.13**	**200**	⇑P	**P**	**11 09 25.2**	**0.0**
JYN	**Shimob**	**1.23**	**287**	⇓P	**P**	**11 09 26.6**	**0.0**
JYN				S	**S**	**11 09 42.3**	**-0.6**
JRY	**Ryogami san**	**1.25**	**315**	⇓P	**P**	**11 09 26.7**	**-0.1**
JRY				S	**S**	**11 09 42.9**	**-0.3**
JAG	**Ashikaga**	**1.36**	**341**	⇓P	**P**	**11 09 27.8**	**-0.6**
JAG				*e*S	**S**	**11 09 44.2**	**-1.7**
SHZ3	**Shizuoka 3**	**1.46**	**268**	⇓P	**P**	**11 09 30.2**	**+0.5**
SHZ3				*e*S	**S**	**11 09 49.2**	**+1.0**
MAJO	**Matsushiro**	**2.02**	**315**	⇓*iP*	**P**	**11 09 37.6**	**+0.4**
MAT	**Matsushiro**	**2.02**	**315**	*eP*	**P**	**11 09 38.0**	**+0.8**
MAT				*e*S	**S**	**11 10 03.0**	**+1.8**
MAT	**Matsushiro**	**2.02**	**315**	P	**P**	**11 09 37.5**	**+0.3**
MAT				S	**S**	**11 10 02.7**	**+1.5**
JHJ	**Hachijo jima 2**	**2.02**	**185**	P	**P**	**11 09 37.7**	**+0.5**
	531nm,0.3s,baz=65,slow=5.2,SNR=90						
JHJ				S	**S**	**11 10 01.2**	**-0.1**
	2μm,0.3s,baz=252,slow=23,SNR=45						
CBIJ	**Chichi jima**	**8.23**	**166**	P	**P**	**11 11 00.5**	**-3.1**
	41nm,0.3s,baz=329,slow=7.3,SNR=50						
CBIJ				S	**S**	**11 12 28.3**	**-7.6**
	14nm,0.3s,baz=273,slow=23,SNR=4.3						
ASAJ	**Asahikawa**	**9.19**	**12**	P	**P**	**11 11 13.4**	**-3.2**
ASAJ				S	**S**	**11 12 54.0**	**-5.4**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	**Asahikawa**	**9.19**	**12**	P	**P**	**11 11 13.4**	**-3.3**
	comp=Z,4.3nm,0.3s,baz=225,slow=10,SNR=24						
ASAJ				S	**S**	**11 12 54.0**	**-5.5**
	comp=Z,0.6nm,0.3s,baz=328,slow=30,SNR=3.9						
KS15	**Wonju Array Si**	**10.04**	**287**	*eP*	**P**	**11 11 30.2**	**+2.0**
YSS	**Yuzh-Sakhalins**	**11.99**	**9**	*eP*	**P**	**11 11 51.9**	**-2.5**
MDJ	**Mudanjiang**	**12.38**	**323**	P	**P**	**11 11 57.8**	**-1.8**
MDJ				AP		11 12 07.4	
MDJ				XP		11 12 15.8	
MDJ				S	**S**	**11 14 11.8**	**-4.5**
MDJ				PCP	PcP	11 17 35.3	-0.6
MDJ				SCP		11 21 03.6	
MDJ				PCS		11 21 09.3	
MDJ				AMB	AMB		
	comp=Z,53nm,5.2s						
JOW	**Kunigami**	**13.01**	**234**	P	**P**	**11 12 10.1**	**+2.0**
	comp=Z,1.9nm,0.3s,baz=342,slow=30,SNR=5.2						
CN2	**Changchun**	**14.16**	**312**	*eP*	**P**	**11 12 24.8**	**+1.9**
ULN	**Ulaanbaatar**	**27.53**	**308**	*eP*	**P**	**11 14 46.2**	**-0.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ULN	**Ulaanbaatar**	**27.53**	**308**	*eP*	**P**	**11 14 46.2**	**-0.2**
	comp=Z,0.9nm,0.4s,mb3.6						
YAK	**Yakutsk**	**27.70**	**350**	P	**P**	**11 14 47.0**	**-0.8**
YAK				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.6						
YAK	**Yakutsk**	**27.70**	**350**	P	**P**	**11 14 47.0**	**-0.8**
	comp=Z,11nm,0.6s,mb4.6						
SONM	**Songino Array**	**27.95**	**307**	P	**P**	**11 14 49.0**	**-1.3**
	comp=Z,0.7nm,0.6s,mb3.4,baz=114,slow=9.5,SNR=7.8						
BOD	**Bodaibo**	**28.57**	**331**	*eP*	**P**	**11 14 54.4**	**-1.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.0						
LZH	**Lanzhou**	**29.30**	**282**	⇑P	**P**	**11 15 04.5**	**+2.1**
LZH				AP	pP	11 15 19.0	-0.4
LZH				XP	sP	11 15 25.5	-2.4
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,69nm,4.3s						
LZH				LR	LR		
	comp=N,383nm,12.5s						
LZH				LR	LR		
	comp=Z,493nm,16.6s						
BILL	**Bilibino**	**36.17**	**16**	*eP*	**P**	**11 16 00.4**	**-1.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
BILL	**Bilibino**	**36.17**	**16**	*eP*	**P**	**11 16 00.4**	**-1.3**
	comp=Z,1.1nm,0.3s,mb4.3						
WMQ	**Urumqi**	**40.70**	**299**	⇓P	**P**	**11 16 41.9**	**+2.4**
WMQ				AP	pP	11 16 57.8	+0.5
WMQ				PP	PP	11 18 20.3	+2.8
WMQ				PCP	PcP	11 18 42.8	+2.2
WMQ				S	**S**	**11 22 48.0**	**+3.8**
WMQ				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,97nm,5.0s						
WMQ				LR	LR		
	comp=N,25nm,19.4s						
WMQ				LR	LR		
	comp=E,69nm,21.4s						
WMQ				LR	LR		
	comp=Z,26nm,16.5s						
ZAL	**Zalesovo**	**42.38**	**314**	P	**P**	**11 16 53.0**	**-0.2**
	comp=Z,1.8nm,0.5s,mb4.0,baz=28,slow=8.2,SNR=9.8						
BVAR	**Borovoye Array**	**51.01**	**313**	P	**P**	**11 18 00.9**	**-0.2**
	comp=Z,0.9nm,0.3s,mb4.2,baz=115,slow=10,SNR=11						
COLA	**College**	**51.30**	**31**	P	**P**	**11 18 04.1**	**+1.0**
ILAR	**Eielson Array**	**51.71**	**32**	P	**P**	**11 18 06.8**	**+0.6**
	comp=Z,0.8nm,0.6s,mb4.0,baz=269,slow=6.2,SNR=12						
WRAB	**Tennant Creek**	**55.03**	**186**	*eP*	**P**	**11 18 29.8**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
WRAB	**Tennant Creek**	**55.03**	**186**	*eP*	**P**	**11 18 29.8**	**-1.5**
	comp=Z,3.4nm,0.3s,mb4.8						
WB2	**Warramunga Arr**	**55.03**	**186**	*eP*	**P**	**11 18 29.9**	**-1.5**
WRA	**Warramunga Arr**	**55.04**	**186**	P	**P**	**11 18 30.0**	**-1.4**
	comp=Z,2.7nm,0.4s,mb4.6,baz=2.3,slow=7.6,SNR=66						
INK	**Inuvik**	**56.60**	**26**	*eP*	**P**	**11 18 42.2**	**+0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
INK	**Inuvik**	**56.60**	**26**	P	**P**	**11 18 42.5**	**+0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=301,slow=8.6,SNR=8.0						
INK	**Inuvik**	**56.60**	**26**	*eP*	**P**	**11 18 42.2**	**+0.3**
	comp=Z,2.5nm,1.1s,mb4.2						
ASAR	**Alice Springs**	**58.76**	**187**	P	**P**	**11 18 57.1**	**-0.6**
	comp=Z,0.9nm,0.6s,mb4.0,baz=2.2,slow=7.5,SNR=20						
ASPA	**Alice Springs**	**58.76**	**187**	*eP*	**P**	**11 18 58.2**	**+0.5**
YKA	**Yellowknife Ar**	**66.03**	**29**	P	**P**	**11 19 45.5**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.4,baz=302,slow=6.5,SNR=15						
YKA	**Yellowknife Ar**	**66.03**	**29**	P	**P**	**11 19 45.5**	**+0.2**
JOF	**Joensuu**	**67.09**	**332**	*ep*	**P**	**11 19 51.2**	**-0.9**
	comp=Z,1.1nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**69.46**	**333**	*ep*	**P**	**11 20 06.2**	**-0.6**
	comp=Z,1.7nm,0.5s,mb4.1,baz=50,slow=5.8						
KAF	**Kangasniemi**	**69.46**	**333**	*eP*	**P**	**11 20 06.2**	**-0.6**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**69.95**	**332**	P	**P**	**11 20 09.6**	**-0.2**
	comp=Z,1.0nm,0.4s,mb4.0,baz=59,slow=6.5,SNR=20						
AKASG	**Malin Array Be**	**75.08**	**322**	P	**P**	**11 20 40.0**	**-0.2**
	comp=Z,1.2nm,0.5s,mb3.9,baz=49,slow=6.0,SNR=12						
AKASG	**Malin Array Be**	**75.08**	**322**	P	**P**	**11 20 40.0**	**-0.2**
HFS	**Hagfors**	**75.33**	**335**	P	**P**	**11 20 41.9**	**+0.5**
	comp=Z,1.4nm,0.8s,mb3.8,baz=1.5,SNR=8.2						
NB2	**NORSAR Subarra**	**75.48**	**337**	P	**P**	**11 20 42.0**	**-0.2**
	comp=Z,1.0nm,0.8s,mb3.6,baz=41,slow=5.6						
NOA	**NORSAR Array B**	**75.48**	**337**	P	**P**

STKA	**Stephens Creek**	**42.39**	**240**	P	P	11 35 45.2	-0.8
	0.7nm,0.3s,baz=90,slow=11,SNR=5.8						
WB2	**Warramunga Arr**	**48.28**	**258**	*e*P	P	11 36 30.1	-3.2
WRA	**Warramunga Arr**	**48.29**	**258**	P	P	11 36 30.6	-2.7
	0.5nm,0.4s,baz=96,slow=6.9,SNR=22						
ASAR	**Alice Springs**	**48.51**	**253**	P	P	11 36 32.6	-2.4
	6.7nm,0.5s,baz=89,slow=7.8,SNR=225						
ASPA	**Alice Springs**	**48.52**	**253**	*e*P	P	11 36 32.6	-2.5
KAKA	**Kakadu**	**51.05**	**267**	*e*P	P	11 36 53.3	-1.2
	2.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.66**	**259**	P	P	11 37 34.2	-1.7
	0.8nm,0.4s,baz=90,slow=4.0,SNR=4.5						

*IDC **17** 11:31:30.4±0.9,38.84S×47.40E,mb4.2/7,mb1 4.4/7, mb1mx4.0/20,mbtmp4.2/7,MS3.5/4,Ms1 3.5/4, ms1mx3.3/23,Error ellipse: s-maj=58.1km s-min=20.0km az=22.0*

*NEIC **17** 11:31:31.9±0.6,38.93S×47.35E,h10km,mb4.4/2,Error ellipse: s-maj=43.6km s-min=12.4km az=200.0*

ISC 17 11:31:30.7±0.9,38.9S±0.4×47.4E±0.2,h10km,n15, σ0=73/9,mb4.1/8,MS3.4/4,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**21.04**	**293**	P	**P**	**11 36 15.9**	**-1.2**
	9.8nm,1.1s,mb4.0,baz=117,slow=10,SNR=6.6						
BOSA				LR	LR	11 43 03.0	
	comp=Z,69nm,18.4s,MS3.1,baz=322,slow=33						
BOSA	**Boshof**	**21.04**	**293**	*e*P	**P**	**11 36 15.6**	**-1.6**
	18nm,1.3s,mb4.2						
BOSA				LR	LR	11 43 03.0	
LBTB	**Lobatse**	**23.05**	**301**	P	**P**	**11 36 38.6**	**+1.5**
	2.7nm,0.7s,mb3.8,baz=127,slow=11,SNR=4.9						
LBTB				LR	LR	11 45 16.1	
	comp=Z,55nm,18.3s,MS3.0,baz=301,slow=36						
MAW	**Mawson**	**29.99**	**168**	LR	LR	11 46 34.2	
	comp=Z,202nm,21.6s,MS3.7,baz=240,slow=30						
VNDA	**Vanda**	**57.28**	**166**	LR	LR	12 01 40.3	
	comp=Z,108nm,20.9s,MS3.9,baz=298,slow=32						
FITZ	**Fitzroy Crossi**	**69.85**	**97**	P	**P**	**11 42 43.4**	**-0.4**
	4.5nm,0.9s,mb4.4,baz=216,slow=5.9,SNR=4.6						
ASAR	**Alice Springs**	**72.94**	**107**	P	**P**	**11 43 02.2**	**0.0**
	1.4nm,0.8s,mb4.0,baz=230,slow=5.5,SNR=14						
STKA	**Stephens Creek**	**73.72**	**118**	P	**P**	**11 43 07.1**	**+0.4**
	2.8nm,0.7s,mb4.3,baz=286,slow=3.8,SNR=7.7						
CMAR	**Chiang Mai Arr**	**74.72**	**50**	P	**P**	**11 43 12.5**	**-0.2**
	0.8nm,0.8s,mb3.7,baz=224,slow=6.4,SNR=6.9						
WRA	**Warramunga Arr**	**75.44**	**104**	P	**P**	**11 43 17.0**	**+0.2**
	2.5nm,0.8s,mb4.2,baz=228,slow=4.7,SNR=17						
WRAB	**Tennant Creek**	**75.45**	**104**	*e*P	**P**	**11 43 16.9**	**0.0**
	4.9nm,0.9s,mb4.4						
INK	**Inuvik**	**150.56**	**1**	PKPbc	PKPdf	11 51 21.9	+2.7
	2.5nm,0.9s,baz=6.6,slow=3.3,SNR=11						
JCT	**Junction City**	**151.87**	**263**	*e*PKPbc	PKPdf	11 51 26.0	+3.7
ILAR	**Eielson Array**	**152.79**	**13**	PKPbc	PKPdf	11 51 26.2	+3.7
	0.7nm,0.7s,baz=318,slow=3.0,SNR=8.8						
TXAR	**Lajitas Array**	**154.30**	**257**	PKPbc	PKPdf	11 51 32.3	+6.6
	1.3nm,0.9s,baz=135,slow=5.3,SNR=11						

*BJI **17** 11:41:21.7,0.49N×97.56E,h34km,mB4.8,mb4.8,Ms4.2, Msz4.0*

*IDC **17** 11:41:21.2±0.5,0.84N×97.50E,mb4.5/18,mb1 4.6/19, mb1mx4.5/24,mbtmp4.5/19,ML4.4/1,MS3.9/4,Ms1 4.0/4, ms1mx3.5/25,Error ellipse: s-maj=18.5km s-min=11.8km az=43.0*

*MOS **17** 11:41:24.9±1.0,1.03N×97.63E,h33km,mb4.8/11,Error ellipse: s-maj=22.5km s-min=10.9km az=102.9*

*NEIC **17** 11:41:25.9±0.2,0.90N×97.49E,h30km,mb4.7/21,Error ellipse: s-maj=6.9km s-min=5.5km az=52.0*

NEIC Felt [II] at Gunungsitoli.

ISC 17 11:41:23.8±1.3,0.87N±0.04×97.51E±0.04,h27km±9km, h30km±1.6km:pP-P,n122,σ0=98/121,mb4.6/52,MS3.9/13, 14C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.09**	**44**	P	**Pn**	**11 42 42.0**	**+1.6**
KULM	**Kulim**	**5.39**	**35**	⇑*e*P	**Pn**	**11 42 45.7**	**+1.0**
KGM	**Kluang**	**5.92**	**79**	P	**Pn**	**11 42 54.2**	**+2.2**
SNG	**Songkhla**	**6.99**	**26**	P	**Pn**	**11 43 06.0**	**-1.1**
	242nm,0.9s						
CM31	**Chiang Mai Arr**	**17.53**	**5**	*e*P	**P**	**11 45 26.2**	**-2.0**
	11nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.53**	**5**	*i* P	**P**	**11 45 27.2**	**-1.0**
CMAR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.53**	**5**	P	**P**	**11 45 27.1**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=194,slow=12,SNR=56						
CMAR				LR	LR	11 53 09.2	
	comp=Z,309nm,19.4s,baz=195,slow=40						
CHG	**Chiang Mai**	**17.89**	**4**	⇑P	**P**	**11 45 31.4**	**-1.2**
	comp=Z,20nm,0.9s						
PALK	**Pallekele**	**17.93**	**291**	*e*P	**P**	**11 45 33.1**	**0.0**
	comp=Z,7.6nm,1.0s						
NANT	**Nan**	**18.09**	**10**	P	**P**	**11 45 33.0**	**-2.2**
KKM	**Kota Kinabalu**	**19.36**	**74**	*e*P	**P**	**11 45 50.4**	**-0.1**
KKM	**Kota Kinabalu**	**19.36**	**74**	P	**P**	**11 45 51.4**	**+1.0**
TSM	**Tawau**	**20.62**	**80**	P	**P**	**11 46 04.4**	**+0.4**
QIZ	**Qiongzhong**	**21.72**	**33**	*e*P	**P**	**11 46 14.6**	**-0.5**
QIZ				*e*S	**S**	**11 50 12.5**	**+3.6**
QIZ				LR	LR		
	comp=N,245nm,14.0s						
QIZ				LR	LR		
	comp=Z,299nm,11.4s,MS3.9						
KMI	**Kunming**	**24.63**	**11**	P	**P**	**11 46 45.3**	**+1.7**
KMI				AP		11 46 51.8	
KMI				S	**S**	**11 51 03.5**	**+3.2**
KMI				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,137nm,5.3s						
KMI				LR	LR		
	comp=N,322nm,13.1s,MS4.2						
KMI				LR	LR		
	comp=E,321nm,13.3s,MS4.2						
KMI				LR	LR		
	comp=Z,422nm,13.4s,MS4.1						
KMI	**Kunming**	**24.63**	**11**	P	**P**	**11 46 45.3**	**+1.7**
	comp=Z,27nm,1.0s,mb4.7						
KMI				pP		11 46 51.7	
KMI				S	**S**	**11 51 03.5**	**+3.2**
KMI				LR	LR		
	comp=Z,420nm,13.4s,MS4.1						
HYB	**Hyderabad**	**24.86**	**312**	*e*P		11 46 56.5	
HYB	**Hyderabad**	**24.86**	**312**	*i* P		11 46 56.5	
SHL	**Shillong**	**25.14**	**348**	*e*P	**P**	**11 46 49.5**	**+1.0**
GYA	**Guiyang**	**26.92**	**18**	P	**P**	**11 47 04.6**	**-0.4**
GYA				AP	pP	11 47 13.5	+0.6
GYA				XP	sP	11 47 17.9	+1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,100nm,4.9s						
GYA				LR	LR		
	comp=N,150nm,15.0s,MS4.0						
GYA				LR	LR		
	comp=E,300nm,14.1s,MS4.0						
GYA				LR	LR		
	comp=Z,260nm,13.7s,MS4.0						
JIRN	**Jiri**	**28.76**	**339**	*e*P	**P**	**11 47 22.2**	**+0.6**
	comp=Z,45nm,0.9s,mb5.2						
PKI	**Pulchoki**	**28.97**	**337**	*e*P	**P**	**11 47 24.4**	**+0.9**
GUN	**Gumba**	**29.10**	**338**	*e*P	**P**	**11 47 25.1**	**+0.4**
	comp=Z,36nm,0.5s,mb5.4						
DMN	**Daman**	**29.12**	**337**	*e*P	**P**	**11 47 26.2**	**+1.3**
KKN	**Kakani**	**29.22**	**337**	*e*P	**P**	**11 47 27.0**	**+1.2**
LSA	**Lhasa**	**29.30**	**349**	*e*P	**P**	**11 47 26.9**	**+0.5**
	comp=Z,18nm,0.8s,mb4.9						
GKN	**Gorkha**	**29.66**	**337**	*e*P	**P**	**11 47 29.7**	**0.0**
KOLN	**Koldanda**	**29.89**	**335**	*e*P	**P**	**11 47 31.6**	**-0.1**
	comp=Z,26nm,0.7s,mb5.1						
MBWA	**Marble Bar**	**30.84**	**136**	*e*P	**P**	**11 47 40.8**	**+0.6**
ENH	**Enshi**	**31.38**	**20**	*e*P	**P**	**11 47 43.5**	**-1.4**
	comp=Z,7.5nm,0.4s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.48**	**126**	⇑*i*P	**P**	**11 48 02.3**	**-1.0**
	comp=Z,4.6nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.48**	**126**	P	**P**	**11 48 02.4**	**-0.9**
	comp=Z,5.9nm,0.5s,mb4.7,baz=322,slow=5.2,SNR=18						
XAN	**Xi'an**	**34.68**	**17**	P	**P**	**11 48 12.4**	**-1.1**
XAN				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.3						
LZH	**Lanzhou**	**35.53**	**9**	⇑P	**P**	**11 48 20.1**	**-0.6**
LZH				AP	pP	11 48 29.5	+0.7
LZH				XP	sP	11 48 33.3	+1.0
LZH				PP	PP	11 49 41.3	+0.2
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,88nm,4.7s						
LZH				LR	LR		
	comp=N,446nm,12.7s						
LZH				LR	LR		
	comp=Z,589nm,16.6s,MS4.4						
LZH	**Lanzhou**	**35.53**	**9**	⇑P	**P**	**11 48 20.1**	**-0.6**
	comp=Z,27nm,1.3s,mb5.0						
LZH				pP	pP	11 48 29.5	+0.7
LZH				sP	sP	11 48 33.2	+0.9
LZH				PP	PP	11 49 41.2	+0.1
LZH				LR	LR		
	comp=Z,590nm,16.6s,MS4.4						
NJ2	**Nanjing**	**36.98**	**31**	*e*P	**P**	**11 48 32.6**	**-0.4**
NJ2				AP	pP	11 48 42.6	+1.5
NJ2				XP	sP	11 48 47.0	+2.5
NJ2				PP	PP	11 49 59.4	-0.1
NJ2				S	**S**	**11 54 15.0**	**-1.1**
NJ2				XS		11 54 31.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
KAKA	**Kakadu**	**37.19**	**112**	*e*P	**P**	**11 48 33.4**	**-1.5**
	comp=Z,3.3nm,0.5s,mb4.4						
SSE	**Sheshan**	**37.50**	**34**	P	**P**	**11 48 36.3**	**-1.1**
SSE				XP	sP	11 48 48.9	0.0
SSE				PP	PP	11 50 02.4	-3.4
SSE				PCP	PcP	11 50 53.1	-2.7
SSE				S	**S**	**11 54 24.8**	**+0.7**
SSE				XS		11 54 40.3	
SSE				AMB	AMB		
	comp=Z,52nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,33nm,4.7s						
SSE				LR	LR		
	comp=N,85nm,19.2s,MS3.6						
SSE				LR	LR		
	comp=E,42nm,19.5s,MS3.6						
SSE				LR	LR		
	comp=Z,118nm,14.3s						
GTA	**Gaotai**	**38.41**	**3**	P	**P**	**11 48 45.0**	**+1.0**
GTA				AP	pP	11 48 52.3	-0.8
GTA				XP	sP	11 48 55.4	-1.1
GTA				SCS	ScS	11 58 55.3	+3.4
GTA				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,88nm,10.7s						
GTA				LR	LR		
	comp=N,155nm,19.9s						
GTA				LR	LR		
	comp=E,295nm,14.1s						
GTA				LR	LR		
	comp=Z,153nm,12.6s						
JOW	**Kunigami**	**39.24**	**46**	P	**P**	**11 48 52.6**	**+0.7**
	comp=Z,29nm,0.8s,mb5.1,baz=231,slow=6.5,SNR=7.1						
WRA	**Warramunga Arr**	**41.60**	**122**	P	**P**	**11 49 11.6**	**0.0**
	comp=Z,3.9nm,0.5s,mb4.3,baz=302,slow=8.9,SNR=30						
WRAB	**Tennant Creek**	**41.60**	**122**	*i* P	**P**	**11 49 12.2**	**+0.6**
WRAB	**Tennant Creek**	**41.60**	**122**	*e*P	**P**	**11 49 11.4**	**-0.2**
	comp=Z,14nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**41.61**	**122**	*e*P	**P**	**11 49 11.5**	**-0.1**
HHC	**Hu-ho-hao-te**	**41.78**	**16**	*e*P	**P**	**11 49 14.0**	**+1.2**
HHC				AP	pP	11 49 22.5	+1.5
HHC				XP	sP	11 49 28.0	+3.7
HHC				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.2						
HHC				AMB	AMB		
	comp=Z,73nm,5.8s						
BJT	**Baijiatuan**	**42.51**	**21**	*e*P	**P**	**11 49 19.9**	**+1.1**
	comp=Z,29nm,1.0s,mb5.0						
BJI	**Beijing**	**42.53**	**21**	P	**P**	**11 49 19.9**	**+1.0**
BJI				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.2						
BJI				AMB	AMB		
	comp=Z,150nm,4.4s						
BJI				LR	LR		
	comp=N,164nm,19.5s						
BJI				LR	LR		
	comp=E,125nm,13.8s						
BJI				LR	LR		
	comp=Z,83nm,17.1s,MS3.7						
BJI	**Beijing**	**42.53**	**21**	P	**P**	**11 49 19.9**	**+1.0**
	comp=Z,35nm,0.7s,mb5.2						
BJI				pP	pP	11 49 22.9	-4.2
BJI				S	tx	11 57 04.4	
BJI				SS	tx	12 00 58.7	
BJI				LR	LR		
	comp=Z,80nm,17.1s,MS3.7						
ASPA	**Alice Springs**	**42.95**	**127**	*e*P	**P**	**11 49 23.0**	**+0.4**
ASAR	**Alice Springs**	**42.95**	**127**	P	**P**	**11 49 22.9**	**+0.4**
	comp=Z,4.9nm,0.7s,mb4.3,baz=297,slow=7.6,SNR=70						
ASAR				S	**S**	**11 55 45.0**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=291,slow=13,SNR=4.1						
WMQ	**Urumqi**	**43.65**	**350**	P	**P**	**11 49 29.0**	**+1.0**
WMQ				AP	pP	11 49 39.0	+2.9
WMQ				XP	sP	11 49 43.0	+3.5
WMQ				PP	PP	11 51 12.5	+1.1
WMQ				PCP	PcP	11 51 16.5	+1.0
WMQ				S	**S**	**11 55 55.8**	**+0.3**
WMQ				AMB	AMB		
	comp=Z,21nm,0.5s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,63nm,3.6s						
WMQ				LR	LR		
	comp=N,81nm,26.0s,MS3.6						
WMQ				LR	LR		
	comp=E,56nm,26.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,47nm,24.3s,MS3.3						
KZA	**Kyzart**	**45.65**	**337**	P	**P**	**11 49 44.7**	**+0.7**
	SNR=6.0						
UCH	**Uchtor**	**46.07**	**336**	P	**P**	**11 49 48.5**	**+1.1**
	SNR=14						
TKM2	**Tokmak 2**	**46.24**	**338**	P	**P**	**11 49 49.5**	**+0.8**
	SNR=7.0						
AML	**Almayashu**	**46.33**	**335**	P	**P**	**11 49 50.5**	**+1.1**
	SNR=9.9						
AAK	**Ala-Archa**	**46.42**	**337**	⇓*e*P	**P**	**11 49 50.4**	**+0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**46.42**	**337**	*e*P	**P**	**11 49 49.6**	**-0.6**
	comp=Z,2.4nm,0.8s,mb4.2						
EKS2	**Erkin-Say**	**46.73**	**336**	P	**P**	**11 49 53.6**	**+1.0**
	SNR=5.3						
USP	**Ospenovka**	**46.95**	**337**	P	**P**	**11 49 54.8**	**+0.5**
	SNR=11						
SONM	**Songino Array**	**47.41**	**8**	P	**P**	**11 49 58.3**	**+0.4**
	comp=Z,3.5nm,0.5s,mb4.6,baz=190,slow=9.7,SNR=56						
SONM				PcP	PcP	11 51 28.7	+0.2
	comp=Z,1.7nm,0.8s,baz=178,slow=4.7,SNR=3.7						
SONM				LR	LR	12 12 28.3	
	comp=Z,188nm,19.0s,MS4.1,baz=72,slow=39						
SONM	**Songino Array**	**47.41**	**8**	P	**P**	**11 49 58.3**	**+0.4**
SONM				PcP	PcP	11 51 28.7	+0.1
SONM				LR	LR	12 12 28.4	
ULN	**Ulaanbaatar**	**47.53**	**9**	*c i* P	**P**	**11 49 59.1**	**+0.2**
ULN	**Ulaanbaatar**	**47.53**	**9**	*e*P	**P**	**11 49 58.9**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.5						
ZAK	**Zakamensk**	**49.57**	**5**	*e*P	**P**	**11 50 13.5**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
PMG	**Port Moresby**	**50.48**	**103**	P	**P**	**11 50 22.1**	**+0.1**
	comp=Z,6.9nm,0.8s,mb4.7,baz=306,slow=4.9,SNR=5.7						
TLY	**Talaya**	**50.89**	**5**	*e*P	**P**	**11 50 24.5**	**-0.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TLY				MLR	MLR		
	comp=Z,114nm,17.0s,MS4.0						
TLY	**Talaya**	**50.89**	**5**	*e*P	**P**	**11 50 24.6**	**0.0**
	comp=Z,5.0nm,0.8s,mb4.5						
MAT	**Matsushiro**	**51.72**	**42**	*e*P	**P**	**11 50 29.0**	**-2.1**
MAT	**Matsushiro**	**51.72**	**42**	P	**P**	**11 50 28.9**	**-2.2**
MDJ	**Mudanjiang**	**52.00**	**29**	P	**P**	**11 50 32.9**	**-0.2**
MDJ				AP	pP	11 50 42.1	+0.6
MDJ				XP	sP	11 50 45.6	+0.9
MDJ				PCP	PcP	11 51 42.4	-2.9
MDJ				PP	PP	11 52 30.8	-1.1
MDJ				SCP		11 55 37.3	
MDJ				PCS		11 55 40.9	
MDJ				S	**S**	**11 57 56.4**	**+3.1**
MDJ				XS		11 58 11.4	
MDJ				AMB	AMB		
	comp=Z,53nm,3.8s						
MDJ				LR	LR		
	comp=N,49nm,18.4s,MS3.7						
MDJ				LR	LR		
	comp=E,53nm,19.7s,MS3.7						
MDJ				LR	LR		
	comp=Z,91nm,17.9s,MS3.9						
STKA	**Stephens Creek**	**52.91**	**132**	*e*P	**P**	**11 50 40.9**	**+0.8**
	comp=Z,4.3nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**52.91**	**132**	P	**P**	**11 50 40.8**	**+0.7**
	comp=Z,5.3nm,0.8s,mb4.5,baz=327,slow=6.7,SNR=7.5						
OPO	**Ambohidratompo**	**53.08**	**246**	P	**P**	**11 50 41.5**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.7,baz=65,slow=9.9,SNR=3.8						
ZAL	**Zalesovo**	**53.92**	**351**	P	**P**	**11 50 46.9**	**-0.3**
	comp=Z,8.4nm,0.3s,mb5.1,baz=310,slow=6.2,SNR=62						
ATD	**Arta Tunnel**	**55.27**	**283**	LR	LR	12 12 12.5	
	comp=Z,51nm,19.0s,MS3.6,baz=72,slow=34						
KLR	**Kul'dur**	**56.41**	**26**	*e*P	**P**	**11 51 02.2**	**-3.1**
BOD	**Bodaibo**	**58.27**	**10**	⇑*i*P	**P**	**11 51 17.8**	**-0.6**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**60.44**	**34**	⇑*e*P	**P**	**11 51 33.7**	**+0.2**
YSS				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
YSS	**Yuzh-Sakhalins**	**60.44**	**34**	*e*P	**P**	**11 51 31.1**	**-2.4**
	comp=Z,17nm,0.9s,mb5.1						
GNI	**Garni**	**61.74**	**316**	*i* P	**P**	**11 51 44.5**	**+2.0**
SVE	**Sverdlovsk**	**63.10**	**338**	*e*P	**P**	**11 51 47.0**	**-4.2**
ARU	**Arti**	**63.60**	**337**	⇑*i*P	**P**	**11 51 52.8**	**-1.7**
ARU				*e*		11 54 09.4	
ARU				*e*S	**S**	**12 00 25.6**	**+0.6**
ARU				*e*SS	SS	12 04 29.7	-4.6
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
KIV	**Kislovodsk**	**64.76**	**319**	*i* P	**P**	**11 52 02.3**	**0.0**
KIV				*e*S	**S**	**12 00 38.8**	**-0.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
KIV	**Kislovodsk**	**64.76**	**319**	*e*P	**P**	**11 52 01.1**	**-1.2**
	comp=Z,11nm,1.0s,mb4.8						
YAK	**Yakutsk**	**65.65**	**16**	*e*P	**P**	**11 52 05.0**	**-2.7**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
YAK	**Yakutsk**	**65.65**	**16**	*e*P	**P**	**11 52 06.5**	**-1.2**
	comp=Z,30nm,0.9s,mb5.3						
SOC	**Sochi**	**66.57**	**318**	*e*P	**P**	**11 52 10.1**	**-3.8**
SOC				*e*		11 52 49.6	
SOC				*e*		11 54 44.9	
SOC				*e*S	S	12 00 59.7	-1.9
SOC				*e*		12 02 10.2	
SOC				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
SOC				pmax	pmax		
	comp=N,25nm,0.9s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.6s						
ANN	**Anapa**	**68.55**	**318**	*e*P	**P**	**11 52 19.0**	**-7.3**
ANN				*i*		11 52 46.0	
ANN				pmax	pmax		
	comp=Z,54nm,0.9s,mb5.5						
BRTR	**Keskin Array B**	**69.56**	**312**	P	**P**	**11 52 31.7**	**-0.9**
	comp=Z,1.4nm,0.7s,mb4.0,baz=133,slow=6.9,SNR=6.8						
MATP	**Matopo**	**70.69**	**248**	P	**P**	**11 52 40.0**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=96,slow=12,SNR=6.7						
OBN	**Obninsk**	**73.06**	**328**	*e*P	**P**	**11 52 53.0**	**-0.4**
OBN				*e*		11 53 10.9	
OBN				*e*S	S	12 02 17.1	-0.4
OBN				*e*SS	SS	12 06 57.9	-3.2
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TIXI	**Tiksi**	**73.45**	**10**	⇑*e*P	**P**	**11 52 54.3**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
LBTB	**Lobatse**	**74.02**	**244**	P	**P**	**11 52 59.7**	**+0.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=92,slow=8.5,SNR=4.0						
TIRR	**Tirgusor**	**74.57**	**316**	⇑P	**P**	**11 53 01.8**	**-0.6**
BOSA	**Boshof**	**74.89**	**240**	P	**P**	**11 53 04.0**	**-0.6**
	comp=Z,2.4nm,0.9s,mb4.1,baz=90,slow=5.1,SNR=3.5						
AKASG	**Malin Array Be**	**75.71**	**322**	*i* P	**P**	**11 53 07.4**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**75.71**	**322**	P	**P**	**11 53 07.3**	**-1.4**
	comp=Z,1.9nm,0.5s,mb4.3,baz=90,slow=5.1,SNR=18						
VRI	**Vrincioaia**	**76.07**	**317**	⇓P	**P**	**11 53 10.9**	**0.0**
MLR	**Muntele Rosu**	**76.52**	**317**	⇓P	**P**	**11 53 13.7**	**+0.3**
BURAR	**Bucovina Array**	**77.47**	**319**	⇑P	**P**	**11 53 19.4**	**+0.7**
BURAR	**Bucovina Array**	**77.47**	**319**	⇑P	**P**	**11 53 19.4**	**+0.7**
JOF	**Joensuu**	**78.57**	**335**	*e*p	**P**	**11 53 23.7**	**-0.7**
	comp=Z,1.8nm,0.5s,mb4.3						
JOF	**Joensuu**	**78.57**	**335**	*e*P	**P**	**11 53 23.7**	**-0.7**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
SYO	**Syowa Base**	**79.79**	**198**	⇑pP	pP	11 53 41.0	+1.4
FINES	**FINESS Array B**	**80.43**	**332**	*i* P	**P**	**11 53 33.1**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**80.43**	**332**	P	**P**	**11 53 34.0**	**-0.5**
	comp=Z,1.5nm,0.4s,mb4.2,baz=101,slow=5.6,SNR=20						
FINES	**FINESS Array B**	**80.43**	**332**	P	**P**	**11 53 34.0**	**-0.5**
KAF	**Kangasniemi**	**80.51**	**333**	*e*p	**P**	**11 53 34.3**	**-0.6**
	comp=Z,2.3nm,0.5s,mb4.4,baz=104,slow=5.0						
KAF	**Kangasniemi**	**80.51**	**333**	*e*P	**P**	**11 53 34.3**	**-0.6**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
BILL	**Bilibino**	**81.36**	**21**	*e*P	**P**	**11 53 39.3**	**+0.1**
BILL				*e*		11 53 44.8	
BILL				*e*S	S	12 03 47.1	+0.2
BILL				*e*SS	SS	12 09 03.3	-3.0
BILL				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.3						
OJC	**Ojcow**	**81.47**	**321**	*e*P	**P**	**11 53 40.7**	**+0.6**
ARCES	**ARCESS Array B**	**82.95**	**340**

ms1mx3.1/25, Error ellipse: s-maj=26.9km s-min=16.7km az=56.0
*NEIC **17** 11:54:28.8±6.5, 0.87N×97.36E, h9km±40km, mb4.4/7, Error ellipse: s-maj=15.6km s-min=7.4km az=56.0*
NEIC Felt [I] at Gunungsitoli.
ISC 17 11:54:31.5±2.2, 0.89N±0.08×97.44E±0.09, h39km±18km, h34km±2.8km: pP-P, n45, σ0§79/45, mb4.2/24, MS3.4/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.13**	**44**	P	**P**	**11 55 48.3**	**+0.5**
KULM	**Kulim**	**5.42**	**36**	⇑*iP*	**P**	**11 55 52.0**	**0.0**
KULM				*e*		11 55 58.3	
KGM	**Kluang**	**5.98**	**79**	P	**P**	**11 56 00.7**	**+0.9**
CM31	**Chiang Mai Arr**	**17.52**	**5**	P	**P**	**11 58 32.3**	**-2.3**
	5.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.52**	**5**	P	**P**	**11 58 33.7**	**-0.9**
	0.4nm,0.3s,baz=192,slow=12,SNR=28						
CMAR				LR	LR	12 06 16.4	
	comp=Z,158nm,18.4s,baz=197,slow=40						
KKM	**Kota Kinabalu**	**19.42**	**74**	*eP*	**P**	**11 58 58.0**	**+0.6**
HYB	**Hyderabad**	**24.80**	**313**	*eP*	**P**	**12 00 01.5**	**+10**
HYB	**Hyderabad**	**24.80**	**313**	*i P*	**P**	**12 00 01.5**	**+10**
SHL	**Shillong**	**25.12**	**348**	*eP*	**P**	**11 59 55.0**	**+0.5**
JIRN	**Jiri**	**28.72**	**339**	*eP*	**P**	**12 00 28.3**	**+0.8**
PKI	**Pulchoki**	**28.93**	**338**	*eP*	**P**	**12 00 29.9**	**+0.5**
GUN	**Gumba**	**29.07**	**339**	*eP*	**P**	**12 00 31.3**	**+0.8**
DMN	**Daman**	**29.09**	**337**	*eP*	**P**	**12 00 30.8**	**+0.1**
KKN	**Kakani**	**29.18**	**337**	*eP*	**P**	**12 00 32.2**	**+0.6**
LSA	**Lhasa**	**29.27**	**349**	*eP*	**P**	**12 00 30.9**	**-1.5**
	4.5nm,0.5s,mb4.5						
GKN	**Gorkha**	**29.62**	**337**	*eP*	**P**	**12 00 35.9**	**+0.4**
KOLN	**Koldanda**	**29.84**	**335**	*eP*	**P**	**12 00 37.8**	**+0.4**
	14nm,0.7s,mb4.8						
ENH	**Enshi**	**31.39**	**20**	*eP*	**P**	**12 00 49.8**	**-1.3**
	5.9nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.55**	**126**	P	**P**	**12 01 08.5**	**-1.5**
	2.8nm,0.7s,mb4.3,baz=310,slow=3.4,SNR=6.3						
GTA	**Gaotai**	**38.40**	**3**	P	**P**	**12 01 51.3**	**+0.4**
GTA				AP	pP	12 02 00.0	-2.0
GTA				XP	sP	12 02 03.0	-3.9
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**41.67**	**122**	*eP*	**P**	**12 02 18.0**	**-0.3**
	comp=Z,2.6nm,0.4s,mb4.2						
WB2	**Warramunga Arr**	**41.68**	**122**	*eP*	**P**	**12 02 17.9**	**-0.4**
HHC	**Hu-ho-hao-te**	**41.79**	**16**	*eP*	**P**	**12 02 19.8**	**+0.8**
HHC				AP	pP	12 02 30.5	+0.4
HHC				XP	sP	12 02 34.4	-0.5
HHC				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.4						
HHC				AMB	AMB		
	comp=Z,55nm,5.5s						
BJI	**Beijing**	**42.54**	**21**	P	**P**	**12 02 26.4**	**+1.2**
BJI				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.9						
BJI	**Beijing**	**42.54**	**21**	P	**P**	**12 02 26.4**	**+1.2**
	comp=Z,19nm,0.7s,mb4.9						
ASPA	**Alice Springs**	**43.01**	**127**	*eP*	**P**	**12 02 29.4**	**+0.1**
ASAR	**Alice Springs**	**43.02**	**127**	P	**P**	**12 02 29.2**	**-0.1**
	comp=Z,2.0nm,0.7s,mb4.0,baz=297,slow=7.6,SNR=27						
WMQ	**Urumqi**	**43.62**	**350**	*eP*	**P**	**12 02 32.4**	**-1.5**
WMQ				AP	pP	12 02 43.3	-1.8
WMQ				XP	sP	12 02 46.5	-3.3
WMQ				PP	PP	12 04 16.3	-1.1
WMQ				PCP	PcP	12 04 19.3	-2.1
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.4s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,77nm,5.2s						
WMQ				LR	LR		
	comp=N,20nm,20.0s,MS3.6						
WMQ				LR	LR		
	comp=E,69nm,20.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,29nm,17.2s,MS3.2						
SONM	**Songino Array**	**47.41**	**8**	P	**P**	**12 03 04.5**	**+0.6**
	comp=Z,1.9nm,0.5s,mb4.3,baz=188,slow=9.6,SNR=28						
SONM				PcP	PcP	12 04 34.8	+0.3
	comp=Z,0.5nm,0.6s,baz=202,slow=4.6,SNR=2.8						
ULN	**Ulaanbaatar**	**47.53**	**9**	*eP*	**P**	**12 03 04.8**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.2						
CN2	**Changchun**	**49.48**	**27**	*eP*	**P**	**12 03 19.8**	**-0.2**
STKA	**Stephens Creek**	**52.97**	**132**	P	**P**	**12 03 46.9**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=12,slow=9.3,SNR=2.8						
OPO	**Ambohidratompo**	**53.02**	**246**	P	**P**	**12 03 46.7**	**-0.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=73,slow=19,SNR=2.7						
ZAL	**Zalesovo**	**53.90**	**351**	P	**P**	**12 03 53.1**	**-0.1**
	comp=Z,4.3nm,0.6s,mb4.5,baz=310,slow=6.1,SNR=26						
BVAR	**Borovoye Array**	**56.62**	**341**	P	**P**	**12 04 12.0**	**-0.9**
	comp=Z,3.0nm,0.9s,mb4.3,baz=149,slow=8.6,SNR=13						
BRTR	**Keskin Array B**	**69.50**	**312**	P	**P**	**12 05 37.7**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.8,baz=90,slow=2.9,SNR=3.3						
MATP	**Matopo**	**70.63**	**248**	P	**P**	**12 05 46.1**	**+0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=56,slow=5.2,SNR=4.2						
AKASG	**Malin Array Be**	**75.65**	**322**	P	**P**	**12 06 13.2**	**-1.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=90,slow=5.0,SNR=4.7						
FINES	**FINESS Array B**	**80.39**	**332**	P	**P**	**12 06 40.1**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=104,slow=5.2,SNR=11						
KAF	**Kangasniemi**	**80.47**	**333**	*ep*	**P**	**12 06 40.9**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.2						
ARCES	**ARCESS Array B**	**82.91**	**340**	P	**P**	**12 06 53.7**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.4,baz=90,slow=7.3,SNR=6.8						
GERES	**GERESS Array B**	**85.21**	**319**	P	**P**	**12 07 06.3**	**+1.1**
	comp=Z,0.5nm,0.7s,mb3.8,baz=112,slow=7.2,SNR=4.2						
NB2	**NORSAR Subarra**	**87.39**	**331**	P	**P**	**12 07 16.3**	**+0.7**
	comp=Z,0.7nm,0.7s,mb4.0,baz=94,slow=5.3						
NOA	**NORSAR Array B**	**87.39**	**331**	P	**P**	**12 07 16.2**	**+0.6**
	comp=Z,1.0nm,0.7s,mb4.1,baz=96,slow=5.0,SNR=4.2						
NOA	**NORSAR Array B**	**87.39**	**331**	P	**P**	**12 07 16.2**	**+0.6**

*NEIC **17** 12:22:42.6, 38.63S×175.66E, h173km, MG3.8(WEL), After WEL.*
WEL 17 12:22:42.9±0.3, 38.63S×175.67E, h169km±2km, ML3.8/18, 5D, Error ellipse: s-maj=2.8km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.39**	**195**	P	P	12 23 06.5	+0.1
MGZ	**Maungaku**	**0.39**	**195**	PN	P	12 23 06.5	+0.1
TWVZ	**Taurewa**	**0.48**	**202**	P	P	12 23 06.6	-0.1
TWVZ	**Taurewa**	**0.48**	**202**	PN	P	12 23 06.6	-0.2
TWVZ				SN	S	12 23 23.9	-1.1
WTVZ	**West Tongariro**	**0.49**	**187**	P	P	12 23 06.8	0.0
WTVZ				S	S	12 23 24.4	-0.7
WTVZ	**West Tongariro**	**0.49**	**187**	PN	P	12 23 06.8	0.0
WTVZ				SN	S	12 23 24.4	-0.7
OTVZ	**Oturere**	**0.54**	**180**	PN	P	12 23 07.0	0.0
OTVZ				SN	S	12 23 25.1	-0.4
NGZ	**Ngauruhoe**	**0.55**	**185**	P	P	12 23 07.2	+0.2
NGZ	**Ngauruhoe**	**0.55**	**185**	PN	P	12 23 07.0	-0.1
CNZ	**Chateau**	**0.58**	**189**	P	P	12 23 06.8	-0.4
CNZ	**Chateau**	**0.58**	**189**	PN	P	12 23 07.0	-0.1
WPVZ	**Whakapapa**	**0.59**	**189**	P	P	12 23 07.2	0.0
WPVZ	**Whakapapa**	**0.59**	**189**	PN	P	12 23 07.1	-0.1
FWVZ	**Far West T-bar**	**0.64**	**188**	*eP*	P	12 23 07.4	0.0
FWVZ	**Far West T-bar**	**0.64**	**188**	PN	P	12 23 07.4	0.0
FWVZ				SN	S	12 23 25.7	-0.6
TUVZ	**Tukino**	**0.64**	**181**	P	P	12 23 07.6	+0.1
TUVZ				S	S	12 23 25.4	-1.0
TUVZ	**Tukino**	**0.64**	**181**	PN	P	12 23 07.6	+0.1
TUVZ				SN	S	12 23 25.4	-0.9
WNVZ	**Wahianoa**	**0.70**	**184**	P	P	12 23 07.9	+0.1
WNVZ	**Wahianoa**	**0.70**	**184**	PN	P	12 23 07.9	+0.1
MTVZ	**Mangateitei**	**0.78**	**191**	PN	P	12 23 08.2	0.0
MTVZ				SN	S	12 23 26.8	-0.8
MOVZ	**Moawhango**	**0.79**	**175**	P	P	12 23 07.9	-0.3
MOVZ	**Moawhango**	**0.79**	**175**	PN	P	12 23 07.9	-0.3
MOVZ				SN	S	12 23 25.6	-2.1
BKZ	**Black Stump Fm**	**0.84**	**130**	P	P	12 23 08.6	0.0
BKZ				S	S	12 23 27.8	-0.6
BKZ	**Black Stump Fm**	**0.84**	**130**	⇓PN	P	12 23 08.6	0.0
BKZ				SN	S	12 23 27.5	-0.9
VRZ	**Vera Road**	**0.87**	**235**	P	P	12 23 08.5	-0.2
VRZ	**Vera Road**	**0.87**	**235**	⇓PN	P	12 23 08.5	-0.2
VRZ				SN	S	12 23 28.3	-0.4
URZ	**Urewera**	**1.19**	**73**	P	P	12 23 10.8	-0.5
URZ	**Urewera**	**1.19**	**73**	⇓PN	P	12 23 10.8	-0.5
RAEZ	**Rainy Point**	**1.19**	**236**	P	P	12 23 11.0	-0.4
RAEZ	**Rainy Point**	**1.19**	**236**	PN	P	12 23 11.0	-0.4
WAZ	**Wanganui**	**1.25**	**205**	P	P	12 23 11.4	-0.5
WAZ	**Wanganui**	**1.25**	**205**	PN	P	12 23 11.2	-0.6
NEZ	**North Egmont**	**1.39**	**242**	P	P	12 23 12.8	-0.4
NEZ	**North Egmont**	**1.39**	**242**	PN	P	12 23 12.8	-0.4
PKE	**Pukeiti**	**1.43**	**246**	P	P	12 23 12.9	-0.7
PKE	**Pukeiti**	**1.43**	**246**	PN	P	12 23 12.9	-0.7
TSZ	**Takapari Road**	**1.45**	**171**	P	P	12 23 13.2	-0.6
TSZ	**Takapari Road**	**1.45**	**171**	⇓PN	P	12 23 13.2	-0.6
MWZ	**Matawai**	**1.49**	**79**	P	P	12 23 13.8	-0.4
MWZ				S	S	12 23 36.5	-1.8
MWZ	**Matawai**	**1.49**	**79**	PN	P	12 23 13.8	-0.3
MWZ				SN	S	12 23 36.3	-2.1
NRZ	**Ngariki Road**	**1.53**	**242**	*eP*	P	12 23 13.7	-0.9
NRZ	**Ngariki Road**	**1.53**	**242**	PN	P	12 23 13.7	-0.8
NWEZ	**Newall Road**	**1.55**	**245**	P	P	12 23 14.0	-0.8
NWEZ	**Newall Road**	**1.55**	**245**	PN	P	12 23 14.0	-0.7
KNZ	**Kokohu**	**1.62**	**105**	*eP*	P	12 23 15.4	-0.1
KNZ	**Kokohu**	**1.62**	**105**	PN	P	12 23 15.4	-0.1
PWZ	**Pawanui**	**1.68**	**147**	⇓PN	P	12 23 15.7	-0.4
MRZ	**Mangatainoka R**	**2.04**	**182**	*eP*	P	12 23 18.3	-1.7
MRZ	**Mangatainoka R**	**2.04**	**182**	PN	P	12 23 18.3	-1.7
MRZ				SN	S	12 23 44.3	-4.2
BFZ	**Birch Farm**	**2.10**	**168**	*eP*	P	12 23 19.3	-1.4
BFZ	**Birch Farm**	**2.10**	**168**	PN	P	12 23 19.3	-1.4
PUZ	**Puketiti**	**2.11**	**76**	P	P	12 23 20.1	-0.7
PUZ	**Puketiti**	**2.11**	**76**	PN	P	12 23 20.1	-0.7
KIW	**Kapiti Island**	**2.31**	**194**	P	P	12 23 20.9	-2.3
KIW	**Kapiti Island**	**2.31**	**194**	PN	P	12 23 20.9	-2.4
CAW	**Cannon Point**	**2.52**	**190**	P	P	12 23 23.4	-2.4
CAW	**Cannon Point**	**2.52**	**190**	PN	P	12 23 23.4	-2.4
MTW	**Mount Morrison**	**2.53**	**183**	PN	P	12 23 23.3	-2.7
MRW	**Makara Radio**	**2.71**	**196**	P	P	12 23 25.2	-2.8
WEL	**Wellington**	**2.75**	**194**	P	P	12 23 25.7	-2.8
SNZO	**South Karori**	**2.78**	**195**	P	P	12 23 25.9	-3.1
MSWZ	**Moikau Station**	**2.81**	**186**	P	P	12 23 26.3	-3.0
BHW	**Baring Head**	**2.85**	**192**	P	P	12 23 26.7	-3.1
NNZ	**Nelson**	**3.13**	**213**	P	P	12 23 29.7	-3.6
BSWZ	**Blackbirch Sta**	**3.38**	**203**	P	P	12 23 33.1	-3.4
THZ	**Tophouse**	**3.78**	**213**	*eP*	P	12 23 37.6	-4.0
KHZ	**Kahutara**	**4.12**	**202**	P	P	12 23 42.2	-3.8
DSZ	**Denniston Nort**	**4.30**	**222**	*eP*	P	12 23 43.2	-5.1
LTZ	**Lake Taylor**	**4.89**	**211**	*eP*	P	12 23 50.8	-5.2
CRLZ	**Canterbury Las**	**5.46**	**204**	*eP*	P	12 23 58.1	-5.3
MQZ	**McQueen's Vall**	**5.56**	**203**	P	P	12 23 58.9	-5.9
LBZ	**Lake Benmore**	**7.08**	**214**	*eP*	P	12 24 18.9	-6.0
ODZ	**Otahua Downs**	**7.43**	**209**	*eP*	P	12 24 24.3	-5.3
JCZ	**Jackson Bay**	**7.53**	**221**	*eP*	P	12 24 25.1	-5.8

*IDC **17** 12:26:30.8±3.2, 7.68S×127.37E, h130km±30km, mb3.8/8, mb1 4.1/12, mb1mx4.0/18, mbtmp4.4/12, Error ellipse: s-maj=25.3km s-min=13.5km az=66.0*
*NEIC **17** 12:26:33.7±1.4, 7.67S×127.33E, h154km±14km, mb4.2/9, Error ellipse: s-maj=13.6km s-min=8.8km az=53.0*
ISC 17 12:26:28.2±1.6, 7.51S±0.07×127.6E±0.1, h126km±17km, n39, σ1§13/41, mb4.4/15, 1C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.03**	**138**	⇓*iP*	**P**	**12 28 13.9**	**+4.0**
	992nm,0.5s						
KAKA				*eS*	**S**	**12 29 26.4**	**-2.4**
FITZ	**Fitzroy Crossi**	**10.70**	**190**	⇑*iP*	**P**	**12 28 58.4**	**-0.6**
	49nm,0.5s						
FITZ				*eS*	**S**	**12 30 49.9**	**-7.1**
FITZ	**Fitzroy Crossi**	**10.70**	**190**	P	**P**	**12 28 58.5**	**-0.5**
	11nm,0.3s,baz=11,slow=8.7,SNR=112						
FITZ				S	**S**	**12 30 49.9**	**-7.1**
	7.6nm,0.3s,baz=358,slow=8.4,SNR=12						
WRAB	**Tennant Creek**	**13.98**	**153**	*eP*	**P**	**12 29 40.4**	**-1.4**
	35nm,0.7s						
WRAB				*eS*	**S**	**12 32 07.3**	**-6.9**
WRA	**Warramunga Arr**	**13.98**	**153**	P	**P**	**12 29 42.2**	**+0.3**
	3.9nm,0.3s,baz=316,slow=14,SNR=134						
WRA				S	**S**	**12 32 09.3**	**-4.9**
	7.0nm,0.3s,baz=282,slow=17,SNR=10						
WB2	**Warramunga Arr**	**13.99**	**153**	⇓*iP*	**P**	**12 29 40.2**	**-1.8**
WB2				*eS*	**S**	**12 32 09.6**	**-4.8**
MBWA	**Marble Bar**	**15.56**	**208**	*eP*	**P**	**12 30 02.8**	**+1.0**
	5.7nm,0.8s						
ASAR	**Alice Springs**	**17.17**	**160**	P	**P**	**12 30 23.4**	**+1.6**
	4.8nm,0.3s,baz=331,slow=9.5,SNR=232						
ASAR				S	**S**	**12 33 27.0**	**+0.1**
	1.5nm,0.3s,baz=322,slow=19,SNR=5.9						
ASPA	**Alice Springs**	**17.17**	**160**	*eP*	**P**	**12 30 23.3**	**+1.5**
ASPA				*eS*	**S**	**12 33 27.4**	**+0.6**
KSM	**Kuching**	**19.42**	**297**	*eP*	**P**	**12 30 48.3**	**+1.3**
PMG	**Port Moresby**	**19.44**	**97**	P	**P**	**12 30 50.3**	**+3.0**
	0.4nm,0.3s,baz=322,slow=17,SNR=2.0						
PMG	**Port Moresby**	**19.44**	**97**	*eP*	**P**	**12 30 52.9**	**+5.7**
	7.7nm,0.6s						
KLBR	**Kellerberrin**	**25.66**	**200**	*eP*	**P**	**12 31 47.7**	**-0.3**
	158nm,0.6s,mb5.6						
NWAO	**Narrogin (SRO)**	**27.06**	**199**	P	**P**	**12 32 00.1**	**-0.8**
	5.3nm,0.5s,mb4.3,baz=13,slow=13,SNR=9.2						
NWAO	**Narrogin (SRO)**	**27.06**	**199**	*eP*	**P**	**12 31 60.0**	**-0.9**
	4.0nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**27.54**	**154**	P	**P**	**12 32 05.8**	**+0.6**
	1.6nm,0.5s,mb3.8,baz=313,slow=11,SNR=6.2						
STKA	**Stephens Creek**	**27.54**	**154**	*eP*	**P**	**12 32 05.8**	**+0.6**
KULM	**Kulim**	**29.74**	**295**	*eP*	**P**	**12 32 24.8**	**-0.3**
CM31	**Chiang Mai Arr**	**38.27**	**313**	*eP*	**P**	**12 33 37.3**	**-0.7**
	1.9nm,0.6s,mb4.1						
CMAR	**Chiang Mai Arr**	**38.27**	**313**	P	**P**	**12 33 39.2**	**+1.2**
	1.9nm,0.6s,mb4.1,baz=142,slow=7.0,SNR=20						
CMAR				PcP	PcP	12 35 50.3	+0.2
	1.1nm,0.6s,baz=144,slow=2.5,SNR=7.1						
LSA	**Lhasa**	**50.95**	**318**	*eP*	**P**	**12 35 20.2**	**+1.2**
	4.5nm,0.6s,mb4.7						
JIRN	**Jiri**	**53.15**	**313**	*eP*	**P**	**12 35 35.0**	**-0.5**
GUN	**Gumba**	**53.52**	**313**	*eP*	**P**	**12 35 38.1**	**-0.1**
	23nm,0.7s,mb5.3						
PKI	**Pulchoki**	**53.67**	**312**	*eP*	**P**	**12 35 36.5**	**-2.8**
	8.4nm,0.6s,mb5.0						
GKN	**Gorkha**	**54.48**	**312**	*eP*	**P**	**12 35 44.5**	**-0.7**
KOLN	**Koldanda**	**55.12**	**311**	*eP*	**P**	**12 35 46.5**	**-3.3**
	14nm,0.7s,mb5.1						
SONM	**Songino Array**	**58.20**	**343**	P	**P**	**12 36 12.1**	**+0.7**
	1.0nm,0.8s,mb3.9,baz=158,slow=6.7,SNR=7.4						
ZAL	**Zalesovo**	**71.00**	**335**	P	**P**	**12 37 33.5**	**-0.5**
	2.1nm,0.4s,mb4.3,baz=336,slow=3.8,SNR=11						
VNDA	**Vanda**	**72.25**	**173**	P	**P**	**12 37 40.5**	**-0.6**
	1.3nm,0.6s,mb3.9,baz=309,slow=7.5,SNR=6.9						
VNDA	**Vanda**	**72.25**	**173**	*eP*	**P**	**12 37 39.9**	**-1.1**
	1.5nm,0.6s,mb4.0						
SBA	**Scott Base**	**73.16**	**172**	*eP*	**P**	**12 37 46.9**	**+0.6**
	1.7nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**77.23**	**329**	P	**P**	**12 38 09.8**	**0.0**
	0.8nm,0.6s,mb3.6,baz=130,slow=12,SNR=6.2						
OPO	**Ambohidratompo**	**78.59**	**253**	P	**P**	**12 38 17.6**	**-0.4**
	0.7nm,0.5s,mb3.8,baz=27,slow=2.3,SNR=3.7						
SCHQ	**Schefferville**	**131.41**	**11**	PKP	PKPdf	12 45 27.9	+2.2
	0.7nm,0.6s,baz=262,slow=7.1,SNR=6.4						
DBIC	**Dimbokro**	**132.83**	**272**	PKP	PKPdf	12 45 29.6	0.0
	3.2nm,1.0s,baz=136,slow=20,SNR=4.4						
LVC	**Limon Verde**	**145.98**	**152**	PKPbc	PKPbc	12 45 56.8	+2.8
	3.6nm,0.8s,baz=290,slow=4.6,SNR=5.1						
LVC	**Limon Verde**	**145.98**	**152**	*eP*	PKPdf	12 45 56.6	+3.6
LVC				PKPbc	PKPbc	12 45 56.8	+2.8
LPAZ	**La Paz**	**151.69**	**147**	PKPbc	PKPdf	12 46 11.5	+9.5
	1.2nm,0.5s,baz=90,slow=2.0,SNR=10						
LPAZ	**La Paz**	**151.69**	**147**	*e*PKPbc	PKPdf	12 46 11.6	+10

*IDC **17** 12:28:49.0±0.9, 67.20N×21.41E, mb1 2.9/3, mb1mx2.8/20, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=18.8km s-min=7.1km az=114.0*
*HEL **17** 12:28:50.4±0.1, 67.07N×20.93E, ML1.8, ML2.3(UPP), ML1.7(BER), Explosion*
*BER **17** 12:28:53.4±3.0, 67.18N×20.83E, ML1.7, Suspected explosion*
ISC 17 12:28:48.4±0.4, 67.02N±0.03×20.80E±0.06, n25, σ1§18/32, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.14**	**320**	*i P*	**Pg**	**12 28 53.0**	**+1.8**
MASU	**Masugnsbyn**	**0.64**	**46**	*i P*	**Pg**	**12 29 00.6**	**-0.7**
ERTU	**Ertsjaerv**	**0.72**	**129**	*i P*	**Pg**	**12 29 03.3**	**+0.5**
PAJU	**Pajala**	**0.91**	**88**	*i P*	**Pg**	**12 29 05.7**	**-0.9**
KUA	**Kurravaara**	**0.96**	**350**	*eP*	**Pg**	**12 29 06.7**	**-0.9**
SALU	**Saltoluokta**	**0.96**	**293**	*eP*	**Pg**	**12 29 08.3**	**+0.7**
NIKU	**Nikkaluokta**	**1.09**	**322**	*eP*	**Pb**	**12 29 09.8**	**-0.1**
SJUU	**Sjulsmark**	**1.55**	**167**	*eP*	**Pn**	**12 29 18.9**	**+1.5**
LILU	**Lilltraesk**	**1.78**	**193**	*eP*	**Pn**	**12 29 22.9**	**+2.3**
KIF	**Kilpisjarvi**	**2.00**	**0**	*eP*	**Pn**	**12 29 25.2**	**+1.4**
KIF				*eS*	**Sn**	**12 29 51.2**	**+1.3**
KTK1	**Kautokeino**	**2.21**	**23**	*eP*	**Pn**	**12 29 28.5**	**+1.8**
KTK1				*e*SG	**Sg**	**12 29 56.8**	**-5.0**
SGF	**Sodankyl**	**2.27**	**77**	*eP*	**Pn**	**12 29 28.4**	**+0.7**
SGF				*eS*	**Sn**	**12 29 56.6**	**-0.1**
SGF				MSG		12 29 59.8	
	comp=Z,3.4nm,0.1s						
MOR8	**Moi Rana**	**2.68**	**254**	*eP*	**Pn**	**12 29 34.3**	**+0.8**
TRO	**Tromso**	**2.72**	**346**	*e*SG	**Sg**	**12 30 12.4**	**-6.6**
MELSS	**Ber_school_2**	**2.79**	**270**	*e*Sg	**Sg**	**12 30 19.2**	**-2.1**
OUL	**Oulu**	**2.84**	**131**	*e*PB	**Pb**	**12 29 39.3**	**-0.6**
OUL				*e*SG	**Sg**	**12 30 16.6**	**-6.4**
OUL				MSG		12 30 19.8	
	comp=Z,3.3nm,0.2s						
LOF	**Lofoten**	**3.00**	**295**	*e*	**Sg**	**12 30 27.6**	**-0.6**
LOF				AML	AML	12 30 34.0	
	comp=Z,6.5nm,0.7s						
LOF	**Lofoten**	**3.00**	**295**	*e*Sg	**Sg**	**12 30 27.6**	**-0.6**
LOF				AML	AML	12 30 34.0	
	comp=Z,6.5nm,0.7s						
ARCES	**ARCESS Array B**	**3.08**	**33**	Pg	**Pn**	**12 29 38.7**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=207,slow=14,SNR=72						
ARCES				Lg		12 30 15.4	
	comp=Z,0.7nm,0.3s,baz=214,slow=22,SNR=6.7						
STOK	**Stokkvaagen**	**3.17**	**261**	*e*SG	**Sg**	**12 30 33.2**	**-0.8**
MSF	**Maaselka**	**3.49**	**105**	*eP*	**Pn**	**12 29 45.2**	**+0.2**
MSF				*e*SG	**Sg**	**12 30 35.8**	**-8.7**
KEV	**Kevo**	**3.58**	**37**	*eP*	**Pn**	**12 29 45.0**	**-1.4**
KEV				*eS*	**Sn**	**12 30 27.7**	**-2.4**
KEV				MSG		12 30 36.2	
	comp=Z,1.7nm,0.2s						
FINES	**FINESS Array B**	**6.05**	**155**	Pn	**Pn**	**12 30 21.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=347,slow=14,SNR=8.3						
FINES				Sn	**Sn**	**12 31 30.0**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=348,slow=26,SNR=8.5						
NOA	**NORSAR Array B**	**7.32**	**219**	Pn	**Pn**	**12 30 39.3**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=28,slow=12,SNR=3.1						
HFS	**Hagfors**	**7.59**	**208**	Pn	**Pn**	**12 30 42.4**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=25,slow=14,SNR=11						

IDC 17 12:48:49.6±4.5, 1.90S×138.91E, mb3.2/2, mb1 3.3/3, mb1mx3.3/12, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=216.7km s-min=27.8km az=89.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.48**	**194**	P	P	12 53 06.2	-2.8
	0.1nm,0.3s,baz=17,slow=12,SNR=9.1						
ASAR	**Alice Springs**	**22.17**	**192**	P	P	12 53 48.3	-0.8
	0.2nm,0.5s,baz=14,slow=10,SNR=5.9						
SONM	**Songino Array**	**57.08**	**334**	P	P	12 58 37.7	-2.4
	1.0nm,0.7s,baz=124,slow=5.2,SNR=5.2						

*MAN **17** 12:49:52.5, 14.82N×120.12E, h66km, mb4.7, ML3.6, MS3.5*
*IDC **17** 12:49:52.3±8.3, 12.95N×119.21E, mb3.7/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=300.5km s-min=29.5km az=39.0*
**ISC 17 12:49:52.4

12nm,0.2s
BGF Bois d'Agland 2.14 103 *e*Pg Pg 13 09 32.7 -3.1
BGF *e*Sg Sg 13 09 58.6 -5.7
19nm,0.3s
QUIF Quistinic 2.20 294 *e*Pg Pg 13 09 33.4 -3.6
QUIF *e*Sg Sg 13 10 00.6 -5.6
8.2nm,0.2s
LFF La Frestale 2.22 163 *e*Pg Pg 13 09 35.2 -2.3
LFF *e*Sg Sg 13 10 03.3 -3.8
AVF Avril sur Loir 2.44 95 *e*Pn Pn 13 09 32.9 -1.6
AVF *e*Sg Sg 13 10 07.1 -7.1
4.7nm,0.2s
ROSF Rostrenen 2.45 302 *e*Pg Pg 13 09 37.7 -4.2
ROSF *e*Sg Sg 13 10 08.3 -6.2
3.8nm,0.2s
SSF Saint Saulge 2.52 89 *e*Pg Pg 13 09 40.5 -2.9
SSF *e*Sg Sg 13 10 10.2 -6.8
7.3nm,0.3s
CAF Calviac 2.65 143 *e*Pn Pn 13 09 36.3 -1.3
CAF *e*Sn Sn 13 10 05.8 -5.0
5.8nm,0.2s
SMF Signal de Mont 2.79 97 *e*Pg Pg 13 09 44.8 -4.0
SMF *e*Sg Sg 13 10 17.9 -8.1
4.2nm,0.2s
EPF Esparros 4.05 175 *e*Sn Sn 13 10 38.4 -7.8

NEIC ***17*** *13:20:51.2±1.6, 4.58N×96.79E, h86km±15km, mb4.5/6, Error ellipse: s-maj=14.8km s-min=8.4km az=219.0*
BJI ***17*** *13:20:53.3, 4.51N×96.31E, h98km, mb4.3*
IDC ***17*** *13:20:53.8±7.2, 4.59N×96.70E, h112km±67km, mb3.8/15, mb1 3.9/16, mb1mx3.8/21, mbtmp4.1/16, MS3.8/3, Ms1 3.8/3, ms1mx3.4/31, Error ellipse: s-maj=28.3km s-min=12.6km az=55.0*
ISC 17 13:20:48.9±1.4, 4.52N±0.07×96.80E±0.08, h80km±13km, n43, σ1°16/43, mb4.2/19, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.91**	**79**	↑*e*P	**P**	**13 21 47.0**	**-0.9**
IPM	**Ipoh**	**4.21**	**89**	P	**P**	**13 21 51.4**	**-0.8**
SNG	**Songkhla**	**4.62**	**55**	P	**P**	**13 21 57.5**	**-0.4**
800nm,0.9s							
KGM	**Kluang**	**6.96**	**111**	P	**P**	**13 22 29.6**	**-0.7**
NNT	**Nongplab**	**8.52**	**20**	P	**P**	**13 22 52.0**	**+0.4**
KKTK	**Khon Kaen**	**13.14**	**26**	P	**P**	**13 24 08.0**	**+14**
CM31	**Chiang Mai Arr**	**14.01**	**8**	*e*P	**P**	**13 24 07.3**	**+2.3**
15nm,0.8s							
CMAR	**Chiang Mai Arr**	**14.01**	**8**	P	**P**	**13 24 06.0**	**+1.0**
0.2nm,0.3s,baz=201,slow=13,SNR=13							
CMAR				LR	LR	13 29 06.8	
comp=Z,154nm,21.6s,baz=12,slow=35							
CHG	**Chiang Mai**	**14.36**	**8**	P	**P**	**13 24 21.0**	**+11**
13nm,0.6s							
NANT	**Nan**	**14.69**	**15**	P	**P**	**13 24 20.0**	**+6.1**
PALK	**Pallekele**	**16.25**	**280**	*e*P	**P**	**13 24 34.9**	**+1.2**
21nm,0.9s							
KKM	**Kota Kinabalu**	**19.39**	**85**	*e*P	**P**	**13 25 08.8**	**-2.4**
KMI	**Kunming**	**21.26**	**15**	P	**P**	**13 25 34.4**	**+3.9**
KMI				LR	LR		
comp=N,219nm,12.0s							
KMI				LR	LR		
comp=E,242nm,17.2s							
KMI				LR	LR		
comp=Z,297nm,14.2s							
SHL	**Shillong**	**21.45**	**348**	*e*P	**P**	**13 25 32.0**	**-0.4**
SHL				*e*S	**S**	**13 29 30.0**	**+10**
HYB	**Hyderabad**	**22.00**	**307**	*e*P	**P**	**13 25 37.0**	**-0.8**
HYB	**Hyderabad**	**22.00**	**307**	*i*P	**P**	**13 25 37.0**	**-0.8**
LSA	**Lhasa**	**25.61**	**349**	P	**P**	**13 26 15.3**	**+2.7**
LSA	**Lhasa**	**25.61**	**349**	*e*P	**P**	**13 26 13.0**	**+0.4**
comp=Z,9.5nm,0.5s,mb4.5							
GTA	**Gaotai**	**34.84**	**4**	P	**P**	**13 27 41.0**	**+6.8**
GTA				AMB	AMB		
comp=Z,7.0nm,0.8s,mb4.5							
FITZ	**Fitzroy Crossi**	**36.25**	**129**	*e*P	**P**	**13 27 46.4**	**0.0**
comp=Z,9.1nm,0.7s,mb4.8							
FITZ	**Fitzroy Crossi**	**36.25**	**129**	P	**P**	**13 27 46.5**	**+0.1**
comp=Z,11nm,0.6s,mb5.0,baz=274,slow=21,SNR=16							
FITZ				LR	LR	13 42 47.3	
comp=Z,187nm,21.7s,baz=236,slow=36							
SONM	**Songino Array**	**43.93**	**9**	P	**P**	**13 28 50.9**	**+1.3**
comp=Z,0.8nm,0.5s,mb3.7,baz=186,slow=11,SNR=6.3							
WRA	**Warramunga Arr**	**44.18**	**125**	P	**P**	**13 28 52.7**	**+0.8**
comp=Z,11nm,0.6s,mb4.8,baz=301,slow=9.2,SNR=107							
WRAB	**Tennant Creek**	**44.18**	**125**	*e*P	**P**	**13 28 52.5**	**+0.6**
comp=Z,36nm,0.7s,mb5.2							
WRAB				*e*		13 28 58.5	
WB2	**Warramunga Arr**	**44.19**	**125**	*e*P	**P**	**13 28 52.8**	**+0.8**
WB2				*i*		13 28 58.6	
ASPA	**Alice Springs**	**45.75**	**129**	*e*P	**P**	**13 29 05.5**	**+1.1**
ASAR	**Alice Springs**	**45.75**	**129**	P	**P**	**13 29 05.3**	**+0.9**
comp=Z,2.8nm,0.6s,mb4.2,baz=298,slow=7.4,SNR=29							
ZAL	**Zalesovo**	**50.23**	**351**	P	**P**	**13 29 38.9**	**+0.1**
comp=Z,1.1nm,0.3s,mb4.3,baz=300,slow=8.0,SNR=4.3							
BVAR	**Borovoye Array**	**53.01**	**340**	P	**P**	**13 29 57.3**	**-2.4**
comp=Z,1.1nm,0.7s,mb4.0,baz=162,slow=9.1,SNR=4.4							
STKA	**Stephens Creek**	**55.89**	**134**	P	**P**	**13 30 21.6**	**+0.6**
comp=Z,2.1nm,0.7s,mb4.2,baz=324,slow=12,SNR=3.4							
STKA	**Stephens Creek**	**55.89**	**134**	P	**P**	**13 30 21.8**	**+0.8**
KMBO	**Kilima Mbogo**	**59.76**	**266**	P	**P**	**13 30 48.5**	**+0.1**
comp=Z,0.6nm,0.3s,mb4.1,baz=57,slow=15,SNR=6.9							
KMBO	**Kilima Mbogo**	**59.76**	**266**	*e*P	**P**	**13 30 48.8**	**+0.4**
comp=Z,1.9nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**66.61**	**311**	P	**P**	**13 31 30.6**	**-2.6**
comp=Z,1.4nm,0.8s,mb3.8,baz=127,slow=6.2,SNR=8.3							
AKASG	**Malin Array Be**	**72.41**	**322**	P	**P**	**13 32 06.1**	**-2.3**
comp=Z,0.2nm,0.3s,mb3.5,baz=85,slow=5.8,SNR=3.9							
AKASG	**Malin Array Be**	**72.41**	**322**	P	**P**	**13 32 06.1**	**-2.3**
MLR	**Muntele Rosu**	**73.41**	**316**	LR	LR	14 06 26.6	
comp=Z,140nm,20.2s,baz=120,slow=37							
LBTB	**Lobatse**	**75.02**	**243**	*e*P	**P**	**13 32 24.1**	**+0.1**
comp=Z,2.3nm,0.8s,mb4.0							
BOSA	**Boshof**	**76.11**	**239**	P	**P**	**13 32 30.3**	**+0.1**
comp=Z,2.0nm,0.7s,mb4.0,baz=321,slow=12,SNR=4.3							
FINES	**FINESS Array B**	**76.89**	**332**	P	**P**	**13 32 32.8**	**-1.1**
comp=Z,0.3nm,0.3s,mb3.5,baz=127,slow=9.5,SNR=5.2							
ARCES	**ARCESS Array B**	**79.30**	**340**	P	**P**	**13 32 46.6**	**-0.4**
comp=Z,5.0nm,0.9s,mb4.3,baz=68,slow=6.5,SNR=5.4							
GERES	**GERESS Array B**	**82.07**	**319**	P	**P**	**13 33 00.7**	**-1.4**
comp=Z,0.4nm,0.5s,mb3.5,baz=90,slow=4.0,SNR=4.6							
DAVOX	**Davos**	**84.63**	**316**	P	**P**	**13 33 14.9**	**-0.1**
comp=Z,1.7nm,0.4s,mb4.3,baz=338,slow=11,SNR=4.5							

DJA ***17*** *13:43:47.6±0.9, 0.18S×97.22E, h33km, mb5.5/4, Error ellipse: s-maj=26.9km s-min=6.8km az=83.0*
BJI ***17*** *13:43:52.8, 0.15N×97.71E, h32km, mB5.6, mb5.4, Ms5.6, Msz5.4*
CRAAG ***17*** *13:43:54.4, 0.39N×97.69E, Mb5.7*
IDC ***17*** *13:43:54.7±0.2, 0.35N×97.68E, h24km±1km, mb5.3/33, mb1 5.3/34, mb1mx5.3/34, mbtmp5.4/34, ML5.4/1, MS5.0/19, Ms1 5.0/19, ms1mx4.9/30, Error ellipse: s-maj=10.0km s-min=7.1km az=44.0*
HRVD ***17*** *13:43:54.6±0.2, 0.31N×97.75E, h12km, MW5.4/58, Centroid moment Tensor Solution. LP body waves: s39,c68;Mantle waves: s58,c97; Half duration: 2s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.36±.02; $M_{\theta\theta}$-0.05±.01; $M_{\phi\phi}$0.40±.01; $M_{r\theta}$0.62±.04; $M_{\theta\phi}$-0.14±.01; $M_{\phi r}$-1.32±.04; Best double couple: $M_0$1.511×10^{17} NP1: ϕ_s178°,δ8°,λ-67°. NP2:ϕ_s335°,δ82°,λ-93°. Principal axes: T 1.548, Plg37°, Azm68°; N -.074, Plg3°, Azm336°; P -1.475, Plg52°, Azm241°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***17*** *13:43:54.3±0.9, 0.32N×97.67E, h33km, mb5.9/100, MS5.1/51 Error ellipse: s-maj=7.3km s-min=3.8km az=124.7*
NEIC ***17*** *13:43:54.6±0.1, 0.31N×97.66E, mb5.7/122, MS5.2/118, MW5.5, Error ellipse: s-maj=4.1km s-min=2.9km az=31.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17} Nm; M_{rr}0.05; $M_{\theta\theta}$-0.51; $M_{\phi\phi}$0.46; $M_{r\theta}$0.97; $M_{\theta\phi}$0.42; $M_{\phi r}$-1.77; Best double couple: $M_0$2.1×10^{17} NP1:ϕ_s245°, δ18°,λ4°. NP2:ϕ_s152°,δ89°,λ108°. Principal axes: T 2.08, Plg43°, Azm79°; N .07, Plg18°, Azm331°; P -2.15, Plg41°, Azm225°;*
NEIC Felt [III] at Telukdalem and [II] at Gunungsitoli. Felt [I] at Padang, Sumatra.
ISC 17 13:43:52.8±0.1, 0.29N±0.02×97.69E±0.02, h25km, h25km±.2km: pP-P, n751, σ0°97/632, mb5.6/185, MS5.2/158,

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Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRPI	**Mariponipon**	**2.09**	**51**	*e*Pn	**Pn**	**13 44 28.7**	**+1.8**
PSI	**Prapat**	**2.69**	**27**	*e*Pn	**Pn**	**13 44 37.2**	**+1.7**
SIMI	**Simarbalatuk**	**2.69**	**28**	*e*Pn	**Pn**	**13 44 29.0**	**-6.6**
PPI	**Padang Panjang**	**2.80**	**105**	*e*Pn	**Pn**	**13 44 35.0**	**-2.1**
IPM	**Ipoh**	**5.41**	**38**	P	**Pn**	**13 45 14.6**	**+0.5**
KULM	**Kulim**	**5.78**	**31**	↑*i*P	**Pn**	**13 45 19.3**	**0.0**
KGM	**Kluang**	**5.88**	**73**	P	**Pn**	**13 45 21.6**	**+0.9**
SNG	**Songkhla**	**7.44**	**23**	P	**Pn**	**13 45 41.0**	**-1.6**
970nm,1.0s							
PENI	**Pendagan**	**9.47**	**128**	⇓*e*P	**P**	**13 46 06.2**	**-4.6**
PENI	**Pendagan**	**9.47**	**128**	⇓*e*P	**P**	**13 46 06.3**	**-4.5**
2μm,0.7s							
PASI	**Pasiripis**	**10.49**	**131**	*e*P	**P**	**13 46 19.8**	**-5.2**
PULI	**Pulasari**	**10.57**	**129**	⇓*e*P	**P**	**13 46 21.0**	**-5.1**
PULI	**Pulasari**	**10.57**	**129**	⇓*e*P	**P**	**13 46 20.9**	**-5.2**
PULI				*e*S	**S**	**13 48 28.6**	**+3.9**
PBA	**Port Blair**	**12.31**	**337**	*e*	**P**	**13 46 42.0**	**-7.7**
PBA				*e*		13 50 09.1	
NNT	**Nongplab**	**12.39**	**9**	P	**P**	**13 46 49.0**	**-1.6**
KSM	**Kuching**	**12.67**	**85**	↑*e*P	**P**	**13 46 55.0**	**+0.6**
KSM				*e*		13 47 03.7	
NST	**Nakhon Sawan**	**15.47**	**9**	P	**P**	**13 47 26.4**	**-5.0**
92nm,0.8s							
KKTK	**Khon Kaen**	**16.73**	**17**	PG	**P**	**13 47 47.0**	**-0.3**
KKTK				SG	rx	13 47 54.0	
CM31	**Chiang Mai Arr**	**18.09**	**4**	*e*P	**P**	**13 48 02.5**	**-2.0**
55nm,0.6s							
CMAR	**Chiang Mai Arr**	**18.09**	**4**	P	**P**	**13 48 03.4**	**-1.1**
4.6nm,0.3s,baz=190,slow=11,SNR=223							
CMAR				PcP	PcP	13 52 39.0	+0.4
0.1nm,0.3s,baz=212,slow=3.4,SNR=6.7							
CMAR				pPcP		13 52 46.9	
0.1nm,0.3s,baz=231,slow=2.8,SNR=5.7							
CMAR				LR	LR	13 55 22.3	
comp=Z,4μm,20.0s,baz=195,slow=38							
CMAR				ScP		13 56 11.6	
0.1nm,0.3s,baz=228,slow=3.6,SNR=5.2							
PALK	**Pallekele**	**18.31**	**293**	⇓*i*P	**P**	**13 48 08.3**	**+1.2**
280nm,1.1s							
PALK				*e*S	**S**	**13 51 13.4**	**-14**
CHG	**Chiang Mai**	**18.45**	**4**	↑↑P	**P**	**13 48 07.6**	**-1.2**
82nm,0.8s							
SRDI	**Scrawed**	**18.56**	**118**	⇓*e*P	**P**	**13 48 07.4**	**-2.8**
SRDI	**Scrawed**	**18.56**	**118**	⇓*e*P	**P**	**13 48 06.8**	**-3.4**
NANT	**Nan**	**18.63**	**9**	↑↑P	**P**	**13 48 08.0**	**-3.0**
662nm,0.9s							
KELI	**Kelakatan**	**18.75**	**117**	↑*e*P	**P**	**13 48 08.6**	**-3.9**
KKM	**Kota Kinabalu**	**19.35**	**72**	↑↑*i*P	**P**	**13 48 18.8**	**-0.8**
KKM	**Kota Kinabalu**	**19.35**	**72**	P	**P**	**13 48 19.1**	**-0.4**
RATI	**Rata**	**19.90**	**117**	⇓*e*P	**P**	**13 48 19.4**	**-6.3**
KEDI	**Kedomdong**	**20.32**	**116**	↑*e*P	**P**	**13 48 26.1**	**-4.0**
KEDI				pmax	pmax		
comp=Z,72nm,1.0s							
KEDI	**Kedomdong**	**20.32**	**116**	↑*e*P	**P**	**13 48 26.1**	**-4.0**
comp=Z,72nm,1.0s							
KEDI	**Kedomdong**	**20.32**	**116**	↑*e*P	**P**	**13 48 26.2**	**-3.9**
comp=Z,91nm,0.5s							
TSM	**Tawau**	**20.55**	**79**	P	**P**	**13 48 31.3**	**-1.1**
TANI	**Tanete Lipujan**	**21.99**	**100**	*e*P	**P**	**13 48 46.2**	**-0.8**
TANI	**Tanete Lipujan**	**21.99**	**100**	*e*P	**P**	**13 48 45.7**	**-1.3**
QIZ	**Qiongzhong**	**22.11**	**32**	↑↑P	**P**	**13 48 47.0**	**-1.2**
QIZ				S	**S**	**13 52 47.4**	**+1.9**
QIZ				XS		13 52 57.3	
QIZ				AMB	AMB		
comp=Z,78nm,1.5s,mb4.9							
QIZ				AMB	AMB		
comp=Z,607nm,9.5s							
QIZ				LR	LR		
comp=N,6μm,15.6s,MS5.2							
QIZ				LR	LR		
comp=E,4μm,15.6s,MS5.2							
QIZ				LR	LR		
comp=Z,5μm,16.1s,MS5.0							
QIZ	**Qiongzhong**	**22.11**	**32**	*e*P	**P**	**13 48 48.0**	**-0.2**
comp=Z,98nm,1.1s,mb5.2							
QIZ				LR	LR		
comp=Z,3μm,20.0s,MS4.7							
TRD	**Trivandrum**	**22.21**	**292**	⇓*e*P	**P**	**13 48 48.2**	**-1.0**
TRD				*e*		13 52 54.2	
VIS	**Vishakhapatnam**	**22.35**	**322**	*e*P	**P**	**13 48 52.1**	**+1.5**
VIS				*e*		13 49 02.5	
comp=Z,455nm,1.2s							
VIS				*e*		13 53 02.2	
NINI	**Niniconang**	**22.53**	**102**	*e*P	**P**	**13 48 51.4**	**-1.2**
BUNI	**Buntu Taipa**	**22.95**	**100**	*e*P	**P**	**13 48 57.8**	**+1.1**
BUNI	**Buntu Taipa**	**22.95**	**100**	*e*P	**P**	**13 48 53.9**	**-2.8**
AGT	**Agartala**	**24.27**	**346**	⇓*i*P	**P**	**13 49 11.0**	**+1.6**
AGT				*i*		13 49 56.0	
IMP	**Imphal**	**24.62**	**352**	*e*	**P**	**13 49 12.2**	**-0.6**
KMI	**Kunming**	**25.16**	**11**	P	**P**	**13 49 19.6**	**+1.7**
KMI				AP	pP	13 49 27.1	+1.8
KMI				XP	sP	13 49 30.0	+1.4
KMI				PP	PP	13 49 59.4	+3.2
KMI				PPP	PPP	13 50 10.6	+3.2
KMI				S	**S**	**13 53 42.6**	**+3.9**
KMI				XS		13 53 55.3	
KMI				SS	SS	13 54 45.0	+5.5
KMI				SSS	SSS	13 55 02.0	+6.0
KMI				AMB	AMB		
comp=Z,178nm,1.3s,mb5.4							
KMI				AMB	AMB		
comp=Z,1μm,5.8s							
KMI				LR	LR		
comp=N,7μm,15.5s,MS5.3							
KMI				LR	LR		
comp=E,5μm,16.1s,MS5.3							
KMI				LR	LR		
comp=Z,8μm,15.5s,MS5.3							
KMI	**Kunming**	**25.16**	**11**	P	**P**	**13 49 19.6**	**+1.7**
KMI				*SP	sP	13 49 30.0	+1.4
KMI						13 49 59.4	
KMI				PPP	PPP	13 50 10.6	+3.2
KMI				S	**S**	**13 53 42.6**	**+3.9**
KMI				*SS		13 53 55.2	
KMI				SS	SS	13 54 45.0	+5.5
KMI				SSS	SSS	13 55 02.0	+6.0
KMI				pmax	pmax		
comp=Z,178nm,1.3s,mb5.4							
KMI				MLR	MLR		
comp=Z,8μm,15.5s,MS5.3							
KMI	**Kunming**	**25.16**	**11**	P	**P**	**13 49 19.6**	**+1.7**
comp=Z,178nm,1.3s,mb5.4							
KMI				pP	pP	13 49 27.1	+1.8
KMI				sP	sP	13 49 30.0	+1.4
KMI				PP	PP	13 49 59.4	+3.2
KMI				PPP	PPP	13 50 10.6	+3.2
KMI				S	**S**	**13 53 42.6**	**+3.9**
KMI				sS		13 53 55.2	
KMI				SS	SS	13 54 45.0	+5.5
KMI				SSS	SSS	13 55 02.0	+6.0
KMI				LR	LR		
comp=Z,8μm,15.5s,MS5.3							
HYB	**Hyderabad**	**25.39**	**313**	⇓*e*P	**P**	**13 49 21.0**	**+0.9**
HYB				pmax	pmax		
comp=Z,120nm,1.0s,mb5.4							
HYB	**Hyderabad**	**25.39**	**313**	⇓*e*P	**P**	**13 49 21.0**	**+0.9**
comp=Z,120nm,1.0s,mb5.4							
HYB				*e*S	**S**	**13 54 00.0**	**+18**
HYB	**Hyderabad**	**25.39**	**313**	⇓*i*P	**P**	**13 49 21.0**	**+0.9**
comp=Z,120nm,1.0s,mb5.4							
HYB				*e*S	**S**	**13 54 00.0**	**+18**
HYB				LR	LR		
comp=Z,5.5nm,18.0s							
SHL	**Shillong**	**25.75**	**348**	*e*P	**P**	**13 49 24.0**	**+0.6**
SHL				*e*S	**S**	**13 53 51.0**	**+2.6**
BOK	**Bokaro**	**26.02**	**335**	⇓*i*P	**P**	**13 49 26.5**	**+0.5**
BOK				*i* S	**S**	**13 53 55.5**	**+2.4**
DGAR	**Diego Garcia**	**26.31**	**253**	*e*P	**P**	**13 49 27.9**	**-0.8**
DGAR				pmax	pmax		
comp=Z,1μm,1.8s,mb6.1							
DGAR				MLR	MLR		
comp=Z,1μm,20.0s,MS4.4							
DGAR	**Diego Garcia**	**26.31**	**253**	*e*P	**P**	**13 49 27.9**	**-0.8**
comp=Z,1μm,1.8s,mb6.1							
DGAR				LR	LR		
comp=Z,1μm,20.0s,MS4.4							
BLSP	**Bilaspur**	**26.48**	**326**	*e*P	**P**	**13 49 30.2**	**+0.1**
BLSP				*e*		13 54 08.9	
HKC	**Hong Kong**	**27.14**	**35**	P	**P**	**13 49 44.0**	**+7.8**
GZH	**Guangzhou**	**27.29**	**33**	P	**P**	**13 49 42.6**	**+5.0**
GYA	**Guiyang**	**27.41**	**18**	↑*i*P	**P**	**13 49 37.4**	**-1.3**
GYA				AP	pP	13 49 44.8	-1.3
GYA				XP	sP	13 49 47.9	-1.5
GYA				PP	PP	13 50 24.3	-2.1
GYA				S	**S**	**13 54 16.3**	**+0.6**
GYA				AMB	AMB		
comp=Z,100nm,1.0s,mb5.3							
GYA				AMB	AMB		
comp=Z,450nm,7.8s							
GYA				LR	LR		
comp=N,4μm,16.7s,MS5.4							
GYA				LR	LR		
comp=E,6μm,13.2s,MS5.4							
GYA				LR	LR		
comp=Z,7μm,15.2s,MS5.4							
LATR	**Latur**	**27.48**	**312**	*e*P	**P**	**13 49 39.1**	**-0.3**
GOA	**Goa**	**27.99**	**304**	⇓*e*	**P**	**13 49 33.2**	**-11**
GOA				*e*		13 54 33.8	
DAV	**Davao City (W)**	**28.61**	**76**	*e*P	**P**	**13 49 58.0**	**+8.3**
AKL	**Akola**	**28.64**	**316**	*e*P	**P**	**13 49 48.7**	**-1.1**
AKL				*e*		13 59 13.7	
KAD	**Karad**	**28.66**	**307**	*e*P	**P**	**13 49 49.6**	**-0.4**
JIRN	**Jiri**	**29.37**	**339**	*e*P	**P**	**13 49 56.7**	**+0.4**
comp=Z,379nm,1.1s,mb6.0							
PKI	**Pulchoki**	**29.58**	**338**	*e*P	**P**	**13 49 58.8**	**+0.6**
comp=Z,320nm,1.3s,mb5.9							
POO	**Poona**	**29.61**	**309**	⇓*i*P	**P**	**13 49 57.0**	**-1.6**
comp=Z,100nm,1.0s,mb5.5							
POO				*i* S	**S**	**13 54 52.0**	**+1.0**
GUN	**Gumba**	**29.71**	**339**	*e*P	**P**	**13 49 59.8**	**+0.4**
comp=Z,408nm,0.9s,mb6.2							
DMN	**Daman**	**29.73**	**337**	*e*P	**P**	**13 50 00.3**	**+0.7**
comp=Z,249nm,1.1s,mb5.9							
KKN	**Kakani**	**29.82**	**337**	*e*P	**P**	**13 50 00.4**	**0.0**
comp=Z,320nm,1.2s,mb5.9							
LSA	**Lhasa**	**29.90**	**349**	P	**P**	**13 50 02.4**	**+1.3**
LSA				S	**S**	**13 54 51.4**	**-4.2**
LSA				AMB	AMB		
comp=Z,40nm,1.3s,mb5.0							
LSA				AMB	AMB		
comp=Z,150nm,6.0s							
LSA				LR	LR		
comp=N,2μm,25.3s,MS4.9							
LSA				LR	LR		
comp=E,3μm,23.4s,MS4.9							
LSA				LR	LR		
comp=Z,4μm,25.0s,MS5.0							
LSA	**Lhasa**	**29.90**	**349**	*e*P	**P**	**13 50 02.3**	**+1.2**
LSA				*e*	pP	13 50 09.6	+1.1
LSA				pmax	pmax		
comp=Z,79nm,0.8s,mb5.5							
LSA				MLR	MLR		
comp=Z,3μm,22.0s,MS4.9							
LSA	**Lhasa**	**29.90**	**349**	*e*P	**P**	**13 50 02.3**	**+1.2**
comp=Z,79nm,0.8s,mb5.5							
LSA				*e*	pP	13 50 09.6	+1.1
LSA				LR	LR		
comp=Z,3μm,22.0s,MS4.9							
BHPL	**Bhopal**	**30.14**	**321**	*e*P	**P**	**13 50 02.6**	**-0.6**
BHPL				*e*		13 50 05.1	
comp=Z,46nm,0.9s							
GKN	**Gorkha**	**30.26**	**337**	*e*P	**P**	**13 50 04.4**	**+0.1**
comp=Z,530nm,1.4s,mb6.1							
MBWA	**Marble Bar**	**30.30**	**136**	*e*P	**P**	**13 50 05.3**	**+0.6**
comp=Z,63nm,1.0s,mb5.3							
MBWA				*e*	pP	13 50 12.6	+0.5
MBWA				LR	LR		
comp=Z,4μm,21.0s,MS5.0							
KOLN	**Koldanda**	**30.48**	**335**	*e*P	**P**	**13 50 06.4**	**+0.2**
comp=Z,227nm,1.0s,mb5.8							
CD2	**Chengdu**	**30.99**	**10**	↑*i*P	**P**	**13 50 09.9**	**-0.8**
CD2				AP	pP	13 50 17.9	-0.2
CD2				XP	sP	13 50 20.6	-0.8
CD2				PP	PP	13 51 11.9	-1.0
CD2				PPP	PPP	13 51 30.4	+2.5
CD2				S	**S**	**13 55 11.4**	**-1.3**
CD2				XS		13 55 24.6	
CD2				SS	SS	13 56 57.5	+0.2
CD2				LR	LR		
comp=N,6μm,13.2s							
CD2				LR	LR		
comp=Z,9μm,13.8s,MS5.6							
QZH	**Quanzhou**	**31.77**	**38**	↑*i*P	**P**	**13 50 17.3**	**-0.3**
QZH				S	**S**	**13 55 26.0**	**+1.1**
QZH				AMB	AMB		
comp=Z,1μm,3.8s							
QZH				LR	LR		
comp=N,7μm,15.0s,MS5.7							
QZH				LR	LR		
comp=E,10μm,14.8s,MS5.7							
QZH				LR	LR		
comp=Z,13μm,12.9s,MS5.8							
ENH	**Enshi**	**31.86**	**20**	*e*P	**P**	**13 50 17.2**	**-1.1**
comp=Z,186nm,0.9s,mb5.9							
ENH				*e*	pP	13 50 24.3	-1.4
ENH				LR	LR		
comp=Z,4μm,20.0s,MS5.1							
FITZ	**Fitzroy Crossi**	**33.00**	**125**	↑*i*P	**P**	**13 50 26.7**	**-1.7**
comp=Z,136nm,0.7s,mb6.0							
FITZ	**Fitzroy Crossi**	**33.00**	**125**	P	**P**	**13 50 26.9**	**-1.4**
comp=Z,175nm,0.7s,mb6.1,baz=327,slow=6.3,SNR=199							
NACB	**Ninganchiao**	**33.17**	**43**	*e*P	**P**	**13 50 30.4**	**+0.7**
YHNB	**Yeheng**	**33.36**	**42**	*e*P	**P**	**13 50 31.7**	**+0.3**
LGTI	**Lohaghat**	**33.43**	**332**	*e*P	**P**	**13 50 32.5**	**+0.5**
PTH	**Pithoragarh**	**33.53**	**332**	*e*P	**P**	**13 50 31.6**	**-1.3**
PTH				*e*		13 55 46.0	
TATO	**Taipei**	**33.64**	**41**	*e*P	**P**	**13 50 32.6**	**-1.3**
comp=Z,93nm,1.0s,mb5.7							
TATO				LR	LR		
comp=Z,2μm,20.0s,MS4.9							
WHN	**Wuhan**	**34.00**	**26**	↑↑P	**P**	**13 50 37.0**	**+0.1**
WHN				S	**S**	**13 56 02.1**	**+2.6**
WHN				AMB	AMB		
comp=Z,1μm,7.5s							
WHN				LR	LR		
comp=Z,7μm,15.3s,MS5.5							
SONA	**Sohna**	**34.09**	**326**	*e*P	**P**	**13 50 37.

LZH	**Lanzhou**	**36.07**	**8**	⇑P	**P**	**13 50 54.5**	**0.0**
	comp=Z,145nm,1.5s,mb5.7						
LZH				pP	pP	13 51 01.8	-0.2
LZH				sP	sP	13 51 05.2	0.0
LZH				PP	PP	13 52 17.5	+0.6
LZH				PcP	PcP	13 53 19.7	-1.0
LZH				S	**S**	**13 56 32.0**	**+0.5**
LZH				sS		13 56 44.5	
LZH				ScP		13 57 04.5	
LZH				SS	SS	13 58 56.7	+1.7
LZH				ScS	ScS	14 01 08.0	-0.3
LZH				LR	LR		
	comp=Z,4μm,17.3s,MS5.2						
KLP	**Kalpa**	**36.12**	**331**	*e*P	**P**	**13 50 54.9**	**-0.1**
KLP				*e*		13 56 39.2	
SMLA	**Simla**	**36.32**	**329**	⇓*i*	**P**	**13 50 49.2**	**-7.5**
	comp=Z,44nm,0.4s,mb5.7						
SMLA				*i*		13 57 00.6	
MUN	**Mundaring**	**36.56**	**153**	*e*P	**P**	**13 51 00.5**	**+1.8**
	comp=Z,151nm,1.1s,mb5.7						
MUN	**Mundaring**	**36.56**	**153**	*e*P	**P**	**13 51 00.5**	**+1.8**
MUN				pmax	pmax		
	comp=Z,151nm,1.1s,mb5.7						
SDNR	**Sundarnagar**	**36.72**	**330**	*e*P	**P**	**13 51 00.4**	**+0.3**
KAKA	**Kakadu**	**36.80**	**112**	⇑*i*P	**P**	**13 50 58.0**	**-2.9**
	comp=Z,36nm,0.6s,mb5.4						
BHK	**Bhakra**	**36.94**	**329**	*e*	**P**	**13 51 21.4**	**+20**
NJ2	**Nanjing**	**37.39**	**30**	*e*P	**P**	**13 51 06.3**	**+0.7**
NJ2				AP	pP	13 51 13.4	+0.3
NJ2				XP	sP	13 51 16.3	0.0
NJ2				S	**S**	**13 56 50.0**	**-1.7**
NJ2				AMB	AMB		
	comp=Z,350nm,1.0s,mb6.1						
NJ2				AMB	AMB		
	comp=Z,2μm,4.8s						
NJ2				LR	LR		
	comp=N,11μm,22.9s,MS5.8						
NJ2				LR	LR		
	comp=E,11μm,22.1s,MS5.8						
NJ2				LR	LR		
	comp=Z,29μm,25.2s,MS6.0						
NWAO	**Narrogin (SRO)**	**37.83**	**153**	*e*P	**P**	**13 51 10.5**	**+1.2**
NWAO				*e*	pP	13 51 18.1	+1.2
NWAO				pmax	pmax		
	comp=Z,50nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,3μm,20.0s						
NWAO	**Narrogin (SRO)**	**37.83**	**153**	P	**P**	**13 51 10.5**	**+1.2**
	comp=Z,22nm,0.9s,mb4.9,baz=323,slow=10,SNR=9.3						
NWAO				pP	pP	13 51 18.3	+1.4
	comp=Z,47nm,1.0s,baz=324,slow=9.2,SNR=8.7						
NWAO	**Narrogin (SRO)**	**37.83**	**153**	*e*P	**P**	**13 51 10.5**	**+1.2**
	comp=Z,50nm,1.0s,mb5.2						
NWAO				*e*	pP	13 51 18.1	+1.2
NWAO				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
SSE	**Sheshan**	**37.88**	**34**	P	**P**	**13 51 10.3**	**+0.5**
SSE				AP	pP	13 51 18.5	+1.2
SSE				PP	PP	13 52 38.0	-1.6
SSE				PCP	PcP	13 53 24.3	-1.9
SSE				S	**S**	**13 57 02.4**	**+3.2**
SSE				XS		13 57 17.8	
SSE				AMB	AMB		
	comp=Z,167nm,0.8s,mb5.8						
SSE				AMB	AMB		
	comp=Z,359nm,4.9s						
SSE				LR	LR		
	comp=N,4μm,17.0s,MS5.4						
SSE				LR	LR		
	comp=E,3μm,17.0s,MS5.4						
SSE				LR	LR		
	comp=Z,7μm,15.3s,MS5.6						
SSE	**Sheshan**	**37.88**	**34**	P	**P**	**13 51 10.3**	**+0.5**
	comp=Z,167nm,0.8s,mb5.8						
SSE				pP	pP	13 51 18.5	+1.2
SSE				PP	PP	13 52 38.0	-1.6
SSE				PcP	PcP	13 53 24.2	-2.0
SSE				S	**S**	**13 57 02.4**	**+3.2**
SSE				sS		13 57 17.7	
SSE				SS	SS	13 59 51.3	+16
SSE				LR	LR		
	comp=Z,7μm,15.3s,MS5.6						
THN	**Thein Dam**	**38.10**	**329**	*e*P	**P**	**13 51 09.8**	**-1.9**
GTA	**Gaotai**	**38.98**	**3**	P	**P**	**13 51 19.5**	**+0.6**
GTA				AP	pP	13 51 27.8	+1.3
GTA				XP	sP	13 51 29.9	+0.3
GTA				PP	PP	13 52 53.0	+0.7
GTA				S	**S**	**13 57 14.3**	**-1.5**
GTA				SCS	ScS	14 01 23.9	-0.8
GTA				AMB	AMB		
	comp=Z,26nm,1.5s,mb4.7						
GTA				AMB	AMB		
	comp=Z,341nm,7.2s						
GTA				LR	LR		
	comp=N,1μm,19.0s,MS5.1						
GTA				LR	LR		
	comp=E,3μm,19.0s,MS5.1						
GTA				LR	LR		
	comp=Z,2μm,22.4s,MS4.8						
JOW	**Kunigami**	**39.51**	**46**	P	**P**	**13 51 23.4**	**0.0**
	comp=Z,31nm,0.7s,mb5.2,baz=248,slow=6.7,SNR=7.1						
JOW				LR	LR	14 09 21.1	
	comp=Z,1μm,18.1s,MS4.8,baz=181,slow=39						
TIY	**Taiyuan**	**39.64**	**18**	⇓P	**P**	**13 51 22.8**	**-1.7**
TIY				S	**S**	**13 57 26.0**	**+0.2**
TIY				LR	LR		
	comp=N,5μm,14.0s						
TIY				LR	LR		
	comp=Z,938nm,13.0s,MS4.8						
TIA	**Tai'an**	**40.04**	**25**	P	**P**	**13 51 27.8**	**+0.1**
TIA				S	**S**	**13 57 32.1**	**+0.3**
TIA				AMB	AMB		
	comp=Z,91nm,1.4s,mb5.3						
TIA				LR	LR		
	comp=N,2μm,14.9s,MS5.3						
TIA				LR	LR		
	comp=E,2μm,14.4s,MS5.3						
TIA				LR	LR		
	comp=N,4μm,14.0s						
TIA				LR	LR		
	comp=E,5μm,15.0s						
WRA	**Warramunga Arr**	**41.14**	**121**	P	**P**	**13 51 35.9**	**-1.0**
	comp=E,92nm,0.8s,mb5.5,baz=301,slow=9.0,SNR=504						
WRA				pP	pP	13 51 44.2	-0.3
	comp=E,81nm,0.8s,baz=300,slow=9.0,SNR=20						
WRA				pPcP		13 53 43.0	
	comp=E,20nm,1.1s,baz=306,slow=3.0,SNR=6.3						
WRA				S	**S**	**13 57 44.0**	**-4.3**
	comp=E,4.7nm,1.0s,baz=291,slow=17,SNR=7.6						
WRAB	**Tennant Creek**	**41.15**	**121**	*e*P	**P**	**13 51 36.0**	**-1.0**
WRAB				*e*	pP	13 51 44.0	-0.5
WRAB				pmax	pmax		
	comp=Z,142nm,0.8s,mb5.7						
WRAB	**Tennant Creek**	**41.15**	**121**	*e*P	**P**	**13 51 36.0**	**-0.9**
	comp=Z,142nm,0.8s,mb5.7						
WRAB				*e*	pP	13 51 44.0	-0.5
WB2	**Warramunga Arr**	**41.15**	**121**	⇑*i*P	**P**	**13 51 36.1**	**-0.9**
WB2				*i*	pP	13 51 44.7	+0.1
BTO	**Baotou**	**41.66**	**14**	*e*P	**P**	**13 51 41.6**	**+0.5**
BTO				S	**S**	**13 57 59.4**	**+3.5**
BTO				AMB	AMB		
	comp=Z,75nm,1.3s,mb5.2						
FORT	**Forrest**	**42.27**	**140**	*e*P	**P**	**13 51 47.6**	**+1.4**
	comp=Z,2μm,0.8s						
HHC	**Hu-ho-hao-te**	**42.29**	**16**	*i* P	**P**	**13 51 48.1**	**+1.9**
HHC				AP	pP	13 51 55.8	+2.0
HHC				XP	sP	13 51 58.3	+1.4
HHC				PP	PP	13 53 27.1	0.0
HHC				PCP	PcP	13 53 42.0	+1.7
HHC				SCP		13 57 28.3	
HHC				PCS		13 57 33.1	
HHC				S	**S**	**13 58 08.4**	**+3.3**
HHC				XS		13 58 21.6	
HHC				SS	SS	14 01 11.3	+3.1
HHC				SCS	ScS	14 01 46.4	+2.1
HHC				AMB	AMB		
	comp=Z,80nm,1.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,555nm,6.2s						
HHC				LR	LR		
	comp=N,4μm,19.4s,MS5.5						
HHC				LR	LR		
	comp=E,3μm,19.0s,MS5.5						
HHC				LR	LR		
	comp=Z,5μm,19.9s,MS5.4						
ASPA	**Alice Springs**	**42.46**	**127**	*e*P	**P**	**13 51 47.7**	**-0.1**
ASPA				*i*	pP	13 51 56.3	+0.9
ASPA				*e*S	**S**	**13 58 04.8**	**-3.0**
MSEY	**Mahe Island**	**42.46**	**263**	*e*P	**P**	**13 51 49.1**	**+1.1**
	comp=Z,197nm,1.4s,mb5.5						
MSEY				LR	LR		
	comp=Z,863nm,20.0s,MS4.6						
ASAR	**Alice Springs**	**42.46**	**127**	P	**P**	**13 51 47.6**	**-0.2**
	comp=Z,49nm,0.5s,mb5.4,baz=299,slow=8.0,SNR=830						
ASAR				pP	pP	13 51 56.2	+0.9
	comp=Z,184nm,1.0s,baz=304,slow=7.4,SNR=37						
ASAR				pPcP		13 53 49.6	
	comp=Z,17nm,0.9s,baz=300,slow=2.6,SNR=5.7						
ASAR				S	**S**	**13 58 05.2**	**-2.7**
	comp=Z,8.5nm,1.0s,baz=288,slow=14,SNR=8.5						
MENI	**Mendum Tagoi**	**42.80**	**94**	⇑*e*P	**P**	**13 51 47.2**	**-3.6**
MENI				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.0						
MENI	**Mendum Tagoi**	**42.80**	**94**	⇑*e*P	**P**	**13 51 47.2**	**-3.6**
	comp=Z,55nm,0.9s,mb5.0						
YOMI	**Yo Mokiole**	**42.95**	**94**	⇑*e*P	**P**	**13 51 47.7**	**-4.3**
	comp=Z,208nm,1.1s,mb5.5						
BJT	**Baijiatuau**	**42.98**	**21**	*e*P	**P**	**13 51 53.1**	**+1.2**
BJT				*e*	pP	13 52 00.7	+1.3
BJT				pmax	pmax		
	comp=Z,263nm,0.9s						
BJT				MLR	MLR		
	comp=Z,2μm,20.0s						
BJT	**Baijiatuau**	**42.98**	**21**	*e*P	**P**	**13 51 53.1**	**+1.3**
	comp=Z,263nm,0.9s,mb6.0						
BJT				*e*	pP	13 52 00.7	+1.3
BJT				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
BJI	**Beijing**	**43.00**	**21**	P	**P**	**13 51 53.3**	**+1.3**
BJI				AP	pP	13 51 59.5	-0.1
BJI				XP	sP	13 52 01.8	-0.9
BJI				PP	PP	13 53 34.8	+0.6
BJI				PCP	PcP	13 53 40.9	-1.8
BJI				S	**S**	**13 58 18.6**	**+3.0**
BJI				AMB	AMB		
	comp=Z,185nm,0.8s,mb5.9						
BJI				AMB	AMB		
	comp=Z,988nm,3.1s						
BJI				LR	LR		
	comp=N,3μm,17.1s,MS5.4						
BJI				LR	LR		
	comp=E,3μm,16.5s,MS5.4						
BJI				LR	LR		
	comp=Z,1μm,19.8s,MS4.9						
BJI	**Beijing**	**43.00**	**21**	P	**P**	**13 51 53.3**	**+1.3**
BJI				*SP	sP	13 52 01.7	-1.0
BJI						13 53 34.7	
BJI						13 53 40.9	
BJI				S	**S**	**13 58 18.6**	**+3.0**
BJI				pmax	pmax		
	comp=Z,185nm,0.8s,mb5.9						
BJI				MLR	MLR		
	comp=Z,1μm,19.8s,MS4.9						
BJI	**Beijing**	**43.00**	**21**	P	**P**	**13 51 53.3**	**+1.3**
	comp=Z,185nm,0.8s,mb5.9						
BJI				pP	pP	13 51 59.5	-0.1
BJI				sP	sP	13 52 01.7	-1.0
BJI				PP	PP	13 53 34.7	+0.5
BJI				PcP	PcP	13 53 40.9	-1.8
BJI				S	**S**	**13 58 18.6**	**+3.0**
BJI				SS	SS	14 01 37.6	+16
BJI				LR	LR		
	comp=Z,1μm,19.8s,MS4.9						
KSH	**Kashi**	**43.80**	**336**	*e*P	**P**	**13 52 00.0**	**+1.5**
KSH				AP	pP	13 52 07.5	+1.5
KSH				XP	sP	13 52 10.8	+1.6
KSH				*e*PP	PP	13 53 43.5	+1.3
KSH				*e*PCP	PcP	13 53 46.6	+1.2
KSH				*e*PPP	PPP	13 54 20.0	+0.7
KSH				*e*SCP		13 57 35.0	
KSH				*e*PCS		13 57 38.1	
KSH				S	**S**	**13 58 27.8**	**+0.7**
KSH				XS		13 58 41.0	
KSH				SS	SS	14 01 37.3	+1.7
KSH				*e*SCS	ScS	14 01 55.3	+1.7
KSH				LR	LR		
	comp=N,4μm,22.0s,MS5.5						
KSH				LR	LR		
	comp=E,4μm,18.8s,MS5.5						
WMQ	**Urumqi**	**44.25**	**350**	P	**P**	**13 52 03.8**	**+1.7**
WMQ				AP	pP	13 52 11.3	+1.6
WMQ				XP	sP	13 52 14.8	+2.0
WMQ				PP	PP	13 53 48.3	+1.6
WMQ				S	**S**	**13 58 35.3**	**+1.7**
WMQ				XS		13 58 47.8	
WMQ				AMB	AMB		
	comp=Z,54nm,1.2s,mb5.2						
WMQ				LR	LR		
	comp=N,1μm,18.5s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,19.5s,MS5.0						
WMQ				LR	LR		
	comp=Z,1μm,24.3s,MS4.7						
DL2	**Dalian**	**44.25**	**27**	P	**P**	**13 52 03.1**	**+0.9**
DL2				S	**S**	**13 58 36.8**	**+3.1**
DL2				AMB	AMB		
	comp=Z,140nm,0.7s,mb5.8						
DL2				AMB	AMB		
	comp=Z,510nm,6.0s						
DL2				LR	LR		
	comp=N,560nm,20.4s,MS5.0						
DL2				LR	LR		
	comp=E,2μm,20.8s,MS5.0						
DL2				LR	LR		
	comp=E,2μm,13.9s						
INCN	**Inchon**	**45.64**	**33**	*e*P	**P**	**13 52 12.2**	**-1.0**
	comp=E,10nm,0.6s,mb4.9						
INCN				*e*	pP	13 52 19.8	-1.0
INCN				LR	LR		
	comp=Z,4μm,20.0s,MS5.4						
ULHL	**Ulahol**	**46.02**	**338**	P	**P**	**13 52 17.2**	**+1.0**
	SNR=41						
KZA	**Kyzart**	**46.26**	**337**	P	**P**	**13 52 19.4**	**+1.3**
	SNR=30						
KS15	**Wonju Array Si**	**46.29**	**34**	*e*P	**P**	**13 52 18.2**	**-0.2**
KS15				*e*	pP	13 52 26.3	+0.3
AAA	**Alma-Ata**	**46.65**	**339**	P	**P**	**13 52 22.0**	**+0.8**
AAA				*e*S	**S**	**13 59 10.0**	**+1.9**
AAA				pmax	pmax		
	comp=Z,400nm,2.0s,mb6.0						
AAA				smax			
	comp=N,500nm,7.0s						
AAA				smax			
	comp=E,2μm,7.0s						
UCH	**Uchtor**	**46.67**	**336**	P	**P**	**13 52 22.7**	**+1.3**
	SNR=87						
TKM2	**Tokmak 2**	**46.84**	**338**	P	**P**	**13 52 23.6**	**+0.9**
	SNR=70						
KBK	**Karagaybulak**	**46.87**	**337**	P	**P**	**13 52 24.5**	**+1.6**
	SNR=50						
AML	**Almayashu**	**46.93**	**336**	P	**P**	**13 52 24.7**	**+1.3**
	SNR=94						
AAK	**Ala-Archa**	**47.02**	**337**	P	**P**	**13 52 25.4**	**+1.2**
	SNR=21						
AAK	**Ala-Archa**	**47.02**	**337**	*d i*P	**P**	**13 52 24.0**	**-0.2**
AAK				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.2						
AAK				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.0						
AAK	**Ala-Archa**	**47.02**	**337**	*e*P	**P**	**13 52 24.1**	**0.0**
	comp=Z,79nm,1.3s,mb5.5						
AAK				LR	LR		
	comp=Z,456nm,19.0s,MS4.5						
FRU	**Bishkek**	**47.14**	**337**	*i* P	**P**	**13 52 26.0**	**+0.9**
FRU				*e*		13 59 16.0	
FRU				pmax	pmax		
	comp=Z,140nm,2.0s,mb5.5						
FRU				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.9						
CHMS	**Chumysh**	**47.23**	**337**	P	**P**	**13 52 26.8**	**+0.9**
	SNR=19						
EKS2	**Erkin-Say**	**47.34**	**336**	P	**P**	**13 52 27.8**	**+1.2**
	SNR=37						
SNY	**Shenyang**	**47.49**	**26**	⇑P	**P**	**13 52 27.3**	**-0.6**
SNY				S	**S**	**13 59 21.8**	**+1.8**
SNY				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
SNY				LR	LR		
	comp=N,2μm,17.7s,MS5.4						
SNY				LR	LR		
	comp=E,3μm,15.0s,MS5.4						
SNY				LR	LR		
	comp=Z,3μm,15.0s,MS5.4						
USP	**Ospenovka**	**47.56**	**337**	P	**P**	**13 52 28.9**	**+0.5**
	SNR=82						
SONM	**Songino Array**	**47.95**	**8**	P	**P**	**13 52 32.3**	**+0.9**
	comp=Z,26nm,0.7s,mb5.4,baz=190,slow=9.0,SNR=189						
SONM				pP	pP	13 52 39.0	-0.1
	comp=Z,56nm,0.9s,baz=194,slow=8.2,SNR=22						
SONM				PcP	PcP	13 53 59.6	-0.2
	comp=Z,12nm,0.9s,baz=192,slow=3.9,SNR=3.0						
SONM				pPcP		13 54 08.2	
	comp=Z,22nm,0.8s,baz=202,slow=3.6,SNR=9.0						
SONM				ScP		13 57 52.1	
	comp=Z,5.9nm,1.1s,baz=180,slow=4.9,SNR=5.3						
SONM				LR	LR	14 15 17.1	
	comp=Z,4μm,19.8s,MS5.4,baz=192,slow=39						
ULN	**Ulaanbaatar**	**48.08**	**8**	P	**P**	**13 52 33.2**	**+0.8**
ULN				S	**S**	**13 59 30.0**	**+1.8**
ULN	**Ulaanbaatar**	**48.08**	**8**	*e*P	**P**	**13 52 33.0**	**+0.6**
ULN				pmax	pmax		
	comp=Z,92nm,0.8s,mb5.9						
ULN				MLR	MLR		
	comp=Z,3μm,22.0s,MS5.3						
ULN	**Ulaanbaatar**	**48.08**	**8**	*e*P	**P**	**13 52 33.0**	**+0.6**
	comp=Z,92nm,0.8s,mb5.9						
ULN				LR	LR		
	comp=Z,3μm,22.0s,MS5.3						
GUMO	**Guam**	**48.54**	**72**	PFAKE		13 52 50.0	+14
GUMO				LR	LR		
	comp=Z,1μm,21.0s,MS4.8						
KKAR	**Karatay Array**	**49.08**	**334**	*i* P	**P**	**13 52 40.0**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,268nm,1.5s,mb6.0						
CN2	**Changchun**	**49.89**	**26**	⇑P	**P**	**13 52 45.8**	**-0.6**
CN2				*e*AP	pP	13 52 53.1	-1.0
CN2				*e*S	**S**	**13 59 53.9**	**+0.3**
CN2				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.7						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,3μm,14.0s,MS5.6						
CN2				LR	LR		
	comp=E,3μm,14.0s,MS5.6						
CN2				LR	LR		
	comp=Z,4μm,15.0s,MS5.5						
ZAK	**Zakamensk**	**50.13**	**5**	⇓*i*P	**P**	**13 52 47.8**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
PMG	**Port Moresby**	**50.17**	**102**	*e*P	**P**	**13 52 48.3**	**-0.6**
PMG				*e*	pP	13 52 56.3	-0.3
PMG				pmax	pmax		
	comp=Z,318nm,0.8s						
PMG				MLR	MLR		
	comp=Z,1μm,20.0s						
PMG	**Port Moresby**	**50.17**	**102**	P	**P**	**13 52 48.4**	**-0.5**
	comp=Z,286nm,0.7s,mb6.4,baz=310,slow=5.3,SNR=147						
PMG				pP	pP	13 52 56.5	-0.2
	comp=Z,231nm,0.8s,baz=312,slow=6.2,SNR=15						
PMG	**Port Moresby**	**50.17**	**102**	*e*P	**P**	**13 52 48.3**	**-0.6**
	comp=Z,318nm,0.8s,mb6.4						
PMG				*e*	pP	13 52 56.3	-0.3
PMG				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
MOY	**Mondy**	**51.27**	**3**	*e*P	**P**	**13 52 57.3**	**+0.6**
MOY				pmax	pmax		
	comp=Z,62nm,1.9s,mb5.2						
JHJ	**Hachijo jima 2**	**51.28**	**46**	LR	LR	14 17 03.8	
	comp=Z,836nm,18.4s,MS4.8,baz=287,slow=39						
TLY	**Talaya**	**51.45**	**5**	*e*P	**P**	**13 52 59.2**	**+1.1**
TLY				*e*S	**S**	**14 00 15.0**	**0.0**
TLY				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.4						
TLY				MLR	MLR		
	comp=Z,3μm,18.0s,MS5.3						
TLY	**Talaya**	**51.45**	**5**	*e*P	**P**	**13 52 59.0**	**+0.8**
	comp=Z,46nm,0.9s,mb5.4						
TLY				*e*	pP	13 53 06.1	+0.3
TLY				LR	LR		
	comp=Z,675nm,19.0s,MS4.7						
CTA	**Charters Tower**	**51.66**	**116**	*e*P	**P**	**13 53 00.1**	**0.0**
	comp=Z,13nm,0.7s,mb5.0						
CTA				*i*	pP	13 53 07.8	0.0
CTA	**Charters Tower**	**51.66**	**116**	*e*P	**P**	**13 53 00.1**	**0.0**
CTA				*i*	pP	13 53 07.8	0.0
CTA				pmax	pmax		
	comp=Z,13nm,0.7s						
CTA	**Charters Tower**	**51.66**	**116**	P	**P**	**13 53 00.2**	**0.0**
	comp=Z,12nm,0.7s,mb4.9,baz=276,slow=8.4,SNR=15						
CTA				pP	pP	13 53 07.5	-0.4
	comp=Z,63nm,1.0s,baz=290,slow=8.8,SNR=19						
CTA				LR	LR	14 19 05.5	
	comp=Z,2μm,19.7s,MS5.1,baz=287,slow=41						
CTAO	**Charters Tower**	**51.66**	**116**	*e*P	**P**	**13 52 59.7**	**-0.4**
CTAO				*e*	pP	13 53 07.4	-0.4
CTAO				pmax	pmax		
	comp=Z,180nm,1.4s,mb5.8						
CTAO				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.3						
CTAO	**Charters Tower**	**51.66**	**116**	*e*P	**P**	**13 52 59.7**	**-0.5**
	comp=Z,180nm,1.4s,mb5.8						
CTAO				*e*	pP	13 53 07.4	-0.5
CTAO				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
ADE	**Adelaide**	**51.92**	**137**	P	**P**	**13 53 03.2**	**+1.3**
MAJO	**Matsushiro**	**52.03**	**42**	*e*P	**P**	**13 53 01.1**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,83nm,1.4s,mb5.5						
MAJO				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.0						
MAJO	**Matsushiro**	**52.03**	**42**	*e*P	**P**	**13 53 01.1**	**-1.6**
	comp=Z,83nm,1.4s,mb5.5						
MAJO				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
MAT	**Matsushiro**	**52.03**	**42**	*e*P	**P**	**13 53 00.0**	**-2.7**
MAT				*e*S	**S**	**14 00 23.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,53nm,1.2s,mb5.3						
MAT				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
MAT	**Matsushiro**	**52.03**	**42**	*e*P	**P**	**13 53 00.0**	**-2.7**
	comp=Z,53nm,1.2s,mb5.3						
MAT				*e*S	**S**	**14 00 23.0**	**-0.2**
MAT				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
MAT	**Matsushiro**	**52.03**	**42**	P	**P**	**13 52 59.7**	**-3.0**
MAT				S	**S**	**14 00 23.0**	**-0.2**
IRK	**Irkutsk**	**52.06**	**5**	*e*P	**P**	**13 53 02.9**	**+0.2**
IRK				*e*		13 54 22.0	
IRK				pmax	pmax		
	comp=Z,91nm,1.7s,mb5.4						
HIA	**Hailar**	**52.34**	**18**	*e*P	**P**	**13 53 04.5**	**-0.4**
HIA				pmax	pmax		
	comp=Z,91nm,1.1s						
HIA				MLR	MLR		
	comp=Z,2μm,20.0s						
HIA	**Hailar**	**52.34**	**18**	*e*P	**P**	**13 53 04.5**	**-0.4**
	comp=Z,91nm,1.1s,mb5.6						
HIA				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
STKA	**Stephens Creek**	**52.38**	**132**	*e*P	**P**	**13 53 06.1**	**+0.6**
	comp=Z,21nm,1.2s,mb4.9						
STKA				*i*	pP	13 53 13.9	+0.7
STKA	**Stephens Creek**	**52.38**	**132**	P	**P**	**13 53 06.2**	**+0.7**
	comp=Z,26nm,0.9s,mb5.2,baz=317,slow=7.3,SNR=40						
STKA				pP	pP	13 53 13.7	+0.5
	comp=Z,103nm,1.0s,baz=307,slow=9.0,SNR=29						
STKA				LR	LR	14 17 02.4	
	comp=Z,3μm,21.9s,MS5.3,baz=284,slow=38						
MDJ	**Mudanjiang**	**52.42**	**28**	P	**P**	**13 53 05.4**	**-0.2**
MDJ				AP	pP	13 53 11.8	-1.5
MDJ				XP	sP	13 53 14.3	-1.9
MDJ				PCP	PcP	13 54 14.3	-1.9
MDJ				PP	PP	13 55 04.3	-1.1
MDJ				SCP		13 58 11.5	
MDJ				PCS		13 58 14.3	
MDJ				S	**S**	**14 00 31.8**	**+3.4**
MDJ				XS		14 00 42.1	
MDJ				SCS	ScS	14 02 53.8	+3.4
MDJ				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,403nm,5.4s						
MDJ				LR	LR		
	comp=N,1μm,20.5s,MS5.3						

MDJ LR LR
comp=E,2μm,19.7s,MS5.3
MDJ LR LR
comp=Z,4μm,18.2s,MS5.5
MDJ Mudanjiang 52.42 28 *e*P **P 13 53 05.4 -0.2**
comp=Z,28nm,0.8s,mb5.2
MDJ LR LR
comp=Z,4μm,19.0s,MS5.5
OPO Ambohidratompo 53.01 246 P **P 13 53 10.4 +0.1**
comp=Z,76nm,1.0s,mb5.6,baz=61,slow=6.9,SNR=62
OPO pP pP 13 53 18.3 +0.3
comp=Z,24nm,1.0s,baz=93,slow=14,SNR=5.9
ZAL Zalesovo 54.52 351 P **P 13 53 20.8 -0.1**
comp=Z,27nm,0.4s,mb5.6,baz=308,slow=5.3,SNR=131
ZAL pP pP 13 53 28.4 -0.1
comp=Z,51nm,0.8s,baz=290,slow=8.0,SNR=18
ZAL LR LR 14 21 17.9
comp=Z,1μm,21.2s,MS5.0,baz=302,slow=41
ATD Arta Tunnel 55.58 284 P **P 13 53 28.4 -0.7**
comp=Z,61nm,1.1s,mb5.5,baz=71,slow=5.4,SNR=13
ATD pP pP 13 53 37.0 +0.1
comp=Z,16nm,0.9s,baz=288,slow=22,SNR=1.6
ATD LR LR 14 13 57.1
comp=Z,844nm,18.6s,MS4.8,baz=179,slow=32
ATD Arta Tunnel 55.58 284 P **P 13 53 28.4 -0.7**
ATD pP pP 13 53 37.0 +0.1
ATD LR LR 14 13 57.1
KLR Kul'dur 56.84 26⇓ *e*P **P 13 53 34.5 -3.3**
KLR *e*S **S 14 01 25.5 -2.2**
KLR *e*SS SS 14 05 10.5 -6.6
KLR pmax pmax
comp=Z,100μm,1.8s
KLR pmax pmax
comp=N,35nm,1.8s
KLR pmax pmax
comp=E,64nm,1.8s
KLR MLR MLR
comp=Z,9μm,13.5s,MS6.1
BVA0 Borovoye Array 57.27 341 *i* P **P 13 53 39.3 -1.4**
BVA0 pmax pmax
comp=Z,14nm,1.0s,mb5.0
BVAR Borovoye Array 57.27 341 P **P 13 53 39.3 -1.4**
comp=Z,37nm,0.9s,mb5.4,baz=143,slow=7.4,SNR=118
BVAR pP pP 13 53 47.8 -0.6
comp=Z,49nm,0.7s,baz=142,slow=9.0,SNR=32
TOO Toolangi 57.95 136 *e*P **P 13 53 48.0 +2.3**
comp=Z,20nm,1.0s,mb5.1
TOO Toolangi 57.95 136 *e*P **P 13 53 48.0 +2.3**
TOO pmax pmax
comp=Z,20nm,1.0s,mb5.1
BOD Bodaibo 58.81 10⇓ *i*P **P 13 53 50.9 -0.5**
BOD pmax pmax
comp=Z,69nm,1.1s,mb5.6
ASAJ Asahikawa 59.09 36 P **P 13 53 53.3 -0.3**
comp=Z,21nm,0.5s,mb5.4,baz=228,slow=8.3,SNR=17
ASAJ pP pP 13 54 01.1 -0.4
comp=Z,48nm,0.7s,baz=161,slow=4.0,SNR=8.1
BHD Baghdad 59.78 309 *i* P **P 13 53 51.0 -7.5**
BHD *e*S **S 14 02 16.0 +10**
KMBO Kilima Mbogo 60.45 269 *e*P **P 13 54 03.5 +0.2**
KMBO pmax pmax
comp=Z,68nm,1.2s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 60.45 269 P **P 13 54 03.9 +0.6**
comp=Z,27nm,1.0s,mb5.2,baz=66,slow=8.1,SNR=64
KMBO LR LR 14 16 51.3
comp=Z,2μm,19.4s,MS5.3,baz=94,slow=33
KMBO Kilima Mbogo 60.45 269 *e*P **P 13 54 03.5 +0.2**
comp=Z,68nm,1.2s,mb5.5
KMBO LR LR
comp=Z,2μm,20.0s,MS5.3
CLNS Chul'man 60.46 17 *e*P **P 13 53 59.3 -3.5**
CLNS *e**PP pP 13 54 05.2 -5.4
CLNS *e* 13 54 44.5
CLNS *e*S **S 14 02 10.0 -4.7**
CLNS *e*PS PS 14 02 23.7 -10
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=Z,19nm,0.8s,mb5.2
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=Z,12nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS smax
comp=N,8.0nm,1.0s
CLNS smax
comp=Z,6.0nm,1.1s
CLNS smax
comp=E,7.0nm,0.8s
CLNS MLR MLR
comp=Z,2μm,13.0s,MS5.4
CLNS MLR MLR
comp=N,1μm,15.0s,MS5.3
CLNS MLR MLR
comp=E,1μm,15.0s,MS5.3
YSS Yuzh-Sakhalins 60.82 34⇑ *i*P **P 13 54 04.8 -0.6**
YSS *e* pP 13 54 13.1 -0.1
YSS *e**SP sP 13 54 17.2 +1.1
YSS *S* **S 14 02 19.0 -0.5**
YSS *e*PS PS 14 02 36.0 -2.2
YSS pmax pmax
comp=Z,220nm,1.1s,mb6.2
YSS pmax pmax
comp=Z,160nm,1.0s,mb6.1
YSS Yuzh-Sakhalins 60.82 34 *e*P **P 13 54 04.9 -0.4**
comp=Z,160nm,1.0s,mb6.1
YSS *e* pP 13 54 13.3 +0.1
TAU Tasmania Unive 61.80 141 PFAKE 13 54 20.0 +7.9
TAU LR LR
comp=Z,359nm,20.0s,MS4.5
MSL Mosul 61.91 312 *e*P **P 13 54 14.5 +1.6**
GNI Garni 62.29 316 *e*P **P 13 54 14.9 -0.5**
GNI pmax pmax
comp=Z,129nm,1.1s
GNI MLR MLR
comp=Z,639nm,19.0s
GNI Garni 62.29 316 *e*P **P 13 54 14.9 -0.5**
comp=Z,129nm,1.1s,mb6.0
GNI LR LR
comp=Z,639nm,19.0s,MS4.8
HNR Honiara 62.71 101 *e*P **P 13 54 17.9 -0.6**
HNR *e* pP 13 54 25.2 -1.2
HNR pmax pmax
comp=Z,800nm,1.1s
HNR MLR MLR
comp=Z,590nm,21.0s,MS4.7
HNR Honiara 62.71 101 *e*P **P 13 54 17.9 -0.6**
comp=Z,800nm,1.1s
HNR *e* pP 13 54 25.2 -1.1
HNR LR LR
comp=Z,590nm,21.0s,MS4.7
MTA Mtatsminda 62.93 318 P pP 13 54 27.5 +0.1
TBLG Delisi 62.98 318 P **P 13 54 19.7 -0.2**
SVE Sverdlovsk 63.71 338⇓ *i*P **P 13 54 20.8 -3.7**
SVE *e* pP 13 54 29.0 -3.4
SVE *e*S **S 14 02 48.0 -7.8**
SVE *e* 14 04 12.0
SVE pmax pmax
comp=Z,180nm,1.6s,mb5.8
SVE MLR MLR
comp=N,1μm,20.0s,MS5.1
SVE MLR MLR
comp=E,500nm,20.0s,MS5.1
SVE MLR MLR
comp=Z,2μm,20.0s,MS5.2
BEST Besiri 63.85 313 *i* P **P 13 54 25.0 -0.8**
ZEI Tsey 64.00 319 *e*P **P 13 54 25.5 -1.2**
ZEI *i **PP pP 13 54 35.2 +0.7
ZEI *i* 13 56 48.7
ZEI pmax pmax
comp=Z,47nm,1.1s,mb5.4
ARU Arti 64.21 337⇓ *i*P **P 13 54 26.1 -1.7**
ARU *e*S **S 14 02 58.6 -3.3**
ARU *e* 14 04 17.2
ARU *e*SS SS 14 07 13.8 +0.8
ARU pmax pmax
comp=Z,93nm,1.2s,mb5.7
ARU MLR MLR
comp=Z,2μm,19.0s,MS5.2
ARU MLR MLR
comp=N,1μm,18.0s,MS5.1
ARU MLR MLR
comp=E,700nm,20.0s,MS5.1
ARU Arti 64.21 337 *e*P **P 13 54 26.2 -1.6**
comp=E,103nm,1.2s,mb5.7
ARU *e* pP 13 54 33.8 -1.9
ARU LR LR
comp=Z,422nm,19.0s,MS4.7
ONI Oni 64.22 318 P **P 13 54 27.5 -0.6**
ERZM Erzurum 64.55 315 *i* P **P 13 54 30.6 +0.3**
KIV Kislovodsk 65.31 319 *e*P **P 13 54 34.4 -0.8**
comp=Z,185nm,1.1s,mb6.0
KIV *e* pP 13 54 42.0 -1.0
KIV LR LR
comp=Z,110nm,22.0s
ASF Jabal al Asfar 65.39 305 P **P 13 54 36.3 +0.5**
comp=Z,43nm,0.9s,mb5.5,baz=336,slow=3.6,SNR=52
ASF pP pP 13 54 43.3 -0.4
comp=Z,47nm,1.2s,baz=7.5,slow=9.4,SNR=10
ASF LR LR 14 24 27.8
comp=Z,1μm,18.4s,MS5.1,baz=350,slow=37
GOF Gofitskoye 65.57 321⇓ *i*P **P 13 54 34.5 -2.3**
GOF *i* pP 13 54 42.2 -2.5
GOF *i* S S 14 03 24.3 +5.4
GOF pmax pmax
comp=Z,210nm,1.7s,mb5.9
GOF smax
comp=E,200nm,2.8s
ELZG Elazig 65.75 313 *i* P **P 13 54 38.1 +0.1**
MALT Malatya 66.10 312 *e*P **P 13 54 40.1 -0.2**
MALT *e* pP 13 54 48.2 +0.1
MALT pmax pmax
comp=Z,110nm,1.1s,mb5.8
MALT Malatya 66.10 312 *e*P **P 13 54 40.1 -0.2**
comp=Z,110nm,1.1s,mb5.8
MALT *e* pP 13 54 48.2 +0.1
KELT Kelkit 66.14 314 *i* P **P 13 54 37.1 -3.4**
YAK Yakutsk 66.15 16*c* *i*P **P 13 54 39.4 -0.8**
YAK *e**PP pP 13 54 49.6 +1.6
YAK *e* 13 55 09.9
YAK *e* 13 57 03.4
YAK *e*PPP PPP 13 58 38.6 -4.8
YAK *e*S S 14 03 24.7 -1.0
YAK *e* 14 04 28.0
YAK *e*SS SS 14 07 39.8 -3.2
YAK pmax pmax
comp=Z,111nm,1.0s,mb5.8
YAK pmax pmax
comp=N,62nm,1.2s
YAK pmax pmax
comp=E,39nm,1.1s
YAK pmax pmax
comp=Z,4.0nm,1.3s
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax
comp=E,18nm,1.4s
YAK smax
comp=N,57nm,2.1s
YAK MLR MLR
comp=N,1μm,15.0s,MS5.3
YAK MLR MLR
comp=Z,2μm,15.0s,MS5.4
YAK MLR MLR
comp=E,468nm,13.0s,MS5.3
YAK Yakutsk 66.15 16 *e*P **P 13 54 39.3 -0.9**
comp=E,216nm,1.0s,mb6.1
EIL Elat 66.35 302 P **P 13 54 41.8 -0.3**
comp=E,59nm,1.0s,mb5.6,baz=98,slow=5.3,SNR=62
EIL pP pP 13 54 49.4 -0.6
comp=E,93nm,1.2s,baz=125,slow=6.2,SNR=11
EIL Elat 66.35 302 *e*P **P 13 54 41.6 -0.4**
comp=E,103nm,1.1s,mb5.8
EIL *e* pP 13 54 49.6 -0.3
GZT Gaziantep 66.43 311 *i* P **P 13 54 42.4 +0.1**
MBAR Mbarara 66.96 269 *e*P **P 13 54 45.5 -0.7**
MBAR pmax pmax
comp=Z,80nm,1.1s,mb5.7
MBAR MLR MLR
comp=Z,235nm,20.0s,MS4.4
MBAR Mbarara 66.96 269 *e*P **P 13 54 45.5 -0.7**
comp=Z,80nm,1.1s,mb5.7
MBAR LR LR
comp=Z,235nm,20.0s,MS4.4
KAHT Ahir Dag 67.04 311 *i* P **P 13 54 46.2 0.0**
SOKR Solikamsk 67.10 339*c* *i*P **P 13 54 46.0 -0.3**
SOKR S S 14 03 42.7 +5.5
SOKR pmax pmax
comp=Z,150nm,1.1s,mb5.9
SOKR MLR MLR
comp=Z,2μm,20.0s,MS5.3
SOC Sochi 67.12 318*d* *i*P **P 13 54 44.8 -1.9**
SOC *e* 13 57 10.3
SOC *e*PPP PPP 13 58 50.6 -2.7
SOC *e*S S 14 03 37.8 +0.1
SOC *e* 14 04 38.3
SOC *e*SS SS 14 07 56.8 -1.9
SOC pmax pmax
comp=Z,115nm,0.9s,mb5.9
SOC pmax pmax
comp=N,27nm,0.8s
SOC pmax pmax
comp=E,19nm,0.9s
SOC MLR MLR
comp=Z,344nm,20.0s,MS4.6
SOC MLR MLR
comp=N,331nm,21.0s,MS4.7
SOC MLR MLR
comp=E,267nm,20.0s,MS4.7
COBT Iskenderun 67.16 310 *i* P **P 13 54 46.9 -0.2**
MEST Erdemli 68.81 309 *i* P **P 13 54 56.5 -0.9**
AVNT Avonos 68.90 312 *i* P **P 13 54 57.0 -0.9**
CSS Prodhromos 69.01 308 *e*P **P 13 54 58.1 -0.6**
comp=E,181nm,1.4s,mb5.8
ANN Anapa 69.10 319 *e*P **P 13 54 52.0 -7.0**
ANN *i **PP pP 13 55 03.1 -3.8
ANN *i* 13 55 16.6
ANN *e*S S 14 03 55.2 -6.2
ANN pmax pmax
comp=Z,153nm,1.6s,mb5.7
CDAG Cicekdag 69.51 313 *i* P **P 13 55 00.4 -1.3**
CTKT Corum 69.52 314 *i* P **P 13 55 01.1 -0.6**
BOYT Boyabat 69.68 315 *i* P **P 13 55 01.7 -1.0**
BR131 Keskin Array S 70.08 312 PFAKE 13 55 20.0 +15
BR131 LR LR
comp=Z,405nm,19.0s,MS4.7
BRTR Keskin Array B 70.08 312 P **P 13 55 03.8 -1.3**
comp=Z,22nm,0.9s,mb5.1,baz=135,slow=7.0,SNR=111
BRTR pP pP 13 55 11.6 -1.4
comp=Z,44nm,1.1s,baz=135,slow=5.2,SNR=16
BRTR PKPPKP 14 23 13.9
comp=Z,0.3nm,0.3s,baz=288,slow=3.9,SNR=4.4
SKR Severo-Kuril's 70.31 35 *e*P **P 13 55 03.9 -2.3**
SKR *e* 13 55 24.0
SKR *e*S S 14 04 18.0 +2.6
SKR *e* 14 04 48.0
SKR *e*PS PS 14 04 55.6 +10
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,90nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
SKR pmax pmax
comp=Z,2μm,6.0s
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,2μm,6.0s
SKR smax
comp=N,3μm,16.0s
SKR smax
comp=E,3μm,16.0s
SKR MLR MLR
comp=E,3μm,20.0s
SKR MLR MLR
comp=Z,2μm,20.0s,MS5.5
LSZ Lusaka 70.33 254 *e*P **P 13 55 06.4 -0.6**
LSZ pmax pmax
comp=Z,83nm,1.3s,mb5.5
LSZ MLR MLR
comp=Z,2μm,22.0s,MS5.3
LSZ Lusaka 70.33 254 *e*P **P 13 55 06.4 -0.6**
comp=Z,83nm,1.3s,mb5.5
LSZ LR LR
comp=Z,2μm,22.0s,MS5.3
ELDT Eldivan 70.46 313 *i* P **P 13 55 06.3 -1.1**
DZM Mont Dzumac 70.47 113 P **P 13 55 08.2 +0.5**
comp=Z,20nm,0.9s,mb5.1,baz=113,slow=23,SNR=6.7
DZM LR LR 14 29 33.6
comp=Z,1μm,18.3s,MS5.2,baz=44,slow=39
MATP Matopo 70.65 248 P **P 13 55 09.0 +0.2**
comp=Z,78nm,0.9s,mb5.6,baz=83,slow=6.1,SNR=127
ANTO Ankara 70.75 312 P **P 13 55 08.7 -0.5**
VOR Voronezh 70.79 326 *e*P **P 13 55 07.8 -1.4**
VOR *e* pP 13 55 15.7 -1.4
VOR pmax pmax
comp=N,70nm,1.3s
VOR pmax pmax
comp=E,180nm,1.3s
VOR pmax pmax
comp=Z,200nm,1.3s,mb5.9
VOR pmax pmax
comp=E,50nm,1.5s
VOR pmax pmax
comp=Z,60nm,1.5s,mb5.3
SIM Simferopol' 71.36 318⇓ *i*P **P 13 55 12.0 -0.8**
SIM *e**PP pP 13 55 20.0 -0.7
SIM *e*S S 14 04 25.0 -2.8
SIM *e*SS SS 14 09 07.0 +2.6
SIM pmax pmax
comp=Z,110nm,1.1s,mb5.7
SIM Simferopol' 71.36 318⇑ *e*P **P 13 55 12.1 -0.7**
SGKT Sivrigoynuk 71.49 313 *i* P **P 13 55 12.0 -1.6**
ISP Isparta 71.94 310 *e*P **P 13 55 14.4 -1.9**
ISP pmax pmax
comp=Z,72nm,1.3s,mb5.4
ISP Isparta 71.94 310 *e*P **P 13 55 14.4 -1.9**
comp=Z,72nm,1.3s,mb5.4
MAW Mawson 71.94 193⇓ *i*P **P 13 55 16.4 +0.5**
comp=Z,46nm,1.0s,mb5.4
MAW Mawson 71.94 193⇓ *i*P **P 13 55 16.4 +0.5**
MAW pmax pmax
comp=Z,46nm,1.0s
MAW Mawson 71.94 193 P **P 13 55 16.6 +0.7**
comp=Z,58nm,1.0s,mb5.5,baz=30,slow=7.2,SNR=50
MAW LR LR 14 19 19.3
comp=Z,992nm,19.8s,MS5.1,baz=39,slow=30
ESKT Eskisehir 72.10 312 *i* P **P 13 55 16.6 -0.7**
HENT Hendek 72.40 313 *i* P **P 13 55 18.0 -1.0**
PET Petropavlovsk 72.71 34⇑ *i*P **P 13 55 20.5 -0.1**
PET *e**SP sP 13 55 31.5 +0.2
PET *e* 13 55 38.1
PET *e*S S 14 04 43.7 +0.7
PET *e*PS PS 14 05 15.2 -2.8
PET *e*SS SS 14 09 27.6 +2.5
PET *e*SSS SSS 14 12 37.2 +2.4
PET pmax pmax
comp=Z,109nm,1.6s,mb5.5
PET pmax pmax
comp=Z,600nm,6.7s
PET pmax pmax
comp=Z,100nm,10.5s
PET pmax pmax
comp=Z,138nm,0.8s,mb5.9
PET pmax pmax
comp=Z,84nm,0.9s,mb5.7
PET pmax pmax
comp=Z,81nm,1.2s,mb5.5
PET pmax pmax
comp=Z,200nm,14.6s
PET smax
comp=N,700nm,5.9s
PET smax
comp=N,300nm,11.7s
PET MLR MLR
comp=Z,800nm,14.0s,MS5.2
PET MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 72.71 34 *e*P **P 13 55 20.3 -0.4**
comp=Z,92nm,0.8s,mb5.8
PET *e* pP 13 55 28.1 -0.4
PET LR LR
comp=Z,860nm,20.0s,MS5.0
DRV Dumont d'Urvil 73.14 164 P **P 13 55 21.0 -1.9**
DRV S S 14 04 58.0 +10
DRV L 14 14 00.0
MOS Moscow 73.36 329κ *i*P **P 13 55 23.7 -0.7**
MOS *i* pP 13 55 32.0 -0.3
MOS *e*S S 14 04 47.7 -2.6
MOS pmax pmax
comp=Z,400nm,1.8s,mb6.0
MOS pmax pmax
comp=Z,181nm,1.4s,mb5.8
MOS smax
comp=N,500nm,2.8s
MOS Moscow 73.36 329⇓ *i*P **P 13 55 23.8 -0.6**
ULDT Uludag 73.53 312 *i* P **P 13 55 24.9 -0.8**
MANT Manisa 73.58 310 *i* P **P 13 55 25.1 -1.0**
OBN Obninsk 73.65 328*d* *i*P **P 13 55 25.1 -0.9**
OBN *e**PP pP 13 55 33.6 -0.4
OBN *e*S S 14 04 55.4 +1.8
OBN *e*SS SS 14 09 39.3 -0.1
OBN pmax pmax
comp=Z,114nm,1.1s,mb5.7
OBN MLR MLR
comp=Z,300nm,13.0s,MS4.8
OBN Obninsk 73.65 328 *e*P **P 13 55 25.1 -0.9**
comp=Z,124nm,1.0s,mb5.8
OBN *e* pP 13 55 32.6 -1.3
OBN LR LR
comp=Z,373nm,21.0s,MS4.7
LBTB Lobatse 73.93 244 *e*P **P 13 55 28.4 +0.1**
LBTB pmax pmax
comp=Z,76nm,1.2s,mb5.5
LBTB MLR MLR
comp=Z,1μm,21.0s,MS5.1
LBTB Lobatse 73.93 244 P **P 13 55 28.5 +0.2**
comp=Z,39nm,1.0s,mb5.3,baz=107,slow=6.3,SNR=40
LBTB Lobatse 73.93 244 *e*P **P 13 55 28.4 +0.1**
comp=Z,76nm,1.2s,mb5.5
LBTB LR LR
comp=Z,1μm,21.0s,MS5.1
TIXI Tiksi 73.99 10⇑ *i*P **P 13 55 26.9 -0.8**
TIXI MLR MLR
comp=Z,2μm,19.0s,MS5.3
BTOK Tokmak 74.27 311 *i* P **P 13 55 28.9 -1.1**
SEY Seymchan 74.40 23 *e*P **P 13 55 32.4 +2.2**
SEY *e* 13 55 43.9
SEY 13 58 14.1
SEY *e*S S 14 05 09.1 +7.3
SEY *e* 14 05 40.9
SEY pmax pmax
comp=N,20nm,0.9s
SEY pmax pmax
comp=E,20nm,0.9s
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.2
SEY smax
comp=N,2μm,21.9s
SEY smax
comp=E,200nm,15.4s
SEY MLR MLR
comp=Z,9μm,22.0s,MS6.0
SEY MLR MLR
comp=N,6μm,20.0s,MS5.9
SEY MLR MLR
comp=E,3μm,21.0s,MS5.9
BOSA Boshof 74.76 240 P **P 13 55 32.8 -0.2**
BOSA Boshof 74.76 240 *e*P **P 13 55 32.9 -0.1**
BOSA pmax pmax
comp=Z,41nm,1.0s,mb5.3
BOSA MLR MLR
comp=Z,1μm,20.0s,MS5.2
BOSA Boshof 74.76 240 P **P 13 55 32.6 -0.5**
comp=Z,31nm,0.9s,mb5.2,baz=90,slow=6.8,SNR=37
BOSA LR LR 14 23 59.6
comp=Z,1μm,19.1s,MS5.2,baz=67,slow=32
BOSA Boshof 74.76 240 *e*P **P 13 55 32.9 -0.1**
comp=Z,41nm,1.0s,mb5.3
BOSA LR LR
comp=Z,1μm,20.0s,MS5.2
TLCR 75.03 317 ⇑P **P 13 55 34.0 -0.2**
PSN Preselentsi 75.08 315 *e*P **P 13 55 34.0 -0.6**
TIRR Tirgusor 75.12 316 ⇑P **P 13 55 34.3 -0.5**
CFR Carcaliu 75.49 317 ⇓P **P 13 55 36.5 -0.4**
KIS Kishinev 75.50 319α *i*P **P 13 55 34.0 -2.9**
KIS *i* pP 13 55 42.0 -2.9
KIS *e* 13 58 30.0

KIS e S S 14 05 10.0 -4.4
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
HARR Harsova 75.51 316 P **P 13 55 36.8 -0.2**
PRD Provadia 75.52 315 P **P 13 55 36.0 -1.1**
IDI Anoyia 75.83 306 P **P 13 55 39.2 +0.1**
comp=Z,56nm,0.9s,mb5.5,baz=97,slow=6.0,SNR=12
PPE Popeni 75.95 318 ⇑P **P 13 55 36.7 -2.8**
AKASG Malin Array Be 76.28 322 P **P 13 55 40.0 -1.3**
comp=Z,44nm,1.0s,mb5.4,baz=88,slow=4.9,SNR=148
AKASG pP pP 13 55 47.3 -1.9
comp=Z,78nm,1.0s,baz=85,slow=5.5,SNR=22
IAS Iasi 76.38 319 P **P 13 55 41.5 -0.4**
SZH Strazhica 76.58 315 e P **P 13 55 43.0 -0.1**
VRI Vrincioaia 76.61 317 ⇑P **P 13 55 44.0 +0.8**
MLR Muntele Rosu 77.06 317 P **P 13 55 45.7 0.0**
comp=Z,75nm,1.0s,mb5.6,baz=94,slow=1.9,SNR=89
MLR pP pP 13 55 53.6 -0.1
comp=Z,125nm,1.1s,baz=119,slow=1.3,SNR=17
MLR Muntele Rosu 77.06 317 ⇓P **P 13 55 46.1 +0.4**
RZN Rozhen 77.14 313 P **P 13 55 45.0 -1.2**
MTUR Matau 77.61 316 ⇑P **P 13 55 48.7 0.0**
PGB Panagyurishte 77.71 314 e P **P 13 55 49.0 -0.3**
MMB Musomiste 77.85 312 P **P 13 55 50.0 -0.1**
WVZ Waitaha Valley 77.86 134 P pP 13 55 57.6 -0.5
BURAR Bucovina Array 78.03 319 ⇑P **P 13 55 52.1 +1.1**
MNK Minsk 78.17 326 e P **P 13 55 50.0 -1.6**
RPZ Rata Peaks 78.22 135 P **P 13 55 52.2 +0.1**
RPZ Rata Peaks 78.22 135 PN **P 13 55 52.2 +0.1**
RPZ pP pP 13 56 01.5 +1.4
KKB Krupnik 78.37 313 P **P 13 55 52.0 -1.0**
VTS Vitosha 78.41 313 P **P 13 55 53.0 -0.2**
PUL Pulkovo 78.52 332 i P **P 13 55 53.9 +0.5**
QRZ Quartz Range 78.74 132 P **P 13 55 56.5 +1.4**
QRZ Quartz Range 78.74 132 PN **P 13 55 55.9 +0.9**
QRZ pP pP 13 56 04.2 +1.1
ZAPS Zavoj/Pirot 78.96 314 ⇑i P **P 13 55 52.7 -3.5**
SUR Sutherland 79.08 237 LR LR 14 27 08.5
comp=Z,2μm,18.6s,MS5.4,baz=61,slow=33
SUR Sutherland 79.08 237 e P **P 13 55 58.4 +1.3**
comp=Z,1μm,2.1s,mb6.4
SUR LR LR
comp=Z,524nm,19.0s,MS4.9
JOF Joensuu 79.17 335 ep **P 13 55 57.1 +0.2**
comp=Z,43nm,1.0s,mb5.3
THZ Tophouse 79.19 133 P **P 13 55 58.3 +0.8**
THZ Tophouse 79.19 133 PN **P 13 55 58.3 +0.9**
THZ pP pP 13 56 06.6 +1.2
LVV L'vov 79.28 321 ⇓i P **P 13 55 57.6 -0.2**
LVV e 13 56 09.5
LVV e 13 58 56.2
LVV eS S 14 05 48.7 -6.4
LVV e 14 06 32.5
LVV MLR MLR
comp=Z,400nm,20.0s,MS4.8
LVV L'vov 79.28 321 i Pr 13 55 57.3
SYO Syowa Base 79.30 198 ⇑P **P 13 55 57.8 +0.3**
SYO Syowa Base 79.30 198 ⇓PcP PcP 13 56 07.3 +1.2
NNZ Nelson 79.44 132 ePN **P 13 55 59.0 +0.1**
NNZ pP pP 13 56 08.9 +2.1
BOLS Boljevac 79.53 314 ⇓i P **P 13 55 58.4 -0.8**
SKO Skopje 79.60 313 i P **P 13 55 58.0 -1.7**
KWP Kalwaria 80.08 320 eP **P 13 56 01.9 -0.1**
KWP e pP 13 56 09.8 -0.3
SVIS Svilajnac 80.13 315 ⇑i P **P 13 56 01.1 -1.4**
HIZ Hauiti 80.14 129 P **P 13 56 07.4 +4.7**
HIZ Hauiti 80.14 129 ePN **P 13 56 04.3 +1.6**
HIZ pP pP 13 56 12.6 +1.9
APA Apatity 80.14 339 eP **P 13 56 02.0 -0.1**
APA i pP 13 56 10.2 +0.1
APA eS S 14 06 05.0 +1.2
APA eSS SS 14 11 24.0 +6.4
APA pmax pmax
comp=Z,47nm,1.0s,mb5.4
APA MLR MLR
comp=Z,2μm,20.0s,MS5.4
UZH Uzhgorod 80.16 319 i P **P 13 56 03.0 +0.5**
UZH Uzhgorod 80.16 319 i Pr 13 56 03.0
KOLS Kolonicke sedl 80.22 320 i P **P 13 56 03.9 +1.0**
KOLS epP pP 13 56 11.2 +0.3
GRUS Gruza 80.42 314 ⇓i P **P 13 56 03.9 -0.1**
WAZ Wanganui 80.42 130 pP pP 13 56 13.5 +1.3
SNZO South Karori 80.44 132 PFAKE 13 56 20.0 +16
SNZO LR LR
comp=Z,4μm,19.0s,MS5.8
SUW Suwalki 80.70 325 eP **P 13 56 04.6 -0.7**
SUW e pP 13 56 12.2 -1.1
CRVS Cervenica-Dubn 80.75 320 eP **P 13 56 07.8 +2.2**
TSUM Tsumeb 80.75 251 P **P 13 56 07.5 +1.2**
baz=80,slow=6.7
TSUM pP pP 13 56 15.3 +1.0
TSUM LR LR 14 27 02.6
comp=Z,934nm,20.8s,MS5.1,baz=133,slow=32
TSUM Tsumeb 80.75 251 eP **P 13 56 06.9 +0.7**
comp=Z,72nm,1.0s,mb5.6
TSUM LR LR
comp=Z,1μm,19.0s,MS5.3
DIVS Divcibare 80.97 315 ⇑i P **P 13 56 06.4 -0.5**
MRZ Mangatainoka R 81.00 131 P **P 13 56 15.0 +7.8**
MRZ Mangatainoka R 81.00 131 ePN **P 13 56 09.4 +2.2**
MRZ pP pP 13 56 15.2 0.0
FINES FINESS Array B 81.03 333 P **P 13 56 06.5 -0.3**
comp=Z,21nm,0.9s,mb5.0,baz=108,slow=5.0,SNR=52
FINES pP pP 13 56 14.2 -0.7
comp=Z,46nm,1.1s,baz=104,slow=7.9,SNR=17
FINES LR LR 14 34 47.3
comp=Z,626nm,20.9s,MS5.0,baz=117,slow=38
KAF Kangasniemi 81.11 333 ep **P 13 56 07.7 +0.4**
comp=Z,54nm,1.0s,mb5.4,baz=103,slow=4.9
KAF Kangasniemi 81.11 333 eP **P 13 56 07.7 +0.4**
KAF pmax pmax
comp=Z,54nm,1.0s,mb5.4
KECS Kecovo 81.31 319 i P **P 13 56 09.2 +0.6**
KECS epP pP 13 56 16.4 -0.2
BBLS Bajina Basta - **81.35 314** ⇑i P **P 13 56 08.9 0.0**
BKZ Black Stump Fm 81.50 130 eP **P 13 56 10.7 +0.9**
BKZ Black Stump Fm 81.50 130 PN **P 13 56 10.7 +0.9**
BKZ pP pP 13 56 18.3 +0.4
BFZ Birch Farm 81.51 131 P **P 13 56 10.6 +0.8**
BFZ Birch Farm 81.51 131 ePN **P 13 56 10.9 +1.1**
SMY Shemya 81.55 37 PFAKE 13 56 20.0 +10
SMY LR LR
comp=Z,3μm,20.0s,MS5.7
NIE Niedzica 81.58 320 ⇑eP **P 13 56 10.0 0.0**
PSZ Piszkesteto 81.61 318 eP **P 13 56 10.1 -0.1**
PSZ e pP 13 56 18.3 +0.1
PSZ pmax pmax
comp=Z,90nm,1.3s,mb5.5
PSZ Piszkesteto 81.61 318 eP **P 13 56 10.1 -0.1**
comp=Z,90nm,1.3s,mb5.5
PSZ e pP 13 56 18.3 +0.1
PSZ Piszkesteto 81.61 318 ⇓i P **P 13 56 10.4 +0.2**
BILL Bilibino 81.83 21 eP **P 13 56 11.1 +0.2**
BILL e*SP sP 13 56 22.2 +0.6
BILL i 13 56 24.9
BILL eS S 14 06 22.2 +0.9
BILL eSS SS 14 11 42.4 -0.6
BILL pmax pmax
comp=Z,1.0nm,1.0s
BILL Bilibino 81.83 21 eP **P 13 56 11.0 +0.1**
comp=Z,8.3nm,0.8s,mb4.7
BILL LR LR
comp=Z,2μm,19.0s,MS5.4
URZ Urewera 81.87 129 ePN **P 13 56 12.0 +0.3**
URZ pP pP 13 56 19.6 -0.2
OJC Ojcow 82.03 321 eP **P 13 56 12.4 +0.1**
OJC eS S 14 06 21.3 -2.4
OJC MLR MLR 14 39 17.2
comp=Z,800nm,19.4s,MS5.1
PKSM Moragy 82.21 317 ⇓P **P 13 56 14.2 +0.9**
VYHS Vyhne 82.40 319 eP **P 13 56 14.6 +0.4**
VYHS epP pP 13 56 21.9 -0.4
SRO Srobarova 82.65 318 eP **P 13 56 16.6 +1.0**
SRO epP pP 13 56 24.1 +0.5
SRO1 Iza 82.70 318 eP **P 13 56 17.1 +1.3**
SRO1 epP pP 13 56 25.0 +1.1
TIP Timpagrande 82.78 309 eP **P 13 56 17.0 +0.6**
TIP e pP 13 56 25.3 +0.8
OKC Ostrava-Krasne 83.03 320 ⇓i P **P 13 56 17.8 +0.3**
OKC epP pP 13 56 25.1 -0.5
OKC AMS AMS 14 39 40.0
comp=Z,500nm,20.0s
RAC Raciborz 83.03 320 eP **P 13 56 18.6 +1.1**
KEV Kevo 83.12 341 eP **P 13 56 18.1 +0.5**
KEV MLR MLR
comp=Z,1μm,21.0s,MS5.2
SMOL Smolenice 83.33 319 eP **P 13 56 19.1 0.0**
SMOL epP pP 13 56 27.1 0.0
MORC Moravsky Berou 83.41 320 ⇑P **P 13 56 20.7 +1.2**
ZST Bratislava 83.50 318 eP **P 13 56 20.3 +0.3**
ZST epP pP 13 56 28.3 +0.2
ARCES ARCESS Array B 83.55 340 P **P 13 56 20.6 +0.9**
comp=Z,20nm,0.9s,mb5.3,baz=90,slow=4.9,SNR=20
ARCES pP pP 13 56 28.7 +0.9
comp=Z,28nm,0.9s,baz=101,slow=6.2,SNR=9.8
ARCES LR LR 14 36 41.7
comp=Z,1μm,20.8s,MS5.2,baz=102,slow=38
ARCES ARCESS Array B 83.55 340 P **P 13 56 20.6 +0.9**
ARCES pP pP 13 56 28.7 +0.9
ARCES LR LR 14 36 41.7
ARE0 ARCESS Array S 83.55 340 eP **P 13 56 20.3 +0.5**
ARE0 e pP 13 56 28.2 +0.4
KOGS Kog 83.89 317 ⇓eP **P 13 56 22.3 +0.3**
comp=Z,204nm,1.3s,mb6.1
KOGS e pP 13 56 30.4 +0.3
KOGS e 13 56 35.7
VRAC Vranov 83.97 319 ⇑P **P 13 56 21.5 -0.8**
VKA Vienna 84.03 318 ⇓i P **P 13 56 22.9 +0.2**
comp=Z,112nm,1.5s,mb5.8
VKA Vienna 84.03 318 ⇓i P **P 13 56 22.9 +0.2**
VKA pmax pmax
comp=Z,112nm,1.5s,mb5.8
GKP Gorka Klasztor 84.05 323 eP **P 13 56 22.7 +0.1**
GKP e pP 13 56 30.1 -0.7
DPC Dobruska-Polom 84.26 320 ⇓i P **P 13 56 24.5 +0.7**
DPC epP pP 13 56 32.0 +0.2
DPC AMS AMS 14 40 30.0
comp=Z,800nm,17.0s
KSP Ksiaz 84.34 321 eP **P 13 56 25.0 +0.9**
KSP epP pP 13 56 32.6 +0.4
KSP eSKS SKS 14 06 46.0 -4.0
KSP Ksiaz 84.34 321 eP **P 13 56 24.6 +0.5**
KSP e pP 13 56 32.9 +0.7
ARSA Arzberg 84.46 317 ⇓i P **P 13 56 25.2 +0.4**
comp=Z,158nm,1.6s,mb5.9
UPC Upice 84.48 321 ⇓i P **P 13 56 25.3 +0.5**
UPC epP pP 13 56 33.0 +0.1
PERS Pernice 84.68 317 ⇓i P **P 13 56 26.4 +0.5**
comp=Z,107nm,1.2s,mb5.8
PERS e 14 06 50.3
VNDA Vanda 84.84 169 eP **P 13 56 26.9 +0.8**
VNDA e pP 13 56 35.1 +0.9
VNDA pmax pmax
comp=Z,68nm,1.4s
VNDA Vanda 84.84 169 P **P 13 56 27.2 +1.1**
comp=Z,25nm,1.1s,mb5.2,baz=298,slow=5.1,SNR=32
VNDA pP pP 13 56 35.3 +1.1
comp=Z,31nm,1.2s,baz=308,slow=7.3,SNR=15
VNDA LR LR 14 32 07.3
comp=Z,703nm,19.2s,MS5.1,baz=309,slow=34
VNDA Vanda 84.84 169 eP **P 13 56 26.9 +0.7**
comp=Z,68nm,1.4s,mb5.6
VNDA e pP 13 56 35.0 +0.8
CII Carovilli 84.86 312 eP **P 13 56 25.7 -1.3**
comp=Z,119nm,1.4s,mb5.8
LJU Ljubljana 85.04 316 ⇓i P **P 13 56 28.4 +0.7**
LJU e*PP pP 13 56 36.4 +0.6
LJU pmax pmax
comp=Z,223nm,1.2s,mb6.2
LJU Ljubljana 85.04 316 ⇓i P **P 13 56 28.4 +0.7**
comp=Z,223nm,1.2s,mb6.2
LJU epP pP 13 56 36.4 +0.5
OBKA Obir 85.06 317 ⇓i P **P 13 56 28.3 +0.5**
comp=Z,144nm,1.9s,mb5.8
MOA Molln 85.36 318 ⇑i P **P 13 56 29.3 0.0**
comp=Z,61nm,1.9s,mb5.4
PRU Pruhonice 85.36 320 ⇓i P **P 13 56 29.6 +0.3**
PRU epP pP 13 56 37.2 -0.2
PRU AMS AMS 14 41 00.0
comp=Z,600nm,19.0s
PVCC Panska Ves 85.39 321 ⇓i P **P 13 56 29.8 +0.4**
PVCC epP pP 13 56 37.4 -0.1
PVCC AMS AMS 14 41 10.0
comp=Z,800nm,18.8s
VOY Vojsko 85.48 316 eP **P 13 56 30.0 +0.1**
VOY e pP 13 56 38.6 +0.6
AQU L'Aquila 85.58 312 eP **P 13 56 31.0 +0.5**
AQU pmax pmax
comp=Z,143nm,1.1s,mb6.1
AQU L'Aquila 85.58 312 eP **P 13 56 31.0 +0.5**
comp=Z,143nm,1.1s,mb6.1
CADS Cadrg 85.60 316 ⇓eP **P 13 56 30.3 -0.2**
GEC2 GERESS Array S 85.82 319 eP **P 13 56 31.9 +0.3**
GEC2 pmax pmax
comp=Z,93nm,1.3s,mb5.8
GEC2 GERESS Array S 85.82 319 eP **P 13 56 31.9 +0.3**
comp=Z,93nm,1.3s,mb5.8
GERES GERESS Array B 85.82 319 P **P 13 56 31.9 +0.4**
comp=Z,28nm,1.0s,mb5.5,baz=108,slow=4.2,SNR=137
GERES pP pP 13 56 40.7 +1.0
comp=Z,42nm,1.1s,baz=104,slow=4.0,SNR=16
TRO Tromso 85.82 340 eP **P 13 56 30.6 -0.5**
TRO e 14 07 04.2
TRO AMS AMS 14 38 35.7
comp=Z,940nm,16.4s,MS5.3
BRG Berggiesshubel 85.82 321 i P **P 13 56 32.3 +0.8**
BRG i pP 13 56 39.5 -0.1
BRG eS S 14 07 03.0 +1.6
BRG pmax pmax
comp=Z,64nm,1.5s,mb5.6
BRG MLR MLR
comp=Z,650nm,18.3s,MS5.1
BRG Berggiesshubel 85.82 321 i P **P 13 56 32.3 +0.8**
comp=Z,64nm,1.5s,mb5.6
BRG i pP 13 56 39.5 -0.1
BRG eS S 14 07 03.0 +1.6
BRG eSS SS 14 12 52.0 +10
BRG LR LR
comp=Z,650nm,18.3s,MS5.1
KHC Kasperske Hory 85.92 319 ⇓i P **P 13 56 32.0 -0.1**
KHC epP pP 13 56 40.2 0.0
KHC AMS AMS 14 40 30.0
comp=Z,500nm,19.5s
KBA Koelnbreinsper 85.93 317 ⇑i P **P 13 56 31.7 -0.5**
comp=Z,64nm,2.0s,mb5.5
KBA Koelnbreinsper 85.93 317 ⇑i P **P 13 56 31.7 -0.5**
KBA pmax pmax
comp=Z,65nm,2.0s,mb5.5
SBA Scott Base 85.94 169 eP **P 13 56 33.5 +1.9**
SBA e pP 13 56 41.6 +1.9
SBA pmax pmax
comp=Z,55nm,1.2s,mb5.7
SBA Scott Base 85.94 169 eP **P 13 56 33.5 +1.9**
comp=Z,55nm,1.2s,mb5.7
SBA e pP 13 56 41.6 +1.9
RUE Ruedersdorf 86.05 322 eP **P 13 56 33.2 +0.6**
comp=Z,18nm,0.5s,mb5.5
RUE e pP 13 56 41.5 +0.8
WET Wettzell 86.38 319 eP **P 13 56 34.5 +0.2**
WET pmax pmax
comp=Z,47nm,1.1s,mb5.6
WET Wettzell 86.38 319 eP **P 13 56 34.5 +0.2**
comp=Z,47nm,1.1s,mb5.6
CLL Collm 86.44 321 i P **P 13 56 34.8 +0.2**
CLL i pP 13 56 42.8 +0.1
CLL pmax pmax
comp=Z,36nm,1.2s,mb5.5
CLL MLR MLR
comp=Z,800nm,17.4s,MS5.2
CLL Collm 86.44 321 i P **P 13 56 34.8 +0.2**
comp=Z,36nm,1.2s,mb5.5
CLL i pP 13 56 42.8 +0.1
CLL LR LR
comp=Z,800nm,17.4s,MS5.2
CLL Collm 86.44 321 P **P 13 56 34.8 +0.2**
comp=Z,logA/T=1.5,mb5.5
CLL i *PP pP 13 56 42.8 +0.1
CLL e*SP sP 13 56 48.0 +2.7
CLL e 13 56 57.0
NKC Novy Kostel 86.73 320 ⇓i P **P 13 56 36.2 +0.2**
NKC epP pP 13 56 44.4 +0.3
NKC AMS AMS 14 42 00.0
comp=Z,900nm,18.7s
HFS Hagfors 86.75 330 P **P 13 56 36.5 +0.6**
comp=Z,36nm,1.0s,mb5.6,baz=117,slow=3.3,SNR=30
HFS pP pP 13 56 44.7 +0.7
comp=Z,41nm,1.0s,baz=90,slow=5.9,SNR=15
HFS PP PP 13 59 57.9 -2.8
comp=Z,4.7nm,0.9s,baz=97,slow=12,SNR=3.4
COP Copenhagen 87.08 326 ⇓i P **P 13 56 38.5 +0.9**
COP pmax pmax
comp=Z,61nm,0.9s,mb5.8
COP Copenhagen 87.08 326 ⇓i P **P 13 56 38.5 +0.9**
comp=Z,60nm,0.9s,mb5.8
WTTA Wattenberg 87.10 317 ⇓i P **P 13 56 37.7 -0.2**
comp=Z,82nm,1.5s,mb5.7
WTTA Wattenberg 87.10 317 ⇓i P **P 13 56 37.7 -0.2**
WTTA pmax pmax
comp=Z,82nm,1.5s,mb5.7
WATA Walderalm 87.15 317 ⇑i P **P 13 56 37.6 -0.5**
comp=Z,26nm,1.2s,mb5.3
WATA Walderalm 87.15 317 ⇑i P **P 13 56 37.6 -0.5**
WATA pmax pmax
comp=Z,26nm,1.2s,mb5.3
MOX Moxa 87.28 321 eP **P 13 56 38.9 +0.2**
MOX pmax pmax
comp=Z,55nm,1.6s,mb5.5
MOX Moxa 87.28 321 eP **P 13 56 38.9 +0.2**
comp=Z,55nm,1.6s,mb5.5
MOX Moxa 87.28 321 i P **P 13 56 39.2 +0.5**
comp=Z,logA/T=1.5,mb5.5
MOX L 14 42 29.0
FUR Furstenfeldbru 87.39 318 eP **P 13 56 38.9 -0.4**
SQTA Sankt Quirin 87.39 317 ⇑i P **P 13 56 39.1 -0.2**
comp=Z,16nm,1.0s,mb5.2
SQTA Sankt Quirin 87.39 317 ⇑i P **P 13 56 39.1 -0.2**
SQTA pmax pmax
comp=Z,17nm,1.0s,mb5.2
MOTA Moosalm 87.47 317 ⇑i P **P 13 56 39.4 -0.3**
GRA1 Grafenberg Arr 87.49 320 eP **P 13 56 40.3 +0.6**
comp=Z,60nm,1.1s,mb5.7
GRA1 epP pP 13 56 48.3 +0.5
GRA1 esP sP 13 56 53.3 +2.9
GRF Grafenberg Arr 87.49 320 eP **P 13 56 40.3 +0.6**
GRF e*PP pP 13 56 48.3 +0.5
GRF e*SP sP 13 56 53.3 +2.9
GRF pmax pmax
comp=Z,60nm,1.1s,mb5.7
GRF Grafenberg Arr 87.49 320 eP **P 13 56 40.3 +0.6**
GRF e*PP pP 13 56 48.3 +0.5
GRF e*SP sP 13 56 53.3 +2.9
GRF pmax pmax
comp=Z,60nm,1.1s,mb5.7
GRF Grafenberg Arr 87.49 320 eP **P 13 56 40.3 +0.6**
comp=Z,60nm,1.1s,mb5.7
GRF epP pP 13 56 48.3 +0.5
GRF esP sP 13 56 53.3 +2.9
SARO Sassorosso 87.85 314 P **P 13 56 41.4 -0.2**
NSS Namsos 87.89 334 eP **P 13 56 40.1 -1.2**
NSS AMS AMS 14 41 42.7
comp=Z,1μm,18.9s,MS5.2
VALM 87.97 314 P **P 13 56 42.3 +0.2**
NB2 NORSAR Subarra 88.03 331 P **P 13 56 42.1 +0.1**
comp=Z,1.2nm,0.8s,baz=95,slow=5.3
NB2 NORSAR Subarra 88.03 331 P **P 13 56 42.1 +0.1**
NB2 pmax pmax
comp=Z,1.0nm,0.8s
NB2 NORSAR Subarra 88.03 331 P **P 13 56 42.1 +0.1**
baz=95,slow=5.6
NOA NORSAR Array B 88.03 331 P **P 13 56 42.0 0.0**
comp=Z,16nm,0.9s,mb5.2,baz=94,slow=4.9,SNR=30
NOA pP pP 13 56 50.5 +0.4
comp=Z,21nm,1.1s,baz=97,slow=5.1,SNR=13
NOA PP PP 14 00 08.9 -2.2
comp=Z,3.4nm,1.0s,baz=91,slow=8.4,SNR=4.0
NOA LR LR 14 39 56.0
comp=Z,733nm,21.0s,MS5.1,baz=90,slow=38
BACM 88.09 314 P **P 13 56 41.8 -1.0**
GRAM 88.10 314 P **P 13 56 41.3 -1.5**
CLZ Clausthal 88.11 322 eP **P 13 56 43.0 +0.4**
comp=Z,80nm,1.2s,mb5.8
HDH Heidenheim 88.11 318 eP **P 13 56 42.4 -0.3**
UBR Uberruh 88.16 318 eP **P 13 56 42.5 -0.4**
NAO01 NORSAR Array S 88.19 331 eP **P 13 56 43.1 +0.4**
comp=Z,30nm,1.3s,mb5.4
NAO01 e pP 13 56 50.9 +0.1
BSEG Bad Segeberg 88.22 324 eP **P 13 56 43.6 +0.5**
CODM 88.25 314 P **P 13 56 42.3 -1.2**
DAVA Damuels 88.30 317 ⇓i P **P 13 56 44.2 +0.6**
comp=Z,160nm,1.7s,mb6.0
SIND Sindeldorf 88.53 319 eP **P 13 56 45.1 +0.4**
BUCH Bad Urach 88.68 318 ⇓eP **P 13 56 45.6 +0.2**
KONO Kongsberg 88.78 329 eP **P 13 56 46.0 +0.3**
KONO e pP 13 56 53.7 -0.1
KONO pmax pmax
comp=Z,39nm,1.3s,mb5.6
KONO MLR MLR
comp=Z,898nm,19.0s,MS5.2
KONO Kongsberg 88.78 329 eP **P 13 56 46.0 +0.3**
comp=Z,39nm,1.3s,mb5.6
KONO e pP 13 56 53.7 0.0
KONO LR LR
comp=Z,898nm,19.0s,MS5.2
KONO Kongsberg 88.78 329 eSKSa 14 07 17.5
GUT Gutenstein 88.83 318 ⇓eP **P 13 56 46.2 0.0**
PGF Pioggiola 88.84 312 eP **P 13 56 46.5 +0.1**
comp=Z,326nm,1.7s,mb6.1
PGF Pioggiola 88.84 312 eP **P 13 56 46.5 +0.1**
PGF pmax pmax
comp=Z,163nm,1.7s,mb6.1
MAIT Maitri 88.93 199 eP **P 13 56 48.5 +2.3**
MUD Monsted U'grnd 88.94 326 i P **P 13 56 47.6 +1.1**
MUD pmax pmax
comp=Z,27nm,0.8s,mb5.6
MUD Monsted U'grnd 88.94 326 i P **P 13 56 47.6 +1.1**
comp=Z,27nm,0.8s,mb5.6
SPAK Spaichingen 89.05 318 eP **P 13 56 47.5 +0.3**
SPAK Spaichingen 89.05 318 eP **P 13 56 47.4 +0.2**
LBG Lerchenberg 89.05 318 eP **P 13 56 47.2 0.0**
TOD Tromm 89.06 319 eP **P 13 56 47.5 +0.3**
TOD Tromm 89.06 319 ⇓eP **P 13 56 47.2 0.0**
SWS Schriesheim 89.12 319 eP **P 13 56 47.7 +0.2**
PCP Pian Castagno 89.19 314 P **P 13 56 46.9 -1.1**
TNS Taunus Mts 89.30 320 eP **P 13 56 48.8 +0.5**
TNS pmax pmax
comp=Z,64nm,1.1s,mb5.9
TNS Taunus Mts 89.30 320 eP **P 13 56 48.8 +0.5**
comp=Z,64nm,1.1s,mb5.9
BFO Black Forest 89.36 318 eP **P 13 56 48.3 -0.4**
BFO pmax pmax
comp=Z,25nm,1.0s,mb5.5
BFO Black Forest 89.36 318 eP **P 13 56 48.3 -0.4**
comp=Z,25nm,1.0s,mb5.5
FIN Finale Ligure 89.43 314 P **P 13 56 48.8 -0.3**
KTD Kalmit 89.53 319 eP **P 13 56 50.1 +0.7**
FELD Feldberg 89.58 318 ⇓eP **P 13 56 49.8 +0.1**
ORX Oropa 89.59 315 P **P 13 56 48.6 -1.2**
KIZ Kirchzarten 89.64 318 ⇓eP **P 13 56 49.9 -0.1**
IMI Imperia 89.66 314 P **P 13 56 48.9 -1.3**
ROB Roburent 89.67 314 P **P 13 56 49.2 -1.0**
LANF Langenberg 89.71 319 eP **P 13 56 50.5 +0.2**
MONE Monesi 89.76 314 P **P 13 56 50.0 -0.7**
NEGI Negi 89.79 314 P **P 13 56 49.7 -1.1**
ABH Alteburg 89.87 320 eP **P 13 56 51.8 +0.8**
ABH Alteburg 89.87 320 ⇓eP **P 13 56 51.6 +0.6**
SAOF Saorge 89.90 314 eP **P 13 56 50.9 -0.4**
BBS Basel-Blauen 89.91 317 eP **P 13 56 51.4 +0.1**
BBS Basel-Blauen 89.91 317 eP **P 13 56 51.5 +0.2**
SBF Sospel 89.99 314 eP **P 13 56 51.9 +0.2**
comp=Z,168nm,1.0s,mb6.0
SBF Sospel 89.99 314 eP **P 13 56 51.9 +0.2**
SBF pmax pmax
comp=Z,84nm,1.0s,mb6.0
ENR Entracque 90.00 314 P **P 13 56 51.4 -0.4**
WLS Welschbruch 90.01 318 eP **P 13 56 51.8 +0.1**
CDF Champ du Feu 90.06 318 eP **P 13 56 51.7 -0.3**
comp=Z,41nm,1.0s,mb5.4
CDF Champ du Feu 90.06 318 eP **P 13 56 51.7 -0.3**
CDF pmax pmax
comp=Z,20nm,1.0s,mb5.4
STV2 Anna di Valdie 90.06 314 P **P 13 56 51.9 -0.2**
STV Sta Anna Valdi 90.06 314 P **P 13 56 51.7 -0.4**
BHB Bricherasio 90.10 315 P **P 13 56 50.8 -1.5**
RSP Reno Superiore 90.11 315 P **P 13 56 51.0 -1.2**
TOUF Mont Tournerai 90.12 314 eP **P 13 56 52.6 +0.3**
ECH Echery 90.14 318 eP **P 13 56 52.3 0.0**
MOF Molkenrain 90.16 318 eP **P 13 56 52.5 +0.1**
LSD Ceresole Reale 90.17 315 P **P 13 56 52.5 0.0**
MVIF Mont Vial 90.19 314 eP **P 13 56 53.2 +0.5**
RUP Ruppelstein 90.19 320 eP **P 13 56 53.4 +0.9**

RUP Ruppelstein 90.19 320 eP P 13 56 53.2 +0.7
PZZ Prazzo 90.22 314 P P 13 56 51.8 -1.0
QSPA South Pole Qui 90.24 180 eP P 13 56 53.6 +1.5
comp=Z,62nm,1.2s,mb5.8
FENE Fenestrelle 90.24 315 P P 13 56 52.2 -0.7
WTSB Winterswijk 90.33 322 eP P 13 56 54.1 +1.0
comp=Z,37nm,1.1s,mb5.6
WTSB ex x 13 57 01.1
HINF Hinteralfeld 90.35 318 eP P 13 56 52.9 -0.4
LOMF Lomont 90.38 317 eP P 13 56 53.6 +0.2
CALN Calern 90.38 314 eP P 13 56 53.2 -0.4
WIT Witteveen 90.39 323 ex x 13 56 54.9
RRL Cesana Torines 90.44 315 P P 13 56 53.4 -0.4
MBDF Montbardon 90.45 315 eP P 13 56 53.7 -0.2
comp=Z,38nm,1.0s,mb5.4
MBDF Montbardon 90.45 315 eP P 13 56 53.7 -0.2
MBDF pmax pmax
comp=Z,19nm,1.0s,mb5.4
LPG La Plagne 90.46 315 eP P 13 56 54.4 +0.5
comp=Z,101nm,0.9s,mb5.8
LPG La Plagne 90.46 315 eP P 13 56 54.4 +0.5
LPG pmax pmax
comp=Z,51nm,0.9s,mb5.8
LPL La Plagne 90.47 315 eP P 13 56 54.4 +0.5
comp=Z,123nm,0.9s,mb5.9
LPL La Plagne 90.47 315 eP P 13 56 54.4 +0.5
LPL pmax pmax
comp=Z,61nm,0.9s,mb5.9
CAEH 'Ain El Ouahch 90.50 307 P P 13 56 58.0 +3.7
BNI Bardonecchia 90.52 315 P P 13 56 54.1 0.0
BNI pmax pmax
comp=Z,26nm,0.9s,mb5.6
BNI Bardonecchia 90.52 315 eP P 13 56 54.2 +0.1
comp=Z,26nm,0.9s,mb5.6
FRF La Foret Royal 90.56 313 eP P 13 56 54.6 +0.2
comp=Z,149nm,1.1s,mb5.9
FRF La Foret Royal 90.56 313 eP P 13 56 54.6 +0.2
FRF pmax pmax
comp=Z,75nm,1.1s,mb5.9
AFI Afiamalu 90.58 104 pP pP 13 57 05.9 +2.7
comp=Z,109nm,1.1s,baz=288,slow=8.1,SNR=8.7
CKFL Kef-Lekhel 90.61 306 P P 13 56 57.0 +2.2
LMR La Mourre 90.67 313 eP P 13 56 55.1 +0.2
comp=Z,126nm,1.3s,mb5.8
LMR La Mourre 90.67 313 eP P 13 56 55.1 +0.2
LMR pmax pmax
comp=Z,63nm,1.3s,mb5.8
HAU Haudompre 90.69 318 eP P 13 56 54.8 -0.1
comp=Z,148nm,1.1s,mb5.9
HAU eR
comp=Z,591nm,19.8s
HAU Haudompre 90.69 318 eP P 13 56 54.8 -0.1
HAU pmax pmax
comp=Z,74nm,1.1s,mb5.9
HAU MLR MLR
comp=Z,590nm,19.8s,MS5.0
CASM Ain Smara 90.80 306 P P 13 56 57.0 +1.3
CTEI Djebel Teioual 90.87 306 P P 13 56 57.5 +1.5
HGN Heimansgroeve 90.90 321⇑ eP P 13 56 56.5 +0.7
comp=Z,23nm,1.2s,mb5.4
HGN ex x 13 57 03.7
HGN ex x 13 57 10.5
HGN Heimansgroeve 90.90 321 eS S 14 07 55.9 +7.3
CABF La Chapelle 90.90 316 eP P 13 56 56.4 +0.6
comp=Z,116nm,1.1s,mb5.8
CABF La Chapelle 90.90 316 eP P 13 56 56.4 +0.6
CABF pmax pmax
comp=Z,58nm,1.1s,mb5.8
THEF They Montfort 90.93 318 eP P 13 56 55.9 0.0
TAVF Tavernes 90.99 313 eP P 13 56 52.9 -3.4
ORIF Oris-en-Rattie 91.08 315 eP P 13 56 57.2 +0.5
comp=Z,85nm,1.1s,mb5.7
ORIF eR
comp=Z,694nm,20.5s
GRN Grenoble 91.17 315 eP P 13 56 58.0 +0.9
DFRA Djebel Bou Aff 91.29 306 P P 13 56 53.0 -4.9
SMRF Simiane la Rot 91.33 314 eP P 13 56 58.7 +0.8
comp=Z,125nm,1.1s,mb5.8
MEZF Maizieres J'vi 91.54 318 eP P 13 56 59.1 +0.3
comp=Z,113nm,1.1s,mb5.8
TNA Tin City 91.56 25 eP P 13 56 58.4 0.0
comp=Z,10nm,1.2s,mb5.0
TNA e pP 13 57 07.0 +0.5
TNA LR LR
comp=Z,586nm,20.0s,MS5.0
GIVF Givet 91.63 320 eP P 13 56 59.4 +0.3
comp=Z,73nm,1.1s,mb5.6
GIVF Givet 91.63 320 eP P 13 56 59.4 +0.3
GIVF pmax pmax
comp=Z,37nm,1.1s,mb5.6
VIVF Saint-Julien-l 91.94 315 eP P 13 57 01.1 +0.4
comp=Z,45nm,1.0s,mb5.4
VIVF Saint-Julien-l 91.94 315 eP P 13 57 01.1 +0.4
VIVF pmax pmax
comp=Z,22nm,1.0s,mb5.4
BAIF Baives 92.03 320 eP P 13 57 01.5 +0.6
comp=Z,137nm,1.1s,mb5.9
BAIF Baives 92.03 320 eP P 13 57 01.5 +0.6
BAIF pmax pmax
comp=Z,68nm,1.1s,mb5.9
SMF Signal de Mont 92.44 317 eP P 13 57 03.1 +0.1
comp=Z,113nm,1.0s,mb5.9
SMF Signal de Mont 92.44 317 eP P 13 57 03.1 +0.1
SMF pmax pmax
comp=Z,56nm,1.0s,mb5.8
LASF Ste Croix 92.56 314 eP P 13 57 04.1 +0.5
comp=Z,126nm,1.3s,mb5.9
PLDF La Plantade 92.63 316 eP P 13 57 04.1 +0.3
SSF Saint Saulge 92.65 317 eP P 13 57 04.2 +0.3
SSF pmax pmax
comp=Z,48nm,1.3s,mb5.8
SSF Saint Saulge 92.65 317 eP P 13 57 04.2 +0.3
comp=Z,48nm,1.3s,mb5.8
AVF Avril sur Loir 92.77 317 eP P 13 57 04.5 0.0
comp=Z,93nm,1.1s,mb5.8
AVF Avril sur Loir 92.77 317 eP P 13 57 04.5 0.0
AVF pmax pmax
comp=Z,46nm,1.1s,mb5.8
LBL Lubilhac 92.94 315 eP P 13 57 06.5 +1.2
AGO Saint Agoulin 92.97 316 eP P 13 57 06.0 +0.6
BGF Bois d'Agland 93.13 316 eP P 13 57 06.6 +0.5
comp=Z,132nm,1.1s,mb6.0
BGF Bois d'Agland 93.13 316 eP P 13 57 06.6 +0.5
BGF pmax pmax
comp=Z,66nm,1.1s,mb6.0
HYF Humbligny 93.23 317 eP P 13 57 07.3 +0.8
SNAA Sanae 93.59 198⇑ /P P 13 57 09.6 +1.9
SNAA e 13 57 19.7
SNAA e 13 57 22.7
TCF Toulx Ste Croi 93.59 316 eP P 13 57 08.7 +0.5
comp=Z,68nm,1.4s,mb5.6
TCF Toulx Ste Croi 93.59 316 eP P 13 57 08.7 +0.5
TCF pmax pmax
comp=Z,34nm,1.4s,mb5.6
CAF Calviac 93.79 315 eP P 13 57 09.8 +0.6
comp=Z,52nm,1.2s,mb5.5
CAF Calviac 93.79 315 eP P 13 57 09.8 +0.6
CAF pmax pmax
comp=Z,26nm,1.2s,mb5.5
MTLF Montolieu 93.79 313 eP P 13 57 09.6 +0.3
comp=Z,74nm,1.2s,mb5.7
MTLF Montolieu 93.79 313 eP P 13 57 09.6 +0.3
MTLF pmax pmax
comp=Z,37nm,1.2s,mb5.7
RJF Les Rejaudoux 94.15 315 eP P 13 57 11.5 +0.7
comp=Z,94nm,1.6s,mb5.7
RJF eR
comp=Z,585nm,20.5s
RJF Les Rejaudoux 94.15 315 eP P 13 57 11.5 +0.7
RJF pmax pmax
comp=Z,47nm,1.6s,mb5.7
RJF MLR MLR
comp=Z,590nm,20.5s,MS5.0
LFF La Frestale 94.73 315 eP P 13 57 13.9 +0.4
comp=Z,44nm,1.2s,mb5.5
LFF La Frestale 94.73 315 eP P 13 57 13.9 +0.4
LFF pmax pmax
comp=Z,22nm,1.2s,mb5.5
LDF La Druitiere 94.96 319 eP P 13 57 14.3 -0.2
comp=Z,30nm,1.1s,mb5.3
LDF La Druitiere 94.96 319 eP P 13 57 14.3 -0.2
LDF pmax pmax
comp=Z,15nm,1.1s,mb5.3
JMIC Jan Mayen 94.97 342 AMS AMS 14 49 01.3
comp=Z,459nm,13.7s,MS5.1
FLN La Foliniere 95.18 319 eP P 13 57 15.3 -0.2
FLN eR
comp=Z,534nm,21.5s
VNA2 Neumayer--Watz 95.18 199 P P 13 57 12.0 -3.0
MFF Saint Martin d 95.19 317 eP P 13 57 15.7 +0.1
comp=Z,20nm,0.9s,mb5.2
MFF Saint Martin d 95.19 317 eP P 13 57 15.7 +0.1
MFF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
VNA1 Neumayer--Stat 95.53 199⇑ /P P 13 57 13.1 -3.5
VNA1 e 13 57 25.0
VNA1 e 13 57 28.0
DAG Danmarks Havn 95.58 348⇓ /P P 13 57 16.7 -0.1
DAG pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
DAG Danmarks Havn 95.58 348⇓ /P P 13 57 16.7 -0.1
comp=Z,5.9nm,0.9s,mb5.0
VNA3 Neumayer Olymp 95.81 198⇑ /P P 13 57 16.4 -1.5
VNA3 e pP 13 57 26.3 +0.3
VNA3 e 13 57 28.9
ETSF Etsaut 95.86 313 eP P 13 57 19.2 +0.4
comp=Z,16nm,0.8s,mb5.2
ETSF Etsaut 95.86 313 eP P 13 57 19.2 +0.4
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
SJPF Ste Jean 96.32 313 eP P 13 57 21.4 +0.5
comp=Z,64nm,1.4s,mb5.6
SJPF Ste Jean 96.32 313 eP P 13 57 21.4 +0.5
SJPF pmax pmax
comp=Z,32nm,1.4s,mb5.6
TTA Tatalina 97.12 26 eP P 13 57 26.7 +2.8
IMA Indian Mountai 97.22 23 P P 13 57 26.2 +1.9
IMA pmax pmax
comp=Z,67nm,0.9s,mb6.1
IMA Indian Mountai 97.22 23 eP P 13 57 25.8 +1.5
SVW2 Sparrevohn 97.78 28 eP P 13 57 28.9 +1.9
ESDC Sonseca Array 98.78 310 P P 13 57 32.0 0.0
comp=Z,0.9nm,0.7s,baz=32,slow=5.1,SNR=4.4
ESDC PP PP 14 01 33.5 -2.4
comp=Z,2.0nm,0.8s,baz=80,slow=7.7,SNR=5.0
ESLA Sonseca Array 98.78 310 PFAKE 13 57 40.0 +8.0
ESLA LR LR
comp=Z,2μm,21.0s,MS5.6
MCK McKinley 99.90 24 eP P 13 57 37.1 +0.5
MCK pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
MCK MLR MLR
comp=Z,286nm,19.0s,MS4.8
MCK McKinley 99.90 24 eP P 13 57 37.1 +0.5
comp=Z,8.2nm,1.1s,mb5.1
MCK LR LR
comp=Z,286nm,19.0s,MS4.8
COLA College 99.92 23 PFAKE 13 57 50.0 +13
COLA LR LR
comp=Z,711nm,20.0s,MS5.2
KDAK Kodiak Island 100.17 31 PFAKE 13 57 50.0 +12
KDAK LR LR
comp=Z,210nm,19.0s,MS4.7
FIB Fire Island 100.27 27 PFAKE 13 57 50.0 +12
FIB LR LR
comp=Z,2μm,22.0s,MS5.6
ILAR Eielson Array 100.34 23 P P 13 57 38.8 +0.3
comp=Z,0.2nm,0.8s,baz=259,slow=4.6,SNR=3.5
ILAR PP PP 14 01 41.9 -5.6
comp=Z,3.8nm,1.1s,baz=304,slow=7.1,SNR=7.4
ILAR PKKPbc 14 13 54.8
comp=Z,1.4nm,0.9s,baz=153,slow=2.1,SNR=9.4
SML Sawmill 100.87 26 eP P 13 57 42.8 +1.9
DIV Divide 102.26 26 PFAKE 13 58 00.0 +13
DIV LR LR
comp=Z,2μm,19.0s,MS5.6
DBIC Dimbokro 102.43 277 P Pdif 13 57 49.3 +0.2
comp=Z,6.3nm,1.2s,baz=80,slow=5.7,SNR=3.4
DBIC Dimbokro 102.43 277 P Pdif 13 57 49.3 +0.2
DBIC LR LR
comp=Z,665nm,21.0s,MS5.1
INK Inuvik 103.19 17 P Pdif 13 57 51.4 +0.3
INK 14 02 02.6
INK Inuvik 103.19 17 Pdiff Pdif 13 57 51.4 +0.2
comp=Z,0.8nm,0.9s,baz=254,slow=7.5,SNR=4.0
INK pP 13 57 59.5
comp=Z,2.9nm,0.9s,baz=289,slow=6.1,SNR=5.9
INK PP PP 14 02 02.6 -6.4
comp=Z,1.9nm,0.9s,baz=293,slow=8.8,SNR=3.7
DAWY Dawson 103.56 22 Pdif Pdif 13 57 54.9 +2.0
SIT Sitka 108.93 27 PFAKE 14 02 30.0
SIT LR LR
comp=Z,1μm,20.0s,MS5.4
TBI Tubuai 111.03 115 eSS SS 14 19 00.1 +25
TBI eLR LR 14 35 12.7
comp=Z,816nm,23.8s
PPT Papeete 111.72 109 ePP PP 14 03 01.2 -12
PPT ePS PS 14 12 54.5 +14
PPT eLR LR 14 35 31.6
comp=Z,688nm,25.0s
YKW3 Yellowknife Ar 112.77 16 PKiKP 14 02 28.5
YKA Yellowknife Ar 112.83 16 PKiKP 14 02 28.4
comp=Z,1.2nm,1.0s,baz=326,slow=2.4,SNR=9.9
YKA PP PP 14 03 13.6 -6.9
comp=Z,1.6nm,1.0s,baz=328,slow=7.2,SNR=8.6
YKA PKKPbc 14 13 16.2
comp=Z,1.0nm,0.8s,baz=141,slow=3.6,SNR=18
YKA Yellowknife Ar 112.83 16 PKPdf PKPdf 14 02 28.4 -3.5
YKA PP PP 14 03 13.6 -6.9
YKA PKKPbc 14 13 16.2
FCC Fort Churchill 120.39 7 ePKIKP PKPdf 14 02 42.5 -4.2
FCC e 14 02 50.6
EDM Edmonton 120.74 21 ePKIKP PKPdf 14 02 43.5 -4.0
EDM e 14 02 52.4
NEW Newport 123.01 27 PKP PKPdf 14 02 48.8 -3.1
comp=Z,3.5nm,0.8s,baz=280,slow=2.0,SNR=7.1
NEW pPKP 14 02 57.3
comp=Z,8.3nm,0.9s,baz=142,slow=0.6,SNR=7.2
NEW Newport 123.01 27 ePKPdf PKPdf 14 02 48.1 -3.9
NEW e 14 02 57.0
NEW LR LR
comp=Z,855nm,19.0s,MS5.4
HAWA Hanford 123.19 30 ePKPdf PKPdf 14 02 48.4 -4.0
HAWA e 14 02 57.9
HAWA LR LR
comp=Z,41nm,19.7s
SCHQ Schefferville 123.61 349 PKP PKPdf 14 02 49.7 -3.3
comp=Z,4.3nm,0.9s,baz=17,slow=2.5,SNR=6.9
SCHQ pPKP 14 02 57.3
comp=Z,6.0nm,1.0s,baz=35,slow=7.1,SNR=6.6
SCHQ PP PP 14 04 31.8 -3.5
comp=Z,8.3nm,1.1s,baz=26,slow=5.5,SNR=4.5
SCHQ Schefferville 123.61 349 PKP PKPdf 14 02 49.7 -3.3
SCHQ pPKP 14 02 57.3
SCHQ PP PP 14 04 31.8 -3.5
SCHQ LR LR
comp=Z,1μm,21.0s,MS5.5
WALA Waterton Lakes 123.81 25 ePKP PKPdf 14 02 50.0 -3.5
HUMO Hull Mountain 123.83 35 ePKPdf PKPdf 14 02 50.7 -3.1
HUMO e 14 02 59.7
HUMO LR LR
comp=Z,481nm,20.0s,MS5.2
RKT Rikitea 124.08 118 eSS SS 14 21 29.7 +5.2
RKT eLR LR 14 41 18.1
comp=Z,583nm,26.5s
YBH Yreka Blue Hor 124.52 36 PKP PKPdf 14 02 52.3 -2.9
comp=Z,1.8nm,0.9s,baz=24,slow=3.5,SNR=2.6
YBH pPKP 14 03 00.2
comp=Z,5.1nm,1.1s,baz=288,slow=11,SNR=4.5
BMO Blue Mountains 125.39 30 PFAKE 14 03 10.0 +13
BMO LR LR
comp=Z,410nm,20.0s,MS5.1
MSO Missoula 125.52 26 ePKPdf PKPdf 14 02 53.7 -3.2
MSO e 14 03 01.8
MSO LR LR
comp=Z,535nm,19.0s,MS5.2
CHMT Chamberlain Mo 125.75 26 ePKPdf PKPdf 14 02 53.9 -3.5
CHMT e 14 03 02.2
MOD Modoc 125.80 35 ePKPdf PKPdf 14 02 55.1 -2.5
MOD e 14 03 03.4
MOD LR LR
comp=Z,486nm,20.0s,MS5.2
WVOR Wild Horse Val 126.37 33 ePKIKP PKPdf 14 02 56.4 -2.2
WVOR e 14 03 04.6
WVOR MLR MLR
comp=Z,655nm,20.0s,MS5.3
HRY Holter Researc 126.52 25 ePKPdf PKPdf 14 02 56.4 -2.4
NSHM Saint Helena R 126.52 39 ePKPdf PKPdf 14 02 57.2 -1.8
NSHM e 14 03 04.6
BOZ Bozeman (W) 127.45 26 ePKIKP PKPdf 14 02 58.0 -2.7
BOZ MLR MLR
comp=Z,707nm,20.0s,MS5.3
MCMT McKenzie Canyo 127.54 27 ePKPdf PKPdf 14 02 58.3 -2.5
MCMT e 14 03 06.7
HLID Hailey 127.75 29 ePKPdf PKPdf 14 02 58.9 -2.5
HLID e 14 03 07.3
HLID LR LR
comp=Z,583nm,19.0s,MS5.3
WCN Washoe City 127.79 37 PKIKP PKPdf 14 02 58.3 -3.2
QLMT Earthquake Lak 128.18 26 ePKPdf PKPdf 14 03 00.6 -1.6
QLMT e 14 03 07.5
CMB Columbia Colle 128.21 38 PFAKE 14 03 10.0 +7.6
CMB LR LR
comp=Z,562nm,19.0s,MS5.3
SAO San Andreas Ge 128.30 40 PFAKE 14 03 10.0 +7.4
SAO LR LR
comp=Z,341nm,19.0s,MS5.0
ULM Lac du Bonnet 128.33 11 PKP PKPdf 14 02 58.8 -3.5
comp=Z,5.3nm,0.8s,baz=341,slow=3.9,SNR=7.0
ULM pPKP 14 03 06.8
comp=Z,18nm,1.1s,baz=349,slow=4.0,SNR=8.1
ULM Lac du Bonnet 128.33 11 ePKPdf PKPdf 14 02 58.4 -3.9
ULM e 14 03 05.7
ULM LR LR
comp=Z,1μm,20.0s,MS5.5
YMR Madison River 128.51 26 ePKPdf PKPdf 14 03 01.2 -1.6
YMR e 14 03 09.4
BMN Battle Mountai 128.51 34 ePKIKP PKPdf 14 02 59.8 -3.1
BMN e 14 03 08.8
BMN MLR MLR
comp=Z,473nm,20.0s,MS5.2
YNR Norris Junctio 128.59 26 ePKPdf PKPdf 14 03 02.0 -0.9
LAO LASA Array 128.73 21 ePKPdf PKPdf 14 03 00.7 -2.4
LAO e 14 03 09.2
LAO LR LR
comp=Z,669nm,19.0s,MS5.3
YFT Old Faithful 128.74 26 ePKPdf PKPdf 14 03 02.5 -0.7
LKWY Lake 128.83 26 PFAKE 14 03 10.0 +6.6
LKWY LR LR
comp=Z,786nm,20.0s,MS5.4
NVAR Mina Array Bea 129.22 37 PKP PKPdf 14 03 02.0 -2.3
comp=Z,2.7nm,0.9s,baz=78,slow=14,SNR=3.5
NVAR pPKP 14 03 09.9
comp=Z,14nm,1.0s,baz=285,slow=0.1,SNR=18
NVAR SKPbc 14 06 21.6
comp=Z,1.3nm,0.9s,baz=250,slow=0.7,SNR=3.8
MNV Mina 129.31 36 ePKIKP PKPdf 14 03 01.7 -2.8
MNV MLR MLR
comp=Z,524nm,19.0s,MS5.2
OMM Old Mammoth Mi 129.32 38 ePKPdf PKPdf 14 03 03.2 -1.3
MOOW Moose Ponds 129.33 26 ePKPdf PKPdf 14 03 01.7 -2.7
MOOW e 14 03 09.3
ELK Elko 129.38 32 ePKIKP PKPdf 14 03 01.8 -2.7
ELK MLR MLR
comp=Z,556nm,19.0s
RRI2 Red Ridge 129.38 27 ePKPdf PKPdf 14 03 02.0 -2.5
TPAW Teton Pass 129.44 27 ePKPdf PKPdf 14 03 02.0 -2.6
TPAW e 14 03 10.5
WUWY Wally Ulrich 129.50 27 ePKPdf PKPdf 14 03 02.1 -2.6
LOHW Long Hollow 129.50 27 ePKPdf PKPdf 14 03 03.1 -1.6
LOHW e 14 03 09.5
SNOW Snow King Moun 129.55 27 ePKPdf PKPdf 14 03 02.6 -2.2
SNOW e 14 03 10.8
REDW Red Top Meadow 129.59 27 ePKPdf PKPdf 14 03 02.3 -2.6
AHID Auburn Hatcher 129.94 28 PFAKE 14 03 10.0 +4.5
AHID LR LR
comp=Z,526nm,20.0s,MS5.2
TPH Tonopah 130.09 36 PFAKE 14 03 10.0 +4.0
TPH LR LR
comp=Z,384nm,19.0s,MS5.1
BW06 Boulder Array 130.64 26 PFAKE 14 03 20.0 +13
BW06 LR LR
comp=Z,613nm,20.0s,MS5.3
PDAR Pinedale Array 130.64 26 PKP PKPdf 14 03 03.6 -3.2
comp=Z,2.1nm,0.9s,baz=347,slow=0.4,SNR=15
PDAR pPKP 14 03 13.2
comp=Z,8.1nm,1.1s,baz=315,slow=1.3,SNR=18
PDAR SKPbc 14 06 26.8
comp=Z,2.3nm,1.0s,slow=3.0,SNR=5.3
TRCR Troy Canyon 130.86 35 ePKPdf PKPdf 14 03 03.8 -3.6
DAC Darwin (Calif) 131.04 38 PFAKE 14 03 20.0 +12
DAC LR LR
comp=Z,406nm,19.0s,MS5.1
DUG Dugway 131.05 31 ePKIKP PKPdf 14 03 05.2 -2.5
DUG MLR MLR
comp=Z,441nm,21.0s,MS5.1
EYMN Ely 131.30 8 ePKPdf PKPdf 14 03 05.3 -2.6
EYMN e 14 03 12.2
EYMN LR LR
comp=Z,857nm,19.0s,MS5.5
JLU Jordanelle 131.43 30 ePKPdf PKPdf 14 03 07.1 -1.4
PQI Presque Isle 131.58 347 PFAKE 14 03 20.0 +11
PQI LR LR
comp=Z,4μm,22.0s,MS6.0
NLU North Lily Min 131.61 31 ePKPdf PKPdf 14 03 06.3 -2.5
NLU e 14 03 14.5
RSSD Black Hills 131.72 21 ePKIKP PKPdf 14 03 05.7 -3.2
RSSD e 14 03 13.9
RSSD MLR MLR
comp=Z,940nm,21.0s,MS5.5
MPU Maple Canyon 131.78 30 ePKPdf PKPdf 14 03 07.1 -2.0
MWC Mount Wilson 132.04 41 PKIKP PKPdf 14 03 09.3 -0.5
ARUT Antelope Range 132.46 34 ePKIKP PKPdf 14 03 09.2 -1.3
TMUT Trail Mountain 132.54 31 ePKPdf PKPdf 14 03 08.5 -2.1
MVU Marysvale 132.61 32 ePKPdf PKPdf 14 03 09.1 -1.6
MVU LR LR
comp=Z,475nm,22.0s,MS5.2
MSU Marysvale 132.62 32 ePKIKP PKPdf 14 03 09.3 -1.5
SRU San Rafael 133.03 30 ePKIKP PKPdf 14 03 10.1 -1.4
EMMW East Machias 133.29 345 PFAKE 14 03 20.0 +8.2
EMMW LR LR
comp=Z,4μm,21.0s,MS6.1
LDFC Landfair 133.35 38 ePKPdf PKPdf 14 03 11.3 -0.8
RCBR Riachuelo 133.36 262 PFAKE 14 03 20.0 +7.3
RCBR LR LR
comp=Z,761nm,20.0s,MS5.4
PFO Pinyon Flat Ob 133.46 40 ePKIKP PKPdf 14 03 11.1 -1.3
PFO MLR MLR
comp=Z,101nm,19.0s,MS4.5
BAR Barrett 133.90 41 PKPdf PKPdf 14 03 10.7 -2.5
WVL Waterville 133.94 347 PFAKE 14 03 20.0 +7.0
WVL LR LR
comp=Z,3μm,21.0s,MS6.0
PV10 Paradox Valley 134.34 30 ePKPdf PKPdf 14 03 12.0 -2.0
PV01 Paradox Valley 134.75 29 ePKP PKPdf 14 03 09.2 -5.5
ISCO Idaho Springs 134.78 25 ePKIKP PKPdf 14 03 13.3 -1.4
ISCO MLR MLR
comp=Z,515nm,19.0s,MS5.3
WUAZ Wupatki 135.25 34 ePKPdf PKPdf 14 03 12.6 -3.1
WUAZ e 14 03 22.2
NCB Newcomb 135.35 352 PFAKE 14 03 20.0 +4.4
NCB LR LR
comp=Z,534nm,20.0s,MS5.3
HRV Harvard--Oak R 136.31 348 PFAKE 14 03 30.0 +13
HRV LR LR
comp=Z,541nm,22.0s,MS5.2
SDCO Great Sand Dun 136.52 27 ePKPdf PKPdf 14 03 14.0 -3.9
SDCO LR LR
comp=Z,664nm,19.0s,MS5.4
ERPA Erie 137.73 357 PFAKE 14 03 30.0 +10
ERPA LR LR
comp=Z,930nm,20.0s,MS5.5
TUC Tucson 137.87 37 ePKIKP PKPdf 14 03 16.1 -4.5
TUC MLR MLR
comp=Z,315nm,20.0s,MS5.0
CBKS Cedar Bluff 137.92 20 PFAKE 14 03 30.0 +9.5
CBKS LR LR
comp=Z,634nm,22.0s,MS5.3
ANMO Albuquerque 138.30 30 ePKIKP PKPdf 14 03 20.5 -0.8
ANMO MLR MLR
comp=Z,689nm,19.0s
PLCA Paso Flores 138.35 193 PKhKP 14 03 09.5
comp=Z,2.2nm,1.0s,baz=315,slow=7.1,SNR=3.9
PLCA PKP PKPdf 14 03 18.9 -2.3
comp=Z,5.4nm,1.1s,baz=30,slow=3.0,SNR=3.8
PLCA Paso Flores 138.35 193 PKP PKPdf 14 03 09.5 -12
PLCA PKP PKPdf 14 03 18.9 -2.3
KSU1 Kansas State U 138.66 17 ePKPdf PKPdf 14 03 18.0 -3.8
SSPA Standing Stone 139.07 355 PFAKE 14 03 30.0 +7.5
SSPA LR LR
comp=Z,887nm,22.0s,MS5.5
MVL Millersville 139.53 353 ePKPdf PKPdf 14 03 20.2 -3.2
ACSO Alum Creek Sta 139.66 1 ePKPdf PKPdf 14 03 20.1 -3.5
ACSO LR LR
comp=Z,821nm,20.0s,MS5.5

MCWV Mont Chateau 140.18 357 PFAKE 14 03 30.0 +5.4
MCWV LR LR
comp=Z,929nm,20.0s,MS5.5
BLO Bloomington 140.54 5 *e*PKIKP PKPdf 14 03 23.9 -1.4
AMTX Amarillo 140.60 25 PFAKE 14 03 30.0 +4.5
AMTX LR LR
comp=Z,763nm,19.0s,MS5.5
CCM Cathedral Cave 140.96 11 *e*PKIKP PKPdf 14 03 22.4 -3.7
CCM MLR MLR
comp=Z,558nm,21.0s,MS5.3
FVM French Village 141.19 10 *e*PKIKP PKPdf 14 03 22.8 -3.7
MNTX Cornudas Mount 141.40 32 *e*PKPpre 14 03 20.6
MNTX PKPdf PKPdf 14 03 24.9 -2.2
MNTX *e* 14 03 32.6
MNTX LR LR
comp=Z,507nm,20.0s,MS5.3
CBN Corbin 141.43 354 PFAKE 14 03 40.0 +13
CBN LR LR
comp=Z,999nm,20.0s,MS5.6
WMOK Wichita Mounta 141.90 22 *e*PKHKP 14 03 19.1
BLA Blacksburg 142.65 358 PFAKE 14 03 40.0 +11
BLA LR LR
comp=Z,1μm,21.0s,MS5.6
BAO Brasilia Array 142.85 244 PKPdf PKPdf 14 03 23.5 -6.4
BDFB Brasilia 142.87 244 PKhKP 14 03 23.7
comp=Z,15nm,0.8s,baz=88,slow=3.7,SNR=22
BDFB pPKP PKPdf 14 03 27.1 -2.8
comp=Z,15nm,0.8s,baz=128,slow=2.5,SNR=21
TZTN Tazewell 143.33 2 *e*PKPpre 14 03 23.5
WVT Waverly 143.40 8 *e*PKIKP PKPdf 14 03 23.0 -7.3
MIAR Mount Ida 143.77 16 *e*PKIKP PKPdf 14 03 25.6 -5.4
MIAR *e* 14 03 34.0
MIAR MLR MLR
comp=Z,792nm,21.0s,MS5.5
UALR University of 143.87 14 *e*PKPpre 14 03 25.4
UALR *e* 14 03 33.1
LTX Lajitas 144.17 33 *e*PKIKP PKPdf 14 03 28.6 -3.2
LTX MLR MLR
comp=Z,667nm,20.0s,MS5.4
TXAR Lajitas Array 144.17 33 PKP PKPdf 14 03 28.4 -3.4
comp=Z,8.8nm,1.0s,baz=270,slow=2.5,SNR=48
TXAR pPKP 14 03 36.6
comp=Z,33nm,1.0s,baz=243,slow=2.0,SNR=26
CPCT Cooper Cave 144.38 3 *e*PKP PKPdf 14 03 26.8 -5.2
CPCT *e* 14 03 35.0
PLAL Pickwick Lake 144.50 8 *e*PKP PKPdf 14 03 26.6 -5.7
PLAL *e* 14 03 34.8
PLAL LR LR
comp=Z,1μm,20.0s,MS5.6
SWET Sewanee 144.51 5 *e*PKP PKPdf 14 03 26.6 -5.7
LMEL Las Melosas 144.74 198 ⇓*i*P pPKbc 14 03 29.0 +1.0
OXF Oxford 144.75 10 *e*PKIKP PKPdf 14 03 28.2 -4.5
OXF *e* 14 03 36.5
OXF MLR MLR
comp=Z,733nm,19.0s,MS5.5
JCT Junction City 145.17 27 *e*PKIKP PKPdf 14 03 30.3 -3.3
JCT *e* 14 03 38.0
JCT MLR MLR
comp=Z,574nm,21.0s,MS5.3
CLCH Cerro Calan 145.26 197 *i*P PKPbc 14 03 30.3 +0.8
JSC Jenkinsville 145.59 358 *e*PKP2 PKPab 14 03 30.9 -1.2
NATX Nacogdoches 146.04 19 *e*PKP PKPdf 14 03 32.6 -2.4
NATX *e* 14 03 40.9
NATX LR LR
comp=Z,956nm,20.0s,MS5.6
CFAA Coronel Fontan 146.13 202 PKPbc PKPbc 14 03 33.0 +1.4
comp=Z,4.5nm,0.8s,baz=187,slow=2.1,SNR=12
CFAA pPKPbc 14 03 41.8
comp=Z,4.0nm,0.9s,baz=226,slow=1.5,SNR=4.8
GOGA Godfrey 146.46 2 PKP2 PKPab 14 03 33.6 -1.9
GOGA Godfrey 146.46 2 *e*PKPbc PKPbc 14 03 33.6 +1.3
GOGA *e* 14 03 42.1
GOGA LR LR
comp=Z,835nm,20.0s,MS5.5
COW Cow Castle Cre 146.47 358 *e*PKPdf PKPdf 14 03 33.8 -1.9
COW *e* 14 03 41.3
LRAL Lakeview Retre 146.56 7 *e*PKPdf PKPdf 14 03 32.7 -3.2
LRAL LR LR
comp=Z,1μm,19.0s,MS5.7
TWB Tillmans-White 146.71 357 *e*PKPbc PKPbc 14 03 35.5 +2.6
NHSC New Hope 146.72 357 *e*PKPbc PKPbc 14 03 34.4 +1.4
NHSC *e* 14 03 43.0
NHSC LR LR
comp=Z,843nm,21.0s,MS5.5
TLL Tololo Astrono 148.34 199 *i*P PKPdf 14 03 38.9 0.0
DWPF Disney 151.75 358 PFAKE 14 03 50.0 +5.8
DWPF LR LR
comp=Z,1μm,20.0s,MS5.6
SIV San Ignacio 153.88 232 PKP PKPdf 14 03 44.7 -2.8
comp=Z,3.3nm,0.9s,baz=98,slow=2.6,SNR=17
SIV PKPbc PKPdf 14 03 51.7 +4.3
comp=Z,6.0nm,0.9s,baz=122,slow=3.1,SNR=17
SIV PKPab PKPab 14 04 06.3 -0.1
comp=Z,5.4nm,1.0s,baz=122,slow=6.4,SNR=5.6
LVC Limon Verde 154.26 210 PKPbc PKPdf 14 03 53.1 +5.2
comp=Z,10nm,1.1s,baz=212,slow=1.6,SNR=9.0
LVC PKPab PKPab 14 04 08.7 +0.8
comp=Z,39nm,0.9s,baz=168,slow=2.3,SNR=27
LVC Limon Verde 154.26 210 *e*PKPbc PKPdf 14 03 54.5 +6.6
LVC *e*PKPab PKPab 14 04 08.7 +0.8
SJG San Juan 155.78 320 PFAKE 14 04 00.0 +10
SJG LR LR
comp=Z,708nm,20.0s,MS5.5
TEIG Tepich 158.79 16 PFAKE 14 04 00.0 +6.2
TEIG LR LR
comp=Z,289nm,19.0s,MS5.1
LPAZ La Paz 158.83 221 *e*PKIKP PKPdf 14 03 52.0 -1.9
LPAZ *e* 14 04 00.6
LPAZ MLR MLR
comp=Z,489nm,20.0s
LPAZ La Paz 158.83 221 PKP PKPdf 14 03 52.1 -1.8
comp=Z,3.8nm,0.8s,baz=54,slow=4.5,SNR=14
LPAZ pPKP 14 04 01.0
comp=Z,3.7nm,0.8s,baz=24,slow=2.9,SNR=6.7
LPAZ PKPab PKPab 14 04 28.6 +1.0
comp=Z,5.4nm,0.8s,baz=116,slow=4.9,SNR=7.0
LPAZ La Paz 158.83 221 *e*PKPdf PKPdf 14 03 52.0 -1.9
LPAZ *e* 14 04 00.6
LPAZ *e*PKPab PKPab 14 04 28.6 +1.0
LPAZ LR LR
comp=Z,489nm,20.0s,MS5.3
SAML Samuel 159.10 245 *e*PKPdf PKPdf 14 03 51.1 -3.3
SAML *e* 14 03 59.9
SAML *e*PKPab PKPab 14 04 28.0 -0.8
SAML LR LR
comp=Z,706nm,19.0s,MS5.5
SDV Santo Domingo 165.22 308 PFAKE 14 04 10.0 +9.5
SDV LR LR
comp=Z,551nm,19.0s
NNA Nana 167.18 205 PFAKE 14 04 10.0 +8.0
NNA LR LR
comp=Z,140nm,19.0s
JTS JuntasAbangare 169.16 14 PFAKE 14 04 10.0 +6.8
JTS LR LR
comp=Z,161nm,19.0s
ROSC El Rosal 170.53 303 PKP PKPdf 14 04 01.1 -3.0
comp=Z,5.5nm,0.6s,baz=217,slow=4.9,SNR=8.8
ROSC PKPab PKPab 14 05 18.8 +0.1
comp=Z,6.5nm,0.8s,baz=3.1,slow=4.1,SNR=2.5
OTAV Otavalo 176.11 278 *e*PKPdf PKPdf 14 04 03.5 -2.9
OTAV *e*PKPab PKPab 14 05 43.8 +0.3
OTAV LR LR
comp=Z,4μm,19.0s

NEIC ***17*** *13:48:51.7±0.8,2.60N×122.26E,h540km±8km,mb4.5/4, Error ellipse: s-maj=12.8km s-min=6.4km az=70.0*
IDC ***17*** *13:48:52.3±2.2,2.57N×122.27E,h544km±27km,mb3.7/19, mb1 3.7/19,mb1mx3.6/26,mbtmp4.5/19,Error ellipse: s-maj=20.2km s-min=11.2km az=83.0*
ISC 17 13:48:50.3±1.2,2.59N±0.08×122.3E±0.1,h537km±14km, n34,σ0°56/31,mb4.2/20,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**6.96**	**300**	*e*P	**P**	**13 50 38.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.82**	**171**	P	**P**	**13 52 55.1**	**-0.5**
	12nm,0.5s,baz=4.6,slow=11,SNR=12						
MBWA	**Marble Bar**	**23.74**	**186**	*e*P	**P**	**13 53 22.0**	**-0.2**
	5.2nm,0.5s,mb4.4						
JOW	**Kunigami**	**24.78**	**13**	P	**P**	**13 53 31.6**	**+0.2**
	9.7nm,0.4s,mb4.8,baz=159,slow=4.8,SNR=5.6						
WRAB	**Tennant Creek**	**25.32**	**153**	P	**P**	**13 53 36.0**	**-0.3**
WRA	**Warramunga Arr**	**25.32**	**153**	P	**P**	**13 53 35.9**	**-0.4**

2005 APR

	8.7nm,0.9s,mb4.4,baz=336,slow=9.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**27.79**	**306**	P	**P**	**13 53 58.8**	**+0.8**
	2.1nm,0.6s,mb3.9,baz=124,slow=6.7,SNR=8.7						
ASAR	**Alice Springs**	**28.44**	**157**	PcP	PcP	13 56 59.0	+0.2
	0.5nm,0.3s,baz=348,slow=2.4,SNR=6.5						
ENH	**Enshi**	**30.09**	**338**	*e*P	**P**	**13 54 16.5**	**-1.2**
	15nm,1.0s,mb4.5						
NWAO	**Narrogin (SRO)**	**35.65**	**187**	P	**P**	**13 55 05.0**	**+0.5**
	7.7nm,0.6s,mb4.4,baz=27,slow=6.8,SNR=5.8						
NWAO	**Narrogin (SRO)**	**35.65**	**187**	P	**P**	**13 55 05.0**	**+0.5**
ASAJ	**Asahikawa**	**45.09**	**21**	P	**P**	**13 56 20.4**	**+0.3**
	10nm,0.5s,mb4.6,baz=215,slow=6.4,SNR=7.0						
HYB	**Hyderabad**	**45.38**	**292**	*e*P	**P**	**13 56 22.0**	**-0.6**
HYB	**Hyderabad**	**45.38**	**292**	*i* P	**P**	**13 56 22.0**	**-0.6**
BVAR	**Borovoye Array**	**65.92**	**329**	P	**P**	**13 58 44.1**	**-0.5**
	2.4nm,0.7s,mb3.9,baz=132,slow=8.5,SNR=4.8						
OPO	**Ambohidratompo**	**76.74**	**250**	P	**P**	**13 59 48.3**	**+0.1**
	1.8nm,0.3s,mb3.9,baz=82,slow=5.0,SNR=7.9						
MAW	**Mawson**	**81.18**	**200**	P	**P**	**14 00 11.6**	**+0.9**
	0.6nm,0.3s,mb3.5,baz=320,slow=7.9,SNR=5.4						
MAW	**Mawson**	**81.18**	**200**	*e*P	**P**	**14 00 11.4**	**+0.8**
ASF	**Jabal al Asfar**	**84.73**	**302**	P	**P**	**14 00 29.4**	**+0.3**
	6.2nm,0.7s,mb4.2,baz=355,slow=4.4,SNR=7.0						
KMBO	**Kilima Mbogo**	**85.10**	**269**	P	**P**	**14 00 31.9**	**+0.6**
	3.7nm,0.8s,mb4.0,baz=18,slow=6.4,SNR=10						
KMBO	**Kilima Mbogo**	**85.10**	**269**	*e*P	**P**	**14 00 31.8**	**+0.4**
	4.5nm,0.9s,mb4.0						
EIL	**Elat**	**86.42**	**299**	P	**P**	**14 00 37.6**	**+0.4**
	2.1nm,0.5s,mb4.0,baz=56,slow=7.3,SNR=2.9						
BRTR	**Keskin Array B**	**87.33**	**309**	P	**P**	**14 00 41.2**	**-0.1**
	0.9nm,0.5s,mb3.7,baz=142,slow=6.0,SNR=3.8						
ILAR	**Eielson Array**	**88.03**	**25**	P	**P**	**14 00 44.4**	**+0.4**
	0.4nm,0.9s,mb3.1,baz=260,slow=5.5,SNR=3.1						
JOF	**Joensuu**	**88.16**	**333**	*e*p	**P**	**14 00 44.1**	**-0.5**
DIV	**Divide**	**88.69**	**29**	*e*P	**P**	**14 00 47.9**	**+0.8**
	15nm,0.6s,mb5.0						
AKASG	**Malin Array Be**	**89.96**	**321**	P	**P**	**14 00 52.6**	**-0.7**
	0.7nm,0.5s,mb3.7,baz=69,slow=4.7,SNR=3.8						
ARCES	**ARCESS Array B**	**89.97**	**340**	P	**P**	**14 00 53.6**	**+0.8**
	0.0nm,0.1s,baz=90,slow=3.6,SNR=4.5						
KAF	**Kangasniemi**	**90.54**	**332**	*e*p	**P**	**14 00 54.8**	**-0.8**
FINES	**FINESS Array B**	**90.72**	**331**	P	**P**	**14 00 55.8**	**-0.7**
	1.2nm,0.6s,mb4.0,baz=90,slow=3.8,SNR=4.5						
MATP	**Matopo**	**94.45**	**250**	P	**P**	**14 01 14.2**	**-0.4**
	3.0nm,0.8s,mb4.5,baz=77,slow=6.0,SNR=5.2						
HFS	**Hagfors**	**96.93**	**331**	P	**P**	**14 01 25.2**	**+0.4**
	2.0nm,0.8s,mb4.4,baz=304,slow=5.2,SNR=3.1						
TRQA	**Tornquist**	**144.49**	**174**	*e*PKP	PKPdf	14 07 28.1	+2.5
CFAA	**Coronel Fontan**	**149.48**	**162**	PKPbc	PKPdf	14 07 41.0	+6.9
	0.3nm,0.4s,baz=210,slow=1.9,SNR=5.4						

NIED ***17*** *13:56:00,33.30N×132.50E,h44km,Mw3.9 Best double couple: M0 7.1×10^14 NP1:φs 147°,δ48°,λ-90°. NP2:φs 328°, δ42°,λ-90°.*
NEIC ***17*** *13:56:13.3±8.1,33.38N×132.26E,h34km±59km,Error ellipse: s-maj=29.8km s-min=17.7km az=79.0*
NEIC Recorded [2 JMA] in Ehime and Kochi Prefectures. Also recorded [1 JMA] in Hiroshima Prefecture, Honshu and Oita Prefecture, Kyushu.
JMA ***17*** *13:56:13.9,33.32N×132.48E,h39km,M4.0 Broadband fault plane solution: P waves. NP1:φs 329°,δ33°,λ-101°. NP2:φs 162°,δ58°,λ-83°. Principal axes: T Plg13°, Azm247°; N Plg6°, Azm338°; P Plg76°, Azm92°;*
JMA Felt II J1.
IDC ***17*** *13:56:33.8±11.0,33.33N×132.32E,h227km±112km, mb3.3/7,mb1 3.4/7,mb1mx3.2/23,mbtmp3.8/7 Error ellipse: s-maj=37.8km s-min=21.0km az=73.0*
ISC 17 13:56:13.0±0.4,33.32N±0.04×132.46E±0.04,h39km,n21, σ1°16/28,mb3.8/7,5C-3D,Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWA2	**Uwa jima 2**	**0.18**	**128**	⇓P	**P**	**13 56 20.5**	**+0.5**
UWA2				S	**S**	**13 56 25.2**	**+0.3**
JNA	**Nagahama**	**0.23**	**5**	⇓P	**P**	**13 56 21.3**	**+0.8**
JNA				S	**S**	**13 56 26.4**	**+0.7**
JKU	**Kubokawa**	**0.51**	**91**	⇑P	**P**	**13 56 24.3**	**+0.4**
JKU				S	**S**	**13 56 31.8**	**+0.3**
JTO	**Tosashimizu**	**0.55**	**148**	⇓P	**P**	**13 56 25.0**	**+0.6**
JTO				S	**S**	**13 56 32.9**	**+0.4**
JUS	**Usuki**	**0.65**	**247**	⇑P	**P**	**13 56 26.5**	**+0.8**
JUS				S	**S**	**13 56 35.9**	**+1.0**
JET	**Tanbara**	**0.67**	**47**	⇑P	**P**	**13 56 26.6**	**+0.5**
JET				S	**S**	**13 56 36.0**	**+0.4**
JKI	**Kunimi**	**0.80**	**293**	⇑P	**P**	**13 56 29.2**	**+1.3**
JHM	**Kurahashi**	**0.82**	**4**	⇑P	**P**	**13 56 29.0**	**+0.9**
JHM				*e*S	**S**	**13 56 40.2**	**+1.0**
MAJO	**Matsushiro**	**5.71**	**54**	*e*P	**P**	**13 57 37.2**	**-0.4**
MAT	**Matsushiro**	**5.71**	**54**	*e*P	**P**	**13 57 37.0**	**-0.6**
	13nm,0.5s						
MAT	**Matsushiro**	**5.71**	**54**	P	**P**	**13 57 37.0**	**-0.6**
SONM	**Songino Array**	**24.38**	**314**	P	**P**	**14 01 31.2**	**+2.6**
	0.6nm,0.6s,mb3.2,baz=130,slow=9.7,SNR=3.5						
BVAR	**Borovoye Array**	**47.73**	**314**	P	**P**	**14 04 45.7**	**-2.1**
	1.1nm,0.6s,mb4.1,baz=106,slow=8.6,SNR=5.4						
ILAR	**Eielson Array**	**56.48**	**30**	P	**P**	**14 05 51.9**	**-1.1**
	0.3nm,0.7s,mb3.5,baz=263,slow=6.6,SNR=5.1						
ASAR	**Alice Springs**	**56.69**	**178**	P	**P**	**14 05 53.9**	**-1.2**
	0.9nm,0.9s,mb3.8,baz=11,slow=9.2,SNR=5.3						
ARCES	**ARCESS Array B**	**64.79**	**338**	P	**P**	**14 06 47.8**	**-1.6**
	2.8nm,0.9s,mb4.3,baz=50,slow=9.5,SNR=4.3						
JOF	**Joensuu**	**65.66**	**330**	*e*p	**P**	**14 06 52.4**	**-2.7**
KAF	**Kangasniemi**	**68.09**	**331**	*e*p	**P**	**14 07 04.7**	**-5.7**
FINES	**FINESS Array B**	**68.53**	**330**	P	**P**	**14 07 11.2**	**-1.9**
	1.3nm,0.7s,mb4.0,baz=56,slow=6.9,SNR=8.9						
NB2	**NORSAR Subarra**	**74.56**	**334**	P	**P**	**14 07 46.9**	**-2.2**
	0.9nm,0.6s,mb3.9,baz=46,slow=5.6						
NOA	**NORSAR Array B**	**74.56**	**334**	P	**P**	**14 07 47.5**	**-1.6**
	1.0nm,0.6s,mb3.9,baz=49,slow=5.7,SNR=6.3						

IDC ***17*** *13:59:57.7±0.9,28.12N×127.29E,h233km±7km,mb3.4/8, mb1 3.7/8,mb1mx3.4/22,mbtmp4.0/8,Error ellipse: s-maj=22.7km s-min=12.9km az=86.0*
NEIC ***17*** *13:59:57.9±0.9,28.10N×127.13E,h237km±9km,mb4.0/2, Error ellipse: s-maj=15.2km s-min=13.3km az=88.0*
JMA ***17*** *13:59:59.1±0.2,28.25N×126.92E,h202km,M4.1*
ISC 17 13:59:56.9±0.4,28.04N±0.05×127.12E±0.07,h240km±4km, n32,σ1°13/46,mb3.7/10,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**1.25**	**143**	P	**P**	**14 00 33.6**	**+0.8**
JIH				S	**S**	**14 01 00.0**	**-0.6**
JAGN	**Aguni-jima**	**1.45**	**176**	P	**P**	**14 00 34.9**	**+0.7**
JAGN				S	**S**	**14 01 02.4**	**-0.8**
JOW	**Kunigami**	**1.58**	**139**	P	**P**	**14 00 36.5**	**+1.2**
	63nm,0.3s,baz=314,slow=7.3,SNR=116						
JOW				S	**S**	**14 01 04.0**	**-0.9**
	483nm,0.3s,baz=39,slow=20,SNR=54						
JOW	**Kunigami**	**1.58**	**139**	P	**P**	**14 00 36.5**	**+1.2**
JOW				S	**S**	**14 01 03.9**	**-1.0**
JTK	**Tokunoshima**	**1.64**	**98**	P	**P**	**14 00 36.3**	**+0.6**
JTK				S	**S**	**14 01 04.3**	**-1.5**
JKE	**Kume jima 2**	**1.73**	**190**	P	**P**	**14 00 36.9**	**+0.4**
JKE				*e*S	**S**	**14 01 06.5**	**-0.7**
NAH1	**Naha**	**1.90**	**164**	P	**P**	**14 00 39.5**	**+1.6**
NAH1				S	**S**	**14 01 09.6**	**-0.1**
JJT2	**Tamagusuku 2**	**1.98**	**163**	P	**P**	**14 00 40.7**	**+2.1**
JJT2				*e*S	**S**	**14 01 12.5**	**+1.6**
JAM	**Amami Oshima**	**2.22**	**80**	P	**P**	**14 00 42.0**	**+1.0**
JAM				S	**S**	**14 01 13.4**	**-1.8**
JZK	**Kikaishima**	**2.53**	**83**	P	**P**	**14 00 46.0**	**+1.8**
JZK				S	**S**	**14 01 21.2**	**+0.4**
JNN	**Nakanoshima**	**3.01**	**53**	P	**P**	**14 00 50.0**	**+0.7**
JMJ	**Miyako jima 2**	**3.61**	**207**	S	**S**	**14 01 40.9**	**-1.3**
JKC	**Kuchinoerabu**	**3.61**	**47**	P	**P**	**14 00 55.9**	**-0.3**
JOGS	**Gusukube**	**3.61**	**206**	P	**P**	**14 00 57.1**	**+0.9**
JOGS				*e*S	**S**	**14 01 41.6**	**-0.7**
JTJ	**Tarama**	**4.02**	**213**	P	**P**	**14 01 01.5**	**+0.4**
JTJ				*e*S	**S**	**14 01 47.8**	**-3.1**
JTN	**Tanegashima 3**	**4.26**	**51**	P	**P**	**14 01 04.0**	**+0.1**
JTN				*e*S	**S**	**14 01 53.4**	**-2.6**
JSJ	**Shimokoshiki**	**4.27**	**31**	P	**P**	**14 01 04.6**	**+0.6**
JIJ	**Ishigaki jima**	**4.54**	**217**	P	**P**	**14 01 05.2**	**-2.1**
JIJ				*e*S	**S**	**14 01 56.4**	**-5.6**
JTZ	**Takazaki**	**5.16**	**41**	P	**P**	**14 01 15.1**	**+0.1**
TATO	**Taipei**	**5.90**	**240**	*e*P	**P**	**14 01 26.6**	**+2.3**
YHNB	**Yeheng**	**6.15**	**238**	*e*P	**P**	**14 01 28.3**	**+0.9**
NACB	**Ninganchiao**	**6.29**	**233**	*e*P	**P**	**14 01 27.3**	**-1.8**
HIA	**Hailar**	**21.94**	**347**	P	**P**	**14 04 30.9**	**-0.7**
	2.1nm,0.4s,mb4.0						
SONM	**Songino Array**	**25.50**	**326**	P	**P**	**14 05 06.1**	**+1.1**
	0.2nm,0.3s,mb3.2,baz=143,slow=7.2,SNR=3.3						
SONM				pP	pP	14 05 52.4	+1.3
	1.3nm,0.9s,baz=135,slow=8.7,SNR=5.2						
CMAR	**Chiang Mai Arr**	**27.54**	**256**	P	**P**	**14 05 23.4**	**-0.3**
	0.5nm,0.4s,mb3.5,baz=55,slow=6.7,SNR=6.3						
FITZ	**Fitzroy Crossi**	**45.89**	**182**	P	**P**	**14 07 57.4**	**0.0**
	8.2nm,0.4s,mb4.4,baz=359,slow=8.0,SNR=11						
WRAB	**Tennant Creek**	**48.20**	**171**	*e*P	**P**	**14 08 15.5**	**+0.2**
	2.6nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**48.21**	**171**	P	**P**	**14 08 15.4**	**0.0**
	2.5nm,0.4s,mb3.9,baz=353,slow=8.4,SNR=15						
ASAR	**Alice Springs**	**51.82**	**172**	P	**P**	**14 08 43.0**	**+0.5**
	2.5nm,0.5s,mb3.9,baz=0.3,slow=14,SNR=48						
STKA	**Stephens Creek**	**61.16**	**166**	P	**P**	**14 09 47.8**	**-0.4**
	2.4nm,0.6s,mb4.0,baz=342,slow=8.2,SNR=7.4						
ILAR	**Eielson Array**	**63.32**	**29**	P	**P**	**14 10 00.2**	**-1.8**
	0.3nm,0.6s,mb3.1,baz=294,slow=10,SNR=6.8						
YKA	**Yellowknife Ar**	**77.31**	**25**	P	**P**	**14 11 25.1**	**-0.8**
	0.5nm,0.6s,mb3.3,baz=304,slow=5.5,SNR=11						

IDC 17 14:18:52.6±14.0,6.39N×93.48E,h92km±118km,mb3.3/5, mb1 3.5/6,mb1mx3.3/19,mbtmp3.6/6,ML3.7/1,Error ellipse: s-maj=104.1km s-min=18.5km az=59.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.13**	**23**	P	P	14 21 55.6	-1.1
	0.1nm,0.3s,baz=210,slow=14,SNR=9.3						
SONM	**Songino Array**	**42.75**	**13**	P	P	14 26 41.0	-1.5
	0.3nm,0.6s,baz=207,slow=13,SNR=2.5						
ZAL	**Zalesovo**	**47.93**	**353**	P	P	14 27 21.4	-2.2
	0.8nm,0.2s,baz=292,slow=9.2,SNR=5.3						
WRA	**Warramunga Arr**	**47.96**	**124**	P	P	14 27 21.9	-2.3
	0.4nm,0.4s,baz=304,slow=8.7,SNR=20						
ASAR	**Alice Springs**	**49.49**	**129**	P	P	14 27 34.4	-1.6
	0.2nm,0.3s,baz=303,slow=7.9,SNR=19						
FINES	**FINESS Array B**	**73.72**	**332**	P	P	14 30 16.4	-1.7
	0.8nm,0.8s,baz=319,slow=18,SNR=2.3						

IDC ***17*** *14:27:36.3±1.3,1.73S×99.70E,mb4.0/9,mb1 4.1/9, mb1mx3.9/17,mbtmp4.0/9,Error ellipse: s-maj=69.8km s-min=16.2km az=57.0*
NEIC ***17*** *14:27:41.8±4.7,1.72S×99.73E,h36km±33km,mb4.2/2, Error ellipse: s-maj=66.0km s-min=9.3km az=58.0*
ISC 17 14:27:39.5±1.1,1.7S±0.1×99.7E±0.2,h33km,n20, σ0°99/16,mb4.1/10,1D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.98**	**8**	*e*P	**P**	**14 29 23.0**	**+0.9**
CM31	**Chiang Mai Arr**	**20.03**	**358**	P	**P**	**14 32 11.6**	**-1.0**
	4.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**20.03**	**358**	P	**P**	**14 32 11.1**	**-1.5**
	1.8nm,0.8s,baz=188,slow=10,SNR=10						
WRA	**Warramunga Arr**	**38.38**	**121**	P	**P**	**14 34 59.0**	**-0.7**
	1.2nm,0.6s,mb3.8,baz=303,slow=9.2,SNR=21						
WRA				PcP	PcP	14 37 13.4	0.0
	0.5nm,0.7s,baz=314,slow=2.5,SNR=6.9						
WRAB	**Tennant Creek**	**38.39**	**121**	*e*P	**P**	**14 34 59.8**	**0.0**
	4.2nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**38.39**	**121**	⇓*i*P	**P**	**14 35 00.0**	**+0.2**
ASAR	**Alice Springs**	**39.65**	**126**	P	**P**	**14 35 09.6**	**-0.6**
	0.6nm,0.6s,mb3.5,baz=298,slow=7.5,SNR=14						
ASAR				PcP	PcP	14 37 17.7	+0.4
	0.6nm,0.7s,baz=307,slow=2.7,SNR=5.8						
STKA	**Stephens Creek**	**49.56**	**132**	P	**P**	**14 36 30.0**	**+0.4**
	1.0nm,0.6s,mb4.0,baz=342,slow=3.2,SNR=3.0						
STKA	**Stephens Creek**	**49.56**	**132**	*e*P	**P**	**14 36 30.1**	**+0.5**
SONM	**Songino Array**	**49.65**	**6**	P	**P**	**14 36 30.8**	**+0.7**
	1.3nm,0.8s,mb4.0,baz=187,slow=9.4,SNR=9.7						
SONM				PcP	PcP	14 37 51.8	+0.5
	0.5nm,0.5s,baz=186,slow=5.6,SNR=2.7						
SONM	**Songino Array**	**49.65**	**6**	P	**P**	**14 36 30.8**	**+0.7**
SONM				PcP	PcP	14 37 51.8	+0.4
ULN	**Ulaanbaatar**	**49.76**	**6**	*e*P	**P**	**14 36 31.7**	**+0.9**
	1.1nm,0.8s,mb3.9						
ZAL	**Zalesovo**	**56.80**	**350**	P	**P**	**14 37 22.7**	**-0.2**
	4.4nm,0.4s,mb4.8,baz=316,slow=4.1,SNR=20						
BVAR	**Borovoye Array**	**59.79**	**340**	P	**P**	**14 37 41.8**	**-2.0**
	1.2nm,0.7s,mb4.1,baz=158,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**83.71**	**332**	P	**P**	**14 40 06.8**	**+0.6**
	2.3nm,1.1s,mb4.2,baz=117,slow=4.3,SNR=8.7						
ARCES	**ARCESS Array B**	**86.08**	**340**	P	**P**	**14 40 19.8**	**+1.9**
	5.5nm,1.1s,mb4.7,baz=90,slow=5.4,SNR=2.3						
TXAR	**Lajitas Array**	**144.61**	**37**	PKP	PKPdf	14 47 15.3	+1.8
	0.9nm,0.4s,baz=270,slow=1.2,SNR=21						
MIAR	**Mount Ida**	**145.02**	**19**	*e*PKP	PKPdf	14 47 15.3	+1.3
JCT	**Junction City**	**145.89**	**31**	*e*PKP	PKPdf	14 47 18.5	+2.8
CPCT	**Cooper Cave**	**146.17**	**6**	*e*PKP	PKPdf	14 47 18.1	+2.1

IDC ***17*** *14:34:43.3±1.5,1.81S×99.59E,mb3.9/7,mb1 4.0/7, mb1mx3.8/17,mbtmp3.9/7,Error ellipse: s-maj=73.9km s-min=18.2km az=57.0*
NEIC ***17*** *14:34:47.7±0.6,1.82S×99.59E,h30km,mb3.9/1,Error ellipse: s-maj=24.4km s-min=8.1km az=65.0*
ISC 17 14:34:46.5±1.2,1.7S±0.1×99.6E±0.3,h33km,n16, σ0°50/12,mb4.0/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.06**	**8**	*e*P	**P**	**14 36 30.3**	**+0.2**
CM31	**Chiang Mai Arr**	**20.09**	**358**	*e*P	**P**	**14 39 19.7**	**-0.4**
	2.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.09**	**358**	P	**P**	**14 39 19.8**	**-0.4**
	1.4nm,0.8s,baz=187,slow=10,SNR=12		

s-min=16.0km az=62.0

ISC 17 14:44:17.0±1.4, 0.3N±0.1×98.2E±0.2, h24km, h24km±.8km: pP-P, n13, σ1°08/12, mb4.1/8, MS3.7/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.54**	**27**	*eP*	**Pn**	**14 45 41.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**18.05**	**2**	P	**P**	**14 48 25.9**	**-2.4**
	0.1nm,0.3s,baz=192,slow=11,SNR=9.9						
LSA	**Lhasa**	**29.98**	**348**	P	**P**	**14 50 26.3**	**+0.1**
	3.1nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**32.63**	**126**	P	**P**	**14 50 48.5**	**-1.0**
	4.9nm,0.8s,mb4.5,baz=337,slow=9.7,SNR=5.2						
FITZ				pP	pP	14 50 56.1	-0.4
	2.6nm,0.7s,baz=346,slow=5.7,SNR=2.1						
NWAO	**Narrogin (SRO)**	**37.63**	**153**	LR	LR	15 06 13.4	
	comp=Z,110nm,18.3s,MS3.7,baz=246,slow=35						
WRA	**Warramunga Arr**	**40.75**	**122**	P	**P**	**14 51 58.0**	**-0.1**
	1.2nm,0.6s,mb3.7,baz=301,slow=9.0,SNR=8.2						
WRA				pP	pP	14 52 05.0	-0.2
	2.2nm,0.6s,baz=301,slow=9.0,SNR=15						
WRAB	**Tennant Creek**	**40.75**	**122**	*eP*	**P**	**14 51 58.3**	**+0.2**
	3.2nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**42.09**	**127**	P	**P**	**14 52 09.4**	**+0.3**
	1.5nm,0.6s,mb3.8,baz=298,slow=8.2,SNR=22						
ASAR				pP	pP	14 52 16.9	+0.6
	2.7nm,0.6s,baz=296,slow=7.7,SNR=20						
SONM	**Songino Array**	**47.88**	**7**	P	**P**	**14 52 54.4**	**-0.7**
	0.3nm,0.5s,mb3.6,baz=190,slow=8.8,SNR=3.3						
SONM				pP	pP	14 53 01.3	-1.1
	1.1nm,0.9s,baz=196,slow=9.0,SNR=5.5						
PMG	**Port Moresby**	**49.72**	**103**	P	**P**	**14 53 10.5**	**+0.7**
	7.3nm,0.7s,mb4.8,baz=263,slow=9.4,SNR=3.7						
PMG				pP	pP	14 53 17.0	-0.1
	7.2nm,0.7s,baz=336,slow=10.0,SNR=2.5						
PMG	**Port Moresby**	**49.72**	**103**	*eP*	**P**	**14 53 09.7**	**-0.1**
	7.5nm,0.8s,mb4.8						
PMG				pP	pP	14 53 17.1	-0.1
ZAL	**Zalesovo**	**54.58**	**350**	P	**P**	**14 53 48.2**	**+2.5**
	1.3nm,0.5s,mb4.2,baz=324,slow=5.7,SNR=6.2						
ZAL	**Zalesovo**	**54.58**	**350**	P	**P**	**14 53 48.2**	**+2.4**

IDC 17 14:47:58.3±1.2, 1.23N×97.11E, mb3.9/7, mb1 4.0/8, mb1mx3.9/19, mbtmp3.8/8, ML3.7/1, MS3.5/1, Ms1 3.7/1, ms1mx3. 1/19, Error ellipse: s-maj=49.2km s-min=20.4km az=52.0

BJI 17 14:47:59.5, 0.85N×97.41E, h38km, mb4.4, Ms4.4, Msz4.2

NEIC 17 14:48:02.1±0.7, 1.26N×97.15E, mb4.4/4, Error ellipse: s-maj=16.6km s-min=11.3km az=69.0

ISC 17 14:48:01.8±0.9, 1.3N±0.1×97.2E±0.1, h33km, n18, σ0°86/18, mb4.0/13, MS4.1/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.27**	**41**	*eP*	**P**	**14 49 20.7**	**+0.3**
CM31	**Chiang Mai Arr**	**17.16**	**6**	*eP*	**P**	**14 52 00.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.16**	**6**	P	**P**	**14 51 59.2**	**-1.6**
	0.1nm,0.3s,baz=199,slow=11,SNR=14						
CMAR				LR	LR	14 59 36.9	
	comp=Z,143nm,18.9s,baz=180,slow=41						
KMI	**Kunming**	**24.30**	**12**	P	**P**	**14 53 19.5**	**+1.9**
KMI				AP		14 53 26.3	
KMI				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.3						
KMI				LR	LR		
	comp=N,402nm,15.5s,MS4.2						
KMI				LR	LR		
	comp=E,304nm,12.4s,MS4.2						
KMI				LR	LR		
	comp=Z,516nm,16.3s,MS4.1						
KMI	**Kunming**	**24.30**	**12**	P	**P**	**14 53 19.5**	**+1.9**
	comp=Z,16nm,1.3s,mb4.3						
KMI				pP		14 53 26.2	
KMI				LR	LR		
	comp=Z,520nm,16.3s,MS4.1						
SHL	**Shillong**	**24.68**	**348**	*eP*	**P**	**14 53 22.0**	**+0.7**
GYA	**Guiyang**	**26.64**	**19**	⇑*iP*	**P**	**14 53 39.5**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**28.84**	**349**	*eP*	**P**	**14 54 00.1**	**+0.6**
	comp=Z,6.6nm,1.0s,mb4.3						
ENH	**Enshi**	**31.11**	**21**	*eP*	**P**	**14 54 18.6**	**-1.1**
	comp=Z,8.5nm,0.8s,mb4.6						
ENH				*e*		14 54 25.2	
GTA	**Gaotai**	**38.03**	**3**	P	**P**	**14 55 19.5**	**+0.7**
GTA				XP	sP	14 55 31.6	-1.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**14 55 52.1**	**-0.5**
	comp=Z,0.8nm,0.8s,mb3.4,baz=301,slow=9.1,SNR=8.5						
ASAR	**Alice Springs**	**43.45**	**127**	P	**P**	**14 56 04.0**	**+0.2**
	comp=Z,0.7nm,1.0s,mb3.4,baz=304,slow=5.2,SNR=4.1						
SONM	**Songino Array**	**47.05**	**8**	P	**P**	**14 56 32.8**	**+0.7**
	comp=Z,2.3nm,0.8s,mb4.1,baz=192,slow=7.5,SNR=13						
ULN	**Ulaanbaatar**	**47.19**	**9**	*eP*	**P**	**14 56 33.4**	**+0.2**
	comp=Z,1.8nm,1.1s,mb3.9						
ULN				*e*		14 56 40.8	
ZAL	**Zalesovo**	**53.47**	**351**	P	**P**	**14 57 20.2**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.3,baz=283,slow=6.8,SNR=11						
BVAR	**Borovoye Array**	**56.17**	**341**	P	**P**	**14 57 39.7**	**-1.0**
	comp=Z,1.7nm,0.7s,mb4.2,baz=149,slow=8.4,SNR=12						
BRTR	**Keskin Array B**	**69.05**	**312**	P	**P**	**14 59 05.8**	**-0.7**
	comp=Z,0.3nm,0.4s,mb3.6,baz=117,slow=6.4,SNR=2.5						
GERES	**GERESS Array B**	**84.75**	**319**	P	**P**	**15 00 35.1**	**+1.1**
	comp=Z,0.4nm,0.8s,mb3.6,baz=146,slow=7.1,SNR=3.2						

CSEM 17 14:49:31.9±1.4, 36.99N×24.15W, h15km, ML2.6, Error ellipse: s-maj=33.6km s-min=11.7km az=86.0, After PDA

PDA 17 14:49:31.9±1.1, 36.99N×24.15W, h15km, ML2.6, Error ellipse: s-maj=12.6km s-min=6.9km az=85.0

SVSA 17 14:49:31.9±1.1, 36.99N×24.15W, h15km, ML2.6, Error ellipse: s-maj=12.6km s-min=6.9km az=85.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.73**	**271**	*eP*	Pb	14 49 43.4	-2.4
PSMN				*eS*	Sb	14 49 51.7	-3.6
MIRA	**Miradouro**	**1.20**	**312**	*eS*	Sb	14 50 02.8	-6.1
PCNG	**Congro**	**1.26**	**308**	*eS*	Sb	14 50 04.8	-5.9
	26nm,0.1s						
PFAD	**Fenais da Ajud**	**1.26**	**313**	*eP*	Pb	14 49 50.3	-4.6
PFAD				*eS*	Sb	14 50 04.5	-6.2
VIF	**Vila Franca**	**1.27**	**307**	*eS*	Sb	14 50 05.5	-5.6
	41nm,0.2s						
PRCH	**Ribeira Ch**	**1.29**	**305**	*eS*	Sb	14 50 05.9	-5.7
	76nm,0.2s						
MESC	**Monte Escuro**	**1.31**	**308**	*eS*	Sb	14 50 06.2	-5.8
LFA	**Lagoa do Fogo**	**1.32**	**307**	*eP*	Pb	14 49 52.0	-3.8

IDC 17 15:29:23.1±10.0, 7.60S×127.22E, h143km±104km, mb3.5/2, mb1 3.9/4, mb1mx3.6/13, mbtmp4.2/4, ML4.2/2, Error ellipse: s-maj=207.0km s-min=32.7km az=69.0

ISC 17 15:29:24.5±1.9, 7.73S±0.09×127.3E±0.2, h174km±21km, n8, σ1°15/14, mb3.7/2, 2C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.09**	**135**	⇑*iP*	**P**	**15 31 05.2**	**-1.5**
	50nm,0.6s						
KAKA				*eS*	**S**	**15 32 16.9**	**-9.4**
FITZ	**Fitzroy Crossi**	**10.43**	**189**	*eP*	**P**	**15 31 51.8**	**+1.2**
	12nm,0.6s						
FITZ				*eS*	**S**	**15 33 43.6**	**-1.5**
WRA	**Warramunga Arr**	**13.94**	**151**	P	**P**	**15 32 35.4**	**-0.2**
	1.0nm,0.3s,baz=324,slow=13,SNR=53						
WRA				S	**S**	**15 35 01.0**	**-5.4**
	2.2nm,0.3s,baz=322,slow=24,SNR=13						
WB2	**Warramunga Arr**	**13.94**	**151**	⇓*iP*	**P**	**15 32 35.8**	**+0.1**
WB2				*eS*	**S**	**15 35 00.0**	**-6.5**
ASAR	**Alice Springs**	**17.07**	**159**	P	**P**	**15 33 16.0**	**+1.7**
	2.1nm,0.3s,baz=336,slow=11,SNR=185						
ASAR				S	**S**	**15 36 16.8**	**-0.1**
	0.6nm,0.3s,baz=320,slow=21,SNR=8.7						
ASPA	**Alice Springs**	**17.07**	**159**	⇑*iP*	**P**	**15 33 16.2**	**+1.9**
ASPA				*eS*	**S**	**15 36 16.4**	**-0.5**
STKA	**Stephens Creek**	**27.48**	**153**	P	**P**	**15 34 57.0**	**+0.3**
	2.7nm,1.0s,mb3.8,baz=322,slow=12,SNR=3.0						
SONM	**Songino Array**	**58.33**	**344**	P	**P**	**15 39 02.2**	**-1.3**
	0.4nm,0.4s,mb3.6,baz=163,slow=7.7,SNR=4.9						

NEIC 17 15:36:44.2, 31.37S×69.29W, h168km, MD3.7(GUC), After GUC.

GUC 17 15:36:44.2±0.8, 31.37S×69.29W, h168km±12km, MD3.7, ML3.8, 4C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**1.63**	**260**	*iP*	P	15 37 17.2	+0.4
ILCH				*iS*	S	15 37 41.7	-0.3
ILCH				AMP		15 37 47.0	
	comp=N,731nm,0.2s						
JACH	**Jahuel**	**1.72**	**220**	*eP*	P	15 37 18.0	+0.3
JACH				*iS*	S	15 37 43.9	+0.3
TLL	**Tololo Astrono**	**1.77**	**312**	⇑*iP*	P	15 37 19.1	+0.8
TLL				*iS*	S	15 37 46.0	+1.3
TLL				AMP		15 37 49.4	
	comp=N,526nm,0.3s						
CHNG	**Los Chungos**	**1.96**	**254**	*eP*	P	15 37 20.1	-0.2
CHNG				*iS*	S	15 37 47.7	-0.4
CHNG				AMP		15 37 58.0	
	comp=E,238nm,0.5s						
FCH	**Farellones**	**2.13**	**203**	*iP*	P	15 37 22.9	+0.6
FCH				AMP		15 38 00.8	
	comp=E,195nm,0.3s						
PACH	**Papudo**	**2.17**	**237**	*eP*	P	15 37 23.3	+0.6
CLCH	**Cerro Calan**	**2.28**	**207**	⇑*iP*	P	15 37 24.6	+0.5
CLCH				*iS*	S	15 37 54.5	-0.4
CLCH				AMP		15 37 57.0	
	comp=E,288nm,0.5s						
PCH	**Pirque**	**2.47**	**204**	*iP*	P	15 37 26.8	+0.3
LMEL	**Las Melosas**	**2.59**	**197**	*iP*	P	15 37 28.5	+0.7
LMEL				AMP		15 38 10.8	
	comp=N,120nm,0.2s						
LCO	**Las Campanas**	**2.65**	**332**	⇑*iP*	P	15 37 29.1	+0.5
LCO				*iS*	S	15 38 03.5	+0.8
LCO				AMP		15 38 08.2	
	comp=E,335nm,0.3s						
TACH	**Talagante**	**2.67**	**211**	*eP*	P	15 37 29.3	+0.5
LCCH	**Las Cruces**	**2.85**	**222**	*iP*	P	15 37 31.2	+0.1
VACH	**Vallenar**	**3.06**	**335**	⇑*iP*	P	15 37 34.0	+0.3
VACH				*iS*	S	15 38 11.1	-0.7
VACH				AMP		15 38 16.0	
	comp=E,1μm,0.1s						
CICH	**Cipreses**	**3.09**	**198**	*iP*	P	15 37 34.2	+0.1
LNV	**Longovilo**	**3.14**	**214**	*eP*	P	15 37 34.7	0.0
SFDO	**San Fernando**	**3.55**	**204**	*eP*	P	15 37 40.2	+0.3

DJA 17 15:59:13.7±1.0, 8.59S×115.00E, h111km±8km, MD5.3/3, ML3.1/2, 3C-4D, Error ellipse: s-maj=41.1km s-min=7.8km az=6.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.54**	**104**	⇑*ePn*	P	15 59 30.9	-0.2
RATI				⇓*eSn*	S	15 59 43.3	-0.9
KELI	**Kelakatan**	**0.63**	**306**	⇓*ePn*	P	15 59 31.7	0.0
	61nm,0.2s						
SRDI	**Scrawed**	**0.86**	**277**	⇑*ePn*	P	15 59 33.3	-0.6
	40nm,0.2s						
SRDI				⇓*eSn*	S	15 59 47.6	-1.3
KEDI	**Kedomdong**	**1.10**	**85**	⇓*ePn*	P	15 59 35.6	-0.8
	21nm,0.2s						
KEDI				⇑*eSn*	S	15 59 51.4	-2.0

NEIC 17 16:14:15.7, 37.53S×176.64E, h180km, MG3.9(WEL), After WEL.

WEL 17 16:14:16.1±0.3, 37.52S×176.64E, h176km±3km, ML3.9/5, 2C-2D, Error ellipse: s-maj=1.5km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.82**	**153**	⇑P	P	16 14 42.2	-0.3
URZ	**Urewera**	**0.82**	**153**	⇑PN	P	16 14 42.2	-0.3
URZ				SN	S	16 15 02.9	+0.1
KUZ	**Kuaotunu**	**1.07**	**316**	P	P	16 14 43.7	-0.5
KUZ	**Kuaotunu**	**1.07**	**316**	⇓PN	P	16 14 43.7	-0.5
KUZ				SN	S	16 15 05.3	-0.6
MWZ	**Matawai**	**1.07**	**139**	*eP*	P	16 14 43.7	-0.5
MWZ	**Matawai**	**1.07**	**139**	PN	P	16 14 43.7	-0.5
MXZ	**Matakaoa Point**	**1.32**	**92**	*eP*	P	16 14 46.3	-0.2
MXZ	**Matakaoa Point**	**1.32**	**92**	PN	P	16 14 46.3	-0.1
MXZ				SN	S	16 15 08.8	-1.1
PUZ	**Puketiti**	**1.39**	**114**	P	P	16 14 47.0	-0.1
PUZ	**Puketiti**	**1.39**	**114**	PN	P	16 14 47.0	-0.1
PUZ				SN	S	16 15 10.0	-1.1
OTAZ	**Otara**	**1.48**	**292**	P	P	16 14 47.7	-0.3
OTAZ	**Otara**	**1.48**	**292**	PN	P	16 14 47.7	-0.2
MTAZ	**Motutapu**	**1.57**	**297**	P	P	16 14 48.5	-0.3
MTAZ	**Motutapu**	**1.57**	**297**	⇓PN	P	16 14 48.5	-0.3
RITZ	**Rihia Road**	**1.58**	**203**	P	P	16 14 49.0	+0.1
RITZ	**Rihia Road**	**1.58**	**203**	PN	P	16 14 49.0	+0.1
KATZ	**Kakaramea**	**1.63**	**207**	*eP*	P	16 14 49.3	-0.1
KATZ	**Kakaramea**	**1.63**	**207**	*ePN*	P	16 14 49.3	-0.1
BKZ	**Black Stump Fm**	**1.65**	**184**	P	P	16 14 48.8	-0.8
BKZ	**Black Stump Fm**	**1.65**	**184**	PN	P	16 14 48.8	-0.8
BKZ				SN	S	16 15 14.3	-1.0
KAAZ	**Kauri Point**	**1.70**	**294**	PN	P	16 14 49.7	-0.3
MGZ	**Maungaku**	**1.71**	**210**	P	P	16 14 50.7	+0.5
MGZ	**Maungaku**	**1.71**	**210**	PN	P	16 14 50.7	+0.4
HIZ	**Hauiti**	**1.72**	**234**	PN	P	16 14 50.3	0.0
WTAZ	**Waiatarua**	**1.75**	**289**	P	P	16 14 49.7	-0.9
WTAZ	**Waiatarua**	**1.75**	**289**	PN	P	16 14 49.7	-0.9
WTVZ	**West Tongariro**	**1.79**	**207**	P	P	16 14 50.8	-0.3
WTVZ	**West Tongariro**	**1.79**	**207**	PN	P	16 14 50.8	-0.3
OTVZ	**Oturere**	**1.81**	**205**	PN	P	16 14 51.2	0.0
TWVZ	**Taurewa**	**1.81**	**211**	P	P	16 14 51.1	-0.2
TWVZ	**Taurewa**	**1.81**	**211**	PN	P	16 14 51.1	-0.2
NGZ	**Ngauruhoe**	**1.84**	**206**	P	P	16 14 51.5	-0.1
NGZ	**Ngauruhoe**	**1.84**	**206**	PN	P	16 14 51.6	+0.1
CNZ	**Chateau**	**1.88**	**207**	PN	P	16 14 51.7	-0.3
WPVZ	**Whakapapa**	**1.89**	**207**	*eP*	P	16 14 51.7	-0.4
WPVZ	**Whakapapa**	**1.89**	**207**	PN	P	16 14 51.7	-0.3
TUVZ	**Tukino**	**1.91**	**204**	P	P	16 14 51.9	-0.4
TUVZ	**Tukino**	**1.91**	**204**	PN	P	16 14 52.0	-0.3
FWVZ	**Far West T-bar**	**1.93**	**206**	P	P	16 14 52.1	-0.4
FWVZ	**Far West T-bar**	**1.93**	**206**	PN	P	16 14 52.1	-0.4
WNVZ	**Wahianoa**	**1.98**	**204**	P	P	16 14 52.7	-0.3
WNVZ	**Wahianoa**	**1.98**	**204**	PN	P	16 14 52.7	-0.4
MOVZ	**Moawhango**	**2.01**	**200**	P	P	16 14 52.4	-0.9
MOVZ	**Moawhango**	**2.01**	**200**	PN	P	16 14 52.4	-1.0
MTVZ	**Mangateitei**	**2.08**	**206**	PN	P	16 14 53.6	-0.5
VRZ	**Vera Road**	**2.18**	**222**	*eP*	P	16 14 55.2	-0.1
VRZ	**Vera Road**	**2.18**	**222**	PN	P	16 14 55.2	-0.1
PWZ	**Pawanui**	**2.51**	**176**	P	P	16 14 57.9	-1.3
PWZ	**Pawanui**	**2.51**	**176**	PN	P	16 14 57.9	-1.4
WAZ	**Wanganui**	**2.58**	**210**	*eP*	P	16 14 58.8	-1.3
WAZ	**Wanganui**	**2.58**	**210**	PN	P	16 14 58.8	-1.3
TSZ	**Takapari Road**	**2.59**	**192**	P	P	16 14 58.0	-2.2
TSZ	**Takapari Road**	**2.59**	**192**	PN	P	16 14 58.3	-1.8
BFZ	**Birch Farm**	**3.17**	**185**	*eP*	P	16 15 04.9	-2.4
BFZ	**Birch Farm**	**3.17**	**185**	PN	P	16 15 04.9	-2.4
MRZ	**Mangatainoka R**	**3.24**	**194**	P	P	16 15 05.4	-2.8
MRZ	**Mangatainoka R**	**3.24**	**194**	PN	P	16 15 05.4	-2.8
KIW	**Kapiti Island**	**3.60**	**201**	P	P	16 15 09.2	-3.5
KIW	**Kapiti Island**	**3.60**	**201**	PN	P	16 15 09.2	-3.5
MTW	**Mount Morrison**	**3.74**	**193**	P	P	16 15 10.7	-3.8
CAW	**Cannon Point**	**3.78**	**198**	P	P	16 15 11.4	-3.6
MRW	**Makara Radio**	**4.00**	**202**	P	P	16 15 13.9	-3.9
MSWZ	**Moikau Station**	**4.04**	**195**	P	P	16 15 14.2	-4.0
SNZO	**South Karori**	**4.07**	**201**	P	P	16 15 14.6	-4.1
BHW	**Baring Head**	**4.12**	**199**	P	P	16 15 14.9	-4.4
BHW				S	S	16 16 00.9	-7.2
THZ	**Tophouse**	**5.12**	**213**	*eP*	P	16 15 27.4	-5.0
KHZ	**Kahutara**	**5.44**	**205**	*eP*	P	16 15 31.7	-4.8

IDC 17 16:17:06.3±2.7, 7.74N×93.68E, mb3.5/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML4.2/1, Error ellipse: s-maj=87.1km s-min=27.8km az=68.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.82**	**25**	Pn	P	16 19 57.4	-2.0
	0.4nm,0.3s,baz=212,slow=14,SNR=17						
ZAL	**Zalesovo**	**46.62**	**353**	P	P	16 25 35.4	-2.6
	0.8nm,0.3s,baz=307,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**48.55**	**125**	P	P	16 25 51.3	-2.3
	0.2nm,0.4s,baz=304,slow=8.8,SNR=6.9						
ASAR	**Alice Springs**	**50.18**	**130**	P	P	16 26 04.6	-1.4
	0.2nm,0.9s,baz=294,slow=7.4,SNR=3.5						

IDC 17 16:26:59.5±14.0, 22.16S×176.21W, mb3.7/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=360.5km s-min=40.8km az=40.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.79**	**258**	P	P	16 35 22.1	-2.9
	0.6nm,0.9s,baz=92,slow=8.5,SNR=7.6						
WRA	**Warramunga Arr**	**46.05**	**263**	P	P	16 35 26.2	-0.8
	0.1nm,0.3s,baz=102,slow=7.5,SNR=8.1						
VNDA	**Vanda**	**56.42**	**186**	P	P	16 36 42.4	-2.4
	1.5nm,0.4s,baz=21,slow=2.7,SNR=15						

CSEM 17 16:55:18.6, 12.39N×45.72E, h15km, ML3.5, After DHMR

DHMR 17 16:55:19.1±0.7, 12.43N×45.70E, h12km±9km, ML3.5, 4C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.78**	**296**	*iP*	Pb	16 55 33.6	-0.5
ADEN				*iS*	Sb	16 55 44.5	+0.2
ADEN				AML	AML	16 55 50.0	
	comp=E,1μm,0.5s						
ADEN	**Aden**	**0.78**	**296**	⇓*iP*	Pb	16 55 33.6	-0.5
ADEN				*iS*	Sb	16 55 45.3	+1.0
	comp=E,734nm,0.5s						
LBOS		**1.50**	**343**	⇑*iP*	Pn	16 55 46.4	+0.5
LBOS				*iS*	Sb	16 56 07.7	+2.5
BDHA	**Al Bayda'**	**1.54**	**355**	⇑*iP*	Pn	16 55 46.5	-0.1
BDHA				AML	AML	16 55 57.0	
	comp=N,665nm,0.7s						
BDHA				*iS*	Sb	16 56 08.7	+2.3
BDHA	**Al Bayda'**	**1.54**	**355**	⇑*iP*	Pn	16 55 46.5	0.0
	comp=N,332nm,0.7s						
BDHA				*iS*	Sb	16 56 09.1	+2.7
TRBA	**At Turbah**	**1.74**	**297**	⇑*iP*	Pn	16 55 50.2	+0.8
TRBA				*iS*	Sn	16 56 14.0	+2.5
TRBA				AML	AML	16 56 15.3	
	comp=N,603nm,0.3s						

BJI 17 17:03:05.5, 0.69N×97.95E, h20km, mb4.7, Ms4.2, Msz4.2

IDC 17 17:03:09.6±0.9, 1.26N×97.14E, mb4.2/12, mb1 4.3/13, mb1mx4.2/20, mbtmp4.1/13, ML4.0/1, Error ellipse: s-maj=46.7km s-min=14.7km az=51.0

NEIC 17 17:03:14.5±0.5, 1.39N×97.32E, h30km, mb4.4/7, Error ellipse: s-maj=16.1km s-min=8.0km az=63.0

ISC 17 17:03:12.9±0.5, 1.41N±0.08×97.4E±0.1, h30km, n30, σ0°95/30, mb4.2/20, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.04**	**40**	⇑*iP*	**Pn**	**17 04 29.1**	**+0.7**
CM31	**Chiang Mai Arr**	**17.01**	**5**	*eP*	**P**	**17 07 13.2**	**+2.8**
	2.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.01**	**5**	P	**P**	**17 07 09.7**	**-0.7**
	0.2nm,0.3s,baz=193,slow=11,SNR=24						
PKI	**Pulchoki**	**28.44**	**337**	*eP*	**P**	**17 09 08.0**	**+0.6**
GUN	**Gumba**	**28.57**	**338**	*eP*	**P**	**17 09 09.4**	**+0.9**
KKN	**Kakani**	**28.68**	**337**	*eP*	**P**	**17 09 10.8**	**+1.2**
GKN	**Gorkha**	**29.13**	**336**	*eP*	**P**	**17 09 14.0**	**+0.4**
KOLN	**Koldanda**	**29.35**	**334**	*eP*	**P**	**17 09 16.2**	**+0.6**
	7.8nm,0.7s,mb4.6						
ENH	**Enshi**	**30.91**	**21**	*eP*	**P**	**17 09 27.1**	**-2.3**
	4.4nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**31.31**	**137**	*eP*	**P**	**17 09 33.2**	**+0.2**
	0.9nm,0.6s,mb3.8						
FITZ	**Fitzroy Crossi**	**33.89**	**126**	P	**P**	**17 09 55.7**	**+0.2**
	2.7nm,0.8s,mb4.2,baz=275,slow=5.4,SNR=3.6						
XAN	**Xi'an**	**34.20**	**17**	P	**P**	**17 09 56.6**	**-1.5**
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**41.98**	**122**	P	**P**	**17 11 03.6**	**+0.3**
	comp=Z,4.9nm,0.7s,mb4.3,baz=301,slow=9.1,SNR=23						
WRAB	**Tennant Creek**	**41.98**	**122**	*eP*	**P**	**17 11 03.3**	**0.0**
	comp=Z,8.8nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**41.99**	**122**	*eP*	**P**	**17 11 03.6**	**+0.2**
ASPA	**Alice Springs**	**43.36**	**127**	*eP*	**P**	**17 11 19.3**	**+4.7**
ASAR	**Alice Springs**	**43.36**	**127**	P	**P**	**17 11 14.7**	**+0.1**
	comp=Z,1.9nm,0.7s,mb3.9,baz=299,slow=7.6,SNR=29						
SONM	**Songino Array**	**46.89**	**8**	P	**P**	**17 11 43.7**	**+1.3**
	comp=Z,2.4nm,0.5s,mb4.4,baz=188,slow=9.3,SNR=18						
ULN	**Ulaanbaatar**	**47.02**	**9**	*eP*	**P**	**17 11 43.4**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**53.35**	**132**	P	**P**	**17 12 31.8**	**-0.3**
	comp=Z,2.5nm,0.9s,mb4.1,baz=347,slow=15,SNR=4.8						
STKA	**Stephens Creek**	**53.35**	**132**	*eP*	**P**	**17 12 32.6**	**+0.6**
ZAL	**Zalesovo**	**53.37**	**351**	P	**P**	**17 12 31.6**	**-0.3**
	comp=Z,2.5nm,0.4s,mb4.5,baz=321,slow=6.4,SNR=12						
BVAR	**Borov

KMI LR LR
comp=Z,568nm,18.6s
HYB Hyderabad 14.46 286 *eP* **P 17 13 15.5 +5.6**
HYB *eS* **S 17 15 53.0 +2.3**
HYB Hyderabad 14.46 286 *i P* **P 17 13 15.5 +5.6**
HYB *eS* **S 17 15 53.0 +2.3**
JIRN Jiri 15.19 336 *eP* **P 17 13 18.5 -0.9**
comp=Z,33nm,0.4s
PKI Pulchoki 15.43 333 *eP* **P 17 13 21.8 -0.8**
comp=Z,26nm,0.4s
GUN Gumba 15.53 335 *eP* **P 17 13 22.0 -2.0**
DMN Daman 15.60 333 *eP* **P 17 13 23.2 -1.6**
KKN Kakani 15.68 334 *eP* **P 17 13 25.4 -0.4**
comp=Z,32nm,0.7s
LSA Lhasa 15.88 354 P **P 17 13 33.4 +4.9**
LSA LR LR
comp=N,150nm,19.0s
LSA LR LR
comp=E,250nm,15.0s
LSA LR LR
comp=Z,350nm,19.0s
LSA Lhasa 15.88 354 P **P 17 13 29.6 +1.1**
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 15.88 354 P **P 17 13 29.6 +1.1**
comp=Z,8.2nm,0.6s
GKN Gorkha 16.15 332 *eP* **P 17 13 31.0 -0.8**
comp=Z,23nm,0.4s
KOLN Koldanda 16.45 329 *eP* **P 17 13 34.6 -1.1**
comp=Z,33nm,0.6s
BHPL Bhopal 17.55 304 *eP* **P 17 13 52.8 +3.3**
BHPL *e* 17 13 59.7
comp=Z,26nm,1.2s
GYA Guiyang 17.86 43⇓ *iP* **P 17 13 55.6 +2.2**
GYA AP 17 14 03.3
GYA AMB AMB
comp=Z,20nm,1.0s
GYA AMB AMB
comp=Z,130nm,5.1s
GYA LR LR
comp=N,300nm,18.9s
GYA LR LR
comp=E,420nm,17.1s
GYA LR LR
comp=Z,350nm,17.6s
KAD Karad 18.55 283 *eP* Px 17 14 19.0
CD2 Chengdu 19.61 28 P **P 17 14 13.5 -1.0**
ENH Enshi 22.27 40 *eP* **P 17 14 41.1 -0.8**
comp=Z,37nm,1.1s,mb4.7
LZH Lanzhou 24.16 22 ⇑P **P 17 15 01.8 +1.5**
LZH PP PP 17 15 42.5 +7.4
LZH AMB AMB
comp=Z,43nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,102nm,4.0s
LZH LR LR
comp=N,331nm,10.2s
LZH LR LR
comp=Z,535nm,13.6s,MS4.2
LZH Lanzhou 24.16 22 ⇑P **P 17 15 01.8 +1.5**
LZH *SP 17 15 10.0
LZH 17 15 42.5
LZH pmax pmax
comp=Z,43nm,1.5s,mb4.7
LZH MLR MLR
comp=Z,540nm,13.6s,MS4.2
LZH Lanzhou 24.16 22 ⇑P **P 17 15 01.8 +1.5**
comp=Z,43nm,1.5s,mb4.7
LZH pP 17 15 08.0
LZH sP 17 15 10.0
LZH PP PP 17 15 42.5 +7.4
LZH LR LR
comp=Z,540nm,13.6s,MS4.2
XAN Xi'an 24.70 33 P **P 17 15 11.3 +5.7**
GTA Gaotai 26.15 12 P **P 17 15 20.8 +1.7**
GTA SCS ScS 17 26 04.6 -8.5
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb3.9
GTA AMB AMB
comp=Z,67nm,6.5s
GTA LR LR
comp=N,141nm,22.4s,MS3.7
GTA LR LR
comp=E,210nm,22.4s,MS3.7
GTA LR LR
comp=Z,417nm,20.9s,MS4.0
NJ2 Nanjing 29.72 48 *eP* **P 17 15 50.4 -1.2**
NJ2 AP pP 17 15 59.3 +2.9
NJ2 PP PP 17 16 45.3 -3.1
NJ2 PPP PPP 17 16 58.5 -3.7
NJ2 S **S 17 20 41.0 -4.6**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,424nm,4.8s
NJ2 LR LR
comp=N,760nm,19.9s,MS4.4
NJ2 LR LR
comp=E,540nm,24.4s,MS4.4
WMQ Urumqi 30.23 352 P **P 17 15 57.9 +1.9**
WMQ AP pP 17 16 05.4 +4.6
WMQ PP PP 17 16 56.9 +1.9
WMQ PPP PPP 17 17 11.0 +1.8
WMQ PCP PcP 17 18 58.4 +1.6
WMQ S **S 17 20 54.4 +0.8**
WMQ AMB AMB
comp=Z,3.0nm,0.6s,mb4.2
WMQ AMB AMB
comp=Z,37nm,5.4s
WMQ LR LR
comp=N,141nm,16.6s,MS4.0
WMQ LR LR
comp=E,268nm,17.0s,MS4.0
WMQ LR LR
comp=Z,82nm,17.0s,MS3.4
SSE Sheshan 30.98 52 P **P 17 15 59.5 -3.3**
SSE PP PP 17 17 08.4 +3.5
SSE PCP PcP 17 18 58.4 -0.5
SSE S **S 17 21 01.0 -4.6**
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,49nm,4.0s
SSE LR LR
comp=N,249nm,18.3s,MS3.9
SSE LR LR
comp=E,79nm,17.6s,MS3.9
SSE LR LR
comp=Z,114nm,20.9s,MS3.5
SSE Sheshan 30.98 52 P **P 17 15 59.5 -3.3**
comp=Z,22nm,0.7s,mb5.1
SSE sP sP 17 16 12.6 +3.0
SSE PP PP 17 17 08.4 +3.5
SSE PcP PcP 17 18 58.4 -0.5
SSE S **S 17 21 01.0 -4.6**
SSE sS 17 21 14.4
SSE SS SS 17 23 09.2 +19
SSE LR LR
comp=Z,110nm,20.9s,MS3.5
AAK Ala-Archa 32.88 334⇑ *eP* **P 17 16 19.8 +0.5**
AAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
AAK MLR MLR
comp=Z,300nm,19.0s,MS4.0
SONM Songino Array 35.65 15 P **P 17 16 43.5 +0.5**
comp=Z,6.8nm,1.1s,mb4.5,baz=198,slow=7.8,SNR=10.0
ULN Ulaanbaatar 35.85 16 *eP* **P 17 16 44.7 -0.1**
ULN pmax pmax
comp=Z,42nm,0.6s,mb5.5
ULN Ulaanbaatar 35.85 16 *eP* **P 17 16 44.7 0.0**
comp=Z,42nm,0.6s,mb5.5
ZAK Zakamensk 37.37 11 *eP* **P 17 16 57.5 0.0**
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb3.7
ZAL Zalesovo 40.53 352 P **P 17 17 24.5 +0.7**
comp=Z,2.5nm,0.7s,mb3.9,baz=297,slow=7.7,SNR=12
NVS Novosibirsk 41.63 351 *eP* **P 17 17 23.7 -9.0**
NVS pmax pmax
comp=N,10.0nm,1.9s
NVS pmax pmax
comp=E,8.0nm,1.9s
NVS pmax pmax
comp=Z,26nm,1.9s,mb4.5
BVAR Borovoye Array 43.06 340 P **P 17 17 44.7 +0.2**
comp=Z,0.6nm,0.6s,mb3.5,baz=135,slow=10,SNR=5.1
FITZ Fitzroy Crossi 45.14 134 *eP* **P 17 18 00.9 -0.8**
comp=Z,5.5nm,0.8s,mb4.4
FITZ Fitzroy Crossi 45.14 134 P **P 17 18 01.2 -0.5**
comp=Z,6.6nm,0.7s,mb4.5,baz=359,slow=2.2,SNR=9.4
BOD Bodaibo 46.65 15 *eP* **P 17 18 12.6 -0.6**
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
SVE Sverdlovsk 49.52 337 *eP* **P 17 18 33.0 -2.6**
GNI Garni 49.66 311⇑ *eP* **P 17 18 40.4 +3.6**
GNI pmax pmax
comp=Z,14nm,1.2s
GNI MLR MLR
comp=Z,100nm,17.0s
ARU Arti 50.05 336⇓ *iP* **P 17 18 40.8 +1.2**
ARU *e* 17 20 01.0
ARU *e* 17 20 31.3
ARU *e*PPP PPP 17 21 27.9 -3.5
ARU *e*S **S 17 25 49.4 +0.8**
ARU *e*SS SS 17 29 24.7 +6.1
ARU pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
NWAO Narrogin (SRO) 51.91 154 P **P 17 18 52.9 -1.2**
comp=Z,7.3nm,0.6s,mb4.8,baz=23,slow=6.9,SNR=6.1
NWAO Narrogin (SRO) 51.91 154 P **P 17 18 52.9 -1.2**
KIV Kislovodsk 52.31 315⇓ *eP* **P 17 18 58.7 +1.8**
KIV *e* 17 19 08.2
KIV *e* 17 19 15.7
KIV *e* 17 20 07.3
KIV *e*SS SS 17 30 03.9 +7.7
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
KIV MLR MLR
comp=Z,100nm,21.0s,MS3.8
GOF Gofitskoye 52.44 317 *eP* **P 17 19 01.7 +3.8**
WRA Warramunga Arr 52.66 129 P **P 17 18 59.2 -0.6**
comp=Z,2.1nm,0.7s,mb4.2,baz=310,slow=8.1,SNR=16
WRAB Tennant Creek 52.66 129 *eP* **P 17 18 58.6 -1.3**
WRAB pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
WRAB Tennant Creek 52.66 129 *eP* **P 17 18 58.6 -1.3**
comp=Z,7.9nm,0.9s,mb4.6
WB2 Warramunga Arr 52.67 129 *eP* **P 17 18 59.2 -0.7**
YSS Yuzh-Sakhalins 52.84 41 *eP* **P 17 19 06.0 +5.1**
SOC Sochi 54.25 314 *eP* **P 17 19 09.0 -2.2**
SOC *e* 17 20 15.4
SOC *e* 17 21 08.5
SOC *e*PPP PPP 17 22 27.3 +2.4
SOC *e*S **S 17 26 43.4 -2.9**
SOC *e* 17 28 57.4
SOC *e*SS SS 17 30 27.0 -1.0
SOC *e*SSS SSS 17 32 31.1 +7.4
SOC pmax pmax
comp=N,18nm,0.8s
SOC pmax pmax
comp=Z,18nm,0.8s,mb5.0
SOC pmax pmax
comp=E,25nm,0.9s
ASPA Alice Springs 54.60 133 *eP* **P 17 19 13.3 -0.8**
ASAR Alice Springs 54.60 133 P **P 17 19 13.3 -0.8**
comp=E,3.6nm,0.5s,mb4.6,baz=309,slow=6.9,SNR=61
YAK Yakutsk 54.73 20⇑ *eP* **P 17 19 13.1 -1.5**
YAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
YAK MLR MLR
comp=Z,100nm,21.0s,MS3.9
ANN Anapa 56.16 315 *i* **P 17 19 22.4 -2.7**
BRTR Keskin Array B 57.86 308 P **P 17 19 37.5 +0.2**
comp=Z,1.6nm,0.8s,mb4.1,baz=121,slow=7.2,SNR=9.3
OBN Obninsk 59.85 326 *eP* **P 17 19 51.2 +0.3**
OBN *e* 17 22 01.4
OBN *e*S **S 17 27 59.9 -0.1**
OBN pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.0
TIXI Tiksi 61.63 12 *i P* **P 17 20 01.2 -1.6**
TIXI pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
TIXI MLR MLR
comp=Z,100nm,19.0s,MS4.0
AKASG Malin Array Be 62.91 320 P **P 17 20 10.8 -0.8**
comp=Z,0.1nm,0.3s,mb3.5,baz=83,slow=5.5,SNR=4.6
AKASG Malin Array Be 62.91 320 P **P 17 20 10.8 -0.8**
FINES FINESS Array B 67.00 331 P **P 17 20 37.4 -0.5**
comp=Z,2.1nm,0.8s,mb4.2,baz=108,slow=6.0,SNR=5.9
KAF Kangasniemi 67.06 332 *ep* **P 17 20 38.2 0.0**
baz=104,slow=6.2
ARCES ARCESS Array B 69.34 340 P **P 17 20 52.7 +0.4**
comp=Z,4.5nm,0.9s,mb4.4,baz=80,slow=7.4,SNR=4.2
ARCES ARCESS Array B 69.34 340 P **P 17 20 52.7 +0.4**
BILL Bilibino 70.97 22 *i P* **P 17 21 03.9 +1.6**
BILL *e* 17 21 23.6
BILL *e*S S 17 30 13.9 -2.1
BILL pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.1
MATP Matopo 72.05 243 P **P 17 21 11.1 +1.6**
comp=Z,0.8nm,0.6s,mb3.9,baz=67,slow=7.7,SNR=3.5
GERES GERESS Array B 72.75 317 P **P 17 21 14.2 +1.0**
comp=Z,2.0nm,0.6s,mb4.2,baz=85,slow=6.1,SNR=14
KHC Kasperske Hory 72.83 317 *eP* **P 17 21 14.0 +0.4**
NB2 NORSAR Subarra 74.07 330 P **P 17 21 20.2 -0.4**
comp=Z,1.9nm,0.7s,mb4.1,baz=90,slow=5.8
NB2 NORSAR Subarra 74.07 330 P **P 17 21 20.2 -0.4**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
NOA NORSAR Array B 74.07 330 P **P 17 21 20.6 0.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=90,slow=5.8,SNR=7.6
LPG La Plagne 77.73 314 *eP* **P 17 21 42.9 +1.2**
comp=Z,20nm,1.0s,mb4.7
LPG La Plagne 77.73 314 *eP* **P 17 21 42.9 +1.2**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BOSA Boshof 77.95 236 P **P 17 21 43.6 +0.4**
comp=Z,1.9nm,0.5s,mb4.3,baz=110,slow=2.5,SNR=4.8
ILAR Eielson Array 89.62 22 P **P 17 22 44.7 +2.9**
comp=Z,1.0nm,0.8s,mb4.2,baz=298,slow=4.3,SNR=8.2
TXAR Lajitas Array 134.12 21 PKP PKPdf 17 29 03.6 -1.5
comp=Z,0.2nm,0.8s,baz=331,slow=1.8,SNR=2.8
PLCA Paso Flores 149.63 205 PKPbc PKPdf 17 29 36.7 +4.7
comp=Z,1.6nm,0.8s,baz=143,slow=5.2,SNR=4.0
PLCA Paso Flores 149.63 205 PKPbc PKPdf 17 29 36.7 +4.7

*JMA **17** 17:12:26.9±0.3,24.31N×121.86E,h71km,M2.5*
TAP 17 17:12:26.5,24.16N×121.76E,h38km,ML3.6,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.18**	**75**	P	P	17 12 46.4	-0.3
YOJ				S	S	17 13 00.8	-1.1
IRIF	**Iriomote-Funau**	**1.81**	**84**	P	P	17 12 54.7	-1.1
IRIF				S	S	17 13 15.6	-2.0
HATJ	**Hateruma jima**	**1.87**	**93**	*eS*	S	17 13 18.9	-0.4
JKRS	**Kuro-shima**	**2.06**	**87**	P	P	17 12 58.8	-0.5
JKRS				S	S	17 13 22.8	-1.1
JIJ	**Ishigaki jima**	**2.18**	**84**	P	P	17 12 59.9	-1.3
JIJ				S	S	17 13 24.6	-2.6
JTJ	**Tarama**	**2.73**	**79**	P	P	17 13 07.9	-1.0
JTJ				*eS*	S	17 13 39.1	-1.8

IDC 17 17:19:54.5±1.6,16.92S×173.60E,mb4.1/4,mb1 4.3/4, mb1mx3.9/15,mbtmp4.1/4,MS3.9/1,Ms1 3.9/1, ms1mx2.7/27,Error ellipse: s-maj=86.1km s-min=29.4km az=3.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**26.79**	**283**	LR	LR	17 33 48.1	
	comp=Z,241nm,19.0s,baz=138,slow=31						
WRA	**Warramunga Arr**	**37.31**	**259**	P	P	17 27 09.3	-1.2
	2.3nm,1.1s,baz=89,slow=9.4,SNR=7.2						
ASAR	**Alice Springs**	**37.74**	**253**	P	P	17 27 11.2	-2.9
	2.0nm,0.8s,baz=88,slow=8.2,SNR=24						
FITZ	**Fitzroy Crossi**	**45.65**	**261**	P	P	17 28 18.7	-0.4
	14nm,1.2s,baz=112,slow=8.6,SNR=4.4						
RPN	**Rapa Nui**	**71.20**	**113**	P	P	17 31 16.0	-1.7
	70nm,0.8s,baz=270,slow=1.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**81.41**	**292**	P	P	17 32 13.6	-1.8
	1.2nm,1.0s,baz=133,slow=3.9,SNR=6.6						

*IDC **17** 17:29:12.4±0.7,5.52S×151.41E,h40km±5km,mb4.1/12, mb1 4.3/14,mb1mx4.3/16,mbtmp4.3/14,ML3.4/2,Error ellipse: s-maj=17.6km s-min=10.2km az=127.0*
*NEIC **17** 17:29:12.5±0.4,5.56S×151.46E,mb4.5/6,Error ellipse: s-maj=9.6km s-min=7.4km az=142.0*
ISC 17 17:29:10.5±0.5,5.51S±0.06×151.44E±0.07,h41km, h41km±3.0km:pP-P,n29,σ0°83/30,mb4.3/17,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**227**	P	P	**17 30 36.3**	**+0.9**
	5.2nm,0.3s,baz=36,slow=9.8,SNR=44						
PMG				S	S	17 31 40.5	-0.6
	10nm,0.3s,baz=324,slow=22,SNR=8.0						
PMG	**Port Moresby**	**5.75**	**227**	*eP*	P	**17 30 36.1**	**+0.6**
	174nm,0.9s						
HNR	**Honiara**	**9.29**	**115**	*eP*	P	**17 31 22.8**	**-2.0**
CTA	**Charters Tower**	**15.35**	**199**	P	P	**17 32 46.3**	**+0.3**
	0.2nm,0.3s,baz=55,slow=10,SNR=3.9						
CTA				S	S	**17 35 36.1**	**+1.1**
	0.1nm,0.3s,baz=294,slow=1.5,SNR=3.2						
KAKA	**Kakadu**	**20.07**	**248**	*eP*	P	**17 33 43.0**	**-0.4**
	5.4nm,0.5s						
DZM	**Mont Dzumac**	**21.95**	**140**	P	P	**17 34 02.3**	**-0.1**
	18nm,1.0s,mb4.5,baz=112,slow=19,SNR=5.7						
WRAB	**Tennant Creek**	**21.95**	**228**	*eP*	P	**17 34 02.0**	**-0.5**
	26nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**21.96**	**228**	*eP*	P	**17 34 01.9**	**-0.6**
WB2				*eS*	S	**17 38 01.4**	**+3.9**
WRA	**Warramunga Arr**	**21.97**	**228**	P	P	**17 34 02.4**	**-0.2**
	9.9nm,0.6s,mb4.5,baz=53,slow=9.9,SNR=55						
WRA				S	S	**17 38 02.8**	**+5.2**
	2.8nm,1.1s,baz=56,slow=17,SNR=5.6						
WRA				ScP		17 41 36.3	
	1.2nm,1.0s,baz=50,slow=2.8,SNR=4.8						
ASAR	**Alice Springs**	**24.72**	**221**	P	P	**17 34 29.9**	**+0.2**
	14nm,0.8s,mb4.5,baz=57,slow=8.2,SNR=119						
ASAR				pP		17 34 42.2	
	4.8nm,0.7s,baz=58,slow=8.7,SNR=5.3						
ASAR				ScP		17 41 43.6	
	0.5nm,0.9s,baz=52,slow=3.0,SNR=4.5						
ASPA	**Alice Springs**	**24.73**	**221**	*eP*	P	**17 34 31.0**	**+1.4**
STKA	**Stephens Creek**	**27.80**	**198**	P	P	**17 34 57.3**	**-0.8**
	4.1nm,0.8s,mb4.1,baz=332,slow=19,SNR=4.7						
STKA	**Stephens Creek**	**27.80**	**198**	*eP*	P	**17 34 54.5**	**-3.6**
FITZ	**Fitzroy Crossi**	**28.14**	**241**	*eP*	P	**17 35 00.6**	**-0.6**
	22nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**28.14**	**241**	P	P	**17 35 00.7**	**-0.5**
	30nm,0.6s,mb5.1,baz=68,slow=7.9,SNR=24						
FITZ				pP	pP	17 35 10.3	-1.9
	15nm,0.7s,baz=86,slow=5.7,SNR=6.3						
MBWA	**Marble Bar**	**34.45**	**240**	*eP*	P	**17 35 56.0**	**-0.6**
	10nm,0.8s,mb4.8						
RAR	**Rarotonga**	**49.74**	**113**	P	P	**17 38 02.0**	**+0.8**
	14nm,0.5s,mb5.2,baz=174,slow=13,SNR=3.1						
CMAR	**Chiang Mai Arr**	**56.96**	**296**	P	P	**17 38 53.8**	**-0.9**
	1.0nm,0.9s,mb3.8,baz=102,slow=5.1,SNR=7.7						
CMAR				pP	pP	17 39 06.8	+0.3
	0.3nm,0.5s,baz=119,slow=6.1,SNR=3.3						
ULN	**Ulaanbaatar**	**65.89**	**329**	*eP*	P	**17 39 54.8**	**+0.4**
	1.4nm,0.9s,mb4.0						
SONM	**Songino Array**	**66.21**	**329**	P	P	**17 39 57.1**	**+0.7**
	1.2nm,0.6s,mb4.1,baz=124,slow=4.5,SNR=6.9						
SONM				pP	pP	17 40 07.9	-0.6
	1.0nm,0.7s,baz=150,slow=6.1,SNR=4.1						
VNDA	**Vanda**	**72.18**	**178**	P	P	**17 40 32.4**	**-0.2**
	1.3nm,0.7s,mb4.0,baz=323,slow=5.7,SNR=8.4						
ZAL	**Zalesovo**	**81.00**	**327**	P	P	**17 41 22.4**	**-0.1**
	0.8nm,0.8s,mb3.7,baz=358,slow=5.7,SNR=7.6						
COLA	**College**	**83.01**	**22**	*eP*	P	**17 41 32.3**	**-0.4**
	1.9nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**83.32**	**22**	P	P	**17 41 33.7**	**-0.5**
	1.6nm,0.8s,mb4.1,baz=248,slow=5.5,SNR=21						
ILAR				pP	pP	17 41 47.1	+0.6
	0.8nm,0.6s,baz=249,slow=5.5,SNR=5.0						
NVAR	**Mina Array Bea**	**93.58**	**52**	P	P	**17 42 25.8**	**+1.8**
	2.2nm,0.9s,mb4.6,baz=248,slow=3.3,SNR=11						
YKA	**Yellowknife Ar**	**96.68**	**28**	P	P	**17 42 38.1**	**+0.7**
	0.3nm,0.8s,mb3.8,baz=267,slow=4.9,SNR=5.3						
GERES	**GERESS Array B**	**123.94**	**328**	PKP	PKPdf	17 48 05.7	+1.0
	0.5nm,0.6s,baz=63,slow=3.0,SNR=5.1						
LPAZ	**La Paz**	**135.26**	**120**	PKP	PKPdf	17 48 30.1	+3.1
	0.6nm,0.7s,baz=37,slow=3.9,SNR=4.1						
BDFB	**Brasilia**	**151.49**	**138**	PKPbc	PKPdf	17 49 02.5	+7.6
	1.7nm,0.7s,baz=192,slow=5.1,SNR=3.4						

*BJI **17** 17:43:32.2,5.43S×151.91E,h67km,mB5.1,mb4.9,Ms4.8, Msz4.6*
*HRVD **17** 17:43:34.3±0.2,5.82S×151.64E,h35km,MW5.2/64, Centroid moment Tensor Solution. LP body waves: s50,c94;Mantle waves: s64,c116; Half duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}6.03±.28; $M_{\theta\theta}$-5.77±.17; $M_{\phi\phi}$-0.26±.19; $M_{r\theta}$2.96±.20; $M_{\theta\phi}$-3.55±.13; $M_{\phi r}$0.36±.23; Best double couple: $M_0$7.421×10^{16} NP1: ϕ_s233°,δ35°,λ72°. NP2:ϕ_s74°,δ57°,λ102°. Principal axes: T 6.767, Plg75°, Azm17°; N 1.305, Plg10°, Azm247°; P -8.075, Plg11°, Azm155°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **17** 17:43:34.0±1.0,5.50S×151.33E,h60km,mb5.1/29, MS4.8/8 Error ellipse: s-maj=10.9km s-min=7.1km az=70.7*
*NEIC **17** 17:43:34.4±0.1,5.57S×151.45E,mb5.0/38,Error ellipse: s-maj=5.7km s-min=4.2km az=125.0*
*IDC **17** 17:43:35.7±2.0,5.59S×151.42E,h67km±17km,mb4.6/19, mb1 4.7/21,mb1mx4.7/22,mbtmp4.9/21,MS4.5/16, Ms1 4.6/16,ms1mx4.4/23,Error ellipse: s-maj=15.6km s-min=8.7km az=125.0*
ISC 17 17:43:33.1±0.2,5.59S±0.04×151.41E±0.04,h58km, h58km±2.1km:pP-P,n223,σ0°95/176,mb5.0/71,MS4.6/31, 8C-5D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.67**	**228**	*eP*	P	**17 44 56.9**	**+0.2**
PMG				*eS*	S	**17 46 02.3**	**+1.0**
PMG				pmax	pmax		
	comp=Z,596nm,0.9s						
PMG	**Port Moresby**	**5.67**	**228**	P	P	**17 44 57.5**	**+0.8**
	comp=Z,21nm,0.3s,baz=39,slow=9.7,SNR=58						
PMG				S	S	**17 46 03.4**	**+2.2**
	comp=Z,101nm,0.3s,baz=129,slow=22,SNR=14						
PMG	**Port Moresby**	**5.67**	**228**	*eP*	P	**17 44 56.9**	**+0.2**
	comp=Z,596nm,0.9s						
PMG				*eS*	S	**17 46 02.3**	**+1.0**
HNR	**Honiara**	**9.29**	**115**	*eP*	P	**17 45 43.3**	**-3.5**
HNR				pmax	pmax		
	comp=Z,141nm,0.8s						
HNR	**Honiara**	**9.29**	**115**	*eP*	P	**17 45 43.3**	**-3.5**
	comp=Z,141nm,0.8s						
CTA	**Charters Tower**	**15.26**	**199**	*eP*	P	**17 47 11.3**	**+4.8**
	comp=Z,9.6nm,0.6s						
CTA	**Charters Tower**	**15.26**	**199**	P	P	**17 47 07.5**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=32,slow=10,SNR=12						
CTA				LR	LR	17 52 32.4	
	comp=Z,2μm,19.6s,baz=23,slow=35						
CTA	**Charters Tower**	**15.26**	**199**	P	P	**17 47 07.5**	**+1.0**
CTA				*eP*		17 47 11.3	
CTA				LR	LR	17 52 32.4	
CTAO	**Charters Tower**	**15.26**	**199**	*eP*	P	**17 47 08.9**	**+2.4**
CTAO				pmax	pmax		
	comp=Z,17nm,0.9s						
CTAO	**Charters Tower**	**15.26**	**199**	*eP*	P	**17 47 08.9**	**+2.3**
	comp=Z,17nm,0.9s						
KAKA	**Kakadu**	**20.01**	**248⇑**	*iP*	P	**17 48 02.7**	**-1.1**
	comp=Z,50nm,0.4s						
KAKA				*eS*	S	**17 51 37.5**	**-3.0**
GUMO	**Guam**	**20.12**	**341**	*eP*	P	**17 48 06.0**	**+1.0**
GUMO				pmax	pmax		
	comp=Z,223nm,0.9s						
GUMO	**Guam**	**20.12**	**341**	*eP*	P	**17 48 06.0**	**+1.0**
	comp=Z,223nm,0.9s						
GUMO				*e*		17 48 14.1	
WRAB	**Tennant Creek**	**21.88**	**228**	*eP*	P	**17 48 22.0**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,159nm,0.7s,mb5.6						
WRAB	**Tennant Creek**	**21.88**	**228**	*eP*	P	**17 48 22.0**	**-0.7**
	comp=Z,159nm,0.7s,mb5.6						
WB2	**Warramunga Arr**	**21.88**	**228⇑**	*iP*	P	**17 48 22.6**	**-0.1**
WB2				*eS*	S	**17 52 21.5**	**+5.7**
WB2				*e*SCS		17 55 58.9	
WRA	**Warramunga Arr**	**21.89**	**228**	P	P	**17 48 22.6**	**-0.2**
	comp=Z,80nm,0.6s,mb5.3,baz=53,slow=10.0,SNR=97						
WRA				S	S	**17 52 21.2**	**+5.2**

comp=Z,16nm,1.1s,baz=56,slow=18,SNR=13
WRA ScP 17 55 56.5
comp=Z,3.5nm,0.9s,baz=43,slow=2.4,SNR=7.4
DZM Mont Dzumac 21.91 140 P **P 17 48 22.0 -1.0**
comp=Z,13nm,0.6s,mb4.5,baz=274,slow=6.3,SNR=12
DZM LR LR 17 55 38.0
comp=Z,2µm,21.9s,MS4.5,baz=105,slow=33
ASAR Alice Springs 24.64 221 P **P 17 48 50.0 +0.2**
comp=Z,39nm,0.6s,mb5.1,baz=57,slow=8.7,SNR=284
ASAR S **S 17 53 08.7 +4.5**
comp=Z,1.4nm,0.8s,baz=51,slow=13,SNR=2.6
ASAR ScP 17 56 03.3
comp=Z,1.4nm,0.9s,baz=33,slow=3.2,SNR=5.0
ASAR LR LR 17 57 59.4
comp=Z,718nm,20.6s,MS4.2,baz=54,slow=35
ASPA Alice Springs 24.64 221 ⇓*i*P **P 17 48 50.5 +0.7**
ASPA *e*S **S 17 53 12.2 +7.9**
STKA Stephens Creek 27.72 198 *e*P **P 17 49 17.9 -0.4**
comp=Z,18nm,1.0s,mb4.7
STKA Stephens Creek 27.72 198 P **P 17 49 17.6 -0.6**
comp=Z,8.4nm,0.8s,mb4.4,baz=25,slow=12,SNR=12
STKA LR LR 18 00 44.4
comp=Z,1µm,18.6s,MS4.5,baz=118,slow=37
FITZ Fitzroy Crossi 28.07 241 *e*P **P 17 49 20.8 -0.7**
comp=Z,88nm,0.4s,mb5.7
FITZ Fitzroy Crossi 28.07 241 P **P 17 49 20.9 -0.6**
comp=Z,224nm,0.7s,mb5.9,baz=76,slow=7.5,SNR=167
FITZ LR LR 18 01 46.0
comp=Z,655nm,19.9s,MS4.2,baz=314,slow=39
FORT Forrest 33.31 218 *e*P **P 17 50 06.6 -1.0**
comp=Z,687nm,0.5s
MBWA Marble Bar 34.38 240 *e*P **P 17 50 16.3 -0.6**
comp=Z,66nm,0.8s,mb5.6
KKM Kota Kinabalu 36.98 288 *e*P **P 17 50 38.4 -0.5**
JOW Kunigami 39.24 326 P **P 17 50 58.0 +0.3**
comp=Z,41nm,0.9s,mb5.2,baz=172,slow=16,SNR=5.2
JHJ Hachijo jima 2 40.04 345 LR LR 18 04 45.4
comp=Z,624nm,20.6s,MS4.4,baz=122,slow=32
KLBR Kellerberrin 40.76 226 *e*P **P 17 51 08.8 -1.4**
comp=Z,210nm,0.5s,mb6.0
KSM Kuching 41.64 279 *e*P **P 17 51 17.8 +0.1**
NWAO Narrogin (SRO) 41.85 225 P **P 17 51 18.8 -0.4**
comp=Z,14nm,1.1s,mb4.5,baz=79,slow=10,SNR=3.7
NWAO LR LR 18 10 54.7
comp=Z,807nm,18.6s,MS4.6,baz=52,slow=39
NWAO Narrogin (SRO) 41.85 225 *e*P **P 17 51 18.9 -0.3**
YHNB Yeheng 41.94 317 *e*P **P 17 51 20.6 +0.6**
MUN Mundaring 42.09 227 *e*P **P 17 51 21.7 +0.6**
comp=Z,106nm,0.9s,mb5.5
MUN Mundaring 42.09 227 *e*P **P 17 51 21.7 +0.6**
MUN pmax pmax
comp=Z,106nm,0.9s,mb5.5
SSE Sheshan 46.52 323 P **P 17 51 54.3 -2.5**
SSE PP PP 17 53 44.4 -2.1
SSE PCS 17 57 22.5
SSE S **S 17 58 42.4 +2.3**
SSE SCS ScS 18 01 46.6 +3.0
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,77nm,5.1s
SSE LR LR
comp=N,325nm,20.6s,MS4.4
SSE LR LR
comp=E,339nm,20.6s,MS4.4
SSE LR LR
comp=Z,593nm,18.6s,MS4.6
SSE Sheshan 46.52 323 P **P 17 51 54.2 -2.6**
comp=Z,33nm,0.7s,mb5.4
SSE sP sP 17 52 07.1 -12
SSE PP PP 17 53 44.4 -2.1
SSE PcS 17 57 22.5
SSE S **S 17 58 42.4 +2.3**
SSE sS 17 58 58.0
SSE ScS ScS 18 01 46.6 +3.0
SSE LR LR
comp=Z,590nm,18.6s,MS4.6
QIZ Qiongzhong 47.69 302 P **P 17 52 08.3 +2.2**
QIZ S **S 17 58 59.4 +2.7**
QIZ XS 17 59 26.3
QIZ LR LR
comp=N,345nm,21.1s,MS4.5
QIZ LR LR
comp=E,446nm,20.6s,MS4.5
QIZ LR LR
comp=Z,864nm,23.2s,MS4.7
NJ2 Nanjing 48.60 322 *e*P **P 17 52 11.5 -1.5**
NJ2 PP PP 17 54 04.0 -2.1
NJ2 S **S 17 59 10.0 +0.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,624nm,6.4s
NJ2 LR LR
comp=N,4µm,16.4s,MS5.7
NJ2 LR LR
comp=E,5µm,18.4s,MS5.7
NJ2 LR LR
comp=Z,4µm,18.8s,MS5.4
RAR Rarotonga 49.74 113 LR LR 18 09 13.6
comp=Z,338nm,18.1s,MS4.4,baz=266,slow=31
ASAJ Asahikawa 50.11 352 LR LR 18 13 36.0
comp=Z,353nm,19.2s,MS4.4,baz=168,slow=36
WHN Wuhan 50.48 318 *e*P **P 17 52 28.0 +0.5**
WHN LR LR
comp=Z,1µm,18.0s,MS4.9
KULM Kulim 51.82 281 *e*P **P 17 52 36.9 -0.9**
MDJ Mudanjiang 53.68 341 P **P 17 52 52.3 +1.0**
MDJ AP pP 17 53 06.0 -0.8
MDJ XP sP 17 53 12.0 -1.4
MDJ PCP PcP 17 53 56.4 -0.4
MDJ PP PP 17 54 53.8 -0.2
MDJ SCP 17 57 49.3
MDJ PCS 17 57 55.3
MDJ XS 18 00 48.3
MDJ AMB AMB
comp=Z,4.0nm,1.9s,mb4.0
MDJ AMB AMB
comp=Z,57nm,5.2s
MDJ LR LR
comp=N,240nm,25.7s,MS4.3
MDJ LR LR
comp=E,185nm,21.3s,MS4.3
MDJ LR LR
comp=Z,348nm,24.2s,MS4.3
ENH Enshi 53.69 314 *e*P **P 17 52 50.5 -1.0**
comp=Z,18nm,1.0s,mb5.0
GYA Guiyang 53.78 309⇑*i*P **P 17 52 52.9 +0.7**
GYA AP pP 17 53 08.6 +0.8
GYA XP sP 17 53 15.8 +1.4
GYA PP PP 17 54 50.9 -4.2
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
GYA AMB AMB
comp=Z,120nm,4.0s
GYA LR LR
comp=N,340nm,18.6s,MS4.6
GYA LR LR
comp=E,420nm,18.3s,MS4.6
GYA LR LR
comp=Z,500nm,18.6s,MS4.6
CN2 Changchun 54.46 337 *e*P **P 17 52 52.5 -4.5**
CN2 *e*AP pP 17 53 09.0 -3.5
CN2 *e*S **S 18 00 25.9 -3.7**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 LR LR
comp=N,400nm,16.0s,MS4.7
CN2 LR LR
comp=E,300nm,16.0s,MS4.7
CN2 LR LR
comp=Z,500nm,18.0s,MS4.6
NANT Nan 55.52 297 P **P 17 53 04.0 -1.0**
KMI Kunming 56.29 305 P **P 17 53 11.3 +0.9**
KMI AP pP 17 53 25.3 -0.8
KMI PP PP 17 55 18.8 +1.1
KMI PPP PPP 17 56 35.9 +0.7
KMI S **S 18 00 55.8 +1.6**
KMI SS SS 18 04 43.6 +1.6
KMI AMB AMB
comp=Z,11nm,1.0s,mb4.8
KMI AMB AMB
comp=Z,110nm,5.2s
KMI LR LR
comp=N,216nm,19.0s,MS4.5
KMI LR LR
comp=E,298nm,18.6s,MS4.5
KMI LR LR
comp=Z,396nm,21.4s,MS4.5
KMI Kunming 56.29 305 P **P 17 53 11.2 +0.8**
KMI *PP pP 17 53 25.2 -0.9
KMI *SP sP 17 53 30.8 -1.9
KMI 17 55 18.8
KMI PPP PPP 17 56 35.9 +0.7
KMI S **S 18 00 55.7 +1.5**
KMI PS PS 18 01 12.7 -2.3
KMI *SS 18 01 19.4
KMI SS SS 18 04 43.6 +1.6
KMI SSS SSS 18 06 53.5 +0.2
KMI pmax pmax
comp=Z,11nm,1.0s,mb4.8
KMI MLR MLR
comp=Z,400nm,21.4s,MS4.5
KMI Kunming 56.29 305 P **P 17 53 11.2 +0.8**
comp=Z,11nm,1.0s,mb4.8
KMI pP pP 17 53 25.2 -0.9
KMI sP sP 17 53 30.8 -1.9
KMI PP PP 17 55 18.8 +1.1
KMI PPP PPP 17 56 35.9 +0.7
KMI S **S 18 00 55.7 +1.5**
KMI PS PS 18 01 12.7 -2.3
KMI sS 18 01 19.4
KMI SS SS 18 04 43.6 +1.6
KMI SSS SSS 18 06 53.5 +0.2
KMI LR LR
comp=Z,400nm,21.4s,MS4.5
CM31 Chiang Mai Arr 56.96 296 *e*P **P 17 53 15.5 +0.1**
comp=Z,8.5nm,0.9s,mb4.8
CMAR Chiang Mai Arr 56.96 296 P **P 17 53 15.9 +0.6**
comp=Z,6.6nm,1.0s,mb4.6,baz=114,slow=5.4,SNR=30
CMAR LR LR 18 17 53.8
comp=Z,251nm,18.5s,MS4.3,baz=100,slow=36
CHG Chiang Mai 57.08 297 P pP 17 53 33.4 +1.5
CD2 Chengdu 58.20 312 *e*P **P 17 53 24.3 +0.4**
PPT Papeete 58.82 107 *e*SS SS 18 05 25.7 +2.5
PPT *e*LQ 18 08 16.9
PPT *e*LR LR 18 10 47.4
comp=Z,219nm,23.5s
HHC Hu-ho-hao-te 58.89 325 *e*P **P 17 53 29.0 +0.5**
HHC AP pP 17 53 47.3 +3.1
HHC XP sP 17 53 54.4 +3.5
HHC PCP PcP 17 54 16.6 -0.4
HHC SCP 17 58 06.4
HHC PCS 17 58 13.0
HHC S **S 18 01 33.3 +5.2**
HHC SCS ScS 18 03 07.1 -2.2
HHC AMB AMB
comp=Z,122nm,6.7s
HHC LR LR
comp=N,474nm,19.2s,MS4.8
HHC LR LR
comp=E,503nm,19.2s,MS4.8
HHC LR LR
comp=Z,803nm,18.7s,MS4.9
TBI Tubuai 59.51 114 *e*S **S 18 01 36.6 +0.2**
TBI *e*SS SS 18 05 41.0 +7.3
TBI *e*LQ 18 08 57.0
TBI *e*LR LR 18 11 09.8
comp=Z,269nm,29.5s
PMOR Pomariorio Ree 60.29 104 *e*P **P 17 53 33.3 -5.2**
comp=Z,54nm,1.2s,mb5.5
LZH Lanzhou 60.84 317 ⇑P **P 17 53 42.0 +0.1**
LZH AP pP 17 53 58.0 +0.3
LZH XP sP 17 54 05.3 +0.8
LZH *e*PP PP 17 55 59.1 +0.6
LZH *e*S **S 18 01 54.0 +0.7**
LZH XS 18 02 22.3
LZH SS SS 18 05 56.3 +2.0
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,118nm,4.9s
LZH LR LR
comp=N,877nm,15.0s
LZH LR LR
comp=Z,982nm,17.8s,MS5.0
LZH Lanzhou 60.84 317 ⇑P **P 17 53 42.0 +0.1**
LZH *PP pP 17 53 58.0 +0.3
LZH *SP sP 17 54 05.2 +0.8
LZH *e* 17 55 59.1
LZH *e*S **S 18 01 54.0 +0.7**
LZH *SS 18 02 22.3
LZH SS SS 18 05 56.2 +1.9
LZH pmax pmax
comp=Z,28nm,1.5s,mb5.2
LZH MLR MLR
comp=Z,980nm,17.8s,MS5.0
LZH Lanzhou 60.84 317 ⇑P **P 17 53 42.0 +0.1**
comp=Z,28nm,1.5s,mb5.2
LZH pP pP 17 53 58.0 +0.3
LZH sP sP 17 54 05.2 +0.8
LZH *e*PP PP 17 55 59.1 +0.6
LZH *e*S **S 18 01 54.0 +0.7**
LZH sS 18 02 22.3
LZH SS SS 18 05 56.2 +1.9
LZH LR LR
comp=Z,980nm,17.8s,MS5.0
HIA Hailar 61.19 337 *e*P **P 17 53 42.9 -1.2**
HIA pmax pmax
comp=Z,16nm,0.8s
HIA Hailar 61.19 337 *e*P **P 17 53 42.9 -1.3**
comp=Z,16nm,0.8s,mb5.2
GTA Gaotai 65.30 318 P **P 17 54 11.3 -0.1**
GTA AP pP 17 54 28.4 +1.0
GTA XP sP 17 54 35.0 +1.2
GTA PCP PcP 17 54 46.1 +3.0
GTA PP PP 17 56 36.8 -0.8
GTA PPP PPP 17 58 10.8 -1.3
GTA SCP 17 58 39.1
GTA S S 18 02 50.1 +1.1
GTA SCS ScS 18 04 00.5 +2.9
GTA SS SS 18 07 04.8 +0.4
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.6
GTA AMB AMB
comp=Z,103nm,11.8s
GTA LR LR
comp=N,189nm,20.1s,MS4.6
GTA LR LR
comp=E,311nm,20.2s,MS4.6
GTA LR LR
comp=Z,417nm,20.9s,MS4.6
SHL Shillong 65.52 301 *e*P **P 17 54 13.0 0.0**
CLNS Chul'man 65.88 344 *e*P **P 17 54 13.4 -1.3**
CLNS pmax pmax
comp=Z,12nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,1.0s
CLNS MLR MLR
comp=N,200nm,15.0s,MS4.5
CLNS MLR MLR
comp=Z,200nm,15.0s,MS4.4
CLNS MLR MLR
comp=E,100nm,13.0s,MS4.5
ULN Ulaanbaatar 65.94 329 *e*P **P 17 54 14.7 -0.6**
ULN *PP pP 17 54 30.8 -0.5
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ULN Ulaanbaatar 65.94 329 *e*P **P 17 54 14.7 -0.6**
comp=Z,10nm,0.9s,mb4.8
ULN pP pP 17 54 30.8 -0.6
SONM Songino Array 66.26 329 P **P 17 54 17.6 +0.3**
comp=Z,8.5nm,0.6s,mb4.9,baz=135,slow=5.2,SNR=30
SONM LR LR 18 23 01.3
comp=Z,404nm,19.5s,MS4.6,baz=68,slow=36
LSA Lhasa 67.54 305 *e*P **P 17 54 26.3 +0.6**
LSA Lhasa 67.54 305 *e*P **P 17 54 26.0 +0.3**
LSA pmax pmax
comp=Z,12nm,1.0s,mb4.9
LSA Lhasa 67.54 305 *e*P **P 17 54 25.9 +0.2**
comp=Z,12nm,1.0s,mb4.9
ZAK Zakamensk 69.45 329⇑*e*P **P 17 54 36.5 -0.7**
ZAK pmax pmax
comp=Z,15nm,1.0s,mb4.9
YAK Yakutsk 69.47 349 *e*P **P 17 54 34.4 -2.7**
YAK pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
BOD Bodaibo 70.03 340⇓*i*P **P 17 54 38.5 -2.1**
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TLY Talaya 70.07 331 *e*P **P 17 54 40.2 -0.7**
TLY *e*SSS SSS 18 11 19.4 -3.9
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
JIRN Jiri 71.01 302 *e*P **P 17 54 47.0 0.0**
GUN Gumba 71.34 302 *e*P **P 17 54 49.1 +0.1**
comp=Z,39nm,0.8s,mb5.4
MOY Mondy 71.38 330 *e*P **P 17 54 48.9 +0.1**
MOY pmax pmax
comp=Z,16nm,1.2s,mb4.8
PKI Pulchoki 71.65 301 *e*P **P 17 54 50.4 -0.4**
comp=Z,28nm,1.1s,mb5.1
KKN Kakani 71.82 301 *e*P **P 17 54 51.4 -0.4**
comp=Z,24nm,0.8s,mb5.2
DMN Daman 71.91 301 *e*P **P 17 54 52.3 -0.1**
comp=Z,68nm,1.0s,mb5.5
VNDA Vanda 72.10 178 *e*P **P 17 54 52.3 -0.4**
VNDA *e*PP pP 17 55 08.9 -0.1
VNDA pmax pmax
comp=Z,10.0nm,0.8s
VNDA Vanda 72.10 178 P **P 17 54 52.6 -0.2**
comp=Z,8.7nm,0.7s,mb4.8,baz=330,slow=6.3,SNR=39
VNDA Vanda 72.10 178 *e*P **P 17 54 52.3 -0.4**
comp=Z,10nm,0.8s,mb4.8
VNDA *e*pP pP 17 55 08.8 -0.1
GKN Gorkha 72.42 302 *e*P **P 17 54 54.5 -0.9**
comp=Z,70nm,1.1s,mb5.5
SBA Scott Base 72.67 177 *e*P **P 17 54 56.6 +0.6**
SBA pmax pmax
comp=Z,14nm,1.1s,mb4.8
SBA Scott Base 72.67 177 *e*P **P 17 54 56.6 +0.6**
comp=Z,14nm,1.1s,mb4.8
RKT Rikitea 72.77 112 *e*LR LR 18 17 23.6
comp=Z,323nm,29.2s
KOLN Koldanda 73.24 301 *e*P **P 17 54 59.7 -0.6**
comp=Z,25nm,0.8s,mb5.2
BILL Bilibino 74.20 6⇑*e*P **P 17 55 03.5 -1.6**
BILL *e* pP 17 55 17.7 -3.7
BILL *e*SS SS 18 09 20.0 -1.3
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BILL Bilibino 74.20 6 *e*P **P 17 55 03.1 -2.0**
comp=Z,6.0nm,0.9s,mb4.5
WMQ Urumqi 75.38 318 P **P 17 55 12.8 +0.4**
WMQ AP pP 17 55 29.3 +0.6
WMQ XP sP 17 55 36.3 +1.3
WMQ PP PP 17 58 04.4 +0.6
WMQ S S 18 04 46.8 +0.5
WMQ AMB AMB
comp=Z,9.0nm,0.5s,mb5.0
WMQ AMB AMB
comp=Z,135nm,4.7s
WMQ LR LR
comp=N,132nm,20.3s,MS4.3
WMQ LR LR
comp=E,114nm,22.8s,MS4.3
WMQ LR LR
comp=Z,148nm,24.1s,MS4.2
TNA Tin City 76.93 16 P **P 17 55 18.8 -1.9**
comp=Z,1.9nm,0.8s,mb4.1
TIXI Tiksi 78.49 353⇓*e*P **P 17 55 28.2 -1.0**
TIXI pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
SLKM Skilak Lake 79.97 25 *e*P **P 17 55 37.2 -0.2**
ZAL Zalesovo 81.04 327 P **P 17 55 42.4 -0.9**
comp=Z,5.2nm,0.5s,mb4.8,baz=2.6,slow=5.8,SNR=37
SML Sawmill 81.41 25 *e*P **P 17 55 44.5 -0.5**
MCK McKinley 82.12 23 *e*P **P 17 55 47.3 -1.3**
MCK pmax pmax
comp=Z,13nm,0.9s,mb4.9
MCK McKinley 82.12 23 *e*P **P 17 55 47.3 -1.3**
comp=Z,13nm,0.9s,mb4.8
ULHL Ulahol 82.85 314 P **P 17 55 53.3 +0.5**
SNR=11
COLA College 83.09 22 *e*P **P 17 55 51.9 -1.7**
COLA pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
COLA College 83.09 22 *e*P **P 17 55 51.9 -1.7**
comp=Z,7.8nm,0.7s,mb4.8
ILAR Eielson Array 83.41 22 P **P 17 55 53.8 -1.4**
comp=Z,9.1nm,0.9s,mb4.8,baz=249,slow=4.9,SNR=73
ILAR LR LR 18 30 36.5
comp=Z,326nm,18.4s,MS4.7,baz=334,slow=34
KZA Kyzart 83.53 313 P **P 17 55 57.6 +1.3**
SNR=21
KBK Karagaybulak 83.88 314 P **P 17 55 59.0 +0.9**
SNR=11
UCH Uchtor 84.09 313 P **P 17 56 00.5 +1.3**
SNR=17
CHMS Chumysh 84.10 314 P **P 17 55 59.8 +0.7**
SNR=10
AAK Ala-Archa 84.20 314 P **P 17 56 00.8 +1.1**
SNR=9.6
AAK Ala-Archa 84.20 314 *e*P **P 17 55 58.9 -0.8**
AAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
AAK Ala-Archa 84.20 314 *e*P **P 17 55 58.9 -0.8**
comp=Z,7.8nm,0.9s,mb4.8
MAW Mawson 84.32 203 *e*P **P 17 56 00.7 +1.0**
MAW pmax pmax
comp=Z,4.0nm,0.5s
MAW Mawson 84.32 203 P **P 17 56 01.3 +1.6**
comp=Z,3.7nm,0.6s,mb4.7,baz=84,slow=5.6,SNR=18
MAW LR LR 18 29 50.4
comp=Z,396nm,20.4s,MS4.8,baz=69,slow=33
MAW Mawson 84.32 203 *e*P **P 17 56 00.7 +1.0**
comp=Z,3.6nm,0.5s,mb4.8
USP Ospenovka 84.34 314 P **P 17 56 00.7 +0.4**
SNR=30
QSPA South Pole Qui 84.38 180 *e*P **P 17 55 59.0 -0.8**
comp=Z,18nm,0.9s,mb5.2
AML Almayashu 84.67 313 P **P 17 56 03.4 +1.3**
SNR=48
EKS2 Erkin-Say 84.72 314 P **P 17 56 03.1 +0.8**
SNR=38
DAWY Dawson 86.07 24 *e*P **P 17 56 08.8 +0.5**
DLBC Dease Lake 88.77 31 P **P 17 56 22.2 +0.7**
comp=Z,3.2nm,1.0s,mb4.6,baz=238,slow=6.8,SNR=5.9
DLBC Dease Lake 88.77 31 P **P 17 56 22.2 +0.7**
BVAR Borovoye Array 89.04 323 P **P 17 56 21.9 -1.0**
comp=Z,5.3nm,0.7s,mb5.0,baz=108,slow=4.7,SNR=41
INK Inuvik 89.68 21 *e*P **P 17 56 25.2 -0.4**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 89.68 21 P **P 17 56 25.9 +0.3**
comp=Z,2.5nm,0.6s,mb4.8,baz=239,slow=5.9,SNR=16
INK Inuvik 89.68 21 *e*P **P 17 56 25.2 -0.4**
comp=Z,5.4nm,1.0s,mb4.8
HUMO Hull Mountain 90.53 47 *e*P **P 17 56 30.9 +0.6**
comp=Z,34nm,1.0s,mb5.6
YBH Yreka Blue Hor 90.61 48 *e*P **P 17 56 31.7 +1.1**
YBH pmax pmax
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 90.61 48 P **P 17 56 32.1 +1.5**
comp=Z,12nm,1.0s,mb5.2,baz=246,slow=1.9,SNR=16
YBH Yreka Blue Hor 90.61 48 *e*P **P 17 56 31.7 +1.1**
comp=Z,13nm,1.0s,mb5.2
CMB Columbia Colle 91.99 52 *e*P **P 17 56 37.8 +0.7**
CMB pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
CMB Columbia Colle 91.99 52 *e*P **P 17 56 37.8 +0.6**
comp=Z,6.6nm,0.9s,mb5.0
MOD Modoc 92.42 48 *e*P **P 17 56 39.8 +0.8**
comp=Z,19nm,1.0s,mb5.4
WCN Washoe City 92.60 51 *e*P **P 17 56 40.5 +0.6**
WCN pmax pmax
comp=Z,26nm,1.0s,mb5.6
WCN Washoe City 92.60 51 *e*P **P 17 56 40.5 +0.6**
comp=Z,26nm,1.0s,mb5.6
MTUM Tungsten Hills 93.37 53 *e*P **P 17 56 43.9 +0.5**
MWC Mount Wilson 93.55 56 *e*P **P 17 56 45.7 +1.4**
NVAR Mina Array Bea 93.66 52 P **P 17 56 45.9 +1.2**
comp=Z,12nm,0.8s,mb5.4,baz=258,slow=2.6,SNR=55
NVAR LR LR 18 33 45.9
comp=Z,620nm,18.6s,MS5.1,baz=270,slow=32
NVAR Mina Array Bea 93.66 52 P **P 17 56 45.9 +1.2**
NVAR LR LR 18 33 45.9
WVOR Wild Horse Val 93.69 48 *e*P **P 17 56 45.0 +0.2**
WVOR pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
WVOR Wild Horse Val 93.69 48 *e*P **P 17 56 45.0 +0.2**
comp=Z,9.0nm,1.0s,mb5.2
MNV Mina 93.78 52 *e*P **P 17 56 45.8 +0.6**
MNV pmax pmax

comp=Z,17nm,0.9s,mb5.5
MNV Mina 93.78 52 *e*P **P 17 56 45.8 +0.5**
comp=Z,17nm,0.9s,mb5.5
TPH Tonopah 94.48 52 *e*P **P 17 56 49.6 +1.1**
TPH pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
TPH Tonopah 94.48 52 *e*P **P 17 56 49.6 +1.1**
comp=Z,9.8nm,1.0s,mb5.2
BMO Blue Mountains 94.81 46 *e*P **P 17 56 49.7 -0.1**
BMO pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
BMO Blue Mountains 94.81 46 *e*P **P 17 56 49.7 -0.1**
comp=Z,9.7nm,1.1s,mb5.2
PFO Pinyon Flat Ob 94.83 57 *e*P **P 17 56 50.5 +0.3**
PFO pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
PFO Pinyon Flat Ob 94.83 57 *e*P **P 17 56 50.5 +0.3**
comp=Z,6.9nm,1.0s,mb5.0
NEW Newport 95.11 42 *e*P **P 17 56 50.9 -0.2**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 95.11 42 P **P 17 56 51.0 0.0**
comp=Z,4.6nm,0.9s,mb4.9,baz=322,slow=1.9,SNR=5.1
NEW Newport 95.11 42 *e*P **P 17 56 50.9 -0.2**
comp=Z,5.6nm,1.0s,mb5.0
RPN Rapa Nui 95.67 118 LR LR 18 30 40.4
comp=Z,244nm,18.1s,MS4.7,baz=248,slow=30
ELK Elko 96.15 50 *e*P **P 17 56 56.8 +0.8**
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 96.15 50 *e*P **P 17 56 56.8 +0.9**
comp=Z,4.0nm,0.8s,mb4.9
ARU Arti 96.19 326 ⇓*i*P **P 17 56 54.9 -0.8**
ARU *e* 18 00 48.6
ARU *e*S 18 07 25.1
ARU *e*SS SS 18 14 48.6 +4.7
ARU pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
ARU MLR MLR
comp=Z,500nm,21.0s,MS5.0
ARU MLR MLR
comp=N,100nm,23.0s,MS4.9
ARU MLR MLR
comp=E,500nm,24.0s,MS4.9
YKA Yellowknife Ar 96.76 28 P **P 17 56 58.8 +0.6**
comp=E,0.8nm,0.6s,mb4.3,baz=270,slow=4.7,SNR=20
YKA LR LR 18 34 47.9
comp=E,265nm,21.7s,MS4.7,baz=270,slow=32
YKA Yellowknife Ar 96.76 28 P **P 17 56 58.8 +0.6**
YKA LR LR 18 34 47.9
HLID Hailey 96.84 47 *e*P **P 17 56 58.3 -0.8**
comp=E,4.2nm,1.0s,mb4.8
EDM Edmonton 97.58 37 *e*P **P 17 57 02.7 +0.5**
HVU Hansel Valley 98.03 49 *e*P **P 17 57 05.2 +0.7**
TMUT Trail Mountain 99.22 51 *e*P **P 17 57 11.2 +1.2**
PDAR Pinedale Array 100.40 48 P P 17 57 15.0 -0.2
comp=E,4.5nm,1.0s,baz=264,slow=2.1,SNR=26
PV10 Paradox Valley 100.93 52 *e*Pdif P 17 57 18.6 +0.9
PV01 Paradox Valley 101.31 52 *e*Pdif P 17 57 20.2 +0.8
KIV Kislovodsk 107.31 314 *e*P Pdif 17 57 45.9 +0.1
KIV *e*SS SS 18 17 28.4 +10
KIV pmax pmax
comp=Z,3.0nm,0.7s
OBN Obninsk 108.62 327 *e*P Pdif 17 57 50.4 -0.8
OBN *e* 18 02 23.3
OBN *e* 18 08 25.5
OBN *e*SS SS 18 17 36.2 +0.8
OBN pmax pmax
comp=Z,2.0nm,0.7s
OBN MLR MLR
comp=Z,400nm,22.0s,MS4.9
FINES FINESS Array B 111.18 335 Pdiff Pdif 17 58 01.4 -1.0
comp=Z,1.7nm,0.9s,baz=34,slow=6.9,SNR=5.0
AKASG Malin Array Be 114.31 324 PKP PKPdf 18 02 06.8 +0.5
comp=Z,1.5nm,0.6s,baz=63,slow=2.6,SNR=9.5
BRTR Keskin Array B 114.78 311 PKP PKPdf 18 02 09.1 +1.6
comp=Z,0.8nm,0.5s,baz=135,slow=1.7,SNR=6.6
HFS Hagfors 116.89 338 PKP PKPdf 18 02 11.1 0.0
comp=Z,2.3nm,0.7s,baz=90,slow=3.0,SNR=7.4
NB2 NORSAR Subarra117.17 339 PKPdf PKPdf 18 02 11.8 +0.3
comp=Z,1.7nm,0.6s,baz=45,slow=1.8
NOA NORSAR Array B117.17 339 PKP PKPdf 18 02 12.3 +0.8
comp=Z,1.5nm,0.6s,baz=47,slow=1.9,SNR=7.6
NOA NORSAR Array B117.17 339 PKP PKPdf 18 02 12.3 +0.8
MLR Muntele Rosu 118.35 319 PKP PKPdf 18 02 15.6 +1.4
comp=Z,1.8nm,0.5s,baz=256,slow=5.4,SNR=4.1
PLCA Paso Flores 119.97 144 PKP PKPdf 18 02 20.1 +2.6
comp=Z,1.3nm,0.7s,baz=214,slow=9.7,SNR=8.2
OKC Ostrava-Krasne 121.02 327 AMS AMS 18 56 30.0
comp=Z,300nm,21.9s
DPC Dobruska-Polom 121.72 328 *e*PKPDF PKPdf 18 02 22.9 +2.3
DPC AMS AMS 18 55 40.0
comp=Z,400nm,18.0s
UPC Upice 121.80 328 *e*PKPDF PKPdf 18 02 23.4 +2.6
PVCC Panska Ves 122.53 329 AMS AMS 18 57 10.0
comp=Z,300nm,20.0s
BRG Berggiesshubel 122.65 329 *e*PKIKP PKPdf 18 02 23.9 +1.5
DIVS Divcibare 122.78 320 *e*P PKPdf 18 02 23.5 +0.7
CLL Collm 122.85 330 *e*PKIKP PKPdf 18 02 24.0 +1.2
PRU Pruhonice 122.87 328 *e*PKPDF PKPdf 18 02 25.0 +2.1
PRU AMS AMS 18 56 20.0
comp=Z,400nm,21.5s
NKC Novy Kostel 123.80 330 *e*PKPDF PKPdf 18 02 25.9 +1.2
NKC AMS AMS 18 59 00.0
comp=Z,400nm,18.9s
KHC Kasperske Hory 123.88 328 ⇓*i*PKIKP PKPdf 18 02 26.4 +1.5
KHC Kasperske Hory 123.88 328 *e*PKP PKPdf 18 02 26.1 +1.2
KHC *e* 18 02 39.0
KHC LR LR
comp=Z,300nm,18.8s,MS5.0
KHC Kasperske Hory 123.88 328 *e*PKPDF PKPdf 18 02 26.1 +1.2
KHC pPKP 18 02 39.0
KHC AMS AMS 18 56 20.0
comp=Z,300nm,18.8s
MOX Moxa 123.95 330 *e*P PKPdf 18 02 26.0 +1.0
GERES GERESS Array B 123.98 328 PKP PKPdf 18 02 26.4 +1.3
comp=Z,3.3nm,0.6s,baz=70,slow=1.6,SNR=37
LEGS Legarje 124.72 324 *e*PKPdf PKPdf 18 02 28.4 +1.8
GRA1 Grafenberg Arr 124.75 330 *e*PKPdf PKPdf 18 02 27.5 +1.0
GRF Grafenberg Arr 124.75 330 *e*PKIKP PKPdf 18 02 27.5 +1.0
BOJS Bojanci 125.00 324 *e*PKPdf PKPdf 18 02 28.6 +1.5
VISS Visnje 125.08 324 *e*PKPdf PKPdf 18 02 28.6 +1.3
DAVOX Davos 127.28 327 PKP PKPdf 18 02 33.7 +2.2
comp=Z,4.7nm,0.6s,baz=215,slow=3.2,SNR=11
GIVF Givet 127.51 333 *e*PKIKP PKPdf 18 02 33.1 +1.2
comp=Z,27nm,1.1s
CDF Champ du Feu 127.55 330 *e*PKIKP PKPdf 18 02 32.7 +0.7
comp=Z,6.7nm,0.7s
BAIF Baives 127.82 334 *e*PKIKP PKPdf 18 02 34.5 +2.1
HINF Hinteralfeld 128.16 330 *e*PKIKP PKPdf 18 02 34.0 +0.8
comp=Z,6.1nm,0.6s
HAU Haudompre 128.28 331 *e*PKIKP PKPdf 18 02 34.3 +0.9
comp=Z,10.0nm,0.7s
HAU *e*R
comp=Z,313nm,20.5s
MEZF Maizieres J'vi 128.56 332 *e*PKIKP PKPdf 18 02 35.5 +1.6
LPL La Plagne 129.77 328 *e*PKIKP PKPdf 18 02 37.9 +1.6
comp=Z,5.9nm,0.7s
LPG La Plagne 129.77 328 *e*PKIKP PKPdf 18 02 38.0 +1.7
comp=Z,7.0nm,0.7s
SSF Saint Saulge 130.32 332 *e*PKIKP PKPdf 18 02 39.6 +2.3
comp=Z,4.7nm,0.6s
PGF Pioggiola 130.39 324 *e*PKIKP PKPdf 18 02 37.7 +0.1
ORIF Oris-en-Rattie 130.62 328 *e*PKIKP PKPdf 18 02 39.4 +1.5
comp=Z,16nm,0.9s
ORIF *e*R
comp=Z,437nm,20.8s
LDF La Druitiere 130.78 335 *e*PKIKP PKPdf 18 02 39.0 +0.9
FLN La Foliniere 130.80 336 *e*PKIKP PKPdf 18 02 39.4 +1.3
FLN *e*R
comp=Z,292nm,20.5s
BGF Bois d'Agland 130.99 332 *e*PKIKP PKPdf 18 02 39.7 +1.1
comp=Z,11nm,0.7s
GRR Gorron 131.25 336 *e*PKIKP PKPdf 18 02 40.4 +1.4
comp=Z,21nm,0.9s
TCF Toulx Ste Croi 131.49 332 *e*PKIKP PKPdf 18 02 41.3 +1.8
comp=Z,43nm,1.2s
CAF Calviac 132.55 331 *e*PKIKP PKPdf 18 02 42.0 +0.4
LPAZ La Paz 135.25 120 PKhKP 18 02 43.9
comp=Z,0.8nm,0.7s,baz=264,slow=5.3,SNR=4.5
LPAZ PKP PKPdf 18 02 50.0 +2.6
comp=Z,4.8nm,0.8s,baz=28,slow=1.2,SNR=20
LPAZ La Paz 135.25 120 PKP PKPdf 18 02 43.9 -3.4
LPAZ *e*PKPdf PKPdf 18 02 49.9 +2.5
ETSF Etsaut 135.33 331 *e*PKIKP PKPdf 18 02 48.4 +1.6
SDV Santo Domingo 138.18 83 *e*PKPdf PKPdf 18 02 54.0 +1.2

EVO Evora 142.26 333 *e*PKIKP PKPdf 18 03 00.0 +0.6
comp=Z,20nm,1.1s
EVO *e*R
comp=Z,163nm,21.8s
SAML Samuel 142.62 113 *e*PKPpre 18 02 58.1
BDFB Brasilia 151.46 138 PKP PKPdf 18 03 17.8 +2.6
comp=Z,20nm,0.9s,baz=155,slow=3.6,SNR=6.8
BDFB PKPbc PKPdf 18 03 23.0 +7.8
comp=Z,26nm,0.8s,baz=211,slow=1.3,SNR=33
BAO Brasilia Array 151.48 138 PKPdf PKPdf 18 03 18.0 +2.8
BAO PKPdf PKPdf 18 03 23.0 +7.8
DBIC Dimbokro 156.38 274 PKPab PKPab 18 03 53.5 +0.4
comp=Z,8.7nm,0.8s,baz=94,slow=5.4,SNR=6.2

*IDC **17** 17:50:54.5±2.4, 1.57S×99.80E, mb4.0/6, mb1 4.2/7, mb1mx3.9/17, mbtmp4.0/7, ML4.1/1, Error ellipse: s-maj=108.4km s-min=18.4km az=59.0*
*NEIC **17** 17:50:58.9±0.9, 1.59S×99.80E, h30km, mb4.5/2, Error ellipse: s-maj=39.6km s-min=9.1km az=62.0*
ISC 17 17:50:57.5±2.0, 1.5S±0.3×99.8E±0.5, h33km, n16, σ0§54/12, mb4.2/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**19.87**	**358**	*e*P	**P**	**17 55 29.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**19.87**	**358**	P	**P**	**17 55 27.8**	**-1.1**
	0.2nm,0.3s,baz=186,slow=9.8,SNR=20						
WRA	**Warramunga Arr**	**38.40**	**121**	P	**P**	**17 58 17.3**	**-0.4**
	1.8nm,0.5s,mb4.1,baz=299,slow=9.3,SNR=16						
WRA	**Warramunga Arr**	**38.40**	**121**	P	**P**	**17 58 17.3**	**-0.4**
WRAB	**Tennant Creek**	**38.40**	**121**	*e*P	**P**	**17 58 17.4**	**-0.4**
	3.6nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**39.69**	**126**	P	**P**	**17 58 28.6**	**+0.2**
	1.0nm,0.6s,mb3.7,baz=300,slow=7.6,SNR=12						
SONM	**Songino Array**	**49.49**	**6**	P	**P**	**17 59 47.7**	**+0.9**
	1.2nm,0.7s,mb4.1,baz=180,slow=6.2,SNR=3.6						
STKA	**Stephens Creek**	**49.61**	**132**	P	**P**	**17 59 48.3**	**+0.5**
	6.5nm,1.1s,mb4.6,baz=286,slow=18,SNR=5.1						
STKA	**Stephens Creek**	**49.61**	**132**	*e*P	**P**	**17 59 48.2**	**+0.4**
ZAL	**Zalesovo**	**56.66**	**349**	P	**P**	**18 00 39.8**	**0.0**
	1.7nm,0.3s,mb4.5,baz=324,slow=5.8,SNR=8.7						
BVAR	**Borovoye Array**	**59.67**	**340**	P	**P**	**18 01 00.6**	**-0.3**
	0.5nm,0.5s,mb3.8,baz=127,slow=7.4,SNR=4.4						
YAK	**Yakutsk**	**67.33**	**15**	P	**P**	**18 01 51.1**	**+0.1**
	3.4nm,0.7s,mb4.5						
TXAR	**Lajitas Array**	**144.44**	**37**	PKP	PKPdf	18 10 32.8	+1.7
	1.0nm,0.7s,baz=275,slow=1.4,SNR=8.3						
TZTN	**Tazewell**	**145.01**	**5**	*e*PKP	PKPdf	18 10 32.1	+0.2
JCT	**Junction City**	**145.71**	**31**	*e*PKP	PKPdf	18 10 36.2	+3.0
CPCT	**Cooper Cave**	**146.00**	**6**	*e*PKP	PKPdf	18 10 35.7	+2.1

*ISK **17** 18:06:42.7, 37.07N×27.83E, h10km, MD3.5*
*CSEM **17** 18:06:42.4±0.1, 37.05N×27.84E, h10km, MD3.5, Error ellipse: s-maj=2.0km s-min=1.4km az=179.0*
*ATH **17** 18:06:43.9, 36.93N×27.63E, h10km, MD3.3/3*
*NEIC **17** 18:06:43.8±0.6, 36.95N×27.79E, h10km, MD3.3(ATH), Error ellipse: s-maj=10.5km s-min=9.4km az=181.0*
*IDC **17** 18:06:48.4±2.0, 36.67N×28.01E, h61km±33km, mb3.5/2, mb1 3.6/7, mb1mx3.4/23, mbtmp3.6/7, ML3.4/5, Error ellipse: s-maj=33.6km s-min=23.2km az=153.0*
ISC 17 18:06:43.0±0.6, 37.03N±0.03×27.84E±0.03, h7km±5km, n32, σ0§86/41, mb3.4/2, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.32**	**277**	*i*P	**Pg**	**18 06 48.9**	**-0.6**
BDRM				*i*S	**Sg**	**18 06 54.4**	**+0.5**
YER	**Yerkesik**	**0.37**	**73**	*i*PG	**Pg**	**18 06 50.1**	**-0.3**
YER				*i*SG	**Sg**	**18 06 56.5**	**+1.1**
BODT	**Bodrum**	**0.43**	**275**	PG	**Pg**	**18 06 51.6**	**0.0**
BODT				SG	**Sg**	**18 06 57.6**	**+0.2**
AYDN	**Tasoluk**	**0.63**	**3**	*i*P	**Pg**	**18 06 55.7**	**0.0**
AYDN				*i*S	**Sg**	**18 07 04.7**	**+0.5**
DALT	**Dalyan (Mudla)**	**0.69**	**112**	*e*PG	**Pg**	**18 06 56.5**	**-0.2**
ARG	**Arkhangelos**	**0.84**	**164**	*e*Pn	**Pn**	**18 06 59.6**	**-1.3**
ARG				*e*Sn	**Sn**	**18 07 14.7**	**+1.1**
SMG	**Samos**	**1.05**	**311**	⇑*i*PB	**Pb**	**18 07 02.8**	**-0.2**
FETY	**Fethiye**	**1.07**	**111**	*e*PN	**Pn**	**18 07 03.9**	**-0.3**
DNZL	**Cakiroluk**	**1.17**	**55**	*i*P	**Pb**	**18 07 05.2**	**+0.2**
DNZL				*i*S	**Sb**	**18 07 24.9**	**+4.8**
DENT	**Denizli**	**1.19**	**52**	PN	**Pn**	**18 07 05.5**	**-0.5**
GOLH	**Golhisar**	**1.39**	**81**	*i*P	**Pn**	**18 07 12.2**	**+3.5**
GOLH				*i*S	**Sb**	**18 07 33.9**	**+7.3**
IZM	**Izmir**	**1.45**	**342**	PN	**Pn**	**18 07 08.7**	**-0.9**
MANT	**Manisa**	**1.57**	**21**	*i*P	**Pn**	**18 07 11.0**	**-0.3**
MANT				*i*S	**Sb**	**18 07 38.9**	**+7.2**
KARP	**Karpathos**	**1.58**	**201**	*e*Pn	**Pn**	**18 07 10.8**	**-0.7**
KARP				*e*Sn	**Sn**	**18 07 35.3**	**+3.1**
ELL	**Elmali**	**1.68**	**99**	*e*PN	**Pn**	**18 07 13.3**	**+0.4**
KHL	**Karahalli**	**1.86**	**45**	*e*PN	**Pn**	**18 07 15.3**	**-0.2**
SANT	**Santorini**	**2.02**	**252**	P	**Pn**	**18 07 21.0**	**+3.1**
BCK	**Bucak**	**2.23**	**78**	*e*PN	**Pn**	**18 07 20.9**	**0.0**
ISP	**Isparta**	**2.27**	**68**	*e*P	**Pn**	**18 07 22.2**	**+0.8**
ISP	**Isparta**	**2.27**	**68**	*e*P	**Pn**	**18 07 22.2**	**+0.8**
BALB	**Balikesir**	**2.61**	**1**	*e*PN	**Pn**	**18 07 25.4**	**-0.9**
IDI	**Anoyia**	**2.95**	**235**	P	**Pn**	**18 07 30.7**	**-0.5**
	2.3nm,0.3s,baz=276,slow=2.4,SNR=13						
KIZT	**Kizilcal**	**3.69**	**59**	*e*PN	**Pn**	**18 07 41.6**	**0.0**
HDMB	**Hadim**	**3.72**	**90**	*e*PN	**Pn**	**18 07 42.4**	**+0.4**
CSS	**Prodhromos**	**4.90**	**113**	*e*P	**Pn**	**18 07 58.1**	**-0.7**
CSS	**Prodhromos**	**4.90**	**113**	*e*P	**Pn**	**18 07 58.1**	**-0.7**
BRTR	**Keskin Array B**	**5.29**	**58**	P	**Pn**	**18 08 04.7**	**+0.4**
	0.5nm,0.3s,baz=238,slow=14,SNR=32						
MLR	**Muntele Rosu**	**8.58**	**351**	P	**P**	**18 08 56.8**	**+6.3**
	0.2nm,0.3s,baz=148,slow=15,SNR=3.3						
ASF	**Jabal al Asfar**	**8.89**	**120**	P	**P**	**18 08 52.2**	**-2.6**
	0.6nm,0.3s,baz=193,slow=6.9,SNR=2.3						
GERES	**GERESS Array B**	**15.68**	**323**	P	**P**	**18 10 32.1**	**+6.3**
	0.1nm,0.3s,baz=117,slow=12,SNR=6.1						
FINES	**FINESS Array B**	**24.47**	**358**	P	**P**	**18 12 03.9**	**+0.6**
	2.7nm,1.0s,mb3.6,baz=165,slow=10,SNR=4.6						
ESDC	**Sonseca Array**	**25.02**	**286**	P	**P**	**18 12 09.2**	**+0.4**
	0.3nm,0.4s,mb3.1,baz=76,slow=11,SNR=4.1						

*NEIC **17** 18:09:44.6±1.3, 18.51S×177.34W, h338km±12km, mb4.4/5, Error ellipse: s-maj=30.1km s-min=8.5km az=154.0*
*IDC **17** 18:09:45.5±2.4, 18.39S×177.37W, h342km±23km, mb3.7/10, mb1 3.9/11, mb1mx3.7/19, mbtmp4.4/11, Error ellipse: s-maj=56.0km s-min=12.5km az=153.0*
ISC 17 18:09:42.8±1.6, 18.5S±0.2×177.4W±0.1, h328km±16km, n28, σ0§71/28, mb4.0/12, 2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.07**	**50**	P	**P**	**18 11 27.3**	**+1.1**
	15nm,0.3s,baz=224,slow=1.2,SNR=17						
AFI				S	**S**	**18 12 46.6**	**-0.8**
	14nm,0.3s,baz=16,slow=22,SNR=7.9						
AFI	**Afiamalu**	**7.07**	**50**	*e*P	**P**	**18 11 27.0**	**+0.8**
AFI				S	**S**	**18 12 46.6**	**-0.8**
HNR	**Honiara**	**23.76**	**289**	*e*P	**P**	**18 14 28.6**	**+0.3**
CTA	**Charters Tower**	**34.32**	**261**	⇓*i*P	**P**	**18 16 01.1**	**+0.2**
	9.4nm,0.7s,mb4.1						
CTA	**Charters Tower**	**34.32**	**261**	P	**P**	**18 16 01.2**	**+0.3**
	7.8nm,0.5s,mb4.2,baz=91,slow=11,SNR=13						
CTAO	**Charters Tower**	**34.32**	**261**	*e*P	**P**	**18 16 01.1**	**+0.1**
	9.5nm,0.7s,mb4.1						
PMG	**Port Moresby**	**35.52**	**280**	P	**P**	**18 16 12.4**	**+1.3**
	15nm,0.8s,mb4.2,baz=78,slow=8.6,SNR=5.2						
PMG	**Port Moresby**	**35.52**	**280**	*e*P	**P**	**18 16 11.7**	**+0.5**
	16nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**39.20**	**242**	*e*P	**P**	**18 16 42.8**	**+1.3**
	3.2nm,0.3s,mb3.5						
STKA	**Stephens Creek**	**39.20**	**242**	P	**P**	**18 16 42.7**	**+1.2**
	1.5nm,0.3s,mb3.7,baz=88,slow=3.7,SNR=7.6						
WB2	**Warramunga Arr**	**45.48**	**260**	*e*P	**P**	**18 17 24.6**	**-7.5**
WRA	**Warramunga Arr**	**45.49**	**260**	P	**P**	**18 17 31.6**	**-0.5**
	2.7nm,0.5s,mb3.7,baz=98,slow=6.3,SNR=12						
ASAR	**Alice Springs**	**45.57**	**255**	P	**P**	**18 17 32.5**	**-0.3**
	11nm,0.4s,mb4.3,baz=90,slow=8.4,SNR=68						
ASPA	**Alice Springs**	**45.57**	**255**	⇓*i*P	**P**	**18 17 32.4**	**-0.4**
KAKA	**Kakadu**	**48.55**	**269**	*e*P	**P**	**18 17 55.0**	**-0.8**
	9.7nm,0.4s,mb4.4						
FORT	**Forrest**	**50.64**	**245**	*e*P	**P**	**18 18 10.6**	**-0.7**
	177nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.90**	**261**	*e*P	**P**	**18 18 35.1**	**-0.2**
	7.0nm,0.4s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.90**	**261**	P	**P**	**18 18 35.1**	**-0.1**
	7.8nm,0.4s,mb4.4,baz=138,slow=13,SNR=8.6						
KLBR	**Kellerberrin**	**59.44**	**244**	*e*P	**P**	**18 19 13.0**	**-0.8**
	1μm,1.6s						
MUN	**Mundaring**	**60.72**	**243**	*e*P	**P**	**18 19 22.4**	**0.0**
	48nm,1.1s,mb4.8						
NVAR	**Mina Array Bea**	**79.19**	**43**	P	**P**	**18 21 13.4**	**+0.2**
	1.2nm,0.7s,mb3.8,baz=222,slow=8.6,SNR=6.5						
HLID	**Hailey**	**84.44**	**41**	*e*P	**P**	**18 21 40.4**	**+0.2**
TXAR	**Lajitas Array**	**85.50**	**57**	P	**P**	**18 21 46.4**	**+0.8**
	1.3nm,0.8s,mb3.8,baz=218,slow=6.6,SNR=14						
TXAR	**Lajitas Array**	**85.50**	**57**	P	**P**	**18 21 46.4**	**+0.8**
ILAR	**Eielson Array**	**86.26**	**13**	P	**P**	**18 21 47.2**	**-1.2**
	0.2nm,0.5s,mb3.2,baz=224,slow=5.3,SNR=6.5						
CMAR	**Chiang Mai Arr**	**90.01**	**289**	P	**P**	**18 22 08.2**	**+1.0**
	0.5nm,0.8s,mb3.5,baz=139,slow=2.2,SNR=4.9						
BRTR	**Keskin Array B**	**145.90**	**315**	PKPbc	PKPbc	18 28 44.4	+0.4
	0.9nm,0.9s,baz=162,slow=3.9,SNR=4.2						
GERES	**GERESS Array B**	**148.44**	**346**	PKPbc	PKPdf	18 28 50.4	+3.8
	0.5nm,0.4s,baz=22,slow=3.8,SNR=11						

*IDC **17** 18:10:09.6±1.0, 3.43S×140.42E, mb4.2/4, mb1 4.5/6, mb1mx4.2/14, mbtmp4.3/6, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.5/21, Error ellipse: s-maj=31.5km s-min=22.6km az=93.0*
*NEIC **17** 18:10:10.9±0.7, 3.42S×140.34E, h10km, mb4.4/2, Error ellipse: s-maj=16.0km s-min=10.9km az=119.0*
ISC 17 18:10:14.8±2.7, 3.6S±0.1×140.37E±0.08, h51km±27km, n17, σ0§64/16, mb4.1/2, 1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.84**	**131**	Pn	**P**	**18 12 22.0**	**-0.6**
	1.1nm,0.3s,baz=304,slow=7.3,SNR=7.2						
PMG				Sn	**S**	**18 14 02.2**	**+0.3**
	0.4nm,0.3s,baz=184,slow=24,SNR=1.8						
PMG	**Port Moresby**	**8.84**	**131**	*e*P	**P**	**18 12 22.3**	**-0.4**
PMG				Sn	**S**	**18 14 02.2**	**+0.3**
KAKA	**Kakadu**	**11.95**	**221**	*e*P	**P**	**18 13 04.1**	**-0.9**
	24nm,0.5s						
WRAB	**Tennant Creek**	**17.23**	**199**	*e*P	**P**	**18 14 14.0**	**+0.6**
	22nm,0.6s						
WB2	**Warramunga Arr**	**17.23**	**199**	*e*P	**P**	**18 14 14.0**	**+0.5**
WRA	**Warramunga Arr**	**17.24**	**199**	P	**P**	**18 14 13.5**	**-0.1**
	1.8nm,0.3s,baz=22,slow=12,SNR=33						
WRA				S	**S**	**18 17 21.0**	**-0.9**
	0.3nm,0.3s,baz=15,slow=22,SNR=5.0						
CTA	**Charters Tower**	**17.32**	**161**	LR	LR	18 21 12.5	
	comp=Z,166nm,18.8s,baz=22,slow=38						
FITZ	**Fitzroy Crossi**	**20.36**	**224**	⇓*i*P	**P**	**18 14 50.2**	**+0.4**
	7.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.36**	**224**	P	**P**	**18 14 50.2**	**+0.4**
	9.0nm,0.4s,baz=54,slow=12,SNR=18						
ASAR	**Alice Springs**	**20.86**	**197**	P	**P**	**18 14 54.8**	**-0.1**
	12nm,0.8s,baz=29,slow=10.0,SNR=44						
ASPA	**Alice Springs**	**20.87**	**197**	*e*P	**P**	**18 14 56.0**	**+1.1**
MBWA	**Marble Bar**	**26.57**	**227**	*e*P	**P**	**18 15 50.3**	**+0.1**
BVAR	**Borovoye Array**	**81.02**	**325**	P	**P**	**18 22 26.2**	**+0.6**
	0.8nm,0.4s,mb4.0,baz=114,slow=7.6,SNR=17						
ILAR	**Eielson Array**	**85.99**	**24**	P	**P**	**18 22 49.4**	**-1.1**
	0.8nm,0.6s,mb4.1,baz=259,slow=4.8,SNR=14						
LPAZ	**La Paz**	**145.56**	**126**	PKPbc	PKPbc	18 29 52.7	+3.7
	1.0nm,1.0s,baz=209,slow=14,SNR=3.9						
LPAZ	**La Paz**	**145.56**	**126**	PKP	PKPdf	18 29 52.2	+3.9
LPAZ				PKPbc	PKPbc	18 29 52.7	+3.6
PCRV	**Puerto La Cruz**	**154.35**	**74**	PKP	PKPdf	18 30 03.0	+1.1
	12nm,1.0s,baz=252,slow=3.5,SNR=3.0						

*ATH **17** 18:16:58.4, 37.07N×27.90E, h27km±2km, MD3.2/8*
*ISK **17** 18:16:58.1, 37.04N×27.81E, h13km, MD3.5*
*CSEM **17** 18:16:58.1±0.1, 37.01N×27.84E, h12km, MD3.5, Error ellipse: s-maj=2.6km s-min=1.5km az=174.0*
*NEIC **17** 18:17:00.2±1.7, 36.96N×27.77E, h19km±14km, MD3.2(ATH), Error ellipse: s-maj=9.1km s-min=7.2km az=53.0*
*IDC **17** 18:17:02.6±2.0, 36.89N×27.88E, h40km±39km, mb3.2/1, mb1 3.7/8, mb1mx3.4/26, mbtmp3.6/8, ML3.5/7, Error ellipse: s-maj=19.6km s-min=17.7km az=149.0*
ISC 17 18:16:58.5±0.5, 37.02N±0.03×27.83E±0.03, h10km±4km, n45, σ1§03/62, mb3.3/1, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.31**	**279**	*i*P	**Pg**	**18 17 04.6**	**-0.4**
BDRM				*i*S	**Sg**	**18 17 10.3**	**+1.0**
YER	**Yerkesik**	**0.38**	**72**	*i*PG	**Pg**	**18 17 06.2**	**-0.2**
YER				*i*SG	**Sg**	**18 17 12.4**	**+0.8**
BODT	**Bodrum**	**0.41**	**276**	PG	**Pg**	**18 17 06.5**	**-0.5**
BODT				SG	**Sg**	**18 17 13.0**	**+0.3**
AYDN	**Tasoluk**	**0.64**	**4**	*i*P	**Pb**	**18 17 11.3**	**0.0**
AYDN				*i*S	**Sb**	**18 17 20.1**	**0.0**
NISR	**Nisiros**	**0.69**	**234**	*e*PN	**Pn**	**18 17 13.0**	**-1.0**
DALT	**Dalyan (Mudla)**	**0.70**	**111**	*e*PG	**Pg**	**18 17 12.1**	**-0.4**
ARG	**Arkhangelos**	**0.83**	**163**	*e*Pn	**Pn**	**18 17 15.1**	**-1.0**
ARG				*e*Sb	**Sb**	**18 17 28.8**	**+3.2**
ARG	**Arkhangelos**	**0.83**	**163**	*e*PN	**Pn**	**18 17 15.1**	**-1.0**
ARG				*e*SN	**Sn**	**18 17 28.5**	**+0.1**
SMG	**Samos**	**1.05**	**312**	⇑*i*PN	**Pn**	**18 17 19.1**	**0.0**
SMG				*e*SN	**Sn**	**18 17 34.0**	**+0.2**
SMG	**Samos**	**1.05**	**312**	⇑*i*Pn	**Pn**	**18 17 19.1**	**0.0**
SMG				*e*Sn	**Sn**	**18 17 35.0**	**+1.2**
FETY	**Fethiye**	**1.08**	**110**	*e*PN	**Pn**	**18 17 18.6**	**-1.0**
DNZL	**Cakiroluk**	**1.18**	**55**	*i*P	**Pb**	**18 17 20.7**	**+0.1**
DNZL				*i*S	**Sb**	**18 17 39.4**	**+3.7**
DENT	**Denizli**	**1.21**	**52**	PN	**Pn**	**18 17 21.4**	**-0.1**
GOLH	**Golhisar**	**1.40**	**80**	*i*P	**

Error ellipse: s-maj=12.1km s-min=8.8km az=121.0

ISC 17 18:19:36.7±0.5, 6.86N±0.05×72.89W±0.05, h174km±5km, n29, σ1§19/44, mb3.4/5, 7C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.15**	**30**	⇑*iP*	**P**	**18 20 06.0**	**+0.7**
CAPV				*eS*	**S**	**18 20 27.6**	**+0.3**
ROSC	**El Rosal**	**2.45**	**216**	P	**P**	**18 20 18.5**	**-0.5**
	57nm,0.3s,baz=84,slow=22,SNR=145						
ROSC				S	**S**	**18 20 50.0**	**-1.6**
	174nm,0.3s,baz=101,slow=18,SNR=15						
SOCV	**Socops**	**2.46**	**55**	⇑*iP*	**P**	**18 20 20.9**	**+1.7**
SOCV				*eS*	**S**	**18 20 53.3**	**+1.4**
VIGV	**El Vigia**	**2.48**	**38**	*iP*	**P**	**18 20 20.6**	**+1.2**
VIGV				*eS*	**S**	**18 20 52.6**	**+0.4**
SDV	**Santo Domingo**	**3.01**	**48**	P	**P**	**18 20 27.5**	**+1.7**
	72nm,0.3s,baz=232,slow=5.4,SNR=291						
SDV				S	**S**	**18 21 06.8**	**+3.3**
	54nm,0.3s,baz=259,slow=24,SNR=21						
SDV	**Santo Domingo**	**3.01**	**48**	*eP*	**P**	**18 20 27.4**	**+1.6**
SDV				*eS*	**S**	**18 21 04.0**	**+0.5**
VIRV	**Villa del Rosa**	**3.65**	**8**	⇑*iP*	**P**	**18 20 32.8**	**-1.1**
VIRV				*eS*	**S**	**18 21 15.2**	**-2.7**
QARV	**Quebrada Arrib**	**4.07**	**35**	⇑*iP*	**P**	**18 20 40.4**	**+1.2**
QARV				*eS*	**S**	**18 21 26.4**	**-1.0**
SANV	**Sanarito**	**4.23**	**51**	⇓*iP*	**P**	**18 20 42.6**	**+1.2**
CURV	**Curarigua**	**4.27**	**43**	⇑*iP*	**P**	**18 20 42.8**	**+1.0**
CURV				*eS*	**S**	**18 21 31.4**	**-0.7**
DABV	**Dabajuro**	**4.61**	**29**	*eP*	**P**	**18 20 47.2**	**+1.0**
DABV				*eS*	**S**	**18 21 38.3**	**-1.7**
TEPV	**Terepaima**	**4.79**	**50**	⇑*iP*	**P**	**18 20 49.8**	**+1.3**
TEPV				*eS*	**S**	**18 21 43.2**	**-0.9**
BAUV	**El Baul**	**5.23**	**66**	⇑*iP*	**P**	**18 20 54.4**	**0.0**
BAUV				*eS*	**S**	**18 21 53.7**	**-0.8**
MONV	**Montecano**	**5.83**	**29**	*eP*	**P**	**18 21 02.1**	**0.0**
MONV				*eS*	**S**	**18 22 05.9**	**-2.5**
TURV	**Turiamo**	**6.14**	**54**	*eP*	**P**	**18 21 06.7**	**+0.5**
TURV				*eS*	**S**	**18 22 13.6**	**-2.2**
CAOV	**Caicara del Or**	**6.54**	**86**	*eP*	**P**	**18 21 11.7**	**+0.2**
CAOV				*eS*	**S**	**18 22 23.1**	**-2.3**
MERV	**Las Mercedes**	**6.95**	**70**	*eP*	**P**	**18 21 17.4**	**+0.4**
CUPV	**Cœpira**	**7.71**	**65**	*eP*	**P**	**18 21 27.6**	**+0.5**
CUPV				*eS*	**S**	**18 22 50.1**	**-3.1**
OTAV	**Otavalo**	**8.60**	**220**	*eP*	**P**	**18 21 37.3**	**-1.5**
PCRV	**Puerto La Cruz**	**8.80**	**67**	P	**P**	**18 21 45.1**	**+3.7**
	1.4nm,0.3s,baz=288,slow=5.6,SNR=12						
PCRV				S	**S**	**18 23 24.4**	**+5.4**
	0.8nm,0.3s,baz=198,slow=16,SNR=2.8						
SAML	**Samuel**	**18.45**	**148**	*eP*	**P**	**18 23 41.3**	**-0.4**
	2.6nm,0.4s						
LPAZ	**La Paz**	**23.48**	**168**	*eP*	**P**	**18 24 32.1**	**+0.3**
	0.9nm,0.7s,mb3.3						
CCM	**Cathedral Cave**	**35.23**	**334**	*eP*	**P**	**18 26 16.8**	**+0.5**
	3.3nm,0.6s,mb4.1						
TXAR	**Lajitas Array**	**36.60**	**311**	P	**P**	**18 26 27.8**	**0.0**
	0.2nm,0.5s,mb3.0,baz=127,slow=12,SNR=3.8						
PDAR	**Pinedale Array**	**48.18**	**324**	P	**P**	**18 28 02.0**	**+0.8**
	0.2nm,0.5s,mb3.0,baz=124,slow=6.5,SNR=2.9						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**18 29 48.9**	**0.0**
	0.6nm,0.5s,mb3.6,baz=132,slow=6.7,SNR=29						
YKA				PcP	PcP	18 30 25.3	+1.1
	0.2nm,0.5s,baz=129,slow=7.2,SNR=4.7						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**18 29 48.9**	**0.0**
YKA				PcP	PcP	18 30 25.3	+1.0
ASAR	**Alice Springs**	**149.32**	**234**	PKPbc	PKPdf	18 39 06.0	+5.1
	1.5nm,0.7s,baz=101,slow=1.0,SNR=6.5						
WRA	**Warramunga Arr**	**150.55**	**241**	PKPbc	PKPdf	18 39 10.2	+7.3
	1.2nm,0.4s,baz=108,slow=2.7,SNR=66						

*GUC **17** 18:29:08.9±0.8, 33.35S×69.84W, h3km±1km, MD4.2, ML3.7*
*NEIC **17** 18:29:08.9, 33.35S×69.84W, h3km, mb4.2/1, ML3.7(GUC), After GUC.*
*IDC **17** 18:29:12.8±1.1, 33.24S×69.10W, mb4.0/5, mb1 4.1/9, mb1mx3.9/17, mbtmp3.9/9, ML4.0/3, MS3.5/1, Ms1 3.5/1, ms1mx3.1/18, Error ellipse: s-maj=32.9km s-min=22.2km az=94.0*

ISC 17 18:29:07.8±0.7, 33.33S±0.02×69.75W±0.03, h3km±4km, n50, σ1§00/70, mb4.0/7, 14C-9D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.45**	**271**	⇓*iP*	**Pg**	**18 29 17.1**	**+0.2**
FCH				*iS*	**Sg**	**18 29 23.4**	**+0.5**
FCH				AMP		18 29 26.1	
	comp=N,10μm,0.2s						
LMEL	**Las Melosas**	**0.64**	**216**	⇑*iP*	**Pg**	**18 29 20.5**	**0.0**
LMEL				*iS*	**Sg**	**18 29 29.6**	**+0.6**
LMEL				AMP		18 29 30.5	
	comp=N,6μm,0.3s						
CLCH	**Cerro Calan**	**0.66**	**264**	⇓*iP*	**Pg**	**18 29 20.9**	**-0.2**
CLCH				*iS*	**Sg**	**18 29 30.3**	**+0.4**
CLCH				AMP		18 29 35.1	
	comp=N,11μm,0.5s						
CLCH				AMP		18 29 35.7	
	comp=N,13μm,0.5s						
FSR	**Penalolen**	**0.67**	**257**	⇓*iP*	**Pg**	**18 29 21.0**	**-0.1**
FSR				*iS*	**Sg**	**18 29 30.4**	**+0.4**
FSR				AMP		18 29 31.1	
	comp=E,11μm,0.4s						
DSCH	**Colegio Aleman**	**0.69**	**264**	⇑*iP*	**Pg**	**18 29 21.5**	**-0.1**
DSCH				*iS*	**Sg**	**18 29 31.0**	**+0.2**
DSCH				AMP		18 29 39.0	
	comp=N,12μm,0.7s						
PCH	**Pirque**	**0.70**	**246**	⇑*iP*	**Pg**	**18 29 21.8**	**0.0**
STL	**Santa Lucia**	**0.75**	**262**	⇓*iP*	**Pg**	**18 29 22.5**	**-0.4**
STL				*iS*	**Sg**	**18 29 33.1**	**+0.2**
STL				AMP		18 29 39.3	
	comp=N,2μm,0.3s						
SAN	**Santiago**	**0.77**	**261**	⇑*iP*	**Pg**	**18 29 22.9**	**-0.3**
SAN				*iS*	**Sg**	**18 29 33.5**	**0.0**
SAN				AMP		18 29 34.1	
	comp=E,4μm,0.5s						
PEL	**Peldehue**	**0.81**	**283**	⇑*iP*	**Pg**	**18 29 23.2**	**-0.7**
PEL				*iS*	**Sg**	**18 29 34.2**	**-0.5**
PUEX	**Pudahuel**	**0.85**	**262**	⇑*iP*	**Pg**	**18 29 25.4**	**+0.6**
PUEX				*iS*	**Sg**	**18 29 36.8**	**+0.6**
PUEX				AMP		18 29 44.3	
	comp=N,8μm,0.4s						
CHCH	**Chadas Angostu**	**0.96**	**231**	⇑*iP*	**Pb**	**18 29 26.4**	**-0.5**
CHCH				*iS*	**Sb**	**18 29 39.6**	**-0.2**
JACH	**Jahuel**	**0.96**	**312**	⇓*iP*	**Pb**	**18 29 26.0**	**-0.9**
TACH	**Talagante**	**1.04**	**252**	⇑*iP*	**Pb**	**18 29 27.4**	**-0.8**
TACH				*iS*	**Sb**	**18 29 41.2**	**-1.0**
CACH	**El Canelo**	**1.05**	**222**	⇓*iP*	**Pb**	**18 29 28.3**	**-0.1**
CACH				*iS*	**Sb**	**18 29 43.0**	**+0.5**
ROCH	**El Roble**	**1.12**	**288**	⇑*iP*	**Pb**	**18 29 28.8**	**-0.7**
ROCH				*iS*	**Sb**	**18 29 44.2**	**-0.1**
CICH	**Cipreses**	**1.13**	**209**	⇑*iP*	**Pb**	**18 29 29.7**	**0.0**
CICH				*iS*	**Sb**	**18 29 45.2**	**+0.5**
PTCH	**Petorca**	**1.46**	**317**	⇑*iP*	**Pn**	**18 29 34.8**	**-0.4**
PTCH				*iS*	**Sb**	**18 29 54.3**	**+0.2**
LNV	**Longovilo**	**1.52**	**245**	⇓*iP*	**Pn**	**18 29 35.2**	**-0.9**
LNV				*iS*	**Sb**	**18 29 54.8**	**-1.1**
LCCH	**Las Cruces**	**1.53**	**264**	⇑*iP*	**Pn**	**18 29 35.6**	**-0.6**
IHA	**Instituto Hidr**	**1.62**	**280**	⇓*iP*	**Pn**	**18 29 37.1**	**-0.3**
IHA				*iS*	**Sb**	**18 29 57.5**	**-1.2**
PACH	**Papudo**	**1.63**	**299**	⇓*iP*	**Pn**	**18 29 37.2**	**-0.4**
PACH				*iS*	**Sb**	**18 29 58.4**	**-0.6**
SFDO	**San Fernando**	**1.65**	**219**	⇑*iP*	**Pn**	**18 29 38.7**	**+0.7**
SFDO				*iS*	**Sb**	**18 30 00.9**	**+1.0**
ZON	**Zonda**	**2.00**	**27**	*eP*	**Pn**	**18 29 46.3**	**+3.4**
ZON				*eS*	**Sn**	**18 30 19.6**	**+11**
CHNG	**Los Chungos**	**2.07**	**314**	⇑*iP*	**Pn**	**18 29 45.0**	**+1.1**
CHNG				*iS*	**Sn**	**18 30 12.1**	**+1.5**
CHNG				AMP		18 30 13.3	
	comp=E,3μm,0.4s						
ILCH	**Illapel**	**2.08**	**324**	*eP*	**Pn**	**18 29 44.7**	**+0.7**
ILCH				*iS*	**Sn**	**18 30 11.7**	**+1.0**
ILCH				AMP		18 30 18.1	
	comp=E,3μm,0.3s						
CFAA	**Coronel Fontan**	**2.15**	**37**	Pn	**Pn**	**18 29 46.7**	**+1.7**
	comp=E,8.8nm,0.3s,baz=209,slow=16,SNR=1192						
CFAA				Lg		18 30 15.1	
	comp=E,34nm,0.3s,baz=244,slow=8.3,SNR=23						
CFAA	**Coronel Fontan**	**2.15**	**37**	Pn	**Pn**	**18 29 46.7**	**+1.7**
CFAA				Lg		18 30 15.1	
TALC	**Talca**	**2.58**	**217**	*iP*	**Pn**	**18 29 53.9**	**+2.6**
TALC				*iS*	**Sn**	**18 30 27.3**	**+3.7**
PLCA	**Paso Flores**	**7.41**	**185**	Pn	**Pn**	**18 31 05.4**	**+5.8**
	comp=E,0.3nm,0.3s,baz=357,slow=13,SNR=5.4						
PLCA				Lg		18 33 17.4	
	comp=E,0.9nm,0.3s,baz=305,slow=22,SNR=4.4						
PLCA	**Paso Flores**	**7.41**	**185**	*eP*	**Pn**	**18 30 56.6**	**-3.1**
	comp=E,23nm,1.2s						
PLCA				Lg		18 33 17.4	
TRQA	**Tornquist**	**7.88**	**129**	*eP*	**Pn**	**18 31 03.9**	**-2.3**
LVC	**Limon Verde**	**10.71**	**4**	Pn	**P**	**18 31 46.2**	**+1.0**
	comp=E,0.6nm,0.3s,baz=186,slow=9.4,SNR=6.4						
LVC				Lg		18 34 50.5	
	comp=E,1.5nm,0.3s,baz=314,slow=12,SNR=6.1						
LVC				LR	LR	18 35 58.5	
	comp=E,241nm,19.5s,baz=201,slow=38						
LVC	**Limon Verde**	**10.71**	**4**	*eP*	**P**	**18 31 41.0**	**-4.2**
LVC				Lg		18 34 50.5	
LVC				LR	LR	18 35 58.5	
CPUP	**Villa Florida**	**12.84**	**60**	*eP*	**P**	**18 32 10.0**	**-4.0**
LPAZ	**La Paz**	**17.04**	**5**	Pn	**P**	**18 33 12.1**	**+3.4**
	comp=E,0.2nm,0.3s,baz=169,slow=9.9,SNR=11						
LPAZ	**La Paz**	**17.04**	**5**	*eP*	**P**	**18 33 10.1**	**+1.4**
SIV	**San Ignacio**	**18.96**	**27**	P	**P**	**18 33 31.5**	**-1.2**
	comp=E,0.3nm,0.3s,baz=210,slow=13,SNR=18						
SAML	**Samuel**	**25.01**	**15**	*eP*	**P**	**18 34 32.8**	**-1.8**
	comp=E,4.4nm,0.8s,mb4.0						
BDFB	**Brasilia**	**26.39**	**53**	P	**P**	**18 34 46.3**	**-1.1**
	comp=E,2.7nm,0.7s,mb3.9,baz=337,slow=5.6,SNR=4.9						
QSPA	**South Pole Qui**	**56.90**	**180**	*eP*	**P**	**18 38 55.3**	**-0.6**
	comp=E,4.8nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**70.12**	**329**	P	**P**	**18 40 27.2**	**+3.6**
	comp=E,0.3nm,0.5s,mb3.5,baz=251,slow=26,SNR=5.4						
DBIC	**Dimbokro**	**73.16**	**70**	P	**P**	**18 40 41.1**	**-1.0**
	comp=E,2.8nm,0.7s,mb4.3,baz=216,slow=8.6,SNR=4.2						
DBIC	**Dimbokro**	**73.16**	**70**	*eP*	**P**	**18 40 40.0**	**-2.2**
BOSA	**Boshof**	**78.68**	**117**	P	**P**	**18 41 15.4**	**+2.3**
	comp=E,1.8nm,0.7s,mb4.1,baz=109,slow=1.9,SNR=5.1						
BOSA	**Boshof**	**78.68**	**117**	*eP*	**P**	**18 41 11.9**	**-1.2**
LBTB	**Lobatse**	**80.84**	**114**	P	**P**	**18 41 26.7**	**+1.9**
PDAR	**Pinedale Array**	**84.06**	**332**	P	**P**	**18 41 47.1**	**+6.0**
	comp=E,0.3nm,0.6s,mb3.6,baz=108,slow=5.7,SNR=2.5						
AAK	**Ala-Archa**	**150.51**	**61**	PKPbc	PKPdf	18 49 01.6	+4.1
ZAL	**Zalesovo**	**152.63**	**34**	PKPbc	PKPdf	18 49 10.2	+10
	comp=E,1.1nm,0.4s,baz=57,slow=1.3,SNR=5.4						
SONM	**Songino Array**	**165.22**	**10**	PKP	PKPdf	18 49 18.4	+3.3
	comp=E,0.7nm,0.5s,baz=254,slow=35,SNR=3.2						

*JMA **17** 18:55:24.7±0.5, 24.28N×121.94E, h28km, M3.1*

TAP 17 18:55:24.2, 24.80N×122.00E, h4km, ML3.8, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.98**	**110**	P	Pb	18 55 42.8	-0.6
YOJ				S	Sb	18 55 55.6	-0.9
IRIF	**Iriomote-Funau**	**1.64**	**106**	P	Pn	18 55 51.8	-2.3
IRIF				*eS*	Sb	18 56 12.4	-3.3
HATJ	**Hateruma jima**	**1.80**	**114**	P	Pn	18 55 54.0	-2.4
JKRS	**Kuro-shima**	**1.91**	**107**	P	Pn	18 55 56.3	-1.6
JKRS				*eS*	Sn	18 56 19.4	-3.4
JIJ	**Ishigaki jima**	**2.00**	**102**	P	Pn	18 55 57.5	-1.7
JIJ				*eS*	Sn	18 56 22.5	-2.4

IDC 17 19:04:30.4±3.9, 0.85N×97.10E, mb3.6/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=141.6km s-min=27.0km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.60**	**6**	P	P	19 08 37.5	-1.3
	0.1nm,0.3s,baz=199,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**41.94**	**122**	P	P	19 12 22.8	-2.0
	0.5nm,0.7s,baz=300,slow=9.1,SNR=6.7						
ASAR	**Alice Springs**	**43.26**	**127**	P	P	19 12 34.3	-1.3
	0.6nm,1.0s,baz=301,slow=8.4,SNR=6.3						
ZAL	**Zalesovo**	**53.88**	**351**	P	P	19 13 55.1	-2.4
	0.7nm,0.6s,baz=328,slow=3.7,SNR=3.8						

IDC 17 19:39:21.9±7.1, 19.43S×178.26W, mb3.4/3, mb1 3.7/3, mb1mx3.6/15, mbtmp3.4/3, Error ellipse: s-maj=309.9km s-min=37.6km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.52**	**261**	P	P	19 47 35.7	-1.6
	0.2nm,0.3s,baz=97,slow=7.2,SNR=17						
ASAR	**Alice Springs**	**44.53**	**256**	P	P	19 47 35.4	-2.0
	0.2nm,0.5s,baz=89,slow=8.7,SNR=6.1						
ILAR	**Eielson Array**	**87.33**	**13**	P	P	19 52 10.3	-1.2
	0.2nm,0.4s,baz=217,slow=5.2,SNR=6.5						

IDC 17 19:51:56.2±2.1, 1.76S×99.78E, mb3.7/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.7/5, Error ellipse: s-maj=103.5km s-min=20.0km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.11**	**358**	P	P	19 56 31.8	-2.8
	0.5nm,0.5s,baz=188,slow=10,SNR=6.9						
WRA	**Warramunga Arr**	**38.31**	**121**	P	P	19 59 18.8	-1.7
	0.7nm,0.4s,baz=309,slow=9.5,SNR=28						
ASAR	**Alice Springs**	**39.57**	**126**	P	P	19 59 29.5	-1.6
	0.4nm,0.6s,baz=300,slow=7.7,SNR=13						
ZAL	**Zalesovo**	**56.89**	**349**	P	P	20 01 42.3	-2.9
	1.5nm,0.4s,baz=321,slow=4.8,SNR=7.4						
BVAR	**Borovoye Array**	**59.89**	**340**	P	P	20 02 04.4	-1.8
	baz=137,slow=48						
FINES	**FINESS Array B**	**83.80**	**332**	P	P	20 04 26.9	-1.6
	0.6nm,0.6s,baz=270,slow=1.9,SNR=5.3						
TXAR	**Lajitas Array**	**144.65**	**37**	PKP	PKPdf	20 11 34.8	-2.6
	0.7nm,0.8s,baz=180,slow=1.8,SNR=4.6						

*IDC **17** 19:57:31.4±3.4, 22.13N×144.11E, h100km±32km, mb3.6/6, mb1 3.7/7, mb1mx3.4/24, mbtmp4.0/7, Error ellipse: s-maj=44.9km s-min=16.0km az=92.0*

ISC 17 19:57:31.6±3.3, 22.2N±0.1×144.1E±0.4, h122km±32km, n8, σ0§70/9, mb3.9/6, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.19**	**341**	P	**P**	**19 58 49.4**	**+1.1**
	11nm,0.3s,baz=286,slow=23,SNR=16						
CBIJ				S	**S**	**19 59 46.3**	**-1.1**
	46nm,0.3s,baz=292,slow=22,SNR=11						
WB2	**Warramunga Arr**	**42.92**	**193**	*eP*	**P**	**20 05 19.8**	**-0.2**
WRA	**Warramunga Arr**	**42.92**	**193**	P	**P**	**20 05 20.0**	**0.0**
	0.9nm,0.4s,mb3.8,baz=15,slow=8.7,SNR=57						
FITZ	**Fitzroy Crossi**	**43.89**	**206**	P	**P**	**20 05 27.9**	**0.0**
	4.0nm,0.9s,mb4.2,baz=20,slow=11,SNR=11						
ASAR	**Alice Springs**	**46.62**	**193**	P	**P**	**20 05 49.9**	**+0.4**
	0.6nm,0.5s,mb3.5,baz=12,slow=6.6,SNR=8.8						
STKA	**Stephens Creek**	**53.79**	**183**	P	**P**	**20 06 42.8**	**-1.1**
	3.0nm,0.6s,mb4.5,baz=352,slow=8.9,SNR=9.6						
ILAR	**Eielson Array**	**61.25**	**27**	P	**P**	**20 07 35.8**	**0.0**
	0.3nm,0.6s,mb3.5,baz=262,slow=5.0,SNR=6.1						
BVAR	**Borovoye Array**	**62.84**	**319**	P	**P**	**20 07 47.3**	**+0.8**
	0.7nm,0.4s,mb3.9,baz=88,slow=7.0,SNR=11						

IDC 17 19:58:23.3±16.0, 18.85S×178.34W, h634km±150km, mb3.2/5, mb1 3.4/5, mb1mx3.1/17, mbtmp4.2/5, Error ellipse: s-maj=241.5km s-min=56.4km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.37**	**262**	P	P	20 04 12.4	-0.8
	2.1nm,0.3s,baz=90,slow=11,SNR=9.6						
WRA	**Warramunga Arr**	**44.53**	**260**	P	P	20 05 41.1	-1.7
	1.1nm,0.3s,baz=97,slow=7.6,SNR=25						
ASAR	**Alice Springs**	**44.60**	**255**	P	P	20 05 41.4	-2.0
	2.4nm,0.7s,baz=85,slow=8.3,SNR=63						
ASPA	**Alice Springs**	**44.61**	**255**	*eP*	P	20 05 41.3	-2.1
FITZ	**Fitzroy Crossi**	**52.94**	**261**	P	P	20 06 42.9	-2.0
	3.4nm,0.5s,baz=129,slow=3.2,SNR=11						
ILAR	**Eielson Array**	**86.78**	**13**	P	P	20 10 00.8	-1.7
	0.3nm,0.6s,baz=217,slow=5.8,SNR=4.2						
GERES	**GERESS Array B**	**148.53**	**345**	PKPbc	PKPdf	20 17 00.3	+5.0
	0.8nm,0.7s,baz=27,slow=3.0,SNR=7.5						

*IDC **17** 20:02:33.7±2.0, 43.51N×105.29W, mb4.5/1, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.5/3, MS2.5/1, Ms1 2.5/1, ms1mx2.4/30, Error ellipse: s-maj=45.8km s-min=9.2km az=152.0*
*NEIC **17** 20:02:34.6±0.6, 43.55N×105.20W, ML3.0, Error ellipse: s-maj=8.9km s-min=7.1km az=129.0, Suspected Mining explosion.*
NEIC 85 km [55 miles] SSE of Gillette.

ISC 17 20:02:32.5±0.6, 43.58N±0.06×105.21W±0.07, n27, σ1§37/26, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**57**	*eP*	**Pb**	**20 02 54.4**	**+1.9**
PHWY	**Pilot Hill**	**2.29**	**185**	*e*Pn	**Pn**	**20 03 11.5**	**-0.5**
RWWY	**Rawlins**	**2.40**	**219**	*e*P	**Pn**	**20 03 16.7**	**+3.0**
LAO	**LASA Array**	**3.19**	**347**	*e*Pn	**Pn**	**20 03 27.6**	**+2.7**
BW06	**Boulder Array**	**3.28**	**257**	*e*Pn	**Pn**	**20 03 26.7**	**+0.5**
PDAR	**Pinedale Array**	**3.28**	**257**	Pn	**Pn**	**20 03 28.4**	**+2.1**
	6.8nm,0.3s,baz=74,slow=17,SNR=38						
PDAR				Lg		20 04 14.6	
	11nm,0.3s,baz=75,slow=35,SNR=12						
ISCO	**Idaho Springs**	**3.79**	**185**	*e*Pn	**Pn**	**20 03 35.2**	**+1.7**
LOHW	**Long Hollow**	**3.92**	**272**	Pn	**Pn**	**20 03 35.8**	**+0.6**
MOOW	**Moose Ponds**	**4.02**	**274**	*e*Pn	**Pn**	**20 03 36.5**	**-0.1**
SNOW	**Snow King Moun**	**4.04**	**270**	*e*Pn	**Pn**	**20 03 38.2**	**+1.3**
REDW	**Red Top Meadow**	**4.11**	**269**	Pn	**Pn**	**20 03 37.9**	**-0.1**
YFT	**Old Faithful**	**4.15**	**284**	*e*Pn	**Pn**	**20 03 38.6**	**+0.1**
IMW	**Indian Meadow**	**4.16**	**276**	Pn	**Pn**	**20 03 36.7**	**-2.1**
TPAW	**Teton Pass**	**4.17**	**271**	*e*Pn	**Pn**	**20 03 40.0**	**+1.1**
AHID	**Auburn Hatcher**	**4.38**	**261**	*e*Pg	**Pg**	**20 03 55.2**	**-4.9**
RRI2	**Red Ridge**	**4.45**	**269**	*e*Pn	**Pn**	**20 03 42.4**	**-0.5**
RW3	**Ridgway**	**5.65**	**200**	*e*Pg	**Pg**	**20 04 20.3**	**-5.0**
SDCO	**Great Sand Dun**	**5.84**	**182**	*e*Pn	**Pn**	**20 04 01.8**	**-0.6**
HVU	**Hansel Valley**	**5.86**	**255**	*e*Pn	**Pn**	**20 04 02.3**	**-0.5**
SRU	**San Rafael**	**6.00**	**224**	*e*Pn	**Pn**	**20 04 02.3**	**-2.3**
TMUT	**Trail Mountain**	**6.22**	**228**	*e*Pg	**Pg**	**20 04 27.8**	**-8.8**
HLID	**Hailey**	**6.69**	**273**	*e*Pn	**Pn**	**20 04 13.2**	**-1.2**
ANMO	**Albuquerque**	**8.68**	**187**	LR	LR	20 08 40.4	
	comp=Z,36nm,21.9s,baz=32,slow=43						
ULM	**Lac du Bonnet**	**9.23**	**40**	Pn	**P**	**20 04 47.6**	**-2.3**
	0.9nm,0.3s,baz=224,slow=13,SNR=4.6						
ULM				Lg		20 07 22.2	
	0.4nm,0.3s,baz=351,slow=18,SNR=1.8						
YKA	**Yellowknife Ar**	**19.73**	**347**	P	**P**	**20 07 05.1**	**-1.1**
YKA	**Yellowknife Ar**	**19.73**	**347**	P	**P**	**20 07 05.1**	**-1.1**
	0.1nm,0.3s,baz=156,slow=11,SNR=5.4						
ARCES	**ARCESS Array B**	**61.55**	**18**	P	**P**	**20 12 52.3**	**-0.8**
	5.7nm,0.9s,baz=328,slow=12,SNR=3.0						

*TIF **17** 20:04:19.3, 39.41N×40.80E, h15km±1km*
*ISK **17** 20:04:20.0, 39.41N×40.79E, h12km, MD3.9, ML3.9*
*CSEM **17** 20:04:20.6±0.1, 39.37N×40.82E, h15km, MD3.9, Error ellipse: s-maj=3.9km s-min=2.2km az=142.0*
*NEIC **17** 20:04:21.9±1.1, 39.36N×40.88E, h10km, Error ellipse: s-maj=19.7km s-min=11.4km az=155.0*
*IDC **17** 20:04:24.4±2.0, 39.52N×40.61E, mb3.5/2, mb1 3.5/5, mb1mx3.3/20, mbtmp3.4/5, ML3.1/3, Error ellipse: s-maj=30.8km s-min=21.4km az=108.0*

ISC 17 20:04:20.7±0.4, 39.44N±0.03×40.79E±0.04, h10km, n32, σ0§97/38, mb3.5/2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.61**	**203**	*i*PG	**Pg**	**20 04 31.8**	**-1.2**
BINT				*i*SG	**Sg**	**20 04 40.4**	**-0.8**
EZM	**Erzurum**	**0.64**	**43**	*i*PG	**Pg**	**20 04 33.1**	**-0.5**
ERZM	**Erzurum**	**0.64**	**44**	*i*P	**Pb**	**20 04 33.1**	**-0.4**
ERZM				*i*S	**Sb**	**20 04 38.9**	**-3.3**
PTK	**Pertek**	**1.22**	**244**	PN	**Pn**	**20 04 42.8**	**-0.9**
PTK				SN	**Sn**	**20 04 59.7**	**-0.6**
BTMT	**Batman**	**1.36**	**156**	PN	**Pn**	**20 04 44.9**	**-0.9**
GUMT	**Gumushane**	**1.43**	**316**	*e*PN	**Pn**	**20 04 47.2**	**+0.4**
BEST	**Besiri**	**1.59**	**166**	*i*P	**Pn**	**20 04 49.4**	**+0.3**
BEST				*i*S	**Sb**	**20 05 10.8**	**+1.0**
DIY	**Diyarbakir**	**1.60**	**196**	PN	**Pn**	**20 04 49.3**	**0.0**
ELZG	**Elazig**	**1.69**	**237

SJS				*e*S		**Sn**	**20 14 03.2**	**-0.3**
JTS	**JuntasAbangare**	**3.93**	**13**	Pn		**Pn**	**20 13 17.2**	**-0.2**
	82nm,0.3s,baz=340,slow=2.5,SNR=253							
JTS				Sn		**Sn**	**20 13 60.0**	**-4.1**
	56nm,0.3s,baz=348,slow=21,SNR=16							
JTS	**JuntasAbangare**	**3.93**	**13**	*e*P		**Pn**	**20 13 16.4**	**-0.9**
JTS				*e*S		**Sn**	**20 13 59.4**	**-4.6**
URSC	**Urasca**	**3.95**	**31**	*e*P		**Pn**	**20 13 17.3**	**-0.4**
ICR	**Volcan Irazu**	**4.05**	**30**	*e*P		**Pn**	**20 13 18.7**	**-0.4**
ICR				*e*S		**Sn**	**20 14 09.5**	**+2.3**
VPS2	**Volcan Poas 2**	**4.06**	**23**	*e*P		**Pn**	**20 13 17.2**	**-2.0**
VPS2				*e*S		**Sn**	**20 14 09.5**	**+2.1**
FORC	**Fortuna**	**4.17**	**16**	*e*P		**Pn**	**20 13 19.8**	**-1.1**
TRTC	**Tortuguero**	**4.62**	**27**	⇓*e*P		**Pn**	**20 13 27.6**	**+0.3**
CONN	**Concepcion**	**5.09**	**3**	⇑*e*P		**Pn**	**20 13 33.9**	**0.0**
APON	**Apoyo**	**5.44**	**358**	⇑*e*P		**Pn**	**20 13 38.9**	**+0.1**
TICN	**Ticuantepe**	**5.56**	**356**	*e*P		**Pn**	**20 13 40.7**	**+0.1**
MGAN	**Managua**	**5.68**	**356**	*e*P		**Pn**	**20 13 42.1**	**0.0**
MGAN				*i*			20 13 43.5	
	comp=Z,503nm,0.3s							
XAVN	**Gruta Xavier**	**5.69**	**355**	⇓*e*P		**Pn**	**20 13 42.4**	**+0.2**
WILN	**Americas 2**	**5.69**	**357**	⇑*e*P		**Pn**	**20 13 42.2**	**-0.1**
COPN	**Copaltepe**	**5.74**	**353**	*e*P		**Pn**	**20 13 42.9**	**-0.2**
APYN	**Apoyeque**	**5.77**	**355**	⇑*e*P		**Pn**	**20 13 43.5**	**+0.1**
APYN				*e*S		**Sn**	**20 14 47.2**	**-3.4**
MOMJ	**Momotombo**	**5.96**	**354**	⇓*e*P		**Pn**	**20 13 45.9**	**-0.3**
LEON	**Leon**	**6.02**	**350**	⇑*e*P		**Pn**	**20 13 47.5**	**+0.5**
PYTN	**Playitas**	**6.06**	**358**	*e*P		**Pn**	**20 13 47.8**	**+0.3**
CNGN	**Cerro Negro**	**6.07**	**352**	*e*P		**Pn**	**20 13 47.7**	**0.0**
TEL3	**Telica 3**	**6.17**	**351**	⇓*e*P		**Pn**	**20 13 49.6**	**+0.6**
TELN	**Telica**	**6.19**	**351**	⇑*e*P		**Pn**	**20 13 49.7**	**+0.3**
CNCH	**Conchagua**	**7.06**	**344**	*e*P		**Pn**	**20 14 02.4**	**+0.7**
CNCH				*e*S		**Sn**	**20 15 21.4**	**-1.3**
VSM	**San Miguel**	**7.33**	**341**	*e*P		**Pn**	**20 14 06.8**	**+1.3**
BLLM	**Bellamira**	**7.33**	**342**	*e*P		**Pn**	**20 14 05.7**	**+0.2**
CAHU	**Cacacuatique**	**7.64**	**343**	*e*P		**Pn**	**20 14 10.6**	**+0.9**
SNVI	**San Vicente**	**7.70**	**338**	*e*P		**Pn**	**20 14 11.9**	**+1.3**
LCBS	**La Ceiba**	**7.79**	**337**	*e*P		**Pn**	**20 14 12.4**	**+0.5**
LFRS	**El Faro**	**7.80**	**336**	*e*P		**Pn**	**20 14 12.6**	**+0.7**
LBRS	**Las Brisas**	**7.89**	**337**	⇑*e*P		**Pn**	**20 14 14.6**	**+1.3**
BOQS	**Boqueron**	**7.99**	**335**	*e*P		**Pn**	**20 14 15.7**	**+1.1**
SBLS	**San Blas**	**8.22**	**334**	⇑*e*P		**P**	**20 14 19.5**	**+1.6**
SNJE	**San Jose**	**8.24**	**334**	*e*P		**P**	**20 14 19.6**	**+1.4**
RTR	**El Retiro**	**8.29**	**334**	*e*P		**P**	**20 14 20.2**	**+1.4**
RBDL	**Robledal**	**8.50**	**334**	*e*P		**P**	**20 14 23.2**	**+1.5**
MTO2	**Montecristo 2**	**8.62**	**337**	*e*P		**P**	**20 14 24.5**	**+1.1**
OTAV	**Otavalo**	**9.63**	**130**	P		**P**	**20 14 38.7**	**+1.2**
	comp=Z,11nm,0.9s							
ROSC	**El Rosal**	**11.59**	**97**	LR		LR	20 19 09.3	
	comp=Z,115nm,21.6s,baz=206,slow=35							
SDV	**Santo Domingo**	**15.29**	**80**	Pn		**P**	**20 15 55.8**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=254,slow=8.0,SNR=4.6							
SDV				LR		LR	20 21 36.6	
	comp=Z,240nm,21.9s,baz=250,slow=36							
SDV	**Santo Domingo**	**15.29**	**80**	P		**P**	**20 15 57.7**	**+4.2**
	comp=Z,17nm,1.0s							
SJG	**San Juan**	**22.46**	**57**	LR		LR	20 24 41.2	
	comp=Z,154nm,18.5s,MS3.5,baz=275,slow=33							
SAML	**Samuel**	**27.30**	**124**	*e*P		**P**	**20 18 02.5**	**-0.2**
	comp=Z,12nm,1.0s,mb4.4							
SAML				*e*			20 18 10.3	
TXAR	**Lajitas Array**	**28.29**	**326**	P		**P**	**20 18 10.6**	**-0.9**
	comp=Z,1.4nm,1.0s,mb3.5,baz=157,slow=9.5,SNR=9.6							
TXAR				LR		LR	20 28 27.0	
	comp=Z,38nm,21.3s,MS3.0,baz=255,slow=34							
LPAZ	**La Paz**	**28.61**	**142**	P		**P**	**20 18 15.8**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.4,baz=332,slow=14,SNR=2.7							
LPAZ	**La Paz**	**28.61**	**142**	P		**P**	**20 18 15.8**	**+1.3**
MNTX	**Cornudas Mount**	**31.05**	**326**	*e*P		**P**	**20 18 34.7**	**-1.4**
	comp=Z,2.2nm,0.8s,mb4.0							
CCM	**Cathedral Cave**	**31.84**	**352**	*e*P		**P**	**20 18 40.0**	**-3.0**
	comp=Z,8.0nm,1.0s,mb4.5							
ANMO	**Albuquerque**	**34.13**	**329**	P		**P**	**20 19 01.8**	**-1.2**
	comp=Z,1.9nm,0.9s,mb4.0,baz=180,slow=6.0,SNR=4.8							
ANMO	**Albuquerque**	**34.13**	**329**	P		**P**	**20 19 01.8**	**-1.2**
SADO	**Sadowa**	**38.62**	**8**	P		**P**	**20 19 40.2**	**-0.7**
	comp=Z,5.9nm,0.9s,mb4.3,baz=207,slow=7.4,SNR=5.4							
SADO				LR		LR	20 35 06.9	
	comp=Z,94nm,18.3s,MS3.6,baz=311,slow=36							
NVAR	**Mina Array Bea**	**43.30**	**322**	P		**P**	**20 20 19.3**	**-0.2**
	comp=Z,0.7nm,0.3s,mb3.9,baz=154,slow=5.4,SNR=4.3							
NEW	**Newport**	**49.41**	**333**	LR		LR	20 42 51.8	
	comp=Z,92nm,18.8s,MS3.8,baz=63,slow=37							
SCHQ	**Schefferville**	**50.62**	**14**	P		**P**	**20 21 15.6**	**-1.2**
	comp=Z,6.4nm,1.2s,mb4.4,baz=188,slow=7.2,SNR=4.9							
FRB	**Frobisher Bay**	**58.55**	**9**	LR		LR	20 46 16.7	
	comp=Z,66nm,21.7s,MS3.7,baz=214,slow=35							
YKA	**Yellowknife Ar**	**59.78**	**345**	P		**P**	**20 22 20.8**	**-2.3**
	comp=Z,0.8nm,0.9s,mb3.8,baz=140,slow=6.7,SNR=16							
DLBC	**Dease Lake**	**61.98**	**335**	P		**P**	**20 22 36.9**	**-1.3**
	comp=Z,1.5nm,0.8s,mb4.2,baz=239,slow=12,SNR=3.7							
INK	**Inuvik**	**69.37**	**343**	P		**P**	**20 23 24.3**	**-1.1**
	comp=Z,1.7nm,1.1s,mb3.9,baz=172,slow=7.4,SNR=3.6							
ILAR	**Eielson Array**	**72.12**	**337**	P		**P**	**20 23 40.8**	**-1.2**
	comp=Z,1.2nm,1.0s,mb3.8,baz=125,slow=4.0,SNR=9.1							
ASAR	**Alice Springs**	**138.14**	**242**	PKP		PKPdf	20 31 41.5	-3.5
	comp=Z,0.4nm,0.7s,baz=92,slow=1.5,SNR=6.1							
WRA	**Warramunga Arr**	**138.75**	**247**	PKP		PKPdf	20 31 42.4	-3.8
	comp=Z,0.8nm,0.9s,baz=101,slow=1.5,SNR=7.6							
FITZ	**Fitzroy Crossi**	**147.17**	**246**	PKPbc		PKPdf	20 31 59.4	-1.5
	comp=Z,10.0nm,0.9s,baz=113,slow=3.8,SNR=7.9							

*DJA **17** 20:28:37.5±1.0, 1.95S×98.39E, h33km, mb4.5/4, Error ellipse: s-maj=31.7km s-min=6.9km az=69.0*
*BJI **17** 20:28:48.7, 1.77S×99.75E, h27km, mB5.1, mb4.9, Ms4.9, Msz4.7*
*IDC **17** 20:28:50.4±2.2, 1.55S×99.58E, h17km±13km, mb4.9/20, mb1 5.0/21, mb1mx5.0/21, mbtmp5.0/21, ML4.8/1, MS4.3/12, Ms1 4.3/12, ms1mx4.1/22, Error ellipse: s-maj=17.7km s-min=10.2km az=59.0*
*NEIC **17** 20:28:50.8±0.2, 1.62S×99.56E, mb5.1/45, MS4.1/3, Error ellipse: s-maj=5.8km s-min=4.4km az=61.0*
NEIC Felt [II] at Padangpanjang, Sumatra.
*HRVD **17** 20:28:50.8±0.8, 1.58S×99.43E, h22km±1km, MW4.9/40, Centroid moment Tensor Solution. LP body waves: s18,c24;Mantle waves: s40,c60; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.26±.17; Mθθ-1.48±.10; Mφφ0.22±.12; Mrθ-1.65±.19; Mθφ0.77±.07; Mφr-0.70±.21; Best double couple: M0=2.391×10^16 NP1:φ=139°, δ32°, λ145°. NP2:φ=260°, δ72°, λ63°. Principal axes: T 2.459, Plg54°, Azm136°; N -.129, Plg26°, Azm269°; P -2.323, Plg23°, Azm10°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **17** 20:28:53.6±1.2, 1.12S×99.51E, h33km, mb5.3/26, MS4.5/10 Error ellipse: s-maj=18.4km s-min=9.2km az=105.0*

ISC 17 20:28:51.7±0.2,**1.62S**±0.03×**99.68E**±0.03,**h39**km, **h39**km±2.7km:**pP-P**,**n237**,σ**1**§**11**/226,**mb5.0**/91,**MS4.5**/35, **31C-15D**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.36**	**32**	*e*P	**P**	**20 29 16.0**	**+1.4**
MRPI	**Mariponipon**	**3.23**	**354**	*e*Pn	**P**	**20 29 40.9**	**-0.3**
KGM	**Kluang**	**5.12**	**45**	P	**P**	**20 30 10.1**	**+2.0**
IPM	**Ipoh**	**6.30**	**12**	P	**P**	**20 30 25.0**	**+0.5**
PENI	**Pendagan**	**6.74**	**126**	*e*P	**P**	**20 30 29.4**	**-1.4**
PENI				⇑*e*S	**S**	**20 31 45.0**	**-2.2**
KULM	**Kulim**	**6.93**	**8**	⇓*e*P	**P**	**20 30 33.2**	**-0.2**
PULI	**Pulasari**	**7.84**	**127**	*e*P	**P**	**20 30 43.7**	**-2.4**
PULI				⇓*e*pP		20 30 48.6	
SNG	**Songkhla**	**8.78**	**6**	P	**P**	**20 30 57.0**	**-2.1**
	580nm,0.9s						
KSM	**Kuching**	**11.06**	**74**	P	**P**	**20 31 31.0**	**+0.4**
NNT	**Nongplab**	**14.11**	**0**	P	**P**	**20 32 03.0**	**-8.2**
SRDI	**Scrawed**	**15.93**	**116**	⇑*e*P	**P**	**20 32 32.6**	**-2.3**
	152nm,0.2s						
KELI	**Kelakatan**	**16.14**	**114**	⇓*e*P	**P**	**20 32 37.3**	**-0.2**
	61nm,0.3s						
NST	**Nakhon Sawan**	**17.18**	**1**	P	**P**	**20 32 44.5**	**-6.1**
RATI	**Rata**	**17.29**	**115**	⇓*e*P	**P**	**20 32 48.6**	**-3.3**
	208nm,0.3s						
KEDI	**Kedomdong**	**17.73**	**113**	⇑*e*P	**P**	**20 32 56.5**	**-1.0**
	87nm,0.2s						
KKTK	**Khon Kaen**	**18.11**	**10**	P	**P**	**20 33 00.0**	**-2.1**
KKM	**Kota Kinabalu**	**18.18**	**65**	*e*P	**P**	**20 33 05.6**	**+2.5**
KKM	**Kota Kinabalu**	**18.18**	**65**	P	**P**	**20 33 06.4**	**+3.3**
TSM	**Tawau**	**19.11**	**72**	P	**P**	**20 33 17.1**	**+2.9**
TANI	**Tanete Lipujan**	**19.77**	**96**	*e*P	**P**	**20 33 22.0**	**+0.5**
CM31	**Chiang Mai Arr**	**19.96**	**358**	*e*P	**P**	**20 33 18.6**	**-4.9**
	32nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.96**	**358**	*i* P	**P**	**20 33 19.3**	**-4.2**
CMAR				pmax	pmax		
	comp=Z,14nm,0.6s						
CMAR	**Chiang Mai Arr**	**19.96**	**358**	P	**P**	**20 33 19.3**	**-4.2**
	comp=Z,1.2nm,0.3s,baz=187,slow=9.6,SNR=71						
CMAR				S	**S**	**20 37 14.2**	**+13**
	comp=Z,0.0nm,0.3s,baz=191,slow=11,SNR=3.5						
CMAR				ScP		20 41 15.0	
	baz=206,slow=2.8,SNR=4.3						
CMAR				LR	LR	20 42 44.4	
	comp=Z,1μm,18.1s,baz=180,slow=42						
NINI	**Niniconang**	**20.24**	**98**	*e*P	**P**	**20 33 27.1**	**+0.6**
NANT	**Nan**	**20.31**	**3**	⇑P	**P**	**20 33 24.0**	**-3.2**
	comp=Z,212nm,0.8s						
CHG	**Chiang Mai**	**20.31**	**358**	⇑P	**P**	**20 33 24.9**	**-2.3**
	comp=Z,33nm,0.7s						
BUNI	**Buntu Taipa**	**20.72**	**96**	*e*P	**P**	**20 33 32.5**	**+1.0**
PALK	**Pallekele**	**20.89**	**295**	*e*P	**P**	**20 33 32.7**	**-0.5**
	comp=Z,16nm,0.9s						
QIZ	**Qiongzhong**	**22.82**	**26**	⇑P	**P**	**20 33 54.4**	**+1.9**
QIZ				S	**S**	**20 37 56.9**	**+2.3**
QIZ				XS		20 38 13.9	
QIZ				AMB	AMB		
	comp=Z,53nm,1.4s,mb4.8						
QIZ				LR	LR		
	comp=N,1μm,13.5s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,13.1s,MS4.6						
QIZ				LR	LR		
	comp=Z,1μm,11.6s,MS4.6						
QIZ	**Qiongzhong**	**22.82**	**26**	*e*P	**P**	**20 33 54.6**	**+2.1**
	comp=Z,159nm,1.6s,mb5.2						
VIS	**Vishakhapatnam**	**25.07**	**321**	*e*P	**P**	**20 34 13.9**	**-0.5**
AGT	**Agartala**	**26.64**	**343**	*e*	**P**	**20 34 29.0**	**+0.1**
KMI	**Kunming**	**26.74**	**6**	P	**P**	**20 34 30.3**	**+0.4**
KMI				AP	pP	20 34 34.1	-6.4
KMI				PP	PP	20 35 13.0	-2.2
KMI				S	**S**	**20 39 00.5**	**-0.5**
KMI				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.6						
KMI				LR	LR		
	comp=N,1μm,14.2s,MS4.7						
KMI				LR	LR		
	comp=E,799nm,10.5s,MS4.7						
KMI				LR	LR		
	comp=Z,1μm,15.0s,MS4.7						
KMI	**Kunming**	**26.74**	**6**	P	**P**	**20 34 30.3**	**+0.4**
	comp=Z,17nm,0.9s,mb4.6						
KMI				pP	pP	20 34 34.1	-6.4
KMI				sP	sP	20 34 35.5	-10
KMI				PP	PP	20 35 13.0	-2.2
KMI				PPP	PPP	20 35 24.6	-2.6
KMI				S	**S**	**20 39 00.5**	**-0.5**
KMI				sS		20 39 06.8	
KMI				SS	SS	20 40 08.3	-6.2
KMI				SSS	SSS	20 40 25.8	-7.0
KMI				LR	LR		
	comp=Z,1μm,15.0s,MS4.7						
MBWA	**Marble Bar**	**27.56**	**136**	*e*P	**P**	**20 34 37.5**	**+0.1**
	comp=Z,30nm,1.2s,mb4.8						
SHL	**Shillong**	**28.05**	**345**	*e*P	**P**	**20 34 42.0**	**+0.2**
SHL				*e*S	**S**	**20 39 34.0**	**+12**
GYA	**Guiyang**	**28.71**	**13**	⇑*i*P	**P**	**20 34 47.0**	**-0.7**
GYA				AP	pP	20 34 58.3	-0.1
GYA				XP	sP	20 35 02.8	-0.6
GYA				S	**S**	**20 39 30.8**	**-1.9**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,150nm,4.2s						
GYA				LR	LR		
	comp=N,960nm,14.7s,MS4.7						
GYA				LR	LR		
	comp=E,900nm,15.0s,MS4.7						
GYA				LR	LR		
	comp=Z,2μm,13.8s,MS4.8						
FITZ	**Fitzroy Crossi**	**30.29**	**124**	⇑*i*P	**P**	**20 35 01.1**	**-0.7**
	comp=Z,62nm,0.9s,mb5.3						
FITZ	**Fitzroy Crossi**	**30.29**	**124**	P	**P**	**20 35 01.2**	**-0.6**
	comp=Z,83nm,0.8s,mb5.5,baz=303,slow=6.6,SNR=70						
FITZ				LR	LR	20 49 50.4	
	comp=Z,491nm,18.5s,MS4.2,baz=316,slow=41						
JIRN	**Jiri**	**31.87**	**337**	*e*P	**P**	**20 35 16.0**	**+0.4**
	comp=Z,120nm,0.7s,mb5.8						
PKI	**Pulchoki**	**32.10**	**336**	*e*P	**P**	**20 35 17.1**	**-0.6**
	comp=Z,48nm,1.1s,mb5.2						
LSA	**Lhasa**	**32.19**	**346**	P	**P**	**20 35 19.0**	**+0.6**
LSA				XP	sP	20 35 33.4	-0.9
LSA				*e*S	**S**	**20 40 27.3**	**-0.1**
LSA				XS		20 40 42.9	
LSA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.1						
LSA				LR	LR		
	comp=N,340nm,21.0s,MS4.2						
LSA				LR	LR		
	comp=E,300nm,20.0s,MS4.2						
LSA	**Lhasa**	**32.19**	**346**	*e*P	**P**	**20 35 19.0**	**+0.6**
	comp=E,44nm,0.7s,mb5.4						
GUN	**Gumba**	**32.21**	**337**	*e*P	**P**	**20 35 18.8**	**+0.2**
	comp=E,117nm,0.5s,mb5.9						
DMN	**Daman**	**32.26**	**335**	*e*P	**P**	**20 35 18.9**	**-0.2**
	comp=E,64nm,0.9s,mb5.4						
KKN	**Kakani**	**32.35**	**336**	*e*P	**P**	**20 35 19.4**	**-0.4**
	comp=E,91nm,0.9s,mb5.6						
CD2	**Chengdu**	**32.58**	**7**	P	**P**	**20 35 19.6**	**-2.2**
GKN	**Gorkha**	**32.80**	**335**	*e*P	**P**	**20 35 23.2**	**-0.6**
	comp=E,77nm,0.9s,mb5.7						
KOLN	**Koldanda**	**33.05**	**333**	*e*P	**P**	**20 35 25.8**	**-0.2**
	comp=E,102nm,0.8s,mb5.8						
ENH	**Enshi**	**33.06**	**16**	*e*P	**P**	**20 35 23.8**	**-2.2**
	comp=E,22nm,0.6s,mb5.2						
MUN	**Mundaring**	**33.99**	**154**	*e*P	**P**	**20 35 35.1**	**+1.2**
	comp=E,148nm,0.7s,mb6.0						
KAKA	**Kakadu**	**34.27**	**110**	*e*P	**P**	**20 35 32.8**	**-3.7**
	comp=E,7.4nm,0.6s,mb4.8						
KLBR	**Kellerberrin**	**34.36**	**152**	⇑*i*P	**P**	**20 35 37.5**	**+0.4**
	comp=E,514nm,0.9s						
WHN	**Wuhan**	**34.90**	**22**	P	**P**	**20 35 41.0**	**-0.8**
WHN				S	**S**	**20 41 09.0**	**-0.6**
WHN				LR	LR		
	comp=Z,2μm,13.3s,MS5.0						
NWAO	**Narrogin (SRO)**	**35.25**	**154**	P	**P**	**20 35 45.4**	**+0.6**
	comp=Z,30nm,0.7s,mb5.3,baz=321,slow=10,SNR=33						
NWAO	**Narrogin (SRO)**	**35.25**	**154**	*e*P	**P**	**20 35 45.2**	**+0.5**
	comp=Z,16nm,0.6s,mb5.1						
LGTI	**Lohaghat**	**36.05**	**330**	*e*PB	**P**	**20 35 51.5**	**-0.1**
PTH	**Pithoragarh**	**36.15**	**331**	*e*PG	**P**	**20 35 52.0**	**-0.4**
XAN	**Xi'an**	**36.52**	**13**	P	**P**	**20 35 54.1**	**-1.3**
XAN				AMB	AMB		
	comp=Z,37nm,1.0s,mb5.2						
XAN				LR	LR		
	comp=E,1μm,15.2s						
XAN				LR	LR		
	comp=Z,2μm,14.6s,MS4.9						
NDI	**New Delhi**	**37.03**	**326**	*e*P	**P**	**20 35 57.0**	**-2.8**
LZH	**Lanzhou**	**37.71**	**6**	⇑P	**P**	**20 36 05.0**	**-0.4**
LZH				AP	pP	20 36 16.3	-0.2
LZH				XP	sP	20 36 21.0	-0.4
LZH				*e*PP	PP	20 37 35.0	+0.1
LZH				*e*S	**S**	**20 41 52.6**	**+0.1**
LZH				XS		20 42 12.3	
LZH				SS	SS	20 44 29.0	+0.5
LZH				AMB	AMB		
	comp=Z,41nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,213nm,5.1s						
LZH				LR	LR		
	comp=N,579nm,13.0s						
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.8						
LZH	**Lanzhou**	**37.71**	**6**	⇑P	**P**	**20 36 05.0**	**-0.4**
	comp=Z,41nm,1.4s,mb5.0						
LZH				pP	pP	20 36 16.2	-0.3
LZH				sP	sP	20 36 21.0	-0.4
LZH				*e*PP	PP	20 37 35.0	+0.1
LZH				*e*S	**S**	**20 41 52.6**	**+0.1**
LZH				sS		20 42 12.2	
LZH				SS	SS	20 44 29.0	+0.5
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.8						
NJ2	**Nanjing**	**38.10**	**27**	*e*P	**P**	**20 36 08.4**	**-0.3**
NJ2				AP	pP	20 36 18.3	-1.5
NJ2				XP	sP	20 36 22.1	-2.6
NJ2				PP	PP	20 37 38.9	-0.6
NJ2				S	**S**	**20 41 56.0**	**-2.5**
NJ2				XS		20 42 12.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,280nm,5.4s						
SSE	**Sheshan**	**38.43**	**30**	P	**P**	**20 36 12.6**	**+1.1**
SSE				XP	sP	20 36 25.6	-1.8
SSE				PP	PP	20 37 39.9	-3.4
SSE				S	**S**	**20 42 04.0**	**+0.5**
SSE				XS		20 42 18.8	
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,53nm,3.9s						
SSE				LR	LR		
	comp=N,366nm,16.8s,MS4.3						
SSE				LR	LR		
	comp=E,122nm,16.5s,MS4.3						
SSE				LR	LR		
	comp=Z,223nm,18.2s,MS4.0						
SSE	**Sheshan**	**38.43**	**30**	P	**P**	**20 36 12.6**	**+1.1**
	comp=Z,35nm,0.7s,mb5.2						
SSE				sP	sP	20 36 25.6	-1.8
SSE				PP	PP	20 37 39.9	-3.4
SSE				S	**S**	**20 42 04.0**	**+0.5**
SSE				sS		20 42 18.8	
SSE				SS	SS	20 44 51.7	+7.0
SSE				LR	LR		
	comp=Z,220nm,18.2s,MS4.0						
WRA	**Warramunga Arr**	**38.47**	**121**	P	**P**	**20 36 11.7**	**-0.1**
	comp=Z,50nm,0.9s,mb5.3,baz=297,slow=9.5,SNR=18						
WRA				PcP	PcP	20 38 25.6	+0.5
	comp=Z,3.4nm,0.6s,baz=312,slow=2.6,SNR=6.0						
WRA				S	**S**	**20 42 03.1**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=291,slow=16,SNR=7.5						
WRAB	**Tennant Creek**	**38.47**	**121**	*e*P	**P**	**20 36 11.4**	**-0.5**
	comp=Z,89nm,0.8s,mb5.5						
WB2	**Warramunga Arr**	**38.48**	**121**	⇑*i*P	**P**	**20 36 11.6**	**-0.4**
WB2				*e*PCP	PcP	20 38 25.6	+0.5
WB2				*e*S	**S**	**20 42 02.1**	**-2.3**
FORT	**Forrest**	**39.54**	**140**	⇑*i*P	**P**	**20 36 22.3**	**+1.6**
	comp=Z,2μm,0.7s						
ASPA	**Alice Springs**	**39.74**	**126**	⇑*i*P	**P**	**20 36 22.9**	**+0.5**
ASPA				*e*PCP	PcP	20 38 29.8	+0.8
ASPA				*e*S	**S**	**20 42 24.2**	**+0.8**
ASAR	**Alice Springs**	**39.74**	**126**	P	**P**	**20 36 23.0**	**+0.6**
	comp=Z,22nm,0.8s,mb4.9,baz=299,slow=7.4,SNR=209						
ASAR				PcP	PcP	20 38 29.8	+0.7
	comp=Z,6.7nm,0.8s,baz=304,slow=2.7,SNR=8.9						
ASAR				S	**S**	**20 42 23.6**	**+0.2**
	comp=Z,10.0nm,1.1s,baz=297,slow=15,SNR=13						
ASAR				LR	LR	20 54 47.2	
	comp=Z,469nm,18.3s,MS4.4,baz=300,slow=39						
GTA	**Gaotai**	**40.83**	**0**	P	**P**	**20 36 31.8**	**+0.5**
GTA				AP	pP	20 36 42.1	-0.3
GTA				XP	sP	20 36 46.9	-0.3
GTA				PP	PP	20 38 13.3	+4.6
GTA				PCP	PcP	20 38 35.0	+2.6
GTA				PPP	PPP	20 38 40.8	+2.7
GTA				SCP		20 42 21.5	
GTA				S	**S**	**20 42 39.8**	**+0.4**
GTA				XS		20 43 02.3	
GTA				SS	SS	20 45 38.8	+1.9
GTA				SCS	ScS	20 46 35.8	+4.9
GTA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,113nm,9.1s						
GTA				LR	LR		
	comp=N,739nm,14.8s,MS4.7						
GTA				LR	LR		
	comp=E,445nm,17.9s,MS4.7						
GTA				LR	LR		
	comp=Z,697nm,14.4s,MS4.7						
BTO	**Baotou**	**43.07**	**12**	*e*P	**P**	**20 36 49.9**	**+0.2**
BTO				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.8						
HHC	**Hu-ho-hao-te**	**43.63**	**13**	*e*P	**P**	**20 36 57.6**	**+3.3**
HHC				PCP	PcP	20 38 40.1	-1.6
HHC				SCP		20 42 25.9	
HHC				PCS		20 42 33.8	
HHC				S	**S**	**20 43 28.8**	**+8.1**
HHC				SS	SS	20 46 30.8	+2.0
HHC				SCS	ScS	20 46 49.5	+1.5
HHC				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7						
HHC				AMB	AMB		
	comp=Z,95nm,4.5s						
HHC				LR	LR		
	comp=Z,1μm,14.4s,MS4.9						
BJT	**Baijiatuau**	**44.10**	**18**	*e*P	**P**	**20 36 58.2**	**+0.1**
	comp=Z,46nm,1.1s,mb5.1						
BJI	**Beijing**	**44.12**	**18**	P	**P**	**20 36 58.

SONM Songino Array 49.59 6 P **P** **20 37 41.3 +0.2**
comp=Z,11nm,0.8s,mb5.0,baz=188,slow=8.9,SNR=19
STKA Stephens Creek 49.65 132⇑ *i*P **P** **20 37 42.5 +0.7**
comp=Z,28nm,0.8s,mb5.3
STKA Stephens Creek 49.65 132 P **P** **20 37 42.6 +0.8**
comp=Z,31nm,0.7s,mb5.5,baz=309,slow=7.0,SNR=70
STKA LR LR 21 00 10.1
comp=Z,491nm,19.2s,MS4.5,baz=119,slow=38
FRU Bishkek 49.67 336 *e*P **P** **20 37 42.0 +0.2**
FRU *e* 20 38 01.0
FRU pmax pmax
comp=Z,60nm,1.6s,mb5.4
ULN Ulaanbaatar 49.70 7 *d i*P **P** **20 37 42.2 +0.3**
ULN Ulaanbaatar 49.70 7 *e*P **P** **20 37 42.2 +0.3**
comp=Z,9.2nm,0.8s,mb4.9
CHMS Chumysh 49.76 336 P **P** **20 37 42.4 -0.1**
SNR=13
EKS2 Erkin-Say 49.88 335 P **P** **20 37 44.0 +0.6**
SNR=71
CBIJ Chichi jima 49.89 52 P **P** **20 37 43.2 -0.5**
comp=Z,30nm,0.4s,mb5.7,baz=304,slow=23,SNR=5.4
USP Ospenovka 50.08 336 P **P** **20 37 44.9 -0.1**
SNR=32
CN2 Changchun 50.77 24 *e*P **P** **20 37 49.6 -0.6**
CN2 *e*AP pP 20 38 01.0 -0.4
CN2 *e*S **S** **20 45 02.0 +0.4**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,500nm,4.0s
CN2 LR LR
comp=N,900nm,15.0s,MS5.0
CN2 LR LR
comp=E,400nm,15.0s,MS5.0
CN2 LR LR
comp=Z,600nm,17.0s,MS4.7
ZAK Zakamensk 51.89 3 *e*P **P** **20 37 57.8 -0.7**
ZAK pmax pmax
comp=Z,6.0nm,1.8s,mb4.2
MAT Matsushiro 52.18 39 *e*P **P** **20 38 00.0 -0.9**
comp=Z,6.8nm,0.7s,mb4.7
MAT Matsushiro 52.18 39 P **P** **20 37 59.6 -1.3**
MOY Mondy 53.09 1 *e*P **P** **20 38 07.7 +0.2**
MOY pmax pmax
comp=Z,37nm,2.0s,mb5.0
MDJ Mudanjiang 53.19 26 P **P** **20 38 08.4 +0.1**
MDJ AP pP 20 38 17.5 -2.1
MDJ XP sP 20 38 21.4 -2.9
MDJ PCP PcP 20 39 15.8 -0.1
MDJ PP PP 20 40 08.8 -1.2
MDJ SCP 20 43 11.1
MDJ PCS 20 43 14.8
MDJ S **S** **20 45 37.9 +3.2**
MDJ XS 20 45 53.4
MDJ AMB AMB
comp=Z,10.0nm,2.0s,mb4.4
MDJ AMB AMB
comp=Z,63nm,5.6s
MDJ LR LR
comp=N,139nm,26.1s,MS4.2
MDJ LR LR
comp=E,201nm,24.3s,MS4.2
MDJ LR LR
comp=Z,286nm,18.7s
MDJ Mudanjiang 53.19 26 *e*P **P** **20 38 08.2 -0.1**
comp=Z,9.0nm,0.9s,mb4.7
TLY Talaya 53.20 3 *e*P **P** **20 38 07.6 -0.7**
TLY *e* 20 40 02.0
TLY *e*S **S** **20 45 37.7 +2.9**
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,332nm,13.0s,MS4.6
TLY Talaya 53.20 3 *e*P **P** **20 38 08.3 -0.1**
comp=Z,40nm,1.4s,mb5.2
ZAL Zalesovo 56.73 350 P **P** **20 38 33.5 -0.4**
comp=Z,28nm,0.4s,mb5.6,baz=316,slow=5.2,SNR=127
ZAL S **S** **20 46 24.7 +2.7**
comp=Z,1.7nm,0.7s,baz=173,slow=20,SNR=18
ZAL LR LR 21 05 39.6
comp=Z,216nm,20.2s,MS4.2,baz=301,slow=39
ZAL Zalesovo 56.73 350 P **P** **20 38 33.5 -0.4**
ZAL S **S** **20 46 24.7 +2.7**
ZAL LR LR 21 05 39.6
KLR Kul'dur 57.72 24 *e*P **P** **20 38 39.0 -1.9**
KLR MLR MLR
comp=Z,800nm,13.0s,MS5.0
ATD Arta Tunnel 57.96 285 LR LR 20 58 54.5
comp=Z,120nm,21.9s,MS4.0,baz=100,slow=31
ASAJ Asahikawa 59.48 35 P **P** **20 38 55.2 +1.9**
comp=Z,6.0nm,0.4s,mb4.9,baz=243,slow=10,SNR=6.9
BVAR Borovoye Array 59.71 340 P **P** **20 38 53.1 -1.7**
comp=Z,11nm,0.7s,mb5.0,baz=143,slow=8.6,SNR=98
BVAR S **S** **20 47 02.4 +1.3**
comp=Z,0.2nm,0.4s,baz=247,slow=34,SNR=3.1
BOD Bodaibo 60.35 9⇑ *i*P **P** **20 38 58.1 -1.0**
BOD pmax pmax
comp=Z,28nm,1.2s,mb5.2
YSS Yuzh-Sakhalins 61.33 32⇑ *e*P **P** **20 39 05.8 -0.1**
YSS *e* 20 39 13.3
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 61.33 32 *e*P **P** **20 39 06.1 +0.2**
comp=Z,30nm,0.8s,mb5.5
CLNS Chul'man 61.73 15 *e*P **P** **20 39 06.9 -1.5**
CLNS pmax pmax
comp=Z,18nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS MLR MLR
comp=Z,300nm,13.0s,MS4.6
CLNS MLR MLR
comp=N,300nm,12.0s,MS4.7
CLNS MLR MLR
comp=E,100nm,12.0s,MS4.7
KMBO Kilima Mbogo 62.41 270 *i*P **P** **20 39 13.5 0.0**
KMBO pmax pmax
comp=Z,8.0nm,0.8s
KMBO Kilima Mbogo 62.41 270 P **P** **20 39 13.4 -0.1**
comp=Z,7.8nm,0.8s,mb4.9,baz=63,slow=8.9,SNR=33
KMBO Kilima Mbogo 62.41 270 *e*P **P** **20 39 13.2 -0.3**
comp=Z,19nm,1.3s,mb5.1
GNI Garni 65.03 316 *i*P **P** **20 39 31.5 +1.1**
GNI pmax pmax
comp=Z,11nm,1.1s
SVE Sverdlovsk 66.21 338⇑ *e*P **P** **20 39 33.2 -4.4**
SVE *e* 20 40 10.0
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.2
SVE MLR MLR
comp=N,100nm,17.0s,MS4.2
SVE MLR MLR
comp=E,100nm,17.0s,MS4.2
SVE MLR MLR
comp=Z,200nm,17.0s,MS4.4
ARU Arti 66.73 337⇓ *i*P **P** **20 39 39.5 -1.4**
ARU *e* 20 40 07.9
ARU *e* 20 42 02.4
ARU *e*PPP PPP 20 43 48.2 +1.8
ARU *e*S S 20 48 28.0 -0.5
ARU *e* 20 49 34.1
ARU *e*SS SS 20 52 39.7 -8.6
ARU pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ARU Arti 66.73 337 *e*P **P** **20 39 39.0 -1.9**
comp=Z,12nm,0.6s,mb5.1
ZEI Tsey 66.73 318 *e*P **P** **20 39 35.5 -5.7**
ZEI *i* *PP pP 20 39 48.3 -4.6
ZEI pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
YAK Yakutsk 67.45 15 *c i*P **P** **20 39 44.7 -0.7**
YAK *e* *PP pP 20 39 54.9 -2.2
YAK *e* 20 40 13.1
YAK *e* 20 42 14.3
YAK *e*PPP PPP 20 43 48.1 -5.0
YAK *e*S S 20 48 35.3 -1.8
YAK *e* 20 49 39.5
YAK *e*SS SS 20 52 54.8 -4.5
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.2
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax
comp=E,16nm,2.2s
YAK smax
comp=N,16nm,2.1s
YAK MLR MLR
comp=Z,173nm,13.0s,MS4.5
YAK MLR MLR
comp=N,192nm,14.0s,MS4.5
YAK MLR MLR
comp=E,122nm,14.0s,MS4.5
YAK Yakutsk 67.45 15 *e*P **P** **20 39 44.2 -1.2**
comp=E,28nm,0.6s,mb5.5
KIV Kislovodsk 68.04 319 *α i*P **P** **20 39 48.3 -1.1**
KIV *i* *PP pP 20 40 06.1 +5.0
KIV *e* 20 40 16.4
KIV *e* 20 42 15.6
KIV *i* S S 20 48 42.9 -1.6
KIV pmax pmax
comp=Z,25nm,1.6s,mb5.0
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.1
KIV Kislovodsk 68.04 319 *e*P **P** **20 39 48.7 -0.7**
comp=Z,15nm,0.9s,mb5.0
GOF Gofitskoye 68.30 320⇓ *i*P **P** **20 39 50.5 -0.4**
GOF pmax pmax
comp=Z,30nm,1.7s,mb5.0
MALT Malatya 68.84 312 *e*P **P** **20 39 54.0 -0.5**
comp=Z,8.5nm,0.9s,mb4.7
MBAR Mbarara 68.93 270 *e*P **P** **20 39 54.4 -1.0**
comp=Z,7.4nm,1.1s,mb4.5
EIL Elat 69.04 303 *e*P **P** **20 39 55.5 -0.4**
comp=Z,13nm,1.0s,mb4.8
SOKR Solikamsk 69.59 338⇑ *i*P **P** **20 39 58.6 -0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
SOKR MLR MLR
comp=Z,390nm,18.0s,MS4.7
SOC Sochi 69.85 318 *e*P **P** **20 39 57.6 -2.9**
SOC *e* 20 40 19.8
SOC *e* 20 42 29.8
SOC *e*PPP PPP 20 44 14.7 -2.2
SOC *e*S S 20 49 00.1 -5.9
SOC *e*SS SS 20 53 28.6 -8.1
SOC pmax pmax
comp=N,31nm,1.3s
SOC pmax pmax
comp=Z,36nm,1.3s,mb5.1
SOC pmax pmax
comp=E,29nm,1.1s
MAW Mawson 70.58 194 *e*P **P** **20 40 05.1 +0.6**
comp=E,15nm,1.0s,mb4.9
MAW Mawson 70.58 194 P **P** **20 40 05.1 +0.6**
comp=E,17nm,0.9s,mb5.0,baz=14,slow=6.9,SNR=19
MAW LR LR 21 04 16.9
comp=E,308nm,20.7s,MS4.5,baz=184,slow=30
LSZ Lusaka 71.72 255 *e*P **P** **20 40 11.5 -0.7**
comp=E,13nm,1.3s,mb4.7
BRTR Keskin Array B 72.83 312 P **P** **20 40 17.0 -1.5**
comp=E,3.2nm,0.6s,mb4.5,baz=134,slow=6.7,SNR=29
PET Petropavlovsk 73.21 33 *e*P **P** **20 40 21.2 +0.7**
PET *e*S S 20 49 46.1 +1.7
PET pmax pmax
comp=Z,46nm,0.8s,mb5.5
PET smax
comp=E,100nm,11.1s
PET MLR MLR
comp=Z,200nm,17.0s,MS4.5
PET Petropavlovsk 73.21 33 *e*P **P** **20 40 22.6 +2.2**
comp=Z,25nm,0.6s,mb5.3
VOR Voronezh 73.47 326 P **P** **20 40 21.0 -1.0**
VOR pmax pmax
comp=Z,50nm,2.0s,mb5.1
VOR pmax pmax
comp=E,50nm,1.6s
LBTB Lobatse 74.90 245 *e*P **P** **20 40 30.2 -0.7**
comp=E,29nm,1.6s,mb5.0
SEY Seymchan 75.39 22 *e*P **P** **20 40 35.5 +2.6**
SEY 20 40 53.4
SEY *e* 20 43 26.6
SEY *e*S S 20 50 13.5 +4.9
SEY *e* 20 50 35.8
SEY pmax pmax
comp=Z,20nm,0.7s,mb5.2
SEY pmax pmax
comp=N,20nm,0.6s
RPZ Rata Peaks 75.48 135 P **P** **20 40 34.8 +1.1**
comp=N,29nm,0.7s,mb5.3,baz=246,slow=1.8,SNR=17
TIXI Tiksi 75.53 9⇓ *e*P **P** **20 40 32.6 -0.9**
TIXI pmax pmax
comp=Z,43nm,1.2s,mb5.2
TIXI MLR MLR
comp=Z,400nm,17.0s,MS4.8
TIXI Tiksi 75.53 9⇓ *e*P **P** **20 40 32.7 -0.8**
BOSA Boshof 75.56 241 P **P** **20 40 33.4 -1.1**
comp=Z,9.2nm,0.7s,mb4.8,baz=82,slow=6.5,SNR=25
BOSA Boshof 75.56 241 P **P** **20 40 33.4 -1.1**
MOS Moscow 76.00 329 *e*P **P** **20 40 31.8 -4.7**
MOS pmax pmax
comp=Z,38nm,0.7s,mb5.4
OBN Obninsk 76.30 328⇑ *e*P **P** **20 40 38.1 -0.1**
OBN *e* 20 40 45.5
OBN *e* pP 20 40 51.8 +1.8
OBN *e*S S 20 50 13.6 -5.1
OBN pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.2
OBN Obninsk 76.30 328⇑ *e*P **P** **20 40 38.1 -0.1**
OBN LR LR
comp=Z,100nm,18.0s,MS4.2
TIRR Tirgusor 77.85 316 ⇓P **P** **20 40 46.5 -0.6**
SYO Syowa Base 78.13 199 ⇓P **P** **20 40 48.0 -0.1**
SYO Syowa Base 78.13 199 ⇓PcP PcP 20 40 58.0 0.0
SYO Syowa Base 78.13 199 ⇓pP pP 20 41 01.0 +1.1
CFR Carcaliu 78.22 317 ⇑P **P** **20 40 48.6 -0.5**
AKASG Malin Array Be 78.98 322 P **P** **20 40 51.9 -1.3**
comp=Z,1.5nm,0.5s,mb4.2,baz=85,slow=5.2,SNR=11
AKASG Malin Array Be 78.98 322 P **P** **20 40 51.9 -1.3**
URZ Urewera 79.14 129 P **P** **20 40 54.6 +0.3**
comp=Z,8.1nm,0.6s,mb4.8,baz=120,slow=0.7,SNR=8.7
VRI Vrincioaia 79.35 317 ⇑P **P** **20 40 55.6 +0.3**
SUR Sutherland 79.73 238 *e*P **P** **20 40 58.4 +0.7**
comp=Z,20nm,0.8s,mb5.1
MLR Muntele Rosu 79.80 317 ⇓P **P** **20 40 58.3 +0.6**
BURAR Bucovina Array 80.76 319 ⇑P **P** **20 41 03.7 +1.0**
BURAR Bucovina Array 80.76 319 ⇑P **P** **20 41 03.7 +0.9**
JOF Joensuu 81.73 335 *ep* **P** **20 41 05.8 -1.8**
comp=Z,2.8nm,0.7s,mb4.3
JOF Joensuu 81.73 335 *e*P **P** **20 41 05.8 -1.8**
JOF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
TSUM Tsumeb 82.00 251 *e*P **P** **20 41 08.6 -1.2**
comp=Z,11nm,1.1s,mb4.7
VNDA Vanda 82.60 169 P **P** **20 41 12.5 +0.7**
comp=Z,5.1nm,0.8s,mb4.6,baz=305,slow=5.7,SNR=20
VNDA LR LR 21 12 58.9
comp=Z,172nm,20.9s,MS4.4,baz=311,slow=32
KWP Kalwaria 82.80 320 *e*P **P** **20 41 08.1 -5.2**
KWP Kalwaria 82.80 320 *e*P **P** **20 41 08.2 -5.2**
BILL Bilibino 82.91 20 *i*P **P** **20 41 14.8 +1.3**
BILL *i* 20 41 21.5
BILL *e*SS SS 20 56 45.7 -9.3
BILL pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
BILL Bilibino 82.91 20 *i*P **P** **20 41 14.9 +1.4**
KOLS Kolonicke sedl 82.95 320 *e*P **P** **20 41 15.5 +1.4**
KOLS *e*pP pP 20 41 21.4 -4.6
SUW Suwalki 83.39 325 *e*P **P** **20 41 15.9 -0.3**
FINES FINESS Array B 83.62 332 *i*P **P** **20 41 17.7 +0.5**
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES FINESS Array B 83.62 332 P **P** **20 41 17.7 +0.5**
comp=Z,4.9nm,0.5s,mb4.9,baz=98,slow=5.7,SNR=53
FINES LR LR 21 26 20.8
comp=Z,160nm,19.8s,MS4.4,baz=144,slow=41
SBA Scott Base 83.69 169 *e*P **P** **20 41 19.0 +1.7**
comp=Z,11nm,0.7s,mb5.1
KAF Kangasniemi 83.70 333 *e*P **P** **20 41 18.3 +0.7**
comp=Z,8.2nm,0.6s,mb5.0,baz=100,slow=4.7
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
DIVS Divcibare 83.71 315 *e*P **P** **20 41 18.4 +0.3**
PKSM Moragy 84.95 316 ⇑P **P** **20 41 24.2 -0.1**
OKC Ostrava-Krasne 85.76 320 *ep*P pP 20 41 40.2 +0.1
ARCES ARCESS Array B 86.00 340 P **P** **20 41 30.0 +1.1**
comp=Z,7.9nm,0.9s,mb5.0,baz=68,slow=6.5,SNR=17
ARCES LR LR 21 23 42.7
comp=Z,232nm,20.4s,MS4.6,baz=298,slow=38
ZST Bratislava 86.24 318 *ep*P pP 20 41 37.5 -5.0
DPC Dobruska-Polom 86.98 320 *e*P **P** **20 41 36.6 +2.5**
UPC Upice 87.20 321 *e*P **P** **20 41 39.5 +4.3**
PRU Pruhonice 88.09 320 *e*P pP 20 41 47.6 -3.9
PRU Pruhonice 88.09 320 *ep*P pP 20 41 47.6 -3.9
PVCC Panska Ves 88.12 320 *ep*P pP 20 41 48.4 -3.2
QSPA South Pole Qui 88.34 180⇑ *i*P **P** **20 41 41.7 +1.7**
comp=Z,19nm,1.0s,mb5.3
BRG Berggiesshubel 88.54 321 *e*P **P** **20 41 44.0 +2.4**
BRG pmax pmax
comp=Z,12nm,1.5s,mb5.0
BRG Berggiesshubel 88.54 321 *e*P **P** **20 41 44.0 +2.4**
comp=Z,12nm,1.5s,mb5.0
BRG *e* 20 42 05.4
GERES GERESS Array B 88.55 319 P **P** **20 41 42.0 +0.4**
comp=Z,0.9nm,0.6s,mb4.3,baz=94,slow=3.4,SNR=12
KHC Kasperske Hory 88.65 319 *e*P **P** **20 41 42.7 +0.6**
KHC *ex* x 20 41 54.5
CLL Collm 89.16 321 *e* *PP **P** **20 41 49.0 +4.5**
CLL *i* *SP pP 20 41 52.3 -4.3
NKC Novy Kostel 89.45 320 *ep*P pP 20 41 54.8 -3.2
MOX Moxa 90.00 320 *e*P **P** **20 41 56.0 +7.5**
MOX pP pP 20 42 10.0 +9.4
NB2 NORSAR Subarra 90.65 331 P **P** **20 41 51.9 +0.6**
comp=Z,2.9nm,1.1s,mb4.5,baz=91,slow=4.8
NOA NORSAR Array B 90.65 331 P **P** **20 41 52.0 +0.7**
comp=Z,0.5nm,0.8s,baz=96,slow=5.2,SNR=2.8
NOA LR LR 21 27 51.4
comp=Z,72nm,19.6s,MS4.1,baz=155,slow=39
NOA NORSAR Array B 90.65 331 P **P** **20 41 52.0 +0.7**
NOA LR LR 21 27 51.4
SNAA Sanae 92.41 198 *e*P **P** **20 42 00.8 +1.6**
comp=Z,3.2nm,0.6s,mb4.8
IMA Indian Mountai 98.18 23 *e*P **P** **20 42 28.0 +2.5**
comp=Z,15nm,0.8s,mb5.6
ILAR Eielson Array 101.28 24 P P 20 42 42.1 +2.5
comp=Z,0.3nm,0.8s,baz=280,slow=5.5,SNR=4.4
ILAR PP PP 20 46 46.2 -5.6
comp=Z,1.2nm,1.1s,baz=298,slow=7.4,SNR=4.6
ILAR PKKPbc 20 58 49.1
comp=Z,1.3nm,0.7s,baz=142,slow=2.4,SNR=21
TBI Tubuai 108.43 115 *e*LR LR 21 19 05.8
comp=Z,174nm,24.2s
PPT Papeete 109.23 109 *e*LR LR 21 19 29.2
comp=Z,134nm,22.5s
YKA Yellowknife Ar 114.10 17 PKiKP 20 47 27.1
comp=Z,0.4nm,0.9s,baz=333,slow=0.8,SNR=4.3
YKA PP PP 20 48 18.0 -8.5
comp=Z,0.3nm,0.7s,baz=333,slow=7.8,SNR=4.5
YKA PKKPbc 20 58 08.7
comp=Z,0.8nm,1.1s,baz=145,slow=3.3,SNR=9.3
YKA PKKPab 20 58 15.3
comp=Z,0.5nm,0.7s,baz=137,slow=4.1,SNR=12
YKA Yellowknife Ar 114.10 17 PKPdf PKPdf 20 47 27.1 +0.5
YKA PP PP 20 48 18.1 -8.5
YKA PKKPbc 20 58 08.7
YKA PKKPab 20 58 15.3
RKT Rikitea 121.43 118 *e*LR LR 21 25 06.7
comp=Z,148nm,28.2s
SCHQ Schefferville 125.82 350 PKP PKPdf 20 47 51.5 +2.0
comp=Z,1.2nm,0.7s,baz=42,slow=16,SNR=4.1
NVAR Mina Array Bea 129.51 39 PKP PKPdf 20 47 59.1 +2.0
comp=Z,0.7nm,0.4s,baz=326,slow=48,SNR=3.0
PDAR Pinedale Array 131.40 29 PKP PKPdf 20 48 02.1 +1.6
comp=Z,0.3nm,0.3s,baz=315,slow=2.1,SNR=4.8
PDAR SKPbc 20 51 25.2
comp=Z,1.4nm,0.8s,baz=37,slow=1.4,SNR=8.9
ANMO Albuquerque 138.86 33 PKhKP 20 48 09.6
baz=307,slow=5.1
WMOK Wichita Mounta 142.82 26 *e*PKPpre 20 48 20.1
BAO Brasilia Array 143.73 241 PKPdf PKPdf 20 48 23.0 -0.6
BDFB Brasilia 143.75 241 PKP PKPdf 20 48 23.2 -0.4
comp=Z,3.8nm,0.7s,baz=207,slow=3.3,SNR=5.9
LTX Lajitas 144.59 37 *e*PKP PKPdf 20 48 26.9 +2.1
TXAR Lajitas Array 144.59 37 PKP PKPdf 20 48 26.8 +1.9
comp=Z,12nm,0.5s,baz=263,slow=0.9,SNR=164
TXAR SKPbc 20 52 05.2
comp=Z,1.6nm,0.8s,baz=230,slow=0.8,SNR=4.7
TXAR Lajitas Array 144.59 37 PKP PKPdf 20 48 26.8 +1.9
TXAR SKPbc 20 52 05.2
WVT Waverly 144.96 11 *e*PKP PKPdf 20 48 26.6 +1.3
MIAR Mount Ida 144.98 19 *e*PKP PKPdf 20 48 26.8 +1.4
TZTN Tazewell 145.12 5 *e*PKP PKPdf 20 48 26.6 +1.0
UALR University of 145.16 17 *e*PKP PKPdf 20 48 27.4 +1.7
JCT Junction City 145.86 31 *e*PKP PKPdf 20 48 29.9 +2.9
PLAL Pickwick Lake 146.03 11 *e*PKP PKPdf 20 48 29.3 +2.2
CPCT Cooper Cave 146.11 6 *e*PKP PKPdf 20 48 30.4 +3.1
SWET Sewanee 146.16 8 *e*PKP PKPdf 20 48 30.1 +2.7
OXF Oxford 146.19 14 *e*PKP PKPdf 20 48 29.4 +1.9
NATX Nacogdoches 147.10 23 *e*PKPbc PKPdf 20 48 33.4 +4.3
JSC Jenkinsville 147.49 1 *e*PKPbc PKPdf 20 48 33.5 +3.9
GOGA Godfrey 148.23 5 *e*PKPbc PKPdf 20 48 36.5 +5.7
LVC Limon Verde 153.47 204 *e*PKPbc PKPdf 20 48 49.8 +11
LVC *e*PKPab PKPab 20 49 02.0 +0.6
LPAZ La Paz 158.52 214 PKP PKPdf 20 48 49.2 +3.4
comp=Z,1.4nm,1.0s,baz=67,slow=5.7,SNR=5.0
LPAZ PKPab PKPab 20 49 22.4 -0.7
comp=Z,1.9nm,0.8s,baz=51,slow=1.7,SNR=5.6
LPAZ La Paz 158.52 214 *e*PKPdf PKPdf 20 48 48.3 +2.5

JMA 17 20:30:17.0±0.2, 23.49N×126.01E, h22km, M3.7,
Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.38**	**337**	P	Pn	20 30 41.5	+0.3
JOGS				*e*S	Sn	20 30 59.1	+0.2
JMJ	**Miyako jima 2**	**1.47**	**334**	P	Pn	20 30 42.8	+0.2
JMJ				*e*S	Sn	20 31 01.8	+0.5
JTJ	**Tarama**	**1.66**	**314**	P	Pn	20 30 45.3	+0.1
JTJ				*e*S	Sn	20 31 05.4	-0.6
JIJ	**Ishigaki jima**	**1.92**	**297**	P	Pn	20 30 49.3	+0.4
JIJ				*e*S	Sn	20 31 12.6	0.0
JKRS	**Kuro-shima**	**1.98**	**293**	P	Pn	20 30 50.5	+0.7
JKRS				*e*S	Sn	20 31 14.5	+0.4
HATJ	**Hateruma jima**	**2.10**	**286**	*e*S	Sn	20 31 18.3	+1.1
IRIF	**Iriomote-Funau**	**2.25**	**292**	P	Pn	20 30 54.2	+0.5
IRIF				*e*S	Sn	20 31 20.4	-0.7
YOJ	**Yonaguni jima**	**2.91**	**290**	P	Pn	20 31 03.9	+0.8
YOJ				S	Sn	20 31 37.0	-0.8
JKE	**Kume jima 2**	**2.91**	**14**	P	Pn	20 30 59.8	-3.3
JKE				S	Sn	20 31 33.2	-4.6
JJT2	**Tamagusuku 2**	**3.07**	**31**	P	Pn	20 31 01.8	-3.6
JAGN	**Aguni-jima**	**3.28**	**20**	P	Pn	20 31 04.8	-3.6
JAGN				*e*S	Sn	20 31 41.8	-5.4
JOW	**Kunigami**	**3.91**	**31**	P	Pn	20 31 13.0	-4.3
JOW				*e*S	Sn	20 31 57.0	-6.1
JIH	**Iheya**	**3.95**	**26**	P	Pn	20 31 13.7	-4.2
JTK	**Tokunoshima**	**5.03**	**31**	P	Pn	20 31 27.9	-5.3
JMZ	**Minamidaito 2**	**5.28**	**63**	P	Pn	20 31 29.3	-7.4
JAM	**Amami Oshima**	**5.87**	**33**	P	Pn	20 31 39.1	-6.0

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*IDC **17** 20:44:56.7±1.1, 1.94N×122.75E, mb4.0/6, mb1 4.1/6, mb1mx3.8/19, mbtmp4.0/6, Error ellipse: s-maj=137.4km s-min=17.7km az=66.0*
*NEIC **17** 20:44:58.5±0.5, 1.70N×122.31E, h10km, mb3.9/3, Error ellipse: s-maj=62.3km s-min=9.2km az=68.0*

ISC 17 20:44:59.8±0.8, 1.5N±0.2×121.9E±0.5, h33km, n13, σ0§27/13, mb3.9/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.86**	**170**	*e*P	**P**	**20 49 31.0**	**0.0**
2.8nm,0.5s							
FITZ	**Fitzroy Crossi**	**19.86**	**170**	P	**P**	**20 49 30.9**	**-0.1**
4.3nm,0.6s,baz=354,slow=6.9,SNR=9.2							
WRAB	**Tennant Creek**	**24.58**	**151**	*e*P	**P**	**20 50 18.3**	**0.0**
3.7nm,0.6s,mb4.1							
WRA	**Warramunga Arr**	**24.58**	**151**	P	**P**	**20 50 18.2**	**-0.2**
1.9nm,0.4s,mb4.0,baz=336,slow=10.0,SNR=61							
WB2	**Warramunga Arr**	**24.59**	**151**	*e*P	**P**	**20 50 18.1**	**-0.3**
ASAR	**Alice Springs**	**27.63**	**156**	P	**P**	**20 50 46.9**	**+0.1**

0.5nm,0.5s,mb3.4,baz=346,slow=14,SNR=8.8
STKA Stephens Creek 38.11 152 P **P 20 52 18.1 +0.5**
2.8nm,0.7s,mb4.1,baz=326,slow=8.0,SNR=5.6
STKA Stephens Creek 38.11 152 *eP* **P 20 52 18.1 +0.5**
STKA *e* pP 20 52 28.2 +0.8
ULN Ulaanbaatar 47.91 347 *eP* **P 20 53 37.1 +0.2**
0.3nm,0.4s,mb3.7
ZAL Zalesovo 60.48 336 P **P 20 55 08.3 -0.4**
1.4nm,0.6s,mb4.2,baz=0.8,slow=7.2,SNR=9.3
ZAL Zalesovo 60.48 336 P **P 20 55 08.3 -0.5**
BVAR Borovoye Array 66.61 329 P **P 20 55 49.3 +0.3**
1.7nm,0.8s,mb4.1,baz=135,slow=8.2,SNR=9.7
BVAR Borovoye Array 66.61 329 P **P 20 55 49.3 +0.2**

IDC 17 20:54:12.2±4.7, 1.26S×100.37E, mb3.2/1, mb1 3.5/2, mb1mx3.2/16, mbtmp3.1/2, ML3.6/1, Error ellipse: s-maj=163.8km s-min=34.8km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.65**	**356**	P	P	20 58 43.3	-2.2
	0.1nm,0.3s,baz=186,slow=10,SNR=7.1						
WRA	**Warramunga Arr**	**38.05**	**121**	P	P	21 01 32.9	-1.5
	0.4nm,0.6s,baz=301,slow=9.6,SNR=3.2						
TXAR	**Lajitas Array**	**143.89**	**37**	PKP	PKPdf	21 13 48.3	-3.7
	0.1nm,0.4s,baz=288,slow=2.0,SNR=4.2						

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*BJI **17** 21:23:46.8, 2.06S×99.63E, h33km, mB5.4, mb5.2, Ms5.6, Msz5.4*
*DJA **17** 21:23:46.7±1.1, 1.95S×99.47E, h15km, mb5.6/3, Error ellipse: s-maj=33.9km s-min=7.7km az=74.0*
*IDC **17** 21:23:49.5±2.2, 1.59S×99.66E, h12km±13km, mb5.3/33, mb1 5.4/34, mb1mx5.4/34, mbtmp5.4/34, ML4.9/1, MS4.7/13, Ms1 4.7/13, ms1mx4.5/29, Error ellipse: s-maj=12.6km s-min=8.0km az=52.0*
*HRVD **17** 21:23:50.8±0.2, 1.66S×99.54E, h23km, MW5.4/70, Centroid moment Tensor Solution. LP body waves: s57,c114;Mantle waves: s70,c148; Half duration: 1s1 Moment tensor: Scale 1017Nm; Mrr1.64±.03; Mθθ-0.57±.02; Mφφ-1.07±.03; Mrθ0.06±.04; Mrφ0.67±.02; Mθφ0.07±.04; Best double couple: M0 1.592×1017 NP1: φs142°, δ45°, λ86°. NP2:φs328°, δ45°, λ94°. Principal axes: T 1.645, Plg87°, Azm317°; N -.107, Plg3°, Azm145°; P -1.54, Plg0°, Azm55°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **17** 21:23:50.8±0.1, 1.63S×99.62E, mb5.8/107, MS5.1/104 Error ellipse: s-maj=4.6km s-min=2.9km az=220.0*
NEIC Felt [III] at Padang and Padangpanjang, Sumatra.
*MOS **17** 21:23:51.4±1.0, 1.54S×99.64E, h33km, mb6.0/90, Error ellipse: s-maj=8.6km s-min=4.0km az=123.1*
ISC 17 21:23:49.1±0.1, 1.60S±0.02×99.69E±0.02, h21km, h21km±.7km: pP-P, n662, σ0s97/543, mb5.6/171, MS5.1/141, 96C-24D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.34**	**32**	*e*Pn	**Pn**	**21 24 14.0**	**+1.1**
KGM	**Kluang**	**5.11**	**45**	P	**Pn**	**21 25 12.1**	**+5.6**
IPM	**Ipoh**	**6.29**	**12**	P	**Pn**	**21 25 25.4**	**+2.3**
PENI	**Pendagan**	**6.74**	**126**	*e*P	**Pn**	**21 25 28.2**	**-1.3**
PENI				pmax	pmax		
	comp=Z,2μm,0.5s						
PENI	**Pendagan**	**6.74**	**126**	*e*P	**Pn**	**21 25 28.2**	**-1.3**
	comp=Z,2μm,0.5s						
PENI	**Pendagan**	**6.74**	**126**	*e*P	**Pn**	**21 25 28.2**	**-1.3**
PENI				⇑*e*S	**Sn**	**21 26 46.1**	**-0.4**
KULM	**Kulim**	**6.91**	**8**	*e*P	**Pn**	**21 25 32.7**	**+0.8**
PASI	**Pasiripis**	**7.76**	**131**	*e*P	**Pn**	**21 25 41.0**	**-2.8**
PULI	**Pulasari**	**7.85**	**127**	⇑*e*P	**Pn**	**21 25 43.1**	**-1.9**
	comp=Z,1μm,0.5s						
KSM	**Kuching**	**11.05**	**74**	*e*P	**P**	**21 26 30.6**	**+1.2**
NNT	**Nongplab**	**14.10**	**0**	P	**P**	**21 27 08.5**	**-1.6**
SRDI	**Scrawed**	**15.93**	**116**	⇓*e*P	**P**	**21 27 31.5**	**-2.5**
SRDI	**Scrawed**	**15.93**	**116**	⇓*e*P	**P**	**21 27 32.2**	**-1.8**
KELI	**Kelakatan**	**16.14**	**115**	⇓*e*P	**P**	**21 27 36.8**	**+0.1**
KELI	**Kelakatan**	**16.14**	**115**	⇓*e*P	**P**	**21 27 35.2**	**-1.5**
NST	**Nakhon Sawan**	**17.17**	**1**	P	**P**	**21 27 47.5**	**-2.1**
	comp=Z,42nm,1.0s						
RATI	**Rata**	**17.29**	**115**	⇓*e*P	**P**	**21 27 45.7**	**-5.4**
	comp=Z,110nm,0.3s						
RATI	**Rata**	**17.29**	**115**	⇓*e*P	**P**	**21 27 49.2**	**-1.9**
	comp=Z,120nm,0.3s						
KEDI	**Kedomdong**	**17.73**	**113**	⇑*e*P	**P**	**21 27 53.6**	**-3.0**
KEDI	**Kedomdong**	**17.73**	**113**	⇑*e*P	**P**	**21 27 55.4**	**-1.2**
KKTK	**Khon Kaen**	**18.09**	**10**	P	**P**	**21 28 00.0**	**-1.2**
	comp=Z,556nm,1.0s						
KKM	**Kota Kinabalu**	**18.17**	**65**	*e*P	**P**	**21 28 03.9**	**+1.8**
KKM	**Kota Kinabalu**	**18.17**	**65**	P	**P**	**21 28 05.1**	**+2.9**
TSM	**Tawau**	**19.09**	**72**	P	**P**	**21 28 15.2**	**+1.9**
TANI	**Tanete Lipujan**	**19.76**	**96**	*e*P	**P**	**21 28 21.1**	**+0.1**
CM31	**Chiang Mai Arr**	**19.95**	**358**	*e*P	**P**	**21 28 19.6**	**-3.3**
	comp=Z,385nm,1.1s						
CMAR	**Chiang Mai Arr**	**19.95**	**358**	P	**P**	**21 28 19.7**	**-3.3**
	comp=Z,1.4nm,0.3s,baz=187,slow=11,SNR=52						
CMAR				S	**S**	**21 32 08.3**	**+7.5**
	baz=126,slow=27,SNR=2.2						
CMAR				PcP	PcP	21 32 39.2	+0.4
	comp=Z,0.1nm,0.3s,baz=216,slow=2.3,SNR=5.0						
NINI	**Niniconang**	**20.24**	**98**	*e*P	**P**	**21 28 26.2**	**+0.2**
NANT	**Nan**	**20.30**	**3**	⇑P	**P**	**21 28 25.0**	**-1.6**
	comp=Z,575nm,0.9s						
CHG	**Chiang Mai**	**20.30**	**358**	⇓P	**P**	**21 28 24.8**	**-1.8**
	comp=Z,150nm,0.7s						
BUNI	**Buntu Taipa**	**20.72**	**96**	*e*P	**P**	**21 28 31.5**	**+0.5**
PALK	**Pallekele**	**20.89**	**295**	*e*P	**P**	**21 28 32.7**	**-0.1**
	comp=Z,202nm,1.3s						
QIZ	**Qiongzhong**	**22.80**	**25**	P	**P**	**21 28 53.3**	**+1.3**
QIZ				S	**S**	**21 32 57.8**	**+2.5**
QIZ				SS	SS	21 33 47.9	+9.0
QIZ				AMB	AMB		
	comp=Z,94nm,1.5s,mb5.0						
QIZ				LR	LR		
	comp=N,6μm,11.6s,MS5.5						
QIZ				LR	LR		
	comp=E,7μm,11.2s,MS5.5						
QIZ				LR	LR		
	comp=Z,10μm,11.1s,MS5.5						
QIZ	**Qiongzhong**	**22.80**	**25**	*e*P	**P**	**21 28 53.6**	**+1.6**
	comp=Z,188nm,1.4s,mb5.3						
TRD	**Trivandrum**	**24.78**	**294**	⇓*e*P	**P**	**21 29 14.2**	**+3.0**
TRD				*e*S	**S**	**21 33 30.2**	**+0.7**
VIS	**Vishakhapatnam**	**25.07**	**321**	*e*P	**P**	**21 29 14.5**	**+0.6**
VIS				*e*		21 29 23.6	
	comp=Z,310nm,1.7s						
VIS				*e*		21 33 42.5	
BWNR	**Bhubaneshwar**	**25.67**	**329**	*e*P	**P**	**21 29 22.6**	**+3.1**
BWNR				*e*S	**S**	**21 33 49.9**	**+5.7**
TBP	**Tagbilaran**	**26.56**	**65**	*e*P	**P**	**21 29 29.7**	**+1.9**
AGT	**Agartala**	**26.63**	**343**	⇑*i*P	**P**	**21 29 28.0**	**-0.4**
AGT				*i*		21 30 01.0	
KMI	**Kunming**	**26.73**	**6**	P	**P**	**21 29 30.5**	**+1.2**
KMI				AP	pP	21 29 37.4	+1.8
KMI				PP	PP	21 30 15.1	+1.0
KMI				PPP	PPP	21 30 27.0	+0.9
KMI				S	**S**	**21 34 02.8**	**+0.9**
KMI				AMB	AMB		
	comp=Z,35nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,169nm,6.0s						
KMI				LR	LR		
	comp=N,5μm,8.6s						
KMI				LR	LR		
	comp=E,7μm,9.2s						
KMI				LR	LR		
	comp=Z,5μm,9.5s						
KMI	**Kunming**	**26.73**	**6**	P	**P**	**21 29 30.5**	**+1.2**
KMI				*SP	sP	21 29 40.1	+1.7
KMI						21 30 15.1	
KMI				PPP	PPP	21 30 27.0	+0.9
KMI				S	**S**	**21 34 02.7**	**+0.8**
KMI				*SS		21 34 14.2	
KMI				SS	SS	21 35 14.1	0.0
KMI				SSS	SSS	21 35 32.0	-0.1
KMI				pmax	pmax		
	comp=Z,35nm,1.2s,mb4.8						
KMI	**Kunming**	**26.73**	**6**	P	**P**	**21 29 30.5**	**+1.2**
	comp=Z,35nm,1.2s,mb4.8						
KMI				pP	pP	21 29 37.4	+1.8
KMI				sP	sP	21 29 40.1	+1.7
KMI				PP	PP	21 30 15.1	+1.0
KMI				PPP	PPP	21 30 27.0	+0.9
KMI				S	**S**	**21 34 02.7**	**+0.8**
KMI				sS		21 34 14.2	
KMI				SS	SS	21 35 14.1	0.0
KMI				SSS	SSS	21 35 32.0	-0.1
DAV	**Davao City (W)**	**27.24**	**71**	⇓*e*P	**P**	**21 29 36.0**	**+2.0**
BCPH	**Baguio City Da**	**27.30**	**48**	⇓*e*P	**P**	**21 29 35.5**	**+0.9**
MBWA	**Marble Bar**	**27.57**	**136**	*e*P	**P**	**21 29 37.1**	**+0.1**
	comp=Z,73nm,1.3s,mb5.2						
MBWA				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
HKC	**Hong Kong**	**27.65**	**30**	P	**P**	**21 29 40.0**	**+2.3**
SHL	**Shillong**	**28.05**	**345**	*e*P	**P**	**21 29 42.0**	**+0.8**
SHL				*e*		21 34 40.0	
HYB	**Hyderabad**	**28.13**	**313**	*e*P	**P**	**21 29 41.0**	**-1.0**
HYB	**Hyderabad**	**28.13**	**313**	*i* P	**P**	**21 29 41.0**	**-1.0**
BOK	**Bokaro**	**28.59**	**333**	⇑*i*P	**P**	**21 29 45.9**	**-0.2**
BOK				*i*		21 34 37.9	
GYA	**Guiyang**	**28.70**	**13**	⇑*i*P	**P**	**21 29 46.8**	**-0.3**
GYA				AP	pP	21 29 56.5	+3.1
GYA				XP	sP	21 29 59.8	+3.6
GYA				PP	PP	21 30 38.6	-1.3
GYA				S	**S**	**21 34 31.1**	**-2.5**
GYA				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.1						
GYA				AMB	AMB		
	comp=Z,460nm,4.2s						
GYA				LR	LR		
	comp=N,6μm,12.9s,MS5.5						
GYA				LR	LR		
	comp=E,6μm,12.6s,MS5.5						
GYA				LR	LR		
	comp=Z,7μm,10.8s,MS5.5						
BLSP	**Bilaspur**	**29.16**	**325**	*e*P	**P**	**21 29 50.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**30.29**	**124**	*e*P	**P**	**21 30 00.1**	**-1.4**
	comp=Z,204nm,0.9s,mb5.9						
FITZ	**Fitzroy Crossi**	**30.29**	**124**	P	**P**	**21 30 00.3**	**-1.2**
	comp=Z,281nm,0.9s,mb6.0,baz=310,slow=7.2,SNR=162						
FITZ				PcP	PcP	21 33 02.1	+0.4
	comp=Z,55nm,1.1s,baz=307,slow=2.2,SNR=3.4						
FITZ				S	**S**	**21 34 55.2**	**-3.8**
	comp=Z,11nm,0.9s,baz=68,slow=23,SNR=2.2						
FITZ				LR	LR	21 44 56.9	
	comp=Z,2μm,18.1s,MS4.8,baz=188,slow=42						
KAD	**Karad**	**31.39**	**308**	*e*P	**P**	**21 30 09.3**	**-1.8**
KAD				*e*		21 30 19.5	
	comp=Z,150nm,1.4s						
JIRN	**Jiri**	**31.86**	**337**	*e*P	**P**	**21 30 15.3**	**+0.1**
	comp=Z,570nm,1.0s,mb6.4						
PKI	**Pulchoki**	**32.09**	**336**	*e*P	**P**	**21 30 16.0**	**-1.2**
	comp=Z,351nm,1.4s,mb6.0						
QZH	**Quanzhou**	**32.13**	**34**	⇑*i*P	**P**	**21 30 17.5**	**0.0**
QZH				S	**S**	**21 35 26.5**	**-1.2**
QZH				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.6						
QZH				LR	LR		
	comp=N,5μm,12.5s,MS5.6						
QZH				LR	LR		
	comp=E,5μm,10.8s,MS5.6						
QZH				LR	LR		
	comp=Z,9μm,12.2s,MS5.7						
LSA	**Lhasa**	**32.18**	**346**	P	**P**	**21 30 19.1**	**+1.2**
LSA				AP	pP	21 30 30.6	+6.3
LSA				XP	sP	21 30 37.3	+10
LSA				S	**S**	**21 35 22.8**	**-5.6**
LSA				XS		21 35 45.8	
LSA				AMB	AMB		
	comp=Z,140nm,1.1s,mb5.7						
LSA				AMB	AMB		
	comp=Z,230nm,7.0s						
LSA				LR	LR		
	comp=N,860nm,18.0s,MS4.8						
LSA				LR	LR		
	comp=E,2μm,23.0s,MS4.8						
LSA				LR	LR		
	comp=Z,2μm,22.0s,MS4.7						
LSA	**Lhasa**	**32.18**	**346**	*e*P	**P**	**21 30 18.5**	**+0.6**
LSA				pmax	pmax		
	comp=Z,347nm,1.2s,mb6.1						
LSA	**Lhasa**	**32.18**	**346**	*e*P	**P**	**21 30 18.5**	**+0.6**
	comp=Z,347nm,1.2s,mb6.1						
GUN	**Gumba**	**32.20**	**337**	*e*P	**P**	**21 30 18.4**	**+0.2**
	comp=Z,821nm,1.2s,mb6.4						
DMN	**Daman**	**32.25**	**335**	*e*P	**P**	**21 30 18.6**	**0.0**
	comp=Z,217nm,1.1s,mb5.9						
KKN	**Kakani**	**32.34**	**336**	*e*P	**P**	**21 30 19.1**	**-0.3**
	comp=Z,416nm,1.1s,mb6.2						
POO	**Poona**	**32.34**	**309**	*i*	**S**	**21 35 38.0**	**+6.9**
CD2	**Chengdu**	**32.56**	**7**	P	**P**	**21 30 20.3**	**-1.0**
CD2				PPP	PPP	21 31 46.9	+1.2
CD2				S	**S**	**21 35 34.8**	**+0.4**
CD2				SS	SS	21 37 33.8	+2.3
CD2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.3						
CD2				LR	LR		
	comp=N,6μm,13.8s						
CD2				LR	LR		
	comp=Z,5μm,12.3s,MS5.4						
GKN	**Gorkha**	**32.80**	**335**	*e*P	**P**	**21 30 23.2**	**-0.1**
	comp=Z,642nm,1.3s,mb6.4						
BHPL	**Bhopal**	**32.86**	**320**	*e*P	**P**	**21 30 22.5**	**-1.4**
BHPL				*e*		21 30 32.1	
	comp=Z,107nm,1.7s						
BHPL				*e*S	**S**	**21 35 38.4**	**-0.7**
ENH	**Enshi**	**33.05**	**16**	*e*P	**P**	**21 30 24.2**	**-1.3**
	comp=Z,248nm,1.2s,mb6.0						
KOLN	**Koldanda**	**33.05**	**333**	*e*P	**P**	**21 30 25.6**	**+0.1**
	comp=Z,541nm,1.1s,mb6.4						
NACB	**Ninganchiao**	**33.31**	**38**	*e*P	**P**	**21 30 28.4**	**+0.5**
BOM	**Bombay**	**33.36**	**309**	*e*P	**P**	**21 30 28.7**	**+0.4**
BOM				*e*		21 35 53.3	
YHNB	**Yeheng**	**33.54**	**37**	*e*P	**P**	**21 30 30.6**	**+0.7**
TATO	**Taipei**	**33.83**	**37**	PFAKE		21 30 40.0	+7.6
TATO				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
MUN	**Mundaring**	**33.99**	**154**	*e*P	**P**	**21 30 34.1**	**+0.4**
	comp=Z,362nm,1.0s,mb6.3						
MUN	**Mundaring**	**33.99**	**154**	*e*P	**P**	**21 30 34.1**	**+0.4**
MUN				pmax	pmax		
	comp=Z,363nm,1.0s,mb6.3						
KAKA	**Kakadu**	**34.27**	**110**	⇑*i*P	**P**	**21 30 32.9**	**-3.3**
	comp=Z,21nm,0.7s,mb5.2						
KLBR	**Kellerberrin**	**34.37**	**152**	⇑*i*P	**P**	**21 30 37.1**	**+0.2**
	comp=Z,2μm,1.2s						
WHN	**Wuhan**	**34.89**	**22**	P	**P**	**21 30 41.5**	**+0.1**
WHN				AP	pP	21 30 48.0	+0.2
WHN				PCP	PcP	21 33 14.0	-0.2
WHN				S	**S**	**21 36 15.0**	**+4.5**
WHN				AMB	AMB		
	comp=Z,260nm,1.7s,mb5.9						
WHN				LR	LR		
	comp=Z,12μm,10.6s,MS5.9						
NWAO	**Narrogin (SRO)**	**35.25**	**154**	*e*P	**P**	**21 30 44.9**	**+0.4**
NWAO				pmax	pmax		
	comp=Z,187nm,1.4s						
NWAO				MLR	MLR		
	comp=Z,2μm,19.0s						
NWAO	**Narrogin (SRO)**	**35.25**	**154**	P	**P**	**21 30 44.8**	**+0.3**
	comp=Z,56nm,1.0s,mb5.5,baz=320,slow=10,SNR=18						
NWAO				LR	LR	21 43 14.4	
	comp=Z,2μm,20.9s,MS4.9,baz=330,slow=33						
NWAO	**Narrogin (SRO)**	**35.25**	**154**	*e*P	**P**	**21 30 44.9**	**+0.4**
	comp=Z,187nm,1.4s,mb5.8						
NWAO				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
LGTI	**Lohaghat**	**36.04**	**330**	*i* P	**P**	**21 30 52.0**	**+0.8**
PTH	**Pithoragarh**	**36.14**	**331**	*e*P	**P**	**21 30 52.0**	**0.0**
XAN	**Xi'an**	**36.50**	**13**	P	**P**	**21 30 53.8**	**-1.2**
XAN				PP	PP	21 32 20.8	+1.5
XAN				S	**S**	**21 36 31.8**	**-3.5**
XAN				AMB	AMB		
	comp=Z,84nm,1.2s,mb5.5						
XAN				LR	LR		
	comp=E,5μm,14.5s						
XAN				LR	LR		
	comp=Z,6μm,15.0s,MS5.5						
AJM	**Ajmer**	**36.93**	**321**	⇑*i*P	**P**	**21 30 58.0**	**-0.7**
NDI	**New Delhi**	**37.03**	**326**	*e*P	**P**	**21 30 58.0**	**-1.5**
NDI				*e*		21 36 56.0	
LZH	**Lanzhou**	**37.70**	**6**	⇑P	**P**	**21 31 05.0**	**0.0**
LZH				AP	pP	21 31 14.3	+2.9
LZH				XP	sP	21 31 18.3	+4.2
LZH				PP	PP	21 32 35.0	+0.9
LZH				PCP	PcP	21 33 22.5	-0.1
LZH				S	**S**	**21 36 53.5**	**-0.1**
LZH				SCP		21 37 05.4	
LZH				XS		21 37 09.0	
LZH				SS	SS	21 39 30.3	+1.9
LZH				AMB	AMB		
	comp=Z,97nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,248nm,6.1s						
LZH				LR	LR		
	comp=N,3μm,13.2s						
LZH				LR	LR		
	comp=Z,4μm,17.0s,MS5.3						
LZH	**Lanzhou**	**37.70**	**6**	⇑P	**P**	**21 31 05.0**	**0.0**
LZH				*PP	pP	21 31 14.3	+2.9
LZH				*SP	sP	21 31 18.2	+4.1
LZH						21 32 35.0	
LZH						21 33 22.5	
LZH				S	**S**	**21 36 53.5**	**-0.1**
LZH				*SS		21 37 09.0	
LZH				SS	SS	21 39 30.2	+1.8
LZH						21 41 18.8	
LZH				pmax	pmax		
	comp=Z,97nm,1.5s,mb5.3						
LZH				MLR	MLR		
	comp=Z,4μm,17.0s,MS5.3						
LZH	**Lanzhou**	**37.70**	**6**	⇑P	**P**	**21 31 05.0**	**0.0**
	comp=Z,97nm,1.5s,mb5.3						
LZH				pP	pP	21 31 14.3	+2.9
LZH				sP	sP	21 31 18.2	+4.1
LZH				PP	PP	21 32 35.0	+0.9
LZH				PcP	PcP	21 33 22.5	-0.1
LZH				S	**S**	**21 36 53.5**	**-0.1**
LZH				ScP		21 37 05.4	
LZH				sS		21 37 09.0	
LZH				SS	SS	21 39 30.2	+1.8
LZH				ScS	ScS	21 41 18.8	+4.1
LZH				LR	LR		
	comp=Z,4μm,17.0s,MS5.3						
NJ2	**Nanjing**	**38.08**	**27**	*e*P	**P**	**21 31 08.8**	**+0.5**
NJ2				AP	pP	21 31 18.5	+3.7
NJ2				XP	sP	21 31 22.9	+5.5
NJ2				PP	PP	21 32 40.3	+1.5
NJ2				S	**S**	**21 36 57.0**	**-2.5**
NJ2				XS		21 37 13.0	
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,842nm,5.2s						
NJ2				LR	LR		
	comp=N,4μm,20.0s						
NJ2				LR	LR		
	comp=E,8μm,12.0s						
BHJ	**Bhuj**	**38.27**	**312**	⇓*e*	**P**	**21 31 12.6**	**+2.5**
BHJ				*e*		21 37 08.9	
SSE	**Sheshan**	**38.41**	**30**	P	**P**	**21 31 12.3**	**+1.2**
SSE				AP	pP	21 31 19.3	+1.8
SSE				PP	PP	21 32 40.3	-2.3
SSE				PCP	PcP	21 33 22.6	-2.2
SSE				S	**S**	**21 37 07.8**	**+3.3**
SSE				XS		21 37 19.1	
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.3						
SSE				LR	LR		
	comp=N,5μm,12.2s,MS5.6						
SSE				LR	LR		
	comp=E,2μm,12.1s,MS5.6						
SSE				LR	LR		
	comp=Z,6μm,12.5s,MS5.6						
SSE	**Sheshan**	**38.41**	**30**	P	**P**	**21 31 12.2**	**+1.1**
	comp=Z,44nm,0.7s,mb5.3						
SSE				pP	pP	21 31 19.3	+1.8
SSE				PP	PP	21 32 40.2	-2.4
SSE				PcP	PcP	21 33 22.6	-2.2
SSE				S	**S**	**21 37 07.7**	**+3.2**
SSE				sS		21 37 19.1	
SSE				SS	SS	21 39 57.8	+13
SSE				LR	LR		
	comp=Z,6μm,12.5s,MS5.6						
WRA	**Warramunga Arr**	**38.46**	**121**	P	**P**	**21 31 10.5**	**-1.2**
	comp=Z,128nm,0.8s,mb5.7,baz=296,slow=9.5,SNR=376						
WRA				PcP	PcP	21 33 25.2	+0.1
	comp=Z,25nm,1.1s,baz=303,slow=3.4,SNR=8.4						
WRA				S	**S**	**21 37 01.2**	**-4.2**
	comp=Z,7.3nm,1.2s,baz=298,slow=16,SNR=5.3						
WRAB	**Tennant Creek**	**38.47**	**121**	*e*P	**P**	**21 31 10.8**	**-0.9**
WRAB				*e*	pP	21 31 17.9	-0.2
WRAB				pmax	pmax		
	comp=Z,333nm,1.0s,mb6.0						
WRAB	**Tennant Creek**	**38.47**	**121**	*e*P	**P**	**21 31 10.8**	**-0.9**
	comp=Z,333nm,1.0s,mb6.0						
WRAB				*e*	pP	21 31 17.9	-0.2
WB2	**Warramunga Arr**	**38.48**	**121**	*e*P	**P**	**21 31 10.8**	**-0.9**
WB2				*e*S	**S**	**21 37 02.0**	**-3.5**
SMLA	**Simla**	**38.96**	**329**	⇓*i*	**P**	**21 31 08.8**	**-6.9**
SMLA				*i*		21 37 02.1	
SDNR	**Sundarnagar**	**39.36**	**329**	*e*P	**P**	**21 31 19.2**	**+0.2**
JOW	**Kunigami**	**39.48**	**42**	P	**P**	**21 31 21.9**	**+1.9**
	comp=Z,13nm,0.7s,mb4.8,baz=222,slow=8.4,SNR=5.2						
JOW				PcP	PcP	21 33 28.6	+0.4
	comp=Z,23nm,0.9s,baz=205,slow=5.8,SNR=2.8						
JOW				S	**S**	**21 37 15.3**	**-5.4**
FORT	**Forrest**	**39.55**	**140**	⇑*i*P	**P**	**21 31 21.8**	**+1.2**
	comp=Z,5μm,0.9s						
BHK	**Bhakra**	**39.58**	**328**	*e*P	**P**	**21 31 23.4**	**+2.5**
ASPA	**Alice Springs**	**39.74**	**126**	*e*P	**P**	**21 31 22.2**	**0.0**
ASPA				*i* PCS		21 37 17.2	
ASPA				*e*S	**S**	**21 37 24.9**	**+0.4**
ASPA	**Alice Springs**	**39.74**	**126**	*e*P	**P**	**21 31 22.2**	**0.0**
ASPA				*e*S	**S**	**21 37 24.9**	**+0.4**
ASAR	**Alice Springs**	**39.74**	**126**	P	**P**	**21 31 22.0**	**-0.2**
	comp=Z,74nm,0.9s,mb5.4,baz=301,slow=7.4,SNR=286						
ASAR				PcP	PcP	21 33 29.5	+0.4
	comp=Z,41nm,0.9s,baz=308,slow=3.7,SNR=13						
ASAR				S	**S**	**21 37 17.1**	**-7.5**
	comp=Z,2.5nm,1.1s,baz=281,slow=7.3,SNR=3.6						
ASAR				LR	LR	21 50 19.3	
	comp=Z,1μm,20.0s,MS4.8,baz=302,slow=40						
PONG	**Pong**	**40.25**	**328**	*e*P	**P**	**21 31 25.0**	**-1.3**
MENI	**Mendum Tagoi**	**40.72**	**92**	*e*P	**P**	**21 31 31.2**	**+0.9**
THN	**Thein Dam**	**40.75**	**328**	*e*P	**P**	**21 31 29.1**	**-1.3**
GTA	**Gaotai**	**40.81**	**0**	P	**P**	**21 31 31.1**	**+0.2**
GTA				AP	pP	21 31 38.3	+1.0
GTA				XP	sP	21 31 40.9	+0.9
GTA				PP	PP	21 33 13.0	+4.8
GTA				PCP	PcP	21 33 33.1	+0.7
GTA				PPP	PPP	21 33 38.5	+1.4
GTA				SCP		21 37 19.1	
GTA				S	**S**	**21 37 41.6**	**+1.1**
GTA				SS	SS	21 40 37.3	+0.2
GTA				AMB	AMB		
	comp=Z,55nm,1.0s,mb5.1						
GTA				AMB	AMB		
	comp=Z,649nm,7.6s						
GTA				LR

HHC AMB AMB
comp=Z,36nm,1.4s,mb4.9
HHC AMB AMB
comp=Z,301nm,4.8s
HHC LR LR
comp=N,5μm,12.7s,MS5.7
HHC LR LR
comp=E,3μm,13.1s,MS5.7
HHC LR LR
comp=Z,4μm,14.9s,MS5.4
BJT Baijiatuau 44.08 18 *e*P **P 21 31 57.8 +0.1**
BJT pmax pmax
comp=Z,259nm,1.2s
BJT Baijiatuau 44.08 18 *e*P **P 21 31 57.8 +0.1**
comp=Z,259nm,1.2s,mb5.8
BJI Beijing 44.11 18 P **P 21 31 57.9 +0.1**
BJI AP pP 21 32 04.4 +0.1
BJI XP sP 21 32 07.1 +0.2
BJI PP PP 21 33 44.3 +2.1
BJI S **S 21 38 36.1 +7.3**
BJI AMB AMB
comp=Z,70nm,1.3s,mb5.2
BJI LR LR
comp=N,3μm,19.9s
BJI LR LR
comp=E,2μm,14.5s
BJI LR LR
comp=Z,1μm,21.4s,MS4.8
BJI Beijing 44.11 18 P **P 21 31 57.9 +0.1**
BJI *SP sP 21 32 07.1 +0.2
BJI 21 33 44.3
BJI S **S 21 38 36.1 +7.3**
BJI pmax pmax
comp=Z,70nm,1.3s,mb5.2
BJI MLR MLR
comp=Z,1μm,21.4s,MS4.8
MSEY Mahe Island 44.24 265 *e*P **P 21 31 59.3 0.0**
comp=Z,47nm,1.4s,mb5.0
DL2 Dalian 45.09 24 P **P 21 32 05.8 +0.1**
DL2 S **S 21 38 43.9 +0.9**
DL2 AMB AMB
comp=Z,40nm,1.3s,mb5.1
DL2 LR LR
comp=N,940nm,20.0s,MS5.0
DL2 LR LR
comp=E,2μm,23.0s,MS5.0
DL2 LR LR
comp=Z,1μm,11.0s
INCN Inchon 46.21 30 PFAKE 21 32 30.0 +15
INCN LR LR
comp=Z,1μm,21.0s,MS4.9
KSH Kashi 46.34 335⇑ *i*P **P 21 32 14.1 -1.5**
KSH AP pP 21 32 22.1 0.0
KSH XP sP 21 32 24.1 -0.7
KSH *e*PCP PcP 21 33 52.0 +0.9
KSH *e*PP PP 21 34 04.0 -0.5
KSH *e*PPP PPP 21 34 48.3 -0.9
KSH *e*SCP 21 37 42.0
KSH *e*PCS 21 37 45.1
KSH *e*S **S 21 38 57.0 -3.9**
KSH SCS ScS 21 42 07.0 -0.2
KSH *e*SS SS 21 42 18.0 -1.0
KSH LR LR
comp=N,2μm,13.4s,MS5.3
KSH LR LR
comp=E,2μm,10.8s,MS5.3
WMQ Urumqi 46.48 348 P **P 21 32 17.3 +0.6**
WMQ AP pP 21 32 23.3 +0.1
WMQ XP sP 21 32 26.3 +0.5
WMQ PCP PcP 21 33 52.0 +0.5
WMQ PP PP 21 34 06.3 +0.4
WMQ SCP 21 37 43.0
WMQ PCS 21 37 45.3
WMQ S **S 21 39 03.3 +0.4**
WMQ AMB AMB
comp=Z,218nm,1.0s,mb6.0
WMQ LR LR
comp=N,918nm,15.4s,MS5.1
WMQ LR LR
comp=E,2μm,15.4s,MS5.1
WMQ LR LR
comp=Z,832nm,17.0s,MS4.8
KS15 Wonju Array Si 46.81 31 *e*P **P 21 32 19.2 -0.2**
GUMO Guam 47.27 70 PFAKE 21 32 40.0 +17
GUMO LR LR
comp=Z,1μm,20.0s,MS4.8
PMG Port Moresby 47.84 101 *e*P **P 21 32 23.9 -3.9**
PMG pmax pmax
comp=Z,61nm,1.3s
PMG MLR MLR
comp=Z,774nm,20.0s
PMG Port Moresby 47.84 101 P **P 21 32 26.2 -1.6**
comp=Z,23nm,0.9s,mb5.2,baz=231,slow=6.3,SNR=8.2
PMG PcP PcP 21 33 57.6 +0.9
comp=Z,40nm,1.1s,baz=303,slow=2.4,SNR=6.3
PMG Port Moresby 47.84 101 *e*P **P 21 32 23.9 -3.9**
comp=Z,61nm,1.3s,mb5.5
PMG LR LR
comp=Z,774nm,20.0s,MS4.7
SNY Shenyang 48.35 24 ⇑P **P 21 32 30.3 -1.1**
SNY S **S 21 39 24.3 -5.0**
SNY AMB AMB
comp=Z,20nm,1.4s,mb5.0
SNY LR LR
comp=N,1μm,17.1s,MS5.2
SNY LR LR
comp=E,2μm,13.8s,MS5.2
SNY LR LR
comp=Z,2μm,15.3s,MS5.2
ULHL Ulahol 48.52 337 P **P 21 32 33.1 +0.5**
SNR=52
KZA Kyzart 48.78 336 P **P 21 32 35.4 +0.7**
SNR=66
CTA Charters Tower 49.05 115⇑ *i*P **P 21 32 36.7 -0.4**
comp=Z,66nm,0.9s,mb5.7
CTA *e*S **S 21 39 38.7 -0.7**
CTA Charters Tower 49.05 115⇑ *i*P **P 21 32 36.7 -0.4**
CTA *e*S **S 21 39 38.7 -0.7**
CTA pmax pmax
comp=Z,66nm,0.9s
CTA Charters Tower 49.05 115 LR LR 21 55 13.0
comp=Z,1μm,21.8s,MS4.9,baz=289,slow=38
CTAO Charters Tower 49.05 115 *e*P **P 21 32 36.6 -0.5**
CTAO *e* pP 21 32 43.2 -0.4
CTAO pmax pmax
comp=Z,176nm,1.2s,mb6.0
CTAO MLR MLR
comp=Z,1μm,21.0s,MS4.9
CTAO Charters Tower 49.05 115 *e*P **P 21 32 36.6 -0.4**
comp=Z,176nm,1.2s,mb6.0
CTAO *e* pP 21 32 43.2 -0.4
CTAO LR LR
comp=Z,1μm,21.0s,MS4.9
AAA Alma-Ata 49.12 338 *i*P **P 21 32 37.0 -0.3**
AAA *e*S **S 21 39 46.0 +5.8**
AAA pmax pmax
comp=Z,600nm,2.0s,mb6.3
AAA smax
comp=E,2μm,8.0s
AAA MLR MLR
comp=N,600nm,12.0s,MS5.1
AAA MLR MLR
comp=E,900nm,12.0s,MS5.1
AAA MLR MLR
comp=Z,900nm,12.0s,MS5.0
ADE Adelaide 49.18 137 *e*P **P 21 32 39.5 +1.6**
UCH Uchtor 49.21 335 P **P 21 32 38.7 +0.7**
SNR=65
TKM2 Tokmak 2 49.34 337 P **P 21 32 40.2 +1.2**
SNR=35
KBK Karagaybulak 49.38 336 P **P 21 32 40.1 +0.8**
SNR=98
AML Almayashu 49.47 335 P **P 21 32 40.9 +0.8**
SNR=97
AAK Ala-Archa 49.55 336 P **P 21 32 41.2 +0.6**
SNR=37
AAK Ala-Archa 49.55 336 *e*P **P 21 32 39.9 -0.7**
AAK pmax pmax
comp=Z,189nm,1.7s,mb5.8
AAK Ala-Archa 49.55 336 *e*P **P 21 32 39.9 -0.8**
comp=Z,189nm,1.7s,mb5.8
SONM Songino Array 49.58 6 P **P 21 32 41.4 +0.6**
comp=Z,31nm,0.8s,mb5.4,baz=187,slow=8.5,SNR=39
SONM PcP PcP 21 34 02.8 +0.2
comp=Z,30nm,0.9s,baz=189,slow=4.7,SNR=6.0
SONM LR LR 21 55 44.9
comp=Z,2μm,18.1s,MS5.1,baz=226,slow=39
STKA Stephens Creek 49.65 132⇑ *i*P **P 21 32 42.0 +0.5**
comp=Z,82nm,0.9s,mb5.8
STKA Stephens Creek 49.65 132 P **P 21 32 42.0 +0.5**
comp=Z,89nm,0.8s,mb5.8,baz=307,slow=7.8,SNR=95
STKA PcP PcP 21 34 02.8 -0.2
comp=Z,29nm,1.0s,baz=304,slow=8.2,SNR=2.6
STKA S **S 21 39 50.3 +2.7**
comp=Z,5.2nm,1.2s,baz=132,slow=20,SNR=2.2
FRU Bishkek 49.67 336 *i*P **P 21 32 42.0 +0.5**
FRU *e* 21 39 52.0
FRU pmax pmax
comp=Z,320nm,2.0s,mb6.0
FRU MLR MLR
comp=Z,1μm,18.0s,MS4.9
ULN Ulaanbaatar 49.68 7 P **P 21 32 41.9 +0.3**
ULN S **S 21 39 49.9 +2.0**
ULN Ulaanbaatar 49.68 7 *e*P **P 21 32 41.6 0.0**
ULN *e* pP 21 32 48.3 +0.2
ULN pmax pmax
comp=Z,101nm,1.2s,mb5.7
ULN MLR MLR
comp=Z,1μm,19.0s,MS5.0
ULN Ulaanbaatar 49.68 7 *e*P **P 21 32 41.6 0.0**
comp=Z,101nm,1.2s,mb5.7
ULN *e* pP 21 32 48.2 +0.1
ULN LR LR
comp=Z,1μm,19.0s,MS5.0
CHMS Chumysh 49.75 336 P **P 21 32 42.2 +0.1**
SNR=40
EKS2 Erkin-Say 49.87 335 P **P 21 32 43.6 +0.5**
SNR=137
CBIJ Chichi jima 49.88 52 LR LR 21 54 13.4
comp=Z,608nm,18.0s,MS4.7,baz=274,slow=37
USP Ospenovka 50.07 336 P **P 21 32 44.6 0.0**
SNR=111
CN2 Changchun 50.75 24 *e*P **P 21 32 48.9 -0.9**
CN2 *e*AP pP 21 32 56.0 -0.4
CN2 PCP PcP 21 34 05.0 -1.9
CN2 *e*S **S 21 40 02.3 -0.4**
CN2 AMB AMB
comp=Z,60nm,1.4s,mb5.3
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,12.0s,MS5.5
CN2 LR LR
comp=E,2μm,12.0s,MS5.5
CN2 LR LR
comp=Z,2μm,13.0s,MS5.3
JHJ Hachijo jima 2 51.20 44 LR LR 21 52 08.7
comp=Z,406nm,18.2s,MS4.5,baz=297,slow=33
KKAR Karatay Array 51.66 333 *i*P **P 21 32 55.8 -0.9**
KKAR pmax pmax
comp=Z,118nm,1.3s,mb5.7
ZAK Zakamensk 51.88 3⇑ *i*P **P 21 32 58.1 -0.1**
ZAK *e* 21 34 10.7
ZAK pmax pmax
comp=Z,20nm,1.7s,mb4.8
ZAK pmax pmax
comp=Z,19nm,1.2s,mb4.9
MAJO Matsushiro 52.17 39 *e*P **P 21 33 00.1 -0.5**
MAJO pmax pmax
comp=Z,21nm,0.8s,mb5.1
MAJO MLR MLR
comp=Z,1μm,20.0s,MS4.9
MAJO Matsushiro 52.17 39 *e*P **P 21 33 00.1 -0.5**
comp=Z,21nm,0.8s,mb5.1
MAJO LR LR
comp=Z,1μm,20.0s,MS4.9
MAT Matsushiro 52.17 39 *e*P **P 21 32 59.0 -1.6**
MAT *e*S **S 21 40 20.0 -2.3**
MAT pmax pmax
comp=Z,41nm,1.1s,mb5.3
MAT MLR MLR
comp=Z,1μm,20.0s,MS4.9
MAT Matsushiro 52.17 39 *e*P **P 21 32 59.0 -1.6**
comp=Z,40nm,1.1s,mb5.3
MAT *e*S **S 21 40 20.0 -2.3**
MAT LR LR
comp=Z,1μm,20.0s,MS4.9
MAT Matsushiro 52.17 39 P **P 21 32 59.1 -1.5**
MAT S **S 21 40 20.0 -2.3**
MOY Mondy 53.08 1 *e*P **P 21 33 07.9 +0.7**
MOY pmax pmax
comp=Z,106nm,2.3s,mb5.4
MDJ Mudanjiang 53.17 26 P **P 21 33 07.8 -0.2**
MDJ AP pP 21 33 16.8 +2.2
MDJ XP sP 21 33 20.6 +3.5
MDJ PCP PcP 21 34 15.3 -0.6
MDJ PP PP 21 35 08.0 -1.6
MDJ SCP 21 38 10.3
MDJ PCS 21 38 14.0
MDJ S **S 21 40 36.6 +0.8**
MDJ AMB AMB
comp=Z,21nm,1.3s,mb4.9
MDJ AMB AMB
comp=Z,120nm,6.1s
MDJ LR LR
comp=N,2μm,24.5s
MDJ LR LR
comp=E,2μm,19.1s
MDJ LR LR
comp=Z,3μm,13.8s
MDJ Mudanjiang 53.17 26 *e*P **P 21 33 08.2 +0.2**
comp=Z,27nm,0.9s,mb5.2
TLY Talaya 53.19 3 *e*P **P 21 33 07.8 -0.2**
TLY *e*S **S 21 40 37.8 +1.8**
TLY pmax pmax
comp=Z,82nm,1.1s,mb5.6
TLY MLR MLR
comp=Z,1μm,12.0s,MS5.2
TLY Talaya 53.19 3 *e*P **P 21 33 08.3 +0.3**
comp=Z,165nm,1.4s,mb5.8
TLY *e* pP 21 33 15.2 +0.6
HIA Hailar 53.55 16 *e*P **P 21 33 09.7 -1.0**
HIA pmax pmax
comp=Z,27nm,1.1s
HIA Hailar 53.55 16 *e*P **P 21 33 09.7 -1.0**
comp=Z,26nm,1.1s,mb5.1
IRK Irkutsk 53.79 3 *e*P **P 21 33 12.2 -0.2**
IRK pmax pmax
comp=Z,154nm,1.9s,mb5.6
TOO Toolangi 55.21 136⇑ *i*P **P 21 33 24.6 +1.5**
comp=Z,43nm,0.9s,mb5.5
TOO Toolangi 55.21 136⇑ *i*P **P 21 33 24.6 +1.5**
TOO pmax pmax
comp=Z,43nm,0.9s,mb5.5
ZAL Zalesovo 56.72 350 P **P 21 33 33.0 -0.6**
comp=Z,80nm,0.9s,mb5.8,baz=310,slow=6.2,SNR=380
ZAL S **S 21 41 24.4 +1.2**
comp=Z,11nm,1.1s,baz=170,slow=20,SNR=22
KLR Kul'dur 57.70 24 *e*P **P 21 33 37.0 -3.6**
KLR *e*S **S 21 41 32.5 -3.7**
KLR pmax pmax
comp=N,25nm,1.2s
KLR pmax pmax
comp=E,48nm,1.2s
KLR pmax pmax
comp=Z,60nm,1.2s,mb5.5
ATD Arta Tunnel 57.97 285 P **P 21 33 43.2 +0.3**
comp=Z,6.4nm,0.8s,mb4.7,baz=300,slow=22,SNR=4.5
ATD Arta Tunnel 57.97 285 P **P 21 33 43.2 +0.3**
TAU Tasmania Unive 59.09 141 *e*P **P 21 33 48.7 -1.7**
TAU pmax pmax
comp=Z,261nm,1.5s,mb6.0
TAU Tasmania Unive 59.09 141 *e*P **P 21 33 48.7 -1.7**
comp=Z,261nm,1.5s,mb6.0
ASAJ Asahikawa 59.47 35 P **P 21 33 52.9 -0.1**
comp=Z,19nm,0.8s,mb5.2,baz=235,slow=14,SNR=2.8
BVA0 Borovoye Array 59.70 340 *i*P **P 21 33 53.0 -1.5**
BVA0 pmax pmax
comp=Z,56nm,1.7s,mb5.3
BVAR Borovoye Array 59.70 340 P **P 21 33 53.1 -1.4**
comp=Z,37nm,0.7s,mb5.5,baz=143,slow=7.4,SNR=174
BVAR S **S 21 42 00.9 -1.4**
comp=Z,0.8nm,0.7s,baz=272,slow=40,SNR=2.8
BVAR PKP2bc 22 03 32.2
comp=Z,1.6nm,1.0s,baz=243,slow=3.2,SNR=8.8
BVAR Borovoye Array 59.70 340 P **P 21 33 53.1 -1.4**
BVAR S **S 21 42 00.9 -1.4**
BVAR ⇑*e* 22 03 32.2
BOD Bodaibo 60.34 9⇑ *i*P **P 21 33 58.3 -0.5**
BOD pmax pmax
comp=Z,97nm,1.3s,mb5.7
HNR Honiara 60.41 100 *e*P **P 21 33 57.5 -2.4**
HNR pmax pmax
comp=Z,279nm,1.3s,mb6.1
HNR MLR MLR
comp=Z,436nm,20.0s,MS4.6
HNR Honiara 60.41 100 P **P 21 33 59.2 -0.7**
comp=Z,60nm,0.5s,mb5.9,baz=198,slow=7.1,SNR=7.0
HNR Honiara 60.41 100 *e*P **P 21 33 57.5 -2.4**
comp=Z,279nm,1.3s,mb6.1
HNR LR LR
comp=Z,436nm,20.0s,MS4.6
YSS Yuzh-Sakhalins 61.31 32⇑ *i*P **P 21 34 05.0 -0.6**
YSS *e* 21 34 13.8
YSS S **S 21 42 24.0 +1.0**
YSS pmax pmax
comp=Z,130nm,1.1s,mb6.0
YSS pmax pmax
comp=Z,140nm,1.1s,mb6.0
YSS MLR MLR
comp=N,500nm,13.0s,MS5.2
YSS MLR MLR
comp=Z,900nm,13.0s,MS5.1
YSS MLR MLR
comp=E,800nm,12.0s,MS5.2
YSS Yuzh-Sakhalins 61.31 32 *e*P **P 21 34 05.1 -0.5**
comp=E,179nm,1.2s,mb6.1
YSS LR LR
comp=Z,909nm,21.0s,MS4.9
CLNS Chul'man 61.72 15 *e*P **P 21 34 07.0 -1.2**
CLNS *e*PP pP 21 34 13.7 -1.2
CLNS *e* 21 34 48.3
CLNS *e*S **S 21 42 27.1 -0.8**
CLNS pmax pmax
comp=Z,34nm,1.2s,mb5.3
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax
comp=E,16nm,1.0s
CLNS pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS smax
comp=N,90nm,8.5s
CLNS smax
comp=Z,81nm,11.5s
CLNS smax
comp=E,61nm,10.6s
CLNS MLR MLR
comp=Z,1μm,12.0s,MS5.3
CLNS MLR MLR
comp=N,800nm,11.0s,MS5.2
CLNS MLR MLR
comp=E,200nm,11.0s,MS5.2
KMBO Kilima Mbogo 62.41 270 *e*P **P 21 34 13.1 -0.3**
KMBO pmax pmax
comp=Z,53nm,1.1s
KMBO MLR MLR
comp=Z,1μm,19.0s
KMBO Kilima Mbogo 62.41 270 P **P 21 34 13.6 +0.2**
comp=Z,28nm,0.9s,mb5.4,baz=70,slow=8.0,SNR=94
KMBO S **S 21 42 42.6 +5.3**
comp=Z,0.2nm,0.4s,baz=173,slow=19,SNR=2.0
KMBO Kilima Mbogo 62.41 270 *e*P **P 21 34 13.1 -0.4**
comp=Z,53nm,1.1s,mb5.6
KMBO LR LR
comp=Z,1μm,19.0s,MS5.0
BHD Baghdad 62.52 309 *i*P **P 21 34 06.0 -7.9**
BHD *e*S **S 21 42 30.0 -8.4**
MAK Makhachkala 64.46 320 *e*P **P 21 34 24.0 -2.5**
MAK *e*S **S 21 43 02.0 -0.6**
MAK smax
comp=E,500nm,8.0s
MAK MLR MLR
comp=Z,800nm,12.0s,MS5.1
MSL Mosul 64.64 312 *e*P **P 21 34 29.0 +1.2**
GNI Garni 65.02 316 *e*P **P 21 34 29.2 -1.0**
GNI pmax pmax
comp=Z,111nm,1.3s
GNI MLR MLR
comp=Z,474nm,22.0s
GNI Garni 65.02 316 *e*P **P 21 34 29.2 -1.0**
comp=Z,111nm,1.3s,mb5.7
GNI LR LR
comp=Z,474nm,22.0s,MS4.6
DGRG David-gareji 65.16 318 P **P 21 34 30.8 -0.2**
DGRG S tx 21 47 09.6
MTA Mtatsminda 65.66 318 P **P 21 34 33.7 -0.6**
TLLG Delisi 65.71 318 P **P 21 34 33.9 -0.7**
SVE Sverdlovsk 66.20 338⇑ *i*P **P 21 34 36.8 -0.6**
SVE *e* 21 37 08.0
SVE *e*PPP PPP 21 38 42.0 +1.2
SVE *e*S S 21 43 20.0 -3.6
SVE *e*PS PS 21 43 47.0 -1.3
SVE pmax pmax
comp=Z,360nm,1.9s,mb6.1
SVE MLR MLR
comp=N,500nm,20.0s,MS4.9
SVE MLR MLR
comp=E,500nm,20.0s,MS4.9
SVE MLR MLR
comp=Z,500nm,20.0s,MS4.7
SVE MLR MLR
comp=E,400nm,20.0s
ARU Arti 66.72 337⇑ *i*P **P 21 34 39.4 -1.4**
ARU *e* 21 35 05.2
ARU *i* 21 37 04.4
ARU *e*S S 21 43 31.4 +1.5
ARU *e* 21 44 31.1
ARU pmax pmax
comp=Z,123nm,1.2s,mb5.8
ARU Arti 66.72 337 *e*P **P 21 34 39.3 -1.5**
comp=Z,92nm,1.0s,mb5.8
ARU *e* pP 21 34 46.0 -1.5
ZEI Tsey 66.73 318 *e*P **P 21 34 35.3 -5.8**
ZEI *i* *PP pP 21 34 46.8 -1.0
ZEI pmax pmax
comp=Z,41nm,0.9s,mb5.5
ONI Oni 66.94 318 P **P 21 34 41.9 -0.6**
YAK Yakutsk 67.44 15 *e*P **P 21 34 44.0 -1.3**
YAK *e*PP pP 21 34 54.2 +2.2
YAK *e* 21 35 12.5
YAK *e* 21 37 11.2
YAK *e*PPP PPP 21 38 47.6 -5.1
YAK *e*S S 21 43 34.6 -3.9
YAK *e* 21 44 38.3
YAK *e*SS SS 21 47 52.5 -7.9
YAK *e*SSS SSS 21 51 03.6 +4.9
YAK pmax pmax
comp=Z,154nm,1.0s,mb6.0
YAK pmax pmax
comp=N,96nm,1.2s
YAK pmax pmax
comp=E,63nm,1.2s
YAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
YAK pmax pmax
comp=N,2.0nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax
comp=N,13nm,1.2s
YAK smax
comp=E,9.0nm,1.2s
YAK MLR MLR
comp=Z,520nm,13.0s,MS4.9
YAK MLR MLR
comp=N,352nm,12.0s,MS5.0
YAK MLR MLR
comp=E,422nm,14.0s,MS5.0
YAK Yakutsk 67.44 15 *e*P **P 21 34 43.5 -1.8**
comp=E,314nm,1.0s,mb6.3
YAK *e* pP 21 34 50.6 -1.4
YAK LR LR
comp=Z,1μm,19.0s,MS5.1
DZM Mont Dzumac 67.90 113 P **P 21 34 49.2 +0.4**
comp=Z,40nm,1.2s,mb5.3,baz=335,slow=15,SNR=3.8
KIV Kislovodsk 68.04 319*α* *i*P **P 21 34 48.0 -1.3**
KIV *i* pP 21 34 54.1 -1.9
KIV *e* 21 35 03.3
KIV *e* 21 35 13.4
KIV *e* 21 37 21.1
KIV *i*S S 21 43 49.2 +3.2
KIV *i*SS SS 21 48 05.0 -4.8
KIV pmax pmax

comp=Z,166nm,1.2s,mb5.9
KIV MLR MLR
KIV Kislovodsk 68.04 319 *e*P **P 21 34 48.0 -1.3**
comp=Z,200nm,17.0s,MS4.6
ASF Jabal al Asfar 68.10 306 P **P 21 34 49.9 0.0**
comp=Z,201nm,1.3s,mb6.0
GOF Gofitskoye 68.29 320⇓ *i*P **P 21 34 48.1 -2.8**
comp=Z,34nm,1.1s,mb5.3,baz=340,slow=3.2,SNR=38
GOF *i* 21 35 10.0
GOF pmax pmax
MALT Malatya 68.84 312 *e*P **P 21 34 53.9 -0.5**
comp=Z,240nm,1.7s,mb6.0
MALT pmax pmax
MALT Malatya 68.84 312 *e*P **P 21 34 53.9 -0.5**
comp=Z,59nm,1.2s,mb5.4
WAKE Wake Island 68.88 69 PFAKE 21 35 10.0 +15
comp=Z,59nm,1.2s,mb5.4
WAKE LR LR
MBAR Mbarara 68.94 270 *e*P **P 21 34 54.2 -1.2**
comp=Z,74µm,20.0s
MBAR pmax pmax
MBAR Mbarara 68.94 270 *e*P **P 21 34 54.2 -1.2**
comp=Z,212nm,2.1s,mb5.7
EIL Elat 69.04 303 P **P 21 34 55.3 -0.5**
comp=Z,212nm,2.1s,mb5.7
EIL PcP PcP 21 35 18.5 -1.4
comp=Z,35nm,0.9s,mb5.3,baz=105,slow=4.3,SNR=45
EIL Elat 69.04 303 *e*P **P 21 34 54.7 -1.1**
comp=Z,28nm,1.0s,baz=55,slow=11,SNR=6.1
SOKR Solikamsk 69.58 338 *d i*P **P 21 34 58.6 0.0**
comp=Z,90nm,1.2s,mb5.6
SOKR pmax pmax
SOC Sochi 69.85 318 *c i*P **P 21 34 58.4 -2.1**
comp=Z,120nm,1.0s,mb5.8
SOC *e* 21 35 19.5
SOC *e* 21 37 35.3
SOC *e*PPP PPP 21 39 12.1 -4.5
SOC *i* S S 21 44 05.7 -1.7
SOC *e* 21 44 58.2
SOC pmax pmax
comp=N,39nm,1.0s
SOC pmax pmax
comp=E,21nm,1.0s
SOC pmax pmax
comp=Z,106nm,1.0s,mb5.7
SOC MLR MLR
comp=Z,426nm,19.0s,MS4.7
SOC MLR MLR
comp=N,784nm,22.0s,MS5.0
SOC MLR MLR
comp=E,365nm,18.0s,MS5.0
MAW Mawson 70.59 194⇑ *i*P **P 21 35 05.1 +0.5**
comp=E,34nm,1.0s,mb5.2
MAW Mawson 70.59 194⇑ *i*P **P 21 35 05.1 +0.5**
MAW pmax pmax
comp=Z,34nm,1.0s
MAW Mawson 70.59 194 P **P 21 35 05.1 +0.5**
comp=Z,37nm,0.9s,mb5.3,baz=29,slow=7.6,SNR=30
MAW LR LR 22 00 06.6
comp=Z,559nm,18.0s,MS4.9,baz=40,slow=31
SKR Severo-Kuril's 70.72 34 *e*P **P 21 35 03.7 -1.9**
SKR *e* 21 35 14.0
SKR *e*S S 21 44 25.0 +7.5
SKR *e* 21 45 09.0
SKR pmax pmax
comp=Z,270nm,1.0s,mb6.1
SKR smax
comp=E,3µm,16.0s
SKR MLR MLR
comp=N,3µm,20.0s,MS5.7
SKR MLR MLR
comp=E,3µm,20.0s,MS5.7
SKR MLR MLR
comp=Z,2µm,20.0s,MS5.5
CSS Prodhromos 71.73 308 *e*P **P 21 35 10.6 -1.5**
comp=Z,143nm,1.4s,mb5.7
CSS *e* pP 21 35 16.6 -2.1
LSZ Lusaka 71.73 255 *e*P **P 21 35 11.0 -1.3**
LSZ *e* pP 21 35 18.0 -1.0
LSZ pmax pmax
comp=Z,43nm,1.4s,mb5.2
LSZ MLR MLR
comp=Z,1µm,20.0s,MS5.1
LSZ Lusaka 71.73 255 *e*P **P 21 35 11.0 -1.4**
comp=Z,43nm,1.4s,mb5.2
LSZ *e* pP 21 35 18.0 -1.0
LSZ LR LR
comp=Z,1µm,20.0s,MS5.1
BRTR Keskin Array B 72.82 312 P **P 21 35 16.9 -1.6**
comp=Z,14nm,0.8s,mb4.9,baz=130,slow=7.0,SNR=95
PECR Pechory 73.05 331 *i* P **P 21 35 18.8 -0.6**
PECR *e* 21 38 03.3
PECR pmax pmax
comp=Z,2µm,1.6s
PET Petropavlovsk 73.19 33 *α i*P **P 21 35 20.5 +0.2**
PET *e**PP pP 21 35 27.7 +0.6
PET *e*S S 21 44 44.5 -1.3
PET *e*PS PS 21 45 14.1 -7.0
PET *e*SS SS 21 49 33.1 +3.2
PET pmax pmax
comp=Z,600nm,1.8s,mb6.2
PET pmax pmax
comp=Z,231nm,1.0s,mb6.1
PET pmax pmax
comp=Z,100nm,16.4s
PET pmax pmax
comp=Z,204nm,1.0s,mb6.0
PET smax
comp=N,400nm,10.5s
PET MLR MLR
comp=Z,800nm,17.0s,MS5.1
PET Petropavlovsk 73.19 33 *e*P **P 21 35 20.2 -0.1**
comp=Z,325nm,1.3s,mb6.1
PET *e* pP 21 35 27.5 +0.4
PET LR LR
comp=Z,840nm,20.0s,MS5.0
VOR Voronezh 73.47 326⇑ *i*P **P 21 35 20.8 -1.2**
VOR *e* pP 21 35 26.7 -2.0
VOR 21 38 00.0
VOR pmax pmax
comp=N,100nm,1.5s
VOR pmax pmax
comp=E,200nm,1.5s
VOR pmax pmax
comp=Z,320nm,1.5s,mb6.0
VOR pmax pmax
comp=Z,80nm,2.0s,mb5.3
VOR pmax pmax
comp=N,50nm,1.4s
VOR pmax pmax
comp=E,60nm,2.0s
ANTO Ankara 73.49 312⇑P **P 21 35 21.4 -0.9**
SIM Simferopol' 74.10 318 *i* P **P 21 35 25.0 -0.7**
SIM *e**PP pP 21 35 31.0 -1.5
SIM *e*S S 21 44 59.0 +3.0
SIM *e*PS PS 21 45 43.0 +10
SIM pmax pmax
comp=Z,46nm,0.7s,mb5.5
ISP Isparta 74.67 310 *e*P **P 21 35 27.4 -1.8**
ISP pmax pmax
comp=Z,81nm,1.5s,mb5.4
ISP Isparta 74.67 310 *e*P **P 21 35 27.4 -1.9**
comp=Z,81nm,1.5s,mb5.4
LBTB Lobatse 74.91 245 *e*P **P 21 35 30.4 -0.5**
LBTB pmax pmax
comp=Z,28nm,1.1s,mb5.1
LBTB MLR MLR
comp=Z,955nm,20.0s,MS5.1
LBTB Lobatse 74.91 245 *e*P **P 21 35 30.4 -0.5**
comp=Z,28nm,1.1s,mb5.1
LBTB LR LR
comp=Z,955nm,20.0s,MS5.1
SEY Seymchan 75.38 22 *e*P **P 21 35 32.9 +0.1**
SEY pP 21 35 40.5 +1.0
SEY *e*PPP PPP 21 40 09.2 -0.3
SEY *e*S S 21 45 11.5 +1.5
SEY 21 45 37.3
SEY pmax pmax
comp=Z,170nm,1.2s,mb5.8
SEY pmax pmax
comp=N,110nm,0.9s
SEY pmax pmax
comp=E,60nm,0.9s
SEY smax
comp=N,500nm,15.9s
SEY smax
comp=E,200nm,14.1s
RPZ Rata Peaks 75.48 135 P **P 21 35 34.4 +0.7**
comp=E,112nm,1.0s,mb5.7,baz=226,slow=3.4,SNR=18
TIXI Tiksi 75.52 9 *c i*P **P 21 35 32.2 -1.2**
TIXI pmax pmax
comp=Z,241nm,1.8s,mb5.8
TIXI Tiksi 75.52 9⇑ *i*P **P 21 35 32.3 -1.1**
BOSA Boshof 75.57 241 *e*P **P 21 35 33.5 -1.1**
BOSA *e* pP 21 35 39.7 -1.7
BOSA pmax pmax
comp=Z,21nm,1.0s,mb5.0
BOSA MLR MLR
comp=Z,818nm,20.0s,MS5.0
BOSA Boshof 75.57 241 P **P 21 35 34.2 -0.4**
comp=Z,19nm,0.9s,mb5.0,baz=85,slow=6.4,SNR=24
BOSA LR LR 22 01 53.6
comp=Z,683nm,21.9s,MS4.9,baz=88,slow=30
BOSA Boshof 75.57 241 *e*P **P 21 35 33.5 -1.1**
comp=Z,21nm,1.0s,mb5.0
BOSA *e* pP 21 35 39.7 -1.7
BOSA LR LR
comp=Z,818nm,20.0s,MS5.0
MOS Moscow 76.00 329 *α i*P **P 21 35 36.4 0.0**
MOS *e* 21 35 50.6
MOS *e* 21 38 22.9
MOS *e* 21 45 32.4
MOS pmax pmax
comp=Z,600nm,1.6s,mb6.3
MOS pmax pmax
comp=Z,311nm,1.4s,mb6.0
MOS MLR MLR
comp=Z,900nm,18.4s,MS5.1
OBN Obninsk 76.29 328⇑ *i*P **P 21 35 37.7 -0.4**
OBN *i* pP 21 35 43.6 -1.3
OBN *e* 21 38 30.3
OBN *e*S S 21 45 19.8 -0.3
OBN pmax pmax
comp=Z,331nm,1.5s,mb6.0
OBN MLR MLR
comp=Z,300nm,21.0s,MS4.6
OBN Obninsk 76.29 328 *e*P **P 21 35 37.3 -0.8**
comp=Z,391nm,1.4s,mb6.2
OBN *e* pP 21 35 43.4 -1.5
OBN LR LR
comp=Z,183nm,20.0s,MS4.4
KHZ Kahutara 77.03 133 PN **P 21 35 42.9 +0.4**
SNZO South Karori 77.71 132 *e*P **P 21 35 45.5 -0.8**
comp=Z,199nm,1.3s,mb5.9
SNZO LR LR
comp=Z,2µm,20.0s,MS5.4
TLCR 77.76 317⇓P **P 21 35 45.9 -0.5**
TLCR 77.76 317⇓P **P 21 35 45.8 -0.6**
TIRR Tirgusor 77.85 316⇑P **P 21 35 46.5 -0.5**
SYO Syowa Base 78.14 199⇓P **P 21 35 47.8 -0.2**
SYO Syowa Base 78.14 199⇑pP pP 21 35 54.0 -0.9
CFR Carcaliu 78.22 317⇑P **P 21 35 48.2 -0.8**
MOVZ Moawhango 78.23 130 PN **P 21 35 49.7 +0.6**
KIS Kishinev 78.23 319 *α i*P **P 21 35 47.0 -2.0**
KIS *i* pP 21 35 54.0 -1.8
KIS pmax pmax
comp=Z,300nm,1.0s,mb6.2
KIS pmax pmax
comp=Z,300nm,1.0s,mb6.2
HARR Harsova 78.24 316⇓P **P 21 35 49.0 -0.1**
PRD Provadia 78.26 315 P **P 21 35 49.0 -0.2**
JMB Yambol 78.68 314 P **P 21 35 51.5 0.0**
BKZ Black Stump Fm 78.77 129 PN **P 21 35 52.6 +0.5**
BFZ Birch Farm 78.77 131 PN **P 21 35 52.8 +0.7**
AKASG Malin Array Be 78.98 322 P **P 21 35 51.5 -1.5**
comp=Z,9.9nm,0.8s,mb4.8,baz=88,slow=4.7,SNR=89
AKASG PP PP 21 38 47.0 -6.8
comp=Z,4.1nm,1.1s,baz=99,slow=6.1,SNR=4.0
AKASG S S 21 45 46.7 -2.5
comp=Z,0.2nm,0.4s,baz=181,slow=36,SNR=3.0
AKASG Malin Array Be 78.98 322 P **P 21 35 51.5 -1.5**
AKASG PP PP 21 38 47.0 -6.8
AKASG S S 21 45 46.7 -2.5
IAS Iasi 79.11 319 P **P 21 35 53.6 -0.2**
URZ Urewera 79.14 129 P **P 21 35 53.8 -0.3**
comp=Z,25nm,0.8s,mb5.2,baz=300,slow=4.4,SNR=13
URZ LR LR 22 13 10.9
comp=Z,1µm,18.0s,MS5.3,baz=309,slow=37
SZH Strazhica 79.32 314 P **P 21 35 54.4 -0.6**
VRI Vrincioaia 79.35 317⇑P **P 21 35 55.6 +0.5**
DIM Dimitrovgrad 79.35 313 *e*P **P 21 35 55.0 -0.2**
BUC1 Bucharest 79.49 316 P **P 21 35 56.7 +0.8**
PVL Pavlikeni 79.74 314 P **P 21 35 58.0 +0.7**
SUR Sutherland 79.75 238 LR LR 22 03 52.5
comp=Z,1µm,21.4s,MS5.2,baz=268,slow=30
SUR Sutherland 79.75 238 *e*P **P 21 35 58.2 +0.6**
comp=Z,85nm,1.2s,mb5.5
SUR *e* pP 21 36 04.0 -0.4
MLR Muntele Rosu 79.80 317 P **P 21 35 57.7 +0.1**
comp=Z,123nm,1.1s,mb5.7,baz=99,slow=1.1,SNR=77
MLR Muntele Rosu 79.80 317⇑P **P 21 35 57.9 +0.4**
MLR Muntele Rosu 79.80 317⇑P **P 21 35 57.9 +0.3**
RZN Rozhen 79.88 313 P **P 21 35 57.0 -1.1**
PLD Plovdiv 79.97 313 *e*P **P 21 35 58.0 -0.5**
MMB Musomiste 80.58 312 P **P 21 36 01.0 -0.8**
BURAR Bucovina Array 80.76 319⇑P **P 21 36 03.9 +1.3**
BURAR Bucovina Array 80.76 319⇑P **P 21 36 03.9 +1.3**
MNK Minsk 80.85 326 *e*P **P 21 36 01.0 -1.9**
KKB Krupnik 81.11 313 P **P 21 36 04.0 -0.6**
PUL Pulkovo 81.12 331⇑*i*P **P 21 36 04.5 +0.2**
VTS Vitosha 81.15 313 P **P 21 36 04.4 -0.4**
FX1 Attu Island--F 81.36 36 P **P 21 36 06.0 +0.4**
comp=Z,51nm,0.7s,mb5.6,baz=316,slow=3.6,SNR=11
FX1 LR LR 22 16 12.1
comp=Z,11nm,20.0s,baz=70,slow=39
FX1 Attu Island--F 81.36 36 *e*P **P 21 36 05.2 -0.5**
FX1 *e* pP 21 36 12.9 +0.4
JOF Joensuu 81.72 335 *e*p **P 21 36 07.9 +0.6**
SMY Shemya 81.88 36 PFAKE 21 36 20.0 +12
SMY LR LR
comp=Z,3µm,22.0s,MS5.6
LVV L'vov 82.00 321⇑ *i*P **P 21 36 08.8 -0.2**
LVV *e*S S 21 46 17.0 -3.5
LVV MLR MLR
comp=Z,200nm,21.0s,MS4.5
TSUM Tsumeb 82.02 251 *e*P **P 21 36 09.7 0.0**
comp=Z,18nm,1.0s,mb5.0
TSUM LR LR
comp=Z,959nm,21.0s,MS5.1
BOLS Boljevac 82.26 314⇑ *i*P **P 21 36 09.4 -1.2**
LVZ Lovozero 82.30 340 *e*P **P 21 36 10.7 +0.5**
LVZ pmax pmax
comp=Z,116nm,1.3s,mb5.7
LVZ Lovozero 82.30 340 *e*P **P 21 36 10.8 +0.6**
SKO Skopje 82.34 313 *i* P **P 21 36 10.3 -0.7**
APA Apatity 82.61 339⇑*i*P **P 21 36 12.6 +0.8**
APA *i* pP 21 36 18.7 0.0
APA pmax pmax
comp=Z,95nm,1.3s,mb5.7
APA MLR MLR
comp=Z,1µm,20.0s,MS5.2
VNDA Vanda 82.61 169 *e*P **P 21 36 12.1 +0.4**
VNDA pmax pmax
comp=Z,112nm,1.7s
VNDA MLR MLR
comp=Z,656nm,19.0s
VNDA Vanda 82.61 169 P **P 21 36 12.4 +0.7**
comp=Z,21nm,1.1s,mb5.1,baz=298,slow=5.4,SNR=38
VNDA LR LR 22 07 46.8
comp=Z,361nm,21.9s,MS4.7,baz=308,slow=32
VNDA Vanda 82.61 169 *e*P **P 21 36 12.1 +0.4**
comp=Z,112nm,1.7s,mb5.6
VNDA LR LR
comp=Z,656nm,19.0s,MS5.0
KWP Kalwaria 82.80 320⇑*e*P **P 21 36 13.6 +0.4**
KWP *e*S S 21 46 29.2 +0.5
KWP *e*SKS SKS 21 46 32.1 -4.2
KWP Kalwaria 82.80 320 *e*S S 21 46 29.2 +0.5
KWP *e*SKS SKS 21 46 32.1 -4.2
SVIS Svilajnac 82.86 315⇓*i*P **P 21 36 13.4 -0.3**
BILL Bilibíno 82.90 20 *c i*P **P 21 36 13.4 +0.1**
BILL *e* pP 21 36 18.5 -1.7
BILL *e*S S 21 46 28.7 -0.7
BILL pmax pmax
comp=Z,15nm,1.2s,mb4.9
BILL Bilibino 82.90 20 *e*P **P 21 36 13.1 -0.2**
comp=Z,104nm,1.8s,mb5.6
BILL LR LR
comp=Z,1µm,21.0s,MS5.2
KOLS Kolonicke sedl 82.95 320 *e*P **P 21 36 14.6 +0.6**
KOLS *e*pP pP 21 36 21.1 +0.2
GRUS Gruza 83.16 314⇑*i*P **P 21 36 15.2 +0.1**
SUW Suwalki 83.38 325⇑*e*P **P 21 36 15.8 -0.3**
SUW *e*pP pP 21 36 22.5 -0.5
SUW *e*SKS SKS 21 46 31.6 -8.6
SUW Suwalki 83.38 325 *e*SKS SKS 21 46 31.6 -8.6
CRVS Cervenica-Dubn 83.47 319 *e*P **P 21 36 18.5 +1.9**
FINES FINESS Array B 83.62 332 P **P 21 36 17.6 +0.5**
comp=Z,31nm,1.0s,mb5.4,baz=104,slow=7.9,SNR=49
KAF Kangasniemi 83.69 333 *e*p **P 21 36 18.2 +0.7**
baz=100,slow=4.7
SBA Scott Base 83.70 169 *e*P **P 21 36 18.6 +1.3**
SBA pmax pmax
comp=Z,91nm,1.6s,mb5.7
SBA Scott Base 83.70 169 *e*P **P 21 36 18.6 +1.3**
comp=Z,92nm,1.6s,mb5.7
KECS Kecovo 84.04 319 *e*P **P 21 36 19.1 -0.5**
KECS *e* pP 21 36 25.5 -0.9
BBLS Bajina Basta - 84.09 314⇑*i*P **P 21 36 20.4 +0.4**
NIE Niedzica 84.30 320⇓*e*P **P 21 36 21.1 +0.2**
WAR Warsaw 84.32 323⇑*e*P **P 21 36 21.3 +0.4**
WAR *e*PcP PcP 21 36 23.5 -1.6
WAR Warsaw 84.32 323⇑*e*P **P 21 36 21.3 +0.4**
WAR *e*PcP PcP 21 36 23.5 -1.6
PSZ Piszkesteto 84.34 318 *e*P **P 21 36 21.1 0.0**
PSZ pmax pmax
comp=Z,118nm,1.6s,mb5.8
PSZ Piszkesteto 84.34 318 *e*P **P 21 36 21.1 0.0**
comp=Z,118nm,1.6s,mb5.8
PSZ Piszkesteto 84.34 318⇑*i*P **P 21 36 21.4 +0.3**
OJC Ojcow 84.75 321⇑*i*P **P 21 36 23.2 +0.1**
PKSM Moragy 84.95 316⇑P **P 21 36 25.4 +1.2**
VYHS Vyhne 85.12 319 *e*P **P 21 36 25.2 +0.2**
VYHS *e*pP pP 21 36 31.1 -0.8
VYHS *e* 21 39 47.9
KEV Kevo 85.55 341 *e*p **P 21 36 27.4 +0.7**
KEV Kevo 85.55 341 P **P 21 36 27.7 +1.0**
KEV pmax pmax
comp=Z,77nm,1.2s,mb5.8
OKC Ostrava-Krasne 85.75 320 *e*P **P 21 36 28.6 +0.5**
OKC AMS AMS 22 20 40.0
comp=Z,300nm,14.6s
RAC Raciborz 85.75 320 *e*P **P 21 36 29.2 +1.1**
ARCES ARCESS Array B 86.00 340 P **P 21 36 30.0 +1.1**
comp=Z,76nm,1.0s,mb5.9,baz=124,slow=4.4,SNR=41
ARE0 ARCESS Array S 86.00 340 *e*P **P 21 36 29.4 +0.6**
ARE0 *e* pP 21 36 35.4 -0.3
SMOL Smolenice 86.05 319 *e*P **P 21 36 29.9 +0.3**
MORC Moravsky Berou 86.13 320 P **P 21 36 30.6 +0.6**
ZST Bratislava 86.23 318 *e*P **P 21 36 31.0 +0.5**
ZST *e*pP pP 21 36 37.2 -0.2
VRAC Vranov 86.69 319 P **P 21 36 33.4 +0.6**
GKP Gorka Klasztor 86.75 323⇑*e*P **P 21 36 33.2 +0.3**
GKP *e*S S 21 47 06.4 -1.1
GKP Gorka Klasztor 86.75 323 *e*S S 21 47 06.4 -1.1
VKA Vienna 86.76 318⇑*i*P **P 21 36 33.4 +0.3**
comp=Z,299nm,2.0s,mb6.2
VKA Vienna 86.76 318⇑*i*P **P 21 36 33.4 +0.3**
VKA pmax pmax
comp=Z,299nm,2.0s,mb6.2
DPC Dobruska-Polom 86.98 320 *e*P **P 21 36 35.0 +0.9**
DPC MLR MLR
comp=Z,400nm,15.2s,MS4.9
DPC Dobruska-Polom 86.98 320 *e*P **P 21 36 35.0 +0.9**
DPC *e*x x 21 47 21.1
DPC AMS AMS 22 26 40.0
comp=Z,400nm,15.2s
KSP Ksiaz 87.05 321⇑*e*P **P 21 36 35.3 +0.8**
KSP *e**PP pP 21 36 41.4 0.0
KSP Ksiaz 87.05 321⇑*e*P **P 21 36 35.1 +0.7**
GROS Grobnik 87.14 316⇑*e*P **P 21 36 35.3 +0.4**
comp=Z,260nm,1.7s,mb6.2
UPC Upice 87.19 321 *e*P **P 21 36 36.0 +0.8**
ARSA Arzberg 87.19 317⇑*i*P **P 21 36 35.7 +0.5**
comp=Z,274nm,2.0s,mb6.1
VAE Valguarnera 87.21 307 P **P 21 36 37.8 +2.2**
comp=Z,15nm,0.9s,mb5.2,baz=176,slow=15,SNR=2.6
BOJS Bojanci 87.22 316⇑*i*P **P 21 36 35.8 +0.3**
comp=Z,269nm,1.7s,mb6.2
LJU Ljubljana 87.77 316⇑*e*P **P 21 36 38.8 +0.8**
LJU *e**PP pP 21 36 44.8 -0.1
LJU pmax pmax
comp=Z,384nm,1.6s,mb6.4
LJU Ljubljana 87.77 316⇑*e*P **P 21 36 38.8 +0.7**
comp=Z,384nm,1.6s,mb6.4
LJU *e*pP pP 21 36 44.8 -0.1
NVL N'lazarevskaya 87.79 199⇓*i*P **P 21 36 38.9 +1.4**
NVL *i* pP 21 36 45.0 +0.6
NVL *i* *PP pP 21 36 56.8 +12
NVL *i* 21 40 12.4
NVL pmax pmax
comp=Z,121nm,1.6s,mb5.9
OBKA Obir 87.80 316⇑*i*P **P 21 36 38.5 +0.4**
comp=Z,360nm,2.4s,mb6.2
MAIT Maitri 87.82 199 *e*P **P 21 36 40.3 +2.6**
JAVS Javornik 88.08 316⇑*e*P **P 21 36 39.1 -0.4**
comp=Z,289nm,2.6s,mb6.0
PRU Pruhonice 88.09 320 *e*P **P 21 36 40.4 +1.0**
PRU MLR MLR
comp=Z,400nm,15.9s,MS4.9
PRU Pruhonice 88.09 320 *e*P **P 21 36 40.4 +1.0**
PRU *e*S S 21 47 30.1 +10
PRU AMS AMS 22 27 20.0
comp=Z,400nm,15.9s
MOA Molln 88.09 318⇑*i*P **P 21 36 39.6 +0.1**
comp=Z,122nm,2.0s,mb5.8
PVCC Panska Ves 88.11 320 *e*P **P 21 36 40.5 +0.9**
PVCC MLR MLR
comp=Z,500nm,15.2s,MS5.0
PVCC Panska Ves 88.11 320 *e*P **P 21 36 40.5 +0.9**
PVCC *e*x x 21 48 04.2
PVCC AMS AMS 22 24 20.0
comp=Z,500nm,15.2s
AFI Afiamalu 88.20 104 P **P 21 36 43.1 +2.3**
comp=Z,73nm,1.2s,mb5.8,baz=327,slow=9.7,SNR=6.7
VOY Vojsko 88.21 316 *e*P **P 21 36 40.2 0.0**
VOY *e* pP 21 36 46.2 -0.9
VOY *e* 21 37 00.5
TRO Tromso 88.27 340 *e*P **P 21 36 40.2 +0.3**
AQU L'Aquila 88.32 312 *e*P **P 21 36 41.3 +0.6**
AQU pmax pmax
comp=Z,232nm,1.4s,mb6.2
AQU L'Aquila 88.32 312 *e*P **P 21 36 41.3 +0.5**
comp=Z,232nm,1.4s,mb6.2
QSPA South Pole Qui 88.36 180 *e*P **P 21 36 41.2 +1.1**
comp=Z,86nm,1.2s,mb5.9
BRG Berggiesshubel 88.54 321 *i* P **P 21 36 42.6 +1.0**
BRG *i* pP 21 36 48.9 +0.4
BRG *i* 21 37 01.2
BRG pmax pmax
comp=Z,143nm,1.6s,mb6.0
BRG Berggiesshubel 88.54 321 *i* P **P 21 36 42.6 +1.0**
comp=Z,143nm,1.6s,mb6.0
BRG *i* pP 21 36 48.9 +0.4
BRG *i* 21 37 01.2
BRG *e* 21 39 55.5
GEC2 GERESS Array S 88.55 319 *e*P **P 21 36 42.3 +0.6**
GEC2 pmax pmax
comp=Z,168nm,1.6s,mb6.1
GEC2 GERESS Array S 88.55 319 *e*P **P 21 36 42.3 +0.6**
comp=Z,168nm,1.6s,mb6.1
GERES GERESS Array B 88.55 319 P **P 21 36 42.4 +0.7**
comp=Z,24nm,1.1s,mb5.4,baz=108,slow=4.2,SNR=98
KHC Kasperske Hory 88.65 319 *e*P **P 21 36 42.6 +0.5**
KHC *e*pP pP 21 36 48.5 -0.5
KHC *e*x x 21 47 18.2
KHC AMS AMS 22 28 00.0
comp=Z,400nm,17.2s
KBA Koelnbreinsper 88.66 317⇑*i*P **P 21 36 42.0 -0.3**
comp=Z,94nm,1.9s,mb5.8
KBA Koelnbreinsper 88.66 317⇑*i*P **P 21 36 42.0 -0.3**
KBA pmax pmax
comp=Z,95nm,1.9s,mb5.8
RUE Ruedersdorf 88.76 322 *e*P **P 21 36 43.4 +0.8**
comp=Z,266nm,1.3s,mb6.4
RUE *e* pP 21 36 49.4 -0.1
WET Wettzell 89.11 319 *e*P **P 21 36 44.9 +0.6**
WET pmax pmax
comp=Z,131nm,1.6s,mb6.0
WET Wettzell 89.11 319 *e*P **P 21 36 44.9 +0.6**
comp=Z,131nm,1.6s,mb6.0
CLL Collm 89.16 321⇑*i*P **P 21 36 44.7 +0.2**
CLL *i* pP 21 36 51.4 0.0
CLL pmax pmax

comp=Z,103nm,1.5s,mb5.9
CLL Collm 89.16 321⇑ *i*P **P 21 36 44.7 +0.2**
comp=Z,103nm,1.5s,mb5.9
CLL *i* pP 21 36 51.4 0.0
CLL Collm 89.16 321⇑ P **P 21 36 44.7 +0.2**
comp=Z,logA/T=1.8,mb5.9
CLL *i* *PP pP 21 36 51.4 0.0
CLL *e* 21 38 24.0
CLL *e*PP PP 21 40 22.0 +4.7
NKC Novy Kostel 89.45 320 *e*P **P 21 36 46.9 +1.0**
NKC AMS AMS 22 24 30.0
comp=Z,400nm,21.0s
WTTA Wattenberg 89.84 317⇑ *i*P **P 21 36 47.7 -0.1**
comp=Z,163nm,1.7s,mb6.1
WTTA Wattenberg 89.84 317⇑ *i*P **P 21 36 47.7 -0.1**
WTTA pmax pmax
comp=Z,163nm,1.7s,mb6.1
WATA Walderalm 89.88 317⇑ *i*P **P 21 36 47.6 -0.4**
comp=Z,73nm,1.5s,mb5.8
WATA Walderalm 89.88 317⇑ *i*P **P 21 36 47.6 -0.4**
WATA pmax pmax
comp=Z,73nm,1.5s,mb5.8
MOX Moxa 90.00 320 *e*P **P 21 36 49.1 +0.6**
MOX pmax pmax
comp=Z,103nm,1.5s,mb5.9
MOX Moxa 90.00 320 *e*P **P 21 36 49.1 +0.6**
comp=Z,103nm,1.5s,mb5.9
MOX Moxa 90.00 320 *i* P **P 21 36 48.9 +0.4**
comp=Z,logA/T=1.8,mb5.9
FUR Furstenfeldbru 90.12 318 *e*P **P 21 36 49.1 0.0**
SQTA Sankt Quirin 90.13 317⇑ *i*P **P 21 36 48.8 -0.4**
comp=Z,88nm,1.6s,mb5.8
SQTA Sankt Quirin 90.13 317⇑ *i*P **P 21 36 48.8 -0.4**
SQTA pmax pmax
comp=Z,88nm,1.6s,mb5.8
MOTA Moosalm 90.20 317⇑ *i*P **P 21 36 49.4 -0.1**
GRA1 Grafenberg Arr 90.21 320 *e*P **P 21 36 50.5 +1.0**
comp=Z,177nm,1.6s,mb6.1
GRA1 *e*pP pP 21 36 55.9 -0.5
GRF Grafenberg Arr 90.21 320 *e*P **P 21 36 50.5 +1.0**
GRF *e*PP pP 21 36 55.9 -0.5
GRF pmax pmax
comp=Z,177nm,1.6s,mb6.1
GRF Grafenberg Arr 90.21 320 *e*P **P 21 36 50.5 +1.0**
GRF *e*PP pP 21 36 55.9 -0.5
GRF pmax pmax
comp=Z,177nm,1.6s,mb6.1
GRF Grafenberg Arr 90.21 320 *e*P **P 21 36 50.5 +1.0**
comp=Z,177nm,1.6s,mb6.1
GRF *e*pP pP 21 36 55.9 -0.5
NB2 NORSAR Subarra 90.65 331 P **P 21 36 51.4 +0.2**
comp=Z,52nm,1.4s,mb5.7,baz=93,slow=5.3
NB2 NORSAR Subarra 90.65 331 P **P 21 36 51.4 +0.2**
NB2 pmax pmax
comp=Z,52nm,1.4s,mb5.7
NB2 NORSAR Subarra 90.65 331 P **P 21 36 51.4 +0.2**
baz=93,slow=5.6
NOA NORSAR Array B 90.65 331 P **P 21 36 51.6 +0.4**
comp=Z,8.7nm,1.1s,mb5.0,baz=96,slow=4.4,SNR=10
NOA PP PP 21 40 27.8 -1.1
comp=Z,0.8nm,0.8s,baz=99,slow=10.0,SNR=3.2
CLZ Clausthal 90.82 322 *e*P **P 21 36 53.0 +0.7**
comp=Z,118nm,1.5s,mb6.0
HDH Heidenheim 90.84 318 *e*P **P 21 36 52.3 -0.1**
UBR Uberruh 90.89 317 *e*P **P 21 36 52.9 +0.2**
BSEG Bad Segeberg 90.91 324 *e*P **P 21 36 53.5 +0.9**
DAVOX Davos 91.02 317 P **P 21 36 54.3 +1.0**
comp=Z,48nm,1.1s,mb5.8,baz=121,slow=4.4,SNR=36
DAVA Damuels 91.03 317⇑ *i*P **P 21 36 54.0 +0.7**
comp=Z,268nm,1.8s,mb6.3
SIND Sindeldorf 91.26 319 *e*P **P 21 36 54.9 +0.6**
BUCH Bad Urach 91.41 318 *e*P **P 21 36 55.3 +0.3**
KONO Kongsberg 91.42 329 *e*P **P 21 36 54.8 0.0**
KONO *e* pP 21 37 01.1 -0.6
KONO pmax pmax
comp=Z,38nm,1.5s,mb5.5
KONO MLR MLR
comp=Z,805nm,22.0s,MS5.1
KONO Kongsberg 91.42 329 *e*P **P 21 36 54.8 0.0**
comp=Z,38nm,1.5s,mb5.5
KONO *e* pP 21 37 01.1 -0.6
KONO LR LR
comp=Z,805nm,22.0s,MS5.1
STU Stuttgart 91.52 319 *e*P **P 21 36 55.2 -0.3**
STU pmax pmax
comp=Z,77nm,1.5s,mb5.8
STU Stuttgart 91.52 319 *e*P **P 21 36 55.2 -0.3**
comp=Z,77nm,1.5s,mb5.8
GUT Gutenstein 91.56 318 *e*P **P 21 36 56.2 +0.4**
PGF Pioggiola 91.58 312 *e*P **P 21 36 55.8 -0.2**
comp=Z,158nm,1.3s,mb5.9
PGF Pioggiola 91.58 312 *e*P **P 21 36 55.8 -0.2**
PGF pmax pmax
comp=Z,79nm,1.3s,mb5.9
LBG Lerchenberg 91.78 318 *e*P **P 21 36 57.1 +0.4**
TOD Tromm 91.78 319 *e*P **P 21 36 57.9 +1.2**
TOD Tromm 91.78 319 *e*P **P 21 36 57.2 +0.5**
SPAK Spaichingen 91.78 318 *e*P **P 21 36 57.9 +1.1**
SPAK Spaichingen 91.78 318 *e*P **P 21 36 57.4 +0.6**
SWS Schriesheim 91.85 319 *e*P **P 21 36 57.8 +0.8**
TNS Taunus Mts 92.02 320 *e*P **P 21 36 58.5 +0.7**
TNS pmax pmax
comp=Z,103nm,1.5s,mb5.9
TNS Taunus Mts 92.02 320 *e*P **P 21 36 58.5 +0.7**
comp=Z,103nm,1.5s,mb5.9
BFO Black Forest 92.09 318 *e*P **P 21 36 58.2 0.0**
BFO pmax pmax
comp=Z,44nm,1.5s,mb5.6
BFO Black Forest 92.09 318 *e*P **P 21 36 58.2 0.0**
comp=Z,44nm,1.5s,mb5.6
KTD Kalmit 92.25 319 *e*P **P 21 37 00.0 +1.1**
KTD Kalmit 92.25 319 *e*P **P 21 36 59.2 +0.3**
FELD Feldberg 92.31 318 *e*P **P 21 36 59.3 +0.1**
KIZ Kirchzarten 92.37 318 *e*P **P 21 36 59.7 +0.2**
SNAA Sanae 92.42 198⇓ *i*P **P 21 37 01.2 +2.0**
SNAA Sanae 92.42 198⇓ *i* **P 21 37 12.4 +13**
LANF Langenberg 92.44 319 *e*P **P 21 37 01.0 +1.3**
TNA Tin City 92.44 25 PFAKE 21 37 10.0 +11
TNA LR LR
comp=Z,336nm,20.0s,MS4.8
LIBD Limburg 92.58 318 *e*P **P 21 37 01.5 +1.1**
LIBD Limburg 92.58 318 *e*P **P 21 37 01.2 +0.8**
ABH Alteburg 92.60 320 *e*P **P 21 37 01.7 +1.2**
ABH Alteburg 92.60 320 *e*P **P 21 37 01.5 +1.0**
SAOF Saorge 92.64 314 *e*P **P 21 37 01.3 +0.5**
BBS Basel-Blauen 92.65 317 *e*P **P 21 37 01.5 +0.8**
BBS Basel-Blauen 92.65 317 *e*P **P 21 37 00.9 +0.1**
SBF Sospel 92.73 314 *e*P **P 21 37 00.8 -0.4**
comp=Z,238nm,1.5s,mb6.1
SBF Sospel 92.73 314 *e*P **P 21 37 00.8 -0.4**
SBF pmax pmax
comp=Z,119nm,1.5s,mb6.1
WLS Welschbruch 92.74 318 *e*P **P 21 37 02.0 +0.8**
CDF Champ du Feu 92.79 318 *e*P **P 21 37 01.3 -0.1**
comp=Z,152nm,1.8s,mb5.8
CDF Champ du Feu 92.79 318 *e*P **P 21 37 01.3 -0.1**
CDF pmax pmax
comp=Z,76nm,1.8s,mb5.8
ECH Echery 92.87 318 *e*P **P 21 37 01.5 -0.3**
MOF Molkenrain 92.89 318 *e*P **P 21 37 02.5 +0.6**
RUP Ruppelstein 92.92 319 *e*P **P 21 37 02.7 +0.8**
MVIF Mont Vial 92.93 314 *e*P **P 21 37 03.7 +1.5**
HINF Hinteralfeld 93.08 318 *e*P **P 21 37 02.1 -0.7**
comp=Z,87nm,1.7s,mb5.6
HINF Hinteralfeld 93.08 318 *e*P **P 21 37 02.1 -0.7**
HINF pmax pmax
comp=Z,44nm,1.7s,mb5.6
LOMF Lomont 93.11 317 *e*P **P 21 37 03.7 +0.8**
CALN Calern 93.12 314 *e*P **P 21 37 04.0 +1.0**
MBDF Montbardon 93.19 315 *e*P **P 21 37 04.0 +0.7**
comp=Z,30nm,1.2s,mb5.3
MBDF Montbardon 93.19 315 *e*P **P 21 37 04.0 +0.7**
MBDF pmax pmax
comp=Z,15nm,1.2s,mb5.3
LPG La Plagne 93.19 315 *e*P **P 21 37 03.3 0.0**
comp=Z,61nm,1.4s,mb5.5
LPG La Plagne 93.19 315 *e*P **P 21 37 03.3 0.0**
LPG pmax pmax
comp=Z,30nm,1.4s,mb5.5
LPL La Plagne 93.21 315 *e*P **P 21 37 03.3 -0.1**
comp=Z,23nm,0.9s,mb5.3
LPL La Plagne 93.21 315 *e*P **P 21 37 03.3 -0.1**
LPL pmax pmax
comp=Z,11nm,0.9s,mb5.3
FRF La Foret Royal 93.30 313 *e*P **P 21 37 03.6 -0.3**
comp=Z,147nm,1.5s,mb5.9
FRF La Foret Royal 93.30 313 *e*P **P 21 37 03.6 -0.3**
FRF pmax pmax
comp=Z,73nm,1.5s,mb5.9
HAU Haudompre 93.42 318 *e*P **P 21 37 03.8 -0.5**
comp=Z,136nm,1.5s,mb5.8
HAU *e*R
comp=Z,325nm,19.5s
HAU Haudompre 93.42 318 *e*P **P 21 37 03.8 -0.5**
HAU pmax pmax
comp=Z,68nm,1.5s,mb5.9
HAU MLR MLR
comp=Z,320nm,19.5s,MS4.8
CABF La Chapelle 93.63 316 *e*P **P 21 37 05.3 0.0**
comp=Z,101nm,1.5s,mb5.7
CABF La Chapelle 93.63 316 *e*P **P 21 37 05.3 0.0**
CABF pmax pmax
comp=Z,51nm,1.5s,mb5.7
THEF They Montfort 93.66 318 *e*P **P 21 37 03.5 -1.9**
ORIF Oris-en-Rattie 93.82 315 *e*P **P 21 37 06.0 -0.2**
comp=Z,132nm,1.7s,mb5.8
ORIF *e*R
comp=Z,335nm,20.2s
VNA2 Neumayer--Watz 94.03 198 P **P 21 37 02.3 -4.3**
VNA2 Neumayer--Watz 94.03 198 **P 21 37 14.8 +8.2**
MEZF Maizieres J'vi 94.27 318 *e*P **P 21 37 07.9 -0.3**
comp=Z,116nm,1.6s,mb5.8
BAIF Baives 94.75 320 *e*P **P 21 37 10.2 -0.1**
comp=Z,15nm,1.0s,mb5.1
BAIF Baives 94.75 320 *e*P **P 21 37 10.2 -0.1**
BAIF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
SMF Signal de Mont 95.18 317 *e*P **P 21 37 11.8 -0.6**
comp=Z,77nm,1.6s,mb5.6
SMF Signal de Mont 95.18 317 *e*P **P 21 37 11.8 -0.6**
SMF pmax pmax
comp=Z,39nm,1.6s,mb5.6
SSF Saint Saulge 95.38 317 *e*P **P 21 37 13.0 -0.4**
SSF pmax pmax
comp=Z,21nm,1.4s,mb5.4
SSF Saint Saulge 95.38 317 *e*P **P 21 37 13.0 -0.4**
comp=Z,21nm,1.4s,mb5.4
AVF Avril sur Loir 95.51 317 *e*P **P 21 37 13.2 -0.7**
comp=Z,96nm,1.7s,mb5.6
AVF Avril sur Loir 95.51 317 *e*P **P 21 37 13.2 -0.7**
AVF pmax pmax
comp=Z,48nm,1.7s,mb5.7
BGF Bois d'Agland 95.87 316 *e*P **P 21 37 15.4 -0.2**
comp=Z,93nm,1.5s,mb5.7
BGF Bois d'Agland 95.87 316 *e*P **P 21 37 15.4 -0.2**
BGF pmax pmax
comp=Z,46nm,1.5s,mb5.7
TCF Toulx Ste Croi 96.33 316 *e*P **P 21 37 16.0 -1.7**
comp=Z,74nm,1.8s,mb5.5
TCF Toulx Ste Croi 96.33 316 *e*P **P 21 37 16.0 -1.7**
TCF pmax pmax
comp=Z,37nm,1.8s,mb5.5
CAF Calviac 96.53 315 *e*P **P 21 37 18.5 -0.1**
MTLF Montolieu 96.53 313 *e*P **P 21 37 18.3 -0.4**
comp=Z,117nm,1.7s,mb5.7
MTLF Montolieu 96.53 313 *e*P **P 21 37 18.3 -0.4**
MTLF pmax pmax
comp=Z,58nm,1.7s,mb5.7
RJF Les Rejaudoux 96.89 315 *e*P **P 21 37 20.4 +0.2**
comp=Z,89nm,1.9s,mb5.6
RJF *e*R
comp=Z,326nm,19.0s
RJF Les Rejaudoux 96.89 315 *e*P **P 21 37 20.4 +0.2**
RJF pmax pmax
comp=Z,44nm,1.9s,mb5.6
RJF MLR MLR
comp=Z,330nm,19.0s,MS4.8
LFF La Frestale 97.47 315 *e*P **P 21 37 22.7 -0.1**
comp=Z,60nm,1.5s,mb5.5
LFF La Frestale 97.47 315 *e*P **P 21 37 22.7 -0.1**
LFF pmax pmax
comp=Z,30nm,1.5s,mb5.5
DAG Danmarks Havn 97.83 348⇑ *i*P **P 21 37 24.2 +0.4**
DAG pmax pmax
comp=Z,19nm,1.0s,mb5.6
DAG Danmarks Havn 97.83 348⇑ *i*P **P 21 37 24.2 +0.4**
comp=Z,19nm,1.0s,mb5.6
FLN La Foliniere 97.91 319 *e*P **P 21 37 25.1 +0.4**
FLN *e*R
comp=Z,343nm,19.0s
SGMF Saint Gilles 99.34 319 *e*P **P 21 37 30.4 -0.8**
QUIF Quistinic 99.79 318 *e*P **P 21 37 33.9 +0.6**
comp=Z,106nm,1.5s,mb5.8
QUIF Quistinic 99.79 318 *e*P **P 21 37 33.9 +0.6**
QUIF pmax pmax
comp=Z,53nm,1.5s,mb5.8
ROSF Rostrenen 99.80 319 *e*P **P 21 37 31.9 -1.4**
KDAK Kodiak Island 100.75 31 PFAKE 21 37 50.0 +13
KDAK LR LR
comp=Z,189nm,20.0s,MS4.6
MCK McKinley 100.78 25 PFAKE 21 37 50.0 +13
MCK LR LR
comp=Z,214nm,21.0s,MS4.6
COLA College 100.85 24 PFAKE 21 37 50.0 +12
COLA LR LR
comp=Z,535nm,20.0s,MS5.0
FIB Fire Island 101.02 28 PFAKE 21 37 50.0 +11
FIB LR LR
comp=Z,2μm,22.0s,MS5.5
ILAR Eielson Array 101.27 24 PKKPbc 21 53 49.4
comp=Z,2.9nm,0.8s,baz=139,slow=2.4,SNR=22
ESLA Sonseca Array 101.52 310 PFAKE 21 37 50.0 +8.7
ESLA LR LR
comp=Z,2μm,21.0s,MS5.5
DIV Divide 103.05 27 PFAKE 21 38 00.0 +12
DIV LR LR
comp=Z,2μm,19.0s,MS5.7
INK Inuvik 104.38 18 PKKPbc 21 53 39.6
comp=Z,1.3nm,0.8s,baz=136,slow=4.1,SNR=3.6
DBIC Dimbokro 104.63 276 PFAKE 21 38 10.0 +14
DBIC LR LR
comp=Z,684nm,22.0s,MS5.2
EVO Evora 104.81 309 *e*P Pdif 21 37 56.0 +0.1
comp=Z,42nm,1.5s
EVO *e*R
comp=Z,284nm,19.0s
TBI Tubuai 108.43 115 *e*LR LR 22 13 56.2
comp=Z,504nm,29.5s
PPT Papeete 109.23 109 *e*LR LR 22 14 18.3
comp=Z,566nm,25.0s
SIT Sitka 109.66 28 PFAKE 21 42 30.0
SIT LR LR
comp=Z,643nm,19.0s,MS5.2
YKA Yellowknife Ar 114.08 17 PKP PKPdf 21 42 27.5 -3.4
comp=Z,3.1nm,0.9s,baz=326,slow=2.7,SNR=7.5
YKA PP PP 21 43 11.9 -14
comp=Z,1.3nm,1.0s,baz=322,slow=7.0,SNR=3.5
YKA PKKPbc 21 53 09.0
comp=Z,1.6nm,1.1s,baz=150,slow=3.7,SNR=14
YKA PKKPab 21 53 15.4
comp=Z,2.0nm,1.1s,baz=138,slow=3.9,SNR=12
YKA Yellowknife Ar 114.08 17 PKP PKPdf 21 42 27.5 -3.4
YKA PP PP 21 43 11.9 -14
YKA PKKPbc 21 53 09.0
YKA PKKPab 21 53 15.4
JCW Jim Creek 121.38 31 P PKPdf 21 42 43.3 -2.1
RKT Rikitea 121.43 118 *e*LR LR 22 19 58.0
comp=Z,650nm,26.2s
EDM Edmonton 121.74 23 *e*PKIKP PKPdf 21 42 43.1 -2.9
FCC Fort Churchill 121.98 8 *e*PKIKP PKPdf 21 42 43.0 -3.3
FCC *e* 21 42 49.8
WPW White Pass 122.52 33 P PKPdf 21 42 45.9 -1.7
EBG Ellensburg 122.91 32 P PKPdf 21 42 46.4 -2.0
EPH Ephrata 123.13 31 P PKPdf 21 42 46.6 -2.2
OD2 Odessa Site #2 123.55 30 P PKPdf 21 42 47.2 -2.4
WRD Warden 123.72 31 P PKPdf 21 42 48.0 -2.0
NEW Newport 123.74 29 PKP PKPdf 21 42 47.5 -2.6
comp=Z,9.5nm,0.9s,baz=298,slow=2.7,SNR=11
NEW Newport 123.74 29 *e*PKPdf PKPdf 21 42 47.3 -2.7
NEW LR LR
comp=Z,630nm,20.0s,MS5.3
HAWA Hanford 123.79 32 *e*PKPdf PKPdf 21 42 47.9 -2.2
HAWA *e* 21 42 55.0
HAWA LR LR
comp=Z,36nm,19.0s
PRW Prosser 123.82 32 P PKPdf 21 42 48.8 -1.4
HUMO Hull Mountain 124.17 37 *e*PKPdf PKPdf 21 42 49.1 -1.8
HUMO *e* 21 42 55.9
HUMO LR LR
comp=Z,436nm,21.0s,MS5.1
VIPM Ingram Point 124.39 34 PKIKP PKPdf 21 42 50.0 -1.4
YBH Yreka Blue Hor 124.82 38 PKP PKPdf 21 42 49.8 -2.5
comp=Z,2.3nm,0.8s,baz=128,slow=1.9,SNR=3.6
YBH Yreka Blue Hor 124.82 38 PKP PKPdf 21 42 49.8 -2.5
YBH LR LR
comp=Z,459nm,19.0s,MS5.2
WDC Whiskeytown Da 125.58 39 *e*PKIKP PKPdf 21 42 50.5 -3.3
WDC MLR MLR
comp=Z,445nm,20.0s,MS5.1
SCHQ Schefferville 125.81 350 PKP PKPdf 21 42 51.4 -2.4
comp=Z,9.6nm,0.9s,baz=21,slow=1.1,SNR=8.8
SCHQ Schefferville 125.81 350 PKP PKPdf 21 42 51.4 -2.4
SCHQ LR LR
comp=Z,872nm,21.0s,MS5.4
BMO Blue Mountains 125.98 32 *e*PKIKP PKPdf 21 42 51.3 -3.1
BMO MLR MLR
comp=Z,375nm,21.0s,MS5.0
LBCM Butte Creek Ri 126.17 38 P PKPdf 21 42 53.1 -1.8
MOD Modoc 126.17 36 *e*PKPdf PKPdf 21 42 53.2 -1.6
MOD LR LR
comp=Z,312nm,20.0s,MS5.0
MSO Missoula 126.28 28 *e*PKPdf PKPdf 21 42 51.9 -3.0
MSO LR LR
comp=Z,328nm,19.0s,MS5.0
CHMT Chamberlain Mo 126.54 28 *e*PKPdf PKPdf 21 42 52.6 -2.8
CHMT *e* 21 42 58.4
WVOR Wild Horse Val 126.82 35 PFAKE 21 43 10.0 +14
WVOR LR LR
comp=Z,675nm,20.0s,MS5.3
HRY Holter Researc 127.34 27 *e*PKPdf PKPdf 21 42 54.8 -2.1
HRY *e* 21 43 01.3
WCN Washoe City 128.06 39 *e*PKIKP PKPdf 21 42 57.1 -1.5
BOZ Bozeman (W) 128.23 28 *e*P Pdif 21 39 45.5 +6.7
BOZ *e* 21 42 56.9
BOZ Bozeman (W) 128.23 28 PFAKE 21 43 10.0 +11
BOZ LR LR
comp=Z,380nm,20.0s,MS5.1
MCMT McKenzie Canyo 128.26 29 *e*PKPdf PKPdf 21 42 56.4 -2.5
MCMT *e* 21 43 03.4
HLID Hailey 128.38 31 *e*PKPdf PKPdf 21 42 56.8 -2.3
HLID LR LR
comp=Z,400nm,19.0s,MS5.1
CMB Columbia Colle 128.40 40 PFAKE 21 43 10.0 +11
CMB LR LR
comp=Z,466nm,20.0s,MS5.2
SAO San Andreas Ge 128.40 42 PFAKE 21 43 10.0 +11
SAO LR LR
comp=Z,426nm,19.0s,MS5.2
BMN Battle Mountai 128.91 36 *e*PKIKP PKPdf 21 42 57.8 -2.4
BMN MLR MLR
comp=Z,279nm,20.0s,MS5.0
NVAR Mina Array Bea 129.49 39 PKP PKPdf 21 42 59.9 -1.5
comp=Z,6.1nm,0.8s,baz=57,slow=1.5,SNR=17
NVAR PP PP 21 45 10.8 -0.6
comp=Z,1.6nm,0.9s,baz=322,slow=2.6,SNR=3.5
YFT Old Faithful 129.50 28 *e*PKPdf PKPdf 21 43 01.2 0.0
MNV Mina 129.58 39 *e*PKIKP PKPdf 21 42 59.1 -2.4
MNV MLR MLR
comp=Z,525nm,21.0s,MS5.2
LKWY Lake 129.62 28 PFAKE 21 43 10.0 +8.6
LKWY LR LR
comp=Z,960nm,19.0s,MS5.5
LAO LASA Array 129.73 23 *e*PKPdf PKPdf 21 42 58.9 -2.7
LAO LR LR
comp=Z,541nm,20.0s,MS5.2
ULM Lac du Bonnet 129.76 13 PKP PKPdf 21 42 58.8 -2.8
comp=Z,16nm,0.9s,baz=338,slow=3.2,SNR=15
ULM PP PP 21 45 08.0 -4.6
comp=Z,1.2nm,0.3s,baz=18,slow=5.6,SNR=2.6
ULM Lac du Bonnet 129.76 13 *e*PKPdf PKPdf 21 42 58.6 -2.9
ULM LR LR
comp=Z,776nm,21.0s,MS5.4
ELK Elko 129.85 35 *e*PKIKP PKPdf 21 42 59.7 -2.3
ELK MLR MLR
comp=Z,425nm,21.0s
MTUM Tungsten Hills 129.97 40 *e*PKPdf PKPdf 21 43 01.6 -0.8
MOOW Moose Ponds 130.07 29 *e*PKPdf PKPdf 21 43 00.7 -1.7
RRI2 Red Ridge 130.09 29 *e*PKPdf PKPdf 21 43 00.7 -1.7
TPAW Teton Pass 130.17 29 *e*PKPdf PKPdf 21 43 01.0 -1.5
WUWY Wally Ulrich 130.23 29 *e*PKPdf PKPdf 21 43 01.2 -1.4
LOHW Long Hollow 130.24 29 *e*PKPdf PKPdf 21 42 59.7 -2.9
SNOW Snow King Moun 130.28 29 *e*PKPdf PKPdf 21 43 00.5 -2.3
REDW Red Top Meadow 130.31 29 *e*PKPdf PKPdf 21 43 00.6 -2.2
TPH Tonopah 130.38 38 PFAKE 21 43 10.0 +6.9
TPH LR LR
comp=Z,395nm,20.0s,MS5.1
HVU Hansel Valley 130.49 32 *e*PKIKP PKPdf 21 43 00.7 -2.5
HVU *e* 21 43 07.6
AHID Auburn Hatcher 130.63 30 PFAKE 21 43 10.0 +6.6
AHID LR LR
comp=Z,357nm,21.0s,MS5.0
SPUT South Promonto 130.99 32 *e*PKPdf PKPdf 21 43 01.5 -2.6
TRCR Troy Canyon 131.21 37 *e*PKPdf PKPdf 21 43 03.4 -1.2
DAC Darwin (Calif) 131.23 41 PFAKE 21 43 10.0 +5.3
DAC LR LR
comp=Z,462nm,22.0s,MS5.1
BW06 Boulder Array 131.38 29 PFAKE 21 43 10.0 +5.2
BW06 LR LR
comp=Z,366nm,19.0s,MS5.1
PDAR Pinedale Array 131.38 29 PKP PKPdf 21 43 01.6 -3.2
comp=Z,5.5nm,1.0s,SNR=19
PDAR PP PP 21 45 15.9 -7.7
comp=Z,2.1nm,1.0s,slow=4.4,SNR=3.4
PDAR SKPbc 21 46 26.4
comp=Z,1.1nm,0.4s,slow=1.5,SNR=4.6
DUG Dugway 131.58 33 *e*PKIKP PKPdf 21 43 03.4 -1.9
DUG MLR MLR
comp=Z,415nm,20.0s,MS5.1
NOQ North Oquirrh 131.63 32 *e*PKPdf PKPdf 21 43 03.6 -1.8
CTU Camp Tracy 131.80 32 *e*PKPdf PKPdf 21 43 03.5 -2.2
NLU North Lily Min 132.15 33 *e*PKPdf PKPdf 21 43 04.3 -2.1
MPU Maple Canyon 132.35 33 *e*PKPdf PKPdf 21 43 05.2 -1.5
RSSD Black Hills 132.72 23 *e*PKIKP PKPdf 21 43 05.0 -2.3
RSSD MLR MLR
comp=Z,152nm,20.0s,MS4.7
EYMN Ely 132.83 10 *e*PKPdf PKPdf 21 43 04.5 -2.9
EYMN LR LR
comp=Z,628nm,21.0s,MS5.3
MVU Marysvale 133.09 35 *e*PKPdf PKPdf 21 43 07.0 -1.2
MVU LR LR
comp=Z,299nm,19.0s,MS5.0
TMUT Trail Mountain 133.09 33 *e*PKPdf PKPdf 21 43 06.1 -2.0
MSU Marysvale 133.10 35 *e*PKIKP PKPdf 21 43 06.3 -1.9
RWWY Rawlins 133.32 28 *e*PKPdf PKPdf 21 43 06.2 -2.3
PFO Pinyon Flat Ob 133.55 43 *e*PKIKP PKPdf 21 43 07.7 -1.4
PFO MLR MLR
comp=Z,125nm,22.0s,MS4.6
SRU San Rafael 133.59 33 *e*PKIKP PKPdf 21 43 06.9 -2.1
PHWY Pilot Hill 134.43 27 *e*PKPdf PKPdf 21 43 07.8 -2.7
PHWY *e* 21 43 15.9
PV10 Paradox Valley 134.93 32 *e*PKPdf PKPdf 21 43 10.0 -1.6
RCBR Riachuelo 135.04 260 PFAKE 21 43 20.0 +7.6
RCBR LR LR
comp=Z,609nm,22.0s,MS5.3
PV01 Paradox Valley 135.35 32 *e*PKPdf PKPdf 21 43 10.4 -2.0
ISCO Idaho Springs 135.56 28 PKIKP PKPdf 21 43 10.7 -2.0
ISCO Idaho Springs 135.56 28 *e*PKPdf PKPdf 21 43 10.0 -2.7
ISCO LR LR
comp=Z,515nm,19.0s,MS5.3
EMMW East Machias 135.59 347 PFAKE 21 43 20.0 +7.4
EMMW LR LR
comp=Z,3μm,19.0s,MS6.0
WUAZ Wupatki 135.61 37 PFAKE 21 43 20.0 +7.1
WUAZ LR LR
comp=Z,439nm,19.0s,MS5.2
WVL Waterville 136.19 349 PFAKE 21 43 20.0 +6.3
WVL LR LR
comp=Z,3μm,19.0s,MS6.0
PLCA Paso Flores 136.94 191 PKhKP 21 43 04.0
comp=Z,4.9nm,1.2s,baz=220,slow=20,SNR=3.5
PLCA Paso Flores 136.94 191 PKP 21 43 04.0
SDCO Great Sand Dun 137.22 30 PKPdf PKPdf 21 43 13.3 -2.5
SDCO LR LR
comp=Z,573nm,21.0s,MS5.3
NCB Newcomb 137.47 353 PFAKE 21 43 30.0 +14
NCB LR LR
comp=Z,433nm,21.0s,MS5.2
TUC Tucson 138.10 40 *e*PKIKP PKPdf 21 43 13.3 -4.3
TUC Tucson 138.10 40 *e*PKPdf PKPdf 21 43 16.2 -1.4
TUC LR LR
comp=Z,327nm,20.0s,MS5.1
HRV Harvard--Oak R 138.53 350 PFAKE 21 43 30.0 +12
HRV LR LR
comp=Z,372nm,19.0s,MS5.2
WES Weston 138.60 350 PFAKE 21 43 30.0 +12

WES LR LR
comp=Z,726nm,20.0s,MS5.4
ANMO Albuquerque 138.85 33 *e*PKHKP 21 43 07.7
ANMO 21 43 16.9
ANMO MLR MLR
comp=Z,384nm,20.0s
ANMO Albuquerque 138.85 33 PKhKP 21 43 09.2
comp=Z,15nm,1.0s,baz=312,slow=2.4,SNR=19
ANMO PKP PKPdf 21 43 16.9 -2.0
comp=Z,14nm,0.9s,baz=267,slow=1.9,SNR=14
CBKS Cedar Bluff 138.93 23 PFAKE 21 43 30.0 +11
CBKS LR LR
comp=Z,364nm,19.0s,MS5.1
LSCT Lakeside 139.60 352 PFAKE 21 43 30.0 +10
LSCT LR LR
comp=Z,6.0nm,21.0s
ERPA Erie 139.67 360 PFAKE 21 43 30.0 +10
ERPA LR LR
comp=Z,415nm,20.0s,MS5.2
KSU1 Kansas State U 139.82 20 *e*PKPdf PKPdf 21 43 17.1 -3.4
SSPA Standing Stone 141.09 357 *e*PKPdf PKPdf 21 43 20.2 -2.5
SSPA *e* 21 43 26.7
SSPA LR LR
comp=Z,115nm,20.0s,MS4.6
AMTX Amarillo 141.37 29 PFAKE 21 43 30.0 +6.6
AMTX LR LR
comp=Z,418nm,19.0s,MS5.2
ACSO Alum Creek Sta 141.47 3 *e*PKPpre 21 43 13.8
ACSO LR LR
comp=Z,575nm,20.0s,MS5.3
MVL Millersville 141.61 355 *e*PKPdf PKPdf 21 43 21.1 -2.6
MNTX Cornudas Mount 141.85 36 *e*PKPpre 21 43 18.2
MNTX LR LR
comp=Z,469nm,21.0s,MS5.2
BLO Bloomington 142.18 8 *e*PKHKP 21 43 16.9
CCM Cathedral Cave 142.36 14 PKHKP 21 43 16.9
CCM *e* 21 43 21.9
CCM Cathedral Cave 142.36 14 PKPdf PKPdf 21 43 21.6 -3.4
CCM LR LR
comp=Z,113nm,20.0s,MS4.6
WMOK Wichita Mounta 142.81 26 *e*PKHKP 21 43 18.6
WMOK MLR MLR
comp=Z,274nm,19.0s,MS5.0
WCI Wyandotte Cave 143.14 8 *e*PKIKP PKPdf 21 43 19.7 -6.6
WCI MLR MLR
comp=Z,146nm,21.0s,MS4.7
BAO Brasilia Array 143.75 241 PKPdf PKPdf 21 43 23.5 -4.5
BDFB Brasilia 143.76 241 PKP PKPdf 21 43 23.0 -5.0
comp=Z,24nm,1.1s,baz=131,slow=2.1,SNR=16
FWV Forest Hill 144.19 1 *e*PKP PKPdf 21 43 23.1 -5.0
GLAT Glass 144.52 13 *e*PKP PKPdf 21 43 25.1 -3.7
GLAT *e* 21 43 31.6
UTMT University of 144.54 12 *e*PKP PKPdf 21 43 24.9 -3.9
ELN Prospectdale 144.55 1 *e*PKPdf PKPdf 21 43 23.6 -5.2
BLA Blacksburg 144.57 0 *e*PKIKP PKPdf 21 43 23.8 -5.1
BLA MLR MLR
comp=Z,704nm,20.0s,MS5.4
LTX Lajitas 144.58 37 *e*PKIKP PKPdf 21 43 26.4 -2.7
LTX *e* 21 43 33.1
LTX MLR MLR
comp=Z,480nm,19.0s,MS5.3
TXAR Lajitas Array 144.58 37 PKP PKPdf 21 43 26.0 -3.1
comp=Z,98nm,0.8s,baz=278,slow=1.7,SNR=281
GNAR Gosnell 144.65 14 *e*PKP PKPdf 21 43 25.5 -3.5
HBAR Harrisburg 144.88 15 *e*PKP PKPdf 21 43 26.4 -3.0
WVT Waverly 144.95 11 *e*PKIKP PKPdf 21 43 26.0 -3.6
WVT MLR MLR
comp=Z,489nm,21.0s,MS5.2
MIAR Mount Ida 144.97 19 *e*PKIKP PKPdf 21 43 26.6 -3.1
MIAR *e* 21 43 33.3
MIAR MLR MLR
comp=Z,607nm,22.0s,MS5.3
TZTN Tazewell 145.10 5 *e*PKP PKPdf 21 43 26.4 -3.5
TZTN *e* 21 43 33.4
UALR University of 145.14 17 *e*PKP PKPdf 21 43 26.3 -3.6
UALR *e* 21 43 33.5
MET Memphis--Engin 145.47 14 *e*PKP PKPdf 21 43 27.8 -2.7
JCT Junction City 145.85 31 *e*PKP2 PKPab 21 43 28.7 -1.4
JCT MLR MLR
comp=Z,370nm,19.0s,MS5.2
PLAL Pickwick Lake 146.01 11 *e*PKP PKPdf 21 43 28.4 -3.1
PLAL LR LR
comp=Z,458nm,19.0s,MS5.3
CPCT Cooper Cave 146.10 6 *e*PKP PKPdf 21 43 29.4 -2.2
CPCT *e* 21 43 36.2
SWET Sewanee 146.15 8 *e*PKP PKPdf 21 43 28.9 -2.8
SWET *e* 21 43 36.0
OXF Oxford 146.18 14 *e*PKP2 PKPab 21 43 29.5 -1.8
OXF MLR MLR
comp=Z,503nm,21.0s,MS5.3
NATX Nacogdoches 147.09 23 *e*PKPbc PKPdf 21 43 33.2 -0.1
NATX *e* 21 43 40.1
NATX LR LR
comp=Z,555nm,20.0s,MS5.3
TLL Tololo Astrono 147.13 195 *e*P PKPdf 21 43 33.1 -0.4
JSC Jenkinsville 147.48 1 *e*PKPbc PKPdf 21 43 33.3 -0.6
JSC *e* 21 43 39.9
LRAL Lakeview Retre 148.11 11 *e*PKPbc PKPdf 21 43 34.9 -0.1
LRAL LR LR
comp=Z,655nm,22.0s,MS5.4
GOGA Godfrey 148.22 5 *e*PKIKP PKPdf 21 43 33.4 -1.7
GOGA MLR MLR
comp=Z,496nm,20.0s,MS5.3
COW Cow Castle Cre 148.39 1 *e*PKPbc PKPdf 21 43 36.2 +0.9
TWB Tillmans-White 148.65 360 *e*PKPbc PKPdf 21 43 36.9 +1.1
NHSC New Hope 148.66 360 *e*PKPbc PKPdf 21 43 36.6 +0.8
NHSC LR LR
comp=Z,725nm,20.0s,MS5.5
CSU Charleston Sou 148.78 360 *e*PKPbc PKPdf 21 43 37.5 +1.5
HBF Harts Bluff 148.84 0 *e*PKP2 PKPab 21 43 37.4 -4.4
LVC Limon Verde 153.49 204 *e*PKPdf PKPdf 21 43 41.5 -1.9
LVC *e*PKPbc PKPdf 21 43 49.4 +6.1
LVC *e* 21 43 56.3
LVC LR LR
comp=Z,364nm,20.0s,MS5.2
DWPF Disney 153.62 2 PFAKE 21 43 50.0 +6.6
DWPF LR LR
comp=Z,151nm,20.0s,MS4.8
SJG San Juan 158.49 321 PFAKE 21 44 00.0 +10
SJG LR LR
comp=Z,411nm,20.0s,MS5.3
LPAZ La Paz 158.53 214 PKPdf PKPdf 21 43 48.8 -1.4
LPAZ La Paz 158.53 214 PKP PKPdf 21 43 49.0 -1.1
comp=Z,9.2nm,1.1s,baz=66,slow=3.2,SNR=24
LPAZ La Paz 158.53 214 *e*PKPdf PKPdf 21 43 48.6 -1.6
LPAZ LR LR
comp=Z,376nm,21.0s,MS5.2
TEIG Tepich 159.92 22 PFAKE 21 44 00.0 +8.4
TEIG LR LR
comp=Z,270nm,21.0s,MS5.1
SAML Samuel 159.97 238 *e*PKPab PKPab 21 44 26.3 -3.2
SAML LR LR
comp=Z,637nm,21.0s,MS5.4
SDV Santo Domingo 167.95 307 PFAKE 21 44 10.0 +11
SDV LR LR
comp=Z,450nm,20.0s
ROSC El Rosal 173.21 299 PKP PKPdf 21 43 59.9 -2.2
comp=Z,11nm,0.9s,baz=81,slow=21,SNR=13
OTAV Otavalo 177.69 234 *e*PKPdf PKPdf 21 44 01.4 -1.8
OTAV LR LR
comp=Z,501nm,21.0s

BJI ***17*** *21:32:56.7, 61.00N×149.97W, h12km, mB5.1, mb4.7, Ms5.4, Msz5.2*
MOS ***17*** *21:33:00.2±0.6, 60.86N×149.83W, h51km, mb5.1/15, Error ellipse: s-maj=34.6km s-min=6.5km az=89.2*
IDC ***17*** *21:33:01.9±0.7, 60.92N×149.40W, h47km±5km, mb4.2/22, mb1 4.4/26, mb1mx4.4/30, mbtmp4.4/26, MS3.9/7, Ms1 3.9/7, ms1mx3.5/33, Error ellipse: s-maj=15.5km s-min=9.8km az=45.0*
NEIC ***17*** *21:33:01.1, 60.76N×149.33W, h19km, mb4.8/75, ML4.8(PMR), ML4.7(AEIC), After AEIC.*
NEIC Felt [IV] at Cooper Landing, Girdwood, Indian and Valdez; [III] at Anchorage, Chugiak, Eagle River, Palmer, Seward and Wasilla.
ISC 17 21:32:59.1±0.1, 60.83N±0.02×149.27W±0.03, h35km, h35km±3.6km:pP-P, n280, σ1§12/282, mb4.6/101, MS4.8/8, 15C-11D, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	**0.34**	**318**	P	**P**	**21 33 09.0**	**+1.4**
RC01				S	**S**	**21 33 15.3**	**+1.8**
FIB	**Fire Island**	**0.56**	**307**	P	**P**	**21 33 12.4**	**+2.0**
FIB				S	**S**	**21 33 21.8**	**+3.2**
SLKM	**Skilak Lake**	**0.57**	**236**	P	**P**	**21 33 11.1**	**+0.4**
VOGL	**Vogel Lake**	**0.59**	**287**	P	**P**	**21 33 12.7**	**+1.7**
PMR	**Palmer**	**0.77**	**5**	*e*P	**P**	**21 33 14.9**	**+1.4**
PWA	**Palmer West**	**0.87**	**340**	P	**P**	**21 33 16.8**	**+1.8**
GHO	**Glory Hole Cre**	**0.96**	**10**	P	**P**	**21 33 18.6**	**+2.3**
NKA	**Nikishka**	**0.97**	**266**	P	**P**	**21 33 18.5**	**+2.1**
SML	**Sawmill**	**1.08**	**24**	P	**P**	**21 33 20.4**	**+2.5**
SML				S	**S**	**21 33 36.3**	**+4.4**
BRLK	**Bradley Lake**	**1.34**	**218**	P	**P**	**21 33 22.2**	**+0.5**
SCM	**Sheep Creek Mo**	**1.37**	**42**	P	**P**	**21 33 25.0**	**+2.8**
SPU	**Mount Spurr**	**1.40**	**286**	P	**P**	**21 33 23.7**	**+1.1**
STLK	**Strandline Lak**	**1.41**	**299**	P	**P**	**21 33 24.1**	**+1.4**
CGLM	**Capps Glacier**	**1.42**	**291**	P	**P**	**21 33 24.1**	**+1.3**
HIN	**Hinchinbrook I**	**1.43**	**107**	P	**P**	**21 33 24.3**	**+1.3**
VLZ	**Valdez**	**1.46**	**77**	P	**P**	**21 33 25.4**	**+2.0**
VLZ				S	**S**	**21 33 44.6**	**+3.0**
CRP	**Crater Peak**	**1.47**	**288**	P	**P**	**21 33 25.2**	**+1.6**
CKN	**Chakachatna No**	**1.47**	**287**	P	**P**	**21 33 25.0**	**+1.4**
CKT	**Bend**	**1.48**	**286**	P	**P**	**21 33 24.9**	**+1.3**
CP2	**Crater Peak Tw**	**1.51**	**288**	P	**P**	**21 33 25.8**	**+1.7**
CKL	**Chakachamna La**	**1.54**	**285**	P	**P**	**21 33 25.9**	**+1.3**
RDT	**Redoubt**	**1.57**	**262**	P	**P**	**21 33 25.9**	**+1.0**
BGL	**Barrier Glacie**	**1.58**	**287**	P	**P**	**21 33 26.7**	**+1.5**
CNPM	**China Poot**	**1.64**	**218**	P	**P**	**21 33 26.4**	**+0.4**
DFR	**Drift River**	**1.70**	**263**	P	**P**	**21 33 27.6**	**+0.8**
DIV	**Divide**	**1.73**	**79**	P	**P**	**21 33 29.1**	**+1.9**
RDN	**Redoubt North**	**1.75**	**261**	P	**P**	**21 33 28.2**	**+0.7**
EYAK	**Cordova Ski Ar**	**1.75**	**98**	P	**P**	**21 33 28.8**	**+1.2**
NCT	**North Crescent**	**1.82**	**263**	P	**P**	**21 33 29.4**	**+0.8**
XLV	**Seldovia**	**1.85**	**223**	P	**P**	**21 33 29.2**	**+0.2**
ILIM	**Iliamna**	**1.98**	**249**	P	**P**	**21 33 31.2**	**+0.4**
MID	**Middleton Isla**	**2.03**	**133**	*e*P	**P**	**21 33 34.6**	**+3.0**
INE	**Iliamna NE**	**2.04**	**249**	P	**P**	**21 33 32.0**	**+0.4**
ILW	**Iliamna West**	**2.07**	**250**	P	**P**	**21 33 32.6**	**+0.5**
OPT	**Oil Point**	**2.30**	**241**	P	**P**	**21 33 36.1**	**+0.7**
AUE	**Augustine Isla**	**2.53**	**236**	P	**P**	**21 33 39.1**	**+0.4**
AUI	**Augustine Isla**	**2.57**	**236**	P	**P**	**21 33 39.6**	**+0.3**
TRF	**Thorofare Moun**	**2.67**	**350**	P	**P**	**21 33 42.7**	**+2.0**
GLB	**Gilahina Butte**	**2.72**	**75**	P	**P**	**21 33 42.9**	**+1.6**
SYI	**Shuyak Island**	**2.73**	**217**	P	**P**	**21 33 41.8**	**+0.1**
PAX	**Paxson**	**2.80**	**38**	P	**P**	**21 33 45.1**	**+2.5**
KTH	**Kantishna Hill**	**2.84**	**345**	P	**P**	**21 33 45.1**	**+1.9**
MCK	**McKinley**	**2.92**	**3**	P	**P**	**21 33 47.1**	**+2.9**
MCNL	**McNeil River**	**3.04**	**239**	P	**P**	**21 33 45.5**	**-0.5**
THY	**Trims Highway**	**3.07**	**31**	P	**P**	**21 33 49.1**	**+2.6**
SVW2	**Sparrevohn**	**3.09**	**278**	P	**P**	**21 33 46.4**	**-0.3**
BALM	**Baldy**	**3.38**	**84**	P	**P**	**21 33 51.7**	**+0.9**
KAPH	**Kanchai Pasha**	**3.41**	**231**	P	**P**	**21 33 50.1**	**-1.2**
KDAK	**Kodiak Island**	**3.50**	**211**	P	**P**	**21 33 51.1**	**-1.5**
DOT	**Dot Lake**	**3.73**	**38**	P	**P**	**21 33 57.1**	**+1.3**
TT01	**Tatalina**	**3.82**	**306**	P	**P**	**21 33 57.4**	**+0.4**
TTA	**Tatalina**	**3.82**	**306**	*e*P	**P**	**21 33 57.1**	**0.0**
CTGM	**Chitina Glacie**	**3.88**	**85**	P	**P**	**21 33 58.8**	**+0.9**
CCB	**Clear Creek Bu**	**3.89**	**9**	P	**P**	**21 34 00.2**	**+2.2**
IL1	**Eielson Array**	**4.10**	**14**	P	**P**	**21 34 02.8**	**+1.7**
ILAR	**Eielson Array**	**4.10**	**14**	P	**P**	**21 34 02.5**	**+1.4**
	27nm,0.3s,baz=197,slow=10,SNR=586						
ILAR				S	**S**	**21 34 50.2**	**+1.7**
	31nm,0.3s,baz=213,slow=17,SNR=5.6						
COLA	**College**	**4.11**	**8**	P	**P**	**21 34 02.8**	**+1.6**
COLA	**College**	**4.11**	**8**	P	**P**	**21 34 02.9**	**+1.7**
ANCK	**Angle Creek**	**4.13**	**233**	P	**P**	**21 34 00.8**	**-0.6**
MDM	**Murphy Dome**	**4.17**	**6**	P	**P**	**21 34 03.9**	**+1.8**
BCA3	**Beaver Creek A**	**4.18**	**54**	P	**P**	**21 34 03.7**	**+1.5**
PNL	**Peninsula**	**5.05**	**99**	P	**P**	**21 34 13.6**	**-0.9**
GCSA	**Galena City Sc**	**5.25**	**322**	P	**P**	**21 34 17.7**	**+0.4**
IM3	**Indian Mountai**	**5.55**	**341**	P	**P**	**21 34 21.6**	**+0.2**
DAWY	**Dawson**	**5.61**	**50**	P	**P**	**21 34 22.9**	**+0.5**
IMA	**Indian Mountai**	**5.62**	**341**	*e*P	**P**	**21 34 22.5**	**+0.1**
COLD	**Coldfoot**	**6.43**	**357**	P	**P**	**21 34 34.1**	**+0.1**
BM3	**Burnt Mountain**	**6.92**	**15**	P	**P**	**21 34 41.0**	**+0.3**
WHY	**Whitehorse**	**7.05**	**85**	P	**P**	**21 34 41.7**	**-0.9**
BESE	**Bessie Mountai**	**7.63**	**101**	P	**P**	**21 34 49.7**	**-1.0**
SDPT	**Sand Point**	**8.09**	**232**	*e*P	**P**	**21 34 55.6**	**-1.4**
SIT	**Sitka**	**8.14**	**112**	*e*P	**P**	**21 34 55.3**	**-2.4**
TNA	**Tin City**	**9.65**	**307**	P	**P**	**21 35 17.7**	**-0.7**
DLBC	**Dease Lake**	**10.03**	**95**	P	**P**	**21 35 22.1**	**-1.5**
	0.9nm,0.3s,baz=279,slow=9.2,SNR=20						
DLBC				S	**S**	**21 37 10.8**	**-5.2**
	0.6nm,0.3s,baz=199,slow=14,SNR=2.0						
DLBC				Lg		21 38 09.3	
	0.3nm,0.3s,baz=18,slow=27,SNR=2.7						
DLBC				LR	LR	21 39 48.7	
	comp=Z,839nm,19.3s,baz=284,slow=40						
DLBC	**Dease Lake**	**10.03**	**95**	*e*P	**P**	**21 35 22.1**	**-1.5**
INK	**Inuvik**	**10.07**	**35**	P	**P**	**21 35 22.8**	**-1.5**
	0.5nm,0.3s,baz=225,slow=15,SNR=34						
INK				S	**S**	**21 37 16.8**	**-0.3**
	0.7nm,0.3s,baz=340,slow=30,SNR=1.5						
INK				Lg		21 38 01.4	
	0.4nm,0.3s,baz=38,slow=13,SNR=4.3						
INK				LR	LR	21 39 44.5	
	comp=Z,429nm,18.8s,baz=227,slow=40						
INK	**Inuvik**	**10.07**	**35**	*e*P	**P**	**21 35 22.7**	**-1.5**
BBB	**Bella Bella**	**14.48**	**117**	LR	LR	21 41 25.5	
	comp=Z,282nm,18.2s,baz=184,slow=34						
YKW3	**Yellowknife Ar**	**16.40**	**69**	*e*P	**P**	**21 36 47.2**	**-0.6**
YKA	**Yellowknife Ar**	**16.42**	**69**	*i* P	**P**	**21 36 47.5**	**-0.5**
YKA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
YKA	**Yellowknife Ar**	**16.42**	**69**	P	**P**	**21 36 47.5**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=277,slow=10,SNR=55						
YKA				Lg		21 41 20.4	
	baz=297,slow=22,SNR=2.5						
YKA				PcP	PcP	21 41 37.7	-2.4
	comp=Z,0.2nm,0.3s,baz=277,slow=1.1,SNR=8.9						
YKA				LR	LR	21 42 51.2	
	comp=Z,288nm,21.1s,baz=280,slow=36						
YKA	**Yellowknife Ar**	**16.42**	**69**	P	**P**	**21 36 47.5**	**-0.6**
YKA				Lg		21 41 20.4	
YKA				PcP	PcP	21 41 37.7	-2.4
YKA				LR	LR	21 42 51.2	
BILL	**Bilibino**	**20.07**	**310**	*e*P	**P**	**21 37 28.4**	**-3.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s						
EDM	**Edmonton**	**20.75**	**95**	*e*P	**P**	**21 37 38.8**	**-0.2**
FX1	**Attu Island--F**	**21.76**	**265**	P	**P**	**21 37 48.2**	**-0.9**
	comp=Z,15nm,0.4s,mb4.8,baz=336,slow=6.7,SNR=5.4						
FX1				pP		21 38 00.1	
	comp=Z,76nm,0.6s,baz=241,slow=20,SNR=6.9						
NEW	**Newport**	**22.22**	**110**	P	**P**	**21 37 55.3**	**+1.6**
	comp=Z,4.3nm,0.6s,mb4.0,baz=324,slow=6.9,SNR=9.6						
NEW				LR	LR	21 46 51.8	
	comp=Z,375nm,18.3s,MS3.9,baz=140,slow=37						
NEW	**Newport**	**22.22**	**110**	*e*P	**P**	**21 37 55.4**	**+1.6**
	comp=Z,11nm,1.2s,mb4.2						
NEW				*e*		21 38 05.2	
RES	**Resolute Bay**	**23.61**	**33**	*e*P	**P**	**21 38 08.4**	**+1.4**
	comp=Z,0.6nm,0.5s						
BMO	**Blue Mountains**	**24.71**	**116**	*e*P	**P**	**21 38 18.8**	**+0.7**
	comp=Z,13nm,1.1s,mb4.4						
MSO	**Missoula**	**24.74**	**108**	*e*P	**P**	**21 38 18.6**	**+0.4**
	comp=Z,5.5nm,0.9s,mb4.1						
CHMT	**Chamberlain Mo**	**25.00**	**107**	*e*P	**P**	**21 38 21.2**	**+0.5**
YBH	**Yreka Blue Hor**	**25.03**	**128**	P	**P**	**21 38 23.2**	**+2.1**
	comp=Z,4.9nm,0.8s,mb4.1,baz=344,slow=3.2,SNR=12						
YBH				LR	LR	21 46 09.8	
	comp=Z,254nm,20.8s,baz=327,slow=31						
FFC	**Flin Flon**	**25.46**	**83**	*e*P	**P**	**21 38 25.2**	**+0.2**
	comp=Z,7.8nm,1.0s,mb4.2						
WDC	**Whiskeytown Da**	**26.08**	**129**	*e*P	**P**	**21 38 31.4**	**+0.4**
	comp=Z,10.0nm,0.9s,mb4.3						
BOZ	**Bozeman (W)**	**26.69**	**108**	*e*P	**P**	**21 38 37.1**	**+0.6**
	comp=Z,26nm,1.8s,mb4.5						
HLID	**Hailey**	**27.01**	**114**	*e*P	**P**	**21 38 39.2**	**-0.2**
	comp=Z,3.0nm,0.9s,mb3.8						
FCC	**Fort Churchill**	**27.15**	**70**	*e*P	**P**	**21 38 40.4**	**-0.2**
	comp=Z,6.4nm,0.6s,mb4.3						
IMW	**Indian Meadow**	**28.34**	**109**	*e*P	**P**	**21 38 52.6**	**+1.1**
	comp=Z,24nm,0.9s,mb4.8						
LAO	**LASA Array**	**28.50**	**100**	*e*P	**P**	**21 38 53.5**	**+0.6**
	comp=Z,15nm,0.6s,mb4.9						
MOOW	**Moose Ponds**	**28.54**	**109**	*e*P	**P**	**21 38 53.7**	**+0.4**
	comp=Z,7.3nm,1.3s,mb4.2						
RRI2	**Red Ridge**	**28.59**	**110**	*e*P	**P**	**21 38 54.5**	**+0.8**
	comp=Z,8.0nm,0.8s,mb4.5						
TPAW	**Teton Pass**	**28.65**	**110**	*e*P	**P**	**21 38 55.1**	**+0.8**
	comp=Z,12nm,0.6s,mb4.8						
SNOW	**Snow King Moun**	**28.76**	**110**	*e*P	**P**	**21 38 56.7**	**+1.5**
	comp=Z,12nm,0.8s,mb4.7						
ELK	**Elko**	**28.92**	**118**	*e*P	**P**	**21 38 57.4**	**+0.7**
	comp=Z,6.2nm,0.8s,mb4.4						
NVAR	**Mina Array Bea**	**29.59**	**125**	P	**P**	**21 39 03.7**	**+1.0**
	comp=Z,6.6nm,0.6s,mb4.2,baz=318,slow=9.1,SNR=12						
NVAR				pP	pP	21 39 15.2	+2.5
	comp=Z,2.3nm,0.7s,baz=310,slow=8.0,SNR=5.6						
NVAR				PcP	PcP	21 42 06.5	-0.6
	comp=Z,2.0nm,0.7s,baz=280,slow=2.6,SNR=5.9						
MNV	**Mina**	**29.65**	**125**	*e*P	**P**	**21 39 03.7**	**+0.4**
	comp=Z,11nm,1.4s,mb4.4						
BW06	**Boulder Array**	**29.85**	**109**	*e*P	**P**	**21 39 05.5**	**+0.6**
PDAR	**Pinedale Array**	**29.85**	**109**	P	**P**	**21 39 05.5**	**+0.5**
	comp=Z,3.0nm,0.9s,mb4.0,baz=323,slow=7.4,SNR=19						
PDAR				pP	pP	21 39 16.9	+2.0
	comp=Z,1.3nm,0.5s,baz=333,slow=4.7,SNR=6.7						
PDAR				PcP	PcP	21 42 06.0	-1.7
	comp=Z,0.7nm,0.5s,baz=304,slow=3.3,SNR=3.4						
DUG	**Dugway**	**30.43**	**116**	*e*P	**P**	**21 39 10.2**	**0.0**
	comp=Z,2.0nm,0.8s,mb3.9						
ULM	**Lac du Bonnet**	**31.13**	**85**	P	**P**	**21 39 16.5**	**+0.2**
	comp=Z,3.2nm,0.5s,mb4.4,baz=301,slow=11,SNR=4.9						
ULM				LR	LR	21 53 23.3	
	comp=Z,272nm,18.1s,MS4.0,baz=345,slow=39						
RSSD	**Black Hills**	**31.43**	**101**	*e*P	**P**	**21 39 19.3**	**+0.3**
	comp=Z,8.7nm,0.5s,mb4.8						
MVU	**Marysvale**	**32.09**	**117**	*e*P	**P**	**21 39 25.5**	**+0.7**
	comp=Z,8.8nm,0.9s,mb4.6						
MSU	**Marysvale**	**32.09**	**117**	*e*P	**P**	**21 39 25.8**	**+1.0**
ARUT	**Antelope Range**	**32.15**	**119**	*e*P	**P**	**21 39 26.2**	**+0.8**
SRU	**San Rafael**	**32.33**	**114**	*e*P	**P**	**21 39 27.7**	**+0.8**
PV01	**Paradox Valley**	**34.01**	**113**	*e*P	**P**	**21 39 41.9**	**+0.6**
EYMN	**Ely**	**34.81**	**85**	*e*P	**P**	**21 39 47.9**	**-0.3**
	comp=Z,17nm,0.8s,mb5.0						
SDCO	**Great Sand Dun**	**35.72**	**110**	*e*P	**P**	**21 39 56.9**	**+0.9**
	comp=Z,17nm,1.4s,mb4.8						
YAK	**Yakutsk**	**36.41**	**308**	*i* P	**P**	**21 39 59.9**	**-1.7**
YAK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
ANMO	**Albuquerque**	**37.59**	**114**	*i* P	**P**	**21 40 12.9**	**+1.1**
ANMO	**Albuquerque**	**37.59**	**114**	P	**P**	**21 40 12.8**	**+1.0**
	comp=Z,1.2nm,0.8s,mb3.6,baz=338,slow=9.4,SNR=4.2						
ANMO				PcP	PcP	21 42 28.6	-1.1
	comp=Z,2.0nm,0.8s,baz=310,slow=3.0,SNR=4.6						
ANMO	**Albuquerque**	**37.59**	**114**	*e*P	**P**	**21 40 12.4**	**+0.6**
	comp=Z,3.3nm,1.1s,mb4.0						
TUC	**Tucson**	**37.96**	**121**	*e*P	**P**	**21 40 16.0**	**+1.1**
	comp=Z,4.4nm,1.1s,mb4.1						
SUMG	**Summit**	**38.84**	**27⇓**	*e*P	**P**	**21 40 22.8**	**+0.9**
	comp=Z,67nm,1.2s,mb5.2						
DAG	**Danmarks Havn**	**39.20**	**16⇑**	*i* P	**P**	**21 40 25.0**	**+0.2**
DAG				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.9						
DAG	**Danmarks Havn**	**39.20**	**16⇑**	*i* P	**P**	**21 40 25.0**	**+0.2**
	comp=Z,18nm,0.7s,mb4.9						
SFJD	**Kangerlussuaq**	**39.40**	**38**	*i* P	**P**	**21 40 27.3**	**+0.7**
SFJD				*e*		21 40 42.1	
SFJD				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
SFJD	**Kangerlussuaq**	**39.40**	**38**	*i* P	**P**	**21 40 27.3**	**+0.7**
	comp=Z,11nm,0.6s,mb4.8						
SFJD				*e*		21 40 42.1	
YSS	**Yuzh-Sakhalins**	**40.45**	**282**	*i* P	**P**	**21 40 41.5**	**+6.0**
MNTX	**Cornudas Mount**	**40.82**	**115**	*e*P	**P**	**21 40 39.3**	**+0.7**
	comp=Z,1.8nm,0.7s,mb3.8						
WMOK	**Wichita Mounta**	**41.30**	**106**	*e*P	**P**	**21 40 42.5**	**-0.1**
	comp=Z,7.8nm,0.8s,mb4.4						
SCHQ	**Schefferville**	**41.55**	**60**	P	**P**	**21 40 44.0**	**-0.3**
	comp=Z,3.9nm,0.8s,mb4.1,baz=312,slow=7.0,SNR=8.3						
SCHQ				pP	pP	21 40 56.1	+1.6
	comp=Z,4.1nm,1.0s,baz=291,slow=6.6,SNR=4.7						
TXAR	**Lajitas Array**	**43.60**	**115**	P	**P**	**21 41 02.1**	**+0.7**
	comp=Z,1.7nm,0.7s,mb3.9,baz=337,slow=6.8,SNR=24						
TXAR				pP	pP	21 41 14.9	+3.2
	comp=Z,0.7nm,0.5s,baz=323,slow=6.3,SNR=5.6						
TXAR				PcP	PcP	21 42 47.4	-1.6
	comp=Z,0.7nm,0.6s,baz=297,slow=2.0,SNR=5.5						
KLR	**Kul'dur**	**43.97**	**292**	*e*P	**P**	**21 41 08.8**	**+4.7**
JCT	**Junction City**	**44.37**	**110**	*e*P	**P**	**21 41 07.3**	**-0.2**
	comp=Z,16nm,0.7s,mb4.9						
WVT	**Waverly**	**45.46**	**94**	*e*P	**P**	**21 41 15.7**	**-0.6**
	comp=Z,2.8nm,0.6s,mb4.3						
PLAL	**Pickwick Lake**	**46.26**	**95**	*e*P	**P**	**21 41 21.6**	**-1.0**
	comp=Z,18nm,0.8s,mb5.0						
WVL	**Waterville**	**47.72**	**72**	P	**P**	**21 41 34.6**	**+0.7**
	comp=Z,319nm,1.5s						
ELN	**Prospectdale**	**48.06**	**87**	*e*P	**P**	**21 41 35.8**	**-0.9**
MDJ	**Mudanjiang**	**48.39**	**289**	P	**P**	**21 41 40.3**	**+1.2**
MDJ				AP	pP	21 41 46.6	-2.8
MDJ				XP	sP	21 41 48.6	-5.2
MDJ				PCP	PcP	21 43 06.9	+1.3
MDJ				PP	PP	21 43 32.8	+1.5
MDJ				AMB	AMB		
	comp=Z,172nm,8.5s						
MDJ				LR	LR		
	comp=N,1μm,13.0s,MS5.3						
MDJ				LR	LR		
	comp=E,1μm,11.8s,MS5.3						
MDJ				LR	LR		
	comp=Z,3μm,12.2s,MS5.5						
HIA	**Hailar**	**49.22**	**300**	P	**P**	**21 41 47.5**	**+2.0**
	comp=Z,5.0nm,0.6s,mb4.7						
KEV	**Kevo**	**49.68**	**2**	*e*p	**P**	**21 41 47.3**	**-1.4**
ARCES	**ARCESS Array B**	**49.87**	**2**	P	**P**	**21 41 48.5**	**-1.6**
	comp=Z,5.0nm,0.6s,mb4.7,baz=358,slow=5.6,SNR=18	

SSE	**Sheshan**	63.17	286	P		**P**	21 43 20.8	-4.8
	comp=Z,27nm,0.6s,mb5.5							
NJ2	**Nanjing**	63.46	288	*e*P		**P**	21 43 26.5	-1.0
NJ2				AP		pP	21 43 36.8	-1.4
NJ2				XP		sP	21 43 40.5	-1.7
NJ2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,420nm,4.2s							
NJ2				LR		LR		
	comp=N,2μm,19.2s,MS5.6							
NJ2				LR		LR		
	comp=E,3μm,17.8s,MS5.6							
NJ2				LR		LR		
	comp=Z,6μm,20.2s,MS5.8							
OBN	**Obninsk**	64.31	356	*d* *i*P		**P**	21 43 31.1	-1.4
OBN				pmax		pmax		
	comp=Z,15nm,0.7s,mb5.1							
OBN				MLR		MLR		
	comp=Z,400nm,18.0s,MS4.7							
SUW	**Suwalki**	65.35	5	*e*P		**P**	21 43 37.5	-1.7
SUW	**Suwalki**	65.35	5	*e*P		**P**	21 43 37.5	-1.7
GTA	**Gaotai**	65.43	307	P		**P**	21 43 39.0	-1.1
GTA				AP		pP	21 43 47.4	-3.4
GTA				XP		sP	21 43 49.5	-5.3
GTA				AMB		AMB		
	comp=Z,5.0nm,0.8s,mb4.6							
GTA				AMB		AMB		
	comp=Z,231nm,11.1s							
GTA				LR		LR		
	comp=N,494nm,14.1s,MS5.0							
GTA				LR		LR		
	comp=E,592nm,14.1s,MS5.0							
GTA				LR		LR		
	comp=Z,485nm,11.1s,MS5.0							
GKP	**Gorka Klasztor**	65.74	9	*e*P		**P**	21 43 41.3	-0.4
GKP	**Gorka Klasztor**	65.74	9	*e*P		**P**	21 43 41.3	-0.5
WMQ	**Urumqi**	65.91	318	P		**P**	21 43 46.0	+3.0
WMQ				AP		pP	21 43 53.5	-0.3
WMQ				XP		sP	21 43 57.1	-0.6
WMQ				PCP		PcP	21 44 16.5	+2.9
WMQ				AMB		AMB		
	comp=Z,4.0nm,0.5s,mb4.7							
WMQ				AMB		AMB		
	comp=Z,151nm,6.6s							
CLZ	**Clausthal**	66.50	14	*e*P		**P**	21 43 46.4	-0.2
	comp=Z,21nm,1.2s,mb5.0							
WHN	**Wuhan**	66.81	291	P		**P**	21 43 42.5	-6.4
CLL	**Collm**	67.31	12	⇓*i*P		**P**	21 43 50.7	-1.0
CLL				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.7							
CLL	**Collm**	67.31	12	⇓*i*P		**P**	21 43 50.7	-1.0
	comp=Z,8.0nm,1.0s,mb4.7							
CLL	**Collm**	67.31	12	⇓P		**P**	21 43 50.7	-1.0
	comp=Z,logA/T=0.9,mb4.7							
BAIF	**Baives**	67.42	18	*e*P		**P**	21 43 51.3	-1.1
	comp=Z,13nm,0.8s,mb4.7							
GIVF	**Givet**	67.47	18	*e*P		**P**	21 43 51.5	-1.2
MOX	**Moxa**	67.82	13	*e*P		**P**	21 43 54.2	-0.7
MOX				pmax		pmax		
	comp=Z,14nm,0.7s,mb5.1							
MOX	**Moxa**	67.82	13	*e*P		**P**	21 43 54.2	-0.7
	comp=Z,14nm,0.7s,mb5.1							
MOX	**Moxa**	67.82	13	*i*P		**P**	21 43 54.2	-0.7
BRG	**Berggiesshubel**	67.83	11	*i*P		**P**	21 43 54.5	-0.5
BRG				pmax		pmax		
	comp=Z,26nm,1.8s,mb5.0							
BRG	**Berggiesshubel**	67.83	11	*i*P		**P**	21 43 54.5	-0.5
	comp=Z,26nm,1.8s,mb5.0							
BRG				*i*			21 47 52.0	
TNS	**Taunus Mts**	67.85	15	*e*P		**P**	21 43 54.2	-0.9
FLN	**La Foliniere**	67.89	22	*e*P		**P**	21 43 53.8	-1.6
KSP	**Ksiaz**	68.07	10	*e*P		**P**	21 43 56.0	-0.5
KSP	**Ksiaz**	68.07	10	*e*P		**P**	21 43 56.4	-0.1
LDF	**La Druitiere**	68.11	22	*e*P		**P**	21 43 55.2	-1.6
	comp=Z,15nm,0.8s,mb4.8							
GRR	**Gorron**	68.18	22	*e*P		**P**	21 43 55.9	-1.3
	comp=Z,39nm,1.0s,mb5.1							
PVCC	**Panska Ves**	68.23	11	*e*P		**P**	21 43 57.2	-0.3
NKC	**Novy Kostel**	68.31	13	*e*P		**P**	21 43 57.5	-0.5
UPC	**Upice**	68.38	10	*e*P		**P**	21 43 57.9	-0.5
DPC	**Dobruska-Polom**	68.56	10	*e*P		**P**	21 43 59.3	-0.3
DPC				*ex*		x	21 44 18.7	
GRA1	**Grafenberg Arr**	68.71	13	*e*P		**P**	21 44 00.1	-0.4
	comp=Z,12nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	68.71	13	*e*P		**P**	21 44 00.1	-0.4
GRF				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.8							
GRF	**Grafenberg Arr**	68.71	13	*e*P		**P**	21 44 00.1	-0.4
	comp=Z,12nm,0.9s,mb4.8							
PRU	**Pruhonice**	68.77	11	*e*P		**P**	21 44 00.5	-0.3
AKASG	**Malin Array Be**	68.81	1	P		**P**	21 43 59.2	-1.9
	comp=Z,3.9nm,0.4s,mb4.7,baz=358,slow=6.2,SNR=52							
OJC	**Ojcow**	68.95	8	*e*P		**P**	21 44 00.9	-1.1
MEZF	**Maizieres J'vi**	69.06	18	*e*P		**P**	21 44 01.6	-1.1
OKC	**Ostrava-Krasne**	69.22	9	*e*P		**P**	21 44 03.3	-0.3
MORC	**Moravsky Berou**	69.23	9	⇑P		**P**	21 44 03.2	-0.5
WET	**Wettzell**	69.43	12	*e*P		**P**	21 44 04.8	-0.1
WET				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
WET	**Wettzell**	69.43	12	*e*P		**P**	21 44 04.8	-0.1
	comp=Z,7.0nm,0.9s,mb4.6							
CDF	**Champ du Feu**	69.47	16	*e*P		**P**	21 44 04.1	-1.1
	comp=Z,12nm,0.9s,mb4.5							
KHC	**Kasperske Hory**	69.52	12	*d*P		**P**	21 44 05.1	-0.4
KHC	**Kasperske Hory**	69.52	12	*e*P		**P**	21 44 05.6	+0.1
KHC				*ex*		x	21 44 27.5	
LVV	**L'vov**	69.57	5	*e*P		**P**	21 44 04.6	-1.2
KWP	**Kalwaria**	69.70	6	*e*P		**P**	21 44 06.2	-0.4
KWP	**Kalwaria**	69.70	6	*e*P		**P**	21 44 06.2	-0.4
HAU	**Haudompre**	69.74	17	*e*P		**P**	21 44 05.6	-1.2
	comp=Z,19nm,0.9s,mb4.7							
NIE	**Niedzica**	69.78	7	*e*P		**P**	21 44 06.0	-1.1
GEC2	**GERESS Array S**	69.81	12	*e*P		**P**	21 44 06.9	-0.4
GEC2				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5							
GEC2	**GERESS Array S**	69.81	12	*e*P		**P**	21 44 06.9	-0.4
	comp=Z,4.0nm,0.7s,mb4.5							
GERES	**GERESS Array B**	69.81	12	P		**P**	21 44 06.4	-0.8
	comp=Z,3.4nm,0.6s,mb4.5,baz=350,slow=4.5,SNR=34							
HINF	**Hinterlafeld**	69.99	17	*e*P		**P**	21 44 07.1	-1.3
	comp=Z,9.3nm,0.7s,mb4.5							
MFF	**Saint Martin d**	70.03	22	*e*P		**P**	21 44 07.4	-1.2
	comp=Z,35nm,1.0s,mb5.0							
SSF	**Saint Saulge**	70.22	19	*e*P		**P**	21 44 08.5	-1.3
CRVS	**Cervenica-Dubn**	70.36	6	*e*P		**P**	21 44 10.9	+0.3
KOLS	**Kolonicke sedl**	70.38	6	*e*P		**P**	21 44 10.1	-0.6
AVF	**Avril sur Loir**	70.46	20	*e*P		**P**	21 44 09.7	-1.5
	comp=Z,13nm,0.8s,mb4.6							
SMOL	**Smolenice**	70.48	9	*e*P		**P**	21 44 11.2	-0.1
BGF	**Bois d'Agland**	70.60	20	*e*P		**P**	21 44 10.6	-1.5
VYHS	**Vyhne**	70.61	8	*e*P		**P**	21 44 11.5	-0.6
SMF	**Signal de Mont**	70.68	19	*e*P		**P**	21 44 11.0	-1.6
	comp=Z,4.0nm,0.6s,mb4.2							
KECS	**Kecovo**	70.73	7	*e*P		**P**	21 44 12.2	-0.6
TCF	**Toulx Ste Croi**	70.75	21	*e*P		**P**	21 44 11.5	-1.5
	comp=Z,6.4nm,0.8s,mb4.3							
ZST	**Bratislava**	70.77	10	*e*P		**P**	21 44 12.7	-0.4
AAK	**Ala-Archa**	70.90	327	*e*P		**P**	21 44 11.4	-2.6
	comp=Z,5.4nm,0.9s,mb4.5							
CABF	**La Chapelle**	71.06	18	*e*P		**P**	21 44 14.0	-0.9
	comp=Z,10nm,0.6s,mb4.6							
WATA	**Walderalm**	71.08	14	⇑*i*P		**P**	21 44 14.8	-0.2
	comp=Z,11nm,1.0s,mb4.7							
SQTA	**Sankt Quirin**	71.15	14	⇑*i*P		**P**	21 44 15.3	-0.1
	comp=Z,7.9nm,0.9s,mb4.6							
WTTA	**Wattenberg**	71.15	14	⇓*i*P		**P**	21 44 15.6	+0.2
	comp=Z,13nm,0.6s,mb5.0							
PSZ	**Piszkesteto**	71.25	8	*e*P		**P**	21 44 15.2	-0.8
	comp=Z,19nm,1.0s,mb5.0							
DAVOX	**Davos**	71.42	15	P		**P**	21 44 17.4	+0.4
	comp=Z,7.4nm,0.6s,mb4.8,baz=342,slow=6.6,SNR=21							
DAVOX	**Davos**	71.42	15	P		**P**	21 44 17.4	+0.4
KBA	**Koelnbreinsper**	71.53	12	⇓*i*P		**P**	21 44 17.9	+0.3
	comp=Z,19nm,0.6s,mb5.2							
ARSA	**Arzberg**	71.57	11	⇑*i*P		**P**	21 44 18.0	+0.1
	comp=Z,8.2nm,0.9s,mb4.7							
LFF	**La Frestale**	71.80	22	*e*P		**P**	21 44 18.3	-1.0
	comp=Z,29nm,0.8s,mb5.0							
BURAR	**Bucovina Array**	71.82	4	⇑P		**P**	21 44 18.6	-0.8
BURAR	**Bucovina Array**	71.82	4	⇑P		**P**	21 44 18.5	-0.8
CAF	**Calviac**	72.05	21	*e*P		**P**	21 44 19.5	-1.2
	comp=Z,20nm,1.0s,mb4.7							
PERS	**Pernice**	72.14	11	*i*P		**P**	21 44 21.2	0.0
OBKA	**Obir**	72.21	12	⇓*i*P		**P**	21 44 21.5	-0.2
	comp=Z,28nm,0.6s,mb5.4							
LPL	**La Plagne**	72.23	17	*e*P		**P**	21 44 21.7	-0.1
	comp=Z,22nm,1.0s,mb4.7							
LPG	**La Plagne**	72.25	17	*e*P		**P**	21 44 22.1	+0.2
	comp=Z,11nm,0.9s,mb4.5							
GROS	**Grobnik**	72.35	11	*e*P		**P**	21 44 21.8	-0.7
KOGS	**Kog**	72.43	10	*i*P		**P**	21 44 22.3	-0.7
KIS	**Kishinev**	72.52	1	*e*P		**P**	21 44 21.0	-2.4
VIVF	**Saint-Julien-l**	72.55	19	*e*P		**P**	21 44 22.7	-0.9
	comp=Z,12nm,0.7s,mb4.6							
ORIF	**Oris-en-Rattie**	72.68	18	*e*P		**P**	21 44 23.7	-0.7
PKSM	**Moragy**	72.86	9	⇑P		**P**	21 44 25.0	-0.5
MBDF	**Montbardon**	73.00	18	*e*P		**P**	21 44 26.4	0.0
	comp=Z,17nm,1.0s,mb4.6							
SJPF	**Ste Jean**	73.18	24	*e*P		**P**	21 44 26.9	-0.5
ETSF	**Etsaut**	73.52	23	*e*P		**P**	21 44 29.0	-0.4
	comp=Z,17nm,0.7s,mb4.8							
SMRF	**Simiane la Rot**	73.56	19	*e*P		**P**	21 44 29.4	-0.2
	comp=Z,54nm,1.1s,mb5.1							
EPF	**Esparros**	73.57	23	*e*P		**P**	21 44 28.0	-1.7
VRI	**Vrincioaia**	73.61	3	⇑P		**P**	21 44 29.4	-0.5
MTLF	**Montolieu**	73.61	21	*e*P		**P**	21 44 28.9	-1.0
	comp=Z,25nm,1.0s,mb4.8							
SBF	**Sospel**	73.95	17	*e*P		**P**	21 44 31.0	-0.9
	comp=Z,51nm,1.0s,mb5.1							
MLR	**Muntele Rosu**	73.96	4	P		**P**	21 44 31.9	0.0
	comp=Z,2.5nm,0.5s,mb4.4,baz=328,slow=2.7,SNR=6.3							
MLR	**Muntele Rosu**	73.96	4	⇑P		**P**	21 44 31.9	-0.1
MLR	**Muntele Rosu**	73.96	4	⇑P		**P**	21 44 31.9	0.0
CFR	**Carcaliu**	74.33	2	⇑P		**P**	21 44 33.3	-0.7
TIRR	**Tirgusor**	75.05	2	⇓P		**P**	21 44 37.5	-0.7
KIV	**Kislovodsk**	75.12	351	*d* *i*P		**P**	21 44 37.7	-0.9
KIV				*e**PP		pP	21 44 47.2	-2.2
KIV				*e**SP		sP	21 44 52.0	-1.3
KIV				*e*S		S	21 54 05.8	-7.4
KIV				*e*SS		SS	21 58 57.8	-7.1
KIV				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
KIV				MLR		MLR		
	comp=Z,200nm,16.0s,MS4.5							
KIV	**Kislovodsk**	75.12	351	*e*P		**P**	21 44 37.7	-0.9
	comp=Z,6.1nm,0.8s,mb4.6							
PGF	**Pioggiola**	75.46	16	*e*P		**P**	21 44 40.3	-0.3
	comp=Z,223nm,1.7s,mb5.5							
SOC	**Sochi**	75.68	353	*e*P		**P**	21 44 40.9	-1.0
SOC				*e*			21 47 36.2	
SOC				*e*PPP		PPP	21 49 14.3	-5.7
SOC				*e*S		S	21 54 18.6	-0.9
SOC				*e*			21 54 48.6	
SOC				*e*SS		SS	21 59 11.9	-2.1
SOC				pmax		pmax		
	comp=Z,13nm,0.6s,mb5.0							
SOC				pmax		pmax		
	comp=N,8.0nm,0.7s							
SOC				pmax		pmax		
	comp=E,15nm,0.8s							
ESDC	**Sonseca Array**	75.91	27	P		**P**	21 44 43.3	0.0
	comp=E,5.7nm,0.6s,mb4.7,baz=342,slow=5.7,SNR=31							
ZAPS	**Zavoj/Pirot**	76.02	6	⇑*i*P		**P**	21 44 42.6	-1.2
GNI	**Garni**	78.72	349	*i*P		**P**	21 44 59.7	+0.8
BRTR	**Keskin Array B**	79.77	358	P		**P**	21 45 04.3	-0.3
	comp=E,3.5nm,0.8s,mb4.3,baz=15,slow=3.6,SNR=15							
BRTR				pP		pP	21 45 19.2	+3.7
	comp=E,1.4nm,0.8s,baz=19,slow=4.1,SNR=4.2							
ISP	**Isparta**	81.68	0	*i*P		**P**	21 45 14.6	-0.1
EIL	**Elat**	89.76	356	P		**P**	21 45 55.0	+0.3
	comp=E,1.3nm,0.6s,mb4.4,baz=7.1,slow=8.1,SNR=4.1							
EIL	**Elat**	89.76	356	P		**P**	21 45 55.0	+0.3
KMBO	**Kilima Mbogo**	120.24	352	PKP		PKPdf	21 51 47.6	+1.0
	comp=E,1.2nm,0.8s,baz=342,slow=3.2,SNR=3.6							
BOSA	**Boshof**	147.57	9	PKPbc		PKPdf	21 52 38.8	+2.4
	comp=E,7.0nm,0.7s,baz=341,slow=3.7,SNR=8.4							
BOSA	**Boshof**	147.57	9	*e*PKP		PKPdf	21 52 37.6	+1.3
QSPA	**South Pole Qui**	150.64	180	*e*P		PKPdf	21 52 45.9	+6.2
SUR	**Sutherland**	150.80	17	PKPbc		PKPdf	21 52 48.7	+7.3
	comp=E,2.9nm,0.7s,baz=200,slow=14,SNR=4.1							

BJI ***17*** *21:37:49.7, 9.85N×93.43E, h34km, mB5.5, mb4.8, Ms5.2, Msz5.1*

MOS ***17*** *21:37:52.4±1.4, 10.25N×93.58E, h33km, mb5.4/19, MS4.6/6, Error ellipse: s-maj=16.6km s-min=7.7km az=112.2*

HRVD ***17*** *21:37:53.2±0.2, 10.20N×93.89E, h12km, MW5.3/63, Centroid moment Tensor Solution. LP body waves: s27,c41;Mantle waves: s63,c120; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.62±.02; $M_{\theta\theta}$-0.22±.02; $M_{\phi\phi}$0.84±.02; $M_{r\theta}$0.27±.07; $M_{\theta\phi}$0.23±.01; $M_{\phi r}$-0.55±.05; Best double couple: M_0.997×10^{17} NP1: ϕ_s219°, δ35°, λ-43°. NP2:ϕ_s346°, δ67°, λ-118°. Principal axes: T 1.039, Plg17°, Azm96°; N -.084, Plg25°, Azm358°; P -.955, Plg59°, Azm217°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***17*** *21:37:53.2±0.2, 10.18N×93.63E, mb5.1/67 Error ellipse: s-maj=5.3km s-min=4.1km az=203.0*

IDC ***17*** *21:37:56.1±3.3, 10.25N×93.72E, h48km±31km, mb4.3/32, mb1 4.4/33, mb1mx4.4/34, mbtmp4.5/33, ML3.8/1, MS4.7/6, Ms1 4.7/6, ms1mx4.3/23, Error ellipse: s-maj=13.9km s-min=9.5km az=49.0*

ISC 17 21:37:51.3±0.2, 10.13N±0.03×93.66E±0.03, h26km, h26km±.7km:pP-P, n283, σ0.9 96/276, mb4.9/119, MS4.8/23, 26C-21D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	6.44	67	P	**Pn**	21 39 24.5	-2.5
SNG	**Songkhla**	7.48	113	P	**Pn**	21 39 40.0	-1.6
	23dtnm,0.8s						
NST	**Nakhon Sawan**	8.37	48	⇓P	**P**	21 39 54.0	0.0
	83nm,0.5s						
KULM	**Kulim**	8.43	124	*e*P	**P**	21 39 51.7	-3.1
CM31	**Chiang Mai Arr**	9.73	31	*e*P	**P**	21 40 12.7	-0.3
	52nm,0.8s						
CMAR	**Chiang Mai Arr**	9.73	31	P	**P**	21 40 13.6	+0.7
	0.3nm,0.3s,baz=219,slow=15,SNR=28						
KKTK	**Khon Kaen**	10.84	54	P	**P**	21 40 31.0	+2.9
NANT	**Nan**	10.98	38	⇓P	**P**	21 40 32.0	+1.9
	152nm,1.0s						
VIS	**Vishakhapatnam**	12.55	308	*e*P	**P**	21 40 50.3	-0.9
VIS				*e*		21 43 00.7	
VIS				*e*		21 43 05.6	
	comp=E,173nm,1.0s						
VIS				*e*		21 43 05.7	
	comp=N,289nm,0.8s						
BWNR	**Bhubaneshwar**	12.63	324	*e*P	**P**	21 40 52.5	+0.2
BWNR				*e*		21 43 06.2	
BWNR				*e*		21 43 11.1	
	comp=E,454nm,0.3s						
BWNR				*e*		21 43 12.2	
	comp=N,182nm,0.8s						
PALK	**Pallekele**	13.12	259	*e*P	**P**	21 40 57.8	-1.0
	comp=N,135nm,1.5s						
PALK				*e*S	**S**	21 43 12.8	-12
SHL	**Shillong**	15.44	354	*e*	**P**	21 41 33.0	+3.7
SHL				*e*		21 44 26.0	
BLSP	**Bilaspur**	16.26	319	*e*P	**P**	21 41 41.2	+1.4
BLSP				*e*		21 44 28.5	
HYB	**Hyderabad**	16.36	298	*e*P	**P**	21 41 42.0	+1.0
	comp=N,275nm,1.4s						
HYB				*e*		21 44 32.0	
HYB				*e*S	**S**	21 44 46.0	+4.8
HYB	**Hyderabad**	16.36	298	*i*P	**P**	21 41 42.0	+1.0
	comp=N,275nm,1.4s						
HYB				*e*		21 44 32.0	
HYB				*e*S	**S**	21 44 46.0	+4.8
TRD	**Trivandrum**	16.56	266	⇓*e*P	**P**	21 41 44.9	+1.2
TRD				*e*		21 44 38.0	
KMI	**Kunming**	17.23	29	P	**P**	21 41 56.6	+4.7
KMI				AMB	AMB		
	comp=Z,61nm,1.7s						
KMI	**Kunming**	17.23	29	P	**P**	21 41 56.6	+4.7
	comp=Z,61nm,1.7s						
KMI				pP		21 42 09.1	
QIZ	**Qiongzhong**	17.97	59	P	**P**	21 42 06.0	+4.7
LATR	**Latur**	18.50	298	*e*	**P**	21 42 20.0	+12
KSM	**Kuching**	18.65	116	*e*P	**P**	21 42 10.4	+0.8
JIRN	**Jiri**	18.80	339	*e*P	**P**	21 42 12.3	+0.9
	comp=Z,90nm,0.7s						
PKI	**Pulchoki**	19.01	337	*e*P	**P**	21 42 13.0	-0.9
	comp=Z,461nm,1.4s						
GUN	**Gumba**	19.14	339	*e*P	**P**	21 42 16.0	+0.6
	comp=Z,291nm,0.9s						
AKL	**Akola**	19.16	305	*e*P	**P**	21 42 16.0	+0.3
DMN	**Daman**	19.16	336	*e*P	**P**	21 42 14.9	-0.8
	comp=Z,324nm,1.3s						
KKN	**Kakani**	19.26	337	*e*P	**P**	21 42 17.2	+0.4
	comp=Z,40nm,0.6s						
LSA	**Lhasa**	19.61	353	P	**P**	21 42 20.3	-0.5
LSA	**Lhasa**	19.61	353	*e*P	**P**	21 42 20.0	-0.8
	comp=Z,35nm,0.6s						
GKN	**Gorkha**	19.70	336	*e*P	**P**	21 42 21.9	+0.1
	comp=Z,245nm,1.0s						
KOLN	**Koldanda**	19.94	333	*e*P	**P**	21 42 24.4	0.0
	comp=Z,128nm,0.8s						
GOA	**Goa**	20.06	287	*e*P	**P**	21 42 26.0	+0.4
GOA				*e*		21 45 55.0	
KAD	**Karad**	20.21	293	*e*P	**P**	21 42 28.6	+1.4
BHPL	**Bhopal**	20.27	312	*e*	**P**	21 42 29.6	+1.8
BHPL				*e*		21 46 05.4	
GYA	**Guiyang**	20.37	35	⇓*i*P	**P**	21 42 29.8	+0.9
GYA				AP		21 42 34.0	
GYA				S	**S**	21 46 12.5	+1.8
GYA				AMB	AMB		
	comp=Z,80nm,1.2s						
GYA				LR	LR		
	comp=N,3μm,14.9s,MS5.1						
GYA				LR	LR		
	comp=E,5μm,13.7s,MS5.1						
GYA				LR	LR		
	comp=Z,2μm,13.2s,MS4.7						
POO	**Poona**	20.92	296	*e*P	**P**	21 42 35.0	+0.5
POO				*e*		21 46 18.0	
BOM	**Bombay**	21.96	296	*e*	**P**	21 42 48.6	+3.5
BOM				*e*S	**S**	21 46 43.7	+2.6
KKM	**Kota Kinabalu**	22.69	99	*e*P	**P**	21 42 53.7	+1.3
CD2	**Chengdu**	22.71	23	P	**P**	21 42 53.4	+0.9
LGTI	**Lohaghat**	22.95	329	*e*P	**P**	21 42 57.5	+2.6
PTH	**Pithoragarh**	23.05	329	*e*P	**P**	21 42 58.0	+2.2
NDI	**New Delhi**	24.05	322	*e*P	**P**	21 43 06.5	+0.9
NDI				*e*P		21 43 06.5	
NDI				*e*		21 47 28.5	
AJM	**Ajmer**	24.24	315	⇑*i*P	**P**	21 43 09.0	+1.6
LZH	**Lanzhou**	27.44	18	⇓P	**P**	21 43 37.3	+0.1
LZH				PP	PP	21 44 25.3	+0.2
LZH				*e*S	**S**	21 48 15.6	+1.2
LZH				SS	SS	21 49 32.4	0.0
LZH				AMB	AMB		
	comp=Z,89nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,403nm,4.6s						
LZH				LR	LR		
	comp=N,3μm,12.1s						
LZH				LR	LR		
	comp=Z,4μm,13.2s,MS5.1						
LZH	**Lanzhou**	27.44	18	⇓P	**P**	21 43 37.2	0.0
	comp=Z,89nm,1.4s,mb5.1						
LZH				pP	pP	21 43 41.2	-3.6
LZH				sP	sP	21 43 43.8	-4.5
LZH				PP	PP	21 44 25.2	+0.1
LZH				*e*S	**S**	21 48 15.6	+1.2
LZH				sS		21 48 23.5	
LZH				SS	SS	21 49 32.4	0.0
LZH				LR	LR		
	comp=Z,4μm,13.2s,MS5.1						
XAN	**Xi'an**	27.61	28	P	**P**	21 43 37.5	-1.2
XAN				AP	pP	21 43 47.0	+0.7
XAN				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.8						
THN	**Thein Dam**	27.70	326	*e*P	**P**	21 43 39.2	-0.4
QZH	**Quanzhou**	27.89	55	⇓*i*P	**P**	21 43 42.4	+1.0
QZH				*e*S	**S**	21 48 21.6	-0.1
QZH				LR	LR		
	comp=N,2μm,10.6s,MS5.2						
QZH				LR	LR		
	comp=E,2μm,11.3s,MS5.2						
QZH				LR	LR		
	comp=Z,4μm,11.3s,MS5.3						
GTA	**Gaotai**	29.67	10	P	**P**	21 43 56.1	-1.2
GTA				PP	PP	21 44 51.9	-2.1
GTA				PPP	PPP	21 45 03.0	-4.7
GTA				PCP	PcP	21 47 02.3	+1.0
GTA				S	**S**	21 48 47.3	-2.7
GTA				SCP		21 50 41.4	
GTA				SCS	ScS	21 54 36.0	+2.3
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,435nm,9.9s						
GTA				LR	LR		
	comp=N,904nm,16.1s,MS4.8						
GTA				LR	LR		
	comp=E,1μm,13.8s,MS4.8						
GTA				LR	LR		
	comp=Z,1μm,15.3s,MS4.6						
NJ2	**Nanjing**	31.91	43	*e*P	**P**	21 44 17.5	+0.4
NJ2				AP	pP

comp=Z,13nm,0.8s,mb4.9
BJI Beijing 35.88 30 P P 21 44 52.8 +1.6
BJI AMB AMB
comp=Z,28nm,2.1s,mb4.8
BJI AMB AMB
comp=Z,675nm,4.3s
BJI Beijing 35.88 30 P P 21 44 52.8 +1.6
comp=Z,28nm,2.1s,mb4.8
AAK Ala-Archa 36.46 336 *e*P **P 21 44 55.9 -0.1**
comp=Z,44nm,1.1s,mb5.3
FRU Bishkek 36.58 336 *e*P **P 21 44 58.0 +0.9**
FRU *e* pP 21 45 07.0 +2.2
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.4
DL2 Dalian 38.02 36 P **P 21 45 08.9 -0.3**
DL2 AMB AMB
comp=Z,30nm,1.2s,mb4.9
KKAR Karatay Array 38.55 332 *i* P **P 21 45 14.3 +0.7**
KKAR pmax pmax
comp=Z,59nm,1.2s,mb5.2
SONM Songino Array 39.09 14 P **P 21 45 17.6 -0.4**
comp=Z,2.6nm,0.5s,mb4.2,baz=186,slow=11,SNR=5.2
SONM PcP PcP 21 47 28.6 +0.4
comp=Z,4.2nm,0.6s,baz=199,slow=3.1,SNR=4.6
ULN Ulaanbaatar 39.27 14 P **P 21 45 19.4 -0.2**
comp=Z,4.8nm,0.8s,mb4.3
INCN Inchon 40.27 42 *e*P **P 21 45 28.1 +0.1**
comp=Z,12nm,0.5s,mb4.9
ZAK Zakamensk 40.91 9 *e*P **P 21 45 33.0 -0.1**
ZAK *e* 21 47 33.6
ZAK pmax pmax
comp=Z,5.0nm,2.0s
ZAK pmax pmax
comp=Z,5.0nm,1.7s,mb3.9
SNY Shenyang 41.07 35 ⇑P **P 21 45 35.8 +1.4**
SNY AMB AMB
comp=Z,30nm,2.0s,mb4.6
KS15 Wonju Array Si 41.08 43 *e*P **P 21 45 35.4 +0.8**
TLY Talaya 42.23 9 *e*P **P 21 45 40.9 -2.9**
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
FITZ Fitzroy Crossi 42.23 131 *e*P **P 21 45 44.7 +0.3**
comp=Z,21nm,1.1s,mb4.7
FITZ Fitzroy Crossi 42.23 131 P **P 21 45 44.7 +0.3**
comp=Z,7.4nm,0.6s,mb4.5,baz=345,slow=6.1,SNR=13
FITZ PcP PcP 21 47 38.2 -0.6
comp=Z,12nm,1.0s,baz=284,slow=4.2,SNR=5.6
IRK Irkutsk 42.87 10 *e*P **P 21 45 49.9 +0.8**
IRK pmax pmax
comp=Z,28nm,4.0s
CN2 Changchun 43.40 34 *e*P **P 21 45 54.8 +1.2**
CN2 AMB AMB
comp=Z,20nm,1.4s,mb4.7
CN2 AMB AMB
comp=Z,500nm,5.0s
CN2 LR LR
comp=N,1μm,13.0s,MS5.2
CN2 LR LR
comp=E,1μm,13.0s,MS5.2
CN2 LR LR
comp=Z,2μm,15.0s,MS5.1
ZAL Zalesovo 44.26 352 P **P 21 46 00.1 -0.3**
comp=Z,12nm,0.6s,mb4.8,baz=312,slow=5.2,SNR=30
ZAL PcP PcP 21 47 44.0 -1.1
comp=Z,1.5nm,0.4s,baz=202,slow=6.2,SNR=1.5
HIA Hailar 44.66 24 *e*P **P 21 46 02.9 -0.8**
comp=Z,23nm,1.3s,mb4.9
KAKA Kakadu 44.70 120 *e*P **P 21 46 04.2 -0.2**
comp=Z,38nm,1.4s,mb5.0
MDJ Mudanjiang 46.23 35 P **P 21 46 16.0 -0.2**
MDJ PCP PcP 21 47 49.9 -2.1
MDJ PP PP 21 48 04.4 -0.4
MDJ SCP 21 51 44.8
MDJ PCS 21 51 46.8
MDJ S **S 21 53 03.3 +2.9**
MDJ AMB AMB
comp=Z,11nm,2.4s,mb4.4
MDJ AMB AMB
comp=Z,247nm,4.8s
MDJ LR LR
comp=N,827nm,15.6s,MS4.9
MDJ LR LR
comp=E,559nm,16.5s,MS4.9
MDJ LR LR
comp=Z,1μm,18.3s,MS4.9
BVA0 Borovoye Array 46.71 341 P **P 21 46 18.5 -1.4**
BVA0 pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
BVAR Borovoye Array 46.71 341 P **P 21 46 18.9 -1.0**
comp=Z,2.2nm,0.4s,mb4.5,baz=134,slow=8.3,SNR=13
BVAR PcP PcP 21 47 53.6 0.0
comp=Z,2.1nm,0.6s,baz=153,slow=9.9,SNR=2.5
BVAR S **S 21 53 03.0 -4.1**
comp=Z,0.3nm,0.7s,baz=315,slow=6.3,SNR=2.1
MAJO Matsushiro 48.03 49 *e*P **P 21 46 31.5 +1.0**
comp=Z,60nm,1.5s,mb5.4
MAJO *e* pP 21 46 38.4 0.0
MAT Matsushiro 48.03 49 *e*P **P 21 46 30.0 -0.5**
comp=Z,67nm,1.5s,mb5.5
MAT Matsushiro 48.03 49 P **P 21 46 30.4 -0.1**
NWAO Narrogin (SRO) 48.36 153 P **P 21 46 34.3 +1.2**
comp=Z,1.8nm,0.5s,mb4.4,baz=90,slow=21,SNR=3.3
ATD Arta Tunnel 49.88 277 P **P 21 46 45.1 +0.1**
comp=Z,5.4nm,0.5s,mb4.9,baz=82,slow=19,SNR=4.3
ATD LR LR 22 04 57.8
comp=Z,543nm,19.7s,MS4.6,baz=266,slow=32
WRA Warramunga Arr 49.97 127 P **P 21 46 45.0 -0.6**
comp=Z,5.2nm,0.7s,mb4.7,baz=306,slow=8.6,SNR=36
WRA PP PP 21 48 44.6 +3.1
comp=Z,0.9nm,0.7s,baz=301,slow=8.7,SNR=3.0
WB2 Warramunga Arr 49.98 127 *e*P **P 21 46 45.3 -0.4**
BOD Bodaibo 50.08 14 *e*P **P 21 46 42.4 -3.6**
BOD pmax pmax
comp=Z,10.0nm,1.9s,mb4.5
KLR Kul'dur 50.21 32 *e*P **P 21 46 50.3 +3.2**
ASPA Alice Springs 51.73 131 *e*P **P 21 46 59.0 0.0**
ASAR Alice Springs 51.73 131 P **P 21 46 57.8 -1.2**
comp=Z,7.9nm,0.9s,mb4.6,baz=305,slow=6.7,SNR=31
MAK Makhachkala 51.73 318 *i* P **P 21 47 00.0 +1.3**
MAK pmax pmax
comp=Z,900nm,6.0s
CLNS Chul'man 52.50 21 *e*P **P 21 47 03.3 -1.0**
CLNS pmax pmax
comp=N,4.0nm,0.7s
CLNS pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CLNS pmax pmax
comp=E,5.0nm,0.6s
GNI Garni 52.54 313*d i*P **P 21 47 05.3 +0.4**
GNI pmax pmax
comp=Z,54nm,1.6s
GNI Garni 52.54 313 *e*P **P 21 47 06.0 +1.1**
comp=Z,84nm,1.3s,mb5.5
GNI *e* pP 21 47 13.3 +0.5
SVE Sverdlovsk 53.14 338⇓*e*P **P 21 47 05.0 -4.1**
SVE *e* pP 21 47 14.5 -2.5
SVE pmax pmax
comp=Z,84nm,2.0s,mb5.3
SVE MLR MLR
comp=N,100nm,16.0s,MS4.1
SVE MLR MLR
comp=E,100nm,16.0s,MS4.1
SVE MLR MLR
comp=Z,300nm,16.0s,MS4.4
ARU Arti 53.64 337⇓*i*P **P 21 47 11.5 -1.2**
ARU *e* 21 48 20.4
ARU *e* 21 49 11.3
ARU *e*S **S 21 54 43.2 +0.1**
ARU *e* 21 56 56.2
ARU *e*SS SS 21 58 24.8 +1.6
ARU pmax pmax
comp=Z,26nm,1.1s,mb5.1
ARU Arti 53.64 337 *i* Pr 21 47 11.5
OPO Ambohidratompo 53.99 238 P **P 21 47 17.1 +1.3**
comp=Z,3.3nm,0.8s,mb4.3,baz=56,slow=6.3,SNR=6.3
ASAJ Asahikawa 54.05 42 P **P 21 47 15.6 -0.3**
comp=Z,5.7nm,0.7s,mb4.6,baz=216,slow=18,SNR=2.9
ONI Oni 54.32 316 P **P 21 47 18.6 +0.7**
YSS Yuzh-Sakhalins 55.32 39 *i* P **P 21 47 25.9 +0.7**
YSS pmax pmax
comp=Z,18nm,0.6s,mb5.3
KIV Kislovodsk 55.34 317α*i*P **P 21 47 25.6 +0.2**
KIV *i* *PP pP 21 47 32.5 -0.9
KIV *e*S **S 21 55 14.9 +8.7**
KIV pmax pmax
comp=Z,18nm,0.6s,mb5.3
KIV MLR MLR
comp=Z,400nm,18.0s,MS4.5
KIV Kislovodsk 55.34 317 *e*P **P 21 47 25.5 +0.1**
comp=Z,96nm,1.3s,mb5.7
GOF Gofitskoye 55.53 318⇑*i*P **P 21 47 24.6 -2.1**
GOF pmax pmax
comp=Z,50nm,1.7s,mb5.3
ASF Jabal al Asfar 56.62 302 P **P 21 47 35.2 +0.5**
comp=Z,3.6nm,0.8s,mb4.5,baz=305,slow=3.5,SNR=6.2
MALT Malatya 56.66 309 ⇑P **P 21 47 35.1 +0.2**
MALT Malatya 56.66 309 ⇑P **P 21 47 35.0 0.0**
PMG Port Moresby 56.66 108*d i*P **P 21 47 35.3 0.0**
PMG Port Moresby 56.66 108 P **P 21 47 36.0 +0.8**
comp=Z,30nm,0.7s,mb5.5,baz=23,slow=2.5,SNR=14
PMG Port Moresby 56.66 108 *e*P **P 21 47 35.7 +0.4**
comp=Z,60nm,0.8s,mb5.7
PMG *e* pP 21 47 43.0 -0.3
KMBO Kilima Mbogo 57.23 262 P **P 21 47 41.3 +2.0**
comp=Z,6.1nm,1.1s,mb4.5,baz=62,slow=9.8,SNR=14
KMBO LR LR 22 08 59.6
comp=Z,1μm,19.9s,MS5.0,baz=95,slow=32
KMBO Kilima Mbogo 57.23 262 *e*P **P 21 47 41.5 +2.2**
comp=Z,78nm,1.8s,mb5.4
KMBO *e* pP 21 47 49.9 +2.5
SOC Sochi 57.24 316 *e*P **P 21 47 36.7 -2.3**
SOC *e* 21 48 29.8
SOC *e* 21 49 43.4
SOC *e*PPP PPP 21 51 08.2 +0.1
SOC *e*S **S 21 55 33.4 +2.2**
SOC *e* 21 57 19.3
SOC *e*SS SS 21 59 17.2 -4.7
SOC pmax pmax
comp=Z,28nm,1.1s,mb5.2
SOC pmax pmax
comp=N,26nm,1.0s
SOC pmax pmax
comp=E,24nm,1.2s
SOC MLR MLR
comp=N,350nm,21.0s,MS4.6
SOC MLR MLR
comp=E,314nm,21.0s,MS4.6
SOC MLR MLR
comp=Z,588nm,21.0s,MS4.7
EIL Elat 57.92 299 P **P 21 47 44.2 +0.3**
comp=Z,4.6nm,0.7s,mb4.6,baz=8.1,slow=24,SNR=6.9
EIL Elat 57.92 299 *e*P **P 21 47 44.3 +0.4**
comp=Z,70nm,1.8s,mb5.4
YAK Yakutsk 58.02 19 *i* P **P 21 47 43.2 -1.0**
YAK pmax pmax
comp=Z,23nm,0.8s,mb5.3
YAK Yakutsk 58.02 19 *i* P **P 21 47 43.3 -0.9**
ANN Anapa 59.18 316 *e*P **P 21 47 48.9 -3.6**
ANN *e*S **S 21 55 54.2 -2.5**
ANN pmax pmax
comp=Z,80nm,1.0s,mb5.7
CTA Charters Tower 59.83 120 *e*P **P 21 47 57.6 +0.3**
comp=Z,17nm,1.5s,mb4.9
CTA Charters Tower 59.83 120 P **P 21 47 57.7 +0.4**
comp=Z,12nm,1.1s,mb4.9,baz=297,slow=9.9,SNR=4.6
VOR Voronezh 60.48 324 P **P 21 48 00.0 -1.3**
VOR *e*PP pP 21 48 07.0 -2.4
VOR pmax pmax
comp=Z,50nm,1.6s,mb5.3
VOR pmax pmax
comp=E,40nm,1.5s
BRTR Keskin Array B 60.62 310 P **P 21 48 01.2 -1.2**
comp=E,5.1nm,0.6s,mb4.8,baz=125,slow=7.6,SNR=35
SIM Simferopol' 61.48 316 *e*P **P 21 48 07.7 -0.5**
SIM *e* pP 21 48 15.9 -0.4
SIM pmax pmax
comp=Z,35nm,1.3s,mb5.3
SIM MLR MLR
comp=Z,400nm,19.0s,MS4.6
STKA Stephens Creek 62.01 134 *e*P **P 21 48 11.3 -0.6**
comp=Z,8.9nm,1.1s,mb4.8
STKA Stephens Creek 62.01 134 P **P 21 48 11.1 -0.9**
comp=Z,6.4nm,0.8s,mb4.8,baz=344,slow=8.5,SNR=8.8
STKA LR LR 22 15 50.0
comp=Z,487nm,18.3s,MS4.7,baz=206,slow=37
ISP Isparta 62.69 307⇑*e*P **P 21 48 15.3 -1.1**
ISP Isparta 62.69 307 *e*P **P 21 48 14.8 -1.6**
comp=Z,48nm,1.3s,mb5.5
MOS Moscow 62.92 328 *e*P **P 21 48 17.0 -0.6**
MOS *e* pP 21 48 25.4 -0.4
MOS *e* 21 50 35.5
MOS pmax pmax
comp=Z,95nm,1.3s,mb5.8
OBN Obninsk 63.23 327*d i*P **P 21 48 18.6 -1.1**
OBN *i* 21 50 37.5
OBN *i* S **S 21 56 47.4 -0.7**
OBN pmax pmax
comp=Z,30nm,0.9s,mb5.4
OBN MLR MLR
comp=Z,600nm,17.0s,MS4.8
OBN Obninsk 63.23 327 *e*P **P 21 48 18.3 -1.4**
comp=Z,65nm,1.4s,mb5.6
OBN *e* pP 21 48 27.2 -0.6
TIXI Tiksi 65.13 12*d i*P **P 21 48 29.6 -2.2**
TIXI pmax pmax
comp=Z,11nm,0.8s,mb4.9
TIXI Tiksi 65.13 12 *i* Pr 21 48 29.6
TLCR 65.19 315 ⇑P **P 21 48 32.6 -0.1**
TIRR Tirgusor 65.34 314 ⇑P **P 21 48 33.1 -0.5**
KIS Kishinev 65.55 317 *e*P **P 21 48 40.0 +5.1**
KIS MLR MLR
comp=Z,500nm,17.0s,MS4.8
KIS MLR MLR
comp=Z,400nm,19.0s
CFR Carcaliu 65.67 315 ⇓P **P 21 48 34.6 -1.1**
CFR ⇑P 21 48 35.3
CFR Carcaliu 65.67 315 ⇑P **P 21 48 35.3 -0.4**
CFR Carcaliu 65.67 315 ⇓P **P 21 48 34.6 -1.1**
AKASG Malin Array Be 66.11 321 P **P 21 48 36.1 -2.3**
comp=Z,1.8nm,0.6s,mb4.3,baz=90,slow=4.9,SNR=15
AKASG PP PP 21 50 58.3 -7.9
comp=Z,0.1nm,0.2s,baz=113,slow=8.4,SNR=3.4
VRI Vrincioaia 66.76 316 ⇓P **P 21 48 43.2 +0.5**
MLR Muntele Rosu 67.24 315 P **P 21 48 46.1 +0.3**
comp=Z,7.1nm,0.6s,mb4.9,baz=218,slow=0.4,SNR=16
MLR PP PP 21 51 13.2 -2.4
comp=Z,1.6nm,0.6s,baz=78,slow=8.7,SNR=1.6
MLR Muntele Rosu 67.24 315 ⇓P **P 21 48 46.6 +0.9**
BURAR Bucovina Array 68.07 317 ⇑P **P 21 48 50.9 0.0**
BURAR Bucovina Array 68.07 317 ⇑P **P 21 48 50.9 0.0**
JOF Joensuu 68.62 334 *e*p **P 21 48 53.4 -0.7**
comp=Z,4.2nm,0.5s,mb4.6
JOF Joensuu 68.62 334 *e*P **P 21 48 53.4 -0.7**
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
LVV L'vov 69.20 319 *e*P **P 21 49 05.2 +7.4**
ZAPS Zavoj/Pirot 69.33 312⇓*i*P **P 21 48 57.6 -1.2**
BOLS Boljevac 69.86 313⇑*i*P **P 21 49 00.8 -1.1**
KWP Kalwaria 70.02 319 *e*P **P 21 49 02.8 0.0**
KOLS Kolonicke sedl 70.21 318 *e*pP pP 21 49 11.9 -0.2
SUW Suwalki 70.41 324 *e*P **P 21 49 04.4 -0.7**
FINES FINESS Array B 70.51 332 *i* P **P 21 49 04.6 -1.0**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 70.51 332 P **P 21 49 04.6 -1.0**
comp=Z,2.2nm,0.5s,mb4.3,baz=99,slow=6.9,SNR=27
FINES LR LR 22 24 41.5
comp=Z,430nm,20.3s,MS4.7,baz=294,slow=40
KAF Kangasniemi 70.58 333 *e*p **P 21 49 05.5 -0.5**
CRVS Cervenica-Dubn 70.74 318 *e*P **P 21 49 09.0 +1.8**
CRVS *e*pP pP 21 49 16.3 +0.9
MATP Matopo 70.90 244 P **P 21 49 10.0 +1.3**
comp=Z,4.1nm,0.5s,mb4.6,baz=56,slow=7.8,SNR=29
KECS Kecovo 71.33 318 *e*P **P 21 49 10.7 -0.1**
NIE Niedzica 71.54 319 *e*P **P 21 49 11.0 -1.1**
PSZ Piszkesteto 71.67 317 *e*P **P 21 49 12.0 -0.9**
comp=Z,30nm,1.3s,mb5.1
PSZ Piszkesteto 71.67 317⇑*i*P **P 21 49 12.7 -0.2**
BBLS Bajina Basta - 71.70 313 *e*P **P 21 49 05.7 -7.4**
OJC Ojcow 71.96 320 *e*P **P 21 49 13.4 -1.1**
PKSM Moragy 72.39 315 ⇓P **P 21 49 16.3 -0.9**
VYHS Vyhne 72.43 318 *e*P **P 21 49 17.0 -0.3**
VYHS *e*pP pP 21 49 25.0 -0.5
KEV Kevo 72.56 340 *e*p **P 21 49 17.4 -0.4**
OKC Ostrava-Krasne 72.98 319 *e*P **P 21 49 20.7 +0.1**
OKC *e*pP pP 21 49 29.1 +0.3
ARCES ARCESS Array B 73.00 340 P **P 21 49 19.9 -0.4**
comp=Z,2.2nm,0.4s,mb4.4,baz=98,slow=7.1,SNR=29
ARCES LR LR 22 22 12.2
comp=Z,725nm,20.9s,MS4.9,baz=108,slow=36
SMOL Smolenice 73.36 318 *e*P **P 21 49 23.8 +1.0**
SMOL *e* 21 49 29.2
MORC Moravsky Berou 73.37 319 ⇑P **P 21 49 24.3 +1.4**
ZST Bratislava 73.56 317 *e*P **P 21 49 24.2 +0.2**
ZST *e*pP pP 21 49 32.7 +0.5
KOGS Kog 74.06 315 *i* P **P 21 49 26.8 -0.1**
BILL Biiibino 74.18 22 *i* P **P 21 49 26.5 -0.7**
BILL *i* pP 21 49 35.9 +0.5
BILL pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
BILL MLR MLR
comp=Z,500nm,17.0s,MS4.9
BILL Biiibino 74.18 22 *i* P **P 21 49 26.6 -0.6**
DPC Dobruska-Polom 74.19 319 *e*P **P 21 49 28.3 +0.7**
DPC *e*pP pP 21 49 35.8 0.0
KSP Ksiaz 74.24 320 *e*P **P 21 49 27.9 0.0**
KSP *e**PP pP 21 49 36.1 +0.1
KSP Ksiaz 74.24 320 *e*P **P 21 49 28.5 +0.6**
UPC Upice 74.40 320 *e*P **P 21 49 29.0 +0.2**
UPC *e*pP pP 21 49 37.5 +0.5
ARSA Arzberg 74.58 316⇑*i*P **P 21 49 30.3 +0.3**
comp=Z,35nm,1.7s,mb5.0
BOJS Bojanci 74.73 314 *e*P **P 21 49 30.5 -0.4**
PERS Pernice 74.85 316 *e*P **P 21 49 31.0 -0.5**
LBTB Lobatse 74.92 241 *e*P **P 21 49 33.7 +1.4**
comp=Z,34nm,1.2s,mb5.2
LBTB *e* pP 21 49 40.9 +0.4
OBKA Obir 75.24 315⇑*i*P **P 21 49 33.9 +0.2**
comp=Z,40nm,1.6s,mb5.1
LJU Ljubljana 75.25 315 *e*P **P 21 49 33.9 +0.1**
LJU *e* pP 21 49 42.1 +0.1
PVCC Panska Ves 75.32 320 *e*P **P 21 49 34.5 +0.4**
PVCC *e*pP pP 21 49 43.0 +0.7
PRU Pruhonice 75.32 319 *e*P **P 21 49 34.0 -0.1**
PRU *e*pP pP 21 49 42.7 +0.4
MOA Molln 75.45 317⇑*i*P **P 21 49 34.9 0.0**
comp=Z,25nm,1.4s,mb5.0
VOY Vojsko 75.69 315 *e*P **P 21 49 35.5 -0.8**
VOY *e* pP 21 49 44.0 -0.5
BRG Berggiesshubel 75.73 320 *e*P **P 21 49 34.8 -1.6**
BRG *i* 21 49 45.3
BRG pmax pmax
comp=Z,48nm,2.0s,mb5.1
BRG Berggiesshubel 75.73 320 *e*P **P 21 49 34.8 -1.6**
comp=Z,48nm,2.0s,mb5.1
BRG *i* 21 49 45.3
GERES GERESS Array B 75.84 318 P **P 21 49 36.9 -0.2**
comp=Z,3.5nm,0.6s,mb4.5,baz=91,slow=5.9,SNR=46
KHC Kasperske Hory 75.93 318 *e*P **P 21 49 36.8 -0.8**
KHC *e*pP pP 21 49 45.9 +0.1
KBA Koelnbreinsper 76.07 316⇑*i*P **P 21 49 37.1 -1.3**
comp=Z,23nm,1.3s,mb5.0
CLL Collm 76.33 320 *i* P **P 21 49 39.8 0.0**
CLL *i* pP 21 49 47.8 -0.2
CLL *i* 21 49 53.2
CLL pmax pmax
comp=Z,37nm,1.9s,mb5.0
CLL Collm 76.33 320 *i* P **P 21 49 39.8 0.0**
comp=Z,37nm,1.9s,mb5.0
CLL *i* pP 21 49 47.8 -0.2
CLL *i* 21 49 53.2
CLL Collm 76.33 320 P **P 21 49 39.8 0.0**
comp=Z,logA/T=1.3,mb5.0
CLL *i* *PP pP 21 49 47.8 -0.2
CLL *i* *SP sP 21 49 53.2 +2.3
CLL *i* 21 50 05.4
BOSA Boshof 76.39 237 P **P 21 49 41.7 +1.1**
comp=Z,5.3nm,0.6s,mb4.7,baz=75,slow=3.8,SNR=14
BOSA LR LR 22 18 49.1
comp=Z,607nm,18.2s,MS5.0,baz=72,slow=32
BOSA Boshof 76.39 237 *e*P **P 21 49 41.8 +1.2**
comp=Z,54nm,1.4s,mb5.3
NKC Novy Kostel 76.67 319 *e*P **P 21 49 42.1 +0.4**
NKC *e*pP pP 21 49 50.0 0.0
MOX Moxa 77.20 320 *e*P **P 21 49 44.8 +0.1**
MOX pmax pmax
comp=Z,52nm,2.0s,mb5.1
MOX Moxa 77.20 320 *e*P **P 21 49 44.8 +0.1**
comp=Z,52nm,2.0s,mb5.1
MOX Moxa 77.20 320 *i* P **P 21 49 45.1 +0.4**
comp=Z,logA/T=1.1,mb4.8
MOX L 22 25 53.0
WTTA Wattenberg 77.23 316⇓*i*P **P 21 49 44.1 -0.8**
comp=Z,35nm,1.5s,mb5.1
WATA Walderalm 77.27 316⇑*i*P **P 21 49 44.5 -0.6**
comp=Z,23nm,1.3s,mb5.0
GRA1 Grafenberg Arr 77.47 319 *e*P **P 21 49 46.2 0.0**
comp=Z,39nm,1.7s,mb5.1
GRA1 *e*pP pP 21 49 54.3 -0.1
GRF Grafenberg Arr 77.47 319 *e*P **P 21 49 46.2 0.0**
GRF *e**PP pP 21 49 54.3 -0.1
GRF pmax pmax
comp=Z,39nm,1.7s,mb5.1
GRF Grafenberg Arr 77.47 319 *e*P **P 21 49 46.2 0.0**
comp=Z,39nm,1.7s,mb5.1
GRF *e*pP pP 21 49 54.3 -0.1
SQTA Sankt Quirin 77.52 316⇑*i*P **P 21 49 45.8 -0.7**
comp=Z,28nm,1.4s,mb5.0
NOA NORSAR Array B 77.55 330 P **P 21 49 45.8 -0.6**
comp=Z,1.2nm,0.6s,mb4.0,baz=91,slow=5.7,SNR=7.0
MOTA Moosalm 77.59 316⇑*i*P **P 21 49 45.1 -1.8**
DAVA Damuels 78.43 316⇑*i*P **P 21 49 51.5 0.0**
comp=Z,9.4nm,0.7s,mb4.8
DAVOX Davos 78.45 316 P **P 21 49 51.5 -0.1**
comp=Z,5.6nm,0.5s,mb4.8
PGF Pioggiola 79.31 312 *e*P **P 21 49 56.3 -0.1**
CDF Champ du Feu 80.11 318 *e*P **P 21 49 59.8 -0.8**
comp=Z,6.4nm,0.7s,mb4.3
SBF Sospel 80.36 313 *e*P **P 21 50 01.6 -0.4**
comp=Z,26nm,0.8s,mb4.9
HINF Hinteralfeld 80.44 317 *e*P **P 21 50 01.7 -0.7**
comp=Z,23nm,1.2s,mb4.7
MAW Mawson 80.64 191 P **P 21 50 03.6 +0.6**
comp=Z,3.7nm,0.7s,mb4.5,baz=33,slow=7.3,SNR=5.4
LPG La Plagne 80.70 315 *e*P **P 21 50 04.0 +0.2**
comp=Z,48nm,0.8s,mb5.2
LPL La Plagne 80.71 315 *e*P **P 21 50 04.0 +0.1**
comp=Z,54nm,0.7s,mb5.3
MBDF Montbardon 80.76 314 *e*P **P 21 50 03.3 -0.8**
comp=Z,41nm,1.0s,mb5.0
HAU Haudompre 80.77 317 *e*P **P 21 50 03.3 -0.8**
comp=Z,41nm,1.1s,mb5.0
BNI Bardonecchia 80.79 314 *e*P **P 21 50 04.1 -0.1**
comp=Z,30nm,1.0s,mb5.2
FRF La Foret Royal 80.95 313 *e*P **P 21 50 05.0 -0.1**
comp=Z,13nm,0.6s,mb4.7
CABF La Chapelle 81.06 316 *e*P **P 21 50 05.8 +0.1**
comp=Z,15nm,0.8s,mb4.7
LMR La Mourre 81.07 312 *e*P **P 21 50 05.9 +0.1**
comp=Z,238nm,1.7s,mb5.5
SUR Sutherland 81.23 235 P **P 21 50 09.0 +2.2**
comp=Z,8.8nm,0.8s,mb4.7,baz=64,slow=7.6,SNR=4.9
ORIF Oris-en-Rattie 81.37 314 *e*P **P 21 50 07.3 0.0**
comp=Z,22nm,0.9s,mb4.8
GIVF Givet 81.57 319 *e*P **P 21 50 07.9 -0.3**
MEZF Maizieres J'vi 81.58 318 *e*P **P 21 50 07.3 -1.0**
comp=Z,86nm,1.6s,mb5.1
SMRF Simiane la Rot 81.68 313 *e*P **P 21 50 09.2 +0.3**
comp=Z,8.9nm,0.6s,mb4.6
BAIF Baives 81.97 319 *e*P **P 21 50 09.9 -0.4**
comp=Z,66nm,1.5s,mb5.0
VIVF Saint-Julien-l 82.23 314 *e*P **P 21 50 11.9 +0.1**
comp=Z,54nm,1.3s,mb5.0
SMF Signal de Mont 82.60 316 *e*P **P 21 50 13.6 0.0**
comp=Z,11nm,0.7s,mb4.7
SSF Saint Saulge 82.78 316 *e*P **P 21 50 14.4 -0.2**
LASF Ste Croix 82.90 313 *e*P **P 21 50 15.5 +0.2**
comp=Z,162nm,1.8s,mb5.5
AVF Avril sur Loir 82.92 316 *e*P **P 21 50 15.2 -0.1**
comp=Z,39nm,1.2s,mb5.0
BGF Bois d'Agland 83.29 316 *e*P **P 21 50 17.1 -0.1**
comp=Z,16nm,0.7s,mb4.8
TCF Toulx Ste Croi 83.76 316 *e*P **P 21 50 19.6 -0.1**
CAF Calviac 84.06 314 *e*P **P 21 50 20.5 -0.7**
MTLF Montolieu 84.18 313 *e*P **P 21 50 21.8 0.0**
comp=Z,38nm,1.3s,mb5.0
RJF Les Rejaudoux 84.39 315 *e*P **P 21 50 23.1 +0.3**
LDF La Druitiere 84.98 318 *e*P **P 21 50 25.7 0.0**
comp=Z,9.4nm,0.7s,mb4.8
FLN La Foliniere 85.18 319 *e*P **P 21 50 26.5 -0.2**
MFF Saint Martin d 85.33 316 *e*P **P 21 50 27.4 -0.1**
EPF Esparros 85.58 313 *e*P **P 21 50 29.8 +0.9**
ETSF Etsaut 86.26 313 *e*P **P 21 50 32.1 -0.1**
comp=Z,10.0nm,0.8s,mb4.8
SJPF Ste Jean 86.70 313 *e*P **P 21 50 34.3 -0.1**
ROSF Rostrenen 87.09 318 *e*P **P 21 50 36.0 -0.1**

comp=Z,50nm,1.1s,mb5.4
QUIF Quistinic 87.10 318 *e*P **P 21 50 36.6 +0.4**
comp=Z,307nm,1.7s,mb5.9
SYO Syowa Base 87.41 197 ⇓P **P 21 50 37.0 -0.2**
SYO Syowa Base 87.41 197 ⇑P pP 21 50 47.3 +1.7
ESDC Sonseca Array 89.41 310 P **P 21 50 47.6 +0.1**
comp=Z,0.7nm,0.5s,mb4.2,baz=66,slow=4.4,SNR=9.1
IMA Indian Mountai 89.72 22 *e*P **P 21 50 49.3 +1.0**
comp=Z,84nm,1.6s,mb5.8
EVO Evora 92.74 310 *e*P **P 21 51 03.1 +0.3**
comp=Z,33nm,1.4s,mb5.3
ILAR Eielson Array 92.84 22 P **P 21 51 02.8 +0.1**
comp=Z,0.6nm,0.7s,mb4.1,baz=306,slow=4.4,SNR=14
ILAR PKKPbc 22 08 12.8
comp=Z,0.2nm,0.5s,baz=140,slow=1.8,SNR=8.6
INK Inuvik 94.97 16 P **P 21 51 12.8 +0.4**
comp=Z,1.6nm,0.6s,mb4.7,baz=359,slow=0.7,SNR=19
INK PKKPbc 22 08 07.3
comp=Z,1.0nm,0.9s,baz=168,slow=2.4,SNR=3.2
INK Inuvik 94.97 16 *e*P **P 21 51 12.6 +0.2**
comp=Z,14nm,1.5s,mb5.2
RES Resolute Bay 95.18 2 *e*P **P 21 51 14.3 +1.1**
comp=Z,16nm,1.3s,mb5.3
VNDA Vanda 95.22 168 P **P 21 51 14.3 +0.9**
comp=Z,0.4nm,0.4s,mb4.2,baz=346,slow=6.7,SNR=2.3
VNDA Vanda 95.22 168 P **P 21 51 14.3 +0.9**
YKA Yellowknife Ar 104.35 13 Pdiff Pdiff 21 51 55.9 +1.3
comp=Z,0.4nm,1.0s,baz=297,slow=1.6,SNR=3.9
YKA PP PP 21 56 10.6 -5.3
comp=Z,0.3nm,0.9s,baz=328,slow=8.1,SNR=4.2
YKA PKKPbc 22 07 40.7
comp=Z,0.3nm,0.6s,baz=153,slow=3.3,SNR=15
YKA Yellowknife Ar 104.35 13 Pdif Pdif 21 51 55.9 +1.3
YKA PP PP 21 56 10.6 -5.3
YKA PKKPbc 22 07 40.7
MSO Missoula 118.17 21 *e*PKPdf PKPdf 21 56 37.8 -3.2
MSO *e* 21 56 44.9
HLID Hailey 120.77 23 *e*PKPdf PKPdf 21 56 43.4 -2.8
RRI2 Red Ridge 122.11 21 *e*PKPdf PKPdf 21 56 46.7 -2.0
RRI2 *e* 21 56 54.3
SNOW Snow King Moun 122.21 21 *e*PKPdf PKPdf 21 56 47.1 -1.9
SNOW *e* 21 56 54.8
REDW Red Top Meadow 122.26 21 *e*PKPdf PKPdf 21 56 46.7 -2.3
NVAR Mina Array Bea 123.22 30 PKP PKPdf 21 56 49.4 -1.7
comp=Z,3.1nm,0.6s,baz=318,slow=3.1,SNR=16
PDAR Pinedale Array 123.24 20 PKP PKPdf 21 56 48.0 -2.9
comp=Z,1.9nm,0.6s,baz=248,slow=0.3,SNR=17
PDAR PKKPbc 22 06 37.1
comp=Z,0.4nm,0.5s,baz=125,slow=5.1,SNR=5.1
MVU Marysvale 125.93 25 *e*PKPdf PKPdf 21 56 54.6 -1.7
MSU Marysvale 125.93 25 PKPdf PKPdf 21 56 54.7 -1.7
MSU *e* 21 57 02.6
TUC Tucson 131.76 28 *e*PKPdf PKPdf 21 57 06.3 -1.4
MNTX Cornudas Mount 134.59 23 *e*PKP PKPdf 21 57 11.0 -2.0
TXAR Lajitas Array 137.35 23 PKP PKPdf 21 57 15.6 -2.5
comp=Z,1.5nm,0.5s,baz=207,slow=0.6,SNR=28
TXAR Lajitas Array 137.35 23 PKP PKPdf 21 57 15.6 -2.5
JCT Junction City 137.60 17 *e*PKP PKPdf 21 57 16.3 -2.2
BDFB Brasilia 142.28 258 PKhKP 21 57 20.7
comp=Z,1.5nm,0.5s,baz=53,slow=4.7,SNR=3.0
PLCA Paso Flores 146.47 202 PKPbc PKPbc 21 57 32.2 +1.9
comp=Z,9.8nm,0.6s,baz=183,slow=1.5,SNR=45
PLCA Paso Flores 146.47 202 *e*PKP PKPdf 21 57 32.2 -1.6
TEIG Tepich 149.77 4 *e*PKPbc PKPdf 21 57 41.9 +2.1
ROSC El Rosal 160.90 321 PKPab PKPab 21 58 35.5 +0.6
comp=Z,11nm,0.7s,baz=112,slow=12,SNR=4.6
LPAZ La Paz 161.25 249 PKP PKPdf 21 57 53.4 -1.4
comp=Z,1.1nm,0.8s,baz=45,slow=7.8,SNR=4.8
LPAZ PKPab PKPab 21 58 37.3 +1.0
comp=Z,1.5nm,0.6s,baz=325,slow=2.2,SNR=4.9
LPAZ La Paz 161.25 249 *e*PKP PKPdf 21 57 53.4 -1.4

*IDC **17** 21:43:07.1±2.3, 1.56S×99.73E, mb4.1/6, mb1 4.2/6, mb1mx3.9/16, mbtmp4.1/6, MS4.5/2, Ms1 4.4/2, ms1mx3.7/22, Error ellipse: s-maj=151.4km s-min=21.0km az=52.0*
*NEIC **17** 21:43:11.6±0.6, 1.58S×99.74E, h30km, mb4.5/1, Error ellipse: s-maj=26.8km s-min=9.3km az=61.0*
ISC 17 21:43:10.2±1.2, 1.5S±0.2×99.8E±0.3, h33km, n19, σ0§58/11, mb4.1/7, MS4.5/2, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.82**	**7**	P	**P**	**21 44 50.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**19.87**	**358**	P	**P**	**21 47 47.0**	**+5.5**
0.1nm,0.3s,baz=190,slow=8.9,SNR=4.1							
WRA	**Warramunga Arr**	**38.44**	**121**	P	**P**	**21 50 30.5**	**-0.3**
1.9nm,0.5s,mb4.1,baz=303,slow=9.1,SNR=6.8							
WRA				PcP	PcP	21 52 44.6	+0.3
0.4nm,0.5s,baz=315,slow=2.6,SNR=7.5							
WRAB	**Tennant Creek**	**38.45**	**121**	*e*P	**P**	**21 50 30.8**	**-0.1**
5.1nm,0.7s,mb4.4							
WRAB				*e*		21 50 37.0	
ASAR	**Alice Springs**	**39.73**	**126**	P	**P**	**21 50 41.7**	**+0.3**
1.3nm,0.8s,mb3.7,baz=302,slow=7.6,SNR=3.8							
STKA	**Stephens Creek**	**49.64**	**132**	P	**P**	**21 52 01.0**	**+0.1**
2.1nm,0.7s,mb4.3,baz=295,slow=7.7,SNR=3.3							
STKA	**Stephens Creek**	**49.64**	**132**	*e*P	**P**	**21 52 00.9**	**0.0**
ZAL	**Zalesovo**	**56.65**	**349**	P	**P**	**21 52 52.8**	**+0.3**
1.9nm,0.4s,mb4.5,baz=269,slow=3.0,SNR=6.6							
BVAR	**Borovoye Array**	**59.66**	**340**	P	**P**	**21 53 12.3**	**-1.3**
0.5nm,0.5s,mb3.8,baz=158,slow=7.8,SNR=3.5							
MAW	**Mawson**	**70.69**	**194**	LR	LR	22 19 52.2	
comp=Z,291nm,19.0s,MS4.6,baz=151,slow=31							
FINES	**FINESS Array B**	**83.58**	**332**	P	**P**	**21 55 37.1**	**+0.9**
1.5nm,0.8s,mb4.2,baz=117,slow=6.2,SNR=4.5							
FINES	**FINESS Array B**	**83.58**	**332**	P	**P**	**21 55 37.1**	**+0.9**
AFI	**Afiamalu**	**88.15**	**104**	LR	LR	22 36 28.3	
comp=Z,196nm,18.9s,MS4.5,baz=342,slow=36							
TXAR	**Lajitas Array**	**144.47**	**37**	PKP	PKPdf	22 02 46.0	+2.1
1.6nm,0.5s,baz=213,slow=0.7,SNR=41							
WVT	**Waverly**	**144.85**	**11**	*e*PKP	PKPdf	22 02 45.6	+1.3
WVT				*e*		22 02 51.2	
MIAR	**Mount Ida**	**144.87**	**19**	*e*PKP	PKPdf	22 02 45.9	+1.5
MIAR				*e*		22 02 52.7	
TZTN	**Tazewell**	**145.02**	**5**	*e*PKP	PKPdf	22 02 46.1	+1.4
TZTN				*e*		22 02 52.4	
JCT	**Junction City**	**145.74**	**31**	*e*PKP	PKPdf	22 02 49.0	+2.9
JCT				*e*		22 02 55.3	
CPCT	**Cooper Cave**	**146.01**	**6**	*e*PKP	PKPdf	22 02 49.1	+2.7

IDC 17 21:49:00.8±3.2, 1.29S×100.78E, mb3.5/3, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=147.2km s-min=24.4km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.71**	**355**	P	P	21 53 32.4	-2.5
0.1nm,0.3s,baz=189,slow=9.4,SNR=5.1							
WRA	**Warramunga Arr**	**37.69**	**122**	P	P	21 56 18.9	-1.0
0.5nm,0.6s,baz=302,slow=9.1,SNR=5.6							
ASAR	**Alice Springs**	**39.05**	**127**	P	P	21 56 29.0	-2.3
0.1nm,0.4s,baz=80,slow=41,SNR=2.8							
BVAR	**Borovoye Array**	**59.80**	**339**	P	P	21 59 07.6	-2.5
0.7nm,0.8s,baz=153,slow=6.6,SNR=4.4							
TXAR	**Lajitas Array**	**143.67**	**38**	PKhKP		22 08 33.8	
0.4nm,0.6s,baz=230,slow=1.0,SNR=6.6							

*IDC **17** 22:02:10.5±2.8, 30.32N×83.43E, mb3.4/4, mb1 3.8/5, mb1mx3.4/22, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=125.6km s-min=24.2km az=61.0*
ISC 17 22:02:16.5±0.8, 30.7N±0.1×84.08E±0.08, h33km, n7, σ1§46/9, mb3.3/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.52**	**253**	*e*P	**P**	**22 03 08.7**	**-1.6**
PTH				*e*S	**S**	**22 03 51.4**	**0.0**
LGTI	**Lohaghat**	**3.54**	**251**	*e*PN	**Pn**	**22 03 13.0**	**+2.5**
LGTI				*e*SN	**Sn**	**22 03 57.0**	**+5.3**
CMAR	**Chiang Mai Arr**	**18.14**	**129**	P	**P**	**22 06 28.7**	**+1.0**
0.0nm,0.3s,baz=309,slow=13,SNR=6.0							
ZAL	**Zalesovo**	**23.28**	**1**	P	**P**	**22 07 24.1**	**+2.2**
0.6nm,0.4s,mb3.4,baz=278,slow=1.6,SNR=4.4							
BVAR	**Borovoye Array**	**24.49**	**340**	P	**P**	**22 07 32.7**	**-0.9**
0.2nm,0.5s,mb2.8,baz=166,slow=5.9,SNR=2.3							
WRA	**Warramunga Arr**	**69.74**	**130**	P	**P**	**22 13 23.7**	**-1.7**
0.5nm,0.7s,mb3.5,baz=324,slow=6.3,SNR=6.2							
YKA	**Yellowknife Ar**	**85.97**	**9**	P	**P**	**22 14 53.3**	**-0.7**
0.2nm,0.6s,mb3.5,baz=339,slow=4.9,SNR=6.9							

*IDC **17** 22:07:15.3±0.7, 16.86S×173.01W, mb4.1/11, mb1 4.4/11, mb1mx4.4/17, mbtmp4.1/11, MS4.2/6, Ms1 4.2/6, ms1mx3.8/32, Error ellipse: s-maj=32.2km s-min=17.4km az=134.0*
*NEIC **17** 22:07:16.8±0.5, 16.76S×173.00W, h10km, mb4.3/2, Error ellipse: s-maj=24.5km s-min=11.5km az=131.0*
ISC 17 22:07:15.0±0.5, 16.7S±0.1×173.1W±0.1, h10km, n42, σ1§01/21, mb4.1/14, MS4.2/6, 3C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.04**	**25**	Pn	**Pn**	**22 08 03.1**	**-1.1**
16nm,0.3s,baz=52,slow=12,SNR=10							
AFI				Sn	**Sn**	**22 08 36.2**	**-4.9**
32nm,0.3s,baz=328,slow=23,SNR=4.7							
AFI	**Afiamalu**	**3.04**	**25**	*e*P	**Pn**	**22 08 03.0**	**-1.2**
AFI				S	**Sn**	**22 08 39.9**	**-1.1**
DZM	**Mont Dzumac**	**20.00**	**251**	LR	LR	22 17 57.7	
comp=Z,458nm,19.7s,MS3.8,baz=308,slow=32							
URZ	**Urewera**	**23.15**	**200**	P	**P**	**22 12 21.3**	**-1.2**
5.5nm,0.5s,mb4.3,baz=356,slow=12,SNR=6.8							
HNR	**Honiara**	**27.18**	**282**	LR	LR	22 22 24.9	
comp=Z,621nm,18.2s,MS4.2,baz=102,slow=33							
CTA	**Charters Tower**	**38.63**	**259**	LR	LR	22 29 23.8	
comp=Z,277nm,18.4s,MS4.1,baz=310,slow=34							
STKA	**Stephens Creek**	**43.64**	**241**	P	**P**	**22 15 22.5**	**+0.9**
2.3nm,0.8s,mb3.9,baz=98,slow=16,SNR=3.0							
STKA				LR	LR	22 31 59.7	
comp=Z,244nm,19.9s,MS4.1,baz=23,slow=34							
WB2	**Warramunga Arr**	**49.81**	**258**	*e*P	**P**	**22 16 10.3**	**-0.1**
WRA	**Warramunga Arr**	**49.83**	**258**	P	**P**	**22 16 10.0**	**-0.5**
2.4nm,1.0s,mb4.2,baz=96,slow=6.8,SNR=24							
ASAR	**Alice Springs**	**49.98**	**253**	P	**P**	**22 16 11.2**	**-0.4**
7.0nm,0.9s,mb4.7,baz=86,slow=8.2,SNR=31							
ASPA	**Alice Springs**	**49.98**	**253**	*e*P	**P**	**22 16 12.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**58.22**	**259**	LR	LR	22 38 20.4	
comp=Z,156nm,21.5s,MS4.1,baz=94,slow=32							
VNDA	**Vanda**	**62.14**	**186**	P	**P**	**22 17 36.6**	**-1.7**
1.2nm,0.8s,mb4.1,baz=5.3,slow=5.1,SNR=4.8							
NVAR	**Mina Array Bea**	**75.10**	**42**	P	**P**	**22 18 59.3**	**+0.1**
1.0nm,0.7s,mb3.9,baz=238,slow=11,SNR=4.6							
HLID	**Hailey**	**80.44**	**39**	*e*P	**P**	**22 19 29.7**	**+1.1**
3.5nm,1.1s,mb4.2							
TXAR	**Lajitas Array**	**81.10**	**56**	P	**P**	**22 19 32.6**	**+0.3**
1.8nm,1.0s,mb3.9,baz=217,slow=6.3,SNR=8.9							
PV10	**Paradox Valley**	**81.20**	**46**	*e*P	**P**	**22 19 31.1**	**-1.6**
ANMO	**Albuquerque**	**81.42**	**50**	*e*P	**P**	**22 19 37.1**	**+3.3**
3.5nm,1.1s,mb4.2							
PDAR	**Pinedale Array**	**83.04**	**42**	P	**P**	**22 19 42.4**	**+0.3**
1.8nm,1.0s,mb4.1,baz=233,slow=1.7,SNR=8.1							
ILAR	**Eielson Array**	**83.64**	**11**	P	**P**	**22 19 45.9**	**+1.2**
0.7nm,0.6s,mb4.0,baz=226,slow=6.2,SNR=14							
MAW	**Mawson**	**86.67**	**199**	LR	LR	22 58 08.1	
comp=Z,278nm,19.9s,MS4.7,baz=246,slow=35							
PLCA	**Paso Flores**	**88.46**	**132**	P	**P**	**22 20 10.1**	**+1.2**
2.1nm,0.9s,mb4.4,baz=243,slow=4.5,SNR=3.5							
YKA	**Yellowknife Ar**	**91.16**	**23**	P	**P**	**22 20 21.5**	**+0.5**
0.5nm,1.0s,mb3.8,baz=225,slow=4.4,SNR=5.8							
CMAR	**Chiang Mai Arr**	**93.27**	**288**	P	**P**	**22 20 36.5**	**+4.7**
0.4nm,0.5s,mb4.1,baz=78,slow=2.5,SNR=5.8							
BVAR	**Borovoye Array**	**119.05**	**322**	PKP	PKPdf	22 26 06.7	-0.4
0.6nm,0.6s,SNR=6.0							
MALT	**Malatya**	**144.95**	**314**	⇑P	PKPbc	22 26 57.7	+4.7
OJC	**Ojcow**	**144.96**	**346**	*e*PKP	PKPdf	22 26 55.9	+0.5
CLL	**Collm**	**145.11**	**353**	*e*PKP1	PKPbc	22 26 56.0	+3.1
KMBO	**Kilima Mbogo**	**145.20**	**242**	PKPbc	PKPbc	22 26 57.9	+3.6
3.7nm,0.9s,baz=105,slow=3.0,SNR=10							
KMBO	**Kilima Mbogo**	**145.20**	**242**	PKPbc	PKPbc	22 26 57.9	+3.6
BRG	**Berggiesshubel**	**145.42**	**352**	*i* P	PKPbc	22 26 54.8	+1.1
UPC	**Upice**	**145.46**	**350**	*e*PKP	PKPdf	22 26 57.7	+1.4
DPC	**Dobruska-Polom**	**145.56**	**349**	*e*PKP	PKPdf	22 26 57.8	+1.4
BURAR	**Bucovina Array**	**145.65**	**338**	⇑P	PKPbc	22 27 09.8	+15
PVCC	**Panska Ves**	**145.67**	**351**	*e*PKP	PKPdf	22 26 58.3	+1.7
MOX	**Moxa**	**145.90**	**355**	*e*P	PKPbc	22 26 58.0	+3.1
PRU	**Pruhonice**	**146.20**	**351**	*e*PKP	PKPdf	22 27 09.9	+12
MLR	**Muntele Rosu**	**147.13**	**335**	⇑P	PKPdf	22 27 03.0	+3.7
KHC	**Kasperske Hory**	**147.18**	**352**	*e*PKP	PKPdf	22 27 03.0	+3.8
BRTR	**Keskin Array B**	**147.31**	**320**	PKPbc	PKPdf	22 27 03.2	+3.5
3.2nm,1.0s,baz=141,slow=2.5,SNR=13							
GERES	**GERESS Array B**	**147.44**	**352**	PKPbc	PKPdf	22 27 02.4	+2.7
1.6nm,1.0s,baz=333,slow=3.0,SNR=7.8							
PKSM	**Moragy**	**148.96**	**344**	⇓P	PKPdf	22 27 06.4	+4.2

IDC 17 22:19:45.8±47.0, 16.64S×174.34W, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=896.6km s-min=179.0km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.64**	**241**	P	P	22 27 44.8	-1.1
5.8nm,1.1s,baz=112,slow=11,SNR=4.2							
WRA	**Warramunga Arr**	**48.69**	**258**	P	P	22 28 31.6	-2.5
0.1nm,0.3s,baz=97,slow=7.0,SNR=6.8							
ASAR	**Alice Springs**	**48.88**	**253**	P	P	22 28 33.6	-1.9
2.6nm,0.7s,baz=88,slow=8.5,SNR=32							

IDC 17 22:55:16.0±6.0, 0.84S×100.47E, mb3.5/2, mb1 3.8/2, mb1mx3.5/15, mbtmp3.5/2, MS4.0/1, Ms1 4.0/1, ms1mx3.0/25, Error ellipse: s-maj=326.7km s-min=83.7km az=47.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.19**	**122**	P	P	23 02 37.8	-1.6
0.7nm,0.5s,baz=300,slow=9.3,SNR=10							
ASAR	**Alice Springs**	**39.57**	**128**	P	P	23 02 49.0	-1.8
0.2nm,0.4s,baz=301,slow=8.5,SNR=6.5							
CBIJ	**Chichi jima**	**48.79**	**52**	LR	LR	23 23 26.5	
comp=Z,162nm,19.6s,baz=86,slow=35							
TXAR	**Lajitas Array**	**143.50**	**37**	PKP	PKPdf	23 14 53.0	-2.1
0.5nm,0.6s,baz=254,slow=1.3,SNR=7.8							

*NEIC **17** 22:58:50.3, 39.40N×0.03E, h6km, ML3.3(LDG), MN2.7(MDD), After MDD.*
*MDD **17** 22:58:50.4±0.7, 39.39N×0.00E, h20km±6km, mbLg2.8/24, Error ellipse: s-maj=5.7km s-min=3.6km az=117.0, PRXIMO*
*CSEM **17** 22:58:50.4±0.1, 39.41N×0.01W, h10km, ML3.1/17, Error ellipse: s-maj=2.0km s-min=1.1km az=122.0*
*LDG **17** 22:58:53.0±0.3, 39.53N×0.03E, h2km, Ml3.3/7, Error ellipse: s-maj=5.9km s-min=3.9km az=50.0*
*STR **17** 22:58:59.0±1.4, 39.90N×1.92W, h10km±1km, Ml4.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 17 22:58:47.9±0.2, 39.41N±0.02×0.02W±0.03, h10km, n122, σ1§16/223, 3C-3D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBEN	**Beniarda**	**0.72**	**193**	⇑Pg	**Pg**	**22 59 03.9**	**+1.5**
SNR=18							
EBEN				Lg		22 59 13.5	
238nm,0.2s,SNR=32							
EBEN	**Beniarda**	**0.72**	**193**	Pg	**Pg**	**22 59 03.9**	**+1.5**
27nm,0.1s,SNR=209							
ECHE	**Chera**	**0.75**	**284**	Pg	**Pg**	**22 59 04.8**	**+1.7**
62nm,0.4s,SNR=126							
ECHE				Lg		22 59 15.4	
150nm,0.3s,SNR=18							
EMOS	**Mosqueruela**	**1.01**	**340**	Pg	**Pg**	**22 59 09.6**	**+1.3**
EMOS				Lg		22 59 22.4	
EMOS	**Mosqueruela**	**1.01**	**340**	Pg	**Pg**	**22 59 09.5**	**+1.2**
23nm,0.2s,SNR=15							
EMOS				Lg		22 59 23.2	
183nm,0.2s,SNR=16							
EMOS	**Mosqueruela**	**1.01**	**340**	Pg	**Pg**	**22 59 09.5**	**+1.2**
23nm,0.2s,SNR=15							
EIBI	**Ibiza**	**1.13**	**109**	Pg	**Pg**	**22 59 09.5**	**-1.0**
EIBI				Lg		22 59 24.2	
EIBI	**Ibiza**	**1.13**	**109**	⇓Pn	**Pn**	**22 59 09.5**	**-0.2**
33nm,0.2s,SNR=18							
EIBI				Sn	**Sn**	**22 59 25.2**	**-0.1**
167nm,0.2s,SNR=9.4							
EIBI	**Ibiza**	**1.13**	**109**	Pg	**Pg**	**22 59 09.5**	**-1.0**
33nm,0.2s,SNR=65							
ETOB	**Tobarra**	**1.41**	**238**	Pn	**Pn**	**22 59 14.9**	**+1.1**
ETOB				Lg		22 59 33.4	
ETOB	**Tobarra**	**1.41**	**238**	⇑Pn	**Pn**	**22 59 14.9**	**+1.1**
4.3nm,0.1s,SNR=18							
ETOB				Pg	**Pg**	**22 59 16.8**	**+0.6**
17nm,0.1s,SNR=7.9							
ETOB				Sn	**Sn**	**22 59 34.2**	**+1.7**
47nm,0.3s,SNR=7.9							
ETOB				Lg		22 59 36.0	
49nm,0.3s,SNR=5.0							
ETOB	**Tobarra**	**1.41**	**238**	Pn	**Pn**	**22 59 14.9**	**+1.1**
4.3nm,0.1s,SNR=95							
EBR	**Ebro Roquetas**	**1.47**	**16**	*e*PN	**Pn**	**22 59 17.5**	**+3.0**
EBR				*i* S*S*		22 59 43.0	
ERTA	**Horta de San J**	**1.57**	**10**	Pn	**Pn**	**22 59 17.6**	**+1.5**
ERTA				Pg	**Pg**	**22 59 19.1**	**-0.2**
ERTA				Lg		22 59 39.6	
ERTA	**Horta de San J**	**1.57**	**10**	Pn	**Pn**	**22 59 17.2**	**+1.2**
4.5nm,0.1s,SNR=60							
ERTA				Pg	**Pg**	**22 59 19.1**	**-0.2**
30nm,0.2s,SNR=7.9							
ERTA				Sn	**Sn**	**22 59 38.1**	**+1.5**
8.3nm,0.2s,SNR=7.9							
ERTA				Lg		22 59 40.9	
126nm,0.3s,SNR=8.0							
ERTA	**Horta de San J**	**1.57**	**10**	Pn	**Pn**	**22 59 17.6**	**+1.6**
4.5nm,0.1s,SNR=60							
ERTA	**Horta de San J**	**1.57**	**10**	Pg	**Pg**	**22 59 19.1**	**-0.2**
30nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**1.83**	**212**	Pn	**Pn**	**22 59 20.5**	**+0.7**
EMUR				Pg	**Pg**	**22 59 24.4**	**-0.1**
EMUR				Lg		22 59 46.2	
EMUR	**La Murta**	**1.83**	**212**	⇓Pn	**Pn**	**22 59 20.5**	**+0.7**
3.2nm,0.2s,SNR=18							
EMUR				Pg	**Pg**	**22 59 24.4**	**-0.2**
25nm,0.4s,SNR=38							
EMUR				Sn	**Sn**	**22 59 44.7**	**+1.4**
32nm,0.3s,SNR=7.9							
EMUR				Lg		22 59 49.0	
65nm,0.7s,SNR=5.0							
EMUR	**La Murta**	**1.83**	**212**	Pn	**Pn**	**22 59 20.5**	**+0.7**
3.2nm,0.2s,SNR=33							
EMUR	**La Murta**	**1.83**	**212**	Pg	**Pg**	**22 59 24.4**	**-0.1**
25nm,0.4s,SNR=38							
EPOB	**Poblet**	**2.12**	**23**	Pn	**Pn**	**22 59 24.9**	**+1.0**
EPOB				Pg	**Pg**	**22 59 30.0**	**-0.2**
EPOB				Sn	**Sn**	**22 59 50.5**	**0.0**
EPOB				Lg		22 59 57.2	
EPOB	**Poblet**	**2.12**	**23**	Pn	**Pn**	**22 59 24.9**	**+1.0**
1.5nm,0.1s,SNR=16							
EPOB				Pg	**Pg**	**22 59 28.5**	**-1.7**
28nm,0.3s,SNR=7.9							
EPOB				Sn	**Sn**	**22 59 51.5**	**+1.0**
12nm,0.2s,SNR=7.9							
EPOB				Lg		22 59 57.9	
26nm,0.3s,SNR=5.5							
EPOB	**Poblet**	**2.12**	**23**	Pn	**Pn**	**22 59 24.9**	**+1.0**
1.5nm,0.1s,SNR=16							
EPOB	**Poblet**	**2.12**	**23**	Pg	**Pg**	**22 59 30.0**	**-0.2**
28nm,0.3s,SNR=7.9							
EPOB				Sn	**Sn**	**22 59 50.4**	**0.0**
12nm,0.2s,SNR=7.9							
ETOS	**Mallorca**	**2.22**	**80**	Pn	**Pn**	**22 59 25.8**	**+0.4**
ETOS				Sn	**Sn**	**22 59 51.9**	**-1.2**
ETOS	**Mallorca**	**2.22**	**80**	Pn	**Pn**	**22 59 25.8**	**+0.4**
10nm,0.2s,SNR=32							
ETOS				Sn	**Sn**	**22 59 53.0**	**-0.1**
9.6nm,0.2s,SNR=5.0							
ETOS				Lg		22 59 59.7	
54nm,1.0s,SNR=7.9							
ETOS	**Mallorca**	**2.22**	**80**	Pn	**Pn**	**22 59 25.8**	**+0.4**
10nm,0.2s,SNR=32							
ETOS				Sn	**Sn**	**22 59 51.9**	**-1.2**
9.6nm,0.2s,SNR=5.0							
ESAC	**San Caprasio**	**2.34**	**352**	Pn	**Pn**	**22 59 28.4**	**+1.4**
ESAC				Pg	**Pg**	**22 59 33.9**	**-0.7**
ESAC				Lg		23 00 03.0	
ESAC	**San Caprasio**	**2.34**	**352**	Pn	**Pn**	**22 59 28.4**	**+1.4**
5.0nm,0.2s,SNR=4.0							
ESAC				Pg	**Pg**	**22 59 33.9**	**-0.7**
51nm,0.3s,SNR=45							
ESAC				Sn	**Sn**	**22 59 57.2**	**+1.2**
110nm,0.5s,SNR=7.9							
ESAC				Lg		23 00 05.8	
736nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**2.34**	**352**	Pn	**Pn**	**22 59 28.4**	**+1.4**
5.0nm,0.2s,SNR=4.0							
ESAC	**San Caprasio**	**2.34**	**352**	Pg	**Pg**	**22 59 33.9**	**-0.7**
51nm,0.3s,SNR=45							
ENIJ	**Nijar**	**2.98**	**216**	Pn	**Pn**	**22 59 37.1**	**+0.9**
1.0nm,0.2s,SNR=4.0							
ENIJ				Pg	**Pg**	**22 59 44.8**	**-2.6**
9.1nm,0.4s,SNR=7.9							
ENIJ				Lg		23 00 24.9	
16nm,0.6s,SNR=7.9							
ESDC	**Sonseca Array**	**3.06**	**276**	Pn	**Pn**	**22 59 37.7**	**+0.3**
ESDC				Lg		23 00 24.3	
ESDC	**Sonseca Array**	**3.06**	**276**	Pn	**Pn**	**22 59 37.7**	**+0.3**
8.7nm,0.5s,baz=93,slow=14,SNR=53							
ESDC				Sn	**Sn**	**23 00 15.3**	**+1.0**
SNR=7.9							
ESDC				Lg		23 00 29.2	
baz=93,slow=30,SNR=7.9							
ESDC	**Sonseca

ECOG	**Cogollos-Vega**	**3.51**	**234**	Pn	**Pn**	**22 59 45.0**	**+1.3**
	2.2nm,0.1s,SNR=12						
ECOG				Sn	**Sn**	**23 00 26.4**	**+0.7**
	2.8nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**3.51**	**354**	*e*Pn	**Pn**	**22 59 45.4**	**+1.7**
ETSF				*e*Pg	**Pg**	**22 59 56.2**	**-1.8**
ETSF				*e*Sg	**Sg**	**23 00 39.3**	**-5.5**
	48nm,0.7s						
MELF	**Melles**	**3.51**	**9**	P	**Pn**	**22 59 54.4**	**+11**
MELF				S	**Sn**	**23 00 37.2**	**+11**
EPF	**Esparros**	**3.63**	**4**	*e*Pn	**Pn**	**22 59 46.7**	**+1.3**
EPF				*e*Pg	**Pg**	**22 59 58.5**	**-1.9**
EPF				*e*Sg	**Sg**	**23 00 42.6**	**-6.2**
	48nm,0.5s						
LABF	**Labassere**	**3.64**	**1**	P	**Pn**	**22 59 53.7**	**+8.2**
LABF				S	**Sn**	**23 00 38.3**	**+9.3**
ECRI	**Cripan**	**3.71**	**330**	Pn	**Pn**	**22 59 48.4**	**+1.8**
ECRI				Lg		23 00 48.7	
ECRI	**Cripan**	**3.71**	**330**	Pn	**Pn**	**22 59 47.4**	**+0.9**
	1.3nm,0.3s,SNR=4.0						
ECRI				Pg	**Pg**	**22 59 58.8**	**-3.2**
	5.5nm,0.4s,SNR=7.9						
ECRI				Lg		23 00 48.7	
	18nm,0.4s,SNR=7.9						
ECRI	**Cripan**	**3.71**	**330**	Pn	**Pn**	**22 59 48.4**	**+1.8**
	1.3nm,0.3s,SNR=4.0						
EJON	**La Jonquera**	**3.75**	**35**	Pn	**Pn**	**22 59 47.3**	**+0.2**
EJON				Pg	**Pg**	**23 00 01.2**	**-1.6**
EJON				Sn	**Sn**	**23 00 30.8**	**-1.1**
EJON				Lg		23 00 54.8	
EJON	**La Jonquera**	**3.75**	**35**	Pn	**Pn**	**22 59 47.3**	**+0.2**
	2.8nm,0.2s,SNR=7.9						
EJON				Pg	**Pg**	**22 59 59.0**	**-3.9**
	1.0nm,0.2s,SNR=6.2						
EJON				Sn	**Sn**	**23 00 30.8**	**-1.1**
	2.2nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**3.75**	**35**	Pn	**Pn**	**22 59 47.3**	**+0.1**
	2.8nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**3.75**	**35**	Pg	**Pg**	**23 00 01.2**	**-1.7**
	1.0nm,0.2s,SNR=6.2						
EJON				Sn	**Sn**	**23 00 30.8**	**-1.1**
	2.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.77**	**252**	Pn	**Pn**	**22 59 46.6**	**-0.8**
EADA				Pg	**Pg**	**22 59 59.8**	**-3.4**
EADA				Sn	**Sn**	**23 00 29.5**	**-2.8**
EADA				Lg		23 00 48.0	
EADA	**Adamuz**	**3.77**	**252**	⇑Pn	**Pn**	**22 59 46.6**	**-0.8**
	1.4nm,0.1s,SNR=18						
EADA				Pg	**Pg**	**22 59 59.8**	**-3.4**
	3.3nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**23 00 31.8**	**-0.6**
	3.9nm,0.1s,SNR=7.9						
EADA				Lg		23 00 50.1	
	5.7nm,0.2s,SNR=5.0						
EADA	**Adamuz**	**3.77**	**252**	Pn	**Pn**	**22 59 46.6**	**-0.8**
	1.4nm,0.1s,SNR=18						
EADA	**Adamuz**	**3.77**	**252**	Pg	**Pg**	**22 59 59.8**	**-3.4**
	3.3nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**23 00 29.5**	**-2.8**
	3.9nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**3.81**	**242**	Pn	**Pn**	**22 59 48.3**	**+0.4**
ELUQ				Sn	**Sn**	**23 00 32.1**	**-1.2**
ELUQ				Lg		23 00 50.6	
ELUQ	**Luque**	**3.81**	**242**	⇓Pn	**Pn**	**22 59 48.3**	**+0.4**
	4.6nm,0.1s,SNR=18						
ELUQ				Pg	**Pg**	**23 00 00.8**	**-3.2**
	2.5nm,0.1s,SNR=7.9						
ELUQ				Sn	**Sn**	**23 00 33.1**	**-0.2**
	6.5nm,0.3s,SNR=7.9						
ELUQ				Lg		23 00 51.7	
	5.0nm,0.3s,SNR=5.0						
ELUQ	**Luque**	**3.81**	**242**	Pn	**Pn**	**22 59 48.3**	**+0.4**
	4.6nm,0.1s,SNR=15						
ELUQ				Sn	**Sn**	**23 00 32.1**	**-1.2**
	6.5nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**3.81**	**347**	*e*Pn	**Pn**	**22 59 49.5**	**+1.5**
SJPF				*e*Sg	**Sg**	**23 00 48.6**	**-6.2**
	39nm,0.5s						
ERON	**Agron**	**3.82**	**232**	Pn	**Pn**	**22 59 48.3**	**+0.2**
	1.6nm,0.3s,SNR=4.0						
ERON				Pg	**Pg**	**23 00 00.9**	**-3.3**
	1.8nm,0.3s,SNR=7.9						
ERON				Sn	**Sn**	**23 00 33.8**	**+0.3**
	1.6nm,0.2s,SNR=5.0						
ERON	**Agron**	**3.82**	**232**	Pn	**Pn**	**22 59 46.2**	**-1.9**
	1.6nm,0.3s,SNR=4.0						
ERON				Sn	**Sn**	**23 00 33.8**	**+0.3**
	1.6nm,0.2s,SNR=5.0						
ELIZ	**Elizondo**	**3.92**	**344**	Pn	**Pn**	**22 59 51.1**	**+1.6**
ELIZ				Sn	**Sn**	**23 00 36.5**	**+0.4**
ELIZ				Lg		23 00 53.5	
ELIZ	**Elizondo**	**3.92**	**344**	Pn	**Pn**	**22 59 49.9**	**+0.4**
	1.4nm,0.2s,SNR=7.4						
ELIZ				Sn	**Sn**	**23 00 36.5**	**+0.4**
	3.7nm,0.4s,SNR=5.0						
ELIZ	**Elizondo**	**3.92**	**344**	Pn	**Pn**	**22 59 51.1**	**+1.6**
	1.4nm,0.2s,SNR=7.4						
ELIZ				Sn	**Sn**	**23 00 36.5**	**+0.4**
	3.7nm,0.4s,SNR=5.0						
OSSF	**Osses**	**3.96**	**347**	P	**Pn**	**22 59 51.2**	**+1.2**
OSSF				S	**Sn**	**23 00 35.2**	**-1.8**
ELOJ	**Sierra Loja**	**3.96**	**237**	Pn	**Pn**	**22 59 50.8**	**+0.7**
ELOJ				Sn	**Sn**	**23 00 36.6**	**-0.4**
ELOJ				Lg		23 00 59.2	
ELOJ	**Sierra Loja**	**3.96**	**237**	Pn	**Pn**	**22 59 50.8**	**+0.7**
	2.3nm,0.3s,SNR=7.9						
ELOJ				Sn	**Sn**	**23 00 36.6**	**-0.4**
	7.3nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**3.97**	**344**	Pn	**Pn**	**22 59 51.8**	**+1.5**
EALK				Sn	**Sn**	**23 00 33.4**	**-3.9**
EALK				Lg		23 00 56.3	
EALK	**Alkurruntz**	**3.97**	**344**	Pn	**Pn**	**22 59 50.8**	**+0.6**
	2.7nm,0.2s,SNR=8.2						
EALK				Sn	**Sn**	**23 00 37.8**	**+0.4**
	4.8nm,0.3s,SNR=5.0						
EALK				Lg		23 00 57.1	
	21nm,0.3s,SNR=4.5						
EALK	**Alkurruntz**	**3.97**	**344**	Pn	**Pn**	**22 59 51.8**	**+1.6**
MTLF	**Montolieu**	**4.28**	**22**	*e*Pn	**Pn**	**22 59 54.9**	**+0.3**
MTLF				*e*Pg	**Pg**	**23 00 09.8**	**-3.5**
MTLF				*e*Sg	**Sg**	**23 01 03.3**	**-7.0**
	22nm,0.5s						
ELAN	**Lanestosa**	**4.60**	**327**	Pn	**Pn**	**22 59 59.3**	**+0.1**
	1.8nm,0.3s,SNR=6.7						
ELAN				Sn	**Sn**	**23 00 52.5**	**-0.9**
	4.0nm,0.3s,SNR=7.9						
ELAN				Lg		23 01 17.0	
	6.3nm,0.2s,SNR=5.0						
ELAN	**Lanestosa**	**4.60**	**327**	Pn	**Pn**	**22 59 59.3**	**+0.1**
	1.8nm,0.3s,SNR=6.7						
ELAN				Sn	**Sn**	**23 00 52.5**	**-0.9**
	4.0nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**4.71**	**234**	Pn	**Pn**	**23 00 00.8**	**+0.1**
EMIJ				Sn	**Sn**	**23 00 54.5**	**-1.5**
EMIJ	**Mijas**	**4.71**	**234**	Pn	**Pn**	**23 00 00.8**	**+0.1**
	3.0nm,0.4s,SNR=7.9						
EMIJ				Sn	**Sn**	**23 00 55.4**	**-0.6**
	8.2nm,0.5s,SNR=7.9						
EMIJ	**Mijas**	**4.71**	**234**	Pn	**Pn**	**23 00 00.8**	**+0.1**
	3.0nm,0.4s,SNR=7.9						
EMIJ				Sn	**Sn**	**23 00 54.5**	**-1.5**
	8.2nm,0.5s,SNR=7.9						
ESPR	**Espera**	**5.25**	**243**	Pn	**Pn**	**23 00 07.9**	**-0.5**
	1.2nm,0.1s,SNR=4.0						
ESPR	**Espera**	**5.25**	**243**	Pn	**Pn**	**23 00 07.9**	**-0.5**
	1.2nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**5.46**	**255**	Pn	**Pn**	**23 00 11.2**	**-0.2**
EMIN				Sn	**Sn**	**23 01 11.0**	**-4.1**
EMIN				Lg		23 01 41.0	
EMIN	**Mina Concepcio**	**5.46**	**255**	Pn	**Pn**	**23 00 11.2**	**-0.2**
	6.0nm,0.5s,SNR=4.0						
EMIN	**Mina Concepcio**	**5.46**	**255**	Pn	**Pn**	**23 00 11.2**	**-0.2**
	6.0nm,0.5s,SNR=4.0						
EMIN				Sn	**Sn**	**23 01 11.0**	**-4.0**
EBAD	**Badajoz**	**5.48**	**265**	Pn	**Pn**	**23 00 10.0**	**-1.7**
EBAD				Sn	**Sn**	**23 01 12.4**	**-3.1**
EBAD				Lg		23 01 40.9	
EBAD	**Badajoz**	**5.48**	**265**	Pn	**Pn**	**23 00 10.7**	**-1.0**
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**23 01 14.5**	**-1.0**
	2.0nm,0.3s,SNR=7.9						
EBAD				Lg		23 01 44.3	
	2.9nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**5.48**	**265**	Pn	**Pn**	**23 00 10.0**	**-1.6**
EBAD				Sn	**Sn**	**23 01 12.4**	**-3.1**
LASF	**Ste Croix**	**5.49**	**31**	*e*Pn	**Pn**	**23 00 12.2**	**+0.4**

EARI	**Arriondas**	**5.51**	**317**	Pn	**Pn**	**23 00 12.8**	**+0.8**
EARI	**Arriondas**	**5.51**	**317**	Pn	**Pn**	**23 00 12.0**	**-0.1**
	0.7nm,0.2s,SNR=4.0						
EARI				Sn	**Sn**	**23 01 15.6**	**-0.6**
	8.9nm,1.6s,SNR=7.9						
EARI				Lg		23 01 46.8	
	18nm,1.0s,SNR=7.9						
EARI	**Arriondas**	**5.51**	**317**	Pn	**Pn**	**23 00 12.8**	**+0.7**
LFF	**La Frestale**	**5.56**	**6**	*e*Pn	**Pn**	**23 00 12.9**	**+0.2**
ECAL	**Calabor**	**5.70**	**299**	Pn	**Pn**	**23 00 14.1**	**-0.6**
ECAL				Sn	**Sn**	**23 01 17.0**	**-4.0**
ECAL				Lg		23 01 52.4	
ECAL	**Calabor**	**5.70**	**299**	Pn	**Pn**	**23 00 14.1**	**-0.6**
	3.7nm,0.1s,SNR=12						
ECAL				Lg		23 01 52.4	
	1.2nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**5.70**	**299**	Pn	**Pn**	**23 00 14.1**	**-0.6**
ECAL				Sn	**Sn**	**23 01 17.0**	**-4.0**
CAF	**Calviac**	**5.73**	**15**	*e*Pn	**Pn**	**23 00 14.7**	**-0.4**
CAF				*e*Sn	**Sn**	**23 01 17.4**	**-4.3**
CAF				*e*Sg	**Sg**	**23 01 49.2**	**-9.4**
	14nm,0.6s						
RJF	**Les Rejaudoux**	**6.00**	**10**	*e*Pn	**Pn**	**23 00 18.3**	**-0.7**
RJF				*e*Sn	**Sn**	**23 01 23.7**	**-4.9**
RJF				*e*Sg	**Sg**	**23 01 55.3**	**-12**
EGRO	**El Granado**	**6.15**	**255**	Pn	**Pn**	**23 00 20.5**	**-0.5**
EGRO				Sn	**Sn**	**23 01 27.7**	**-4.5**
EGRO				Lg		23 02 07.2	
EGRO	**El Granado**	**6.15**	**255**	Pn	**Pn**	**23 00 20.5**	**-0.5**
	2.0nm,0.3s,SNR=4.0						
EGRO				Sn	**Sn**	**23 01 30.2**	**-2.0**
	1.3nm,0.2s,SNR=4.0						
EGRO				Lg		23 02 07.2	
	16nm,0.7s,SNR=7.9						
EGRO	**El Granado**	**6.15**	**255**	Pn	**Pn**	**23 00 20.5**	**-0.5**
EGRO				Sn	**Sn**	**23 01 27.7**	**-4.5**
ERUA	**La Rua**	**6.16**	**301**	Pn	**Pn**	**23 00 20.9**	**-0.4**
	2.2nm,0.2s,SNR=7.4						
SMRF	**Simiane la Rot**	**6.19**	**41**	*e*Pn	**Pn**	**23 00 22.2**	**+0.5**
LMR	**La Mourre**	**6.29**	**49**	*e*Pn	**Pn**	**23 00 22.7**	**-0.3**
LMR				*e*Sn	**Sn**	**23 01 29.1**	**-6.6**
FRF	**La Foret Royal**	**6.50**	**48**	*e*Pn	**Pn**	**23 00 25.2**	**-0.9**
FRF				*e*Sn	**Sn**	**23 01 35.4**	**-5.7**
	1.5nm,0.3s						
ELOB	**Lobios**	**6.59**	**294**	Pn	**Pn**	**23 00 27.0**	**-0.3**
	1.5nm,0.3s,SNR=4.0						
ELOB	**Lobios**	**6.59**	**294**	Pn	**Pn**	**23 00 27.0**	**-0.3**
EPON	**Pontenova**	**6.64**	**308**	Pn	**Pn**	**23 00 28.9**	**+0.9**
EPON	**Pontenova**	**6.64**	**308**	Pn	**Pn**	**23 00 28.1**	**+0.2**
	0.1nm,0.1s,SNR=4.0						
EPON				Pg	**Pg**	**23 00 52.5**	**-7.9**
	6.4nm,0.8s,SNR=7.9						
EPON	**Pontenova**	**6.64**	**308**	Pn	**Pn**	**23 00 28.9**	**+0.9**
MFF	**Saint Martin d**	**7.19**	**359**	*e*Pn	**Pn**	**23 00 34.4**	**-1.3**
MFF				*e*Sn	**Sn**	**23 01 50.7**	**-7.6**
MFF				*e*Sg	**Sg**	**23 02 33.1**	**-14**
	0.6nm,0.2s						
PGF	**Pioggiola**	**7.51**	**62**	*e*Pn	**Pn**	**23 00 40.1**	**-0.1**
LDF	**La Druitiere**	**9.18**	**360**	*e*Pn	**P**	**23 01 02.5**	**-1.0**

*NEIC **17** 23:21:25.5±0.4, 10.78N×92.04E, h30km, mb4.7/4, Error ellipse: s-maj=11.5km s-min=7.3km az=59.0*
*IDC **17** 23:21:27.6±5.5, 10.86N×92.11E, h47km±50km, mb3.8/14, mb1 3.9/15, mb1mx3.8/22, mbtmp4.0/15, ML3.7/1, MS2.8/1, Ms1 3.0/1, ms1mx2.3/29, Error ellipse: s-maj=42.0km s-min=13.0km az=53.0*

ISC 17 23:21:23.5±3.7, 10.87N±0.07×92.15E±0.07, h30km±26km, n27, σ0§89/26, mb4.1/16, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**10.00**	**40**	P	**P**	**23 23 47.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**10.00**	**40**	P	**P**	**23 23 50.1**	**+1.6**
	0.2nm,0.3s,baz=232,slow=15,SNR=4.4						
CMAR				S	**S**	**23 25 39.8**	**-1.0**
	0.1nm,0.3s,baz=232,slow=28,SNR=3.1						
CMAR				LR	LR	23 28 33.0	
	comp=Z,52nm,18.2s,baz=220,slow=42						
VIS	**Vishakhapatnam**	**10.92**	**310**	*e*P	**P**	**23 23 59.7**	**-1.5**
VIS				*e*S	**S**	**23 25 50.2**	**-13**
LSA	**Lhasa**	**18.76**	**357**	*e*P	**P**	**23 25 44.4**	**+1.7**
	10nm,0.6s						
ENH	**Enshi**	**25.15**	**37**	*e*P	**P**	**23 26 45.1**	**-2.8**
	9.4nm,0.6s,mb4.5						
ENH				*e*		23 26 56.8	
ZAL	**Zalesovo**	**43.35**	**354**	P	**P**	**23 29 25.9**	**+1.1**
	1.4nm,0.6s,mb3.9,baz=298,slow=6.1,SNR=8.6						
FITZ	**Fitzroy Crossi**	**43.84**	**131**	*e*P	**P**	**23 29 29.4**	**+0.2**
	5.9nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**43.84**	**131**	P	**P**	**23 29 29.3**	**+0.1**
	17nm,0.8s,mb4.8,baz=329,slow=4.6,SNR=18						
BVAR	**Borovoye Array**	**45.54**	**342**	P	**P**	**23 29 42.4**	**0.0**
	0.4nm,0.4s,mb3.7,baz=137,slow=11,SNR=5.2						
BVAR				PcP	PcP	23 31 19.6	-1.6
	0.6nm,0.5s,baz=180,slow=4.3,SNR=3.5						
WRA	**Warramunga Arr**	**51.60**	**126**	P	**P**	**23 30 29.7**	**0.0**
	4.1nm,0.4s,mb4.7,baz=307,slow=8.2,SNR=141						
WRAB	**Tennant Creek**	**51.61**	**126**	*e*P	**P**	**23 30 29.6**	**-0.2**
	6.9nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**51.61**	**126**	⇓*i*P	**P**	**23 30 29.8**	**0.0**
ASAR	**Alice Springs**	**53.34**	**130**	P	**P**	**23 30 42.7**	**0.0**
	2.4nm,0.5s,mb4.4,baz=306,slow=6.8,SNR=48						
ASAR				PcP	PcP	23 31 50.5	+0.6
	0.8nm,0.7s,baz=311,slow=3.5,SNR=4.5						
BRTR	**Keskin Array B**	**59.00**	**310**	P	**P**	**23 31 22.9**	**-0.2**
	0.3nm,0.7s,mb3.4,baz=143,slow=7.2,SNR=3.5						
STKA	**Stephens Creek**	**63.59**	**134**	P	**P**	**23 31 53.7**	**-0.5**
	1.1nm,0.6s,mb4.1,baz=324,slow=8.7,SNR=4.2						
STKA	**Stephens Creek**	**63.59**	**134**	*e*P	**P**	**23 31 54.1**	**-0.1**
AKASG	**Malin Array Be**	**64.60**	**321**	P	**P**	**23 31 59.3**	**-1.1**
	0.2nm,0.3s,mb3.6,baz=88,slow=5.8,SNR=5.4						
FINES	**FINESS Array B**	**69.16**	**332**	P	**P**	**23 32 29.2**	**+0.1**
	1.8nm,0.9s,mb4.0,baz=56,slow=6.9,SNR=3.7						
ARCES	**ARCESS Array B**	**71.80**	**340**	P	**P**	**23 32 45.5**	**+0.5**
	3.6nm,0.8s,mb4.3,baz=80,slow=5.5,SNR=4.8						
GERES	**GERESS Array B**	**74.30**	**318**	P	**P**	**23 33 00.4**	**+0.4**
	0.3nm,0.3s,mb3.7,baz=112,slow=5.3,SNR=5.0						
CLL	**Collm**	**74.81**	**320**	*e**PP	pP	23 33 13.0	+0.8
NOA	**NORSAR Array B**	**76.17**	**330**	P	**P**	**23 33 10.0**	**-0.4**
	0.9nm,0.9s,mb3.7,baz=127,slow=23,SNR=3.0						
ILAR	**Eielson Array**	**92.71**	**22**	P	**P**	**23 34 34.3**	**+0.6**
	0.3nm,0.6s,mb3.9,baz=299,slow=5.0,SNR=7.5						
INK	**Inuvik**	**94.66**	**15**	P	**P**	**23 34 43.5**	**+0.8**
	0.5nm,0.8s,mb4.0,baz=304,slow=3.6,SNR=3.5						
INK	**Inuvik**	**94.66**	**15**	P	**P**	**23 34 43.5**	**+0.8**
TXAR	**Lajitas Array**	**137.22**	**21**	PKP	PKPdf	23 40 48.2	-1.7
	0.1nm,0.4s,baz=219,slow=1.1,SNR=4.9						
TXAR	**Lajitas Array**	**137.22**	**21**	PKP	PKPdf	23 40 48.2	-1.7

*IDC **17** 23:24:23.3±1.4, 5.15N×73.13W, h70km±13km, mb3.0/2, mb1 3.4/3, mb1mx3.1/23, mbtmp3.5/3, Error ellipse: s-maj=26.3km s-min=10.4km az=139.0*

ISC 17 23:24:22.6±1.2, 5.2N±0.1×73.2W±0.1, h76km±17km, n5, σ1§37/6, mb3.1/2, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.21**	**253**	P	**P**	**23 24 43.2**	**-1.2**
	51nm,0.3s,baz=88,slow=22,SNR=79						
ROSC				S	**S**	**23 25 01.7**	**+1.0**
	34nm,0.3s,baz=302,slow=23,SNR=8.0						
SDV	**Santo Domingo**	**4.43**	**34**	P	**P**	**23 25 28.0**	**-0.9**
	5.5nm,0.3s,baz=18,slow=3.5,SNR=20						
SDV				S	**S**	**23 26 20.3**	**+0.7**
	5.6nm,0.3s,baz=84,slow=22,SNR=8.5						
SIV	**San Ignacio**	**24.23**	**151**	P	**P**	**23 29 34.1**	**+0.4**
	0.3nm,0.3s,mb3.1,baz=290,slow=19,SNR=2.7						
YKA	**Yellowknife Ar**	**64.75**	**340**	P	**P**	**23 34 54.9**	**-0.1**
	0.1nm,0.3s,mb3.1,baz=131,slow=6.2,SNR=12						
WRA	**Warramunga Arr**	**149.50**	**239**	PKPbc	PKPdf	23 44 04.4	+4.9
	0.2nm,0.4s,baz=110,slow=2.8,SNR=13						

*BJI **17** 23:32:39.2, 40.34N×77.70E, h15km, ML3.0*
*NNC **17** 23:33:17.8±121.0, 40.73N×75.80E, mpv2.7, Error ellipse: s-maj=1247.4km s-min=699.0km az=122.0*

ISC 17 23:32:32.8±2.6, 39.8N±0.1×78.1E±0.2, h10km, n12, σ1§14/13, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.69**	**261**	*e*PG	**Pg**	**23 33 07.1**	**+0.4**
KSH				SG	**Sg**	**23 33 29.1**	**-0.2**
KSH				Smax			
	comp=N,140nm,0.4s						
KSH				Smax			
	comp=E,160nm,0.7s						
ULHL	**Ulahol**	**2.82**	**330**	P	**Pn**	**23 33 17.5**	**-1.3**
	SNR=91						
KZA	**Kyzart**	**3.14**	**317**	P	**Pn**	**23 33 22.8**	**-0.6**
	SNR=54						
TKM2	**Tokmak 2**	**3.64**	**329**	P	**Pn**	**23 33 33.0**	**+2.5**
	SNR=5.4						
UCH	**Uchtor**	**3.65**	**312**	P	**Pn**	**23 33 29.6**	**-1.0**
	SNR=12						
KBK	**Karagaybulak**	**3.72**	**321**	P	**Pn**	**23 33 31.1**	**-0.5**
	SNR=13						
AAK	**Ala-Archa**	**3.93**	**317**	P	**Pn**	**23 33 37.6**	**+3.0**
	SNR=9.4						
CHMS	**Chumysh**	**4.07**	**322**	P	**Sn**	**23 34 24.9**	**0.0**
	SNR=7.2						
AML	**Almayashu**	**4.08**	**306**	P	**Pn**	**23 33 35.9**	**-0.8**
	SNR=11						
EKS2	**Erkin-Say**	**4.34**	**312**	P	**Pn**	**23 33 40.0**	**-0.4**
	SNR=9.4						
USP	**Ospenovka**	**4.39**	**323**	P	**Pn**	**23 33 45.4**	**+4.2**
	SNR=40						
KK31	**Karatay Array**	**6.60**	**302**	⇑Pn	**Pb**	**23 34 28.7**	**+1.1**
	comp=E,0.9nm,0.6s,baz=126,slow=18,SNR=3.9						
KK31				⇓Lg		23 35 44.1	
	comp=E,1.4nm,0.5s,baz=117,slow=29,SNR=7.1						

*IDC **17** 23:43:52.8±2.1, 18.25S×175.81E, mb4.0/6, mb1 4.3/6, mb1mx4.1/15, mbtmp4.0/6, MS3.5/4, Ms1 3.5/4, ms1mx3.1/29, Error ellipse: s-maj=115.5km s-min=27.0km az=155.0*
*NEIC **17** 23:43:56.7±4.3, 19.18S×176.44E, h58km±42km, mb4.1/1, Error ellipse: s-maj=37.9km s-min=27.0km az=179.0*

ISC 17 23:43:55.9±6.5, 19.3S±0.3×176.5E±0.2, h66km±60km, n11, σ1§17/8, mb3.9/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.78**	**252**	LR	LR	23 48 48.0	
	comp=Z,135nm,18.8s,baz=202,slow=31						
RAO	**Raoul Island**	**11.17**	**154**	P	**P**	**23 46 35.1**	**+0.2**
HNR	**Honiara**	**18.74**	**299**	LR	LR	23 53 34.8	
	comp=Z,178nm,20.9s,baz=230,slow=33						
CTA	**Charters Tower**	**28.43**	**263**	LR	LR	23 58 42.8	
	comp=Z,103nm,19.2s,baz=48,slow=32						
WRA	**Warramunga Arr**	**39.61**	**262**	P	**P**	**23 51 21.5**	**-1.2**
	1.2nm,1.1s,mb3.6,baz=92,slow=8.0,SNR=5.7						
ASAR	**Alice Springs**	**39.74**	**256**	P	**P**	**23 51 23.9**	**+0.2**
	2.1nm,0.7s,mb4.0,baz=86,slow=8.7,SNR=21						
FITZ	**Fitzroy Crossi**	**48.01**	**263**	P	**P**	**23 52 30.7**	**+0.1**
	8.8nm,1.0s,mb4.5,baz=128,slow=3.9,SNR=5.2						
FITZ				LR	LR	00 12 03.1	
	comp=Z,89nm,19.7s,baz=91,slow=36						
VNDA	**Vanda**	**58.72**	**184**	*e*P	**P**	**23 53 48.5**	**-0.3**
	1.0nm,0.7s,mb4.0						
CMAR	**Chiang Mai Arr**	**84.81**	**291**	P	**P**	**23 56 26.7**	**+1.7**
	0.5nm,0.5s,mb3.7,baz=119,slow=3.6,SNR=6.3						
ILAR	**Eielson Array**	**88.38**	**15**	P	**P**	**23 56 40.6**	**-0.7**
	0.5nm,0.9s,mb3.6,baz=219,slow=5.8,SNR=4.4						
TXAR	**Lajitas Array**	**90.86**	**59**	P	**P**	**23 56 59.2**	**+5.4**
	0.4nm,0.8s,mb3.6,baz=217,slow=6.3,SNR=6.0						

*NIED **17** 23:48:00.29, 60.60N×130.70E, h23km, Mw4.3 Best double couple: M0 3.08×10^15 NP1:φs 39°, δ83°, λ110°. NP2:φs 149°, δ21°, λ21°.*
*BJI **17** 23:48:36.5, 29.28N×130.74E, h45km, mB4.4, mb4.2, Ms4.2, Msz3.6*
*JMA **17** 23:48:36.7±0.2, 29.61N×130.66E, h24km, M4.3*
*NEIC **17** 23:48:38.8±3.5, 29.60N×130.57E, h49km±32km, mb4.0/3, Error ellipse: s-maj=29.7km s-min=14.6km az=66.0*
*IDC **17** 23:48:40.1±4.1, 29.60N×130.36E, h60km±39km, mb3.5/11, mb1 3.7/12, mb1mx3.6/23, mbtmp3.8/12, MS3.5/6, Ms1 3.5/6, ms1mx3.2/21, Error ellipse: s-maj=30.1km s-min=18.0km az=72.0*

ISC 17 23:48:37.7±0.6, 29.61N±0.04×130.58E±0.08, h53km±5km, n34, σ1§05/40, mb3.8/13, MS3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.65**	**291**	P	**P**	**23 48 50.1**	**-0.9**
JNN				*e*S	**S**	**23 49 00.7**	**-0.2**
JKC	**Kuchinoerabu**	**0.92**	**339**	P	**P**	**23 48 53.7**	**-0.

NVAR Mina Array Bea 86.69 47 P P 00 01 18.3 +1.5
comp=Z,0.4nm,0.3s,mb4.1,baz=290,slow=8.9,SNR=3.6

DJA 18 00:07:01.6±0.8, 8.54S×113.09E, h160km, MD4.8/4, ML4.9/4, 2D, Error ellipse: s-maj=54.9km s-min=19.4km az=4.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.04**	**87**	*e*Pn	P	00 07 27.5	-0.3
	2μm,0.2s						
SRDI				*e*Sn	S	00 07 46.0	-2.0
KELI	**Kelakatan**	**1.42**	**77**	⇓*e*Pn	P	00 07 31.4	0.0
	554nm,0.2s						
KELI				*e*Sn	S	00 07 53.4	-1.1
RATI	**Rata**	**2.42**	**95**	*e*Pn	P	00 07 42.8	+0.1
	2μm,0.2s						
RATI				*e*Sn	S	00 08 13.0	-1.3
KEDI	**Kedomdong**	**2.99**	**89**	⇓*e*Pn	P	00 07 48.9	-0.9
	548nm,0.2s						
KEDI				*e*Sn	S	00 08 23.8	-3.0

DJA 18 00:26:38.5±1.0, 9.57S×116.14E, h33km, MD4.6/2, ML4.6/3, 3C-3D, Error ellipse: s-maj=22.5km s-min=12.8km az=148.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.03**	**324**	⇓*e*Pg	P	00 26 55.3	-1.4
	2μm,0.2s						
RATI				⇓*e*Sg	S	00 27 07.6	-2.5
KEDI	**Kedomdong**	**1.08**	**359**	⇑*e*Pg	P	00 26 55.9	-1.4
	1μm,0.2s						
KEDI				⇓*e*Sg	S	00 27 09.8	-1.4
KELI	**Kelakatan**	**2.11**	**309**	⇑*e*Pn	Pn	00 27 11.1	-1.2
SRDI	**Scrawed**	**2.25**	**299**	⇑*e*Pg	P	00 27 12.8	-1.3
	130nm,0.2s						
SRDI				*e*Sg	S	00 27 37.3	-3.7

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*IDC **18** 00:47:28.7±1.6, 2.09N×96.09E, mb4.0/8, mb1 4.2/9, mb1mx3.9/21, mbtmp4.0/9, ML4.2/1, MS3.4/1, Ms1 3.6/1, ms1mx2.8/24, Error ellipse: s-maj=73.4km s-min=18.1km az=55.0*
*NEIC **18** 00:47:33.7±0.6, 2.22N×96.26E, h30km, mb4.5/2, Error ellipse: s-maj=15.9km s-min=8.3km az=61.0*
ISC 18 00:47:31.9±0.9, 2.2N±0.1×96.3E±0.1, h30km, n13, σ0s55/13, mb4.1/10, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**55**	⇑*e*P	**Pn**	**00 48 51.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.34**	**9**	Pn	**P**	**00 51 21.9**	**+0.9**
	0.3nm,0.3s,baz=196,slow=11,SNR=15						
CMAR				LR	LR	00 58 30.3	
	comp=Z,116nm,18.3s,baz=180,slow=40						
LSA	**Lhasa**	**27.75**	**350**	*e*P	**P**	**00 53 19.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**35.28**	**126**	P	**P**	**00 54 25.8**	**-0.6**
	3.9nm,0.8s,mb4.4,baz=160,slow=2.4,SNR=4.4						
BJI	**Beijing**	**41.75**	**23**	*e*P	**P**	**00 55 19.7**	**-0.5**
	10.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**43.36**	**122**	P	**P**	**00 55 33.6**	**-0.1**
	0.4nm,0.4s,mb3.5,baz=301,slow=9.2,SNR=8.8						
WRAB	**Tennant Creek**	**43.37**	**122**	*e*P	**P**	**00 55 34.3**	**+0.6**
	10nm,1.2s,mb4.4						
ASAR	**Alice Springs**	**44.75**	**127**	P	**P**	**00 55 45.1**	**+0.3**
	0.7nm,0.9s,mb3.5,baz=302,slow=8.5,SNR=5.4						
SONM	**Songino Array**	**46.27**	**9**	P	**P**	**00 55 57.1**	**+0.6**
	2.2nm,0.7s,mb4.2,slow=17,SNR=4.2						
ZAL	**Zalesovo**	**52.40**	**351**	P	**P**	**00 56 43.5**	**-0.2**
	1.6nm,0.5s,mb4.2,baz=324,slow=5.2,SNR=8.8						
BVAR	**Borovoye Array**	**54.98**	**341**	P	**P**	**00 57 01.8**	**-0.9**
	1.3nm,0.7s,mb4.1,baz=146,slow=9.2,SNR=11						
FINES	**FINESS Array B**	**78.67**	**333**	P	**P**	**00 59 32.6**	**0.0**
	2.3nm,0.9s,mb4.1,baz=108,slow=6.0,SNR=4.9						
ARCES	**ARCESS Array B**	**81.26**	**340**	P	**P**	**00 59 47.0**	**+0.7**
	5.9nm,1.0s,mb4.5,baz=56,slow=8.7,SNR=3.9						

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*BJI **18** 01:02:30.7, 1.44N×95.93E, h30km, mB5.0, mb4.7, Ms4.1, Msz3.8*
*NEIC **18** 01:02:40.3±0.6, 2.23N×96.34E, h30km, mb4.5/7, Error ellipse: s-maj=14.9km s-min=8.8km az=66.0*
*IDC **18** 01:02:46.0±13.0, 2.43N×96.64E, h73km±118km, mb3.9/10, mb1 4.0/11, mb1mx3.8/21, mbtmp4.2/11, ML4.4/1, MS3.8/4, Ms1 3.8/4, ms1mx3.3/25, Error ellipse: s-maj=82.6km s-min=14.3km az=59.0*
ISC 18 01:02:38.2±0.7, 2.18N±0.08×96.3E±0.1, h30km, h30km±2.9km: pP-P, n33, σ1s02/33, mb4.4/21, MS3.8/7, 2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.31**	**54**	*e*P	**Pn**	**01 03 57.4**	**-0.2**
SNG	**Songkhla**	**6.55**	**41**	P	**Pn**	**01 04 20.0**	**+4.9**
	100nm,1.0s						
CM31	**Chiang Mai Arr**	**16.38**	**9**	P	**P**	**01 06 28.3**	**+0.5**
	22nm,1.0s						
CM31				*e*		01 06 35.5	
CMAR	**Chiang Mai Arr**	**16.38**	**9**	P	**P**	**01 06 29.1**	**+1.4**
	0.5nm,0.3s,baz=195,slow=11,SNR=14						
CMAR				LR	LR	01 13 17.5	
	comp=Z,212nm,18.6s,baz=190,slow=39						
KKM	**Kota Kinabalu**	**20.21**	**78**	*e*P	**P**	**01 07 13.4**	**-0.2**
KMI	**Kunming**	**23.63**	**15**	P	**P**	**01 07 49.8**	**+1.9**
KMI				XP		01 08 01.3	
KMI				S	**S**	**01 12 00.8**	**+3.8**
KMI				XS		01 12 16.6	
KMI				AMB	AMB		
	comp=Z,17nm,0.6s,mb4.7						
KMI				AMB	AMB		
	comp=Z,100nm,3.3s						
KMI				LR	LR		
	comp=N,178nm,21.4s,MS3.6						
KMI				LR	LR		
	comp=E,178nm,21.4s,MS3.6						
KMI				LR	LR		
	comp=Z,161nm,17.5s,MS3.5						
KMI	**Kunming**	**23.63**	**15**	P	**P**	**01 07 49.8**	**+1.9**
	comp=Z,17nm,0.6s,mb4.7						
KMI				sP		01 08 01.2	
KMI				S	**S**	**01 12 00.8**	**+3.8**
KMI				sS		01 12 16.6	
KMI				LR	LR		
	comp=Z,160nm,17.5s,MS3.5						
GYA	**Guiyang**	**26.10**	**21**	⇓*i*P	**P**	**01 08 12.3**	**+0.9**
GYA				AP	pP	01 08 19.8	-0.3
GYA				XP	sP	01 08 22.8	-1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**27.80**	**350**	*e*P	**P**	**01 08 26.7**	**-0.2**
	comp=Z,3.6nm,0.6s,mb4.2						
LZH	**Lanzhou**	**34.45**	**11**	*e*P	**P**	**01 09 24.0**	**-1.4**
LZH				AP	pP	01 09 33.8	-0.5
LZH				XP	sP	01 09 38.0	-0.1
LZH				PP	PP	01 10 42.1	+0.6
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH	**Lanzhou**	**34.45**	**11**	*e*P	**P**	**01 09 24.0**	**-1.4**
	comp=Z,28nm,1.5s,mb5.0						
LZH				pP	pP	01 09 33.7	-0.6
LZH				sP	sP	01 09 38.0	-0.1
LZH				PP	PP	01 10 42.1	+0.6
FITZ	**Fitzroy Crossi**	**35.21**	**126**	P	**P**	**01 09 32.0**	**-0.2**
	comp=Z,5.3nm,0.7s,mb4.6,baz=232,slow=4.3,SNR=5.3						
GTA	**Gaotai**	**37.19**	**4**	P	**P**	**01 09 48.4**	**-0.2**
GTA				AP	pP	01 09 54.3	-3.2
GTA				XP	sP	01 09 57.8	-3.5
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NWAO	**Narrogin (SRO)**	**40.13**	**152**	LR	LR	01 27 29.7	
	comp=Z,164nm,18.2s,MS3.9,baz=127,slow=37						
HHC	**Hu-ho-hao-te**	**40.88**	**18**	*e*P	**P**	**01 10 18.8**	**-0.5**
HHC				AP	pP	01 10 29.8	+1.5
HHC				XP	sP	01 10 32.8	+0.8
HHC				SCS	ScS	01 20 19.6	-0.3
HHC				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.6						
HHC				AMB	AMB		
	comp=Z,71nm,6.2s						
HHC				LR	LR		
	comp=N,115nm,13.9s,MS4.0						
HHC				LR	LR		
	comp=E,94nm,12.9s,MS4.0						
HHC				LR	LR		
	comp=Z,105nm,15.3s,MS3.8						
BJT	**Baijiatuau**	**41.75**	**23**	*e*P	**P**	**01 10 24.5**	**-2.0**
	comp=Z,15nm,0.6s,mb4.8						
BJI	**Beijing**	**41.77**	**23**	*e*P	**P**	**01 10 27.3**	**+0.7**
BJI				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.0						
BJI				LR	LR		
	comp=N,108nm,18.3s,MS3.9						
BJI				LR	LR		
	comp=E,93nm,15.5s,MS3.9						
BJI				LR	LR		
	comp=E,50nm,17.6s						
BJI	**Beijing**	**41.77**	**23**	*e*P	**P**	**01 10 27.2**	**+0.6**
	comp=E,25nm,0.7s,mb5.0						
WMQ	**Urumqi**	**42.16**	**351**	⇓P	**P**	**01 10 28.6**	**-1.2**
WMQ				AP	pP	01 10 38.5	-0.3
WMQ				XP	sP	01 10 42.6	+0.1
WMQ				PP	PP	01 12 09.8	-0.6
WMQ				PCP	PcP	01 12 22.6	-1.9
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,94nm,3.7s						
WMQ				LR	LR		
	comp=N,41nm,20.0s,MS3.4						
WMQ				LR	LR		
	comp=E,39nm,20.6s,MS3.4						
WMQ				LR	LR		
	comp=Z,54nm,20.5s,MS3.4						
WRA	**Warramunga Arr**	**43.30**	**122**	P	**P**	**01 10 39.0**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.7,baz=302,slow=9.3,SNR=8.8						
WRAB	**Tennant Creek**	**43.30**	**122**	*e*P	**P**	**01 10 38.5**	**-0.9**
	comp=Z,6.7nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**44.69**	**127**	P	**P**	**01 10 51.2**	**+0.6**
	comp=Z,1.0nm,0.6s,mb3.8,baz=298,slow=7.9,SNR=12						
ASAR				LR	LR	01 28 46.1	
	comp=Z,71nm,21.6s,MS3.6,baz=144,slow=35						
SONM	**Songino Array**	**46.30**	**9**	P	**P**	**01 11 02.8**	**-0.2**
	comp=Z,3.0nm,0.5s,mb4.4,baz=194,slow=10,SNR=6.4						
ULN	**Ulaanbaatar**	**46.44**	**10**	*e*P	**P**	**01 11 02.6**	**-1.5**
	comp=Z,4.2nm,0.9s,mb4.4						
CN2	**Changchun**	**48.84**	**28**	*e*P	**P**	**01 11 24.0**	**+1.0**
ZAL	**Zalesovo**	**52.45**	**351**	P	**P**	**01 11 49.7**	**-0.6**
	comp=Z,2.7nm,0.6s,mb4.4,baz=300,slow=7.3,SNR=23						
ZAL	**Zalesovo**	**52.45**	**351**	P	**P**	**01 11 49.7**	**-0.6**
STKA	**Stephens Creek**	**54.66**	**132**	P	**P**	**01 12 08.1**	**+1.2**
	comp=Z,3.1nm,0.9s,mb4.3,baz=317,slow=9.5,SNR=4.1						
BVAR	**Borovoye Array**	**55.04**	**341**	P	**P**	**01 12 07.9**	**-1.5**
	comp=Z,2.7nm,0.7s,mb4.4,baz=146,slow=10,SNR=17						
FINES	**FINESS Array B**	**78.73**	**333**	P	**P**	**01 14 39.8**	**+0.7**
	comp=Z,2.5nm,0.8s,mb4.2,baz=104,slow=7.9,SNR=7.6						
FINES				LR	LR	01 57 25.9	
	comp=Z,66nm,18.7s,MS4.0,baz=134,slow=42						
ARCES	**ARCESS Array B**	**81.32**	**340**	P	**P**	**01 14 53.5**	**+0.6**
	comp=Z,4.0nm,0.8s,mb4.4,baz=45,slow=5.1,SNR=4.0						
GERES	**GERESS Array B**	**83.50**	**319**	P	**P**	**01 15 06.2**	**+1.7**
	comp=Z,0.6nm,0.8s,mb3.7,baz=90,slow=4.0,SNR=5.6						
CFAA	**Coronel Fontan**	**147.31**	**205**	PKPbc	PKPdf	01 22 22.9	+0.7
	comp=Z,0.1nm,0.6s,baz=269,slow=5.3,SNR=2.8						

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*IDC **18** 01:05:53.7±1.3, 2.10N×96.17E, mb4.1/9, mb1 4.3/10, mb1mx4.0/21, mbtmp4.1/10, ML4.0/1, Error ellipse: s-maj=61.6km s-min=18.1km az=54.0*
*BJI **18** 01:05:56.4, 2.20N×96.30E, h30km, mB5.0, mb4.7*
*NEIC **18** 01:05:58.4±0.6, 2.16N×96.27E, h30km, mb4.4/5, Error ellipse: s-maj=15.0km s-min=8.4km az=64.0*
ISC 18 01:05:58.9±3.8, 2.2N±0.1×96.4E±0.2, h48km±31km, n28, σ0s67/28, mb4.3/20, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.26**	**54**	⇑*i*P	**P**	**01 07 16.3**	**-0.7**
CM31	**Chiang Mai Arr**	**16.34**	**9**	*e*P	**P**	**01 09 47.8**	**+1.1**
	6.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.34**	**9**	Pn	**P**	**01 09 47.8**	**+1.1**
	0.2nm,0.3s,baz=196,slow=11,SNR=14						
GYA	**Guiyang**	**26.06**	**21**	⇓*i*P	**P**	**01 11 30.8**	**+0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
JIRN	**Jiri**	**27.11**	**340**	*e*P	**P**	**01 11 39.9**	**+0.3**
	comp=Z,21nm,0.8s,mb4.7						
PKI	**Pulchoki**	**27.30**	**338**	*e*P	**P**	**01 11 41.3**	**-0.1**
GUN	**Gumba**	**27.45**	**340**	*e*P	**P**	**01 11 42.7**	**0.0**
	comp=Z,17nm,0.7s,mb4.7						
DMN	**Daman**	**27.45**	**338**	*e*P	**P**	**01 11 42.1**	**-0.6**
KKN	**Kakani**	**27.55**	**338**	*e*P	**P**	**01 11 43.4**	**-0.2**
	comp=Z,18nm,0.9s,mb4.7						
LSA	**Lhasa**	**27.78**	**350**	*e*P	**P**	**01 11 45.1**	**-0.6**
	comp=Z,9.9nm,1.1s,mb4.8						
GKN	**Gorkha**	**27.98**	**337**	*e*P	**P**	**01 11 47.7**	**+0.2**
	comp=Z,18nm,0.7s,mb4.8						
KOLN	**Koldanda**	**28.19**	**336**	*e*P	**P**	**01 11 49.1**	**-0.3**
	comp=Z,12nm,0.8s,mb4.6						
ENH	**Enshi**	**30.56**	**23**	*e*P	**P**	**01 12 08.7**	**-1.8**
	comp=Z,3.2nm,0.4s,mb4.5						
ENH				*e*		01 12 13.9	
FITZ	**Fitzroy Crossi**	**35.20**	**126**	P	**P**	**01 12 50.7**	**-0.1**
	comp=Z,3.6nm,0.7s,mb4.4,baz=296,slow=1.2,SNR=4.2						
GTA	**Gaotai**	**37.16**	**4**	P	**P**	**01 13 06.9**	**-0.2**
GTA				XP	sP	01 13 21.4	-4.3
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.3						
BJI	**Beijing**	**41.73**	**23**	*e*P	**P**	**01 13 45.5**	**+0.4**
BJI				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.8						
BJI	**Beijing**	**41.73**	**23**	*e*P	**P**	**01 13 45.5**	**+0.4**
	comp=Z,16nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**43.28**	**122**	P	**P**	**01 13 57.6**	**-0.4**
	comp=Z,1.1nm,0.8s,mb3.6,baz=303,slow=9.1,SNR=5.4						
WRAB	**Tennant Creek**	**43.29**	**122**	*e*P	**P**	**01 13 58.4**	**+0.3**
	comp=Z,5.6nm,1.0s,mb4.2						
ASAR	**Alice Springs**	**44.67**	**127**	P	**P**	**01 14 09.8**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.7,baz=294,slow=7.9,SNR=5.9						
SONM	**Songino Array**	**46.27**	**9**	P	**P**	**01 14 22.0**	**+0.5**
	comp=Z,2.7nm,0.6s,mb4.3,baz=202,slow=6.7,SNR=4.0						
ULN	**Ulaanbaatar**	**46.41**	**10**	*e*P	**P**	**01 14 22.3**	**-0.3**
ZAL	**Zalesovo**	**52.42**	**351**	P	**P**	**01 15 08.2**	**-0.6**
	comp=Z,2.2nm,0.5s,mb4.4,baz=280,slow=6.9,SNR=12						
BVAR	**Borovoye Array**	**55.02**	**341**	P	**P**	**01 15 26.7**	**-1.2**
	comp=Z,1.4nm,0.8s,mb4.2,baz=149,slow=8.6,SNR=7.3						
FINES	**FINESS Array B**	**78.72**	**333**	P	**P**	**01 17 58.5**	**+0.8**
	comp=Z,2.1nm,0.8s,mb4.1,baz=135,slow=2.7,SNR=5.8						
ARCES	**ARCESS Array B**	**81.30**	**340**	P	**P**	**01 18 12.0**	**+0.6**
	comp=Z,6.3nm,1.0s,mb4.5,baz=90,slow=4.9,SNR=5.2						
ARCES	**ARCESS Array B**	**81.30**	**340**	P	**P**	**01 18 12.0**	**+0.6**
GERES	**GERESS Array B**	**83.50**	**319**	P	**P**	**01 18 23.5**	**+0.4**
	comp=Z,0.3nm,0.7s,mb3.6,baz=90,slow=8.0,SNR=4.4						

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*NIED **18** 01:15:00, 36.90N×140.70E, h74km, Mw3.5 Best double couple: M0:2.34×10^14 NP1:φs321°, δ73°, λ59°. NP2:φs205°, δ35°, λ150°.*
*JMA **18** 01:15:11.4±0.1, 36.91N×140.66E, h68km±1km, M3.4 Broadband fault plane solution: P waves. NP1:φs200°, δ46°, λ144°. NP2:φs316°, δ65°, λ50°. Principal axes: T Plg52°, Azm178°; N Plg36°, Azm336°; P Plg11°, Azm74°; JMA Felt I J1.*
ISC 18 01:15:11.2±1.2, 36.91N±0.05×140.68E±0.07, h69km±8km, n13, σ0s41/25, 5C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.22**	**26**	⇑P	**P**	**01 15 22.0**	**+0.2**
ONAJ				S	**S**	**01 15 29.9**	**+0.2**
JHO	**Hitachi**	**0.31**	**197**	⇓P	**P**	**01 15 22.4**	**-0.1**
JHO				*e*S	**S**	**01 15 30.3**	**-0.5**
JFK	**Kawauchi**	**0.48**	**19**	⇑P	**P**	**01 15 24.0**	**+0.1**
JFK				*e*S	**S**	**01 15 33.2**	**-0.1**
JFT	**Otama**	**0.67**	**336**	⇑P	**P**	**01 15 26.0**	**+0.2**
JFT				*e*S	**S**	**01 15 36.9**	**+0.1**
JFY	**Yanaizu**	**0.93**	**303**	⇓P	**P**	**01 15 29.2**	**+0.3**
JFY				S	**S**	**01 15 42.4**	**+0.3**
JMM	**Marumori**	**0.96**	**5**	⇑P	**P**	**01 15 29.2**	**-0.2**
JMM				*e*S	**S**	**01 15 42.4**	**-0.6**
JAG	**Ashikaga**	**1.10**	**244**	⇓P	**P**	**01 15 31.1**	**-0.1**
JAG				*e*S	**S**	**01 15 45.7**	**-0.3**
JKT	**Katashina**	**1.16**	**264**	P	**P**	**01 15 32.4**	**+0.4**
JKT				*e*S	**S**	**01 15 48.6**	**+1.2**
JHK	**Hiroka**	**1.37**	**285**	⇓P	**P**	**01 15 34.8**	**-0.2**
JHK				*e*S	**S**	**01 15 52.3**	**-0.3**
JYS	**Shiratake**	**1.40**	**340**	⇑P	**P**	**01 15 35.4**	**0.0**
JYS				*e*S	**S**	**01 15 53.5**	**+0.3**
JNS	**Sasagawa**	**1.42**	**310**	*e*S	**S**	**01 15 52.7**	**-0.9**
JOU	**Okura**	**1.46**	**360**	P	**P**	**01 15 36.1**	**0.0**
JOU				*e*S	**S**	**01 15 54.7**	**+0.2**
MAT	**Matsushiro**	**2.02**	**260**	P	**P**	**01 15 44.2**	**+0.5**
MAT				*e*S	**S**	**01 16 07.0**	**-0.8**

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*IDC **18** 01:21:15.4±1.0, 2.19N×96.20E, mb4.1/12, mb1 4.3/13, mb1mx4.1/21, mbtmp4.1/13, ML4.3/1, MS3.4/1, Ms1 3.6/1, ms1mx3.1/24, Error ellipse: s-maj=53.9km s-min=14.3km az=54.0*
*BJI **18** 01:21:17.4, 2.20N×96.30E, h30km, mB4.9, mb4.6, Ms4.3, Msz3.8*
*NEIC **18** 01:21:19.9±0.5, 2.20N×96.28E, h30km, mb4.5/5, Error ellipse: s-maj=15.1km s-min=8.4km az=61.0*
ISC 18 01:21:21.4±3.7, 2.3N±0.1×96.5E±0.2, h55km±30km, n35, σ0s89/33, mb4.3/24, MS3.9/1, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.14**	**55**	⇑*i*P	**P**	**01 22 37.5**	**-0.2**
SNG	**Songkhla**	**6.38**	**41**	P	**P**	**01 22 53.0**	**-2.0**
	124nm,0.8s						
CM31	**Chiang Mai Arr**	**16.24**	**9**	P	**P**	**01 25 09.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**16.24**	**9**	Pn	**P**	**01 25 08.7**	**+1.2**
	0.4nm,0.3s,baz=196,slow=11,SNR=24						
CMAR				LR	LR	01 32 07.9	
	comp=Z,132nm,18.2s,baz=180,slow=40						
NANT	**Nan**	**16.91**	**14**	P	**P**	**01 25 19.0**	**+3.1**
GYA	**Guiyang**	**25.94**	**21**	⇑*i*P	**P**	**01 26 51.3**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**27.05**	**340**	*e*P	**P**	**01 27 01.2**	**+0.4**
	comp=Z,20nm,0.7s,mb4.7						
PKI	**Pulchoki**	**27.25**	**338**	*e*P	**P**	**01 27 02.2**	**-0.5**
GUN	**Gumba**	**27.39**	**339**	*e*P	**P**	**01 27 04.3**	**+0.4**
	comp=Z,18nm,0.7s,mb4.7						
DMN	**Daman**	**27.40**	**338**	*e*P	**P**	**01 27 02.7**	**-1.3**
	comp=Z,4.2nm,0.2s,mb4.6						
KKN	**Kakani**	**27.50**	**338**	*e*P	**P**	**01 27 04.6**	**-0.3**
LSA	**Lhasa**	**27.71**	**350**	*e*P	**P**	**01 27 07.2**	**+0.4**
	comp=Z,9.6nm,0.9s,mb4.4						
GKN	**Gorkha**	**27.93**	**337**	*e*P	**P**	**01 27 08.7**	**-0.2**
	comp=Z,4.6nm,0.3s,mb4.6						
KOLN	**Koldanda**	**28.14**	**335**	*e*P	**P**	**01 27 10.9**	**+0.2**
	comp=Z,5.6nm,0.3s,mb4.7						
FITZ	**Fitzroy Crossi**	**35.18**	**126**	P	**P**	**01 28 12.0**	**-0.3**
	comp=Z,3.7nm,0.7s,mb4.4,baz=251,slow=2.5,SNR=6.8						
GTA	**Gaotai**	**37.06**	**4**	P	**P**	**01 28 27.6**	**-0.4**
GTA				AP	pP	01 28 40.1	-2.2
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
BJI	**Beijing**	**41.61**	**23**	*e*P	**P**	**01 29 04.1**	**-1.7**
BJI				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.7						
BJI				LR	LR		
	comp=N,202nm,18.7s,MS4.2						
BJI				LR	LR		
	comp=E,142nm,13.9s,MS4.2						
BJI				LR	LR		
	comp=Z,114nm,16.5s,MS3.8						
BJI	**Beijing**	**41.61**	**23**	*e*P	**P**	**01 29 04.1**	**-1.7**
	comp=Z,15nm,0.8s,mb4.7						
BJI				LR	LR		
	comp=Z,110nm,16.5s,MS3.8						
WRA	**Warramunga Arr**	**43.26**	**123**	P	**P**	**01 29 20.0**	**+0.5**
	comp=Z,0.7nm,0.4s,mb3.7,baz=301,slow=9.2,SNR=20						
WRAB	**Tennant Creek**	**43.26**	**123**	*e*P	**P**	**01 29 19.9**	**+0.3**
	comp=Z,2.6nm,0.7s,mb4.1						
ASAR	**Alice Springs**	**44.66**	**128**	P	**P**	**01 29 31.3**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.7,baz=300,slow=8.0,SNR=13						
ASAR				PcP	PcP	01 31 14.2	+1.1
	comp=Z,0.5nm,0.6s,baz=296,slow=3.3,SNR=3.9						
MKAR	**Makanchi Array**	**46.00**	**346**	P	**P**	**01 29 41.1**	**0.0**
	comp=Z,5.8nm,0.8s,mb4.6						
SONM	**Songino Array**	**46.16**	**9**	P	**P**	**01 29 42.7**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.3,baz=196,slow=9.0,SNR=3.9						
ULN	**Ulaanbaatar**	**46.30**	**10**	P	**P**	**01 29 43.4**	**-0.1**
	comp=Z,3.7nm,1.1s,mb4.2						
ZAL	**Zalesovo**	**52.35**	**351**	P	**P**	**01 30 29.6**	**-0.3**
	comp=Z,3.4nm,0.6s,mb4.5,baz=305,slow=6.7,SNR=18						
STKA	**Stephens Creek**	**54.65**	**132**	P	**P**	**01 30 47.1**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.2,baz=44,slow=23,SNR=5.5						
BVAR	**Borovoye Array**	**54.97**	**341**	P	**P**	**01 30 47.7**	**-1.5**
	comp=Z,2.4nm,0.6s,mb4.4,baz=149,slow=8.4,SNR=9.8						
AKASG	**Malin Array Be**	**73.93**	**322**	P	**P**	**01 32 51.7**	**-0.8**
	comp=Z,0.4nm,0.4s,mb3.7,baz=90,slow=5.0,SNR=5.3						
AKASG	**Malin Array Be**	**73.93**	**322**	P	**P**	**01 32 51.7**	**-0.8**
FINES	**FINESS Array B**	**78.68**	**333**	P	**P**	**01 33 18.6**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=90,slow=5.7,SNR=9.2						
KAF	**Kangasniemi**	**78.76**	**333**	*e*p	**P**	**01 33 19.5**	**-0.1**
	comp=Z,5.3nm,0.8s,mb4.5						
ARCES	**ARCESS Array B**	**81.25**	**340**	P	**P**	**01 33 33.5**	**+0.8**
	comp=Z,5.4nm,0.9s,mb4.5,baz=56,slow=4.4,SNR=6.0						
GERES	**GERESS Array B**	**83.49**	**319**	P	**P**	**01 33 46.2**	**+1.5**
	comp=Z,0.1nm,0.4s,mb3.2,baz=108,slow=4.2,SNR=4.2						
TXAR	**Lajitas Array**	**143.11**	**30**	PKP	PKPdf	01 40 51.2	+1.3
	comp=Z,0.2nm,0.

ECOG			S	Sn	01 24 02.5	-0.3
ECOG	**Cogollos-Vega**	**3.17 302**	P	Pn	01 23 25.2	+0.8
	4.4nm,0.3s,SNR=8.1					
ECOG			S	Sn	01 24 02.5	-0.3
	5.8nm,0.4s,SNR=7.9					
ECOG	**Cogollos-Vega**	**3.17 302**	Pn	Pn	01 23 24.8	+0.4
	4.4nm,0.3s,SNR=8.1					
ECOG			Sn	Sn	01 24 02.5	-0.3
	SNR=7.9					
ETOB	**Tobarra**	**3.18 340**	P	Pn	01 23 27.3	+2.8
ETOB			S	Sn	01 24 02.5	-0.4
ETOB	**Tobarra**	**3.18 340**	P	Pn	01 23 26.7	+2.2
	2.5nm,0.1s,SNR=36					
ETOB			S	Sn	01 24 02.5	-0.4
	9.6nm,0.5s					
ETOB	**Tobarra**	**3.18 340**	Pn	Pn	01 23 27.3	+2.8
	2.5nm,0.1s,SNR=36					
ETOB			Sn	Sn	01 24 02.5	-0.4
	9.6nm,0.5s					
ERON	**Agron**	**3.23 296**	P	Pn	01 23 27.1	+1.8
ERON			S	Sn	01 24 02.5	-1.7
ERON	**Agron**	**3.23 296**	P	Pn	01 23 27.1	+1.8
	3.4nm,0.3s,SNR=10					
ERON			S	Sn	01 24 04.3	+0.1
	4.9nm,0.4s,SNR=4.0					
ERON	**Agron**	**3.23 296**	Pn	Pn	01 23 27.1	+1.9
	3.4nm,0.3s,SNR=10					
ERON			Sn	Sn	01 24 02.5	-1.7
	4.9nm,0.4s,SNR=4.0					
ELOJ	**Sierra Loja**	**3.54 296**	P	Pn	01 23 30.3	+0.8
	5.1nm,0.7s,SNR=7.9					
ELOJ			S	Sn	01 24 10.8	-1.1
	1.3nm,0.6s,SNR=7.9					
ELUQ	**Luque**	**3.80 301**	P	Pn	01 23 34.6	+1.2
ELUQ			S	Sn	01 24 16.6	-1.9
ELUQ	**Luque**	**3.80 301**	P	Pn	01 23 34.6	+1.2
	1.3nm,0.3s,SNR=4.0					
ELUQ			S	Sn	01 24 17.2	-1.4
	31nm,1.8s,SNR=4.0					
ELUQ	**Luque**	**3.80 301**	Pn	Pn	01 23 34.6	+1.3
	1.3nm,0.3s,SNR=4.0					
ELUQ			Sn	Sn	01 24 16.6	-2.0
	SNR=4.0					
EBAN	**Banos Encina**	**3.83 312**	P	Pn	01 23 34.8	+1.1
EBAN			S	Sn	01 24 16.7	-2.5
EBAN	**Banos Encina**	**3.83 312**	P	Pn	01 23 34.8	+1.1
	0.7nm,0.2s,SNR=7.9					
EBAN			S	Sn	01 24 18.3	-1.0
	5.1nm,1.0s,SNR=4.0					
EBAN	**Banos Encina**	**3.83 312**	Pn	Pn	01 23 34.8	+1.1
	0.7nm,0.2s,SNR=7.9					
EBAN			Sn	Sn	01 24 16.7	-2.5
	SNR=4.0					
EMIJ	**Mijas**	**3.83 285**	P	Pn	01 23 33.1	-0.7
EMIJ			S	Sn	01 24 16.5	-2.9
EMIJ	**Mijas**	**3.83 285**	P	Pn	01 23 34.2	+0.4
	1.3nm,0.1s,SNR=7.3					
EMIJ			S	Sn	01 24 17.1	-2.2
	18nm,0.9s					
EMIJ	**Mijas**	**3.83 285**	Pn	Pn	01 23 33.1	-0.6
	1.3nm,0.1s,SNR=7.3					
EMIJ			Sn	Sn	01 24 16.5	-2.8
	18nm,0.9s					
ECHE	**Chera**	**3.98 351**	P	Pn	01 23 37.0	+1.2
ECHE			S	Sn	01 24 20.8	-2.3
ECHE	**Chera**	**3.98 351**	P	Pn	01 23 37.0	+1.2
	0.6nm,0.2s,SNR=7.9					
ECHE			S	Sn	01 24 22.5	-0.6
	4.0nm,0.9s,SNR=7.9					
ECHE	**Chera**	**3.98 351**	Pn	Pn	01 23 37.0	+1.2
	0.6nm,0.2s,SNR=7.9					
ECHE			Sn	Sn	01 24 20.8	-2.3
	SNR=7.9					
EADA	**Adamuz**	**4.33 307**	P	Pn	01 23 41.5	+0.7
EADA			S	Sn	01 24 28.4	-3.5
EADA	**Adamuz**	**4.33 307**	P	Pn	01 23 41.5	+0.7
	0.2nm,0.3s,SNR=4.8					
EADA			S	Sn	01 24 29.8	-2.1
	5.7nm,0.8s,SNR=13					
EADA	**Adamuz**	**4.33 307**	Pn	Pn	01 23 41.5	+0.7
	0.2nm,0.3s,SNR=4.8					
EADA			Sn	Sn	01 24 28.4	-3.5
	3.2nm,0.7s,SNR=13					
EMOS	**Mosqueruela**	**4.71 357**	P	Pn	01 23 48.3	+2.1
EMOS			S	Sn	01 24 40.6	-1.0
EMOS	**Mosqueruela**	**4.71 357**	P	Pn	01 23 46.9	+0.7
	0.8nm,0.2s,SNR=7.0					
EMOS			S	Sn	01 24 39.4	-2.2
	28nm,1.3s					
EMOS	**Mosqueruela**	**4.71 357**	Pn	Pn	01 23 48.3	+2.1
	0.8nm,0.2s,SNR=7.0					
EMOS			Sn	Sn	01 24 40.6	-0.9
	28nm,1.3s					
ETOS	**Mallorca**	**4.74 29**	P	Pn	01 23 46.4	-0.3
ETOS			S	Sn	01 24 42.0	-0.4
ETOS	**Mallorca**	**4.74 29**	Pn	Pn	01 23 46.4	-0.3
	2.2nm,0.4s,SNR=7.9					
ETOS			Sn	Sn	01 24 42.0	-0.4
ESPR	**Espera**	**4.75 286**	P	Pn	01 23 46.2	-0.6
ESPR			S	Sn	01 24 40.5	-2.0
ESPR	**Espera**	**4.75 286**	P	Pn	01 23 46.2	-0.6
	0.2nm,0.1s,SNR=4.0					
ESPR			S	Sn	01 24 38.8	-3.7
	4.5nm,1.1s,SNR=4.0					
ESPR	**Espera**	**4.75 286**	Pn	Pn	01 23 46.2	-0.6
	0.2nm,0.1s,SNR=4.0					
ESPR			Sn	Sn	01 24 40.5	-2.0
	SNR=4.0					
ESDC	**Sonseca Array**	**5.01 324**	P	Pn	01 23 52.9	+2.4
ESDC			S	Sn	01 24 47.6	-1.6
ESDC	**Sonseca Array**	**5.01 324**	P	Pn	01 23 51.2	+0.7
	0.7nm,0.2s,baz=143,slow=13,SNR=16					
ESDC			S	Sn	01 24 46.2	-3.0
	0.9nm,0.5s,baz=139,slow=23,SNR=7.9					
ESDC	**Sonseca Array**	**5.01 324**	Pn	Pn	01 23 52.9	+2.4
	0.7nm,0.2s,SNR=16					
ESDC			Sn	Sn	01 24 47.6	-1.6
	SNR=7.9					
ERTA	**Horta de San J**	**5.31 4**	P	Pn	01 23 55.9	+1.3
ERTA			S	Sn	01 24 52.9	-3.8
ERTA	**Horta de San J**	**5.31 4**	P	Pn	01 23 54.9	+0.3
	2.6nm,0.3s,SNR=8.1					
ERTA			S	Sn	01 24 53.3	-3.4
	8.3nm,0.8s,SNR=4.0					
ERTA	**Horta de San J**	**5.31 4**	Pn	Pn	01 23 55.9	+1.2
	2.6nm,0.3s,SNR=8.1					
ERTA			Sn	Sn	01 24 52.9	-3.8
	8.3nm,0.8s,SNR=4.0					
EMIN	**Mina Concepcio**	**5.63 294**	P	Pn	01 23 58.5	-0.7
EMIN			S	Sn	01 24 59.4	-5.3
EMIN	**Mina Concepcio**	**5.63 294**	P	Pn	01 23 58.5	-0.7
	0.1nm,0.1s,SNR=7.9					
EMIN			S	Sn	01 24 59.9	-4.7
	18nm,1.1s,SNR=7.9					
EMIN	**Mina Concepcio**	**5.63 294**	Pn	Pn	01 23 58.5	-0.7
	0.1nm,0.1s,SNR=7.9					
EMIN			Sn	Sn	01 24 59.4	-5.3
	SNR=7.9					
EPOB	**Poblet**	**5.77 9**	P	Pn	01 24 01.8	+0.5
EPOB			S	Sn	01 25 05.3	-3.0
EPOB	**Poblet**	**5.77 9**	P	Pn	01 24 01.0	-0.2
	0.7nm,0.2s,SNR=7.9					
EPOB			S	Sn	01 25 04.0	-4.4
	27nm,1.3s,SNR=7.9					
EPOB	**Poblet**	**5.77 9**	Pn	Pn	01 24 01.7	+0.5
	0.7nm,0.2s,SNR=7.9					
EPOB			Sn	Sn	01 25 05.3	-3.0
	SNR=7.9					
ELAN	**Lanestosa**	**7.97 343**	P	Pn	01 24 32.2	0.0
	0.2nm,0.2s,SNR=7.9					
EARI	**Arriondas**	**8.57 335**	P	P	01 24 40.4	-0.1
	0.1nm,0.4s,SNR=7.9					

NIED ***18*** *01:33:00,32.00N×141.80E,h5km,Mw4.1 Best double couple: M0 1.62×10^15 NP1:φs180°,δ52°,λ104°. NP2: φs337°,δ40°,λ72°.*
IDC ***18*** *01:33:07.5±0.7,31.93N×141.59E,mb4.0/10,mb1 4.2/11, mb1mx4.0/23,mbtmp4.0/11,ML3.8/1,MS3.3/1,Ms1 3.5/1, ms1mx2.6/31,Error ellipse: s-maj=23.3km s-min=16.7km az=70.0*
JMA ***18*** *01:33:07.7±0.9,32.05N×141.77E,M3.6*
NEIC ***18*** *01:33:13.1±2.0,31.96N×141.50E,h37km±16km,mb4.0/1, Error ellipse: s-maj=18.2km s-min=15.0km az=83.0*

ISC 18 01:33:09.9±0.5,31.86N±0.04×141.64E±0.09,h33km,n29, σ1§14/35,mb3.9/11,MS3.3/1,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.98 310**		P	**P**	01 33 43.1	+1.5
JHJ2				S	**S**	01 34 09.6	+4.1
JHJ	**Hachijo jima 2**	**2.01 309**		Pn	**Pn**	01 33 42.7	+0.5
	17nm,0.3s,baz=94,slow=15,SNR=5.4						
JHJ				Sn	**Sn**	01 34 07.4	+1.0
	21nm,0.3s,baz=72,slow=24,SNR=3.2						
BSO1	**Boso 1**	**2.84 349**		P	**P**	01 33 54.4	+0.5
BSO1				S	**S**	01 34 26.7	-0.6
BSO3	**Boso 3**	**3.08 342**		P	**P**	01 33 57.0	-0.3
BSO3				S	**S**	01 34 34.7	+1.3
JOD2	**Odawara 2**	**4.00 329**		P	**P**	01 34 10.0	-0.5
JOD2				S	**S**	01 34 56.0	-0.9
JRY	**Ryogami san**	**4.73 332**		P	**P**	01 34 19.5	-1.2
JRY				S	**S**	01 35 15.2	+0.1
CBIJ	**Chichi jima**	**4.77 174**		Pn	**Pn**	01 34 21.1	-0.3
	8.1nm,0.3s,baz=190,slow=22,SNR=11						
CBIJ				Sn	**Sn**	01 35 14.2	-2.2
	9.1nm,0.3s,baz=279,slow=23,SNR=2.7						
MAJO	**Matsushiro**	**5.47 330**		*e*P	**P**	01 34 29.4	-1.7
	11nm,0.8s						
MAT	**Matsushiro**	**5.47 330**		*e*P	**P**	01 34 31.0	-0.1
	4.7nm,0.6s						
MAT				*e*S	**S**	01 35 33.0	-0.7
MAT	**Matsushiro**	**5.47 330**		P	**P**	01 34 29.7	-1.4
MAT				S	**S**	01 35 33.1	-0.6
JMK	**Ichinoseki**	**7.08 357**		P	**P**	01 34 51.3	-2.5
JMK				S	**S**	01 36 04.5	-10
HIA	**Hailar**	**23.92 323**		*e*P	**P**	01 38 21.1	-0.4
	8.0nm,1.4s,mb4.0						
CMAR	**Chiang Mai Arr**	**40.63 261**		LR	LR	01 59 00.9	
	comp=Z,38nm,18.1s,MS3.3,baz=267,slow=38						
ZAL	**Zalesovo**	**45.66 316**		P	**P**	01 41 28.9	-0.1
	0.7nm,0.3s,mb4.0,baz=354,slow=5.6,SNR=4.5						
ZAL	**Zalesovo**	**45.66 316**		P	**P**	01 41 28.9	-0.1
MKAR	**Makanchi Array**	**47.17 306**		P	**P**	01 41 41.5	+0.5
	3.5nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**51.98 189**		P	**P**	01 42 17.6	-0.6
	3.2nm,0.8s,mb4.3,baz=7.0,slow=7.8,SNR=17						
ILAR	**Eielson Array**	**53.81 30**		P	**P**	01 42 30.9	-0.4
	2.1nm,0.9s,mb4.1,baz=268,slow=7.3,SNR=13						
BVAR	**Borovoye Array**	**54.28 315**		P	**P**	01 42 34.5	-0.3
	0.9nm,0.6s,mb3.9,baz=101,slow=7.6,SNR=5.4						
ASAR	**Alice Springs**	**55.71 189**		P	**P**	01 42 47.9	+2.3
	0.9nm,0.9s,mb3.8,baz=14,slow=9.1,SNR=7.0						
YKA	**Yellowknife Ar**	**68.21 29**		P	**P**	01 44 09.7	+1.0
	0.8nm,0.9s,mb3.7,baz=295,slow=5.9,SNR=12						
YKA	**Yellowknife Ar**	**68.21 29**		P	**P**	01 44 09.7	+1.0
AKASG	**Malin Array Be**	**78.52 323**		P	**P**	01 45 08.8	-0.4
	0.1nm,0.3s,mb3.2,baz=49,slow=5.3,SNR=4.3						
BRTR	**Keskin Array B**	**82.44 312**		P	**P**	01 45 31.3	+1.1
	1.0nm,1.0s,mb3.7,baz=135,slow=3.5,SNR=3.7						
PV10	**Paradox Valley**	**84.06 48**		*e*P	**P**	01 45 40.9	+2.3
TXAR	**Lajitas Array**	**93.12 53**		P	**P**	01 46 23.6	+1.6
	1.0nm,0.8s,mb4.3,baz=308,slow=3.7,SNR=13						
SAML	**Samuel**	**147.59 51**		*e*PKPab	PKPab	01 52 56.2	+0.5
LPAZ	**La Paz**	**148.85 67**		PKPbc	PKPdf	01 52 59.2	+8.5
	0.6nm,0.6s,baz=355,slow=6.9,SNR=4.1						
LPAZ	**La Paz**	**148.85 67**		PKPbc	PKPdf	01 52 59.2	+8.5

MOS ***18*** *01:36:35.3±3.0,43.07N×44.25E,h22km,mb3.9/1,Error ellipse: s-maj=18.8km s-min=9.5km az=117.0*
TIF ***18*** *01:36:36.2,43.13N×44.41E,h10km±3km*
ISC 18 01:36:38.0±1.1,43.14N±0.05×44.40E±0.09,h10km,n11, σ1§34/21,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.52 225**		*e*PG	**Pg**	01 36 45.7	-2.7
ZEI				*e*		01 36 54.4	
ZEI				pmax	pmax		
	comp=Z,137nm,0.1s						
ZEI				smax			
	comp=N,373nm,0.1s						
ONI	**Oni**	**0.89 232**		P	**Pb**	01 36 54.0	-1.1
ONI				S	**Sb**	01 37 06.8	0.0
KUBR	**Kubataba**	**0.98 313**		*i* PG	**Pg**	01 36 57.0	-0.6
KUBR				*e*S	**Sb**	01 37 12.5	+3.2
PYA	**Pyatigorsk**	**1.32 313**		*i* PG	**Pg**	01 37 01.3	-3.1
PYA				*i* S	**Sb**	01 37 19.7	+0.4
SHAR	**Shatzhatmas**	**1.40 296**		*i* PG	**Pg**	01 37 03.3	-2.6
SHAR				*e*S	**Sb**	01 37 22.4	+0.9
TBLG	**Delisi**	**1.43 170**		P	**Pn**	01 37 11.6	+7.6
TBLG				S	**Sb**	01 37 23.8	+1.5
MTA	**Mtatsminda**	**1.47 168**		P	**Pn**	01 37 04.3	-0.4
MTA				S	**Sb**	01 37 24.5	+0.9
KIV0	**Kislovodsk Arr**	**1.48 304**		*e*PG	**Pg**	01 37 03.4	-4.3
KIV0				*e*S	**Sb**	01 37 25.0	+1.0
KIV	**Kislovodsk**	**1.49 304**		*e*PG	**Pg**	01 37 03.4	-4.4
KIV				*e*S	**Sb**	01 37 25.0	+0.9
DGRG	**David-gareji**	**1.83 156**		P	**Pn**	01 37 09.9	0.0
DGRG				S	**Sn**	01 37 38.0	+4.7
GOF	**Gofitskoye**	**2.16 333**		*e*PN	**Pn**	01 37 06.1	-8.4
GOF				*e*S	**Sn**	01 37 51.2	+10
GOF				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GOF				smax			
	comp=E,40nm,1.3s						

CASC 18 02:04:17.9±2.7,14.69N×92.03W,h118km±15km,MD4.0, ML4.4,1C-2D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.53 134**		⇓*e*P	P	02 04 36.6	+0.6
JAT				*e*S	S	02 04 49.1	-0.4
JAT				AML	AML	02 04 51.1	
	comp=E,8μm,0.3s						
TP2	**Tecpan 2**	**0.98 84**		⇓*i*P	P	02 04 40.3	+0.4
TP2				*e*S	S	02 04 57.9	+1.7
IXG	**Ixpaco**	**1.61 108**		*e*P	P	02 04 47.0	+0.1
IXG				*e*S	S	02 05 10.4	+1.6
IXG				AML	AML	02 05 11.9	
	comp=E,9μm,0.4s						
RTR	**El Retiro**	**2.44 109**		*e*P	P	02 04 57.6	+0.1
SBLS	**San Blas**	**2.48 110**		*e*P	P	02 04 56.6	-1.5
SBLS				*e*S	S	02 05 30.8	+2.4
SNJE	**San Jose**	**2.49 109**		*e*P	P	02 04 59.0	+0.8
SNJE				*e*S	S	02 05 29.9	+1.3
LFRS	**El Faro**	**3.07 110**		*e*P	P	02 05 07.8	+1.9
LFRS				*e*S	S	02 05 41.8	-0.5
LCBS	**La Ceiba**	**3.13 109**		⇑*e*P	P	02 05 05.0	-1.8

BJI ***18*** *02:23:53.2,19.60S×177.70W,h423km,mB4.9,mb4.6*
NEIC ***18*** *02:23:53.2±1.2,19.61S×177.66W,h421km±15km,mb4.1/9, Error ellipse: s-maj=14.8km s-min=11.1km az=138.0*
IDC ***18*** *02:23:58.3±2.6,19.85S×177.69W,h475km±29km,mb3.8/6, mb1 4.0/7,mb1mx3.6/17,mbtmp4.7/7,Error ellipse: s-maj=30.8km s-min=15.5km az=153.0*
ISC 18 02:23:51.4±1.3,19.6S±0.1×177.7W±0.1,h414km±19km, n32,σ1§02/32,mb4.0/13,5C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.01 46**		P	**P**	02 25 48.6	+1.0
	14nm,0.3s,baz=121,slow=1.8,SNR=15						
AFI				S	**S**	02 27 17.8	-1.6
	3.7nm,0.3s,baz=38,slow=23,SNR=5.1						
AFI	**Afiamalu**	**8.01 46**		P	**P**	02 25 48.6	+1.0
AFI				S	**S**	02 27 17.8	-1.6
URZ	**Urewera**	**19.11 193**		P	**P**	02 27 46.1	-0.5
	4.9nm,0.3s,baz=357,slow=4.5,SNR=24						
CTA	**Charters Tower**	**33.89 263**		⇑*i*P	**P**	02 30 00.5	+1.4
	5.5nm,0.8s,mb4.2						
CTAO	**Charters Tower**	**33.89 263**		*e*P	**P**	02 30 00.3	+1.2
	5.7nm,0.4s,mb4.2						
TAU	**Tasmania Unive**	**37.46 224**		P	**P**	02 30 28.7	+0.1
	2.0nm,0.6s,mb3.6						
STKA	**Stephens Creek**	**38.45 243**		⇑*i*P	**P**	02 30 38.0	+1.1
	4.3nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**38.45 243**		P	**P**	02 30 38.1	+1.2
	4.7nm,0.4s,mb4.2,baz=81,slow=10,SNR=30						
WB2	**Warramunga Arr**	**45.02 261**		⇑*i*P	**P**	02 31 29.3	-0.5
WB2				*e*S	**S**	02 37 31.7	-5.3
ASAR	**Alice Springs**	**45.02 256**		P	**P**	02 31 30.1	+0.3
	17nm,0.6s,mb4.5,baz=94,slow=7.8,SNR=229						
ASAR				S	**S**	02 37 33.4	-3.6
	0.9nm,0.8s,baz=93,slow=16,SNR=6.7						
WRAB	**Tennant Creek**	**45.02 261**		*e*P	**P**	02 31 29.5	-0.4
	7.1nm,0.3s,mb4.5						
ASPA	**Alice Springs**	**45.02 256**		⇑*i*P	**P**	02 31 30.0	+0.2
ASPA				*e*S	**S**	02 37 32.1	-4.9
WRA	**Warramunga Arr**	**45.03 261**		P	**P**	02 31 29.7	-0.2
	4.7nm,0.3s,mb4.3,baz=97,slow=7.3,SNR=252						
WRA				S	**S**	02 37 33.0	-4.1
	0.9nm,1.0s,baz=99,slow=17,SNR=4.7						
FORT	**Forrest**	**49.92 246**		*e*P	**P**	02 32 06.5	-0.7
	173nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.45 262**		⇓*i*P	**P**	02 32 33.1	-0.1
	2.8nm,0.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**53.45 262**		P	**P**	02 32 33.1	-0.1
	3.7nm,0.4s,mb4.0,baz=53,slow=3.5,SNR=31						
MBWA	**Marble Bar**	**58.34 257**		*e*P	**P**	02 33 06.3	-0.9
	4.1nm,0.6s,mb3.9						
KLBR	**Kellerberrin**	**58.70 244**		*e*P	**P**	02 33 08.7	-0.9
	1μm,1.8s						
SBA	**Scott Base**	**58.76 184**		*e*P	**P**	02 33 10.7	+1.4
	4.3nm,0.8s,mb3.8						
VNDA	**Vanda**	**58.80 185**		P	**P**	02 33 09.1	-0.5
	3.2nm,1.0s,mb3.6						
QSPA	**South Pole Qui**	**70.44 180**		*e*P	**P**	02 34 23.8	+0.5
	9.6nm,0.9s,mb4.3						
CN2	**Changchun**	**81.80 322**		*e*P	**P**	02 35 29.8	+3.2
MAW	**Mawson**	**82.48 200**		P	**P**	02 35 29.9	+0.3
	1.9nm,0.5s,mb4.1,baz=185,slow=4.6,SNR=4.3						
ILAR	**Eielson Array**	**87.40 13**		P	**P**	02 35 53.4	-0.2
	0.2nm,0.4s,mb3.2,baz=236,slow=4.9,SNR=7.6						
SYO	**Syowa Base**	**87.64 193**		⇑P	**P**	02 35 53.5	-1.1
LZH	**Lanzhou**	**92.48 307**		*e*P	**P**	02 36 20.0	+2.1
LZH				PP	PP	02 40 12.1	+4.9
ARCES	**ARCESS Array B**	**128.12 350**		PKP	PKPdf	02 42 09.7	+1.0
	6.2nm,1.0s,baz=90,slow=2.7,SNR=3.8						
AKASG	**Malin Array Be**	**142.40 332**		PKhKP		02 42 31.7	
	0.4nm,0.3s,baz=41,slow=3.9,SNR=6.6						
BRTR	**Keskin Array B**	**146.47 313**		PKPbc	PKPbc	02 42 45.9	+1.5
	1.3nm,0.7s,baz=137,slow=4.7,SNR=9.8						
CLL	**Collm**	**147.28 348**		*e*PKP1	PKPdf	02 42 48.0	+4.5
KHC	**Kasperske Hory**	**149.21 345**		*e*PKPbc	PKPdf	02 42 52.5	+5.8
GERES	**GERESS Array B**	**149.44 345**		PKPbc	PKPdf	02 42 53.4	+6.3
	1.7nm,0.8s,slow=1.3,SNR=11						

IDC ***18*** *02:32:50.9±1.2,16.55S×14.26W,mb4.2/9,mb1 4.3/9, mb1mx4.0/22,mbtmp4.2/9,MS3.8/14,Ms1 3.8/14, ms1mx3.7/24,Error ellipse: s-maj=34.8km s-min=27.9km az=173.0*
NEIC ***18*** *02:32:52.1±0.6,16.64S×14.21W,h10km,mb4.5/4,Error ellipse: s-maj=19.6km s-min=11.7km az=169.0*
ISC 18 02:32:50.5±0.8,16.6S±0.2×14.2W±0.1,h10km,n24, σ0§44/14,mb4.2/11,MS3.8/14,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**24.91 23**		P	**P**	02 38 15.0	-0.4
	11nm,1.0s,mb4.3,baz=192,slow=14,SNR=5.7						
DBIC				LR	LR	02 45 27.3	
	comp=Z,92nm,20.3s,MS3.3,baz=188,slow=30						
DBIC	**Dimbokro**	**24.91 23**		*e*P	**P**	02 38 15.2	-0.1
	36nm,1.3s,mb4.7						
DBIC				LR	LR	02 45 27.3	
TSUM	**Tsumeb**	**30.37 100**		LR	LR	02 48 32.7	
	comp=Z,187nm,21.0s,MS3.7,baz=76,slow=31						
BDFB	**Brasília**	**32.44 267**		LR	LR	02 49 45.9	
	comp=Z,338nm,19.9s,MS4.0,baz=115,slow=31						
SUR	**Sutherland**	**35.37 123**		LR	LR	02 50 28.9	
	comp=Z,173nm,20.8s,MS3.8,baz=17,slow=30						
BOSA	**Boshof**	**38.20 115**		P	**P**	02 40 12.6	+0.3
	4.9nm,1.1s,mb4.2,baz=275,slow=11,SNR=3.7						
BOSA				LR	LR	02 53 59.2	
	comp=Z,164nm,18.1s,MS3.9,baz=306,slow=33						
BOSA	**Boshof**	**38.20 115**		P	**P**	02 40 11.6	-0.7
	8.4nm,1.2s,mb4.3						
BOSA				LR	LR	02 53 59.2	
MATP	**Matopo**	**40.62 102**		LR	LR	02 55 30.7	
	comp=Z,224nm,18.1s,MS4.1,baz=235,slow=33						
SIV	**San Ignacio**	**44.88 264**		P	**P**	02 41 07.3	0.0
	1.0nm,0.8s,mb3.7,baz=119,slow=8.1,SNR=5.6						
SAML	**Samuel**	**48.23 273**		*e*P	**P**	02 41 33.9	0.0
	3.4nm,1.0s,mb4.3						
LPAZ	**La Paz**	**51.55 262**		LR	LR	03 02 44.8	
	comp=Z,104nm,18.7s,MS3.9,baz=117,slow=35						
KMBO	**Kilima Mbogo**	**52.95 79**		P	**P**	02 42 09.9	+0.1
	1.1nm,0.8s,mb3.8,baz=265,slow=13,SNR=3.1						
KMBO				LR	LR	03 00 44.2	
	comp=Z,114nm,21.5s,MS3.9,baz=276,slow=32						
PLCA	**Paso Flores**	**53.94 231**		LR	LR	03 02 22.3	
	comp=Z,212nm,19.8s,MS4.2,baz=126,slow=33						
SDV	**Santo Domingo**	**61.26 290**		*e*P	**P**	02 43 08.6	-0.1
	5.2nm,0.8s,mb4.7						
ROSC	**El Rosal**	**63.09 284**		LR	LR	03 08 26.5	
	comp=Z,144nm,20.9s,MS4.1,baz=328,slow=34						
DAVOX	**Davos**	**66.72 18**		LR	LR	03 11 06.1	
	comp=Z,67nm,18.1s,MS3.9,baz=88,slow=34						
GERES	**GERESS Array B**	**69.73 19**		P	**P**	02 44 02.2	-0.4
	0.3nm,0.5s,mb3.5,baz=225,slow=5.6,SNR=5.7						
GERES				LR	LR	03 11 24.6	
	comp=Z,40nm,18.2s,MS3.7,baz=191,slow=33						
BRTR	**Keskin Array B**	**71.62 37**		P	**P**	02 44 15.4	+1.1
	2.9nm,0.9s,mb4.2,baz=205,slow=6.1,SNR=12						
**MLR

CAUP	**Cauayan**	**0.17 127**	*e*P	Pg	03 09 18.4	+2.0
CVP	**Callao Caves**	**0.67 11**	⇓*i*P	Pb	03 09 25.0	-0.3
PALP	**Palanan**	**0.71 89**	*e*P	Pb	03 09 25.6	-0.5
APYP	**Conner**	**0.91 333**	*e*P	Pb	03 09 28.2	-1.3
APYP			*e*S	Sb	03 09 39.2	-2.1
ABRA	**Dolores**	**1.10 303**	*e*P	Pb	03 09 31.3	-1.5
SGCP	**Mt. Cagua**	**1.24 16**	*e*P	Pb	03 09 34.7	-0.4
BCPH	**Baguio City Da**	**1.25 238**	⇓*i*P	Pb	03 09 34.0	-1.2
BCPH			*i* S	Sb	03 09 52.0	+1.0
BALP	**Baler**	**1.30 185**	*e*P	Pb	03 09 33.7	-2.4
BALP			*e*S	Sb	03 09 50.9	-1.7
PCPH	**Palayan**	**1.58 201**	⇓*e*P	Pn	03 09 38.8	-1.5
PCPH			*e*S	Sn	03 09 60.0	-0.7
BOLP	**Bolinao**	**1.82 249**	*e*P	Pn	03 09 43.8	+0.1

*IDC **18** 03:29:38.8±0.8, 3.02N×96.41E, mb4.0/8, mb1 4.2/8, mb1mx3.9/20, mbtmp4.0/8, Error ellipse: s-maj=33.3km s-min=19.6km az=43.0*
*NEIC **18** 03:29:43.3±0.6, 2.79N×96.29E, h30km, mb4.4/2, Error ellipse: s-maj=22.2km s-min=12.5km az=53.0*
ISC 18 03:29:41.4±0.6, 3.0N±0.1×96.4E±0.1, h30km, n20, σ0§56/20, mb4.2/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.58**	**9**	Pn	**P**	**03 33 26.4**	**+5.5**
	0.2nm,0.3s,baz=200,slow=11,SNR=5.6						
JIRN	**Jiri**	**26.42**	**339**	*e*P	**P**	**03 35 18.0**	**+0.4**
	16nm,0.8s,mb4.6						
PKI	**Pulchoki**	**26.63**	**338**	*e*P	**P**	**03 35 20.6**	**+1.1**
GUN	**Gumba**	**26.76**	**339**	*e*P	**P**	**03 35 20.8**	**+0.1**
	7.8nm,0.5s,mb4.5						
KKN	**Kakani**	**26.87**	**338**	*e*P	**P**	**03 35 21.8**	**+0.1**
GKN	**Gorkha**	**27.31**	**337**	*e*P	**P**	**03 35 25.6**	**-0.2**
KOLN	**Koldanda**	**27.53**	**335**	*e*P	**P**	**03 35 28.3**	**+0.6**
	15nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**35.60**	**127**	*e*P	**P**	**03 36 37.8**	**-0.9**
	5.3nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**43.63**	**123**	P	**P**	**03 37 45.6**	**+0.2**
	2.0nm,0.6s,mb4.0,baz=299,slow=9.4,SNR=24						
WRAB	**Tennant Creek**	**43.64**	**123**	*e*P	**P**	**03 37 45.6**	**+0.2**
WB2	**Warramunga Arr**	**43.64**	**123**	*e*P	**P**	**03 37 45.9**	**+0.5**
ASAR	**Alice Springs**	**45.08**	**128**	P	**P**	**03 37 57.2**	**+0.2**
	0.9nm,0.5s,mb3.8,baz=300,slow=8.1,SNR=13						
ZAL	**Zalesovo**	**51.69**	**351**	P	**P**	**03 38 47.1**	**-0.7**
	1.0nm,0.3s,mb4.2,baz=274,slow=3.6,SNR=3.0						
BVAR	**Borovoye Array**	**54.33**	**341**	P	**P**	**03 39 06.5**	**-1.0**
	0.7nm,0.6s,mb3.8,baz=121,slow=8.6,SNR=5.5						
CHKZ	**Chkalovo**	**54.81**	**342**	*e*P	**P**	**03 39 10.2**	**-0.7**
	2.4nm,0.7s,mb4.3						
KMBO	**Kilima Mbogo**	**59.30**	**267**	P	**P**	**03 39 43.7**	**+0.3**
	1.9nm,0.9s,mb4.1,baz=66,slow=11,SNR=5.8						
KMBO	**Kilima Mbogo**	**59.30**	**267**	P	**P**	**03 39 43.7**	**+0.3**
BRTR	**Keskin Array B**	**67.36**	**312**	P	**P**	**03 40 35.5**	**-0.7**
	0.5nm,0.5s,mb3.8,baz=112,slow=6.7,SNR=3.9						
MATP	**Matopo**	**70.49**	**247**	P	**P**	**03 40 55.6**	**-0.2**
	1.4nm,0.7s,mb4.0,baz=74,slow=5.9,SNR=4.9						
ARCES	**ARCESS Array B**	**80.61**	**340**	P	**P**	**03 41 53.1**	**+0.6**
	3.2nm,0.9s,mb4.3,baz=68,slow=6.5,SNR=6.0						

IDC 18 03:38:37.0±8.3, 19.52S×175.87W, mb3.4/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.4/3, Error ellipse: s-maj=362.5km s-min=40.0km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.69**	**256**	P	P	03 47 08.7	-0.9
	0.3nm,0.3s,baz=97,slow=7.5,SNR=5.4						
WRA	**Warramunga Arr**	**46.72**	**261**	P	P	03 47 07.2	-2.6
	0.1nm,0.3s,baz=98,slow=6.7,SNR=9.0						
ILAR	**Eielson Array**	**86.94**	**12**	P	P	03 51 23.4	-1.2
	0.2nm,0.5s,baz=228,slow=5.7,SNR=4.8						

IDC 18 03:45:33.9±6.4, 1.01S×101.90E, mb3.2/2, mb1 3.5/2, mb1mx3.2/17, mbtmp3.2/2, Error ellipse: s-maj=285.8km s-min=94.8km az=49.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.89**	**123**	P	P	03 52 44.7	-1.6
	0.3nm,0.5s,baz=301,slow=9.2,SNR=6.2						
ASAR	**Alice Springs**	**38.33**	**128**	P	P	03 52 56.5	-2.0
	0.2nm,0.6s,baz=300,slow=7.3,SNR=2.6						
TXAR	**Lajitas Array**	**142.76**	**39**	PKP	PKPdf	04 05 09.9	-1.9
	0.5nm,0.6s,baz=245,slow=1.2,SNR=8.3						

*IDC **18** 04:08:35.7±0.9, 21.15S×68.41W, h115km±15km, mb3.1/2, mb1 3.4/4, mb1mx3.2/16, mbtmp3.8/4, Error ellipse: s-maj=30.5km s-min=11.1km az=102.0*
*NEIC **18** 04:08:35.4±1.0, 21.24S×68.36W, h116km±14km, mb3.2/1, Error ellipse: s-maj=25.5km s-min=12.1km az=105.0*
ISC 18 04:08:34.6±0.7, 21.22S±0.06×68.3W±0.2, h125km±12km, n9, σ0§96/13, mb3.2/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.50**	**201**	P	**P**	**04 09 03.4**	**+0.6**
	16nm,0.3s,baz=23,slow=9.6,SNR=463						
LVC				S	**S**	**04 09 24.5**	**+0.3**
	48nm,0.3s,baz=112,slow=22,SNR=98						
LVC	**Limon Verde**	**1.50**	**201**	P	**P**	**04 09 03.4**	**+0.6**
LVC				S	**S**	**04 09 24.5**	**+0.3**
LPAZ	**La Paz**	**4.90**	**2**	P	**P**	**04 09 48.4**	**+0.9**
	1.2nm,0.3s,baz=219,slow=6.2,SNR=52						
LPAZ				S	**S**	**04 10 42.6**	**-0.9**
	0.0nm,0.3s,baz=104,slow=24,SNR=2.6						
LPAZ	**La Paz**	**4.90**	**2**	*e*P	**P**	**04 09 48.2**	**+0.8**
LPAZ				S	**S**	**04 10 42.6**	**-0.9**
SIV	**San Ignacio**	**8.61**	**54**	P	**P**	**04 10 36.8**	**-0.7**
	4.8nm,0.3s,baz=250,slow=12,SNR=147						
CFAA	**Coronel Fontan**	**10.35**	**180**	P	**P**	**04 10 58.6**	**-2.1**
	0.0nm,0.3s,baz=4.8,slow=12,SNR=4.4						
TRQA	**Tornquist**	**17.66**	**163**	*e*P	**P**	**04 12 34.0**	**-0.1**
	1.2nm,0.7s						
BDFB	**Brasilia**	**20.04**	**77**	P	**P**	**04 13 01.3**	**+1.4**
	1.3nm,0.4s,baz=271,slow=9.2,SNR=7.3						
YKA	**Yellowknife Ar**	**91.10**	**340**	P	**P**	**04 21 26.0**	**+0.2**
	0.1nm,0.5s,mb3.2,baz=129,slow=4.8,SNR=5.3						

IDC 18 04:32:39.8±3.5, 0.98N×97.70E, mb3.4/3, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML4.1/1, MS2.8/1, Ms1 3.0/1, ms1mx2.6/8, Error ellipse: s-maj=144.0km s-min=25.2km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.42**	**4**	Pn	P	04 36 46.1	+0.1
	0.3nm,0.3s,baz=193,slow=12,SNR=4.1						
CMAR				LR	LR	04 44 11.0	
	comp=Z,31nm,21.8s,baz=185,slow=40						
WRA	**Warramunga Arr**	**41.49**	**122**	P	P	04 40 28.7	-1.8
	0.3nm,0.6s,baz=302,slow=8.9,SNR=3.1						
ASAR	**Alice Springs**	**42.86**	**127**	P	P	04 40 40.4	-1.5
	0.2nm,0.6s,baz=304,slow=8.0,SNR=4.3						
MKAR	**Makanchi Array**	**47.58**	**346**	P	P	04 41 16.9	-2.4
	0.6nm,0.5s						

IDC 18 04:45:49.7±3.2, 1.33N×94.26E, mb3.5/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=114.4km s-min=25.9km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.63**	**15**	P	P	04 49 58.0	-0.5
	baz=216,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**44.62**	**120**	P	P	04 54 03.8	-2.2
	0.5nm,0.4s,baz=300,slow=9.2,SNR=8.8						
ASAR	**Alice Springs**	**45.84**	**125**	P	P	04 54 14.3	-1.5
	0.3nm,0.5s,baz=297,slow=7.7,SNR=4.4						
MKAR	**Makanchi Array**	**46.47**	**349**	P	P	04 54 18.2	-2.1
	0.4nm,0.3s						

*MOS **18** 04:59:48.1±1.8, 51.19N×90.19E, h15km, mb4.3/7, Error ellipse: s-maj=11.3km s-min=8.7km az=90.0*
MOS Felt (IV) at Telli.

*IDC **18** 04:59:51.4±3.0, 51.20N×90.09E, h29km±21km, mb3.4/4, mb1 3.8/7, mb1mx3.6/24, mbtmp3.8/7, ML3.3/2, Error ellipse: s-maj=19.1km s-min=15.0km az=82.0*
*NNC **18** 04:59:55.9±5.8, 51.41N×89.22E, h8km±15km, mpv4.4, Error ellipse: s-maj=48.2km s-min=33.6km az=103.0*
ISC 18 04:59:48.6±0.4, 51.32N±0.03×90.11E±0.05, h15km, n35, σ1§52/51, mb4.0/8, MS3.6/2, 7C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CERR	**Cheremushki**	**1.74**	**27**	*e*Pn	**Pg**	**05 00 22.8**	**-0.6**
CERR				*e*S	**Sg**	**05 00 48.3**	**+1.6**
AKAR	**Aktash**	**1.87**	**239**	*e*Pn	**Pn**	**05 00 21.6**	**+1.2**
AKAR				*e*S	**Sn**	**05 00 45.0**	**+1.2**
TASR	**Tashtagol**	**2.00**	**317**	*e*Pn	**Pg**	**05 00 28.3**	**-0.2**
TASR				*e*S	**Sg**	**05 00 56.1**	**+0.9**
ELDR	**Elanda**	**2.52**	**269**	*e*Pn	**Pb**	**05 00 34.6**	**+1.4**
ELDR				*e*S	**Sb**	**05 01 07.8**	**+3.7**
ELT	**Yel'tsovka**	**3.07**	**311**	*e*Pn	**Pn**	**05 00 40.7**	**+3.1**
ELT				*e*S	**Sg**	**05 01 28.4**	**-2.5**
UKR	**Ust'-Kan**	**3.38**	**266**	*e*Pn	**Pb**	**05 00 51.4**	**+3.6**
UKR				*e*S	**Sg**	**05 01 34.3**	**-7.0**
ZAL	**Zalesovo**	**4.17**	**311**	PN	**Pn**	**05 00 54.9**	**+1.8**
ZAL						05 01 05.7	
ZAL						05 01 42.3	
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL				pmax	pmax		
	comp=Z,16nm,0.3s						
ZAL	**Zalesovo**	**4.17**	**311**	Pn	**Pn**	**05 00 54.9**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=346,slow=10,SNR=9.6						
ZAL				Pg	**Pg**	**05 01 05.7**	**-6.1**
	comp=Z,16nm,0.3s,baz=336,slow=9.2,SNR=19						
ZAL				Sn	**Sn**	**05 01 42.3**	**+0.3**
	comp=Z,16nm,0.3s,baz=354,slow=12,SNR=3.5						
ZAL				Lg		05 01 59.9	
	comp=Z,25nm,0.3s,baz=347,slow=1.2,SNR=5.1						
KRAR	**Krasnoyarsk**	**4.98**	**18**	*e*PN	**Pn**	**05 01 02.9**	**-1.8**
KRAR				*i*		05 01 20.9	
KRAR				pmax	pmax		
	comp=E,149nm,0.5s						
KRAR				pmax	pmax		
	comp=N,143nm,0.5s						
NVS	**Novosibirsk**	**5.44**	**313**	*e*PN	**Pn**	**05 01 12.6**	**+1.4**
NVS				*e*		05 01 30.3	
NVS				*e*		05 02 16.6	
NVS				*e*S	**Sg**	**05 02 40.2**	**-10**
MKAR	**Makanchi Array**	**6.84**	**232**	Pn	**Pn**	**05 01 29.2**	**-1.8**
MKAR				Lg		05 03 20.6	
MK01	**Makanchi Array**	**6.86**	**231**	⇓Pn	**Pn**	**05 01 29.9**	**-1.2**
	comp=N,14nm,0.5s						
MK01				⇓Lg		05 03 22.5	
	comp=N,110nm,0.5s						
ZAK	**Zakamensk**	**8.39**	**91**	*e*P	**P**	**05 01 50.9**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,15nm,1.1s						
TLY	**Talaya**	**8.46**	**82**	*i* P	**P**	**05 01 56.6**	**+3.1**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
IRK	**Irkutsk**	**8.84**	**78**	*e*P	**P**	**05 02 07.0**	**+8.3**
IRK				pmax	pmax		
	comp=Z,293nm,0.1s						
SONM	**Songino Array**	**11.13**	**102**	Lg		05 05 42.0	
	comp=Z,1.0nm,0.3s,baz=300,slow=33,SNR=13						
ULN	**Ulaanbaatar**	**11.53**	**101**	*i* P	**P**	**05 02 37.1**	**+1.5**
CHKZ	**Chkalovo**	**12.11**	**289**	⇑Pn	**P**	**05 02 40.1**	**-3.3**
	comp=Z,3.5nm,0.5s						
CHKZ				⇑Sn	**S**	**05 04 50.8**	**-8.3**
	comp=Z,7.0nm,0.5s						
CHKZ				⇑Lg		05 06 21.3	
	comp=Z,44nm,1.6s						
BVA0	**Borovoye Array**	**12.22**	**286**	Pn	**P**	**05 02 42.2**	**-2.8**
	comp=Z,1.2nm,0.6s,baz=92,slow=13,SNR=32						
BVA0				⇓Sn	**S**	**05 04 55.8**	**-6.1**
	comp=Z,2.0nm,0.7s,baz=86,slow=22,SNR=5.9						
BVAR	**Borovoye Array**	**12.22**	**286**	Pn	**P**	**05 02 41.8**	**-3.2**
	comp=Z,1.4nm,0.3s,baz=91,slow=13,SNR=22						
BVAR				Sn	**S**	**05 04 58.7**	**-3.2**
	comp=Z,2.5nm,0.3s,baz=83,slow=24,SNR=6.7						
AAK	**Ala-Archa**	**13.73**	**237**	⇑Pn	**P**	**05 03 10.8**	**+5.9**
	comp=Z,2.8nm,0.6s						
AAK				⇑Sn	**S**	**05 05 44.6**	**+6.6**
	comp=Z,7.0nm,0.8s						
AAK				⇑Lg		05 07 03.6	
	comp=Z,65nm,1.2s						
BOD	**Bodaibo**	**15.26**	**55**	*e*P	**P**	**05 03 24.7**	**-0.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KK31	**Karatay Array**	**15.61**	**246**	Pn	**P**	**05 03 31.2**	**+1.7**
	comp=Z,1.9nm,0.5s,baz=50,slow=13,SNR=14						
KK31				⇑Sn	**S**	**05 06 23.2**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=33,slow=32						
KK31				⇓Lg		05 07 53.4	
	comp=Z,23nm,0.9s,baz=43,slow=37,SNR=3.5						
ARU	**Arti**	**19.18**	**298**	*e*P	**P**	**05 04 13.4**	**-0.6**
ARU				*e*S	**S**	**05 07 48.3**	**+4.2**
YAK	**Yakutsk**	**23.84**	**48**	*i* P	**P**	**05 05 14.3**	**+13**
YAK				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.5						
OBN	**Obninsk**	**31.62**	**298**	*e*P	**P**	**05 06 12.2**	**-0.5**
OBN				*e*S	**S**	**05 11 29.3**	**+9.4**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.6						
SOC	**Sochi**	**34.35**	**277**	*e*P	**P**	**05 06 35.0**	**-1.6**
SOC				*e*		05 07 46.3	
SOC				*e*PPP	PPP	05 08 08.6	-1.5
SOC				*e*		05 09 15.6	
SOC				*e*S	**S**	**05 12 02.8**	**+0.3**
SOC				*e*SS	SS	05 14 14.3	+1.7
SOC				*e*		05 16 58.1	
SOC				pmax	pmax		
	comp=N,6.0nm,0.6s						
SOC				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
SOC				pmax	pmax		
	comp=E,7.0nm,0.5s						
BILL	**Bilibino**	**38.94**	**36**	⇓*e*P	**P**	**05 07 16.6**	**+1.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.6						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.7						
BRTR	**Keskin Array B**	**40.27**	**276**	P	**P**	**05 07 26.6**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**40.27**	**276**	P	**P**	**05 07 26.6**	**+0.2**
	comp=Z,0.8nm,0.9s,mb3.5,baz=68,slow=6.7,SNR=4.6						
ILAR	**Eielson Array**	**56.16**	**26**	P	**P**	**05 09 28.5**	**-0.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**56.16**	**26**	P	**P**	**05 09 28.5**	**-0.8**
	comp=Z,0.9nm,0.9s,mb3.8,baz=307,slow=3.5,SNR=6.9						
YKA	**Yellowknife Ar**	**64.86**	**12**	P	**P**	**05 10 27.6**	**-0.9**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**64.86**	**12**	P	**P**	**05 10 27.6**	**-0.8**
	comp=Z,0.5nm,0.8s,mb3.6,baz=341,slow=7.1,SNR=13						
WRA	**Warramunga Arr**	**80.85**	**138**	P	**P**	**05 12 01.8**	**-1.4**
	comp=Z,0.4nm,0.8s,mb3.4,baz=339,slow=5.6,SNR=2.7						

*IDC **18** 05:01:38.2±3.1, 1.96N×96.42E, mb3.9/4, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5, Error ellipse: s-maj=127.5km s-min=22.5km az=59.0*
*NEIC **18** 05:01:43.1±0.9, 2.06N×96.65E, h30km, mb4.0/2, Error ellipse: s-maj=23.1km s-min=12.2km az=64.0*
ISC 18 05:01:41.1±1.2, 2.1N±0.1×96.6E±0.2, h30km, n8, σ0§82/8, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.14**	**51**	*e*P	**Pn**	**05 02 57.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**16.44**	**8**	Pn	**P**	**05 05 33.0**	**+1.5**
	baz=196,slow=11,SNR=14						
WRA	**Warramunga Arr**	**42.99**	**122**	P	**P**	**05 09 39.9**	**+0.1**
	1.1nm,0.7s,mb3.7,baz=300,slow=9.2,SNR=10						
WRAB	**Tennant Creek**	**43.00**	**122**	*e*P	**P**	**05 09 39.4**	**-0.5**
	1.2nm,0.5s,mb3.9						
ASAR	**Alice Springs**	**44.39**	**127**	P	**P**	**05 09 52.0**	**+1.0**
	0.3nm,0.5s,mb3.3,baz=296,slow=9.0,SNR=3.7						
MKAR	**Makanchi Array**	**46.26**	**346**	P	**P**	**05 10 05.9**	**+0.3**
	2.0nm,0.5s,mb4.3						
ZAL	**Zalesovo**	**52.60**	**351**	P	**P**	**05 10 53.8**	**-0.5**
	2.8nm,0.5s,mb4.5,baz=318,slow=6.7,SNR=4.4						
CHKZ	**Chkalovo**	**55.72**	**342**	*e*P	**P**	**05 11 16.1**	**-1.0**
	1.4nm,0.6s,mb4.2						

*CSEM **18** 05:14:47.5±0.5, 39.04N×29.18W, h10km, ML2.7, Error ellipse: s-maj=11.2km s-min=4.7km az=82.0, After PDA*
*PDA **18** 05:14:47.5±0.6, 39.04N×29.18W, h10km, MD3.4, ML2.7, Error ellipse: s-maj=10.3km s-min=3.3km az=78.0*
SVSA 18 05:14:47.5±0.6, 39.04N×29.18W, h10km, MD3.4, ML2.7, Error ellipse: s-maj=10.3km s-min=3.3km az=78.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.56**	**138**	*e*P	Pg	05 14 56.5	-2.3
PCED				*e*S	Sg	05 15 03.4	-2.9
	157nm,0.3s						
CALA	**Caldeira**	**0.59**	**141**	*i* P	Pg	05 14 57.5	-2.0
CALA				*e*S	Sg	05 15 04.9	-2.6
HOR	**Horta**	**0.67**	**140**	*i* P	Pb	05 14 58.3	-2.5
HOR				*e*S	Sb	05 15 06.4	-3.5
PICO	**Pico**	**0.80**	**132**	*e*P	Pb	05 15 00.0	-3.1
PICO				*e*S	Sb	05 15 09.7	-4.0
STGR	**Santa Cruz**	**0.92**	**87**	*e*rx		05 15 09.2	
PMAN	**Manadas**	**0.95**	**115**	*e*P	Pb	05 15 01.8	-3.7
ASBA	**Santa Barbara**	**1.48**	**102**	*e*rx		05 15 26.9	
PVNV	**Vila Nova**	**1.60**	**99**	*e*rx		05 15 27.1	
RIB2	**Ribeirinha**	**1.61**	**103**	*e*rx		05 15 27.6	
SET4	**Mosteiros**	**2.90**	**113**	*e*P	Pn	05 15 29.2	-5.4
SET2	**Ginetes**	**2.91**	**113**	*e*P	Pn	05 15 29.5	-5.3
PFET	**Feteiras**	**2.93**	**114**	*e*rx		05 15 29.4	
PSAN	**Santo Antonio**	**2.96**	**113**	*e*P	Pn	05 15 30.0	-5.5
FAC	**Faja de Cima**	**3.05**	**113**	*e*P	Pn	05 15 31.5	-5.3
CML	**Cha da Macela**	**3.13**	**113**	*e*P	Pn	05 15 32.7	-5.1
PMAT	**Coroa da Mata**	**3.16**	**112**	*e*P	Pn	05 15 33.0	-5.3
LFA	**Lagoa do Fogo**	**3.17**	**112**	*e*P	Pn	05 15 33.4	-5.1
MESC	**Monte Escuro**	**3.19**	**112**	*e*P	Pn	05 15 33.4	-5.3
PRCH	**Ribeira Ch**	**3.19**	**113**	*e*P	Pn	05 15 33.5	-5.3
VIF	**Vila Franca**	**3.21**	**113**	*e*rx		05 15 34.9	
FRA1	**Furnas**	**3.27**	**112**	*e*P	Pn	05 15 34.4	-5.5
MIRA	**Miradouro**	**3.31**	**111**	*e*P	Pn	05 15 35.2	-5.3
PSMN	**Pico do Norte,**	**3.83**	**121**	*e*P	Pn	05 15 42.3	-5.6

DJA 18 05:23:05.1±1.3, 9.47S×116.10E, h73km±24km, MD4.5/2, ML4.1/2, 2C-3D, Error ellipse: s-maj=65.4km s-min=22.0km az=168.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.93**	**323**	⇓*e*Pn	P	05 23 22.5	-0.6
	230nm,0.2s						
RATI				⇓*e*Sn	S	05 23 35.3	-1.2
KEDI	**Kedomdong**	**0.98**	**1**	⇑*e*Pn	P	05 23 23.2	-0.5
	400nm,0.2s						
KEDI				⇑*e*Sn	S	05 23 36.4	-1.2
SRDI	**Scrawed**	**2.17**	**297**	⇓*e*P	P	05 23 40.1	+0.3

*CSEM **18** 05:25:32.9±0.1, 37.36N×24.63W, h5km, ML3.1, Error ellipse: s-maj=4.5km s-min=2.1km az=32.0, After PDA*
*PDA **18** 05:25:32.9±0.8, 37.36N×24.63W, h5km, MD2.8, ML3.1, Error ellipse: s-maj=5.0km s-min=2.2km az=76.0*
SVSA 18 05:25:32.9±0.8, 37.36N×24.63W, h5km, MD2.8, ML3.1, Error ellipse: s-maj=5.0km s-min=2.2km az=76.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.50**	**224**	*i* P	Pg	05 25 41.6	-1.3
PSMN				*i* S	Sg	05 25 48.0	-1.6
MIRA	**Miradouro**	**0.67**	**309**	*i* P	Pg	05 25 43.8	-2.5
MIRA				*i* S	Sg	05 25 52.6	-2.6
FRA1	**Furnas**	**0.69**	**303**	*i* P	Pg	05 25 44.3	-2.5
PFAD	**Fenais da Ajud**	**0.73**	**311**	*e*P	Pg	05 25 44.8	-2.7
PFAD				*i* S	Sg	05 25 53.8	-3.4
PCNG	**Congro**	**0.73**	**304**	*e*P	Pg	05 25 44.8	-2.8
PCNG				*i* S	Sg	05 25 54.1	-3.2
	285nm,0.2s						
VIF	**Vila Franca**	**0.75**	**301**	*e*P	Pg	05 25 45.1	-2.8
VIF				*i* S	Sg	05 25 54.5	-3.4
PRCH	**Ribeira Ch**	**0.77**	**299**	*e*P	Pg	05 25 45.3	-3.0
PRCH				*i* S	Sg	05 25 55.0	-3.6
MESC	**Monte Escuro**	**0.78**	**304**	*i* P	Pg	05 25 45.6	-2.9
MESC				*i* S	Sg	05 25 55.3	-3.6
LFA	**Lagoa do Fogo**	**0.79**	**301**	*i* P	Pg	05 25 45.9	-2.9
PMAT	**Coroa da Mata**	**0.81**	**304**	*e*P	Pb	05 25 45.9	-3.2
PMAT				*e*S	Sg	05 25 56.0	-3.9
PVER	**Pico Vermelho**	**0.83**	**302**	*i* P	Pb	05 25 46.3	-3.1
PVER				*e*S	Sg	05 25 56.1	-4.4
CML	**Cha da Macela**	**0.84**	**299**	*i* P	Pb	05 25 46.3	-3.2
CML				*i* S	Sg	05 25 56.3	-4.5
FAC	**Faja de Cima**	**0.91**	**297**	*i* P	Pb	05 25 47.6	-3.2
FAC				*i* S	Sb	05 25 58.2	-4.8
PSAN	**Santo Antonio**	**1.00**	**300**	*e*P	Pb	05 25 48.9	-3.4
PSAN				*e*S	Sb	05 26 00.8	-4.8
PFET	**Feteiras**	**1.03**	**297**	*e*P	Pb	05 25 49.2	-3.6
PFET				*e*S	Sb	05 26 01.5	-4.9
SET2	**Ginetes**	**1.05**	**298**	*e*P	Pb	05 25 49.7	-3.5
SET2				*i* S	Sb	05 26 01.3	-5.8
SET4	**Mosteiros**	**1.06**	**299**	*e*P	Pb	05 25 50.1	-3.3
SET4				*i* S	Sb	05 26 01.7	-5.7
PFAV	**Pico das Favas**	**2.36**	**306**	*e*S	Sn	05 26 34.4	-8.2
	29nm,0.3s						
RIB2

YKA	**Yellowknife Ar**	**44.01**	**356**	P	**P**	**05 42 59.7**	**-0.1**
ILAR	**Eielson Array**	**52.68**	**341**	P	**P**	**05 44 08.0**	**+1.1**
	0.4nm,0.6s,mb3.5,baz=159,slow=7.6,SNR=8.6						
ILAR				LR	LR	06 07 19.5	
	comp=Z,37nm,20.2s,MS3.4,baz=182,slow=37						

INMG ***18*** *05:35:16.3±0.9, 36.67N×7.35W, h28km±10km, ML2.1, Error ellipse: s-maj=4.9km s-min=4.1km az=22.0*
NEIC ***18*** *05:35:16.7, 36.76N×7.24W, h21km, MN2.7(MDD), After MDD.*

MDD 18 05:35:16.2±1.2, 36.68N×7.33W, h40km±24km, mb4.0/7, 1C-5D, Error ellipse: s-maj=11.5km s-min=6.4km az=27.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALC	**Alcoutim**	**0.79**	**352**	*i*P	P	05 35 30.6	-0.4
PALC				*e*S	S	05 35 41.2	-0.7
	65nm,0.1s						
PALC	**Alcoutim**	**0.79**	**352**	⇓P	P	05 35 30.6	-0.4
PALC				S	S	05 35 41.2	-0.7
	33nm,0.1s						
EGRO	**El Granado**	**0.86**	**352**	⇓P	P	05 35 31.4	-0.6
	9.9nm,0.1s,SNR=18						
EGRO				S	S	05 35 42.4	-1.2
	0.4nm,0.1s,SNR=28						
ESPR	**Espera**	**1.20**	**80**	⇓P	P	05 35 35.9	-0.9
	9.3nm,0.1s,SNR=18						
ESPR				S	S	05 35 50.8	-1.3
	36nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**1.21**	**26**	⇓P	P	05 35 35.7	-1.2
	2.7nm,0.1s,SNR=18						
EMIN				S	S	05 35 50.1	-2.2
	13nm,0.2s						
PBEJ	**Beja**	**1.41**	**343**	*i*P	P	05 35 38.9	-1.0
PBEJ				*e*S	S	05 35 55.5	-2.0
	15nm,0.2s						
PBEJ	**Beja**	**1.41**	**343**	⇑P	P	05 35 38.9	-1.0
PBEJ				S	S	05 35 55.5	-2.0
	7.7nm,0.2s						
PTEO	**Sao Teotonio**	**1.41**	**308**	*e*P	P	05 35 38.7	-1.2
PTEO				*e*S	S	05 35 55.2	-2.3
	5.6nm,0.1s						
PTEO	**Sao Teotonio**	**1.41**	**308**	P	P	05 35 38.7	-1.2
PTEO				S	S	05 35 55.2	-2.3
	2.8nm,0.1s						
EBAD	**Badajoz**	**2.09**	**7**	⇓P	P	05 35 47.9	-1.6
	1.1nm,0.1s,SNR=18						
EBAD				S	S	05 36 11.3	-3.2
	6.1nm,0.1s,SNR=9.4						
PLOU	**Loures**	**2.63**	**327**	S	S	05 36 24.9	-3.4
	8.6nm,0.3s						
PLOU	**Loures**	**2.63**	**327**	S	S	05 36 24.9	-3.4
	4.3nm,0.3s						
EADA	**Adamuz**	**2.65**	**55**	P	P	05 35 55.9	-1.6
EADA				S	S	05 36 24.2	-4.5
EADA	**Adamuz**	**2.65**	**55**	P	P	05 35 55.9	-1.6
	0.6nm,0.1s,SNR=5.6						
EADA				S	S	05 36 24.8	-3.8
	5.3nm,0.1s,SNR=11						
PTOM	**Tomar**	**3.06**	**344**	*e*Pn	P	05 36 01.9	-1.4
PTOM				*e*Sn	S	05 36 34.5	-4.5
	7.2nm,0.2s						
PTOM	**Tomar**	**3.06**	**344**	P	P	05 36 01.9	-1.4
PTOM				S	S	05 36 34.5	-4.5
	3.6nm,0.2s						
PCBR	**Castelo Branco**	**3.16**	**358**	*e*Pn	P	05 36 02.8	-2.0
PCBR				*e*Sn	S	05 36 36.6	-5.1
	5.7nm,0.1s						
PCBR	**Castelo Branco**	**3.16**	**358**	P	P	05 36 02.8	-2.0
PCBR				S	S	05 36 36.6	-5.1
	2.8nm,0.1s						
MTE	**Manteigas**	**3.72**	**357**	*e*Sn	S	05 36 50.9	-5.0
	5.8nm,0.4s						
MTE	**Manteigas**	**3.72**	**357**	S	S	05 36 50.9	-5.0
	2.9nm,0.4s						
ESDC	**Sonseca Array**	**4.00**	**41**	S	S	05 36 56.7	-6.2
	3.8nm,0.1s,baz=223,slow=23,SNR=4.5						
PVIS	**Viseu**	**4.06**	**354**	*e*Sn	S	05 36 58.9	-5.5
	3.2nm,0.1s						
PVIS	**Viseu**	**4.06**	**354**	S	S	05 36 58.9	-5.5
	1.6nm,0.1s						
GUD	**Guadarrama**	**4.67**	**31**	P	P	05 36 24.0	-2.2
GUD				S	S	05 37 15.4	-4.5
GUD	**Guadarrama**	**4.67**	**31**	P	P	05 36 24.0	-2.2
	0.6nm,0.2s,SNR=7.9						
GUD				S	S	05 37 13.7	-6.2
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.99**	**65**	S	S	05 37 21.0	-6.9
	1.9nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**5.14**	**5**	*e*Sn	S	05 37 24.4	-7.3
	2.1nm,0.2s						
PBRG	**Braganca**	**5.14**	**5**	S	S	05 37 24.4	-7.3
	1.1nm,0.2s						
ELOB	**Lobios**	**5.21**	**354**	S	S	05 37 26.1	-7.4
	5.6nm,0.2s,SNR=9.5						
ECAL	**Calabor**	**5.28**	**5**	S	S	05 37 28.2	-6.9
	1.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**6.51**	**54**	S	S	05 37 58.0	-8.0
	13nm,0.8s,SNR=4.0						
EARI	**Arriondas**	**6.81**	**13**	S	S	05 38 04.6	-8.8
	26nm,1.1s,SNR=7.9						
EALK	**Alkurruntz**	**7.92**	**33**	P	P	05 37 07.6	-4.0
	1.6nm,0.4s,SNR=7.9						
EALK				S	S	05 38 30.4	-10
	10nm,0.7s,SNR=7.9						

NEIC ***18*** *05:37:35.3, 38.96S×175.14E, h213km, MG4.0(WEL), After WEL.*

WEL 18 05:37:35.2±0.2, 38.94S×175.16E, h213km±1km, ML3.9/6, 2C, Error ellipse: s-maj=3.0km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.26**	**121**	PN	P	05 38 02.9	-0.6
TWVZ				SN	S	05 38 24.4	-0.9
VRZ	**Vera Road**	**0.36**	**239**	P	P	05 38 02.8	-0.9
VRZ	**Vera Road**	**0.36**	**239**	PN	P	05 38 02.8	-0.9
VRZ				SN	S	05 38 24.3	-1.5
PKVZ	**Pokaka**	**0.38**	**157**	PN	P	05 38 03.3	-0.5
PKVZ				SN	S	05 38 24.9	-1.0
WTVZ	**West Tongariro**	**0.38**	**118**	P	P	05 38 03.5	-0.3
WTVZ				S	S	05 38 24.6	-1.3
WTVZ	**West Tongariro**	**0.38**	**118**	PN	P	05 38 03.5	-0.3
WTVZ				SN	S	05 38 24.6	-1.3
CNZ	**Chateau**	**0.40**	**131**	P	P	05 38 03.6	-0.2
CNZ	**Chateau**	**0.40**	**131**	PN	P	05 38 03.6	-0.2
WPVZ	**Whakapapa**	**0.41**	**131**	P	P	05 38 03.6	-0.2
WPVZ	**Whakapapa**	**0.41**	**131**	PN	P	05 38 03.6	-0.2
WPVZ				SN	S	05 38 25.2	-0.8
NGZ	**Ngauruhoe**	**0.42**	**125**	P	P	05 38 03.7	-0.2
NGZ	**Ngauruhoe**	**0.42**	**125**	PN	P	05 38 03.7	-0.1
KATZ	**Kakaramea**	**0.42**	**95**	PN	P	05 38 03.4	-0.5
KATZ				SN	S	05 38 24.9	-1.1
FWVZ	**Far West T-bar**	**0.44**	**136**	P	P	05 38 03.9	0.0
FWVZ				S	S	05 38 25.0	-1.2
FWVZ	**Far West T-bar**	**0.44**	**136**	PN	P	05 38 03.9	-0.1
FWVZ				SN	S	05 38 25.0	-1.2
TRVZ	**Turoa**	**0.47**	**140**	PN	P	05 38 03.5	-0.6
TUVZ	**Tukino**	**0.51**	**131**	PN	P	05 38 03.9	-0.3
TUVZ				SN	S	05 38 25.7	-0.9
MTVZ	**Mangateitei**	**0.51**	**151**	PN	P	05 38 04.0	-0.2
MTVZ				SN	S	05 38 25.4	-1.2
WNVZ	**Wahianoa**	**0.52**	**139**	P	P	05 38 04.0	-0.2
WNVZ	**Wahianoa**	**0.52**	**139**	PN	P	05 38 04.0	-0.2
WNVZ				SN	S	05 38 25.8	-0.9
MOVZ	**Moawhango**	**0.66**	**135**	P	P	05 38 04.3	-0.4
MOVZ	**Moawhango**	**0.66**	**135**	PN	P	05 38 04.3	-0.4
MOVZ				SN	S	05 38 25.7	-1.9
WAZ	**Wanganui**	**0.83**	**189**	P	P	05 38 05.4	-0.1
WAZ	**Wanganui**	**0.83**	**189**	PN	P	05 38 05.4	-0.1
WAZ				SN	S	05 38 28.9	-0.2
PKE	**Pukeiti**	**0.94**	**254**	P	P	05 38 05.5	-0.6
PKE	**Pukeiti**	**0.94**	**254**	PN	P	05 38 05.5	-0.6
BKZ	**Black Stump Fm**	**1.07**	**103**	PN	P	05 38 06.4	-0.5
BKZ				SN	S	05 38 29.2	-2.4
TSZ	**Takapari Road**	**1.28**	**151**	*e*P	P	05 38 08.4	-0.2
TSZ	**Takapari Road**	**1.28**	**151**	PN	P	05 38 08.6	0.0
TSZ				SN	S	05 38 33.3	-1.2
URZ	**Urewera**	**1.68**	**67**	P	P	05 38 09.8	-2.2
URZ	**Urewera**	**1.68**	**67**	PN	P	05 38 09.8	-2.1
URZ				SN	S	05 38 36.2	-4.1
MRZ	**Mangatainoka R**	**1.75**	**169**	⇑P	P	05 38 12.1	-0.6
MRZ	**Mangatainoka R**	**1.75**	**169**	⇑PN	P	05 38 12.1	-0.6
MRZ				SN	S	05 38 38.9	-2.7
KIW	**Kapiti Island**	**1.93**	**186**	P	P	05 38 13.5	-0.9
KIW	**Kapiti Island**	**1.93**	**186**	PN	P	05 38 13.5	-0.9
BFZ	**Birch Farm**	**1.93**	**155**	*e*P	P	05 38 13.7	-0.7
BFZ	**Birch Farm**	**1.93**	**155**	PN	P	05 38 13.7	-0.6
MWZ	**Matawai**	**1.95**	**73**	P	P	05 38 12.8	-1.8
MWZ	**Matawai**	**1.95**	**73**	PN	P	05 38 12.8	-1.8
KNZ	**Kokohu**	**1.96**	**93**	*e*P	P	05 38 13.8	-0.9
KNZ	**Kokohu**	**1.96**	**93**	PN	P	05 38 13.8	-0.9
DUWZ	**D'Urville Isla**	**2.09**	**207**	PN	P	05 38 14.6	-1.3
CAW	**Cannon Point**	**2.17**	**182**	P	P	05 38 15.8	-1.0
CAW	**Cannon Point**	**2.17**	**182**	PN	P	05 38 15.8	-1.0
CAW				SN	S	05 38 46.4	-2.5
MTW	**Mount Morrison**	**2.23**	**173**	P	P	05 38 16.3	-1.2
MTW	**Mount Morrison**	**2.23**	**173**	PN	P	05 38 16.3	-1.2
MRW	**Makara Radio**	**2.31**	**189**	P	P	05 38 17.1	-1.2
MRW	**Makara Radio**	**2.31**	**189**	PN	P	05 38 17.1	-1.3
MRW				SN	S	05 38 49.3	-2.4
WEL	**Wellington**	**2.36**	**187**	P	P	05 38 17.6	-1.3
WEL	**Wellington**	**2.36**	**187**	PN	P	05 38 17.6	-1.3
SNZO	**South Karori**	**2.39**	**188**	P	P	05 38 17.6	-1.6
SNZO	**South Karori**	**2.39**	**188**	PN	P	05 38 17.6	-1.6
PAWZ	**Paruwai Farm**	**2.45**	**175**	PN	P	05 38 18.5	-1.3
PAWZ				SN	S	05 38 52.0	-2.3
MSWZ	**Moikau Station**	**2.48**	**178**	P	P	05 38 18.6	-1.5
MSWZ	**Moikau Station**	**2.48**	**178**	PN	P	05 38 18.6	-1.5
MSWZ				SN	S	05 38 52.0	-2.8
BHW	**Baring Head**	**2.48**	**185**	P	P	05 38 18.5	-1.6
BHW	**Baring Head**	**2.48**	**185**	PN	P	05 38 18.7	-1.4
PUZ	**Puketiti**	**2.58**	**71**	P	P	05 38 18.8	-2.5
NNZ	**Nelson**	**2.65**	**210**	P	P	05 38 19.9	-2.1
QRZ	**Quartz Range**	**2.76**	**226**	P	P	05 38 20.4	-2.9
BSWZ	**Blackbirch Sta**	**2.94**	**199**	P	P	05 38 23.8	-1.5
THZ	**Tophouse**	**3.31**	**211**	*e*P	P	05 38 26.8	-2.8
KHZ	**Kahutara**	**3.69**	**199**	P	P	05 38 31.9	-2.3
LTZ	**Lake Taylor**	**4.42**	**209**	*e*P	P	05 38 40.2	-3.0
MQZ	**McQueen's Vall**	**5.12**	**201**	*e*P	P	05 38 47.9	-4.2

NIED ***18*** *05:54:00, 35.70N×140.80E, h53km, Mw3.9 Best double couple: M0 7.73×10^14 NP1:φs25°, δ69°, λ92°. NP2:φs200°, δ21°, λ86°.*
JMA ***18*** *05:54:13.4±0.1, 35.73N×140.70E, h51km±1km, M3.2*
JMA Felt I J1.
IDC ***18*** *05:54:18.5±2.6, 35.52N×140.69E, h95km±28km, mb3.1/4, mb1 3.3/5, mb1mx3.2/23, mbtmp3.5/5, Error ellipse: s-maj=36.3km s-min=23.5km az=105.0*

ISC 18 05:54:13.3±0.6, 35.75N±0.04×140.74E±0.07, h52km±5km, n16, σ0 64/22, mb3.5/4, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.11**	**114**	⇑P	**P**	**05 54 21.3**	**-0.1**
CHOJ				S	**S**	**05 54 27.1**	**-0.2**
JCN	**Nagara**	**0.55**	**233**	⇑P	**P**	**05 54 25.3**	**0.0**
JCN				S	**S**	**05 54 34.5**	**+0.5**
JYT	**Yasato**	**0.65**	**318**	⇓P	**P**	**05 54 26.6**	**+0.1**
JYT				S	**S**	**05 54 35.5**	**-0.8**
BSO4	**Boso 4**	**0.82**	**203**	P	**P**	**05 54 28.7**	**-0.1**
JHO	**Hitachi**	**0.87**	**351**	⇓P	**P**	**05 54 30.3**	**+0.8**
BSO3	**Boso 3**	**0.96**	**191**	P	**P**	**05 54 30.3**	**-0.5**
BSO1	**Boso 1**	**1.11**	**170**	P	**P**	**05 54 32.9**	**+0.1**
BSO1				S	**S**	**05 54 48.0**	**+0.7**
JAG	**Ashikaga**	**1.24**	**303**	⇓P	**P**	**05 54 34.5**	**-0.2**
JOD2	**Odawara 2**	**1.43**	**251**	P	**P**	**05 54 36.7**	**-0.7**
JIM2	**Oshima 3**	**1.48**	**226**	P	**P**	**05 54 36.6**	**-1.6**
MAT	**Matsushiro**	**2.19**	**292**	P	**P**	**05 54 48.8**	**+0.7**
MAT				*e*S	**S**	**05 55 15.0**	**+0.9**
JHJ	**Hachijo jima 2**	**2.74**	**197**	P	**P**	**05 54 56.6**	**+0.8**
	25nm,0.3s,baz=254,slow=12,SNR=4.6						
JHJ				S	**S**	**05 55 28.0**	**+0.1**
	72nm,0.3s,baz=92,slow=24,SNR=17						
MKAR	**Makanchi Array**	**44.35**	**303**	P	**P**	**06 02 19.8**	**-0.1**
	0.5nm,0.5s,mb3.5						
ILAR	**Eielson Array**	**50.87**	**32**	P	**P**	**06 03 10.8**	**+0.2**
	0.4nm,0.7s,mb3.4,baz=268,slow=5.9,SNR=8.1						
WRA	**Warramunga Arr**	**55.72**	**187**	P	**P**	**06 03 43.3**	**-3.7**
	0.3nm,0.4s,mb3.7,baz=1.1,slow=7.4,SNR=6.0						
YKA	**Yellowknife Ar**	**65.19**	**30**	P	**P**	**06 04 50.7**	**-0.2**
	0.2nm,0.7s,mb3.2,baz=302,slow=6.5,SNR=5.2						

IDC 18 05:59:58.0±3.4, 30.59S×138.11E, mb1 3.5/4, mb1mx3.4/13, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=80.3km s-min=15.2km az=38.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.25**	**114**	Pn	Pn	06 00 50.3	-1.0
	0.3nm,0.3s,baz=296,slow=13,SNR=10						
STKA				Pg	Pg	06 00 58.6	-4.3
	1.1nm,0.3s,baz=296,slow=12,SNR=14						
STKA				Sn	Sn	06 01 29.3	-2.0
	2.4nm,0.3s,baz=7.1,slow=22,SNR=7.1						
STKA				Lg		06 01 40.6	
	3.8nm,0.3s,baz=7.1,slow=20,SNR=7.0						
ASAR	**Alice Springs**	**7.84**	**331**	Pn	Pn	06 01 54.1	-2.0
	0.1nm,0.3s,baz=151,slow=12,SNR=6.2						
ASAR				Sn	Sn	06 03 23.7	-3.0
	0.2nm,0.3s,baz=151,slow=22,SNR=5.2						
ASAR				Lg		06 04 25.2	
	0.1nm,0.3s,baz=175,slow=30,SNR=3.1						
WRA	**Warramunga Arr**	**11.13**	**341**	Pn	P	06 02 39.0	-2.6
	0.1nm,0.3s,baz=153,slow=14,SNR=9.0						
FITZ	**Fitzroy Crossi**	**16.82**	**315**	Pn	P	06 03 53.4	-3.1
	0.2nm,0.3s,baz=234,slow=1.4,SNR=3.1						

IDC 18 06:06:14.9±2.5, 5.16N×93.02E, mb3.9/4, mb1 4.1/5, mb1mx3.7/21, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=93.3km s-min=27.5km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.43**	**23**	Pn	P	06 09 40.4	-2.2
	0.3nm,0.3s,baz=214,slow=14,SNR=4.8						
MKAR	**Makanchi Array**	**42.50**	**349**	P	P	06 14 11.9	-1.7
	0.7nm,0.5s						
WRA	**Warramunga Arr**	**47.67**	**123**	P	P	06 14 53.3	-2.0
	1.0nm,0.6s,baz=302,slow=9.0,SNR=6.9						
ZAL	**Zalesovo**	**49.09**	**354**	P	P	06 15 04.2	-1.7
	0.7nm,0.3s,baz=116,slow=5.2,SNR=3.2						
BVAR	**Borovoye Array**	**51.21**	**343**	P	P	06 15 19.6	-2.5
	0.3nm,0.3s,baz=146,slow=10,SNR=3.1						

NEIC ***18*** *06:16:09.6, 39.51S×179.60E, h33km, ML3.7(WEL), After WEL.*

WEL 18 06:16:09.8±0.5, 39.51S×179.56E, h33km, ML3.7/22, Error ellipse: s-maj=4.6km s-min=2.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**1.54**	**288**	*e*P	P	06 16 34.8	-0.5
KNZ	**Kokohu**	**1.54**	**288**	*e*PN	Pn	06 16 34.8	-0.6
PUZ	**Puketiti**	**1.76**	**324**	P	P	06 16 36.6	-1.7
PUZ				S	S	06 16 58.1	-1.6
PUZ	**Puketiti**	**1.76**	**324**	PN	Pn	06 16 36.6	-1.8
PUZ				SN	Sn	06 16 58.4	-1.5
MWZ	**Matawai**	**1.97**	**306**	P	P	06 16 40.6	-0.8
MWZ				S	S	06 17 03.6	-1.5
MWZ	**Matawai**	**1.97**	**306**	PN	Pn	06 16 40.4	-1.1
MWZ				SN	Sn	06 17 03.1	-2.2
MWZ				SN	Sn	06 17 03.2	-2.2
PWZ	**Pawanui**	**2.15**	**255**	P	P	06 16 42.3	-1.6
PWZ	**Pawanui**	**2.15**	**255**	PN	Pn	06 16 42.3	-1.8
PWZ				SN	Sn	06 17 07.7	-2.2
MXZ	**Matakaoa Point**	**2.17**	**333**	*e*P	P	06 16 42.9	-1.4
MXZ	**Matakaoa Point**	**2.17**	**333**	PN	Pn	06 16 42.9	-1.6
URZ	**Urewera**	**2.28**	**302**	P	P	06 16 45.0	-0.8
URZ	**Urewera**	**2.28**	**302**	PN	Pn	06 16 45.0	-1.1
URZ				SN	Sn	06 17 11.0	-2.3
BKZ	**Black Stump Fm**	**2.41**	**277**	*e*P	P	06 16 47.0	-0.6
BKZ				S	S	06 17 13.1	-3.1
BKZ	**Black Stump Fm**	**2.41**	**277**	PN	Pn	06 16 46.9	-0.9
BKZ				SN	Sn	06 17 12.4	-4.0
BFZ	**Birch Farm**	**2.80**	**244**	P	P	06 16 50.9	-2.4
BFZ	**Birch Farm**	**2.80**	**244**	PN	Pn	06 16 50.9	-2.5
TSZ	**Takapari Road**	**2.83**	**258**	P	P	06 16 52.4	-1.3
TSZ				S	S	06 17 22.7	-4.3
TSZ	**Takapari Road**	**2.83**	**258**	PN	Pn	06 16 52.4	-1.4
TSZ				SN	Sn	06 17 22.7	-4.5
MOVZ	**Moawhango**	**2.95**	**271**	P	P	06 16 55.4	0.0
MOVZ	**Moawhango**	**2.95**	**271**	*e*PN	Pn	06 16 54.8	-0.8
MOVZ				SN	Sn	06 17 26.9	-3.4
TUVZ	**Tukino**	**3.04**	**273**	P	P	06 16 56.6	0.0
TUVZ	**Tukino**	**3.04**	**273**	PN	Pn	06 16 56.9	+0.1
WNVZ	**Wahianoa**	**3.08**	**272**	P	P	06 16 57.5	+0.3
WNVZ	**Wahianoa**	**3.08**	**272**	*e*PN	Pn	06 16 57.1	-0.2
WNVZ				SN	Sn	06 17 31.9	-1.4
NGZ	**Ngauruhoe**	**3.09**	**275**	P	P	06 16 57.3	-0.1
NGZ	**Ngauruhoe**	**3.09**	**275**	PN	Pn	06 16 57.3	-0.2
FWVZ	**Far West T-bar**	**3.12**	**273**	*e*P	P	06 16 57.8	0.0
FWVZ	**Far West T-bar**	**3.12**	**273**	PN	Pn	06 16 57.6	-0.3
CNZ	**Chateau**	**3.13**	**274**	P	P	06 16 57.6	-0.3
CNZ	**Chateau**	**3.13**	**274**	PN	Pn	06 16 57.6	-0.5
WPVZ	**Whakapapa**	**3.13**	**274**	P	P	06 16 57.8	-0.1
WPVZ	**Whakapapa**	**3.13**	**274**	PN	Pn	06 16 57.8	-0.2
MTVZ	**Mangateitei**	**3.17**	**271**	PN	Pn	06 16 58.6	0.0
MRZ	**Mangatainoka R**	**3.27**	**248**	P	P	06 16 57.4	-2.5
MRZ				S	S	06 17 33.3	-4.8
MRZ	**Mangatainoka R**	**3.27**	**248**	PN	Pn	06 16 57.4	-2.6
MRZ				SN	Sn	06 17 33.3	-4.9
MTW	**Mount Morrison**	**3.52**	**241**	P	P	06 16 59.9	-3.5
MTW	**Mount Morrison**	**3.52**	**241**	PN	Pn	06 16 59.9	-3.6
WAZ	**Wanganui**	**3.54**	**264**	*e*P	P	06 17 04.0	+0.2
WAZ	**Wanganui**	**3.54**	**264**	PN	Pn	06 17 04.0	0.0
CAW	**Cannon Point**	**3.79**	**244**	P	P	06 17 04.1	-3.2
CAW	**Cannon Point**	**3.79**	**244**	PN	Pn	06 17 04.0	-3.5
KIW	**Kapiti Island**	**3.81**	**248**	P	P	06 17 04.8	-2.8
KIW	**Kapiti Island**	**3.81**	**248**	PN	Pn	06 17 04.8	-3.0
MRW	**Makara Radio**	**4.09**	**244**	P	P	06 17 07.9	-3.7
PKE	**Pukeiti**	**4.33**	**272**	P	P	06 17 15.2	+0.2
NNZ	**Nelson**	**5.02**	**248**	*e*P	P	06 17 21.4	-3.4
KHZ	**Kahutara**	**5.41**	**236**	*e*P	P	06 17 24.8	-5.4
THZ	**Tophouse**	**5.54**	**244**	*e*P	P	06 17 26.8	-5.3
QRZ	**Quartz Range**	**5.55**	**254**	*e*P	P	06 17 28.8	-3.3
DSZ	**Denniston Nort**	**6.31**	**247**	*e*P	P	06 17 37.7	-5.2
LTZ	**Lake Taylor**	**6.41**	**237**	*e*P	P	06 17 40.0	-4.2

DJA 18 06:30:25.2±0.9, 9.47S×116.14E, h15km, MD4.8/2, ML4.1/2, 2C-4D, Error ellipse: s-maj=19.8km s-min=12.0km az=138.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.96**	**321**	⇓*e*Pg	Pg	06 30 42.0	-2.5
	192nm,0.2s						
RATI				⇑*e*Sg	Sg	06 30 53.4	-3.9
KEDI	**Kedomdong**	**0.98**	**358**	⇓*e*Pg	Pg	06 30 42.7	-2.2
	380nm,0.2s						
KEDI				⇓*e*Sg	Sg	06 30 55.6	-2.5
SRDI	**Scrawed**	**2.21**	**296**	⇑*e*Pn	Pn	06 30 59.1	-2.8
SRDI				⇓*e*Sn	Sn	06 31 25.4	-3.7

IDC ***18*** *06:40:55.9±2.6, 1.83N×97.48E, mb3.8/5, mb1 4.0/6, mb1mx3.8/20, mbtmp3.8/6, Error ellipse: s-maj=119.2km s-min=20.3km az=56.0*
NEIC ***18*** *06:41:00.7±0.9, 1.92N×97.62E, h30km, mb4.0/1, Error ellipse: s-maj=23.9km s-min=11.7km az=66.0*

ISC 18 06:40:58.5±1.1, 1.9N±0.1×97.6E±0.2, h30km, n8, σ0 57/8, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.55**	**43**	*e*P	**Pn**	**06 42 07.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**16.49**	**5**	Pn	**P**	**06 44 49.2**	**-0.3**
	baz=198,slow=11,SNR=5.7						
WRA	**Warramunga Arr**	**42.11**	**123**	P	**P**	**06 48 49.6**	**-0.5**
	1.5nm,0.7s,mb3.8,baz=302,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**42.12**	**123**	*e*P	**P**	**06 48 49.5**	**-0.6**
	1.6nm,0.6s,mb3.8						
ASAR	**Alice Springs**	**43.54**	**128**	P	**P**	**06 49 02.6**	**+0.9**
	0.2nm,0.4s,mb3.2,baz=291,slow=7.1,SNR=3.6						
MKAR	**Makanchi Array**	**46.64**	**346**	P	**P**	**06 49 27.0**	**+0.9**
	0.9nm,0.6s,mb3.9						
ZAL	**Zalesovo**	**52.91**	**351**	P	**P**	**06 50 14.0**	**-0.1**
	1.6nm,0.4s,mb4.3,baz=295,slow=3.9,SNR=3.9						
BVAR	**Borovoye Array**	**55.70**	**340**	P	**P**	**06 50 34.0**	**-0.5**
	0.9nm,0.5s,mb4.0,baz=149,slow=8.4,SNR=5.7						

MOS ***18*** *06:42:46.8±1.4, 45.93N×1.42W, h10km, mb5.2/2, Error ellipse: s-maj=5.4km s-min=4.5km az=53.8*
BJI ***18*** *06:42:47.3, 46.19N×1.81W, h13km, mB5.0, mb4.9, Ms4.7, Msz5.0*
IDC ***18*** *06:42:48.3±1.9, 45.90N×1.49W, mb3.9/2, mb1 4.1/5, mb1mx3.6/24, mbtmp3.9/5, ML4.2/3, MS3.3/2, Ms1 3.3/2, ms1mx2.6/31, Error ellipse: s-maj=31.2km s-min=17.6km az=137.0*
STR

RJF *eSg* **Sn** **06 43 55.0 +3.8**
1µm,0.3s
QUIF **Quistinic** **2.32 332** *ePn* **Pn** **06 43 28.2 +2.6**
QUIF *ePg* **Pn** **06 43 32.2 +6.6**
QUIF *eSg* **Sn** **06 44 01.5 +7.9**
457nm,0.2s
QUIF **Quistinic** **2.32 332** Pn **Pn** **06 43 27.8 +2.2**
QUIF Sn **Sn** **06 43 54.3 +0.7**
QUIF **Quistinic** **2.32 332** Pn **Pn** **06 43 28.2 +2.6**
QUIF Pg **Pn** **06 43 32.2 +6.6**
QUIF Sn **Sn** **06 43 54.3 +0.7**
159nm,0.3s
QUIF **Quistinic** **2.32 332** *ePg* **Pn** **06 43 32.2 +6.6**
QUIF Sn **Sn** **06 43 54.3 +0.7**
159nm,0.3s
QUIF *eSg* **Sn** **06 44 01.5 +7.9**
228nm,0.2s
SGMF **Saint Gilles** **2.48 344** *ePn* **Pn** **06 43 29.0 +1.2**
SGMF *ePg* **Pn** **06 43 35.2 +7.4**
SGMF *eSg* **Sn** **06 44 04.8 +7.2**
2µm,0.4s
SGMF **Saint Gilles** **2.48 344** Pn **Pn** **06 43 29.3 +1.5**
GRR **Gorron** **2.56 10** *ePn* **Pn** **06 43 29.3 +0.3**
GRR *ePg* **Pn** **06 43 35.2 +6.2**
GRR *eSg* **Sn** **06 44 05.4 +5.8**
2µm,0.6s
GRR **Gorron** **2.56 10** Pn **Pn** **06 43 29.3 +0.3**
GRR Sn **Sn** **06 43 56.9 -2.7**
GRR **Gorron** **2.56 10** Pn **Pn** **06 43 29.3 +0.3**
GRR Pg **Pn** **06 43 35.2 +6.2**
GRR Sn **Sn** **06 43 56.9 -2.7**
GRR **Gorron** **2.56 10** *ePg* **Pn** **06 43 35.2 +6.2**
GRR Sn **Sn** **06 43 56.9 -2.7**
GRR *eSg* **Sn** **06 44 05.4 +5.8**
1µm,0.6s
OSSF **Osses** **2.63 175** Pn **Pn** **06 43 31.8 +1.8**
TCF **Toulx Ste Croi** **2.65 80** *ePn* **Pn** **06 43 30.1 -0.2**
TCF *ePg* **Pn** **06 43 37.1 +6.8**
TCF *eSg* **Sn** **06 44 08.6 +6.7**
949nm,0.2s
TCF **Toulx Ste Croi** **2.65 80** Pn **Pn** **06 43 30.3 0.0**
TCF Sn **Sn** **06 43 57.4 -4.5**
TCF Lg 06 44 06.9
TCF **Toulx Ste Croi** **2.65 80** *ePg* **Pn** **06 43 37.1 +6.8**
TCF Sn **Sn** **06 43 57.4 -4.5**
TCF *eSg* **Sn** **06 44 08.6 +6.7**
475nm,0.2s
EALK **Alkurruntz** **2.66 179** Pn **Pn** **06 43 32.5 +2.1**
EALK Pg **Pn** **06 43 39.8 +9.4**
EALK Sn **Sn** **06 44 02.7 +0.6**
EALK Lg 06 44 14.5
EALK **Alkurruntz** **2.66 179** Pn **Pn** **06 43 32.2 +1.8**
5.9nm,0.2s,SNR=28
EALK Pg **Pn** **06 43 39.8 +9.4**
151nm,0.3s,SNR=29
EALK Sn **Sn** **06 44 03.5 +1.4**
244nm,0.4s,SNR=4.0
EALK Lg 06 44 15.8
1µm,0.6s,SNR=10
EALK **Alkurruntz** **2.66 179** Pn **Pn** **06 43 32.5 +2.1**
5.9nm,0.2s,SNR=28
EALK **Alkurruntz** **2.66 179** Pg **Pn** **06 43 39.8 +9.4**
151nm,0.3s,SNR=29
EALK Sn **Sn** **06 44 02.7 +0.6**
244nm,0.4s,SNR=4.0
ORDF **Ordiarp** **2.70 170** Pn **Pn** **06 43 32.2 +1.2**
ORDF Pg **Pn** **06 43 41.0 +10**
ELIZ **Elizondo** **2.71 180** Pn **Pn** **06 43 33.2 +2.0**
ELIZ Pg **Pn** **06 43 40.5 +9.3**
ELIZ Lg 06 44 16.2
ELIZ **Elizondo** **2.71 180** Pn **Pn** **06 43 33.2 +2.0**
9.7nm,0.2s,SNR=36
ELIZ Pg **Pn** **06 43 40.5 +9.3**
91nm,0.4s,SNR=30
ELIZ Sn **Sn** **06 44 05.6 +2.1**
SNR=7.9
ELIZ Lg 06 44 17.6
266nm,0.3s,SNR=9.7
CAF **Calviac** **2.72 109** *ePn* **Pn** **06 43 31.9 +0.6**
CAF *ePg* **Pn** **06 43 38.3 +7.0**
CAF *eSg* **Sn** **06 44 10.1 +6.4**
1µm,0.2s
CAF **Calviac** **2.72 109** Pn **Pn** **06 43 32.3 +1.0**
CAF Sn **Sn** **06 44 00.4 -3.3**
CAF Lg 06 44 11.4
CAF **Calviac** **2.72 109** Pn **Pn** **06 43 31.9 +0.6**
CAF Pg **Pn** **06 43 38.3 +7.0**
CAF Sn **Sn** **06 44 00.4 -3.3**
CAF **Calviac** **2.72 109** *ePg* **Pn** **06 43 38.3 +7.0**
CAF Sn **Sn** **06 44 00.4 -3.3**
CAF *eSg* **Sn** **06 44 10.1 +6.4**
522nm,0.2s
ROSF **Rostrenen** **2.73 335** *ePn* **Pn** **06 43 33.3 +1.9**
ROSF *ePg* **Pn** **06 43 40.1 +8.7**
ROSF *eSg* **Sn** **06 44 14.5 +11**
831nm,0.4s
ROSF **Rostrenen** **2.73 335** Pn **Pn** **06 43 33.8 +2.4**
ROSF Sn **Sn** **06 44 03.9 0.0**
ROSF **Rostrenen** **2.73 335** Pn **Pn** **06 43 33.3 +1.9**
ROSF Pg **Pn** **06 43 40.1 +8.7**
ROSF Sn **Sn** **06 44 03.9 0.0**
ROSF **Rostrenen** **2.73 335** *ePg* **Pn** **06 43 40.1 +8.7**
ROSF Sn **Sn** **06 44 03.9 0.0**
ROSF *eSg* **Sn** **06 44 14.5 +11**
416nm,0.4s
SJPF **Ste Jean** **2.77 175** *ePn* **Pn** **06 43 33.3 +1.3**
SJPF *ePg* **Pn** **06 43 41.5 +9.5**
SJPF *eSg* **Sn** **06 44 16.3 +11**
509nm,0.2s
SJPF **Ste Jean** **2.77 175** Pn **Pn** **06 43 32.3 +0.3**
VERF **Verneugheol** **2.82 91** Pn **Pn** **06 43 32.8 0.0**
LARF **Larrau** **2.87 172** Pn **Pn** **06 43 34.1 +0.7**
LARF Pg **Pn** **06 43 44.2 +11**
LDF **La Druitiere** **2.89 19** *ePn* **Pn** **06 43 33.5 -0.2**
LDF *ePg* **Pn** **06 43 40.0 +6.3**
LDF *eSn* **Sn** **06 44 05.5 -2.5**
LDF *eSg* **Sn** **06 44 15.3 +7.3**
2µm,0.5s
LDF **La Druitiere** **2.89 19** *eP* **Pn** **06 43 33.5 -0.2**
LDF *e* 06 44 05.5
FRNF **Fournols** **2.93 98** Pn **Pn** **06 43 34.4 +0.1**
ELAN **Lanestosa** **2.97 208** ⅊Pn **Pn** **06 43 37.2 +2.4**
17nm,0.2s,SNR=18
ELAN Pg **Pn** **06 43 44.8 +10**
46nm,0.3s,SNR=16
ELAN Sn **Sn** **06 44 11.1 +1.1**
126nm,0.2s,SNR=5.0
ELAN **Lanestosa** **2.97 208** Pn **Pn** **06 43 37.2 +2.4**
17nm,0.2s,SNR=18
ELAN **Lanestosa** **2.97 208** Pg **Pn** **06 43 44.8 +10**
46nm,0.3s,SNR=16
ELAN Sn **Sn** **06 44 11.1 +1.1**
126nm,0.2s,SNR=5.0
FLN **La Foliniere** **2.98 14** *ePn* **Pn** **06 43 34.6 -0.4**
baz=192
FLN *ePg* **Pn** **06 43 41.7 +6.7**
FLN *eSn* **Sn** **06 44 05.5 -4.8**
FLN *eSg* **Sn** **06 44 18.3 +8.0**
2µm,0.6s,baz=206
FLN **La Foliniere** **2.98 14** Pn **Pn** **06 43 34.3 -0.7**
LABF **Labassere** **3.06 157** Pn **Pn** **06 43 36.8 +0.7**
LABF Pg **Pn** **06 43 46.3 +10**
ETSF **Etsaut** **3.06 166** *ePn* **Pn** **06 43 36.5 +0.4**
ETSF *ePg* **Pn** **06 43 46.3 +10**
ETSF *eSg* **Sn** **06 44 26.5 +14**
454nm,0.4s
ETSF **Etsaut** **3.06 166** Pn **Pn** **06 43 36.8 +0.7**
BGF **Bois d'Agland** **3.13 76** *ePn* **Pn** **06 43 36.4 -0.7**
BGF *ePg* **Pn** **06 43 45.6 +8.5**
BGF *eSn* **Sn** **06 44 09.9 -4.1**
BGF *eSg* **Sn** **06 44 22.0 +8.0**
BGF **Bois d'Agland** **3.13 76** P **Pn** **06 43 36.8 -0.3**
BGF 06 44 08.4
BGF **Bois d'Agland** **3.13 76** Pn **Pn** **06 43 36.8 -0.3**
BGF Pg **Pn** **06 43 46.3 +9.2**
BGF Sn **Sn** **06 44 08.4 -5.6**
BGF **Bois d'Agland** **3.13 76** *ePg* **Pn** **06 43 45.6 +8.5**
BGF Sn **Sn** **06 44 08.4 -5.6**
BGF *eSg* **Sn** **06 44 22.0 +8.0**
FDAF **Les Forges d'A** **3.14 167** Pn **Pn** **06 43 37.1 -0.1**
EPF **Esparros** **3.15 154** *ePn* **Pn** **06 43 38.0 +0.6**
EPF *ePg* **Pn** **06 43 47.5 +10**
EPF *eSg* **Sn** **06 44 27.9 +13**
988nm,0.4s
EPF **Esparros** **3.15 154** Pn **Pn** **06 43 38.3 +0.9**
EPF Pg **Pn** **06 43 47.3 +10**
EPF Lg 06 44 29.0
PYM **Petit Puy Mans** **3.19 91** Pn **Pn** **06 43 39.1 +1.1**
HYF **Humbligny** **3.21 63** *ePn* **Pn** **06 43 38.0 -0.2**
HYF *ePg* **Pn** **06 43 46.9 +8.7**
HYF *eSn* **Sn** **06 44 12.9 -3.2**
HYF *eSg* **Sn** **06 44 27.8 +12**
AGO **Saint Agoulin** **3.27 85** Pn **Pn** **06 43 39.8 +0.7**
ECRI **Cripan** **3.34 192** P **Pn** **06 43 42.0 +1.9**
ECRI 06 44 20.5
ECRI **Cripan** **3.34 192** Pn **Pn** **06 43 42.0 +1.9**
ECRI Pg **Pn** **06 43 52.4 +12**
ECRI Sn **Sn** **06 44 20.5 +1.2**
ECRI Lg 06 44 33.9
ECRI **Cripan** **3.34 192** Pn **Pn** **06 43 42.0 +1.9**
9.8nm,0.3s,SNR=6.2
ECRI Pg **Pn** **06 43 52.4 +12**
48nm,0.5s,SNR=13
ECRI Sn **Sn** **06 44 20.5 +1.2**
44nm,0.3s,SNR=5.7
RESF **Ens** **3.35 155** Pg **Pn** **06 43 51.6 +11**
EBIE **Bielsa** **3.41 159** Pn **Pn** **06 43 42.2 +1.1**
EBIE Pg **Pn** **06 43 52.5 +11**
EBIE Sn **Sn** **06 44 21.4 +0.2**
EBIE Lg 06 44 36.1
EBIE **Bielsa** **3.41 159** Pn **Pn** **06 43 42.2 +1.1**
8.6nm,0.2s,SNR=28
EBIE Pg **Pn** **06 43 52.5 +11**
53nm,0.2s,SNR=22
EBIE Sn **Sn** **06 44 21.4 +0.2**
88nm,0.2s,SNR=6.2
EBIE Lg 06 44 40.1
206nm,0.3s,SNR=5.8
EBIE **Bielsa** **3.41 159** Pn **Pn** **06 43 42.2 +1.1**
8.6nm,0.2s,SNR=28
EBIE **Bielsa** **3.41 159** Pg **Pn** **06 43 52.5 +11**
53nm,0.2s,SNR=22
EBIE Sn **Sn** **06 44 21.4 +0.2**
88nm,0.2s,SNR=6.2
MELF **Melles** **3.43 150** Pn **Pn** **06 43 41.5 +0.1**
MELF Pg **Pn** **06 43 52.8 +11**
LBL **Lubilhac** **3.43 99** Pn **Pn** **06 43 42.6 +1.2**
MLS **Moulis** **3.48 146** Pn **Pn** **06 43 43.7 +1.6**
MLS Pg **Pn** **06 43 53.3 +11**
AVF **Avril sur Loir** **3.52 73** *ePn* **Pn** **06 43 41.4 -1.2**
AVF *ePg* **Pn** **06 43 52.3 +10**
AVF *eSn* **Sn** **06 44 18.1 -5.8**
AVF *eSg* **Sn** **06 44 34.9 +11**
814nm,0.5s
AVF **Avril sur Loir** **3.52 73** Pn **Pn** **06 43 41.8 -0.8**
PLDF **La Plantade** **3.61 87** Pn **Pn** **06 43 44.3 +0.3**
EARI **Arriondas** **3.67 227** Pn **Pn** **06 43 46.3 +1.5**
EARI Sn **Sn** **06 44 27.7 0.0**
EARI **Arriondas** **3.67 227** Pn **Pn** **06 43 46.3 +1.5**
12nm,0.2s,SNR=61
EARI Sn **Sn** **06 44 28.6 +0.9**
18nm,0.1s,SNR=9.8
EARI **Arriondas** **3.67 227** Pn **Pn** **06 43 46.3 +1.5**
12nm,0.2s,SNR=61
EARI Sn **Sn** **06 44 27.7 0.0**
18nm,0.1s,SNR=9.8
SALF **Salau** **3.68 147** Pn **Pn** **06 43 45.5 +0.5**
SALF Pg **Pn** **06 43 57.2 +12**
SSF **Saint Saulge** **3.69 69** *ePn* **Pn** **06 43 43.7 -1.4**
SSF *ePg* **Pn** **06 43 55.5 +10**
SSF *eSn* **Sn** **06 44 24.2 -4.0**
SSF *eSg* **Sn** **06 44 39.4 +11**
513nm,0.3s
SSF **Saint Saulge** **3.69 69** Pn **Pn** **06 43 43.8 -1.3**
COLF **Collangettes** **3.69 94** Pn **Pn** **06 43 44.8 -0.3**
MTLF **Montolieu** **3.70 132** *ePn* **Pn** **06 43 45.5 +0.3**
MTLF *ePg* **Pn** **06 43 56.9 +12**
MTLF *eSn* **Sn** **06 44 25.4 -3.0**
MTLF *eSg* **Sn** **06 44 44.6 +16**
361nm,0.4s
MTLF **Montolieu** **3.70 132** Pn **Pn** **06 43 45.8 +0.6**
SMF **Signal de Mont** **3.82 76** *ePn* **Pn** **06 43 45.6 -1.3**
SMF *ePg* **Pn** **06 43 58.1 +11**
SMF *eSg* **Sn** **06 44 45.5 +14**
411nm,0.3s
SMF **Signal de Mont** **3.82 76** Pn **Pn** **06 43 45.8 -1.1**
SMF Sn **Sn** **06 44 25.9 -5.6**
SMF Lg 06 44 44.5
SMF **Signal de Mont** **3.82 76** Pn **Pn** **06 43 45.6 -1.3**
SMF Pg **Pn** **06 43 58.1 +11**
SMF Sn **Sn** **06 44 25.9 -5.6**
SMF **Signal de Mont** **3.82 76** *ePg* **Pn** **06 43 58.1 +11**
SMF Sn **Sn** **06 44 25.9 -5.6**
SMF *eSg* **Sn** **06 44 45.5 +14**
206nm,0.3s
CARF **Carcanieres** **4.11 139** Pn **Pn** **06 43 51.7 +0.7**
LRDF **Laroque-de-Fa** **4.15 134** Pn **Pn** **06 43 51.9 +0.3**
ESAC **San Caprasio** **4.23 169** Pn **Pn** **06 43 53.8 +1.1**
22nm,0.2s,SNR=8.3
ESAC Pg **Pn** **06 44 08.0 +15**
83nm,0.2s,SNR=12
ESAC Sn **Sn** **06 44 41.5 -0.3**
288nm,0.2s,SNR=6.9
ESAC **San Caprasio** **4.23 169** Pn **Pn** **06 43 53.8 +1.1**
22nm,0.2s,SNR=8.3
ESAC **San Caprasio** **4.23 169** Pg **Pn** **06 44 08.0 +15**
83nm,0.2s,SNR=12
ESAC Sn **Sn** **06 44 41.5 -0.3**
288nm,0.2s,SNR=6.9
LASF **Ste Croix** **4.24 113** *ePn* **Pn** **06 43 52.6 -0.3**
LASF *ePg* **Pn** **06 44 07.1 +14**
LASF *eSn* **Sn** **06 44 38.4 -3.7**
LASF *eSg* **Sn** **06 45 00.1 +18**
601nm,0.6s
LASF **Ste Croix** **4.24 113** Pn **Pn** **06 43 52.8 -0.1**
FILF **Fillols** **4.44 137** Pn **Pn** **06 43 55.3 -0.4**
VIVF **Saint-Julien-l** **4.50 101** *ePn* **Pn** **06 43 56.6 0.0**
VIVF *ePg* **Pn** **06 44 12.2 +16**
VIVF *eSn* **Sn** **06 44 44.3 -4.5**
VIVF *eSg* **Sn** **06 45 06.3 +17**
243nm,0.3s
VIVF **Saint-Julien-l** **4.50 101** *eP* **Pn** **06 43 56.6 0.0**
VIVF *e* 06 44 44.3
SJAF **Saint Jean de** **4.65 135** Pn **Pn** **06 43 58.6 -0.2**
EJON **La Jonquera** **4.68 135** Pn **Pn** **06 43 59.4 +0.3**
EJON Pg **Pn** **06 44 15.4 +16**
EJON Sn **Sn** **06 44 49.0 -4.4**
EJON Lg 06 45 17.0
EJON **La Jonquera** **4.68 135** Pn **Pn** **06 43 59.4 +0.2**
78nm,0.2s,SNR=91
EJON Pg **Pn** **06 44 15.4 +16**
22nm,0.3s,SNR=6.5
EJON Sn **Sn** **06 44 49.0 -4.4**
51nm,0.4s,SNR=4.8
EJON Lg 06 45 18.1
64nm,0.2s,SNR=5.0
EJON **La Jonquera** **4.68 135** Pn **Pn** **06 43 59.4 +0.2**
78nm,0.2s,SNR=91
EJON **La Jonquera** **4.68 135** Pg **Pn** **06 44 15.4 +16**
22nm,0.3s,SNR=6.5
EJON Sn **Sn** **06 44 49.0 -4.4**
51nm,0.4s,SNR=4.8
EPON **Pontenova** **4.74 239** Pn **Pn** **06 44 01.4 +1.4**
EPON Sn **Sn** **06 44 52.4 -2.5**
EPON **Pontenova** **4.74 239** Pn **Pn** **06 44 01.4 +1.4**
12nm,0.1s,SNR=45
EPON Sn **Sn** **06 44 54.4 -0.4**
79nm,0.2s,SNR=5.0
EPON **Pontenova** **4.74 239** Pn **Pn** **06 44 01.4 +1.4**
12nm,0.1s,SNR=45
EPON Sn **Sn** **06 44 52.4 -2.4**
79nm,0.2s,SNR=5.0
EPOB **Poblet** **4.91 156** Pn **Pn** **06 44 02.8 +0.4**
EPOB Pg **Pn** **06 44 19.5 +17**
EPOB Sn **Sn** **06 44 56.3 -2.7**
EPOB Lg 06 45 23.8
EPOB **Poblet** **4.91 156** Pn **Pn** **06 44 02.8 +0.4**
4.1nm,0.2s,SNR=10
EPOB Pg **Pn** **06 44 19.5 +17**
22nm,0.2s,SNR=17
EPOB Sn **Sn** **06 44 56.3 -2.7**
74nm,0.7s,SNR=6.4
EPOB Lg 06 45 26.4
182nm,0.5s,SNR=5.0
EPOB **Poblet** **4.91 156** Pn **Pn** **06 44 02.8 +0.4**
4.1nm,0.2s,SNR=10
EPOB **Poblet** **4.91 156** Pg **Pn** **06 44 19.5 +17**
22nm,0.2s,SNR=17
EPOB Sn **Sn** **06 44 56.3 -2.7**
74nm,0.7s,SNR=6.4
ERTA **Horta de San J** **5.11 164** Pn **Pn** **06 44 06.0 +0.9**
ERTA Pg **Pn** **06 44 23.6 +19**
ERTA Sn **Sn** **06 45 02.5 -1.5**
ERTA Lg 06 45 31.5
ERTA **Horta de San J** **5.11 164** Pn **Pn** **06 44 06.0 +0.9**
4.0nm,0.2s,SNR=5.7
ERTA Pg **Pn** **06 44 23.6 +19**
14nm,0.3s,SNR=6.9
ERTA Sn **Sn** **06 45 01.4 -2.6**
31nm,0.3s,SNR=5.6
ERTA Lg 06 45 33.9
95nm,0.4s,SNR=4.0
ERTA **Horta de San J** **5.11 164** Pn **Pn** **06 44 06.0 +0.9**
4.0nm,0.2s,SNR=5.7
ERTA **Horta de San J** **5.11 164** Pg **Pn** **06 44 23.6 +18**
14nm,0.3s,SNR=6.9
ERTA Sn **Sn** **06 45 02.5 -1.5**
31nm,0.3s,SNR=5.6
MEZF **Maizieres J'vi** **5.21 57** *ePn* **Pn** **06 44 04.5 -2.1**
baz=260
MEZF *ePg* **Pn** **06 44 24.1 +17**
MEZF *eSn* **Sn** **06 45 00.4 -6.2**
MEZF *eSg* Sn 06 45 27.7 +21
396nm,0.7s
MEZF **Maizieres J'vi** **5.21 57** Pn **Pn** **06 44 04.9 -1.7**
MEZF Pg **Pn** **06 44 24.9 +18**
ORIF **Oris-en-Rattie** **5.32 98** *ePn* **Pn** **06 44 08.3 +0.1**
ORIF *eSn* **Sn** **06 45 03.1 -6.3**
ORIF *eSg* Sn 06 45 33.5 +24
434nm,1.0s
ERUA **La Rua** **5.32 231** Pn **Pn** **06 44 09.6 +1.4**
ERUA Sn **Sn** **06 45 07.3 -2.1**
ERUA **La Rua** **5.32 231** Pn **Pn** **06 44 09.6 +1.4**
35nm,0.1s,SNR=28
ERUA Sn **Sn** **06 45 08.2 -1.2**
22nm,0.2s,SNR=5.0
ERUA **La Rua** **5.32 231** Pn **Pn** **06 44 09.6 +1.4**
35nm,0.1s,SNR=28
ERUA Sn **Sn** **06 45 07.3 -2.1**
22nm,0.2s,SNR=5.0
CABF **La Chapelle** **5.35 79** *ePn* **Pn** **06 44 06.7 -1.9**
CABF *ePg* **Pn** **06 44 28.4 +20**
CABF *eSn* **Sn** **06 45 04.2 -5.9**
CABF *eSg* Sn 06 45 33.0 +23
725nm,0.7s
CABF **La Chapelle** **5.35 79** Pn **Pn** **06 44 07.4 -1.2**
CABF Sn **Sn** **06 45 01.1 -9.0**
CABF Lg 06 45 34.2
CABF **La Chapelle** **5.35 79** Pn **Pn** **06 44 06.7 -1.9**
CABF Sn **Sn** **06 45 04.2 -5.9**
CABF **La Chapelle** **5.35 79** P **Pn** **06 44 07.4 -1.2**
CABF **La Chapelle** **5.35 79** *ePg* **Pn** **06 44 28.4 +20**
CABF Sn **Sn** **06 45 01.1 -9.0**
CABF *eSg* Sn 06 45 33.0 +23
363nm,0.7s
SMRF **Simiane la Rot** **5.40 108** *ePn* **Pn** **06 44 08.4 -1.0**
SMRF *ePg* **Pn** **06 44 29.7 +20**
SMRF *eSg* Sn 06 45 37.4 +26
235nm,0.6s
SMRF **Simiane la Rot** **5.40 108** Pn **Pn** **06 44 09.4 0.0**
SMRF Pg **Pn** **06 44 30.0 +21**
SMRF Lg 06 45 34.2
ECAL **Calabor** **5.43 225** Pn **Pn** **06 44 10.5 +0.8**
ECAL Sn **Sn** **06 45 09.2 -3.0**
ECAL **Calabor** **5.43 225** Pn **Pn** **06 44 10.5 +0.8**
10.0nm,0.3s,SNR=21
ECAL Sn **Sn** **06 45 10.8 -1.3**
34nm,0.3s,SNR=5.0
ECAL **Calabor** **5.43 225** Pn **Pn** **06 44 10.5 +0.8**
10.0nm,0.3s,SNR=21
ECAL Sn **Sn** **06 45 09.2 -3.0**
34nm,0.3s,SNR=5.0
RFYF **Reffroy** **5.52 58** *ePn* **Pn** **06 44 08.7 -2.3**
baz=242
RFYF *ePg* **Pn** **06 44 31.5 +21**
RFYF *eSn* **Sn** **06 45 08.3 -6.1**
RFYF *eSg* Sn 06 45 38.0 +24
555nm,0.7s
RFYF **Reffroy** **5.52 58** Pn **Pn** **06 44 08.7 -2.3**
RFYF Sn **Sn** **06 45 08.3 -6.1**
PBRG **Braganca** **5.54 225** Pn **Pn** **06 44 12.1 +0.9**
PBRG Sn **Sn** **06 45 13.0 -1.8**
12nm,0.4s
PBRG **Braganca** **5.54 225** *ePn* **Pn** **06 44 12.1 +0.9**
EMOS **Mosqueruela** **5.56 171** Pn **Pn** **06 44 12.4 +0.8**
EMOS Pg Pn 06 44 32.2 +21
EMOS Sn **Sn** **06 45 12.6 -3.0**
EMOS Lg 06 45 40.4
EMOS **Mosqueruela** **5.56 171** Pn **Pn** **06 44 12.4 +0.8**
1.5nm,0.1s,SNR=5.6
EMOS Pg Pn 06 44 32.2 +21
5.7nm,0.2s,SNR=6.1
EMOS Sn **Sn** **06 45 12.6 -3.0**
46nm,0.4s,SNR=6.2
EMOS **Mosqueruela** **5.56 171** Pn **Pn** **06 44 12.4 +0.8**
1.5nm,0.1s,SNR=5.6
EMOS Sn **Sn** **06 45 12.6 -2.9**
46nm,0.4s,SNR=6.2
GUD **Guadarrama** **5.56 201** Sn **Sn** **06 45 13.4 -2.2**
7.3nm,0.4s,SNR=4.0
GUD **Guadarrama** **5.56 201** Sn **Sn** **06 45 11.8 -3.7**
7.3nm,0.4s,SNR=4.0
THEF **They Montfort** **5.66 63** Pn **Pn** **06 44 10.1 -2.9**
BAIF **Baives** **5.70 41** *ePn* **Pn** **06 44 11.6 -1.9**
BAIF *ePg* **Pn** **06 44 32.3 +19**
BAIF *eSn* **Sn** **06 45 12.3 -6.5**
BAIF *eSg* Sn 06 45 43.4 +25
159nm,0.7s
BAIF **Baives** **5.70 41** Pn **Pn** **06 44 12.4 -1.1**
BAIF Lg 06 45 44.7
HAU **Haudompre** **5.81 66** *ePn* **Pn** **06 44 11.6 -3.5**
HAU *ePg* **Pn** **06 44 34.4 +19**
HAU *eSn* **Sn** **06 45 13.3 -8.4**
HAU *eSg* Sn 06 45 47.6 +26
326nm,0.7s
HAU **Haudompre** **5.81 66** Pn **Pn** **06 44 11.9 -3.2**
HAU Lg 06 45 46.2
LPL **La Plagne** **5.81 91** *ePn* **Pn** **06 44 15.0 -0.1**
LPL *ePg* **Pn** **06 44 35.6 +20**
LPL *eSg* Sn 06 45 47.2 +25
161nm,0.6s
LPL **La Plagne** **5.81 91** *ePn* **Pn** **06 44 15.0 -0.1**
LPL Pg **Pn** **06 44 35.5 +20**
LPL *ePg* **Pn** **06 44 35.6 +20**
LPL Lg 06 45 46.7
LPL *eSg* Sn 06 45 47.2 +25
LPG **La Plagne** **5.83 91** *ePn* **Pn** **06 44 15.1 -0.2**
LPG *ePg* **Pn** **06 44 34.1 +19**
LPG *eSg* Sn 06 45 48.9 +27
161nm,0.6s
STS **Santiago** **5.84 242** Pn **Pn** **06 44 16.6 +1.1**
STS Sn **Sn** **06 45 19.4 -3.0**
STS **Santiago** **5.84 242** Pn **Pn** **06 44 16.6 +1.1**
31nm,0.1s,SNR=12
STS Sn **Sn** **06 45 20.3 -2.1**
22nm,0.2s,SNR=5.6
STS **Santiago** **5.84 242** Pn **Pn** **06 44 16.6 +1.1**
31nm,0.1s,SNR=12
STS Sn **Sn** **06 45 19.4 -3.0**
22nm,0.2s,SNR=5.6
BNI **Bardonecchia** **5.85 95** *ePn* **Pn** **06 44 16.1 +0.5**
MBDF **Montbardon** **5.98 98** *ePn* **Pn** **06 44 17.8 +0.3**
MBDF *eSg* Sn 06 45 53.9 +28
249nm,1.1s
GIVF **Givet** **6.01 43** *ePn* **Pn** **06 44 15.9 -2.1**
GIVF *ePg* Pn 06 44 39.9 +22
GIVF *eSn* **Sn** **06 45 17.9 -8.8**
GIVF *eSg* Sn 06 45 53.9 +27
298nm,0.6s
GIVF **Givet** **6.01 43** Pn **Pn** **06 44 16.4 -1.6**
GIVF Lg 06 45 54.7
GIVF **Givet** **6.01 43** Pn **Pn** **06 44 15.9 -2.1**
GIVF Sn **Sn** **06 45 17.9 -8.8**
GIVF **Givet** **6.01 43** P **Pn** **06 44 16.4 -1.6**
EMAZ **Mazaricos** **6.07 244** Pn **Pn** **06 44 19.6 +0.9**
EMAZ Sn **Sn** **06 45 24.2 -4.0**
EMAZ **Mazaricos** **6.07 244** Pn **Pn** **06 44 19.6 +0.9**
22nm,0.2s,SNR=23
EMAZ Sn **Sn** **06 45 25.7 -2.4**
45nm,0.2s,SNR=5.0
EMAZ **Mazaricos** **6.07 244** Pn **Pn** **06 44 19.6 +0.8**

22nm,0.2s,SNR=23
HINF Hinteralfeld 6.08 68 *e*Pn **Pn 06 44 15.2 -3.7**
HINF *e*Pg Pn 06 44 40.8 +22
HINF *e*Sg Sn 06 45 56.6 +28
179nm,0.4s
HINF Hinteralfeld 6.08 68 Pn **Pn 06 44 15.9 -3.0**
HINF Sn **Sn 06 45 18.1 -10**
HINF Hinteralfeld 6.08 68 *e*Pg Pn 06 44 40.8 +22
HINF Sn **Sn 06 45 18.1 -10**
9.8nm,0.3s
HINF *e*Sg Sn 06 45 56.6 +28
89nm,0.4s
ELOB Lobios 6.18 232 Pn **Pn 06 44 20.8 +0.5**
ELOB Sn **Sn 06 45 27.4 -3.5**
ELOB Lobios 6.18 232 Pn **Pn 06 44 20.8 +0.5**
6.4nm,0.1s,SNR=38
ELOB Sn **Sn 06 45 28.4 -2.5**
27nm,0.3s,SNR=5.8
ELOB Lobios 6.18 232 Pn **Pn 06 44 20.8 +0.5**
6.4nm,0.1s,SNR=38
ELOB Sn **Sn 06 45 27.4 -3.5**
27nm,0.3s,SNR=5.8
MOF Molkenrain 6.27 69 Pn **Pn 06 44 17.7 -3.9**
FRF La Foret Royal 6.28 109 *e*Pn **Pn 06 44 20.7 -1.0**
FRF *e*Sn **Sn 06 45 26.0 -7.5**
FRF *e*Sg Sn 06 46 02.8 +29
205nm,0.9s
FRF La Foret Royal 6.28 109 Pn **Pn 06 44 20.9 -0.8**
FRF Sn **Sn 06 45 25.6 -7.8**
LMR La Mourre 6.29 111 *e*Pn **Pn 06 44 20.0 -1.9**
LMR *e*Pg Pn 06 44 44.6 +23
LMR *e*Sn **Sn 06 45 26.1 -7.5**
LMR *e*Sg Sn 06 46 03.9 +30
111nm,0.9s
LMR La Mourre 6.29 111 *e*Pn **Pn 06 44 20.0 -1.9**
LMR *e*Sn **Sn 06 45 26.1 -7.5**
LMR *e*Sg Sn 06 46 03.9 +30
56nm,0.9s
ECHE Chera 6.30 176 Pn **Pn 06 44 21.4 -0.5**
0.4nm,0.1s,SNR=7.9
ECHE Pg Pn 06 44 45.8 +24
4.4nm,0.4s,SNR=4.0
EZAM Zamans 6.36 237 Pn **Pn 06 44 23.5 +0.7**
EZAM Sn **Sn 06 45 31.8 -3.5**
EZAM Zamans 6.36 237 Pn **Pn 06 44 23.5 +0.7**
3.0nm,0.2s,SNR=6.2
EZAM Sn **Sn 06 45 33.1 -2.2**
38nm,0.5s,SNR=7.2
EZAM Zamans 6.36 237 Pn **Pn 06 44 23.5 +0.7**
3.0nm,0.2s,SNR=6.2
EZAM Sn **Sn 06 45 31.8 -3.5**
38nm,0.5s,SNR=7.2
ECH Echery 6.39 65 Pn **Pn 06 44 19.4 -3.9**
PVRL Vila Real 6.42 226 Pn **Pn 06 44 24.4 +0.8**
PVRL Sn **Sn 06 45 34.3 -2.5**
10nm,0.3s
PVRL Vila Real 6.42 226 *e*Pn **Pn 06 44 24.4 +0.8**
WLF Walferdange 6.43 51 *e*Pn **Pn 06 44 21.0 -2.8**
WLF *e*Pg Pn 06 44 49.9 +26
WLF *e*Sg Sn 06 46 15.0 +38
WLF Walferdange 6.43 51 *e*Pn **Pn 06 44 21.0 -2.8**
ESDC Sonseca Array 6.45 197 Pn **Pn 06 44 24.3 +0.2**
2.2nm,0.3s,baz=19,slow=13,SNR=12
ESDC Sn **Sn 06 45 33.1 -4.5**
8.9nm,0.3s,baz=21,slow=23,SNR=7.9
ESDC Lg 06 46 15.1
2.1nm,0.3s,baz=21,slow=29,SNR=4.5
ESDC Sonseca Array 6.45 197 Pn **Pn 06 44 24.5 +0.4**
ESDC Sn **Sn 06 45 33.0 -4.6**
ESDC Sonseca Array 6.45 197 Pn **Pn 06 44 24.5 +0.4**
1.2nm,0.2s,baz=17,slow=12,SNR=7.9
ESDC Sn **Sn 06 45 34.7 -2.9**
13nm,0.2s,baz=17,slow=23,SNR=9.8
ESDC Sonseca Array 6.45 197 Pn **Pn 06 44 24.5 +0.4**
ESDC Sn **Sn 06 45 33.0 -4.6**
ESLA Sonseca Array 6.45 197 *e*Pn **Pn 06 44 24.1 0.0**
ESLA *e*Sn **Sn 06 45 30.5 -7.1**
CDF Champ du Feu 6.53 64 *e*Pn **Pn 06 44 21.0 -4.3**
CDF *e*Pg Pn 06 44 49.5 +24
CDF *e*Sn **Sn 06 45 32.3 -7.4**
CDF *e*Sg Sn 06 46 10.2 +30
293nm,0.6s
CDF Champ du Feu 6.53 64 Pn **Pn 06 44 21.4 -3.9**
CDF Pg Pn 06 44 48.5 +23
CDF Lg 06 46 09.3
CDF Champ du Feu 6.53 64 Pg Pn 06 44 49.5 +24
CDF Sn **Sn 06 45 32.3 -7.4**
CDF Champ du Feu 6.53 64 Pg Pn 06 44 48.5 +23
CDF *e*Sn **Sn 06 45 32.3 -7.4**
CDF *e*Sg Sn 06 46 10.2 +30
147nm,0.6s
WLS Welschbruch 6.58 64 Pn **Pn 06 44 21.8 -4.2**
MMK Mattmark 6.64 85 P **Pn 06 44 27.2 +0.5**
SBF Sospel 6.70 104 *e*Pn **Pn 06 44 24.3 -3.3**
SBF *e*Sg Sn 06 46 16.3 +33
193nm,0.8s
ETOS Mallorca 6.89 151 Pn **Pn 06 44 29.1 -1.2**
1.3nm,0.3s,SNR=6.6
ETOS Sn **Sn 06 45 43.6 -5.2**
2.7nm,0.3s,SNR=5.0
ETOS Mallorca 6.89 151 Pn **Pn 06 44 29.1 -1.3**
ETOS Sn **Sn 06 45 43.6 -5.2**
PVIS Viseu 6.93 224 Pn **Pn 06 44 31.8 +1.0**
PVIS Sn **Sn 06 45 45.8 -3.8**
5.6nm,0.4s
PVIS Viseu 6.93 224 *e*Sn **Sn 06 45 45.8 -3.8**
11nm,0.4s
HGN Heimansgroeve 6.98 43 *e*Pn **Pn 06 44 29.2 -2.4**
30nm,0.3s,baz=250
HGN *e*Pg Pn 06 45 02.4 +31
HGN *e*Sg Sn 06 46 28.6 +38
MTE Manteigas 7.01 221 Pn **Pn 06 44 32.8 +0.8**
MTE Sn **Sn 06 45 48.6 -3.1**
12nm,0.6s
ETOB Tobarra 7.23 180 Pn **Pn 06 44 35.0 0.0**
4.4nm,0.5s,SNR=7.9
ETOB Sn **Sn 06 45 52.4 -4.7**
16nm,0.8s,SNR=7.9
ETOB Tobarra 7.23 180 Pn **Pn 06 44 35.0 0.0**
ETOB Sn **Sn 06 45 52.4 -4.7**
EBEN Beniarda 7.23 172 Pn **Pn 06 44 35.5 +0.3**
EBEN Sn **Sn 06 45 53.1 -4.1**
EBEN Beniarda 7.23 172 Pn **Pn 06 44 35.5 +0.3**
1.9nm,0.2s,SNR=7.9
EBEN Sn **Sn 06 45 52.4 -4.9**
11nm,0.5s,SNR=7.9
EBEN Beniarda 7.23 172 Pn **Pn 06 44 35.5 +0.4**
EBEN Sn **Sn 06 45 53.2 -4.1**
EVIA Vianos 7.27 186 Pn **Pn 06 44 36.3 +0.7**
EVIA Sn **Sn 06 45 55.8 -2.3**
EVIA Vianos 7.27 186 Pn **Pn 06 44 36.3 +0.7**
3.7nm,0.3s,SNR=7.9
EVIA Sn **Sn 06 45 53.3 -4.8**
28nm,0.6s,SNR=7.9
EVIA Vianos 7.27 186 Pn **Pn 06 44 36.3 +0.7**
EVIA Sn **Sn 06 45 55.8 -2.3**
PCBR Castelo Branco 7.44 218 Pn **Pn 06 44 38.0 0.0**
PCBR Sn **Sn 06 45 58.9 -3.4**
6.2nm,0.6s
PCBR Castelo Branco 7.44 218 *e*Pn **Pn 06 44 38.0 0.0**
DAVOX Davos 7.96 79 Pn **Pn 06 44 44.8 -0.6**
1.5nm,0.3s,baz=278,slow=13,SNR=7.6
DAVOX Sn **Sn 06 46 15.1 -0.4**
1.8nm,0.3s,baz=291,slow=7.5,SNR=2.7
DAVOX Lg 06 47 02.1
2.5nm,0.3s,baz=134,slow=22,SNR=3.1
EADA Adamuz 8.03 197 Pn **P 06 44 46.4 +0.3**
EADA Sn **Sn 06 46 10.5 -6.5**
EADA Adamuz 8.03 197 Pn **P 06 44 46.4 +0.3**
3.5nm,0.2s,SNR=5.3
EADA Sn **Sn 06 46 10.9 -6.1**
6.0nm,0.3s,SNR=5.0
EADA Adamuz 8.03 197 Pn **P 06 44 46.4 +0.3**
PTOM Tomar 8.03 221 Sn **Sn 06 46 13.7 -3.5**
6.3nm,0.5s
DLF Lyons Farm 8.10 338 *e*P **P 06 44 45.3 -1.9**
DLF *e*S **Sn 06 46 06.0 -13**
EBAD Badajoz 8.18 212 Pn **P 06 44 48.2 -0.2**
4.1nm,0.3s,SNR=8.0
EBAD Sn **Sn 06 46 15.3 -5.6**
17nm,0.2s,SNR=4.8
EBAD Badajoz 8.18 212 Pn **P 06 44 48.2 -0.2**
EBAD Sn **Sn 06 46 15.4 -5.6**
WTSB Winterswijk 8.21 39 *e*Pn **P 06 44 45.4 -3.2**
30nm,0.6s
PGF Pioggiola 8.28 110 *e*Pn **P 06 44 47.2 -2.4**
PGF *e*Sn **Sn 06 46 13.8 -9.5**
15nm,0.5s
PGF Pioggiola 8.28 110 Pn **P 06 44 48.0 -1.6**
DCN Croghan 8.35 336 *e*P **P 06 44 49.6 -1.0**
DCN *e*S **Sn 06 46 19.3 -5.7**
EVO Evora 8.76 215 *e*Pn **P 06 44 56.2 -0.2**
EVO *e*Sn **Sn 06 46 29.8 -5.6**
16nm,0.4s
EMIN Mina Concepcio 8.96 207 Pn **P 06 44 58.6 -0.5**
EMIN Sn **Sn 06 46 32.5 -7.7**
EMIN Mina Concepcio 8.96 207 Pn **P 06 44 58.6 -0.5**
4.6nm,0.4s,SNR=10
EMIN Sn **Sn 06 46 34.2 -5.9**
4.9nm,0.3s,SNR=5.0
EMIN Mina Concepcio 8.96 207 Pn **P 06 44 58.6 -0.5**
ERON Agron 9.01 192 Pn **P 06 44 59.5 -0.4**
1.0nm,0.3s,SNR=7.9
ERON Sn **Sn 06 46 34.9 -6.6**
8.0nm,2.2s,SNR=7.9
EBER Berja 9.03 187 Pn **P 06 45 01.5 +1.5**
EBER Sn **Sn 06 46 35.6 -6.3**
EBER Berja 9.03 187 Pn **P 06 45 00.2 +0.1**
3.6nm,0.5s,SNR=7.9
EBER Sn **Sn 06 46 35.6 -6.3**
5.1nm,0.4s,SNR=7.9
EBER Berja 9.03 187 Pn **P 06 45 01.5 +1.5**
EBER Sn **Sn 06 46 35.6 -6.3**
PBEJ Beja 9.14 213 Pn **P 06 45 01.1 -0.6**
PBEJ Sn **Sn 06 46 39.4 -5.4**
1.8nm,0.1s
EGRO El Granado 9.44 210 Pn **P 06 45 05.2 -0.5**
EGRO Sn **Sn 06 46 44.1 -7.9**
EGRO El Granado 9.44 210 Pn **P 06 45 05.2 -0.5**
1.9nm,0.3s,SNR=6.3
EGRO Sn **Sn 06 46 45.6 -6.4**
3.6nm,0.2s,SNR=4.9
ESK Eskdalemuir 9.51 354 *e*P **P 06 45 03.2 -3.4**
ESPR Espera 9.56 201 Pn **P 06 45 07.2 -0.1**
5.1nm,0.3s,SNR=4.0
ESPR Espera 9.56 201 Pn **P 06 45 07.2 -0.2**
EMIJ Mijas 9.61 196 Pn **P 06 45 08.5 +0.4**
13nm,0.5s,SNR=4.0
EJIF Jimena Fronter 9.87 199 Pn **P 06 45 12.1 +0.5**
3.9nm,0.4s,SNR=7.9
EJIF Sn **Sn 06 46 55.4 -7.1**
1.0nm,0.2s,SNR=4.0
MOX Moxa 9.99 57 *e*P **P 06 45 10.0 -3.2**
MOX *e* 06 47 30.0
MOX Sg S 06 48 00.0 +54
KHC Kasperske Hory 10.74 67 *e*P **P 06 45 19.8 -3.7**
KHC *e* 06 47 13.1
KHC Kasperske Hory 10.74 67 *e*Pn **P 06 45 19.8 -3.7**
KHC *e* 06 45 39.5
KHC *e* 06 46 09.2
KHC *e*Sn **S 06 47 13.1 -11**
KHC *e*Sg S 06 48 26.5 +63
KHC Kasperske Hory 10.74 67 *e*P **P 06 45 19.8 -3.7**
KHC x x 06 45 39.5
KHC *e*x x 06 46 09.2
KHC *e*S **S 06 47 13.1 -11**
KHC *e*S S 06 48 26.5 +63
GERES GERESS Array B 10.77 68 P **P 06 45 21.2 -2.6**
GERES 06 47 16.7
GERES GERESS Array B 10.77 68 Pn **P 06 45 21.2 -2.6**
1.2nm,0.3s,baz=259,slow=14,SNR=13
GERES Pg P 06 46 09.1 +45
1.0nm,0.3s,baz=265,slow=15,SNR=5.3
GERES Sn **S 06 47 16.7 -7.8**
0.9nm,0.3s,baz=263,slow=25,SNR=4.0
GERES Lg 06 48 30.1
1.1nm,0.3s,baz=263,slow=32,SNR=6.3
GERES GERESS Array B 10.77 68 Pg Px 06 46 09.1
CLL Collm 11.06 55 *e*Pn **P 06 45 29.0 +1.2**
CLL *e*Sg 06 48 48.0
CLL Collm 11.06 55 *e*PN **P 06 45 29.0 +1.2**
CLL *e*PG P 06 46 17.0 +49
CLL *e*SG 06 48 48.0
CLL *e* 06 49 00.0
CLL *e*L 06 49 11.0
VRAC Vranov 12.72 68 Lg 06 49 27.8
1.2nm,0.3s,baz=323,slow=19,SNR=4.7
HFS Hagfors 16.91 27 Pn **P 06 46 45.3 +0.9**
0.0nm,0.3s,baz=207,slow=9.9,SNR=3.8
HFS Hagfors 16.91 27 Pn **P 06 46 45.3 +0.9**
MLR Muntele Rosu 19.18 81 LR LR 06 54 05.4
comp=Z,69nm,19.9s,baz=118,slow=35
FINES FINESS Array B 22.35 36 Pn **P 06 47 45.3 0.0**
0.9nm,0.5s,mb3.4,baz=240,slow=11,SNR=6.2
JMIC Jan Mayen 25.41 355 LR LR 06 57 44.8
comp=Z,76nm,18.4s,MS3.3,baz=96,slow=35
BRTR Keskin Array B 26.39 91 P **P 06 48 26.1 +1.9**
0.5nm,0.4s,mb3.4,baz=297,slow=8.3,SNR=4.5
ARCES ARCESS Array B 27.30 20 P **P 06 48 33.7 +1.5**
1.7nm,0.8s,mb3.6,baz=225,slow=10,SNR=6.2
ARCES ARCESS Array B 27.30 20 P **P 06 48 33.7 +1.5**
WMQ Urumqi 59.98 57 P **P 06 52 57.1 +2.5**
WMQ AP pP 06 53 01.6 -1.1
WMQ XP sP 06 53 04.1 -1.5
WMQ PCP PcP 06 53 43.3 +3.0
WMQ PP PP 06 55 11.0 +2.2
WMQ PPP PPP 06 56 37.1 +2.3
WMQ S **S 07 01 06.5 +3.0**
WMQ AMB AMB
comp=Z,5.0nm,0.5s,mb4.8
WMQ AMB AMB
comp=Z,72nm,4.5s
WMQ LR LR
comp=N,38nm,21.4s,MS3.8
WMQ LR LR
comp=E,73nm,22.6s,MS3.8
LZH Lanzhou 74.38 54 *e*P **P 06 54 25.8 +0.5**
LZH AP pP 06 54 30.5 -3.0
LZH XP sP 06 54 32.8 -3.6
LZH PP PP 06 57 12.8 -0.6
LZH AMB AMB
comp=Z,21nm,1.4s,mb4.9
LZH Lanzhou 74.38 54 *e*P **P 06 54 25.8 +0.5**
comp=Z,21nm,1.4s,mb4.9
LZH pP pP 06 54 30.5 -3.0
LZH sP sP 06 54 32.8 -3.6
LZH PP PP 06 57 12.8 -0.6
CN2 Changchun 79.10 36 *e*P **P 06 54 52.8 +1.2**
NJ2 Nanjing 85.55 47 *e*P **P 06 55 28.9 +3.7**
NJ2 AP pP 06 55 33.6 0.0
NJ2 XP sP 06 55 35.4 -0.8
NJ2 S S 07 05 59.0 +5.3
NJ2 XS 07 06 07.0
NJ2 AMB AMB
comp=Z,340nm,4.5s
NJ2 LR LR
comp=N,510nm,12.5s
NJ2 LR LR
comp=E,240nm,18.8s
NJ2 LR LR
comp=Z,650nm,19.0s
SSE Sheshan 87.50 46 P **P 06 55 35.4 +0.6**
SSE AMB AMB
comp=Z,12nm,0.6s,mb5.3
SSE AMB AMB
comp=Z,40nm,3.5s
SSE Sheshan 87.50 46 P **P 06 55 35.4 +0.6**
comp=Z,12nm,0.6s,mb5.3

*CSEM **18** 06:49:06.6±0.1,45.90N×1.46W,h5km,ML2.9/25,Error ellipse: s-maj=1.1km s-min=0.9km az=88.0*
*STR **18** 06:49:07.3±0.4,45.94N×1.39W,h10km±1km,Ml2.8,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **18** 06:49:07.1,45.93N×1.43W,h3km,ML3.1(STR), ML2.9(LDG),After LDG.*
*MDD **18** 06:49:07.4±0.5,45.92N×1.44W,h10km,mbLg2.2/10, Error ellipse: s-maj=5.1km s-min=3.9km az=92.0,PRXIMO*
LDG 18 06:49:07.1±0.1,45.93N×1.43W,h3km,Md3.0/2,Ml2.9/22, Error ellipse: s-maj=1.4km s-min=1.1km az=95.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLEF	**Ile d'Oleron**	**0.06**	**73**	Pg	Pg	06 49 09.3	+1.0
OLEF				Sg	Sg	06 49 10.8	+1.6
LRYF	**La Roche-sur-Y**	**0.66**	**353**	Pg	Pg	06 49 19.8	-0.4
LRYF				Sg	Sg	06 49 28.5	-0.5
CHIF	**Chize**	**0.74**	**73**	Pg	Pg	06 49 21.3	-0.5
CHIF				Sg	Sg	06 49 30.8	-0.9
LCHF	**La Chataignera**	**0.88**	**32**	Pg	Pg	06 49 23.9	-0.8
LCHF				Sg	Sg	06 49 35.9	-0.5
MFF	**Saint Martin d**	**1.11**	**52**	*e*Pg	Pg	06 49 28.2	-1.2
MFF				*e*Sg	Sg	06 49 42.7	-1.5
51nm,0.3s							
MFF	**Saint Martin d**	**1.11**	**52**	Pg	Pg	06 49 27.8	-1.6
MFF				Lg		06 49 42.7	
26nm,0.3s							
LFF	**La Frestale**	**1.82**	**122**	*e*Pn	Pn	06 49 37.8	-1.7
LFF				*e*Pg	Pg	06 49 40.1	-3.3
LFF				*e*Sg	Sg	06 50 03.7	-3.9
35nm,0.3s							
LFF	**La Frestale**	**1.82**	**122**	Pn	Pn	06 49 37.8	-1.7
LFF				Sn	Sn	06 49 59.4	-4.0
LFF				Lg		06 50 03.4	
LFF	**La Frestale**	**1.82**	**122**	Pn	Pn	06 49 37.8	-1.7
LFF				Pg	Pg	06 49 40.1	-3.3
LFF				Sn	Sn	06 49 59.4	-4.0
LFF				Lg		06 50 03.4	
18nm,0.3s							
LFF	**La Frestale**	**1.82**	**122**	*e*Pg	Pg	06 49 40.1	-3.3
LFF				Sn	Sn	06 49 59.4	-4.0
LFF				*e*Sg	Sg	06 50 03.7	-3.9
18nm,0.3s							
RJF	**Les Rejaudoux**	**2.16**	**106**	*e*Pn	Pn	06 49 42.8	-1.6
RJF				*e*Pg	Pg	06 49 47.1	-3.1
RJF				*e*Sg	Sg	06 50 13.6	-5.3
28nm,0.2s							
QUIF	**Quistinic**	**2.32**	**330**	*e*Pg	Pg	06 49 50.0	-3.4
QUIF				*e*Sg	Sg	06 50 19.4	-4.9
6.7nm,0.2s							
QUIF	**Quistinic**	**2.32**	**330**	Pg	Pg	06 49 49.4	-4.0
QUIF				Lg		06 50 20.0	
5.4nm,0.3s							
SGMF	**Saint Gilles**	**2.45**	**342**	*e*Pg	Pg	06 49 52.6	-3.5
SGMF				*e*Sg	Sg	06 50 22.8	-6.0
11nm,0.3s							
SGMF	**Saint Gilles**	**2.45**	**342**	Pg	Pg	06 49 53.4	-2.7
SGMF				Lg		06 50 23.5	
5.4nm,0.3s							
GRR	**Gorron**	**2.49**	**9**	*e*Pn	Pn	06 49 46.5	-2.7
GRR				*e*Pg	Pg	06 49 53.2	-3.7
GRR				*e*Sn	Sn	06 50 16.1	-4.4
GRR				*e*Sg	Sg	06 50 25.2	-4.9
11nm,0.2s							
TCF	**Toulx Ste Croi**	**2.56**	**81**	*e*Pn	Pn	06 49 47.9	-2.2
TCF				*e*Pg	Pg	06 49 54.6	-3.5
TCF				*e*Sn	Sn	06 50 17.3	-4.8
TCF				*e*Sg	Sg	06 50 26.4	-5.8
16nm,0.3s							
CAF	**Calviac**	**2.65**	**111**	*e*Pn	Pn	06 49 49.4	-2.1
CAF				*e*Pg	Pg	06 49 56.2	-3.9
CAF				*e*Sn	Sn	06 50 19.9	-4.7
CAF				*e*Sg	Sg	06 50 30.0	-5.5
17nm,0.3s							
CAF	**Calviac**	**2.65**	**111**	Pn	Pn	06 49 49.9	-1.6
CAF				Sn	Sn	06 50 20.5	-4.1
CAF				Lg		06 50 28.0	
CAF	**Calviac**	**2.65**	**111**	Pn	Pn	06 49 49.9	-1.6
CAF				Pg	Pg	06 49 56.2	-3.9
CAF				Sn	Sn	06 50 20.5	-4.1
EALK	**Alkurruntz**	**2.71**	**181**	Pn	Pn	06 49 49.7	-2.6
0.6nm,0.2s,SNR=7.9							
EALK				Pg	Pg	06 49 57.1	-4.0
2.6nm,0.3s,SNR=7.9							
EALK				Sn	Sn	06 50 21.2	-4.8
2.0nm,0.2s,SNR=7.9							
EALK				Lg		06 50 32.8	
3.4nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**2.71**	**181**	Pg	Pg	06 49 57.1	-4.1
2.6nm,0.3s,SNR=7.9							
EALK				Sn	Sn	06 50 21.2	-4.8
2.0nm,0.2s,SNR=7.9							
ROSF	**Rostrenen**	**2.72**	**333**	*e*Pn	Pn	06 49 50.1	-2.4
ROSF				*e*Sg	Sg	06 50 31.6	-6.1
3.0nm,0.2s							
ELIZ	**Elizondo**	**2.76**	**182**	Pg	Pg	06 49 58.5	-3.8
ELIZ				Sn	Sn	06 50 22.0	-5.5
ELIZ				Lg		06 50 32.1	
ELIZ	**Elizondo**	**2.76**	**182**	Pg	Pg	06 49 58.0	-4.3
0.5nm,0.1s,SNR=4.0							
ELIZ				Sn	Sn	06 50 22.0	-5.5
0.5nm,0.2s,SNR=7.9							
ELIZ				Lg		06 50 35.9	
2.5nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**2.76**	**182**	Pg	Pg	06 49 58.5	-3.8
0.5nm,0.1s,SNR=4.0							
ELIZ				Sn	Sn	06 50 22.0	-5.4
0.5nm,0.2s,SNR=7.9							
LDF	**La Druitiere**	**2.81**	**18**	*e*Pg	Pg	06 49 57.4	-5.8
LDF				*e*Sn	Sn	06 50 22.4	-6.2
LDF				*e*Sg	Sg	06 50 33.3	-7.4
5.8nm,0.2s							
SJPF	**Ste Jean**	**2.82**	**177**	*e*Pg	Pg	06 49 59.9	-3.5
SJPF				*e*Sg	Sg	06 50 34.6	-6.3
7.5nm,0.3s							
SJPF	**Ste Jean**	**2.82**	**177**	Pg	Pg	06 49 58.9	-4.5
SJPF				Sn	Sn	06 50 20.5	-8.3
SJPF				Lg		06 50 33.5	
SJPF	**Ste Jean**	**2.82**	**177**	Pg	Pg	06 49 58.9	-4.5
SJPF				Sn	Sn	06 50 20.5	-8.3
SJPF				*e*Sg	Sg	06 50 34.6	-6.3
3.8nm,0.3s							
FLN	**La Foliniere**	**2.91**	**12**	*e*Pg	Pg	06 50 00.8	-4.4
FLN				*e*Sn	Sn	06 50 25.8	-5.3
FLN				*e*Sg	Sg	06 50 39.0	-4.9
4.1nm,0.2s							
BGF	**Bois d'Agland**	**3.03**	**76**	*e*Pn	Pn	06 49 53.8	-3.1
BGF				*e*Pg	Pg	06 50 02.7	-4.9
BGF				*e*Sn	Sn	06 50 27.7	-6.5
BGF				*e*Sg	Sg	06 50 41.1	-6.9
38nm,0.3s							
ELAN	**Lanestosa**	**3.05**	**209**	Pn	Pn	06 49 54.1	-3.2
0.4nm,0.1s,SNR=7.9							
ELAN				Sn	Sn	06 50 28.9	-5.8
1.8nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**3.05**	**209**	Pn	Pn	06 49 54.1	-3.1
0.4nm,0.1s,SNR=7.9							
ELAN				Sn	Sn	06 50 28.9	-5.9
1.8nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**3.09**	**168**	*e*Pn	Pn	06 49 55.7	-2.1
ETSF				*e*Pg	Pg	06 50 04.6	-4.2
ETSF				*e*Sn	Sn	06 50 30.0	-5.7
ETSF				*e*Sg	Sg	06 50 43.8	-6.2
6.8nm,0.5s							
ETSF	**Etsaut**	**3.09**	**168**	*e*Pn	Pn	06 49 55.7	-2.1
ETSF				Pg	Pg	06 50 04.4	-4.4
ETSF				*e*Pg	Pg	06 50 04.6	-4.2
ETSF				*e*Sn	Sn	06 50 30.0	-5.7
ETSF				*e*Sg	Sg	06 50 43.8	-6.2
ETSF	**Etsaut**	**3.09**	**168**	Pn	Pn	06 49 55.7	-2.1
ETSF				Pg	Pg	06 50 04.4	-4.4
ETSF				Sn	Sn	06 50 30.0	-5.7
1.8nm,0.3s							
HYF	**Humbligny**	**3.11**	**63**	*e*Pn	Pn	06 49 55.0	-3.0
HYF				*e*Sg	Sg	06 50 45.6	-4.9
EPF	**Esparros**	**3.16**	**156**	*e*Pn	Pn	06 49 55.0	-3.7
EPF				*e*Pg	Pg	06 50 05.6	-4.6
EPF				*e*Sn	Sn	06 50 31.4	-6.1
EPF				*e*Sg	Sg	06 50 46.5	-5.8
6.4nm,0.2s							
EPF	**Esparros**	**3.16**	**156**	Pn	Pn	06 49 55.0	-3.7
EPF				Lg		06 50 46.1	
3.1nm,0.2s							
AVF	**Avril sur Loir**	**3.42**	**74**	*e*Pn	Pn	06 49 59.7	-2.7
AVF				*e*Pg	Pg	06 50 09.7	-5.7
AVF				*e*Sn	Sn	06 50 35.5	-8.5
AVF				*e*Sg	Sg	06 50 54.3	-6.6
8.4nm,0.3s							
AVF	**Avril sur Loir**	**3.42**	**74**	Pn	Pn	06 49 59.9	-2.5
AVF				Sn	Sn	06 50 36.0	-8.0
AVF				Lg		06 50 54.1	
AVF	**Avril sur Loir**	**3.42**	**74**	*e*Pg	Pg	06 50 09.7	-5.7
AVF				Sn	Sn	06 50 36.0	-8.0
AVF				*e*Sg	Sg	06 50 54.3	-6.6
4.2nm,0.3s							
EBIE	**Bielsa**	**3.43**	**160**	Pn	Pn	06 50 00.4	-2.2
0.1nm,0.1s,SNR=4.0							
EBIE				Pg	Pg	06 50 10.3	-5.3
0.7nm,0.2s,SNR=4.0							
EBIE				Sn	Sn	06 50 38.0	-6.3

0.6nm,0.1s,SNR=4.0
EBIE Lg 06 50 54.9
3.9nm,0.3s,SNR=4.0
EBIE Bielsa 3.43 160 Pn Pn 06 50 00.4 -2.2
0.1nm,0.1s,SNR=4.0
EBIE Bielsa 3.43 160 Pg Pg 06 50 10.3 -5.3
0.7nm,0.2s,SNR=4.0
EBIE Sn Sn 06 50 38.0 -6.3
0.6nm,0.1s,SNR=4.0
SSF Saint Saulge 3.59 70 *e*Pn Pn 06 50 01.7 -3.1
SSF *e*Pg Pg 06 50 13.0 -5.8
SSF *e*Sg Sg 06 50 59.7 -6.9
6.2nm,0.3s
SSF Saint Saulge 3.59 70 Pn Pn 06 50 01.9 -2.9
SSF Lg 06 50 59.1
MTLF Montolieu 3.67 134 *e*Pn Pn 06 50 03.0 -2.9
MTLF *e*Pg Pg 06 50 15.1 -5.2
MTLF *e*Sn Sn 06 50 45.2 -5.1
MTLF *e*Sg Sg 06 51 01.5 -7.7
3.3nm,0.3s
MTLF Montolieu 3.67 134 *e*Pn Pn 06 50 03.0 -2.9
MTLF Pg Pg 06 50 13.9 -6.4
MTLF *e*Pg Pg 06 50 15.1 -5.2
MTLF *e*Sn Sn 06 50 45.2 -5.1
MTLF *e*Sg Sg 06 51 01.5 -7.7
MTLF Lg 06 51 02.6
MTLF Montolieu 3.67 134 Pg Pg 06 50 13.9 -6.4
MTLF Lg 06 51 02.6
1.8nm,0.3s
MTLF Montolieu 3.67 134 Pg Pg 06 50 13.9 -6.4
MTLF *e*Sn Sn 06 50 45.2 -5.1
MTLF *e*Sg Sg 06 51 01.5 -7.7
1.6nm,0.3s
SMF Signal de Mont 3.72 77 *e*Pn Pn 06 50 03.5 -3.2
SMF *e*Pg Pg 06 50 16.1 -5.3
SMF *e*Sg Sg 06 51 03.3 -7.7
4.7nm,0.2s
EARI Arriondas 3.77 227 Pn Pn 06 50 04.0 -3.4
0.3nm,0.2s,SNR=7.9
EARI Sn Sn 06 50 45.5 -7.3
1.0nm,0.2s,SNR=7.9
EARI Arriondas 3.77 227 Pn Pn 06 50 04.0 -3.4
0.3nm,0.2s,SNR=7.9
EARI Sn Sn 06 50 45.5 -7.3
1.0nm,0.2s,SNR=7.9
LASF Ste Croix 4.18 114 *e*Pn Pn 06 50 10.4 -2.8
LASF *e*Sg Sg 06 51 19.4 -6.8
7.5nm,0.4s
ESAC San Caprasio 4.26 170 Sn Sn 06 50 57.2 -8.1
2.5nm,0.1s,SNR=4.0
ESAC San Caprasio 4.26 170 Sn Sn 06 50 57.2 -8.1
2.5nm,0.1s,SNR=4.0
VIVF Saint-Julien-l 4.43 102 *e*Sg Sg 06 51 23.8 -11
4.8nm,0.3s
VIVF Saint-Julien-l 4.43 102 Lg 06 51 27.2
2.3nm,0.4s
EJON La Jonquera 4.66 137 Pn Pn 06 50 16.9 -3.1
0.8nm,0.1s,SNR=7.9
EJON La Jonquera 4.66 137 Pn Pn 06 50 16.9 -3.1
EPON Pontenova 4.84 240 Pn Pn 06 50 19.0 -3.6
0.7nm,0.2s,SNR=7.9
EPON Sn Sn 06 51 10.9 -9.1
0.6nm,0.1s,SNR=7.9
EPON Pontenova 4.84 240 Pn Pn 06 50 19.0 -3.6
EPON Sn Sn 06 51 10.9 -9.1
ORIF Oris-en-Rattie 5.24 98 *e*Sn Sn 06 51 22.7 -7.4
BAIF Baives 5.60 40 Pn Pn 06 50 28.5 -4.8
EMOS Mosqueruela 5.61 173 Pn Pn 06 50 29.6 -3.8
0.3nm,0.1s,SNR=4.0
EMOS Mosqueruela 5.61 173 Pn Pn 06 50 29.6 -3.8

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*CSEM **18** 06:54:48.8±0.1, 45.93N×1.40W, h5km, ML3.4/24, Error ellipse: s-maj=1.4km s-min=1.2km az=104.0*
*NEIC **18** 06:54:49.1, 45.96N×1.38W, h3km, ML3.3(LDG), After LDG.*
*MDD **18** 06:54:49.5±0.4, 45.94N×1.37W, h11km, mbLg2.6/21, Error ellipse: s-maj=3.8km s-min=3.0km az=98.0, PRXIMO*
*STR **18** 06:54:50.2±0.9, 45.94N×1.34W, h5km±1km, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 18 06:54:49.1±0.1, 45.96N×1.38W, h3km, Md2.9/2, Ml3.3/24, Error ellipse: s-maj=2.0km s-min=1.6km az=96.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRYF	**La Roche-sur-Y**	**0.63**	**349**	Pg	Pg	06 55 02.6	+0.9
LRYF				Sg	Sg	06 55 11.3	+1.2
CHIF	**Chize**	**0.70**	**75**	Pg	Pg	06 55 03.4	+0.4
CHIF				Sg	Sg	06 55 11.7	-0.6
LCHF	**La Chataignera**	**0.84**	**32**	Pg	Pg	06 55 06.3	+0.5
LCHF				Sg	Sg	06 55 18.3	+1.4
MFF	**Saint Martin d**	**1.07**	**53**	*e*Pg	Pg	06 55 09.9	-0.6
MFF				*e*Sg	Sg	06 55 23.4	-1.3
MFF	**Saint Martin d**	**1.07**	**53**	Pn	Pn	06 55 08.3	-2.6
MFF				Lg		06 55 19.9	
MFF				Sn	Sn	06 55 22.4	-4.0
MFF	**Saint Martin d**	**1.07**	**53**	Pn	Pn	06 55 08.3	-2.6
MFF				Pg	Pg	06 55 09.9	-0.6
MFF				Sn	Sn	06 55 22.4	-4.0
MFF				Lg		06 55 23.4	
MFF	**Saint Martin d**	**1.07**	**53**	*e*Pg	Pg	06 55 09.9	-0.6
MFF				Sn	Sn	06 55 22.4	-4.0
MFF				*e*Sg	Sg	06 55 23.4	-1.3
LFF	**La Frestale**	**1.81**	**124**	*e*Pn	Pn	06 55 18.0	-3.4
LFF				*e*Pg	Pg	06 55 21.7	-3.5
LFF				*e*Sg	Sg	06 55 45.7	-3.5
87nm,0.3s							
LFF	**La Frestale**	**1.81**	**124**	Pn	Pn	06 55 17.4	-4.0
LFF				Sn	Sn	06 55 39.5	-5.6
LFF	**La Frestale**	**1.81**	**124**	Pn	Pn	06 55 18.0	-3.4
LFF				Pg	Pg	06 55 21.7	-3.5
LFF				Sn	Sn	06 55 39.5	-5.6
43nm,0.3s							
LFF				Lg		06 55 45.7	
43nm,0.3s							
LFF	**La Frestale**	**1.81**	**124**	*e*Pg	Pg	06 55 21.7	-3.5
LFF				Sn	Sn	06 55 39.5	-5.6
43nm,0.3s							
LFF				*e*Sg	Sg	06 55 45.7	-3.5
43nm,0.3s							
RJF	**Les Rejaudoux**	**2.13**	**107**	*e*Pn	Pn	06 55 24.3	-1.8
RJF				*e*Pg	Pg	06 55 28.2	-3.5
RJF				*e*Sg	Sg	06 55 54.3	-5.8
56nm,0.2s							
RJF	**Les Rejaudoux**	**2.13**	**107**	Pg	Pg	06 55 26.4	-5.3
RJF	**Les Rejaudoux**	**2.13**	**107**	Pn	Pn	06 55 24.3	-1.8
RJF				Pg	Pg	06 55 26.4	-5.3
RJF				Lg		06 55 54.3	
28nm,0.2s							
QUIF	**Quistinic**	**2.31**	**329**	*e*Pn	Pn	06 55 27.5	-1.1
QUIF				*e*Pg	Pg	06 55 31.8	-3.4
QUIF				*e*Sg	Sg	06 56 01.4	-4.6
28nm,0.2s							
QUIF	**Quistinic**	**2.31**	**329**	Pn	Pn	06 55 27.4	-1.2
QUIF				Sn	Sn	06 55 54.1	-3.8
QUIF	**Quistinic**	**2.31**	**329**	Pn	Pn	06 55 27.5	-1.1
QUIF				Pg	Pg	06 55 31.8	-3.4
QUIF				Sn	Sn	06 55 54.1	-3.8
16nm,0.2s							
QUIF				Lg		06 56 01.4	
14nm,0.2s							
QUIF	**Quistinic**	**2.31**	**329**	*e*Pg	Pg	06 55 31.8	-3.4
QUIF				Sn	Sn	06 55 54.1	-3.8
16nm,0.2s							
QUIF				*e*Sg	Sg	06 56 01.4	-4.6
14nm,0.2s							
SGMF	**Saint Gilles**	**2.43**	**341**	*e*Pn	Pn	06 55 28.3	-2.1
SGMF				*e*Pg	Pg	06 55 34.1	-3.6
SGMF				*e*Sg	Sg	06 56 04.3	-5.8
77nm,0.4s							
SGMF	**Saint Gilles**	**2.43**	**341**	*e*Pg	Pg	06 55 34.1	-3.6
SGMF				Sn	Sn	06 55 54.6	-6.4
SGMF				*e*Sg	Sg	06 56 04.3	-5.8
38nm,0.4s							
GRR	**Gorron**	**2.46**	**8**	*e*Pn	Pn	06 55 28.4	-2.3
GRR				*e*Pg	Pg	06 55 33.8	-4.3
GRR				*e*Sn	Sn	06 55 57.1	-4.5
GRR				*e*Sg	Sg	06 56 04.9	-6.0
64nm,0.4s							
GRR	**Gorron**	**2.46**	**8**	Pn	Pn	06 55 30.5	-0.2
GRR				Pg	Pg	06 55 32.0	-6.1
GRR				Sn	Sn	06 55 58.1	-3.5
TCF	**Toulx Ste Croi**	**2.52**	**81**	*e*Pn	Pn	06 55 29.5	-2.1
TCF				*e*Pg	Pg	06 55 36.4	-2.9
TCF				*e*Sn	Sn	06 55 59.0	-4.2
TCF				*e*Sg	Sg	06 56 09.1	-3.8
38nm,0.3s							
CAF	**Calviac**	**2.63**	**112**	*e*Pn	Pn	06 55 31.2	-2.0
CAF				*e*Pg	Pg	06 55 37.4	-4.3
CAF				*e*Sg	Sg	06 56 09.7	-7.1
43nm,0.3s							
CAF	**Calviac**	**2.63**	**112**	Pn	Pn	06 55 30.0	-3.2
CAF				Pg	Pg	06 55 39.0	-2.7
CAF				Sn	Sn	06 55 58.6	-7.5
CAF				Lg		06 56 11.2	
CAF	**Calviac**	**2.63**	**112**	*e*Pg	Pg	06 55 37.4	-4.3
CAF				Sn	Sn	06 55 58.6	-7.5
CAF				*e*Sg	Sg	06 56 09.7	-7.1
21nm,0.3s							
ROSF	**Rostrenen**	**2.71**	**332**	*e*Pn	Pn	06 55 31.4	-2.9
ROSF				*e*Pg	Pg	06 55 39.0	-4.1
ROSF				*e*Sg	Sg	06 56 13.5	-5.7
28nm,0.3s							
ROSF	**Rostrenen**	**2.71**	**332**	*e*Pn	Pn	06 55 31.4	-2.9
ROSF				Pg	Pg	06 55 38.5	-4.6
ROSF				*e*Pg	Pg	06 55 39.0	-4.1
ROSF				*e*Sg	Sg	06 56 13.5	-5.7
ROSF				Lg		06 56 14.7	
EALK	**Alkurruntz**	**2.74**	**182**	Pn	Pn	06 55 33.0	-1.8
EALK				Pg	Pg	06 55 39.3	-4.6
EALK				Sn	Sn	06 56 06.1	-2.7
EALK				Lg		06 56 13.8	
EALK	**Alkurruntz**	**2.74**	**182**	Pn	Pn	06 55 32.5	-2.2
0.8nm,0.1s,SNR=6.2							
EALK				Pg	Pg	06 55 39.3	-4.6
3.9nm,0.2s,SNR=5.2							
EALK				Sn	Sn	06 56 03.9	-4.9
8.3nm,0.2s,SNR=4.6							
EALK				Lg		06 56 14.9	
26nm,0.3s,SNR=7.9							
EALK	**Alkurruntz**	**2.74**	**182**	Pn	Pn	06 55 33.0	-1.8
EALK	**Alkurruntz**	**2.74**	**182**	Pg	Pg	06 55 39.3	-4.5
3.9nm,0.2s,SNR=5.2							
EALK				Sn	Sn	06 56 06.1	-2.7
8.3nm,0.2s,SNR=4.6							
LDF	**La Druitiere**	**2.77**	**18**	*e*Pn	Pn	06 55 32.4	-2.8
LDF				*e*Pg	Pg	06 55 38.5	-5.9
LDF				*e*Sn	Sn	06 56 04.6	-5.0
LDF				*e*Sg	Sg	06 56 14.4	-6.9
27nm,0.3s							
ELIZ	**Elizondo**	**2.80**	**182**	Pn	Pn	06 55 33.4	-2.2
ELIZ				Pg	Pg	06 55 40.3	-4.7
ELIZ				Sn	Sn	06 56 08.4	-1.8
ELIZ				Lg		06 56 16.6	
ELIZ	**Elizondo**	**2.80**	**182**	Pn	Pn	06 55 33.2	-2.3
0.9nm,0.2s,SNR=6.3							
ELIZ				Pg	Pg	06 55 39.6	-5.4
2.7nm,0.2s,SNR=7.9							
ELIZ				Sn	Sn	06 56 05.2	-5.1
3.3nm,0.2s,SNR=7.9							
ELIZ				Lg		06 56 16.6	
6.9nm,0.2s,SNR=7.9							
ELIZ	**Elizondo**	**2.80**	**182**	Pn	Pn	06 55 33.8	-1.8
0.9nm,0.2s,SNR=6.3							
ELIZ	**Elizondo**	**2.80**	**182**	Pg	Pg	06 55 40.3	-4.6
2.7nm,0.2s,SNR=7.9							
ELIZ				Sn	Sn	06 56 08.4	-1.9
3.3nm,0.2s,SNR=7.9							
SJPF	**Ste Jean**	**2.85**	**178**	*e*Pn	Pn	06 55 33.0	-3.3
SJPF				*e*Pg	Pg	06 55 41.5	-4.5
SJPF				*e*Sg	Sg	06 56 16.4	-7.5
20nm,0.3s							
FLN	**La Foliniere**	**2.87**	**12**	*e*Pn	Pn	06 55 33.7	-2.9
FLN				*e*Pg	Pg	06 55 40.9	-5.5
FLN				*e*Sn	Sn	06 56 07.0	-5.1
FLN				*e*Sg	Sg	06 56 17.2	-7.5
42nm,0.4s							
BGF	**Bois d'Agland**	**2.99**	**77**	*e*Pn	Pn	06 55 35.7	-2.6
BGF				*e*Pg	Pg	06 55 46.5	-2.3
BGF				*e*Sn	Sn	06 56 09.0	-6.2
BGF				*e*Sg	Sg	06 56 23.9	-4.8
BGF	**Bois d'Agland**	**2.99**	**77**	Pn	Pn	06 55 35.7	-2.6
BGF				Sn	Sn	06 56 09.0	-6.2
BGF				Lg		06 56 23.9	
HYF	**Humbligny**	**3.06**	**63**	*e*Pn	Pn	06 55 37.4	-2.0
HYF				*e*Pg	Pg	06 55 46.1	-4.1
HYF				*e*Sn	Sn	06 56 12.4	-4.6
HYF				*e*Sg	Sg	06 56 26.3	-4.8
ELAN	**Lanestosa**	**3.10**	**209**	Pn	Pn	06 55 37.3	-2.5
ELAN				Sn	Sn	06 56 11.8	-6.0
ELAN	**Lanestosa**	**3.10**	**209**	Pn	Pn	06 55 37.3	-2.5
1.1nm,0.2s,SNR=7.9							
ELAN				Sn	Sn	06 56 11.6	-6.2
3.2nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**3.10**	**209**	Pn	Pn	06 55 37.3	-2.5
1.1nm,0.2s,SNR=7.9							
ELAN				Sn	Sn	06 56 11.8	-6.1
ETSF	**Etsaut**	**3.12**	**169**	*e*Pn	Pn	06 55 35.8	-4.3
ETSF				*e*Pg	Pg	06 55 46.1	-5.2
ETSF	**Etsaut**	**3.12**	**169**	Pn	Pn	06 55 36.5	-3.6
ETSF				Pg	Pg	06 55 45.5	-5.8
ETSF				Lg		06 56 25.7	
ETSF	**Etsaut**	**3.12**	**169**	Pn	Pn	06 55 35.8	-4.3
ETSF				Pg	Pg	06 55 46.1	-5.2
ETSF				Lg		06 56 25.7	
6.2nm,0.3s							
EPF	**Esparros**	**3.18**	**157**	*e*Pn	Pn	06 55 37.6	-3.4
EPF				*e*Pg	Pg	06 55 46.8	-5.7
EPF				*e*Sn	Sn	06 56 12.2	-7.7
EPF				*e*Sg	Sg	06 56 27.1	-7.7
28nm,0.3s							
EPF	**Esparros**	**3.18**	**157**	*e*Pn	Pn	06 55 37.6	-3.4
EPF				*e*Pg	Pg	06 55 46.8	-5.7
EPF				Pg	Pg	06 55 47.5	-5.0
EPF				*e*Sn	Sn	06 56 12.2	-7.7
EPF				*e*Sg	Sg	06 56 27.1	-7.7
EPF				Lg		06 56 28.2	
AVF	**Avril sur Loir**	**3.38**	**74**	*e*Pn	Pn	06 55 40.8	-3.0
AVF				*e*Pg	Pg	06 55 52.1	-4.5
AVF				*e*Sn	Sn	06 56 18.6	-6.4
AVF				*e*Sg	Sg	06 56 35.8	-5.8
28nm,0.5s							
ECRI	**Cripan**	**3.45**	**194**	Pn	Pn	06 55 42.9	-1.9
ECRI				Sn	Sn	06 56 22.6	-4.1
ECRI	**Cripan**	**3.45**	**194**	Pn	Pn	06 55 42.0	-2.8
2.5nm,0.2s,SNR=7.9							
ECRI				Sn	Sn	06 56 21.0	-5.7
3.0nm,0.3s,SNR=7.9							
ECRI	**Cripan**	**3.45**	**194**	Pn	Pn	06 55 42.0	-2.8
2.5nm,0.2s,SNR=7.9							
ECRI				Sn	Sn	06 56 22.6	-4.1
3.0nm,0.3s,SNR=7.9							
EBIE	**Bielsa**	**3.45**	**161**	Pn	Pn	06 55 41.6	-3.3
EBIE				Pg	Pg	06 55 51.9	-6.1
EBIE				Sn	Sn	06 56 22.7	-4.1
EBIE	**Bielsa**	**3.45**	**161**	Pn	Pn	06 55 41.6	-3.3
0.2nm,0.1s,SNR=6.9							
EBIE				Pg	Pg	06 55 50.6	-7.3
0.4nm,0.1s,SNR=7.9							
EBIE				Sn	Sn	06 56 21.1	-5.7
3.2nm,0.2s,SNR=5.0							
EBIE				Lg		06 56 37.2	
9.6nm,0.3s,SNR=4.0							
EBIE	**Bielsa**	**3.45**	**161**	Pn	Pn	06 55 41.6	-3.2
0.2nm,0.1s,SNR=6.9							
EBIE	**Bielsa**	**3.45**	**161**	Pg	Pg	06 55 51.8	-6.2
EBIE				Sn	Sn	06 56 22.4	-4.4
3.2nm,0.2s,SNR=5.0							
SSF	**Saint Saulge**	**3.55**	**70**	*e*Pn	Pn	06 55 43.5	-2.7
SSF				*e*Pg	Pg	06 55 54.0	-5.9
SSF				*e*Sn	Sn	06 56 22.1	-7.2
SSF				*e*Sg	Sg	06 56 39.6	-7.6
21nm,0.4s							
SSF	**Saint Saulge**	**3.55**	**70**	Pn	Pn	06 55 41.0	-5.2
SSF				Pg	Pg	06 55 52.1	-7.8
SSF				Sn	Sn	06 56 22.2	-7.1
SSF				Lg		06 56 38.3	
SSF	**Saint Saulge**	**3.55**	**70**	Pn	Pn	06 55 43.5	-2.7
SSF				Pg	Pg	06 55 54.0	-5.9
SSF				Sn	Sn	06 56 22.2	-7.1
SSF				Lg		06 56 39.6	
11nm,0.4s							
MTLF	**Montolieu**	**3.67**	**134**	*e*Pn	Pn	06 55 44.7	-3.2
MTLF				*e*Pg	Pg	06 55 56.1	-6.2
MTLF				*e*Sn	Sn	06 56 26.7	-5.5
MTLF	**Montolieu**	**3.67**	**134**	Pn	Pn	06 55 45.0	-2.9
MTLF				Pg	Pg	06 55 54.1	-8.2
MTLF				Lg		06 56 41.3	
SMF	**Signal de Mont**	**3.68**	**77**	*e*Pn	Pn	06 55 44.3	-3.8
SMF				*e*Pg	Pg	06 55 57.9	-4.7
SMF				*e*Sn	Sn	06 56 25.8	-6.9
SMF				*e*Sg	Sg	06 56 43.7	-8.0
16nm,0.2s							
SMF	**Signal de Mont**	**3.68**	**77**	Pn	Pn	06 55 44.3	-3.8
SMF				Sn	Sn	06 56 25.8	-6.9
SMF				Lg		06 56 43.7	
7.8nm,0.2s							
EARI	**Arriondas**	**3.81**	**227**	Pn	Pn	06 55 46.2	-3.8
0.2nm,0.1s,SNR=7.9							
EARI	**Arriondas**	**3.81**	**227**	Pn	Pn	06 55 45.6	-4.4
LASF	**Ste Croix**	**4.16**	**115**	*e*Pn	Pn	06 55 52.4	-2.6
LASF				*e*Pg	Pg	06 56 06.2	-6.0
LASF				*e*Sn	Sn	06 56 37.8	-7.0
LASF				*e*Sg	Sg	06 56 58.5	-9.2
16nm,0.5s							
LASF	**Ste Croix**	**4.16**	**115**	Pn	Pn	06 55 53.1	-1.9
LASF				Pg	Pg	06 56 06.1	-6.1
LASF	**Ste Croix**	**4.16**	**115**	Pn	Pn	06 55 52.4	-2.6
LASF				Sn	Sn	06 56 37.8	-7.0
LASF				Lg		06 56 58.5	
8.1nm,0.5s							
ESAC	**San Caprasio**	**4.29**	**171**	Pn	Pn	06 55 54.1	-2.6
ESAC				Sn	Sn	06 56 42.9	-5.1
ESAC	**San Caprasio**	**4.29**	**171**	Pn	Pn	06 55 53.2	-3.6
1.1nm,0.1s,SNR=4.0							
ESAC				Sn	Sn	06 56 40.6	-7.4
10nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**4.29**	**171**	Pn	Pn	06 55 54.2	-2.5
ESAC				Sn	Sn	06 56 42.9	-5.1
VIVF	**Saint-Julien-l**	**4.40**	**102**	*e*Pg	Pg	06 56 10.9	-6.1
VIVF				*e*Sn	Sn	06 56 43.5	-7.4
VIVF				*e*Sg	Sg	06 57 06.5	-9.1
19nm,0.5s							
VIVF	**Saint-Julien-l**	**4.40**	**102**	Sn	Sn	06 56 43.5	-7.4
VIVF				Lg		06 57 06.5	
9.4nm,0.5s							
EJON	**La Jonquera**	**4.66**	**137**	Pn	Pn	06 55 59.2	-2.9
EJON				Sn	Sn	06 56 51.1	-6.3
EJON	**La Jonquera**	**4.66**	**137**	Pn	Pn	06 55 58.8	-3.2
7.3nm,0.2s,SNR=7.8							
EJON				Sn	Sn	06 56 49.8	-7.6
1.4nm,0.3s,SNR=7.9							
EJON	**La Jonquera**	**4.66**	**137**	Pn	Pn	06 55 59.2	-2.9
EJON				Sn	Sn	06 56 51.1	-6.4
EPON	**Pontenova**	**4.89**	**239**	Pn	Pn	06 56 01.5	-3.8
EPON				Sn	Sn	06 56 52.1	-11
EPON	**Pontenova**	**4.89**	**239**	Pn	Pn	06 56 00.9	-4.3
1.4nm,0.1s,SNR=4.5							
EPON				Lg		06 57 23.6	
16nm,2.0s,SNR=7.9							
EPON	**Pontenova**	**4.89**	**239**	Pn	Pn	06 56 01.5	-3.8
EPON				Sn	Sn	06 56 52.1	-11
CABF	**La Chapelle**	**5.22**	**80**	*e*Sg	Sg	06 57 32.0	-11
19nm,0.7s							
SMRF	**Simiane la Rot**	**5.32**	**109**	*e*Pn	Pn	06 56 07.9	-3.4
BAIF	**Baives**	**5.56**	**40**	*e*Pn	Pn	06 56 09.8	-4.9
BAIF				*e*Sn	Sn	06 57 11.3	-8.7
BAIF				*e*Sg	Sg	06 57 42.4	-12
2.4nm,0.2s							
ECAL	**Calabor**	**5.58**	**226**	Pn	Pn	06 56 10.7	-4.3
ECAL				Sn	Sn	06 57 09.8	-11
ECAL	**Calabor**	**5.58**	**226**	Pn	Pn	06 56 10.7	-4.3
2.6nm,0.3s,SNR=7.9							
ECAL				Sn	Sn	06 57 10.5	-10
3.0nm,0.3s,SNR=7.9							
EMOS	**Mosqueruela**	**5.63**	**173**	Sn	Sn	06 57 14.4	-7.5
0.8nm,0.3s,SNR=7.9							
HAU	**Haudompre**	**5.67**	**66**	*e*Pn	Pn	06 56 11.3	-5.0
HAU				*e*Sg	Sg	06 57 46.4	-11
7.0nm,0.4s							
LPG	**La Plagne**	**5.71**	**92**	*e*Sg	Sg	06 57 48.2	-11
5.7nm,0.5s							
GIVF	**Givet**	**5.87**	**43**	*e*Pn	Pn	06 56 15.3	-3.8
GIVF	**Givet**	**5.87**	**43**	Pn	Pn	06 56 16.2	-2.9
HINF	**Hinteralfeld**	**5.94**	**69**	*e*Pn	Pn	06 56 15.6	-4.5
HINF				*e*Sn	Sn	06 57 20.3	-9.3
HINF				*e*Sg	Sg	06 57 55.0	-12
7.0nm,0.3s							
ELOB	**Lobios**	**6.33**	**232**	Pn	Pn	06 56 19.7	-5.8
ELOB	**Lobios**	**6.33**	**232**	Pn	Pn	06 56 20.9	-4.7
0.4nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**6.33**	**232**	Pn	Pn	06 56 19.7	-5.9

IDC 18 06:58:01.6±4.1, 2.92N×96.17E, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=282.5km s-min=33.2km az=49.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.82**	**123**	P	P	07 06 09.6	-1.8
0.6nm,0.5s,baz=302,slow=9.1,SNR=13							
ASAR	**Alice Springs**	**45.25**	**128**	P	P	07 06 21.2	-1.7
0.3nm,0.5s,baz=299,slow=8.2,SNR=7.2							
ARCES	**ARCESS Array B**	**80.58**	**340**	P	P	07 10 15.7	-1.4
4.6nm,0.9s,baz=117,slow=6.0,SNR=3.9							

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*IDC **18** 07:27:46.5±0.7, 9.38S×157.36E, mb4.4/12, mb1 4.6/15, mb1mx4.5/18, mbtmp4.4/15, ML3.7/3, MS4.0/24, Ms1 4.0/24, ms1mx3.9/30, Error ellipse: s-maj=19.7km s-min=16.0km az=140.0*
*BJI **18** 07:27:49.8, 9.15S×157.14E, h16km, mB5.2, mb4.8, Ms4.7, Msz4.3*
*NEIC **18** 07:27:52.0±1.3, 9.37S×157.36E, h37km±13km, mb4.8/15, Error ellipse: s-maj=11.9km s-min=9.2km az=149.0*
ISC 18 07:27:50.2±0.3, 9.35S±0.06×157.30E±0.04, h34km, h34km±2.5km: pP-P, n70, σ19 13/60, mb4.7/29, MS4.0/28, 3C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.61**	**92**	Pn	**P**	**07 28 29.2**	**-1.8**
112nm,0.3s,baz=241,slow=9.3,SNR=14							
HNR				Sn	**S**	**07 29 00.9**	**-1.0**
252nm,0.3s,baz=162,slow=16,SNR=14							
HNR	**Honiara**	**2.61**	**92**	*e*P	**P**	**07 28 29.8**	**-1.2**
HNR				S	**S**	**07 29 02.3**	**+0.4**
PMG	**Port Moresby**	**10.01**	**269**	Pn	**P**	**07 30 14.4**	**-0.5**
0.4nm,0.3s,baz=73,slow=7.0,SNR=5.6							
PMG				LR	LR	07 33 29.8	
comp=Z,358nm,18.2s,baz=267,slow=34							
PMG	**Port Moresby**	**10.01**	**269**	*e*P	**P**	**07 30 16.5**	**+1.6**
14nm,0.8s							
CTA	**Charters Tower**	**15.10**	**224**	Pn	**P**	**07 31 23.1**	**+0.3**
0.5nm,0.3s,baz=48,slow=13,SNR=6.8							
CTAO	**Charters Tower**	**15.10**	**224**	P	**P**	**07 31 20.5**	**-2.4**
6.0nm,0.7s							
DZM	**Mont Dzumac**	**15.40**	**146**	Pn	**P**	**07 31 28.1**	**+1.3**
0.7nm,0.3s,baz=340,slow=17,SNR=5.4							
DZ

RAR Rarotonga 42.92 111 LR LR 07 49 36.6
comp=Z,249nm,21.6s,MS4.1,baz=166,slow=31
NWAO Narrogin (SRO) 43.74 232 LR LR 07 53 33.8
comp=Z,199nm,19.7s,MS4.0,baz=34,slow=35
JHJ Hachijo jima 2 45.41 339 LR LR 07 53 53.4
comp=Z,127nm,18.6s,MS3.9,baz=129,slow=34
JOW Kunigami 45.68 323 LR LR 07 52 22.2
comp=Z,90nm,19.1s,MS3.7,baz=123,slow=32
MJAR Matsushiro Arr 49.05 340 P **P** **07 36 34.8 -1.4**
10nm,0.8s,mb4.9,baz=167,slow=8.4,SNR=18
MAJO Matsushiro 49.05 340 *eP* **P** **07 36 34.5 -1.8**
7.0nm,0.5s,mb5.0
MAT Matsushiro 49.05 340 *eP* **P** **07 36 34.0 -2.2**
11nm,0.8s,mb5.0
MAT Matsushiro 49.05 340 P **P** **07 36 34.4 -1.8**
MAT *eS* **S** **07 43 36.6 -0.9**
PPT Papeete 52.16 105 *eS* **S** **07 44 23.8 +3.0**
PPT *eLQ* 07 50 01.4
PPT *eLR* LR 07 52 06.8
262nm,24.2s
PPT Papeete 52.16 105 LR LR 07 55 59.2
comp=Z,250nm,18.7s,MS4.3,baz=298,slow=32
TBI Tubuai 52.67 112 *eS* **S** **07 44 32.8 +5.3**
TBI *eLQ* 07 50 27.2
TBI *eLR* LR 07 52 30.0
202nm,35.8s
SSE Sheshan 53.06 321 P **P** **07 37 07.6 +1.0**
SSE XP sP 07 37 20.6 -0.3
SSE PCP PcP 07 38 15.5 +0.7
SSE PP PP 07 39 07.6 -0.4
SSE SCP 07 42 10.9
SSE S **S** **07 44 36.8 +4.1**
SSE SCS ScS 07 46 54.4 +4.2
SSE AMB AMB
comp=Z,31nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,47nm,3.8s
SSE LR LR
comp=N,44nm,22.4s,MS3.6
SSE LR LR
comp=E,53nm,22.7s,MS3.6
SSE LR LR
comp=Z,89nm,24.8s,MS3.7
SSE Sheshan 53.06 321 P **P** **07 37 07.6 +1.0**
comp=Z,31nm,0.7s,mb5.3
SSE sP sP 07 37 20.6 -0.3
SSE PcP PcP 07 38 15.5 +0.7
SSE PP PP 07 39 07.6 -0.4
SSE ScP 07 42 10.9
SSE S **S** **07 44 36.7 +4.0**
SSE sS 07 44 51.6
SSE ScS ScS 07 46 54.4 +4.2
SSE LR LR
comp=Z,90nm,24.8s,MS3.7
ASAJ Asahikawa 54.86 347 LR LR 07 57 56.6
comp=Z,206nm,19.7s,MS4.2,baz=38,slow=33
NJ2 Nanjing 55.17 320 *eP* **P** **07 37 24.9 +2.8**
NJ2 AP pP 07 37 34.6 +2.2
NJ2 XP sP 07 37 38.4 +2.1
NJ2 PP PP 07 39 29.4 +2.4
NJ2 S **S** **07 45 05.0 +3.8**
NJ2 AMB AMB
comp=Z,750nm,4.0s
NJ2 LR LR
comp=N,610nm,12.5s
NJ2 LR LR
comp=E,240nm,18.8s
NJ2 LR LR
comp=Z,750nm,19.0s
MDJ Mudanjiang 59.27 337 P **P** **07 37 51.8 +0.9**
MDJ AMB AMB
comp=Z,6.0nm,0.8s,mb4.7
MDJ AMB AMB
comp=Z,50nm,3.3s
CN2 Changchun 60.29 334 *eP* **P** **07 37 57.3 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA Guiyang 60.69 307⇑ *iP* **P** **07 38 01.0 +0.1**
GYA AP pP 07 38 13.4 +2.2
GYA XP sP 07 38 15.8 +0.6
GYA PP PP 07 40 16.8 +0.1
GYA S **S** **07 46 13.3 -0.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,90nm,4.0s
GYA LR LR
comp=N,130nm,18.4s,MS4.3
GYA LR LR
comp=E,160nm,18.7s,MS4.3
GYA LR LR
comp=Z,200nm,18.5s,MS4.3
BJI Beijing 62.14 325 *eP* **P** **07 38 09.9 -0.6**
BJI AMB AMB
comp=Z,7.0nm,0.8s,mb4.8
BJI LR LR
comp=N,138nm,14.9s,MS4.3
BJI LR LR
comp=E,95nm,15.8s,MS4.3
BJI LR LR
comp=Z,111nm,30.7s
BJI Beijing 62.14 325 *eP* **P** **07 38 09.9 -0.6**
comp=Z,7.0nm,0.8s,mb4.8
BJI S **S** **07 46 19.5 -12**
BJI LR LR
comp=Z,110nm,30.7s,MS3.8
FX1 Attu Island--F 63.45 11 LR LR 08 03 23.8
comp=Z,12nm,18.5s,MS3.1,baz=206,slow=34
CMAR Chiang Mai Arr 63.85 296 P **P** **07 38 21.9 -0.4**
comp=Z,3.3nm,0.6s,mb4.6,baz=117,slow=5.0,SNR=21
CMAR LR LR 08 02 09.0
comp=Z,56nm,20.9s,MS3.7,baz=135,slow=32
CD2 Chengdu 65.07 310 P **P** **07 38 29.3 -0.6**
RKT Rikitea 65.96 111 *eLR* LR 07 58 46.4
comp=Z,278nm,31.0s
LZH Lanzhou 67.58 315 *eP* **P** **07 38 46.0 +0.2**
LZH AP pP 07 38 56.5 +0.3
LZH XP sP 07 39 00.3 +0.3
LZH PP PP 07 41 18.1 +1.4
LZH *eS* S 07 47 40.5 +1.8
LZH XS 07 47 57.3
LZH *eSS* SS 07 52 03.5 +2.3
LZH AMB AMB
comp=Z,25nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,120nm,4.5s
LZH LR LR
comp=N,536nm,15.6s
LZH LR LR
comp=Z,856nm,17.8s,MS5.0
LZH Lanzhou 67.58 315 *eP* **P** **07 38 46.0 +0.2**
comp=Z,25nm,1.2s,mb5.1
LZH pP pP 07 38 56.5 +0.3
LZH sP sP 07 39 00.2 +0.2
LZH PP PP 07 41 18.1 +1.4
LZH *eS* S 07 47 40.5 +1.8
LZH sS 07 47 57.2
LZH *eSS* SS 07 52 03.5 +2.3
LZH LR LR
comp=Z,860nm,17.8s,MS5.0
VNDA Vanda 68.19 179 P **P** **07 38 49.0 +0.1**
comp=Z,3.2nm,0.9s,mb4.4,baz=340,slow=6.3,SNR=12
VNDA LR LR 08 01 33.4
comp=Z,210nm,20.5s,MS4.3,baz=356,slow=30
VNDA Vanda 68.19 179 *eP* **P** **07 38 48.9 -0.1**
comp=Z,1.6nm,0.8s,mb4.1
VNDA *e* pP 07 38 57.1 -2.3
GTA Gaotai 72.01 317 P **P** **07 39 13.6 +0.9**
GTA AP pP 07 39 24.8 +1.7
GTA XP sP 07 39 28.8 +1.9
GTA PP PP 07 41 55.8 +1.3
GTA S S 07 48 34.9 +4.3
GTA XS 07 48 49.8
GTA AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,77nm,7.6s
GTA LR LR
comp=N,184nm,20.6s,MS4.6
GTA LR LR
comp=E,299nm,24.1s,MS4.6
GTA LR LR
comp=Z,185nm,27.9s,MS4.2
ULN Ulaanbaatar 72.20 327 *eP* **P** **07 39 14.6 +0.9**
comp=Z,17nm,1.3s,mb4.8

SHL Shillong 72.45 301 *eP* **P** **07 39 15.7 +0.1**
SONM Songino Array 72.54 327 P **P** **07 39 16.1 +0.4**
comp=Z,5.4nm,1.1s,mb4.4,baz=146,slow=4.5,SNR=8.9
BILL Bilibino 77.46 3 *eP* **P** **07 39 44.0 +0.4**
comp=Z,21nm,1.4s,mb4.9
QSPA South Pole Qui 80.64 180 *eP* **P** **07 40 01.6 +0.8**
comp=Z,15nm,1.0s,mb4.9
WMQ Urumqi 82.09 317⇑**P** **P** **07 40 10.8 +1.8**
WMQ AP pP 07 40 21.3 +1.7
WMQ XP sP 07 40 24.8 +1.6
WMQ PP PP 07 43 21.3 +2.2
WMQ S S 07 50 22.3 +2.5
WMQ SKS SKS 07 50 24.3 +2.0
WMQ XS 07 50 39.6
WMQ AMB AMB
comp=Z,9.0nm,0.4s,mb5.0
WMQ AMB AMB
comp=Z,148nm,4.3s
WMQ LR LR
comp=N,53nm,22.8s,MS4.0
WMQ LR LR
comp=E,42nm,22.8s,MS4.0
WMQ LR LR
comp=Z,88nm,24.6s,MS4.0
MCK McKinley 83.39 21 *eP* **P** **07 40 15.1 -0.1**
comp=Z,9.3nm,1.1s,mb4.7
COLA College 84.45 21 *eP* **P** **07 40 20.0 -0.5**
comp=Z,3.2nm,0.8s,mb4.5
ILAR Eielson Array 84.73 21 P **P** **07 40 21.5 -0.3**
comp=Z,1.5nm,0.9s,mb4.1,baz=262,slow=5.4,SNR=15
ILAR LR LR 08 16 11.1
comp=Z,72nm,19.5s,MS4.1,baz=355,slow=34
MKAR Makanchi Array 86.67 318 P **P** **07 40 32.6 +0.8**
comp=Z,2.0nm,0.6s,mb4.5
DAWY Dawson 87.13 23 *eP* **P** **07 40 32.4 -1.3**
ZAL Zalesovo 87.40 326 P **P** **07 40 37.0 +1.8**
comp=Z,1.1nm,0.5s,mb4.4,baz=80,slow=15,SNR=4.5
ZAL LR LR 08 18 58.7
comp=Z,90nm,20.9s,MS4.2,baz=11,slow=35
ZAL Zalesovo 87.40 326 P **P** **07 40 37.0 +1.8**
ZAL LR LR 08 18 58.7
YBH Yreka Blue Hor 88.77 47 LR LR 08 12 02.7
comp=Z,99nm,19.5s,MS4.2,baz=326,slow=30
DLBC Dease Lake 89.00 30 LR LR 08 16 22.1
comp=Z,109nm,19.7s,MS4.3,baz=243,slow=33
INK Inuvik 91.11 20 LR LR 08 18 22.5
comp=Z,67nm,20.0s,MS4.1,baz=260,slow=33
NVAR Mina Array Bea 91.38 51 P **P** **07 40 54.2 -0.2**
comp=Z,0.6nm,0.7s,mb4.0,baz=278,slow=6.4,SNR=2.8
NEW Newport 93.97 42 LR LR 08 22 46.1
comp=Z,88nm,18.8s,MS4.2,baz=296,slow=35
YKA Yellowknife Ar 97.33 28 P **P** **07 41 22.7 +1.7**
comp=Z,0.4nm,0.8s,mb3.9,baz=263,slow=4.6,SNR=7.9
YKA LR LR 08 22 42.2
comp=Z,61nm,18.3s,MS4.1,baz=265,slow=34
YKA Yellowknife Ar 97.33 28 P **P** **07 41 22.7 +1.7**
YKA LR LR 08 22 42.2
BDFB Brasilia 144.71 135 PKP PKPdf 07 47 25.1 +0.5
comp=Z,2.4nm,0.5s,baz=251,slow=5.0,SNR=8.2
ESDC Sonseca Array 145.48 334 PKPbc PKPbc 07 47 27.5 +1.7
comp=Z,0.3nm,0.4s,baz=16,slow=3.8,SNR=5.8

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*MOS **18** 07:45:32.5±1.1, 36.49N×71.05E, h192km, mb4.1/7, Error ellipse: s-maj=19.0km s-min=8.3km az=88.4*
*IDC **18** 07:45:34.3±0.9, 36.47N×71.10E, h197km±7km, mb3.8/13, mb1 3.9/16, mb1mx3.7/26, mbtmp4.3/16, Error ellipse: s-maj=15.4km s-min=11.4km az=94.0*
*NEIC **18** 07:45:34.1±0.4, 36.49N×71.11E, mb4.0/6, Error ellipse: s-maj=11.4km s-min=7.5km az=109.0*
*NNC **18** 07:45:37.0±3.7, 36.90N×70.79E, h193km±25km, mpv4.5, Error ellipse: s-maj=34.9km s-min=28.2km az=68.0*
ISC 18 07:45:33.0±0.4, 36.51N±0.03×71.08E±0.07, h197km±5km, n71, σ1°9°03/82, mb3.9/17, 4C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.76**	**165**	⇓P	**P**	**07 46 20.8**	**+0.6**
CEP				S	**S**	**07 46 58.0**	**+1.3**
CHCP	**Chirah Chowk**	**3.36**	**147**	⇓P	**P**	**07 46 28.6**	**+1.2**
THW	**Thamme Wali**	**3.75**	**171**	⇓P	**P**	**07 46 33.0**	**+0.8**
SBDP	**Sheikh Budin**	**4.20**	**183**	⇓P	**P**	**07 46 36.9**	**-1.0**
SARP	**Sargodha**	**4.76**	**163**	⇓P	**P**	**07 46 45.2**	**+0.2**
DRP	**Derazinda**	**4.81**	**189**	⇑P	**P**	**07 46 45.8**	**+0.2**
THN	**Thein Dam**	**5.59**	**135**	*eP*	**P**	**07 46 55.9**	**+0.3**
THN				*e*		07 47 59.6	
DLH	**Dalhousie**	**5.65**	**133**	*e*	**P**	**07 46 59.0**	**+2.5**
DLH				*e*		07 48 02.0	
PONG	**Pong**	**6.08**	**137**	*eP*	**P**	**07 47 02.0**	**0.0**
PONG				*e*		07 48 14.0	
KK31	**Karatay Array**	**6.60**	**356**	⇓P	**P**	**07 47 07.8**	**-1.0**
	19nm,0.4s,baz=174,slow=13,SNR=252						
KK31				S	**S**	**07 48 17.4**	**-6.1**
	50nm,0.5s,baz=183,slow=21,SNR=14						
KKAR	**Karatay Array**	**6.60**	**356**	*e*PN	**P**	**07 47 07.8**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
AAK	**Ala-Archa**	**6.66**	**22**	⇑P	**P**	**07 47 09.1**	**-0.5**
	comp=Z,37nm,0.8s						
AAK				⇑S	**S**	**07 48 23.7**	**-1.2**
	comp=Z,71nm,0.7s						
AAK	**Ala-Archa**	**6.66**	**22**	*eP*	**P**	**07 47 08.3**	**-1.3**
AAK				*eS*	**S**	**07 48 14.0**	**-11**
BHK	**Bhakra**	**6.74**	**137**	*e*	**S**	**07 48 28.8**	**+2.0**
FRU	**Bishkek**	**6.88**	**22**	*i*PN	**P**	**07 47 12.8**	**+0.3**
FRU				*i* S	**S**	**07 48 29.8**	**-0.2**
FRU				pmax	pmax		
	comp=Z,40nm,1.2s						
FRU				smax			
	comp=E,240nm,1.6s						
SDNR	**Sundarnagar**	**6.99**	**134**	*eP*	**P**	**07 47 14.0**	**+0.1**
SDNR				*eS*	**S**	**07 48 27.2**	**-5.4**
SMLA	**Simla**	**7.38**	**135**	*i* S	**S**	**07 48 33.3**	**-8.4**
KLP	**Kalpa**	**7.75**	**128**	*eP*	**P**	**07 47 23.0**	**-0.8**
KLP				*i*		07 47 24.2	
KLP				*eS*	**S**	**07 48 47.2**	**-3.2**
KHET	**Khetri**	**9.31**	**153**	*eP*	**P**	**07 47 42.9**	**-1.3**
KHET				*eS*	**S**	**07 49 23.0**	**-3.7**
KHET				*e*		07 49 26.5	
	comp=N,35nm,0.2s						
KHET				*e*		07 49 26.5	
	comp=E,25nm,0.2s						
NDI	**New Delhi**	**9.36**	**145**	*eP*	**P**	**07 47 43.0**	**-1.8**
NDI				*eS*	**S**	**07 49 22.0**	**-5.9**
AYAN	**Aya Nagar**	**9.49**	**146**	*eP*	**P**	**07 47 46.3**	**-0.2**
AYAN				*e*		07 49 27.7	
AYAN				*e*		07 49 30.7	
	comp=Z,19nm,1.0s						
JASL	**Jaisalmer**	**9.55**	**181**	*eP*	**P**	**07 47 45.9**	**-1.4**
JASL				*e*		07 49 11.2	
SONA	**Sohna**	**9.67**	**147**	*eP*	**P**	**07 47 48.4**	**-0.4**
SONA				*eS*	**S**	**07 49 30.1**	**-5.0**
SONA				*e*		07 49 33.2	
	comp=E,91nm,1.0s						
AGRA	**Agra**	**10.93**	**146**	*eP*	**P**	**07 48 04.5**	**-0.7**
AGRA				*e*		07 48 05.6	
	comp=Z,91nm,0.6s						
MK01	**Makanchi Array**	**13.24**	**36**	⇑P	**P**	**07 48 34.1**	**-0.2**
	comp=Z,2.6nm,0.7s						
MKAR	**Makanchi Array**	**13.25**	**36**	P	**P**	**07 48 34.6**	**+0.2**
KOLN	**Koldanda**	**13.72**	**126**	*eP*	**P**	**07 48 39.8**	**-0.6**
	comp=Z,14nm,0.4s						
GKN	**Gorkha**	**14.26**	**123**	*eP*	**P**	**07 48 46.8**	**-0.4**
	comp=Z,53nm,0.5s						
BHPL	**Bhopal**	**14.32**	**156**	*e*	**P**	**07 48 51.2**	**+3.2**
BHPL				*e*		07 51 21.1	
DMN	**Daman**	**14.83**	**123**	*eP*	**P**	**07 48 54.9**	**+0.7**
	comp=Z,23nm,0.4s						
KKN	**Kakani**	**14.83**	**122**	*eP*	**P**	**07 48 54.7**	**+0.4**
	comp=Z,39nm,0.6s						
PKI	**Pulchoki**	**15.06**	**122**	*eP*	**P**	**07 48 58.4**	**+1.3**
	comp=Z,58nm,0.6s						
GUN	**Gumba**	**15.17**	**120**	*eP*	**P**	**07 48 58.0**	**-0.5**
	comp=Z,41nm,0.6s						
JIRN	**Jiri**	**15.54**	**120**	*eP*	**P**	**07 49 04.6**	**+1.5**
	comp=Z,45nm,0.4s						
BVA0	**Borovoye Array**	**16.52**	**359**	P	**P**	**07 49 13.4**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=168,slow=12,SNR=40						
BVA0				⇓S	**S**	**07 52 13.1**	**+1.9**
	comp=Z,1.7nm,1.6s,baz=170,slow=24,SNR=3.6						
BVA0	**Borovoye Array**	**16.52**	**359**	*i* P	**P**	**07 49 13.4**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**16.52**	**359**	P	**P**	**07 49 13.6**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=168,slow=12,SNR=37						
BVAR				S	**S**	**07 52 14.5**	**+3.3**
	comp=Z,0.3nm,0.3s,baz=169,slow=24,SNR=4.4						
CHKZ	**Chkalovo**	**17.17**	**359**	⇓P	**P**	**07 49 18.3**	**-4.0**
	comp=Z,3.8nm,0.6s						
CHKZ				⇓S	**S**	**07 52 25.7**	**+0.4**
	comp=Z,9.2nm,2.1s						
CHKZ	**Chkalovo**	**17.17**	**359**	P	**P**	**07 49 20.9**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**19.87**	**24**	P	**P**	**07 49 51.0**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=254,slow=9.3,SNR=16						
ARU	**Arti**	**21.64**	**341**	P	**P**	**07 50 10.5**	**+2.5**
ARU				pmax	pmax		
	comp=Z,20nm,2.0s,mb4.3						
ARU	**Arti**	**21.64**	**341**	P	**P**	**07 50 10.5**	**+2.5**
	comp=Z,20nm,2.0s,mb4.3						
ZEI	**Tsey**	**21.79**	**295**	*eP*	**P**	**07 50 11.7**	**+2.2**
ZEI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
AKASG	**Malin Array Be**	**32.99**	**309**	P	**P**	**07 51 50.2**	**-0.8**
	comp=Z,2.3nm,0.5s,mb4.0,baz=81,slow=7.7,SNR=9.3						
AKASG	**Malin Array Be**	**32.99**	**309**	P	**P**	**07 51 50.2**	**-0.8**
FINES	**FINESS Array B**	**37.51**	**326**	P	**P**	**07 52 29.1**	**0.0**
	comp=Z,1.0nm,0.4s,mb3.7,baz=108,slow=12,SNR=9.4						
ARCES	**ARCESS Array B**	**41.16**	**338**	P	**P**	**07 52 59.4**	**+0.3**
	comp=Z,1.6nm,0.5s,mb3.7,baz=114,slow=7.7,SNR=15						
HFS	**Hagfors**	**43.10**	**322**	P	**P**	**07 53 14.6**	**-0.2**
	comp=Z,3.9nm,0.6s,mb4.0,baz=108,slow=9.4,SNR=8.5						
NB2	**NORSAR Subarra**	**44.41**	**323**	P	**P**	**07 53 24.4**	**-0.9**
	comp=Z,1.7nm,0.5s,mb3.6,baz=95,slow=7.4						
NB2	**NORSAR Subarra**	**44.41**	**323**	P	**P**	**07 53 24.4**	**-0.9**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
NOA	**NORSAR Array B**	**44.41**	**323**	P	**P**	**07 53 24.8**	**-0.5**
	comp=Z,3.7nm,0.8s,mb3.8,baz=96,slow=7.7,SNR=6.5						
NOA				pP	pP	07 54 07.7	-0.4
	comp=Z,1.4nm,0.8s,baz=99,slow=8.1,SNR=3.6						
NOA				sP	sP	07 54 30.1	-0.7
	comp=Z,1.4nm,0.8s,baz=96,slow=8.1,SNR=3.0						
KMBO	**Kilima Mbogo**	**48.88**	**228**	*eP*	**P**	**07 54 00.7**	**0.0**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO	**Kilima Mbogo**	**48.88**	**228**	P	**P**	**07 54 01.1**	**+0.3**
	comp=Z,2.2nm,0.6s,mb3.7,baz=37,slow=13,SNR=9.8						
KMBO	**Kilima Mbogo**	**48.88**	**228**	*eP*	**P**	**07 54 00.7**	**-0.1**
	comp=Z,2.2nm,0.6s,mb3.7						
MATP	**Matopo**	**69.45**	**223**	P	**P**	**07 56 21.4**	**-0.5**
	comp=Z,4.0nm,0.5s,mb4.3,baz=33,slow=6.4,SNR=17						
INK	**Inuvik**	**73.89**	**9**	*eP*	**P**	**07 56 47.7**	**+0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**73.89**	**9**	P	**P**	**07 56 47.9**	**+0.6**
	comp=Z,1.9nm,0.6s,mb3.9,baz=2.7,slow=7.4,SNR=26						
INK	**Inuvik**	**73.89**	**9**	*eP*	**P**	**07 56 47.7**	**+0.5**
	comp=Z,1.4nm,0.6s,mb3.8						
COLA	**College**	**74.45**	**16**	*eP*	**P**	**07 56 50.8**	**+0.2**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
COLA	**College**	**74.45**	**16**	*eP*	**P**	**07 56 50.8**	**+0.2**
	comp=Z,3.8nm,0.9s,mb4.0						
LBTB	**Lobatse**	**74.72**	**222**	*eP*	**P**	**07 56 52.8**	**-0.1**
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
LBTB	**Lobatse**	**74.72**	**222**	*eP*	**P**	**07 56 52.8**	**-0.2**
	comp=Z,2.1nm,0.4s,mb4.1						
ILAR	**Eielson Array**	**74.76**	**16**	P	**P**	**07 56 52.3**	**0.0**
	comp=Z,0.7nm,0.9s,mb3.3,baz=311,slow=4.5,SNR=8.0						
BOSA	**Boshof**	**77.79**	**220**	P	**P**	**07 57 09.7**	**-0.2**
	comp=Z,3.1nm,0.7s,mb4.0,baz=63,slow=2.7,SNR=6.8						
YKA	**Yellowknife Ar**	**81.24**	**3**	P	**P**	**07 57 28.3**	**+0.7**
	comp=Z,1.6nm,0.4s,mb4.0,baz=351,slow=5.4,SNR=128						
YKA				pP	pP	07 58 15.8	0.0
	comp=Z,0.6nm,0.7s,baz=347,slow=4.9,SNR=5.0						
WRA	**Warramunga Arr**	**81.94**	**122**	P	**P**	**07 57 31.6**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.0,baz=324,slow=5.0,SNR=46						
WB2	**Warramunga Arr**	**81.95**	**122**	*eP*	**P**	**07 57 31.8**	**-0.3**
ASPA	**Alice Springs**	**84.21**	**125**	*eP*	**P**	**07 57 43.3**	**-0.3**
ASAR	**Alice Springs**	**84.21**	**125**	P	**P**	**07 57 43.4**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.2,baz=312,slow=5.0,SNR=40						
PLCA	**Paso Flores**	**149.88**	**250**	PKPbc	PKPdf	08 05 00.5	+6.2
	comp=Z,0.9nm,0.8s,baz=275,slow=9.4,SNR=3.4						
PLCA	**Paso Flores**	**149.88**	**250**	PKPbc	PKPdf	08 05 00.1	+5.8

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*IDC **18** 08:00:05.5±1.6, 1.86S×99.81E, h31km±4km, mb3.6/8, mb1 3.8/8, mb1mx3.6/18, mbtmp3.8/8, Error ellipse: s-maj=86.6km s-min=13.4km az=52.0*
*NEIC **18** 08:00:05.8±0.9, 1.82S×99.88E, Error ellipse: s-maj=46.4km s-min=9.0km az=56.0*
ISC 18 08:00:04.1±1.6, 1.7S±0.3×100.0E±0.4, h31km, h31km±.3km: pP-P, n16, σ0°69°/9, mb3.9°/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.06**	**357**	P	**P**	**08 04 38.0**	**+0.2**
	0.8nm,0.4s,baz=186,slow=9.1,SNR=3.5						
FITZ	**Fitzroy Crossi**	**29.97**	**125**	P	**P**	**08 06 11.6**	**-0.7**
	3.7nm,0.9s,mb4.1,baz=270,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**38.13**	**121**	P	**P**	**08 07 22.6**	**+0.1**
	0.3nm,0.4s,mb3.4,baz=304,slow=9.2,SNR=3.0						
WRA				pP	pP	08 07 32.1	+0.3
	1.0nm,0.4s,baz=305,slow=9.0,SNR=8.0						
WRA	**Warramunga Arr**	**38.13**	**121**	P	**P**	**08 07 22.6**	**+0.1**
WRA				pP	pP	08 07 32.1	+0.3
ASAR	**Alice Springs**	**39.42**	**126**	P	**P**	**08 07 33.9**	**+0.7**
	0.2nm,0.4s,mb3.2,baz=302,slow=7.8,SNR=5.4						
ASAR				pP	pP	08 07 43.1	+0.6
	1.7nm,0.6s,baz=297,slow=7.6,SNR=16						
STKA	**Stephens Creek**	**49.34**	**132**	pP	pP	08 09 03.0	+0.7
	3.3nm,0.6s,baz=105,slow=16,SNR=4.4						
STKA	**Stephens Creek**	**49.34**	**132**	*ep*P	pP	08 09 02.6	+0.4
MKAR	**Makanchi Array**	**50.74**	**344**	P	**P**	**08 09 04.1**	**+0.9**
	1.5nm,0.4s,mb4.3						
ZAL	**Zalesovo**	**56.87**	**349**	P	**P**	**08 09 47.8**	**-0.5**
	1.5nm,0.5s,mb4.3,baz=299,slow=4.8,SNR=7.9						
ZAL				pP	pP	08 09 57.6	-0.3
	1.6nm,0.4s,baz=310,slow=2.7,SNR=4.7						
BVAR	**Borovoye Array**	**59.91**	**340**	P	**P**	**08 10 08.3**	**-1.2**
	0.5nm,0.6s,mb3.7,baz=135,slow=4.1,SNR=3.9						
BVAR				pP	pP	08 10 18.0	-1.2
	1.0nm,0.8s,baz=180,slow=7.4,SNR=3.4						
FINES	**FINESS Array B**	**83.85**	**332**	P	**P**	**08 12 32.4**	**+0.6**
	0.6nm,0.6s,mb3.9,baz=90,slow=5.7,SNR=4.6						
FINES				pP	pP	08 12 42.1	+0.3
	2.1nm,0.9s,baz=162,slow=13,SNR=3.0						
ARCES	**ARCESS Array B**	**86.20**	**340**	pP	pP	08 12 53.9	+0.5
	3.5nm,0.8s,baz=104,slow=5.0,SNR=2.1						
TXAR	**Lajitas Array**	**144.46**	**37**	PKP	PKPdf	08 19 40.1	-3.2
	0.2nm,0.6s,baz=279,slow=1.1,SNR=4.7						
TXAR				pPKP		08 19 49.3	
	0.5nm,0.5s,baz=276,slow=1.2,SNR=8.9						
MIAR	**Mount Ida**	**144.95**	**20**	PKP	PKPdf	08 19 40.3	-3.7
MIAR				*e*		08 19 49.6	
TZTN	**Tazewell**	**145.17**	**5**	*e*PKP	PKPdf	08 19 40.2	-4.1
TZTN				*e*		08 19 49.9	
JCT	**Junction City**	**145.76**	**31**	PKP	PKPdf	08 19 42.9	-2.6
JCT				*e*		08 19 52.6	

IDC 18 08:11:33.2±3.6, 2.35S×99.29E, mb3.3/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, Error ellipse: s-maj=145.2km s-min=23.2km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.68**	**359**	P	P	08 16 16.9	-0.7
	0.5nm,0.4s,baz=180,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**38.44**	**120**	P	P	08 18 56.8	-1.8
	0.3nm,0.6s,baz=303,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**39.63**	**125**	P	P	08 19 07.0	-1.6
	0.2nm,0.6s,baz=300,slow=7.8,SNR=2.5						
MKAR	**Makanchi Array**	**51.18**	**345**	P	P	08 20 37.2	-3.1
	0.3nm,0.3s						
TXAR	**Lajitas Array**	**145.41**	**37**	PKPbc	PKPbc	08 31 13.3	-1.1
	0.2nm,0.5s,baz=323,slow=0.6,SNR=5.2						

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*NEIC **18** 08:12:00.2, 19.10N×102.89W, h11km, MD3.7(MEX), After MEX.*
MEX 18 08:11:59.5±0.8, 19.09N×102.89W, h8km±13km, MD3.7, 1D, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLM	**Colima**	**0.76**	**277**	*e*P	Pb	08 12 12.2	-2.4
COLM				*i* S	Sb	08 12 22.7	-2.1
COLM	**Colima**	**0.76**	**277**	⇓*i*P	Pb	08 12 12.2	-2.3
COLM				*i* S	Sb	08 12 22.7	-2.2
SFJM	**Santa Fe**	**1.40**	**354**	*i* P	Pn	08 12 21.8	-3.6
SFJM				*i* S	Sb	08 12 39.1	-4.2
ZIIG	**Zihuatanejo**	**2.00**	**137**	*i* P	Pn	08 12 30.1	-3.9
ZIIG				*i* S	Sn	08 12 54.8	-4.7
CJM	**Chamela**	**2.07**	**282**	*e*P	Pn	08 12 33.1	-1.9
CJM				*i* S	Sn	08 12 57.9	-3.4
CJM	**Chamela**	**2.07**	**282**	*e*P	Pn	08 12 32.9	-2.2
CJM				*i* S	Sn	08 12 56.9	-4.5

*IDC **18** 08:28:17.3±1.2, 0.65N×96.68E, h24km±4km, mb3.8/7, mb1 4.0/8, mb1mx3.8/19, mbtmp4.0/8, ML4.1/1, MS3.3/1, Ms1 3.5/1, ms1mx3.1/13, Error ellipse: s-maj=50.2km s-min=13.4km az=55.0*

*NEIC **18** 08:28:17.7±0.6, 0.78N×96.90E, mb4.6/5, Error ellipse: s-maj=17.1km s-min=8.4km az=64.0*

ISC 18 08:28:16.0±0.8, 0.81N±0.10×96.9E±0.1, h25km, h25km±.7km:pP-P, n20, σ0°77/17, mb4.2/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.82**	**40**	*e*P	**Pn**	**08 29 41.9**	**-1.1**
KULM				*e*		08 29 49.0	
CM31	**Chiang Mai Arr**	**17.65**	**6**	*e*P	**P**	**08 32 23.5**	**+1.4**
	9.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.65**	**6**	P	**P**	**08 32 22.8**	**+0.6**
	0.3nm,0.3s,baz=197,slow=12,SNR=12						
CMAR				LR	LR	08 39 54.8	
	comp=Z,96nm,18.6s,baz=188,slow=39						
SHL	**Shillong**	**25.08**	**349**	*e*P	**P**	**08 33 41.0**	**+0.6**
LSA	**Lhasa**	**29.25**	**350**	*e*P	**P**	**08 34 18.2**	**-0.3**
	12nm,0.9s,mb4.6						
LSA				*e*	pP	08 34 26.8	+1.1
ENH	**Enshi**	**31.65**	**21**	*e*P	**P**	**08 34 38.9**	**-0.8**
	11nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**42.09**	**121**	P	**P**	**08 36 07.9**	**-0.1**
	1.5nm,0.7s,mb3.7,baz=299,slow=9.2,SNR=18						
WRA				pP	pP	08 36 15.3	-0.2
	1.9nm,0.8s,baz=301,slow=9.2,SNR=10						
WRAB	**Tennant Creek**	**42.09**	**121**	*e*P	**P**	**08 36 08.6**	**+0.5**
	8.3nm,1.1s,mb4.3						
WRAB				*e*	pP	08 36 15.0	-0.5
WB2	**Warramunga Arr**	**42.10**	**121**	*e*P	**P**	**08 36 07.5**	**-0.6**
ASAR	**Alice Springs**	**43.40**	**127**	P	**P**	**08 36 19.7**	**+1.0**
	0.3nm,0.4s,mb3.4,baz=308,slow=7.8,SNR=7.1						
ASAR				pP	pP	08 36 26.9	+0.7
	1.7nm,0.9s,baz=303,slow=7.9,SNR=11						
MKAR	**Makanchi Array**	**47.55**	**346**	P	**P**	**08 36 52.2**	**+0.7**
	2.5nm,0.6s,mb4.4,baz=162,slow=7.7,SNR=14						
MKAR				pP	pP	08 36 60.0	+1.1
	6.3nm,0.8s,baz=161,slow=8.4,SNR=15						
MKAR	**Makanchi Array**	**47.55**	**346**	P	**P**	**08 36 52.2**	**+0.7**
MKAR				pP	pP	08 36 60.0	+1.1
SONM	**Songino Array**	**47.56**	**9**	P	**P**	**08 36 52.2**	**+0.6**
	1.2nm,0.7s,mb4.0,baz=180,slow=7.2,SNR=3.3						
SONM				pP	pP	08 36 59.8	+0.8
	2.1nm,0.8s,baz=190,slow=7.5,SNR=4.5						
ZAL	**Zalesovo**	**53.89**	**351**	P	**P**	**08 37 39.5**	**+0.1**
	3.3nm,0.6s,mb4.5,baz=315,slow=5.4,SNR=15						
ZAL				pP	pP	08 37 47.0	0.0
	4.5nm,0.5s,baz=288,slow=7.8,SNR=9.9						
BVAR	**Borovoye Array**	**56.52**	**341**	P	**P**	**08 37 57.7**	**-0.9**
	0.9nm,0.6s,mb4.0,baz=124,slow=11,SNR=5.0						
BVAR				pP	pP	08 38 05.2	-0.9
	3.1nm,0.7s,baz=139,slow=14,SNR=8.5						
CHKZ	**Chkalovo**	**57.00**	**342**	*e*P	**P**	**08 38 00.9**	**-1.1**
	4.8nm,0.8s,mb4.6						
CHKZ				*e*	pP	08 38 08.9	-0.7
AKASG	**Malin Array Be**	**75.38**	**323**	P	**P**	**08 39 58.8**	**-0.6**
	0.2nm,0.2s,mb3.6,baz=91,slow=5.6,SNR=1.8						
AKASG				pP	pP	08 40 05.8	-1.4
	0.7nm,0.4s,baz=89,slow=5.0,SNR=2.2						
FINES	**FINESS Array B**	**80.20**	**333**	pP	pP	08 40 33.6	0.0
	0.9nm,0.7s,baz=141,slow=8.9,SNR=2.0						
TXAR	**Lajitas Array**	**144.16**	**32**	PKP	PKPdf	08 47 51.3	-3.7
	0.3nm,0.6s,baz=180,slow=1.3,SNR=4.2						
JCT	**Junction City**	**145.06**	**26**	*e*PKP	PKPdf	08 47 53.5	-3.1
JCT				*e*		08 48 01.0	

IDC 18 08:31:39.4±6.4, 20.90S×178.40W, mb3.3/2, mb1 3.5/2, mb1mx3.4/15, mbtmp3.3/2, Error ellipse: s-maj=299.2km s-min=98.8km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.07**	**257**	P	P	08 39 48.8	-2.3
	0.2nm,0.3s,baz=89,slow=6.4,SNR=4.1						
WRA	**Warramunga Arr**	**44.18**	**263**	P	P	08 39 50.7	-1.4
	0.1nm,0.3s,baz=99,slow=7.5,SNR=12						
AKASG	**Malin Array Be**	**143.18**	**331**	PKP	PKPdf	08 51 15.1	-2.0
	0.9nm,0.4s,baz=36,slow=4.1,SNR=7.8						

DJA 18 09:22:23.0±0.9, 9.53S×116.14E, h33km, MD4.6/2, ML4.2/4, 6D, Error ellipse: s-maj=23.3km s-min=13.0km az=169.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.00**	**323**	⇓*e*Pn	Pn	09 22 39.3	-1.6
	716nm,0.2s						
RATI	**Rata**	**1.00**	**323**	*e*Pg	P	09 22 40.1	-0.6
RATI				*e*Sn	Sn	09 22 52.0	-2.0
KEDI	**Kedomdong**	**1.04**	**359**	⇓*e*Pn	Pn	09 22 40.2	-1.3
	838nm,0.2s						
KELI	**Kelakatan**	**2.09**	**309**	⇓*e*Pn	Pn	09 22 55.2	-1.3
	53nm,0.2s						
KELI				⇓*e*Sn	Sn	09 23 18.3	-3.3
SRDI	**Scrawed**	**2.23**	**298**	⇓*e*Pn	Pn	09 22 56.9	-1.6
	72nm,0.2s						
SRDI				⇓*e*Sn	Sn	09 23 21.6	-3.6

*IDC **18** 09:33:28.2±0.8, 9.35S×157.33E, mb4.3/13, mb1 4.4/16, mb1mx4.4/20, mbtmp4.3/16, ML3.6/3, MS4.0/18, Ms1 4.0/18, ms1mx3.9/25, Error ellipse: s-maj=25.0km s-min=16.7km az=138.0*

*BJI **18** 09:33:29.9, 9.22S×157.12E, h10km, mB5.0, mb4.7, Ms4.6, Msz4.3*

*NEIC **18** 09:33:29.9±0.4, 9.34S×157.35E, h10km, mb4.8/13, Error ellipse: s-maj=12.1km s-min=7.8km az=137.0*

ISC 18 09:33:31.4±0.4, 9.46S±0.07×157.42E±0.05, h33km, (h36km±1.3km:pP-P), n57, σ1°16/49, mb4.5/28, MS4.0/20, 3C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.49**	**90**	Pn	**Pn**	**09 34 10.7**	**+0.1**
	76nm,0.3s,baz=208,slow=5.3,SNR=30						
HNR				Sn	**Sn**	**09 34 38.8**	**-1.4**
	174nm,0.3s,baz=52,slow=22,SNR=8.6						
HNR	**Honiara**	**2.49**	**90**	*e*P	**P**	**09 34 11.1**	**+0.6**
PMG	**Port Moresby**	**10.13**	**269**	Pn	**P**	**09 35 54.8**	**-2.9**
	0.4nm,0.3s,baz=103,slow=6.7,SNR=4.7						
PMG				LR	LR	09 38 48.7	
	comp=Z,234nm,20.1s,baz=271,slow=32						
CTA	**Charters Tower**	**15.10**	**224**	Pn	**P**	**09 37 03.1**	**-1.0**
	0.3nm,0.3s,baz=63,slow=16,SNR=3.3						
CTAO	**Charters Tower**	**15.10**	**224**	*e*P	**P**	**09 37 04.0**	**-0.1**
WRAB	**Tennant Creek**	**24.59**	**242**	*e*P	**P**	**09 38 49.8**	**-0.2**
	16nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**24.60**	**242**	⇑*i*P	**P**	**09 38 50.4**	**+0.3**
WRA	**Warramunga Arr**	**24.61**	**242**	P	**P**	**09 38 50.1**	**-0.1**
	9.6nm,1.0s,mb4.3,baz=67,slow=9.7,SNR=48						
KAKA	**Kakadu**	**24.73**	**260**	*e*P	**P**	**09 38 51.3**	**-0.1**
	7.5nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**26.54**	**235**	P	**P**	**09 39 07.2**	**-1.1**
	5.3nm,0.8s,mb4.1,baz=66,slow=10,SNR=23						
ASAR				LR	LR	09 49 18.9	
	comp=Z,225nm,18.1s,MS3.8,baz=56,slow=36						
ASPA	**Alice Springs**	**26.54**	**235**	*e*P	**P**	**09 39 10.7**	**+2.3**
STKA	**Stephens Creek**	**26.70**	**211**	⇑*i*P	**P**	**09 39 10.2**	**+0.4**
	4.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**26.70**	**211**	P	**P**	**09 39 10.1**	**+0.3**
	4.1nm,0.6s,mb4.2,baz=42,slow=13,SNR=14						
STKA				LR	LR	09 49 59.0	
	comp=Z,254nm,18.7s,MS3.8,baz=28,slow=37						
RAO	**Raoul Island**	**30.35**	**134**	LR	LR	09 49 05.4	
	comp=Z,385nm,19.6s,MS4.0,baz=98,slow=31						
FITZ	**Fitzroy Crossi**	**32.00**	**251**	LR	LR	09 52 09.0	
	comp=Z,203nm,18.1s,MS3.9,baz=72,slow=35						
URZ	**Urewera**	**33.70**	**151**	LR	LR	09 52 57.9	
	comp=Z,424nm,18.1s,MS4.2,baz=17,slow=35						
RPZ	**Rata Peaks**	**36.13**	**163**	LR	LR	09 52 29.0	
	comp=Z,181nm,21.0s,MS3.8,baz=334,slow=32						
NWAO	**Narrogin (SRO)**	**43.76**	**232**	LR	LR	09 57 45.4	
	comp=Z,214nm,19.8s,MS4.1,baz=50,slow=33						
JHJ	**Hachijo jima 2**	**45.56**	**339**	LR	LR	09 58 29.2	
	comp=Z,105nm,21.5s,MS3.7,baz=109,slow=33						
MJAR	**Matsushiro Arr**	**49.20**	**340**	P	**P**	**09 42 16.8**	**-1.8**
	5.8nm,0.8s,mb4.7,baz=170,slow=8.4,SNR=13						
MJAR				LR	LR	10 00 42.9	
	comp=Z,65nm,18.1s,MS3.7,baz=150,slow=33						
MAJO	**Matsushiro**	**49.20**	**340**	P	**P**	**09 42 15.8**	**-2.9**
	8.5nm,0.8s,mb4.8						
PPT	**Papeete**	**52.02**	**105**	*e*LQ		09 55 43.2	
PPT				*e*LR	LR	09 57 46.1	
	237nm,23.5s						
PPT	**Papeete**	**52.02**	**105**	LR	LR	09 59 38.9	
	comp=Z,364nm,19.0s,MS4.4,baz=283,slow=30						
TBI	**Tubuai**	**52.51**	**112**	*e*S	**S**	**09 50 16.2**	**+9.4**
TBI				*e*LQ		09 55 52.2	
TBI				*e*LR	LR	09 58 08.8	
	189nm,34.2s						
ASAJ	**Asahikawa**	**54.99**	**347**	LR	LR	10 03 29.0	
	comp=Z,190nm,20.1s,MS4.2,baz=164,slow=33						
CN2	**Changchun**	**60.44**	**334**	*e*P	**P**	**09 43 42.1**	**+1.8**
ENH	**Enshi**	**60.67**	**313**	*e*P	**P**	**09 43 39.9**	**-2.2**
	14nm,1.1s,mb5.0						
BJI	**Beijing**	**62.30**	**325**	*e*P	**P**	**09 43 54.0**	**+1.1**
BJI				S	**S**	**09 52 16.9**	**+1.8**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.8						
BJI				LR	LR		
	comp=N,152nm,20.6s,MS4.3						
BJI				LR	LR		
	comp=E,129nm,20.0s,MS4.3						
BJI				LR	LR		
	comp=Z,120nm,33.7s						
BJI	**Beijing**	**62.30**	**325**	*e*P	**P**	**09 43 54.0**	**+1.1**
	comp=Z,8.0nm,1.1s,mb4.8						
BJI				S	**S**	**09 52 16.9**	**+1.8**
BJI				LR	LR		
	comp=Z,120nm,33.7s,MS3.8						
KMI	**Kunming**	**63.38**	**304**	P	**P**	**09 43 59.9**	**-0.3**
KMI				AP	pP	09 44 11.0	+0.5
KMI				S	**S**	**09 52 30.8**	**+2.0**
KMI				SS	SS	09 56 38.3	+0.7
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,40nm,3.1s						
KMI				LR	LR		
	comp=N,252nm,18.9s,MS4.5						
KMI				LR	LR		
	comp=E,185nm,15.9s,MS4.5						
KMI				LR	LR		
	comp=Z,231nm,17.4s,MS4.4						
KMI	**Kunming**	**63.38**	**304**	P	**P**	**09 43 59.9**	**-0.3**
	comp=Z,10.0nm,1.2s,mb4.8						
KMI				pP	pP	09 44 11.0	+0.5
KMI				S	**S**	**09 52 30.8**	**+2.0**
KMI				sS		09 52 47.3	
KMI				SS	SS	09 56 38.3	+0.7
KMI				LR	LR		
	comp=Z,230nm,17.4s,MS4.4						
CMAR	**Chiang Mai Arr**	**64.01**	**296**	P	**P**	**09 44 03.4**	**-1.2**
	comp=Z,2.6nm,1.0s,mb4.2,baz=112,slow=4.6,SNR=12						
CD2	**Chengdu**	**65.23**	**310**	P	**P**	**09 44 13.3**	**+1.1**
HHC	**Hu-ho-hao-te**	**65.49**	**323**	*e*P	**P**	**09 44 18.6**	**+4.9**
HHC				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,104nm,4.8s						
RKT	**Rikitea**	**65.81**	**111**	*e*LR	LR	10 04 23.8	
	comp=Z,270nm,30.5s						
LZH	**Lanzhou**	**67.75**	**315**	*e*P	**P**	**09 44 27.5**	**-0.6**
LZH				AP	pP	09 44 39.0	+0.6
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.1						
VNDA	**Vanda**	**68.08**	**179**	LR	LR	10 11 17.2	
	comp=Z,115nm,18.4s,MS4.1,baz=355,slow=33						
GTA	**Gaotai**	**72.17**	**317**	P	**P**	**09 44 55.8**	**+0.9**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**72.36**	**327**	*e*P	**P**	**09 44 56.0**	**0.0**
	comp=Z,19nm,1.4s,mb4.8						
SONM	**Songino Array**	**72.70**	**327**	P	**P**	**09 44 58.3**	**+0.3**
	comp=Z,5.6nm,1.2s,mb4.4,baz=146,slow=4.5,SNR=9.0						
TLY	**Talaya**	**76.40**	**329**	*e*P	**P**	**09 45 18.9**	**-0.4**
	comp=Z,11nm,1.4s,mb4.6						
BILL	**Bilibino**	**77.56**	**3**	P	**P**	**09 45 26.8**	**+1.3**
	comp=Z,11nm,1.3s,mb4.6						
QSPA	**South Pole Qui**	**80.53**	**180**	*e*P	**P**	**09 45 44.6**	**+3.2**
	comp=Z,10.0nm,1.0s,mb4.7						
WMQ	**Urumqi**	**82.26**	**317**	⇑P	**P**	**09 45 51.4**	**+0.3**
WMQ				AP	pP	09 46 01.9	+0.4
WMQ				XP	sP	09 46 05.4	+0.3
WMQ				PP	PP	09 49 01.9	+0.2
WMQ				S	S	09 56 02.9	+0.1
WMQ				SKS	SKS	09 56 04.9	+0.1
WMQ				XS		09 56 20.3	
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,105nm,4.3s						
WMQ				LR	LR		
	comp=N,49nm,20.4s,MS4.2						
WMQ				LR	LR		
	comp=E,95nm,20.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,91nm,21.2s,MS4.1						
MAW	**Mawson**	**83.06**	**203**	LR	LR	10 21 53.3	
	comp=Z,102nm,18.9s,MS4.2,baz=245,slow=35						
MCK	**McKinley**	**83.45**	**21**	*e*P	**P**	**09 45 56.5**	**-0.3**
	comp=Z,9.2nm,1.2s,mb4.7						
COLA	**College**	**84.52**	**20**	*e*P	**P**	**09 46 01.7**	**-0.4**
ILAR	**Eielson Array**	**84.79**	**21**	P	**P**	**09 46 02.8**	**-0.7**
	comp=Z,0.5nm,0.4s,mb4.0,baz=259,slow=5.5,SNR=20						
ILAR				LR	LR	10 20 01.3	
	comp=Z,70nm,18.7s,MS4.1,baz=352,slow=33						
MKAR	**Makanchi Array**	**86.83**	**318**	P	**P**	**09 46 13.5**	**-0.4**
	comp=Z,1.4nm,0.6s,mb4.4,baz=99,slow=6.6,SNR=12						
MKAR	**Makanchi Array**	**86.83**	**318**	P	**P**	**09 46 13.5**	**-0.4**
ZAL	**Zalesovo**	**87.56**	**326**	P	**P**	**09 46 16.4**	**-0.8**
	comp=Z,0.9nm,0.3s,mb4.5,baz=101,slow=10,SNR=3.7						
ZAL				LR	LR	10 25 04.0	
	comp=Z,87nm,21.0s,MS4.1,baz=208,slow=35						
ZAL	**Zalesovo**	**87.56**	**326**	P	**P**	**09 46 16.4**	**-0.8**
ZAL				LR	LR	10 25 04.0	
INK	**Inuvik**	**91.17**	**20**	P	**P**	**09 46 34.6**	**+0.6**
	comp=Z,0.6nm,0.9s,mb3.9,baz=230,slow=13,SNR=5.8						
NVAR	**Mina Array Bea**	**91.36**	**51**	P	**P**	**09 46 38.5**	**+2.9**
	comp=Z,1.4nm,0.9s,mb4.3,baz=243,slow=3.3,SNR=4.6						
NVAR				LR	LR	10 19 18.6	
	comp=Z,37nm,20.2s,MS3.8,baz=285,slow=30						
BVAR	**Borovoye Array**	**95.70**	**323**	P	**P**	**09 46 54.2**	**-0.8**
	comp=Z,0.5nm,0.5s,mb4.2,baz=135,slow=2.1,SNR=4.3						
YKA	**Yellowknife Ar**	**97.38**	**28**	P	**P**	**09 47 03.3**	**+0.9**
	comp=Z,0.2nm,0.6s,mb3.7,baz=261,slow=4.6,SNR=5.1						
YKA				LR	LR	10 24 27.5	
	comp=Z,78nm,19.7s,MS4.2,baz=270,slow=31						
BDFB	**Brasilia**	**144.55**	**134**	PKP	PKPdf	09 53 06.8	+1.2
	comp=Z,2.4nm,0.7s,baz=195,slow=4.9,SNR=4.3						

IDC 18 09:41:27.8±1.6, 9.11S×157.36E, mb3.8/4, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=44.4km s-min=28.0km az=164.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.57**	**97**	Pn	Pn	09 42 10.1	-1.2
	21nm,0.3s,baz=230,slow=12,SNR=5.4						
HNR				Sn	Sn	09 42 39.5	-4.3
	67nm,0.3s,baz=164,slow=21,SNR=8.3						
WRA	**Warramunga Arr**	**24.72**	**242**	P	P	09 46 49.2	-3.0
	0.7nm,0.5s,baz=69,slow=9.6,SNR=7.1						
ASAR	**Alice Springs**	**26.70**	**234**	P	P	09 47 09.9	-0.8
	1.0nm,0.8s,baz=67,slow=10,SNR=7.9						
STKA	**Stephens Creek**	**26.97**	**211**	P	P	09 47 12.0	-1.2
	1.6nm,0.7s,baz=42,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**86.53**	**318**	P	P	09 54 13.2	-0.8
	0.4nm,0.5s,baz=122,slow=5.1,SNR=4.1						

*BJI **18** 09:50:09.1, 10.70N×91.70E, h25km, mb4.7*

*IDC **18** 09:50:10.4±0.6, 10.79N×91.71E, h27km±3km, mb3.9/12, mb1 4.0/13, mb1mx4.0/20, mbtmp4.0/13, ML3.8/1, MS3.4/2, Ms1 3.5/2, ms1mx2.9/30, Error ellipse: s-maj=28.8km s-min=11.1km az=53.0*

*NEIC **18** 09:50:10.1±0.4, 10.69N×91.72E, mb4.4/5, Error ellipse: s-maj=10.8km s-min=9.3km az=55.0*

ISC 18 09:50:07.8±0.5, 10.67N±0.06×91.66E±0.05, h28km, h28km±1.4km:pP-P, n35, σ0°98/37, mb4.2/18, MS3.5/1, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.45**	**47**	*e*P	**Pn**	**09 50 33.0**	**+0.5**
PBA				*e*S	**Sn**	**09 50 51.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**10.47**	**41**	Pn	**P**	**09 52 37.6**	**-1.7**
	0.2nm,0.3s,baz=239,slow=14,SNR=5.3						
CMAR				LR	LR	09 57 37.3	
	comp=Z,194nm,18.3s,baz=225,slow=43						
VIS	**Vishakhapatnam**	**10.69**	**312**	*e*P	**P**	**09 52 39.6**	**-2.8**
VIS				*e*S	**S**	**09 54 26.6**	**-16**
VIS				*e*		09 54 30.4	
	comp=N,46nm,0.6s						
VIS				*e*		09 54 30.5	
	comp=E,55nm,0.4s						
PALK	**Pallekele**	**11.34**	**254**	*e*P	**P**	**09 52 50.7**	**-0.5**
PALK				*e*S	**S**	**09 54 48.9**	**-9.1**
BOK	**Bokaro**	**14.17**	**338**	*e*P	**P**	**09 53 23.5**	**-5.4**
BOK				*e*		09 55 44.1	
HYB	**Hyderabad**	**14.37**	**299**	*e*P	**P**	**09 53 40.5**	**+8.8**
HYB				*e*S	**S**	**09 56 04.0**	**-7.0**
HYB	**Hyderabad**	**14.37**	**299**	*i* P	**P**	**09 53 40.5**	**+8.8**
HYB				*e*S	**S**	**09 56 11.0**	**0.0**
POO	**Poona**	**18.91**	**296**	*e*	**S**	**09 57 56.0**	**+0.5**
LSA	**Lhasa**	**18.94**	**359**	P	**P**	**09 54 31.4**	**+2.1**
	comp=E,20nm,1.5s						
GYA	**Guiyang**	**21.15**	**40**	⇑*i*P	**P**	**09 54 51.8**	**-1.3**
GYA				AP		09 54 59.3	
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.6						
CD2	**Chengdu**	**23.06**	**27**	*e*P	**P**	**09 55 12.3**	**+0.1**
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
ENH	**Enshi**	**25.61**	**38**	*e*P	**P**	**09 55 35.5**	**-1.1**
	comp=Z,19nm,0.5s,mb4.9						
AAK	**Ala-Archa**	**35.20**	**338**	*e*P	**P**	**09 57 02.2**	**+0.6**
	comp=Z,1.2nm,0.9s,mb3.8						
AAK				*e*		09 57 08.5	
MKAR	**Makanchi Array**	**36.87**	**349**	P	**P**	**09 57 16.2**	**+0.5**
	comp=Z,2.0nm,0.7s,mb4.1,baz=171,slow=8.3,SNR=15						
MKAR				pP	pP	09 57 24.1	0.0
	comp=Z,2.4nm,0.6s,baz=164,slow=8.3,SNR=13						
SONM	**Songino Array**	**39.07**	**16**	pP	pP	09 57 42.0	-0.5
	comp=Z,2.5nm,0.9s,baz=195,slow=10,SNR=5.9						
ZAL	**Zalesovo**	**43.50**	**354**	P	**P**	**09 58 10.8**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.7,baz=330,slow=3.4,SNR=4.0						
ZAL				pP	pP	09 58 18.7	-0.1
	comp=Z,1.3nm,0.5s,baz=303,slow=9.2,SNR=3.1						
ZAL	**Zalesovo**	**43.50**	**354**	P	**P**	**09 58 10.8**	**+0.3**
ZAL				pP	pP	09 58 18.7	-0.1
FITZ	**Fitzroy Crossi**	**44.07**	**130**	*e*P	**P**	**09 58 15.1**	**-0.5**
	comp=Z,4.8nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**44.07**	**130**	P	**P**	**09 58 16.4**	**+0.8**
	comp=Z,6.0nm,0.8s,mb4.3,baz=26,slow=3.8,SNR=11						
CN2	**Changchun**	**44.08**	**35**	*e*P	**P**	**09 58 15.0**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
CHKZ	**Chkalovo**	**46.08**	**343**	*e*P	**P**	**09 58 31.4**	**+0.3**
	comp=Z,5.4nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**51.87**	**126**	P	**P**	**09 59 16.0**	**-0.3**
	comp=Z,1.2nm,0.4s,mb4.1,baz=306,slow=8.5,SNR=60						
WRA				pP	pP	09 59 25.5	+0.7
	comp=Z,1.6nm,0.3s,baz=307,slow=8.4,SNR=14						
WB2	**Warramunga Arr**	**51.88**	**126**	*e*P	**P**	**09 59 15.9**	**-0.5**
ASAR	**Alice Springs**	**53.57**	**130**	P	**P**	**09 59 29.0**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=307,slow=6.6,SNR=30						
ASAR				pP	pP	09 59 39.4	+1.9
	comp=Z,2.0nm,0.7s,baz=311,slow=7.5,SNR=7.1						
ASAR				PcP	PcP	10 00 37.2	+1.9
	comp=Z,0.6nm,0.8s,baz=314,slow=3.9,SNR=2.0						
KMBO	**Kilima Mbogo**	**55.36**	**261**	LR	LR	10 18 10.6	
	comp=Z,38nm,20.5s,MS3.5,baz=289,slow=30						
BRTR	**Keskin Array B**	**58.77**	**310**	P	**P**	**10 00 05.7**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.8,baz=117,slow=5.5,SNR=3.6						
STKA	**Stephens Creek**	**63.79**	**133**	P	**P**	**10 00 41.0**	**+0.9**
	comp=Z,2.0nm,0.9s,mb4.2,baz=62,slow=22,SNR=4.3						
STKA				pP	pP	10 00 48.4	-0.4
	comp=Z,4.2nm,0.9s,baz=322,slow=3.8,SNR=6.1						
STKA	**Stephens Creek**	**63.79**	**133**	P	**P**	**10 00 41.0**	**+0.9**
STKA				pP	pP	10 00 48.4	-0.4
AKASG	**Malin Array Be**	**64.46**	**321**	P	**P**	**10 00 42.8**	**-1.2**
	comp=Z,0.3nm,0.2s,mb4.0,baz=84,

SONM Songino Array 47.32 8 P **P 10 17 34.4 +1.0**
0.7nm,0.6s,mb3.8,baz=192,slow=11,SNR=3.9
MKAR Makanchi Array 47.47 346 P **P 10 17 35.4 +0.7**
1.2nm,0.8s,mb3.9,baz=162,slow=7.7,SNR=4.7
MKAR Makanchi Array 47.47 346 P **P 10 17 35.4 +0.7**
ZAL Zalesovo 53.77 351 P **P 10 18 22.3 -0.1**
1.0nm,0.4s,mb4.1,baz=307,slow=3.5,SNR=3.6
CHKZ Chkalovo 56.96 341 *eP* **P 10 18 44.8 -0.8**
0.7nm,0.5s,mb4.0

BJI ***18*** *10:10:07.7, 1.18N×97.85E, h15km, mB5.1, mb4.6, Ms4.0, Msz4.0*
IDC ***18*** *10:10:08.4±0.6, 1.02N×97.29E, h22km±3km, mb4.1/12, mb1 4.3/13, mb1mx4.0/23, mbtmp4.2/13, ML4.4/1, MS3.7/2, Ms1 3.7/2, ms1mx3.2/27, Error ellipse: s-maj=24.2km s-min=12.1km az=55.0*
NEIC ***18*** *10:10:08.4±0.4, 1.02N×97.32E, mb4.6/6, Error ellipse: s-maj=12.1km s-min=7.5km az=70.0*

ISC 18 10:10:06.5±0.6, 1.04N±0.07×97.3E±0.1, h22km, h22km±1.0km: pP-P, n32, σ0§93/29, mb4.4/21, MS3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**38**	*e*Pn	**Pn**	**10 11 28.1**	**+0.7**
KULM				*ep*Pn		10 11 36.4	
CMAR	**Chiang Mai Arr**	**17.38**	**5**	P	**P**	**10 14 08.8**	**-0.6**
	0.5nm,0.3s,baz=195,slow=12,SNR=13						
KMI	**Kunming**	**24.51**	**12**	P	**P**	**10 15 28.1**	**+2.4**
KMI				AP		10 15 33.8	
KMI				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=Z,141nm,19.8s,MS3.5						
KMI	**Kunming**	**24.51**	**12**	P	**P**	**10 15 28.1**	**+2.4**
	comp=Z,23nm,1.1s,mb4.6						
KMI				pP		10 15 33.8	
KMI				LR	LR		
	comp=Z,140nm,19.8s,MS3.5						
SHL	**Shillong**	**24.95**	**348**	*e*P	**P**	**10 15 30.5**	**+0.6**
ENH	**Enshi**	**31.28**	**21**	*e*P	**P**	**10 16 25.5**	**-1.7**
	comp=Z,11nm,0.8s,mb4.8						
ENH				*ep*P	pP	10 16 32.5	-1.4
FITZ	**Fitzroy Crossi**	**33.73**	**126**	P	**P**	**10 16 47.1**	**-1.6**
	comp=Z,3.9nm,0.8s,mb4.4,baz=317,slow=8.4,SNR=5.8						
XAN	**Xi'an**	**34.58**	**17**	P	**P**	**10 16 54.3**	**-1.6**
XAN				AP	pP	10 17 01.1	-1.4
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
GTA	**Gaotai**	**38.26**	**3**	P	**P**	**10 17 27.4**	**+0.5**
GTA				AP	pP	10 17 30.8	-2.8
GTA				XP	sP	10 17 33.8	-2.6
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**41.84**	**122**	P	**P**	**10 17 56.9**	**+0.1**
	comp=Z,1.3nm,0.7s,mb3.7,baz=301,slow=9.0,SNR=14						
WRA				pP	pP	10 18 03.9	+0.4
	comp=Z,1.6nm,0.6s,baz=302,slow=8.9,SNR=9.6						
WRAB	**Tennant Creek**	**41.84**	**122**	*e*P	**P**	**10 17 56.6**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.1						
WRAB				*ep*P	pP	10 18 04.2	+0.7
WB2	**Warramunga Arr**	**41.85**	**122**	*e*P	**P**	**10 17 57.2**	**+0.4**
BJT	**Baijiatuau**	**42.42**	**22**	*e*P	**P**	**10 18 02.1**	**+0.8**
	comp=Z,6.6nm,0.6s,mb4.4						
BJT				*ep*P	pP	10 18 09.2	+1.2
BJI	**Beiping**	**42.44**	**22**	*e*P	**P**	**10 18 02.1**	**+0.6**
	comp=Z,16nm,0.7s,mb4.8						
BJI				S	**S**	**10 24 25.8**	**+4.2**
BJI				LR	LR		
	comp=Z,40nm,25.4s,MS3.2						
ASAR	**Alice Springs**	**43.19**	**127**	P	**P**	**10 18 08.3**	**+0.5**
	comp=Z,1.0nm,0.5s,mb3.9,baz=297,slow=7.3,SNR=14						
ASAR				pP	pP	10 18 15.7	+1.1
	comp=Z,0.7nm,0.5s,baz=298,slow=7.7,SNR=5.8						
KS15	**Wonju Array Si**	**45.87**	**34**	P	**P**	**10 18 28.8**	**-0.4**
SONM	**Songino Array**	**47.27**	**8**	P	**P**	**10 18 40.3**	**+0.3**
	comp=Z,3.6nm,0.5s,mb4.5,baz=188,slow=9.3,SNR=16						
SONM				PcP	PcP	10 20 11.3	-0.2
	comp=Z,1.1nm,0.5s,baz=187,slow=3.3,SNR=4.9						
SONM				pPcP		10 20 18.9	
	comp=Z,1.4nm,0.7s,baz=185,slow=3.4,SNR=3.6						
SONM				LR	LR	10 40 57.0	
	comp=Z,112nm,20.2s,MS3.8,baz=223,slow=39						
MKAR	**Makanchi Array**	**47.43**	**346**	P	**P**	**10 18 41.8**	**+0.5**
	comp=Z,3.8nm,0.7s,mb4.5,baz=157,slow=8.2,SNR=18						
MKAR				pP	pP	10 18 48.7	+0.6
	comp=Z,1.5nm,0.5s,baz=155,slow=9.1,SNR=5.4						
CN2	**Changchun**	**49.39**	**27**	*e*P	**P**	**10 18 55.3**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS4.2						
CTA	**Charters Tower**	**52.31**	**116**	LR	LR	10 40 49.1	
	comp=Z,73nm,21.2s,MS3.7,baz=50,slow=35						
STKA	**Stephens Creek**	**53.15**	**132**	P	**P**	**10 19 26.2**	**+1.0**
	comp=Z,1.1nm,0.4s,mb4.2,baz=309,slow=9.3,SNR=5.3						
ZAL	**Zalesovo**	**53.73**	**351**	P	**P**	**10 19 29.1**	**0.0**
	comp=Z,4.3nm,0.4s,mb4.7,baz=321,slow=6.3,SNR=7.4						
ZAL				pP	pP	10 19 35.9	-0.1
	comp=Z,3.5nm,0.6s,baz=294,slow=4.3,SNR=3.4						
BVAR	**Borovoye Array**	**56.45**	**341**	P	**P**	**10 19 47.7**	**-1.2**
	comp=Z,2.4nm,0.7s,mb4.3,baz=141,slow=9.2,SNR=9.8						
BVAR				pP	pP	10 19 54.2	-1.6
	comp=Z,0.9nm,0.5s,baz=135,slow=6.3,SNR=3.6						
CHKZ	**Chkalovo**	**56.92**	**341**	*e*P	**P**	**10 19 51.1**	**-1.2**
	comp=Z,3.7nm,0.8s,mb4.5						
MATP	**Matopo**	**70.59**	**248**	P	**P**	**10 21 22.1**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=63,slow=4.5,SNR=2.5						
MATP				pP	pP	10 21 30.0	+0.5
	comp=Z,1.8nm,0.7s,baz=169,slow=5.6,SNR=3.4						
MATP	**Matopo**	**70.59**	**248**	P	**P**	**10 21 22.1**	**-0.4**
MATP				pP	pP	10 21 30.0	+0.5
ARCES	**ARCESS Array B**	**82.73**	**340**	P	**P**	**10 22 30.2**	**+0.6**
	comp=Z,5.5nm,1.0s,mb4.5,baz=79,slow=6.2,SNR=4.2						
GERES	**GERESS Array B**	**85.02**	**319**	P	**P**	**10 22 42.6**	**+0.9**
	comp=Z,0.5nm,0.9s,mb3.6,baz=108,slow=4.2,SNR=5.4						
GERES				pP	pP	10 22 49.2	+0.4
	comp=Z,0.6nm,0.8s,baz=135,slow=3.8,SNR=3.3						
NOA	**NORSAR Array B**	**87.21**	**331**	P	**P**	**10 22 52.6**	**+0.5**
	comp=Z,1.2nm,0.8s,mb4.2,baz=123,slow=4.3,SNR=3.6						
YKA	**Yellowknife Ar**	**112.21**	**15**	PP	PP	10 29 29.1	-0.4
	comp=Z,0.2nm,0.9s,baz=334,slow=7.9,SNR=3.5						
TXAR	**Lajitas Array**	**143.73**	**32**	PKP	PKPdf	10 29 41.5	-3.3
	comp=Z,0.2nm,0.6s,baz=27,slow=2.8,SNR=4.9						
CPUP	**Villa Florida**	**144.98**	**222**	PKP	PKPdf	10 29 44.5	-2.7
	comp=Z,1.0nm,0.5s,baz=151,slow=3.4,SNR=4.3						
CPUP				pPKP		10 29 51.0	
	comp=Z,2.1nm,0.9s,baz=40,slow=1.9,SNR=4.3						

STR ***18*** *10:59:17.6±0.3, 44.62N×9.65E, h10km±1km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MOS ***18*** *10:59:17.0±0.8, 44.68N×9.50E, h10km, mb4.4/6, Error ellipse: s-maj=4.0km s-min=3.5km az=66.7*
ROM ***18*** *10:59:18.5±0.5, 44.72N×9.35E, h8km±5km, Ml3.7/18, Error ellipse: s-maj=3.6km s-min=1.8km az=126.0*
IDC ***18*** *10:59:18.5±1.1, 44.80N×9.33E, mb3.7/6, mb1 3.9/12, mb1mx3.7/28, mbtmp3.7/12, ML4.1/4, MS3.3/3, Ms1 3.3/3, ms1mx2.9/30, Error ellipse: s-maj=22.9km s-min=15.2km az=140.0*
NEIC ***18*** *10:59:18.9, 44.71N×9.35E, h0km, mb4.9/4, ML4.1(STR), ML4.1(SZGRF), ML4.0(LDG), ML3.8(GEN), After GEN.*
CSEM ***18*** *10:59:18.3±0.0, 44.63N×9.40E, h10km, ML4.2/7, Error ellipse: s-maj=1.1km s-min=0.7km az=3.0*
IPEC ***18*** *10:59:18.9±0.1, 44.68N×9.32E, Error ellipse: s-maj=1.0km s-min=0.7km az=33.0*
GEN ***18*** *10:59:18.9, 44.71N×9.35E, h0km, ML3.8*
ZUR_RM ***18*** *10:59:18, 44.71N×9.35E, h6km, Mw4.0/33, Moment Tensor Solution. s33 Moment tensor: Scale 10^15^Nm; Mrr=0.93; Mθθ=0.49; Mφφ=0.44; Mrθ=-0.35; Mθφ=-0.58; Mφr=0.15; Best double couple: M0=1.06×10^15^ NP1:φs=115°, δ=53°, λ=-116°. NP2:φs=333°, δ=44°, λ=-60°. Principal axes: T 1.0576, Plg=4°, Azm=223°; N .0088, Plg=20°, Azm=131°; P -1.0664, Plg=69°, Azm=324°;*
MDD ***18*** *10:59:19.9±1.1, 44.64N×9.47E, h9km±4km, mb4.4/7 Error ellipse: s-maj=10.0km s-min=5.8km az=92.0, PRXIMO*
ZUR ***18*** *10:59:20.1, 44.75N×9.41E, h10km, ML3.8/20*
LDG ***18*** *10:59:21.1±0.1, 44.72N×9.38E, h2km, Md3.7/1, Ml4.0/30, Error ellipse: s-maj=2.3km s-min=1.7km az=2.0*

ISC 18 10:59:18.4±0.2, 44.71N±0.01×9.33E±0.01, h9km±2km, n319, σ1§41/450, mb4.0/14, MS3.5/2, 13C-13D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENL	**Genova Univers**	**0.40**	**220**	P	**Pg**	**10 59 27.3**	**+0.7**
GENL				S	**Sg**	**10 59 34.0**	**+1.9**
GENL	**Genova Univers**	**0.40**	**220**	P	**Pg**	**10 59 27.3**	**+0.7**
GENL				S	**Sg**	**10 59 34.0**	**+2.0**
CODM		**0.49**	**131**	P	**Pg**	**10 59 27.7**	**-0.7**
CODM				S	**Sg**	**10 59 35.0**	**0.0**
CODM		**0.49**	**131**	P	**Pg**	**10 59 27.7**	**-0.7**
CODM				S	**Sg**	**10 59 35.0**	**0.0**
GRAM		**0.57**	**113**	P	**Pg**	**10 59 29.2**	**-0.7**
GRAM				S	**Sg**	**10 59 37.4**	**-0.2**
GRAM		**0.57**	**113**	P	**Pg**	**10 59 29.2**	**-0.7**
GRAM				S	**Sg**	**10 59 37.4**	**-0.2**
PCP	**Pian Castagno**	**0.59**	**253**	P	**Pg**	**10 59 30.7**	**+0.5**
PCP				S	**Sg**	**10 59 37.9**	**-0.2**
BACM		**0.69**	**129**	P	**Pb**	**10 59 30.9**	**-1.2**
BACM				S	**Sb**	**10 59 40.6**	**-0.8**
BACM		**0.69**	**129**	P	**Pb**	**10 59 30.9**	**-1.2**
BACM				S	**Sb**	**10 59 40.6**	**-0.8**
VALM		**0.75**	**119**	P	**Pb**	**10 59 32.3**	**-0.9**
VALM				S	**Sb**	**10 59 43.3**	**0.0**
VALM		**0.75**	**119**	P	**Pb**	**10 59 32.3**	**-0.9**
VALM				S	**Sb**	**10 59 43.3**	**0.0**
VINC	**Vinca**	**0.82**	**134**	P	**Pb**	**10 59 33.3**	**-1.1**
VINC				S	**Sb**	**10 59 45.6**	**+0.3**
VINC	**Vinca**	**0.82**	**134**	P	**Pb**	**10 59 33.3**	**-1.1**
VINC	**Vinca**	**0.82**	**134**	P	**Pb**	**10 59 33.3**	**-1.1**
VINC				S	**Sb**	**10 59 45.7**	**+0.4**
VINC				S	**Sb**	**10 59 45.7**	**+0.4**
ERBM	**Eremo**	**0.83**	**110**	Pg	**Pg**	**10 59 34.3**	**-0.7**
ERBM				Sg	**Sg**	**10 59 47.0**	**+0.9**
SARO	**Sassorosso**	**0.93**	**124**	P	**Pb**	**10 59 35.6**	**-0.7**
SARO				S	**Sb**	**10 59 48.7**	**+0.2**
SARO	**Sassorosso**	**0.93**	**124**	P	**Pb**	**10 59 35.6**	**-0.7**
SARO	**Sassorosso**	**0.93**	**124**	P	**Pb**	**10 59 35.6**	**-0.7**
SARO				S	**Sb**	**10 59 48.7**	**+0.2**
SARO				S	**Sb**	**10 59 48.7**	**+0.2**
VLC	**Villacollemand**	**0.94**	**126**	*e*P	**Pb**	**10 59 35.7**	**-0.7**
VLC	**Villacollemand**	**0.94**	**126**	*e*P	**Pb**	**10 59 35.7**	**-0.7**
VLC	**Villacollemand**	**0.94**	**126**	*e*Pg	**Pg**	**10 59 36.3**	**-0.9**
VLC				*e*Sg	**Sg**	**10 59 48.7**	**-1.0**
FIN	**Finale Ligure**	**0.95**	**238**	P	**Pb**	**10 59 37.0**	**+0.4**
FIN				S	**Sb**	**10 59 49.7**	**+0.7**
GSCL	**Gusciola**	**0.97**	**111⇑**	*e*Pg	**Pg**	**10 59 37.3**	**-0.5**
MONC	**Moncucco Torin**	**1.06**	**290**	Pg	**Pg**	**10 59 41.7**	**+2.0**
	3μm,0.6s						
MDI	**Monti di Nese**	**1.10**	**14**	Pg	**Pg**	**10 59 40.2**	**-0.2**
MDI				Sg	**Sg**	**10 59 58.0**	**+2.9**
	3μm,0.4s						
ROB	**Roburent**	**1.12**	**249**	P	**Pb**	**10 59 40.2**	**+0.6**
ROB				S	**Sb**	**10 59 53.6**	**-0.6**
VAI	**Varese**	**1.22**	**341**	Pg	**Pg**	**10 59 42.0**	**-0.9**
VAI				Sg	**Sg**	**11 00 01.3**	**+2.1**
MUGIO	**Muggio**	**1.23**	**351⇓**	*e*Pg	**Pg**	**10 59 42.0**	**-1.0**
MUGIO				Sg	**Sg**	**11 00 00.6**	**+1.2**
MUGIO	**Muggio**	**1.23**	**351⇓**	*i*Pg	**Pg**	**10 59 42.0**	**-1.0**
MUGIO				*i* Sg	**Sg**	**11 00 00.3**	**+0.9**
MUGIO	**Muggio**	**1.23**	**351⇓**	*e*Pg	**Pg**	**10 59 42.0**	**-1.0**
MUGIO				*i* Sg	**Sg**	**11 00 00.3**	**+0.9**
ZCCA	**Zocca**	**1.23**	**106**	Pg	**Pg**	**10 59 43.2**	**+0.1**
SAL	**Salo**	**1.23**	**43**	Pg	**Pg**	**10 59 42.8**	**-0.3**
SAL				Sg	**Sg**	**11 00 00.9**	**+1.4**
	1μm,0.4s						
RAVA	**Ravarino**	**1.27**	**87**	Pg	**Pg**	**10 59 45.2**	**+1.3**
	12μm,0.8s						
MONE	**Monesi**	**1.29**	**241**	P	**Pb**	**10 59 42.7**	**+0.2**
MONE	**Monesi**	**1.29**	**241**	P	**Pb**	**10 59 42.7**	**+0.2**
IMI	**Imperia**	**1.31**	**233**	P	**Pb**	**10 59 42.6**	**-0.2**
IMI				S	**Sb**	**10 59 57.4**	**-2.1**
IMI	**Imperia**	**1.31**	**233**	P	**Pb**	**10 59 42.6**	**-0.2**
IMI				S	**Sb**	**10 59 57.4**	**-2.1**
PII	**Pisa**	**1.31**	**139**	Pg	**Pg**	**10 59 42.4**	**-2.2**
ORO	**Oropa**	**1.32**	**314**	Pg	**Pg**	**10 59 43.8**	**-1.1**
ORX	**Oropa**	**1.33**	**314**	P	**Pb**	**10 59 43.7**	**+0.6**
TRAV		**1.38**	**306**	P	**Pn**	**10 59 44.6**	**+0.6**
TRAV		**1.38**	**306**	P	**Pn**	**10 59 44.6**	**+0.7**
FNVD	**Fontana Vidola**	**1.39**	**112**	Pg	**Pg**	**10 59 45.0**	**-1.3**
	3μm,0.5s						
ENR	**Entracque**	**1.45**	**251**	P	**Pn**	**10 59 45.4**	**+0.4**
NEGI	**Negi**	**1.45**	**234**	P	**Pn**	**10 59 44.3**	**-0.8**
NEGI	**Negi**	**1.45**	**234**	P	**Pn**	**10 59 44.3**	**-0.7**
SAOF	**Saorge**	**1.47**	**241**	Pg	**Pg**	**10 59 45.4**	**-2.3**
SAOF				Sg	**Sg**	**11 00 07.6**	**+0.3**
BHB	**Bricherasio**	**1.48**	**276**	P	**Pn**	**10 59 46.1**	**+0.7**
BHB	**Bricherasio**	**1.48**	**276**	P	**Pn**	**10 59 46.1**	**+0.7**
STV2	**Anna di Valdie**	**1.51**	**253**	P	**Pn**	**10 59 46.3**	**+0.5**
STV2	**Anna di Valdie**	**1.51**	**253**	P	**Pn**	**10 59 46.3**	**+0.5**
STV	**Sta Anna Valdi**	**1.51**	**253**	P	**Pn**	**10 59 46.4**	**+0.6**
RSP	**Reno Superiore**	**1.54**	**287**	P	**Pn**	**10 59 47.1**	**+0.9**
AUTN	**L'Aution**	**1.54**	**243**	Pg	**Pg**	**10 59 47.2**	**-2.1**
FIU	**Minerbio Fiu**	**1.54**	**92**	Pg	**Pg**	**10 59 49.0**	**-0.3**
MABI	**Malga Bissina**	**1.58**	**31**	Pg	**Pg**	**10 59 47.2**	**-2.8**
SEI	**Scarperia**	**1.59**	**114**	Pn	**Pn**	**10 59 49.2**	**+2.2**
SBF	**Sospel**	**1.60**	**239**	*e*Pn	**Pn**	**10 59 47.0**	**-0.2**
SBF				*e*Sn	**Sn**	**11 00 08.5**	**+0.3**
	1μm,0.4s						
PZZ	**Prazzo**	**1.61**	**263**	P	**Pn**	**10 59 47.7**	**+0.5**
FENE	**Fenestrelle**	**1.64**	**282**	P	**Pn**	**10 59 48.5**	**+0.7**
FENE	**Fenestrelle**	**1.64**	**282**	P	**Pn**	**10 59 48.5**	**+0.8**
TOUF	**Mont Tournerai**	**1.65**	**246**	Pg	**Pg**	**10 59 48.6**	**-2.8**
MMK	**Mattmark**	**1.65**	**325⇑**	*iP**	**Pb**	**10 59 48.3**	**-0.3**
MMK	**Mattmark**	**1.65**	**325**	Pn	**Pn**	**10 59 49.3**	**+1.5**
MMK				*e*Sg	**Sg**	**11 00 11.9**	**-1.5**
LSD	**Ceresole Reale**	**1.71**	**297**	P	**Pn**	**10 59 50.0**	**+1.3**
REVF	**Revere**	**1.71**	**236**	Pg	**Pg**	**10 59 49.5**	**-3.2**
REVF				Sg	**Sg**	**11 00 14.4**	**-1.1**
VMG	**Vicchio**	**1.76**	**115**	Pn	**Pn**	**10 59 52.4**	**+3.1**
	1μm,0.7s						
MVIF	**Mont Vial**	**1.76**	**243**	Pg	**Pg**	**10 59 50.4**	**-3.3**
BERNI	**Berninapass**	**1.77**	**16**	*i*Pn	**Pn**	**10 59 50.5**	**+1.0**
VDL	**Val di Lei**	**1.78**	**3**	*i*Pn	**Pn**	**10 59 50.7**	**+1.1**
VDL				*e*Sn	**Sn**	**11 00 14.4**	**+1.9**
VDL	**Val di Lei**	**1.78**	**3**	*e*Pn	**Pn**	**10 59 50.9**	**+1.3**
VDL				*e*Sn	**Sn**	**11 00 14.4**	**+1.9**
FUSIO	**Fusio**	**1.81**	**345**	*e*Pn	**Pn**	**10 59 50.5**	**+0.5**
SURF	**Saint Ours**	**1.81**	**264**	Pn	**Pn**	**10 59 51.6**	**+1.4**
RRL	**Cesana Torines**	**1.82**	**277**	P	**Pn**	**10 59 52.3**	**+2.0**
MBDF	**Montbardon**	**1.82**	**271**	*e*Pn	**Pn**	**10 59 51.5**	**+1.2**
MBDF				*e*Sn	**Sn**	**11 00 14.4**	**+0.6**
	961nm,0.8s						
CSNT	**Castellina Chi**	**1.88**	**131**	Pg	**Pg**	**10 59 52.3**	**-3.7**
	114nm,0.5s						
PGD	**Poggio Sodo**	**1.91**	**115**	Pn	**Pn**	**10 59 53.5**	**+2.0**
BRMO	**Bormio**	**1.91**	**22**	Pn	**Pn**	**10 59 52.7**	**+1.2**
BRMO				Sn	**Sn**	**11 00 19.5**	**+3.6**
	779nm,1.0s						
BNI	**Bardonecchia**	**1.92**	**281**	*e*P	**Pn**	**10 59 52.9**	**+1.3**
BNI	**Bardonecchia**	**1.92**	**281**	*e*Pn	**Pn**	**10 59 53.9**	**+2.3**
DIX	**Grande Dixence**	**1.92**	**316⇑**	*i*Pn	**Pn**	**10 59 53.3**	**+1.6**
DIX	**Grande Dixence**	**1.92**	**316**	Pg	**Pn**	**10 59 53.3**	**+1.6**
DIX				*e*Sg	**Sg**	**11 00 19.8**	**-2.8**
GRFL	**Gerfalco**	**1.96**	**142**	Pg	**Pg**	**10 59 52.7**	**-5.0**
	74nm,0.5s						
SFI	**Santa Sofia**	**1.98**	**113**	Pn	**Pn**	**10 59 54.6**	**+2.1**
	373nm,0.6s						
CALF	**Calern**	**1.98**	**242**	*e*Pn	**Pn**	**10 59 53.0**	**+0.5**
CALF				*e*Sg	**Sg**	**11 00 19.1**	**-5.3**
LPG	**La Plagne**	**1.99**	**294**	*e*Pn	**Pn**	**10 59 54.3**	**+1.6**
LPG				*e*Pg	**Pg**	**10 59 58.2**	**0.0**
LPG				*e*Sn	**Sn**	**11 00 18.8**	**+0.9**
	447nm,0.6s						
LPG	**La Plagne**	**1.99**	**294**	*e*P	**Pn**	**10 59 54.3**	**+1.6**
LPG				*e*		11 00 18.8	
CALN	**Calern**	**2.00**	**242**	Pg	**Pg**	**10 59 54.0**	**-4.4**
LPL	**La Plagne**	**2.01**	**295**	*e*Pn	**Pn**	**10 59 54.9**	**+2.0**
LPL				*e*Pg	**Pg**	**10 59 58.2**	**-0.3**
LPL				*e*Sn	**Sn**	**11 00 19.3**	**+0.9**
	443nm,0.7s						
LPL	**La Plagne**	**2.01**	**295**	*e*P	**Pn**	**10 59 54.9**	**+2.0**
LPL				*e*		11 00 19.3	
FUORN	**Ofenpass**	**2.02**	**19⇑**	*i*Pn	**Pn**	**10 59 54.6**	**+1.5**
FUORN	**Ofenpass**	**2.02**	**19**	Pn	**Pn**	**10 59 55.2**	**+2.1**
LKBD	**Leukerbad**	**2.06**	**325**	*e*Pn	**Pn**	**10 59 55.2**	**+1.5**
DAVOX	**Davos**	**2.10**	**10**	Pn	**Pn**	**10 59 55.8**	**+1.5**
	26nm,0.3s,baz=189,slow=9.6,SNR=85						
DAVOX				Sn	**Sn**	**11 00 24.1**	**+3.2**
	40nm,0.3s,baz=327,slow=20,SNR=11						
DAVOX	**Davos**	**2.10**	**10**	Pn	**Pn**	**10 59 56.2**	**+1.9**
DAVOX	**Davos**	**2.10**	**10**	*e*Pn	**Pn**	**10 59 55.7**	**+1.4**
CTI	**Castel Tesino**	**2.11**	**50**	Pn	**Pn**	**10 59 54.3**	**-0.1**
LLS	**Linth-Limmern**	**2.15**	**354**	*e*Pn	**Pn**	**10 59 55.8**	**+0.8**
PGF	**Pioggiola**	**2.18**	**186**	*e*Pn	**Pn**	**10 59 54.0**	**-1.4**
PGF				*e*Sn	**Sn**	**11 00 21.0**	**-1.7**
	163nm,0.7s						
CRE	**Caprese Michel**	**2.18**	**119**	Pn	**Pn**	**10 59 56.6**	**+1.2**
	1μm,0.9s						
EMV	**Vieux Emosson**	**2.18**	**309**	Pn	**Pn**	**10 59 58.7**	**+3.3**
EMV				Sn	**Sn**	**11 00 27.9**	**+5.1**
EMV	**Vieux Emosson**	**2.18**	**309**	*e*Pn	**Pn**	**10 59 57.9**	**+2.5**
EMV				Sn	**Sn**	**11 00 27.9**	**+5.1**
SENIN	**Lac Senin**	**2.18**	**320⇓**	*i*Pn	**Pn**	**10 59 57.4**	**+1.9**
SENIN				*e*Sg	**Sg**	**11 00 28.0**	**-3.2**
GRYON	**Gryon**	**2.19**	**315**	*e*Pn	**Pn**	**10 59 58.5**	**+2.9**
SALAN	**Lac Salanfe**	**2.19**	**312**	*e*Pn	**Pn**	**10 59 58.5**	**+2.9**
HASLI	**Hasliberg**	**2.21**	**338**	*e*Pn	**Pn**	**10 59 56.9**	**+1.1**
APPI	**Appiano**	**2.21**	**36**	Pg	**Pg**	**10 59 57.1**	**-5.5**
	1μm,0.5s						
FRF	**La Foret Royal**	**2.25**	**240**	*e*Pn	**Pn**	**10 59 55.9**	**-0.5**
FRF				*e*Sn	**Sn**	**11 00 26.0**	**+1.5**
	510nm,0.6s						
BNALP	**Bannalp**	**2.25**	**344**	*e*Pn	**Pn**	**10 59 58.0**	**+1.6**
BNALP				*e*Sg	**Sg**	**11 00 28.6**	**-4.8**
WIMIS	**Wimmis**	**2.29**	**329**	*e*Pn	**Pn**	**10 59 59.5**	**+2.5**
MUO	**Muotathal**	**2.31**	**348**	*e*Pn	**Pn**	**10 59 59.5**	**+2.3**
GDM	**Grand'Maison**	**2.33**	**283**	Pn	**Pn**	**11 00 02.0**	**+4.4**
PLONS	**Plons**	**2.34**	**1**	*e*Pn	**Pn**	**10 59 59.1**	**+1.4**
RSM	**Repubblica di**	**2.37**	**108**	Pn	**Pn**	**11 00 00.4**	**+2.3**
	2μm,1.4s						
BADI	**Badiali**	**2.42**	**119**	Pn	**Pn**	**11 00 00.7**	**+1.9**
LMR	**La Mourre**	**2.46**	**237**	*e*Pn	**Pn**	**10 59 58.5**	**-0.9**
LMR				*e*Sn	**Sn**	**11 00 26.0**	**-3.8**
	307nm,0.8s						
ORIF	**Oris-en-Rattie**	**2.46**	**276**	*e*Pn	**Pn**	**11 00 01.8**	**+2.3**
ORIF				*e*Sn	**Sn**	**11 00 30.4**	**+0.4**
	726nm,0.7s						
STOF	**St-Etienne Org**	**2.56**	**255**	Pn	**Pn**	**11 00 03.4**	**+2.6**
TAVF	**Tavernes**	**2.60**	**246**	Pn	**Pn**	**11 00 02.4**	**+1.0**
GRN	**Grenoble**	**2.60**	**283**	Pn	**Pn**	**11 00 05.1**	**+3.7**
BRES	**Bressanone**	**2.60**	**39**	Pn	**Pn**	**11 00 02.5**	**+1.0**
	1μm,1.2s						
DAVA	**Damuels**	**2.60**	**8⇑**	*i*PN	**Pn**	**11 00 03.1**	**+1.6**
DAVA				*i* SN	**Sn**	**11 00 37.1**	**+3.6**
MAON	**Monte Argentar**	**2.63**	**150**	Pn	**Pn**	**11 00 02.7**	**+0.8**
	114nm,0.8s						
PESA	**Pesaro**	**2.63**	**106**	Pn	**Pn**	**11 00 04.1**	**+2.2**
SACS	**San Casciano d**	**2.64**	**134**	Pn	**Pn**	**11 00 03.2**	**+1.3**
	170nm,0.9s						
FSSB	**Fossombrone**	**2.68**	**111**	Pn	**Pn**	**11 00 03.9**	**+1.3**
	184nm,0.4s						
WILA	**Wila**	**2.72**	**354⇓**	*i*Pn	**Pn**	**11 00 03.9**	**+0.8**
MURB	**Monte Urbino**	**2.72**	**121**	Pn	**Pn**	**11 00 04.8**	**+1.6**
	525nm,0.4s						
VILF	**Villemus**	**2.73**	**253**	Pn	**Pn**	**11 00 04.8**	**+1.5**
SMRF	**Simiane la Rot**	**2.79**	**256**	*e*Pn	**Pn**	**11 00 05.3**	**+1.1**
SMRF				*e*Pg	**Pg**	**11 00 13.8**	**-0.4**
SMRF				*e*Sn	**Sn**	**11 00 38.1**	**-0.3**

SMF *e*Sn **Sn** **11 01 13.4 -3.3**
130nm,0.6s
LBL Lubilhac 4.35 279 Pn **Pn** **11 00 27.4 +1.1**
LANF Langenberg 4.40 347 Pg **Pn** **11 00 25.7 -1.3**
SDI San Donato 4.44 131 Pn **Pn** **11 00 30.2 +2.6**
AGO Saint Agoulin 4.57 289 Pn **Pn** **11 00 30.0 +0.6**
SFTF Sexfontaines 4.58 321 *e*Pn **Pn** **11 00 29.7 +0.1**
SFTF *e*Sn **Sn** **11 01 22.9 -0.8**
227nm,1.0s
PYM Petit Puy Mans 4.59 285 Pn **Pn** **11 00 30.1 +0.5**
MOA Molln 4.64 46⇑ *i*PN **Pn** **11 00 30.1 -0.3**
MOA *i* SN **Sn** **11 01 26.8 +1.6**
MOA Molln 4.64 46 *e*Pn **Pn** **11 00 30.3 -0.1**
MOA *i* Sn **Sn** **11 01 26.8 +1.6**
GROS Grobnik 4.67 66 *e*Pn **Pn** **11 00 29.8 -1.1**
AVF Avril sur Loir 4.67 299 *e*Pn **Pn** **11 00 30.7 -0.2**
AVF *e*Sn **Sn** **11 01 26.3 +0.4**
42nm,0.6s
KTD Kalmit 4.69 350 Pn **Pn** **11 00 29.7 -1.4**
SSF Saint Saulge 4.70 302 *e*Pn **Pn** **11 00 31.3 +0.1**
SSF *e*Sn **Sn** **11 01 22.8 -3.7**
32nm,0.6s
RFYF Reffroy 4.73 327 *e*Pn **Pn** **11 00 32.2 +0.5**
RFYF *e*Sn **Sn** **11 01 26.5 -0.9**
147nm,0.7s
MEZF Maizieres J'vi 4.80 324 *e*Pn **Pn** **11 00 32.9 +0.2**
MEZF *e*Sn **Sn** **11 01 28.0 -1.2**
112nm,0.7s
BGF Bois d'Agland 4.91 294 *e*Pn **Pn** **11 00 34.8 +0.6**
BGF *e*Sn **Sn** **11 01 28.3 -3.6**
162nm,0.6s
ARSA Arzberg 5.01 57⇑ *i*PN **Pn** **11 00 34.3 -1.3**
ARSA *i* SN **Sn** **11 01 33.8 -0.6**
GEC2 GERESS Array S 5.11 34 *e*Pn **Pn** **11 00 35.0 -2.0**
GEC2 *e*Sn **Sn** **11 01 32.0 -4.9**
GERES GERESS Array B 5.11 34 Pn **Pn** **11 00 35.1 -1.9**
5.4nm,0.3s,baz=210,slow=13,SNR=55
GERES Sn **Sn** **11 01 32.5 -4.4**
21nm,0.3s,baz=213,slow=24,SNR=14
GERES LR LR 11 02 59.8
comp=Z,170nm,20.5s,baz=44,slow=44
CAF Calviac 5.17 275 *e*Pn **Pn** **11 00 39.1 +1.1**
CAF *e*Sn **Sn** **11 01 35.2 -3.4**
26nm,0.7s
EJON La Jonquera 5.20 246 Pn **Pn** **11 00 37.1 -1.2**
11nm,0.5s,SNR=8.7
EJON Sn **Sn** **11 01 35.3 -3.9**
6.6nm,0.5s
EJON Lg 11 02 08.8
1.2nm,0.3s,SNR=7.9
EJON La Jonquera 5.20 246 P **Pn** **11 00 37.1 -1.2**
11nm,0.5s,SNR=8.7
EJON S **Sn** **11 01 35.3 -3.8**
6.6nm,0.5s
TCF Toulx Ste Croi 5.25 290 *e*Pn **Pn** **11 00 39.4 +0.4**
TCF *e*Sn **Sn** **11 01 35.7 -4.7**
56nm,0.6s
KHC Kasperske Hory 5.29 32 *e*P **Pn** **11 00 37.9 -1.7**
KHC *e* 11 01 36.2
KHC pmax pmax
comp=Z,207nm,1.8s
KHC Kasperske Hory 5.29 32 *e*Pn **Pn** **11 00 37.9 -1.7**
comp=Z,207nm,1.8s
KHC *e* 11 01 04.0
KHC *e*Sn **Sn** **11 01 36.2 -5.3**
KHC *e*Sg **Sg** **11 02 04.2 -10**
KHC Kasperske Hory 5.29 32 *e*PN **Pn** **11 00 37.9 -1.7**
KHC *ex* x 11 01 04.0
KHC *e*SN **Sn** **11 01 36.2 -5.3**
KHC *e*SG **Sg** **11 02 04.2 -10**
comp=Z,207nm,1.8s
MTLF Montolieu 5.31 258 *e*Pn **Pn** **11 00 39.2 -0.7**
MTLF *e*Sn **Sn** **11 01 38.2 -3.7**
comp=Z,28nm,0.5s
ABH Alteburg 5.31 347 Pn **Pn** **11 00 38.8 -1.1**
HYF Humbligny 5.32 301 *e*Pn **Pn** **11 00 40.1 +0.1**
HYF *e*Sn **Sn** **11 01 41.5 -0.7**
TNS Taunus Mts 5.55 354 *e*Pn **Pn** **11 00 41.4 -1.8**
TNS *e*Sn **Sn** **11 01 45.6 -2.3**
RJF Les Rejaudoux 5.57 279 *e*Pn **Pn** **11 00 44.9 +1.3**
CARF Carcanieres 5.60 252 Pn **Pn** **11 00 43.1 -0.9**
NKC Novy Kostel 5.91 20 *e*PN **Pn** **11 00 47.7 -0.7**
NKC *e*SN **Sn** **11 01 51.6 -5.5**
LFF La Frestale 6.12 275 *e*Pn **Pn** **11 00 51.5 +0.3**
MOX Moxa 6.13 14 *e*Pg **Pg** **11 01 19.4 -1.5**
MOX *e*Sn **Sn** **11 01 56.4 -6.2**
MOX Moxa 6.13 14 S **Sn** **11 01 56.0 -6.6**
MOX L 11 03 18.0
MOX Moxa 6.13 14 *e*Sn **Sn** **11 01 56.4 -6.2**
GIVF Givet 6.20 332 *e*Pn **Pn** **11 00 51.7 -0.7**
GIVF *e*Sn **Sn** **11 02 00.0 -4.2**
comp=Z,87nm,1.0s
MLS Moulis 6.21 256 Pn **Pn** **11 00 51.3 -1.3**
DOU Dourbes 6.27 331 P **Pn** **11 00 53.5 +0.1**
RHK1 Bakonya 6.31 74 *e*P **Pn** **11 00 51.4 -2.6**
MEM Membach 6.31 340 P **Pn** **11 00 54.3 +0.3**
STON Ston 6.33 104 *i* Pn **Pn** **11 00 53.1 -1.1**
STON *i* Sn **Sn** **11 02 01.0 -6.6**
STON Ston 6.33 104 *i* Pn **Pn** **11 00 53.1 -1.2**
STON *i* Sn **Sn** **11 02 00.9 -6.6**
PRU Pruhonice 6.35 32 *e*Pn **Pn** **11 00 52.6 -2.0**
comp=Z,97nm,1.7s
PRU *e*Sn **Sn** **11 02 01.5 -6.6**
PRU *e*Sg **Sg** **11 02 33.7 -16**
PRU Pruhonice 6.35 32 *e*PN **Pn** **11 00 52.6 -2.0**
PRU *e*SN **Sn** **11 02 01.5 -6.6**
PRU *e*SG **Sg** **11 02 33.7 -16**
comp=Z,97nm,1.7s
BAIF Baives 6.38 329 *e*Pn **Pn** **11 00 54.1 -0.9**
BAIF *e*Sn **Sn** **11 02 04.5 -4.3**
comp=Z,17nm,0.5s
HGN Heimansgroeve 6.47 340 *e*Pn **Pn** **11 00 56.3 0.0**
comp=Z,3.7nm,0.6s
HGN *e*Sn **Sn** **11 02 06.3 -4.8**
EPF Esparros 6.71 259 *e*Pn **Pn** **11 00 58.4 -1.3**
EPF *e*Sn **Sn** **11 02 14.2 -2.9**
comp=Z,15nm,0.6s
VRAC Vranov 6.76 45 Sn **Sn** **11 02 10.9 -7.5**
comp=Z,1.2nm,0.3s,baz=338,slow=18,SNR=4.4
VRAC Lg 11 02 51.5
comp=Z,1.3nm,0.3s,baz=146,slow=19,SNR=5.2
PVCC Panska Ves 6.81 29 *e*PN **Pn** **11 00 57.1 -3.9**
BRG Berggiesshubel 6.90 25 *e*P **Pn** **11 01 02.9 +0.6**
BRG *i* 11 02 11.4
BRG Berggiesshubel 6.90 25 *e*Pn **Pn** **11 01 02.9 +0.6**
BRG *i* Pg **Pg** **11 01 37.6 +1.4**
BRG *i* 11 02 11.4
BRG *i* Sg **Sg** **11 03 02.2 -6.0**
MFF Saint Martin d 6.91 289 *e*Pn **Pn** **11 01 01.9 -0.5**
ETOS Mallorca 6.91 227 Pn **Pn** **11 01 00.4 -2.1**
comp=Z,16nm,0.4s,SNR=13
ETOS Sn **Sn** **11 02 15.5 -6.5**
comp=Z,1.4nm,0.3s,SNR=7.9
ETOS Mallorca 6.91 227 P **Pn** **11 01 00.4 -2.1**
comp=Z,16nm,0.4s,SNR=13
EPOB Poblet 6.92 244 P **Pn** **11 01 03.3 +0.7**
EPOB Poblet 6.92 244 Pn **Pn** **11 01 01.4 -1.1**
comp=Z,9.5nm,0.5s,SNR=7.9
EPOB Sn **Sn** **11 02 15.7 -6.5**
comp=Z,6.6nm,1.2s,SNR=7.9
EPOB Poblet 6.92 244 P **Pn** **11 01 03.3 +0.8**
comp=Z,9.5nm,0.5s,SNR=7.9
EBIE Bielsa 6.96 256 P **Pn** **11 01 04.7 +1.6**
EBIE S **Sn** **11 02 20.2 -3.0**
EBIE Bielsa 6.96 256 Pn **Pn** **11 01 01.8 -1.4**
comp=Z,2.7nm,0.4s,SNR=8.0
EBIE Sn **Sn** **11 02 17.6 -5.7**
comp=Z,2.4nm,0.5s,SNR=4.0
EBIE Bielsa 6.96 256 P **Pn** **11 01 04.7 +1.6**
comp=Z,2.7nm,0.4s,SNR=8.0
EBIE S **Sn** **11 02 20.2 -3.1**
comp=Z,2.4nm,0.5s,SNR=4.0
CLL Collm 7.04 19 Pg Px 11 01 24.0
CLL *i* Sn **Sn** **11 02 19.5 -5.9**
CLL *e*Sg **Sg** **11 03 07.0 -5.9**
CLL Collm 7.04 19 *e* Px 11 01 24.0
CLL *i* SN **Sn** **11 02 19.5 -5.9**
CLL *e*SG **Sg** **11 03 07.0 -5.9**
UPC Upice 7.35 36 *e*PN **Pn** **11 01 05.5 -3.1**
DPC Dobruska-Polom 7.36 37 *e*Pn **Pn** **11 01 05.3 -3.5**
comp=Z,84nm,1.2s
DPC *e*Sn **Sn** **11 02 24.4 -8.9**
DPC *e*Sg **Sg** **11 03 09.6 -14**
DPC Dobruska-Polom 7.36 37 *e*PN **Pn** **11 01 05.3 -3.5**
comp=Z,84nm,1.2s
ETSF Etsaut 7.38 259 *e*Pn **Pn** **11 01 10.2 +1.1**
ETSF *e*Sn **Sn** **11 02 30.3 -3.5**
comp=Z,22nm,0.7s
MORC Moravsky Berou 7.54 45 *e*P **Pn** **11 01 06.4 -4.9**
VYHS Vyhne 7.56 57 *e*Pn **Pn** **11 01 07.8 -3.7**
VYHS *e*Sn **Sn** **11 02 29.0 -9.3**
LDF La Druitiere 7.57 304 *e*Pn **Pn** **11 01 09.7 -2.0**
ERTA Horta de San J 7.60 244 Pn **Pn** **11 01 10.8 -1.4**
SNR=7.9
KSP Ksiaz 7.72 35 *e*Pn **Pn** **11 01 11.0 -2.8**
KSP *e*Sg **Sg** **11 03 17.8 -18**
KSP Ksiaz 7.72 35 *e*P **Pn** **11 01 11.1 -2.7**
KSP *e*S **Sg** **11 03 30.6 -4.8**
ESAC San Caprasio 7.76 251 Pn **Pn** **11 01 13.4 -0.9**
SNR=7.9
SJPF Ste Jean 7.79 262 *e*Pn **Pn** **11 01 13.1 -1.6**
FLN La Foliniere 7.86 304 *e*Pn **Pn** **11 01 12.6 -3.2**
EALK Alkurruntz 7.96 263 P **Pn** **11 01 17.2 +0.1**
EALK Alkurruntz 7.96 263 Pn **Pn** **11 01 16.5 -0.7**
comp=Z,4.9nm,0.5s,SNR=7.9
EALK Alkurruntz 7.96 263 P **Pn** **11 01 17.2 +0.1**
comp=Z,4.9nm,0.5s,SNR=7.9
PSZ Piszkesteto 7.99 63 *e*P **Pn** **11 01 13.5 -4.0**
EMOS Mosqueruela 8.44 242 P **P** **11 01 23.3 -0.5**
EMOS Mosqueruela 8.44 242 Pn **P** **11 01 22.0 -1.8**
comp=Z,4.2nm,0.5s,SNR=5.6
EMOS Mosqueruela 8.44 242 P **P** **11 01 23.3 -0.5**
comp=Z,4.2nm,0.5s,SNR=5.6
KECS Kecovo 8.56 60 *e*PN **P** **11 01 24.5 -0.9**
SGMF Saint Gilles 8.93 298 *e*Pn **P** **11 01 28.6 -2.1**
QUIF Quistinic 9.22 295 *e*Pn **P** **11 01 32.6 -2.1**
KOLS Kolonicke sedl 9.82 60 *e*PN **P** **11 01 42.2 -0.7**
EARI Arriondas 10.57 267 P **P** **11 01 53.7 +0.5**
comp=Z,1.3nm,0.3s
EARI S **S** **11 03 46.8 -6.0**
EARI Arriondas 10.57 267 Pn **P** **11 01 52.0 -1.2**
comp=Z,1.3nm,0.3s,SNR=5.5
EARI Sn **S** **11 03 43.1 -10**
comp=Z,2.1nm,0.5s,SNR=7.9
EARI Arriondas 10.57 267 P **P** **11 01 53.7 +0.5**
comp=Z,1.3nm,0.3s,SNR=5.5
ESDC Sonseca Array 11.07 248 Pn **P** **11 01 58.8 -1.2**
comp=Z,0.7nm,0.3s,baz=58,slow=14,SNR=7.4
AKASG Malin Array Be 14.65 59 Pn **P** **11 02 45.2 -2.4**
comp=Z,0.6nm,0.3s,baz=250,slow=12,SNR=4.3
AKASG Malin Array Be 14.65 59 Pn **P** **11 02 45.2 -2.4**
IDI Anoyia 15.17 123 Pn **P** **11 02 58.0 +3.5**
comp=Z,0.1nm,0.3s,baz=330,slow=14,SNR=2.1
SIM Simferopol' 17.57 80 P **P** **11 03 32.3 +7.3**
SIM S **S** **11 06 25.2 -14**
SIM pmax pmax
comp=Z,9.0nm,0.7s
SIM MLR MLR
comp=Z,200nm,17.0s
BRTR Keskin Array B 18.65 97 P **P** **11 03 40.0 +1.5**
comp=Z,0.0nm,0.3s,baz=284,slow=5.9,SNR=3.4
FINES FINESS Array B 19.44 25 P **P** **11 03 45.1 -2.5**
comp=Z,0.3nm,0.3s,baz=206,slow=10.0,SNR=8.2
FINES LR LR 11 11 07.6
comp=Z,53nm,20.0s,baz=348,slow=37
ANN Anapa 19.92 80 *e*P **P** **11 03 58.3 +5.1**
ANN pmax pmax
comp=Z,122nm,1.3s
OBN Obninsk 20.26 49⇓ *i*P **P** **11 03 53.0 -3.7**
OBN *e* 11 04 08.2
OBN *e*S **S** **11 07 28.1 -11**
OBN pmax pmax
comp=Z,3.0nm,0.7s
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.2
OBN Obninsk 20.26 49 *i* P **P** **11 03 53.0 -3.7**
comp=Z,3.0nm,0.7s
SOC Sochi 21.78 82 *e*P **P** **11 04 07.1 -5.2**
SOC *e*S **S** **11 08 06.2 -1.9**
SOC pmax pmax
comp=Z,28nm,1.0s,mb4.7
SOC pmax pmax
comp=N,16nm,0.8s
SOC pmax pmax
comp=E,28nm,1.1s
SOC Sochi 21.78 82 *e*P **P** **11 04 07.1 -5.2**
comp=E,16nm,0.8s,mb4.5
MALT Malatya 22.63 96 P **P** **11 04 17.5 -3.3**
KIV Kislovodsk 23.78 80 *i* P **P** **11 04 28.8 -3.1**
KIV pmax pmax
comp=Z,8.0nm,0.8s,mb4.2
KIV Kislovodsk 23.78 80 P **P** **11 04 28.4 -3.5**
KIV Kislovodsk 23.78 80 P **P** **11 04 28.5 -3.4**
ASF Jabal al Asfar 24.83 111 P **P** **11 04 42.6 +0.4**
comp=Z,2.9nm,0.7s,mb3.9,baz=169,slow=18,SNR=3.5
ZEI Tsey 24.94 82 *e*P **P** **11 04 41.5 -1.7**
ZEI *i* *PP 11 04 44.4
ZEI pmax pmax
comp=Z,1.0nm,0.5s,mb3.6
ARCES ARCESS Array B 26.21 13 P **P** **11 04 52.1 -2.6**
comp=Z,2.3nm,0.9s,mb3.7,baz=211,slow=10,SNR=3.7
GNI Garni 26.40 87 *i* P **P** **11 04 53.0 -3.8**
GNI pmax pmax
comp=Z,6.0nm,1.3s
DBIC Dimbokro 39.87 202 P **P** **11 06 52.8 -1.3**
CHKZ Chkalovo 39.88 54 P **P** **11 06 51.1 -2.8**
BVAR Borovoye Array 39.90 56 P **P** **11 06 52.9 -1.1**
comp=Z,0.2nm,0.3s,mb3.3,baz=293,slow=11,SNR=2.2
AAK Ala-Archa 46.04 68 *e*P **P** **11 07 42.6 -1.3**
AAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
AAK Ala-Archa 46.04 68 *e*P **P** **11 07 42.6 -1.3**
comp=Z,2.7nm,0.9s,mb4.2
SONM Songino Array 62.67 49 P **P** **11 09 43.9 -1.6**
comp=Z,0.2nm,0.5s,mb3.5,baz=300,slow=12,SNR=3.0
SONM Songino Array 62.67 49 P **P** **11 09 43.9 -1.6**
ULN Ulaanbaatar 63.01 48 P **P** **11 09 43.0 -4.6**
YKA Yellowknife Ar 64.14 335 P **P** **11 09 53.4 -1.4**
comp=Z,0.3nm,0.6s,mb3.5,baz=41,slow=6.3,SNR=12
BILL Bilibino 66.24 9⇑ *e*P **P** **11 10 10.5 +2.3**
BILL *e*S S 11 18 45.6 -10
BILL pmax pmax
comp=Z,3.0nm,1.8s,mb4.0
LZH Lanzhou 68.55 60 *e*P **P** **11 10 20.0 -3.3**
LZH *PP pP 11 10 25.0 -1.1
LZH *SP sP 11 10 27.0 -0.1
LZH 11 12 53.0
LZH pmax pmax
comp=Z,20nm,1.4s,mb4.8
LZH Lanzhou 68.55 60 *e*P **P** **11 10 20.0 -3.3**
comp=Z,20nm,1.4s,mb4.8
LZH pP pP 11 10 25.0 -1.1
LZH sP sP 11 10 27.0 -0.1
LZH PP PP 11 12 53.0 -3.8
BJI Beijing 73.10 50 *e*P **P** **11 10 48.1 -2.6**
BJI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BJI Beijing 73.10 50 *e*P **P** **11 10 48.1 -2.6**
comp=Z,4.0nm,0.8s,mb4.4
ASAJ Asahikawa 82.28 32 LR LR 11 51 10.2
comp=Z,45nm,18.6s,MS3.9,baz=182,slow=38
SSE Sheshan 82.38 53 P **P** **11 11 41.9 -0.1**
comp=Z,11nm,0.7s,mb4.9
TXAR Lajitas Array 84.35 306 P **P** **11 11 53.2 +1.1**
comp=Z,0.6nm,0.8s,mb3.8,baz=76,slow=5.2,SNR=5.6
TXAR Lajitas Array 84.35 306 P **P** **11 11 53.2 +1.1**

*LDG **18** 11:04:15.1±0.3,44.60N×9.73E,h2km,Md2.5/1,Ml2.5/10, Error ellipse: s-maj=6.9km s-min=3.8km az=91.0*
*CSEM **18** 11:04:16.1±0.1,44.60N×9.42E,h2km,ML2.4/9,Error ellipse: s-maj=3.6km s-min=1.6km az=15.0*
*NEIC **18** 11:04:17.5,44.58N×9.38E,h2km,ML2.5(LDG), ML2.1(GEN),After GEN.*
*GEN **18** 11:04:17.5,44.58N×9.38E,h2km,ML2.1*
ISC 18 11:04:16.6±0.7,44.62N±0.04×9.39E±0.04,h11km±6km, n44,σ1°04/64,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CODM		**0.40**	**125**	P	**Pg**		**11 04 25.1**	**+0.2**
CODM				S	**Sg**		**11 04 31.1**	**+0.7**
GRAM		**0.50**	**105**	P	**Pg**		**11 04 26.3**	**-0.5**
GRAM				S	**Sg**		**11 04 34.6**	**+1.1**
GRAM		**0.50**	**105**	P	**Pg**		**11 04 26.3**	**-0.5**
GRAM				S	**Sg**		**11 04 34.6**	**+1.1**
BACM		**0.60**	**125**	P	**Pb**		**11 04 28.6**	**0.0**
BACM		**0.60**	**125**	P	**Pb**		**11 04 28.6**	**0.0**
VALM		**0.67**	**114**	P	**Pb**		**11 04 29.8**	**0.0**
VALM				S	**Sb**		**11 04 38.0**	**-0.9**
VALM		**0.67**	**114**	P	**Pb**		**11 04 29.8**	**-0.1**
VALM				S	**Sb**		**11 04 38.0**	**-0.9**
SARO	**Sassorosso**	**0.85**	**121**	P	**Pb**		**11 04 33.1**	**+0.3**
SARO				S	**Sb**		**11 04 44.9**	**+0.9**
SARO	**Sassorosso**	**0.85**	**121**	P	**Pb**		**11 04 33.2**	**+0.3**
SARO	**Sassorosso**	**0.85**	**121**	P	**Pb**		**11 04 33.2**	**+0.3**
SARO				S	**Sb**		**11 04 44.9**	**+0.9**
SARO				S	**Sb**		**11 04 44.9**	**+0.9**
FIN	**Finale Ligure**	**0.94**	**244**	P	**Pb**		**11 04 35.0**	**+0.5**
FIN				S	**Sb**		**11 04 46.4**	**-0.4**
ROB	**Roburent**	**1.14**	**254**	P	**Pb**		**11 04 38.0**	**+0.2**
ROB				S	**Sb**		**11 04 50.7**	**-1.7**
ROB	**Roburent**	**1.14**	**254**	P	**Pb**		**11 04 38.0**	**+0.1**
IMI	**Imperia**	**1.29**	**237**	P	**Pb**		**11 04 40.4**	**-0.1**
IMI				S	**Sb**		**11 04 55.1**	**-1.9**
IMI	**Imperia**	**1.29**	**237**	P	**Pb**		**11 04 40.4**	**-0.1**
ORX	**Oropa**	**1.42**	**316**	P	**Pn**		**11 04 42.3**	**-0.2**
ORX	**Oropa**	**1.42**	**316**	P	**Pn**		**11 04 42.3**	**-0.2**
ENR	**Entracque**	**1.47**	**255**	P	**Pn**		**11 04 44.2**	**+1.0**
ENR	**Entracque**	**1.47**	**255**	P	**Pn**		**11 04 44.2**	**+1.0**
STV2	**Anna di Valdie**	**1.53**	**256**	P	**Pn**		**11 04 43.3**	**-0.8**
STV2	**Anna di Valdie**	**1.53**	**256**	P	**Pn**		**11 04 43.3**	**-0.7**
STV	**Sta Anna Valdi**	**1.53**	**256**	P	**Pn**		**11 04 43.9**	**-0.2**
STV	**Sta Anna Valdi**	**1.53**	**256**	P	**Pn**		**11 04 43.9**	**-0.2**
BHB	**Bricherasio**	**1.53**	**279**	P	**Pn**		**11 04 45.0**	**+0.9**
BHB	**Bricherasio**	**1.53**	**279**	P	**Pn**		**11 04 45.0**	**+0.9**
SBF	**Sospel**	**1.60**	**242**	*e*Pn	**Pn**		**11 04 45.2**	**+0.1**
SBF				*e*Sn	**Sn**		**11 05 06.3**	**+0.5**
12nm,0.3s								
RSP	**Reno Superiore**	**1.61**	**290**	P	**Pn**		**11 04 46.1**	**+0.9**
RSP	**Reno Superiore**	**1.61**	**290**	P	**Pn**		**11 04 46.1**	**+0.9**
PZZ	**Prazzo**	**1.64**	**267**	P	**Pn**		**11 04 46.7**	**+1.0**
PZZ	**Prazzo**	**1.64**	**267**	P	**Pn**		**11 04 46.7**	**+1.0**
MBDF	**Montbardon**	**1.87**	**274**	*e*Pn	**Pn**		**11 04 49.6**	**+0.6**
MBDF				*e*Sn	**Sn**		**11 05 12.8**	**0.0**
7.1nm,0.5s								
LPG	**La Plagne**	**2.07**	**296**	*e*Pn	**Pn**		**11 04 52.1**	**+0.4**
LPG				*e*Sn	**Sn**		**11 05 20.3**	**+2.6**
4.8nm,0.5s								
LPL	**La Plagne**	**2.09**	**296**	*e*Pn	**Pn**		**11 04 51.9**	**-0.1**
LPL				*e*Sn	**Sn**		**11 05 20.1**	**+1.9**
6.2nm,0.5s								
PGF	**Pioggiola**	**2.09**	**188**	*e*Pn	**Pn**		**11 04 50.5**	**-1.7**
PGF				*e*Sn	**Sn**		**11 05 14.7**	**-3.7**
22nm,0.8s								
FRF	**La Foret Royal**	**2.25**	**243**	*e*Pn	**Pn**		**11 04 54.5**	**+0.2**
FRF				*e*Sn	**Sn**		**11 05 22.8**	**+0.5**
3.3nm,0.3s								
LMR	**La Mourre**	**2.45**	**239**	*e*Pn	**Pn**		**11 04 56.4**	**-0.8**
LMR				*e*Sn	**Sn**		**11 05 27.2**	**-0.2**
17nm,0.9s								
ORIF	**Oris-en-Rattie**	**2.52**	**278**	*e*Pn	**Pn**		**11 04 58.8**	**+0.6**
ORIF				*e*Sn	**Sn**		**11 05 31.1**	**+1.9**
4.1nm,0.4s								
SMRF	**Simiane la Rot**	**2.82**	**258**	*e*Sn	**Sn**		**11 05 38.2**	**+1.4**
2.0nm,0.3s								
CABF	**La Chapelle**	**3.05**	**312**	*e*Pn	**Pn**		**11 05 05.5**	**-0.4**
HAU	**Haudompre**	**3.99**	**329**	*e*Pn	**Pn**		**11 05 17.5**	**-1.6**
HAU				*e*Sn	**Sn**		**11 06 03.1**	**-3.3**
4.8nm,0.4s								
CDF	**Champ du Feu**	**4.06**	**340**	*e*Pn	**Pn**		**11 05 17.0**	**-3.2**
SMF	**Signal de Mont**	**4.39**	**299**	*e*Pn	**Pn**		**11 05 23.8**	**-1.0**
SSF	**Saint Saulge**	**4.78**	**303**	*e*Pn	**Pn**		**11 05 28.8**	**-1.6**
BGF	**Bois d'Agland**	**4.99**	**295**	*e*Pn	**Pn**		**11 05 32.5**	**-0.8**

*STR **18** 11:49:14.0±0.4,44.52N×6.92E,h5km±1km,Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **18** 11:49:14.1±0.1,44.53N×6.93E,h2km,Md2.2/2,Ml2.3/7, Error ellipse: s-maj=1.5km s-min=0.8km az=60.0*
*NEIC **18** 11:49:14.0,44.52N×6.92E,h5km,ML2.5(GEN), ML2.3(LDG),ML2.2(STR),After STR.*
ISC 18 11:49:13.3±0.3,44.51N±0.01×6.90E±0.02,h12km±2km, n31,σ0°54/61,France

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.07**	**244**	Pg	**Pg**		**11 49 16.3**	**+0.5**
SURF				Sg	**Sg**		**11 49 17.8**	**+0.4**
PZZ	**Prazzo**	**0.15**	**92**	P	**Pg**		**11 49 17.4**	**+0.4**
PZZ				S	**Sg**		**11 49 19.5**	**+0.2**
MBDF	**Montbardon**	**0.23**	**338**	*e*Pg	**Pg**		**11 49 18.8**	**+0.4**
MBDF				*e*Sg	**Sg**		**11 49 22.7**	**+0.9**
88nm,0.2s								
STV	**Sta Anna Valdi**	**0.41**	**131**	P	**Pg**		**11 49 21.7**	**0.0**
STV				S	**Sg**		**11 49 27.3**	**+0.1**
STV2	**Anna di Valdie**	**0.41**	**130**	P	**Pg**		**11 49 21.6**	**-0.1**
STV2				S	**Sg**		**11 49 27.2**	**0.0**
RRL	**Cesana Torines**	**0.42**	**349**	P	**Pg**		**11 49 22.0**	**+0.1**
RRL				S	**Sg**		**11 49 27.9**	**+0.3**
BHB	**Bricherasio**	**0.42**	**38**	P	**Pg**		**11 49 21.9**	**-0.1**
BHB				S	**Sg**		**11 49 27.3**	**-0.5**
ENR	**Entracque**	**0.47**	**127**	P	**Pg**		**11 49 22.8**	**-0.2**
ENR				S	**Sg**		**11 49 29.2**	**-0.2**
FENE	**Fenestrelle**	**0.53**	**13**	P	**Pb**		**11 49 24.1**	**-0.1**
TOUF	**Mont Tournerai**	**0.56**	**153**	Pg	**Pg**		**11 49 24.9**	**+0.3**
TOUF				Sg	**Sg**		**11 49 32.3**	**+0.1**
AUTN	**L'Aution**	**0.64**	**143**	Pg	**Pg**		**11 49 26.3**	**0.0**
AUTN				Sg	**Sg**		**11 49 35.0**	**+0.1**
MVIF	**Mont Vial**	**0.64**	**163**	Pg	**Pg**		**11 49 26.7**	**+0.4**
MVIF				Sg	**Sg**		**11 49 35.7**	**+0.8**
RSP	**Reno Superiore**	**0.69**	**22**	P	**Pb**		**11 49 27.2**	**+0.3**
RSP				S	**Sb**		**11 49 35.7**	**-0.4**
SAOF	**Saorge**	**0.71**	**138**	Pg	**Pg**		**11 49 27.2**	**-0.4**
SAOF				Sg	**Sg**		**11 49 36.4**	**-0.7**
ROB	**Roburent**	**0.73**	**107**	P	**Pb**		**11 49 27.8**	**+0.2**
ROB				S	**Sb**		**11 49 37.5**	**+0.2**
MONE	**Monesi**	**0.75**	**125**	P	**Pb**		**11 49 28.1**	**+0.2**
MONE				S	**Sb**		**11 49 37.6**	**-0.3**
SBF	**Sospel**	**0.76**	**149**	*e*Pg	**Pg**		**11 49 28.4**	**-0.1**
SBF				*e*Sg	**Sg**		**11 49 37.0**	**-1.7**
30nm,0.3s								
CALN	**Calern**	**0.76**	**180**	Pg	**Pg**		**11 49 28.9**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.83**	**300**	*e*Pg	**Pg**		**11 49 30.0**	**0.0**
ORIF				*e*Sg	**Sg**		**11 49 41.1**	**-0.1**
8.1nm,0.2s								
NEGI	**Negi**	**0.88**	**138**	P	**Pb**		**11 49 30.7**	**+0.6**
NEGI				S	**Sb**		**11 49 42.0**	**+0.3**
IMI	**Imperia**	**0.93**	**130**	P	**Pb**		**11 49 31.5**	**+0.5**
IMI				S	**Sb**		**11 49 43.6**	**+0.5**
FRF	**La Foret Royal**	**0.97**	**191**	*e*Pn	**Pn**		**11 49 33.5**	**+0.9**
FRF				*e*Sg	**Sg**		**11 49 45.3**	**-0.3**
20nm,0.3s								
LSD	**Ceresole Reale**	**0.97**	**11**	P	**Pb**		**11 49 32.3**	**+0.7**
LSD				S	**Sb**		**11 49 44.4**	**+0.3**
FIN	**Finale Ligure**	**0.99**	**107**	P	**Pb**		**11 49 32.1**	**+0.2**
FIN				S	**Sb**		**11 49 45.0**	**+0.3**
LPG	**La Plagne**	**0.99**	**354**	*e*Pg	**Pg**		**11 49 32.4**	**-0.8**
LPG				*e*Sg	**Sg**		**11 49 46.0**	**-0.5**
5.4nm,0.3s								
LPL	**La Plagne**	**1.01**	**354**	*e*Pg	**Pg**		**11 49 33.2**	**-0.4**
LPL				*e*Sg	**Sg**		**11 49 46.6**	**-0.6**
8.9nm,0.3s								
SMRF	**Simiane la Rot**	**1.09**	**241**	*e*Pg	**Pg**		**11 49 35.2**	**+0.1**
SMRF				*e*Sn	**Sn**		**11 49 49.7**	**+0.3**
LMR	**La Mourre**	**1.21**	**193**	*e*Pg	**Pg**		**11 49 37.3**	**-0.2**
LMR				*e*Sg	**Sg**		**11 49 53.5**	**-0.2**
16nm,0.2s								
VIVF	**Saint-Julien-l**	**1.62**	**283**	*e*Pn	**Pn**		**11 49 42.6**	**+0.6**
VIVF				*e*Pg	**Pg**		**11 49 45.5**	**-0.3**
VIVF				*e*Sg	**Sg**		**11 50 06.1**	**-1.3**
3.4nm,0.4s								
LASF	**Ste Croix**	**2.22**	**260**	*e*Pn	**Pn**		**11 49 50.3**

0.1nm,0.3s,baz=206,slow=12,SNR=5.3
SDNR Sundarnagar 34.60 331 *e*P P 12 01 59.0 -8.9
MKAR Makanchi Array 46.52 347 P P 12 03 43.8 -2.1
1.1nm,0.6s,baz=164,slow=7.2,SNR=7.1
MKAR pP pP 12 03 51.6 -1.6
1.6nm,0.7s,baz=154,slow=8.1,SNR=7.6
SONM Songino Array 46.99 10 P P 12 03 47.4 -2.3
0.5nm,0.6s,baz=188,slow=10,SNR=5.2
SONM pP pP 12 03 55.3 -1.7
0.4nm,0.7s,baz=180,slow=8.6,SNR=3.7
ZAL Zalesovo 52.94 352 P P 12 04 33.0 -2.2
1.1nm,0.3s,baz=311,slow=2.8,SNR=3.2
ZAL pP pP 12 04 39.9 -2.7
1.2nm,0.4s,baz=278,slow=3.7,SNR=3.9

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*IGQ **18** 11:58:30.5, 1.66S×77.84W, h206km±2km, mb4.4, Error ellipse: s-maj=4.0km s-min=1.6km az=42.5*
*NEIC **18** 11:58:33.3±0.8, 1.59S×77.67W, h182km±8km, mb3.9/6, MD4.4(IGQ), Error ellipse: s-maj=12.4km s-min=6.6km az=70.0*
*IDC **18** 11:58:37.4±2.6, 1.48S×77.48W, h218km±25km, mb3.5/10, mb1 3.7/14, mb1mx3.6/24, mbtmp4.2/14, Error ellipse: s-maj=21.5km s-min=9.8km az=70.0*
ISC 18 11:58:32.6±0.4,**1.61S**±0.05×**77.83W**±0.07,**h190**km±3km,
n54,σ0**99/54**,**mb3.8**/13,**4C-19D,Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**0.60**	**286**	⇑P	**P**	**11 58 59.4**	**+0.1**
ULBA				S	**S**	**11 59 19.4**	**-0.6**
ARRY	**Arrayan**	**0.64**	**280**	⇑P	**P**	**11 58 59.4**	**-0.2**
ARRY				S	**S**	**11 59 19.7**	**-0.6**
JUIV	**Juive**	**0.66**	**287**	⇓P	**P**	**11 58 59.5**	**-0.2**
JUIV				S	**S**	**11 59 20.2**	**-0.4**
CUSU	**Cusua**	**0.67**	**285**	⇓P	**P**	**11 59 00.2**	**+0.5**
IGUA	**Igualata**	**0.82**	**279**	P	**P**	**11 59 00.6**	**+0.2**
TAMB	**Tambo**	**1.06**	**329**	⇓P	**P**	**11 59 02.6**	**+0.5**
VC1	**Cotopaxi 1**	**1.12**	**329**	⇓P	**P**	**11 59 03.2**	**+0.7**
NAS1	**Nasa**	**1.17**	**326**	⇓P	**P**	**11 59 04.0**	**+1.0**
ANTI	**Antisana**	**1.20**	**344**	⇓P	**P**	**11 59 03.8**	**+0.5**
CONE	**Cono NE Rev Vo**	**1.54**	**7**	⇑P	**P**	**11 59 06.1**	**-0.2**
ELAGU	**Cayambe Volc**	**1.59**	**354**	⇓P	**P**	**11 59 07.2**	**+0.5**
JUA2	**San Juan 2**	**1.59**	**331**	⇓P	**P**	**11 59 07.1**	**+0.4**
GGP	**Refugio Guagua**	**1.62**	**332**	⇓P	**P**	**11 59 07.5**	**+0.5**
TERV	**Terraza Guagua**	**1.63**	**332**	⇓P	**P**	**11 59 07.6**	**+0.6**
CAYR	**Refugio Cayamb**	**1.63**	**354**	⇓P	**P**	**11 59 07.8**	**+0.7**
PINO	**Pino**	**1.64**	**332**	⇓P	**P**	**11 59 07.8**	**+0.5**
YANA	**Yana**	**1.66**	**333**	⇓P	**P**	**11 59 07.8**	**+0.4**
CAYA	**Cayambe**	**1.68**	**354**	⇓P	**P**	**11 59 08.3**	**+0.7**
JOR1	**San Jorge 1**	**1.80**	**333**	⇓P	**P**	**11 59 07.0**	**-1.7**
OTAV	**Otavalo**	**1.94**	**341**	⇓*i*Pn	**P**	**11 59 10.0**	**-0.2**
COTA	**Cotacachi**	**2.00**	**345**	⇓P	**P**	**11 59 11.5**	**+0.7**
ECEN	**Cerro Negro**	**2.43**	**357**	⇓P	**P**	**11 59 16.1**	**+0.5**
MAGD	**Magdalena**	**2.48**	**308**	P	**P**	**11 59 15.9**	**-0.3**
JAMA	**Jama**	**2.73**	**299**	P	**P**	**11 59 17.9**	**-1.3**
HOJA	**Cerro de Hojas**	**2.77**	**282**	⇑P	**P**	**11 59 17.8**	**-1.8**
SALI	**Salinas**	**3.21**	**260**	⇓P	**P**	**11 59 23.1**	**-1.8**
ROSC	**El Rosal**	**7.32**	**29**	P	**P**	**12 00 17.9**	**+0.1**
1.2nm,0.3s,baz=107,slow=19,SNR=2.2							
NNA	**Nana**	**10.35**	**175**	Pn	**P**	**12 00 57.1**	**-0.4**
NNA				*e*Sn	**S**	**12 02 40.8**	**-10**
SDV	**Santo Domingo**	**12.66**	**34**	P	**P**	**12 01 25.7**	**-1.3**
2.1nm,0.3s,baz=260,slow=8.0,SNR=24							
ARE	**Arequipa**	**16.02**	**157**	*e*P	**P**	**12 02 12.0**	**+2.9**
SAML	**Samuel**	**16.29**	**117**	*e*P	**P**	**12 02 08.6**	**-3.8**
8.5nm,0.6s							
LPAZ	**La Paz**	**17.43**	**147**	P	**P**	**12 02 25.6**	**+0.1**
0.8nm,0.3s,baz=330,slow=12,SNR=29							
PCRV	**Puerto La Cruz**	**17.60**	**48**	P	**P**	**12 02 25.9**	**-1.5**
2.7nm,0.3s,baz=292,slow=5.2,SNR=8.6							
SIV	**San Ignacio**	**21.84**	**132**	P	**P**	**12 03 10.8**	**+0.4**
3.0nm,0.7s,mb3.9,baz=303,slow=9.7,SNR=17							
LVC	**Limon Verde**	**22.60**	**158**	P	**P**	**12 03 20.3**	**+2.3**
5.5nm,0.6s,mb4.2,baz=353,slow=6.0,SNR=14							
LVC	**Limon Verde**	**22.60**	**158**	*e*P	**P**	**12 03 18.8**	**+0.8**
5.3nm,0.5s,mb4.2							
TZTN	**Tazewell**	**38.33**	**353**	*e*P	**P**	**12 05 36.1**	**-0.6**
ELN	**Prospectdale**	**38.74**	**356**	*e*P	**P**	**12 05 39.2**	**-0.9**
TXAR	**Lajitas Array**	**39.47**	**323**	P	**P**	**12 05 48.6**	**+2.4**
0.2nm,0.5s,mb3.0,baz=142,slow=10,SNR=4.3							
PLCA	**Paso Flores**	**39.49**	**171**	P	**P**	**12 05 47.1**	**+0.9**
6.5nm,1.0s,mb4.2,baz=350,slow=8.3,SNR=7.8							
WMOK	**Wichita Mounta**	**41.16**	**333**	*e*P	**P**	**12 05 59.8**	**-0.1**
3.9nm,1.2s,mb3.9							
MNTX	**Cornudas Mount**	**42.20**	**324**	*e*P	**P**	**12 06 09.4**	**+0.9**
0.6nm,0.8s,mb3.3							
ANMO	**Albuquerque**	**45.19**	**326**	P	**P**	**12 06 34.2**	**+1.8**
1.6nm,0.6s,mb3.9,baz=140,slow=8.2,SNR=10							
ANMO	**Albuquerque**	**45.19**	**326**	*e*P	**P**	**12 06 33.2**	**+0.8**
1.9nm,0.6s,mb3.9							
SDCO	**Great Sand Dun**	**46.79**	**330**	*e*P	**P**	**12 06 46.1**	**+1.2**
1.4nm,0.5s,mb3.9							
PDAR	**Pinedale Array**	**52.62**	**331**	P	**P**	**12 07 29.4**	**+0.4**
0.3nm,0.6s,mb3.2,baz=112,slow=4.9,SNR=2.8							
SCHQ	**Schefferville**	**56.98**	**8**	P	**P**	**12 07 58.0**	**-2.4**
3.7nm,1.0s,mb4.2,baz=196,slow=6.7,SNR=3.8							
YKA	**Yellowknife Ar**	**69.70**	**343**	P	**P**	**12 09 22.2**	**-1.1**
1.1nm,0.6s,mb3.8,baz=140,slow=5.8,SNR=32							
DBIC	**Dimbokro**	**73.29**	**83**	P	**P**	**12 09 43.9**	**-1.8**
5.5nm,0.6s,mb4.5,baz=330,slow=6.2,SNR=9.7							
ILAR	**Eielson Array**	**82.66**	**336**	P	**P**	**12 10 36.0**	**+0.4**
0.6nm,0.6s,mb3.5,baz=147,slow=4.4,SNR=11							
ASAR	**Alice Springs**	**140.21**	**229**	PKhKP		12 17 33.7	
0.4nm,0.6s,baz=122,slow=3.8,SNR=5.2							
ASAR				PKP	PKPdf	12 17 41.0	+1.5
0.6nm,0.7s,baz=134,slow=2.4,SNR=6.2							
WRA	**Warramunga Arr**	**141.87**	**234**	PKhKP		12 17 38.8	
0.4nm,0.4s,baz=121,slow=3.1,SNR=14							
FITZ	**Fitzroy Crossi**	**149.71**	**229**	PKPbc	PKPdf	12 18 02.6	+6.9
10nm,1.0s,baz=206,slow=7.5,SNR=4.8							
FITZ				PKPab	PKPab	12 18 09.8	+1.0
5.0nm,0.7s,baz=153,slow=5.6,SNR=8.7							
CMAR	**Chiang Mai Arr**	**162.96**	**11**	PKPab	PKPab	12 19 03.9	-1.4
1.2nm,0.7s,baz=337,slow=5.6,SNR=7.5							

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*IDC **18** 12:01:24.8±0.7, 22.08S×170.28E, mb4.4/13, mb1 4.6/16, mb1mx4.5/21, mbtmp4.5/16, ML4.3/3, MS4.7/15, Ms1 4.7/15, ms1mx4.6/20, Error ellipse: s-maj=19.0km s-min=17.7km az=166.0*
*HRVD **18** 12:01:25.7±0.2, 22.45S×170.33E, h15km, MW5.4/72, Centroid moment Tensor Solution. LP body waves: s72,c122;Mantle waves: s72,c140; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.16±.02; $M_{\theta\theta}$-0.91±.02; $M_{\phi\phi}$-0.25±.02; $M_{r\theta}$0.65±.06; $M_{\theta\phi}$0.66±.02; $M_{\phi r}$-0.22±.07; Best double couple: $M_0$1.414×10^{17} NP1: ϕ_s310°,δ31°,λ103°. NP2:ϕ_s115°,δ60°,λ82°. Principal axes: T 1.345, Plg74°, Azm5°; N .135, Plg6°, Azm119°; P -1.482, Plg14°, Azm210°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 12:01:25.7±0.4, 22.27S×170.35E, h10km, mb4.9/21 Error ellipse: s-maj=11.3km s-min=8.6km az=160.0*
*BJI **18** 12:01:27.2, 21.66S×170.21E, h10km, mB5.4, mb4.8, Ms4.9, Msz4.6*
ISC 18 12:01:28.1±0.4,**22.22S**±0.06×**170.19E**±0.06,**h29**km,
h29km±3.6km:**pP-P,n120,**σ1§**18**/70,**mb4.8**/35,**MS4.7**/23,
8C-2D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.48**	**272**	Pn	**Pn**	**12 02 21.2**	**-0.5**
11nm,0.3s,baz=84,slow=19,SNR=156							
DZM				Sn	**Sn**	**12 03 02.3**	**0.0**
23nm,0.3s,baz=100,slow=20,SNR=3.1							
RAO	**Raoul Island**	**12.79**	**126**	LR	LR	12 08 28.1	
comp=Z,4μm,18.6s,baz=346,slow=33							
HNR	**Honiara**	**16.07**	**321**	Pn	**P**	**12 05 12.1**	**-1.9**
8.5nm,0.3s,baz=53,slow=5.1,SNR=3.0							
URZ	**Urewera**	**17.06**	**161**	P	**P**	**12 05 26.7**	**+0.5**
0.3nm,0.3s,baz=15,slow=4.7,SNR=8.1							
URZ				LR	LR	12 10 37.7	
comp=Z,3μm,21.0s,baz=354,slow=32							
URZ	**Urewera**	**17.06**	**161**	P	**P**	**12 05 26.7**	**+0.5**
URZ				LR	LR	12 10 37.7	
URZ	**Urewera**	**17.06**	**161**	*e*PN	**P**	**12 05 27.8**	**+1.6**
URZ				pP		12 05 37.8	
MRZ	**Mangatainoka R**	**18.95**	**167**	P*	**P**	**12 05 50.1**	**+0.7**
MRZ				pP		12 06 02.3	
AFI	**Afiamalu**	**19.01**	**67**	*e*P	**P**	**12 05 46.4**	**-4.0**
54nm,1.0s							
THZ	**Tophouse**	**19.62**	**174**	P*	**P**	**12 05 55.4**	**-1.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**21.45**	**178**	P	**P**	**12 06 14.8**	**-1.4**
14nm,0.9s,mb4.3,baz=69,slow=11,SNR=4.3							
RPZ				LR	LR	12 13 20.9	
comp=Z,2μm,21.0s,MS4.4,baz=352,slow=33							
CTA	**Charters Tower**	**22.42**	**271**	*e*P	**P**	**12 06 29.4**	**+3.4**
11nm,0.8s,mb4.3							
CTA	**Charters Tower**	**22.42**	**271**	P	**P**	**12 06 26.6**	**+0.6**
7.8nm,0.9s,mb4.1,baz=82,slow=13,SNR=3.7							
CTAO	**Charters Tower**	**22.42**	**271**	*e*P	**P**	**12 06 27.7**	**+1.7**
17nm,0.9s,mb4.5							
PMG	**Port Moresby**	**25.51**	**296**	P	**P**	**12 06 56.9**	**+0.9**
5.3nm,0.9s,mb4.1,baz=112,slow=18,SNR=2.4							
PMG				LR	LR	12 15 01.9	
comp=Z,1μm,19.0s,MS4.5,baz=98,slow=32							
PMG	**Port Moresby**	**25.51**	**296**	*e*P	**P**	**12 06 57.7**	**+1.7**
25nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**27.16**	**243**	*e*P	**P**	**12 07 11.1**	**+0.1**
8.9nm,1.2s,mb4.2							
STKA	**Stephens Creek**	**27.16**	**243**	P	**P**	**12 07 11.1**	**+0.1**
7.3nm,0.8s,mb4.3,baz=70,slow=6.3,SNR=9.9							
STKA				LR	LR	12 17 28.9	
comp=Z,3μm,18.1s,MS4.8,baz=75,slow=35							
ASAR	**Alice Springs**	**33.40**	**260**	P	**P**	**12 08 05.0**	**-1.5**
7.3nm,1.0s,mb4.6,baz=88,slow=8.2,SNR=30							
ASAR				LR	LR	12 22 09.1	
comp=Z,965nm,18.1s,MS4.6,baz=97,slow=37							
ASPA	**Alice Springs**	**33.40**	**260**	*e*P	**P**	**12 08 07.1**	**+0.7**
WB2	**Warramunga Arr**	**33.47**	**267**	*e*P	**P**	**12 08 07.3**	**+0.2**
WRAB	**Tennant Creek**	**33.48**	**267**	*e*P	**P**	**12 08 05.9**	**-1.3**
25nm,1.3s,mb5.0							
WRA	**Warramunga Arr**	**33.49**	**267**	P	**P**	**12 08 04.8**	**-2.4**
3.4nm,0.9s,mb4.3,baz=101,slow=8.1,SNR=16							
TBI	**Tubuai**	**37.13**	**100**	*e*LQ		12 16 55.9	
TBI				*e*LR	LR	12 18 10.1	
781nm,24.2s							
KAKA	**Kakadu**	**37.15**	**278**	*e*P	**P**	**12 08 38.3**	**-0.1**
9.3nm,0.6s,mb4.8							
PPT	**Papeete**	**38.03**	**90**	*e*LR	LR	12 18 35.6	
436nm,24.5s							
PPT	**Papeete**	**38.03**	**90**	LR	LR	12 19 57.6	
comp=Z,367nm,20.2s,MS4.2,baz=270,slow=29							
FORT	**Forrest**	**38.48**	**248**	*e*P	**P**	**12 08 51.3**	**+1.8**
685nm,1.0s							
FITZ	**Fitzroy Crossi**	**41.92**	**267**	P	**P**	**12 09 17.2**	**-0.8**
36nm,1.0s,mb5.0,baz=136,slow=6.9,SNR=9.8							
MBWA	**Marble Bar**	**46.73**	**261**	*e*P	**P**	**12 09 55.6**	**-1.1**
16nm,0.8s,mb5.0							
KLBR	**Kellerberrin**	**47.31**	**247**	*e*P	**P**	**12 10 00.4**	**-0.8**
292nm,0.9s							
NWAO	**Narrogin (SRO)**	**47.71**	**245**	P	**P**	**12 10 05.1**	**+0.7**
14nm,0.8s,mb5.0,baz=97,slow=7.7,SNR=7.9							
NWAO				LR	LR	12 28 33.0	
comp=Z,2μm,21.4s,MS5.1,baz=96,slow=34							
NWAO	**Narrogin (SRO)**	**47.71**	**245**	P	**P**	**12 10 01.3**	**-3.1**
14nm,0.8s,mb5.0							
NWAO				LR	LR	12 28 33.0	
RKT	**Rikitea**	**50.35**	**102**	*e*S	**S**	**12 17 38.6**	**+4.2**
RKT				*e*LR	LR	12 24 15.7	
517nm,25.2s							
VNDA	**Vanda**	**55.50**	**182**	P	**P**	**12 11 03.9**	**+1.5**
1.2nm,0.8s,mb4.0,baz=10.0,slow=6.9,SNR=4.1							
VNDA				LR	LR	12 32 45.8	
comp=Z,869nm,18.1s,MS4.9,baz=10,slow=34							
SBA	**Scott Base**	**55.71**	**181**	P	**P**	**12 10 56.0**	**-7.9**
18nm,1.3s,mb4.9							
MJAR	**Matsushiro Arr**	**65.79**	**332**	P	**P**	**12 12 10.8**	**-2.0**
7.7nm,0.8s,mb4.8,baz=167,slow=8.0,SNR=20							
MAJO	**Matsushiro**	**65.79**	**332**	*e*P	**P**	**12 12 12.7**	**-0.2**
13nm,0.8s,mb5.0							
MAT	**Matsushiro**	**65.79**	**332**	*e*P	**P**	**12 12 11.0**	**-1.9**
13nm,0.9s,mb5.0							
MAT				*e*S	S	12 21 26.0	+30
MAT	**Matsushiro**	**65.79**	**332**	P	**P**	**12 12 10.0**	**-2.9**
MAT				*e*S	S	12 21 01.0	+5.1
QSPA	**South Pole Qui**	**67.85**	**180**	P	**P**	**12 12 19.6**	**-5.7**
10nm,1.1s,mb4.8							
KS15	**Wonju Array Si**	**71.47**	**326**	*e*P	**P**	**12 12 49.1**	**+1.0**
QIZ	**Qiongzhong**	**71.83**	**300**	⇑*i*P	**P**	**12 12 51.9**	**+1.4**
QIZ				S	S	12 22 11.3	+3.5
QIZ				AMB	AMB		
comp=Z,238nm,6.5s							
QIZ				LR	LR		
comp=Z,222nm,20.6s,MS4.4							
YSS	**Yuzh-Sakhalins**	**73.17**	**341**	*e*P	**P**	**12 12 58.0**	**0.0**
comp=Z,10nm,0.9s,mb4.8							
MAW	**Mawson**	**76.02**	**202**	LR	LR	12 41 39.7	
comp=Z,336nm,21.6s,MS4.6,baz=79,slow=32							
TIA	**Tai'an**	**76.75**	**318**	*e*P	**P**	**12 13 17.4**	**-1.3**
CN2	**Changchun**	**77.45**	**329**	*e*P	**P**	**12 13 23.5**	**+1.1**
CN2				*e*S	S	12 23 14.0	+4.2
CN2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.8							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,200nm,19.0s,MS4.6							
CN2				LR	LR		
comp=E,200nm,19.0s,MS4.6							
CN2				LR	LR		
comp=Z,300nm,21.0s,MS4.6							
ENH	**Enshi**	**78.25**	**310**	*e*P	**P**	**12 13 27.1**	**0.0**
comp=Z,44nm,1.4s,mb5.2							
GYA	**Guiyang**	**78.25**	**305**	⇑*i*P	**P**	**12 13 28.0**	**+0.8**
GYA				AP	pP	12 13 37.3	+0.9
GYA				XP	sP	12 13 41.3	+1.8
GYA				S	S	12 23 26.6	+7.8
GYA				PS	PS	12 24 15.8	+12
GYA				AMB	AMB		
comp=Z,20nm,1.0s,mb5.0							
GYA				AMB	AMB		
comp=Z,250nm,6.3s							
GYA				LR	LR		
comp=N,230nm,18.5s,MS4.8							
GYA				LR	LR		
comp=E,340nm,18.9s,MS4.8							
GYA				LR	LR		
comp=Z,450nm,18.0s,MS4.8							
NANT	**Nan**	**79.22**	**295**	P	**P**	**12 13 34.0**	**+1.4**
BJI	**Beijing**	**79.80**	**321**	*e*P	**P**	**12 13 36.4**	**+1.1**
BJI				S	S	12 23 40.1	+5.2
BJI				AMB	AMB		
comp=Z,9.0nm,0.8s,mb4.8							
BJI				AMB	AMB		
comp=Z,229nm,3.9s							
BJI				LR	LR		
comp=N,184nm,23.6s,MS4.6							
BJI				LR	LR		
comp=E,238nm,18.9s,MS4.6							
BJI				LR	LR		
comp=Z,306nm,26.1s							
BJI	**Beijing**	**79.80**	**321**	*e*P	**P**	**12 13 36.4**	**+1.1**
comp=Z,9.0nm,0.8s,mb4.8							
BJI				S	S	12 23 40.1	+5.2
BJI				LR	LR		
comp=Z,310nm,26.1s,MS4.5							
CM31	**Chiang Mai Arr**	**80.54**	**294**	P	**P**	**12 13 39.5**	**-0.2**
comp=Z,4.0nm,0.5s,mb4.6							
CMAR	**Chiang Mai Arr**	**80.54**	**294**	P	**P**	**12 13 41.0**	**+1.3**
comp=Z,4.4nm,0.9s,mb4.4,baz=133,slow=3.8,SNR=30							
CMAR				LR	LR	12 53 17.1	
comp=Z,140nm,18.1s,MS4.3,baz=170,slow=39							
KMI	**Kunming**	**80.60**	**302**	P	**P**	**12 13 41.5**	**+1.6**
KMI				S	S	12 23 49.1	+5.6
KMI				AMB	AMB		
comp=Z,16nm,1.4s,mb4.8							
KMI				AMB	AMB		
comp=Z,278nm,6.2s							
KMI	**Kunming**	**80.60**	**302**	P	**P**	**12 13 41.5**	**+1.6**
comp=Z,16nm,1.4s,mb4.8							
KMI				S	S	12 23 49.1	+5.6
CHG	**Chiang Mai**	**80.70**	**295**	⇓P	**P**	**12 13 41.7**	**+1.2**
comp=Z,12nm,0.8s,mb4.9							
XAN	**Xi'an**	**80.77**	**312**	P	**P**	**12 13 40.6**	**0.0**
XAN				S	S	12 23 50.1	+5.0
XAN				AMB	AMB		
comp=Z,255nm,8.0s							
XAN				LR	LR		
comp=Z,255nm,18.0s,MS4.6							
HHC	**Hu-ho-hao-te**	**83.05**	**319**	*e*P	**P**	**12 13 52.9**	**+0.6**
HHC				AP	pP	12 14 02.8	+1.1
HHC				AMB	AMB		
comp=Z,17nm,1.2s,mb5.0							
HHC				AMB	AMB		
comp=Z,301nm,5.8s							
HHC				LR	LR		
comp=N,162nm,22.9s,MS4.5							
HHC				LR	LR		
comp=E,130nm,20.8s,MS4.5							
HHC				LR	LR		
comp=Z,186nm,23.1s,MS4.4							
LZH	**Lanzhou**	**85.38**	**312**	*e*P	**P**	**12 14 05.6**	**+1.4**
LZH				AP	pP	12 14 17.1	+3.5
LZH				AMB	AMB		
comp=Z,56nm,1.5s,mb5.5							
LZH				AMB	AMB		
comp=Z,190nm,5.2s							
LZH				LR	LR		
comp=N,1μm,13.5s							
LZH				LR	LR		
comp=Z,2μm,14.8s,MS5.5							
LZH	**Lanzhou**	**85.38**	**312**	*e*P	**P**	**12 14 05.6**	**+1.4**
comp=Z,56nm,1.5s,mb5.5							
LZH				pP	pP	12 14 17.1	+3.5
LZH				sP	sP	12 14 22.2	+5.6
LZH				PP	tx	12 16 21.2	
LZH				S	tx	12 22 16.2	
LZH				sS		12 22 37.6	
LZH				*e*SS	tx	12 26 15.6	
LZH				LR	LR		
comp=Z,2μm,14.8s,MS5.5							
VNA3	**Neumayer Olymp**	**86.79**	**180**	⇑*i*	**P**	**12 14 08.4**	**-1.9**
VNA3	**Neumayer Olymp**	**86.79**	**180**	⇑*i*	**P**	**12 14 11.2**	**+0.9**
VNA3	**Neumayer Olymp**	**86.79**	**180**	⇑*i*	**P**	**12 14 18.0**	**+7.7**
VNA2	**Neumayer--Watz**	**87.10**	**181**		**P**	**12 14 09.6**	**-2.2**
VNA2	**Neumayer--Watz**	**87.10**	**181**		**P**	**12 14 12.9**	**+1.1**
VNA2	**Neumayer--Watz**	**87.10**	**181**		**P**	**12 14 20.7**	**+8.9**
ULN	**Ulaanbaatar**	**89.77**	**323**	*e*P	**P**	**12 14 24.2**	**-0.9**
comp=Z,39nm,1.8s,mb5.4							
GTA	**Gaotai**	**89.81**	**313**	P	**P**	**12 14 26.1**	**+0.6**
GTA				AP	pP	12 14 32.4	-2.5
GTA				XP	sP	12 14 36.1	-1.8
GTA				SKS	SKS	12 24 58.1	-2.2
GTA				AMB	AMB		
comp=Z,3.0nm,0.9s,mb4.6							
GTA				AMB	AMB		
comp=Z,194nm,9.5s							
GTA				LR	LR		
comp=N,158nm,18.2s,MS4.6							
GTA				LR	LR		
comp=E,152nm,20.9s,MS4.6							
GTA				LR	LR		
comp=Z,220nm,18.6s,MS4.6							
BILL	**Bilibino**	**90.03**	**359**	*e*P	**P**	**12 14 25.4**	**-0.4**
comp=Z,4.3nm,0.6s,mb5.0							
NVAR	**Mina Array Bea**	**90.10**	**48**	P	**P**	**12 14 26.7**	**-0.2**
comp=Z,0.5nm,0.6s,mb4.1,baz=247,slow=6.9,SNR=2.4							
NVAR				LR	LR	12 51 49.6	
comp=Z,502nm,18.0s,MS5.0,baz=270,slow=34							
SONM	**Songino Array**	**90.12**	**323**	P	**P**	**12 14 26.7**	**0.0**
comp=Z,3.3nm,0.9s,mb4.6,baz=146,slow=4.5,SNR=20							
SONM				LR	LR	12 54 06.5	
comp=Z,202nm,19.7s,MS4.6,baz=60,slow=35							
ILAR	**Eielson Array**	**92.80**	**17**	P	**P**	**12 14 36.1**	**-2.5**
comp=Z,1.0nm,0.7s,mb4.3,baz=236,slow=4.9,SNR=18							
ILAR				LR	LR	12 50 58.8	
comp=Z,364nm,19.6s,MS4.8,baz=65,slow=32							
DAWY	**Dawson**	**94.47**	**20**	*e*P	**P**	**12 14 45.9**	**-0.5**
TXAR	**Lajitas Array**	**97.40**	**61**	LR	LR	12 50 01.0	
comp=Z,402nm,20.8s,MS4.9,baz=185,slow=30							
WMQ	**Urumqi**	**99.89**	**313**	P	**P**	**12 15 12.6**	**+1.1**
WMQ				PP	PP	12 19 22.3	+3.4
WMQ				SKS	SKS	12 25 45.6	-9.4
WMQ				S	S	12 26 40.8	+1.0
WMQ				AMB	AMB		
comp=Z,5.0nm,0.4s,mb5.3							
WMQ				AMB	AMB		
comp=Z,102nm,5.2s							
WMQ				LR	LR		
comp=N,34nm,20.3s,MS4.3							
WMQ				LR	LR		
comp=E,94nm,20.3s,MS4.3							
WMQ				LR	LR		
comp=Z,96nm,23.4s,MS4.2							
YKA	**Yellowknife Ar**	**102.89**	**27**	PP	PP	12 19 39.9	-1.5
comp=Z,0.1nm,0.7s,baz=259,slow=1.8,SNR=3.8							
BDFB	**Brasilia**	**126.93**	**132**	PKP	PKPdf	12 20 31.2	-4.0
comp=Z,2.2nm,0.6s,baz=105,slow=2.1,SNR=3.0							
SJG	**San Juan**	**127.20**	**84**	PKP	PKPdf	12 20 30.7	-5.0
comp=Z,15nm,0.2s,baz=339,slow=20,SNR=4.3							
ARCES	**ARCESS Array B**	**128.16**	**345**	PKP	PKPdf	12 20 31.6	-4.7
comp=Z,4.3nm,0.8s,baz=27,slow=2.7,SNR=6.4							
FINES	**FINESS Array B**	**133.67**	**337**	PKP	PKPdf	12 20 43.7	-3.1
comp=Z,1.4nm,0.9s,baz=108,slow=4.4,SNR=3.3							
AKASG	**Malin Array Be**	**138.41**	**323**	PKP	PKPdf	12 20 51.4	-4.5
comp=Z,0.3nm,0.3s,baz=45,slow=3.2,SNR=3.3							
BRTR	**Keskin Array B**	**139.30**	**306**	PKP	PKPdf	12 20 55.1	-2.6
comp=Z,0.6nm,0.5s,slow=1.4,SNR=4.0							
KECS	**Kecovo**	**144.39**	**325**	*e*P	PKPbc	12 20 58.5	-2.4
KECS	**Kecov

TUIG	**Tuzandepetl**	**2.04**	**10**	*i* P	Pn	12 04 37.2 -4.1
TUIG				*i* S	Sn	12 05 01.6 -5.1
OXX	**Oaxaca**	**2.15**	**300**	*i* P	Pn	12 04 41.7 -1.2
OXX				*i* S	Sn	12 05 03.5 -5.9
VHO	**Vista Hermosa**	**2.15**	**300**	*i* P	Pn	12 04 41.0 -1.9
VHO				*i* S	Sn	12 05 04.0 -5.4
VHO	**Vista Hermosa**	**2.15**	**300**	*i* P	Pn	12 04 40.4 -2.5
VHO				*i* S	Sn	12 05 04.0 -5.4

IDC 18 12:06:25.3±3.0, 19.92S×169.19E, mb3.5/5, mb1 3.8/5, mb1mx3.7/15, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=106.7km s-min=25.4km az=136.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.34**	**230**	Pn	Pn	12 07 18.0	-1.8
	4.4nm,0.3s,baz=66,slow=20,SNR=24						
DZM				Sn	Sn	12 08 00.1	-0.7
	5.4nm,0.3s,baz=77,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**32.73**	**264**	P	P	12 13 01.4	-0.6
	0.1nm,0.4s,baz=93,slow=8.5,SNR=5.2						
ASAR	**Alice Springs**	**32.92**	**257**	P	P	12 13 00.9	-2.8
	0.7nm,0.8s,baz=84,slow=8.2,SNR=4.6						
SONM	**Songino Array**	**87.73**	**323**	P	P	12 19 15.1	-2.1
	0.2nm,0.6s,baz=135,slow=4.1,SNR=2.5						
ILAR	**Eielson Array**	**90.89**	**17**	P	P	12 19 30.1	-1.6
	0.3nm,0.7s,baz=233,slow=5.0,SNR=6.2						
GERES	**GERESS Array B**	**145.07**	**331**	PKPbc	PKPbc	12 26 05.1	+0.3
	1.1nm,0.9s,baz=27,slow=3.0,SNR=4.0						

*NEIC **18** 12:09:30.1±1.0, 14.16S×166.83E, h55km, mb3.9/1, Error ellipse: s-maj=67.2km s-min=16.7km az=145.0*

IDC 18 12:09:21.4±2.7, 14.15S×167.08E, mb3.9/3, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, Error ellipse: s-maj=108.7km s-min=44.0km az=139.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.23**	**229**	P	P	12 15 25.3	-1.9
	3.3nm,0.5s,baz=41,slow=8.9,SNR=15						
WRAB	**Tennant Creek**	**31.78**	**255**	P	P	12 15 47.0	-2.8
	2.5nm,1.0s						
WRA	**Warramunga Arr**	**31.79**	**255**	P	P	12 15 48.4	-1.6
	0.3nm,0.7s,baz=86,slow=9.2,SNR=6.2						
ASAR	**Alice Springs**	**32.71**	**248**	P	P	12 15 55.3	-2.7
	1.0nm,0.6s,baz=79,slow=9.0,SNR=13						
ARCES	**ARCESS Array B**	**119.65**	**345**	PKP	PKPdf	12 28 12.6	-2.1
	3.4nm,0.8s,baz=56,slow=2.6,SNR=7.4						
CABF	**La Chapelle**	**143.92**	**338**	*e*PKP1	PKPbc	12 28 59.0	+1.2
	6.6nm,0.6s						
SSF	**Saint Saulge**	**144.43**	**341**	*e*PKP1	PKPbc	12 29 00.4	+1.2
	9.7nm,0.6s						
LPL	**La Plagne**	**144.59**	**336**	*e*PKP1	PKPbc	12 29 01.3	+1.6
	6.9nm,0.6s						
LPG	**La Plagne**	**144.60**	**336**	*e*PKP1	PKPbc	12 29 01.4	+1.6
	6.2nm,0.6s						
AVF	**Avril sur Loir**	**144.72**	**341**	*e*PKP1	PKPbc	12 29 02.2	+2.1
MBDF	**Montbardon**	**145.22**	**335**	*e*PKP1	PKPbc	12 29 03.8	+2.3
	10nm,0.8s						
ORIF	**Oris-en-Rattie**	**145.42**	**336**	*e*PKP1	PKPbc	12 29 04.2	+2.2
	13nm,0.8s						
SBF	**Sospel**	**145.65**	**334**	*e*PKP1	PKPbc	12 29 04.2	+1.6
	38nm,0.9s						
PGF	**Pioggiola**	**145.96**	**330**	*e*PKP1	PKPbc	12 29 04.2	+0.8
	32nm,0.9s						
LMR	**La Mourre**	**146.47**	**334**	*e*PKP1	PKPbc	12 29 05.8	+1.3

IDC 18 12:13:14.6±3.4, 22.82S×170.05E, mb3.5/3, mb1 3.7/4, mb1mx3.6/15, mbtmp3.5/4, Error ellipse: s-maj=111.6km s-min=53.4km az=6.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.42**	**282**	Pn	Pn	12 14 09.8	-0.4
	2.5nm,0.3s,baz=64,slow=22,SNR=11						
DZM				Sn	Sn	12 14 50.7	-1.4
	4.2nm,0.3s,baz=285,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**33.17**	**261**	P	P	12 19 53.4	-1.7
	0.4nm,0.9s,baz=94,slow=8.9,SNR=4.0						
WRA	**Warramunga Arr**	**33.33**	**268**	P	P	12 19 54.0	-2.5
	0.4nm,0.7s,baz=101,slow=8.7,SNR=3.1						
CMAR	**Chiang Mai Arr**	**80.67**	**294**	P	P	12 25 29.9	-1.5
	0.2nm,0.4s,baz=112,slow=4.9,SNR=4.2						

NEIC 18 12:29:21.6, 45.18N×28.94E, h6km, ML3.5(BUC), 2C-8D, After BUC., Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLCR		**0.09**	**272**	⇓P	Pg	12 29 23.3	-0.3
TLCR				S	Sg	12 29 25.2	+0.3
TLCR		**0.09**	**272**	⇓*i*P	Pg	12 29 23.3	-0.3
TLCR				S	Sg	12 29 25.2	+0.3
CFR	**Carcaliu**	**0.57**	**270**	⇓P	Pg	12 29 32.2	-0.7
CFR				S	Sg	12 29 40.1	-0.4
CFR	**Carcaliu**	**0.57**	**270**	⇓*i*P	Pg	12 29 32.2	-0.7
CFR				S	Sg	12 29 40.1	-0.4
CFR	**Carcaliu**	**0.57**	**270**	⇓P	Pg	12 29 32.2	-0.7
CFR				S	Sg	12 29 40.2	-0.3
TIRR	**Tirgusor**	**0.82**	**207**	⇑P	Pb	12 29 37.0	-0.8
TIRR				S	Sg	12 29 48.3	-0.5
TIRR	**Tirgusor**	**0.82**	**207**	⇑*i*P	Pb	12 29 37.0	-0.8
TIRR				S	Sg	12 29 48.3	-0.5
HARR	**Harsova**	**0.87**	**236**	⇓P	Pb	12 29 39.2	+0.5
HARR				S	Sb	12 29 50.4	0.0
HARR	**Harsova**	**0.87**	**236**	⇓*i*P	Pb	12 29 36.2	-2.5
HARR				S	Sb	12 29 48.0	-2.3
HARR	**Harsova**	**0.87**	**236**	⇓P	Pb	12 29 39.2	+0.5
HARR				S	Sb	12 29 50.4	+0.1

IDC 18 12:47:45.2±3.9, 8.92S×111.86E, mb3.2/3, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, MS3.8/1, Ms1 3.7/1, ms1mx2.9/11, Error ellipse: s-maj=230.5km s-min=27.0km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.34**	**119**	P	P	12 53 05.0	-0.9
	0.3nm,0.5s,baz=304,slow=9.0,SNR=2.7						
ASAR	**Alice Springs**	**25.68**	**127**	P	P	12 53 16.8	-2.0
	0.2nm,0.5s,baz=300,slow=7.5,SNR=6.9						
STKA	**Stephens Creek**	**35.82**	**134**	LR	LR	13 10 01.6	
	comp=Z,136nm,19.6s,baz=167,slow=37						
MKAR	**Makanchi Array**	**61.41**	**337**	P	P	12 58 03.5	-2.1
	0.6nm,0.9s,baz=157,slow=8.7,SNR=5.9						

*IDC **18** 12:52:19.9±3.0, 1.38S×100.06E, mb3.9/5, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=127.8km s-min=19.5km az=58.0*

*NEIC **18** 12:52:22.7±1.5, 1.64S×99.67E, h30km, Error ellipse: s-maj=52.5km s-min=14.8km az=67.0*

ISC 18 12:52:21.5±1.8, 1.6S±0.2×99.7E±0.4, h33km, n8, σ1°00/7, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.89**	**8**	*e*Pn	**Pn**	**12 54 03.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**19.92**	**358**	P	**P**	**12 56 50.9**	**-2.4**
	0.2nm,0.3s,baz=186,slow=10,SNR=12						
WRA	**Warramunga Arr**	**38.48**	**121**	P	**P**	**12 59 41.5**	**-0.9**
	0.7nm,0.4s,mb3.7,baz=304,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**39.76**	**126**	P	**P**	**12 59 53.8**	**+0.8**
	0.8nm,0.6s,mb3.6,baz=302,slow=8.0,SNR=18						
SONM	**Songino Array**	**49.56**	**6**	P	**P**	**13 01 11.3**	**+0.1**
	0.5nm,0.6s,mb3.8,baz=211,slow=7.2,SNR=5.1						
MKAR	**Makanchi Array**	**50.54**	**345**	P	**P**	**13 01 19.3**	**+0.5**
	0.6nm,0.4s,mb3.9,baz=154,slow=7.6,SNR=15						
ZAL	**Zalesovo**	**56.69**	**350**	P	**P**	**13 02 04.4**	**+0.4**
	1.3nm,0.4s,mb4.4,baz=320,slow=5.7,SNR=5.7						
TXAR	**Lajitas Array**	**144.56**	**37**	PKP	PKPdf	13 11 57.0	+1.7
	0.3nm,0.6s,baz=252,slow=2.9,SNR=3.1						

*IDC **18** 12:53:47.0±1.2, 22.22S×170.32E, mb4.0/9, mb1 4.2/10, mb1mx4.1/17, mbtmp4.0/10, ML3.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/30, Error ellipse: s-maj=30.7km s-min=24.1km az=141.0*

*NEIC **18** 12:53:48.3±0.7, 22.24S×170.34E, h10km, mb4.4/2, Error ellipse: s-maj=15.5km s-min=14.0km az=145.0*

ISC 18 12:53:50.3±3.4, 22.3S±0.2×170.3E±0.2, h39km±26km, n14, σ0°59/13, mb4.0/11, MS3.2/1, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.61**	**273**	Pn	**P**	**12 54 45.3**	**+0.1**
	4.0nm,0.3s,baz=87,slow=18,SNR=51						
DZM				LR	LR	12 55 15.3	
	comp=Z,314nm,18.1s,baz=216,slow=25						
DZM				Sn	**S**	**12 55 27.4**	**+0.2**
	5.4nm,0.3s,baz=196,slow=19,SNR=3.5						
RPZ	**Rata Peaks**	**21.37**	**179**	P	**P**	**12 58 36.5**	**+0.1**
	7.0nm,0.8s,mb4.0,baz=6.9,slow=4.9,SNR=2.5						
CTA	**Charters Tower**	**22.55**	**271**	LR	LR	13 05 39.1	
	comp=Z,84nm,19.5s,MS3.2,baz=192,slow=32						
STKA	**Stephens Creek**	**27.24**	**243**	P	**P**	**12 59 32.9**	**-0.1**
	2.8nm,0.7s,mb3.9,baz=112,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**33.51**	**260**	P	**P**	**13 00 28.1**	**-0.3**
	2.7nm,1.0s,mb4.1,baz=90,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**33.60**	**267**	*e*P	**P**	**13 00 28.5**	**-0.7**
	3.1nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**33.61**	**267**	P	**P**	**13 00 28.7**	**-0.6**
	1.6nm,0.9s,mb3.9,baz=100,slow=8.6,SNR=5.1						
FITZ	**Fitzroy Crossi**	**42.04**	**267**	P	**P**	**13 01 41.0**	**+0.9**
	5.1nm,0.8s,mb4.2,baz=100,slow=2.8,SNR=4.1						
MBWA	**Marble Bar**	**46.84**	**261**	*e*P	**P**	**13 02 18.7**	**+0.1**
	3.3nm,0.7s,mb4.4						
MJAR	**Matsushiro Arr**	**65.92**	**332**	P	**P**	**13 04 33.6**	**-1.1**
	0.5nm,0.3s,mb4.0,baz=190,slow=7.4,SNR=4.1						
CMAR	**Chiang Mai Arr**	**80.69**	**294**	P	**P**	**13 06 01.5**	**+0.1**
	1.2nm,0.8s,mb3.9,baz=136,slow=4.0,SNR=8.6						
SONM	**Songino Array**	**90.26**	**323**	P	**P**	**13 06 49.5**	**+1.2**
	0.6nm,0.8s,mb4.0,baz=146,slow=5.2,SNR=1.9						
ILAR	**Eielson Array**	**92.83**	**17**	P	**P**	**13 06 59.9**	**+0.2**
	0.3nm,0.8s,mb3.8,baz=243,slow=4.0,SNR=3.6						
GERES	**GERESS Array B**	**147.65**	**331**	PKPbc	PKPdf	13 13 34.6	+6.8
	0.5nm,0.2s,baz=45,slow=1.9,SNR=6.8						

IDC 18 13:19:43.6±46.0, 15.70S×173.25W, mb3.9/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=887.8km s-min=184.9km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.01**	**240**	P	P	13 27 53.7	-1.2
	0.5nm,0.3s,baz=84,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	13 28 39.2	-2.2
	0.2nm,0.3s,baz=94,slow=8.0,SNR=9.2						
ASAR	**Alice Springs**	**50.16**	**252**	P	P	13 28 41.1	-2.2
	1.7nm,0.4s,baz=88,slow=8.1,SNR=44						

*IDC **18** 13:21:26.4±2.5, 1.10N×97.07E, mb3.8/6, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=100.1km s-min=20.4km az=58.0*

*BJI **18** 13:21:27.2, 1.20N×97.52E, h7km, mb4.4*

*NEIC **18** 13:21:30.0±0.8, 1.14N×97.10E, mb4.3/4, Error ellipse: s-maj=21.4km s-min=10.6km az=65.0*

ISC 18 13:21:28.4±1.0, 1.2N±0.1×97.1E±0.2, h25km, h25km±5.0km: pP-P, n15, σ0°86/15, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.44**	**41**	*e*Pn	**Pn**	**13 22 49.9**	**-0.2**
KULM				*e*pPn		13 22 56.0	
CMAR	**Chiang Mai Arr**	**17.29**	**6**	P	**P**	**13 25 29.3**	**-0.7**
	0.1nm,0.3s,baz=199,slow=11,SNR=5.5						
KMI	**Kunming**	**24.45**	**12**	P	**P**	**13 26 49.0**	**+2.3**
KMI				AP		13 26 55.5	
KMI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.3						
KMI	**Kunming**	**24.45**	**12**	P	**P**	**13 26 49.0**	**+2.3**
	comp=Z,14nm,1.2s,mb4.3						
KMI				pP		13 26 55.5	
ENH	**Enshi**	**31.26**	**21**	*e*P	**P**	**13 27 47.7**	**-1.0**
	comp=Z,10nm,0.9s,mb4.7						
ENH				*e*pP	pP	13 27 54.0	-2.1
XAN	**Xi'an**	**34.54**	**18**	P	**P**	**13 28 16.4**	**-0.7**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
GTA	**Gaotai**	**38.15**	**3**	P	**P**	**13 28 48.5**	**+0.9**
GTA				AP	pP	13 29 00.0	+4.9
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**	**13 29 19.7**	**-1.0**
	comp=Z,0.7nm,0.8s,mb3.4,baz=299,slow=9.0,SNR=6.3						
WRAB	**Tennant Creek**	**42.12**	**122**	P	**P**	**13 29 21.2**	**+0.5**
	comp=Z,3.3nm,0.9s,mb4.0						
ASAR	**Alice Springs**	**43.47**	**127**	P	**P**	**13 29 32.1**	**+0.5**
	comp=Z,0.9nm,1.0s,mb3.5,baz=308,slow=8.3,SNR=7.0						
SONM	**Songino Array**	**47.19**	**9**	P	**P**	**13 30 01.9**	**+0.9**
	comp=Z,1.7nm,0.8s,mb4.0,baz=188,slow=8.7,SNR=6.8						
MKAR	**Makanchi Array**	**47.25**	**346**	P	**P**	**13 30 01.9**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.8,baz=160,slow=8.8,SNR=7.7						
ZAL	**Zalesovo**	**53.57**	**351**	P	**P**	**13 30 49.4**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=299,slow=5.1,SNR=9.1						
BVAR	**Borovoye Array**	**56.25**	**341**	P	**P**	**13 31 08.3**	**-0.7**
	comp=Z,1.1nm,0.7s,mb4.0,baz=153,slow=6.6,SNR=4.5						
CHKZ	**Chkalovo**	**56.73**	**342**	*e*P	**P**	**13 31 11.8**	**-0.6**
	comp=Z,1.3nm,0.6s,mb4.1						
CHKZ				*e*pP	pP	13 31 18.1	-2.1

IDC 18 13:22:43.0±2.4, 0.90N×97.38E, mb3.6/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.6/7, ML4.1/1, Error ellipse: s-maj=98.0km s-min=19.9km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.51**	**5**	P	P	13 26 48.4	-2.0
	0.2nm,0.3s,baz=193,slow=12,SNR=5.1						
WRA	**Warramunga Arr**	**41.73**	**122**	P	P	13 30 33.8	-1.9
	0.2nm,0.4s,baz=303,slow=8.9,SNR=3.2						
ASAR	**Alice Springs**	**43.08**	**127**	P	P	13 30 45.2	-1.5
	0.2nm,0.6s,baz=294,slow=8.9,SNR=2.6						
SONM	**Songino Array**	**47.40**	**8**	P	P	13 31 19.4	-1.5
	0.3nm,0.4s,baz=190,slow=8.8,SNR=2.5						
MKAR	**Makanchi Array**	**47.57**	**346**	P	P	13 31 20.8	-1.5
	1.5nm,0.6s,baz=160,slow=8.9,SNR=8.1						
ZAL	**Zalesovo**	**53.87**	**351**	P	P	13 32 07.0	-3.0
	1.0nm,0.6s,baz=302,slow=7.7,SNR=4.2						
BVAR	**Borovoye Array**	**56.59**	**341**	P	P	13 32 27.2	-2.6
	0.6nm,0.5s,baz=162,slow=9.1,SNR=2.8						

*IDC **18** 13:25:28.4±0.5, 0.92N×97.34E, mb4.6/25, mb1 4.7/26, mb1mx4.7/29, mbtmp4.6/26, ML4.7/1, MS4.4/15, Ms1 4.4/15, ms1mx4.3/27, Error ellipse: s-maj=16.6km s-min=10.9km az=52.0*

*BJI **18** 13:25:30.0, 0.87N×97.56E, h23km, mB5.1, mb4.9, Ms5.0, Msz4.9*

*HRVD **18** 13:25:32.1±0.6, 0.87N×97.12E, h30km±2km, MW5.0/47, Centroid moment Tensor Solution. LP body waves: s37,c51;Mantle waves: s47,c73; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.27±.20; $M_{\theta\theta}$-0.70±.12; $M_{\phi\phi}$-1.57±.14; $M_{r\theta}$1.73±.23; $M_{\theta\phi}$1.33±.10; $M_{\phi r}$-1.93±.27; Best double couple: $M_0$3.535×10^{16} NP1:ϕ_s330°, δ22°, λ99°. NP2:ϕ_s139°, δ69°, λ86°. Principal axes: T 3.411, Plg66°, Azm43°; N .247, Plg3°, Azm141°; P -3.659, Plg24°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **18** 13:25:32.8±1.0, 1.13N×97.61E, h33km, mb5.1/17, MS4.6/8 Error ellipse: s-maj=18.5km s-min=8.6km az=107.4*

*NEIC **18** 13:25:32.1±0.2, 0.93N×97.49E, mb4.9/32, Error ellipse: s-maj=7.3km s-min=5.0km az=41.0*

ISC 18 13:25:31.1±1.0, 0.97N±0.04×97.47E±0.04, h25km±7km, h24km±.7km: pP-P, n191, σ1°04/200, mb4.9/75, MS4.6/41, 11C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.04**	**45**	P	**Pn**	**13 26 48.4**	**+1.1**
KULM	**Kulim**	**5.33**	**36**	*e*P	**Pn**	**13 26 52.1**	**+0.7**
KGM	**Kluang**	**5.94**	**80**	P	**Pn**	**13 27 01.5**	**+1.6**
SNG	**Songkhla**	**6.92**	**27**	P	**Pn**	**13 27 13.5**	**-0.2**
	316nm,1.0s						
PENI	**Pendagan**	**10.07**	**130**	*e*Pn	**P**	**13 27 53.1**	**-4.4**
PENI				*e*Sn	**S**	**13 29 56.6**	**+5.9**
PASI	**Pasiripis**	**11.12**	**133**	*e*Pn	**P**	**13 28 07.5**	**-4.4**
PASI	**Pasiripis**	**11.12**	**133**	*e*Pn	**P**	**13 28 06.5**	**-5.4**
PULI	**Pulasari**	**11.18**	**131**	*e*Pn	**P**	**13 28 07.5**	**-5.2**
PULI	**Pulasari**	**11.18**	**131**	*e*Pn	**P**	**13 28 01.9**	**-11**
	29nm,0.2s						
NNT	**Nongplab**	**11.76**	**11**	P	**P**	**13 28 19.5**	**-1.1**
KSM	**Kuching**	**12.85**	**88**	*e*P	**P**	**13 28 35.1**	**0.0**
CM31	**Chiang Mai Arr**	**17.44**	**5**	*e*P	**P**	**13 29 33.0**	**-1.5**
	23nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.44**	**5**	*i* P	**P**	**13 29 33.6**	**-1.0**
CMAR				pmax	pmax		
	comp=Z,22nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.44**	**5**	P	**P**	**13 29 33.5**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=194,slow=12,SNR=60						
CMAR				S	**S**	**13 32 51.2**	**+5.3**
	comp=Z,0.1nm,0.3s,baz=191,slow=14,SNR=2.1						
CMAR				Lg		13 34 46.8	
	baz=183,slow=33,SNR=3.0						
CMAR				LR	LR	13 37 13.3	
	comp=Z,3μm,18.1s,baz=195,slow=40						
CHG	**Chiang Mai**	**17.79**	**5**	⇑P	**P**	**13 29 37.8**	**-1.2**
	comp=Z,26nm,1.0s						
PALK	**Pallekele**	**17.85**	**291**	*e*P	**P**	**13 29 40.0**	**+0.3**
	comp=Z,28nm,1.1s						
NANT	**Nan**	**18.00**	**10**	P	**P**	**13 29 43.0**	**+1.4**
	comp=Z,200nm,0.6s						
SRDI	**Scrawed**	**19.09**	**120**	*e*P	**P**	**13 29 55.6**	**+0.7**
KKM	**Kota Kinabalu**	**19.37**	**74**	*e*P	**P**	**13 29 58.0**	**-0.2**
KKM	**Kota Kinabalu**	**19.37**	**74**	P	**P**	**13 30 00.2**	**+2.0**
TSM	**Tawau**	**20.64**	**80**	P	**P**	**13 30 15.5**	**+3.7**
KEDI	**Kedomdong**	**20.82**	**117**	*e*P	**P**	**13 30 16.0**	**+2.4**
QIZ	**Qiongzhong**	**21.66**	**33**	⇓*i*P	**P**	**13 30 21.8**	**-0.3**
QIZ				S	**S**	**13 34 17.5**	**+1.9**
QIZ				XS		13 34 27.8	
QIZ				AMB	AMB		
	comp=Z,35nm,1.4s,mb4.6						
QIZ				LR	LR		
	comp=N,1μm,15.1s,MS4.5						
QIZ				LR	LR		
	comp=E,748nm,16.0s,MS4.5						
QIZ				LR	LR		
	comp=Z,1μm,12.9s,MS4.4						
QIZ	**Qiongzhong**	**21.66**	**33**	*e*P	**P**	**13 30 19.2**	**-2.9**
	comp=Z,25nm,1.1s,mb4.6						
VIS	**Vishakhapatnam**	**21.68**	**321**	⇑*e*P	**P**	**13 30 24.6**	**+2.3**
VIS				*e*		13 30 37.6	
	comp=Z,114nm,1.5s						
VIS				*e*		13 34 11.9	
BWNR	**Bhubaneshwar**	**22.34**	**330**	*e*	**P**	**13 30 20.2**	**-8.6**
BWNR				*e*		13 33 43.3	
KMI	**Kunming**	**24.54**	**12**	P	**P**	**13 30 52.0**	**+1.6**
KMI				AP		13 30 58.4	
KMI				XP		13 31 00.8	
KMI				PP	PP	13 31 29.6	+3.1
KMI				S	**S**	**13 35 11.5**	**+4.8**
KMI				XS		13 35 22.1	
KMI				AMB	AMB		
	comp=Z,50nm,1.7s,mb4.8						
KMI				AMB	AMB		
	comp=Z,347nm,3.4s						
KMI				LR	LR		
	comp=N,2μm,12.8s,MS4.9						
KMI				LR	LR		
	comp=E,2μm,13.7s,MS4.9						
KMI				LR	LR		
	comp=Z,3μm,15.6s,MS4.9						
KMI	**Kunming**	**24.54**	**12**	P	**P**	**13 30 52.0**	**+1.6**
	comp=Z,50nm,1.7s,mb4.8						
KMI				pP		13 30 58.4	
KMI				sP		13 31 00.8	
KMI				PP	PP	13 31 29.6	+3.1
KMI				PPP	PPP	13 31 40.5	+3.5
KMI				S	**S**	**13 35 11.5**	**+4.8**
KMI				sS		13 35 22.1	
KMI				SS	SS	13 36 09.9	+7.4
KMI				SSS	SSS	13 36 26.4	+7.5
KMI				LR	LR		
	comp=Z,3μm,15.6s,MS4.9						
HYB	**Hyderabad**	**24.76**	**312**	*e*P	**P**	**13 30 52.0**	**-0.6**
HYB	**Hyderabad**	**24.76**	**312**	*i* P	**P**	**13 30 52.0**	**-0.6**
SHL	**Shillong**	**25.04**	**348**	*e*P	**P**	**13 30 55.0**	**-0.1**
SHL				*e*		13 34 27.0	
SHL				*e*		13 39 58.5	
GYA	**Guiyang**	**26.84**	**18**	⇑*i*P	**P**	**13 31 11.3**	**-0.5**
GYA				AP	pP	13 31 18.4	-0.7
GYA				XP	sP	13 31 21.8	-0.6
GYA				PP	PP	13 31 56.3	-0.9
GYA				S	**S**	**13 35 44.0**	**-0.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,160nm,4.5s						
GYA				LR	LR		
	comp=N,1μm,12.9s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,16.2s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,12.6s,MS4.8						
KAD	**Karad**	**28.07**	**307**	*e*	**P**	**13 31 39.6**	**+16**
JIRN	**Jiri**	**28.65**	**339**	*e*P	**P**	**13 31 28.0**	**-0.3**
	comp=Z,110nm,0.9s,mb5.6						
PKI	**Pulchoki**	**28.86**	**337**	*e*P	**P**	**13 31 30.2**	**0.0**
	comp=Z,120nm,1.3s,mb5.5						
GUN	**Gumba**	**29.00**	**338**	*e*P	**P**	**13 31 32.1**	**+0.8**
	comp=Z,98nm,0.8s,mb5.6						
DMN	**Daman**	**29.02**	**337**	*e*P	**P**	**13 31 32.3**	**+0.8**
KKN	**Kakani**	**29.11**	**337**	*e*P	**P**	**13 31 32.8**	**+0.4**
	comp=Z,87nm,1.1s,mb5.4						
LSA	**Lhasa**	**29.20**	**349**	*e*P	**P**	**13 31 34.0**	**+0.8**
	comp=Z,29nm,0.8s,mb5.1						
BHPL	**Bhopal**	**29.47**	**320**	*e*P	**P**	**13 31 38.0**	**+2.3**
BHPL				*e*	pP

LZH				AP	pP	13 32 35.0	+0.1
LZH				XP	sP	13 32 38.3	+0.2
LZH				PP	PP	13 33 48.3	+0.7
LZH				S	**S**	**13 38 02.5**	**+2.4**
LZH				XS		13 38 13.5	
LZH				*e*SS	SS	13 40 21.3	+2.5
LZH				AMB	AMB		
	comp=Z,51nm,1.1s,mb5.4						
LZH				AMB	AMB		
	comp=Z,160nm,4.1s						
LZH				LR	LR		
	comp=E,2μm,15.4s						
LZH				LR	LR		
	comp=Z,2μm,16.9s,MS5.0						
LZH	**Lanzhou**	**35.44**	**9**	⇑P	**P**	**13 32 27.6**	**+0.1**
	comp=Z,51nm,1.1s,mb5.4						
LZH				pP	pP	13 32 35.0	+0.1
LZH				sP	sP	13 32 38.3	+0.2
LZH				PP	PP	13 33 48.2	+0.6
LZH				S	**S**	**13 38 02.5**	**+2.4**
LZH				sS		13 38 13.5	
LZH				*e*SS	SS	13 40 21.3	+2.5
LZH				LR	LR		
	comp=Z,2μm,16.9s,MS5.0						
SMLA	**Simla**	**35.63**	**329**	⇓*i*	**P**	**13 32 22.0**	**-7.2**
NJ2	**Nanjing**	**36.92**	**31**	*e*P	**P**	**13 32 40.3**	**+0.2**
NJ2				AP	pP	13 32 47.8	+0.3
NJ2				XP	sP	13 32 50.6	0.0
NJ2				PP	PP	13 34 05.8	-0.5
NJ2				S	**S**	**13 38 24.0**	**+1.1**
NJ2				XS		13 38 40.0	
NJ2				AMB	AMB		
	comp=Z,430nm,4.2s						
NJ2				LR	LR		
	comp=N,1μm,16.9s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,12.9s,MS5.0						
NJ2				LR	LR		
	comp=Z,850nm,12.0s,MS4.8						
THN	**Thein Dam**	**37.41**	**329**	*e*P	**P**	**13 32 42.2**	**-2.0**
SSE	**Sheshan**	**37.44**	**35**	P	**P**	**13 32 42.3**	**-2.2**
SSE				XP	sP	13 32 55.0	-0.1
SSE				PCP	PcP	13 34 59.4	-3.9
SSE				S	**S**	**13 38 30.4**	**-0.6**
SSE				XS		13 38 45.6	
SSE				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.9						
SSE				AMB	AMB		
	comp=Z,80nm,6.7s						
SSE				LR	LR		
	comp=N,312nm,14.4s,MS4.4						
SSE				LR	LR		
	comp=E,316nm,14.4s,MS4.4						
SSE				LR	LR		
	comp=Z,630nm,14.6s,MS4.5						
SSE	**Sheshan**	**37.44**	**35**	P	**P**	**13 32 42.3**	**-2.2**
	comp=Z,13nm,0.6s,mb4.9						
SSE				sP	sP	13 32 55.0	-0.1
SSE				PP	PP	13 33 40.8	-32
SSE				PcP	PcP	13 34 59.4	-3.9
SSE				S	**S**	**13 38 30.4**	**-0.6**
SSE				sS		13 38 45.6	
SSE				SS	SS	13 41 14.9	+11
SSE				LR	LR		
	comp=Z,630nm,14.6s,MS4.5						
GTA	**Gaotai**	**38.31**	**3**	P	**P**	**13 32 51.8**	**+0.1**
GTA				AP	pP	13 33 00.3	+1.1
GTA				XP	sP	13 33 03.9	+1.6
GTA				PCP	PcP	13 35 06.6	+0.7
GTA				S	**S**	**13 38 43.4**	**-0.7**
GTA				SCP		13 38 51.4	
GTA				XS		13 38 54.9	
GTA				SS	SS	13 41 20.8	-2.9
GTA				SCS	ScS	13 43 00.1	+0.8
GTA				AMB	AMB		
	comp=Z,28nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,152nm,8.4s						
GTA				LR	LR		
	comp=N,526nm,17.1s,MS4.6						
GTA				LR	LR		
	comp=E,515nm,14.8s,MS4.6						
GTA				LR	LR		
	comp=Z,517nm,11.8s,MS4.6						
NWAO	**Narrogin (SRO)**	**38.53**	**153**	P	**P**	**13 32 54.0**	**+0.4**
	comp=Z,7.9nm,1.0s,mb4.4,baz=355,slow=11,SNR=2.3						
JOW	**Kunigami**	**39.20**	**46**	P	**P**	**13 32 59.4**	**+0.1**
	comp=Z,31nm,0.7s,mb5.1,baz=272,slow=12,SNR=6.0						
JOW				LR	LR	13 48 58.6	
	comp=Z,253nm,18.5s,MS4.1,baz=215,slow=36						
WRA	**Warramunga Arr**	**41.69**	**122**	P	**P**	**13 33 19.6**	**-0.2**
	comp=Z,3.5nm,0.5s,mb4.3,baz=302,slow=9.1,SNR=27						
WRAB	**Tennant Creek**	**41.69**	**122**	*i* P	**P**	**13 33 20.0**	**+0.1**
WRAB	**Tennant Creek**	**41.69**	**122**	*e*P	**P**	**13 33 19.2**	**-0.7**
	comp=Z,13nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**41.70**	**122**	*e*P	**P**	**13 33 19.8**	**-0.2**
HHC	**Hu-ho-hao-te**	**41.70**	**16**	*e*P	**P**	**13 33 20.6**	**+0.9**
HHC				AP	pP	13 33 31.5	+4.3
HHC				XP	sP	13 33 34.3	+4.0
HHC				PP	PP	13 34 58.8	-0.5
HHC				PCP	PcP	13 35 18.4	+1.6
HHC				SCP		13 39 04.3	
HHC				S	**S**	**13 39 34.1**	**-0.7**
HHC				SCS	ScS	13 43 23.9	+4.7
HHC				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,158nm,7.8s						
HHC				LR	LR		
	comp=N,2μm,16.1s,MS5.0						
HHC				LR	LR		
	comp=E,872nm,15.3s,MS5.0						
HHC				LR	LR		
	comp=Z,1μm,16.6s,MS4.9						
BJT	**Baijiatuau**	**42.43**	**21**	*e*P	**P**	**13 33 26.1**	**+0.4**
	comp=Z,79nm,1.3s,mb5.2						
BJI	**Beijing**	**42.45**	**21**	*e*P	**P**	**13 33 26.9**	**+1.0**
BJI				S	**S**	**13 39 49.4**	**+3.5**
BJI				AMB	AMB		
	comp=Z,52nm,0.9s,mb5.2						
BJI				LR	LR		
	comp=N,608nm,20.6s						
BJI				LR	LR		
	comp=E,403nm,14.0s						
BJI				LR	LR		
	comp=Z,239nm,22.2s,MS4.0						
BJI	**Beijing**	**42.45**	**21**	*e*P	**P**	**13 33 26.9**	**+1.0**
	comp=Z,52nm,0.9s,mb5.2						
BJI				PP	PP	13 35 13.2	+6.1
BJI				S	**S**	**13 39 49.4**	**+3.5**
BJI				SS	SS	13 43 07.1	+17
BJI				LR	LR		
	comp=Z,240nm,22.2s,MS4.0						
ASPA	**Alice Springs**	**43.04**	**127**	*e*P	**P**	**13 33 31.3**	**+0.4**
ASAR	**Alice Springs**	**43.04**	**127**	P	**P**	**13 33 31.2**	**+0.2**
	comp=Z,3.7nm,0.9s,mb4.1,baz=301,slow=7.5,SNR=24						
WMQ	**Urumqi**	**43.54**	**350**	⇓P	**P**	**13 33 34.0**	**-0.7**
WMQ				AP	pP	13 33 41.5	-0.7
WMQ				XP	sP	13 33 45.0	-0.3
WMQ				PP	PP	13 35 22.1	+4.1
WMQ				S	**S**	**13 40 01.0**	**-0.8**
WMQ				AMB	AMB		
	comp=Z,36nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,141nm,3.8s						
WMQ				LR	LR		
	comp=N,313nm,18.0s,MS4.5						
WMQ				LR	LR		
	comp=E,442nm,18.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,359nm,21.6s,MS4.2						
DL2	**Dalian**	**43.75**	**28**	P	**P**	**13 33 37.3**	**+0.8**
DL2				S	**S**	**13 40 13.3**	**+8.4**
DL2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
DL2				LR	LR		
	comp=N,290nm,15.5s,MS4.4						
DL2				LR	LR		
	comp=E,250nm,14.7s,MS4.4						
DL2				LR	LR		
	comp=Z,420nm,14.3s,MS4.5						
ULHL	**Ulahol**	**45.30**	**338**	P	**P**	**13 33 49.6**	**+0.6**
	SNR=18						
KZA	**Kyzart**	**45.55**	**337**	P	**P**	**13 33 51.9**	**+1.0**
	SNR=8.3						
KS15	**Wonju Array Si**	**45.85**	**34**	*e*P	**P**	**13 33 53.2**	**-0.1**
UCH	**Uchtor**	**45.97**	**336**	P	**P**	**13 33 55.4**	**+1.2**
	SNR=29						
TKM2	**Tokmak 2**	**46.13**	**338**	P	**P**	**13 33 56.1**	**+0.7**
	SNR=15						
KBK	**Karagaybulak**	**46.15**	**337**	P	**P**	**13 33 57.5**	**+1.9**
	SNR=10						
AML	**Almayashu**	**46.22**	**335**	P	**P**	**13 33 57.3**	**+1.1**
	SNR=26						
AAK	**Ala-Archa**	**46.31**	**337**	P	**P**	**13 33 58.4**	**+1.5**
	SNR=10						
FRU	**Bishkek**	**46.43**	**337**	*e*P	**P**	**13 33 59.0**	**+1.1**
EKS2	**Erkin-Say**	**46.63**	**336**	P	**P**	**13 34 00.4**	**+1.0**
	SNR=13						
USP	**Ospenovka**	**46.84**	**337**	P	**P**	**13 34 01.6**	**+0.5**
	SNR=26						
SNY	**Shenyang**	**46.98**	**27**	⇑P	**P**	**13 34 01.9**	**-0.3**
SNY				AP	pP	13 34 10.3	+0.6
SNY				XP	sP	13 34 13.1	+0.3
SNY				S	**S**	**13 40 41.0**	**-10**
SNY				AMB	AMB		
	comp=Z,30nm,1.4s,mb5.0						
SNY				AMB	AMB		
	comp=Z,140nm,7.4s						
SNY				LR	LR		
	comp=N,640nm,16.8s,MS4.9						
SNY				LR	LR		
	comp=E,710nm,14.4s,MS4.9						
SNY				LR	LR		
	comp=Z,1μm,15.0s,MS4.9						
SONM	**Songino Array**	**47.31**	**8**	P	**P**	**13 34 05.0**	**+0.3**
	comp=Z,7.5nm,0.6s,mb4.8,baz=188,slow=8.7,SNR=42						
SONM				PcP	PcP	13 35 34.7	-1.2
	comp=Z,3.7nm,0.8s,baz=207,slow=2.8,SNR=3.7						
SONM				LR	LR	13 56 33.4	
	comp=Z,1μm,18.8s,MS4.9,baz=61,slow=39						
ULN	**Ulaanbaatar**	**47.44**	**9**	*c i* P	**P**	**13 34 05.9**	**+0.1**
ULN	**Ulaanbaatar**	**47.44**	**9**	*e*P	**P**	**13 34 05.5**	**-0.3**
	comp=Z,9.1nm,0.9s,mb4.7						
MKAR	**Makanchi Array**	**47.53**	**346**	P	**P**	**13 34 06.6**	**+0.1**
	comp=Z,20nm,0.6s,mb5.3,baz=161,slow=8.3,SNR=133						
MKAR				LR	LR	13 57 51.3	
	comp=Z,348nm,20.6s,MS4.3,slow=41						
MKAR	**Makanchi Array**	**47.53**	**346**	P	**P**	**13 34 06.6**	**+0.1**
MKAR				LR	LR	13 57 51.3	
CN2	**Changchun**	**49.38**	**27**	*e*P	**P**	**13 34 20.3**	**-0.6**
CN2				*e*AP	pP	13 34 27.3	-1.2
CN2				*e*S	**S**	**13 41 25.3**	**+0.3**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,1μm,16.0s,MS5.0						
CN2				LR	LR		
	comp=E,700nm,16.0s,MS5.0						
CN2				LR	LR		
	comp=Z,1μm,17.0s,MS5.0						
ZAK	**Zakamensk**	**49.47**	**5**	⇑*i* P	**P**	**13 34 21.4**	**-0.1**
ZAK				*e*		13 35 43.7	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
CBIJ	**Chichi jima**	**50.13**	**55**	LR	LR	13 52 13.5	
	comp=Z,175nm,20.2s,MS4.1,baz=74,slow=32						
PMG	**Port Moresby**	**50.54**	**103**	P	**P**	**13 34 28.2**	**-1.9**
	comp=Z,6.8nm,0.9s,mb4.6,baz=314,slow=2.2,SNR=4.3						
MOY	**Mondy**	**50.60**	**3**	*e*P	**P**	**13 34 29.3**	**-0.7**
TLY	**Talaya**	**50.79**	**5**	*e*P	**P**	**13 34 32.2**	**+0.7**
TLY				*e*		13 42 01.0	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
TLY				MLR	MLR		
	comp=Z,961nm,18.0s,MS4.9						
JHJ	**Hachijo jima 2**	**50.98**	**47**	LR	LR	13 56 04.0	
	comp=Z,129nm,21.9s,MS3.9,baz=311,slow=36						
MAT	**Matsushiro**	**51.67**	**42**	*e*P	**P**	**13 34 37.0**	**-1.4**
MAT				LR	LR		
	comp=Z,350nm,20.0s,MS4.4						
MAT	**Matsushiro**	**51.67**	**42**	P	**P**	**13 34 37.1**	**-1.3**
MAT				*e*S	**S**	**13 41 57.0**	**+0.2**
MJAR	**Matsushiro Arr**	**51.68**	**42**	P	**P**	**13 34 37.3**	**-1.1**
	comp=Z,5.1nm,0.9s,mb4.4,baz=225,slow=6.7,SNR=11						
MJAR				PcP	PcP	13 35 51.6	-0.3
	comp=Z,1.6nm,0.7s,baz=252,slow=2.8,SNR=4.6						
MJAR				LR	LR	13 57 25.0	
	comp=Z,289nm,21.1s,MS4.3,baz=250,slow=37						
HIA	**Hailar**	**51.77**	**18**	*e*P	**P**	**13 34 38.4**	**-0.6**
	comp=Z,24nm,1.1s,mb5.0						
MDJ	**Mudanjiang**	**51.93**	**29**	P	**P**	**13 34 40.3**	**0.0**
MDJ				AP	pP	13 34 46.6	-1.3
MDJ				XP	sP	13 34 49.3	-1.5
MDJ				PCP	PcP	13 35 52.0	-0.8
MDJ				PP	PP	13 36 38.3	-0.6
MDJ				S	**S**	**13 42 03.8**	**+3.6**
MDJ				XS		13 42 14.8	
MDJ				AMB	AMB		
	comp=Z,14nm,2.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,121nm,5.7s						
MDJ				LR	LR		
	comp=N,699nm,17.9s,MS4.9						
MDJ				LR	LR		
	comp=E,562nm,15.2s,MS4.9						
MDJ				LR	LR		
	comp=Z,950nm,16.1s,MS4.9						
MDJ	**Mudanjiang**	**51.93**	**29**	P	**P**	**13 34 39.2**	**-1.1**
	comp=Z,8.7nm,0.9s,mb4.7						
CTA	**Charters Tower**	**52.16**	**116**	LR	LR	14 00 01.3	
	comp=Z,514nm,18.7s,MS4.6,baz=285,slow=40						
STKA	**Stephens Creek**	**53.00**	**132**	*e*P	**P**	**13 34 48.9**	**+0.4**
	comp=Z,9.1nm,1.2s,mb4.6						
STKA	**Stephens Creek**	**53.00**	**132**	P	**P**	**13 34 48.5**	**0.0**
	comp=Z,11nm,1.0s,mb4.7,baz=311,slow=8.0,SNR=8.8						
STKA				LR	LR	13 59 24.5	
	comp=Z,625nm,20.6s,MS4.6,baz=270,slow=38						
ZAL	**Zalesovo**	**53.82**	**351**	P	**P**	**13 34 53.8**	**-0.3**
	comp=Z,16nm,0.6s,mb5.1,baz=312,slow=5.6,SNR=72						
ATD	**Arta Tunnel**	**55.20**	**283**	LR	LR	13 55 44.4	
	comp=Z,140nm,18.1s,MS4.1,baz=16,slow=33						
KLR	**Kul'dur**	**56.34**	**26**	*e*P	**P**	**13 35 09.5**	**-3.0**
KLR				*e*S	**S**	**13 43 03.5**	**+4.1**
KLR				MLR	MLR		
	comp=E,600nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s,MS5.1						
BVAR	**Borovoye Array**	**56.55**	**341**	P	**P**	**13 35 12.8**	**-1.1**
	comp=Z,13nm,0.8s,mb5.0,baz=143,slow=7.4,SNR=49						
CHKZ	**Chkalovo**	**57.03**	**341**	*e*P	**P**	**13 35 16.0**	**-1.4**
	comp=Z,28nm,0.9s,mb5.3						
BOD	**Bodaibo**	**58.18**	**10**	⇓*i* P	**P**	**13 35 24.6**	**-0.8**
BOD				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2						
ASAJ	**Asahikawa**	**58.68**	**37**	P	**P**	**13 35 28.9**	**-0.1**
	comp=Z,4.3nm,0.6s,mb4.6,baz=254,slow=25,SNR=3.7						
KMBO	**Kilima Mbogo**	**60.25**	**268**	P	**P**	**13 35 39.2**	**-1.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=58,slow=9.4,SNR=4.3						
KMBO	**Kilima Mbogo**	**60.25**	**268**	*e*P	**P**	**13 35 41.0**	**+0.7**
	comp=Z,4.8nm,1.0s,mb4.5						
YSS	**Yuzh-Sakhalins**	**60.38**	**34**	⇑*e*P	**P**	**13 35 40.1**	**-0.7**
YSS				*e*		13 35 58.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YSS				MLR	MLR		
	comp=N,400nm,15.0s						
YSS				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.7						
YSS	**Yuzh-Sakhalins**	**60.38**	**34**	*e*P	**P**	**13 35 39.5**	**-1.3**
	comp=Z,14nm,0.9s,mb5.0						
GNI	**Garni**	**61.64**	**316**	*i* P	**P**	**13 35 48.5**	**-0.9**
GNI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GNI	**Garni**	**61.64**	**316**	P	**P**	**13 35 48.2**	**-1.2**
	comp=Z,3.0nm,0.3s,mb4.9,baz=172,slow=15,SNR=1.8						
SVE	**Sverdlovsk**	**63.00**	**338**	*e*P	**P**	**13 35 57.0**	**-1.2**
SVE				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.4						
ARU	**Arti**	**63.50**	**337**	⇑*i* P	**P**	**13 35 59.8**	**-1.7**
ARU				*e*		13 36 37.2	
ARU				*e*		13 38 19.0	
ARU				*e*PPP	PPP	13 39 49.9	-4.4
ARU				*e*S	**S**	**13 44 31.1**	**-0.4**
ARU				*e*SS	SS	13 48 43.4	+2.9
ARU				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
ARU	**Arti**	**63.50**	**337**	*e*P	**P**	**13 35 59.5**	**-2.0**
	comp=Z,13nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**64.65**	**319**	*e*P	**P**	**13 36 08.0**	**-1.3**
KIV				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
KIV				pmax	pmax		
	comp=N,10.0nm,1.0s						
KIV				pmax	pmax		
	comp=E,12nm,1.1s						
KIV				MLR	MLR		
	comp=N,81nm,18.0s,MS4.2						
KIV				MLR	MLR		
	comp=E,99nm,18.0s,MS4.2						
KIV				MLR	MLR		
	comp=Z,151nm,18.0s,MS4.2						
ASF	**Jabal al Asfar**	**64.81**	**305**	P	**P**	**13 36 07.5**	**-3.0**
	comp=Z,1.1nm,0.3s,mb4.4,baz=225,slow=1.4,SNR=2.5						
MALT	**Malatya**	**65.48**	**312**	*e*P	**P**	**13 36 14.1**	**-0.7**
	comp=Z,6.4nm,0.9s,mb4.7						
MALT				*e*pP	pP	13 36 21.4	-1.1
YAK	**Yakutsk**	**65.56**	**16**	*e*P	**P**	**13 36 13.7**	**-1.1**
YAK				*e**PP	pP	13 36 22.9	+0.3
YAK				*e*		13 38 38.0	
YAK				*e*PPP	PPP	13 40 21.4	+5.5
YAK				*e*S	S	13 45 09.3	+12
YAK				*e*		13 46 07.2	
YAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK				smax			
	comp=N,3.0nm,1.7s						
YAK				MLR	MLR		
	comp=Z,423nm,13.0s,MS4.8						
YAK				MLR	MLR		
	comp=N,352nm,14.0s,MS4.8						
YAK				MLR	MLR		
	comp=E,231nm,12.0s,MS4.8						
YAK	**Yakutsk**	**65.56**	**16**	*e*P	**P**	**13 36 13.7**	**-1.1**
	comp=E,19nm,0.8s,mb5.2						
EIL	**Elat**	**65.80**	**302**	P	**P**	**13 36 16.1**	**-0.8**
	comp=E,5.7nm,0.8s,mb4.6,baz=31,slow=5.3,SNR=3.9						
EIL	**Elat**	**65.80**	**302**	*e*P	**P**	**13 36 16.5**	**-0.4**
	comp=E,4.8nm,0.8s,mb4.6						
EIL				*e*pP	pP	13 36 23.2	-1.4
SOKR	**Solikamsk**	**66.39**	**339**	⇑*i* P	**P**	**13 36 20.2**	**+0.1**
SOKR				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.2						
SOKR				MLR	MLR		
	comp=Z,330nm,19.0s,MS4.6						
SOC	**Sochi**	**66.47**	**318**	*e*P	**P**	**13 36 17.3**	**-3.6**
SOC				*e*		13 36 47.6	
SOC				*e*PPP	PP	13 38 43.7	-5.6
SOC				*e*S	S	13 45 06.0	-2.3
SOC				*e*		13 46 10.7	
SOC				*e*SS	SS	13 49 25.5	-1.3
SOC				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
SOC				pmax	pmax		
	comp=N,9.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,14nm,0.6s						
BRTR	**Keskin Array B**	**69.46**	**312**	P	**P**	**13 36 38.0**	**-1.7**
	comp=E,2.7nm,0.8s,mb4.2,baz=125,slow=7.0,SNR=12						
PET	**Petropavlovsk**	**72.27**	**34**	*e*P	**P**	**13 36 55.3**	**-1.1**
PET				*e*S	S	13 46 13.8	-2.6
PET				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
MAW	**Mawson**	**72.55**	**193**	LR	LR	14 05 35.9	
	comp=Z,326nm,18.1s,MS4.6,baz=63,slow=33						
OBN	**Obninsk**	**72.95**	**328**	*e*P	**P**	**13 36 58.8**	**-1.6**
OBN				*e*		13 39 39.0	
OBN				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.4						
TIXI	**Tiksi**	**73.36**	**10**	*i* P	**P**	**13 37 01.4**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
BOSA	**Boshof**	**74.90**	**240**	P	**P**	**13 37 10.8**	**-1.5**
	comp=Z,1.9nm,0.8s,mb4.1,baz=50,slow=7.7,SNR=3.2						
BOSA				LR	LR	14 06 22.5	
	comp=Z,246nm,18.5s,MS4.5,baz=244,slow=33						
AKASG	**Malin Array Be**	**75.60**	**322**	P	**P**	**13 37 14.2**	**-1.6**
	comp=Z,5.3nm,0.7s,mb4.6,baz=88,slow=4.7,SNR=24						
AKASG				PP	PP	13 40 02.5	-4.7
	comp=Z,0.3nm,0.3s,baz=84,slow=8.6,SNR=4.3						
MLR	**Muntele Rosu**	**76.42**	**317**	P	**P**	**13 37 19.3**	**-1.2**
	comp=Z,9.0nm,0.9s,mb4.7,baz=140,slow=4.8,SNR=12						
MLR	**Muntele Rosu**	**76.42**	**317**	P	**P**	**13 37 19.3**	**-1.2**
JOF	**Joensuu**	**78.46**	**335**	*e*p	**P**	**13 37 29.7**	**-1.7**
	comp=Z,7.3nm,1.0s,mb4.6						
JOF	**Joensuu**	**78.46**	**335**	*e*P	**P**	**13 37 29.7**	**-1.7**
JOF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KOLS	**Kolonicke sedl**	**79.56**	**320**	*e*P	**P**	**13 37 39.4**	**+1.7**
KOLS				*e*pP	pP	13 37 46.1	+0.5
CRVS	**Cervenica-Dubn**	**80.08**	**319**	*e*P	**P**	**13 37 41.2**	**+0.7**
FINES	**FINESS Array B**	**80.32**	**332**	*i* P	**P**	**13 37 41.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**80.32**	**332**	P	**P**	**13 37 41.5**	**-0.1**
	comp=Z,4.5nm,0.8s,mb4.4,baz=104,slow=7.9,SNR=12						
FINES				LR	LR	14 16 19.2	
	comp=Z,190nm,21.9s,MS4.4,baz=89,slow=38						
KAF	**Kangasniemi**	**80.41**	**333**	*e*p	**P**	**13 37 40.9**	**-1.0**
	comp=Z,8.9nm,0.9s,mb4.7,baz=103,slow=5.0						
KAF	**Kangasniemi**	**80.41**	**333**	*e*P	**P**	**13 37 40.9**	**-1.0**
KAF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
KECS	**Kecovo**	**80.65**	**319**	*e*P	**P**	**13 37 42.5**	**-1.0**
BILL	**Bilibino**	**81.28**	**21**	⇓*e*P	**P**	**13 37 46.0**	**-0.4**
BILL				pmax	pmax		
	comp=Z,9.0nm,2.0s,mb4.3						
VYHS	**Vyhne**	**81.74**	**319**	*e*P	**P**	**13 37 49.2**	**0.0**
VYHS				*e*pP	pP	13 37 56.1	-1.1
OKC	**Ostrava-Krasne**	**82.37**	**320**	*e*P	**P**	**13 37 53.5**	**+1.1**
KEV	**Kevo**	**82.40**	**341**	*e*p	**P**	**13 37 53.6**	**+1.4**
	comp=Z,24nm,1.1s,mb5.0						
KEV	**Kevo**	**82.40**	**341**	*e*P	**P**	**13 37 53.6**	**+1.4**
KEV				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
MORC	**Moravsky Berou**	**82.75**	**320**	*e*P	**P**	**13 37 54.7**	**+0.2**
	comp=Z,7.8nm,1.0s,mb4.7						
MORC				*e*pP	pP	13 38 01.8	-0.6
ARCES	**ARCESS Array B**	**82.84**	**340**	P	**P**	**13 37 54.4**	**-0.1**
	comp=Z,9.1nm,0.9s,mb4.8,baz=90,slow=3.6,SNR=10						
ARCES				LR	LR	14 18 58.0	
	comp=Z,315nm,20.0s,MS4.7,baz=231,slow=39						
ZST	**Bratislava**	**82.85**	**318**	*e*P	**P**	**13 37 56.0**	**+1.0**
DPC	**Dobruska-Polom**	**83.60**	**320**	*e*P	**P**	**13 38 00.0**	**+1.2**
UPC	**Upice**	**83.81**	**321**	*e*P	**P**	**13 38

GRF	**Grafenberg Arr**	**86.83 320**	*e*P	**P**		**13 38 15.8**	**+0.9**
GRF			*e**PP	pP		13 38 23.2	+0.3
GRF			pmax	pmax			
	comp=Z,8.0nm,0.9s,mb5.0						
GRF	**Grafenberg Arr**	**86.83 320**	*e*P	**P**		**13 38 15.8**	**+0.9**
	comp=Z,8.0nm,0.9s,mb5.0						
GRF			*e*pP	pP		13 38 23.2	+0.3
NB2	**NORSAR Subarra**	**87.33 331**	P	**P**		**13 38 17.1**	**0.0**
	comp=Z,3.5nm,0.9s,mb4.6,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**87.33 331**	P	**P**		**13 38 17.2**	**+0.1**
	comp=Z,4.6nm,0.8s,mb4.7,baz=94,slow=4.9,SNR=12						
NOA	**NORSAR Array B**	**87.33 331**	P	**P**		**13 38 17.2**	**+0.1**
LPG	**La Plagne**	**89.82 315**	*e*P	**P**		**13 38 29.5**	**+0.2**
	comp=Z,20nm,1.0s,mb5.1						
IMA	**Indian Mountai**	**96.68 23**	*e*P	**P**		**13 39 00.8**	**+0.5**
	comp=Z,8.5nm,1.0s,mb5.1						
ILAR	**Eielson Array**	**99.80 23**	PP	PP		13 43 22.4	+0.8
	comp=Z,0.7nm,0.9s,baz=270,slow=2.9,SNR=4.1						
INK	**Inuvik**	**102.61 17**	PP	PP		13 43 42.2	-0.8
	comp=Z,1.3nm,1.0s,baz=269,slow=2.7,SNR=3.9						
TBI	**Tubuai**	**111.51 115**	*e*LR	LR		14 17 24.5	
	comp=Z,203nm,24.0s						
PPT	**Papeete**	**112.15 108**	*e*LR	LR		14 17 42.6	
	comp=Z,155nm,25.0s						
YKA	**Yellowknife Ar**	**112.24 15**	PP	PP		13 44 48.3	-5.8
	comp=Z,0.3nm,0.8s,baz=329,slow=6.5,SNR=4.4						
RKT	**Rikitea**	**124.59 118**	*e*LR	LR		14 23 27.7	
	comp=Z,171nm,24.8s						
TXAR	**Lajitas Array**	**143.72 32**	PKP	PKPdf		13 45 04.2	-5.2
	comp=Z,1.4nm,0.9s,baz=270,slow=2.5,SNR=7.3						
JCT	**Junction City**	**144.66 26**	*e*PKP	PKPdf		13 45 07.3	-3.7
CPUP	**Villa Florida**	**145.02 222**	PKP	PKPdf		13 45 08.1	-3.7
	comp=Z,3.6nm,1.0s,baz=128,slow=4.5,SNR=8.3						
GOGA	**Godfrey**	**145.79 1**	*e*PKP	PKPdf		13 45 09.9	-3.0
LRAL	**Lakeview Retre**	**145.91 7**	*e*PKP	PKPdf		13 45 09.9	-3.2

*IDC **18** 13:47:12.6±12.0, 12.61S×167.33E, h181km±112km, mb3.6/7, mb1 3.8/7, mb1mx3.5/18, mbtmp4.1/7, Error ellipse: s-maj=83.8km s-min=43.7km az=147.0*

*NEIC **18** 13:47:15.4±0.8, 12.44S×167.10E, h200km, mb3.8/2, Error ellipse: s-maj=30.0km s-min=15.4km az=143.0*

ISC 18 13:47:14.1±0.9, 12.5S±0.1×167.1E±0.1, h200km, n14, σ0 92/12, mb3.8/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.37**	**247**	P	**P**	**13 51 48.8**	**+2.2**
	3.7nm,0.9s,mb3.9,baz=70,slow=15,SNR=3.5						
BKZ	**Black Stump Fm**	**27.88**	**164**	PN	**P**	**13 52 47.5**	**+0.1**
TSZ	**Takapari Road**	**28.59**	**166**	PN	**P**	**13 52 53.6**	**-0.1**
MRZ	**Mangatainoka R**	**29.07**	**167**	PN	**P**	**13 52 57.7**	**-0.3**
WRAB	**Tennant Creek**	**32.26**	**252**	*e*P	**P**	**13 53 24.3**	**-1.7**
	1.7nm,0.7s,mb3.7						
WRA	**Warramunga Arr**	**32.27**	**252**	P	**P**	**13 53 25.2**	**-1.0**
	0.5nm,0.4s,mb3.4,baz=83,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**33.37**	**246**	P	**P**	**13 53 34.9**	**-0.7**
	0.5nm,0.3s,mb3.5,baz=68,slow=10,SNR=7.0						
FITZ	**Fitzroy Crossi**	**40.31**	**257**	P	**P**	**13 54 34.2**	**+0.6**
	3.4nm,0.3s,mb4.2,baz=40,slow=5.3,SNR=21						
CMAR	**Chiang Mai Arr**	**73.87**	**294**	P	**P**	**13 58 30.1**	**+0.7**
	1.1nm,0.8s,mb3.5,baz=125,slow=3.9,SNR=7.6						
QSPA	**South Pole Qui**	**77.56**	**180**	*e*P	**P**	**13 58 49.6**	**+0.8**
	1.3nm,0.5s,mb3.8						
ILAR	**Eielson Array**	**84.43**	**18**	P	**P**	**13 59 24.4**	**-0.5**
	1.0nm,0.7s,mb3.6,baz=244,slow=5.6,SNR=8.8						
MKAR	**Makanchi Array**	**95.44**	**317**	P	**P**	**14 00 17.3**	**+0.3**
	0.9nm,0.5s,mb4.2,baz=104,slow=5.0,SNR=6.4						
ARCES	**ARCESS Array B**	**118.02**	**346**	PKP	PKPdf	14 05 37.7	+1.2
	1.0nm,0.3s,baz=71,slow=2.3,SNR=20						
FINES	**FINESS Array B**	**123.56**	**339**	PKP	PKPdf	14 05 48.6	+1.1
	1.2nm,0.9s,baz=72,slow=4.4,SNR=3.9						

*NEIC **18** 13:56:48.4, 35.08S×70.44W, h3km, ML3.3(GUC), After GUC.*

GUC 18 13:56:48.4±1.1, 35.08S×70.44W, h3km±4km, MD3.8, ML3.3, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.65**	**276**	⇑*i*P	Pg	13 57 01.6	+0.2
NICH				*i* S	Sg	13 57 11.7	+1.6
SFDO	**San Fernando**	**0.66**	**314**	⇑*i*P	Pg	13 57 01.7	+0.1
SFDO				*i* S	Sg	13 57 11.8	+1.4
CICH	**Cipreses**	**0.76**	**1**	*e*P	Pg	13 57 02.8	-0.7
CICH				*i* S	Sg	13 57 13.9	+0.4
CACH	**El Canelo**	**0.97**	**352**	*e*P	Pb	13 57 07.0	-0.5
TALC	**Talca**	**1.03**	**252**	⇓*i*P	Pb	13 57 07.5	-0.9
TALC				*i* S	Sb	13 57 22.5	+0.3
TALC				AMP		13 57 23.1	
	comp=N,7μm,0.1s						
CHCH	**Chadas Angostu**	**1.15**	**351**	*e*P	Pb	13 57 10.5	-0.2
CHCH				*i* S	Sb	13 57 26.4	+0.6
LMEL	**Las Melosas**	**1.24**	**9**	⇑*i*P	Pb	13 57 11.0	-1.2
LMEL				*i* S	Sb	13 57 29.0	+0.6
LMEL				AMP		13 57 51.4	
	comp=E,248nm,0.6s						
LNV	**Longovilo**	**1.38**	**324**	⇑*i*P	Pb	13 57 13.5	-0.9
TACH	**Talagante**	**1.48**	**344**	*e*P	Pn	13 57 15.7	-0.3
RCDM	**Rinconada Maip**	**1.61**	**349**	*i* P	Pn	13 57 18.3	+0.3
RCDM				*i* S	Sb	13 57 40.8	+1.6
RCDM				AMP		13 57 45.2	
	comp=E,596nm,0.1s						
CLCH	**Cerro Calan**	**1.68**	**357**	*i* P	Pn	13 57 20.0	+1.2
CLCH				*i* S	Sb	13 57 42.3	+1.2
CLCH				AMP		13 57 51.9	
	comp=E,527nm,0.7s						
FCH	**Farellones**	**1.75**	**4**	*e*P	Pn	13 57 20.4	+0.6
FCH				*i* S	Sn	13 57 44.0	+1.1
FCH				AMP		13 57 57.2	
	comp=N,352nm,0.2s						
LCCH	**Las Cruces**	**1.85**	**329**	⇓*i*P	Pn	13 57 21.8	+0.5
LCCH				*i* S	Sn	13 57 47.1	+1.5
CCHI	**Chillan**	**2.02**	**221**	⇑*i*P	Pn	13 57 24.9	+1.1
CCHI				*i* S	Sn	13 57 52.1	+2.3
CCHI				AMP		13 57 59.4	
	comp=N,439nm,0.5s						

*MOS **18** 14:12:20.0±1.2, 19.04N×121.46E, h33km, mb5.0/18, Error ellipse: s-maj=18.6km s-min=8.8km az=112.4*

*IDC **18** 14:12:21.1±6.6, 19.06N×121.26E, h25km±43km, mb4.2/28, mb1 4.4/29, mb1mx4.4/31, mbtmp4.4/29, ML4.6/1, MS4.5/32, Ms1 4.6/32, ms1mx4.4/40, Error ellipse: s-maj=15.9km s-min=10.6km az=73.0*

*NEIC **18** 14:12:21.3±0.2, 19.06N×121.36E, mb4.8/31, MS4.4/6, Error ellipse: s-maj=6.1km s-min=4.2km az=95.0*

NEIC Felt [III PIVS] at Aparri and [II PIVS] at Pasuquin and Santo Domingo, Luzon.

*MAN **18** 14:12:23.2, 19.15N×121.17E, h18km, mb5.3, ML4.2, MS4.4*

MAN Intensity III Aparri Cagayan Intensity II - Pasuquin Ilocos Norte Intensity II - Sto Domingo Ilocos Sur 2005 0418143337.44 10.353 125.828 52 133.0 4.2 2.7 0.49 .013 .018 2.66.

*BJI **18** 14:12:26.3, 19.67N×120.95E, h25km, mB5.0, mb4.5, ML4.1, Ms4.7, Msz4.5*

ISC 18 14:12:21.2±0.2, 19.29N±0.02×121.26E±0.04, h27km, h27km±1.2km: pP-P, n215, σ1°26/215, mb4.6/80, MS4.5/54, 11C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.28**	**144**	*e*P	**Pn**	**14 12 45.1**	**+1.5**
BBP	**Basco**	**1.32**	**30**	*e*P	**Pn**	**14 12 48.7**	**+4.5**
APYP	**Conner**	**1.42**	**181**	*e*P	**Pn**	**14 12 45.8**	**+0.1**
APYP				*e*S	**Sn**	**14 13 03.3**	**-0.2**
CVP	**Callao Caves**	**1.67**	**161**	⇓*i*P	**Pn**	**14 12 50.0**	**+0.9**
ABRA	**Dolores**	**1.71**	**198**	*e*P	**Pn**	**14 12 49.6**	**-0.2**
CAUP	**Cauayan**	**2.39**	**167**	*e*P	**Pn**	**14 13 02.5**	**+2.9**
PALP	**Palanan**	**2.48**	**153**	*e*P	**Pn**	**14 13 02.8**	**+2.1**
BCPH	**Baguio City Da**	**2.97**	**193**	⇑*i*P	**Pn**	**14 13 09.7**	**+2.0**
BCPH				*i* S	**Sn**	**14 13 44.4**	**+1.6**
BOLP	**Bolinao**	**3.17**	**204**	*e*P	**Pn**	**14 13 10.4**	**-0.1**
BALP	**Baler**	**3.54**	**175**	*e*P	**Pn**	**14 13 16.1**	**+0.3**
PCPH	**Palayan**	**3.71**	**182**	⇑*e*P	**Pn**	**14 13 19.7**	**+1.4**
PCPH				*e*S	**Sn**	**14 14 05.3**	**+3.6**
SCZP	**Santa Cruz**	**3.73**	**200**	*e*P	**Pn**	**14 13 18.8**	**+0.3**
NZB	**Bigte**	**4.41**	**182**	*e*P	**Pn**	**14 13 29.4**	**+1.2**
POLP	**Polilio Island**	**4.58**	**172**	*e*P	**Pn**	**14 13 31.6**	**+0.9**
NBP	**Mount Natib**	**4.59**	**190**	*e*P	**Pn**	**14 13 31.1**	**+0.2**
QVPH	**Quezon City--P**	**4.62**	**182**	⇑*e*P	**Pn**	**14 13 32.9**	**+1.7**
QVPH				*e*S	**Sn**	**14 14 29.3**	**+4.7**
NACB	**Ninganchiao**	**4.87**	**4**	*e*P	**Pn**	**14 13 36.5**	**+1.8**
LBPH	**Los Banos**	**5.11**	**181**	*e*P	**Pn**	**14 13 36.0**	**-2.0**
YHNB	**Yeheng**	**5.35**	**1**	*e*P	**Pn**	**14 13 43.9**	**+2.3**
GQP	**Guinayangan**	**5.47**	**168**	⇓*e*P	**Pn**	**14 13 43.2**	**-0.1**
GQP				*e*S	**Sn**	**14 14 41.3**	**-4.8**
LUBP	**Lubang**	**5.61**	**190**	*e*P	**Pn**	**14 13 46.8**	**+1.7**
TATO	**Taipei**	**5.66**	**2**	*e*P	**Pn**	**14 13 48.1**	**+2.3**
	88nm,0.6s						
BOAC	**Boac**	**5.83**	**174**	*e*P	**Pn**	**14 13 48.8**	**+0.6**
AUQP	**San Andres**	**6.09**	**167**	*e*P	**Pn**	**14 13 58.9**	**+7.0**
QZH	**Quanzhou**	**6.15**	**337**	P	**Pn**	**14 13 51.5**	**-1.2**
QZH				S	**Sn**	**14 14 57.1**	**-5.8**
QZH				Smax			
	comp=N,170nm,0.6s						
QZH				Smax			
	comp=E,260nm,0.9s						
QZH				LR	LR		
	comp=N,6μm,17.6s						
QZH				LR	LR		
	comp=E,3μm,16.5s						
QZH				LR	LR		
	comp=Z,9μm,18.4s						
PVCP	**Virac**	**6.30**	**153**	*e*P	**Pn**	**14 13 54.2**	**-0.7**
SJMP	**San Jose**	**6.79**	**181**	*e*P	**Pn**	**14 14 02.5**	**+0.7**
CNP	**Catarman**	**7.49**	**154**	*e*P	**Pn**	**14 14 11.5**	**-0.1**
ENPP	**El Nido**	**8.23**	**193**	*e*P	**P**	**14 14 19.5**	**-2.4**
GZH	**Guangzhou**	**8.30**	**298**	P	**P**	**14 14 18.3**	**-4.5**
JOW	**Kunigami**	**9.90**	**39**	Pn	**P**	**14 14 46.0**	**+1.1**
	comp=Z,13nm,0.3s,baz=213,slow=14,SNR=18						
JOW				Sn	**Sn**	**14 16 37.8**	**+1.5**
JOW				LR	LR	14 18 44.9	
	comp=Z,3μm,20.9s,baz=162,slow=38						
QIZ	**Qiongzhong**	**10.80**	**270**	*e*P	**P**	**14 14 51.7**	**-5.6**
	comp=Z,53nm,0.5s						
SSE	**Sheshan**	**11.76**	**360**	P	**P**	**14 15 10.4**	**+0.1**
SSE				XP		14 15 17.5	
SSE				S	**S**	**14 17 26.3**	**+4.7**
SSE				XS		14 17 32.3	
SSE				AMB	AMB		
SSE				AMB	AMB		
	comp=Z,19nm,0.7s						
SSE				AMB	AMB		
	comp=Z,73nm,3.9s						
SSE				LR	LR		
	comp=N,1μm,21.7s						
SSE				LR	LR		
	comp=E,1μm,21.7s						
SSE				LR	LR		
	comp=Z,2μm,23.5s						
SSE	**Sheshan**	**11.76**	**360**	P	**P**	**14 15 10.4**	**+0.1**
	comp=Z,19nm,0.7s						
SSE				sP		14 15 17.5	
SSE				S	**S**	**14 17 26.3**	**+4.7**
SSE				sS		14 17 32.2	
BUKP	**Musuan**	**11.93**	**161**	*e*P	**P**	**14 15 13.4**	**+0.7**
NJ2	**Nanjing**	**12.89**	**351**	*e*P	**P**	**14 15 27.8**	**+2.3**
NJ2				AP		14 15 33.9	
NJ2				XP		14 15 37.6	
NJ2				AMB	AMB		
	comp=Z,650nm,4.8s						
NJ2				LR	LR		
	comp=N,3μm,18.9s						
NJ2				LR	LR		
	comp=E,4μm,17.1s						
NJ2				LR	LR		
	comp=Z,2μm,17.0s						
KKM	**Kota Kinabalu**	**14.05**	**201**	P	**P**	**14 15 34.7**	**-6.3**
GYA	**Guiyang**	**15.22**	**301**	⇑*i*P	**P**	**14 15 55.0**	**-1.2**
GYA				AP		14 16 02.4	
GYA				XP		14 16 06.0	
GYA				AMB	AMB		
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,330nm,6.6s						
GYA				LR	LR		
	comp=N,2μm,14.4s						
GYA				LR	LR		
	comp=E,2μm,13.2s						
GYA				LR	LR		
	comp=Z,4μm,14.1s						
ENH	**Enshi**	**15.28**	**318**	*e*P	**P**	**14 15 56.0**	**-0.9**
	comp=Z,358nm,2.1s						
KMI	**Kunming**	**18.10**	**292**	P	**P**	**14 16 32.6**	**-0.1**
KMI				AP		14 16 40.3	
KMI				XP		14 16 44.4	
KMI				PP	PP	14 16 49.1	+1.6
KMI				PPP	PPP	14 16 57.8	+1.3
KMI				S	**S**	**14 19 55.9**	**+5.2**
KMI				AMB	AMB		
	comp=Z,21nm,2.0s						
KMI				AMB	AMB		
	comp=Z,696nm,7.5s						
KMI				LR	LR		
	comp=N,2μm,13.4s						
KMI				LR	LR		
	comp=E,3μm,16.6s						
KMI				LR	LR		
	comp=Z,4μm,14.4s						
KMI	**Kunming**	**18.10**	**292**	P	**P**	**14 16 32.6**	**-0.1**
	comp=Z,21nm,2.0s						
KMI				pP		14 16 40.2	
KMI				sP		14 16 44.4	
KMI				PP	PP	14 16 49.1	+1.6
KMI				PPP	PPP	14 16 57.7	+1.2
KMI				S	**S**	**14 19 55.9**	**+5.2**
KMI				sS		14 20 07.6	
KMI				SS	SS	14 20 20.4	+6.3
KMI				SSS	SSS	14 20 33.6	+5.8
XAN	**Xi'an**	**18.34**	**326**	P	**P**	**14 16 36.0**	**+0.4**
XAN				AMB	AMB		
	comp=Z,680nm,8.1s						
XAN				LR	LR		
	comp=N,931nm,15.9s						
XAN				LR	LR		
	comp=E,936nm,16.3s						
XAN				LR	LR		
	comp=Z,2μm,15.7s						
KS15	**Wonju Array Si**	**18.99**	**16**	P	**P**	**14 16 41.7**	**-1.7**
NANT	**Nan**	**19.45**	**272**	P	**P**	**14 16 48.0**	**-0.8**
	comp=Z,100nm,1.0s						
DL2	**Dalian**	**19.55**	**1**	*e*P	**P**	**14 16 47.6**	**-2.2**
DL2				S	**S**	**14 20 25.8**	**+2.6**
DL2				AMB	AMB		
	comp=Z,110nm,7.8s						
DL2				LR	LR		
	comp=N,590nm,14.4s						
DL2				LR	LR		
	comp=E,540nm,14.7s						
DL2				LR	LR		
	comp=Z,810nm,29.0s						
CD2	**Chengdu**	**19.59**	**310**	⇓*i*P	**P**	**14 16 50.0**	**-0.4**
CD2				PP	PP	14 17 07.5	-0.9
CD2				S	**S**	**14 20 28.3**	**+4.1**
CD2				AMB	AMB		
	comp=Z,40nm,1.2s						
CD2				AMB	AMB		
	comp=Z,990nm,4.2s						
CD2				LR	LR		
	comp=N,3μm,14.4s						
CD2				LR	LR		
	comp=Z,3μm,15.0s						
NST	**Nakhon Sawan**	**20.47**	**263**	P	**P**	**14 17 02.5**	**+2.8**
KSM	**Kuching**	**20.70**	**213**	*e*P	**P**	**14 16 58.7**	**-3.4**
CBIJ	**Chichi jima**	**20.72**	**64**	P	**P**	**14 17 01.5**	**-0.8**
	comp=Z,37nm,0.5s,baz=334,slow=23,SNR=6.7						
CBIJ				LR	LR	14 23 17.2	
	comp=Z,1μm,21.1s,MS4.2,baz=257,slow=32						
CHG	**Chiang Mai**	**21.10**	**272**	⇑P	**P**	**14 17 05.1**	**-1.1**
	comp=Z,32nm,1.3s,mb4.5						
BJT	**Baijiatuau**	**21.12**	**349**	*e*P	**P**	**14 17 06.8**	**+0.6**
	comp=Z,60nm,1.2s,mb4.8						
CM31	**Chiang Mai Arr**	**21.14**	**271**	*e*P	**P**	**14 17 05.9**	**-0.7**
	comp=Z,17nm,0.9s,mb4.4						
CMAR	**Chiang Mai Arr**	**21.14**	**271**	*i* P	**P**	**14 17 05.7**	**-0.8**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**21.14**	**271**	P	**P**	**14 17 05.7**	**-0.9**
	comp=Z,5.3nm,0.8s,mb3.9,baz=79,slow=8.7,SNR=23						
CMAR				PcP	PcP	14 21 10.9	-1.2
	comp=Z,2.3nm,0.7s,baz=83,slow=1.1,SNR=7.8						
CMAR				LR	LR	14 26 01.6	
	comp=Z,2μm,18.8s,MS4.4,baz=90,slow=39						
BJI	**Beijing**	**21.14**	**349**	*e*P	**P**	**14 17 07.4**	**+1.0**
BJI				AP		14 17 17.5	
BJI				XP		14 17 21.1	
BJI				S	**S**	**14 20 59.8**	**+4.6**
BJI				PS		14 21 16.1	
BJI				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.0						
BJI				AMB	AMB		
	comp=Z,342nm,3.8s						
BJI				LR	LR		
	comp=N,1μm,18.0s,MS4.5						
BJI				LR	LR		
	comp=E,2μm,18.0s,MS4.5						
BJI				LR	LR		
	comp=Z,1μm,18.3s,MS4.2						
BJI	**Beijing**	**21.14**	**349**	*e*P	**P**	**14 17 07.4**	**+1.0**
	comp=Z,10.0nm,1.4s,mb4.0						
BJI				pP		14 17 17.5	
BJI				sP		14 17 21.1	
BJI				S	**S**	**14 20 59.7**	**+4.5**
BJI				PS		14 21 16.1	
BJI				LR	LR		
	comp=Z,1μm,18.3s,MS4.2						
JHJ	**Hachijo jima 2**	**21.54**	**47**	LR	LR	14 24 05.4	
	comp=Z,1μm,21.7s,MS4.3,baz=294,slow=32						
NNT	**Nongplab**	**21.73**	**255**	P	**P**	**14 17 12.5**	**-0.1**
SNY	**Shenyang**	**22.55**	**5**	⇓P	**P**	**14 17 22.3**	**+1.7**
SNY				S	**S**	**14 21 23.9**	**+2.5**
SNY				LR	LR		
	comp=E,1μm,16.8s						
SNY				LR	LR		
	comp=Z,640nm,22.8s						
LZH	**Lanzhou**	**22.70**	**321**	⇑P	**P**	**14 17 24.5**	**+2.5**
LZH				AP		14 17 31.3	
LZH				XP		14 17 34.6	
LZH				S	**S**	**14 21 29.1**	**+5.1**
LZH				AMB	AMB		
	comp=Z,51nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,210nm,4.0s						
LZH				LR	LR		
	comp=N,2μm,14.2s						
LZH				LR	LR		
	comp=Z,3μm,16.8s,MS4.8						
LZH	**Lanzhou**	**22.70**	**321**	⇑P	**P**	**14 17 24.5**	**+2.5**
	comp=Z,51nm,1.4s,mb4.8						
LZH				pP		14 17 31.3	
LZH				sP		14 17 34.6	
LZH				PP	PP	14 17 55.0	+4.2
LZH				S	**S**	**14 21 29.1**	**+5.1**
LZH				sS		14 21 41.0	
LZH				SS	SS	14 22 14.0	+6.9
LZH				LR	LR		
	comp=Z,3μm,16.8s,MS4.8						
MAJO	**Matsushiro**	**22.73**	**37**	*e*P	**P**	**14 17 20.9**	**-1.5**
	comp=Z,48nm,1.4s,mb4.7						
MAJO				LR	LR		
	comp=Z,969nm,22.0s,MS4.2						
MAT	**Matsushiro**	**22.73**	**37**	*e*P	**P**	**14 17 22.0**	**-0.4**
	comp=Z,76nm,2.0s,mb4.8						
MAT				*e*S	**S**	**14 21 37.0**	**+12**
MAT	**Matsushiro**	**22.73**	**37**	P	**P**	**14 17 22.1**	**-0.3**
MAT				S	**S**	**14 21 32.0**	**+7.3**
MJAR	**Matsushiro Arr**	**22.73**	**37**	P	**P**	**14 17 23.3**	**+0.9**
	comp=Z,2.0nm,0.5s,mb3.8,baz=230,slow=9.8,SNR=8.4						
MJAR				LR	LR	14 25 32.0	
	comp=Z,845nm,21.3s,MS4.2,baz=245,slow=34						
HHC	**Hu-ho-hao-te**	**23.04**	**341**	*e*P	**P**	**14 17 29.9**	**+4.6**
HHC				AP		14 17 36.8	
HHC				XP		14 17 41.5	
HHC				PCS		14 24 54.4	
HHC				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.4						
HHC				AMB	AMB		
	comp=Z,398nm,4.6s						
HHC				LR	LR		
	comp=N,2μm,16.2s,MS4.7						
HHC				LR	LR		
	comp=E,1μm,19.4s,MS4.7						
HHC				LR	LR		
	comp=Z,2μm,17.3s,MS4.7						
BTO	**Baotou**	**23.33**	**338**	*e*P	**P**	**14 17 32.6**	**+4.4**
BTO				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.6						
BTO				LR	LR		
	comp=N,601nm,15.3s,MS4.5						
BTO				LR	LR		
	comp=E,948nm,13.9s,MS4.5						
KULM	**Kulim**	**24.43**	**238**	*e*P	**P**	**14 17 37.7**	**-1.5**
CN2	**Changchun**	**24.69**	**7**	*e*P	**P**	**14 17 44.0**	**+2.7**
CN2				*e*AP		14 17 51.3	
CN2				*e*S	**S**	**14 22 03.9**	**+5.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
CN2				AMB	AMB		
	comp=Z,200nm,7.0s						
CN2				LR	LR		
	comp=N,1μm,15.0s,MS4.7						
CN2				LR	LR		
	comp=E,1μm,15.0s,MS4.7						
CN2				LR	LR		
	comp=Z,1μm,21.0s						
MDJ	**Mudanjiang**	**26.19**	**14**	P	**P**	**14 17 55.8**	**+0.4**
MDJ				AP	pP	14 18 01.8	-1.5
MDJ				S	**S**	**14 22 19.3**	**-4.3**
MDJ				XS		14 22 39.1	
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,137nm,11.3s						
MDJ				LR	LR		
	comp=N,880nm,18.0s,MS4.5						
MDJ				LR	LR		
	comp=E,626nm,14.7s,MS4.5						
MDJ				LR	LR		
	comp=Z,1μm,19.9s						
GTA	**Gaotai**	**27.29**	**322**	P	**P**	**14 18 07.1**	**+1.6**
GTA				AP	pP	14 18 15.8	+2.4
GTA				XP	sP	14 18 19.3	+2.3
GTA				PP	PP	14 18 55.8	+3.0
GTA				PCP	PcP	14 21 24.4	-0.7
GTA				S	**S**	**14 22 44.4**	**+2.9**
GTA				XS		14 22 55.8	
GTA				SCP		14 25 00.8	
GTA				PCS		14 25 05.8	
GTA				SCS	ScS	14 28 53.3	+0.9
GTA				AMB	AMB		
	comp=Z,5.0nm,2.0s,mb3.7						
GTA				AMB	AMB		
	comp=Z,111nm,7.6s						
GTA				LR	LR		
	comp=N,774nm,18.3s,MS4.5						
GTA				LR	LR		
	comp=E,729nm,16.7s,MS4.5						
GTA				LR	LR		
	comp=Z,1μm,16.7s,MS4.5						
SHL	**Shillong**	**27.83**	**288**	*e*	**P**	**14 18 12.0**	**+1.4**
LSA	**Lhasa**	**29.22**	**297**	P	**P**	**14 18 27.4**	**+4.3**
LSA	**Lhasa**	**29.22**	**297**	*e*P	**P**	**14 18 24.8**	**+1.7**
	comp=Z,21nm,1.1s,mb4.8						
HIA	**Hailar**	**29.93**	**358**	*e*P	**P**	**14 18 28.1**	**-1.1**
	comp=Z,5.8nm,0.8s,mb4.4						
ASAJ	**Asahikawa**	**30.51**	**31**	LR	LR	14 31 27.8	
	comp=Z,680nm,21.1s,MS4.3,baz=233,slow=37						
ULN	**Ulaanbaatar**	**30.76**	**341**	*i* P	**P**	**14 18 36.6**	**+0.1**
ULN	**Ulaanbaatar**	**30.76**	**341**	*e*P	**P**	**14 18

comp=Z,40nm,0.9s,mb5.3
ZAK Zakamensk 34.16 339 *e*P **P 14 19 06.7 +0.5**
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
GKN Gorkha 34.55 292 *e*P **P 14 19 09.8 0.0**
comp=Z,57nm,1.1s,mb5.4
TLY Talaya 35.17 341 *e*P **P 14 19 15.4 +0.6**
TLY *e* 14 20 41.9
TLY *e*S **S 14 24 44.9 -0.4**
TLY *e*SS SS 14 27 33.9 +32
TLY pmax pmax
comp=Z,23nm,1.9s,mb4.8
TLY MLR MLR
comp=Z,1μm,18.0s,MS4.7
TLY Talaya 35.17 341 *e*P **P 14 19 14.5 -0.3**
comp=Z,8.9nm,0.9s,mb4.7
KOLN Koldanda 35.44 291 *e*P **P 14 19 17.3 0.0**
comp=Z,94nm,1.6s,mb5.5
MOY Mondy 36.02 338 *e*P **P 14 19 23.9 +1.8**
MOY pmax pmax
comp=Z,22nm,2.4s,mb4.7
WMQ Urumqi 37.23 319 P **P 14 19 33.8 +1.6**
WMQ AP pP 14 19 41.3 +1.0
WMQ XP sP 14 19 44.8 +1.1
WMQ PP PP 14 21 02.0 +2.3
WMQ PCP PcP 14 21 51.8 -0.3
WMQ S **S 14 25 20.8 +3.7**
WMQ XS 14 25 31.8
WMQ AMB AMB
comp=Z,2.0nm,0.8s,mb4.0
WMQ LR LR
comp=N,792nm,18.0s,MS4.7
WMQ LR LR
comp=E,609nm,18.0s,MS4.7
WMQ LR LR
comp=Z,759nm,21.6s,MS4.5
FITZ Fitzroy Crossi 37.41 173 *e*P **P 14 19 30.1 -3.9**
comp=Z,6.8nm,0.6s,mb4.7
FITZ Fitzroy Crossi 37.41 173 P **P 14 19 30.2 -3.8**
comp=Z,7.3nm,0.6s,mb4.7,baz=7.3,slow=6.5,SNR=22
FITZ PcP PcP 14 21 50.7 -2.3
comp=Z,5.9nm,0.5s,baz=38,slow=1.1,SNR=5.3
PMG Port Moresby 38.27 136 LR LR 14 36 46.3
comp=Z,350nm,18.0s,MS4.2,baz=144,slow=38
BOD Bodaibo 38.85 354 *e*P **P 14 19 45.6 -0.1**
BOD pmax pmax
comp=Z,8.0nm,2.2s,mb4.1
HYB Hyderabad 40.51 274 *e*P **P 14 20 00.0 +0.2**
HYB Hyderabad 40.51 274 *i*P **P 14 20 00.0 +0.2**
WRAB Tennant Creek 41.04 161 *i*P **P 14 20 00.6 -3.6**
WRAB Tennant Creek 41.04 161 *e*P **P 14 19 59.8 -4.4**
comp=Z,12nm,0.7s,mb4.6
WRA Warramunga Arr 41.04 161 P **P 14 19 59.6 -4.6**
comp=Z,4.0nm,0.5s,mb4.3,baz=342,slow=9.0,SNR=48
WRA PcP PcP 14 22 02.0 -2.4
comp=Z,2.3nm,0.5s,baz=327,slow=3.3,SNR=5.7
WB2 Warramunga Arr 41.05 161 *e*P **P 14 20 00.0 -4.2**
MKAR Makanchi Array 42.00 320 *i*P **P 14 20 13.0 +1.2**
MKAR pmax pmax
comp=Z,13nm,0.7s
MKAR Makanchi Array 42.00 320 P **P 14 20 12.8 +1.0**
comp=Z,1.8nm,0.4s,mb4.0,baz=115,slow=7.8,SNR=24
MKAR PcP PcP 14 22 05.2 -2.0
comp=Z,1.4nm,0.7s,baz=146,slow=4.4,SNR=3.6
MKAR LR LR 14 38 52.6
comp=Z,507nm,19.6s,MS4.4,baz=174,slow=38
MKAR Makanchi Array 42.00 320 P **P 14 20 12.8 +1.0**
MKAR PcP PcP 14 22 05.2 -2.0
MKAR LR LR 14 38 52.6
YAK Yakutsk 43.10 6 *e*P **P 14 20 21.3 +0.7**
YAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
YAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK MLR MLR
comp=Z,313nm,19.0s,MS4.2
YAK MLR MLR
comp=N,199nm,17.0s,MS4.2
YAK MLR MLR
comp=E,109nm,14.0s,MS4.2
PET Petropavlovsk 44.35 32 *e*P **P 14 20 36.2 +5.3**
PET *e*S **S 14 27 10.7 +7.8**
PET pmax pmax
comp=Z,18nm,0.8s,mb4.8
PET smax
comp=E,100nm,15.1s
PET MLR MLR
comp=Z,400nm,20.0s,MS4.3
ASAR Alice Springs 44.44 163 P **P 14 20 27.6 -4.3**
comp=Z,5.8nm,0.3s,mb4.8,baz=341,slow=6.5,SNR=262
ASPA Alice Springs 44.44 163 *e*P **P 14 20 29.7 -2.3**
ASPA *e*S **S 14 27 00.2 -4.4**
ZAL Zalesovo 44.44 330 P **P 14 20 31.3 -0.3**
comp=Z,1.0nm,0.8s,mb3.6,baz=12,slow=11,SNR=6.6
ZAL LR LR 14 40 56.5
comp=Z,2μm,18.2s,MS5.0,baz=338,slow=38
ZAL Zalesovo 44.44 330 P **P 14 20 31.3 -0.3**
ZAL LR LR 14 40 56.5
FRU Bishkek 45.62 312 *e*P **P 14 20 43.0 +1.9**
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.0
FRU MLR MLR
comp=E,1μm,17.0s
FRU MLR MLR
comp=Z,1μm,17.0s,MS4.8
AAK Ala-Archa 45.65 311 *i*P **P 14 20 42.9 +1.6**
AAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
AAK Ala-Archa 45.65 311 *e*P **P 14 20 42.5 +1.1**
comp=Z,9.6nm,1.1s,mb4.6
CTA Charters Tower 46.17 147 LR LR 14 38 24.8
comp=Z,682nm,21.2s,MS4.6,baz=328,slow=34
HNR Honiara 47.62 123 LR LR 14 40 38.5
comp=Z,533nm,18.2s,MS4.5,baz=142,slow=36
KKAR Karatay Array 48.60 311 *i*P **P 14 21 05.3 +0.8**
KKAR pmax pmax
comp=Z,22nm,1.1s,mb5.1
FORT Forrest 50.21 172 *e*P **P 14 21 14.0 -3.0**
comp=Z,394nm,0.8s
KLBR Kellerberrin 50.70 184 *e*P **P 14 21 17.0 -3.8**
comp=Z,179nm,0.5s
BVA0 Borovoye Array 51.56 323 *i*P **P 14 21 26.9 -0.1**
BVA0 pmax pmax
comp=Z,12nm,1.9s,mb4.5
BVAR Borovoye Array 51.56 323 P **P 14 21 26.8 -0.1**
comp=Z,1.3nm,0.5s,mb4.2,baz=111,slow=6.2,SNR=9.4
BVAR PcP PcP 14 22 38.1 -2.8
comp=Z,1.7nm,0.5s,baz=149,slow=3.4,SNR=4.2
CHKZ Chkalovo 51.66 324 *e*P **P 14 21 27.3 -0.5**
NWAO Narrogin (SRO) 52.06 184 P **P 14 21 26.4 -4.7**
comp=Z,11nm,0.6s,mb5.0,baz=0.7,slow=10,SNR=15
TIXI Tiksi 52.55 3⇑ *i*P **P 14 21 33.0 -1.2**
TIXI pmax pmax
comp=Z,26nm,1.7s,mb4.9
TIXI MLR MLR
comp=Z,500nm,19.0s,MS4.6
STKA Stephens Creek 54.48 159 *e*P **P 14 21 45.9 -3.1**
comp=Z,3.1nm,0.5s,mb4.5
STKA Stephens Creek 54.48 159 P **P 14 21 45.0 -3.9**
comp=Z,2.1nm,0.5s,mb4.3,baz=341,slow=7.5,SNR=11
STKA LR LR 14 46 46.3
comp=Z,298nm,18.3s,MS4.4,baz=9.3,slow=38
BILL Bilibino 56.26 19⇑ *e*P **P 14 22 00.1 -1.2**
BILL *i*S **S 14 29 40.3 -7.3**
BILL pmax pmax
comp=Z,34nm,2.5s,mb4.9
BILL MLR MLR
comp=Z,300nm,22.0s,MS4.3
BILL Bilibino 56.26 19 *e*P **P 14 21 59.4 -1.9**
comp=Z,6.4nm,0.6s,mb4.8
SVE Sverdlovsk 58.06 326⇑ *e*P **P 14 22 15.0 +0.8**
SVE *e* 14 22 26.9
SVE *e* 14 23 11.0
SVE pmax pmax
comp=Z,60nm,1.9s,mb5.3
ARU Arti 59.09 325⇓ *i*P **P 14 22 20.3 -1.1**
ARU *e* 14 23 04.6
ARU *e* 14 24 31.4
ARU *e*S **S 14 30 22.8 -2.2**
ARU pmax pmax
comp=Z,19nm,0.9s,mb5.1
ARU Arti 59.09 325 *e*P **P 14 22 20.2 -1.2**
comp=Z,18nm,0.9s,mb5.1
DZM Mont Dzumac 60.34 131 LR LR 14 44 57.7
comp=Z,780nm,19.0s,MS4.9,baz=166,slow=32
TNA Tin City 64.67 26 *e*P **P 14 22 58.2 -0.5**
comp=Z,8.5nm,1.4s,mb4.6
GNI Garni 67.69 306 *i*P **P 14 23 17.5 -0.9**
GNI pmax pmax
comp=Z,11nm,1.7s
GNI Garni 67.69 306 P **P 14 23 16.9 -1.5**
comp=Z,3.0nm,0.4s,mb4.7,baz=180,slow=19,SNR=2.7
KIV Kislovodsk 68.76 311 *e*P **P 14 23 22.7 -2.3**
KIV *e*S S 14 32 24.8 -0.4
KIV *e*SS SS 14 36 48.7 -3.2
KIV pmax pmax
comp=Z,11nm,0.9s,mb4.8
KIV pmax pmax
comp=N,3.0nm,0.5s
KIV MLR MLR
comp=E,277nm,16.0s
KIV MLR MLR
comp=Z,439nm,16.0s,MS4.8
IMA Indian Mountai 70.55 26 *e*P **P 14 23 33.7 -1.8**
comp=Z,84nm,1.6s,mb5.4
MOS Moscow 70.73 323 *e*P **P 14 23 41.4 +4.6**
SOC Sochi 70.94 310 *e*P **P 14 23 35.3 -3.0**
SOC *e* 14 23 59.2
SOC *e* 14 26 11.7
SOC *e*PPP PPP 14 27 51.6 -7.0
SOC *e*S S 14 32 45.2 -5.6
SOC *e* 14 33 28.9
SOC pmax pmax
comp=Z,27nm,0.8s,mb5.2
SOC pmax pmax
comp=N,27nm,0.9s
SOC pmax pmax
comp=E,24nm,0.9s
OBN Obninsk 71.40 323 *e*P **P 14 23 39.6 -1.2**
OBN *i*S S 14 32 50.8 -5.1
OBN pmax pmax
comp=Z,12nm,1.7s,mb4.5
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.5
APA Apatity 71.53 336⇑ *i*P **P 14 23 41.0 -0.4**
APA pmax pmax
comp=Z,52nm,1.3s,mb5.3
MCK McKinley 72.81 28 *e*P **P 14 23 48.4 -0.6**
comp=Z,8.3nm,1.0s,mb4.6
MALT Malatya 72.82 305 *e*P **P 14 23 50.3 +0.7**
comp=Z,4.5nm,0.9s,mb4.4
MALT *e*pP pP 14 23 58.7 +0.7
JOF Joensuu 73.00 331 *e*p **P 14 23 57.1 +7.0**
comp=Z,3.6nm,0.5s,mb4.6
JOF Joensuu 73.00 331 *e*P **P 14 23 57.1 +7.0**
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
COLA College 73.10 26 *i*P **P 14 23 48.6 -2.1**
COLA College 73.10 26 P **P 14 23 49.3 -1.3**
comp=Z,3.0nm,0.7s,mb4.3
COLA LR LR
comp=Z,181nm,20.0s,MS4.3
SML Sawmill 73.39 30 *e*P **P 14 23 51.6 -0.8**
ILAR Eielson Array 73.52 27 P **P 14 23 51.6 -1.5**
comp=Z,2.0nm,0.9s,mb4.1,baz=269,slow=4.6,SNR=26
ILAR LR LR 14 56 59.6
comp=Z,127nm,20.1s,MS4.2,baz=89,slow=36
KEV Kevo 73.53 339 *e*p **P 14 23 59.6 +6.5**
comp=Z,13nm,0.8s,mb4.9
KEV Kevo 73.53 339 *e*P **P 14 23 59.6 +6.5**
KEV pmax pmax
comp=Z,13nm,0.8s,mb4.9
ARCES ARCESS Array B 74.09 339 P **P 14 23 55.1 -1.2**
comp=Z,2.0nm,0.5s,mb4.3,baz=76,slow=8.1,SNR=24
ARCES LR LR 15 00 24.1
comp=Z,436nm,20.0s,MS4.7,baz=80,slow=39
THY Trims Highway 74.27 28 P **P 14 23 56.9 -0.6**
DIV Divide 74.73 30 P **P 14 23 57.9 -2.3**
ASF Jabal al Asfar 75.36 299 P **P 14 24 04.4 0.0**
comp=Z,2.6nm,0.3s,mb4.6,baz=185,slow=3.6,SNR=4.8
KAF Kangasniemi 75.44 331 *e*p **P 14 24 09.7 +5.5**
comp=Z,5.2nm,0.8s,mb4.5,baz=72,slow=4.4
KAF Kangasniemi 75.44 331 *e*P **P 14 24 09.7 +5.5**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ATD Arta Tunnel 75.46 277 LR LR 14 58 49.4
comp=Z,121nm,18.1s,MS4.2,baz=88,slow=37
FINES FINESS Array B 75.70 330 P **P 14 24 05.0 -0.8**
comp=Z,1.8nm,0.5s,mb4.2,baz=47,slow=6.7,SNR=7.6
FINES LR LR 15 02 38.0
comp=Z,299nm,18.0s,MS4.6,baz=23,slow=40
BRTR Keskin Array B 76.16 307 P **P 14 24 07.4 -1.4**
comp=Z,0.6nm,0.5s,mb3.8,baz=27,slow=2.8,SNR=4.7
MSZ Milford Sound 76.56 148 PN **P 14 24 11.3 +0.4**
AKASG Malin Array Be 76.58 319 P **P 14 24 09.3 -1.6**
comp=Z,0.4nm,0.3s,mb3.8,baz=62,slow=5.5,SNR=5.2
AKASG Malin Array Be 76.58 319 P **P 14 24 09.3 -1.6**
DAWY Dawson 76.85 26 *e*P **P 14 24 11.9 -0.2**
DAWY *e*pP pP 14 24 20.4 -0.3
URZ Urewera 77.59 138 LR LR 14 54 24.1
comp=Z,254nm,18.4s,MS4.6,baz=292,slow=33
INK Inuvik 77.72 22 *e*P **P 14 24 15.9 -1.0**
comp=Z,46nm,1.7s,mb5.1
MLR Muntele Rosu 80.11 315 P **P 14 24 30.1 -0.3**
comp=Z,1.9nm,0.5s,mb4.3,baz=210,slow=9.6,SNR=3.6
MLR LR LR 15 03 57.8
comp=Z,444nm,21.7s,MS4.8,baz=158,slow=39
DAG Danmarks Havn 81.19 351 *e*P **P 14 24 34.0 -1.5**
DAG Danmarks Havn 81.19 351 *i*P **P 14 24 34.0 -1.5**
OPO Ambohidratompo 81.84 247 P **P 14 24 38.8 -1.2**
comp=Z,2.1nm,0.7s,mb4.2,baz=108,slow=3.9,SNR=3.3
HFS Hagfors 81.86 331 P **P 14 24 37.9 -1.3**
comp=Z,1.1nm,0.4s,mb4.1,baz=135,slow=4.2,SNR=7.6
HFS LR LR 15 03 53.1
comp=Z,536nm,18.2s,MS4.9,baz=274,slow=38
OJC Ojcow 82.47 321 *e*P **P 14 24 51.9 +9.3**
NB2 NORSAR Subarra 82.57 333 P **P 14 24 41.8 -1.1**
comp=Z,6.1nm,1.1s,mb4.5,baz=64,slow=5.3
NOA NORSAR Array B 82.57 333 P **P 14 24 41.9 -0.9**
comp=Z,0.3nm,0.5s,mb3.6,baz=52,slow=2.8,SNR=3.7
NOA LR LR 15 04 36.8
comp=Z,914nm,19.3s,MS5.2,baz=55,slow=38
DLBC Dease Lake 83.11 30 *e*P **P 14 24 46.1 +0.4**
DLBC *e*pP pP 14 24 53.6 -0.7
RES Resolute Bay 83.46 9 *e*P **P 14 24 46.8 -0.5**
comp=Z,27nm,1.5s,mb5.0
JMIC Jan Mayen 83.56 345 LR LR 15 06 32.3
comp=Z,298nm,18.6s,MS4.7,baz=271,slow=39
KONO Kongsberg 83.93 332 P **P 14 24 51.5 +1.7**
IDI Anoyia 84.08 305 LR LR 15 07 06.1
comp=Z,131nm,21.0s,MS4.3,baz=78,slow=39
KSP Ksiaz 84.30 322 *e*P **P 14 24 52.1 +0.2**
KSP *e*PP pP 14 24 59.8 -0.8
KMBO Kilima Mbogo 84.71 267 P **P 14 24 54.3 -0.6**
comp=Z,3.7nm,0.9s,mb4.5,baz=56,slow=7.0,SNR=14
KMBO Kilima Mbogo 84.71 267 *e*P **P 14 24 53.7 -1.2**
comp=Z,43nm,1.8s,mb5.3
KMBO LR LR
comp=Z,329nm,19.0s,MS4.7
VRAC Vranov 84.74 321 P **P 14 24 54.4 +0.2**
comp=Z,2.9nm,0.5s,mb4.7,baz=34,slow=9.9,SNR=5.6
BRG Berggiesshubel 85.65 323 *e*P **P 14 24 59.3 +0.7**
BRG *e* pP 14 25 09.6 +2.3
BRG pmax pmax
comp=Z,21nm,1.8s,mb5.1
BRG MLR MLR
comp=N,210nm,12.7s,MS5.0
BRG MLR MLR
comp=E,330nm,12.7s,MS5.0
BRG MLR MLR
comp=Z,300nm,12.7s,MS4.9
BRG Berggiesshubel 85.65 323 *e*P **P 14 24 59.3 +0.7**
comp=Z,21nm,1.8s,mb5.1
BRG *e* pP 14 25 09.6 +2.3
BRG LR LR
comp=Z,300nm,12.7s,MS4.9
CLL Collm 85.99 323 *e*P **P 14 25 00.0 -0.4**
CLL *e* pP 14 25 10.0 +1.0
CLL Collm 85.99 323 P **P 14 25 00.0 -0.4**
CLL *e*PP pP 14 25 10.0 +1.0
GERES GERESS Array B 86.66 321 P **P 14 25 02.8 -0.9**
comp=Z,0.3nm,0.3s,mb4.0,baz=108,slow=4.2,SNR=3.9
GERES LR LR 15 09 40.4
comp=Z,264nm,20.4s,MS4.6,baz=62,slow=40
RAR Rarotonga 87.10 114 LR LR 14 58 31.5
comp=Z,256nm,19.1s,MS4.7,baz=287,slow=32
YKW3 Yellowknife Ar 87.39 23 *e*P **P 14 25 06.4 -0.5**
YKW3 *e*pP pP 14 25 15.4 -0.2
YKA Yellowknife Ar 87.44 23 P **P 14 25 07.6 +0.5**
comp=Z,4.9nm,0.6s,mb4.9,baz=310,slow=4.6,SNR=152
YKA Yellowknife Ar 87.44 23 P **P 14 25 07.6 +0.5**
DAVOX Davos 89.89 320 LR LR 15 09 01.5
comp=Z,315nm,18.1s,MS4.8,baz=263,slow=38
BORG Borgarnes 91.44 345 LR LR 15 15 00.2
comp=Z,203nm,19.4s,MS4.6,baz=268,slow=41
EDM Edmonton 93.81 29 *e*P **P 14 25 37.5 +0.4**
PPT Papeete 94.89 107 *e*LR LR 14 55 42.2
comp=Z,481nm,25.2s
PPT Papeete 94.89 107 LR LR 15 02 21.0
comp=Z,210nm,19.7s,MS4.6,baz=270,slow=32
MAW Mawson 96.52 199 LR LR 15 04 31.4
comp=Z,166nm,18.8s,MS4.5,baz=239,slow=32
TBI Tubuai 96.80 112 *e*LR LR 14 56 34.2
comp=Z,311nm,25.2s
FRB Frobisher Bay 96.88 4 LR LR 15 12 57.1
comp=Z,227nm,19.2s,MS4.7,baz=331,slow=37
HRY Holter Researc 98.75 34 P **P 14 25 58.7 -0.9**
HLID Hailey 99.30 37 PFAKE 14 26 10.0 +7.8
HLID LR LR
comp=Z,166nm,20.0s,MS4.5
VNDA Vanda 99.47 172 P **P 14 26 01.1 -1.1**
comp=Z,3.4nm,1.1s,mb4.8,baz=326,slow=7.2,SNR=5.8
VNDA LR LR 15 13 41.1
comp=Z,189nm,18.3s,MS4.6,baz=324,slow=37
NVAR Mina Array Bea 99.93 43 P **P 14 26 05.9 +0.6**
comp=Z,0.3nm,0.4s,mb4.1,baz=315,slow=5.1,SNR=3.3
SDCO Great Sand Dun 108.22 37 PFAKE 14 31 00.0
SDCO LR LR
comp=Z,191nm,22.0s,MS4.6
RKT Rikitea 109.58 108 *e*LR LR 15 02 30.2
comp=Z,319nm,27.2s
TXAR Lajitas Array 115.08 43 PKP PKPdf 14 31 01.4 -3.9
comp=Z,1.1nm,0.5s,baz=174,slow=0.9,SNR=12
WVT Waverly 118.39 27 *e*PKP PKPdf 14 31 06.7 -4.8
SDV Santo Domingo 149.65 24 PKP PKPdf 14 32 05.8 -3.6
comp=Z,10nm,0.7s,baz=318,slow=2.1,SNR=1.4
SDV PKPbc PKPdf 14 32 10.3 +0.8
comp=Z,22nm,0.7s,baz=357,slow=4.0,SNR=5.3
SDV Santo Domingo 149.65 24 *e*PKPdf PKPdf 14 32 05.8 -3.7
SDV *e*PKPbc PKPdf 14 32 10.2 +0.8
ROSC El Rosal 151.52 34 PKP PKPdf 14 32 09.0 -3.3
comp=Z,7.4nm,0.6s,baz=94,slow=21,SNR=3.9
ROSC PKPbc PKPdf 14 32 15.9 +3.5
comp=Z,12nm,0.5s,baz=98,slow=13,SNR=13
SAML Samuel 168.85 23 *e*PKPdf PKPdf 14 32 27.0 -4.2
SAML *e*PKPab PKPab 14 33 36.0 -3.1
LPAZ La Paz 170.57 73 PKP PKPdf 14 32 29.6 -2.4
comp=Z,0.3nm,0.3s,baz=1.3,slow=6.6,SNR=6.9
SIV San Ignacio 176.03 35 PKP PKPdf 14 32 30.2 -4.1
comp=Z,0.6nm,0.3s,baz=298,slow=6.9,SNR=5.3

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*IDC **18** 14:16:40.5±0.7, 10.69N×91.61E, h23km±4km, mb4.1/12, mb1 4.2/13, mb1mx4.0/23, mbtmp4.2/13, ML4.2/1, Error ellipse: s-maj=23.3km s-min=12.1km az=62.0*
*NEIC **18** 14:16:40.9±0.3, 10.74N×91.61E, mb4.6/5, Error ellipse: s-maj=7.0km s-min=5.7km az=53.0*
ISC 18 14:16:38.5±0.4, 10.73N±0.06×91.61E±0.07, h25km, h25km±.7km: pP-P, n31, σ0=83/29, mb4.3/15, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**10.45**	**42**	*e*Pn	**P**	**14 19 09.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**10.45**	**42**	Pn	**P**	**14 19 09.1**	**-1.1**
0.5nm,0.3s,baz=241,slow=15,SNR=6.4							
CMAR	**Chiang Mai Arr**	**10.45**	**42**	Pn	**P**	**14 19 09.1**	**-1.1**
KULM	**Kulim**	**10.46**	**120**	*e*Pn	**P**	**14 19 10.2**	**0.0**
VIS	**Vishakhapatnam**	**10.61**	**312**	*e*P	**P**	**14 19 09.7**	**-2.6**
VIS				*e*S	**S**	**14 20 57.6**	**-14**
PALK	**Pallekele**	**11.31**	**253**	*e*Pn	**P**	**14 19 21.8**	**0.0**
10nm,0.6s							
KSM	**Kuching**	**20.73**	**115**	*e*P	**P**	**14 21 21.0**	**+1.0**
ENH	**Enshi**	**25.59**	**38**	*e*P	**P**	**14 22 08.1**	**+0.5**
ENH				*e*pP	pP	14 22 15.4	+0.6
AAK	**Ala-Archa**	**35.12**	**338**	P	**P**	**14 23 32.3**	**+0.2**
18nm,1.7s,mb4.7							
MKAR	**Makanchi Array**	**36.80**	**349**	P	**P**	**14 23 46.9**	**+0.6**
1.5nm,0.6s,mb4.0,baz=171,slow=9.0,SNR=7.6							
MKAR				pP	pP	14 23 53.6	0.0
2.3nm,0.6s,baz=169,slow=8.6,SNR=6.6							
SONM	**Songino Array**	**39.02**	**16**	P	**P**	**14 24 06.2**	**+1.3**
2.1nm,0.4s,mb4.2,baz=205,slow=8.5,SNR=14							
SONM				pP	pP	14 24 13.6	+1.4
1.2nm,0.4s,baz=203,slow=8.9,SNR=6.4							
SONM	**Songino Array**	**39.02**	**16**	P	**P**	**14 24 06.2**	**+1.3**
SONM				pP	pP	14 24 13.6	+1.3
ZAL	**Zalesovo**	**43.43**	**354**	P	**P**	**14 24 42.1**	**+1.1**
1.8nm,0.3s,mb4.3,baz=319,slow=4.3,SNR=3.1							
FITZ	**Fitzroy Crossi**	**44.15**	**130**	*e*P	**P**	**14 24 47.5**	**+0.1**
5.3nm,0.5s,mb4.5							
FITZ	**Fitzroy Crossi**	**44.15**	**130**	P	**P**	**14 24 47.4**	**0.0**
6.0nm,0.5s,mb4.6,baz=345,slow=5.5,SNR=17							
CHKZ	**Chkalovo**	**46.01**	**343**	*e*P	**P**	**14 25 01.9**	**+0.3**
2.0nm,0.6s,mb4.2							
CHKZ				*e*pP	pP	14 25 08.7	-0.3
NWAO	**Narrogin (SRO)**	**49.83**	**152**	P	**P**	**14 25 30.6**	**-1.1**
5.6nm,0.7s,mb4.7,baz=314,slow=9.8,SNR=5.6							
WRA	**Warramunga Arr**	**51.95**	**126**	P	**P**	**14 25 47.8**	**-0.3**
5.2nm,0.5s,mb4.7,baz=306,slow=8.4,SNR=58							
WRA				pP	pP	14 25 55.7	+0.1
2.1nm,0.6s,baz=300,slow=10,SNR=7.1							
WRA				PcP	PcP	14 27 00.2	-0.3
0.5nm,0.5s,baz=308,slow=3.1,SNR=4.8							
WRAB	**Tennant Creek**	**51.95**	**126**	*e*P	**P**	**14 25 47.9**	**-0.1**
11nm,0.6s,mb5.0							
WRAB				*e*pP	pP	14 25 56.1	+0.5
WB2	**Warramunga Arr**	**51.96**	**126**	*e*P	**P**	**14 25 47.8**	**-0.3**
ASPA	**Alice Springs**	**53.65**	**130**	*e*P	**P**	**14 26 00.9**	**+0.2**
ASAR	**Alice Springs**	**53.65**	**130**	P	**P**	**14 26 00.8**	**+0.1**
3.1nm,0.5s,mb4.5,baz=305,slow=6.9,SNR=49							
ASAR				PcP	PcP	14 27 07.7	+0.8
1.0nm,0.6s,baz=317,slow=3.4,SNR=6.7							
BRTR	**Keskin Array B**	**58.69**	**310**	P	**P**	**14 26 36.9**	**+0.4**
0.5nm,0.6s,mb3.7,baz=120,slow=6.6,SNR=2.9							
STKA	**Stephens Creek**	**63.87**	**133**	*e*P	**P**	**14 27 12.2**	**+0.4**
2.2nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**63.87**	**133**	P	**P**	**14 27 09.6**	**-2.2**
2.5nm,0.7s,mb4.4,baz=318,slow=8.1,SNR=8.9							
FINES	**FINESS Array B**	**69.03**	**332**	P	**P**	**14 27 44.0**	**-0.1**
0.7nm,0.6s,mb3.8,baz=82,slow=9.8,SNR=2.9							
CLL	**Collm**	**74.58**	**320**	*e**SP	sP	14 28 30.0	+2.3
BOSA	**Boshof**	**75.03**	**236**	P	**P**	**14 28 21.5**	**+1.2**
2.0nm,0.8s,mb4.1,baz=102,slow=6.4,SNR=4.4							
NOA	**NORSAR Array B**	**76.03**	**330**	P	**P**	**14 28 24.6**	**-0.7**
0.3nm,0.7s,mb3.3,baz=110,slow=8.5,SNR=2.3							
PLCA	**Coso Flores**	**146.22**	**205**	PKPbc	PKPbc	14 36 20.0	+2.7
1.5nm,0.6s,baz=180,slow=8.9,SNR=5.5							
CFAA	**Coronel Fontan**	**152.09**	**219**	PKPbc	PKPdf	14 36 34.8	+4.5
0.2nm,0.5s,baz=51,slow=1.9,SNR=5.4							
CFAA				pPKPbc		14 36 41.6	
0.4nm,0.5s,baz=141,slow=3.1,SNR=4.3							

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*IDC **18** 14:23:04.0±1.1, 19.07N×121.33E, mb3.3/6, mb1 3.5/6, mb1mx3.5/20, mbtmp3.4/6, Error ellipse: s-maj=43.3km s-min=20.9km az=63.0*
ISC 18 14:23:11.8±1.8, 19.0N±0.2×121.1E±0.2, h76km±19km, n7, σ1=18/8, mb3.1/6, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**1.46**	**152**‖	*e*P	**P**	**14 23 36.5**	**-0.4**
CVP				*e*S	**S**	**14 23 56.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**21.00**	**272**	P	**P**	**14 27 51.1**	**0.0**
0.4nm,0.6s,mb2.9,baz=80,slow=11,SNR=3.9							
SONM	**Songino Array**	**31.16**	**341**	P	**P**	**14 29 24.2**	**-1.4**
1.1nm,0.9s,mb3.6,baz=173,slow=12,SNR=3.9							
WRA	**Warramunga Arr**	**40.82**	**161**	P	**P**	**14 30 46.5**	**-1.1**
0.1nm,0.4s,mb3.0,baz=342,slow=9.1,SNR=6.1							
MKAR	**Makanchi Array**	**42.13**	**320**	P	**P**	**14 30 59.2**	**+1.1**
0.2nm,0.4s,mb3.2,baz=120,slow=7.5,SNR=5.1							
ASAR	**Alice Springs**	**44.21**	**163**	P	**P**	**14 31 15.8**	**+0.4**
0.2nm,0.4s,mb3.2,baz=342,slow=6.7,SNR=12							
YKA	**Yellowknife Ar**	**87.75**	**23**	P	**P**	**14 35 53.9**	**+0.8**
0.1nm,0.6s,mb3.0,baz=310,slow=4.7,SNR=4.3							

IDC 18 14:33:05.0±1.4, 12.40N×123.51E, mb3.4/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, Error ellipse: s-maj=63.4km s-min=21.6km az=62.0, Luzon

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

CMAR **Chiang Mai Arr 24.43 287** P P 14 38 25.6 -1.1
0.3nm,0.6s,baz=105,slow=14,SNR=3.2
WRA **Warramunga Arr 33.86 162** P P 14 39 48.4 -3.2
0.5nm,0.6s,baz=346,slow=9.4,SNR=3.7
ASAR **Alice Springs 37.25 164** P P 14 40 19.6 -0.9
0.3nm,0.3s,baz=342,slow=7.0,SNR=12
SONM **Songino Array 38.12 341** P P 14 40 25.9 -1.6
0.6nm,0.5s,baz=135,slow=8.2,SNR=3.8

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*MAN **18** 14:55:36.7, 14.31N×124.89E, h35km, mb4.2, ML3.0, MS2.9*
*IDC **18** 14:55:37.7±2.3, 13.70N×124.21E, mb3.7/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, Error ellipse: s-maj=87.3km s-min=21.8km az=56.0*
ISC 18 14:55:38.3±1.3, 14.21N±0.06×124.81E±0.08, h35km±13km, n17, σ1°23/23, mb3.6/5, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.89**	**226**	*eP*	**P**	**14 55 51.1**	**-3.1**
CNP	**Catarman**	**1.70**	**185**	*eP*	**P**	**14 56 05.9**	**0.0**
CNP				*eS*	**S**	**14 56 28.0**	**+1.4**
MMPH	**Masbate**	**2.18**	**212**	*eP*	**P**	**14 56 16.0**	**+3.2**
MMPH				*eS*	**S**	**14 56 38.0**	**-0.8**
AUQP	**San Andres**	**2.26**	**247**	*eP*	**P**	**14 56 15.4**	**+1.4**
GQP	**Guinayangan**	**2.32**	**263⇓**	*eP*	**P**	**14 56 14.8**	**0.0**
GQP				*eS*	**S**	**14 56 42.2**	**-0.2**
POLP	**Polilio Island**	**2.83**	**281**	*eP*	**P**	**14 56 23.0**	**+0.9**
POLP				*eS*	**S**	**14 56 55.5**	**+0.1**
BOAC	**Boac**	**2.98**	**256**	*eP*	**P**	**14 56 23.8**	**-0.5**
PLP	**Palo**	**3.03**	**177**	*eP*	**P**	**14 56 24.1**	**-0.9**
PLP				*eS*	**S**	**14 56 52.6**	**-7.9**
BALP	**Baler**	**3.48**	**296**	*eP*	**P**	**14 56 29.7**	**-1.6**
PCPH	**Palayan**	**3.83**	**291⇑**	*eP*	**P**	**14 56 34.8**	**-1.6**
PCPH				*eS*	**S**	**14 57 16.3**	**-4.7**
CAUP	**Cauayan**	**3.96**	**314**	*eP*	**P**	**14 56 39.1**	**+1.0**
SJMP	**San Jose**	**3.99**	**245**	*eP*	**P**	**14 56 39.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**25.17**	**283**	P	**P**	**15 01 01.8**	**-0.5**
	0.9nm,0.8s,mb3.4,baz=108,slow=7.6,SNR=6.2						
FITZ	**Fitzroy Crossi**	**32.12**	**179**	P	**P**	**15 02 01.7**	**-3.2**
	1.3nm,0.6s,mb3.9,baz=310,slow=7.9,SNR=3.2						
WRA	**Warramunga Arr**	**35.21**	**164**	P	**P**	**15 02 30.9**	**-0.6**
	0.3nm,0.6s,mb3.4,baz=340,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**38.68**	**167**	P	**P**	**15 03 00.9**	**+0.3**
	0.9nm,0.5s,mb3.8,baz=340,slow=6.8,SNR=38						
MKAR	**Makanchi Array**	**48.06**	**321**	P	**P**	**15 04 18.4**	**+2.1**
	0.8nm,0.8s,mb3.8,baz=113,slow=9.2,SNR=4.2						

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*IDC **18** 14:56:27.4±1.6, 2.20N×96.57E, mb4.1/7, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, ML3.5/1, Error ellipse: s-maj=63.0km s-min=27.4km az=56.0*
*NEIC **18** 14:56:32.0±0.8, 2.21N×96.61E, h30km, mb4.2/1, Error ellipse: s-maj=15.8km s-min=12.8km az=219.0*
ISC 18 14:56:29.9±1.1, 2.2N±0.1×96.6E±0.1, h30km, n11, σ0°49/11, mb4.1/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.07**	**53**	*ePn*	**Pn**	**14 57 45.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.32**	**8**	Pn	**P**	**15 00 19.3**	**+0.5**
	0.1nm,0.3s,baz=198,slow=11,SNR=7.7						
FITZ	**Fitzroy Crossi**	**35.00**	**126**	P	**P**	**15 03 22.0**	**0.0**
	3.6nm,0.7s,mb4.4,baz=8.7,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**46.13**	**346**	P	**P**	**15 04 53.3**	**-0.2**
	1.2nm,0.3s,mb4.2,baz=159,slow=8.9,SNR=36						
SONM	**Songino Array**	**46.24**	**9**	P	**P**	**15 04 54.4**	**+0.1**
	0.4nm,0.3s,mb3.8,baz=196,slow=9.5,SNR=4.2						
SONM				PcP	PcP	15 06 29.9	-0.1
	0.5nm,0.4s,baz=206,slow=2.8,SNR=3.8						
ZAL	**Zalesovo**	**52.48**	**351**	P	**P**	**15 05 41.6**	**-0.6**
	1.8nm,0.5s,mb4.3,baz=301,slow=7.3,SNR=6.8						
BVAR	**Borovoye Array**	**55.12**	**341**	P	**P**	**15 06 01.2**	**-0.5**
	0.8nm,0.7s,mb3.9,baz=130,slow=8.8,SNR=3.3						
CHKZ	**Chkalovo**	**55.59**	**342**	*eP*	**P**	**15 06 04.6**	**-0.6**
	3.1nm,1.1s,mb4.2						
AKASG	**Malin Array Be**	**74.11**	**322**	P	**P**	**15 08 05.5**	**+0.3**
	0.3nm,0.2s,mb3.8,baz=91,slow=4.6,SNR=5.1						
AKASG	**Malin Array Be**	**74.11**	**322**	P	**P**	**15 08 05.5**	**+0.3**
FINES	**FINESS Array B**	**78.84**	**332**	P	**P**	**15 08 32.5**	**+1.0**
	1.6nm,0.9s,mb3.9,baz=117,slow=4.3,SNR=3.5						

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*IDC **18** 15:04:42.0±1.4, 4.27N×92.53E, mb3.8/8, mb1 4.0/9, mb1mx3.8/22, mbtmp3.8/9, ML3.7/1, MS3.8/19, Ms1 3.8/19, ms1mx3.6/39, Error ellipse: s-maj=55.8km s-min=17.9km az=59.0*
*BJI **18** 15:04:46.3, 4.30N×92.60E, h25km, mB5.0, mb4.3, Ms4.1, Msz3.8*
*NEIC **18** 15:04:46.4±0.6, 4.33N×92.60E, h30km, mb4.3/7, Error ellipse: s-maj=12.5km s-min=8.6km az=35.0*
ISC 18 15:04:44.1±0.6, 4.11N±0.07×92.37E±0.07, h30km, (h32km±4km: pP-P), n51, σ1°45/45, mb4.3/23, MS3.9/21, 1C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.33**	**82**	*ePn*	**P**	**15 06 40.6**	**-5.3**
PALK	**Pallekele**	**12.03**	**286**	*ePn*	**P**	**15 07 36.7**	**0.0**
	12nm,0.3s						
PALK				*epPn*		15 07 45.4	
PALK				*eSn*	**S**	**15 09 48.4**	**-2.4**
CM31	**Chiang Mai Arr**	**15.64**	**24**	*ePn*	**P**	**15 08 21.0**	**-3.4**
	15nm,0.9s						
CMAR	**Chiang Mai Arr**	**15.64**	**24**	Pn	**P**	**15 08 20.7**	**-3.6**
	0.1nm,0.3s,baz=218,slow=14,SNR=28						
CMAR				LR	LR	15 15 01.8	
	comp=Z,154nm,18.2s,baz=195,slow=40						
CMAR	**Chiang Mai Arr**	**15.64**	**24**	Pn	**P**	**15 08 20.7**	**-3.6**
CMAR				LR	LR	15 15 01.8	
KKTK	**Khon Kaen**	**15.91**	**39**	P	**P**	**15 08 29.0**	**+1.3**
CHG	**Chiang Mai**	**15.96**	**23**	⇓P	**P**	**15 08 28.8**	**+0.3**
	12nm,0.7s						
VIS	**Vishakhapatnam**	**16.17**	**327**	*e*	**P**	**15 08 39.6**	**+8.6**
NANT	**Nan**	**16.72**	**28**	P	**P**	**15 08 40.0**	**+2.0**
HYB	**Hyderabad**	**18.93**	**315**	*eP*	**P**	**15 09 06.0**	**+0.7**
HYB				*eS*	**S**	**15 12 23.0**	**-8.8**
HYB	**Hyderabad**	**18.93**	**315**	*i P*	**P**	**15 09 06.0**	**+0.7**
HYB				*eS*	**S**	**15 12 30.0**	**-1.8**
SHL	**Shillong**	**21.34**	**359**	*eP*	**P**	**15 09 28.5**	**-2.6**
SHL				*eS*	**S**	**15 13 20.5**	**-1.0**
KMI	**Kunming**	**23.15**	**25**	P	**P**	**15 09 51.1**	**+2.0**
KMI				AP		15 09 58.0	
KMI				S	**S**	**15 13 47.4**	**-7.1**
KMI				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.3						
KMI				LR	LR		
	comp=N,132nm,11.7s,MS4.1						
KMI				LR	LR		
	comp=E,409nm,12.6s,MS4.1						
KMI				LR	LR		
	comp=Z,284nm,12.6s,MS3.9						
KMI	**Kunming**	**23.15**	**25**	P	**P**	**15 09 51.1**	**+2.0**
	comp=Z,19nm,1.4s,mb4.3						
KMI				pP		15 09 58.0	
KMI				S	**S**	**15 13 47.4**	**-7.1**
KMI				LR	LR		
	comp=Z,280nm,12.6s,MS3.9						
JIRN	**Jiri**	**24.15**	**347**	*eP*	**P**	**15 10 00.1**	**+1.2**
	comp=Z,32nm,1.0s,mb4.7						
PKI	**Pulchoki**	**24.26**	**345**	*eP*	**P**	**15 10 01.5**	**+1.6**
	comp=Z,34nm,1.2s,mb4.7						
DMN	**Daman**	**24.38**	**344**	*eP*	**P**	**15 10 02.8**	**+1.8**
	comp=Z,5.8nm,0.4s,mb4.4						
GUN	**Gumba**	**24.47**	**346**	*eP*	**P**	**15 10 02.7**	**+0.8**
	comp=Z,56nm,1.1s,mb4.9						
KKN	**Kakani**	**24.50**	**345**	*eP*	**P**	**15 10 03.7**	**+1.4**
	comp=Z,37nm,1.2s,mb4.8						
GKN	**Gorkha**	**24.88**	**344**	*eP*	**P**	**15 10 06.4**	**+0.5**
	comp=Z,44nm,1.0s,mb4.9						
KOLN	**Koldanda**	**24.97**	**341**	*eP*	**P**	**15 10 07.6**	**+0.8**
	comp=Z,22nm,1.0s,mb4.6						
GYA	**Guiyang**	**26.10**	**30⇑**	*iP*	**P**	**15 10 18.8**	**+1.5**
GYA				AP	pP	15 10 27.8	+1.7
GYA				XP	sP	15 10 33.0	+3.0
GYA				S	**S**	**15 14 50.8**	**+6.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
GYA				AMB	AMB		
	comp=Z,140nm,3.3s						
GYA				LR	LR		
	comp=N,620nm,15.7s,MS4.4						
GYA				LR	LR		
	comp=E,540nm,16.7s,MS4.4						
GYA				LR	LR		
	comp=Z,280nm,17.0s,MS3.9						
ENH	**Enshi**	**30.64**	**30**	P	**P**	**15 10 55.2**	**-3.0**
	comp=Z,2.5nm,0.4s,mb4.4						
XAN	**Xi'an**	**33.53**	**25**	P	**P**	**15 11 21.0**	**-2.4**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
GTA	**Gaotai**	**35.78**	**10**	P	**P**	**15 11 42.6**	**-0.1**
GTA				AP	pP	15 11 52.1	+0.5
GTA				XP	sP	15 11 57.0	+1.6
GTA				S	**S**	**15 17 26.5**	**+9.2**
GTA				SCS	ScS	15 21 53.9	-2.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,81nm,10.3s						
GTA				LR	LR		
	comp=N,95nm,19.4s,MS3.9						
GTA				LR	LR		
	comp=E,166nm,15.2s,MS3.9						
GTA				LR	LR		
	comp=Z,122nm,14.5s,MS3.8						
AAK	**Ala-Archa**	**41.53**	**340**	*eP*	**P**	**15 12 30.2**	**-0.4**
	comp=Z,1.5nm,0.7s,mb3.7						
MKAR	**Makanchi Array**	**43.41**	**350**	P	**P**	**15 12 45.1**	**-0.8**
	comp=Z,1.5nm,0.9s,mb3.7,baz=146,slow=8.7,SNR=6.2						
MKAR				LR	LR	15 36 17.9	
	comp=Z,89nm,18.1s,MS3.7,baz=90,slow=44						
MKAR	**Makanchi Array**	**43.41**	**350**	P	**P**	**15 12 45.1**	**-0.8**
MKAR				LR	LR	15 36 17.9	
NWAO	**Narrogin (SRO)**	**43.73**	**149**	LR	LR	15 29 48.6	
	comp=Z,200nm,19.1s,MS4.0,baz=148,slow=34						
SONM	**Songino Array**	**45.20**	**13**	P	**P**	**15 12 59.9**	**-0.3**
	comp=Z,1.7nm,0.8s,mb3.9,baz=198,slow=8.4,SNR=9.2						
SONM				LR	LR	15 33 49.8	
	comp=Z,156nm,18.3s,MS4.0,baz=233,slow=39						
WRA	**Warramunga Arr**	**47.66**	**122**	P	**P**	**15 13 18.9**	**-1.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=297,slow=9.0,SNR=9.9						
WRAB	**Tennant Creek**	**47.66**	**122**	*eP*	**P**	**15 13 20.1**	**0.0**
	comp=Z,1.8nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**48.99**	**126**	P	**P**	**15 13 29.4**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.5,baz=298,slow=7.4,SNR=6.0						
ASAR				LR	LR	15 33 26.2	
	comp=Z,65nm,21.1s,MS3.6,baz=322,slow=35						
ZAL	**Zalesovo**	**50.06**	**354**	P	**P**	**15 13 37.4**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.2,baz=268,slow=3.8,SNR=6.9						
ZAL				LR	LR	15 38 14.2	
	comp=Z,123nm,19.3s,MS3.9,baz=169,slow=40						
BVAR	**Borovoye Array**	**52.02**	**343**	P	**P**	**15 13 51.7**	**-1.3**
	comp=Z,0.6nm,0.6s,mb3.7,baz=135,slow=10,SNR=4.2						
CHKZ	**Chkalovo**	**52.53**	**344**	*eP*	**P**	**15 13 55.1**	**-1.7**
	comp=Z,4.6nm,1.4s,mb4.2						
CHKZ				*ep*P	pP	15 14 05.1	-0.9
CBIJ	**Chichi jima**	**52.70**	**59**	LR	LR	15 34 09.2	
	comp=Z,67nm,20.5s,MS3.7,baz=96,slow=34						
JHJ	**Hachijo jima 2**	**52.76**	**51**	LR	LR	15 36 09.4	
	comp=Z,64nm,18.8s,MS3.7,baz=303,slow=36						
MJAR	**Matsushiro Arr**	**53.00**	**46**	LR	LR	15 38 25.2	
	comp=Z,124nm,18.2s,MS4.0,baz=255,slow=38						
GNI	**Garni**	**55.88**	**317**	LR	LR	15 41 41.6	
	comp=Z,37nm,19.0s,MS3.5,baz=282,slow=40						
CTA	**Charters Tower**	**58.11**	**117**	LR	LR	15 42 48.7	
	comp=Z,116nm,18.4s,MS4.0,baz=92,slow=39						
STKA	**Stephens Creek**	**58.88**	**131**	P	**P**	**15 14 44.6**	**+1.8**
	comp=Z,1.2nm,0.7s,mb4.0,baz=336,slow=14,SNR=2.5						
BOSA	**Boshof**	**72.11**	**238**	LR	LR	15 41 34.8	
	comp=Z,84nm,21.2s,MS4.0,baz=241,slow=31						
FINES	**FINESS Array B**	**75.22**	**333**	LR	LR	15 55 41.3	
	comp=Z,54nm,18.2s,MS3.9,baz=162,slow=41						
ARCES	**ARCESS Array B**	**78.20**	**341**	LR	LR	15 55 29.8	
	comp=Z,66nm,21.3s,MS3.9,baz=333,slow=39						
GERES	**GERESS Array B**	**79.46**	**319**	P	**P**	**15 16 50.4**	**+1.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=104,slow=5.5,SNR=5.7						
HFS	**Hagfors**	**80.81**	**330**	LR	LR	15 58 11.0	
	comp=Z,88nm,18.2s,MS4.2,baz=338,slow=40						
DAVOX	**Davos**	**81.88**	**317**	LR	LR	15 57 33.7	
	comp=Z,50nm,20.0s,MS3.9,baz=268,slow=39						
NOA	**NORSAR Array B**	**82.14**	**331**	LR	LR	15 56 39.4	
	comp=Z,49nm,18.4s,MS3.9,baz=260,slow=38						
VNDA	**Vanda**	**89.62**	**168**	LR	LR	15 52 57.9	
	comp=Z,112nm,20.0s,MS4.3,baz=312,slow=32						
JMIC	**Jan Mayen**	**89.69**	**341**	LR	LR	16 01 26.9	
	comp=Z,56nm,20.8s,MS4.0,baz=131,slow=38						

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*NIED **18** 15:17:00, 21.00N×122.10E, h56km, Mw4.1 Best double couple: Mo1.83×10^15 NP1:φs100°, δ87°, λ163°. NP2: φs191°, δ73°, λ4°.*
*BJI **18** 15:17:18.2, 21.03N×121.90E, h94km, mB4.7, mb4.0*
*NEIC **18** 15:17:19.6±0.8, 20.87N×121.94E, h116km±7km, mb4.4/14, Error ellipse: s-maj=10.2km s-min=6.1km az=78.0*
*MAN **18** 15:17:21.9, 20.84N×121.79E, h81km, mb4.9, ML3.8, MS3.8*
*JMA **18** 15:17:21.3±0.3, 20.97N×122.13E, h128km, M3.5*
*IDC **18** 15:17:22.0±2.3, 20.91N×122.01E, h139km±21km, mb3.8/18, mb1 3.9/19, mb1mx3.9/24, mbtmp4.2/19, Error ellipse: s-maj=17.7km s-min=9.5km az=73.0*
ISC 18 15:17:19.1±0.3, 20.92N±0.02×121.97E±0.06, h124km±3km, n66, σ0°97/76, mb4.2/30, 2C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.47**	**181**	*eP*	**P**	**15 17 37.3**	**-0.1**
BBP				*eS*	**S**	**15 17 49.5**	**-1.7**
SGCP	**Mt. Cagua**	**2.66**	**178**	*eP*	**P**	**15 18 02.8**	**+1.0**
SGCP				*eS*	**S**	**15 18 33.9**	**-0.3**
APYP	**Conner**	**3.11**	**193**	*eP*	**P**	**15 18 09.1**	**+1.2**
APYP				*eS*	**S**	**15 18 43.8**	**-1.2**
NACB	**Ninganchiao**	**3.26**	**354**	*ePn*	**P**	**15 18 08.7**	**-1.2**
ABRA	**Dolores**	**3.46**	**200**	*eP*	**P**	**15 18 13.2**	**+0.7**
ABRA				*eS*	**S**	**15 18 51.7**	**-1.6**
HATJ	**Hateruma jima**	**3.56**	**28**	P	**P**	**15 18 14.6**	**+0.8**
HATJ				*eS*	**S**	**15 18 55.2**	**-0.3**
YOJ	**Yonaguni jima**	**3.66**	**15**	P	**P**	**15 18 16.1**	**+1.0**
YOJ				*eS*	**S**	**15 18 58.1**	**+0.1**
IRIF	**Iriomote-Funau**	**3.77**	**25**	P	**P**	**15 18 17.3**	**+0.6**
IRIF				*eS*	**S**	**15 19 00.7**	**0.0**
YHNB	**Yeheng**	**3.78**	**352**	*ePn*	**P**	**15 18 16.6**	**-0.1**
JKRS	**Kuro-shima**	**3.81**	**29**	P	**P**	**15 18 17.3**	**+0.2**
JKRS				*eS*	**S**	**15 19 00.6**	**-0.9**
PALP	**Palanan**	**3.86**	**174**	*eP*	**P**	**15 18 21.9**	**+4.1**
JIJ	**Ishigaki jima**	**3.98**	**30**	P	**P**	**15 18 19.6**	**+0.2**
JIJ				S	**S**	**15 19 04.7**	**-0.9**
TATO	**Taipei**	**4.07**	**354**	*ePn*	**P**	**15 18 20.1**	**-0.5**
JTJ	**Tarama**	**4.48**	**34**	P	**P**	**15 18 27.0**	**+0.8**
JTJ				*eS*	**S**	**15 19 17.7**	**-0.1**
BCPH	**Baguio City Da**	**4.70**	**197⇑**	*eP*	**P**	**15 18 30.7**	**+1.6**
BCPH				*eS*	**S**	**15 19 23.3**	**+0.3**
BOLP	**Bolinao**	**4.91**	**204**	*eP*	**P**	**15 18 33.0**	**+1.0**
QZH	**Quanzhou**	**5.08**	**323**	⇓*iP*	**P**	**15 18 32.0**	**-2.2**
QZH				S	**S**	**15 19 24.8**	**-7.4**
QZH				Smax			
	comp=N,260nm,0.4s						
QZH				Smax			
	comp=E,280nm,0.7s						
BALP	**Baler**	**5.16**	**184**	*eP*	**P**	**15 18 37.1**	**+1.8**
PCPH	**Palayan**	**5.39**	**189⇑**	*eP*	**P**	**15 18 39.7**	**+1.4**
SCZP	**Santa Cruz**	**5.47**	**201**	*eP*	**P**	**15 18 40.9**	**+1.4**
JOW	**Kunigami**	**8.24**	**43**	P	**P**	**15 19 17.2**	**+0.1**
	comp=E,4.6nm,0.3s,baz=122,slow=19,SNR=8.5						
XAN	**Xi'an**	**17.44**	**321**	P	**P**	**15 21 16.8**	**+0.7**
MJAR	**Matsushiro Arr**	**21.05**	**39**	P	**P**	**15 21 56.9**	**+2.3**
	comp=E,1.8nm,0.7s,mb3.5,baz=230,slow=8.2,SNR=5.8						
CMAR	**Chiang Mai Arr**	**21.82**	**268**	P	**P**	**15 22 04.7**	**+2.4**
	comp=E,1.1nm,0.8s,mb3.2,baz=75,slow=8.4,SNR=10						
CMAR				pP		15 22 29.6	
	comp=E,0.8nm,0.8s,baz=78,slow=8.7,SNR=4.8						
CN2	**Changchun**	**23.00**	**6**	*eP*	**P**	**15 22 15.6**	**+1.9**
ULN	**Ulaanbaatar**	**29.46**	**339**	*eP*	**P**	**15 23 12.9**	**-0.4**
	comp=E,1.0nm,0.4s,mb3.8						
SONM	**Songino Array**	**29.66**	**339**	P	**P**	**15 23 14.3**	**-0.7**
	comp=E,1.6nm,0.6s,mb3.9,baz=155,slow=10,SNR=9.4						
KAKA	**Kakadu**	**34.96**	**162**	⇓*iP*	**P**	**15 23 59.0**	**-2.3**
	comp=E,8.3nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**38.94**	**174**	⇓*iP*	**P**	**15 24 33.6**	**-1.0**
	comp=E,4.6nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**38.94**	**174**	P	**P**	**15 24 33.6**	**-1.0**
	comp=E,5.1nm,0.6s,mb4.5,baz=2.3,slow=8.8,SNR=14						
MKAR	**Makanchi Array**	**41.22**	**318**	P	**P**	**15 24 53.8**	**+0.7**
	comp=E,2.3nm,0.4s,mb4.4,baz=106,slow=9.4,SNR=70						
WRAB	**Tennant Creek**	**42.37**	**163**	*eP*	**P**	**15 25 01.4**	**-1.4**
	comp=E,18nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**42.37**	**163**	P	**P**	**15 25 02.1**	**-0.8**
	comp=E,9.5nm,0.6s,mb4.7,baz=344,slow=9.1,SNR=100						
WB2	**Warramunga Arr**	**42.38**	**163**	⇓*iP*	**P**	**15 25 02.1**	**-0.8**
ZAL	**Zalesovo**	**43.39**	**329**	P	**P**	**15 25 10.8**	**+0.1**
	comp=E,2.6nm,0.5s,mb4.2,baz=353,slow=6.5,SNR=12						
ASAR	**Alice Springs**	**45.81**	**165**	P	**P**	**15 25 30.1**	**-0.3**
	comp=E,2.5nm,0.4s,mb4.3,baz=347,slow=7.6,SNR=95						
ASAR				ScP		15 30 46.2	
	comp=E,0.3nm,0.7s,baz=345,slow=4.1,SNR=4.7						
ASPA	**Alice Springs**	**45.81**	**165**	*eP*	**P**	**15 25 30.1**	**-0.3**
BVAR	**Borovoye Array**	**50.67**	**322**	P	**P**	**15 26 08.0**	**+0.4**
	comp=E,3.5nm,0.5s,mb4.6,baz=106,slow=7.9,SNR=29						
BVAR				PcP	PcP	15 27 21.9	-1.5
	comp=E,0.8nm,0.5s,baz=122,slow=3.9,SNR=4.0						
CHKZ	**Chkalovo**	**50.76**	**323**	*eP*	**P**	**15 26 08.1**	**-0.2**
	comp=E,8.5nm,0.6s,mb5.0						
FORT	**Forrest**	**51.73**	**173**	*eP*	**P**	**15 26 15.5**	**-0.4**
	comp=E,229nm,0.7s						
NWAO	**Narrogin (SRO)**	**53.73**	**185**	P	**P**	**15 26 30.1**	**-0.7**
	comp=E,12nm,1.1s,mb4.8,baz=244,slow=4.5,SNR=4.0						
BILL	**Bilibino**	**54.51**	**19**	*eP*	**P**	**15 26 35.2**	**-0.7**
	comp=E,3.8nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**55.76**	**160**	*eP*	**P**	**15 26 44.9**	**-0.6**
	comp=E,2.4nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**55.76**	**160**	P	**P**	**15 26 44.8**	**-0.7**
	comp=E,3.1nm,0.5s,mb4.6,baz=333,slow=9.0,SNR=14						
ARU	**Arti**	**58.16**	**324**	*eP*	**P**	**15 27 00.2**	**-1.8**
	comp=E,4.3nm,0.5s,mb4.7						
TNA	**Tin City**	**62.93**	**26**	*eP*	**P**	**15 27 34.8**	**+0.5**
	comp=E,1.7nm,0.7s,mb4.1						
IMA	**Indian Mountai**	**68.80**	**26**	*eP*	**P**	**15 28 12.5**	**+1.0**
	comp=E,12nm,0.7s,mb4.8						
MCK	**McKinley**	**71.07**	**28**	*eP*	**P**	**15 28 25.6**	**+0.3**
	comp=E,2.5nm,0.7s,mb4.2						
SML	**Sawmill**	**71.66**	**30**	*eP*	**P**	**15 28 29.3**	**+0.5**
ILAR	**Eielson Array**	**71.78**	**27**	P	**P**	**15 28 28.9**	**-0.6**
	comp=E,1.2nm,0.8s,mb3.8,baz=270,slow=5.1,SNR=18						
MALT	**Malatya**	**72.43**	**305**	P	**P**	**15 28 33.8**	**0.0**
	comp=E,3.6nm,1.0s,mb4.2						
ARCES	**ARCESS Array B**	**72.83**	**339**	P	**P**	**15 28 35.5**	**0.0**
	comp=E,1.9nm,0.8s,mb4.0,baz=98,slow=6.4,SNR=3.4						
FINES	**FINESS Array B**	**74.63**	**330**	P	**P**	**15 28 45.7**	**-0.4**
	comp=E,0.4nm,0.3s,mb3.6,baz=45,slow=5.4,SNR=7.9						
FINES	**FINESS Array B**	**74.63**	**330**	P	**P**	**15 28 45.7**	**-0.4**
DAWY	**Dawson**	**75.11**	**27**	*eP*	**P**	**15 28 49.5**	**+0.8**
BRTR	**Keskin Array B**	**75.71**	**307**	P	**P**	**15 28 52.1**	**-0.6**
	comp=E,0.3nm,0.4s,mb3.4,baz=143,slow=6.2,SNR=4.5						
AKASG	**Malin Array Be**	**75.80**	**319**	P	**P**	**15 28 51.4**	**-1.5**
	comp=E,1.5nm,0.7s,mb3.9,baz=58,slow=5.8,SNR=4.1						
INK	**Inuvik**	**75.97**	**22**	*eP*	**P**	**15 28 53.8**	**+0.2**
	comp=E,2.4nm,0.8s,mb4.0						
NB2	**NORSAR Subarra**	**81.44**	**333**	P	**P**	**15 29 23.1**	**-0.3**
	comp=E,1.0nm,0.6s,mb3.8,baz=58,slow=4.5						
NOA	**NORSAR Array B**	**81.44**	**333**	P	**P**	**15 29 22.8**	**-0.6**
	comp=E,1.0nm,0.8s,mb3.7,baz=63,slow=5.2,SNR=4.0						
RES	**Resolute Bay**	**81.76**	**9**	*eP*	**P**	**15 29 24.7**	**-0.1**
	comp=E,1.1nm,0.6s,mb3.9						
YKW3	**Yellowknife Ar**	**85.64**	**23**	*eP*	**P**	**15 29 45.3**	**+0.8**
YKA	**Yellowknife Ar**	**85.69**	**23**	P	**P**	**15 29 45.4**	**+0.7**
	comp=E,1.8nm,0.7s,mb4.1,baz=311,slow=4.6,SNR=45						
YKA	**Yellowknife Ar**	**85.69**	**23**	P	**P**	**15 29 45.4**	**+0.7**
SNAA	**Sanae**	**120.37**	**198**	PKP	PKPdf	15 35 55.7	+0.5
	comp=E,2.3nm,1.1s,baz=297,slow=4.5,SNR=3.6						
SDV	**Santo Domingo**	**147.90**	**24**	PKPbc	PKPdf	15 36 49.8	+2.4
	comp=E,3.5nm,0.7s,baz=32,slow=4.9,SNR=4.2						

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*IDC **18** 15:26:57.3±1.3, 4.09N×92.62E, h30km±7km, mb3.6/8, mb1 3.8/9, mb1mx3.7/21, mbtmp3.8/9, ML3.7/1, MS3.0/1, Ms1 3.2/1, ms1mx2.8/27, Error ellipse: s-maj=43.7km s-min=16.9km az=58.0*
*NEIC **18** 15:26:57.1±0.7, 4.13N×92.67E, mb4.2/2, Error ellipse: s-

*TEH **18** 15:44:25.1,40.00N×54.12E,h26km,Mn3.9*
*CSEM **18** 15:44:25.3±0.1,39.89N×54.15E,h45km,ML3.9,Error ellipse: s-maj=2.5km s-min=2.3km az=133.0*
*MOS **18** 15:44:25.6±1.0,40.01N×54.12E,h33km,mb3.8/1,Error ellipse: s-maj=17.2km s-min=14.8km az=80.5*
*NNC **18** 15:44:39.6±9.6,40.53N×55.82E,h4km±186km,Error ellipse: s-maj=215.8km s-min=57.1km az=52.0*

ISC 18 15:44:24.3±0.3,39.85N±0.03×54.12E±0.05,h33km,n38,σ1§14/45,mb3.7/6,MS3.1/1,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGLO	Galoogah	3.57	188	Pn	Pn	15 45 15.9	-3.0
ISHV	Shirvan	3.63	128	Pn	Pn	15 45 20.5	+0.7
IKIA	Kiasar	3.66	186	Pn	Pn	15 45 20.7	+0.6
IPRN	Paran-Amol	3.90	203	Pn	Pn	15 45 22.3	-1.2
ISFR	Esferayen	4.14	131	Pn	Pn	15 45 26.1	-0.9
IFIR	Firoozkooh	4.34	195	Pn	Pn	15 45 30.8	+1.0
IFIR				Sn	Sn	15 46 19.6	-0.4
IANJ	Anjiloo	4.38	182	Pn	Pn	15 45 32.2	+1.8
ILAS	Lasjerd	4.56	192	Pn	Pn	15 45 34.3	+1.4
IDMV	Damavand	4.58	202	Pn	Pn	15 45 34.1	+0.9
IKRD	Kardeh	4.63	130	Pn	Pn	15 45 42.3	+8.3
IMHD	Mahdasht	4.98	214	Pn	Pn	15 45 39.6	+0.8
IMHD				Sn	Sn	15 46 34.5	-1.5
IPAY	Payeh	5.13	130	Pn	Pn	15 45 41.0	0.0
IVRN	Varamin	5.21	202	Pn	Pn	15 45 39.5	-2.6
IRAZ	Razeghan	5.55	218	Pn	Pn	15 45 46.6	-0.2
IQOM	Qom	5.56	207	Pn	Pn	15 45 47.1	+0.1
IMYA	Miamay	5.88	125	Pn	Pn	15 45 50.8	-0.7
DGRG	David-gareji	6.84	286	P	P	15 46 06.1	+1.2
DGRG				S	S	15 47 21.1	-1.3
GNI	Garni	7.20	275	P	P	15 46 11.3	+1.3
KIV	Kislovodsk	9.46	299	P	P	15 46 40.8	-0.4
KIV				*e*		15 48 24.6	
KK31	Karatay Array	12.72	70	Pn	P	15 47 22.1	-3.4
	0.5nm,0.3s,baz=258,slow=15,SNR=9.8						
KK31				Sn	S	15 49 33.7	-13
	0.7nm,0.4s						
KK31	Karatay Array	12.72	70	Pn	P	15 47 22.1	-3.4
KK31				Sn	S	15 49 33.7	-13
AAK	Ala-Archa	15.58	73	Pn	P	15 48 05.8	+2.9
	3.2nm,1.0s						
AAK	Ala-Archa	15.58	73	*e*P	P	15 48 01.9	-1.0
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	Ala-Archa	15.58	73	*e*P	P	15 48 01.9	-1.0
	comp=Z,2.0nm,0.6s						
ARU	Arti	16.85	9	*e*P	P	15 48 17.8	-1.1
ARU				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ARU	Arti	16.85	9	*e*P	P	15 48 17.8	-1.1
	comp=Z,3.0nm,0.5s						
BVA0	Borovoye Array	17.25	35	Pn	P	15 48 25.0	+1.1
	comp=Z,0.5nm,0.8s,baz=221,slow=16,SNR=8.8						
BVA0				Sn	S	15 51 26.2	-6.8
	comp=Z,0.5nm,0.8s						
BVAR	Borovoye Array	17.25	35	P	P	15 48 22.2	-1.8
	comp=Z,0.4nm,0.3s,baz=207,slow=13,SNR=6.7						
CHKZ	Chkalovo	17.80	34	Pn	P	15 48 30.6	-0.3
	comp=Z,2.3nm,1.3s						
CHKZ				Sn	S	15 51 35.7	-10
	comp=Z,2.4nm,1.2s						
CHKZ	Chkalovo	17.80	34	*e*P	P	15 48 30.4	-0.4
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	20.50	310	P	P	15 49 01.6	-0.4
	comp=Z,1.1nm,0.4s,baz=97,slow=8.6,SNR=9.1						
MK31	Makanchi Array	21.56	62	P	P	15 49 14.1	+1.4
	comp=Z,8.3nm,1.4s,mb4.0,baz=254,slow=12,SNR=7.0						
MK31	Makanchi Array	21.56	62	P	P	15 49 14.1	+1.3
MKAR	Makanchi Array	21.56	62	P	P	15 49 12.9	+0.1
	comp=Z,0.8nm,0.5s,mb3.4,baz=254,slow=12,SNR=7.8						
ZAL	Zalesovo	25.02	46	P	P	15 49 46.2	-0.3
	comp=Z,0.8nm,0.5s,mb3.5,baz=203,slow=9.4,SNR=4.0						
ZAL				LR	LR	15 59 49.5	
	comp=Z,50nm,18.3s,MS3.1,baz=196,slow=37						
FINES	FINESS Array B	27.60	331	P	P	15 50 10.4	+0.1
	comp=Z,0.6nm,0.7s,mb3.3,baz=265,slow=34,SNR=2.4						
ARCES	ARCESS Array B	33.37	342	P	P	15 51 02.3	+1.1
	comp=Z,12nm,1.2s,mb4.7,baz=135,slow=10,SNR=4.1						
ILAR	Eielson Array	74.42	9	P	P	15 56 01.3	+1.3
	comp=Z,0.3nm,0.6s,mb3.4,baz=321,slow=4.7,SNR=4.3						

IDC 18 16:04:17.9±55.0,15.89S×176.43W,mb4.0/3,mb1 4.2/3,mb1mx3.7/15,mbtmp4.0/3,Error ellipse: s-maj=1029.0km s-min=159.6km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.27	240	P	P	16 12 06.4	-0.3
	1.3nm,0.6s,baz=95,slow=11,SNR=3.6						
WRA	Warramunga Arr	46.90	257	P	P	16 12 49.6	-2.5
	0.2nm,0.4s,baz=96,slow=8.2,SNR=9.0						
ASAR	Alice Springs	47.19	252	P	P	16 12 52.1	-2.4
	1.6nm,0.5s,baz=89,slow=7.9,SNR=29						

*IDC **18** 16:12:51.5±1.1,4.13N×92.56E,h30km±5km,mb3.7/10,mb1 3.9/11,mb1mx3.7/23,mbtmp3.9/11,ML3.6/1,MS2.9/1,Ms1 3.1/1,ms1mx2.7/31,Error ellipse: s-maj=42.8km s-min=13.1km az=57.0*
*NEIC **18** 16:12:51.6±0.7,4.21N×92.64E,mb4.1/2,Error ellipse: s-maj=18.2km s-min=10.0km az=51.0*

ISC 18 16:12:50.8±0.7,4.28N±0.09×92.91E±0.08,h29km,h29km±1.3km:pP-P,n24,σ0§92/25,mb4.2/19,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.78	82	*e*Pn	Pn	16 14 46.5	+1.5
KULM				*e*Sn	Sn	16 16 11.3	-1.7
CMAR	Chiang Mai Arr	15.28	22	Pn	P	16 16 26.9	+0.5
	0.1nm,0.3s,baz=217,slow=14,SNR=26						
CMAR				LR	LR	16 22 32.1	
	comp=Z,44nm,19.4s,baz=175,slow=37						
CHG	Chiang Mai	15.60	22	P	P	16 16 43.8	+13
NANT	Nan	16.32	27	P	P	16 16 51.0	+11
SHL	Shillong	21.19	357	*e*P	P	16 17 35.5	-0.9
JIRN	Jiri	24.11	345	*e*P	P	16 18 06.0	+0.7
	21nm,1.0s,mb4.5						
PKI	Pulchoki	24.24	344	*e*P	P	16 18 07.7	+1.2
	7.2nm,0.6s,mb4.3						
DMN	Daman	24.36	343	*e*P	P	16 18 08.5	+0.8
	6.9nm,0.7s,mb4.2						
GUN	Gumba	24.43	345	*e*P	P	16 18 08.9	+0.5
	35nm,0.9s,mb4.8						
KKN	Kakani	24.48	344	*e*P	P	16 18 09.4	+0.5
	23nm,1.0s,mb4.6						
GKN	Gorkha	24.87	342	*e*P	P	16 18 12.4	-0.2
	54nm,1.4s,mb4.9						
KOLN	Koldanda	24.99	340	*e*P	P	16 18 13.7	0.0
	24nm,1.1s,mb4.6						
LSA	Lhasa	25.34	356	*e*P	P	16 18 17.4	+0.4
	3.5nm,0.6s,mb4.1						
FITZ	Fitzroy Crossi	39.20	126	P	P	16 20 17.9	-0.5
	3.9nm,0.9s,mb4.1,baz=307,slow=20,SNR=2.2						
MKAR	Makanchi Array	43.34	349	P	P	16 20 51.8	-0.3
	1.2nm,0.8s,mb3.7,baz=164,slow=8.8,SNR=8.5						
MKAR				pP	pP	16 21 01.1	+0.3
	0.8nm,0.8s,baz=194,slow=10.0,SNR=3.4						
SONM	Songino Array	44.91	13	P	P	16 21 05.3	+0.5
	0.9nm,0.6s,mb3.8,baz=196,slow=8.5,SNR=5.7						
SONM				pP	pP	16 21 14.8	+1.2
	1.1nm,0.7s,baz=207,slow=8.3,SNR=4.8						
WRA	Warramunga Arr	47.29	122	P	P	16 21 24.5	+0.5
	1.0nm,0.8s,mb3.8,baz=298,slow=8.9,SNR=8.3						
WRA				pP	pP	16 21 33.1	+0.3
	1.8nm,0.7s,baz=298,slow=9.0,SNR=13						
ASAR	Alice Springs	48.66	127	P	P	16 21 34.1	-0.5
	0.5nm,1.0s,mb3.5,baz=304,slow=8.0,SNR=3.3						
ASAR				pP	pP	16 21 43.4	-0.1
	0.5nm,0.8s,baz=308,slow=6.9,SNR=4.7						
ZAL	Zalesovo	49.94	354	P	P	16 21 43.0	-1.0
	1.3nm,0.3s,mb4.5,baz=289,slow=2.7,SNR=5.4						
BVAR	Borovoye Array	52.01	343	P	P	16 21 58.0	-1.7
	1.1nm,0.9s,mb3.8,baz=158,slow=7.8,SNR=3.9						
CHKZ	Chkalovo	52.52	343	*e*P	P	16 22 01.9	-1.7
	3.0nm,1.3s,mb4.1						
STKA	Stephens Creek	58.59	132	P	P	16 22 48.8	+1.1
	1.3nm,0.7s,mb4.1,baz=317,slow=13,SNR=3.0						
STKA				pP	pP	16 22 56.2	-0.5
	2.5nm,0.8s,baz=331,slow=12,SNR=3.6						
BRTR	Keskin Array B	63.88	312	P	P	16 23 19.1	-4.3
	0.7nm,0.6s,mb3.9,baz=113,slow=8.1,SNR=3.8						
GERES	GERESS Array B	79.69	319	P	P	16 24 56.9	-0.4
	0.8nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=7.1						

JMA 18 16:22:23.3±0.2,43.49N×147.57E,h11km,M3.7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.34	265	P	Pb	16 22 47.8	-0.1
NEM2				*e*S	Sb	16 23 05.9	+1.0
JRA	Rausu	1.83	285	P	Pn	16 22 54.9	-0.1
JRA				*e*S	Sn	16 23 18.3	-0.1
JNK	Nakash	2.08	274	P	Pn	16 22 58.2	-0.3
JAK	Akkeshi	2.16	258	P	Pn	16 22 59.7	0.0
JTKR	Abashiri--Toko	2.70	282	P	Pn	16 23 07.8	+0.4
JAR	Ashorobuto	2.78	267	P	Pn	16 23 08.9	+0.3
JAR				*e*S	Sn	16 23 41.7	-0.7
JOB	Onbets	2.79	259	P	Pn	16 23 09.4	+0.6
JOB				*e*S	Sn	16 23 42.6	-0.2
JCH	Churui	3.21	256	P	Pn	16 23 14.5	-0.2
JCH				*e*S	Sn	16 23 52.1	-1.2
JFR	Furan	3.65	267	P	Pn	16 23 22.4	+1.5
JFR				*e*S	Sn	16 24 05.5	+1.1
JNBK	Urakawa-nobuka	3.74	253	P	Pn	16 23 22.3	0.0
JNBK				*e*S	Sn	16 24 04.5	-2.3

*IDC **18** 16:25:06.3±1.6,2.51S×127.23E,mb4.0/3,mb1 4.4/5,mb1mx4.0/19,mbtmp4.2/5,ML4.4/2,Error ellipse: s-maj=102.5km s-min=23.4km az=67.0*
*NEIC **18** 16:25:18.3±0.8,2.86S×126.86E,h100km,mb4.2/3,Error ellipse: s-maj=39.7km s-min=10.5km az=68.0*

ISC 18 16:25:09.0±1.0,2.5S±0.2×127.3E±0.3,h33km,n11,σ0§47/11,mb4.5/5,1D,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	15.61	186	*e*P	P	16 28 48.4	+0.1
	11nm,0.4s						
FITZ	Fitzroy Crossi	15.61	186	Pn	P	16 28 48.5	+0.2
	2.8nm,0.3s,baz=7.2,slow=7.6,SNR=53						
WRAB	Tennant Creek	18.65	159	*e*P	P	16 29 26.8	+0.3
	6.9nm,0.8s						
WRA	Warramunga Arr	18.65	159	P	P	16 29 26.7	+0.1
	0.6nm,0.3s,baz=336,slow=11,SNR=92						
WB2	Warramunga Arr	18.66	159	⇓*i*P	P	16 29 27.1	+0.4
ASAR	Alice Springs	22.00	164	P	P	16 30 01.9	-0.2
	6.1nm,0.7s,mb4.2,baz=343,slow=12,SNR=134						
ASPA	Alice Springs	22.00	164	*e*P	P	16 30 02.1	0.0
FORT	Forrest	28.15	179	*e*P	P	16 30 56.7	-3.8
	160nm,0.4s,mb6.0						
STKA	Stephens Creek	32.17	157	P	P	16 31 35.6	-0.6
	1.2nm,0.5s,mb4.0,baz=333,slow=9.0,SNR=6.8						
MKAR	Makanchi Array	63.02	327	P	P	16 35 35.3	+0.1
	0.9nm,0.6s,mb4.0,baz=141,slow=7.8,SNR=5.6						
CHKZ	Chkalovo	73.05	329	*e*P	P	16 36 37.6	+0.1
	3.7nm,0.9s,mb4.3						
CHKZ				*e*pP	pP	16 36 46.3	-1.5

CASC 18 16:26:26.6±2.7,11.12N×85.82W,h95km±20km,MD3.9,ML3.5,3C-5D,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.48	23	⇓*i*P	P	16 26 39.5	-2.4
CONN				*e*S	S	16 26 53.4	+0.1
APON	Apoyo	0.83	343	⇓*e*P	P	16 26 44.5	-0.6
APON				*e*S	S	16 26 59.5	+0.8
MASN	Masaya	0.93	339	*e*P	P	16 26 45.7	-0.4
TICN	Ticuantepe	1.00	336	⇓*e*P	P	16 26 46.9	0.0
WILN	Americas 2	1.10	341	*e*P	P	16 26 48.1	0.0
MGAN	Managua	1.11	338	*e*P	P	16 26 48.1	-0.1
MGAN				*e*S	S	16 27 05.9	+1.6
	comp=E,826nm,0.4s						
XAVN	Gruta Xavier	1.14	334	*e*P	P	16 26 48.8	+0.1
APYN	Apoyeque	1.23	335	⇓*e*P	P	16 26 49.7	0.0
APYN				*e*S	S	16 27 10.0	+3.1
COPN	Copaltepe	1.30	324	⇑*e*P	P	16 26 50.5	-0.1
MOMJ	Momotombo	1.47	331	⇑*e*P	P	16 26 52.6	0.0
CNGN	Cerro Negro	1.62	328	⇑*e*P	P	16 26 55.4	+0.8
LEON	Leon	1.67	321	*e*P	P	16 26 55.9	+0.7
TEL3	Telica 3	1.76	325	⇓*e*P	P	16 26 57.2	+0.8
TELN	Telica	1.78	326	*e*P	P	16 26 57.5	+0.9
CNCH	Conchagua	2.92	318	*e*P	P	16 27 11.8	-0.3
CNCH				*e*S	S	16 27 45.0	-1.2
BLLM	Bellamira	3.31	315	*e*P	P	16 27 16.5	-1.1
SNVI	San Vicente	3.86	310	*e*S	S	16 28 09.2	-0.2
LCBS	La Ceiba	3.99	310	*e*P	P	16 27 26.5	-0.4
LCBS				*e*S	S	16 28 11.5	-1.2
LFRS	El Faro	4.03	308	*e*P	P	16 27 27.2	-0.2
LFRS				*e*S	S	16 28 13.3	-0.5
BOQS	Boqueron	4.27	308	*e*P	P	16 27 31.5	+0.8

IDC 18 16:31:49.3±27.0,1.84N×98.46E,mb3.9/3,mb1 4.1/3,mb1mx3.6/19,mbtmp3.9/3,MS3.9/1,Ms1 3.8/1,ms1mx2.9/33,Error ellipse: s-maj=516.9km s-min=220.7km az=144.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.32	123	P	P	16 39 37.5	-1.1
	1.1nm,0.5s,baz=303,slow=9.0,SNR=18						
ASAR	Alice Springs	42.79	128	P	P	16 39 48.0	-2.7
	0.7nm,0.5s,baz=300,slow=8.3,SNR=4.6						
STKA	Stephens Creek	52.86	133	P	P	16 41 07.3	-2.0
	1.6nm,0.6s,baz=308,slow=8.8,SNR=6.6						
STKA				LR	LR	17 03 35.7	
	comp=Z,109nm,19.5s,baz=62,slow=36						

*IDC **18** 16:39:53.7±4.8,28.60S×178.57W,mb3.5/2,mb1 3.8/2,mb1mx3.6/14,mbtmp3.5/2,ML5.0/1,Error ellipse: s-maj=93.5km s-min=52.7km az=80.0*
*NEIC **18** 16:40:35.9±2.0,31.61S×178.86W,h400km,Error ellipse: s-maj=44.6km s-min=17.3km az=89.0*

ISC 18 16:40:23.2±1.0,31.0S±0.1×177.8W±0.3,h371km±11km,n75,σ1§32/92,mb2.8/2,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	7.32	205	PN	P	16 42 11.5	+0.8
MXZ				SN	S	16 43 36.6	+1.4
PUZ	Puketiti	7.80	204	PN	P	16 42 16.9	+0.8
PUZ				SN	S	16 43 46.6	+1.6
MWZ	Matawai	8.29	207	PN	P	16 42 22.4	+0.4
MWZ				SN	S	16 43 55.9	+0.3
MARZ	Manawahe	8.36	212	*e*P	P	16 42 27.4	+4.7
URZ	Urewera	8.40	209	Pn	P	16 42 23.1	-0.1
	13nm,0.3s,baz=284,slow=3.2,SNR=66						
URZ				Sn	S	16 43 57.8	+0.1
	10.0nm,0.3s,baz=235,slow=16,SNR=18						
URZ	Urewera	8.40	209	*e*P	P	16 42 23.0	-0.2
URZ	Urewera	8.40	209	PN	P	16 42 23.0	-0.2
URZ				SN	S	16 43 57.7	-0.1
KNZ	Kokohu	8.85	204	*e*PN	P	16 42 32.1	+3.6
BKZ	Black Stump Fm	9.42	208	*e*P	P	16 42 34.4	-0.9
BKZ				S	S	16 44 20.9	+1.3
BKZ	Black Stump Fm	9.42	208	PN	P	16 42 34.4	-0.8
BKZ				*e*SN	S	16 44 20.0	+0.4
HIZ	Hauiti	9.65	217	*e*P	P	16 42 39.1	+1.1
HIZ	Hauiti	9.65	217	PN	P	16 42 39.1	+1.0
MGZ	Maungaku	9.70	213	*e*P	P	16 42 39.1	+0.5
NGZ	Ngauruhoe	9.81	212	*e*P	P	16 42 39.9	0.0
NGZ	Ngauruhoe	9.81	212	PN	P	16 42 42.9	+3.0
CNZ	Chateau	9.86	212	*e*P	P	16 42 41.2	+0.8
CNZ	Chateau	9.86	212	PN	P	16 42 43.2	+2.8
WPVZ	Whakapapa	9.86	212	*e*P	P	16 42 42.7	+2.2
WPVZ	Whakapapa	9.86	212	PN	P	16 42 42.5	+2.0
TUVZ	Tukino	9.86	211	*e*P	P	16 42 42.5	+2.0
TUVZ	Tukino	9.86	211	PN	P	16 42 42.5	+2.0
FWVZ	Far West T-bar	9.90	212	*e*P	P	16 42 40.5	-0.4
FWVZ	Far West T-bar	9.90	212	PN	P	16 42 40.5	-0.4
MOVZ	Moawhango	9.94	210	*e*P	P	16 42 41.5	+0.1
MOVZ	Moawhango	9.94	210	PN	P	16 42 41.5	+0.1
TRVZ	Turoa	9.94	212	PN	P	16 42 43.2	+1.8
WNVZ	Wahianoa	9.94	211	*e*P	P	16 42 40.6	-0.8
WNVZ	Wahianoa	9.94	211	PN	P	16 42 40.6	-0.8
PWZ	Pawanui	10.03	204	*e*P	P	16 42 41.8	-0.7
PWZ	Pawanui	10.03	204	PN	P	16 42 41.8	-0.7
MTVZ	Mangateitei	10.04	212	PN	P	16 42 43.5	+0.8
VRZ	Vera Road	10.17	215	*e*P	P	16 42 46.0	+1.8
VRZ	Vera Road	10.17	215	PN	P	16 42 44.5	+0.3
TSZ	Takapari Road	10.40	208	*e*P	P	16 42 44.6	-2.3
TSZ	Takapari Road	10.40	208	PN	P	16 42 44.6	-2.3
TSZ				SN	S	16 44 37.1	-3.4
WAZ	Wanganui	10.56	212	*e*P	P	16 42 47.4	-1.5
WAZ	Wanganui	10.56	212	PN	P	16 42 47.4	-1.5
BFZ	Birch Farm	10.83	205	*e*P	P	16 42 51.8	-0.2
BFZ	Birch Farm	10.83	205	*e*PN	P	16 42 52.3	+0.3
BFZ				SN	S	16 44 50.0	+0.3
MRZ	Mangatainoka R	11.06	207	*e*P	P	16 42 52.7	-2.1
MRZ				S	S	16 44 52.4	-2.4
MRZ	Mangatainoka R	11.06	207	PN	P	16 42 52.9	-1.9
MRZ				SN	S	16 44 52.3	-2.5
KIW	Kapiti Island	11.50	209	*e*P	P	16 42 58.3	-1.7
KIW	Kapiti Island	11.50	209	PN	P	16 42 58.5	-1.5
MTW	Mount Morrison	11.52	206	*e*P	P	16 43 00.2	+0.1
MTW	Mount Morrison	11.52	206	*e*PN	P	16 42 59.5	-0.6
CAW	Cannon Point	11.64	208	*e*P	P	16 42 59.6	-2.0
CAW	Cannon Point	11.64	208	*e*PN	P	16 42 59.6	-2.0
PAWZ	Paruwai Farm	11.74	206	*e*PN	P	16 43 04.3	+1.6
PAWZ				*e*SN	S	16 45 09.2	-0.2
MSWZ	Moikau Station	11.84	206	*e*PN	P	16 43 05.7	+1.9
MSWZ				*e*SN	S	16 45 10.7	-0.7
MRW	Makara Radio	11.90	209	*e*PN	P	16 43 03.6	-1.0
MRW				*e*SN	S	16 45 11.7	-1.0
WEL	Wellington	11.91	208	*e*P	P	16 43 03.4	-1.4
SNZO	South Karori	11.96	208	*e*P	P	16 43 03.2	-2.1
SNZO				S	S	16 45 13.3	-0.8
NNZ	Nelson	12.46	213	*e*P	P	16 43 09.3	-1.9
NNZ				S	S	16 45 24.1	-0.6
NNZ	Nelson	12.46	213	*e*PN	P	16 43 09.3	-1.9
QRZ	Quartz Range	12.57	216	*e*P	P	16 43 10.8	-1.7
QRZ	Quartz Range	12.57	216	*e*PN	P	16 43 10.4	-2.0
BSWZ	Blackbirch Sta	12.64	210	*e*P	P	16 43 13.3	0.0
BSWZ	Blackbirch Sta	12.64	210	*e*SN	S	16 45 28.4	-0.1
THZ	Tophouse	13.11	212	*e*P	P	16 43 17.0	-1.7
THZ	Tophouse	13.11	212	*e*PN	P	16 43 17.0	-1.7
KHZ	Kahutara	13.36	209	SN	S	16 45 45.4	+1.7
DSZ	Denniston Nort	13.62	215	*e*P	P	16 43 22.7	-1.8
DSZ	Denniston Nort	13.62	215	*e*PN	P	16 43 22.7	-1.7
DSZ				*e*SN	S	16 45 47.8	-1.3
LTZ	Lake Taylor	14.21	211	*e*P	P	16 43 30.6	-0.2
LTZ	Lake Taylor	14.21	211	*e*PN	P	16 43 30.6	-0.3
CRLZ	Canterbury Las	14.70	209	*e*SN	S	16 46 12.2	+1.4
MQZ	McQueen's Vall	14.80	208	*e*P	P	16 43 38.3	+1.2
MQZ	McQueen's Vall	14.80	208	*e*PN	P	16 43 38.1	+1.1
MQZ				*e*SN	S	16 46 14.8	+2.1
RPZ	Rata Peaks	15.49	212	*e*P	P	16 43 47.1	+2.8
RPZ	Rata Peaks	15.49	212	*e*PN	P	16 43 46.2	+1.9
ODZ	Otahua Downs	16.72	210	*e*P	P	16 44 03.9	+6.9
ODZ	Otahua Downs	16.72	210	*e*PN	P	16 44 03.9	+6.9
ASAR	Alice Springs	43.27	267	P	P	16 47 52.2	+0.9
	0.4nm,0.9s,mb2.6,baz=104,slow=7.3,SNR=4.6						
WRA	Warramunga Arr	44.32	273	P	P	16 47 59.9	+0.3
	0.3nm,0.3s,mb3.0,baz=110,slow=8.1,SNR=31						
FINES	FINESS Array B	145.75	340	PKP	PKPdf	16 59 28.6	+12
	1.2nm,0.4s,baz=46,slow=4.7,SNR=22						

*IDC **18** 16:58:33.1±7.3,3.56N×93.21E,mb3.8/4,mb1 4.0/5,mb1mx3.6/21,mbtmp3.7/5,ML3.3/1,MS2.8/1,Ms1 3.0/1,ms1mx2.7/30,Error ellipse: s-maj=174.1km s-min=57.5km az=140.0*

ISC 18 16:58:37.7±3.6,3.8N±0.4×93.2E±0.4,h33km,n11,σ0§39/11,mb4.2/10,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	Jiri	24.69	345	*e*P	P	17 03 57.2	+0.1
	5.8nm,0.6s,mb4.3						
PKI	Pulchoki	24.82	343	*e*P	P	17 03 58.7	+0.3
DMN	Daman	24.94	343	*e*P	P	17 04 00.0	+0.4
	4.1nm,0.4s,mb4.3						
GUN	Gumba	25.01	344	*e*P	P	17 04 00.6	+0.4
	19nm,0.8s,mb4.7						
KKN	Kakani	25.06	343	*e*P	P	17 04 00.8	+0.1
	10nm,0.8s,mb4.4						
GKN	Gorkha	25.45	342	*e*P	P	17 04 03.6	-0.8
	12nm,0.7s,mb4.5						
KOLN	Koldanda	25.57	340	*e*P	P	17 04 05.0	-0.6
	10nm,0.8s,mb4.4						
MKAR	Makanchi Array	43.89	349	P	P	17 06 42.8	-0.2
	0.8nm,0.7s,mb3.6,baz=158,slow=7.2,SNR=6.3						
SONM	Songino Array	45.33	12	P	P	17 06 54.2	-0.2
	0.7nm,0.7s,mb3.6,baz=207,slow=9.7,SNR=3.3						
ZAL	Zalesovo	50.48	354	P	P	17 07 34.9	+0.5
	1.2nm,0.5s,mb4.2,baz=315,slow=6.0,SNR=6.7						
GERES	GERESS Array B	80.28	319	P	P	17 10 46.9	0.0
	0.7nm,0.7s,mb3.7,baz=90,slow=5.3,SNR=6.8						

*CSEM **18** 16:59:34.5±0.2,30.20N×35.82E,h10km,Mw2.7,Error ellipse: s-maj=3.7km s-min=1.8km az=71.0*
*HLW **18** 16:59:42.6,30

IDC 18 17:18:56.2±5.5, 30.40S×178.12W, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=200.6km s-min=55.9km az=150.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.38**	**257**	P	P	17 25 45.2	-1.7
	1.6nm,0.9s,baz=102,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**43.01**	**267**	P	P	17 26 57.1	-2.0
	0.7nm,0.4s,baz=106,slow=7.3,SNR=25						
WRA	**Warramunga Arr**	**43.99**	**272**	P	P	17 27 05.4	-1.8
	0.7nm,0.4s,baz=111,slow=8.1,SNR=31						
FINES	**FINESS Array B**	**145.11**	**340**	PKPbc	PKPbc	17 38 33.6	-1.5
	1.0nm,0.8s,baz=34,slow=5.0,SNR=3.3						

*PRU **18** 17:25:33.9, 51.42N×16.15E*
*CSEM **18** 17:25:33.4±0.2, 51.46N×16.17E, h2km, ML3.1/3, Error ellipse: s-maj=3.1km s-min=1.3km az=22.0*
*NEIC **18** 17:25:34.8±1.8, 51.31N×16.16E, h5km, ML2.8(VIE), ML2.3(BRG), Error ellipse: s-maj=20.3km s-min=7.9km az=25.0*

WAR 18 17:25:34.1, 51.45N×16.17E, h1km, ML2.4, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**173**	*e*PG	Pg	17 25 45.0	-1.3
KSP				*e*SG	Sg	17 25 54.0	-0.5
KSP	**Ksiaz**	**0.61**	**173**	*e*Pg	Pg	17 25 45.3	-1.0
KSP				*i* Sg	Sg	17 25 53.6	-0.9
UPC	**Upice**	**0.95**	**186**	*e*PG	Pg	17 25 51.6	-1.4
DPC	**Dobruska-Polom**	**1.10**	**175**	*e*PG	Pg	17 25 54.3	-1.9
DPC				*e*SG	Sg	17 26 08.7	-2.2
	18nm,0.4s						
PVCC	**Panska Ves**	**1.37**	**228**	*e*PG	Pg	17 25 59.3	-2.1
BRG	**Berggiesshubel**	**1.52**	**249**	*i* Pg	Pg	17 26 02.1	-2.3
BRG				*i* Sg	Sg	17 26 22.5	-2.1
PRU	**Pruhonice**	**1.79**	**216**	*e*PG	Pg	17 26 06.7	-3.2
PRU				*e*SG	Sg	17 26 29.8	-4.0
	13nm,0.3s						
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	Pn	17 26 05.2	-2.6
MORC				*e*Sn	Sn	17 26 30.3	-2.3
MORC	**Moravsky Berou**	**1.89**	**152**	*e*Pn	Pn	17 26 05.2	-2.6
MORC				*e*Sn	Sn	17 26 30.3	-2.3
CLL	**Collm**	**1.99**	**267**	*i* PG	Pg	17 26 10.5	-3.3
CLL				*e*SG	Sg	17 26 37.0	-3.4
OKC	**Ostrava-Krasne**	**2.05**	**141**	*e*PG	Pg	17 26 11.9	-3.1
OKC				*e*SG	Sg	17 26 38.0	-4.2
VRAC	**Vranov**	**2.16**	**173**	*e*Pn	Pn	17 26 11.0	-0.7
NKC	**Novy Kostel**	**2.66**	**244**	*e*PG	Pg	17 26 22.8	-4.3
NKC				*e*SG	Sg	17 26 57.5	-5.0
	14nm,0.2s						
KHC	**Kasperske Hory**	**2.85**	**217**	*e*Pn	Pn	17 26 20.0	-1.6
KHC				*e*Pg	Pg	17 26 25.3	-5.8
KHC				*e*Sn	Sn	17 26 54.3	-2.8
KHC				*e*Sg	Sg	17 27 03.3	-5.8
KHC	**Kasperske Hory**	**2.85**	**217**	*e*Pg	Pg	17 26 25.3	-5.8
KHC				*e*Sn	Sn	17 26 54.3	-2.8
KHC				*e*Sg	Sg	17 27 03.3	-5.8
MOX	**Moxa**	**2.98**	**256**	*e*Pg	Pg	17 26 30.1	-3.6
MOX				*e*Sg	Sg	17 27 08.5	-5.0
MOA	**Molln**	**3.81**	**200⇑**	*i* PN	Pn	17 26 30.5	-4.7
MOA				*i* SG	Sg	17 27 34.3	-6.6
	3.4nm,0.4s						

IDC 18 17:28:27.9±1.6, 4.93N×94.02E, mb3.9/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.8/6, ML4.4/1, Error ellipse: s-maj=69.8km s-min=21.2km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.29**	**19**	Pn	P	17 31 52.0	-1.7
	0.6nm,0.3s,baz=206,slow=14,SNR=18						
MKAR	**Makanchi Array**	**42.92**	**348**	P	P	17 36 28.2	-1.9
	2.0nm,0.5s,baz=165,slow=8.0,SNR=25						
WRA	**Warramunga Arr**	**46.71**	**123**	P	P	17 36 59.6	-1.1
	0.5nm,0.4s,baz=306,slow=8.3,SNR=16						
ASAR	**Alice Springs**	**48.17**	**128**	P	P	17 37 09.2	-3.0
	0.4nm,0.6s,baz=296,slow=7.3,SNR=6.3						
ZAL	**Zalesovo**	**49.44**	**353**	P	P	17 37 19.1	-2.4
	1.4nm,0.5s,baz=314,slow=5.5,SNR=6.6						
GERES	**GERESS Array B**	**79.93**	**319**	P	P	17 40 39.4	-1.0
	0.1nm,0.3s,baz=127,slow=4.9,SNR=4.1						

*BJI **18** 17:29:14.9, 2.00N×97.06E, h36km, mB4.8, mb4.5, Ms4.3, Msz3.9*
*IDC **18** 17:29:15.6±0.9, 2.53N×97.02E, mb4.4/14, mb1 4.5/15, mb1mx4.3/23, mbtmp4.3/15, ML4.2/1, MS3.5/2, Ms1 3.6/2, ms1mx3.0/18, Error ellipse: s-maj=46.0km s-min=13.5km az=51.0*
*NEIC **18** 17:29:20.0±0.5, 2.53N×97.03E, h30km, mb4.5/8, Error ellipse: s-maj=12.4km s-min=6.5km az=48.0*

ISC 18 17:29:18.3±0.5, 2.47N±0.07×97.03E±0.07, h30km, n51, σ1§02/53, mb4.4/28, MS3.5/3, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.57**	**52**	*e*Pn	**Pn**	**17 30 28.4**	**+1.0**
SNG	**Songkhla**	**5.89**	**37**	P	**Pn**	**17 30 47.5**	**+1.6**
	278nm,0.9s						
KSM	**Kuching**	**13.31**	**94**	P	**P**	**17 32 26.1**	**-1.9**
KKTK	**Khon Kaen**	**14.91**	**22**	P	**P**	**17 32 53.0**	**+3.9**
CMAR	**Chiang Mai Arr**	**16.00**	**7**	Pn	**P**	**17 33 02.4**	**-0.7**
	0.3nm,0.3s,baz=195,slow=12,SNR=23						
CMAR				LR	LR	17 39 00.8	
	comp=Z,114nm,20.4s,baz=190,slow=37						
CHG	**Chiang Mai**	**16.35**	**6**	P	**P**	**17 33 07.2**	**-0.4**
NANT	**Nan**	**16.62**	**12**	P	**P**	**17 33 15.0**	**+4.0**
KKM	**Kota Kinabalu**	**19.46**	**79**	*e*P	**P**	**17 33 44.6**	**-1.2**
KMI	**Kunming**	**23.18**	**13**	P	**P**	**17 34 24.9**	**+1.2**
KMI				AP		17 34 33.5	
KMI				S	**S**	**17 38 35.3**	**+6.0**
KMI				XS		17 38 48.3	
KMI				SS	SS	17 39 21.8	+6.2
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.0						
KMI				AMB	AMB		
	comp=Z,44nm,4.1s						
KMI				LR	LR		
	comp=N,119nm,19.8s,MS3.5						
KMI				LR	LR		
	comp=E,110nm,15.2s,MS3.5						
KMI				LR	LR		
	comp=Z,150nm,19.8s,MS3.5						
KMI	**Kunming**	**23.18**	**13**	P	**P**	**17 34 24.9**	**+1.2**
	comp=Z,6.0nm,1.0s,mb4.0						
KMI				pP		17 34 33.5	
KMI				S	**S**	**17 38 35.3**	**+6.0**
KMI				sS		17 38 48.2	
KMI				SS	SS	17 39 21.7	+6.1
KMI				LR	LR		
	comp=Z,150nm,19.8s,MS3.5						
JIRN	**Jiri**	**27.11**	**339**	*e*P	**P**	**17 35 00.8**	**+0.1**
	comp=Z,25nm,1.0s,mb4.7						
PKI	**Pulchoki**	**27.32**	**337**	*e*P	**P**	**17 35 02.5**	**-0.2**
GUN	**Gumba**	**27.45**	**338**	*e*P	**P**	**17 35 04.0**	**+0.1**
	comp=Z,39nm,0.9s,mb4.9						
DMN	**Daman**	**27.47**	**337**	*e*P	**P**	**17 35 03.8**	**-0.3**
	comp=Z,5.5nm,0.4s,mb4.4						
KKN	**Kakani**	**27.57**	**337**	*e*P	**P**	**17 35 04.7**	**-0.2**
	comp=Z,17nm,1.0s,mb4.6						
LSA	**Lhasa**	**27.65**	**349**	P	**P**	**17 35 05.8**	**+0.2**
	comp=Z,2.4nm,0.4s,mb4.2						
GKN	**Gorkha**	**28.01**	**336**	*e*P	**P**	**17 35 08.1**	**-0.9**
	comp=Z,21nm,0.9s,mb4.8						
KOLN	**Koldanda**	**28.24**	**334**	*e*P	**P**	**17 35 10.9**	**-0.1**
	comp=Z,15nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.82**	**127**	P	**P**	**17 36 07.9**	**-1.1**
	comp=Z,3.4nm,0.5s,mb4.5,baz=84,slow=2.7,SNR=8.9						
WMQ	**Urumqi**	**42.00**	**350**	⇓P	**P**	**17 37 08.9**	**+0.3**
WMQ				AP	pP	17 37 18.8	+1.2
WMQ				XP	sP	17 37 22.9	+1.6
WMQ				PP	PP	17 38 49.9	+1.0
WMQ				PCP	PcP	17 39 04.0	0.0
WMQ				S	**S**	**17 43 25.3**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.4s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,65nm,4.8s						
WMQ				LR	LR		
	comp=N,65nm,20.2s,MS3.5						
WMQ				LR	LR		
	comp=E,35nm,21.6s,MS3.5						
WMQ				LR	LR		
	comp=Z,23nm,20.8s,MS3.0						
WRA	**Warramunga Arr**	**42.86**	**123**	P	**P**	**17 37 16.9**	**+0.9**
	comp=Z,3.8nm,0.4s,mb4.5,baz=302,slow=9.1,SNR=24						
WRAB	**Tennant Creek**	**42.87**	**123**	*e*P	**P**	**17 37 16.7**	**+0.6**
	comp=Z,7.2nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**42.87**	**123**	*e*P	**P**	**17 37 17.0**	**+0.9**
ULHL	**Ulahol**	**43.76**	**338**	P	**P**	**17 37 23.6**	**+0.7**
	SNR=8.4						
ASAR	**Alice Springs**	**44.30**	**128**	P	**P**	**17 37 27.6**	**-0.1**
	comp=Z,1.6nm,0.6s,mb3.9,baz=298,slow=7.9,SNR=12						
FORT	**Forrest**	**44.36**	**141**	*e*P	**P**	**17 37 31.3**	**+3.3**
	comp=Z,264nm,0.6s						
UCH	**Uchtor**	**44.42**	**336**	P	**P**	**17 37 29.5**	**+1.1**
	SNR=10.0						
KBK	**Karagaybulak**	**44.61**	**337**	P	**P**	**17 37 31.4**	**+1.5**
	SNR=10						
AML	**Almayashu**	**44.68**	**335**	P	**P**	**17 37 31.8**	**+1.3**
	SNR=6.7						
AAK	**Ala-Archa**	**44.77**	**336**	*e*P	**P**	**17 37 31.0**	**-0.2**
	comp=Z,5.4nm,1.0s,mb4.3						
USP	**Uspenovka**	**45.30**	**337**	P	**P**	**17 37 36.0**	**+0.6**
	SNR=10						
SONM	**Songino Array**	**45.91**	**9**	P	**P**	**17 37 39.1**	**-0.9**
	comp=Z,1.6nm,0.4s,mb4.3,baz=190,slow=9.9,SNR=10						
SONM				PcP	PcP	17 39 17.3	0.0
	comp=Z,1.1nm,1.0s,baz=180,slow=3.7,SNR=3.7						
MKAR	**Makanchi Array**	**45.97**	**346**	P	**P**	**17 37 40.1**	**-0.5**
	comp=Z,2.5nm,0.4s,mb4.5,baz=157,slow=8.8,SNR=22						
ULN	**Ulaanbaatar**	**46.04**	**9**	*e*P	**P**	**17 37 38.8**	**-2.4**
	comp=Z,1.9nm,0.8s,mb4.1						
CN2	**Changchun**	**48.26**	**28**	*e*P	**P**	**17 37 59.8**	**+1.2**
PMG	**Port Moresby**	**51.32**	**104**	P	**P**	**17 38 21.9**	**-0.6**
	comp=Z,15nm,0.8s,mb5.0,baz=286,slow=2.3,SNR=8.5						
PMG	**Port Moresby**	**51.32**	**104**	*e*P	**P**	**17 38 21.8**	**-0.6**
	comp=Z,12nm,0.6s,mb5.0						
ZAL	**Zalesovo**	**52.27**	**351**	P	**P**	**17 38 28.3**	**-0.8**
	comp=Z,7.9nm,0.6s,mb4.8,baz=309,slow=5.7,SNR=30						
STKA	**Stephens Creek**	**54.34**	**133**	P	**P**	**17 38 45.0**	**+0.3**
	comp=Z,2.9nm,0.7s,mb4.3,baz=358,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**54.34**	**133**	P	**P**	**17 38 45.0**	**+0.3**
BVAR	**Borovoye Array**	**55.00**	**341**	P	**P**	**17 38 47.7**	**-1.5**
	comp=Z,1.2nm,0.6s,mb4.1,baz=143,slow=7.4,SNR=8.6						
CHKZ	**Chkalovo**	**55.47**	**341**	*e*P	**P**	**17 38 51.2**	**-1.4**
	comp=Z,9.3nm,0.9s,mb4.8						
YAK	**Yakutsk**	**64.26**	**16**	*e*P	**P**	**17 39 50.0**	**-2.8**
	comp=Z,12nm,0.6s,mb5.1						
BRTR	**Keskin Array B**	**68.13**	**312**	P	**P**	**17 40 17.1**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=111,slow=11,SNR=3.7						
AKASG	**Malin Array Be**	**74.15**	**322**	P	**P**	**17 40 53.7**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.3,baz=87,slow=4.9,SNR=8.9						
BOSA	**Boshof**	**75.26**	**240**	LR	LR	18 10 36.8	
	comp=Z,45nm,18.6s,MS3.8,baz=348,slow=33						
FINES	**FINESS Array B**	**78.80**	**332**	P	**P**	**17 41 19.9**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=90,slow=5.7,SNR=7.5						
ARCES	**ARCESS Array B**	**81.29**	**340**	P	**P**	**17 41 33.2**	**+0.4**
	comp=Z,5.7nm,1.0s,mb4.5,baz=90,slow=6.1,SNR=7.8						
ARCES	**ARCESS Array B**	**81.29**	**340**	P	**P**	**17 41 33.2**	**+0.4**
NOA	**NORSAR Array B**	**85.82**	**331**	P	**P**	**17 41 57.2**	**+1.2**
	comp=Z,3.0nm,1.0s,mb4.5,baz=94,slow=4.9,SNR=3.8						
NOA	**NORSAR Array B**	**85.82**	**331**	P	**P**	**17 41 57.2**	**+1.2**

IDC 18 17:45:19.2±3.1, 0.87N×97.78E, mb3.7/5, mb1 3.8/6, mb1mx3.7/20, mbtmp3.6/6, Error ellipse: s-maj=123.4km s-min=21.1km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.51**	**4**	P	P	17 49 25.8	-0.7
	baz=190,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**41.37**	**122**	P	P	17 53 06.9	-1.9
	0.6nm,0.8s,baz=301,slow=8.9,SNR=4.3						
ASAR	**Alice Springs**	**42.73**	**127**	P	P	17 53 18.9	-1.3
	0.2nm,0.4s,baz=298,slow=7.7,SNR=6.3						
SONM	**Songino Array**	**47.37**	**8**	P	P	17 53 54.8	-2.1
	0.6nm,0.6s,baz=192,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**47.70**	**346**	P	P	17 53 57.9	-1.7
	1.0nm,0.5s,baz=162,slow=9.1,SNR=16						
ZAL	**Zalesovo**	**53.96**	**351**	P	P	17 54 44.0	-3.0
	0.6nm,0.3s,baz=339,slow=9.4,SNR=3.6						

*IDC **18** 18:33:56.7±1.8, 10.70N×91.55E, h21km±5km, mb3.7/6, mb1 3.8/7, mb1mx3.6/22, mbtmp3.7/7, ML3.2/1, MS2.5/1, Ms1 2.7/1, ms1mx2.5/21, Error ellipse: s-maj=61.2km s-min=15.7km az=69.0*
*NEIC **18** 18:33:56.5±0.7, 10.73N×91.55E, mb4.0/4, Error ellipse: s-maj=20.5km s-min=10.0km az=69.0*

ISC 18 18:33:54.6±0.9, 10.8N±0.1×91.6E±0.2, h22km, h22km±.3km:pP-P, n11, σ0§48/11, mb3.9/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.44**	**42**	Pn	**P**	**18 36 26.3**	**0.0**
	0.1nm,0.3s,baz=240,slow=14,SNR=8.4						
CMAR				LR	LR	18 40 29.6	
	comp=Z,28nm,20.9s,baz=140,slow=37						
ENH	**Enshi**	**25.57**	**38**	*e*P	**P**	**18 39 23.3**	**-0.5**
	6.5nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**35.11**	**338**	P	**P**	**18 40 48.0**	**-0.4**
	0.6nm,0.4s,mb3.9						
MKAR	**Makanchi Array**	**36.79**	**349**	P	**P**	**18 41 02.8**	**+0.2**
	0.7nm,0.7s,mb3.6,baz=180,slow=7.3,SNR=6.7						
MKAR				pP	pP	18 41 09.7	+0.5
	0.5nm,0.6s,baz=173,slow=9.1,SNR=4.1						
SONM	**Songino Array**	**39.01**	**16**	P	**P**	**18 41 22.2**	**+1.0**
	0.4nm,0.4s,mb3.5,baz=205,slow=7.7,SNR=7.0						
SONM				pP	pP	18 41 28.9	+1.1
	0.4nm,0.4s,baz=208,slow=8.1,SNR=5.1						
FITZ	**Fitzroy Crossi**	**44.16**	**130**	P	**P**	**18 42 03.5**	**-0.3**
	3.4nm,1.1s,mb4.0,baz=247,slow=8.5						
CHKZ	**Chkalovo**	**46.00**	**343**	P	**P**	**18 42 17.7**	**-0.3**
	0.8nm,0.6s,mb3.8						
CHKZ				*e*pP	pP	18 42 24.2	-0.4
WRA	**Warramunga Arr**	**51.95**	**126**	P	**P**	**18 43 04.5**	**0.0**
	0.7nm,0.7s,mb3.7,baz=306,slow=8.5,SNR=15						
WRA				pP	pP	18 43 11.1	-0.2
	0.5nm,0.5s,baz=306,slow=8.3,SNR=6.3						
WRAB	**Tennant Creek**	**51.95**	**126**	*e*P	**P**	**18 43 04.0**	**-0.5**
	2.3nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**53.66**	**130**	P	**P**	**18 43 17.2**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=304,slow=6.6,SNR=16						
ASAR				pP	pP	18 43 24.0	+0.1
	0.7nm,0.8s,baz=304,slow=6.8,SNR=5.9						
STKA	**Stephens Creek**	**63.88**	**133**	P	**P**	**18 44 29.0**	**+0.8**
	1.3nm,0.8s,mb4.0,baz=290,slow=21,SNR=3.8						

*TAP **18** 18:45:03.7, 24.13N×122.83E, h9km±1km, ML3.3*

JMA 18 18:45:05.0±0.1, 24.25N×122.87E, h54km±2km, M2.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.25**	**31**	P	P	18 45 14.1	0.0
YOJ				S	S	18 45 20.6	-0.1
IRIF	**Iriomote-Funau**	**0.79**	**84**	P	P	18 45 19.9	-0.3
IRIF				S	S	18 45 31.7	+0.3
HATJ	**Hateruma jima**	**0.88**	**103**	P	P	18 45 21.2	-0.1
HATJ				S	S	18 45 32.9	-0.6
JKRS	**Kuro-shima**	**1.04**	**90**	P	P	18 45 23.8	+0.2
JKRS				S	S	18 45 38.1	+0.7
JIJ	**Ishigaki jima**	**1.17**	**84**	P	P	18 45 25.0	-0.3
JIJ				eS	S	18 45 39.7	-0.8
JTJ	**Tarama**	**1.71**	**77**	P	P	18 45 33.4	+0.3
JTJ				eS	S	18 45 54.0	+0.1
JOGS	**Gusukube**	**2.37**	**77**	*e*S	S	18 46 11.1	+1.0

MAN 18 18:47:10.9, 19.15N×121.19E, h30km, mb4.5, ML3.4, MS3.3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.21**	**138**	*e*P	Pn	18 47 32.3	+0.2
SGCP				*e*S	Sn	18 47 47.5	-0.1
APYP	**Conner**	**1.28**	**178**	*e*P	Pn	18 47 32.5	-0.6
BBP	**Basco**	**1.48**	**29**	*e*P	Pn	18 47 35.5	-0.4
CVP	**Callao Caves**	**1.56**	**157⇑**	*e*P	Pn	18 47 37.0	0.0
CVP						18 47 57.0	
ABRA	**Dolores**	**1.56**	**197**	*e*P	Pn	18 47 36.7	-0.4
CAUP	**Cauayan**	**2.27**	**165**	*e*P	Pn	18 47 50.1	+2.8

DJA 18 19:12:33.5±1.2, 9.56S×113.91E, h15km, MD4.9/4, ML4.1/3, 1C-3D, Error ellipse: s-maj=31.8km s-min=13.4km az=55.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.10**	**12⇓**	*e*Pn	Pn	19 12 51.4	-2.9
	342nm,0.2s						
SRDI				*e*Sn	Sn	19 13 05.2	-3.9
KELI	**Kelakatan**	**1.45**	**23⇑**	*e*Pn	Pn	19 12 57.3	-2.1
KELI				*e*Sn	Sn	19 13 13.6	-4.6
RATI	**Rata**	**1.81**	**63⇓**	*e*Pn	Pn	19 13 01.7	-2.7
	284nm,0.2s						
KEDI	**Kedomdong**	**2.42**	**64⇓**	*e*Pn	Pn	19 13 10.4	-2.9
	35nm,0.2s						

*BJI **18** 19:17:01.1, 2.18S×99.92E, h39km, mB4.9, mb4.6, Ms4.3, Msz4.1*
*MOS **18** 19:17:03.3±1.4, 1.71S×99.88E, h33km, mb4.8/12, Error ellipse: s-maj=16.6km s-min=7.5km az=122.1*
*NEIC **18** 19:17:04.5±0.3, 1.75S×99.86E, mb4.7/15, Error ellipse: s-maj=11.7km s-min=5.5km az=53.0*
*IDC **18** 19:17:08.9±2.9, 1.69S×99.97E, h64km±24km, mb4.1/16, mb1 4.3/16, mb1mx4.2/20, mbtmp4.4/16, MS3.6/4, Ms1 3.7/4, ms1mx3.3/26, Error ellipse: s-maj=21.4km s-min=10.5km az=45.0*

ISC 18 19:17:03.3±0.3, 1.75S±0.05×99.91E±0.06, h33km, (h31km±2.3km:pP-P), n85, σ1§13/90, mb4.6/43, MS3.9/9, 2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**6.48**	**126**	*e*Pn	**Pn**	**19 18 39.0**	**0.0**
PENI				*e*Sn	**Sn**	**19 19 52.8**	**+0.3**
KULM	**Kulim**	**7.03**	**6**	*e*P	**P**	**19 18 46.9**	**+0.3**
PASI	**Pasiripis**	**7.49**	**131**	*e*Pn	**Pn**	**19 18 51.8**	**-1.4**
PASI				*e*Sn	**Sn**	**19 20 13.0**	**-4.9**
PULI	**Pulasari**	**7.58**	**127**	*e*Pn	**Pn**	**19 18 53.3**	**-1.1**
CM31	**Chiang Mai Arr**	**20.10**	**357**	*e*P	**P**	**19 21 35.9**	**-1.2**
	5.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.10**	**357**	P	**P**	**19 21 35.1**	**-2.0**
	3.3nm,0.7s,baz=186,slow=9.7,SNR=35						
CMAR				PcP	PcP	19 25 52.2	+0.8
	0.9nm,0.8s,baz=206,slow=4.1,SNR=5.6						
CMAR				LR	LR	19 29 40.8	
	comp=Z,76nm,21.7s,MS3.0,baz=190,slow=38						
NANT	**Nan**	**20.43**	**2**	P	**P**	**19 21 41.0**	**+0.4**
CHG	**Chiang Mai**	**20.45**	**357**	P	**P**	**19 21 44.0**	**+3.2**
PALK	**Pallekele**	**21.16**	**295**	P	**P**	**19 21 44.9**	**-3.2**
	11nm,0.9s,mb4.2						
QIZ	**Qiongzhong**	**22.84**	**25**	P	**P**	**19 22 06.4**	**+1.5**
QIZ				*e*S	**S**	**19 26 11.9**	**+4.3**
QIZ				LR	LR		
	comp=N,214nm,11.3s,MS4.0						
QIZ				LR	LR		
	comp=E,213nm,12.0s,MS4.0						
QIZ				LR	LR		
	comp=Z,406nm,11.6s,MS4.1						
FITZ	**Fitzroy Crossi**	**30.03**	**124⇓**	*i*P	**P**	**19 23 11.8**	**+0.1**
	comp=Z,13nm,0.9s,mb4.7						
FITZ	**Fitzroy Crossi**	**30.03**	**124**	P	**P**	**19 23 11.3**	**-0.3**
	comp=Z,18nm,0.9s,mb4.8,baz=302,slow=4.0,SNR=16						
JIRN	**Jiri**	**32.08**	**337**	*e*P	**P**	**19 23 30.3**	**+0.6**
	comp=Z,30nm,0.8s,mb5.2						
PKI	**Pulchoki**	**32.32**	**335**	*e*P	**P**	**19 23 31.3**	**-0.5**
	comp=Z,8.1nm,0.6s,mb4.7						
LSA	**Lhasa**	**32.37**	**346**	P	**P**	**19 23 33.4**	**+1.1**
LSA	**Lhasa**	**32.37**	**346**	*e*P	**P**	**19 23 32.8**	**+0.5**
LSA				*e**PP	pP	19 23 42.0	+0.1
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**32.37**	**346**	*e*P	**P**	**19 23 32.8**	**+0.6**
	comp=Z,7.0nm,0.8s,mb4.5						
LSA				*e*pP	pP	19 23 42.0	+0.1
GUN	**Gumba**	**32.43**	**336**	*e*P	**P**	**19 23 33.3**	**+0.6**
	comp=Z,20nm,0.6s,mb5.2						
DMN	**Daman**	**32.48**	**335**	*e*P	**P**	**19 23 33.0**	**-0.2**
	comp=Z,16nm,1.1s,mb4.8						
KKN	**Kakani**	**32.56**	**335**	*e*P	**P**	**19 23 33.8**	**-0.1**
	comp=Z,23nm,0.9s,mb5.1						
GKN	**Gorkha**	**33.02**	**335**	*e*P	**P**	**19 23 37.8**	**-0.1**
	comp=Z,20nm,1.1s,mb5.0						
ENH	**Enshi**	**33.12**	**15**	*e*P	**P**	**19 23 36.9**	**-1.9**
	comp=Z,2.9nm,0.5s,mb4.5						
ENH				*e*pP	pP	19 23 44.6	-3.8
KOLN	**Koldanda**	**33.28**	**333**	*e*P	**P**	**19 23 40.2**	**+0.1**
	comp=Z,28nm,1.1s,mb5.1						
LZH	**Lanzhou**	**37.82**	**5**	*e*P	**P**	**19 24 21.4**	**+2.8**
LZH				PP	PP	19 25 52.4	+4.0
LZH				*e*S	**S**	**19 30 12.0**	**+5.0**
LZH				XS		19 30 27.4	
LZH				*e*SS	SS	19 32 49.5	+6.2
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,81nm,4.5s						
LZH				LR	LR		
	comp=N,310nm,14.7s						
LZH				LR	LR		
	comp=Z,550nm,15.6s,MS4.5						
NJ2	**Nanjing**	**38.11**	**27**	*e*P	**P**	**19 24 23.1**	**+2.0**
NJ2				AP	pP	19 24 33.3	+2.4
NJ2				XP	sP	19 24 36.0	+0.9
NJ2				PP	PP	19 25 54.1	+2.2
NJ2				S	**S**	**19 30 15.0**	**+3.5**
NJ2				XS		19 30 30.0	
NJ2				AMB	AMB		
	comp=Z,460nm,5.2s						
NJ2				LR	LR		
	comp=N,590nm,10.8s,MS4.7						
NJ2				LR	LR		
	comp=E,260nm,10.2s,MS4.7

comp=Z,52nm,19.7s,MS3.4,baz=323,slow=36
WMQ Urumqi 46.67 348 P **P** **19 25 31.3 +0.6**
WMQ AP pP 19 25 41.3 +0.7
WMQ XP sP 19 25 45.3 +0.6
WMQ PCP PcP 19 27 06.3 +1.8
WMQ PP PP 19 27 20.3 +0.1
WMQ S **S** **19 32 17.3 +0.3**
WMQ AMB AMB
comp=Z,40nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,79nm,4.3s
WMQ LR LR
comp=N,23nm,21.8s,MS3.8
WMQ LR LR
comp=E,116nm,18.0s,MS3.8
WMQ LR LR
comp=Z,29nm,21.8s,MS3.2
STKA Stephens Creek 49.38 132 P **P** **19 25 52.7 +0.7**
comp=Z,2.5nm,0.4s,mb4.6,baz=317,slow=8.6,SNR=16
STKA Stephens Creek 49.38 132 *eP* **P** **19 25 52.2 +0.2**
UCH Uchtor 49.43 335 P **P** **19 25 53.7 +1.4**
SNR=5.5
KBK Karagaybulak 49.61 336 P **P** **19 25 54.1 +0.5**
SNR=6.3
AML Almayashu 49.70 334 P **P** **19 25 55.2 +0.9**
SNR=7.7
SONM Songino Array 49.70 6 P **P** **19 25 54.9 +0.6**
comp=Z,5.2nm,0.7s,mb4.7,baz=186,slow=9.3,SNR=11
SONM PcP PcP 19 27 14.5 -0.9
comp=Z,2.6nm,0.8s,baz=182,slow=2.7,SNR=5.7
AAK Ala-Archa 49.77 335 *eP* **P** **19 25 54.2 -0.7**
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
AAK Ala-Archa 49.77 335 *eP* **P** **19 25 54.2 -0.7**
comp=Z,1.7nm,0.9s,mb4.1
ULN Ulaanbaatar 49.80 6 *eP* **P** **19 25 55.0 0.0**
ULN pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
ULN Ulaanbaatar 49.80 6 *eP* **P** **19 25 55.0 -0.1**
comp=Z,3.1nm,0.7s,mb4.5
EKS2 Erkin-Say 50.10 335 P **P** **19 25 58.3 +0.9**
SNR=11
USP Ospenovka 50.30 336 P **P** **19 25 59.2 +0.4**
SNR=7.8
MKAR Makanchi Array 50.76 344 P **P** **19 26 02.5 +0.2**
comp=Z,11nm,0.7s,mb4.9,baz=148,slow=8.0,SNR=86
CN2 Changchun 50.79 24 *eP* **P** **19 26 01.6 -1.0**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
ZAL Zalesovo 56.90 349 P **P** **19 26 47.1 -0.3**
comp=Z,14nm,0.6s,mb5.2,baz=314,slow=5.4,SNR=73
CHKZ Chkalovo 60.38 340 *eP* **P** **19 27 10.6 -1.0**
CHKZ pmax pmax
comp=Z,11nm,1.1s,mb4.8
CHKZ Chkalovo 60.38 340 *eP* **P** **19 27 10.6 -1.0**
comp=Z,11nm,1.1s,mb4.8
BOD Bodaibo 60.45 9 *eP* **P** **19 27 08.5 -3.5**
YSS Yuzh-Sakhalins 61.32 32 *eP* **P** **19 27 18.0 -0.1**
KMBO Kilima Mbogo 62.64 270 P **P** **19 27 28.1 +0.7**
comp=Z,1.6nm,0.7s,mb4.2,baz=100,slow=12,SNR=8.3
GNI Garni 65.28 316 *i P* **P** **19 27 41.1 -3.2**
GNI pmax pmax
comp=Z,4.0nm,1.7s
SVE Sverdlovsk 66.42 338 *eP* **P** **19 27 50.5 -0.7**
SVE *e* 19 28 09.0
ARU Arti 66.94 336 ⇓*iP* **P** **19 27 52.0 -2.5**
ARU *e*PPP PPP 19 31 57.6 -3.1
ARU *e*S S 19 36 43.5 -0.4
ARU *e*SS SS 19 41 00.0 -4.4
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
YAK Yakutsk 67.52 15 *eP* **P** **19 27 56.6 -1.5**
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK Yakutsk 67.52 15 *eP* **P** **19 27 56.8 -1.3**
comp=E,23nm,0.9s,mb5.2
KIV Kislovodsk 68.29 319 *eP* **P** **19 28 03.4 +0.1**
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.8
KIV pmax pmax
comp=N,4.0nm,0.9s
KIV Kislovodsk 68.29 319 *eP* **P** **19 28 02.2 -1.1**
comp=N,11nm,1.1s,mb4.8
MALT Malatya 69.10 312 P **P** **19 28 08.0 -0.4**
SOC Sochi 70.11 318 *eP* **P** **19 28 11.3 -3.1**
SOC *e* 19 28 34.8
SOC *e*PPP PPP 19 32 28.9 -2.7
SOC *e*S S 19 37 20.8 -1.0
SOC *e* 19 38 05.9
SOC *e*SS SS 19 41 50.6 -2.7
SOC pmax pmax
comp=Z,45nm,1.4s,mb5.2
SOC pmax pmax
comp=N,45nm,1.5s
SOC pmax pmax
comp=E,55nm,1.4s
MAW Mawson 70.50 194 LR LR 19 53 37.4
comp=E,116nm,19.1s,MS4.2,baz=247,slow=31
MATP Matopo 71.98 249 P **P** **19 28 26.3 +0.3**
comp=E,5.2nm,0.9s,mb4.5,baz=85,slow=8.3,SNR=9.8
BRTR Keskin Array B 73.09 312 P **P** **19 28 31.1 -1.3**
comp=E,1.3nm,0.8s,mb3.9,baz=141,slow=7.9,SNR=5.8
TIXI Tiksi 75.62 9 *i P* **P** **19 28 45.6 -0.8**
TIXI pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
OBN Obninsk 76.53 328 *eP* **P** **19 28 51.7 -0.2**
OBN pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
AKASG Malin Array Be 79.23 322 *i P* **P** **19 29 06.6 -0.3**
AKASG Malin Array Be 79.23 322 P **P** **19 29 05.9 -1.0**
comp=Z,0.2nm,0.3s,mb3.5,baz=107,slow=4.3,SNR=4.7
JOF Joensuu 81.95 335 *ep* **P** **19 29 21.1 +0.1**
comp=Z,2.7nm,0.6s,mb4.3
VNDA Vanda 82.42 169 P **P** **19 29 24.9 +1.7**
comp=Z,0.5nm,0.6s,mb3.6,baz=320,slow=4.5,SNR=2.6
VNDA Vanda 82.42 169 P **P** **19 29 24.9 +1.7**
BILL Bilibino 82.95 20 *eP* **P** **19 29 23.2 -2.8**
BILL pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
FINES FINESS Array B 83.85 332 P **P** **19 29 31.4 +0.7**
comp=Z,2.2nm,0.6s,mb4.5,baz=96,slow=6.2,SNR=20
KAF Kangasniemi 83.92 333 *ep* **P** **19 29 31.6 +0.5**
comp=Z,3.6nm,0.6s,mb4.7,baz=100,slow=4.7
KAF Kangasniemi 83.92 333 *eP* **P** **19 29 31.6 +0.5**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
KEV Kevo 85.76 341 *ep* **P** **19 29 42.4 +2.3**
comp=Z,24nm,1.1s,mb5.3
KEV Kevo 85.76 341 *eP* **P** **19 29 42.4 +2.3**
KEV pmax pmax
comp=Z,24nm,1.1s,mb5.3
ARCES ARCESS Array B 86.21 340 P **P** **19 29 43.1 +0.9**
comp=Z,6.5nm,0.8s,mb4.9,baz=63,slow=5.4,SNR=8.6
ARCES LR LR 20 09 58.4
comp=Z,54nm,18.2s,MS4.0,baz=128,slow=37
GERES GERESS Array B 88.80 319 P **P** **19 29 56.3 +1.1**
comp=Z,0.9nm,0.7s,mb4.2,baz=90,slow=2.7,SNR=8.3
YKA Yellowknife Ar 114.16 17 PKP PKPdf 19 35 40.5 +1.4
comp=Z,0.1nm,0.4s,baz=348,slow=1.7,SNR=4.1
YKA Yellowknife Ar 114.16 17 PKP PKPdf 19 35 40.5 +1.4
PDAR Pinedale Array 131.40 29 PKP PKPdf 19 36 13.7 +0.7
comp=Z,0.3nm,0.7s,slow=3.0,SNR=4.0
TXAR Lajitas Array 144.56 37 PKP PKPdf 19 36 39.4 +2.2
comp=Z,4.7nm,0.7s,baz=282,slow=1.7,SNR=30

*IDC **18** 19:27:45.1±1.3,5.55N×94.48E,mb4.0/8,mb1 4.1/8, mb1mx3.8/21,mbtmp4.0/8,Error ellipse: s-maj=63.1km s-min=18.5km az=55.0*
*NEIC **18** 19:27:48.6±0.7,5.19N×94.12E,h30km,mb4.3/3,Error ellipse: s-maj=16.8km s-min=9.8km az=55.0*
ISC 18 19:27:46.9±0.8,5.2N±0.1×94.2E±0.1,h30km,n23,
σ1§02/23,mb4.1/16,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.43**	**89**	*e*Pn	**Pn**	**19 29 21.2**	**-1.0**
CM31	**Chiang Mai Arr**	**13.94**	**19**	*e*Pn	**P**	**19 31 06.5**	**+1.6**
1.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**13.94**	**19**	Pn	**P**	**19 31 05.5**	**+0.5**
0.5nm,0.3s,baz=208,slow=14,SNR=20							
JIRN	**Jiri**	**23.57**	**342**	*e*P	**P**	**19 32 57.2**	**+1.2**
11nm,0.8s,mb4.4							
PKI	**Pulchoki**	**23.74**	**340**	*e*P	**P**	**19 32 57.0**	**-0.7**
DMN	**Daman**	**23.88**	**340**	*e*P	**P**	**19 32 57.9**	**-1.1**
8.2nm,0.8s,mb4.2							
GUN	**Gumba**	**23.90**	**342**	*e*P	**P**	**19 33 00.0**	**+0.8**
KKN	**Kakani**	**23.99**	**340**	*e*P	**P**	**19 32 59.3**	**-0.7**
14nm,1.2s,mb4.3							
GKN	**Gorkha**	**24.40**	**339**	*e*P	**P**	**19 33 04.2**	**+0.1**
6.3nm,0.4s,mb4.4							
LSA	**Lhasa**	**24.51**	**354**	*e*P	**P**	**19 33 06.0**	**+0.9**
2.4nm,0.6s,mb3.9							
KOLN	**Koldanda**	**24.58**	**337**	*e*P	**P**	**19 33 07.3**	**+1.5**
5.9nm,0.5s,mb4.3							
MKAR	**Makanchi Array**	**42.67**	**348**	P	**P**	**19 35 42.2**	**-0.5**
3.1nm,0.6s,mb4.2,baz=169,slow=7.1,SNR=37							
MKAR	**Makanchi Array**	**42.67**	**348**	P	**P**	**19 35 42.2**	**-0.5**
SONM	**Songino Array**	**43.72**	**12**	P	**P**	**19 35 48.4**	**-2.7**
0.7nm,0.7s,mb3.5,baz=195,slow=9.3,SNR=6.1							
WRA	**Warramunga Arr**	**46.73**	**124**	P	**P**	**19 36 15.6**	**+0.1**
1.3nm,0.7s,mb4.0,baz=304,slow=9.0,SNR=20							
WRAB	**Tennant Creek**	**46.73**	**124**	*e*P	**P**	**19 36 16.0**	**+0.4**
2.3nm,0.7s,mb4.2							
ASAR	**Alice Springs**	**48.22**	**128**	P	**P**	**19 36 28.0**	**+0.8**
0.6nm,0.4s,mb3.9,baz=302,slow=8.1,SNR=14							
ZAL	**Zalesovo**	**49.16**	**353**	P	**P**	**19 36 32.7**	**-1.4**
1.9nm,0.3s,mb4.6,baz=305,slow=7.5,SNR=7.7							
ZAL	**Zalesovo**	**49.16**	**353**	P	**P**	**19 36 32.7**	**-1.4**
BVAR	**Borovoye Array**	**51.50**	**342**	P	**P**	**19 36 50.9**	**-0.9**
1.1nm,0.5s,mb4.1,baz=144,slow=10,SNR=20							
CHKZ	**Chkalovo**	**51.99**	**342**	*e*P	**P**	**19 36 54.9**	**-0.7**
3.4nm,0.4s,mb4.6							
FINES	**FINESS Array B**	**75.06**	**333**	P	**P**	**19 39 26.9**	**-0.6**
1.4nm,1.0s,mb3.9,baz=90,slow=5.7,SNR=4.6							
GERES	**GERESS Array B**	**79.83**	**319**	P	**P**	**19 39 55.5**	**+1.3**
0.7nm,0.6s,mb3.8,baz=105,slow=5.5,SNR=9.5							

*BJI **18** 20:09:00.1,32.28N×137.64E,h363km,mB4.3,mb4.3*
*NIED **18** 20:09:00,32.40N×137.90E,h360km,Mw4.3 Best double couple: M₀3.01×10¹⁵ NP1:φ₀166°,δ89°,λ111°. NP2: φ₀259°,δ21°,λ3°.*
*MOS **18** 20:09:00.4±0.7,32.24N×137.73E,h373km,mb4.0/11, Error ellipse: s-maj=14.9km s-min=8.3km az=92.2*
*IDC **18** 20:09:01.9±0.6,32.31N×137.71E,h369km±6km,mb3.6/21, mb1 3.8/23,mb1mx3.7/30,mbtmp4.3/23,Error ellipse: s-maj=11.0km s-min=8.7km az=95.0*
*NEIC **18** 20:09:01.8±0.5,32.25N×137.72E,h371km±4km,mb4.1/20, Error ellipse: s-maj=6.3km s-min=4.8km az=140.0*
*JMA **18** 20:09:01.2±0.3,32.37N×137.93E,h392km±4km,M4.1*
ISC 18 20:09:01.5±0.3,32.31N±0.04×137.80E±0.04,h381km±2km,
n109,σ1§00/130,mb3.9/44,10C-6D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**1.46**	**353**	P	**P**	**20 09 53.6**	**+0.7**
TK01				*e*S	**S**	**20 10 34.8**	**+1.6**
TK02	**Tokai 2**	**1.63**	**359**	⇓P	**P**	**20 09 54.7**	**+0.9**
TK02				*e*S	**S**	**20 10 36.0**	**+1.2**
TK03	**Tokai 3**	**1.85**	**4**	*e*S	**S**	**20 10 39.9**	**+2.8**
JHJ	**Hachijo jima 2**	**1.86**	**64**	P	**P**	**20 09 54.9**	**-0.3**
110nm,0.3s,baz=90,slow=2.8,SNR=54							
JHJ				S	**S**	**20 10 38.0**	**+0.8**
56nm,0.3s,baz=80,slow=21,SNR=4.4							
JHJ2	**Mitsune**	**1.88**	**64**	P	**P**	**20 09 55.2**	**-0.1**
JWZ	**Kozaga**	**2.13**	**305**	⇑P	**P**	**20 09 57.3**	**+0.3**
JWZ				*e*S	**S**	**20 10 40.9**	**+0.5**
JIE	**Ise**	**2.26**	**337**	⇑P	**P**	**20 09 58.6**	**+0.7**
JIE				*e*S	**S**	**20 10 41.9**	**-0.2**
JWY	**Kouya**	**2.65**	**316**	⇑P	**P**	**20 10 01.8**	**+1.1**
JWY				*e*S	**S**	**20 10 47.8**	**+0.5**
JIM2	**Oshima 3**	**2.76**	**29**	P	**P**	**20 10 01.0**	**-0.6**
JOD2	**Odawara 2**	**3.13**	**20**	⇓P	**P**	**20 10 04.2**	**-0.5**
JOD2				*e*S	**S**	**20 10 53.0**	**-1.4**
JAI	**Aioi**	**3.17**	**299**	⇑P	**P**	**20 10 05.8**	**+0.7**
JYN	**Shimob**	**3.23**	**11**	⇓P	**P**	**20 10 06.0**	**+0.3**
JGM	**Miyama**	**3.49**	**345**	⇓P	**P**	**20 10 08.6**	**+0.6**
JGM				*e*S	**S**	**20 11 00.0**	**-0.3**
BSO1	**Boso 1**	**3.54**	**48**	P	**P**	**20 10 05.8**	**-2.6**
BSO1				*e*S	**S**	**20 10 56.4**	**-4.6**
JWT	**Wachi**	**3.57**	**327**	⇑P	**P**	**20 10 09.5**	**+0.8**
JWT				*e*S	**S**	**20 11 00.8**	**-0.8**
JMN	**Monobe**	**3.58**	**294**	⇑P	**P**	**20 10 09.9**	**+1.1**
JRY	**Ryogami san**	**3.81**	**14**	⇓P	**P**	**20 10 10.9**	**-0.1**
JRY				*e*S	**S**	**20 11 03.9**	**-1.6**
MJAR	**Matsushiro Arr**	**4.23**	**4**	P	**P**	**20 10 14.4**	**-0.8**
22nm,0.3s,baz=202,slow=7.4,SNR=177							
MJAR				S	**S**	**20 11 10.6**	**-2.4**
5.1nm,0.3s,baz=171,slow=16,SNR=4.2							
MAJO	**Matsushiro**	**4.23**	**4**	*e*P	**P**	**20 10 14.4**	**-0.8**
MAT	**Matsushiro**	**4.23**	**4**	*e*P	**P**	**20 10 15.0**	**-0.2**
MAT				*e*S	**S**	**20 11 11.0**	**-2.0**
MAT	**Matsushiro**	**4.23**	**4**	P	**P**	**20 10 14.7**	**-0.5**
MAT				S	**S**	**20 11 10.8**	**-2.2**
JTO	**Tosashimizu**	**4.25**	**279**	⇑P	**P**	**20 10 16.2**	**+0.8**
JHS	**Saijyo**	**4.73**	**306**	⇑P	**P**	**20 10 21.3**	**+0.9**
CBIJ	**Chichi jima**	**6.45**	**143**	P	**P**	**20 10 35.1**	**-4.0**
15nm,0.3s,baz=266,slow=20,SNR=29							
CBIJ	**Chichi jima**	**6.45**	**143**	P	**P**	**20 10 36.0**	**-3.1**
JSJ	**Shimokoshiki**	**6.89**	**267**	P	**P**	**20 10 45.4**	**+1.2**
JMK	**Ichinoseki**	**7.18**	**22**	P	**P**	**20 10 45.5**	**-2.1**
JMK				*e*S	**S**	**20 12 05.4**	**-5.7**
JTU	**Tsushima**	**7.36**	**290**	P	**P**	**20 10 50.2**	**+0.6**
INCN	**Inchon**	**10.52**	**302**	*e*P	**P**	**20 11 27.7**	**+1.0**
45nm,1.0s							
ASAJ	**Asahikawa**	**12.37**	**16**	P	**P**	**20 11 47.5**	**-0.7**
ASAJ				S	**S**	**20 13 59.9**	**-0.8**
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.3s							
ASAJ	**Asahikawa**	**12.37**	**16**	P	**P**	**20 11 47.5**	**-0.7**
comp=Z,3.3nm,0.3s,baz=220,slow=13,SNR=22							
ASAJ				S	**S**	**20 13 59.9**	**-0.8**
comp=Z,1.3nm,0.3s,baz=71,slow=27,SNR=6.1							
SSE	**Sheshan**	**14.20**	**269**	P	**P**	**20 12 05.4**	**-3.2**
SSE				AMB	AMB		
comp=Z,27nm,0.7s							
SSE				AMB	AMB		
comp=Z,32nm,3.8s							
SSE	**Sheshan**	**14.20**	**269**	P	**P**	**20 12 05.4**	**-3.2**
comp=Z,27nm,0.7s							
CN2	**Changchun**	**15.02**	**323**	*e*P	**P**	**20 12 17.5**	**+0.3**
CN2				*e*S	**S**	**20 14 55.6**	**+1.2**
CN2				AMB	AMB		
comp=Z,10.0nm,1.0s							
CN2				AMB	AMB		
comp=Z,200nm,3.0s							
YSS	**Yuzh-Sakhalins**	**15.11**	**13**	⇑*iP*	**P**	**20 12 17.8**	**-0.2**
YSS				*e*S	**S**	**20 15 01.6**	**+5.5**
YSS				smax			
comp=N,40nm,0.9s							
YSS	**Yuzh-Sakhalins**	**15.11**	**13**	P	**P**	**20 12 17.4**	**-0.6**
NJ2	**Nanjing**	**16.05**	**274**	*e*P	**P**	**20 12 26.8**	**-1.0**
NJ2				AMB	AMB		
comp=Z,20nm,0.5s							
TATO	**Taipei**	**16.07**	**247**	P	**P**	**20 12 26.4**	**-1.6**
BJI	**Beijing**	**19.05**	**300**	*e*P	**P**	**20 12 57.8**	**-0.3**
BJI				AMB	AMB		
comp=Z,10.0nm,0.8s							
BJI	**Beijing**	**19.05**	**300**	*e*P	**P**	**20 12 57.7**	**-0.4**
BJI				pmax	pmax		
comp=Z,10.0nm,0.8s							
BJI	**Beijing**	**19.05**	**300**	*e*P	**P**	**20 12 57.7**	**-0.4**
comp=Z,10.0nm,0.8s							
GUMO	**Guam**	**19.73**	**159**	*e*P	**P**	**20 13 04.3**	**-0.5**
HHC	**Hu-ho-hao-te**	**22.66**	**299**	*e*P	**P**	**20 13 31.6**	**-1.0**
HHC				AMB	AMB		
comp=Z,12nm,1.4s,mb3.9							
HHC				AMB	AMB		
comp=Z,57nm,4.6s							
BTO	**Baotou**	**23.75**	**298**	*e*P	**P**	**20 13 41.8**	**-0.8**
XAN	**Xi'an**	**24.20**	**282**	P	**P**	**20 13 45.8**	**-0.9**
XAN				AMB	AMB		
comp=Z,36nm,0.9s,mb4.6							
ENH	**Enshi**	**24.25**	**273**	*e*P	**P**	**20 13 45.8**	**-1.5**
comp=Z,15nm,1.1s,mb4.1							
GYA	**Guiyang**	**27.69**	**266**	⇑*iP*	**P**	**20 14 18.6**	**+0.5**
GYA				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.2							
ULN	**Ulaanbaatar**	**27.95**	**313**	*e*P	**P**	**20 14 19.6**	**-0.6**
ULN				pmax	pmax		
comp=Z,4.0nm,0.7s,mb3.8							
ULN	**Ulaanbaatar**	**27.95**	**313**	*e*P	**P**	**20 14 19.6**	**-0.6**
comp=Z,4.0nm,0.7s,mb3.8							
LZH	**Lanzhou**	**28.25**	**287**	*e*P	**P**	**20 14 21.0**	**-1.9**
LZH				XP	sP	20 16 14.3	-2.5
LZH				AMB	AMB		
comp=Z,18nm,1.4s,mb4.1							
LZH	**Lanzhou**	**28.25**	**287**	*e*P	**P**	**20 14 21.0**	**-1.9**
LZH				*SP	sP	20 16 14.2	-2.6
LZH				pmax	pmax		
comp=Z,18nm,1.4s,mb4.1							
LZH	**Lanzhou**	**28.25**	**287**	*e*P	**P**	**20 14 21.0**	**-1.9**
comp=Z,18nm,1.4s,mb4.1							
LZH				pP		20 15 40.0	
LZH				sP	sP	20 16 14.2	-2.6
SONM Songino Array 28.35 312 P **P** **20 14 23.8 +0.1**
comp=Z,2.1nm,0.6s,mb3.6,baz=112,slow=7.4,SNR=21
ZAK Zakamensk 31.20 316 *eP* **P** **20 14 48.5 +0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb3.4
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.0
GTA Gaotai 31.41 294 P **P** **20 14 49.8 -0.5**
GTA AP pP 20 15 54.1 -7.7
GTA PP PP 20 16 13.5 +2.2
GTA PCP PcP 20 17 32.9 -0.8
GTA S **S** **20 19 30.1 +0.2**
GTA SCP 20 20 40.8
GTA PCS 20 21 15.3
GTA XS 20 21 34.8
GTA SS SS 20 21 55.4 -2.5
GTA SCS ScS 20 24 34.8 -1.7
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.0
GTA AMB AMB
comp=Z,88nm,9.9s
GTA LR LR
comp=N,69nm,8.8s
GTA LR LR
comp=E,76nm,9.9s
GTA LR LR
comp=Z,78nm,15.2s
TLY Talaya 31.51 318 *eP* **P** **20 14 52.1 +1.1**
TLY pmax pmax
comp=Z,4.0nm,0.9s,mb3.6
TLY MLR MLR
comp=Z,61nm,13.0s
NANT Nan 35.88 257 P **P** **20 15 29.0 +0.6**
CHG Chiang Mai 37.33 258 P **P** **20 15 40.4 0.0**
CM31 Chiang Mai Arr 37.51 258 *eP* **P** **20 15 41.5 -0.3**
comp=Z,2.4nm,0.7s,mb3.5
CMAR Chiang Mai Arr 37.51 258 P **P** **20 15 42.0 +0.1**
comp=Z,2.3nm,0.8s,mb3.5,baz=48,slow=7.3,SNR=25
BILL Bilibino 39.38 16 ⇓*iP* **P** **20 15 58.0 +1.2**
BILL *e* 20 17 37.6
BILL *i* S **S** **20 21 30.5 +0.3**
BILL pmax pmax
comp=Z,21nm,0.8s,mb4.4
BILL Bilibino 39.38 16 *eP* **P** **20 15 57.3 +0.5**
comp=Z,30nm,1.0s,mb4.5
LSA Lhasa 39.83 279 *eP* **P** **20 16 00.3 -0.5**
WMQ Urumqi 40.52 301 P **P** **20 16 06.8 +0.5**
WMQ AP pP 20 17 21.3 +0.4
WMQ PP PP 20 17 51.0 +2.5
WMQ PCP PcP 20 18 01.0 0.0
WMQ *e*S **S** **20 21 48.0 +0.9**
WMQ AMB AMB
comp=Z,7.0nm,1.1s,mb3.8
WMQ AMB AMB
comp=Z,11nm,3.5s
WMQ LR LR
comp=N,18nm,17.0s
WMQ LR LR
comp=E,32nm,18.0s
WMQ LR LR
comp=Z,22nm,17.0s
ZAL Zalesovo 43.09 316 P **P** **20 16 26.0 -0.8**
comp=Z,2.1nm,0.4s,mb3.6,baz=53,slow=4.8,SNR=4.8
MKAR Makanchi Array 44.27 306 P **P** **20 16 36.3 0.0**
comp=Z,5.9nm,0.7s,mb3.8,baz=87,slow=10,SNR=15
AAK Ala-Archa 50.23 301 *eP* **P** **20 17 20.6 -1.4**
AAK pmax pmax
comp=Z,2.0nm,0.5s,mb3.6
AAK Ala-Archa 50.23 301 *eP* **P** **20 17 20.6 -1.5**
comp=Z,2.1nm,0.5s,mb3.6
FITZ Fitzroy Crossi 51.46 195 P **P** **20 17 30.6 -0.9**
comp=Z,5.1nm,0.6s,mb3.9,baz=30,slow=10,SNR=8.9
BVAR Borovoye Array 51.65 315 P **P** **20 17 31.6 -0.8**
comp=Z,3.2nm,0.5s,mb3.9,baz=104,slow=6.8,SNR=16
BVAR PcP PcP 20 18 39.9 -0.3
comp=Z,1.1nm,0.5s,baz=103,slow=4.1,SNR=4.5
WRAB Tennant Creek 52.05 184 *eP* **P** **20 17 34.4 -1.5**
WRAB pmax pmax
comp=Z,3.0nm,0.4s,mb4.0
WRAB Tennant Creek 52.05 184 *eP* **P** **20 17 34.4 -1.4**
comp=Z,2.6nm,0.4s,mb3.9
WRA Warramunga Arr 52.06 184 P **P** **20 17 34.3 -1.6**
comp=Z,1.7nm,0.4s,mb3.7,baz=360,slow=7.7,SNR=41
MCK McKinley 54.20 32 *eP* **P** **20 17 50.6 -0.2**
COLA College 54.65 30 *eP* **P** **20 17 54.2 +0.2**
COLA pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
COLA College 54.65 30 *eP* **P** **20 17 54.2 +0.2**
comp=Z,7.4nm,0.8s,mb4.1
ILAR Eielson Array 55.06 30 P **P** **20 17 56.1 -0.8**
comp=Z,2.7nm,0.7s,mb3.7,baz=271,slow=5.6,SNR=29
ASAR Alice Springs 55.79 184 P **P** **20 18 01.9 -0.7**
comp=Z,1.6nm,0.6s,mb3.5,baz=12,slow=13,SNR=24
ASAR ScP 20 22 18.6
comp=Z,0.4nm,0.6s,baz=2.6,slow=4.4,SNR=4.6
INK Inuvik 59.93 25 *eP* **P** **20 18 29.9 -0.3**
INK pmax pmax
comp=Z,2.0nm,0.4s
INK Inuvik 59.93 25 P **P** **20 18 30.4 +0.2**
comp=Z,2.4nm,0.6s,mb3.8,baz=317,slow=5.7,SNR=12
INK Inuvik 59.93 25 *eP* **P** **20 18 29.9 -0.3**
comp=Z,2.0nm,0.4s,mb3.9
STKA Stephens Creek 63.95 176 P **P** **20 18 57.2 +0.2**
comp=Z,0.6nm,0.5s,mb3.5,baz=348,slow=4.9,SNR=6.4
STKA Stephens Creek 63.95 176 *eP* **P** **20 18 56.8 -0.2**
DLBC Dease Lake 64.18 36 P **P** **20 18 59.8 +1.7**
comp=Z,2.3nm,0.8s,mb3.8,baz=293,slow=13,SNR=3.1
RES Resolute Bay 67.88 13 *eP* **P** **20 19 21.0 0.0**
RES pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
RES Resolute Bay 67.88 13 *eP* **P** **20 19 21.0 0.0**
comp=Z,2.3nm,0.5s,mb4.2
YKA Yellowknife Ar 69.37 28 P **P** **20 19 30.4 +0.2**
comp=Z,1.6nm,0.5s,mb4.0,baz=300,slow=6.2,SNR=37
YKA PcP PcP 20 19 51.8 +0.5
comp=Z,0.3nm,0.7s,baz=295,slow=4.4,SNR=3.6
YKA Yellowknife Ar 69.37 28 P **P** **20 19 30.4 +0.2**
YKA PcP PcP 20 19 51.8 +0.5
FINES FINESS Array B 71.58 332 P **P** **20 19 43.1 -0.3**
comp=Z,0.8nm,0.4s,mb3.8,baz=61,slow=6.4,SNR=10
YBH Yreka Blue Hor 75.62 50 P **P** **20 20 08.2 +1.3**
comp=Z,2.0nm,0.5s,mb4.1,baz=297,slow=5.6,SNR=5.8
AKASG Malin Array Be 76.17 322 P **P** **20 20 09.2 -0.6**
comp=Z,2.1nm,0.5s,mb4.2,baz=51,slow=6.0,SNR=13
BMO Blue Mountains 77.34 45 *eP* **P** **20 20 17.2 +0.9**
comp=Z,4.3nm,1.1s,mb4.1
FFC Flin Flon 79.28 31 *eP* **P** **20 20 26.9 +0.5**
FFC pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
FFC Flin Flon 79.28 31 *eP* **P** **20 20 26.9 +0.5**
comp=Z,3.0nm,1.0s,mb4.0
FCC Fort Churchill 79.53 25 *eP* **P** **20 20 28.0 +0.3**
FCC pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
FCC Fort Churchill 79.53 25 *eP* **P** **20 20 28.0 +0.3**
comp=Z,3.4nm,0.8s,mb4.1
BRTR Keskin Array B 79.69 311 P **P** **20 20 29.7 +0.7**
comp=Z,2.5nm,0.8s,mb4.0,baz=94,slow=3.8,SNR=9.6
HLID Hailey 79.79 45 *eP* **P** **20 20 30.8 +1.4**
comp=Z,1.7nm,0.8s,mb3.8
NVAR Mina Array Bea 80.24 51 P **P** **20 20 33.5 +1.6**
comp=Z,1.5nm,0.6s,mb3.9,baz=282,slow=7.2,SNR=9.4
ELK Elko 80.90 47 *eP* **P** **20 20 36.7 +1.5**
comp=Z,2.3nm,0.8s,mb4.0
FRB Frobisher Bay 82.01 11 P **P** **20 20 41.0 +0.6**
comp=Z,2.5nm,0.5s,mb4.3,baz=0.1,slow=5.2,SNR=4.4
DUG Dugway 82.72 47 *eP* **P** **20 20 44.7 +0.1**
DUG pmax pmax
comp=Z,13nm,1.4s,mb4.6
DUG Dugway 82.72 47 *eP* **P** **20 20 44.7 +0.1**
comp=Z,13nm,1.4s,mb4.6
BW06 Boulder Array 83.12 43 P **P** **20 20 47.6 +1.1**
PDAR Pinedale Array 83.12 43 P **P** **20 20 47.5 +1.0**
comp=Z,2.3nm,0.9s,mb4.0,baz=306,slow=2.5,SNR=6.7
SDCO Great Sand Dun 88.70 45 *eP* **P** **20 21 15.2 +1.7**

comp=Z,5.4nm,1.2s,mb4.2
TXAR Lajitas Array 95.39 50 P **P 20 21 46.2 +1.5**
comp=Z,1.8nm,0.6s,mb4.3,baz=294,slow=3.1,SNR=12
TXAR Lajitas Array 95.39 50 P **P 20 21 46.2 +1.5**
LPAZ La Paz 151.60 62 PKPbc PKPdf 20 28 14.1 +9.4
comp=Z,0.6nm,0.3s,baz=7.0,slow=4.9,SNR=5.8

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*IDC **18** 20:10:31.4±0.8, 32.65N×76.33E, mb3.8/15, mb1 3.9/16, mb1mx3.9/24, mbtmp3.8/16, ML4.0/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/23, Error ellipse: s-maj=19.7km s-min=16.3km az=26.0*
*NDI **18** 20:10:33.2±4.0, 32.66N×76.29E, h6km±19km, ML4.0, mb4.1(NEIC)*
*BJI **18** 20:10:34.5, 32.70N×76.40E, h25km, ML4.4, Ms3.8*
*MOS **18** 20:10:34.4±1.2, 32.70N×76.42E, h33km, mb4.2/4, Error ellipse: s-maj=16.4km s-min=9.3km az=105.8*
*NEIC **18** 20:10:34.6±0.6, 32.67N×76.41E, h20km, mb4.1/4, Error ellipse: s-maj=13.8km s-min=10.1km az=221.0*
NEIC Felt at Chamba.
*NNC **18** 20:10:43.9±7.7, 33.17N×76.20E, h99km±107km, Error ellipse: s-maj=62.2km s-min=57.2km az=9.0*
ISC 18 20:10:31.1±0.8, 32.64N±0.02×76.45E±0.03, h13km±5km, n79, σ1§27/102, mb3.8/18, MS2.8/2, 6C-7D, Kashmir-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**0.42**	**257**	*e*P	**Pg**	**20 10 39.0**	**-0.8**
DLH				*e*S	**Sg**	**20 10 46.0**	**+0.4**
THN	**Thein Dam**	**0.65**	**252**	*e*P	**Pb**	**20 10 42.4**	**-1.4**
THN				*e*S	**Sb**	**20 10 50.8**	**-1.7**
PONG	**Pong**	**0.80**	**212**	*e*	**Pb**	**20 10 46.0**	**-0.4**
PONG				*e*		20 11 07.0	
SDNR	**Sundarnagar**	**1.22**	**159**	*e*P	**Pb**	**20 10 55.8**	**+2.3**
SDNR				*e*		20 11 12.0	
BHK	**Bhakra**	**1.22**	**181**	*e*P	**Pb**	**20 10 58.5**	**+5.0**
BHK				*e*		20 11 22.7	
JMU	**Jammu**	**1.31**	**274**	⇑*i*PN	**Pn**	**20 10 56.5**	**+1.4**
JMU				*i*		20 11 18.5	
SMLA	**Simla**	**1.62**	**158**	⇓*i*P	**Pn**	**20 10 56.8**	**-2.9**
SMLA				*i* S	**Sn**	**20 11 19.1**	**-1.4**
KLP	**Kalpa**	**1.88**	**125**	*e*P	**Pn**	**20 11 09.4**	**+6.1**
KLP				*e*S	**Sn**	**20 11 34.1**	**+7.0**
DDI	**Dehra Dun**	**2.69**	**149**	*e*	**Pn**	**20 11 24.0**	**+9.2**
DDI				*e*SN	**Sn**	**20 11 51.5**	**+4.1**
KKR	**Kurukshetra**	**2.69**	**173**	*e*	**Pn**	**20 11 23.0**	**+8.2**
CHCP	**Chirah Chowk**	**2.86**	**292**	⇑P	**Pn**	**20 11 19.9**	**+2.6**
SARP	**Sargodha**	**3.28**	**258**	P	**Pn**	**20 11 22.8**	**-0.5**
JOSI	**Joshimath**	**3.37**	**127**	*e*	**Pn**	**20 11 13.5**	**-11**
RTK	**Rohtak**	**3.59**	**181**	*e*	**Pn**	**20 11 36.6**	**+8.9**
RTK				*e*		20 12 18.2	
KALG	**Kalgarh**	**3.69**	**147**	*e*	**Pn**	**20 11 22.0**	**-7.2**
KALG				*e*		20 12 00.2	
BHGR	**Bahadurgarh**	**3.96**	**174**	*e*	**Pn**	**20 11 41.4**	**+8.4**
THW	**Thamme Wali**	**3.97**	**274**	⇓P	**Pn**	**20 11 32.1**	**-1.0**
CEP	**Cherat**	**3.98**	**288**	⇓P	**Pn**	**20 11 35.3**	**+2.0**
CEP				S	**Sn**	**20 12 21.0**	**+0.7**
NDI	**New Delhi**	**4.00**	**170**	*e*	**Pn**	**20 11 46.0**	**+13**
NDI				*e*		20 12 31.0	
AYAN	**Aya Nagar**	**4.18**	**172**	*e*P	**Pn**	**20 11 47.2**	**+11**
AYAN				*e*S	**Sn**	**20 12 34.7**	**+9.4**
SONA	**Sohna**	**4.41**	**173**	*e*P	**Pn**	**20 11 41.9**	**+2.6**
SONA				*e*S	**Sn**	**20 12 30.3**	**-0.8**
SONA				*e*		20 12 56.1	
	comp=E,288nm,0.6s						
SONA				*e*		20 12 56.3	
	comp=N,179nm,0.5s						
PTH	**Pithoragarh**	**4.46**	**133**	*e*	**Pn**	**20 11 48.4**	**+8.3**
PTH				*e*		20 12 37.0	
LGTI	**Lohaghat**	**4.55**	**133**	*e*PN	**Pn**	**20 11 44.0**	**+2.7**
LGTI				*e*SN	**Sn**	**20 12 34.7**	**0.0**
KHET	**Khetri**	**4.58**	**187**	*e*P	**Pn**	**20 11 42.7**	**+1.0**
KHET				*e*		20 12 45.2	
KHET				*e*		20 13 03.7	
	comp=N,299nm,0.5s						
KHET				*e*		20 13 03.8	
	comp=E,247nm,0.5s						
SBDP	**Sheikh Budin**	**4.78**	**267**	P	**Pn**	**20 11 43.9**	**-0.7**
DRP	**Derazinda**	**5.37**	**262**	P	**Pn**	**20 11 52.5**	**-0.4**
AGRA	**Agra**	**5.54**	**166**	*i* P	**Pn**	**20 11 55.0**	**-0.3**
AGRA				*e*S	**Sn**	**20 12 58.5**	**-1.1**
AGRA				*e*		20 13 42.4	
	comp=E,719nm,0.9s						
AGRA				*e*		20 13 42.5	
	comp=N,512nm,1.1s						
AJM	**Ajmer**	**6.34**	**195**	*e*P	**Pn**	**20 12 06.2**	**-0.3**
AJM				*e*S	**Sn**	**20 13 14.5**	**-4.9**
AJM				*e*		20 13 53.6	
	comp=N,227nm,0.4s						
AJM				*e*		20 13 53.8	
	comp=E,383nm,0.7s						
KOLN	**Koldanda**	**7.86**	**126**	*e*Pn	**Pn**	**20 12 28.6**	**+0.7**
KOLN				*e*Sn	**Sn**	**20 13 55.6**	**-2.0**
	comp=E,68nm,0.5s						
GKN	**Gorkha**	**8.45**	**121**	*e*Pn	**P**	**20 12 36.3**	**+0.2**
GKN				*e*Sn	**Sn**	**20 14 07.2**	**-5.0**
	comp=E,92nm,0.4s						
DMN	**Daman**	**9.02**	**122**	*e*Pn	**P**	**20 12 43.0**	**-0.9**
DMN				*e*Sn	**Sn**	**20 14 20.7**	**-5.6**
	comp=E,52nm,0.5s						
KKN	**Kakani**	**9.04**	**120**	*e*Pn	**P**	**20 12 43.3**	**-1.0**
KKN				*e*Sn	**Sn**	**20 14 21.6**	**-5.2**
	comp=E,76nm,0.6s						
PKI	**Pulchoki**	**9.26**	**121**	*e*Pn	**P**	**20 12 46.7**	**-0.6**
PKI				*e*Sn	**Sn**	**20 14 27.5**	**-4.8**
	comp=E,44nm,0.3s						
BHPL	**Bhopal**	**9.40**	**175**	*e*P	**P**	**20 12 49.2**	**-0.1**
BHPL				*e*S	**Sn**	**20 14 27.6**	**-8.3**
BHPL				*e*		20 15 38.2	
	comp=N,40nm,0.4s						
BHPL				*e*		20 15 38.4	
	comp=E,104nm,0.9s						
GUN	**Gumba**	**9.41**	**118**	*e*Pn	**P**	**20 12 49.2**	**-0.3**
JIRN	**Jiri**	**9.78**	**118**	*e*Pn	**P**	**20 12 53.6**	**-0.9**
JIRN				*e*Sn	**Sn**	**20 14 39.2**	**-6.0**
	comp=E,80nm,0.4s						
AAK	**Ala-Archa**	**10.10**	**352**	⇓P	**P**	**20 13 00.8**	**+1.9**
	comp=E,5.6nm,0.7s						
AAK				⇑S	**S**	**20 14 48.0**	**-5.0**
	comp=E,18nm,1.2s						
AAK	**Ala-Archa**	**10.10**	**352**	*e*P	**P**	**20 12 59.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AAK	**Ala-Archa**	**10.10**	**352**	*e*P	**P**	**20 12 59.0**	**+0.1**
	comp=Z,5.8nm,0.7s						
KK31	**Karatay Array**	**11.45**	**338**	⇑P	**P**	**20 13 15.9**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=147,slow=13,SNR=38						
KK31				⇓S	**S**	**20 15 12.9**	**-13**
	comp=Z,9.2nm,0.6s,baz=157,slow=21,SNR=7.4						
KKAR	**Karatay Array**	**11.45**	**338**	P	**P**	**20 13 16.5**	**-0.8**
LSA	**Lhasa**	**12.93**	**99**	*e*P	**P**	**20 13 37.4**	**+0.2**
LATR	**Latur**	**14.16**	**180**	*e*	**S**	**20 16 32.5**	**+1.0**
WMQ	**Urumqi**	**14.22**	**35**	*e*P	**P**	**20 13 51.6**	**-2.6**
POO	**Poona**	**14.24**	**190**	*e*	**S**	**20 16 25.0**	**-8.4**
MK31	**Makanchi Array**	**14.83**	**16**	⇑P	**P**	**20 14 02.6**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=199,slow=13						
MK31				⇑S	**S**	**20 16 39.0**	**-8.0**
	comp=Z,3.9nm,0.7s,baz=181,slow=22						
MKAR	**Makanchi Array**	**14.83**	**16**	Pn	**P**	**20 14 01.8**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=198,slow=13,SNR=11						
MKAR				Sn	**S**	**20 16 43.4**	**-3.6**
	comp=Z,0.7nm,0.3s,baz=192,slow=24,SNR=6.0						
MKAR	**Makanchi Array**	**14.83**	**16**	Pn	**P**	**20 14 01.8**	**-0.4**
MKAR				Sn	**S**	**20 16 43.4**	**-3.6**
HYB	**Hyderabad**	**15.27**	**172**	*i* P	**P**	**20 14 11.0**	**+2.8**
KAD	**Karad**	**15.40**	**188**	*e*	**P**	**20 14 13.8**	**+4.0**
KAD				*e*		20 16 06.0	
BVA0	**Borovoye Array**	**20.84**	**350**	⇓P	**P**	**20 15 12.3**	**-2.6**
	comp=Z,1.5nm,1.6s,baz=162,slow=7.2,SNR=21						
BVA0	**Borovoye Array**	**20.84**	**350**	*i* P	**P**	**20 15 14.4**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.7s						
BVAR	**Borovoye Array**	**20.84**	**350**	P	**P**	**20 15 14.0**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=162,slow=9.4,SNR=15						
CHKZ	**Chkalovo**	**21.44**	**350**	⇓P	**P**	**20 15 19.6**	**-1.3**
	comp=Z,2.3nm,0.9s,mb3.5						
CHKZ	**Chkalovo**	**21.44**	**350**	*e*P	**P**	**20 15 19.7**	**-1.2**
ZAL	**Zalesovo**	**22.11**	**13**	P	**P**	**20 15 26.8**	**-0.8**
	comp=Z,1.8nm,0.4s,mb3.8,baz=268,slow=7.8,SNR=10.0						
ZAL				LR	LR	20 25 52.5	
	comp=Z,50nm,20.2s,MS2.9,baz=302,slow=42						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.65**	**119**	P	**P**	**20 15 53.2**	**+0.5**
	comp=Z,1.1nm,0.6s,mb3.5,baz=298,slow=8.9,SNR=11						
GNI	**Garni**	**26.50**	**295**	*e*P	**P**	**20 16 11.9**	**+2.0**
GNI				pmax	pmax		
	comp=Z,9.0nm,1.4s						
GNI	**Garni**	**26.50**	**295**	P	**P**	**20 16 10.8**	**+0.9**
	comp=Z,0.8nm,0.3s,mb3.7,baz=216,slow=19,SNR=1.8						
GNI				LR	LR	20 28 20.9	
	comp=Z,19nm,19.1s,MS2.6,baz=170,slow=40						
GNI	**Garni**	**26.50**	**295**	*e*P	**P**	**20 16 11.9**	**+2.0**
	comp=Z,9.2nm,1.4s,mb4.1						
ARU	**Arti**	**26.83**	**338**	P	**P**	**20 16 17.8**	**+5.1**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.6						
ARU	**Arti**	**26.83**	**338**	P	**P**	**20 16 17.8**	**+5.0**
	comp=Z,5.8nm,0.3s,mb4.6						
SONM	**Songino Array**	**27.22**	**47**	P	**P**	**20 16 17.5**	**+1.1**
	comp=Z,1.3nm,0.6s,mb3.6,baz=242,slow=10.0,SNR=7.3						
BRTR	**Keskin Array B**	**35.01**	**294**	P	**P**	**20 17 24.9**	**-0.3**
	comp=Z,0.7nm,0.8s,mb3.6,baz=78,slow=13,SNR=3.4						
AKASG	**Malin Array Be**	**38.87**	**312**	P	**P**	**20 17 56.1**	**-1.4**
	comp=Z,0.3nm,0.3s,mb3.5,baz=59,slow=38,SNR=4.4						
FINES	**FINESS Array B**	**43.17**	**327**	P	**P**	**20 18 32.2**	**-0.6**
	comp=Z,0.7nm,0.8s,mb3.4,baz=143,slow=9.5,SNR=4.0						
ARCES	**ARCESS Array B**	**46.41**	**338**	P	**P**	**20 18 59.2**	**+0.6**
	comp=Z,5.2nm,0.9s,mb4.5,baz=90,slow=6.1,SNR=5.5						
KMBO	**Kilima Mbogo**	**49.96**	**236**	P	**P**	**20 19 26.7**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=51,slow=22,SNR=5.7						
NB2	**NORSAR Subarra**	**50.14**	**325**	P	**P**	**20 19 32.5**	**+4.7**
	comp=Z,0.7nm,0.6s,mb3.9,baz=93,slow=7.4						
NB2	**NORSAR Subarra**	**50.14**	**325**	P	**P**	**20 19 32.5**	**+4.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**50.14**	**325**	P	**P**	**20 19 30.1**	**+2.3**
	comp=Z,0.7nm,0.6s,mb3.9,baz=94,slow=7.4,SNR=4.5						
MJAR	**Matsushiro Arr**	**50.23**	**67**	P	**P**	**20 19 30.5**	**+1.7**
	comp=Z,1.4nm,1.1s,mb3.9,baz=295,slow=16,SNR=3.1						
WRAB	**Tennant Creek**	**76.12**	**125**	P	**P**	**20 22 21.5**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
WRAB	**Tennant Creek**	**76.12**	**125**	P	**P**	**20 22 21.5**	**+0.8**
	comp=Z,1.1nm,0.7s,mb3.9						
INK	**Inuvik**	**76.91**	**11**	P	**P**	**20 22 25.4**	**+1.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=14,slow=7.8,SNR=3.1						
ILAR	**Eielson Array**	**77.18**	**18**	P	**P**	**20 22 28.5**	**+2.9**
	comp=Z,0.4nm,0.7s,mb3.4,baz=320,slow=5.4,SNR=3.5						
ASAR	**Alice Springs**	**78.35**	**128**	P	**P**	**20 22 35.1**	**+2.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=291,slow=7.7,SNR=3.8						
YKA	**Yellowknife Ar**	**84.78**	**5**	P	**P**	**20 23 06.5**	**+0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**84.78**	**5**	P	**P**	**20 23 06.5**	**+0.8**
	comp=Z,0.7nm,0.7s,mb3.9,baz=344,slow=5.2,SNR=12						

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*IDC **18** 20:19:57.5±0.6, 7.55N×94.13E, mb4.2/15, mb1 4.3/16, mb1mx4.3/21, mbtmp4.2/16, ML4.1/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/20, Error ellipse: s-maj=23.4km s-min=15.4km az=64.0*
*BJI **18** 20:19:59.6, 7.17N×94.17E, h30km, mB5.1, mb4.3, Ms4.2, Msz4.0*
*NEIC **18** 20:20:02.2±0.4, 7.52N×94.21E, h30km, mb4.5/12, Error ellipse: s-maj=10.4km s-min=8.5km az=222.0*
ISC 18 20:19:59.3±1.7, 7.43N±0.05×94.20E±0.04, h22km±12km, h34km±1.3km: pP-P, n68, σ1§25/69, mb4.4/35, MS3.9/6, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**6.38**	**92**	P	**Pn**	**20 21 36.0**	**+1.5**
KULM	**Kulim**	**6.76**	**108**	*e*P	**Pn**	**20 21 39.1**	**-0.8**
NNT	**Nongplab**	**7.49**	**46**	P	**Pn**	**20 21 50.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**11.90**	**22**	Pn	**P**	**20 22 48.6**	**-2.2**
	0.3nm,0.3s,baz=212,slow=14,SNR=16						
CHG	**Chiang Mai**	**12.22**	**22**	P	**P**	**20 23 06.0**	**+11**
NANT	**Nan**	**12.95**	**29**	P	**P**	**20 23 17.0**	**+12**
PALK	**Pallekele**	**13.38**	**270**	P	**P**	**20 23 09.5**	**-1.2**
	13nm,0.9s						
HYB	**Hyderabad**	**18.20**	**305**	*e*P	**P**	**20 24 15.0**	**+2.3**
HYB	**Hyderabad**	**18.20**	**305**	*i* P	**P**	**20 24 15.0**	**+2.3**
QIZ	**Qiongzhong**	**19.08**	**51**	P	**P**	**20 24 24.3**	**+1.0**
QIZ				S	**S**	**20 27 50.9**	**-1.1**
QIZ				LR	LR		
	comp=N,436nm,12.3s						
QIZ				LR	LR		
	comp=Z,253nm,8.8s						
KMI	**Kunming**	**19.40**	**24**	P	**P**	**20 24 31.5**	**+4.6**
KMI				AP		20 24 35.1	
KMI				XP		20 24 38.8	
KMI				PP	PP	20 24 45.5	+1.0
KMI				S	**S**	**20 27 59.3**	**+0.3**
KMI				XS		20 28 11.3	
KMI				SS	SS	20 28 25.8	+0.3
KMI				AMB	AMB		
	comp=Z,6.0nm,1.5s						
KMI				AMB	AMB		
	comp=Z,87nm,3.1s						
KMI				LR	LR		
	comp=N,146nm,16.7s						
KMI				LR	LR		
	comp=E,168nm,19.0s						
KMI				LR	LR		
	comp=Z,193nm,12.9s						
KMI	**Kunming**	**19.40**	**24**	P	**P**	**20 24 31.5**	**+4.6**
	comp=Z,6.0nm,1.5s						
KMI				pP		20 24 35.1	
KMI				sP		20 24 38.8	
KMI				PP	PP	20 24 45.5	+1.0
KMI				S	**S**	**20 27 59.2**	**+0.2**
KMI				sS		20 28 11.3	
KMI				SS	SS	20 28 25.8	+0.3
JIRN	**Jiri**	**21.50**	**340**	*e*P	**P**	**20 24 50.2**	**+1.2**
	comp=Z,76nm,1.0s,mb5.1						
PKI	**Pulchoki**	**21.70**	**338**	*e*P	**P**	**20 24 51.4**	**+0.5**
	comp=Z,26nm,0.7s,mb4.8						
GUN	**Gumba**	**21.84**	**340**	*e*P	**P**	**20 24 53.8**	**+1.4**
	comp=Z,45nm,0.7s,mb5.0						
DMN	**Daman**	**21.84**	**338**	*e*P	**P**	**20 24 52.2**	**-0.2**
KKN	**Kakani**	**21.94**	**338**	*e*P	**P**	**20 24 53.7**	**+0.3**
	comp=Z,48nm,1.0s,mb4.9						
GYA	**Guiyang**	**22.34**	**31**	⇑*i*P	**P**	**20 25 00.8**	**+3.5**
GYA				AP		20 25 09.8	
GYA				XP		20 25 13.9	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
GYA				LR	LR		
	comp=N,160nm,16.2s,MS3.9						
GYA				LR	LR		
	comp=E,280nm,14.1s,MS3.9						
GYA				LR	LR		
	comp=Z,1μm,12.9s,MS4.5						
LSA	**Lhasa**	**22.34**	**353**	*e*P	**P**	**20 24 56.3**	**-1.0**
	comp=Z,33nm,0.8s,mb4.8						
GKN	**Gorkha**	**22.37**	**337**	*e*P	**P**	**20 24 58.0**	**+0.3**
	comp=Z,54nm,0.9s,mb5.0						
KOLN	**Koldanda**	**22.58**	**335**	*e*P	**P**	**20 25 01.3**	**+1.4**
	comp=Z,36nm,1.1s,mb4.7						
ENH	**Enshi**	**26.88**	**30**	*e*P	**P**	**20 25 41.6**	**+1.0**
	comp=Z,10.0nm,1.1s,mb4.3						
LZH	**Lanzhou**	**29.86**	**16**	*e*P	**P**	**20 26 10.5**	**+2.9**
LZH				AP	pP	20 26 21.0	+7.0
LZH				XP	sP	20 26 24.0	+7.1
LZH				PP	PP	20 27 08.5	+3.5
LZH				*e*S	**S**	**20 31 05.0**	**+3.0**
LZH				XS		20 31 19.3	
LZH				*e*SS	SS	20 32 40.5	+2.3
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,83nm,4.8s						
LZH				LR	LR		
	comp=E,372nm,12.5s						
LZH				LR	LR		
	comp=Z,857nm,15.1s,MS4.5						
LZH	**Lanzhou**	**29.86**	**16**	*e*P	**P**	**20 26 10.5**	**+2.9**
	comp=Z,28nm,1.5s,mb4.8						
LZH				pP	pP	20 26 21.0	+7.0
LZH				sP	sP	20 26 24.0	+7.1
LZH				PP	PP	20 27 08.5	+3.5
LZH				*e*S	**S**	**20 31 05.0**	**+3.0**
LZH				sS		20 31 19.2	
LZH				*e*SS	SS	20 32 40.5	+2.3
LZH				LR	LR		
	comp=Z,860nm,15.1s,MS4.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**32.24**	**8**	P	**P**	**20 26 27.9**	**-0.6**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
NJ2	**Nanjing**	**33.57**	**40**	*e*P	**P**	**20 26 39.0**	**-1.2**
NJ2				AP	pP	20 26 48.5	+1.8
NJ2				XP	sP	20 26 53.3	+3.8
NJ2				PP	PP	20 27 51.5	-1.3
NJ2				PPP	PPP	20 28 08.8	-1.2
NJ2				S	**S**	**20 32 00.0**	**-0.1**
NJ2				XS		20 32 18.0	
NJ2				AMB	AMB		
	comp=Z,40nm,1.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,180nm,4.9s						
NJ2				LR	LR		
	comp=N,210nm,14.3s,MS4.2						
NJ2				LR	LR		
	comp=E,260nm,11.2s,MS4.2						
NJ2				LR	LR		
	comp=Z,180nm,11.8s,MS4.0						
WMQ	**Urumqi**	**36.69**	**352**	P	**P**	**20 27 08.8**	**+2.2**
WMQ				AP	pP	20 27 18.8	+5.6
WMQ				XP	sP	20 27 22.3	+6.3
WMQ				PP	PP	20 28 33.8	+2.0
WMQ				PPP	PPP	20 28 53.8	+2.0
WMQ				PCP	PcP	20 29 31.8	+2.3
WMQ				S	**S**	**20 32 48.8**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,102nm,3.6s						
WMQ				LR	LR		
	comp=N,73nm,22.2s						
WMQ				LR	LR		
	comp=E,91nm,16.5s						
WMQ				LR	LR		
	comp=Z,233nm,20.6s,MS4.0						
AAK	**Ala-Archa**	**39.13**	**337**	*e*P	**P**	**20 27 25.8**	**-1.4**
	comp=Z,3.6nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**40.53**	**347**	P	**P**	**20 27 37.2**	**-1.4**
	comp=Z,3.6nm,0.8s,mb4.0,baz=161,slow=8.4,SNR=17						
MKAR	**Makanchi Array**	**40.53**	**347**	P	**P**	**20 27 37.2**	**-1.4**
SONM	**Songino Array**	**41.58**	**12**	P	**P**	**20 27 46.9**	**-0.4**
	comp=Z,3.9nm,0.9s,mb4.0,baz=195,slow=6.3,SNR=9.6						
SONM				PcP	PcP	20 29 44.2	-0.7
	comp=Z,1.1nm,0.6s,baz=196,slow=5.2,SNR=3.8						
ULN	**Ulaanbaatar**	**41.76**	**13**	*e*P	**P**	**20 27 47.9**	**-0.7**
	comp=Z,4.0nm,1.0s,mb4.0						
CN2	**Changchun**	**45.38**	**32**	*e*P	**P**	**20 28 19.3**	**+1.2**
HIA	**Hailar**	**46.91**	**23**	*e*P	**P**	**20 28 29.9**	**-0.2**
	comp=Z,8.1nm,1.0s,mb4.6						
ZAL	**Zalesovo**	**46.99**	**352**	P	**P**	**20 28 29.0**	**-1.7**
	comp=Z,4.9nm,0.7s,mb4.5,baz=290,slow=5.8,SNR=14						
WRA	**Warramunga Arr**	**47.96**	**125**	P	**P**	**20 28 37.8**	**-1.0**
	comp=Z,4.8nm,0.9s,mb4.5,baz=299,slow=8.8,SNR=4.6						
WRAB	**Tennant Creek**	**47.96**	**125**	P	**P**	**20 28 37.8**	**-1.0**
MJAR	**Matsushiro Arr**	**49.42**	**47**	LR	LR	20 52 24.6	
	comp=Z,26nm,20.9s,MS3.2,baz=175,slow=39						
BVAR	**Borovoye Array**	**49.42**	**341**	P	**P**	**20 28 47.2**	**-2.4**
	comp=Z,1.1nm,0.8s,mb3.9,baz=135,slow=8.4,SNR=8.1						
BVAR				PcP	PcP	20 30 11.3	-0.7
	comp=Z,1.8nm,0.8s,baz=180,slow=4.4,SNR=5.8						
ASAR	**Alice Springs**	**49.59**	**130**	P	**P**	**20 28 50.8**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.2,baz=305,slow=7.0,SNR=4.8						
ASAR				PcP	PcP	20 30 12.9	-0.2
	comp=Z,1.4nm,0.9s,baz=315,slow=4.0,SNR=4.0						
ASAR				LR	LR	20 51 57.8	
	comp=Z,63nm,21.2s,MS3.6,baz=225,slow=39						
CHKZ	**Chkalovo**	**49.91**	**342**	*e*P	**P**	**20 28 51.4**	**-2.0**
	comp=Z,147nm,1.1s						
FORT	**Forrest**	**49.96**	**141**	*e*P	**P**	**20 28 55.0**	**+1.0**
	comp=Z,553nm,0.9s						
KMBO	**Kilima Mbogo**	**57.43**	**264**	P	**P**	**20 29 50.0**	**+0.7**
	comp=Z,4.0nm,1.0s,mb4.4,baz=53,slow=12,SNR=7.2						
KMBO	**Kilima Mbogo**	**57.43**	**264**	*e*P	**P**	**20 29 50.5**	**+1.2**
	comp=Z,4.7nm,0.9s,mb4.5						
KIV	**Kislovodsk**	**57.68**	**318**	P	**P**	**20 29 49.6**	**-1.1**
MALT	**Malatya**	**58.79**	**310**	P	**P**	**20 29 59.0**	**+0.4**
STKA	**Stephens Creek**	**59.76**	**134**	P	**P**	**20 30 07.1**	**+1.8**
	comp=Z,1.3nm,0.7s,mb4.1,baz=315,slow=3.0,SNR=3.4						
BRTR	**Keskin Array B**	**62.76**	**311**	P	**P**	**20 30 22.5**	**-3.0**
	comp=Z,0.9nm,0.7s,mb4.0,baz=112,slow=7.8,SNR=5.7						
MBAR	**Mbarara**	**63.78**	**266**	*e*P	**P**	**20 30 32.9**	**+0.2**
	comp=Z,3.1nm,1.3s,mb4.2						
AKASG	**Malin Array Be**	**68.53**	**322**	P	**P**	**20 31 01.9**	**-0.5**
	comp=Z,0.2nm,0.3s,mb3.5,baz=90,slow=5.6,SNR=6.9						
AKASG	**Malin Array Be**	**68.53**	**322**	P	**P**	**20 31 01.9**	**-0.5**
LSZ	**Lusaka**	**69.17**	**251**	*e*P	**P**	**20 31 06.8**	**-0.1**
	comp=Z,5.1nm,0.9s,mb4.5						
JOF	**Joensuu**	**71.27**	**335**	*e*p	**P**	**20 31 19.8**	**+0.9**
FINES	**FINESS Array B**	**73.13**	**332**	P	**P**	**20 31 27.2**	**-2.6**
	comp=Z,4.9nm,0.8s,mb4.5,baz=90,slow=4.3,SNR=11						
KAF	**Kangasniemi**	**73.21**	**333

*PDG **18** 20:53:49.4±0.1, 43.41N×19.06E, h11km*
*NEIC **18** 20:53:49.4, 43.41N×19.06E, h11km, ML3.0(PDG), ML2.8(VIE), After PDG.*

ISC 18 20:53:47.8±0.4, 43.48N±0.02×19.03E±0.02, h4km±3km, n52, σ1°02/91, 20C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.29**	**198**	⇓*i*Pg	**Pg**	**20 53 54.2**	**+0.5**
UPM				*e*Sg	**Sg**	**20 53 57.8**	**+0.3**
PLE	**Pljevlja**	**0.30**	**119**	⇑*i*Pg	**Pg**	**20 53 54.4**	**+0.4**
PLE				*e*Sg	**Sg**	**20 53 58.5**	**+0.6**
PLE	**Pljevlja**	**0.30**	**119**	⇑*i*Pg	**Pg**	**20 53 54.4**	**+0.5**
PLE				*e*Sg	**Sg**	**20 53 58.5**	**+0.5**
BBLS	**Bajina Basta -**	**0.48**	**35**	⇑*i*Pg	**Pg**	**20 53 57.8**	**+0.4**
BBLS				Sg	**Sg**	**20 54 03.8**	**0.0**
NVSS	**Nova Varos 2**	**0.49**	**86**	⇓*i*Pg	**Pg**	**20 53 59.9**	**+2.3**
NVSS				Sg	**Sg**	**20 54 07.7**	**+3.6**
NKY	**Niksic**	**0.67**	**182**	⇓*i*Pg	**Pg**	**20 54 00.6**	**-0.5**
NKY				*e*Sg	**Sg**	**20 54 10.2**	**+0.2**
BRY	**Bratogost**	**0.68**	**212**	⇓*i*Pg	**Pg**	**20 54 00.9**	**-0.6**
BRY				*e*Sg	**Sg**	**20 54 11.4**	**+1.0**
IVA	**Berane**	**0.88**	**133**	⇑*i*Pg	**Pg**	**20 54 04.6**	**-0.7**
IVA				*e*Sg	**Sg**	**20 54 17.4**	**+0.4**
TREB	**Trebinje**	**0.91**	**214**	Pn	**Pn**	**20 54 05.1**	**-2.1**
TREB				Sn	**Sn**	**20 54 19.4**	**-1.4**
DIVS	**Divcibare**	**0.93**	**48**	⇑*i*Pg	**Pg**	**20 54 06.1**	**-0.3**
DIVS				Sg	**Sg**	**20 54 17.5**	**-1.4**
TTG	**Podgorica**	**1.06**	**171**	⇑*i*Pg	**Pg**	**20 54 07.7**	**-1.4**
TTG				*e*Sg	**Sg**	**20 54 23.0**	**-0.2**
HCY	**Herceg Novi**	**1.10**	**201**	⇑*i*Pg	**Pg**	**20 54 08.6**	**-1.3**
HCY				*e*Sg	**Sg**	**20 54 25.3**	**+0.8**
PVY	**Plav**	**1.12**	**142**	⇓*i*Pg	**Pg**	**20 54 08.8**	**-1.4**
PVY				*e*Sg	**Sg**	**20 54 25.3**	**+0.1**
STON	**Ston**	**1.15**	**239**	*i* Pn	**Pn**	**20 54 10.1**	**-0.5**
STON				*i* Pg	**Pg**	**20 54 10.3**	**-0.4**
STON				*i* Sg	**Sg**	**20 54 29.7**	**+3.7**
STON				*i* Sn	**Sn**	**20 54 30.3**	**+3.5**
STON	**Ston**	**1.15**	**239**	*i* Pn	**Pn**	**20 54 10.0**	**-0.6**
STON	**Ston**	**1.15**	**239**	*i* Pg	**Pg**	**20 54 10.3**	**-0.5**
STON				*i* Sg	**Sg**	**20 54 29.7**	**+3.6**
STON				*i* Sn	**Sn**	**20 54 30.3**	**+3.5**
BUM	**Brajici-Budva**	**1.18**	**185**	⇓*i*Pg	**Pg**	**20 54 10.0**	**-1.4**
BUM				*e*Sg	**Sg**	**20 54 27.4**	**+0.2**
GRUS	**Gruza**	**1.29**	**71**	⇑*i*Pg	**Pg**	**20 54 12.9**	**-0.6**
GRUS				Sg	**Sg**	**20 54 29.1**	**-1.6**
ULC	**Ulcinj**	**1.52**	**174**	*e*Pg	**Pg**	**20 54 16.2**	**-2.0**
ULC				*e*Sg	**Sg**	**20 54 38.1**	**-0.5**
PUK	**Puka**	**1.57**	**156**	*i* Pn	**Pn**	**20 54 17.7**	**+1.1**
PUK				*i* Sn	**Sn**	**20 54 41.6**	**+4.1**
SVIS	**Svilajnac**	**1.78**	**62**	⇑*i*Pn	**Pn**	**20 54 20.5**	**+0.9**
SVIS				Sn	**Sn**	**20 54 44.2**	**+1.3**
BLY	**Banja Luka**	**1.84**	**314**	Pn	**Pn**	**20 54 22.5**	**+2.0**
QSH	**Qafa e Shtames**	**2.06**	**161**	*i* Pn	**Pn**	**20 54 28.0**	**+4.4**
QSH				*i* Sn	**Sn**	**20 54 57.0**	**+7.0**
BOLS	**Boljevac**	**2.15**	**80**	⇓*i*Pn	**Pn**	**20 54 25.3**	**+0.4**
BOLS				Sn	**Sn**	**20 54 53.1**	**+0.7**
SKO	**Skopje**	**2.33**	**130**	*i* Pn	**Pn**	**20 54 28.0**	**+0.6**
RHK3	**Tenkes**	**2.47**	**347**	*e*P	**Pn**	**20 54 29.9**	**+0.4**
ZAPS	**Zavoj/Pirot**	**2.62**	**93**	⇓*i*Pn	**Pn**	**20 54 32.4**	**+0.8**
ZAPS				Sn	**Sn**	**20 55 04.3**	**0.0**
RHK1	**Bakonya**	**2.70**	**346**	⇑*i*P	**Pn**	**20 54 33.2**	**+0.4**
RHK1				*e*S	**Sn**	**20 55 04.4**	**-2.0**
PKSM	**Moragy**	**2.75**	**354**	⇑*e*P	**Pn**	**20 54 33.5**	**+0.1**
PKSM				*e*S	**Sn**	**20 55 05.4**	**-2.1**
PKS9	**Tamasi**	**3.15**	**351**	⇑*e*P	**Pn**	**20 54 39.7**	**+0.5**
NVLJ	**Novalja**	**3.19**	**291**	*i* Pn	**Pn**	**20 54 41.6**	**+1.8**
NVLJ	**Novalja**	**3.19**	**291**	*i* Pn	**Pn**	**20 54 41.5**	**+1.7**
BOJS	**Bojanci**	**3.38**	**308**	*i* Pn	**Pn**	**20 54 44.3**	**+1.9**
PKS8	**Sarbogard**	**3.41**	**356**	⇑*e*P	**Pn**	**20 54 42.7**	**-0.2**
GROS	**Grobnik**	**3.90**	**321**	*i* Pn	**Pn**	**20 54 50.4**	**+0.6**
GROS	**Grobnik**	**3.90**	**321**	*i* Pn	**Pn**	**20 54 50.3**	**+0.6**
CII	**Carovilli**	**3.91**	**245**	*e*P	**Pn**	**20 54 50.3**	**+0.4**
CII	**Carovilli**	**3.91**	**245**	*e*P	**Pn**	**20 54 50.3**	**+0.4**
PKSG		**3.94**	**354**	*e*P	**Pn**	**20 54 50.3**	**-0.1**
PERS	**Pernice**	**4.20**	**320**	*i* Pn	**Pn**	**20 54 54.7**	**+0.6**
OBKA	**Obir**	**4.39**	**315**	⇑*i*PN	**Pn**	**20 54 57.8**	**+1.0**
OBKA				*i* SN	**Sn**	**20 55 49.1**	**0.0**
OBKA				*i* SG	**Sg**	**20 56 15.5**	**+1.4**
	6.6nm,0.7s						
VOY	**Vojsko**	**4.46**	**307**	*e*Pn	**Pn**	**20 54 58.9**	**+1.1**
VOY				*e*Sn	**Sn**	**20 55 52.8**	**+1.9**
PSZ	**Piszkesteto**	**4.48**	**7**	⇓*e*P	**Pn**	**20 54 57.4**	**-0.7**
ARSA	**Arzberg**	**4.51**	**328**	⇑*i*PN	**Pn**	**20 54 58.7**	**+0.2**
ARSA				*i* SN	**Sn**	**20 55 51.2**	**-0.9**
CADS	**Cadrg**	**4.66**	**308**	*i* Pn	**Pn**	**20 55 01.1**	**+0.5**
KBA	**Koelnbreinsper**	**5.39**	**314**	⇑*i*PN	**Pn**	**20 55 11.5**	**+0.6**
KBA				*i* SN	**Sn**	**20 56 14.3**	**0.0**
MOA	**Molln**	**5.50**	**324**	⇑*i*PN	**Pn**	**20 55 12.3**	**-0.2**
MOA				*i* SN	**Sn**	**20 56 14.9**	**-2.2**
WTTA	**Wattenberg**	**6.44**	**309**	⇑*i*PN	**Pn**	**20 55 25.3**	**-0.4**
WTTA				*i* SN	**Sn**	**20 56 39.5**	**-1.0**
WATA	**Walderalm**	**6.51**	**309**	⇑*i*PN	**Pn**	**20 55 26.8**	**0.0**
WATA				*i* SN	**Sn**	**20 56 41.6**	**-0.8**
SQTA	**Sankt Quirin**	**6.66**	**307**	⇓*i*PN	**Pn**	**20 55 28.6**	**-0.3**
SQTA				*i* SN	**Sn**	**20 56 45.3**	**-0.8**
MOTA	**Moosalm**	**6.79**	**307**	⇑*i*PN	**Pn**	**20 55 30.5**	**-0.1**
MOTA				*i* SN	**Sn**	**20 56 48.6**	**-0.7**
KHC	**Kasperske Hory**	**6.80**	**328**	*e*PN	**Pn**	**20 55 30.9**	**+0.1**
KHC				*e*SN	**Sn**	**20 56 43.9**	**-5.6**
KHC				*ex*	x	20 57 00.0	

CASC 18 20:57:34.6±2.3, 14.50N×87.22W, h10km, MD4.0, ML3.3, 4C-6D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAHU	**Cacacuatique**	**1.20**	**233**	⇓*e*P	Pb	20 57 55.2	-1.8
CAHU				*e*S	Sb	20 58 13.1	+0.6
CNCH	**Conchagua**	**1.35**	**206**	*e*P	Pb	20 57 57.6	-2.0
CNCH				*e*S	Sb	20 58 16.5	-0.3
BLLM	**Bellamira**	**1.44**	**223**	⇓*i*P	Pn	20 57 59.1	-1.8
BLLM				*e*S	Sb	20 58 19.1	-0.3
VSM	**San Miguel**	**1.48**	**224**	⇓*e*P	Pn	20 57 59.8	-1.6
VSM				*e*S	Sb	20 58 20.9	+0.6
CRIN	**San Cristobal**	**1.80**	**175**	*e*P	Pn	20 58 03.8	-2.2
CRIN				*e*S	Sn	20 58 31.5	+2.5
SNVI	**San Vicente**	**1.80**	**241**	⇑*e*P	Pn	20 58 05.1	-0.9
SNVI				*e*S	Sn	20 58 29.5	+0.5
LCBS	**La Ceiba**	**1.90**	**244**	⇑*e*P	Pn	20 58 06.3	-1.1
LCBS				*e*S	Sn	20 58 33.2	+1.6
LBRS	**Las Brisas**	**1.92**	**247**	⇓*i*P	Pn	20 58 07.1	-0.7
LBRS				*e*S	Sn	20 58 34.4	+2.2
TELN	**Telica**	**1.92**	**169**	⇑*i*P	Pn	20 58 06.4	-1.3
TEL3	**Telica 3**	**1.95**	**169**	⇓*e*P	Pn	20 58 07.0	-1.2
TEL3				*e*S	Sn	20 58 34.1	+1.2
TEL3				*i*		20 58 40.4	
	comp=Z,279nm,0.6s						
LFRS	**El Faro**	**1.99**	**244**	⇑*e*P	Pn	20 58 07.7	-1.0
LFRS				*e*S	Sn	20 58 36.0	+2.2
CNGN	**Cerro Negro**	**2.05**	**166**	⇓*e*P	Pn	20 58 08.8	-0.8
CNGN				*e*S	Sn	20 58 35.8	+0.3
MTO2	**Montecristo 2**	**2.07**	**268**	*e*P	Pn	20 58 09.3	-0.6
LEON	**Leon**	**2.10**	**171**	*e*P	Pn	20 58 09.0	-1.3
MIRN	**Miramar**	**2.11**	**166**	*e*P	Pn	20 58 09.8	-0.6
MOMJ	**Momotombo**	**2.18**	**162**	*e*P	Pn	20 58 10.7	-0.8
PYTN	**Playitas**	**2.26**	**150**	*e*P	Pn	20 58 12.2	-0.3
COPN	**Copaltepe**	**2.39**	**165**	*e*P	Pn	20 58 14.4	0.0
SNJE	**San Jose**	**2.40**	**255**	*e*P	Pn	20 58 14.5	0.0
APYN	**Apoyeque**	**2.41**	**159**	*e*P	Pn	20 58 14.5	-0.2
RBDL	**Robledal**	**2.42**	**261**	*e*P	Pn	20 58 13.2	-1.6
SBLS	**San Blas**	**2.42**	**255**	*e*P	Pn	20 58 15.4	+0.5
RTR	**El Retiro**	**2.42**	**256**	*e*P	Pn	20 58 15.1	+0.1

*GUC **18** 21:00:35.1±0.7, 35.08S×70.44W, h1km±2km, ML4.5*
*NEIC **18** 21:00:35.1, 35.08S×70.44W, h1km, mb4.6/13, ML4.5(GUC), After GUC.*
NEIC Felt [III] at San Fernando and [II] at Curico.
*IDC **18** 21:00:38.0±3.3, 35.11S×70.19W, h23km±21km, mb4.2/8, mb1 4.3/13, mb1mx4.2/20, mbtmp4.2/13, ML3.6/3, MS3.9/4, Ms1 3.9/4, ms1mx3.4/21, Error ellipse: s-maj=24.9km s-min=14.1km az=94.0*

ISC 18 21:00:32.4±1.1, 35.15S±0.03×70.26W±0.04, h0km±6km, n73, σ0°98/66, mb4.6/19, MS3.9/2, 10C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.82**	**310**	⇑*i*P	**Pg**	**21 00 48.7**	**0.0**
SFDO				⇓*i*S	**Sg**	**21 00 59.2**	**-0.4**
CACH	**El Canelo**	**1.07**	**345**	*e*P	**Pb**	**21 00 53.9**	**+0.5**
CACH				*i* S	**Sb**	**21 01 08.1**	**+0.4**
TALC	**Talca**	**1.15**	**257**	⇓*i*P	**Pb**	**21 00 54.5**	**-0.4**
TALC				*i* S	**Sb**	**21 01 09.5**	**-0.7**
TALC				AMP		21 01 10.0	
	comp=E,24μm,0.1s						
CHCH	**Chadas Angostu**	**1.25**	**345**	*e*P	**Pb**	**21 00 57.2**	**+0.6**
CHCH				*i* S	**Sb**	**21 01 13.3**	**+0.1**
LNCH	**Linares**	**1.30**	**237**	*e*P	**Pb**	**21 00 57.7**	**+0.3**
LNCH				*i* S	**Sb**	**21 01 15.0**	**+0.5**
LNV	**Longovilo**	**1.52**	**321**	*e*P	**Pn**	**21 01 00.6**	**-0.3**
LNV				*i* S	**Sb**	**21 01 19.2**	**-1.7**
TACH	**Talagante**	**1.59**	**339**	*i* P	**Pn**	**21 01 03.0**	**+1.1**
TACH				*i* S	**Sb**	**21 01 23.6**	**+0.6**
RCDM	**Rinconada Maip**	**1.71**	**345**	AMP		21 01 34.6	
	comp=E,7μm,0.2s						
PUEX	**Pudahuel**	**1.75**	**346**	AMP		21 01 36.5	
	comp=N,17μm,0.4s						
CLCH	**Cerro Calan**	**1.76**	**352**	AMP		21 01 39.4	
	comp=E,6μm,0.6s						
DSCH	**Colegio Aleman**	**1.76**	**352**	AMP		21 01 39.6	
	comp=N,10μm,0.5s						
FCH	**Farellones**	**1.81**	**359**	*e*P	**Pn**	**21 01 07.9**	**+2.7**
FCH				*i* S	**Sn**	**21 01 32.4**	**+3.3**
FCH				AMP		21 01 45.2	
	comp=N,3μm,0.6s						
CNCO	**Chanco**	**1.95**	**252**	AMP		21 01 43.0	
	comp=N,6μm,0.4s						
LCCH	**Las Cruces**	**1.99**	**327**	⇓*i*P	**Pn**	**21 01 08.9**	**+1.3**
LCCH				*i* S	**Sn**	**21 01 34.1**	**+0.5**
PEL	**Peldehue**	**2.03**	**350**	AMP		21 01 46.0	
	comp=N,9μm,0.2s						
CCHI	**Chillan**	**2.07**	**225**	AMP		21 01 51.5	
	comp=E,2μm,0.6s						
MDZ	**Mendoza**	**2.54**	**28**	*e*P	**Pn**	**21 01 20.7**	**+5.1**
MDZ				*e*		21 01 31.9	
MDZ				*e*S	**Sn**	**21 01 36.7**	**-11**
CHNG	**Los Chungos**	**3.42**	**342**	AMP		21 02 24.6	
	comp=E,2μm,0.5s						
ILCH	**Illapel**	**3.58**	**347**	AMP		21 02 29.2	
	comp=E,1μm,0.2s						
CFAA	**Coronel Fontan**	**3.92**	**26**	Pn	**Pn**	**21 01 37.9**	**+2.8**
	comp=E,1.0nm,0.3s,baz=204,slow=14,SNR=50						
CFAA				Pg	**Pg**	**21 01 49.2**	**-1.4**
	comp=E,2.1nm,0.3s,baz=203,slow=16,SNR=35						
CFAA				Lg		21 02 38.5	
	comp=E,3.8nm,0.3s,baz=250,slow=13,SNR=7.0						
CFAA	**Coronel Fontan**	**3.92**	**26**	Pn	**Pn**	**21 01 37.9**	**+2.8**
CFAA				Pg	**Pg**	**21 01 49.2**	**-1.4**
CFAA				Lg		21 02 38.5	
PLCA	**Paso Flores**	**5.58**	**182**	Pn	**Pn**	**21 02 01.7**	**+3.0**
	comp=E,0.2nm,0.3s,baz=36,slow=8.7,SNR=3.8						
PLCA				Lg		21 03 35.8	
	comp=E,1.9nm,0.3s,baz=101,slow=22,SNR=3.0						
PLCA	**Paso Flores**	**5.58**	**182**	*e*P	**Pn**	**21 02 00.7**	**+2.1**
	comp=E,51nm,1.2s						
TRQA	**Tornquist**	**7.26**	**116**	*e*P	**Pn**	**21 02 22.0**	**-0.4**
	comp=E,27nm,0.6s						
LVC	**Limon Verde**	**12.54**	**6**	Pn	**P**	**21 03 35.2**	**+0.2**
	comp=E,0.1nm,0.3s,baz=254,slow=7.4,SNR=1.7						
LVC				Lg		21 06 51.3	
	comp=E,0.4nm,0.3s,baz=246,slow=11,SNR=3.7						
LVC	**Limon Verde**	**12.54**	**6**	*e*P	**P**	**21 03 34.6**	**-0.4**
CPUP	**Villa Florida**	**14.16**	**55**	Pn	**P**	**21 03 56.0**	**-0.4**
	comp=E,0.4nm,0.3s,baz=239,slow=13,SNR=7.0						
CPUP				Lg		21 08 05.2	
	comp=E,0.3nm,0.3s,baz=175,slow=17,SNR=2.3						
CPUP				LR	LR	21 09 58.1	
CPUP	**Villa Florida**	**14.16**	**55**	Pn	**P**	**21 03 56.0**	**-0.4**
CPUP				Lg		21 08 05.2	
CPUP				LR	LR	21 09 58.1	
LPAZ	**La Paz**	**18.88**	**6**	P	**P**	**21 04 57.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=173,slow=10,SNR=13						
LPAZ	**La Paz**	**18.88**	**6**	*e*P	**P**	**21 04 57.9**	**+1.3**
	comp=E,9.9nm,0.9s						
USHA	**Ushuaia**	**19.73**	**177**	LR	LR	21 13 02.2	
	comp=E,507nm,19.8s,baz=242,slow=38						
SIV	**San Ignacio**	**20.78**	**26**	P	**P**	**21 05 16.6**	**-1.0**
	comp=E,6.2nm,0.8s,baz=222,slow=12,SNR=16						
SAML	**Samuel**	**26.87**	**16**	*e*P	**P**	**21 06 15.3**	**-1.5**
BDFB	**Brasilia**	**27.83**	**51**	P	**P**	**21 06 25.4**	**-0.1**
	comp=E,2.3nm,0.4s,mb4.3,baz=214,slow=6.2,SNR=5.0						
BDFB				LR	LR	21 18 31.5	
	comp=E,270nm,19.4s,MS3.8,baz=230,slow=39						
OTAV	**Otavalo**	**36.02**	**346**	*e*P	**P**	**21 07 37.9**	**+0.6**
	comp=E,6.7nm,1.2s,mb4.3						
SDV	**Santo Domingo**	**43.79**	**359**	*e*P	**P**	**21 08 40.3**	**-1.5**
VNA2	**Neumayer--Watz**	**48.39**	**157**		**P**	**21 09 21.5**	**+4.1**
VNA2	**Neumayer--Watz**	**48.39**	**157**	⇑*i*	**P**	**21 09 24.2**	**+6.8**
VNA2	**Neumayer--Watz**	**48.39**	**157**	⇑*i*P	**P**	**21 09 19.3**	**+1.9**
VNA2				P		21 09 21.5	
VNA2				⇑*i*P		21 09 24.2	
SNAA	**Sanae**	**49.97**	**158**	⇑*i*	**P**	**21 09 33.5**	**+3.9**
SNAA	**Sanae**	**49.97**	**158**	⇑*i*	**P**	**21 09 36.8**	**+7.2**
SNAA	**Sanae**	**49.97**	**158**	P	**P**	**21 09 29.9**	**+0.3**
	comp=E,2.4nm,0.8s,mb4.2,baz=284,slow=7.2,SNR=3.7						
SNAA	**Sanae**	**49.97**	**158**	P	**P**	**21 09 29.9**	**+0.3**
SNAA				⇑*i*P		21 09 33.5	
SNAA				⇑*i*P		21 09 36.8	
QSPA	**South Pole Qui**	**55.09**	**180**	⇑*i*P	**P**	**21 10 08.4**	**+0.5**
	comp=E,8.9nm,0.9s,mb4.8						
RKT	**Rikitea**	**56.91**	**264**	*e*LR	LR	21 26 50.8	
	comp=E,92nm,35.0s						
SYO	**Syowa Base**	**64.26**	**158**	⇑PcP	PcP	21 11 37.9	-7.7
TBI	**Tubuai**	**68.47**	**256**	*e*LR	LR	21 32 12.8	
	comp=E,106nm,29.0s						
TXAR	**Lajitas Array**	**71.46**	**330**	P	**P**	**21 11 56.5**	**-0.2**
	comp=E,1.9nm,0.7s,mb4.4,baz=151,slow=8.4,SNR=14						
PPT	**Papeete**	**71.53**	**261**	*e*LR	LR	21 33 37.4	
	comp=E,114nm,27.0s						
PPT	**Papeete**	**71.53**	**261**	LR	LR	21 37 41.9	
	comp=E,86nm,19.6s,MS4.0,baz=334,slow=31						
PLAL	**Pickwick Lake**	**71.72**	**345**	*e*P	**P**	**21 11 56.5**	**-1.7**
	comp=E,3.5nm,0.8s,mb4.5						
MIAR	**Mount Ida**	**72.68**	**340**	*e*P	**P**	**21 12 03.4**	**-0.5**
WVT	**Waverly**	**72.78**	**345**	*e*P	**P**	**21 12 03.2**	**-1.2**
	comp=E,27nm,1.1s,mb5.3						
DBIC	**Dimbokro**	**74.17**	**70**	P	**P**	**21 12 12.8**	**-0.2**
	comp=E,2.4nm,0.6s,mb4.4,baz=201,slow=5.6,SNR=4.3						
DBIC	**Dimbokro**	**74.17**	**70**	P	**P**	**21 12 12.3**	**-0.7**
MNTX	**Cornudas Mount**	**74.23**	**329**	*e*P	**P**	**21 12 11.4**	**-1.5**
	comp=E,2.7nm,0.8s,mb4.3						
WMOK	**Wichita Mounta**	**74.46**	**336**	*e*P	**P**	**21 12 13.0**	**-1.2**
CCM	**Cathedral Cave**	**75.39**	**343**	*e*P	**P**	**21 12 18.4**	**-1.2**
	comp=E,8.3nm,1.3s,mb4.6						
ANMO	**Albuquerque**	**77.50**	**330**	*e*P	**P**	**21 12 31.9**	**+0.5**
	comp=E,3.0nm,1.0s,mb4.4						
BOSA	**Boshof**	**78.24**	**117**	P	**P**	**21 12 35.9**	**+0.3**
	comp=E,5.3nm,0.8s,mb4.7,baz=241,slow=6.0,SNR=8.6						
BOSA	**Boshof**	**78.24**	**117**	P	**P**	**21 12 35.9**	**+0.3**
BW06	**Boulder Array**	**85.45**	**332**	*e*P	**P**	**21 13 12.7**	**-0.2**
	comp=E,1.5nm,0.6s,mb4.4						
PDAR	**Pinedale Array**	**85.45**	**332**	P	**P**	**21 13 13.7**	**+0.7**
	comp=E,2.0nm,0.8s,mb4.4,baz=151,slow=4.4,SNR=19						
NVAR	**Mina Array Bea**	**85.67**	**324**	P	**P**	**21 13 15.0**	**+0.9**
	comp=E,2.7nm,0.8s,mb4.4,baz=167,slow=6.0,SNR=15						
HVU	**Hansel Valley**	**85.91**	**330**	*e*P	**P**	**21 13 15.3**	**+0.1**
ELK	**Elko**	**86.11**	**327**	*e*P	**P**	**21 13 16.1**	**-0.1**
	comp=E,5.7nm,1.0s,mb4.7						
RRI2	**Red Ridge**	**86.63**	**331**	*e*P	**P**	**21 13 18.7**	**0.0**
	comp=E,6.7nm,1.1s,mb4.8						
IMW	**Indian Meadow**	**86.94**	**332**	*e*P	**P**	**21 13 20.3**	**+0.1**
	comp=E,8.9nm,0.9s,mb5.0						
HLID	**Hailey**	**88.06**	**330**	*e*P	**P**	**21 13 26.5**	**+0.9**
	comp=E,7.4nm,1.4s,mb4.8						
CHKZ	**Chkalovo**	**147.02**	**44**	*e*PKP	PKPdf	21 20 15.6	-0.6
BVAR	**Borovoye Array**	**147.09**	**45**	PKPbc	PKPdf	21 20 17.2	+0.8
	comp=E,1.1nm,0.8s,baz=225,slow=2.1,SNR=5.1						
AAK	**Ala-Archa**	**151.72**	**64**	*e*PKPdf	PKPdf	21 20 23.7	-0.2
AAK				*e*PKPbc	PKPdf	21 20 30.0	+6.0
ZAL	**Zalesovo**	**154.36**	**35**	PKP	PKPdf	21 20 26.5	-0.7
	comp=E,0.5nm,0.7s,baz=292,slow=4.7,SNR=3.0						
ZAL				PKPbc	PKPdf	21 20 35.3	+8.1
	comp=E,0.7nm,0.4s,baz=170,slow=1.5,SNR=5.3						

IDC 18 21:08:22.1±4.9, 0.68S×101.36E, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=256.2km s-min=23.6km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.52**	**123**	P	P	21 15 38.5	-1.4
	0.6nm,0.5s,baz=303,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**38.97**	**128**	P	P	21 15 49.9	-2.1
	0.4nm,0.6s,baz=301,slow=8.1,SNR=9.3						
MKAR	**Makanchi Array**	**50.15**	**343**	P	P	21 17 18.7	-2.7
	0.4nm,0.6s,baz=135,slow=6.9,SNR=3.7						
ZAL	**Zalesovo**	**56.14**	**348**	P	P	21 18 04.0	-1.8
	0.5nm,0.3s,baz=182,slow=14,SNR=3.6						

*BJI **18** 21:20:21.6, 0.31S×97.73E, h36km, mB4.9, mb4.5, Ms4.4, Msz4.0*
*IDC **18** 21:20:21.3±0.8, 0.11N×97.53E, mb4.5/15, mb1 4.6/16, mb1mx4.4/22, mbtmp4.5/16, ML4.4/1, MS3.5/7, Ms1 3.5/7, ms1mx3.2/29, Error ellipse: s-maj=40.8km s-min=12.6km az=50.0*
*NEIC **18** 21:20:26.1±0.3, 0.19N×97.68E, h30km, mb4.6/14, Error ellipse: s-maj=9.7km s-min=5.6km az=54.0*

ISC 18 21:20:24.5±2.0, 0.20N±0.06×97.74E±0.07, h29km±14km, h31km±3.0km: pP-P, n71, σ0°97/72, mb4.6/36, MS3.7/12, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.83**	**30**	*e*P	**Pn**	**21 21 50.8**	**-0.6**
SNG	**Songkhla**	**7.50**	**22**	P	**Pn**	**21 22 23.0**	**+8.2**
CM31	**Chiang Mai Arr**	**18.18**	**4**	*e*P	**P**	**21 24 35.3**	**-1.5**
	2.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**18.18**	**4**	P	**P**	**21 24 35.5**	**-1.3**
	0.5nm,0.3s,baz=191,slow=12,SNR=35						
CMAR				PcP	PcP	21 29 09.7	-0.1
	baz=218,slow=2.4,SNR=4.5						
CMAR				LR	LR	21 31 35.0	
	comp=Z,134nm,18.3s,baz=185,slow=37						
PALK	**Pallekele**	**18.38**	**293**	P	**P**	**21 24 39.0**	**-0.3**
CHG	**Chiang Mai**	**18.53**	**4**	P	**P**	**21 24 40.4**	**-0.7**
NANT	**Nan**	**18.71**	**9**	P	**P**	**21 24 46.0**	**+2.8**
KMI	**Kunming**	**25.24**	**11**	P	**P**	**21 25 51.6**	**+1.8**
KMI				AP	pP	21 25 56.4	-2.0
KMI				S	**S**	**21 30 08.9**	**-1.9**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
KMI				LR	LR		
	comp=N,208nm,14.7s,MS3.9						
KMI				LR	LR		
	comp=E,153nm,14.9s,MS3.9						
KMI				LR	LR		
	comp=Z,222nm,14.3s,MS3.8						
KMI	**Kunming**	**25.24**	**11**	P	**P**	**21 25 51.6**	**+1.8**
	comp=Z,10.0nm,1.0s,mb4.3						
KMI				pP	pP	21 25 56.4	-2.0
KMI				S	**S**	**21 30 08.9**	**-1.9**
KMI				LR	LR		
	comp=Z,220nm,14.3s,MS3.8						
SHL	**Shillong**	**25.84**	**348**	*e*P	**P**	**21 25 55.5**	**+0.1**
JIRN	**Jiri**	**29.46**	**339**	*e*P	**P**	**21 26 28.8**	**+0.4**
	comp=Z,16nm,0.9s,mb4.7						
PKI	**Pulchoki**	**29.67**	**337**	*e*P	**P**	**21 26 30.7**	**+0.5**
GUN	**Gumba**	**29.80**	**339**	*e*P	**P**	**21 26 31.9**	**+0.5**
	comp=Z,30nm,0.8s,mb5.1						
DMN	**Daman**	**29.83**	**337

comp=Z,101nm,4.4s
WMQ LR LR
comp=N,12nm,23.5s,MS3.4
WMQ LR LR
comp=E,49nm,20.0s,MS3.4
WMQ LR LR
comp=Z,19nm,21.8s,MS3.0
KS15 Wonju Array Si 46.34 34 *eP* **P 21 28 49.8 -0.2**
UCH Uchtor 46.77 336 P **P 21 28 54.8 +1.5**
SNR=5.5
TKM2 Tokmak 2 46.94 338 P **P 21 28 55.8 +1.2**
SNR=6.5
KBK Karagaybulak 46.96 337 P **P 21 28 56.1 +1.4**
SNR=6.0
AML Almayashu 47.03 336 P **P 21 28 56.6 +1.3**
SNR=5.9
AAK Ala-Archa 47.12 337 *eP* **P 21 28 55.7 -0.4**
comp=Z,4.8nm,1.3s,mb4.3
EKS2 Erkin-Say 47.43 336 P **P 21 28 59.9 +1.4**
SNR=6.2
USP Ospenovka 47.65 337 P **P 21 29 01.8 +1.5**
SNR=5.8
SONM Songino Array 48.04 8 P **P 21 29 03.9 +0.7**
comp=Z,6.0nm,0.7s,mb4.7,baz=191,slow=9.0,SNR=52
SONM PcP PcP 21 30 31.0 -0.1
comp=Z,1.6nm,0.7s,baz=184,slow=4.9,SNR=4.6
ULN Ulaanbaatar 48.16 8 *eP* **P 21 29 04.4 +0.3**
comp=Z,3.2nm,0.8s,mb4.4
MKAR Makanchi Array 48.33 346 P **P 21 29 05.0 -0.4**
comp=Z,7.1nm,0.6s,mb4.8,baz=156,slow=8.0,SNR=49
MKAR LR LR 21 52 05.7
comp=Z,28nm,18.6s,MS3.3,baz=198,slow=39
CN2 Changchun 49.95 26 *eP* **P 21 29 16.9 -1.1**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
PMG Port Moresby 50.12 102 P **P 21 29 19.4 -0.2**
comp=Z,22nm,0.8s,mb5.3,baz=304,slow=2.8,SNR=11
PMG Port Moresby 50.12 102 *eP* **P 21 29 19.4 -0.2**
comp=Z,16nm,0.8s,mb5.1
MJAR Matsushiro Arr 52.07 42 LR LR 21 49 30.5
comp=Z,41nm,20.9s,MS3.4,baz=50,slow=34
STKA Stephens Creek 52.30 132 *eP* **P 21 29 36.6 +0.7**
comp=Z,4.1nm,0.9s,mb4.4
STKA Stephens Creek 52.30 132 P **P 21 29 36.5 +0.6**
comp=Z,5.7nm,1.1s,mb4.4,baz=332,slow=4.4,SNR=7.4
MDJ Mudanjiang 52.48 28 P **P 21 29 36.8 -0.3**
MDJ AP pP 21 29 45.9 -0.2
MDJ XP sP 21 29 49.6 0.0
MDJ PCP PcP 21 30 46.5 -0.9
MDJ PP PP 21 31 36.1 -0.9
MDJ S **S 21 36 58.6 -1.4**
MDJ SS SS 21 40 41.3 +4.6
MDJ AMB AMB
comp=Z,3.0nm,0.9s,mb4.2
MDJ AMB AMB
comp=Z,37nm,4.8s
MDJ LR LR
comp=N,107nm,15.4s
MDJ LR LR
comp=E,61nm,7.4s
MDJ LR LR
comp=Z,117nm,13.4s,MS4.1
ZAL Zalesovo 54.61 351 P **P 21 29 52.5 -0.2**
comp=Z,7.6nm,0.5s,mb5.0,baz=312,slow=5.8,SNR=32
ZAL LR LR 21 56 17.2
comp=Z,49nm,18.7s,MS3.6,baz=237,slow=39
BVAR Borovoye Array 57.36 341 P **P 21 30 11.2 -1.3**
comp=Z,3.9nm,0.7s,mb4.5,baz=143,slow=8.9,SNR=20
CHKZ Chkalovo 57.84 341 *eP* **P 21 30 14.6 -1.1**
comp=Z,53nm,0.9s,mb5.6
ASAJ Asahikawa 59.14 36 LR LR 21 58 25.7
comp=Z,26nm,21.5s,MS3.3,baz=136,slow=38
KIV Kislovodsk 65.41 319 *eP* **P 21 31 05.7 -1.2**
MALT Malatya 66.19 312 P **P 21 31 11.5 -0.5**
BRTR Keskin Array B 70.17 312 P **P 21 31 35.5 -1.2**
comp=Z,1.0nm,0.7s,mb3.9,baz=129,slow=7.9,SNR=5.9
AKASG Malin Array Be 76.37 322 P **P 21 32 11.2 -1.7**
comp=Z,2.0nm,0.7s,mb4.1,baz=90,slow=4.9,SNR=10
FINES FINESS Array B 81.12 333 P **P 21 32 37.7 -0.7**
comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=3.8,SNR=6.3
FINES FINESS Array B 81.12 333 P **P 21 32 37.7 -0.7**
ARCES ARCESS Array B 83.65 340 P **P 21 32 51.9 +0.6**
comp=Z,3.1nm,0.8s,mb4.5,baz=90,slow=6.1,SNR=9.3
ARCES ARCESS Array B 83.65 340 P **P 21 32 51.9 +0.6**
GERES GERESS Array B 85.91 319 P **P 21 33 03.7 +0.6**
comp=Z,1.5nm,0.9s,mb4.2,baz=90,slow=5.3,SNR=9.0
NOA NORSAR Array B 88.13 331 P **P 21 33 13.2 -0.4**
comp=Z,1.6nm,0.8s,mb4.3,baz=96,slow=4.6,SNR=3.5
LPG La Plagne 90.55 315 *eP* **P 21 33 25.5 +0.1**
comp=Z,5.2nm,0.8s,mb4.6
NVAR Mina Array Bea 129.27 37 PKP PKPdf 21 39 32.8 -3.1
comp=Z,0.4nm,0.5s,baz=268,slow=2.0,SNR=3.7
TXAR Lajitas Array 144.22 33 PKP PKPdf 21 39 59.8 -3.6
comp=Z,1.0nm,0.6s,baz=315,slow=1.8,SNR=5.9

IDC 18 21:31:11.5±6.4, 3.18N×96.92E, mb3.2/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.2/3, Error ellipse: s-maj=331.4km s-min=27.9km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.34**	**124**	P	P	21 39 15.6	-1.8
	0.3nm,0.5s,baz=301,slow=9.2,SNR=7.3						
ASAR	**Alice Springs**	**44.82**	**129**	P	P	21 39 27.6	-1.8
	0.2nm,0.6s,baz=299,slow=7.6,SNR=4.8						
MKAR	**Makanchi Array**	**45.26**	**346**	P	P	21 39 30.6	-1.9
	0.1nm,0.4s,baz=155,slow=9.3,SNR=3.1						

OTT 18 21:43:40.4±0.7, 64.39N×87.76W, h18km, MN2.8/3, 185km northeast from Chesterfield Inlet, Nu Boothia Ungava Seismic Zone., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QILN	**Qililugaq Expl**	**2.35**	**14**	PN	Pn	21 44 21.6	+2.7
QILN				SN	Sn	21 44 45.6	-1.9
QILN				SG	Sn	21 44 53.5	+6.0
QILN				Trac		21 44 57.6	
	comp=Z,8.5nm,0.1s						
YRTN	**Rankin Inlet**	**2.50**	**233**	PN	Pn	21 44 20.8	-0.3
YRTN				PG	Pn	21 44 24.7	+3.6
YRTN				SN	Sn	21 44 49.2	-2.2
YRTN				SG	Sn	21 44 55.5	+4.1
YRTN				Trac		21 45 01.9	
	comp=Z,20nm,0.2s						
FCC	**Fort Churchill**	**6.40**	**211**	PN	Pn	21 45 12.4	-3.8
FCC				SN	Sn	21 46 19.4	-10
FCC				Trac		21 46 26.8	
	comp=Z,1.2nm,0.1s						
FCC				LG		21 46 57.1	
FRB	**Frobisher Bay**	**8.44**	**86**	SN	Sn	21 47 07.0	-14
GLWN	**Glow Worm Lake**	**9.28**	**282**	PN	P	21 45 52.0	-4.5
GLWN				SN	Sn	21 47 30.7	-11
GLWN				Trac		21 48 31.3	
	comp=Z,1.2nm,0.3s						
KNDN	**Kennady Lake**	**9.49**	**274**	PN	P	21 45 56.4	-2.9
KNDN				SN	Sn	21 47 37.3	-9.2
KNDN				Trac		21 48 46.2	
	comp=Z,0.8nm,0.3s						
MGTN	**Margaret Lake**	**9.59**	**276**	PN	P	21 45 57.9	-2.6
MGTN				SN	Sn	21 47 39.2	-10
MGTN				Trac		21 48 01.4	
	comp=Z,1.2nm,0.1s						
BOXN	**Box Lake**	**9.60**	**277**	PN	P	21 45 57.7	-3.0
BOXN				SN	Sn	21 47 40.1	-9.1
BOXN				Trac		21 47 47.2	
	comp=Z,0.2nm,0.1s						
MLON	**Marlo Lake**	**9.65**	**278**	PN	P	21 45 57.6	-3.8
MLON				SN	Sn	21 47 41.4	-9.1
MLON				Trac		21 47 56.7	
	comp=Z,0.3nm,0.1s						
LGSN	**Lac de Gras So**	**9.68**	**280**	PN	P	21 46 06.0	+4.2
ACKN	**Achilles Lake**	**9.90**	**284**	PN	P	21 46 01.8	-3.0
ACKN				SN	Sn	21 47 46.8	-10
ACKN				Trac		21 48 53.6	
	comp=Z,0.9nm,0.3s						
LUPN	**Lupin Mine**	**9.99**	**288**	PN	P	21 46 03.5	-2.6
LUPN				SN	Sn	21 47 46.2	-13
LUPN				Trac		21 48 54.2	
	comp=Z,0.6nm,0.3s						
COWN	**Contwyoto Lake**	**10.00**	**286**	PN	P	21 46 02.5	-3.7
COWN				SN	Sn	21 47 49.5	-9.5
COWN				Trac		21 48 06.0	
	comp=Z,0.6nm,0.3s						
SILO	**Sutton Inlier**	**10.04**	**170**	PN	P	21 46 00.9	-5.9
SILO				SN	S	21 47 43.8	-16
SILO				Trac		21 48 59.3	
	comp=Z,0.4nm,0.3s						
NODN	**Nodinka Narrow**	**10.11**	**278**	PN	P	21 46 00.6	-7.1
NODN				Trac		21 49 00.6	
	comp=Z,0.3nm,0.1s						
CAMN	**Camsell Lake**	**10.14**	**277**	PN	P	21 46 05.0	-3.1
CAMN				SN	S	21 47 51.4	-11
CAMN				Trac		21 49 01.4	
	comp=Z,0.6nm,0.3s						
YMBN	**Yamba Lake**	**10.19**	**283**	PN	P	21 46 06.0	-2.7
YMBN				SN	S	21 47 52.0	-12
YMBN				Trac		21 49 03.6	
	comp=Z,0.7nm,0.3s						
SNPN	**Snap Lake**	**10.20**	**276**	PN	P	21 46 04.8	-4.0
SNPN				SN	S	21 47 53.1	-11
SNPN				Trac		21 48 03.0	
	comp=Z,0.5nm,0.1s						
IHLN	**Indian Hill La**	**10.25**	**274**	PN	P	21 46 05.7	-3.9
IHLN				SN	S	21 47 54.6	-11
IHLN				Trac		21 49 07.3	
	comp=Z,0.7nm,0.5s						
DSMN	**Discovery Mine**	**11.59**	**276**	PN	P	21 46 24.1	-3.7
DSMN				SN	S	21 48 26.8	-11
DSMN				Trac		21 49 55.7	
	comp=Z,0.5nm,0.3s						
VIMO	**Victor Mine**	**11.79**	**168**	SN	S	21 48 24.7	-18
YKW3	**Yellowknife Ar**	**12.10**	**274**	PN	P	21 46 29.2	-5.5
YKW3				SN	S	21 48 36.7	-14
YKW3				LG		21 49 53.2	
YKW3				Trac		21 49 57.0	
	comp=Z,0.6nm,0.4s						
CTLN	**Castor Lake**	**12.17**	**283**	PN	P	21 46 32.4	-3.4
CTLN				SN	S	21 48 38.5	-13
CTLN				Trac		21 48 49.0	
	comp=Z,0.2nm,0.1s						
GALN	**Gameti Lake**	**12.79**	**282**	PN	P	21 46 31.6	-12

*NEIC **18** 21:46:24.9, 36.86S×71.17W, h160km, MD3.1(GUC), After GUC.*
GUC 18 21:46:24.9±0.8, 36.86S×71.17W, h160km, MD3.1, ML3.7, 4C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**2.24**	**3**	↓*iP*	P	21 47 04.1	+0.2
SFDO				*i* S	S	21 47 34.2	+0.3
CICH	**Cipreses**	**2.60**	**14**	↑*iP*	P	21 47 08.7	+0.3
CACH	**El Canelo**	**2.77**	**10**	↑*iP*	P	21 47 10.7	+0.2
CACH				*i* S	S	21 47 45.4	0.0
LNV	**Longovilo**	**2.90**	**356**	↑*iP*	P	21 47 11.8	-0.3
LNV				*i* S	S	21 47 47.4	-0.8
CHCH	**Chadas Angostu**	**2.95**	**8**	*eP*	P	21 47 12.5	-0.1
CHCH				*i* S	S	21 47 49.1	-0.1
LMEL	**Las Melosas**	**3.10**	**15**	*eP*	P	21 47 15.0	+0.4
LMEL				*i* S	S	21 47 53.0	+0.2
LMEL				AMP		21 48 00.1	
	comp=E,116nm,0.2s						
PCH	**Pirque**	**3.27**	**10**	↑*iP*	P	21 47 16.4	-0.4
RCDM	**Rinconada Maip**	**3.37**	**5**	*eP*	P	21 47 17.1	-1.0
RCDM				*i* S	S	21 47 58.0	-1.0
FCH	**Farellones**	**3.59**	**12**	↓*iP*	P	21 47 20.2	-0.8
FCH				*i* S	S	21 48 02.7	-1.4

*IDC **18** 21:49:28.3±1.1, 5.23N×125.44E, mb3.7/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=62.4km s-min=19.1km az=78.0*
ISC 18 21:49:36.2±1.7, 5.1N±0.1×125.4E±0.4, h80km±19km, n8, σ1§02/9, mb3.6/6, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.88**	**352**	↓*eP*	P	21 50 05.7	-1.4
KCP				*i* S	**S**	21 50 31.1	+1.4
WRA	**Warramunga Arr**	**26.44**	**161**	P	P	21 55 06.9	-0.7
	0.5nm,0.8s,mb3.0,baz=344,slow=8.9,SNR=11						
WB2	**Warramunga Arr**	**26.44**	**161**	*eP*	P	21 55 08.0	+0.3
ASAR	**Alice Springs**	**29.82**	**164**	P	P	21 55 37.9	-0.2
	0.4nm,0.5s,mb3.3,baz=347,slow=7.2,SNR=8.6						
MJAR	**Matsushiro Arr**	**33.41**	**19**	P	P	21 56 07.8	-1.5
	2.2nm,0.8s,mb4.0,baz=191,slow=9.2,SNR=4.9						
STKA	**Stephens Creek**	**39.93**	**158**	P	P	21 57 05.5	+1.3
	1.4nm,0.3s,mb4.2,baz=345,slow=6.9,SNR=11						
MKAR	**Makanchi Array**	**55.63**	**325**	P	P	21 59 05.9	-0.3
	0.3nm,0.4s,mb3.7,baz=121,slow=7.4,SNR=7.4						
ILAR	**Eielson Array**	**84.43**	**25**	P	P	22 02 01.9	+1.1
	0.4nm,0.6s,mb3.4,baz=259,slow=5.3,SNR=4.5						

IDC 18 21:54:27.1±52.0, 18.13S×174.89W, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=984.8km s-min=171.8km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.48**	**242**	P	P	22 02 16.5	-1.0
	1.2nm,0.6s,baz=106,slow=7.4,SNR=3.6						
WRA	**Warramunga Arr**	**47.89**	**259**	P	P	22 03 07.4	-1.9
	0.3nm,0.3s,baz=98,slow=7.3,SNR=20						
ASAR	**Alice Springs**	**47.96**	**254**	P	P	22 03 07.3	-2.4
	0.5nm,0.5s,baz=87,slow=8.2,SNR=8.7						

*TRN **18** 22:01:25.9, 15.73N×61.50W, h22km, MD3.7, M3.3(FDF), Md3.1(FDF)*
*NEIC **18** 22:01:26.6, 15.77N×61.46W, h21km, MD3.7(TRN), MD3.2(FDF), After TRN.*
NEIC Felt [III] on Guadeloupe.
*IDC **18** 22:01:27.1±4.1, 15.60N×61.42W, mb3.6/3, mb1 3.9/3, mb1mx3.5/22, mbtmp3.6/3, Error ellipse: s-maj=174.1km s-min=29.6km az=81.0*
ISC 18 22:01:28.4±0.6, 15.73N±0.06×61.46W±0.10, h23km±5km, n17, σ0§78/27, mb3.6/3, 1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DWS	**Wesley**	**0.22**	**138**	↓*iP*	**Pb**	22 01 34.4	+0.4
DWS				*eS*	**Sb**	22 01 38.0	+0.2
MBRY		**1.17**	**326**	*eS*	**Sb**	22 02 05.1	+0.5
MBLG		**1.19**	**326**	*eS*	**Sb**	22 02 05.0	-0.2
MLYT		**1.21**	**325**	*eP*	**Pn**	22 01 49.5	-0.5
MLYT				*eS*	**Sb**	22 02 05.6	0.0
MBWH		**1.22**	**325**	*eP*	**Pn**	22 01 49.5	-0.8
MBWH				*eS*	**Sb**	22 02 05.4	-0.7
MBGB		**1.24**	**324**	*eP*	**Pn**	22 01 49.8	-0.7
MBGB				*eS*	**Sb**	22 02 06.2	-0.3
BPA	**Boggy Peak**	**1.36**	**344**	*eP*	**Pn**	22 01 51.4	-0.9
BPA				*eS*	**Sn**	22 02 09.1	-0.6
NVBH	**Bath Hotel, Ne**	**1.77**	**321**	*eP*	**Pn**	22 01 59.1	+1.0
NVBH				*eS*	**Sn**	22 02 21.3	+1.2
NVRH	**Round Hill, Ne**	**1.81**	**323**	*eP*	**Pn**	22 01 59.8	+1.1
NVRH				*eS*	**Sn**	22 02 20.4	-0.7
CPB	**Codrington**	**1.93**	**350**	*eP*	**Pn**	22 01 59.3	-1.1
CPB				*eS*	**Sn**	22 02 24.7	+0.6
SLB	**Belfond**	**1.94**	**168**	*eP*	**Pn**	22 02 00.5	0.0
SLB				*eS*	**Sn**	22 02 34.9	+10
SKI	**Saint Kitts**	**2.01**	**323**	*eP*	**Pn**	22 02 01.8	+0.3
FCV	**Fort Charlotte**	**2.57**	**175**	*eP*	**Pn**	22 02 10.0	+0.4
FCV				*eS*	**Sn**	22 02 37.4	-3.0
LPAZ	**La Paz**	**32.49**	**192**	P	P	22 07 59.2	-0.6
	0.3nm,0.4s,mb3.5,slow=2.0,SNR=2.6						
LPAZ	**La Paz**	**32.49**	**192**	P	**P**	22 07 59.2	-0.6
PDAR	**Pinedale Array**	**49.01**	**313**	P	**P**	22 10 16.6	+1.2
	0.6nm,0.8s,mb3.7,baz=100,slow=9.0,SNR=5.9						
YKA	**Yellowknife Ar**	**59.55**	**334**	P	**P**	22 11 33.1	+0.9
	0.3nm,0.5s,mb3.6,baz=107,slow=7.3,SNR=6.3						

*IDC **18** 22:12:40.9±3.4, 1.77S×99.89E, mb3.6/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=136.5km s-min=20.2km az=58.0*
*NEIC **18** 22:12:45.5±1.4, 1.63S×100.15E, mb3.9/1, Error ellipse: s-maj=48.0km s-min=9.9km az=64.0*
ISC 18 22:12:44.7±1.9, 1.6S±0.2×100.2E±0.4, h33km, n9, σ0§51/9, mb3.7/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.82**	**4**	P	**P**	22 14 24.8	-0.2
CMAR	**Chiang Mai Arr**	**19.93**	**357**	P	**P**	22 17 16.6	-0.1
	0.5nm,0.6s,baz=192,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**38.08**	**121**	P	**P**	22 20 02.2	-0.2
	0.3nm,0.5s,mb3.3,baz=303,slow=8.9,SNR=8.3						
WRA				pP	pP	22 20 09.7	-2.4
	0.8nm,0.5s,baz=302,slow=9.1,SNR=8.9						
WRAB	**Tennant Creek**	**38.09**	**121**	P	**P**	22 20 01.9	-0.5
	1.0nm,0.5s,mb3.8						
ASAR	**Alice Springs**	**39.38**	**127**	P	**P**	22 20 13.7	+0.5
	0.4nm,0.5s,mb3.4,baz=302,slow=8.0,SNR=7.3						
ASAR				pP	pP	22 20 21.1	-1.8
	0.8nm,0.6s,baz=301,slow=8.0,SNR=8.8						
SONM	**Songino Array**	**49.49**	**6**	P	**P**	22 21 35.1	+1.0
	0.4nm,0.6s,mb3.6,baz=193,slow=8.6,SNR=3.3						
MKAR	**Makanchi Array**	**50.65**	**344**	P	**P**	22 21 42.9	0.0
	0.8nm,0.4s,mb4.0,baz=158,slow=8.6,SNR=16						
MKAR	**Makanchi Array**	**50.65**	**344**	P	**P**	22 21 42.9	0.0
ZAL	**Zalesovo**	**56.76**	**349**	P	**P**	22 22 27.2	-0.6
	1.5nm,0.5s,mb4.3,baz=323,slow=4.1,SNR=5.9						

IDC 18 22:19:18.7±1.4, 12.23N×85.68W, mb3.2/3, mb1 3.6/4, mb1mx3.5/19, mbtmp3.2/4, ML3.3/1, Error ellipse: s-maj=125.0km s-min=20.9km az=67.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.06**	**160**	Pn	Pn	22 19 54.1	-0.7
	11nm,0.3s,baz=316,slow=15,SNR=19						
JTS				Sn	Sn	22 20 23.1	+1.5
	19nm,0.3s,baz=258,slow=20,SNR=10						
TXAR	**Lajitas Array**	**23.87**	**318**	P	P	22 24 34.0	-0.7
	0.4nm,0.5s,baz=149,slow=10,SNR=3.9						
YKA	**Yellowknife Ar**	**54.29**	**344**	P	P	22 28 46.6	-2.0
	0.2nm,0.6s,baz=138,slow=7.2,SNR=5.2						
ILAR	**Eielson Array**	**66.92**	**336**	P	P	22 30 12.5	-2.3
	0.3nm,0.8s,baz=127,slow=4.5,SNR=3.4						

MDD 18 22:21:57.7±0.6, 28.11N×16.31W, mbLg1.0/3, Error ellipse: s-maj=14.8km s-min=3.1km az=25.0, PRXIMO SIN SOLUCIN, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCAN	**Las Canadas**	**0.28**	**293**	P	Pg	22 22 04.3	+1.0
	1.8nm,0.1s,SNR=17						
CCAN				S	Sg	22 22 09.1	+2.0
	7.8nm,0.2s,SNR=25						
CICO	**Icod de los Vi**	**0.44**	**303**	P	Pg	22 22 06.0	-0.4
	0.1nm,0.2s,SNR=7.9						
CICO				S	Sg	22 22 14.2	+1.9
	26nm,2.0s,SNR=7.9						
CHIO	**Chio**	**0.47**	**286**	P	Pg	22 22 07.4	+0.4
	1.6nm,0.3s,SNR=7.9						
CHIO				S	Sg	22 22 15.1	+1.9
	6.2nm,0.4s,SNR=7.9						
EGOM	**La Gomera**	**0.80**	**274**	P	Pg	22 22 12.0	-1.6
	11nm,0.4s,SNR=7.9						

IDC 18 22:22:16.9±1.0, 10.90N×141.63E, mb3.3/5, mb1 3.6/5, mb1mx3.5/18, mbtmp3.3/5, MS3.6/1, Ms1 3.6/1, ms1mx2.5/15, Error ellipse: s-maj=42.9km s-min=23.9km az=107.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.47**	**193**	P	P	22 28 39.5	-3.3
	0.2nm,0.8s,baz=13,slow=9.6,SNR=3.0						
FITZ	**Fitzroy Crossi**	**32.85**	**209**	LR	LR	22 39 46.8	
	comp=Z,106nm,22.0s,baz=129,slow=32						
ASAR	**Alice Springs**	**35.17**	**192**	P	P	22 29 13.7	-1.1
	0.2nm,0.5s,baz=13,slow=12,SNR=2.9						
CMAR	**Chiang Mai Arr**	**41.89**	**285**	P	P	22 30 09.4	-1.6
	0.4nm,0.6s,baz=90,slow=7.2,SNR=4.1						
SONM	**Songino Array**	**47.21**	**328**	P	P	22 30 55.8	+2.4
	0.1nm,0.4s,baz=153,slow=6.4,SNR=2.5						
ILAR	**Eielson Array**	**72.34**	**25**	P	P	22 33 45.0	-1.3
	0.4nm,0.6s,baz=256,slow=5.6,SNR=5.6						
YKA	**Yellowknife Ar**	**86.69**	**27**	P	P	22 35 01.7	-1.9
	0.1nm,0.4s,baz=283,slow=5.5,SNR=3.3						
LPAZ	**La Paz**	**150.60**	**104**	PKPbc	PKPdf	22 42 12.6	+4.4
	1.1nm,0.5s,baz=347,slow=2.8,SNR=6.2						

*IDC **18** 22:40:36.2±9.9, 1.99N×95.98E, mb3.8/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=197.4km s-min=113.9km az=147.0*
*NEIC **18** 22:40:40.1±1.1, 1.96N×95.94E, h30km, mb3.8/3, Error ellipse: s-maj=21.9km s-min=15.3km az=223.0*
ISC 18 22:40:38.2±1.3, 2.0N±0.2×95.9E±0.1, h30km, n15, σ0§47/15, mb4.1/11, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.74**	**55**	*eP*	**Pn**	22 42 03.9	+0.2
CMAR	**Chiang Mai Arr**	**16.65**	**10**	Pn	**P**	22 44 30.9	-0.4
	0.1nm,0.3s,baz=200,slow=12,SNR=8.2						
JIRN	**Jiri**	**27.20**	**341**	*eP*	**P**	22 46 22.3	+0.8
	12nm,0.8s,mb4.5						
PKI	**Pulchoki**	**27.39**	**339**	*eP*	**P**	22 46 22.5	-0.7
DMN	**Daman**	**27.53**	**339**	*eP*	**P**	22 46 23.6	-0.9
GUN	**Gumba**	**27.54**	**340**	*eP*	**P**	22 46 25.1	+0.5
	8.8nm,0.8s,mb4.5						
KKN	**Kakani**	**27.63**	**339**	*eP*	**P**	22 46 25.0	-0.4
	4.3nm,0.4s,mb4.5						
LSA	**Lhasa**	**27.96**	**351**	*eP*	**P**	22 46 28.0	-0.4
	2.0nm,0.8s,mb3.8						
GKN	**Gorkha**	**28.06**	**338**	*eP*	**P**	22 46 29.4	+0.1
	11nm,0.9s,mb4.5						
KOLN	**Koldanda**	**28.25**	**336**	*eP*	**P**	22 46 31.4	+0.4
	7.8nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**43.51**	**122**	P	**P**	22 48 40.9	-0.2
	1.9nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**44.81**	**337**	P	**P**	22 48 51.8	+0.4
	0.4nm,0.4s,mb3.6						
MKAR	**Makanchi Array**	**46.21**	**347**	P	**P**	22 49 02.6	+0.2
	0.9nm,0.7s,mb3.8,baz=162,slow=7.7,SNR=8.6						
SONM	**Songino Array**	**46.58**	**10**	P	**P**	22 49 05.5	+0.2
	0.7nm,0.5s,mb3.9,baz=190,slow=9.1,SNR=7.5						
ZAL	**Zalesovo**	**52.61**	**352**	P	**P**	22 49 51.8	+0.2
	0.9nm,0.5s,mb4.0,baz=315,slow=2.6,SNR=4.1						

IDC 18 22:41:29.1±1.6, 1.18S×127.99E, mb3.6/2, mb1 4.1/4, mb1mx3.7/18, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=106.6km s-min=23.7km az=76.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.98**	**188**	Pn	P	22 45 29.5	-0.3
	baz=14,slow=12						
WRA	**Warramunga Arr**	**19.66**	**162**	P	P	22 46 01.2	-1.3
	0.5nm,0.3s,baz=340,slow=11,SNR=30						
WB2	**Warramunga Arr**	**19.66**	**162**	*eP*	P	22 46 01.4	-1.2
ASAR	**Alice Springs**	**23.08**	**166**	P	P	22 46 35.0	-2.7
	1.3nm,0.3s,baz=349,slow=7.8,SNR=12						
ASPA	**Alice Springs**	**23.08**	**166**	*eP*	P	22 46 34.5	-3.1
SONM	**Songino Array**	**52.32**	**342**	P	P	22 50 42.9	-1.9
	0.3nm,0.6s,baz=162,slow=9.1,SNR=2.7						

**IDC 18 22:45:01.2±5.3, 8.18S×156.06E, mb4.0/3, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, ML3.6/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/20, Error ellipse: s-maj=88.1km s-min=76.3km az=176.0, Bougainville - Solomon

IDC 18 23:04:33.4±1.7, 10.29N×93.06E, mb3.5/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.5/5, Error ellipse: s-maj=49.7km s-min=28.7km az=54.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.93**	**34**	Pn	P	23 06 57.2	-3.2
	baz=226,slow=14,SNR=10.0						
MKAR	**Makanchi Array**	**37.52**	**348**	P	P	23 11 49.1	-1.7
	0.4nm,0.7s,baz=180,slow=7.2,SNR=3.0						
ZAL	**Zalesovo**	**44.03**	**353**	P	P	23 12 42.4	-2.1
	0.8nm,0.2s,baz=274,slow=5.2,SNR=3.1						
WRA	**Warramunga Arr**	**50.54**	**126**	P	P	23 13 33.7	-2.2
	0.3nm,0.6s,baz=305,slow=8.6,SNR=4.8						
BRTR	**Keskin Array B**	**60.06**	**310**	P	P	23 14 42.7	-2.0
	0.8nm,1.0s,baz=135,slow=8.2,SNR=4.1						

*NEIC **18** 23:25:18.8, 51.92N×172.16W, h10km, ML2.7(AEIC), After AEIC.*
*IDC **18** 23:25:25.8±3.0, 51.69N×170.02W, mb3.6/3, mb1 3.7/4, mb1mx3.4/24, mbtmp3.4/4, Error ellipse: s-maj=66.8km s-min=50.9km az=19.0*
ISC 18 23:25:18.4±4.2, 51.7N±0.2×172.2W±0.1, h29km±39km, n13, σ0°49/13, mb3.2/2, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.30**	**291**	P	**Pn**	**23 25 39.5**	**-1.4**
ATKA				S	**Sn**	**23 25 57.5**	**+0.1**
GSIG	**Igitkin Island**	**2.30**	**277**	P	**Pn**	**23 25 55.7**	**+0.4**
GSMY	**Great Sitkin M**	**2.39**	**279**	P	**Pn**	**23 25 57.0**	**+0.5**
GSTD	**Great Sitkin T**	**2.44**	**279**	P	**Pn**	**23 25 57.6**	**+0.4**
ADAG	**Mount Adagdak**	**2.72**	**277**	P	**Pn**	**23 26 01.1**	**-0.1**
KIWB	**Kanaga Island**	**3.06**	**274**	P	**Pn**	**23 26 05.9**	**-0.1**
KIMD	**Kanaga Island**	**3.11**	**272**	P	**Pn**	**23 26 06.7**	**0.0**
ILAR	**Eielson Array**	**18.48**	**35**	P	**P**	**23 29 34.1**	**+0.4**
	0.1nm,0.3s,baz=236,slow=9.5,SNR=5.6						
YKA	**Yellowknife Ar**	**31.98**	**48**	P	**P**	**23 31 43.7**	**0.0**
	0.1nm,0.4s,mb3.0,baz=273,slow=8.5,SNR=4.8						
YKA	**Yellowknife Ar**	**31.98**	**48**	P	**P**	**23 31 43.7**	**0.0**
TXAR	**Lajitas Array**	**54.54**	**86**	P	**P**	**23 34 45.7**	**-0.2**
	0.3nm,0.7s,mb3.4,baz=315,slow=1.8,SNR=4.3						
TXAR	**Lajitas Array**	**54.54**	**86**	P	**P**	**23 34 45.7**	**-0.2**
BRTR	**Keskin Array B**	**86.15**	**340**	P	pP	23 38 11.5	+4.7
	1.1nm,1.0s,baz=18,slow=4.6,SNR=3.6						

*NEIC **18** 23:30:51.0±0.9, 0.07S×97.16E, mb3.7/1, Error ellipse: s-maj=23.5km s-min=18.2km az=79.0*
*IDC **18** 23:30:51.0±1.4, 0.17S×96.96E, h29km±5km, mb3.5/5, mb1 3.7/6, mb1mx3.4/19, mbtmp3.6/6, ML4.3/1, MS2.9/1, Ms1 3.1/1, ms1mx2.6/22, Error ellipse: s-maj=48.4km s-min=18.8km az=56.0*
ISC 18 23:30:49.6±1.2, 0.0N±0.2×97.2E±0.2, h29km, (h29km±4km:pP-P), n12, σ1°07/10, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.29**	**34**	*e*P	**Pn**	**23 32 21.0**	**-2.0**
CMAR	**Chiang Mai Arr**	**18.41**	**5**	P	**P**	**23 35 06.2**	**+1.4**
	0.4nm,0.3s,baz=195,slow=11,SNR=10						
CMAR				LR	LR	23 43 26.7	
	comp=Z,32nm,18.7s,baz=185,slow=41						
WRA	**Warramunga Arr**	**41.46**	**121**	P	**P**	**23 38 36.3**	**+0.5**
	0.5nm,0.9s,mb3.1,baz=302,slow=8.9,SNR=7.8						
WRA				pP	pP	23 38 44.8	+0.3
	0.5nm,0.7s,baz=302,slow=8.9,SNR=6.1						
AAK	**Ala-Archa**	**47.06**	**337**	P	**P**	**23 39 21.2**	**+0.5**
SONM	**Songino Array**	**48.30**	**8**	P	**P**	**23 39 31.0**	**+0.6**
	0.2nm,0.5s,mb3.4,baz=225,slow=6.1,SNR=2.3						
SONM				pP	pP	23 39 39.8	+0.7
	0.4nm,0.6s,baz=180,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**48.37**	**346**	P	**P**	**23 39 31.6**	**+0.7**
	0.6nm,0.6s,mb3.8,baz=160,slow=8.1,SNR=6.2						
MKAR				pP	pP	23 39 40.2	+0.5
	1.1nm,0.5s,baz=163,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**48.37**	**346**	P	**P**	**23 39 31.6**	**+0.7**
MKAR				pP	pP	23 39 40.2	+0.5
ZAL	**Zalesovo**	**54.70**	**351**	P	**P**	**23 40 18.6**	**+0.1**
	1.3nm,0.3s,mb4.4,baz=319,slow=4.0,SNR=4.3						
ZAL				pP	pP	23 40 27.6	+0.3
	1.7nm,0.5s,baz=298,slow=6.1,SNR=6.8						
CHKZ	**Chkalovo**	**57.83**	**342**	*e*P	**P**	**23 40 39.1**	**-1.8**
	0.3nm,0.4s,mb3.7						
BRTR	**Keskin Array B**	**69.88**	**313**	P	**P**	**23 41 59.3**	**-0.8**
	0.4nm,0.6s,mb3.5,baz=117,slow=6.4,SNR=3.1						
CPUP	**Villa Florida**	**144.10**	**221**	PKP	PKPdf	23 50 23.2	-5.1
	1.2nm,0.6s,baz=96,slow=4.9,SNR=5.3						
TXAR	**Lajitas Array**	**144.69**	**32**	PKP	PKPdf	23 50 25.9	-3.4
	0.3nm,0.7s,baz=153,slow=2.8,SNR=3.4						

IDC 18 23:53:48.1±2.4, 85.56N×88.70E, mb3.6/3, mb1 3.9/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=107.4km s-min=27.5km az=140.0, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**28.13**	**49**	P	P	23 59 41.9	-1.2
	0.6nm,0.9s,baz=349,slow=6.3,SNR=5.8						
YKA	**Yellowknife Ar**	**31.82**	**20**	P	P	00 00 13.3	-2.7
	0.8nm,0.7s,baz=355,slow=8.4,SNR=26						
AKASG	**Malin Array Be**	**37.38**	**244**	P	P	00 01 01.9	-1.9
	0.2nm,0.3s,baz=7.5,slow=8.0,SNR=4.0						

*NEIC **19** 00:05:21.4, 32.69S×70.41W, h102km, MD3.0(GUC), After GUC.*
GUC 19 00:05:21.4±0.8, 32.69S×70.41W, h102km±3km, MD3.0, ML3.5, 7C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.16**	**274**	⇓*i*P	P	00 05 35.7	-0.1
JACH				*i* S	S	00 05 47.3	+0.6
PEL	**Peldehue**	**0.51**	**207**	AMP		00 05 51.0	
	comp=N,3μm,0.3s						
ROCH	**El Roble**	**0.58**	**241**	⇓*i*P	P	00 05 38.6	+0.4
ROCH				*i* S	S	00 05 51.5	+0.7
PTCH	**Petorca**	**0.61**	**314**	*i* P	P	00 05 38.7	+0.2
PTCH				*i* S	S	00 05 51.9	+0.6
PTCH				AMP		00 05 54.5	
	comp=E,4μm,0.4s						
FCH	**Farellones**	**0.64**	**171**	⇓*i*P	P	00 05 39.0	+0.3
FCH				AMP		00 05 53.3	
	comp=N,2μm,0.1s						
FCH				*i* S	S	00 05 53.4	+1.7
CLCH	**Cerro Calan**	**0.71**	**189**	*i* P	P	00 05 39.5	+0.2
CLCH				*i* S	S	00 05 53.0	+0.3
CLCH				AMP		00 05 54.1	
	comp=N,2μm,0.4s						
DSCH	**Colegio Aleman**	**0.72**	**191**	*i* P	P	00 05 39.6	+0.2
DSCH				*i* S	S	00 05 53.5	+0.7
DSCH				AMP		00 05 54.1	
	comp=N,2μm,0.4s						
STL	**Santa Lucia**	**0.77**	**195**	⇑*i*P	P	00 05 40.0	+0.1
STL				*i* S	S	00 05 54.2	+0.5
PUEX	**Pudahuel**	**0.80**	**201**	⇑*i*P	P	00 05 40.6	+0.3
PUEX				*i* S	S	00 05 55.0	+0.7
PUEX				AMP		00 05 55.6	
	comp=E,3μm,0.4s						
RCDM	**Rinconada Maip**	**0.86**	**203**	⇑*i*P	P	00 05 40.9	+0.1
RCDM				*i* S	S	00 05 55.9	+0.6
RCDM				AMP		00 05 56.9	
	comp=N,3μm,0.2s						
PACH	**Papudo**	**0.88**	**280**	⇑*i*P	P	00 05 41.1	+0.1
PACH				*i* S	S	00 05 55.7	0.0
PCH	**Pirque**	**0.93**	**186**	⇓*i*P	P	00 05 42.0	+0.5
PCH				*i* S	S	00 05 57.1	+0.5
TACH	**Talagante**	**1.06**	**205**	⇑*i*P	P	00 05 42.7	-0.2
TACH				*i* S	S	00 05 58.9	-0.2
LMEL	**Las Melosas**	**1.17**	**172**	*e*P	P	00 05 44.5	+0.2
LMEL				*i* S	S	00 06 01.8	+0.5
LMEL				AMP		00 06 06.8	
	comp=N,1μm,0.2s						
CHNG	**Los Chungos**	**1.23**	**311**	⇑*i*P	P	00 05 45.0	+0.1
CHNG				*e*S	S	00 06 02.7	0.0
CHNG				AMP		00 06 07.5	
	comp=E,471nm,0.2s						
ILCH	**Illapel**	**1.24**	**328**	*i* P	P	00 05 45.0	0.0
ILCH				*i* S	S	00 06 02.7	-0.1
ILCH				AMP		00 06 03.6	
	comp=E,1μm,0.2s						
LCCH	**Las Cruces**	**1.25**	**231**	⇑*i*P	P	00 05 45.3	+0.1
LCCH				*i* S	S	00 06 03.4	+0.3
CHCH	**Chadas Angostu**	**1.25**	**189**	*i* P	P	00 05 45.2	0.0
CHCH				*i* S	S	00 06 03.3	+0.1
MDZ	**Mendoza**	**1.32**	**99**	*e*P	P	00 05 46.2	+0.1
MDZ				S	S	00 06 05.9	+1.3
CACH	**El Canelo**	**1.43**	**186**	*i* P	P	00 05 48.0	+0.6
CACH				*i* S	S	00 06 08.1	+1.4
LNV	**Longovilo**	**1.52**	**213**	⇓*i*P	P	00 05 47.8	-0.6
LNV				*i* S	S	00 06 08.1	-0.4
CICH	**Cipreses**	**1.62**	**180**	*i* P	P	00 05 50.0	+0.3
CICH				*i* S	S	00 06 11.7	+0.8
SFDO	**San Fernando**	**1.98**	**195**	*i* P	P	00 05 54.2	-0.1
TLL	**Tololo Astrono**	**2.54**	**352**	AMP		00 06 39.0	
	comp=N,212nm,0.9s						

*ROM **19** 00:16:39.4±0.2, 46.35N×12.02E, h15km±6km, Md2.6/6, Ml1.9/4, Error ellipse: s-maj=3.0km s-min=2.3km az=20.0*
*CSEM **19** 00:16:39.4±0.1, 46.32N×12.03E, h12km, ML2.8/9, Error ellipse: s-maj=2.6km s-min=1.8km az=27.0*
*PRU **19** 00:16:40.4, 46.31N×12.04E*
ISC 19 00:16:40.9±0.3, 46.33N±0.02×12.05E±0.03, h15km, n32, σ1°18/62, 10C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSO	**Casso**	**0.20**	**107**	⇑*i*Pg	**Pb**	**00 16 43.9**	**-1.8**
CSO				Sg	**Sb**	**00 16 47.3**	**-1.7**
CTI	**Castel Tesino**	**0.40**	**225**	Pg	**Pb**	**00 16 47.6**	**-1.5**
CTI				Sg	**Sb**	**00 16 54.1**	**-0.6**
	121nm,0.3s						
CAE	**Caneva**	**0.42**	**140**	⇓*i*Pg	**Pb**	**00 16 48.2**	**-1.3**
CAE				*i* Sg	**Sb**	**00 16 54.8**	**-0.6**
BRES	**Bressanone**	**0.43**	**329**	Pg	**Pb**	**00 16 48.0**	**-1.6**
BRES				Sg	**Sb**	**00 16 54.4**	**-1.1**
MLNI	**Malnisio**	**0.43**	**115**	⇓*i*Pg	**Pb**	**00 16 48.3**	**-1.3**
MLNI				*i* Sg	**Sb**	**00 16 54.6**	**-0.9**
SEST	**Monte Rota**	**0.43**	**15**	Pg	**Pb**	**00 16 48.7**	**-1.0**
SEST				Sg	**Sb**	**00 16 54.7**	**-1.0**
	170nm,0.4s						
CSMI	**Casera Mimoias**	**0.45**	**66**	*i* Pg	**Pb**	**00 16 48.9**	**-1.2**
CSMI				*i* Sg	**Sb**	**00 16 55.2**	**-1.1**
APPI	**Appiano**	**0.59**	**285**	Pg	**Pb**	**00 16 51.3**	**-1.1**
	43nm,0.4s						
ZOU	**Zoufplan**	**0.68**	**70**	⇑*i*Pg	**Pb**	**00 16 53.2**	**-0.6**
ZOU				*i* Sg	**Sb**	**00 17 02.8**	**+0.1**
PTCC	**Patocco-Chiusa**	**0.90**	**85**	Pg	**Pb**	**00 16 57.7**	**-0.1**
	7.0nm,0.3s						
WTTA	**Wattenberg**	**0.98**	**343**	⇑*i*PG	**Pb**	**00 16 58.7**	**-0.3**
WTTA				*i* SG	**Sb**	**00 17 11.8**	**+0.4**
	21nm,0.4s						
TEOL	**Teolo**	**1.01**	**195**	*e*Pg	**Pb**	**00 17 01.3**	**+1.8**
TEOL				*e*Sg	**Sb**	**00 17 16.3**	**+4.0**
WATA	**Walderalm**	**1.06**	**342**	⇑*i*PG	**Pb**	**00 16 59.8**	**-0.6**
WATA				*i* SG	**Sb**	**00 17 14.6**	**+0.8**
	12nm,0.3s						
SQTA	**Sankt Quirin**	**1.06**	**327**	⇑*i*PG	**Pb**	**00 16 59.9**	**-0.6**
SQTA				*i* SG	**Sb**	**00 17 14.7**	**+0.8**
	9.0nm,0.2s						
DRE	**Drenchia**	**1.12**	**98**	*e*Pg	**Pb**	**00 17 02.1**	**+0.7**
KBA	**Koelnbreinsper**	**1.16**	**50**	⇑*i*PG	**Pb**	**00 17 02.2**	**0.0**
KBA				*i* SG	**Sb**	**00 17 18.2**	**+1.4**
	12nm,0.4s						
BRMO	**Bormio**	**1.17**	**278**	Pg	**Pb**	**00 17 02.1**	**-0.2**
	11nm,0.4s						
CADS	**Cadrg**	**1.17**	**94**	*i* Pn	**Pn**	**00 17 02.7**	**-0.1**
MOTA	**Moosalm**	**1.21**	**328**	⇓*i*PG	**Pb**	**00 17 02.5**	**-0.4**
MOTA				*i* SG	**Sb**	**00 17 19.2**	**+1.1**
VOJS	**Vojsko**	**1.31**	**103**	*e*Pn	**Pn**	**00 17 05.6**	**+0.9**
VOY	**Vojsko**	**1.31**	**103**	*e*Pn	**Pn**	**00 17 05.7**	**+0.9**
VOY				*e*Sn	**Sn**	**00 17 25.3**	**+3.2**
TRI	**Trieste**	**1.35**	**117**	Pn	**Pn**	**00 17 06.5**	**+1.2**
TRI				Sn	**Sn**	**00 17 24.6**	**+1.7**
	16nm,0.3s						
GORS	**Gorjuse**	**1.35**	**90**	*i* Pn	**Pn**	**00 17 06.5**	**+1.2**
JAVS	**Javornik**	**1.47**	**107**	*i* Pn	**Pn**	**00 17 08.1**	**+1.1**
JAVS				*i* Sg	**Sb**	**00 17 29.9**	**+4.2**
DAVOX	**Davos**	**1.56**	**287**	Pn	**Pn**	**00 17 09.0**	**+0.6**
DAVOX				Sn	**Sn**	**00 17 29.6**	**+1.2**
OBKA	**Obir**	**1.74**	**83**	⇑*i*PN	**Pn**	**00 17 10.0**	**-0.9**
OBKA				*i* PG	**Pn**	**00 17 13.3**	**+2.4**
OBKA				*i* SG	**Sn**	**00 17 37.3**	**+4.5**
	5.4nm,0.3s						
DAVA	**Damuels**	**1.77**	**303**	⇑*i*PG	**Pn**	**00 17 14.6**	**+3.2**
DAVA				*i* SG	**Sn**	**00 17 38.7**	**+5.0**
	15nm,0.3s						
MOA	**Molln**	**2.14**	**44**	⇑*i*PN	**Pn**	**00 17 15.9**	**-0.8**
MOA				*i* PG	**Pn**	**00 17 20.4**	**+3.7**
MOA				*i* SG	**Sn**	**00 17 49.1**	**+5.9**
	4.4nm,0.3s						
VBY	**Vinica-Bojanci**	**2.38**	**109**	*e*Pn	**Pn**	**00 17 25.3**	**+5.2**
VBY				*e*Sn	**Sn**	**00 17 56.7**	**+7.4**
ARSA	**Arzberg**	**2.56**	**68**	⇑*i*PN	**Pn**	**00 17 21.7**	**-0.9**
ARSA				*i* PG	**Pn**	**00 17 28.5**	**+5.9**
ARSA				*i* SG	**Sn**	**00 18 03.4**	**+10**
	2.7nm,0.6s						
KHC	**Kasperske Hory**	**2.98**	**20**	*e*PN	**Pn**	**00 17 29.0**	**+0.3**
KHC				*e*PG	**Pn**	**00 17 38.0**	**+9.3**
KHC				*e*SN	**Sn**	**00 18 06.2**	**+1.7**
KHC				*e*SG	**Sn**	**00 18 14.5**	**+10**
KHC	**Kasperske Hory**	**2.98**	**20**	Pg	**Pn**	**00 17 38.0**	**+9.3**
KHC				Sg	**Sn**	**00 18 14.5**	**+10**

*NIED **19** 00:23:00, 43.30N×147.10E, h47km, Mw3.6 Best double couple: M0=3.07×10^14 NP1:φs=45°, δs=59°, λ=140°. NP2:φs=159°, δs=56°, λ=38°.*
*SKHL **19** 00:23:37.1±2.3, 43.32N×147.34E, h50km±18km, mb5.6/1*
*JMA **19** 00:23:38.0±0.2, 43.28N×147.15E, h46km±5km, M4.0*
*IDC **19** 00:23:44.5±14.0, 43.62N×146.98E, h85km±125km, mb3.4/8, mb1 3.6/8, mb1mx3.4/23, mbtmp3.7/8, Error ellipse: s-maj=86.1km s-min=24.1km az=175.0*
ISC 19 00:23:38.1±1.0, 43.39N±0.07×147.13E±0.08, h53km±9km, n26, σ0°81/36, mb3.6/8, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.01**	**269**	P	**P**	**00 23 56.4**	**0.0**
NEM2				*e*S	**S**	**00 24 10.2**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.12**	**305**	⇓*i*P	**P**	**00 23 57.0**	**-0.9**
YUK				AMB	AMB	00 23 57.7	
	340nm,0.3s						
YUK				AMB	AMB	00 23 57.7	
	370nm,0.3s						
YUK				AMB	AMB	00 23 57.7	
	2μm,0.3s						
YUK				*e*S	**S**	**00 24 11.9**	**-0.7**
YUK				A		00 24 15.6	
	2μm,0.3s						
YUK				A		00 24 15.6	
	3μm,0.3s						
YUK				A		00 24 16.6	
	7μm,2.0s						
YUK				A		00 24 16.6	
	5μm,2.0s						
JRA	**Rausu**	**1.56**	**291**	P	**P**	**00 24 04.6**	**+0.5**
JRA				*e*S	**S**	**00 24 24.4**	**+1.2**
JNK	**Nakash**	**1.77**	**277**	P	**P**	**00 24 07.0**	**0.0**
JNK				*e*S	**S**	**00 24 28.1**	**-0.2**
JAK	**Akkeshi**	**1.83**	**258**	P	**P**	**00 24 07.5**	**-0.3**
JAK				*e*S	**S**	**00 24 29.3**	**-0.4**
KUR	**Kuril'sk**	**1.92**	**16**	*e*P	**P**	**00 24 07.4**	**-1.6**
KUR				*e*S	**S**	**00 24 31.5**	**-0.4**
KUR				A		00 24 33.0	
	230nm,0.4s						
KUR				A		00 24 33.0	
	210nm,0.4s						
JTKR	**Abashiri--Toko**	**2.41**	**285**	P	**P**	**00 24 17.1**	**+1.0**
JAR	**Ashorobuto**	**2.46**	**269**	P	**P**	**00 24 16.9**	**+0.2**
JAR				*e*S	**S**	**00 24 46.2**	**+0.6**
JOB	**Onbets**	**2.46**	**260**	P	**P**	**00 24 16.8**	**0.0**
JMP	**Maruseppu**	**2.81**	**284**	P	**P**	**00 24 22.9**	**+1.2**
JCH	**Churui**	**2.87**	**256**	P	**P**	**00 24 22.2**	**-0.4**
JCH				*e*S	**S**	**00 24 53.9**	**-2.3**
JKK2	**Kamakawa 2**	**3.22**	**280**	P	**P**	**00 24 28.7**	**+1.2**
JEM	**Erimo**	**3.24**	**246**	P	**P**	**00 24 28.1**	**+0.3**
JFR	**Furan**	**3.32**	**268**	P	**P**	**00 24 29.7**	**+0.7**
JFR				*e*S	**S**	**00 25 06.8**	**-0.7**
ASAJ	**Asahikawa**	**3.37**	**284**	P	**P**	**00 24 31.2**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.41**	**252**	P	**P**	**00 24 29.7**	**-0.5**
JNBK				*e*S	**S**	**00 25 09.2**	**-0.5**
JBT2	**Biratori 2**	**3.55**	**262**	P	**P**	**00 24 31.7**	**-0.4**
SONM	**Songino Array**	**28.60**	**293**	P	**P**	**00 29 30.5**	**-0.6**
	0.4nm,0.5s,mb3.4,baz=63,slow=8.3,SNR=4.0						
ILAR	**Eielson Array**	**41.78**	**36**	P	**P**	**00 31 24.0**	**+0.6**
	0.4nm,0.9s,mb3.0,baz=252,slow=8.6,SNR=3.4						
MKAR	**Makanchi Array**	**44.74**	**298**	P	**P**	**00 31 48.0**	**+0.4**
	0.9nm,0.8s,mb3.6,baz=74,slow=8.8,SNR=4.6						
YKA	**Yellowknife Ar**	**56.11**	**34**	P	**P**	**00 33 13.6**	**-0.1**
	0.4nm,0.7s,mb3.6,baz=296,slow=6.5,SNR=8.5						
FINES	**FINESS Array B**	**65.19**	**333**	P	**P**	**00 34 14.6**	**-0.8**
	0.9nm,0.5s,mb4.0,baz=37,slow=9.5,SNR=8.7						
NB2	**NORSAR Subarra**	**69.93**	**339**	P	**P**	**00 34 44.8**	**-0.2**
	0.4nm,0.5s,mb3.6,baz=31,slow=6.2						
NOA	**NORSAR Array B**	**69.93**	**339**	P	**P**	**00 34 44.3**	**-0.7**
	0.5nm,0.7s,mb3.5,baz=41,slow=3.6,SNR=3.4						
HFS	**Hagfors**	**70.02**	**337**	P	**P**	**00 34 45.1**	**-0.4**
	1.3nm,0.5s,mb4.1,baz=45,slow=6.3,SNR=11						
TXAR	**Lajitas Array**	**82.86**	**56**	P	**P**	**00 35 59.6**	**+1.4**
	0.4nm,0.6s,mb3.7,baz=291,slow=3.1,SNR=7.2						

MDD 19 00:26:35.0±1.9, 35.22N×4.03W, h112km±19km, mb1.3/10, Error ellipse: s-maj=19.6km s-min=10.4km az=173.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALB	**Alboran**	**1.08**	**48**	S	S	00 27 12.9	-1.7
	83nm,0.7s,SNR=7.9						
EMIJ	**Mijas**	**1.47**	**336**	P	P	00 27 01.5	-0.5
	2.2nm,0.4s,SNR=7.9						
EMIJ				S	S	00 27 21.1	-1.3
	3.3nm,0.5s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.69**	**317**	P	P	00 27 03.5	-1.3
	0.4nm,0.1s,SNR=7.9						
EJIF				S	S	00 27 24.8	-2.3
	2.3nm,0.4s,SNR=7.9						
ERON	**Agron**	**1.80**	**6**	P	P	00 27 04.8	-1.3
	2.9nm,0.4s,SNR=7.9						
ERON				S	S	00 27 27.5	-1.9
	2.0nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.91**	**29**	S	S	00 27 30.0	-1.8
	0.5nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.93**	**357**	P	P	00 27 07.1	-0.5
	2.5nm,0.5s,SNR=7.9						
ELOJ				S	S	00 27 29.6	-2.5
	1.1nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.09**	**10**	P	P	00 27 08.3	-1.5
	1.4nm,0.3s,SNR=7.9						
ECOG				S	S	00 27 34.2	-1.6
	3.4nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.21**	**319**	S	S	00 27 35.9	-2.8
	1.8nm,0.6s,SNR=7.9						
ENIJ	**Nijar**	**2.29**	**40**	S	S	00 27 38.0	-2.6
	3.1nm,0.5s,SNR=7.9						
ELUQ	**Luque**	**2.34**	**355**	P	P	00 27 12.2	-1.0
	1.0nm,0.2s,SNR=7.9						
ELUQ				S	S	00 27 39.6	-2.3
	2.2nm,0.4s,SNR=7.9						
EBAN	**Banos Encina**	**2.94**	**4**	P	P	00 27 20.0	-1.3
	1.6nm,0.2s,SNR=7.9						
EBAN				S	S	00 27 53.5	-2.8
	1.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.97**	**352**	P	P	00 27 19.7	-2.0
	1.3nm,0.4s,SNR=7.9						
EADA				S	S	00 27 53.4	-3.5
	4.3nm,0.8s,SNR=7.9						
EMUR	**La Murta**	**3.45**	**40**	S	S	00 28 04.8	-3.6
	7.9nm,0.8s,SNR=7.9						
EVIA	**Vianos**	**3.62**	**19**	P	P	00 27 29.0	-1.5
	0.1nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**3.95**	**29**	S	S	00 28 15.4	-5.3
	7.9nm,0.7s,SNR=7.9						
EBAD	**Badajoz**	**4.26**	**327**	P	P	00 27 37.9	-1.2
	0.5nm,0.2s,SNR=7.9						
EBAD				S	S	00 28 22.5	-5.6
	14nm,0.7s,SNR=7.9						

*CSEM **19** 00:26:46.0±0.2, 35.14N×3.91W, h12km, MD2.4, Error ellipse: s-maj=5.2km s-min=3.6km az=54.0*
*NEIC **19** 00:26:47.4, 35.15N×3.97W, MG3.2(MDD), After MDD.*
*CNRM **19** 00:26:47.8, 35.14N×3.89W, h8km, MD2.4*
MDD 19 00:26:47.7±0.5, 35.13N×3.93W, h6km±4km, mbLg1.6/7, Error ellipse: s-maj=9.4km s-min=3.0km az=69.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.09**	**354**	P	Pg	00 26 49.0	-0.9
MPAL				S	Sg	00 26 52.0	+0.6
MPAL	**Palemas**	**0.09**	**354**	*i* P	Pg	00 26 49.0	-0.9
TOU	**Touzarine**	**0.22**	**139**	P	Pg	00 26 52.0	-0.3
TOU				S	Sg	00 26 55.0	-0.3
TOU	**Touzarine**	**0.22**	**139**	*i* P	Pg	00 26 52.0	-0.3
TZK	**Tazeka**	**1.06**	**191**	*i* P	Pb	00 27 08.0	0.0
TZK				*i* S	Sb	00 27 21.0	-0.9
EMIJ	**Mijas**	**1.58**	**335**	P	Pn	00 27 14.0	-2.4
	0.6nm,0.1s,SNR=7.9						
EMIJ				S	Sb	00 27 34.9	-2.2
	2.9nm,0.2s,SNR=7.7						
EBER	**Berja**	**1.95**	**25**	P	Pn	00 27 20.9	-0.9
	0.0nm,0.1s,SNR=4.0						
EBER				S	Sn	00 27 44.6	-2.2

*MOS **19** 00:31:37.7±0.7, 13.99N×120.85E, h140km, mb4.9/21, Error ellipse: s-maj=20.0km s-min=7.2km az=116.9*
*BJI **19** 00:31:41.4, 13.99N×120.87E, h169km, mB4.8, mb4.8*
*MAN **19** 00:31:42.5, 13.96N×120.51E, h153km, mb4.9, ML3.9, MS3.9*
MAN Cubi Point Subic Zambales Intensity II.
*NEIC **19** 00:31:42.7±0.1, 13.92N×120.71E, mb4.9/53, Error ellipse: s-maj=6.2km s-min=3.6km az=65.0*
*HRVD **19** 00:31:42.7±0.4, 13.98N×120.71E, h166km±2km, MW5.0/64, Centroid moment Tensor Solution. LP body waves: s26,c32;Mantle waves: s64,c98; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.02±.12; $M_{\theta\theta}$-2.21±.18; $M_{\phi\phi}$-0.81±.21; $M_{r\theta}$-1.17±.14; $M_{\theta\phi}$-1.30±.16; $M_{\phi r}$-1.26±.16; Best double couple: $M_0$3.46×10^{16} NP1: ϕ_s67°, δ31°, λ103°. NP2:ϕ_s231°, δ60°, λ82°. Principal axes: T 3.505, Plg74°, Azm121°; N -.093, Plg7°, Azm235°; P -3.416, Plg15°, Azm327°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **19** 00:31:43.5±0.8, 13.91N×120.75E, h179km±6km, mb4.6/36, mb1 4.7/36, mb1mx4.7/37, mbtmp5.1/36, MS3.6/5, Ms1 3.6/5, ms1mx3.3/33 Error ellipse: s-maj=11.0km s-min=5.4km az=59.0*
ISC 19 00:31:41.7±0.2, 13.94N±0.02×120.74E±0.03, h175km±2km, h174km±2.1km: pP-P, n306, σ1§03/321, mb4.9/103, 41C-15D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.26**	**50⇑**	*eP*		**P**		**00 32 05.3**	**-0.2**
TGY								03 20 41.0	
LBPH	**Los Banos**	**0.48**	**63⇑**	*eP*		**P**		**00 32 06.0**	**-0.3**
LBPH				*e*S		**S**		**00 32 17.2**	**-7.9**
LUBP	**Lubang**	**0.52**	**247**	*eP*		**P**		**00 32 04.5**	**-1.9**
ARP	**Angono**	**0.72**	**34⇑**	*eP*		**P**		**00 32 06.5**	**-0.9**
ARP				*e*S		**S**		**00 32 09.1**	**-18**
QVPH	**Quezon City--P**	**0.78**	**24**	*eP*		**P**		**00 32 07.3**	**-0.3**
QVPH				*i* S		**S**		**00 32 26.5**	**-1.1**
NBP	**Mount Natib**	**0.86**	**339⇓**	*eP*		**P**		**00 32 03.4**	**-4.7**
NBP				*e*S		**S**		**00 32 20.9**	**-7.6**
NZB	**Bigte**	**0.99**	**21**	*eP*		**P**		**00 32 03.4**	**-5.5**
BOAC	**Boac**	**1.18**	**114**	*eP*		**P**		**00 32 11.4**	**+0.9**
POLP	**Polilio Island**	**1.41**	**56**	*eP*		**P**		**00 32 14.1**	**+1.4**
SJMP	**San Jose**	**1.51**	**166**	*eP*		**P**		**00 32 13.5**	**-0.2**
SJMP				*e*S		**S**		**00 32 36.7**	**-1.8**
PCPH	**Palayan**	**1.65**	**12⇓**	*i P*		**P**		**00 32 14.5**	**-0.6**
PCPH				*i* S		**S**		**00 32 38.4**	**-2.5**
BALP	**Baler**	**1.97**	**24**	*eP*		**P**		**00 32 19.2**	**+0.8**
AUQP	**San Andres**	**1.98**	**108**	*eP*		**P**		**00 32 21.8**	**+3.3**
BUSP	**Coron**	**1.99**	**195**	*i P*		**P**		**00 32 17.9**	**-0.8**
SCZP	**Santa Cruz**	**1.99**	**337**	*eP*		**P**		**00 32 17.5**	**-1.2**
SCZP				*e*S		**S**		**00 32 43.0**	**-4.2**
BCPH	**Baguio City Da**	**2.43**	**357⇓**	*i P*		**P**		**00 32 23.4**	**-0.5**
BCPH				*i* S		**S**		**00 32 54.6**	**-1.6**
BOLP	**Bolinao**	**2.56**	**342**	*eP*		**P**		**00 32 24.4**	**-0.9**
ENPP	**El Nido**	**3.00**	**205**	*i P*		**P**		**00 32 30.9**	**+0.2**
RCP	**Roxas**	**3.07**	**140⇓**	*eP*		**P**		**00 32 33.1**	**+1.6**
CUYO	**Cuyo Island**	**3.08**	**175**	*eP*		**P**		**00 32 32.0**	**+0.3**
CAUP	**Cauayan**	**3.17**	**19**	*eP*		**P**		**00 32 34.2**	**+1.4**
PVCP	**Virac**	**3.34**	**95**	*eP*		**P**		**00 32 37.6**	**+2.6**
AAP	**Anini-y**	**3.69**	**161⇓**	*eP*		**P**		**00 32 35.5**	**-3.9**
ABRA	**Dolores**	**3.69**	**360**	*eP*		**P**		**00 32 38.7**	**-0.7**
GUIM	**Jordan**	**3.76**	**151**	*i P*		**P**		**00 32 42.6**	**+2.3**
CVP	**Callao Caves**	**3.89**	**15⇓**	*i P*		**P**		**00 32 42.0**	**+0.1**
APYP	**Conner**	**3.93**	**7**	*i P*		**P**		**00 32 42.6**	**+0.1**
CNP	**Catarman**	**4.08**	**110**	*i P*		**P**		**00 32 47.5**	**+3.1**
LLP	**Lapu-Lapu**	**4.79**	**138⇑**	*eP*		**P**		**00 32 55.6**	**+2.0**
PLP	**Palo**	**4.98**	**123**	*i P*		**P**		**00 32 58.3**	**+2.3**
	995μm,1.0s								
TBP	**Tagbilaran**	**5.21**	**144**	*eP*		**P**		**00 33 00.2**	**+1.1**
PAGZ	**Pagadian**	**6.59**	**156**	*i P*		**P**		**00 33 19.2**	**+2.0**
BUKP	**Musuan**	**7.37**	**144**	*eP*		**P**		**00 33 30.9**	**+3.4**
KCP	**Kidapawan**	**8.11**	**148⇑**	*eP*		**P**		**00 33 39.5**	**+2.2**
KKM	**Kota Kinabalu**	**9.02**	**210**	P		**P**		**00 33 51.4**	**+2.2**
TSM	**Tawau**	**9.99**	**197**	P		**P**		**00 34 05.2**	**+3.2**
YHNB	**Yeheng**	**10.69**	**3**	*eP*		**P**		**00 34 11.1**	**-0.1**
QZH	**Quanzhou**	**11.13**	**350**	*i* PR		**P**		**00 34 16.4**	**-0.5**
QZH				*e*S		**S**		**00 36 18.8**	**+0.2**
QZH				AMB		AMB			
	comp=Z,200nm,0.9s								
GZH	**Guangzhou**	**11.48**	**323**	P		**P**		**00 34 23.5**	**+2.1**
QIZ	**Qiongzhong**	**11.61**	**297**	⇓P		**P**		**00 34 23.3**	**+0.3**
QIZ				XP				00 35 06.3	
QIZ				S		**S**		**00 36 30.5**	**+0.8**
QIZ				AMB		AMB			
	comp=Z,43nm,1.6s								
QIZ				AMB		AMB			
	comp=Z,318nm,4.1s								
QIZ	**Qiongzhong**	**11.61**	**297⇓**	*eP*		**P**		**00 34 23.2**	**+0.2**
QIZ				*e*S		**S**		**00 36 28.9**	**-0.9**
JOW	**Kunigami**	**14.64**	**28**	LR		LR		00 39 40.0	
	comp=Z,251nm,21.3s,baz=153,slow=32								
KSM	**Kuching**	**16.12**	**221**	*eP*		**P**		**00 35 21.3**	**+1.3**
SSE	**Sheshan**	**17.08**	**1**	P		**P**		**00 35 31.3**	**-0.2**
SSE				XP				00 36 21.4	
SSE				S		**S**		**00 38 40.9**	**+6.7**
SSE				PCP		PcP		00 40 05.9	-0.9
SSE				PCS				00 43 42.3	
SSE				AMB		AMB			
	comp=Z,27nm,1.0s								
SSE				AMB		AMB			
	comp=Z,121nm,5.3s								
SSE				LR		LR			
	comp=N,24nm,19.5s								
SSE				LR		LR			
	comp=E,37nm,19.5s								
SSE				LR		LR			
	comp=Z,28nm,19.5s								
SSE	**Sheshan**	**17.08**	**1**	P		**P**		**00 35 31.2**	**-0.3**
	comp=Z,27nm,1.0s								
SSE				sP				00 36 21.4	
SSE				S		**S**		**00 38 40.9**	**+6.7**
SSE				PcP		PcP		00 40 05.9	-0.9
SSE				PcS				00 43 42.2	
WHN	**Wuhan**	**17.54**	**341**	⇑P		**P**		**00 35 37.5**	**+0.7**
WHN				S		**S**		**00 38 52.0**	**+7.8**
WHN				AMB		AMB			
	comp=Z,240nm,1.6s								
NJ2	**Nanjing**	**18.11**	**355**	*eP*		**P**		**00 35 43.1**	**+0.1**
NJ2				XP				00 36 33.0	
NJ2				S		**S**		**00 39 03.0**	**+6.8**
NJ2				PCP		PcP		00 40 11.0	+2.5
NJ2				SCP				00 43 25.0	
NJ2				PCS				00 43 46.0	
NJ2				AMB		AMB			
	comp=Z,20nm,0.6s								
NJ2				AMB		AMB			
	comp=Z,220nm,7.4s								
NJ2				LR		LR			
	comp=N,250nm,11.9s								
NJ2				LR		LR			
	comp=E,290nm,11.6s								
NJ2				LR		LR			
	comp=Z,200nm,13.2s								
GYA	**Guiyang**	**18.13**	**316⇑**	*iP*		**P**		**00 35 43.1**	**-0.1**
GYA				XP				00 36 33.9	
GYA				S		**S**		**00 39 02.6**	**+6.0**
GYA				SCS		ScS		00 47 01.3	-4.2
GYA				AMB		AMB			
	comp=Z,50nm,1.0s								
GYA				AMB		AMB			
	comp=Z,210nm,7.2s								
GYA				LR		LR			
	comp=N,320nm,12.8s								
GYA				LR		LR			
	comp=E,290nm,12.9s								
GYA				LR		LR			
	comp=Z,420nm,14.3s								
ENH	**Enshi**	**19.29**	**329⇓**	*eP*		**P**		**00 35 54.8**	**-0.4**
	comp=Z,43nm,0.9s								
ENH				*e*S		**S**		**00 39 23.6**	**+4.4**
KMI	**Kunming**	**20.26**	**306**	P		**P**		**00 36 05.6**	**+0.5**
KMI				AP				00 36 37.4	
KMI				S		**S**		**00 39 43.8**	**+6.4**
KMI				AMB		AMB			
	comp=Z,14nm,1.2s								
KMI				AMB		AMB			
	comp=Z,119nm,4.8s								
KMI				LR		LR			
	comp=N,129nm,12.3s								
KMI				LR		LR			
	comp=E,111nm,16.0s								
KMI				LR		LR			
	comp=Z,145nm,11.3s								
KMI	**Kunming**	**20.26**	**306**	P		**P**		**00 36 05.6**	**+0.5**
	comp=Z,14nm,1.2s								
KMI				pP				00 36 37.4	
KMI				S		**S**		**00 39 43.7**	**+6.3**
KMI				sS				00 40 32.1	
KMI				LR		LR			
	comp=Z,150nm,11.3s								
SNG	**Songkhla**	**20.88**	**253**	P		**P**		**00 36 12.0**	**+0.6**
KGM	**Kluang**	**20.90**	**237**	P		**P**		**00 36 12.6**	**+1.0**
CM31	**Chiang Mai Arr**	**21.40**	**285**	*eP*		**P**		**00 36 17.8**	**+1.3**
	comp=Z,18nm,0.5s,mb4.7								
CMAR	**Chiang Mai Arr**	**21.40**	**285**	P		**P**		**00 36 18.6**	**+2.1**
	comp=Z,16nm,0.7s,mb4.4,baz=93,slow=7.9,SNR=79								
CMAR				S		**S**		**00 40 05.8**	**+7.7**
	comp=Z,0.7nm,0.2s,baz=90,slow=14,SNR=8.8								
CMAR				PcP		PcP		00 40 14.7	+0.1
	comp=Z,1.2nm,0.4s,baz=102,slow=1.1,SNR=4.5								
IPM	**Ipoh**	**21.54**	**246**	P		**P**		**00 36 18.7**	**+0.8**
KULM	**Kulim**	**21.57**	**248**	P		**P**		**00 36 18.4**	**+0.2**
XAN	**Xi'an**	**22.70**	**334**	P		**P**		**00 36 30.0**	**+0.9**
XAN				AMB		AMB			
	comp=Z,41nm,0.7s,mb5.0								
CD2	**Chengdu**	**23.00**	**320**	P		**P**		**00 36 34.1**	**+2.0**
CD2				AP				00 37 10.9	
CD2				PP		PP		00 37 15.6	+7.2
CD2				XP				00 37 27.0	
CD2				S		**S**		**00 40 28.8**	**+2.8**
CD2				SS		SS		00 41 26.8	-1.5
CD2				AMB		AMB			
	comp=Z,120nm,0.8s,mb5.4								
CD2				LR		LR			
	comp=N,380nm,13.8s								
CD2				LR		LR			
	comp=Z,480nm,12.0s								
CBIJ	**Chichi jima**	**23.93**	**53**	P		**P**		**00 36 41.5**	**+0.5**
	comp=Z,160nm,0.4s,mb5.9,baz=67,slow=1.7,SNR=34								
BJI	**Beijing**	**26.31**	**352**	*eP*		**P**		**00 37 02.9**	**-0.1**
BJI				XP		sP		00 37 57.6	-1.3
BJI				S		**S**		**00 41 20.6**	**-0.3**
BJI				PCS				00 44 03.4	
BJI				SCS		ScS		00 47 33.4	-2.3
BJI				AMB		AMB			
	comp=Z,11nm,1.0s,mb4.4								
BJI	**Beijing**	**26.31**	**352**	*eP*		**P**		**00 37 02.9**	**-0.1**
	comp=Z,11nm,1.0s,mb4.4								
BJI				sP		sP		00 37 57.6	-1.3
BJI				S		**S**		**00 41 20.6**	**-0.3**
BJI				sS				00 42 31.6	
BJI				PcS				00 44 03.4	
BJI				ScS		ScS		00 47 33.4	-2.3
LZH	**Lanzhou**	**26.76**	**328**	⇑P		**P**		**00 37 08.5**	**+1.4**
LZH				AP		pP		00 37 43.8	+1.2
LZH				PP		PP		00 38 02.5	+3.6
LZH				XP		sP		00 38 04.5	+1.3
LZH				S		**S**		**00 41 30.5**	**+2.3**
LZH				XS				00 42 33.5	
LZH				SS		SS		00 43 00.6	+3.3
LZH				AMB		AMB			
	comp=Z,42nm,1.5s,mb4.8								
LZH				AMB		AMB			
	comp=Z,223nm,4.5s								
LZH				LR		LR			
	comp=N,431nm,10.5s								
LZH				LR		LR			
	comp=Z,794nm,12.5s								
LZH	**Lanzhou**	**26.76**	**328**	⇑P		**P**		**00 37 08.5**	**+1.4**
	comp=Z,42nm,1.5s,mb4.8								
LZH				pP		pP		00 37 43.7	+1.1
LZH				PP		PP		00 38 02.5	+3.6
LZH				sP		sP		00 38 04.5	+1.3
LZH				S		**S**		**00 41 30.5**	**+2.3**
LZH				sS				00 42 33.5	
LZH				SS		SS		00 43 00.6	+3.3
LZH				LR		LR			
	comp=Z,790nm,12.5s								
MJAR	**Matsushiro Arr**	**27.41**	**32**	P		**P**		**00 37 11.9**	**-1.1**
	comp=Z,1.2nm,0.3s,mb3.9,baz=211,slow=9.5,SNR=5.7								
MJAR				PcP		PcP		00 40 27.5	0.0
	comp=Z,1.0nm,0.4s,baz=172,slow=2.5,SNR=5.4								
MJAR	**Matsushiro Arr**	**27.41**	**32**	P		**P**		**00 37 11.9**	**-1.1**
MJAR				PcP		PcP		00 40 27.5	0.0
KAKA	**Kakadu**	**28.91**	**156**	*eP*		**P**		**00 37 24.6**	**-2.0**
	comp=Z,12nm,0.6s,mb4.8								
KAKA				*e*PCP		PcP		00 40 30.7	-0.7
SHL	**Shillong**	**29.45**	**298**	*eP*		**P**		**00 37 31.0**	**-0.4**
SHL				*e*S		**S**		**00 42 11.0**	**-0.2**
CN2	**Changchun**	**30.03**	**7**	*eP*		**P**		**00 37 37.0**	**+0.6**
CN2				*e*XP		sP		00 38 32.3	-0.7
CN2				*e*S		**S**		**00 42 21.8**	**+1.6**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.7								
CN2				AMB		AMB			
	comp=Z,200nm,5.0s								
CN2				LR		LR			
	comp=N,200nm,16.0s								
CN2				LR		LR			
	comp=E,200nm,16.0s								
CN2				LR		LR			
	comp=Z,200nm,18.0s								
GTA	**Gaotai**	**31.36**	**328**	P		**P**		**00 37 49.3**	**+1.3**
GTA				AP		pP		00 38 24.5	-0.1
GTA				XP		sP		00 38 47.6	+2.7
GTA				PP		PP		00 39 00.4	+2.3
GTA				PCP		PcP		00 40 37.9	+0.4
GTA				S		**S**		**00 42 42.3**	**+1.3**
GTA				XS				00 43 47.5	
GTA				SCP				00 44 05.0	
GTA				PCS				00 44 22.3	
GTA				SS		SS		00 44 44.6	+1.8
GTA				SCS		ScS		00 47 59.8	+0.7
GTA				AMB		AMB			
	comp=Z,16nm,0.7s,mb4.9								
GTA				AMB		AMB			
	comp=Z,141nm,5.3s								
GTA				LR		LR			
	comp=N,147nm,13.7s								
GTA				LR		LR			
	comp=E,166nm,17.1s								
GTA				LR		LR			
	comp=Z,169nm,15.2s								
MDJ	**Mudanjiang**	**31.49**	**12**	P		**P**		**00 37 48.5**	**-0.6**
MDJ				AP		pP		00 38 23.9	-1.9
MDJ				XP		sP		00 38 44.8	-1.3
MDJ				PP		PP		00 39 03.4	+3.7
MDJ				PCP		PcP		00 40 38.1	+0.3
MDJ				S		**S**		**00 42 43.6**	**+0.5**
MDJ				SCP				00 44 04.5	
MDJ				PCS				00 44 23.0	
MDJ				SCS		ScS		00 48 01.8	+2.1
MDJ				AMB		AMB			
	comp=Z,7.0nm,1.0s,mb4.3								
MDJ				AMB		AMB			
	comp=Z,41nm,5.0s								
MDJ				LR		LR			
	comp=N,39nm,29.1s								
MDJ				LR		LR			
	comp=E,38nm,25.0s								
MDJ				LR		LR			
	comp=Z,55nm,18.3s								
LSA	**Lhasa**	**31.50**	**305**	P		**P**		**00 37 50.0**	**+0.6**
LSA	**Lhasa**	**31.50**	**305**	*eP*		**P**		**00 37 50.1**	**+0.7**
	comp=Z,24nm,0.6s,mb5.1								
FITZ	**Fitzroy Crossi**	**32.20**	**171**	⇑*iP*		**P**		**00 37 53.7**	**-1.8**
	comp=Z,19nm,0.9s,mb4.8								
FITZ				*e*PCP		PcP		00 40 38.9	-1.1
FITZ				*e*S		**S**		**00 42 50.3**	**-4.0**
FITZ	**Fitzroy Crossi**	**32.20**	**171**	P		**P**		**00 37 53.8**	**-1.7**
	comp=Z,23nm,0.8s,mb4.9,baz=359,slow=6.7,SNR=36								
FITZ				PcP		PcP		00 40 39.3	-0.7
	comp=Z,4.4nm,0.4s,baz=2.5,slow=6.1,SNR=3.9								
MBWA	**Marble Bar**	**34.89**	**182**	⇑*iP*		**P**		**00 38 17.1**	**-1.4**
	comp=Z,72nm,0.5s,mb5.6								
MBWA				*e*PcP		PcP		00 40 46.6	-0.9
JIRN	**Jiri**	**34.93**	**299**	*eP*		**P**		**00 38 19.0**	**+0.3**
	comp=Z,106nm,0.4s,mb5.8								
PMG	**Port Moresby**	**35.01**	**130**	*c iP*		**P**		**00 38 18.8**	**-0.7**
PMG	**Port Moresby**	**35.01**	**130**	P		**P**		**00 38 19.6**	**+0.2**
	comp=Z,31nm,0.4s,mb5.2,baz=356,slow=5.3,SNR=23								
PMG	**Port Moresby**	**35.01**	**130⇑**	*eP*		**P**		**00 38 18.9**	**-0.6**
	comp=Z,71nm,0.8s,mb5.3								
GUN	**Gumba**	**35.26**	**299**	*eP*		**P**		**00 38 21.5**	**0.0**
	comp=Z,87nm,0.4s,mb5.7								
PKI	**Pulchoki**	**35.57**	**298**	*eP*		**P**		**00 38 23.9**	**-0.2**
	comp=Z,49nm,0.5s,mb5.4								
ULN	**Ulaanbaatar**	**35.69**	**344**	*c iP*		**P**		**00 38 25.2**	**+0.3**
ULN	**Ulaanbaatar**	**35.69**	**344⇑**	*iP*		**P**		**00 38 25.0**	**+0.1**
	comp=Z,7.5nm,0.7s,mb4.4								
ULN				*e*PcP		PcP		00 40 49.0	-0.6
KKN	**Kakani**	**35.74**	**298**	*eP*		**P**		**00 38 25.4**	**-0.1**
	comp=Z,39nm,0.6s,mb5.2								
DMN	**Daman**	**35.84**	**298**	*eP*		**P**		**00 38 26.3**	**-0.1**
	comp=Z,28nm,0.4s,mb5.2								
SONM	**Songino Array**	**35.84**	**343**	P		**P**		**00 38 26.5**	**+0.3**
	comp=Z,10nm,0.6s,mb4.6,baz=163,slow=9.9,SNR=80								
SONM				PcP		PcP		00 40 49.5	-0.5
	comp=Z,1.5nm,0.5s,baz=159,slow=3.9,SNR=6.4								
SONM				ScP				00 44 19.5	
	comp=Z,1.0nm,0.7s,baz=97,slow=0.5,SNR=4.4								
SONM				LR		LR		00 53 19.5	
	comp=Z,74nm,20.8s,baz=233,slow=36								
WRAB	**Tennant Creek**	**36.23**	**158**	*i P*		**P**		**00 38 28.2**	**-1.5**
WRAB	**Tennant Creek**	**36.23**	**158⇑**	*eP*		**P**		**00 38 28.3**	**-1.4**
	comp=Z,61nm,0.6s,mb5.4								
WRA	**Warramunga Arr**	**36.23**	**158**	P		**P**		**00 38 28.5**	**-1.3**
	comp=Z,26nm,0.5s,mb5.1,baz=329,slow=10,SNR=273								
WRA				PcP		PcP		00 40 50.8	-0.7
	comp=Z,3.6nm,0.9s,baz=334,slow=3.4,SNR=5.3								
WRA				S		**S**		**00 43 52.0**	**-4.4**
	comp=Z,2.4nm,0.7s,baz=339,slow=14,SNR=7.0								
WB2	**Warramunga Arr**	**36.23**	**158⇓**	*iP*		**P**		**00 38 28.2**	**-1.6**
WB2				*e*S		**S**		**00 43 51.6**	**-4.8**
KLR	**Kul'dur**	**36.34**	**12**	*eP*		**P**		**00 38 27.0**	**-3.4**
GKN	**Gorkha**	**36.34**	**298**	*eP*		**P**		**00 38 30.1**	**-0.5**
	comp=Z,27nm,0.4s,mb5.2								
KOLN	**Koldanda**	**37.17**	**298**	*eP*		**P**		**00 38 37.7**	**+0.1**
	comp=Z,11nm,0.4s,mb4.9								
YSS	**Yuzh-Sakhalins**	**37.72**	**25**	*i P*		**P**		**00 38 40.1**	**-1.9**
YSS				pmax		pmax			
	comp=Z,10.0nm,1.1s,mb4.4								
ZAK	**Zakamensk**	**39.03**	**342⇑**	*iP*		**P**		**00 38 52.6**	**-0.2**
ZAK				*e*				00 40 58.9	
ZAK				*e*				00 44 30.3	
ZAK				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.0								
ZAK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.4s								
ASAR	**Alice Springs**	**39.53**	**161**	P		**P**		**00 38 56.6**	**-0.6**
	comp=Z,49nm,0.4s,mb5.5,baz=336,slow=6.7,SNR=748								
ASAR				PcP		PcP		00 41 00.8	-0.9
	comp=Z,3.1nm,0.5s,baz=352,slow=3.7,SNR=6.6								
ASAR				S		**S**		**00 44 43.4**	**-2.7**
	comp=Z,3.7nm,0.7s,baz=357,slow=25,SNR=12								
ASPA	**Alice Springs**	**39.53**	**161⇑**	*iP*		**P**		**00 38 56.5**	**-0.7**
ASPA				*e*S		**S**		**00 44 41.5**	**-4.6**
TLY	**Talaya**	**40.08**	**343**	*eP*		**P**		**00 39 01.7**	**+0.3**
TLY				*e*S		**S**		**00 44 50.7**	**-3.3**
TLY				*e*SSS		SSS		00 48 44.0	+3.6
TLY				pmax		pmax			
	comp=Z,4.0nm,0.5s,mb4.3								
TLY				MLR		MLR			
	comp=Z,59nm,14.0s								
HYB	**Hyderabad**	**40.70**	**281**	*eP*		**P**		**00 39 07.0**	**+0.2**
HYB				*e*		pP		00 39 45.0	+0.1
HYB	**Hyderabad**	**40.70**	**281**	*i P*		**P**		**00 39 07.0**	**+0.2**
HYB				*e*pP		pP		00 39 45.0	+0.1
MOY	**Mondy**	**40.85**	**341**	*eP*		**P**		**00 39 08.5**	**+0.8**
WMQ	**Urumqi**	**41.04**	**323**	P		**P**		**00 39 10.0**	**+0.7**
WMQ				AP		pP		00 39 48.5	+1.0
WMQ				XP		sP		00 40 08.0	0.0
WMQ				PP		PP		00 40 50.0	+1.1
WMQ				PCP		PcP		00 41 07.4	+1.1
WMQ				PPP		PPP		00 41 26.6	+2.8
WMQ				S		**S**		**00 45 09.0**	**+0.8**
WMQ				AMB		AMB			
	comp=Z,13nm,1.0s,mb4.5								
WMQ				AMB		AMB			
	comp=Z,22nm,3.2s								
WMQ				LR		LR			
	comp=N,80nm,18.5s								
WMQ				LR		LR			
	comp=E,91nm,20.0s								
WMQ				LR		LR			
	comp=Z,72nm,21.8s								
BHPL	**Bhopal**	**41.95**	**289**	*eP*		**P**		**00 39 17.1**	**0.0**
BHPL				*e*				00 39 18.9	
	comp=Z,14nm,0.4s								
CTA	**Charters Tower**	**42.11**	**143**	*eP*		**P**		**00 39 18.9**	**+0.5**
	comp=Z,37nm,1.0s,mb5.0								
CTA				*e*PCP		PcP		00 41 10.7	+0.5
CTA	**Charters Tower**	**42.11**	**143**	P		**P**		**00 39 19.6**	**+1.1**
	comp=Z,105nm,1.1s,mb5.4,baz=324,slow=10.0,SNR=36								
CTA				PcP		PcP		00 41 10.8	+0.5
	comp=Z,8.7nm,0.7s,baz=299,slow=5.6,SNR=4.1								
CTAO	**Charters Tower**	**42.11**	**143⇑**	*eP*		**P**		**00 39 19.1**	**+0.6**
	comp=Z,60nm,0.8s,mb5.3								
BOD	**Bodaibo**	**44.09**	**355**	*eP*		**P**		**00 39 33.6**	**-0.3**
KAD	**Karad**	**44.88**	**281**	*eP*		**P**		**00 39 41.1**	**+0.4**
FORT	**Forrest**	**45.01**	**171**	*eP*		**P**		**00 39 40.4**	**-1.2**
	comp=Z,5μm,0.6s								
POO	**Poona**	**45.15**	**282**	*eP*		**P**		**00 39 43.1**	**+0.3**
POO				*e*				00 39 44.4	
	comp=Z,18nm,0.6s								
KLBR	**Kellerberrin**	**45.36**	**184**	*eP*		**P**		**00 39 43.0**	**-1.3**
	comp=Z,1μm,1.0s								
MUN	**Mundaring**	**45.86**	**185⇓**	*iP*		**P**		**00 39 47.2**	**-1.1**
	comp=Z,102nm,0.9s,mb5.5								
MKAR	**Makanchi Array**	**45.86**	**323**

comp=Z,7.4nm,0.7s,baz=108,slow=4.7,SNR=6.1
BVAR S **S** **00 48 34.1 +2.8**
comp=Z,3.9nm,1.0s,baz=126,slow=13,SNR=16
CHKZ Chkalovo 55.75 326 P **P** **00 41 01.8 -0.5**
CHKZ pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
CNB Canberra Magne 56.00 152 *e*P **P** **00 41 04.4 +0.1**
comp=Z,550nm,0.7s
TOO Toolangi 56.27 156⇓*i*P **P** **00 41 06.3 0.0**
comp=Z,12nm,0.4s,mb5.1
DZM Mont Dzumac 57.35 128 *e*P **P** **00 41 14.5 +0.5**
DZM Mont Dzumac 57.35 128 P **P** **00 41 14.8 +0.8**
comp=Z,17nm,0.4s,mb5.2,baz=269,slow=22,SNR=26
TIXI Tiksi 57.90 3 *i*P **P** **00 41 16.0 -1.2**
TIXI pmax pmax
comp=Z,32nm,0.8s,mb5.2
WBK Wadi Bani Khal 58.94 288 P **P** **00 41 24.3 -0.9**
SNR=8.0
BIDO Bidbid 59.67 289 P **P** **00 41 29.5 -0.6**
SNR=6.2
JMDO Jabal Madar 59.75 288 P **P** **00 41 29.2 -1.5**
SNR=18
SMDO Samad 59.76 289 P **P** **00 41 29.5 -1.2**
SNR=6.0
ARQ Araqi 61.15 289⇑P **P** **00 41 39.2 -0.9**
BANOM Banah 61.23 292 P **P** **00 41 40.4 -0.2**
SNR=7.8
BILL Bilibino 61.47 18⇑*i*P **P** **00 41 41.0 -0.7**
BILL *e**PP pP 00 42 23.9 +1.2
BILL pmax pmax
comp=Z,36nm,0.7s,mb5.3
BILL Bilibino 61.47 18⇑*e*P **P** **00 41 41.2 -0.4**
comp=Z,32nm,0.7s,mb5.3
ASHO Ashiyiah 61.50 291 P **P** **00 41 41.7 -0.7**
SNR=5.9
SVE Sverdlovsk 62.22 327⇑*e*P **P** **00 41 45.7 -1.1**
SVE *e* pP 00 42 26.0 -1.9
SVE pmax pmax
comp=Z,60nm,1.2s,mb5.3
SHAO Shalim 62.46 283 P **P** **00 41 48.4 -0.5**
SNR=21
ARU Arti 63.20 327⇑*i*P **P** **00 41 52.1 -1.2**
ARU *e* 00 42 26.9
ARU *e* 00 44 11.4
ARU *e*PPP PPP 00 45 42.5 -5.7
ARU *e*S **S** **00 50 12.7 +3.7**
ARU *e*SS SS 00 54 23.6 +3.3
ARU pmax pmax
comp=Z,30nm,0.7s,mb5.2
ARU Arti 63.20 327⇑*i*P **P** **00 41 51.9 -1.4**
comp=Z,35nm,0.6s,mb5.4
RBK Rabkut 63.86 283 P **P** **00 41 57.5 -0.7**
SNR=6.7
WHFO Wadi Hawf 64.22 283 P **P** **00 41 59.2 -1.3**
SNR=9.5
ABTO Aybut 64.74 283 P **P** **00 42 03.1 -0.8**
SNR=14
GNI Garni 70.50 308 *i*P **P** **00 42 39.9 +0.6**
GNI pmax pmax
comp=Z,15nm,1.3s
GNI Garni 70.50 308 P **P** **00 42 40.1 +0.8**
comp=Z,7.7nm,0.7s,mb4.5,baz=270,slow=1.4,SNR=9.5
GNI Garni 70.50 308 *e*P **P** **00 42 39.8 +0.5**
comp=Z,19nm,0.8s,mb4.9
ONI Oni 71.39 311 P **P** **00 42 44.1 -0.5**
GOF Gofitskoye 71.61 313 *e*P **P** **00 42 41.0 -4.9**
KIV Kislovodsk 71.90 312 *e*P **P** **00 42 47.2 -0.4**
KIV *e**PP pP 00 43 25.8 -3.9
KIV *e* 00 45 28.3
KIV *e*S S 00 51 56.2 +3.6
KIV pmax pmax
comp=N,12nm,0.6s
KIV pmax pmax
comp=Z,34nm,0.6s,mb5.2
KIV pmax pmax
comp=E,19nm,0.8s
KIV MLR MLR
comp=Z,40nm,19.0s
KIV MLR MLR
comp=N,5.0nm,14.0s
KIV MLR MLR
comp=E,14nm,14.0s
KIV Kislovodsk 71.90 312⇓*i*P **P** **00 42 48.0 +0.4**
comp=E,70nm,0.7s,mb5.5
RPZ Rata Peaks 73.46 144 P **P** **00 42 56.6 -0.2**
comp=E,28nm,0.7s,mb5.1,baz=284,slow=1.3,SNR=17
RPZ Rata Peaks 73.46 144 P **P** **00 42 56.6 -0.2**
VOR Voronezh 73.96 320 *e*P **P** **00 42 58.7 -0.8**
VOR pmax pmax
comp=Z,60nm,0.8s,mb5.4
URZ Urewera 74.00 137 P **P** **00 42 59.5 -0.5**
comp=Z,17nm,0.8s,mb4.8,baz=325,slow=5.8,SNR=9.9
SOC Sochi 74.06 312 *e*P **P** **00 42 56.8 -3.5**
SOC *e* 00 43 09.2
SOC *e* 00 45 42.5
SOC *e*PPP PPP 00 47 27.5 -7.7
SOC *e*S S 00 52 15.4 -1.6
SOC *e* 00 52 51.7
SOC *e*SS SS 00 57 12.7 +4.7
SOC pmax pmax
comp=N,4.0nm,0.6s
SOC pmax pmax
comp=E,13nm,0.6s
SOC pmax pmax
comp=Z,25nm,0.6s,mb5.1
TTA Tatalina 74.63 28 *e*P **P** **00 43 04.4 +1.3**
SVW2 Sparrevohn 74.86 30 *e*P **P** **00 43 06.2 +1.7**
OBN Obninsk 75.37 324 *c*P **P** **00 43 06.2 -1.2**
OBN *e* 00 43 23.0
OBN *e* pP 00 43 52.2 +2.2
OBN pmax pmax
comp=Z,27nm,0.8s,mb4.9
OBN Obninsk 75.37 324⇑*i*P **P** **00 43 06.3 -1.1**
comp=Z,41nm,0.5s,mb5.3
MALT Malatya 75.52 306⇑*e*P **P** **00 43 09.6 +0.9**
comp=Z,14nm,0.8s,mb4.7
IMA Indian Mountai 75.58 25 *e*P **P** **00 43 09.5 +1.1**
ANN Anapa 75.60 313 *e*P **P** **00 42 59.8 -9.2**
ANN *e* 00 43 36.2
ANN pmax pmax
comp=Z,96nm,1.1s,mb5.3
KDAK Kodiak Island 76.57 33 *e*P **P** **00 43 15.0 +0.9**
JOF Joensuu 77.45 332 *e*p **P** **00 43 18.4 -0.5**
comp=Z,33nm,0.4s,mb5.3
JOF Joensuu 77.45 332 *e*P **P** **00 43 18.4 -0.5**
JOF pmax pmax
comp=Z,33nm,0.4s,mb5.3
PWA Palmer West 77.57 29 *e*P **P** **00 43 20.1 +0.6**
ASF Jabal al Asfar 77.57 300 P **P** **00 43 21.6 +1.4**
comp=Z,21nm,0.8s,mb4.8,baz=315,slow=3.7,SNR=35
MCK McKinley 77.77 27⇑*e*P **P** **00 43 20.6 0.0**
comp=Z,26nm,0.9s,mb4.9
MCK *e*pP pP 00 44 02.9 -0.5
SIM Simferopol' 77.93 314 *c*e**P** **P** **00 43 21.7 -0.1**
SIM pmax pmax
comp=Z,24nm,0.8s,mb4.9
PMR Palmer 77.93 29 *e*P **P** **00 43 21.5 0.0**
COLA College 78.10 26 *i*P **P** **00 43 22.5 +0.1**
COLA College 78.10 26 *e*P **P** **00 43 22.2 -0.2**
SML Sawmill 78.28 29 *e*P **P** **00 43 23.8 +0.4**
KEV Kevo 78.32 339 *e*p **P** **00 43 23.4 -0.1**
comp=Z,15nm,0.4s,mb5.0
KEV Kevo 78.32 339 *e*P **P** **00 43 23.4 -0.1**
KEV pmax pmax
comp=Z,15nm,0.4s,mb5.0
ILAR Eielson Array 78.52 26 P **P** **00 43 24.0 -0.7**
comp=Z,4.5nm,0.7s,mb4.2,baz=264,slow=4.1,SNR=20
ARCES ARCESS Array B 78.88 339 P **P** **00 43 26.5 0.0**
comp=Z,16nm,0.4s,mb5.0,baz=77,slow=7.0,SNR=218
ARCES ARCESS Array B 78.88 339 P **P** **00 43 26.5 0.0**
ARE0 ARCESS Array S 78.88 339 *e*P **P** **00 43 26.4 -0.1**
BRTR Keskin Array B 79.03 308 P **P** **00 43 27.7 -0.2**
comp=Z,5.0nm,0.8s,mb4.2,baz=125,slow=4.7,SNR=36
THY Trims Highway 79.22 27 *e*P **P** **00 43 28.9 +0.4**
EIL Elat 79.63 298 P **P** **00 43 32.4 +1.0**
comp=Z,16nm,0.6s,mb4.8,baz=29,slow=5.5,SNR=21
EIL Elat 79.63 298⇑*e*P **P** **00 43 31.9 +0.5**
comp=Z,64nm,1.3s,mb5.1
KTK1 Kautokeino 79.77 339 *e*P **P** **00 43 31.8 +0.5**
KAF Kangasniemi 79.86 332 *e*p **P** **00 43 31.4 -0.5**
comp=Z,8.7nm,0.5s,mb4.6,baz=75,slow=4.9
KAF Kangasniemi 79.86 332 *e*P **P** **00 43 31.4 -0.5**
KAF pmax pmax
comp=Z,9.0nm,0.5s,mb4.7
FINES FINESS Array B 80.10 331 *i*P **P** **00 43 32.6 -0.6**
FINES pmax pmax
comp=Z,6.0nm,0.5s
FINES FINESS Array B 80.10 331 P **P** **00 43 32.6 -0.6**
comp=Z,5.8nm,0.5s,mb4.5,baz=54,slow=5.9,SNR=99
FINES LR LR 01 21 55.7
comp=Z,30nm,18.0s,baz=147,slow=38
MENT Mentasta 80.22 28 *e*P **P** **00 43 35.3 +1.5**
AKASG Malin Array Be 80.30 320 P **P** **00 43 33.7 -0.8**
comp=Z,4.6nm,0.5s,mb4.3,baz=66,slow=5.1,SNR=17
TRO Tromso 81.11 340 *e*P **P** **00 43 37.7 -0.7**
ISP Isparta 81.77 307 *e*P **P** **00 43 41.8 -0.7**
comp=Z,17nm,0.6s,mb4.8
INK Inuvik 82.86 21 P **P** **00 43 48.0 +0.6**
comp=Z,18nm,0.7s,mb4.9,baz=294,slow=6.1,SNR=64
INK Inuvik 82.86 21⇑*e*P **P** **00 43 47.8 +0.3**
comp=Z,30nm,1.0s,mb5.0
SUW Suwalki 83.23 324 *e*P **P** **00 43 49.2 -0.4**
LOF Lofoten 83.43 339 *e*P **P** **00 43 51.6 +1.3**
MLR Muntele Rosu 83.51 315 P **P** **00 43 51.4 +0.2**
comp=Z,12nm,0.7s,mb4.8,baz=333,slow=4.5,SNR=36
MOR8 Moi Rana 83.80 337 *e*P **P** **00 43 50.4 -1.7**
MOR8 AMb AMB 00 43 52.3
comp=Z,30nm,1.2s,mb4.9
MELSS Ber_school_2 83.82 338 *e*P **P** **00 43 51.6 -0.6**
KMBO Kilima Mbogo 83.94 267 P **P** **00 43 55.6 +1.5**
comp=Z,6.8nm,0.8s,mb4.4,baz=48,slow=8.4,SNR=27
KMBO pP pP 00 44 37.4 -0.2
comp=Z,2.5nm,0.9s,baz=56,slow=17,SNR=2.7
KMBO Kilima Mbogo 83.94 267⇑*i*P **P** **00 43 55.5 +1.4**
comp=Z,9.0nm,1.0s,mb4.5
KMBO *e* pP 00 44 37.9 +0.4
STOK Stokkvaagen 84.28 337 *e*P **P** **00 43 53.5 -1.0**
STOK AMb AMB 00 43 57.0
comp=Z,72nm,1.5s,mb5.2
KWP Kalwaria 84.63 320 *e*P **P** **00 43 57.5 +0.9**
KOLS Kolonicke sedl 85.08 319 *e*P **P** **00 43 58.7 -0.3**
NSS Namsos 85.37 336 *e*P **P** **00 43 58.0 -2.0**
CRVS Cervenica-Dubn 85.61 319 *e*P **P** **00 44 02.6 +1.1**
NIE Niedzica 86.18 320 *e*P **P** **00 44 05.5 +1.2**
OJC Ojcow 86.27 321 *e*P **P** **00 44 05.0 +0.3**
HFS Hagfors 86.28 331 P **P** **00 44 04.1 -0.5**
comp=Z,10nm,0.4s,mb4.9,baz=117,slow=3.3,SNR=99
HFS Hagfors 86.28 331 P **P** **00 44 04.1 -0.5**
KECS Kecovo 86.35 319 *e*P **P** **00 44 05.6 +0.5**
IDI Anoyia 86.75 305 P **P** **00 44 07.8 +0.4**
comp=Z,6.4nm,0.3s,mb4.9,baz=123,slow=4.4,SNR=25
NB2 NORSAR Subarra 87.07 333 P **P** **00 44 07.5 -0.8**
comp=Z,14nm,0.7s,mb4.9,baz=67,slow=4.6
NB2 NORSAR Subarra 87.07 333 P **P** **00 44 07.5 -0.8**
baz=67,slow=4.6
NOA NORSAR Array B 87.07 333 P **P** **00 44 07.7 -0.6**
comp=Z,11nm,0.7s,mb4.8,baz=68,slow=4.6,SNR=12
NOA pP pP 00 44 51.6 -0.3
comp=Z,1.8nm,0.7s,baz=66,slow=4.9,SNR=3.3
NOA PP PP 00 47 25.8 -11
comp=Z,1.6nm,0.8s,baz=68,slow=8.2,SNR=3.8
NOA LR LR 01 23 33.2
comp=Z,23nm,19.6s,baz=285,slow=36
NAO01 NORSAR Array S 87.29 333⇓*i*P **P** **00 44 08.6 -0.8**
comp=Z,9.3nm,0.7s,mb4.7
VYHS Vyhne 87.39 319 *e*P **P** **00 44 11.2 +1.1**
OKC Ostrava-Krasne 87.40 321 *e*P **P** **00 44 10.6 +0.5**
MORC Moravsky Berou 87.79 321 *e*P **P** **00 44 12.0 0.0**
comp=Z,4.5nm,0.7s,mb4.4
KSP Ksiaz 88.19 322 *e*P **P** **00 44 14.4 +0.5**
KSP Ksiaz 88.19 322 *e*P **P** **00 44 14.5 +0.6**
DPC Dobruska-Polom 88.34 322 *e*P **P** **00 44 15.3 +0.7**
UPC Upice 88.47 322 *e*P **P** **00 44 15.6 +0.4**
VRAC Vranov 88.53 321 P **P** **00 44 16.0 +0.5**
comp=Z,4.2nm,0.6s,mb4.5,baz=61,slow=7.6,SNR=9.0
RES Resolute Bay 88.80 9⇓*i*P **P** **00 44 16.8 +0.5**
comp=Z,18nm,0.8s,mb5.0
PVCC Panska Ves 89.33 322 *e*P **P** **00 44 19.6 +0.4**
PRU Pruhonice 89.54 322 *e*P **P** **00 44 20.4 +0.2**
BRG Berggiesshubel 89.57 323 *e*P **P** **00 44 20.9 +0.5**
BRG pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
BRG Berggiesshubel 89.57 323 *e*P **P** **00 44 20.9 +0.5**
comp=Z,9.9nm,1.1s,mb4.7
BRG *e* pP 00 45 05.4 +1.1
CLL Collm 89.96 323 *e*P **P** **00 44 22.0 -0.2**
CLL Collm 89.96 323 P **P** **00 44 22.0 -0.2**
KHC Kasperske Hory 90.44 321 *e*P **P** **00 44 23.8 -0.7**
CRES Cresnjev 90.45 318 *i*P **P** **00 44 24.8 +0.2**
GERES GERESS Array B 90.47 321 P **P** **00 44 24.8 +0.2**
comp=Z,2.5nm,0.6s,mb4.3,baz=71,slow=4.9,SNR=34
MOA Molln 90.49 320⇑*i*P **P** **00 44 25.2 +0.5**
comp=Z,8.1nm,0.6s,mb4.8
NKC Novy Kostel 90.70 322 *e*P **P** **00 44 26.4 +0.7**
VISS Visnje 90.86 318 *i*P **P** **00 44 26.6 +0.1**
MAW Mawson 91.33 199 P **P** **00 44 28.4 +0.2**
comp=Z,3.8nm,0.7s,mb4.5,baz=52,slow=10,SNR=4.1
GRA1 Grafenberg Arr 91.64 322 *e*P **P** **00 44 30.4 +0.4**
comp=Z,8.0nm,0.8s,mb4.8
GRF Grafenberg Arr 91.64 322 *e*P **P** **00 44 30.4 +0.4**
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
GRF Grafenberg Arr 91.64 322 *e*P **P** **00 44 30.4 +0.4**
comp=Z,8.0nm,0.8s,mb4.8
WTTA Wattenberg 92.36 320⇑*i*P **P** **00 44 33.4 0.0**
comp=Z,12nm,0.6s,mb5.1
YKA Yellowknife Ar 92.55 22 *i*P **P** **00 44 34.8 +0.9**
YKA pmax pmax
comp=Z,4.0nm,0.5s
YKA Yellowknife Ar 92.55 22 P **P** **00 44 34.8 +0.9**
comp=Z,3.8nm,0.5s,mb4.8,baz=307,slow=4.4,SNR=145
YKA pP pP 00 45 18.0 +0.1
comp=Z,0.6nm,0.5s,baz=312,slow=4.7,SNR=2.3
YKA PKKPbc 01 01 44.8
comp=Z,1.0nm,0.5s,baz=131,slow=2.8,SNR=57
YKA LR LR 01 29 13.3
comp=Z,57nm,19.7s,baz=235,slow=37
YKA Yellowknife Ar 92.55 22 P **P** **00 44 34.8 +0.9**
YKA pP pP 00 45 18.0 +0.1
YKA PKKPbc 01 01 44.8
SUMG Summit 92.59 354 P **P** **00 44 35.5 +1.6**
comp=Z,4.1nm,0.7s,mb4.7
SQTA Sankt Quirin 92.64 320⇑*i*P **P** **00 44 34.6 -0.1**
comp=Z,5.3nm,0.8s,mb4.7
VNDA Vanda 94.27 172 P **P** **00 44 41.6 +0.1**
comp=Z,4.4nm,0.9s,mb4.6,baz=313,slow=6.3,SNR=12
CDF Champ du Feu 94.53 322 *e*P **P** **00 44 42.5 -0.8**
comp=Z,12nm,0.9s,mb4.8
HAU Haudompre 95.27 322 *e*P **P** **00 44 45.5 -1.2**
comp=Z,4.0nm,0.6s,mb4.5
PGF Pioggiola 96.00 316 *e*P **P** **00 44 49.4 -0.7**
comp=Z,26nm,0.8s,mb5.3
CABF La Chapelle 96.07 321 *e*P **P** **00 44 49.3 -1.0**
LPG La Plagne 96.17 320 *e*P **P** **00 44 50.4 -0.4**
comp=Z,8.9nm,0.7s,mb4.9
LPL La Plagne 96.17 320 *e*P **P** **00 44 50.3 -0.5**
comp=Z,7.0nm,0.6s,mb4.9
EKA Eskdalemuir Ar 96.49 331 P **P** **00 44 51.9 -0.1**
comp=Z,1.7nm,0.8s,mb4.4,baz=63,slow=5.6,SNR=4.5
MBDF Montbardon 96.50 319 *e*P **P** **00 44 49.9 -2.4**
FRF La Foret Royal 97.11 318 *e*P **P** **00 44 53.0 -2.2**
LMR La Mourre 97.30 318 *e*P **P** **00 44 53.7 -2.3**
comp=Z,50nm,1.3s,mb5.4
SSF Saint Saulge 97.42 322 *e*P **P** **00 44 55.0 -1.5**
SMF Signal de Mont 97.42 322 *e*P **P** **00 44 55.2 -1.3**
AVF Avril sur Loir 97.64 322 *e*P **P** **00 44 56.1 -1.4**
comp=Z,8.7nm,0.9s,mb4.9
BGF Bois d'Agland 98.06 322 *e*P **P** **00 44 58.2 -1.1**
RJF Les Rejaudoux 99.49 321 *e*P **P** **00 45 04.7 -1.2**
comp=Z,17nm,1.1s,mb5.1
SYO Syowa Base 99.75 201⇑Pdiff **P** **00 45 05.2 -1.4**
LFF La Frestale 100.15 321 *e*P P 00 45 07.2 -1.7
comp=Z,95nm,1.4s
EPF Esparros 101.39 320 *e*P P 00 45 13.0 -1.5
comp=Z,22nm,1.1s
ETSF Etsaut 102.02 320 *e*P Pdif 00 45 15.7 -1.6
PDAR Pinedale Array 107.15 36 PKiKP 00 49 48.8
comp=Z,0.3nm,0.4s,baz=74,slow=1.5,SNR=4.2
PDAR PKKPbc 01 01 05.5
comp=Z,0.5nm,0.5s,baz=127,slow=4.5,SNR=6.3
PDAR PKKPab 01 01 20.0
comp=Z,1.0nm,0.8s,baz=104,slow=5.4,SNR=8.6
SCHQ Schefferville 111.20 5 PKiKP 00 49 56.0
comp=Z,0.9nm,0.6s,baz=57,slow=12,SNR=5.7
VNA2 Neumayer--Watz 115.03 197⇑*i* PKPdif 00 50 03.1 +1.7
VNA1 Neumayer--Stat 115.42 197⇑*i* PKPdif 00 50 03.9 +1.8
VNA3 Neumayer Olymp 115.47 196⇑*i* PKPdif 00 50 03.6 +1.4
SADO Sadowa 118.84 16 PKP PKPdif 00 50 10.0 +0.7
comp=Z,3.5nm,0.5s,baz=353,slow=2.1,SNR=6.6
SADO Sadowa 118.84 16 PKP PKPdif 00 50 10.0 +0.7
TXAR Lajitas Array 119.28 44 PKP PKPdif 00 50 12.6 +2.0
comp=Z,1.8nm,0.4s,baz=182,slow=0.6,SNR=84
JCT Junction City 121.08 41 *e*PKP PKPdif 00 50 14.8 +0.8
DBIC Dimbokro 122.26 287 PKP PKPdif 00 50 17.9 +1.2
comp=Z,4.0nm,0.7s,baz=167,slow=5.5,SNR=6.1
WVT Waverly 123.36 28 *e*PKP PKPdif 00 50 19.4 +1.1
LRAL Lakeview Retre 126.30 29 *e*PKP PKPdif 00 50 25.3 +1.2
JTS JuntasAbangare 144.95 48 *e*PKPdf PKPdif 00 51 00.3 +1.4
comp=Z,7.7nm,0.4s,baz=8.7,slow=13,SNR=7.9
JTS JuntasAbangare 144.95 48 *e*PKPdf PKPdif 00 50 58.7 -0.1
SJG San Juan 147.44 12 PKPbc PKPdif 00 51 06.5 +3.6
comp=Z,13nm,0.4s,baz=17,slow=9.2,SNR=7.9
PLCA Paso Flores 151.54 162 PKPbc PKPdif 00 51 17.4 +8.7
comp=Z,13nm,0.8s,baz=221,slow=3.3,SNR=38
SDV Santo Domingo 154.67 27 PKP PKPdif 00 51 16.3 +2.6
comp=Z,6.4nm,0.9s,baz=36,slow=1.4,SNR=6.8
SDV PKPbc PKPdif 00 51 24.6 +11
comp=Z,12nm,0.6s,baz=318,slow=2.3,SNR=13
SDV PKPab PKPab 00 51 39.7 -0.8
comp=Z,6.3nm,0.6s,baz=313,slow=4.1,SNR=6.2
SDV Santo Domingo 154.67 27 *e*PKPdf PKPdif 00 51 14.9 +1.2
SDV *e*PKPbc PKPdf 00 51 24.4 +11
SDV *e*PKPab PKPab 00 51 40.1 -0.4
LVC Limon Verde 167.42 135 PKPab PKPab 00 52 36.3 +0.9
comp=Z,5.9nm,1.1s,baz=233,slow=1.7,SNR=4.9
CPUP Villa Florida 167.54 188 PKPab PKPab 00 52 35.2 -0.6
comp=Z,3.0nm,0.7s,baz=188,slow=4.0,SNR=10
SIV San Ignacio 177.31 140 PKP PKPdf 00 51 33.1 +1.6
comp=Z,1.1nm,0.7s,baz=320,slow=1.4,SNR=7.7
SIV PKPab PKPab 00 53 19.4 0.0
comp=Z,0.6nm,0.7s,baz=163,slow=1.5,SNR=4.8

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*NEIC **19** 00:36:34.0±1.6,26.27S×174.26W,h10km,mb4.4/3,Error ellipse: s-maj=109.0km s-min=13.9km az=166.0*
*IDC **19** 00:36:36.0±2.4,24.41S×174.88W,mb4.2/4,mb1 4.5/4, mb1mx4.1/15,mbtmp4.2/4,MS3.6/2,Ms1 3.6/2, ms1mx3.0/30,Error ellipse: s-maj=132.4km s-min=27.7km az=160.0*
ISC 19 00:36:35.1±1.6,26.6S±0.7×174.1W±0.2,h33km,n16, σ1§28/10,mb4.3/7,MS3.5/2,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.19**	**71**	Pn	**P**	**00 39 54.7**	**-1.1**
	12nm,0.3s,baz=262,slow=10,SNR=7.2						
TBI	**Tubuai**	**22.58**	**87**	*e*LR	LR	00 46 54.1	
	115nm,27.8s						
PPT	**Papeete**	**24.43**	**73**	*e*LR	LR	00 47 27.5	
	126nm,27.0s						
PPT	**Papeete**	**24.43**	**73**	LR	LR	00 48 34.2	
	comp=Z,176nm,20.1s,MS3.5,baz=331,slow=29						
RKT	**Rikitea**	**35.60**	**93**	*e*LR	LR	00 53 01.7	
	86nm,30.0s						
CTA	**Charters Tower**	**36.85**	**272**	P	**P**	**00 43 42.0**	**-0.2**
	3.4nm,0.5s,mb4.4,baz=85,slow=13,SNR=5.5						
CTA	**Charters Tower**	**36.85**	**272**	P	**P**	**00 43 42.0**	**-0.2**
CTAO	**Charters Tower**	**36.85**	**272**	P	**P**	**00 43 41.3**	**-0.9**
	3.6nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**46.88**	**262**	P	**P**	**00 45 04.5**	**+0.4**
	3.1nm,1.0s,mb4.2,baz=102,slow=8.3,SNR=8.9						
ASAR				LR	LR	01 05 27.1	
	comp=Z,56nm,18.7s,MS3.5,baz=280,slow=37						
WRAB	**Tennant Creek**	**47.54**	**267**	P	**P**	**00 45 07.9**	**-1.6**
	2.2nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**47.55**	**267**	P	**P**	**00 45 09.4**	**-0.2**
	1.4nm,0.5s,mb4.3,baz=103,slow=8.3,SNR=8.9						
TXAR	**Lajitas Array**	**87.47**	**55**	P	**P**	**00 49 22.9**	**+2.1**
	1.4nm,1.1s,mb4.1,baz=207,slow=5.6,SNR=8.3						
CMAR	**Chiang Mai Arr**	**95.45**	**288**	P	**P**	**00 50 00.7**	**+2.6**
	1.0nm,0.4s,mb4.6,baz=126,slow=3.4,SNR=7.8						
INK	**Inuvik**	**99.29**	**14**	*e*P	**P**	**00 50 13.7**	**-0.6**
	0.4nm,0.6s,mb4.1						
AKASG	**Malin Array Be**	**150.09**	**330**	PKPbc	PKPdf	00 56 21.8	+4.8
	0.8nm,0.4s,baz=41,slow=4.0,SNR=7.1						
GERES	**GERESS Array B**	**157.01**	**347**	PKPab	PKPab	00 56 53.0	-6.4
	0.3nm,0.5s,baz=297,slow=2.2,SNR=4.6						

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*MOS **19** 00:53:47.1±1.0,36.35N×70.95E,h193km,mb4.1/3,Error ellipse: s-maj=33.9km s-min=15.0km az=82.2*
*NEIC **19** 00:53:47.8±2.7,36.35N×71.03E,h182km±21km,mb3.9/3, Error ellipse: s-maj=25.1km s-min=12.6km az=221.0*
*IDC **19** 00:53:50.0±6.3,36.43N×71.10E,h198km±52km,mb3.4/8, mb1 3.6/11,mb1mx3.3/24,mbtmp4.0/11,Error ellipse: s-maj=41.0km s-min=18.8km az=47.0*
*NNC **19** 00:54:17.3±7.4,38.80N×71.63E,mpv3.2,Error ellipse: s-maj=75.9km s-min=58.7km az=5.0*
ISC 19 00:53:52.2±1.2,36.63N±0.06×71.2E±0.2,h227km±9km, n41,σ0§68/45,mb3.6/9,5C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.60**	**137**	*e*P	**P**	**00 55 15.7**	**+0.2**
THN				*e*S	**S**	**00 56 19.2**	**-1.1**
DLH	**Dalhousie**	**5.66**	**135**	*e*P	**P**	**00 55 17.0**	**+0.8**
DLH				*e*S	**S**	**00 56 25.0**	**+3.4**
AML	**Almayashu**	**5.83**	**19**	P	**P**	**00 55 17.9**	**-0.4**
	SNR=60						
UCH	**Uchtor**	**6.15**	**24**	P	**P**	**00 55 22.5**	**0.0**
	SNR=17						
KZA	**Kyzart**	**6.28**	**29**	P	**P**	**00 55 23.4**	**-0.7**
	SNR=12						
EKS2	**Erkin-Say**	**6.35**	**17**	P	**P**	**00 55 25.0**	**0.0**
	SNR=9.6						
KK31	**Karatay Array**	**6.49**	**356**	⇑Pn	**P**	**00 55 27.9**	**+1.1**
	0.8nm,0.2s,baz=174,slow=12,SNR=4.2						
KK31				⇑Lg		00 56 33.3	
	5.6nm,0.4s,baz=183,slow=22,SNR=11						
AAK	**Ala-Archa**	**6.51**	**22**	P	**P**	**00 55 27.0**	**-0.1**
	SNR=10						
AAK	**Ala-Archa**	**6.51**	**22**	⇑Pn	**P**	**00 55 26.7**	**-0.4**
	2.8nm,0.5s						
AAK				⇑Lg		00 56 37.4	
	8.7nm,0.6s						
AAK	**Ala-Archa**	**6.51**	**22**	*e*Pn	**P**	**00 55 25.2**	**-1.9**
KBK	**Karagaybulak**	**6.68**	**24**	P	**P**	**00 55 29.4**	**+0.2**
	SNR=8.1						
SDNR	**Sundarnagar**	**7.00**	**135**	*e*P	**P**	**00 55 33.0**	**-0.3**
SDNR				*e*S	**S**	**00 56 45.2**	**-7.2**
USP	**Ospenovka**	**7.10**	**20**	P	**P**	**00 55 34.2**	**-0.4**
	SNR=6.2						
TKM2	**Tokmak 2**	**7.14**	**27**	P	**P**	**00 55 34.8**	**-0.3**
	SNR=9.4						
SMLA	**Simla**	**7.39**	**136**	⇑*i*	**P**	**00 55 31.7**	**-6.7**
SMLA				*i*S	**S**	**00 56 54.2**	**-7.1**
	288nm,0.4s						
MK31	**Makanchi Array**	**13.09**	**36**	⇓P	**P**	**00 56 54.6**	**+3.8**
	4.7nm,0.9s						
MKAR	**Makanchi Array**	**13.09**	**36**	P	**P**	**00 56 51.1**	**+0.4**
	0.3nm,0.3s,baz=217,slow=15,SNR=14						
KOLN	**Koldanda**	**13.70**	**127**	*e*P	**P**	**00 56 58.5**	**+0.1**
	6.7nm,0.3s						
GKN	**Gorkha**	**14.23**	**123**	*e*P	**P**	**00 57 05.2**	**+0.2**
	19nm,0.3s						
KKN	**Kakani**	**14.80**	**123**	*e*P	**P**	**00 57 12.0**	**0.0**
	14nm,0.5s						
PKI	**Pulchoki**	**15.03**	**123**	*e*P	**P**	**00 57 15.0**	**+0.2**
	13nm,0.4s						
GUN	**Gumba**	**15.14**	**121**	*e*P	**P**	**00 57 16.1**	**0.0**
	9.8nm,0.3s						
JIRN	**Jiri**	**15.51**	**121**	*e*P	**P**	**00 57 21.2**	**+0.6**
	26nm,0.4s						
BVAR	**Borovoye Array**	**16.41**	**358**	P	**P**	**00 57 30.7**	**-0.4**
	0.5nm,0.3s,baz=160,slow=11,SNR=10						
ZAL	**Zalesovo**	**19.72**	**24**	P	**P**	**00 58 05.5**	**-0.2**
	1.7nm,0.3s,baz=257,slow=7.9,SNR=12						
SONM	**Songino Array**	**28.13**	**55**	P	**P**	**00 59 26.1**	**+1.1**
	0.6nm,0.6s,mb3.4,baz=262,slow=9.3,SNR=4.0						
ARCES	**ARCESS Array B**	**41.09**	**337**	P	**P**	**01 01 15.1**	**+0.2**
	3.1nm,0.9s,mb3.8,baz=108,slow=7.7,SNR=7.3						
NB2	**NORSAR Subarra**	**44.38**	**323**	P	**P**	**01 01 40.9**	**-0.4**
	0.5nm,0.4s,mb3.2,baz=97,slow=7.4						
NB2	**NORSAR Subarra**	**44.38**	**323**	P	**P**	**01 01 40.9**	**-0.4**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.5						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**01 01 41.2**	**-0.1**
	comp=Z,0.7nm,0.5s,mb3.3,baz=96,slow=7.7,SNR=4.0						
NOA	**NORSAR Array B**	**44.38**	**323**	P	**P**	**01 01 41.2**	**-0.1**
INK	**Inuvik**	**73.75**	**9**	*e*P	**P**	**01 05 03.0**	**+0.6**
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	**Inuvik**	**73.75**	**9**	P	**P**	**01 05 03.5**	**+1.0**
	comp=Z,2.5nm,0.5s,mb4.1,baz=337,slow=5.1,S

comp=Z,3.0nm,0.4s,mb4.3
ILAR Eielson Array 74.61 16 P **P 01 05 07.3 -0.1**
comp=Z,0.5nm,0.7s,mb3.2,baz=331,slow=4.8,SNR=5.7
YKA Yellowknife Ar 81.11 3 P **P 01 05 43.5 +0.7**
comp=Z,0.8nm,0.4s,mb3.7,baz=351,slow=5.4,SNR=45
YKA Yellowknife Ar 81.11 3 P **P 01 05 43.5 +0.7**
WRA Warramunga Arr 81.92 122 P **P 01 05 47.2 -0.6**
comp=Z,0.3nm,0.4s,mb3.3,baz=325,slow=4.9,SNR=14
WRAB Tennant Creek 81.92 122 P **P 01 05 46.3 -1.5**
WRAB pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
WRAB Tennant Creek 81.92 122 P **P 01 05 46.3 -1.5**
comp=Z,1.0nm,0.3s,mb3.9
ASAR Alice Springs 84.19 125 P **P 01 05 59.0 -0.3**
comp=Z,0.5nm,0.6s,mb3.4,baz=310,slow=5.0,SNR=7.1

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*IDC **19** 00:57:26.0±1.9, 32.34N×102.47E, mb3.3/2, mb1 3.7/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=84.5km s-min=31.6km az=57.0*

BJI 19 00:57:53.1, 27.34N×101.40E, h11km, ML3.2, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.51**	**151**	PG	Pg	00 58 38.8	-4.5
KMI				SG	Sg	00 59 11.1	-5.8
KMI				Smax			
	comp=N,64nm,0.5s						
KMI				Smax			
	comp=E,51nm,0.7s						
CD2	**Chengdu**	**4.11**	**30**	PG	Pg	00 59 03.5	-12
CD2				SG	Sg	00 59 58.4	-12
CD2				Smax			
	comp=N,129nm,1.2s						
CMAR	**Chiang Mai Arr**	**9.13**	**195**	Pn	P	01 00 49.8	+42
	baz=6.0,slow=17,SNR=5.5						
WRA	**Warramunga Arr**	**56.81**	**142**	P	P	01 07 36.2	-3.9
	comp=N,0.4nm,0.6s,baz=330,slow=7.8,SNR=3.8						

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*IDC **19** 00:58:38.4±0.6, 27.68N×139.87E, h441km±10km, mb3.3/10, mb1 3.5/12, mb1mx3.2/24, mbtmp4.1/12, Error ellipse: s-maj=22.6km s-min=13.5km az=82.0*
*NEIC **19** 00:58:40.4±1.3, 27.69N×139.83E, h467km±14km, mb3.9/4, Error ellipse: s-maj=15.5km s-min=10.7km az=95.0*
*JMA **19** 00:58:40.2±0.1, 27.95N×140.72E, h467km, M3.7*

ISC 19 00:58:38.0±0.5, 27.75N±0.05×139.9E±0.2, h452km±7km, n25, σ0°79/31, mb3.6/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.15**	**107**	P	**P**	**00 59 40.9**	**+0.8**
	158nm,0.3s,baz=79,slow=2.0,SNR=188						
CBIJ				S	**S**	**01 00 27.8**	**-1.2**
	119nm,0.3s,baz=282,slow=23,SNR=12						
CBIJ	**Chichi jima**	**2.15**	**107**	P	**P**	**00 59 40.5**	**+0.5**
CBIJ				S	**S**	**01 00 27.6**	**-1.4**
JHHJ	**Haha-jima-NKT**	**2.33**	**118**	P	**P**	**00 59 42.0**	**+0.9**
JHHJ				S	**S**	**01 00 31.2**	**+0.2**
BSO3	**Boso 3**	**7.05**	**4**	P	**P**	**01 00 25.4**	**+1.0**
BSO3				*e*S	**S**	**01 01 48.0**	**-0.6**
BSO4	**Boso 4**	**7.23**	**3**	*e*S	**S**	**01 01 52.7**	**+0.6**
JAG	**Ashikaga**	**8.66**	**358**	P	**P**	**01 00 42.1**	**+0.1**
JAG				*e*S	**S**	**01 02 18.6**	**-1.6**
JHO	**Hitachi**	**8.86**	**4**	P	**P**	**01 00 44.9**	**+0.7**
JHO				*e*S	**S**	**01 02 23.0**	**-1.1**
MJAR	**Matsushiro Arr**	**8.88**	**351**	P	**P**	**01 00 45.9**	**+1.5**
	0.9nm,0.3s,baz=197,slow=8.5,SNR=4.7						
ENH	**Enshi**	**26.66**	**283**	P	**P**	**01 03 40.6**	**0.0**
	6.1nm,0.5s,mb4.3						
SONM	**Songino Array**	**32.83**	**317**	P	**P**	**01 04 34.4**	**+0.8**
	0.4nm,0.5s,mb3.1,baz=127,slow=9.3,SNR=3.6						
CMAR	**Chiang Mai Arr**	**38.62**	**265**	P	**P**	**01 05 21.3**	**-0.8**
	0.8nm,0.3s,mb3.6,baz=59,slow=5.3,SNR=2.8						
WRA	**Warramunga Arr**	**47.71**	**187**	P	**P**	**01 06 33.2**	**-0.9**
	0.5nm,0.5s,mb3.1,baz=1.7,slow=7.7,SNR=18						
MKAR	**Makanchi Array**	**48.48**	**309**	P	**P**	**01 06 39.6**	**+0.1**
	0.7nm,0.7s,mb3.1,baz=85,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**51.44**	**187**	P	**P**	**01 07 01.4**	**-0.4**
	0.3nm,0.6s,mb2.8,baz=15,slow=15,SNR=4.6						
CHKZ	**Chkalovo**	**56.02**	**318**	P	**P**	**01 07 32.9**	**-1.3**
	1.3nm,0.4s,mb3.6						
BVAR	**Borovoye Array**	**56.18**	**317**	P	**P**	**01 07 35.2**	**0.0**
	3.0nm,0.4s,mb4.0,baz=92,slow=7.5,SNR=39						
INK	**Inuvik**	**63.29**	**25**	P	**P**	**01 08 21.7**	**-0.8**
	0.2nm,0.3s,mb3.1						
ARCES	**ARCESS Array B**	**72.25**	**340**	P	**P**	**01 09 17.9**	**+0.9**
	1.9nm,0.5s,mb3.9,baz=74,slow=8.8,SNR=8.6						
YKA	**Yellowknife Ar**	**72.54**	**28**	P	**P**	**01 09 19.3**	**+0.6**
	0.2nm,0.3s,mb3.1,baz=297,slow=6.1,SNR=6.5						
JOF	**Joensuu**	**73.59**	**333**	*e*p	**P**	**01 09 24.8**	**+0.1**
	1.7nm,0.4s,mb3.9						
KAF	**Kangasniemi**	**75.99**	**334**	*e*p	**P**	**01 09 38.6**	**+0.4**
	2.0nm,0.4s,mb4.0,baz=55,slow=5.2						
FINES	**FINESS Array B**	**76.45**	**333**	P	**P**	**01 09 41.0**	**+0.3**
	3.1nm,0.3s,mb4.3,baz=66,slow=5.3,SNR=79						
FINES	**FINESS Array B**	**76.45**	**333**	P	**P**	**01 09 41.0**	**+0.3**
NB2	**NORSAR Subarra**	**82.24**	**337**	P	**P**	**01 10 11.0**	**-0.2**
	1.0nm,0.6s,mb3.5,baz=49,slow=4.6						
NOA	**NORSAR Array B**	**82.24**	**337**	P	**P**	**01 10 11.3**	**+0.1**
	1.2nm,0.6s,mb3.6,baz=49,slow=4.7,SNR=5.9						

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*CSEM **19** 00:59:36.7±0.1, 38.73N×23.72E, h8km, ML2.7, Error ellipse: s-maj=10.0km s-min=2.5km az=90.0*
*ATH **19** 00:59:37.2, 38.77N×23.62E, h42km±2km, MD3.0/6, ML3.1*
*NEIC **19** 00:59:37.2, 38.77N×23.62E, h42km, MD3.0(ATH), After ATH.*
*THE **19** 00:59:39.2, 38.86N×23.77E, h15km, ML2.7*

ISC 19 00:59:37.4±0.6, 38.80N±0.03×23.81E±0.07, h24km±19km, n14, σ0°92/20, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.38**	**9**	*e*Pg	**Pb**	**00 59 45.8**	**+0.2**
LKR	**Lokris**	**0.65**	**257**	*e*P	**Pb**	**00 59 48.6**	**-1.4**
MPAR	**Parnis Oros**	**0.65**	**185**	*e*P	**Pb**	**00 59 49.5**	**-0.5**
MPAR				*e*S	**Sb**	**01 00 00.5**	**+1.9**
NEO	**Neokhori**	**0.68**	**318**	⇑*i*P	**Pb**	**00 59 50.8**	**+0.2**
NEO				*e*S	**Sb**	**00 59 59.6**	**0.0**
PTL	**Penteli**	**0.75**	**177**	*e*P	**Pb**	**00 59 51.5**	**-0.2**
ATH	**Athens Observa**	**0.83**	**185**	*e*P	**Pb**	**00 59 52.9**	**-0.1**
ATH				*e*S	**Sb**	**01 00 05.1**	**+1.3**
MGER	**Gerania Oros**	**0.92**	**208**	*e*P	**Pb**	**00 59 53.5**	**-1.0**
NSAL	**Nisos Salamina**	**0.93**	**197**	*e*P	**Pb**	**00 59 53.5**	**-1.3**
NAIG	**Nisos Aigina**	**1.07**	**194**	*e*P	**Pb**	**00 59 56.5**	**-0.6**
PAIG	**Paliouri**	**1.13**	**355**	*e*Pg	**Pb**	**00 59 58.5**	**+0.3**
PAIG				*e*Sg	**Sb**	**01 00 13.7**	**+1.1**
AGG	**Agios Georgios**	**1.17**	**281**	*e*Pg	**Pb**	**00 59 59.5**	**+0.5**
AGG				*e*Sg	**Sb**	**01 00 15.2**	**+1.5**
OUR	**Ouranopolis**	**1.54**	**5**	*e*Pb	**Pb**	**01 00 04.5**	**-0.7**
LIT	**Litokhoron**	**1.65**	**322**	*e*Pb	**Pb**	**01 00 06.1**	**-1.0**
LIT				*e*Sb	**Sb**	**01 00 26.9**	**-0.7**
SRS	**Serrai**	**2.32**	**356**	*e*Pn	**Pn**	**01 00 15.6**	**+0.6**

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*NIED **19** 01:46:00, 29.70N×139.70E, h420km, Mw5.8 Best double couple: M0:5.03×10^17 NP1:φs314°, δ71°, λ-56°. NP2:φs70°, δ38°, λ-149°.*
*ORF **19** 01:46:08.5, 28.39N×139.71E, h30km, mb5.7*
*MOS **19** 01:46:54.3±0.8, 29.59N×138.95E, h411km, mb5.6/115, Error ellipse: s-maj=6.9km s-min=3.7km az=105.1*
*JMA **19** 01:46:54.9±0.2, 29.73N×139.65E, h441km±3km, M6.0*
JMA Felt II J1.
*BJI **19** 01:46:55.6, 29.60N×138.84E, h416km, mB5.8, mb5.9*
*IDC **19** 01:46:56.3±0.5, 29.62N×138.92E, h414km±5km, mb5.1/30, mb1 5.2/33, mb1mx5.2/34, mbtmp5.9/33, Error ellipse: s-maj=8.7km s-min=6.3km az=78.0*
*NEIC **19** 01:46:57.0±0.4, 29.64N×138.89E, h426km±4km, mb5.6/179, ME5.3, MW5.9, MW5.7(NIED), Error ellipse: s-maj=3.1km s-min=2.6km az=146.0 Broadband fault plane solution: P waves. NP1:φs70°, δ30°, λ-165°. NP2: φs327°, δ83°, λ-61°. Principal axes: T Plg31°, Azm33°; N Plg0°, Azm0°; P Plg45°, Azm266°; Moment Tensor Solution. s43 Moment tensor: Scale 10^17 Nm; Mrr-1.34; Mθθ5.70; Mφφ-4.36; Mrθ1.73; Mθφ-4.16; Mrφ-5.59; Best double couple: M0:8.8×10^17 NP1:φs68°, δ49°, λ-170°. NP2:φs332°, δ83°, λ-42°. Principal axes: T 8.66, Plg22°, Azm27°; N .35, Plg48°, Azm144°; P -9.01, Plg34°, Azm281°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt at Tama and Tokyo, Honshu. Recorded [2 JMA] in Chiba, Ibaraki, Saitama and Tochigi; [1 JMA] in Fukuoka, Gumma, Kanagawa, Miyagi, Shizuoka and Tokyo Prefectures, Honshu. Also recorded [1 JMA] on Hachijo-jima and Miyake-jima.
*BGS **19** 01:46:57.4, 29.64N×138.89E, h425km, mb5.2*
*HRVD **19** 01:46:57.0±0.1, 29.66N×139.03E, h418km, MW5.9/75, Centroid moment Tensor Solution. LP body waves: s75,c167;Mantle waves: s67,c84; Half duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr-2.01±.06; Mθθ4.62±.09; Mφφ-2.61±.10; Mrθ2.55±.10; Mθφ-1.66±.08; Mφr-6.67±.09; Best double couple: M0:8.254×10^17 NP1: φs69°, δ31°, λ-166°. NP2:φs327°, δ83°, λ-60°. Principal axes: T 7.496, Plg31°, Azm32°; N 1.515, Plg30°, Azm143°; P -9.011, Plg44°, Azm267°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

ISC 19 01:46:56.1±0.1, 29.64N±0.02×139.02E±0.02, h427km, h427km±2.6km: pP-P, n940, σ1°09/964, mb5.5/255, 159C-135D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.53**	**11**	P	**P**	**01 48 06.4**	**+0.2**
JHJ2				*e*S	**S**	**01 48 59.1**	**-2.3**
JHJ	**Hachijo jima 2**	**3.53**	**10**	P	**P**	**01 48 05.2**	**-0.9**
	2μm,0.3s,baz=64,slow=23,SNR=93						
JHJ				S	**S**	**01 48 56.8**	**-4.7**
	3μm,0.3s,baz=67,slow=22,SNR=19						
CBIJ	**Chichi jima**	**3.77**	**132**	P	**P**	**01 48 04.2**	**-4.1**
	875nm,0.3s,baz=282,slow=20,SNR=179						
CBIJ				S	**S**	**01 49 00.8**	**-4.4**
	2μm,0.3s,baz=294,slow=17,SNR=7.2						
JHHJ	**Haha-jima-NKT**	**4.09**	**136**	P	**P**	**01 48 07.5**	**-3.7**
JHHJ				*e*S	**S**	**01 49 05.6**	**-4.8**
TK01	**Tokai 1**	**4.29**	**344**	P	**P**	**01 48 13.7**	**+0.6**
TK02	**Tokai 2**	**4.43**	**346**	⇑P	**P**	**01 48 15.5**	**+1.1**
JMY	**Miyakejima3**	**4.44**	**5**	P	**P**	**01 48 13.8**	**-0.7**
JMY				*e*S	**S**	**01 49 13.0**	**-3.2**
NJJJ	**Nii jima 2**	**4.75**	**3**	⇑P	**P**	**01 48 16.6**	**-1.0**
TK04	**Tokai 4**	**4.83**	**349**	⇑P	**P**	**01 48 19.3**	**+0.9**
JIZS	**Izushimoda**	**5.06**	**359**	⇑P	**P**	**01 48 19.8**	**-0.9**
JIM2	**Oshima 3**	**5.07**	**4**	⇑P	**P**	**01 48 19.3**	**-1.5**
JIM2				*e*S	**S**	**01 49 26.2**	**-1.2**
JIE	**Ise**	**5.13**	**338**	⇑P	**P**	**01 48 22.4**	**+1.0**
JIE				*e*S	**S**	**01 49 31.6**	**+3.2**
JKN2	**Miekihoku**	**5.15**	**334**	⇑P	**P**	**01 48 22.3**	**+0.8**
JKN2				*e*S	**S**	**01 49 32.4**	**+3.7**
JAA	**Atsumi**	**5.23**	**343**	⇑P	**P**	**01 48 23.3**	**+1.0**
JAA				S	**S**	**01 49 31.1**	**+1.0**
JWM	**Minabe**	**5.23**	**324**	⇑P	**P**	**01 48 23.5**	**+1.1**
BSO1	**Boso 1**	**5.27**	**18**	⇑P	**P**	**01 48 20.3**	**-2.4**
JHMK	**Hamakita**	**5.27**	**349**	*e*S	**S**	**01 49 30.8**	**-0.2**
BSO3	**Boso 3**	**5.30**	**13**	P	**P**	**01 48 20.9**	**-2.2**
HMMJ	**Hamamatsu 2**	**5.32**	**348**	⇑P	**P**	**01 48 23.6**	**+0.3**
HMMJ				*e*S	**S**	**01 49 31.9**	**+0.1**
JWY	**Kouya**	**5.42**	**328**	⇑P	**P**	**01 48 25.8**	**+1.5**
BSO4	**Boso 4**	**5.45**	**11**	P	**P**	**01 48 22.3**	**-2.3**
BSO4				*e*S	**S**	**01 49 32.1**	**-2.1**
JYZW	**Yoshizawa**	**5.45**	**349**	P	**P**	**01 48 24.9**	**+0.3**
SHZ3	**Shizuoka 3**	**5.45**	**353**	S	**S**	**01 49 34.4**	**+0.1**
MRT2	**Murotomisaki 2**	**5.60**	**313**	⇑P	**P**	**01 48 27.7**	**+1.6**
JOD2	**Odawara 2**	**5.61**	**1**	⇑P	**P**	**01 48 24.8**	**-1.4**
JOD2				*e*S	**S**	**01 49 34.8**	**-2.4**
JAI	**Aioi**	**5.68**	**318**	⇑P	**P**	**01 48 28.5**	**+1.5**
JHE	**Heguri**	**5.74**	**331**	⇑P	**P**	**01 48 28.7**	**+1.0**
JNY	**Yasuok**	**5.79**	**351**	⇑P	**P**	**01 48 28.2**	**+0.1**
JNY				*e*S	**S**	**01 49 40.8**	**+0.3**
JAO	**Obara**	**5.80**	**346**	⇑P	**P**	**01 48 29.0**	**+0.7**
JAO				*e*S	**S**	**01 49 42.3**	**+1.4**
JYN	**Shimob**	**5.86**	**356**	⇑P	**P**	**01 48 28.1**	**-0.7**
JEG	**Eigenji**	**5.91**	**339**	⇑P	**P**	**01 48 31.1**	**+1.6**
JEG				*e*S	**S**	**01 49 46.0**	**+3.1**
JMN	**Monobe**	**5.99**	**314**	⇑P	**P**	**01 48 31.9**	**+1.7**
JGF	**Kuroka**	**6.11**	**347**	S	**S**	**01 49 46.7**	**0.0**
JHU	**Hanno**	**6.20**	**2**	⇑P	**P**	**01 48 30.2**	**-2.3**
JHU				*e*S	**S**	**01 49 44.1**	**-4.4**
JTO	**Tosashimizu**	**6.22**	**303**	⇑P	**P**	**01 48 35.2**	**+2.5**
JNT	**Takato**	**6.26**	**353**	⇑P	**P**	**01 48 32.8**	**-0.4**
JGM	**Miyama**	**6.35**	**343**	P	**P**	**01 48 34.6**	**+0.5**
JRY	**Ryogami san**	**6.36**	**359**	⇑P	**P**	**01 48 32.8**	**-1.4**
JRY				*e*S	**S**	**01 49 49.3**	**-2.3**
JKS	**Kasai**	**6.39**	**327**	⇑P	**P**	**01 48 35.4**	**+0.8**
JWT	**Wachi**	**6.40**	**332**	P	**P**	**01 48 35.7**	**+1.0**
JFM	**Mihama**	**6.41**	**337**	⇑P	**P**	**01 48 35.9**	**+1.1**
JET	**Tanbara**	**6.55**	**311**	⇑P	**P**	**01 48 37.9**	**+1.6**
JYT	**Yasato**	**6.64**	**8**	P	**P**	**01 48 34.8**	**-2.5**
JYT				S	**S**	**01 49 52.0**	**-5.2**
JAD	**Aida**	**6.69**	**323**	⇑P	**P**	**01 48 38.8**	**+0.9**
JGN	**Niukaw**	**6.72**	**348**	⇑P	**P**	**01 48 37.7**	**-0.5**
JAG	**Ashikaga**	**6.78**	**3**	⇑P	**P**	**01 48 35.9**	**-2.9**
JAG				*e*S	**S**	**01 49 53.3**	**-6.6**
JNG	**Nsakai**	**6.79**	**354**	⇑P	**P**	**01 48 37.9**	**-1.1**
JKY	**Yasaka**	**6.83**	**332**	P	**P**	**01 48 39.9**	**+0.6**
JGK	**Kuni**	**6.91**	**357**	P	**P**	**01 48 38.5**	**-1.8**
MJAR	**Matsushiro Arr**	**6.92**	**355**	P	**P**	**01 48 38.4**	**-1.9**
	353nm,0.3s,baz=168,slow=10,SNR=467						
MJAR				S	**S**	**01 49 58.5**	**-4.1**
	75nm,0.3s,baz=126,slow=11,SNR=4.8						
MJAR				ScP		01 57 31.4	
	0.7nm,0.3s,baz=164,slow=1.2,SNR=6.2						
MAJO	**Matsushiro**	**6.92**	**355**	⇑*i*P	**P**	**01 48 38.4**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,3μm,0.8s						
MAJO	**Matsushiro**	**6.92**	**355**	⇑*i*P	**P**	**01 48 38.4**	**-1.9**
	comp=Z,3μm,0.8s						
MAT	**Matsushiro**	**6.92**	**355**	*e*P	**P**	**01 48 39.0**	**-1.3**
MAT				*e*S	**S**	**01 50 01.0**	**-1.7**
MAT	**Matsushiro**	**6.92**	**355**	P	**P**	**01 48 38.5**	**-1.8**
MAT				S	**S**	**01 50 00.6**	**-2.1**
MAT	**Matsushiro**	**6.92**	**355**	P	**P**	**01 48 38.7**	**-1.6**
MAT				*e*S	**S**	**01 50 01.7**	**-1.0**
JNAR	**Kushima--Naru**	**6.94**	**288**	⇓P	**P**	**01 48 43.1**	**+2.5**
JTSN	**Tsuno**	**6.96**	**294**	⇓P	**P**	**01 48 43.0**	**+2.2**
JJG	**Jouge**	**7.04**	**317**	⇑P	**P**	**01 48 43.0**	**+1.3**
JHO	**Hitachi**	**7.07**	**10**	⇑P	**P**	**01 48 39.2**	**-2.8**
JHO				S	**S**	**01 50 01.4**	**-4.3**
JUS	**Usuki**	**7.09**	**301**	P	**P**	**01 48 44.5**	**+2.2**
JHM	**Kurahashi**	**7.11**	**311**	P	**P**	**01 48 44.2**	**+1.7**
JKIT	**Kitakata**	**7.14**	**297**	⇓P	**P**	**01 48 45.3**	**+2.5**
JTSR	**Tashiro 2**	**7.16**	**284**	⇓P	**P**	**01 48 45.2**	**+2.2**
JTZ	**Takazaki**	**7.19**	**290**	P	**P**	**01 48 45.6**	**+2.2**
JHS	**Saijyo**	**7.32**	**318**	⇑P	**P**	**01 48 47.1**	**+2.3**
JHS				*e*S	**S**	**01 50 15.7**	**+5.1**
JSB	**Shiboa**	**7.35**	**6**	⇑P	**P**	**01 48 42.7**	**-2.4**
JJN	**Nakama**	**7.48**	**355**	⇑P	**P**	**01 48 44.8**	**-1.8**
JKI	**Kunimi**	**7.50**	**304**	P	**P**	**01 48 48.8**	**+2.0**
JHK	**Hiroka**	**7.59**	**360**	⇑P	**P**	**01 48 45.2**	**-2.6**
JIU2	**Izumi 2**	**7.61**	**294**	⇓P	**P**	**01 48 50.4**	**+2.3**
JSU	**Suzuyama**	**7.62**	**286**	P	**P**	**01 48 49.7**	**+1.6**
JZO	**Okuchi**	**7.66**	**291**	⇓P	**P**	**01 48 50.4**	**+1.8**
JNU	**Nakatsue**	**7.78**	**299**	⇓P	**P**	**01 48 51.8**	**+1.9**
JFK	**Kawauchi**	**7.86**	**11**	⇑P	**P**	**01 48 48.4**	**-2.4**
JFK				*e*S	**S**	**01 50 16.9**	**-4.5**
JSZ	**Suzu**	**7.91**	**350**	P	**P**	**01 48 49.5**	**-1.9**
JFT	**Otama**	**7.93**	**8**	P	**P**	**01 48 49.5**	**-2.1**
JTA	**Tamana**	**7.99**	**297**	⇓P	**P**	**01 48 53.8**	**+1.6**
JFA	**Akaike**	**8.10**	**302**	⇓P	**P**	**01 48 55.0**	**+1.5**
JHD	**Hondo**	**8.13**	**293**	⇓P	**P**	**01 48 55.7**	**+1.9**
JTY	**Toyota**	**8.18**	**306**	⇓P	**P**	**01 48 56.0**	**+1.6**
JSJ	**Shimokoshiki**	**8.27**	**287**	⇓P	**P**	**01 48 56.9**	**+1.4**
JFI	**Itaya**	**8.28**	**299**	⇓P	**P**	**01 48 57.1**	**+1.5**
JSD	**Sado**	**8.40**	**356**	P	**P**	**01 48 54.0**	**-2.9**
NGSJ	**Nagasakinomoza**	**8.45**	**293**	P	**P**	**01 48 58.9**	**+1.4**
JUR	**Ureshino**	**8.49**	**296**	⇓P	**P**	**01 48 59.6**	**+1.7**
JYS	**Shirataka**	**8.60**	**5**	⇑P	**P**	**01 48 57.6**	**-1.6**
JAW	**Awa shima**	**8.80**	**1**	⇑P	**P**	**01 48 59.1**	**-2.3**
JAW				S	**S**	**01 50 36.6**	**-3.8**
JOU	**Okura**	**8.81**	**8**	⇑P	**P**	**01 49 00.0**	**-1.5**
JII	**Iki**	**8.93**	**300**	⇓P	**P**	**01 49 04.3**	**+1.4**
JYA	**Atsumi**	**8.95**	**3**	P	**P**	**01 49 01.4**	**-1.7**
JFU	**Fukue jima 2**	**9.30**	**291**	⇓P	**P**	**01 49 08.3**	**+1.2**
JYK	**Kaneyama**	**9.32**	**6**	⇑P	**P**	**01 49 06.1**	**-1.2**
JTU	**Tsushima**	**9.51**	**303**	P	**P**	**01 49 10.5**	**+1.1**
JRG	**Rokugo**	**9.82**	**7**	⇑P	**P**	**01 49 12.1**	**-0.9**
JOW	**Kunigami**	**9.88**	**256**	P	**P**	**01 49 14.4**	**+0.7**
	comp=Z,45nm,0.3s,baz=100,slow=9.7,SNR=71						
JOW				S	**S**	**01 51 02.2**	**-0.5**
	baz=288,slow=28,SNR=1.8						
JOW	**Kunigami**	**9.88**	**256**	P	**P**	**01 49 14.9**	**+1.2**
JOM	**Ohasama**	**9.98**	**10**	⇑P	**P**	**01 49 13.6**	**-1.2**
JAGN	**Aguni-jima**	**10.84**	**257**	P	**P**	**01 49 25.4**	**+0.8**
JTM	**Tenmabayashi**	**11.25**	**8**	P	**P**	**01 49 28.0**	**-1.1**
JSR	**Shiriuchi**	**11.92**	**5**	P	**P**	**01 49 35.4**	**-1.1**
KS15	**Wonju Array Si**	**12.11**	**313**	*e*P	**P**	**01 49 37.7**	**-1.0**
JEM	**Erimo**	**12.79**	**14**	P	**P**	**01 49 45.2**	**-0.9**
JNB	**Noboribetsu**	**12.90**	**7**	P	**P**	**01 49 45.7**	**-1.6**
INCN	**Inchon**	**12.95**	**310**	*e*P	**P**	**01 49 46.2**	**-1.7**
	comp=Z,126nm,0.4s						
JBT2	**Biratori 2**	**13.38**	**11**	P	**P**	**01 49 51.4**	**-1.1**
JAB	**Ashibetsu**	**14.07**	**10**	P	**P**	**01 49 59.4**	**-0.4**
JKK2	**Kamakawa 2**	**14.51**	**11**	P	**P**	**01 50 04.0**	**-0.3**
IRIF	**Iriomote-Funau**	**14.62**	**252**	P	**P**	**01 50 04.4**	**-1.2**
ASAJ	**Asahikawa**	**14.73**	**10**	P	**P**	**01 50 06.2**	**-0.3**
	comp=Z,44nm,0.3s,baz=227,slow=14,SNR=300						
ASAJ				S	**S**	**01 52 40.5**	**+0.6**
	comp=Z,5.0nm,0.3s,baz=269,slow=3.2,SNR=3.0						
ASAJ				ScP		01 57 40.8	
	comp=Z,1.9nm,0.3s,baz=252,slow=7.3,SNR=6.5						
JMP	**Maruseppu**	**14.75**	**12**	P	**P**	**01 50 07.0**	**+0.2**
YUK	**Yuzh-Kuril'sk**	**15.36**	**19**	*e*P	**P**	**01 50 11.4**	**-1.6**
YUK				*i* S	**S**	**01 52 53.5**	**+1.5**
YUK				pmax	pmax		
	comp=Z,23nm,1.0s						
YUK				pmax	pmax		
	comp=N,21μm,3.0s						
YUK				pmax	pmax		
	comp=E,6μm,1.0s						
YUK				pmax	pmax		
	comp=Z,4μm,0.5s						
YUK				pmax	pmax		
	comp=N,3μm,0.6s						
YUK				pmax	pmax		
	comp=E,870nm,0.6s						
YUK				smax			
	comp=E,15μm,3.0s						
YUK				smax			
	comp=N,10μm,2.0s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,3μm,0.5s						
YUK				MLR	MLR		
	comp=Z,8μm,15.0s						
YUK				MLR	MLR		
	comp=N,8μm,16.0s						
YUK				MLR	MLR		
	comp=E,6μm,13.0s						
SSE	**Sheshan**	**15.47**	**280**	P	**P**	**01 50 12.8**	**-1.4**
SSE				S	**S**	**01 52 54.5**	**+0.4**
SSE				PCP	PcP	01 54 49.4	-0.1
SSE				PCS		01 58 25.3	
SSE				SCS	ScS	02 01 23.4	+3.7
SSE				AMB	AMB		
	comp=Z,323nm,0.9s						
SSE				AMB	AMB		
	comp=Z,2μm,11.2s						
SSE	**Sheshan**	**15.47**	**280**	P	**P**	**01 50 12.7**	**-1.5**
	comp=Z,323nm,0.9s						
SSE				S	**S**	**01 52 54.5**	**+0.4**
SSE				PcP	PcP	01 54 49.4	-0.1
SSE				PcS		01 58 25.3	
SSE				ScS	ScS	02 01 23.4	+3.7
TATO	**Taipei**	**16.26**	**258**	*e*P	**P**	**01 50 21.3**	**-1.0**
	comp=Z,602nm,0.9s						
NACB	**Ninganchiao**	**16.47**	**255**	*e*P	**P**	**01 50 21.7**	**-2.6**
MDJ	**Mudanjiang**	**16.71**	**336**	P	**P**	**01 50 26.8**	**+0.1**
MDJ				XP		01 52 06.1	
MDJ				S	**S**	**01 53 20.0**	**+2.8**
MDJ				PCP	PcP	01 54 49.3	-2.1
MDJ				SCP		01 57 46.3	
MDJ				PCS		01 58 24.9	
MDJ				SCS	ScS	02 01 24.8	+1.7
MDJ				AMB	AMB		
	comp=Z,547nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,597nm,4.4s						
MDJ	**Mudanjiang**	**16.71**	**336**	*e*P	**P**	**01 50 26.8**	**+0.1**
	comp=Z,536nm,0.8s						
GUMO	**Guam**	**16.86**	**160**	*e*P	**P**	**01 50 27.7**	**-0.7**
GUMO				pmax	pmax		
	comp=Z,780nm,0.8s						
GUMO	**Guam**	**16.86**	**160**	*e*P	**P**	**01 50 27.7**	**-0.7**
	comp=Z,780nm,0.8s						
KUR	**Kuril'sk**	**17.06**	**22**	⇑*i*P	**P**	**01 50 28.3**	**-1.8**
KUR				*i* S	**S**	**01 53 28.0**	**+4.6**

YSS				*e*ScP		01 57 46.7
CN2	**Changchun**	**17.80**	**326**	*e*P	**P**	**01 50 37.8 +0.1**
CN2				*e*XP		01 52 23.3
CN2				*e*S	**S**	**01 53 37.3 +0.4**
CN2				SCP		01 57 46.3
CN2				SCS	ScS	02 01 26.4 +0.1
QZH	**Quanzhou**	**18.75**	**260⇓**	*i*P	**P**	**01 50 46.3 -0.8**
QZH				XP		01 52 35.5
QZH				S	**S**	**01 53 56.0 +2.2**
QZH				AMB	AMB	
	comp=Z,2μm,0.9s					
QZH				AMB	AMB	
	comp=Z,8μm,12.5s					
TIA	**Tai'an**	**19.50**	**295**	⇓P	**P**	**01 50 53.8 -0.5**
TIA				XP		01 52 41.5
TIA				S	**S**	**01 54 06.5 -0.2**
TIA				SCP		01 57 50.8
TIA				AMB	AMB	
	comp=Z,3μm,9.0s					
UGL	**Uglegorsk**	**19.55**	**6**	*i* P	**P**	**01 50 52.8 -1.9**
UGL				*i* S	**S**	**01 54 08.0 +0.4**
UGL				pmax	pmax	
	comp=N,6μm,4.0s					
UGL				pmax	pmax	
	comp=Z,12μm,4.0s					
UGL				pmax	pmax	
	comp=E,5μm,1.0s					
UGL				pmax	pmax	
	comp=N,2μm,0.8s					
UGL				pmax	pmax	
	comp=E,4μm,0.8s					
UGL				pmax	pmax	
	comp=Z,3μm,0.8s					
UGL				smax		
	comp=E,10μm,9.0s					
UGL				smax		
	comp=N,7μm,12.0s					
UGL				MLR	MLR	
	comp=Z,2μm,15.0s					
UGL				MLR	MLR	
	comp=N,2μm,14.0s					
UGL				MLR	MLR	
	comp=E,2μm,16.0s					
CVP	**Callao Caves**	**19.70**	**237⇑**	*e*P	**P**	**01 50 56.0 -0.4**
KLR	**Kul'dur**	**20.34**	**346**	*i* P	**P**	**01 51 01.3 -0.9**
KLR				*e*		01 52 49.5
KLR				*e*S	**S**	**01 54 21.5 +0.5**
KLR				*e*		02 01 32.8
KLR				pmax	pmax	
	comp=N,160nm,1.4s					
KLR				pmax	pmax	
	comp=E,130nm,1.4s					
KLR				pmax	pmax	
	comp=Z,300nm,1.4s					
KLR				smax		
	comp=E,1540μm,2.6s					
KLR				smax		
	comp=E,850nm,2.6s					
KLR				smax		
	comp=N,6μm,15.0s					
KLR				smax		
	comp=E,10μm,15.0s					
KLR				MLR	MLR	
	comp=Z,4μm,12.5s					
WHN	**Wuhan**	**21.36**	**279**	PR		01 51 12.5
WHN				XP		01 53 07.0
WHN				S	**S**	**01 54 40.0 +1.6**
WHN				AMB	AMB	
	comp=Z,4μm,6.0s					
BJT	**Baijiatuau**	**21.37**	**305⇓**	*e*P	**P**	**01 51 10.9 -1.3**
BJT				pmax	pmax	
	comp=Z,1μm,1.3s					
BJT	**Baijiatuau**	**21.37**	**305⇓**	*e*P	**P**	**01 51 10.9 -1.4**
	comp=Z,1μm,1.3s,mb6.1					
BJI	**Beijing**	**21.38**	**305**	*e*P	**P**	**01 51 11.9 -0.4**
BJI				XP		01 53 08.0
BJI				S	**S**	**01 54 37.1 -1.5**
BJI				PCP	PcP	01 54 56.0 -3.7
BJI				SCP		01 57 53.5
BJI				SCS	ScS	02 01 38.3 0.0
BJI				AMB	AMB	
	comp=Z,528nm,1.2s,mb5.8					
BJI				AMB	AMB	
	comp=Z,4μm,7.7s					
BJI	**Beijing**	**21.38**	**305**	*e*P	**P**	**01 51 11.9 -0.4**
BJI				*SP		01 53 08.0
BJI				S	**S**	**01 54 37.1 -1.5**
BJI						01 54 56.0
BJI						02 01 38.2
BJI				pmax	pmax	
	comp=Z,528nm,1.2s,mb5.8					
BJI	**Beijing**	**21.38**	**305**	*e*P	**P**	**01 51 11.9 -0.4**
	comp=Z,528nm,1.2s,mb5.8					
BJI				sP		01 53 08.0
BJI				S	**S**	**01 54 37.1 -1.5**
BJI				PcP	PcP	01 54 56.0 -3.7
BJI				ScP		01 57 53.5
BJI				ScS	ScS	02 01 38.2 -0.1
PCPH	**Palayan**	**21.64**	**234⇑**	*e*P	**P**	**01 51 14.5 -0.4**
HKC	**Hong Kong**	**23.48**	**258**	P	**P**	**01 51 34.0 +2.3**
GZH	**Guangzhou**	**23.89**	**260**	P	**P**	**01 51 30.1 -5.3**
HIA	**Hailar**	**24.49**	**329⇓**	*i*P	**P**	**01 51 40.4 -0.2**
HIA				pmax	pmax	
	comp=Z,176nm,0.7s					
HIA	**Hailar**	**24.49**	**329⇓**	*i*P	**P**	**01 51 40.4 -0.2**
	comp=Z,176nm,0.7s,mb5.6					
SKR	**Severo-Kuril's**	**24.63**	**27**	*e*P	**P**	**01 51 38.4 -3.5**
SKR				*e*PPP		01 53 40.0
SKR				pmax	pmax	
	comp=N,2μm,4.0s					
SKR				pmax	pmax	
	comp=E,2μm,4.0s					
SKR				pmax	pmax	
	comp=Z,2μm,4.0s					
SKR				pmax	pmax	
	comp=N,400nm,1.0s					
SKR				pmax	pmax	
	comp=E,630nm,1.0s					
SKR				pmax	pmax	
	comp=Z,900nm,1.0s,mb6.2					
ENH	**Enshi**	**25.57**	**279⇓**	*e*P	**P**	**01 51 49.4 -1.1**
	comp=Z,567nm,1.0s,mb6.0					
ENH				*e*ScP		01 58 06.3
XAN	**Xi'an**	**25.90**	**288**	P	**P**	**01 51 52.5 -0.9**
XAN				XP	sP	01 53 53.0 -4.4
XAN				S	**S**	**01 55 47.6 -4.5**
XAN				AMB	AMB	
	comp=Z,852nm,1.2s,mb6.0					
BTO	**Baotou**	**26.01**	**303**	*e*P	**P**	**01 51 54.0 -0.4**
BTO				S	**S**	**01 55 51.8 -2.0**
BTO				AMB	AMB	
	comp=Z,140nm,0.9s,mb5.4					
PET	**Petropavlovsk**	**27.45**	**26***j*	*i*P	**P**	**01 52 07.0 +0.1**
PET				*e*PP		01 53 18.4
PET				*e*S	**S**	**01 56 15.7 -0.6**
PET				*e*		02 02 04.5
PET				pmax	pmax	
	comp=N,2μm,2.2s					
PET				pmax	pmax	
	comp=Z,3μm,2.2s,mb6.3					
PET				pmax	pmax	
	comp=E,1μm,3.2s					
PET				pmax	pmax	
	comp=Z,622nm,1.6s,mb5.8					
PET				pmax	pmax	
	comp=N,341nm,1.1s					
PET				pmax	pmax	
	comp=E,185nm,1.0s					
PET				pmax	pmax	
	comp=Z,800nm,15.6s					
PET				pmax	pmax	
	comp=N,500nm,17.0s					
PET				pmax	pmax	
	comp=E,300nm,17.8s					
PET				pmax	pmax	
	comp=Z,1μm,3.2s					
PET				pmax	pmax	
	comp=Z,121nm,1.4s,mb5.1					
PET				pmax	pmax	
	comp=Z,600nm,11.1s					
PET				smax		
	comp=N,2μm,6.1s					
PET				smax		
	comp=N,1μm,21.5s					
PET				smax		
	comp=E,500nm,19.5s					
PET				pmax	pmax	
	comp=Z,145nm,1.3s,mb5.2					
PET				MLR	MLR	
	comp=Z,2μm,15.0s					
PET				MLR	MLR	
	comp=N,2μm,17.0s					
PET				MLR	MLR	
	comp=Z,1μm,16.0s					
PET				MLR	MLR	
	comp=E,900nm,15.0s					
PET				MLR	MLR	
	comp=N,1μm,17.0s					
PET	**Petropavlovsk**	**27.45**	**26**	*e*P	**P**	**01 52 06.0 -0.9**
	comp=N,2μm,1.6s,mb6.3					
QIZ	**Qiongzhong**	**28.54**	**255**	P	**P**	**01 52 17.0 +0.2**
QIZ				AP		01 53 32.1
QIZ				XP	sP	01 54 20.3 -2.2
QIZ				S	**S**	**01 56 35.3 +1.6**
QIZ				XS		01 58 44.9
QIZ				PCS		01 58 57.3
QIZ				AMB	AMB	
	comp=Z,154nm,1.3s,mb5.2					
QIZ				AMB	AMB	
	comp=Z,2μm,3.5s					
QIZ	**Qiongzhong**	**28.54**	**255⇓**	*e*P	**P**	**01 52 16.9 0.0**
	comp=Z,252nm,1.1s,mb5.5					
GYA	**Guiyang**	**28.68**	**272⇓**	*i*P	**P**	**01 52 17.8 -0.3**
GYA				AP		01 53 33.8
GYA				XP	sP	01 54 18.0 -5.8
GYA				S	**S**	**01 56 36.3 +0.4**
GYA				SCP		01 58 19.6
GYA				SCS	ScS	02 02 11.6 +2.6
GYA				AMB	AMB	
	comp=Z,280nm,0.9s,mb5.6					
GYA				AMB	AMB	
	comp=Z,2μm,5.4s					
CLNS	**Chul'man**	**28.95**	**344**	*e*P	**P**	**01 52 21.2 +1.1**
CLNS				*e*S	**S**	**01 56 38.9 -0.8**
CLNS				pmax	pmax	
	comp=Z,267nm,0.8s,mb5.6					
CLNS				pmax	pmax	
	comp=N,227nm,0.9s					
CLNS				pmax	pmax	
	comp=E,65nm,0.8s					
CLNS				pmax	pmax	
	comp=N,109nm,1.1s					
CLNS				pmax	pmax	
	comp=Z,54nm,1.1s,mb4.8					
CLNS				pmax	pmax	
	comp=E,41nm,0.7s					
CLNS				smax		
	comp=N,1μm,11.6s					
CLNS				smax		
	comp=Z,145nm,7.4s					
CLNS				smax		
	comp=E,938nm,12.0s					
LZH	**Lanzhou**	**30.13**	**292**	⇓P	**P**	**01 52 29.8 -0.7**
LZH				AP	pP	01 53 46.8 -1.0
LZH				XP	sP	01 54 34.3 -2.6
LZH				S	**S**	**01 56 58.0 -0.3**
LZH				SCP		01 58 22.8
LZH				XS		01 59 13.5
LZH				SS	SS	01 59 24.3 -2.2
LZH				SCS	ScS	02 02 17.0 +1.2
LZH				AMB	AMB	
	comp=Z,1μm,1.3s,mb6.0					
LZH				AMB	AMB	
	comp=Z,2μm,5.3s					
LZH	**Lanzhou**	**30.13**	**292**	⇓P	**P**	**01 52 29.8 -0.7**
LZH						01 53 41.9
LZH				*PP	pP	01 53 46.8 -1.0
LZH				*SP	sP	01 54 34.2 -2.7
LZH				S	**S**	**01 56 58.0 -0.3**
LZH				*SS		01 59 13.5
LZH				SS	SS	01 59 24.2 -2.3
LZH						02 02 17.0
LZH				pmax	pmax	
	comp=Z,1μm,1.3s,mb6.0					
LZH	**Lanzhou**	**30.13**	**292**	⇓P	**P**	**01 52 29.8 -0.7**
	comp=Z,1μm,1.3s,mb6.0					
LZH				PP	PP	01 53 41.9 -8.2
LZH				pP	pP	01 53 46.8 -1.0
LZH				sP	sP	01 54 34.2 -2.7
LZH				S	**S**	**01 56 58.0 -0.3**
LZH				ScP		01 58 22.8
LZH				sS		01 59 13.5
LZH				SS	SS	01 59 24.2 -2.3
LZH				ScS	ScS	02 02 17.0 +1.2
CD2	**Chengdu**	**30.41**	**281**	P	**P**	**01 52 32.4 -0.6**
CD2				PP	PP	01 53 57.5 +4.3
CD2				XP	sP	01 54 33.3 -6.1
CD2				S	**S**	**01 57 02.0 -0.7**
CD2				XS		01 59 19.4
CD2				AMB	AMB	
	comp=Z,1μm,0.7s,mb6.4					
ULN	**Ulaanbaatar**	**30.56**	**315⇓**	*e*P	**P**	**01 52 34.2 +0.1**
ULN				pmax	pmax	
	comp=Z,328nm,1.0s,mb5.6					
ULN	**Ulaanbaatar**	**30.56**	**315⇓**	*e*P	**P**	**01 52 34.2 0.0**
	comp=Z,328nm,1.0s,mb5.6					
ULN				*e*ScP		01 58 22.6
SONM	**Songino Array**	**30.95**	**315**	P	**P**	**01 52 37.4 -0.1**
	comp=Z,95nm,0.6s,mb5.3,baz=131,slow=8.9,SNR=164					
SONM				ScP		01 58 23.3
	comp=Z,53nm,0.9s,baz=139,slow=2.9,SNR=16					
KKM	**Kota Kinabalu**	**31.84**	**227**	*e*P	**P**	**01 52 45.5 +0.1**
KKM	**Kota Kinabalu**	**31.84**	**227**	P	**P**	**01 52 45.7 +0.3**
TSM	**Tawau**	**32.19**	**222**	P	**P**	**01 52 48.1 -0.3**
KMI	**Kunming**	**32.45**	**271**	P	**P**	**01 52 50.8 +0.3**
KMI				AP	pP	01 54 10.8 +1.8
KMI				XP	sP	01 54 53.3 -4.1
KMI				S	**S**	**01 57 36.3 +2.0**
KMI				SCP		01 58 30.0
KMI				XS		01 59 54.9
KMI				SS	SS	02 00 14.0 +0.3
KMI				SSS	SSS	02 00 49.0 -14
KMI				AMB	AMB	
	comp=Z,366nm,1.1s,mb5.6					
KMI	**Kunming**	**32.45**	**271**	P	**P**	**01 52 50.7 +0.2**
KMI				*PP	pP	01 54 10.8 +1.8
KMI				*SP	sP	01 54 53.2 -4.2
KMI				S	**S**	**01 57 36.3 +2.0**
KMI				*SS		01 59 54.9
KMI				SS	SS	02 00 14.0 +0.3
KMI				pmax	pmax	
	comp=Z,366nm,1.1s,mb5.6					
KMI				MLR	MLR	
	comp=Z,2μm,14.5s					
KMI	**Kunming**	**32.45**	**271**	P	**P**	**01 52 50.7 +0.2**
	comp=Z,366nm,1.1s,mb5.6					
KMI				pP	pP	01 54 10.8 +1.8
KMI				sP	sP	01 54 53.2 -4.2
KMI				S	**S**	**01 57 36.3 +2.0**
KMI				ScP		01 58 30.0
KMI				sS		01 59 54.9
KMI				SS	SS	02 00 14.0 +0.3
KMI				SSS	SSS	02 00 49.0 -14
KMI				LR	LR	
	comp=Z,2μm,14.5s					
YAK	**Yakutsk**	**32.97**	**352***ce*	P	**P**	**01 52 54.0 -0.5**
YAK				*i* S	**S**	**01 57 36.8 -5.2**
YAK				*i*		02 02 25.0
YAK				pmax	pmax	
	comp=Z,201nm,0.8s,mb5.5					
YAK				pmax	pmax	
	comp=N,63nm,1.1s					
YAK				pmax	pmax	
	comp=E,22nm,0.9s					
YAK				smax		
	comp=E,67nm,1.0s					
YAK				smax		
	comp=Z,21nm,0.8s					
YAK				smax		
	comp=N,65nm,1.1s					
YAK	**Yakutsk**	**32.97**	**352**	*e*P	**P**	**01 52 53.5 -1.0**
	comp=N,392nm,0.7s,mb5.8					
YAK				*e*		01 54 06.7
BOD	**Bodaibo**	**33.09**	**336**	*e*P	**P**	**01 52 55.3 -0.3**
BOD				pmax	pmax	
	comp=Z,168nm,0.9s,mb5.4					
GTA	**Gaotai**	**33.52**	**298⇓**	*i*P	**P**	**01 52 59.3 -0.1**
GTA				AP	pP	01 54 19.9 +1.4
GTA				PP	PP	01 54 30.0 +3.4
GTA				PCP	PcP	01 55 30.9 +1.7
GTA				S	**S**	**01 57 47.4 -3.2**
GTA				SCP		01 58 32.3
GTA				PCS		01 59 15.3
GTA				XS		02 00 11.5
GTA				SS	SS	02 00 32.5 -2.2
GTA				SCS	ScS	02 02 33.9 +0.8
GTA				AMB	AMB	
	comp=Z,799nm,0.9s,mb6.0					
GTA				AMB	AMB	
	comp=Z,2μm,11.4s					
ZAK	**Zakamensk**	**33.87**	**318**	*e*P	**P**	**01 53 02.1 -0.1**
ZAK				*e*		01 57 56.6
ZAK				pmax	pmax	
	comp=Z,170nm,1.0s,mb5.3					
FX1	**Attu Island--F**	**34.10**	**37**	P	**P**	**01 53 05.8 +1.6**
	comp=Z,351nm,0.6s,mb5.9,baz=263,slow=5.2,SNR=38					
FX1				PcP	PcP	01 55 31.5 +0.8
	comp=Z,49nm,0.4s,baz=13,slow=23,SNR=5.9					
FX1	**Attu Island--F**	**34.10**	**37**	*e*P	**P**	**01 53 05.3 +1.1**
FX1				*e*PcP	PcP	01 55 31.4 +0.6
IRK	**Irkutsk**	**34.12**	**321**	*e*P	**P**	**01 53 04.3 -0.1**
IRK				*e*		01 54 36.3
IRK				pmax	pmax	
	comp=Z,233nm,0.8s,mb5.6					
TLY	**Talaya**	**34.21**	**320***d*	*i*P	**P**	**01 53 05.7 +0.6**
TLY				*e*	pP	01 54 27.7 +3.1
TLY				*e*		01 55 07.3
TLY				*e*S	**S**	**01 58 00.0 -1.1**
TLY				pmax	pmax	
	comp=Z,218nm,0.7s,mb5.6					
TLY				MLR	MLR	
	comp=Z,1μm,16.0s					
TLY	**Talaya**	**34.21**	**320⇓**	*e*P	**P**	**01 53 05.6 +0.5**
	comp=Z,250nm,0.6s,mb5.7					
TLY				*e*ScP		01 58 35.3
SEY	**Seymchan**	**34.41**	**11**	*i* P	**P**	**01 53 08.9 +2.2**
SEY				*e*		01 54 34.9
SEY				*SP	sP	01 55 16.1 +2.0
SEY				*e*		01 55 31.2
SEY				*e*S	**S**	**01 58 08.4 +4.4**
SEY				*SS		02 00 25.9
SEY				*e*SS	SS	02 00 52.3 +0.4
SEY				*e*		02 02 44.6
SEY				pmax	pmax	
	comp=Z,300nm,0.9s,mb5.6					
SEY				pmax	pmax	
	comp=N,130nm,0.7s					
SMY	**Shemya**	**34.52**	**38**	*e*P	**P**	**01 53 08.7 +1.0**
KKTK	**Khon Kaen**	**35.70**	**256**	⇓P	**P**	**01 53 18.0 0.0**
	comp=N,3μm,1.0s					
BUNI	**Buntu Taipa**	**37.65**	**212**	*e*P	**P**	**01 53 36.9 +2.8**
LKP	**Lekhapani**	**37.67**	**277**	*e*P	**P**	**01 53 33.5 -0.7**
CHG	**Chiang Mai**	**37.94**	**263**	⇓P	**P**	**01 53 36.4 -0.1**
	comp=N,150nm,1.1s,mb5.2					
CM31	**Chiang Mai Arr**	**38.09**	**262**	*e*P	**P**	**01 53 37.8 +0.1**
	comp=N,165nm,0.7s,mb5.5					
CMAR	**Chiang Mai Arr**	**38.09**	**262**	P	**P**	**01 53 37.8 +0.1**
	comp=N,123nm,0.9s,mb5.2,baz=47,slow=8.8,SNR=219					
CMAR				PcP	PcP	01 55 44.0 +0.9
	comp=N,26nm,1.1s,baz=9.2,slow=1.5,SNR=5.1					
CMAR				ScP		01 58 50.5
	comp=N,12nm,1.0s,baz=36,slow=3.5,SNR=6.0					
NST	**Nakhon Sawan**	**38.30**	**257**	⇑P	**P**	**01 53 39.7 +0.3**
	comp=N,303nm,1.0s,mb5.6					
NINI	**Niniconang**	**38.58**	**212**	*e*P	**P**	**01 53 41.4 -0.4**
KSM	**Kuching**	**39.12**	**230**	*e*P	**P**	**01 53 46.8 +0.6**
KIWB	**Kanaga Island**	**39.15**	**43**	*e*P	**P**	**01 53 46.4 +0.4**
PMG	**Port Moresby**	**39.60**	**167**	*e*P	**P**	**01 53 48.9 -1.2**
PMG				pmax	pmax	
	comp=Z,63nm,0.8s					
PMG	**Port Moresby**	**39.60**	**167**	P	**P**	**01 53 49.5 -0.7**
	comp=Z,47nm,0.8s,mb4.9,baz=354,slow=5.8,SNR=21					
PMG				ScP		01 58 57.2
	comp=Z,31nm,1.1s,baz=358,slow=9.9,SNR=3.5					
PMG				S	**S**	**01 59 19.0 -3.0**
	comp=Z,28nm,1.1s,baz=244,slow=21,SNR=6.0					
PMG	**Port Moresby**	**39.60**	**167**	*e*P	**P**	**01 53 48.9 -1.2**
	comp=Z,63nm,0.8s,mb5.0					
GSTR	**Great Sitkin T**	**39.86**	**43**	*e*P	**P**	**01 53 52.4 +0.5**
LSA	**Lhasa**	**41.36**	**282**	P	**P**	**01 54 05.6 +1.4**
LSA				S	**S**	**01 59 46.1 -1.3**
LSA				AMB	AMB	
	comp=Z,680nm,0.8s,mb6.0					
LSA				AMB	AMB	
	comp=Z,1μm,11.0s					
LSA	**Lhasa**	**41.36**	**282⇓**	*e*P	**P**	**01 54 05.2 +1.0**
	comp=Z,137nm,0.7s,mb5.4					
BILL	**Bilibino**	**41.67**	**15***c*	*i*P	**P**	**01 54 06.1 -0.1**
BILL				*e*		01 55 55.5
BILL				*i* S	**S**	**01 59 50.1 -1.3**
BILL				*i* SS	SS	02 03 20.7 +13
BILL				pmax	pmax	
	comp=Z,1μm,0.9s,mb6.2					
BILL				MLR	MLR	
	comp=Z,400nm,18.0s					
BILL	**Bilibino**	**41.67**	**15⇑**	*e*P	**P**	**01 54 06.2 0.0**
	comp=Z,2μm,1.2s,mb6.2					
BILL				*e*ScP		01 59 01.8
SHL	**Shillong**	**41.75**	**276**	*i* P	**P**	**01 54 07.5 0.0**
TIXI	**Tiksi**	**42.43**	**355⇑**	*i*P	**P**	**01 54 11.6 -0.7**
SNG	**Songkhla**	**42.44**	**246**	P	**P**	**01 54 13.0 -0.1**
	comp=Z,500nm,0.9s,mb5.8					
KAKA	**Kakadu**	**42.58**	**190⇓**	*i*P	**P**	**01 54 12.6 -1.6**
	comp=Z,152nm,0.9s,mb5.3					
KAKA				*e*SCP		01 59 08.7
AGT	**Agartala**	**42.81**	**274⇓**	*i*P	**P**	**01 54 17.0 +1.1**
AGT				*i*		01 55 31.0
WMQ	**Urumqi**	**42.84**	**304**	⇓P	**P**	**01 54 16.8 +0.9**
WMQ				AP	pP	01 55 37.8 -0.6
WMQ				PCP	PcP	01 55 59.9 +1.5
WMQ				PP	PP	01 56 06.3 +2.8
WMQ				XP	sP	01 56 24.0 -1.7
WMQ				SCP		01 59 10.3
WMQ				PCS		01 59 51.6
WMQ				S	**S**	**02 00 10.0 +1.5**
WMQ				XS		02 02 33.0
WMQ				SS	SS	02 03 28.8 +0.8
WMQ				AMB	AMB	
	comp=Z,68nm,1.0s,mb4.9					
WMQ	**Urumqi**	**42.84**	**304**	P	**P**	**01 54 16.1 +0.1**
WMQ				S	**S**	**02 00 09.1 +0.5**
WMQ				ScS	ScS	02 03 28.8 +1.7
KULM	**Kulim**	**43.56**	**244**	*e*P	**P**	**01 54 21.7 -0.3**
KGM	**Kluang**	**43.64**	**238**	P	**P**	**01 54 23.2 +0.6**
IPM	**Ipoh**	**43.71**	**243**	P	**P**	**01 54 23.3 +0.1**
KEDI	**Kedomdong**	**43.86**	**214⇓**	*e*P	**P**	**01 54 23.0 -1.3**
KEDI				pmax	pmax	
	comp=Z,200nm,1.1s,mb5.4					
KEDI	**Kedomdong**	**43.86**	**214⇓**	*e*P	**P**	**01 54 23.0 -1.3**
	comp=Z,200nm,1.1s,mb5.4					
RATI	**Rata**	**44.34**	**214⇑**	*e*P	**P**	**01 54 28.8 +0.6**
	comp=Z,200nm,0.3s,mb5.9					
NIKO	**Nikolski**	**44.35**	**43**	*e*P	**P**	**01 54 26.5 -1.2**
KELI	**Kelakatan**	**44.43**	**216⇑**	*e*P	**P**	**01 54 28.3 -0.6**
	comp=Z,209nm,1.5s,mb5.2					
SRDI	**Scrawed**	**44.83**	**216⇓**	*e*P	**P**	**01 54 30.9 -1.1**
SRDI				pmax	pmax	
	comp=Z,90nm,1.1s,mb5.0					
SRDI	**Scrawed**	**44.83**	**216⇓**	*e*P	**P**	**01 54 30.9 -1.1**
	comp=Z,90nm,1.1s,mb5.0					
ZAL	**Zalesovo**	**45.76**	**318**	P	**P**	**01 54 37.7 -1.0**
ZAL						01 56 08.3
ZAL				S	**S**	**02 00 48.0 -1.6**
ZAL	**Zalesovo**	**45.76**	**318**	P	**P**	**01 54 37.7 -1.0**
	comp=Z,104nm,0.8s,mb5.2,baz=19,slow=8.4,SNR=271					
ZAL				PcP	PcP	01 56 08.3 -0.1
	comp=Z,19nm,0.7s,baz=316,slow=3.9,SNR=3.4					
ZAL				ScP		01 59 18.6
	comp=Z,11nm,0.8s,baz=21,slow=7.9,SNR=3.6					
ZAL				S	**S**	**02 00 48.0 -1.6**
	comp=Z,6.4nm,0.7s,baz=142,slow=19,SNR=6.5					
ZAL	**Zalesovo**	**45.76**	**318**	P	**P**	**01 54 37.7 -1.0**
ZAL				PcP	PcP	01 56 08.3 -0.1
ZAL				ScP		01 59 18.6
ZAL				S	**S**	**02 00 48.0 -1.6**
CAL	**Calcutta**	**45.78**	**273**	*e*P	**P**	**01 54 39.1 -0.3**
UNV	**Unalaska Valle**	**45.88**	**42**	*e*P	**P**	**01 54 39.0 -0.7**
	comp=Z,379nm,0.8s,mb5.8					
JIRN	**Jiri**	**46.08**	**281**	*e*P	**P**	**01 54 42.3 +0.8**
	comp=Z,2μm,0.7s,mb6.4					
GUN	**Gumba**	**46.27**	**282**	*e*P	**P**	**01 54 43.6 +0.5**
	comp=Z,249nm,0.8s,mb5.6					
AKUT	**Akutan**	**46.36**	**42**	*e*P	**P**	**01 54 44.6 +1.3**

MKAR Makanchi Array 46.72 308 P **P** **01 54 45.7 -0.5**
MKAR pP 01 56 10.6 +0.4
MKAR S **S** **02 01 02.2 -0.9**
MKAR Makanchi Array 46.72 308 P **P** **01 54 45.7 -0.5**
comp=Z,164nm,0.7s,mb5.5,baz=85,slow=9.6,SNR=283
MKAR PcP PcP 01 56 10.6 -1.3
comp=Z,85nm,1.0s,baz=90,slow=4.9,SNR=4.8
MKAR ScP 01 59 24.1
comp=Z,56nm,0.8s,baz=79,slow=6.2,SNR=12
MKAR S **S** **02 01 02.2 -1.0**
comp=Z,6.6nm,0.8s,baz=90,slow=19,SNR=4.0
MKAR Makanchi Array 46.72 308 P **P** **01 54 45.7 -0.5**
MKAR PcP PcP 01 56 10.6 -1.3
MKAR ScP 01 59 24.1
MKAR S **S** **02 01 02.2 -1.0**
PKI Pulchoki 46.77 281 *e*P **P** **01 54 46.7 -0.2**
comp=Z,2μm,1.1s,mb6.2
KKN Kakani 46.82 282 *e*P **P** **01 54 47.3 0.0**
comp=Z,2μm,1.0s,mb6.4
DMN Daman 47.02 281 *e*P **P** **01 54 48.8 0.0**
comp=Z,1μm,0.9s,mb6.2
GKN Gorkha 47.31 282 *e*P **P** **01 54 50.8 -0.2**
comp=Z,3μm,1.2s,mb6.5
PENI Pendagan 47.76 228⇓ *e*P **P** **01 54 50.4 -4.2**
PULI Pulasari 47.83 227⇑ *e*P **P** **01 54 51.2 -4.0**
KOLN Koldanda 48.25 282 *e*P **P** **01 54 58.3 +0.1**
comp=Z,2μm,0.9s,mb6.5
TNA Tin City 48.31 26⇑ *e*P **P** **01 54 57.9 -0.2**
comp=Z,395nm,1.4s,mb5.5
PASI Pasiripis 48.34 227 *e*P **P** **01 54 54.7 -4.3**
BWNR Bhubaneshwar 48.78 272 *e*P **P** **01 55 02.0 -0.3**
BWNR *e* 01 55 09.5
comp=Z,472nm,1.4s
FITZ Fitzroy Crossi 49.19 197⇓ *i*P **P** **01 55 04.3 -1.0**
comp=Z,116nm,0.8s,mb5.3
FITZ *e*pP pP 01 56 22.5 -7.8
FITZ *e*PP PP 01 57 12.2 +8.5
FITZ *e*SCP 01 59 36.7
FITZ *e*S **S** **02 01 35.5 -2.0**
FITZ *e*SCS ScS 02 04 03.7 -5.1
FITZ *e* 02 07 10.7
FITZ Fitzroy Crossi 49.19 197 P **P** **01 55 04.4 -0.9**
comp=Z,142nm,0.8s,mb5.4,baz=19,slow=7.4,SNR=91
FITZ pP pP 01 56 27.8 -2.5
comp=Z,79nm,1.0s,baz=26,slow=9.7,SNR=3.1
FITZ S **S** **02 01 33.6 -4.0**
comp=Z,14nm,1.0s,baz=185,slow=16,SNR=4.1
WRAB Tennant Creek 49.49 186 *e*P **P** **01 55 05.4 -2.2**
WRAB pmax pmax
comp=Z,302nm,1.0s,mb5.6
WRAB Tennant Creek 49.49 186 *e*P **P** **01 55 05.4 -2.2**
comp=Z,302nm,1.0s,mb5.6
WRAB *e* 01 56 37.4
WB2 Warramunga Arr 49.50 186⇑ *i*P **P** **01 55 05.6 -2.1**
WB2 *e*PCP pP 01 56 37.9 +5.1
WB2 *e*PP PP 01 57 14.2 +7.5
WB2 *e*SCP 01 59 35.4
WB2 *e*S **S** **02 01 37.4 -4.4**
WB2 *e*SCS ScS 02 04 05.4 -5.5
WB2 *e* 02 07 10.9
WRA Warramunga Arr 49.50 186 P **P** **01 55 06.0 -1.7**
WRA S **S** **02 01 34.8 -7.0**
WRA Warramunga Arr 49.50 186 P **P** **01 55 06.0 -1.7**
comp=Z,132nm,0.8s,mb5.3,baz=3.6,slow=7.9,SNR=428
WRA ScP 01 59 38.0
comp=Z,16nm,0.8s,baz=357,slow=4.5,SNR=7.1
WRA S **S** **02 01 34.8 -7.0**
comp=Z,4.9nm,0.7s,baz=8.1,slow=14,SNR=4.7
SDPT Sand Point 49.55 41 *e*P **P** **01 55 06.6 -1.0**
CTA Charters Tower 49.93 171⇑ *i*P **P** **01 55 10.0 -0.9**
comp=Z,38nm,0.9s,mb4.7
CTA *e*pP pP 01 56 36.4 +0.2
CTA *e*PP PP 01 57 19.1 +8.3
CTA *e*SCP 01 59 37.2
CTA *e*S **S** **02 01 44.4 -3.2**
CTA *e*SCS ScS 02 04 16.0 +2.2
CTA Charters Tower 49.93 171⇑ *i*P **P** **01 55 10.0 -0.9**
CTA *e**PP pP 01 56 36.4 +0.2
CTA *e* 01 57 19.1
CTA *e*S **S** **02 01 44.4 -3.2**
CTA *e* 02 04 16.0
CTA pmax pmax
comp=Z,38nm,0.9s
CTAO Charters Tower 49.93 171 *e*P **P** **01 55 09.6 -1.3**
CTAO pmax pmax
comp=Z,77nm,1.0s,mb5.0
CTAO Charters Tower 49.93 171 *e*P **P** **01 55 09.6 -1.2**
comp=Z,77nm,1.0s,mb5.0
PTH Pithoragarh 50.63 285 *e*P **P** **01 55 17.0 +1.0**
PTH *e* 02 02 00.0
LGTI Lohaghat 50.63 285 *e*P **P** **01 55 16.5 +0.5**
ULHL Ulahol 51.30 302 P **P** **01 55 20.7 0.0**
SNR=584
TKM2 Tokmak 2 51.69 303 P **P** **01 55 23.1 -0.5**
SNR=354
KSH Kashi 51.90 299 *i* PR 01 55 26.0
KSH *e*PCP PcP 01 56 31.0 -0.1
KSH *e*AP pP 01 56 49.1 -2.2
KSH *e*PP PP 01 57 30.0 +1.9
KSH *e*XP sP 01 57 34.3 -3.3
KSH *e*PPP PPP 01 58 52.0 +4.6
KSH *e*SCP 01 59 47.1
KSH *e*PCS 02 00 29.0
KSH *e*S **S** **02 02 15.5 +1.4**
KSH SCS ScS 02 04 29.0 +1.8
KSH XS 02 04 45.1
KSH *e*SS SS 02 06 00.0 +1.6
KSH AMB AMB
comp=Z,460nm,0.8s,mb5.8
VIS Vishakhapatnam 51.94 270 *e*P **P** **01 55 25.7 -0.1**
VIS *e* 01 55 30.0
comp=Z,725nm,0.9s
VIS *e*S **S** **02 02 12.8 -2.1**
KZA Kyzart 52.05 302 P **P** **01 55 27.2 +0.9**
SNR=39
KBK Karagaybulak 52.20 303 P **P** **01 55 27.3 -0.1**
SNR=21
DDI Dehra Dun 52.23 287 *e*P **P** **01 55 27.0 -0.8**
DDI *e* 01 55 29.5
CHMS Chumysh 52.30 303 P **P** **01 55 27.5 -0.6**
SNR=100
FRU Bishkek 52.41 303⇓ *i*P **P** **01 55 29.0 +0.1**
FRU *i* S **S** **02 02 22.0 +1.0**
FRU *i* 02 04 32.0
FRU pmax pmax
comp=Z,700nm,1.6s,mb5.6
FRU smax
comp=N,2μm,8.5s
FRU MLR MLR
comp=Z,1μm,17.0s
USP Ospenovka 52.44 304 P **P** **01 55 28.4 -0.7**
SNR=260
AAK Ala-Archa 52.53 303 P **P** **01 55 29.4 -0.4**
SNR=313
AAK Ala-Archa 52.53 303 *e*P **P** **01 55 28.2 -1.6**
AAK pmax pmax
comp=Z,83nm,1.8s,mb4.7
AAK Ala-Archa 52.53 303 *e*P **P** **01 55 28.2 -1.6**
comp=Z,83nm,1.8s,mb4.7
UCH Uchtor 52.58 302 P **P** **01 55 30.8 +0.7**
SNR=407
SVW2 Sparrevohn 52.69 34 *e*P **P** **01 55 30.6 0.0**
TTA Tatalina 52.69 31 *e*P **P** **01 55 30.3 -0.4**
SMLA Simla 52.76 288 *i* S **S** **02 02 20.8 -4.9**
SDNR Sundarnagar 52.82 289 *e*P **P** **01 55 31.2 -0.8**
SDNR *e*S **S** **02 02 27.8 +1.3**
EKS2 Erkin-Say 53.05 303 P **P** **01 55 33.1 -0.4**
SNR=221
AML Almayashu 53.19 302 P **P** **01 55 35.0 +0.4**
SNR=870
ASAR Alice Springs 53.23 186 P **P** **01 55 33.3 -1.8**
comp=Z,68nm,0.9s,mb4.9,baz=5.8,slow=6.4,SNR=189
ASAR PcP PcP 01 56 37.7 +1.4
comp=Z,18nm,0.8s,baz=4.7,slow=4.0,SNR=5.4
ASAR ScP 01 59 51.0
comp=Z,10nm,0.7s,baz=3.4,slow=4.6,SNR=5.0
ASAR S **S** **02 02 30.1 -2.0**
comp=Z,12nm,0.9s,baz=20,slow=18,SNR=9.6
ASPA Alice Springs 53.23 186⇓ *i*P **P** **01 55 33.2 -1.9**
ASPA *e*S **S** **02 02 27.9 -4.2**
JHNI Jhansi 53.27 281⇓ *i*P **P** **01 55 32.0 -3.3**
JHNI *e* 01 55 57.0
BHK Bhakra 53.30 289 *e*P **P** **01 55 37.4 +1.9**
BHK *e*S **S** **02 02 35.5 +2.6**

DLH Dalhousie 53.38 290 *e*P **P** **01 55 36.0 0.0**
DLH *e* 01 55 50.0
NDI New Delhi 53.39 285 *e*P **P** **01 55 34.0 -2.2**
NDI *e*S **S** **02 02 32.0 -2.2**
PONG Pong 53.54 290 *e*P **P** **01 55 35.0 -2.2**
PONG *e*S **S** **02 02 35.0 -1.1**
THN Thein Dam 53.61 290 *e*P **P** **01 55 35.2 -2.5**
THN *e* 02 02 27.8
MBWA Marble Bar 53.81 202⇓ *e*P **P** **01 55 37.6 -1.7**
comp=Z,190nm,0.9s,mb5.3
KDAK Kodiak Island 54.04 38 *e*P **P** **01 55 39.9 -0.5**
IMA Indian Mountai 54.10 28 P **P** **01 55 40.9 +0.1**
IMA pmax pmax
comp=Z,2μm,1.2s,mb6.1
IMA Indian Mountai 54.10 28 *e*P **P** **01 55 40.5 -0.3**
CHKZ Chkalovo 54.12 317 P **P** **01 55 39.5 -1.6**
CHKZ pmax pmax
comp=Z,223nm,0.9s,mb5.4
CHKZ Chkalovo 54.12 317⇓ *e*P **P** **01 55 39.3 -1.8**
comp=Z,23nm,0.3s,mb4.9
BVA0 Borovoye Array 54.29 316 P **P** **01 55 41.3 -1.0**
BVA0 pmax pmax
comp=Z,54nm,1.0s,mb4.7
BVAR Borovoye Array 54.29 316 P **P** **01 55 41.3 -1.0**
comp=Z,257nm,0.5s,mb5.7,baz=94,slow=7.8,SNR=966
BVAR PcP PcP 01 56 39.2 -0.8
comp=Z,36nm,0.6s,baz=63,slow=6.6,SNR=4.5
BVAR ScP 01 59 55.1
comp=Z,28nm,0.7s,baz=96,slow=4.6,SNR=6.6
BVAR S **S** **02 02 45.1 -0.7**
comp=Z,21nm,0.8s,baz=90,slow=13,SNR=12
SPU Mount Spurr 54.40 34 *e*P **P** **01 55 42.8 -0.1**
BHPL Bhopal 54.98 279 *e*P **P** **01 55 46.3 -1.2**
BHPL *e* 01 55 49.6
comp=Z,828nm,0.9s
BHPL *e*S **S** **02 02 56.9 +1.6**
SLKM Skilak Lake 55.28 35 *e*P **P** **01 55 48.3 -0.9**
SLKM *e* 01 56 43.7
KKAR Karatay Array 55.35 304 *i* P **P** **01 55 49.2 -0.7**
KKAR pmax pmax
comp=Z,105nm,0.5s,mb5.3
PMR Palmer 55.82 33 *e*P **P** **01 55 51.4 -1.5**
MCK McKinley 55.94 31⇑ *e*P **P** **01 55 52.4 -1.3**
comp=Z,39μm,0.8s
SML Sawmill 56.20 33 *e*P **P** **01 55 54.3 -1.3**
HYB Hyderabad 56.22 272⇓ *e*P **P** **01 55 55.5 -0.8**
HYB *e*S **S** **02 03 14.0 +2.5**
HYB pmax pmax
comp=Z,231nm,0.8s,mb5.6
HYB Hyderabad 56.22 272⇓ *e*P **P** **01 55 55.5 -0.8**
comp=Z,231nm,0.8s,mb5.6
HYB *e*S **S** **02 03 14.0 +2.5**
HYB Hyderabad 56.22 272⇓ *i*P **P** **01 55 55.5 -0.8**
comp=Z,231nm,0.8s,mb5.6
HYB *e*PcP PcP 01 56 47.5 -0.5
HYB *e*PP PP 01 58 06.0 -1.7
HYB *e*S **S** **02 03 12.0 +0.5**
HYB *e*ScS ScS 02 04 56.0 -2.1
HYB *e* 02 05 40.0
AJM Ajmer 56.25 284⇓ *i*P **P** **01 55 55.0 -1.4**
AKL Akola 56.26 276 *e*P **P** **01 55 55.5 -1.0**
comp=Z,1μm,1.4s,mb6.1
AKL *e* 01 58 05.9
COLA College 56.44 29 P **P** **01 55 56.6 -0.6**
COLA pmax pmax
comp=Z,130nm,0.8s,mb5.3
COLA College 56.44 29 *e*P **P** **01 55 55.8 -1.4**
MDRS Chennai 56.61 266 *e*P **P** **01 55 56.0 -3.0**
MDRS *e* 01 58 08.0
ILAR Eielson Array 56.85 29 P **P** **01 55 58.1 -1.8**
comp=Z,110nm,0.8s,mb5.2,baz=287,slow=5.9,SNR=250
ILAR pP pP 01 57 24.8 -3.5
comp=Z,27nm,1.1s,baz=265,slow=6.3,SNR=3.8
THY Trims Highway 57.36 31 *e*P **P** **01 56 02.5 -1.0**
DIV Divide 57.45 34⇑ *e*P **P** **01 56 03.8 -0.3**
comp=Z,874nm,1.4s,mb5.9
DIV *e* pP 01 57 31.8 -0.9
EYAK Cordova Ski Ar 57.49 35 *e*P **P** **01 56 03.5 -0.9**
LATR Latur 57.55 274 *e*P **P** **01 56 04.3 -1.1**
DZM Mont Dzumac 57.79 150 *e*P **P** **01 56 07.1 +0.1**
DZM Mont Dzumac 57.79 150 P **P** **01 56 07.4 +0.4**
comp=Z,36nm,0.7s,mb4.8,baz=345,slow=7.0,SNR=20
DZM Mont Dzumac 57.79 150 *e*P **P** **01 56 07.1 +0.1**
MENT Mentasta 58.31 32 *e*P **P** **01 56 10.0 +0.1**
PALK Pallekele 58.97 260⇓ *e*P **P** **01 56 14.4 -0.6**
comp=Z,204nm,1.0s,mb5.4
SVE Sverdlovsk 59.51 321⇓ *i*P **P** **01 56 18.1 0.0**
SVE *e* 01 58 25.0
SVE pmax pmax
comp=Z,320nm,1.0s,mb5.7
POO Poona 59.85 275 *e*P **P** **01 56 20.2 -0.7**
POO AMb AMB 01 56 25.4
comp=Z,621nm,1.6s,mb5.8
KAD Karad 60.06 274 *e*P **P** **01 56 21.4 -0.9**
DAWY Dawson 60.14 30 *e*P **P** **01 56 21.6 -0.6**
BOM Bombay 60.60 276 *e*P **P** **01 56 25.9 +0.1**
BOM *e* 01 57 04.1
ARU Arti 60.71 321⇓ *i*P **P** **01 56 25.1 -0.9**
ARU *e* 01 57 03.0
ARU *e* pP 01 57 55.5 -0.7
ARU *e* 01 58 44.8
ARU *e*S **S** **02 04 09.5 +1.2**
ARU *i* 02 05 29.8
ARU pmax pmax
comp=Z,241nm,0.8s,mb5.7
ARU Arti 60.71 321⇓ *i*P **P** **01 56 24.9 -1.1**
comp=Z,215nm,0.6s,mb5.8
ARU *e*S **S** **02 04 07.6 -0.6**
ARMA Armidale 60.92 168 *e*P **P** **01 56 27.4 -0.4**
FORT Forrest 60.98 191⇓ *i*P **P** **01 56 27.1 -1.1**
comp=Z,12μm,1.0s
SOKR Solikamsk 61.09 325 *d*i P **P** **01 56 27.7 -0.8**
SOKR S **S** **02 04 12.3 -0.7**
SOKR pmax pmax
comp=Z,160nm,0.9s,mb5.5
SOKR MLR MLR
comp=Z,570nm,16.0s
GOA Goa 61.14 272 *e*P **P** **01 56 26.0 -3.4**
STKA Stephens Creek 61.23 178⇓ *i*P **P** **01 56 28.5 -1.3**
comp=Z,101nm,0.9s,mb5.2
STKA *e*S **S** **02 04 11.2 -3.9**
STKA *e*SCS ScS 02 05 41.6 +6.6
STKA *e*sS 02 06 49.2
STKA Stephens Creek 61.23 178 P **P** **01 56 28.6 -1.1**
comp=Z,85nm,0.5s,mb5.4,baz=347,slow=7.0,SNR=94
INK Inuvik 61.89 25⇑ *e*P **P** **01 56 32.9 -0.8**
INK pmax pmax
comp=Z,280nm,1.0s
INK Inuvik 61.89 25 P **P** **01 56 33.0 -0.7**
comp=Z,65nm,0.3s,mb5.6,baz=286,slow=6.0,SNR=309
INK PKPPKP 02 25 26.8
comp=Z,3.2nm,1.0s,baz=133,slow=3.5,SNR=6.5
INK Inuvik 61.89 25⇑ *e*P **P** **01 56 32.9 -0.8**
comp=Z,280nm,1.0s,mb5.8
SIT Sitka 63.37 38 *e*P **P** **01 56 43.8 +0.4**
KLBR Kellerberrin 64.16 200⇓ *i*P **P** **01 56 47.3 -1.6**
comp=Z,5μm,1.1s
AFI Afiamalu 64.22 125 P **P** **01 56 46.3 -3.2**
AFI pmax pmax
comp=Z,111nm,0.8s,mb5.4
AFI Afiamalu 64.22 125 P **P** **01 56 49.6 +0.1**
comp=Z,116nm,0.7s,mb5.5,baz=240,slow=3.7,SNR=14
AFI Afiamalu 64.22 125 P **P** **01 56 46.3 -3.2**
comp=Z,111nm,0.8s,mb5.4
ADE Adelaide 64.26 180 *e*P **P** **01 56 49.1 -0.4**
CRAG Craig 64.97 39 *e*P **P** **01 56 55.7 +2.1**
MUN Mundaring 65.00 201 *e*P **P** **01 56 52.9 -1.3**
comp=Z,382nm,1.0s,mb6.0
MUN *e*S **S** **02 05 01.8 +0.5**
MUN Mundaring 65.00 201 *e*P **P** **01 56 52.9 -1.3**
MUN *e*S **S** **02 05 01.8 +0.5**
MUN pmax pmax
comp=Z,382nm,1.0s,mb6.0
CNB Canberra Magne 65.34 171 *e*P **P** **01 56 57.0 +0.7**
comp=Z,704nm,1.0s,mb6.2
NWAO Narrogin (SRO) 65.56 200 *e*P **P** **01 56 56.3 -1.4**
NWAO pmax pmax
comp=Z,267nm,0.9s
NWAO Narrogin (SRO) 65.56 200 *e*P **P** **01 56 56.2 -1.5**
comp=Z,266nm,0.9s,mb5.9
DLBC Dease Lake 65.74 35 *e*P **P** **01 56 58.8 +0.4**
TOO Toolangi 67.13 174 *e*P **P** **01 57 07.0 -0.4**
comp=Z,59nm,1.0s,mb5.2
TOO Toolangi 67.13 174 *e*P **P** **01 57 07.0 -0.4**

TOO pmax pmax
comp=Z,59nm,1.0s,mb5.2
LVZ Lovozero 68.06 337 *e*P **P** **01 57 12.8 +0.3**
LVZ *e**SP sP 01 59 29.1 -0.9
LVZ *e*S S 02 05 35.5 -1.5
LVZ *e*SSS SSS 02 13 22.4 +2.3
LVZ pmax pmax
comp=N,39nm,1.0s
LVZ pmax pmax
comp=Z,80nm,1.0s,mb5.3
LVZ pmax pmax
comp=E,41nm,1.8s
LVZ smax
comp=Z,745nm,4.3s
LVZ smax
comp=N,1μm,4.5s
LVZ smax
comp=E,342nm,3.0s
HSP Hornsund 68.25 348 *e*P **P** **01 57 13.9 +0.4**
PECR Pechory 68.48 323 *e*P **P** **01 57 15.4 +0.1**
PECR *e**PP PcP 01 57 38.6 +1.1
PECR *i* S S 02 05 40.8 -1.3
PECR *e**SS 02 06 31.0
PECR pmax pmax
comp=Z,2μm,0.6s
PECR smax
comp=N,4μm,8.0s
PECR smax
comp=E,2μm,9.0s
KEV Kevo 69.66 340 *e*p **P** **01 57 22.3 +0.1**
comp=E,104nm,0.7s,mb5.5
KEV Kevo 69.66 340 P **P** **01 57 21.9 -0.3**
KEV pmax pmax
comp=Z,160nm,0.9s,mb5.5
ARCES ARCESS Array B 70.22 340 P **P** **01 57 25.6 +0.1**
comp=Z,108nm,0.6s,mb5.5,baz=68,slow=8.5,SNR=285
ARE0 ARCESS Array S 70.22 340 *e*P **P** **01 57 25.2 -0.3**
RES Resolute Bay 70.24 13⇑ *e*P **P** **01 57 25.4 -0.2**
RES *e**PP pP 01 58 56.6 -2.3
RES pmax pmax
comp=Z,288nm,1.0s,mb5.8
RES Resolute Bay 70.24 13⇑ *e*P **P** **01 57 25.4 -0.2**
comp=Z,288nm,1.0s,mb5.8
RES *e*pP pP 01 58 56.6 -2.3
WBK Wadi Bani Khal 70.91 286 P **P** **01 57 30.5 +0.2**
SNR=158
KTK1 Kautokeino 71.18 340 *e*P **P** **01 57 31.9 +0.7**
KTK1 AMb AMB 01 57 35.5
comp=Z,126nm,1.1s,mb5.4
KTK1 *e*PP PP 02 00 15.2 -1.7
YKW3 Yellowknife Ar 71.19 28 *e*P **P** **01 57 30.7 -0.6**
YKW3 *e*pP pP 01 59 04.9 -0.1
YKA Yellowknife Ar 71.22 28 P **P** **01 57 31.1 -0.4**
comp=Z,85nm,0.7s,mb5.4,baz=296,slow=5.9,SNR=750
YKA pP pP 01 59 04.5 -0.7
comp=Z,24nm,1.0s,baz=295,slow=6.0,SNR=3.9
YKA PKPPKP 02 25 13.7
comp=Z,1.7nm,1.1s,baz=113,slow=2.7,SNR=4.4
YKA Yellowknife Ar 71.22 28 P **P** **01 57 31.1 -0.4**
YKA pP pP 01 59 04.5 -0.7
YKA P'P' 02 25 13.7
BIDO Bidbid 71.24 287 P **P** **01 57 32.8 +0.5**
SNR=48
SMDO Samad 71.49 286 ⇑P **P** **01 57 33.7 -0.1**
SNR=43
MAK Makhachkala 71.51 309⇑ *i*P **P** **01 57 33.8 +0.3**
MAK *e* 02 00 22.5
MAK *e*PPP PPP 02 02 03.8 -0.8
MAK *i* S S 02 06 15.0 -1.9
MAK *e*SP SP 02 06 57.0 +7.0
MAK pmax pmax
comp=N,165nm,1.0s
MAK pmax pmax
comp=E,198nm,1.0s
MAK pmax pmax
comp=Z,330nm,1.0s,mb5.8
MAK pmax pmax
comp=N,300nm,2.0s
MAK pmax pmax
comp=E,300nm,2.0s
MAK pmax pmax
comp=Z,1μm,2.0s,mb6.0
MAK pmax pmax
comp=Z,700nm,8.0s
MAK smax
comp=N,2μm,9.0s
MAK smax
comp=E,2μm,9.0s
JOF Joensuu 71.56 333 *e*p **P** **01 57 33.0 -0.5**
comp=E,238nm,0.9s,mb5.7
JMDO Jabal Madar 71.74 286 P **P** **01 57 34.8 -0.4**
SNR=104
HOQ Hoqain 71.89 287 P **P** **01 57 36.2 +0.1**
SNR=298
MOS Moscow 72.03 324κ *i*P **P** **01 57 36.5 +0.1**
MOS *e* 02 00 23.0
MOS *i* S S 02 06 21.4 -1.2
MOS *i* 02 06 59.1
MOS *e*SSS SSS 02 14 33.0 +5.0
MOS pmax pmax
comp=Z,400nm,1.2s,mb5.8
MOS pmax pmax
comp=Z,248nm,1.1s,mb5.7
MOS smax
comp=N,3μm,3.2s
MOS smax
comp=E,1μm,3.0s
MOS MLR MLR
comp=Z,700nm,15.5s
TRO Tromso 72.06 341 *e*P **P** **01 57 35.2 -1.2**
TRO AMb AMB 01 57 38.8
comp=Z,108nm,1.1s,mb5.3
TRO AMS AMS 02 36 59.0
comp=Z,500nm,16.4s
BSY Bisya 72.34 286 P **P** **01 57 38.7 0.0**
SNR=15
ARQ Araqi 72.65 287 P **P** **01 57 40.8 +0.2**
SNR=40
OBN Obninsk 72.85 324 *d*i P **P** **01 57 40.8 -0.3**
OBN *i* S S 02 06 30.7 -0.9
OBN *i* PS ScS 02 07 06.4 +1.1
OBN *e*SS SS 02 11 24.6 -0.5
OBN pmax pmax
comp=Z,260nm,1.1s,mb5.7
OBN MLR MLR
comp=Z,1μm,15.0s
OBN Obninsk 72.85 324 *e*P **P** **01 57 40.0 -1.1**
comp=Z,272nm,1.1s,mb5.7
DAG Danmarks Havn 72.94 355⇓ *e*P **P** **01 57 41.7 +0.4**
DAG *e* pP 01 59 14.0 -1.4
DAG pmax pmax
comp=Z,306nm,1.3s,mb5.7
DAG Danmarks Havn 72.94 355⇓ *e*P **P** **01 57 41.7 +0.4**
comp=Z,306nm,1.3s,mb5.7
DAG *e* pP 01 59 14.0 -1.4
DAG Danmarks Havn 72.94 355⇓ *i*P **P** **01 57 41.7 +0.4**
comp=Z,305nm,1.3s,mb5.7
DAG *e* pP 01 59 14.0 -1.4
VOR Voronezh 72.97 320⇓ *i*P **P** **01 57 41.6 -0.2**
VOR *PP pP 01 59 10.0 -6.0
VOR *e*S S 02 06 31.5 -1.5
VOR pmax pmax
comp=Z,340nm,1.1s,mb5.8
VOR pmax pmax
comp=N,120nm,1.3s
VOR pmax pmax
comp=E,140nm,1.3s
VOR smax
comp=E,600nm,1.7s
VOR smax
comp=Z,120nm,1.8s
VOR smax
comp=N,280nm,2.0s
PGC Sidney 72.98 43⇑ *e*P **P** **01 57 42.6 +0.6**
comp=N,608nm,0.9s,mb6.1
SNB Saturna Island 73.09 43 P **P** **01 57 44.0 +1.4**
PUL Pulkovo 73.56 330 *e*P **P** **01 57 45.9 +0.8**
PUL *e**SP sP 02 00 03.8 -0.1
PUL *e*S S 02 06 38.9 -0.4
PUL *e*SS SS 02 11 31.4 -4.2
PUL *e*SSS SSS 02 14 58.0 +4.9
PUL pmax pmax
comp=N,239nm,1.0s
PUL pmax pmax
comp=Z,365nm,1.0s,mb6.0
PUL pmax pmax

comp=E,115nm,0.8s
PUL smax
comp=N,2μm,2.0s
PUL smax
comp=E,1μm,1.0s
DGRG David-gareji 73.57 309 P P 01 57 45.6 0.0
DGRG S S 02 06 39.1 -0.8
GOF Gofitskoye 73.58 313⇑ *i*P P 01 57 44.4 -1.1
GOF *i* S S 02 06 39.5 -0.4
GOF pmax pmax
comp=Z,290nm,1.5s,mb5.7
GOF smax
comp=E,800nm,1.7s
VDB Vedder Mountai 73.62 43 P P 01 57 46.0 +0.4
DGAR Diego Garcia 73.73 251⇓ *e*P P 01 57 45.6 -1.4
DGAR pmax pmax
comp=Z,286nm,1.0s,mb5.9
DGAR Diego Garcia 73.73 251⇓ *e*P P 01 57 45.6 -1.4
comp=Z,286nm,1.0s,mb5.9
MTA Mtatsminda 73.86 309 P P 01 57 46.5 -0.7
TBLG Delisi 73.88 309 P P 01 57 47.2 -0.1
KAF Kangasniemi 73.97 333 *e*p P 01 57 46.9 -0.5
comp=Z,81nm,0.6s,mb5.5,baz=54,slow=5.3
KAF Kangasniemi 73.97 333 *e*P P 01 57 46.9 -0.5
KAF pmax pmax
comp=Z,81nm,0.6s,mb5.5
ZEI Tsey 74.00 310 *e*P P 01 57 45.9 -2.0
ZEI *e*S S 02 06 41.7 -2.9
ZEI pmax pmax
comp=Z,75nm,0.8s,mb5.4
KIV Kislovodsk 74.28 312 *d i*P P 01 57 49.7 +0.2
KIV *e* 01 58 01.7
KIV *e**PP pP 01 59 21.7 -2.4
KIV *e* 02 00 38.3
KIV *e*PPP PPP 02 02 28.0 -3.3
KIV *i* S S 02 06 47.1 -0.5
KIV *e*SS SS 02 11 42.0 -4.6
KIV *e*SSS SSS 02 15 09.0 +3.5
KIV pmax pmax
comp=Z,341nm,1.1s,mb5.9
KIV pmax pmax
comp=N,142nm,0.9s
KIV smax
comp=N,971nm,2.1s
KIV smax
comp=E,709nm,2.8s
KIV Kislovodsk 74.28 312⇓ *e*P P 01 57 49.5 0.0
comp=E,396nm,1.1s,mb6.0
ONI Oni 74.38 310 P P 01 57 48.6 -1.5
FINES FINESS Array B 74.43 333 P P 01 57 49.5 -0.4
comp=E,31nm,0.3s,mb5.4,baz=70,slow=5.3,SNR=332
FINES S S 02 06 48.2 -0.6
comp=E,9.9nm,0.8s,baz=82,slow=20,SNR=9.6
FINES FINESS Array B 74.43 333 P P 01 57 49.5 -0.4
FINES S S 02 06 48.2 -0.6
LOF Lofoten 74.52 342 *e* P 01 57 53.9 +3.5
GNI Garni 74.56 308 P P 01 57 51.3 +0.1
GNI Garni 74.56 308 *d i*P P 01 57 51.9 +0.7
GNI pmax pmax
comp=Z,271nm,1.7s
GNI Garni 74.56 308 P P 01 57 52.1 +0.9
comp=Z,83nm,0.9s,mb5.4,baz=348,slow=6.1,SNR=60
GNI S S 02 06 55.0 +4.2
comp=Z,1.1nm,0.3s,baz=309,slow=21,SNR=3.6
GNI Garni 74.56 308⇓ *e*P P 01 57 51.7 +0.5
comp=Z,229nm,1.0s,mb5.8
LON Longmire 74.82 45 P P 01 57 53.0 +0.6
COR Corvallis 74.86 47 *e*P P 01 57 54.2 +1.5
COR pmax pmax
comp=Z,604nm,1.0s,mb6.2
COR Corvallis 74.86 47 *e*P P 01 57 54.2 +1.5
comp=Z,604nm,1.0s,mb6.2
PNT Penticton 74.94 42 P P 01 57 53.7 +0.6
KEBM Edson Butte 74.96 49 *e*P P 01 57 54.7 +1.4
KBO Bosley Butte 75.32 50 *e*P P 01 57 56.4 +1.0
MELSS Ber_school_2 75.33 341 *e*P P 01 57 55.0 0.0
MELSS *e*PP PP 02 00 51.0 -0.6
EBG Ellensburg 75.50 44 P P 01 57 57.5 +1.2
MOR8 Moi Rana 75.59 340 *e*P P 01 57 55.0 -1.4
MOR8 AMb AMB 01 57 58.4
comp=Z,271nm,1.0s,mb5.8
MOR8 *e*pP pP 01 59 31.1 -0.2
MXC Moxie City 75.82 44 P P 01 57 59.1 +1.0
HBO Huckleberry Mo 75.83 48 P P 01 57 59.3 +1.2
KRMB Red Mountain 75.85 50 *e*P P 01 57 59.5 +1.2
STOK Stokkvaagen 75.90 340 *e*P P 01 57 57.5 -0.5
STOK AMb AMB 01 58 03.1
comp=Z,95nm,1.8s,mb5.1
HUMO Hull Mountain 75.98 49⇑ *e*P P 01 57 59.9 +0.9
comp=Z,163nm,1.2s,mb5.5
VANB Van 76.19 307 P P 01 57 59.6 -0.6
TVAN Van 76.21 307 *i*P P 01 58 02.0 +1.6
VANT Van 76.26 306 P P 01 58 02.4 +1.7
KHMM Horse Mountain 76.26 51 *e*P P 01 58 01.9 +1.3
URZ Urewera 76.35 150 P P 01 57 59.8 -1.3
comp=Z,61nm,0.8s,mb5.3,baz=359,slow=3.9,SNR=25
SOC Sochi 76.37 312 *d i*P P 01 58 00.7 -0.4
SOC *e* 01 58 09.0
SOC *e**PP pP 01 59 34.5 -1.7
SOC *e* 02 01 02.0
SOC *e*PPP PPP 02 02 48.9 -1.9
SOC *i* S S 02 07 11.2 +1.1
SOC *e* 02 07 34.0
SOC *e*SS SS 02 12 18.3 -0.2
SOC *e*SSS SSS 02 15 42.6 +2.9
SOC pmax pmax
comp=N,71nm,0.8s
SOC pmax pmax
comp=E,37nm,0.8s
SOC pmax pmax
comp=Z,206nm,0.8s,mb5.8
SOC Sochi 76.37 312⇓ *i*P P 01 58 00.9 -0.2
HKR Hakkari 76.40 306 P P 01 58 00.2 -1.2
EDM Edmonton 76.43 36 *e*P P 01 58 01.5 +0.2
YBH Yreka Blue Hor 76.55 50⇑ *e*P P 01 58 03.0 +0.8
YBH pmax pmax
comp=Z,106nm,0.8s
YBH Yreka Blue Hor 76.55 50 P P 01 58 03.3 +1.2
baz=270,slow=5.5
YBH Yreka Blue Hor 76.55 50⇑ *e*P P 01 58 03.0 +0.9
comp=Z,106nm,0.8s,mb5.5
NEW Newport 76.89 42⇑ *e*P P 01 58 04.5 +0.6
NEW pmax pmax
comp=Z,231nm,1.0s
NEW Newport 76.89 42 S S 02 07 18.3 +2.8
comp=Z,0.8nm,0.5s,baz=2.9,slow=22,SNR=6.3
NEW Newport 76.89 42⇑ *e*P P 01 58 04.5 +0.6
comp=Z,231nm,1.0s,mb5.8
LHEM Herd Peak 76.92 50 P P 01 58 05.4 +1.1
ERZM Erzurum 76.99 309 *i*P P 01 58 04.0 -0.6
EZM Erzurum 76.99 309 P P 01 58 05.6 +0.9
RBK Rabkut 77.17 283 P P 01 58 05.1 -0.9
SNR=88
WDC Whiskeytown Da 77.20 51⇑ *e*P P 01 58 06.4 +0.6
WDC pmax pmax
comp=Z,350nm,1.5s,mb5.8
WDC Whiskeytown Da 77.20 51⇑ *e*P P 01 58 06.3 +0.6
comp=Z,350nm,1.5s,mb5.8
ANN Anapa 77.23 314 *e*P P 01 58 05.6 -0.2
ANN *e* 01 58 12.5
ANN *e*S S 02 07 18.4 -0.8
ANN *e* 02 07 41.1
ANN pmax pmax
comp=Z,322nm,0.9s,mb6.0
ANN Anapa 77.23 314 *e*P P 01 58 05.7 -0.1
WHFO Wadi Hawf 77.35 283 P P 01 58 05.9 -1.1
SNR=173
NSS Namsos 77.48 339 *e*P P 01 58 05.3 -1.5
NSS AMb AMB 01 58 08.8
comp=Z,104nm,0.8s,mb5.5
MNK Minsk 77.52 326⇑ *i*P P 01 58 06.0 -1.2
IZAR Zarasai 77.57 328 *e*P P 01 58 07.5 +0.1
IZAR AMPb AMB 01 58 11.3
comp=Z,66nm,1.0s,mb5.2
HOPS Hopland 77.58 52 *e*P P 01 58 08.1 +0.2
comp=Z,195nm,1.4s,mb5.5
IDID Didziasalis 77.59 327 *e*P P 01 58 07.7 +0.1
IDID AMPb AMB 01 58 11.4
comp=Z,66nm,1.0s,mb5.2
IDID ⇑*e*pP Px 01 59 02.9
BTMT Batman 77.70 307 P P 01 58 09.0 +0.5
ISAL Salakas 77.73 328 *e*P P 01 58 08.4 +0.1
ISAL AMPb AMB 01 58 12.2
comp=Z,65nm,1.0s,mb5.2

IIGN Ignalina 77.81 327 *e*P P 01 58 08.7 0.0
BHD Baghdad 77.90 301 *i*P P 01 58 02.0 -7.7
BHD *e*S S 02 07 17.0 -10
BEST Besiri 78.00 307 *i*P P 01 58 07.8 -2.3
GUMT Gumushane 78.00 310 P P 01 58 10.8 +0.7
ABTO Aybut 78.01 283 P P 01 58 09.9 -0.6
SNR=122
SUMG Summit 78.05 359 *e*P P 01 58 10.9 +1.2
comp=Z,76nm,0.8s,mb5.4
MOD Modoc 78.05 49⇑ *e*P P 01 58 11.0 +0.7
comp=Z,164nm,0.9s,mb5.7
NSHM Saint Helena R 78.12 52 *e*P P 01 58 11.9 +1.1
KELT Kelkit 78.30 310 *i*P P 01 58 15.5 +3.8
WALA Waterton Lakes 78.31 40⇑ *e*P P 01 58 12.4 +0.8
comp=Z,293nm,1.1s,mb5.8
BMO Blue Mountains 78.49 45⇑ *e*P P 01 58 13.4 +0.8
comp=Z,189nm,0.8s,mb5.8
DIY Diyarbakir 78.72 307 *e*P P 01 58 15.1 +1.1
WVOR Wild Horse Val 78.87 47⇑ *e*P P 01 58 15.6 +1.0
WVOR *e* 02 01 19.4
WVOR pmax pmax
comp=Z,218nm,0.8s,mb5.8
WVOR Wild Horse Val 78.87 47⇑ *e*P P 01 58 15.6 +1.0
comp=Z,218nm,0.8s,mb5.8
WVOR *e*PP PP 02 01 19.4 -1.6
AKASG Malin Array Be 78.92 322 P P 01 58 13.9 -0.8
comp=Z,70nm,0.7s,mb5.4,baz=49,slow=6.0,SNR=44
AKASG S S 02 07 34.9 -1.9
comp=Z,3.9nm,0.8s,baz=54,slow=9.3,SNR=16
SIM Simferopol' 79.20 316 *de*P P 01 58 16.4 +0.1
SIM *e*S S 02 07 39.0 -0.8
SIM *e*SS SS 02 13 06.0 +5.6
SIM pmax pmax
comp=Z,200nm,11.0s
SIM pmax pmax
comp=Z,166nm,0.8s,mb5.7
SCO Scoresbysund 79.23 354 *i*P P 01 58 17.2 +1.2
SCO pmax pmax
comp=Z,52nm,0.8s,mb5.2
SCO Scoresbysund 79.23 354 *i*P P 01 58 17.2 +1.2
comp=Z,52nm,0.8s,mb5.2
ELZG Elazig 79.28 308 *i*P P 01 58 16.5 -0.4
MSO Missoula 79.48 42⇑ *e*P P 01 58 17.8 +0.1
comp=Z,162nm,1.5s,mb5.4
WCN Washoe City 79.69 51⇑ *e*P P 01 58 20.0 +1.0
WCN pmax pmax
comp=Z,211nm,1.2s,mb5.7
WCN Washoe City 79.69 51⇑ *e*P P 01 58 20.0 +0.9
comp=Z,211nm,1.2s,mb5.7
PAHR Pah Rah Range 79.74 50⇑ *e*P P 01 58 20.0 +0.7
comp=Z,56nm,0.8s,mb5.2
MYA Malataya 79.75 308 *e*P P 01 58 20.8 +1.4
MALT Malatya 79.76 308⇓ *e*P P 01 58 20.4 +1.0
MALT pmax pmax
comp=Z,130nm,1.1s,mb5.5
MALT Malatya 79.76 308⇓ *e*P P 01 58 20.4 +1.0
comp=Z,130nm,1.1s,mb5.5
SAO San Andreas Ge 79.78 54 *e*P P 01 58 20.0 +0.5
SAO pmax pmax
comp=Z,153nm,1.1s,mb5.5
SAO San Andreas Ge 79.78 54 *e*P P 01 58 20.0 +0.4
comp=Z,153nm,1.1s,mb5.5
CHMT Chamberlain Mo 79.83 42 *e*P P 01 58 19.9 +0.3
CMB Columbia Colle 79.89 52 P P 01 58 20.8 +0.7
CMB Columbia Colle 79.89 52⇑ *e*P P 01 58 20.5 +0.4
CMB pmax pmax
comp=Z,162nm,0.7s,mb5.8
CMB Columbia Colle 79.89 52⇑ *e*P P 01 58 20.5 +0.4
comp=Z,162nm,0.7s,mb5.8
HFS Hagfors 79.98 336 S S 02 07 47.3 -0.2
comp=Z,7.2nm,0.8s,baz=80,slow=18,SNR=5.4
TOKT Tokat 80.02 311 *e*P P 01 58 21.4 +0.6
SUW Suwalki 80.03 327 *e*P P 01 58 20.3 -0.2
SUW *e*S S 02 07 47.7 -0.4
SUW *e* 02 07 54.4
SUW Suwalki 80.03 327 *e*P P 01 58 20.3 -0.2
SUW *e*PcP PcP 01 58 24.6 -2.2
SUW *e*pP pP 02 00 00.4 +3.9
SUW *e*S S 02 07 47.7 -0.4
SUW *e*SKS SKS 02 07 54.4 +1.8
SUW Suwalki 80.03 327 *e*P P 01 58 20.3 -0.2
SUW *e*PcP PcP 01 58 24.6 -2.3
SUW *e*pP pP 02 00 00.4 +3.9
SUW *e*S S 02 07 47.7 -0.3
SUW *e*SKS SKS 02 07 54.4 +1.7
SUW MLR MLR 02 39 55.5
comp=Z,1μm,17.4s
DOMB Dombas 80.19 338 *e*P P 01 58 20.9 -0.3
DOMB AMb AMB 01 58 24.4
comp=Z,177nm,0.8s,mb5.8
DOMB *e*PP PP 02 01 31.3 +0.1
NB2 NORSAR Subarra 80.21 337 P P 01 58 20.9 -0.4
comp=Z,125nm,0.8s,mb5.6,baz=45,slow=5.0
NB2 NORSAR Subarra 80.21 337 P P 01 58 20.9 -0.4
NB2 pmax pmax
comp=Z,125nm,0.8s,mb5.6
NB2 NORSAR Subarra 80.21 337 P P 01 58 20.9 -0.4
baz=45,slow=5.3
NOA NORSAR Array B 80.21 337 P P 01 58 20.9 -0.4
comp=Z,91nm,0.7s,mb5.5,baz=45,slow=5.2,SNR=141
NOA pP pP 01 59 55.6 -1.7
comp=Z,5.1nm,0.9s,baz=48,slow=4.8,SNR=1.5
NOA S S 02 07 53.4 +3.6
comp=Z,3.9nm,0.9s,baz=57,slow=4.1,SNR=5.5
LRV Little Rabbit 80.24 54 *e*P P 01 58 22.1 +0.1
MOL Molde 80.27 339 *e*P P 01 58 22.5 +1.0
MOL AMb AMB 01 58 26.4
comp=Z,151nm,1.3s,mb5.5
MOL *e*PP PP 02 01 30.7 -1.2
NAO01 NORSAR Array S 80.46 337 *e*P P 01 58 21.7 -0.9
comp=Z,58nm,0.8s,mb5.3
BOYT Boyabat 80.53 312 *i*P P 01 58 24.1 +0.8
BYBT Boyabat 80.59 312 *e*P P 01 58 24.1 +0.4
HRY Holter Researc 80.76 41 *e*P P 01 58 25.4 +0.9
BMN Battle Mountai 80.80 49⇑ *e*P P 01 58 25.8 +1.0
BMN *e* 02 01 35.5
BMN pmax pmax
comp=Z,135nm,1.0s,mb5.6
BMN Battle Mountai 80.80 49⇑ *e*P P 01 58 25.8 +1.0
comp=Z,135nm,1.0s,mb5.6
BMN *e*PP PP 02 01 35.5 -1.7
HLID Hailey 80.94 45⇑ *e*P P 01 58 26.7 +1.3
comp=Z,97nm,0.8s,mb5.6
CTKT Corum 81.02 312 *i*P P 01 58 27.0 +1.1
FFC Flin Flon 81.03 31⇑ *e*P P 01 58 25.5 -0.2
FFC pmax pmax
comp=Z,424nm,1.5s,mb6.0
FFC Flin Flon 81.03 31⇑ *e*P P 01 58 25.5 -0.1
comp=Z,424nm,1.5s,mb6.0
OMM Old Mammoth Mi 81.05 52 *e*P P 01 58 27.2 +1.0
NVAR Mina Array Bea 81.11 51 P P 01 58 27.8 +1.3
comp=Z,162nm,0.8s,mb5.8,baz=285,slow=3.8,SNR=150
NVAR pP pP 02 00 00.6 -2.1
comp=Z,5.1nm,0.7s,baz=286,slow=6.8,SNR=1.9
NVAR Mina Array Bea 81.11 51 P P 01 58 27.8 +1.3
NVAR pP pP 02 00 00.6 -2.1
GAZ Gaziantep 81.16 308 *e*P P 01 58 27.6 +0.9
KAHT Ahir Dag 81.16 308 *i*P P 01 58 27.9 +1.2
OSL Oslo 81.17 336 *e*P P 01 58 26.3 0.0
MCMT McKenzie Canyo 81.20 43 *e*P P 01 58 27.8 +1.0
KIS Kishinev 81.21 319 *e*P P 01 58 25.0 -1.8
MNV Mina 81.21 51⇑ *e*P P 01 58 27.9 +0.9
MNV pmax pmax
comp=Z,374nm,1.5s,mb5.9
MNV Mina 81.21 51⇑ *e*P P 01 58 27.9 +0.9
comp=Z,374nm,1.5s,mb5.9
BNN Bunyan 81.23 310 *e*P P 01 58 28.0 +1.0
TOS Tosya 81.30 312 *e*P P 01 58 28.2 +0.9
BALT Daday 81.44 313 *i*P P 01 58 30.9 +2.8
BOZ Bozeman (W) 81.47 42⇑ *e*P P 01 58 29.1 +1.0
BOZ pmax pmax
comp=Z,122nm,0.8s,mb5.7
BOZ Bozeman (W) 81.47 42⇑ *e*P P 01 58 29.1 +1.0
comp=Z,122nm,0.8s,mb5.7
MTUM Tungsten Hills 81.48 52 *e*P P 01 58 29.5 +1.1
FCC Fort Churchill 81.51 25⇑ *e*P P 01 58 27.4 -0.7
FCC *e**PP pP 02 00 03.8 -0.6
FCC pmax pmax
comp=Z,231nm,1.3s,mb5.8
FCC Fort Churchill 81.51 25⇑ *e*P P 01 58 27.4 -0.6
comp=Z,231nm,1.3s,mb5.8
FCC *e*pP pP 02 00 03.8 -0.7
FOO Floro 81.77 340 *e*P P 01 58 29.4 0.0
FOO AMb AMB 01 58 32.8

comp=Z,101nm,1.1s,mb5.5
KONO Kongsberg 81.77 337 *e*P P 01 58 28.6 -0.8
KONO pmax pmax
comp=Z,34nm,0.9s,mb5.1
KONO Kongsberg 81.77 337 *e*P P 01 58 28.6 -0.7
comp=Z,34nm,0.9s,mb5.1
KONO Kongsberg 81.77 337 *e* P 01 58 31.7 +2.3
CANT Cankiri 81.78 312 *e*P P 01 58 30.8 +0.9
IAS Iasi 81.80 320 ⇓P P 01 58 29.9 +0.1
CDAG Cicekdag 81.81 311 *i*P P 01 58 30.9 +0.9
ELK Elko 81.92 48⇑ *i*P P 01 58 31.9 +1.3
ELK pmax pmax
comp=Z,235nm,0.9s
ELK Elko 81.92 48⇑ *i*P P 01 58 31.9 +1.4
comp=Z,235nm,0.9s,mb5.9
AVNT Avonos 81.93 310 *i*P P 01 58 31.8 +1.2
TPH Tonopah 82.02 51⇑ *e*P P 01 58 32.2 +1.1
TPH pmax pmax
comp=Z,381nm,1.2s,mb6.0
TPH Tonopah 82.02 51⇑ *e*P P 01 58 32.2 +1.1
comp=Z,381nm,1.2s,mb6.0
QLMT Earthquake Lak 82.04 43 *e*P P 01 58 32.5 +1.5
SAFT Safranbolu 82.04 313 *e*P P 01 58 31.6 +0.5
WAR Warsaw 82.14 327 *e*P P 01 58 32.1 +0.7
WAR *e*SKS SKS 02 08 11.8 +4.4
LVV L'vov 82.15 324 *i*P P 01 58 33.5 +2.0
LVV *i* S S 02 08 08.3 -1.3
COBT Iskenderun 82.15 308 *i*P P 01 58 31.8 0.0
TLCR 82.23 318 ⇑P P 01 58 32.2 +0.2
BRTR Keskin Array B 82.24 311 P P 01 58 32.5 +0.3
comp=Z,164nm,0.9s,mb5.8,baz=102,slow=3.4,SNR=227
CEYT Ceyhan 82.25 308 *e*P P 01 58 32.6 +0.4
KAMT Kaman 82.38 311 *e*P P 01 58 32.7 -0.2
YMR Madison River 82.41 43⇑ *e*P P 01 58 34.6 +1.7
HTY Hatay 82.44 307 *e*P P 01 58 32.9 -0.4
GCMT Greycliff 82.52 41 *e*P P 01 58 34.2 +0.8
YNR Norris Junctio 82.55 42 *e*P P 01 58 35.8 +2.2
ASK Askoy 82.59 339 *e*P P 01 58 34.0 +0.5
ASK AMb AMB 01 58 37.6
comp=Z,140nm,1.2s,mb5.5
RUND Rundenannen 82.59 339 *e*P P 01 58 34.0 +0.5
RUND AMb AMB 01 58 37.5
comp=Z,88nm,1.7s,mb5.2
YFT Old Faithful 82.61 43 *e*P P 01 58 37.1 +3.1
BER Bergen 82.63 339 *e*P P 01 58 34.0 +0.4
BER AMb AMB 01 58 37.6
comp=Z,86nm,1.6s,mb5.2
BER AMS AMS 02 37 08.1
comp=Z,301nm,19.7s
CFR Carcaliu 82.63 318 P P 01 58 34.1 +0.1
CFR Carcaliu 82.63 318 ⇑P P 01 58 34.5 +0.4
CFR Carcaliu 82.63 318 ⇑P P 01 58 34.5 +0.5
DAC Darwin (Calif) 82.70 52⇑ *e*P P 01 58 35.1 +0.5
DAC pmax pmax
comp=Z,163nm,0.9s,mb5.8
DAC Darwin (Calif) 82.70 52⇑ *e*P P 01 58 35.1 +0.5
comp=Z,163nm,0.9s,mb5.8
ANTO Ankara 82.71 312 *e*P P 01 58 33.2 -1.4
ANTO Ankara 82.71 312 ⇑P P 01 58 35.2 +0.6
LOD Lodumlu 82.72 312 *e*P P 01 58 35.1 +0.5
EGD Espegrend 82.75 339 *e*P P 01 58 35.0 +0.7
EGD AMb AMB 01 58 38.3
comp=Z,122nm,1.7s,mb5.4
LKWY Lake 82.80 42⇑ *e*P P 01 58 38.1 +3.2
LKWY pmax pmax
comp=Z,409nm,1.0s,mb6.1
LKWY Lake 82.80 42⇑ *e*P P 01 58 38.0 +3.2
comp=Z,409nm,1.0s,mb6.1
IMW Indian Meadow 82.86 43 *e*P P 01 58 37.1 +1.8
comp=Z,190nm,0.9s,mb5.8
TIRR Tirgusor 82.88 318 ⇑P P 01 58 35.8 +0.5
HVU Hansel Valley 82.92 46⇑ *e*P P 01 58 37.1 +1.5
RRI2 Red Ridge 82.94 44 *e*P P 01 58 37.3 +1.6
comp=Z,157nm,0.8s,mb5.8
KWP Kalwaria 82.94 324 *e*P P 01 58 35.9 +0.4
KWP *e* 02 08 19.7
KWP Kalwaria 82.94 324 *e*P P 01 58 35.9 +0.4
KWP *e*PcP PcP 01 58 38.3 -1.3
KWP *e*pP pP 02 00 17.2 +5.0
KWP *e*SKS SKS 02 08 19.7 +6.7
KWP Kalwaria 82.94 324 *e*P P 01 58 35.9 +0.4
KWP *e*PcP PcP 01 58 38.3 -1.3
KWP *e*pP pP 02 00 17.2 +5.0
KWP *e*SKS SKS 02 08 19.7 +6.7
KWP MLR MLR 02 38 51.8
comp=Z,800nm,17.2s
TRCR Troy Canyon 82.97 50 *e*P P 01 58 37.2 +1.3
BLS5 Blasjo 83.00 338 *e*P P 01 58 37.2 +1.6
BLS5 AMb AMB 01 58 40.1
comp=Z,56nm,1.0s,mb5.3
HARR Harsova 83.03 318 P P 01 58 36.7 +0.6
HARR Harsova 83.03 318 ⇑P P 01 58 36.8 +0.7
HARR Harsova 83.03 318 ⇑P P 01 58 36.8 +0.7
VRI Vrincioaia 83.04 319 ⇑P P 01 58 37.0 +0.9
BRD Bordesti 83.05 319 ⇑P P 01 58 37.9 +1.8
TPAW Teton Pass 83.08 44 *e*P P 01 58 38.0 +1.7
comp=Z,179nm,0.9s,mb5.8
WUWY Wally Ulrich 83.18 43 *e*P P 01 58 38.2 +1.4
PMOR Pomariorio Ree 83.21 111 *e*P P 01 58 41.6 +4.1
comp=Z,51nm,0.8s,mb5.3
REDW Red Top Meadow 83.21 44 *e*P P 01 58 38.1 +1.1
comp=Z,286nm,1.4s,mb5.8
SNOW Snow King Moun 83.21 43 *e*P P 01 58 38.6 +1.6
comp=Z,188nm,1.2s,mb5.7
LOHW Long Hollow 83.22 43 *e*P P 01 58 38.3 +1.3
comp=Z,278nm,1.4s,mb5.8
GKP Gorka Klasztor 83.23 329 *e*P P 01 58 36.7 -0.2
GKP *e* 02 08 18.4
GKP *e*S S 02 08 22.0 +1.8
GKP Gorka Klasztor 83.23 329 *e*P P 01 58 36.7 -0.2
GKP *e*PcP PcP 01 58 38.8 -1.9
GKP *e*SKS SKS 02 08 18.4 +3.6
GKP *e*S S 02 08 22.0 +1.8
GKP *e*SS SS 02 13 52.4 -7.5
GKP Gorka Klasztor 83.23 329 *e*P P 01 58 36.7 -0.2
GKP *e*PcP PcP 01 58 38.8 -1.9
GKP *e*SKS SKS 02 08 18.4 +3.6
GKP *e*S S 02 08 22.1 +1.8
GKP *e*SS SS 02 13 52.4 -7.4
GKP MLR MLR 02 39 58.1
comp=Z,800nm,17.2s
FKH Fakeheh 83.23 305 *e*P P 01 58 37.8 +0.5
BGU Big Grassy Mou 83.23 47 *e*P P 01 58 38.4 +1.2
PPT Papeete 83.27 114 *e*LR LR 02 24 58.6
comp=Z,484nm,28.0s
SPUT South Promonto 83.39 46 *e*P P 01 58 39.2 +1.3
SFJD Kangerlussuaq 83.39 4 *i*P P 01 58 37.3 -0.1
SFJD *i* 02 08 17.4
SFJD pmax pmax
comp=Z,77nm,0.7s,mb5.5
SFJD Kangerlussuaq 83.39 4 *i*P P 01 58 37.3 -0.1
comp=Z,77nm,0.7s,mb5.5
SFJD *i* 02 08 17.4
AHID Auburn Hatcher 83.40 44⇑ *e*P P 01 58 39.0 +1.0
comp=Z,142nm,0.9s,mb5.7
MDU Mudurnu 83.40 313 *e*P P 01 58 38.3 +0.3
MWC Mount Wilson 83.44 54 *e*P P 01 58 38.8 +0.4
HWQ Hawqa 83.53 306 *e*P P 01 58 38.7 -0.1
COP Copenhagen 83.59 333 *i*P P 01 58 38.4 -0.2
COP *i* S S 02 08 19.9 -3.8
COP *i* 02 14 01.3
COP pmax pmax
comp=Z,120nm,0.7s,mb5.7
COP MLR MLR
comp=Z,180nm,18.0s
COP Copenhagen 83.59 333 *i*P P 01 58 38.4 -0.2
comp=Z,120nm,0.7s,mb5.7
COP *i* S S 02 08 19.9 -3.8
COP *i* 02 11 07.9
COP *i* 02 14 01.3
comp=Z,170nm,18.0s
KOLS Kolonicke sedl 83.60 324 *e*P P 01 58 39.0 +0.2
KOLS *e*S S 02 08 20.9 -3.0
MLR Muntele Rosu 83.70 319 P P 01 58 40.0 +0.5
comp=Z,15nm,0.5s,mb5.0,baz=348,slow=7.3,SNR=77
MLR S S 02 08 22.1 -3.0
comp=Z,4.1nm,0.9s,baz=57,slow=10,SNR=10
MLR Muntele Rosu 83.70 319 ⇑P P 01 58 39.8 +0.4
MLR Muntele Rosu 83.70 319 ⇑P P 01 58 39.8 +0.4
HWUT Hardware Ranch 83.77 45⇑ *e*P P 01 58 41.2 +1.4
comp=Z,504nm,0.9s,mb6.2
DUG Dugway 83.78 47⇑ *e*P P 01 58 41.2 +1.3
DUG pmax pmax

comp=Z,353nm,1.0s,mb6.0
DUG Dugway 83.78 47⇑ *e*P **P 01 58 41.2 +1.3**
comp=Z,353nm,1.0s,mb6.0
LAO LASA Array 83.92 39 *e*P **P 01 58 41.4 +1.0**
comp=Z,286nm,1.1s,mb5.9
BHL Bhannes 83.93 306 *e*P **P 01 58 40.5 -0.4**
BHL Bhannes 83.93 306 *e*P 02 08 21.9
NOQ North Oquirrh 83.96 46⇑ *e*P **P 01 58 42.0 +1.2**
OJC Ojcow 84.03 326 *e*P **P 01 58 40.7 -0.2**
OJC *i* S S 02 08 27.9 -0.2
OJC MLR MLR 02 42 48.2
comp=Z,600nm,15.9s
CRVS Cervenica-Dubn 84.04 324 *e*P **P 01 58 44.0 +3.0**
CRVS *e*S S 02 08 25.9 -2.3
TCUT Toone Canyon 84.14 46 *e*P **P 01 58 43.0 +1.3**
CTU Camp Tracy 84.17 46⇑ *e*P **P 01 58 42.9 +1.1**
CTU *e* pP 02 00 20.0 +1.1
HRT Hereke 84.18 314 *e*P **P 01 58 40.8 -1.1**
PRD Provadia 84.20 317 *e*P **P 01 58 42.5 +0.5**
MUD Monsted U'grnd 84.29 335⇑ *i*P **P 01 58 43.4 +1.4**
MUD *i* 02 04 11.9
MUD *i* S S 02 08 31.1 +0.7
MUD pmax pmax
comp=Z,52nm,0.8s,mb5.3
MUD MLR MLR
comp=Z,420nm,18.0s
MUD Monsted U'grnd 84.29 335⇑ *i*P **P 01 58 43.4 +1.4**
comp=Z,52nm,0.8s,mb5.3
MUD *e* 02 00 53.2
MUD *i* 02 04 11.9
MUD *i* S S 02 08 31.1 +0.7
MUD *i* 02 11 23.9
MUD *i* 02 14 06.8
comp=Z,420nm,18.0s
NIE Niedzica 84.29 325 *e*P **P 01 58 42.5 +0.3**
BW06 Boulder Array 84.33 44⇑ *e*P **P 01 58 42.6 0.0**
comp=Z,129nm,1.0s,mb5.6
PDAR Pinedale Array 84.33 44 P **P 01 58 43.1 +0.5**
comp=Z,82nm,1.0s,mb5.4,baz=292,slow=2.1,SNR=158
PDAR S S 02 08 32.2 +1.0
comp=Z,0.2nm,0.4s,baz=117,slow=2.0,SNR=3.0
PDAR Pinedale Array 84.33 44 P **P 01 58 43.1 +0.5**
PDAR S S 02 08 32.2 +1.0
NLU North Lily Min 84.38 47 *e*P **P 01 58 44.0 +1.1**
JLU Jordanelle 84.41 46 *e*P **P 01 58 44.2 +1.2**
JLU *e* pP 02 00 16.5 -3.6
MPU Maple Canyon 84.62 47⇑ *e*P **P 01 58 45.3 +1.2**
DAU Daniels Canyon 84.64 46 *e*P **P 01 58 45.5 +1.3**
ARUT Antelope Range 84.70 49 *e*P **P 01 58 45.7 +1.2**
KECS Kecovo 84.80 324 *e*P **P 01 58 46.1 +1.3**
KECS *e*S S 02 08 28.6 -7.0
PFO Pinyon Flat Ob 84.90 54⇑ *e*P **P 01 58 46.3 +0.7**
PFO pmax pmax
comp=Z,165nm,0.8s,mb5.8
PFO Pinyon Flat Ob 84.90 54⇑ *e*P **P 01 58 46.3 +0.7**
comp=Z,165nm,0.8s,mb5.8
MAMC Mammari 84.96 308 P **P 01 58 46.1 +0.2**
CSS Prodhromos 84.99 307 ⇓ P **P 01 58 45.4 -0.6**
comp=Z,1.1nm,0.5s
CSS Prodhromos 84.99 307⇓ *e*P **P 01 58 45.4 -0.6**
SZH Strazhica 85.03 318 *e*P **P 01 58 47.0 +1.0**
LDFC Landfair 85.05 52 *e*P **P 01 58 47.3 +1.0**
OKC Ostrava-Krasne 85.08 326 *e*P **P 01 58 45.8 -0.3**
OKC *e*S S 02 08 36.2 -2.0
MVU Marysvale 85.10 48⇑ *e*P **P 01 58 48.0 +1.5**
comp=Z,163nm,1.0s,mb5.7
JMB Yambol 85.12 317 *e*P **P 01 58 47.5 +1.1**
MSU Marysvale 85.12 48 *e*P **P 01 58 48.0 +1.4**
LEF Lefka 85.21 308 *e*P **P 01 58 45.3 -1.8**
BAR Barrett 85.24 55 *e*P **P 01 58 47.7 +0.4**
KSP Ksiaz 85.29 328 *e*P **P 01 58 47.1 0.0**
KSP *e*pP pP 02 00 25.1 +0.7
KSP *e*SKS SKS 02 08 30.6 +2.1
KSP *e*S S 02 08 39.5 -0.7
KSP *e* 02 11 26.5
KSP *e*SS SS 02 14 23.0 -6.8
KSP *e*PKKP PKKP 02 16 52.0 +56
KSP *e* 02 21 11.0
KSP Ksiaz 85.29 328 *e*P **P 01 58 47.1 0.0**
KSP *e*PcP PcP 01 58 49.3 -0.5
KSP *e*pP pP 02 00 27.6 +3.2
KSP *e*SKS SKS 02 08 31.0 +2.4
KSP *e*S S 02 08 39.7 -0.5
KSP *e*SS SS 02 14 29.1 -0.8
KSP MLR MLR 02 42 56.4
comp=Z,1μm,17.5s
RUE Ruedersdorf 85.30 330 P **P 01 58 46.1 -1.0**
comp=Z,75nm,1.3s,mb5.3
TMUT Trail Mountain 85.30 47 *e*P **P 01 58 48.6 +1.1**
ALFC Alevga 85.39 308 P **P 01 58 47.3 -0.7**
comp=Z,2.8nm,0.7s
SZAC Souni-Zanaja 85.42 307 P **P 01 58 48.4 +0.3**
MORC Moravsky Berou 85.42 326 *e*P **P 01 58 47.0 -0.7**
MORC pmax pmax
comp=Z,31nm,1.1s,mb5.0
MORC Moravsky Berou 85.42 326 *e*P **P 01 58 47.0 -0.7**
comp=Z,31nm,1.1s,mb4.9
PSZ Piszkesteto 85.47 324 *e*P **P 01 58 47.5 -0.5**
PSZ pmax pmax
comp=Z,55nm,1.2s,mb5.2
PSZ Piszkesteto 85.47 324 *e*P **P 01 58 47.5 -0.4**
comp=Z,55nm,1.2s,mb5.2
PSZ Piszkesteto 85.47 324⇓ *e*P **P 01 58 47.9 -0.1**
DPC Dobruska-Polom 85.61 327 *e*P **P 01 58 48.8 +0.2**
DPC *e* 02 08 42.3
DPC MLR MLR
comp=Z,700nm,16.4s
DPC Dobruska-Polom 85.61 327 *e*P **P 01 58 48.8 +0.2**
DPC *e*SKS S 02 08 42.2 -1.0
DPC *e*SKS S 02 08 42.3 -0.9
DPC LR LR
comp=Z,700nm,16.4s
DPC Dobruska-Polom 85.61 327 *e*P **P 01 58 48.8 +0.2**
DPC *e*S S 02 08 42.2 -1.0
DPC AMS AMS 02 41 40.0
comp=Z,700nm,16.4s
VYHS Vyhne 85.63 325 *e*P **P 01 58 49.0 +0.2**
VYHS *e*S S 02 08 34.2 -9.2
VYHS *e* 02 08 41.0
AKMC Akamas 85.65 308 P **P 01 58 47.8 -1.4**
UPC Upice 85.65 328 *e*P **P 01 58 48.8 0.0**
BSEG Bad Segeberg 85.70 332 *e*P **P 01 58 48.9 -0.1**
BSEG *e*S S 02 08 43.1 -0.9
BSEG *e*SS SS 02 14 28.8 -7.1
SRU San Rafael 85.84 47⇑ *e*P **P 01 58 50.8 +0.8**
BZS Buzias 86.03 321 ⇑ P **P 01 58 50.0 -0.7**
VRAC Vranov 86.19 326 ⇑ P **P 01 58 51.7 +0.3**
KDZ Kurdzhali 86.30 317 *e*P **P 01 58 52.0 -0.1**
PVCC Panska Ves 86.31 328 *e*P **P 01 58 51.8 -0.1**
PVCC *e*S S 02 08 51.0 +1.3
SMOL Smolenice 86.32 325 *e*P **P 01 58 52.7 +0.7**
BRG Berggiesshubel 86.35 329 *e*P **P 01 58 51.9 -0.2**
BRG *e* 02 08 37.6
BRG *i* S S 02 08 48.0 -2.1
BRG pmax pmax
comp=Z,40nm,1.0s,mb5.1
BRG Berggiesshubel 86.35 329 *e*P **P 01 58 51.9 -0.2**
comp=Z,40nm,1.0s,mb5.1
BRG *e*pP pP 02 00 32.4 +2.7
BRG *e*SKS SKS 02 08 37.6 +2.1
BRG *i* S S 02 08 48.0 -2.1
ALN Alexandroupoli 86.37 316 *e*P **P 01 58 50.0 -2.5**
RWWY Rawlins 86.37 43 *e*P **P 01 58 53.3 +0.8**
comp=Z,216nm,0.9s,mb5.9
CLL Collm 86.47 329 *i* P **P 01 58 52.1 -0.6**
CLL *e* 02 08 38.0
CLL *e*S S 02 08 47.0 -4.2
CLL pmax pmax
comp=Z,67nm,1.3s,mb5.2
CLL Collm 86.47 329 *i* P **P 01 58 52.1 -0.6**
comp=Z,67nm,1.3s,mb5.2
CLL *e*pP pP 02 00 33.0 +2.8
CLL *i* 02 00 37.3
CLL *e*SKS SKS 02 08 38.0 +1.8
CLL *e*S S 02 08 47.0 -4.2
CLL *e*sS 02 11 37.0
CLL Collm 86.47 329 P **P 01 58 52.1 -0.6**
comp=Z,logA/T=1.7,mb5.2
CLL *e**PP pP 02 00 33.0 +2.8
CLL *i* 02 00 37.3
CLL *e* 02 01 05.0
CLL *e*PP PP 02 02 21.0 -1.3
CLL *e* 02 08 38.0
CLL *e* 02 08 47.0
CLL *e*SCS ScS 02 08 59.0 +2.6
CLL *e**SS 02 11 37.0
CLL *e*SS SS 02 14 38.0 -8.8
CLL *e**SSS 02 17 12.0
CLL *e*SSS SSS 02 18 09.0 -12
CLL *e* 02 21 33.0
LBOS 86.47 284⇓ *e*P **P 01 58 54.0 +0.5**
TBI Tubuai 86.57 119 *e*LR LR 02 26 33.5
comp=Z,457nm,25.0s
EIL Elat 86.67 302 *e*P **P 01 58 53.4 -0.9**
comp=Z,89nm,1.0s,mb5.5
ZST Bratislava 86.69 325 *e*P **P 01 58 55.2 +1.3**
ZST *e*S S 02 08 42.1 -11
PRU Pruhonice 86.69 328 *e*P **P 01 58 53.3 -0.5**
PRU *e*S S 02 08 51.0 -2.4
PRU AMS AMS 02 43 20.0
comp=Z,500nm,16.2s
RZN Rozhen 86.70 317 *e*P **P 01 58 54.0 0.0**
RSSD Black Hills 86.72 40⇑ *e*P **P 01 58 54.5 +0.4**
RSSD pmax pmax
comp=Z,175nm,0.9s,mb5.8
RSSD Black Hills 86.72 40⇑ *e*P **P 01 58 54.5 +0.4**
comp=Z,175nm,0.9s,mb5.8
ULM Lac du Bonnet 86.80 32 P **P 01 58 54.7 +0.4**
comp=Z,37nm,0.8s,mb5.2,baz=311,slow=5.2,SNR=32
ULM S 02 08 38.0
comp=Z,1.0nm,0.3s,baz=146,slow=19,SNR=2.1
ULM Lac du Bonnet 86.80 32⇑ *e*P **P 01 58 54.1 -0.2**
comp=Z,82nm,1.0s,mb5.4
EZN Ezine 86.84 315 *e*P **P 01 58 53.3 -1.4**
DHBB Dhamar BB 86.85 285⇓ *e*P **P 01 58 56.3 +1.0**
VTS Vitosha 87.03 318 *e*P **P 01 58 55.5 -0.1**
PV10 Paradox Valley 87.22 47 *e*P **P 01 58 57.9 +1.3**
CLZ Clausthal 87.22 331 *e*P **P 01 58 56.2 -0.1**
comp=Z,33nm,1.2s,mb4.9
CLZ *e*S S 02 08 58.6 +0.4
CLZ *e*SS SS 02 14 53.6 -3.9
PKSM Moragy 87.23 323 ⇓P **P 01 58 55.8 -0.7**
MMB Musomiste 87.34 317 *e*P **P 01 58 56.5 -0.6**
WUAZ Wupatki 87.35 50 *e*P **P 01 58 58.3 +1.0**
comp=Z,168nm,1.4s,mb5.6
NKC Novy Kostel 87.48 329 *e*P **P 01 58 57.9 +0.4**
NKC AMS AMS 02 42 30.0
comp=Z,600nm,15.1s
KKB Krupnik 87.55 318 *e*P **P 01 58 58.0 -0.1**
MOX Moxa 87.55 330 *e*P **P 01 58 57.6 -0.3**
MOX *e* 02 02 31.4
MOX *e*SS SS 02 14 56.1 -6.4
MOX pmax pmax
comp=Z,16nm,1.1s,mb4.7
MOX Moxa 87.55 330 *e*P **P 01 58 57.6 -0.3**
comp=Z,16nm,1.1s,mb4.7
MOX *e*PP PP 02 02 31.4 0.0
MOX *e*SS SS 02 14 56.1 -6.4
MOX Moxa 87.55 330 *i* P **P 01 58 57.3 -0.6**
comp=Z,logA/T=1.3,mb4.8
MOX PP PP 02 02 28.0 -3.4
MOX S S 02 08 58.0 -3.3
MOX L 02 47 49.0
GRUS Gruza 87.63 320⇑ *i*P **P 01 58 58.6 +0.2**
PHWY Pilot Hill 87.65 43 *e*P **P 01 58 59.7 +1.1**
PV01 Paradox Valley 87.66 47 *e*P **P 01 58 59.5 +0.8**
SRS Serrai 87.72 317 *e*P **P 01 58 57.5 -1.3**
KHC Kasperske Hory 87.74 328 *e*P **P 01 58 58.3 -0.5**
KHC *e* 02 02 30.0
KHC MLR MLR
comp=Z,700nm,18.6s
KHC Kasperske Hory 87.74 328 *e*P **P 01 58 58.3 -0.5**
KHC *e* 02 02 30.0
KHC *e* 02 10 03.0
KHC LR LR
comp=Z,700nm,18.6s
KHC Kasperske Hory 87.74 328 *e*P **P 01 58 58.3 -0.5**
KHC PP PP 02 02 30.0 -3.0
KHC *ex* x 02 10 03.0
KHC AMS AMS 02 44 20.0
comp=Z,700nm,18.6s
GEC2 GERESS Array S 87.89 327 *e*P **P 01 58 58.9 -0.6**
GEC2 *e*S S 02 09 04.5 +0.1
GEC2 *e*SS SS 02 15 04.0 -3.5
GEC2 pmax pmax
comp=Z,23nm,0.8s,mb5.0
GEC2 GERESS Array S 87.89 327 *e*P **P 01 58 58.9 -0.6**
comp=Z,23nm,0.8s,mb5.0
GEC2 *e*S S 02 09 04.5 +0.1
GEC2 *e*SS SS 02 15 04.0 -3.5
GERES GERESS Array B 87.89 327 P **P 01 58 58.9 -0.5**
comp=Z,13nm,0.6s,mb4.8,baz=42,slow=5.1,SNR=57
DIVS Divcibare 87.89 321⇑ *i*P **P 01 58 58.8 -0.8**
WET Wettzell 88.06 328 *e*P **P 01 59 00.0 -0.3**
WET *e*S S 02 09 07.1 +1.1
WET *e*SS SS 02 15 05.4 -4.6
WET pmax pmax
comp=Z,23nm,1.1s,mb4.8
WET Wettzell 88.06 328 *e*P **P 01 59 00.0 -0.3**
comp=Z,23nm,1.1s,mb4.8
WET *e*S S 02 09 07.1 +1.1
WET *e*SS SS 02 15 05.4 -4.6
ARSA Arzberg 88.12 325⇓ *i*P **P 01 59 00.3 -0.3**
comp=Z,91nm,2.9s,mb5.0
VAY Valandovo 88.19 318 *i* P **P 01 59 00.5 -0.6**
MOA Molln 88.32 326⇓ *i*P **P 01 59 01.7 +0.2**
comp=Z,111nm,2.4s,mb5.2
BBLS Bajina Basta - 88.36 321⇑ *i*P **P 01 58 59.8 -2.0**
THE Thessaloniki 88.39 317 *e*P **P 01 59 01.2 -0.9**
GRA1 Grafenberg Arr 88.42 329 *e*P **P 01 59 02.1 +0.1**
comp=Z,64nm,1.0s,mb5.3
GRA1 *e*pP pP 02 00 43.2 +3.3
GRA1 *e*S S 02 09 08.6 -0.6
GRA1 *e*SS SS 02 15 12.5 -2.5
GRA1 LR LR
comp=Z,400nm,19.4s
GRF Grafenberg Arr 88.42 329 *e*P **P 01 59 02.1 +0.1**
GRF *e*S S 02 09 08.6 -0.6
GRF *e*SS SS 02 15 12.5 -2.5
GRF pmax pmax
comp=Z,64nm,1.0s,mb5.3
GRF MLR MLR
comp=Z,400nm,19.4s
GRF Grafenberg Arr 88.42 329 *e*P **P 01 59 02.1 +0.1**
GRF *e*S S 02 09 08.6 -0.6
GRF *e*SS SS 02 15 12.5 -2.5
GRF pmax pmax
comp=Z,64nm,1.0s,mb5.3
GRF Grafenberg Arr 88.42 329 *e*P **P 01 59 02.1 +0.1**
comp=Z,64nm,1.0s,mb5.3
GRF *e*pP pP 02 00 43.2 +3.3
GRF *e*S S 02 09 08.6 -0.6
GRF *e*SS SS 02 15 12.5 -2.5
SKO Skopje 88.44 319⇓ *i*P **P 01 59 02.2 -0.1**
SKO *i* S S 02 09 15.0 +5.4
SKO pmax pmax
comp=Z,23nm,0.8s,mb5.0
SKO Skopje 88.44 319⇓ *i*P **P 01 59 02.2 -0.1**
comp=Z,0.0nm,0.8s
SKO *i* S S 02 09 15.0 +5.4
ISCO Idaho Springs 88.49 44⇑ *e*P **P 01 59 04.1 +1.6**
ISCO *e* pP 02 00 41.8 +1.3
ISCO pmax pmax
comp=Z,61nm,0.9s,mb5.3
ISCO Idaho Springs 88.49 44⇑ *e*P **P 01 59 04.1 +1.6**
comp=Z,61nm,0.9s,mb5.3
ISCO *e* pP 02 00 41.8 +1.3
WTSB Winterswijk 88.59 333 *e*P **P 01 59 03.5 +0.8**
GOLS Golise 88.92 324 *e*P **P 01 59 03.8 -0.6**
LIT Litokhoron 89.00 317 *e*P **P 01 59 03.5 -1.5**
OBKA Obir 89.11 325⇓ *i*P **P 01 59 04.5 -0.8**
comp=Z,26nm,1.1s,mb4.9
TNS Taunus Mts 89.23 331 *e*P **P 01 59 05.5 -0.3**
TNS *e*S S 02 09 15.4 -1.2
TNS pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
TNS Taunus Mts 89.23 331 *e*P **P 01 59 05.5 -0.3**
comp=Z,10.0nm,0.9s,mb4.5
TNS *e*S S 02 09 15.4 -1.2
KBA Koelnbreinsper 89.30 326⇓ *i*P **P 01 59 05.3 -0.9**
comp=Z,90nm,2.9s,mb5.0
KBA Koelnbreinsper 89.30 326⇓ *i*P **P 01 59 05.3 -0.9**
KBA pmax pmax
comp=Z,91nm,2.9s,mb5.0
ESK Eskdalemuir 89.41 340 *e*P **P 01 59 06.9 +0.5**
ESK pmax pmax
comp=Z,56nm,1.2s,mb5.2
ESK Eskdalemuir 89.41 340 *e*P **P 01 59 06.8 +0.4**
comp=Z,56nm,1.2s,mb5.2
ESK Eskdalemuir 89.41 340 *e*P **P 01 59 06.6 +0.2**
ESK AMb AMB 01 59 09.6
comp=Z,104nm,1.8s,mb5.3
LJU Ljubljana 89.45 325 *e*P **P 01 59 05.9 -1.0**
BOJS Bojanci 89.46 324 *i* P **P 01 59 06.3 -0.6**
FUR Furstenfeldbru 89.50 328 *e*P **P 01 59 07.0 0.0**
FUR pmax pmax
comp=Z,104nm,1.0s,mb5.6
FUR Furstenfeldbru 89.50 328 *e*P **P 01 59 07.0 0.0**
comp=Z,104nm,1.0s,mb5.6
TOD Tromm 89.55 330 *e*P **P 01 59 07.9 +0.7**
TUC Tucson 89.58 53 *e*P **P 01 59 08.8 +1.0**
TUC *e* pP 02 00 44.3 -1.8
TUC *e* 02 02 46.3
TUC pmax pmax
comp=Z,36nm,1.1s,mb5.1
TUC Tucson 89.58 53 *e*P **P 01 59 08.8 +1.0**
comp=Z,36nm,1.1s,mb5.1
TUC *e* pP 02 00 44.3 -1.7
TUC *e*PP PP 02 02 46.2 -1.7
VOY Vojsko 89.77 325 *e*P **P 01 59 06.8 -1.5**
VOY *e* 01 59 08.0
VOY *e* 01 59 16.7
VOY *e* 01 59 36.5
JAVS Javornik 89.78 325 *e*P **P 01 59 07.2 -1.2**
SDCO Great Sand Dun 89.82 46⇑ *e*P **P 01 59 10.1 +1.3**
comp=Z,96nm,0.9s,mb5.6
HGN Heimansgroeve 89.86 332 *e*P **P 01 59 09.4 +0.8**
comp=Z,24nm,1.2s,mb4.9
HGN *ex* x 02 01 14.5
HGN *ex* x 02 04 47.6
HGN *i* S S 02 09 16.7 -5.5
HGN *e*SS 02 12 11.9
HGN *e*SSS SS 02 15 34.1 -1.7
ABH Alteburg 89.87 331 *e*P **P 01 59 09.2 +0.5**
WATA Walderalm 89.96 327⇓ *i*P **P 01 59 09.7 +0.5**
comp=Z,18nm,1.0s,mb4.9
WATA Walderalm 89.96 327⇓ *i*P **P 01 59 09.7 +0.5**
WATA pmax pmax
comp=Z,19nm,1.0s,mb4.9
WTTA Wattenberg 89.99 327⇓ *i*P **P 01 59 08.8 -0.5**
comp=Z,35nm,1.1s,mb5.1
WTTA Wattenberg 89.99 327⇓ *i*P **P 01 59 08.8 -0.5**
WTTA pmax pmax
comp=Z,35nm,1.1s,mb5.1
STU Stuttgart 90.00 329 P **P 01 59 09.3 0.0**
STU pmax pmax
comp=Z,66nm,1.0s,mb5.4
STU Stuttgart 90.00 329 *e*P **P 01 59 08.1 -1.2**
comp=Z,66nm,0.9s,mb5.5
MOTA Moosalm 90.18 328⇓ *i*P **P 01 59 09.5 -0.7**
RUP Ruppelstein 90.22 331 *e*P **P 01 59 11.3 +1.0**
SQTA Sankt Quirin 90.22 327⇓ *i*P **P 01 59 09.7 -0.7**
comp=Z,18nm,1.0s,mb4.9
SQTA Sankt Quirin 90.22 327⇓ *i*P **P 01 59 09.7 -0.7**
SQTA pmax pmax
comp=Z,18nm,1.0s,mb4.9
GAL1 Galloway 90.25 340 *e*P **P 01 59 10.2 -0.1**
LANF Langenberg 90.45 330 *e*P **P 01 59 13.1 +1.7**
EYMN Ely 90.45 31 *e*P **P 01 59 11.3 -0.1**
comp=Z,191nm,1.4s,mb5.7
GCL Cushendall 90.48 341 *e*P **P 01 59 12.2 +0.8**
KBI1 Birley Grange 90.61 338 *e*P **P 01 59 12.4 +0.4**
WLF Walferdange 90.62 332 *e*P **P 01 59 12.1 -0.1**
WLF pmax pmax
comp=Z,53nm,1.2s,mb5.2
WLF Walferdange 90.62 332 *e*P **P 01 59 12.1 -0.1**
comp=Z,53nm,1.2s,mb5.2
IGT Igoumenitsa 90.65 317 *e*P **P 01 59 11.3 -1.2**
SPAK Spaichingen 90.68 329 *e*P **P 01 59 13.9 +1.5**
BFO Black Forest 90.71 330 *e*P **P 01 59 12.1 -0.5**
BFO *e*S S 02 09 29.2 -0.5
BFO pmax pmax
comp=Z,55nm,1.0s,mb5.3
BFO Black Forest 90.71 330 *e*P **P 01 59 12.1 -0.5**
comp=Z,55nm,1.0s,mb5.3
BFO *e*S S 02 09 29.2 -0.5
DAVA Damuels 90.79 328⇑ *i*P **P 01 59 12.7 -0.3**
comp=Z,77nm,1.6s,mb5.3
GIVF Givet 90.83 333 *e*P **P 01 59 12.3 -0.8**
WIM Isle of Man 90.85 340 *e*P **P 01 59 14.3 +1.2**
WIM AMb AMB 01 59 15.8
comp=Z,92nm,1.5s,mb5.4
KWE Weaver Farm 90.91 338 *e*P **P 01 59 14.5 +1.1**
ANMO Albuquerque 90.92 48⇑ *e*P **P 01 59 15.1 +1.2**
ANMO *e* 02 02 53.5
ANMO pmax pmax
comp=Z,114nm,0.8s
ANMO Albuquerque 90.92 48⇑ *e*P **P 01 59 15.1 +1.2**
comp=Z,114nm,0.8s,mb5.8
ANMO *e*PP PP 02 02 53.5 -4.9
WLS Welschbruch 91.07 330 *e*P **P 01 59 15.2 +0.9**
BAIF Baives 91.11 333 *e*P **P 01 59 13.6 -0.8**
CDF Champ du Feu 91.11 330⇓ *i*P **P 01 59 13.9 -0.5**
comp=Z,119nm,1.2s,mb5.3
CDF Champ du Feu 91.11 330⇓ *i*P **P 01 59 13.9 -0.5**
CDF pmax pmax
comp=Z,59nm,1.2s,mb5.3
GMM Mts of Mourne 91.15 340 *e*P **P 01 59 14.6 +0.1**
FELD Feldberg 91.19 329 *e*P **P 01 59 15.4 +0.6**
ECH Echery 91.31 330 *e*P **P 01 59 15.9 +0.5**
WPM1 Penmaenmawr 91.38 339 *e*P **P 01 59 16.7 +1.1**
WPM1 AMb AMB 01 59 18.9
comp=Z,66nm,1.2s,mb5.3
WME Myndd Eilian 91.38 339 *e*P **P 01 59 16.0 +0.4**
SBD1 Bryn Du 91.47 338 *e*P **P 01 59 16.1 +0.1**
SBD1 AMb AMB 01 59 19.5
comp=Z,101nm,1.2s,mb5.5
WCB1 Church Bay 91.47 339 *e*P **P 01 59 17.0 +1.0**
WCB1 AMb AMB 01 59 19.0
comp=Z,47nm,1.4s,mb5.1
YRC Rhoscolyn 91.59 339 *e*P **P 01 59 17.6 +1.0**
YRC AMb AMB 01 59 19.7
comp=Z,57nm,1.3s,mb5.3
MOF Molkenrain 91.59 330 *e*P **P 01 59 17.2 +0.5**
HINF Hinteralfeld 91.74 330 *e*P **P 01 59 16.4 -1.0**
comp=Z,50nm,1.0s,mb5.1
HINF Hinteralfeld 91.74 330 *e*P **P 01 59 16.4 -1.0**
HINF pmax pmax
comp=Z,25nm,1.0s,mb5.1
THEF They Montfort 91.80 331 *e*P **P 01 59 16.9 -0.8**
HAU Haudompre 91.82 330⇓ *i*P **P 01 59 16.8 -0.9**
comp=Z,42nm,0.9s,mb5.1
HAU *e*R
comp=Z,319nm,18.8s
SSP1 Stoney Pound 91.83 338 *e*P **P 01 59 18.7 +1.0**
HAE Alders End 91.97 337 *e*P **P 01 59 18.3 -0.1**
HAE AMb AMB 01 59 21.1
comp=Z,136nm,0.9s,mb5.9
MEZF Maizieres J'vi 91.98 331 *e*P **P 01 59 18.2 -0.3**
comp=Z,70nm,0.9s,mb5.3
DLF Lyons Farm 92.14 340 *e*P **P 01 59 16.1 -3.0**
MCH1 Michaelchurch 92.15 338 *e*P **P 01 59 19.0 -0.2**
MCH1 AMb AMB 01 59 21.3
comp=Z,54nm,1.2s,mb5.4
HTR Trewern Hill 92.17 338 *e*P **P 01 59 20.4 +1.1**
HTR AMb AMB 01 59 22.7
comp=Z,69nm,1.0s,mb5.5
DCN Croghan 92.32 341 *e*P **P 01 59 17.2 -2.8**
HGH Gray Hill 92.39 337 *e*P **P 01 59 20.5 +0.2**
HGH AMb AMB 01 59 25.1
comp=Z,72nm,1.4s,mb5.4
CII Carovilli 92.58 322 *e*P **P 01 59 21.3 -0.1**
comp=Z,40nm,1.1s,mb5.3
CBKS Cedar Bluff 92.61 42 *e*P **P 01 59 20.7 -1.0**
CBKS *e* 02 03 08.0
CBKS pmax pmax
comp=Z,203nm,1.3s,mb5.9
CBKS Cedar Bluff 92.61 42 *e*P **P 01 59 20.6 -1.0**
comp=Z,203nm,1.3s,mb5.9
CBKS *e*PP PP 02 03 08.0 -3.7
AQU L'Aquila 92.61 323 P **P 01 59 20.7 -0.9**
AQU pmax pmax
comp=Z,42nm,0.8s,mb5.4
AQU L'Aquila 92.61 323 P **P 01 59 20.6 -0.9**
comp=Z,42nm,0.8s,mb5.4
SARO Sassorosso 92.82 326 P **P 01 59 24.3 +1.8**
ORX Oropa 92.90 328 P **P 01 59 22.5 -0.2**
BACM 92.91 326 P **P 01 59 24.8 +1.9**
CODM 92.94 326 P **P 01 59 25.9 +2.8**
TIP Timpagrande 92.96 319 *e*P **P 01 59 22.4 -0.8**
VINC Vinca 92.97 326 P **P 01 59 21.2 -2.0**

SCHQ Schefferville 92.98 15 P **P 01 59 23.3 +0.4**
comp=Z,13nm,0.8s,mb4.9,baz=348,slow=4.0,SNR=13
SCHQ Schefferville 92.98 15 *e*P **P 01 59 22.3 -0.6**
comp=Z,29nm,1.0s,mb5.2
CABF La Chapelle 93.00 330 ⇓*i*P **P 01 59 22.6 -0.7**
comp=Z,53nm,0.9s,mb5.2
CABF *e*pP pP 02 01 04.4 +2.6
TRAV 93.09 328 P **P 01 59 22.2 -1.5**
LSD Ceresole Reale 93.41 328 P **P 01 59 25.5 +0.4**
PCP Pian Castagno 93.45 327 P **P 01 59 26.3 +1.0**
RSL Roselend 93.47 329 *e*P **P 01 59 24.4 -1.0**
LPL La Plagne 93.56 329 ⇓*i*P **P 01 59 25.3 -0.5**
comp=Z,37nm,0.6s,mb5.3
LPL La Plagne 93.56 329 ⇓*i*P **P 01 59 25.3 -0.5**
LPL pmax pmax
comp=Z,19nm,0.6s,mb5.3
LPG La Plagne 93.56 329 ⇓*i*P **P 01 59 25.5 -0.3**
comp=Z,42nm,0.7s,mb5.3
LPG *e*pP pP 02 01 07.4 +3.0
LPG La Plagne 93.56 329 ⇓*i*P **P 01 59 25.5 -0.3**
LPG pmax pmax
comp=Z,21nm,0.7s,mb5.3
RSP Reno Superiore 93.59 328 P **P 01 59 28.2 +2.2**
MNTX Cornudas Mount 93.63 50⇑*e*P **P 01 59 27.1 +0.7**
comp=Z,176nm,1.5s,mb5.9
MNTX *e* pP 02 01 00.8 -4.3
MNTX *e*PP PP 02 03 18.4 -1.5
OG05 Jujurieux 93.72 330 *e*P **P 01 59 27.1 +0.6**
SSF Saint Saulge 93.76 331 ⇓*i*P **P 01 59 26.0 -0.7**
comp=Z,61nm,0.9s,mb5.3
SSF *e*pP pP 02 01 07.4 +2.1
SSF Saint Saulge 93.76 331 ⇓*i*P **P 01 59 26.0 -0.7**
SSF pmax pmax
comp=Z,31nm,0.9s,mb5.3
FENE Fenestrelle 93.78 328 P **P 01 59 25.9 -0.9**
BHB Bricherasio 93.83 328 P **P 01 59 27.8 +0.8**
FIN Finale Ligure 93.86 327 P **P 01 59 24.3 -2.9**
SMF Signal de Mont 93.95 331 *e*P **P 01 59 26.7 -0.8**
comp=Z,82nm,1.0s,mb5.4
HYF Humbligny 93.95 332 ⇓*i*P **P 01 59 27.4 -0.1**
ROB Roburent 93.96 327 P **P 01 59 26.2 -1.4**
FLN La Foliniere 93.97 334 *e*P **P 01 59 26.7 -0.9**
FLN *e*R
comp=Z,568nm,20.2s
LDF La Druitiere 93.97 334 *e*P **P 01 59 26.8 -0.8**
comp=Z,64nm,1.0s,mb5.3
LDF La Druitiere 93.97 334 *e*P **P 01 59 26.8 -0.8**
LDF pmax pmax
comp=Z,32nm,1.0s,mb5.3
RRL Cesana Torines 93.99 328 P **P 01 59 27.4 -0.4**
AMTX Amarillo 94.02 46⇑*e*P **P 01 59 28.9 +0.8**
comp=Z,63nm,0.8s,mb5.7
AMTX *e* pP 02 01 07.1 +0.3
AVF Avril sur Loir 94.04 331 ⇓*i*P **P 01 59 27.3 -0.6**
comp=Z,93nm,1.0s,mb5.5
AVF Avril sur Loir 94.04 331 ⇓*i*P **P 01 59 27.3 -0.6**
AVF pmax pmax
comp=Z,46nm,1.0s,mb5.5
MBDF Montbardon 94.14 328 ⇓*i*P **P 01 59 27.1 -1.4**
comp=Z,21nm,0.7s,mb5.0
MBDF Montbardon 94.14 328 ⇓*i*P **P 01 59 27.1 -1.4**
MBDF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
PZZ Prazzo 94.16 328 P **P 01 59 27.8 -0.7**
MONE Monesi 94.17 327 P **P 01 59 28.9 +0.3**
KSU1 Kansas State U 94.20 40 *e*P **P 01 59 28.2 -0.7**
ENR Entracque 94.22 327 P **P 01 59 28.0 -0.8**
IMI Imperia 94.24 327 P **P 01 59 29.7 +0.8**
STV2 Anna di Valdie 94.25 327 P **P 01 59 24.8 -4.2**
STV Sta Anna Valdi 94.25 327 P **P 01 59 27.6 -1.4**
NEGI Negi 94.37 327 P **P 01 59 28.6 -0.9**
ORIF Oris-en-Rattie 94.40 329 ⇓*i*P **P 01 59 28.8 -0.8**
comp=Z,12nm,0.5s,mb4.8
ORIF *e*R
comp=Z,366nm,19.2s
GRR Gorron 94.42 334 ⇓*i*P **P 01 59 29.0 -0.6**
comp=Z,70nm,1.0s,mb5.3
GRR Gorron 94.42 334 ⇓*i*P **P 01 59 29.0 -0.6**
GRR pmax pmax
comp=Z,35nm,1.0s,mb5.3
BGF Bois d'Agland 94.44 331 *e*P **P 01 59 29.1 -0.7**
comp=Z,28nm,1.0s,mb5.0
BGF Bois d'Agland 94.44 331 *e*P **P 01 59 29.1 -0.7**
BGF pmax pmax
comp=Z,14nm,1.0s,mb5.0
SBF Sospel 94.49 327 *e*P **P 01 59 28.5 -1.6**
comp=Z,62nm,1.1s,mb5.3
SBF Sospel 94.49 327 *e*P **P 01 59 28.5 -1.6**
SBF pmax pmax
comp=Z,31nm,1.1s,mb5.2
PLDF La Plantade 94.57 331 *e*P **P 01 59 30.2 -0.2**
PGF Pioggiola 94.72 325 *e*P **P 01 59 30.6 -0.5**
TCF Toulx Ste Croi 94.92 332 ⇓*i*P **P 01 59 31.4 -0.6**
comp=Z,50nm,1.2s,mb5.1
TCF Toulx Ste Croi 94.92 332 ⇓*i*P **P 01 59 31.4 -0.6**
TCF pmax pmax
comp=Z,25nm,1.2s,mb5.1
VIVF Saint-Julien-l 94.99 329 ⇓*i*P **P 01 59 31.5 -0.8**
comp=Z,35nm,0.9s,mb5.1
VIVF Saint-Julien-l 94.99 329 ⇓*i*P **P 01 59 31.5 -0.8**
VIVF pmax pmax
comp=Z,18nm,0.9s,mb5.1
FRF La Foret Royal 95.09 327 ⇓*i*P **P 01 59 31.2 -1.6**
comp=Z,25nm,0.9s,mb4.9
FRF La Foret Royal 95.09 327 ⇓*i*P **P 01 59 31.2 -1.6**
FRF pmax pmax
comp=Z,12nm,0.9s,mb4.9
SMRF Simiane la Rot 95.27 328 *e*P **P 01 59 31.8 -1.8**
comp=Z,23nm,1.1s,mb4.8
LMR La Mourre 95.33 327 ⇓*i*P **P 01 59 32.5 -1.4**
ROSF Rostrenen 95.34 336 *e*P **P 01 59 33.3 -0.6**
MFF Saint Martin d 95.61 333 ⇓*i*P **P 01 59 34.7 -0.4**
comp=Z,14nm,0.7s,mb4.9
MFF Saint Martin d 95.61 333 ⇓*i*P **P 01 59 34.7 -0.4**
MFF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
WMOK Wichita Mounta 95.91 44 *e*P **P 01 59 36.8 0.0**
WMOK *e**PP pP 02 01 13.6 -1.8
WMOK pmax pmax
comp=Z,49nm,1.6s,mb5.4
WMOK Wichita Mounta 95.91 44 *e*P **P 01 59 36.8 0.0**
comp=Z,49nm,1.6s,mb5.4
WMOK *e*pP pP 02 01 13.6 -1.8
LASF Ste Croix 95.96 329 *e*P **P 01 59 36.2 -0.6**
comp=Z,31nm,0.9s,mb5.1
RJF Les Rejaudoux 96.00 331 ⇓*i*P **P 01 59 36.6 -0.3**
comp=Z,32nm,1.0s,mb5.1
RJF *e*R
comp=Z,548nm,18.0s
DRV Dumont d'Urvil 96.00 180 P **P 01 59 46.0 +10**
CAF Calviac 96.07 331 *e*P **P 01 59 37.1 -0.2**
LTX Lajitas 96.25 51 *e*P **P 01 59 39.3 +0.8**
LTX pmax pmax
comp=Z,31nm,0.8s,mb5.5
LTX Lajitas 96.25 51 *e*P **P 01 59 39.3 +0.8**
comp=Z,31nm,0.8s,mb5.5
TXAR Lajitas Array 96.25 51 P **P 01 59 39.4 +0.9**
comp=Z,34nm,0.8s,mb5.5,baz=290,slow=3.1,SNR=115
TXAR pP pP 02 01 15.2 -1.9
comp=Z,5.1nm,0.8s,baz=313,slow=2.6,SNR=3.3
TXAR PP PP 02 03 46.0 +6.3
comp=Z,15nm,1.0s,baz=288,slow=4.0,SNR=6.4
TXAR PKKPbc 02 16 25.4
comp=Z,1.1nm,0.8s,baz=130,slow=7.0,SNR=6.6
TXAR Lajitas Array 96.25 51 P **P 01 59 39.4 +0.9**
TXAR pP pP 02 01 15.2 -1.9
TXAR PP PP 02 03 46.0 +6.3
TXAR PKKPbc 02 16 25.4
LFF La Frestale 96.61 332 ⇓*i*P **P 01 59 39.4 -0.3**
comp=Z,20nm,0.6s,mb5.1
LFF La Frestale 96.61 332 ⇓*i*P **P 01 59 39.4 -0.3**
LFF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
MTLF Montolieu 97.27 330 ⇓*i*P **P 01 59 42.3 -0.5**
RKT Rikitea 97.83 112 *e*LR LR 02 31 44.6
comp=Z,363nm,28.2s
CCM Cathedral Cave 97.89 38 *e*P **P 01 59 45.4 -0.3**
CCM *e**PP pP 02 01 21.6 -2.8
CCM pmax pmax
comp=Z,25nm,0.9s,mb5.4
CCM Cathedral Cave 97.89 38 *e*P **P 01 59 45.4 -0.3**
comp=Z,25nm,0.9s,mb5.5
CCM *e*pP pP 02 01 21.6 -2.8
JCT Junction City 98.09 48 *e*P **P 01 59 47.0 +0.2**
comp=Z,13nm,0.8s,mb5.2

MIAR Mount Ida 99.14 42 *e*P **P 01 59 51.1 -0.3**
comp=Z,15nm,0.8s,mb5.4
MIAR *e* pP 02 01 26.6 -3.4
MSNY Massena 99.56 24 *e*P **P 01 59 53.0 0.0**
ACSO Alum Creek Sta 100.29 31 *e*Pdif P 01 59 56.0 -0.4
comp=Z,17nm,0.8s
NCB Newcomb 100.68 24 *e*Pdif P 01 59 58.4 +0.4
comp=Z,13nm,1.0s
KMBO Kilima Mbogo 100.79 275 P P 01 59 59.8 +0.6
comp=Z,6.6nm,1.0s,baz=49,slow=6.8,SNR=16
KMBO PP PP 02 04 08.4 -6.5
comp=Z,7.6nm,1.0s,baz=44,slow=9.4,SNR=5.4
KMBO Kilima Mbogo 100.79 275 *e*Pdif P 01 59 59.3 +0.1
comp=Z,12nm,1.1s
WVT Waverly 101.14 37 *e*Pdif P 01 59 59.8 -0.4
comp=Z,3.4nm,0.7s
OXF Oxford 101.51 39 Pdif P 02 00 03.0 +1.1
comp=Z,17nm,0.8s
ESDC Sonseca Array 102.92 332 PP PP 02 04 23.4 -6.7
comp=Z,5.3nm,0.9s,baz=33,slow=7.0,SNR=6.3
CPCT Cooper Cave 103.36 35 Pdif Pdif 02 00 10.5 +0.5
MBAR Mbarara 106.16 279 *e*Pdif Pdif 02 00 22.5 -0.4
comp=Z,14nm,1.2s
VNDA Vanda 107.80 175 PP PP 02 05 01.2 -3.8
comp=Z,0.9nm,0.7s,baz=2.5,slow=6.8,SNR=3.2
VNDA PKKPbc 02 15 50.3
comp=Z,1.9nm,0.9s,baz=249,slow=2.7,SNR=4.8
MAW Mawson 112.00 204 PP PP 02 05 32.0 -3.2
comp=Z,26nm,1.2s,baz=65,slow=9.7,SNR=8.0
MAW PKKPab 02 15 44.3
comp=Z,7.1nm,0.9s,baz=170,slow=0.5,SNR=3.6
QSPA South Pole Qui 119.40 180 ⇓*i*P PKPdf 02 04 55.3 +0.5
LBTB Lobatse 121.40 257 PKPdf PKPdf 02 05 01.1 +1.2
LBTB Lobatse 121.40 257 PKKPab 02 15 05.9
comp=Z,4.6nm,0.9s,baz=288,slow=5.8,SNR=6.6
LBTB Lobatse 121.40 257 *e*PKP PKPdf 02 05 00.8 +0.9
LBTB *e*PP PP 02 06 38.2 -2.8
BOSA Boshof 122.88 253 PKP PKPdf 02 05 03.5 +0.8
comp=Z,11nm,0.8s,baz=86,slow=3.1,SNR=9.9
BOSA PKKPbc 02 14 59.8
comp=Z,3.4nm,0.6s,baz=239,slow=6.2,SNR=11
TSUM Tsumeb 126.16 267 PKKPbc 02 14 46.7
comp=Z,3.5nm,0.7s,baz=184,slow=2.8,SNR=12
TSUM Tsumeb 126.16 267 *e*PKP PKPdf 02 05 10.9 +1.6
DBIC Dimbokro 129.92 310 PKPdf PKPdf 02 05 17.8 +1.2
DBIC SKPbc 02 07 59.3
DBIC Dimbokro 129.92 310 PKP PKPdf 02 05 17.8 +1.2
comp=Z,9.9nm,0.6s,baz=57,slow=2.4,SNR=22
DBIC PP PP 02 07 32.0 -5.2
comp=Z,10nm,1.0s,baz=13,slow=8.4,SNR=4.9
DBIC SKPbc 02 07 59.5
comp=Z,151nm,0.8s,baz=29,slow=5.2,SNR=28
SDV Santo Domingo 132.23 41 SKPbc 02 08 09.4
comp=Z,107nm,0.9s,baz=352,slow=1.8,SNR=20
SDV Santo Domingo 132.23 41 *e*PKPdf PKPdf 02 05 22.2 +1.2
ROSC El Rosal 133.10 49 PKP PKPdf 02 05 23.8 +1.2
comp=Z,12nm,0.7s,baz=225,slow=2.3,SNR=5.2
ROSC SKPbc 02 08 13.7
comp=Z,6.4nm,0.6s,baz=59,slow=19,SNR=4.9
SNAA Sanae 133.11 196⇑*i*P PKPdf 02 05 11.7 -9.4
SNAA Sanae 133.11 196 *e* PKPdf 02 05 23.8 +2.7
SNAA Sanae 133.11 196 *e* PKPdf 02 05 31.2 +10
SNAA Sanae 133.11 196 *e* 02 08 07.2
SNAA Sanae 133.11 196 *e* 02 08 08.9
SNAA Sanae 133.11 196 *e* 02 08 16.9
SNAA Sanae 133.11 196 *e* 02 08 18.3
SNAA Sanae 133.11 196 *e*PKPdf PKPdf 02 05 23.1 +2.0
SNAA *e* 02 05 23.8
SNAA *e* 02 05 31.2
SNAA *e*PP PP 02 07 52.4 -3.5
SNAA *e*SKP 02 08 07.0
SNAA *e* 02 08 07.2
SNAA *e* 02 08 08.9
SNAA *e* 02 08 16.9
SNAA *e* 02 08 18.3
OTAV Otavalo 133.54 57 *e*PKPdf PKPdf 02 05 26.2 +2.8
PCRV Puerto La Cruz 134.32 34 PKP PKPdf 02 05 24.9 +0.1
comp=Z,21nm,0.7s,baz=68,slow=5.4,SNR=5.2
PCRV SKPbc 02 08 16.1
comp=Z,14nm,0.6s,baz=102,slow=2.4,SNR=5.9
VNA2 Neumayer--Watz 134.68 195 *e* PKPdf 02 05 31.9 +7.9
VNA2 Neumayer--Watz 134.68 195 *e* 02 08 14.5
VNA2 Neumayer--Watz 134.68 195 *e* 02 08 15.9
VNA2 Neumayer--Watz 134.68 195 *e* 02 08 21.2
VNA2 Neumayer--Watz 134.68 195 *e* 02 08 22.6
VNA2 Neumayer--Watz 134.68 195 *e*P PKPdf 02 05 24.6 +0.6
VNA2 *e* 02 05 31.9
VNA2 *e* 02 08 14.5
VNA2 *e* 02 08 15.9
VNA2 *e* 02 08 21.2
VNA2 *e* 02 08 22.6
VNA3 Neumayer Olymp 134.93 194 *e* PKPdf 02 05 31.1 +6.7
VNA3 Neumayer Olymp 134.93 194 *e* 02 08 14.9
VNA3 Neumayer Olymp 134.93 194 *e* 02 08 16.5
VNA3 Neumayer Olymp 134.93 194 *e* 02 08 22.4
VNA3 Neumayer Olymp 134.93 194 *e* 02 08 23.8
VNA3 Neumayer Olymp 134.93 194 *e*P PKPdf 02 05 23.8 -0.6
VNA3 *e* 02 05 31.1
VNA3 *e* 02 08 14.9
VNA3 *e* 02 08 16.5
VNA3 *e* 02 08 22.4
VNA3 *e* 02 08 23.8
VNA1 Neumayer--Stat 135.08 195 *e* PKPdf 02 05 32.7 +8.0
VNA1 Neumayer--Stat 135.08 195 *e* 02 08 16.0
VNA1 Neumayer--Stat 135.08 195 *e* 02 08 17.7
VNA1 Neumayer--Stat 135.08 195 *e* 02 08 23.0
VNA1 Neumayer--Stat 135.08 195 *e* 02 08 24.7
VNA1 Neumayer--Stat 135.08 195 *e*P PKPdf 02 05 25.4 +0.7
VNA1 *e* 02 05 32.7
VNA1 *e* 02 08 16.0
VNA1 *e* 02 08 17.7
VNA1 *e* 02 08 23.0
VNA1 *e* 02 08 24.7
NNA Nana 142.36 70 *e*PKP PKPdf 02 05 36.1 -3.2
ARE Arequipa 149.12 72 *e*P PKPdf 02 05 58.0 +7.5
SAML Samuel 150.73 50 PKPdf PKPdf 02 05 54.7 +1.5
SAML Samuel 150.73 50 *e*PKPdf PKPdf 02 05 54.7 +1.5
SAML *e*PKPbc PKPdf 02 06 02.0 +8.9
SAML *e*PKPab PKPab 02 06 09.9 -0.6
LPAZ La Paz 151.77 68 PKPdf PKPdf 02 05 57.6 +3.0
LPAZ PKiKP 02 06 06.7
LPAZ La Paz 151.77 68 PKP PKPdf 02 05 57.5 +2.9
comp=Z,20nm,0.9s,baz=236,slow=2.1,SNR=27
LPAZ PKPbc PKPdf 02 06 04.8 +10
comp=Z,61nm,0.7s,baz=275,slow=1.9,SNR=80
LPAZ La Paz 151.77 68 *e*PKPdf PKPdf 02 05 57.6 +3.1
LPAZ *e*PKPbc PKPdf 02 06 06.1 +12
PLCA Paso Flores 153.53 123 PKP PKPdf 02 06 00.6 +4.3
comp=Z,4.0nm,0.9s,baz=168,slow=3.5,SNR=5.8
PLCA PKPbc PKPdf 02 06 07.1 +11
comp=Z,20nm,0.6s,baz=232,slow=2.6,SNR=37
PLCA PKPab PKPab 02 06 22.6 +1.2
comp=Z,24nm,0.8s,baz=233,slow=4.4,SNR=9.6
PLCA Paso Flores 153.53 123 PKP PKPdf 02 06 00.6 +4.3
PLCA *e*PKPbc PKPdf 02 06 06.4 +10
PLCA PKPbc PKPdf 02 06 07.1 +11
PLCA PKPab PKPab 02 06 22.6 +1.2
LVC Limon Verde 154.00 81 PKPbc PKPdf 02 06 08.7 +11
comp=Z,21nm,0.8s,baz=298,slow=2.4,SNR=22
LVC PKPab PKPab 02 06 26.0 +2.1
comp=Z,38nm,0.8s,baz=281,slow=4.3,SNR=15
LVC Limon Verde 154.00 81 PKPbc PKPdf 02 06 10.4 +13
LVC *e*PKPab PKPab 02 06 26.2 +2.3
CFAA Coronel Fontan 156.48 102 PKP PKPdf 02 06 02.3 +1.8
comp=Z,0.3nm,0.6s,baz=285,slow=6.4,SNR=6.3
CFAA PKPab PKPab 02 06 34.5 +0.2
comp=Z,3.0nm,0.7s,baz=258,slow=4.6,SNR=19
CFAA Coronel Fontan 156.48 102 PKP PKPdf 02 06 02.3 +1.8
CFAA PKPab PKPab 02 06 34.5 +0.2
SIV San Ignacio 157.08 58 PKP PKPdf 02 06 04.2 +2.5
comp=Z,4.4nm,0.6s,baz=257,slow=2.2,SNR=26
SIV PKPab PKPab 02 06 38.0 +0.8
comp=Z,29nm,0.7s,baz=292,slow=4.6,SNR=26
BDFB Brasilia 164.63 26 PKP PKPdf 02 06 12.2 +2.5
comp=Z,6.2nm,0.7s,baz=340,slow=2.4,SNR=13
BDFB PKPab PKPab 02 07 11.3 +1.4
comp=Z,18nm,1.0s,baz=321,slow=4.4,SNR=9.8
BDFB PP PP 02 10 56.2 -1.9
comp=Z,8.3nm,1.0s,baz=328,slow=2.4,SNR=4.8
BAO Brasilia Array 164.64 26 PKPdf PKPdf 02 06 12.0 +2.3
CPUP Villa Florida 165.18 81 PKPdf PKPdf 02 06 11.6 +1.6
CPUP PKPab PKPab 02 07 12.5 +0.5
CPUP Villa Florida 165.18 81 PKP PKPdf 02 06 12.3 +2.3
comp=Z,8.5nm,0.8s,baz=329,slow=1.9,SNR=22
CPUP PKPab PKPab 02 07 12.9 +0.9
comp=Z,22nm,0.9s,baz=315,slow=4.5,SNR=16
CAM4 Nova Friburgo 172.61 12 *e*P PKPab 02 07 44.0 -0.8
CAM4 *i* 02 07 44.7
CAM4 *i* 02 07 46.2

MEX 19 01:49:21.3±1.5, 17.37N×100.68W, h17km±293km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.50**	**129**	*i* P	Pb	01 49 29.4	-1.9
CAIG				*i* S	Sb	01 49 37.0	-1.1
ZIIG	**Zihuatanejo**	**0.79**	**288**	*i* P	Pb	01 49 34.2	-2.0
ZIIG				*i* S	Sb	01 49 43.2	-3.2
ACX	**Acapulco**	**0.88**	**124**	*i* P	Pb	01 49 35.0	-2.7
ACX				*i* S	Sb	01 49 45.0	-4.0
PLIG	**Platanillo**	**1.51**	**47**	*i* P	Pn	01 49 45.5	-2.4
PLIG				*i* S	Sn	01 50 00.7	-6.6
PPM	**Popocatepetl**	**2.58**	**49**	*e*P	Pn	01 50 00.0	-3.1

*IDC **19** 02:27:02.3±8.0, 4.96S×144.76E, h93km±84km, mb3.2/3, mb1 3.5/5, mb1mx3.3/15, mbtmp3.7/5, ML3.3/2, Error ellipse: s-maj=59.3km s-min=32.2km az=143.0*

ISC 19 02:27:01.0±5.0, 5.0S±0.2×144.7E±0.2, h94km±52km, n6, σ0°34/7, mb3.4/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.02**	**151**	P	**P**	**02 28 15.6**	**+0.2**
	2.0nm,0.3s,baz=321,slow=14,SNR=3.9						
PMG				S	**S**	**02 29 12.3**	**-0.2**
	1.5nm,0.3s,baz=142,slow=22,SNR=3.8						
WB2	**Warramunga Arr**	**17.97**	**213**	*e*P	**P**	**02 31 06.0**	**-0.2**
WRA	**Warramunga Arr**	**17.98**	**213**	P	**P**	**02 31 06.2**	**-0.1**
	0.3nm,0.3s,baz=37,slow=12,SNR=15						
ASAR	**Alice Springs**	**21.30**	**208**	P	**P**	**02 31 42.1**	**+0.4**
	0.9nm,0.7s,mb3.2,baz=33,slow=10,SNR=11						
MKAR	**Makanchi Array**	**75.28**	**321**	P	**P**	**02 38 35.2**	**-0.3**
	0.3nm,0.4s,mb3.3,baz=101,slow=9.9,SNR=4.4						
ILAR	**Eielson Array**	**85.46**	**24**	P	**P**	**02 39 29.1**	**+0.1**
	0.5nm,0.7s,mb3.5,baz=249,slow=4.9,SNR=5.6						

*IDC **19** 03:16:42.8±1.0, 59.22S×25.59W, mb4.1/4, mb1 4.2/5, mb1mx3.9/16, mbtmp4.1/5, ML3.8/1, MS4.3/2, Ms1 4.3/2, ms1mx3.4/17, Error ellipse: s-maj=39.9km s-min=28.8km az=28.0*

*NEIC **19** 03:16:44.6±0.6, 59.16S×25.39W, h10km, mb3.9/2, Error ellipse: s-maj=27.7km s-min=9.7km az=58.0*

ISC 19 03:16:43.1±0.8, 59.2S±0.1×25.4W±0.4, h10km, n21, σ0°95/13, mb3.9/6, MS4.3/2, 4D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.53**	**155**	⇓*i*P	**P**	**03 19 57.0**	**-0.1**
VNA1				*e*		03 20 19.4	
VNA1				*e*		03 20 27.4	
VNA1				*e*		03 22 43.9	
VNA1				*e*		03 22 53.9	
VNA3	**Neumayer Olymp**	**13.71**	**158**	⇓*i*P	**P**	**03 19 59.1**	**-0.5**
VNA3				*e*		03 20 21.6	
VNA3				*e*		03 20 29.6	
VNA3				*e*		03 22 44.8	
VNA3				*e*		03 22 54.8	
VNA2	**Neumayer--Watz**	**13.92**	**155**	⇓*i*P	**P**	**03 20 02.5**	**+0.1**
VNA2				*e*		03 20 24.2	
VNA2				*e*		03 20 32.9	
VNA2				*e*		03 22 48.1	
VNA2				*e*		03 22 58.5	
SNAA	**Sanae**	**15.49**	**153**	*e*	Px	03 20 45.8	
SNAA	**Sanae**	**15.49**	**153**	*e*	Px	03 20 54.2	
SNAA	**Sanae**	**15.49**	**153**	Pn	**P**	**03 20 23.2**	**+0.4**
	0.4nm,0.3s,baz=321,slow=18,SNR=29						
SNAA	**Sanae**	**15.49**	**153**	⇓*i*P	**P**	**03 20 22.8**	**0.0**
SNAA				*e*		03 20 45.8	
SNAA				*e*		03 20 54.2	
USHA	**Ushuaia**	**23.54**	**262**	LR	LR	03 29 10.7	
	comp=Z,378nm,19.6s,MS3.9,baz=196,slow=32						
QSPA	**South Pole Qui**	**31.07**	**180**	*e*P	**P**	**03 23 03.5**	**+0.7**
	2.3nm,0.6s,mb4.2						
PLCA	**Paso Flores**	**33.60**	**283**	P	**P**	**03 23 25.3**	**0.0**
	4.5nm,1.3s,mb4.2,baz=157,slow=12,SNR=4.2						
CFAA	**Coronel Fontan**	**39.74**	**295**	P	**P**	**03 24 14.8**	**-2.5**
	0.4nm,0.7s,mb3.2,baz=157,slow=8.1,SNR=7.1						
CFAA	**Coronel Fontan**	**39.74**	**295**	P	**P**	**03 24 14.8**	**-2.5**
LPAZ	**La Paz**	**52.99**	**305**	P	**P**	**03 26 04.1**	**+2.0**
	0.5nm,0.6s,mb3.6						
DBIC	**Dimbokro**	**67.65**	**22**	P	**P**	**03 27 42.2**	**-0.1**
	1.7nm,0.6s,mb4.2,baz=187,slow=8.1,SNR=3.1						
DBIC	**Dimbokro**	**67.65**	**22**	P	**P**	**03 27 42.2**	**-0.1**
STKA	**Stephens Creek**	**88.64**	**169**	LR	LR	04 06 57.5	
	comp=Z,299nm,21.6s,MS4.7,baz=290,slow=34						
ASAR	**Alice Springs**	**95.70**	**161**	P	**P**	**03 30 09.8**	**-0.3**
	0.5nm,0.7s,mb4.1,baz=186,slow=4.1,SNR=5.0						
YKA	**Yellowknife Ar**	**139.12**	**315**	PKP	PKPdf	03 36 09.0	-2.9
	0.6nm,0.7s,baz=127,slow=2.3,SNR=24						
YKA	**Yellowknife Ar**	**139.12**	**315**	PKP	PKPdf	03 36 09.0	-2.9
SONM	**Songino Array**	**149.82**	**90**	PKPbc	PKPdf	03 36 33.8	+3.4
	0.7nm,0.6s,baz=206,slow=3.2,SNR=5.2						
ILAR	**Eielson Array**	**152.86**	**307**	PKPbc	PKPdf	03 36 39.6	+5.2
	0.5nm,0.9s,baz=171,slow=4.0,SNR=4.5						

*BJI **19** 03:32:28.8, 0.80N×97.19E, h35km, mB5.0, mb4.9, Ms4.7, Msz4.5*

*MOS **19** 03:32:31.1±0.8, 1.23N×97.14E, h33km, mb4.8/12, Error ellipse: s-maj=23.9km s-min=10.3km az=102.6*

*IDC **19** 03:32:32.0±0.7, 1.19N×97.07E, h22km±3km, mb4.3/17, mb1 4.4/18, mb1mx4.3/24, mbtmp4.4/18, ML4.5/1, MS4.0/7, Ms1 4.0/7, ms1mx3.7/31, Error ellipse: s-maj=21.9km s-min=12.0km az=49.0*

*NEIC **19** 03:32:32.1±0.3, 1.24N×97.14E, mb4.8/17, Error ellipse: s-maj=8.6km s-min=6.1km az=54.0*

ISC 19 03:32:30.3±0.3, 1.18N±0.04×97.14E±0.04, h23km, h23km±.7km±pP-P, n112, σ1§04/117, mb4.7/57, MS4.3/24, 9C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.14**	**49**	P	**Pn**	**03 33 48.3**	**+0.4**
KULM	**Kulim**	**5.38**	**41**	*e*P	**Pn**	**03 33 51.2**	**-0.1**
KGM	**Kluang**	**6.23**	**82**	P	**Pn**	**03 34 04.4**	**+1.1**
SNG	**Songkhla**	**6.89**	**30**	P	**Pn**	**03 34 12.0**	**-0.6**
	310nm,0.8s						
NST	**Nakhon Sawan**	**14.70**	**11**	P	**P**	**03 36 01.5**	**+2.6**
CM31	**Chiang Mai Arr**	**17.26**	**6**	*e*P	**P**	**03 36 29.9**	**-1.8**
	16nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.26**	**6**	*i* P	**P**	**03 36 30.4**	**-1.3**
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.26**	**6**	P	**P**	**03 36 29.9**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=196,slow=13,SNR=17						
CMAR				LR	LR	03 44 08.4	
	comp=Z,348nm,19.5s,baz=185,slow=40						
PALK	**Pallekele**	**17.47**	**291**	P	**P**	**03 36 34.8**	**+0.5**
	comp=Z,21nm,1.3s						
CHG	**Chiang Mai**	**17.61**	**6**	P	**P**	**03 36 37.2**	**+1.1**
NANT	**Nan**	**17.85**	**11**	⇓P	**P**	**03 36 39.0**	**-0.1**
	comp=Z,212nm,0.8s						
KKM	**Kota Kinabalu**	**19.64**	**75**	*e*P	**P**	**03 36 59.0**	**-1.4**
KKM	**Kota Kinabalu**	**19.64**	**75**	P	**P**	**03 37 00.2**	**-0.3**
QIZ	**Qiongzhong**	**21.67**	**34**	*e*P	**P**	**03 37 22.4**	**+0.9**
QIZ				S	**S**	**03 41 16.8**	**+1.5**
QIZ				LR	LR		
	comp=N,455nm,15.2s,MS4.2						
QIZ				LR	LR		
	comp=E,556nm,14.9s,MS4.2						
QIZ				LR	LR		
	comp=Z,476nm,12.5s,MS4.1						
HYB	**Hyderabad**	**24.38**	**313**	*e*P	**P**	**03 37 51.5**	**+3.3**
HYB	**Hyderabad**	**24.38**	**313**	*i* P	**P**	**03 37 51.5**	**+3.3**
KMI	**Kunming**	**24.41**	**12**	P	**P**	**03 37 49.8**	**+1.4**
KMI				AP		03 37 56.6	
KMI				XP		03 38 01.1	
KMI				PP	PP	03 38 29.1	+5.0
KMI				S	**S**	**03 42 08.8**	**+4.9**
KMI				XS		03 42 20.4	
KMI				AMB	AMB		

comp=Z,58nm,1.1s,mb4.9
KMI AMB AMB
comp=Z,278nm,4.5s
KMI LR LR
comp=N,1μm,15.0s,MS4.6
KMI LR LR
comp=E,648nm,13.7s,MS4.6
KMI LR LR
comp=Z,1μm,14.7s,MS4.6
KMI Kunming 24.41 12 P **P 03 37 49.8 +1.4**
comp=Z,58nm,1.1s,mb4.9
KMI pP 03 37 56.6
KMI sP 03 38 01.1
KMI PP PP 03 38 29.1 +5.0
KMI S **S 03 42 08.8 +4.9**
KMI sS 03 42 20.4
KMI SS SS 03 43 18.8 +20
KMI LR LR
comp=Z,1μm,14.7s,MS4.6
SHL Shillong 24.77 349 *e*P **P 03 37 52.0 +0.1**
SHL *e*S **S 03 42 11.0 +1.1**
LKP Lekhapani 26.02 358 *e*P **P 03 38 06.0 +2.3**
GYA Guiyang 26.75 19⇑*i*P **P 03 38 09.9 -0.5**
GYA AP pP 03 38 16.3 -0.8
GYA XP sP 03 38 20.8 +0.6
GYA PP PP 03 38 55.1 -0.2
GYA S **S 03 42 42.6 -0.3**
GYA AMB AMB
comp=Z,30nm,0.8s,mb4.9
GYA AMB AMB
comp=Z,160nm,4.8s
GYA LR LR
comp=N,920nm,14.9s,MS4.5
GYA LR LR
comp=E,530nm,14.6s,MS4.5
GYA LR LR
comp=Z,1μm,13.4s,MS4.7
JIRN Jiri 28.34 339 *e*P **P 03 38 25.8 +1.0**
comp=Z,90nm,1.0s,mb5.3
PKI Pulchoki 28.55 338 *e*P **P 03 38 28.2 +1.5**
GUN Gumba 28.68 339 *e*P **P 03 38 28.7 +0.8**
comp=Z,64nm,0.8s,mb5.4
DMN Daman 28.70 337 *e*P **P 03 38 29.1 +1.1**
comp=Z,35nm,1.0s,mb5.1
KKN Kakani 28.79 338 *e*P **P 03 38 29.6 +0.7**
LSA Lhasa 28.93 349 P **P 03 38 28.1 -2.0**
comp=Z,19nm,0.9s,mb4.8
GKN Gorkha 29.23 337 *e*P **P 03 38 32.9 +0.1**
KOLN Koldanda 29.45 335 *e*P **P 03 38 35.5 +0.7**
comp=Z,38nm,0.9s,mb5.2
ENH Enshi 31.22 21 *e*P **P 03 38 48.5 -1.9**
comp=Z,39nm,0.8s,mb5.3
ENH *e*pP pP 03 38 55.9 -1.4
WHN Wuhan 33.46 28 *e*P **P 03 39 10.0 0.0**
FITZ Fitzroy Crossi 33.97 126 P **P 03 39 13.9 -0.6**
comp=Z,6.2nm,0.6s,mb4.7,baz=87,slow=23,SNR=18
XAN Xi'an 34.50 17 P **P 03 39 17.5 -1.4**
XAN AP pP 03 39 24.9 -0.9
XAN AMB AMB
comp=Z,23nm,1.0s,mb5.1
XAN LR LR
comp=N,389nm,15.4s,MS4.4
XAN LR LR
comp=E,422nm,16.8s,MS4.4
XAN LR LR
comp=Z,552nm,12.9s,MS4.5
LZH Lanzhou 35.28 9⇑P **P 03 39 25.0 -0.6**
LZH AP pP 03 39 32.5 0.0
LZH XP sP 03 39 36.3 +0.9
LZH PP PP 03 40 45.3 +0.2
LZH AMB AMB
comp=Z,29nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,83nm,4.8s
LZH LR LR
comp=N,512nm,13.1s
LZH LR LR
comp=Z,746nm,16.8s,MS4.5
LZH Lanzhou 35.28 9⇑P **P 03 39 25.0 -0.6**
comp=Z,29nm,1.3s,mb5.0
LZH pP pP 03 39 32.5 0.0
LZH sP sP 03 39 36.2 +0.8
LZH PP PP 03 40 45.3 +0.2
LZH LR LR
comp=Z,750nm,16.8s,MS4.5
NJ2 Nanjing 36.91 32 *e*P **P 03 39 39.0 -0.4**
NJ2 AP pP 03 39 46.6 +0.3
NJ2 XP sP 03 39 49.5 +0.3
NJ2 PP PP 03 41 04.3 -1.3
NJ2 S **S 03 45 22.0 -0.4**
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
NJ2 AMB AMB
comp=Z,160nm,10.7s
NJ2 LR LR
comp=N,930nm,19.2s,MS4.7
NJ2 LR LR
comp=E,720nm,17.2s,MS4.7
NJ2 LR LR
comp=Z,480nm,12.0s
SSE Sheshan 37.46 35 P **P 03 39 44.1 +0.1**
SSE AP pP 03 39 50.3 -0.6
SSE XP sP 03 39 53.0 -0.8
SSE S **S 03 45 33.1 +2.3**
SSE XS 03 45 44.0
SSE PCS 03 45 49.8
SSE SCS ScS 03 49 55.5 +1.4
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,75nm,4.5s
SSE LR LR
comp=N,118nm,20.8s,MS3.8
SSE LR LR
comp=E,111nm,20.8s,MS3.8
SSE LR LR
comp=Z,164nm,18.0s,MS3.9
SSE Sheshan 37.46 35 P **P 03 39 44.1 +0.1**
comp=Z,30nm,0.7s,mb5.2
SSE pP pP 03 39 50.2 -0.7
SSE sP sP 03 39 53.0 -0.8
SSE S **S 03 45 33.1 +2.3**
SSE sS 03 45 44.0
SSE PcS 03 45 49.8
SSE SS SS 03 48 18.6 +15
SSE ScS ScS 03 49 55.5 +1.4
SSE LR LR
comp=Z,160nm,18.0s,MS3.9
KAKA Kakadu 37.65 113 *e*P **P 03 39 44.3 -1.4**
comp=Z,5.2nm,0.5s,mb4.5
GTA Gaotai 38.13 3 P **P 03 39 49.6 +0.1**
GTA AP pP 03 39 58.3 +1.9
GTA XP sP 03 40 01.4 +2.1
GTA PP PP 03 41 20.1 0.0
GTA PPP PPP 03 41 41.1 -1.2
GTA PCP PcP 03 42 05.4 +0.7
GTA S **S 03 45 39.5 -1.3**
GTA SCP 03 45 50.8
GTA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,94nm,10.7s
GTA LR LR
comp=N,278nm,13.7s,MS4.4
GTA LR LR
comp=E,298nm,14.4s,MS4.4
GTA LR LR
comp=Z,354nm,16.0s,MS4.3
JOW Kunigami 39.30 47 P **P 03 40 00.0 +0.6**
comp=Z,24nm,0.6s,mb5.1,baz=195,slow=14,SNR=5.6
HHC Hu-ho-hao-te 41.59 17 *e*P **P 03 40 18.9 +0.7**
HHC AP pP 03 40 27.4 +2.2
HHC XP sP 03 40 33.9 +5.9
HHC S **S 03 46 30.5 -2.3**
HHC AMB AMB
comp=Z,16nm,1.3s,mb4.5
HHC AMB AMB
comp=Z,162nm,8.0s
HHC LR LR
comp=N,390nm,17.5s,MS4.5
HHC LR LR
comp=E,385nm,17.6s,MS4.5
HHC LR LR
comp=Z,378nm,16.1s,MS4.4
WRA Warramunga Arr 42.08 122 P **P 03 40 22.4 -0.1**
comp=Z,4.3nm,0.6s,mb4.3,baz=301,slow=9.1,SNR=45
WRAB Tennant Creek 42.08 122 *i*P **P 03 40 22.5 0.0**
WRAB Tennant Creek 42.08 122 *e*P **P 03 40 22.6 +0.1**
comp=Z,5.5nm,0.5s,mb4.4
WB2 Warramunga Arr 42.09 122⇓*i*P **P 03 40 22.8 +0.3**
BJT Baijiatuau 42.36 22 *e*P **P 03 40 25.3 +0.8**
comp=Z,14nm,0.5s,mb4.8
BJI Beijing 42.38 22 *e*P **P 03 40 25.1 +0.4**
BJI AMB AMB
comp=Z,16nm,1.0s,mb4.6
BJI LR LR
comp=N,212nm,17.2s,MS4.2
BJI LR LR
comp=E,183nm,16.6s,MS4.2
BJI LR LR
comp=Z,110nm,18.8s,MS3.8
BJI Beijing 42.38 22 *e*P **P 03 40 25.1 +0.4**
comp=Z,16nm,1.0s,mb4.6
BJI LR LR
comp=Z,110nm,18.8s,MS3.8
WMQ Urumqi 43.28 350 P **P 03 40 32.3 +0.3**
WMQ AP pP 03 40 38.8 -0.1
WMQ XP sP 03 40 41.9 +0.1
WMQ PP PP 03 42 14.9 +0.2
WMQ PCP PcP 03 42 22.0 +0.6
WMQ AMB AMB
comp=Z,16nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,111nm,4.4s
WMQ LR LR
comp=N,96nm,21.3s,MS3.7
WMQ LR LR
comp=E,15nm,22.8s,MS3.7
WMQ LR LR
comp=Z,83nm,21.2s,MS3.6
FORT Forrest 43.30 140⇓*i*P **P 03 40 34.7 +2.4**
comp=Z,228nm,0.5s
ASPA Alice Springs 43.43 127 *e*P **P 03 40 33.9 +0.4**
ASAR Alice Springs 43.43 127 P **P 03 40 34.0 +0.5**
comp=Z,2.6nm,0.6s,mb4.1,baz=299,slow=7.5,SNR=27
ULHL Ulahol 44.99 338 P **P 03 40 46.7 +0.9**
SNR=10
UCH Uchtor 45.64 336 P **P 03 40 52.5 +1.5**
SNR=12
TKM2 Tokmak 2 45.81 338 P **P 03 40 53.3 +1.0**
SNR=11
AML Almayashu 45.89 336 P **P 03 40 54.4 +1.4**
SNR=11
AAK Ala-Archa 45.99 337 P **P 03 40 54.6 +0.9**
AAK pmax pmax
comp=Z,20nm,1.6s,mb4.8
AAK Ala-Archa 45.99 337 *e*P **P 03 40 53.8 +0.1**
comp=Z,16nm,1.4s,mb4.8
EKS2 Erkin-Say 46.30 336 P **P 03 40 57.5 +1.3**
SNR=8.6
USP Ospenovka 46.53 337 P **P 03 40 58.5 +0.5**
SNR=16
SNY Shenyang 46.95 27⇑P **P 03 41 00.6 -0.7**
SNY AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
SONM Songino Array 47.16 8 P **P 03 41 03.2 +0.3**
comp=Z,9.4nm,0.8s,mb4.8,baz=191,slow=8.4,SNR=37
SONM pP pP 03 41 09.9 0.0
comp=Z,3.5nm,0.6s,baz=193,slow=9.7,SNR=7.7
SONM PcP PcP 03 42 34.5 -0.3
comp=Z,1.4nm,0.5s,baz=189,slow=4.2,SNR=5.7
MKAR Makanchi Array 47.24 346 *e*P **P 03 41 03.3 -0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 47.24 346 P **P 03 41 03.8 +0.2**
comp=Z,6.7nm,0.6s,mb4.8,baz=158,slow=8.2,SNR=51
KKAR Karatay Array 48.05 334 *i*P **P 03 41 09.6 -0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
ZAK Zakamensk 49.30 5⇑*i*P **P 03 41 19.4 -0.1**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
CN2 Changchun 49.35 27 *e*P **P 03 41 19.3 -0.7**
CN2 *e*XP sP 03 41 29.5 -0.3
CN2 *e*S **S 03 48 24.4 +0.4**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.6
CN2 LR LR
comp=E,300nm,15.0s,MS4.6
CN2 LR LR
comp=Z,300nm,15.0s,MS4.4
TLY Talaya 50.62 5⇑*i*P **P 03 41 29.9 +0.4**
TLY pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
TLY MLR MLR
comp=Z,215nm,16.0s,MS4.3
HIA Hailar 51.68 19⇑*e*P **P 03 41 37.1 -0.5**
comp=Z,18nm,0.9s,mb5.0
MJAR Matsushiro Arr 51.74 42 P **P 03 41 38.3 0.0**
comp=Z,2.2nm,0.8s,mb4.1,baz=226,slow=5.6,SNR=5.4
MDJ Mudanjiang 51.91 29 P **P 03 41 39.6 +0.1**
MDJ AP pP 03 41 45.3 -1.3
MDJ XP sP 03 41 48.5 -0.8
MDJ PCP PcP 03 42 51.3 -0.8
MDJ PP PP 03 43 36.1 -2.0
MDJ S **S 03 49 02.5 +3.1**
MDJ AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,82nm,6.2s
MDJ LR LR
comp=N,83nm,17.7s,MS4.0
MDJ LR LR
comp=E,90nm,19.1s,MS4.0
MDJ LR LR
comp=Z,172nm,18.4s,MS4.1
STKA Stephens Creek 53.39 132⇓*i*P **P 03 41 51.6 +0.9**
comp=Z,2.8nm,0.6s,mb4.4
STKA Stephens Creek 53.39 132 P **P 03 41 51.7 +1.0**
comp=Z,2.9nm,0.6s,mb4.4,baz=320,slow=6.3,SNR=14
STKA pP pP 03 41 57.7 0.0
comp=Z,3.5nm,0.7s,baz=289,slow=2.8,SNR=4.9
ZAL Zalesovo 53.56 351 P **P 03 41 51.3 -0.3**
comp=Z,7.2nm,0.5s,mb4.9,baz=291,slow=6.8,SNR=46
BVA0 Borovoye Array 56.25 341 *i*P **P 03 42 09.7 -1.5**
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
KLR Kul'dur 56.30 27 *e*P **P 03 42 08.6 -3.0**
KLR MLR MLR
comp=Z,600nm,12.0s,MS4.9
CHKZ Chkalovo 56.72 341 P **P 03 42 13.2 -1.4**
CHKZ pmax pmax
comp=Z,15nm,1.1s,mb4.9
CHKZ Chkalovo 56.72 341⇑*i*P **P 03 42 13.6 -1.0**
comp=Z,30nm,0.6s,mb5.5
CHKZ *e* pP 03 42 19.5 -2.3
BOD Bodaibo 58.04 11 *e* **P 03 42 23.0 -0.8**
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.9
YSS Yuzh-Sakhalins 60.40 34 *e*P **P 03 42 40.0 -0.2**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,200nm,18.0s,MS4.3
GNI Garni 61.26 316 *i*P **P 03 42 45.0 -1.2**
GNI pmax pmax
comp=Z,4.0nm,1.0s
SVE Sverdlovsk 62.68 338 *e*P **P 03 42 54.8 -0.7**
ARU Arti 63.18 337⇑*i*P **P 03 42 57.4 -1.3**
ARU *e* 03 43 30.7
ARU *e* 03 45 21.0
ARU *e*S **S 03 51 28.4 +1.3**
ARU *e*SS SS 03 55 35.9 +0.6
ARU pmax pmax
comp=Z,11nm,1.3s,mb4.8
KIV Kislovodsk 64.28 319 *e*P **P 03 43 04.9 -1.3**
KIV *e*S **S 03 51 38.3 -2.7**
KIV pmax pmax
comp=N,11nm,1.1s
KIV pmax pmax
comp=Z,14nm,1.1s,mb4.9
MALT Malatya 65.10 312 P **P 03 43 12.1 +0.5**
comp=Z,2.7nm,0.9s,mb4.3
MALT *e* pP 03 43 19.2 +0.4
YAK Yakutsk 65.45 16 *e*P **P 03 43 11.7 -1.8**
YAK pmax pmax
comp=Z,12nm,0.7s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s
SOC Sochi 66.09 318 *e*P **P 03 43 16.1 -1.8**
SOC *e* 03 43 47.3
SOC *e* 03 45 40.3
SOC *e*PPP PPP 03 47 17.1 -3.8
SOC *e*S S 03 52 03.4 +0.1
SOC *e* 03 53 09.6
SOC *e*SS SS 03 56 20.6 +0.2
SOC pmax pmax
comp=Z,27nm,1.1s,mb5.2
SOC pmax pmax
comp=N,14nm,0.7s
SOC pmax pmax
comp=E,30nm,0.9s
BRTR Keskin Array B 69.08 312 P **P 03 43 36.0 -0.7**
comp=E,1.0nm,0.8s,mb3.8,baz=141,slow=7.9,SNR=5.9
BRTR pP pP 03 43 42.6 -1.3
comp=E,2.2nm,0.9s,baz=135,slow=7.0,SNR=8.1
MATP Matopo 70.46 248 P **P 03 43 45.8 +0.3**
comp=E,2.8nm,1.1s,mb4.1,baz=104,slow=4.2,SNR=4.4
MATP LR LR 04 12 36.3
comp=E,101nm,18.0s,MS4.1,baz=166,slow=34
OBN Obninsk 72.60 328 *e*P **P 03 43 56.5 -1.2**
OBN pmax pmax
comp=Z,17nm,1.2s,mb4.8
TIXI Tiksi 73.21 10 *i*P **P 03 43 59.7 -1.3**
TIXI pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
TIXI MLR MLR
comp=Z,300nm,18.0s,MS4.6
LBTB Lobatse 73.83 244 LR LR 04 11 32.0
comp=Z,97nm,20.3s,MS4.1,baz=66,slow=32
BOSA Boshof 74.72 240 LR LR 04 11 22.4
comp=Z,132nm,18.0s,MS4.3,baz=292,slow=31
AKASG Malin Array Be 75.24 322 *i*P **P 03 44 11.7 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 75.24 322 P **P 03 44 11.7 -1.4**
comp=Z,1.3nm,0.6s,mb4.1,baz=85,slow=5.2,SNR=7.5
MLR Muntele Rosu 76.04 317 P **P 03 44 18.1 +0.3**
comp=Z,2.5nm,1.0s,mb4.1,baz=74,slow=8.9,SNR=3.7
MLR pP pP 03 44 25.3 +0.3
comp=Z,2.5nm,0.9s,baz=66,slow=14,SNR=4.4
SUR Sutherland 79.10 237 LR LR 04 14 06.6
comp=Z,89nm,21.3s,MS4.1,baz=21,slow=32
FINES FINESS Array B 79.99 333 *i*P **P 03 44 39.0 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.8s
FINES FINESS Array B 79.99 333 P **P 03 44 39.0 -0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=76,slow=7.9,SNR=5.6
FINES LR LR 04 28 12.6
comp=Z,53nm,18.1s,MS3.9,baz=182,slow=42
FINES FINESS Array B 79.99 333 P **P 03 44 39.0 -0.1**
BILL Bilibino 81.20 21 *e*P **P 03 44 44.9 -0.5**
BILL pmax pmax
comp=Z,7.0nm,2.5s,mb4.2
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.6
MORC Moravsky Berou 82.38 320 *e*P **P 03 44 51.4 -0.5**
comp=Z,2.8nm,0.8s,mb4.2
MORC *e* pP 03 44 59.2 -0.1
ARCES ARCESS Array B 82.53 340 P **P 03 44 53.0 +0.7**
comp=Z,6.3nm,1.0s,mb4.6,baz=56,slow=8.7,SNR=6.9
ARCES LR LR 04 27 44.6
comp=Z,134nm,18.1s,MS4.3,baz=287,slow=40
GERES GERESS Array B 84.79 319 P **P 03 45 04.6 +0.4**
comp=Z,1.9nm,1.0s,mb4.2,baz=104,slow=5.5,SNR=11
GERES pP pP 03 45 12.2 +0.6
comp=Z,2.1nm,1.0s,baz=90,slow=6.7,SNR=6.4
NOA NORSAR Array B 86.99 331 P **P 03 45 15.3 +0.5**
comp=Z,1.2nm,0.9s,mb4.1,baz=89,slow=5.7,SNR=3.5
YKA Yellowknife Ar 112.12 15 PP PP 03 51 45.1 -7.4
comp=Z,0.3nm,0.9s,baz=329,slow=7.1,SNR=4.2
ULM Lac du Bonnet 127.56 11 PKP PKPdf 03 51 35.8 -2.6
comp=Z,6.6nm,0.8s,baz=301,slow=5.9,SNR=3.5
TXAR Lajitas Array 143.72 32 PKP PKPdf 03 52 03.5 -5.1
comp=Z,0.4nm,0.5s,baz=209,slow=0.8,SNR=10
JCT Junction City 144.62 26 *e*PKPdf PKPdf 03 52 06.2 -4.0
CPUP Villa Florida 144.95 222 PKP PKPdf 03 52 08.2 -2.7
comp=Z,1.2nm,0.6s,baz=34,slow=0.7,SNR=3.9
LRAL Lakeview Retre 145.75 6 *e*PKPdf PKPdf 03 52 08.8 -3.2

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*IDC **19** 03:40:15.5±0.9, 1.12N×96.93E, mb4.2/11, mb1 4.4/12, mb1mx4.2/21, mbtmp4.2/12, ML4.2/1, Error ellipse: s-maj=46.2km s-min=14.4km az=53.0*
*BJI **19** 03:40:17.2, 1.04N×97.33E, h29km, mB5.2, mb4.8, Ms4.6, Msz3.9*
*NEIC **19** 03:40:19.2±0.5, 1.19N×97.10E, mb4.7/7, Error ellipse: s-maj=14.1km s-min=7.5km az=62.0*
ISC 19 03:40:21.2±2.7, 1.3N±0.1×97.2E±0.1, h49km±21km, h18km±4.6km:pP-P, n38, σ0=81/36, mb4.5/23, 1C-1D,
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.01**	**49**	P	**P**	**03 41 35.9**	**0.0**
KULM	**Kulim**	**5.25**	**40**	*e*P	**P**	**03 41 38.5**	**-0.7**
KGM	**Kluang**	**6.13**	**83**	P	**P**	**03 41 52.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**17.16**	**6**	P	**P**	**03 44 17.7**	**-1.5**
0.3nm,0.3s,baz=196,slow=11,SNR=16							
KMI	**Kunming**	**24.30**	**12**	P	**P**	**03 45 38.0**	**+2.6**
KMI				AP		03 45 44.1	
KMI				AMB	AMB		
comp=Z,31nm,1.2s,mb4.6							
KMI	**Kunming**	**24.30**	**12**	P	**P**	**03 45 38.0**	**+2.6**
comp=Z,31nm,1.2s,mb4.6							
KMI				pP		03 45 44.1	
JIRN	**Jiri**	**28.29**	**339**	*e*P	**P**	**03 46 13.1**	**+0.7**
comp=Z,39nm,0.9s,mb5.0							
PKI	**Pulchoki**	**28.50**	**338**	*e*P	**P**	**03 46 13.9**	**-0.4**
GUN	**Gumba**	**28.63**	**339**	*e*P	**P**	**03 46 16.1**	**+0.6**
comp=Z,33nm,0.7s,mb5.2							
DMN	**Daman**	**28.65**	**337**	*e*P	**P**	**03 46 15.8**	**+0.2**
KKN	**Kakani**	**28.75**	**338**	*e*P	**P**	**03 46 17.5**	**+1.0**
LSA	**Lhasa**	**28.86**	**349**	P	**P**	**03 46 18.4**	**+0.9**
comp=Z,12nm,0.8s,mb4.7							
GKN	**Gorkha**	**29.19**	**337**	*e*P	**P**	**03 46 20.4**	**0.0**
KOLN	**Koldanda**	**29.41**	**335**	*e*P	**P**	**03 46 22.8**	**+0.4**
comp=Z,25nm,0.7s,mb5.0							
ENH	**Enshi**	**31.10**	**21**	*e*P	**P**	**03 46 35.8**	**-1.6**
comp=Z,21nm,0.8s,mb5.0							
ENH				*e*		03 46 43.0	
FITZ	**Fitzroy Crossi**	**33.95**	**126**	P	**P**	**03 47 01.3**	**-0.9**
comp=Z,5.7nm,0.7s,mb4.6,baz=327,slow=5.5,SNR=9.0							
XAN	**Xi'an**	**34.38**	**17**	P	**P**	**03 47 04.8**	**-1.0**
XAN				AP	pP	03 47 11.8	-7.0
GTA	**Gaotai**	**38.03**	**3**	P	**P**	**03 47 36.8**	**+0.2**
GTA				AP	pP	03 47 44.6	-5.1
GTA				XP	sP	03 47 47.9	-7.8
GTA				AMB	AMB		
comp=Z,12nm,0.7s,mb4.7							
WRA	**Warramunga Arr**	**42.05**	**122**	P	**P**	**03 48 10.2**	**+0.1**
comp=Z,3.3nm,0.6s,mb4.1,baz=300,slow=9.0,SNR=20							
WRAB	**Tennant Creek**	**42.05**	**122**	*e*P	**P**	**03 48 10.2**	**+0.1**
comp=Z,3.4nm,0.6s,mb4.2							
WB2	**Warramunga Arr**	**42.06**	**122**⇓	*i*P	**P**	**03 48 10.3**	**+0.1**
BJT	**Baijiatuau**	**42.24**	**22**	P	**P**	**03 48 12.3**	**+0.9**
ASAR	**Alice Springs**	**43.41**	**127**	P	**P**	**03 48 21.5**	**+0.3**
comp=Z,2.3nm,0.8s,mb4.0,baz=303,slow=7.7,SNR=21							
ASAR				PcP	PcP	03 50 09.9	+0.5
comp=Z,0.5nm,0.8s,baz=300,slow=2.1,SNR=5.0							
KS15	**Wonju Array Si**	**45.74**	**35**	*e*P	**P**	**03 48 40.1**	**+0.4**
KS15				*e*		03 48 47.1	
AAK	**Ala-Archa**	**45.95**	**337**	P	**P**	**03 48 42.5**	**+1.3**
comp=Z,2.5nm,1.0s,mb4.1							
SONM	**Songino Array**	**47.06**	**8**	P	**P**	**03 48 50.3**	**+0.4**
comp=Z,4.9nm,0.8s,mb4.5,baz=188,slow=9.2,SNR=24							
MKAR	**Makanchi Array**	**47.18**	**346**	P	**P**	**03 48 51.1**	**+0.2**
comp=Z,4.0nm,0.5s,mb4.6,baz=159,slow=8.0,SNR=37							
CN2	**Changchun**	**49.23**	**27**	*e*P	**P**	**03 49 06.5**	**-0.3**
CN2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
HIA	**Hailar**	**51.56**	**19**	*e*P	**P**	**03 49 23.9**	**-0.7**
comp=Z,6.8nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**53.38**	**132**	P	**P**	**03 49 38.6**	**+0.2**
comp=Z,2.0nm,0.6s,mb4.2,baz=287,slow=6.1,SNR=6.8							
ZAL	**Zalesovo**	**53.48**	**351**	P	**P**	**03 49 38.6**	**-0.2**
comp=Z,5.3nm,0.5s,mb4.8,baz=310,slow=5.3,SNR=19							
CHKZ	**Chkalovo**	**56.67**	**341**⇑	*e*P	**P**	**03 50 01.0**	**-0.9**
comp=Z,32nm,0.6s,mb5.5							
CHKZ				*e*pP	pP	03 50 06.8	-8.8

BRTR	Keskin Array B	69.09	312	P	P		03 51 22.6	-1.8
	comp=Z,0.3nm,0.5s,mb3.5,baz=146,slow=5.2,SNR=2.7							
FINES	FINESS Array B	79.95	332	P	P		03 52 26.4	-0.1
	comp=Z,0.8nm,0.5s,mb3.9,baz=135,slow=3.9,SNR=4.3							
ARCES	ARCESS Array B	82.48	340	P	P		03 52 39.1	-0.5
	comp=Z,2.2nm,0.9s,mb4.1,baz=90,slow=3.6,SNR=3.9							
GERES	GERESS Array B	84.78	319	P	P		03 52 51.3	-0.4
	comp=Z,0.3nm,0.7s,mb3.6,baz=74,slow=7.1,SNR=3.7							
JCT	Junction City	144.50	26	*e*PKP	PKPdf		03 59 54.1	+1.3
LRAL	Lakeview Retre	145.65	6	PKP	PKPdf		03 59 56.4	+1.6

IDC 19 04:22:31.5±3.2, 5.40N×94.25E, mb3.6/2, mb1 3.9/3, mb1mx3.5/21, mbtmp3.6/3, ML4.1/1, Error ellipse: s-maj=111.3km s-min=32.1km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.76	19	Pn	P	04 25 48.0	-2.5
	0.3nm,0.3s,baz=214,slow=12,SNR=4.6						
MKAR	Makanchi Array	42.51	348	P	P	04 30 28.6	-1.7
	0.7nm,0.6s,baz=162,slow=8.2,SNR=5.3						
WRA	Warramunga Arr	46.78	124	P	P	04 31 03.0	-1.9
	0.7nm,0.8s,baz=303,slow=8.8,SNR=5.9						

*NEIC **19** 04:23:18.8, 16.58N×98.40W, h67km, MD3.6(MEX), After MEX.*

MEX 19 04:23:18.8±0.4, 16.53N×98.42W, h68km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.31	116	*i*P	P	04 23 28.8	-1.1
PNIG				*i*S	S	04 23 36.0	-2.1
PNIG	Pinotepa	0.31	116	*i*P	P	04 23 28.6	-1.3
PNIG				*i*S	S	04 23 36.1	-2.0
ACX	Acapulco	1.47	283	*i*P	P	04 23 42.0	-1.9
ACX				*i*S	S	04 24 00.0	-2.4
VHO	Vista Hermosa	1.70	71	*i*P	P	04 23 45.0	-2.0
VHO				*i*S	S	04 24 04.0	-3.8
VHO	Vista Hermosa	1.70	71	*i*P	P	04 23 45.0	-2.0
VHO				*e*S	S	04 24 06.4	-1.3
OXX	Oaxaca	1.72	71	*i*P	P	04 23 45.0	-2.1
OXX				*i*S	S	04 24 05.0	-3.0
PPM	Popocatepetl	2.53	356	*e*P	P	04 23 57.0	-1.6
IISM	Ciudad Serdan	2.64	22	*i*P	P	04 23 58.0	-2.1
IISM				*i*S	S	04 24 28.0	-3.0

*NEIC **19** 04:27:45.9±1.1, 17.44S×178.44W, h515km±19km, mb4.3/8, Error ellipse: s-maj=20.7km s-min=14.9km az=164.0*
*IDC **19** 04:27:46.8±1.8, 17.45S×178.46W, h518km±29km, mb3.8/3, mb1 4.0/4, mb1mx3.3/16, mbtmp4.8/4, Error ellipse: s-maj=26.8km s-min=21.0km az=157.0*

ISC 19 04:27:45.0±1.3, 17.4S±0.2×178.5W±0.1, h518km±24km, n20, σ0§94/21, mb4.6/11, 7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.33	63	P	P	04 29 35.4	-0.7
	15nm,0.3s,baz=18,slow=6.1,SNR=18						
URZ	Urewera	21.15	190	P	P	04 31 54.6	+0.6
	2.8nm,0.4s,mb4.3,baz=334,slow=5.4,SNR=4.0						
CNB	Canberra Magne	33.69	232	*e*P	P	04 33 44.9	+1.0
	425nm,0.6s						
PMG	Port Moresby	34.30	279	P	P	04 33 51.8	+2.5
	baz=92,slow=8.4						
TOO	Toolangi	37.44	230	⇓*i*P	P	04 34 15.8	+0.9
	14nm,0.5s,mb4.7						
STKA	Stephens Creek	38.82	241	⇓*i*P	P	04 34 27.2	+1.1
	12nm,0.6s,mb4.6						
STKA	Stephens Creek	38.82	241	P	P	04 34 27.3	+1.2
	13nm,0.5s,mb4.8,baz=91,slow=9.3,SNR=57						
WB2	Warramunga Arr	44.65	259	⇓*i*P	P	04 35 12.3	-0.5
WRAB	Tennant Creek	44.65	259	*e*P	P	04 35 12.1	-0.7
	8.8nm,0.6s,mb4.5						
WRA	Warramunga Arr	44.66	259	P	P	04 35 12.5	-0.4
	8.7nm,0.5s,mb4.5,baz=95,slow=6.8,SNR=124						
ASAR	Alice Springs	44.86	254	P	P	04 35 14.7	+0.3
	81nm,0.6s,mb5.5,baz=89,slow=8.1,SNR=1127						
ASAR				S	S	04 41 13.8	-0.4
	0.5nm,0.8s,baz=83,slow=15,SNR=4.5						
ASPA	Alice Springs	44.87	254	⇓*i*P	P	04 35 14.6	+0.2
KAKA	Kakadu	47.52	269	*e*P	P	04 35 34.8	-0.1
	13nm,0.4s,mb4.8						
FORT	Forrest	50.16	244	⇓*i*P	P	04 35 53.5	-1.0
	531nm,0.6s						
FITZ	Fitzroy Crossi	53.04	260	⇓*i*P	P	04 36 15.5	0.0
	5.1nm,0.4s,mb4.2						
MBWA	Marble Bar	58.13	256	*e*P	P	04 36 49.9	-0.9
	6.3nm,0.8s,mb3.9						
KLBR	Kellerberrin	58.99	243	⇓*i*P	P	04 36 55.2	-1.2
	189nm,0.6s,mb5.5						
NWAO	Narrogin (SRO)	59.39	242	P	P	04 36 58.2	-0.8
	3.3nm,0.6s,mb3.7						
QSPA	South Pole Qui	72.66	180	*e*P	P	04 38 19.7	-0.8
	1.1nm,0.6s						
TXAR	Lajitas Array	85.78	58	P	P	04 39 32.2	+1.8
	0.2nm,0.6s,baz=207,slow=5.6,SNR=4.1						

*NIED **19** 04:35:00, 31.70N×129.00E, h5km, Mw3.8 Best double couple: $M_0$5.53×10^{14} NP1:ϕ_s212°, δ76°, λ-106°. NP2: ϕ_s80°, δ21°, λ-44°.*

JMA 19 04:35:22.4±0.1, 31.70N×129.00E, h12km±2km, M3.6, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.61	92	P	Pb	04 35 34.1	-0.4
JSJ				S	Sb	04 35 42.1	-0.7
JFU	Fukue jima 2	0.98	347	P	Pb	04 35 40.7	-0.1
JFU				S	Sb	04 35 54.4	+1.0
NGSJ	Nagasakinomoza	1.15	36	P	Pb	04 35 44.0	+0.3
NGSJ				S	Sb	04 35 59.2	+0.8
JHD	Hondo	1.23	51	*e*S	Sb	04 36 02.0	+1.3
JSU	Suzuyama	1.26	98	P	Pb	04 35 45.5	-0.1
JSU				S	Sb	04 36 02.4	+0.9
JZO	Okuchi	1.43	72	P	Pn	04 35 47.6	-0.7
JZO				*e*S	Sb	04 36 07.6	+1.1

DJA 19 05:00:53.0±1.1, 8.63S×116.62E, h33km, MD4.4/1, ML3.7/3, 4C, Error ellipse: s-maj=28.7km s-min=25.0km az=156.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.52	286	⇑*e*Pn	Pn	05 01 01.7	-2.3
KEDI	Kedomdong	0.52	286	*e*P	P	05 01 05.4	+1.7
KEDI				*e*S	S	05 01 13.5	+2.0
RATI	Rata	1.08	265	⇑*e*Pn	Pn	05 01 09.2	-2.8
	235nm,0.2s						
RATI	Rata	1.08	265	*e*P	P	05 01 13.1	+1.3
RATI				*e*Sn	Sn	05 01 23.3	-2.5
KELI	Kelakatan	2.14	281	⇑*e*Pn	Pn	05 01 27.9	+0.7
	23nm,0.2s						
SRDI	Scrawed	2.45	273	⇑*e*Pn	Pn	05 01 30.0	-1.6
	34nm,0.2s						

*NEIC **19** 05:17:38.3, 16.59N×94.42W, h106km, MD3.9(MEX), After MEX.*

MEX 19 05:17:38.3±1.2, 16.59N×94.43W, h106km±13km, MD3.9, 1C-1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.67	319	*i*P	P	05 17 54.8	-1.3
CMIG				*i*S	S	05 18 07.7	-1.9
CMIG	Matias Romero	0.67	319	⇓*i*P	P	05 17 54.9	-1.2
CMIG				*i*S	S	05 18 07.7	-1.9
SCX	San Cristobal	1.72	85	*i*P	P	05 18 07.0	-1.1
SCX				*i*S	S	05 18 28.5	-1.8
HUIG	Huatulco	1.81	244	*i*P	P	05 18 06.2	-2.9
HUIG				*i*S	S	05 18 30.0	-2.2
HUIG	Huatulco	1.81	244	⇑*i*P	P	05 18 06.2	-3.0
HUIG				*i*S	S	05 18 30.0	-2.2
EVV	El Vigia	2.06	335	*i*P	P	05 18 10.0	-2.4
EVV				*i*S	S	05 18 35.0	-2.8
OXX	Oaxaca	2.25	283	*i*P	P	05 18 15.0	0.0
OXX				*i*S	S	05 18 39.0	-3.5
VHO	Vista Hermosa	2.26	283	*i*P	P	05 18 14.7	-0.5
VHO				*i*S	S	05 18 41.4	-1.3
IISM	Ciudad Serdan	3.69	311	*e*P	P	05 18 33.0	-1.5
IISM				*i*S	S	05 19 14.0	-3.3

WEL 19 05:19:03.8±0.1, 38.17S×176.97E, h65km±1km, ML3.7/6, 4C-5D, Error ellipse: s-maj=0.9km s-min=0.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.14	129	⇑P*	P	05 19 13.3	-0.2
URZ				S*	S	05 19 20.2	-0.6
URZ				S*	S	05 19 21.1	+0.4
EDRZ	Edgecumbe	0.20	289	P*	P	05 19 14.0	+0.2
EDRZ				S*	S	05 19 22.1	+0.8
MARZ	Manawahe	0.30	308	P*	P	05 19 14.6	+0.1
MARZ				S*	S	05 19 21.2	-1.2
TAZ	Tarawera	0.37	260	P*	P	05 19 15.3	+0.3
MWZ	Matawai	0.47	111	⇑P*	P	05 19 15.8	-0.1
MWZ				S*	S	05 19 25.5	+0.7
LIRZ	Lichensteins R	0.49	290	P*	P	05 19 16.8	+0.6
PATZ	Paeroa	0.60	249	P*	P	05 19 17.4	0.0
WIZ	White Island	0.67	15	P*	P	05 19 17.1	-0.9
WIZ				S*	S	05 19 28.2	-0.5
KNZ	Kokohu	1.01	147	⇑PN	P	05 19 21.8	-0.6
PUZ	Puketiti	1.02	85	⇑PN	P	05 19 22.1	-0.4
PUZ				SN	S	05 19 35.9	-0.5
MYRZ	Mayor Island	1.06	327	P*	P	05 19 22.5	-0.6
BKZ	Black Stump Fm	1.06	201	⇓P*	P	05 19 22.5	-0.6
RATZ	Rangitukua	1.17	233	⇓P*	P	05 19 24.3	-0.2
RITZ	Rihia Road	1.19	227	P*	P	05 19 24.8	+0.1
MXZ	Matakaoa Point	1.22	60	P*	P	05 19 25.0	-0.1
MGZ	Maungaku	1.40	233	P*	P	05 19 27.1	-0.7
OTVZ	Oturere	1.43	226	⇓P*	P	05 19 27.8	-0.3
WTVZ	West Tongariro	1.44	229	P*	P	05 19 27.7	-0.6
NGZ	Ngauruhoe	1.47	227	⇓P*	P	05 19 28.4	-0.3
TWVZ	Taurewa	1.50	233	P*	P	05 19 28.5	-0.7
TUVZ	Tukino	1.50	223	P*	P	05 19 28.7	-0.5
CNZ	Chateau	1.52	227	P*	P	05 19 29.1	-0.2
WPVZ	Whakapapa	1.52	227	P*	P	05 19 29.2	-0.3
FWVZ	Far West T-bar	1.55	225	P*	P	05 19 29.4	-0.4
DRZ	Dome Shelter	1.56	225	P*	P	05 19 30.0	0.0
MOVZ	Moawhango	1.56	217	⇓P*	P	05 19 29.0	-0.9
MOVZ				S*	S	05 19 48.1	-1.2
WNVZ	Wahianoa	1.58	223	P*	P	05 19 29.6	-0.5
TRVZ	Turoa	1.58	224	P*	P	05 19 29.7	-0.6
MTVZ	Mangateitei	1.69	224	P*	P	05 19 30.9	-0.8
PKVZ	Pokaka	1.69	228	P*	P	05 19 31.3	-0.5
HIZ	Hauiti	1.70	258	PN	P	05 19 31.6	-0.2
HIZ				SN	S	05 19 51.8	-0.7
PWZ	Pawanui	1.86	183	PN	P	05 19 31.3	-2.6
VRZ	Vera Road	1.98	241	PN	P	05 19 35.4	-0.2
TSZ	Takapari Road	2.04	202	PN	P	05 19 34.3	-2.3
WAZ	Wanganui	2.21	224	PN	P	05 19 38.6	-0.4
RAEZ	Rainy Point	2.31	240	*e*PN	P	05 19 40.3	0.0
NEZ	North Egmont	2.50	243	*e*PN	P	05 19 43.6	+0.5
PKE	Pukeiti	2.55	245	*e*PN	P	05 19 43.5	-0.3
BFZ	Birch Farm	2.57	192	*e*PN	P	05 19 40.0	-4.0
BFZ				SN	S	05 20 09.0	-5.1
MRZ	Mangatainoka R	2.71	203	PN	P	05 19 41.6	-4.4
KIW	Kapiti Island	3.12	210	PN	P	05 19 47.5	-4.3
MTW	Mount Morrison	3.19	200	*e*PN	P	05 19 48.4	-4.4
CAW	Cannon Point	3.28	206	*e*PN	P	05 19 49.1	-4.9
MRW	Makara Radio	3.52	209	*e*PN	P	05 19 58.0	+0.6
DUWZ	D'Urville Isla	3.53	221	*e*PN	P	05 19 57.3	-0.2
SNZO	South Karori	3.59	208	*e*PN	P	05 19 52.6	-5.7
NNZ	Nelson	4.12	221	*e*PN	P	05 20 00.0	-5.7
QRZ	Quartz Range	4.34	231	*e*PN	P	05 20 05.5	-3.4
THZ	Tophouse	4.76	220	*e*PN	P	05 20 07.9	-6.7
KHZ	Kahutara	4.99	211	*e*PN	P	05 20 10.9	-6.9
MQZ	McQueen's Vall	6.42	209	PN	P	05 20 29.4	-8.4

*IDC **19** 05:26:51.7±4.4, 6.75S×129.78E, h80km±39km, mb4.0/8, mb1 4.3/11, mb1mx4.1/18, mbtmp4.4/11, Error ellipse: s-maj=44.5km s-min=16.3km az=61.0*
*BJI **19** 05:26:54.3, 7.08S×129.22E, h119km, mB4.7, mb4.3*
*NEIC **19** 05:26:55.0±2.1, 6.92S×129.44E, h112km±20km, mb4.2/8, Error ellipse: s-maj=18.6km s-min=13.8km az=53.0*

ISC 19 05:26:54.9±1.6, 7.03S±0.05×129.39E±0.08, h126km±17km, n44, σ1§27/44, mb4.5/19, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.39	152	⇓*i*P	P	05 28 29.3	+1.4
	63nm,0.2s						
KAKA				*i*S	S	05 29 37.1	-2.9
FITZ	Fitzroy Crossi	11.59	198	*e*P	P	05 29 39.0	+1.5
	8.8nm,0.3s						
FITZ				*e*S	S	05 31 43.0	-1.8
FITZ	Fitzroy Crossi	11.59	198	P	P	05 29 39.0	+1.5
	3.3nm,0.3s,baz=22,slow=9.8,SNR=38						
FITZ				S	S	05 31 42.7	-2.1
	14nm,0.3s,baz=326,slow=15,SNR=7.7						
WRAB	Tennant Creek	13.70	160	*e*P	P	05 30 03.6	-1.3
WRAB				*e*S	S	05 32 26.2	-8.1
WRA	Warramunga Arr	13.70	160	P	P	05 30 04.0	-1.1
	4.4nm,0.3s,baz=338,slow=14,SNR=48						
WRA				S	S	05 32 27.3	-7.2
WB2	Warramunga Arr	13.71	160	*e*P	P	05 30 03.4	-1.7
WB2				*e*S	S	05 32 29.4	-5.2
MBWA	Marble Bar	16.87	213	P	P	05 30 45.8	+0.9
	6.6nm,0.6s						
ASAR	Alice Springs	17.10	166	P	P	05 30 48.6	+0.9
	3.1nm,0.3s,baz=341,slow=9.0,SNR=140						
ASAR				S	S	05 33 53.9	+1.9
	1.6nm,0.3s,baz=349,slow=26,SNR=7.8						
ASPA	Alice Springs	17.10	166	*e*P	P	05 30 49.2	+1.5
ASPA				*e*S	S	05 33 51.6	-0.4
PMG	Port Moresby	17.75	99	*e*P	P	05 30 56.0	+0.4
	17nm,0.9s						
CTAO	Charters Tower	20.88	130	*e*P	P	05 31 30.0	+1.3
	5.3nm,0.7s						
FORT	Forrest	23.66	183	*e*P	P	05 31 59.4	+3.6
	382nm,0.6s						
STKA	Stephens Creek	27.22	157	*e*P	P	05 32 29.3	+0.2
	1.2nm,0.4s,mb3.8						
STKA	Stephens Creek	27.22	157	P	P	05 32 29.1	0.0
	1.8nm,0.4s,mb3.9,baz=322,slow=11,SNR=5.1						
NANT	Nan	38.20	313	P	P	05 34 03.0	-1.2
CMAR	Chiang Mai Arr	39.29	311	P	P	05 34 14.2	+1.0
	3.8nm,0.6s,mb4.4,baz=138,slow=7.0,SNR=28						
CHG	Chiang Mai	39.50	311	P	P	05 34 16.1	+1.1
NJ2	Nanjing	40.14	346	*e*P	P	05 34 19.4	-0.7
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
CN2	Changchun	50.72	356	*e*P	P	05 35 45.8	+1.9
MDJ	Mudanjiang	51.41	0	P	P	05 35 50.8	+1.7
MDJ				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,52nm,4.8s						
JIRN	Jiri	54.15	311	*e*P	P	05 36 09.3	-0.3
GUN	Gumba	54.52	312	*e*P	P	05 36 12.2	0.0
	comp=Z,14nm,0.5s,mb5.2						
PKI	Pulchoki	54.69	311	*e*P	P	05 36 15.0	+1.5
	comp=Z,6.4nm,0.4s,mb5.0						
KKN	Kakani	54.90	311	*e*P	P	05 36 14.6	-0.4
	comp=Z,8.0nm,0.5s,mb5.0						
GKN	Gorkha	55.49	311	*e*P	P	05 36 18.7	-0.6
	comp=Z,11nm,0.3s,mb5.4						
KOLN	Koldanda	56.16	310	*e*P	P	05 36 23.9	-0.2
	comp=Z,5.3nm,0.3s,mb5.0						
ULN	Ulaanbaatar	58.11	342	*e*P	P	05 36 36.7	-0.8
	comp=Z,2.9nm,0.7s,mb4.4						
SONM	Songino Array	58.28	342	P	P	05 36 38.4	-0.3
	comp=Z,0.7nm,0.6s,mb3.9,baz=149,slow=7.2,SNR=4.3						
WMQ	Urumqi	63.09	327	⇑P	P	05 37 11.1	-0.3
WMQ				AP	pP	05 37 38.3	-3.8
WMQ				PCP	PcP	05 37 47.9	+0.3
WMQ				XP	sP	05 37 50.8	-5.1
WMQ				PP	PP	05 39 32.3	-0.7
WMQ				PPP	PPP	05 41 04.6	-0.3
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,56nm,5.4s						
WMQ				LR	LR		
	comp=N,23nm,18.4s						
WMQ				LR	LR		
	comp=E,17nm,24.0s						
WMQ				LR	LR		
	comp=Z,28nm,18.4s						
MKAR	Makanchi Array	67.92	327	P	P	05 37 42.0	-0.1
	comp=Z,4.6nm,0.4s,mb4.6,baz=114,slow=8.5,SNR=69						
AAK	Ala-Archa	70.17	320	P	P	05 37 53.1	-2.9
	comp=Z,1.8nm,0.5s,mb4.2						
ZAL	Zalesovo	71.34	334	P	P	05 38 01.9	-1.0
	comp=Z,1.9nm,0.4s,mb4.3,baz=9.3,slow=3.9,SNR=8.0						
BVAR	Borovoye Array	77.77	328	P	P	05 38 39.4	-0.2
	comp=Z,0.9nm,0.4s,mb3.8,baz=127,slow=7.4,SNR=9.4						
CHKZ	Chkalovo	77.97	329	*e*P	P	05 38 39.8	-0.9
	comp=Z,2.3nm,0.7s,mb4.0						
OPO	Ambohidratompo	80.43	252	P	P	05 38 57.4	+2.7
	comp=Z,2.8nm,0.9s,mb4.1,baz=192,slow=6.8,SNR=3.9						
ILAR	Eielson Array	93.64	25	P	P	05 39 55.5	-2.2
	comp=Z,0.2nm,0.6s,mb3.6,baz=288,slow=4.5,SNR=4.9						
YKA	Yellowknife Ar	108.05	26	PKIKP		05 45 07.8	
	comp=Z,0.1nm,0.6s,baz=312,slow=1.9,SNR=5.3						
YKA	Yellowknife Ar	108.05	26	PKPdf		05 45 07.8	
PDAR	Pinedale Array	117.34	45	PKP	PKPdf	05 45 27.1	+1.5
	comp=Z,0.3nm,0.7s,SNR=3.6						
LVC	Limon Verde	145.52	149	PKPbc	PKPbc	05 46 22.6	+3.0
	comp=Z,1.3nm,0.3s,baz=357,slow=1.1,SNR=4.4						
CPUP	Villa Florida	146.20	169	PKPbc	PKPbc	05 46 23.4	+2.2
	comp=Z,1.4nm,0.6s,baz=197,slow=2.5,SNR=8.5						
CPUP	Villa Florida	146.20	169	PKPbc	PKPbc	05 46 23.4	+2.2
LPAZ	La Paz	151.06	143	PKPbc	PKPdf	05 46 37.3	+9.4
	comp=Z,1.0nm,0.4s,slow=2.0,SNR=15						
LPAZ	La Paz	151.06	143	PKPbc	PKPdf	05 46 36.8	+8.9

*BJI **19** 05:32:53.6, 0.82N×97.13E, h32km, mB4.9, mb4.7, Ms3.8, Msz3.5*
*IDC **19** 05:32:54.0±1.7, 1.16N×97.05E, mb4.3/9, mb1 4.4/10, mb1mx4.1/22, mbtmp4.3/10, ML4.3/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/20, Error ellipse: s-maj=77.9km s-min=15.3km az=58.0*
*NEIC **19** 05:32:58.4±0.6, 1.20N×97.11E, h30km, mb4.6/5, Error ellipse: s-maj=18.5km s-min=8.2km az=66.0*

ISC 19 05:32:58.9±3.7, 1.3N±0.1×97.3E±0.2, h44km±30km, n36, σ0§82/31, mb4.5/23, MS3.9/3, 3C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.22	40	⇑*i*P	P	05 34 16.8	+0.2
CMAR	Chiang Mai Arr	17.15	5	P	P	05 36 55.9	-1.3
	0.4nm,0.3s,baz=191,slow=12,SNR=6.9						
CMAR				LR	LR	05 43 55.5	
	comp=Z,80nm,18.7s,baz=188,slow=38						
KMI	Kunming	24.29	12	P	P	05 38 15.6	+2.0
KMI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.5						
KMI				LR	LR		
	comp=N,268nm,14.1s,MS4.0						
KMI				LR	LR		
	comp=E,215nm,13.4s,MS4.0						
KMI				LR	LR		
	comp=Z,312nm,12.9s,MS4.0						
KMI	Kunming	24.29	12	P	P	05 38 15.6	+2.0
	comp=Z,18nm,0.9s,mb4.5						
KMI				LR	LR		
	comp=Z,310nm,12.9s,MS4.0						
SHL	Shillong	24.70	348	*e*P	P	05 38 17.5	-0.1
GYA	Guiyang	26.62	19	⇑*i*P	P	05 38 36.3	+0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
JIRN	Jiri	28.30	339	*e*P	P	05 38 50.3	-0.5
	comp=Z,20nm,0.9s,mb4.8						
PKI	Pulchoki	28.51	338	*e*P	P	05 38 54.5	+1.9
	comp=Z,14nm,1.0s,mb4.7						
GUN	Gumba	28.64	339	*e*P	P	05 38 54.0	+0.2
	comp=Z,19nm,0.7s,mb5.0						
DMN	Daman	28.66	337	*e*P	P	05 38 55.2	+1.2
	comp=Z,12nm,0.3s,mb5.1						
KKN	Kakani	28.75	338	*e*P	P	05 38 55.2	+0.4
GKN	Gorkha	29.20	337	*e*P	P	05 38 58.2	-0.6
	comp=Z,17nm,0.8s,mb4.8						
KOLN	Koldanda	29.42	335	*e*P	P	05 39 00.8	+0.1
	comp=Z,9.8nm,0.7s,mb4.6						
ENH	Enshi	31.08	21	*e*P	P	05 39 14.2	-1.3
	comp=Z,10nm,0.5s,mb4.9						
FITZ	Fitzroy Crossi	33.92	126	P	P	05 39 39.4	-0.9
	comp=Z,3.3nm,0.6s,mb4.5,baz=327,slow=3.1,SNR=4.5						
XAN	Xi'an	34.37	17	P	P	05 39 43.3	-0.7
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
GTA	Gaotai	38.02	3	P	P	05 40 14.3	-0.5
GTA				AP	pP	05 40 21.9	-4.8
GTA				XP	sP	05 40 24.8	-7.4
GTA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
NWAO	Narrogin (SRO)	38.89	153	LR	LR	05 55 52.3	
	comp=Z,115nm,18.5s,MS3.7,baz=299,slow=35						
WRA	Warramunga Arr	42.02	122	P	P	05 40 48.2	+0.1
	comp=Z,2.8nm,0.6s,mb4.1,baz=301,slow=9.1,SNR=12						
WRAB	Tennant Creek	42.02	122	*e*P	P	05 40 48.3	+0.1
	comp=Z,2.4nm,0.5s,mb4.1						
WB2	Warramunga Arr	42.03	122	⇓*i*P	P	05 40 48.4	+0.2
ASAR	Alice Springs	43.39	127	P	P	05 40 59.7	+0.4
	comp=Z,4.7nm,1.1s,mb4.1,baz=300,slow=7.5,SNR=8.9						
SONM	Songino Array	47.05	8	P	P	05 41 28.7	+0.6
	comp=Z,2.9nm,0.7s,mb4.3,baz=190,slow=7.6,SNR=15						
SONM				PcP	PcP	05 42 59.9	-0.2
	comp=Z,0.7nm,0.4s,baz=189,slow=4.4,SNR=5.0						
ULN	Ulaanbaatar	47.17	9	*e*P	P	05 41 29.7	+0.6
	comp=Z,1.2nm,0.6s,mb4.0						
MKAR	Makanchi Array	47.18	346	P	P	05 41 29.4	+0.2
	comp=Z,3.1nm,0.5s,mb4.5,baz=160,slow=8.8,SNR=32						
STKA	Stephens Creek	53.36	132	P	P	05 42 16.8	+0.2
	comp=Z,2.5nm,0.8s,mb4.2,baz=308,

SNAA	**Sanae**	**15.55**	**153**	*e*	**P**	**05 52 23.3**	**+0.6**
SNAA	**Sanae**	**15.55**	**153**	*e*	**P**	**05 52 26.6**	**+3.9**
SNAA	**Sanae**	**15.55**	**153**	Pn	**P**	**05 52 22.3**	**-0.4**
	3.3nm,0.3s,baz=322,slow=15,SNR=189						
SNAA				LR	LR	05 57 14.7	
	comp=Z,87nm,19.2s,baz=128,slow=33						
SNAA	**Sanae**	**15.55**	**153**	⇑*i*P	**P**	**05 52 22.2**	**-0.5**
SNAA				*e*		05 52 23.3	
SNAA				*e*		05 52 26.6	
SNAA				*e*		05 54 57.0	
SNAA				*e*		05 55 00.6	
SNAA				*e*		05 55 09.1	
QSPA	**South Pole Qui**	**31.12**	**180**	⇑*i*P	**P**	**05 55 03.1**	**+0.9**
	4.7nm,0.5s,mb4.6						
TRQA	**Tornquist**	**31.47**	**296**	*e*P	**P**	**05 55 05.6**	**0.0**
	13nm,1.0s,mb4.7						
PLCA	**Paso Flores**	**33.55**	**283**	P	**P**	**05 55 22.4**	**-1.3**
	2.1nm,0.6s,mb4.2,baz=165,slow=12,SNR=5.9						
PLCA				LR	LR	06 09 20.8	
	comp=Z,167nm,19.6s,MS3.8,baz=135,slow=37						
PLCA	**Paso Flores**	**33.55**	**283**	*e*P	**P**	**05 55 22.4**	**-1.3**
	4.3nm,0.8s,mb4.4						
CFAA	**Coronel Fontan**	**39.68**	**295**	P	**P**	**05 56 15.3**	**-0.4**
	1.0nm,0.8s,mb3.6,baz=155,slow=7.5,SNR=12						
CFAA	**Coronel Fontan**	**39.68**	**295**	P	**P**	**05 56 15.3**	**-0.4**
SBA	**Scott Base**	**43.08**	**184**	P	**P**	**05 56 41.8**	**-1.0**
	3.7nm,0.8s,mb4.2						
VNDA	**Vanda**	**43.54**	**182**	P	**P**	**05 56 48.1**	**+1.5**
	2.3nm,0.6s,mb4.1,baz=185,slow=6.2,SNR=11						
VNDA	**Vanda**	**43.54**	**182**	*e*P	**P**	**05 56 46.9**	**+0.3**
	3.2nm,0.7s,mb4.2						
BDFB	**Brasilia**	**46.50**	**329**	P	**P**	**05 57 12.9**	**+1.8**
	1.2nm,0.5s,mb4.1,baz=147,slow=7.6,SNR=3.4						
BDFB				LR	LR	06 13 25.0	
	comp=Z,55nm,21.6s,MS3.5,baz=73,slow=32						
LVC	**Limon Verde**	**47.68**	**301**	P	**P**	**05 57 21.2**	**+0.9**
	4.3nm,0.9s,mb4.5						
LBTB	**Lobatse**	**49.10**	**69**	P	**P**	**05 57 29.3**	**-2.0**
	8.8nm,1.1s,mb4.7						
TSUM	**Tsumeb**	**50.46**	**57**	P	**P**	**05 57 42.8**	**+1.0**
	1.8nm,0.7s,mb4.2,baz=235,slow=5.4,SNR=4.5						
TSUM	**Tsumeb**	**50.46**	**57**	*e*P	**P**	**05 57 41.9**	**+0.1**
	2.7nm,0.7s,mb4.4						
LPAZ	**La Paz**	**52.93**	**305**	P	**P**	**05 58 00.3**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=157,slow=7.7,SNR=4.7						
LPAZ	**La Paz**	**52.93**	**305**	P	**P**	**05 57 59.8**	**-0.6**
	1.1nm,0.6s,mb4.0						
DBIC	**Dimbokro**	**67.61**	**22**	P	**P**	**05 59 41.9**	**+1.0**
	4.8nm,0.7s,mb4.7,baz=221,slow=5.8,SNR=7.8						
DBIC	**Dimbokro**	**67.61**	**22**	*e*P	**P**	**05 59 40.8**	**-0.1**
	7.4nm,0.8s,mb4.8						
OTAV	**Otavalo**	**72.14**	**303**	P	**P**	**06 00 07.7**	**-0.9**
	5.4nm,1.2s,mb4.3						
SDV	**Santo Domingo**	**76.84**	**314**	LR	LR	06 34 22.6	
	comp=Z,74nm,20.0s,MS4.0,baz=208,slow=36						
SJG	**San Juan**	**83.86**	**321**	LR	LR	06 36 41.5	
	comp=Z,82nm,18.2s,MS4.2,baz=102,slow=34						
JTS	**JuntasAbangare**	**83.95**	**301**	LR	LR	06 40 27.4	
	comp=Z,117nm,19.2s,MS4.3,baz=82,slow=37						
STKA	**Stephens Creek**	**88.70**	**169**	P	**P**	**06 01 36.6**	**+0.3**
	1.7nm,0.7s,mb4.5,baz=169,slow=5.2,SNR=3.3						
STKA	**Stephens Creek**	**88.70**	**169**	P	**P**	**06 01 36.2**	**-0.1**
ASAR	**Alice Springs**	**95.77**	**161**	P	**P**	**06 02 09.2**	**0.0**
	1.1nm,0.7s,mb4.4,baz=187,slow=4.1,SNR=11						
CMAR	**Chiang Mai Arr**	**123.09**	**111**	PKP	PKPdf	06 07 40.3	-1.9
	0.7nm,0.3s,baz=226,slow=3.7,SNR=4.2						
BVAR	**Borovoye Array**	**135.58**	**59**	PKP	PKPdf	06 08 04.8	-0.3
	0.8nm,0.5s,baz=270,slow=1.5,SNR=5.9						
WMQ	**Urumqi**	**137.53**	**80**	*e*PKP	PKPdf	06 08 06.9	-2.0
WMQ				XPKP		06 08 13.9	
WMQ				PP	PP	06 10 57.9	+2.7
WMQ				PP	PP		
	comp=Z,94nm,5.8s						
WMQ				LR	LR		
	comp=N,13nm,22.0s						
WMQ				LR	LR		
	comp=Z,23nm,17.6s,MS4.0						
YKA	**Yellowknife Ar**	**139.06**	**315**	PKP	PKPdf	06 08 08.4	-2.8
	comp=Z,1.6nm,0.7s,baz=127,slow=2.4,SNR=55						
YKA	**Yellowknife Ar**	**139.06**	**315**	PKP	PKPdf	06 08 08.4	-2.8
LZH	**Lanzhou**	**140.07**	**102**	*e*PKP	PKPdf	06 08 13.5	-0.3
LZH				XPKP		06 08 18.1	
LZH				LR	LR		
	comp=N,217nm,18.0s						
LZH				LR	LR		
	comp=Z,263nm,20.0s,MS5.0						
RES	**Resolute Bay**	**141.06**	**337**	PKP	PKPdf	06 08 09.9	-4.4
NJ2	**Nanjing**	**143.90**	**123**	*e*PKP	PKPdf	06 08 15.5	-4.9
SSE	**Sheshan**	**144.07**	**126**	PKP	PKPdf	06 08 19.8	-0.9
SSE				LR	LR		
	comp=N,30nm,14.5s,MS4.6						
SSE				LR	LR		
	comp=E,78nm,14.5s,MS4.6						
SSE				LR	LR		
	comp=Z,131nm,15.7s,MS4.8						
INK	**Inuvik**	**148.75**	**317**	*e*PKPbc	PKPdf	06 08 28.4	+1.0
SONM	**Songino Array**	**149.85**	**90**	PKPbc	PKPdf	06 08 33.1	+3.2
	comp=Z,2.3nm,0.7s,baz=216,slow=3.8,SNR=16						
ILAR	**Eielson Array**	**152.80**	**307**	PKPbc	PKPdf	06 08 38.2	+4.6
	comp=Z,1.3nm,0.9s,baz=106,slow=0.9,SNR=9.3						
CN2	**Changchun**	**156.51**	**118**	*e*PKP	PKPdf	06 08 39.6	+0.3
MDJ	**Mudanjiang**	**159.00**	**123**	PKP	PKPdf	06 08 40.0	-2.5

IDC 19 05:49:51.8±1.3, 8.90N×92.48E, mb3.8/5, mb1 4.0/6, mb1mx3.7/21, mbtmp3.7/6, ML4.0/1, MS2.5/1, Ms1 2.7/1, ms1mx2.4/22, Error ellipse: s-maj=54.9km s-min=22.9km az=53.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.38**	**33**	Pn	P	05 52 36.6	-2.2
	0.3nm,0.3s,baz=224,slow=14,SNR=7.7						
CMAR				LR	LR	05 57 33.9	
	comp=Z,24nm,20.0s,baz=217,slow=41						
MKAR	**Makanchi Array**	**38.75**	**349**	P	P	05 57 17.2	-2.4
	0.5nm,0.5s,baz=175,slow=9.2,SNR=5.2						
WRA	**Warramunga Arr**	**50.19**	**125**	P	P	05 58 49.8	-2.0
	0.8nm,0.3s,baz=302,slow=9.8,SNR=7.4						
ASAR	**Alice Springs**	**51.83**	**130**	P	P	05 59 01.8	-2.3
	0.4nm,0.5s,baz=310,slow=7.5,SNR=4.9						
FINES	**FINESS Array B**	**71.04**	**332**	P	P	06 01 11.5	-1.9
	0.9nm,0.6s,baz=120,slow=15,SNR=4.0						
GERES	**GERESS Array B**	**75.97**	**318**	P	P	06 01 41.4	-1.0
	0.4nm,0.3s,baz=124,slow=4.8,SNR=5.0						

*IDC **19** 06:12:58.8±1.0, 0.55N×97.04E, mb4.1/11, mb1 4.3/12, mb1mx4.1/21, mbtmp4.1/12, ML4.3/1, MS4.0/11, Ms1 4.0/11, ms1mx3.8/21, Error ellipse: s-maj=50.3km s-min=15.2km az=54.0*

*BJI **19** 06:12:59.9, 0.19N×97.42E, h31km, mB4.8, mb4.7, Ms4.6, Msz4.3*

*MOS **19** 06:13:03.9±1.6, 0.75N×97.51E, h33km, mb4.9/14, Error ellipse: s-maj=17.6km s-min=9.0km az=100.2*

*NEIC **19** 06:13:04.2±0.5, 0.65N×97.24E, h30km, mb4.6/12, Error ellipse: s-maj=15.4km s-min=7.6km az=68.0*

ISC 19 06:13:03.6±0.5, 0.72N±0.05×97.45E±0.07, h32km, h32km±1.5km: pP-P, n83, σ1°30/82, mb4.6/41, MS4.2/25, 7C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.55**	**35**	*e*P	**Pn**	**06 14 26.9**	**+0.7**
SNG	**Songkhla**	**7.15**	**26**	P	**Pn**	**06 14 47.0**	**-1.7**
CM31	**Chiang Mai Arr**	**17.69**	**5**	*e*P	**P**	**06 17 08.8**	**-0.6**
	6.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**17.69**	**5**	P	**P**	**06 17 09.3**	**-0.1**
	0.4nm,0.3s,baz=193,slow=12,SNR=20						
CMAR				LR	LR	06 24 46.2	
	comp=Z,705nm,18.3s,baz=175,slow=40						
CHG	**Chiang Mai**	**18.04**	**5**	P	**P**	**06 17 13.5**	**-0.4**
NANT	**Nan**	**18.25**	**10**	⇑P	**P**	**06 17 15.0**	**-1.4**
KKM	**Kota Kinabalu**	**19.46**	**74**	P	**P**	**06 17 22.0**	**-8.7**
QIZ	**Qiongzhong**	**21.88**	**33**	*e*P	**P**	**06 17 57.3**	**+1.5**
QIZ				*e*S	**S**	**06 21 52.5**	**+1.9**
QIZ				LR	LR		
	comp=N,921nm,16.4s,MS4.5						
QIZ				LR	LR		
	comp=E,952nm,14.8s,MS4.5						
QIZ				LR	LR		
	comp=Z,547nm,16.3s,MS4.0						
KMI	**Kunming**	**24.80**	**11**	P	**P**	**06 18 28.9**	**+4.6**
KMI				AP		06 18 37.3	
KMI				XP		06 18 42.1	
KMI				S	**S**	**06 22 48.6**	**+6.8**
KMI				AMB	AMB		
	comp=Z,29nm,1.3s,mb4.7						
KMI				AMB	AMB		
	comp=Z,83nm,3.6s						
KMI				LR	LR		
	comp=N,1μm,13.2s,MS4.6						
KMI				LR	LR		
	comp=E,836nm,13.4s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,14.2s,MS4.6						
KMI	**Kunming**	**24.80**	**11**	P	**P**	**06 18 28.9**	**+4.6**
KMI				*PP		06 18 37.2	
KMI				*SP		06 18 42.1	
KMI						06 19 11.5	
KMI				S	**S**	**06 22 48.6**	**+6.8**
KMI				pmax	pmax		
	comp=Z,29nm,1.3s,mb4.7						
KMI				MLR	MLR		
	comp=Z,1μm,14.2s,MS4.6						
HYB	**Hyderabad**	**24.92**	**313**	*e*P	**P**	**06 18 28.0**	**+2.4**
HYB	**Hyderabad**	**24.92**	**313**	*i*P	**P**	**06 18 28.0**	**+2.4**
GYA	**Guiyang**	**27.09**	**18**	⇑*i*P	**P**	**06 18 46.3**	**+0.7**
GYA				AP	pP	06 18 55.4	+0.4
GYA				XP	sP	06 18 59.8	+0.5
GYA				PP	PP	06 19 32.4	+0.3
GYA				S	**S**	**06 23 19.6**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				LR	LR		
	comp=N,690nm,12.3s,MS4.7						
GYA				LR	LR		
	comp=E,1μm,14.1s,MS4.7						
GYA				LR	LR		
	comp=Z,780nm,13.8s,MS4.4						
JIRN	**Jiri**	**28.89**	**339**	*e*P	**P**	**06 19 04.2**	**+2.4**
	comp=Z,28nm,0.8s,mb5.1						
PKI	**Pulchoki**	**29.09**	**338**	*e*P	**P**	**06 19 06.5**	**+2.8**
	comp=Z,49nm,1.2s,mb5.1						
GUN	**Gumba**	**29.23**	**339**	*e*P	**P**	**06 19 05.4**	**+0.5**
	comp=Z,47nm,0.9s,mb5.2						
DMN	**Daman**	**29.25**	**337**	*e*P	**P**	**06 19 06.8**	**+1.7**
KKN	**Kakani**	**29.34**	**338**	*e*P	**P**	**06 19 07.5**	**+1.6**
	comp=Z,14nm,0.5s,mb4.9						
LSA	**Lhasa**	**29.44**	**349**	*e*P	**P**	**06 19 07.2**	**+0.4**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**29.44**	**349**	*e*P	**P**	**06 19 07.2**	**+0.4**
	comp=Z,10nm,0.8s,mb4.6						
GKN	**Gorkha**	**29.78**	**337**	*e*P	**P**	**06 19 09.2**	**-0.7**
	comp=Z,46nm,1.1s,mb5.1						
KOLN	**Koldanda**	**30.00**	**335**	*e*P	**P**	**06 19 10.0**	**-1.8**
	comp=Z,30nm,1.0s,mb5.0						
ENH	**Enshi**	**31.54**	**20**	*e*P	**P**	**06 19 23.4**	**-2.0**
	comp=Z,7.9nm,0.8s,mb4.6						
ENH				*e*	pP	06 19 31.1	-3.8
FITZ	**Fitzroy Crossi**	**33.44**	**125**	*e*P	**P**	**06 19 41.6**	**-0.4**
	comp=Z,4.6nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.44**	**125**	P	**P**	**06 19 41.1**	**-0.9**
	comp=Z,4.8nm,0.9s,mb4.5,baz=157,slow=3.5,SNR=5.7						
XAN	**Xi'an**	**34.85**	**17**	P	**P**	**06 19 52.0**	**-2.0**
XAN				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.0						
XAN				LR	LR		
	comp=E,483nm,13.4s						
XAN				LR	LR		
	comp=Z,485nm,15.4s,MS4.4						
LZH	**Lanzhou**	**35.69**	**9**	⇑P	**P**	**06 20 01.5**	**+0.4**
LZH				AP	pP	06 20 11.3	+0.6
LZH				XP	sP	06 20 15.0	+0.2
LZH				PP	PP	06 21 23.5	+1.4
LZH				AMB	AMB		
	comp=Z,37nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,77nm,5.5s						
LZH				LR	LR		
	comp=N,319nm,12.9s						
LZH				LR	LR		
	comp=Z,402nm,16.8s,MS4.3						
LZH	**Lanzhou**	**35.69**	**9**	⇑P	**P**	**06 20 01.5**	**+0.4**
LZH				*PP	pP	06 20 11.2	+0.5
LZH				*SP	sP	06 20 15.0	+0.2
LZH						06 21 23.5	
LZH				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
LZH				MLR	MLR		
	comp=Z,400nm,16.8s,MS4.2						
LZH	**Lanzhou**	**35.69**	**9**	⇑P	**P**	**06 20 01.5**	**+0.4**
	comp=Z,37nm,1.3s,mb5.2						
LZH				pP	pP	06 20 11.2	+0.5
LZH				sP	sP	06 20 15.0	+0.2
LZH				PP	PP	06 21 23.5	+1.4
LZH				LR	LR		
	comp=Z,400nm,16.8s,MS4.2						
NJ2	**Nanjing**	**37.14**	**31**	*e*P	**P**	**06 20 13.9**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
SSE	**Sheshan**	**37.66**	**34**	P	**P**	**06 20 18.9**	**+1.1**
SSE				AP	pP	06 20 27.8	+0.4
SSE				XP	sP	06 20 31.8	+0.3
SSE				S	**S**	**06 26 07.3**	**+2.1**
SSE				XS		06 26 20.5	
SSE				SCS	ScS	06 30 28.3	+2.2
SSE				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,25nm,4.7s						
SSE				LR	LR		
	comp=N,282nm,17.9s,MS4.2						
SSE				LR	LR		
	comp=E,132nm,17.9s,MS4.2						
SSE				LR	LR		
	comp=Z,168nm,21.2s,MS3.8						
SSE	**Sheshan**	**37.66**	**34**	P	**P**	**06 20 18.9**	**+1.1**
	comp=Z,21nm,0.8s,mb4.9						
SSE				pP	pP	06 20 27.7	+0.3
SSE				sP	sP	06 20 31.7	+0.2
SSE				S	**S**	**06 26 07.3**	**+2.1**
SSE				sS		06 26 20.5	
SSE				ScS	ScS	06 30 28.3	+2.2
GTA	**Gaotai**	**38.57**	**3**	P	**P**	**06 20 25.0**	**-0.3**
GTA				AP	pP	06 20 36.5	+1.5
GTA				XP	sP	06 20 40.0	+1.0
GTA				PP	PP	06 21 56.3	-1.1
GTA				PPP	PPP	06 22 18.0	-2.3
GTA				PCP	PcP	06 22 39.4	+1.5
GTA				S	**S**	**06 26 16.4**	**-2.4**
GTA				SCP		06 26 23.0	
GTA				SCS	ScS	06 30 30.1	-1.1
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,72nm,6.9s						
GTA				LR	LR		
	comp=N,241nm,10.6s,MS4.4						
GTA				LR	LR		
	comp=E,266nm,15.6s,MS4.4						
GTA				LR	LR		
	comp=Z,183nm,9.9s						
WRA	**Warramunga Arr**	**41.57**	**122**	P	**P**	**06 20 50.5**	**+0.2**
	comp=Z,2.2nm,0.7s,mb3.9,baz=298,slow=9.1,SNR=5.1						
WRAB	**Tennant Creek**	**41.57**	**122**	*e*P	**P**	**06 20 50.5**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
WRAB	**Tennant Creek**	**41.57**	**122**	*e*P	**P**	**06 20 50.5**	**+0.2**
	comp=Z,3.4nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**41.58**	**122**	*e*P	**P**	**06 20 50.0**	**-0.4**
HHC	**Hu-ho-hao-te**	**41.95**	**16**	*e*P	**P**	**06 20 55.0**	**+1.8**
HHC				AP	pP	06 21 05.3	+2.4
HHC				XP	sP	06 21 09.3	+2.4
HHC				PP	PP	06 22 35.4	+2.1
HHC				PCP	PcP	06 22 50.5	+1.7
HHC				SCP		06 26 37.6	
HHC				S	**S**	**06 27 08.5**	**-0.8**
HHC				XS		06 27 28.3	
HHC				SCS	ScS	06 30 51.1	0.0
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.4						
HHC				AMB	AMB		
	comp=Z,73nm,4.6s						
HHC				LR	LR		
	comp=N,532nm,16.3s,MS4.7						
HHC				LR	LR		
	comp=E,653nm,18.2s,MS4.7						
HHC				LR	LR		
	comp=Z,309nm,15.7s,MS4.3						
BJT	**Baijiatuau**	**42.67**	**21**	*e*P	**P**	**06 20 59.4**	**+0.3**
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJT	**Baijiatuau**	**42.67**	**21**	*e*P	**P**	**06 20 59.4**	**+0.3**
	comp=Z,18nm,0.8s,mb4.9						
BJI	**Beijing**	**42.69**	**21**	*e*P	**P**	**06 21 00.6**	**+1.3**
BJI				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8						
BJI				LR	LR		
	comp=N,282nm,14.6s,MS4.4						
BJI				LR	LR		
	comp=E,273nm,18.5s,MS4.4						
BJI				LR	LR		
	comp=Z,168nm,16.3s,MS4.0						
BJI	**Beijing**	**42.69**	**21**	*e*P	**P**	**06 21 00.6**	**+1.3**
	comp=Z,20nm,1.1s,mb4.8						
BJI				LR	LR		
	comp=Z,170nm,16.3s,MS4.0						
FORT	**Forrest**	**42.74**	**140**	*e*P	**P**	**06 21 01.1**	**+1.2**
	comp=Z,201nm,0.7s						
ASAR	**Alice Springs**	**42.90**	**127**	P	**P**	**06 21 01.2**	**0.0**
	comp=Z,0.7nm,0.5s,mb3.7,baz=301,slow=8.0,SNR=11						
WMQ	**Urumqi**	**43.79**	**350**	⇑P	**P**	**06 21 08.4**	**+0.2**
WMQ				AP	pP	06 21 18.4	+0.5
WMQ				XP	sP	06 21 22.4	+0.5
WMQ				PP	PP	06 22 52.4	+0.6
WMQ				PCP	PcP	06 22 54.9	0.0
WMQ				*e*S	**S**	**06 27 36.4**	**+0.3**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
WMQ				LR	LR		
	comp=N,40nm,18.4s,MS3.6						
WMQ				LR	LR		
	comp=E,49nm,16.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,55nm,18.4s,MS3.5						
AAK	**Ala-Archa**	**46.54**	**337**	*e*P	**P**	**06 21 30.2**	**+0.1**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
AAK	**Ala-Archa**	**46.54**	**337**	*e*P	**P**	**06 21 30.2**	**0.0**
	comp=Z,5.4nm,1.0s,mb4.4						
FRU	**Bishkek**	**46.66**	**337**	*e*P	**P**	**06 21 34.5**	**+3.4**
SONM	**Songino Array**	**47.57**	**8**	P	**P**	**06 21 39.0**	**+0.8**
	comp=Z,2.0nm,0.6s,mb4.3,baz=196,slow=9.0,SNR=3.9						
MKAR	**Makanchi Array**	**47.77**	**346**	P	**P**	**06 21 38.0**	**-1.8**
	comp=Z,4.0nm,0.5s,mb4.7,baz=160,slow=8.4,SNR=31						
MKAR				LR	LR	06 43 29.8	
	comp=Z,77nm,20.6s,MS3.7,baz=109,slow=38						
CN2	**Changchun**	**49.62**	**26**	*e*P	**P**	**06 21 54.6**	**+0.5**
CN2				*e*XP	sP	06 22 08.4	+0.6
CN2				*e*S	**S**	**06 29 00.6**	**+1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
CN2				LR	LR		
	comp=N,200nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS4.4						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS4.2						
TLY	**Talaya**	**51.05**	**5**	*e*P	**P**	**06 22 03.1**	**-1.7**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TLY				MLR	MLR		
	comp=Z,274nm,19.0s,MS4.3						
MJAR	**Matsushiro Arr**	**51.88**	**42**	LR	LR	06 44 59.7	
	comp=Z,111nm,18.8s,MS3.9,baz=280,slow=37						
HIA	**Hailar**	**52.02**	**18**	*e*P	**P**	**06 22 12.6**	**+0.4**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HIA	**Hailar**	**52.02**	**18**	*e*P	**P**	**06 22 12.6**	**+0.4**
	comp=Z,3.6nm,0.5s,mb4.6						
CTA	**Charters Tower**	**52.06**	**116**	LR	LR	06 49 42.6	
	comp=Z,204nm,18.5s,MS4.2,baz=50,slow=42						
MDJ	**Mudanjiang**	**52.16**	**29**	P	**P**	**06 22 12.6**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,49nm,9.7s						
MDJ				LR	LR		
	comp=N,123nm,15.0s,MS4.2						
MDJ				LR	LR		
	comp=E,152nm,17.5s,MS4.2						
MDJ				LR	LR		
	comp=Z,103nm,21.2s,MS3.8						
STKA	**Stephens Creek**	**52.85**	**132**	P	**P**	**06 22 18.4**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=337,slow=5.0,SNR=4.4						
STKA				LR	LR	06 46 54.3	
	comp=Z,236nm,19.2s,MS4.2,baz=286,slow=38						
STKA	**Stephens Creek**	**52.85**	**132**	*e*P	**P**	**06 22 18.1**	**-0.6**
ZAL	**Zalesovo**	**54.06**	**351**	P	**P**	**06 22 25.2**	**-2.1**
	comp=Z,4.8nm,0.4s,mb4.8,baz=305,slow=5.3,SNR=19						
KLR	**Kul'dur**	**56.57**	**26**	*e*P	**P**	**06 22 43.9**	**-1.7**
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,900nm,14.0s,MS5.0						
BVAR	**Borovoye Array**	**56.79**	**341**	P	**P**	**06 22 44.5**	**-2.6**
	comp=Z,2.0nm,0.7s,mb4.2,baz=153,slow=9.9,SNR=9.4						
BOD	**Bodaibo**	**58.44**	**10**	*e*P	**P**	**06 22 57.5**	**-1.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
YSS	**Yuzh-Sakhalins**	**60.60**	**34**	*e*P	**P**	**06 23 15.0**	**+1.3**
YSS				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.6						
ARU	**Arti**	**63.72**	**337**	*e*P	**P**	**06 23 33.2**	**-1.2**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
KIV	**Kislovodsk**	**64.84**	**319**	*e*P	**P**	**06 23 44.3**	**+2.5**
KIV				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.6						
MAW	**Mawson**	**72.30**	**193**	LR	LR	06 49 54.8	
	comp=Z,145nm,19.4s,MS4.3,baz=247,slow=31						
OBN	**Obninsk**	**73.16**	**328**	*e*P	**P**	**06 24 34.4**	**+1.4**
OBN				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
TIXI	**Tiksi**	**73.62**	**10**	⇑*i*P	**P**	**06 24 35.3**	**0.0**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.4						
BOSA	**Boshof**	**74.76**	**240**	LR	LR	06 51 45.0	
	comp=Z,88nm,20.3s,MS4.0,baz=315,slow=31						
AKASG	**Malin Array Be**	**75.79**	**322**	P	**P**	**06 24 45.2**	**-3.0**
	comp=Z,0.4nm,0.2s,mb3.9,baz=73,slow=4.6,SNR=6.5						
AKASG	**Malin Array Be**	**75.79**	**322**	P	**P**	**06 24 45.2**	**-3.1**
SUR	**Sutherland**	**79.11**	**237**	LR	LR	06 54 42.0	
	comp=Z,103nm,21.3s,MS4.1,baz=12,slow=32						
FINES	**FINESS Array B**

s-min=8.7km az=176.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata** 240nm,0.2s	**0.93**	**31⇑**	*e*Pg	Pg	06 38 59.0	-2.7
RATI			⇓	*e*Sg	Sg	06 39 11.0	-3.1
SRDI	**Scrawed** 116nm,0.2s	**1.37**	**319⇓**	*e*Pn	Pn	06 39 05.5	-3.0
SRDI			⇓	*e*Sn	Sn	06 39 21.8	-5.1
KELI	**Kelakatan** 73nm,0.2s	**1.41**	**337⇑**	*e*Pn	Pn	06 39 06.6	-2.4
KEDI	**Kedomdong** 36nm,0.2s	**1.48**	**46⇑**	*e*Pn	Pn	06 39 06.9	-3.1
KEDI			⇓	*e*Sn	Sn	06 39 24.4	-5.2

IDC 19 07:17:39.4±7.0, 1.11S×100.46E, mb3.6/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=367.1km s-min=23.3km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=302,slow=9.1,SNR=3.3	**38.05**	**122**	P	P	07 24 59.3	-2.3
ASAR	**Alice Springs** 0.2nm,0.6s,baz=302,slow=7.2,SNR=3.1	**39.41**	**127**	P	P	07 25 12.1	-0.9
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=141,slow=7.8,SNR=6.8	**50.30**	**344**	P	P	07 26 37.8	-2.0
ZAL	**Zalesovo** 0.8nm,0.6s,baz=347,slow=6.2,SNR=4.2	**56.37**	**349**	P	P	07 27 22.4	-2.2
TXAR	**Lajitas Array** 0.4nm,0.5s,baz=215,slow=0.7,SNR=9.0	**143.71**	**37**	PKP	PKPdf	07 37 14.9	-3.9

NEIC ***19*** *07:28:52.1, 37.37S×177.26E, h163km, MG3.8(WEL), After WEL.*

WEL 19 07:28:51.8±0.1, 37.29S×177.13E, h156km±1km, ML4.0/16, 1C-1D, Error ellipse: s-maj=1.8km s-min=1.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.96**	**181**	P	P	07 29 16.7	-0.3
URZ	**Urewera**	**0.96**	**181**	PN	P	07 29 16.7	-0.3
URZ				SN	S	07 29 36.3	0.0
URZ				SN	S	07 29 36.4	0.0
MXZ	**Matakaoa Point**	**0.97**	**106**	*e*P	P	07 29 17.0	0.0
MXZ	**Matakaoa Point**	**0.97**	**106**	PN	P	07 29 17.0	0.0
MXZ				SN	S	07 29 36.0	-0.5
MWZ	**Matawai**	**1.09**	**163**	P	P	07 29 17.8	-0.2
MWZ				S	S	07 29 38.0	-0.3
MWZ	**Matawai**	**1.09**	**163**	PN	P	07 29 17.8	-0.2
MWZ				SN	S	07 29 37.8	-0.5
PUZ	**Puketiti**	**1.18**	**131**	P	P	07 29 18.7	-0.2
PUZ				S	S	07 29 38.6	-1.3
PUZ	**Puketiti**	**1.18**	**131**	PN	P	07 29 18.7	-0.2
PUZ				SN	S	07 29 38.6	-1.3
KNZ	**Kokohu**	**1.78**	**166**	P	P	07 29 25.0	0.0
KNZ	**Kokohu**	**1.78**	**166**	PN	P	07 29 25.0	-0.1
BKZ	**Black Stump Fm**	**1.94**	**195**	P	P	07 29 26.6	-0.2
BKZ	**Black Stump Fm**	**1.94**	**195**	PN	P	07 29 26.6	-0.3
BKZ				SN	S	07 29 53.3	-0.6
MGZ	**Maungaku**	**2.12**	**216**	P	P	07 29 30.0	+1.0
MGZ	**Maungaku**	**2.12**	**216**	PN	P	07 29 30.0	+1.0
HIZ	**Hauiti**	**2.17**	**235**	⇑P	P	07 29 30.8	+1.1
HIZ	**Hauiti**	**2.17**	**235**	⇓PN	P	07 29 30.8	+1.1
WTVZ	**West Tongariro**	**2.19**	**213**	P	P	07 29 30.4	+0.5
WTVZ	**West Tongariro**	**2.19**	**213**	PN	P	07 29 29.8	-0.1
OTVZ	**Oturere**	**2.20**	**211**	PN	P	07 29 30.3	+0.4
TWVZ	**Taurewa**	**2.22**	**216**	P	P	07 29 30.8	+0.5
TWVZ	**Taurewa**	**2.22**	**216**	PN	P	07 29 30.8	+0.5
NGZ	**Ngauruhoe**	**2.23**	**212**	P	P	07 29 31.1	+0.7
NGZ				P		07 29 31.3	
NGZ	**Ngauruhoe**	**2.23**	**212**	PN	P	07 29 31.1	+0.6
CNZ	**Chateau**	**2.28**	**213**	P	P	07 29 31.6	+0.7
CNZ	**Chateau**	**2.28**	**213**	PN	P	07 29 31.6	+0.7
WPVZ	**Whakapapa**	**2.28**	**213**	P	P	07 29 31.5	+0.5
WPVZ	**Whakapapa**	**2.28**	**213**	PN	P	07 29 31.5	+0.5
TUVZ	**Tukino**	**2.29**	**210**	P	P	07 29 31.4	+0.3
TUVZ	**Tukino**	**2.29**	**210**	PN	P	07 29 31.4	+0.3
FWVZ	**Far West T-bar**	**2.32**	**212**	*e*P	P	07 29 31.7	+0.2
FWVZ	**Far West T-bar**	**2.32**	**212**	PN	P	07 29 31.7	+0.2
TRVZ	**Turoa**	**2.36**	**211**	PN	P	07 29 32.4	+0.4
WNVZ	**Wahianoa**	**2.36**	**210**	*e*P	P	07 29 32.0	0.0
WNVZ	**Wahianoa**	**2.36**	**210**	PN	P	07 29 32.0	-0.1
MOVZ	**Moawhango**	**2.37**	**207**	*e*P	P	07 29 31.3	-0.8
MOVZ	**Moawhango**	**2.37**	**207**	PN	P	07 29 31.3	-0.8
MOVZ				SN	S	07 30 02.1	-1.1
PKVZ	**Pokaka**	**2.44**	**215**	PN	P	07 29 33.2	+0.2
MTVZ	**Mangateitei**	**2.46**	**212**	PN	P	07 29 33.0	-0.2
WCZ	**Waipu Caves**	**2.62**	**300**	*e*P	P	07 29 33.2	-2.0
WCZ	**Waipu Caves**	**2.62**	**300**	*e*PN	P	07 29 33.3	-1.9
PWZ	**Pawanui**	**2.74**	**184**	*e*P	P	07 29 35.3	-1.4
PWZ	**Pawanui**	**2.74**	**184**	*e*PN	P	07 29 35.2	-1.5
TSZ	**Takapari Road**	**2.91**	**198**	P	P	07 29 37.4	-1.5
TSZ	**Takapari Road**	**2.91**	**198**	PN	P	07 29 37.4	-1.5
TSZ				SN	S	07 30 13.3	-1.7
WAZ	**Wanganui**	**2.98**	**214**	P	P	07 29 39.5	-0.3
WAZ	**Wanganui**	**2.98**	**214**	PN	P	07 29 39.4	-0.4
BFZ	**Birch Farm**	**3.45**	**191**	P	P	07 29 43.5	-2.4
BFZ	**Birch Farm**	**3.45**	**191**	PN	P	07 29 43.4	-2.4
MRZ	**Mangatainoka R**	**3.58**	**199**	P	P	07 29 44.8	-2.6
MRZ	**Mangatainoka R**	**3.58**	**199**	PN	P	07 29 44.8	-2.7
MRZ				SN	S	07 30 26.3	-4.0
KIW	**Kapiti Island**	**3.96**	**205**	P	P	07 29 49.5	-3.0
KIW	**Kapiti Island**	**3.96**	**205**	*e*PN	P	07 29 49.4	-3.0
MTW	**Mount Morrison**	**4.06**	**198**	P	P	07 29 50.3	-3.5
MTW	**Mount Morrison**	**4.06**	**198**	PN	P	07 29 50.2	-3.6
CAW	**Cannon Point**	**4.13**	**202**	PN	P	07 29 51.4	-3.3
PAWZ	**Paruwai Farm**	**4.29**	**197**	*e*PN	P	07 29 52.7	-4.1
PAWZ				SN	S	07 30 41.6	-5.3
DUWZ	**D'Urville Isla**	**4.30**	**215**	*e*PN	P	07 29 53.5	-3.4
MRW	**Makara Radio**	**4.36**	**205**	*e*PN	P	07 29 54.3	-3.4
MSWZ	**Moikau Station**	**4.37**	**199**	*e*P	P	07 29 54.0	-3.8
MSWZ	**Moikau Station**	**4.37**	**199**	*e*PN	P	07 29 53.9	-3.9
BHW	**Baring Head**	**4.47**	**202**	*e*PN	P	07 29 55.1	-4.0
NNZ	**Nelson**	**4.88**	**215**	*e*PN	P	07 29 59.6	-4.9
NNZ				SN	S	07 30 55.6	-5.2
QRZ	**Quartz Range**	**5.03**	**224**	*e*PN	P	07 30 02.8	-3.7
BSWZ	**Blackbirch Sta**	**5.08**	**209**	*e*PN	P	07 30 03.9	-3.3
THZ	**Tophouse**	**5.53**	**215**	*e*PN	P	07 30 08.8	-4.3
KHZ	**Kahutara**	**5.82**	**207**	*e*PN	P	07 30 12.6	-4.3
DSZ	**Denniston Nort**	**6.06**	**221**	*e*PN	P	07 30 15.5	-4.7
MQZ	**McQueen's Vall**	**7.26**	**207**	*e*PN	P	07 30 30.0	-6.2
MQZ				SN	S	07 31 46.9	-11
ODZ	**Otahua Downs**	**9.16**	**210**	*e*PN	P	07 30 55.7	-5.7

PRU ***19*** *07:41:57.7, 44.69N×9.48E*

MOS ***19*** *07:41:59.4±0.8, 44.83N×9.80E, h10km, mb4.0/1, Error ellipse: s-maj=4.0km s-min=3.4km az=85.6*

ZUR_RM ***19*** *07:42:00, 44.82N×9.79E, h24km, Mw4.0/32, Moment Tensor Solution. s32 Moment tensor: Scale 10^15^Nm; Mrr0.66; Mθθ-1.41; Mφφ0.75; Mrθ-0.33; Mφθ0.08; Mφr-0.30; Best double couple: M0 1.25×10^15^ NP1:φs237°, δ68°, λ39°. NP2:φs130°, δ54°, λ153°. Principal axes: T 1.045, Plg43°, Azm99°; N .418, Plg46°, Azm262°; P -1.463, Plg9°, Azm1°;*

GEN ***19*** *07:42:00.9, 44.82N×9.79E, h1km, ML4.0*

CSEM ***19*** *07:42:00.8±0.0, 44.71N×9.76E, h12km, ML4.3/25, Error ellipse: s-maj=0.8km s-min=0.7km az=148.0*

NEIC ***19*** *07:42:00.9, 44.82N×9.79E, h1km, ML4.2(LDG), ML4.0(GEN), ML4.0(STR), After GEN.*

ROM ***19*** *07:42:01.2±0.1, 44.77N×9.72E, h25km±1km, Ml3.8/17, Error ellipse: s-maj=2.4km s-min=1.9km az=177.0*

MDD ***19*** *07:42:01.4±1.8, 44.74N×10.00E, h24km±4km, mb4.3/9, Error ellipse: s-maj=20.4km s-min=10.2km az=79.0, PRXIMO*

IDC ***19*** *07:42:01.3±4.2, 44.81N×9.83E, h14km±26km, mb3.4/2, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, ML4.0/3, MS3.0/3, Ms1 3.1/3, ms1mx2.7/25, Error ellipse: s-maj=27.0km s-min=17.2km az=122.0*

STR ***19*** *07:42:02.7±0.9, 44.85N×9.64E, h10km±1km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG ***19*** *07:42:02.4±0.1, 44.81N×9.80E, h2km, Md3.6/1, Ml4.2/39, Error ellipse: s-maj=1.7km s-min=1.3km az=14.0*

ZUR ***19*** *07:42:02.4, 44.89N×9.73E, h10km, ML3.8/14*

ISC 19 07:42:01.6±0.2, 44.79N±0.01×9.76E±0.01, h25km±2km, n274, σ1§30/400, mb3.6/2, MS3.2/1, 8C-32D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.22**	**265⇑**	*i*Pg	**Pb**	**07 42 07.7**	**+0.2**
BOB				Sg	**Sb**	**07 42 12.9**	**+1.3**
	27μm,0.5s						
GRAM		**0.37**	**143**	P	**Pb**	**07 42 08.6**	**-1.1**
GRAM				S	**Sb**	**07 42 14.6**	**-0.6**
GRAM		**0.37**	**143**	P	**Pb**	**07 42 08.6**	**-1.1**
GRAM				S	**Sb**	**07 42 14.6**	**-0.6**
CODM		**0.40**	**170**	P	**Pb**	**07 42 09.2**	**-1.0**
CODM				S	**Sb**	**07 42 15.2**	**-0.8**
CODM		**0.40**	**170**	P	**Pb**	**07 42 09.2**	**-1.0**
CODM				S	**Sb**	**07 42 15.2**	**-0.8**
BACM		**0.56**	**156**	P	**Pb**	**07 42 11.6**	**-1.1**
BACM				S	**Sb**	**07 42 19.2**	**-1.1**
BACM		**0.56**	**156**	P	**Pb**	**07 42 11.6**	**-1.1**
BACM				S	**Sb**	**07 42 19.2**	**-1.1**
VALM		**0.56**	**141**	P	**Pb**	**07 42 11.9**	**-0.9**
VALM				S	**Sb**	**07 42 20.4**	**-0.1**
VALM		**0.56**	**141**	P	**Pb**	**07 42 11.9**	**-0.9**
VALM				S	**Sb**	**07 42 20.4**	**0.0**
ERBM	**Eremo**	**0.60**	**128⇓**	*e*Pg	**Pb**	**07 42 13.0**	**-0.4**
GENL	**Genova Univers**	**0.68**	**236**	P	**Pb**	**07 42 14.5**	**-0.2**
GENL				S	**Sb**	**07 42 24.0**	**+0.3**
GENL	**Genova Univers**	**0.68**	**236**	P	**Pb**	**07 42 14.5**	**-0.2**
GENL				S	**Sb**	**07 42 24.0**	**+0.3**
VINC	**Vinca**	**0.70**	**156**	P	**Pb**	**07 42 14.2**	**-1.0**
VINC				S	**Sb**	**07 42 24.6**	**+0.1**
VINC	**Vinca**	**0.70**	**156**	P	**Pb**	**07 42 14.2**	**-1.0**
VINC	**Vinca**	**0.70**	**156**	P	**Pb**	**07 42 14.2**	**-1.0**
VINC				S	**Sb**	**07 42 24.6**	**+0.1**
VINC				S	**Sb**	**07 42 24.6**	**+0.1**
GSCL	**Gusciola**	**0.74**	**126**	Pg	**Pb**	**07 42 15.4**	**-0.3**
SARO	**Sassorosso**	**0.76**	**142**	P	**Pb**	**07 42 15.5**	**-0.6**
SARO				S	**Sb**	**07 42 26.2**	**+0.2**
SARO	**Sassorosso**	**0.76**	**142**	P	**Pb**	**07 42 15.5**	**-0.6**
SARO	**Sassorosso**	**0.76**	**142**	P	**Pb**	**07 42 15.5**	**-0.6**
SARO				S	**Sb**	**07 42 26.2**	**+0.2**
SARO				S	**Sb**	**07 42 26.2**	**+0.2**
VLC	**Villacollemand**	**0.77**	**144**	*e*Pg	**Pb**	**07 42 15.1**	**-1.2**
VLC				*e*Sg	**Sb**	**07 42 26.1**	**-0.3**
VLC	**Villacollemand**	**0.77**	**144**	*e*Pg	**Pb**	**07 42 15.1**	**-1.2**
VLC				*e*Sg	**Sb**	**07 42 26.1**	**-0.3**
PCP	**Pian Castagno**	**0.90**	**255**	P	**Pb**	**07 42 18.4**	**0.0**
PCP				S	**Sb**	**07 42 30.8**	**+0.8**
RAVA	**Ravarino** 9μm,0.8s	**0.97**	**91⇓**	*e*Pg	**Pn**	**07 42 21.2**	**+1.5**
ZCCA	**Zocca**	**0.97**	**116⇑**	*e*Pg	**Pn**	**07 42 21.4**	**+1.6**
SAL	**Salo**	**0.99**	**33**	Pg	**Pn**	**07 42 21.1**	**+1.2**
SAL				Sg	**Sb**	**07 42 36.1**	**+3.6**
	2μm,0.7s						
MDI	**Monti di Nese**	**0.99**	**358**	Pg	**Pn**	**07 42 20.7**	**+0.7**
MDI				Sg	**Sb**	**07 42 37.2**	**+4.5**
	6μm,0.3s						
FNVD	**Fontana Vidola**	**1.16**	**122**	Pg	**Pn**	**07 42 23.8**	**+1.4**
FNVD				Sg	**Sn**	**07 42 42.5**	**+5.0**
	3μm,0.7s						
PII	**Pisa**	**1.20**	**152⇓**	*i*Pg	**Pn**	**07 42 22.9**	**-0.1**
MUGIO	**Muggio**	**1.24**	**336⇓**	*i*Pg	**Pn**	**07 42 24.7**	**+1.1**
MUGIO				Sg	**Sn**	**07 42 43.4**	**+3.8**
MUGIO	**Muggio**	**1.24**	**336⇓**	*i*Pg	**Pn**	**07 42 24.6**	**+1.0**
MUGIO				*e*Sg	**Sn**	**07 42 42.3**	**+2.7**
FIU	**Minerbio Fiu**	**1.25**	**96**	Pg	**Pn**	**07 42 26.0**	**+2.3**
FIU				Sg	**Sn**	**07 42 45.4**	**+5.7**
FIN	**Finale Ligure** 1μm,0.6s	**1.25**	**243⇑**	*e*Pg	**Pn**	**07 42 23.6**	**-0.1**
FIN	**Finale Ligure**	**1.25**	**243**	P	**Pn**	**07 42 23.5**	**-0.2**
FIN				S	**Sn**	**07 42 39.8**	**0.0**
VAI	**Varese**	**1.29**	**328⇓**	*i*Pg	**Pn**	**07 42 25.5**	**+1.3**
SEI	**Scarperia**	**1.36**	**122**	Pg	**Pn**	**07 42 27.4**	**+2.1**
MABI	**Malga Bissina**	**1.38**	**23**	Pg	**Pn**	**07 42 26.3**	**+0.8**
ROB	**Roburent**	**1.44**	**251**	P	**Pn**	**07 42 26.5**	**+0.2**
ROB				S	**Sn**	**07 42 45.2**	**+0.7**
ORO	**Oropa**	**1.51**	**304**	Pg	**Pn**	**07 42 28.4**	**+1.0**
ORX	**Oropa**	**1.51**	**305**	P	**Pn**	**07 42 28.1**	**+0.6**
ORX				S	**Sn**	**07 42 46.7**	**+0.2**
VMG	**Vicchio** 1μm,0.6s	**1.52**	**122**	Pg	**Pn**	**07 42 29.5**	**+1.9**
TRAV		**1.60**	**298**	P	**Pn**	**07 42 28.6**	**-0.1**
TRAV				S	**Sn**	**07 42 48.2**	**-0.4**
TRAV		**1.60**	**298**	P	**Pn**	**07 42 28.5**	**-0.2**
TRAV				S	**Sn**	**07 42 48.2**	**-0.4**
MONE	**Monesi**	**1.60**	**244**	P	**Pn**	**07 42 29.0**	**+0.3**
MONE				S	**Sn**	**07 42 49.0**	**+0.3**
MONE	**Monesi**	**1.60**	**244**	P	**Pn**	**07 42 29.0**	**+0.3**
MONE				S	**Sn**	**07 42 49.0**	**+0.3**
IMI	**Imperia**	**1.60**	**237**	P	**Pn**	**07 42 28.3**	**-0.4**
IMI				S	**Sn**	**07 42 47.4**	**-1.3**
IMI	**Imperia** 622nm,0.3s	**1.60**	**237**	Pg	**Pn**	**07 42 28.4**	**-0.3**
IMI	**Imperia**	**1.60**	**237**	P	**Pn**	**07 42 28.3**	**-0.4**
IMI				S	**Sn**	**07 42 47.4**	**-1.3**
BERNI	**Berninapass**	**1.64**	**6⇓**	*i*P*	**Pb**	**07 42 30.7**	**-0.3**
PGD	**Poggio Sodo** 421nm,0.7s	**1.68**	**122**	Pg	**Pn**	**07 42 32.3**	**+2.5**
VDL	**Val di Lei**	**1.71**	**353⇓**	*i*P*	**Pb**	**07 42 32.1**	**-0.1**
VDL				*e*S*	**Sb**	**07 42 54.1**	**+0.6**
SFI	**Santa Sofia** 1μm,0.9s	**1.74**	**120**	Pg	**Pn**	**07 42 32.7**	**+2.0**
BRMO	**Bormio**	**1.75**	**14**	Pg	**Pn**	**07 42 32.1**	**+1.3**
NEGI	**Negi**	**1.75**	**238**	P	**Pn**	**07 42 30.8**	**0.0**
NEGI				S	**Sn**	**07 42 50.6**	**-1.9**
NEGI	**Negi**	**1.75**	**238**	P	**Pn**	**07 42 30.8**	**0.0**
NEGI				S	**Sn**	**07 42 50.6**	**-1.8**
ENR	**Entracque**	**1.76**	**252**	P	**Pn**	**07 42 31.5**	**+0.5**
ENR				S	**Sn**	**07 42 52.7**	**-0.1**
SAOF	**Saorge**	**1.77**	**244**	Pg	**Pn**	**07 42 31.8**	**+0.7**
SAOF				Sg	**Sn**	**07 42 52.4**	**-0.6**
BHB	**Bricherasio**	**1.77**	**273**	P	**Pn**	**07 42 32.0**	**+0.8**
MMK	**Mattmark**	**1.79**	**316**	Pg	**Pn**	**07 42 31.9**	**+0.5**
MMK	**Mattmark**	**1.79**	**316⇓**	*i*P*	**Pb**	**07 42 31.1**	**-2.4**
RSP	**Reno Superiore**	**1.81**	**283**	P	**Pn**	**07 42 31.0**	**-0.7**
DOI	**San Damiano**	**1.81**	**262**	Pg	**Pn**	**07 42 33.1**	**+1.3**
STV2	**Anna di Valdie**	**1.82**	**254**	P	**Pn**	**07 42 32.5**	**+0.7**
STV2				S	**Sn**	**07 42 54.8**	**+0.5**
STV2	**Anna di Valdie**	**1.82**	**254**	P	**Pn**	**07 42 32.5**	**+0.6**
STV2				S	**Sn**	**07 42 54.8**	**+0.5**
STV	**Sta Anna Valdi**	**1.82**	**254**	P	**Pn**	**07 42 32.5**	**+0.6**
STV				S	**Sn**	**07 42 55.0**	**+0.7**
CTI	**Castel Tesino** 2μm,0.4s	**1.84**	**46**	Pg	**Pn**	**07 42 32.5**	**+0.4**
FUSIO	**Fusio**	**1.84**	**336⇓**	*i*P*	**Pb**	**07 42 32.8**	**-1.6**
AUTN	**L'Aution**	**1.85**	**245**	Pg	**Pn**	**07 42 33.0**	**+0.8**
AUTN				Sg	**Sn**	**07 42 56.6**	**+1.6**
FUORN	**Ofenpass**	**1.87**	**11**	Pg	**Pn**	**07 42 34.3**	**+1.7**
FUORN	**Ofenpass**	**1.87**	**11⇓**	*i*P*	**Pb**	**07 42 34.2**	**-0.7**
SBF	**Sospel**	**1.90**	**242**	*e*Pn	**Pn**	**07 42 32.8**	**-0.3**
SBF				*e*Sn	**Sn**	**07 42 57.5**	**+1.1**
	2μm,0.7s						
PZZ	**Prazzo**	**1.92**	**262**	P	**Pn**	**07 42 33.7**	**+0.5**
FENE	**Fenestrelle**	**1.93**	**278**	P	**Pn**	**07 42 33.6**	**+0.2**
FENE	**Fenestrelle**	**1.93**	**278**	P	**Pn**	**07 42 33.6**	**+0.2**
TOUF	**Mont Tournerai**	**1.96**	**248**	Pg	**Pn**	**07 42 35.1**	**+1.3**
LSD	**Ceresole Reale**	**1.96**	**291**	P	**Pn**	**07 42 33.7**	**-0.1**
APPI	**Appiano** 2μm,0.4s	**1.98**	**31**	Pg	**Pn**	**07 42 35.2**	**+1.0**
DAVOX	**Davos** 97nm,0.3s,baz=180,slow=9.6,SNR=175	**2.00**	**2**	Pn	**Pn**	**07 42 36.2**	**+1.9**
DAVOX	94nm,0.3s,baz=360,slow=19,SNR=9.9			Lg		07 43 02.8	
DAVOX	**Davos**	**2.00**	**2⇓**	*i*Pn	**Pn**	**07 42 36.6**	**+2.2**
OG22	**Abries**	**2.00**	**272**	Pn	**Pn**	**07 42 35.6**	**+1.1**
REVF	**Revere**	**2.01**	**239**	Pg	**Pn**	**07 42 36.9**	**+2.3**
MVIF	**Mont Vial**	**2.07**	**245**	Pg	**Pn**	**07 42 36.6**	**+1.2**
DIX	**Grande Dixence**	**2.10**	**309**	Pg	**Pn**	**07 42 37.0**	**+1.2**
DIX	**Grande Dixence**	**2.10**	**309⇓**	*i*Pn	**Pn**	**07 42 36.6**	**+0.8**
RSM	**Repubblica di** 800nm,0.9s	**2.11**	**113**	Pg	**Pn**	**07 42 37.4**	**+1.3**
RRL	**Cesana Torines**	**2.12**	**275**	P	**Pn**	**07 42 37.2**	**+1.1**
SURF	**Saint Ours**	**2.12**	**263**	Pn	**Pn**	**07 42 37.5**	**+1.3**
LLS	**Linth-Limmern**	**2.13**	**346⇓**	*i*Pn	**Pn**	**07 42 37.5**	**+1.2**
MBDF	**Montbardon**	**2.13**	**269**	*e*Pn	**Pn**	**07 42 36.9**	**+0.6**
MBDF				*e*Sg	**Sn**	**07 43 08.3**	**+6.2**
	524nm,0.4s						
LKBD	**Leukerbad**	**2.19**	**318⇓**	*i*Pn	**Pn**	**07 42 38.1**	**+0.9**
LPG	**La Plagne**	**2.24**	**290**	*e*Pn	**Pn**	**07 42 38.2**	**+0.3**
LPG				*e*Sg	**Sn**	**07 43 14.6**	**+10**
	525nm,0.5s						
LPL	**La Plagne**	**2.26**	**290**	*e*Pn	**Pn**	**07 42 38.5**	**+0.3**
LPL				*e*Sg	**Sn**	**07 43 14.6**	**+9.1**
	414nm,0.4s						
HASLI	**Hasliberg**	**2.27**	**331⇓**	*i*Pn	**Pn**	**07 42 39.2**	**+0.9**
PLONS	**Plons**	**2.28**	**354**	Pg	**Pn**	**07 42 40.9**	**+2.5**
BNALP	**Bannalp**	**2.28**	**336⇓**	*i*Pn	**Pn**	**07 42 39.4**	**+0.9**
PGF	**Pioggiola**	**2.30**	**194**	*e*Pn	**Pn**	**07 42 37.4**	**-1.4**
PGF				*e*Sn	**Sn**	**07 43 03.4**	**-3.2**
	105nm,0.3s						
CALN	**Calern**	**2.30**	**244**	Pg	**Pn**	**07 42 40.0**	**+1.2**
CALN				Sg	**Sn**	**07 43 08.2**	**+1.6**
MUO	**Muotathal**	**2.32**	**341**	*e*Pn	**Pn**	**07 42 40.3**	**+1.3**
SENIN	**Lac Senin**	**2.34**	**313**	*e*Pn	**Pn**	**07 42 40.8**	**+1.5**
BRES	**Bressanone** 752nm,0.6s	**2.36**	**35**	Pg	**Pn**	**07 42 40.4**	**+0.8**
GRYON	**Gryon**	**2.37**	**309**	Pn	**Pn**	**07 42 41.8**	**+2.1**
EMV	**Vieux Emosson**	**2.38**	**303**	Pg	**Pn**	**07 42 41.8**	**+1.9**
EMV	**Vieux Emosson**	**2.38**	**303**	*i* Pg	**Pn**	**07 42 43.6**	**+3.7**
EMV	**Vieux Emosson**	**2.38**	**303**	*e*Pn	**Pn**	**07 42 41.9**	**+2.0**
EMV	**Vieux Emosson**	**2.38**	**303**	*i* Pg	**Pn**	**07 42 43.6**	**+3.7**
SALAN	**Lac Salanfe**	**2.38**	**306**	*e*Pn	**Pn**	**07 42 42.2**	**+2.3**
WIMIS	**Wimmis**	**2.40**	**322**	Pn	**Pn**	**07 42 41.9**	**+1.7**
FSSB	**Fossombrone** 500nm,0.9s	**2.43**	**116**	Pg	**Pn**	**07 42 41.1**	**+0.5**
SACS	**San Casciano d** 237nm,1.1s	**2.49**	**140**	Pg	**Pn**	**07 42 41.7**	**+0.3**
DAVA	**Damuels**	**2.50**	**2⇑**	*i*PN	**Pn**	**07 42 43.8**	**+2.2**
DAVA				*i* SN	**Sn**	**07 43 15.5**	**+3.8**
AIGLE	**Aigle**	**2.51**	**309⇓**	*i*Pn	**Pn**	**07 42 44.1**	**+2.4**
MURB	**Monte Urbino** 570nm,0.3s	**2.51**	**126**	Pg	**Pn**	**07 42 42.0**	**+0.2**
LIENZ	**Alp Oberkamor**	**2.52**	**356⇓**	*i*Pn	**Pn**	**07 42 43.5**	**+1.7**
FRF	**La Foret Royal**	**2.55**	**242**	*e*Pn	**Pn**	**07 42 41.9**	**-0.4**
FRF				*e*Sn	**Sn**	**07 43 11.8**	**-1.1**
	335nm,0.4s						
MAON	**Monte Argentar** 131nm,0.8s	**2.56**	**157**	Pg	**Pn**	**07 42 42.0**	**-0.4**
SEST	**Monte Rota** 3μm,1.7s	**2.61**	**40**	Pg	**Pn**	**07 42 45.7**	**+2.5**
GDM	**Grand'Maison**	**2.62**	**280**	Pn	**Pn**	**07 42 45.7**	**+2.5**
ARV	**Arcevia** 381nm,1.2s	**2.63**	**118**	Pg	**Pn**	**07 42 44.9**	**+1.4**
SQTA	**Sankt Quirin**	**2.64**	**22⇑**	*i*PN	**Pn**	**07 42 45.5**	**+2.0**
SQTA				*i* SN	**Sn**	**07 43 18.1**	**+3.0**
OG25	**Le Caire**	**2.66**	**262**	Pn	**Pn**	**07 42 46.6**	**+2.7**
WILA	**Wila**	**2.69**	**348⇓**	*i*Pn	**Pn**	**07 42 45.4**	**+1.0**
ZUR	**Zurich**	**2.71**	**343⇓**	*i*Pn	**Pn**	**07 42 45.7**	**+1.1**
ASS	**Assisi** 103nm,0.7s	**2.71**	**128**	Pg	**Pn**	**07 42 44.3**	**-0.3**
MOTA	**Moosalm**	**2.73**	**20⇓**	*i*PN	**Pn**	**07 42 47.0**	**+2.2**
MOTA				*i* SN	**Sn**	**07 43 19.7**	**+2.4**
LMR	**La Mourre**	**2.75**	**239**	*e*Pn	**Pn**	**07 42 44.2**	**-1.0**
LMR				*e*Sn	**Sn**	**07 43 15.0**	**-3.0**
	269nm,0.4s						
ORIF	**Oris-en-Rattie** 771nm,0.5s	**2.76**	**274**	*e*Pn	**Pn**	**07 42 47.1**	**+1.8**
ORIF				*e*Sn	**Sn**	**07 43 20.0**	**+1.8**
SNTG	**Esanatoglia** 237nm,0.8s	**2.76**	**123**	Pn	**Pn**	**07 42 45.7**	**+0.4**
TORNY	**Torny**	**2.79**	**316⇓**	*i*Pn	**Pn**	**07 42 47.5**	**+1.8**
WEIN	**Weingarten**	**2.79**	**349⇓**	*i*Pn	**Pn**	**07 42 46.6**	**+0.8**
WTTA	**Wattenberg**	**2.80**	**27⇑**	*i*PN	**Pn**	**07 42 47.4**	**+1.5**
WTTA				*i* SN	**Sn**	**07 43 21.6**	**+2.3**
WATA	**Walderalm**	**2.85**	**26⇑**	*i*PN	**Pn**	**

WET	**Wettzell**	**4.86**	**25**	*e*Pn	**Pn**	**07 43 13.6**	**-1.4**
WET				*e*Sn	**Sn**	**07 44 06.3**	**-4.9**
GEC2	**GERESS Array S**	**4.88**	**32**	*e*Pn	**Pn**	**07 43 13.9**	**-1.5**
GEC2				*e*Sn	**Sn**	**07 44 07.5**	**-4.3**
GERES	**GERESS Array B**	**4.88**	**32**	Pn	**Pn**	**07 43 13.9**	**-1.5**
	3.3nm,0.3s,baz=209,slow=12,SNR=59						
GERES				Sn	**Sn**	**07 44 07.8**	**-4.0**
	21nm,0.3s,baz=208,slow=23,SNR=14						
GERES				LR	LR	07 45 47.6	
	comp=Z,115nm,19.8s,baz=47,slow=47						
AVF	**Avril sur Loir**	**4.91**	**296**	*e*Pn	**Pn**	**07 43 15.0**	**-0.8**
AVF				*e*Sn	**Sn**	**07 44 08.0**	**-4.5**
	57nm,0.4s						
SSF	**Saint Saulge**	**4.92**	**300**	*e*Pn	**Pn**	**07 43 15.3**	**-0.6**
SSF				*e*Sn	**Sn**	**07 44 07.5**	**-5.3**
	56nm,0.4s						
MEZF	**Maizieres J'vi**	**4.93**	**321**	*e*Pn	**Pn**	**07 43 16.2**	**+0.1**
	baz=139						
MEZF				*e*Sn	**Sn**	**07 44 10.8**	**-2.2**
	134nm,0.5s						
GRA1	**Grafenberg Arr**	**5.01**	**11**	*e*Pn	**Pn**	**07 43 14.5**	**-2.7**
GRA1				*e*Sn	**Sn**	**07 44 10.5**	**-4.5**
GRF	**Grafenberg Arr**	**5.01**	**11**	*e*Pn	**Pn**	**07 43 14.5**	**-2.7**
GRF				*e*Sn	**Sn**	**07 44 10.5**	**-4.5**
KHC	**Kasperske Hory**	**5.07**	**30**	*e*Pn	**Pn**	**07 43 16.4**	**-1.7**
KHC				*e*		07 43 36.0	
KHC				*e*Sn	**Sn**	**07 44 11.5**	**-5.1**
KHC				*e*		07 44 26.5	
KHC	**Kasperske Hory**	**5.07**	**30**	*e*PN	**Pn**	**07 43 16.4**	**-1.7**
KHC				*e*PG	**Pn**	**07 43 36.0**	**+18**
KHC				*e*SN	**Sn**	**07 44 11.5**	**-5.1**
KHC				x	x	07 44 26.5	
KHC	**Kasperske Hory**	**5.07**	**30**	*e*Pn	**Pn**	**07 43 16.4**	**-1.7**
KHC				*e*Sn	**Sn**	**07 44 11.5**	**-5.1**
BGF	**Bois d'Agland**	**5.16**	**293**	*e*Pn	**Pn**	**07 43 18.1**	**-1.2**
BGF				*e*Sn	**Sn**	**07 44 14.4**	**-4.3**
	124nm,0.4s						
RGNG	**Rignano Grg**	**5.27**	**124**	Pn	**Pn**	**07 43 18.0**	**-2.9**
BLY	**Banja Luka**	**5.29**	**88**	Pn	**Pn**	**07 43 22.1**	**+0.9**
WLF	**Walferdange**	**5.46**	**335**	Pn	**Pn**	**07 43 22.8**	**-0.8**
CAF	**Calviac**	**5.47**	**274**	*e*Pn	**Pn**	**07 43 23.4**	**-0.3**
CAF				*e*Sn	**Sn**	**07 44 23.9**	**-2.7**
	50nm,0.7s						
FGMS	**Monte Sant'Ang**	**5.47**	**122**	Pn	**Pn**	**07 43 20.9**	**-2.8**
EJON	**La Jonquera**	**5.50**	**247**	P	**Pn**	**07 43 23.9**	**-0.3**
EJON				S	**Sn**	**07 44 24.4**	**-3.0**
EJON	**La Jonquera**	**5.50**	**247**	Pn	**Pn**	**07 43 23.1**	**-1.0**
	4.7nm,0.4s,SNR=7.9						
EJON				Sn	**Sn**	**07 44 22.8**	**-4.6**
	9.0nm,0.4s,SNR=7.9						
EJON	**La Jonquera**	**5.50**	**247**	P	**Pn**	**07 43 23.9**	**-0.3**
	4.7nm,0.4s,SNR=7.9						
TCF	**Toulx Ste Croi**	**5.51**	**288**	*e*Pn	**Pn**	**07 43 23.1**	**-1.2**
TCF				*e*Sn	**Sn**	**07 44 22.9**	**-4.7**
	61nm,0.3s						
TNS	**Taunus Mts**	**5.51**	**351**	*e*Pn	**Pn**	**07 43 22.9**	**-1.4**
TNS				*e*Sn	**Sn**	**07 44 22.2**	**-5.4**
HYF	**Humbligny**	**5.54**	**299**	*e*Pn	**Pn**	**07 43 24.2**	**-0.5**
HYF				*e*Sn	**Sn**	**07 44 24.4**	**-4.0**
MTLF	**Montolieu**	**5.62**	**258**	*e*Pn	**Pn**	**07 43 26.1**	**+0.3**
MTLF				*e*Sn	**Sn**	**07 44 27.3**	**-3.1**
	44nm,0.5s						
NKC	**Novy Kostel**	**5.75**	**18**	*e*PN	**Pn**	**07 43 24.2**	**-3.4**
NKC				*e*PG	Pn	07 43 49.7	+22
NKC				*e*SN	**Sn**	**07 44 28.0**	**-5.5**
NKC	**Novy Kostel**	**5.75**	**18**	*e*Pn	**Pn**	**07 43 24.2**	**-3.4**
NKC				*e*Sn	**Sn**	**07 44 28.0**	**-5.5**
RJF	**Les Rejaudoux**	**5.86**	**278**	*e*Pn	**Pn**	**07 43 31.0**	**+1.8**
MOX	**Moxa**	**6.00**	**11**	*i* P	**Pn**	**07 43 27.5**	**-3.6**
MOX				S	**Sn**	**07 44 33.0**	**-6.7**
MOX				L		07 46 32.0	
MOX	**Moxa**	**6.00**	**11**	*e*Pn	**Pn**	**07 43 27.6**	**-3.5**
MOX				*e*Sn	**Sn**	**07 44 33.5**	**-6.2**
ZST	**Bratislava**	**6.11**	**53**	*e*Pn	**Pn**	**07 43 31.8**	**-1.0**
ZST				*e*Pg	Pn	07 44 13.8	+41
ZST				*e*Sg	Sn	07 45 16.4	+34
PRU	**Pruhonice**	**6.13**	**30**	*e*PN	**Pn**	**07 43 29.9**	**-3.2**
PRU				*e*SN	**Sn**	**07 44 36.3**	**-6.9**
GIVF	**Givet**	**6.28**	**330**	*e*Pn	**Pn**	**07 43 34.2**	**-1.0**
MEM	**Membach**	**6.35**	**338**	P	**Pn**	**07 43 35.9**	**-0.2**
DOU	**Dourbes**	**6.36**	**328**	P	**Pn**	**07 43 36.3**	**0.0**
LFF	**La Frestale**	**6.41**	**275**	*e*Pn	**Pn**	**07 43 37.1**	**+0.1**
SMOL	**Smolenice**	**6.46**	**52**	*e*PN	**Pn**	**07 43 36.0**	**-1.7**
BAIF	**Baives**	**6.48**	**326**	*e*Pn	**Pn**	**07 43 37.2**	**-0.7**
BAIF				*e*Sn	**Sn**	**07 44 46.1**	**-5.7**
	34nm,0.5s						
VRAC	**Vranov**	**6.50**	**43**	Sn	**Sn**	**07 44 46.6**	**-5.8**
	2.5nm,0.3s,baz=308,slow=22,SNR=8.9						
VRAC				Lg		07 45 25.6	
	2.0nm,0.3s,baz=309,slow=23,SNR=3.1						
HGN	**Heimansgroeve**	**6.51**	**338**	*e*P	**Pn**	**07 43 37.9**	**-0.5**
HGN				*e*S	**Sn**	**07 44 45.3**	**-7.3**
TREB	**Trebinje**	**6.56**	**105**	Pn	**Pn**	**07 43 36.4**	**-2.7**
BRG	**Berggiesshubel**	**6.71**	**23**	*e*P	**Pn**	**07 43 39.2**	**-2.0**
BRG				*i*		07 44 50.2	
BRG	**Berggiesshubel**	**6.71**	**23**	*e*Pn	**Pn**	**07 43 39.2**	**-2.0**
BRG				*i* Pg	Pn	07 44 12.0	+31
BRG				*e*Sn	**Sn**	**07 44 50.2**	**-7.4**
BRG				*i* Sg	Sn	07 45 40.3	+43
SNF	**Seneffe**	**6.81**	**329**	P	**Pn**	**07 43 42.8**	**+0.2**
CLL	**Collm**	**6.88**	**17**	*e*PN	**Pn**	**07 43 39.0**	**-4.6**
CLL				*e*PG	Pn	07 44 12.0	+28
CLL				*i* SN	**Sn**	**07 44 58.7**	**-3.1**
CLL				*e*		07 45 08.0	
CLL				*i* SG	Sn	07 45 50.7	+49
EPF	**Esparros**	**7.02**	**259**	*e*Pn	**Pn**	**07 43 44.7**	**-0.9**
EPF				*e*Sn	**Sn**	**07 44 59.6**	**-5.8**
	11nm,0.5s						
UPC	**Upice**	**7.11**	**34**	*e*PN	**Pn**	**07 43 42.7**	**-4.1**
UPC				*e*SN	**Sn**	**07 44 59.5**	**-8.2**
MFF	**Saint Martin d**	**7.17**	**288**	*e*Pn	**Pn**	**07 43 45.9**	**-1.7**
MFF				*e*Sn	**Sn**	**07 45 02.4**	**-6.7**
	24nm,0.5s						
ETOS	**Mallorca**	**7.18**	**228**	P	**Pn**	**07 43 46.7**	**-1.1**
ETOS				S	**Sn**	**07 45 01.3**	**-8.2**
ETOS	**Mallorca**	**7.18**	**228**	Pn	**Pn**	**07 43 45.6**	**-2.2**
	5.5nm,0.3s,SNR=8.3						
ETOS				Sn	**Sn**	**07 45 01.3**	**-8.2**
	3.6nm,0.4s,SNR=5.6						
ETOS	**Mallorca**	**7.18**	**228**	P	**Pn**	**07 43 46.7**	**-1.1**
	5.5nm,0.3s,SNR=8.3						
EPOB	**Poblet**	**7.22**	**245**	P	**Pn**	**07 43 50.5**	**+2.1**
EPOB				S	**Sn**	**07 45 05.2**	**-5.2**
EPOB	**Poblet**	**7.22**	**245**	Pn	**Pn**	**07 43 46.7**	**-1.7**
	4.2nm,0.5s,SNR=7.9						
EPOB				Sn	**Sn**	**07 45 03.1**	**-7.2**
	6.9nm,0.6s,SNR=7.9						
EPOB	**Poblet**	**7.22**	**245**	P	**Pn**	**07 43 50.5**	**+2.2**
	4.2nm,0.5s,SNR=7.9						
VYHS	**Vyhne**	**7.27**	**56**	*e*P	**Pn**	**07 43 45.5**	**-3.5**
VYHS				*e*		07 45 02.9	
VYHS	**Vyhne**	**7.27**	**56**	*e*PN	**Pn**	**07 43 45.8**	**-3.2**
VYHS				*e*SN	**Sn**	**07 45 02.9**	**-8.6**
VYHS				*e*		07 46 10.7	
EBIE	**Bielsa**	**7.27**	**257**	P	**Pn**	**07 43 51.2**	**+2.2**
EBIE				S	**Sn**	**07 45 10.3**	**-1.4**
EBIE	**Bielsa**	**7.27**	**257**	Pn	**Pn**	**07 43 48.1**	**-1.0**
	5.5nm,0.5s,SNR=7.5						
EBIE				Sn	**Sn**	**07 45 05.0**	**-6.6**
	8.2nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**7.27**	**257**	P	**Pn**	**07 43 51.2**	**+2.1**
	5.5nm,0.5s,SNR=7.5						
KSP	**Ksiaz**	**7.49**	**34**	*e*Pn	**Pn**	**07 43 50.4**	**-1.7**
KSP				*e*Sn	**Sn**	**07 45 08.4**	**-8.6**
KSP				*e*Sg	Sn	07 45 55.2	+38
ETSF	**Etsaut**	**7.69**	**259**	*e*Pn	**Pn**	**07 43 56.7**	**+1.8**
ETSF				*e*Sn	**Sn**	**07 45 16.6**	**-5.6**
	25nm,0.6s						
LDF	**La Druitiere**	**7.79**	**303**	*e*Pn	**Pn**	**07 43 55.5**	**-0.7**
LDF				*e*Sn	**Sn**	**07 45 17.1**	**-7.4**
	23nm,0.5s						
ERTA	**Horta de San J**	**7.91**	**244**	Pn	**Pn**	**07 43 55.1**	**-2.8**
	4.9nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**8.07**	**251**	Pn	**P**	**07 43 58.3**	**-1.8**
	21nm,1.8s,SNR=7.9						
ESAC				Sn	**Sn**	**07 45 24.5**	**-7.0**
	99nm,1.2s,SNR=7.9						
FLN	**La Foliniere**	**8.07**	**303**	*e*Pn	**P**	**07 43 59.2**	**-1.0**
	baz=118						
FLN				*e*Sn	**Sn**	**07 45 24.5**	**-7.2**
	20nm,0.4s						
SJPF	**Ste Jean**	**8.10**	**262**	*e*Pn	**P**	**07 43 59.4**	**-1.2**
SJPF				*e*Sn	**Sn**	**07 45 26.2**	**-6.1**
	38nm,1.1s						
GRR	**Gorron**	**8.15**	**300**	*e*Pn	**P**	**07 43 59.3**	**-2.0**
GRR				*e*Sn	**Sn**	**07 45 26.4**	**-7.2**
	24nm,0.6s						
KECS	**Kecovo**	**8.26**	**60**	*e*PN	**P**	**07 44 00.9**	**-1.9**
KECS				*e*PG	P	07 44 35.5	+33
SGMF	**Saint Gilles**	**9.17**	**297**	*e*Pn	**P**	**07 44 13.8**	**-1.6**
SGMF				*e*Sn	**Sn**	**07 45 51.4**	**-7.5**
	17nm,0.5s						
QUIF	**Quistinic**	**9.47**	**294**	*e*Pn	**P**	**07 44 17.0**	**-2.6**
QUIF				*e*Sn	**Sn**	**07 45 57.8**	**-8.4**
	16nm,0.5s						
EBEN	**Beniarda**	**9.62**	**234**	Pn	**P**	**07 44 18.5**	**-3.1**
	4.8nm,1.1s,SNR=7.9						
ELAN	**Lanestosa**	**9.63**	**265**	Pn	**P**	**07 44 19.8**	**-2.0**
	0.3nm,0.2s,SNR=7.9						
ROSF	**Rostrenen**	**9.65**	**296**	*e*Pn	**P**	**07 44 19.8**	**-2.2**
ROSF				*e*Sn	**Sn**	**07 46 03.0**	**-7.7**
	11nm,0.4s						
EARI	**Arriondas**	**10.88**	**267**	P	**P**	**07 44 38.3**	**-0.5**
	3.3nm,0.5s						
EARI				S	**S**	**07 46 33.4**	**-7.4**
EARI	**Arriondas**	**10.88**	**267**	Pn	**P**	**07 44 37.3**	**-1.6**
	3.3nm,0.5s,SNR=4.7						
EARI				Sn	**S**	**07 46 31.8**	**-9.0**
	32nm,1.1s,SNR=7.9						
EARI	**Arriondas**	**10.88**	**267**	P	**P**	**07 44 38.3**	**-0.5**
	3.3nm,0.5s,SNR=4.7						
ESDC	**Sonseca Array**	**11.38**	**248**	Pn	**P**	**07 44 44.1**	**-1.6**
	0.7nm,0.3s,baz=74,slow=12,SNR=4.6						
EKA	**Eskdalemuir Ar**	**13.40**	**327**	Pn	**P**	**07 45 08.6**	**-4.0**
	0.8nm,0.3s,baz=139,slow=14,SNR=12						
NOA	**NORSAR Array B**	**16.31**	**3**	Pn	**P**	**07 45 48.9**	**-1.4**
	0.2nm,0.3s,baz=184,slow=11,SNR=3.4						
NOA				LR	LR	07 52 47.3	
	comp=Z,38nm,19.4s,baz=85,slow=40						
BRTR	**Keskin Array B**	**18.36**	**98**	P	**P**	**07 46 16.4**	**+0.1**
	0.1nm,0.3s,baz=284,slow=10,SNR=5.0						
ARCES	**ARCESS Array B**	**26.07**	**13**	LR	LR	07 58 48.3	
	comp=Z,77nm,19.2s,MS3.2,baz=65,slow=39						
MKAR	**Makanchi Array**	**48.93**	**60**	P	**P**	**07 50 45.3**	**-2.0**
	2.1nm,0.9s,mb4.2,baz=284,slow=6.4,SNR=8.2						
YKA	**Yellowknife Ar**	**64.20**	**335**	P	**P**	**07 52 34.2**	**-1.7**
	0.1nm,0.5s,mb3.1,baz=41,slow=6.5,SNR=4.1						
YKA	**Yellowknife Ar**	**64.20**	**335**	P	**P**	**07 52 34.2**	**-1.7**

*IDC **19** 07:47:01.4±0.7,5.18N×93.35E,h28km±3km,mb3.9/11, mb1 4.1/12,mb1mx3.9/23,mbtmp4.0/12,ML3.7/1,Error ellipse: s-maj=33.3km s-min=12.4km az=52.0*
*NEIC **19** 07:47:01.2±0.4,5.12N×93.34E,mb4.6/2,Error ellipse: s-maj=11.2km s-min=7.2km az=55.0*

ISC 19 07:46:59.3±0.6,5.12N±0.08×93.38E±0.10,h28km, h28km±5km:pP-P,n25,σ0§75/23,mb4.1/13,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.24**	**88**	*e*P	**Pn**	**07 48 45.4**	**-0.7**
CM31	**Chiang Mai Arr**	**14.33**	**22**	P	**P**	**07 50 22.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**14.33**	**22**	Pn	**P**	**07 50 22.7**	**+0.1**
	0.1nm,0.3s,baz=220,slow=14,SNR=9.5						
CMAR				pP		07 50 28.7	
	0.3nm,0.3s,baz=230,slow=14,SNR=6.9						
CHG	**Chiang Mai**	**14.65**	**21**	P	**P**	**07 50 39.6**	**+13**
NANT	**Nan**	**15.36**	**27**	P	**P**	**07 50 36.0**	**-0.1**
LSA	**Lhasa**	**24.54**	**355**	P	**P**	**07 52 20.3**	**+2.2**
	15nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**42.61**	**349**	P	**P**	**07 54 55.1**	**+0.2**
	0.9nm,0.6s,mb3.7,baz=163,slow=9.3,SNR=6.4						
MKAR				pP	pP	07 55 03.0	-0.1
	2.4nm,0.6s,baz=158,slow=6.5,SNR=12						
SONM	**Songino Array**	**44.00**	**13**	P	**P**	**07 55 05.5**	**-0.6**
	0.7nm,0.8s,mb3.4,baz=194,slow=5.9,SNR=3.6						
SONM				pP	pP	07 55 14.4	0.0
	3.9nm,0.8s,baz=194,slow=8.7,SNR=20						
SONM				PcP	PcP	07 56 51.9	-0.1
	0.8nm,0.6s,baz=225,slow=3.5,SNR=3.8						
WRA	**Warramunga Arr**	**47.34**	**123**	P	**P**	**07 55 33.5**	**+0.4**
	3.9nm,0.7s,mb4.4,baz=301,slow=9.1,SNR=24						
WRA				pP	pP	07 55 42.1	+0.6
	2.9nm,0.6s,baz=302,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**47.35**	**123**	*e*P	**P**	**07 55 33.2**	**+0.1**
	4.4nm,0.7s,mb4.5						
WRAB				*e*	pP	07 55 40.8	-0.8
WB2	**Warramunga Arr**	**47.35**	**123**	*e*P	**P**	**07 55 33.4**	**+0.2**
ASAR	**Alice Springs**	**48.79**	**128**	P	**P**	**07 55 44.5**	**+0.3**
	0.9nm,0.7s,mb3.9,baz=304,slow=7.9,SNR=12						
ASAR				pP	pP	07 55 53.4	+0.7
	0.7nm,0.6s,baz=297,slow=8.0,SNR=6.3						
ZAL	**Zalesovo**	**49.17**	**353**	pP	pP	07 55 55.2	0.0
	1.9nm,0.5s,baz=317,slow=5.1,SNR=4.9						
BVAR	**Borovoye Array**	**51.35**	**342**	P	**P**	**07 56 02.6**	**-0.9**
	0.8nm,0.6s,mb3.8,baz=143,slow=7.4,SNR=5.8						
BVAR				pP	pP	07 56 10.9	-1.1
	1.5nm,0.7s,baz=141,slow=9.5,SNR=5.9						
STKA	**Stephens Creek**	**58.80**	**132**	P	**P**	**07 56 57.8**	**0.0**
	1.3nm,0.6s,mb4.2,baz=316,slow=6.1,SNR=6.0						
STKA	**Stephens Creek**	**58.80**	**132**	*e*P	**P**	**07 56 57.9**	**+0.1**
BRTR	**Keskin Array B**	**63.67**	**312**	P	**P**	**07 57 29.1**	**-1.6**
	1.2nm,0.7s,mb4.0,baz=135,slow=8.7,SNR=4.9						
MLR	**Muntele Rosu**	**70.62**	**316**	P	**P**	**07 58 14.9**	**+0.6**
	3.0nm,0.8s,mb4.3,baz=137,slow=5.9,SNR=5.4						
MLR				pP	pP	07 58 23.4	+0.4
	2.9nm,0.6s,baz=126,slow=1.2,SNR=4.9						
MLR	**Muntele Rosu**	**70.62**	**316**	P	**P**	**07 58 14.9**	**+0.6**
MLR				pP	pP	07 58 23.4	+0.4
FINES	**FINESS Array B**	**74.79**	**333**	P	**P**	**07 58 37.7**	**-0.9**
	1.8nm,0.8s,mb4.0,baz=101,slow=7.1,SNR=3.7						
FINES				pP	pP	07 58 46.9	-0.5
	1.3nm,0.8s,baz=101,slow=9.7,SNR=1.9						
FINES	**FINESS Array B**	**74.79**	**333**	P	**P**	**07 58 37.7**	**-0.9**
FINES				pP	pP	07 58 46.9	-0.5
ARCES	**ARCESS Array B**	**77.59**	**341**	P	**P**	**07 58 54.2**	**0.0**
	2.3nm,0.7s,mb4.2,baz=76,slow=5.0,SNR=5.9						
ARCES				pP	pP	07 59 03.0	0.0
	4.3nm,0.9s,baz=101,slow=6.2,SNR=2.0						
ARCES	**ARCESS Array B**	**77.59**	**341**	P	**P**	**07 58 54.2**	**0.0**
ARCES				pP	pP	07 59 03.0	0.0
GERES	**GERESS Array B**	**79.37**	**319**	P	**P**	**07 59 05.3**	**+0.9**
	0.3nm,0.2s,mb3.8,baz=90,slow=5.3,SNR=4.2						
GERES				pP	pP	07 59 14.0	+0.8
	0.3nm,0.3s,baz=104,slow=5.5,SNR=3.1						
CPUP	**Villa Florida**	**144.96**	**230**	PKP	PKPdf	08 06 36.6	-3.1
	3.3nm,0.8s,baz=153,slow=6.1,SNR=13						

*ATH **19** 07:47:58.9,34.18N×26.32E,h5km,MD3.4/3*
*CSEM **19** 07:48:00.3±0.3,34.37N×26.50E,h8km,ML3.2,Error ellipse: s-maj=15.0km s-min=6.1km az=53.0*
*HLW **19** 07:48:02.9,34.55N×26.44E,h25km,Mb3.2*

ISC 19 07:48:00.9±0.6,34.33N±0.04×26.40E±0.09,h10km,n11, σ1§12/13,2C-4D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.79**	**313**	*e*PG	**Pg**	**07 48 15.0**	**-1.8**
NPS	**Neapolis**	**1.13**	**325**	*e*PG	**Pg**	**07 48 22.0**	**-1.5**
NPS				*e*SB	**Sb**	**07 48 38.1**	**+1.5**
KARP	**Karpathos**	**1.36**	**27**	*e*PB	**Pb**	**07 48 27.6**	**+1.5**
SLUM		**3.00**	**200**	P	**Pn**	**07 48 50.9**	**+1.4**
SLUM				S	**Sn**	**07 49 25.9**	**0.0**
DABA	**Dabaa**	**3.67**	**154**	⇓P	**Pn**	**07 48 59.8**	**+0.8**
AWBH		**6.37**	**160**	⇑P	**Pn**	**07 49 37.4**	**+0.2**
AWBH		**6.37**	**160**	P	**Pn**	**07 49 37.3**	**+0.2**
GLL	**Jalalah**	**6.54**	**135**	⇓P	**Pn**	**07 49 39.0**	**-0.6**
AMAG	**Maghara**	**6.83**	**121**	⇑P	**Pn**	**07 49 42.1**	**-1.6**
HFRF	**Wahat Farafira**	**7.35**	**167**	⇓P	**Pn**	**07 49 51.1**	**+0.2**
AKRG	**Al Kharijah**	**9.49**	**157**	⇓P	**P**	**07 50 20.6**	**-0.1**

*IDC **19** 08:09:57.3±2.0,32.20N×142.38E,mb3.8/2,mb1 4.1/6, mb1mx3.7/25,mbtmp4.1/6,ML4.3/3,MS3.5/1,Ms1 3.5/1, ms1mx2.4/39,Error ellipse: s-maj=57.4km s-min=21.4km az=70.0*
*JMA **19** 08:10:02.7±0.4,32.36N×142.17E,h102km,M3.9*

ISC 19 08:10:03.8±1.1,32.51N±0.05×142.24E±0.09,h88km±16km, n23,σ1§16/40,mb4.0/2,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.13**	**287**	P	**P**	**08 10 37.3**	**-1.1**
JHJ2				S	**S**	**08 11 03.9**	**0.0**
JHJ	**Hachijo jima 2**	**2.16**	**287**	Pn	**P**	**08 10 36.8**	**-2.0**
	27nm,0.3s,baz=234,slow=21,SNR=11						
JHJ				Sn	**S**	**08 11 01.8**	**-2.8**
	102nm,0.3s,baz=64,slow=23,SNR=10.0						
BSO1	**Boso 1**	**2.39**	**334**	P	**P**	**08 10 42.7**	**+0.8**
BSO1				*e*S	**S**	**08 11 13.5**	**+3.2**
JIM2	**Oshima 3**	**3.22**	**314**	P	**P**	**08 10 53.5**	**0.0**
JIM2				*e*S	**S**	**08 11 30.6**	**-0.3**
JOD2	**Odawara 2**	**3.80**	**317**	P	**P**	**08 11 00.4**	**-1.1**
JOD2				*e*S	**S**	**08 11 44.5**	**-0.8**
JYN	**Shimob**	**4.28**	**315**	P	**P**	**08 11 10.3**	**+2.2**
JYN				S	**S**	**08 11 58.2**	**+1.0**
JHO	**Hitachi**	**4.32**	**342**	P	**P**	**08 11 08.9**	**+0.2**
JHO				*e*S	**S**	**08 11 58.1**	**-0.1**
JRY	**Ryogami san**	**4.46**	**323**	P	**P**	**08 11 12.3**	**+1.7**
JRY				S	**S**	**08 12 01.8**	**+0.1**
JAG	**Ashikaga**	**4.54**	**330**	P	**P**	**08 11 12.7**	**+1.1**
JAG				*e*S	**S**	**08 12 04.8**	**+1.2**
ONAJ	**Iwakimizuishiy**	**4.74**	**346**	P	**P**	**08 11 15.2**	**+0.8**
ONAJ				*e*S	**S**	**08 12 07.7**	**-0.8**
JFK	**Kawauchi**	**4.98**	**347**	P	**P**	**08 11 17.2**	**-0.5**
JFK				*e*S	**S**	**08 12 12.9**	**-1.6**
MJAR	**Matsushiro Arr**	**5.22**	**322**	Pn	**P**	**08 11 22.3**	**+1.3**
	1.8nm,0.3s,baz=143,slow=11,SNR=11						
MJAR				Sn	**S**	**08 12 21.0**	**+0.5**
	3.1nm,0.3s,baz=36,slow=28,SNR=7.2						
MAT	**Matsushiro**	**5.23**	**322**	P	**P**	**08 11 22.3**	**+1.3**
MAT				S	**S**	**08 12 20.9**	**+0.3**
MAT	**Matsushiro**	**5.23**	**322**	P	**P**	**08 11 22.0**	**+1.0**
MAT				*e*S	**S**	**08 12 22.1**	**+1.5**
CBIJ	**Chichi jima**	**5.39**	**181**	Pn	**P**	**08 11 15.8**	**-7.4**
	69nm,0.3s,baz=274,slow=18,SNR=73						
CBIJ				Sn	**S**	**08 12 10.3**	**-14**
	18nm,0.3s,baz=108,slow=24,SNR=5.7						
JMM	**Marumori**	**5.48**	**348**	P	**P**	**08 11 24.9**	**+0.4**
JMM				*e*S	**S**	**08 12 24.7**	**-2.1**
JMK	**Ichinoseki**	**6.49**	**353**	P	**P**	**08 11 37.7**	**-0.7**
JYK	**Kaneyama**	**6.58**	**347**	P	**P**	**08 11 40.6**	**+0.9**
JYK				*e*S	**S**	**08 12 53.8**	**-0.1**
JOM	**Ohasama**	**7.00**	**354**	P	**P**	**08 11 45.2**	**-0.3**
JOM				*e*S	**S**	**08 13 01.6**	**-2.5**
ASAJ	**Asahikawa**	**11.60**	**1**	Pn	**P**	**08 12 47.2**	**-0.5**
	1.9nm,0.3s,baz=234,slow=9.4,SNR=7.7						
CTA	**Charters Tower**	**52.43**	**175**	LR	LR	08 38 39.0	
	comp=Z,46nm,20.3s,baz=316,slow=33						
WRA	**Warramunga Arr**	**52.70**	**189**	P	**P**	**08 19 10.2**	**-1.4**
	1.1nm,0.3s,mb4.4,baz=6.1,slow=7.7,SNR=19						
ASAR	**Alice Springs**	**56.42**	**189**	P	**P**	**08 19 39.6**	**+0.9**
	0.3nm,0.4s,mb3.6,baz=360,slow=5.7,SNR=10.0						

*SSS **19** 08:22:34.2,13.20N×89.46W,h63km,MD3.4*
*INET **19** 08:22:38.6,13.49N×89.04W,h80km,MD3.9*

CASC 19 08:22:34.6±1.8,13.18N×89.43W,h59km±19km,MD3.9, 6C-7D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.53**	**21**⇑	*e*P	P	08 22 46.9	-0.1
LFRS	**El Faro**	**0.56**	**39**⇓	*i*P	P	08 22 47.5	+0.2
BOQS	**Boqueron**	**0.57**	**15**⇓	*i*P	P	08 22 47.5	+0.2
LFU	**La Fuente**	**0.64**	**28**⇑	*e*P	P	08 22 48.5	+0.4
LCBS	**La Ceiba**	**0.64**	**43**⇓	*i*P	P	08 22 48.4	+0.3
LBRS	**Las Brisas**	**0.67**	**34**⇑	*i*P	P	08 22 49.1	+0.7
LBRS				*e*S	S	08 22 59.9	+1.1
SBLS	**San Blas**	**0.68**	**344**⇓	*e*P	P	08 22 48.6	0.0
SBLS				*e*S	S	08 23 00.6	+1.5
SNJE	**San

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.17**	**269⇑**	*iPg*	**Pb**	**08 27 46.2**	**+0.6**
BOB				Sg	**Sb**	**08 27 50.9**	**+1.9**
	10μm,0.5s						
GRAM		**0.39**	**136**	P	**Pb**	**08 27 47.5**	**-1.2**
GRAM				S	**Sb**	**08 27 52.9**	**-1.4**
GRAM		**0.39**	**136**	P	**Pb**	**08 27 47.5**	**-1.2**
CODM		**0.40**	**163**	P	**Pb**	**08 27 48.0**	**-0.8**
CODM				S	**Sb**	**08 27 54.0**	**-0.5**
CODM		**0.40**	**163**	P	**Pb**	**08 27 48.0**	**-0.9**
BACM		**0.56**	**151**	P	**Pb**	**08 27 50.4**	**-1.2**
BACM				S	**Sb**	**08 27 57.8**	**-1.3**
BACM		**0.56**	**151**	P	**Pb**	**08 27 50.3**	**-1.3**
VALM		**0.58**	**137**	P	**Pb**	**08 27 50.5**	**-1.4**
VALM				S	**Sb**	**08 27 58.6**	**-1.0**
ERBM	**Eremo**	**0.62**	**124**	Pg	**Pb**	**08 27 52.0**	**-0.6**
ERBM				Sg	**Sb**	**08 28 01.8**	**+0.9**
GENL	**Genova Univers**	**0.63**	**235**	P	**Pb**	**08 27 53.2**	**+0.4**
GENL				S	**Sb**	**08 28 03.0**	**+1.8**
GENL	**Genova Univers**	**0.63**	**235**	P	**Pb**	**08 27 53.2**	**+0.4**
GENL				S	**Sb**	**08 28 03.0**	**+1.8**
VINC	**Vinca**	**0.71**	**152**	P	**Pb**	**08 27 52.9**	**-1.2**
VINC				S	**Sb**	**08 28 03.2**	**-0.2**
VINC	**Vinca**	**0.71**	**152**	P	**Pb**	**08 27 52.9**	**-1.2**
VINC	**Vinca**	**0.71**	**152**	P	**Pb**	**08 27 52.9**	**-1.2**
VINC				S	**Sb**	**08 28 03.2**	**-0.2**
GSCL	**Gusciola**	**0.77**	**123**	Pg	**Pb**	**08 27 54.2**	**-0.8**
GSCL				Sg	**Sb**	**08 28 07.8**	**+2.8**
SARO	**Sassorosso**	**0.78**	**139**	P	**Pb**	**08 27 54.0**	**-1.2**
SARO				S	**Sb**	**08 28 04.7**	**-0.6**
SARO	**Sassorosso**	**0.78**	**139**	P	**Pb**	**08 27 54.0**	**-1.2**
SARO				S	**Sb**	**08 28 04.7**	**-0.6**
VLC	**Villacollemand**	**0.79**	**141**	*e*Pg	**Pb**	**08 27 54.0**	**-1.4**
VLC				*e*Sg	**Sb**	**08 28 04.8**	**-0.8**
VLC	**Villacollemand**	**0.79**	**141**	*e*Pg	**Pb**	**08 27 54.0**	**-1.4**
VLC				*e*Sg	**Sb**	**08 28 04.8**	**-0.8**
PCP	**Pian Castagno**	**0.85**	**255**	P	**Pb**	**08 27 57.3**	**+0.9**
PCP				S	**Sb**	**08 28 09.5**	**+2.1**
MDI	**Monti di Nese**	**1.01**	**1**	Pn	**Pn**	**08 27 59.8**	**+0.5**
MDI				Sn	**Sn**	**08 28 15.3**	**+2.4**
	3μm,0.5s						
ZCCA	**Zocca**	**1.01**	**114**	Pg	**Pb**	**08 28 00.8**	**+1.7**
RAVA	**Ravarino**	**1.02**	**90**	Pg	**Pb**	**08 28 01.1**	**+1.8**
RAVA				Sg	**Sb**	**08 28 15.9**	**+3.7**
	3μm,0.3s						
SAL	**Salo**	**1.02**	**35**	Pn	**Pn**	**08 27 59.8**	**+0.2**
SAL				Sn	**Sn**	**08 28 14.7**	**+1.4**
	1μm,0.5s						
FNVD	**Fontana Vidola**	**1.19**	**120**	Pn	**Pn**	**08 28 02.7**	**+0.8**
FNVD				Sn	**Sn**	**08 28 22.3**	**+4.8**
	2μm,0.8s						
FIN	**Finale Ligure**	**1.20**	**243**	Pg	**Pn**	**08 28 02.4**	**+0.3**
FIN				Sg	**Sb**	**08 28 21.1**	**+3.5**
FIN	**Finale Ligure**	**1.20**	**243**	P	**Pn**	**08 28 02.3**	**+0.2**
PII	**Pisa**	**1.21**	**150⇓**	*iPg*	**Pn**	**08 28 01.8**	**-0.4**
MUGIO	**Muggio**	**1.24**	**338⇓**	*iPg*	**Pn**	**08 28 03.0**	**+0.3**
MUGIO				*e*Sg	**Sb**	**08 28 21.2**	**+2.5**
VAI	**Varese**	**1.28**	**330⇓**	*iPg*	**Pn**	**08 28 03.9**	**+0.7**
FIU	**Minerbio Fiu**	**1.29**	**95**	Pn	**Pn**	**08 28 04.9**	**+1.5**
FIU				Sn	**Sn**	**08 28 24.6**	**+4.6**
ROB	**Roburent**	**1.39**	**251**	P	**Pn**	**08 28 05.2**	**+0.4**
ROB				S	**Sn**	**08 28 22.5**	**0.0**
SEI	**Scarperia**	**1.39**	**120**	Pn	**Pn**	**08 28 06.1**	**+1.3**
	5μm,1.0s						
MABI	**Malga Bissina**	**1.41**	**24**	Pg	**Pn**	**08 28 04.9**	**-0.2**
ORO	**Oropa**	**1.48**	**306**	Pg	**Pn**	**08 28 06.6**	**+0.5**
ORX	**Oropa**	**1.48**	**306**	P	**Pn**	**08 28 06.4**	**+0.2**
MONE	**Monesi**	**1.55**	**244**	P	**Pn**	**08 28 07.4**	**+0.3**
MONE				S	**Sn**	**08 28 27.0**	**+0.3**
MONE	**Monesi**	**1.55**	**244**	P	**Pn**	**08 28 07.4**	**+0.3**
MONE				S	**Sn**	**08 28 27.0**	**+0.3**
IMI	**Imperia**	**1.55**	**237**	P	**Pn**	**08 28 07.2**	**+0.1**
IMI	**Imperia**	**1.55**	**237**	Pn	**Pn**	**08 28 07.3**	**+0.1**
VMG	**Vicchio**	**1.56**	**121**	Pn	**Pn**	**08 28 08.6**	**+1.4**
	641nm,0.6s						
TRAV		**1.56**	**299**	P	**Pn**	**08 28 07.1**	**-0.2**
BERNI	**Berninapass**	**1.66**	**8⇓**	*iP**	**Pb**	**08 28 09.2**	**-1.0**
NEGI	**Negi**	**1.70**	**238**	P	**Pn**	**08 28 09.6**	**+0.3**
NEGI				S	**Sn**	**08 28 29.6**	**-0.8**
NEGI	**Negi**	**1.70**	**238**	P	**Pn**	**08 28 09.6**	**+0.4**
NEGI				S	**Sn**	**08 28 29.6**	**-0.9**
PGD	**Poggio Sodo**	**1.71**	**121**	Pn	**Pn**	**08 28 10.7**	**+1.3**
	420nm,0.8s						
ENR	**Entracque**	**1.71**	**252**	P	**Pn**	**08 28 10.2**	**+0.7**
SAOF	**Saorge**	**1.72**	**244**	Pn	**Pn**	**08 28 10.0**	**+0.4**
SAOF				Sg	**Sn**	**08 28 31.9**	**+0.9**
VDL	**Val di Lei**	**1.72**	**355⇓**	*iP**	**Pb**	**08 28 10.6**	**-0.7**
VDL				*e*S*	**Sb**	**08 28 31.9**	**-0.7**
BHB	**Bricherasio**	**1.73**	**273**	P	**Pn**	**08 28 10.4**	**+0.7**
BHB	**Bricherasio**	**1.73**	**273**	P	**Pn**	**08 28 10.4**	**+0.7**
CSNT	**Castellina Chi**	**1.73**	**138**	Pn	**Pn**	**08 28 10.1**	**+0.4**
MMK	**Mattmark**	**1.77**	**317**	*eP**	**Pb**	**08 28 10.2**	**-1.9**
MMK	**Mattmark**	**1.77**	**317**	Pn	**Pn**	**08 28 10.5**	**+0.3**
BRMO	**Bormio**	**1.77**	**15**	Pn	**Pn**	**08 28 11.1**	**+0.8**
RSP	**Reno Superiore**	**1.77**	**283**	P	**Pn**	**08 28 09.3**	**-1.0**
SFI	**Santa Sofia**	**1.77**	**118**	Pn	**Pn**	**08 28 11.9**	**+1.6**
	247nm,0.5s						
STV2	**Anna di Valdie**	**1.77**	**254**	P	**Pn**	**08 28 11.0**	**+0.7**
STV2	**Anna di Valdie**	**1.77**	**254**	P	**Pn**	**08 28 11.0**	**+0.7**
STV	**Sta Anna Valdi**	**1.77**	**254**	P	**Pn**	**08 28 11.0**	**+0.7**
STV				S	**Sn**	**08 28 32.0**	**-0.4**
AUTN	**L'Aution**	**1.80**	**245**	Pn	**Pn**	**08 28 11.3**	**+0.6**
AUTN				Sg	**Sn**	**08 28 35.1**	**+2.1**
FUSIO	**Fusio**	**1.83**	**337⇓**	*iP**	**Pb**	**08 28 11.2**	**-2.0**
SBF	**Sospel**	**1.86**	**242**	*e*Pn	**Pn**	**08 28 12.8**	**+1.3**
SBF				*e*Sn	**Sn**	**08 28 35.6**	**+1.1**
	216nm,0.3s						
GRFL	**Gerfalco**	**1.87**	**150**	Pg	**Pn**	**08 28 11.5**	**-0.2**
	197nm,0.8s						
PZZ	**Prazzo**	**1.87**	**263**	P	**Pn**	**08 28 12.4**	**+0.7**
CTI	**Castel Tesino**	**1.88**	**46**	Pn	**Pn**	**08 28 11.0**	**-0.8**
FENE	**Fenestrelle**	**1.89**	**279**	P	**Pn**	**08 28 11.6**	**-0.3**
FENE	**Fenestrelle**	**1.89**	**279**	P	**Pn**	**08 28 11.6**	**-0.3**
FUORN	**Ofenpass**	**1.89**	**12⇑**	*iP**	**Pb**	**08 28 13.2**	**-1.0**
TOUF	**Mont Tournerai**	**1.91**	**247**	Pn	**Pn**	**08 28 13.2**	**+1.0**
LSD	**Ceresole Reale**	**1.92**	**292**	P	**Pn**	**08 28 12.0**	**-0.4**
OG22	**Abries**	**1.96**	**272**	Pn	**Pn**	**08 28 13.6**	**+0.7**
DAVOX	**Davos**	**2.02**	**4**	Pn	**Pn**	**08 28 15.1**	**+1.3**
	24nm,0.3s,baz=202,slow=9.6,SNR=42						
DAVOX				Lg		08 28 41.1	
	39nm,0.3s,baz=23,slow=18,SNR=7.7						
DAVOX	**Davos**	**2.02**	**4**	Pn	**Pn**	**08 28 15.0**	**+1.2**
DAVOX	**Davos**	**2.02**	**4⇓**	*i*Pn	**Pn**	**08 28 15.1**	**+1.3**
MVIF	**Mont Vial**	**2.02**	**245**	Pn	**Pn**	**08 28 14.7**	**+0.8**
DIX	**Grande Dixence**	**2.07**	**310⇑**	*i*Pn	**Pn**	**08 28 15.1**	**+0.5**
DIX	**Grande Dixence**	**2.07**	**310**	Pn	**Pn**	**08 28 15.7**	**+1.1**
RRL	**Cesana Torines**	**2.07**	**275**	P	**Pn**	**08 28 15.4**	**+0.8**
SURF	**Saint Ours**	**2.08**	**263**	Pn	**Pn**	**08 28 15.8**	**+1.2**
MBDF	**Montbardon**	**2.08**	**270**	*e*Pn	**Pn**	**08 28 15.3**	**+0.6**
LLS	**Linth-Limmern**	**2.13**	**347⇓**	*i*Pn	**Pn**	**08 28 16.0**	**+0.6**
RSM	**Repubblica di**	**2.15**	**112**	Pn	**Pn**	**08 28 16.5**	**+0.8**
	861nm,1.6s						
LKBD	**Leukerbad**	**2.17**	**319⇑**	*i*Pn	**Pn**	**08 28 16.6**	**+0.6**
LPG	**La Plagne**	**2.21**	**290**	*e*Pn	**Pn**	**08 28 16.6**	**+0.1**
LPL	**La Plagne**	**2.22**	**291**	*e*Pn	**Pn**	**08 28 16.8**	**+0.1**
BADI	**Badiali**	**2.23**	**124**	Pn	**Pn**	**08 28 16.9**	**+0.1**
CALN	**Calern**	**2.26**	**244**	Pn	**Pn**	**08 28 17.8**	**+0.6**
HASLI	**Hasliberg**	**2.26**	**332⇑**	*i*Pn	**Pn**	**08 28 17.8**	**+0.5**
PGF	**Pioggiola**	**2.28**	**193**	*e*Pn	**Pn**	**08 28 16.3**	**-1.2**
PGF				*e*Sn	**Sn**	**08 28 41.8**	**-3.4**
	44nm,0.3s						
BNALP	**Bannalp**	**2.28**	**338**	*e*Pn	**Pn**	**08 28 17.9**	**+0.3**
PLONS	**Plons**	**2.29**	**355**	Pn	**Pn**	**08 28 18.9**	**+1.2**
SENIN	**Lac Senin**	**2.32**	**314**	*e*Pn	**Pn**	**08 28 18.9**	**+0.8**
MUO	**Muotathal**	**2.32**	**342**	*e*Pn	**Pn**	**08 28 19.7**	**+1.6**
GRYON	**Gryon**	**2.34**	**310**	*e*Pn	**Pn**	**08 28 20.2**	**+1.8**
EMV	**Vieux Emosson**	**2.35**	**304**	Pn	**Pn**	**08 28 20.4**	**+1.8**
EMV	**Vieux Emosson**	**2.35**	**304**	*e*Pn	**Pn**	**08 28 20.3**	**+1.7**
SALAN	**Lac Salanfe**	**2.36**	**307**	*e*Pn	**Pn**	**08 28 20.5**	**+1.9**
BRES	**Bressanone**	**2.40**	**36**	Pn	**Pn**	**08 28 19.4**	**+0.1**
	273nm,0.6s						
AIGLE	**Aigle**	**2.48**	**310**	*e*Pn	**Pn**	**08 28 22.3**	**+1.8**
FRF	**La Foret Royal**	**2.50**	**242**	*e*Pn	**Pn**	**08 28 20.8**	**+0.1**
FRF				*e*Sn	**Sn**	**08 28 50.2**	**-0.7**
	152nm,0.4s						
SACS	**San Casciano d**	**2.50**	**139**	Pn	**Pn**	**08 28 20.7**	**0.0**
	67nm,0.7s						
DAVA	**Damuels**	**2.52**	**3⇑**	*i*PN	**Pn**	**08 28 22.2**	**+1.2**
DAVA				*i* SN	**Sn**	**08 28 50.2**	**-1.1**
LIENZ	**Alp Oberkamor**	**2.53**	**357⇓**	*i*Pn	**Pn**	**08 28 22.0**	**+0.9**
MURB	**Monte Urbino**	**2.54**	**125**	Pn	**Pn**	**08 28 21.0**	**-0.2**
	419nm,0.7s						
GDM	**Grand'Maison**	**2.57**	**281**	Pn	**Pn**	**08 28 23.9**	**+2.1**
OG25	**Le Caire**	**2.62**	**262**	Pn	**Pn**	**08 28 24.2**	**+1.8**
SEST	**Monte Rota**	**2.65**	**41**	Pn	**Pn**	**08 28 24.0**	**+1.1**
	135nm,0.4s						
ARV	**Arcevia**	**2.66**	**117**	Pn	**Pn**	**08 28 23.7**	**+0.7**
	78nm,0.6s						
SQTA	**Sankt Quirin**	**2.67**	**23⇑**	*i*PN	**Pn**	**08 28 24.5**	**+1.4**
SQTA				*i* SN	**Sn**	**08 28 56.0**	**+0.9**
WILA	**Wila**	**2.70**	**349⇓**	*i*Pn	**Pn**	**08 28 23.9**	**+0.3**
LMR	**La Mourre**	**2.71**	**239**	*e*Pn	**Pn**	**08 28 23.2**	**-0.5**
LMR				*e*Sn	**Sn**	**08 28 53.6**	**-2.5**
	113nm,0.6s						
ORIF	**Oris-en-Rattie**	**2.72**	**274**	*e*Pn	**Pn**	**08 28 25.5**	**+1.7**
ORIF				*e*Sn	**Sn**	**08 29 00.2**	**+3.9**
	98nm,0.4s						
ASS	**Assisi**	**2.74**	**128**	Pn	**Pn**	**08 28 23.2**	**-0.9**
	28nm,0.4s						
MOTA	**Moosalm**	**2.76**	**20⇓**	*i*PN	**Pn**	**08 28 25.6**	**+1.3**
MOTA				*i* SN	**Sn**	**08 28 57.9**	**+0.6**
TORNY	**Torny**	**2.77**	**317**	*e*Pn	**Pn**	**08 28 26.0**	**+1.5**
SNTG	**Esanatoglia**	**2.79**	**122**	Pn	**Pn**	**08 28 24.8**	**0.0**
	66nm,0.6s						
WEIN	**Weingarten**	**2.80**	**350⇓**	*i*Pn	**Pn**	**08 28 25.1**	**+0.1**
WTTA	**Wattenberg**	**2.84**	**28⇓**	*i*PN	**Pn**	**08 28 26.8**	**+1.3**
WTTA				*i* SN	**Sn**	**08 29 00.8**	**+1.4**
GRN	**Grenoble**	**2.84**	**281**	Pn	**Pn**	**08 28 26.6**	**+1.1**
WATA	**Walderalm**	**2.88**	**26⇓**	*i*PN	**Pn**	**08 28 27.2**	**+1.1**
WATA				*i* SN	**Sn**	**08 29 01.6**	**+1.1**
CING	**Cingoli**	**2.88**	**118**	Pn	**Pn**	**08 28 25.8**	**-0.4**
	106nm,0.7s						
BALST	**Balsthal**	**2.92**	**332⇓**	*i*Pn	**Pn**	**08 28 26.8**	**+0.1**
STEIN	**Stein am Rhein**	**2.96**	**349⇓**	*i*Pn	**Pn**	**08 28 26.9**	**-0.3**
TRULL	**Truellikon**	**2.96**	**347⇓**	*i*Pn	**Pn**	**08 28 26.2**	**-1.1**
SULZ	**Sulz-Cheisache**	**2.97**	**339⇓**	*i*Pn	**Pn**	**08 28 27.1**	**-0.3**
PTCC	**Patocco-Chiusa**	**3.05**	**56**	Pn	**Pn**	**08 28 27.5**	**-1.0**
SMRF	**Simiane la Rot**	**3.06**	**256**	*e*Pn	**Pn**	**08 28 30.1**	**+1.5**
SMRF				*e*Sn	**Sn**	**08 29 05.3**	**+0.4**
	99nm,0.5s						
BBS	**Basel-Blauen**	**3.09**	**331**	Pn	**Pn**	**08 28 27.9**	**-1.2**
SLE	**Schleitheim**	**3.11**	**345⇓**	*i*Pn	**Pn**	**08 28 28.6**	**-0.8**
BRANT	**Les Verrieres**	**3.12**	**315⇓**	*i*Pn	**Pn**	**08 28 30.5**	**+0.9**
CABF	**La Chapelle**	**3.13**	**307**	*e*Pn	**Pn**	**08 28 30.2**	**+0.6**
CABF				*e*Sn	**Sn**	**08 29 07.2**	**+0.6**
	53nm,0.5s						
BOURR	**Bourrignon**	**3.13**	**328⇓**	*i*Pn	**Pn**	**08 28 29.8**	**+0.1**
OCF	**Saint Nazaire**	**3.14**	**268**	Pn	**Pn**	**08 28 32.2**	**+2.4**
OG26	**St.-Nazaire-De**	**3.14**	**268**	Pn	**Pn**	**08 28 32.2**	**+2.4**
NRCA	**Norcia**	**3.14**	**127**	Pn	**Pn**	**08 28 29.4**	**-0.5**
	16nm,0.2s						
TOLF	**Tolfa**	**3.19**	**147**	Pn	**Pn**	**08 28 30.0**	**-0.4**
	306nm,2.0s						
VOY	**Vojsko**	**3.22**	**65**	*e*Pn	**Pn**	**08 28 28.7**	**-2.2**
VOY				*e*Sn	**Sn**	**08 29 04.9**	**-4.0**
MNS	**Montasola**	**3.23**	**137**	Pn	**Pn**	**08 28 30.9**	**-0.1**
	63nm,1.0s						
LOMF	**Lomont**	**3.26**	**323**	Pn	**Pn**	**08 28 31.4**	**-0.1**
JAVS	**Javornik**	**3.28**	**68**	*i* Pn	**Pn**	**08 28 29.3**	**-2.5**
FELD	**Feldberg**	**3.32**	**340**	Pn	**Pn**	**08 28 31.4**	**-0.9**
KBA	**Koelnbreinsper**	**3.44**	**47⇑**	*i*PN	**Pn**	**08 28 33.7**	**-0.3**
KBA				*i* SN	**Sn**	**08 29 16.0**	**+1.5**
CAMP	**Campotosto**	**3.50**	**128**	Pn	**Pn**	**08 28 34.4**	**-0.5**
MOF	**Molkenrain**	**3.56**	**331**	Pn	**Pn**	**08 28 35.0**	**-0.7**
TERO	**Teramo**	**3.56**	**126**	Pn	**Pn**	**08 28 35.3**	**-0.4**
	52nm,0.5s						
VIVF	**Saint-Julien-l**	**3.57**	**273**	*e*Pn	**Pn**	**08 28 36.2**	**+0.2**
VIVF				*e*Sn	**Sn**	**08 29 17.7**	**-0.3**
	67nm,0.6s						
HINF	**Hinteralfeld**	**3.63**	**328**	*e*Pn	**Pn**	**08 28 36.0**	**-0.7**
HINF				*e*Sn	**Sn**	**08 29 16.6**	**-2.7**
	34nm,0.3s						
SSB	**Saint Sauveur**	**3.69**	**280**	Pn	**Pn**	**08 28 37.1**	**-0.5**
OBKA	**Obir**	**3.82**	**61⇑**	*i*PN	**Pn**	**08 28 40.1**	**+0.6**
OBKA				*i* SN	**Sn**	**08 29 26.6**	**+2.3**
VCEL	**Villa Celiera**	**3.84**	**127**	Pn	**Pn**	**08 28 39.2**	**-0.5**
ECH	**Echery**	**3.87**	**334**	Pn	**Pn**	**08 28 39.2**	**-0.9**
HAU	**Haudompre**	**3.98**	**326**	*e*Pn	**Pn**	**08 28 41.1**	**-0.6**
HAU				*e*Sn	**Sn**	**08 29 26.5**	**-1.7**
	122nm,0.5s						
WLS	**Welschbruch**	**3.98**	**337**	Pn	**Pn**	**08 28 40.6**	**-1.2**
CDF	**Champ du Feu**	**4.01**	**336**	*e*Pn	**Pn**	**08 28 41.0**	**-1.1**
CDF				*e*Sn	**Sn**	**08 29 23.9**	**-5.0**
	52nm,0.3s						
STU	**Stuttgart**	**4.02**	**355**	P	**Pn**	**08 28 45.3**	**+3.0**
LASF	**Ste Croix**	**4.24**	**263**	*e*Pn	**Pn**	**08 28 45.5**	**+0.1**
LASF				*e*Sn	**Sn**	**08 29 31.8**	**-3.0**
	42nm,0.7s						
LANF	**Langenberg**	**4.41**	**344**	Pn	**Pn**	**08 28 46.0**	**-1.8**
MOA	**Molln**	**4.42**	**44⇑**	*i*PN	**Pn**	**08 28 46.6**	**-1.4**
MOA				*i* SN	**Sn**	**08 29 38.4**	**-1.0**
PLDF	**La Plantade**	**4.44**	**288**	Pn	**Pn**	**08 28 46.8**	**-1.5**
SMF	**Signal de Mont**	**4.51**	**297**	*e*Pn	**Pn**	**08 28 48.5**	**-0.7**
SMF				*e*Sn	**Sn**	**08 29 40.0**	**-1.6**
	47nm,0.5s						
LBL	**Lubilhac**	**4.59**	**278**	Pn	**Pn**	**08 28 49.9**	**-0.6**
SFTF	**Sexfontaines**	**4.70**	**319**	*e*Pn	**Pn**	**08 28 51.7**	**-0.3**
	baz=133						
SFTF				*e*Sn	**Sn**	**08 29 44.4**	**-2.2**
	25nm,0.5s						
RFYF	**Reffroy**	**4.83**	**325**	*e*Pn	**Pn**	**08 28 53.4**	**-0.4**
	baz=137						
RFYF				*e*Sn	**Sn**	**08 29 46.2**	**-3.5**
	17nm,0.2s						
AVF	**Avril sur Loir**	**4.87**	**297**	*e*Pn	**Pn**	**08 28 53.4**	**-1.0**
AVF				*e*Sn	**Sn**	**08 29 47.7**	**-3.1**
	15nm,0.6s						
SSF	**Saint Saulge**	**4.89**	**300**	*e*Pn	**Pn**	**08 28 53.2**	**-1.4**
SSF				*e*Sn	**Sn**	**08 29 47.6**	**-3.6**
	10nm,0.4s						
MEZF	**Maizieres J'vi**	**4.91**	**321**	*e*Pn	**Pn**	**08 28 54.4**	**-0.6**
	baz=146						
MEZF				*e*Sn	**Sn**	**08 29 50.2**	**-1.6**
	22nm,0.4s						
GEC2	**GERESS Array S**	**4.92**	**33**	*e*Pn	**Pn**	**08 28 52.5**	**-2.5**
GEC2				*e*Sn	**Sn**	**08 29 46.0**	**-6.0**
GERES	**GERESS Array B**	**4.92**	**33**	Pn	**Pn**	**08 28 52.6**	**-2.4**
	1.2nm,0.3s,baz=210,slow=13,SNR=13						
GERES				Sn	**Sn**	**08 29 45.1**	**-6.8**
	7.5nm,0.3s,baz=209,slow=24,SNR=18						
KHC	**Kasperske Hory**	**5.11**	**30**	*e*P	**Pn**	**08 28 46.9**	**-11**
KHC				*e*		08 29 50.1	
KHC	**Kasperske Hory**	**5.11**	**30**	PN	**Pn**	**08 29 00.0**	**+2.3**
KHC				PG	**Pn**	**08 29 14.0**	**+16**
KHC				*e*SN	**Sn**	**08 29 50.1**	**-6.6**
KHC				x	x	08 30 04.5	
BGF	**Bois d'Agland**	**5.12**	**293**	*e*Pn	**Pn**	**08 28 56.9**	**-1.0**
BGF				*e*Sn	**Sn**	**08 29 54.2**	**-2.9**
	58nm,0.4s						
CAF	**Calviac**	**5.43**	**274**	*e*Pn	**Pn**	**08 29 01.4**	**-0.8**
TCF	**Toulx Ste Croi**	**5.47**	**289**	*e*Pn	**Pn**	**08 29 01.6**	**-1.2**
TCF				*e*Sn	**Sn**	**08 30 01.6**	**-4.3**
	16nm,0.5s						
HYF	**Humbligny**	**5.51**	**299**	*e*Pn	**Pn**	**08 29 02.5**	**-0.9**
HYF				*e*Sn	**Sn**	**08 30 03.5**	**-3.3**
MTLF	**Montolieu**	**5.57**	**258**	*e*Pn	**Pn**	**08 29 04.6**	**+0.3**
MTLF				*e*Sn	**Sn**	**08 30 05.0**	**-3.4**
	24nm,0.6s						
NKC	**Novy Kostel**	**5.78**	**18**	*e*PN	**Pn**	**08 28 55.2**	**-12**
NKC				*e*SN	**Sn**	**08 30 07.5**	**-6.0**
RJF	**Les Rejaudoux**	**5.82**	**278**	*e*Pn	**Pn**	**08 29 07.1**	**-0.6**
MOX	**Moxa**	**6.02**	**12**	*i* P	**Pn**	**08 29 07.2**	**-3.4**
MOX				S	**Sn**	**08 30 11.0**	**-8.5**
MOX	**Moxa**	**6.02**	**12**	*e*Pn	**Pn**	**08 29 07.2**	**-3.4**
MOX				*e*Sn	**Sn**	**08 30 11.9**	**-7.6**
PRU	**Pruhonice**	**6.17**	**31**	*e*SN	**Sn**	**08 30 15.4**	**-7.9**
GIVF	**Givet**	**6.27**	**330**	*e*Pn	**Pn**	**08 29 13.5**	**-0.6**
MEM	**Membach**	**6.35**	**338**	P	**Pn**	**08 29 13.7**	**-1.5**
BAIF	**Baives**	**6.47**	**327**	*e*Pn	**Pn**	**08 29 16.9**	**0.0**
VRAC	**Vranov**	**6.54**	**44**	Sn	**Sn**	**08 30 25.1**	**-7.6**
	1.0nm,0.3s,baz=304,slow=15,SNR=3.0						
BRG	**Berggiesshubel**	**6.74**	**24**	*e*Pn	**Pn**	**08 29 15.2**	**-5.5**
BRG				*i*		08 30 28.8	
BRG				*i* Sg	Sn	08 31 20.6	+43
EPF	**Esparros**	**6.98**	**259**	*e*Sn	**Sn**	**08 30 40.0**	**-3.5**
	3.9nm,0.2s						
MFF	**Saint Martin d**	**7.13**	**288**	*e*Pn	**Pn**	**08 29 22.7**	**-3.5**
MFF				*e*Sn	**Sn**	**08 30 41.9**	**-5.5**
	8.6nm,0.5s						
ETSF	**Etsaut**	**7.65**	**259**	*e*Pn	**Pn**	**08 29 34.7**	**+1.3**
ETSF				*e*Sn	**Sn**	**08 30 57.0**	**-3.2**
	17nm,0.7s						
LDF	**La Druitiere**	**7.76**	**303**	*e*Pn	**Pn**	**08 29 33.3**	**-1.6**
FLN	**La Foliniere**	**8.04**	**303**	*e*Pn	**P**	**08 29 38.3**	**-0.7**
GRR	**Gorron**	**8.12**	**300**	*e*Pn	**P**	**08 29 37.6**	**-2.4**
EKA	**Eskdalemuir Ar**	**13.39**	**327**	Pn	**P**	**08 30 47.5**	**-4.1**
	0.3nm,0.3s,baz=139,slow=14,SNR=5.1						
MKAR	**Makanchi Array**	**48.98**	**60**	P	**P**	**08 36 24.6**	**-2.3**
	0.3nm,0.5s,mb3.6,baz=295,slow=8.4,SNR=2.7						
YKA	**Yellowknife Ar**	**64.20**	**335**	P	**P**	**08 38 13.9**	**-1.2**
	0.1nm,0.6s,mb3.0,baz=47,slow=6.2,SNR=3.8						

*NEIC **19** 08:35:34.1±0.5, 15.38S×178.87W, h350km, mb3.9/5, Error ellipse: s-maj=19.5km s-min=9.8km az=149.0*
*IDC **19** 08:35:48.0±21.0, 14.97S×179.36W, h498km±262km, mb3.3/8, mb1 3.6/8, mb1mx3.4/18, mbtmp4.2/8, Error ellipse: s-maj=101.4km s-min=64.5km az=147.0*

ISC 19 08:35:28.0±0.6, 15.3S±0.2×178.9W±0.1, h300km, n18, σ0°66/18, mb3.9/12, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.12**	**188**	P	**P**	**08 40 09.1**	**-0.4**
	7.4nm,0.8s,mb4.1,baz=341,slow=4.8,SNR=3.9						
CTA	**Charters Tower**	**33.51**	**257**	P	**P**	**08 41 42.7**	**+0.9**
	3.4nm,0.6s,mb4.0,baz=89,slow=17,SNR=4.3						
CTA	**Charters Tower**	**33.51**	**257**	P	**P**	**08 41 42.7**	**+0.9**
CTAO	**Charters Tower**	**33.51**	**257**	*eP*	**P**	**08 41 42.8**	**+1.0**
	3.8nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**39.54**	**238**	*eP*	**P**	**08 42 33.8**	**+1.9**
	2.5nm,0.8s,mb3.6						
STKA	**Stephens Creek**	**39.54**	**238**	P	**P**	**08 42 33.3**	**+1.4**
	2.7nm,0.7s,mb3.7,baz=44,slow=7.5,SNR=7.0						
WB2	**Warramunga Arr**	**44.70**	**257**	*eP*	**P**	**08 43 13.2**	**-0.6**
WB2				*eS*	Px	08 46 35.0	
WRAB	**Tennant Creek**	**44.70**	**257**	*eP*	**P**	**08 43 13.0**	**-0.8**
	1.5nm,0.4s,mb3.6						
WRA	**Warramunga Arr**	**44.71**	**257**	P	**P**	**08 43 13.4**	**-0.5**
	0.6nm,0.4s,mb3.2

5.7nm,1.0s,mb4.5,baz=18,slow=7.7,SNR=6.1
ARCES **ARCESS Array B** 50.19 1 P P 08 53 51.4 -0.3
FINES **FINESS Array B** 58.32 1 P P 08 54 50.7 -0.5
3.0nm,1.1s,mb4.2,slow=7.6,SNR=4.3
FINES **FINESS Array B** 58.32 1 P P 08 54 50.7 -0.5

*MOS **19** 08:55:18.6±0.8,36.50N×71.13E,h204km,mb4.3/11,Error ellipse: s-maj=14.0km s-min=7.4km az=98.9*
*BJI **19** 08:55:20.1,36.56N×71.05E,h220km,mB4.4,mb4.6*
*NEIC **19** 08:55:21.4±1.4,36.55N×71.07E,h213km±14km,mb4.3/15, Error ellipse: s-maj=10.7km s-min=7.0km az=221.0*
*IDC **19** 08:55:22.0±3.9,36.53N×71.10E,h218km±37km,mb3.9/16, mb1 4.0/19,mb1mx3.8/28,mbtmp4.4/19,Error ellipse: s-maj=14.0km s-min=13.7km az=18.0*
*NNC **19** 08:55:24.9±9.0,37.15N×70.81E,mpv4.7,Error ellipse: s-maj=72.4km s-min=69.6km az=106.0*

ISC 19 08:55:20.5±0.4,36.57N±0.02×71.03E±0.05,h218km±4km, n115,σ0§85/126,mb4.1/31,10C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	2.83	165	⇑P	P	08 56 10.9	+1.2
CHCP	**Chirah Chowk**	3.43	147	⇓P	P	08 56 18.4	+1.7
THW	**Thamme Wali**	3.81	171	⇑P	P	08 56 22.2	+1.0
SBDP	**Sheikh Budin**	4.26	183	⇑P	P	08 56 27.3	+0.5
SARP	**Sargodha**	4.83	163	⇑P	P	08 56 34.3	+0.4
DRP	**Derazinda**	4.86	188	⇑P	P	08 56 35.7	+1.4
KSH	**Kashi**	4.89	51	⇓P	P	08 56 36.0	+1.4
KSH				S	S	08 57 32.4	+0.2
KSH				Smax			
	comp=N,490nm,0.6s						
KSH				Smax			
	comp=E,620nm,0.4s						
THN	**Thein Dam**	5.66	135	eP	P	08 56 43.9	-0.5
THN				eS	S	08 57 40.2	-9.4
DLH	**Dalhousie**	5.72	133	eP	P	08 56 44.0	-1.2
DLH				e		08 57 49.0	
AML	**Almayashu**	5.93	20	P	P	08 56 47.6	-0.2
	SNR=1200						
PONG	**Pong**	6.15	137	eP	P	08 56 51.0	+0.4
PONG				e		08 57 58.0	
UCH	**Uchtor**	6.26	24	P	P	08 56 52.5	+0.3
	SNR=181						
KZA	**Kyzart**	6.40	29	P	P	08 56 53.6	-0.3
	SNR=128						
EKS2	**Erkin-Say**	6.45	18	P	P	08 56 54.4	-0.1
	SNR=62						
KK31	**Karatay Array**	6.54	357	P	P	08 56 55.0	-0.7
	comp=E,17nm,0.4s,baz=182,slow=12,SNR=300						
KK31				⇑S	S	08 58 04.4	-5.6
	comp=E,18nm,0.3s,baz=190,slow=24,SNR=12						
KKAR	**Karatay Array**	6.54	357	ePN	P	08 56 54.9	-0.8
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.2s						
AAK	**Ala-Archa**	6.62	23	P	P	08 56 57.0	+0.2
	SNR=98						
AAK	**Ala-Archa**	6.62	23	⇑P	P	08 56 56.8	0.0
	comp=Z,36nm,0.2s						
AAK				⇓S	S	08 58 09.7	-2.1
	comp=Z,18nm,0.3s						
AAK	**Ala-Archa**	6.62	23	⇓ePN	P	08 56 55.9	-0.8
AAK				pmax	pmax		
	comp=Z,87nm,0.4s						
AAK	**Ala-Archa**	6.62	23	⇓ePn	P	08 56 55.9	-0.8
	comp=Z,87nm,0.4s						
AAK				eS	S	08 58 07.3	-4.5
KBK	**Karagaybulak**	6.79	25	P	P	08 56 59.5	+0.6
	SNR=5.8						
BHK	**Bhakra**	6.81	137	e	S	08 58 15.8	-0.4
ULHL	**Ulahol**	6.96	34	P	P	08 57 01.6	+0.5
	SNR=50						
CHMS	**Chumysh**	7.03	23	P	P	08 57 01.6	-0.5
	SNR=30						
SDNR	**Sundarnagar**	7.06	134	eP	P	08 57 02.0	-0.4
SDNR				eS	S	08 58 16.6	-5.4
USP	**Ospenovka**	7.20	21	P	P	08 57 03.3	-0.9
	SNR=45						
TKM2	**Tokmak 2**	7.25	28	P	P	08 57 05.1	+0.3
	SNR=24						
SMLA	**Simla**	7.45	135	⇓i	P	08 57 00.8	-6.6
SMLA				i S	S	08 58 21.5	-9.4
KLP	**Kalpa**	7.82	128	eP	P	08 57 12.0	-0.2
RTK	**Rohtak**	8.77	147	eP	P	08 57 23.4	-1.2
KHET	**Khetri**	9.38	153	eP	P	08 57 30.8	-1.6
KHET				eS	S	08 59 08.9	-6.6
KHET				e		08 59 18.3	
	comp=E,47nm,0.2s						
KHET				e		08 59 20.1	
	comp=N,46nm,0.3s						
NDI	**New Delhi**	9.43	145	eP	P	08 57 32.1	-0.9
NDI				e		08 59 14.0	
AYAN	**Aya Nagar**	9.56	146	eP	P	08 57 34.8	+0.1
AYAN				eS	S	08 59 13.8	-5.9
JASL	**Jaisalmer**	9.62	181	eP	P	08 57 34.9	-0.5
SONA	**Sohna**	9.74	147	eP	P	08 57 35.5	-1.5
SONA				e		08 59 21.9	
	comp=E,65nm,0.5s						
SONA				e		08 59 22.1	
	comp=N,32nm,0.4s						
LGTI	**Lohaghat**	10.49	130	eP	P	08 57 46.0	-0.7
LGTI				e		08 59 37.5	
AJM	**Ajmer**	10.52	162	eP	P	08 57 46.4	-0.6
AJM				eS	S	08 59 36.7	-5.1
AJM				e		08 59 44.0	
	comp=E,56nm,0.5s						
AJM				e		08 59 44.9	
	comp=N,32nm,0.3s						
AGRA	**Agra**	11.00	146	eP	P	08 57 52.2	-1.0
AGRA				e		09 00 29.8	
	comp=E,79nm,0.5s						
AGRA				e		09 00 30.4	
	comp=N,84nm,0.4s						
MKAR	**Makanchi Array**	13.22	36	P	P	08 58 21.0	0.0
	comp=N,1.0nm,0.3s,baz=210,slow=13,SNR=22						
KOLN	**Koldanda**	13.78	126	eP	P	08 58 27.8	-0.2
	comp=N,30nm,0.3s						
GKN	**Gorkha**	14.32	123	eP	P	08 58 35.1	+0.4
	comp=N,68nm,0.4s						
BHPL	**Bhopal**	14.39	156	eP	P	08 58 39.2	+3.7
BHPL				e		09 01 13.4	
WMQ	**Urumqi**	14.64	55	⇑P	P	08 58 38.8	+0.3
WMQ				XP		08 59 31.3	
WMQ				S	S	09 01 15.9	+0.6
WMQ				PCP	PcP	09 03 38.3	+1.8
WMQ				AMB	AMB		
	comp=Z,17nm,0.8s						
WMQ				LR	LR		
	comp=N,19nm,17.0s						
WMQ				LR	LR		
	comp=Z,22nm,15.0s						
DMN	**Daman**	14.89	123	eP	P	08 58 42.0	+0.3
	comp=Z,74nm,0.6s						
KKN	**Kakani**	14.89	122	eP	P	08 58 41.8	+0.1
	comp=Z,77nm,0.5s						
PKI	**Pulchoki**	15.12	122	eP	P	08 58 44.7	+0.2
	comp=Z,34nm,0.3s						
GUN	**Gumba**	15.23	120	eP	P	08 58 46.2	+0.3
	comp=Z,43nm,0.4s						
JIRN	**Jiri**	15.60	120	eP	P	08 58 51.2	+0.8
	comp=Z,111nm,0.4s						
BVA0	**Borovoye Array**	16.46	359	P	P	08 58 59.7	-0.8
BVAR	**Borovoye Array**	16.46	359	P	P	08 59 00.2	-0.4
	comp=Z,1.5nm,0.3s,baz=165,slow=11,SNR=17						
CHKZ	**Chkalovo**	17.11	359	eP	P	08 59 06.1	-1.7
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s						
CHKZ	**Chkalovo**	17.11	359	eP	P	08 59 06.0	-1.8
	comp=Z,3.4nm,0.4s						
LSA	**Lhasa**	18.17	106	eP	P	08 59 21.0	+1.8
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
LSA	**Lhasa**	18.17	106	eP	P	08 59 21.0	+1.8
	comp=Z,8.8nm,0.7s						
ZAL	**Zalesovo**	19.83	25	P	P	08 59 36.3	+0.4
	comp=Z,1.4nm,0.3s,baz=248,slow=7.8,SNR=9.1						
SHL	**Shillong**	20.92	116	e	P	08 59 49.0	+2.1
ARU	**Arti**	21.58	341	⇑iP	P	08 59 54.4	+1.3
ARU				eS	S	09 03 45.6	+12
ARU				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.3						
ARU	**Arti**	21.58	341	eP	P	08 59 53.8	+0.6
	comp=Z,9.6nm,0.7s,mb4.4						
KRAR	**Krasnoyarsk**	24.43	30	eP	P	09 00 16.8	-3.5
KRAR				e		09 01 01.0	
SOC	**Sochi**	24.86	296	eP	P	09 00 23.7	-0.8
SOC				e		09 01 16.7	
SOC				e		09 03 49.9	
SOC				eS	S	09 04 37.3	+8.3
SOC				e		09 11 07.5	
SOC				pmax	pmax		
	comp=N,35nm,0.9s						
SOC				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.8						
SOC				pmax	pmax		
	comp=E,29nm,1.0s						
VOR	**Voronezh**	27.14	314	eP	P	09 00 44.8	-0.4
VOR				pmax	pmax		
	comp=Z,70nm,1.6s,mb5.0						
TLY	**Talaya**	27.58	46	iP	P	09 00 45.0	-4.1
ULN	**Ulaanbaatar**	28.72	56	eP	P	09 00 54.1	-5.3
KMI	**Kunming**	29.39	104	P	P	09 01 03.5	-2.1
KMI				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.6						
KMI	**Kunming**	29.39	104	P	P	09 01 03.5	-2.1
	comp=Z,9.0nm,0.6s,mb4.6						
OBN	**Obninsk**	29.90	319	diP	P	09 01 09.8	0.0
OBN				e*PP	pP	09 01 49.7	-4.2
OBN				pmax	pmax		
	comp=Z,11μm,0.6s						
AKASG	**Malin Array Be**	32.92	309	P	P	09 01 36.0	+0.1
	comp=Z,1.7nm,0.5s,mb3.9,baz=82,slow=7.7,SNR=12						
MLR	**Muntele Rosu**	34.77	299	P	P	09 01 53.1	+1.4
	comp=Z,1.8nm,0.7s,mb3.7,baz=97,slow=8.1,SNR=4.2						
JOF	**Joensuu**	35.82	330	ep	P	09 02 01.1	+0.6
	comp=Z,6.5nm,0.3s,mb4.6						
LVV	**L'vov**	36.14	307	eP	P	09 02 09.6	+6.3
FINES	**FINESS Array B**	37.44	326	P	P	09 02 14.6	+0.5
	comp=Z,5.0nm,0.4s,mb4.4,baz=117,slow=9.7,SNR=49						
KAF	**Kangasniemi**	37.58	327	ep	P	09 02 15.6	+0.4
	comp=Z,1.0nm,0.3s,mb3.8,baz=115,slow=9.3						
KAF	**Kangasniemi**	37.58	327	eP	P	09 02 15.6	+0.4
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
MORC	**Moravsky Berou**	40.34	306	P	P	09 02 38.7	+0.6
MORC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
MORC	**Moravsky Berou**	40.34	306	P	P	09 02 38.7	+0.6
	comp=Z,1.7nm,0.7s,mb3.6						
KEV	**Kevo**	40.75	338	ep	P	09 02 41.4	+0.2
ARCES	**ARCESS Array B**	41.09	338	P	P	09 02 44.8	+0.7
	comp=Z,6.9nm,0.6s,mb4.3,baz=109,slow=8.8,SNR=44						
CN2	**Changchun**	41.56	63	eP	P	09 02 49.5	+1.5
HFS	**Hagfors**	43.03	322	P	P	09 03 00.1	+0.3
	comp=Z,9.4nm,0.5s,mb4.5,baz=97,slow=12,SNR=19						
NB2	**NORSAR Subarra**	44.34	323	P	P	09 03 10.0	-0.2
	comp=Z,7.1nm,0.6s,mb4.2,baz=97,slow=7.9						
NB2	**NORSAR Subarra**	44.34	323	P	P	09 03 10.0	-0.2
NB2				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	44.34	323	P	P	09 03 10.3	+0.1
	comp=Z,5.8nm,0.5s,mb4.1,baz=97,slow=7.7,SNR=19						
MDJ	**Mudanjiang**	44.35	61	P	P	09 03 11.4	+0.9
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,53nm,4.0s						
TIXI	**Tiksi**	45.70	22	eP	P	09 03 20.9	+0.1
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
MBDF	**Montbardon**	48.30	301	eP	P	09 03 34.9	-6.4
KMBO	**Kilima Mbogo**	48.89	228	eP	P	09 03 45.9	-0.3
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMBO	**Kilima Mbogo**	48.89	228	P	P	09 03 46.8	+0.5
	comp=Z,0.9nm,0.6s,mb3.3,baz=30,slow=12,SNR=5.4						
KMBO	**Kilima Mbogo**	48.89	228	eP	P	09 03 45.9	-0.4
	comp=Z,1.7nm,0.6s,mb3.5						
LDF	**La Druitiere**	51.96	307	eP	P	09 04 01.3	-7.5
	comp=Z,16nm,0.6s,mb4.3						
LDF	**La Druitiere**	51.96	307	eP	P	09 04 01.3	-7.5
LDF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.3						
FLN	**La Foliniere**	52.14	307	eP	P	09 04 03.8	-6.3
MFF	**Saint Martin d**	52.50	305	eP	P	09 04 06.0	-6.8
	comp=Z,11nm,0.6s,mb4.2						
MFF	**Saint Martin d**	52.50	305	eP	P	09 04 06.0	-6.8
MFF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
MBAR	**Mbarara**	52.56	235	eP	P	09 04 13.3	-0.5
MBAR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
MBAR	**Mbarara**	52.56	235	eP	P	09 04 13.3	-0.4
	comp=Z,4.9nm,0.7s,mb4.0						
BILL	**Bilibino**	58.54	26	⇓iP	P	09 04 55.1	-0.6
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.9						
RES	**Resolute Bay**	68.64	356	eP	P	09 05 59.7	-1.5
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
RES	**Resolute Bay**	68.64	356	eP	P	09 05 59.7	-1.5
	comp=Z,0.6nm,0.6s,mb3.4						
INK	**Inuvik**	73.83	9	eP	P	09 06 32.8	+0.6
INK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
INK	**Inuvik**	73.83	9	P	P	09 06 33.1	+0.9
	comp=Z,3.9nm,0.6s,mb4.2,baz=358,slow=6.8,SNR=70						
INK	**Inuvik**	73.83	9	eP	P	09 06 32.8	+0.6
	comp=Z,4.7nm,0.6s,mb4.3						
COLA	**College**	74.41	16	⇓iP	P	09 06 36.0	+0.5
COLA				i *PP	pP	09 07 23.3	-4.2
ILAR	**Eielson Array**	74.71	16	P	P	09 06 37.2	0.0
	comp=Z,1.3nm,0.8s,mb3.6,baz=328,slow=4.7,SNR=14						
DBIC	**Dimbokro**	74.72	267	P	P	09 06 36.9	-1.5
	comp=Z,2.0nm,0.8s,mb3.8,baz=69,slow=2.6,SNR=3.9						
LBTB	**Lobatse**	74.74	222	P	P	09 06 38.8	+0.5
	comp=Z,3.0nm,0.5s,mb4.2,baz=62,slow=5.6,SNR=11						
FITZ	**Fitzroy Crossi**	74.91	127	P	P	09 06 39.4	+0.1
	comp=Z,3.3nm,0.7s,mb4.1,baz=329,slow=6.7,SNR=4.4						
BOSA	**Boshof**	77.81	220	P	P	09 06 55.4	+0.2
	comp=Z,1.8nm,0.7s,mb3.8,baz=39,slow=5.8,SNR=4.1						
YKA	**Yellowknife Ar**	81.18	3	P	P	09 07 13.1	+0.6
	comp=Z,1.6nm,0.5s,mb3.9,baz=352,slow=5.4,SNR=88						
WRA	**Warramunga Arr**	82.01	122	P	P	09 07 17.1	-0.4
	comp=Z,2.4nm,0.8s,mb3.9,baz=322,slow=4.8,SNR=25						
WRAB	**Tennant Creek**	82.01	122	eP	P	09 07 16.5	-1.0
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
WRAB	**Tennant Creek**	82.01	122	eP	P	09 07 16.5	-1.0
	comp=Z,8.8nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	82.01	122	⇑iP	P	09 07 17.0	-0.6
ASAR	**Alice Springs**	84.27	125	P	P	09 07 28.9	-0.2
	comp=Z,2.3nm,0.7s,mb4.0,baz=306,slow=5.1,SNR=30						
PLCA	**Paso Flores**	149.87	250	PKPbc	PKPdf	09 14 46.7	+7.5
	comp=Z,1.6nm,0.7s,baz=16,slow=1.9,SNR=3.3						
PLCA	**Paso Flores**	149.87	250	PKPbc	PKPdf	09 14 46.7	+7.5

*IDC **19** 09:07:52.5±2.1,0.92N×97.45E,mb4.1/8,mb1 4.2/9, mb1mx4.0/22,mbtmp4.0/9,ML4.0/1,MS3.8/1,Ms1 3.7/1, ms1mx3.1/20,Error ellipse: s-maj=95.1km s-min=15.9km az=58.0*
*NEIC **19** 09:07:56.7±0.7,0.89N×97.42E,h30km,mb4.3/2,Error ellipse: s-maj=21.4km s-min=8.2km az=65.0*

ISC 19 09:07:54.4±0.9,0.9N±0.1×97.4E±0.2,h30km,n15, σ0§59/15,mb4.1/10,MS3.8/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	5.46	37	eP	Pn	09 09 16.2	+0.1
CMAR	**Chiang Mai Arr**	17.53	5	P	P	09 11 58.0	-0.4
	0.2nm,0.3s,baz=194,slow=12,SNR=8.6						
FITZ	**Fitzroy Crossi**	33.61	126	P	P	09 14 33.8	-0.8
	2.5nm,0.6s,mb4.3,baz=270,slow=14,SNR=5.5						
WRA	**Warramunga Arr**	41.73	122	P	P	09 15 42.8	0.0
	1.5nm,0.7s,mb3.7,baz=300,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	41.73	122	eP	P	09 15 42.6	-0.2
	3.7nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	41.74	122	eP	P	09 15 42.7	-0.2
ASAR	**Alice Springs**	43.07	127	P	P	09 15 54.2	+0.4
	1.1nm,0.6s,mb3.8,baz=298,slow=7.8,SNR=21						
SONM	**Songino Array**	47.41	8	P	P	09 16 29.0	+0.9
	0.9nm,0.5s,mb3.9,baz=188,slow=8.7,SNR=4.8						
MKAR	**Makanchi Array**	47.58	346	P	P	09 16 30.5	+1.0
	2.2nm,0.5s,mb4.5,baz=162,slow=8.6,SNR=20						
STKA	**Stephens Creek**	53.02	132	P	P	09 17 12.0	+0.8
	0.9nm,0.5s,mb3.9,baz=324,slow=7.5,SNR=4.7						
STKA				LR	LR	09 39 54.9	
	comp=Z,92nm,19.9s,MS3.8,baz=26,slow=36						
STKA	**Stephens Creek**	53.02	132	P	P	09 17 12.0	+0.8
ZAL	**Zalesovo**	53.88	351	P	P	09 17 16.3	-0.8
	2.0nm,0.5s,mb4.3,baz=356,slow=3.9,SNR=9.2						
ZAL	**Zalesovo**	53.88	351	P	P	09 17 16.3	-0.9
BVAR	**Borovoye Array**	56.60	341	P	P	09 17 36.7	-0.1
	1.2nm,0.7s,mb4.0,baz=121,slow=8.4,SNR=4.4						
CHKZ	**Chkalovo**	57.07	341	eP	P	09 17 39.8	-0.5
	2.4nm,0.6s,mb4.4						

IDC 19 09:33:04.5±4.3,4.11N×97.21E,mb3.7/3,mb1 3.7/3, mb1mx3.5/19,mbtmp3.7/3,Error ellipse: s-maj=180.3km s-min=32.0km az=62.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	44.27	9	P	P	09 41 15.8	-1.7
	0.5nm,0.5s,baz=207,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	44.44	345	P	P	09 41 17.1	-1.9
	0.4nm,0.6s,baz=170,slow=7.4,SNR=3.9						
ASAR	**Alice Springs**	45.18	129	P	P	09 41 23.4	-1.9
	0.5nm,1.1s,baz=306,slow=7.8,SNR=4.2						

*ROM **19** 09:39:28.8±0.2,44.74N×9.74E,h29km±3km,Md2.5/9, Ml2.7/1,Error ellipse: s-maj=7.1km s-min=2.4km az=153.0*
*LDG **19** 09:39:29.5±0.2,44.71N×9.81E,h2km,Md2.8/3,Ml2.9/18, Error ellipse: s-maj=5.2km s-min=3.1km az=109.0*
*NEIC **19** 09:39:29.0,44.78N×9.76E,h0km,ML2.9(LDG), ML2.5(GEN),After GEN.*
*GEN **19** 09:39:29.0,44.78N×9.76E,h0km,ML2.5*
*CSEM **19** 09:39:30.2±0.1,44.61N×9.86E,h30km,ML2.9/15,Error ellipse: s-maj=2.3km s-min=1.3km az=40.0*

ISC 19 09:39:29.8±0.3,44.74N±0.02×9.73E±0.03,h27km±4km, n77,σ1§12/123,2C,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	0.20	277	Pg	Pb	09 39 35.6	-0.1
BOB				Sg	Sb	09 39 40.0	+0.2
GRAM		0.34	137	P	Pb	09 39 36.4	-1.2
GRAM				S	Sb	09 39 42.0	-1.0
GRAM		0.34	137	P	Pb	09 39 36.4	-1.2
GRAM				S	Sb	09 39 42.0	-1.0
CODM		0.36	167	P	Pb	09 39 36.9	-0.9
CODM		0.36	167	P	Pb	09 39 36.9	-1.0
BACM		0.52	152	P	Pb	09 39 39.2	-1.2
BACM		0.52	152	P	Pb	09 39 39.2	-1.2
VALM		0.54	137	P	Pb	09 39 39.9	-0.8
VALM				S	Sb	09 39 47.5	-0.6
VALM		0.54	137	P	Pb	09 39 39.9	-0.8
VALM				S	Sb	09 39 47.5	-0.6
ERBM	**Eremo**	0.58	123	Pg	Pb	09 39 41.4	0.0
ERBM				Sg	Sb	09 39 51.4	+2.0
	66nm,0.4s						
VINC	**Vinca**	0.67	153	P	Pb	09 39 41.9	-0.9
VINC				S	Sb	09 39 51.7	-0.1
VINC	**Vinca**	0.67	153	P	Pb	09 39 41.9	-0.9
VINC	**Vinca**	0.67	153	P	Pb	09 39 41.9	-0.9
VINC				S	Sb	09 39 51.7	-0.1
VINC				S	Sb	09 39 51.7	-0.1
GSCL	**Gusciola**	0.73	122	Pg	Pb	09 39 43.9	+0.2
GSCL				Sg	Sb	09 39 55.0	+1.6
	17nm,0.4s						
SARO	**Sassorosso**	0.73	139	P	Pb	09 39 43.0	-0.9
SARO				S	Sb	09 39 53.9	+0.3
SARO	**Sassorosso**	0.73	139	P	Pb	09 39 43.0	-0.9
SARO	**Sassorosso**	0.73	139	P	Pb	09 39 43.0	-0.9
SARO				S	Sb	09 39 53.9	+0.3
SARO				S	Sb	09 39 53.9	+0.3
PCP	**Pian Castagno**	0.87	257	P	Pb	09 39 46.6	+0.4
PCP				S	Sb	09 39 59.3	+1.8
PCP	**Pian Castagno**	0.87	257	P	Pb	09 39 46.6	+0.4
PCP				S	Sb	09 39 59.3	+1.8
ZCCA	**Zocca**	0.97	113	Pn	Pn	09 39 50.7	+3.0
	19nm,0.4s						
SAL	**Salo**	1.03	33	Pn	Pn	09 39 47.6	-1.0
	138nm,0.4s						
MDI	**Monti di Nese**	1.03	359	Pn	Pn	09 39 49.5	+0.9
	145nm,0.4s						
PII	**Pisa**	1.17	151	Pn	Pn	09 39 50.8	+0.3
	36nm,0.2s						
FIN	**Finale Ligure**	1.22	245	P	Pn	09 39 51.6	+0.4
FIN	**Finale Ligure**	1.22	245	P	Pn	09 39 51.6	+0.4
MUGIO	**Muggio**	1.28	338	Pn	Pn	09 39 52.5	+0.4
MUGIO				Sn	Sn	09 40 10.8	+2.4
VAI	**Varese**	1.31	329	Pn	Pn	09 39 53.6	+1.0
	16nm,0.3s						
ROB	**Roburent**	1.41	252	P	Pn	09 39 54.4	+0.5
ROB				S	Sn	09 40 12.9	+1.2
ROB	**Roburent**	1.41	252	P	Pn	09 39 54.4	+0.5
ROB				S	Sn	09 40 12.9	+1.2
MABI	**Malga Bissina**	1.42	22	Pn	Pn	09 39 54.3	+0.1
ORX	**Oropa**	1.52	306	P	Pn	09 39 56.2	+0.5
ORX				S	Sn	09 40 14.6	-0.1
ORX	**Oropa**	1.52	306	P	Pn	09 39 56.2	+0.5
ORX				S	Sn	09 40 14.6	-0.2
IMI	**Imperia**	1.56	238	P	Pn	09 39 56.4	+0.1
IMI	**Imperia**	1.56	238	P	Pn	09 39 56.3	+0.1
MONE	**Monesi**	1.57	246	P	Pn	09 39 57.0	+0.8
MONE	**Monesi**	1.57	246	P	Pn	09 39 57.0	+0.8
TRAV		1.60	299	P	Pn	09 39 56.5	-0.3
NEGI	**Negi**	1.71	239	P	Pn	09 39 58.8	+0.5
ENR	**Entracque**	1.73	254	P	Pn	09 39 59.4	+0.8
ENR	**Entracque**	1.73	254	P	Pn	09 39 59.4	+0.8
BHB	**Bricherasio**	1.76	274	P	Pn	09 40 00.5	+1.4
BHB	**Bricherasio**	1.76	274	P	Pn	09 40 00.5	+1.5
STV2	**Anna di Valdie**	1.79	255	P	Pn	09 40 00.3	+0.8
STV2	**Anna di Valdie**	1.79	255	P	Pn	09 40 00.3	+0.8
STV	**Sta Anna Valdi**	1.79	255	P	Pn	09 40 00.3	+0.8
STV				S	Sn	09 40 21.4	-0.2
STV	**Sta Anna Valdi**	1.79	255	P	Pn	09 40 00.3	+0.8
STV			

VIVF eSn Sn 09 41 06.0 -1.5
4.4nm,0.4s
HINF Hinteralfeld 3.67 328 ePn Pn 09 40 25.5 -0.7
HINF eSn Sn 09 41 07.1 -1.9
6.3nm,0.3s
HAU Haudompre 4.02 326 ePn Pn 09 40 30.6 -0.6
HAU eSn Sn 09 41 16.0 -2.0
18nm,0.3s
CDF Champ du Feu 4.04 336 ePn Pn 09 40 30.2 -1.3
LASF Ste Croix 4.26 263 ePn Pn 09 40 34.3 -0.4
LASF eSn Sn 09 41 22.0 -2.2
4.4nm,0.4s
SMF Signal de Mont 4.55 297 ePn Pn 09 40 39.0 +0.3
SMF eSn Sn 09 41 27.3 -4.0
4.9nm,0.3s
AVF Avril sur Loir 4.91 297 ePn Pn 09 40 42.6 -1.3
SSF Saint Saulge 4.93 300 ePn Pn 09 40 42.9 -1.2
SSF eSn Sn 09 41 37.9 -3.0
1.9nm,0.5s
BGF Bois d'Agland 5.16 293 ePn Pn 09 40 46.7 -0.6
BGF eSn Sn 09 41 43.9 -2.8
3.4nm,0.2s
TCF Toulx Ste Croi 5.51 289 ePn Pn 09 40 51.0 -1.3
TCF eSn Sn 09 41 51.4 -4.1
3.0nm,0.3s
MTLF Montolieu 5.60 258 ePn Pn 09 40 53.8 +0.3

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*DJA **19** 09:40:50.5±0.9, 11.33S×110.23E, h26km±5km, MD4.8/4, ML5.0/4, Error ellipse: s-maj=48.2km s-min=17.5km az=148.0*
*IDC **19** 09:40:51.6±2.9, 10.34S×110.77E, mb3.5/3, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=159.2km s-min=24.2km az=45.0*
ISC 19 09:40:54.4±2.6,**10.9S**±0.1×**110.4E**±0.1,**h43**km±26km,**n10,** σ1⁹**12**/13,**mb3.5**/3,**6C-3D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**4.40**	**57**	⇓*i*Pn	**P**	**09 42 00.3**	**-0.2**
	187nm,0.2s						
SRDI				⇓*i*Sn	**S**	**09 42 53.2**	**+2.0**
KELI	**Kelakatan**	**4.83**	**57**	⇑*i*Pn	**P**	**09 42 07.3**	**+0.7**
	102nm,0.3s						
KELI	**Kelakatan**	**4.83**	**57**	⇑*i*P	**P**	**09 42 08.9**	**+2.3**
KELI				⇑*i*Sn	**S**	**09 43 02.2**	**+0.2**
RATI	**Rata**	**5.50**	**67**	⇑*i*Pn	**P**	**09 42 15.2**	**-0.7**
	311nm,0.3s						
RATI				⇓*i*Sn	**S**	**09 43 18.2**	**-0.6**
KEDI	**Kedomdong**	**6.12**	**68**	⇑*i*Pn	**P**	**09 42 24.6**	**0.0**
	73nm,0.2s						
KEDI				⇑*i*Sn	**S**	**09 43 32.4**	**-1.9**
FITZ	**Fitzroy Crossi**	**16.40**	**118**	Pn	**P**	**09 44 42.0**	**-1.2**
	0.4nm,0.3s,baz=320,slow=16,SNR=7.8						
WRA	**Warramunga Arr**	**24.75**	**114**	P	**P**	**09 46 14.9**	**+1.3**
	0.9nm,0.8s,mb3.3,baz=287,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**25.75**	**123**	P	**P**	**09 46 23.8**	**+0.8**
	0.5nm,0.8s,mb3.1,baz=302,slow=8.5,SNR=7.0						
MKAR	**Makanchi Array**	**62.68**	**339**	P	**P**	**09 51 16.1**	**-1.0**
	0.6nm,0.4s,mb4.0,baz=147,slow=7.9,SNR=9.6						
YKA	**Yellowknife Ar**	**119.25**	**22**	PKP	PKPdf	09 59 39.8	+1.1
	0.1nm,0.8s,baz=310,slow=2.0,SNR=3.8						

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*ROM **19** 09:45:50.7±0.2, 44.72N×9.71E, h30km±2km, Md2.6/6, Ml2.7/2, Error ellipse: s-maj=10.3km s-min=2.5km az=18.0*
*CSEM **19** 09:45:50.7±0.1, 44.64N×9.76E, h5km, ML2.8/15, Error ellipse: s-maj=4.7km s-min=2.5km az=32.0*
*LDG **19** 09:45:51.5±0.2, 44.71N×9.83E, h2km, Md2.8/1, Ml2.8/19, Error ellipse: s-maj=4.8km s-min=2.9km az=111.0*
*GEN **19** 09:45:51.3, 44.76N×9.73E, h0km, ML2.6*
*NEIC **19** 09:45:51.3, 44.76N×9.73E, h0km, ML2.8(LDG), ML2.6(GEN), After GEN.*
ISC 19 09:45:51.4±0.4,**44.74N**±0.02×**9.73E**±0.03,**h24**km±4km,
n68, σ1⁹**10**/106,**1C-1D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.20**	**277**	Pn	**Pn**	**09 45 57.7**	**-0.9**
BOB				Sn	**Sn**	**09 46 02.0**	**-1.1**
	690nm,0.5s						
GRAM		**0.35**	**136**	P	**Pb**	**09 45 58.3**	**-0.8**
GRAM				S	**Sb**	**09 46 04.3**	**0.0**
GRAM		**0.35**	**136**	P	**Pb**	**09 45 58.3**	**-0.8**
CODM		**0.36**	**166**	P	**Pb**	**09 45 58.9**	**-0.4**
CODM				S	**Sb**	**09 46 04.7**	**-0.1**
CODM		**0.36**	**166**	P	**Pb**	**09 45 58.9**	**-0.4**
CODM				S	**Sb**	**09 46 04.7**	**0.0**
BACM		**0.53**	**152**	P	**Pb**	**09 46 01.6**	**-0.4**
BACM				S	**Sb**	**09 46 08.7**	**-0.5**
BACM		**0.53**	**152**	P	**Pb**	**09 46 01.6**	**-0.4**
VALM		**0.54**	**136**	P	**Pb**	**09 46 01.5**	**-0.7**
VALM				S	**Sb**	**09 46 09.8**	**+0.1**
VALM		**0.54**	**136**	P	**Pb**	**09 46 01.5**	**-0.7**
VALM				S	**Sb**	**09 46 09.8**	**+0.1**
ERBM	**Eremo**	**0.59**	**123**	Pn	**Pn**	**09 46 03.2**	**-1.0**
ERBM				Sn	**Sn**	**09 46 13.3**	**+0.3**
	50nm,0.4s						
VINC	**Vinca**	**0.68**	**153**	P	**Pb**	**09 46 03.9**	**-0.5**
VINC				S	**Sb**	**09 46 13.5**	**+0.1**
VINC	**Vinca**	**0.68**	**153**	P	**Pb**	**09 46 03.9**	**-0.6**
VINC	**Vinca**	**0.68**	**153**	P	**Pb**	**09 46 03.9**	**-0.6**
VINC				S	**Sb**	**09 46 13.5**	**+0.1**
VINC				S	**Sb**	**09 46 13.5**	**+0.1**
GSCL	**Gusciola**	**0.73**	**122**	Pn	**Pn**	**09 46 05.3**	**-0.9**
GSCL				Sn	**Sn**	**09 46 17.3**	**+0.6**
	46nm,0.9s						
SARO	**Sassorosso**	**0.74**	**139**	P	**Pb**	**09 46 05.2**	**-0.4**
SARO				S	**Sb**	**09 46 16.2**	**+0.9**
SARO	**Sassorosso**	**0.74**	**139**	P	**Pb**	**09 46 05.2**	**-0.4**
SARO				S	**Sb**	**09 46 16.2**	**+1.0**
SARO				S	**Sb**	**09 46 16.2**	**+1.0**
PCP	**Pian Castagno**	**0.87**	**257**	P	**Pb**	**09 46 08.6**	**+0.9**
PCP				S	**Sb**	**09 46 18.9**	**+0.1**
PCP	**Pian Castagno**	**0.87**	**257**	P	**Pb**	**09 46 08.6**	**+0.9**
MDI	**Monti di Nese**	**1.03**	**359**	Pn	**Pn**	**09 46 11.8**	**+1.2**
	159nm,0.4s						
PII	**Pisa**	**1.17**	**150**	Pn	**Pn**	**09 46 12.8**	**+0.3**
	23nm,0.2s						
FIN	**Finale Ligure**	**1.21**	**244**	P	**Pn**	**09 46 13.6**	**+0.5**
FIN				S	**Sb**	**09 46 28.1**	**-0.6**
FIN	**Finale Ligure**	**1.21**	**244**	P	**Pn**	**09 46 13.6**	**+0.5**
VAI	**Varese**	**1.31**	**329**	Pn	**Pn**	**09 46 14.3**	**-0.2**
	24nm,0.5s						
ROB	**Roburent**	**1.40**	**252**	P	**Pn**	**09 46 16.6**	**+0.8**
ROB				S	**Sn**	**09 46 33.0**	**-0.7**
ROB	**Roburent**	**1.40**	**252**	P	**Pn**	**09 46 16.6**	**+0.8**
ORX	**Oropa**	**1.52**	**306**	P	**Pn**	**09 46 18.4**	**+0.9**
ORX	**Oropa**	**1.52**	**306**	P	**Pn**	**09 46 18.4**	**+0.9**
IMI	**Imperia**	**1.56**	**238**	P	**Pn**	**09 46 18.4**	**+0.3**
MONE	**Monesi**	**1.56**	**246**	P	**Pn**	**09 46 19.0**	**+0.9**
NEGI	**Negi**	**1.71**	**239**	P	**Pn**	**09 46 20.6**	**+0.4**
NEGI	**Negi**	**1.71**	**239**	P	**Pn**	**09 46 20.6**	**+0.4**
ENR	**Entracque**	**1.73**	**253**	P	**Pn**	**09 46 21.4**	**+1.0**
ENR				S	**Sn**	**09 46 40.6**	**-1.4**
ENR	**Entracque**	**1.73**	**253**	P	**Pn**	**09 46 21.5**	**+1.0**
BHB	**Bricherasio**	**1.75**	**274**	P	**Pn**	**09 46 22.0**	**+1.2**
BHB	**Bricherasio**	**1.75**	**274**	P	**Pn**	**09 46 22.0**	**+1.1**
STV2	**Anna di Valdie**	**1.79**	**255**	P	**Pn**	**09 46 22.1**	**+0.8**
STV2	**Anna di Valdie**	**1.79**	**255**	P	**Pn**	**09 46 22.1**	**+0.8**
STV	**Sta Anna Valdi**	**1.79**	**255**	P	**Pn**	**09 46 21.9**	**+0.6**
STV	**Sta Anna Valdi**	**1.79**	**255**	P	**Pn**	**09 46 21.9**	**+0.5**
RSP	**Reno Superiore**	**1.80**	**284**	P	**Pn**	**09 46 22.1**	**+0.6**
RSP	**Reno Superiore**	**1.80**	**284**	P	**Pn**	**09 46 22.1**	**+0.6**
SBF	**Sospel**	**1.86**	**243**	ePn	**Pn**	**09 46 23.4**	**+1.0**
SBF				eSn	**Sn**	**09 46 47.2**	**+1.8**
	20nm,0.3s						
PZZ	**Prazzo**	**1.89**	**264**	P	**Pn**	**09 46 24.5**	**+1.7**
LSD	**Ceresole Reale**	**1.96**	**292**	P	**Pn**	**09 46 27.7**	**+4.0**
LSD	**Ceresole Reale**	**1.96**	**292**	P	**Pn**	**09 46 27.7**	**+4.0**
RRL	**Cesana Torines**	**2.10**	**276**	P	**Pn**	**09 46 29.2**	**+3.4**
RRL	**Cesana Torines**	**2.10**	**276**	P	**Pn**	**09 46 29.2**	**+3.4**
MBDF	**Montbardon**	**2.10**	**271**	ePn	**Pn**	**09 46 27.4**	**+1.5**
MBDF				eSn	**Sn**	**09 46 53.5**	**+1.9**
	20nm,0.5s						
LPG	**La Plagne**	**2.24**	**291**	ePn	**Pn**	**09 46 31.2**	**+3.4**
LPG				eSn	**Sn**	**09 46 56.4**	**+1.5**
	5.5nm,0.3s						
LPL	**La Plagne**	**2.25**	**291**	ePn	**Pn**	**09 46 29.2**	**+1.2**
LPL				eSn	**Sn**	**09 46 56.2**	**+0.8**
	7.5nm,0.3s						
PGF	**Pioggiola**	**2.26**	**194**	ePn	**Pn**	**09 46 27.6**	**-0.5**
PGF				eSn	**Sn**	**09 46 53.2**	**-2.2**
	5.6nm,0.3s						
FRF	**La Foret Royal**	**2.51**	**243**	ePn	**Pn**	**09 46 32.1**	**+0.4**
FRF				eSn	**Sn**	**09 47 02.2**	**+0.3**
	4.7nm,0.2s						
DAVA	**Damuels**	**2.55**	**2**	⇑*i*PN	**Pn**	**09 46 33.2**	**+1.0**
DAVA				*i* SN	**Sn**	**09 47 08.3**	**+5.5**
LMR	**La Mourre**	**2.71**	**240**	ePn	**Pn**	**09 46 34.0**	**-0.6**
LMR				eSn	**Sn**	**09 47 05.1**	**-1.9**
	4.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.74**	**275**	eSn	**Sn**	**09 47 07.2**	**-0.5**
	24nm,0.6s						
WTTA	**Wattenberg**	**2.85**	**27**	⇓*i*PN	**Pn**	**09 46 35.4**	**-1.1**
WTTA				*i* SN	**Sn**	**09 47 13.4**	**+2.9**
SMRF	**Simiane la Rot**	**3.07**	**257**	ePn	**Pn**	**09 46 41.0**	**+1.3**
SMRF				eSn	**Sn**	**09 47 17.3**	**+1.2**
	7.9nm,0.5s						
CABF	**La Chapelle**	**3.16**	**308**	ePn	**Pn**	**09 46 40.9**	**0.0**
CABF				eSn	**Sn**	**09 47 18.8**	**+0.5**
	2.6nm,0.3s						
VIVF	**Saint-Julien-l**	**3.60**	**274**	ePn	**Pn**	**09 46 48.1**	**+1.0**
VIVF				eSn	**Sn**	**09 47 28.4**	**-1.0**
	3.3nm,0.3s						
HINF	**Hinteralfeld**	**3.66**	**328**	ePn	**Pn**	**09 46 47.2**	**-0.9**
HINF				eSn	**Sn**	**09 47 29.3**	**-1.7**
	3.3nm,0.3s						
HAU	**Haudompre**	**4.01**	**326**	ePn	**Pn**	**09 46 52.7**	**-0.4**
HAU				eSn	**Sn**	**09 47 38.6**	**-1.3**
	12nm,0.4s						
CDF	**Champ du Feu**	**4.04**	**336**	ePn	**Pn**	**09 46 52.3**	**-1.1**
LASF	**Ste Croix**	**4.26**	**263**	ePn	**Pn**	**09 46 56.4**	**-0.1**
LASF				eSn	**Sn**	**09 47 43.8**	**-2.3**
	1.6nm,0.3s						
SMF	**Signal de Mont**	**4.54**	**297**	ePn	**Pn**	**09 47 00.3**	**-0.2**
SMF				eSn	**Sn**	**09 47 50.6**	**-2.6**
	3.4nm,0.2s						
SSF	**Saint Saulge**	**4.92**	**300**	ePn	**Pn**	**09 47 06.2**	**+0.3**
SSF				eSn	**Sn**	**09 48 01.0**	**-1.8**
	2.2nm,0.4s						
BGF	**Bois d'Agland**	**5.15**	**293**	ePn	**Pn**	**09 47 07.2**	**-2.0**
BGF				eSn	**Sn**	**09 48 05.0**	**-3.6**
	5.2nm,0.4s						
TCF	**Toulx Ste Croi**	**5.50**	**289**	ePn	**Pn**	**09 47 12.9**	**-1.2**
TCF				eSn	**Sn**	**09 48 14.3**	**-3.1**
	1.9nm,0.3s						
MTLF	**Montolieu**	**5.59**	**258**	ePn	**Pn**	**09 47 15.5**	**+0.2**

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*BJI **19** 09:53:49.5, 12.61S×166.90E, h54km, mB4.7, mb4.8, Ms4.7, Msz4.1*
*IDC **19** 09:53:50.3±2.1, 13.14S×166.73E, h61km±17km, mb4.4/17, mb1 4.6/19, mb1mx4.5/23, mbtmp4.8/19, MS3.9/12, Ms1 3.9/12, ms1mx3.8/24, Error ellipse: s-maj=17.1km s-min=14.2km az=92.0*
*NEIC **19** 09:53:51.0±1.2, 13.20S×166.79E, h72km±11km, mb5.0/20, Error ellipse: s-maj=7.9km s-min=7.4km az=65.0*
*HRVD **19** 09:53:51.0±0.5, 13.28S×166.51E, h76km±4km, MW4.9/46, Centroid moment Tensor Solution. LP body waves: s16,c21;Mantle waves: s46,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.05±.22; $M_{\theta\theta}$-0.98±.21; $M_{\phi\phi}$1.04±.21; $M_{r\theta}$-0.14±.14; $M_{\theta\phi}$-2.56±.16; $M_{\phi r}$1.44±.09; Best double couple: $M_0$3.094×10^{16} NP1:⌀s279°, δ64°, λ175°. NP2:⌀s11°, δ86°, λ26°. Principal axes: T 3.275, Plg21°, Azm238°; N -.359, Plg63°, Azm20°; P -2.913, Plg15°, Azm142°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 19 09:53:48.5±1.7,**13.21S**±0.05×**166.67E**±0.06,**h57**km±14km,
h53km±4.7km:**pP-P,n93,** σ⁰**98**/81,**mb4.8**/38,**MS4.0**/14,
21C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.59**	**299**	*e*P	**P**	**09 55 40.3**	**+1.4**
HNR				*e*S	**S**	**09 57 03.0**	**-1.3**
DZM	**Mont Dzumac**	**8.81**	**181**	*e*P	**P**	**09 55 55.1**	**-0.6**
DZM				*e*S	**S**	**09 57 28.5**	**-6.1**
DZM	**Mont Dzumac**	**8.81**	**181**	P	**P**	**09 55 56.0**	**+0.3**
	22nm,0.3s,baz=193,slow=19,SNR=86						
DZM				S	**S**	**09 57 33.0**	**-1.6**
	4.1nm,0.3s,baz=23,slow=22,SNR=3.3						
DZM				LR	LR	09 58 45.7	
	comp=Z,385nm,21.6s,baz=17,slow=33						
DZM	**Mont Dzumac**	**8.81**	**181**	*e*P	**P**	**09 55 55.1**	**-0.6**
DZM				*e*S	**S**	**09 57 28.5**	**-6.1**
PMG	**Port Moresby**	**19.50**	**279**	P	**P**	**09 58 15.0**	**+1.2**
	2.3nm,0.3s,baz=65,slow=6.2,SNR=13						
PMG				LR	LR	10 05 09.9	
	comp=Z,89nm,18.3s,baz=120,slow=35						
PMG	**Port Moresby**	**19.50**	**279**	⇑*e*P	**P**	**09 58 14.7**	**+1.0**
	91nm,1.0s						
CTA	**Charters Tower**	**20.71**	**248**	⇑*i*P	**P**	**09 58 27.9**	**+1.5**
	44nm,0.7s						
CTA	**Charters Tower**	**20.71**	**248**	P	**P**	**09 58 27.9**	**+1.5**
	52nm,0.7s,baz=76,slow=12,SNR=56						
CTA				LR	LR	10 05 23.7	
	comp=Z,568nm,21.0s,MS3.9,baz=63,slow=33						
CTAO	**Charters Tower**	**20.71**	**248**	⇑*i*P	**P**	**09 58 27.8**	**+1.4**
	57nm,0.8s						
AFI	**Afiamalu**	**20.96**	**94**	P	**P**	**09 58 25.7**	**-3.3**
	31nm,0.7s						
ARMA	**Armidale**	**22.05**	**217**	⇑*i*P	**P**	**09 58 41.6**	**+1.8**
RIV	**Riverview**	**24.91**	**212**	⇑*i*P	**P**	**09 59 08.8**	**+1.2**
URZ	**Urewera**	**26.62**	**161**	P	**P**	**09 59 24.3**	**+0.8**
	7.0nm,0.9s,mb4.2,baz=236,slow=7.3,SNR=4.2						
URZ				LR	LR	10 07 58.0	
	comp=Z,233nm,20.4s,MS3.7,baz=6.0,slow=32						
CNB	**Canberra Magne**	**26.99**	**212**	⇑*i*P	**P**	**09 59 27.4**	**+0.4**
	2μm,1.5s						
STKA	**Stephens Creek**	**29.56**	**227**	⇑*i*P	**P**	**09 59 50.2**	**+0.1**
	5.3nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**29.56**	**227**	P	**P**	**09 59 50.2**	**+0.1**
	7.1nm,0.5s,mb4.7,baz=43,slow=8.3,SNR=23						
STKA				ScP		10 06 29.8	
	0.5nm,0.3s,baz=163,slow=4.6,SNR=3.0						
STKA				LR	LR	10 10 18.1	
	comp=Z,263nm,21.6s,MS3.8,baz=26,slow=33						
RPZ	**Rata Peaks**	**30.63**	**174**	P	**P**	**10 00 00.1**	**+0.6**
	5.5nm,0.6s,mb4.6,baz=180,slow=2.0,SNR=4.6						
WB2	**Warramunga Arr**	**31.65**	**253**	⇑*i*P	**P**	**10 00 07.6**	**-1.1**
WRAB	**Tennant Creek**	**31.65**	**253**	⇑*e*P	**P**	**10 00 07.4**	**-1.2**
	18nm,0.5s,mb5.2						
WRA	**Warramunga Arr**	**31.66**	**253**	P	**P**	**10 00 07.8**	**-1.0**
	22nm,0.5s,mb5.2,baz=85,slow=9.3,SNR=114						
WRA				ScP		10 06 37.3	
	1.9nm,1.0s,baz=84,slow=3.6,SNR=7.0						
ASAR	**Alice Springs**	**32.70**	**247**	P	**P**	**10 00 16.7**	**-1.1**
	29nm,0.6s,mb5.4,baz=73,slow=9.4,SNR=503						
ASAR				PcP	PcP	10 03 01.1	-1.4
	3.6nm,0.9s,baz=77,slow=4.1,SNR=6.8						
ASAR				ScP		10 06 40.6	
	2.2nm,1.0s,baz=71,slow=3.1,SNR=7.6						
ASAR				LR	LR	10 12 39.1	
	comp=Z,298nm,20.2s,MS4.0,baz=71,slow=34						
ASPA	**Alice Springs**	**32.70**	**247**	⇑*i*P	**P**	**10 00 16.7**	**-1.1**
RAR	**Rarotonga**	**32.97**	**109**	LR	LR	10 11 53.9	
	comp=Z,236nm,19.2s,MS3.9,baz=258,slow=33						
KAKA	**Kakadu**	**33.35**	**267**	⇑*i*P	**P**	**10 00 23.5**	**0.0**
	26nm,0.5s,mb5.4						
FORT	**Forrest**	**39.59**	**237**	⇑*i*P	**P**	**10 01 16.0**	**0.0**
	1μm,0.6s						
FITZ	**Fitzroy Crossi**	**39.75**	**258**	⇑*i*P	**P**	**10 01 17.6**	**+0.2**
	26nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**39.75**	**258**	P	**P**	**10 01 17.7**	**+0.3**
	33nm,0.8s,mb5.1,baz=86,slow=6.7,SNR=43						
PPT	**Papeete**	**42.34**	**102**	*e*LQ		10 11 57.8	
PPT				*e*LR	LR	10 13 35.7	
	560nm,28.5s						
PPT	**Papeete**	**42.34**	**102**	LR	LR	10 14 31.7	
	comp=Z,423nm,19.1s,MS4.3,baz=166,slow=29						
TBI	**Tubuai**	**42.71**	**110**	*e*LR	LR	10 13 46.9	
	229nm,33.5s						
PMOR	**Pomariorio Ree**	**44.04**	**98**	*e*P	**P**	**10 01 53.2**	**+0.5**
	53nm,0.9s,mb5.3						
VAH	**Vaihoa**	**44.29**	**98**	*e*P	**P**	**10 01 54.7**	**0.0**
	50nm,0.9s,mb5.2						
MBWA	**Marble Bar**	**45.40**	**253**	⇑*i*P	**P**	**10 02 04.0**	**+0.5**
	55nm,0.8s,mb5.4						
KLBR	**Kellerberrin**	**48.35**	**239**	⇑*i*P	**P**	**10 02 25.6**	**-0.9**
	3μm,1.9s						
NWAO	**Narrogin (SRO)**	**49.04**	**238**	P	**P**	**10 02 31.2**	**-0.7**
	35nm,0.7s,mb5.5,baz=74,slow=6.8,SNR=35						
NWAO				LR	LR	10 23 06.1	
	comp=Z,179nm,19.3s,MS4.1,baz=57,slow=36						
NWAO	**Narrogin (SRO)**	**49.04**	**238**	*e*P	**P**	**10 02 30.9**	**-0.9**
	32nm,0.6s,mb5.5						
MUN	**Mundaring**	**49.72**	**239**	*e*P	**P**	**10 02 36.1**	**-1.0**
	146nm,1.0s,mb6.0						
RKT	**Rikitea**	**56.01**	**109**	*e*LR	LR	10 19 57.1	
	202nm,31.8s						
MJAR	**Matsushiro Arr**	**56.30**	**333**	P	**P**	**10 03 24.3**	**-1.5**
	0.7nm,0.4s,mb4.0,baz=161,slow=6.4,SNR=5.5						
KSM	**Kuching**	**57.76**	**280**	*e*P	**P**	**10 03 36.3**	**-0.1**
YHNB	**Yeheng**	**58.06**	**310**	*e*P	**P**	**10 03 37.4**	**-1.0**
NJ2	**Nanjing**	**64.19**	**316**	*e*P	**P**	**10 04 20.6**	**+0.9**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
VNDA	**Vanda**	**64.36**	**181**	P	**P**	**10 04 20.4**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=324,slow=8.0,SNR=7.0						
VNDA	**Vanda**	**64.36**	**181**	*e*P	**P**	**10 04 18.6**	**-1.5**
	comp=Z,3.6nm,1.1s,mb4.3						
SBA	**Scott Base**	**64.64**	**180**	*e*P	**P**	**10 04 20.9**	**-1.0**
	comp=Z,9.1nm,0.9s,mb4.8						
MDJ	**Mudanjiang**	**66.68**	**332**	P	**P**	**10 04 35.0**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,56nm,5.6s						
CN2	**Changchun**	**68.05**	**329**	*e*P	**P**	**10 04 44.0**	**-0.1**
CN2				*e*AP	pP	10 05 00.3	+0.3
CN2				*e*S	S	10 13 39.3	+1.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,21.0s,MS4.5						
CN2				LR	LR		
	comp=E,200nm,21.0s,MS4.5						
CN2				LR	LR		
	comp=Z,200nm,22.0s,MS4.3						
ENH	**Enshi**	**69.96**	**309**	*e*P	**P**	**10 04 55.7**	**-0.3**
	comp=Z,36nm,1.2s,mb5.2						
GYA	**Guiyang**	**70.38**	**304**	⇑*i*P	**P**	**10 04 58.6**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
XAN	**Xi'an**	**72.24**	**312**	P	**P**	**10 05 10.1**	**+0.4**
XAN				AP	pP	10 05 21.3	-4.4
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
KMI	**Kunming**	**73.02**	**302**	P	**P**	**10 05 15.8**	**+1.3**
KMI				XP	sP	10 05 41.3	+4.6
KMI				AMB	AMB		
	comp=Z,22nm,1.2s,mb5.0						
KMI				LR	LR		
	comp=Z,39nm,31.2s,MS3.5						
KMI	**Kunming**	**73.02**	**302**	P	**P**	**10 05 15.8**	**+1.3**
	comp=Z,22nm,1.2s,mb5.0						
KMI				sP	sP	10 05 41.3	+4.6
CMAR	**Chiang Mai Arr**	**73.81**	**294**	P	**P**	**10 05 20.6**	**+1.4**
	comp=Z,1.1nm,0.3s,mb4.2,baz=126,slow=4.8,SNR=4.8						
HHC	**Hu-ho-hao-te**	**74.06**	**320**	*e*P	**P**	**10 05 21.0**	**+0.8**
HHC				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,42nm,6.3s						
QSPA	**South Pole Qui**	**76.81**	**180**	*e*P	**P**	**10 05 34.0**	**-1.1**
	comp=Z,13nm,0.6s,mb5.0						
LZH	**Lanzhou**	**76.88**	**312**	⇑P	**P**	**10 05 37.5**	**+1.1**
LZH				AP	pP	10 05 55.1	+2.5
LZH				XP	sP	10 06 02.5	+3.6
LZH				PP	PP	10 08 33.4	+2.2
LZH				AMB	AMB		
	comp=Z,41nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,102nm,6.2s						
LZH				LR	LR		
	comp=N,514nm,14.7s						
LZH				LR	LR		
	comp=Z,698nm,17.7s,MS5.0						
LZH	**Lanzhou**	**76.88**	**312**	⇑P	**P**	**10 05 37.5**	**+1.1**
	comp=Z,41nm,1.5s,mb5.1						
LZH				pP	pP	10 05 55.1	+2.5
LZH				sP	sP	10 06 02.5	+3.6
LZH				PP	PP	10 08 33.4	+2.2
ULN	**Ulaanbaatar**	**80.58**	**324**	*e*P	**P**	**10 05 56.8**	**+0.4**
	comp=Z,6.3nm,0.9s,mb4.5						
SONM	**Songino Array**	**80.94**	**324**	P	**P**	**10 05 58.7**	**+0.5**
	comp=Z,0.9nm,0.5s,mb3.9,baz=143,slow=6.2,SNR=8.1						
BILL	**Bilibino**	**81.03**	**360**	*e*P	**P**	**10 05 57.4**	**-1.0**
	comp=Z,7.7nm,1.0s,mb4.6						
GTA	**Gaotai**	**81.20**	**314**	P	**P**	**10 06 00.9**	**+1.1**
GTA				AP	pP	10 06 14.3	-1.8
GTA				XP	sP	10 06 19.8	-2.7
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**85.27**	**18**	P	**P**	**10 06 18.7**	**-1.2**
	comp=Z,3.0nm,0.4s,mb4.7,baz=236,slow=4.7,SNR=66						
NVAR	**Mina Array Bea**	**86.73**	**49**	P	**P**	**10 06 28.7**	**+1.0**
	comp=Z,1.4nm,0.8s,mb4.3,baz=218,slow=7.0,SNR=5.4						
NVAR				LR	LR	10 35 12.6	
	comp=Z,63nm,20.6s,MS4.0,baz=180,slow=29						
HLID	**Hailey**	**

*IDC **19** 09:59:19.7±2.6, 0.98N×97.45E, mb4.0/5, mb1 4.2/6, mb1mx3.9/21, mbtmp4.0/6, ML4.1/1, MS3.4/3, Ms1 3.5/3, ms1mx3.1/28, Error ellipse: s-maj=94.1km s-min=27.7km az=57.0*

*NEIC **19** 09:59:24.1±0.8, 0.98N×97.40E, h30km, mb4.3/2, Error ellipse: s-maj=21.2km s-min=11.8km az=62.0*

ISC 19 09:59:22.0±1.2, 1.0N±0.1×97.4E±0.2, h30km, n11, σ0§42/9, mb4.1/7, MS3.5/2, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.40**	**38**	⇑*eP*	**Pn**	**10 00 42.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**17.43**	**5**	P	**P**	**10 03 24.6**	**-0.2**
	0.3nm,0.3s,baz=196,slow=11,SNR=13						
CMAR				LR	LR	10 11 12.2	
	comp=Z,95nm,18.8s,baz=190,slow=41						
WRA	**Warramunga Arr**	**41.80**	**122**	P	**P**	**10 07 10.7**	**-0.3**
	0.7nm,0.5s,mb3.6,baz=302,slow=9.1,SNR=4.6						
WRAB	**Tennant Creek**	**41.81**	**122**	*eP*	**P**	**10 07 11.3**	**+0.3**
	3.4nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**43.15**	**127**	LR	LR	10 28 00.5	
	comp=Z,46nm,19.3s,MS3.4,baz=255,slow=40						
SONM	**Songino Array**	**47.31**	**8**	P	**P**	**10 07 55.3**	**+0.4**
	0.8nm,0.4s,mb4.0,baz=193,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**47.48**	**346**	P	**P**	**10 07 57.1**	**+0.9**
	2.2nm,0.5s,mb4.3,baz=163,slow=8.4,SNR=14						
ZAL	**Zalesovo**	**53.78**	**351**	P	**P**	**10 08 43.8**	**-0.1**
	2.1nm,0.5s,mb4.3,baz=335,slow=6.7,SNR=6.3						
BVAR	**Borovoye Array**	**56.49**	**341**	P	**P**	**10 09 03.3**	**-0.4**
	1.1nm,0.6s,mb4.0,baz=162,slow=9.1,SNR=5.8						
CHKZ	**Chkalovo**	**56.97**	**341**	*eP*	**P**	**10 09 06.5**	**-0.5**
	2.8nm,0.7s,mb4.4						
EIL	**Elat**	**65.69**	**302**	LR	LR	10 39 58.3	
	comp=Z,38nm,18.4s,MS3.6,baz=274,slow=37						

*IDC **19** 10:11:25.6±2.5, 1.09N×96.93E, mb3.7/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, ML4.1/1, MS3.0/1, Ms1 3.2/1, ms1mx2.7/26, Error ellipse: s-maj=101.0km s-min=20.4km az=58.0*

*NEIC **19** 10:11:32.0±0.8, 1.22N×97.18E, h40km, mb4.2/1, Error ellipse: s-maj=21.5km s-min=10.2km az=66.0*

ISC 19 10:11:29.1±1.1, 1.2N±0.1×97.1E±0.2, h33km, n9, σ0§54/9, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.40**	**41**	*eP*	**P**	**10 12 48.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**17.25**	**6**	P	**P**	**10 15 30.1**	**+0.9**
	0.3nm,0.3s,baz=204,slow=11,SNR=5.6						
CMAR				LR	LR	10 23 37.3	
	comp=Z,49nm,18.2s,baz=180,slow=42						
WRA	**Warramunga Arr**	**42.13**	**122**	P	**P**	**10 19 20.4**	**+0.1**
	0.6nm,0.6s,mb3.4,baz=302,slow=9.1,SNR=7.1						
WRA				pP	pP	10 19 26.1	-4.1
	0.6nm,0.5s,baz=302,slow=9.1,SNR=7.9						
WRAB	**Tennant Creek**	**42.13**	**122**	*eP*	**P**	**10 19 20.2**	**-0.1**
	4.0nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**10 19 31.6**	**+0.3**
	0.5nm,0.7s,mb3.4,baz=294,slow=7.6,SNR=8.1						
ASAR				pP	pP	10 19 37.9	-3.3
	0.5nm,0.8s,baz=300,slow=8.0,SNR=3.3						
SONM	**Songino Array**	**47.15**	**9**	P	**P**	**10 20 00.4**	**+0.2**
	0.8nm,0.7s,mb3.7,baz=198,slow=7.8,SNR=4.7						
MKAR	**Makanchi Array**	**47.22**	**346**	P	**P**	**10 20 01.1**	**+0.4**
	0.6nm,0.5s,mb3.6,baz=165,slow=9.0,SNR=8.5						
ZAL	**Zalesovo**	**53.53**	**351**	P	**P**	**10 20 48.6**	**-0.2**
	1.2nm,0.4s,mb4.2,baz=198,slow=1.2,SNR=3.9						
BVAR	**Borovoye Array**	**56.22**	**341**	P	**P**	**10 21 07.2**	**-1.1**
	0.8nm,0.7s,mb3.9,baz=135,slow=10,SNR=4.6						

MEX 19 10:31:52.8±0.5, 17.12N×100.57W, h43km±999km, MD3.5, 1D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.30**	**103**	⇓*iP*	P	10 32 00.0	-1.4
CAIG				*i* S	S	10 32 05.5	-1.9
ACX	**Acapulco**	**0.68**	**111**	*i* P	P	10 32 04.5	-1.5
ACX				*i* S	S	10 32 13.0	-2.7
ZIIG	**Zihuatanejo**	**0.98**	**300**	*eP*	P	10 32 07.5	-2.8
ZIIG				*i* S	S	10 32 20.7	-2.5

*BJI **19** 10:33:28.4, 0.98N×97.36E, h27km, mB5.1, mb4.9, Ms4.8, Msz4.6*

*IDC **19** 10:33:28.0±0.8, 1.20N×97.06E, mb4.4/14, mb1 4.5/15, mb1mx4.3/24, mbtmp4.4/15, ML4.7/1, Error ellipse: s-maj=27.1km s-min=14.1km az=56.0*

*NEIC **19** 10:33:32.7±0.5, 1.31N×97.20E, h30km, mb4.8/15, Error ellipse: s-maj=13.3km s-min=7.3km az=64.0*

ISC 19 10:33:32.9±1.6, 1.30N±0.06×97.26E±0.08, h45km±13km, h29km±2.8km; pP-P, n65, σ0§95/63, mb4.7/40, MS4.4/7, 8C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.98**	**49**	P	**P**	**10 34 47.8**	**+0.7**
KULM	**Kulim**	**5.21**	**40**	*e*Pn	**P**	**10 34 49.5**	**-0.9**
KGM	**Kluang**	**6.10**	**83**	P	**P**	**10 35 04.3**	**+1.5**
SNG	**Songkhla**	**6.73**	**30**	P	**P**	**10 35 11.0**	**-0.7**
	364nm,0.8s						
CM31	**Chiang Mai Arr**	**17.13**	**5**	*e*P	**P**	**10 37 27.3**	**-3.5**
	3.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**17.13**	**5**	P	**P**	**10 37 29.4**	**-1.4**
	1.0nm,0.3s,baz=194,slow=11,SNR=19						
NANT	**Nan**	**17.72**	**11**	⇑P	**P**	**10 37 38.0**	**-0.1**
	419nm,0.9s						
KKM	**Kota Kinabalu**	**19.49**	**76**	*e*P	**P**	**10 37 58.0**	**-1.3**
KKM	**Kota Kinabalu**	**19.49**	**76**	P	**P**	**10 37 59.6**	**+0.4**
QIZ	**Qiongzhong**	**21.51**	**34**	P	**P**	**10 38 21.3**	**+1.2**
QIZ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.1						
QIZ				LR	LR		
	comp=N,567nm,15.1s,MS4.2						
QIZ				LR	LR		
	comp=E,538nm,14.8s,MS4.2						
QIZ				LR	LR		
	comp=Z,500nm,15.1s,MS4.0						
KMI	**Kunming**	**24.27**	**12**	P	**P**	**10 38 49.3**	**+2.1**
KMI				AMB	AMB		
	comp=Z,39nm,1.3s,mb4.7						
KMI				AMB	AMB		
	comp=Z,232nm,3.2s						
KMI				LR	LR		
	comp=N,2μm,13.8s,MS4.9						
KMI				LR	LR		
	comp=E,1μm,11.5s,MS4.9						
KMI				LR	LR		
	comp=Z,2μm,13.8s,MS4.8						
KMI	**Kunming**	**24.27**	**12**	P	**P**	**10 38 49.3**	**+2.1**
	comp=Z,39nm,1.3s,mb4.7						
KMI				S	**S**	**10 43 16.6**	**+17**
KMI				sS		10 43 52.8	
SHL	**Shillong**	**24.68**	**348**	⇑*iP*	**P**	**10 38 51.5**	**+0.3**
SHL				*e*S	Px	10 39 20.5	
GYA	**Guiyang**	**26.60**	**19**	⇑*iP*	**P**	**10 39 09.4**	**+0.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
JIRN	**Jiri**	**28.27**	**339**	*e*P	**P**	**10 39 25.0**	**+0.6**
	comp=Z,74nm,1.1s,mb5.2						
PKI	**Pulchoki**	**28.48**	**338**	*e*P	**P**	**10 39 27.6**	**+1.3**
	comp=Z,16nm,0.6s,mb4.8						
GUN	**Gumba**	**28.61**	**339**	*e*P	**P**	**10 39 28.1**	**+0.7**
	comp=Z,38nm,0.5s,mb5.4						
KKN	**Kakani**	**28.73**	**338**	*e*P	**P**	**10 39 28.8**	**+0.4**
LSA	**Lhasa**	**28.83**	**349**	*e*P	**P**	**10 39 30.3**	**+0.9**
	comp=Z,9.5nm,0.5s,mb4.8						
GKN	**Gorkha**	**29.17**	**337**	*e*P	**P**	**10 39 32.6**	**+0.2**
	comp=Z,34nm,0.9s,mb5.1						
KOLN	**Koldanda**	**29.39**	**335**	*e*P	**P**	**10 39 34.7**	**+0.4**
	comp=Z,17nm,0.5s,mb5.0						
ENH	**Enshi**	**31.07**	**21**	*e*P	**P**	**10 39 47.9**	**-1.3**
	comp=Z,34nm,0.5s,mb5.4						
MBWA	**Marble Bar**	**31.33**	**137**	P	**P**	**10 39 51.5**	**-0.1**
	comp=Z,6.7nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.94**	**126**	⇓*iP*	**P**	**10 40 13.5**	**-0.8**
	comp=Z,5.6nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.94**	**126**	P	**P**	**10 40 13.4**	**-0.9**
	comp=Z,9.6nm,0.9s,mb4.7,baz=289,slow=3.5,SNR=10						
XAN	**Xi'an**	**34.35**	**17**	P	**P**	**10 40 16.8**	**-0.9**
XAN				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
LZH	**Lanzhou**	**35.15**	**9**	⇑P	**P**	**10 40 24.0**	**-0.5**
LZH				AP	pP	10 40 32.9	-3.7
LZH				XP	sP	10 40 37.0	-5.3
LZH				AMB	AMB		
	comp=Z,36nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,87nm,5.3s						
LZH				LR	LR		
	comp=N,512nm,12.7s						
LZH				LR	LR		
	comp=Z,839nm,16.8s,MS4.6						
LZH	**Lanzhou**	**35.15**	**9**	⇑P	**P**	**10 40 24.0**	**-0.5**
	comp=Z,36nm,1.5s,mb5.1						
LZH				pP	pP	10 40 32.9	-3.7
LZH				sP	sP	10 40 37.0	-5.3
LZH				*e*PP	PP	10 41 43.5	-0.7
LZH				*e*S	**S**	**10 45 54.0**	**+0.6**
LZH				sS		10 46 10.1	
LZH				SS	SS	10 48 11.2	-0.1
NJ2	**Nanjing**	**36.75**	**31**	*e*P	**P**	**10 40 37.8**	**-0.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
SSE	**Sheshan**	**37.30**	**35**	P	**P**	**10 40 39.5**	**-3.2**
SSE				XP	sP	10 40 52.3	-8.2
SSE				PP	PP	10 42 10.8	0.0
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.2						
SSE				LR	LR		
	comp=N,138nm,18.7s,MS4.0						
SSE				LR	LR		
	comp=E,160nm,18.9s,MS4.0						
SSE				LR	LR		
	comp=Z,285nm,15.4s,MS4.2						
SSE	**Sheshan**	**37.30**	**35**	P	**P**	**10 40 39.5**	**-3.2**
	comp=Z,26nm,0.7s,mb5.2						
SSE				sP	sP	10 40 52.2	-8.3
SSE				PP	PP	10 42 10.8	0.0
SSE				S	**S**	**10 46 41.2**	**+15**
SSE				sS		10 46 56.4	
SSE				ScS	ScS	10 50 42.0	-8.5
KAKA	**Kakadu**	**37.59**	**113**	⇓*iP*	**P**	**10 40 44.2**	**-1.0**
	comp=Z,5.4nm,0.6s,mb4.5						
GTA	**Gaotai**	**38.00**	**3**	P	**P**	**10 40 49.0**	**+0.5**
GTA				AP	pP	10 40 57.4	-3.3
GTA				XP	sP	10 41 00.5	-5.8
GTA				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.7						
JOW	**Kunigami**	**39.13**	**47**	P	**P**	**10 40 59.6**	**+1.6**
	comp=Z,27nm,0.5s,mb5.2,baz=219,slow=3.9,SNR=8.9						
HHC	**Hu-ho-hao-te**	**41.45**	**16**	*e*P	**P**	**10 41 17.9**	**+0.9**
HHC				AP	pP	10 41 28.6	-0.7
HHC				XP	sP	10 41 31.8	-2.9
HHC				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.3						
HHC				AMB	AMB		
	comp=Z,158nm,4.8s						
HHC				LR	LR		
	comp=N,755nm,15.1s,MS4.7						
HHC				LR	LR		
	comp=E,440nm,16.1s,MS4.7						
HHC				LR	LR		
	comp=Z,780nm,15.0s,MS4.7						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**10 41 22.1**	**-0.1**
	comp=Z,5.5nm,0.6s,mb4.4,baz=300,slow=9.0,SNR=44						
WRAB	**Tennant Creek**	**42.05**	**122**	*e*P	**P**	**10 41 21.8**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**42.05**	**122**	*e*P	**P**	**10 41 21.9**	**-0.3**
BJT	**Baijiatuau**	**42.20**	**22**	*e*P	**P**	**10 41 20.4**	**-2.8**
	comp=Z,19nm,0.6s,mb4.9						
WMQ	**Urumqi**	**43.19**	**350**	⇑P	**P**	**10 41 31.8**	**+0.6**
WMQ				AP	pP	10 41 41.8	-1.8
WMQ				XP	sP	10 41 45.8	-3.2
WMQ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,85nm,4.6s						
WMQ				LR	LR		
	comp=N,85nm,25.0s,MS3.9						
WMQ				LR	LR		
	comp=E,163nm,23.0s,MS3.9						
FORT	**Forrest**	**43.31**	**140**	⇓*iP*	**P**	**10 41 34.1**	**+1.6**
	comp=E,260nm,0.6s						
ASPA	**Alice Springs**	**43.41**	**127**	*e*P	**P**	**10 41 33.5**	**+0.2**
ASAR	**Alice Springs**	**43.41**	**127**	P	**P**	**10 41 33.3**	**-0.1**
	comp=E,3.0nm,0.8s,mb4.1,baz=301,slow=7.9,SNR=28						
AAK	**Ala-Archa**	**45.93**	**337**	*e*P	**P**	**10 41 53.3**	**0.0**
	comp=E,2.5nm,0.8s,mb4.2						
SONM	**Songino Array**	**47.02**	**8**	P	**P**	**10 42 02.5**	**+0.7**
	comp=E,4.6nm,0.7s,mb4.5,baz=192,slow=8.6,SNR=23						
MKAR	**Makanchi Array**	**47.16**	**346**	P	**P**	**10 42 03.0**	**+0.2**
	comp=E,5.2nm,0.5s,mb4.7,baz=160,slow=9.1,SNR=89						
CN2	**Changchun**	**49.19**	**27**	*e*P	**P**	**10 42 18.6**	**-0.1**
CN2				*eX*P	sP	10 42 32.8	-3.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,16.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,16.0s,MS4.6						
CN2				LR	LR		
	comp=Z,300nm,16.0s,MS4.4						
HIA	**Hailar**	**51.53**	**19**	*e*P	**P**	**10 42 34.8**	**-1.6**
	comp=Z,6.2nm,0.5s,mb4.8						
MJAR	**Matsushiro Arr**	**51.58**	**42**	P	**P**	**10 42 38.2**	**+1.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=215,slow=7.4,SNR=4.8						
MDJ	**Mudanjiang**	**51.75**	**29**	P	**P**	**10 42 37.0**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,80nm,4.5s						
STKA	**Stephens Creek**	**53.38**	**132**	⇑*iP*	**P**	**10 42 51.0**	**+0.5**
	comp=Z,3.0nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**53.38**	**132**	P	**P**	**10 42 51.2**	**+0.6**
	comp=Z,3.6nm,0.6s,mb4.5,baz=311,slow=6.9,SNR=16						
ZAL	**Zalesovo**	**53.46**	**351**	P	**P**	**10 42 50.5**	**-0.3**
	comp=Z,10.0nm,0.4s,mb5.1,baz=312,slow=5.2,SNR=32						
BVAR	**Borovoye Array**	**56.17**	**341**	P	**P**	**10 43 09.3**	**-1.3**
	comp=Z,4.2nm,0.5s,mb4.7,baz=142,slow=9.4,SNR=27						
CHKZ	**Chkalovo**	**56.65**	**341**	⇑*iP*	**P**	**10 43 12.9**	**-1.0**
	comp=Z,9.3nm,0.6s,mb5.0						
MATP	**Matopo**	**70.61**	**248**	P	**P**	**10 44 45.4**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.0,baz=45,slow=1.4,SNR=3.5						
FINES	**FINESS Array B**	**79.94**	**332**	P	**P**	**10 45 37.9**	**-0.7**
	comp=Z,0.8nm,0.5s,mb3.9,baz=90,slow=5.7,SNR=4.8						
FINES				pP	pP	10 45 46.0	-5.9
	comp=Z,1.5nm,0.6s,baz=90,slow=5.7,SNR=2.7						
FINES	**FINESS Array B**	**79.94**	**332**	P	**P**	**10 45 37.9**	**-0.7**
FINES				pP	pP	10 45 46.0	-5.9
ARCES	**ARCESS Array B**	**82.46**	**340**	P	**P**	**10 45 52.3**	**+0.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=90,slow=4.9,SNR=15						
GERES	**GERESS Array B**	**84.78**	**319**	P	**P**	**10 46 03.8**	**0.0**
	comp=Z,0.3nm,0.3s,mb4.0,baz=90,slow=4.0,SNR=4.7						
PDAR	**Pinedale Array**	**129.93**	**26**	PKP	PKPdf	10 52 40.1	+1.9
	comp=Z,0.3nm,0.6s,baz=90,slow=1.5,SNR=3.5						
PDAR				pPKP		10 52 47.5	
	comp=Z,0.3nm,0.5s,baz=105,slow=4.7,SNR=2.7						
TXAR	**Lajitas Array**	**143.55**	**32**	PKhKP		10 53 03.0	
	comp=Z,0.3nm,0.5s,baz=95,slow=0.6,SNR=10						
JCT	**Junction City**	**144.46**	**26**	*e*PKP	PKPdf	10 53 06.3	+1.3
NATX	**Nacogdoches**	**145.23**	**18**	PKP	PKPdf	10 53 08.5	+2.1
LRAL	**Lakeview Retre**	**145.62**	**6**	*e*PKP	PKPdf	10 53 08.4	+1.4

*BJI **19** 10:33:56.2, 0.72N×97.06E, h39km, mB5.1, mb5.1, Ms4.9, Msz4.7*

*MOS **19** 10:33:59.6±1.0, 1.20N×97.07E, h33km, mb5.3/17, Error ellipse: s-maj=13.9km s-min=7.5km az=100.8*

*IDC **19** 10:34:00.4±0.5, 1.33N×97.14E, h22km±3km, mb4.5/21, mb1 4.7/22, mb1mx4.5/28, mbtmp4.7/22, ML4.3/1, MS4.2/2, Ms1 4.2/2, ms1mx3.5/21, Error ellipse: s-maj=16.9km s-min=11.1km az=46.0*

*NEIC **19** 10:34:00.0±0.3, 1.21N×97.14E, mb5.0/20, Error ellipse: s-maj=8.1km s-min=6.0km az=57.0*

ISC 19 10:33:58.3±0.4, 1.22N±0.05×97.15E±0.06, h24km, h24km±1.0km; pP-P, n112, σ1§00/110, mb4.8/53, MS4.6/19, 9C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.34**	**41**	*e*P	**Pn**	**10 35 19.4**	**+0.6**
KSM	**Kuching**	**13.16**	**89**	*e*P	**P**	**10 37 17.7**	**+11**
NST	**Nakhon Sawan**	**14.66**	**11**	P	**P**	**10 37 22.5**	**-3.9**
KKTK	**Khon Kaen**	**16.03**	**20**	P	**P**	**10 37 47.5**	**+3.4**
	556nm,0.8s						
CM31	**Chiang Mai Arr**	**17.22**	**6**	*e*P	**P**	**10 37 59.0**	**-0.2**
	18nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.22**	**6**	P	**P**	**10 37 58.7**	**-0.5**
	0.4nm,0.3s,baz=193,slow=11,SNR=5.2						
CMAR				ScP		10 46 17.6	
	baz=208,slow=3.7,SNR=4.2						
CHG	**Chiang Mai**	**17.57**	**6**	⇑P	**P**	**10 38 02.0**	**-1.6**
	11nm,0.8s						
KKM	**Kota Kinabalu**	**19.62**	**75**	*e*P	**P**	**10 38 27.5**	**-0.8**
QIZ	**Qiongzhong**	**21.64**	**34**	P	**P**	**10 38 49.6**	**+0.5**
QIZ				S	**S**	**10 42 45.9**	**+3.4**
QIZ				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.5						
QIZ				LR	LR		
	comp=N,753nm,13.8s,MS4.3						
QIZ				LR	LR		
	comp=E,596nm,14.2s,MS4.3						
QIZ				LR	LR		
	comp=Z,583nm,14.1s,MS4.1						
QIZ	**Qiongzhong**	**21.64**	**34**	*e*P	**P**	**10 38 49.0**	**-0.1**
	comp=Z,18nm,0.7s,mb4.6						
HYB	**Hyderabad**	**24.36**	**312**	*e*P	**P**	**10 39 19.0**	**+3.0**
HYB	**Hyderabad**	**24.36**	**312**	*i* P	**P**	**10 39 19.0**	**+3.0**
KMI	**Kunming**	**24.37**	**12**	P	**P**	**10 39 17.8**	**+1.8**
KMI				AP		10 39 24.3	
KMI				XP		10 39 27.4	
KMI				AMB	AMB		
	comp=Z,77nm,1.2s,mb5.0						
KMI				AMB	AMB		
	comp=Z,190nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,13.6s,MS4.9						
KMI				LR	LR		
	comp=E,1μm,12.8s,MS4.9						
KMI				LR	LR		
	comp=Z,2μm,14.0s,MS4.8						
KMI	**Kunming**	**24.37**	**12**	P	**P**	**10 39 17.7**	**+1.7**
KMI				*SP		10 39 27.4	
KMI				*SS		10 43 29.1	
KMI				pmax	pmax		
	comp=Z,77nm,1.2s,mb5.0						
GYA	**Guiyang**	**26.71**	**19**	⇓*iP*	**P**	**10 39 38.1**	**+0.1**
GYA				AP	pP	10 39 45.8	+0.9
GYA				XP	sP	10 39 48.8	+0.8
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,130nm,3.8s						
GYA				LR	LR		
	comp=N,2μm,15.0s,MS4.8						
GYA				LR	LR		
	comp=E,740nm,12.6s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,14.7s,MS4.8						
LSA	**Lhasa**	**28.89**	**349**	*e*P	**P**	**10 39 58.5**	**+0.8**
LSA				*e*	pP	10 40 05.5	+0.8
LSA				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.0						
LSA	**Lhasa**	**28.89**	**349**	*e*P	**P**	**10 39 58.5**	**+0.8**
	comp=Z,20nm,0.7s,mb5.0						
LSA				*e*	pP	10 40 05.5	+0.9
CD2	**Chengdu**	**30.18**	**11**	P	**P**	**10 40 08.8**	**-0.5**
ENH	**Enshi**	**31.18**	**21**	⇑*eP*	**P**	**10 40 16.4**	**-1.6**
	comp=Z,53nm,0.6s,mb5.5						
ENH				*e*	pP	10 40 22.9	-2.1
QZH	**Quanzhou**	**31.39**	**40**	*e*P	**P**	**10 40 19.6**	**-0.3**
QZH				*e*S	**S**	**10 45 22.4**	**-2.4**
QZH				LR	LR		
	comp=N,1μm,12.7s,MS5.0						
QZH				LR	LR		
	comp=E,1μm,12.5s,MS5.0						
QZH				LR	LR		
	comp=Z,2μm,15.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**33.98**	**126**	⇑*iP*	**P**	**10 40 41.7**	**-0.9**
	comp=Z,12nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**33.98**	**126**	P	**P**	**10 40 41.8**	**-0.8**
	comp=Z,17nm,0.7s,mb5.1,baz=306,slow=4.6,SNR=11						
XAN	**Xi'an**	**34.46**	**17**	P	**P**	**10 40 45.3**	**-1.3**
XAN				AMB	AMB		
	comp=Z,47nm,0.9s,mb5.4						
XAN				LR	LR		
	comp=N,887nm,14.4s,MS4.7						
XAN				LR	LR		
	comp=E,413nm,15.1s,MS4.7						
XAN				LR	LR		
	comp=Z,1μm,14.1s,MS4.8						
LZH	**Lanzhou**	**35.24**	**9**	*e*P	**P**	**10 40 55.0**	**+1.8**
LZH				AP	pP	10 41 01.5	+1.2
LZH				XP	sP	10 41 04.6	+1.3
LZH				*e*PP	PP	10 42 15.3	+2.7
LZH				*e*S	**S**	**10 46 27.9**	**+3.3**
LZH				SS	SS	10 48 47.3	+5.5
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,128nm,5.3s						
LZH				LR	LR		
	comp=N,738nm,12.9s						
LZH				LR	LR		
	comp=Z,1μm,16.8s,MS4.8						
LZH	**Lanzhou**	**35.24**	**9**	*e*P	**P**	**10 40 55.0**	**+1.8**
LZH				*SP	sP	10 41 04.6	+1.3
LZH				*e*		10 42 15.2	
LZH				*e*S	**S**	**10 46 27.9**	**+3.3**
LZH				SS	SS	10 48 47.3	+5.5
LZH				pmax	pmax		
	comp=Z,39nm,1.5s,mb5.1						
LZH	**Lanzhou**	**35.24**	**9**	*e*P	**P**	**10 40 55.0**	**+1.8**
	comp=Z,39nm,1.5s,mb5.1						
LZH				pP	pP	10 41 01.5	+1.2
LZH				sP	sP	10 41 04.6	+1.3
LZH				*e*PP	PP	10 42 15.2	+2.6
LZH				*e*S	**S**	**10 46 27.9**	**+3.3**
LZH				sS		10 46 38.0	
LZH				SS	SS	10 48 47.3	+5.5
NJ2	**Nanjing**	**36.87**	**32**	*e*P	**P**	**10 41 07.3**	**+0.3**
NJ2				AP	pP	10 41 14.5	+0.4
NJ2				XP	sP	10 41 17.9	+0.8
NJ2				PP	PP	10 42 34.0	+0.9
NJ2				S	**S**	**10 46 50.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,670nm,3.9s						
NJ2				LR	LR		
	comp=N,2μm,14.7s,MS5.0						
NJ

HHC				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,104nm,5.6s						
HHC				LR	LR		
	comp=N,755nm,14.9s,MS4.7						
HHC				LR	LR		
	comp=E,440nm,15.9s,MS4.7						
HHC				LR	LR		
	comp=Z,780nm,15.2s,MS4.7						
WRA	**Warramunga Arr**	**42.09**	**122**	P	**P**	**10 41 50.6**	**0.0**
	comp=Z,12nm,0.6s,mb4.7,baz=303,slow=9.0,SNR=18						
WRAB	**Tennant Creek**	**42.09**	**122**	*e*P	**P**	**10 41 50.0**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.8						
WRAB	**Tennant Creek**	**42.09**	**122**	*e*P	**P**	**10 41 50.0**	**-0.6**
	comp=Z,12nm,0.5s,mb4.8						
WB2	**Warramunga Arr**	**42.10**	**122**	⇓*i*P	**P**	**10 41 50.8**	**+0.2**
BJT	**Baijiatuau**	**42.32**	**22**	*e*P	**P**	**10 41 53.1**	**+0.9**
BJT				pmax	pmax		
	comp=Z,34nm,0.8s						
BJT	**Baijiatuau**	**42.32**	**22**	*e*P	**P**	**10 41 53.1**	**+0.9**
	comp=Z,34nm,0.8s,mb5.0						
BJI	**Beijing**	**42.34**	**22**	*e*P	**P**	**10 41 53.0**	**+0.7**
BJI				S	**S**	**10 48 07.8**	**-3.9**
BJI				AMB	AMB		
	comp=Z,39nm,0.8s,mb5.1						
BJI				LR	LR		
	comp=N,347nm,16.3s,MS4.5						
BJI				LR	LR		
	comp=E,350nm,14.7s,MS4.5						
BJI				LR	LR		
	comp=Z,261nm,17.4s,MS4.2						
BJI	**Beijing**	**42.34**	**22**	*e*P	**P**	**10 41 53.0**	**+0.7**
	comp=Z,39nm,0.8s,mb5.1						
BJI				S	**S**	**10 48 07.8**	**-3.9**
KSH	**Kashi**	**42.73**	**336**	*e*P	**P**	**10 41 51.5**	**-4.0**
KSH				*e*AP	pP	10 42 01.8	-0.8
KSH				*e*PCP	PcP	10 43 47.0	-0.6
KSH				*e*SCP		10 47 36.0	
KSH				*e*PCS		10 47 38.0	
KSH				*e*S	**S**	**10 48 13.5**	**-4.0**
KSH				*e*SCS	ScS	10 51 53.0	0.0
KSH				AMB	AMB		
	comp=Z,820nm,8.0s						
KSH				LR	LR		
	comp=N,350nm,6.2s						
KSH				LR	LR		
	comp=E,370nm,6.7s						
WMQ	**Urumqi**	**43.24**	**350**	⇑P	**P**	**10 42 01.0**	**+1.3**
WMQ				AP	pP	10 42 07.0	+0.2
WMQ				XP	sP	10 42 10.0	+0.3
WMQ				PP	PP	10 43 43.8	+1.5
WMQ				PCP	PcP	10 43 50.5	+1.3
WMQ				S	**S**	**10 48 26.4**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,135nm,4.6s						
WMQ				LR	LR		
	comp=N,149nm,22.8s,MS4.1						
WMQ				LR	LR		
	comp=E,231nm,26.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,161nm,20.6s						
ASPA	**Alice Springs**	**43.45**	**127**	*e*P	**P**	**10 42 02.2**	**+0.7**
ASAR	**Alice Springs**	**43.45**	**127**	P	**P**	**10 42 02.0**	**+0.4**
	comp=Z,7.5nm,0.6s,mb4.6,baz=303,slow=7.8,SNR=22						
ASAR				PcP	PcP	10 43 50.8	+0.6
	comp=Z,2.0nm,0.8s,baz=307,slow=2.2,SNR=5.6						
ASAR				ScP		10 47 41.9	
	comp=Z,1.5nm,0.9s,baz=301,slow=4.3,SNR=5.1						
AAK	**Ala-Archa**	**45.96**	**337**	P	**P**	**10 42 18.1**	**-3.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**45.96**	**337**	P	**P**	**10 42 18.1**	**-3.4**
	comp=Z,7.4nm,1.0s,mb4.6						
FRU	**Bishkek**	**46.08**	**337**	*e*P	**P**	**10 42 20.0**	**-2.4**
SNY	**Shenyang**	**46.91**	**27**	⇓P	**P**	**10 42 29.1**	**+0.1**
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
SONM	**Songino Array**	**47.12**	**8**	P	**P**	**10 42 31.0**	**+0.5**
	comp=Z,14nm,0.7s,mb5.0,baz=189,slow=8.7,SNR=23						
SONM				PcP	PcP	10 44 02.5	-0.1
	comp=Z,3.2nm,0.5s,baz=192,slow=4.4,SNR=5.6						
MKAR	**Makanchi Array**	**47.21**	**346**	*i*P	**P**	**10 42 31.1**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**10 42 31.4**	**+0.1**
	comp=Z,17nm,0.7s,mb5.1,baz=161,slow=8.1,SNR=16						
ULN	**Ulaanbaatar**	**47.25**	**9**	*e*P	**P**	**10 42 31.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**47.25**	**9**	*e*P	**P**	**10 42 31.5**	**-0.1**
	comp=Z,11nm,0.8s,mb4.8						
KKAR	**Karatay Array**	**48.02**	**334**	P	**P**	**10 42 38.5**	**+0.8**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ZAK	**Zakamensk**	**49.26**	**5**	⇑*i*P	**P**	**10 42 47.3**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
CN2	**Changchun**	**49.31**	**27**	*e*P	**P**	**10 42 48.3**	**+0.7**
CN2				*e*XP	sP	10 43 02.5	+4.8
CN2				*e*S	**S**	**10 49 52.4**	**+1.0**
CN2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=E,400nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=Z,400nm,16.0s,MS4.5						
MOY	**Mondy**	**50.37**	**3**	*e*P	**P**	**10 42 55.7**	**+0.1**
TLY	**Talaya**	**50.58**	**5**	⇑*i*P	**P**	**10 42 57.4**	**+0.2**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
TLY				MLR	MLR		
	comp=Z,244nm,15.0s,MS4.3						
PMG	**Port Moresby**	**50.91**	**103**	P	**P**	**10 43 00.4**	**+0.2**
	comp=Z,5.1nm,0.7s,mb4.6,baz=101,slow=20,SNR=3.7						
HIA	**Hailar**	**51.64**	**19**	*e*P	**P**	**10 43 04.8**	**-0.5**
HIA				pmax	pmax		
	comp=Z,19nm,0.8s						
HIA	**Hailar**	**51.64**	**19**	*e*P	**P**	**10 43 04.8**	**-0.5**
	comp=Z,19nm,0.8s,mb5.1						
MJAR	**Matsushiro Arr**	**51.71**	**42**	P	**P**	**10 43 06.0**	**0.0**
	comp=Z,4.4nm,0.8s,mb4.5,baz=226,slow=6.2,SNR=11						
MDJ	**Mudanjiang**	**51.87**	**29**	P	**P**	**10 43 07.5**	**+0.3**
MDJ				AP	pP	10 43 13.8	-0.6
MDJ				PCP	PcP	10 44 19.3	-0.6
MDJ				PP	PP	10 45 03.8	-1.9
MDJ				SCP		10 48 14.8	
MDJ				PCS		10 48 17.4	
MDJ				S	**S**	**10 50 21.5**	**-5.3**
MDJ				SS	SS	10 54 02.5	+0.8
MDJ				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,37nm,3.9s						
MDJ				LR	LR		
	comp=N,142nm,28.1s						
MDJ				LR	LR		
	comp=E,112nm,21.5s						
MDJ				LR	LR		
	comp=Z,165nm,14.9s						
CTA	**Charters Tower**	**52.56**	**117**	P	**P**	**10 43 12.9**	**+0.3**
	comp=Z,7.0nm,0.8s,mb4.6,baz=265,slow=5.3,SNR=4.8						
CTA				pP	pP	10 43 20.9	+1.1
	comp=Z,5.3nm,0.7s,baz=291,slow=9.6,SNR=3.1						
CTA	**Charters Tower**	**52.56**	**117**	P	**P**	**10 43 12.9**	**+0.3**
CTA				pP	pP	10 43 20.9	+1.1
OPO	**Ambohidratompo**	**52.89**	**246**	P	**P**	**10 43 15.9**	**+0.9**
	comp=Z,0.9nm,0.3s,mb4.2,baz=103,slow=11,SNR=6.0						
STKA	**Stephens Creek**	**53.41**	**132**	⇑*i*P	**P**	**10 43 19.5**	**+0.7**
	comp=Z,6.5nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**53.41**	**132**	P	**P**	**10 43 19.8**	**+1.1**
	comp=Z,8.1nm,0.6s,mb4.9,baz=319,slow=7.1,SNR=9.8						
STKA				LR	LR	11 07 49.3	
	comp=Z,410nm,20.3s,MS4.5,baz=117,slow=38						
ZAL	**Zalesovo**	**53.52**	**351**	P	**P**	**10 43 18.5**	**-0.8**
	comp=Z,16nm,0.6s,mb5.2,baz=294,slow=6.4,SNR=3.9						
BVA0	**Borovoye Array**	**56.21**	**341**	*i*P	**P**	**10 43 37.8**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**56.21**	**341**	P	**P**	**10 43 37.8**	**-1.1**
	comp=Z,13nm,0.7s,mb5.1,baz=149,slow=8.6,SNR=19						
CHKZ	**Chkalovo**	**56.69**	**341**	⇑*i*P	**P**	**10 43 41.4**	**-0.9**
CHKZ				*e*	pP	10 43 46.7	-2.9
CHKZ				pmax	pmax		
	comp=Z,28nm,0.7s,mb5.4						
CHKZ	**Chkalovo**	**56.69**	**341**	⇑*i*P	**P**	**10 43 41.4**	**-1.0**
	comp=Z,28nm,0.7s,mb5.4						
CHKZ				*e*	pP	10 43 46.7	-2.9
BOD	**Bodaibo**	**58.00**	**11**	*e*P	**P**	**10 43 51.3**	**-0.1**
CLNS	**Chul'man**	**59.74**	**17**	*e*P	**P**	**10 44 00.6**	**-3.0**
CLNS				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.4						
CLNS				pmax	pmax		
	comp=N,12nm,0.7s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,600nm,14.0s,MS4.9						
CLNS				MLR	MLR		
	comp=N,300nm,13.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,100nm,12.0s,MS4.7						
YSS	**Yuzh-Sakhalins**	**60.36**	**34**	*e*P	**P**	**10 44 07.5**	**-0.5**
YSS				*e*	pP	10 44 14.7	-0.6
YSS				*e*		10 44 26.0	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
YSS				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.6						
YSS				MLR	MLR		
	comp=E,200nm,16.0s						
YSS	**Yuzh-Sakhalins**	**60.36**	**34**	*e*P	**P**	**10 44 07.7**	**-0.3**
	comp=E,31nm,0.9s,mb5.3						
SVE	**Sverdlovsk**	**62.65**	**338**	*e*P	**P**	**10 44 28.3**	**+5.0**
ARU	**Arti**	**63.15**	**337**	*e*P	**P**	**10 44 24.9**	**-1.6**
ARU				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
ARU	**Arti**	**63.15**	**337**	*e*P	**P**	**10 44 24.9**	**-1.6**
	comp=Z,9.1nm,0.8s,mb5.0						
KIV	**Kislovodsk**	**64.26**	**319**	*e*P	**P**	**10 44 41.1**	**+7.0**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
KIV				pmax	pmax		
	comp=N,16nm,0.8s						
KIV				pmax	pmax		
	comp=E,15nm,0.8s						
YAK	**Yakutsk**	**65.42**	**16**	*e*P	**P**	**10 44 37.4**	**-3.8**
YAK				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.3						
YAK				pmax	pmax		
	comp=N,12nm,1.2s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,135nm,15.0s,MS4.3						
YAK				MLR	MLR		
	comp=N,132nm,13.0s,MS4.4						
YAK				MLR	MLR		
	comp=E,105nm,17.0s,MS4.4						
BRTR	**Keskin Array B**	**69.06**	**312**	P	**P**	**10 45 04.0**	**-0.6**
	comp=E,1.5nm,0.7s,mb4.0,baz=128,slow=7.2,SNR=4.2						
BRTR				pP	pP	10 45 10.1	-1.9
	comp=E,3.9nm,0.9s,baz=129,slow=6.7,SNR=6.7						
MATP	**Matopo**	**70.49**	**248**	P	**P**	**10 45 14.4**	**+0.8**
	comp=E,4.8nm,0.8s,mb4.5,baz=98,slow=6.4,SNR=7.8						
MATP				pP	pP	10 45 22.1	+1.2
	comp=E,5.4nm,0.8s,baz=78,slow=4.0,SNR=5.4						
PET	**Petropavlovsk**	**72.24**	**34**	*e*P	**P**	**10 45 28.4**	**+4.8**
PET				*e*		10 54 37.0	
PET				pmax	pmax		
	comp=Z,100nm,10.9s						
PET				MLR	MLR		
	comp=E,200nm,14.0s,MS4.6						
PET				MLR	MLR		
	comp=Z,200nm,14.0s,MS4.5						
PET				MLR	MLR		
	comp=N,100nm,13.0s,MS4.6						
OBN	**Obninsk**	**72.58**	**328**	*e*P	**P**	**10 45 25.2**	**-0.3**
SEY	**Seymchan**	**73.76**	**23**	*e*P	**P**	**10 45 34.2**	**+1.9**
AKASG	**Malin Array Be**	**75.21**	**322**	P	**P**	**10 45 39.5**	**-1.4**
	comp=N,0.8nm,0.2s,mb4.2,baz=87,slow=4.5,SNR=5.9						
MLR	**Muntele Rosu**	**76.02**	**317**	P	**P**	**10 45 45.5**	**-0.1**
	comp=N,3.6nm,0.8s,mb4.3,baz=186,slow=9.2,SNR=3.4						
MLR				pP	pP	10 45 52.9	-0.2
	comp=N,3.1nm,0.5s,baz=68,slow=5.0,SNR=5.3						
FINES	**FINESS Array B**	**79.96**	**333**	P	**P**	**10 46 06.6**	**-0.3**
	comp=N,1.8nm,0.6s,mb4.2,baz=104,slow=7.9,SNR=5.0						
FINES				LR	LR	11 23 52.8	
	comp=N,67nm,18.6s,MS4.0,baz=355,slow=38						
MORC	**Moravsky Berou**	**82.36**	**320**	P	**P**	**10 46 20.3**	**+0.6**
MORC				*e*	pP	10 46 27.8	+0.5
MORC				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MORC	**Moravsky Berou**	**82.36**	**320**	P	**P**	**10 46 20.3**	**+0.6**
	comp=Z,7.7nm,1.0s,mb4.6						
MORC				*e*	pP	10 46 27.8	+0.5
ARCES	**ARCESS Array B**	**82.50**	**340**	P	**P**	**10 46 20.6**	**+0.5**
	comp=Z,2.4nm,0.5s,mb4.4,baz=97,slow=4.8,SNR=6.0						
ARCES				pP	pP	10 46 28.1	+0.4
	comp=Z,4.0nm,0.7s,baz=101,slow=4.9,SNR=2.7						
GERES	**GERESS Array B**	**84.77**	**319**	P	**P**	**10 46 32.8**	**+0.8**
	comp=Z,2.5nm,0.9s,mb4.4,baz=108,slow=4.2,SNR=9.9						
GERES				pP	pP	10 46 39.3	-0.4
	comp=Z,5.1nm,1.0s,baz=108,slow=4.2,SNR=5.6						
CLL	**Collm**	**85.39**	**321**	*e**PP	pP	10 46 44.0	+1.3
NB2	**NORSAR Subarra**	**86.96**	**331**	P	**P**	**10 46 42.6**	**0.0**
	comp=Z,1.2nm,0.6s,mb4.3,baz=96,slow=4.6						
NB2	**NORSAR Subarra**	**86.96**	**331**	P	**P**	**10 46 42.6**	**0.0**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.2						
NOA	**NORSAR Array B**	**86.96**	**331**	P	**P**	**10 46 42.5**	**-0.1**
	comp=Z,2.5nm,0.8s,mb4.5,baz=94,slow=4.9,SNR=5.5						
TBI	**Tubuai**	**111.91**	**115**	*e*LR	LR	11 26 01.4	
	comp=Z,140nm,24.5s						
YKA	**Yellowknife Ar**	**112.08**	**15**	PP	PP	10 53 15.4	-4.8
	comp=Z,0.8nm,0.9s,baz=329,slow=6.9,SNR=6.2						
PPT	**Papeete**	**112.53**	**108**	*e*LR	LR	11 26 20.1	
	comp=Z,111nm,23.0s						
MSO	**Missoula**	**124.92**	**26**	*e*PKP	PKPdf	10 52 57.5	-3.8
RKT	**Rikitea**	**124.99**	**118**	*e*LR	LR	11 32 05.0	
	comp=Z,133nm,32.0s						
NVAR	**Mina Array Bea**	**128.80**	**36**	PKP	PKPdf	10 53 08.2	-0.9
	comp=Z,1.0nm,0.8s,baz=336,slow=0.8,SNR=3.6						
NVAR				pPKP		10 53 15.5	
	comp=Z,0.8nm,0.6s,baz=274,slow=3.1,SNR=2.8						
PDAR	**Pinedale Array**	**130.04**	**26**	PKP	PKPdf	10 53 09.2	-2.2
	comp=Z,0.8nm,0.7s,baz=106,slow=1.5,SNR=5.3						
PDAR				pPKP		10 53 15.8	
	comp=Z,0.6nm,0.6s,baz=164,slow=0.4,SNR=3.1						
TXAR	**Lajitas Array**	**143.68**	**32**	PKP	PKPdf	10 53 31.5	-5.1
	comp=Z,0.7nm,0.5s,baz=304,slow=0.3,SNR=8.5						
JCT	**Junction City**	**144.58**	**26**	*e*PKIKP	PKPdf	10 53 33.8	-4.3
CPUP	**Villa Florida**	**144.99**	**222**	PKPbc	PKPbc	10 53 36.2	+1.5
	comp=Z,3.6nm,0.6s,baz=270,slow=20,SNR=5.6						
CPUP				pPKPbc		10 53 43.5	
	comp=Z,9.1nm,0.9s,baz=270,slow=20,SNR=6.7						
CPUP	**Villa Florida**	**144.99**	**222**	PKPbc	PKPbc	10 53 36.2	+1.5
CPUP				pPKPbc		10 53 43.5	
NATX	**Nacogdoches**	**145.34**	**18**	*e*PKP	PKPdf	10 53 37.1	-2.3
GOGA	**Godfrey**	**145.55**	**1**	*e*PKP2	PKPab	10 53 36.6	-1.1
LRAL	**Lakeview Retre**	**145.71**	**6**	*e*PKP	PKPdf	10 53 36.4	-3.6
LPAZ	**La Paz**	**159.15**	**223**	*e*PKIKP	PKPdf	10 54 05.3	+5.4

NEIC ***19*** *10:44:45.6, 45.93N×1.42W, h3km, ML2.7(LDG), ML2.3(STR), After LDG.*
CSEM ***19*** *10:44:45.6±0.2, 45.94N×1.41W, h5km, ML2.8/17, Error ellipse: s-maj=3.4km s-min=1.8km az=41.0*
MDD ***19*** *10:44:46.5±0.6, 45.95N×1.31W, h3km±5km, mbLg2.1/10, Error ellipse: s-maj=5.7km s-min=4.2km az=107.0, PRXIMO*
STR ***19*** *10:44:47.1±0.7, 45.95N×1.39W, h5km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

LDG 19 10:44:45.6±0.1, 45.93N×1.42W, h3km, Md2.7/2, Ml2.7/21, Error ellipse: s-maj=2.8km s-min=1.9km az=61.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLEF	**Ile d'Oleron**	**0.06**	**70**	Pg	Pg	10 44 48.6	+1.8
LRYF	**La Roche-sur-Y**	**0.66**	**353**	Pg	Pg	10 44 59.2	+0.4
LRYF				Sg	Sg	10 45 07.5	-0.1
CHIF	**Chize**	**0.74**	**73**	Pg	Pg	10 45 00.6	+0.3
CHIF				Sg	Sg	10 45 09.5	-0.7
LCHF	**La Chataignera**	**0.88**	**32**	Pg	Pg	10 45 03.5	+0.3
LCHF				Sg	Sg	10 45 15.6	+0.6
MFF	**Saint Martin d**	**1.12**	**52**	*e*Pg	Pg	10 45 07.2	-0.7
MFF				*e*Sg	Sg	10 45 20.3	-2.5
23nm,0.2s							
LFF	**La Frestale**	**1.81**	**122**	*e*Pn	Pn	10 45 16.7	-1.3
LFF				*e*Pg	Pg	10 45 18.9	-2.9
LFF				*e*Sg	Sg	10 45 42.5	-3.5
23nm,0.4s							
RJF	**Les Rejaudoux**	**2.15**	**106**	*e*Pg	Pg	10 45 25.1	-3.5
RJF				*e*Sg	Sg	10 45 51.5	-5.9
13nm,0.2s							
QUIF	**Quistinic**	**2.32**	**330**	*e*Pn	Pn	10 45 22.6	-2.7
QUIF				*e*Pg	Pg	10 45 28.7	-3.3
QUIF				*e*Sg	Sg	10 45 57.5	-5.4
8.1nm,0.2s							
SGMF	**Saint Gilles**	**2.46**	**342**	*e*Pg	Pg	10 45 31.3	-3.3
SGMF				*e*Sg	Sg	10 46 01.5	-5.8
9.1nm,0.3s							
GRR	**Gorron**	**2.49**	**9**	*e*Pg	Pg	10 45 31.0	-4.4
GRR				*e*Sg	Sg	10 46 02.2	-6.5
6.1nm,0.3s							
TCF	**Toulx Ste Croi**	**2.55**	**81**	*e*Pn	Pn	10 45 26.5	-2.1
TCF				*e*Pg	Pg	10 45 33.5	-3.1
TCF				*e*Sn	Sn	10 45 56.0	-4.6
TCF				*e*Sg	Sg	10 46 04.5	-6.1
9.0nm,0.3s							
TCF	**Toulx Ste Croi**	**2.55**	**81**	Pn	Pn	10 45 26.5	-2.1
TCF				Sn	Sn	10 45 56.0	-4.6
TCF				Lg		10 46 04.5	
4.5nm,0.3s							
CAF	**Calviac**	**2.65**	**111**	*e*Sg	Sg	10 46 06.9	-7.0
8.4nm,0.3s							
EALK	**Alkurruntz**	**2.71**	**181**	Pn	Pn	10 45 29.6	-1.1
3.0nm,0.4s,SNR=7.9							
EALK				Pg	Pg	10 45 36.7	-2.9
2.7nm,0.6s,SNR=7.9							
EALK				Sn	Sn	10 46 02.5	-2.0
24nm,1.1s,SNR=7.9							
EALK				Lg		10 46 13.8	
38nm,1.2s,SNR=7.9							
ROSF	**Rostrenen**	**2.72**	**333**	*e*Pn	Pn	10 45 28.1	-2.9
ROSF				*e*Pg	Pg	10 45 36.6	-3.4
ROSF				*e*Sg	Sg	10 46 10.7	-5.6
4.8nm,0.2s							
ELIZ	**Elizondo**	**2.76**	**182**	Pn	Pn	10 45 31.2	-0.3
0.2nm,0.2s,SNR=7.9							
ELIZ				Pg	Pg	10 45 37.7	-3.0
0.1nm,0.8s,SNR=7.9							
ELIZ				Sn	Sn	10 46 03.5	-2.4
2.9nm,0.7s,SNR=7.9							
ELIZ				Lg		10 46 15.1	
5.9nm,0.7s,SNR=7.9							
LDF	**La Druitiere**	**2.81**	**18**	*e*Pg	Pg	10 45 36.1	-5.7
LDF				*e*Sg	Sg	10 46 11.5	-7.8
4.2nm,0.3s							
SJPF	**Ste Jean**	**2.81**	**177**	*e*Pg	Pg	10 45 37.6	-4.2
SJPF				*e*Sg	Sg	10 46 12.5	-6.8
6.0nm,0.3s							
FLN	**La Foliniere**	**2.91**	**12**	*e*Pg	Pg	10 45 38.1	-5.6
FLN				*e*Sg	Sg	10 46 15.2	-7.3
4.8nm,0.3s							
BGF	**Bois d'Agland**	**3.03**	**76**	*e*Pn	Pn	10 45 32.9	-2.5
BGF				*e*Sg	Sg	10 46 20.6	-5.9
30nm,0.3s							
ELAN	**Lanestosa**	**3.05**	**209**	Pn	Pn	10 45 34.9	-0.8
16nm,1.2s,SNR=7.9							
ELAN				Sn	Sn	10 46 12.8	-0.5
28nm,1.1s,SNR=7.9							
ETSF	**Etsaut**	**3.09**	**168**	*e*Pg	Pg	10 45 42.9	-4.4
ETSF				*e*Sg	Sg	10 46 21.1	-7.3
3.9nm,0.3s							
HYF	**Humbligny**	**3.11**	**63**	*e*Pn	Pn	10 45 33.7	-2.8
EPF	**Esparros**	**3.16**	**156**	*e*Pg	Pg	10 45 45.1	-3.5
EPF				*e*Sn	Sn	10 46 09.8	-6.1
EPF				*e*Sg	Sg	10 46 24.3	-6.4
4.8nm,0.2s							
AVF	**Avril sur Loir**	**3.42**	**74**	*e*Pn	Pn	10 45 37.3	-3.6
AVF				*e*Pg	Pg	10 45 49.0	-4.9
AVF				*e*Sn	Sn	10 46 15.8	-6.7
AVF				*e*Sg	Sg	10 46 32.9	-6.5
4.1nm,0.3s							
AVF	**Avril sur Loir**	**3.42**	**74**	Pn	Pn	10 45 37.3	-3.6
AVF				Sn	Sn	10 46 15.8	-6.7
AVF				Lg		10 46 32.9	
2.0nm,0.3s							
EBIE	**Bielsa**	**3.43**	**160**	Pg	Pg	10 45 48.3	-5.7
4.2nm,0.7s,SNR=7.9							
EBIE				Sn	Sn	10 46 19.2	-3.5
26nm,1.5s,SNR=7.9							
EBIE				Lg		10 46 35.4	
5.0nm,0.6s,SNR=7.9							
SSF	**Saint Saulge**	**3.59**	**70**	Lg		10 46 37.7	
2.0nm,0.3s							
SSF	**Saint Saulge**	**3.59**	**70**	*e*Pg	Pg	10 45 52.2	-5.1
SSF				*e*Sn	Sn	10 46 19.0	-7.8
SSF				*e*Sg	Sg	10 46 37.7	-7.4
2.0nm,0.3s							
MTLF	**Montolieu**	**3.67**	**134**	*e*Pn	Pn	10 45 41.3	-3.1
MTLF				*e*Pg	Pg	10 45 53.1	-5.7
MTLF				*e*Sn	Sn	10 46 22.7	-6.0
MTLF				*e*Sg	Sg	10 46 40.2	-7.4
2.0nm,0.3s							
SMF	**Signal de Mont**	**3.72**	**77**	*e*Sn	Sn	10 46 22.8	-7.4
SMF				*e*Sg	Sg	10 46 42.1	-7.4
3.3nm,0.3s							
EARI	**Arriondas**	**3.77**	**227**	Pg	Pg	10 45 55.5	-5.3
43nm,1.2s,SNR=7.9							
LASF	**Ste Croix**	**4.18**	**114**	*e*Pn	Pn	10 45 49.2	-2.5
LASF				*e*Sg	Sg	10 46 56.3	-8.4
2.9nm,0.4s							
ESAC	**San Caprasio**	**4.26**	**170**	Pn	Pn	10 45 52.0	-0.8
10nm,0.5s,SNR=7.9							
EJON	**La Jonquera**	**4.66**	**137**	Pn	Pn	10 45 55.8	-2.8
1.7nm

EVO				*e*Sn	Sn	10 46 15.1	-5.4
	16nm,0.2s						
EMIN	**Mina Concepcio**	**2.70**	**62**	P	Pn	10 45 52.5	-2.6
	2.0nm,0.3s,SNR=21						
EMIN				S	Sn	10 46 24.4	-4.0
	0.2nm,0.0s,SNR=5.0						
EMIN	**Mina Concepcio**	**2.70**	**62**	P	Pn	10 45 52.7	-2.4
	2.0nm,0.3s,SNR=21						
EMIN				S	Sn	10 46 23.7	-4.7
	0.2nm,0.0s,SNR=5.0						
EBAD	**Badajoz**	**3.06**	**43**	P	Pn	10 45 57.7	-2.6
	2.7nm,0.1s,SNR=14						
EBAD				S	Sn	10 46 33.2	-4.3
	2.1nm,0.0s,SNR=5.0						
EBAD	**Badajoz**	**3.06**	**43**	P	Pn	10 45 57.7	-2.6
	2.7nm,0.1s,SNR=14						
EBAD				S	Sn	10 46 33.2	-4.3
	2.1nm,0.0s,SNR=5.0						
ESPR	**Espera**	**3.10**	**83**	P	Pn	10 45 58.1	-2.6
	6.0nm,0.1s,SNR=15						
ESPR				S	Sn	10 46 34.8	-3.6
	25nm,0.3s,SNR=5.0						
ESPR	**Espera**	**3.10**	**83**	P	Pn	10 45 58.1	-2.7
	6.0nm,0.1s,SNR=15						
ESPR				S	Sn	10 46 32.7	-5.7
	25nm,0.3s,SNR=5.0						
PTOM	**Tomar**	**3.23**	**18**	*e*Pn	Pn	10 46 00.4	-2.2
PTOM				*e*Sn	Sn	10 46 37.8	-4.0
	8.5nm,0.1s						
PTOM	**Tomar**	**3.23**	**18**	P	Pn	10 46 00.4	-2.2
PTOM				S	Sn	10 46 37.8	-4.0
	4.2nm,0.1s						
EJIF	**Jimena Fronter**	**3.40**	**90**	P	Pn	10 46 03.2	-1.9
	1.3nm,0.3s,SNR=7.9						
EJIF				S	Sn	10 46 41.6	-4.6
	0.6nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.40**	**90**	P	Pn	10 46 03.2	-1.9
	1.3nm,0.3s,SNR=7.9						
EJIF				S	Sn	10 46 38.5	-7.7
	0.6nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**3.96**	**88**	P	Pn	10 46 10.8	-2.2
	0.1nm,0.1s,SNR=7.9						
EMIJ				S	Sn	10 46 55.2	-5.0
	2.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.38**	**67**	P	Pn	10 46 15.8	-3.2
	2.0nm,0.1s,SNR=19						
EADA				S	Sn	10 47 05.1	-5.9
	0.7nm,0.1s,SNR=5.0						
EADA	**Adamuz**	**4.38**	**67**	P	Pn	10 46 16.1	-2.9
	2.0nm,0.1s,SNR=19						
EADA				S	Sn	10 47 03.7	-7.3
	0.7nm,0.1s,SNR=5.0						
ELOJ	**Sierra Loja**	**4.48**	**81**	P	Pn	10 46 18.6	-1.9
	0.1nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.46**	**13**	P	Pn	10 46 30.8	-3.5
	2.5nm,0.3s,SNR=7.9						
ELOB				S	Sn	10 47 31.3	-6.9
	11nm,0.7s,SNR=7.9						
ELOB	**Lobios**	**5.46**	**13**	P	Pn	10 46 29.4	-4.9
	SNR=7.9						
EBER	**Berja**	**5.47**	**84**	P	Pn	10 46 32.1	-2.4
	0.2nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.49**	**54**	P	Pn	10 46 31.3	-3.4
	17nm,0.1s,baz=235,slow=13,SNR=10						
ESDC				S	Sn	10 47 31.6	-7.3
	0.7nm,0.2s,baz=239,slow=24,SNR=5.5						
ESDC	**Sonseca Array**	**5.49**	**54**	P	Pn	10 46 31.3	-3.4
	17nm,0.1s,SNR=10						
ECAL	**Calabor**	**5.85**	**22**	P	Pn	10 46 35.9	-3.9
	2.0nm,0.2s,SNR=7.9						
ECAL				S	Sn	10 47 40.0	-8.1
	4.5nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**6.79**	**70**	P	Pn	10 46 48.2	-4.8
	0.3nm,0.3s,SNR=7.9						
ETOB				S	Sn	10 48 02.0	-9.5
	3.3nm,0.3s,SNR=7.9						
SJPF	**Ste Jean**	**9.23**	**42**	*e*Pn	P	10 47 23.0	-4.1
ETSF	**Etsaut**	**9.46**	**45**	*e*Pn	P	10 47 25.7	-4.6

*PGC **19** 11:02:28.3,63.19N×144.35W,h10km,ML3.8/3,Eastern Alaska.*

NEIC 19 11:02:26.9,63.15N×144.47W,h1km,ML3.6(AEIC),After AEIC.,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAX	**Paxson**	**0.49**	**249**	P	Pg	11 02 36.1	-0.6
PAX				S	Sg	11 02 43.1	-0.2
DOT	**Dot Lake**	**0.53**	**20**	P	Pg	11 02 37.4	-0.2
DOT				S	Sg	11 02 44.6	0.0
THY	**Trims Highway**	**0.64**	**295**	P	Pg	11 02 39.3	-0.4
THY				S	Sg	11 02 48.4	+0.1
TZL	**Tazlina**	**1.20**	**202**	P	Pb	11 02 49.3	-0.8
BCA3	**Beaver Creek A**	**1.22**	**93**	P	Pb	11 02 48.8	-1.8
HDA	**Harding Lake**	**1.68**	**320**	P	Pn	11 02 56.4	-1.2
GLB	**Gilahina Butte**	**1.74**	**170**	P	Pn	11 02 57.4	-1.2
SCM	**Sheep Creek Mo**	**1.88**	**226**	P	Pn	11 02 59.9	-0.6
IL1	**Eielson Array**	**1.95**	**328**	P	Pn	11 02 59.8	-1.7
IL1				S	Sn	11 03 28.4	+1.6
RND	**Reindeer**	**2.00**	**279**	P	Pn	11 03 03.4	+1.2
RND				S	Sn	11 03 29.8	+1.6
MCK	**McKinley**	**2.09**	**288**	P	Pn	11 03 04.1	+0.6
MCK				S	Sn	11 03 33.1	+2.6
CCB	**Clear Creek Bu**	**2.11**	**317**	P	Pn	11 03 01.5	-2.2
CCB				S	Sn	11 03 32.1	+1.2
DIV	**Divide**	**2.12**	**197**	P	Pn	11 03 02.7	-1.2
VLZ	**Valdez**	**2.21**	**204**	P	Pn	11 03 04.0	-1.2
VLZ				S	Sn	11 03 33.2	-0.3
SML	**Sawmill**	**2.25**	**235**	P	Pn	11 03 05.5	-0.2
SML				S	Sn	11 03 34.3	-0.2
COLA	**College**	**2.28**	**321**	P	Pn	11 03 04.0	-2.2
BALM	**Baldy**	**2.34**	**154**	P	Pn	11 03 08.5	+1.3
HUR	**Hurricane**	**2.36**	**268**	P	Pn	11 03 08.6	+1.2
DAWY	**Dawson**	**2.45**	**66**	P	Pn	11 03 06.8	-1.8
DAWY				S	Sn	11 03 40.0	+0.4
DAWY	**Dawson**	**2.45**	**66**	Pn	Pn	11 03 06.7	-1.9
DAWY				Pg	Pg	11 03 11.1	-4.7
DAWY				Sg	Sg	11 03 42.7	-5.7
DAWY				Trac		11 03 46.6	
	comp=Z,222nm,0.1s						
BWN	**Browne**	**2.45**	**297**	P	Pn	11 03 07.1	-1.6
MDM	**Murphy Dome**	**2.46**	**319**	P	Pn	11 03 06.5	-2.2
GHO	**Glory Hole Cre**	**2.49**	**238**	P	Pn	11 03 09.9	+0.7
NEA	**Nenana**	**2.49**	**307**	P	Pn	11 03 07.7	-1.6
CTGM	**Chitina Glacie**	**2.64**	**145**	P	Pn	11 03 11.5	+0.1
TRF	**Thorofare Moun**	**2.65**	**279**	P	Pn	11 03 12.3	+0.8
PMR	**Palmer**	**2.68**	**236**	P	Pn	11 03 12.4	+0.5
EYAK	**Cordova Ski Ar**	**2.68**	**194**	P	Pn	11 03 12.3	+0.3
CVA	**Cordova**	**2.68**	**194**	P	Pn	11 03 12.3	+0.2
HIN	**Hinchinbrook I**	**2.93**	**200**	P	Pn	11 03 15.4	-0.1
PWA	**Palmer West**	**2.94**	**242**	P	Pn	11 03 16.9	+1.3
KTH	**Kantishna Hill**	**2.94**	**281**	P	Pn	11 03 15.8	+0.1
RC01	**Rabbit Creek A**	**3.23**	**232**	P	Pn	11 03 20.4	+0.7
MLY	**Manley**	**3.34**	**307**	P	Pn	11 03 19.4	-1.9
SLKM	**Skilak Lake**	**3.81**	**228**	*e*P	Pn	11 03 27.0	-1.0
STLK	**Strandline Lak**	**3.82**	**248**	P	Pn	11 03 29.0	+0.9
SEW	**Seward**	**3.87**	**220**	P	Pn	11 03 30.4	+1.4
HYT	**Haines Junctio**	**4.03**	**122**	Pn	Pn	11 03 28.7	-2.4
HYT				Pg	Pg	11 03 39.5	-7.9
HYT				Sg	Sg	11 04 34.3	-6.7
HYT				Trac		11 04 42.4	
	comp=Z,52nm,0.4s						
CKN	**Chakachatna No**	**4.10**	**245**	P	Pn	11 03 34.2	+2.1
CKL	**Chakachamna La**	**4.18**	**246**	P	Pn	11 03 34.0	+0.8
BM3	**Burnt Mountain**	**4.29**	**359**	P	Pn	11 03 33.3	-1.5
DFR	**Drift River**	**4.66**	**240**	P	Pn	11 03 39.5	-0.6
RDN	**Redoubt North**	**4.74**	**240**	P	Pn	11 03 41.3	0.0
COLD	**Coldfoot**	**4.75**	**332**	P	Pn	11 03 39.2	-2.2
NCT	**North Crescent**	**4.78**	**241**	P	Pn	11 03 41.9	+0.2
CNPM	**China Poot**	**4.88**	**225**	P	Pn	11 03 43.3	0.0
IM3	**Indian Mountai**	**4.91**	**309**	P	Pn	11 03 41.1	-2.5
IMA	**Indian Mountai**	**4.93**	**311**	*e*P	Pn	11 03 41.7	-2.2
ILIM	**Iliamna**	**5.09**	**237**	P	Pn	11 03 46.1	0.0
INE	**Iliamna NE**	**5.14**	**237**	P	Pn	11 03 46.7	-0.2
ILW	**Iliamna West**	**5.17**	**237**	P	Pn	11 03 47.3	0.0
WHY	**Whitehorse**	**5.17**	**115**	P	Pn	11 03 45.0	-2.3
WHY	**Whitehorse**	**5.17**	**115**	Pn	Pn	11 03 44.9	-2.4
WHY				Pg	Pg	11 04 00.6	-10
WHY				Sg	Sg	11 05 07.3	-12
WHY				Trac		11 05 15.7	
	comp=Z,34nm,0.5s						
TTA	**Tatalina**	**5.26**	**273**	*e*P	Pn	11 03 47.7	-0.9
TT01	**Tatalina**	**5.27**	**272**	P	Pn	11 03 47.9	-0.8
SVW2	**Sparrevohn**	**5.61**	**253**	*e*P	Pn	11 03 52.1	-1.4
INK	**Inuvik**	**6.86**	**36**	*e*P	Pn	11 04 06.8	-4.3
INK	**Inuvik**	**6.86**	**36**	Pn	Pn	11 04 07.1	-4.0
INK				Sn	Sn	11 05 22.4	-8.4
INK				Sg	Sg	11 06 03.0	-12
INK				Trac		11 06 13.4	
	comp=Z,18nm,0.7s						
DLBC	**Dease Lake**	**8.49**	**117**	Pn	P	11 04 32.2	-1.7
DLBC				Sg	Sg	11 06 53.9	-16
DLBC				Trac		11 07 07.0	
	comp=Z,17nm,0.6s						
FNBB	**Fort Nelson**	**11.22**	**103**	Pn	P	11 05 06.7	-4.7
FNBB				Sg	S	11 08 17.8	+59
FNBB				Trac		11 08 38.9	
	comp=Z,7.0nm,1.1s						
YKW3	**Yellowknife Ar**	**13.58**	**79**	Pn	P	11 05 37.4	-5.4
YKW3				Trac		11 09 56.1	
	comp=Z,2.0nm,0.8s						

*BJI **19** 11:08:17.5,1.03N×97.19E,h37km,mB4.9,mb4.8,Ms4.6,Msz4.4*

*IDC **19** 11:08:19.6±1.5,1.30N×97.13E,h23km±4km,mb4.2/10,mb1 4.3/11,mb1mx4.0/22,mbtmp4.3/11,MS3.9/8,Ms1 3.9/8,ms1mx3.6/35,Error ellipse: s-maj=61.6km s-min=12.7km az=59.0*

*NEIC **19** 11:08:19.1±0.5,1.29N×97.10E,mb4.6/12,Error ellipse: s-maj=14.1km s-min=7.1km az=63.0*

ISC 19 11:08:17.7±1.6,1.30N±0.06×97.14E±0.07,h23km±11km,h23km±1.1km:pP-P,n62,σ0s87/61,mb4.6/36,MS4.1/18,3C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.07**	**50**	P	**Pn**	**11 09 34.9**	**+0.6**
KULM	**Kulim**	**5.29**	**41**	*e*Pn	**Pn**	**11 09 37.5**	**+0.1**
KGM	**Kluang**	**6.22**	**83**	P	**Pn**	**11 09 51.9**	**+1.4**
SNG	**Songkhla**	**6.79**	**31**	P	**Pn**	**11 09 58.0**	**-0.6**
CM31	**Chiang Mai Arr**	**17.14**	**6**	P	**P**	**11 12 16.8**	**-0.9**
	2.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**17.14**	**6**	Pn	**P**	**11 12 15.8**	**-1.9**
	0.3nm,0.3s,baz=195,slow=13,SNR=17						
CMAR				LR	LR	11 19 23.9	
	comp=Z,311nm,19.3s,baz=190,slow=39						
CHG	**Chiang Mai**	**17.50**	**6**	P	**P**	**11 12 25.9**	**+3.8**
NANT	**Nan**	**17.74**	**11**	P	**P**	**11 12 25.0**	**-0.1**
KKM	**Kota Kinabalu**	**19.61**	**76**	P	**P**	**11 12 47.5**	**-0.1**
QIZ	**Qiongzhong**	**21.57**	**34**	*e*P	**P**	**11 13 09.8**	**+1.8**
QIZ				S	**S**	**11 17 03.5**	**+2.7**
QIZ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.2						
QIZ				LR	LR		
	comp=N,345nm,15.5s,MS4.0						
QIZ				LR	LR		
	comp=E,283nm,14.0s,MS4.0						
QIZ				LR	LR		
	comp=Z,294nm,14.2s,MS3.8						
KMI	**Kunming**	**24.29**	**12**	⇑P	**P**	**11 13 35.8**	**+1.1**
KMI				AP		11 13 43.8	
KMI				XP		11 13 47.3	
KMI				S	**S**	**11 17 55.3**	**+6.0**
KMI				XS		11 18 09.0	
KMI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.4						
KMI				AMB	AMB		
	comp=Z,252nm,5.3s						
KMI				LR	LR		
	comp=N,1μm,14.0s,MS4.5						
KMI				LR	LR		
	comp=E,601nm,13.6s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,14.9s,MS4.5						
KMI	**Kunming**	**24.29**	**12**	⇑P	**P**	**11 13 35.8**	**+1.1**
	comp=Z,13nm,0.9s,mb4.4						
KMI				pP		11 13 43.8	
KMI				sP		11 13 47.2	
KMI				S	**S**	**11 17 55.3**	**+6.0**
KMI				sS		11 18 09.0	
HYB	**Hyderabad**	**24.30**	**312**	*e*P		11 13 46.0	
HYB	**Hyderabad**	**24.30**	**312**	*i* P		11 13 46.0	
SHL	**Shillong**	**24.65**	**349**	*e*P	**P**	**11 13 33.5**	**-4.7**
GYA	**Guiyang**	**26.64**	**19**	⇑*i*P	**P**	**11 13 56.1**	**-0.7**
GYA				AP	pP	11 14 05.8	+2.2
GYA				XP	sP	11 14 09.4	+2.7
GYA				PP	PP	11 14 46.3	+5.2
GYA				S	**S**	**11 18 36.5**	**+8.0**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,4.0s						
GYA				LR	LR		
	comp=N,730nm,14.1s,MS4.4						
GYA				LR	LR		
	comp=E,350nm,13.2s,MS4.4						
GYA				LR	LR		
	comp=Z,1μm,13.8s,MS4.6						
JIRN	**Jiri**	**28.23**	**339**	*e*P	**P**	**11 14 11.3**	**+0.1**
	comp=Z,82nm,1.1s,mb5.3						
PKI	**Pulchoki**	**28.44**	**338**	*e*P	**P**	**11 14 13.7**	**+0.6**
	comp=Z,49nm,1.2s,mb5.0						
GUN	**Gumba**	**28.57**	**339**	*e*P	**P**	**11 14 14.9**	**+0.6**
	comp=Z,84nm,1.2s,mb5.4						
KKN	**Kakani**	**28.69**	**338**	*e*P	**P**	**11 14 15.9**	**+0.6**
	comp=Z,90nm,1.4s,mb5.3						
LSA	**Lhasa**	**28.81**	**349**	*e*P	**P**	**11 14 17.1**	**+0.6**
	comp=Z,11nm,0.9s,mb4.6						
GKN	**Gorkha**	**29.12**	**337**	*e*P	**P**	**11 14 19.6**	**+0.3**
	comp=Z,45nm,0.9s,mb5.2						
KOLN	**Koldanda**	**29.34**	**335**	*e*P	**P**	**11 14 21.6**	**+0.4**
	comp=Z,23nm,0.7s,mb5.0						
ENH	**Enshi**	**31.11**	**21**	*e*P	**P**	**11 14 35.2**	**-1.6**
	comp=Z,29nm,0.7s,mb5.2						
ENH				*e*	pP	11 14 42.2	-1.6
FITZ	**Fitzroy Crossi**	**34.03**	**126**	P	**P**	**11 15 01.4**	**-1.0**
	comp=Z,3.4nm,0.6s,mb4.5,baz=321,slow=11,SNR=8.4						
FITZ				LR	LR	11 28 20.1	
	comp=Z,233nm,19.4s,MS3.9,baz=300,slow=35						
XAN	**Xi'an**	**34.39**	**17**	P	**P**	**11 15 04.3**	**-1.1**
XAN				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.8						
LZH	**Lanzhou**	**35.17**	**9**	⇓P	**P**	**11 15 12.0**	**0.0**
LZH				AP	pP	11 15 18.5	-0.5
LZH				PP	PP	11 16 31.3	+0.2
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,89nm,5.4s						
LZH				LR	LR		
	comp=N,447nm,13.3s						
LZH				LR	LR		
	comp=Z,793nm,16.8s,MS4.5						
LZH	**Lanzhou**	**35.17**	**9**	⇓P	**P**	**11 15 12.0**	**0.0**
	comp=Z,31nm,1.5s,mb5.0						
LZH				pP	pP	11 15 18.5	-0.5
LZH				sP	sP	11 15 21.6	-0.4
LZH				PP	PP	11 16 31.2	+0.1
NJ2	**Nanjing**	**36.81**	**32**	*e*P	**P**	**11 15 24.3**	**-1.6**
NJ2				AP	pP	11 15 31.5	-1.4
NJ2				PP	PP	11 16 49.9	-1.8
NJ2				S	**S**	**11 21 05.0**	**-3.2**
NJ2				XS		11 21 21.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				LR	LR		
	comp=N,600nm,13.2s,MS4.7						
NJ2				LR	LR		
	comp=E,540nm,15.5s,MS4.7						
NJ2				LR	LR		
	comp=Z,480nm,16.9s,MS4.3						
GTA	**Gaotai**	**38.01**	**3**	P	**P**	**11 15 36.3**	**+0.4**
GTA				AP	pP	11 15 44.3	+1.3
GTA				XP	sP	11 15 47.4	+1.5
GTA				PP	PP	11 17 08.1	+1.9
GTA				PPP	PPP	11 17 28.3	+0.1
GTA				PCP	PcP	11 17 49.8	-2.0
GTA				S	**S**	**11 21 26.8**	**+0.4**
GTA				SCP		11 21 37.6	
GTA				SS	SS	11 24 02.3	-1.5
GTA				SCS	ScS	11 25 44.3	-0.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,111nm,7.6s						
GTA				LR	LR		
	comp=N,289nm,15.2s,MS4.3						
GTA				LR	LR		
	comp=E,259nm,16.7s,MS4.3						
GTA				LR	LR		
	comp=Z,296nm,13.7s,MS4.3						
HHC	**Hu-ho-hao-te**	**41.48**	**17**	*e*P	**P**	**11 16 05.8**	**+1.1**
HHC				AP	pP	11 16 15.0	+3.3
HHC				XP	sP	11 16 20.3	+5.7
HHC				PP	PP	11 17 47.8	+4.2
HHC				SCP		11 21 51.8	
HHC				PCS		11 21 55.3	
HHC				S	**S**	**11 22 16.3**	**-2.2**
HHC				SS	SS	11 25 15.0	-3.3
HHC				SCS	ScS	11 26 07.3	+2.5
HHC				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.3						
HHC				AMB	AMB		
	comp=Z,97nm,4.4s						
HHC				LR	LR		
	comp=N,395nm,15.5s,MS4.5						
HHC				LR	LR		
	comp=E,336nm,16.3s,MS4.5						
HHC				LR	LR		
	comp=Z,369nm,16.0s,MS4.3						
WRA	**Warramunga Arr**	**42.14**	**122**	P	**P**	**11 16 10.3**	**-0.1**
	comp=Z,2.1nm,0.5s,mb4.0,baz=301,slow=9.1,SNR=41						
WRA				pP	pP	11 16 17.3	-0.1
	comp=Z,2.3nm,0.5s,baz=302,slow=9.0,SNR=11						
WRAB	**Tennant Creek**	**42.14**	**122**	*e*P	**P**	**11 16 10.2**	**-0.2**
	comp=Z,3.2nm,0.6s,mb4.1						
WRAB				*e*	pP	11 16 17.5	0.0
WB2	**Warramunga Arr**	**42.15**	**122**	*e*P	**P**	**11 16 09.9**	**-0.6**
BJT	**Baijiatuau**	**42.25**	**22**	*e*P	**P**	**11 16 10.6**	**-0.4**
	comp=Z,11nm,0.4s,mb4.8						
BJI	**Beijing**	**42.27**	**22**	*e*P	**P**	**11 16 11.5**	**+0.3**
BJI				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.8						
BJI				LR	LR		
	comp=N,179nm,14.5s,MS4.2						
BJI				LR	LR		
	comp=E,138nm,16.5s,MS4.2						
BJI				LR	LR		
	comp=Z,85nm,22.5s						
WMQ	**Urumqi**	**43.17**	**350**	⇓P	**P**	**11 16 19.5**	**+1.0**
WMQ				AP	pP	11 16 25.5	0.0
WMQ				PP	PP	11 18 01.8	+0.8
WMQ				PCP	PcP	11 18 09.6	+1.2
WMQ				S	**S**	**11 22 44.8**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,131nm,4.7s						
WMQ				LR	LR		
	comp=N,48nm,23.6s,MS3.8						
WMQ				LR	LR		
	comp=E,124nm,22.4s,MS3.8						
WMQ				LR	LR		
	comp=Z,80nm,22.4s,MS3.6						
FORT	**Forrest**	**43.39**	**140**	*e*P	**P**	**11 16 29.2**	**+8.8**
	comp=Z,325nm,0.7s						
ASAR	**Alice Springs**	**43.50**	**127**	P	**P**	**11 16 21.8**	**+0.4**
	comp=Z,1.1nm,0.5s,mb3.8,baz=298,slow=8.0,SNR=16						
ASAR				pP	pP	11 16 28.4	-0.1
	comp=Z,0.9nm,0.4s,baz=298,slow=8.0,SNR=9.4						
AAK	**Ala-Archa**	**45.88**	**337**	*e*P	**P**	**11 16 40.3**	**0.0**
	comp=Z,2.8nm,1.0s,mb4.2						
SONM	**Songino Array**	**47.04**	**9**	P	**P**	**11 16 49.8**	**+0.4**
	comp=Z,5.9nm,0.8s,mb4.6,baz=189,slow=9.3,SNR=33						
SONM				pP	pP	11 16 56.7	+0.2
	comp=Z,4.2nm,0.9s,baz=190,slow=7.5,SNR=11						
MKAR	**Makanchi Array**	**47.13**	**346**	P	**P**	**11 16 50.3**	**+0.2**
	comp=Z,2.4nm,0.5s,mb4.4,baz=158,slow=8.9,SNR=30						
MKAR				LR	LR	11 40 24.0	
	comp=Z,84nm,20.5s,MS3.7,baz=170,slow=41						
ULN	**Ulaanbaatar**	**47.17**	**9**	*e*P	**P**	**11 16 50.5**	**+0.1**
	comp=Z,4.6nm,0.8s,mb4.5						
CN2	**Changchun**	**49.24**	**27**	*e*P	**P**	**11 17 05.9**	**-0.7**
CN2				*e*XP	sP	11 17 19.9	+3.4
CN2				*e*S	**S**	**11 24 09.8**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CN2				LR	LR		
	comp=N,300nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=Z,200nm,15.0s,MS4.2						
HIA	**Hailar**	**51.57**	**19**	*e*P	**P**	**11 17 23.5**	**-0.7**
	comp=Z,7.7nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	**51.81**	**29**	P	**P**	**11 17 26.4**	**+0.3**
MDJ				AP	pP	11 17 32.5	-0.8
MDJ				PCP	PcP	11 18 38.0	-1.1
MDJ				PP	PP	11 19 24.3	-0.3
MDJ				SCP		11 22 34.5	
MDJ				PCS		11 22 38.8	
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,55nm,5.0s						
MDJ				LR	LR		
	comp=N,73nm,20.2s,MS3.9						
MDJ				LR	LR		
	comp=E,76nm,18.9s,MS3.9						
MDJ				LR	LR		
	comp=Z,127nm,16.9s,MS4.0						
CTA	**Charters Tower**	**52.60**	**117**	LR	LR	11 41 54.6	
	comp=Z,148nm,20.9s,MS4.0,baz=55,slow=38						
ZAL	**Zalesovo**	**53.44**	**351**	P	**P**	**11 17 38.0**	**-0.2**
	comp=Z,6.9nm,0.4s,mb5.0,baz=312,slow=4.9,SNR=23						
STKA	**Stephens Creek**	**53.47**	**132**	*e*P	**P**	**11 17 39.4**	**+0.8**
	comp=Z,2.4nm,1.5s,mb3.9						
STKA				*i*	pP	11 17 45.9	+0.1
STKA	**Stephens Creek**	**53.47**	**132**	P	**P**	**11 17 39.4**	**+0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=6.9,slow=5.7,SNR=5.3						
STKA				pP	pP	11 17 46.0	+0.2
	comp=Z,2.7nm,0.6s,baz=300,slow=6.6,SNR=6.4						
BVAR	**Borovoye Array**	**56.14**	**341**	P	**P**	**11 17 56.5**	**-1.2**
	comp=Z,3.5nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=21						
CHKZ	**Chkalovo**	**56.61**	**341**	⇑*i*P	**P**	**11 18 00.3**	**-0.9**
	comp=Z,9.7nm,0.8s,mb4.9						
CHKZ				*e*	pP	11 18 05.7	-2.8
LBTB	**Lobatse**	**73.88**	**244**	LR	LR	11 50 37.0	
	comp=Z,107nm,18.7s,MS4.2,baz=262,slow=34						
BOSA	**Boshof**	**74.78**	**240**	LR	LR	11 51 52.5	
	comp=Z,76nm,18.4s,MS4.0,baz=357,slow=35						

KMNR	**Kamenistaya**	**2.00 339**	*i* P		Pn	11 20 30.7	+1.0
KMNR			*e*S		Sn	11 20 55.2	+1.2
GNL	**Ganaly**	**2.12 266**	*i* P		Pn	11 20 32.1	+0.7
GNL			*e*S		Sn	11 20 58.2	+1.1
ZLN	**Zelenaya**	**2.16 350**	*e*P		Pn	11 20 33.5	+1.5
ZLN			*e*S		Sn	11 20 59.1	+1.0
KPT	**Kopyto**	**2.20 341**	*e*P		Pn	11 20 33.7	+1.1
KPT			*e*S		Sn	11 21 00.7	+1.6
LGNR	**Loginova**	**2.24 348**	*e*P		Pn	11 20 35.1	+2.0
LGNR			*e*S		Sn	11 21 02.2	+2.1
KRMR	**Karymshinskiy**	**2.29 243**	*e*P		Pn	11 20 35.3	+1.5
KRMR			*e*S		Sn	11 21 03.6	+2.3
RUS	**Russkaya**	**2.32 232**	*e*P		Pn	11 20 34.5	+0.2
RUS			*e*S		Sn	11 21 02.3	+0.1
KOZ	**Kozyrevsk**	**2.36 337**	*e*P		Pn	11 20 35.3	+0.5
KOZ			*e*S		Sn	11 21 03.7	+0.6
KRSR	**Krestovskiy**	**2.38 347**	*e*P		Pn	11 20 35.8	+0.6
KRSR			*e*S		Sn	11 21 04.6	+0.8
KBTR	**Krutoberegovo**	**2.44 18**	*e*P		Pn	11 20 35.2	-0.7
KBTR			*e*S		Sn	11 21 03.7	-1.4
GRL	**Gorelyy**	**2.46 238**	*e*P		Pn	11 20 36.4	+0.1
GRL			*e*S		Sn	11 21 05.6	-0.2
KLY	**Klyuchi**	**2.47 349**	*e*P		Pn	11 20 36.3	-0.1
KLY			*e*S		Sn	11 21 04.9	-1.0
ESO	**Esso**	**2.59 323**	*i* P		Pn	11 20 37.7	-0.5
ESO			*i* S		Sn	11 21 09.7	+0.6
ESO			Smax				
	40nm,0.4s						
SRDR	**Sredinnyy**	**2.63 338**	*e*P		Pn	11 20 38.5	-0.2
SRDR			*e*S		Sn	11 21 09.5	-0.6
APC	**Apacha**	**2.78 251**	*e*P		Pn	11 20 42.0	+1.2
APC			*e*S		Sn	11 21 14.8	+1.0
APC			Smax				
	40nm,1.0s						
BKI	**Bering**	**2.91 62**	*e*P		Pn	11 20 40.9	-1.9
BKI			*i* S		Sn	11 21 11.1	-6.1
BKI			Smax				
	70nm,0.3s						
PAU	**Pauzhetka**	**3.75 231**	*e*P		Pn	11 20 56.7	+2.0
PAU			*e*S		Sn	11 21 39.0	+0.6

*IDC **19** 11:35:32.2±1.3, 1.64S×99.66E, mb4.3/8, mb1 4.4/9, mb1mx4.1/18, mbtmp4.2/9, Error ellipse: s-maj=70.6km s-min=15.7km az=57.0*
*NEIC **19** 11:35:36.5±0.6, 1.68S×99.67E, mb4.4/5, Error ellipse: s-maj=24.6km s-min=7.4km az=59.0*
ISC 19 11:35:37.7±5.1, 1.4S±0.2×99.9E±0.3, h52km±41km, n30, σ0§97/25, mb4.5/17, 1C-2D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.73**	**6**	*e*P	**P**	**11 37 17.1**	**+0.8**
KKM	**Kota Kinabalu**	**17.87**	**65**	P	**P**	**11 39 40.4**	**-4.0**
CMAR	**Chiang Mai Arr**	**19.80**	**357**	P	**P**	**11 40 06.5**	**-0.3**
	0.6nm,0.3s,baz=187,slow=10.0,SNR=14						
FITZ	**Fitzroy Crossi**	**30.17**	**125**	*e*P	**P**	**11 41 44.5**	**-1.0**
	4.8nm,0.9s,mb4.2						
JIRN	**Jiri**	**31.82**	**336**	*e*P	**P**	**11 42 00.6**	**+0.7**
	22nm,0.7s,mb5.1						
PKI	**Pulchoki**	**32.06**	**335**	*e*P	**P**	**11 42 00.5**	**-1.5**
GUN	**Gumba**	**32.16**	**336**	*e*P	**P**	**11 42 03.5**	**+0.5**
	23nm,0.6s,mb5.2						
DMN	**Daman**	**32.22**	**335**	*e*P	**P**	**11 42 02.4**	**-1.0**
KKN	**Kakani**	**32.30**	**335**	*e*P	**P**	**11 42 04.0**	**-0.2**
	19nm,1.0s,mb4.9						
GKN	**Gorkha**	**32.77**	**334**	*e*P	**P**	**11 42 08.2**	**0.0**
	3.4nm,0.3s,mb4.8						
KOLN	**Koldanda**	**33.02**	**333**	*e*P	**P**	**11 42 10.5**	**+0.1**
	12nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**38.32**	**121**	P	**P**	**11 42 55.6**	**+0.2**
	3.6nm,0.5s,mb4.3,baz=303,slow=9.2,SNR=67						
WRA				pP	pP	11 43 04.5	-4.5
	3.1nm,0.5s,baz=303,slow=9.0,SNR=11						
WRA				PcP	PcP	11 45 10.6	+1.5
	0.3nm,0.6s,baz=311,slow=2.3,SNR=8.4						
WRAB	**Tennant Creek**	**38.33**	**121**	*e*P	**P**	**11 42 55.1**	**-0.3**
	5.2nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**38.33**	**121**	⇓*i*P	**P**	**11 42 55.5**	**0.0**
ASPA	**Alice Springs**	**39.62**	**127**	⇓*i*P	**P**	**11 43 06.7**	**+0.5**
ASAR	**Alice Springs**	**39.62**	**127**	P	**P**	**11 43 06.6**	**+0.4**
	2.1nm,0.6s,mb4.0,baz=300,slow=7.7,SNR=37						
ASAR				pP	pP	11 43 16.1	-3.7
	3.0nm,0.6s,baz=300,slow=7.9,SNR=15						
ASAR				PcP	PcP	11 45 13.7	+0.6
	1.4nm,0.8s,baz=293,slow=3.3,SNR=8.1						
SONM	**Songino Array**	**49.40**	**6**	P	**P**	**11 44 26.1**	**+1.7**
	2.0nm,0.7s,mb4.3,baz=193,slow=9.9,SNR=8.1						
SONM				PcP	PcP	11 45 46.5	+0.2
	1.5nm,0.8s,baz=192,slow=3.9,SNR=3.6						
AAK	**Ala-Archa**	**49.51**	**335**	P	**P**	**11 44 31.5**	**+6.2**
	0.9nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**49.56**	**132**	⇑*i*P	**P**	**11 44 26.1**	**+0.3**
	2.9nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**49.56**	**132**	P	**P**	**11 44 26.1**	**+0.3**
	2.6nm,0.6s,mb4.5,baz=310,slow=6.6,SNR=10						
MKAR	**Makanchi Array**	**50.48**	**344**	P	**P**	**11 44 33.1**	**+0.5**
	2.6nm,0.6s,mb4.5,baz=150,slow=8.1,SNR=25						
BVAR	**Borovoye Array**	**59.65**	**340**	P	**P**	**11 45 37.5**	**-1.4**
	2.4nm,0.7s,mb4.3,baz=127,slow=7.4,SNR=11						
CHKZ	**Chkalovo**	**60.11**	**340**	*e*P	**P**	**11 45 40.9**	**-1.2**
	2.7nm,0.7s,mb4.4						
FINES	**FINESS Array B**	**83.60**	**332**	P	**P**	**11 48 01.9**	**+0.3**
	3.4nm,1.0s,mb4.5,baz=106,slow=5.4,SNR=9.0						
ARCES	**ARCESS Array B**	**85.94**	**340**	P	**P**	**11 48 15.6**	**+2.5**
	5.6nm,1.0s,mb4.8,baz=80,slow=7.4,SNR=4.1						
TXAR	**Lajitas Array**	**144.29**	**37**	PKP	PKPdf	11 55 10.6	+1.9
	4.5nm,0.6s,baz=214,slow=0.6,SNR=77						
MIAR	**Mount Ida**	**144.73**	**20**	*e*PKPdf	PKPdf	11 55 10.6	+1.3
TZTN	**Tazewell**	**144.93**	**5**	*e*PKPdf	PKPdf	11 55 10.4	+0.8
TZTN				*e*		11 55 17.7	
JCT	**Junction City**	**145.58**	**31**	*e*PKPdf	PKPdf	11 55 13.9	+3.0
SWET	**Sewanee**	**145.96**	**9**	PKP	PKPdf	11 55 13.5	+2.1

*BJI **19** 11:44:39.5, 19.80N×122.53E, h154km, mB4.9, mb4.8*
*NEIC **19** 11:44:40.9±0.6, 19.70N×122.48E, h166km±5km, mb4.7/29, Error ellipse: s-maj=5.9km s-min=4.4km az=89.0*
*IDC **19** 11:44:41.8±1.5, 19.74N×122.47E, h172km±13km, mb4.2/26, mb1 4.3/27, mb1mx4.3/31, mbtmp4.7/27, MS3.7/2, Ms1 3.8/2, ms1mx3.0/30, Error ellipse: s-maj=13.6km s-min=7.8km az=76.0*
ISC 19 11:44:40.5±0.3, 19.70N±0.03×122.50E±0.04, h175km±3km, n115, σ1§03/131, mb4.5/57, 10C-8D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.51**	**196**	*e*P	**P**	**11 45 13.1**	**+0.6**
CVP	**Callao Caves**	**2.08**	**198**	⇓*i*P	**P**	**11 45 19.5**	**+1.0**
CVP				*i* S	**S**	**11 45 46.0**	**-1.8**
APYP	**Conner**	**2.18**	**213**	*e*P	**P**	**11 45 19.4**	**-0.2**
APYP				*e*S	**S**	**11 45 48.1**	**-1.6**
PALP	**Palanan**	**2.62**	**181**	*e*P	**P**	**11 45 25.9**	**+1.0**
ABRA	**Dolores**	**2.65**	**220**	*e*P	**P**	**11 45 24.8**	**-0.3**
ABRA				*e*S	**S**	**11 45 56.0**	**-3.5**
CAUP	**Cauayan**	**2.81**	**193**	*e*P	**P**	**11 45 29.9**	**+2.7**
BCPH	**Baguio City Da**	**3.77**	**209**	⇓*i*P	**P**	**11 45 39.5**	**+0.4**
BCPH				*i* S	**S**	**11 46 22.7**	**-1.7**
BALP	**Baler**	**4.03**	**193**	*e*P	**P**	**11 45 43.8**	**+1.3**
BOLP	**Bolinao**	**4.11**	**217**	*e*P	**P**	**11 45 44.2**	**+0.6**
PCPH	**Palayan**	**4.32**	**198**	⇑*e*P	**P**	**11 45 47.5**	**+1.2**
PCPH				*e*S	**S**	**11 46 37.7**	**+0.5**
NACB	**Ninganchiao**	**4.53**	**350**	*e*Pn	**P**	**11 45 46.8**	**-2.2**
NACB				*e*Sn	**S**	**11 46 36.2**	**-5.9**
SCZP	**Santa Cruz**	**4.61**	**213**	*e*P	**P**	**11 45 50.5**	**+0.5**
YHNB	**Yeheng**	**5.06**	**348**	*e*Pn	**P**	**11 45 54.4**	**-1.5**
YHNB				*e*Sn	**S**	**11 46 49.6**	**-4.6**
TATO	**Taipei**	**5.34**	**350**	*e*Pn	**P**	**11 45 58.8**	**-0.7**
PVCP	**Virac**	**6.27**	**165**	*e*P	**P**	**11 46 13.7**	**+2.0**
QZH	**Quanzhou**	**6.35**	**326**	⇑*i*P	**P**	**11 46 10.0**	**-2.8**
QZH				S	**S**	**11 47 15.1**	**-10**
QZH			Smax				
	comp=N,580nm,0.9s						
QZH			Smax				
	comp=E,820nm,1.0s						
JOW	**Kunigami**	**8.87**	**36**	P	**P**	**11 46 47.2**	**+1.1**
	baz=231,slow=11						
GZH	**Guangzhou**	**9.17**	**293**	P	**P**	**11 46 48.9**	**-1.1**
QIZ	**Qiongzhong**	**11.96**	**269**	⇓P	**P**	**11 47 27.0**	**+0.7**
QIZ				XP		11 48 07.8	
QIZ				S	**S**	**11 49 37.5**	**+0.8**
QIZ				AMB	AMB		
	comp=Z,20nm,1.3s						
QIZ	**Qiongzhong**	**11.96**	**269**	*e*P	**P**	**11 47 26.6**	**+0.3**
QIZ				*e*S	**S**	**11 49 39.6**	**+2.9**
NJ2	**Nanjing**	**12.73**	**346**	*e*P	**P**	**11 47 37.4**	**+1.2**
NJ2				XP		11 48 18.8	
NJ2				S	**S**	**11 49 56.0**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,2μm,5.9s						
NJ2				LR	LR		
	comp=N,540nm,14.7s						
NJ2				LR	LR		
	comp=E,470nm,20.8s						
NJ2				LR	LR		
	comp=Z,640nm,26.5s						
ENH	**Enshi**	**15.80**	**314**	⇑*i*P	**P**	**11 48 15.5**	**+0.8**
	comp=Z,64nm,0.9s						
GYA	**Guiyang**	**16.04**	**298**	⇓*i*P	**P**	**11 48 18.9**	**+1.2**
GYA				XP		11 49 01.8	
GYA				S	**S**	**11 51 14.1**	**+4.3**
GYA				PCP	PcP	11 53 04.6	+0.6
GYA				SCP		11 56 22.4	
GYA				AMB	AMB		
	comp=Z,80nm,0.9s						
GYA				AMB	AMB		
	comp=Z,270nm,4.5s						
GYA				LR	LR		
	comp=N,330nm,12.3s						
GYA				LR	LR		
	comp=E,540nm,12.0s						
GYA				LR	LR		
	comp=Z,620nm,12.4s						
TIA	**Tai'an**	**17.12**	**345**	*e*P	**P**	**11 48 29.3**	**-1.3**
KS15	**Wonju Array Si**	**18.30**	**14**	*e*P	**P**	**11 48 42.7**	**-0.9**
XAN	**Xi'an**	**18.70**	**323**	P	**P**	**11 48 47.0**	**-0.8**
XAN				AMB	AMB		
	comp=Z,54nm,1.1s						
KMI	**Kunming**	**19.04**	**290**	P	**P**	**11 48 51.1**	**-0.3**
KMI				AP		11 49 13.9	
KMI				S	**S**	**11 52 13.5**	**+0.2**
KMI				AMB	AMB		
	comp=Z,28nm,1.1s						
KMI				AMB	AMB		
	comp=Z,111nm,3.2s						
KMI				LR	LR		
	comp=N,378nm,18.9s						
KMI				LR	LR		
	comp=E,230nm,16.7s						
KMI				LR	LR		
	comp=Z,139nm,15.6s						
KMI	**Kunming**	**19.04**	**290**	P	**P**	**11 48 51.1**	**-0.3**
	comp=Z,28nm,1.1s						
KMI				pP		11 49 13.9	
KMI				S	**S**	**11 52 13.5**	**+0.2**
KMI				sS		11 52 49.2	
CD2	**Chengdu**	**20.26**	**307**	P	**P**	**11 49 04.5**	**+0.7**
CD2				S	**S**	**11 52 42.3**	**+6.3**
CD2				LR	LR		
	comp=Z,240nm,7.2s						
JHJ	**Hachijo jima 2**	**20.42**	**46**	P	**P**	**11 49 05.5**	**0.0**
	comp=Z,105nm,0.8s,baz=196,slow=13,SNR=5.5						
NANT	**Nan**	**20.60**	**271**	P	**P**	**11 49 07.0**	**-0.3**
BJI	**Beijing**	**20.99**	**346**	*e*P	**P**	**11 49 09.8**	**-1.3**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.8s						
BJI				LR	LR		
	comp=N,177nm,13.3s						
BJI				LR	LR		
	comp=E,128nm,12.6s						
BJI				LR	LR		
	comp=Z,93nm,27.1s						
BJI	**Beijing**	**20.99**	**346**	*e*P	**P**	**11 49 09.8**	**-1.3**
	comp=Z,6.0nm,0.8s						
KSM	**Kuching**	**21.68**	**215**	*e*P	**P**	**11 49 18.8**	**+0.8**
MAJO	**Matsushiro**	**21.71**	**36**	*e*P	**P**	**11 49 18.6**	**+0.5**
	comp=Z,34nm,1.3s,mb4.6						
MAT	**Matsushiro**	**21.71**	**36**	*e*P	**P**	**11 49 19.0**	**+0.9**
	comp=Z,41nm,1.2s,mb4.7						
MAT	**Matsushiro**	**21.71**	**36**	P	**P**	**11 49 18.8**	**+0.7**
MJAR	**Matsushiro Arr**	**21.71**	**36**	P	**P**	**11 49 19.6**	**+1.4**
	comp=Z,18nm,1.0s,mb4.4,baz=225,slow=9.3,SNR=48						
CHG	**Chiang Mai**	**22.25**	**272**	P	**P**	**11 49 25.0**	**+1.5**
CM31	**Chiang Mai Arr**	**22.29**	**271**	P	**P**	**11 49 24.3**	**+0.4**
	comp=Z,4.0nm,0.5s,mb4.1						
CMAR	**Chiang Mai Arr**	**22.29**	**271**	P	**P**	**11 49 25.5**	**+1.6**
	comp=Z,4.0nm,0.8s,mb3.9,baz=75,slow=8.3,SNR=32						
CMAR				PcP	PcP	11 53 15.9	+0.9
	comp=Z,2.3nm,0.5s,baz=73,slow=0.7,SNR=14						
CMAR				ScP		11 56 35.8	
	comp=Z,1.0nm,0.7s,baz=123,slow=0.8,SNR=5.6						
LZH	**Lanzhou**	**23.14**	**319**	⇑P	**P**	**11 49 32.8**	**+0.8**
LZH				AP		11 50 04.1	
LZH				PP	PP	11 50 12.3	+3.4
LZH				XP		11 50 23.5	
LZH				S	**S**	**11 53 29.0**	**+2.2**
LZH				XS		11 54 22.5	
LZH				SS	SS	11 54 30.3	+0.2
LZH				AMB	AMB		
	comp=Z,41nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,161nm,4.5s						
LZH				LR	LR		
	comp=E,452nm,10.3s						
LZH				LR	LR		
	comp=Z,793nm,12.2s						
LZH	**Lanzhou**	**23.14**	**319**	⇑P	**P**	**11 49 32.8**	**+0.8**
	comp=Z,41nm,1.4s,mb4.7						
LZH				pP		11 50 04.1	
LZH				PP	PP	11 50 12.3	+3.4
LZH				sP		11 50 23.5	
LZH				S	**S**	**11 53 29.0**	**+2.2**
LZH				sS		11 54 22.5	
LZH				SS	SS	11 54 30.2	+0.1
CN2	**Changchun**	**24.16**	**5**	*e*P	**P**	**11 49 43.9**	**+2.2**
CN2				*e*AP		11 50 15.8	
CN2				*e*S	**S**	**11 53 48.5**	**+4.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
MDJ	**Mudanjiang**	**25.54**	**12**	P	**P**	**11 49 54.9**	**+0.3**
MDJ				AP	pP	11 50 26.0	-3.9
MDJ				XP	sP	11 50 43.4	-7.2
MDJ				PCP	PcP	11 53 21.8	+0.1
MDJ				S	**S**	**11 54 08.5**	**+1.5**
MDJ				SCP		11 56 46.9	
MDJ				PCS		11 57 03.1	
MDJ				SCS	ScS	12 00 37.9	+6.9
MDJ				AMB	AMB		
	comp=Z,27nm,0.8s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,77nm,7.5s						
MDJ				LR	LR		
	comp=N,26nm,20.5s						
MDJ				LR	LR		
	comp=E,19nm,41.0s						
MDJ				LR	LR		
	comp=Z,18nm,15.8s						
MDJ	**Mudanjiang**	**25.54**	**12**	*e*P	**P**	**11 49 54.9**	**+0.3**
	comp=Z,23nm,0.8s,mb4.8						
GTA	**Gaotai**	**27.71**	**320**	P	**P**	**11 50 14.3**	**-0.1**
GTA				S	**S**	**11 54 43.6**	**+1.5**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
ASAJ	**Asahikawa**	**29.58**	**30**	P	**P**	**11 50 31.0**	**0.0**
	comp=Z,7.8nm,0.7s,mb4.6,baz=252,slow=8.5,SNR=12						
LSA	**Lhasa**	**30.09**	**295**	*e*P	**P**	**11 50 37.2**	**+1.5**
	comp=Z,5.7nm,0.6s,mb4.5						
SONM	**Songino Array**	**30.96**	**339**	P	**P**	**11 50 42.0**	**-1.2**
	comp=Z,2.6nm,0.8s,mb4.0,baz=158,slow=9.6,SNR=18						
SONM				PcP	PcP	11 53 34.9	-0.1
	comp=Z,1.0nm,0.3s,baz=171,slow=4.1,SNR=15						
YSS	**Yuzh-Sakhalins**	**31.83**	**27**	⇓*e*P	**P**	**11 50 50.9**	**+0.2**
	comp=Z,56nm,0.9s,mb5.3						
YSS				*e*		11 51 00.2	
KAKA	**Kakadu**	**33.66**	**162**	⇑*i*P	**P**	**11 51 04.5**	**-2.2**
	comp=Z,22nm,0.8s,mb4.9						
JIRN	**Jiri**	**34.09**	**290**	*e*P	**P**	**11 51 10.0**	**-0.2**
	comp=Z,12nm,0.6s,mb4.8						
GUN	**Gumba**	**34.38**	**291**	*e*P	**P**	**11 51 13.4**	**+0.6**
	comp=Z,15nm,0.6s,mb4.9						
KKN	**Kakani**	**34.90**	**291**	*e*P	**P**	**11 51 17.5**	**+0.3**
	comp=Z,3.9nm,0.2s,mb4.7						
DMN	**Daman**	**35.04**	**290**	*e*P	**P**	**11 51 18.3**	**0.0**
	comp=Z,6.4nm,0.4s,mb4.6						
GKN	**Gorkha**	**35.49**	**291**	*e*P	**P**	**11 51 21.8**	**-0.3**
	comp=Z,7.1nm,0.3s,mb4.7						
KOLN	**Koldanda**	**36.38**	**290**	*e*P	**P**	**11 51 27.7**	**-1.9**
	comp=Z,4.9nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**37.69**	**175**	*e*P	**P**	**11 51 39.4**	**-1.2**
	comp=Z,5.8nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**37.69**	**175**	P	**P**	**11 51 39.7**	**-1.0**
	comp=Z,5.4nm,0.3s,mb4.6,baz=5.4,slow=7.6,SNR=32						
WMQ	**Urumqi**	**37.70**	**318**	P	**P**	**11 51 38.8**	**-1.7**
WMQ				AP	pP	11 52 13.8	-4.6
WMQ				XP	sP	11 52 31.8	-7.2
WMQ				PP	PP	11 53 12.9	+0.7
WMQ				PCP	PcP	11 53 52.8	-1.6
WMQ				S	**S**	**11 57 16.8**	**-0.4**
WMQ				XS		11 58 18.3	
WMQ				AMB	AMB		
	comp=Z,56nm,0.6s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,49nm,4.0s						
WMQ				LR	LR		
	comp=N,22nm,15.0s						
WMQ				LR	LR		
	comp=E,16nm,17.5s						
WMQ				LR	LR		
	comp=Z,16nm,16.0s						
MBWA	**Marble Bar**	**40.69**	**184**	*e*P	**P**	**11 52 04.6**	**-0.8**
	comp=Z,4.6nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**41.06**	**163**	⇑*e*P	**P**	**11 52 07.9**	**-0.6**
	comp=Z,51nm,0.6s,mb5.3						
WRA	**Warramunga Arr**	**41.07**	**163**	P	**P**	**11 52 07.9**	**-0.6**
	comp=Z,22nm,0.5s,mb5.0,baz=344,slow=9.2,SNR=330						
WB2	**Warramunga Arr**	**41.07**	**163**	⇓*i*P	**P**	**11 52 07.7**	**-0.8**
WB2				*e*S	**S**	**11 58 03.8**	**-3.8**
MKAR	**Makanchi Array**	**42.45**	**319**	P	**P**	**11 52 20.1**	**+0.6**
	comp=Z,9.1nm,0.4s,mb4.8,baz=110,slow=8.5,SNR=214						
MKAR				PcP	PcP	11 54 09.2	-0.5
	comp=Z,1.4nm,0.5s,baz=184,slow=2.0,SNR=6.2						
MKAR				ScP		11 57 43.0	
	comp=Z,0.8nm,0.6s,baz=108,slow=5.9,SNR=4.7						
MKAR	**Makanchi Array**	**42.45**	**319**	P	**P**	**11 52 20.1**	**+0.6**
MKAR				PcP	PcP	11 54 09.2	-0.5
MKAR				ScP		11 57 43.0	
ASAR	**Alice Springs**	**44.51**	**165**	P	**P**	**11 52 36.2**	**-0.2**
	comp=Z,7.5nm,0.6s,mb4.5,baz=351,slow=8.6,SNR=172						
ASAR				PcP	PcP	11 54 17.1	+0.2
	comp=Z,1.4nm,0.4s,baz=347,slow=3.9,SNR=4.1						
ASAR				ScP		11 57 52.4	
	comp=Z,2.6nm,0.9s,baz=351,slow=4.1,SNR=14						
ASPA	**Alice Springs**	**44.51**	**165**	⇓*i*P	**P**	**11 52 36.5**	**+0.1**
ASPA				*e*S	**S**	**11 58 56.0**	**-1.6**
ZAL	**Zalesovo**	**44.69**	**329**	P	**P**	**11 52 36.8**	**-0.6**
	comp=Z,3.9nm,0.4s,mb4.4,baz=343,slow=5.7,SNR=19						
ZAL				LR	LR	12 15 35.3	
	comp=Z,33nm,18.4s,baz=235,slow=42						
POO	**Poona**	**45.85**	**277**	*e*	**P**	**11 52 41.0**	**-6.1**
CTA	**Charters Tower**	**45.88**	**148**	*e*P	**P**	**11 52 48.7**	**+1.4**
	comp=Z,15nm,0.9s,mb4.6						
CTA	**Charters Tower**	**45.88**	**148**	P	**P**	**11 52 48.4**	**+1.1**
	comp=Z,18nm,0.8s,mb4.7,baz=339,slow=9.7,SNR=12						
FORT	**Forrest**	**50.47**	**174**	⇑*i*P	**P**	**11 53 22.3**	**-0.2**
	comp=Z,430nm,0.7s						
BVAR	**Borovoye Array**	**51.94**	**323**	P	**P**	**11 53 32.8**	**-0.3**
	comp=Z,2.7nm,0.4s,mb4.2,baz=103,slow=8.5,SNR=16						
BVAR				ScP		11 58 22.9	
	comp=Z,1.8nm,0.8s,baz=104,slow=6.1,SNR=5.4						
CHKZ	**Chkalovo**	**52.02**	**324**	*e*P	**P**	**11 53 32.9**	**-0.9**
	comp=Z,10nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**52.56**	**186**	P	**P**	**11 53 38.0**	**-0.1**
	comp=Z,7.5nm,0.5s,mb4.7,baz=12,slow=5.1,SNR=12						
STKA	**Stephens Creek**	**54.45**	**160**	⇑*i*P	**P**	**11 53 51.8**	**-0.1**
	comp=Z,2.3nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**54.45**	**160**	P	**P**	**11 53 51.9**	**0.0**
	comp=Z,3.0nm,0.4s,mb4.3,baz=342,slow=7.4,SNR=16						
BILL	**Bilibino**	**55.51**	**18**	⇓*e*P	**P**	**11 53 58.4**	**-0.7**
	comp=Z,24nm,0.6s,mb5.2						
ARU	**Arti**	**59.43**	**325**	*e*P	**P**	**11 54 25.1**	**-1.6**
	comp=Z,13nm,0.4s,mb5.1						
ARU				*e*		11 55 17.1	
TNA	**Tin City**	**63.81**	**26**	*e*P	**P**	**11 54 55.7**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.4						
IMA	**Indian Mountai**	**69.68**	**26**	*e*P	**P**	**11 55 33.5**	**+0.9**
	comp=Z,52nm,1.2s,mb5.1						
MCK	**McKinley**	**71.91**	**28**	*e*P	**P**	**11 55 45.9**	**-0.1**
	comp=Z,14nm,1.1s,mb4.6						
ILAR	**Eielson Array**	**72.64**	**27**	P	**P**	**11 55 49.2**	**-1.0**
	comp=Z,1.6nm,0.6s,mb4.0,baz=266,slow=4.4,SNR=42						
JOF	**Joensuu**	**73.20**	**331**	*e*p	**P**	**11 55 52.6**	**-0.9**
	comp=Z,1.8nm,0.3s,mb4.3						
KEV	**Kevo**	**73.58**	**339**	*e*p	**P**	**11 55 54.8**	**-0.8**
ARCES	**ARCESS Array B**	**74.14**	**339**	P	**P**	**11 55 58.6**	**-0.2**
	comp=Z,5.8nm,0.7s,mb4.4,baz=72,slow=6.0,SNR=19						
KAF	**Kangasniemi**	**75.65**	**331**	*e*p	**P**	**11 56 06.7**	**-0.8**
	comp=Z,3.8nm,0.6s,mb4.2,baz=73,slow=5.3						
FINES	**FINESS Array B**	**75.92**	**331**	P	**P**	**11 56 08.5**	**-0.6**
	comp=Z,5.0nm,0.7s,mb4.3,baz=56,slow=6.3,SNR=20						
DAWY	**Dawson**	**75.97**	**27**	*e*P	**P**	**11 56 09.7**	**+0.4**
BRTR	**Keskin Array B**	**76.83**	**308**	P	**P**	**11 56 14.1**	**-0.5**
	comp=Z,0.8nm,0.4s,mb3.7,baz=138,slow=1.9,SNR=5.8						
INK	**Inuvik**	**76.92**	**22**	*e*P	**

ms1mx3.1/32, Error ellipse: s-maj=69.7km s-min=20.0km az=60.0
BJI ***19*** *12:40:18.0, 2.20N×96.30E, h30km, mB4.8, mb4.3*
NEIC ***19*** *12:40:20.0±0.7, 2.18N×96.27E, h30km, mb4.2/3, Error ellipse: s-maj=17.2km s-min=9.9km az=63.0*
ISC 19 12:40:18.3±0.8, 2.18N±0.10×96.3E±0.1, h30km, n24, σθ:82/24, mb4.3/19, MS3.6/3, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.31**	**54**	*eP*	**Pn**	**12 41 37.3**	**-0.4**
CM31	**Chiang Mai Arr**	**16.38**	**9**	*eP*	**P**	**12 44 09.4**	**+1.4**
	4.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.38**	**9**	Pn	**P**	**12 44 08.4**	**+0.5**
	0.2nm,0.3s,baz=197,slow=11,SNR=20						
GYA	**Guiyang**	**26.11**	**21**	⇑*iP*	**P**	**12 45 52.6**	**+1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
JIRN	**Jiri**	**27.13**	**340**	*eP*	**P**	**12 46 01.1**	**+0.1**
	comp=Z,8.4nm,0.7s,mb4.4						
PKI	**Pulchoki**	**27.33**	**339**	*eP*	**P**	**12 46 03.8**	**+1.0**
	comp=Z,7.5nm,0.5s,mb4.4						
GUN	**Gumba**	**27.47**	**340**	*eP*	**P**	**12 46 04.3**	**+0.2**
	comp=Z,10.0nm,0.7s,mb4.5						
KKN	**Kakani**	**27.57**	**338**	*eP*	**P**	**12 46 05.3**	**+0.3**
	comp=Z,3.4nm,0.3s,mb4.4						
LSA	**Lhasa**	**27.81**	**350**	*eP*	**P**	**12 46 07.5**	**+0.3**
	comp=Z,3.9nm,0.6s,mb4.2						
GKN	**Gorkha**	**28.01**	**338**	*eP*	**P**	**12 46 09.3**	**+0.4**
	comp=Z,2.8nm,0.3s,mb4.4						
KOLN	**Koldanda**	**28.21**	**336**	*eP*	**P**	**12 46 11.5**	**+0.8**
	comp=Z,4.7nm,0.6s,mb4.3						
XAN	**Xi'an**	**33.82**	**19**	P	**P**	**12 46 58.3**	**-1.8**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
GTA	**Gaotai**	**37.20**	**4**	P	**P**	**12 47 28.5**	**-0.3**
GTA				XP	sP	12 47 43.3	+1.8
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**43.30**	**122**	*eP*	**P**	**12 48 18.9**	**-0.6**
ASAR	**Alice Springs**	**44.68**	**127**	P	**P**	**12 48 31.1**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.3,baz=299,slow=7.7,SNR=10.0						
MKAR	**Makanchi Array**	**46.09**	**347**	P	**P**	**12 48 40.8**	**-0.8**
	comp=Z,1.4nm,0.3s,mb4.3,baz=162,slow=7.9,SNR=24						
MKAR				LR	LR	13 09 05.1	
	comp=Z,37nm,19.6s,MS3.3,baz=0.2,slow=38						
SONM	**Songino Array**	**46.31**	**9**	P	**P**	**12 48 42.6**	**-0.6**
	comp=Z,1.7nm,0.5s,mb4.2,baz=190,slow=8.9,SNR=17						
SONM				PcP	PcP	12 50 19.1	+0.4
	comp=Z,0.5nm,0.6s,baz=214,slow=4.5,SNR=4.1						
ZAL	**Zalesovo**	**52.46**	**351**	P	**P**	**12 49 29.7**	**-0.8**
	comp=Z,4.2nm,0.3s,mb4.8,baz=172,slow=2.1,SNR=12						
ZAL				LR	LR	13 13 16.2	
	comp=Z,50nm,18.5s,MS3.6,baz=80,slow=38						
STKA	**Stephens Creek**	**54.66**	**132**	P	**P**	**12 49 48.3**	**+1.3**
	comp=Z,0.8nm,0.4s,mb4.1,baz=298,slow=8.4,SNR=3.4						
BVAR	**Borovoye Array**	**55.05**	**341**	P	**P**	**12 49 48.4**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.2,baz=127,slow=7.4,SNR=8.6						
CHKZ	**Chkalovo**	**55.53**	**342**	*eP*	**P**	**12 49 52.0**	**-1.1**
	comp=Z,3.3nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**78.73**	**333**	P	**P**	**12 52 18.9**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=104,slow=7.9,SNR=4.5						
ARCES	**ARCESS Array B**	**81.33**	**340**	P	**P**	**12 52 33.2**	**+0.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=7.4						
ARCES				LR	LR	13 35 52.0	
	comp=Z,50nm,18.4s,MS3.9,baz=274,slow=41						
ARCES	**ARCESS Array B**	**81.33**	**340**	P	**P**	**12 52 33.2**	**+0.2**

BJI ***19*** *12:47:04.9, 15.88N×92.88E, h32km, mB4.8, mb4.6, Ms3.9, Msz3.4*
NEIC ***19*** *12:47:05.9±0.3, 15.91N×92.94E, h30km, mb4.7/12, Error ellipse: s-maj=8.0km s-min=6.4km az=180.0*
IDC ***19*** *12:47:06.9±6.1, 15.95N×92.98E, h35km±49km, mb4.0/19, mb1 4.2/20, mb1mx4.1/24, mbtmp4.2/20, ML4.5/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/29, Error ellipse: s-maj=20.1km s-min=13.9km az=65.0*
ISC 19 12:47:04.9±0.4, 16.05N±0.05×92.94E±0.04, h33km, n81, σ1:25/86, mb4.3/33, MS3.8/7, 3C-2D, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**6.21**	**67**	*eP*	**P**	**12 48 35.6**	**-1.1**
	30nm,0.6s						
CMAR	**Chiang Mai Arr**	**6.21**	**67**	Pn	**Pn**	**12 48 36.0**	**-0.9**
	2.7nm,0.3s,baz=252,slow=14,SNR=168						
CMAR				Sn	**Sn**	**12 49 45.5**	**-2.0**
	3.7nm,0.3s,baz=200,slow=25,SNR=9.4						
CMAR				LR	LR	12 51 27.1	
	comp=Z,124nm,18.8s,baz=240,slow=42						
CHG	**Chiang Mai**	**6.36**	**64**	P	**P**	**12 48 37.5**	**-1.1**
NST	**Nakhon Sawan**	**6.93**	**92**	P	**P**	**12 48 45.0**	**-1.8**
	84nm,0.5s						
NNT	**Nongplab**	**7.43**	**117**	P	**P**	**12 48 53.5**	**-0.2**
NANT	**Nan**	**7.90**	**69**	P	**P**	**12 49 01.0**	**+0.8**
VIS	**Vishakhapatnam**	**9.35**	**282**	*eP*	**P**	**12 49 15.4**	**-4.9**
VIS				*eS*	**S**	**12 50 52.1**	**-13**
SHL	**Shillong**	**9.52**	**354**	*eP*	**P**	**12 49 19.5**	**-3.2**
SHL				*eS*	**S**	**12 51 02.0**	**-7.7**
BLSP	**Bilaspur**	**11.87**	**302**	*eS*	**S**	**12 51 56.1**	**-11**
KMI	**Kunming**	**12.87**	**44**	P	**P**	**12 50 09.4**	**+1.2**
KMI				PP	PP	12 50 19.8	+1.7
KMI				S	**S**	**12 52 38.5**	**+7.4**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s						
KMI				AMB	AMB		
	comp=Z,123nm,3.9s						
KMI				LR	LR		
	comp=N,239nm,13.0s						
KMI				LR	LR		
	comp=E,258nm,14.6s						
KMI				LR	LR		
	comp=Z,210nm,13.8s						
KMI	**Kunming**	**12.87**	**44**	P	**P**	**12 50 09.4**	**+1.2**
	comp=Z,7.0nm,0.6s						
KMI				sP		12 50 13.7	
KMI				PP	PP	12 50 19.7	+1.6
KMI				S	**S**	**12 52 38.5**	**+7.4**
JIRN	**Jiri**	**13.13**	**333**	*eP*	**P**	**12 50 10.6**	**-1.1**
	comp=Z,20nm,0.5s						
PKI	**Pulchoki**	**13.42**	**330**	*eP*	**P**	**12 50 13.0**	**-2.5**
	comp=Z,21nm,0.5s						
GUN	**Gumba**	**13.49**	**332**	*eP*	**P**	**12 50 15.1**	**-1.3**
	comp=Z,27nm,0.5s						
DMN	**Daman**	**13.60**	**329**	*eP*	**P**	**12 50 15.9**	**-2.0**
	comp=Z,55nm,0.8s						
KKN	**Kakani**	**13.66**	**330**	*eP*	**P**	**12 50 17.1**	**-1.7**
LSA	**Lhasa**	**13.68**	**353**	*eP*	**P**	**12 50 23.0**	**+4.0**
LSA	**Lhasa**	**13.68**	**353**	P	**P**	**12 50 13.2**	**-5.8**
HYB	**Hyderabad**	**13.85**	**278**	*eP*	**P**	**12 50 19.0**	**-2.2**
HYB				*eS*	**S**	**12 52 59.0**	**+4.2**
HYB	**Hyderabad**	**13.85**	**278**	*iP*	**P**	**12 50 19.0**	**-2.2**
HYB				*eS*	**S**	**12 52 59.0**	**+4.2**
GKN	**Gorkha**	**14.16**	**329**	*eP*	**P**	**12 50 24.4**	**-0.8**
KOLN	**Koldanda**	**14.52**	**325**	*eP*	**P**	**12 50 28.0**	**-2.0**
	comp=Z,30nm,0.5s						
QIZ	**Qiongzhong**	**16.39**	**77**	P	**P**	**12 50 58.8**	**+4.7**
QIZ				*eS*	**S**	**12 53 59.3**	**+4.9**
QIZ				LR	LR		
	comp=N,148nm,15.2s						
QIZ				LR	LR		
	comp=E,161nm,17.1s						
QIZ				LR	LR		
	comp=Z,148nm,17.1s						
POO	**Poona**	**18.39**	**280**	⇑*iP*	**P**	**12 51 18.0**	**-1.3**
	comp=Z,20nm,1.0s						
POO				*i*		12 54 24.0	
ENH	**Enshi**	**20.74**	**44**	*eP*	**P**	**12 51 45.9**	**+0.6**
	comp=Z,35nm,1.1s						
LZH	**Lanzhou**	**22.19**	**24**	⇑P	**P**	**12 52 06.5**	**+6.7**
LZH				AP		12 52 09.8	
LZH				XP		12 52 11.3	
LZH				PP	PP	12 52 33.9	+7.2
LZH				S	**S**	**12 56 07.5**	**+10**
LZH				XS		12 56 13.5	
LZH				SS	SS	12 56 47.4	+10
LZH				AMB	AMB		
	comp=Z,35nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,101nm,4.5s						
LZH				LR	LR		
	comp=N,713nm,10.0s						
LZH	**Lanzhou**	**22.19**	**24**	⇑P	**P**	**12 52 06.5**	**+6.7**
	comp=N,35nm,1.3s,mb4.6						
LZH				pP		12 52 09.8	
LZH				sP		12 52 11.2	
LZH				PP	PP	12 52 33.9	+7.2
LZH				S	**S**	**12 56 07.5**	**+10**
LZH				sS		12 56 13.5	
LZH				SS	SS	12 56 47.4	+10
LZH				LR	LR		
	comp=Z,1μm,12.3s,MS4.6						
XAN	**Xi'an**	**22.98**	**36**	P	**P**	**12 52 10.3**	**+2.7**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.0						
GTA	**Gaotai**	**24.04**	**13**	P	**P**	**12 52 21.9**	**+4.0**
GTA				AP		12 52 29.6	
GTA				XP		12 52 33.0	
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb3.9						
GTA				AMB	AMB		
	comp=Z,44nm,8.7s						
GTA				LR	LR		
	comp=N,76nm,19.0s,MS3.5						
GTA				LR	LR		
	comp=E,127nm,15.2s,MS3.5						
GTA				LR	LR		
	comp=Z,87nm,15.6s,MS3.3						
WMQ	**Urumqi**	**28.04**	**352**	P	**P**	**12 52 57.5**	**+2.3**
WMQ				AP	pP	12 53 02.0	-2.7
WMQ				PP	PP	12 53 47.6	+2.2
WMQ				PPP	PPP	12 53 59.5	+2.0
WMQ				PCP	PcP	12 56 11.8	+2.2
WMQ				*eS*	**S**	**12 57 40.5**	**+4.7**
WMQ				AMB	AMB		
	comp=Z,26nm,0.5s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,46nm,4.1s						
WMQ				LR	LR		
	comp=N,76nm,15.3s,MS3.5						
WMQ				LR	LR		
	comp=E,72nm,20.3s,MS3.5						
WMQ				LR	LR		
	comp=Z,34nm,17.2s,MS3.0						
NJ2	**Nanjing**	**28.42**	**51**	*eP*	**P**	**12 52 58.6**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**31.91**	**346**	P	**P**	**12 53 30.7**	**+1.2**
	comp=Z,5.1nm,0.9s,mb4.4,baz=157,slow=9.2,SNR=20						
SONM	**Songino Array**	**33.58**	**16**	P	**P**	**12 53 45.2**	**+1.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=207,slow=8.3,SNR=7.8						
SONM				PcP	PcP	12 56 25.0	+0.8
	comp=Z,0.2nm,0.3s,baz=135,slow=5.2,SNR=3.7						
ULN	**Ulaanbaatar**	**33.79**	**17**	P	**P**	**12 53 45.8**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.0						
ZAL	**Zalesovo**	**38.33**	**352**	P	**P**	**12 54 25.2**	**+0.9**
	comp=Z,1.6nm,0.8s,mb3.8,baz=307,slow=8.3,SNR=9.8						
ZAL	**Zalesovo**	**38.33**	**352**	P	**P**	**12 54 25.2**	**+0.9**
CN2	**Changchun**	**39.05**	**38**	*eP*	**P**	**12 54 31.3**	**+1.1**
BVAR	**Borovoye Array**	**40.94**	**339**	P	**P**	**12 54 46.5**	**+0.7**
	comp=Z,1.1nm,0.5s,mb3.7,baz=149,slow=8.6,SNR=7.2						
CHKZ	**Chkalovo**	**41.41**	**340**	*eP*	**P**	**12 54 50.9**	**+1.2**
	comp=Z,9.9nm,0.9s,mb4.4						
MDJ	**Mudanjiang**	**41.99**	**40**	P	**P**	**12 54 53.8**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,63nm,5.7s						
FITZ	**Fitzroy Crossi**	**46.79**	**135**	⇓*iP*	**P**	**12 55 33.4**	**-0.1**
	comp=Z,9.5nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**46.79**	**135**	P	**P**	**12 55 33.4**	**0.0**
	comp=Z,10.0nm,0.7s,mb4.8,baz=322,slow=4.5,SNR=20						
WRAB	**Tennant Creek**	**54.18**	**130**	*eP*	**P**	**12 56 28.8**	**-0.9**
	comp=Z,18nm,1.1s,mb4.9						
WB2	**Warramunga Arr**	**54.18**	**130**	⇓*iP*	**P**	**12 56 28.8**	**-0.9**
ASPA	**Alice Springs**	**56.22**	**134**	*eP*	**P**	**12 56 41.3**	**-3.1**
ASAR	**Alice Springs**	**56.22**	**134**	P	**P**	**12 56 41.5**	**-2.9**
	comp=Z,2.4nm,0.6s,mb4.4,baz=314,slow=7.0,SNR=40						
ASAR				LR	LR	13 22 07.5	
	comp=Z,52nm,19.6s,MS3.6,baz=27,slow=37						
BRTR	**Keskin Array B**	**56.39**	**307**	P	**P**	**12 56 45.3**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.4,baz=121,slow=7.2,SNR=13						
KMBO	**Kilima Mbogo**	**57.55**	**258**	P	**P**	**12 56 54.3**	**+0.2**
	comp=Z,1.4nm,0.2s,mb4.6,baz=52,slow=14,SNR=5.7						
AKASG	**Malin Array Be**	**61.13**	**319**	P	**P**	**12 57 17.4**	**-0.8**
	comp=Z,0.5nm,0.2s,mb4.2,baz=89,slow=5.0,SNR=11						
FINES	**FINESS Array B**	**65.00**	**331**	P	**P**	**12 57 43.2**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.3,baz=90,slow=3.8,SNR=10.0						
FINES				LR	LR	13 27 46.4	
	comp=Z,48nm,19.7s,MS3.7,baz=96,slow=38						
FINES	**FINESS Array B**	**65.00**	**331**	P	**P**	**12 57 43.2**	**-0.5**
CRVS	**Cervenica-Dubn**	**65.92**	**317**	*eP*	**P**	**12 57 51.0**	**+1.3**
ARCES	**ARCESS Array B**	**67.23**	**339**	P	**P**	**12 57 58.4**	**+0.7**
	comp=Z,1.6nm,0.8s,mb4.1,baz=86,slow=6.3,SNR=11						
MORC	**Moravsky Berou**	**68.51**	**318**	P	**P**	**12 58 03.9**	**-2.0**
	comp=Z,3.3nm,0.9s,mb4.3						
GROS	**Grobnik**	**69.93**	**314**	*iP*	**P**	**12 58 15.9**	**+1.1**
CEY	**Cerknica**	**70.71**	**313**	*iP*	**P**	**12 58 20.5**	**+0.9**
GERES	**GERESS Array B**	**71.04**	**317**	P	**P**	**12 58 22.2**	**+0.8**
	comp=Z,4.4nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=26						
LSZ	**Lusaka**	**71.10**	**247**	*eP*	**P**	**12 58 22.4**	**0.0**
	comp=Z,11nm,0.8s,mb4.8						
NB2	**NORSAR Subarra**	**72.10**	**330**	P	**P**	**12 58 26.8**	**-0.7**
	comp=Z,0.3nm,0.7s,mb3.3,baz=88,slow=7.0						
NOA	**NORSAR Array B**	**72.10**	**330**	P	**P**	**12 58 27.5**	**0.0**
	comp=Z,2.1nm,0.7s,mb4.2,baz=90,slow=6.0,SNR=6.4						
NOA	**NORSAR Array B**	**72.10**	**330**	P	**P**	**12 58 27.5**	**0.0**
MATP	**Matopo**	**72.92**	**242**	P	**P**	**12 58 33.6**	**+0.4**
	comp=Z,4.9nm,0.9s,mb4.5,baz=71,slow=7.1,SNR=8.1						
CDF	**Champ du Feu**	**75.32**	**317**	*eP*	**P**	**12 58 47.0**	**+0.4**
LPG	**La Plagne**	**76.09**	**314**	*eP*	**P**	**12 58 52.1**	**+1.1**
	comp=Z,22nm,0.9s,mb4.8						
LPL	**La Plagne**	**76.11**	**314**	*eP*	**P**	**12 58 52.1**	**+1.0**
	comp=Z,15nm,0.8s,mb4.7						
MBDF	**Montbardon**	**76.20**	**313**	*eP*	**P**	**12 58 51.7**	**0.0**
	comp=Z,15nm,0.9s,mb4.6						
SMF	**Signal de Mont**	**77.90**	**315**	*eP*	**P**	**12 59 01.4**	**+0.3**
JMIC	**Jan Mayen**	**78.64**	**341**	LR	LR	13 35 06.3	
	comp=Z,27nm,18.4s,MS3.6,baz=255,slow=37						
BOSA	**Boshof**	**79.04**	**236**	P	**P**	**12 59 08.4**	**+0.7**
	comp=Z,6.2nm,0.7s,mb4.6,baz=97,slow=7.3,SNR=11						
TCF	**Toulx Ste Croi**	**79.08**	**315**	*eP*	**P**	**12 59 08.3**	**+0.7**
TSUM	**Tsumeb**	**81.96**	**247**	LR	LR	13 31 45.8	
	comp=Z,81nm,20.1s,MS4.1,baz=110,slow=33						
IMA	**Indian Mountai**	**84.53**	**22**	*eP*	**P**	**12 59 37.9**	**+2.4**
	comp=Z,136nm,2.0s						
ESDC	**Sonseca Array**	**85.09**	**310**	P	**P**	**12 59 39.8**	**+0.9**
	comp=Z,0.6nm,0.6s,mb4.0,baz=77,slow=4.7,SNR=5.5						
ILAR	**Eielson Array**	**87.64**	**22**	P	**P**	**12 59 52.3**	**+1.6**
	comp=Z,0.5nm,0.7s,mb3.8,baz=294,slow=4.6,SNR=6.2						
INK	**Inuvik**	**89.49**	**16**	P	**P**	**13 00 00.6**	**+1.1**
	comp=Z,1.0nm,0.7s,mb4.3,baz=320,slow=5.1,SNR=8.5						
INK	**Inuvik**	**89.49**	**16**	*eP*	**P**	**13 00 00.7**	**+1.1**
	comp=Z,4.0nm,1.1s,mb4.7						
YKA	**Yellowknife Ar**	**98.77**	**13**	P	**P**	**13 00 42.6**	**+0.5**
	comp=Z,0.2nm,0.8s,mb3.7,baz=333,slow=4.6,SNR=3.8						
JCT	**Junction City**	**132.14**	**15**	PKP	PKPdf	13 06 16.2	0.0
CPUP	**Villa Florida**	**150.52**	**245**	PKPbc	PKPdf	13 06 54.6	+6.1
	comp=Z,1.7nm,0.9s,baz=90,slow=8.1,SNR=3.8						
CPUP				PKPab	PKPab	13 07 02.4	-0.4
	comp=Z,3.3nm,0.8s,baz=108,slow=7.4,SNR=9.5						
PLCA	**Paso Flores**	**151.54**	**207**	PKPbc	PKPdf	13 06 57.0	+7.5
	comp=Z,1.8nm,0.8s,baz=210,slow=1.3,SNR=3.3						
PLCA				PKPab	PKPab	13 07 05.9	-0.7
	comp=Z,1.7nm,0.7s,baz=125,slow=6.9,SNR=4.8						
LPAZ	**La Paz**	**161.81**	**267**	PKPab	PKPab	13 07 50.6	-0.6
	comp=Z,2.7nm,0.8s,baz=59,slow=3.9,SNR=8.7						

IDC ***19*** *12:55:59.6±1.6, 1.77S×99.56E, mb3.8/7, mb1 3.9/7, mb1mx3.8/18, mbtmp3.8/7, Error ellipse: s-maj=83.0km s-min=22.3km az=60.0*
NEIC ***19*** *12:56:03.2±0.9, 1.88S×99.62E, h30km, mb4.1/2, Error ellipse: s-maj=35.1km s-min=12.3km az=62.0*
ISC 19 12:56:01.7±1.1, 1.8S±0.2×99.6E±0.2, h33km, n14, σ1:08/11, mb3.9/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.16**	**9**	*eP*	**P**	**12 57 47.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**20.17**	**358**	P	**P**	**13 00 35.9**	**-0.3**
	0.8nm,0.6s,baz=184,slow=8.2,SNR=5.1						
WRAB	**Tennant Creek**	**38.47**	**120**	P	**P**	**13 03 19.8**	**-2.7**
	3.9nm,0.9s,mb4.1						
WB2	**Warramunga Arr**	**38.48**	**120**	*eP*	**P**	**13 03 23.0**	**+0.4**
ASAR	**Alice Springs**	**39.72**	**126**	P	**P**	**13 03 33.8**	**+0.9**
	0.5nm,0.7s,mb3.4,baz=306,slow=8.7,SNR=7.6						
ASAR				PcP	PcP	13 05 41.5	+1.9
	0.4nm,0.7s,baz=306,slow=2.6,SNR=3.6						
SONM	**Songino Array**	**49.82**	**6**	P	**P**	**13 04 53.7**	**+0.2**
	0.4nm,0.7s,mb3.6,baz=180,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**50.74**	**345**	P	**P**	**13 05 01.2**	**+0.6**
	1.5nm,0.6s,mb4.1,baz=151,slow=8.2,SNR=9.5						
ZAL	**Zalesovo**	**56.91**	**350**	P	**P**	**13 05 46.0**	**+0.1**
	1.7nm,0.5s,mb4.3,baz=310,slow=9.5,SNR=6.9						
BVAR	**Borovoye Array**	**59.87**	**340**	P	**P**	**13 06 06.0**	**-0.6**
	0.8nm,0.6s,mb4.0,baz=231,slow=42,SNR=4.1						
CHKZ	**Chkalovo**	**60.33**	**341**	*eP*	**P**	**13 06 07.6**	**-2.1**
	0.9nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**83.75**	**332**	P	**P**	**13 08 30.1**	**+1.6**
	1.0nm,0.7s,mb4.1,baz=146,slow=6.9,SNR=5.1						
CHMT	**Chamberlain Mo**	**126.80**	**28**	*e*PKPdf	PKPdf	13 15 04.5	+2.1
SSPA	**Standing Stone**	**141.30**	**357**	*e*PKPdf	PKPdf	13 15 32.6	+3.0
TXAR	**Lajitas Array**	**144.84**	**37**	PKP	PKPdf	13 15 39.1	+3.1
	0.8nm,0.6s,baz=270,slow=0.9,SNR=10						

NEIC ***19*** *13:15:30.3, 17.47N×61.26W, h15km, MD3.2(TRN), MD3.0(FDF), After TRN.*
NEIC Felt [IV] on Guadeloupe.
TRN 19 13:15:30.5, 17.49N×61.30W, h13km, MD3.3, M3.7(FDF), Leeward Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.69**	**230**	*eP*	Pb	13 15 47.3	+3.4
BPA				*eS*	Sb	13 15 58.3	+5.1
MBLG		**1.12**	**227**	*eP*	Pb	13 15 53.3	+2.0
MBLG				*eS*	Sb	13 16 10.7	+5.0
MLGT	**Long Ground**	**1.12**	**227**	*eP*	Pb	13 15 53.3	+2.0
MLGT				*eS*	Sb	13 16 10.7	+5.0
MBRY		**1.13**	**226**	*iP*	Pb	13 15 53.9	+2.4
MBRY				*eS*	Sb	13 16 10.8	+4.9
MBWH		**1.13**	**229**	*eP*	Pb	13 15 53.1	+1.6
MBWH				*eS*	Sb	13 16 11.4	+5.5
MRYT		**1.13**	**226**	*iP*	Pb	13 15 53.9	+2.4
MRYT				*eS*	Sb	13 16 10.8	+4.9
MLYT		**1.15**	**228**	*eP*	Pb	13 15 53.8	+2.1
MLYT				*eS*	Sb	13 16 11.5	+5.2
MBGB		**1.16**	**230**	*eP*	Pb	13 15 54.1	+2.1
MBGB				*eS*	Sb	13 16 11.0	+4.2
NVRH	**Round Hill, Ne**	**1.28**	**256**	*eP*	Pb	13 15 55.8	+1.8
NVRH				*eS*	Sb	13 16 14.5	+4.4
SKTB	**Turtle Beach**	**1.29**	**258**	*eP*	Pb	13 15 55.9	+1.8
SKTB				*eS*	Sb	13 16 14.5	+4.1
SKI	**Saint Kitts**	**1.38**	**264**	*eP*	Pn	13 15 57.6	+1.9
SKI				*eS*	Sb	13 16 17.7	+4.5
BSK	**Brimstone Hill**	**1.48**	**265**	*eP*	Pn	13 15 59.7	+2.7
BSK				*eS*	Sb	13 16 20.2	+4.3

CSEM ***19*** *13:17:06.3±0.1, 59.06N×18.26E, h2km, ML2.0, Error ellipse: s-maj=3.6km s-min=2.4km az=136.0, Mining explosion.*
UPP ***19*** *13:17:06.8, 59.01N×18.19E, h0km, ML2.8, Mining explosion.*
NAO ***19*** *13:17:09.4±2.4, 59.21N×18.15E, ML2.1*
BER ***19*** *13:17:09.5±3.4, 59.12N×18.16E, ML2.1(NAO), Suspected explosion*
IDC ***19*** *13:17:10.8±1.6, 59.32N×18.10E, mb1 2.9/4, mb1mx2.8/22, mbtmp2.8/4, ML2.5/4, Error ellipse: s-maj=20.1km s-min=5.8km az=178.0*
HEL 19 13:17:07.7±0.1, 59.02N×18.18E, ML2.0, ML2.2(UPP), ML2.1(NAO), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NYNU	**Nynaeshamn**	**0.09**	**263**	*iP*	Pg	13 17 09.0	-0.5
NYNU				*iS*	Sg	13 17 10.4	-0.3
NRTU	**Norrtaelje**	**0.70**	**19**	*iP*	Pg	13 17 20.2	-1.5
VIKU	**Vikbolandet**	**0.93**	**237**	*eP*	Pg	13 17 24.3	-1.9
ESKU	**Eskilstuna**	**0.94**	**284**	*eP*	Pg	13 17 24.5	-2.1
BACU	**Backbrunna**	**1.00**	**327**	*eP*	Pb	13 17 25.8	-1.8
FLYU	**Flymyra**	**1.13**	**353**	*eP*	Pb	13 17 28.1	-1.6
GRAU	**Graesoe**	**1.33**	**8**	*eP*	Pb	13 17 30.9	-2.5
GRAU				*eS*	Sb	13 17 48.1	-2.7
GOTU	**Gotland**	**1.35**	**171**	*eP*	Pb	13 17 30.9	-2.6
AAL	**Aland**	**1.49**	**38**	*eP*	Pn	13 17 34.2	-1.5
AAL				*eS*	Sb	13 17 53.8	-1.5
LNKU	**Linkoeping**	**1.61**	**242**	*eP*	Pn	13 17 36.2	-1.3
VSTU	**Vaestervik**	**1.61**	**213**	*eP*	Pn	13 17 36.3	-1.3
NRAU	**Nora**	**1.70**	**290**	*eP*	Pn	13 17 38.2	-0.6
NRAU				*eS*	Sb	13 18 00.5	-1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAF	**Kangasniemi**	**5.07**	**49**	*e*P	Pn	13 18 24.9	-1.9
KAF				*e*S	Sn	13 19 22.2	-4.8
KAF				*e*SG	Sg	13 19 42.7	-14
KAF				MSG		13 19 46.7	
	comp=Z,1.2nm,0.2s						
KAF	**Kangasniemi**	**5.07**	**49**	P	Pn	13 18 24.8	-2.0
KAF				S	Sn	13 19 22.1	-4.9
SUF	**Sumiainen**	**5.38**	**43**	*e*P	Pn	13 18 28.6	-2.5
SUF				*e*S	Sn	13 19 29.8	-5.0
SUF				*e*SG	Sg	13 19 53.2	-14
SUF				MSG		13 19 59.2	
	comp=Z,0.8nm,0.2s						
ARA0	**ARCESS Array S**	**11.02**	**14**	Pn	P	13 19 43.2	-6.2
	baz=197,slow=14						
ARA0	**ARCESS Array S**	**11.02**	**14**	*e*P	P	13 19 43.2	-6.2
ARCES	**ARCESS Array B**	**11.02**	**14**	Pn	P	13 19 42.7	-6.7
	comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=6.4						
ARCES				Sn	S	13 21 36.8	-18
	comp=Z,0.1nm,0.3s,baz=199,slow=22,SNR=2.5						

*BJI **19** 13:31:00.3, 25.47N×124.83E, h215km, mB4.5, mb4.2*
*NIED **19** 13:31:00, 26.30N×124.30E, h210km, Mw4.0 Best double couple: M0 1.31×10^15 NP1:φ=298°, δ=49°, λ=-71° NP2:φ=90°, δ=45°, λ=-110°.*
*IDC **19** 13:31:06.5±1.6, 26.19N×124.52E, h200km±16km, mb3.5/14, mb1 3.7/15, mb1mx3.6/25, mbtmp4.1/15, MS3.5/1, Ms1 3.5/1, ms1mx2.4/25, Error ellipse: s-maj=18.7km s-min=10.3km az=67.0*
*NEIC **19** 13:31:08.3±0.6, 26.09N×124.43E, h217km±6km, mb4.0/3, Error ellipse: s-maj=9.9km s-min=8.2km az=99.0*
*JMA **19** 13:31:08.7±0.4, 26.33N×124.27E, h173km, M4.4*
ISC 19 13:31:06.5±0.2, 26.09N±0.05×124.53E±0.04, h216km±3km, n54, σ1§11/72, mb4.0/24, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.44**	**151**	P	**P**	**13 31 43.4**	**+1.9**
JMJ				S	**S**	**13 32 09.0**	**+0.5**
JTJ	**Tarama**	**1.45**	**174**	P	**P**	**13 31 42.9**	**+1.3**
JTJ				S	**S**	**13 32 07.9**	**-0.7**
JOGS	**Gusukube**	**1.54**	**149**	P	**P**	**13 31 44.6**	**+2.2**
JOGS				S	**S**	**13 32 10.9**	**+0.9**
JIJ	**Ishigaki jima**	**1.75**	**192**	P	**P**	**13 31 44.5**	**+0.3**
JIJ				S	**S**	**13 32 10.8**	**-2.5**
IRIF	**Iriomote-Funau**	**1.89**	**203**	P	**P**	**13 31 45.5**	**0.0**
IRIF				*e*S	**S**	**13 32 14.3**	**-1.2**
JKRS	**Kuro-shima**	**1.90**	**194**	P	**P**	**13 31 46.2**	**+0.6**
JKRS				*e*S	**S**	**13 32 14.1**	**-1.6**
JKE	**Kume jima 2**	**2.04**	**83**	P	**P**	**13 31 48.7**	**+1.7**
JKE				*e*S	**S**	**13 32 18.8**	**+0.6**
YOJ	**Yonaguni jima**	**2.12**	**221**	P	**P**	**13 31 48.2**	**+0.4**
YOJ				*e*S	**S**	**13 32 18.0**	**-1.7**
HATJ	**Hateruma jima**	**2.12**	**198**	P	**P**	**13 31 48.5**	**+0.7**
HATJ				*e*S	**S**	**13 32 17.9**	**-1.8**
JAGN	**Aguni-jima**	**2.49**	**78**	P	**P**	**13 31 52.7**	**+1.0**
JAGN				S	**S**	**13 32 25.8**	**-0.9**
NAH1	**Naha**	**2.84**	**87**	*e*S	**S**	**13 32 33.5**	**-0.2**
JJT2	**Tamagusuku 2**	**2.90**	**88**	P	**P**	**13 31 58.2**	**+2.0**
JJT2				*e*S	**S**	**13 32 35.3**	**+0.5**
TATO	**Taipei**	**2.96**	**249**	*e*P	**P**	**13 31 58.6**	**+1.6**
TATO				*e*S	**S**	**13 32 37.1**	**+1.0**
YHNB	**Yeheng**	**3.18**	**244**	*e*P	**P**	**13 32 00.7**	**+1.2**
YHNB				*e*S	**S**	**13 32 40.6**	**-0.1**
JIH	**Iheya**	**3.22**	**72**	P	**P**	**13 32 01.0**	**+0.9**
JIH				*e*S	**S**	**13 32 40.2**	**-1.3**
NACB	**Ninganchiao**	**3.27**	**235**	*e*P	**P**	**13 31 59.6**	**-1.0**
JOW	**Kunigami**	**3.44**	**77**	P	**P**	**13 32 03.2**	**+0.5**
	42nm,0.3s,baz=186,slow=9.7,SNR=82						
JOW				S	**S**	**13 32 43.7**	**-2.4**
	59nm,0.3s,baz=108,slow=26,SNR=14						
JOW	**Kunigami**	**3.44**	**77**	P	**P**	**13 32 03.5**	**+0.8**
JOW				S	**S**	**13 32 43.9**	**-2.2**
JTK	**Tokunoshima**	**4.29**	**66**	P	**P**	**13 32 12.9**	**-0.2**
JTK				*e*S	**S**	**13 33 01.5**	**-3.3**
JAM	**Amami Oshima**	**5.08**	**62**	P	**P**	**13 32 22.1**	**-0.8**
JAM				*e*S	**S**	**13 33 18.9**	**-3.4**
JZK	**Kikaishima**	**5.33**	**64**	*e*S	**S**	**13 33 26.0**	**-2.1**
JMZ	**Minamidaito 2**	**6.03**	**91**	P	**P**	**13 32 36.2**	**+1.1**
JMZ				*e*S	**S**	**13 33 41.0**	**-3.1**
KS15	**Wonju Array Si**	**11.68**	**13**	*e*P	**P**	**13 33 50.5**	**+2.7**
MJAR	**Matsushiro Arr**	**15.64**	**45**	P	**P**	**13 34 40.1**	**+3.1**
	0.7nm,0.3s,baz=239,slow=11,SNR=11						
CN2	**Changchun**	**17.69**	**2**	*e*P	**P**	**13 35 01.0**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
ASAJ	**Asahikawa**	**23.20**	**35**	P	**P**	**13 35 55.8**	**+0.6**
	comp=Z,4.0nm,0.3s,mb4.4,baz=243,slow=8.8,SNR=13						
HIA	**Hailar**	**23.44**	**352**	*e*P	**P**	**13 35 58.0**	**+0.6**
	comp=Z,3.1nm,0.6s,mb4.0						
SONM	**Songino Array**	**25.98**	**331**	P	**P**	**13 36 20.4**	**-0.6**
	comp=Z,1.9nm,0.6s,mb3.9,baz=150,slow=9.5,SNR=20						
SONM				PcP	PcP	13 39 42.2	-1.6
	comp=Z,0.3nm,0.5s,baz=175,slow=3.6,SNR=3.5						
LSA	**Lhasa**	**29.66**	**285**	*e*P	**P**	**13 36 54.8**	**+0.6**
	comp=Z,3.3nm,0.6s,mb4.1						
JIRN	**Jiri**	**34.15**	**281**	*e*P	**P**	**13 37 32.9**	**-0.1**
	comp=Z,7.1nm,0.4s,mb4.5						
GUN	**Gumba**	**34.39**	**282**	*e*P	**P**	**13 37 34.3**	**-0.8**
	comp=Z,7.5nm,0.6s,mb4.4						
PKI	**Pulchoki**	**34.84**	**281**	*e*P	**P**	**13 37 38.2**	**-0.7**
	comp=Z,10nm,0.5s,mb4.6						
KKN	**Kakani**	**34.93**	**282**	*e*P	**P**	**13 37 39.6**	**-0.1**
	comp=Z,8.1nm,0.4s,mb4.6						
DMN	**Daman**	**35.11**	**282**	*e*P	**P**	**13 37 40.6**	**-0.5**
	comp=Z,5.3nm,0.4s,mb4.4						
GKN	**Gorkha**	**35.48**	**282**	*e*P	**P**	**13 37 43.8**	**-0.4**
	comp=Z,9.7nm,0.5s,mb4.6						
KOLN	**Koldanda**	**36.41**	**282**	*e*P	**P**	**13 37 52.5**	**+0.4**
	comp=Z,7.7nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**39.18**	**313**	P	**P**	**13 38 14.4**	**-0.5**
	comp=Z,1.7nm,0.4s,mb3.9,baz=100,slow=10,SNR=27						
ZAL	**Zalesovo**	**40.39**	**324**	P	**P**	**13 38 23.7**	**-1.1**
	comp=Z,3.5nm,0.5s,mb4.0,baz=353,slow=7.4,SNR=17						
FITZ	**Fitzroy Crossi**	**43.93**	**178**	P	**P**	**13 38 54.1**	**+0.2**
	comp=Z,1.5nm,0.7s,mb3.5,baz=350,slow=12,SNR=2.8						
FITZ				PcP	PcP	13 40 35.8	-0.4
	comp=Z,2.4nm,0.7s,baz=184,slow=14,SNR=4.1						
WRAB	**Tennant Creek**	**46.73**	**167**	*e*P	**P**	**13 39 15.1**	**-0.7**
	comp=Z,2.6nm,0.5s,mb3.8						
WB2	**Warramunga Arr**	**46.74**	**167**	*e*P	**P**	**13 39 16.4**	**+0.5**
BVAR	**Borovoye Array**	**48.18**	**319**	P	**P**	**13 39 25.7**	**-0.9**
	comp=Z,0.8nm,0.4s,mb3.4,baz=101,slow=9.1,SNR=10						
BVAR				PcP	PcP	13 40 49.9	-1.0
	comp=Z,0.6nm,0.4s,baz=127,slow=3.3,SNR=5.1						
ASAR	**Alice Springs**	**50.28**	**169**	P	**P**	**13 39 44.0**	**+1.0**
	comp=Z,0.7nm,0.5s,mb3.2,baz=355,slow=14,SNR=28						
ASAR				PcP	PcP	13 40 58.5	-0.4
	comp=Z,0.2nm,0.4s,baz=347,slow=3.8,SNR=6.3						
ASPA	**Alice Springs**	**50.28**	**169**	*e*P	**P**	**13 39 43.8**	**+0.8**
CTA	**Charters Tower**	**50.51**	**153**	LR	LR	13 59 40.4	
	comp=Z,46nm,20.0s,baz=76,slow=34						
STKA	**Stephens Creek**	**59.89**	**163**	P	**P**	**13 40 51.8**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.7,baz=68,slow=18,SNR=4.0						
ILAR	**Eielson Array**	**66.13**	**28**	P	**P**	**13 41 31.9**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.0,baz=256,slow=4.2,SNR=5.1						
ARCES	**ARCESS Array B**	**68.91**	**338**	P	**P**	**13 41 48.6**	**-0.7**
	comp=Z,1.7nm,0.9s,mb3.7,baz=72,slow=5.7,SNR=3.4						
ARCES	**ARCESS Array B**	**68.91**	**338**	P	**P**	**13 41 48.6**	**-0.7**
FINES	**FINESS Array B**	**71.34**	**330**	P	**P**	**13 42 03.4**	**-0.7**
	comp=Z,3.6nm,0.7s,mb4.1,baz=56,slow=5.7,SNR=15						
BRTR	**Keskin Array B**	**74.48**	**307**	P	**P**	**13 42 22.5**	**-0.4**
	comp=Z,1.0nm,0.5s,mb3.7,baz=83,slow=3.6,SNR=4.8						
NB2	**NORSAR Subarra**	**77.95**	**333**	P	**P**	**13 42 41.5**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.5,baz=51,slow=5.8						
NOA	**NORSAR Array B**	**77.95**	**333**	P	**P**	**13 42 41.4**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.5,baz=54,slow=5.5,SNR=5.2						
YKA	**Yellowknife Ar**	**80.03**	**24**	P	**P**	**13 42 52.9**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.5,baz=303,slow=5.3,SNR=26						

*BJI **19** 14:04:19.1, 23.82N×94.47E, h80km, mB4.7, mb4.7, Ms3.8, Msz3.6*
*IDC **19** 14:04:20.6±1.9, 23.75N×94.59E, h89km±16km, mb3.8/13, mb1 3.9/14, mb1mx3.8/21, mbtmp4.1/14, Error ellipse: s-maj=27.4km s-min=12.0km az=53.0*
*NEIC **19** 14:04:20.6±0.8, 23.71N×94.48E, h90km±9km, mb4.5/9, Error ellipse: s-maj=9.2km s-min=6.5km az=57.0*
ISC 19 14:04:18.0±0.5, 23.64N±0.04×94.40E±0.03, h80km±6km, n87, σ1§31/102, mb4.3/21, 3C-3D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	**Agartala**	**2.90**	**275**	⇓*i*P	**P**	**14 05 04.0**	**+1.0**
AGT				*i*		14 06 33.0	
SHL	**Shillong**	**2.99**	**310**	*e*P	**P**	**14 05 05.8**	**+1.5**
SHL				*e*S	**S**	**14 05 36.8**	**-2.3**
SLGI	**Shiliguri**	**6.22**	**301**	*e*P	**P**	**14 05 50.4**	**+1.5**
GTK	**Gangtok**	**6.39**	**306**	*e*S	**S**	**14 06 59.0**	**-4.5**
CHG	**Chiang Mai**	**6.40**	**138**	PN	**P**	**14 05 52.0**	**+0.5**
CHG				SG	S	14 07 44.2	+40
CM31	**Chiang Mai Arr**	**6.68**	**140**	*e*P	**P**	**14 05 55.6**	**+0.3**
	36nm,0.6s						
CMAR	**Chiang Mai Arr**	**6.68**	**140**	P	**P**	**14 05 55.8**	**+0.4**
	3.3nm,0.3s,baz=316,slow=12,SNR=98						
LSA	**Lhasa**	**6.70**	**335**	P	**P**	**14 05 55.8**	**+0.2**
LSA				S	**S**	**14 07 06.8**	**-4.3**
LSA				Smax			
	comp=N,70nm,0.9s						
LSA				Smax			
	comp=E,100nm,0.8s						
LSA	**Lhasa**	**6.70**	**335**	*e*P	**P**	**14 05 55.9**	**+0.3**
	comp=E,48nm,0.5s						
NANT	**Nan**	**7.60**	**128**	⇑P	**P**	**14 06 06.5**	**-1.5**
	comp=E,278nm,0.5s						
KMI	**Kunming**	**7.75**	**77**	P	**P**	**14 06 12.5**	**+2.5**
KMI				S	**S**	**14 07 45.1**	**+8.2**
KMI				AMB	AMB		
	comp=Z,125nm,0.9s						
KMI				AMB	AMB		
	comp=Z,316nm,3.8s						
KMI				Smax			
	comp=N,45nm,1.2s						
KMI				Smax			
	comp=E,26nm,1.1s						
KMI				LR	LR		
	comp=N,273nm,8.1s						
KMI				LR	LR		
	comp=E,260nm,5.3s						
KMI				LR	LR		
	comp=Z,261nm,7.0s						
KMI	**Kunming**	**7.75**	**77**	P	**P**	**14 06 12.5**	**+2.5**
	comp=Z,125nm,0.9s						
KMI				S	**S**	**14 07 45.1**	**+8.2**
BOK	**Bokaro**	**7.80**	**273**	⇑*i*P	**P**	**14 06 10.6**	**-0.2**
BOK				*i* S	**S**	**14 07 33.6**	**-4.7**
JIRN	**Jiri**	**8.42**	**300**	*e*Pn	**P**	**14 06 18.9**	**-0.3**
JIRN				*e*Sn	**S**	**14 07 47.3**	**-6.2**
	comp=Z,984nm,0.6s						
BWNR	**Bhubaneshwar**	**8.64**	**249**	*e*P	**P**	**14 06 24.8**	**+2.6**
BWNR				*e*S	**S**	**14 07 52.6**	**-6.3**
BWNR				AML	AML	14 08 02.2	
	comp=N,171nm,0.2s						
BWNR				AML	AML	14 08 02.5	
	comp=E,195nm,0.4s						
GUN	**Gumba**	**8.78**	**301**	*e*Pn	**P**	**14 06 22.0**	**-2.1**
GUN				*e*Sn	**S**	**14 07 55.7**	**-6.6**
	comp=E,952nm,0.6s						
PKI	**Pulchoki**	**9.01**	**298**	*e*Pn	**P**	**14 06 26.8**	**-0.4**
PKI				*e*Sn	**S**	**14 08 01.4**	**-6.5**
	comp=E,277nm,0.5s						
KKN	**Kakani**	**9.20**	**299**	*e*Pn	**P**	**14 06 28.9**	**-0.9**
KKN				*e*Sn	**S**	**14 08 04.9**	**-7.7**
	comp=E,548nm,0.6s						
DMN	**Daman**	**9.27**	**297**	*e*Pn	**P**	**14 06 30.2**	**-0.6**
DMN				*e*Sn	**S**	**14 08 07.5**	**-6.8**
	comp=E,386nm,0.6s						
NST	**Nakhon Sawan**	**9.59**	**145**	P	**P**	**14 06 30.0**	**-5.2**
GKN	**Gorkha**	**9.81**	**298**	*e*Pn	**P**	**14 06 36.4**	**-1.7**
GKN				*e*Sn	**S**	**14 08 19.4**	**-8.0**
	comp=E,529nm,0.4s						
KOLN	**Koldanda**	**10.57**	**295**	*e*Pn	**P**	**14 06 46.5**	**-1.9**
KOLN				*e*Sn	**S**	**14 08 36.7**	**-9.1**
	comp=E,240nm,0.5s						
CD2	**Chengdu**	**11.03**	**47**	P	**P**	**14 06 55.4**	**+0.8**
BLSP	**Bilaspur**	**11.41**	**265**	*e*S	**S**	**14 08 58.1**	**-7.9**
GYA	**Guiyang**	**11.47**	**73**	⇑*i*P	**P**	**14 06 59.3**	**-1.2**
GYA				AP		14 07 09.5	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,90nm,3.0s						
GYA				LR	LR		
	comp=N,340nm,13.2s						
GYA				LR	LR		
	comp=E,410nm,14.2s						
GYA				LR	LR		
	comp=Z,530nm,14.5s						
VIS	**Vishakhapatnam**	**11.91**	**242**	*e*P	**P**	**14 07 07.6**	**+1.1**
VIS				*e*S	**S**	**14 09 08.9**	**-9.2**
VIS				*e*		14 09 13.7	
	comp=E,42nm,0.4s						
VIS				*e*		14 09 14.6	
	comp=N,27nm,0.5s						
LGTI	**Lohaghat**	**13.92**	**298**	*e*P	**P**	**14 07 32.5**	**-0.3**
LGTI				*e*		14 09 58.5	
LZH	**Lanzhou**	**14.86**	**31**	*e*P	**P**	**14 07 42.0**	**-2.9**
LZH				AP		14 07 55.0	
LZH				AMB	AMB		
	comp=Z,28nm,1.5s						
LZH				LR	LR		
	comp=N,256nm,13.2s						
LZH				LR	LR		
	comp=Z,347nm,17.0s						
LZH	**Lanzhou**	**14.86**	**31**	*e*P	**P**	**14 07 42.0**	**-2.9**
	comp=Z,28nm,1.5s						
LZH				pP		14 07 55.0	
LZH				sP		14 07 57.1	
ENH	**Enshi**	**14.98**	**61**	*e*P	**P**	**14 07 45.1**	**-1.4**
	comp=Z,36nm,0.8s						
QIZ	**Qiongzhong**	**15.10**	**105**	*e*P	**P**	**14 07 51.8**	**+3.7**
BHPL	**Bhopal**	**15.59**	**272**	*e*P	**P**	**14 07 54.0**	**-0.3**
BHPL				*e*		14 07 57.2	
	comp=Z,17nm,0.7s						
BHPL				*e*		14 10 39.0	
HYB	**Hyderabad**	**16.08**	**250**	*e*P	**P**	**14 08 02.5**	**+2.0**
HYB				*e*S	**S**	**14 10 51.0**	**-4.9**
HYB	**Hyderabad**	**16.08**	**250**	*i* P	**P**	**14 08 02.5**	**+2.0**
HYB				*e*		14 08 34.0	
HYB				*e*S	**S**	**14 10 53.0**	**-2.9**
NDI	**New Delhi**	**16.22**	**292**	*e*P	**P**	**14 08 04.0**	**+1.8**
NDI				*e*		14 10 45.0	
SONA	**Sohna**	**16.23**	**290**	*e*P	**P**	**14 08 01.7**	**-0.7**
SONA				*e*		14 08 06.2	
	comp=Z,16nm,0.3s						
GTA	**Gaotai**	**16.38**	**15**	P	**P**	**14 08 04.1**	**0.0**
GTA				AP		14 08 17.8	
GTA				XP		14 08 24.8	
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s						
GTA				AMB	AMB		
	comp=Z,102nm,4.9s						
GTA				LR	LR		
	comp=N,66nm,17.9s						
GTA				LR	LR		
	comp=E,65nm,16.4s						
GTA				LR	LR		
	comp=Z,71nm,19.4s						
XAN	**Xi'an**	**16.39**	**48**	P	**P**	**14 08 04.4**	**+0.1**
XAN				AMB	AMB		
	comp=Z,29nm,0.7s						
KHET	**Khetri**	**17.30**	**289**	*e*P	**P**	**14 08 16.3**	**+0.5**
KHET				*e*		14 08 23.8	
	comp=Z,12nm,0.6s						
GZH	**Guangzhou**	**17.41**	**88**	P	**P**	**14 08 12.8**	**-4.3**
KULM	**Kulim**	**19.21**	**161**	*e*P	**P**	**14 08 38.7**	**+0.5**
POO	**Poona**	**19.83**	**259**	*e*	**S**	**14 12 17.3**	**-1.3**
KAD	**Karad**	**19.95**	**255**	*e*	**S**	**14 12 21.5**	**+0.5**
WMQ	**Urumqi**	**20.87**	**346**	P	**P**	**14 08 55.0**	**-0.4**
ULHL	**Ulahol**	**23.92**	**325**	P	**P**	**14 09 28.3**	**+3.1**
	SNR=11						
KZA	**Kyzart**	**24.33**	**324**	P	**P**	**14 09 31.6**	**+2.4**
	SNR=6.4						
BJT	**Baijiatuan**	**24.57**	**43**	*e*P	**P**	**14 09 32.5**	**+0.9**
	comp=Z,11nm,0.5s,mb4.5						
BJI	**Beijing**	**24.59**	**43**	*e*P	**P**	**14 09 31.5**	**-0.3**
BJI				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.5						
BJI	**Beijing**	**24.59**	**43**	*e*P	**P**	**14 09 31.5**	**-0.3**
	comp=Z,15nm,0.7s,mb4.5						
TKM2	**Tokmak 2**	**24.74**	**326**	P	**P**	**14 09 35.1**	**+2.0**
	SNR=40						
UCH	**Uchtor**	**24.84**	**323**	P	**P**	**14 09 36.7**	**+2.6**
	SNR=13						
KBK	**Karagaybulak**	**24.89**	**324**	P	**P**	**14 09 37.0**	**+2.4**
	SNR=18						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.07**	**340**	P	**P**	**14 09 37.1**	**+0.8**
	comp=Z,41nm,0.6s,mb5.0,baz=144,slow=9.8,SNR=342						
MKAR				ScP		14 16 39.4	
	comp=Z,0.6nm,0.7s,baz=180,slow=1.2,SNR=3.7						
MKAR	**Makanchi Array**	**25.07**	**340**	P	**P**	**14 09 37.1**	**+0.8**
MKAR				ScP		14 16 39.4	
AAK	**Ala-Archa**	**25.12**	**324**	P	**P**	**14 09 39.3**	**+2.4**
	SNR=13						
AAK	**Ala-Archa**	**25.12**	**324**	*e*P	**P**	**14 09 37.8**	**+1.0**
	comp=Z,8.8nm,0.7s,mb4.3						
AML	**Almayashu**	**25.23**	**322**	P	**P**	**14 09 40.0**	**+2.2**
	SNR=12						
CHMS	**Chumysh**	**25.23**	**325**	P	**P**	**14 09 41.0**	**+3.1**
	SNR=6.2						
EKS2	**Erkin-Say**	**25.53**	**323**	P	**P**	**14 09 43.1**	**+2.4**
	SNR=13						
USP	**Ospenovka**	**25.55**	**325**	P	**P**	**14 09 42.4**	**+1.6**
	SNR=6.4						
SONM	**Songino Array**	**25.97**	**19**	P	**P**	**14 09 44.3**	**-0.4**
	comp=Z,0.9nm,0.8s,mb3.2,baz=204,slow=8.0,SNR=6.9						
SONM				ScP		14 16 41.2	
	comp=Z,0.8nm,0.9s,baz=270,slow=1.2,SNR=5.1						
KALP	**Kalibo**	**29.09**	**109**	*e*P	**P**	**14 10 09.0**	**-4.3**
ZAL	**Zalesovo**	**31.11**	**349**	P	**P**	**14 10 30.0**	**-0.7**
	comp=Z,1.4nm,0.4s,mb4.0,baz=336,slow=5.2,SNR=5.4						
ZAL	**Zalesovo**	**31.11**	**349**	P	**P**	**14 10 30.0**	**-0.7**
HIA	**Hailar**	**32.42**	**32**	*e*P	**P**	**14 10 42.8**	**+0.6**
	comp=Z,3.9nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	**34.54**	**334**	P	**P**	**14 11 00.4**	**0.0**
	comp=Z,5.0nm,0.5s,mb4.6,baz=142,slow=11,SNR=47						
BVAR				ScP		14 17 11.4	
	comp=Z,1.0nm,0.8s,baz=135,slow=4.2,SNR=5.3						
CHKZ	**Chkalovo**	**34.94**	**335**	⇓*i*P	**P**	**14 11 04.0**	**+0.1**
	comp=Z,8.6nm,0.6s,mb4.8						
MAT	**Matsushiro**	**39.70**	**61**	*e*P	**P**	**14 11 43.0**	**-0.9**
MAT	**Matsushiro**	**39.70**	**61**	P	**P**	**14 11 42.8**	**-1.1**
MJAR	**Matsushiro Arr**	**39.71**	**61**	P	**P**	**14 11 41.6**	**-2.3**
	comp=Z,2.6nm,0.7s,mb4.2,baz=269,slow=9.9,SNR=8.8						
ARU	**Arti**	**41.88**	**331**	⇓*e*P	**P**	**14 12 01.4**	**-0.1**
	comp=Z,4.7nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**51.49**	**141**	*e*P	**P**	**14 13 17.2**	**-0.5**
	comp=Z,4.0nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**51.49**	**141**	P	**P**	**14 13 17.5**	**-0.2**
	comp=Z,1.6nm,0.4s,mb4.4,baz=341,slow=5.7,SNR=6.8						
BRTR	**Keskin Array B**	**53.18**	**303**	P	**P**	**14 13 30.6**	**+0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=114,slow=6.3,SNR=6.4						
AKASG	**Malin Array Be**	**56.46**	**316**	P	**P**	**14 13 52.2**	**-1.4**
	comp=Z,1.8nm,0.5s,mb4.4,baz=80,slow=6.4,SNR=4.4						
AKASG	**Malin Array Be**	**56.46**	**316**	P	**P**	**14 13 52.2**	**-1.4**
WRAB	**Tennant Creek**	**58.24**	**135**	*e*P	**P**	**14 14 05.7**	**-0.9**
	comp=Z,6.5nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**58.25**	**135**	*e*P	**P**	**14 14 06.0**	**-0.7**
FINES	**FINESS Array B**	**59.17**	**329**	P	**P**	**14 14 11.5**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=104,slow=7.9,SNR=4.9						
ASPA	**Alice Springs**	**60.68**	**138**	*e*P	**P**	**14 14 23.0**	**-0.4**
ASAR	**Alice Springs**	**60.68**	**138**	P	**P**	**14 14 22.9**	**-0.4**
	comp=Z,3.6nm,0.5s,mb4.6,baz=321,slow=6.8,SNR=134						
ARCES	**ARCESS Array B**	**60.70**	**338**	P	**P**	**14 14 22.1**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.3,baz=45,slow=1.7,SNR=5.0						
NB2	**NORSAR Subarra**	**66.34**	**328**	P	**P**	**14 14 58.4**	**-1.5**
	comp=Z,1.2nm,0.8s,mb3.8,baz=85,slow=6.2						
NOA	**NORSAR Array B**	**66.34**	**328**	P	**P**	**14 14 58.7**	**-1.2**
	comp=Z,1.0nm,0.7s,mb3.8,baz=86,slow=6.2,SNR=3.8						
GERES	**GERESS Array B**	**66.59**	**315**	P	**P**	**14 15 01.7**	**-0.1**
	comp=Z,1.1nm,0.5s,mb3.9,baz=72,slow=4.2,SNR=9.6						
STKA	**Stephens Creek**	**71.30**	**139**	P	**P**	**14 15 30.3**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.8,baz=315,slow=4.3,SNR=4.9						
SDV	**Santo Domingo**	**144.52**	**334**	*e*PKPdf	PKPdf	14 23 46.1	+0.3

MAN 19 14:10:05.5, 10.85N×121.98E, h113km, mb3.7, ML2.5, MS2.0, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAP	**Anini-y**	**0.43**	**185**	*e*P	P	14 10 24.0	+1.6
GUIM	**Jordan**	**0.64**	**110**	*e*P	P	14 10 24.6	+0.9
CUYO	**Cuyo Island**	**0.95**	**270**	*e*P	P	14 10 25.9	-0.8
CUYO				*e*S	S	14 10 37.7	-4.8
RCP	**Roxas**	**1.03**	**47**	⇑*e*P	P	14 10 28.6	+1.1
RCP				*e*S	S	14 10 44.5	+0.5
OTRP	**Odiongan**	**1.50**	**1**	*e*P	P	14 10 33.1	+0.1
OTRP				*e*S	S	14 10 50.4	-3.2
SJMP	**San Jose**	**1.81**	**332**	*e*P	P	14 10 37.0	+0.3
ENPP	**El Nido**	**2.53**	**278**	*e*P	P	14 10 47.6	+1.4

*IDC **19** 14:23:18.2±

comp=E,800nm,9.0s
GYA LR LR
comp=Z,660nm,6.6s
CD2 Chengdu 5.54 14 P **P 14 52 27.4 +0.8**
CD2 S **S 14 53 34.3 +4.4**
CD2 SG S 14 53 58.4 +28
CD2 Smax
comp=N,343nm,1.0s
CD2 Smax
comp=E,153nm,1.0s
CD2 LR LR
comp=N,3μm,8.1s
CD2 LR LR
comp=Z,2μm,5.9s
NANT Nan 6.83 192 ⇓P **P 14 53 05.0 +20**
comp=Z,600nm,0.9s
CMAR Chiang Mai Arr 7.65 204 Pn **P 14 52 56.7 +0.6**
baz=15,slow=14,SNR=4.1
CMAR Pg P 14 53 23.0 +27
comp=Z,0.5nm,0.3s,baz=8.2,slow=17,SNR=31
CMAR Lg 14 55 04.2
comp=Z,0.4nm,0.3s,baz=11,slow=29,SNR=4.9
CMAR LR LR 14 56 23.8
comp=Z,55nm,18.5s,baz=30,slow=43
ENH Enshi 7.99 52⇓*e*P **P 14 53 01.8 +1.1**
comp=Z,18nm,0.8s
QIZ Qiongzhong 9.56 131 *e*P **P 14 53 21.9 -0.7**
QIZ LR LR
comp=N,374nm,9.2s
QIZ LR LR
comp=E,260nm,11.6s
QIZ LR LR
comp=Z,510nm,10.9s
XAN Xi'an 10.29 33 P **P 14 53 31.0 -1.5**
XAN LR LR
comp=N,549nm,7.4s
XAN LR LR
comp=E,594nm,7.7s
XAN LR LR
comp=Z,715nm,6.3s
LZH Lanzhou 10.63 7 *e*P **P 14 53 36.0 -1.1**
LZH AP 14 53 39.3
LZH XP 14 53 42.3
LZH *e*PP PP 14 53 44.5 -0.7
LZH *e*S **S 14 55 38.0 +2.3**
LZH XS 14 55 41.5
LZH SS SS 14 55 50.8 +0.8
LZH AMB AMB
comp=Z,19nm,1.3s
LZH AMB AMB
comp=Z,68nm,4.3s
LZH LR LR
comp=N,562nm,8.2s
LZH LR LR
comp=Z,957nm,10.5s
LZH Lanzhou 10.63 7 *e*P **P 14 53 36.0 -1.1**
comp=Z,19nm,1.3s
LZH pP 14 53 39.2
LZH sP 14 53 42.3
LZH *e*PP PP 14 53 44.5 -0.7
LZH *e*S **S 14 55 38.0 +2.3**
LZH sS 14 55 41.5
LZH SS SS 14 55 50.8 +0.8
HHC Hu-ho-hao-te 17.16 25 *e*P **P 14 55 00.0 -2.5**
HHC AP 14 55 09.3
HHC XP 14 55 14.9
HHC AMB AMB
comp=Z,10.0nm,1.2s
HHC AMB AMB
comp=Z,87nm,6.2s
HHC LR LR
comp=N,310nm,11.6s
HHC LR LR
comp=E,143nm,10.0s
HHC LR LR
comp=Z,209nm,10.5s
BJT Baijiatuan 18.59 36 *e*P **P 14 55 21.2 +0.9**
comp=Z,4.2nm,0.6s
BJI Beijing 18.61 35 *e*P **P 14 55 18.1 -2.4**
BJI AMB AMB
comp=Z,8.0nm,0.9s
BJI LR LR
comp=N,206nm,11.2s
BJI LR LR
comp=E,179nm,11.2s
BJI Beijing 18.61 35 *e*P **P 14 55 18.1 -2.4**
comp=E,8.0nm,0.9s
SONM Songino Array 22.52 7 P **P 14 56 01.8 +0.3**
comp=E,2.0nm,0.6s,mb3.7,baz=185,slow=10,SNR=13
ULN Ulaanbaatar 22.63 8 *e*P **P 14 56 01.9 -0.7**
comp=E,2.5nm,0.8s,mb3.7
CN2 Changchun 26.27 40 *e*P **P 14 56 41.3 +3.8**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb4.7
MKAR Makanchi Array 26.50 328 P **P 14 56 39.9 +0.3**
comp=Z,0.8nm,0.7s,mb3.4,baz=120,slow=11,SNR=5.9
HIA Hailar 27.36 25 *e*P **P 14 56 47.9 +0.5**
comp=Z,16nm,0.8s,mb4.6
AAK Ala-Archa 28.43 314 *e*P **P 14 56 57.4 +0.2**
comp=Z,2.8nm,0.8s,mb3.9
ZAL Zalesovo 31.21 340 P **P 14 57 21.9 +0.2**
comp=Z,0.7nm,0.5s,mb3.7,baz=297,slow=2.3,SNR=4.6
ZAL LR LR 15 11 24.0
comp=Z,63nm,20.4s,MS3.3,baz=140,slow=39
BVAR Borovoye Array 36.38 328 P **P 14 58 05.8 -0.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=98,slow=10,SNR=3.7
BVAR PcP PcP 15 00 29.8 -0.5
comp=Z,0.4nm,0.5s,baz=135,slow=2.1,SNR=3.8
ASAJ Asahikawa 37.54 50 P **P 14 58 18.1 +2.0**
comp=Z,1.6nm,0.6s,mb4.0,baz=265,slow=12,SNR=3.2
FITZ Fitzroy Crossi 48.98 150 P **P 14 59 49.4 +0.5**
comp=Z,2.4nm,0.8s,mb4.3,baz=329,slow=12,SNR=3.1
WRAB Tennant Creek 54.92 142 P **P 15 00 32.5 -0.8**
comp=Z,3.3nm,0.8s,mb4.4
BILL Bilibino 56.93 24⇑*e*P **P 15 00 46.4 -0.8**
comp=Z,1.8nm,0.7s,mb4.2
ASAR Alice Springs 57.72 145 P **P 15 00 54.1 +0.8**
comp=Z,0.8nm,0.6s,mb3.9,baz=329,slow=7.1,SNR=12
FINES FINESS Array B 61.33 328 P **P 15 01 15.8 -1.9**
comp=Z,1.3nm,0.7s,mb4.2,baz=153,slow=8.5,SNR=4.8
ARCES ARCESS Array B 61.70 337 P **P 15 01 18.3 -1.7**
comp=Z,2.9nm,0.9s,mb4.4,baz=68,slow=6.5,SNR=6.1
NOA NORSAR Array B 68.50 328 P **P 15 02 03.8 -0.1**
comp=Z,0.7nm,0.7s,mb3.8,baz=77,slow=6.1,SNR=4.6
ILAR Eielson Array 75.58 24 P **P 15 02 47.9 +2.0**
comp=Z,0.2nm,0.5s,mb3.4,baz=283,slow=4.3,SNR=7.9
INK Inuvik 77.96 18 P **P 15 02 59.7 +0.6**
comp=Z,1.8nm,0.9s,mb4.0,baz=320,slow=4.2,SNR=6.8
INK Inuvik 77.96 18 P **P 15 02 59.7 +0.6**
YKA Yellowknife Ar 87.50 16 P **P 15 03 48.5 +0.4**
comp=Z,0.3nm,0.7s,mb3.7,baz=325,slow=5.0,SNR=9.0
YKA Yellowknife Ar 87.50 16 P **P 15 03 48.5 +0.4**
SDV Santo Domingo 145.10 348 *e*PKP PKPdf 15 10 40.3 +2.5

CSEM ***19*** *14:57:35.6±0.8, 38.61N×28.53W, h5km, ML3.3, Error ellipse: s-maj=5.3km s-min=2.2km az=32.0, After PDA*
PDA ***19*** *14:57:35.6±0.8, 38.61N×28.53W, h5km, MD2.6, ML3.3, Error ellipse: s-maj=5.3km s-min=2.2km az=32.0*
SVSA 19 14:57:35.6±0.8, 38.61N×28.53W, h5km, MD2.6, ML3.3, Error ellipse: s-maj=5.3km s-min=2.2km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.11**	**222**	*e*S	Sg	14 57 39.5	-0.1
PCED	**Cedros**	**0.13**	**278**	*e*P	Pg	14 57 38.6	+0.2
PCED				*e*S	Sg	14 57 39.8	-0.5
76nm,0.1s							
PCED	**Cedros**	**0.13**	**278**	*e*P	Pg	14 57 38.6	+0.2
PCED				*e*S	Sg	14 57 39.8	-0.5
76nm,0.1s							
CALA	**Caldeira**	**0.14**	**258**	*e*P	Pg	14 57 38.3	-0.1
CALA				*e*S	Sg	14 57 40.3	-0.1
PICO	**Pico**	**0.14**	**142**	*i* P	Pg	14 57 38.0	-0.5
PICO				*e*S	Sg	14 57 40.5	+0.1
PMAN	**Manadas**	**0.35**	**86**	*e*rx		14 57 42.8	

IDC ***19*** *14:58:16.6±1.9, 30.99N×140.54E, mb3.5/2, mb1 3.6/5, mb1mx3.4/22, mbtmp3.6/5, ML3.4/3, Error ellipse: s-maj=88.9km s-min=18.9km az=72.0*
JMA ***19*** *14:58:19.7±0.3, 31.80N×141.51E, M3.6*
ISC 19 14:58:18.3±0.9, 31.45N±0.06×141.6E±0.1, h60km±15km, n19, σ1s12/30, mb3.6/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.23**	**318**	P	**P**	**14 58 54.3**	**+0.5**
JHJ2				S	**S**	**14 59 20.4**	**+0.3**
JHJ	**Hachijo jima 2**	**2.26**	**318**	Pn	**P**	**14 58 54.4**	**+0.2**
13nm,0.3s,baz=64,slow=21,SNR=34							
JHJ				Sn	**S**	**14 59 19.6**	**-1.2**
43nm,0.3s,baz=97,slow=23,SNR=11							
BSO1	**Boso 1**	**3.23**	**351**	P	**P**	**14 59 08.8**	**+0.9**
BSO1				S	**S**	**14 59 45.0**	**-0.4**
BSO3	**Boso 3**	**3.46**	**345**	P	**P**	**14 59 09.5**	**-1.6**
BSO3				S	**S**	**14 59 50.2**	**-0.9**
BSO4	**Boso 4**	**3.68**	**344**	P	**P**	**14 59 15.8**	**+1.6**
JIM2	**Oshima 3**	**3.73**	**332**	P	**P**	**14 59 14.4**	**-0.4**
JOD2	**Odawara 2**	**4.34**	**332**	P	**P**	**14 59 25.1**	**+1.7**
CBIJ	**Chichi jima**	**4.37**	**173**	Pn	**P**	**14 59 21.8**	**-2.1**
3.7nm,0.3s,baz=282,slow=20,SNR=4.2							
CBIJ				Sn	**S**	**15 00 09.2**	**-4.8**
12nm,0.3s,baz=283,slow=21,SNR=7.2							
JYN	**Shimob**	**4.77**	**329**	P	**P**	**14 59 33.3**	**+3.9**
JHU	**Hanno**	**4.79**	**337**	P	**P**	**14 59 31.1**	**+1.4**
JHU				S	**S**	**15 00 21.1**	**-3.4**
JYT	**Yasato**	**4.90**	**347**	P	**P**	**14 59 31.8**	**+0.5**
JRY	**Ryogami san**	**5.07**	**335**	P	**P**	**14 59 35.2**	**+1.6**
JRY				S	**S**	**15 00 31.1**	**-0.5**
JHO	**Hitachi**	**5.21**	**351**	P	**P**	**14 59 35.0**	**-0.6**
JHO				S	**S**	**15 00 31.1**	**-4.0**
JAG	**Ashikaga**	**5.27**	**341**	P	**P**	**14 59 36.4**	**+0.1**
MJAR	**Matsushiro Arr**	**5.80**	**332**	Pn	**P**	**14 59 44.7**	**+1.0**
1.5nm,0.3s,baz=161,slow=11,SNR=12							
MJAR				Sn	**S**	**15 00 48.4**	**-1.3**
0.4nm,0.3s,baz=9.5,slow=38,SNR=2.8							
MAT	**Matsushiro**	**5.80**	**332**	P	**P**	**14 59 45.1**	**+1.4**
MAT				S	**S**	**15 00 49.0**	**-0.8**
JMK	**Ichinoseki**	**7.49**	**358**	P	**P**	**15 00 06.2**	**-1.1**
JMK				S	**S**	**15 01 24.2**	**-7.3**
MKAR	**Makanchi Array**	**47.38**	**307**	P	**P**	**15 06 49.1**	**+0.9**
0.3nm,0.4s,mb3.5,baz=91,slow=8.6,SNR=5.8							
ASAR	**Alice Springs**	**55.30**	**189**	P	**P**	**15 07 47.6**	**-0.5**
0.4nm,0.5s,mb3.7,baz=3.3,slow=6.5,SNR=11							

IDC ***19*** *15:10:11.5±0.5, 2.40N×96.28E, mb4.8/21, mb1 4.9/22, mb1mx4.8/25, mbtmp4.8/22, ML4.9/1, MS4.5/19, Ms1 4.6/19, ms1mx4.4/31, Error ellipse: s-maj=17.2km s-min=11.8km az=50.0*
BJI ***19*** *15:10:13.4, 2.29N×96.33E, h31km, mB5.3, mb5.4, Ms5.0, Msz4.8*
MOS ***19*** *15:10:14.7±0.9, 2.38N×96.34E, h33km, mb5.4/30, MS4.8/9, Error ellipse: s-maj=15.1km s-min=7.3km az=107.4*
HRVD ***19*** *15:10:15.3±0.5, 1.78N×96.00E, h42km±1km, MW5.0/47, Centroid moment Tensor Solution. LP body waves: s28,c45;Mantle waves: s47,c74; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.06±.25; $M_{\theta\theta}$-2.08±.17; $M_{\phi\phi}$0.02±.24; $M_{r\theta}$1.90±.16; $M_{r\phi}$2.76±.13; $M_{\theta r}$-1.20±.23; Best double couple: $M_0$3.768×10^{16} NP1:ϕ_s313°,δ27°, λ101°. NP2:ϕ_s120°,δ64°,λ84°. Principal axes: T 2.811, Plg71°, Azm17°; N 1.917, Plg5°, Azm123°; P -4.725, Plg18°, Azm214°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***19*** *15:10:15.3±0.2, 2.36N×96.30E, mb5.0/50, MS4.3/1 Error ellipse: s-maj=5.1km s-min=3.5km az=216.0*
ISC 19 15:10:14.0±0.8, 2.35N±0.03×96.32E±0.03, h29km±6km, h31km±1.8km: pP-P, n234, σ0s97/249, mb5.1/97, MS4.7/48, 31C-10D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.19**	**65**	P	**Pn**	**15 11 33.0**	**+1.2**
KULM	**Kulim**	**5.21**	**56**	*e*P	**Pn**	**15 11 33.2**	**+1.1**
SNG	**Songkhla**	**6.43**	**42**	P	**Pn**	**15 11 49.5**	**+0.2**
320nm,0.8s							
KGM	**Kluang**	**7.00**	**93**	P	**Pn**	**15 11 58.9**	**+1.6**
PBA	**Port Blair**	**9.91**	**339**	*e*	**P**	**15 12 25.9**	**-12**
PBA				*e*		15 14 59.2	
NNT	**Nongplab**	**10.72**	**18**	P	**P**	**15 12 50.8**	**+1.8**
PENI	**Pendagan**	**11.83**	**132**	⇓*i*P	**P**	**15 12 59.4**	**-4.6**
82nm,0.4s							
PASI	**Pasiripis**	**12.89**	**134**	*e*P	**P**	**15 13 12.8**	**-5.3**
PULI	**Pulasari**	**12.94**	**132**	*e*P	**P**	**15 13 15.9**	**-2.9**
145nm,0.6s							
NST	**Nakhon Sawan**	**13.77**	**16**	P	**P**	**15 13 30.0**	**+0.2**
KSM	**Kuching**	**14.00**	**93**	*e*P	**P**	**15 13 33.9**	**+0.9**
KKTK	**Khon Kaen**	**15.30**	**24**	P	**P**	**15 13 51.2**	**+1.2**
1μm,0.6s							
UBT	**Ubonrachathani**	**15.42**	**33**	P	**P**	**15 13 52.0**	**+0.5**
CM31	**Chiang Mai Arr**	**16.22**	**9**	*e*P	**P**	**15 14 00.4**	**-1.3**
30nm,0.7s							
CMAR	**Chiang Mai Arr**	**16.22**	**9**	*i* P	**P**	**15 14 00.9**	**-0.8**
CMAR				pmax	pmax		
comp=Z,35nm,0.7s							
CMAR	**Chiang Mai Arr**	**16.22**	**9**	Pn	**P**	**15 14 00.9**	**-0.8**
comp=Z,1.7nm,0.3s,baz=198,slow=11,SNR=52							
CMAR				Sn	**S**	**15 17 08.4**	**+8.2**
baz=207,slow=9.6,SNR=2.8							
CMAR				Lg		15 18 42.6	
baz=192,slow=28,SNR=4.6							
CMAR				LR	LR	15 21 01.9	
comp=Z,3μm,18.9s,baz=200,slow=40							
PALK	**Pallekele**	**16.31**	**288**	*e*P	**P**	**15 14 02.9**	**0.0**
comp=Z,80nm,1.1s							
PALK				*e*S	**S**	**15 16 44.2**	**-18**
CHG	**Chiang Mai**	**16.57**	**9**	⇑P	**P**	**15 14 04.9**	**-1.2**
comp=Z,18nm,0.9s							
NANT	**Nan**	**16.91**	**14**	⇑P	**P**	**15 14 09.0**	**-1.4**
comp=Z,306nm,1.0s							
MDRS	**Chennai**	**19.15**	**305**	*e*	**P**	**15 14 40.0**	**+2.1**
MDRS				*e*		15 17 56.0	
MDRS				*e*		15 19 53.0	
MDRS				*i*		15 20 04.0	
MDRS				*i*		15 21 32.7	
MDRS				*e*		15 25 11.0	
VIS	**Vishakhapatnam**	**19.90**	**321**	*e*P	**P**	**15 14 46.2**	**-0.2**
VIS				*e*		15 14 52.8	
comp=Z,134nm,1.1s							
VIS				*e*		15 18 24.0	
VIS				*i*		15 20 52.6	
KKM	**Kota Kinabalu**	**20.17**	**79**	P	**P**	**15 14 47.0**	**-2.2**
KKM	**Kota Kinabalu**	**20.17**	**79**	P	**P**	**15 14 49.5**	**+0.3**
BWNR	**Bhubaneshwar**	**20.58**	**331**	*e*P	**P**	**15 14 56.2**	**+2.8**
BWNR				*e*		15 14 58.1	
comp=Z,168nm,1.4s							
BWNR				*e*		15 18 28.2	
SRDI	**Scrawed**	**20.77**	**121**	⇑*i*P	**P**	**15 14 53.5**	**-1.9**
QIZ	**Qiongzhong**	**21.22**	**38**	⇓P	**P**	**15 14 59.4**	**-0.5**
QIZ				XP		15 15 15.4	
QIZ				PP	PP	15 15 23.0	-0.5
QIZ				*e*S	**S**	**15 18 46.9**	**-2.4**
QIZ				XS		15 18 59.8	
QIZ				SS	SS	15 19 23.3	-0.1
QIZ				AMB	AMB		
comp=Z,21nm,1.0s,mb4.4							
QIZ				LR	LR		
comp=N,4μm,12.9s,MS5.1							
QIZ				LR	LR		
comp=E,2μm,12.1s,MS5.1							
QIZ	**Qiongzhong**	**21.22**	**38**	*e*P	**P**	**15 14 59.3**	**-0.6**
comp=E,38nm,1.1s,mb4.6							
TSM	**Tawau**	**21.60**	**84**	P	**P**	**15 15 03.8**	**0.0**
AGT	**Agartala**	**21.97**	**348**	*e*P	**P**	**15 15 04.0**	**-3.4**
KEDI	**Kedomdong**	**22.48**	**119**	⇓*i*P	**P**	**15 15 12.7**	**+0.2**
comp=E,37nm,1.4s,mb4.6							
HYB	**Hyderabad**	**23.00**	**312**	*i* P	**P**	**15 15 18.0**	**+0.2**
comp=E,50nm,1.0s,mb4.9							
HYB				*e*sP		15 15 27.0	
HYB				*e*S	**S**	**15 19 29.0**	**+7.0**
KMI	**Kunming**	**23.48**	**15**	P	**P**	**15 15 23.4**	**+1.1**
KMI				AP		15 15 31.4	
KMI				XP		15 15 35.6	
KMI				PP	PP	15 15 58.3	+3.9
KMI				S	**S**	**15 19 35.3**	**+5.0**
KMI				XS		15 19 48.4	
KMI				AMB	AMB		
comp=Z,63nm,1.5s,mb4.8							
KMI				AMB	AMB		
comp=Z,617nm,3.6s							
KMI				LR	LR		
comp=N,2μm,13.4s							
KMI				LR	LR		
comp=E,2μm,19.6s							
KMI				LR	LR		
comp=Z,2μm,12.5s,MS4.8							
KMI	**Kunming**	**23.48**	**15**	P	**P**	**15 15 23.4**	**+1.1**
comp=Z,63nm,1.5s,mb4.8							
KMI				pP		15 15 31.4	
KMI				sP		15 15 35.6	
KMI				PP	PP	15 15 58.2	+3.8
KMI				S	**S**	**15 19 35.2**	**+4.9**
KMI				sS		15 19 48.4	
KMI				SS	SS	15 20 26.5	+8.1
KMI				LR	LR		
comp=Z,2μm,12.5s,MS4.8							
SHL	**Shillong**	**23.48**	**350**	*e*P	**P**	**15 15 21.0**	**-1.4**
SHL				*e*S	**S**	**15 19 34.0**	**+3.6**
BOK	**Bokaro**	**23.59**	**336**	⇑*i*P	**P**	**15 15 23.1**	**-0.4**
BOK				*i* S	**S**	**15 19 37.1**	**+4.7**
TANI	**Tanete Lipujan**	**23.75**	**104**	*e*P	**P**	**15 15 26.0**	**+0.9**
BLSP	**Bilaspur**	**24.02**	**326**	*e*P	**P**	**15 15 30.0**	**+2.3**
NINI	**Niniconang**	**24.36**	**106**	*e*P	**P**	**15 15 32.6**	**+1.5**
BUNI	**Buntu Taipa**	**24.72**	**104**	*e*P	**P**	**15 15 36.1**	**+1.6**
DGAR	**Diego Garcia**	**25.71**	**248**	⇑*i*P	**P**	**15 15 43.4**	**-0.5**
DGAR	**Diego Garcia**	**25.71**	**248**	P	**P**	**15 15 42.0**	**-1.9**
comp=Z,110nm,1.0s,mb5.3							
GYA	**Guiyang**	**25.95**	**22**	⇑*i*P	**P**	**15 15 45.4**	**-0.6**
GYA				AP	pP	15 15 56.9	+2.5
GYA				XP	sP	15 16 01.3	+3.1
GYA				PP	PP	15 16 29.8	+2.7
GYA				S	**S**	**15 20 13.0**	**+0.8**
GYA				XS		15 20 26.3	
GYA				AMB	AMB		
comp=Z,130nm,0.8s,mb5.5							
GYA				AMB	AMB		
comp=Z,290nm,4.2s							
GYA				LR	LR		
comp=N,2μm,13.4s,MS4.8							
GYA				LR	LR		
comp=E,980nm,11.9s,MS4.8							
GYA				LR	LR		
comp=Z,2μm,14.3s,MS4.8							
KAD	**Karad**	**26.34**	**306**	*e*	**P**	**15 16 00.1**	**+10**
KAD				*e*		15 16 04.5	
comp=Z,58nm,1.8s							
KAD				*i*		15 20 21.7	
JIRN	**Jiri**	**26.97**	**340**	*e*P	**P**	**15 15 56.1**	**+0.7**
comp=Z,426nm,0.8s,mb6.0							
PKI	**Pulchoki**	**27.17**	**338**	*e*P	**P**	**15 15 57.3**	**+0.1**
comp=Z,242nm,0.9s,mb5.7							
POO	**Poona**	**27.27**	**308**	*i*	**P**	**15 16 04.0**	**+5.9**
comp=Z,20nm,1.0s,mb4.6							
POO				*i*		15 21 06.0	
GUN	**Gumba**	**27.31**	**340**	*e*P	**P**	**15 15 59.0**	**+0.6**
comp=Z,344nm,0.8s,mb5.9							
DMN	**Daman**	**27.32**	**338**	*e*P	**P**	**15 15 59.0**	**+0.5**
comp=Z,130nm,0.8s,mb5.5							
KKN	**Kakani**	**27.42**	**338**	*e*P	**P**	**15 15 59.8**	**+0.4**
comp=Z,224nm,0.8s,mb5.7							
LSA	**Lhasa**	**27.64**	**350**	P	**P**	**15 16 02.3**	**+0.9**
LSA				AP	pP	15 16 14.8	+4.9
LSA				PP	PP	15 16 51.9	+1.8
LSA				AMB	AMB		
comp=Z,140nm,1.0s,mb5.5							
LSA				AMB	AMB		
comp=Z,220nm,8.0s							
LSA				LR	LR		
comp=N,440nm,17.0s,MS4.4							
LSA				LR	LR		
comp=E,1μm,22.0s,MS4.4							
LSA				LR	LR		
comp=Z,690nm,17.0s,MS4.3							
LSA	**Lhasa**	**27.64**	**350**	⇑*i*P	**P**	**15 16 01.8**	**+0.3**
comp=Z,134nm,1.0s,mb5.5							
LSA				*e*	pP	15 16 08.3	-1.6
BHPL	**Bhopal**	**27.69**	**320**	*e*P	**P**	**15 16 01.6**	**-0.4**
BHPL				*e*		15 16 04.1	
comp=Z,25nm,2.2s							
GKN	**Gorkha**	**27.85**	**337**	*e*P	**P**	**15 16 03.5**	**+0.2**
comp=Z,229nm,0.8s,mb5.9							
KOLN	**Koldanda**	**28.06**	**335**	*e*P	**P**	**15 16 05.6**	**+0.4**
comp=Z,297nm,0.9s,mb5.9							
CD2	**Chengdu**	**29.27**	**13**	P	**P**	**15 16 14.8**	**-1.3**
CD2				AP	pP	15 16 28.5	+3.9
CD2				PP	PP	15 17 09.3	-1.9
CD2				PPP	PPP	15 17 26.8	+2.3
CD2				S	**S**	**15 21 03.8**	**-2.0**
CD2				XS		15 21 18.1	
CD2				SS	SS	15 22 32.4	-5.0
CD2				AMB	AMB		
comp=Z,70nm,0.8s,mb5.4							
CD2				LR	LR		
comp=N,2μm,15.6s							
CD2				LR	LR		
comp=Z,3μm,12.0s,MS5.1							
ENH	**Enshi**	**30.45**	**23**	*e*P	**P**	**15 16 24.8**	**-1.8**
comp=Z,45nm,1.0s,mb5.2							
ENH				*e*pP	pP	15 16 31.1	-4.0
QZH	**Quanzhou**	**31.08**	**42**	P	**P**	**15 16 32.4**	**+0.2**
QZH				LR	LR		
comp=Z,4μm,16.1s,MS5.1							
SONA	**Sohna**	**31.64**	**326**	*e*P	**P**	**15 16 36.4**	**-0.7**
SONA				*e*		15 16 38.0	
comp=Z,90nm,1.1s							
SONA				*e*		15 21 40.7	
AYAN	**Aya Nagar**	**31.79**	**327**	*e*P	**P**	**15 16 37.4**	**-1.0**
AYAN				*e*		15 16 40.3	
comp=Z,20nm,0.9s							
NDI	**New Delhi**	**31.90**	**327**	*e*P	**P**	**15 16 37.5**	**-1.9**
NDI				*e*		15 21 44.0	
KHET	**Khetri**	**32.23**	**324**	*e*P	**P**	**15 16 42.8**	**+0.6**
KHET				*e*		15 16 44.5	
comp=Z,77nm,1.0s							
KHET				*e*S	**S**	**15 21 52.2**	**-0.1**
MBWA	**Marble Bar**	**32.72**	**137**	*e*P	**P**	**15 16 46.5**	**0.0**
comp=Z,36nm,1.3s,mb5.2							
WHN	**Wuhan**	**32.83**	**30**	⇓P	**P**	**15 16 47.5**	**+0.1**
WHN				S	**S**	**15 22 06.0**	**+4.2**
WHN				AMB	AMB		
comp=Z,50nm,0.9s,mb5.4							
WHN				LR	LR		
comp=Z,4μm,14.9s,MS5.2							
XAN	**Xi'an**	**33.66**	**19**	P	**P**	**15 16 53.6**	**-1.0**
XAN				AP	pP	15 16 59.8	-3.3
XAN				S	**S**	**15 22 14.5**	**0.0**
XAN				AMB	AMB		
comp=Z,139nm,1.0s,mb5.8							
XAN				AMB	AMB		
comp=Z,164nm,6.3s							
XAN				LR	LR		
comp=N,879nm,20.6s							
XAN				LR	LR		
comp=Z,1μm,16.3s,MS4.8							
KLP	**Kalpa**	**33.67**	**331**	*e*P	**P**	**15 16 54.8**	**0.0**
KLP				*e*S	**S**	**15 22 17.0**	**+2.2**
SMLA	**Simla**	**33.87**	**330**	⇑*i*	**P**	**15 16 48.2**	**-8.3**
SDNR	**Sundarnagar**	**34.27**	**330**	*e*P	**P**	**15 17 00.8**	**+0.9**
LZH	**Lanzhou**	**34.29**	**11**	⇑P	**P**	**15 16 59.0**	**-1.0**
LZH				AP	pP	15 17 11.0	+2.4
LZH				XP	sP	15 17 15.9	+3.6
LZH				PP	PP	15 18 15.5	+0.1
LZH				S	**S**	**15 22 23.0**	**-1.3**
LZH				XS		15 22 42.9	
LZH				SS	SS	15 24 35.3	+0.8
LZH				AMB	AMB		
comp=Z,69nm,1.5s,mb5.4							
LZH				AMB	AMB		
comp=Z,157nm,5.5s							
LZH				LR	LR		
comp=N,765nm,12.9s							
LZH				LR	LR		
comp=Z,1μm,16.9s,MS4.7							
LZH	**Lanzhou**	**34.29**	**11**	⇑P	**P**	**15 16 59.0**	**-1.0**
comp=Z,69nm,1.5s,mb5.4							
LZH				pP	pP	15 17 11.0	+2.4
LZH				sP	sP	15 17 15.9	+3.6
LZH				PP	PP	15 18 15.5	+0.1
LZH				S	**S**	**15 22 23.0**	**-1.3**
LZH				sS		15 22 42.9	
LZH				SS	SS	15 24 35.2	+0.7
LZH				LR	LR		
comp=Z,1μm,16.9s,MS4.7							
FITZ	**Fitzroy Crossi**	**35.31**	**126**	P	**P**	**15 17 08.4**	**-0.5**
comp=Z,18nm,0.7s,mb5.1,baz=300,slow=6.2,SNR=34							
THN	**Thein Dam**	**35.65**	**329**	*e*P	**P**	**15 17 10.6**	**-1.1**
NJ2	**Nanjing**	**36.37**	**33**	*e*P	**P**	**15 17 17.6**	**-0.2**

NJ2 AP pP 15 17 28.3 +1.9
NJ2 XP sP 15 17 35.0 +5.0
NJ2 PP PP 15 18 41.3 -0.3
NJ2 S **S** **15 22 55.0 -1.5**
NJ2 XS 15 23 17.0
NJ2 AMB AMB
comp=Z,30nm,0.7s,mb5.3
NJ2 AMB AMB
comp=Z,210nm,11.0s
NJ2 LR LR
comp=Z,940nm,20.8s,MS4.5
SSE Sheshan 37.01 37 P **P** **15 17 22.3 -0.8**
SSE XP sP 15 17 38.1 +2.7
SSE PP PP 15 18 49.1 -0.7
SSE S **S** **15 23 06.9 +0.7**
SSE XS 15 23 26.6
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,210nm,4.1s
SSE LR LR
comp=N,416nm,21.8s,MS4.2
SSE LR LR
comp=E,259nm,21.9s,MS4.2
SSE LR LR
comp=Z,667nm,16.4s
SSE Sheshan 37.01 37 P **P** **15 17 22.2 -0.9**
comp=Z,22nm,0.7s,mb5.1
SSE sP sP 15 17 38.1 +2.7
SSE PP PP 15 18 49.1 -0.7
SSE S **S** **15 23 06.9 +0.7**
SSE sS 15 23 26.6
SSE SS SS 15 25 51.7 +16
SSE LR LR
comp=Z,670nm,16.4s,MS4.5
GTA Gaotai 37.03 4 P **P** **15 17 22.8 -0.4**
GTA AP pP 15 17 30.3 -1.5
GTA XP sP 15 17 33.0 -2.5
GTA PP PP 15 18 50.4 +0.4
GTA PPP PPP 15 19 11.8 +1.8
GTA PCP PcP 15 19 44.5 +0.4
GTA S **S** **15 23 07.1 +0.6**
GTA XS 15 23 18.5
GTA SCP 15 23 29.1
GTA SS SS 15 25 38.0 +1.5
GTA SCS ScS 15 27 34.6 +0.9
GTA AMB AMB
comp=Z,80nm,0.9s,mb5.5
GTA AMB AMB
comp=Z,282nm,10.3s
GTA LR LR
comp=N,786nm,16.4s,MS4.8
GTA LR LR
comp=E,739nm,12.2s,MS4.8
GTA LR LR
comp=Z,1μm,16.7s,MS4.7
KAKA Kakadu 38.85 114⇑ *iP* **P** **15 17 37.7 -1.1**
comp=Z,18nm,0.6s,mb5.0
BTO Baotou 40.05 16 *eP* **P** **15 17 48.1 -0.4**
BTO S **S** **15 23 41.6 -11**
BTO AMB AMB
comp=Z,45nm,0.8s,mb5.2
NWAO Narrogin (SRO) 40.27 152 P **P** **15 17 51.6 +1.2**
comp=Z,18nm,0.9s,mb4.8,baz=345,slow=8.2,SNR=4.2
NWAO Narrogin (SRO) 40.27 152 P **P** **15 17 51.6 +1.3**
comp=Z,19nm,1.0s,mb4.8
HHC Hu-ho-hao-te 40.73 18⇑ *iP* **P** **15 17 55.0 +1.0**
HHC AP pP 15 18 07.3 +4.6
HHC PP PP 15 19 36.4 +5.4
HHC SCP 15 23 39.8
HHC PCS 15 23 44.0
HHC S **S** **15 24 04.3 +2.0**
HHC XS 15 24 22.6
HHC SS SS 15 27 02.0 +3.4
HHC SCS ScS 15 27 52.6 -2.5
HHC AMB AMB
comp=Z,97nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,548nm,4.8s
HHC LR LR
comp=N,1μm,12.7s,MS5.1
HHC LR LR
comp=E,959nm,13.7s,MS5.1
HHC LR LR
comp=Z,1μm,13.0s,MS4.9
BJT Baijiatuau 41.60 23⇑ *iP* **P** **15 18 01.9 +0.7**
comp=Z,76nm,0.8s,mb5.4
BJT *e*pP pP 15 18 09.2 -0.7
BJI Beijing 41.62 23 *eP* **P** **15 18 02.3 +0.9**
BJI AP pP 15 18 14.0 +3.9
BJI PCP PcP 15 19 52.5 -6.2
BJI S **S** **15 24 17.8 +2.2**
BJI AMB AMB
comp=Z,139nm,0.8s,mb5.6
BJI LR LR
comp=N,831nm,14.0s,MS4.9
BJI LR LR
comp=E,664nm,13.7s,MS4.9
BJI LR LR
comp=Z,426nm,21.0s
BJI Beijing 41.62 23 *eP* **P** **15 18 02.3 +0.9**
comp=Z,139nm,0.8s,mb5.6
BJI pP pP 15 18 14.0 +3.9
BJI PcP PcP 15 19 52.5 -6.2
BJI S **S** **15 24 17.8 +2.2**
BJI SS SS 15 27 31.1 +15
BJI LR LR
comp=Z,430nm,21.0s,MS4.3
WMQ Urumqi 42.00 351 ⇑P **P** **15 18 04.9 +0.4**
WMQ AP pP 15 18 16.9 +3.8
WMQ XP sP 15 18 22.4 +5.7
WMQ PP PP 15 19 46.0 +1.2
WMQ PCP PcP 15 20 00.4 +0.5
WMQ S **S** **15 24 20.3 -0.9**
WMQ XS 15 24 41.3
WMQ AMB AMB
comp=Z,38nm,1.2s,mb4.9
WMQ LR LR
comp=N,674nm,17.8s,MS4.7
WMQ LR LR
comp=E,765nm,21.0s,MS4.7
WMQ LR LR
comp=Z,655nm,20.6s,MS4.5
WRAB Tennant Creek 43.39 122⇑ *iP* **P** **15 18 15.7 -0.4**
WRAB Tennant Creek 43.39 122 *eP* **P** **15 18 15.0 -1.0**
comp=Z,42nm,1.0s,mb5.1
WB2 Warramunga Arr 43.39 122⇑ *iP* **P** **15 18 15.7 -0.4**
ULHL Ulahol 43.61 338 P **P** **15 18 18.9 +1.3**
SNR=9.5
FORT Forrest 44.71 140 *eP* **P** **15 18 28.0 +1.3**
comp=Z,318nm,0.6s
FORT *i* pP 15 18 36.0 +0.7
FRU Bishkek 44.73 337 *eP* **P** **15 18 26.0 -0.7**
FRU *e* 15 18 43.5
FRU MLR MLR
comp=Z,1μm,18.0s,MS4.8
ASPA Alice Springs 44.78 127⇑ *iP* **P** **15 18 27.2 -0.1**
ASPA *i* pP 15 18 34.8 -1.2
ASAR Alice Springs 44.78 127 P **P** **15 18 27.5 +0.2**
comp=Z,3.2nm,0.5s,mb4.4,baz=299,slow=7.8,SNR=94
ASAR PcP PcP 15 20 09.7 +0.2
comp=Z,1.4nm,0.7s,baz=307,slow=2.8,SNR=3.6
ASAR ScP 15 23 60.0
comp=Z,1.8nm,0.9s,baz=306,slow=4.5,SNR=6.3
CHMS Chumysh 44.82 338 P **P** **15 18 27.6 +0.2**
SNR=5.7
USP Ospenovka 45.14 337 P **P** **15 18 31.1 +1.1**
SNR=17
MKAR Makanchi Array 45.93 347 P **P** **15 18 35.7 -0.4**
MKAR pmax pmax
comp=Z,200nm,1.1s
MKAR Makanchi Array 45.93 347 P **P** **15 18 36.3 +0.2**
comp=Z,112nm,0.9s,mb5.8,baz=161,slow=7.3,SNR=379
MKAR LR LR 15 43 45.1
comp=Z,312nm,18.1s,MS4.3,baz=179,slow=44
SONM Songino Array 46.14 9 P **P** **15 18 38.0 +0.2**
comp=Z,11nm,0.4s,mb5.1,baz=190,slow=9.0,SNR=131
SONM PcP PcP 15 20 14.3 +0.3
comp=Z,4.1nm,0.5s,baz=185,slow=4.1,SNR=11
SONM LR LR 15 40 24.0
comp=Z,2μm,18.4s,MS5.0,baz=201,slow=39
ULN Ulaanbaatar 46.28 10*c* *iP* **P** **15 18 38.3 -0.6**
ULN Ulaanbaatar 46.28 10 *eP* **P** **15 18 38.3 -0.5**
comp=Z,44nm,1.2s,mb5.3
SNY Shenyang 46.30 28 ⇑P **P** **15 18 38.3 -0.8**

SNY AMB AMB
comp=Z,30nm,1.1s,mb5.1
SNY LR LR
comp=N,500nm,12.9s,MS5.1
SNY LR LR
comp=E,1μm,15.7s,MS5.1
SNY LR LR
comp=Z,880nm,15.0s,MS4.8
KKAR Karatay Array 46.65 334 *i* P **P** **15 18 42.1 +0.3**
KKAR pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ZAK Zakamensk 48.23 6⇑ *iP* **P** **15 18 54.2 +0.1**
ZAK pmax pmax
comp=Z,15nm,1.7s,mb4.8
ZAK pmax pmax
comp=Z,4.0nm,1.7s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,1.7s
CN2 Changchun 48.70 28 *eP* **P** **15 18 56.6 -1.2**
CN2 *e*AP pP 15 19 08.4 +1.8
CN2 *e*S **S** **15 25 55.3 -2.0**
CN2 SCS ScS 15 28 41.3 -4.0
CN2 SS SS 15 29 21.9 -1.1
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
CN2 LR LR
comp=N,500nm,12.0s,MS5.1
CN2 LR LR
comp=E,1μm,12.0s,MS5.1
CN2 LR LR
comp=Z,800nm,13.0s,MS4.9
MOY Mondy 49.30 4 *eP* **P** **15 19 02.7 +0.3**
MOY pmax pmax
comp=Z,53nm,2.5s,mb5.1
TLY Talaya 49.55 6*c* *iP* **P** **15 19 04.4 +0.1**
TLY *e* 15 21 00.0
TLY *e*PPP PPP 15 22 00.2 +6.1
TLY *e*S **S** **15 26 10.7 +1.7**
TLY *e* 15 28 49.6
TLY pmax pmax
comp=Z,30nm,1.0s,mb5.3
TLY MLR MLR
comp=Z,753nm,17.0s,MS4.8
TLY Talaya 49.55 6 *eP* **P** **15 19 04.1 -0.2**
comp=Z,29nm,0.9s,mb5.3
IRK Irkutsk 50.17 6 *eP* **P** **15 19 02.6 -6.4**
IRK pmax pmax
comp=Z,73nm,1.9s,mb5.4
HIA Hailar 50.85 20⇑ *eP* **P** **15 19 13.9 -0.3**
comp=Z,46nm,1.1s,mb5.3
MDJ Mudanjiang 51.31 30 P **P** **15 19 17.8 0.0**
MDJ AP pP 15 19 29.3 +2.6
MDJ XP sP 15 19 34.9 +4.8
MDJ PCP PcP 15 20 27.3 -5.3
MDJ PP PP 15 21 12.0 -3.5
MDJ SCP 15 24 22.3
MDJ PCS 15 24 27.8
MDJ S **S** **15 26 38.1 +4.6**
MDJ SCS ScS 15 29 04.6 +1.7
MDJ AMB AMB
comp=Z,17nm,1.3s,mb4.8
MDJ AMB AMB
comp=Z,219nm,6.9s
MDJ LR LR
comp=N,254nm,21.3s,MS4.5
MDJ LR LR
comp=E,379nm,16.9s,MS4.5
MDJ LR LR
comp=Z,390nm,16.9s,MS4.5
MDJ Mudanjiang 51.31 30 *eP* **P** **15 19 17.7 -0.1**
comp=Z,7.4nm,0.8s,mb4.7
MAJO Matsushiro 51.45 43 *eP* **P** **15 19 18.2 -0.8**
comp=Z,7.4nm,0.8s,mb4.7
MAT Matsushiro 51.45 43 *eP* **P** **15 19 18.0 -1.0**
comp=Z,23nm,1.2s,mb5.0
MAT Matsushiro 51.45 43 P **P** **15 19 18.1 -0.9**
MAT S **S** **15 26 46.0 +10**
MJAR Matsushiro Arr 51.45 43 P **P** **15 19 18.8 -0.2**
comp=Z,8.5nm,1.1s,mb4.6,baz=225,slow=6.6,SNR=17
MJAR PcP PcP 15 20 33.9 +0.6
comp=Z,4.7nm,1.1s,baz=253,slow=3.3,SNR=4.9
MJAR LR LR 15 42 42.6
comp=Z,384nm,18.9s,MS4.5,baz=255,slow=38
PMG Port Moresby 51.97 104 P **P** **15 19 23.1 -0.2**
comp=Z,31nm,0.8s,mb5.3,baz=306,slow=4.8,SNR=13
PMG Port Moresby 51.97 104 *eP* **P** **15 19 22.6 -0.6**
comp=Z,30nm,0.8s,mb5.3
ZAL Zalesovo 52.29 351 *i* P **P** **15 19 24.5 -0.6**
ZAL pmax pmax
comp=Z,31nm,0.5s
ZAL Zalesovo 52.29 351 P **P** **15 19 24.4 -0.6**
comp=Z,31nm,0.5s,mb5.5,baz=308,slow=5.1,SNR=184
ZAL LR LR 15 46 39.6
comp=Z,636nm,20.2s,MS4.7,baz=292,slow=42
OPO Ambohidratompo 52.61 245 P **P** **15 19 28.2 +0.3**
comp=Z,3.1nm,0.7s,mb4.3,baz=91,slow=5.9,SNR=6.4
CTA Charters Tower 53.80 117⇓ *iP* **P** **15 19 37.2 +0.5**
comp=Z,12nm,1.0s,mb4.8
CTA *i* pP 15 19 44.5 -1.0
CTA Charters Tower 53.80 117 P **P** **15 19 37.2 +0.5**
comp=Z,17nm,1.0s,mb4.9,baz=267,slow=11,SNR=6.9
CTAO Charters Tower 53.80 117 *eP* **P** **15 19 36.2 -0.5**
comp=Z,16nm,0.9s,mb5.0
STKA Stephens Creek 54.77 132⇑ *iP* **P** **15 19 43.5 -0.2**
comp=Z,7.7nm,0.9s,mb4.7
STKA Stephens Creek 54.77 132 P **P** **15 19 43.7 0.0**
comp=Z,4.7nm,0.7s,mb4.7,baz=304,slow=6.9,SNR=17
STKA LR LR 15 45 42.2
comp=Z,654nm,20.2s,MS4.7,baz=276,slow=39
CHKZ Chkalovo 55.37 342 P **P** **15 19 46.8 -0.9**
CHKZ pmax pmax
comp=Z,27nm,0.8s,mb5.3
KLR Kul'dur 55.64 27 *eP* **P** **15 19 46.0 -3.7**
KLR *e*S **S** **15 27 33.5 +1.5**
KLR pmax pmax
comp=N,20nm,1.2s
KLR pmax pmax
comp=E,25nm,1.2s
KLR pmax pmax
comp=Z,34nm,1.2s,mb5.2
KLR MLR MLR
comp=E,1μm,14.5s
KLR MLR MLR
comp=Z,2μm,14.5s,MS5.3
BOD Bodaibo 57.06 11 *eP* **P** **15 19 59.2 -0.6**
BOD pmax pmax
comp=Z,28nm,1.0s,mb5.2
ASAJ Asahikawa 58.29 38 LR LR 15 44 43.5
comp=Z,354nm,20.6s,MS4.5,baz=177,slow=36
KMBO Kilima Mbogo 59.16 267 P **P** **15 20 16.1 +1.0**
comp=Z,2.9nm,0.8s,mb4.3,baz=54,slow=11,SNR=9.4
KMBO LR LR 15 43 26.7
comp=Z,577nm,18.3s,MS4.7,baz=278,slow=34
KMBO Kilima Mbogo 59.16 267 *eP* **P** **15 20 15.7 +0.6**
comp=Z,5.3nm,0.9s,mb4.6
GNI Garni 59.87 316⇓ *iP* **P** **15 20 19.6 0.0**
GNI pmax pmax
comp=Z,24nm,1.7s
YSS Yuzh-Sakhalins 59.91 35 *eP* **P** **15 20 19.0 -0.8**
YSS *e* 15 20 26.0
YSS *e* 15 20 33.0
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.4
YSS MLR MLR
comp=Z,500nm,15.0s,MS4.8
YSS Yuzh-Sakhalins 59.91 35 *eP* **P** **15 20 18.8 -1.0**
comp=Z,48nm,1.3s,mb5.4
SVE Sverdlovsk 61.31 339⇑ *iP* **P** **15 20 30.0 +0.8**
SVE *e* 15 21 10.0
SVE pmax pmax
comp=Z,80nm,1.7s,mb5.6
SVE MLR MLR
comp=N,300nm,18.0s,MS4.6
SVE MLR MLR
comp=E,300nm,18.0s,MS4.6
SVE MLR MLR
comp=Z,500nm,18.0s,MS4.7
ARU Arti 61.79 337⇓ *iP* **P** **15 20 31.0 -1.5**
ARU *e* 15 21 08.9
ARU *e* 15 22 46.2
ARU *e*S **S** **15 28 53.6 +1.6**
ARU *e*SS SS 15 32 58.5 +2.8
ARU pmax pmax
comp=Z,32nm,1.0s,mb5.4
ARU MLR MLR
comp=Z,500nm,18.0s,MS4.7

ARU MLR MLR
comp=N,300nm,19.0s,MS4.6
ARU MLR MLR
comp=E,300nm,18.0s,MS4.6
ARU Arti 61.79 337 *eP* **P** **15 20 30.5 -1.9**
comp=E,46nm,1.3s,mb5.5
KIV Kislovodsk 62.87 319 *eP* **P** **15 20 39.3 -0.5**
KIV *e*S **S** **15 29 05.2 -0.6**
KIV pmax pmax
comp=N,10.0nm,0.9s
KIV pmax pmax
comp=Z,14nm,0.9s,mb5.1
KIV pmax pmax
comp=E,9.0nm,0.8s
KIV MLR MLR
comp=N,207nm,22.0s,MS4.3
KIV MLR MLR
comp=E,135nm,22.0s,MS4.3
KIV MLR MLR
comp=Z,159nm,22.0s,MS4.1
KIV Kislovodsk 62.87 319 *eP* **P** **15 20 38.5 -1.3**
comp=Z,39nm,1.3s,mb5.4
GOF Gofitskoye 63.13 320⇓ *iP* **P** **15 20 46.0 +4.5**
GOF pmax pmax
comp=Z,16nm,0.8s,mb5.2
MALT Malatya 63.72 312 *eP* **P** **15 20 44.9 -0.6**
comp=Z,4.4nm,1.0s,mb4.4
MALT *e* pP 15 20 52.1 -2.4
EIL Elat 64.11 302 *eP* **P** **15 20 47.9 -0.3**
comp=Z,6.8nm,0.8s,mb4.7
YAK Yakutsk 64.58 17*c* *iP* **P** **15 20 49.5 -1.2**
YAK *i* *PP pP 15 20 55.3 -4.4
YAK *i* S **S** **15 29 27.2 +0.5**
YAK *i* SSS SSS 15 36 32.3 +2.9
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=Z,60nm,1.0s,mb5.6
YAK pmax pmax
comp=E,20nm,1.1s
YAK smax
comp=N,4.0nm,1.2s
YAK smax
comp=E,2.0nm,1.3s
YAK MLR MLR
comp=Z,320nm,18.0s,MS4.5
YAK MLR MLR
comp=N,204nm,16.0s,MS4.5
YAK MLR MLR
comp=E,161nm,17.0s,MS4.5
YAK Yakutsk 64.58 17 *eP* **P** **15 20 48.8 -1.9**
comp=E,91nm,0.9s,mb5.8
SOC Sochi 64.69 318 *eP* **P** **15 20 48.4 -3.4**
SOC *e* 15 21 20.0
SOC *e* 15 23 11.2
SOC *e*PPP PPP 15 24 42.1 -7.3
SOC *e*S **S** **15 29 26.6 -1.8**
SOC *e* 15 30 40.3
SOC *e*SS SS 15 33 33.2 -8.0
SOC pmax pmax
comp=N,20nm,1.0s
SOC pmax pmax
comp=Z,38nm,1.0s,mb5.4
SOC pmax pmax
comp=E,28nm,1.2s
SOKR Solikamsk 64.70 339⇑ *iP* **P** **15 20 51.8 +0.2**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.3
SOKR MLR MLR
comp=Z,400nm,18.0s,MS4.7
ANN Anapa 66.67 318 *eP* **P** **15 21 09.0 +4.6**
ANN *e* 15 21 35.2
ANN *e* 15 23 38.4
ANN pmax pmax
comp=Z,96nm,0.9s,mb5.8
BRTR Keskin Array B 67.70 312 P **P** **15 21 09.8 -1.3**
comp=Z,4.1nm,0.8s,mb4.5,baz=126,slow=6.5,SNR=18
LSZ Lusaka 69.61 253 *eP* **P** **15 21 21.2 -2.0**
MOS Moscow 70.91 329 *eP* **P** **15 21 28.5 -1.9**
MOS *e* 15 21 48.4
MOS *e*S S 15 30 38.9 -3.7
MOS pmax pmax
comp=Z,44nm,0.6s,mb5.6
OBN Obninsk 71.19 328⇑ *iP* **P** **15 21 31.1 -1.1**
OBN *i* 15 21 38.0
OBN *i* 15 21 51.5
OBN *e*S S 15 30 45.2 -0.7
OBN pmax pmax
comp=Z,21nm,0.6s,mb5.2
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
OBN Obninsk 71.19 328⇑ *iP* **P** **15 21 31.2 -1.0**
PET Petropavlovsk 71.78 34 *eP* **P** **15 21 35.7 0.0**
PET *e* 15 31 44.5
PET pmax pmax
comp=Z,42nm,1.3s,mb5.2
PET pmax pmax
comp=Z,100nm,12.8s
PET pmax pmax
comp=Z,100nm,16.8s
TIXI Tiksi 72.22 10*d* *iP* **P** **15 21 37.4 -0.7**
TIXI Tiksi 72.22 10 *i* Pr **P** **15 21 37.4 -0.7**
SEY Seymchan 73.06 23 *eP* **P** **15 21 45.0 +1.9**
SEY *e* 15 24 25.6
SEY *e*S S 15 31 11.2 +4.1
SEY pmax pmax
comp=Z,60nm,0.9s,mb5.5
SEY smax
comp=N,700nm,21.4s
SEY smax
comp=E,400nm,21.4s
SEY MLR MLR
comp=Z,1μm,20.0s,MS5.1
SEY MLR MLR
comp=N,530nm,15.0s,MS5.0
SEY MLR MLR
comp=E,250nm,13.0s,MS5.0
KIS Kishinev 73.06 319 *eP* **P** **15 21 41.0 -2.5**
KIS *e* 15 21 56.0
LBTB Lobatse 73.61 243 LR LR 15 53 22.2
comp=E,552nm,18.0s,MS4.9,baz=54,slow=35
MAW Mawson 73.62 193 LR LR 15 48 00.3
comp=E,168nm,20.4s,MS4.3,baz=61,slow=31
AKASG Malin Array Be 73.82 322 P **P** **15 21 46.6 -1.2**
comp=E,6.7nm,0.6s,mb4.7,baz=91,slow=4.6,SNR=28
BOSA Boshof 74.59 240 P **P** **15 21 52.5 -0.2**
comp=E,3.9nm,1.0s,mb4.3,baz=194,slow=4.2,SNR=2.4
BOSA LR LR 15 51 52.0
comp=E,381nm,18.8s,MS4.7,baz=59,slow=34
JOF Joensuu 76.74 335 *ep* **P** **15 22 04.2 0.0**
comp=E,11nm,0.8s,mb4.8
JOF Joensuu 76.74 335 *eP* **P** **15 22 04.2 0.0**
JOF pmax pmax
comp=Z,11nm,0.8s,mb4.8
LVZ Lovozero 77.46 340 *eP* **P** **15 22 08.0 -0.1**
LVZ pmax pmax
comp=Z,106nm,1.9s,mb5.5
KOLS Kolonicke sedl 77.78 320 *eP* **P** **15 22 11.7 +1.5**
SUW Suwalki 78.24 325 *eP* **P** **15 22 12.5 -0.1**
FINES FINESS Array B 78.58 333 P **P** **15 22 14.2 -0.1**
comp=Z,12nm,0.7s,mb4.9,baz=104,slow=7.9,SNR=43
FINES LR LR 16 01 53.5
comp=Z,366nm,20.9s,MS4.7,baz=132,slow=40
KAF Kangasniemi 78.67 333 *ep* **P** **15 22 15.0 +0.2**
comp=Z,18nm,0.8s,mb5.0,baz=104,slow=5.1
KAF Kangasniemi 78.67 333 *eP* **P** **15 22 15.0 +0.2**
KAF pmax pmax
comp=Z,18nm,0.8s,mb5.0
NIE Niedzica 79.13 320 *eP* **P** **15 22 17.6 0.0**
PSZ Piszkesteto 79.18 318 *eP* **P** **15 22 17.7 -0.2**
comp=Z,46nm,1.6s,mb5.2
PSZ Piszkesteto 79.18 318⇓ *eP* **P** **15 22 18.4 +0.5**
OJC Ojcow 79.59 321 *eP* **P** **15 22 20.3 +0.2**
VYHS Vyhne 79.96 319 *eP* **P** **15 22 22.2 +0.1**
TSUM Tsumeb 80.15 250 LR LR 15 56 26.1
comp=Z,337nm,18.2s,MS4.7,baz=143,slow=35
BILL Bilibino 80.41 21⇓ *eP* **P** **15 22 23.2 -0.9**
BILL pmax pmax
comp=Z,16nm,1.9s,mb4.6
BILL MLR MLR
comp=Z,1μm,17.0s,MS5.3
BILL Bilibino 80.41 21 *eP* **P** **15 22 23.4 -0.8**
comp=Z,47nm,1.9s,mb5.1
OKC Ostrava-Krasne 80.59 320 *eP* **P** **15 22 26.0 +0.6**
KEV Kevo 80.74 341 *ep* **P** **15 22 25.1 -0.7**
comp=Z,8.8nm,0.7s,mb4.8

KEV Kevo 80.74 341 *e*P **P 15 22 25.1 -0.7**
KEV pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MORC Moravsky Berou 80.97 320 *e*P **P 15 22 26.9 -0.5**
comp=Z,8.4nm,1.4s,mb4.5
ZST Bratislava 81.07 318 *e*P **P 15 22 28.8 +0.8**
ARCES ARCESS Array B 81.17 340 P **P 15 22 28.7 +0.6**
comp=Z,5.6nm,0.5s,mb4.8,baz=96,slow=4.8,SNR=64
ARCES LR LR 16 04 34.5
comp=Z,441nm,18.3s,MS4.8,baz=215,slow=40
ARCES ARCESS Array B 81.17 340 P **P 15 22 28.7 +0.6**
ARE0 ARCESS Array S 81.17 340 P **P 15 22 27.8 -0.3**
DPC Dobruska-Polom 81.82 320 *e*P **P 15 22 32.6 +0.8**
DPC *e*pP pP 15 22 40.9 -0.1
GCIS Gornji Cirnik 81.84 316 *e*P **P 15 22 32.4 +0.4**
UPC Upice 82.03 321 *e*P **P 15 22 32.9 0.0**
PERS Pernice 82.26 317 *e*P **P 15 22 34.9 +0.7**
PRU Pruhonice 82.92 320 *e*P **P 15 22 38.0 +0.5**
PVCC Panska Ves 82.95 320 *e*pP pP 15 22 47.8 +0.9
BRG Berggiesshubel 83.37 321 *e*P **P 15 22 40.8 +0.9**
BRG *e* 15 22 53.9
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BRG Berggiesshubel 83.37 321 *e*P **P 15 22 40.8 +0.9**
comp=Z,8.5nm,0.9s,mb4.8
BRG *e* 15 22 53.9
GEC2 GERESS Array S 83.38 319 *e*P **P 15 22 40.2 +0.3**
GEC2 pmax pmax
comp=Z,14nm,1.1s,mb4.9
GEC2 GERESS Array S 83.38 319 *e*P **P 15 22 40.2 +0.3**
comp=Z,14nm,1.1s,mb4.9
GERES GERESS Array B 83.38 319 P **P 15 22 40.7 +0.7**
comp=Z,5.3nm,0.8s,mb4.6,baz=104,slow=5.5,SNR=37
GERES LR LR 16 06 18.4
comp=Z,137nm,18.9s,MS4.3,baz=271,slow=40
KHC Kasperske Hory 83.48 319 *e*P **P 15 22 40.3 -0.1**
KHC *e*pP pP 15 22 49.5 -0.2
WET Wettzell 83.94 319 *e*P **P 15 22 43.3 +0.5**
WET pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
WET Wettzell 83.94 319 *e*P **P 15 22 43.3 +0.5**
comp=Z,7.0nm,1.0s,mb4.8
CLL Collm 84.00 321 *e*P **P 15 22 44.0 +1.0**
CLL Collm 84.00 321 P **P 15 22 44.0 +1.0**
MOX Moxa 84.83 320 *e*P **P 15 22 47.9 +0.7**
MOX pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
MOX Moxa 84.83 320 *e*P **P 15 22 47.9 +0.7**
comp=Z,6.0nm,1.0s,mb4.7
MOX Moxa 84.83 320 *i* P **P 15 22 48.0 +0.8**
GRA1 Grafenberg Arr 85.05 319 *e*P **P 15 22 49.1 +0.8**
comp=Z,18nm,0.9s,mb5.2
GRA1 *e*pP pP 15 22 59.3 +1.7
GRF Grafenberg Arr 85.05 319 *e*P **P 15 22 49.1 +0.8**
GRF *e**PP pP 15 22 59.3 +1.7
GRF pmax pmax
comp=Z,18nm,0.9s,mb5.2
GRF Grafenberg Arr 85.05 319 *e*P **P 15 22 49.1 +0.8**
comp=Z,18nm,0.9s,mb5.2
GRF *e*pP pP 15 22 59.3 +1.7
NB2 NORSAR Subarra 85.58 331 P **P 15 22 50.6 -0.1**
comp=Z,8.4nm,0.9s,mb5.0,baz=93,slow=5.3
NOA NORSAR Array B 85.58 331 P **P 15 22 51.1 +0.4**
comp=Z,4.6nm,0.9s,mb4.7,baz=94,slow=5.1,SNR=10
NOA LR LR 16 05 20.5
comp=Z,249nm,20.6s,MS4.6,baz=75,slow=39
CLZ Clausthal 85.66 322 *e*P **P 15 22 52.3 +1.0**
comp=Z,7.0nm,1.1s,mb4.8
KONO Kongsberg 86.33 329 ⇑*i*P **P 15 22 54.6 +0.2**
KONO Kongsberg 86.33 329 ⇑*i*P **P 15 22 54.7 +0.3**
TNS Taunus Mts 86.85 320 *e*P **P 15 22 58.3 +1.1**
TNS pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
TNS Taunus Mts 86.85 320 *e*P **P 15 22 58.3 +1.1**
comp=Z,6.0nm,0.8s,mb4.9
VNDA Vanda 87.11 169 LR LR 16 00 19.2
comp=Z,324nm,18.1s,MS4.8,baz=312,slow=34
LPG La Plagne 88.04 315 *e*P **P 15 23 03.8 +0.7**
comp=Z,15nm,0.8s,mb5.0
TNA Tin City 90.27 24 *e*P **P 15 23 12.9 -0.2**
comp=Z,7.6nm,1.7s,mb4.8
DAG Danmarks Havn 93.30 348 *e*P **P 15 23 27.0 +0.1**
DAG Danmarks Havn 93.30 348 *i* P **P 15 23 27.0 +0.1**
EKA Eskdalemuir Ar 93.48 326 P **P 15 23 28.9 +0.8**
comp=Z,2.9nm,0.7s,mb4.8,baz=101,slow=4.7,SNR=9.0
SNAA Sanae 95.10 198 LR LR 15 58 31.7
comp=Z,42nm,20.4s,MS3.9,baz=201,slow=30
IMA Indian Mountai 95.87 23 *e*P **P 15 23 39.8 +1.0**
comp=Z,64nm,1.3s,mb5.9
ILAR Eielson Array 98.99 23 P **P 15 23 53.6 +0.7**
comp=Z,0.4nm,1.0s,baz=270,slow=3.6,SNR=4.0
ILAR PP PP 15 27 45.4 -12
comp=Z,0.9nm,1.0s,baz=311,slow=7.1,SNR=5.2
ILAR LR LR 16 16 41.1
comp=Z,188nm,18.4s,MS4.6,baz=161,slow=40
INK Inuvik 101.64 17 P **P** 15 24 04.5 -0.4
comp=Z,1.0nm,0.8s,baz=34,slow=2.4,SNR=4.3
YKA Yellowknife Ar 111.22 15 PP PP 15 29 17.9 -11
comp=Z,0.4nm,0.7s,baz=319,slow=7.2,SNR=5.2
TBI Tubuai 113.12 114 *e*LR LR 16 02 41.8
comp=Z,209nm,23.5s
PPT Papeete 113.67 108 *e*LR LR 16 02 58.3
comp=Z,148nm,22.8s
RKT Rikitea 126.23 117 *e*LR LR 16 08 45.6
comp=Z,210nm,23.0s
NVAR Mina Array Bea 128.36 35 PKP PKPdf 15 29 21.5 -2.1
comp=Z,1.8nm,0.9s,baz=197,slow=2.0,SNR=4.7
PDAR Pinedale Array 129.38 25 PKP PKPdf 15 29 21.9 -3.5
comp=Z,0.8nm,0.9s,slow=1.5,SNR=6.2
WMOK Wichita Mounta 140.48 20 *e*PKP PKPdf 15 29 35.6 -11
MIAR Mount Ida 142.14 13 *e*PKP PKPdf 15 29 40.7 -8.4
JCT Junction City 143.91 24 *e*PKP PKPdf 15 29 47.5 -4.8
LRAL Lakeview Retre 144.67 5 *e*PKP PKPdf 15 29 48.4 -5.2
CPUP Villa Florida 145.23 224 PKPbc PKPbc 15 29 50.5 +0.3
comp=Z,2.0nm,0.7s,baz=130,slow=3.9,SNR=5.1

*IDC **19** 15:21:06.5±3.0,2.17N×96.02E,mb3.7/4,mb1 3.8/5, mb1mx3.6/19,mbtmp3.6/5,ML3.4/1,Error ellipse: s-maj=116.3km s-min=27.0km az=62.0*
*NEIC **19** 15:21:11.0±0.9,2.21N×96.38E,h30km,mb4.5/4,Error ellipse: s-maj=25.3km s-min=12.8km az=69.0*
ISC 19 15:21:08.9±1.0,2.2N±0.1×96.4E±0.2,h30km,n10, σ1§18/10,mb4.0/8,1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.26**	**54**	⇓*e*P	**Pn**	**15 22 26.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**16.34**	**9**	Pn	**P**	**15 24 59.1**	**+1.1**
	0.1nm,0.3s,baz=197,slow=10,SNR=7.6						
NWAO	**Narrogin (SRO)**	**40.14**	**152**	*e*P	**P**	**15 28 43.3**	**-0.7**
	8.3nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**43.29**	**122**	*e*P	**P**	**15 29 11.0**	**+0.9**
	18nm,1.6s,mb4.5						
ASAR	**Alice Springs**	**44.68**	**127**	P	**P**	**15 29 23.4**	**+2.1**
	0.2nm,0.5s,mb3.2,baz=310,slow=8.2,SNR=7.3						
MKAR	**Makanchi Array**	**46.06**	**347**	P	**P**	**15 29 31.9**	**0.0**
	1.5nm,0.8s,mb4.0,baz=162,slow=9.0,SNR=11						
SONM	**Songino Array**	**46.27**	**9**	P	**P**	**15 29 34.9**	**+1.4**
	0.4nm,0.4s,mb3.7,baz=193,slow=8.8,SNR=3.8						
ZAL	**Zalesovo**	**52.42**	**351**	P	**P**	**15 30 19.9**	**-1.0**
	0.9nm,0.8s,mb3.8,baz=261,slow=6.4,SNR=5.1						
CTAO	**Charters Tower**	**53.71**	**117**	*e*P	**P**	**15 30 29.1**	**-1.7**
	25nm,1.5s,mb4.9						
CHKZ	**Chkalovo**	**55.50**	**342**	*e*P	**P**	**15 30 42.6**	**-0.8**
	0.5nm,0.5s,mb3.8						

ECX 19 15:30:02.4±0.4,30.42N×114.44W,h12km,MD3.7,ML3.8, 1C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.08**	**306**	*e*PN	Pn	15 30 18.4	-5.0
SPX				*e*S	Sb	15 30 36.0	-0.4
EMX	**El Mayor**	**1.71**	**336**	*e*PN	Pn	15 30 31.7	-0.6
EMX				*e*S	Sn	15 30 53.6	-0.6
RDX	**Rancho Dowling**	**1.99**	**320**	*e*PN	Pn	15 30 35.8	-0.5
RDX				*e*S	Sn	15 31 02.5	+1.2
CPBX	**Cerro Prieto**	**2.13**	**340**	*e*PN	Pn	15 30 37.9	-0.3
CPBX				*e*S	Sn	15 31 05.2	+0.4
CPBX				⇓*e*		15 31 25.6	
	comp=E,2μm,0.5s						
CPBX				⇑*e*		15 31 35.4	
	comp=N,2μm,0.5s						
ECNX	**Esteban Cantu**	**2.23**	**304**	*e*PN	Pn	15 30 39.4	-0.3
ECNX				*e*S	Sn	15 31 07.8	+0.5
PBX	**Punta Banda**	**2.37**	**305**	*e*PN	Pn	15 30 40.7	-1.0
ENX	**Ensenada**	**2.40**	**308**	*e*PN	Pn	15 30 41.5	-0.8
ENX				*e*S	Sn	15 31 12.3	+0.4
CBX	**Cerro Bola**	**2.68**	**315**	*e*PN	Pn	15 30 45.4	-0.8

IDC 19 15:35:23.9±3.1,0.92N×97.65E,mb3.6/5,mb1 3.9/6, mb1mx3.7/20,mbtmp3.7/6,ML3.3/1,Error ellipse: s-maj=122.0km s-min=21.1km az=60.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.47**	**4**	P	P	15 39 29.9	-0.8
	0.0nm,0.3s,baz=195,slow=12,SNR=10.0						
WRA	**Warramunga Arr**	**41.51**	**122**	P	P	15 43 13.2	-1.6
	0.7nm,0.9s,baz=303,slow=8.9,SNR=4.5						
ASAR	**Alice Springs**	**42.87**	**127**	P	P	15 43 24.2	-1.7
	0.4nm,0.7s,baz=298,slow=8.2,SNR=6.4						
SONM	**Songino Array**	**47.34**	**8**	P	P	15 43 59.1	-2.2
	0.4nm,0.6s,baz=191,slow=6.3,SNR=5.1						
MKAR	**Makanchi Array**	**47.62**	**346**	P	P	15 44 02.0	-1.6
	1.3nm,0.7s,baz=157,slow=8.0,SNR=11						
ZAL	**Zalesovo**	**53.89**	**351**	P	P	15 44 48.4	-2.8
	0.7nm,0.5s,baz=304,slow=7.8,SNR=4.5						

*IDC **19** 15:37:32.1±5.2,29.28N×113.28W,mb3.8/1,mb1 3.9/3, mb1mx3.5/21,mbtmp3.4/3,ML3.4/2,MS3.6/5,Ms1 3.6/5, ms1mx3.3/28,Error ellipse: s-maj=71.5km s-min=49.7km az=127.0*
*NEIC **19** 15:37:35.3±3.0,29.60N×113.09W,h10km,mb3.3/2,Error ellipse: s-maj=39.7km s-min=13.9km az=206.0*
*ECX **19** 15:37:50.2±0.3,30.53N×114.51W,h8km,MD3.9,ML4.1*
ISC 19 15:37:36.2±3.3,29.9N±0.3×113.69W±0.10,h10km,n31, σ1§10/30,mb3.7/1,MS3.8/3,1C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.94**	**308**	*e*PN	**Pn**	**15 38 03.9**	**-5.7**
SPX				*e*S	**Sn**	**15 38 20.5**	**-14**
EMX	**El Mayor**	**2.51**	**328**	*e*PN	**Pn**	**15 38 18.2**	**+0.4**
EMX				*e*S	**Sn**	**15 38 38.5**	**-10**
RDX	**Rancho Dowling**	**2.84**	**317**	*e*PN	**Pn**	**15 38 22.4**	**0.0**
RDX				*e*S	**Sn**	**15 38 46.9**	**-10**
CPBX	**Cerro Prieto**	**2.91**	**332**	*e*PN	**Pn**	**15 38 24.0**	**+0.5**
CPBX				*e*S	**Sn**	**15 38 50.1**	**-8.7**
CPBX				⇓*e*		15 39 29.1	
	comp=N,4μm,0.7s						
CPBX				⇑*e*		15 39 30.1	
	comp=E,5μm,0.9s						
ECNX	**Esteban Cantu**	**3.08**	**306**	*e*PN	**Pn**	**15 38 25.9**	**-0.1**
PBX	**Punta Banda**	**3.22**	**307**	*e*PN	**Pn**	**15 38 27.3**	**-0.6**
ENX	**Ensenada**	**3.27**	**309**	*e*PN	**Pn**	**15 38 27.9**	**-0.5**
TUC	**Tucson**	**3.49**	**45**	P	**Pn**	**15 38 32.5**	**+0.8**
CBX	**Cerro Bola**	**3.54**	**315**	*e*PN	**Pn**	**15 38 32.2**	**-0.3**
BAR	**Barrett**	**3.81**	**319**	*e*P	**Pn**	**15 38 29.6**	**-6.6**
PFO	**Pinyon Flat Ob**	**4.43**	**329**	P	**Pn**	**15 38 31.9**	**-13**
MWC	**Mount Wilson**	**5.72**	**321**	Pn	**Pn**	**15 38 59.5**	**-3.8**
MNTX	**Cornudas Mount**	**7.38**	**73**	Pn	**Pn**	**15 39 17.3**	**-9.3**
ANMO	**Albuquerque**	**7.95**	**48**	Lg		15 41 54.3	
	baz=124,slow=22,SNR=4.2						
ANMO				LR	LR	15 42 21.8	
	comp=E,135nm,20.5s,baz=252,slow=36						
MVU	**Marysvale**	**8.71**	**8**	Pn	**P**	**15 39 46.5**	**+1.2**
MSU	**Marysvale**	**8.73**	**8**	Pn	**P**	**15 39 44.0**	**-1.5**
NVAR	**Mina Array Bea**	**9.37**	**337**	Pn	**P**	**15 39 58.7**	**+4.4**
	comp=E,0.1nm,0.3s,baz=162,slow=14,SNR=3.1						
NVAR				Pg	P	15 40 33.8	+40
	comp=E,0.3nm,0.3s,baz=160,slow=16,SNR=6.0						
NVAR	**Mina Array Bea**	**9.37**	**337**	Pn	**P**	**15 39 58.7**	**+4.4**
NVAR				Pg	P	15 40 33.8	+40
SDCO	**Great Sand Dun**	**10.40**	**39**	P	**P**	**15 39 57.3**	**-11**
PDAR	**Pinedale Array**	**13.31**	**13**	Pn	**P**	**15 40 52.8**	**+5.1**
	comp=E,0.0nm,0.3s,baz=204,slow=11,SNR=3.0						
PDAR				Lg		15 44 49.7	
	comp=E,0.1nm,0.3s,baz=225,slow=34,SNR=2.4						
WMOK	**Wichita Mounta**	**13.51**	**65**	P	**P**	**15 40 42.2**	**-8.2**
	comp=E,0.8nm,0.5s						
YBH	**Yreka Blue Hor**	**13.92**	**331**	LR	LR	15 46 34.5	
	comp=E,165nm,18.1s,baz=324,slow=37						
BMO	**Blue Mountains**	**15.24**	**350**	*e*P	**P**	**15 41 14.0**	**+0.9**
	comp=E,1.2nm,0.6s						
RSSD	**Black Hills**	**16.18**	**26**	P	**P**	**15 41 22.9**	**-2.2**
	comp=E,3.3nm,1.0s						
MSO	**Missoula**	**16.95**	**359**	*e*P	**P**	**15 41 35.4**	**+0.5**
CHMT	**Chamberlain Mo**	**17.04**	**1**	*e*P	**P**	**15 41 37.1**	**+1.1**
LAO	**LASA Array**	**17.79**	**17**	P	**P**	**15 41 44.1**	**-1.3**
YKA	**Yellowknife Ar**	**32.65**	**359**	LR	LR	15 58 49.2	
	comp=E,88nm,21.9s,MS3.4,baz=180,slow=38						
JTS	**JuntasAbangare**	**33.11**	**120**	LR	LR	15 57 46.2	
	comp=E,114nm,21.6s,MS3.5,baz=334,slow=37						
ILAR	**Eielson Array**	**40.62**	**339**	P	**P**	**15 45 19.2**	**+1.6**
	comp=E,1.5nm,0.8s,mb3.7,baz=153,slow=6.7,SNR=16						
BDFB	**Brasilia**	**77.75**	**116**	LR	LR	16 24 13.3	
	comp=E,200nm,18.8s,MS4.5,baz=97,slow=36						

*IDC **19** 15:40:42.9±2.7,22.08N×143.82E,h146km±25km,mb3.3/7, mb1 3.6/9,mb1mx3.4/23,mbtmp3.8/9,Error ellipse: s-maj=29.4km s-min=15.6km az=94.0*
*NEIC **19** 15:40:46.3±3.6,22.05N×143.80E,h180km±35km,mb4.0/1, Error ellipse: s-maj=31.7km s-min=16.8km az=95.0*
ISC 19 15:40:42.4±2.6,22.1N±0.1×143.8E±0.2,h158km±23km, n10,σ0§95/11,mb3.5/7,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.21**	**344**	P	**P**	**15 42 00.3**	**+0.7**
	8.9nm,0.3s,baz=280,slow=22,SNR=10						
CBIJ				S	**S**	**15 42 58.0**	**-1.2**
	20nm,0.3s,baz=297,slow=24,SNR=8.0						
MJAR	**Matsushiro Arr**	**15.21**	**343**	P	**P**	**15 44 10.7**	**+0.6**
	0.4nm,0.3s,baz=163,slow=9.8,SNR=5.4						
MAJO	**Matsushiro**	**15.21**	**343**	*e*P	**P**	**15 44 13.9**	**+3.7**
	3.2nm,0.5s						
SONM	**Songino Array**	**39.40**	**320**	P	**P**	**15 47 59.0**	**+0.8**
	0.5nm,0.4s,mb3.5,baz=131,slow=8.0,SNR=5.7						
WRA	**Warramunga Arr**	**42.76**	**193**	P	**P**	**15 48 26.2**	**+0.2**
	0.3nm,0.3s,mb3.5,baz=11,slow=8.2,SNR=33						
STKA	**Stephens Creek**	**53.68**	**182**	P	**P**	**15 49 49.1**	**-1.0**
	0.7nm,0.4s,mb3.8,baz=3.6,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**54.85**	**312**	P	**P**	**15 49 57.9**	**-0.5**
	0.3nm,0.5s,mb3.3,baz=90,slow=8.3,SNR=9.9						
ILAR	**Eielson Array**	**61.46**	**27**	P	**P**	**15 50 42.6**	**-1.6**
	0.3nm,0.9s,mb3.1,baz=248,slow=5.9,SNR=4.2						
YKA	**Yellowknife Ar**	**75.88**	**28**	P	**P**	**15 52 13.1**	**+0.5**
	0.6nm,0.4s,mb3.5,baz=293,slow=5.8,SNR=12						
NVAR	**Mina Array Bea**	**82.49**	**52**	P	**P**	**15 52 49.6**	**+0.9**
	0.6nm,0.3s,mb3.6,baz=270,slow=7.2,SNR=4.3						

*IDC **19** 15:41:05.1±2.7,34.91S×177.41E,mb3.7/2,mb1 4.0/4, mb1mx3.8/13,mbtmp3.9/4,ML3.8/2,Error ellipse: s-maj=58.9km s-min=32.4km az=76.0*
ISC 19 15:40:47.8±1.2,35.3S±0.1×178.5W±0.2,h100km,n38, σ1§57/47,mb3.6/2,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.44**	**229**	PN	**P**	**15 41 43.5**	**+2.8**
MXZ				SN	**S**	**15 42 21.6**	**+0.9**
PUZ	**Puketiti**	**3.82**	**223**	PN	**P**	**15 41 50.1**	**+4.4**
PUZ				SN	**S**	**15 42 32.5**	**+2.7**
WIZ	**White Island**	**4.15**	**237**	*e*PN	**P**	**15 41 52.0**	**+1.7**
MWZ	**Matawai**	**4.41**	**226**	PN	**P**	**15 41 56.6**	**+2.7**
MWZ				SN	**S**	**15 42 44.7**	**+0.2**
URZ	**Urewera**	**4.62**	**229**	Pn	**P**	**15 41 59.2**	**+2.5**
	14nm,0.3s,baz=5.7,slow=2.9,SNR=141						
URZ				Sn	**S**	**15 42 48.8**	**-0.7**
	6.5nm,0.3s,baz=85,slow=22,SNR=6.3						
URZ	**Urewera**	**4.62**	**229**	*e*PN	**P**	**15 41 58.1**	**+1.4**
URZ				SN	**S**	**15 42 48.7**	**-0.8**
MYRZ	**Mayor Island**	**4.72**	**244**	PN	**P**	**15 41 57.9**	**-0.1**
MARZ	**Manawahe**	**4.74**	**234**	PN	**P**	**15 42 00.7**	**+2.3**
KUZ	**Kuaotunu**	**4.94**	**252**	PN	**P**	**15 41 58.7**	**-2.4**
BKZ	**Black Stump Fm**	**5.57**	**225**	*e*PN	**P**	**15 42 11.3**	**+1.6**
BKZ				SN	**S**	**15 43 12.1**	**-0.9**
PWZ	**Pawanui**	**6.00**	**217**	*e*PN	**P**	**15 42 17.5**	**+2.1**
PWZ				SN	**S**	**15 43 23.4**	**+0.1**
NGZ	**Ngauruhoe**	**6.11**	**229**	*e*PN	**P**	**15 42 18.5**	**+1.4**
TUVZ	**Tukino**	**6.14**	**228**	*e*PN	**P**	**15 42 19.0**	**+1.6**
CNZ	**Chateau**	**6.16**	**229**	*e*PN	**P**	**15 42 19.3**	**+1.5**
MOVZ	**Moawhango**	**6.16**	**227**	*e*PN	**P**	**15 42 18.4**	**+0.6**
MOVZ				SN	**S**	**15 43 24.2**	**-3.3**
WNVZ	**Wahianoa**	**6.21**	**228**	PN	**P**	**15 42 19.8**	**+1.4**
HIZ	**Hauiti**	**6.24**	**237**	PN	**P**	**15 42 18.1**	**-0.8**
TSZ	**Takapari Road**	**6.48**	**221**	PN	**P**	**15 42 22.8**	**+0.5**
TSZ				SN	**S**	**15 43 34.1**	**-1.2**
OUZ	**Omahuta**	**6.51**	**269**	PN	**P**	**15 42 15.1**	**-7.5**
WAZ	**Wanganui**	**6.84**	**228**	*e*PN	**P**	**15 42 27.4**	**+0.1**
MRZ	**Mangatainoka R**	**7.12**	**220**	*e*PN	**P**	**15 42 31.6**	**+0.6**
MTW	**Mount Morrison**	**7.53**	**217**	PN	**P**	**15 42 37.3**	**+0.8**
KIW	**Kapiti Island**	**7.62**	**221**	*e*PN	**P**	**15 42 36.9**	**-0.9**
CAW	**Cannon Point**	**7.71**	**220**	*e*PN	**P**	**15 42 38.4**	**-0.6**
MRW	**Makara Radio**	**7.99**	**220**	*e*PN	**P**	**15 42 42.4**	**-0.4**
MRW				SN	**S**	**15 44 08.2**	**-4.0**
NNZ	**Nelson**	**8.71**	**225**	*e*PN	**P**	**15 42 50.1**	**-2.5**
BSWZ	**Blackbirch Sta**	**8.77**	**221**	PN	**P**	**15 42 51.1**	**-2.2**
QRZ	**Quartz Range**	**8.99**	**230**	PN	**P**	**15 42 52.5**	**-3.8**
THZ	**Tophouse**	**9.34**	**224**	*e*PN	**P**	**15 42 58.1**	**-2.9**
KHZ	**Kahutara**	**9.44**	**219**	*e*PN	**P**	**15 43 00.8**	**-1.7**
LTZ	**Lake Taylor**	**10.37**	**221**	*e*PN	**P**	**15 43 12.0**	**-2.8**
RPZ	**Rata Peaks**	**11.65**	**221**	Pn	**P**	**15 43 29.5**	**-2.5**
	0.5nm,0.3s,baz=16,slow=20,SNR=5.1						
RPZ	**Rata Peaks**	**11.65**	**221**	*e*PN	**P**	**15 43 29.6**	**-2.4**
FOZ	**Fox Glacier**	**12.31**	**224**	*e*PN	**P**	**15 43 37.7**	**-3.0**
ODZ	**Otahua Downs**	**12.79**	**217**	*e*PN	**P**	**15 43 45.1**	**-1.9**
ASAR	**Alice Springs**	**42.71**	**272**	P	**P**	**15 48 35.8**	**-0.7**
	0.5nm,0.4s,mb3.6,baz=115,slow=7.5,SNR=14						
WRA	**Warramunga Arr**	**44.13**	**277**	P	**P**	**15 48 47.7**	**-0.4**
	0.5nm,0.4s,mb3.6,baz=118,slow=7.7,SNR=15						
FINES	**FINESS Array B**	**149.57**	**337**	PKPbc	PKPdf	16 00 50.5	+31
	2.3nm,1.1s,baz=72,slow=4.4,SNR=3.6						

*STR **19** 15:43:14.6±0.1,42.75N×1.05E,h5km±1km,Ml2.0,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **19** 15:43:14.6,42.75N×1.05E,h5km,ML2.6(LDG), ML2.0(STR),MN2.1(MDD),After STR.*
*CSEM **19** 15:43:14.5±0.1,42.78N×1.01E,h8km,ML2.6/11,Error ellipse: s-maj=1.9km s-min=1.4km az=163.0*
*LDG **19** 15:43:15.5±0.1,42.84N×1.00E,h3km,Md2.6/3,Ml2.6/12, Error ellipse: s-maj=2.0km s-min=1.0km az=157.0*
MDD 19 15:43:14.8±0.2,42.74N×1.03E,h11km,mbLg1.9/16, Error ellipse: s-maj=2.0km s-min=1.3km az=18.0, PRXIMO,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALF	**Salau**	**0.12**	**78**	Pg	Pg	15 43 17.7	-0.1
SALF				Sg	Sg	15 43 19.4	-0.5
SALF	**Salau**	**0.12**	**78**	Pg	Pg	15 43 17.7	-0.2
SALF				Lg		15 43 19.8	
MLS	**Moulis**	**0.23**	**12**	Pg	Pg	15 43 19.4	-0.3
MLS				Sg	Sg	15 43 22.2	-0.8
MLS	**Moulis**	**0.23**	**12**	Pg	Pg	15 43 19.4	-0.3
MLS				Lg		15 43 22.2	
MELF	**Melles**	**0.24**	**305**	Pg	Pg	15 43 19.8	-0.2
MELF				Sg	Sg	15 43 23.5	+0.1
MELF	**Melles**	**0.24**	**305**	Pg	Pg	15 43 19.8	-0.1
MELF				Lg		15 43 23.3	
CSOR	**Sort**	**0.37**	**168**	Pg	Pg	15 43 21.8	-0.6
CSOR				Lg		15 43 26.7	
	45nm,0.1s						
GRBF	**Gourbit**	**0.39**	**74**	Pg	Pg	15 43 22.0	-0.7
GRBF				Pg	Pg	15 43 22.1	-0.7
GRBF				Lg		15 43 27.6	
GRBF				Lg		15 43 27.8	
PAND	**Andorre**	**0.44**	**119**	Pg	Pg	15 43 22.7	-1.0
PAND				Lg		15 43 28.9	
RESF	**Ens**	**0.51**	**278**	Pg	Pg	15 43 24.6	-0.6
RESF				Sg	Sg	15 43 31.7	-0.5
RESF	**Ens**	**0.51**	**278**	Pg	Pg	15 43 24.6	-0.6
RESF				Lg		15 43 31.6	
CORG	**Organya**	**0.55**	**157**	Pg	Pg	15 43 24.9	-1.0
CORG				Lg		15 43 32.2	
	4.1nm,0.1s						
EPF	**Esparros**	**0.59**	**300**	*e*Pg	Pg	15 43 25.2	-1.4
EPF				*e*Sg	Sg	15 43 32.3	-2.3
	30nm,0.3s						
EBIE	**Bielsa**	**0.66**	**266**	Pg	Pg	15 43 26.9	-1.1
	1.5nm,0.1s,SNR=7.9						
EBIE				Lg		15 43 35.6	
	7.8nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.66**	**266**	Pg	Pg	15 43 26.9	-1.1
	1.5nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**0.74**	**110**	Pg	Pg	15 43 28.4	-1.3
CLLI				Lg		15 43 38.3	
	3.6nm,0.1s						
VIEF	**Viey**	**0.76**	**282**	Pg	Pg	15 43 29.0	-0.9
VIEF				Lg		15 43 39.1	
LABF	**Labassere**	**0.77**	**294**	Pg	Pg	15 43 28.9	-1.3
LABF				Lg		15 43 39.2	
CARF	**Carcanieres**	**0.79**	**91**	Pg	Pg	15 43 29.6	-1.1
CARF				Sg	Sg	15 43 39.8	-1.5
CARF	**Carcanieres**	**0.79**	**91**	Pg	Pg	15 43 29.1	-1.6
CARF				Lg		15 43 39.5	
CAVN	**Les Avellanes**	**0.88**	**194**	Pg	Pg	15 43 31.2	-1.2
CBRU	**Bruguera**	**0.96**	**117**	Pg	Pg	15 43 32.5	-1.6
MTLF	**Montolieu**	**1.06**	**55**	*e*Pg	Pg	15 43 34.5	-1.5
MTLF				*e*Sg	Sg	15 43 48.4	-1.8
	12nm,0.2s						
ETSF	**Etsaut**	**1.18**	**278**	*e*Pn	Pn	15 43 36.7	-0.5
ETSF				*e*Sg	Sg	15 43 51.1	-3

RJF					*e*Sn	Sn	15 44 23.7	-5.5
RJF					*e*Sg	Sg	15 44 33.8	-7.3
	7.8nm,0.2s							
VIVF	**Saint-Julien-l**	**3.38**	**50**	*e*Pn		Pn	15 44 06.4	-2.3
VIVF				*e*Sg		Sg	15 45 00.3	-7.1
	1.6nm,0.2s							
TCF	**Toulx Ste Croi**	**3.65**	**13**	*e*Sn		Sn	15 44 49.9	-6.1
TCF				*e*Sg		Sg	15 45 07.1	-9.2
	2.4nm,0.2s							
MFF	**Saint Martin d**	**3.96**	**348**	*e*Pn		Pn	15 44 13.6	-3.2
MFF				*e*Sg		Sg	15 45 16.3	-10
	3.0nm,0.3s							
SSF	**Saint Saulge**	**4.67**	**21**	*e*Pn		Pn	15 44 23.3	-3.7
SSF				*e*Sg		Sg	15 45 38.9	-11
	0.7nm,0.3s							

*BJI **19** 16:17:16.3,3.50N×113.90E,h12km,mb4.0,Ms4.2, Msz3.7*
*IDC **19** 16:17:16.2±0.8,3.57N×114.06E,mb3.9/10,mb1 4.0/10, mb1mx3.9/21,mbtmp3.9/10,MS3.8/12,Ms1 3.9/12, ms1mx3.7/25,Error ellipse: s-maj=35.6km s-min=15.4km az=62.0*
*NEIC **19** 16:17:17.3±0.5,3.48N×113.90E,h10km,mb4.2/5,Error ellipse: s-maj=13.2km s-min=10.2km az=72.0*

ISC 19 16:17:15.7±1.8,3.49N±0.06×113.95E±0.06,h9km±12km, n26,σ1§19/25,mb3.9/14,MS3.9/13,Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**3.40**	**42**	*e*Pn	**Pn**	**16 18 10.0**	**-0.1**
KKM				*e*Sn	**Sn**	**16 18 52.3**	**+1.3**
KKM	**Kota Kinabalu**	**3.40**	**42**	P	**Pn**	**16 18 10.8**	**+0.7**
KSM	**Kuching**	**4.15**	**241**	*e*Pn	**Pn**	**16 18 18.4**	**-2.4**
KSM				*e*Pg	**Pg**	**16 18 39.6**	**+0.9**
KSM				*e*Sn	**Sn**	**16 19 11.5**	**+1.4**
CMAR	**Chiang Mai Arr**	**20.91**	**316**	P	**P**	**16 22 01.4**	**+0.2**
	5.1nm,0.8s,baz=139,slow=8.8,SNR=42						
CMAR				LR	LR	16 30 31.4	
	comp=Z,194nm,20.8s,MS3.5,baz=135,slow=38						
KMI	**Kunming**	**24.06**	**334**	P	**P**	**16 22 31.8**	**-0.7**
KMI				AP		16 22 38.4	
KMI				XP		16 22 42.3	
KMI				S	**S**	**16 26 52.0**	**+5.2**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb3.9						
KMI				AMB	AMB		
	comp=Z,52nm,3.1s						
KMI				LR	LR		
	comp=N,228nm,16.1s,MS4.1						
KMI				LR	LR		
	comp=E,460nm,16.1s,MS4.1						
KMI				LR	LR		
	comp=Z,211nm,16.1s,MS3.7						
KMI	**Kunming**	**24.06**	**334**	P	**P**	**16 22 31.7**	**-0.8**
	comp=Z,6.0nm,1.2s,mb3.9						
KMI				pP		16 22 38.4	
KMI				sP		16 22 42.2	
KMI				S	**S**	**16 26 52.0**	**+5.2**
KMI				sS		16 27 05.9	
KMI				SS	SS	16 27 51.9	+14
KMI				LR	LR		
	comp=Z,210nm,16.1s,MS3.7						
FITZ	**Fitzroy Crossi**	**24.35**	**152**	P	**P**	**16 22 37.8**	**+2.4**
	comp=Z,5.8nm,0.8s,mb4.1,baz=316,slow=6.3,SNR=5.2						
FITZ				LR	LR	16 32 52.4	
	comp=Z,184nm,20.0s,MS3.6,baz=322,slow=38						
JOW	**Kunigami**	**26.96**	**29**	LR	LR	16 32 28.5	
	comp=Z,300nm,20.2s,MS3.9,baz=93,slow=34						
WRAB	**Tennant Creek**	**30.72**	**140**	P	**P**	**16 23 32.3**	**-1.3**
	comp=Z,3.5nm,0.8s,mb4.2						
ASAR	**Alice Springs**	**33.27**	**145**	P	**P**	**16 23 56.1**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=324,slow=7.2,SNR=14						
ASAR				PcP	PcP	16 26 35.9	-2.4
	comp=Z,0.2nm,0.4s,baz=324,slow=2.9,SNR=3.7						
ASAR				LR	LR	16 39 29.0	
	comp=Z,81nm,18.3s,MS3.5,baz=314,slow=40						
GTA	**Gaotai**	**37.99**	**342**	P	**P**	**16 24 38.3**	**+2.4**
GTA				AP	pP	16 24 48.0	+10
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.9						
MJAR	**Matsushiro Arr**	**39.76**	**31**	P	**P**	**16 24 50.5**	**-0.3**
	comp=Z,0.4nm,0.3s,mb3.6,baz=180,slow=8.5,SNR=4.3						
STKA	**Stephens Creek**	**43.91**	**145**	P	**P**	**16 25 23.6**	**-1.1**
	comp=Z,1.8nm,0.9s,mb3.8,baz=354,slow=10,SNR=2.7						
STKA				LR	LR	16 46 29.8	
	comp=Z,137nm,20.6s,MS3.9,baz=183,slow=40						
ULN	**Ulaanbaatar**	**44.60**	**353**	*e*P	**P**	**16 25 31.1**	**+0.9**
	comp=Z,9.1nm,1.4s,mb4.4						
SONM	**Songino Array**	**44.65**	**353**	P	**P**	**16 25 29.5**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=184,slow=7.4,SNR=3.2						
SONM				LR	LR	16 46 55.2	
	comp=Z,128nm,18.4s,MS3.9,baz=244,slow=40						
MKAR	**Makanchi Array**	**51.12**	**332**	P	**P**	**16 26 20.9**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=127,slow=8.7,SNR=6.3						
MKAR				LR	LR	16 50 11.4	
	comp=Z,103nm,19.9s,MS3.9,baz=176,slow=39						
ZAL	**Zalesovo**	**55.65**	**340**	P	**P**	**16 26 53.6**	**-0.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=339,slow=5.4,SNR=9.9						
BVAR	**Borovoye Array**	**60.98**	**332**	P	**P**	**16 27 30.9**	**-0.9**
	comp=Z,0.8nm,0.7s,mb4.0,baz=112,slow=8.0,SNR=6.9						
CHKZ	**Chkalovo**	**61.28**	**332**	*e*P	**P**	**16 27 32.4**	**-1.3**
	comp=Z,3.2nm,1.1s,mb4.4						
KMBO	**Kilima Mbogo**	**76.79**	**268**	P	**P**	**16 29 11.7**	**+1.3**
	comp=Z,1.6nm,0.9s,mb4.0,baz=160,slow=5.1,SNR=4.5						
KMBO	**Kilima Mbogo**	**76.79**	**268**	*e*P	**P**	**16 29 10.4**	**+0.1**
	comp=Z,1.4nm,1.0s,mb3.9						
MAW	**Mawson**	**79.37**	**198**	LR	LR	16 58 00.2	
	comp=Z,97nm,20.8s,MS4.1,baz=251,slow=31						
FINES	**FINESS Array B**	**85.94**	**331**	LR	LR	17 13 45.6	
	comp=Z,64nm,18.1s,MS4.1,baz=359,slow=39						
BOSA	**Boshof**	**90.50**	**242**	LR	LR	17 03 27.8	
	comp=Z,81nm,21.4s,MS4.1,baz=278,slow=31						
NOA	**NORSAR Array B**	**93.11**	**332**	LR	LR	17 18 07.0	
	comp=Z,49nm,19.7s,MS4.0,baz=85,slow=39						
GERES	**GERESS Array B**	**94.12**	**319**	LR	LR	17 18 21.2	
	comp=Z,48nm,18.9s,MS4.0,baz=48,slow=39						

*IDC **19** 16:30:03.0±0.8,15.97N×92.97E,h26km±5km,mb3.7/7, mb1 3.9/8,mb1mx3.7/20,mbtmp3.8/8,ML3.8/1,Error ellipse: s-maj=30.6km s-min=14.9km az=52.0*
*NEIC **19** 16:30:03.9±0.7,16.01N×93.07E,mb4.3/3,Error ellipse: s-maj=18.2km s-min=12.3km az=23.0*
*BJI **19** 16:30:08.8,16.00N×93.10E,h26km,mb3.9*

ISC 19 16:30:00.7±0.6,16.10N±0.08×92.92E±0.06,h26km, h26km±.9km:pP-P,n28,σ1§15/32,mb4.0/10,Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**6.22**	**67**	Pn	**Pn**	**16 31 32.5**	**-0.8**
	0.6nm,0.3s,baz=251,slow=14,SNR=25						
CMAR				Sn	**Sn**	**16 32 43.1**	**-1.2**
	0.8nm,0.3s,baz=251,slow=28,SNR=8.3						
VIS	**Vishakhapatnam**	**9.32**	**281**	*e*P	**P**	**16 32 14.0**	**-2.6**
VIS				*e*S	**Sn**	**16 33 49.7**	**-12**
SHL	**Shillong**	**9.47**	**354**	*e*P	**P**	**16 32 15.0**	**-3.6**
SHL				*e*S	**Sn**	**16 34 11.0**	**+5.7**
JIRN	**Jiri**	**13.08**	**333**	*e*P	**P**	**16 33 07.4**	**-0.3**
	9.0nm,0.3s						
JIRN				*e*S	**S**	**16 35 27.4**	**-6.0**
PKI	**Pulchoki**	**13.37**	**330**	*e*P	**P**	**16 33 10.9**	**-0.6**
	12nm,0.4s						
GUN	**Gumba**	**13.44**	**332**	*e*P	**P**	**16 33 12.7**	**+0.3**
	11nm,0.4s						
DMN	**Daman**	**13.55**	**329**	*e*P	**P**	**16 33 12.9**	**-1.0**
	9.0nm,0.4s						
KKN	**Kakani**	**13.61**	**330**	*e*P	**P**	**16 33 14.1**	**-0.7**
	2.4nm,0.2s						
HYB	**Hyderabad**	**13.82**	**277**	*e*P	**P**	**16 33 23.0**	**+5.4**
HYB	**Hyderabad**	**13.82**	**277**	*i* P	**P**	**16 33 23.0**	**+5.4**
HYB				*e*S	**S**	**16 35 56.0**	**+4.9**
GKN	**Gorkha**	**14.11**	**329**	*e*P	**P**	**16 33 20.8**	**-0.5**
	14nm,0.3s						
KOLN	**Koldanda**	**14.47**	**325**	*e*P	**P**	**16 33 25.4**	**-0.6**
	25nm,0.7s						
KOLN				*e*S	**S**	**16 35 58.2**	**-8.2**
ENH	**Enshi**	**20.72**	**44**	P	**P**	**16 34 44.6**	**+2.7**
	16nm,1.1s						
GTA	**Gaotai**	**23.99**	**13**	P	**P**	**16 35 26.1**	**+12**
GTA				AP		16 35 34.5	
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb3.9						
KKM	**Kota Kinabalu**	**24.92**	**111**	*e*P	**P**	**16 35 24.8**	**+1.3**
MKAR	**Makanchi Array**	**31.85**	**346**	P	**P**	**16 36 27.0**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=180,slow=6.1,SNR=5.3						
MKAR				pP	pP	16 36 35.6	+2.1
	comp=Z,1.5nm,0.7s,baz=153,slow=8.1,SNR=11						
MKAR	**Makanchi Array**	**31.85**	**346**	P	**P**	**16 36 27.0**	**+1.1**
MKAR				pP	pP	16 36 35.6	+2.1
SONM	**Songino Array**	**33.54**	**17**	P	**P**	**16 36 42.1**	**+1.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=197,slow=9.7,SNR=3.0						
ZAL	**Zalesovo**	**38.28**	**352**	pP	pP	16 37 29.9	+1.5
	comp=Z,1.1nm,0.7s,baz=276,slow=8.4,SNR=2.6						
BVAR	**Borovoye Array**	**40.89**	**339**	pP	pP	16 37 51.4	+1.4
	comp=Z,0.4nm,0.6s,baz=108,slow=9.1,SNR=3.3						
CHKZ	**Chkalovo**	**41.35**	**340**	*e*P	**P**	**16 37 48.0**	**+1.9**
	comp=Z,2.4nm,0.6s,mb4.0						
CHKZ				*e*pP	pP	16 37 55.6	+1.8
FITZ	**Fitzroy Crossi**	**46.84**	**135**	P	**P**	**16 38 30.1**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.4,baz=342,slow=7.4,SNR=5.7						
FITZ				pP	pP	16 38 37.9	-0.7
	comp=Z,9.3nm,1.0s,baz=6.7,slow=1.8,SNR=5.8						
WRAB	**Tennant Creek**	**54.22**	**130**	*e*P	**P**	**16 39 26.3**	**-0.6**
	comp=Z,7.8nm,0.9s,mb4.6						
WRAB				*e*pP	pP	16 39 33.5	-1.3
ASAR	**Alice Springs**	**56.27**	**134**	P	**P**	**16 39 40.9**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.8,baz=312,slow=7.0,SNR=23						
ASAR				pP	pP	16 39 48.9	-0.8
	comp=Z,1.5nm,0.9s,baz=308,slow=6.5,SNR=7.7						
BRTR	**Keskin Array B**	**56.34**	**307**	P	**P**	**16 39 43.1**	**+1.0**
	comp=Z,0.4nm,0.4s,mb3.9,baz=117,slow=9.7,SNR=2.9						
ARCES	**ARCESS Array B**	**67.18**	**339**	P	**P**	**16 40 54.9**	**+0.5**
	comp=Z,3.6nm,0.9s,mb4.4,baz=95,slow=11,SNR=2.8						
ARCES	**ARCESS Array B**	**67.18**	**339**	P	**P**	**16 40 54.9**	**+0.5**
GERES	**GERESS Array B**	**70.99**	**317**	P	**P**	**16 41 19.2**	**+1.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=112,slow=7.2,SNR=5.1						
GERES				pP	pP	16 41 27.0	+0.8
	comp=Z,0.6nm,0.7s,baz=104,slow=5.5,SNR=3.5						

JMA 19 16:48:45.5±0.2,43.98N×147.85E,M3.6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.65**	**249**	P	Pn	16 49 15.9	0.0
NEM2				*e*S	Sb	16 49 37.9	+0.2
JRA	**Rausu**	**1.97**	**270**	P	Pn	16 49 20.7	+0.2
JRA				*e*S	Sn	16 49 46.5	+0.2
JNK	**Nakash**	**2.30**	**261**	P	Pn	16 49 25.5	+0.3
JNK				*e*S	Sn	16 49 54.3	-0.4
JAK	**Akkeshi**	**2.50**	**248**	P	Pn	16 49 27.9	-0.1
JAK				*e*S	Sn	16 49 59.0	-0.6
JTKR	**Abashiri--Toko**	**2.85**	**271**	P	Pn	16 49 32.9	-0.1
JAR	**Ashorobuto**	**3.04**	**258**	P	Pn	16 49 36.3	+0.5
JAR				*e*S	Sn	16 50 13.5	+0.1
JOB	**Onbets**	**3.12**	**251**	P	Pn	16 49 37.1	+0.3
JOB				*e*S	Sn	16 50 15.2	-0.1
JCH	**Churui**	**3.55**	**249**	P	Pn	16 49 43.9	+0.9
JCH				*e*S	Sn	16 50 25.7	-0.6
JNBK	**Urakawa-nobuka**	**4.10**	**247**	P	Pn	16 49 50.7	-0.1
JNBK				*e*S	Sn	16 50 37.5	-2.7

*PRU **19** 17:04:10.6,50.35N×18.73E*

WAR 19 17:04:10.6,50.26N×18.86E,h0km,ML2.5,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.60**	**93**	*e*PG	Pg	17 04 22.0	-0.7
OJC				*e*SG	Sg	17 04 31.0	+0.3
OKC	**Ostrava-Krasne**	**0.62**	**228**	*e*PG	Pg	17 04 22.5	-0.6
OKC				*e*SG	Sg	17 04 31.5	+0.1
NIE	**Niedzica**	**1.26**	**131**	*e*PG	Pg	17 04 34.0	-1.8
NIE				*e*SG	Sg	17 04 52.0	-0.6
DPC	**Dobruska-Polom**	**1.63**	**274**	*e*PG	Pg	17 04 39.3	-3.8
DPC				*e*SG	Sg	17 05 00.5	-4.4
	10nm,0.3s						
KSP	**Ksiaz**	**1.74**	**291**	*e*PG	Pg	17 04 42.0	-3.3
KSP				*e*SG	Sg	17 05 06.0	-2.5
VYHS	**Vyhne**	**1.77**	**181**	*e*PN	Pn	17 04 45.1	+2.5
UPC	**Upice**	**1.84**	**279**	*e*SG	Sg	17 05 07.6	-4.3
CRVS	**Cervenica-Dubn**	**2.17**	**128**	*e*SN	Sn	17 05 20.0	+3.6
PRU	**Pruhonice**	**2.79**	**266**	*e*SG	Sg	17 05 36.6	-7.0
KHC	**Kasperske Hory**	**3.61**	**254**	*e*PG	Pg	17 05 15.0	-7.7
KHC				*e*SG	Sg	17 06 04.4	-6.4
MOA	**Molln**	**3.87**	**233**	*i*	Pg	17 05 18.6	-9.2
MOA	**Molln**	**3.87**	**233**	*i* SG	Sg	17 06 14.9	-4.4
	1.4nm,0.3s						

DJA 19 18:04:19.1±1.0,8.94S×116.47E,h33km,MD4.7/4, ML4.4/3,5C-3D,Error ellipse: s-maj=21.5km s-min=17.2km az=136.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.57**	**322**	⇑*i*Pn	Pn	18 04 30.7	-0.1
	2μm,0.2s						
KEDI				⇑*i*Sn	Sn	18 04 36.1	-3.0
RATI	**Rata**	**0.95**	**283**	⇓*i*Pn	Pn	18 04 32.4	-3.8
	2μm,0.2s						
RATI				⇑*i*Sn	Sn	18 04 39.4	-9.3
KELI	**Kelakatan**	**2.08**	**290**	⇑*i*Pn	Pn	18 04 52.6	+0.1
	110nm,0.2s						
KELI				⇓*i*Sn	Sn	18 05 15.3	-2.2
SRDI	**Scrawed**	**2.34**	**281**	⇓*i*Pn	Pn	18 04 55.4	-0.8
	156nm,0.2s						
SRDI				⇑*i*Sn	Sn	18 05 21.0	-3.1

*BJI **19** 18:17:55.9,31.56N×115.26W,h2km,mB4.8,mb4.6,Ms4.2, Msz4.0*
*ECX **19** 18:17:59.9±0.8,31.51N×115.63W,h5km±6km,MD4.1, ML4.4*
*NEIC **19** 18:17:59.9,31.51N×115.63W,h5km,MD4.4(ECX), ML4.3(PAS),After ECX.*

ISC 19 18:17:58.7±0.6,31.51N±0.03×115.62W±0.04,h10km±5km, n23,σ0§90/34,mb4.7/1,MS3.8/1,6C-6D,Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**0.48**	**164**	⇓*i*P	**Pg**	**18 18 08.8**	**+0.3**
SPX				*e*S	**Sg**	**18 18 15.5**	**+0.4**
RDX	**Rancho Dowling**	**0.50**	**327**	⇓*i*P	**Pg**	**18 18 08.9**	**0.0**
RDX				*i* S	**Sg**	**18 18 15.7**	**0.0**
RDX				⇓*e*		18 18 16.6	
	comp=N,17μm,0.4s						
RDX				⇑*e*		18 18 19.8	
	comp=E,19μm,0.3s						
EMX	**El Mayor**	**0.58**	**34**	⇑*e*P	**Pg**	**18 18 09.8**	**-0.5**
EMX				*e*S	**Sg**	**18 18 18.5**	**+0.4**
ECNX	**Esteban Cantu**	**0.84**	**280**	⇑*e*P	**Pb**	**18 18 14.6**	**-0.3**
ECNX				⇑*i*P		18 18 16.6	
ECNX				*e*S	**Sb**	**18 18 26.4**	**+0.3**
ECNX				*e*S	**Sb**	**18 18 29.4**	**+3.3**
CPBX	**Cerro Prieto**	**0.94**	**17**	*e*P	**Pb**	**18 18 17.1**	**+0.5**
CPBX				*e*S	**Sb**	**18 18 29.7**	**+0.8**
ENX	**Ensenada**	**0.96**	**293**	⇑*i*P	**Pb**	**18 18 16.7**	**-0.2**
ENX				*e*S	**Sb**	**18 18 29.7**	**+0.2**
ENX				⇓*e*		18 18 31.9	
	comp=E,16μm,0.6s						
PBX	**Punta Banda**	**0.97**	**284**	*e*P	**Pb**	**18 18 16.6**	**-0.4**
PBX				*e*S	**Sb**	**18 18 29.8**	**+0.1**
PBX				⇓*e*		18 18 34.0	
	comp=N,8μm,0.8s						
RMX	**La Rumorosa**	**1.15**	**341**	⇓*i*P	**Pb**	**18 18 20.2**	**-0.1**
RMX				*e*S	**Sb**	**18 18 35.7**	**+0.7**
CBX	**Cerro Bola**	**1.19**	**312**	*e*P	**Pb**	**18 18 20.8**	**-0.1**
CBX				*e*S	**Sb**	**18 18 36.4**	**+0.2**
BAR	**Barrett**	**1.47**	**323**	*e*P	**Pn**	**18 18 24.4**	**-0.9**
BAR				*e*S	**Sb**	**18 18 42.9**	**-1.3**
PFO	**Pinyon Flat Ob**	**2.21**	**342**	*e*Pn	**Pn**	**18 18 34.6**	**-1.3**
MWC	**Mount Wilson**	**3.39**	**324**	*e*Pn	**Pn**	**18 18 51.5**	**-1.2**
LDFC	**Landfair**	**3.58**	**7**	Pn	**Pn**	**18 18 55.2**	**-0.2**
TUC	**Tucson**	**4.19**	**78**	*e*Pn	**Pn**	**18 19 01.0**	**-3.1**
DAC	**Darwin (Calif)**	**5.03**	**342**	Pn	**Pn**	**18 19 18.3**	**+2.3**
DAC				*e*Sg	**Sg**	**18 20 39.0**	**-7.1**
TPH	**Tonopah**	**6.68**	**349**	Pn	**Pn**	**18 19 40.4**	**+1.1**
OMM	**Old Mammoth Mi**	**6.70**	**336**	Pn	**Pn**	**18 19 39.1**	**-0.4**
MNV	**Mina**	**7.21**	**344**	Pn	**Pn**	**18 19 48.6**	**+1.9**
MSU	**Marysvale**	**7.53**	**21**	Pn	**Pn**	**18 19 50.5**	**-0.8**
SRU	**San Rafael**	**8.65**	**27**	Pn	**P**	**18 20 05.8**	**-1.0**
MDJ	**Mudanjiang**	**83.78**	**319**	P	**P**	**18 30 28.9**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,11nm,1.8s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,65nm,4.0s						
CN2	**Changchun**	**86.58**	**321**	*e*P	**P**	**18 30 44.5**	**+1.3**
WMQ	**Urumqi**	**102.06**	**343**	⇑P	Pdif	18 31 54.8	+0.3
WMQ				AP		18 31 59.8	
WMQ				PP	PP	18 36 08.8	+0.4
WMQ				AMB	AMB		
	comp=Z,2.0nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,21nm,3.4s						
WMQ				LR	LR		
	comp=N,26nm,18.0s,MS3.9						
WMQ				LR	LR		
	comp=E,31nm,21.8s,MS3.9						
WMQ				LR	LR		
	comp=Z,22nm,20.5s,MS3.7						

*IDC **19** 18:31:10.7±1.8,13.60N×91.03E,mb3.8/4,mb1 3.9/5, mb1mx3.7/21,mbtmp3.7/5,ML3.5/1,MS3.2/1,Ms1 3.2/1, ms1mx2.4/23,Error ellipse: s-maj=45.4km s-min=23.6km az=72.0*

ISC 19 18:31:11.6±0.9,13.19N±0.08×90.39E±0.08,h33km,n15, σ1§30/19,mb3.9/4,MS3.2/1,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**8.16**	**304**	*e*P	**P**	**18 33 08.4**	**-2.3**
VIS				*e*S	**S**	**18 34 41.1**	**-1.6**
CMAR	**Chiang Mai Arr**	**9.75**	**56**	Pn	**P**	**18 33 21.8**	**-11**
	0.2nm,0.3s,baz=243,slow=14,SNR=6.1						
CMAR				Sn	**Sn**	**18 35 05.4**	**-17**
	0.2nm,0.3s,baz=239,slow=28,SNR=5.1						
HYB	**Hyderabad**	**12.17**	**292**	*e*P	**P**	**18 33 58.0**	**-7.6**
HYB				*e*S	**S**	**18 36 23.0**	**+1.9**
JIRN	**Jiri**	**14.92**	**345**	*e*P	**P**	**18 34 44.0**	**+2.0**
PKI	**Pulchoki**	**15.05**	**343**	*e*P	**P**	**18 34 44.6**	**+1.0**
PKI				*e*S	**S**	**18 37 30.4**	**+0.6**
DMN	**Daman**	**15.17**	**342**	*e*P	**P**	**18 34 46.3**	**+1.0**
GUN	**Gumba**	**15.24**	**345**	*e*P	**P**	**18 34 47.1**	**+1.0**
KKN	**Kakani**	**15.29**	**343**	*e*P	**P**	**18 34 47.5**	**+0.7**
GKN	**Gorkha**	**15.69**	**341**	*e*P	**P**	**18 34 51.9**	**0.0**
KOLN	**Koldanda**	**15.83**	**337**	*e*P	**P**	**18 34 53.6**	**-0.2**
KOLN				*e*S	**S**	**18 37 46.7**	**-1.4**
MKAR	**Makanchi Array**	**34.18**	**350**	P	**P**	**18 37 54.7**	**-1.3**
	1.2nm,0.7s,mb3.9,baz=169,slow=7.5,SNR=7.2						
SONM	**Songino Array**	**37.03**	**18**	P	**P**	**18 38 17.6**	**-2.5**
	0.8nm,0.5s,mb3.8,baz=196,slow=9.0,SNR=5.9						
ZAL	**Zalesovo**	**40.89**	**355**	LR	LR	19 00 27.7	
	comp=Z,28nm,18.4s,MS3.2,baz=157,slow=43						
WRA	**Warramunga Arr**	**54.35**	**127**	P	**P**	**18 40 37.6**	**-0.2**
	1.6nm,0.6s,mb4.1,baz=306,slow=8.4,SNR=5.1						
ASAR	**Alice Springs**	**56.14**	**131**	P	**P**	**18 40 51.2**	**+0.5**
	0.8nm,0.7s,mb3.8,baz=306,slow=7.8,SNR=3.1						

*NEIC **19** 18:34:42.8±2.1,8.22S×119.76E,h184km±22km,mb4.3/7, Error ellipse: s-maj=27.6km s-min=10.2km az=56.0*
*DJA **19** 18:34:44.0±0.9,8.44S×119.33E,h240km,MD4.7/4, ML4.7/4,Error ellipse: s-maj=115.7km s-min=19.5km az=179.0*
*IDC **19** 18:34:44.4±2.8,8.23S×119.80E,h202km±30km,mb3.6/6, mb1 3.8/8,mb1mx3.5/20,mbtmp4.2/8,Error ellipse: s-maj=76.2km s-min=8.7km az=53.0*

ISC 19 18:34:40.0±1.1,8.1S±0.1×119.84E±0.08,h169km±13km, n24,σ1§13/33,mb4.0/8,7C-3D,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.71**	**264**	⇑*i*Pn	**P**	**18 35 38.0**	**+0.2**
	335nm,0.2s						
KEDI	**Kedomdong**	**3.71**	**264**	*e*P	**P**	**18 35 38.7**	**+0.9**
KEDI				⇑*i*Sn	**S**	**18 36 20.8**	**-1.5**
RATI	**Rata**	**4.31**	**261**	⇑*i*Pn	**P**	**18 35 47.3**	**+1.8**
	368nm,0.2s						
RATI				⇓*i*Sn	**S**	**18 36 30.1**	**-5.9**
KELI	**Kelakatan**	**5.29**	**268**	⇓*i*Pn	**P**	**18 35 59.5**	**+1.1**
	36nm,0.2s						
KELI				⇑*i*Sn	**S**	**18 36 53.8**	**-5.3**
SRDI	**Scrawed**	**5.65**	**266**	⇑*i*Pn	**P**	**18 36 02.3**	**-0.7**
	120nm,0.2s						
SRDI				⇓*i*Sn	**S**	**18 37 00.6**	**-6.9**
FITZ	**Fitzroy Crossi**	**11.44**	**151**	*e*P	**P**	**18 37 19.3**	**-0.1**
	2.9nm,0.3s						
FITZ				*e*S	**S**	**18 39 17.8**	**-6.6**
FITZ	**Fitzroy Crossi**	**11.44**	**151**	P	**P**	**18 37 19.1**	**-0.3**
	0.9nm,0.3s,baz=5.6,slow=3.6,SNR=32						
FITZ				S	**S**	**18 39 18.0**	**-6.4**
	5.9nm,0.3s,baz=190,slow=20,SNR=16						
KAKA	**Kakadu**	**13.22**	**111**	*e*P	**P**	**18 37 43.7**	**+1.6**
	7.3nm,0.3s						
KAKA				*e*S	**S**	**18 40 04.5**	**-1.1**
WRA	**Warramunga Arr**	**18.33**	**132**	P	**P**	**18 38 43.0**	**-1.1**
	2.5nm,0.3s,baz=302,slow=12,SNR=192						
WRA				S	**S**	**18 42 02.0**	**+2.4**
	0.3nm,0.3s,baz=314,slow=25,SNR=5.1						
WRAB	**Tennant Creek**	**18.34**	**131**	*e*P	**P**	**18 38 43.0**	**-1.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.71**	**108**	⇓ *i* P	Pb	18 46 21.5	-2.2
VHO				*i* S	Sb	18 46 31.2	-2.0
OXX	**Oaxaca**	**0.72**	**107**	*i* P	Pb	18 46 21.0	-2.8
OXX				*i* S	Sb	18 46 30.0	-3.4
IISM	**Ciudad Serdan**	**1.68**	**2**	*i* P	Pn	18 46 35.0	-2.7
IISM				*i* S	Sn	18 46 55.0	-3.4
PPM	**Popocatepetl**	**2.09**	**328**	*i* P	Pn	18 46 42.0	-1.5
PPM				*i* S	Sn	18 47 05.0	-3.7

*IDC **19** 18:57:02.5±2.4, 55.73N×110.32E, mb3.3/2, mb1 3.3/4, mb1mx3.2/23, mbtmp3.2/4, ML3.3/2, MS2.9/1, Ms1 3.0/1, ms1mx2.5/14, Error ellipse: s-maj=40.8km s-min=31.8km az=57.0*
*MOS **19** 18:57:03.5±2.0, 55.79N×110.11E, h13km, mb3.6/1, Error ellipse: s-maj=11.4km s-min=6.7km az=66.7*
*NEIC **19** 18:57:03.5, 55.79N×110.11E, h13km, mb3.4/1, After BYKL.*
*BYKL **19** 18:57:03.8±0.3, 55.78N×110.12E, h11km±4km*
ISC 19 18:57:01.8±0.3, 55.63N±0.03×110.17E±0.04, h11km, n57, σ1°56/112, mb3.2/3, MS2.9/1, 5C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.39**	**293**	*e*PG	**Pg**	**18 57 09.2**	**-0.5**
NIZ				*e*		18 57 14.3	
NIZ	comp=Z,252nm,0.3s			pmax	pmax		
NIZ	comp=N,2μm,0.4s			smax			
NIZ	**Nizh Angarsk**	**0.39**	**293**	*e*Pg	**Pg**	**18 57 09.1**	**-0.6**
NIZ				*e*		18 57 10.3	
NIZ				*e*Sg	**Sg**	**18 57 14.3**	**-0.8**
NIZ				*e*		18 57 15.1	
NIZ	comp=N,300nm,0.3s			max			
NIZ	comp=N,2μm,0.4s			max			
KMO	**Kumora**	**0.64**	**65**	*e*PG	**Pg**	**18 57 14.0**	**-0.7**
KMO				*e*		18 57 22.7	
KMO	comp=Z,112nm,0.3s			pmax	pmax		
KMO	comp=N,604nm,0.8s			smax			
KMO	**Kumora**	**0.64**	**65**	⇑ *i*Pg	**Pg**	**18 57 14.1**	**-0.6**
KMO				*e*Sg	**Sg**	**18 57 22.7**	**-0.6**
KMO	comp=N,200nm,0.3s			Pmax			
KMO	comp=N,797nm,0.9s			Smax			
YLYR	**Ulyunkhan**	**0.94**	**142**	⇑ *i*PG	**Pg**	**18 57 22.8**	**+2.1**
YLYR				*e*		18 57 37.3	
YLYR	comp=Z,256nm,0.3s			pmax	pmax		
YLYR	comp=E,1μm,0.3s			smax			
YLYR	**Ulyunkhan**	**0.94**	**142**	⇑ *i*Pg	**Pg**	**18 57 22.8**	**+2.1**
YLYR				*e*Pb	**Pb**	**18 57 23.6**	**+3.9**
YLYR				*e*Sg	**Sg**	**18 57 38.0**	**+4.7**
YLYR				*e*Sb	**Sb**	**18 57 39.3**	**+7.4**
YLYR	comp=E,251nm,0.3s			max			
YLYR	comp=E,1μm,0.2s			max			
YOA	**Uoyan**	**1.01**	**59**	⇑ *i*PG	**Pg**	**18 57 21.6**	**-0.5**
YOA				*i*		18 57 35.2	
YOA	comp=Z,189nm,0.4s			pmax	pmax		
YOA	comp=E,2μm,0.6s			smax			
YOA	**Uoyan**	**1.01**	**59**	*e*Pg	**Pg**	**18 57 21.8**	**-0.3**
YOA				*e*Sg	**Sg**	**18 57 35.4**	**-0.3**
YOA	comp=E,223nm,0.3s			Pmax			
YOA	comp=E,2μm,0.3s			Smax			
UKT	**Uakit**	**1.97**	**93**	*e*PN	**Pn**	**18 57 38.8**	**+3.3**
UKT				*e*		18 58 05.8	
UKT	comp=Z,97nm,0.4s			pmax	pmax		
UKT	comp=N,909nm,0.5s			smax			
UKT	**Uakit**	**1.97**	**93**	*e*Pn	**Pn**	**18 57 38.2**	**+2.7**
UKT				*e*Pg	**Pg**	**18 57 39.2**	**-2.0**
UKT				*e*Sg	**Sg**	**18 58 05.7**	**-1.7**
UKT	comp=N,135nm,0.7s			Pmax			
UKT	comp=N,1μm,0.4s			Smax			
SVKR	**Severomuysk**	**1.97**	**74**	*e*PN	**Pn**	**18 57 38.0**	**+2.4**
SVKR				*e*		18 58 05.3	
SVKR	comp=Z,277nm,0.6s			pmax	pmax		
SVKR	comp=N,2μm,1.0s			smax			
SVKR	**Severomuysk**	**1.97**	**74**	*e*Pn	**Pn**	**18 57 37.5**	**+1.9**
SVKR				*e*Pg	**Pg**	**18 57 40.1**	**-1.1**
SVKR				*e*Sn	**Sn**	**18 58 03.9**	**+3.4**
SVKR				*e*Sg	**Sg**	**18 58 06.0**	**-1.6**
SVKR	comp=N,292nm,0.4s			Pmax			
SVKR	comp=N,2μm,0.4s			Smax			
SYVR	**Suvo**	**1.97**	**183**	*e*PN	**Pg**	**18 57 41.4**	**+0.2**
SYVR				*e*		18 58 10.7	
SYVR	comp=Z,324nm,0.5s			pmax	pmax		
SYVR	comp=E,922nm,0.7s			smax			
SYVR	**Suvo**	**1.97**	**183**	⇑ *i*Pg	**Pg**	**18 57 41.2**	**0.0**
SYVR				*e*Sg	**Sg**	**18 58 10.6**	**+3.0**
SYVR	comp=E,328nm,0.5s			Pmax			
SYVR	comp=E,928nm,0.7s			Smax			
OGRR	**Ongureny**	**2.49**	**218**	*e*PN	**Pn**	**18 57 46.3**	**+3.4**
OGRR				*e*		18 57 50.5	
OGRR				*e*		18 58 23.8	
OGRR	comp=Z,50nm,0.7s			pmax	pmax		
OGRR	comp=E,319nm,1.1s			smax			
OGRR	**Ongureny**	**2.49**	**218**	*e*Pn	**Pn**	**18 57 46.6**	**+3.7**
OGRR				*e*Pg	**Pg**	**18 57 50.5**	**-1.0**
OGRR				*e*Sg	**Sg**	**18 58 24.4**	**-0.2**
OGRR	comp=E,51nm,0.4s			Pmax			
OGRR	comp=E,309nm,0.7s			Smax			
BOD	**Bodaibo**	**3.05**	**42**	*e*PN	**Pn**	**18 57 50.0**	**-0.9**
BOD				*e*		18 57 55.2	
BOD				*e*S	**Sn**	**18 58 27.1**	**-0.7**
BOD				*e*		18 58 33.2	
BOD	comp=Z,34nm,0.4s			pmax	pmax		
BOD	comp=N,563nm,0.5s			smax			
BOD	**Bodaibo**	**3.05**	**42**	*e*Pn	**Pn**	**18 57 50.8**	**-0.1**
BOD				*e*Pg	**Pg**	**18 57 56.2**	**-6.5**
BOD				*e*Sn	**Sn**	**18 58 27.1**	**-0.7**
BOD				*e*Sg	**Sg**	**18 58 34.3**	**-9.1**
BOD	comp=N,32nm,0.5s			Pmax			
BOD	comp=N,559nm,0.4s			Smax			
NLYR	**Nelyaty**	**3.22**	**72**	*e*PN	**Pn**	**18 57 54.0**	**+0.6**
NLYR				*e*		18 58 00.3	
NLYR				*e*		18 58 42.4	
NLYR	comp=Z,42nm,0.7s			pmax	pmax		
NLYR	comp=N,372nm,1.0s			smax			
NLYR	**Nelyaty**	**3.22**	**72**	*e*Pn	**Pn**	**18 57 54.6**	**+1.2**
NLYR				*e*Pg	**Pg**	**18 58 01.3**	**-4.8**
NLYR				*e*Sn	**Sn**	**18 58 33.0**	**+0.8**
NLYR				*e*Sg	**Sg**	**18 58 43.1**	**-6.0**
NLYR	comp=N,53nm,0.7s			Pmax			
NLYR	comp=N,383nm,1.0s			Smax			
TRG	**Tyrgan**	**3.64**	**220**	*e*PN	**Pn**	**18 58 02.1**	**+2.7**
TRG				*e*		18 58 11.9	
TRG				*e*		18 59 00.0	
TRG	comp=Z,36nm,0.5s			pmax	pmax		
TRG	comp=N,148nm,0.9s			smax			
TRG	**Tyrgan**	**3.64**	**220**	*e*Pn	**Pn**	**18 58 02.3**	**+2.9**
TRG				*e*Sn	**Sn**	**18 58 46.2**	**+3.4**
TRG				*e*Sg	**Sg**	**18 59 00.1**	**-3.0**
TRG	comp=N,35nm,0.3s			max			
TRG	comp=N,142nm,0.5s			Smax			
TRTB	**Turuntaevo**	**3.72**	**205**	*e*Pn	**Pn**	**18 58 03.2**	**+2.8**
TRTB				*e*Pg	**Pg**	**18 58 13.6**	**-2.4**
TRTB				*e*Sn	**Sn**	**18 58 48.5**	**+3.8**
TRTB				*e*Sg	**Sg**	**18 59 01.3**	**-4.3**
TRTB	comp=N,13nm,0.9s			Pmax			
TRTB	comp=N,105nm,1.4s			Smax			
CIT	**Chita**	**4.13**	**150**	*e*PN	**Pg**	**18 58 20.0**	**-4.3**
CIT				*e*		18 59 15.4	
CIT	comp=Z,48nm,1.3s			pmax	pmax		
CIT	comp=E,210nm,0.9s			smax			
CIT	**Chita**	**4.13**	**150**	*e*Pg	**Pg**	**18 58 20.0**	**-4.3**
CIT				*e*Sg	**Sg**	**18 59 15.0**	**-4.3**
CIT	comp=E,47nm,0.9s			Pmax			
CIT	comp=E,211nm,0.8s			Smax			
KAB	**Kabansk**	**4.14**	**212**	*e*PN	**Pg**	**18 58 22.2**	**-2.3**
KAB				*e*		18 59 18.3	
KAB	comp=Z,34nm,0.3s			pmax	pmax		
KAB	comp=E,361nm,1.1s			smax			
KAB	**Kabansk**	**4.14**	**212**	*e*Sg	**Sg**	**18 59 16.1**	**-3.7**
KAB	comp=E,305nm,1.0s			Smax			
HRMR	**Khuramsha**	**4.44**	**207**	*e*Pn	**Pn**	**18 58 13.5**	**+2.8**
HRMR				*e*Pg	**Pg**	**18 58 27.0**	**-3.4**
HRMR				*e*Sg	**Sg**	**18 59 25.9**	**-3.7**
HRMR	comp=E,30nm,0.4s			Pmax			
HRMR	comp=E,228nm,0.5s			Smax			
CRS	**Chara**	**4.69**	**71**	*e*PN	**Pn**	**18 58 14.7**	**+0.4**
CRS				*e*S	**Sg**	**18 59 29.1**	**-9.0**
CRS	comp=E,173nm,1.1s			smax			
CRS	**Chara**	**4.69**	**71**	*e*Pn	**Pn**	**18 58 14.9**	**+0.6**
CRS				*e*Pg	**Pg**	**18 58 27.5**	**-8.0**
CRS				*e*Sg	**Sg**	**18 59 28.4**	**-10**
CRS	comp=E,43nm,0.9s			Pmax			
CRS	comp=E,174nm,1.1s			Smax			
IRK	**Irkutsk**	**4.86**	**228**	*e*Sn	**Sn**	**18 59 14.2**	**+0.6**
IRK				*e*Sg	**Sg**	**18 59 38.2**	**-5.4**
IRK	comp=E,231nm,0.7s			Smax			
LSTR	**Listvyanka**	**4.92**	**222**	*e*PN	**Pn**	**18 58 19.2**	**+1.7**
LSTR				*e*		18 58 34.5	
LSTR				*e*S	**Sn**	**18 59 15.6**	**+0.5**
LSTR				*e*		18 59 38.4	
LSTR	comp=Z,20nm,0.5s			pmax	pmax		
LSTR	comp=N,96nm,1.2s			smax			
LSTR	**Listvyanka**	**4.92**	**222**	*e*Pn	**Pn**	**18 58 18.9**	**+1.4**
LSTR				*e*Sn	**Sn**	**18 59 15.7**	**+0.6**
LSTR				*e*Sg	**Sg**	**18 59 38.2**	**-7.4**
LSTR	comp=N,91nm,1.0s			Smax			
TLY	**Talaya**	**5.54**	**227**	*e*PN	**Pn**	**18 58 26.4**	**+0.2**
TLY				*e*		18 58 43.0	
TLY				*e*S	**Sn**	**18 59 29.3**	**-1.3**
TLY				*e*		18 59 55.2	
TLY	comp=Z,7.0nm,0.5s			pmax	pmax		
TLY	comp=N,83nm,1.0s			smax			
TLY	**Talaya**	**5.54**	**227**	Pn	**Pn**	**18 58 26.1**	**-0.1**
TLY				*e*Sn	**Sn**	**18 59 29.9**	**-0.7**
TLY				*e*Sg	**Sg**	**18 59 57.5**	**-8.6**
TLY	**Talaya**	**5.54**	**227**	*e*Pn	**Pn**	**18 58 27.4**	**+1.2**
TLY				*e*Sn	**Sn**	**18 59 31.1**	**+0.5**
TLY				*e*Sg	**Sg**	**18 59 58.6**	**-7.6**
TLY	comp=N,12nm,0.7s			max			
TLY	comp=N,77nm,1.0s			Smax			
TUP	**Tupik**	**5.76**	**98**	*e*PN	**Pn**	**18 58 29.7**	**+0.4**
TUP				*e*S	**Sn**	**18 59 36.1**	**0.0**
TUP				*e*S	**Sg**	**19 00 04.3**	**-9.1**
TUP	comp=N,96nm,1.1s			smax			
TUP	**Tupik**	**5.76**	**98**	*e*Pg	**Pg**	**18 58 48.3**	**-8.4**
TUP				*e*Sg	**Sg**	**19 00 04.9**	**-8.5**
TUP	comp=N,13nm,0.8s			Pmax			
TUP	comp=N,113nm,1.3s			Smax			
ARS	**Arshan**	**5.90**	**234**	*e*Pn	**Pn**	**18 58 32.5**	**+1.1**
ARS				*e*Sn	**Sn**	**18 59 38.0**	**-1.8**
ARS				*e*Sg	**Sg**	**19 00 08.2**	**-10**
ARS	comp=N,23nm,0.6s			max			
ARS	comp=N,207nm,0.7s			Smax			
KPC	**Khapcheranga**	**6.08**	**166**	*e*PN	**Pg**	**18 58 56.3**	**-6.9**
KPC				*e*		19 00 18.1	
KPC	comp=Z,16nm,0.8s			pmax	pmax		
KPC	comp=E,51nm,0.9s			smax			
KPC	**Khapcheranga**	**6.08**	**166**	*e*Pg	**Pg**	**18 58 56.0**	**-7.2**
KPC				*e*Sg	**Sg**	**19 00 18.3**	**-6.0**
KPC	comp=E,14nm,0.9s			Pmax			
KPC	comp=E,69nm,0.9s			Smax			
ZAK	**Zakamensk**	**6.70**	**221**	*e*PN	**Pn**	**18 58 44.8**	**+2.3**
ZAK				*e*		18 59 04.3	
ZAK				*e*S	**Sn**	**18 59 58.1**	**-1.5**
ZAK				*e*		19 00 31.1	
ZAK	comp=Z,8.0nm,0.7s			pmax	pmax		
ZAK	comp=E,63nm,1.0s			smax			
ZAK	**Zakamensk**	**6.70**	**221**	*e*Pn	**Pn**	**18 58 44.4**	**+1.9**
ZAK				*e*Sn	**Sn**	**19 00 01.0**	**+1.4**
ZAK				*e*Sg	**Sg**	**19 00 34.2**	**-11**
ZAK	comp=E,3.0nm,0.7s			max			
ZAK	comp=E,62nm,1.1s			Smax			
MOY	**Mondy**	**6.74**	**238**	*e*PN	**Pn**	**18 58 44.8**	**+1.6**
MOY				*e*		18 59 07.3	
MOY				*e*S	**Sn**	**19 00 00.2**	**-0.6**
MOY				*e*		19 00 36.6	
MOY	comp=Z,10.0nm,0.4s			pmax	pmax		
MOY	comp=E,65nm,1.0s			smax			
MOY	**Mondy**	**6.74**	**238**	*e*Pn	**Pn**	**18 58 44.8**	**+1.6**
MOY				*e*Sn	**Sn**	**19 00 01.1**	**+0.3**
MOY				*e*Sg	**Sg**	**19 00 37.0**	**-9.3**
MOY	comp=E,33nm,0.6s			max			
MOY	comp=E,62nm,1.8s			Smax			
ORL	**Orlik**	**6.83**	**247**	*e*PN	**Pn**	**18 58 45.2**	**+0.7**
ORL				*e*		18 59 07.2	
ORL				*e*S	**Sn**	**19 00 00.6**	**-2.4**
ORL				*e*		19 00 37.1	
ORL	comp=Z,15nm,0.9s			pmax	pmax		
ORL	comp=N,30nm,1.0s			smax			
ORL	**Orlik**	**6.83**	**247**	*e*Pn	**Pn**	**18 58 45.7**	**+1.2**
ORL				*e*Sn	**Sn**	**19 00 01.7**	**-1.3**
ORL				*e*Sg	**Sg**	**19 00 37.3**	**-12**
ORL	comp=N,14nm,1.0s			max			
ORL	comp=N,32nm,1.1s			Smax			
ULN	**Ulaanbaatar**	**8.01**	**195**	PN	**P**	**18 59 03.6**	**+2.7**
ULN				*e*		19 01 21.3	
ULN	**Ulaanbaatar**	**8.01**	**195**	Pn	**P**	**18 59 03.6**	**+2.7**
ULN				*e*Pg	P	18 59 32.8	+32
ULN				eLg		19 01 21.3	
SONM	**Songino Array**	**8.14**	**198**	Pn	**P**	**18 59 04.9**	**+2.0**
SONM	comp=N,0.2nm,0.3s,baz=10,slow=16,SNR=6.6			Lg		19 01 25.5	
SONM	comp=N,1.1nm,0.3s,baz=17,slow=30,SNR=9.0						
KLR	**Kul'dur**	**14.60**	**107**	*e*P	**P**	**19 00 33.0**	**+3.0**
MKAR	**Makanchi Array**	**19.46**	**255**	P	**P**	**19 01 30.1**	**-0.9**
CHKZ	**Chkalovo**	**22.76**	**282**	*e*P	**P**	**19 02 05.2**	**+0.4**
CHKZ	comp=N,0.1nm,0.3s,baz=67,slow=11,SNR=6.5			pmax	pmax		
CHKZ	**Chkalovo**	**22.76**	**282**	*e*P	**P**	**19 02 05.2**	**+0.4**
BVAR	**Borovoye Array**	**23.12**	**280**	P	**P**	**19 02 11.4**	**+3.0**
NOA	**NORSAR Array B**	**47.43**	**319**	LR	LR	19 28 51.1	
ASAR	**Alice Springs**	**81.53**	**158**	P	**P**	**19 09 21.8**	**+1.2**

*CSEM **19** 19:25:46.8±0.1, 38.87N×27.72E, h10km, MD3.2, Error ellipse: s-maj=3.5km s-min=1.6km az=122.0*
*ATH **19** 19:25:47.0, 38.86N×27.76E, h20km±6km, MD3.4/3*
*ISK **19** 19:25:47.4, 38.88N×27.64E, h21km, MD3.2*
ISC 19 19:25:47.0±0.6, 38.86N±0.02×27.75E±0.03, h6km±5km, n35, σ0°81/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.59**	**220**	*i* P	**Sg**	**19 26 09.0**	**+2.1**
IZM	**Izmir**	**0.60**	**220**	*i* PG	**Pg**	**19 25 58.5**	**-0.5**
IZM				*i* SG	**Sg**	**19 26 07.4**	**+0.3**
BLCB	**Balcova**	**0.73**	**230**	*i* PG	**Pg**	**19 26 01.2**	**-0.4**
MANT	**Manisa**	**0.73**	**120**	*i* P	**Pg**	**19 26 01.8**	**+0.1**
MANT				*i* S	**Sg**	**19 26 10.2**	**-1.3**
BALB	**Balikesir**	**0.78**	**7**	PG	**Pg**	**19 26 02.8**	**+0.1**
BTOK	**Tokmak**	**0.92**	**13**	*i* P	**Pb**	**19 26 04.7**	**-0.3**
BTOK				*i* S	**Sb**	**19 26 17.1**	**-0.3**
DST	**Dursunbey**	**1.01**	**42**	PG	**Pg**	**19 26 06.6**	**-0.5**
DST				SG	**Sg**	**19 26 21.9**	**+1.3**
AYDN	**Tasoluk**	**1.20**	**175**	*i* P	**Pb**	**19 26 08.8**	**-1.1**
AYDN				*i* S	**Sb**	**19 26 25.1**	**-0.4**
PRK	**Paraskevi**	**1.21**	**289**	*e*PN	**Pn**	**19 26 10.5**	**0.0**
PRK				*e*SN	**Sn**	**19 26 27.0**	**-0.4**
SMG	**Samos**	**1.36**	**212**	*e*PN	**Pn**	**19 26 12.5**	**-0.1**
SMG				*e*SN	**Sn**	**19 26 31.5**	**+0.4**
KCT	**Karacabey**	**1.48**	**18**	PN	**Pn**	**19 26 13.8**	**-0.5**
ORLT	**Orhaneli**	**1.48**	**36**	PN	**Pn**	**19 26 14.3**	**0.0**
KHL	**Karahalli**	**1.49**	**111**	*e*PN	**Pn**	**19 26 15.8**	**+1.4**
DENT	**Denizli**	**1.50**	**137**	*e*PN	**Pn**	**19 26 15.0**	**+0.5**
BNT	**Bandirma**	**1.50**	**5**	PN	**Pn**	**19 26 13.6**	**-1.0**
DNZL	**Cakiroluk**	**1.55**	**139**	*i* P	**Pn**	**19 26 13.9**	**-1.5**
DNZL				*i* S	**Sb**	**19 26 36.6**	**+1.0**
BOZC	**Bozcaada**	**1.64**	**307**	*i* P	**Pn**	**19 26 17.8**	**+1.2**
ULDT	**Uludag**	**1.67**	**40**	*i* P	**Pn**	**19 26 18.2**	**+1.2**
ULDT				*i* S	**Sn**	**19 26 39.9**	**+1.0**
LPK	**Lapseki**	**1.69**	**333**	*e*PN	**Pn**	**19 26 16.5**	**-0.8**
MRMT	**Marmara Adasi**	**1.74**	**356**	*e*PN	**Pn**	**19 26 17.6**	**-0.5**
YER	**Yerkesik**	**1.77**	**166**	*e*PN	**Pn**	**19 26 18.0**	**-0.5**
BDRM	**Kayabasi**	**1.81**	**188**	*i* P	**Pn**	**19 26 20.1**	**+1.1**
BDRM				*i* S	**Sn**	**19 26 36.6**	**-5.9**
BODT	**Bodrum**	**1.83**	**191**	*e*PN	**Pn**	**19 26 19.1**	**-0.2**
ALT	**Altintas**	**1.85**	**83**	*e*PN	**Pn**	**19 26 20.6**	**+1.0**
SART	**Tekirdag**	**1.88**	**347**	*i* P	**Pn**	**19 26 25.7**	**+5.7**
MFT	**Murefte**	**1.96**	**349**	*e*PN	**Pn**	**19 26 20.2**	**-0.9**
YLV	**Yalova**	**2.11**	**36**	*e*PN	**Pn**	**19 26 23.6**	**+0.2**
TKTP	**Tekketepe**	**2.18**	**111**	*i* P	**Pn**	**19 26 23.2**	**-1.1**
ISK	**Istanbul-Kandi**	**2.42**	**24**	*e*PN	**Pn**	**19 26 27.3**	**-0.5**
HRT	**Hereke**	**2.45**	**36**	*e*PN	**Pn**	**19 26 28.5**	**+0.3**
FETY	**Fethiye**	**2.46**	**154**	*e*PN	**Pn**	**19 26 27.7**	**-0.6**
ESKT	**Eskisehir**	**2.50**	**74**	*e*PN	**Pn**	**19 26 29.5**	**+0.7**
ESKT	**Eskisehir**	**2.50**	**74**	*i* P	**Pn**	**19 26 33.0**	**+4.2**
RDO	**Rodhopi**	**2.84**	**324**	*e*PN	**Pn**	**19 26 34.0**	**+0.2**
SGKT	**Sivrigoynuk**	**3.73**	**61**	*i* P	**Pg**	**19 26 57.0**	**-4.5**

IDC 19 19:29:03.6±10.0, 1.44S×134.24E, mb3.7/2, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.7/2, MS3.8/1, Ms1 3.8/1, ms1mx2.9/24, 1D, Error ellipse: s-maj=155.6km s-min=76.0km az=171.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.39**	**180**	⇓ *i* P	P	19 33 20.7	-1.2
WRA	**Warramunga Arr**	**18.39**	**180**	P	P	19 33 20.6	-1.3
	0.4nm,0.3s,baz=359,slow=12,SNR=32						
FITZ	**Fitzroy Crossi**	**18.59**	**206**	P	P	19 33 22.0	-2.4
	0.1nm,0.3s,baz=27,slow=9.0,SNR=4.2						
ASAR	**Alice Springs**	**22.10**	**181**	P	P	19 34 00.9	-1.3
	0.6nm,0.4s,baz=3.7,slow=12,SNR=17						
STKA	**Stephens Creek**	**31.06**	**168**	P	P	19 35 23.0	-2.7
	2.9nm,1.1s,baz=342,slow=13,SNR=4.0						
RPZ	**Rata Peaks**	**53.31**	**147**	LR	LR	20 01 05.3	
	comp=Z,88nm,18.3s,baz=288,slow=36						

*WAR **19** 19:35:50.5, 50.05N×18.47E, h0km, ML2.6, Mining Induced*
*IDC **19** 19:35:50.4±2.1, 49.85N×18.61E, mb1 3.3/4, mb1mx3.1/21, mbtmp3.1/4, ML2.9/4, Error ellipse: s-maj=33.2km s-min=11.0km az=136.0*
*NEIC **19** 19:35:50.3±0.7, 50.16N×18.40E, h5km±5km, ML2.9(CLL), ML2.8(VIE), Error ellipse: s-maj=6.5km s-min=4.8km az=200.0*
*IPEC **19** 19:35:50.1±0.2, 50.05N×18.51E, h9km±1km, ML2.4/4, Error ellipse: s-maj=2.1km s-min=1.1km az=162.0*
*CSEM **19** 19:35:51.3±0.1, 50.09N×18.39E, h2km, ML3.3/2, Error ellipse: s-maj=2.5km s-min=1.8km az=31.0*
*PRU **19** 19:35:52.1, 50.06N×18.36E*
ISC 19 19:35:48.8±0.4, 50.12N±0.03×18.42E±0.03, n43, σ1°33/80, 4C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**255**	*e*PG	**Pg**	**19 35 55.0**	**+3.2**
RAC				*e*SG	**Sg**	**19 35 59.0**	**+5.2**
RAC	**Raciborz**	**0.15**	**255**	*e*Pg	**Pg**	**19 35 55.0**	**+3.2**
RAC				*e*Sg	**Sg**	**19 35 58.6**	**+4.8**
OKC	**Ostrava-Krasne**	**0.34**	**212**	*e*PG	**Pg**	**19 35 56.8**	**+1.3**
OKC				*e*SG	**Sg**	**19 36 01.5**	**+1.6**
	378nm,0.6s						
MORC	**Moravsky Berou**	**0.66**	**239**	*e*Pg	**Pg**	**19 36 03.1**	**+1.0**
MORC				*e*Sg	**Sg**	**19 36 12.3**	**+1.5**
MORC	**Moravsky Berou**	**0.66**	**239**	*e*Pg	**Pg**	**19 36 03.1**	**+1.1**
MORC				*e*Sg	**Sg**	**19 36 11.9**	**+1.0**
	100nm,0.4s						
OJC	**Ojcow**	**0.89**	**83**	*e*PG	**Pg**	**19 36 07.0**	**+0.4**
OJC				*e*SG	**Sg**	**19 36 19.0**	**+0.6**
DPC	**Dobruska-Polom**	**1.37**	**280**	*e*PG	**Pg**	**19 36 16.7**	**+0.7**
DPC				*e*SG	**Sg**	**19 36 36.1**	**+1.9**
	143nm,0.7s						
DPC	**Dobruska-Polom**	**1.37**	**280**	*e*Pn	**Pn**	**19 36 16.3**	**+1.2**
DPC	**Dobruska-Polom**	**1.37**	**280**	Pg	**Pg**	**19 36 16.7**	**+0.7**
DPC				*e*Sg	**Sg**	**19 36 35.0**	**+0.8**
NIE	**Niedzica**	**1.42**	**119**	*e*PG	**Pg**	**19 36 15.0**	**-2.0**
NIE				*e*SG	**Sg**	**19 36 34.0**	**-1.9**
VRAC	**Vranov**	**1.44**	**236**	Pg	**Pg**	**19 36 17.1**	**-0.4**
	8.2nm,0.3s,baz=66,slow=15,SNR=53						
VRAC				Lg		19 36 36.4	
	17nm,0.3s,baz=310,slow=21,SNR=23						
VRAC	**Vranov**	**1.44**	**236**	*e*Pn	**Pn**	**19 36 16.7**	**+0.6**
VRAC	**Vranov**	**1.44**	**236**	Pg	**Pg**	**19 36 17.1**	**-0.4**
VRAC				*e*Sg	**Sg**	**19 36 35.5**	**-1.2**
	37nm,0.3s						
KSP	**Ksiaz**	**1.54**	**299**	*e*Pn	**Pn**	**19 36 19.0**	**+1.5**
KSP				*e*Pg	**Pg**	**19 36 21.4**	**+2.0**
KSP				*e*Sg	**Sg**	**19 36 40.7**	**+0.8**
KSP	**Ksiaz**	**1.54**	**299**	*e*Pn	**Pn**	**19 36 18.9**	**+1.4**
KSP				*e*Pg	**Pg**	**19 36 20.6**	**+1.2**
KSP				*e*Sn	**Sn**	**19 36 41.2**	**+2.7**

KSP eSg **Sg** **19 36 42.7 +2.8**
KSP Ksiaz 1.54 299 ePg **Pg** **19 36 21.4 +2.0**
KSP eSg **Sg** **19 36 40.7 +0.8**
KOLL Kolacno 1.55 180 ePN **Pn** **19 36 19.0 +1.3**
KOLL eSN **Sn** **19 36 39.5 +0.8**
UPC Upice 1.59 285 ePG **Pg** **19 36 20.6 +0.1**
UPC eSG **Sg** **19 36 43.3 +1.6**
VYHS Vyhne 1.65 170 ePN **Pn** **19 36 19.2 0.0**
VYHS eSN **Sn** **19 36 41.5 0.0**
KRUC Moravsky 1.69 232 ePn **Pn** **19 36 19.7 -0.1**
KRUC eSg **Sg** **19 36 43.2 -1.9**
30nm,0.3s
SMOL Smolenice 1.74 202 ePN **Pn** **19 36 20.5 +0.1**
SMOL eSN **Sn** **19 36 43.9 +0.3**
KECS Kecovo 2.13 140 ePG **Pg** **19 36 31.7 +0.5**
CRVS Cervenica-Dubn 2.33 120 ePN **Pn** **19 36 32.8 +3.9**
CRVS eSN **Sn** **19 37 05.0 +6.4**
PSZ Piszkesteto 2.41 156 Pn **Pn** **19 36 29.7 -0.3**
PSZ Piszkesteto 2.41 156⇑ePn **Pn** **19 36 30.7 +0.7**
PSZ eSB **Sb** **19 37 03.9 +0.8**
PSZ Piszkesteto 2.41 156 Pn **Pn** **19 36 29.7 -0.3**
PSZ Piszkesteto 2.41 156⇑eP **Pn** **19 36 30.7 +0.7**
PSZ eS **Sb** **19 37 03.9 +0.8**
PVCC Panska Ves 2.50 281 ePG **Pg** **19 36 37.1 -1.6**
PRU Pruhonice 2.50 268 ePN **Pn** **19 36 31.1 -0.3**
PRU ePG **Pg** **19 36 35.8 -2.9**
PRU eSG **Sg** **19 37 10.1 -2.0**
PRU Pruhonice 2.50 268 Pg **Pg** **19 36 35.8 -2.9**
PRU Sg **Sg** **19 37 10.1 -2.0**
KOLS Kolonicke sedl 2.78 114 ePN **Pn** **19 36 36.2 +0.9**
KOLS ePG **Pg** **19 36 43.1 -1.1**
BRG Berggiesshubel 2.96 286 ePn **Pn** **19 36 45.5 +7.7**
BRG *i* Pg **Pg** **19 36 46.5 -1.2**
BRG *i* Sg **Sg** **19 37 25.5 -1.6**
BRG Berggiesshubel 2.96 286 *i* Pg **Pg** **19 36 46.5 -1.2**
KHC Kasperske Hory 3.30 254 ePN **Pn** **19 36 42.7 0.0**
KHC ePG **Pg** **19 36 51.7 -2.9**
KHC eSG **Sg** **19 37 34.8 -3.8**
KHC Kasperske Hory 3.30 254 ePg **Pg** **19 36 51.7 -2.9**
KHC eSg **Sg** **19 37 34.8 -3.8**
GERES GERESS Array B 3.33 249 Pn **Pn** **19 36 43.8 +0.6**
0.3nm,0.3s,baz=60,slow=14,SNR=6.8
GERES Pg **Pg** **19 36 52.1 -3.2**
1.2nm,0.3s,baz=66,slow=18,SNR=22
GERES Lg 19 37 35.8
3.5nm,0.3s,baz=63,slow=33,SNR=18
GERES GERESS Array B 3.33 249 Pg **Pg** **19 36 52.1 -3.2**
ARSA Arzberg 3.46 215⇑*i*PN **Pn** **19 36 45.0 +0.1**
ARSA *i* SG **Sg** **19 37 40.5 -3.3**
4.1nm,0.5s
MOA Molln 3.56 232⇑*i*PN **Pn** **19 36 45.8 -0.6**
MOA *i* SG **Sg** **19 37 42.6 -4.6**
6.8nm,0.4s
CLL Collm 3.64 291 ePG **Pg** **19 36 59.0 -2.4**
CLL eSG **Sg** **19 37 50.0 0.0**
DAVOX Davos 6.59 243 Pn **Pn** **19 37 28.8 -0.5**
0.3nm,0.3s,baz=80,slow=11,SNR=3.7
NOA NORSAR Array B 11.66 342 Pn **P** **19 38 36.7 -2.7**
0.1nm,0.3s,baz=160,slow=22,SNR=2.5
FINES FINESS Array B 12.12 18 Pn **P** **19 38 41.4 -4.2**
0.1nm,0.3s,baz=203,slow=11,SNR=5.4

IDC 19 20:06:16.0±3.9, 1.55S×100.01E, mb3.5/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=157.4km s-min=28.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.91**	**357**	P	P	20 10 50.9	-1.4
	0.0nm,0.3s,baz=188,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**38.21**	**121**	P	P	20 13 37.9	-1.7
	0.2nm,0.5s,baz=303,slow=9.1,SNR=4.3						
WRA				pP	pP	20 13 45.0	+5.4
	0.5nm,0.6s,baz=303,slow=9.0,SNR=6.2						
MKAR	**Makanchi Array**	**50.60**	**344**	P	P	20 15 16.3	-2.4
	0.6nm,0.6s,baz=154,slow=8.7,SNR=8.7						
ZAL	**Zalesovo**	**56.73**	**349**	P	P	20 16 00.8	-3.0
	0.6nm,0.4s,baz=16,slow=10,SNR=3.3						

IDC 19 20:15:36.0±7.7, 13.28N×93.27E, mb3.3/2, mb1 3.4/3, mb1mx3.2/21, mbtmp3.1/3, ML3.4/1, Error ellipse: s-maj=162.3km s-min=46.6km az=104.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.50**	**46**	Pn	Pn	20 17 26.1	-3.3
	0.1nm,0.3s,baz=235,slow=15,SNR=5.2						
CMAR				Sn	Sn	20 18 44.0	-12
	0.1nm,0.3s,baz=242,slow=28,SNR=4.7						
WRA	**Warramunga Arr**	**52.18**	**129**	P	P	20 24 49.0	-1.9
	0.1nm,0.3s,baz=300,slow=9.6,SNR=4.6						
WRA				pP	pP	20 24 54.9	+3.9
	0.3nm,0.5s,baz=302,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**54.10**	**133**	P	P	20 25 02.8	-2.3
	0.2nm,0.3s,baz=315,slow=6.9,SNR=4.4						
ASAR				pP	pP	20 25 09.2	+4.1
	0.4nm,0.6s,baz=306,slow=6.5,SNR=5.9						

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*IDC **19** 21:08:55.5±3.5, 1.28N×97.17E, mb3.5/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=136.0km s-min=29.3km az=58.0*

*NEIC **19** 21:08:59.9±0.9, 1.28N×97.16E, h30km, mb4.0/3, Error ellipse: s-maj=22.2km s-min=12.4km az=65.0*

ISC 19 21:08:57.7±1.3, 1.3N±0.1×97.1E±0.2, h30km, n8, σ0§35/8, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.31**	**42**	*e*P	**Pn**	**21 10 17.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.15**	**6**	P	**P**	**21 12 56.9**	**-0.2**
	0.1nm,0.3s,baz=200,slow=11,SNR=5.6						
ENH	**Enshi**	**31.12**	**21**	P	**P**	**21 15 15.4**	**-0.7**
	2.8nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**42.16**	**122**	P	**P**	**21 16 49.6**	**-0.1**
	0.3nm,0.8s,mb3.0,baz=301,slow=9.1,SNR=4.8						
WRAB	**Tennant Creek**	**42.16**	**122**	P	**P**	**21 16 49.8**	**+0.1**
	1.3nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**47.13**	**346**	P	**P**	**21 17 29.7**	**+0.5**
	0.3nm,0.6s,mb3.4,baz=158,slow=9.2,SNR=5.3						
ZAL	**Zalesovo**	**53.44**	**351**	P	**P**	**21 18 17.3**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=309,slow=5.1,SNR=5.1						
CHKZ	**Chkalovo**	**56.61**	**341**	*e*P	**P**	**21 18 40.1**	**-0.1**
	0.8nm,0.6s,mb3.9						
CHKZ				*e*		21 18 45.8	

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*NIED **19** 21:11:00, 33.70N×130.30E, h8km, Mw5.4 Best double couple: M0 1.31×10^17 NP1:φs312°, δ90°, λ14°. NP2:φs222°, δ76°, λ180°.*

*BJI **19** 21:11:25.6, 33.54N×130.47E, h21km, mB5.5, mb5.0, ML5.6, Ms5.7, Msz5.4*

*JMA **19** 21:11:26.8, 33.68N×130.29E, h14km, M5.8 Broadband fault plane solution: P waves. NP1:φs225°, δ57°, λ-178°. NP2:φs133°, δ88°, λ-33°. Principal axes: T Plg21°, Azm184°; N Plg57°, Azm310°; P Plg24°, Azm84°;*

*HRVD **19** 21:11:28.4±0.1, 33.66N×130.20E, h17km, MW5.5/73, Centroid moment Tensor Solution. LP body waves: s57,c113;Mantle waves: s73,c153; Half duration: 1§3 Moment tensor: Scale 10^17Nm; Mrr-0.37±.03; Mθθ2.01±.03; Mφφ-1.65±.03; Mrθ0.24±.06; Mrφ0.14±.02; Mθr-0.08±.06; Best double couple: M0 1.85×10^17 NP1: φs43°, δ83°, λ179°. NP2:φs133°, δ89°, λ7°. Principal axes: T 2.039, Plg6°, Azm358°; N -.386, Plg83°, Azm144°; P -1.661, Plg4°, Azm268°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **19** 21:11:28.4±0.1, 33.64N×130.18E, mb5.3/107, MS5.0/108, MW5.5, MW5.3(NIED) Error ellipse: s-maj=3.8km s-min=3.2km az=146.0, Moment Tensor Solution. s4 Moment tensor: Scale 10^17Nm; Mrr-0.17; Mθθ1.90; Mφφ-1.73; Mrθ0.62; Mθφ-0.87; Mφr-0.19; Best double couple: M0 2.1×10^17 NP1:φs57°, δ78°, λ171°. NP2:φs149°, δ81°, λ12°. Principal axes: T 2.27, Plg15°, Azm13°; N -.34, Plg75°, Azm186°; P -1.93, Plg2°, Azm283°;*

NEIC At least 58 people injured and 279 buildings damaged in Fukuoka Prefecture. Several homes destroyed on Genkai-jima. Felt [IV] at Sasebo. Felt [III] at Pusan, South Korea. Felt at Beppu, Hiroshima, Isahaya, Iwakuni, Nagasaki, Sasebo, Shimonoseki and Takeo. Also felt at Inch'on, Kwangju, Seoul and Ulsan, South Korea. Several landslides occured in the epicentral area. Recorded [5U JMA] in Fukuoka and Saga; [4 JMA] in Nagasaki; [3 JMA] in Kumamoto and Oita; [2 JMA] in Kagoshima and Miyazaki Prefectures. Recorded [3 JMA] in the Tsushima Islands and [2 JMA] on Uku-jima. Recorded [4 JMA] in Yamaguchi; [3 JMA] in Shimane; [2 JMA] in Hiroshima and Hyogo; [1 JMA] in Hyogo, Okayama and Tottori Prefectures, Honshu. Also recorded [3 JMA] in Ehime and [1 JMA] in Kagawa and Kochi Prefectures, Shikoku.

*MOS **19** 21:11:28.8±1.1, 33.64N×130.25E, h33km, mb5.3/80, MS5.1/46 Error ellipse: s-maj=7.2km s-min=4.3km az=108.2*

*IDC **19** 21:11:29.7±3.0, 33.64N×130.22E, h29km±20km, mb4.7/29, mb1 4.9/33, mb1mx4.8/36, mbtmp4.9/33, ML4.1/3, MS4.9/31, Ms1 4.9/31, ms1mx4.9/36, Error ellipse: s-maj=14.2km s-min=9.4km az=72.0*

ISC 19 21:11:27.0±0.1, 33.64N±0.02×130.27E±0.02, h19km, h19km±1.1km: pP-P, n560, σ1§12/528, mb5.1/160, MS5.1/158, 33C-54D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.23**	**155**	⇑P	**Pb**	**21 11 32.4**	**-0.1**
JFI				S	**Sb**	**21 11 36.2**	**0.0**
JFA	**Akaike**	**0.44**	**80**	⇓P	**Pb**	**21 11 35.1**	**-0.9**
JFA				S	**Sb**	**21 11 41.1**	**-1.0**
JII	**Iki**	**0.48**	**290**	⇓P	**Pb**	**21 11 36.3**	**-0.3**
JUR	**Ureshino**	**0.60**	**207**	⇑P	**Pb**	**21 11 39.0**	**+0.2**
JTA	**Tamana**	**0.70**	**162**	⇑P	**Pb**	**21 11 40.7**	**+0.2**
JTA				S	**Sb**	**21 11 50.4**	**+0.7**
JNU	**Nakatsue**	**0.72**	**135**	⇑P	**Pb**	**21 11 40.6**	**-0.1**
JTY	**Toyota**	**0.91**	**46**	⇑P	**Pb**	**21 11 43.1**	**-0.8**
OIT2	**Oita 2**	**1.05**	**110**	⇓P	**Pb**	**21 11 46.6**	**+0.3**
JKI	**Kunimi**	**1.08**	**90**	⇓P	**Pb**	**21 11 46.4**	**-0.5**
JTU	**Tsushima**	**1.15**	**321**	P	**Pb**	**21 11 47.3**	**-0.7**
JHD	**Hondo**	**1.17**	**186**	⇑P	**Pb**	**21 11 49.0**	**+0.6**
JIU2	**Izumi 2**	**1.18**	**157**	⇑P	**Pb**	**21 11 48.9**	**+0.4**
JKD	**Kudamatsu**	**1.40**	**72**	⇓P	**Pn**	**21 11 51.6**	**-0.2**
JHIK	**Hikimi**	**1.64**	**57**	⇓P	**Pn**	**21 11 55.5**	**+0.2**
JNA	**Nagahama**	**1.84**	**92**	⇓P	**Pn**	**21 11 58.2**	**0.0**
JTZ	**Takazaki**	**1.86**	**158**	⇑P	**Pn**	**21 11 59.4**	**+1.0**
JHM	**Kurahashi**	**1.94**	**74**	⇓P	**Pn**	**21 11 59.7**	**+0.1**
UWA2	**Uwa jima 2**	**2.01**	**101**	⇓P	**Pn**	**21 12 00.4**	**-0.2**
JHT	**Toyohira**	**2.06**	**60**	⇓P	**Pn**	**21 12 01.9**	**+0.7**
JSU	**Suzuyama**	**2.13**	**176**	⇑P	**Pn**	**21 12 02.6**	**+0.3**
JNAR	**Kushima--Naru**	**2.27**	**158**	P	**Pn**	**21 12 05.3**	**+1.1**
JJG	**Jouge**	**2.59**	**66**	⇓P	**Pn**	**21 12 09.3**	**+0.4**
JHS	**Saijyo**	**2.72**	**59**	⇓P	**Pn**	**21 12 11.3**	**+0.6**
JMN	**Monobe**	**3.01**	**87**	⇓P	**Pn**	**21 12 14.5**	**-0.3**
MRT2	**Murotomisaki 2**	**3.24**	**93**	⇓P	**Pn**	**21 12 16.9**	**-1.3**
JKR	**Kurayoshi**	**3.41**	**58**	⇓P	**Pn**	**21 12 21.2**	**+0.7**
JAD	**Aida**	**3.48**	**67**	⇓P	**Pn**	**21 12 21.2**	**-0.3**
JKSM	**Kasumi**	**4.11**	**61**	⇓P	**Pn**	**21 12 30.6**	**+0.1**
JWZ	**Kozaga**	**4.54**	**90**	⇓P	**Pn**	**21 12 34.7**	**-1.9**
INCN	**Inchon**	**4.85**	**323**	*e*Pn	**Pn**	**21 12 39.5**	**-1.4**
INCN				*e*S	**Sn**	**21 13 56.7**	**+19**
JKG	**Kaga**	**5.63**	**60**	P	**Pn**	**21 12 51.8**	**-0.2**
JGM	**Miyama**	**5.70**	**67**	⇓P	**Pn**	**21 12 52.3**	**-0.6**
JAO	**Obara**	**6.00**	**72**	⇓P	**Pn**	**21 12 56.2**	**-0.9**
HMMJ	**Hamamatsu 2**	**6.29**	**77**	P	**Pn**	**21 12 59.7**	**-1.6**
JNT	**Takato**	**6.85**	**69**	⇓P	**Pn**	**21 13 08.5**	**-0.6**
JSZ	**Suzu**	**6.92**	**55**	P	**Pn**	**21 13 10.3**	**+0.2**
JOW	**Kunigami**	**7.00**	**195**	Pn	**Pn**	**21 13 12.1**	**+0.9**
	4.2nm,0.3s,baz=26,slow=13,SNR=11						
JOW				Sn	**Sn**	**21 14 35.0**	**+3.9**
	baz=200,slow=26,SNR=1.6						
JOW				LR	LR	21 15 56.5	
	comp=Z,9μm,20.4s,baz=188,slow=38						
JYN	**Shimob**	**7.07**	**72**	P	**Pn**	**21 13 11.4**	**-0.9**
MAJO	**Matsushiro**	**7.12**	**64**	*e*P	**Pn**	**21 13 12.6**	**-0.4**
MAJO				*e*S	Sx	21 15 08.5	
MAT	**Matsushiro**	**7.12**	**64**	*e*P	**Pn**	**21 13 12.0**	**-1.0**
	71nm,0.9s						
MAT				S	**Sn**	**21 14 35.0**	**+0.8**
MAT	**Matsushiro**	**7.12**	**64**	P	**Pn**	**21 13 11.8**	**-1.2**
MAT				*e*S	**Sn**	**21 14 34.6**	**+0.4**
MJAR	**Matsushiro Arr**	**7.12**	**64**	Pn	**Pn**	**21 13 12.5**	**-0.5**
	13nm,0.3s,baz=247,slow=14,SNR=84						
MJAR				Sn	**Sn**	**21 14 37.5**	**+3.3**
	baz=263,slow=15,SNR=5.0						
MJAR				Lg		21 15 12.4	
	7.9nm,0.3s,baz=230,slow=30,SNR=7.7						
MJAR				LR	LR	21 15 43.9	
	comp=Z,10μm,19.9s,baz=245,slow=35						
MJAR	**Matsushiro Arr**	**7.12**	**64**	Pn	**Pn**	**21 13 12.5**	**-0.5**
MJAR				Sn	**Sn**	**21 14 37.5**	**+3.3**
MJAR				Lg		21 15 12.4	
MJAR				LR	LR	21 15 43.9	
JRY	**Ryogami san**	**7.48**	**69**	P	**Pn**	**21 13 17.3**	**-0.7**
JSD	**Sado**	**7.83**	**54**	⇓P	**Pn**	**21 13 22.7**	**-0.2**
JHJ	**Hachijo jima 2**	**7.97**	**91**	Pn	**Pn**	**21 13 22.9**	**-1.9**
	218nm,0.3s,baz=70,slow=20,SNR=82						
JHJ				LR	LR	21 16 38.6	
	comp=Z,7μm,18.3s,baz=301,slow=38						
SSE	**Sheshan**	**8.09**	**254**	P	**P**	**21 13 23.6**	**-2.9**
SSE				S	**Sn**	**21 14 52.8**	**-5.6**
SSE				AMB	AMB		
	comp=Z,14nm,0.6s						
SSE				AMB	AMB		
	comp=Z,148nm,5.9s						
SSE				LR	LR		
	comp=N,14μm,10.6s						
SSE				LR	LR		
	comp=E,23μm,10.6s						
SSE				LR	LR		
	comp=Z,29μm,10.9s						
SSE	**Sheshan**	**8.09**	**254**	P	**P**	**21 13 23.6**	**-2.9**
	comp=Z,14nm,0.6s						
SSE				S	**Sn**	**21 14 52.7**	**-5.7**
DL2	**Dalian**	**8.74**	**309**	P	**P**	**21 13 38.8**	**+3.3**
DL2				S	**Sn**	**21 15 09.6**	**-4.9**
DL2				Smax			
	comp=N,1μm,0.8s						
DL2				Smax			
	comp=E,690nm,0.9s						
NJ2	**Nanjing**	**9.74**	**264**	*e*P	**P**	**21 13 47.6**	**-1.7**
NJ2				AP		21 13 52.5	
NJ2				S	**Sn**	**21 15 36.4**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,620nm,4.6s						
NJ2				LR	LR		
	comp=N,21μm,11.2s						
NJ2				LR	LR		
	comp=E,24μm,12.9s						
NJ2				LR	LR		
	comp=Z,12μm,12.9s						
SNY	**Shenyang**	**9.74**	**329**	⇑P	**P**	**21 13 51.3**	**+2.0**
SNY				S	**Sn**	**21 15 41.8**	**+2.5**
SNY				AMB	AMB		
	comp=Z,40nm,1.9s						
SNY				AMB	AMB		
	comp=Z,600nm,8.6s						
SNY				LR	LR		
	comp=Z,20μm,10.4s						
CN2	**Changchun**	**10.82**	**341**	*e*P	**P**	**21 14 05.9**	**+1.7**
CN2				*e*XP		21 14 12.3	
CN2				*e*S	**S**	**21 16 08.3**	**+2.5**
CN2				AMB	AMB		
	comp=Z,90nm,1.1s						
CN2				AMB	AMB		
	comp=Z,900nm,4.0s						
CN2				LR	LR		
	comp=N,13μm,10.0s						
CN2				LR	LR		
	comp=E,13μm,10.0s						
MDJ	**Mudanjiang**	**10.98**	**357**	P	**P**	**21 14 04.6**	**-1.7**
MDJ				S	**S**	**21 16 08.1**	**-1.5**
MDJ				PCP	PcP	21 20 01.9	-2.0
MDJ				SCP		21 23 32.3	
MDJ				PCS		21 23 36.5	
MDJ				AMB	AMB		
	comp=Z,35nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,1μm,4.2s						
MDJ				LR	LR		
	comp=N,12μm,11.2s						
MDJ				LR	LR		
	comp=E,6μm,11.2s						
MDJ				LR	LR		
	comp=Z,12μm,10.9s						
MDJ	**Mudanjiang**	**10.98**	**357**	*e*P	**P**	**21 14 06.7**	**+0.5**
	comp=Z,178nm,1.4s						
TIA	**Tai'an**	**11.10**	**287**	*e*P	**P**	**21 14 10.4**	**+2.5**
TIA				LR	LR		
	comp=N,23μm,13.0s						
TIA				LR	LR		
	comp=E,24μm,13.0s						
TATO	**Taipei**	**11.54**	**224**	P	**P**	**21 14 12.0**	**-1.9**
	comp=E,418nm,1.4s						
YHNB	**Yeheng**	**11.84**	**223**	*e*P	**P**	**21 14 21.0**	**+3.0**
NACB	**Ninganchiao**	**12.10**	**221**	*e*P	**P**	**21 14 24.9**	**+3.3**
CBIJ	**Chichi jima**	**12.17**	**119**	LR	LR	21 18 13.8	
	comp=E,3μm,20.2s,baz=310,slow=33						
BJT	**Baijiatuau**	**12.96**	**303**	*e*P	**P**	**21 14 35.1**	**+2.1**
BJT				pmax	pmax		
	comp=Z,60nm,0.8s						
BJT	**Baijiatuau**	**12.96**	**303**	*e*P	**P**	**21 14 35.1**	**+2.1**
	comp=Z,60nm,0.8s						
BJI	**Beijing**	**12.97**	**304**	*e*P	**P**	**21 14 34.1**	**+1.0**
BJI				S	**S**	**21 17 03.4**	**+5.5**
BJI				AMB	AMB		
	comp=Z,13nm,0.7s						
BJI				LR	LR		
	comp=N,24μm,18.0s						
BJI				LR	LR		
	comp=E,38μm,16.2s						
BJI				LR	LR		
	comp=Z,8μm,17.3s						
BJI	**Beijing**	**12.97**	**304**	*e*P	**P**	**21 14 34.1**	**+1.0**
	comp=Z,13nm,0.7s						
BJI				S	**S**	**21 17 03.4**	**+5.5**
WHN	**Wuhan**	**13.85**	**261**	⇑P	**P**	**21 14 47.0**	**+2.3**
WHN				LR	LR		
	comp=Z,26μm,11.0s						
ASAJ	**Asahikawa**	**14.18**	**39**	Pn	**P**	**21 14 49.2**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=242,slow=14,SNR=49						
ASAJ				LR	LR	21 19 46.7	
	comp=Z,8μm,18.2s,baz=238,slow=35						
KLR	**Kul'dur**	**15.62**	**4**	*e*P	**P**	**21 15 05.8**	**-2.0**
KLR				pmax	pmax		
	comp=Z,2μm,6.0s						
KLR				MLR	MLR		
	comp=E,7μm,13.5s						
KLR				MLR	MLR		
	comp=Z,10μm,13.5s						
YUK	**Yuzh-Kuril'sk**	**15.95**	**45**	*e*P	**P**	**21 15 06.0**	**-6.1**
YUK				pmax	pmax		
	comp=N,3μm,3.0s						
YUK				pmax	pmax		
	comp=E,2μm,3.0s						
YUK				pmax	pmax		
	comp=Z,2μm,3.0s						
YUK				MLR	MLR		
	comp=Z,12μm,17.0s						
YUK				MLR	MLR		
	comp=N,16μm,15.0s						
YUK				MLR	MLR		
	comp=E,8μm,15.0s						
YSS	**Yuzh-Sakhalins**	**16.33**	**32**	*e*P	**P**	**21 15 16.0**	**-0.9**
YSS				*e*S	**S**	**21 18 16.0**	**-1.2**
YSS				pmax	pmax		
	comp=N,80nm,0.9s						
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS				pmax	pmax		
	comp=N,1μm,3.5s						
YSS				pmax	pmax		
	comp=E,500nm,3.5s						
YSS				pmax	pmax		
	comp=Z,1μm,3.5s						
YSS				pmax	pmax		
	comp=N,140nm,1.0s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS				MLR	MLR		
	comp=N,14μm,14.0s						
YSS				MLR	MLR		
	comp=Z,12μm,14.0s						
YSS				MLR	MLR		
	comp=E,3μm,12.0s						
YSS	**Yuzh-Sakhalins**	**16.33**	**32**	*e*P	**P**	**21 15 16.6**	**-0.3**
	comp=E,136nm,1.1s						
HHC	**Hu-ho-hao-te**	**16.53**	**301**	*e*P	**P**	**21 15 23.4**	**+4.0**
HHC				AP		21 15 29.6	
HHC				XP		21 15 34.0	
HHC				PP	PP	21 15 35.9	+2.8
HHC				S	**S**	**21 18 32.4**	**+11**
HHC				PCP	PcP	21 20 09.5	-1.6
HHC				AMB	AMB		
	comp=Z,26nm,1.2s						
HHC				AMB	AMB		
	comp=Z,344nm,4.4s						
HHC				LR	LR		
	comp=N,29μm,16.9s						
HHC				LR	LR		
	comp=E,12μm,18.0s						
HHC				LR	LR		
	comp=Z,9μm,11.8s						
HIA	**Hailar**	**17.47**	**336⇑**	*e*P	**P**	**21 15 31.6**	**+0.4**
HIA				pmax	pmax		
	comp=Z,120nm,1.0s						
HIA	**Hailar**	**17.47**	**336⇑**	*e*P	**P**	**21 15 31.6**	**+0.4**
	comp=Z,120nm,1.0s						
BTO	**Baotou**	**17.57**	**299**	*e*P	**P**	**21 15 35.4**	**+2.9**
BTO				AMB	AMB		
	comp=Z,60nm,1.7s						
BTO				LR	LR		
	comp=N,11μm,11.0s						
BTO				LR	LR		
	comp=E,7μm,13.9s						
XAN	**Xi'an**	**17.74**	**277**	P	**P**	**21 15 36.1**	**+1.4**
XAN				S	**S**	**21 18 57.3**	**+7.7**
XAN				AMB	AMB		
	comp=Z,63nm,1.4s						
XAN				LR	LR		
	comp=N,5μm,12.2s						
XAN				LR	LR		
	comp=E,4μm,14.8s						
XAN				LR	LR		
	comp=Z,5μm,14.8s						
UGL	**Uglegorsk**	**17.75**	**26**	*e*P	**P**	**21 15 32.5**	**-2.2**
UGL				S	**S**	**21 18 58.0**	**+8.3**
UGL				pmax	pmax		
	comp=N,1μm,5.0s						
UGL				pmax	pmax		
	comp=E,1μm,5.0s						
UGL				pmax	pmax		
	comp=Z,2μm,5.0s						
UGL				pmax	pmax		
	comp=Z,160nm,1.0s						
UGL				smax			
	comp=N,2μm,6.0s						
UGL				smax			
	comp=E,2μm,6.0s						
UGL				MLR	MLR		
	comp=Z,8μm,15.0s						
UGL				MLR	MLR		
	comp=N,3μm,14.0s						
UGL				MLR	MLR		
	comp=E,6μm,14.0s						
ENH	**Enshi**	**17.95**	**265⇓**	*e*P	**P**	**21 15 38.7**	**+1.3**
	comp=E,316nm,1.5s						
ABRA	**Dolores**	**18.08**	**211**	*e*P	**P**	**21 15 41.0**	**+1.9**
HKC	**Hong Kong**	**18.13**	**236**	P	**P**	**21 15 40.0**	**+0.3**
HKC				S	**S**	**21 19 16.0**	**+18**
GYA	**Guiyang**	**21.62**	**257**	*i*P	**P**	**21 16 17.8**	**-0.4**
GYA				AP		21 16 21.9	
GYA				XP		21 16 24.8	
GYA				PP	PP	21 16 45.9	+3.0
GYA				PPP	PPP	21 16 56.4	+3.8
GYA				S	**S**	**21 20 19.5**	**+7.7**
GYA				AMB	AMB		
	comp=Z,130nm,1.2s,mb5.2						
GYA				AMB	AMB		
	comp=Z,290nm,3.9s						
GYA				LR	LR		
	comp=N,9μm,12.0s,MS5.7						
GYA				LR	LR		
	comp=E,13μm,10.8s,MS5.7						
GYA				LR	LR		
	comp=Z,17μm,10.5s,MS5.7						
LZH	**Lanzhou**	**21.80**	**284**	⇓P	**P**	**21 16 19.5**	**-0.4**

LZH			AP			21 16 23.3
LZH			XP			21 16 26.0
LZH			PP	PP		21 16 44.5 -0.7
LZH			eS	**S**		**21 20 14.5 -0.6**
LZH			AMB	AMB		
	comp=Z,251nm,1.4s,mb5.5					
LZH			AMB	AMB		
	comp=Z,789nm,4.7s					
LZH			LR	LR		
	comp=E,6μm,11.5s					
LZH			LR	LR		
	comp=Z,8μm,13.2s,MS5.3					
LZH	**Lanzhou**	**21.80 284**	⇓P	**P**		**21 16 19.5 -0.4**
LZH						21 16 44.5
LZH			eS	**S**		**21 20 14.5 -0.6**
LZH			*SS			21 20 19.6
LZH			pmax	pmax		
	comp=Z,251nm,1.4s,mb5.5					
LZH			MLR	MLR		
	comp=Z,8μm,13.2s,MS5.3					
LZH	**Lanzhou**	**21.80 284**	⇓P	**P**		**21 16 19.5 -0.4**
	comp=Z,251nm,1.4s,mb5.5					
LZH			pP			21 16 23.3
LZH			sP			21 16 26.0
LZH			PP	PP		21 16 44.5 -0.7
LZH			eS	**S**		**21 20 14.5 -0.6**
LZH			sS			21 20 19.6
LZH			SS	tx		21 21 29.7
LZH			LR	LR		
	comp=Z,8μm,13.2s,MS5.3					
ULN	**Ulaanbaatar**	**22.50 316**	eP	**P**		**21 16 26.2 -0.5**
ULN			pmax	pmax		
	comp=Z,154nm,1.3s,mb5.3					
ULN	**Ulaanbaatar**	**22.50 316**	eP	**P**		**21 16 26.2 -0.5**
	comp=Z,154nm,1.3s,mb5.3					
CD2	**Chengdu**	**22.56 270**	P	**P**		**21 16 27.5 0.0**
CD2			PPP	PPP		21 17 05.0 -0.7
CD2			S	**S**		**21 20 33.3 +4.2**
CD2			SS	SS		21 21 14.8 +3.6
CD2			AMB	AMB		
	comp=Z,240nm,0.9s,mb5.6					
CD2			LR	LR		
	comp=N,22μm,13.2s					
CD2			LR	LR		
	comp=Z,12μm,12.6s,MS5.5					
SONM	**Songino Array**	**22.87 315**	P	**P**		**21 16 30.1 -0.3**
	comp=Z,47nm,1.1s,mb4.8,baz=130,slow=9.6,SNR=53					
SONM			PcP	PcP		21 20 21.1 -1.2
	comp=Z,2.4nm,0.7s,baz=133,slow=2.5,SNR=3.6					
SONM			LR	LR		21 24 49.4
	comp=Z,3μm,18.7s,MS4.8,baz=122,slow=35					
SONM	**Songino Array**	**22.87 315**	P	**P**		**21 16 30.1 -0.3**
SONM			PcP	PcP		21 20 21.1 -1.2
SONM			LR	LR		21 24 49.4
QIZ	**Qiongzhong**	**23.32 237**	eP	**P**		**21 16 36.0 +1.0**
QIZ			AP			21 16 40.6
QIZ			LR	LR		
	comp=N,8μm,14.8s,MS5.5					
QIZ			LR	LR		
	comp=E,9μm,14.8s,MS5.5					
QIZ			LR	LR		
	comp=Z,8μm,13.4s,MS5.3					
QIZ	**Qiongzhong**	**23.32 237**	eP	**P**		**21 16 36.9 +1.9**
	comp=Z,426nm,2.0s,mb5.5					
CLNS	**Chul'man**	**23.49 353**	eP	**P**		**21 16 36.4 +0.1**
CLNS			e*PP			21 16 45.4
CLNS			ePPP	PPP		21 17 07.6 -11
CLNS			e			21 20 23.3
CLNS			eS	**S**		**21 20 44.6 -0.7**
CLNS			eSS	SS		21 21 29.4 -3.9
CLNS			pmax	pmax		
	comp=Z,107nm,1.4s,mb5.1					
CLNS			pmax	pmax		
	comp=N,78nm,1.2s					
CLNS			pmax	pmax		
	comp=E,12nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,57nm,1.0s,mb5.0					
CLNS			pmax	pmax		
	comp=N,102nm,1.2s					
CLNS			pmax	pmax		
	comp=E,40nm,1.0s					
CLNS			smax			
	comp=N,3μm,12.8s					
CLNS			smax			
	comp=Z,3μm,13.7s					
CLNS			smax			
	comp=E,124nm,14.3s					
CLNS			MLR	MLR		
	comp=Z,6μm,11.0s,MS5.3					
CLNS			MLR	MLR		
	comp=N,5μm,12.0s,MS5.2					
CLNS			MLR	MLR		
	comp=E,1μm,11.0s,MS5.2					
GUMO	**Guam**	**23.97 143**	PFAKE			21 16 50.0 +8.7
GUMO			LR	LR		
	comp=Z,3μm,21.0s,MS4.7					
GTA	**Gaotai**	**25.07 292**	P	**P**		**21 16 51.9 +0.1**
GTA			AP	pP		21 16 56.8 -0.5
GTA			XP	sP		21 17 00.8 +1.0
GTA			PP	PP		21 17 32.3 +2.6
GTA			PPP	PPP		21 17 43.3 +2.5
GTA			PCP	PcP		21 20 27.5 +0.4
GTA			S	**S**		**21 21 15.4 +2.9**
GTA			XS			21 21 24.9
GTA			SS	SS		21 22 18.1 +5.7
GTA			PCS			21 24 03.8
GTA			SCS	ScS		21 27 46.9 -4.1
GTA			AMB	AMB		
	comp=Z,19nm,1.5s,mb4.4					
GTA			AMB	AMB		
	comp=Z,390nm,7.2s					
GTA			LR	LR		
	comp=N,19μm,15.6s,MS5.8					
GTA			LR	LR		
	comp=E,7μm,13.7s,MS5.8					
GTA			LR	LR		
	comp=Z,9μm,14.1s,MS5.4					
KMI	**Kunming**	**25.39 258**	P	**P**		**21 16 55.1 +0.2**
KMI			AP	pP		21 17 04.4 +4.0
KMI			XP	sP		21 17 08.4 +5.5
KMI			PP	PP		21 17 34.3 +0.4
KMI			S	**S**		**21 21 17.0 -0.9**
KMI			XS			21 21 31.4
KMI			SS	SS		21 22 19.4 -0.7
KMI			AMB	AMB		
	comp=Z,40nm,2.0s,mb4.6					
KMI			AMB	AMB		
	comp=Z,891nm,3.6s					
KMI			LR	LR		
	comp=Z,17μm,11.0s,MS5.8					
KMI	**Kunming**	**25.39 258**	P	**P**		**21 16 55.1 +0.2**
KMI			*PP	pP		21 17 04.4 +4.0
KMI			*SP	sP		21 17 08.4 +5.5
KMI						21 17 34.2
KMI			S	**S**		**21 21 17.0 -0.9**
KMI			*SS			21 21 31.4
KMI			SS	SS		21 22 19.4 -0.7
KMI			pmax	pmax		
	comp=Z,40nm,2.0s,mb4.6					
KMI			MLR	MLR		
	comp=Z,17μm,11.0s,MS5.8					
KMI	**Kunming**	**25.39 258**	P	**P**		**21 16 55.1 +0.2**
	comp=Z,40nm,2.0s,mb4.6					
KMI			pP	pP		21 17 04.4 +4.0
KMI			sP	sP		21 17 08.4 +5.5
KMI			PP	PP		21 17 34.2 +0.3
KMI			S	**S**		**21 21 17.0 -0.9**
KMI			sS			21 21 31.4
KMI			SS	SS		21 22 19.4 -0.7
KMI			LR	LR		
	comp=Z,17μm,11.0s,MS5.8					
SKR	**Severo-Kuril's**	**25.44 40**	eP	**P**		**21 16 44.0 -11**
SKR			e			21 16 56.9
SKR			ePPP	PPP		21 17 51.0 +5.2
SKR			eS	**S**		**21 21 22.0 +3.6**
SKR			eSS	SS		21 22 15.0 -6.0
SKR			pmax	pmax		
	comp=Z,80nm,0.6s,mb5.4					
SKR			smax			
	comp=N,3μm,14.0s					
SKR			smax			
	comp=E,3μm,14.0s					
SKR			MLR	MLR		
	comp=N,6μm,14.0s,MS5.4					
SKR			MLR	MLR		
	comp=E,5μm,14.0s,MS5.4					
SKR			MLR	MLR		
	comp=Z,6μm,14.0s,MS5.2					
ZAK	**Zakamensk**	**25.91 318**	⇓iP	**P**		**21 16 59.4 -0.1**
ZAK			pmax	pmax		
	comp=Z,31nm,0.9s,mb4.8					
ZAK			pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.2					
IRK	**Irkutsk**	**26.38 323**	eP	**P**		**21 17 04.4 +0.6**
IRK			e			21 17 54.7
IRK			pmax	pmax		
	comp=Z,62nm,1.7s,mb4.9					
TLY	**Talaya**	**26.39 321**	eP	**P**		**21 17 06.3 +2.4**
TLY			e			21 17 41.3
TLY			eS	**S**		**21 21 38.0 +3.7**
TLY			pmax	pmax		
	comp=Z,50nm,1.7s,mb4.8					
TLY			MLR	MLR		
	comp=Z,2μm,12.0s,MS4.8					
TLY	**Talaya**	**26.39 321**	eP	**P**		**21 17 04.3 +0.4**
	comp=Z,45nm,1.4s,mb4.8					
BOD	**Bodaibo**	**26.58 340**	eP	**P**		**21 17 05.1 -0.5**
BOD			pmax	pmax		
	comp=Z,22nm,1.2s,mb4.6					
BOD			pmax	pmax		
	comp=E,142nm,1.8s					
MOY	**Mondy**	**27.80 319**	eP	**P**		**21 17 20.7 +3.9**
MOY			pmax	pmax		
	comp=Z,68nm,2.2s,mb4.9					
PET	**Petropavlovsk**	**28.02 38**	ceP	**P**		**21 17 18.5 -0.3**
PET			e			21 17 33.9
PET			ePPP	PPP		21 18 20.4 -0.5
PET			eS	**S**		**21 22 01.7 +1.0**
PET			pmax	pmax		
	comp=Z,47nm,1.1s,mb5.0					
PET			pmax	pmax		
	comp=Z,200nm,12.4s					
PET			pmax	pmax		
	comp=N,100nm,10.7s					
PET			pmax	pmax		
	comp=E,100nm,9.3s					
PET			smax			
	comp=E,800nm,24.8s					
PET			smax			
	comp=N,1μm,24.9s					
PET			MLR	MLR		
	comp=Z,3μm,18.0s,MS4.9					
PET			MLR	MLR		
	comp=N,6μm,16.0s,MS5.4					
PET			MLR	MLR		
	comp=E,5μm,16.0s,MS5.4					
PET			MLR	MLR		
	comp=Z,3μm,18.0s					
PET			MLR	MLR		
	comp=N,6μm,17.0s					
PET			MLR	MLR		
	comp=E,6μm,19.0s					
PET	**Petropavlovsk**	**28.02 38**	P	**P**		**21 17 18.0 -0.8**
PET			LR	LR		
	comp=Z,3μm,20.0s,MS4.9					
YAK	**Yakutsk**	**28.42 359**	eP	**P**		**21 17 21.3 -0.9**
YAK			i *PP	pP		21 17 30.1 +2.3
YAK			eS	**S**		**21 22 13.5 +6.6**
YAK			pmax	pmax		
	comp=Z,33nm,0.9s,mb5.0					
YAK			pmax	pmax		
	comp=N,24nm,1.1s					
YAK			pmax	pmax		
	comp=E,3.0nm,1.0s					
YAK			smax			
	comp=N,2μm,17.5s					
YAK			smax			
	comp=Z,426nm,14.6s					
YAK			smax			
	comp=E,182nm,16.3s					
YAK			MLR	MLR		
	comp=N,1μm,15.0s					
YAK			MLR	MLR		
	comp=Z,1μm,15.0s,MS4.7					
YAK	**Yakutsk**	**28.42 359**	eP	**P**		**21 17 19.7 -2.5**
	comp=Z,54nm,0.8s,mb5.2					
YAK			LR	LR		
	comp=Z,3μm,22.0s,MS4.8					
KKTK	**Khon Kaen**	**30.12 242**	P	**P**		**21 17 38.5 +0.5**
	comp=Z,679nm,0.9s					
NANT	**Nan**	**30.23 248**	⇑P	**P**		**21 17 37.0 -2.0**
	comp=Z,175nm,0.8s,mb5.8					
KKM	**Kota Kinabalu**	**30.40 209**	P	**P**		**21 17 40.2 -0.2**
CHG	**Chiang Mai**	**31.59 250**	P	**P**		**21 17 54.0 +3.0**
	comp=Z,18nm,0.9s,mb4.9					
CM31	**Chiang Mai Arr**	**31.80 250**	eP	**P**		**21 17 52.2 -0.5**
	comp=Z,5.6nm,0.6s,mb4.6					
CM31			LR	LR		
	comp=Z,2μm,19.0s,MS4.9					
CMAR	**Chiang Mai Arr**	**31.80 250**	i P	**P**		**21 17 56.2 +3.5**
CMAR			pmax	pmax		
	comp=Z,11nm,1.0s					
CMAR	**Chiang Mai Arr**	**31.80 250**	P	**P**		**21 17 52.2 -0.5**
	comp=Z,10nm,1.0s,mb4.6,baz=44,slow=6.8,SNR=19					
CMAR			LR	LR		21 30 41.1
	comp=Z,2μm,18.1s,MS4.8,baz=65,slow=36					
SEY	**Seymchan**	**32.45 19**	eP	**P**		**21 17 54.3 -3.7**
SEY			ePPP	PPP		21 19 14.1 -7.7
SEY			eS	**S**		**21 23 04.7 -5.9**
SEY			eSS	SS		21 24 59.8 -6.9
SEY			pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7					
NST	**Nakhon Sawan**	**32.54 244**	P	**P**		**21 18 02.0 +2.8**
LSA	**Lhasa**	**33.39 274**	P	**P**		**21 18 06.8 +0.3**
LSA			XP	sP		21 18 22.3 +7.8
LSA			S	**S**		**21 23 27.3 +1.7**
LSA			AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7					
LSA			AMB	AMB		
	comp=Z,130nm,6.0s					
LSA			LR	LR		
	comp=N,2μm,13.0s,MS5.2					
LSA			LR	LR		
	comp=E,3μm,16.0s,MS5.2					
LSA			LR	LR		
	comp=Z,4μm,16.0s,MS5.2					
LSA	**Lhasa**	**33.39 274**	eP	**P**		**21 18 06.6 +0.1**
LSA			pmax	pmax		
	comp=Z,62nm,1.0s,mb5.5					
LSA	**Lhasa**	**33.39 274**	eP	**P**		**21 18 06.6 +0.1**
	comp=Z,62nm,1.0s,mb5.5					
SHL	**Shillong**	**34.18 267**	eP	**P**		**21 18 12.5 -0.9**
SHL			e			21 21 00.0
WMQ	**Urumqi**	**34.40 300**	P	**P**		**21 18 14.8 -0.3**
WMQ			AP	pP		21 18 19.3 -1.4
WMQ			XP	sP		21 18 22.0 -1.1
WMQ			PP	PP		21 19 29.8 -1.1
WMQ			PPP	PPP		21 19 47.8 -1.1
WMQ			PCP	PcP		21 20 50.8 0.0
WMQ			eS	**S**		**21 23 40.8 -0.3**
WMQ			AMB	AMB		
	comp=Z,17nm,1.1s,mb4.9					
WMQ			AMB	AMB		
	comp=Z,278nm,3.8s					
WMQ			LR	LR		
	comp=N,15μm,18.4s,MS5.8					
WMQ			LR	LR		
	comp=E,3μm,15.0s,MS5.8					
WMQ			LR	LR		
	comp=Z,2μm,15.0s,MS4.9					
WAKE	**Wake Island**	**35.37 105**	PFAKE			21 18 40.0 +16
WAKE			LR	LR		
	comp=Z,3μm,19.0s,MS5.1					
AGT	**Agartala**	**35.38 264**	⇑iP	**P**		**21 18 25.0 +1.3**
AGT			i			21 19 53.0
KSM	**Kuching**	**37.06 214**	eP	**P**		**21 18 38.2 +0.2**
ZAL	**Zalesovo**	**37.76 317**	P	**P**		**21 18 42.5 -1.0**
	comp=Z,2.7nm,1.0s,baz=350,slow=11,SNR=6.6					
ZAL			LR	LR		21 33 30.0
	comp=Z,2μm,22.0s,MS4.8,baz=182,slow=35					
ZAL	**Zalesovo**	**37.76 317**	P	**P**		**21 18 42.5 -1.0**
ZAL			LR	LR		21 33 30.0
TIXI	**Tiksi**	**38.08 359**	⇓iP	**P**		**21 18 44.3 -1.7**
TIXI			pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7					
TIXI			MLR	MLR		
	comp=Z,3μm,13.0s,MS5.3					
TIXI	**Tiksi**	**38.08 359**	PFAKE			21 19 00.0 +14
TIXI			LR	LR		
	comp=Z,3μm,20.0s,MS5.1					
JIRN	**Jiri**	**38.17 273**	eP	**P**		**21 18 47.1 -0.1**
	comp=Z,467nm,1.4s,mb6.0					
GUN	**Gumba**	**38.34 274**	eP	**P**		**21 18 49.4 +0.8**
	comp=Z,941nm,1.0s					
MKAR	**Makanchi Array**	**38.35 305**	P	**P**		**21 18 47.3 -1.1**
	comp=Z,4.0nm,0.8s,mb4.2,baz=96,slow=11,SNR=32					
MKAR			LR	LR		21 35 21.2
	comp=Z,2μm,18.1s,MS5.0,baz=103,slow=37					
PKI	**Pulchoki**	**38.85 273**	eP	**P**		**21 18 53.0 +0.1**
	comp=Z,334nm,1.2s,mb5.9					
KKN	**Kakani**	**38.88 274**	eP	**P**		**21 18 53.3 +0.2**
	comp=Z,290nm,1.1s,mb5.9					
DMN	**Daman**	**39.09 274**	eP	**P**		**21 18 55.0 +0.1**
	comp=Z,324nm,1.5s,mb5.8					
GKN	**Gorkha**	**39.35 274**	eP	**P**		**21 18 57.0 0.0**
	comp=Z,252nm,1.2s,mb5.8					
KULM	**Kulim**	**39.40 231**	P	**P**		**21 18 57.4 -0.2**
BILL	**Bilibino**	**40.12 20**	⇑iP	**P**		**21 19 02.7 -0.2**
BILL			i			21 19 13.2
BILL			i S	**S**		**21 25 11.2 +3.1**
BILL			pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8					
BILL			MLR	MLR		
	comp=Z,2μm,13.0s,MS5.1					
BILL	**Bilibino**	**40.12 20**	eP	**P**		**21 19 02.3 -0.7**
	comp=Z,150nm,1.6s,mb5.5					
BILL			LR	LR		
	comp=Z,3μm,19.0s,MS5.1					
KOLN	**Koldanda**	**40.29 275**	eP	**P**		**21 19 04.0 -0.8**
	comp=Z,324nm,1.1s,mb6.0					
TKM2	**Tokmak 2**	**43.24 299**	P	**P**		**21 19 29.0 +0.2**
	SNR=24					
KSH	**Kashi**	**43.45 294**	eP	**P**		**21 19 32.0 +1.5**
KSH			eAP	pP		21 19 36.0 -0.1
KSH			eXP	sP		21 19 39.3 +0.8
KSH			PP	PP		21 21 15.1 +1.5
KSH			ePCP	PcP		21 21 20.3 +1.1
KSH			ePPP	PPP		21 21 51.0 +1.5
KSH			eSCP			21 25 09.1
KSH			ePCS			21 25 11.1
KSH			eS	**S**		**21 26 00.5 +3.0**
KSH			eSS	SS		21 29 10.3 +5.5
KSH			eSCS	ScS		21 29 28.3 +1.1
KSH			AMB	AMB		
	comp=Z,480nm,4.8s					
KSH			LR	LR		
	comp=N,7μm,16.0s,MS5.8					
KSH			LR	LR		
	comp=E,6μm,15.1s,MS5.8					
KZA	**Kyzart**	**43.60 298**	P	**P**		**21 19 33.0 +1.3**
	SNR=12					
KBK	**Karagaybulak**	**43.75 299**	P	**P**		**21 19 33.4 +0.5**
	SNR=10					
USP	**Ospenovka**	**44.00 300**	P	**P**		**21 19 34.5 -0.4**
	SNR=9.5					
AAK	**Ala-Archa**	**44.09 299**	P	**P**		**21 19 35.7 +0.1**
	SNR=10					
AAK	**Ala-Archa**	**44.09 299**	P	**P**		**21 19 34.8 -0.8**
AAK			pmax	pmax		
	comp=Z,19nm,1.1s,mb4.7					
AAK	**Ala-Archa**	**44.09 299**	eP	**P**		**21 19 33.9 -1.7**
	comp=Z,17nm,1.1s,mb4.7					
AAK			LR	LR		
	comp=Z,1μm,19.0s,MS4.8					
UCH	**Uchtor**	**44.12 298**	P	**P**		**21 19 37.2 +1.3**
	SNR=16					
SMLA	**Simla**	**44.51 282**	⇑i	**P**		**21 19 31.8 -7.5**
AML	**Almayashu**	**44.74 298**	P	**P**		**21 19 41.6 +0.7**
	SNR=16					
MIDW	**Midway**	**44.85 82**	PFAKE			21 19 50.0 +8.0
MIDW			LR	LR		
	comp=Z,4μm,20.0s,MS5.4					
AGRA	**Agra**	**45.18 276**	e	**P**		**21 19 44.9 +0.3**
	comp=Z,63nm,0.3s,mb5.9					
NDI	**New Delhi**	**45.26 279**	eP	**P**		**21 19 43.5 -1.8**
NDI			e			21 26 28.0
THN	**Thein Dam**	**45.30 284**	eP	**P**		**21 19 43.3 -2.2**
AYAN	**Aya Nagar**	**45.41 278**	eP	**P**		**21 19 45.6 -0.8**
AYAN			e			21 19 53.9
	comp=Z,26nm,0.8s					
SONA	**Sohna**	**45.52 278**	eP	**P**		**21 19 47.1 -0.3**
SONA			e	pP		21 19 51.8 -1.2
	comp=Z,63nm,0.5s					
PMG	**Port Moresby**	**45.72 156**	P	**P**		**21 19 47.8 -1.2**
	comp=Z,12nm,1.0s,mb4.8,baz=238,slow=11,SNR=3.2					
PMG			LR	LR		21 36 40.0
	comp=Z,1μm,21.9s,MS4.8,baz=157,slow=33					
CHKZ	**Chkalovo**	**46.06 315**	P	**P**		**21 19 50.1 -1.1**
CHKZ			pmax	pmax		
	comp=Z,43nm,1.5s,mb5.2					
KAKA	**Kakadu**	**46.13 177**	⇑iP	**P**		**21 19 50.0 -2.3**
	comp=Z,15nm,1.0s,mb4.9					
BVAR	**Borovoye Array**	**46.19 314**	P	**P**		**21 19 51.3 -0.9**
	comp=Z,5.4nm,0.6s,mb4.7,baz=98,slow=9.6,SNR=33					
BVAR			PcP	PcP		21 21 27.3 -1.1
	comp=Z,15nm,0.8s,baz=90,slow=3.0,SNR=9.5					
KKAR	**Karatay Array**	**46.91 300**	i P	**P**		**21 19 57.5 -0.6**
KKAR			pmax	pmax		
	comp=Z,28nm,0.9s,mb5.2					
BHPL	**Bhopal**	**47.17 272**	eP	**P**		**21 20 02.1 +1.7**
BHPL			e			21 20 03.9
	comp=Z,47nm,0.8s					
UNV	**Unalaska Valle**	**48.18 45**	PFAKE			21 20 20.0 +12
UNV			LR	LR		
	comp=Z,4μm,19.0s,MS5.4					
AJM	**Ajmer**	**48.19 277**	e	**P**		**21 20 11.5 +3.1**
AJM			e			21 20 14.5
	comp=Z,45nm,1.3s					
TNA	**Tin City**	**48.29 29**	eP	**P**		**21 20 08.5 -0.1**
	comp=Z,41nm,1.0s,mb5.4					
TNA			LR	LR		
	comp=Z,1μm,21.0s,MS4.8					
HYB	**Hyderabad**	**48.89 264**	eP	**P**		**21 20 16.0 +2.1**
HYB	**Hyderabad**	**48.89 264**	i P	**P**		**21 20 16.0 +2.1**
HNR	**Honiara**	**51.28 141**	PFAKE			21 20 40.0 +7.8
HNR			LR	LR		
	comp=Z,648nm,20.0s,MS4.7					
FITZ	**Fitzroy Crossi**	**51.63 186**	⇑iP	**P**		**21 20 33.2 -1.6**
	comp=Z,30nm,1.0s,mb5.2					
FITZ	**Fitzroy Crossi**	**51.63 186**	P	**P**		**21 20 33.4 -1.4**
	comp=Z,40nm,0.9s,mb5.3,baz=5.5,slow=7.9,SNR=32					
FITZ			LR	LR		21 43 07.4
	comp=Z,453nm,18.2s,MS4.5,baz=45,slow=37					
SVE	**Sverdlovsk**	**51.67 319**	eP	**P**		**21 20 33.0 -1.6**
SVE			e	pP		21 20 39.6 -0.7
SVE			e			21 20 50.5
SVE			eS	**S**		**21 28 04.0 +11**
POO	**Poona**	**52.27 268**	eP	**P**		**21 20 37.0 -2.6**
KAD	**Karad**	**52.58 267**	eP	**P**		**21 20 41.4 -0.5**
KAD			e	pP		21 20 48.4 +0.7
	comp=Z,46nm,1.2s					
PALK	**Pallekele**	**52.69 252**	eP	**P**		**21 20 46.1 +3.3**
	comp=Z,18nm,1.2s,mb4.9					
PALK			LR	LR		
	comp=Z,302nm,19.0s,MS4.4					
ARU	**Arti**	**52.85 319**	⇑iP	**P**		**21 20 41.4 -2.1**
ARU			e			21 22 40.3
ARU			ePPP	PPP		21 23 50.4 +0.7
ARU			eS	**S**		**21 28 09.4 -0.1**
ARU			e			21 30 30.3
ARU			eSSS	SSS		21 33 38.7 +4.8
ARU			pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3					
ARU			MLR	MLR		
	comp=N,2μm,18.0s,MS5.2					
ARU			MLR	MLR		
	comp=Z,2μm,18.0s,MS5.2					
ARU			MLR	MLR		
	comp=E,900nm,18.5s,MS5.2					
ARU	**Arti**	**52.85 319**	eP	**P**		**21 20 41.7 -1.8**
	comp=E,34nm,1.0s,mb5.2					
ARU			LR	LR		
	comp=Z,622nm,20.0s,MS4.7					
TTA	**Tatalina**	**53.33 33**	eP	**P**		**21 20 46.9 0.0**
WRAB	**Tennant Creek**	**53.41 175**	ciP	**P**		**21 20 46.6 -1.4**
WRAB	**Tennant Creek**	**53.41 175**	eP	**P**		**21 20 45.4 -2.6**
	comp=Z,47nm,1.0s,mb5.4					
WRAB			LR	LR		
	comp=Z,299nm,21.0s,MS4.3					
WRA	**Warramunga Arr**	**53.42 175**	P	**P**		**21 20 45.9 -2.2**
	comp=Z,20nm,0.9s,mb5.0,baz=350,slow=8.0,SNR=95					
WB2	**Warramunga Arr**	**53.42 175**	⇑iP	**P**		**21 20 45.9 -2.2**
SOKR	**Solikamsk**	**53.47 323**	⇓iP	**P**		**21 20 48.2 +0.3**
SOKR			S	**S**		**21 28 29.1 +11**
SOKR			pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3					

SVW2	Sparrevohn	53.66	35	eP		P	21 20 49.7 +0.4
IMA	Indian Mountai	54.17	29	eP		P	21 20 53.0 0.0
MBWA	Marble Bar	55.41	192	eP		P	21 21 00.8 -1.8
	comp=Z,22nm,0.9s,mb5.2						
MBWA				LR	LR		
	comp=Z,534nm,21.0s,MS4.6						
CTA	Charters Tower	55.55	162	eP		P	21 21 02.9 -0.8
	comp=Z,6.8nm,0.7s,mb4.8						
CTA	Charters Tower	55.55	162	eP		P	21 21 02.9 -0.8
CTA				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTA	Charters Tower	55.55	162	P		P	21 21 03.0 -0.7
	comp=Z,10nm,1.0s,mb4.8,baz=345,slow=14,SNR=3.4						
CTAO	Charters Tower	55.55	162	eP		P	21 21 02.4 -1.3
CTAO				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.3						
CTAO				MLR	MLR		
	comp=Z,1μm,22.0s,MS4.9						
CTAO	Charters Tower	55.55	162	eP		P	21 21 02.4 -1.4
	comp=Z,32nm,1.1s,mb5.3						
CTAO				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
KDAK	Kodiak Island	55.60	39	eP		P	21 21 01.8 -1.8
	comp=Z,73nm,1.0s,mb5.7						
KDAK				LR	LR		
	comp=Z,442nm,21.0s,MS4.5						
MCK	McKinley	56.42	32	eP		P	21 21 08.3 -1.0
MCK				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
MCK				MLR	MLR		
	comp=Z,903nm,20.0s,MS4.9						
MCK	McKinley	56.42	32	eP		P	21 21 08.3 -1.1
	comp=Z,22nm,1.0s,mb5.1						
MCK				LR	LR		
	comp=Z,903nm,20.0s,MS4.9						
COLA	College	56.71	30	eP		P	21 21 11.4 0.0
COLA				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.1						
SML	Sawmill	57.01	34	eP		P	21 21 12.3 -1.3
ASAR	Alice Springs	57.09	176	P		P	21 21 12.8 -1.9
	comp=Z,13nm,0.9s,mb5.0,baz=1.5,slow=6.7,SNR=82						
ASAR				S		S	21 29 07.0 +0.3
	comp=Z,1.2nm,0.7s,baz=92,slow=16,SNR=12						
ASAR				LR	LR		21 46 31.1
	comp=Z,423nm,19.9s,MS4.5,baz=12,slow=37						
ASPA	Alice Springs	57.09	176	⇓iP		P	21 21 13.1 -1.6
ILAR	Eielson Array	57.13	30	P		P	21 21 13.1 -1.4
	comp=Z,12nm,1.0s,mb4.9,baz=272,slow=5.4,SNR=66						
ILAR				LR	LR		21 45 21.4
	comp=Z,511nm,18.9s,MS4.7,baz=294,slow=36						
THY	Trims Highway	57.88	32	eP		P	21 21 17.8 -1.8
DIV	Divide	58.35	35	eP		P	21 21 22.4 -0.6
	comp=Z,144nm,1.1s,mb5.9						
DIV				LR	LR		
	comp=Z,3μm,20.0s,MS5.5						
MENT	Mentasta	58.88	32	eP		P	21 21 27.1 +0.4
DAWY	Dawson	60.46	30	eP		P	21 21 36.2 -1.3
INK	Inuvik	61.43	25	eP		P	21 21 42.8 -1.3
INK				pmax	pmax		
	comp=Z,43nm,1.4s						
INK	Inuvik	61.43	25	eP		P	21 21 42.8 -1.3
	comp=Z,43nm,1.4s,mb5.4						
APA	Apatity	61.91	334	⇑iP		P	21 21 47.2 -0.2
APA				i			21 21 58.0
APA				e			21 30 18.0
APA				pmax	pmax		
	comp=Z,64nm,1.3s,mb5.6						
APA				MLR	MLR		
	comp=Z,3μm,14.0s,MS5.6						
WBK	Wadi Bani Khal	62.75	280	⇑P		P	21 21 54.3 +0.8
	SNR=6.0						
KEV	Kevo	63.24	338	eP		P	21 21 53.9 -2.2
KEV				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.1						
KEV				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.3						
KEV	Kevo	63.24	338	eP		P	21 21 53.9 -2.2
	comp=Z,14nm,0.8s,mb5.2						
KEV				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
SMDO	Samad	63.30	281	⇓P		P	21 21 57.4 +0.2
JMDO	Jabal Madar	63.57	280	⇓P		P	21 21 58.6 -0.4
HOQ	Hoqain	63.67	282	⇓P		P	21 22 00.1 +0.5
ARCES	ARCESS Array B	63.81	338	P		P	21 21 58.3 -1.5
	comp=Z,8.6nm,0.8s,mb4.8,baz=60,slow=8.0,SNR=17						
ARCES				LR	LR		21 53 04.4
	comp=Z,2μm,18.4s,MS5.4,baz=60,slow=39						
FORT	Forrest	64.10	182	eP		P	21 22 00.1 -2.2
	comp=Z,1μm,0.7s						
BSY	Bisya	64.14	281	P		P	21 22 03.2 +0.5
	SNR=7.8						
ASHO	Ashiyiah	64.19	283	P		P	21 22 03.4 +0.4
	SNR=12						
MOS	Moscow	64.35	321	eP		P	21 22 01.6 -1.9
MOS				e			21 22 35.8
MOS				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.6						
MOS				MLR	MLR		
	comp=Z,2μm,16.3s,MS5.5						
MOS				MLR	MLR		
	comp=E,2μm,13.5s						
ARQ	Araqi	64.42	282	⇓P		P	21 22 04.2 -0.4
JOF	Joensuu	64.49	330	ep		P	21 22 03.1 -1.2
	comp=E,29nm,0.9s,mb5.3						
OBN	Obninsk	65.15	321	⇓iP		P	21 22 07.0 -1.7
OBN				i			21 22 18.0
OBN				i			21 22 23.2
OBN				i			21 22 37.3
OBN				eS	S		21 30 47.4 -1.5
OBN				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
OBN				MLR	MLR		
	comp=Z,2μm,17.0s,MS5.3						
OBN	Obninsk	65.15	321	eP		P	21 22 06.6 -2.1
	comp=Z,49nm,1.2s,mb5.4						
OBN				LR	LR		
	comp=Z,577nm,20.0s,MS4.8						
DZM	Mont Dzumac	65.24	143	P		P	21 22 09.0 -0.9
	comp=Z,15nm,0.8s,mb5.1,baz=42,slow=12,SNR=4.1						
GOF	Gofitskoye	65.33	309	⇓iP		P	21 22 08.5 -1.5
GOF				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.1						
ZEI	Tsey	65.68	306	eP		P	21 22 10.5 -1.8
ZEI				i *PP	pP		21 22 26.3 +8.1
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
KLBR	Kellerberrin	65.94	192	eP		P	21 22 15.3 +1.1
	comp=Z,128nm,0.7s,mb6.1						
KIV	Kislovodsk	66.00	308	eP		P	21 22 12.6 -1.7
KIV				e			21 22 41.5
KIV				eS	S		21 30 59.3 -0.3
KIV				pmax	pmax		
	comp=N,20nm,1.0s						
KIV				pmax	pmax		
	comp=E,13nm,1.0s						
KIV				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
KIV	Kislovodsk	66.00	308	eP		P	21 22 13.4 -1.0
	comp=Z,40nm,1.0s,mb5.4						
KIV				LR	LR		
	comp=Z,609nm,21.0s,MS4.8						
STKA	Stephens Creek	66.03	169	P		P	21 22 14.0 -0.7
	comp=Z,6.9nm,0.8s,mb4.8,baz=329,slow=7.6,SNR=6.8						
STKA				LR	LR		21 50 02.7
	comp=Z,803nm,22.0s,MS4.9,baz=358,slow=35						
STKA	Stephens Creek	66.03	169	eP		P	21 22 14.2 -0.6
ONI	Oni	66.06	306	P		P	21 22 18.3 +3.6
GNI	Garni	66.18	303	⇑iP		P	21 22 13.4 -2.1
GNI				MLR	MLR		
	comp=Z,2μm,20.0s						
GNI	Garni	66.18	303	LR	LR		21 52 52.1
	comp=Z,2μm,19.0s,MS5.2,baz=241,slow=38						
GNI	Garni	66.18	303	PFAKE			21 22 30.0 +14
GNI				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
PUL	Pulkovo	66.26	327	eP		P	21 22 13.3 -2.4
PUL				eS	S		21 31 05.5 +3.0
PUL				pmax	pmax		
	comp=Z,112nm,0.8s,mb6.0						
PUL				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.5						
PUL				MLR	MLR		
	comp=N,722nm,13.0s,MS5.5						
PUL				MLR	MLR		
	comp=E,2μm,14.0s,MS5.5						
DLBC	Dease Lake	66.74	34	eP		P	21 22 18.6 -0.2
KAF	Kangasniemi	66.93	330	ep		P	21 22 18.7 -1.3
	comp=E,28nm,0.9s,mb5.3,baz=60,slow=6.0						
KAF	Kangasniemi	66.93	330	eP		P	21 22 18.7 -1.3
KAF				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.3						
NWAO	Narrogin (SRO)	67.34	192	P		P	21 22 21.2 -1.9
	comp=Z,4.9nm,0.6s,mb4.7,baz=63,slow=11,SNR=3.6						
NWAO	Narrogin (SRO)	67.34	192	P		P	21 22 21.2 -1.9
NWAO				LR	LR		
	comp=Z,388nm,20.0s,MS4.6						
FINES	FINESS Array B	67.34	330	P		P	21 22 21.1 -1.5
	comp=Z,14nm,0.8s,mb5.1,baz=66,slow=5.8,SNR=54						
FINES				LR	LR		21 53 09.1
	comp=Z,762nm,18.9s,MS4.9,baz=244,slow=37						
RES	Resolute Bay	67.97	12	eP		P	21 22 25.2 -1.1
RES				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
RES	Resolute Bay	67.97	12	eP		P	21 22 25.2 -1.1
	comp=Z,20nm,0.8s,mb5.2						
SOC	Sochi	68.11	308	eP		P	21 22 22.0 -5.7
SOC				e			21 22 49.5
SOC				e			21 24 52.7
SOC				ePPP	PPP		21 26 31.0 -6.1
SOC				eS	S		21 31 16.7 -8.3
SOC				e			21 32 23.3
SOC				eSS	SS		21 35 43.2 -5.9
SOC				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.4						
SOC				pmax	pmax		
	comp=N,53nm,0.9s						
SOC				pmax	pmax		
	comp=E,45nm,0.9s						
SOC				MLR	MLR		
	comp=N,2μm,19.0s,MS5.3						
SOC				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.2						
SOC				MLR	MLR		
	comp=E,423nm,20.0s,MS5.3						
DAG	Danmarks Havn	68.17	353	⇑eP		P	21 22 26.3 -1.3
DAG				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
DAG	Danmarks Havn	68.17	353	⇑eP		P	21 22 26.3 -1.3
	comp=Z,22nm,0.9s,mb5.2						
DAG	Danmarks Havn	68.17	353	⇑iP		P	21 22 26.3 -1.3
	comp=Z,22nm,0.9s,mb5.2						
DGAR	Diego Garcia	68.28	245	PFAKE			21 22 40.0 +11
DGAR				LR	LR		
	comp=Z,205nm,19.0s,MS4.4						
RBK	Rabkut	69.11	278	P		P	21 22 33.9 -0.5
	SNR=9.6						
WHFO	Wadi Hawf	69.27	278	P		P	21 22 34.0 -1.3
	SNR=44						
BHD	Baghdad	69.45	297	eP		P	21 22 33.0 -3.1
BHD				eS	S		21 31 38.0 -3.0
ABTO	Aybut	69.94	278	P		P	21 22 38.9 -0.5
	SNR=19						
SIM	Simferopol'	71.06	312	P		P	21 22 50.7 +5.0
SIM				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.3						
YKW3	Yellowknife Ar	71.06	26	eP		P	21 22 44.8 -0.7
YKA	Yellowknife Ar	71.11	26	P		P	21 22 45.5 -0.2
	comp=Z,3.7nm,0.7s,mb4.4,baz=304,slow=6.4,SNR=93						
YKA				LR	LR		21 53 59.1
	comp=Z,992nm,21.5s,MS5.0,baz=55,slow=36						
YKA	Yellowknife Ar	71.11	26	P		P	21 22 45.5 -0.2
YKA				LR	LR		21 53 59.1
AKASG	Malin Array Be	71.11	319	P		P	21 22 44.2 -1.7
	comp=Z,8.9nm,0.7s,mb4.8,baz=51,slow=6.4,SNR=33						
MALT	Malatya	71.38	304	eP		P	21 22 47.6 -0.2
MALT				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
MALT	Malatya	71.38	304	eP		P	21 22 47.6 -0.2
	comp=Z,13nm,0.9s,mb4.8						
SUW	Suwalki	72.52	324	eP		P	21 22 53.6 -0.7
SUW				epP	pP		21 22 59.6 -0.5
SUW				ePcP	PcP		21 23 09.2 -2.9
SUW				MLR	MLR		21 57 56.7
	comp=Z,3μm,16.9s,MS5.6						
KIS	Kishinev	73.23	316	eP		P	21 23 04.0 +5.4
KIS				e			21 25 40.0
KIS				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.3						
KIS				MLR	MLR		
	comp=N,1μm,15.0s,MS5.5						
KIS				MLR	MLR		
	comp=E,1μm,15.0s,MS5.5						
NB2	NORSAR Subarra	73.48	334	P		P	21 22 58.4 -1.3
	comp=E,26nm,0.9s,mb5.2,baz=47,slow=5.8						
NB2	NORSAR Subarra	73.48	334	P		P	21 22 58.4 -1.3
NB2				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
NB2	NORSAR Subarra	73.48	334	P		P	21 22 58.4 -1.3
	baz=47,slow=6.2						
NOA	NORSAR Array B	73.48	334	P		P	21 22 58.4 -1.3
	comp=Z,13nm,0.8s,mb4.9,baz=48,slow=5.9,SNR=43						
NOA				LR	LR		21 59 59.0
	comp=Z,832nm,18.8s,MS5.0,baz=30,slow=40						
SUMG	Summit	73.79	356	eP		P	21 23 01.3 0.0
	comp=Z,24nm,1.0s,mb5.1						
BRTR	Keskin Array B	73.94	307	P		P	21 23 02.3 -0.5
	comp=Z,8.8nm,1.0s,mb4.6,baz=105,slow=5.0,SNR=24						
SCO	Scoresbysund	74.27	351	i P		P	21 23 04.2 +0.1
SCO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
SCO	Scoresbysund	74.27	351	i P		P	21 23 04.2 +0.1
	comp=Z,7.4nm,0.9s,mb4.6						
LVV	L'vov	74.40	320	eP		P	21 23 04.3 -1.0
LVV				MLR	MLR		
	comp=N,1μm,17.0s,MS5.4						
LVV				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.2						
LVV				MLR	MLR		
	comp=E,2μm,19.0s,MS5.4						
KONO	Kongsberg	75.00	333	PFAKE			21 23 20.0 +11
KONO				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
OOW	Octopus West	75.17	42	P		P	21 23 11.3 +1.5
KWP	Kalwaria	75.22	320	eP		P	21 23 10.2 +0.2
KWP				epP	pP		21 23 17.7 +1.8
KWP				MLR	MLR		21 54 30.6
	comp=Z,2μm,18.6s,MS5.4						
ASF	Jabal al Asfar	75.49	299	P		P	21 23 12.2 +0.2
	comp=Z,11nm,0.9s,mb4.8,baz=331,slow=2.6,SNR=11						
ASF				LR	LR		21 58 46.2
	comp=Z,1μm,19.4s,MS5.1,baz=118,slow=38						
MLR	Muntele Rosu	75.72	315	P		P	21 23 12.8 -0.1
	comp=Z,2.5nm,0.5s,mb4.4,baz=327,slow=7.0,SNR=3.2						
MLR				LR	LR		21 58 08.2
	comp=Z,2μm,21.2s,MS5.4,baz=51,slow=37						
GKP	Gorka Klasztor	75.84	325	eP		P	21 23 10.0 -3.4
GKP				epP	pP		21 23 18.1 -1.3
GKP				LR	LR		
	comp=Z,3μm,18.3s,MS5.6						
GKP	Gorka Klasztor	75.84	325	eP		P	21 23 10.0 -3.5
GKP				epP	pP		21 23 18.1 -1.2
GKP				MLR	MLR		21 56 53.1
	comp=Z,3μm,18.3s,MS5.6						
CRVS	Cervenica-Dubn	76.31	320	eP		P	21 23 17.1 +0.9
OJC	Ojcow	76.41	322	eP		P	21 23 16.3 -0.4
COP	Copenhagen	76.48	329	i P		P	21 23 34.4 +17
	comp=Z,53nm,1.0s,mb5.4						
COP				i			21 25 15.1
COP				eS	S		21 33 12.6 +12
COP				e			21 33 28.8
COP				e			21 41 46.8
	comp=Z,770nm,17.0s						
NIE	Niedzica	76.61	321	eP		P	21 23 17.5 -0.4
WRW	Wenatchee Ridg	76.94	41	P		P	21 23 20.5 +0.8
RCS	Mount Rainier-	77.04	42	P		P	21 23 21.6 +1.3
NLW	Nelson Butte	77.10	40	P		P	21 23 21.4 +0.8
MUD	Monsted U'grnd	77.33	331	i P		P	21 23 21.3 -0.4
MUD				i S	S		21 33 22.4 +13
MUD				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
MUD				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.3						
MUD	Monsted U'grnd	77.33	331	i P		P	21 23 21.3 -0.4
	comp=Z,14nm,0.7s,mb5.0						
MUD				i S	S		21 33 22.4 +13
MUD				e			21 42 00.4
MUD	Monsted U'grnd	77.33	331	i P		P	21 23 21.3 -0.4
	comp=Z,14nm,0.7s,mb5.0						
MUD	Monsted U'grnd	77.33	331	i S	S		21 33 22.4 +13
MUD				e			21 42 00.4
	comp=Z,1μm,17.0s						
MPOR	Mary's Peak	77.36	45	P		P	21 23 23.6 +1.5
EDM	Edmonton	77.43	34	eP		P	21 23 22.3 0.0
OKC	Ostrava-Krasne	77.49	322	eP		P	21 23 22.6 -0.1
OKC				epP	pP		21 23 28.7 0.0
OKC				ex	x		21 33 22.4
OKC				AMS	AMS		21 57 50.0
	comp=Z,2μm,17.4s						
TBM	Table Mountain	77.50	41	P		P	21 23 23.6 +0.7
EBG	Ellensburg	77.67	42	P		P	21 23 24.9 +1.1
PSZ	Piszkesteto	77.73	320	eP		P	21 23 22.4 -1.7
PSZ				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
PSZ	Piszkesteto	77.73	320	eP		P	21 23 22.4 -1.7
	comp=Z,10nm,0.9s,mb4.8						
PSZ	Piszkesteto	77.73	320	eP		P	21 23 23.2 -0.9
SSOR	Sweet Springs	77.80	44	P		P	21 23 25.7 +1.2
KSP	Ksiaz	77.80	324	eP		P	21 23 24.6 +0.2
KSP				e*PP	pP		21 23 29.5 -0.9
KSP				MLR	MLR		
	comp=Z,5μm,17.8s,MS5.9						
KSP	Ksiaz	77.80	324	eP		P	21 23 24.3 -0.1
KSP				ePcP	PcP		21 23 30.8 -4.1
KSP				MLR	MLR		22 01 16.0
	comp=Z,5μm,16.8s,MS5.9						
MORC	Moravsky Berou	77.83	322	eP		P	21 23 24.9 +0.3
MORC				e	pP		21 23 30.0 -0.6
MORC				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
MORC	Moravsky Berou	77.83	322	eP		P	21 23 24.9 +0.3
	comp=Z,16nm,1.0s,mb4.9						
MORC				e	pP		21 23 30.0 -0.6
SAW	Saint Andrews	77.83	40	P		P	21 23 25.0 +0.4
VLL	Laurance Lake	77.89	43	P		P	21 23 26.2 +1.1
TDH	Tom, Dick, Har	77.93	43	P		P	21 23 26.1 +0.9
EPH	Ephrata	77.94	41	P		P	21 23 25.6 +0.4
VYHS	Vyhne	77.95	321	eP		P	21 23 26.1 +0.8
DPC	Dobruska-Polom	78.09	323	eP		P	21 23 26.4 +0.4
DPC				epP	pP		21 23 32.2 +0.2
DPC				eSKS	SKS		21 33 30.3 -10
DPC				AMS	AMS		22 01 30.0
	comp=Z,3μm,17.5s						
BROR	Big Rock Looko	78.14	45	P		P	21 23 27.1 +0.6
UPC	Upice	78.15	324	eP		P	21 23 26.7 +0.4
UPC				epP	pP		21 23 32.3 0.0
EIL	Elat	78.22	298	LR	LR		22 00 31.5
	comp=Z,877nm,21.3s,MS5.1,baz=265,slow=38						
EIL	Elat	78.22	298	eP		P	21 23 26.8 -0.4
	comp=Z,38nm,1.4s,mb5.1						
WAH2	Wahluke Slope	78.31	41	P		P	21 23 28.1 +0.8
OD2	Odessa Site #2	78.39	40	P		P	21 23 28.2 +0.4
SNIWA	Snively Ranch	78.43	42	P		P	21 23 28.9 +0.9
WRD	Warden	78.51	41	P		P	21 23 28.7 +0.3
BSEG	Bad Segeberg	78.56	328	eP		P	21 23 28.3 -0.2
RZN	Rozhen	78.60	313	i P		P	21 23 30.0 +1.0
H2OWA	Water	78.61	41	P		P	21 23 29.8 +0.9
SMOL	Smolenice	78.67	321	eP		P	21 23 30.4 +1.1
NEW	Newport	78.70	39	eP		P	21 23 29.6 +0.2
NEW				pmax	pmax		
	comp=Z,22nm,1.2s						
NEW				MLR	MLR		
	comp=Z,1μm,20.0s						
NEW	Newport	78.70	39	eP		P	21 23 29.6 +0.1
	comp=Z,22nm,1.2s,mb5.0						
NEW				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
HUMO	Hull Mountain	78.81	46	PFAKE			21 23 40.0 +10
HUMO				LR	LR		
	comp=Z,413nm,19.0s,MS4.8						
PVCC	Panska Ves	78.84	324	eP		P	21 23 30.8 +0.6
PVCC				epP	pP		21 23 36.1 0.0
PVCC				eSKS	SKS		21 33 40.4 -5.7
PVCC				AMS	AMS		21 58 40.0
	comp=Z,3μm,16.4s						
BRG	Berggiesshubel	78.93	325	i P		P	21 23 30.7 +0.1
BRG				eS	S		21 33 35.0 +8.3
BRG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
BRG				MLR	MLR		
	comp=Z,3μm,14.3s,MS5.7						
BRG	Berggiesshubel	78.93	325	i P		P	21 23 30.7 +0.1
	comp=Z,9.8nm,1.0s,mb4.7						
BRG				eS	S		21 33 35.0 +8.3
BRG				eSS	SS		21 38 46.0 +11
BRG				LR	LR		
	comp=Z,3μm,14.3s,MS5.7						
VTS	Vitosha	78.99	314	eP		P	21 23 32.0 +0.9
ZST	Bratislava	79.04	321	eP		P	21 23 32.2 +0.9
VIPM	Ingram Point	79.06	44	P		P	21 23 32.5 +1.0
YPT	Yellepit	79.07	42	P		P	21 23 32.4 +0.9
CLL	Collm	79.09	325	⇓iP		P	21 23 31.2 -0.3
CLL				i	pP		21 23 36.7 -0.8
CLL				eS	S		21 33 30.0 +1.5
CLL				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.2						
CLL				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.5						
CLL	Collm	79.09	325	⇓iP		P	21 23 31.2 -0.3
	comp=Z,32nm,1.0s,mb5.2						
CLL				i	pP		21 23 36.7 -0.8
CLL				eS	S		21 33 30.0 +1.5
CLL				LR	LR		
	comp=Z,2μm,18.0s,MS5.5						
CLL	Collm	79.09	325	⇓P		P	21 23 31.2 -0.3
	comp=Z,logA/T=1.5,mb5.2						
CLL				i *PP	pP		21 23 36.7 -0.8
CLL				e*SP	sP		21 23 42.0 +2.5
CLL				eS	S		21 33 30.0 +1.5
CLL				eSS	SS		21 38 48.0 +10
PRU	Pruhonice	79.21	324	eP		P	21 23 32.5 +0.4
PRU				epP	pP		21 23 37.8 -0.3
PRU				eSKS	SKS		21 33 40.6 -8.1
PRU				AMS	AMS		22 02 20.0
	comp=Z,4μm,16.2s						
MMB	Musomiste	79.26	313	eP		P	21 23 33.0 +0.4
BUOR	Burton Butte	79.43	46	P		P	21 23 34.6 +1.1
YBH	Yreka Blue Hor	79.47	47	eP		P	21 23 33.7 0.0
YBH				pmax	pmax		
	comp=Z,22nm,1.3s						
YBH				MLR	MLR		
	comp=Z,443nm,19.0s						
YBH	Yreka Blue Hor	79.47	47	eP		P	21 23 33.7 0.0
	comp=Z,22nm,1.3s,mb4.9						
YBH				LR	LR		
	comp=Z,443nm,19.0s,MS4.8						
KKB	Krupnik	79.49	313	eP		P	21 23 34.5 +0.6
LAMM	Antelope Mount	79.59	47	P		P	21 23 35.0 +0.6
SFJD	Kangerlussuaq	79.68	0	i P		P	21 23 34.8 +0.4
SFJD				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.2						
SFJD				MLR	MLR		
	comp=Z,970nm,16.0s,MS5.2						
SFJD	Kangerlussuaq	79.68	0	i P		P	21 23 34.8 +0.4
	comp=Z,34nm,1.0s,mb5.2						
SFJD				e			21 29 52.9
	comp=Z,970nm,16.0s						
LHEM	Herd Peak	79.82	47	P		P	21 23 36.8 +1.1
WALA	Waterton Lakes	79.85	37	⇓eP		P	21 23 36.0 +0.3
	comp=Z,33nm,1.2s,mb5.1						
CLZ	Clausthal	79.96	327	eP		P	21 23 36.4 +0.2
	comp=Z,36nm,1.0s,mb5.3						
DIVS	Divcibare	79.98	317	⇑iP		P	21 23 37.0 +0.5
NKC	Novy Kostel	80.07	325	eP		P	21 23 37.1 +0.3
NKC				epP	pP		21 23 42.6 -0.2
NKC				eSKS	SKS		21 33 48.5 -6.4

WDC Whiskeytown Da 80.24 48 *eP* **P 21 23 37.8 -0.1**
WDC pmax pmax
comp=Z,20nm,1.1s,mb5.0
WDC MLR MLR
comp=Z,333nm,19.0s,MS4.7
WDC Whiskeytown Da 80.24 48 *eP* **P 21 23 37.8 -0.1**
comp=Z,20nm,1.1s,mb5.0
WDC LR LR
comp=Z,333nm,19.0s,MS4.7
GEC2 GERESS Array S 80.37 323 *eP* **P 21 23 38.3 -0.1**
GEC2 pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
GEC2 GERESS Array S 80.37 323 *eP* **P 21 23 38.3 -0.1**
comp=Z,8.0nm,1.1s,mb4.6
GERES GERESS Array B 80.37 323 P **P 21 23 38.0 -0.4**
comp=Z,3.7nm,0.8s,mb4.3,baz=45,slow=3.8,SNR=24
GERES LR LR 22 01 38.3
comp=Z,2µm,19.4s,MS5.4,baz=39,slow=38
SKO Skopje 80.42 314 *i P* **P 21 23 39.6 +0.8**
ARSA Arzberg 80.47 321⇓*iP* **P 21 23 39.0 0.0**
comp=Z,9.0nm,1.1s,mb4.6
WET Wettzell 80.58 324 *eP* **P 21 23 39.9 +0.4**
WET pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
WET Wettzell 80.58 324 *eP* **P 21 23 39.9 +0.4**
comp=Z,9.0nm,1.2s,mb4.6
BMO Blue Mountains 80.73 42 PFAKE 21 23 50.0 +10
BMO LR LR
comp=Z,550nm,19.0s,MS4.9
MOD Modoc 80.81 45 *eP* **P 21 23 41.0 +0.1**
comp=Z,4.1nm,0.7s,mb4.5
MOD LR LR
comp=Z,378nm,21.0s,MS4.7
FCC Fort Churchill 80.81 22⇓*eP* **P 21 23 40.7 +0.2**
FCC pmax pmax
comp=Z,52nm,0.9s,mb5.5
FCC Fort Churchill 80.81 22⇓*eP* **P 21 23 40.7 +0.2**
comp=Z,52nm,0.9s,mb5.5
LBCM Butte Creek Ri 80.82 47 P **P 21 23 41.9 +0.9**
HOPS Hopland 80.84 49 PFAKE 21 23 50.0 +8.9
HOPS LR LR
comp=Z,819nm,21.0s,MS5.1
GRA1 Grafenberg Arr 81.02 325 *eP* **P 21 23 42.5 +0.7**
comp=Z,36nm,1.0s,mb5.3
GRA1 *e*S S 21 33 55.6 +7.0
GRA1 *e*SS SS 21 39 17.6 +11
GRA1 LR LR
comp=Z,2µm,18.5s,MS5.5
GRF Grafenberg Arr 81.02 325 *eP* **P 21 23 42.5 +0.7**
GRF *e*S S 21 33 55.6 +7.0
GRF pmax pmax
comp=Z,36nm,1.0s,mb5.3
GRF MLR MLR
comp=Z,2µm,18.5s,MS5.5
GRF Grafenberg Arr 81.02 325 *eP* **P 21 23 42.5 +0.7**
GRF *e*S S 21 33 55.6 +7.0
GRF pmax pmax
comp=Z,36nm,1.0s,mb5.3
GRF MLR MLR
comp=Z,2µm,18.5s,MS5.5
GRF Grafenberg Arr 81.02 325 *eP* **P 21 23 42.5 +0.7**
comp=Z,36nm,1.0s,mb5.3
GRF *e*S S 21 33 55.6 +7.0
GRF *e*SS SS 21 39 17.6 +11
GRF LR LR
comp=Z,2µm,18.5s,MS5.5
PERS Pernice 81.07 321 *eP* **P 21 23 41.5 -0.6**
FFC Flin Flon 81.21 28⇓*eP* **P 21 23 42.8 +0.1**
FFC *e**PP pP 21 23 48.5 -0.2
FFC pmax pmax
comp=Z,43nm,0.9s,mb5.4
FFC MLR MLR
comp=Z,185nm,22.0s,MS4.4
FFC Flin Flon 81.21 28⇓*eP* **P 21 23 42.8 +0.1**
comp=Z,43nm,0.9s,mb5.4
FFC *e*pP pP 21 23 48.5 -0.2
FFC LR LR
comp=Z,185nm,22.0s,MS4.4
MSO Missoula 81.28 39⇓*eP* **P 21 23 43.3 +0.1**
comp=Z,21nm,1.3s,mb4.9
MSO LR LR
comp=Z,523nm,20.0s,MS4.9
WTSB Winterswijk 81.46 329 *eP* **P 21 23 43.8 -0.3**
comp=Z,21nm,0.7s,mb5.2
WVOR Wild Horse Val 81.47 44 *eP* **P 21 23 45.0 +0.7**
WVOR pmax pmax
comp=Z,54nm,1.7s,mb5.2
WVOR MLR MLR
comp=Z,664nm,21.0s,MS5.0
WVOR Wild Horse Val 81.47 44 *eP* **P 21 23 45.0 +0.6**
comp=Z,54nm,1.7s,mb5.2
WVOR LR LR
comp=Z,664nm,21.0s,MS5.0
CHMT Chamberlain Mo 81.58 38 *eP* **P 21 23 45.5 +0.6**
TNS Taunus Mts 81.96 327 *eP* **P 21 23 46.9 +0.2**
TNS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
TNS Taunus Mts 81.96 327 *eP* **P 21 23 46.9 +0.2**
comp=Z,9.0nm,0.9s,mb4.7
FUR Furstenfeldbru 82.02 324 *eP* **P 21 23 47.6 +0.5**
FUR pmax pmax
comp=Z,25nm,1.1s,mb5.1
FUR Furstenfeldbru 82.02 324 *eP* **P 21 23 47.6 +0.5**
comp=Z,25nm,1.1s,mb5.1
JAVS Javornik 82.11 321 *eP* **P 21 23 45.5 -2.1**
IDI Anoyia 82.18 307 LR LR 22 03 26.9
comp=Z,679nm,20.1s,MS5.0,baz=261,slow=38
TOD Tromm 82.22 326 *eP* **P 21 23 48.6 +0.5**
HRY Holter Researc 82.45 38 *eP* **P 21 23 50.3 +1.0**
ABH Alteburg 82.61 327 *eP* **P 21 23 50.3 +0.2**
SQTA Sankt Quirin 82.70 323⇓*iP* **P 21 23 50.6 0.0**
comp=Z,2.8nm,0.9s,mb4.3
SQTA Sankt Quirin 82.70 323⇓*iP* **P 21 23 50.6 0.0**
SQTA pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
HGN Heimansgroeve 82.70 328 *eP* **P 21 23 50.4 -0.2**
comp=Z,27nm,2.2s,mb4.9
HGN Heimansgroeve 82.70 328 *e*S S 21 34 11.9 +6.0
WCN Washoe City 82.72 47 *eP* **P 21 23 51.4 +0.5**
WCN pmax pmax
comp=Z,69nm,1.7s,mb5.4
WCN Washoe City 82.72 47 *eP* **P 21 23 51.4 +0.5**
comp=Z,69nm,1.7s,mb5.4
KTD Kalmit 82.76 326 *eP* **P 21 23 51.2 +0.3**
ESK Eskdalemuir 82.86 335 PFAKE 21 24 00.0 +8.7
ESK LR LR
comp=Z,462nm,19.0s,MS4.9
RUP Ruppelstein 82.96 327 *eP* **P 21 23 52.3 +0.4**
CMB Columbia Colle 83.10 49 *eP* **P 21 23 53.4 +0.5**
CMB pmax pmax
comp=Z,31nm,1.1s,mb5.2
CMB MLR MLR
comp=Z,615nm,19.0s,MS5.0
CMB Columbia Colle 83.10 49 *eP* **P 21 23 53.4 +0.5**
comp=Z,31nm,1.1s,mb5.2
CMB LR LR
comp=Z,615nm,19.0s,MS5.0
HLID Hailey 83.15 41 PFAKE 21 24 00.0 +7.0
HLID LR LR
comp=Z,655nm,19.0s,MS5.0
MCMT McKenzie Canyo 83.17 40 *eP* **P 21 23 53.9 +0.8**
BOZ Bozeman (W) 83.27 39 *eP* **P 21 23 54.5 +0.9**
BOZ pmax pmax
comp=Z,11nm,0.8s,mb4.9
BOZ MLR MLR
comp=Z,943nm,20.0s,MS5.2
BOZ Bozeman (W) 83.27 39 *eP* **P 21 23 54.5 +1.0**
comp=Z,11nm,0.8s,mb4.9
BOZ LR LR
comp=Z,943nm,20.0s,MS5.2
SPAK Spaichingen 83.28 325 *eP* **P 21 23 53.8 +0.2**
DAVA Damuels 83.31 324⇓*iP* **P 21 23 54.2 +0.4**
comp=Z,25nm,0.9s,mb5.2
BFO Black Forest 83.34 325 *eP* **P 21 23 53.9 0.0**
BFO pmax pmax
comp=Z,28nm,1.0s,mb5.2
BFO Black Forest 83.34 325 *eP* **P 21 23 53.9 0.0**
comp=Z,28nm,1.0s,mb5.2
WLF Walferdange 83.40 327 P **P 21 23 50.2 -4.0**
WLF pmax pmax
comp=Z,13nm,0.8s,mb5.0
WLF Walferdange 83.40 327 P **P 21 23 50.2 -3.9**
comp=Z,13nm,0.8s,mb5.0
BMN Battle Mountai 83.55 45⇓*eP* **P 21 23 56.1 +1.0**
BMN *e* pP 21 24 01.7 +0.6
BMN pmax pmax
comp=Z,33nm,1.3s,mb5.3
BMN MLR MLR
comp=Z,368nm,19.0s,MS4.8
BMN Battle Mountai 83.55 45⇓*eP* **P 21 23 56.1 +1.0**
comp=Z,33nm,1.3s,mb5.3
BMN *e* pP 21 24 01.7 +0.6
BMN LR LR
comp=Z,368nm,19.0s,MS4.8
DAVOX Davos 83.66 323 LR LR 22 01 21.8
comp=Z,2µm,18.2s,MS5.5,baz=45,slow=36
GIVF Givet 83.67 328 *eP* **P 21 23 54.1 -1.4**
comp=Z,56nm,1.3s,mb5.2
GIVF Givet 83.67 328 *eP* **P 21 23 54.1 -1.4**
GIVF pmax pmax
comp=Z,28nm,1.3s,mb5.2
WLS Welschbruch 83.74 326 *eP* **P 21 23 56.4 +0.5**
CDF Champ du Feu 83.78 326 *eP* **P 21 23 55.3 -0.8**
comp=Z,52nm,1.0s,mb5.3
CDF Champ du Feu 83.78 326 *eP* **P 21 23 55.3 -0.8**
CDF pmax pmax
comp=Z,26nm,1.0s,mb5.3
QLMT Earthquake Lak 83.92 39 *eP* **P 21 23 58.3 +1.4**
ECH Echery 83.97 326 *eP* **P 21 23 57.3 +0.2**
BAIF Baives 83.97 328 *eP* **P 21 23 55.6 -1.4**
comp=Z,22nm,1.1s,mb4.9
BAIF Baives 83.97 328 *eP* **P 21 23 55.6 -1.4**
BAIF pmax pmax
comp=Z,11nm,1.1s,mb4.9
NVAR Mina Array Bea 84.15 47 P **P 21 23 59.3 +1.1**
comp=Z,16nm,0.8s,mb5.2,baz=323,slow=2.6,SNR=60
NVAR LR LR 21 55 18.1
comp=Z,248nm,20.7s,MS4.6,baz=135,slow=31
OMM Old Mammoth Mi 84.23 48 *eP* **P 21 23 59.7 +1.1**
MNV Mina 84.24 47 *eP* **P 21 23 59.5 +0.8**
MNV pmax pmax
comp=Z,36nm,1.5s,mb5.3
MNV MLR MLR
comp=Z,353nm,22.0s,MS4.7
MNV Mina 84.24 47 *eP* **P 21 23 59.5 +0.8**
comp=Z,36nm,1.5s,mb5.3
MNV LR LR
comp=Z,353nm,22.0s,MS4.7
MOF Molkenrain 84.24 325 *eP* **P 21 23 58.3 -0.1**
YMR Madison River 84.27 39 *eP* **P 21 24 00.2 +1.6**
YNR Norris Junctio 84.39 39 *eP* **P 21 24 01.7 +2.4**
HINF Hinteralfeld 84.40 326 *eP* **P 21 23 58.0 -1.2**
comp=Z,22nm,0.9s,mb5.0
HINF Hinteralfeld 84.40 326 *eP* **P 21 23 58.0 -1.2**
HINF pmax pmax
comp=Z,11nm,0.9s,mb5.0
YFT Old Faithful 84.49 39 *eP* **P 21 24 02.6 +2.8**
HAU Haudompre 84.50 326 *eP* **P 21 23 58.6 -1.1**
comp=Z,29nm,1.0s,mb5.1
HAU *e*R
comp=Z,2µm,18.2s
HAU Haudompre 84.50 326 *eP* **P 21 23 58.6 -1.1**
HAU pmax pmax
comp=Z,14nm,1.0s,mb5.0
HAU MLR MLR
comp=Z,2µm,18.3s,MS5.6
ELK Elko 84.51 44 *eP* **P 21 24 01.3 +1.3**
ELK pmax pmax
comp=Z,13nm,1.3s
ELK MLR MLR
comp=Z,567nm,19.0s
ELK Elko 84.51 44 *eP* **P 21 24 01.3 +1.3**
comp=Z,13nm,1.3s,mb4.9
ELK LR LR
comp=Z,567nm,19.0s,MS5.0
THEF They Montfort 84.51 326 *eP* **P 21 23 59.9 +0.1**
LKWY Lake 84.64 39 *eP* **P 21 24 03.3 +2.8**
LKWY pmax pmax
comp=Z,26nm,0.9s,mb5.4
LKWY MLR MLR
comp=Z,1µm,20.0s,MS5.3
LKWY Lake 84.64 39 *eP* **P 21 24 03.3 +2.8**
comp=Z,26nm,0.9s,mb5.4
LKWY LR LR
comp=Z,1µm,20.0s,MS5.3
CII Carovilli 84.72 317 *eP* **P 21 24 01.9 +1.0**
comp=Z,62nm,1.2s,mb5.6
MEZF Maizieres J'vi 84.74 327 *eP* **P 21 24 00.3 -0.6**
AQU L'Aquila 84.81 318⇑*eP* **P 21 24 02.8 +1.4**
AQU pmax pmax
comp=Z,90nm,1.0s,mb5.8
AQU L'Aquila 84.81 318⇑*eP* **P 21 24 02.8 +1.4**
comp=Z,90nm,1.0s,mb5.8
IMW Indian Meadow 84.81 40 *eP* **P 21 24 03.2 +1.8**
comp=Z,25nm,1.1s,mb5.2
RRI2 Red Ridge 84.98 40 *eP* **P 21 24 04.0 +1.8**
comp=Z,31nm,1.3s,mb5.3
MOOW Mose Ponds 85.01 40 *eP* **P 21 24 04.1 +1.7**
comp=Z,56nm,1.9s,mb5.4
TPH Tonopah 85.04 47 *eP* **P 21 24 04.1 +1.5**
TPH pmax pmax
comp=Z,98nm,1.1s,mb5.8
TPH MLR MLR
comp=Z,422nm,21.0s,MS4.8
TPH Tonopah 85.04 47 *eP* **P 21 24 04.1 +1.5**
comp=Z,98nm,1.1s,mb5.8
TPH LR LR
comp=Z,422nm,21.0s,MS4.8
TPAW Teton Pass 85.08 40 *eP* **P 21 24 04.5 +1.8**
comp=Z,20nm,0.9s,mb5.2
LOHW Long Hollow 85.18 40 *eP* **P 21 24 04.4 +1.2**
comp=Z,17nm,1.2s,mb5.0
REDW Red Top Meadow 85.22 40 *eP* **P 21 24 04.7 +1.3**
comp=Z,24nm,1.3s,mb5.2
LAO LASA Array 85.25 35 *eP* **P 21 24 04.7 +1.2**
comp=Z,50nm,1.3s,mb5.5
LAO LR LR
comp=Z,974nm,22.0s,MS5.2
AHID Auburn Hatcher 85.49 40 PFAKE 21 24 20.0 +15
AHID LR LR
comp=Z,560nm,20.0s,MS5.0
RPZ Rata Peaks 85.50 152 P **P 21 24 04.7 -0.1**
comp=Z,25nm,0.9s,mb5.4,baz=150,slow=5.7,SNR=5.3
CABF La Chapelle 85.63 325 *eP* **P 21 24 04.4 -1.0**
comp=Z,32nm,1.0s,mb5.2
CABF La Chapelle 85.63 325 *eP* **P 21 24 04.4 -1.0**
CABF pmax pmax
comp=Z,16nm,1.0s,mb5.2
DLF Lyons Farm 85.65 336 *eP* **P 21 24 03.0 -2.3**
BGU Big Grassy Mou 85.66 43 *eP* **P 21 24 06.8 +1.1**
TRCR Troy Canyon 85.85 46 *eP* **P 21 24 06.8 +0.1**
DCN Croghan 85.86 336 *eP* **P 21 24 04.1 -2.3**
DAC Darwin (Calif) 85.94 49 PFAKE 21 24 20.0 +13
DAC LR LR
comp=Z,448nm,19.0s,MS4.9
HWUT Hardware Ranch 86.02 42⇓*eP* **P 21 24 08.8 +1.3**
comp=Z,47nm,1.3s,mb5.6
LPL La Plagne 86.11 324 *eP* **P 21 24 07.1 -0.7**
comp=Z,31nm,1.0s,mb5.2
LPL La Plagne 86.11 324 *eP* **P 21 24 07.1 -0.7**
LPL pmax pmax
comp=Z,16nm,1.0s,mb5.2
LPG La Plagne 86.11 324 *eP* **P 21 24 07.2 -0.6**
comp=Z,43nm,1.0s,mb5.3
LPG La Plagne 86.11 324 *eP* **P 21 24 07.2 -0.6**
LPG pmax pmax
comp=Z,22nm,1.0s,mb5.3
BW06 Boulder Array 86.32 40 PFAKE 21 24 20.0 +11
BW06 LR LR
comp=Z,520nm,19.0s,MS5.0
PDAR Pinedale Array 86.32 40 P **P 21 24 09.7 +0.7**
comp=Z,9.7nm,0.8s,mb5.1,baz=313,slow=1.0,SNR=76
PDAR LR LR 22 04 28.2
comp=Z,348nm,20.6s,MS4.7,baz=154,slow=37
SSF Saint Saulge 86.51 327 *eP* **P 21 24 08.4 -1.3**
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
SSF Saint Saulge 86.51 327 *eP* **P 21 24 08.4 -1.3**
comp=Z,8.8nm,0.9s,mb5.0
CTU Camp Tracy 86.53 42 *eP* **P 21 24 10.9 +0.9**
SMF Signal de Mont 86.66 326 *eP* **P 21 24 09.1 -1.4**
comp=Z,37nm,1.0s,mb5.2
SMF Signal de Mont 86.66 326 *eP* **P 21 24 09.1 -1.4**
SMF pmax pmax
comp=Z,18nm,1.0s,mb5.3
HYF Humbligny 86.75 327 *eP* **P 21 24 10.2 -0.7**
AVF Avril sur Loir 86.78 327 *eP* **P 21 24 09.7 -1.3**
comp=Z,17nm,0.9s,mb5.0
AVF Avril sur Loir 86.78 327 *eP* **P 21 24 09.7 -1.3**
AVF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
NLU North Lily Min 86.85 43 *eP* **P 21 24 12.7 +1.1**
ORIF Oris-en-Rattie 86.95 324 *eP* **P 21 24 10.6 -1.4**
ORIF *e*R
comp=Z,3µm,22.2s
DAU Daniels Canyon 87.00 42 *eP* **P 21 24 13.9 +1.6**
ULM Lac du Bonnet 87.04 28 P **P 21 24 12.5 +0.3**
comp=Z,38nm,0.9s,mb5.7,baz=327,slow=5.4,SNR=27
ULM LR LR 22 05 57.4
comp=Z,385nm,18.7s,MS4.8,baz=344,slow=38
ULM Lac du Bonnet 87.04 28 *eP* **P 21 24 12.2 -0.1**
comp=Z,82nm,1.0s,mb5.9
ULM *e* pP 21 24 18.3 0.0
ULM LR LR
comp=Z,607nm,19.0s,MS5.0
PLDF La Plantade 87.26 326 *eP* **P 21 24 14.5 +1.1**
VAE Valguarnera 87.45 314 LR LR 22 09 13.9
comp=Z,1µm,18.7s,MS5.4,baz=17,slow=40
FRF La Foret Royal 87.55 323 *eP* **P 21 24 12.8 -2.1**
VIVF Saint-Julien-I 87.59 325 *eP* **P 21 24 13.6 -1.4**
comp=Z,35nm,1.2s,mb5.2
VIVF Saint-Julien-I 87.59 325 *eP* **P 21 24 13.6 -1.4**
VIVF pmax pmax
comp=Z,18nm,1.2s,mb5.2
TCF Toulx Ste Croi 87.68 327 *eP* **P 21 24 14.2 -1.2**
comp=Z,9.1nm,0.7s,mb4.8
TCF Toulx Ste Croi 87.68 327 *eP* **P 21 24 14.2 -1.2**
TCF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
MVU Marysvale 87.74 44 *eP* **P 21 24 17.8 +1.9**
comp=Z,28nm,1.1s,mb5.4
MVU LR LR
comp=Z,421nm,19.0s,MS4.9
MSU Marysvale 87.76 44 *eP* **P 21 24 17.6 +1.6**
RSSD Black Hills 88.17 36 *eP* **P 21 24 18.7 +0.9**
RSSD pmax pmax
comp=Z,25nm,0.7s,mb5.5
RSSD MLR MLR
comp=Z,219nm,19.0s,MS4.6
RSSD Black Hills 88.17 36 *eP* **P 21 24 18.7 +0.9**
comp=Z,25nm,0.7s,mb5.6
RSSD LR LR
comp=Z,219nm,19.0s,MS4.6
SRU San Rafael 88.30 43 *eP* **P 21 24 19.9 +1.3**
PFO Pinyon Flat Ob 88.36 50 *eP* **P 21 24 20.0 +1.0**
PFO LR LR
comp=Z,136nm,22.0s,MS4.3
LASF Ste Croix 88.56 325 *eP* **P 21 24 18.4 -1.3**
comp=Z,22nm,1.0s,mb5.1
CAF Calviac 88.77 326 *eP* **P 21 24 19.8 -0.9**
comp=Z,28nm,0.9s,mb5.3
CAF Calviac 88.77 326 *eP* **P 21 24 19.8 -0.9**
CAF pmax pmax
comp=Z,14nm,0.9s,mb5.3
LFF La Frestale 89.37 327 *eP* **P 21 24 22.6 -0.9**
comp=Z,56nm,0.9s,mb5.6
LFF La Frestale 89.37 327 *eP* **P 21 24 22.6 -0.9**
LFF pmax pmax
comp=Z,28nm,0.9s,mb5.6
PV10 Paradox Valley 89.65 43 P **P 21 24 27.2 +2.2**
WUAZ Wupatki 90.25 46 PFAKE 21 24 40.0 +12
WUAZ LR LR
comp=Z,831nm,22.0s,MS5.1
EYMN Ely 90.59 27 *eP* **P 21 24 29.5 +0.4**
comp=Z,49nm,1.1s,mb5.8
EYMN LR LR
comp=Z,871nm,22.0s,MS5.2
SCHQ Schefferville 90.67 10 P **P 21 24 29.4 +0.2**
comp=Z,7.4nm,0.8s,mb5.1,baz=5.4,slow=4.0,SNR=12
SCHQ LR LR 22 06 51.1
comp=Z,755nm,21.4s,MS5.1,baz=337,slow=37
SCHQ Schefferville 90.67 10 *eP* **P 21 24 29.2 -0.1**
comp=Z,24nm,1.2s,mb5.4
SCHQ LR LR
comp=Z,1µm,20.0s,MS5.3
PPT Papeete 91.68 110 LR LR 21 56 49.3
comp=Z,349nm,20.4s,MS4.8,baz=308,slow=30
SDCO Great Sand Dun 92.06 41 *eP* **P 21 24 37.3 +1.1**
comp=Z,11nm,0.9s,mb5.2
SDCO LR LR
comp=Z,735nm,19.0s,MS5.2
TUC Tucson 92.79 48 *eP* **P 21 24 40.9 +1.3**
TUC MLR MLR
comp=Z,395nm,19.0s,MS4.9
TUC Tucson 92.79 48 *eP* **P 21 24 40.9 +1.3**
TUC *e* pP 21 24 45.9 +0.3
TUC LR LR
comp=Z,395nm,19.0s,MS4.9
KMBO Kilima Mbogo 93.14 271 *i P* **P 21 24 46.6 +5.0**
KMBO pmax pmax
comp=Z,1.0nm,0.8s
KMBO Kilima Mbogo 93.14 271 PFAKE 21 24 50.0 +8.4
KMBO LR LR
comp=Z,576nm,20.0s,MS5.0
ANMO Albuquerque 93.53 43 *eP* **P 21 24 44.4 +1.4**
ANMO pmax pmax
comp=Z,17nm,1.4s
ANMO MLR MLR
comp=Z,441nm,20.0s
ANMO Albuquerque 93.53 43 *eP* **P 21 24 44.4 +1.5**
comp=Z,17nm,1.4s,mb5.3
ANMO LR LR
comp=Z,441nm,20.0s,MS4.9
CBKS Cedar Bluff 94.29 37 PFAKE 21 25 00.0 +14
CBKS LR LR
comp=Z,601nm,19.0s,MS5.1
ESLA Sonseca Array 95.66 326 PFAKE 21 25 00.0 +7.4
ESLA LR LR
comp=Z,7µm,19.0s,MS6.2
AMTX Amarillo 96.25 41 PFAKE 21 25 10.0 +15
AMTX LR LR
comp=Z,528nm,21.0s,MS5.0
MNTX Cornudas Mount 96.49 45 PFAKE 21 25 10.0 +13
MNTX LR LR
comp=Z,345nm,21.0s,MS4.8
WMOK Wichita Mounta 97.91 39 *eP* **P 21 25 02.7 -0.2**
WMOK pmax pmax
comp=Z,17nm,1.5s,mb5.3
WMOK MLR MLR
comp=Z,440nm,20.0s,MS5.0
WMOK Wichita Mounta 97.91 39 *eP* **P 21 25 02.7 -0.2**
comp=Z,17nm,1.5s,mb5.3
WMOK LR LR
comp=Z,440nm,20.0s,MS5.0
MBAR Mbarara 98.28 275 PFAKE 21 25 20.0 +15
MBAR LR LR
comp=Z,115nm,20.0s,MS4.4
PQI Presque Isle 98.38 13 PFAKE 21 25 20.0 +15
PQI LR LR
comp=Z,4µm,22.0s,MS5.9
CCM Cathedral Cave 98.90 32 PFAKE 21 25 20.0 +13
CCM LR LR
comp=Z,140nm,21.0s,MS4.4
LTX Lajitas 99.21 46 PFAKE 21 25 20.0 +11
LTX LR LR
comp=Z,593nm,20.0s,MS5.1
TXAR Lajitas Array 99.21 46 P **P 21 25 09.6 +0.7**
comp=Z,1.4nm,0.7s,mb4.6,baz=306,slow=4.1,SNR=6.6
NCB Newcomb 99.60 18 PFAKE 21 25 20.0 +10
NCB LR LR
comp=Z,630nm,21.0s,MS5.1
ERPA Erie 99.66 22 PFAKE 21 25 20.0 +9.3
ERPA LR LR
comp=Z,566nm,19.0s,MS5.1
WVL Waterville 100.09 14 PFAKE 21 25 20.0 +7.4
WVL LR LR
comp=Z,3µm,22.0s,MS5.8
EMMW East Machias 100.38 13 PFAKE 21 25 30.0 +16
EMMW LR LR
comp=Z,4µm,20.0s,MS5.9
JCT Junction City 100.60 42 PFAKE 21 25 30.0 +15
JCT LR LR
comp=Z,455nm,20.0s,MS5.0
MIAR Mount Ida 100.69 36 PFAKE 21 25 30.0 +14
MIAR LR LR
comp=Z,713nm,20.0s,MS5.2
CASY Casey 100.75 188 PFAKE 21 25 30.0 +15
CASY LR LR
comp=Z,355nm,19.0s,MS4.9
WCI Wyandotte Cave 100.84 29 PFAKE 21 25 30.0 +14
WCI LR LR
comp=Z,130nm,20.0s,MS4.4
HRV Harvard--Oak R 101.63 16 PFAKE 21 25 30.0 +10
HRV LR LR
comp=Z,499nm,19.0s,MS5.0
SSPA Standing Stone 101.66 22 PFAKE 21 25 30.0 +10
SSPA LR LR
comp=Z,132nm,20.0s,MS4.5

WES	**Weston**	**101.80**	**16**	PFAKE		21 25 30.0	+10
WES				LR	LR		
comp=Z,2μm,22.0s,MS5.6							
WVT	**Waverly**	**102.00**	**31**	PFAKE		21 25 30.0	+8.6
WVT				LR	LR		
comp=Z,395nm,20.0s,MS4.9							
NATX	**Nacogdoches**	**102.38**	**38**	PFAKE		21 25 30.0	+6.8
NATX				LR	LR		
comp=Z,526nm,20.0s,MS5.1							
OXF	**Oxford**	**102.67**	**33**	PFAKE		21 25 40.0	+16
OXF				LR	LR		
comp=Z,450nm,21.0s,MS5.0							
PLAL	**Pickwick Lake**	**102.86**	**32**	PFAKE		21 25 40.0	+15
PLAL				LR	LR		
comp=Z,363nm,21.0s,MS4.9							
BLA	**Blacksburg**	**103.93**	**25**	PFAKE		21 25 40.0	+10
BLA				LR	LR		
comp=Z,624nm,20.0s,MS5.1							
CBN	**Corbin**	**104.05**	**22**	PFAKE		21 25 40.0	+10
CBN				LR	LR		
comp=Z,729nm,19.0s,MS5.2							
LRAL	**Lakeview Retre**	**104.99**	**32**	PFAKE		21 30 00.0	
LRAL				LR	LR		
comp=Z,485nm,21.0s,MS5.0							
GOGA	**Godfrey**	**106.15**	**29**	PFAKE		21 30 00.0	
GOGA				LR	LR		
comp=Z,572nm,19.0s,MS5.1							
NHSC	**New Hope**	**107.70**	**27**	PFAKE		21 30 10.0	
NHSC				LR	LR		
comp=Z,956nm,22.0s,MS5.3							
LSZ	**Lusaka**	**108.23**	**264**	PFAKE		21 30 10.0	
LSZ				LR	LR		
comp=Z,678nm,20.0s,MS5.2							
DWPF	**Disney**	**111.63**	**30**	PFAKE		21 30 10.0	+5.6
DWPF				LR	LR		
comp=Z,126nm,21.0s,MS4.5							
BBSR	**BB Station**	**112.85**	**14**	PFAKE		21 30 20.0	+13
BBSR				LR	LR		
comp=Z,497nm,20.0s,MS5.1							
TEIG	**Tepich**	**115.04**	**40**	PFAKE		21 30 20.0	+8.7
TEIG				LR	LR		
comp=Z,238nm,22.0s,MS4.8							
BOSA	**Boshof**	**116.92**	**252**	PFAKE		21 30 20.0	+5.2
BOSA				LR	LR		
comp=Z,601nm,22.0s,MS5.2							
TSUM	**Tsumeb**	**118.97**	**265**	PFAKE		21 30 30.0	+11
TSUM				LR	LR		
comp=Z,669nm,22.0s,MS5.2							
DBIC	**Dimbokro**	**121.58**	**305**	PKP	PKPdf	21 30 20.1	-4.1
comp=Z,8.4nm,0.8s,baz=338,slow=2.7,SNR=12							
DBIC	**Dimbokro**	**121.58**	**305**	PKP	PKPdf	21 30 20.1	-4.1
DBIC				LR	LR		
comp=Z,614nm,21.0s,MS5.2							
QSPA	**South Pole Qui**	**123.39**	**180**	*e*P	PKPdf	21 30 22.5	-3.7
SJG	**San Juan**	**126.21**	**19**	PFAKE		21 30 40.0	+7.0
SJG				LR	LR		
comp=Z,384nm,22.0s,MS5.0							
SDV	**Santo Domingo**	**133.28**	**29**	*e*PKPdf	PKPdf	21 30 42.8	-3.8
SDV				LR	LR		
comp=Z,512nm,21.0s,MS5.2							
SNAA	**Sanae**	**134.70**	**199**	⇑*i*P	Pdif	21 27 56.6	+12
VNA2	**Neumayer--Watz**	**136.34**	**199**	P	Pdif	21 28 02.9	+11
VNA3	**Neumayer Olymp**	**136.74**	**198**	⇑*i*P	Pdif	21 27 59.5	+6.2
OTAV	**Otavalo**	**136.83**	**45**	PFAKE		21 31 00.0	+6.9
OTAV				LR	LR		
comp=Z,289nm,20.0s,MS5.0							
NNA	**Nana**	**147.18**	**55**	*e*PKPbc	PKPdf	21 31 09.9	-1.5
RCBR	**Riachuelo**	**149.50**	**332**	PFAKE		21 31 20.0	+4.8
RCBR				LR	LR		
comp=Z,457nm,19.0s,MS5.3							
SAML	**Samuel**	**152.48**	**30**	*e*PKPbc	PKPdf	21 31 22.7	+3.1
SAML				LR	LR		
comp=Z,390nm,19.0s,MS5.2							
LPAZ	**La Paz**	**156.05**	**48**	PKP	PKPdf	21 31 22.0	-2.3
comp=Z,0.6nm,0.2s,baz=31,slow=6.0,SNR=5.9							
LPAZ	**La Paz**	**156.05**	**48**	PKP	PKPdf	21 31 22.0	-2.3
LPAZ				LR	LR		
comp=Z,472nm,20.0s,MS5.3							
LVC	**Limon Verde**	**159.87**	**62**	PFAKE		21 31 40.0	+11
LVC				LR	LR		
comp=Z,692nm,19.0s,MS5.5							
BDFB	**Brasilia**	**162.02**	**355**	PKP	PKPdf	21 31 28.6	-2.6
comp=Z,1.7nm,0.5s,baz=259,slow=5.2,SNR=3.1							

MAN 19 21:15:26.1, 17.41N×120.90E, h30km, mb4.5, ML3.4, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.93**	**71**	*e*P	Pn	21 15 42.0	-1.2
CAUP	**Cauayan**	**0.99**	**117**	*e*P	Pn	21 15 44.3	+0.1
BOLP	**Bolinao**	**1.39**	**223**	*e*P	Pn	21 15 49.6	-0.3
BALP	**Baler**	**1.78**	**159**	*e*P	Pn	21 15 55.1	-0.3

*IDC **19** 21:16:13.1±9.1, 21.04S×179.11W, h588km±100km, mb3.2/7, mb1 3.4/7, mb1mx3.3/17, mbtmp4.2/7, Error ellipse: s-maj=54.1km s-min=25.6km az=55.0*
*NEIC **19** 21:16:16.5±6.6, 21.13S×179.22W, h630km±71km, mb4.1/5, Error ellipse: s-maj=44.3km s-min=18.7km az=58.0*

ISC 19 21:16:08.5±5.0, 21.2S±0.2×179.0W±0.2, h550km±56km, n19, σ0°92/16, mb3.9/12, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**21.62**	**197**	*e*PN	**P**	**21 20 20.2**	**-0.2**
KHZ	**Kahutara**	**22.08**	**195**	*e*PN	**P**	**21 20 23.9**	**-0.6**
CTA	**Charters Tower**	**32.48**	**266**	P	**P**	**21 21 56.6**	**+1.2**
3.8nm,0.8s,mb4.0,baz=85,slow=11,SNR=2.5							
ASAR	**Alice Springs**	**43.44**	**258**	P	**P**	**21 23 24.8**	**+0.2**
4.0nm,0.5s,mb4.2,baz=92,slow=7.7,SNR=18							
WRAB	**Tennant Creek**	**43.55**	**263**	P	**P**	**21 23 25.4**	**-0.2**
4.8nm,0.7s,mb4.1							
WRA	**Warramunga Arr**	**43.56**	**263**	P	**P**	**21 23 25.3**	**-0.4**
0.8nm,0.3s,mb3.7,baz=97,slow=7.7,SNR=30							
FITZ	**Fitzroy Crossi**	**51.99**	**263**	P	**P**	**21 24 28.8**	**-0.3**
6.0nm,0.9s,mb3.9,baz=91,slow=2.2,SNR=6.5							
MBWA	**Marble Bar**	**56.77**	**258**	*e*P	**P**	**21 25 01.3**	**-1.2**
5.0nm,0.5s,mb4.0							
SBA	**Scott Base**	**57.13**	**184**	*e*P	**P**	**21 25 05.9**	**+1.6**
6.6nm,0.8s,mb3.9							
VNDA	**Vanda**	**57.15**	**185**	P	**P**	**21 25 05.3**	**+0.9**
1.4nm,0.6s,mb3.4,baz=13,slow=6.9,SNR=9.1							
VNDA	**Vanda**	**57.15**	**185**	P	**P**	**21 25 05.3**	**+0.9**
QSPA	**South Pole Qui**	**68.89**	**180**	*e*P	**P**	**21 26 20.1**	**+0.8**
9.7nm,0.7s,mb4.4							
SYO	**Syowa Base**	**85.85**	**193**	⇑P	**P**	**21 27 49.0**	**-1.5**
SNAA	**Sanae**	**87.36**	**179**	*e*P	**P**	**21 27 56.3**	**-1.2**
3.6nm,0.7s,mb4.1							
ILAR	**Eielson Array**	**89.19**	**13**	P	**P**	**21 28 05.9**	**-0.3**
0.2nm,0.4s,mb3.3,baz=208,slow=5.0,SNR=4.6							
CMAR	**Chiang Mai Arr**	**89.44**	**290**	P	**P**	**21 28 09.8**	**+1.3**
0.6nm,0.8s,mb3.5,baz=82,slow=0.8,SNR=5.1							
BVAR	**Borovoye Array**	**118.98**	**320**	PKP	PKPdf	21 33 54.0	-0.5
0.5nm,0.3s,baz=126,slow=1.9,SNR=5.5							
ARCES	**ARCESS Array B**	**129.41**	**349**	PKP	PKPdf	21 34 14.2	0.0
2.2nm,1.0s,baz=33,slow=1.6,SNR=5.8							
GERES	**GERESS Array B**	**150.58**	**343**	PKPbc	PKPdf	21 34 58.4	+6.7
0.5nm,0.6s,baz=63,slow=3.0,SNR=4.3							

ECX 19 21:19:02.1±1.2, 29.94N×114.49W, h4km, ML3.7, 2D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.38**	**323**	*e*P	Pb	21 19 26.3	-1.8
EMX	**El Mayor**	**2.14**	**343**	*e*S	Sn	21 20 07.2	+0.8
RDX	**Rancho Dowling**	**2.34**	**328**	*e*S	Sn	21 20 11.7	0.0
ECNX	**Esteban Cantu**	**2.49**	**314**	*e*S	Sn	21 20 13.8	-1.6
CPBX	**Cerro Prieto**	**2.56**	**344**	*e*PN	Pn	21 19 45.7	+0.5
CPBX				⇓*e*		21 20 40.0	
comp=N,824nm,0.4s							
CPBX				⇓*e*		21 20 56.9	
comp=E,954nm,0.8s							
ENX	**Ensenada**	**2.69**	**317**	*e*S	Sn	21 20 18.8	-1.6
CBX	**Cerro Bola**	**3.01**	**322**	*e*PN	Pn	21 19 50.7	-0.8

JMA 19 21:22:29.3, 33.68N×130.29E, h12km, M1.0, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.27**	**162**	P	Pg	21 22 34.8	-0.2
JFI				S	Sg	21 22 38.6	-0.2
JFA	**Akaike**	**0.42**	**86**	P	Pg	21 22 37.8	-0.2
JFA				S	Sg	21 22 43.6	-0.2
JII	**Iki**	**0.48**	**284**	P	Pg	21 22 38.8	-0.3
JII				S	Sg	21 22 45.6	0.0

*NIED **19** 21:22:00, 33.70N×130.30E, h11km, Mw4.5 Best double couple: M0:5.33×10^15 NP1:φs142°, δ69°, λ-30°. NP2: φs243°, δ62°, λ-157°.*
*BJI **19** 21:22:48.8, 33.63N×130.82E, h24km, mB5.5, mb4.6, Ms4.7, Msz4.5*
*JMA **19** 21:22:49.7, 33.68N×130.29E, h13km, M4.7 Broadband fault plane solution: P waves. NP1:φs237°, δ81°, λ175°. NP2:φs328°, δ85°, λ.9°. Principal axes: T Plg10°, Azm193°; N Plg80°, Azm356°; P Plg3°, Azm102°;*
JMA Felt IV J1.
*NEIC **19** 21:22:50.6±0.4, 33.70N×130.45E, h10km, mb4.4/14 Error ellipse: s-maj=10.2km s-min=9.7km az=153.0*
NEIC Recorded [3 JMA] in Fukuoka and Saga; [2 JMA] in Kumamoto and Nagasaki; [1 JMA] in Oita Prefectures. Also recorded [2 JMA] in the Tsushima Islands and [1 JMA] on Uku-jima.
*MOS **19** 21:22:51.5±1.4, 33.48N×130.51E, h33km, mb4.6/15, Error ellipse: s-maj=10.5km s-min=9.1km az=90.7*
*IDC **19** 21:22:52.3±5.8, 33.66N×130.33E, h24km±39km, mb4.0/19, mb1 4.2/22, mb1mx4.1/29, mbtmp4.2/22, ML3.2/2, MS4.0/2, Ms1 4.0/2, ms1mx3.6/32, Error ellipse: s-maj=15.7km s-min=13.4km az=75.0*

ISC 19 21:22:50.7±0.5, 33.63N±0.04×130.40E±0.04, h21km±4km, n85, σ1°25/93, mb4.4/42, MS4.4/1, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.20**	**182**	⇑P	**Pb**	**21 22 55.3**	**-0.6**
JFI				S	**Sb**	**21 22 59.0**	**-0.5**
JFA	**Akaike**	**0.34**	**76**	⇓P	**Pb**	**21 22 58.0**	**-0.1**
JFA				S	**Sb**	**21 23 04.0**	**+0.8**
JII	**Iki**	**0.58**	**287**	⇓P	**Pb**	**21 22 59.2**	**-2.9**
JII				S	**Sb**	**21 23 06.0**	**-3.8**
JTA	**Tamana**	**0.67**	**170**	⇑P	**Pb**	**21 23 03.7**	**+0.1**
JTA				S	**Sb**	**21 23 13.5**	**+1.1**
INCN	**Inchon**	**4.92**	**322**	*e*Pn	**Pn**	**21 24 02.1**	**-3.4**
INCN				*e*S	**Sn**	**21 25 18.1**	**+16**
JOW	**Kunigami**	**7.02**	**196**	Pn	**Pn**	**21 24 36.7**	**+1.7**
baz=352,slow=19							
JOW				LR	LR	21 27 49.2	
comp=Z,2μm,20.0s,baz=205,slow=42							
MAJO	**Matsushiro**	**7.03**	**63**	P	**Pn**	**21 24 31.7**	**-3.5**
MAJO				pmax	pmax		
comp=Z,34nm,0.8s							
MAJO	**Matsushiro**	**7.03**	**63**	P	**Pn**	**21 24 31.7**	**-3.5**
comp=Z,34nm,0.8s							
MAJO				*e*S	Sx	21 26 28.3	
MAT	**Matsushiro**	**7.03**	**63**	*e*P	**Pn**	**21 24 36.0**	**+0.8**
MAT				pmax	pmax		
comp=Z,13nm,0.8s							
MAT	**Matsushiro**	**7.03**	**63**	P	**Pn**	**21 24 35.5**	**+0.3**
MAT				S	**Sn**	**21 25 57.1**	**+1.8**
MJAR	**Matsushiro Arr**	**7.03**	**63**	Pn	**Pn**	**21 24 35.9**	**+0.7**
comp=Z,2.0nm,0.3s,baz=246,slow=13,SNR=12							
MJAR				Lg		21 26 34.9	
comp=Z,1.5nm,0.3s,baz=233,slow=29,SNR=8.5							
JHJ	**Hachijo jima 2**	**7.87**	**91**	Pn	**Pn**	**21 24 45.9**	**-1.0**
comp=Z,99nm,0.3s,baz=9.8,slow=5.4,SNR=36							
NJ2	**Nanjing**	**9.84**	**264**	*e*P	**P**	**21 25 16.4**	**+2.2**
NJ2				AMB	AMB		
comp=Z,20nm,1.0s							
CN2	**Changchun**	**10.87**	**341**	*e*P	**P**	**21 25 27.8**	**-0.4**
CN2				*e*S	**S**	**21 27 30.0**	**-0.2**
CN2				AMB	AMB		
comp=Z,10.0nm,1.0s							
CN2				LR	LR		
comp=N,900nm,12.0s							
CN2				LR	LR		
comp=E,2μm,12.0s							
CN2				LR	LR		
comp=Z,2μm,11.0s							
MDJ	**Mudanjiang**	**10.99**	**357**	P	**P**	**21 25 25.9**	**-4.0**
MDJ				AMB	AMB		
comp=Z,2μm,11.1s							
YHNB	**Yeheng**	**11.90**	**224**	P	**P**	**21 25 53.1**	**+11**
ASAJ	**Asahikawa**	**14.13**	**39**	Pn	**P**	**21 26 11.1**	**-0.7**
comp=Z,0.1nm,0.3s,baz=324,slow=25,SNR=1.8							
ASAJ				LR	LR	21 30 30.6	
comp=Z,483nm,19.4s,baz=1.7,slow=32							
YSS	**Yuzh-Sakhalins**	**16.28**	**32**	*e*P	**P**	**21 26 43.0**	**+3.3**
HHC	**Hu-ho-hao-te**	**16.62**	**301**	*e*P	**P**	**21 26 43.9**	**-0.2**
HHC				AP		21 26 47.9	
HHC				XP		21 26 51.8	
HHC				PP	PP	21 26 57.9	0.0
HHC				S	**S**	**21 29 55.3**	**+8.0**
HHC				XS		21 30 01.0	
HHC				PCP	PcP	21 31 27.3	-7.3
HHC				AMB	AMB		
comp=Z,26nm,1.3s							
HHC				AMB	AMB		
comp=Z,2μm,8.3s							
HHC				LR	LR		
comp=N,1μm,11.9s							
HHC				LR	LR		
comp=E,1μm,11.4s							
HHC				LR	LR		
comp=Z,2μm,11.0s							
HIA	**Hailar**	**17.52**	**336**	P	**P**	**21 26 57.3**	**+2.0**
HIA				pmax	pmax		
comp=Z,23nm,1.1s							
HIA	**Hailar**	**17.52**	**336**	P	**P**	**21 26 57.3**	**+2.1**
comp=Z,23nm,1.1s							
ENH	**Enshi**	**18.05**	**265**	*e*P	**P**	**21 27 04.3**	**+2.2**
comp=Z,15nm,0.9s							
LZH	**Lanzhou**	**21.91**	**284**	*e*P	**P**	**21 27 46.5**	**+2.2**
LZH				AP		21 27 49.8	
LZH				PP	PP	21 28 12.5	+2.6
LZH				AMB	AMB		
comp=Z,31nm,1.3s,mb4.6							
LZH				LR	LR		
comp=E,726nm,11.2s							
LZH				LR	LR		
comp=Z,1μm,13.3s,MS4.4							
LZH	**Lanzhou**	**21.91**	**284**	*e*P	**P**	**21 27 46.5**	**+2.2**
LZH				*SP		21 27 51.2	
LZH						21 28 12.5	
LZH				pmax	pmax		
comp=Z,31nm,1.3s,mb4.6							
LZH				MLR	MLR		
comp=Z,1μm,13.3s,MS4.4							
LZH	**Lanzhou**	**21.91**	**284**	*e*P	**P**	**21 27 46.5**	**+2.2**
comp=Z,31nm,1.3s,mb4.6							
LZH				pP		21 27 49.7	
LZH				sP		21 27 51.2	
LZH				PP	PP	21 28 12.5	+2.6
LZH				LR	LR		
comp=Z,1μm,13.3s,MS4.4							
ULN	**Ulaanbaatar**	**22.58**	**316**	*e*P	**P**	**21 27 51.9**	**+1.0**
ULN				pmax	pmax		
comp=Z,7.0nm,1.1s,mb4.0							
ULN	**Ulaanbaatar**	**22.58**	**316**	*e*P	**P**	**21 27 51.9**	**+1.0**
comp=Z,7.3nm,1.1s,mb4.0							
SONM	**Songino Array**	**22.95**	**315**	P	**P**	**21 27 54.9**	**+0.4**
comp=Z,4.5nm,0.9s,mb3.9,baz=122,slow=8.8,SNR=7.6							
GTA	**Gaotai**	**25.18**	**292**	P	**P**	**21 28 18.6**	**+2.5**
GTA				AP	pP	21 28 26.3	+4.1
GTA				XP	sP	21 28 29.8	+4.8
GTA				AMB	AMB		
comp=Z,21nm,0.9s,mb4.7							
KMI	**Kunming**	**25.49**	**258**	P	**P**	**21 28 20.3**	**+1.1**
KMI				AMB	AMB		
comp=Z,9.0nm,1.4s,mb4.1							
KMI	**Kunming**	**25.49**	**258**	P	**P**	**21 28 20.3**	**+1.1**
comp=Z,9.0nm,1.4s,mb4.1							
ZAK	**Zakamensk**	**25.99**	**318**	*e*P	**P**	**21 28 24.8**	**+1.2**
ZAK				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.2							
ZAK				pmax	pmax		
comp=Z,8.0nm,1.9s,mb3.9							
CMAR	**Chiang Mai Arr**	**31.89**	**250**	P	**P**	**21 29 15.8**	**-1.1**
comp=Z,0.9nm,0.7s,mb3.7,baz=50,slow=7.5,SNR=8.3							
LSA	**Lhasa**	**33.50**	**274**	*e*P	**P**	**21 29 33.0**	**+2.2**
LSA	**Lhasa**	**33.50**	**274**	*e*P	**P**	**21 29 32.6**	**+1.8**
LSA				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.5							
LSA	**Lhasa**	**33.50**	**274**	*e*P	**P**	**21 29 32.6**	**+1.7**
comp=Z,4.9nm,0.8s,mb4.5							
ZAL	**Zalesovo**	**37.84**	**316**	P	**P**	**21 30 07.2**	**-0.3**
comp=Z,0.6nm,0.4s,mb3.7,baz=10,slow=6.4,SNR=4.4							
ZAL	**Zalesovo**	**37.84**	**316**	P	**P**	**21 30 07.2**	**-0.3**
JIRN	**Jiri**	**38.27**	**273**	*e*Pg	**P**	**21 30 11.8**	**+0.4**
comp=Z,23nm,0.8s,mb5.0							
MKAR	**Makanchi Array**	**38.44**	**305**	P	**P**	**21 30 12.1**	**-0.5**
comp=Z,1.2nm,0.8s,mb3.7,baz=96,slow=11,SNR=11							
GUN	**Gumba**	**38.45**	**274**	*e*Pg	**P**	**21 30 13.0**	**+0.1**
comp=Z,213nm,0.8s							
PKI	**Pulchoki**	**38.96**	**273**	*e*Pg	**P**	**21 30 17.2**	**+0.1**
comp=Z,34nm,0.7s,mb5.2							
KKN	**Kakani**	**38.99**	**274**	*e*Pg	**P**	**21 30 17.1**	**-0.3**
comp=Z,56nm,1.0s,mb5.2							
DMN	**Daman**	**39.20**	**274**	*e*Pg	**P**	**21 30 18.8**	**-0.3**
comp=Z,57nm,1.4s,mb5.1							
GKN	**Gorkha**	**39.45**	**274**	*e*Pg	**P**	**21 30 21.0**	**-0.2**
comp=Z,38nm,0.9s,mb5.1							
BILL	**Bilibino**	**40.09**	**20**	*e*P	**P**	**21 30 25.0**	**-1.1**
BILL				pmax	pmax		
comp=Z,4.0nm,1.4s,mb4.0							
KOLN	**Koldanda**	**40.39**	**275**	*e*Pg	**P**	**21 30 29.2**	**+0.2**
comp=Z,40nm,0.9s,mb5.2							
CHKZ	**Chkalovo**	**46.14**	**315**	*e*P	**P**	**21 31 14.7**	**-0.5**
CHKZ				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.3							
CHKZ	**Chkalovo**	**46.14**	**315**	*e*P	**P**	**21 31 14.7**	**-0.6**
comp=Z,2.6nm,0.7s,mb4.3							
BVAR	**Borovoye Array**	**46.27**	**314**	P	**P**	**21 31 14.5**	**-1.8**
comp=Z,2.4nm,0.6s,mb4.3,baz=108,slow=9.4,SNR=21							
BVAR				PcP	PcP	21 32 49.9	-2.1
comp=Z,3.9nm,0.7s,baz=90,slow=3.0,SNR=12							
FITZ	**Fitzroy Crossi**	**51.64**	**186**	P	**P**	**21 31 58.6**	**+0.4**
comp=Z,2.8nm,0.9s,mb4.2,baz=13,slow=9.0,SNR=5.1							
ARU	**Arti**	**52.93**	**319**	*e*P	**P**	**21 32 07.2**	**-0.2**
ARU				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
ARU	**Arti**	**52.93**	**319**	*e*P	**P**	**21 32 07.2**	**-0.2**
comp=Z,3.8nm,0.7s,mb4.4							
WRAB	**Tennant Creek**	**53.39**	**175**	P	**P**	**21 32 09.4**	**-1.9**
WRAB				pmax	pmax		
comp=Z,11nm,1.1s,mb4.7							
WRAB	**Tennant Creek**	**53.39**	**175**	P	**P**	**21 32 09.4**	**-1.9**
comp=Z,11nm,1.1s,mb4.7							
WRA	**Warramunga Arr**	**53.40**	**175**	P	**P**	**21 32 09.4**	**-2.0**
comp=Z,5.5nm,1.1s,mb4.4,baz=354,slow=8.0,SNR=12							
IMA	**Indian Mountai**	**54.12**	**29**	*e*P	**P**	**21 32 16.0**	**0.0**
IMA				pmax	pmax		
comp=Z,32nm,1.3s,mb5.1							
IMA	**Indian Mountai**	**54.12**	**29**	*e*P	**P**	**21 32 16.0**	**0.0**
comp=Z,32nm,1.3s,mb5.1							
ASAR	**Alice Springs**	**57.07**	**176**	P	**P**	**21 32 36.0**	**-2.0**
comp=Z,3.9nm,1.0s,mb4.4,baz=356,slow=5.6,SNR=13							
ILAR	**Eielson Array**	**57.09**	**30**	P	**P**	**21 32 36.1**	**-1.4**
comp=Z,0.7nm,0.6s,mb3.9,baz=280,slow=9.3,SNR=9.4							
INK	**Inuvik**	**61.39**	**25**	P	**P**	**21 33 06.0**	**-1.1**
comp=Z,1.2nm,0.6s,mb4.2,baz=307,slow=7.4,SNR=3.5							
JOF	**Joensuu**	**64.55**	**330**	*e*p	**P**	**21 33 28.1**	**+0.1**
comp=Z,6.5nm,0.8s,mb4.7							
OBN	**Obninsk**	**65.22**	**321**	*e*P	**P**	**21 33 32.5**	**0.0**
OBN				pmax	pmax		
comp=Z,11nm,1.3s,mb4.7							
STKA	**Stephens Creek**	**66.00**	**170**	P	**P**	**21 33 36.8**	**-1.1**
comp=Z,2.0nm,0.7s,mb4.2,baz=288,slow=9.8,SNR=5.3							
STKA	**Stephens Creek**	**66.00**	**170**	*e*P	**P**	**21 33 36.7**	**-1.2**
KIV	**Kislovodsk**	**66.09**	**308**	*e*P	**P**	**21 33 38.8**	**+0.5**
KIV				pmax	pmax		
comp=Z,11nm,1.1s,mb4.8							
KAF	**Kangasniemi**	**66.99**	**330**	*e*p	**P**	**21 33 44.0**	**+0.3**
comp=Z,3.1nm,0.7s,mb4.5							
KAF	**Kangasniemi**	**66.99**	**330**	*e*P	**P**	**21 33 44.0**	**+0.3**
KAF				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.4							
FINES	**FINESS Array B**	**67.40**	**330**	P	**P**	**21 33 43.7**	**-2.6**
comp=Z,2.0nm,0.9s,mb4.2,baz=90,slow=4.2,SNR=10							
FINES	**FINESS Array B**	**67.40**	**330**	P	**P**	**21 33 43.7**	**-2.6**
YKA	**Yellowknife Ar**	**71.07**	**26**	P	**P**	**21 34 08.4**	**-0.4**
comp=Z,0.7nm,0.8s,mb3.6,baz=307,slow=6.3,SNR=12							
YKA	**Yellowknife Ar**	**71.07**	**26**	P	**P**	**21 34 08.4**	**-0.4**
AKASG	**Malin Array Be**	**71.18**	**319**	P	**P**	**21 34 07.4**	**-2.3**
comp=Z,3.3nm,0.8s,mb4.3,baz=54,slow=6.3,SNR=10							
NB2	**NORSAR Subarra**	**73.53**	**334**	P	**P**	**21 34 21.3**	**-2.1**
comp=Z,1.7nm,0.8s,mb4.0,baz=47,slow=5.8							
NB2	**NORSAR Subarra**	**73.53**	**334**	P	**P**	**21 34 21.3**	**-2.1**
NB2				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.1							
NOA	**NORSAR Array B**	**73.53**	**334**	P	**P**	**21 34 21.3**	**-2.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=48,slow=5.9,SNR=9.2							
BRTR	**Keskin Array B**	**74.03**	**307**	P	**P**	**21 34 26.1**	**-0.6**
comp=Z,1.7nm,0.9s,mb4.0,baz=88,slow=5.9,SNR=5.8							
MORC	**Moravsky Berou**	**77.90**	**322**	P	**P**	**21 34 50.7**	**+2.4**
MORC				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.5							
MORC	**Moravsky Berou**	**77.90**	**322**	P	**P**	**21 34 50.7**	**+2.3**
comp=Z,7.7nm,1.2s,mb4.5							
CLL	**Collm**	**79.16**	**325**	*e*PKP1	**P**	**21 34 57.0**	**+1.8**
FCC	**Fort Churchill**	**80.78**	**22**	*e*P	**P**	**21 35 03.3**	**-0.4**
FCC				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
FCC	**Fort Churchill**	**80.78**	**22**	*e*P	**P**	**21 35 03.3**	**-0.5**
comp=Z,4.1nm,0.7s,mb4.5							
NVAR	**Mina Array Bea**	**84.08**	**47**	P	**P**	**21 35 22.4**	**+1.2**
comp=Z,1.3nm,0.7s,mb4.2,baz=321,slow=2.4,SNR=7.3							
PDAR	**Pinedale Array**	**86.26**	**40**	P	**P**	**21 35 32.5**	**+0.5**
comp=Z,1.1nm,0.7s,mb4.2,slow=1.5,SNR=6.0							
ULM	**Lac du Bonnet**	**87.00**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ESO				Smax			
	30nm,0.9s						
KPT	Kopyto	2.10	10	eP	P	21 41 18.1	+0.7
KPT				eS	S	21 41 44.3	+0.4
KRSR	Krestovskiy	2.39	13	eP	P	21 41 22.1	+0.8
KRSR				eS	S	21 41 51.1	+0.4
SRDR	Sredinnyy	2.42	2	i P	P	21 41 22.3	+0.6
SRDR				eS	S	21 41 51.5	+0.1
PAU	Pauzhetka	2.96	216	eP	P	21 41 29.0	+0.1
PAU	Pauzhetka	2.96	216	i P	P	21 41 29.6	+0.7
KBTR	Krutoberegovo	2.97	38	eP	P	21 41 29.8	+0.7
KBTR				eS	S	21 42 03.8	-0.7
BKI	Bering	3.95	68	eP	P	21 41 42.2	0.0
BKI				eS	S	21 42 25.6	-2.4
BKI				Smax			
	80nm,0.3s						

NIED ***19*** *21:44:00, 33.70N×130.30E, h8km, Mw4.3 Best double couple: M$_0$3.68×10^{15} NP1:ϕ_s235°, δ61°, λ-130°. NP2: ϕ_s115°, δ47°, λ-41°.*
BJI ***19*** *21:44:50.0, 33.51N×130.51E, h15km, mB4.9, mb4.4, Ms4.2, Msz4.1*
IDC ***19*** *21:44:50.8±0.6, 33.60N×130.33E, mb3.9/17, mb1 4.2/19, mb1mx4.1/27, mbtmp4.0/19, ML4.1/2, MS3.7/1, Ms1 3.7/1, ms1mx3.2/30, Error ellipse: s-maj=16.6km s-min=15.1km az=51.0*
NEIC ***19*** *21:44:52.1±0.4, 33.54N×130.25E, h10km, mb4.3/10, Error ellipse: s-maj=8.8km s-min=7.3km az=1.0*
NEIC Recorded [3 JMA] in Fukuoka and Saga; [2 JMA] in Nagasaki; [1 JMA] in Kumamoto Prefectures. Recorded [1 JMA] on Uku-jima and in the Tsushima Islands. Also recorded [1 JMA] in Yamaguchi Prefecture, Honshu.
JMA ***19*** *21:44:52.3, 33.68N×130.29E, h12km, M4.5 Broadband fault plane solution: P waves. NP1:ϕ_s225°, δ40°, λ-164°. NP2:ϕ_s122°, δ80°, λ-51°. Principal axes: T Plg25°, Azm183°; N Plg38°, Azm294°; P Plg42°, Azm69°;*
JMA Felt III J1.
MOS ***19*** *21:44:53.2±1.2, 33.55N×130.33E, h33km, mb4.3/8 Error ellipse: s-maj=11.4km s-min=9.6km az=127.4*
ISC 19 21:44:52.2±0.5**, 33.65N**±0.04×**130.30E**±0.03**, h20**km±4km**, n74,** σ1^s**15**/85**, mb4.2**/34**, MS3.9**/2**, 3C-2D, Kyushu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JFI	Itaya	0.23	163	⇑P	Pb	21 44 57.8	-0.1
JFI				S	Sb	21 45 01.7	-0.1
JFA	Akaike	0.41	82	⇓P	Pb	21 45 00.5	-0.3
JFA				S	Sb	21 45 06.5	-0.1
JII	Iki	0.50	287	⇓P	Pb	21 45 01.9	-0.3
JII				S	Sb	21 45 08.9	-0.1
JTA	Tamana	0.71	164	⇑P	Pb	21 45 06.3	+0.5
JTA				S	Sb	21 45 16.1	+0.9
INCN	Inchon	4.85	323	ePn	Pn	21 46 04.9	-1.2
INCN				eS	Sn	21 47 20.9	+18
JOW	Kunigami	7.02	195	Pn	Pn	21 46 37.8	+1.2
	0.8nm,0.3s,baz=197,slow=19,SNR=3.0						
MAJO	Matsushiro	7.09	64	P	Pn	21 46 37.5	-0.1
MAJO				eS	Sx	21 48 35.0	
MAT	Matsushiro	7.09	64	eP	Pn	21 46 38.0	+0.4
MAT				eS	Sn	21 48 03.0	+4.6
MAT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MAT	Matsushiro	7.09	64	eP	Pn	21 46 38.0	+0.4
	comp=Z,9.0nm,0.8s						
MAT				eS	Sn	21 48 03.0	+4.6
MAT	Matsushiro	7.09	64	P	Pn	21 46 37.9	+0.3
MAT				S	Sn	21 48 02.6	+4.2
MJAR	Matsushiro Arr	7.09	64	Pn	Pn	21 46 38.2	+0.6
	comp=Z,1.2nm,0.3s,baz=247,slow=14,SNR=10						
MJAR				Lg		21 48 36.1	
	comp=Z,0.3nm,0.3s,baz=234,slow=30,SNR=10						
MJAR	Matsushiro Arr	7.09	64	Pn	Pn	21 46 38.2	+0.6
MJAR				Lg		21 48 36.1	
JHJ	Hachijo jima 2	7.95	91	Pn	Pn	21 46 48.5	-1.1
	comp=Z,27nm,0.3s,baz=48,slow=22,SNR=8.9						
NJ2	Nanjing	9.76	264	eP	P	21 47 13.4	-1.4
NJ2				AP		21 47 16.6	
NJ2				XP		21 47 19.4	
NJ2				S	Sn	21 49 03.4	-1.5
NJ2				AMB	AMB		
	comp=Z,40nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,670nm,9.3s						
NJ2				Smax			
	comp=N,210nm,1.0s						
NJ2				Smax			
	comp=E,190nm,1.0s						
NJ2				LR	LR		
	comp=N,890nm,17.8s						
NJ2				LR	LR		
	comp=E,1μm,13.0s						
NJ2				LR	LR		
	comp=Z,770nm,9.8s						
CN2	Changchun	10.82	341	eP	P	21 47 30.8	+1.7
CN2				eS	S	21 49 34.8	+4.2
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=N,900nm,10.0s						
CN2				LR	LR		
	comp=E,2μm,10.0s						
MDJ	Mudanjiang	10.96	357	P	P	21 47 30.3	-0.8
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.1s						
MDJ				AMB	AMB		
	comp=Z,446nm,12.0s						
TATO	Taipei	11.57	224	P	P	21 47 33.7	-5.7
BJT	Baijiatuau	12.98	303	eP	P	21 47 57.1	-1.2
BJI	Beijing	12.98	303	eP	P	21 47 57.5	-0.8
BJI				AMB	AMB		
	comp=Z,7.0nm,0.6s						
BJI				LR	LR		
	comp=N,695nm,15.5s						
BJI				LR	LR		
	comp=E,746nm,11.5s						
BJI				LR	LR		
	comp=Z,369nm,13.9s						
BJI	Beijing	12.98	303	eP	P	21 47 57.5	-0.8
	comp=Z,7.0nm,0.6s						
HHC	Hu-ho-hao-te	16.54	301	eP	P	21 48 50.3	+5.6
HHC				AP		21 48 54.4	
HHC				XP		21 48 57.3	
HHC				PP	PP	21 49 04.6	+6.2
HHC				S	S	21 52 00.5	+13
HHC				PCP	PcP	21 53 33.5	-2.6
HHC				AMB	AMB		
	comp=Z,12nm,1.1s						
HHC				LR	LR		
	comp=N,350nm,12.8s						
HHC				LR	LR		
	comp=E,505nm,10.8s						
HHC				LR	LR		
	comp=Z,795nm,12.8s						
HIA	Hailar	17.46	336	P	P	21 48 58.2	+2.0
HIA				pmax	pmax		
	comp=Z,11nm,0.9s						
HIA	Hailar	17.46	336	P	P	21 48 58.2	+2.0
	comp=Z,11nm,0.9s						
LZH	Lanzhou	21.82	284	eP	P	21 49 44.5	-0.7
LZH				AP		21 49 47.8	
LZH				PP	PP	21 50 10.0	-0.5
LZH				AMB	AMB		
	comp=Z,24nm,1.5s,mb4.4						
LZH				LR	LR		
	comp=N,478nm,11.0s						
LZH				LR	LR		
	comp=Z,897nm,13.5s,MS4.3						
LZH	Lanzhou	21.82	284	eP	P	21 49 44.5	-0.7
LZH						21 50 10.0	
LZH				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.4						
LZH				MLR	MLR		
	comp=Z,900nm,13.5s,MS4.3						
LZH	Lanzhou	21.82	284	eP	P	21 49 44.5	-0.7
	comp=Z,24nm,1.5s,mb4.4						
LZH				pP		21 49 47.7	
LZH				sP		21 49 49.2	
LZH				PP	PP	21 50 10.0	-0.5
LZH				LR	LR		
	comp=Z,900nm,13.5s,MS4.3						
ULN	Ulaanbaatar	22.51	316	eP	P	21 49 52.3	+0.5
ULN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
ULN	Ulaanbaatar	22.51	316	eP	P	21 49 52.3	+0.5
	comp=Z,12nm,1.0s,mb4.3						
SONM	Songino Array	22.88	315	P	P	21 49 56.3	+0.9
	comp=Z,1.2nm,0.7s,mb3.5,baz=130,slow=9.6,SNR=11						
SONM				LR	LR	21 59 39.4	
	comp=Z,191nm,19.9s,MS3.5,baz=202,slow=39						
GTA	Gaotai	25.09	292	eP	P	21 50 14.4	-2.6
GTA				AP	pP	21 50 21.3	-1.6
GTA				XP	sP	21 50 24.6	-1.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb3.9						
KMI	Kunming	25.42	258	P	P	21 50 24.3	+4.1
KMI				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.2						
KMI	Kunming	25.42	258	P	P	21 50 24.2	+4.0
KMI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.2						
KMI	Kunming	25.42	258	P	P	21 50 24.2	+4.0
	comp=Z,5.0nm,0.6s,mb4.2						
ZAK	Zakamensk	25.92	318	⇑eP	P	21 50 24.4	-0.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
CMAR	Chiang Mai Arr	31.83	250	P	P	21 51 17.6	-0.5
	comp=Z,0.3nm,0.6s,mb3.3,baz=36,slow=7.8,SNR=3.2						
LSA	Lhasa	33.42	274	P	P	21 51 32.5	+0.7
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
LSA	Lhasa	33.42	274	P	P	21 51 32.5	+0.7
	comp=Z,1.9nm,0.5s,mb4.3						
ZAL	Zalesovo	37.77	316	P	P	21 52 10.3	+1.8
	comp=Z,0.5nm,0.6s,mb3.4,baz=46,slow=12,SNR=4.2						
ZAL	Zalesovo	37.77	316	P	P	21 52 10.3	+1.8
JIRN	Jiri	38.20	273	eP	P	21 52 14.8	+2.4
	comp=Z,15nm,0.8s,mb4.8						
MKAR	Makanchi Array	38.36	305	P	P	21 52 15.6	+2.1
	comp=Z,0.6nm,0.8s,mb3.4,baz=90,slow=11,SNR=6.0						
GUN	Gumba	38.37	274	eP	P	21 52 14.9	+1.1
	comp=Z,60nm,0.8s						
PKI	Pulchoki	38.88	273	eP	P	21 52 19.9	+1.8
	comp=Z,13nm,0.6s,mb4.8						
KKN	Kakani	38.91	274	eP	P	21 52 19.5	+1.1
	comp=Z,42nm,1.3s,mb5.0						
DMN	Daman	39.12	274	eP	P	21 52 21.3	+1.2
	comp=Z,9.7nm,1.0s,mb4.5						
GKN	Gorkha	39.37	274	eP	P	21 52 22.6	+0.4
	comp=Z,17nm,1.0s,mb4.8						
KOLN	Koldanda	40.31	275	eP	P	21 52 30.5	+0.5
	comp=Z,33nm,1.1s,mb5.0						
AAK	Ala-Archa	44.10	299	P	P	21 52 56.7	-4.0
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
AAK	Ala-Archa	44.10	299	P	P	21 52 56.7	-4.1
	comp=Z,0.9nm,0.5s,mb3.8						
CHKZ	Chkalovo	46.07	315	eP	P	21 53 15.0	-1.3
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
CHKZ	Chkalovo	46.07	315	eP	P	21 53 15.0	-1.3
	comp=Z,1.6nm,0.8s,mb4.0						
BVAR	Borovoye Array	46.20	314	P	P	21 53 16.8	-0.6
	comp=Z,1.3nm,0.6s,mb4.0,baz=94,slow=9.1,SNR=8.3						
BVAR				PcP	PcP	21 54 52.6	-0.9
	comp=Z,2.4nm,0.7s,baz=90,slow=3.0,SNR=10						
WRAB	Tennant Creek	53.42	175	eP	P	21 54 11.1	-2.1
WRAB				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
WRAB	Tennant Creek	53.42	175	eP	P	21 54 11.1	-2.1
	comp=Z,14nm,1.2s,mb4.8						
WRA	Warramunga Arr	53.43	175	P	P	21 54 11.7	-1.5
	comp=Z,3.8nm,0.9s,mb4.3,baz=351,slow=7.9,SNR=11						
IMA	Indian Mountai	54.14	29	P	P	21 54 15.7	-2.1
IMA				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
IMA	Indian Mountai	54.14	29	P	P	21 54 15.7	-2.0
	comp=Z,7.1nm,0.8s,mb4.7						
ASAR	Alice Springs	57.10	176	P	P	21 54 38.4	-1.5
	comp=Z,2.2nm,1.0s,mb4.2,baz=5.2,slow=14,SNR=19						
ILAR	Eielson Array	57.11	30	P	P	21 54 38.4	-0.9
	comp=Z,1.1nm,0.8s,mb3.9,baz=278,slow=7.0,SNR=9.5						
INK	Inuvik	61.40	25	eP	P	21 55 08.1	-0.8
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	61.40	25	eP	P	21 55 08.1	-0.8
	comp=Z,1.5nm,0.8s,mb4.2						
ARCES	ARCESS Array B	63.81	338	P	P	21 55 24.9	+0.2
	comp=Z,4.2nm,1.0s,mb4.4,baz=78,slow=11,SNR=3.8						
STKA	Stephens Creek	66.04	169	P	P	21 55 39.4	-0.4
	comp=Z,0.9nm,0.4s,mb4.2,baz=334,slow=8.8,SNR=3.3						
STKA	Stephens Creek	66.04	169	P	P	21 55 39.4	-0.4
FINES	FINESS Array B	67.34	330	P	P	21 55 46.6	-1.0
	comp=Z,2.2nm,0.7s,mb4.3,baz=70,slow=3.5,SNR=7.0						
YKA	Yellowknife Ar	71.08	26	P	P	21 56 10.7	+0.1
	comp=Z,0.6nm,0.8s,mb3.6,baz=310,slow=6.1,SNR=10						
YKA	Yellowknife Ar	71.08	26	P	P	21 56 10.7	+0.1
AKASG	Malin Array Be	71.11	319	P	P	21 56 12.5	+1.5
	comp=Z,2.2nm,0.7s,mb4.2,baz=53,slow=6.0,SNR=8.0						
HFS	Hagfors	73.11	332	P	P	21 56 21.7	-0.9
	comp=Z,1.7nm,0.7s,mb4.1,baz=106,slow=10,SNR=3.9						
NB2	NORSAR Subarra	73.47	334	P	P	21 56 23.9	-0.8
	comp=Z,2.8nm,0.8s,mb4.2,baz=47,slow=5.8						
NOA	NORSAR Array B	73.47	334	P	P	21 56 23.7	-1.0
	comp=Z,2.7nm,0.8s,mb4.2,baz=48,slow=6.0,SNR=7.7						
NOA	NORSAR Array B	73.47	334	P	P	21 56 23.7	-1.0
NVAR	Mina Array Bea	84.12	47	P	P	21 57 24.4	+1.3
	comp=Z,0.7nm,0.7s,mb3.9,baz=269,slow=8.2,SNR=5.5						
PDAR	Pinedale Array	86.29	40	P	P	21 57 35.4	+1.7
	comp=Z,0.7nm,0.7s,mb4.0,baz=315,slow=2.1,SNR=6.4						

IDC ***19*** *21:57:48.5±9.6, 1.68N×96.45E, mb3.9/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=191.0km s-min=114.9km az=147.0*
NEIC ***19*** *21:57:57.1±2.9, 2.16N×96.01E, h30km, mb3.8/2, Error ellipse: s-maj=52.3km s-min=19.9km az=175.0*
ISC 19 21:57:54.1±3.7**, 2.0N**±0.4×**96.1E**±0.1**, h30**km**, n14,** σ**0^{s}77**/14**, mb4.1**/9**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.60	54	⇑iP	Pn	21 59 18.4	+0.7
CMAR	Chiang Mai Arr	16.59	10	Pn	P	22 01 46.0	-0.5
	0.1nm,0.3s,baz=199,slow=11,SNR=6.4						
JIRN	Jiri	27.21	341	eP	P	22 03 37.0	-0.5
	9.5nm,0.7s,mb4.5						
DMN	Daman	27.55	339	eP	P	22 03 42.5	+1.9
GUN	Gumba	27.55	340	eP	P	22 03 40.8	+0.2
	7.9nm,0.7s,mb4.5						
KKN	Kakani	27.65	339	eP	P	22 03 41.3	-0.2
GKN	Gorkha	28.07	338	eP	P	22 03 45.4	+0.1
	10.0nm,1.0s,mb4.4						
KOLN	Koldanda	28.27	336	eP	P	22 03 48.0	+0.9
	3.4nm,0.6s,mb4.2						
AAK	Ala-Archa	44.83	337	P	P	22 06 07.6	+0.1
	1.0nm,0.8s,mb3.7						
MKAR	Makanchi Array	46.20	347	P	P	22 06 18.3	0.0
	1.0nm,0.5s,mb4.0,baz=164,slow=8.6,SNR=12						
MKAR	Makanchi Array	46.20	347	P	P	22 06 18.3	0.0
SONM	Songino Array	46.52	10	P	P	22 06 19.6	-1.2
	0.9nm,0.7s,mb3.8,baz=186,slow=8.5,SNR=7.9						
ZAL	Zalesovo	52.59	352	P	P	22 07 06.4	-0.9
	1.0nm,0.5s,mb4.0,baz=338,slow=6.8,SNR=4.8						
CHKZ	Chkalovo	55.62	342	P	P	22 07 29.1	-0.5
	0.8nm,0.7s,mb3.9						

DJA 19 22:07:48.6±0.9**, 9.40S**×**112.63E, h30**km±5km**, MD4.7**/4**, ML5.3**/4**, 4C-4D, Error ellipse: s-maj=27.1km s-min=17.8km az=157.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.75	59	⇓iPn	Pn	22 08 15.4	-2.1
	4μm,0.2s						
SRDI				⇓iSn	Sn	22 08 34.8	-4.2
KELI	Kelakatan	2.18	58	⇑iPn	Pn	22 08 22.5	-1.2
	3μm,0.3s						
KELI	Kelakatan	2.18	58	eP	Pn	22 08 23.6	-0.1
KELI				⇑iSn	Sn	22 08 46.7	-3.3
RATI	Rata	2.95	77	⇓iPn	Pn	22 08 32.9	-1.6
	1μm,0.2s						
RATI				⇑iSn	Sn	22 09 05.2	-4.1
KEDI	Kedomdong	3.56	76	⇑iPn	Pn	22 08 40.7	-2.6
	334nm,0.2s						
KEDI				⇓iSn	Sn	22 09 19.9	-4.9

NEIC ***19*** *22:14:39.9, 38.58S×175.76E, h162km, MG3.9(WEL), After WEL.*
WEL 19 22:14:40.5±0.3**, 38.59S**×**175.80E, h155**km±2km**, ML4.0**/16**, 12C-3D, Error ellipse: s-maj=2.0km s-min=1.7km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGZ	Maungaku	0.46	207	P	P	22 15 02.3	-0.4
MGZ	Maungaku	0.46	207	PN	P	22 15 02.3	-0.4
WTVZ	West Tongariro	0.55	197	P	P	22 15 03.0	-0.1
WTVZ				S	S	22 15 20.2	-0.3
WTVZ	West Tongariro	0.55	197	⇑PN	P	22 15 03.0	-0.2
WTVZ				SN	S	22 15 18.5	-2.0
TWVZ	Taurewa	0.56	211	PN	P	22 15 02.8	-0.4
OTVZ	Oturere	0.58	190	PN	P	22 15 03.0	-0.2
OTVZ				SN	S	22 15 20.2	-0.6
NGZ	Ngauruhoe	0.60	195	P	P	22 15 03.1	-0.3
NGZ	Ngauruhoe	0.60	195	PN	P	22 15 03.2	-0.2
CNZ	Chateau	0.64	198	PN	P	22 15 03.3	-0.3
WPVZ	Whakapapa	0.64	198	P	P	22 15 03.5	-0.1
WPVZ	Whakapapa	0.64	198	PN	P	22 15 03.5	-0.1
TUVZ	Tukino	0.68	190	⇑P	P	22 15 03.9	+0.1
TUVZ	Tukino	0.68	190	⇑PN	P	22 15 03.9	0.0
TUVZ				SN	S	22 15 20.8	-1.0
FWVZ	Far West T-bar	0.69	196	P	P	22 15 03.7	-0.2
FWVZ	Far West T-bar	0.69	196	PN	P	22 15 03.6	-0.3
TRVZ	Turoa	0.73	196	⇑PN	P	22 15 04.3	+0.2
HIZ	Hauiti	0.75	276	eP	P	22 15 03.6	-0.6
HIZ	Hauiti	0.75	276	⇓PN	P	22 15 03.6	-0.6
HIZ				SN	S	22 15 22.2	-0.2
WNVZ	Wahianoa	0.75	192	P	P	22 15 04.2	0.0
WNVZ	Wahianoa	0.75	192	⇑PN	P	22 15 04.2	0.0
PKVZ	Pokaka	0.78	207	⇑PN	P	22 15 04.1	-0.3
PKVZ				SN	S	22 15 22.5	-0.2
BKZ	Black Stump Fm	0.79	137	⇓P	P	22 15 04.6	+0.1
BKZ	Black Stump Fm	0.79	137	⇑PN	P	22 15 04.6	+0.1
BKZ				SN	S	22 15 21.7	-1.2
MOVZ	Moawhango	0.81	183	⇑PN	P	22 15 04.3	-0.3
MTVZ	Mangateitei	0.83	198	PN	P	22 15 04.6	-0.2
VRZ	Vera Road	0.97	237	PN	P	22 15 05.2	-0.5
VRZ				SN	S	22 15 24.7	-0.4
URZ	Urewera	1.08	72	P	P	22 15 06.3	-0.4
URZ	Urewera	1.08	72	PN	P	22 15 06.3	-0.4
URZ				SN	S	22 15 25.6	-1.2
WAZ	Wanganui	1.32	208	P	P	22 15 08.3	-0.7
WAZ	Wanganui	1.32	208	PN	P	22 15 08.3	-0.7
MWZ	Matawai	1.38	80	P	P	22 15 09.7	+0.1
MWZ	Matawai	1.38	80	PN	P	22 15 09.5	-0.1
TSZ	Takapari Road	1.47	175	P	P	22 15 10.0	-0.5
TSZ	Takapari Road	1.47	175	⇑PN	P	22 15 10.0	-0.5
KNZ	Kokohu	1.52	107	P	P	22 15 11.4	+0.3
KNZ	Kokohu	1.52	107	PN	P	22 15 11.3	+0.2
PUZ	Puketiti	2.00	76	P	P	22 15 15.9	-0.4
PUZ	Puketiti	2.00	76	PN	P	22 15 15.7	-0.6
PUZ				SN	S	22 15 42.0	-1.8
MRZ	Mangatainoka R	2.07	185	P	P	22 15 15.5	-1.7
MRZ	Mangatainoka R	2.07	185	⇑PN	P	22 15 15.4	-1.7
MRZ				SN	S	22 15 41.3	-4.0
BFZ	Birch Farm	2.11	171	P	P	22 15 16.3	-1.4
BFZ	Birch Farm	2.11	171	PN	P	22 15 16.2	-1.4
MXZ	Matakaoa Point	2.23	63	P	P	22 15 18.8	-0.3
MXZ	Matakaoa Point	2.23	63	PN	P	22 15 18.8	-0.2
MXZ				SN	S	22 15 47.7	-1.0
KIW	Kapiti Island	2.37	197	P	P	22 15 18.3	-2.5
KIW	Kapiti Island	2.37	197	PN	P	22 15 18.2	-2.6
MTW	Mount Morrison	2.57	185	P	P	22 15 20.6	-2.8
MTW	Mount Morrison	2.57	185	PN	P	22 15 20.6	-2.8
CAW	Cannon Point	2.58	192	P	P	22 15 20.8	-2.6
CAW	Cannon Point	2.58	192	PN	P	22 15 20.7	-2.7
CAW				SN	S	22 15 51.2	-5.0
DUWZ	D'Urville Isla	2.64	213	⇓PN	P	22 15 21.2	-3.1
MRW	Makara Radio	2.77	197	P	P	22 15 22.8	-3.0
MRW	Makara Radio	2.77	197	PN	P	22 15 22.6	-3.2
PAWZ	Paruwai Farm	2.80	186	⇑PN	P	22 15 23.2	-3.1
SNZO	South Karori	2.84	197	P	P	22 15 23.4	-3.4
SNZO	South Karori	2.84	197	PN	P	22 15 23.4	-3.4
MSWZ	Moikau Station	2.85	188	P	P	22 15 23.7	-3.2
MSWZ	Moikau Station	2.85	188	⇑PN	P	22 15 23.7	-3.2
BHW	Baring Head	2.90	194	P	P	22 15 24.1	-3.4
BHW	Baring Head	2.90	194	PN	P	22 15 24.1	-3.4
TUWZ	Tuamarina	3.17	206	PN	P	22 15 27.0	-4.0
NNZ	Nelson	3.22	215	P	P	22 15 27.6	-4.0
NNZ	Nelson	3.22	215	PN	P	22 15 27.4	-4.1
QRZ	Quartz Range	3.37	227	P	P	22 15 29.1	-4.4
QRZ	Quartz Range	3.37	227	PN	P	22 15 29.0	-4.5
BSWZ	Blackbirch Sta	3.45	205	P	P	22 15 30.9	-3.7
BSWZ	Blackbirch Sta	3.45	205	PN	P	22 15 30.8	-3.8
THZ	Tophouse	3.87	214	eP	P	22 15 35.8	-4.2
THZ	Tophouse	3.87	214	PN	P	22 15 35.5	-4.5
THZ				SN	S	22 16 19.5	-6.2
KHZ	Kahutara	4.19	204	P	P	22 15 40.1	-4.1
KHZ	Kahutara	4.19	204	PN	P	22 15 40.0	-4.2
DSZ	Denniston Nort	4.39	223	SN	S	22 16 30.1	-7.9
LTZ	Lake Taylor	4.97	212	SN	S	22 16 42.5	-9.1
MQZ	McQueen's Vall	5.63	204	SN	S	22 16 55.7	-12
FOZ	Fox Glacier	6.78	221	SN	S	22 17 21.0	-14
ODZ	Otahua Downs	7.51	209	eP	P	22 16 22.3	-6.0
ODZ	Otahua Downs	7.51	209	ePN	P	22 16 21.7	-6.6

NEIC ***19*** *22:20:31.1, 37.07S×178.32E, h33km, ML3.8(WEL), After WEL.*
WEL 19 22:20:30.2±0.6**, 37.02S**×**178.38E, h31**km±2km**, ML3.8**/5**, 2C-2D, Error ellipse: s-maj=3.9km s-min=3.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.55	186	⇓P	Pb	22 20 40.8	-0.7
MXZ				S	Sb	22 20 48.8	-0.4
MXZ	Matakaoa Point	0.55	186	⇓P*	Pb	22 20 40.8	-0.6
MXZ				S*	Sb	22 20 48.8	-0.4
PUZ	Puketiti	1.06	185	P	Pn	22 20 48.5	-0.7
PUZ	Puketiti	1.06	185	PN	Pn	22 20 48.5	-0.7
PUZ				SN	Sn	22 21 02.8	-0.2
MWZ	Matawai	1.48	207	P	Pn	22 20 54.7	-0.5
MWZ	Matawai	1.48	207	P*	Pb	22 20 54.7	-2.3
URZ	Urewera	1.60	219	P	Pn	22 20 55.7	-1.2
URZ	Urewera	1.60	219	P*	Pb	22 20 55.6	-3.5
URZ				S*	Sb	22 21 15.1	-3.9
KNZ	Kokohu	2.08	195	P	Pn	22 21 01.1	-2.7
KNZ	Kokohu	2.08	195	PN	Pn	22 21 01.0	-2.8
KUZ	Kuaotunu	2.15	276	⇑P	Pn	22 21 03.9	-0.9
KUZ	Kuaotunu	2.15	276	⇑PN	Pn	22 21 03.9	-0.9
KUZ				SN	Sn	22 21 28.5	-2.2
BKZ	Black Stump Fm	2.61	214	P	Pn	22 21 09.5	-1.9
BKZ	Black Stump Fm	2.61	214	P*	Pb	22 21 09.5	-6.7
OTVZ	Oturere	3.03	224	P*	Pb	22 21 16.1	-7.3
NGZ	Ngauruhoe	3.08	225	P	Pn	22 21 16.5	-1.5
NGZ				P		22 21 16.7	
NGZ	Ngauruhoe	3.08	225	P*	Pb	22 21 16.7	-7.4
TUVZ	Tukino	3.11	223	P	Pn	22 21 16.8	-1.7
TUVZ	Tukino	3.11	223	P*	Pb	22 21 16.9	-7.9
CNZ	Chateau	3.12	225	P	Pn	22 21 17.4	-1.2
CNZ	Chateau	3.12	225	P*	Pb	22 21 17.4	-7.5
FWVZ	Far West T-bar	3.16	224	eP	Pn	22 21 17.7	-1.4
FWVZ	Far West T-bar	3.16	224	P*	Pb	22 21 17.7	-7.8
MOVZ	Moawhango	3.16	220	P	Pn	22 21 16.9	-2.3
MOVZ	Moawhango	3.16	220	P*	Pb	22 21 16.7	-8.9
WNVZ	Wahianoa	3.19	223	P	Pn	22 21 17.7	-1.8
WNVZ	Wahianoa	3.19	223	P*	Pb	22 21 17.7	-8.2
TSZ	Takapari Road	3.58	211	SN	Sn	22 22 01.5	-5.5
WAZ	Wanganui	3.82	223	PN	Pn	22 21 26.7	-1.8
MRZ	Mangatainoka R	4.25	210	ePN	Pn	22 21 28.7	-5.9
MRZ				SN	Sn	22 22 14.9	-8.9
OUZ	Omahuta	4.27	293	eP	Pn	22 21 35.3	+0.4
OUZ	Omahuta	4.27	293	PN	Pn	22 21 35.2	+0.3
KIW	Kapiti Island	4.70	214	P	Pn	22 21 35.2	-5.8
KIW	Kapiti Island	4.70	214	PN	Pn	22 21 35.2	-5.8
QRZ	Quartz Range	5.94	228	ePN	Pn	22 21 52.9	-5.6
THZ	Tophouse	6.36	220	ePN	Pn	22 21 57.0	-7.5
THZ				SN	Sn	22 23 06.6	-10
KHZ	Kahutara	6.56	213	ePN	Pn	22 21 59.3	-8.0
MQZ	McQueen's Vall	7.99	211	ePN	Pn	22 22 17.2	-10
MQZ				SN	Sn	22 23 39.6	-18

*CSEM **19** 22:34:40.0±0.1,27.46N×55.33E,h2km,mb3.5,Error ellipse: s-maj=3.7km s-min=3.1km az=80.0*
*THR **19** 22:34:42.9±1.2,27.57N×55.50E,h14km±14km,ML3.2*
*OMAN **19** 22:34:43.0±29.0,27.67N×55.30E,h30km,Error ellipse: s-maj=12.4km s-min=6.9km az=19.0*

ISC 19 22:34:40.7±1.3,27.49N±0.06×55.33E±0.06,h1km±12km, n21,σ1§16/24,5C-6D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.76**	**97**	*e*PG	**Pg**	**22 34 54.9**	**-0.9**
BNDS				AML	AML	22 35 17.0	
	comp=N,1μm,0.6s						
BANOM	**Banah**	**1.79**	**151**	⇑P	**Pn**	**22 35 14.7**	**+1.7**
	SNR=218						
BANOM				⇑S	**Sn**	**22 35 38.5**	**+1.8**
GHIR	**Ghir-Karzin**	**2.21**	**291**	*e*PN	**Pn**	**22 35 23.2**	**+4.2**
GHIR				*e*SG	**Sg**	**22 35 56.3**	**+1.9**
GHIR				AML	AML	22 36 22.3	
	comp=N,97nm,0.8s						
KRBR	**Kerman**	**2.78**	**27**	*e*PN	**Pn**	**22 35 27.8**	**+0.7**
KRBR				AML	AML	22 36 08.8	
	comp=N,127nm,0.6s						
ASHO	**Ashiyiah**	**2.87**	**167**	P	**Pn**	**22 35 30.7**	**+2.3**
	SNR=56						
ARQ	**Araqi**	**4.28**	**165**	⇓P	**Pn**	**22 35 49.3**	**+0.9**
HOQ	**Hoqain**	**4.29**	**155**	⇑P	**Pn**	**22 35 49.1**	**+0.5**
BIDO	**Bidbid**	**4.70**	**147**	⇓P	**Pn**	**22 35 53.6**	**-0.8**
BSY	**Bisya**	**5.02**	**160**	⇑P	**Pn**	**22 35 59.4**	**+0.4**
BSYO	**Bisya**	**5.05**	**159**	P	**Pn**	**22 35 59.4**	**0.0**
SMDO	**Samad**	**5.06**	**150**	⇓P	**Pn**	**22 35 59.5**	**+0.1**
	SNR=6.8						
JMDO	**Jabal Madar**	**5.69**	**153**	⇓P	**Pn**	**22 36 08.2**	**-0.2**
NASN	**Na'in**	**5.72**	**338**	*e*PN	**Pn**	**22 36 08.9**	**+0.1**
WBK	**Wadi Bani Khal**	**5.88**	**145**	P	**Pn**	**22 36 10.1**	**-0.9**
	SNR=8.2						
WBK				⇑S	**Sn**	**22 37 14.1**	**-5.9**
NAY	**Al-Naaiem**	**7.33**	**286**	*e*P	**Pn**	**22 36 30.8**	**-0.7**
RST	**Umm Al-Ruwaisa**	**7.60**	**287**	*e*P	**Pn**	**22 36 33.0**	**-2.2**
SHAO	**Shalim**	**9.43**	**178**	P	**P**	**22 37 00.3**	**-0.4**
	SNR=19						
WHFO	**Wadi Hawf**	**9.64**	**189**	P	**P**	**22 37 02.2**	**-1.4**
	SNR=6.6						
WHFO	**Wadi Hawf**	**9.64**	**189**	P	**P**	**22 37 02.2**	**-1.4**
	SNR=6.6						
RBK	**Rabkut**	**10.00**	**186**	⇓P	**P**	**22 37 07.4**	**-1.2**
ABTO	**Aybut**	**10.26**	**191**	⇓P	**P**	**22 37 11.0**	**-1.2**
	SNR=13						

*IDC **19** 23:01:14.0±1.6, 1.48N×126.35E,mb3.8/4,mb1 4.0/5, mb1mx3.7/18,mbtmp3.8/5,ML3.8/1,Error ellipse: s-maj=103.4km s-min=22.1km az=67.0*

ISC 19 23:01:16.9±1.5,1.4N±0.3×126.2E±0.5,h33km,n7,σ0§35/7, mb3.8/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.35**	**156**	*e*P	**P**	**23 04 58.8**	**+5.9**
	6.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.40**	**182**	P	**P**	**23 05 43.0**	**-0.1**
	0.2nm,0.3s,baz=2.1,slow=8.1,SNR=3.2						
WRA	**Warramunga Arr**	**22.68**	**160**	P	**P**	**23 06 16.6**	**-0.3**
	2.4nm,0.6s,mb3.8,baz=338,slow=11,SNR=17						
WB2	**Warramunga Arr**	**22.69**	**160**	*e*P	**P**	**23 06 16.9**	**-0.1**
ASAR	**Alice Springs**	**26.04**	**164**	P	**P**	**23 06 49.9**	**+0.7**
	0.8nm,0.4s,mb3.6,baz=351,slow=16,SNR=11						
STKA	**Stephens Creek**	**36.19**	**157**	P	**P**	**23 08 18.3**	**-0.2**
	1.0nm,0.3s,mb4.2,baz=340,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**59.15**	**326**	P	**P**	**23 11 16.9**	**0.0**
	0.4nm,0.5s,mb3.7,baz=119,slow=7.1,SNR=8.8						

*IDC **19** 23:02:40.6±58.0, 0.05S×96.56E,mb4.1/3,mb1 4.2/3, mb1mx3.6/17,mbtmp4.1/3,Error ellipse: s-maj=1134.0km s-min=153.4km az=176.0*

NEIC 19 23:02:56.4±8.4,1.45N×96.27E,h30km,mb4.3/3,1C, Error ellipse: s-maj=161.0km s-min=20.8km az=173.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.80**	**49**	⇑*e*P	Pn	23 04 20.8	-2.0
LSA	**Lhasa**	**28.51**	**351**	*e*P	P	23 08 49.8	-1.8
	5.9nm,1.1s						
ENH	**Enshi**	**31.29**	**22**	P	P	23 09 13.5	-2.8
	4.0nm,0.4s						
MKAR	**Makanchi Array**	**46.78**	**347**	P	P	23 11 23.7	-1.4
	2.0nm,0.7s,baz=151,slow=9.0,SNR=18						
MKAR	**Makanchi Array**	**46.78**	**347**	P	P	23 11 23.7	-1.4
SONM	**Songino Array**	**47.03**	**9**	P	P	23 11 25.0	-2.1
	0.5nm,0.4s,baz=189,slow=9.5,SNR=7.9						
ZAL	**Zalesovo**	**53.16**	**352**	P	P	23 12 11.1	-2.8
	1.7nm,0.5s,baz=276,slow=4.4,SNR=8.3						
ZAL	**Zalesovo**	**53.16**	**352**	P	P	23 12 11.1	-2.8
CHKZ	**Chkalovo**	**56.20**	**342**	*e*P	P	23 12 33.6	-2.4
	1.5nm,0.6s						

IDC 19 23:05:27.6±5.1,1.86N×93.88E,mb3.5/4,mb1 3.7/4, mb1mx3.4/19,mbtmp3.5/4,Error ellipse: s-maj=191.4km s-min=29.4km az=57.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.21**	**121**	P	P	23 13 46.8	-1.8
	0.3nm,0.4s,baz=311,slow=8.8,SNR=6.5						
MKAR	**Makanchi Array**	**45.88**	**349**	P	P	23 13 53.2	-0.3
	0.7nm,0.7s,baz=155,slow=8.2,SNR=4.7						
SONM	**Songino Array**	**47.06**	**12**	P	P	23 14 01.6	-1.3
	0.3nm,0.6s,baz=200,slow=6.5,SNR=3.5						
ZAL	**Zalesovo**	**52.44**	**353**	P	P	23 14 40.1	-4.0
	0.6nm,0.4s,baz=259,slow=5.2,SNR=2.9						

*NIED **19** 23:22:00,23.50N×122.30E,h5km,Mw4.0 Best double couple: M0:9.72×10^14 NP1:φs240°,δ88°,λ-138°. NP2: φs148°,δ48°,λ-3°.*
*IDC **19** 23:22:05.8±6.6,23.61N×122.26E,mb3.8/5,mb1 4.0/5, mb1mx3.6/22,mbtmp3.8/5,Error ellipse: s-maj=165.3km s-min=41.4km az=13.0*
*NEIC **19** 23:22:07.2±1.7,23.54N×122.25E,h10km,mb4.1/2,Error ellipse: s-maj=45.2km s-min=12.3km az=211.0*
*TAP **19** 23:22:08.3,23.55N×122.11E,h9km±1km,ML4.2*
*JMA **19** 23:22:08.5±0.2,23.51N×122.26E,h32km,M3.5*

ISC 19 23:22:07.0±1.6,23.51N±0.08×122.23E±0.03,h20km±9km, n18,σ0§85/27,mb3.7/6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.88**	**319**	*i*Pg	**Pb**	**23 22 23.8**	**+0.3**
NACB				*e*S	**Sb**	**23 22 32.5**	**-2.2**
YOJ	**Yonaguni jima**	**1.19**	**37**	P	**Pn**	**23 22 29.2**	**+0.5**
YOJ				*e*S	**Sb**	**23 22 44.1**	**+0.4**
YHNB	**Yeheng**	**1.39**	**326**	*e*Pn	**Pn**	**23 22 32.3**	**+0.7**
YHNB				*e*S	**Sn**	**23 22 48.8**	**-0.8**
HATJ	**Hateruma jima**	**1.54**	**69**	P	**Pn**	**23 22 34.3**	**+0.5**
HATJ				*e*S	**Sn**	**23 22 52.7**	**-0.7**
IRIF	**Iriomote-Funau**	**1.60**	**59**	P	**Pn**	**23 22 35.3**	**+0.7**
IRIF				*e*S	**Sn**	**23 22 55.4**	**+0.6**
TATO	**Taipei**	**1.61**	**335**	*e*Pn	**Pn**	**23 22 36.2**	**+1.5**
TATO				*e*S	**Sn**	**23 22 56.4**	**+1.4**
JKRS	**Kuro-shima**	**1.78**	**66**	P	**Pn**	**23 22 38.0**	**+0.8**
JKRS				*e*S	**Sn**	**23 22 59.4**	**-0.1**
JIJ	**Ishigaki jima**	**1.95**	**64**	P	**Pn**	**23 22 39.6**	**+0.1**
JIJ				*e*S	**Sn**	**23 23 02.3**	**-1.3**
JTJ	**Tarama**	**2.53**	**63**	P	**Pn**	**23 22 48.2**	**+0.4**
JTJ				*e*S	**Sn**	**23 23 18.5**	**+0.2**
JOGS	**Gusukube**	**3.16**	**66**	*e*S	**Sn**	**23 23 34.0**	**-0.4**
JKE	**Kume jima 2**	**5.00**	**55**	P	**Pn**	**23 23 21.0**	**-1.9**
SONM	**Songino Array**	**27.36**	**336**	P	**P**	**23 27 51.9**	**-0.8**
	1.0nm,0.7s,mb3.5,baz=156,slow=10,SNR=9.6						
MKAR	**Makanchi Array**	**39.48**	**316**	P	**P**	**23 29 37.7**	**-0.1**
	0.2nm,0.5s,mb3.1,baz=108,slow=12,SNR=4.8						
CHKZ	**Chkalovo**	**48.86**	**322**	P	**P**	**23 30 53.1**	**+0.1**
	1.0nm,0.8s,mb3.9						
ILAR	**Eielson Array**	**69.37**	**27**	P	**P**	**23 33 14.3**	**-0.7**
	0.7nm,0.6s,mb3.7,baz=295,slow=9.2,SNR=10						
INK	**Inuvik**	**73.49**	**22**	P	**P**	**23 33 39.5**	**-0.1**
	0.9nm,0.5s,mb3.9,baz=299,slow=6.1,SNR=4.1						
INK	**Inuvik**	**73.49**	**22**	P	**P**	**23 33 39.4**	**-0.2**
	2.1nm,0.8s,mb4.1						
YKA	**Yellowknife Ar**	**83.22**	**23**	P	**P**	**23 34 33.3**	**+0.4**
	1.2nm,0.7s,mb4.1,baz=314,slow=4.8,SNR=36						

NEIC 19 23:45:03.4,8.19N×82.70W,h15km,MD4.1(CASC),4C, After CASC.,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTP1	**Petroterminal**	**0.27**	**88**	⇑*i*P	Pb	23 45 09.8	+0.4
ACR	**Cerro Adams**	**0.65**	**315**	⇑*i*P	Pb	23 45 15.7	-0.2
ACR				*e*S	Sb	23 45 26.4	+2.1
CNI	**Changuinola**	**1.23**	**9**	*e*P	Pb	23 45 24.3	-1.5
BUS	**Buena Vista**	**1.71**	**322**	⇑*e*P	Pn	23 45 31.8	-1.1
BUS				*e*S	Sn	23 45 56.7	+2.1
LCR2	**La Lucha 2**	**2.00**	**320**	*e*P	Pn	23 45 35.7	-1.4
LAJ	**Bijagual**	**2.17**	**320**	*e*P	Pn	23 45 39.9	+0.3
SJS	**Escuela Geolog**	**2.19**	**323**	*e*P	Pn	23 45 39.4	-0.5
SJS				*e*S	Sn	23 46 07.3	+0.6
PRS1	**Puriscal**	**2.38**	**318**	*e*P	Pn	23 45 40.4	-2.2
PRS1				*e*S	Sn	23 46 12.9	+1.1
CGA2	**Cerro Gallo 2**	**2.51**	**316**	*e*P	Pn	23 45 44.1	-0.4
TRTC	**Tortuguero**	**2.57**	**337**	*e*P	Pn	23 45 43.9	-1.3
JCR	**Jicaral**	**2.89**	**305**	*e*P	Pn	23 45 48.0	-1.9
FORC	**Fortuna**	**2.98**	**320**	*e*P	Pn	23 45 50.5	-0.6
UPA	**Univ. de Panam**	**3.23**	**76**	*e*P	Pn	23 45 54.5	-0.2
UPA				*e*S	Sn	23 46 34.6	+1.4
VCR	**Vista de Mar**	**3.47**	**304**	*e*P	Pn	23 45 55.3	-2.8
OTAV	**Otavalo**	**8.97**	**152**	P	P	23 47 11.8	-3.6
SDV	**Santo Domingo**	**11.96**	**86**	⇑*i*P	P	23 47 48.8	-7.7

*NIED **20** 00:09:00,33.70N×130.30E,h8km,Mw4.8 Best double couple: M0:1.5×1016 NP1:φs134°,δ90°,λ-16°. NP2:φs224°, δ74°,λ-180°.*
*IDC **20** 00:09:41.1±0.5,33.61N×130.17E,mb4.3/21,mb1 4.5/23, mb1mx4.4/26,mbtmp4.3/23,ML3.8/2,MS4.1/20,Ms1 4.1/20, ms1mx4.0/33,Error ellipse: s-maj=15.4km s-min=12.7km az=86.0*
*JMA **20** 00:09:42.9,33.68N×130.28E,h13km,M5.1 Broadband fault plane solution: P waves. NP1:φs325°,δ67°,λ4°. NP2:φs234°,δ86°,λ157°. Principal axes: T Plg19°, Azm187°; N Plg67°, Azm44°; P Plg13°, Azm282°;*
JMA Felt IV J1.
*MOS **20** 00:09:43.9±1.1,33.59N×130.30E,h33km,mb4.8/19 Error ellipse: s-maj=9.5km s-min=6.8km az=103.7*
*BJI **20** 00:09:45.6,33.74N×130.23E,h20km,mB5.0,mb4.7, ML5.2,Ms4.8,Msz4.5*
*NEIC **20** 00:09:46.9±0.7,33.65N×130.28E,h39km±6km,mb4.6/21, MW4.7(NIED),Error ellipse: s-maj=6.3km s-min=6.1km az=135.0*
NEIC Recorded [4 JMA] in Fukuoka and Saga; [3 JMA] in Kumamoto, Nagasaki and Oita; [1 JMA] in Miyazaki Prefectures. Recorded [2 JMA] on Uku-jima and in the Tsushima Islands. Also recorded [2 JMA] in Shimane and Yamaguchi; [1 JMA] in Hiroshima, Hyogo and Tottori Prefectures, Honshu.

ISC 20 00:09:43.2±0.4,33.66N±0.02×130.32E±0.02,h20km±3km, h23km±3.3km:pP-P,n185,σ1§14/212,mb4.5/54,MS4.2/32, 18C-16D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.24**	**166**	⇓P	**Pb**	**00 09 48.4**	**-0.6**
JFI				S	**Sb**	**00 09 52.3**	**-0.6**
JFA	**Akaike**	**0.40**	**83**	⇓P	**Pb**	**00 09 51.2**	**-0.3**
JFA				S	**Sb**	**00 09 57.3**	**+0.1**
JII	**Iki**	**0.51**	**285**	⇓P	**Pb**	**00 09 52.4**	**-0.9**
JII				S	**Sb**	**00 09 59.2**	**-0.9**
JUR	**Ureshino**	**0.65**	**209**	⇑P	**Pb**	**00 09 55.1**	**-0.6**
JUR				S	**Sb**	**00 10 03.8**	**-0.4**
JNU	**Nakatsue**	**0.72**	**139**	P	**Pb**	**00 09 56.9**	**+0.1**
JTA	**Tamana**	**0.72**	**165**	⇑P	**Pb**	**00 09 56.9**	**0.0**
JTA				S	**Sb**	**00 10 06.5**	**+0.2**
JTY	**Toyota**	**0.86**	**46**	⇑P	**Pb**	**00 09 59.1**	**-0.2**
OIT2	**Oita 2**	**1.02**	**112**	⇓P	**Pb**	**00 10 02.8**	**+0.7**
JKI	**Kunimi**	**1.04**	**91**	⇓P	**Pb**	**00 10 02.6**	**+0.2**
NGSJ	**Nagasakinomoza**	**1.12**	**203**	⇑P	**Pb**	**00 10 03.2**	**-0.4**
JTU	**Tsushima**	**1.15**	**319**	⇓P	**Pb**	**00 10 03.2**	**-1.0**
JIU2	**Izumi 2**	**1.19**	**159**	⇑P	**Pn**	**00 10 05.1**	**+0.3**
JHD	**Hondo**	**1.21**	**187**	⇑P	**Pn**	**00 10 05.2**	**+0.1**
JUS	**Usuki**	**1.34**	**116**	⇓P	**Pn**	**00 10 07.7**	**+0.7**
JKD	**Kudamatsu**	**1.35**	**73**	⇓P	**Pn**	**00 10 07.7**	**+0.6**
JKIT	**Kitakata**	**1.41**	**137**	⇑P	**Pn**	**00 10 08.9**	**+0.9**
JZO	**Okuchi**	**1.54**	**171**	⇑P	**Pn**	**00 10 10.1**	**+0.3**
JHIK	**Hikimi**	**1.59**	**57**	⇓P	**Pn**	**00 10 11.7**	**+1.1**
JFU	**Fukue jima 2**	**1.66**	**233**	⇑P	**Pn**	**00 10 11.3**	**-0.2**
JTSN	**Tsuno**	**1.73**	**144**	P	**Pn**	**00 10 13.3**	**+0.7**
JNA	**Nagahama**	**1.81**	**93**	⇓P	**Pn**	**00 10 14.3**	**+0.7**
JTZ	**Takazaki**	**1.87**	**160**	⇑P	**Pn**	**00 10 15.6**	**+1.0**
JHM	**Kurahashi**	**1.90**	**75**	⇓P	**Pn**	**00 10 15.9**	**+0.9**
UWA2	**Uwa jima 2**	**1.98**	**102**	⇓P	**Pn**	**00 10 16.5**	**+0.4**
JHT	**Toyohira**	**2.01**	**60**	⇓P	**Pn**	**00 10 18.0**	**+1.5**
JSJ	**Shimokoshiki**	**2.04**	**195**	P	**Pn**	**00 10 16.6**	**-0.5**
JSU	**Suzuyama**	**2.15**	**177**	P	**Pn**	**00 10 18.7**	**0.0**
JNAR	**Kushima--Naru**	**2.28**	**159**	P	**Pn**	**00 10 21.4**	**+1.0**
JKU	**Kubokawa**	**2.32**	**98**	⇓P	**Pn**	**00 10 21.7**	**+0.7**
JJG	**Jouge**	**2.55**	**67**	P	**Pn**	**00 10 25.3**	**+1.1**
JHS	**Saijyo**	**2.67**	**59**	P	**Pn**	**00 10 27.3**	**+1.3**
JMN	**Monobe**	**2.97**	**88**	P	**Pn**	**00 10 30.7**	**+0.4**
JJS	**Sakaide**	**3.08**	**76**	P	**Pn**	**00 10 32.2**	**+0.3**
MRT2	**Murotomisaki 2**	**3.21**	**94**	P	**Pn**	**00 10 33.1**	**-0.5**
JAD	**Aida**	**3.43**	**67**	P	**Pn**	**00 10 37.3**	**+0.5**
JAI	**Aioi**	**3.45**	**87**	P	**Pn**	**00 10 37.0**	**0.0**
JWM	**Minabe**	**4.20**	**86**	P	**Pn**	**00 10 47.0**	**-0.7**
JWY	**Kouya**	**4.42**	**81**	P	**Pn**	**00 10 51.0**	**+0.1**
JWT	**Wachi**	**4.50**	**68**	P	**Pn**	**00 10 51.9**	**-0.1**
JWZ	**Kozaga**	**4.51**	**90**	P	**Pn**	**00 10 50.8**	**-1.3**
JHE	**Heguri**	**4.56**	**76**	P	**Pn**	**00 10 52.6**	**-0.2**
INCN	**Inchon**	**4.85**	**323**	*e*P	**Pn**	**00 10 54.9**	**-2.1**
JFM	**Mihama**	**5.03**	**67**	P	**Pn**	**00 11 00.7**	**+1.2**
TSUJ	**Tsu 2**	**5.16**	**77**	P	**Pn**	**00 11 00.8**	**-0.6**
JGM	**Miyama**	**5.65**	**67**	P	**Pn**	**00 11 08.5**	**+0.3**
JAO	**Obara**	**5.95**	**72**	P	**Pn**	**00 11 12.1**	**-0.4**
HMMJ	**Hamamatsu 2**	**6.25**	**77**	P	**Pn**	**00 11 16.4**	**-0.2**
JNY	**Yasuok**	**6.45**	**73**	P	**Pn**	**00 11 19.0**	**-0.6**
JOW	**Kunigami**	**7.04**	**195**	Pn	**Pn**	**00 11 28.1**	**+0.4**
	4.0nm,0.3s,baz=22,slow=9.5,SNR=9.7						
MAJO	**Matsushiro**	**7.07**	**64**	*e*P	**Pn**	**00 11 28.3**	**0.0**
MAJO				pmax	pmax		
	comp=Z,48nm,0.6s						
MAJO	**Matsushiro**	**7.07**	**64**	*e*P	**Pn**	**00 11 28.3**	**0.0**
	comp=Z,48nm,0.6s						
MAT	**Matsushiro**	**7.07**	**64**	*e*P	**Pn**	**00 11 27.0**	**-1.3**
MAT				*e*S	**Sn**	**00 12 48.0**	**-0.9**
MAT				pmax	pmax		
	comp=Z,24nm,1.0s						
MAT	**Matsushiro**	**7.07**	**64**	*e*P	**Pn**	**00 11 27.0**	**-1.3**
	comp=Z,24nm,1.0s						
MAT				*e*S	**Sn**	**00 12 48.0**	**-0.9**
MAT	**Matsushiro**	**7.07**	**64**	P	**Pn**	**00 11 27.3**	**-1.0**
MAT				S	**Sn**	**00 12 48.0**	**-0.9**
MJAR	**Matsushiro Arr**	**7.08**	**64**	Pn	**Pn**	**00 11 28.9**	**+0.6**
	comp=Z,3.3nm,0.3s,baz=244,slow=13,SNR=22						
MJAR				Lg		00 13 27.1	
	comp=Z,2.8nm,0.3s,baz=234,slow=31,SNR=8.5						
MJAR				LR	LR	00 13 59.1	
	comp=Z,1μm,19.4s,baz=250,slow=36						
JOD2	**Odawara 2**	**7.42**	**75**	P	**Pn**	**00 11 32.7**	**-0.4**
JRY	**Ryogami san**	**7.44**	**69**	P	**Pn**	**00 11 33.8**	**+0.4**
JAG	**Ashikaga**	**7.98**	**67**	P	**Pn**	**00 11 41.5**	**+0.5**
DL2	**Dalian**	**8.75**	**309**	*e*P	**P**	**00 11 51.1**	**-0.5**
DL2				S	**Sn**	**00 13 22.8**	**-7.9**
DL2				Smax			
	comp=N,520nm,0.8s						
DL2				Smax			
	comp=E,560nm,0.9s						
SNY	**Shenyang**	**9.74**	**329**	⇑P	**P**	**00 12 05.6**	**+0.3**
SNY				PP	PP	00 12 15.4	+2.4
SNY				S	**Sn**	**00 14 00.8**	**+5.7**
SNY				LR	LR		
	comp=N,8μm,12.7s						
SNY				LR	LR		
	comp=E,12μm,13.1s						
SNY				LR	LR		
	comp=Z,4μm,10.0s						
NJ2	**Nanjing**	**9.78**	**264**	*e*P	**P**	**00 12 07.8**	**+2.0**
NJ2				AP		00 12 13.3	
NJ2				XP		00 12 17.1	
NJ2				S	**Sn**	**00 13 58.0**	**+1.9**
NJ2				XS		00 14 06.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,1μm,3.5s						
NJ2				Smax			
	comp=N,800nm,0.9s						
NJ2				Smax			
	comp=E,950nm,1.1s						
NJ2				LR	LR		
	comp=N,2μm,15.0s						
NJ2				LR	LR		
	comp=E,3μm,13.0s						
NJ2				LR	LR		
	comp=Z,1μm,12.6s						
CN2	**Changchun**	**10.81**	**341**	*e*P	**P**	**00 12 21.8**	**+1.8**
CN2				*e*XP		00 12 31.6	
CN2				*e*S	**S**	**00 14 24.1**	**+2.7**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,2μm,10.0s						
CN2				LR	LR		
	comp=E,2μm,10.0s						
MDJ	**Mudanjiang**	**10.95**	**357**	P	**P**	**00 12 22.3**	**+0.4**
MDJ				AP		00 12 27.3	
MDJ				XP		00 12 31.8	
MDJ				S	**S**	**00 14 24.4**	**-0.4**
MDJ				SS	SS	00 14 38.8	0.0
MDJ				AMB	AMB		
	comp=Z,15nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,174nm,3.2s						
MDJ				LR	LR		
	comp=N,1μm,11.6s						
MDJ				LR	LR		
	comp=E,847nm,9.9s						
MDJ				LR	LR		
	comp=Z,2μm,11.9s						
MDJ	**Mudanjiang**	**10.95**	**357**	*e*P	**P**	**00 12 21.4**	**-0.5**
	comp=Z,30nm,1.1s						
TIA	**Tai'an**	**11.12**	**287**	*e*P	**P**	**00 12 26.8**	**+2.5**
TIA				S	**S**	**00 14 22.1**	**-7.0**
TIA				LR	LR		
	comp=N,4μm,12.0s						
TIA				LR	LR		
	comp=E,2μm,12.0s						
CBIJ	**Chichi jima**	**12.15**	**119**	LR	LR	00 16 29.4	
	comp=E,329nm,18.9s,baz=65,slow=33						
BJT	**Baijiatuau**	**12.98**	**303**	*e*P	**P**	**00 12 49.5**	**+0.3**
BJI	**Beijing**	**12.98**	**303**	*e*P	**P**	**00 12 49.4**	**+0.1**
BJI				S	**S**	**00 15 19.6**	**+5.4**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s						
BJI				LR	LR		
	comp=N,3μm,16.3s						
BJI				LR	LR		
	comp=E,4μm,16.1s						
BJI				LR	LR		
	comp=Z,936nm,15.6s						
BJI	**Beijing**	**12.98**	**303**	*e*P	**P**	**00 12 49.4**	**+0.1**
	comp=Z,9.0nm,0.8s						
BJI				S	**S**	**00 15 19.6**	**+5.4**
QZH	**Quanzhou**	**13.41**	**233**	*e*P	**P**	**00 12 56.6**	**+1.6**
QZH				S	**S**	**00 15 26.0**	**+1.5**
QZH				LR	LR		
	comp=N,3μm,15.1s						
QZH				LR	LR		
	comp=E,4μm,15.1s						
QZH				LR	LR		
	comp=Z,4μm,12.0s						
ASAJ	**Asahikawa**	**14.14**	**39**	Pn	**P**	**00 13 05.0**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=252,slow=26,SNR=7.3						
ASAJ				LR	LR	00 18 02.2	
	comp=Z,966nm,18.5s,baz=184,slow=35						
KLR	**Kul'dur**	**15.59**	**3**	*e*P	**P**	**00 13 25.8**	**+2.5**
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**16.29**	**32**	*e*P	**P**	**00 13 32.0**	**-0.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=N,2μm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**16.29**	**32**	*e*P	**P**	**00 13 31.8**	**-0.5**
HIA	**Hailar**	**17.46**	**336**	*e*P	**P**	**00 13 47.3**	**+0.3**
HIA				pmax	pmax		
	comp=Z,29nm,0.8s						
HIA	**Hailar**	**17.46**	**336**	*e*P	**P**	**00 13 47.3**	**+0.3**
	comp=Z,29nm,0.8s						
BTO	**Baotou**	**17.59**	**299**	P	**P**	**00 13 50.8**	**+2.1**
BTO				AMB	AMB		
	comp=Z,13nm,0.5s						
BTO				LR	LR		
	comp=N,1μm,9.8s						
BTO				LR	LR		
	comp=E,1μm,10.8s						
XAN	**Xi'an**	**17.78**	**277**	P	**P**	**00 13 50.8**	**-0.3**
XAN				PP	PP	00 14 01.4	-4.4
XAN				S	**S**	**00 17 13.3**	**+7.0**
XAN				AMB	AMB		
	comp=Z,22nm,1.5s						
XAN				LR	LR		
	comp=N,660nm,11.9s						
XAN				LR	LR		
	comp=E,366nm,15.2s						
XAN				LR	LR		
	comp=Z,603nm,9.9s						
ENH	**Enshi**	**17.99**	**265**	*e*P	**P**	**00 13 54.6**	**+0.8**
	comp=Z,40nm,1.1s						
GYA	**Guiyang**	**21.67**	**257**	⇑*i*P	**P**	**00 14 36.4**	**+1.9**
GYA				AP		00 14 40.6	
GYA				XP		00 14 43.4	
GYA				PP	PP	00 15 02.8	+3.4
GYA				S	**S**	**00 18 35.8**	**+7.4**
GYA				AMB	AMB		
	comp=Z,40nm,1.0s

CD2	**Chengdu**	**22.60 270**	⇓*i*P	**P**	**00 14 44.0 +0.2**
CD2			AP		00 14 50.3
CD2			XP		00 14 54.3
CD2			PP	PP	00 15 18.3 +6.1
CD2			S	**S**	**00 18 47.1 +1.5**
CD2			AMB	AMB	
	comp=Z,120nm,0.8s,mb5.4				
CD2			LR	LR	
	comp=N,2μm,13.1s				
CD2			LR	LR	
	comp=Z,1μm,16.2s,MS4.5				
SONM	**Songino Array**	**22.87 315**	P	**P**	**00 14 45.8 -0.5**
	comp=Z,17nm,1.1s,mb4.4,baz=125,slow=8.3,SNR=27				
SONM			LR	LR	00 23 03.9
	comp=Z,324nm,18.5s,MS3.8,baz=303,slow=35				
QIZ	**Qiongzhong**	**23.37 237**	P	**P**	**00 14 54.0 +2.6**
QIZ			S	**S**	**00 19 07.8 +8.5**
QIZ			AMB	AMB	
	comp=Z,17nm,1.6s,mb4.2				
QIZ			AMB	AMB	
	comp=Z,197nm,3.5s				
QIZ			LR	LR	
	comp=N,1μm,14.1s,MS4.6				
QIZ			LR	LR	
	comp=E,979nm,14.4s,MS4.6				
QIZ			LR	LR	
	comp=Z,918nm,13.2s,MS4.4				
CLNS	**Chul'man**	**23.47 353**	*e*P	**P**	**00 14 49.8 -2.2**
CLNS			*e**PP		00 14 56.7
CLNS			*e*		00 15 02.7
CLNS			*e*PPP	PP	00 15 19.2 -4.9
CLNS			*e*		00 18 34.7
CLNS			*e*S	**S**	**00 18 59.3 -1.4**
CLNS			*e*SS	SS	00 19 59.8 +11
CLNS			pmax	pmax	
	comp=Z,10.0nm,0.7s,mb4.3				
CLNS			pmax	pmax	
	comp=N,10.0nm,1.0s				
CLNS			pmax	pmax	
	comp=E,7.0nm,0.8s				
CLNS			pmax	pmax	
	comp=Z,23nm,1.0s,mb4.6				
CLNS			pmax	pmax	
	comp=N,23nm,1.1s				
CLNS			pmax	pmax	
	comp=E,12nm,1.1s				
CLNS			smax		
	comp=E,52nm,11.8s				
CLNS			smax		
	comp=Z,197nm,10.4s				
CLNS			smax		
	comp=N,271nm,11.3s				
CLNS			MLR	MLR	
	comp=N,600nm,11.0s,MS4.3				
CLNS			MLR	MLR	
	comp=Z,800nm,11.0s,MS4.4				
CLNS			MLR	MLR	
	comp=E,100nm,10.0s,MS4.3				
GTA	**Gaotai**	**25.10 292**	P	**P**	**00 15 09.3 +1.3**
GTA			AP	pP	00 15 13.6 -0.3
GTA			XP	sP	00 15 16.3 -0.3
GTA			PP	PP	00 15 48.8 +2.8
GTA			PPP	PPP	00 15 59.3 +2.2
GTA			PCP	PcP	00 18 40.6 -2.5
GTA			S	**S**	**00 19 34.9 +6.2**
GTA			XS		00 19 41.8
GTA			SCP		00 22 20.1
GTA			SCS	ScS	00 26 05.3 -1.5
GTA			AMB	AMB	
	comp=Z,5.0nm,0.6s,mb4.2				
GTA			AMB	AMB	
	comp=Z,77nm,7.2s				
GTA			LR	LR	
	comp=N,2μm,15.2s,MS4.8				
GTA			LR	LR	
	comp=E,836nm,14.1s,MS4.8				
GTA			LR	LR	
	comp=Z,993nm,13.3s,MS4.5				
KMI	**Kunming**	**25.43 258**	P	**P**	**00 15 10.9 -0.3**
KMI			AP	pP	00 15 17.0 -0.2
KMI			XP	sP	00 15 19.6 -0.3
KMI			S	**S**	**00 19 35.8 +1.4**
KMI			XS		00 19 46.8
KMI			SS	SS	00 20 35.9 -1.1
KMI			AMB	AMB	
	comp=Z,7.0nm,0.9s,mb4.2				
KMI			LR	LR	
	comp=N,743nm,9.3s				
KMI			LR	LR	
	comp=E,2μm,12.2s				
KMI			LR	LR	
	comp=Z,2μm,11.1s,MS4.9				
KMI	**Kunming**	**25.43 258**	P	**P**	**00 15 10.9 -0.3**
KMI			*SP	sP	00 15 19.6 -0.3
KMI			S	**S**	**00 19 35.7 +1.3**
KMI			*SS		00 19 46.7
KMI			SS	SS	00 20 35.9 -1.1
KMI			pmax	pmax	
	comp=Z,7.0nm,0.9s,mb4.2				
KMI			MLR	MLR	
	comp=Z,2μm,11.1s,MS4.9				
KMI	**Kunming**	**25.43 258**	P	**P**	**00 15 10.9 -0.3**
	comp=Z,7.0nm,0.9s,mb4.2				
KMI			pP	pP	00 15 17.0 -0.2
KMI			sP	sP	00 15 19.6 -0.3
KMI			S	**S**	**00 19 35.7 +1.3**
KMI			sS		00 19 46.7
KMI			SS	SS	00 20 35.9 -1.1
KMI			LR	LR	
	comp=Z,2μm,11.1s,MS4.9				
ZAK	**Zakamensk**	**25.92 318**	⇑*i*P	**P**	**00 15 14.7 -0.8**
ZAK			pmax	pmax	
	comp=Z,15nm,1.0s,mb4.5				
TLY	**Talaya**	**26.39 321**	*e*P	**P**	**00 15 19.1 -0.8**
TLY			*e*		00 16 10.0
TLY			*e*S	**S**	**00 19 51.3 +1.2**
TLY			pmax	pmax	
	comp=Z,8.0nm,1.1s,mb4.2				
TLY			MLR	MLR	
	comp=Z,223nm,12.0s,MS3.9				
TLY	**Talaya**	**26.39 321**	*e*P	**P**	**00 15 18.9 -0.9**
	comp=Z,4.3nm,0.8s,mb4.0				
BOD	**Bodaibo**	**26.56 340**	*e*P	**P**	**00 15 20.1 -1.3**
BOD			pmax	pmax	
	comp=Z,7.0nm,1.1s,mb4.1				
BOD			pmax	pmax	
	comp=Z,52nm,1.7s,mb4.8				
PET	**Petropavlovsk**	**27.98 38**	*e*P	**P**	**00 15 29.9 -4.4**
PET			MLR	MLR	
	comp=Z,400nm,18.0s,MS4.0				
YAK	**Yakutsk**	**28.39 359**	*e*P	**P**	**00 15 37.9 0.0**
YAK			pmax	pmax	
	comp=Z,11nm,0.9s,mb4.5				
YAK			pmax	pmax	
	comp=N,8.0nm,1.1s				
YAK			pmax	pmax	
	comp=E,2.0nm,1.0s				
YAK			MLR	MLR	
	comp=Z,226nm,11.0s,MS4.0				
YAK			MLR	MLR	
	comp=N,192nm,12.0s				
YAK	**Yakutsk**	**28.39 359**	P	**P**	**00 15 38.9 +1.0**
NANT	**Nan**	**30.28 248**	P	**P**	**00 15 53.0 -2.3**
CHG	**Chiang Mai**	**31.64 250**	P	**P**	**00 16 09.6 +2.3**
CMAR	**Chiang Mai Arr**	**31.84 250**	P	**P**	**00 16 08.1 -1.0**
	comp=N,4.5nm,1.0s,mb4.2,baz=43,slow=6.5,SNR=15				
CMAR			LR	LR	00 29 30.1
	comp=N,248nm,18.8s,MS3.9,baz=30,slow=38				
LSA	**Lhasa**	**33.43 274**	*e*P	**P**	**00 16 26.2 +3.4**
LSA			pmax	pmax	
	comp=Z,31nm,1.2s,mb5.1				
LSA	**Lhasa**	**33.43 274**	*e*P	**P**	**00 16 26.2 +3.4**
	comp=Z,31nm,1.2s,mb5.1				
WMQ	**Urumqi**	**34.42 300**	P	**P**	**00 16 31.1 -0.1**
WMQ			AP	pP	00 16 38.6 +1.3
WMQ			XP	sP	00 16 41.6 +1.7
WMQ			PP	PP	00 17 47.1 0.0
WMQ			PPP	PPP	00 18 05.3 +0.2
WMQ			PCP	PcP	00 19 06.6 -0.1
WMQ			*e*S	**S**	**00 21 57.1 -0.1**
WMQ			AMB	AMB	
	comp=Z,2.0nm,0.6s,mb4.2				
WMQ			LR	LR	
	comp=N,1μm,20.0s,MS4.6				
WMQ			LR	LR	
	comp=E,190nm,21.4s,MS4.6				
WMQ			LR	LR	
	comp=Z,172nm,17.3s,MS3.9				
JIRN	**Jiri**	**38.21 273**	*e*P	**P**	**00 17 03.0 -0.4**
	comp=Z,180nm,1.5s,mb5.6				
MKAR	**Makanchi Array**	**38.36 305**	P	**P**	**00 17 03.7 -0.8**
	comp=Z,1.8nm,0.8s,mb3.9,baz=93,slow=10,SNR=13				
MKAR			LR	LR	00 33 36.3
	comp=Z,199nm,19.0s,MS4.0,baz=102,slow=38				
GUN	**Gumba**	**38.38 274**	*e*P	**P**	**00 17 05.3 +0.5**
	comp=Z,324nm,0.9s				
PKI	**Pulchoki**	**38.89 273**	*e*P	**P**	**00 17 07.4 -1.7**
	comp=Z,82nm,1.1s,mb5.4				
KKN	**Kakani**	**38.92 274**	*e*P	**P**	**00 17 08.7 -0.7**
	comp=Z,99nm,1.1s,mb5.5				
GKN	**Gorkha**	**39.38 274**	*e*P	**P**	**00 17 13.9 +0.7**
	comp=Z,38nm,0.9s,mb5.1				
BILL	**Bilibino**	**40.08 20**	*e*P	**P**	**00 17 18.7 +0.2**
BILL			S	**S**	**00 23 29.0 +5.7**
BILL			SSS	SSS	00 26 54.0 +3.0
BILL			pmax	pmax	
	comp=Z,13nm,1.3s,mb4.5				
BILL			MLR	MLR	
	comp=Z,300nm,15.0s,MS4.3				
BILL	**Bilibino**	**40.08 20**	*e*P	**P**	**00 17 18.2 -0.3**
	comp=Z,3.8nm,0.7s,mb4.2				
KOLN	**Koldanda**	**40.33 275**	*e*P	**P**	**00 17 21.6 +0.6**
	comp=Z,95nm,1.1s,mb5.5				
AAK	**Ala-Archa**	**44.10 299**	P	**P**	**00 17 57.5 +5.8**
AAK			pmax	pmax	
	comp=Z,4.0nm,1.0s,mb4.1				
NDI	**New Delhi**	**45.30 279**	*e*P	**P**	**00 18 02.7 +1.2**
CHKZ	**Chkalovo**	**46.07 314**	P	**P**	**00 18 05.5 -1.7**
CHKZ			pmax	pmax	
	comp=Z,7.0nm,1.2s,mb4.5				
BVAR	**Borovoye Array**	**46.20 314**	P	**P**	**00 18 06.8 -1.4**
	comp=Z,2.5nm,0.6s,mb4.3,baz=98,slow=8.7,SNR=13				
KKAR	**Karatay Array**	**46.93 300**	*i* P	**P**	**00 18 13.6 -0.6**
KKAR			pmax	pmax	
	comp=Z,21μm,0.1s				
TNA	**Tin City**	**48.25 29**	*e*P	**P**	**00 18 24.0 -0.1**
	comp=Z,8.3nm,1.1s,mb4.7				
HYB	**Hyderabad**	**48.93 264**	*e*P	**P**	**00 18 33.0 +2.9**
HYB	**Hyderabad**	**48.93 264**	*i* P	**P**	**00 18 33.0 +2.9**
FITZ	**Fitzroy Crossi**	**51.67 186**	⇑*i*P	**P**	**00 18 49.4 -1.6**
	comp=Z,16nm,0.8s,mb5.0				
FITZ	**Fitzroy Crossi**	**51.67 186**	P	**P**	**00 18 49.3 -1.7**
	comp=Z,21nm,0.8s,mb5.1,baz=3.9,slow=6.3,SNR=27				
SVE	**Sverdlovsk**	**51.68 319**	*e*P	**P**	**00 18 51.2 +0.7**
SVE			MLR	MLR	
	comp=N,200nm,14.0s,MS4.5				
SVE			MLR	MLR	
	comp=E,200nm,14.0s,MS4.5				
SVE			MLR	MLR	
	comp=Z,400nm,14.0s,MS4.6				
ARU	**Arti**	**52.86 319**	⇑*i*P	**P**	**00 19 04.1 +4.7**
ARU			*e*		00 20 09.9
ARU			*e*		00 21 03.2
ARU			*e*PPP	PPP	00 22 07.2 +1.5
ARU			*e*S	**S**	**00 26 30.2 +4.8**
ARU			*e*		00 28 49.1
ARU			*e*SS	SS	00 30 09.4 +5.9
ARU			pmax	pmax	
	comp=Z,11nm,1.4s,mb4.6				
ARU			MLR	MLR	
	comp=Z,200nm,19.0s,MS4.2				
ARU			MLR	MLR	
	comp=N,200nm,18.0s,MS4.2				
ARU			MLR	MLR	
	comp=E,100nm,18.0s,MS4.2				
ARU	**Arti**	**52.86 319**	*e*P	**P**	**00 18 59.4 0.0**
	comp=E,9.2nm,1.0s,mb4.7				
WRA	**Warramunga Arr**	**53.44 175**	P	**P**	**00 19 02.1 -2.1**
	comp=E,9.2nm,0.8s,mb4.7,baz=351,slow=7.8,SNR=34				
WB2	**Warramunga Arr**	**53.44 175**	*e*P	**P**	**00 19 02.0 -2.2**
SOKR	**Solikamsk**	**53.47 323**	⇓*i*P	**P**	**00 19 02.8 -1.0**
SOKR			pmax	pmax	
	comp=Z,10.0nm,0.8s,mb4.8				
IMA	**Indian Mountai**	**54.12 29**	*e*P	**P**	**00 19 08.7 +0.1**
IMA			pmax	pmax	
	comp=Z,34nm,0.9s,mb5.3				
IMA	**Indian Mountai**	**54.12 29**	*e*P	**P**	**00 19 08.7 +0.2**
	comp=Z,34nm,0.9s,mb5.3				
MBWA	**Marble Bar**	**55.44 192**	*e*P	**P**	**00 19 16.6 -2.2**
	comp=Z,5.5nm,0.8s,mb4.6				
CTA	**Charters Tower**	**55.57 162**	LR	LR	00 40 52.7
	comp=Z,137nm,18.9s,MS4.1,baz=48,slow=34				
ILAR	**Eielson Array**	**57.09 30**	P	**P**	**00 19 30.4 +0.3**
	comp=Z,1.1nm,0.8s,mb4.0,baz=267,slow=4.3,SNR=12				
ILAR			LR	LR	00 44 49.2
	comp=Z,123nm,18.3s,MS4.0,baz=165,slow=37				
ASAR	**Alice Springs**	**57.11 176**	P	**P**	**00 19 29.1 -1.7**
	comp=Z,3.2nm,0.6s,mb4.5,baz=4.1,slow=14,SNR=46				
ASAR			LR	LR	00 43 24.2
	comp=Z,62nm,20.7s,MS3.7,baz=2.1,slow=35				
ASPA	**Alice Springs**	**57.11 176**	*e*P	**P**	**00 19 28.7 -2.1**
DAWY	**Dawson**	**60.42 30**	*e*P	**P**	**00 19 53.3 +0.1**
INK	**Inuvik**	**61.39 25**	*e*P	**P**	**00 19 59.0 -0.7**
INK			pmax	pmax	
	comp=Z,5.0nm,0.9s				
INK	**Inuvik**	**61.39 25**	P	**P**	**00 19 59.3 -0.4**
	comp=Z,2.7nm,0.8s,mb4.4,baz=296,slow=10,SNR=8.4				
INK	**Inuvik**	**61.39 25**	*e*P	**P**	**00 19 59.0 -0.7**
	comp=Z,4.9nm,0.9s,mb4.6				
ARCES	**ARCESS Array B**	**63.80 338**	P	**P**	**00 20 14.6 -1.0**
	comp=Z,3.9nm,0.9s,mb4.5,baz=67,slow=9.2,SNR=7.0				
ARCES			LR	LR	00 51 28.4
	comp=Z,240nm,18.1s,MS4.4,baz=60,slow=39				
ARCES	**ARCESS Array B**	**63.80 338**	P	**P**	**00 20 14.6 -1.0**
ARCES			LR	LR	00 51 28.4
JOF	**Joensuu**	**64.48 330**	*e*p	**P**	**00 20 17.6 -2.6**
OBN	**Obninsk**	**65.15 321**	P	**P**	**00 20 24.0 -0.6**
OBN			*e*		00 20 48.8
OBN			MLR	MLR	
	comp=Z,200nm,16.0s,MS4.4				
DZM	**Mont Dzumac**	**65.24 143**	P	**P**	**00 20 24.8 -1.0**
	comp=Z,19nm,1.1s,mb5.0,baz=346,slow=4.0,SNR=3.0				
KIV	**Kislovodsk**	**66.01 308**	P	**P**	**00 20 31.1 +0.8**
KIV			pmax	pmax	
	comp=Z,19nm,1.1s,mb5.0				
KIV	**Kislovodsk**	**66.01 308**	P	**P**	**00 20 31.1 +0.8**
	comp=Z,19nm,1.1s,mb5.0				
STKA	**Stephens Creek**	**66.05 170**	P	**P**	**00 20 28.9 -1.9**
	comp=Z,4.8nm,1.0s,mb4.5,baz=342,slow=8.0,SNR=6.0				
STKA	**Stephens Creek**	**66.05 170**	*e*P	**P**	**00 20 29.0 -1.8**
KAF	**Kangasniemi**	**66.92 330**	*e*p	**P**	**00 20 33.2 -2.6**
	comp=Z,6.3nm,0.9s,mb4.7,baz=60,slow=5.9				
KAF	**Kangasniemi**	**66.92 330**	*e*P	**P**	**00 20 33.2 -2.6**
KAF			pmax	pmax	
	comp=Z,6.0nm,0.9s,mb4.6				
FINES	**FINESS Array B**	**67.34 330**	P	**P**	**00 20 36.5 -1.9**
	comp=Z,2.7nm,0.8s,mb4.3,baz=59,slow=5.6,SNR=13				
FINES			LR	LR	00 51 32.6
	comp=Z,170nm,18.0s,MS4.3,baz=72,slow=37				
NWAO	**Narrogin (SRO)**	**67.37 192**	LR	LR	00 48 10.4
	comp=Z,69nm,20.9s,MS3.9,baz=265,slow=34				
RES	**Resolute Bay**	**67.93 12**	*e*P	**P**	**00 20 40.9 -1.1**
RES			pmax	pmax	
	comp=Z,4.0nm,0.8s,mb4.5				
RES	**Resolute Bay**	**67.93 12**	*e*P	**P**	**00 20 40.9 -1.2**
	comp=Z,4.2nm,0.8s,mb4.5				
DAG	**Danmarks Havn**	**68.14 353**	*e*P	**P**	**00 20 43.0 -0.3**
DAG	**Danmarks Havn**	**68.14 353**	*i* P	**P**	**00 20 43.0 -0.3**
YKW3	**Yellowknife Ar**	**71.02 26**	*e*P	**P**	**00 21 04.2 +3.0**
YKA	**Yellowknife Ar**	**71.06 26**	P	**P**	**00 21 01.5 +0.2**
	comp=Z,1.1nm,0.9s,mb3.8,baz=304,slow=6.3,SNR=16				
YKA			LR	LR	00 52 23.6
	comp=Z,142nm,19.1s,MS4.2,baz=290,slow=36				
YKA	**Yellowknife Ar**	**71.06 26**	P	**P**	**00 21 01.5 +0.2**
YKA			LR	LR	00 52 23.6
AKASG	**Malin Array Be**	**71.11 319**	P	**P**	**00 20 59.7 -2.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=52,slow=6.7,SNR=7.5				
NB2	**NORSAR Subarra**	**73.47 334**	P	**P**	**00 21 13.6 -1.9**
	comp=Z,2.0nm,0.7s,mb4.2,baz=48,slow=5.8				
NB2	**NORSAR Subarra**	**73.47 334**	P	**P**	**00 21 13.6 -1.9**
NB2			pmax	pmax	
	comp=Z,2.0nm,0.7s,mb4.2				
NOA	**NORSAR Array B**	**73.47 334**	P	**P**	**00 21 14.2 -1.4**
	comp=Z,4.2nm,0.8s,mb4.4,baz=48,slow=5.9,SNR=4.5				
NOA			LR	LR	00 59 13.3
	comp=Z,86nm,19.2s,MS4.0,baz=95,slow=40				
BRTR	**Keskin Array B**	**73.95 307**	P	**P**	**00 21 18.9 +0.1**
	comp=Z,1.5nm,1.0s,mb3.9,baz=104,slow=5.1,SNR=2.9				
KWP	**Kalwaria**	**75.22 320**	*e*P	**P**	**00 21 23.6 -2.3**
OKC	**Ostrava-Krasne**	**77.49 322**	*e*P	**P**	**00 21 42.0 +3.4**
DPC	**Dobruska-Polom**	**78.09 323**	*e*P	**P**	**00 21 46.0 +4.1**
BRG	**Berggiesshubel**	**78.92 325**	P	**P**	**00 21 44.4 -2.1**
BRG			pmax	pmax	
	comp=Z,2.0nm,0.8s,mb4.1				
BRG	**Berggiesshubel**	**78.92 325**	P	**P**	**00 21 44.4 -2.1**
	comp=Z,2.1nm,0.8s,mb4.1				
CLL	**Collm**	**79.09 325**	*e*P	**P**	**00 21 47.0 -0.4**
CLL			*e*		00 21 57.0
CLL	**Collm**	**79.09 325**	P	**P**	**00 21 47.0 -0.4**
CLL			*e**PP	pP	00 21 57.0 +3.1
NKC	**Novy Kostel**	**80.06 325**	*e*P	**P**	**00 21 56.2 +3.5**
GERES	**GERESS Array B**	**80.36 323**	P	**P**	**00 21 53.7 -0.6**
	comp=Z,0.7nm,0.8s,mb3.6,baz=51,slow=8.5,SNR=4.4				
GERES			LR	LR	01 00 02.0
	comp=Z,221nm,18.1s,MS4.5,baz=220,slow=38				
FCC	**Fort Churchill**	**80.77 22**	*e*P	**P**	**00 21 56.3 +0.1**
FCC			pmax	pmax	
	comp=Z,11nm,1.2s,mb4.7				
FCC	**Fort Churchill**	**80.77 22**	*e*P	**P**	**00 21 56.2 0.0**
	comp=Z,11nm,1.2s,mb4.7				
GRF	**Grafenberg Arr**	**81.02 325**	*e*P	**P**	**00 22 02.6 +4.9**
	comp=Z,5.0nm,1.0s,mb4.4				
DAVOX	**Davos**	**83.66 323**	LR	LR	01 03 43.9
	comp=Z,261nm,18.1s,MS4.7,baz=68,slow=39				
NVAR	**Mina Array Bea**	**84.10 47**	P	**P**	**00 22 15.6 +1.7**
	comp=Z,1.4nm,0.8s,mb4.1,baz=350,slow=1.9,SNR=5.0				
PDAR	**Pinedale Array**	**86.27 40**	P	**P**	**00 22 25.8 +1.2**
	comp=Z,1.1nm,0.8s,mb4.1,baz=333,slow=3.3,SNR=8.1				
PDAR			LR	LR	01 02 11.9
	comp=Z,52nm,19.2s,MS3.9,baz=69,slow=36				
ULM	**Lac du Bonnet**	**87.00 28**	P	**P**	**00 22 30.1 +2.2**
	comp=Z,2.5nm,0.4s,mb4.8,baz=328,slow=2.9,SNR=4.2				
ULM			LR	LR	01 00 56.6
	comp=Z,60nm,20.6s,MS4.0,baz=292,slow=35				
RSSD	**Black Hills**	**88.13 36**	*e*P	**P**	**00 22 34.9 +1.4**
RSSD			pmax	pmax	
	comp=Z,4.0nm,0.9s,mb4.7				
RSSD	**Black Hills**	**88.13 36**	*e*P	**P**	**00 22 34.9 +1.3**
	comp=Z,3.6nm,0.9s,mb4.6				
SCHQ	**Schefferville**	**90.63 10**	LR	LR	01 06 51.2
	comp=Z,100nm,20.3s,MS4.2,baz=20,slow=38				
PPT	**Papeete**	**91.65 110**	LR	LR	00 58 35.5
	comp=Z,90nm,18.8s,MS4.2,baz=90,slow=32				

IDC 20 00:29:39.6±3.7, 1.88N×97.83E, mb3.5/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=133.4km s-min=28.5km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.52**	**4**	Pn	P	00 33 34.8	+0.4
	0.1nm,0.3s,baz=192,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**41.87**	**123**	P	P	00 37 31.9	-1.5
	1.4nm,0.6s,baz=302,slow=9.3,SNR=6.5						
SONM	**Songino Array**	**46.38**	**8**	P	P	00 38 06.9	-2.6
	0.5nm,0.9s,baz=174,slow=4.8,SNR=4.0						
MKAR	**Makanchi Array**	**46.74**	**345**	P	P	00 38 10.6	-1.8
	0.1nm,0.5s,baz=168,slow=7.0,SNR=3.0						

*IDC **20** 00:30:27.2±0.6, 2.15N×96.15E, mb4.3/15, mb1 4.4/16, mb1mx4.3/23, mbtmp4.3/16, ML4.5/1, MS3.8/6, Ms1 3.9/6, ms1mx3.4/30, Error ellipse: s-maj=27.0km s-min=13.1km az=48.0*

*MOS **20** 00:30:30.6±1.2, 2.14N×96.21E, h33km, mb5.0/9, Error ellipse: s-maj=15.9km s-min=8.5km az=94.1*

*BJI **20** 00:30:30.2, 1.82N×96.47E, h48km, mB4.9, mb4.9, Ms4.2, Msz4.0*

*NEIC **20** 00:30:33.2±1.8, 2.15N×96.19E, h40km±15km, mb4.9/14, Error ellipse: s-maj=14.3km s-min=5.9km az=59.0*

ISC 20 00:30:32.3±1.5, 2.19N±0.06×96.36E±0.07, h43km±13km, h26km±5.3km: pP-P, n82, σ1°09/81, mb4.7/44, MS4.1/13, 7C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.27**	**54**	*e*P	**P**	**00 31 51.0**	**+0.4**
SNG	**Songkhla**	**6.52**	**40**	P	**P**	**00 32 07.0**	**-1.1**
	376nm,0.9s						
KSM	**Kuching**	**13.96**	**93**	*e*P	**P**	**00 33 51.3**	**+1.7**
CM31	**Chiang Mai Arr**	**16.36**	**9**	P	**P**	**00 34 22.8**	**+2.2**
	6.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**16.36**	**9**	Pn	**P**	**00 34 19.6**	**-0.9**
	0.6nm,0.3s,baz=197,slow=10,SNR=28						
CMAR				LR	LR	00 41 31.4	
	comp=Z,466nm,18.9s,baz=200,slow=40						
CHG	**Chiang Mai**	**16.71**	**9**	P	**P**	**00 34 24.8**	**-0.2**
NANT	**Nan**	**17.04**	**14**	⇑P	**P**	**00 34 28.0**	**-1.2**
	102nm,0.7s						
KKM	**Kota Kinabalu**	**20.16**	**78**	*e*P	**P**	**00 35 05.6**	**-0.4**
QIZ	**Qiongzhong**	**21.31**	**37**	*e*P	**P**	**00 35 15.4**	**-2.3**
QIZ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb3.9						
QIZ				LR	LR		
	comp=N,791nm,13.3s,MS4.3						
QIZ				LR	LR		
	comp=E,482nm,13.5s,MS4.3						
QIZ				LR	LR		
	comp=Z,998nm,13.7s,MS4.4						
KMI	**Kunming**	**23.61**	**15**	P	**P**	**00 35 42.3**	**+1.9**
KMI				AP		00 35 49.3	
KMI				S	**S**	**00 39 49.3**	**+0.8**
KMI				SS	SS	00 40 39.1	+0.4
KMI				AMB	AMB		
	comp=Z,24nm,0.7s,mb4.7						
KMI				AMB	AMB		
	comp=Z,199nm,5.4s						
KMI				LR	LR		
	comp=N,354nm,15.2s,MS4.0						
KMI				LR	LR		
	comp=E,331nm,18.0s,MS4.0						
KMI				LR	LR		
	comp=Z,359nm,12.4s						
KMI	**Kunming**	**23.61**	**15**	P	**P**	**00 35 42.3**	**+1.9**
KMI				*SP		00 35 53.0	
KMI				S	**S**	**00 39 49.2**	**+0.7**
KMI				*SS		00 40 02.0	
KMI				SS	SS	00 40 39.1	+0.4
KMI				pmax	pmax		
	comp=Z,24nm,0.7s,mb4.7						
KMI				MLR	MLR		
	comp=Z,360nm,12.4s,MS4.0						
KMI	**Kunming**	**23.61**	**15**	P	**P**	**00 35 42.3**	**+1.9**
	comp=Z,24nm,0.7s,mb4.7						
KMI				pP		00 35 49.3	
KMI				sP		00 35 53.0	
KMI				S	**S**	**00 39 49.2**	**+0.7**
KMI				sS		00 40 02.0	
KMI				SS	SS	00 40 39.1	+0.4
KMI				LR	LR		
	comp=Z,360nm,12.4s,MS4.0						
GYA	**Guiyang**	**26.08**	**21**	⇑*i*P	**P**	**00 36 03.8**	**-0.2**
GYA				AP	pP	00 36 12.3	-2.9
GYA				XP	sP	00 36 16.8	-3.5
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
GYA				LR	LR		
	comp=N,270nm,14.1s,MS4.1						
GYA				LR	LR		
	comp=E,270nm,12.9s,MS4.1						
GYA				LR	LR		
	comp=Z,350nm,12.9s,MS4.1						
JIRN	**Jiri**	**27.13**	**340**	*e*P	**P**	**00 36 14.3**	**+0.7**
	comp=Z,57nm,0.7s,mb5.2						
PKI	**Pulchoki**	**27.33**	**338**	*e*P	**P**	**00 36 16.2**	**+0.8**
	comp=Z,18nm,0.7s,mb4.7						
GUN	**Gumba**	**27.47**	**340**	*e*P	**P**	**00 36 17.2**	**+0.5**
	comp=Z,46nm,0.6s,mb5.2						
DMN	**Daman**	**27.47**	**338**	*e*P	**P**	**00 36 17.1**	**+0.3**
KKN	**Kakani**	**27.57**	**338**	*e*P	**P**	**00 36 18.0**	**+0.3**
	comp=Z,34nm,0.7s,mb5.1						
LSA	**Lhasa**	**27.80**	**350**	*e*P	**P**	**00 36 19.8**	**+0.1**
LSA				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.8						
LSA	**Lh

comp=Z,21nm,0.7s,mb5.1
MBWA Marble Bar 32.59 137 *e*P **P 00 37 03.0 +0.8**
comp=Z,4.9nm,0.8s,mb4.5
XAN Xi'an 33.79 19 P **P 00 37 11.5 -0.9**
XAN AMB AMB
comp=Z,85nm,0.9s,mb5.7
LZH Lanzhou 34.43 11 ⇑P **P 00 37 17.5 -0.4**
LZH AMB AMB
comp=Z,37nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,78nm,4.5s
LZH LR LR
comp=N,157nm,13.8s
LZH LR LR
comp=Z,245nm,17.6s,MS4.0
LZH Lanzhou 34.43 11 ⇑P **P 00 37 17.5 -0.4**
comp=Z,37nm,1.3s,mb5.2
LZH pP pP 00 37 24.5 -5.0
LZH sP sP 00 37 29.1 -5.9
LZH LR LR
comp=Z,250nm,17.6s,MS4.0
FITZ Fitzroy Crossi 35.19 126 ⇑*i*P **P 00 37 24.3 -0.2**
comp=Z,16nm,0.9s,mb4.9
FITZ Fitzroy Crossi 35.19 126 P **P 00 37 23.5 -1.0**
comp=Z,16nm,0.8s,mb5.0,baz=320,slow=3.0,SNR=22
FITZ LR LR 00 53 13.6
comp=Z,126nm,20.0s,MS3.7,baz=317,slow=39
GTA Gaotai 37.18 4 P **P 00 37 41.4 +0.2**
GTA PP PP 00 39 09.1 +0.3
GTA PPP PPP 00 39 28.1 -1.3
GTA PCP PcP 00 40 02.0 +1.0
GTA S **S 00 43 26.8 +2.4**
GTA PCS 00 43 48.3
GTA SS SS 00 45 58.6 +2.1
GTA SCS ScS 00 47 51.8 +2.2
GTA AMB AMB
comp=Z,16nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,128nm,9.1s
GTA LR LR
comp=N,176nm,18.6s,MS4.0
GTA LR LR
comp=E,99nm,14.8s,MS4.0
GTA LR LR
comp=Z,166nm,14.5s,MS4.0
KAKA Kakadu 38.76 113 ⇑*i*P **P 00 37 54.2 -0.4**
comp=Z,13nm,0.6s,mb4.8
HHC Hu-ho-hao-te 40.86 18 *e*P **P 00 38 13.4 +1.6**
HHC AP pP 00 38 23.0 -0.6
HHC XP sP 00 38 26.6 -2.2
HHC PP PP 00 39 52.6 +3.3
HHC PCP PcP 00 40 11.8 -0.8
HHC SCP 00 43 59.8
HHC S **S 00 44 25.1 +5.2**
HHC XS 00 44 41.1
HHC SCS ScS 00 48 13.5 +2.6
HHC AMB AMB
comp=Z,20nm,1.2s,mb4.6
HHC AMB AMB
comp=Z,134nm,4.7s
HHC LR LR
comp=N,279nm,15.3s,MS4.7
HHC LR LR
comp=E,757nm,15.7s,MS4.7
HHC LR LR
comp=Z,153nm,15.3s,MS4.0
BJT Baijiatuau 41.73 23 *e*P **P 00 38 20.2 +1.3**
BJT *e* 00 38 27.5
BJT pmax pmax
comp=Z,47nm,0.7s
BJT Baijiatuau 41.73 23 *e*P **P 00 38 20.2 +1.3**
comp=Z,47nm,0.7s,mb5.2
BJT *e* 00 38 27.5
BJI Beijing 41.75 23 *e*P **P 00 38 20.3 +1.2**
BJI AP pP 00 38 26.9 -4.0
BJI AMB AMB
comp=Z,70nm,0.7s,mb5.4
BJI Beijing 41.75 23 *e*P **P 00 38 20.2 +1.1**
BJI *PP pP 00 38 26.9 -4.0
BJI pmax pmax
comp=Z,70nm,0.7s,mb5.4
BJI Beijing 41.75 23 *e*P **P 00 38 20.2 +1.1**
comp=Z,70nm,0.7s,mb5.4
BJI pP pP 00 38 26.9 -4.0
WRA Warramunga Arr 43.27 122 P **P 00 38 31.7 -0.1**
comp=Z,5.0nm,0.7s,mb4.3,baz=300,slow=9.1,SNR=13
WB2 Warramunga Arr 43.28 122 *e*P **P 00 38 32.6 +0.7**
UCH Uchtor 44.41 337 P **P 00 38 42.3 +1.6**
SNR=7.3
KBK Karagaybulak 44.61 337 P **P 00 38 43.8 +1.5**
SNR=11
ASPA Alice Springs 44.66 127 *e*P **P 00 38 43.8 +0.9**
ASAR Alice Springs 44.66 127 P **P 00 38 43.5 +0.5**
comp=Z,3.2nm,0.8s,mb4.2,baz=300,slow=7.9,SNR=24
AML Almayashu 44.66 336 P **P 00 38 44.1 +1.3**
SNR=12
AAK Ala-Archa 44.76 337 *e*P **P 00 38 44.6 +1.1**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
AAK Ala-Archa 44.76 337 *e*P **P 00 38 44.6 +1.1**
comp=Z,1.9nm,0.6s,mb4.1
EKS2 Erkin-Say 45.07 336 P **P 00 38 47.5 +1.5**
SNR=7.9
USP Ospenovka 45.30 338 P **P 00 38 48.8 +0.9**
SNR=5.7
MKAR Makanchi Array 46.09 347 P **P 00 38 53.6 -0.4**
comp=Z,23nm,0.9s,mb5.1,baz=160,slow=8.8,SNR=122
SONM Songino Array 46.29 9 P **P 00 38 55.5 0.0**
comp=Z,6.7nm,0.7s,mb4.7,baz=189,slow=9.1,SNR=67
SONM PcP PcP 00 40 31.5 +0.6
comp=Z,2.1nm,0.7s,baz=208,slow=3.5,SNR=5.5
ULN Ulaanbaatar 46.43 10 *e*P **P 00 38 56.6 -0.1**
ULN pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
ULN Ulaanbaatar 46.43 10 *e*P **P 00 38 56.6 -0.1**
comp=Z,7.0nm,1.1s,mb4.5
KKAR Karatay Array 46.80 334 P **P 00 39 00.3 +0.6**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
ZAK Zakamensk 48.37 6 *e*P **P 00 39 11.4 -0.5**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
TLY Talaya 49.69 6 *e*P **P 00 39 22.5 +0.5**
TLY *e* 00 39 29.3
TLY pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
TLY MLR MLR
comp=Z,88nm,16.0s,MS3.9
HIA Hailar 50.98 20 *e*P **P 00 39 31.8 -0.1**
HIA pmax pmax
comp=Z,8.0nm,0.8s
HIA Hailar 50.98 20 *e*P **P 00 39 31.8 -0.1**
comp=Z,7.6nm,0.8s,mb4.7
MJAR Matsushiro Arr 51.54 43 LR LR 01 03 21.8
comp=Z,94nm,19.9s,MS3.8,baz=30,slow=38
ZAL Zalesovo 52.45 351 LR LR 01 07 31.4
comp=Z,68nm,19.9s,MS3.7,baz=34,slow=42
CTA Charters Tower 53.69 117 P **P 00 39 53.1 +0.6**
comp=Z,3.6nm,0.7s,mb4.4,baz=258,slow=8.8,SNR=4.8
CTA LR LR 01 02 55.5
comp=Z,112nm,20.8s,MS3.9,baz=50,slow=36
STKA Stephens Creek 54.64 132 P **P 00 39 59.9 +0.6**
comp=Z,3.3nm,0.7s,mb4.5,baz=292,slow=6.5,SNR=7.4
BVAR Borovoye Array 55.05 341 P **P 00 40 00.9 -1.1**
comp=Z,3.5nm,0.7s,mb4.5,baz=117,slow=6.6,SNR=20
CHKZ Chkalovo 55.53 342 P **P 00 40 04.7 -0.8**
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
KLR Kul'dur 55.76 27 *e*P **P 00 40 04.7 -2.5**
KLR MLR MLR
comp=Z,800nm,16.0s,MS4.9
BOD Bodaibo 57.20 11 ⇑*i*P **P 00 40 17.1 -0.3**
BOD pmax pmax
comp=Z,13nm,0.8s,mb5.0
ASAJ Asahikawa 58.38 38 P **P 00 40 24.4 -1.5**
comp=Z,11nm,1.0s,mb4.8,baz=260,slow=18,SNR=2.8
KMBO Kilima Mbogo 59.19 267 P **P 00 40 29.6 -2.3**
comp=Z,0.5nm,0.5s,mb3.8,baz=60,slow=16,SNR=2.7
YSS Yuzh-Sakhalins 60.01 35 *e*P **P 00 40 35.0 -2.1**
SVE Sverdlovsk 61.46 339 *e*P **P 00 40 46.0 -0.8**
YAK Yakutsk 64.71 17 *e*P **P 00 41 06.5 -1.6**
YAK pmax pmax
comp=Z,24nm,0.9s,mb5.2
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK Yakutsk 64.71 17 *e*P **P 00 41 07.1 -1.0**
comp=E,50nm,0.9s,mb5.5
BRTR Keskin Array B 67.83 312 P **P 00 41 27.1 -1.1**
comp=E,0.4nm,0.5s,mb3.7,baz=79,slow=7.3,SNR=2.8
OBN Obninsk 71.34 328 *e*P **P 00 41 58.8 +9.3**
OBN *e* pP 00 42 14.2 +12
OBN pmax pmax
comp=Z,24nm,1.8s,mb4.8
MAW Mawson 73.48 193 LR LR 01 11 27.0
comp=Z,93nm,18.7s,MS4.1,baz=243,slow=34
AKASG Malin Array Be 73.97 322 P **P 00 42 03.5 -1.5**
comp=Z,0.2nm,0.4s,baz=90,slow=4.6,SNR=5.1
FINES FINESS Array B 78.74 333 P **P 00 42 30.0 -1.8**
comp=Z,2.1nm,0.7s,mb4.2,baz=103,slow=5.7,SNR=10
ARCES ARCESS Array B 81.33 340 P **P 00 42 46.0 +0.5**
comp=Z,2.0nm,0.6s,mb4.3,baz=90,slow=6.1,SNR=14
GERES GERESS Array B 83.52 319 P **P 00 42 55.6 -1.6**
comp=Z,0.2nm,0.3s,mb3.8,baz=80,slow=8.1,SNR=4.2
YKA Yellowknife Ar 111.36 15 Pdiff Pdif 00 45 07.4 +3.2
comp=Z,0.2nm,1.0s,baz=323,slow=5.6,SNR=3.8
YKA PP PP 00 49 37.2 -9.4
comp=Z,0.2nm,0.7s,baz=333,slow=6.6,SNR=3.8
CPUP Villa Florida 145.15 224 PKP PKPdf 00 50 06.1 +0.1
comp=Z,1.0nm,0.9s,baz=168,slow=4.3,SNR=2.5
CPUP Villa Florida 145.15 224 PKP PKPdf 00 50 06.1 +0.1

JMA 20 00:40:24.6, 33.66N×130.31E, h10km, M0.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.24**	**164**	P	Pg	00 40 29.6	-0.1
JFI				S	Sg	00 40 33.0	-0.2
JFA	**Akaike**	**0.41**	**83**	P	Pg	00 40 32.6	-0.3
JFA				S	Sg	00 40 38.3	-0.2
JII	**Iki**	**0.50**	**286**	P	Pg	00 40 34.3	-0.4
JII				S	Sg	00 40 41.1	-0.4

*NIED **20** 00:40:00, 33.70N×130.30E, h20km, Mw3.4 Best double couple: M0:1.47×10^14 NP1:φs214°, δ85°, λ169°. NP2: φs305°, δ79°, λ5°.*

JMA 20 00:40:33.9, 33.68N×130.28E, h15km, M3.5, 1C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.27**	**160**	⇑P	Pb	00 40 39.7	-0.2
JFI				S	Sb	00 40 43.6	-0.3
JFA	**Akaike**	**0.43**	**86**	⇓P	Pb	00 40 42.3	-0.4
JFA				S	Sb	00 40 48.4	-0.2
JII	**Iki**	**0.47**	**284**	⇓P	Pb	00 40 43.4	+0.1
JII				S	Sb	00 40 49.8	0.0
JTA	**Tamana**	**0.74**	**163**	S	Sb	00 40 57.9	+0.2

*IDC **20** 00:52:19.6±1.2, 5.24N×93.56E, mb3.9/9, mb1 4.0/10, mb1mx3.8/22, mbtmp3.8/10, ML3.6/1, Error ellipse: s-maj=54.3km s-min=17.4km az=55.0*
*NEIC **20** 00:52:24.2±0.6, 5.25N×93.67E, h30km, mb4.5/1, Error ellipse: s-maj=16.6km s-min=8.8km az=51.0*

ISC 20 00:52:22.6±0.8, 5.3N±0.1×93.7E±0.1, h30km, n13, σ0§51/13, mb3.9/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.90**	**90**	P	**Pn**	**00 54 03.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**14.05**	**21**	Pn	**P**	**00 55 42.9**	**+0.9**
	0.1nm,0.3s,baz=209,slow=11,SNR=3.9						
FITZ	**Fitzroy Crossi**	**39.13**	**127**	P	**P**	**00 59 49.9**	**+0.4**
	2.2nm,0.8s,mb4.0,baz=229,slow=3.7,SNR=4.4						
MKAR	**Makanchi Array**	**42.51**	**348**	P	**P**	**01 00 17.4**	**+0.4**
	1.1nm,0.5s,mb3.8,baz=174,slow=8.9,SNR=17						
SONM	**Songino Array**	**43.76**	**12**	P	**P**	**01 00 26.5**	**-0.6**
	0.5nm,0.7s,mb3.3,baz=201,slow=11,SNR=5.5						
WRA	**Warramunga Arr**	**47.15**	**123**	P	**P**	**01 00 54.8**	**+0.3**
	2.8nm,0.8s,mb4.3,baz=300,slow=9.0,SNR=8.5						
WRAB	**Tennant Creek**	**47.15**	**123**	*e*P	**P**	**01 00 54.2**	**-0.4**
	4.9nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**48.62**	**128**	P	**P**	**01 01 06.5**	**+0.5**
	0.6nm,0.6s,mb3.8,baz=299,slow=7.7,SNR=7.9						
BVAR	**Borovoye Array**	**51.30**	**342**	P	**P**	**01 01 25.9**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=162,slow=9.4,SNR=5.4						
FINES	**FINESS Array B**	**74.80**	**333**	P	**P**	**01 04 00.8**	**-0.8**
	2.0nm,1.0s,mb4.0,baz=90,slow=5.6,SNR=4.3						
ARCES	**ARCESS Array B**	**77.55**	**340**	P	**P**	**01 04 16.8**	**-0.2**
	0.8nm,0.6s,mb3.9,baz=104,slow=5.0,SNR=6.4						
ARCES	**ARCESS Array B**	**77.55**	**340**	P	**P**	**01 04 16.8**	**-0.2**
GERES	**GERESS Array B**	**79.47**	**319**	P	**P**	**01 04 28.1**	**+0.2**
	0.3nm,0.7s,mb3.4,baz=135,slow=3.8,SNR=3.7						

*THR **20** 01:11:13.6±0.5, 35.93N×45.21E, h14km±9km, ML3.2*
*TEH **20** 01:11:16.8, 36.29N×45.62E, h6km, Mn3.0*
*CSEM **20** 01:11:19.2±0.1, 36.34N×45.79E, h40km, ML3.0, Error ellipse: s-maj=4.2km s-min=1.8km az=11.0*

ISC 20 01:11:15.1±1.5, 36.28N±0.06×45.66E±0.04, h6km±11km, n16, σ1§02/21, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IAZR	**Azarshahr**	**1.41**	**10**	Pn	**Pn**	**01 11 40.4**	**-1.0**
IDHR	**Dehrash**	**1.69**	**159**	Pn	**Pn**	**01 11 45.0**	**-0.3**
IBST	**Bostanabad**	**1.72**	**35**	Pn	**Pn**	**01 11 45.7**	**-0.1**
SNGE	**Sanandaj**	**1.81**	**130**	*e*PG	**Pg**	**01 11 48.7**	**-2.6**
SNGE				*e*SG	**Sg**	**01 12 14.7**	**-0.9**
SNGE				AML	AML	01 12 24.2	
	comp=N,338nm,0.5s						
ITBZ	**Tabriz**	**1.98**	**11**	Pn	**Pn**	**01 11 50.7**	**+1.1**
IVIS	**Veys**	**2.01**	**151**	Pn	**Pn**	**01 11 50.9**	**+1.0**
MSL	**Mosul**	**2.08**	**271**	*e*Pn	**Pn**	**01 11 52.0**	**+1.1**
MSL				*e*Pb	**Pb**	**01 11 53.5**	**+0.7**
MSL				*e*Sn	**Sn**	**01 12 16.0**	**-1.4**
MSL				*i* Sb	**Sb**	**01 12 18.0**	**-0.9**
MSL				*i* Sg	**Sg**	**01 12 19.5**	**-4.8**
IGHG	**Ghaleghazi**	**2.09**	**159**	Pn	**Pn**	**01 11 52.6**	**+1.6**
GRMI	**Germi**	**3.08**	**34**	*e*PN	**Pn**	**01 12 10.8**	**+5.6**
IRAZ	**Razeghan**	**3.58**	**103**	Sn	**Sn**	**01 12 54.3**	**-1.0**
IRAZ	**Razeghan**	**3.58**	**103**	Pn	**Pn**	**01 12 13.2**	**+0.9**
ASAO	**Ashtian**	**3.96**	**115**	*e*PN	**Pn**	**01 12 19.4**	**+1.6**
ASAO				AML	AML	01 13 30.9	
	comp=N,13nm,0.7s						
IMHD	**Mahdasht**	**4.10**	**97**	Pn	**Pn**	**01 12 19.8**	**0.0**
IQOM	**Qom**	**4.64**	**106**	Pn	**Pn**	**01 12 26.9**	**-0.4**
IVRN	**Varamin**	**5.10**	**103**	Pn	**Pn**	**01 12 33.7**	**-0.2**
IDMV	**Damavand**	**5.22**	**96**	Pn	**Pn**	**01 12 35.0**	**-0.5**

*IDC **20** 01:57:02.7±2.1, 6.61S×129.40E, mb3.7/1, mb1 3.6/3, mb1mx3.4/15, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=122.3km s-min=31.5km az=68.0*

ISC 20 01:57:16.8±1.5, 7.21S±0.09×129.8E±0.1, h150km, n6, σ1§41/11, mb3.5/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.05**	**155**	*e*P	**P**	**01 58 46.3**	**+1.2**
	4.0nm,0.2s						
KAKA				*e*S	**S**	**01 59 53.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.55**	**200**	*e*P	**P**	**01 59 59.9**	**+1.8**
	1.8nm,0.2s						
FITZ				*e*S	**S**	**02 02 04.0**	**-0.7**
WRA	**Warramunga Arr**	**13.40**	**161**	Pn	**P**	**02 00 22.9**	**+0.9**
	0.3nm,0.3s,baz=339,slow=13,SNR=5.6						
WRA				Sn	**S**	**02 02 46.6**	**-1.1**
	1.1nm,0.3s,baz=339,slow=22,SNR=12						
WB2	**Warramunga Arr**	**13.40**	**161**	*e*P	**P**	**02 00 23.8**	**+1.8**
WB2				*e*S	**S**	**02 02 46.5**	**-1.3**
ASAR	**Alice Springs**	**16.83**	**167**	P	**P**	**02 01 09.0**	**+4.0**
	0.2nm,0.3s,baz=340,slow=8.8,SNR=4.8						
ASAR				S	**S**	**02 04 11.6**	**+5.8**
	0.2nm,0.3s,baz=346,slow=25,SNR=4.7						
MKAR	**Makanchi Array**	**68.29**	**327**	P	**P**	**02 08 01.2**	**-2.5**
	0.3nm,0.3s,mb3.5,baz=110,slow=8.2,SNR=7.1						

IDC 20 02:12:17.3±27.0, 20.90S×174.01W, mb4.2/4, mb1 4.3/4, mb1mx4.0/17, mbtmp4.2/4, Error ellipse: s-maj=499.9km s-min=153.0km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.16**	**264**	P	P	02 19 31.1	-0.8
	2.9nm,0.4s,baz=101,slow=10,SNR=7.1						
STKA	**Stephens Creek**	**40.99**	**245**	P	P	02 20 01.3	-2.4
	2.2nm,0.6s,baz=84,slow=9.2,SNR=5.2						
ASAR	**Alice Springs**	**48.06**	**257**	P	P	02 20 58.7	-2.0
	1.9nm,0.7s,baz=90,slow=8.3,SNR=12						
WB2	**Warramunga Arr**	**48.23**	**262**	*e*P	P	02 20 59.9	-2.1
WRA	**Warramunga Arr**	**48.24**	**262**	P	P	02 21 00.0	-2.1
	0.8nm,0.2s,baz=96,slow=8.5,SNR=15						

*IDC **20** 02:13:59.6±6.0, 4.52S×153.52E, h125km±48km, mb3.6/8, mb1 3.8/9, mb1mx3.7/16, mbtmp4.0/9, Error ellipse: s-maj=41.4km s-min=20.3km az=82.0*
*NEIC **20** 02:13:59.7±3.4, 4.49S×153.62E, h131km±27km, mb4.4/5, Error ellipse: s-maj=28.0km s-min=16.5km az=95.0*

ISC 20 02:14:00.2±4.0, 4.5S±0.1×153.4E±0.2, h140km±33km, n19, σ0§90/18, mb3.9/12, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.86**	**231**	P	**P**	**02 15 53.2**	**+0.3**
	5.5nm,0.3s,baz=28,slow=5.8,SNR=10						
PMG				S	**S**	**02 17 19.7**	**-1.0**
	1.9nm,0.3s,baz=139,slow=17,SNR=14						
PMG	**Port Moresby**	**7.86**	**231**	*e*P	**P**	**02 15 53.6**	**+0.7**
	16nm,0.5s						
WRAB	**Tennant Creek**	**24.06**	**229**	*e*P	**P**	**02 19 05.0**	**+1.1**
	9.5nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**24.07**	**229**	P	**P**	**02 19 05.3**	**+1.3**
	6.6nm,0.6s,mb4.4,baz=53,slow=9.7,SNR=23						
ASAR	**Alice Springs**	**26.76**	**223**	P	**P**	**02 19 28.8**	**-0.2**
	0.5nm,0.5s,mb3.4,baz=58,slow=8.6,SNR=8.2						
ASAR				PcP	PcP	02 22 48.6	-0.2
	0.7nm,0.7s,baz=44,slow=1.8,SNR=4.9						
STKA	**Stephens Creek**	**29.39**	**201**	P	**P**	**02 19 51.1**	**-1.5**
	2.4nm,0.6s,mb4.1,baz=8.5,slow=9.8,SNR=7.3						
STKA	**Stephens Creek**	**29.39**	**201**	*e*P	**P**	**02 19 51.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**30.30**	**241**	*e*P	**P**	**02 20 00.3**	**-0.5**
	5.2nm,0.6s,mb4.4						
FORT	**Forrest**	**35.38**	**219**	*e*P	**P**	**02 20 44.5**	**+0.1**
	261nm,0.6s						
MBWA	**Marble Bar**	**36.62**	**240**	*e*P	**P**	**02 20 56.4**	**+1.6**
	2.7nm,0.7s,mb4.0						
CMAR	**Chiang Mai Arr**	**58.27**	**295**	P	**P**	**02 23 42.3**	**-0.6**
	0.8nm,0.6s,mb3.8,baz=115,slow=5.3,SNR=5.5						
SONM	**Songino Array**	**66.38**	**327**	P	**P**	**02 24 36.2**	**-0.1**
	0.3nm,0.4s,mb3.4,baz=133,slow=5.9,SNR=3.2						
VNDA	**Vanda**	**73.11**	**178**	P	**P**	**02 25 16.3**	**-0.2**
	1.1nm,0.7s,mb3.7,baz=346,slow=7.0,SNR=6.2						
MKAR	**Makanchi Array**	**80.48**	**319**	P	**P**	**02 25 58.9**	**+0.7**
	0.7nm,0.8s,mb3.4,baz=98,slow=8.6,SNR=5.1						
CHKZ	**Chkalovo**	**89.31**	**324**	*e*P	**P**	**02 26 40.1**	**-1.6**
	1.8nm,1.0s,mb4.0						
YKA	**Yellowknife Ar**	**94.90**	**28**	P	**P**	**02 27 07.5**	**+0.2**
	0.1nm,0.6s,mb3.2,baz=266,slow=4.9,SNR=4.5						
YKA	**Yellowknife Ar**	**94.90**	**28**	P	**P**	**02 27 07.5**	**+0.2**
PLCA	**Paso Flores**	**119.67**	**143**	PKP	PKPdf	02 32 32.9	-1.0
	2.1nm,1.1s,baz=235,slow=11,SNR=2.8						
GERES	**GERESS Array B**	**124.10**	**329**	PKP	PKPdf	02 32 41.9	-0.4
	0.3nm,0.6s,baz=27,slow=3.0,SNR=4.3						

IDC 20 02:19:37.2±3.9, 1.27N×97.44E, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=166.3km s-min=22.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.87**	**122**	P	P	02 27 29.5	-1.7
	0.5nm,0.5s,baz=301,slow=9.2,SNR=3.2						
ASAR	**Alice Springs**	**43.25**	**127**	P	P	02 27 40.6	-1.8
	0.4nm,0.5s,baz=311,slow=8.3,SNR=4.4						
SONM	**Songino Array**	**47.03**	**8**	P	P	02 28 10.8	-1.5
	0.3nm,0.5s,baz=188,slow=10.0,SNR=4.6						
MKAR	**Makanchi Array**	**47.23**	**346**	P	P	02 28 12.1	-1.8
	0.4nm,0.5s,baz=163,slow=9.2,SNR=9.1						
ZAL	**Zalesovo**	**53.52**	**351**	P	P	02 28 59.0	-2.8
	1.2nm,0.4s,baz=268,slow=6.2,SNR=6.1						

ECX 20 02:21:26.8±0.3, 30.48N×114.27W, h4km, ML3.9, 2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.17**	**299**	*e*P	Pb	02 21 47.0	-2.2
SPX				*e*S	Sb	02 22 03.5	-1.0
ECBX	**El Chinero**	**1.19**	**326**	*e*S	Sb	02 22 03.5	-1.7
EMX	**El Mayor**	**1.71**	**331**	*e*S	Sn	02 22 19.1	-1.2
RDX	**Rancho Dowling**	**2.04**	**316**	*e*PN	Pn	02 22 01.9	-0.4
RDX				*e*S	Sn	02 22 29.0	+0.6
CPBX	**Cerro Prieto**	**2.12**	**336**	*e*PN	Pn	02 22 02.9	-0.5
CPBX				⇓*e*		02 22 52.7	
	comp=E,2μm,0.7s						
CPBX				⇓*e*		02 23 13.2	
	comp=N,3μm,0.7s						
ECNX	**Esteban Cantu**	**2.31**	**301**	*e*PN	Pn	02 22 05.6	-0.6
PBX	**Punta Banda**	**2.45**	**301**	*e*PN	Pn	02 22 07.4	-0.8
ENX	**Ensenada**	**2.48**	**305**	*e*PN	Pn	02 22 07.9	-0.7
ENX				*e*S	Sn	02 22 39.4	-0.3
CBX	**Cerro Bola**	**2.74**	**312**	*e*PN	Pn	02 22 11.6	-0.7

*STR **20** 02:23:10.4±0.6, 42.50N×2.38E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 02:23:10.8±0.2, 42.50N×2.42E, h4km, Md2.6/5, Ml2.6/18*
*NEIC **20** 02:23:10.4, 42.50N×2.38E, h5km, ML2.6(LDG), ML2.3(STR), After STR.*
*CSEM **20** 02:23:10.7±0.1, 42.50N×2.44E, h10km, ML2.6/17, Error ellipse: s-maj=2.3km s-min=1.6km az=140.0*

MDD 20 02:23:10.8±0.2, 42.51N×2.43E, h7km±3km, mbLg2.0/14, Error ellipse: s-maj=1.8km s-min=1.2km az=9.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FILF	**Fillols**	**0.11**	**61**	Pg	Pg	02 23 12.3	-1.0
FILF				Sg	Sg	02 23 14.8	-0.1
FILF	**Fillols**	**0.11**	**61**	Pg	Pg	02 23 12.3	-1.0
FILF				Lg		02 23 13.5	
CBRU	**Bruguera**	**0.29**	**220**	Pg	Pg	02 23 16.3	-0.4
CBRU				Lg		02 23 20.3	
	34nm,0.1s						
CARF	**Carcanieres**	**0.32**	**311**	Pg	Pg	02 23 16.7	-0.6
CARF				Sg	Sg	02 23 21.1	-0.5
CARF	**Carcanieres**	**0.32**	**311**	Pg	Pg	02 23 16.8	-0.5
CARF				Lg		02 23 21.1	
SJAF	**Saint Jean de**	**0.33**	**94**	Pg	Pg	02 23 16.9	-0.6
SJAF				Lg		02 23 21.6	
CLLI	**Llivia**	**0.34**	**265**	Pg	Pg	02 23 17.1	-0.6
CLLI				Lg		02 23 21.8	
	19nm,0.1s						
EJON	**La Jonquera**	**0.34**	**100**	Pg	Pg	02 23 17.3	-0.5
	3.5nm,0.1s,SNR=27						
EJON				Lg		02 23 21.7	
	6.0nm,0.3s,SNR=11						
EJON	**La Jonquera**	**0.34**	**100**	Pg	Pg	02 23 17.3	-0.5
	3.5nm,0.1s,SNR=27						
EJON				Lg		02 23 21.7	
	6.0nm,0.3s,SNR=11						
LRDF	**Laroque-de-Fa**	**0.44**	**10**	Pg	Pg	02 23 18.8	-0.8
LRDF				Sg	Sg	02 23 25.3	-0.2
LRDF	**Laroque-de-Fa**	**0.44**	**10**	Pg	Pg	02 23 18.9	-0.7
LRDF				Lg		02 23 25.2	
PAND	**Andorre**	**0.66**	**272**	Pg	Pg	02 23 23.0	-0.9
PAND				Lg		02 23 31.7	
CFON	**Fontmartina**	**0.74**	**180**	Pg	Pg	02 23 24.6	-1.1
CFON				Lg		02 23 34.5	
	35nm,0.1s						
MTLF	**Montolieu**	**0.85**	**349**	*e*Pg	Pg	02 23 26.5	-1.3
MTLF				*e*Sg	Sg	02 23 37.5	-1.6
	19nm,0.2s						
CORG	**Organya**	**0.87**	**252**	Pg	Pg	02 23 26.8	-1.5
SALF	**Salau**	**0.95**	**286**	Pg	Pg	02 23 28.2	-1.6
SALF				Sg	Sg	02 23 40.4	-2.1
SALF	**Salau**	**0.95**	**286**	Pg	Pg	02 23 28.2	-1.6
SALF				Lg		02 23 40.4	
CSOR	**Sort**	**0.97**	**263**	Pg	Pg	02 23 28.7	-1.5
CSOR				Lg		02 23 41.5	
	6.2nm,0.2s						
MELF	**Melles**	**1.29**	**287**	Lg		02 23 51.0	
CAVN	**Les Avellanes**	**1.40**	**244**	Pg	Pg	02 23 36.7	-2.0

CAVN Lg 02 23 55.1
13nm,0.1s
EPOB Poblet 1.53 222 Pg Pg 02 23 39.3 -2.2
EPOB Lg 02 23 58.8
EPOB Poblet 1.53 222 Pg Pg 02 23 39.3 -2.2
3.9nm,0.1s,SNR=18
EPOB Lg 02 23 59.3
12nm,0.4s,SNR=18
EPOB Poblet 1.53 222 Pg Pg 02 23 39.3 -2.2
3.9nm,0.1s,SNR=18
CGAR Garraf 1.55 219 Pg Pg 02 23 34.5 -7.3
CGAR Lg 02 23 51.8
5.0nm,0.1s
EPF Esparros 1.63 289 *e*Pg Pg 02 23 40.0 -3.3
EPF *e*Sg Sg 02 24 00.5 -4.5
5.8nm,0.4s
EBIE Bielsa 1.70 277 Pg Pg 02 23 43.0 -1.7
EBIE Lg 02 24 05.7
EBIE Bielsa 1.70 277 Pg Pg 02 23 42.9 -1.9
1.3nm,0.2s,SNR=11
EBIE Lg 02 24 05.5
1.7nm,0.1s,SNR=5.6
EBIE Bielsa 1.70 277 Pg Pg 02 23 43.0 -1.8
1.3nm,0.2s,SNR=11
LASF Ste Croix 1.88 33 *e*Pn Pn 02 23 40.8 -3.0
LASF *e*Pg Pg 02 23 45.4 -3.0
LASF *e*Sg Sg 02 24 08.8 -4.7
4.4nm,0.2s
ERTA Horta de San J 2.21 226 Pn Pn 02 23 47.4 -1.0
ERTA Pg Pg 02 23 50.6 -4.2
ERTA Lg 02 24 20.1
ERTA Horta de San J 2.21 226 Pn Pn 02 23 47.4 -1.1
0.4nm,0.1s,SNR=10.0
ERTA Pg Pg 02 23 50.6 -4.2
0.4nm,0.2s,SNR=7.9
ERTA Lg 02 24 20.9
2.6nm,0.1s,SNR=7.9
ERTA Horta de San J 2.21 226 Pn Pn 02 23 47.4 -1.0
0.4nm,0.1s,SNR=10.0
ERTA Horta de San J 2.21 226 Pg Pg 02 23 50.6 -4.3
0.4nm,0.2s,SNR=7.9
ETSF Etsaut 2.24 281 *e*Pg Pg 02 23 52.5 -3.0
ETSF *e*Sg Sg 02 24 21.2 -4.2
6.4nm,0.3s
ESAC San Caprasio 2.30 251 Pg Pg 02 23 52.9 -3.8
2.5nm,0.1s,SNR=7.9
ESAC Lg 02 24 24.3
9.3nm,0.2s,SNR=7.9
ESAC San Caprasio 2.30 251 Pg Pg 02 23 52.9 -3.8
2.5nm,0.1s,SNR=7.9
CAF Calviac 2.43 354 *e*Pn Pn 02 23 49.6 -2.1
CAF *e*Pg Pg 02 23 56.1 -3.3
CAF *e*Sg Sg 02 24 26.7 -5.1
11nm,0.2s
LFF La Frestale 2.72 334 *e*Pn Pn 02 23 53.6 -2.2
LFF *e*Pg Pg 02 24 01.5 -3.7
LFF *e*Sg Sg 02 24 35.9 -5.6
11nm,0.3s
SMRF Simiane la Rot 2.73 56 *e*Pg Pg 02 24 02.8 -2.4
SMRF *e*Sg Sg 02 24 36.6 -5.0
9.3nm,0.7s
SMRF Simiane la Rot 2.73 56 Lg 02 24 36.6
9.3nm,0.7s
SJPF Ste Jean 2.76 284 *e*Sg Sg 02 24 36.3 -6.4
5.0nm,0.5s
VIVF Saint-Julien-l 2.85 34 *e*Pn Pn 02 23 55.0 -2.7
VIVF *e*Pg Pg 02 24 03.8 -4.0
VIVF *e*Sg Sg 02 24 40.2 -5.7
3.7nm,0.3s
RJF Les Rejaudoux 2.87 347 *e*Pg Pg 02 24 04.2 -4.0
RJF *e*Sn Sn 02 24 28.7 -4.5
RJF *e*Sg Sg 02 24 39.8 -6.7
7.1nm,0.3s
EALK Alkurruntz 2.98 285 Pg Pg 02 24 05.8 -4.5
4.7nm,0.6s,SNR=7.9
EMOS Mosqueruela 3.06 227 Pn Pn 02 23 59.0 -1.6
4.2nm,0.6s,SNR=7.9
EMOS Pg Pg 02 24 06.2 -5.6
1.6nm,0.4s,SNR=4.0
EMOS Sn Sn 02 24 34.8 -3.1
1.3nm,0.8s,SNR=7.9
EMOS Lg 02 24 48.1
0.5nm,0.1s,SNR=4.0
EMOS Mosqueruela 3.06 227 Pg Pg 02 24 05.8 -6.1
0.3nm,0.2s,SNR=4.0
LMR La Mourre 3.11 73 *e*Pn Pn 02 23 58.6 -2.7
LMR *e*Sn Sn 02 24 34.5 -4.6
3.8nm,0.3s
FRF La Foret Royal 3.26 70 *e*Pn Pn 02 24 00.9 -2.6
FRF *e*Sn Sn 02 24 37.5 -5.6
1.4nm,0.3s
TCF Toulx Ste Croi 3.78 358 *e*Pg Pg 02 24 21.5 -4.8
TCF *e*Sg Sg 02 25 09.4 -7.4
3.3nm,0.3s
BGF Bois d'Agland 4.06 4 *e*Pg Pg 02 24 26.5 -5.4
BGF *e*Sg Sg 02 25 18.6 -7.4
8.7nm,0.4s
SMF Signal de Mont 4.26 13 *e*Pg Pg 02 24 30.6 -5.2
SMF *e*Sg Sg 02 25 24.8 -7.8
AVF Avril sur Loir 4.33 8 *e*Pg Pg 02 24 31.3 -6.0
AVF *e*Sg Sg 02 25 26.3 -8.8
1.4nm,0.3s
MFF Saint Martin d 4.49 337 *e*Pn Pn 02 24 17.7 -3.2
MFF *e*Sg Sg 02 25 31.4 -8.9
SSF Saint Saulge 4.62 9 *e*Pg Pg 02 24 36.9 -6.1
SSF *e*Sg Sg 02 25 36.2 -8.3
0.8nm,0.3s
PGF Pioggiola 4.85 87 *e*Sn Sn 02 25 13.4 -10
2.1nm,0.3s
CABF La Chapelle 4.86 31 *e*Pg Pg 02 24 41.4 -6.5

BJI ***20*** *02:28:46.3, 18.61S×178.30W, h577km, mB4.9, mb4.7*
NEIC ***20*** *02:28:49.6±0.6, 17.85S×178.60W, h565km±7km, mb4.7/60, Error ellipse: s-maj=7.4km s-min=3.7km az=146.0*
IDC ***20*** *02:28:51.3±1.6, 17.93S×178.63W, h587km±18km, mb4.1/11, mb1 4.3/12, mb1mx4.2/15, mbtmp4.9/12, Error ellipse: s-maj=16.9km s-min=10.3km az=147.0*
ISC 20 02:28:51.8±1.2,**17.90S**±0.07×**178.71W**±0.05,
h605km±15km,**n188,o0**%**76**/151,**mb4.7**/73,**9C-14D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.76**	**60**	*e*P	**P**	**02 30 43.1**	**-6.2**
94nm,0.7s							
DZM	**Mont Dzumac**	**14.56**	**251**	*e*P	**P**	**02 31 56.5**	**+0.9**
DZM	**Mont Dzumac**	**14.56**	**251**	P	**P**	**02 31 56.2**	**+0.6**
5.6nm,0.3s,baz=78,slow=17,SNR=31							
DZM	**Mont Dzumac**	**14.56**	**251**	*e*P	**P**	**02 31 56.5**	**+0.9**
NOUC	**Port Laguerre**	**14.70**	**251**	*e*P	**P**	**02 31 56.6**	**-0.3**
URZ	**Urewera**	**20.61**	**189**	P	**P**	**02 32 49.0**	**-3.2**
8.9nm,0.7s,baz=38,slow=3.5,SNR=5.8							
CTA	**Charters Tower**	**33.17**	**261**	⇓*iP*	**P**	**02 34 42.0**	**+0.5**
33nm,0.6s,mb5.1							
CTA	**Charters Tower**	**33.17**	**261**	P	**P**	**02 34 41.5**	**0.0**
baz=90,slow=11							
CTAO	**Charters Tower**	**33.17**	**261**	*e*P	**P**	**02 34 41.5**	**0.0**
46nm,0.8s,mb5.2							
CNB	**Canberra Magne**	**33.21**	**232**	⇓*iP*	**P**	**02 34 42.6**	**+0.9**
2μm,0.6s							
PMG	**Port Moresby**	**34.18**	**280**	*e*P	**P**	**02 34 50.4**	**+0.5**
163nm,0.9s,mb5.7							
TOO	**Toolangi**	**36.96**	**231**	⇑*iP*	**P**	**02 35 13.7**	**+1.1**
38nm,0.7s,mb5.0							
STKA	**Stephens Creek**	**38.39**	**241**	⇓*iP*	**P**	**02 35 25.4**	**+1.1**
47nm,0.5s,mb5.3							
STKA	**Stephens Creek**	**38.39**	**241**	P	**P**	**02 35 25.3**	**+1.0**
55nm,0.5s,mb5.4,baz=92,slow=9.5,SNR=219							
STKA				ScP		02 40 18.3	
1.2nm,0.5s,baz=46,slow=2.4,SNR=3.2							
STKA	**Stephens Creek**	**38.39**	**241**	*e*P	**P**	**02 35 25.1**	**+0.8**
YOMI	**Yo Moklole**	**42.71**	**286**	⇑*iP*	**P**	**02 35 58.6**	**-0.4**
167nm,0.5s,mb5.8							
MENI	**Mendum Tagoi**	**42.90**	**286**	⇓*iP*	**P**	**02 36 00.6**	**+0.1**
81nm,0.5s,mb5.5							
WB2	**Warramunga Arr**	**44.34**	**260**	⇓*iP*	**P**	**02 36 11.1**	**-0.5**
WB2				*e*PCP	PcP	02 37 37.6	-4.8
WB2				*e*S	**S**	**02 42 02.4**	**-1.2**
WB2				*e*SCS	ScS	02 45 06.8	+5.5
WRAB	**Tennant Creek**	**44.34**	**260**	*e*P	**P**	**02 36 10.9**	**-0.7**
93nm,0.6s,mb5.5							
WRA	**Warramunga Arr**	**44.35**	**260**	P	**P**	**02 36 11.2**	**-0.6**
46nm,0.5s,mb5.3,baz=96,slow=7.0,SNR=406							
WRA				ScP		02 40 40.2	
3.7nm,1.1s,baz=83,slow=3.7,SNR=7.3							
WRA				S	**S**	**02 42 02.4**	**-1.3**
1.1nm,0.8s,baz=98,slow=14,SNR=2.7							
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	**02 36 13.0**	**0.0**
334nm,0.6s,baz=88,slow=8.4,SNR=3395							
ASAR				ScP		02 40 40.5	
4.6nm,1.0s,baz=98,slow=4.2,SNR=8.5							
ASAR				S	**S**	**02 42 06.3**	**+0.2**
5.8nm,1.1s,baz=87,slow=16,SNR=8.1							
ASPA	**Alice Springs**	**44.52**	**254**	⇓*iP*	**P**	**02 36 13.1**	**+0.1**
ASPA				*e*SCP		02 40 42.1	
ASPA				*e*S	**S**	**02 42 06.4**	**+0.4**
ASPA				*e*SCS	ScS	02 45 07.7	+5.3
KAKA	**Kakadu**	**47.30**	**269**	⇓*iP*	**P**	**02 36 33.9**	**-0.3**
122nm,0.6s,mb5.6							
FORT	**Forrest**	**49.76**	**245**	*e*P	**P**	**02 36 51.2**	**-1.1**
2μm,0.5s							
FITZ	**Fitzroy Crossi**	**52.75**	**261**	⇓*iP*	**P**	**02 37 14.0**	**+0.1**
17nm,0.4s,mb4.7							
MBWA	**Marble Bar**	**57.80**	**256**	*e*P	**P**	**02 37 48.3**	**-0.5**
34nm,0.6s,mb4.7							
KLBR	**Kellerberrin**	**58.58**	**244**	*e*P	**P**	**02 37 53.2**	**-0.7**
866nm,0.5s							
NWAO	**Narrogin (SRO)**	**58.96**	**242**	*e*P	**P**	**02 37 55.7**	**-0.8**
9.2nm,0.5s,mb4.2							
MUN	**Mundaring**	**59.88**	**243**	*e*P	**P**	**02 38 02.5**	**0.0**
99nm,0.5s,mb5.3							
SBA	**Scott Base**	**60.41**	**184**	*e*P	**P**	**02 38 06.0**	**+0.6**
3.2nm,0.7s,mb3.7							
VNDA	**Vanda**	**60.43**	**185**	P	**P**	**02 38 05.0**	**-0.6**
1.4nm,0.7s,baz=358,slow=7.3,SNR=9.7							
VNDA	**Vanda**	**60.43**	**185**	*e*P	**P**	**02 38 05.4**	**-0.2**
1.4nm,0.8s							
KEDI	**Kedomdong**	**63.88**	**269**	⇑*iP*	**P**	**02 38 28.3**	**-0.3**
70nm,0.7s,mb5.1							
RATI	**Rata**	**64.38**	**269**	⇓*iP*	**P**	**02 38 31.4**	**-0.3**
396nm,0.5s							
KELI	**Kelakatan**	**65.50**	**269**	⇓*iP*	**P**	**02 38 38.0**	**-0.8**
104nm,0.4s,mb5.6							
SRDI	**Scrawed**	**65.76**	**269**	⇑*iP*	**P**	**02 38 39.8**	**-0.6**
81nm,0.9s,mb5.2							
CASY	**Casey**	**66.03**	**205**	*e*P	**P**	**02 38 40.6**	**-0.6**
12nm,1.1s,mb4.2							
MJAR	**Matsushiro Arr**	**67.73**	**324**	P	**P**	**02 38 51.5**	**-0.5**
4.4nm,0.5s,mb4.2,baz=145,slow=6.3,SNR=11							
MAJO	**Matsushiro**	**67.73**	**324**	*e*P	**P**	**02 38 52.3**	**+0.3**
QSPA	**South Pole Qui**	**72.16**	**180**	*e*P	**P**	**02 39 17.5**	**+0.2**
6.8nm,0.6s,mb4.3							
UNV	**Unalaska Valle**	**72.22**	**8**	*e*P	**P**	**02 39 16.1**	**-1.9**
KSM	**Kuching**	**72.40**	**277**	*e*P	**P**	**02 39 21.2**	**+1.4**
QZH	**Quanzhou**	**74.43**	**303**	⇑*iP*	**P**	**02 39 32.3**	**+1.2**
MWC	**Mount Wilson**	**77.54**	**48**	*e*P	**P**	**02 39 47.6**	**-0.3**
NJ2	**Nanjing**	**77.71**	**310**	*e*P	**P**	**02 39 49.4**	**+0.6**
NJ2				S	S	02 48 58.0	+5.2
NJ2				AMB	AMB		
comp=Z,40nm,0.7s,mb5.0							
NJ2				AMB	AMB		
comp=Z,2μm,5.6s							
MDJ	**Mudanjiang**	**78.01**	**325**	P	**P**	**02 39 50.5**	**+0.4**
MDJ				AMB	AMB		
comp=Z,28nm,1.3s,mb4.5							
MDJ				AMB	AMB		
comp=Z,151nm,3.3s							
CMB	**Columbia Colle**	**78.03**	**43**	*e*P	**P**	**02 39 49.8**	**-0.6**
comp=Z,22nm,1.0s,mb4.5							
WDC	**Whiskeytown Da**	**78.12**	**40**	*e*P	**P**	**02 39 50.9**	**+0.1**
comp=Z,18nm,1.2s,mb4.4							
LAMM	**Antelope Mount**	**78.67**	**39**	P	**P**	**02 39 54.5**	**+0.8**
YBH	**Yreka Blue Hor**	**78.70**	**39**	*e*P	**P**	**02 39 54.0**	**+0.2**
comp=Z,17nm,0.8s,mb4.4							
OMM	**Old Mammoth Mi**	**78.72**	**44**	*e*P	**P**	**02 39 53.7**	**-0.4**
MTUM	**Tungsten Hills**	**78.86**	**45**	*e*P	**P**	**02 39 54.6**	**-0.2**
LHEM	**Herd Peak**	**78.93**	**40**	P	**P**	**02 39 55.5**	**+0.4**
HUMO	**Hull Mountain**	**79.07**	**38**	*e*P	**P**	**02 39 55.9**	**+0.1**
comp=Z,22nm,1.0s,mb4.4							
WCN	**Washoe City**	**79.14**	**43**	*e*P	**P**	**02 39 56.3**	**+0.1**
comp=Z,21nm,0.9s,mb4.5							
BUOR	**Burton Butte**	**79.30**	**39**	P	**P**	**02 39 57.1**	**+0.1**
LASM	**Arnica Sink**	**79.31**	**40**	P	**P**	**02 39 57.9**	**+0.9**
BBOR	**Butler Butte**	**79.40**	**38**	P	**P**	**02 39 57.9**	**+0.4**
HOG	**Hogback Mounta**	**79.60**	**39**	P	**P**	**02 39 58.8**	**+0.3**
NVAR	**Mina Array Bea**	**79.61**	**44**	P	**P**	**02 39 59.0**	**+0.3**
comp=Z,14nm,0.7s,mb4.4,baz=229,slow=9.8,SNR=74							
MNV	**Mina**	**79.71**	**44**	*e*P	**P**	**02 39 59.1**	**-0.2**
comp=Z,41nm,1.4s,mb4.6							
LDFC	**Landfair**	**80.06**	**48**	*e*P	**P**	**02 40 01.5**	**+0.4**
TPH	**Tonopah**	**80.14**	**45**	*e*P	**P**	**02 40 01.3**	**-0.2**
comp=Z,10nm,1.1s,mb4.1							
HBO	**Huckleberry Mo**	**80.18**	**38**	P	**P**	**02 40 02.0**	**+0.5**
MOD	**Modoc**	**80.26**	**40**	*e*P	**P**	**02 40 01.9**	**-0.1**
comp=Z,50nm,1.2s,mb4.7							
SSOR	**Sweet Springs**	**80.70**	**37**	P	**P**	**02 40 04.2**	**0.0**
SVW2	**Sparrevohn**	**80.88**	**11**	*e*P	**P**	**02 40 04.3**	**-0.4**
VLMM	**Larch Mountain**	**81.35**	**36**	P	**P**	**02 40 07.3**	**-0.1**
BMN	**Battle Mountai**	**81.39**	**43**	*e*P	**P**	**02 40 07.5**	**-0.2**
comp=Z,48nm,1.3s,mb4.8							
WVOR	**Wild Horse Val**	**81.58**	**40**	*e*P	**P**	**02 40 08.4**	**-0.3**
comp=Z,34nm,1.0s,mb4.8							
CROR	**Criterion Ridg**	**81.62**	**37**	P	**P**	**02 40 09.0**	**+0.1**
TUC	**Tucson**	**81.92**	**52**	*e*P	**P**	**02 40 11.2**	**+0.6**
comp=Z,22nm,1.1s,mb4.6							
WPW	**White Pass**	**82.31**	**36**	P	**P**	**02 40 12.5**	**+0.2**
TTA	**Tatalina**	**82.51**	**10**	*e*P	**P**	**02 40 13.1**	**+0.1**
PWA	**Palmer West**	**82.54**	**13**	*e*P	**P**	**02 40 12.4**	**-0.7**
ARUT	**Antelope Range**	**82.57**	**47**	*e*P	**P**	**02 40 12.0**	**-1.8**
PMR	**Palmer**	**82.66**	**14**	*e*P	**P**	**02 40 13.0**	**-0.7**
NAC	**Naches**	**82.73**	**36**	P	**P**	**02 40 14.7**	**+0.3**
ELK	**Elko**	**82.84**	**43**	*e*P	**P**	**02 40 14.8**	**-0.2**
comp=Z,14nm,0.9s,mb4.5							
TWW	**Teanaway**	**82.94**	**36**	P	**P**	**02 40 16.4**	**+0.9**
DIV	**Divide**	**83.06**	**15**	*e*P	**P**	**02 40 14.8**	**-0.9**
comp=Z,46nm,0.7s,mb5.1							
SNIWA	**Snively Ranch**	**83.23**	**37**	P	**P**	**02 40 17.2**	**+0.3**
BVW	**Beverly**	**83.31**	**36**	P	**P**	**02 40 17.9**	**+0.6**
BMO	**Blue Mountains**	**83.71**	**39**	*e*P	**P**	**02 40 19.2**	**0.0**
comp=Z,4.1nm,0.8s,mb4.0							
MVU	**Marysvale**	**83.77**	**46**	*e*P	**P**	**02 40 20.7**	**+1.0**
comp=Z,17nm,1.2s,mb4.5							
MAW	**Mawson**	**83.77**	**200**	P	**P**	**02 40 18.5**	**-0.5**
comp=Z,6.0nm,0.7s,mb4.2,baz=105,slow=6.5,SNR=9.2							
EPH	**Ephrata**	**83.78**	**36**	P	**P**	**02 40 19.5**	**0.0**
MSU	**Marysvale**	**83.79**	**46**	*e*P	**P**	**02 40 21.1**	**+1.2**
ENH	**Enshi**	**84.03**	**304**	*e*P	**P**	**02 40 22.6**	**+1.4**
comp=Z,38nm,1.0s,mb4.9							
DUG	**Dugway**	**84.17**	**45**	*e*P	**P**	**02 40 21.7**	**0.0**
comp=Z,1.7nm,0.6s,mb3.8							
OD2	**Odessa Site #2**	**84.29**	**36**	P	**P**	**02 40 22.4**	**+0.4**
MCK	**McKinley**	**84.59**	**13**	*e*P	**P**	**02 40 22.0**	**-1.1**
comp=Z,11nm,0.9s,mb4.5							
GYA	**Guiyang**	**84.78**	**300**	⇑*iP*	**P**	**02 40 26.8**	**+1.8**
GYA				AP	pP	02 42 25.3	-8.9
GYA				PP	PP	02 43 55.1	+2.0
GYA				S	S	02 50 10.3	+7.4
GYA				AMB	AMB		
comp=Z,20nm,0.8s,mb4.8							
GYA				AMB	AMB		
comp=Z,90nm,3.2s							
HLID	**Hailey**	**84.81**	**41**	*e*P	**P**	**02 40 24.9**	**+0.2**
comp=Z,12nm,0.8s,mb4.6							
TMUT	**Trail Mountain**	**84.83**	**46**	*e*P	**P**	**02 40 25.5**	**+0.6**
DPW	**Davenport**	**84.85**	**36**	P	**P**	**02 40 24.7**	**0.0**
HVU	**Hansel Valley**	**84.97**	**43**	*e*P	**P**	**02 40 25.3**	**-0.2**
THY	**Trims Highway**	**85.03**	**14**	*e*P	**P**	**02 40 25.2**	**0.0**
SRU	**San Rafael**	**85.22**	**46**	*e*P	**P**	**02 40 26.5**	**-0.2**
DAU	**Daniels Canyon**	**85.32**	**45**	*e*P	**P**	**02 40 27.2**	**0.0**
TCUT	**Toone Canyon**	**85.55**	**44**	*e*P	**P**	**02 40 28.5**	**+0.2**
NEW	**Newport**	**85.67**	**36**	*e*P	**P**	**02 40 27.7**	**-1.0**
comp=Z,8.1nm,0.8s,mb4.4							
HWUT	**Hardware Ranch**	**85.68**	**44**	*e*P	**P**	**02 40 28.2**	**-0.7**
comp=Z,5.0nm,0.7s,mb4.2							
MNTX	**Cornudas Mount**	**85.80**	**55**	*e*P	**P**	**02 40 29.6**	**-0.1**
comp=Z,6.2nm,0.7s,mb4.3							
IMA	**Indian Mountai**	**85.81**	**10**	*e*P	**P**	**02 40 28.9**	**0.0**
comp=Z,13nm,1.0s,mb4.5							
COLA	**College**	**85.83**	**13**	*e*P	**P**	**02 40 27.5**	**-1.5**
comp=Z,8.0nm,0.7s,mb4.5							
ILAR	**Eielson Array**	**85.94**	**13**	P	**P**	**02 40 28.1**	**-1.5**
comp=Z,4.9nm,0.4s,mb4.5,baz=222,slow=5.1,SNR=155							
ILAR				PP	PP	02 43 53.3	-8.0
comp=Z,0.6nm,0.8s,baz=209,slow=9.3,SNR=3.2							
XAN	**Xi'an**	**86.03**	**308**	P	**P**	**02 40 32.8**	**+2.0**
XAN				AMB	AMB		
comp=Z,19nm,1.1s,mb4.6							
LTX	**Lajitas**	**86.23**	**58**	*e*P	**P**	**02 40 32.5**	**+0.6**
comp=Z,38nm,1.2s,mb4.9							
ANMO	**Albuquerque**	**86.31**	**52**	*e*P	**P**	**02 40 32.2**	**+0.1**
comp=Z,10nm,1.1s,mb4.4							
BILL	**Bilibino**	**86.39**	**354**	*e*P	**P**	**02 40 31.9**	**+0.2**
comp=Z,3.8nm,0.8s,mb4.1							
MCMT	**McKenzie Canyo**	**86.42**	**41**	*e*P	**P**	**02 40 32.8**	**+0.5**
RRI2	**Red Ridge**	**86.67**	**42**	*e*P	**P**	**02 40 33.7**	**+0.1**
comp=Z,36nm,0.9s,mb5.1							
MSO	**Missoula**	**86.75**	**38**	*e*P	**P**	**02 40 32.5**	**-1.4**
comp=Z,3.7nm,0.5s,mb4.4							
REDW	**Red Top Meadow**	**86.97**	**43**	*e*P	**P**	**02 40 35.8**	**+0.8**
comp=Z,19nm,1.1s,mb4.7							
SNOW	**Snow King Moun**	**87.08**	**43**	*e*P	**P**	**02 40 36.5**	**+1.0**
comp=Z,30nm,1.0s,mb5.0							
DAWY	**Dawson**	**87.16**	**16**	*e*P	**P**	**02 40 34.6**	**-0.7**
MOOW	**Moose Ponds**	**87.22**	**42**	*e*P	**P**	**02 40 36.5**	**+0.4**
comp=Z,7.5nm,1.0s,mb4.4							
QLMT	**Earthquake Lak**	**87.30**	**41**	*e*P	**P**	**02 40 37.1**	**+0.6**
YMR	**Madison River**	**87.52**	**41**	*e*P	**P**	**02 40 38.1**	**+0.6**
PDAR	**Pinedale Array**	**87.54**	**44**	P	**P**	**02 40 37.5**	**-0.2**
comp=Z,9.4nm,0.6s,mb4.7,baz=219,slow=3.3,SNR=80							
PDAR				PP	PP	02 44 09.9	-5.5
comp=Z,0.6nm,0.5s,baz=256,slow=6.1,SNR=7.0							
BOZ	**Bozeman (W)**	**87.57**	**40**	*e*P	**P**	**02 40 37.5**	**-0.2**
comp=Z,22nm,1.4s,mb4.7							
KMI	**Kunming**	**87.57**	**297**	P	**P**	**02 40 35.0**	**-3.2**
KMI				AMB	AMB		
comp=Z,9.0nm,0.9s,mb4.5							
KMI	**Kunming**	**87.57**	**297**	P	**P**	**02 40 35.0**	**-3.2**
comp=Z,9.0nm,0.9s,mb4.5							
LKWY	**Lake**	**87.82**	**42**	*e*P	**P**	**02 40 40.6**	**+1.6**
comp=Z,19nm,1.3s,mb4.7							
WALA	**Waterton Lakes**	**87.90**	**37**	*e*P	**P**	**02 40 39.1**	**-0.1**
comp=Z,7.6nm,0.8s,mb4.5							
HRY	**Holter Researc**	**87.95**	**39**	*e*P	**P**	**02 40 38.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**88.61**	**290**	P	**P**	**02 40 44.8**	**+1.6**
comp=Z,5.4nm,0.9s,mb4.4,baz=109,slow=3.0,SNR=26							
CMAR				PP	PP	02 44 22.9	-1.5
comp=Z,0.6nm,0.4s,baz=120,slow=7.3,SNR=2.8							
GCMT	**Greycliff**	**88.85**	**41**	*e*P	**P**	**02 40 44.4**	**+0.7**
SYO	**Syowa Base**	**89.10**	**193**	⇓P	**P**	**02 40 44.0**	**-0.4**
JCT	**Junction City**	**89.77**	**58**	*e*P	**P**	**02 40 47.7**	**-0.7**
comp=Z,4.8nm,0.4s,mb4.7							
AMTX	**Amarillo**	**89.89**	**53**	*e*P	**P**	**02 40 48.7**	**-0.2**
comp=Z,4.1nm,0.8s,mb4.3							
EDM	**Edmonton**	**90.31**	**33**	*e*P	**P**	**02 40 49.5**	**-0.8**
SNAA	**Sanae**	**90.61**	**179**	P	**P**	**02 40 51.1**	**-0.2**
SNAA				*e*		02 42 49.9	
LZH	**Lanzhou**	**90.66**	**308**	⇓P	**P**	**02 40 54.0**	**+1.7**
LZH				AP	pP	02 42 54.5	-8.8
LZH				PP	PP	02 44 42.5	+2.3
LZH				AMB	AMB		
comp=Z,27nm,1.3s,mb5.0							
LZH	**Lanzhou**	**90.66**	**308**	⇓P	**P**	**02 40 54.0**	**+1.7**
comp=Z,27nm,1.3s,mb5.0							
LZH				pP	pP	02 42 54.5	-8.8
LZH				sP	sP	02 43 48.1	-15
LZH				PP	PP	02 44 42.5	+2.3
VNA3	**Neumayer Olymp**	**90.77**	**176**	⇑*iP*	**P**	**02 40 52.3**	**+0.3**
VNA3				*e*		02 42 52.7	
VNA2	**Neumayer--Watz**	**91.20**	**177**	⇑*iP*	**P**	**02 40 55.3**	**+1.3**
VNA2				*e*		02 42 54.7	
LAO	**LASA Array**	**91.39**	**41**	*e*P	**P**	**02 40 55.9**	**+0.5**
comp=Z,3.4nm,0.4s,mb4.6							
VNA1	**Neumayer--Stat**	**91.43**	**177**	⇑*iP*	**P**	**02 40 55.4**	**+0.4**
VNA1				*e*		02 42 58.4	
RSSD	**Black Hills**	**91.75**	**44**	*e*P	**P**	**02 40 55.9**	**-1.2**
comp=Z,7.5nm,0.8s,mb4.8							
INK	**Inuvik**	**91.95**	**15**	*e*P	**P**	**02 40 55.9**	**-1.5**
comp=Z,9.6nm,1.0s,mb4.8							
SONM	**Songino Array**	**93.36**	**319**	P	**P**	**02 41 04.7**	**+0.4**
comp=Z,0.5nm,0.5s,mb3.8,baz=136,slow=3.5,SNR=4.8							
YKA	**Yellowknife Ar**	**94.44**	**25**	P	**P**	**02 41 07.9**	**-0.9**
comp=Z,1.4nm,0.4s,mb4.4,baz=237,slow=4.6,SNR=84							
YKA				PP	PP	02 44 59.3	-9.3
comp=Z,0.3nm,0.9s,baz=240,slow=7.5,SNR=4.5							
YKA	**Yellowknife Ar**	**94.44**	**25**	P	**P**	**02 41 07.9**	**-0.9**
YKA				PP	PP	02 44 59.3	-9.3
YKW3	**Yellowknife Ar**	**94.47**	**25**	*e*P	**P**	**02 41 07.7**	**-1.3**
KSU1	**Kansas State U**	**95.16**	**51**	*e*P	**P**	**02 41 12.6**	**-0.1**
MKAR	**Makanchi Array**	**108.92**	**314**	PKiKP		02 46 13.7	
comp=Z,0.5nm,0.5s,baz=133,slow=0.4,SNR=12							
ARCES	**ARCESS Array B**	**126.25**	**350**	PKP	PKPdf	02 46 46.8	+0.7
comp=Z,2.4nm,0.9s,baz=315,slow=1.7,SNR=6.6							
FINES	**FINESS Array B**	**133.10**	**344**	PKhKP		02 46 53.4	
comp=Z,0.7nm,0.6s,baz=63,slow=4.3,SNR=5.6							
FINES				PKP	PKPdf	02 47 00.7	+1.5
comp=Z,0.6nm,0.6s,slow=2.8,SNR=5.6							
FINES				PP	PP	02 49 33.2	-3.6
comp=Z,1.3nm,0.6s,baz=45,slow=2.7,SNR=9.7							
FINES	**FINESS Array B**	**133.10**	**344**	PKP	PKPdf	02 46 53.4	-5.8
FINES				PKP	PKPdf	02 47 00.7	+1.5
FINES				PP	PP	02 49 33.2	-3.6
NOA	**NORSAR Array B**	**136.33**	**353**	PKP	PKPdf	02 47 06.2

0.4nm,0.5s,baz=164,slow=8.8,SNR=3.9
WRA Warramunga Arr 45.74 122 P P 02 53 04.9 -1.8
1.7nm,0.5s,baz=300,slow=8.7,SNR=6.0
SONM Songino Array 46.05 12 P P 02 53 07.3 -1.5
0.3nm,0.7s,baz=190,slow=8.8,SNR=2.9
ASAR Alice Springs 47.06 126 P P 02 53 15.1 -2.0
0.6nm,0.7s,baz=304,slow=7.2,SNR=4.8

IDC 20 02:56:09.3±3.5, 1.84S×99.32E, mb3.8/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.8/6, MS3.0/1, Ms1 3.2/1, ms1mx2.8/22, Error ellipse: s-maj=139.8km s-min=20.7km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.18**	**359**	P	P	03 00 46.6	-1.9
	1.1nm,0.5s,baz=190,slow=10,SNR=3.9						
CMAR				LR	LR	03 09 23.9	
	comp=Z,40nm,18.0s,baz=190,slow=39						
WRA	**Warramunga Arr**	**38.66**	**120**	P	P	03 03 34.6	-2.0
	1.1nm,0.8s,baz=299,slow=9.7,SNR=3.6						
ASAR	**Alice Springs**	**39.89**	**126**	P	P	03 03 45.7	-1.2
	0.3nm,0.6s,baz=297,slow=8.6,SNR=3.3						
SONM	**Songino Array**	**49.86**	**6**	P	P	03 05 03.8	-2.6
	0.4nm,0.5s,baz=187,slow=7.0,SNR=3.8						
MKAR	**Makanchi Array**	**50.70**	**345**	P	P	03 05 10.9	-1.8
	0.9nm,0.6s,baz=153,slow=8.1,SNR=5.4						
ZAL	**Zalesovo**	**56.88**	**350**	P	P	03 05 55.5	-2.9
	1.5nm,0.5s,baz=322,slow=5.5,SNR=5.6						

*NEIC **20** 02:57:16.5, 15.82N×93.86W, h9km, MD4.0(MEX), After MEX.*
MEX 20 02:57:17.0±0.6, 15.83N×93.85W, h60km, MD4.0, 1C, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.48**	**52**	*i* P	P	02 57 39.5	-2.4
SCX				*i* S	S	02 57 59.0	-1.3
CMIG	**Matias Romero**	**1.60**	**322**	*i* P	P	02 57 41.5	-2.2
CMIG				*i* S	S	02 58 01.2	-2.1
CMIG	**Matias Romero**	**1.60**	**322**	⇑*i* P	P	02 57 41.5	-2.1
CMIG				*i* S	S	02 58 00.6	-2.7
HUIG	**Huatulco**	**2.17**	**269**	*i* P	P	02 57 49.4	-2.2
HUIG				*i* S	S	02 58 14.8	-2.6
HUIG	**Huatulco**	**2.17**	**269**	*i* P	P	02 57 49.2	-2.4
HUIG				*i* S	S	02 58 14.8	-2.6
TUIG	**Tuzandepetl**	**2.26**	**346**	*e*P	P	02 57 51.2	-1.7
TUIG				*i* S	S	02 58 14.9	-4.6
OXX	**Oaxaca**	**3.03**	**295**	*i* P	P	02 58 03.0	-0.7
OXX				*i* S	S	02 58 36.0	-2.9
VHO	**Vista Hermosa**	**3.03**	**294**	*e*P	P	02 58 02.5	-1.2
VHO				*i* S	S	02 58 36.2	-2.8
TEIG	**Tepich**	**6.87**	**50**	*e*P	P	02 58 49.9	-7.6
	12nm,0.4s						

*IDC **20** 03:09:10.0±1.0, 8.96N×93.39E, mb3.7/8, mb1 4.0/9, mb1mx3.8/21, mbtmp3.8/9, ML3.1/1, Error ellipse: s-maj=39.9km s-min=19.5km az=63.0*
*NEIC **20** 03:09:14.9±0.7, 8.97N×93.57E, h30km, mb4.2/1, Error ellipse: s-maj=19.1km s-min=13.8km az=55.0*
ISC 20 03:09:13.1±0.9, 9.0N±0.1×93.4E±0.1, h33km, n21, σ0=72/21, mb3.7/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.86**	**29**	Pn	**P**	**03 11 48.7**	**-0.7**
	0.0nm,0.3s,baz=217,slow=14,SNR=17						
VIS	**Vishakhapatnam**	**13.15**	**313**	*e*P	**P**	**03 12 18.1**	**-2.0**
VIS				*e*S	**S**	**03 14 33.6**	**-12**
HYB	**Hyderabad**	**16.76**	**302**	*e*P	**P**	**03 13 11.0**	**+4.1**
HYB	**Hyderabad**	**16.76**	**302**	*i* P	**P**	**03 13 11.0**	**+4.1**
JIRN	**Jiri**	**19.84**	**341**	*e*P	**P**	**03 13 44.1**	**+0.1**
	13nm,0.5s						
PKI	**Pulchoki**	**20.02**	**339**	*e*P	**P**	**03 13 47.3**	**+1.3**
	13nm,0.7s						
DMN	**Daman**	**20.17**	**338**	*e*P	**P**	**03 13 48.6**	**+1.1**
	7.7nm,0.4s						
GUN	**Gumba**	**20.17**	**340**	*e*P	**P**	**03 13 47.7**	**+0.1**
	15nm,0.5s						
GKN	**Gorkha**	**20.70**	**337**	*e*P	**P**	**03 13 53.1**	**+0.1**
	15nm,0.5s						
KOLN	**Koldanda**	**20.90**	**335**	*e*P	**P**	**03 13 55.4**	**+0.2**
	14nm,0.7s						
AAK	**Ala-Archa**	**37.45**	**337**	*e*P	**P**	**03 16 24.7**	**-0.5**
	4.5nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**38.90**	**348**	P	**P**	**03 16 36.5**	**-0.7**
	0.4nm,0.5s,mb3.4,baz=163,slow=5.4,SNR=3.8						
SONM	**Songino Array**	**40.28**	**14**	P	**P**	**03 16 48.6**	**-0.1**
	0.3nm,0.5s,mb3.3,baz=190,slow=8.8,SNR=3.0						
ZAL	**Zalesovo**	**45.40**	**353**	P	**P**	**03 17 30.5**	**+0.2**
	1.0nm,0.4s,mb4.0,baz=27,slow=2.3,SNR=3.0						
ZAL	**Zalesovo**	**45.40**	**353**	P	**P**	**03 17 30.5**	**+0.2**
WRA	**Warramunga Arr**	**49.44**	**126**	P	**P**	**03 18 02.4**	**+0.1**
	0.4nm,0.5s,mb3.7,baz=306,slow=8.5,SNR=3.7						
ASAR	**Alice Springs**	**51.13**	**130**	P	**P**	**03 18 15.0**	**-0.1**
	0.5nm,0.7s,mb3.5,baz=300,slow=6.4,SNR=5.8						
FINES	**FINESS Array B**	**71.45**	**332**	P	**P**	**03 20 31.7**	**-0.2**
	0.6nm,0.5s,mb3.8,baz=129,slow=8.9,SNR=3.9						
ARCES	**ARCESS Array B**	**74.03**	**340**	P	**P**	**03 20 47.4**	**+0.4**
	3.0nm,1.0s,mb4.2,baz=88,slow=8.2,SNR=6.1						
GERES	**GERESS Array B**	**76.57**	**318**	P	**P**	**03 21 02.3**	**+0.3**
	0.2nm,0.4s,mb3.4,baz=104,slow=5.5,SNR=4.4						
PLCA	**Paso Flores**	**145.30**	**202**	PKPbc	PKPbc	03 28 50.1	+1.9
	1.6nm,1.0s,baz=141,slow=1.5,SNR=5.6						

*STR **20** 03:19:44.6±0.5, 42.51N×2.42E, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **20** 03:19:45.1±0.1, 42.50N×2.41E, h4km, Md3.3/5, Ml3.2/26, Error ellipse: s-maj=1.4km s-min=1.0km az=118.0*
*NEIC **20** 03:19:45.8, 42.59N×2.37E, h10km, ML3.2(LDG), ML3.1(STR), ML2.5(MRB), MN2.6(MDD), After STR.*
*CSEM **20** 03:19:45.1±0.1, 42.51N×2.45E, h8km, ML3.1/38, Error ellipse: s-maj=1.0km s-min=0.8km az=122.0*
MDD 20 03:19:45.3±0.1, 42.50N×2.43E, mbLg2.6/20, Error ellipse: s-maj=1.6km s-min=1.2km az=14.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FILF	**Fillols**	**0.11**	**58**	Pg	Pg	03 19 46.5	-1.0
FILF				Sg	Sg	03 19 50.9	+1.9
FILF	**Fillols**	**0.11**	**58**	Pg	Pg	03 19 46.6	-0.9
FILF				Lg		03 19 47.8	
ALBA	**Albanya**	**0.29**	**131**	Pg	Pg	03 19 50.5	-0.5
ALBA				Sg	Sg	03 19 54.7	-0.1
ALBA	**Albanya**	**0.29**	**131**	Pg	Pg	03 19 50.5	-0.5
ALBA				Sg	Sg	03 19 54.7	-0.1
CBRU	**Bruguera**	**0.29**	**221**	Pg	Pg	03 19 50.6	-0.4
CBRU				Sg	Sg	03 19 54.6	-0.2
CBRU	**Bruguera**	**0.29**	**221**	Pg	Pg	03 19 50.5	-0.5
CBRU				Lg		03 19 54.6	
	139nm,0.1s						
CBRU	**Bruguera**	**0.29**	**221**	Pg	Pg	03 19 50.6	-0.4
CBRU				Sg	Sg	03 19 54.6	-0.2
CARF	**Carcanieres**	**0.32**	**312**	Pg	Pg	03 19 51.0	-0.7
CARF				Sg	Sg	03 19 55.0	-1.0
CARF	**Carcanieres**	**0.32**	**312**	Pg	Pg	03 19 51.1	-0.7
CARF				Lg		03 19 55.0	
SJAF	**Saint Jean de**	**0.33**	**93**	Pg	Pg	03 19 51.2	-0.7
SJAF				Sg	Sg	03 19 55.6	-0.7
SJAF	**Saint Jean de**	**0.33**	**93**	Pg	Pg	03 19 51.2	-0.7
SJAF				Lg		03 19 55.6	
CLLI	**Llivia**	**0.34**	**266**	Pg	Pg	03 19 51.5	-0.6
CLLI				Sg	Sg	03 19 56.1	-0.5
CLLI	**Llivia**	**0.34**	**266**	Pg	Pg	03 19 51.4	-0.7
CLLI				Lg		03 19 56.1	
	152nm,0.1s						
CLLI	**Llivia**	**0.34**	**266**	Pg	Pg	03 19 51.5	-0.6
CLLI				Sg	Sg	03 19 56.1	-0.5
EJON	**La Jonquera**	**0.34**	**99**	Pg	Pg	03 19 51.5	-0.5
	108nm,0.3s,SNR=116						
EJON				Lg		03 19 55.8	
	299nm,0.1s,SNR=4.7						
EJON	**La Jonquera**	**0.34**	**99**	Pg	Pg	03 19 51.5	-0.6
	108nm,0.3s,SNR=116						
EJON				Lg		03 19 55.8	
	299nm,0.1s,SNR=4.7						
LRDF	**Laroque-de-Fa**	**0.44**	**10**	Pg	Pg	03 19 53.3	-0.8
LRDF				Sg	Sg	03 19 59.6	-0.4
LRDF	**Laroque-de-Fa**	**0.44**	**10**	Pg	Pg	03 19 53.2	-0.9
LRDF				Lg		03 19 59.6	
LPEF	**Le Peyrat**	**0.59**	**319**	Pg	Pg	03 19 56.2	-0.9
LPEF				Sg	Sg	03 20 04.6	-0.4
LPEF	**Le Peyrat**	**0.59**	**319**	Pg	Pg	03 19 56.2	-0.8
LPEF				Lg		03 20 04.5	
PAND	**Andorre**	**0.66**	**272**	Pg	Pg	03 19 57.1	-1.2
PAND				Lg		03 20 05.9	
CFON	**Fontmartina**	**0.74**	**180**	Pg	Pg	03 19 58.9	-1.1
CFON				Sg	Sg	03 20 08.8	-1.0
CFON	**Fontmartina**	**0.74**	**180**	Pg	Pg	03 19 58.9	-1.1
CFON				Lg		03 20 08.8	
	216nm,0.1s						
CFON	**Fontmartina**	**0.74**	**180**	Pg	Pg	03 19 58.9	-1.1
CFON				Sg	Sg	03 20 08.8	-1.1
MTLF	**Montolieu**	**0.85**	**349**	*e*Pg	Pg	03 20 00.8	-1.5
MTLF				*e*Sg	Sg	03 20 11.5	-2.2
	87nm,0.2s						
CORG	**Organya**	**0.87**	**252**	Pg	Pg	03 20 01.1	-1.5
CORG	**Organya**	**0.87**	**252**	Pg	Pg	03 20 01.1	-1.5
SALF	**Salau**	**0.95**	**286**	Pg	Pg	03 20 02.2	-2.1
SALF				Sg	Sg	03 20 14.7	-2.3
SALF	**Salau**	**0.95**	**286**	Pg	Pg	03 20 02.6	-1.8
SALF				Lg		03 20 14.8	
CSOR	**Sort**	**0.97**	**263**	Pg	Pg	03 20 02.6	-2.0
CSOR				Sg	Sg	03 20 16.8	-0.8
CSOR	**Sort**	**0.97**	**263**	Pg	Pg	03 20 02.6	-2.0
CSOR				Lg		03 20 16.7	
	49nm,0.2s						
CSOR	**Sort**	**0.97**	**263**	Pg	Pg	03 20 02.6	-2.0
CSOR				Sg	Sg	03 20 16.8	-0.8
MLS	**Moulis**	**1.09**	**295**	Pg	Pg	03 20 04.7	-2.3
MLS				Sg	Sg	03 20 19.7	-1.8
MLS	**Moulis**	**1.09**	**295**	Pg	Pg	03 20 05.2	-1.8
MLS				Lg		03 20 19.4	
MELF	**Melles**	**1.29**	**287**	Pg	Pg	03 20 08.6	-2.4
MELF				Lg		03 20 25.3	
CAVN	**Les Avellanes**	**1.39**	**244**	Pg	Pg	03 20 10.9	-2.2
CAVN				Sg	Sg	03 20 29.5	-2.2
CAVN	**Les Avellanes**	**1.39**	**244**	Pg	Pg	03 20 10.9	-2.2
CAVN				Lg		03 20 29.4	
	87nm,0.2s						
CAVN	**Les Avellanes**	**1.39**	**244**	Pg	Pg	03 20 10.9	-2.2
CAVN				Sg	Sg	03 20 29.5	-2.2
EPOB	**Poblet**	**1.53**	**222**	Pg	Pg	03 20 13.3	-2.5
EPOB				Lg		03 20 33.4	
EPOB	**Poblet**	**1.53**	**222**	Pg	Pg	03 20 13.3	-2.5
	42nm,0.6s,SNR=128						
EPOB				Sn	Sn	03 20 32.9	-1.9
	49nm,0.2s,SNR=19						
EPOB	**Poblet**	**1.53**	**222**	Pg	Pg	03 20 13.3	-2.5
	42nm,0.6s,SNR=128						
CGAR	**Garraf**	**1.55**	**219**	Pg	Pg	03 20 08.8	-7.4
CGAR				Sg	Sg	03 20 25.3	-11
CGAR	**Garraf**	**1.55**	**219**	Pg	Pg	03 20 08.8	-7.4
CGAR				Lg		03 20 25.3	
	39nm,0.2s						
RESF	**Ens**	**1.58**	**282**	Pg	Pg	03 20 14.8	-1.9
RESF				Sg	Sg	03 20 35.0	-2.7
RESF	**Ens**	**1.58**	**282**	Pg	Pg	03 20 14.2	-2.5
RESF				Sn	Sn	03 20 34.4	-1.5
EPF	**Esparros**	**1.63**	**290**	*e*Pg	Pg	03 20 14.3	-3.5
EPF				*e*Sg	Sg	03 20 34.8	-4.7
	41nm,0.2s						
EBIE	**Bielsa**	**1.70**	**277**	Pg	Pg	03 20 17.2	-2.0
EBIE				Lg		03 20 40.9	
EBIE	**Bielsa**	**1.70**	**277**	Pg	Pg	03 20 17.2	-2.0
	35nm,0.3s,SNR=215						
EBIE				Lg		03 20 39.8	
	24nm,0.2s,SNR=19						
EBIE	**Bielsa**	**1.70**	**277**	Pg	Pg	03 20 17.2	-2.0
	35nm,0.3s,SNR=215						
VIEF	**Viey**	**1.82**	**283**	Pg	Pg	03 20 18.6	-2.9
VIEF				Sg	Sg	03 20 41.7	-4.1
VIEF	**Viey**	**1.82**	**283**	Pg	Pg	03 20 18.3	-3.2
LASF	**Ste Croix**	**1.89**	**33**	*e*Pn	Pn	03 20 15.8	-3.2
LASF				*e*Pg	Pg	03 20 19.7	-3.2
LASF				*e*Sg	Sg	03 20 43.1	-5.0
	15nm,0.2s						
ERTA	**Horta de San J**	**2.20**	**226**	Pn	Pn	03 20 22.1	-1.5
	5.1nm,0.3s,SNR=31						
ERTA				Pg	Pg	03 20 26.0	-3.3
	4.9nm,0.3s,SNR=5.9						
ERTA				Sn	Sn	03 20 49.7	-2.3
	4.8nm,0.3s,SNR=7.8						
ERTA				Lg		03 20 55.9	
	18nm,0.2s,SNR=6.0						
ERTA	**Horta de San J**	**2.20**	**226**	Pn	Pn	03 20 22.1	-1.5
	5.1nm,0.3s,SNR=31						
ERTA	**Horta de San J**	**2.20**	**226**	Pg	Pg	03 20 26.0	-3.2
	4.9nm,0.3s,SNR=5.9						
ERTA				Sn	Sn	03 20 49.7	-2.2
	4.8nm,0.3s,SNR=7.8						
EBR	**Ebro Roquetas**	**2.22**	**222**	*e*P*P*		03 20 38.5	
EBR				*e*S*	Sb	03 20 55.5	+1.3
ETSF	**Etsaut**	**2.24**	**281**	*e*Pg	Pg	03 20 26.9	-3.1
ETSF				*e*Sg	Sg	03 20 55.5	-4.4
	73nm,0.3s						
ESAC	**San Caprasio**	**2.30**	**251**	Pn	Pn	03 20 23.9	-1.0
ESAC				Pg	Pg	03 20 28.1	-3.0
ESAC				Sn	Sn	03 20 52.5	-1.8
ESAC				Lg		03 20 58.6	
ESAC	**San Caprasio**	**2.30**	**251**	Pn	Pn	03 20 23.9	-1.0
	26nm,0.3s,SNR=17						
ESAC				Pg	Pg	03 20 27.3	-3.8
	25nm,0.3s,SNR=5.7						
ESAC				Sn	Sn	03 20 51.7	-2.6
	40nm,0.3s,SNR=5.0						
ESAC				Lg		03 20 58.6	
	96nm,0.2s,SNR=8.1						
ESAC	**San Caprasio**	**2.30**	**251**	Pn	Pn	03 20 23.9	-1.0
	26nm,0.3s,SNR=17						
ESAC	**San Caprasio**	**2.30**	**251**	Pg	Pg	03 20 28.1	-3.0
	25nm,0.3s,SNR=5.7						
ESAC				Sn	Sn	03 20 52.5	-1.8
	40nm,0.3s,SNR=5.0						
ATE	**Arette**	**2.38**	**285**	Lg		03 21 00.3	
CAF	**Calviac**	**2.44**	**354**	*e*Pg	Pg	03 20 30.4	-3.5
CAF				*e*Sg	Sg	03 21 01.0	-5.4
	47nm,0.2s						
SMRF	**Simiane la Rot**	**2.73**	**56**	*e*Pn	Pn	03 20 29.1	-2.0
SMRF				*e*Pg	Pg	03 20 37.1	-2.6
SMRF				*e*Sg	Sg	03 21 10.8	-5.3
	11nm,0.5s						
LFF	**La Frestale**	**2.73**	**334**	*e*Pg	Pg	03 20 35.8	-3.9
LFF				*e*Sg	Sg	03 21 10.2	-5.9
	51nm,0.3s						
ETOS	**Mallorca**	**2.75**	**174**	Pn	Pn	03 20 28.7	-2.7
	8.3nm,0.9s,SNR=6.2						
ETOS				Sn	Sn	03 21 02.0	-3.7
	8.5nm,1.0s,SNR=7.9						
ETOS	**Mallorca**	**2.75**	**174**	Pn	Pn	03 20 28.7	-2.7
	8.3nm,0.9s,SNR=6.2						
ETOS				Sn	Sn	03 21 02.0	-3.7
	8.5nm,1.0s,SNR=7.9						
SJPF	**Ste Jean**	**2.76**	**284**	*e*Pg	Pg	03 20 37.2	-3.2
SJPF				*e*Sg	Sg	03 21 11.4	-5.8
	18nm,0.4s						
LBL	**Lubilhac**	**2.79**	**12**	Pg	Pg	03 20 37.7	-3.3
LBL				Sg	Sg	03 21 14.2	-4.0
VIVF	**Saint-Julien-l**	**2.86**	**34**	*e*Pn	Pn	03 20 30.1	-2.9
VIVF				*e*Pg	Pg	03 20 38.1	-4.3
VIVF				*e*Sn	Sn	03 21 02.5	-6.1
VIVF				*e*Sg	Sg	03 21 14.6	-5.9
	9.9nm,0.2s						
RJF	**Les Rejaudoux**	**2.88**	**347**	*e*Pg	Pg	03 20 38.5	-4.3
RJF				*e*Sg	Sg	03 21 14.3	-6.8
	27nm,0.2s						
EALK	**Alkurruntz**	**2.98**	**285**	Pn	Pn	03 20 33.6	-1.2
EALK				Pg	Pg	03 20 40.6	-4.3
EALK				Sn	Sn	03 21 08.9	-2.9
EALK				Lg		03 21 21.3	
EALK	**Alkurruntz**	**2.98**	**285**	Pn	Pn	03 20 32.9	-1.9
	7.0nm,0.4s,SNR=9.5						
EALK				Pg	Pg	03 20 40.1	-4.7
	5.0nm,0.4s,SNR=5.7						
EALK				Sn	Sn	03 21 07.9	-3.9
	4.1nm,0.5s,SNR=6.8						
EALK				Lg		03 21 20.6	
	3.9nm,0.9s,SNR=5.8						
EALK	**Alkurruntz**	**2.98**	**285**	Pn	Pn	03 20 33.6	-1.2
	7.0nm,0.4s,SNR=9.5						
EALK	**Alkurruntz**	**2.98**	**285**	Pg	Pg	03 20 40.6	-4.3
	5.0nm,0.4s,SNR=5.7						
EALK				Sn	Sn	03 21 08.9	-2.9
	4.1nm,0.5s,SNR=6.8						
ELIZ	**Elizondo**	**2.99**	**284**	Pn	Pn	03 20 34.2	-0.6
ELIZ				Pg	Pg	03 20 40.5	-4.4
ELIZ				Sn	Sn	03 21 08.4	-3.5
ELIZ				Lg		03 21 21.3	
ELIZ	**Elizondo**	**2.99**	**284**	Pn	Pn	03 20 33.6	-1.2
	1.4nm,0.3s,SNR=7.0						
ELIZ				Pg	Pg	03 20 39.7	-5.2
	4.4nm,0.3s,SNR=7.9						
ELIZ				Sn	Sn	03 21 07.7	-4.2
	3.8nm,0.3s,SNR=15						
ELIZ				Lg		03 21 21.3	
	32nm,1.1s,SNR=7.9						
ELIZ	**Elizondo**	**2.99**	**284**	Pn	Pn	03 20 34.2	-0.6
	1.4nm,0.3s,SNR=7.0						
ELIZ	**Elizondo**	**2.99**	**284**	Pg	Pg	03 20 40.5	-4.4
	4.4nm,0.3s,SNR=7.9						
ELIZ				Sn	Sn	03 21 08.4	-3.5
	3.8nm,0.3s,SNR=15						
EMOS	**Mosqueruela**	**3.06**	**227**	Pn	Pn	03 20 34.4	-1.3
	3.8nm,0.5s,SNR=7.9						
EMOS				Pg	Pg	03 20 41.3	-5.0
	12nm,0.4s,SNR=36						
EMOS				Sn	Sn	03 21 10.0	-3.6
	1.2nm,0.4s,SNR=7.9						
EMOS				Lg		03 21 23.2	
	6.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**3.06**	**227**	Pn	Pn	03 20 34.4	-1.4
	3.8nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**3.06**	**227**	Pg	Pg	03 20 41.3	-5.0
	12nm,0.4s,SNR=36						
EMOS				Sn	Sn	03 21 10.0	-3.6
	1.2nm,0.4s,SNR=7.9						
LMR	**La Mourre**	**3.11**	**73**	*e*Pn	Pn	03 20 32.9	-3.6
LMR				*e*Sn	Sn	03 21 09.3	-5.6
	8.1nm,0.2s						
FRF	**La Foret Royal**	**3.27**	**70**	*e*Pn	Pn	03 20 35.2	-3.5
FRF				*e*Pg	Pg	03 20 44.9	-5.6
FRF				*e*Sn	Sn	03 21 11.7	-7.2
	5.1nm,0.2s						
PYM	**Petit Puy Mans**	**3.27**	**7**	Pg	Pg	03 20 47.1	-3.5
ORIF	**Oris-en-Rattie**	**3.48**	**45**	*e*Pg	Pg	03 20 49.9	-4.8
PLDF	**La Plantade**	**3.57**	**13**	Pg	Pg	03 20 52.5	-4.1
AGO	**Saint Agoulin**	**3.58**	**8**	Pg	Pg	03 20 53.1	-3.7
AGO				Sg	Sg	03 21 38.7	-5.9
ECRI	**Cripan**	**3.65**	**273**	Pn	Pn	03 20 43.4	-0.9
ECRI				Sn	Sn	03 21 24.7	-4.0
ECRI				Lg		03 21 42.1	
ECRI	**Cripan**	**3.65**	**273**	Pn	Pn	03 20 42.9	-1.4
	3.7nm,0.3s,SNR=5.5						
ECRI				Pg	Pg	03 20 51.8	-6.4
	0.0nm,0.4s,SNR=7.9						
ECRI				Sn	Sn	03 21 23.3	-5.5
	5.8nm,0.4s,SNR=7.9						
ECRI				Lg		03 21 42.1	
	5.5nm,0.3s,SNR=7.9						
ECRI	**Cripan**	**3.65**	**273**	Pn	Pn	03 20 43.4	-0.9
	3.7nm,0.3s,SNR=5.5						
ECRI				Sn	Sn	03 21 24.7	-4.0
	5.8nm,0.4s,SNR=7.9						
TCF	**Toulx Ste Croi**	**3.79**	**358**	*e*Pg	Pg	03 20 55.8	-5.1
TCF				*e*Sg	Sg	03 21 43.8	-7.6
	15nm,0.2s						
MBDF	**Montbardon**	**3.86**	**53**	*e*Pn	Pn	03 20 44.7	-2.4
MBDF				*e*Sn	Sn	03 21 25.3	-8.5
ECHE	**Chera**	**3.88**	**223**	Pn	Pn	03 20 45.3	-2.2
ECHE				Pg	Pg	03 20 56.6	-6.1
ECHE				Lg		03 21 48.3	
ECHE	**Chera**	**3.88**	**223**	Pn	Pn	03 20 45.3	-2.2
	0.5nm,0.6s,SNR=7.9						
ECHE				Pg	Pg	03 20 56.6	-6.1
	4.4nm,0.7s,SNR=7.9						
ECHE				Lg		03 21 48.9	
	15nm,1.3s,SNR=7.9						
SBF	**Sospel**	**3.90**	**68**	*e*Pn	Pn	03 20 44.3	-3.5
SBF				*e*Sn	Sn	03 21 28.5	-6.5
	8.2nm,0.3s						
BGF	**Bois d'Agland**	**4.07**	**4**	*e*Pg	Pg	03 21 00.6	-5.8
BGF				*e*Sg	Sg	03 21 52.8	-7.8
	63nm,0.4s						
SMF	**Signal de Mont**	**4.26**	**13**	*e*Pg	Pg	03 21 04.6	-5.8
SMF				*e*Sg	Sg	03 21 59.1	-8.1
	7.5nm,0.3s						
LPG	**La Plagne**	**4.32**	**45**	*e*Pn	Pn	03 20 50.1	-3.6
LPL	**La Plagne**	**4.32**	**44**	*e*Pn	Pn	03 20 50.8	-3.0
AVF	**Avril sur Loir**	**4.34**	**8**	*e*Pg	Pg	03 21 05.3	-6.6
AVF				*e*Sg	Sg	03 22 00.9	-8.8
	6.0nm,0.3s						
ELAN	**Lanestosa**	**4.37**	**282**	Pn	Pn	03 20 53.3	-1.2
ELAN				Sn	Sn	03 21 41.6	-5.3
ELAN				Lg		03 22 05.8	
ELAN	**Lanestosa**	**4.37**	**282**	Pn	Pn	03 20 52.2	-2.3
	4.8nm,0.5s,SNR=7.9						
ELAN				Sn	Sn	03 21 41.6	-5.3
	20nm,1.6s,SNR=7.9						
ELAN				Lg		03 22 05.8	
	2.4nm,0.5s,SNR=7.9						
ELAN	**Lanestosa**	**4.37**	**282**	Pn	Pn	03 20 53.3	-1.2
	4.8nm,0.5s,SNR=7.9						
ELAN				Sn	Sn	03 21 41.6	-5.4
	20nm,1.6s,SNR=7.9						
MFF	**Saint Martin d**	**4.50**	**337**	*e*Pg	Pg	03 21 07.9	-7.1
MFF				*e*Sg	Sg	03 22 05.8	-9.1
	5.2nm,0.2s						
SSF	**Saint Saulge**	**4.62**	**9**	*e*Pg	Pg	03 21 11.2	-6.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QUIF	**Quistinic**	**6.70**	**326**	*e*Pg	Pg	03 21 48.2	-11
QUIF				*e*Sg	Sg	03 23 14.1	-14
	5.4nm,0.5s						
SGMF	**Saint Gilles**	**6.74**	**330**	*e*Sg	Sg	03 23 15.4	-14
	14nm,0.9s						
ECAL	**Calabor**	**6.83**	**268**	Pn	Pn	03 21 25.7	-3.5
	2.6nm,0.8s,SNR=7.9						
ECAL	**Calabor**	**6.83**	**268**	Pn	Pn	03 21 25.7	-3.5
	2.6nm,0.8s,SNR=7.9						

*MOS **20** 03:30:32.4±0.9, 36.53N×70.71E, h192km, mb4.2/2, Error ellipse: s-maj=23.0km s-min=8.5km az=94.7*
*NEIC **20** 03:30:33.0±1.6, 36.51N×70.87E, h186km±15km, mb4.3/3, Error ellipse: s-maj=15.2km s-min=8.8km az=54.0*
*IDC **20** 03:30:36.5±3.3, 36.50N×70.92E, h223km±30km, mb3.6/10, mb1 3.7/12, mb1mx3.5/23, mbtmp4.2/12, Error ellipse: s-maj=15.8km s-min=15.2km az=146.0*
*NNC **20** 03:30:39.5±6.2, 37.05N×70.55E, h201km±53km, mpv4.7, Error ellipse: s-maj=65.7km s-min=40.4km az=45.0*
ISC 20 03:30:31.4±0.5,**36.45N**±0.03×**70.84E**±0.07,**h187**km±5km, **n76**,σ0**94**/90,**mb3.9**/10,**9C-6D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.76**	**161**	⇓P	**P**	**03 31 19.6**	**+1.5**
CHCP	**Chirah Chowk**	**3.42**	**144**	⇓P	**P**	**03 31 29.0**	**+2.9**
THW	**Thamme Wali**	**3.72**	**168**	⇑P	**P**	**03 31 30.9**	**+1.0**
SBDP	**Sheikh Budin**	**4.14**	**180**	⇑P	**P**	**03 31 36.6**	**+1.5**
DRP	**Derazinda**	**4.72**	**187**	⇓P	**P**	**03 31 43.1**	**+0.5**
SARP	**Sargodha**	**4.76**	**161**	⇑P	**P**	**03 31 43.6**	**+0.4**
THN	**Thein Dam**	**5.68**	**133**	*e*P	**P**	**03 31 54.8**	**-0.3**
THN				*e*S	**S**	**03 32 58.2**	**-1.9**
DLH	**Dalhousie**	**5.75**	**131**	*e*P	**P**	**03 31 57.0**	**+1.0**
DLH				*e*S	**S**	**03 33 01.0**	**-0.8**
AML	**Almayashu**	**6.09**	**20**	P	**P**	**03 32 00.7**	**+0.2**
	SNR=618						
PONG	**Pong**	**6.17**	**135**	*e*P	**P**	**03 32 01.0**	**-0.4**
PONG				*e*S	**S**	**03 33 11.0**	**-0.5**
UCH	**Uchtor**	**6.44**	**25**	P	**P**	**03 32 05.3**	**+0.3**
	SNR=84						
KZA	**Kyzart**	**6.58**	**30**	P	**P**	**03 32 06.6**	**-0.2**
	SNR=43						
EKS2	**Erkin-Say**	**6.61**	**19**	P	**P**	**03 32 07.4**	**+0.2**
	SNR=81						
KK31	**Karatay Array**	**6.65**	**358**	⇓P	**P**	**03 32 07.3**	**-0.5**
	20nm,0.2s,baz=180,slow=12,SNR=982						
KK31				⇑S	**S**	**03 33 17.7**	**-5.2**
	92nm,0.4s						
KKAR	**Karatay Array**	**6.65**	**358**	PN	**P**	**03 32 07.3**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,17nm,0.2s						
AAK	**Ala-Archa**	**6.79**	**23**	P	**P**	**03 32 09.8**	**+0.2**
	SNR=82						
AAK	**Ala-Archa**	**6.79**	**23**	PN	**P**	**03 32 09.7**	**+0.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
AAK	**Ala-Archa**	**6.79**	**23**	*e*P	**P**	**03 32 08.6**	**-1.1**
	comp=Z,49nm,0.3s						
BHK	**Bhakra**	**6.83**	**136**	*e*S	**S**	**03 33 25.4**	**-1.7**
KBK	**Karagaybulak**	**6.97**	**26**	P	**P**	**03 32 12.3**	**+0.3**
	SNR=25						
ULHL	**Ulahol**	**7.15**	**34**	P	**P**	**03 32 14.3**	**0.0**
	SNR=9.6						
CHMS	**Chumysh**	**7.21**	**24**	P	**P**	**03 32 14.7**	**-0.3**
	SNR=24						
USP	**Ospenovka**	**7.37**	**21**	P	**P**	**03 32 16.4**	**-0.8**
	SNR=92						
TKM2	**Tokmak 2**	**7.43**	**28**	P	**P**	**03 32 18.1**	**0.0**
	SNR=103						
SMLA	**Simla**	**7.48**	**133**	⇑*i*P	**P**	**03 32 12.1**	**-6.5**
SMLA				*i*S	**S**	**03 33 33.2**	**-9.1**
KLP	**Kalpa**	**7.87**	**126**	*e*P	**P**	**03 32 25.3**	**+1.6**
KLP				*e*		03 33 58.8	
	comp=N,1μm,0.7s						
KLP				*e*		03 34 01.7	
	comp=E,2μm,0.6s						
KHET	**Khetri**	**9.35**	**152**	*e*P	**P**	**03 32 41.2**	**-1.9**
KHET				*e*S	**S**	**03 34 19.4**	**-6.7**
KHET				*e*S	**S**	**03 34 22.0**	**-4.1**
KHET				*e*		03 34 25.1	
	comp=E,89nm,0.2s						
KHET				*e*		03 34 25.3	
	comp=N,96nm,0.3s						
NDI	**New Delhi**	**9.43**	**143**	*e*P	**P**	**03 32 43.5**	**-0.6**
NDI				*e*S	**S**	**03 34 22.0**	**-6.0**
JASL	**Jaisalmer**	**9.49**	**180**	*e*P	**P**	**03 32 40.9**	**-4.1**
AYAN	**Aya Nagar**	**9.55**	**144**	*e*P	**P**	**03 32 44.6**	**-1.1**
AYAN				*e*		03 34 32.4	
	comp=Z,12nm,0.8s						
SONA	**Sohna**	**9.73**	**145**	*e*P	**P**	**03 32 46.7**	**-1.4**
SONA				*e*S	**S**	**03 34 29.6**	**-5.5**
SONA				*e*		03 34 32.7	
	comp=E,144nm,0.4s						
SONA				*e*		03 34 33.0	
	comp=N,62nm,0.5s						
AGRA	**Agra**	**10.99**	**145**	*e*P	**P**	**03 33 03.9**	**-0.6**
MK31	**Makanchi Array**	**13.41**	**36**	⇑P	**P**	**03 33 35.7**	**+0.5**
	comp=N,6.9nm,0.8s,baz=214,slow=10.0,SNR=23						
MKAR	**Makanchi Array**	**13.41**	**36**	*e*P	**P**	**03 33 36.2**	**+1.0**
MKAR	**Makanchi Array**	**13.41**	**36**	P	**P**	**03 33 35.4**	**+0.2**
	comp=N,0.8nm,0.3s,baz=217,slow=12,SNR=19						
KOLN	**Koldanda**	**13.84**	**125**	*e*P	**P**	**03 33 40.9**	**+0.2**
	comp=N,17nm,0.3s						
BHPL	**Bhopal**	**14.34**	**155**	*e*P	**P**	**03 33 51.7**	**+4.7**
BHPL				*e*		03 36 18.9	
GKN	**Gorkha**	**14.39**	**122**	*e*P	**P**	**03 33 49.2**	**+1.7**
	comp=N,111nm,0.4s						
DMN	**Daman**	**14.96**	**122**	*e*P	**P**	**03 33 55.0**	**+0.4**
	comp=N,59nm,0.4s						
KKN	**Kakani**	**14.96**	**121**	*e*P	**P**	**03 33 55.2**	**+0.5**
	comp=N,70nm,0.4s						
AB31	**Akbulak array**	**15.07**	**332**	⇑P	**P**	**03 33 54.7**	**-1.1**
	comp=N,2.3nm,0.2s						
AB31				⇓S	**S**	**03 36 33.4**	**-4.3**
	comp=N,2.4nm,0.5s						
PKI	**Pulchoki**	**15.19**	**122**	*e*P	**P**	**03 33 58.3**	**+0.8**
	comp=N,126nm,0.4s						
GUN	**Gumba**	**15.31**	**120**	*e*P	**P**	**03 33 59.8**	**+0.8**
	comp=N,34nm,0.3s						
JIRN	**Jiri**	**15.68**	**120**	*e*P	**P**	**03 34 03.7**	**+0.2**
	comp=N,48nm,0.4s						
BVA0	**Borovoye Array**	**16.58**	**359**	⇓P	**P**	**03 34 14.2**	**-0.2**
	comp=N,0.3nm,0.5s						
BVA0	**Borovoye Array**	**16.58**	**359**	P	**P**	**03 34 13.8**	**-0.6**
BVAR	**Borovoye Array**	**16.58**	**359**	P	**P**	**03 34 13.1**	**-1.3**
	comp=N,2.3nm,0.3s,baz=158,slow=8.9,SNR=28						
BVAR				S	**S**	**03 37 13.3**	**+1.6**
	comp=N,0.4nm,0.3s,baz=172,slow=21,SNR=5.4						
BVAR	**Borovoye Array**	**16.58**	**359**	P	**P**	**03 34 13.1**	**-1.3**
BVAR				S	**S**	**03 37 13.3**	**+1.6**
CHKZ	**Chkalovo**	**17.23**	**360**	⇑P	**P**	**03 34 20.9**	**-1.0**
	comp=N,1.6nm,0.3s						
CHKZ	**Chkalovo**	**17.23**	**360**	P	**P**	**03 34 20.9**	**-1.0**
CHKZ				S	**S**	**03 37 26.4**	**+0.6**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**17.23**	**360**	*e*P	**P**	**03 34 20.5**	**-1.4**
ZAL	**Zalesovo**	**20.00**	**25**	P	**P**	**03 34 50.9**	**-0.1**
	comp=Z,7.9nm,0.3s,baz=254,slow=6.8,SNR=52						
ZAL				S	**S**	**03 38 21.9**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=130,slow=15,SNR=6.0						
ZAL	**Zalesovo**	**20.00**	**25**	P	**P**	**03 34 50.9**	**-0.1**
ZAL				S	**S**	**03 38 21.9**	**+1.6**
HYB	**Hyderabad**	**20.15**	**158**	*e*P	**P**	**03 34 55.0**	**+2.3**
HYB	**Hyderabad**	**20.15**	**158**	*i*P	**P**	**03 34 55.0**	**+2.3**
ARU	**Arti**	**21.64**	**341**	*e*P	**P**	**03 35 05.5**	**-1.6**
SONM	**Songino Array**	**28.48**	**55**	P	**P**	**03 36 11.1**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.5,baz=262,slow=8.7,SNR=4.3						
AKASG	**Malin Array Be**	**32.88**	**309**	P	**P**	**03 36 48.6**	**-0.8**
	comp=Z,3.9nm,0.5s,mb4.4,baz=80,slow=7.9,SNR=7.8						
JOF	**Joensuu**	**35.85**	**330**	*ep*	**P**	**03 37 14.6**	**+0.2**
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**03 37 28.3**	**+0.4**
	comp=Z,1.5nm,0.3s,mb4.0,baz=120,slow=10,SNR=31						
KAF	**Kangasniemi**	**37.60**	**327**	*ep*	**P**	**03 37 28.4**	**-0.7**
KEV	**Kevo**	**40.80**	**338**	*ep*	**P**	**03 37 55.3**	**-0.2**
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**03 37 59.0**	**+0.7**
	comp=Z,3.2nm,0.4s,mb4.3,baz=114,slow=7.7,SNR=46						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**03 38 23.9**	**-0.2**
	comp=Z,4.4nm,0.5s,mb4.3,baz=97,slow=7.4						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**03 38 23.9**	**-0.2**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**03 38 23.9**	**-0.2**
	comp=Z,4.6nm,0.5s,mb4.3,baz=97,slow=7.8,SNR=25						
INK	**Inuvik**	**73.98**	**9**	*e*P	**P**	**03 41 48.2**	**+0.9**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**73.98**	**9**	P	**P**	**03 41 48.0**	**+0.7**
	comp=Z,1.1nm,0.4s,mb3.9,baz=4.9,slow=5.6,SNR=33						
INK	**Inuvik**	**73.98**	**9**	*e*P	**P**	**03 41 48.2**	**+0.9**
	comp=Z,1.4nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**74.87**	**16**	P	**P**	**03 41 51.5**	**-0.9**
	comp=Z,0.2nm,0.4s,mb3.1,baz=312,slow=4.8,SNR=7.0						
YKA	**Yellowknife Ar**	**81.31**	**3**	P	**P**	**03 42 28.3**	**+0.9**
	comp=Z,1.6nm,0.5s,mb3.9,baz=351,slow=5.4,SNR=95						
YKA	**Yellowknife Ar**	**81.31**	**3**	P	**P**	**03 42 28.3**	**+0.9**
WRA	**Warramunga Arr**	**82.08**	**122**	P	**P**	**03 42 31.8**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.5,baz=323,slow=5.1,SNR=6.4						
WB2	**Warramunga Arr**	**82.08**	**122**	⇑*i*P	**P**	**03 42 31.9**	**-0.4**
ASAR	**Alice Springs**	**84.33**	**125**	P	**P**	**03 42 43.5**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=311,slow=4.8,SNR=12						
PLCA	**Paso Flores**	**149.68**	**250**	PKPbc	PKPdf	03 49 57.1	+3.7
	comp=Z,1.2nm,0.8s,baz=90,slow=1.0,SNR=2.3						

*MOS **20** 04:08:54.4±0.9, 51.68N×16.06E, h10km, mb4.4/3, Error ellipse: s-maj=7.2km s-min=3.6km az=77.8*
*CSEM **20** 04:08:55.4±0.1, 51.58N×16.11E, h2km, mb4.2/2, ML4.0/11, Error ellipse: s-maj=1.3km s-min=0.9km az=98.0*
*BGR **20** 04:08:56.8±0.5, 51.44N×16.16E, h1km, ML4.0/16, Error ellipse: s-maj=4.4km s-min=3.3km az=109.0*
*NEIC **20** 04:08:56.6±0.3, 51.59N×16.07E, h5km, mb4.3/1, ML4.1(SZGRF), ML3.8(VIE), ML3.8(FUR), Error ellipse: s-maj=4.1km s-min=3.7km az=125.0*
*LDG **20** 04:08:57.8±0.3, 51.59N×16.24E, h1km, Ml4.3/19, Error ellipse: s-maj=8.6km s-min=5.0km az=175.0, Suspected Mining induced.*
*IDC **20** 04:08:57.5±0.5, 51.48N×15.94E, mb3.8/4, mb1 3.9/13, mb1mx3.8/27, mbtmp3.8/13, ML3.7/8, Error ellipse: s-maj=9.9km s-min=5.8km az=113.0*
*IPEC **20** 04:08:57.7±0.2, 51.49N×16.11E, h9km±1km, ML3.2/3, Error ellipse: s-maj=1.3km s-min=0.6km az=35.0*
*WAR **20** 04:08:58.3, 51.49N×16.06E, h1km, ML3.6, Mining Induced*
*UPP **20** 04:09:03.0, 51.92N×15.34E, h0km, ML2.7, Mining explosion.*
ISC 20 04:08:55.4±0.2,**51.44N**±0.01×**16.00E**±0.02,**n165**, σ1**52**/283,**mb4.0**/7,**12C-7D**,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**162**	⇓*i*P	**Pg**	**04 09 10.5**	**+2.7**
KSP				*e*		04 09 23.5	
KSP	**Ksiaz**	**0.62**	**162**	⇓*i*Pg	**Pg**	**04 09 10.5**	**+2.7**
KSP				*i* Sg	**Sg**	**04 09 18.2**	**+2.1**
KSP				*i*		04 09 19.6	
KSP				*e*		04 09 23.5	
KSP	**Ksiaz**	**0.62**	**162**	*i* PG	**Pg**	**04 09 10.5**	**+2.7**
KSP				*i* SG	**Sg**	**04 09 18.2**	**+2.1**
KSP	**Ksiaz**	**0.62**	**162**	*e*Pg	**Pg**	**04 09 10.6**	**+2.7**
KSP				*e*Pn	**Pn**	**04 09 11.7**	**+0.6**
KSP				*e*Sg	**Sg**	**04 09 19.6**	**+3.5**
KSP	**Ksiaz**	**0.62**	**162**	*e*Pg	**Pg**	**04 09 10.5**	**+2.7**
KSP				*i* Sg	**Sg**	**04 09 18.2**	**+2.1**
KSP				*e*S	**Sg**	**04 09 23.5**	**+7.4**
UPC	**Upice**	**0.93**	**179**	*e*PG	**Pg**	**04 09 16.3**	**+2.4**
DPC	**Dobruska-Polom**	**1.11**	**169**	*e*PG	**Pg**	**04 09 19.3**	**+1.8**
DPC				*e*SG	**Sg**	**04 09 34.0**	**+1.8**
	546nm,0.7s						
DPC	**Dobruska-Polom**	**1.11**	**169**	⇓*i*Pg	**Pg**	**04 09 19.3**	**+1.8**
DPC				Sg	**Sg**	**04 09 34.0**	**+1.8**
	546nm,0.7s						
PVCC	**Panska Ves**	**1.28**	**225**	*e*P	**Pb**	**04 09 23.0**	**+2.9**
PVCC				*e*Sg	**Sg**	**04 09 41.5**	**+3.5**
BRG	**Berggiesshubel**	**1.41**	**247**	*e*Pg	**Pg**	**04 09 23.9**	**+0.4**
BRG				*e*Sg	**Sg**	**04 09 45.5**	**+3.1**
BRG	**Berggiesshubel**	**1.41**	**247**	*e*P	**Pn**	**04 09 24.1**	**+1.7**
BRG				*i*		04 09 45.3	
BRG	**Berggiesshubel**	**1.41**	**247**	*e*Pn	**Pn**	**04 09 24.1**	**+1.7**
BRG				*i* Pg	**Pg**	**04 09 25.7**	**+2.2**
BRG				*i* Sg	**Sg**	**04 09 45.3**	**+3.0**
BRG	**Berggiesshubel**	**1.41**	**247**	*i* Pg	**Pg**	**04 09 25.7**	**+2.2**
BRG				*e*Sg	**Sg**	**04 09 44.8**	**+2.5**
PRU	**Pruhonice**	**1.72**	**213**	*e*PN	**Pn**	**04 09 28.8**	**+2.0**
PRU				*e*PG	**Pg**	**04 09 30.4**	**+0.7**
PRU	**Pruhonice**	**1.72**	**213**	*e*Pg	**Pg**	**04 09 30.4**	**+0.7**
PRU				*e*Sg	**Sg**	**04 09 53.6**	**+1.0**
RUE	**Ruedersdorf**	**1.72**	**308**	*e*Pn	**Pn**	**04 09 27.5**	**+0.6**
RUE				*e*Sg	**Sg**	**04 09 53.7**	**+0.9**
RUE	**Ruedersdorf**	**1.72**	**308**	*e*Pn	**Pn**	**04 09 27.5**	**+0.6**
RUE				*e*Sg	**Sg**	**04 09 53.7**	**+0.9**
RUE	**Ruedersdorf**	**1.72**	**308**	*e*Pn	**Pn**	**04 09 27.4**	**+0.5**
RUE				*e*Sg	**Sg**	**04 09 53.1**	**+0.3**
CLL	**Collm**	**1.88**	**267**	*e*Pn	**Pn**	**04 09 30.3**	**+1.2**
CLL				*e*Sg	**Sg**	**04 09 59.4**	**+1.4**
CLL	**Collm**	**1.88**	**267**	*i* P	**Pn**	**04 09 30.4**	**+1.3**
CLL				*i*		04 09 59.1	
CLL	**Collm**	**1.88**	**267**	*i* Pn	**Pn**	**04 09 30.4**	**+1.3**
CLL				*i* Pg	**Pg**	**04 09 33.1**	**+0.2**
CLL				*i* Sg	**Sg**	**04 09 59.1**	**+1.1**
CLL	**Collm**	**1.88**	**267**	*i* PN	**Pn**	**04 09 30.4**	**+1.3**
CLL				*i* PG	**Pg**	**04 09 33.1**	**+0.2**
CLL				*e*		04 09 37.0	
CLL				*i* SG	**Sg**	**04 09 59.1**	**+1.1**
CLL				*i* L		04 10 06.8	
CLL	**Collm**	**1.88**	**267**	*i* Pg	**Pg**	**04 09 33.1**	**+0.2**
CLL				*e*Sg	**Sg**	**04 09 58.9**	**+0.9**
CLL				*i* S	**Sg**	**04 09 59.1**	**+1.1**
MORC	**Moravsky Berou**	**1.93**	**149**	*e*P	**Pn**	**04 09 30.3**	**+0.5**
MORC	**Moravsky Berou**	**1.93**	**149**	*e*Pn	**Pn**	**04 09 31.1**	**+1.3**
MORC				*e*Sg	**Sg**	**04 09 58.6**	**-1.1**
	107nm,0.4s						
RAC	**Raciborz**	**1.94**	**133**	*e*P	**Pn**	**04 09 34.0**	**+4.0**
RAC				*e*S	**Sn**	**04 09 59.0**	**+3.5**
GKP	**Gorka Klasztor**	**1.99**	**22**	*e*Pn	**Pn**	**04 09 31.9**	**+1.3**
GKP				*e*Pg	**Pg**	**04 09 39.7**	**+4.6**
GKP				*e*Sn	**Sn**	**04 09 58.7**	**+2.1**
GKP				*e*Sg	**Sg**	**04 10 02.7**	**+1.1**
GKP	**Gorka Klasztor**	**1.99**	**22**	*e*Pn	**Pn**	**04 09 31.9**	**+1.2**
GKP				*e*Pg	**Pg**	**04 09 39.7**	**+4.6**
GKP				*e*Sn	**Sn**	**04 09 58.7**	**+2.1**
GKP				*e*Sg	**Sg**	**04 10 02.7**	**+1.1**
OKC	**Ostrava-Krasne**	**2.11**	**139**	*e*P	**Pn**	**04 09 32.9**	**+0.6**
OKC				*e*		04 10 03.6	
OKC	**Ostrava-Krasne**	**2.11**	**139**	*e*Pn	**Pn**	**04 09 32.9**	**+0.6**
OKC				*e*Pg	**Pg**	**04 09 36.8**	**-0.6**
OKC				*e*Sg	**Sg**	**04 10 03.6**	**-1.9**
OKC	**Ostrava-Krasne**	**2.11**	**139**	Pn	**Pn**	**04 09 32.9**	**+0.6**
OKC	**Ostrava-Krasne**	**2.11**	**139**	*e*Pg	**Pg**	**04 09 36.8**	**-0.6**
OKC				Sg	**Sg**	**04 10 03.6**	**-1.9**
VRAC	**Vranov**	**2.16**	**170**	Pn	**Pn**	**04 09 35.0**	**+1.8**
	6.0nm,0.3s,baz=342,slow=14,SNR=23						
VRAC				Lg		04 10 07.7	
	20nm,0.3s,baz=73,slow=18,SNR=13						
VRAC	**Vranov**	**2.16**	**170**	P	**Pn**	**04 09 35.0**	**+1.9**
VRAC				*e*Sg	**Sg**	**04 10 07.1**	**-0.3**
	188nm,0.7s						
KRUC	**Moravsky**	**2.39**	**174**	*e*Pn	**Pn**	**04 09 38.5**	**+2.1**
KRUC	**Moravsky**	**2.39**	**174**	*e*Pg	**Pg**	**04 09 42.6**	**-0.5**
KRUC				*e*Sg	**Sg**	**04 10 15.2**	**+0.2**
	136nm,0.5s						
WERD	**Werda**	**2.54**	**248**	*e*Pn	**Pn**	**04 09 40.3**	**+1.8**
WERD				*e*Sg	**Sg**	**04 10 19.1**	**-0.7**
NKC	**Novy Kostel**	**2.55**	**243**	*e*P	**Pn**	**04 09 40.7**	**+2.0**
NKC				*e*		04 10 20.9	
NKC	**Novy Kostel**	**2.55**	**243**	*e*PN	**Pn**	**04 09 40.7**	**+2.0**
NKC				*e*PG	**Pg**	**04 09 47.1**	**+0.8**
NKC				*e*SG	**Sg**	**04 10 20.9**	**+0.6**
	297nm,0.4s						
GUNZ	**Gunzen**	**2.56**	**247**	*e*Pn	**Pn**	**04 09 40.9**	**+2.1**
GUNZ				*e*Sg	**Sg**	**04 10 20.5**	**+0.1**
OJC	**Ojcow**	**2.70**	**115**	*e*P	**Pn**	**04 09 39.5**	**-1.3**
OJC				*e*		04 10 23.5	
OJC	**Ojcow**	**2.70**	**115**	*e*PN	**Pn**	**04 09 39.0**	**-1.8**
OJC				*e*PG	**Pg**	**04 09 48.0**	**-1.3**
OJC				*e*SG	**Sg**	**04 10 23.0**	**-2.3**
OJC	**Ojcow**	**2.70**	**115**	*e*Pg	**Pg**	**04 09 48.1**	**-1.2**
OJC				*e*Sg	**Sg**	**04 10 23.5**	**-1.8**
KHC	**Kasperske Hory**	**2.78**	**215**	*e*P	**Pn**	**04 09 43.5**	**+1.5**
KHC				*e*		04 10 27.3	
KHC	**Kasperske Hory**	**2.78**	**215**	*e*PN	**Pn**	**04 09 43.5**	**+1.5**
KHC				*e*PG	**Pg**	**04 09 49.7**	**-1.2**
KHC				*e*SG	**Sg**	**04 10 27.3**	**-0.6**
	206nm,1.0s						
KHC	**Kasperske Hory**	**2.78**	**215**	*e*Pg	**Pg**	**04 09 50.0**	**-0.9**
KHC				Sg	**Sg**	**04 10 27.3**	**-0.6**
	206nm,1.0s						
MOX	**Moxa**	**2.88**	**256**	*e*Pn	**Pn**	**04 09 44.6**	**+1.3**
MOX				*e*Sg	**Sg**	**04 10 31.7**	**+0.5**
MOX	**Moxa**	**2.88**	**256**	*e*Pn	**Pn**	**04 09 44.6**	**+1.3**
MOX				*e*Sg	**Sg**	**04 10 31.7**	**+0.6**
NOTT	**Nottersdorf**	**2.96**	**238**	*e*Pn	**Pn**	**04 09 46.2**	**+1.7**
NOTT				*e*Sg	**Sg**	**04 10 33.1**	**-0.7**
GEC2	**GERESS Array S**	**2.98**	**211**	*e*Pn	**Pn**	**04 09 46.3**	**+1.4**
GEC2				*e*Sg	**Sg**	**04 10 34.1**	**-0.6**
GEC2	**GERESS Array S**	**2.98**	**211**	*e*Pn	**Pn**	**04 09 46.3**	**+1.4**
GEC2				*e*Sg	**Sg**	**04 10 34.1**	**-0.6**
GERES	**GERESS Array B**	**2.98**	**211**	P	**Pn**	**04 09 46.7**	**+1.8**
GERES						04 10 22.0	
GERES	**GERESS Array B**	**2.98**	**211**	Pn	**Pn**	**04 09 46.7**	**+1.9**
	5.8nm,0.3s,baz=31,slow=12,SNR=150						
GERES				Pg	**Pg**	**04 09 53.2**	**-1.8**
	11nm,0.3s,baz=29,slow=17,SNR=60						
GERES				Sn	**Sn**	**04 10 22.0**	**+0.1**
	6.5nm,0.3s,baz=22,slow=22,SNR=9.0						
GERES				Lg		04 10 32.4	
	8.5nm,0.3s,baz=17,slow=28,SNR=6.3						
GERES	**GERESS Array B**	**2.98**	**211**	Pg	**Pg**	**04 09 53.2**	**-1.8**
GERES				S	**Sn**	**04 10 22.0**	**+0.1**
WET	**Wettzell**	**3.04**	**222**	*e*Pn	**Pn**	**04 09 47.4**	**+1.7**
WET				*e*Sg	**Sg**	**04 10 34.7**	**-2.0**
WET	**Wettzell**	**3.04**	**222**	*e*Pn	**Pn**	**04 09 47.4**	**+1.7**
WET				*e*Sg	**Sg**	**04 10 34.7**	**-2.0**
SMOL	**Smolenice**	**3.07**	**162**	*e*PN	**Pn**	**04 09 49.1**	**+3.0**
SMOL				*e*PG	**Pg**	**04 09 56.5**	**-0.1**
SMOL				*e*SG	**Sg**	**04 10 38.1**	**+0.6**
SMOL	**Smolenice**	**3.07**	**162**	*e*Pg	**Pg**	**04 09 56.5**	**-0.1**
SMOL				*e*Sg	**Sg**	**04 10 38.1**	**+0.6**
LIKS	**Likavka**	**3.11**	**139**	*e*SG	**Sg**	**04 10 39.8**	**+0.8**
VKA	**Vienna**	**3.18**	**176**	⇓*i*PN	**Pn**	**04 09 50.3**	**+2.6**
VKA				*i* PG	**Pg**	**04 09 58.3**	**-0.6**
VKA				*i* SG	**Sg**	**04 10 41.2**	**-0.1**
VKA	**Vienna**	**3.18**	**176**	*i* Pg	**Pg**	**04 09 58.3**	**-0.6**
VKA				*i* Sg	**Sg**	**04 10 41.2**	**-0.1**
KOLL	**Kolacno**	**3.25**	**151**	*e*PN	**Pn**	**04 09 49.9**	**+1.2**
KOLL				*e*PG	**Pg**	**04 09 59.1**	**-1.3**
KOLL				*e*SG	**Sg**	**04 10 41.4**	**-2.3**
ZST	**Bratislava**	**3.32**	**167**	*e*P	**Pn**	**04 09 50.9**	**+1.2**
ZST				*e*		04 10 43.6	
ZST	**Bratislava**	**3.32**	**167**	*e*Pn	**Pn**	**04 09 50.9**	**+1.2**
ZST				*e*PG	**Pg**	**04 10 00.5**	**-1.2**
ZST				*e*SG	**Sg**	**04 10 43.6**	**-2.4**
VYHS	**Vyhne**	**3.47**	**147**	*e*PN	**Pn**	**04 09 52.9**	**+1.1**
VYHS				*e*PG	**Pg**	**04 10 04.5**	**-0.1**
VYHS				*e*SG	**Sg**	**04 10 47.4**	**-3.5**
GRA1	**Grafenberg Arr**	**3.51**	**242**	*e*Pn	**Pn**	**04 09 54.2**	**+1.9**
GRA1				*e*Sg	**Sg**	**04 10 50.8**	**-1.4**
GRA1	**Grafenberg Arr**	**3.51**	**242**	*e*P	**Pn**	**04 09 54.2**	**+1.9**
GRA1				Sg	**Sg**	**04 10 50.8**	**-1.4**
GRF	**Grafenberg Arr**	**3.51**	**242**	*e*Pn	**Pn**	**04 09 54.2**	**+1.9**
GRF				*e*Sg	**Sg**	**04 10 50.8**	**-1.4**
CLZ	**Clausthal**	**3.53**	**279**	*e*Pn	**Pn**	**04 09 54.1**	**+1.5**
CLZ				*e*Sg	**Sg**	**04 10 52.9**	**+0.1**
CLZ	**Clausthal**	**3.53**	**279**	*e*Pn	**Pn**	**04 09 54.1**	**+1.5**
CLZ				*e*Sg	**Sg**	**04 10 52.9**	**+0.1**
CLZ	**Clausthal**	**3.53**	**279**	*e*Pn	**Pn**	**04 09 54.0**	**+1.4**
CLZ				Sg	**Sg**	**04 10

WLF	**Walferdange**	**6.52**	**258**	P	**Pn**	**04 10 35.2**	**+0.3**
WLF				Sg	**Sg**	**04 12 26.9**	**-5.5**
HINF	**Hinteralfeld**	**6.96**	**242**	*e*Pn	**Pn**	**04 10 39.6**	**-1.5**
HINF				*e*Sg	**Sg**	**04 12 40.8**	**-6.1**
75nm,1.0s							
VIKU	**Vikbolandet**	**7.09**	**3**	P	**Pn**	**04 10 40.6**	**-2.4**
HAU	**Haudompre**	**7.13**	**245**	*e*Pn	**Pn**	**04 10 43.0**	**-0.6**
HAU				*e*Sg	**Sg**	**04 12 49.1**	**-3.8**
70nm,0.9s							
GIVF	**Givet**	**7.21**	**264**	*e*Sg	**Sg**	**04 12 48.8**	**-6.7**
88nm,1.1s							
RFYF	**Reffroy**	**7.34**	**252**	*e*Pn	**Pn**	**04 10 45.5**	**-0.9**
RFYF				*e*Sg	**Sg**	**04 12 54.7**	**-4.9**
92nm,1.1s							
DOU	**Dourbes**	**7.36**	**264**	P	**Pn**	**04 10 47.6**	**+0.9**
BAIF	**Baives**	**7.61**	**264**	*e*Sg	**Sg**	**04 13 01.9**	**-6.7**
69nm,1.1s							
MEZF	**Maizieres J'vi**	**7.64**	**252**	*e*Sg	**Sg**	**04 13 05.5**	**-4.4**
94nm,1.1s							
NYNU	**Nynaeshamn**	**7.67**	**8**	P	**Pn**	**04 10 48.5**	**-2.6**
SFTF	**Sexfontaines**	**7.79**	**250**	*e*Sg	**Sg**	**04 13 10.8**	**-3.9**
57nm,0.9s							
CABF	**La Chapelle**	**8.10**	**237**	*e*Sg	**Sg**	**04 13 22.3**	**-2.9**
148nm,1.3s							
AKASG	**Malin Array Be**	**8.37**	**90**	Pn	**P**	**04 10 57.2**	**-3.6**
3.2nm,0.3s,baz=278,slow=12,SNR=13							
AKASG				Sn	**Sn**	**04 12 26.9**	**-10**
1.1nm,0.3s,baz=276,slow=24,SNR=4.6							
AKASG				Lg		04 13 26.1	
0.4nm,0.3s,baz=276,slow=28,SNR=4.1							
AKASG	**Malin Array Be**	**8.37**	**90**	Pn	**P**	**04 10 57.2**	**-3.6**
AKASG				Sn	**Sn**	**04 12 26.9**	**-10**
AKASG				Lg		04 13 26.1	
AKASG	**Malin Array Be**	**8.37**	**90**	Pn	**P**	**04 10 57.2**	**-3.6**
AKASG				Sn	**Sn**	**04 12 26.9**	**-10**
LPL	**La Plagne**	**8.54**	**230**	*e*Pn	**P**	**04 11 03.0**	**-0.2**
LPL				*e*Sg	**Sg**	**04 13 36.5**	**-3.1**
47nm,1.3s							
LPG	**La Plagne**	**8.54**	**230**	*e*Pn	**P**	**04 11 03.3**	**+0.1**
LPG				*e*Sg	**Sg**	**04 13 36.9**	**-2.9**
80nm,1.4s							
HFS	**Hagfors**	**8.81**	**352**	Pn	**P**	**04 11 03.2**	**-3.8**
0.1nm,0.3s,baz=169,slow=15,SNR=13							
MBDF	**Montbardon**	**9.12**	**226**	*e*Pn	**P**	**04 11 11.9**	**+0.7**
SSF	**Saint Saulge**	**9.27**	**247**	*e*Pn	**P**	**04 11 11.4**	**-1.9**
SSF				*e*Sg	**Sg**	**04 13 57.8**	**-6.0**
30nm,1.0s							
SMF	**Signal de Mont**	**9.31**	**244**	*e*Pn	**P**	**04 11 12.1**	**-1.8**
SMF				*e*Sg	**Sg**	**04 13 58.2**	**-7.1**
42nm,1.1s							
AVF	**Avril sur Loir**	**9.50**	**246**	*e*Pn	**P**	**04 11 13.7**	**-2.7**
AVF				*e*Sg	**Sg**	**04 14 04.1**	**-7.5**
34nm,1.2s							
SBF	**Sospel**	**9.52**	**221**	*e*Pn	**P**	**04 11 15.5**	**-1.2**
BGF	**Bois d'Agland**	**9.92**	**246**	*e*Sg	**Sg**	**04 14 14.4**	**-11**
26nm,0.8s							
NOA	**NORSAR Array B**	**9.98**	**346**	Pn	**P**	**04 11 18.0**	**-5.0**
0.3nm,0.3s,baz=156,slow=12,SNR=4.5							
NOA	**NORSAR Array B**	**9.98**	**346**	Pn	**P**	**04 11 18.0**	**-5.0**
FRF	**La Foret Royal**	**10.10**	**222**	*e*Pn	**P**	**04 11 23.1**	**-1.5**
TCF	**Toulx Ste Croi**	**10.44**	**246**	*e*Pn	**P**	**04 11 27.9**	**-1.4**
TCF				*e*Sg	S	04 14 33.4	+65
45nm,1.1s							
FINES	**FINESS Array B**	**11.46**	**25**	Pn	**P**	**04 11 38.3**	**-4.9**
0.7nm,0.3s,baz=206,slow=10,SNR=22							
FINES				Sn	**S**	**04 13 42.2**	**-11**
0.6nm,0.3s,baz=197,slow=21,SNR=6.0							
EKA	**Eskdalemuir Ar**	**12.07**	**296**	Pn	**P**	**04 11 47.9**	**-3.7**
0.3nm,0.3s,baz=99,slow=14,SNR=5.0							
KAF	**Kangasniemi**	**12.08**	**24**	*e*p	**P**	**04 11 45.5**	**-6.2**
OBN	**Obninsk**	**12.84**	**65**	*e*P	**P**	**04 11 57.0**	**-4.8**
OBN				pmax	pmax		
comp=Z,8.0nm,1.0s							
JOF	**Joensuu**	**14.14**	**30**	*e*p	**P**	**04 12 12.8**	**-6.0**
ISP	**Isparta**	**17.02**	**137**	*i* P	**P**	**04 12 49.1**	**-7.2**
SOC	**Sochi**	**17.79**	**107**	*e*P	**P**	**04 12 56.6**	**-9.2**
SOC				*e*		04 16 24.2	
SOC				MLR	MLR		
comp=Z,228nm,23.0s							
SOC				MLR	MLR		
comp=N,232nm,25.0s							
SOC				MLR	MLR		
comp=E,85nm,17.0s							
SOC	**Sochi**	**17.79**	**107**	*e*S	**S**	**04 16 24.2**	**+1.5**
comp=E,232nm,25.0s							
ARCES	**ARCESS Array B**	**18.71**	**10**	Pn	**P**	**04 13 11.4**	**-5.6**
comp=E,0.6nm,0.3s,baz=195,slow=12,SNR=16							
KEV	**Kevo**	**19.10**	**12**	*e*p	**P**	**04 13 15.7**	**-6.0**
GNI	**Garni**	**22.85**	**108**	*e*P	**P**	**04 14 04.1**	**+3.0**
GNI				pmax	pmax		
comp=Z,19nm,1.7s							
GNI	**Garni**	**22.85**	**108**	*e*P	**P**	**04 14 04.1**	**+3.0**
comp=Z,19nm,1.7s,mb4.3							
ARU	**Arti**	**25.24**	**62**	*e*P	**P**	**04 14 24.0**	**0.0**
ARU				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.3							
ARU	**Arti**	**25.24**	**62**	*e*P	**P**	**04 14 24.0**	**-0.1**
comp=Z,7.0nm,1.0s,mb4.3							
ARU	**Arti**	**25.24**	**62**	*e*P	**P**	**04 14 24.0**	**0.0**
comp=Z,7.0nm,1.0s,mb4.3							
BVAR	**Borovoye Array**	**32.69**	**65**	P	**P**	**04 15 30.1**	**-1.0**
comp=Z,0.8nm,0.5s,mb3.9,baz=292,slow=8.0,SNR=6.4							
AAK	**Ala-Archa**	**39.86**	**79**	⇑*i* P	**P**	**04 16 32.4**	**+0.3**
AAK				pmax	pmax		
comp=Z,5.0nm,1.3s,mb4.0							
AAK	**Ala-Archa**	**39.86**	**79**	*i* P	**P**	**04 16 32.4**	**+0.3**
comp=Z,5.0nm,1.3s,mb4.0							
MKAR	**Makanchi Array**	**42.31**	**69**	P	**P**	**04 16 52.2**	**+0.1**
comp=Z,0.6nm,0.8s,mb3.4,baz=296,slow=7.5,SNR=3.0							
YKA	**Yellowknife Ar**	**59.90**	**336**	P	**P**	**04 19 04.1**	**-0.7**
comp=Z,1.1nm,0.6s,mb4.0,baz=30,slow=6.7,SNR=39							
YKA	**Yellowknife Ar**	**59.90**	**336**	P	**P**	**04 19 04.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**71.44**	**84**	P	**P**	**04 20 19.6**	**+0.1**
comp=Z,0.6nm,0.4s,mb4.1,baz=314,slow=7.8,SNR=5.1							

IDC 20 04:23:25.6±2.9, 28.30S×64.42E, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=91.2km s-min=42.0km az=52.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**57.24**	**40**	P	P	04 33 14.3	-3.0
0.4nm,0.3s,baz=234,slow=6.9,SNR=4.2							
ASAR	**Alice Springs**	**61.86**	**103**	P	P	04 33 48.3	-0.8
0.7nm,0.9s,baz=247,slow=5.8,SNR=4.6							
WRA	**Warramunga Arr**	**63.59**	**99**	P	P	04 33 58.7	-2.0
0.7nm,0.9s,baz=251,slow=5.7,SNR=3.5							
STKA	**Stephens Creek**	**65.52**	**114**	P	P	04 34 09.4	-3.7
0.6nm,0.4s,baz=243,slow=6.8,SNR=2.9							
YKA	**Yellowknife Ar**	**145.80**	**359**	PKPbc	PKPbc	04 43 05.3	-0.8
1.4nm,1.0s,baz=347,slow=3.5,SNR=21							

DJA 20 04:33:41.4±0.8, 9.53S×116.18E, h33km, MD4.7/4, ML4.3/3, 4C-5D, Error ellipse: s-maj=18.6km s-min=10.3km az=158.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.03**	**321**	⇓*i*Pn	Pn	04 33 58.0	-1.6
700nm,0.3s							
RATI				⇑*i*Sn	Sn	04 34 10.8	-2.2
KEDI	**Kedomdong**	**1.04**	**356**	⇓*i*Pn	Pn	04 33 58.8	-1.0
1μm,0.2s							
KEDI	**Kedomdong**	**1.04**	**356**	⇓*i*P	P	04 33 59.4	-0.2
KEDI				⇓*i*Sn	Sn	04 34 12.4	-0.8
KELI	**Kelakatan**	**2.12**	**308**	⇑*i*Pn	Pn	04 34 14.5	-0.8
KELI				⇑*i*Sn	Sn	04 34 36.8	-4.0
SRDI	**Scrawed**	**2.27**	**297**	⇓*i*Pn	Pn	04 34 16.0	-1.4
41nm,0.2s							
SRDI				⇑*i*Sn	Sn	04 34 41.1	-3.5

*CSEM **20** 04:43:09.0±0.9, 38.57N×28.99W, h5km±9km, ML2.0, Error ellipse: s-maj=18.0km s-min=8.4km az=180.0, After PDA*
*PDA **20** 04:43:09.0±0.9, 38.57N×28.99W, h5km±9km, MD3.1, ML2.0, Error ellipse: s-maj=18.0km s-min=8.4km az=180.0*

SVSA 20 04:43:09.0±0.9, 38.57N×28.99W, h5km±9km, MD3.1, ML2.0, Error ellipse: s-maj=18.0km s-min=8.4km az=180.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CALA	**Caldeira**	**0.22**	**87**	*e*P	Pg	04 43 12.9	-0.7
CALA				*e*S	Sg	04 43 16.7	+0.1
PCED	**Cedros**	**0.23**	**75**	*e*P	Pg	04 43 13.5	-0.2
PCED				*e*S	Sg	04 43 16.3	-0.5
110nm,0.4s							
PCED	**Cedros**	**0.23**	**75**	*e*P	Pg	04 43 13.5	-0.2
PCED				*e*S	Sg	04 43 16.3	-0.5
110nm,0.4s							
HOR	**Horta**	**0.28**	**98**	*e*S	Sg	04 43 17.6	-0.9
PICO	**Pico**	**0.45**	**99**	*e*P	Pg	04 43 17.0	-0.9
PICO				*e*S	Sg	04 43 22.6	-1.3

DJA 20 04:48:02.6±0.9, 9.52S×114.21E, h33km, MD4.8/3, ML3.4/3, 6C-1D, Error ellipse: s-maj=23.0km s-min=10.5km az=35.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.03**	**357**	⇓*i*Pn	Pn	04 48 19.4	-1.6
65nm,0.2s							
SRDI				⇑*i*Sn	Sn	04 48 31.6	-2.8
KELI	**Kelakatan**	**1.32**	**12**	⇑*i*Pn	Pn	04 48 24.3	-0.8
16nm,0.2s							
KELI				⇑*i*Sn	Sn	04 48 39.2	-2.5
RATI	**Rata**	**1.53**	**59**	⇑*i*Pn	Pn	04 48 27.0	-1.1
79nm,0.2s							
RATI	**Rata**	**1.53**	**59**	⇑*i*P	P	04 48 27.3	-0.6
RATI				⇑*i*Sn	Sn	04 48 44.1	-2.9

IGQ 20 05:18:54.2, 3.21S×80.10W, h12km±22km, mb4.2, 2C-1D, Error ellipse: s-maj=23.5km s-min=5.7km az=107.8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**2.19**	**348**	P	Pn	05 19 32.0	+0.9
IGUA	**Igualata**	**2.25**	**41**	P	Pn	05 19 33.0	+1.1
ARRY	**Arrayan**	**2.36**	**44**	⇑P	Pn	05 19 34.5	+1.0
CUSU	**Cusua**	**2.39**	**43**	P	Pn	05 19 36.9	+3.0
JUIV	**Juive**	**2.42**	**43**	P	Pn	05 19 36.3	+2.1
ULBA	**Ulba**	**2.44**	**44**	P	Pn	05 19 36.3	+1.7
ULBA				S	Sn	05 20 06.3	+1.8
NAS1	**Nasa**	**3.03**	**32**	P	Pn	05 19 45.7	+2.7
TAMB	**Tambo**	**3.04**	**35**	P	Pn	05 19 46.3	+3.1
VC1	**Cotopaxi 1**	**3.07**	**34**	P	Pn	05 19 45.7	+2.2
JUA2	**San Juan 2**	**3.33**	**27**	P	Pn	05 19 49.2	+1.9
ANTI	**Antisana**	**3.36**	**35**	P	Pn	05 19 52.1	+4.4
TERV	**Terraza Guagua**	**3.37**	**26**	⇓P	Pn	05 19 50.5	+2.7
TERV				S	Sn	05 20 32.7	+4.5
GGP	**Refugio Guagua**	**3.37**	**27**	⇑P	Pn	05 19 49.9	+2.0
GGP				S	Sn	05 20 32.0	+3.8
PINO	**Pino**	**3.38**	**26**	P	Pn	05 19 49.6	+1.6
YANA	**Yana**	**3.43**	**26**	P	Pn	05 19 50.4	+1.7
JOR1	**San Jorge 1**	**3.51**	**25**	P	Pn	05 19 48.5	-1.3
CAYR	**Refugio Cayamb**	**3.83**	**33**	P	Pn	05 19 57.5	+3.1
COTA	**Cotacachi**	**3.94**	**27**	P	Pn	05 19 58.1	+2.2
COTA				S	Sn	05 20 45.4	+2.8
ECEN	**Cerro Negro**	**4.54**	**28**	P	Pn	05 20 08.3	+3.8

IDC 20 05:26:21.9±1.8, 1.05N×126.14E, mb3.9/4, mb1 4.1/4, mb1mx3.8/17, mbtmp3.9/4, Error ellipse: s-maj=168.3km s-min=23.2km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.35**	**159**	P	P	05 31 21.0	-2.2
5.8nm,0.9s,baz=339,slow=11,SNR=7.9							
WB2	**Warramunga Arr**	**22.36**	**159**	*e*P	P	05 31 21.1	-2.1
ASAR	**Alice Springs**	**25.70**	**163**	P	P	05 31 54.0	-1.6
1.3nm,0.7s,baz=332,slow=6.5,SNR=13							
STKA	**Stephens Creek**	**35.87**	**157**	P	P	05 33 24.1	-1.5
1.1nm,0.4s,baz=340,slow=8.5,SNR=5.5							
MKAR	**Makanchi Array**	**59.43**	**326**	P	P	05 36 26.4	-2.4
0.3nm,0.3s,baz=122,slow=8.3,SNR=4.8							

IDC 20 05:51:12.3±14.0, 7.43S×128.35E, h102km±158km, mb3.0/1, mb1 3.7/4, mb1mx3.4/16, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=125.2km s-min=59.1km az=32.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.93**	**194**	P	P	05 53 46.1	-0.7
3.0nm,0.3s,baz=24,slow=9.2,SNR=38							
FITZ				S	S	05 55 40.1	-7.5
1.9nm,0.3s,baz=341,slow=23,SNR=4.8							
WRA	**Warramunga Arr**	**13.72**	**156**	P	P	05 54 21.1	-2.6
0.7nm,0.3s,baz=333,slow=10,SNR=18							
WRA				S	S	05 56 41.3	-13
1.3nm,0.3s,baz=326,slow=23,SNR=11							
ASAR	**Alice Springs**	**17.00**	**162**	P	P	05 55 04.5	-0.5
0.3nm,0.3s,baz=338,slow=11,SNR=19							
ASAR				S	S	05 58 04.7	-4.5
0.3nm,0.3s,baz=242,slow=21,SNR=6.4							
MKAR	**Makanchi Array**	**67.70**	**328**	P	P	06 01 58.7	-2.0
0.2nm,0.4s,baz=117,slow=7.0,SNR=5.3							

IDC 20 05:56:04.0±2.8, 0.42S×123.10E, mb3.8/3, mb1 4.0/3, mb1mx3.7/18, mbtmp3.8/3, Error ellipse: s-maj=396.4km s-min=26.9km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.30**	**151**	P	P	06 01 01.8	-3.1
2.4nm,0.8s,baz=322,slow=11,SNR=7.6							
ASAR	**Alice Springs**	**25.37**	**156**	P	P	06 01 34.4	-0.3
0.9nm,0.9s,baz=323,slow=8.4,SNR=4.5							
CTA	**Charters Tower**	**29.93**	**132**	P	P	06 02 19.6	+3.4
2.4nm,0.4s,baz=342,slow=6.4,SNR=3.7							
SONM	**Songino Array**	**50.22**	**345**	P	P	06 05 01.7	-2.1
0.4nm,0.6s,baz=172,slow=8.1,SNR=4.1							

*BJI **20** 06:00:34.8, 1.91N×96.67E, h46km, mB4.9, mb4.9, Ms4.4, Msz4.2*
*MOS **20** 06:00:36.3±1.2, 2.35N×96.70E, h33km, mb4.9/15, Error ellipse: s-maj=15.8km s-min=8.3km az=94.5*
*NEIC **20** 06:00:37.0±0.5, 2.26N×96.55E, mb4.7/13, Error ellipse: s-maj=11.4km s-min=6.5km az=51.0*
*IDC **20** 06:00:37.1±0.7, 2.31N×96.62E, h24km±4km, mb4.2/14, mb1 4.3/15, mb1mx4.2/21, mbtmp4.4/15, ML4.4/1, MS3.7/4, Ms1 3.8/4, ms1mx3.4/23, Error ellipse: s-maj=34.8km s-min=12.1km az=47.0*

ISC 20 06:00:35.4±0.4, 2.30N±0.05×96.61E±0.05, h27km, h27km±1.4km: pP-P, n83, σ1.9: 18/93, mb4.7/46, MS4.0/11, 4C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.96**	**63**	P	**Pn**	**06 01 50.9**	**+0.8**
KULM	**Kulim**	**5.01**	**53**	*e*P	**Pn**	**06 01 51.6**	**+0.8**
SNG	**Songkhla**	**6.28**	**39**	P	**Pn**	**06 02 08.5**	**-0.3**
240nm,0.8s							
KGM	**Kluang**	**6.71**	**92**	P	**Pn**	**06 02 16.5**	**+1.7**
KSM	**Kuching**	**13.72**	**93**	*e*P	**P**	**06 03 52.8**	**+2.0**
CM31	**Chiang Mai Arr**	**16.22**	**8**	*e*P	**P**	**06 04 25.8**	**+2.5**
16nm,0.8s							
CMAR	**Chiang Mai Arr**	**16.22**	**8**	Pn	**P**	**06 04 23.4**	**+0.1**
0.5nm,0.3s,baz=197,slow=12,SNR=49							
CMAR				LR	LR	06 11 19.9	
comp=Z,290nm,18.0s,baz=190,slow=40							
CMAR	**Chiang Mai Arr**	**16.22**	**8**	Pn	**P**	**06 04 23.4**	**+0.1**
CMAR				LR	LR	06 11 19.9	
CHG	**Chiang Mai**	**16.57**	**8**	P	**P**	**06 04 28.2**	**+0.5**
NANT	**Nan**	**16.89**	**13**	⇑P	**P**	**06 04 31.0**	**-0.7**
100nm,1.0s							
KKM	**Kota Kinabalu**	**19.90**	**79**	*e*P	**P**	**06 05 07.6**	**-0.5**
KKM	**Kota Kinabalu**	**19.90**	**79**	P	**P**	**06 05 08.0**	**-0.1**
QIZ	**Qiongzhong**	**21.08**	**37**	*e*P	**P**	**06 05 19.8**	**-0.4**
QIZ				S	**S**	**06 09 07.8**	**-0.7**
QIZ				LR	LR		
comp=N,268nm,14.5s,MS3.9							
QIZ				LR	LR		
comp=E,252nm,13.8s,MS3.9							
QIZ				LR	LR		
comp=Z,489nm,14.5s,MS4.0							
KMI	**Kunming**	**23.45**	**14**	P	**P**	**06 05 45.3**	**+1.6**
KMI				AP		06 05 54.1	
KMI				XP		06 05 59.1	
KMI				S	**S**	**06 09 59.3**	**+7.6**
KMI				XS		06 10 11.1	
KMI				SS	SS	06 10 46.6	+7.0
KMI				AMB	AMB		
comp=Z,20nm,1.0s,mb4.5							
KMI				AMB	AMB		
comp=Z,58nm,5.0s							
KMI				LR	LR		
comp=N,252nm,13.8s,MS3.9							
KMI				LR	LR		
comp=E,169nm,14.9s,MS3.9							
KMI				LR	LR		
comp=Z,301nm,15.9s,MS3.9							
KMI	**Kunming**	**23.45**	**14**	P	**P**	**06 05 45.3**	**+1.6**
KMI				*PP		06 05 54.1	
KMI				*SP		06 05 59.1	
KMI				S	**S**	**06 09 59.2**	**+7.5**
KMI				*SS		06 10 11.1	
KMI				SS	SS	06 10 46.6	+7.0
KMI				pmax	pmax		
comp=Z,20nm,1.0s,mb4.5							
KMI				MLR	MLR		
comp=Z,300nm,15.9s,MS3.9							
KMI	**Kunming**	**23.45**	**14**	P	**P**	**06 05 45.3**	**+1.6**
comp=Z,20nm,1.0s,mb4.5							
KMI				pP		06 05 54.1	
KMI				sP		06 05 59.1	
KMI				S	**S**	**06 09 59.2**	**+7.5**
KMI				sS		06 10 11.1	
KMI				SS	SS	06 10 46.6	+7.0
KMI				LR	LR		
comp=Z,300nm,15.9s,MS3.9							
SHL	**Shillong**	**23.58**	**349**	*e*P	**P**	**06 05 43.0**	**-1.9**
GYA	**Guiyang**	**25.89**	**21**	⇓*i*P	**P**	**06 06 06.3**	**-0.7**
GYA				AP	pP	06 06 15.8	+0.8
GYA				XP	sP	06 06 19.6	+1.0
GYA				PP	PP	06 06 51.3	+3.3
GYA				S	**S**	**06 10 39.3**	**+6.4**
GYA				AMB	AMB		
comp=Z,20nm,0.7s,mb4.8							
GYA				AMB	AMB		
comp=Z,90nm,3.0s							
GYA				LR	LR		
comp=N,460nm,16.8s,MS4.2							
GYA				LR	LR		
comp=E,280nm,12.6s,MS4.2							
GYA				LR	LR		
comp=Z,490nm,13.5s,MS4.2							
JIRN	**Jiri**	**27.12**	**339**	*e*P	**P**	**06 06 19.5**	**+1.2**
comp=Z,67nm,0.8s,mb5.2							
PKI	**Pulchoki**	**27.32**	**338**	*e*P	**P**	**06 06 20.6**	**+0.5**
comp=Z,20nm,0.9s,mb4.7							
GUN	**Gumba**	**27.46**	**339**	*e*P	**P**	**06 06 22.5**	**+1.1**
comp=Z,43nm,0.7s,mb5.1							
DMN	**Daman**	**27.47**	**337**	*e*P	**P**	**06 06 22.5**	**+1.0**
comp=Z,32nm,0.8s,mb4.9							
KKN	**Kakani**	**27.57**	**338**	*e*P	**P**	**06 06 23.2**	**+0.8**
comp=Z,40nm,0.8s,mb5.1							
LSA	**Lhasa**	**27.74**	**350**	*e*P	**P**	**06 06 23.4**	**-0.5**
LSA	**Lhasa**	**27.74**	**350**	*e*P	**P**	**06 06 24.3**	**+0.4**
LSA				pmax	pmax		
comp=Z,13nm,0.8s,mb4.6							
LSA	**Lhasa**	**27.74**	**350**	*e*P	**P**	**06 06 24.3**	**+0.4**
comp=Z,13nm,0.8s,mb4.6							
GKN	**Gorkha**	**28.01**	**337**	*e*P	**P**	**06 06 26.9**	**+0.6**
comp=Z,44nm,0.9s,mb5.1							
KOLN	**Koldanda**	**28.22**	**335**	*e*P	**P**	**06 06 29.0**	**+0.7**
comp=Z,47nm,0.7s,mb5.2							
ENH	**Enshi**	**30.39**	**22**	*e*P	**P**	**06 06 45.7**	**-1.9**
comp=Z,6.8nm,0.6s,mb4.5							
XAN	**Xi'an**	**33.61**	**19**	P	**P**	**06 07 13.8**	**-2.0**
XAN				AP	pP	06 07 23.8	-0.1
XAN				AMB	AMB		
comp=Z,16nm,0.6s,mb5.1							
LZH	**Lanzhou**	**34.28**	**10**	⇑P	**P**	**06 07 21.0**	**-0.6**
LZH				AP	pP	06 07 30.4	+0.7
LZH				XP	sP	06 07 34.3	+1.1
LZH				PP	PP	06 08 37.5	+0.5
LZH				AMB	AMB		
comp=Z,28nm,1.2s,mb5.1							
LZH				AMB	AMB		
comp=Z,93nm,5.3s							
LZH				LR	LR		
comp=N,446nm,12.8s							
LZH				LR	LR		
comp=Z,589nm,16.8s,MS4.4							
LZH	**Lanzhou**	**34.28**	**10**	⇑P	**P**	**06 07 21.0**	**-0.6**
comp=Z,28nm,1.2s,mb5.1							
LZH				pP	pP	06 07 30.4	+0.7
LZH				sP	sP	06 07 34.3	+1.1
LZH				PP	PP	06 08 37.5	+0.5
LZH				LR	LR		
comp=Z,590nm,16.8s,MS4.4							
FITZ	**Fitzroy Crossi**	**35.05**	**127**	P	**P**	**06 07 27.7**	**-0.6**
comp=Z,11nm,0.8s,mb4.8,baz=277,slow=3.6,SNR=9.9							
FITZ				LR	LR	06 22 34.9	
comp=Z,89nm,19.6s,MS3.5,baz=299,slow=38							
NJ2	**Nanjing**	**36.26**	**33**	*e*P	**P**	**06 07 40.3**	**+1.9**
NJ2				AP	pP	06 07 50.0	+3.5
NJ2				XP	sP	06 07 54.0	+4.0
NJ2				PP	PP	06 09 00.3	-1.4
NJ2				S	**S**	**06 13 19.0**	**+2.5**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
NJ2				AMB	AMB		
comp=Z,2μm,7.3s							
NJ2				LR	LR		
comp=Z,1μm,15.2s,MS4.8							
SSE	**Sheshan**	**36.88**	**36**	P	**P**	**06 07 39.5**	**-4.1**
SSE				S	**S**	**06 13 24.0**	**-2.0**
SSE				PCS		06 13 47.8	
SSE				AMB	AMB		
comp=Z,33nm,0.7s,mb5.3							
SSE				AMB	AMB		
comp=Z,35nm,3.8s							
SSE				LR	LR		
comp=N,52nm,19.2s,MS3.5							
SSE				LR	LR		
comp=E,63nm,19.2s,MS3.5							
SSE				LR	LR		
comp=Z,104nm,19.5s,MS3.6							
SSE	**Sheshan**	**36.88**	**36**	P	**P**	**06 07 39.5**	**-4.1**
comp=Z,33nm,0.7s,mb5.3							
SSE				pP	pP	06 07 48.3	-3.4
SSE				sP	sP	06 07 52.4	-2.8
SSE				S	**S**	**06 13 24.0**	**-2.0**
SSE			

comp=Z,9.0nm,0.8s,mb4.5
WB2 Warramunga Arr 43.13 123 ⇓*i*P **P 06 08 36.0 +0.4**
WB2 *i* pP 06 08 43.5 -0.2
ASAR Alice Springs 44.52 128 P **P 06 08 47.0 +0.1**
comp=Z,1.5nm,0.7s,mb4.0,baz=304,slow=7.9,SNR=17
ASAR PcP PcP 06 10 31.1 +0.7
comp=Z,0.3nm,0.6s,baz=290,slow=3.3,SNR=4.1
AAK Ala-Archa 44.77 337 *e*P **P 06 08 49.3 +0.7**
AAK *e**PP pP 06 08 55.3 -1.4
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
AAK Ala-Archa 44.77 337 *e*P **P 06 08 49.2 +0.7**
comp=Z,2.5nm,0.8s,mb4.1
AAK *e*pP pP 06 08 55.2 -1.5
MKAR Makanchi Array 46.04 346 P **P 06 08 59.1 +0.5**
comp=Z,15nm,0.7s,mb5.0,baz=157,slow=8.0,SNR=30
MKAR LR LR 06 32 12.1
comp=Z,45nm,20.3s,MS3.4,baz=163,slow=41
SONM Songino Array 46.15 9 P **P 06 08 59.7 +0.3**
comp=Z,13nm,0.6s,mb5.0,baz=189,slow=9.3,SNR=116
SONM PcP PcP 06 10 36.1 +0.5
comp=Z,2.5nm,0.6s,baz=188,slow=3.9,SNR=7.3
ULN Ulaanbaatar 46.28 10 *e*P **P 06 08 59.9 -0.6**
ULN pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ULN Ulaanbaatar 46.28 10 *e*P **P 06 08 59.9 -0.5**
comp=Z,9.9nm,0.8s,mb4.8
ZAK Zakamensk 48.24 6 *e*P **P 06 09 13.0 -2.9**
CN2 Changchun 48.61 28 *e*P **P 06 09 21.6 +2.8**
TLY Talaya 49.57 6 *i*P **P 06 09 25.4 -0.6**
TLY pmax pmax
comp=Z,8.0nm,1.7s,mb4.5
HIA Hailar 50.80 19 *e*P **P 06 09 34.6 -0.9**
HIA pmax pmax
comp=Z,10.0nm,0.9s
HIA Hailar 50.80 19 *e*P **P 06 09 34.6 -0.9**
comp=Z,10nm,0.9s,mb4.8
MDJ Mudanjiang 51.21 30 P **P 06 09 37.3 -1.4**
MDJ S **S 06 16 47.3 -6.6**
MDJ SS SS 06 20 25.5 -1.8
MDJ AMB AMB
comp=Z,12nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,119nm,3.9s
MDJ LR LR
comp=N,47nm,27.5s,MS3.6
MDJ LR LR
comp=E,72nm,31.5s,MS3.6
MDJ LR LR
comp=Z,65nm,19.7s
MJAR Matsushiro Arr 51.29 43 P **P 06 09 39.2 -0.2**
comp=Z,2.0nm,0.7s,mb4.2,baz=250,slow=9.4,SNR=5.4
PMG Port Moresby 51.68 104 P **P 06 09 42.3 -0.4**
comp=Z,11nm,0.8s,mb4.9,baz=267,slow=9.4,SNR=3.9
STKA Stephens Creek 54.52 132 P **P 06 10 04.1 +0.6**
comp=Z,1.8nm,0.7s,mb4.2,baz=314,slow=7.8,SNR=3.3
KLR Kul'dur 55.55 27 *e*P **P 06 10 08.0 -2.7**
BOD Bodaibo 57.05 11 *e*P **P 06 10 18.8 -2.6**
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
YSS Yuzh-Sakhalins 59.79 35 *e*P **P 06 10 39.0 -1.6**
SVE Sverdlovsk 61.46 338 *e*P **P 06 10 50.5 -1.3**
SVE *e* 06 11 08.5
ARU Arti 61.95 337 ⇑*i*P **P 06 10 54.2 -1.0**
ARU *e* 06 13 12.0
ARU *e*PPP PPP 06 14 42.4 -0.3
ARU *e*S **S 06 19 19.5 +3.7**
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
YAK Yakutsk 64.54 17 *i*P **P 06 11 10.6 -1.5**
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.2
SOC Sochi 64.92 318 *e*P **P 06 11 08.2 -6.7**
SOC *e* 06 21 09.0
SOC *e*SSS SSS 06 26 59.7 +1.9
SOC pmax pmax
comp=N,70nm,1.6s
SOC pmax pmax
comp=Z,91nm,1.6s,mb5.5
SOC pmax pmax
comp=E,104nm,1.4s
BRTR Keskin Array B 67.94 312 P **P 06 11 33.9 -0.3**
comp=E,0.6nm,0.5s,mb3.9,baz=127,slow=6.2,SNR=3.7
BRTR pP pP 06 11 41.9 -0.9
comp=E,1.8nm,0.8s,baz=142,slow=7.5,SNR=6.7
MOS Moscow 71.09 329 *e*P **P 06 11 55.0 +1.8**
MOS *e* 06 12 16.7
OBN Obninsk 71.38 328 *e*P **P 06 11 59.6 +4.7**
OBN pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
TIXI Tiksi 72.22 10 *i*P **P 06 11 58.2 -1.5**
TIXI pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
KIS Kishinev 73.29 319 *e*P **P 06 12 02.0 -4.4**
AKASG Malin Array Be 74.03 322 P **P 06 12 10.4 -0.2**
comp=Z,1.0nm,0.4s,mb4.1,baz=90,slow=5.0,SNR=12
AKASG pP pP 06 12 18.2 -1.0
comp=Z,2.9nm,0.6s,baz=88,slow=5.4,SNR=4.2
JOF Joensuu 76.91 335 *e*p **P 06 12 25.5 -1.2**
APA Apatity 77.90 339 ⇓*i*P **P 06 12 27.3 -4.8**
APA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
FINES FINESS Array B 78.76 332 P **P 06 12 37.7 +0.7**
comp=Z,2.7nm,0.6s,mb4.3,baz=90,slow=7.6,SNR=9.7
KAF Kangasniemi 78.84 333 *e*p **P 06 12 36.5 -0.9**
comp=Z,5.6nm,0.8s,mb4.5
KAF Kangasniemi 78.84 333 *e*P **P 06 12 36.5 -0.9**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BILL Bilibino 80.36 21 P **P 06 12 46.0 +0.5**
ARCES ARCESS Array B 81.31 340 P **P 06 12 51.5 +1.1**
comp=Z,2.5nm,0.7s,mb4.3,baz=90,slow=6.1,SNR=11
GERES GERESS Array B 83.61 319 P **P 06 13 04.9 +2.2**
comp=Z,0.4nm,0.3s,mb4.1,baz=101,slow=10.0,SNR=3.7
GERES pP pP 06 13 11.9 +0.5
comp=Z,1.5nm,0.9s,baz=108,slow=4.2,SNR=3.7
NOA NORSAR Array B 85.77 331 P **P 06 13 13.6 +0.4**
comp=Z,1.0nm,0.8s,mb4.1,baz=336,slow=20,SNR=2.5
NOA pP pP 06 13 22.4 +0.4
comp=Z,1.9nm,0.9s,baz=95,slow=4.9,SNR=4.6
VNDA Vanda 87.01 169 LR LR 06 49 27.1
comp=Z,84nm,18.7s,MS4.2,baz=68,slow=34

NEIC ***20*** *06:03:56.4±2.3, 19.22S×169.60E, h248km±35km, Error ellipse: s-maj=97.5km s-min=22.1km az=158.0*
IDC ***20*** *06:03:57.2±3.4, 19.07S×169.49E, h249km±44km, mb3.5/6, mb1 3.7/7, mb1mx3.5/16, mbtmp4.1/7, Error ellipse: s-maj=95.1km s-min=23.7km az=159.0*
ISC 20 06:03:55.2±1.7, 19.1S±0.2×169.6E±0.3, h250km, n14, σ1§02/12, mb3.7/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.21**	**224**	*e*P	**P**	**06 05 00.7**	**-1.4**
DZM	**Mont Dzumac**	**4.21**	**224**	P	**P**	**06 05 02.0**	**0.0**
	7.5nm,0.3s,baz=54,slow=20,SNR=30						
DZM				S	**S**	**06 05 55.1**	**+1.1**
	1.6nm,0.3s,baz=146,slow=17,SNR=1.9						
DZM	**Mont Dzumac**	**4.21**	**224**	*e*P	**P**	**06 05 00.7**	**-1.4**
NOUC	**Port Laguerre**	**4.33**	**225**	*e*P	**P**	**06 05 03.4**	**-0.1**
NOUC	**Port Laguerre**	**4.33**	**225**	*e*P	**P**	**06 05 03.4**	**-0.1**
CTA	**Charters Tower**	**22.03**	**263**	P	**P**	**06 08 31.2**	**+1.1**
	1.9nm,0.4s,mb4.0,baz=94,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**33.23**	**263**	P	**P**	**06 10 09.1**	**-1.9**
	0.6nm,0.4s,mb3.5,baz=85,slow=8.4,SNR=4.1						
ASAR	**Alice Springs**	**33.51**	**256**	P	**P**	**06 10 12.4**	**-0.9**
	4.2nm,0.4s,mb4.3,baz=81,slow=8.7,SNR=53						
FITZ	**Fitzroy Crossi**	**41.61**	**264**	P	**P**	**06 11 20.8**	**0.0**
	1.3nm,0.4s,mb3.7,baz=93,slow=23,SNR=6.6						
SONM	**Songino Array**	**87.30**	**323**	P	**P**	**06 16 16.2**	**+1.4**
	0.7nm,0.7s,mb3.5,baz=155,slow=4.3,SNR=6.0						
ILAR	**Eielson Array**	**89.97**	**17**	P	**P**	**06 16 27.0**	**+0.1**
	0.3nm,0.4s,mb3.5,baz=240,slow=4.8,SNR=9.8						
YKA	**Yellowknife Ar**	**100.36**	**27**	P	P	06 17 16.5	+2.1
	0.3nm,0.7s,baz=251,slow=4.7,SNR=9.2						
ARCES	**ARCESS Array B**	**125.00**	**345**	PKP	PKPdf	06 22 27.0	+1.8
	1.5nm,0.7s,baz=90,slow=2.4,SNR=5.8						
GERES	**GERESS Array B**	**144.51**	**332**	PKP	PKPdf	06 23 03.3	+1.7
	0.3nm,0.2s,baz=14,slow=5.5,SNR=4.8						

BJI ***20*** *06:17:19.8, 4.79N×94.28E, h47km, mB4.8, mb4.9, Ms4.5, Msz4.2*
MOS ***20*** *06:17:21.3±0.9, 5.21N×94.29E, h33km, mb4.8/15, Error ellipse: s-maj=16.2km s-min=8.4km az=97.4*
IDC ***20*** *06:17:24.9±0.6, 5.34N×94.41E, h44km±4km, mb4.2/15, mb1 4.4/16, mb1mx4.2/23, mbtmp4.5/16, ML5.3/1, MS3.6/5, Ms1 3.6/5, ms1mx3.4/25, Error ellipse: s-maj=22.4km s-min=12.1km az=53.0*
NEIC ***20*** *06:17:24.5±0.3, 5.24N×94.35E, mb4.7/15, Error ellipse: s-maj=9.1km s-min=6.9km az=59.0*
NEIC Felt [II] at Banda Aceh.
ISC 20 06:17:22.5±1.2, 5.20N±0.05×94.34E±0.06, h43km±10km, h41km±2.5km: pP-P, n90, σ1§07/96, mb4.7/48, MS3.9/14, 5C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.29**	**89**	*e*P	**P**	**06 18 55.1**	**+0.1**
SNG	**Songkhla**	**6.55**	**72**	P	**P**	**06 18 59.0**	**+0.3**
	232nm,0.8s						
CM31	**Chiang Mai Arr**	**13.93**	**18**	*e*P	**P**	**06 20 41.3**	**+1.9**
	15nm,0.5s						
CMAR	**Chiang Mai Arr**	**13.93**	**18**	P	**P**	**06 20 39.4**	**0.0**
	4.6nm,0.3s,baz=207,slow=15,SNR=67						
CMAR				LR	LR	06 25 32.2	
	comp=Z,93nm,19.4s,baz=205,slow=35						
CMAR				ScP		06 29 29.2	
	0.4nm,0.3s,baz=236,slow=3.1,SNR=5.2						
CHG	**Chiang Mai**	**14.26**	**18**	PG	**P**	**06 20 47.2**	**+3.5**
CHG				SG	Px	06 20 49.8	
NANT	**Nan**	**14.88**	**24**	⇑P	**P**	**06 20 56.0**	**+4.2**
	94nm,0.9s						
QIZ	**Qiongzhong**	**20.44**	**46**	⇑P	**P**	**06 21 58.8**	**-0.1**
QIZ				*e*S	**S**	**06 25 43.5**	**+3.1**
QIZ				LR	LR		
	comp=N,141nm,17.5s,MS3.6						
QIZ				LR	LR		
	comp=E,204nm,15.6s,MS3.6						
QIZ				LR	LR		
	comp=Z,211nm,20.2s,MS3.5						
QIZ	**Qiongzhong**	**20.44**	**46**	*e*P	**P**	**06 21 58.7**	**-0.2**
	comp=Z,5.5nm,0.6s						
KMI	**Kunming**	**21.39**	**21**	P	**P**	**06 22 08.9**	**+0.3**
KMI				PP	PP	06 22 35.3	+2.0
KMI				S	**S**	**06 26 05.5**	**+7.0**
KMI				SS	SS	06 26 45.8	+11
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.2						
KMI				AMB	AMB		
	comp=Z,70nm,4.1s						
KMI				LR	LR		
	comp=N,155nm,17.3s,MS3.6						
KMI				LR	LR		
	comp=E,143nm,20.0s,MS3.6						
KMI	**Kunming**	**21.39**	**21**	P	**P**	**06 22 08.9**	**+0.3**
KMI				*SP		06 22 21.5	
KMI						06 22 35.2	
KMI				S	**S**	**06 26 05.5**	**+7.0**
KMI				*SS		06 26 18.8	
KMI				SS	SS	06 26 45.8	+11
KMI				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.2						
KMI				MLR	MLR		
	comp=Z,140nm,20.0s,MS3.4						
KMI	**Kunming**	**21.39**	**21**	P	**P**	**06 22 08.9**	**+0.3**
	comp=Z,15nm,1.1s,mb4.2						
KMI				sP		06 22 21.5	
KMI				PP	PP	06 22 35.2	+1.9
KMI				S	**S**	**06 26 05.5**	**+7.0**
KMI				sS		06 26 18.8	
KMI				SS	SS	06 26 45.8	+11
KMI				LR	LR		
	comp=Z,140nm,20.0s,MS3.4						
JIRN	**Jiri**	**23.65**	**342**	*e*P	**P**	**06 22 29.9**	**-1.0**
	comp=Z,23nm,0.3s,mb5.0						
PKI	**Pulchoki**	**23.82**	**340**	*e*P	**P**	**06 22 32.1**	**-0.4**
	comp=Z,24nm,0.5s,mb4.9						
DMN	**Daman**	**23.96**	**339**	*e*P	**P**	**06 22 33.7**	**-0.2**
	comp=Z,9.7nm,0.3s,mb4.7						
GUN	**Gumba**	**23.98**	**341**	*e*P	**P**	**06 22 33.5**	**-0.6**
	comp=Z,57nm,0.6s,mb5.2						
KKN	**Kakani**	**24.07**	**340**	*e*P	**P**	**06 22 34.5**	**-0.4**
	comp=Z,30nm,0.5s,mb5.0						
GYA	**Guiyang**	**24.20**	**28**	⇑*i*P	**P**	**06 22 37.0**	**+0.7**
GYA				AP		06 22 46.3	
GYA				PP	PP	06 23 12.8	+0.8
GYA				S	**S**	**06 26 51.8**	**+3.0**
GYA				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.0						
GYA				AMB	AMB		
	comp=Z,100nm,3.2s						
GYA				LR	LR		
	comp=N,480nm,15.2s,MS4.2						
GYA				LR	LR		
	comp=E,340nm,13.4s,MS4.2						
GYA				LR	LR		
	comp=Z,690nm,14.0s,MS4.3						
GKN	**Gorkha**	**24.48**	**339**	*e*P	**P**	**06 22 39.3**	**+0.3**
	comp=Z,32nm,0.3s,mb5.2						
LSA	**Lhasa**	**24.56**	**353**	P	**P**	**06 22 40.3**	**+0.6**
LSA	**Lhasa**	**24.56**	**353**	*e*P	**P**	**06 22 39.9**	**+0.2**
LSA				pmax	pmax		
	comp=Z,20nm,0.4s,mb5.0						
LSA	**Lhasa**	**24.56**	**353**	*e*P	**P**	**06 22 39.9**	**+0.2**
	comp=Z,20nm,0.4s,mb5.0						
KOLN	**Koldanda**	**24.66**	**337**	*e*P	**P**	**06 22 41.3**	**+0.5**
	comp=Z,34nm,0.6s,mb5.1						
GZH	**Guangzhou**	**25.55**	**44**	P	**P**	**06 22 49.5**	**+0.3**
ENH	**Enshi**	**28.75**	**28**	*e*P	**P**	**06 23 16.2**	**-2.1**
	comp=Z,12nm,0.4s,mb5.0						
XAN	**Xi'an**	**31.73**	**23**	P	**P**	**06 23 42.6**	**-2.1**
XAN				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.2						
LZH	**Lanzhou**	**31.96**	**15**	*e*P	**P**	**06 23 47.5**	**+0.8**
LZH				AP	pP	06 23 56.8	-1.6
LZH				XP	sP	06 24 01.0	-2.9
LZH				PP	PP	06 24 55.6	+2.0
LZH				AMB	AMB		
	comp=Z,25nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,91nm,5.1s						
LZH				LR	LR		
	comp=N,415nm,13.2s						
LZH				LR	LR		
	comp=Z,675nm,16.8s,MS4.4						
LZH	**Lanzhou**	**31.96**	**15**	*e*P	**P**	**06 23 47.5**	**+0.8**
LZH				*PP	pP	06 23 56.7	-1.7
LZH				*SP	sP	06 24 01.0	-2.9
LZH						06 24 55.6	
LZH				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.8						
LZH				MLR	MLR		
	comp=Z,680nm,16.8s,MS4.4						
LZH	**Lanzhou**	**31.96**	**15**	*e*P	**P**	**06 23 47.5**	**+0.8**
	comp=Z,25nm,1.4s,mb4.8						
LZH				pP	pP	06 23 56.7	-1.7
LZH				sP	sP	06 24 01.0	-2.9
LZH				PP	PP	06 24 55.6	+2.0
LZH				LR	LR		
	comp=Z,680nm,16.8s,MS4.4						
GTA	**Gaotai**	**34.42**	**8**	P	**P**	**06 24 06.8**	**-1.1**
GTA				AP	pP	06 24 18.5	-1.2
GTA				XP	sP	06 24 23.0	-2.2
GTA				PP	PP	06 25 23.3	-1.2
GTA				PPP	PPP	06 25 40.8	-1.7
GTA				PCP	PcP	06 26 43.3	+0.3
GTA				S	**S**	**06 29 30.3**	**-1.7**
GTA				SCP		06 30 22.8	
GTA				SCS	ScS	06 34 24.9	+0.3
GTA				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,58nm,11.8s						
GTA				LR	LR		
	comp=N,348nm,14.8s,MS4.4						
GTA				LR	LR		
	comp=E,516nm,18.2s,MS4.4						
GTA				LR	LR		
	comp=Z,116nm,19.8s,MS3.6						
NJ2	**Nanjing**	**35.22**	**38**	*e*P	**P**	**06 24 16.6**	**+1.8**
NJ2				AP	pP	06 24 26.3	-0.3
NJ2				XP	sP	06 24 30.3	-1.8
NJ2				PP	PP	06 25 36.8	+2.1
NJ2				S	**S**	**06 29 48.0**	**+3.6**
NJ2				XS		06 30 04.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,680nm,5.7s						
NJ2				LR	LR		
	comp=N,3μm,20.2s,MS5.3						
NJ2				LR	LR		
	comp=E,5μm,23.2s,MS5.3						
NJ2				LR	LR		
	comp=Z,390nm,20.2s,MS4.2						
SSE	**Sheshan**	**36.05**	**41**	P	**P**	**06 24 20.1**	**-1.8**
SSE				S	**S**	**06 29 56.8**	**-0.5**
SSE				PCS		06 30 34.3	
SSE				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,126nm,3.8s						
SSE				LR	LR		
	comp=N,48nm,20.7s,MS3.4						
SSE				LR	LR		
	comp=E,44nm,20.7s,MS3.4						
SSE				LR	LR		
	comp=Z,89nm,20.7s,MS3.5						
SSE	**Sheshan**	**36.05**	**41**	P	**P**	**06 24 20.1**	**-1.8**
	comp=Z,18nm,0.8s,mb5.0						
SSE				sP	sP	06 24 32.8	-6.4
SSE				S	**S**	**06 29 56.8**	**-0.5**
SSE				sS		06 30 12.3	
SSE				PcS		06 30 34.2	
SSE				SS	SS	06 32 35.2	+13
SSE				LR	LR		
	comp=Z,90nm,20.7s,MS3.5						
FITZ	**Fitzroy Crossi**	**38.59**	**128**	⇓*i*P	**P**	**06 24 43.2**	**-0.1**
	comp=Z,5.6nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**38.59**	**128**	P	**P**	**06 24 43.3**	**0.0**
	comp=Z,7.9nm,0.6s,mb4.6,baz=334,slow=3.9,SNR=20						
FITZ				pP	pP	06 24 56.9	+1.8
	comp=Z,9.0nm,0.7s,baz=201,slow=5.1,SNR=6.7						
FITZ				LR	LR	06 42 07.8	
	comp=Z,114nm,18.5s,MS3.7,baz=285,slow=38						
WMQ	**Urumqi**	**38.91**	**352**	⇓P	**P**	**06 24 46.6**	**+0.9**
WMQ				AP	pP	06 24 56.6	-0.9
WMQ				XP	sP	06 25 00.6	-2.3
WMQ				PP	PP	06 26 20.6	+1.4
WMQ				PCP	PcP	06 26 57.0	+0.6
WMQ				S	**S**	**06 30 43.1**	**+2.4**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,72nm,4.9s						
WMQ				LR	LR		
	comp=N,44nm,23.0s,MS3.3						
WMQ				LR	LR		
	comp=E,38nm,24.0s,MS3.3						
WMQ				LR	LR		
	comp=Z,58nm,23.0s,MS3.3						
BJI	**Beijing**	**39.88**	**26**	*e*P	**P**	**06 24 54.3**	**+0.5**
BJI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
BJI				LR	LR		
	comp=Z,79nm,25.5s,MS3.5						
BJI	**Beijing**	**39.88**	**26**	*e*P	**P**	**06 24 54.2**	**+0.4**
BJI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
BJI				MLR	MLR		
	comp=Z,80nm,25.5s,MS3.5						
BJI	**Beijing**	**39.88**	**26**	*e*P	**P**	**06 24 54.2**	**+0.4**
	comp=Z,12nm,1.0s,mb4.6						
BJI				LR	LR		
	comp=Z,80nm,25.5s,MS3.5						
UCH	**Uchtor**	**40.88**	**337**	P	**P**	**06 25 03.1**	**+1.1**
	SNR=7.4						
TKM2	**Tokmak 2**	**41.08**	**339**	P	**P**	**06 25 03.6**	**0.0**
	SNR=7.7						
KBK	**Karagaybulak**	**41.08**	**338**	P	**P**	**06 25 05.2**	**+1.6**
	SNR=7.0						
AML	**Almayashu**	**41.11**	**336**	P	**P**	**06 25 05.1**	**+1.2**
	SNR=20						
AAK	**Ala-Archa**	**41.23**	**338**	P	**P**	**06 25 06.3**	**+1.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**41.23**	**338**	*e*P	**P**	**06 25 04.5**	**-0.4**
	comp=Z,7.3nm,0.9s,mb4.3						
EKS2	**Erkin-Say**	**41.53**	**337**	P	**P**	**06 25 08.7**	**+1.3**
	SNR=5.6						
USP	**Ospenovka**	**41.77**	**338**	P	**P**	**06 25 09.7**	**+0.3**
	SNR=12						
KAKA	**Kakadu**	**41.84**	**115**	*e*P	**P**	**06 25 08.8**	**-1.5**
	comp=Z,4.7nm,0.4s,mb4.5						
MKAR	**Makanchi Array**	**42.73**	**348**	P	**P**	**06 25 17.1**	**0.0**
	comp=Z,24nm,0.5s,mb5.2,baz=163,slow=7.3,SNR=139						
KKAR	**Karatay Array**	**43.24**	**334**	*e*P	**P**	**06 25 21.3**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
SONM	**Songino Array**	**43.72**	**12**	P	**P**	**06 25 24.3**	**-1.0**
	comp=Z,4.2nm,0.7s,mb4.3,baz=192,slow=8.4,SNR=37						
SONM				pP	pP	06 25 36.4	-0.9
	comp=Z,7.8nm,1.0s,baz=198,slow=7.8,SNR=12						
SONM				PcP	PcP	06 27 12.1	-0.1
	comp=Z,2.4nm,0.5s,baz=194,slow=3.9,SNR=12						
SONM				LR	LR	06 45 40.3	
	comp=Z,74nm,18.6s,MS3.6,baz=233,slow=39						
ULN	**Ulaanbaatar**	**43.89**	**12**	*e*P	**P**	**06 25 25.5**	**-1.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**43.89**	**12**	*e*P	**P**	**06 25 25.5**	**-1.1**
	comp=Z,5.5nm,0.8s,mb4.3						
ZAK	**Zakamensk**	**45.66**	**8**	*e*P	**P**	**06 25 39.5**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.9						
WRA	**Warramunga Arr**	**46.59**	**124**	P	**P**	**06 25 48.7**	**+0.2**
	comp=Z,10nm,0.7s,mb4.9,baz=302,slow=9.1,SNR=42						
WRAB	**Tennant Creek**	**46.59**	**124**	*e*P	**P**	**06 25 48.7**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
WRAB	**Tennant Creek**	**46.59**	**124**	*e*P	**P**	**06 25 48.7**	**+0.2**
	comp=Z,9.0nm,0.5s,mb5.0						
WB2	**Warramunga Arr**	**46.60**	**124**	⇑*i*P	**P**	**06 25 48.8**	**+0.3**
CN2	**Changchun**	**47.20**	**31**	*e*P	**P**	**06 25 53.8**	**+0.8**
CN2				*e*S	**S**	**06 32 45.3**	**+3.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				LR	LR		
	comp=N,600nm,12.0s,MS5.0						
CN2				LR	LR		
	comp=E,700nm,12.0s,MS5.0						
CN2				LR	LR		
	comp=Z,800nm,13.0s,MS4.9						
ASPA	**Alice Springs**	**48.08**	**128**	*e*P	**P**	**06 26 01.0**	**+0.8**
ASAR	**Alice Springs**	**48.09**	**128**	P	**P**	**06 26 00.3**	**+0.1**
	comp=Z,2.3nm,0.4s,mb4.6,baz=300,slow=7.8,SNR=35						
HIA	**Hailar**	**48.91**	**22**	*e*P	**P**	**06 26 06.0**	**-0.1**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HIA	**Hailar**	**48.91**	**22**	*e*P	**P**	**06 26 06.0**	**-0.1**
	comp=Z,5.4nm,0.8s,mb4.6						
MDJ	**Mudanjiang**	**49.93**	**33**	P	**P**	**06 26 13.0**	**-1.1**
MDJ				AP	pP	06 26 21.8	-4.3
MDJ				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,65nm,3.3s						
MJAR	**Matsushiro Arr**	**50.84**	**46**	LR	LR	06 47 27.2	
	comp=Z,60nm,21.8s,MS3.6,baz=220,slow=36						
BVAR	**Borovoye Array**	**51.57**	**342**	P	**P**	**06 26 25.7**	**-0.8**
	comp=Z,5.3nm,0.5s,mb4.7,baz=143,slow=9.6,SNR=43						
BVAR				pP	pP	06 26 38.3	-0.2
	comp=Z,3.6nm,0.6s,baz=143,slow=7.4,SNR=6.6						
CHKZ	**Chkalovo**	**52.06**	**342**	P	**P**	**06 26 29.5**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BOD	**Bodaibo**	**54.70**	**13**	*e*P	**P**	**06 26 48.1**	**-1.4**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
BOD				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
ARU	**Arti**	**58.42**	**338**	P	**P**	**06 27 11.7**	**-4.4**
ARU				pmax	pmax		
	comp=Z,19nm,1.3s,mb5.0						
ARU	**Arti**	**58.42**	**338**	P	**P**	**06 27 11.7**	**-4.3**
	comp=Z,19nm,1.3s,mb5.0						
BRTR	**Keskin Array B**	**64.33**	**312**	P	**P**	**06 27 55.6**	**-0.5**
	comp=Z,2.5nm,0.7s,mb4.4,baz=132,slow=7.4,SNR=10						
OBN	**Obninsk**	**67.74**	**328**	*i*P	**P**	**06 28 16.2**	**-1.4**
OBN				*e*	pP	06 28 27.1	-3.1
OBN				*e*	pP	06 28 31.5	+1.3
OBN				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.6			

MATP Matopo 69.44 246 P **P 06 28 31.1 +2.4**
comp=Z,2.0nm,1.0s,mb4.0,baz=298,slow=1.3,SNR=3.8
TIXI Tiksi 69.81 11 *c iP* **P 06 28 28.1 -2.0**
TIXI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AKASG Malin Array Be 70.37 322 P **P 06 28 32.5 -1.3**
comp=Z,2.5nm,0.5s,mb4.4,baz=90,slow=5.4,SNR=14
JOF Joensuu 73.34 335 *ep* **P 06 28 51.7 +0.4**
BOSA Boshof 74.35 239 P **P 06 28 59.3 +1.5**
comp=Z,7.1nm,1.2s,mb4.5,baz=2.0,slow=6.1,SNR=4.6
BOSA LR LR 06 55 36.6
comp=Z,74nm,19.3s,MS4.0,baz=141,slow=31
FINES FINESS Array B 75.16 333 P **P 06 29 01.4 -0.5**
comp=Z,1.4nm,0.4s,mb4.2,baz=100,slow=4.5,SNR=14
FINES pP pP 06 29 15.0 +0.4
comp=Z,1.1nm,0.4s,baz=102,slow=4.8,SNR=2.9
KAF Kangasniemi 75.25 333 *ep* **P 06 29 01.3 -1.1**
KEV Kevo 77.41 341 *ep* **P 06 29 14.9 +0.4**
ARCES ARCESS Array B 77.84 340 P **P 06 29 17.1 +0.3**
comp=Z,6.1nm,1.0s,mb4.5,baz=91,slow=6.2,SNR=21
ARCES pP pP 06 29 29.0 -0.6
comp=Z,1.8nm,0.5s,baz=90,slow=6.3,SNR=1.6
BILL Bilibino 78.49 21 *i P* **P 06 29 19.2 -1.2**
BILL pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
GERES GERESS Array B 79.94 319 P **P 06 29 29.8 +1.1**
comp=Z,5.0nm,0.6s,mb4.6,baz=90,slow=5.3,SNR=33
GERES pP pP 06 29 42.8 +1.2
comp=Z,1.9nm,0.5s,baz=90,slow=5.3,SNR=5.6
NB2 NORSAR Subarra 82.15 331 P **P 06 29 39.6 -0.4**
comp=Z,0.7nm,0.7s,mb3.7,baz=97,slow=5.0
NB2 NORSAR Subarra 82.15 331 P **P 06 29 39.6 -0.4**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 82.15 331 P **P 06 29 39.5 -0.5**
comp=Z,0.4nm,0.8s,mb3.4,baz=150,slow=7.8,SNR=2.5
ILAR Eielson Array 97.14 22 P **P 06 30 51.7 +0.6**
comp=Z,0.3nm,0.6s,mb3.9,baz=285,slow=4.9,SNR=5.4
ILAR pP pP 06 31 05.2 +1.0
comp=Z,0.3nm,0.5s,baz=292,slow=4.1,SNR=3.7
YKA Yellowknife Ar 108.97 14 PP PP 06 36 13.2 -6.7
comp=Z,0.1nm,0.5s,baz=307,slow=2.0,SNR=4.1
SCHQ Schefferville 118.17 348 PKP PKPdf 06 36 06.6 +1.7
comp=Z,1.9nm,0.9s,baz=82,slow=9.2,SNR=5.4
NVAR Mina Array Bea 127.09 32 PKP PKPdf 06 36 25.8 +3.1
comp=Z,0.7nm,0.8s,baz=250,slow=3.7,SNR=3.8
PDAR Pinedale Array 127.57 22 PKP PKPdf 06 36 25.6 +2.2
comp=Z,0.6nm,0.6s,baz=63,slow=3.3,SNR=5.4
PDAR pPKP 06 36 38.6
comp=Z,0.3nm,0.4s,baz=270,slow=1.5,SNR=3.2

JMA 20 06:25:34.9±0.3, 33.14N×142.19E, M4.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.81**	**327**	P		Pn	06 26 07.8	+0.1
BSO1					*e*S	Sn	06 26 32.3	+0.6
BSO2	**Boso 2**	**2.00**	**324**	*e*S		Sn	06 26 37.7	+1.3
BSO3	**Boso 3**	**2.17**	**320**	P		Pn	06 26 13.4	+0.7
BSO3					*e*S	Sn	06 26 42.8	+2.2
BSO4	**Boso 4**	**2.40**	**321**	P		Pn	06 26 17.4	+1.3
BSO4					*e*S	Sn	06 26 48.4	+1.8
JIM2	**Oshima 3**	**2.78**	**305**	P		Pn	06 26 21.8	+0.3
JOD2	**Odawara 2**	**3.33**	**310**	P		Pn	06 26 29.4	+0.1
JOD2					*e*S	Sn	06 27 09.9	-0.3
JYT	**Yasato**	**3.49**	**332**	*e*S		Sn	06 27 12.3	-1.9
JHU	**Hanno**	**3.62**	**319**	P		Pn	06 26 34.7	+1.3
JHU					*e*S	Sn	06 27 15.7	-1.7
JHO	**Hitachi**	**3.71**	**339**	P		Pn	06 26 31.4	-3.3
JHO					*e*S	Sn	06 27 14.8	-5.0
JYN	**Shimob**	**3.83**	**309**	P		Pn	06 26 38.0	+1.7
JYN					*e*S	Sn	06 27 24.2	+1.5
JRY	**Ryogami san**	**3.95**	**318**	P		Pn	06 26 39.0	+0.9
JRY					*e*S	Sn	06 27 24.8	-1.0
JAG	**Ashikaga**	**3.98**	**326**	P		Pn	06 26 38.2	-0.3

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*IDC **20** 06:38:37.8±1.1, 0.88N×125.91E, mb3.9/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=114.0km s-min=16.1km az=69.0*
*NEIC **20** 06:38:42.4±0.7, 0.90N×126.05E, h30km, mb4.4/1, Error ellipse: s-maj=64.0km s-min=10.9km az=69.0*
ISC 20 06:38:41.0±0.8, 0.8N±0.2×125.8E±0.4, h33km, n12, σ0§91/12, mb4.0/8, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.82**	**181**	P		**P**	**06 43 00.4**	**-0.2**
	0.3nm,0.3s,baz=7.8,slow=8.3,SNR=4.8							
WRAB	**Tennant Creek**	**22.26**	**158**	*e*P		**P**	**06 43 36.0**	**-0.7**
	13nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**22.27**	**158**	P		**P**	**06 43 36.4**	**-0.4**
	2.9nm,0.6s,mb3.9,baz=338,slow=11,SNR=13							
WB2	**Warramunga Arr**	**22.27**	**158**	⇓*i*P		**P**	**06 43 36.4**	**-0.4**
ASAR	**Alice Springs**	**25.59**	**163**	P		**P**	**06 44 08.8**	**-0.2**
	1.4nm,0.3s,mb3.9,baz=345,slow=10,SNR=22							
ASPA	**Alice Springs**	**25.59**	**163**	*e*P		**P**	**06 44 11.3**	**+2.3**
STKA	**Stephens Creek**	**35.80**	**157**	P		**P**	**06 45 38.9**	**-0.4**
	3.4nm,0.8s,mb4.3,baz=346,slow=6.1,SNR=7.4							
STKA	**Stephens Creek**	**35.80**	**157**	P		**P**	**06 45 38.9**	**-0.4**
SONM	**Songino Array**	**49.76**	**343**	P		**P**	**06 47 32.7**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=162,slow=11,SNR=4.5							
MKAR	**Makanchi Array**	**59.44**	**327**	P		**P**	**06 48 41.4**	**-1.5**
	0.7nm,0.3s,mb4.1,baz=124,slow=7.7,SNR=14							
BVAR	**Borovoye Array**	**69.26**	**328**	P		**P**	**06 49 47.6**	**+0.9**
	0.9nm,0.6s,mb3.9,baz=121,slow=8.6,SNR=5.8							
VNDA	**Vanda**	**80.69**	**173**	P		**P**	**06 50 52.8**	**+0.9**
	0.5nm,0.6s,mb3.6,baz=228,slow=7.8,SNR=3.7							

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*NEIC **20** 06:46:57.8, 23.37S×68.76W, h105km, After GUC.*
GUC 20 06:46:57.8±0.3, 23.37S×68.76W, h105km±4km, ML2.7, 1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.69**	**49**	⇓*i*P		P	06 47 16.6	+0.8
SPCH					*i* S	S	06 47 30.7	+1.4
SPCH					AMP		06 47 31.6	
	comp=N,339nm,0.5s							
SPCH					AMP		06 47 31.6	
	comp=E,303nm,0.6s							
LVC	**Limon Verde**	**0.76**	**350**	⇓*i*P		P	06 47 17.2	+0.7
LVC					*i* S	S	06 47 31.7	+1.3
LVC					AMP		06 47 32.5	
	comp=E,234nm,0.2s							
LVC					AMP		06 47 34.0	
	comp=N,172nm,0.3s							
ANCH	**Antofagasta**	**1.54**	**258**	⇑*i*P		P	06 47 26.3	+1.0
ANCH					*i* S	S	06 47 47.3	+1.5
CPN1	**Cerro Paranal**	**1.95**	**230**	*e*P		P	06 47 31.4	+0.9
CPN1					*i* S	S	06 47 56.9	+2.1
CPN1					AMP		06 47 58.5	
	comp=E,80nm,0.3s							
CPN1					AMP		06 48 02.6	
	comp=N,79nm,0.4s							

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*NEIC **20** 06:57:49.6, 32.04S×69.78W, h138km, MD3.6(GUC), After GUC.*
GUC 20 06:57:49.6±0.8, 32.04S×69.78W, h138km±7km, MD3.6, ML3.5, 4C-8D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.94**	**227**	⇑*i*P		P	06 58 13.0	0.0
JACH					*i* S	S	06 58 31.4	+0.5
MDZ	**Mendoza**	**1.15**	**137**	⇓*i*P		P	06 58 12.4	-2.6
MDZ					*i* S	S	06 58 28.5	-5.9
ILCH	**Illapel**	**1.25**	**288**	⇓*i*P		P	06 58 16.0	0.0
ILCH					*i* S	S	06 58 35.9	-0.3
ILCH					AMP		06 58 37.8	
	comp=N,2μm,0.1s							
PEL	**Peldehue**	**1.34**	**215**	*i* S		S	06 58 37.6	-0.3
PEL					AMP		06 58 38.8	
	comp=N,644nm,0.3s							
FCH	**Farellones**	**1.35**	**198**	⇓*i*P		P	06 58 17.4	+0.3
FCH					*i* S	S	06 58 38.8	+0.6
FCH					AMP		06 58 39.8	
	comp=E,430nm,0.5s							
ROCH	**El Roble**	**1.40**	**228**	⇓*i*P		P	06 58 17.8	+0.3
ROCH					*i* S	S	06 58 38.7	-0.3
CHNG	**Los Chungos**	**1.47**	**276**	⇓*i*P		P	06 58 18.5	+0.1
CHNG					*i* S	S	06 58 40.0	-0.3
CHNG					AMP		06 58 45.8	
	comp=E,498nm,0.4s							
PACH	**Papudo**	**1.49**	**250**	⇑*i*P		P	06 58 18.4	-0.1
PACH					*i* S	S	06 58 40.2	-0.5
CLCH	**Cerro Calan**	**1.50**	**205**	⇓*i*P		P	06 58 18.8	+0.2
CLCH					*i* S	S	06 58 40.9	+0.1
CLCH					AMP		06 58 42.5	
	comp=N,562nm,0.6s							
CLCH					AMP		06 58 44.3	
	comp=E,690nm,0.3s							
DSCH	**Colegio Aleman**	**1.51**	**206**	*e*P		P	06 58 18.7	-0.1
DSCH					*i* S	S	06 58 41.1	0.0
DSCH					AMP		06 58 43.0	
	comp=E,950nm,0.6s							
STL	**Santa Lucia**	**1.57**	**207**	⇑*i*P		P	06 58 19.6	+0.2
STL					*i* S	S	06 58 42.2	0.0
STL					AMP		06 58 45.3	
	comp=N,164nm,0.3s							
PUEX	**Pudahuel**	**1.62**	**210**	*e*P		P	06 58 21.4	+1.4
PUEX					*e*S	S	06 58 44.4	+1.1
PUEX					AMP		06 58 49.2	
	comp=E,585nm,0.5s							
PCH	**Pirque**	**1.69**	**201**	*e*P		P	06 58 21.3	+0.5
PCH					*i* S	S	06 58 45.3	+0.6
LMEL	**Las Melosas**	**1.84**	**191**	⇑*i*P		P	06 58 22.6	+0.1
LMEL					AMP		06 58 55.2	
	comp=N,216nm,0.2s							
TACH	**Talagante**	**1.88**	**211**	*e*P		P	06 58 22.9	0.0
TACH					*i* S	S	06 58 47.7	-0.8
CHCH	**Chadas Angostu**	**2.03**	**201**	⇓*i*P		P	06 58 25.1	+0.4
CHCH					*i* S	S	06 58 51.9	+0.3
TLL	**Tololo Astrono**	**2.06**	**335**	*i* P		P	06 58 25.5	+0.3
TLL					*e*S	S	06 58 53.1	+0.7
TLL					AMP		06 58 56.1	
	comp=N,394nm,0.4s							
LNV	**Longovilo**	**2.35**	**215**	⇓*i*P		P	06 58 28.2	-0.7
LNV					*i* S	S	06 58 58.3	-0.5
SFDO	**San Fernando**	**2.77**	**202**	*e*P		P	06 58 34.3	0.0
TRQA	**Tornquist**	**8.77**	**135**	*e*P		P	06 59 50.3	-4.0
	comp=N,8.2nm,0.6s							

IDC 20 06:57:56.4±4.6, 1.66S×99.86E, mb3.6/4, mb1 3.7/4, mb1mx3.6/17, mbtmp3.6/4, MS2.8/1, Ms1 3.0/1, ms1mx2.6/20, Error ellipse: s-maj=192.2km s-min=26.7km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.01**	**357**	LR		LR	07 11 45.9	
	comp=Z,24nm,18.8s,baz=194,slow=42							
WRA	**Warramunga Arr**	**38.28**	**121**	P		P	07 05 18.4	-2.1
	0.5nm,0.6s,baz=302,slow=8.7,SNR=3.2							
ASAR	**Alice Springs**	**39.56**	**126**	P		P	07 05 29.9	-1.3
	0.4nm,1.0s,baz=291,slow=7.7,SNR=3.0							
SONM	**Songino Array**	**49.62**	**6**	P		P	07 06 49.9	-1.7
	0.3nm,0.8s,baz=180,slow=5.8,SNR=3.2							
MKAR	**Makanchi Array**	**50.67**	**344**	P		P	07 06 57.3	-2.3
	0.6nm,0.6s,baz=150,slow=7.8,SNR=6.1							

NNC 20 06:58:44.2±8.1, 36.86N×70.88E, h111km±181km, mpv3.7, 3C-2D, Error ellipse: s-maj=63.0km s-min=51.3km az=7.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.24**	**358**	⇑P		P	07 00 14.7	-0.4
	2.1nm,0.3s,baz=178,slow=13,SNR=82							
KK31					⇓S	S	07 01 24.5	-1.1
	1.5nm,0.3s,baz=175,slow=23,SNR=11							
AAK	**Ala-Archa**	**6.40**	**25**	⇓P		P	07 00 15.4	-1.9
	1.9nm,0.3s							
AAK					⇑S	S	07 01 28.1	-1.5
	3.6nm,0.8s							
AB31	**Akbulak array**	**14.72**	**331**	⇑P		P	07 02 07.8	+0.2
	0.6nm,0.6s,baz=145,slow=13							
AB31					S	S	07 04 46.2	-2.0
	baz=148,slow=23							

GUC 20 07:19:09.8±0.6, 33.03S×72.99W, h24km±3km, MD3.5, ML2.7, 2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**1.40**	**70**	*i* S		Sn	07 19 51.8	-0.1
LNV	**Longovilo**	**1.61**	**125**	⇓*i*P		Pn	07 19 37.2	0.0
LNV					*i* S	Sn	07 19 57.9	+0.5
TACH	**Talagante**	**1.83**	**110**	⇓*i*P		Pn	07 19 40.8	+0.5
TACH					*i* S	Sn	07 20 04.1	+1.2
PEL	**Peldehue**	**1.94**	**94**	*i* S		Sn	07 20 07.8	+2.1
PEL					*i* S	Sn	07 20 07.9	+2.2
PEL					AMP		07 20 09.1	
	comp=N,119nm,0.3s							
CLCH	**Cerro Calan**	**2.09**	**101**	*e*P		Pn	07 19 45.1	+1.1
CLCH					*i* S	Sn	07 20 11.4	+1.9
CLCH					AMP		07 20 16.4	
	comp=E,61nm,0.7s							
PCH	**Pirque**	**2.16**	**107**	*i* S		Sn	07 20 12.8	+1.6
SFDO	**San Fernando**	**2.28**	**134**	*e*P		Pn	07 19 47.1	+0.3
SFDO					*e*S	Sn	07 20 15.9	+1.4
FCH	**Farellones**	**2.29**	**98**	*e*P		Pn	07 19 48.2	+1.4
FCH					*i* S	Sn	07 20 16.9	+2.4
FCH					AMP		07 20 18.9	
	comp=E,49nm,0.1s							

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*IDC **20** 07:34:36.4±0.7, 17.49S×174.52W, mb4.4/12, mb1 4.6/12, mb1mx4.4/19, mbtmp4.4/12, Error ellipse: s-maj=29.9km s-min=15.5km az=133.0*
*NEIC **20** 07:34:47.0±1.1, 17.63S×174.57W, h85km±10km, mb4.7/7, Error ellipse: s-maj=11.1km s-min=6.4km az=133.0*
ISC 20 07:34:45.2±2.0, 17.6S±0.1×174.6W±0.1, h81km±18km, n31, σ0§59/29, mb4.4/17, 2C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.61**	**37**	*e*P		**P**	**07 35 53.9**	**0.0**
AFI					*e*S	**S**	**07 36 41.5**	**-5.1**
URZ	**Urewera**	**21.78**	**198**	P		**P**	**07 39 31.7**	**0.0**
	16nm,0.5s,mb4.6,baz=48,slow=1.5,SNR=24							
RPZ	**Rata Peaks**	**28.68**	**202**	P		**P**	**07 40 36.4**	**-0.1**
	6.3nm,0.4s,mb4.6,baz=15,slow=4.9,SNR=7.5							
CTA	**Charters Tower**	**37.05**	**260**	P		**P**	**07 41 50.2**	**+1.0**
	4.2nm,0.4s,mb4.8,baz=89,slow=10,SNR=9.9							
CTAO	**Charters Tower**	**37.05**	**260**	*e*P		**P**	**07 41 49.3**	**+0.1**
	3.8nm,0.4s,mb4.7							
STKA	**Stephens Creek**	**41.93**	**242**	*e*P		**P**	**07 42 30.1**	**+0.6**
	8.3nm,1.1s,mb4.4							
STKA	**Stephens Creek**	**41.93**	**242**	P		**P**	**07 42 30.1**	**+0.6**
	9.7nm,0.9s,mb4.5,baz=102,slow=9.6,SNR=15							
WB2	**Warramunga Arr**	**48.22**	**259**	*e*P		**P**	**07 43 20.1**	**+0.3**
WRAB	**Tennant Creek**	**48.22**	**259**	*e*P		**P**	**07 43 19.4**	**-0.4**
	11nm,0.6s,mb4.8							
WRA	**Warramunga Arr**	**48.23**	**259**	P		**P**	**07 43 20.3**	**+0.4**
	10nm,0.7s,mb4.8,baz=98,slow=6.7,SNR=66							
ASAR	**Alice Springs**	**48.33**	**254**	P		**P**	**07 43 20.9**	**+0.2**
	41nm,0.6s,mb5.4,baz=92,slow=7.4,SNR=516							
ASPA	**Alice Springs**	**48.34**	**254**	⇓*i*P		**P**	**07 43 20.9**	**+0.2**
FORT	**Forrest**	**53.38**	**244**	*e*P		**P**	**07 43 57.8**	**-1.1**
	556nm,1.3s							
FITZ	**Fitzroy Crossi**	**56.63**	**260**	⇓*i*P		**P**	**07 44 22.2**	**-0.3**
	4.5nm,0.9s,mb4.5							
FITZ	**Fitzroy Crossi**	**56.63**	**260**	P		**P**	**07 44 22.4**	**-0.2**
	3.3nm,0.3s,mb4.8,baz=89,slow=4.5,SNR=8.9							
VNDA	**Vanda**	**61.04**	**186**	P		**P**	**07 44 52.6**	**+0.2**
	0.9nm,0.8s,mb3.8,baz=16,slow=6.8,SNR=5.8							
MBWA	**Marble Bar**	**61.63**	**255**	*e*P		**P**	**07 44 55.2**	**-1.8**
	4.2nm,0.5s,mb4.7							
QSPA	**South Pole Qui**	**72.42**	**180**	*e*P		**P**	**07 46 04.0**	**0.0**
	7.2nm,0.7s,mb4.6							
KSM	**Kuching**	**76.24**	**276**	*e*P		**P**	**07 46 28.6**	**+1.4**
NVAR	**Mina Array Bea**	**76.77**	**42**	P		**P**	**07 46 30.3**	**+0.6**
	1.1nm,0.7s,mb3.7,baz=226,slow=9.7,SNR=11							
PDAR	**Pinedale Array**	**84.70**	**42**	P		**P**	**07 47 11.7**	**+0.2**
	0.8nm,0.7s,mb3.8,baz=180,slow=3.0,SNR=6.6							
COLA	**College**	**84.77**	**11**	*e*P		**P**	**07 47 11.3**	**0.0**
	7.2nm,0.9s,mb4.6							
ILAR	**Eielson Array**	**84.86**	**12**	P		**P**	**07 47 11.3**	**-0.4**
	1.4nm,0.6s,mb4.0,baz=228,slow=6.1,SNR=8.2							
INK	**Inuvik**	**90.71**	**14**	P		**P**	**07 47 39.5**	**-0.2**
	2.1nm,1.2s,mb4.2,baz=207,slow=4.6,SNR=3.6							
VNA3	**Neumayer Olymp**	**90.74**	**175**	⇑*i*		**P**	**07 47 39.7**	**-0.1**
VNA2	**Neumayer--Watz**	**91.22**	**176**	⇑*i*		**P**	**07 47 42.3**	**+0.2**
YKA	**Yellowknife Ar**	**92.61**	**24**	P		**P**	**07 47 48.0**	**-0.5**
	0.3nm,1.0s,mb3.6,baz=230,slow=3.5,SNR=5.0							
YKA	**Yellowknife Ar**	**92.61**	**24**	P		**P**	**07 47 48.0**	**-0.5**
CLL	**Collm**	**145.87**	**351**	⇓*i*PKP1		PKPbc	07 54 16.2	+0.9
BRTR	**Keskin Array B**	**147.09**	**318**	PKPbc		PKPdf	07 54 20.6	+3.8
	1.5nm,0.8s,SNR=6.7							
GERES	**GERESS Array B**	**148.15**	**350**	PKPbc		PKPdf	07 54 23.3	+5.1
	0.5nm,0.5s,baz=45,slow=1.9,SNR=6.7							

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*NIED **20** 07:36:00, 44.90N×150.10E, h165km, Mw4.2 Best double couple: M0:2.54×10^15 NP1:φ=250°, δ=86°, λ=132°. NP2: φ=345°, δ=43°, λ=6°.*
*MOS **20** 07:36:09.0±1.3, 45.52N×150.16E, h106km, mb4.5/4, Error ellipse: s-maj=23.6km s-min=11.4km az=59.2*
*SKHL **20** 07:36:10.7±6.0, 45.68N×150.14E, h125km±24km, mb5.2/4, msh6.0/1*
*BJI **20** 07:36:11.2, 45.56N×150.13E, h150km, mB4.8, mb4.5*
*NEIC **20** 07:36:12.9±1.2, 45.45N×149.93E, h132km±13km, mb4.4/7, Error ellipse: s-maj=13.7km s-min=9.3km az=138.0*
*JMA **20** 07:36:13.8±0.4, 44.91N×150.08E, h118km, M4.4*
*IDC **20** 07:36:14.1±2.8, 45.58N×149.87E, h135km±30km, mb3.6/8, mb1 3.9/11, mb1mx3.6/25, mbtmp4.1/11, MS4.0/1, Ms1 4.0/1, ms1mx2.5/33, Error ellipse: s-maj=36.6km s-min=17.5km az=166.0*
ISC 20 07:36:12.7±0.7, 45.22N±0.07×149.92E±0.07, h157km±8km, n67, σ1§07/87, mb4.0/13, 2C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**3.13**	**249**	⇓*i*PN		**P**	**07 37 01.8**	**-0.9**
YUK					*i* S	**S**	**07 37 40.1**	**-0.9**
YUK					pmax	pmax		
	comp=Z,1μm,0.3s							
YUK					smax			
	comp=N,1μm,0.5s							
YUK					smax			
	comp=E,740nm,0.5s							
YUK					smax			
	comp=N,3μm,0.8s							
YUK					smax			
	comp=E,2μm,0.8s							
YUK	**Yuzh-Kuril'sk**	**3.13**	**249**	⇓*i*P		**P**	**07 37 01.8**	**-0.9**
YUK					AMB	AMB	07 37 02.1	
	comp=E,1μm,0.2s							
YUK					*i* S	**S**	**07 37 40.1**	**-0.9**
YUK					A		07 37 42.2	
	comp=E,1μm,0.5s							
YUK					A		07 37 42.2	
	comp=E,740nm,0.5s							
YUK					A		07 37 42.2	
	comp=E,3μm,0.8s							
YUK					A		07 37 42.2	
	comp=E,2μm,0.8s							
NEM2	**Nemuro 2**	**3.53**	**240**	P		**P**	**07 37 07.0**	**-0.8**
NEM2					*e*S	**S**	**07 37 47.9**	**-2.2**
JRA	**Rausu**	**3.66**	**251**	P		**P**	**07 37 10.3**	**+0.8**
JNK	**Nakash**	**4.07**	**248**	P		**P**	**07 37 15.6**	**+0.7**
JNK					*e*S	**S**	**07 38 03.2**	**+0.4**
JAK	**Akkeshi**	**4.37**	**241**	P		**P**	**07 37 18.1**	**-0.7**
JAK					*e*S	**S**	**07 38 08.1**	**-1.7**
JTKR	**Abashiri--Toko**	**4.48**	**256**	P		**P**	**07 37 21.0**	**+0.9**
JAR	**Ashorobuto**	**4.82**	**249**	P		**P**	**07 37 25.7**	**+1.0**
JAR					*e*S	**S**	**07 38 21.2**	**+0.9**
JMP	**Maruseppu**	**4.84**	**258**	P		**P**	**07 37 26.3**	**+1.3**
JOB	**Onbets**	**4.96**	**244**	P		**P**	**07 37 26.8**	**+0.3**
JOB					*e*S	**S**	**07 38 23.1**	**-0.5**
YSS	**Yuzh-Sakhalins**	**5.28**	**292**	⇑*i*PN		**P**	**07 37 29.8**	**-0.9**
YSS					*e*S	**S**	**07 38 29.0**	**-2.1**
YSS					pmax	pmax		
	comp=Z,50nm,0.7s							
YSS					smax			
	comp=N,30nm,1.0s							
YSS					smax			
	comp=E,60nm,1.0s							
YSS	**Yuzh-Sakhalins**	**5.28**	**292**	*e*P		**P**	**07 37 29.7**	**-1.0**
	comp=E,44nm,0.8s							
YSS	**Yuzh-Sakhalins**	**5.28**	**292**	⇑*i*P		**P**	**07 37 29.8**	**-0.9**
YSS					AMB	AMB	07 37 31.0	
	comp=E,50nm,0.7s							
YSS					*e*S	**S**	**07 38 29.0**	**-2.1**
YSS					A		07 38 33.0	
	comp=E,30nm,1.0s							
YSS					A		07 38 33.0	
	comp=E,60nm,1.0s							
JKK2	**Kamakawa 2**	**5.30**	**258**	P		**P**	**07 37 32.5**	**+1.5**
JKK2					*e*S	**S**	**07 38 33.6**	**+1.9**
ASAJ	**Asahikawa**	**5.34**	**261**	P		**P**	**07 37 33.1**	**+1.6**
	comp=E,5.7nm,0.3s,baz=99,slow=16,SNR=20							
ASAJ					S	**S**	**07 38 38.1**	**+5.5**
	comp=E,1.8nm,0.3s,baz=259,slow=31,SNR=2.2							
ASAJ	**Asahikawa**	**5.34**	**261**	P		**P**	**07 37 33.2**	**+1.7**
JCH	**Churui**	**5.41**	**243**	P		**P**	**07 37 32.0**	**-0.4**
JCH					*e*S	**S**	**07 38 32.8**	**-1.4**
JFR	**Furan**	**5.66**	**251**	P		**P**	**07 37 37.2**	**+1.5**
JFR					*e*S	**S**	**07 38 42.3**	**+2.1**
JAB	**Ashibetsu**	**5.78**	**255**	P		**P**	**07 37 39.7**	**+2.3**
JEM	**Erimo**	**5.87**	**239**	P		**P**	**07 37 39.5**	**+1.0**
JEM					*e*S	**S**	**07 38 44.9**	**-0.2**
JNBK	**Urakawa-nobuka**	**5.97**	**243**	P		**P**	**07 37 39.6**	**-0.2**
JNBK					*e*S	**S**	**07 38 46.4**	**-1.2**
JBT2	**Biratori 2**	**5.98**	**249**	P		**P**	**07 37 40.5**	**+0.6**
JBT2					*e*S	**S**	**07 38 48.4**	**+0.6**
SKR	**Severo-Kuril's**	**6.86**	**35**	*e*PN		**P**	**07 37 41.0**	**-11**
SKR					*e*S	**S**	**07 38 55.5**	**-14**
SKR					pmax	pmax		
	comp=N,100nm,0.4s							
SKR					pmax	pmax		
	comp=E,60nm,0.4s							
SKR					pmax	pmax		
	comp=Z,110nm,0.4s							
SKR					smax			
	comp=N,50nm,0.3s							
SKR					smax			
	comp=

JOW	Kunigami	25.23	231	LR	LR	07 50 13.9	
	comp=Z,343nm,20.1s,baz=92,slow=33						
IMA	Indian Mountai	36.34	35	*e*P	P	07 43 02.2	-0.4
	comp=Z,27nm,0.6s,mb5.1						
MCK	McKinley	38.25	39	*e*P	P	07 43 17.8	-0.8
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
MCK	McKinley	38.25	39	*e*P	P	07 43 17.8	-0.8
	comp=Z,1.5nm,0.8s,mb3.7						
COLA	College	38.71	37	*e*P	P	07 43 21.9	-0.5
COLA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
COLA	College	38.71	37	*e*P	P	07 43 21.9	-0.5
	comp=Z,6.4nm,0.6s,mb4.4						
ILAR	Eielson Array	39.12	37	P	P	07 43 25.0	-0.8
	comp=Z,2.1nm,0.7s,mb3.9,baz=266,slow=7.9,SNR=52						
DAWY	Dawson	42.42	38	*e*P	P	07 43 52.3	-0.4
WMQ	Urumqi	43.41	291	⇓P	P	07 44 01.6	+0.7
WMQ				AP	pP	07 44 35.1	-0.7
WMQ				XP	sP	07 44 52.6	-1.5
WMQ				PP	PP	07 45 46.5	+0.8
WMQ				PCP	PcP	07 45 47.9	+0.9
WMQ				*e*S	S	07 50 16.3	-0.2
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,126nm,5.6s						
WMQ				LR	LR		
	comp=N,60nm,26.8s						
WMQ				LR	LR		
	comp=E,33nm,25.2s						
WMQ				LR	LR		
	comp=Z,26nm,24.4s						
INK	Inuvik	44.12	31	*e*P	P	07 44 06.1	-0.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	Inuvik	44.12	31	P	P	07 44 06.2	-0.1
	comp=Z,2.0nm,0.3s,mb4.2,baz=271,slow=6.5,SNR=58						
INK	Inuvik	44.12	31	*e*P	P	07 44 06.1	-0.2
	comp=Z,2.4nm,0.4s,mb4.2						
MKAR	Makanchi Array	45.67	297	P	P	07 44 19.4	+0.5
	comp=Z,0.4nm,0.6s,mb3.2,baz=73,slow=6.4,SNR=5.7						
BVAR	Borovoye Array	50.11	309	P	P	07 44 52.7	-0.5
	comp=Z,0.5nm,0.5s,mb3.4,baz=29,slow=8.9,SNR=4.2						
RES	Resolute Bay	52.98	18	*e*P	P	07 45 12.9	-1.5
RES				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
RES	Resolute Bay	52.98	18	*e*P	P	07 45 12.9	-1.5
	comp=Z,3.3nm,0.7s,mb4.2						
YKW3	Yellowknife Ar	53.43	35	*e*P	P	07 45 17.1	-0.7
YKA	Yellowknife Ar	53.47	35	P	P	07 45 17.5	-0.6
	comp=Z,1.4nm,0.5s,mb4.0,baz=297,slow=6.3,SNR=60						
ARCES	ARCESS Array B	58.55	340	P	P	07 45 53.3	-1.0
	comp=Z,4.1nm,1.0s,mb4.2,baz=34,slow=9.8,SNR=2.6						
HRY	Holter Researc	63.67	49	*e*P	P	07 46 29.2	+0.3
WUWY	Wally Ulrich	66.28	52	*e*P	P	07 46 46.7	+0.9
PDAR	Pinedale Array	67.44	52	P	P	07 46 54.0	+0.9
	comp=Z,1.2nm,0.6s,mb3.9,baz=294,slow=2.1,SNR=14						
CLL	Collm	76.90	334	P	P	07 47 49.0	+0.6
GERES	GERESS Array B	78.81	322	P	P	07 48 00.2	+1.2
	comp=Z,0.3nm,0.4s,mb3.2,baz=31,slow=7.8,SNR=4.5						
PLCA	Paso Flores	150.27	96	PKPbc	PKPdf	07 55 49.6	+11
	comp=Z,1.0nm,0.9s,baz=241,slow=1.8,SNR=3.2						

NIED ***20*** *07:41:00,42.70N×144.70E,h104km,Mw3.7 Best double couple: M*$_0$*4.56×10*^{14} *NP1:*ϕ_s*235°,*δ*85°,*λ*-103°. NP2:* ϕ_s*124°,*δ*14°,*λ*-22°.*
NEIC ***20*** *07:41:13.1±0.7,43.02N×144.75E,h10km,mb4.2/2,Error ellipse: s-maj=20.2km s-min=9.1km az=124.0*
MOS ***20*** *07:41:15.5±2.4,42.39N×145.20E,h70km,mb4.3/3,Error ellipse: s-maj=23.5km s-min=12.0km az=80.9*
IDC ***20*** *07:41:19.2±2.9,42.77N×144.78E,h71km±21km,mb3.5/9, mb1 3.6/11,mb1mx3.5/24,mbtmp3.8/11,Error ellipse: s-maj=24.4km s-min=21.3km az=3.0*
JMA ***20*** *07:41:19.8±0.1,42.73N×144.69E,h89km±1km,M3.7*
ISC 20 07:41:18.7±0.5,**42.69N**±0.05×**144.72E**±0.05,**h89**km±3km, **n34,**σ**0°71/48,mb3.7/11,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.30	357	P	P	07 41 32.9	+0.8
JAK				*e*S	S	07 41 42.5	+0.2
JOB	Onbets	0.68	288	P	P	07 41 36.0	+0.8
JOB				S	S	07 41 47.9	+0.4
JNK	Nakash	0.89	0	P	P	07 41 37.4	+0.1
JNK				*e*S	S	07 41 50.2	-1.1
JAR	Ashorobuto	0.92	311	P	P	07 41 38.3	+0.7
JAR				*e*S	S	07 41 51.7	-0.2
JCH	Churui	1.00	266	P	P	07 41 39.3	+0.7
JCH				*e*S	S	07 41 53.1	-0.5
NEM2	Nemuro 2	1.01	48	P	P	07 41 39.0	+0.4
NEM2				*e*S	S	07 41 52.7	-1.0
JRA	Rausu	1.28	13	P	P	07 41 42.7	+0.6
JRA				*e*S	S	07 41 59.6	+0.1
JEM	Erimo	1.34	240	P	P	07 41 44.2	+1.4
JTKR	Abashiri--Toko	1.41	335	P	P	07 41 44.3	+0.6
JTKR				*e*S	S	07 42 02.2	0.0
JNBK	Urakawa-nobuka	1.51	255	P	P	07 41 44.8	-0.2
JNBK				*e*S	S	07 42 03.1	-1.4
YUK	Yuzh-Kuril'sk	1.58	31	*e*PN	P	07 41 46.2	+0.3
YUK				*i* S	S	07 42 04.9	-1.0
YUK				smax			
	comp=N,4μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,8μm,0.8s						
YUK				smax			
	comp=E,2μm,0.8s						
JFR	Furan	1.63	287	P	P	07 41 46.5	0.0
JFR				*e*S	S	07 42 06.5	-0.6
JMP	Maruseppu	1.65	323	P	P	07 41 47.1	+0.4
JMP				*e*S	S	07 42 07.2	-0.2
JBT2	Biratori 2	1.74	274	P	P	07 41 47.6	-0.3
JKK2	Kamakawa 2	1.86	310	P	P	07 41 50.0	+0.5
JKK2				*e*S	S	07 42 12.1	-0.2
ASAJ	Asahikawa	2.10	313	P	P	07 41 53.7	+0.9
	comp=E,30nm,0.3s,baz=171,slow=7.1,SNR=76						
ASAJ				S	S	07 42 17.3	-0.7
	comp=E,12nm,0.3s,baz=269,slow=33,SNR=12						
MAJO	Matsushiro	7.93	221	*e*PN	P	07 43 11.7	-1.4
MJAR	Matsushiro Arr	7.93	221	P	P	07 43 12.4	-0.7
	comp=E,0.5nm,0.3s,baz=27,slow=14,SNR=5.5						
SONM	Songino Array	27.26	294	P	P	07 46 57.6	+1.4
	comp=E,1.1nm,0.6s,mb3.5,baz=79,slow=8.9,SNR=9.6						
ZAK	Zakamensk	29.21	300	*e*P	P	07 47 19.0	+5.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
ILAR	Eielson Array	43.38	35	P	P	07 49 13.4	+0.1
	comp=Z,0.6nm,0.8s,mb3.4,baz=284,slow=7.4,SNR=5.3						
MKAR	Makanchi Array	43.50	298	P	P	07 49 14.2	-0.3
	comp=Z,0.5nm,0.8s,mb3.3,baz=82,slow=7.1,SNR=3.8						
INK	Inuvik	48.21	30	P	P	07 49 51.1	-0.3
	comp=Z,0.7nm,0.5s,mb3.8,baz=278,slow=4.6,SNR=15						
BVAR	Borovoye Array	48.80	309	P	P	07 49 55.6	-0.6
	comp=Z,0.5nm,0.4s,mb3.8,baz=85,slow=9.2,SNR=5.2						
YKA	Yellowknife Ar	57.66	33	P	P	07 51 00.2	-1.3
	comp=Z,0.1nm,0.3s,mb3.3,baz=309,slow=7.3,SNR=6.8						
YKA	Yellowknife Ar	57.66	33	P	P	07 51 00.2	-1.3
ARCES	ARCESS Array B	59.61	339	P	P	07 51 15.0	+0.1
	comp=Z,1.6nm,0.9s,mb4.0,baz=49,slow=9.6,SNR=3.0						
JOF	Joensuu	62.18	332	*ep*	P	07 51 31.9	-0.5
KAF	Kangasniemi	64.45	333	*ep*	P	07 51 46.9	-0.2
	comp=Z,1.6nm,0.6s,mb4.0						
KAF	Kangasniemi	64.45	333	*e*P	P	07 51 46.9	-0.2
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
FINES	FINESS Array B	65.00	332	P	P	07 51 51.4	+0.7
	comp=Z,3.0nm,0.5s,mb4.4,baz=46,slow=7.8,SNR=23						
NB2	NORSAR Subarra	69.93	338	P	P	07 52 22.9	+1.4
	comp=Z,0.7nm,0.5s,mb3.8,baz=33,slow=6.2						
NB2	NORSAR Subarra	69.93	338	P	P	07 52 22.9	+1.4
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
NOA	NORSAR Array B	69.93	338	P	P	07 52 23.2	+1.7
	comp=Z,1.4nm,0.8s,mb3.9,baz=34,slow=6.2,SNR=4.4						

IDC 20 07:45:01.2±16.0,**0.10S×125.89E,mb3.7/3,mb1 4.0/3, mb1mx3.6/17,mbtmp3.8/3,Error ellipse: s-maj=248.7km s-min=155.7km az=160.0,Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.39	158	P	P	07 49 50.8	-2.0
	4.8nm,0.8s,baz=336,slow=12,SNR=12						
ASAR	Alice Springs	24.68	162	P	P	07 50 24.2	-1.1
	1.3nm,0.7s,baz=339,slow=7.3,SNR=12						
STKA	Stephens Creek	34.92	156	P	P	07 51 54.5	-2.4
	1.5nm,0.8s,baz=320,slow=10,SNR=4.9						

BJI ***20*** *07:47:47.0, 10.89N×93.09E,h21km,mb4.5*
NEIC ***20*** *07:47:49.5±0.4, 10.92N×92.59E,h30km,mb4.5/5,Error ellipse: s-maj=12.6km s-min=8.2km az=59.0*
IDC ***20*** *07:47:52.7±0.8, 11.06N×92.73E,h52km±6km,mb4.0/15, mb1 4.1/16,mb1mx4.0/24,mbtmp4.2/16,MS3.5/7, Ms1 3.5/7,ms1mx3.2/34,Error ellipse: s-maj=23.5km s-min=11.4km az=58.0*
ISC 20 07:47:50.5±0.5,**10.97N**±0.05×**92.81E**±0.06,**h52**km, **h52**km±4km:**pP-P,n52,**σ**0°90/44,mb4.3/19,MS3.6/6,2C-1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	9.52	38	*e*P	P	07 50 08.4	+0.8
	18nm,0.4s						
CMAR	Chiang Mai Arr	9.52	38	P	P	07 50 08.2	+0.6
	3.7nm,0.3s,baz=232,slow=14,SNR=93						
CMAR				S	S	07 51 54.2	-0.1
	baz=233,slow=31,SNR=4.1						
CMAR				LR	LR	07 54 23.9	
	comp=Z,162nm,18.1s,baz=220,slow=41						
CHG	Chiang Mai	9.79	36	⇓P	P	07 50 11.4	0.0
	15nm,0.8s						
NANT	Nan	10.89	43	⇑P	P	07 50 25.0	-1.4
	125nm,1.0s						
VIS	Vishakhapatnam	11.38	307	*e*P	P	07 50 27.6	-5.4
VIS				*e*S	S	07 52 22.3	-17
KMI	Kunming	16.93	32	P	P	07 51 45.9	+0.5
KMI				AP		07 51 54.8	
KMI				AMB	AMB		
	comp=Z,11nm,1.0s						
JIRN	Jiri	17.73	340	*e*P	P	07 51 55.7	+0.3
	comp=Z,16nm,0.3s						
PKI	Pulchoki	17.92	338	*e*P	P	07 51 59.1	+1.4
	comp=Z,14nm,0.4s						
GUN	Gumba	18.07	340	*e*P	P	07 51 59.3	-0.2
	comp=Z,16nm,0.6s						
DMN	Daman	18.07	337	*e*P	P	07 52 01.0	+1.4
	comp=Z,17nm,0.4s						
KKN	Kakani	18.17	338	*e*P	P	07 52 02.5	+1.7
	comp=Z,10nm,0.3s						
GKN	Gorkha	18.60	337	*e*P	P	07 52 07.2	+1.2
	comp=Z,19nm,0.3s						
LSA	Lhasa	18.70	355	*e*P	P	07 52 06.5	-0.7
	comp=Z,9.5nm,0.6s						
KOLN	Koldanda	18.82	334	*e*P	P	07 52 11.3	+2.7
	comp=Z,8.3nm,0.3s						
GYA	Guiyang	20.20	38	⇑*i*P	P	07 52 24.3	+0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CD2	Chengdu	22.29	25	P	P	07 52 43.8	-0.9
CD2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
ENH	Enshi	24.68	36	*e*P	P	07 53 07.4	-0.6
	comp=Z,7.1nm,0.4s,mb4.5						
GTA	Gaotai	29.00	11	P	P	07 53 47.4	-0.2
GTA				XP	sP	07 54 01.3	-5.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
AAK	Ala-Archa	35.36	336	P	P	07 54 41.6	-1.4
MKAR	Makanchi Array	36.80	348	P	P	07 54 54.4	-0.8
	comp=Z,4.6nm,0.6s,mb4.5,baz=171,slow=8.3,SNR=54						
MKAR				PcP	PcP	07 57 17.6	+0.8
	comp=Z,0.5nm,0.5s,baz=207,slow=3.5,SNR=4.9						
JOW	Kunigami	36.91	60	LR	LR	08 11 34.3	
	comp=Z,60nm,19.3s,MS3.4,baz=322,slow=38						
SONM	Songino Array	38.48	15	P	P	07 55 08.8	-0.3
	comp=Z,1.1nm,0.3s,mb4.0,baz=205,slow=8.5,SNR=17						
SONM				pP	pP	07 55 22.3	-0.5
	comp=Z,1.7nm,0.7s,baz=207,slow=8.3,SNR=5.4						
SONM				PcP	PcP	07 57 22.3	+0.3
	comp=Z,0.5nm,0.6s,baz=201,slow=4.5,SNR=3.6						
SONM				LR	LR	08 13 05.7	
	comp=Z,53nm,22.0s,MS3.3,baz=54,slow=39						
MBWA	Marble Bar	41.46	140	P	P	07 55 34.5	+0.5
FITZ	Fitzroy Crossi	43.41	131	P	P	07 55 50.8	+0.7
	comp=Z,5.8nm,0.6s,mb4.5,baz=316,slow=6.6,SNR=11						
FITZ				PcP	PcP	07 57 39.3	+0.9
	comp=Z,2.0nm,0.4s,baz=325,slow=5.3,SNR=5.1						
BVAR	Borovoye Array	45.66	341	P	P	07 56 06.9	-0.8
	comp=Z,1.9nm,0.3s,mb4.4,baz=143,slow=9.3,SNR=18						
MJAR	Matsushiro Arr	48.13	50	LR	LR	08 18 36.1	
	comp=Z,58nm,18.1s,MS3.6,baz=185,slow=38						
WRA	Warramunga Arr	51.13	127	P	P	07 56 50.8	+0.2
	comp=Z,0.9nm,0.5s,mb3.9,baz=306,slow=8.5,SNR=8.1						
WRA				PcP	PcP	07 58 06.6	+0.9
	comp=Z,0.4nm,0.5s,baz=312,slow=3.0,SNR=4.0						
WRAB	Tennant Creek	51.14	127	*e*P	P	07 56 50.5	-0.2
ASAR	Alice Springs	52.91	131	P	P	07 57 04.3	+0.5
	comp=Z,1.3nm,0.7s,mb4.0,baz=303,slow=7.2,SNR=16						
ASAR				pP	pP	07 57 18.6	+0.6
	comp=Z,0.9nm,0.5s,baz=303,slow=6.9,SNR=5.7						
ASAR				PcP	PcP	07 58 13.5	+1.2
	comp=Z,0.9nm,0.7s,baz=312,slow=4.1,SNR=5.9						
ASAJ	Asahikawa	54.00	43	LR	LR	08 20 48.7	
	comp=Z,48nm,18.4s,MS3.6,baz=344,slow=37						
BRTR	Keskin Array B	59.44	310	P	P	07 57 49.2	-1.2
	comp=Z,0.5nm,0.3s,mb4.0,baz=112,slow=6.7,SNR=3.6						
STKA	Stephens Creek	63.18	134	P	P	07 58 16.6	+0.8
	comp=Z,1.4nm,0.6s,mb4.3,baz=308,slow=3.9,SNR=8.5						
STKA	Stephens Creek	63.18	134	*e*P	P	07 58 16.4	+0.7
JOF	Joensuu	67.51	334	*ep*	P	07 58 41.6	-1.4
FINES	FINESS Array B	69.38	332	P	P	07 58 53.6	-1.0
	comp=Z,1.1nm,0.5s,mb4.0,baz=104,slow=7.9,SNR=7.1						
KAF	Kangasniemi	69.46	333	*ep*	P	07 58 53.5	-1.6
ARCES	ARCESS Array B	71.93	340	P	P	07 59 09.5	-0.4
	comp=Z,3.6nm,0.9s,mb4.3,baz=80,slow=7.4,SNR=5.7						
ARCES				LR	LR	08 33 17.2	
	comp=Z,32nm,18.3s,MS3.6,baz=275,slow=38						
GERES	GERESS Array B	74.67	318	P	P	07 59 26.4	+0.1
	comp=Z,0.4nm,0.3s,mb3.9,baz=79,slow=6.8,SNR=5.2						
GERES				pP	pP	07 59 41.2	+0.2
	comp=Z,0.4nm,0.3s,baz=76,slow=5.5,SNR=2.2						
HFS	Hagfors	75.14	329	P	P	07 59 28.5	-0.2
	comp=Z,1.2nm,0.4s,mb4.2,baz=90,slow=4.4,SNR=9.4						
BOSA	Boshof	76.14	237	LR	LR	08 30 34.5	
	comp=Z,49nm,18.7s,MS3.8,baz=354,slow=34						
NB2	NORSAR Subarra	76.41	330	P	P	07 59 35.3	-0.6
	comp=Z,0.7nm,0.5s,mb3.9,baz=91,slow=5.8						
NOA	NORSAR Array B	76.41	330	P	P	07 59 35.8	-0.2
	comp=Z,1.2nm,0.7s,mb3.9,baz=93,slow=5.7,SNR=3.8						
LPG	La Plagne	79.53	314	*e*P	P	07 59 54.6	+1.1
	comp=Z,13nm,0.8s,mb4.6						
ILAR	Eielson Array	92.38	22	P	P	08 00 56.0	-0.4
	comp=Z,0.8nm,0.7s,mb4.2,baz=295,slow=4.7,SNR=16						
INK	Inuvik	94.39	16	P	P	08 01 06.3	+0.8
	comp=Z,1.4nm,0.5s,mb4.7,baz=313,slow=5.3,SNR=34						
INK	Inuvik	94.39	16	*e*P	P	08 01 05.8	+0.4
	comp=Z,1.5nm,0.5s,mb4.7						
YKA	Yellowknife Ar	103.73	13	Pdiff	Pdif	08 01 48.3	+0.7
	comp=Z,0.1nm,0.7s,baz=336,slow=5.0,SNR=4.2						
YKA	Yellowknife Ar	103.73	13	Pdif	Pdif	08 01 48.3	+0.7
PDAR	Pinedale Array	122.74	19	PKP	PKPdf	08 06 43.4	+2.4
	comp=Z,0.5nm,0.7s,baz=13,slow=1.1,SNR=5.0						
NVAR	Mina Array Bea	122.91	29	PKP	PKPdf	08 06 45.2	+3.8
	comp=Z,1.0nm,0.6s,baz=314,slow=1.8,SNR=10.0						
NVAR				pPKP		08 07 00.4	
	comp=Z,0.5nm,0.6s,baz=301,slow=2.4,SNR=3.4						
NVAR	Mina Array Bea	122.91	29	PKP	PKPdf	08 06 45.2	+3.8
NVAR				pPKP		08 07 00.4	
JCT	Junction City	137.04	16	*e*PKPdf	PKPdf	08 07 12.7	+4.3

ATH ***20*** *07:52:39.0, 40.83N×22.89E,h24km,MD3.8/13,ML4.1*
NEIC ***20*** *07:52:39.0, 40.83N×22.90E,h24km,ML4.1(ATH),After ATH.*
CSEM ***20*** *07:52:39.5±0.1, 40.85N×22.89E,h15km,ML3.7,Error ellipse: s-maj=1.6km s-min=1.4km az=69.0*
THE ***20*** *07:52:40.0, 40.81N×22.94E,h10km,ML3.7*
ISC 20 07:52:39.1±0.4,**40.81N**±0.02×**22.92E**±0.03,**h12**km±3km, **n57,**σ**1°02/73,13C-10D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	Thessaloniki	0.18	168	*e*Pg	Pg	07 52 44.0	+0.8
THE				*e*Sg	Sg	07 52 46.9	+0.9
THE	Thessaloniki	0.18	168	*e*Pg	Pg	07 52 43.7	+0.4
THE				*e*Sg	Sg	07 52 46.5	+0.5
THE	Thessaloniki	0.18	168	*e*Pg	Pg	07 52 43.7	+0.4
SOH	Sokhos	0.33	87	*e*Pg	Pg	07 52 46.8	+0.7
SOH				*e*Sg	Sg	07 52 51.5	+0.8
VAY	Valandovo	0.58	333	⇑*i*Pg	Pg	07 52 50.7	-0.2
VAY				⇑*i*Sg	Sg	07 52 58.9	+0.2
PLG	Polygyros	0.59	137	*e*PB	Pb	07 52 50.9	0.0
PLG				*e*SN	Sn	07 52 59.8	-2.7
SRS	Serrai	0.60	58	*e*Pg	Pg	07 52 51.0	-0.2
SRS				*e*Sg	Sg	07 52 59.3	0.0
LIT	Litokhoron	0.78	205	*e*Pg	Pg	07 52 54.6	-0.1
OUR	Ouranopolis	0.94	120	*e*Pg	Pg	07 52 57.5	-0.5
KZN	Kozani	1.01	241	*e*PN	Pn	07 52 58.2	-0.8
PAIG	Paliouri	1.05	146	*e*Pg	Pg	07 52 59.3	-1.0
PAIG				*e*Sg	Sg	07 53 14.4	+0.1
FNA	Florina	1.17	269	*e*Pb	Pb	07 53 01.5	+0.7
NEO	Neokhori	1.52	171	*e*PN	Pn	07 53 06.6	+0.4
NEO				*e*SN	Sn	07 53 27.4	+1.4
SKO	Skopje	1.61	317	*i* Pn	Pn	07 53 08.1	+0.5
SKO				*i*		07 53 09.2	
SKO				*i*		07 53 14.0	
	comp=Z,0.1nm,0.5s						
SKO				*i* Sn	Sn	07 53 29.4	+1.0
SKO				Lg		07 53 36.0	
	comp=Z,0.1nm,0.5s						
SKO	Skopje	1.61	317	*i* Pn	Pn	07 53 08.1	+0.5
SKO				*i* Sn	Sn	07 53 29.4	+1.0
OHR	Ohrid	1.63	281	⇓*i*Pn	Pn	07 53 08.9	+1.0
OHR				*i* Sn	Sn	07 53 30.3	+1.3
AOS	Alonnisos	1.79	155	*e*Pb	Pb	07 53 10.6	-0.8
AGG	Agios Georgios	1.84	194	*e*Pb	Pb	07 53 11.1	-1.1
JAN	Janina	1.96	235	*e*PB	Pb	07 53 12.5	-1.7
JAN	Janina	1.96	235	*e*Pn	Pn	07 53 14.5	+2.0
RDO	Rodhopi	2.01	79	*e*PN	Pn	07 53 13.8	+0.4
EVR	Evrytania	2.07	205	*e*PB	Pb	07 53 15.2	-1.0
EVR				*e*SN	Sn	07 53 40.5	+0.4
LKR	Lokris	2.15	178	*e*PB	Pb	07 53 16.3	-1.3
QSH	Qafa e Shtames	2.38	288	*i* Sn	Sn	07 53 50.0	+1.9
ZAPS	Zavoj/Pirot	2.50	355	⇑*i*Pn	Pn	07 53 20.5	+0.2
ZAPS				Sn	Sn	07 53 51.9	+0.9
KEK	Kerkira	2.62	246	*e*PN	Pn	07 53 22.5	+0.4
KEK	Kerkira	2.62	246	*e*Pn	Pn	07 53 20.0	-2.1
MPAR	Parnis Oros	2.73	166	*e*PN	Pn	07 53 23.7	+0.1
MGER	Gerania Oros	2.83	175	*e*PN	Pn	07 53 25.5	+0.5
PTL	Penteli	2.85	165	*e*PN	Pn	07 53 25.5	+0.2
ATH	Athens Observa	2.90	167	*e*PN	Pn	07 53 26.5	+0.5
ATH	Athens Observa	2.90	167	*e*Pn	Pn	07 53 25.0	-1.0
NSAL	Nisos Salamina	2.93	172	*e*PN	Pn	07 53 27.0	+0.6
NAIG	Nisos Aigina	3.08	172	*e*PN	Pn	07 53 29.0	+0.5
NAIG	Nisos Aigina	3.08	172	*e*Pn	Pn	07 53 30.0	+1.5
BOLS	Boljevac	3.10	347	⇑*i*Pn	Pn	07 53 28.0	-1.0
BOLS				Sn	Sn	07 54 06.0	-0.4
VLS	Valsamata	3.18	215	*e*PN	Pn	07 53 31.0	+0.9
VLS	Valsamata	3.18	215	*e*Pb	Pb	07 53 34.0	-1.2
GRUS	Gruza	3.49	333	⇑*i*Pn	Pn	07 53 33.3	-1.0
GRUS				Sn	Sn	07 54 15.7	-0.3
SVIS	Svilajnac	3.71	341	⇑*i*Pn	Pn	07 53 41.3	+3.8
SVIS				Sn	Sn	07 54 20.2	-1.4
DIVS	Divcibare	3.94	328	⇑*i*Pn	Pn	07 53 39.6	-1.1
VLI	Veliai	4.08	180	*e*PN	Pn	07 53 43.2	+0.4
BZS	Buzias	4.90	349	⇑P	Pn	07 53 52.2	-2.2
BZS	Buzias	4.90	349	⇑P	Pn	07 53 52.2	-2.2
BZS	Buzias	4.90	349	⇑P	Pn	07 53 52.2	-2.3
ISR	Istrita	5.07	30	⇓P	Pn	07 53 57.8	+1.0
ISR	Istrita	5.07	30	⇓P	Pn	07 53 57.8	+1.0
MLR	Muntele Rosu	5.18	24	⇓P	Pn	07 53 59.2	+0.8
HARR	Harsova	5.36	42	⇓P	Pn	07 54 00.9	0.0
TIRR	Tirgusor	5.45	46	⇓P	Pn	07 54 01.4	-0.8
TIRR	Tirgusor	5.45	46	⇓P	Pn	07 54 01.4	-0.8
VRI	Vrincioaia	5.77	28	⇓P	Pn	07 54 07.7	+1.0
VRI	Vrincioaia	5.77	28	⇓P	Pn	07 54 07.7	+1.0
CFR	Carcaliu	5.81	39	⇑P	Pn	07 54 09.2	+1.9
CFR	Carcaliu	5.81	39	⇑P	Pn	07 54 09.2	+2.0
PKSM	Moragy	6.23	332	⇓P	Pn	07 54 11.2	-2.0
RHK1	Bakonya	6.35	328	⇑*i*P	Pn	07 54 13.8	-1.1

IDC 20 07:59:40.5±2.0,**52.48N×35.47E,mb3.3/1,mb1 3.8/3, mb1mx3.4/18,mbtmp3.6/3,ML3.2/3,Error ellipse: s-maj=25.3km s-min=

BSO3	Boso 3	1.64 209	P	P	08 15 45.5	+1.0
JAG	Ashikaga	1.65 277	P	P	08 15 44.7	0.0
JMM	Marumori	1.72 341	P	P	08 15 45.8	+0.1
JMM			S	S	08 16 06.3	-0.2
JFY	Yanaizu	1.85 310	P	P	08 15 47.8	+0.4
JKT	Katashina	1.88 287	P	P	08 15 48.6	+0.7
JKT			S	S	08 16 10.7	+0.3
MJAR	Matsushiro Arr	2.66 278	P	P	08 15 59.4	+0.3
8.1nm,0.3s,baz=111,slow=8.6,SNR=45						
MJAR			S	S	08 16 30.4	+0.1
3.0nm,0.3s,baz=92,slow=13,SNR=5.6						
MAT	Matsushiro	2.66 278	P	P	08 15 59.4	+0.3
MAT			S	S	08 16 31.2	+0.9
JHJ	Hachijo jima	3.41 205	P	P	08 16 09.5	-0.1
28nm,0.3s,baz=58,slow=19,SNR=39						
JHJ			S	S	08 16 47.0	-2.2
35nm,0.3s,baz=251,slow=23,SNR=6.4						
CBIJ	Chichi jima	9.13 176	P	P	08 17 24.9	-4.5
7.0nm,0.3s,baz=126,slow=19,SNR=4.6						
CBIJ			S	S	08 18 57.4	-15
2.5nm,0.3s,baz=293,slow=22,SNR=1.9						
SONM	Songino Array	28.29 305	P	P	08 21 08.4	0.0
0.3nm,0.4s,mb3.3,baz=100,slow=8.8,SNR=3.0						
MKAR	Makanchi Array	44.60 303	P	P	08 23 27.4	+0.8
0.7nm,0.8s,mb3.5,baz=90,slow=8.6,SNR=5.7						
WRA	Warramunga Arr	56.28 188	P	P	08 24 54.1	-1.6
0.4nm,0.8s,mb3.5,baz=6.9,slow=7.6,SNR=2.9						

*IDC **20** 08:41:20.5±1.4, 0.10S×96.80E, mb4.0/8, mb1 4.2/8, mb1mx3.9/18, mbtmp4.0/8, Error ellipse: s-maj=56.3km s-min=26.5km az=47.0*

ISC 20 08:41:24.1±1.3, 0.0N±0.2×96.9E±0.3, h33km, n9, σ0°51/9, mb4.1/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	Shillong	25.86	350	eP	P	08 46 54.5	-0.2
WRA	Warramunga Arr	41.67	121	P	P	08 49 11.5	-0.1
0.9nm,0.8s,mb3.5,baz=302,slow=9.0,SNR=7.2							
MKAR	Makanchi Array	48.31	347	P	P	08 50 04.7	+0.3
1.8nm,0.6s,mb4.3,baz=157,slow=8.0,SNR=18							
SONM	Songino Array	48.33	9	P	P	08 50 04.5	0.0
1.0nm,0.5s,mb4.1,baz=189,slow=8.7,SNR=9.8							
ZAL	Zalesovo	54.66	351	P	P	08 50 52.0	-0.2
4.9nm,0.5s,mb4.8,baz=314,slow=4.9,SNR=16							
BRTR	Keskin Array B	69.70	313	P	P	08 52 33.1	+0.3
0.6nm,0.7s,mb3.6,baz=121,slow=8.4,SNR=3.2							
AKASG	Malin Array Be	76.02	323	P	P	08 53 08.7	-1.2
1.1nm,0.4s,mb4.1,baz=87,slow=5.4,SNR=5.3							
FINES	FINESS Array B	80.91	333	P	P	08 53 36.6	+0.2
1.3nm,0.7s,mb4.0,baz=90,slow=3.8,SNR=5.6							
ARCES	ARCESS Array B	83.55	340	P	P	08 53 50.6	+0.8
1.4nm,0.7s,mb4.2,baz=97,slow=5.5,SNR=12							

*NEIC **20** 08:44:58.8, 37.74S×176.31E, h195km, MG4.2(WEL), After WEL.*

WEL 20 08:44:59.2±0.3, 37.75S×176.31E, h192km±2km, ML4.2/13, 12C-2D, Error ellipse: s-maj=1.6km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.81	129	⇑PN	P	08 45 26.9	-0.2
URZ				SN	S	08 45 48.0	-0.8
WHTZ	Whakaora	0.96	197	P	P	08 45 28.4	+0.4
WHTZ	Whakaora	0.96	197	PN	P	08 45 28.7	+0.7
WATZ	Wairara	1.06	205	P	P	08 45 29.0	+0.3
WATZ	Wairara	1.06	205	ePN	P	08 45 29.2	+0.5
WATZ				eSN	S	08 45 51.6	0.0
KUZ	Kuaotunu	1.10	335	P	P	08 45 28.5	-0.6
KUZ	Kuaotunu	1.10	335	⇓PN	P	08 45 28.4	-0.7
KUZ				SN	S	08 45 51.9	-0.4
MKAZ	Moumakai	1.11	305	PN	P	08 45 28.9	-0.2
MWZ	Matawai	1.13	122	P	P	08 45 29.0	-0.3
MWZ				S	S	08 45 52.2	-0.4
MWZ	Matawai	1.13	122	PN	P	08 45 29.0	-0.3
MWZ				SN	S	08 45 52.2	-0.4
HATZ	Hinemaiaia	1.15	188	PN	P	08 45 29.5	0.0
RATZ	Rangitukua	1.19	200	P	P	08 45 30.0	+0.1
RATZ	Rangitukua	1.19	200	PN	P	08 45 30.0	+0.1
RITZ	Rihia Road	1.28	196	P	P	08 45 30.7	+0.1
RITZ	Rihia Road	1.28	196	PN	P	08 45 30.7	+0.1
OTAZ	Otara	1.36	305	P	P	08 45 30.8	-0.5
OTAZ	Otara	1.36	305	PN	P	08 45 30.8	-0.5
HIZ	Hauiti	1.38	236	PN	P	08 45 31.1	-0.3
MGZ	Maungaku	1.39	206	P	P	08 45 31.8	+0.2
MGZ	Maungaku	1.39	206	PN	P	08 45 31.7	+0.2
BKZ	Black Stump Fm	1.42	174	⇓P	P	08 45 31.3	-0.6
BKZ	Black Stump Fm	1.42	174	⇑PN	P	08 45 31.3	-0.5
BKZ				SN	S	08 45 55.6	-1.5
BKZ				SN	S	08 45 55.7	-1.4
MTAZ	Motutapu	1.47	310	P	P	08 45 31.7	-0.6
MTAZ	Motutapu	1.47	310	PN	P	08 45 31.7	-0.6
WTVZ	West Tongariro	1.48	202	P	P	08 45 32.0	-0.4
WTVZ	West Tongariro	1.48	202	PN	P	08 45 32.1	-0.3
TWVZ	Taurewa	1.49	207	P	P	08 45 32.3	-0.1
TWVZ	Taurewa	1.49	207	⇑PN	P	08 45 32.3	-0.2
OTVZ	Oturere	1.50	199	PN	P	08 45 32.6	+0.1
NGZ	Ngauruhoe	1.53	201	P	P	08 45 32.3	-0.5
NGZ				P		08 45 32.6	
NGZ	Ngauruhoe	1.53	201	PN	P	08 45 33.0	+0.2
CNZ	Chateau	1.57	202	P	P	08 45 32.7	-0.5
CNZ	Chateau	1.57	202	PN	P	08 45 32.7	-0.5
WPVZ	Whakapapa	1.57	202	P	P	08 45 32.8	-0.4
WPVZ	Whakapapa	1.57	202	PN	P	08 45 33.0	-0.2
KAAZ	Kauri Point	1.58	305	P	P	08 45 32.3	-1.0
KAAZ	Kauri Point	1.58	305	PN	P	08 45 32.4	-0.9
PUZ	Puketiti	1.58	102	eP	P	08 45 32.5	-0.8
PUZ	Puketiti	1.58	102	PN	P	08 45 32.6	-0.7
PUZ				SN	S	08 45 58.7	-0.9
MXZ	Matakaoa Point	1.60	84	eP	P	08 45 33.2	-0.3
MXZ	Matakaoa Point	1.60	84	PN	P	08 45 33.2	-0.3
TUVZ	Tukino	1.60	198	P	P	08 45 33.1	-0.4
TUVZ	Tukino	1.60	198	PN	P	08 45 33.2	-0.3
WTAZ	Waiatarua	1.60	300	P	P	08 45 32.9	-0.6
WTAZ	Waiatarua	1.60	300	PN	P	08 45 32.9	-0.6
FWVZ	Far West T-bar	1.62	201	P	P	08 45 33.1	-0.6
FWVZ	Far West T-bar	1.62	201	PN	P	08 45 33.2	-0.5
TRVZ	Turoa	1.66	201	PN	P	08 45 33.9	-0.2
KNZ	Kokohu	1.66	140	P	P	08 45 33.9	-0.2
KNZ	Kokohu	1.66	140	PN	P	08 45 34.1	0.0
WNVZ	Wahianoa	1.67	199	P	P	08 45 33.8	-0.4
WNVZ	Wahianoa	1.67	199	PN	P	08 45 33.8	-0.4
MOVZ	Moawhango	1.71	195	P	P	08 45 33.6	-1.0
MOVZ	Moawhango	1.71	195	PN	P	08 45 33.6	-1.0
PKVZ	Pokaka	1.71	206	PN	P	08 45 34.1	-0.5
MTVZ	Mangateitei	1.76	202	⇑PN	P	08 45 34.5	-0.5
VRZ	Vera Road	1.83	221	⇑P	P	08 45 35.8	0.0
VRZ	Vera Road	1.83	221	⇑PN	P	08 45 35.8	0.0
WAZ	Wanganui	2.25	207	P	P	08 45 38.9	-1.4
WAZ	Wanganui	2.25	207	PN	P	08 45 39.0	-1.2
PWZ	Pawanui	2.32	169	⇑P	P	08 45 40.0	-1.0
PWZ	Pawanui	2.32	169	⇑PN	P	08 45 40.0	-1.0
PKE	Pukeiti	2.32	231	P	P	08 45 41.3	+0.2
PKE	Pukeiti	2.32	231	PN	P	08 45 41.3	+0.2
TSZ	Takapari Road	2.32	187	⇑P	P	08 45 39.6	-1.5
TSZ	Takapari Road	2.32	187	⇑PN	P	08 45 39.6	-1.5
BFZ	Birch Farm	2.93	181	P	P	08 45 45.9	-2.2
BFZ	Birch Farm	2.93	181	PN	P	08 45 45.9	-2.1
MRZ	Mangatainoka R	2.96	191	⇑P	P	08 45 45.9	-2.6
MRZ	Mangatainoka R	2.96	191	⇑PN	P	08 45 45.9	-2.7
MRZ				SN	S	08 46 22.4	-4.2
KIW	Kapiti Island	3.29	199	P	P	08 45 49.0	-3.5
KIW	Kapiti Island	3.29	199	PN	P	08 45 49.1	-3.4
MTW	Mount Morrison	3.46	190	P	P	08 45 50.9	-3.7
CAW	Cannon Point	3.49	196	P	P	08 45 51.2	-3.8
MRW	Makara Radio	3.69	199	P	P	08 45 53.8	-3.7
WEL	Wellington	3.73	198	P	P	08 45 53.6	-4.3
MSWZ	Moikau Station	3.75	192	P	P	08 45 54.2	-4.0
SNZO	South Karori	3.77	199	P	P	08 45 54.3	-4.1
BHW	Baring Head	3.82	196	P	P	08 45 54.9	-4.2
NNZ	Nelson	4.14	212	eP	P	08 45 58.7	-4.4
BSWZ	Blackbirch Sta	4.38	205	P	P	08 46 02.1	-4.1
THZ	Tophouse	4.79	212	eP	P	08 46 06.7	-4.7
KHZ	Kahutara	5.12	204	P	P	08 46 11.0	-4.7
DSZ	Denniston Nort	5.29	220	eP	P	08 46 12.3	-5.6
LTZ	Lake Taylor	5.90	210	eP	P	08 46 20.3	-5.5
MQZ	McQueen's Vall	6.57	204	eP	P	08 46 28.0	-6.5
FOZ	Fox Glacier	7.68	219	eP	P	08 46 42.0	-7.1
ODZ	Otahua Downs	8.44	208	eP	P	08 46 53.3	-5.7

IDC 20 09:20:43.6±7.7, 10.34N×93.16E, mb4.0/5, mb1 4.2/5, mb1mx3.8/21, mbtmp4.0/5, 1C, Error ellipse: s-maj=265.6km s-min=29.5km az=74.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	39.00	14	P	P	09 28 11.9	-1.6
0.6nm,0.8s,baz=198,slow=7.8,SNR=5.0							
FITZ	Fitzroy Crossi	42.74	131	P	P	09 28 42.9	-1.7
2.7nm,0.5s,baz=356,slow=9.7,SNR=5.6							
WRA	Warramunga Arr	50.48	127	P	P	09 29 43.5	-2.2
1.3nm,0.4s,baz=307,slow=8.2,SNR=77							
WB2	Warramunga Arr	50.49	127	⇑iP	P	09 29 43.6	-2.2
ASAR	Alice Springs	52.24	131	P	P	09 29 56.8	-2.2
1.9nm,0.5s,baz=307,slow=7.0,SNR=31							
STKA	Stephens Creek	62.50	134	P	P	09 31 09.3	-2.2
0.9nm,0.5s,baz=327,slow=6.3,SNR=5.6							

*IDC **20** 09:26:53.1±1.4, 1.27N×96.95E, mb4.2/10, mb1 4.3/11, mb1mx4.1/22, mbtmp4.2/11, ML4.3/1, MS3.6/1, Ms1 3.8/1, ms1mx3.1/28, Error ellipse: s-maj=67.8km s-min=14.7km az=57.0*
*BJI **20** 09:26:55.9, 1.56N×97.35E, h14km, mB5.4, mb4.7, Ms4.1, Msz4.0*
*NEIC **20** 09:26:57.7±0.7, 1.35N×97.07E, h30km, mb4.5/5, Error ellipse: s-maj=19.2km s-min=8.5km az=66.0*

ISC 20 09:26:58.4±3.4, 1.4N±0.1×97.2E±0.2, h45km±28km, n33, σ0°60/33, mb4.5/24, MS4.0/2, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.15	42	eP	P	09 28 15.6	+0.5
CMAR	Chiang Mai Arr	17.02	6	P	P	09 30 53.5	-1.3
0.4nm,0.3s,baz=203,slow=11,SNR=15							
CMAR				LR	LR	09 38 36.5	
comp=Z,190nm,18.7s,baz=190,slow=41							
KMI	Kunming	24.16	12	P	P	09 32 11.9	+0.2
KMI				AP		09 32 21.0	
KMI				XP		09 32 25.1	
KMI				AMB	AMB		
comp=Z,9.0nm,1.2s,mb4.1							
KMI				AMB	AMB		
comp=Z,89nm,3.4s							
KMI				LR	LR		
comp=N,401nm,14.3s,MS4.1							
KMI				LR	LR		
comp=E,277nm,14.3s,MS4.1							
KMI				LR	LR		
comp=Z,444nm,14.3s,MS4.1							
KMI	Kunming	24.16	12	P	P	09 32 11.9	+0.2
comp=Z,9.0nm,1.2s,mb4.1							
KMI				pP		09 32 21.0	
KMI				sP		09 32 25.1	
KMI				S	S	09 36 41.0	+17
KMI				sS		09 36 53.8	
KMI				LR	LR		
comp=Z,440nm,14.3s,MS4.1							
SHL	Shillong	24.55	348	eP	P	09 32 15.0	-0.5
GYA	Guiyang	26.50	19	⇑iP	P	09 32 33.8	0.0
GYA				AMB	AMB		
comp=Z,20nm,0.8s,mb4.7							
JIRN	Jiri	28.15	339	eP	P	09 32 49.3	+0.5
comp=Z,49nm,1.2s,mb5.0							
PKI	Pulchoki	28.36	338	eP	P	09 32 50.9	+0.3
comp=Z,8.5nm,0.7s,mb4.5							
GUN	Gumba	28.49	339	eP	P	09 32 52.0	+0.2
comp=Z,27nm,0.8s,mb4.9							
DMN	Daman	28.51	337	eP	P	09 32 52.4	+0.4
KKN	Kakani	28.61	337	eP	P	09 32 52.6	-0.2
comp=Z,31nm,1.0s,mb5.0							
GKN	Gorkha	29.05	337	eP	P	09 32 56.9	+0.2
comp=Z,25nm,0.8s,mb5.0							
KOLN	Koldanda	29.27	335	eP	P	09 32 59.1	+0.4
comp=Z,23nm,0.8s,mb4.9							
ENH	Enshi	30.97	21	eP	P	09 33 12.7	-1.2
comp=Z,19nm,0.9s,mb4.9							
ENH				epP	pP	09 33 19.0	-6.9
FITZ	Fitzroy Crossi	34.04	126	P	P	09 33 39.5	-1.1
comp=Z,2.1nm,0.5s,mb4.3,baz=270,slow=22,SNR=3.6							
XAN	Xi'an	34.25	17	P	P	09 33 41.9	-0.4
XAN				AMB	AMB		
comp=Z,14nm,0.9s,mb4.9							
XAN				LR	LR		
comp=N,147nm,14.5s,MS4.0							
XAN				LR	LR		
comp=E,115nm,13.6s,MS4.0							
XAN				LR	LR		
comp=Z,244nm,16.3s,MS4.0							
GTA	Gaotai	37.89	3	P	P	09 34 13.8	+0.8
GTA				AP	pP	09 34 21.1	-4.2
GTA				XP	sP	09 34 24.4	-6.5
GTA				AMB	AMB		
comp=Z,4.0nm,0.8s,mb4.2							
BJI	Beijing	42.13	22	eP	P	09 34 48.8	+0.7
BJI				AMB	AMB		
comp=Z,14nm,0.7s,mb4.7							
BJI	Beijing	42.13	22	eP	P	09 34 48.8	+0.7
comp=Z,14nm,0.7s,mb4.7							
WRA	Warramunga Arr	42.13	122	P	P	09 34 48.6	+0.2
comp=Z,1.5nm,0.6s,mb3.8,baz=301,slow=9.2,SNR=26							
WRAB	Tennant Creek	42.14	122	eP	P	09 34 48.3	-0.2
comp=Z,4.9nm,0.8s,mb4.2							
WB2	Warramunga Arr	42.15	122	eP	P	09 34 48.6	+0.1
ASAR	Alice Springs	43.51	127	P	P	09 34 60.0	+0.3
comp=Z,1.2nm,0.8s,mb3.7,baz=299,slow=8.5,SNR=9.9							
SONM	Songino Array	46.91	8	P	P	09 35 27.3	+0.9
comp=Z,4.9nm,0.8s,mb4.5,baz=191,slow=9.4,SNR=35							
SONM				PcP	PcP	09 36 58.8	-0.1
comp=Z,0.4nm,0.5s,baz=174,slow=4.2,SNR=2.4							
MKAR	Makanchi Array	47.04	346	P	P	09 35 27.8	+0.4
comp=Z,2.9nm,0.5s,mb4.5,baz=158,slow=9.1,SNR=47							
ULN	Ulaanbaatar	47.05	9	eP	P	09 35 27.6	+0.2
comp=Z,4.6nm,1.0s,mb4.4							
ZAL	Zalesovo	53.34	351	P	P	09 36 14.9	-0.5
comp=Z,3.7nm,0.4s,mb4.7,baz=298,slow=7.4,SNR=14							
STKA	Stephens Creek	53.49	132	P	P	09 36 17.4	+0.6
comp=Z,2.4nm,0.7s,mb4.2,baz=311,slow=8.1,SNR=7.2							
BVAR	Borovoye Array	56.05	341	P	P	09 36 33.8	-1.3
comp=Z,1.8nm,0.6s,mb4.2,baz=141,slow=9.5,SNR=11							
FINES	FINESS Array B	79.81	332	P	P	09 39 03.0	-0.5
comp=Z,0.5nm,0.5s,mb3.7,baz=135,slow=5.9,SNR=4.7							
FINES	FINESS Array B	79.81	332	P	P	09 39 03.0	-0.5
ARCES	ARCESS Array B	82.34	340	P	P	09 39 16.4	-0.1
comp=Z,1.5nm,0.7s,mb4.1,baz=90,slow=4.9,SNR=8.8							
TXAR	Lajitas Array	143.48	32	PKP	PKPdf	09 46 28.3	-0.5
comp=Z,0.2nm,0.5s,baz=134,slow=0.6,SNR=5.1							

MAN 20 09:27:17.0, 6.39N×125.58E, h28km, mb3.6, ML2.3, MS1.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.78	321	⇓eP	Pb	09 27 31.9	-0.1
KCP				eS	Sb	09 27 40.6	-1.7
MATI	Mati	0.87	51	eP	Pb	09 27 33.0	-0.4
BUKP	Musuan	1.56	341	eP	Pn	09 27 43.1	-0.3

IDC 20 09:29:25.3±4.2, 1.55N×97.14E, mb4.0/4, mb1 4.1/4, mb1mx3.7/19, mbtmp4.0/4, MS3.4/3, Ms1 3.4/3, ms1mx3.1/30, Error ellipse: s-maj=162.0km s-min=29.9km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	34.18	126	LR	LR	09 52 33.2	
comp=Z,64nm,18.8s,baz=304,slow=41							
WRA	Warramunga Arr	42.27	122	P	P	09 37 20.8	-1.7
0.2nm,0.4s,baz=300,slow=9.3,SNR=4.2							
SONM	Songino Array	46.80	9	P	P	09 37 56.8	-1.7
2.5nm,0.9s,baz=191,slow=8.9,SNR=7.8							
SONM				LR	LR	09 57 39.3	
comp=Z,55nm,19.0s,baz=178,slow=36							
MKAR	Makanchi Array	46.89	346	P	P	09 37 57.4	-1.8
1.9nm,0.7s,baz=160,slow=7.5,SNR=6.4							
MKAR				LR	LR	10 00 17.2	
comp=Z,34nm,18.0s,baz=156,slow=40							
ZAL	Zalesovo	53.20	351	P	P	09 38 44.9	-2.6
1.4nm,0.3s,baz=306,slow=6.3,SNR=3.1							

*IDC **20** 09:34:19.4±0.7, 54.81S×130.22W, mb4.0/8, mb1 4.3/8, mb1mx4.2/15, mbtmp4.0/8, MS4.2/17, Ms1 4.2/17, ms1mx4.1/22, Error ellipse: s-maj=39.7km s-min=19.2km az=156.0*
*NEIC **20** 09:34:21.0±0.5, 54.76S×130.23W, h10km, mb4.5/2, Error ellipse: s-maj=24.6km s-min=16.0km az=130.0*

ISC 20 09:34:19.9±0.7, 54.9S±0.1×130.2W±0.3, h10km, n35, σ1°11/11, mb4.1/10, MS4.2/17, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	Scott Base	31.46	201	eP	P	09 40 43.9	+0.8
7.5nm,1.3s,mb4.4							
RKT	Rikitea	31.91	352	eLR	LR	09 48 47.8	
855nm,27.2s,baz=165							
VNDA	Vanda	32.47	202	P	P	09 40 53.2	+1.3
2.7nm,1.0s,mb4.0,baz=84,slow=8.4,SNR=7.4							
USHA	Ushuaia	34.52	116	LR	LR	09 51 20.2	
comp=Z,228nm,19.3s,MS3.9,baz=93,slow=30							
TBI	Tubuai	34.61	328	eLR	LR	09 49 56.5	
752nm,29.0s,baz=157							
QSPA	South Pole Qui	35.30	180	eP	P	09 41 16.5	+0.1
8.6nm,1.0s,mb4.6							
RPZ	Rata Peaks	38.81	262	LR	LR	09 52 55.4	
comp=Z,606nm,20.1s,MS4.4,baz=127,slow=29							
PPT	Papeete	40.10	331	eLR	LR	09 52 29.9	
937nm,26.2s,baz=173							
PPT	Papeete	40.10	331	LR	LR	09 55 09.2	
comp=Z,469nm,18.2s,MS4.4,baz=119,slow=31							
PLCA	Paso Flores	41.19	95	LR	LR	09 54 57.6	
comp=Z,200nm,19.2s,MS4.0,baz=229,slow=30							
TAOE	Nuku Hiva Isla	46.58	346	eLR	LR	09 55 38.0	
DZM	Mont Dzumac	56.97	278	LR	LR	10 04 36.2	
comp=Z,187nm,18.6s,MS4.2,baz=231,slow=32							
CPUP	Villa Florida	59.14	93	P	P	09 44 20.9	-2.0
2.0nm,0.9s,mb4.1,baz=192,slow=8.8,SNR=3.2							
CPUP				LR	LR	10 05 52.6	
comp=Z,233nm,20.2s,MS4.3,baz=11,slow=32							
LPAZ	La Paz	60.81	76	P	P	09 44 34.2	-0.2
1.4nm,0.8s,mb4.2,baz=202,slow=4.7,SNR=8.7							
LPAZ	La Paz	60.81	76	LR	LR	09 44 34.2	-0.2
STKA	Stephens Creek	63.64	252	P	P	09 44 52.2	-0.8
1.6nm,0.7s,mb4.2,baz=207,slow=11,SNR=5.5							
STKA				LR	LR	10 06 17.4	
comp=Z,285nm,21.5s,MS4.4,baz=117,slow=30							
CTA	Charters Tower	70.16	263	LR	LR	10 14 56.7	
comp=Z,115nm,18.5s,MS4.2,baz=226,slow=35							
BDFB	Brasilia	72.87	93	LR	LR	10 16 07.5	
comp=Z,170nm,18.4s,MS4.4,baz=11,slow=34							
ASAR	Alice Springs	74.27	251	P	P	09 45 57.8	-1.0
4.5nm,1.1s,mb4.3,baz=142,slow=7.0,SNR=21							
ASAR				LR	LR	10 16 00.4	
comp=Z,155nm,18.6s,MS4.3,baz=150,slow=34							
NWAO	Narrogin (SRO)	75.24	233	LR	LR	10 11 00.8	
comp=Z,226nm,21.2s,MS4.4,baz=286,slow=29							
ROSC	El Rosal	75.24	59	LR	LR	10 12 56.1	
comp=Z,82nm,18.7s,MS4.1,baz=68,slow=31							
WRA	Warramunga Arr	77.01	254	P	P	09 46 13.5	-1.0
2.3nm,0.9s,mb4.1,baz=146,slow=5.1,SNR=20							
PMG	Port Moresby	78.15	271	LR	LR	10 17 07.1	
comp=Z,108nm,19.1s,MS4.2,baz=60,slow=33							
TXAR	Lajitas Array	86.91	23	P	P	09 47 07.2	+1.3
0.3nm,0.8s,mb3.6,baz=194,slow=5.2,SNR=4.7							
NVAR	Mina Array Bea	93.49	9	P	P	09 47 37.8	+1.4
0.3nm,0.6s,mb3.9,baz=207,slow=7.6,SNR=2.7							
NVAR				LR	LR	10 21 15.9	
comp=Z,47nm,20.4s,MS3.9,baz=180,slow=30							
BOSA	Boshof	94.21	158	LR	LR	10 23 27.9	
comp=Z,135nm,21.6s,MS4.4,baz=203,slow=31							
YBH	Yreka Blue Hor	96.44	6	LR	LR	10 22 33.3	
comp=Z,131nm,20.6s,MS4.4,baz=178,slow=30							
PDAR	Pinedale Array	98.84	15	LR	LR	10 23 06.5	
comp=Z,112nm,19.1s,MS4.4,baz=70,slow=30							
YKA	Yellowknife Ar	117.66	8	PKP	PKPdf	09 53 03.4	-4.7
0.3nm,1.0s,baz=181,slow=2.0,SNR=4.9							
YKA	Yellowknife Ar	117.66	8	PKP	PKPdf	09 53 03.4	-4.7
ILAR	Eielson Array	120.00	352	PKP	PKPdf	09 53 10.7	-1.9
1.1nm,0.8s,baz=208,slow=2.0,SNR=13							
ULN	Ulaanbaatar	144.49	283	eP	PKPbc	09 53 55.5	+0.5
SONM	Songino Array	144.84	282	PKP	PKPdf	09 53 56.6	-2.4
2.3nm,0.8s,baz=143,slow=3.1,SNR=17							
GERES	GERESS Array B	157.08	90	PKP	PKPdf	09 54 16.1	-1.3
0.9nm,0.8s,baz=236,slow=4.8,SNR=5.1							
GERES				PKPab	PKPab	09 54 44.6	-2.7
0.4nm,0.3s,baz=270,slow=5.3,SNR=3.7							
MKAR	Makanchi Array	158.12	262	PKPab	PKPab	09 54 50.8	-1.1
0.7nm,0.7s,baz=117,slow=5.4,SNR=7.4							

IDC 20 10:00:34.5±9.4, 4.51S×153.46E, h127km±62km, mb3.7/4, mb1 3.8/5, mb1mx3.4/17, mbtmp4.1/5, MS3.8/1, Ms1 3.8/1, ms1mx2.8/24, Error ellipse: s-maj=69.7km s-min=63.6km az=18.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.92	232	P	P	10 02 27.1	-1.0
2.4nm,0.3s,baz=57,slow=5.1,SNR=8.1							
PMG				S	S	10 03 55.9	-0.7
0.8nm,0.3s,baz=147,slow=21,SNR=7.1							
WB2	Warramunga Ar

BOSA Boshof 91.28 241 P **P 10 18 54.3 +1.4**
4.4nm,1.1s,mb4.3,baz=248,slow=18,SNR=3.6
CPUP Villa Florida 146.53 183 PKPbc PKPbc 10 25 27.4 +2.8
1.5nm,0.7s,baz=169,slow=5.2,SNR=4.5

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*CSEM **20** 10:06:48.2±0.2,57.58N×10.46E,h2km,ML2.8,Error ellipse: s-maj=5.3km s-min=2.1km az=19.0,Mining explosion.*
*NAO **20** 10:06:49.5±2.5,57.63N×10.61E,ML1.9*
*UPP **20** 10:06:49.2,57.50N×10.50E,h0km,ML2.8,Mining explosion.*
*BER **20** 10:06:51.0±4.0,57.61N×10.58E,MD2.4,ML1.7, ML1.9(NAO)*
ISC 20 10:06:48.9±0.6,**57.74N**±0.06×**10.52E**±0.06,**n19**,σ0:**97**/32,
Denmark

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNART	**Snartemo**	**1.86**	**290**	*eP*	**Pn**	**10 07 22.8**	**+0.6**
SNART				*eS*	**Sn**	**10 07 47.5**	**+0.7**
SNART				AML	AML	10 07 51.8	
	comp=Z,21nm,0.3s						
VXJU	**Vaexsjoe**	**2.53**	**107**	P	**Pn**	**10 07 30.5**	**-1.4**
VXJU				S	**Sn**	**10 08 04.7**	**+0.8**
EKSU	**Eksjoe**	**2.58**	**92**	P	**Pn**	**10 07 32.6**	**+0.1**
LNKU	**Linkoeping**	**2.70**	**77**	P	**Pn**	**10 07 34.5**	**+0.2**
LNKU				S	**Sn**	**10 08 08.5**	**+0.3**
BLS5	**Blasjo**	**2.72**	**310**	*eP*	**Pn**	**10 07 36.2**	**+1.7**
BLS5				*eSg*	**Sg**	**10 08 18.6**	**-0.8**
BLS5				AML	AML	10 08 22.3	
	comp=Z,6.1nm,0.3s						
BLS5	**Blasjo**	**2.72**	**310**	*eP*	**Pn**	**10 07 36.2**	**+1.7**
	SNR=50						
BLS5				*eSg*	**Sg**	**10 08 18.6**	**-0.8**
	comp=Z,6.1nm,0.3s,SNR=90						
HFS	**Hagfors**	**2.91**	**33**	Pn	**Pn**	**10 07 38.2**	**+0.9**
	baz=220,slow=16						
HFS				Pg	**Pg**	**10 07 43.2**	**-3.9**
	baz=219,slow=16						
HFS				Sn	**Sn**	**10 08 12.8**	**-0.8**
	baz=226,slow=37						
HFS				Lg		10 08 22.9	
	baz=213,slow=28						
HFS	**Hagfors**	**2.91**	**33**	Pg	**Pg**	**10 07 43.2**	**-3.8**
	SNR=4.6						
HFS				Sn	**Sn**	**10 08 12.8**	**-0.8**
	SNR=2.7						
ODD1	**Odda**	**2.98**	**319**	*eP*	**Pn**	**10 07 38.5**	**+0.3**
ODD1				*eS*	**Sn**	**10 08 15.2**	**+0.1**
OSKU	**Oskarshamn**	**3.06**	**98**	P	**Pn**	**10 07 38.6**	**-0.9**
KMY	**Karmoy**	**3.14**	**300**	*eP*	**Pn**	**10 07 40.5**	**0.0**
KMY				*eS*	**Sn**	**10 08 18.2**	**-1.1**
KMY				AML	AML	10 08 20.8	
	comp=Z,3.9nm,0.3s						
KMY	**Karmoy**	**3.14**	**300**	*eP*	**Pn**	**10 07 40.5**	**-0.1**
	SNR=50						
KMY				*eS*	**Sn**	**10 08 18.2**	**-1.1**
	comp=Z,3.9nm,0.3s,SNR=50						
VSTU	**Vaesterevik**	**3.23**	**89**	P	**Pn**	**10 07 41.7**	**-0.1**
NB2	**NORSAR Subarra**	**3.33**	**6**	Pn	**Pn**	**10 07 43.8**	**+0.4**
	baz=185,slow=16						
NB2				Sn	**Sn**	**10 08 25.7**	**+1.5**
	baz=185,slow=28						
NB2				Lg		10 08 37.6	
	baz=174,slow=37						
VIKU	**Vikbolandet**	**3.37**	**74**	P	**Pn**	**10 07 44.3**	**+0.5**
EGD	**Espegrend**	**3.74**	**315**	*eP*	**Pn**	**10 07 49.4**	**+0.4**
EGD				*eS*	**Sn**	**10 08 32.4**	**-2.0**
ASK	**Askoy**	**3.89**	**317**	*eP*	**Pn**	**10 07 51.9**	**+0.7**
FIA0	**FINESS Array S**	**8.72**	**58**	Pn	**P**	**10 08 56.9**	**-2.3**
	baz=255,slow=12						
FIA0				Lg		10 11 21.4	
	baz=279,slow=28						
ARA0	**ARCESS Array S**	**13.52**	**23**	Pn	**P**	**10 09 59.4**	**-4.7**
	baz=218,slow=14						

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*CSEM **20** 10:08:36.0,35.93N×24.46E,h36km,MD3.5/3,After ATH*
ATH 20 10:08:35.5,36.00N×24.47E,h23km±4km,**MD3.6**/5,
Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.63**	**200**	*e*PN	Pn	10 08 48.3	-0.7
NPS	**Neapolis**	**1.19**	**128**	*e*PN	Pn	10 08 57.5	+0.6
KYTH	**Kithira**	**1.19**	**284**	*e*PN	Pn	10 08 58.5	+1.5
APE	**Apeiranthos**	**1.37**	**38**	*e*PN	Pn	10 09 01.5	+2.0
VLI	**Veliai**	**1.43**	**301**	*e*PN	Pn	10 09 01.3	+0.9
XRY	**Khrisi**	**1.50**	**138**	*e*PN	Pn	10 09 03.5	+2.1

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*NEIC **20** 10:09:21.6±1.4, 18.75S×175.16W,h158km±14km,mb4.5/5, Error ellipse: s-maj=15.0km s-min=10.2km az=139.0*
*IDC **20** 10:09:28.6±2.9, 18.84S×175.26W,h219km±27km, mb3.7/11,mb1 3.9/11,mb1mx3.7/20,mbtmp4.2/11,MS3.6/1, Ms1 3.6/1,ms1mx2.7/29,Error ellipse: s-maj=22.0km s-min=14.0km az=147.0*
ISC 20 10:09:20.5±1.9,**18.8S**±0.1×**175.2W**±0.1,**h160**km±19km,
n21,σ0:**80**/22,**mb4.0**/13,**3C**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.85**	**35**	*eP*	**P**	**10 10 45.4**	**-0.7**
	132nm,0.8s						
AFI				*eS*	**S**	**10 11 39.2**	**-13**
URZ	**Urewera**	**20.55**	**197**	P	**P**	**10 13 49.0**	**+1.0**
	7.5nm,0.5s,baz=13,slow=4.7,SNR=10						
RPZ	**Rata Peaks**	**27.43**	**202**	P	**P**	**10 14 53.7**	**+0.4**
	12nm,0.7s,mb4.6,slow=20,SNR=3.2						
CTA	**Charters Tower**	**36.30**	**261**	P	**P**	**10 16 11.7**	**+1.1**
	7.2nm,0.4s,mb4.6,baz=98,slow=10,SNR=14						
CTA				LR	LR	10 29 24.4	
	comp=Z,95nm,19.2s,baz=54,slow=33						
CTAO	**Charters Tower**	**36.30**	**261**	*eP*	**P**	**10 16 11.7**	**+1.1**
	8.8nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**40.90**	**243**	P	**P**	**10 16 49.2**	**+0.6**
	2.3nm,0.8s,mb3.9,baz=46,slow=9.9,SNR=4.5						
STKA	**Stephens Creek**	**40.90**	**243**	P	**P**	**10 16 49.2**	**+0.6**
WB2	**Warramunga Arr**	**47.45**	**260**	⇑*iP*	**P**	**10 17 41.0**	**-0.1**
WRAB	**Tennant Creek**	**47.45**	**260**	*eP*	**P**	**10 17 40.4**	**-0.7**
	6.5nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**47.46**	**260**	P	**P**	**10 17 40.7**	**-0.4**
	3.8nm,0.7s,mb4.1,baz=97,slow=8.4,SNR=16						
ASAR	**Alice Springs**	**47.48**	**255**	P	**P**	**10 17 41.3**	**0.0**
	6.3nm,0.7s,mb4.4,baz=98,slow=7.9,SNR=44						
ASAR				PcP	PcP	10 19 08.5	-0.8
	0.6nm,0.5s,baz=102,slow=4.2,SNR=3.7						
ASAR				S	**S**	**10 24 19.4**	**-3.1**
	0.4nm,0.9s,baz=96,slow=15,SNR=4.0						
KAKA	**Kakadu**	**50.59**	**269**	*eP*	**P**	**10 18 05.1**	**-0.1**
	6.9nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**55.87**	**260**	P	**P**	**10 18 43.7**	**-0.4**
	3.2nm,0.8s,mb4.2,baz=132,slow=14,SNR=5.1						
VNDA	**Vanda**	**59.88**	**186**	P	**P**	**10 19 10.8**	**-0.4**
	1.0nm,0.9s,mb3.6,baz=26,slow=8.2,SNR=6.0						
QSPA	**South Pole Qui**	**71.30**	**180**	*eP*	**P**	**10 20 23.4**	**-0.5**
	6.2nm,0.8s,mb4.4						
NVAR	**Mina Array Bea**	**77.98**	**42**	P	**P**	**10 21 02.6**	**-0.1**
	0.5nm,0.7s,mb3.3,baz=219,slow=7.1,SNR=4.2						
TXAR	**Lajitas Array**	**83.92**	**56**	P	**P**	**10 21 34.6**	**+0.5**
	0.6nm,0.9s,mb3.3,baz=225,slow=7.1,SNR=6.0						
ILAR	**Eielson Array**	**86.07**	**12**	P	**P**	**10 21 46.2**	**+2.3**
	0.2nm,0.6s,mb3.0,baz=234,slow=3.4,SNR=4.5						
VNA3	**Neumayer Olymp**	**89.67**	**175**	⇑*i*	**P**	**10 22 00.1**	**-0.8**
VNA2	**Neumayer--Watz**	**90.15**	**176**	⇑*i*	**P**	**10 22 02.7**	**-0.4**
GERES	**GERESS Array B**	**149.13**	**348**	PKPbc	PKPdf	10 28 50.2	+4.9
	0.3nm,0.3s,baz=34,slow=4.8,SNR=4.5						

IDC 20 10:26:55.3±2.8,**18.97S**×**177.20W**,**mb3.4**/3,**mb1 3.7**/3,
mb1mx3.5/16,**mbtmp3.4**/3,**Error ellipse:**
s-maj=278.3km s-min=34.9km az=160.0,**Fiji Islands**
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.58**	**260**	P	P	10 35 17.4	-1.7
	0.2nm,0.3s,baz=97,slow=7.5,SNR=16						
ASAR	**Alice Springs**	**45.62**	**255**	P	P	10 35 17.6	-1.9
	0.2nm,0.4s,baz=88,slow=7.3,SNR=7.2						
TXAR	**Lajitas Array**	**85.59**	**57**	P	P	10 39 36.0	-1.2
	0.1nm,0.5s,baz=217,slow=6.3,SNR=3.4						

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*LDG **20** 10:40:45.1±0.4, 16.98S×71.18W,h10km,Mb5.3/22, Ms4.1/7,Error ellipse: s-maj=27.1km s-min=20.8km az=54.0*
*BJI **20** 10:40:46.7, 17.56S×72.18W,h28km,mB5.4,Ms4.9, Ms2.4.8*
*IDC **20** 10:40:47.3±0.4, 17.57S×71.36W,h29km±2km,mb4.7/19, mb1 4.9/22,mb1mx4.9/23,mbtmp4.9/22,ML6.5/1,MS4.2/21, Ms1 4.2/21,ms1mx4.1/30,Error ellipse: s-maj=15.0km s-min=10.1km az=68.0*
*HRVD **20** 10:40:47.3±0.5, 17.86S×71.42W,h44km±2km,MW4.9/37, Centroid moment Tensor Solution. LP body waves: s13,c15;Mantle waves: s37,c52; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.11±.27; $M_{\theta\theta}$-0.07±.16; $M_{\phi\phi}$1.19±.21; $M_{r\theta}$-0.93±.14; $M_{\theta\phi}$2.09±.14; $M_{\phi r}$-0.82±.20; Best double couple: $M_0$2.448×10^{16} NP1:φs172°,δ54°, λ-165°. NP2:φs73°,δ78°,λ-37°. Principal axes: T 3.091, Plg16°, Azm127°; N -1.281, Plg51°, Azm239°; P -1.804, Plg34°, Azm26°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **20** 10:40:47.3±0.1, 17.58S×71.35W,mb5.2/91 Error ellipse: s-maj=5.5km s-min=3.4km az=60.0*
NEIC Felt [IV] at Ilo and Moquegua; [III] at Arequipa. Felt [II] at Arica, Chile.
ISC 20 10:40:45.5±0.2,**17.57S**±0.03×**71.37W**±0.04,**h28**km,
h28km±.5km:**pP-P**,**n268**,σ0:**98**/221,**mb5.1**/105,**MS4.3**/25,
9C-11D,**Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.10**	**354**	⇑*iP*	**Pn**	**10 41 09.1**	**+3.8**
ARE				*eS*	**Sn**	**10 41 24.0**	**+4.3**
LPAZ	**La Paz**	**3.35**	**68**	Pn	**Pn**	**10 41 45.2**	**+7.9**
	148nm,0.3s,baz=254,slow=8.9,SNR=971						
LPAZ				LR	LR	10 42 58.5	
	comp=Z,941nm,20.4s,baz=245,slow=39						
LPAZ	**La Paz**	**3.35**	**68**	*eP*	**Pn**	**10 41 45.2**	**+7.9**
LVC	**Limon Verde**	**5.52**	**156**	Pn	**Pn**	**10 42 07.5**	**-0.6**
	130nm,0.3s,baz=335,slow=9.1,SNR=1095						
LVC				Sn	**Sn**	**10 43 10.0**	**-1.4**
	145nm,0.3s,baz=180,slow=10,SNR=11						
LVC				LR	LR	10 44 40.4	
	comp=Z,4μm,18.8s,baz=319,slow=42						
LVC	**Limon Verde**	**5.52**	**156**	*eP*	**Pn**	**10 42 07.4**	**-0.7**
	448nm,0.4s						
LVC	**Limon Verde**	**5.52**	**156**	⇑*iP*	**Pn**	**10 42 07.5**	**-0.6**
LVC				*i* S	**Sn**	**10 43 10.0**	**-1.5**
SPCH	**San Pedro de A**	**6.09**	**151**	*i* P	**Pn**	**10 42 16.0**	**-0.1**
SPCH				*i* S	**Sn**	**10 43 25.1**	**-0.5**
ANCH	**Antofagasta**	**6.15**	**172**	*i* P	**Pn**	**10 42 13.0**	**-4.0**
ANCH				*i* S	**Sn**	**10 43 18.8**	**-8.3**
CPN1	**Cerro Paranal**	**7.08**	**173**	⇑*iP*	**Pn**	**10 42 25.5**	**-4.5**
CPN1				*i* S	**Sn**	**10 43 41.4**	**-9.1**
NNA	**Nana**	**7.67**	**316**	*eP*	**Pn**	**10 42 38.6**	**+0.4**
	300nm,0.8s						
SIV	**San Ignacio**	**9.98**	**82**	Pn	**P**	**10 43 10.2**	**-0.1**
	22nm,0.3s,baz=269,slow=10,SNR=226						
SIV				Sn	**Sn**	**10 45 02.0**	**-0.5**
	1.7nm,0.3s,baz=297,slow=18,SNR=2.5						
SAML	**Samuel**	**11.69**	**44**	*eP*	**P**	**10 43 33.2**	**-0.5**
	26nm,0.7s						
CFAA	**Coronel Fontan**	**14.26**	**169**	Pn	**P**	**10 44 08.1**	**+0.3**
	0.2nm,0.3s,baz=348,slow=11,SNR=60						
CFAA				LR	LR	10 49 23.9	
	comp=Z,111nm,20.1s,baz=123,slow=36						
CFAA	**Coronel Fontan**	**14.26**	**169**	Pn	**P**	**10 44 08.1**	**+0.3**
CFAA				LR	LR	10 49 23.9	
MDZ	**Mendoza**	**15.42**	**172**	*eP*	**P**	**10 44 23.3**	**+0.4**
MDZ				*e*		10 44 25.4	
CPUP	**Villa Florida**	**15.66**	**126**	Pn	**P**	**10 44 22.7**	**-3.4**
	0.6nm,0.3s,baz=317,slow=15,SNR=19						
CPUP				LR	LR	10 51 45.7	
	comp=Z,837nm,21.4s,baz=322,slow=42						
CPUP	**Villa Florida**	**15.66**	**126**	*eP*	**P**	**10 44 22.2**	**-3.9**
	12nm,0.7s						
OTAV	**Otavalo**	**19.02**	**338**	P	**P**	**10 45 09.3**	**+1.3**
	59nm,1.0s						
TRQA	**Tornquist**	**22.01**	**160**	*eP*	**P**	**10 45 38.2**	**-1.1**
	98nm,1.3s,mb5.1						
BDFB	**Brasilia**	**22.46**	**89**	P	**P**	**10 45 45.0**	**+1.1**
	15nm,0.5s,mb4.7,baz=261,slow=9.2,SNR=17						
BDFB				sP		10 45 56.4	
	15nm,0.6s,baz=272,slow=11,SNR=6.3						
BDFB				LR	LR	10 55 13.7	
	comp=Z,463nm,19.5s,MS3.9,baz=266,slow=39						
ROSC	**El Rosal**	**22.47**	**352**	P	**P**	**10 45 45.0**	**+1.0**
	8.9nm,0.4s,mb4.6,baz=143,slow=5.1,SNR=6.5						
ROSC				LR	LR	10 55 10.3	
	comp=Z,768nm,20.9s,MS4.1,baz=173,slow=38						
BAO	**Brasilia Array**	**22.48**	**89**	P	**P**	**10 45 45.0**	**+0.9**
BAO				pP		10 45 48.0	
PLCA	**Paso Flores**	**23.10**	**178**	P	**P**	**10 45 50.2**	**+0.2**
	27nm,0.8s,mb4.7,baz=355,slow=11,SNR=54						
PLCA				PcP	PcP	10 49 38.1	-1.9
	3.2nm,0.7s,baz=40,slow=2.5,SNR=3.3						
PLCA				LR	LR	10 53 38.3	
	comp=Z,214nm,21.3s,MS3.6,baz=24,slow=33						
PLCA	**Paso Flores**	**23.10**	**178**	*eP*	**P**	**10 45 50.1**	**+0.1**
	34nm,0.9s,mb4.8						
SDV	**Santo Domingo**	**26.29**	**2**	P	**P**	**10 46 19.8**	**-1.0**
	23nm,0.8s,mb4.8,baz=255,slow=3.6,SNR=29						
SDV				LR	LR	10 57 45.9	
	comp=Z,682nm,18.9s,MS4.2,baz=217,slow=39						
SDV	**Santo Domingo**	**26.29**	**2**	*eP*	**P**	**10 46 19.4**	**-1.4**
	105nm,1.1s,mb5.3						
CAM4	**Nova Friburgo**	**27.46**	**105**	(P)	**P**	**10 46 31.1**	**-0.3**
CAM4				*i*		10 46 36.6	
PCRV	**Puerto La Cruz**	**28.36**	**14**	LR	LR	10 59 00.3	
	comp=Z,2μm,18.3s,MS4.7,baz=235,slow=38						
RPN	**Rapa Nui**	**36.27**	**248**	LR	LR	10 58 02.8	
	comp=Z,476nm,20.1s,MS4.3,baz=251,slow=29						
USHA	**Ushuaia**	**37.26**	**177**	P	**P**	**10 47 56.4**	**-0.1**
	11nm,0.6s,mb4.8,baz=348,slow=8.2,SNR=9.2						
TEIG	**Tepich**	**41.06**	**335**	*eP*	**P**	**10 48 29.2**	**+0.7**
	21nm,1.0s,mb4.7						
TEIG				LR	LR		
	comp=Z,216nm,20.0s,MS4.0						
TWB	**Tillmans-White**	**51.08**	**351**	*eP*	**P**	**10 49 48.3**	**+0.5**
NHSC	**New Hope**	**51.09**	**350**	*eP*	**P**	**10 49 47.8**	**0.0**
	comp=Z,120nm,0.8s,mb5.9						
COW	**Cow Castle Cre**	**51.44**	**350**	*eP*	**P**	**10 49 50.3**	**-0.1**
GOGA	**Godfrey**	**51.99**	**347**	*eP*	**P**	**10 49 53.5**	**-1.2**
	comp=Z,14nm,1.0s,mb4.8						
JSC	**Jenkinsville**	**52.41**	**350**	*eP*	**P**	**10 49 56.8**	**-1.0**
LRAL	**Lakeview Retre**	**52.49**	**343**	*eP*	**P**	**10 49 56.6**	**-1.8**
	comp=Z,24nm,0.9s,mb5.1						
NATX	**Nacogdoches**	**53.90**	**335**	*eP*	**P**	**10 50 08.0**	**-0.8**
	comp=Z,11nm,0.4s,mb5.2						
CPCT	**Cooper Cave**	**54.18**	**347**	*eP*	**P**	**10 50 07.5**	**-3.4**
OXF	**Oxford**	**54.56**	**342**	*eP*	**P**	**10 50 10.9**	**-2.7**
	comp=Z,50nm,1.1s,mb5.5						
PLAL	**Pickwick Lake**	**54.62**	**343**	*eP*	**P**	**10 50 12.0**	**-2.0**
	comp=Z,17nm,0.9s,mb5.1						
TZTN	**Tazewell**	**55.03**	**348**	*eP*	**P**	**10 50 15.3**	**-1.8**
BLA	**Blacksburg**	**55.15**	**351**	*eP*	**P**	**10 50 17.6**	**-0.4**
	comp=Z,13nm,0.5s,mb5.2						
ELN	**Prospectdale**	**55.21**	**351**	*eP*	**P**	**10 50 18.3**	**-0.1**
FWV	**Forest Hill**	**55.57**	**351**	*eP*	**P**	**10 50 20.2**	**-0.7**
WVT	**Waverly**	**55.63**	**344**	*eP*	**P**	**10 50 19.0**	**-2.4**
	comp=Z,20nm,0.8s,mb5.2						
UALR	**University of**	**55.74**	**339**	*eP*	**P**	**10 50 21.0**	**-1.3**
	comp=Z,22nm,0.8s,mb5.2						
MIAR	**Mount Ida**	**55.96**	**338**	*eP*	**P**	**10 50 23.0**	**-0.8**
	comp=Z,32nm,0.6s,mb5.5						
LTX	**Lajitas**	**56.09**	**326**	*eP*	**P**	**10 50 24.0**	**-0.8**
	comp=Z,10nm,0.9s,mb4.9						
LTX				*e*		10 50 35.4	
LTX				LR	LR		
	comp=Z,433nm,22.0s,MS4.5						
TXAR	**Lajitas Array**	**56.09**	**326**	P	**P**	**10 50 24.2**	**-0.6**
	comp=Z,5.5nm,0.6s,mb4.8,baz=153,slow=9.2,SNR=124						
TXAR				pP	pP	10 50 32.7	-0.8
	comp=Z,4.7nm,0.7s,baz=158,slow=8.7,SNR=15						
TXAR				LR	LR	11 13 27.8	
	comp=Z,236nm,18.6s,MS4.3,baz=155,slow=35						
PARMO	**Parma**	**56.66**	**342**	*eP*	**P**	**10 50 27.2**	**-1.6**
SDMD	**Soldier's Deli**	**56.91**	**355**	*eP*	**P**	**10 50 29.2**	**-1.3**
WCI	**Wyandotte Cave**	**57.24**	**346**	*eP*	**P**	**10 50 30.9**	**-2.1**
	comp=Z,24nm,0.8s,mb5.3						
MVL	**Millersville**	**57.45**	**355**	*eP*	**P**	**10 50 33.7**	**-0.7**
MCWV	**Mont Chateau**	**57.47**	**352**	*eP*	**P**	**10 50 34.0**	**-0.5**
	comp=Z,51nm,0.8s,mb5.6						
FVM	**French Village**	**58.09**	**342**	*eP*	**P**	**10 50 37.2**	**-1.6**
	comp=Z,29nm,0.5s,mb5.6						
WMOK	**Wichita Mounta**	**58.18**	**333**	*e*P	**P**	**10 50 38.1**	**-1.5**
	comp=Z,6.6nm,0.6s,mb4.8						
WMOK				LR	LR		
	comp=Z,168nm,19.0s,MS4.2						
BLO	**Bloomington**	**58.19**	**346**	*e*P	**P**	**10 50 37.5**	**-2.0**
	comp=Z,20nm,0.6s,mb5.3						
SSPA	**Standing Stone**	**58.22**	**354**	*e*P	**P**	**10 50 39.3**	**-0.4**
	comp=Z,13nm,0.8s,mb5.0						
CCM	**Cathedral Cave**	**58.40**	**342**	*e*P	**P**	**10 50 39.4**	**-1.6**
	comp=Z,10nm,0.7s,mb5.0						
ACSO	**Alum Creek Sta**	**58.51**	**350**	*e*P	**P**	**10 50 40.1**	**-1.6**
	comp=Z,36nm,0.8s,mb5.5						
SLM	**Saint Louis**	**58.64**	**343**	*e*P	**P**	**10 50 39.5**	**-3.1**
	comp=Z,27nm,0.8s,mb5.3						
MNTX	**Cornudas Mount**	**58.86**	**326**	⇓*e*P	**P**	**10 50 42.3**	**-2.0**
	comp=Z,20nm,1.0s,mb5.1						
MNTX				*e*pP	pP	10 50 51.2	-1.9
BRYW	**Bryant College**	**59.18**	**360**	*e*P	**P**	**10 50 45.4**	**-1.0**
	comp=Z,140nm,1.0s,mb6.0						
ALLY	**Alegheny College**	**59.47**	**352**	*e*P	**P**	**10 50 47.7**	**-0.7**
RKT	**Rikitea**	**59.50**	**253**	*e*LR	LR	11 08 13.8	
	comp=Z,361nm,25.0s						
AMTX	**Amarillo**	**59.59**	**331**	*e*P	**P**	**10 50 48.1**	**-1.2**
	comp=Z,6.6nm,0.4s,mb5.0						
HRV	**Harvard--Oak R**	**59.77**	**360**	*e*P	**P**	**10 50 49.8**	**-0.6**
	comp=Z,32nm,0.7s,mb5.5						
HRV				*e*pP	pP	10 50 58.8	-0.5
ERPA	**Erie**	**59.91**	**353**	*e*P	**P**	**10 50 50.6**	**-0.8**
	comp=Z,62nm,0.9s,mb5.6						
GENY	**Geneseo**	**60.32**	**355**	*e*P	**P**	**10 50 53.9**	**-0.4**
ACCN	**Adirondack Com**	**60.68**	**358**	*e*P	**P**	**10 50 56.0**	**-0.7**
FFD	**Franklin Falls**	**60.73**	**360**	*e*P	**P**	**10 50 52.2**	**-4.8**
	comp=Z,30nm,0.5s,mb5.7						
FFD				*e*pP	pP	10 50 59.8	-6.0
HNH	**Hanover**	**60.97**	**359**	*e*P	**P**	**10 50 58.7**	**+0.1**
	comp=Z,0.9nm,0.7s,mb4.0						
KSU1	**Kansas State U**	**61.12**	**338**	*e*P	**P**	**10 50 58.4**	**-1.3**
NCB	**Newcomb**	**61.29**	**358**	⇓*e*P	**P**	**10 51 00.1**	**-0.7**
	comp=Z,10nm,0.6s,mb5.1						
NCB				*e*pP	pP	10 51 09.2	-0.4
ANMO	**Albuquerque**	**61.96**	**328**	*e*P	**P**	**10 51 05.2**	**-0.3**
	comp=Z,13nm,1.0s,mb5.0						
CBKS	**Cedar Bluff**	**62.06**	**335**	⇓*e*P	**P**	**10 51 05.4**	**-0.7**
	comp=Z,44nm,0.9s,mb5.6						
SDCO	**Great Sand Dun**	**63.70**	**330**	⇓*e*P	**P**	**10 51 17.0**	**+0.1**
	comp=Z,59nm,1.0s,mb5.6						
SDCO				*e*pP	pP	10 51 25.4	-0.3
VNA3	**Neumayer Olymp**	**64.52**	**162**	*e*	**P**	**10 51 29.6**	**+7.8**
VNA3	**Neumayer Olymp**	**64.52**	**162**	*e*	**P**	**10 51 32.9**	**+11**
VNA3	**Neumayer Olymp**	**64.52**	**162**	*e*	**P**	**10 51 38.6**	**+17**
VNA3	**Neumayer Olymp**	**64.52**	**162**	*e*	PcP	10 51 53.9	-1.7
VNA3	**Neumayer Olymp**	**64.52**	**162**	P	**P**	**10 51 21.4**	**-0.4**
VNA3				*e*	pP	10 51 29.6	-0.9
VNA3				*e*		10 51 32.9	
VNA3				*e*		10 51 38.6	
VNA3				*e*		10 51 53.9	
VNA3				*e*		10 53 41.6	
VNA1	**Neumayer--Stat**	**64.74**	**161**	*e*	**P**	**10 51 30.3**	**+7.1**
VNA1	**Neumayer--Stat**	**64.74**	**161**	*e*	**P**	**10 51 33.5**	**+10**
VNA1	**Neumayer--Stat**	**64.74**	**161**	*e*	**P**	**10 51 39.4**	**+16**
VNA1	**Neumayer--Stat**	**64.74**	**161**	*e*	PcP	10 51 56.3	-0.2
VNA1	**Neumayer--Stat**	**64.74**	**161**	⇑*iP*	**P**	**10 51 22.3**	**-0.9**
VNA1				*e*	pP	10 51 30.3	-1.7
VNA1				*e*		10 51 33.5	
VNA1				*e*		10 51 39.4	
VNA1				*e*		10 51 56.3	
VNA1				*e*		10 53 43.8	
WUAZ	**Wupatki**	**65.00**	**325**	⇓*e*P	**P**	**10 51 25.9**	**+0.5**
	comp=Z,32nm,1.2s,mb5.2						
VNA2	**Neumayer--Watz**	**65.11**	**161**	*e*	**P**	**10 51 32.7**	**+7.2**
VNA2	**Neumayer--Watz**	**65.11**	**161**	*e*	**P**	**10 51 35.5**	**+10**
VNA2	**Neumayer--Watz**	**65.11**	**161**	*e*	**P**	**10 51 40.0**	**+14**
VNA2	**Neumayer--Watz**	**65.11**	**161**	*e*	PcP	10 51 57.5	-0.5
VNA2	**Neumayer--Watz**	**65.11**	**161**	⇓*iP*	**P**	**10 51 25.2**	**-0.3**
VNA2				*e*	pP	10 51 32.7	-1.6
VNA2				*e*	pP	10 51 35.5	+1.2
VNA2				*e*		10 51 40.0	
VNA2				*e*		10 51 57.5	
VNA2				*e*		10 53 48.9	
PV01	**Paradox Valley**	**65.50**	**328**	*e*P	**P**	**10 51 29.1**	**+0.5**
PV10	**Paradox Valley**	**65.92**	**328**	*e*P	**P**	**10 51 30.5**	**-0.8**
BAR	**Barrett**	**66.13**	**319**	*e*P	**P**	**10 51 33.4**	**+0.7**
PHWY	**Pilot Hill**	**66.55**	**333**	*e*P	**P**	**10 51 35.2**	**

NVAR				pP	pP			10 52 12.2 +0.6
	comp=Z,2.7nm,0.8s,baz=152,slow=6.2,SNR=7.3							
NVAR				LR	LR			11 23 11.7
	comp=Z,76nm,20.8s,MS3.9,baz=120,slow=36							
IMW	**Indian Meadow**	**71.08**	**331**	*eP*		**P**		**10 52 03.7 +0.5**
	comp=Z,40nm,1.4s,mb5.2							
LAO	**LASA Array**	**71.26**	**335**	*eP*		**P**		**10 52 04.0 -0.3**
	comp=Z,32nm,1.1s,mb5.2							
LRV	**Little Rabbit**	**71.29**	**320**	*eP*		**P**		**10 52 06.3 +1.7**
YMR	**Madison River**	**71.68**	**331**	*eP*		**P**		**10 52 08.2 +1.3**
QLMT	**Earthquake Lak**	**72.02**	**331**	*eP*		**P**		**10 52 10.2 +1.4**
SCHQ	**Schefferville**	**72.21**	**3**	P		**P**		**10 52 09.3 -0.5**
	comp=Z,11nm,0.9s,mb4.8,baz=181,slow=5.3,SNR=21							
SCHQ				pP	pP			10 52 18.7 +0.1
	comp=Z,14nm,0.7s,baz=180,slow=3.5,SNR=12							
SCHQ				LR	LR			11 23 02.3
	comp=Z,120nm,19.2s,MS4.2,baz=330,slow=35							
SCHQ	**Schefferville**	**72.21**	**3**	*eP*		**P**		**10 52 09.2 -0.6**
	comp=Z,21nm,0.8s,mb5.1							
HLID	**Hailey**	**72.50**	**329**	*eP*		**P**		**10 52 12.5 +0.8**
	comp=Z,17nm,1.1s,mb4.9							
HLID				LR	LR			
	comp=Z,211nm,19.0s,MS4.4							
TBI	**Tubuai**	**72.60**	**250**	*e*LR		LR		11 14 18.6
	comp=Z,317nm,26.5s							
QSPA	**South Pole Qui**	**72.60**	**180**	⇓*iP*		**P**		**10 52 12.2 +0.5**
	comp=Z,27nm,1.0s,mb5.1							
MCMT	**McKenzie Canyo**	**72.67**	**330**	*eP*		**P**		**10 52 13.7 +1.0**
BOZ	**Bozeman (W)**	**72.73**	**332**	*eP*		**P**		**10 52 13.2 +0.2**
	comp=Z,28nm,1.5s,mb5.0							
HRY	**Holter Researc**	**73.64**	**332**	*eP*		**P**		**10 52 19.4 +1.1**
PPT	**Papeete**	**73.98**	**256**	*e*LR		LR		11 14 55.9
	comp=Z,162nm,23.2s							
PPT	**Papeete**	**73.98**	**256**	LR		LR		11 19 43.1
	comp=Z,108nm,18.7s,MS4.2,baz=51,slow=32							
CHMT	**Chamberlain Mo**	**74.43**	**332**	*eP*		**P**		**10 52 23.8 +0.9**
MOD	**Modoc**	**74.44**	**324**	*eP*		**P**		**10 52 23.3 +0.2**
	comp=Z,13nm,0.9s,mb4.9							
MSO	**Missoula**	**74.68**	**331**	*eP*		**P**		**10 52 25.6 +1.2**
	comp=Z,8.9nm,1.1s,mb4.6							
BMO	**Blue Mountains**	**74.87**	**328**	*eP*		**P**		**10 52 25.8 +0.4**
	comp=Z,7.8nm,0.8s,mb4.7							
WALA	**Waterton Lakes**	**76.33**	**333**	*eP*		**P**		**10 52 34.3 +0.6**
	comp=Z,20nm,1.0s,mb5.0							
WALA				*e*pP		pP		10 52 43.1 +0.6
BROR	**Big Rock Looko**	**77.18**	**325**	P		**P**		**10 52 39.1 +0.6**
NEW	**Newport**	**77.20**	**331**	*eP*		**P**		**10 52 38.7 +0.2**
	comp=Z,3.9nm,0.9s,mb4.3							
OD2	**Odessa Site #2**	**77.34**	**329**	P		**P**		**10 52 40.6 +1.2**
EBG	**Ellensburg**	**77.94**	**328**	P		**P**		**10 52 44.6 +2.0**
FCC	**Fort Churchill**	**78.31**	**348**	⇓*iP*		**P**		**10 52 44.2 -0.2**
	comp=Z,27nm,0.9s,mb5.2							
EDM	**Edmonton**	**79.24**	**336**	*eP*		**P**		**10 52 49.2 -0.4**
VNDA	**Vanda**	**80.30**	**190**	P		**P**		**10 52 54.1 -0.8**
	comp=Z,5.0nm,0.8s,mb4.5,baz=129,slow=4.3,SNR=22							
VNDA				pP	pP			10 53 05.1 +1.3
	comp=Z,4.6nm,0.9s,baz=108,slow=4.5,SNR=9.0							
PGC	**Sidney**	**80.55**	**328**	*eP*		**P**		**10 52 57.5 +0.7**
	comp=Z,76nm,1.2s,mb5.5							
PGC				*e*pP		pP		10 53 06.9 +1.2
SYO	**Syowa Base**	**80.97**	**160**	⇑P		**P**		**10 52 57.0 -1.6**
SYO	**Syowa Base**	**80.97**	**160**	⇑PcP		PcP		10 53 03.4 -2.0
EVO	**Evora**	**81.40**	**45**	*eP*		**P**		**10 53 00.5 -0.9**
	comp=Z,32nm,1.0s,mb4.9							
EMIN	**Mina Concepcio**	**81.94**	**46**	P		**P**		**10 53 04.5 +0.3**
	comp=Z,322nm,3.2s							
ESPR	**Espera**	**82.07**	**47**	P		**P**		**10 53 06.2 +1.3**
	comp=Z,548nm,6.3s							
EBAD	**Badajoz**	**82.19**	**45**	P		**P**		**10 53 06.6 +1.1**
	comp=Z,370nm,3.7s							
ELOB	**Lobios**	**83.07**	**42**	P		**P**		**10 53 10.6 +0.6**
	comp=Z,476nm,5.3s							
ELOJ	**Sierra Loja**	**83.40**	**48**	P		**P**		**10 53 13.7 +1.9**
	comp=Z,14nm,0.8s,mb5.0							
TSUM	**Tsumeb**	**83.42**	**108**	*eP*		**P**		**10 53 13.3 +1.1**
	comp=Z,88nm,1.1s,mb5.7							
TSUM				*e*pP		pP		10 53 22.5 +1.2
ELUQ	**Luque**	**83.52**	**47**	P		**P**		**10 53 14.5 +2.1**
	comp=Z,7.2nm,0.2s,mb5.5							
EADA	**Adamuz**	**83.58**	**47**	P		**P**		**10 53 09.9 -2.8**
	comp=Z,84nm,2.5s,mb5.4							
ERUA	**La Rua**	**83.92**	**42**	P		**P**		**10 53 15.2 +0.8**
	comp=Z,15nm,0.9s,mb5.1							
EINC	**Incio**	**83.93**	**42**	P		**P**		**10 53 14.5 +0.1**
	comp=Z,297nm,3.7s							
ECAL	**Calabor**	**83.96**	**43**	P		**P**		**10 53 14.7 +0.2**
	comp=Z,633nm,4.6s							
EBER	**Berja**	**84.19**	**49**	P		**P**		**10 53 16.5 +0.7**
	comp=Z,265nm,2.7s,mb5.9							
EPON	**Pontenova**	**84.39**	**41**	P		**P**		**10 53 16.5 -0.2**
	comp=Z,332nm,3.1s							
ESDC	**Sonseca Array**	**84.71**	**46**	P		**P**		**10 53 19.1 +0.7**
	comp=Z,14nm,0.9s,mb5.1,baz=250,slow=5.2,SNR=34							
ESDC				pP	pP			10 53 27.8 +0.4
	comp=Z,11nm,0.9s,baz=247,slow=4.9,SNR=7.7							
ESDC				sP	sP			10 53 32.1 +1.8
	comp=Z,6.8nm,0.7s,baz=258,slow=5.5,SNR=4.6							
ESDC	**Sonseca Array**	**84.71**	**46**	P		**P**		**10 53 19.6 +1.2**
	comp=Z,15nm,0.9s,mb5.1							
ESLA	**Sonseca Array**	**84.71**	**46**	*eP*		**P**		**10 53 19.7 +1.3**
	comp=Z,21nm,1.6s,mb5.0							
EHUE	**Huescar**	**84.81**	**48**	P		**P**		**10 53 21.7 +2.7**
	comp=Z,0.1nm,0.6s							
GUD	**Guadarrama**	**85.03**	**45**	P		**P**		**10 53 21.3 +1.3**
	comp=Z,5.5nm,0.7s,mb4.8							
EVIA	**Vianos**	**85.25**	**47**	P		**P**		**10 53 22.7 +1.6**
	comp=Z,12nm,0.6s,mb5.2							
SFJD	**Kangerlussuaq**	**85.71**	**8**	*eP*		**P**		**10 53 23.1 +0.4**
SFJD				*e*				10 53 35.9
SFJD	**Kangerlussuaq**	**85.71**	**8**	*iP*		**P**		**10 53 23.1 +0.4**
SFJD				*e*				10 53 35.9
ELAN	**Lanestosa**	**86.72**	**43**	P		**P**		**10 53 29.3 +1.0**
	comp=Z,310nm,3.4s							
YKA	**Yellowknife Ar**	**86.73**	**341**	P		**P**		**10 53 28.1 +0.3**
	comp=Z,24nm,0.8s,mb5.5,baz=135,slow=4.8,SNR=569							
YKA				pP	pP			10 53 36.9 0.0
	comp=Z,5.6nm,0.6s,baz=134,slow=4.9,SNR=11							
YKA				PKKPbc				11 11 21.8
	comp=Z,0.1nm,0.5s,baz=323,slow=3.4,SNR=4.5							
YKA	**Yellowknife Ar**	**86.73**	**341**	P		**P**		**10 53 28.1 +0.3**
YKA				pP	pP			10 53 36.9 0.0
YKA				PKKPbc				11 11 21.8
YKW3	**Yellowknife Ar**	**86.79**	**341**	*eP*		**P**		**10 53 28.2 +0.1**
BOSA	**Boshof**	**87.35**	**119**	P		**P**		**10 53 32.0 +0.3**
	comp=Z,6.5nm,1.0s,mb4.8,baz=259,slow=5.2,SNR=2.9							
BOSA				LR	LR			11 28 55.0
	comp=Z,292nm,19.9s,MS4.7,baz=261,slow=33							
SJPF	**Ste Jean**	**88.11**	**44**	*eP*		**P**		**10 53 35.8 +0.9**
	comp=Z,132nm,1.5s,mb5.6							
ETSF	**Etsaut**	**88.45**	**44**	*eP*		**P**		**10 53 37.4 +0.8**
	comp=Z,14nm,0.8s,mb4.9							
MAW	**Mawson**	**88.74**	**164**	P		**P**		**10 53 38.1 +0.7**
	comp=Z,16nm,0.8s,mb5.4,baz=221,slow=6.0,SNR=19							
MAW				pP	pP			10 53 47.3 +0.9
	comp=Z,16nm,0.8s,baz=232,slow=7.7,SNR=9.0							
MAW				LR	LR			11 31 39.5
	comp=Z,229nm,18.0s,MS4.6,baz=337,slow=34							
EBIE	**Bielsa**	**88.83**	**44**	P		**P**		**10 53 39.8 +1.4**
	comp=Z,358nm,4.8s							
QUIF	**Quistinic**	**89.06**	**39**	*eP*		**P**		**10 53 39.0 -0.4**
EPF	**Esparros**	**89.10**	**44**	*eP*		**P**		**10 53 40.2 +0.5**
	comp=Z,30nm,1.1s,mb5.2							
ROSF	**Rostrenen**	**89.19**	**38**	*eP*		**P**		**10 53 39.5 -0.5**
	comp=Z,104nm,1.4s,mb5.7							
DLBC	**Dease Lake**	**89.67**	**333**	*eP*		**P**		**10 53 43.0 +1.0**
LFF	**La Frestale**	**90.17**	**43**	*eP*		**P**		**10 53 44.6 0.0**
	comp=Z,19nm,0.7s,mb5.2							
MFF	**Saint Martin d**	**90.31**	**41**	*eP*		**P**		**10 53 45.0 -0.3**
	comp=Z,33nm,1.1s,mb5.3							
MTLF	**Montolieu**	**90.48**	**44**	*eP*		**P**		**10 53 46.1 0.0**
	comp=Z,45nm,1.2s,mb5.4							
GRR	**Gorron**	**90.65**	**39**	*eP*		**P**		**10 53 46.2 -0.6**
	comp=Z,63nm,1.1s,mb5.5							
RJF	**Les Rejaudoux**	**90.82**	**42**	*eP*		**P**		**10 53 47.4 -0.2**
RJF				*e*R				
	comp=Z,143nm,22.5s							
FLN	**La Foliniere**	**91.04**	**39**	*eP*		**P**		**10 53 48.1 -0.4**
FLN				*e*R				
	comp=Z,90nm,20.5s							
LDF	**La Druitiere**	**91.18**	**39**	*eP*		**P**		**10 53 48.9 -0.3**
	comp=Z,26nm,0.8s,mb5.3							
LASF	**Ste Croix**	**91.86**	**44**	*eP*		**P**		**10 53 52.8 +0.3**
	comp=Z,42nm,1.4s,mb5.3							
BGF	**Bois d'Agland**	**92.18**	**42**	*eP*		**P**		**10 53 53.6 -0.2**
	comp=Z,20nm,0.9s,mb5.1							
EKA	**Eskdalemuir Ar**	**92.51**	**32**	P		**P**		**10 53 55.0 -0.1**
	comp=Z,1.7nm,0.7s,mb4.6,baz=248,slow=3.8,SNR=3.5							
SUMG	**Summit**	**92.56**	**9**	*eP*		**P**		**10 53 56.6 +1.6**
	comp=Z,12nm,0.8s,mb5.4							
AVF	**Avril sur Loir**	**92.59**	**42**	*eP*		**P**		**10 53 55.2 -0.2**
	comp=Z,19nm,1.2s,mb5.1							
VIVF	**Saint-Julien-l**	**92.70**	**44**	*eP*		**P**		**10 53 56.7 +0.4**
SMF	**Signal de Mont**	**92.84**	**42**	*eP*		**P**		**10 53 56.6 -0.3**
	comp=Z,19nm,0.9s,mb5.2							
ORIF	**Oris-en-Rattie**	**93.52**	**44**	*eP*		**P**		**10 54 00.9 +0.8**
	comp=Z,33nm,1.1s,mb5.4							
ORIF				*e*R				
	comp=Z,168nm,20.2s							
MBDF	**Montbardon**	**94.05**	**44**	*eP*		**P**		**10 54 02.1 -0.4**
CABF	**La Chapelle**	**94.27**	**42**	*eP*		**P**		**10 54 03.6 +0.2**
	comp=Z,14nm,1.1s,mb5.0							
LPL	**La Plagne**	**94.30**	**44**	*eP*		**P**		**10 54 04.6 +1.0**
	comp=Z,31nm,1.2s,mb5.3							
LPG	**La Plagne**	**94.31**	**44**	*eP*		**P**		**10 54 04.7 +1.1**
HINF	**Hinteralfeld**	**95.18**	**41**	*eP*		**P**		**10 54 07.1 -0.5**
URZ	**Urewera**	**95.20**	**227**	LR		LR		11 28 47.5
	comp=Z,129nm,20.3s,MS4.4,baz=198,slow=30							
INK	**Inuvik**	**96.48**	**341**	*eP*		**P**		**10 54 12.6 -0.5**
	comp=Z,3.2nm,0.9s,mb4.8							
GRA1	**Grafenberg Arr**	**98.52**	**41**	*eP*		**P**		**10 54 23.5 +0.8**
	comp=Z,10.0nm,1.3s,mb5.2							
GRF	**Grafenberg Arr**	**98.52**	**41**	*eP*		**P**		**10 54 23.5 +0.8**
	comp=Z,10.0nm,1.3s,mb5.2							
ILAR	**Eielson Array**	**99.72**	**335**	P		**P**		**10 54 27.0 -0.8**
	comp=Z,0.3nm,0.8s,baz=146,slow=1.9,SNR=5.0							
ILAR				PP	PP			10 58 33.0 -1.6
	comp=Z,0.6nm,0.8s,baz=108,slow=7.4,SNR=5.2							
ILAR				LR	LR			11 42 01.9
	comp=Z,103nm,20.1s,MS4.3,baz=180,slow=37							
GERES	**GERESS Array B**	**99.84**	**42**	P		**P**		**10 54 27.4 -1.3**
	comp=Z,0.5nm,0.6s,mb4.1,baz=270,slow=1.3,SNR=5.9							
CLL	**Collm**	**100.06**	**39**	P		P		10 54 45.0 +15
BRG	**Berggiesshubel**	**100.52**	**40**	*eP*		P		10 54 45.4 +14
ARCES	**ARCESS Array B**	**108.72**	**22**	PKKPbc				11 10 21.4
	comp=Z,3.6nm,1.1s,baz=90,slow=2.4,SNR=4.9							
STKA	**Stephens Creek**	**121.56**	**213**	PKP		PKPdf		10 59 38.2 -3.8
	comp=Z,2.8nm,0.7s,baz=16,slow=2.0,SNR=4.9							
CTA	**Charters Tower**	**127.43**	**226**	PKP		PKPdf		10 59 49.6 -4.0
	comp=Z,10nm,1.0s,baz=259,slow=5.2,SNR=2.9							
ASAR	**Alice Springs**	**132.16**	**212**	PKP		PKPdf		10 59 58.0 -4.6
	comp=Z,2.6nm,0.6s,baz=142,slow=2.1,SNR=18							
BVAR	**Borovoye Array**	**133.76**	**31**	PKP		PKPdf		11 00 01.7 -3.0
	comp=Z,1.5nm,0.7s,baz=243,slow=3.3,SNR=8.6							
BVAR				pPKP				11 00 11.8
	comp=Z,1.2nm,0.7s,baz=315,slow=4.2,SNR=4.8							
WRA	**Warramunga Arr**	**134.99**	**215**	PKP		PKPdf		11 00 04.1 -3.9
	comp=Z,5.4nm,0.7s,baz=148,slow=1.6,SNR=16							
WRAB	**Tennant Creek**	**134.99**	**215**	*e*PKPdf		PKPdf		11 00 04.0 -4.0
ZAL	**Zalesovo**	**139.27**	**21**	PKP		PKPdf		11 00 11.5 -3.4
	comp=Z,7.0nm,0.8s,baz=198,slow=1.9,SNR=25							
ZAL				pPKP				11 00 20.9
	comp=Z,3.9nm,0.8s,baz=181,slow=3.4,SNR=3.9							
FITZ	**Fitzroy Crossi**	**140.81**	**206**	PKhKP				11 00 08.8
	comp=Z,4.0nm,0.7s,baz=128,slow=5.6,SNR=3.0							
FITZ				PKP		PKPdf		11 00 15.2 -3.5
	comp=Z,5.8nm,0.7s,baz=214,slow=5.6,SNR=5.4							
MKAR	**Makanchi Array**	**143.64**	**31**	PKP		PKPdf		11 00 16.7 -6.0
	comp=Z,3.2nm,0.7s,baz=315,slow=3.4,SNR=13							
MKAR				pPKP				11 00 28.5
	comp=Z,3.9nm,0.7s,baz=317,slow=4.2,SNR=5.7							
MKAR	**Makanchi Array**	**143.64**	**31**	PKP		PKPdf		11 00 16.7 -6.0
MKAR				pPKP				11 00 28.5
TLY	**Talaya**	**145.73**	**6**	*e*PKPdf		PKPdf		11 00 24.8 -1.4
THN	**Thein Dam**	**146.85**	**57**	*eP*		PKPbc		11 00 25.0 -0.3
POO	**Poona**	**146.94**	**83**	*iP*		PKPbc		11 00 26.0 +0.2
	comp=Z,70nm,1.0s							
HIA	**Hailar**	**147.12**	**347**	*e*PKPdf		PKPdf		11 00 25.7 -2.9
KAD	**Karad**	**147.16**	**85**	*eP*		PKPdf		11 00 27.0 -2.6
MJAR	**Matsushiro Arr**	**147.78**	**312**	PKPbc		PKPdf		11 00 29.7 -0.4
	comp=Z,68nm,0.8s,baz=53,slow=2.1,SNR=110							
MJAR	**Matsushiro Arr**	**147.78**	**312**	PKPbc		PKPdf		11 00 29.7 -0.4
MAJO	**Matsushiro**	**147.78**	**312**	*e*PKPbc		PKPdf		11 00 29.9 -0.2
MAT	**Matsushiro**	**147.78**	**312**	*e*PKP		PKPdf		11 00 30.0 -0.1
MAT	**Matsushiro**	**147.78**	**312**	PKP		PKPdf		11 00 26.5 -3.6
MDJ	**Mudanjiang**	**147.80**	**331**	PKP		PKPdf		11 00 28.9 -0.9
MDJ				APKP				11 00 38.3
MDJ				PP		PP		11 03 57.1 -2.1
MDJ				LR		LR		
	comp=N,114nm,30.1s,MS4.6							
MDJ				LR		LR		
	comp=E,75nm,29.1s,MS4.6							
MDJ				LR		LR		
	comp=Z,60nm,22.6s							
WMQ	**Urumqi**	**148.41**	**30**	PKP		PKPdf		11 00 27.3 -3.5
WMQ				PKP2		PKPab		11 00 36.3 +1.4
WMQ				APKP				11 00 37.9
WMQ				XPKP				11 00 41.8
WMQ				PP		PP		11 04 03.8 +1.3
WMQ				PP		PP		
	comp=Z,78nm,4.0s							
NDI	**New Delhi**	**149.15**	**63**	*eP*		PKPdf		11 00 30.0 -2.5
ULN	**Ulaanbaatar**	**149.75**	**2**	*e*PKPdf		PKPdf		11 00 30.1 -2.8
ULN				*e*PKPbc		PKPdf		11 00 34.8 +1.9
SONM	**Songino Array**	**149.76**	**3**	PKP		PKPdf		11 00 30.4 -2.5
	comp=Z,12nm,0.6s,baz=306,slow=1.9,SNR=16							
SONM				PKPbc		PKPdf		11 00 35.0 +2.1
	comp=Z,12nm,0.6s,baz=310,slow=1.1,SNR=40							
CN2	**Changchun**	**150.24**	**335**	*e*PKP		PKPdf		11 00 29.5 -4.3
BHPL	**Bhopal**	**150.24**	**74**	*eP*		PKPdf		11 00 27.4 -7.0
BHPL				*e*				11 00 47.6
	comp=Z,32nm,0.8s							
HYB	**Hyderabad**	**151.32**	**86**	*eP*		PKPdf		11 00 34.0 -2.1
HYB	**Hyderabad**	**151.32**	**86**	*iP*		PKPdf		11 00 34.0 -2.1
HYB				*e*				11 00 39.5
HYB				*e*				11 00 49.5
BLSP	**Bilaspur**	**154.68**	**75**	*e*		PKPab		11 00 56.0 -5.7
BLSP				*e*				11 00 57.9
	comp=Z,9.3nm,0.6s							
BJI	**Beijing**	**156.67**	**345**	PKP		PKPdf		11 00 39.3 -3.5
BJI				PP		PP		11 04 53.9 +5.0
BJI				LR		LR		
	comp=Z,73nm,24.9s,MS4.4							
BJI	**Beijing**	**156.67**	**345**	PKP		PKPdf		11 00 39.2 -3.6
BJI				PP		PP		11 04 53.9 +5.0
BJI				LR		LR		
	comp=Z,70nm,24.9s,MS4.4							
GTA	**Gaotai**	**156.92**	**18**	PKP		PKPdf		11 00 41.4 -1.8
LZH	**Lanzhou**	**161.07**	**12**	⇑PKP		PKPdf		11 00 46.3 -1.8
LZH				APKP				11 00 56.1
LZH				XPKP				11 00 59.6
LZH				*e*PP		PP		11 05 15.5 +2.5
LZH				*e*SS		SS		11 25 23.5 +1.5
LZH				PP		PP		
	comp=Z,154nm,7.6s							
LZH				LR		LR		
	comp=N,217nm,18.1s							
LZH				LR		LR		
	comp=Z,349nm,20.0s							
LZH	**Lanzhou**	**161.07**	**12**	⇑PKP		PKPdf		11 00 46.2 -1.9
LZH				pPKP				11 00 56.1
LZH				sPKP				11 00 59.6
SHL	**Shillong**	**162.51**	**60**	*e*		PKPab		11 01 36.0 +0.7
KMI	**Kunming**	**170.69**	**35**	PKP		PKPdf		11 00 52.9 -3.3
KMI				PKP2		PKPab		11 02 11.3 +0.2
KMI				PP		PP		11 06 01.1 -1.3
KMI				LR		LR		
	comp=N,78nm,22.9s							
KMI				LR		LR		
	comp=E,98nm,18.0s							
KMI				LR		LR		
	comp=Z,98nm,21.3s							
CMAR	**Chiang Mai Arr**	**170.74**	**83**	PKP		PKPdf		11 00 53.0 -3.4
	comp=Z,2.0nm,0.7s,baz=284,slow=1.7,SNR=13							
CMAR				pPKP				11 01 03.4
	comp=Z,1.7nm,0.7s,baz=282,slow=1.7,SNR=3.2							
CMAR				PKPab		PKPab		11 02 11.1 -0.4
	comp=Z,1.8nm,0.8s,baz=266,slow=5.7,SNR=8.3							
CMAR				PP		PP		11 06 07.6 +4.8
	comp=Z,0.5nm,0.4s,baz=270,slow=7.1,SNR=4.7							
GYA	**Guiyang**	**170.96**	**11**	⇑*iP*KP		PKPdf		11 00 53.6 -2.7
GYA				APKP				11 01 03.4
GYA				XPKP				11 01 08.3
GYA				PP		PP		
	comp=Z,140nm,7.2s							

*IDC **20** 10:41:34.0±3.8, 49.44N×155.56E, mb3.6/4, mb1 4.1/5, mb1mx3.6/23, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=92.1km s-min=56.8km az=172.0*
*MOS **20** 10:41:40.6±1.3, 49.52N×156.20E, h14km, mb4.2/1, Error ellipse: s-maj=85.1km s-min=12.3km az=76.1*

*KRSC **20** 10:41:41.0±0.9, 49.41N×155.92E, h32km±5km, ML4.3*
ISC 20 10:41:41.8±0.9, 49.29N±0.05×156.7E±0.2, h33km, n38, σ1$27/68, mb3.6/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.44**	**346**	*e*PN	**Pn**	**10 41 59.4**	**-6.6**
SKR				*i* S	**S**	**10 42 14.6**	**-9.2**
SKR				pmax	pmax		
	comp=N,200nm,0.5s						
SKR				pmax	pmax		
	comp=E,170nm,0.5s						
SKR				pmax	pmax		
	comp=Z,570nm,0.5s						
SKR				smax			
	comp=N,730nm,0.2s						
SKR				smax			
	comp=E,950nm,0.2s						
SKR				smax			
	comp=Z,160nm,0.4s						
ALID	**Alaid**	**1.74**	**336**	*i* P	**P**	**10 42 05.2**	**-4.9**
ALID				*e*S	**S**	**10 42 23.2**	**-8.1**
PAU	**Pauzhetka**	**2.18**	**2**	*i* P	**P**	**10 42 14.2**	**-2.2**
PAU				*e*S	**S**	**10 42 39.0**	**-3.5**
PAU				Smax			
	comp=Z,600nm,0.3s						
PAU	**Pauzhetka**	**2.18**	**2**	*e*P	**P**	**10 42 15.2**	**-1.2**
PAU				*e*S	**S**	**10 42 39.4**	**-3.1**
PAU				Smax			
	comp=Z,450nm,0.3s						
RUS	**Russkaya**	**3.35**	**20**	P	**P**	**10 42 33.9**	**+0.8**
RUS				S	**S**	**10 43 11.9**	**-0.4**
RUS	**Russkaya**	**3.35**	**20**	*e*P	**P**	**10 42 33.8**	**+0.7**
RUS				*e*S	**S**	**10 43 11.9**	**-0.4**
GRL	**Gorelyy**	**3.38**	**15**	*e*P	**P**	**10 42 33.9**	**+0.3**
GRL				*e*S	**S**	**10 43 12.3**	**-0.8**
APC	**Apacha**	**3.65**	**5**	*e*P	**P**	**10 42 37.8**	**+0.4**
APC				*e*S	**S**	**10 43 19.7**	**-0.2**
KRMR	**Karymshinskiy**	**3.66**	**14**	*e*P	**P**	**10 42 39.2**	**+1.7**
KRMR				*e*S	**S**	**10 43 21.6**	**+1.5**
PET	**Petropavlovsk**	**3.94**	**18**	P	**P**	**10 42 39.9**	**-1.6**
PET				S	**S**	**10 43 24.1**	**-3.1**
PET	**Petropavlovsk**	**3.94**	**18**	*e*PN	**Pn**	**10 42 42.5**	**+0.9**
PET				*e*S	**S**	**10 43 26.1**	**-1.1**
PET				pmax	pmax		
	comp=Z,22nm,0.4s						
PET				smax			
	comp=N,78nm,0.6s						
PET				smax			
	comp=E,80nm,0.5s						
PET	**Petropavlovsk**	**3.94**	**18**	*e*P	**P**	**10 42 42.4**	**+0.9**
PET				*e*S	**S**	**10 43 26.6**	**-0.6**
UGLR	**Uglovaya**	**4.15**	**18**	*e*P	**P**	**10 42 46.3**	**+1.9**
UGLR				*e*S	**S**	**10 43 34.3**	**+1.8**
AVH	**Avacha**	**4.19**	**17**	*e*P	**P**	**10 42 46.2**	**+1.2**
AVH				*e*S	**S**	**10 43 34.1**	**+0.7**
KOK	**Koryaka**	**4.19**	**16**	*e*P	**P**	**10 42 46.4**	**+1.4**
KOK				*e*S	**S**	**10 43 34.3**	**+0.8**
SMAR	**Somma**	**4.20**	**18**	*e*P	**P**	**10 42 46.9**	**+1.8**
SMAR				*e*S	**S**	**10 43 35.7**	**+2.0**
SDLR	**Sedlovina**	**4.23**	**18**	*e*P	**P**	**10 42 46.7**	**+1.2**
SDLR				*e*S	**S**	**10 43 35.2**	**+0.8**
NLC	**Nalytchevo**	**4.23**	**22**	P	**P**	**10 42 44.8**	**-0.8**
NLC				S	**S**	**10 43 31.8**	**-2.8**
NLC	**Nalytchevo**	**4.23**	**22**	*e*P	**P**	**10 42 45.4**	**-0.2**
NLC				*e*S	**S**	**10 43 33.3**	**-1.3**
SPN	**Mys Shipunski**	**4.36**	**28**	P	**P**	**10 42 48.3**	**+0.9**
SPN				S	**S**	**10 43 37.5**	**-

PMG Port Moresby 25.07 117 P **P 10 55 06.5 +0.5**
14nm,0.8s,mb4.4,baz=283,slow=7.7,SNR=4.6
ASAR Alice Springs 26.82 161 P **P 10 55 21.7 -0.2**
2.9nm,0.3s,mb4.1,baz=343,slow=7.3,SNR=85
ASAR pP pP 10 56 15.2 +3.9
2.4nm,0.9s,baz=341,slow=12,SNR=3.5
ASAR S **S 10 59 37.5 -0.1**
1.7nm,0.8s,baz=349,slow=19,SNR=4.8
ASPA Alice Springs 26.82 161 *e*P **P 10 55 21.6 -0.3**
ASPA *e*S **S 10 59 37.9 +0.3**
CMAR Chiang Mai Arr 30.14 305 P **P 10 55 52.0 +0.6**
0.5nm,0.3s,mb3.5,baz=126,slow=6.5,SNR=4.5
CBIJ Chichi jima 30.36 32 P **P 10 55 51.5 -1.8**
55nm,0.7s,mb5.2,baz=290,slow=13,SNR=4.8
ENH Enshi 31.80 335 *e*P **P 10 56 06.1 +0.4**
13nm,0.8s,mb4.5
FORT Forrest 32.49 174 *e*P **P 10 56 11.3 -0.4**
288nm,0.5s
XAN Xi'an 35.33 337 P **P 10 56 35.8 +0.1**
XAN AMB AMB
comp=Z,12nm,0.7s,mb4.5
MJAR Matsushiro Arr 36.87 18 P **P 10 56 48.5 -0.2**
comp=Z,8.4nm,0.8s,mb4.2,baz=194,slow=9.1,SNR=13
STKA Stephens Creek 37.11 156 ⇓*i*P **P 10 56 51.5 +0.8**
comp=Z,6.2nm,0.9s,mb4.0
STKA Stephens Creek 37.11 156 P **P 10 56 51.3 +0.6**
comp=Z,5.9nm,0.6s,mb4.2,baz=327,slow=8.4,SNR=15
LSA Lhasa 42.22 315 P **P 10 57 33.1 +0.4**
MDJ Mudanjiang 42.94 5 *e*P **P 10 57 39.4 +1.1**
comp=Z,15nm,0.7s,mb4.3
GTA Gaotai 43.77 332 P **P 10 57 47.8 +2.7**
GTA AMB AMB
comp=Z,9.0nm,0.6s,mb4.2
ASAJ Asahikawa 45.14 18 P **P 10 57 56.1 +0.3**
comp=Z,7.4nm,0.7s,mb4.0,baz=221,slow=9.3,SNR=3.8
HIA Hailar 47.55 356 *e*P **P 10 58 15.0 +0.6**
comp=Z,6.2nm,0.7s,mb4.0
ULN Ulaanbaatar 48.40 344 *e*P **P 10 58 20.8 -0.3**
comp=Z,4.4nm,0.6s,mb4.0
SONM Songino Array 48.55 344 P **P 10 58 22.4 +0.2**
comp=Z,6.9nm,0.8s,mb4.0,baz=158,slow=8.4,SNR=35
MKAR Makanchi Array 58.01 327 P **P 10 59 30.6 -0.3**
comp=Z,4.5nm,0.3s,mb4.4,baz=124,slow=8.3,SNR=58
AAK Ala-Archa 60.43 319 *e*P **P 10 59 46.6 -0.9**
comp=Z,2.5nm,1.1s,mb3.7
ZAL Zalesovo 61.42 334 P **P 10 59 52.9 -1.1**
comp=Z,3.1nm,0.3s,mb4.3,baz=352,slow=5.4,SNR=15
BVAR Borovoye Array 67.84 328 P **P 11 00 34.2 -1.0**
comp=Z,2.4nm,0.4s,mb4.3,baz=144,slow=8.2,SNR=18
VNDA Vanda 81.73 172 P **P 11 01 54.2 +0.6**
comp=Z,0.4nm,0.4s,mb3.5,baz=271,slow=3.1,SNR=3.8
KMBO Kilima Mbogo 87.36 269 P **P 11 02 22.7 -0.2**
comp=Z,0.4nm,0.2s,mb3.8,baz=109,slow=9.7,SNR=3.1
ARCES ARCESS Array B 91.57 340 P **P 11 02 40.9 -0.4**
comp=Z,2.2nm,0.9s,mb4.1,baz=76,slow=5.0,SNR=8.8
FINES FINESS Array B 92.57 332 P **P 11 02 46.5 +0.4**
comp=Z,0.7nm,0.5s,mb3.9,baz=80,slow=8.5,SNR=4.8

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*JMA **20** 10:50:02.8±0.2, 33.27N×137.39E, h378km, M3.3*
*IDC **20** 10:50:06.0±2.1, 33.50N×137.37E, h373km±11km, mb3.2/4, mb1 3.4/6, mb1mx2.9/25, mbtmp3.8/6, Error ellipse: s-maj=51.3km s-min=17.2km az=62.0*
ISC 20 10:50:04.2±0.7,**33.47N**±0.08×**137.32E**±0.08,**h372**km±5km, **n22**,σ0∞99/30,**mb3.5**/4,**Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**1.05**	**331**	P	**P**	**10 50 53.1**	**+0.4**
JWZ	**Kozaga**	**1.34**	**273**	P	**P**	**10 50 53.3**	**-0.8**
JWY	**Kouya**	**1.62**	**298**	P	**P**	**10 50 55.7**	**+0.1**
JWY				*e*S	**S**	**10 51 35.8**	**0.0**
JHJ	**Hachijo jima 2**	**2.10**	**99**	P	**P**	**10 50 59.2**	**+0.7**
JHJ	7.3nm,0.3s,baz=145,slow=12,SNR=12			S	**S**	**10 51 44.0**	**+2.8**
JIM2	**Oshima 3**	**2.15**	**54**	P	**P**	**10 50 58.6**	**-0.4**
JYN	**Shimob**	**2.26**	**26**	P	**P**	**10 50 59.9**	**+0.1**
JGM	**Miyama**	**2.28**	**348**	P	**P**	**10 51 00.9**	**+1.0**
JOD2	**Odawara 2**	**2.31**	**39**	P	**P**	**10 51 00.2**	**+0.1**
JWT	**Wachi**	**2.40**	**319**	P	**P**	**10 51 01.1**	**+0.3**
JWT				*e*S	**S**	**10 51 44.2**	**-1.0**
JAI	**Aioi**	**2.41**	**278**	P	**P**	**10 51 00.4**	**-0.5**
JRY	**Ryogami san**	**2.85**	**27**	P	**P**	**10 51 04.9**	**+0.5**
JRY				*e*S	**S**	**10 51 51.6**	**0.0**
JMN	**Monobe**	**2.88**	**276**	P	**P**	**10 51 04.4**	**-0.2**
MJAR	**Matsushiro Arr**	**3.15**	**13**	P	**P**	**10 51 07.2**	**+0.3**
MJAR	9.0nm,0.3s,baz=178,slow=8.6,SNR=94			S	**S**	**10 51 58.5**	**+2.3**
MAT	**Matsushiro**	**3.15**	**13**	P	**P**	**10 51 07.2**	**+0.3**
MAT	baz=246,slow=23,SNR=2.4			S	**S**	**10 51 57.0**	**+0.8**
BSO1	**Boso 1**	**3.26**	**68**	P	**P**	**10 51 05.2**	**-2.7**
BSO1				*e*S	**S**	**10 51 55.0**	**-3.0**
JHS	**Saijyo**	**3.80**	**295**	P	**P**	**10 51 13.3**	**+0.3**
JTO	**Tosashimizu**	**3.84**	**262**	P	**P**	**10 51 12.5**	**-0.9**
JMK	**Ichinoseki**	**6.31**	**29**	P	**P**	**10 51 38.9**	**-1.1**
JMK				*e*S	**S**	**10 52 53.6**	**-1.6**
ARCES	**ARCESS Array B**	**66.13**	**339**	P	**P**	**11 00 13.2**	**-0.5**
YKA	3.7nm,1.0s,mb4.1,baz=67,slow=9.2,SNR=3.5 **Yellowknife Ar**	**68.55**	**28**	P	**P**	**11 00 28.7**	**0.0**
FINES	0.2nm,0.4s,mb3.2,baz=300,slow=6.0,SNR=8.0 **FINESS Array B**	**70.37**	**332**	P	**P**	**11 00 40.7**	**+0.9**
TXAR	0.7nm,0.4s,mb3.7,baz=49,slow=13,SNR=3.3 **Lajitas Array**	**94.96**	**50**	P	**P**	**11 02 47.2**	**+0.9**
	0.1nm,0.4s,mb3.2,baz=277,slow=2.8,SNR=4.0						

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*ATH **20** 10:55:27.1, 36.40N×27.05E, h5km, MD3.1/5*
*NEIC **20** 10:55:27.1, 36.40N×27.05E, h5km, MD3.1(ATH), After ATH.*
*CSEM **20** 10:55:27.1±0.1, 36.44N×27.07E, h10km, MD3.0, Error ellipse: s-maj=2.4km s-min=2.1km az=150.0*
*ISK **20** 10:55:29.8, 36.67N×27.04E, h58km, MD3.0*
ISC 20 10:55:26.7±1.4,**36.41N**±0.06×**27.08E**±0.05,**h1**km±11km, **n13**,σ0∞99/17,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.21**	**10**	*e*PG	**Pg**	**10 55 31.0**	**+0.2**
BODT	**Bodrum**	**0.68**	**16**	PG	**Pg**	**10 55 42.2**	**+2.0**
BODT				SG	**Sg**	**10 55 49.8**	**+0.6**
KARP	**Karpathos**	**0.86**	**176**	*e*PB	**Pb**	**10 55 43.5**	**-0.6**
ARG	**Arkhangelos**	**0.86**	**103**	*e*PB	**Pb**	**10 55 44.4**	**+0.3**
ARG				*e*SB	**Sb**	**10 55 57.0**	**+1.0**
MLSB	**Milas**	**1.05**	**32**	PG	**Pg**	**10 55 46.5**	**-1.0**
MLSB				SG	**Sg**	**10 55 59.0**	**-2.5**
YER	**Yerkesik**	**1.21**	**53**	*e*PN	**Pn**	**10 55 49.4**	**-1.2**
DALT	**Dalyan (Mudla)**	**1.30**	**74**	*e*PN	**Pn**	**10 55 51.8**	**-0.1**
SANT	**Santorini**	**1.31**	**269**	*e*P	**Pb**	**10 55 51.6**	**-0.1**
SANT	**Santorini**	**1.31**	**269**	*e*P	**Pb**	**10 55 51.6**	**-0.1**
SMG	**Samos**	**1.31**	**351**	*e*PB	**Pb**	**10 55 53.1**	**+1.3**
APE	**Apeiranthos**	**1.41**	**298**	*e*PN	**Pn**	**10 55 52.4**	**-1.1**
APE	**Apeiranthos**	**1.41**	**298**	*e*Pb	**Pb**	**10 55 53.8**	**+0.4**
FETY	**Fethiye**	**1.63**	**81**	*e*PN	**Pn**	**10 55 57.0**	**+0.4**
FETY				*e*SN	**Sn**	**10 56 18.2**	**-0.3**

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*CSEM **20** 11:02:07.5, 34.82N×4.37W, h3km, MD3.2, After CNRM*
*CNRM **20** 11:02:07.5, 34.82N×4.37W, h3km, MD3.2*
MDD 20 11:02:07.1±1.4,**34.83N**×**4.39W**,**h4**km±11km,**mbLg1.9**/2, **Error ellipse: s-maj=12.2km s-min=4.4km az=113.0, PRXIMO, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.54**	**76**	*i* P	Pg	11 02 17.0	-0.9
TOU				*i* S	Sg	11 02 24.5	-0.6
TZK	**Tazeka**	**0.76**	**167**	*i* P	Pg	11 02 20.5	-1.8
TZK				*i* S	Sg	11 02 32.0	-0.4
MIF	**Mishlifen**	**1.58**	**206**	*i* P	Pn	11 02 34.0	-2.0
MIF				*i* S	Sb	11 02 54.0	-2.7
EMIJ	**Mijas**	**1.76**	**350**	P	Pn	11 02 36.6	-2.0
EMIJ	0.1nm,0.1s,SNR=7.9			S	Sn	11 02 59.5	-2.1
CZD	**Col de Zad**	**1.87**	**197**	*i* P	Pn	11 02 40.0	-0.2
CZD	11nm,0.8s,SNR=7.9			*i* S	Sn	11 03 02.0	-2.5
EBER	**Berja**	**2.40**	**30**	P	Pn	11 02 46.3	-1.4
EBER	0.2nm,0.3s,SNR=7.9			S	Sn	11 03 14.8	-3.0
	13nm,0.7s,SNR=7.9						
KIB	**El Ksiba**	**2.63**	**212**	*i* P	Pn	11 02 50.0	-1.1
KIB				*i* S	Sn	11 03 21.0	-2.9
ZFT	**Errachidia**	**2.79**	**179**	*i* P	Pn	11 02 51.5	-1.8
ZFT				*i* S	Sn	11 03 24.0	-3.8

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*CSEM **20** 11:04:29.9, 26.86N×61.52E, h30km, mb3.5, Error ellipse: s-maj=22.2km s-min=10.5km az=305.0, After OMAN*
OMAN 20 11:04:29.9±0.6,**26.86N**×**61.52E**,**h30**km,**5C-5D**,**Error ellipse: s-maj=22.2km s-min=10.5km az=305.0, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIDO	**Bidbid**	**4.53**	**224**	⇓P	Pn	11 05 35.7	-2.7
BIDO				⇓S	Sn	11 06 24.8	-6.0
BANOM	**Banah**	**4.78**	**260**	⇑P	Pn	11 05 39.9	-2.0
WBK	SNR=86 **Wadi Bani Khal**	**4.83**	**209**	⇑P	Pn	11 05 39.0	-3.6
ASHO	SNR=12 **Ashiyiah**	**5.38**	**247**	⇓P	Pn	11 05 47.9	-2.5
JMDO	SNR=14 **Jabal Madar**	**5.45**	**216**	⇓P	Pn	11 05 49.4	-1.9
BSYO	SNR=7.9 **Bisya**	**5.66**	**224**	P	Pn	11 05 53.9	-0.4
BSYO				S	Sn	11 06 54.7	-4.4
BSY	**Bisya**	**5.68**	**225**	⇑P	Pn	11 05 53.9	-0.7
BSY				⇓S	Sn	11 06 54.7	-4.9
ARQ	**Araqi**	**5.73**	**233**	⇑P	Pn	11 05 55.4	0.0
ARQ	SNR=25			⇑S	Sn	11 06 58.9	-2.0

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*CSEM **20** 11:05:23.3, 34.61N×4.00W, h10km, MD2.9, After CNRM*
*CNRM **20** 11:05:23.3, 34.61N×4.00W, h10km, MD2.9*
MDD 20 11:05:22.9±0.5,**34.61N**×**3.96W**,**h16**km±10km,**mbLg1.7**/2, **Error ellipse: s-maj=36.1km s-min=3.8km az=112.0, PRXIMO, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.39**	**25**	*i* P	Pb	11 05 30.0	-1.0
TOU				*i* S	Sb	11 05 37.0	+0.5
TZK	**Tazeka**	**0.55**	**200**	*i* P	Pb	11 05 33.0	-0.7
TZK				*i* S	Sb	11 05 41.0	-0.1
EALB	**Alboran**	**1.53**	**29**	S	Sb	11 06 06.9	-2.5
	12nm,0.7s,SNR=7.9						
MIF	**Mishlifen**	**1.59**	**222**	*i* P	Pn	11 05 50.0	-0.8
MIF				*i* S	Sn	11 06 09.0	-2.2
CZD	**Col de Zad**	**1.81**	**210**	*i* P	Pn	11 05 54.0	+0.1
CZD				*i* S	Sn	11 06 14.0	-2.7
EADA	**Adamuz**	**3.59**	**352**	P	Pn	11 06 16.5	-2.7
	6.7nm,1.7s,SNR=7.9						
EADA				S	Sn	11 06 56.6	-5.1
	3.4nm,1.1s,SNR=7.9						

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*BJI **20** 11:23:27.4, 2.00S×102.20E, h160km, mB4.7, mb4.7*
*NEIC **20** 11:23:27.4±0.6, 2.01S×102.24E, h166km±6km, mb4.5/16, Error ellipse: s-maj=9.2km s-min=4.9km az=59.0*
*DJA **20** 11:23:31.0±0.5, 2.47S×102.32E, h160km, mb5.2/2, Error ellipse: s-maj=13.0km s-min=11.7km az=158.0*
*IDC **20** 11:23:31.1±1.2, 1.94S×102.42E, h198km±10km, mb4.2/27, mb1 4.3/27, mb1mx4.3/27, mbtmp4.7/27, MS3.8/1, Ms1 3.8/1, ms1mx3.0/24, Error ellipse: s-maj=12.2km s-min=6.4km az=52.0*
ISC 20 11:23:28.1±0.7,**2.03S**±0.04×**102.27E**±0.05,**h186**km±6km, **h188**km±3.3km:**pP-P**,**n115**,σ1∞02/102,**mb4.5**/51,**3C-12D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.64**	**169**	*e*Pn	**P**	**11 23 58.0**	**-4.2**
KGM	**Kluang**	**4.15**	**15**	P	**P**	**11 24 33.7**	**+1.7**
PENI	**Pendagan**	**4.55**	**141**	⇑*e*P	**P**	**11 24 35.6**	**-1.5**
PASI	**Pasiripis**	**5.69**	**145**	*e*P	**P**	**11 24 49.2**	**-2.6**
PASI				*e*S	**S**	**11 25 50.8**	**-6.1**
IPM	**Ipoh**	**6.68**	**349**	P	**P**	**11 25 05.6**	**+0.7**
KULM	**Kulim**	**7.45**	**347**	*e*P	**P**	**11 25 15.0**	**+0.1**
SRDI	**Scrawed**	**13.44**	**119**	⇓*e*P	**P**	**11 26 32.2**	**-0.3**
SRDI	250nm,0.2s			⇓*i*S	**S**	**11 28 53.9**	**-4.0**
KELI	**Kelakatan**	**13.63**	**117**	⇓*e*P	**P**	**11 26 37.3**	**+2.3**
RATI	**Rata**	**14.78**	**117**	⇓*e*P	**P**	**11 26 48.4**	**-0.9**
RATI	462nm,0.2s			⇓*i*S	**S**	**11 29 28.4**	**+0.1**
KEDI	**Kedomdong**	**15.20**	**115**	⇓*e*P	**P**	**11 26 55.5**	**+0.9**
KEDI				⇓*i*S	**S**	**11 29 36.7**	**-1.1**
TSM	**Tawau**	**16.81**	**68**	P	**P**	**11 27 19.0**	**+4.8**
TANI	**Tanete Lipujan**	**17.15**	**95**	*e*P	**P**	**11 27 21.2**	**+3.0**
NINI	**Niniconang**	**17.62**	**98**	*e*P	**P**	**11 27 26.9**	**+3.5**
BUNI	**Buntu Taipa**	**18.10**	**96**	*e*P	**P**	**11 27 36.2**	**+7.6**
CMAR	**Chiang Mai Arr**	**20.62**	**351**	P	**P**	**11 27 53.4**	**-0.9**
	1.4nm,0.4s,baz=181,slow=7.8,SNR=5.9						
QIZ	**Qiongzhong**	**22.21**	**19**	P	**P**	**11 28 14.0**	**+4.1**
KMI	**Kunming**	**27.00**	**1**	P	**P**	**11 28 58.0**	**+3.2**
KMI				AP	pP	11 29 34.4	+2.1
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.3						
KMI	**Kunming**	**27.00**	**1**	P	**P**	**11 28 58.0**	**+3.2**
	comp=Z,6.0nm,0.7s,mb4.3						
KMI				pP	pP	11 29 34.4	+2.1
KMI				sP	sP	11 29 55.4	+1.3
FITZ	**Fitzroy Crossi**	**27.94**	**126**	*e*P	**P**	**11 29 03.0**	**-0.4**
	comp=Z,5.0nm,0.6s,mb4.4						
FITZ				*e*S		11 34 31.0	
FITZ	**Fitzroy Crossi**	**27.94**	**126**	P	**P**	**11 29 03.1**	**-0.4**
	comp=Z,5.5nm,0.6s,mb4.5,baz=291,slow=11,SNR=15						
FITZ				PcP	PcP	11 32 14.3	+0.3
	comp=Z,2.0nm,0.4s,baz=324,slow=3.5,SNR=3.0						
GYA	**Guiyang**	**28.64**	**8**	⇑*i*P	**P**	**11 29 10.5**	**+0.9**
GYA				AP	pP	11 29 49.4	+1.9
GYA				S	**S**	**11 33 43.6**	**+0.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				LR	LR		
	comp=N,210nm,15.4s						
GYA				LR	LR		
	comp=E,190nm,15.0s						
GYA				LR	LR		
	comp=Z,290nm,14.8s						
KAKA	**Kakadu**	**31.70**	**111**	*e*P	**P**	**11 29 35.5**	**-1.1**
	comp=Z,6.3nm,0.7s,mb4.5						
MUN	**Mundaring**	**32.56**	**158**	⇓*i*P	**P**	**11 29 44.9**	**+1.0**
	comp=Z,199nm,0.5s						
KLBR	**Kellerberrin**	**32.84**	**155**	⇓*i*P	**P**	**11 29 46.7**	**+0.4**
	comp=Z,203nm,0.5s						
ENH	**Enshi**	**32.85**	**12**	*e*P	**P**	**11 29 46.7**	**+0.3**
	comp=Z,5.3nm,0.4s,mb4.6						
JIRN	**Jiri**	**33.33**	**333**	*e*P	**P**	**11 29 49.8**	**-0.7**
	comp=Z,9.1nm,0.3s,mb5.0						
PKI	**Pulchoki**	**33.61**	**332**	*e*P	**P**	**11 29 50.6**	**-2.3**
GUN	**Gumba**	**33.69**	**333**	*e*P	**P**	**11 29 52.9**	**-0.6**
	comp=Z,21nm,0.5s,mb5.2						
NWAO	**Narrogin (SRO)**	**33.79**	**157**	P	**P**	**11 29 55.0**	**+0.6**
	comp=Z,16nm,0.7s,mb4.9,baz=325,slow=8.8,SNR=16						
KKN	**Kakani**	**33.86**	**332**	*e*P	**P**	**11 29 53.6**	**-1.4**
	comp=Z,8.7nm,0.5s,mb4.7						
GKN	**Gorkha**	**34.34**	**332**	*e*P	**P**	**11 29 58.0**	**-1.1**
	comp=Z,8.9nm,0.4s,mb4.9						
KOLN	**Koldanda**	**34.65**	**330**	*e*P	**P**	**11 30 00.7**	**-1.0**
	comp=Z,5.1nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**36.03**	**122**	P	**P**	**11 30 12.8**	**-0.7**
	comp=Z,4.8nm,0.4s,mb4.5,baz=303,slow=9.1,SNR=198						
WRA				PcP	PcP	11 32 35.7	-0.3
	comp=Z,3.1nm,0.4s,baz=312,slow=2.3,SNR=15						
WRA				S	**S**	**11 35 33.3**	**-4.8**
	comp=Z,4.5nm,0.7s,baz=294,slow=16,SNR=21						
WRAB	**Tennant Creek**	**36.04**	**122**	*e*P	**P**	**11 30 13.2**	**-0.3**
	comp=Z,9.2nm,0.3s,mb4.9						
WB2	**Warramunga Arr**	**36.05**	**122**	*e*P	**P**	**11 30 13.4**	**-0.2**
WB2				*i* PCP	PcP	11 32 36.2	+0.2
WB2				*e*S	**S**	**11 35 33.1**	**-5.1**
XAN	**Xi'an**	**36.42**	**9**	P	**P**	**11 30 17.5**	**+0.9**
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.7						
NJ2	**Nanjing**	**37.37**	**24**	*e*P	**P**	**11 30 25.1**	**+0.6**
NJ2				PP	PP	11 31 58.8	+3.2
NJ2				S	**S**	**11 35 58.0**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
ASPA	**Alice Springs**	**37.42**	**128**	*e*P	**P**	**11 30 25.4**	**+0.4**
ASPA				*e*PCP	PcP	11 32 40.3	+0.1
ASPA				*e*S	**S**	**11 35 56.6**	**-2.4**
ASAR	**Alice Springs**	**37.42**	**128**	P	**P**	**11 30 24.6**	**-0.5**
	comp=Z,6.7nm,0.3s,mb4.7,baz=298,slow=7.8,SNR=108						
ASAR				PcP	PcP	11 32 40.2	0.0
	comp=Z,3.1nm,0.4s,baz=310,slow=2.5,SNR=12						
ASAR				S	**S**	**11 35 54.9**	**-4.1**
	comp=Z,5.2nm,0.7s,baz=297,slow=15,SNR=17						
FORT	**Forrest**	**37.59**	**142**	⇓*i*P	**P**	**11 30 27.5**	**+1.1**
	comp=Z,464nm,0.3s						
LZH	**Lanzhou**	**37.95**	**2**	*e*P	**P**	**11 30 30.5**	**+1.2**
LZH				AP	pP	11 31 11.3	+2.2
LZH				PP	PP	11 32 06.8	+5.1
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,93nm,6.2s						
LZH	**Lanzhou**	**37.95**	**2**	*e*P	**P**	**11 30 30.5**	**+1.2**
	comp=Z,23nm,1.5s,mb4.6						
LZH				pP	pP	11 31 11.2	+2.1
LZH				sP	sP	11 31 32.5	+1.6
LZH				PP	PP	11 32 06.7	+5.0
BJI	**Beijing**	**43.76**	**15**	*e*P	**P**	**11 31 15.6**	**-1.3**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.1						
BJI	**Beijing**	**43.76**	**15**	*e*P	**P**	**11 31 15.6**	**-1.3**
	comp=Z,4.0nm,0.8s,mb4.1						
CTA	**Charters Tower**	**46.54**	**116**	P	**P**	**11 31 38.4**	**-0.6**
	comp=Z,3.1nm,0.7s,mb4.1,baz=304,slow=7.3,SNR=3.3						
STKA	**Stephens Creek**	**47.45**	**133**	*e*P	**P**	**11 31 45.8**	**-0.2**
	comp=Z,11nm,0.3s,mb5.0						
STKA	**Stephens Creek**	**47.45**	**133**	P	**P**	**11 31 46.4**	**+0.3**
	comp=Z,14nm,0.3s,mb5.0,baz=316,slow=7.4,SNR=98						
WMQ	**Urumqi**	**47.48**	**346**	⇓P	**P**	**11 31 46.5**	**+0.4**
WMQ				AP	pP	11 32 28.5	+1.3
WMQ				PCP	PcP	11 33 14.0	+0.3
WMQ				PP	PP	11 33 39.8	+1.2
WMQ				PPP	PPP	11 34 34.5	+1.1
WMQ				S	**S**	**11 38 25.0**	**-0.3**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,63nm,4.0s						
WMQ				LR	LR		
	comp=N,48nm,20.6s						
WMQ				LR	LR		
	comp=E,81nm,22.6s						
WMQ				LR	LR		
	comp=Z,49nm,22.6s						
SONM	**Songino Array**	**49.79**	**4**	P	**P**	**11 32 04.6**	**+0.9**
	comp=Z,11nm,0.5s,mb4.8,baz=185,slow=9.6,SNR=171						
SONM				PcP	PcP	11 33 21.5	-0.5
	comp=Z,1.9nm,0.4s,baz=185,slow=4.7,SNR=7.7						
SONM				ScP		11 36 59.2	
	comp=Z,0.4nm,0.6s,baz=171,slow=4.6,SNR=3.8						
ULN	**Ulaanbaatar**	**49.87**	**4**	*e*P	**P**	**11 32 05.3**	**+1.0**
	comp=Z,8.9nm,1.0s,mb4.3						
CN2	**Changchun**	**50.14**	**22**	*e*P	**P**	**11 32 07.3**	**+0.9**
CN2				*e*S	**S**	**11 39 02.6**	**+0.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**50.89**	**38**	P	**P**	**11 32 12.3**	**0.0**
	comp=Z,3.5nm,0.6s,mb4.2,baz=211,slow=7.3,SNR=8.5						
MJAR				LR	LR	11 54 31.2	
	comp=Z,115nm,21.3s,baz=75,slow=37						
MKAR	**Makanchi Array**	**51.70**	**343**	P	**P**	**11 32 17.3**	**-0.8**
	comp=Z,2.6nm,0.4s,mb4.2,baz=158,slow=8.7,SNR=59						
MKAR				ScP		11 37 07.1	
	comp=Z,0.3nm,0.6s,baz=165,slow=6.0,SNR=3.0						
MKAR	**Makanchi Array**	**51.70**	**343**	P	**P**	**11 32 17.3**	**-0.9**
MKAR				ScP		11 37 07.1	
ZAL	**Zalesovo**	**57.64**	**348**	P	**P**	**11 32 59.6**	**-1.2**
	comp=Z,4.5nm,0.3s,mb4.8,baz=322,slow=6.1,SNR=21						
ZAL				S	**S**	**11 40 40.4**	**-2.3**
	comp=Z,1.0nm,0.4s,baz=206,slow=21,SNR=3.4						
CASY	**Casey**	**64.39**	**176**	*e*P	**P**	**11 33 45.8**	**-0.2**
	comp=Z,3.4nm,0.6s,mb4.3						
KMBO	**Kilima Mbogo**	**65.00**	**270**	P	**P**	**11 33 51.9**	**+1.0**
	comp=Z,1.6nm,0.5s,mb4.1,baz=54,slow=14,SNR=6.5						
ASF	**Jabal al Asfar**	**70.46**	**305**	P	**P**	**11 34 24.9**	**+0.4**
	comp=Z,2.6nm,0.6s,mb4.1,baz=316,slow=2.8,SNR=4.7						
MAW	**Mawson**	**70.83**	**195**	P	**P**	**11 34 26.8**	**+0.7**
	comp=Z,7.3nm,0.9s,mb4.4,baz=40,slow=6.3,SNR=8.4						
MALT	**Malatya**	**71.04**	**312**	P	**P**	**11 34 27.4**	**-0.4**
EIL	**Elat**	**71.45**	**302**	P	**P**	**11 34 30.2**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.4,baz=18,slow=6.4,SNR=3.8						
MBAR	**Mbarara**	**71.52**	**270**	*e*P	**P**	**11 34 31.1**	**0.0**
	comp=Z,3.7nm,0.8s,mb4.2						
RPZ	**Rata Peaks**	**73.35**	**135**	P	**P**	**11 34 41.6**	**+0.1**
	comp=Z,20nm,0.5s,mb5.1,baz=280,slow=3.9,SNR=15						
BRTR	**Keskin Array B**	**75.02**	**312**	P	**P**	**11 34 49.8**	**-1.3**
	comp=Z,7.1nm,0.7s,mb4.4,baz=131,slow=7.1,SNR=27						
BOSA	**Boshof**	**77.63**	**241**	P	**P**	**11 35 06.0**	**+0.2**
	comp=Z,11nm,0.4s,mb4.8,baz=100,slow=5.2,SNR=36						
SYO	**Syowa Base**	**78.57**	**199**	⇓P	**P**	**11 35 13.0**	**+2.9**
SYO	**Syowa Base**	**78.57**	**199**	⇑PcP	PcP	11 35 17.4	-1.4
IDI	**Anoyia**	**80.89**	**306**	P	**P**	**11 35 22.9**	**-0.3**
	comp=Z,7.7nm,0.5s,mb4.5,baz=104,slow=4.2,SNR=7.7						
AKASG	**Malin Array Be**	**80.90**	**322**	P	**P**	**11 35 21.8**	**-1.1**
	comp=Z,1.4nm,0.4s,mb4.0,baz=85,slow=5.1,SNR=11						
AKASG	**Malin Array Be**	**80.90**	**322**	P	**P**	**11 35 21.8**	**-1.1**
VNDA	**Vanda**	**81.70**	**169**	P	**P**	**11 35 27.5**	**+0.9**
	comp=Z,4.7nm,0.5s,

ELN	Prospectdale	144.86	4	eP	KP	KPdf	11 42 42.9	-0.3
CFAA	Coronel Fontan	145.36	194	PK	Pbc	PKbc	11 42 46.7	+1.8
	comp=Z,1.5nm,0.4s,baz=165,slow=3.5,SNR=32							
BAO	Brasilia Array	145.75	238	PK	Pdf	PKpdf	11 42 47.8	+2.5
BDFB	Brasilia	145.77	238	PK	Pbc	PKbc	11 42 48.6	+2.2
	comp=Z,8.8nm,0.4s,baz=137,slow=2.8,SNR=21							
PLAL	Pickwick Lake	145.83	15	eP	KP	PKpdf	11 42 46.2	+1.2
CPCT	Cooper Cave	146.16	10	eP	KP	PKpdf	11 42 47.3	+1.8
GOGA	Godfrey	148.32	9	eP	KPbc	PKpdf	11 42 53.6	+4.5
LVC	Limon Verde	154.04	199	PK	Pbc	PKpdf	11 43 09.2	+11
	comp=Z,2.1nm,0.5s,baz=339,slow=1.3,SNR=5.5							
LVC				PK	Pab	PKpab	11 43 24.3	+1.5
	comp=Z,4.4nm,0.6s,baz=336,slow=1.2,SNR=6.1							
LVC	Limon Verde	154.04	199	PK	Pbc	PKpdf	11 43 09.2	+11
LVC				PK	Pab	PKpab	11 43 24.3	+1.5
SIV	San Ignacio	155.68	222	PK	P	PKpdf	11 43 02.0	+1.8
	comp=Z,1.4nm,0.7s,baz=104,slow=3.5,SNR=12							
SIV				PK	Pbc	PKpdf	11 43 11.6	+12
	comp=Z,1.5nm,0.9s,baz=137,slow=3.5,SNR=5.6							
SIV				PK	Pab	PKpab	11 43 29.7	-0.2
	comp=Z,2.0nm,0.7s,baz=126,slow=6.0,SNR=10							
LPAZ	La Paz	159.48	207	PK	P	PKpdf	11 43 07.0	+2.1
	comp=Z,3.1nm,0.9s,baz=189,slow=1.3,SNR=9.5							
LPAZ				PK	Pab	PKpab	11 43 47.6	+1.4
	comp=Z,1.2nm,0.5s,baz=97,slow=3.0,SNR=6.4							

MEX 20 11:34:04.7±0.4, 19.40N×104.96W, h48km±6km, MD3.6, 1D, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	Chamela	0.13	320	⇓iP	P	11 34 11.0	-1.3
CJM				i S	S	11 34 16.1	-1.7
COLM	Colima	1.21	100	i P	P	11 34 23.7	-1.9
COLM				i S	S	11 34 38.6	-2.5
SFJM	Santa Fe	2.10	59	i P	P	11 34 36.5	-1.7
SFJM				i S	S	11 35 00.0	-3.2

IDC 20 11:43:44.4±1.4, 33.60S×110.43W, mb3.9/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, MS3.6/3, Ms1 3.6/3, ms1mx3.3/21, Error ellipse: s-maj=54.5km s-min=31.3km az=13.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	38.00	84	P	P	11 51 05.1	-0.8
	3.3nm,0.8s,baz=256,slow=8.3,SNR=3.5						
LPAZ	La Paz	41.72	76	LR	LR	12 03 34.9	
	comp=Z,28nm,21.1s,baz=205,slow=28						
CPUP	Villa Florida	46.15	96	LR	LR	12 07 47.0	
	comp=Z,98nm,20.2s,baz=264,slow=31						
SIV	San Ignacio	47.65	81	P	P	11 52 21.6	-2.9
	1.0nm,0.8s,baz=244,slow=7.4,SNR=6.0						
BDFB	Brasilia	58.67	89	LR	LR	12 16 19.5	
	comp=Z,78nm,18.7s,baz=327,slow=33						
NVAR	Mina Array Bea	72.03	354	P	P	11 55 10.8	-1.4
	0.5nm,0.7s,baz=192,slow=5.1,SNR=3.9						
PDAR	Pinedale Array	76.00	1	P	P	11 55 33.5	-1.5
	0.5nm,0.8s,baz=164,slow=6.6,SNR=5.3						
YKA	Yellowknife Ar	95.81	358	P	P	11 57 15.2	+2.0
	0.0nm,0.3s,baz=165,slow=4.9,SNR=4.9						
SONM	Songino Array	149.00	308	PKbc	PKpdf	12 03 32.3	+0.6
	0.5nm,0.8s,baz=57,slow=3.2,SNR=3.8						
CMAR	Chiang Mai Arr	149.74	247	PKbc	PKpdf	12 03 37.1	+3.4
	1.8nm,0.8s,baz=158,slow=1.4,SNR=4.9						
BRTR	Keskin Array B	150.67	68	PK	PKpdf	12 03 30.6	-4.0
	0.9nm,0.9s,baz=322,slow=3.3,SNR=2.5						
BRTR				PKbc	PKpdf	12 03 39.8	+5.3
	0.5nm,0.8s,baz=63,slow=2.8,SNR=3.8						

MAN 20 12:16:30.1, 13.15N×120.29E, h11km, mb4.1, ML2.9, MS2.7, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.58	356	eP	Pb	12 16 41.5	-0.2
LUBP				eS	Sg	12 16 49.7	+0.1
SJMP	San Jose	1.06	130	eP	Pb	12 16 50.2	+0.1
SJMP				eS	Sb	12 17 04.1	+0.3
TGY	Tagaytay City	1.14	34	⇓eP	Pb	12 16 51.4	+0.1
TGY				i S	Sb	12 17 07.3	+1.4
BUSP	Coron	1.15	184	eP	Pb	12 16 51.6	+0.1
BOAC	Boac	1.55	78	eP	Pn	12 16 57.8	0.0
OTRP	Odiongan	1.87	115	eP	Pn	12 17 00.7	-1.6
ENPP	El Nido	2.11	204	eP	Pn	12 17 05.2	-0.6
CUYO	Cuyo Island	2.40	163	eP	Pn	12 17 08.4	-1.5
BALP	Baler	2.86	26	eP	Pn	12 17 16.1	-0.4

*NEIC **20** 12:19:21.1±2.8, 32.72S×179.89W, h269km±28km, Error ellipse: s-maj=46.6km s-min=33.6km az=120.0*
*IDC **20** 12:19:25.6±4.5, 32.95S×179.95W, h313km±47km, mb2.8/2, mb1 3.2/4, mb1mx3.1/16, mbtmp3.9/4, Error ellipse: s-maj=52.7km s-min=41.4km az=165.0*
ISC 20 12:19:18.1±1.2, 33.1S±0.2×178.8W±0.4, h339km±19km, n41, σ0°97/54, mb2.9/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.10	207	eP	P	12 20 37.6	-1.2
MXZ	Matakaoa Point	5.10	207	PN	P	12 20 37.7	-1.1
MXZ				SN	S	12 21 42.8	+0.6
PUZ	Puketiti	5.57	205	eP	P	12 20 43.8	-0.3
PUZ				S	S	12 21 48.7	-3.0
PUZ	Puketiti	5.57	205	PN	P	12 20 43.9	-0.3
PUZ				SN	S	12 21 52.9	+1.2
MWZ	Matawai	6.08	209	eP	P	12 20 49.2	-0.8
MWZ	Matawai	6.08	209	PN	P	12 20 49.2	-0.8
MWZ				SN	S	12 22 04.0	+1.8
URZ	Urewera	6.19	212	P	P	12 20 52.5	+1.1
	3.5nm,0.3s,baz=20,slow=15,SNR=25						
URZ				S	S	12 22 04.6	0.0
	5.9nm,0.3s,baz=14,slow=23,SNR=13						
URZ	Urewera	6.19	212	eP	P	12 20 51.0	-0.3
URZ	Urewera	6.19	212	PN	P	12 20 51.1	-0.3
URZ				SN	S	12 22 04.2	-0.4
KNZ	Kokohu	6.62	205	eP	P	12 21 00.0	+3.6
KNZ	Kokohu	6.62	205	ePN	P	12 20 59.2	+2.8
KNZ				eSN	S	12 22 14.7	+1.0
BKZ	Black Stump Fm	7.21	211	eP	P	12 21 01.9	-1.5
BKZ	Black Stump Fm	7.21	211	ePN	P	12 21 05.0	+1.6
BKZ				SN	S	12 22 26.1	-0.1
MOVZ	Moawhango	7.74	213	eP	P	12 21 09.5	-0.2
MOVZ	Moawhango	7.74	213	ePN	P	12 21 09.7	0.0
PWZ	Pawanui	7.80	206	eP	P	12 21 11.6	+1.1
PWZ	Pawanui	7.80	206	ePN	P	12 21 11.3	+0.9
TSZ	Takapari Road	8.18	210	eP	P	12 21 14.3	-0.7
TSZ	Takapari Road	8.18	210	ePN	P	12 21 14.4	-0.6
TSZ				SN	S	12 22 47.3	+0.2
MRZ	Mangatainoka R	8.85	209	SN	S	12 22 59.6	-1.9
KIW	Kapiti Island	9.29	211	eP	P	12 21 28.4	0.0
KIW	Kapiti Island	9.29	211	PN	P	12 21 28.5	+0.1
CAW	Cannon Point	9.43	210	eP	P	12 21 27.6	-2.4
CAW	Cannon Point	9.43	210	ePN	P	12 21 28.3	-1.7
TUWZ	Tuamarina	10.19	213	ePN	P	12 21 38.9	-0.2
NNZ	Nelson	10.28	215	eP	P	12 21 39.8	-0.5
NNZ				S	S	12 23 32.0	-0.8
NNZ	Nelson	10.28	215	ePN	P	12 21 40.0	-0.3
NNZ				SN	S	12 23 32.1	-0.7
QRZ	Quartz Range	10.43	219	eP	P	12 21 42.1	+0.1
QRZ	Quartz Range	10.43	219	ePN	P	12 21 42.1	+0.1
THZ	Tophouse	10.93	215	eP	P	12 21 46.5	-1.6
THZ				S	S	12 23 46.9	+0.1
THZ	Tophouse	10.93	215	ePN	P	12 21 48.0	-0.1
THZ				SN	S	12 23 47.1	+0.3
KHZ	Kahutara	11.16	211	ePN	P	12 21 51.9	+1.1
LTZ	Lake Taylor	12.02	214	eP	P	12 22 01.5	+0.3
LTZ	Lake Taylor	12.02	214	ePN	P	12 22 02.1	+0.8
WVZ	Waitaha Valley	12.98	217	eP	P	12 22 12.4	-0.3
RPZ	Rata Peaks	13.30	214	P	P	12 22 16.8	+0.1
	0.9nm,0.3s,baz=350,slow=6.1,SNR=5.1						
RPZ				S	S	12 24 38.6	+0.1
	0.6nm,0.3s,baz=148,slow=19,SNR=4.6						
ODZ	Otahua Downs	14.52	211	eP	P	12 22 34.1	+3.8
ODZ	Otahua Downs	14.52	211	ePN	P	12 22 34.2	+3.9
ASAR	Alice Springs	42.40	270	P	P	12 26 42.6	+0.8
	0.2nm,0.3s,mb2.7,baz=107,slow=7.2,SNR=4.5						
WRA	Warramunga Arr	43.63	275	P	P	12 26 51.7	0.0
	0.4nm,0.3s,mb3.0,baz=112,slow=8.1,SNR=39						
FINES	FINESS Array B	147.39	338	PKbc	PKpdf	12 38 29.9	+12
	0.4nm,0.6s,baz=68,slow=3.7,SNR=2.9						

*NEIC **20** 12:28:28.2±3.6, 18.53N×145.55E, h265km±35km, mb4.1/1, Error ellipse: s-maj=21.5km s-min=8.7km az=92.0*
*IDC **20** 12:28:29.4±4.4, 18.54N×145.49E, h276km±45km, mb3.1/10, mb1 3.3/12, mb1mx3.3/25, mbtmp3.9/12, Error ellipse: s-maj=23.3km s-min=10.8km az=94.0*
ISC 20 12:28:27.8±5.7, 18.54N±0.08×145.5E±0.2, h277km±57km, n17, σ0°55/16, mb3.3/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	17.92	301	P	P	12 32 20.8	+0.8
	2.1nm,0.3s,baz=121,slow=12,SNR=6.4						
MJAR	Matsushiro Arr	19.06	342	P	P	12 32 30.4	-1.0
	0.7nm,0.3s,baz=168,slow=9.2,SNR=7.8						
WRAB	Tennant Creek	39.77	197	eP	P	12 35 35.6	-0.2
	5.0nm,0.6s,mb4.0						
WB2	Warramunga Arr	39.78	197	eP	P	12 35 35.9	+0.1
WRA	Warramunga Arr	39.78	197	P	P	12 35 36.0	+0.2
	1.9nm,0.5s,mb3.7,baz=21,slow=8.1,SNR=65						
FITZ	Fitzroy Crossi	41.32	209	P	P	12 35 48.7	+0.2
	2.8nm,0.3s,mb4.0,baz=27,slow=9.0,SNR=24						
SONM	Songino Array	43.17	322	P	P	12 36 03.4	+0.4
	0.2nm,0.4s,mb2.7,baz=128,slow=9.6,SNR=3.6						
ASAR	Alice Springs	43.45	196	P	P	12 36 05.2	-0.4
	0.4nm,0.4s,mb3.0,baz=12,slow=6.5,SNR=24						
ASPA	Alice Springs	43.45	196	eP	P	12 36 05.6	-0.1
CMAR	Chiang Mai Arr	44.08	278	P	P	12 36 10.6	0.0
	0.3nm,0.5s,mb2.8,baz=97,slow=7.3,SNR=1.9						
MKAR	Makanchi Array	58.46	314	P	P	12 37 56.9	0.0
	0.4nm,0.5s,mb3.1,baz=91,slow=7.6,SNR=5.6						
ILAR	Eielson Array	63.86	26	P	P	12 38 33.9	+1.4
	0.2nm,0.8s,mb2.8,baz=240,slow=6.4,SNR=3.1						
BVAR	Borovoye Array	66.50	320	P	P	12 38 48.7	-0.8
	2.6nm,0.6s,mb4.2,baz=98,slow=8.3,SNR=14						
INK	Inuvik	69.59	23	P	P	12 39 08.0	-0.3
	0.6nm,0.8s,mb3.4,baz=256,slow=9.5,SNR=5.3						
YKA	Yellowknife Ar	78.21	28	P	P	12 39 57.7	-0.2
	0.1nm,0.4s,mb2.9,baz=283,slow=5.0,SNR=3.8						
YKA	Yellowknife Ar	78.21	28	P	P	12 39 57.7	-0.2
PLCA	Paso Flores	142.01	133	PKP	PKPdf	12 47 29.8	+2.9
	4.7nm,1.2s,baz=230,slow=3.4,SNR=3.0						

IDC 20 12:29:30.4±2.6, 0.58S×101.63E, h27km±5km, mb3.6/4, mb1 3.7/4, mb1mx3.4/18, mbtmp3.7/4, Error ellipse: s-maj=150.4km s-min=17.8km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	37.35	123	P	P	12 36 42.1	-0.8
	0.8nm,0.4s,baz=303,slow=9.0,SNR=10						
WRA				sP	sP	12 36 52.1	-2.1
	0.6nm,0.4s,baz=302,slow=9.0,SNR=5.0						
ASAR	Alice Springs	38.82	129	P	P	12 36 53.1	-2.0
	0.6nm,0.6s,baz=304,slow=8.0,SNR=17						
ASAR				pP	pP	12 37 00.8	-2.3
	1.0nm,0.6s,baz=298,slow=7.7,SNR=7.5						
STKA	Stephens Creek	48.91	134	P	P	12 38 13.5	-2.9
	0.6nm,0.4s,baz=333,slow=14,SNR=2.4						
STKA				pP	pP	12 38 22.8	-1.7
	0.7nm,0.4s,baz=288,slow=6.6,SNR=3.4						
MKAR	Makanchi Array	50.13	343	P	P	12 38 22.8	-2.7
	0.7nm,0.5s,baz=146,slow=7.9,SNR=11						
MKAR				pP	pP	12 38 32.2	-1.5
	0.6nm,0.5s,baz=154,slow=8.1,SNR=6.7						

*CSEM **20** 12:34:35.9±0.9, 38.64N×28.58W, h13km±10km, ML2.0, Error ellipse: s-maj=11.0km s-min=3.9km az=44.0, After PDA*
*PDA **20** 12:34:35.9±0.9, 38.64N×28.58W, h13km±10km, MD3.1, ML2.0, Error ellipse: s-maj=11.0km s-min=3.9km az=44.0*
SVSA 20 12:34:35.9±0.9, 38.64N×28.58W, h13km±10km, MD3.1, ML2.0, Error ellipse: s-maj=11.0km s-min=3.9km az=44.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	Cedros	0.10	265	eP	Pg	12 34 38.1	-0.8
PCED				eS	Sg	12 34 40.3	-0.5
	119nm,0.1s						
PCED	Cedros	0.10	265	eP	Pg	12 34 38.1	-0.8
PCED				eS	Sg	12 34 40.3	-0.5
	119nm,0.1s						
CALA	Caldeira	0.11	240	eP	Pg	12 34 38.6	-0.4
CALA				eS	Sg	12 34 41.1	0.0
HOR	Horta	0.12	199	eP	Pg	12 34 38.4	-0.7
HOR				eS	Sg	12 34 40.5	-0.8
PICO	Pico	0.18	138	eP	Pg	12 34 39.7	-0.5
PICO				eS	Sg	12 34 42.5	-0.5
PMAN	Manadas	0.39	90	eP	Pg	12 34 42.9	-1.0
PMAN				eS	Sg	12 34 47.3	-2.0

IDC 20 12:55:09.5±11.0, 2.05N×95.68E, mb3.5/2, mb1 3.8/3, mb1mx3.4/20, mbtmp3.6/3, ML4.1/1, Error ellipse: s-maj=217.8km s-min=127.4km az=145.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.61	11	Pn	P	12 59 04.1	-1.5
	0.2nm,0.3s,baz=204,slow=11,SNR=4.9						
MKAR	Makanchi Array	46.07	347	P	P	13 03 35.2	-1.7
	0.5nm,0.6s,baz=168,slow=7.5,SNR=4.8						
SONM	Songino Array	46.54	10	P	P	13 03 38.7	-2.0
	0.4nm,0.7s,baz=180,slow=8.6,SNR=3.9						

*NEIC **20** 12:59:59.5, 39.28S×177.89E, h24km, ML3.8(WEL), After WEL.*
WEL 20 12:59:59.6±0.2, 39.29S×177.86E, h24km±1km, ML3.8/15, 5C-6D, Error ellipse: s-maj=2.5km s-min=1.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	Kokohu	0.31	331	⇓P	Pb	13 00 06.9	+0.3
KNZ				S	Sb	13 00 11.2	-0.2
KNZ	Kokohu	0.31	331	⇓P*	Pb	13 00 06.9	+0.3
KNZ				S*	Sb	13 00 11.2	-0.2
MWZ	Matawai	0.99	345	⇑P	Pb	13 00 17.3	-0.6
MWZ				S	Sb	13 00 31.1	+0.6
MWZ	Matawai	0.99	345	⇑PN	Pn	13 00 17.3	-0.6
MWZ				SN	Sn	13 00 31.1	-0.2
PWZ	Pawanui	1.07	226	⇓P	Pn	13 00 18.5	-0.6
PWZ				S	Sb	13 00 33.3	+0.4
PWZ	Pawanui	1.07	226	⇓PN	Pn	13 00 18.5	-0.7
PWZ				SN	Sn	13 00 33.3	0.0
BKZ	Black Stump Fm	1.07	276	⇓P	Pn	13 00 18.4	-0.8
BKZ	Black Stump Fm	1.07	276	⇑PN	Pn	13 00 18.4	-0.8
BKZ				eSN	Sn	13 00 31.8	-1.6
URZ	Urewera	1.18	330	⇑P	Pn	13 00 19.9	-0.9
URZ	Urewera	1.18	330	⇑PN	Pn	13 00 19.9	-0.9
URZ				eSN	Sn	13 00 35.7	-0.5
PUZ	Puketiti	1.25	14	P	Pn	13 00 21.0	-0.8
PUZ	Puketiti	1.25	14	PN	Pn	13 00 21.0	-0.8
EDRZ	Edgecumbe	1.47	323	P	Pn	13 00 23.9	-1.0
EDRZ	Edgecumbe	1.47	323	PN	Pn	13 00 23.9	-1.0
TAZ	Tarawera	1.50	314	P	Pn	13 00 24.4	-0.8
TAZ	Tarawera	1.50	314	PN	Pn	13 00 24.4	-0.8
MOVZ	Moawhango	1.64	265	P	Pn	13 00 27.0	-0.3
MOVZ	Moawhango	1.64	265	PN	Pn	13 00 27.0	-0.3
TSZ	Takapari Road	1.66	242	⇓P	Pn	13 00 26.2	-1.4
TSZ				S	Sn	13 00 46.0	-2.2
TSZ	Takapari Road	1.66	242	PN	Pn	13 00 26.2	-1.4
TSZ				SN	Sn	13 00 45.5	-2.7
RATZ	Rangitukua	1.68	284	PN	Pn	13 00 27.2	-0.7
TUVZ	Tukino	1.71	270	eP	Pn	13 00 28.1	-0.3
TUVZ	Tukino	1.71	270	PN	Pn	13 00 28.1	-0.3
LIRZ	Lichensteins R	1.73	317	eP	Pn	13 00 26.8	-1.8
LIRZ	Lichensteins R	1.73	317	PN	Pn	13 00 26.8	-1.7
MXZ	Matakaoa Point	1.76	12	P	Pn	13 00 27.8	-1.2
MXZ	Matakaoa Point	1.76	12	PN	Pn	13 00 27.9	-1.1
NGZ	Ngauruhoe	1.76	273	eP	Pn	13 00 29.4	+0.4
FWVZ	Far West T-bar	1.79	270	eP	Pn	13 00 31.0	+1.5
CNZ	Chateau	1.80	272	eP	Pn	13 00 28.9	-0.7
MRZ	Mangatainoka R	2.23	231	PN	Pn	13 00 33.7	-2.0
MTW	Mount Morrison	2.60	223	eP	Pn	13 00 37.7	-3.3
KIW	Kapiti Island	2.76	234	P	Pn	13 00 40.8	-2.5
CAW	Cannon Point	2.81	229	P	Pn	13 00 40.9	-3.1
MSWZ	Moikau Station	2.92	222	eP	Pn	13 00 41.1	-4.4
KUZ	Kuaotunu	3.05	326	eP	Pn	13 00 44.4	-3.1
QRZ	Quartz Range	4.37	248	eP	Pn	13 01 01.8	-4.4
THZ	Tophouse	4.51	235	eP	Pn	13 01 03.3	-5.0
KHZ	Kahutara	4.53	225	eP	Pn	13 01 02.9	-5.5
DSZ	Denniston Nort	5.23	240	eP	Pn	13 01 13.3	-5.0
LTZ	Lake Taylor	5.48	229	eP	Pn	13 01 15.8	-6.1
CRLZ	Canterbury Las	5.82	221	eP	Pn	13 01 20.4	-6.2
MQZ	McQueen's Vall	5.90	220	eP	Pn	13 01 21.5	-6.3
WVZ	Waitaha Valley	6.57	233	eP	Pn	13 01 32.1	-5.2
RPZ	Rata Peaks	6.76	227	eP	Pn	13 01 33.3	-6.6

IDC 20 13:03:11.7±6.2, 18.45S×174.77E, mb4.1/4, mb1 4.3/4, mb1mx3.8/15, mbtmp4.1/4, Error ellipse: s-maj=166.8km s-min=51.8km az=125.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	32.73	239	P	P	13 09 46.9	-1.5
	1.0nm,0.3s,baz=76,slow=6.4,SNR=6.6						
WB2	Warramunga Arr	38.14	261	eP	P	13 10 32.6	-2.0
WRA	Warramunga Arr	38.15	261	P	P	13 10 32.8	-1.9
	0.8nm,0.5s,baz=94,slow=7.1,SNR=35						
ASAR	Alice Springs	38.40	255	P	P	13 10 34.6	-2.1
	7.5nm,0.6s,baz=88,slow=8.4,SNR=144						
ASPA	Alice Springs	38.40	255	eP	P	13 10 34.7	-2.1
SONM	Songino Array	89.81	321	P	P	13 16 12.6	-1.0
	0.3nm,0.8s,baz=108,slow=4.6,SNR=3.7						

*IDC **20** 13:22:30.2±5.9, 7.06S×129.60E, h188km±52km, mb3.2/1, mb1 3.7/4, mb1mx3.3/16, mbtmp4.2/4, Error ellipse: s-maj=57.8km s-min=47.7km az=108.0*
ISC 20 13:22:27.0±2.4, 6.8S±0.1×129.6E±0.1, h199km±22km, n7, σ0°71/13, mb3.5/1, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.50	155	⇓iP	P	13 24 02.2	+0.7
	8.0nm,0.2s						
KAKA				eS	S	13 25 14.2	-0.9
FITZ	Fitzroy Crossi	11.86	199	eP	P	13 25 11.7	+0.6
	4.1nm,0.3s						
FITZ				eS	S	13 27 20.1	0.0
FITZ	Fitzroy Crossi	11.86	199	P	P	13 25 11.2	+0.2
	2.4nm,0.3s,baz=26,slow=10,SNR=54						
FITZ				S	S	13 27 19.3	-0.8
	0.9nm,0.3s,baz=241,slow=19,SNR=2.9						
WRA	Warramunga Arr	13.85	161	P	P	13 25 36.8	+0.6
	0.7nm,0.3s,baz=339,slow=14,SNR=46						
WRA				S	S	13 28 05.2	-0.2
	0.7nm,0.3s,baz=337,slow=24,SNR=7.9						
WB2	Warramunga Arr	13.85	161	eP	P	13 25 35.3	-0.9
WB2				eS	S	13 28 06.7	+1.2
ASAR	Alice Springs	17.27	167	P	P	13 26 17.6	+0.1
	1.2nm,0.3s,baz=348,slow=11,SNR=65						
ASAR				S	S	13 29 27.1	+5.6
	0.1nm,0.3s,baz=348,slow=22,SNR=3.9						
STKA	Stephens Creek	27.34	157	P	P	13 27 55.0	-0.7
	0.5nm,0.4s,mb3.5,baz=340,slow=12,SNR=2.8						

*NEIC **20** 13:29:27.1, 18.03N×100.83W, h66km, MD3.7(MEX), After MEX.*
MEX 20 13:29:27.1±1.1, 18.03N×100.83W, h66km±24km, MD3.7, 2C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.74	235	⇑iP	P	13 29 40.5	-1.8
ZIIG				i S	S	13 29 51.6	-2.0
CAIG	El Cayaco	1.12	151	i P	P	13 29 45.7	-1.6
CAIG				i S	S	13 30 00.4	-1.8
CAIG	El Cayaco	1.12	151	⇑iP	P	13 29 45.7	-1.6
CAIG				i S	S	13 30 00.4	-1.8
PLIG	Platanillo	1.31	74	i P	P	13 29 48.6	-1.5
PLIG				i S	S	13 30 04.4	-2.6
ACX	Acapulco	1.45	143	i P	P	13 29 50.0	-1.9
ACX				i S	S	13 30 06.0	-4.2
PPM	Popocatepetl	2.33	64	i P	P	13 30 02.9	-1.1
PPM				eP		13 30 03.0	
PPM				i S	S	13 30 32.0	+0.5
PPM				i S	S	13 30 37.5	+6.0
SFJM	Santa Fe	3.21	320	eP	P	13 30 20.0	+3.6
OXX	Oaxaca	4.03	103	eP	P	13 30 24.0	-3.9

*CSEM **20** 13:48:06.7±0.1, 34.89N×4.07W, h8km, MD3.3, Error ellipse: s-maj=2.9km s-min=1.8km az=119.0*
*MDD **20** 13:48:08.2±0.7, 34.86N×4.05W, h9km±5km, mbLg1.8/4, Error ellipse: s-maj=6.0km s-min=4.6km az=94.0, PRXIMO*
*CNRM **20** 13:48:08.7, 34.86N×4.02W, h8km, MD3.3*
*NEIC **20** 13:48:12.1, 35.17N×4.18W, MG3.2(MDD), After MDD.*
ISC 20 13:48:06.3±0.4, 34.89N±0.02×4.16W±0.03, h10km, n33, σ1°37/60, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	Touzarine	0.34	78	P	Pg	13 48 13.0	-0.4
TOU				S	Sg	13 48 17.0	-1.1
TOU	Touzarine	0.34	78	i P	Pg	13 48 13.0	-0.4
MPAL	Palemas	0.38	28	P	Pg	13 48 15.0	+0.9
MPAL				S	Sg	13 48 21.0	+1.7
MPAL	Palemas	0.38	28	i P	Pg	13 48 15.0	+0.9
ZAI	Zaio	1.16	86	P	Pb	13 48 28.5	+0.4
ZAI				S	Sb	13 48 41.5	-1.5
ZAI	Zaio	1.16	86	i P	Pb	13 48 28.5	+0.4
EALB	Alboran	1.39

EADA Adamuz 3.29 354 P **Pn** **13 49 01.7 +2.7**
EADA S **Sn** **13 49 36.2 -2.3**
EADA Adamuz 3.29 354 P **Pn** **13 48 59.6 +0.6**
0.5nm,0.1s,SNR=7.9
EADA S **Sn** **13 49 37.0 -1.6**
0.7nm,0.2s,SNR=7.9
EADA Adamuz 3.29 354 P **Pn** **13 49 01.7 +2.7**
0.5nm,0.1s,SNR=7.9
EADA S **Sn** **13 49 36.2 -2.4**
0.7nm,0.2s,SNR=7.9
EMIN Mina Concepcio 3.52 325 P **Pn** **13 49 03.5 +1.3**
EMIN S **Sn** **13 49 41.8 -2.6**
EMIN Mina Concepcio 3.52 325 P **Pn** **13 49 03.5 +1.3**
0.3nm,0.1s,SNR=7.9
EMIN S **Sn** **13 49 42.9 -1.5**
1.1nm,0.3s,SNR=7.9
EMIN Mina Concepcio 3.52 325 P **Pn** **13 49 03.5 +1.3**
0.3nm,0.1s,SNR=7.9
EMIN S **Sn** **13 49 41.8 -2.5**
EGRO El Granado 3.77 315 P **Pn** **13 49 05.9 +0.1**
2.5nm,0.8s,SNR=7.9
EGRO S **Sn** **13 49 48.9 -1.7**
3.8nm,0.6s,SNR=7.9

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*NEIC **20** 14:06:21.0±2.0,7.35S×128.64E,h122km±21km,mb4.7/3, Error ellipse: s-maj=21.5km s-min=13.0km az=73.0*
*IDC **20** 14:06:23.8±3.3,7.56S×128.32E,h150km±29km,mb3.6/6, mb1 3.8/8,mb1mx3.6/16,mbtmp4.1/8,Error ellipse: s-maj=61.4km s-min=17.3km az=68.0*
ISC 20 14:06:20.9±1.7,**7.43S**±0.08×**128.7E**±0.1,**h142**km±18km, **n17**,σ0:**95**/25,**mb3.8**/6,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.44**	**145**	*eP*	**P**	**14 07 55.0**	**+0.6**
KAKA	19nm,0.4s			*eS*	**S**	**14 08 57.5**	**-9.4**
FITZ	**Fitzroy Crossi**	**11.00**	**195**	*eP*	**P**	**14 08 53.8**	**-1.4**
FITZ	18nm,0.7s			*eS*	**S**	**14 10 46.9**	**-9.2**
FITZ	**Fitzroy Crossi**	**11.00**	**195**	P	**P**	**14 08 53.5**	**-1.7**
FITZ	3.3nm,0.3s,baz=26,slow=9.5,SNR=40			S	**S**	**14 10 46.9**	**-9.2**
WRAB	**Tennant Creek**	**13.60**	**157**	*eP*	**P**	**14 09 28.8**	**-0.3**
WRAB	7.6nm,0.3s,baz=83,slow=16,SNR=8.2 9.5nm,0.8s			*eS*	**S**	**14 11 44.9**	**-12**
WRA	**Warramunga Arr**	**13.60**	**157**	P	**P**	**14 09 27.5**	**-1.6**
WRA	0.5nm,0.3s,baz=340,slow=10.0,SNR=30			S	**S**	**14 11 49.5**	**-7.7**
WB2	**Warramunga Arr**	**13.61**	**157**	*eP*	**P**	**14 09 29.0**	**-0.1**
WB2	1.5nm,0.3s,baz=330,slow=24,SNR=8.8			*eS*	**S**	**14 11 50.5**	**-6.7**
MBWA	**Marble Bar**	**16.14**	**211**	*eP*	**P**	**14 10 01.9**	**+0.9**
ASPA	**Alice Springs**	**16.91**	**163**	*eP*	**P**	**14 10 12.7**	**+2.2**
ASPA				*eS*	**S**	**14 13 10.9**	**-1.4**
ASAR	**Alice Springs**	**16.91**	**163**	P	**P**	**14 10 11.2**	**+0.7**
ASAR	0.3nm,0.3s,baz=336,slow=9.9,SNR=24			S	**S**	**14 13 12.6**	**+0.2**
ASAR	0.6nm,0.3s,baz=323,slow=18,SNR=7.0			ScP		14 18 10.0	
KLBR	**Kellerberrin**	**26.10**	**202**	*eP*	**P**	**14 11 44.4**	**+1.0**
STKA	0.1nm,0.3s,baz=334,slow=1.5,SNR=6.0 903nm,1.4s **Stephens Creek**	**27.15**	**155**	P	**P**	**14 11 53.9**	**+0.9**
CMAR	0.6nm,0.4s,mb3.6,baz=323,slow=10,SNR=3.8 **Chiang Mai Arr**	**39.00**	**312**	P	**P**	**14 13 35.0**	**-0.3**
SONM	0.9nm,0.6s,mb3.6,baz=143,slow=6.7,SNR=7.3 **Songino Array**	**58.44**	**343**	P	**P**	**14 16 04.0**	**-0.1**
MKAR	1.8nm,0.8s,mb4.0,baz=166,slow=6.7,SNR=14 **Makanchi Array**	**67.86**	**328**	P	**P**	**14 17 05.9**	**-0.1**
MKAR	1.8nm,0.4s,mb4.2,baz=115,slow=8.4,SNR=58 0.9nm,0.5s,baz=124,slow=5.2,SNR=3.8			PcP	PcP	14 17 30.0	-1.4
MKAR	**Makanchi Array**	**67.86**	**328**	P	**P**	**14 17 05.9**	**-0.1**
MKAR				PcP	PcP	14 17 30.0	-1.4
ZAL	**Zalesovo**	**71.39**	**334**	P	**P**	**14 17 26.6**	**-0.7**
BVAR	1.5nm,0.7s,mb3.9,baz=351,slow=8.9,SNR=6.7 **Borovoye Array**	**77.72**	**328**	P	**P**	**14 18 03.4**	**-0.1**
	0.8nm,0.6s,mb3.5,baz=108,slow=4.7,SNR=7.7						

IDC 20 14:12:57.9±2.6,**7.61S**×**156.11E**,**mb3.8**/4,**mb1 4.0**/4, **mb1mx3.7**/15,**mbtmp3.8**/4,**MS3.1**/4,**Ms1 3.1**/4, **ms1mx2.9**/26,**Error ellipse: s-maj=82.4km s-min=35.0km az=127.0,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.03**	**258**	LR	LR	14 17 22.7	
	comp=Z,66nm,20.7s,baz=268,slow=29						
CTA	**Charters Tower**	**15.65**	**217**	LR	LR	14 20 35.4	
	comp=Z,63nm,19.1s,baz=44,slow=29						
WRA	**Warramunga Arr**	**24.40**	**238**	P	P	14 18 18.7	-0.4
	2.7nm,0.9s,baz=64,slow=9.8,SNR=6.6						
ASAR	**Alice Springs**	**26.61**	**231**	LR	LR	14 26 59.4	
	comp=Z,56nm,21.8s,baz=267,slow=32						
FITZ	**Fitzroy Crossi**	**31.43**	**248**	LR	LR	14 31 34.7	
	comp=Z,53nm,18.0s,baz=184,slow=36						
SONM	**Songino Array**	**70.45**	**327**	P	P	14 24 15.2	-0.9
	2.0nm,0.8s,baz=129,slow=4.5,SNR=13						
ILAR	**Eielson Array**	**83.54**	**21**	P	P	14 25 27.1	-1.7
	0.8nm,1.1s,baz=243,slow=2.0,SNR=4.6						
MKAR	**Makanchi Array**	**84.60**	**318**	P	P	14 25 32.1	-2.4
	0.4nm,0.8s,baz=104,slow=5.9,SNR=3.8						

IDC 20 14:32:11.3±7.3,**2.90N**×**127.26E**,**mb3.6**/3,**mb1 3.8**/3, **mb1mx3.4**/18,**mbtmp3.6**/3,**Error ellipse: s-maj=143.9km s-min=114.3km az=77.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.74**	**163**	P	P	14 37 25.1	-1.1
	0.9nm,0.5s,baz=344,slow=11,SNR=18						
ASAR	**Alice Springs**	**27.18**	**167**	P	P	14 37 56.5	-2.2
	0.2nm,0.5s,baz=342,slow=7.3,SNR=6.4						
STKA	**Stephens Creek**	**37.17**	**160**	P	P	14 39 24.7	-1.2
	0.9nm,0.4s,baz=0.2,slow=6.1,SNR=4.8						

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*NEIC **20** 14:53:27.6±2.5,1.48N×127.36E,h129km±26km,mb4.4/4, Error ellipse: s-maj=24.8km s-min=8.1km az=69.0*
*IDC **20** 14:53:28.8±2.3,1.49N×127.31E,h139km±18km,mb3.7/9, mb1 3.9/10,mb1mx3.7/20,mbtmp4.2/10,Error ellipse: s-maj=48.2km s-min=10.3km az=69.0*
ISC 20 14:53:26.0±4.0,**1.5N**±0.1×**127.3E**±0.2,**h128**km±40km,**n20**, σ0:**55**/21,**mb4.2**/10,**1C**,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**15.02**	**160**	*eP*	**P**	**14 56 52.2**	**-0.7**
	50nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.54**	**185**	*eP*	**P**	**14 57 45.7**	**-0.3**
	7.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.54**	**185**	P	**P**	**14 57 45.2**	**-0.8**
	1.3nm,0.3s,baz=18,slow=9.4,SNR=26						
WRAB	**Tennant Creek**	**22.40**	**162**	*eP*	**P**	**14 58 15.0**	**+0.4**
	50nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**22.41**	**162**	P	**P**	**14 58 15.3**	**+0.6**
	9.0nm,0.5s,mb4.4,baz=340,slow=11,SNR=125						
WRA				S	**S**	**15 02 12.8**	**+5.5**
	0.7nm,0.9s,baz=328,slow=16,SNR=3.5						
WRA				ScP		15 05 29.9	
	1.0nm,0.7s,baz=338,slow=3.0,SNR=9.3						
WB2	**Warramunga Arr**	**22.41**	**162**	↑P	**P**	**14 58 15.6**	**+0.9**
WB2				*e*		14 58 22.6	
MBWA	**Marble Bar**	**23.69**	**198**	P	**P**	**14 58 27.4**	**+0.3**
ASAR	**Alice Springs**	**25.83**	**166**	P	**P**	**14 58 47.1**	**-0.2**
	3.1nm,0.5s,mb4.0,baz=348,slow=7.8,SNR=89						
ASAR				ScP		15 05 39.5	
	0.5nm,0.4s,baz=342,slow=3.0,SNR=11						
ASPA	**Alice Springs**	**25.83**	**166**	*eP*	**P**	**14 58 47.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**32.48**	**303**	P	**P**	**14 59 46.8**	**+0.1**
	1.0nm,0.9s,mb3.5,baz=132,slow=8.1,SNR=7.0						
ENH	**Enshi**	**33.22**	**331**	P	**P**	**14 59 53.9**	**+0.9**
NWAO	**Narrogin (SRO)**	**35.52**	**195**	P	**P**	**15 00 12.5**	**0.0**
	5.9nm,0.6s,mb4.7,baz=23,slow=5.0,SNR=6.7						
NWAO	**Narrogin (SRO)**	**35.52**	**195**	P	**P**	**15 00 12.5**	**0.0**
STKA	**Stephens Creek**	**35.87**	**159**	P	**P**	**15 00 15.7**	**+0.2**
	3.8nm,0.5s,mb4.6,baz=339,slow=8.6,SNR=16						
STKA	**Stephens Creek**	**35.87**	**159**	*eP*	**P**	**15 00 15.1**	**-0.3**

SONM	**Songino Array**	**49.57**	**342**	P	**P**	**15 02 05.6**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=158,slow=8.9,SNR=7.0						
MKAR	**Makanchi Array**	**59.68**	**326**	P	**P**	**15 03 19.5**	**+0.2**
	1.8nm,0.5s,mb4.3,baz=119,slow=8.7,SNR=30						
BVAR	**Borovoye Array**	**69.47**	**327**	P	**P**	**15 04 21.4**	**-1.1**
	0.7nm,0.6s,mb3.6,baz=127,slow=7.4,SNR=6.4						
VNDA	**Vanda**	**81.16**	**173**	P	**P**	**15 05 27.8**	**-0.6**
	0.8nm,0.5s,mb3.8,baz=315,slow=7.1,SNR=9.5						
VNDA	**Vanda**	**81.16**	**173**	*eP*	**P**	**15 05 28.0**	**-0.3**
	0.8nm,0.6s,mb3.7						

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*ATH **20** 14:54:36.5,34.29N×26.71E,h10km,MD3.5/3*
*CSEM **20** 14:54:39.1±0.0,34.13N×26.34E,h25km,MD3.5,Error ellipse: s-maj=0.9km s-min=0.2km az=56.0*
*HLW **20** 14:54:43.3,34.02N×26.44E,h17km,Mb3.1*
ISC 20 14:54:36.8±0.9,**34.29N**±0.07×**26.5E**±0.1,**h10**km,**n6**, σ0:**89**/7,**1C**-**2D**,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.90**	**311**	*e*PG	**Pg**	**14 54 55.5**	**+0.6**
NPS	**Neapolis**	**1.23**	**323**	*e*PG	**Pg**	**14 55 01.5**	**+0.1**
KARP	**Karpathos**	**1.36**	**23**	*e*PB	**Pb**	**14 55 01.0**	**-1.0**
SLUM		**3.00**	**202**	⇓P	**Pn**	**14 55 25.1**	**-0.3**
SLUM				S	**Sn**	**14 55 55.7**	**-6.1**
AMAG	**Maghara**	**6.72**	**121**	⇑P	**Pn**	**14 56 19.6**	**+1.6**
HFRF	**Wahat Farafira**	**7.28**	**167**	⇓P	**Pn**	**14 56 25.0**	**-1.0**

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*IDC **20** 15:21:37.8±1.6,20.36S×69.00W,h113km±15km,mb3.7/5, mb1 3.8/8,mb1mx3.6/17,mbtmp4.1/8,Error ellipse: s-maj=33.9km s-min=13.0km az=104.0*
*NEIC **20** 15:21:37.2±0.9,20.27S×69.09W,h107km±11km,mb4.1/1, Error ellipse: s-maj=17.9km s-min=9.9km az=90.0*
ISC 20 15:21:36.0±0.6,**20.27S**±0.04×**69.1W**±0.1,**h112**km±8km, **n12**,σ0:**98**/16,**mb3.8**/3,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.34**	**176**	P	**P**	**15 22 14.7**	**+0.6**
	59nm,0.3s,baz=23,slow=11,SNR=19						
LVC				S	**S**	**15 22 42.6**	**-0.2**
	189nm,0.3s,baz=138,slow=18,SNR=40						
LVC	**Limon Verde**	**2.34**	**176**	P	**P**	**15 22 14.7**	**+0.6**
LVC				S	**S**	**15 22 42.6**	**-0.2**
LPAZ	**La Paz**	**4.06**	**13**	P	**P**	**15 22 40.3**	**+3.0**
	2.2nm,0.3s,baz=193,slow=8.8,SNR=62						
LPAZ				S	**S**	**15 23 24.4**	**+0.2**
	1.8nm,0.3s,baz=193,slow=9.5,SNR=6.3						
ARE	**Arequipa**	**4.42**	**328**	*eP*	**P**	**15 22 41.0**	**-1.3**
ARE				*eS*	**S**	**15 23 33.0**	**-0.2**
SIV	**San Ignacio**	**8.72**	**62**	P	**P**	**15 23 38.9**	**-1.6**
	1.2nm,0.3s,baz=250,slow=13,SNR=13						
CFAA	**Coronel Fontan**	**11.32**	**176**	P	**P**	**15 24 16.7**	**+1.4**
	0.1nm,0.3s,baz=12,slow=9.0,SNR=4.3						
TRQA	**Tornquist**	**18.77**	**162**	*eP*	**P**	**15 25 48.0**	**-0.8**
	11nm,1.0s						
PLCA	**Paso Flores**	**20.44**	**183**	P	**P**	**15 26 05.9**	**-0.5**
	1.8nm,0.7s,baz=16,slow=16,SNR=4.1						
BDFB	**Brasília**	**20.55**	**80**	P	**P**	**15 26 08.0**	**+0.4**
	2.8nm,0.4s,baz=226,slow=3.9,SNR=6.5						
ULM	**Lac du Bonnet**	**74.10**	**342**	P	**P**	**15 33 01.9**	**+0.4**
	1.4nm,0.4s,mb4.0,baz=24,slow=6.7,SNR=3.0						
VNDA	**Vanda**	**78.03**	**190**	P	**P**	**15 33 22.5**	**-0.7**
	0.4nm,0.4s,mb3.5,baz=341,slow=7.4,SNR=7.1						
YKA	**Yellowknife Ar**	**89.98**	**341**	P	**P**	**15 34 24.3**	**+0.8**
	0.7nm,0.7s,mb3.9,baz=133,slow=4.7,SNR=19						
YKA				pP	pP	15 34 51.1	-2.0
	0.4nm,0.7s,baz=135,slow=4.8,SNR=3.7						

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*NEIC **20** 15:47:56.8±0.7,31.65S×67.05W,h125km±8km,mb4.5/1, Error ellipse: s-maj=19.6km s-min=9.6km az=80.0*
*IDC **20** 15:47:58.0±2.5,31.57S×67.28W,h134km±23km, mb1 3.5/3,mb1mx3.3/15,mbtmp4.0/3,Error ellipse: s-maj=85.3km s-min=24.5km az=104.0*
ISC 20 15:47:55.9±1.0,**31.58S**±0.09×**66.79W**±0.10,**h100**km,**n12**, σ0:**35**/9,**La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**1.24**	**268**	P	**P**	**15 48 19.8**	**+0.3**
	8.8nm,0.3s,baz=85,slow=8.0,SNR=872						
CFAA				S	**S**	**15 48 37.0**	**-0.1**
	68nm,0.3s,baz=276,slow=16,SNR=220						
CFAA	**Coronel Fontan**	**1.24**	**268**	P	**P**	**15 48 19.8**	**+0.3**
CFAA				S	**S**	**15 48 37.0**	**-0.1**
TRQA	**Tornquist**	**7.58**	**150**	*eP*	**P**	**15 49 45.2**	**-0.1**
	10nm,0.8s						
LVC	**Limon Verde**	**9.13**	**348**	P	**P**	**15 50 05.6**	**-0.6**
	1.5nm,0.3s,baz=166,slow=8.3,SNR=2.1						
LPAZ	**La Paz**	**15.27**	**355**	P	**P**	**15 51 27.7**	**+0.5**
	0.2nm,0.3s,baz=251,slow=4.4,SNR=3.0						
LPAZ	**La Paz**	**15.27**	**355**	P	**P**	**15 51 27.7**	**+0.5**
SIV	**San Ignacio**	**16.37**	**20**	P	**P**	**15 51 41.1**	**+0.1**
	0.2nm,0.3s,baz=206,slow=13,SNR=7.8						
ASAR	**Alice Springs**	**121.61**	**202**	PKP	PKPdf	16 06 35.4	-2.9
	0.2nm,0.8s,baz=166,slow=1.6,SNR=3.7						
WRA	**Warramunga Arr**	**124.91**	**204**	PKP	PKPdf	16 06 42.1	-2.7
	0.2nm,0.4s,baz=160,slow=1.6,SNR=8.5						
WRA				pPKP		16 07 16.8	
	0.2nm,0.3s,baz=155,slow=1.7,SNR=1.9						
ZAL	**Zalesovo**	**149.78**	**34**	PKPbc	PKPdf	16 07 32.2	+3.6
	0.6nm,0.3s,baz=169,slow=19,SNR=4.2						
MKAR	**Makanchi Array**	**151.85**	**48**	PKPbc	PKPdf	16 07 37.6	+5.6
	0.4nm,0.6s,baz=318,slow=2.1,SNR=6.8						
MKAR				pPKPbc		16 08 09.3	
	0.4nm,0.7s,baz=270,slow=1.2,SNR=4.5						
MKAR	**Makanchi Array**	**151.85**	**48**	PKPbc	PKPdf	16 07 37.6	+5.6
MKAR				pPKPbc		16 08 09.3	

IDC 20 16:16:13.7±1.6,**7.61S**×**121.48E**,**mb3.4**/1,**mb1 3.7**/4, **mb1mx3.4**/19,**mbtmp3.5**/4,**ML3.5**/3,**Error ellipse: s-maj=163.4km s-min=24.4km az=58.0,Flores Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.19**	**159**	Pn	P	16 18 53.4	-4.7
	0.8nm,0.3s,baz=270,slow=20,SNR=12						
FITZ				Sn	S	16 20 51.4	-14
	0.3nm,0.3s,baz=165,slow=18,SNR=3.4						
WRA	**Warramunga Arr**	**17.49**	**136**	P	P	16 20 17.7	-3.0
	0.1nm,0.3s,baz=310,slow=13,SNR=6.6						
ASAR	**Alice Springs**	**19.93**	**145**	P	P	16 20 49.0	-1.1
	0.6nm,0.3s,baz=332,slow=12,SNR=38						
MKAR	**Makanchi Array**	**64.38**	**331**	P	P	16 26 51.5	-2.3
	0.3nm,0.7s,baz=117,slow=8.4,SNR=3.6						

IDC 20 16:41:59.2±6.0,**0.43N**×**99.52E**,**mb3.2**/3,**mb1 3.5**/3, **mb1mx3.3**/18,**mbtmp3.2**/3,**Error ellipse: s-maj=313.3km s-min=29.9km az=54.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.66**	**123**	P	P	16 49 32.8	-2.2
	0.3nm,0.6s,baz=301,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**41.09**	**128**	P	P	16 49 45.5	-1.1
	0.2nm,0.5s,baz=298,slow=8.1,SNR=5.1						
MKAR	**Makanchi Array**	**48.58**	**344**	P	P	16 50 44.4	-2.0
	0.2nm,0.5s,baz=160,slow=7.3,SNR=4.5						

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*IDC **20** 16:48:58.0±0.6,23.94N×46.34W,mb4.2/16,mb1 4.3/17, mb1mx4.2/27,mbtmp4.2/17,ML6.3/1,MS3.9/18,Ms1 3.9/18, ms1mx3.9/21,Error ellipse: s-maj=20.2km s-min=14.7km az=113.0*
*BJI **20** 16:48:59.6,24.00N×46.20W,h12km,mB5.1,Ms4.9, Msz4.6*
*NEIC **20** 16:48:59.6±0.3,23.96N×46.24W,h10km,mb4.7/29, MS4.4/1,Error ellipse: s-maj=7.8km s-min=5.2km az=157.0*
ISC 20 16:48:57.9±0.3,**23.97N**±0.06×**46.26W**±0.05,**h10**km,**n78**, σ0:**93**/68,**mb4.4**/43,**MS4.0**/18,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**19.45**	**256**	P	**P**	**16 53 25.8**	**-1.7**
	1.8nm,0.3s,baz=7.9,slow=20,SNR=1.9						
SJG				LR	LR	16 59 28.0	
	comp=Z,507nm,19.3s,baz=92,slow=32						
PCRV	**Puerto La Cruz**	**22.25**	**235**	P	**P**	**16 53 57.9**	**+1.3**
	3.9nm,0.6s,mb4.0,baz=345,slow=10,SNR=2.0						
PCRV				LR	LR	17 01 03.2	
	comp=Z,235nm,22.0s,MS3.6,baz=211,slow=33						
SDV	**Santo Domingo**	**27.70**	**241**	P	**P**	**16 54 45.4**	**-3.1**
	6.7nm,0.8s,mb4.3,baz=70,slow=12,SNR=2.8						
SDV				LR	LR	17 04 27.6	
	comp=Z,380nm,21.7s,MS3.9,baz=70,slow=34						
SDV	**Santo Domingo**	**27.70**	**241**	*eP*	**P**	**16 54 45.1**	**-3.4**
	16nm,1.1s,mb4.6						
BLA	**Blacksburg**	**32.06**	**302**	*eP*	**P**	**16 55 28.3**	**+1.3**
	5.9nm,0.7s,mb4.5						
JSC	**Jenkinsville**	**32.12**	**297**	*eP*	**P**	**16 55 25.3**	**-2.3**
ELN	**Prospectdale**	**32.32**	**302**	*eP*	**P**	**16 55 30.7**	**+1.4**
ROSC	**El Rosal**	**33.04**	**239**	LR	LR	17 07 59.5	
	comp=Z,205nm,21.2s,MS3.8,baz=21,slow=35						
SCHQ	**Schefferville**	**34.42**	**339**	LR	LR	17 07 29.2	
	comp=Z,159nm,19.8s,MS3.8,baz=130,slow=32						
SCHQ	**Schefferville**	**34.42**	**339**	*eP*	**P**	**16 55 46.9**	**-0.4**
	4.6nm,0.9s,mb4.4						
WVT	**Waverly**	**37.71**	**299**	*eP*	**P**	**16 56 16.4**	**+1.0**
	5.4nm,0.9s,mb4.3						
PLAL	**Pickwick Lake**	**37.78**	**297**	*eP*	**P**	**16 56 17.1**	**+1.1**
	25nm,0.9s,mb5.0						
PLAL				*e*		16 56 26.3	
OTAV	**Otavalo**	**39.12**	**238**	*eP*	**P**	**16 56 28.5**	**+1.0**
	16nm,1.5s,mb4.5						
BDFB	**Brasília**	**39.40**	**183**	P	**P**	**16 56 30.0**	**+0.2**
	2.0nm,0.4s,mb4.2,baz=13,slow=6.7,SNR=3.9						
BDFB				LR	LR	17 11 37.8	
	comp=Z,199nm,18.2s,MS4.0,baz=2.6,slow=34						
CCM	**Cathedral Cave**	**40.65**	**301**	*eP*	**P**	**16 56 41.1**	**+1.2**
	25nm,1.0s,mb4.8						
CCM				*e*		16 56 49.6	
SJPF	**Ste Jean**	**41.54**	**51**	*eP*	**P**	**16 56 47.0**	**-0.1**
QUIF	**Quistinic**	**41.56**	**44**	*eP*	**P**	**16 56 47.0**	**-0.2**
	244nm,1.8s,mb5.2						
SIV	**San Ignacio**	**42.27**	**201**	P	**P**	**16 56 52.6**	**-0.8**
	2.9nm,1.0s,mb3.9,baz=18,slow=6.7,SNR=9.9						
FRB	**Frobisher Bay**	**42.42**	**346**	P	**P**	**16 56 54.5**	**+0.4**
	3.2nm,1.1s,mb3.9,baz=189,slow=11,SNR=4.6						
FRB	**Frobisher Bay**	**42.42**	**346**	P	**P**	**16 56 54.5**	**+0.4**
MFF	**Saint Martin d**	**43.13**	**47**	*eP*	**P**	**16 57 00.1**	**+0.1**
DBIC	**Dimbokro**	**43.26**	**107**	LR	LR	17 12 55.3	
	comp=Z,92nm,18.8s,MS3.7,baz=275,slow=33						
LFF	**La Frestale**	**43.32**	**49**	*eP*	**P**	**16 57 01.4**	**-0.3**
RJF	**Les Rejaudoux**	**43.94**	**49**	*eP*	**P**	**16 57 06.3**	**-0.3**
RJF				*eR*			
	426nm,19.5s						
CAF	**Calviac**	**44.24**	**50**	*eP*	**P**	**16 57 09.2**	**+0.1**
EKA	**Eskdalemuir Ar**	**44.51**	**34**	P	**P**	**16 57 11.8**	**+0.6**
	2.1nm,0.8s,mb4.0,baz=241,slow=8.9,SNR=4.4						
TCF	**Toulx Ste Croi**	**44.63**	**48**	*eP*	**P**	**16 57 12.0**	**-0.2**
	10.0nm,0.8s,mb4.4						
KSU1	**Kansas State U**	**44.94**	**302**	*eP*	**P**	**16 57 14.7**	**-0.1**
BGF	**Bois d'Agland**	**45.12**	**47**	*eP*	**P**	**16 57 15.8**	**-0.3**
	10nm,0.7s,mb4.5						
LPAZ	**La Paz**	**45.36**	**210**	P	**P**	**16 57 18.1**	**-0.3**
	5.0nm,0.8s,mb4.4,baz=16,slow=8.3,SNR=20						
LPAZ				LR	LR	17 15 10.9	
	comp=Z,198nm,22.0s,MS4.0,baz=266,slow=35						
LPAZ	**La Paz**	**45.36**	**210**	*eP*	**P**	**16 57 17.9**	**-0.5**
	9.9nm,1.0s,mb4.6						
AVF	**Avril sur Loir**	**45.51**	**47**	*eP*	**P**	**16 57 19.0**	**-0.2**
SSF	**Saint Saulge**	**45.67**	**47**	*eP*	**P**	**16 57 19.9**	**-0.6**
	12nm,0.9s,mb4.5						
ULM	**Lac du Bonnet**	**46.36**	**317**	P	**P**	**16 57 25.6**	**-0.3**
	1.9nm,0.7s,mb4.1,baz=86,slow=6.7,SNR=4.4						
ULM				LR	LR	17 13 52.9	
	comp=Z,117nm,19.3s,MS3.9,baz=20,slow=32						
ULM	**Lac du Bonnet**	**46.36**	**317**	P	**P**	**16 57 24.3**	**-1.5**
	32nm,1.3s,mb5.1						
WMOK	**Wichita Mounta**	**46.57**	**296**	*eP*	**P**	**16 57 28.2**	**+0.5**
	12nm,1.0s,mb4.8						
ORIF	**Oris-en-Rattie**	**46.91**	**50**	*eP*	**P**	**16 57 29.9**	**-0.4**
ORIF				*eR*			
	252nm,18.8s						
MEZF	**Maizieres J'vi**	**47.00**	**45**	*eP*	**P**	**16 57 31.0**	**0.0**
CABF	**La Chapelle**	**47.32**	**48**	*eP*	**P**	**16 57 33.1**	**-0.5**
	52nm,1.4s,mb5.0						
FCC	**Fort Churchill**	**48.33**	**329**	*eP*	**P**	**16 57 41.7**	**+0.4**
	18nm,0.9s,mb5.1						
FCC				*e*		16 57 50.6	
CDF	**Champ du Feu**	**48.43**	**46**	*eP*	**P**	**16 57 42.0**	**-0.2**
AMTX	**Amarillo**	**48.95**	**296**	*eP*	**P**	**16 57 46.6**	**+0.3**
	5.2nm,0.9s,mb4.6						
GRA1	**Grafenberg Arr**	**51.20**	**45**	*eP*	**P**	**16 58 04.2**	**+0.8**
	17nm,1.8s,mb4.7						
GRF	**Grafenberg Arr**	**51.20**	**45**	*eP*	**P**	**16 58 04.2**	**+0.8**
	17nm,1.8s,mb4.7						
LVC	**Limon Verde**	**51.27**	**207**	*eP*	**P**	**16 58 03.2**	**-1.0**
	11nm,1.4s,mb4.6						
KHC	**Kasperske Hory**	**52.66**	**46**	P	**P**	**16 58 16.0**	**+1.6**
GERES	**GERESS Array B**	**52.72**	**46**	P	**P**	**16 58 14.0**	**-0.9**
	0.3nm,0.4s,mb3.6,baz=315,slow=5.7,SNR=3.1						
GERES				L

WMQ				LR	LR		
	comp=N,111nm,22.8s,MS4.7						
WMQ				LR	LR		
	comp=E,190nm,18.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,95nm,20.8s,MS4.3						
NJ2	**Nanjing**	**122.51**	**15**	*e*PKP	PKPdf	17 07 58.3	+1.3
VNDA	**Vanda**	**124.73**	**187**	PKP	PKPdf	17 07 58.8	-1.5
	comp=Z,1.3nm,0.9s,baz=313,slow=8.6,SNR=5.5						
VNDA	**Vanda**	**124.73**	**187**	P	PKPdf	17 07 57.8	-2.5
CMAR	**Chiang Mai Arr**	**125.87**	**42**	PKP	PKPdf	17 08 02.5	-1.4
	comp=Z,0.3nm,0.3s,baz=315,slow=2.8,SNR=4.2						

*IDC **20** 16:50:49.2±1.8, 1.23S×100.26E, mb4.1/9, mb1 4.2/10, mb1mx3.9/20, mbtmp4.0/10, ML4.0/1, MS3.5/1, Ms1 3.7/1, ms1mx3.0/30, Error ellipse: s-maj=85.6km s-min=15.4km az=56.0*
*NEIC **20** 16:50:53.0±1.0, 0.62S×101.03E, h10km, mb4.2/3, Error ellipse: s-maj=45.4km s-min=8.1km az=58.0*
ISC 20 16:50:52.7±1.4, 1.1S±0.2×100.4E±0.3, h33km, n16, σ0§98/16, mb4.1/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.39**	**2**	*e*P	**P**	**16 52 20.0**	**-7.0**
CM31	**Chiang Mai Arr**	**19.52**	**356**	P	**P**	**16 55 20.5**	**+0.2**
	3.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**19.52**	**356**	P	**P**	**16 55 20.5**	**+0.2**
	0.2nm,0.3s,baz=186,slow=10,SNR=15						
CMAR				LR	LR	17 04 42.4	
	comp=Z,137nm,18.4s,baz=185,slow=42						
FITZ	**Fitzroy Crossi**	**29.99**	**126**	P	**P**	**16 56 59.5**	**-1.3**
	4.2nm,0.8s,mb4.2,baz=82,slow=23,SNR=4.5						
LSA	**Lhasa**	**31.91**	**345**	*e*P	**P**	**16 57 17.7**	**+0.1**
	4.8nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**38.11**	**122**	P	**P**	**16 58 11.0**	**+0.3**
	1.9nm,0.5s,mb4.1,baz=302,slow=9.3,SNR=28						
WRAB	**Tennant Creek**	**38.12**	**122**	*e*P	**P**	**16 58 11.0**	**+0.3**
	3.0nm,0.5s,mb4.3						
WB2	**Warramunga Arr**	**38.12**	**122**	*e*P	**P**	**16 58 10.8**	**+0.1**
ASPA	**Alice Springs**	**39.46**	**127**	*e*P	**P**	**16 58 22.4**	**+0.6**
ASAR	**Alice Springs**	**39.46**	**127**	P	**P**	**16 58 21.9**	**+0.1**
	1.1nm,0.7s,mb3.7,baz=302,slow=7.7,SNR=13						
SONM	**Songino Array**	**49.05**	**5**	P	**P**	**16 59 39.7**	**+1.0**
	1.0nm,0.7s,mb4.0,baz=188,slow=9.1,SNR=8.5						
STKA	**Stephens Creek**	**49.44**	**132**	P	**P**	**16 59 41.5**	**-0.4**
	0.8nm,0.3s,mb4.2,baz=227,slow=19,SNR=3.2						
MKAR	**Makanchi Array**	**50.31**	**344**	P	**P**	**16 59 46.5**	**-1.9**
	0.7nm,0.4s,mb4.0,baz=156,slow=8.6,SNR=12						
ZAL	**Zalesovo**	**56.39**	**349**	P	**P**	**17 00 30.9**	**-2.3**
	1.7nm,0.5s,mb4.4,baz=295,slow=2.1,SNR=6.2						
BVAR	**Borovoye Array**	**59.51**	**339**	P	**P**	**17 00 55.5**	**+0.4**
	1.2nm,0.7s,mb4.0,baz=135,slow=10,SNR=8.4						
FINES	**FINESS Array B**	**83.53**	**332**	P	**P**	**17 03 20.4**	**+1.9**
	1.4nm,0.7s,mb4.2,baz=124,slow=6.9,SNR=4.0						

IDC 20 16:54:36.6±9.5, 1.61S×97.17E, mb3.7/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=203.1km s-min=98.0km az=142.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.02**	**5**	P	P	16 59 10.8	-3.2
	0.8nm,0.7s,baz=194,slow=12,SNR=6.9						
SONM	**Songino Array**	**49.90**	**8**	P	P	17 03 32.0	-1.9
	0.6nm,0.7s,baz=187,slow=8.8,SNR=5.8						
MKAR	**Makanchi Array**	**49.95**	**347**	P	P	17 03 32.6	-1.7
	1.1nm,0.5s,baz=160,slow=8.4,SNR=12						
ZAL	**Zalesovo**	**56.30**	**351**	P	P	17 04 19.1	-2.3
	0.9nm,0.4s,baz=313,slow=9.1,SNR=4.0						
BVAR	**Borovoye Array**	**58.88**	**341**	P	P	17 04 36.7	-2.8
	0.4nm,0.6s,baz=117,slow=6.4,SNR=3.6						

*CSEM **20** 16:56:13.2, 34.24N×10.02E, h10km, MD4.4, After SBS*
TUN 20 16:56:13.2, 34.24N×10.02E, h10km, MD4.4, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BERT	**Berda**	**0.83**	**270**	*i* P	Pb	16 56 29.0	-0.3
TROT	**Trozza**	**1.36**	**345**	*i* P	Pb	16 56 48.5	+10
ZGN	**Zaghouan**	**2.12**	**2**	*i* P	Pn	16 56 36.5	-13

*NEIC **20** 17:17:29.6, 16.30N×98.25W, h7km, MD3.8(MEX), After MEX.*
MEX 20 17:17:29.3±0.7, 16.31N×98.26W, h8km±4km, MD3.8, 1C-1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**57**	⇓*i*P	Pg	17 17 31.7	-0.9
PNIG				*i* S	Sg	17 17 34.5	-0.3
VHO	**Vista Hermosa**	**1.65**	**62**	*i* P	Pn	17 17 56.0	-2.8
VHO				*i* S	Sn	17 18 16.4	-3.9
VHO	**Vista Hermosa**	**1.65**	**62**	⇑*i*P	Pn	17 17 55.1	-3.7
VHO				*i* S	Sn	17 18 15.9	-4.4
OXX	**Oaxaca**	**1.66**	**62**	*i* P	Pn	17 17 56.5	-2.5
OXX				*i* S	Sn	17 18 19.5	-1.2
OXX	**Oaxaca**	**1.66**	**62**	*i* P	Pn	17 17 55.4	-3.5
OXX				*i* S	Sn	17 18 16.1	-4.6
ACX	**Acapulco**	**1.68**	**289**	*i* P	Pn	17 17 56.0	-3.3
ACX				*i* S	Sn	17 18 17.0	-4.3
ACX	**Acapulco**	**1.68**	**289**	*i* P	Pn	17 17 55.6	-3.8
ACX				*i* S	Sn	17 18 16.3	-5.0
CAIG	**El Cayaco**	**2.06**	**291**	*e*P	Pn	17 18 01.6	-3.1
CAIG				*i* S	Sn	17 18 25.1	-5.8
HUIG	**Huatulco**	**2.14**	**104**	*e*P	Pn	17 18 03.8	-2.0
HUIG				*i* S	Sn	17 18 25.7	-7.1
HUIG	**Huatulco**	**2.14**	**104**	*e*P	Pn	17 18 03.1	-2.7
HUIG				*i* S	Sn	17 18 26.9	-5.9
PLIG	**Platanillo**	**2.39**	**330**	*e*P	Pn	17 18 06.3	-3.1
PLIG				*i* S	Sn	17 18 34.1	-5.1
PPM	**Popocatepetl**	**2.76**	**353**	*e*P	Pn	17 18 10.0	-4.8
PPM	**Popocatepetl**	**2.76**	**353**	*e*P	Pn	17 18 11.8	-2.9
PPM				*e*P		17 18 14.3	
PPM				*i* S	Sn	17 18 43.3	-5.4
PPM				*i* S	Sn	17 18 44.4	-4.4
IISM	**Ciudad Serdan**	**2.79**	**17**	*i* P	Pn	17 18 19.0	+3.8
IISM				*i* S	Sn	17 18 48.0	-1.5
IISM	**Ciudad Serdan**	**2.79**	**17**	*i* P	Pn	17 18 15.0	-0.2
IISM				*i* S	Sn	17 18 45.9	-3.5
CMIG	**Matias Romero**	**3.33**	**76**	*e*P	Pn	17 18 19.0	-3.8
CMIG				*i* S	Sn	17 18 56.5	-6.5

*IDC **20** 17:18:33.2±1.9, 11.58S×121.59E, mb3.9/1, mb1 3.9/4, mb1mx3.6/15, mbtmp3.8/4, ML3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=156.9km s-min=25.8km az=54.0*
*NEIC **20** 17:18:35.2±1.1, 11.42S×121.86E, h10km, mb4.6/1, Error ellipse: s-maj=22.7km s-min=12.9km az=221.0*
ISC 20 17:18:33.8±0.7, 11.8S±0.1×121.3E±0.1, h33km, n15, σ1§58/18, mb3.9/1, MS3.2/1, 6C, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**6.09**	**302**	⇑*i*P	**P**	**17 20 05.2**	**+1.4**
	97nm,0.2s						
RATI	**Rata**	**6.46**	**298**	⇑*i*P	**P**	**17 20 09.1**	**0.0**
RATI				⇑*i*S	Sx	17 21 14.4	
FITZ	**Fitzroy Crossi**	**7.54**	**147**	Pn	**Pn**	**17 20 25.3**	**+1.0**
	2.1nm,0.3s,baz=324,slow=10,SNR=43						
FITZ				Sn	**S**	**17 21 42.6**	**-6.7**
	3.7nm,0.3s,baz=314,slow=9.8,SNR=4.4						
KELI	**Kelakatan**	**7.61**	**297**	⇑*i*P	**P**	**17 20 22.4**	**-2.7**
SRDI	**Scrawed**	**7.80**	**294**	⇑*i*P	**P**	**17 20 25.2**	**-2.5**
MBWA	**Marble Bar**	**9.45**	**189**	*e*P	**P**	**17 20 50.6**	**0.0**
WRA	**Warramunga Arr**	**14.91**	**125**	Pn	**P**	**17 22 02.6**	**-1.5**
	0.2nm,0.3s,baz=298,slow=13,SNR=15						
WRA				Sn	**S**	**17 24 35.9**	**-13**
	0.2nm,0.3s,baz=295,slow=24,SNR=5.9						
WRAB	**Tennant Creek**	**14.91**	**125**	*e*P	**P**	**17 22 03.1**	**-0.9**
WB2	**Warramunga Arr**	**14.92**	**125**	*e*P	**P**	**17 22 03.4**	**-0.7**
WB2				*e*S	**S**	**17 24 37.1**	**-12**
ASPA	**Alice Springs**	**16.81**	**136**	*e*P	**P**	**17 22 30.9**	**+2.6**
ASPA				*e*S	**S**	**17 25 24.2**	**-8.7**
ASAR	**Alice Springs**	**16.81**	**136**	Pn	**P**	**17 22 30.6**	**+2.2**
	0.2nm,0.3s,baz=315,slow=12,SNR=17						
ASAR				Sn	**S**	**17 25 24.4**	**-8.6**
	0.2nm,0.3s,baz=314,slow=24,SNR=17						
MUN	**Mundaring**	**20.64**	**192**	*e*P	**P**	**17 23 20.0**	**+6.8**
	43nm,1.5s						
YOMI	**Yo Moklole**	**21.11**	**66**	⇑*i*P	Px	17 23 38.0	
JOW	**Kunigami**	**38.97**	**10**	LR	LR	17 40 31.5	
	comp=Z,39nm,20.3s,MS3.2,baz=245,slow=34						
MKAR	**Makanchi Array**	**67.97**	**332**	P	**P**	**17 29 33.7**	**+2.1**
	0.7nm,0.6s,mb3.9,baz=145,slow=6.7,SNR=12						

*NIED **20** 17:20:00, 33.90N×134.70E, h56km, Mw3.4 Best double couple: Mo1.31×10^14 NP1:φs172°, δ82°, λ-81°. NP2: φs304°, δ12°, λ-137°.*
JMA 20 17:20:38.6, 33.90N×134.65E, h45km±1km, M3.5, 8C-2D Broadband fault plane solution: P waves. NP1:φs27°, δ39°, λ-37°. NP2:φs148°, δ67°, λ-123°. Principal axes: T Plg16°, Azm261°; N Plg30°, Azm161°; P Plg55°, Azm16°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**0.20**	**237**	⇓P	P	17 20 46.3	0.0
JAI				S	S	17 20 51.6	-0.1
JAJ2	**Tsuna**	**0.55**	**21**	⇑P	P	17 20 50.2	-0.1
JAJ2				S	S	17 20 58.2	-0.4
JWM	**Minabe**	**0.59**	**95**	⇑P	P	17 20 50.5	-0.2
JWM				S	S	17 20 58.8	-0.7
JMN	**Monobe**	**0.66**	**255**	⇑P	P	17 20 51.7	0.0
JMN				S	S	17 21 01.2	-0.1
JJS	**Sakaide**	**0.76**	**309**	⇑P	P	17 20 52.6	-0.4
JJS				S	S	17 21 02.5	-1.1
JWY	**Kouya**	**0.84**	**68**	⇑P	P	17 20 54.0	-0.2
JWY				S	S	17 21 05.1	-0.6
JWZ	**Kozaga**	**0.96**	**112**	⇑P	P	17 20 55.3	-0.5
JAD	**Aida**	**1.11**	**339**	⇓P	P	17 20 57.0	-0.9
JAD				S	S	17 21 10.9	-1.5
JHE	**Heguri**	**1.14**	**48**	⇑P	P	17 20 57.6	-0.7
JHE				S	S	17 21 11.7	-1.4
JET	**Tanbara**	**1.34**	**265**	⇑P	P	17 21 00.7	-0.6
JET				S	S	17 21 16.8	-1.4

*IDC **20** 17:23:19.8±0.6, 1.80N×97.76E, mb4.6/17, mb1 4.6/18, mb1mx4.4/25, mbtmp4.5/18, ML4.8/1, MS3.9/18, Ms1 3.9/18, ms1mx3.8/28 Error ellipse: s-maj=30.5km s-min=11.2km az=53.0*
*BJI **20** 17:23:22.4, 1.74N×97.89E, h33km, mB4.7, mb4.8, Ms4.3, Msz4.0*
*MOS **20** 17:23:23.1±0.8, 1.85N×97.86E, h33km, mb5.0/24, Error ellipse: s-maj=14.5km s-min=7.3km az=108.7*
*NEIC **20** 17:23:24.1±0.3, 1.80N×97.75E, h30km, mb4.7/17, Error ellipse: s-maj=11.4km s-min=5.6km az=60.0*
ISC 20 17:23:23.1±0.3, 1.73N±0.04×97.79E±0.05, h34km, h34km±2.1km: pP-P, n127, σ1§15/128, mb4.7/58, MS3.9/29, 2C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.29**	**49**	P	**P**	**17 24 29.2**	**+1.4**
KULM	**Kulim**	**4.54**	**39**	*e*P	**P**	**17 24 31.9**	**+0.5**
KGM	**Kluang**	**5.53**	**87**	P	**P**	**17 24 47.6**	**+2.3**
SNG	**Songkhla**	**6.10**	**27**	P	**P**	**17 24 54.0**	**+0.8**
	442nm,0.8s						
NNT	**Nongplab**	**10.96**	**10**	P	**P**	**17 26 02.5**	**+1.7**
NST	**Nakhon Sawan**	**14.04**	**9**	P	**P**	**17 26 43.0**	**+1.0**
CM31	**Chiang Mai Arr**	**16.66**	**4**	*e*P	**P**	**17 27 15.3**	**-0.5**
	6.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.66**	**4**	Pn	**P**	**17 27 15.2**	**-0.6**
	1.4nm,0.3s,baz=192,slow=12,SNR=42						
CMAR				LR	LR	17 33 47.7	
	comp=Z,275nm,18.0s,baz=180,slow=38						
CHG	**Chiang Mai**	**17.02**	**4**	P	**P**	**17 27 19.5**	**-0.7**
NANT	**Nan**	**17.20**	**9**	P	**P**	**17 27 23.0**	**+0.4**
KKM	**Kota Kinabalu**	**18.87**	**76**	P	**P**	**17 27 43.8**	**+0.5**
TSM	**Tawau**	**20.21**	**82**	P	**P**	**17 27 58.4**	**+0.3**
QIZ	**Qiongzhong**	**20.86**	**34**	P	**P**	**17 28 04.8**	**+0.1**
QIZ				S	**S**	**17 31 51.9**	**+1.4**
QIZ				LR	LR		
	comp=N,157nm,18.7s						
QIZ				LR	LR		
	comp=Z,222nm,26.0s						
KMI	**Kunming**	**23.74**	**11**	P	**P**	**17 28 34.0**	**+0.6**
KMI				AP		17 28 44.4	
KMI				XP		17 28 48.9	
KMI				PP	PP	17 29 09.5	+2.7
KMI				S	**S**	**17 32 46.1**	**+3.0**
KMI				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.3						
KMI				AMB	AMB		
	comp=Z,118nm,4.9s						
KMI				LR	LR		
	comp=N,538nm,15.5s,MS4.2						
KMI				LR	LR		
	comp=E,187nm,13.4s,MS4.2						
KMI				LR	LR		
	comp=Z,545nm,15.5s,MS4.1						
KMI	**Kunming**	**23.74**	**11**	P	**P**	**17 28 34.0**	**+0.6**
	comp=Z,14nm,1.0s,mb4.3						
KMI				pP		17 28 44.4	
KMI				sP		17 28 48.9	
KMI				PP	PP	17 29 09.5	+2.7
KMI				S	**S**	**17 32 46.1**	**+3.0**
KMI				sS		17 33 04.4	
KMI				SS	SS	17 33 39.6	+6.4
KMI				LR	LR		
	comp=Z,550nm,15.5s,MS4.1						
SHL	**Shillong**	**24.37**	**347**	*e*P	**P**	**17 28 38.3**	**-1.2**
HYB	**Hyderabad**	**24.50**	**311**	*e*P	**P**	**17 28 44.5**	**+3.7**
HYB	**Hyderabad**	**24.50**	**311**	*i* P	**P**	**17 28 44.5**	**+3.7**
GYA	**Guiyang**	**26.02**	**18**	⇑*i*P	**P**	**17 28 53.5**	**-1.7**
GYA				AP	pP	17 29 02.6	-2.1
GYA				XP	sP	17 29 06.8	-1.9
GYA				PP	PP	17 29 34.9	-1.8
GYA				S	**S**	**17 33 19.8**	**-1.7**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				LR	LR		
	comp=N,280nm,15.2s,MS4.0						
GYA				LR	LR		
	comp=E,190nm,15.0s,MS4.0						
GYA				LR	LR		
	comp=Z,310nm,14.8s,MS4.0						
JIRN	**Jiri**	**28.07**	**338**	*e*P	**P**	**17 29 14.0**	**+0.1**
	comp=Z,14nm,0.4s,mb5.0						
PKI	**Pulchoki**	**28.30**	**336**	*e*P	**P**	**17 29 17.6**	**+1.7**
	comp=Z,12nm,0.4s,mb4.9						
GUN	**Gumba**	**28.42**	**337**	*e*P	**P**	**17 29 17.1**	**+0.1**
	comp=Z,30nm,0.4s,mb5.2						
DMN	**Daman**	**28.45**	**336**	*e*P	**P**	**17 29 18.5**	**+1.2**
	comp=Z,8.6nm,0.4s,mb4.8						
LSA	**Lhasa**	**28.52**	**348**	P	**P**	**17 29 18.4**	**+0.5**
LSA				XP	sP	17 29 33.3	+1.3
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
LSA				LR	LR		
	comp=N,680nm,17.0s,MS4.3						
LSA				LR	LR		
	comp=E,130nm,17.0s,MS4.3						
LSA				LR	LR		
	comp=Z,190nm,21.0s,MS3.7						
LSA	**Lhasa**	**28.52**	**348**	*e*P	**P**	**17 29 17.9**	**0.0**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.9						
LSA	**Lhasa**	**28.52**	**348**	*e*P	**P**	**17 29 17.9**	**0.0**
	comp=Z,9.6nm,0.4s,mb4.9						
KKN	**Kakani**	**28.55**	**336**	*e*P	**P**	**17 29 18.3**	**+0.2**
	comp=Z,24nm,0.6s,mb5.1						
GKN	**Gorkha**	**29.00**	**335**	*e*P	**P**	**17 29 22.0**	**-0.1**
	comp=Z,25nm,0.3s,mb5.4						
KOLN	**Koldanda**	**29.24**	**334**	*e*P	**P**	**17 29 24.9**	**+0.6**
	comp=Z,29nm,0.5s,mb5.3						
ENH	**Enshi**	**30.48**	**20**	*e*P	**P**	**17 29 32.1**	**-3.1**
	comp=Z,6.9nm,0.4s,mb4.7						
LGTI	**Lohaghat**	**32.23**	**330**	*e*P	**P**	**17 29 51.5**	**+0.8**
PTH	**Pithoragarh**	**32.33**	**331**	*e*P	**P**	**17 29 53.4**	**+1.8**
FITZ	**Fitzroy Crossi**	**33.77**	**127**	P	**P**	**17 30 02.9**	**-1.2**
	comp=Z,4.9nm,0.6s,mb4.6,baz=318,slow=4.8,SNR=14						
FITZ				PcP	PcP	17 32 44.3	+1.1
	comp=Z,1.5nm,0.5s,baz=304,slow=7.3,SNR=5.8						
FITZ				LR	LR	17 44 33.8	
	comp=Z,131nm,20.7s,MS3.6,baz=333,slow=38						
XAN	**Xi'an**	**33.79**	**17**	P	**P**	**17 30 01.6**	**-2.5**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
LZH	**Lanzhou**	**34.64**	**9**	⇓P	**P**	**17 30 10.1**	**-1.4**
LZH				AP	pP	17 30 19.5	-1.9
LZH				XP	sP	17 30 23.5	-2.3
LZH				PP	PP	17 31 28.8	+0.2
LZH				AMB	AMB		
	comp=Z,32nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,86nm,5.4s						
LZH				LR	LR		
	comp=N,389nm,12.9s						
LZH				LR	LR		
	comp=Z,495nm,16.8s,MS4.3						
LZH	**Lanzhou**	**34.64**	**9**	⇓P	**P**	**17 30 10.1**	**-1.4**
LZH				*PP	pP	17 30 19.5	-1.9
LZH				*SP	sP	17 30 23.5	-2.3
LZH						17 31 28.7	
LZH				pmax	pmax		
	comp=Z,32nm,1.5s,mb5.0						
LZH				MLR	MLR		
	comp=Z,500nm,16.8s,MS4.3						
LZH	**Lanzhou**	**34.64**	**9**	⇓P	**P**	**17 30 10.1**	**-1.4**
	comp=Z,32nm,1.5s,mb5.0						
LZH				pP	pP	17 30 19.5	-1.9
LZH				sP	sP	17 30 23.5	-2.3
LZH				PP	PP	17 31 28.7	+0.1
LZH				LR	LR		
	comp=Z,500nm,16.8s,MS4.3						
NJ2	**Nanjing**	**36.11**	**31**	*e*P	**P**	**17 30 26.3**	**+2.3**
NJ2				AP	pP	17 30 36.0	+2.1
NJ2				XP	sP	17 30 40.0	+1.7
NJ2				PP	PP	17 31 50.3	+3.6
NJ2				S	**S**	**17 36 05.0**	**+4.5**
NJ2				XS		17 36 21.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				LR	LR		
	comp=N,650nm,23.5s						
NJ2				LR	LR		
	comp=E,290nm,30.0s						
NJ2				LR	LR		
	comp=Z,330nm,27.1s,MS4.0						
SSE	**Sheshan**	**36.64**	**35**	P	**P**	**17 30 23.0**	**-5.5**
SSE				AP	pP	17 30 31.8	-6.6
SSE				S	**S**	**17 36 00.5**	**-8.3**
SSE				PCS		17 36 36.9	
SSE				SS	SS	17 38 39.1	+2.7
SSE				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,81nm,3.8s						
SSE				LR	LR		
	comp=N,101nm,29.2s,MS3.5						
SSE				LR	LR		
	comp=E,77nm,29.2s,MS3.5						
SSE				LR	LR		
	comp=Z,155nm,27.9s,MS3.6						
SSE	**Sheshan**	**36.64**	**35**	P	**P**	**17 30 23.0**	**-5.5**
	comp=Z,17nm,0.8s,mb4.9						
SSE				pP	pP	17 30 31.8	-6.6
SSE				sP	sP	17 30 35.6	-7.2
SSE				S	**S**	**17 36 00.5**	**-8.3**
SSE				sS		17 36 15.9	
SSE				PcS		17 36 36.9	
SSE				SS	SS	17 38 39.1	+2.7
SSE				LR	LR		
	comp=Z,160nm,27.9s,MS3.6						
KAKA	**Kakadu**	**37.27**	**114**	*e*P	**P**	**17 30 33.0**	**-0.9**
	comp=Z,4.1nm,0.5s,mb4.5						
GTA	**Gaotai**	**37.55**	**3**	P	**P**	**17 30 35.3**	**-0.7**
GTA				AP	pP	17 30 47.5	+1.5
GTA				XP	sP	17 30 51.8	+1.5
GTA				PP	PP	17 32 07.6	+2.8
GTA				PPP	PPP	17 32 27.4	+1.5
GTA				PCP	PcP	17 32 54.3	+0.2
GTA				S	**S**	**17 36 22.8**	**+0.3**
GTA				SCP		17 36 37.8	
GTA				XS		17 36 42.9	
GTA				SS	SS	17 38 56.3	-0.5
GTA				SCS	ScS	17 40 43.6	-0.9
GTA				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.7						
GTA				AMB	AMB		
	comp=Z,54nm,7.2s						
GTA				LR	LR		
	comp=N,179nm,22.1s,MS4.1						
GTA				LR	LR		
	comp=E,249nm,19.4s,MS4.1						
GTA				LR	LR		
	comp=Z,120nm,23.2s,MS3.6						
MUN	**Mundaring**	**37.80**	**154**	*e*P	**P**	**17 30 43.5**	**+5.3**
	comp=Z,37nm,0.9s,mb5.1						
MUN	**Mundaring**	**37.80**	**154**	*e*P	**P**	**17 30 43.5**	**+5.3**
MUN				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.1						
JOW	**Kunigami**	**38.45**	**47**	P	**P**	**17 30 42.9**	**-0.8**
	comp=Z,5.4nm,0.5s,mb4.6,baz=250,slow=5.0,SNR=6.8						
NWAO	**Narrogin (SRO)**	**39.06**	**154**	P	**P**	**17 30 49.4**	**+0.7**
	comp=Z,12nm,1.1s,mb4.6,baz=243,slow=9.0,SNR=2.2						
NWAO				LR	LR	17 46 14.4	
	comp=Z,142nm,18.1s,MS3.8,baz=149,slow=35						
NWAO	**Narrogin (SRO)**	**39.06**	**154**	P	**P**	**17 30 49.4**	**+0.7**
NWAO				LR	LR	17 46 14.4	
BJI	**Beijing**	**41.63**	**21**	*e*P	**P**	**17 31 08.9**	**-1.0**
BJI				S	**S**	**17 37 31.8**	**+7.9**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.5						
BJI				LR	LR		
	comp=N,108nm,27.0s,MS3.7						
BJI				LR	LR		
	comp=E,99nm,25.2s,MS3.7						
BJI				LR	LR		
	comp=Z,122nm,31.9s						
WRA	**Warramunga Arr**	**41.82**	**123**	*i* P	**P**	**17 31 11.9**	**+0.2**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
WRA	**Warramunga Arr**	**41.82**	**123**	P	**P**	**17 31 11.6**	**-0.1**
	comp=Z,9.1nm,0.5s,mb4.7,baz=302,slow=9.1,SNR=77						
WRA				PcP	PcP	17 33 08.6	+0.6
	comp=Z,1.3nm,0.5s,baz=312,slow=2.8,SNR=7.0						
WRAB	**Tennant Creek**	**41.82**	**123**	*e*P	**P**	**17 31 11.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,13nm,0.5s,mb4.8						
WRAB	**Tennant Creek**	**41.82**	**123**	*e*P	**P**	**17 31 11.6**	**-0.1**
	comp=Z,13nm,0.5s,mb4.8						
WB2	**Warramunga Arr**	**41.83**	**123**	*e*P	**P**	**17 31 12.0**	**+0.2**
WMQ	**Urumqi**	**42.86**	**349**	P	**P**	**17 31 20.4**	**+0.4**
WMQ				AP	pP	17 31 30.4	+0.4
WMQ				XP	sP	17 31 34.3	0.0
WMQ				PP	PP	17 33 02.8	+1.0
WMQ				PCP	PcP	17 33 11.4	+0.3
WMQ				*e*S	**S**	**17 37 42.5**	**+0.7

AAK Ala-Archa 45.75 336 *eP* **P 17 31 41.4 -1.8**
comp=Z,8.8nm,1.1s,mb4.6
FRU Bishkek 45.87 336 *eP* **P 17 31 45.0 +0.8**
CHMS Chumysh 45.95 336 P **P 17 31 45.6 +0.8**
SNR=5.9
EKS2 Erkin-Say 46.07 335 P **P 17 31 47.2 +1.4**
SNR=13
USP Ospenovka 46.28 336 P **P 17 31 49.0 +1.6**
SNR=5.5
SONM Songino Array 46.52 8 P **P 17 31 49.0 -0.3**
comp=Z,4.4nm,0.4s,mb4.8,baz=191,slow=9.0,SNR=78
SONM PcP PcP 17 33 23.6 -0.1
comp=Z,0.7nm,0.4s,baz=190,slow=4.2,SNR=5.7
SONM LR LR 17 53 23.5
comp=Z,167nm,20.4s,MS4.0,baz=218,slow=39
ULN Ulaanbaatar 46.65 9 *eP* **P 17 31 49.4 -0.8**
ULN pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ULN Ulaanbaatar 46.65 9 *eP* **P 17 31 49.4 -0.8**
comp=Z,3.1nm,0.5s,mb4.5
MKAR Makanchi Array 46.88 345 P **P 17 31 51.4 -0.6**
comp=Z,14nm,0.4s,mb5.2,baz=156,slow=8.6,SNR=298
CN2 Changchun 48.57 27 *eP* **P 17 32 06.6 +1.3**
ZAK Zakamensk 48.70 5 *eP* **P 17 32 05.4 -0.8**
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
MOY Mondy 49.83 3 *eP* **P 17 32 14.8 -0.1**
TLY Talaya 50.02 5 *iP* **P 17 32 14.2 -2.1**
TLY pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
TLY Talaya 50.02 5 *eP* **P 17 32 15.5 -0.8**
comp=Z,3.1nm,0.8s,mb4.4
PMG Port Moresby 50.40 104 P **P 17 32 19.4 -0.3**
comp=Z,5.4nm,0.7s,mb4.7,slow=20,SNR=2.7
MJAR Matsushiro Arr 50.90 42 LR LR 17 54 46.6
comp=Z,57nm,18.3s,MS3.6,baz=245,slow=37
MDJ Mudanjiang 51.12 29 P **P 17 32 23.3 -1.5**
MDJ AP pP 17 32 33.6 -1.3
MDJ XP sP 17 32 37.5 -1.6
MDJ S **S 17 39 38.3 -0.6**
MDJ AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
MDJ AMB AMB
comp=Z,54nm,3.1s
MDJ LR LR
comp=N,72nm,19.6s
MDJ LR LR
comp=Z,101nm,16.2s,MS3.9
CTA Charters Tower 52.21 117 P **P 17 32 34.1 +0.8**
comp=Z,4.1nm,0.6s,mb4.5,baz=300,slow=8.1,SNR=3.0
ZAL Zalesovo 53.12 350 P **P 17 32 38.5 -1.1**
comp=Z,27nm,0.4s,mb5.5,baz=314,slow=5.0,SNR=102
ZAL LR LR 18 00 46.7
comp=Z,62nm,18.6s,MS3.7,baz=121,slow=42
STKA Stephens Creek 53.28 133 *eP* **P 17 32 41.9 +0.8**
comp=Z,2.2nm,0.6s,mb4.3
STKA Stephens Creek 53.28 133 P **P 17 32 41.7 +0.6**
comp=Z,2.0nm,0.5s,mb4.3,baz=308,slow=5.2,SNR=13
STKA LR LR 17 53 25.7
comp=Z,166nm,21.7s,MS4.0,baz=322,slow=34
STKA Stephens Creek 53.28 133 *eP* **P 17 32 41.4 +0.2**
STKA *eP* 17 32 41.9
BVAR Borovoye Array 55.95 340 P **P 17 32 58.8 -1.5**
comp=Z,6.2nm,0.4s,mb5.0,baz=144,slow=10,SNR=64
BOD Bodaibo 57.38 10 *eP* **P 17 33 09.7 -0.8**
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
YSS Yuzh-Sakhalins 59.58 34 *iP* **P 17 33 21.9 -4.1**
YSS pmax pmax
comp=Z,29nm,1.4s,mb5.1
KMBO Kilima Mbogo 60.60 268 LR LR 17 54 19.8
comp=Z,79nm,20.8s,MS3.8,baz=94,slow=31
GNI Garni 61.32 316 *iP* **P 17 33 38.6 +0.7**
GNI pmax pmax
comp=Z,10.0nm,1.2s
GNI Garni 61.32 316 LR LR 18 01 51.6
comp=Z,38nm,19.9s,MS3.5,baz=263,slow=38
SVE Sverdlovsk 62.42 338 *eP* **P 17 33 44.0 -1.0**
SVE pmax pmax
comp=Z,40nm,1.7s,mb5.3
ARU Arti 62.93 337⇑ *iP* **P 17 33 47.2 -1.2**
ARU *e* 17 36 06.0
ARU *eS* **S 17 42 15.0 +0.7**
ARU *eSS* SS 17 46 20.9 -0.9
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
ARU Arti 62.93 337 *eP* **P 17 33 46.8 -1.7**
comp=Z,6.7nm,0.9s,mb4.8
KIV Kislovodsk 64.30 319 *eP* **P 17 33 57.8 +0.2**
KIV pmax pmax
comp=Z,15nm,1.1s,mb4.9
KIV pmax pmax
comp=N,6.0nm,0.9s
KIV pmax pmax
comp=E,7.0nm,1.1s
KIV MLR MLR
comp=N,20nm,19.0s,MS3.6
KIV MLR MLR
comp=E,33nm,19.0s,MS3.6
KIV MLR MLR
comp=Z,42nm,19.0s,MS3.6
YAK Yakutsk 64.75 16 *eP* **P 17 33 57.6 -2.6**
YAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 64.75 16 P **P 17 33 58.3 -1.9**
MALT Malatya 65.21 312 P **P 17 34 00.7 -2.9**
MALT pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
MALT Malatya 65.21 312 P **P 17 34 00.7 -2.9**
comp=Z,6.4nm,1.1s,mb4.6
SOC Sochi 66.12 318 *eP* **P 17 34 07.6 -1.7**
SOC *e* 17 34 37.5
SOC *e* 17 36 35.9
SOC *eS* S 17 42 53.3 -0.6
SOC pmax pmax
comp=Z,29nm,1.8s,mb5.0
SOC pmax pmax
comp=N,14nm,1.4s
SOC pmax pmax
comp=E,29nm,1.9s
BRTR Keskin Array B 69.19 312 P **P 17 34 28.0 -0.6**
comp=E,1.1nm,0.6s,mb4.0,baz=127,slow=6.2,SNR=7.3
PET Petropavlovsk 71.46 34 *eP* **P 17 34 41.5 -0.6**
PET *e* 17 43 51.9
PET pmax pmax
comp=Z,18nm,0.7s,mb5.1
PET MLR MLR
comp=Z,100nm,20.0s,MS4.1
OBN Obninsk 72.48 328 *eP* **P 17 34 48.4 +0.3**
OBN pmax pmax
comp=Z,25nm,1.5s,mb4.9
TIXI Tiksi 72.56 10 *iP* **P 17 34 46.7 -1.6**
TIXI pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SEY Seymchan 73.05 23 *eP* **P 17 34 49.6 -1.7**
SEY *e* 17 35 06.9
SEY pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
MAW Mawson 73.36 193 LR LR 18 00 07.8
comp=Z,123nm,20.6s,MS4.2,baz=247,slow=30
AKASG Malin Array Be 75.20 322 P **P 17 35 02.9 -1.2**
comp=Z,1.4nm,0.4s,mb4.3,baz=84,slow=4.9,SNR=12
BOSA Boshof 75.55 240 LR LR 18 03 03.8
comp=Z,88nm,18.5s,MS4.1,baz=276,slow=32
JOF Joensuu 77.92 335 *ep* **P 17 35 18.8 -0.3**
FINES FINESS Array B 79.80 332 P **P 17 35 29.7 +0.3**
comp=Z,3.0nm,0.4s,mb4.6,baz=103,slow=5.9,SNR=70
FINES LR LR 18 15 17.0
comp=Z,58nm,18.6s,MS4.0,baz=165,slow=39
FX1 Attu Island--F 79.81 37 LR LR 18 13 24.6
comp=Z,1.6nm,21.5s,baz=84,slow=38
KAF Kangasniemi 79.88 333 *ep* **P 17 35 29.5 -0.3**
comp=Z,2.3nm,0.5s,mb4.4,baz=118,slow=5.4
KAF Kangasniemi 79.88 333 *eP* **P 17 35 29.5 -0.3**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
BILL Bilibino 80.46 21 *iP* **P 17 35 31.2 -1.6**
BILL pmax pmax
comp=Z,3.0nm,1.5s,mb4.0
ARCES ARCESS Array B 82.24 340 P **P 17 35 42.4 +0.3**
comp=Z,2.4nm,0.4s,mb4.5,baz=101,slow=4.9,SNR=41
ARCES LR LR 18 15 22.9
comp=Z,88nm,21.4s,MS4.1,baz=117,slow=38
GERES GERESS Array B 84.81 319 P **P 17 35 56.2 +0.7**
comp=Z,0.7nm,0.4s,mb4.1,baz=104,slow=5.2,SNR=9.2
HFS Hagfors 85.56 330 LR LR 18 14 27.4
comp=Z,57nm,21.2s,MS3.9,baz=202,slow=36
VNDA Vanda 86.23 169 LR LR 18 08 16.4
comp=Z,130nm,18.8s,MS4.3,baz=339,slow=31
NB2 NORSAR Subarra 86.83 331 P **P 17 36 05.9 +0.7**
comp=Z,2.4nm,0.5s,mb4.7,baz=97,slow=5.6
NB2 NORSAR Subarra 86.83 331 P **P 17 36 05.9 +0.7**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
NB2 NORSAR Subarra 86.83 331 P **P 17 36 05.9 +0.7**
comp=Z,2.4nm,0.5s,mb4.7
NOA NORSAR Array B 86.83 331 P **P 17 36 06.0 +0.8**
comp=Z,1.9nm,0.6s,mb4.5,baz=96,slow=5.0,SNR=8.2
TNA Tin City 90.22 25 P **P 17 36 19.2 -2.0**
JMIC Jan Mayen 93.65 342 LR LR 18 20 31.4
comp=Z,48nm,18.4s,MS4.0,baz=261,slow=37
ILAR Eielson Array 98.98 23 LR LR 18 28 48.1
comp=Z,60nm,20.2s,MS4.1,baz=359,slow=40
PDAR Pinedale Array 129.31 26 PKP PKPdf 17 42 30.3 +1.6
comp=Z,0.3nm,0.5s,baz=76,slow=1.9,SNR=3.7

*NEIC **20** 17:23:24.6, 34.81N×3.38W, MG3.3(MDD), After MDD.*
*CSEM **20** 17:23:24.5±0.1, 34.90N×3.65W, h5km, MD3.4, Error ellipse: s-maj=3.6km s-min=2.3km az=112.0*
*MDD **20** 17:23:25.6±0.3, 35.04N×3.78W, h5km±3km, mbLg2.1/17, Error ellipse: s-maj=4.1km s-min=2.8km az=80.0, PRXIMO*
*CNRM **20** 17:23:25.6, 35.06N×3.74W, h4km, MD3.4*
*SFS **20** 17:23:26.0, 34.85N×3.43W*
ISC 20 17:23:24.5±0.4, 35.06N±0.02×3.83W±0.03, h11km±2km, n51, σ1°33/96, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**148**	P		**Pg**	**17 23 27.0**	**-0.6**
TOU				S		**Sg**	**17 23 29.0**	**-0.7**
TOU	**Touzarine**	**0.12**	**148**	*iP*		**Pg**	**17 23 27.0**	**-0.6**
MPAL	**Palemas**	**0.19**	**331**	P		**Pg**	**17 23 29.5**	**+0.7**
MPAL				S		**Sg**	**17 23 33.5**	**+1.9**
MELI	**Melilla**	**0.77**	**72**	⇑P		**Pb**	**17 23 40.1**	**+0.7**
MELI	**Melilla**	**0.77**	**72**	*iP*		**Pb**	**17 23 40.1**	**+0.7**
MELI				*iS*		**Sb**	**17 23 52.7**	**+3.1**
ZAI	**Zaio**	**0.90**	**95**	*iP*		**Pb**	**17 23 40.0**	**-1.6**
ZAI				*iS*		**Sb**	**17 23 53.0**	**-0.2**
TZK	**Tazeka**	**1.01**	**197**	*iP*		**Pb**	**17 23 44.0**	**+0.4**
TZK				*iS*		**Sb**	**17 23 59.0**	**+2.3**
EALB	**Alboran**	**1.09**	**36**	P		**Pb**	**17 23 45.0**	**+0.1**
EALB	5.8nm,0.1s,SNR=7.4			S		**Sb**	**17 24 00.7**	**+1.8**
	81nm,0.5s,SNR=7.9							
EALB	**Alboran**	**1.09**	**36**	P		**Pb**	**17 23 45.0**	**+0.1**
EALB	5.8nm,0.1s,SNR=7.4			S		**Sb**	**17 24 00.7**	**+1.8**
	SNR=7.9							
TAF	**Taforalt**	**1.19**	**102**	P		**Pb**	**17 23 45.0**	**-1.6**
TAF				S		**Sb**	**17 24 04.0**	**+2.2**
EMIJ	**Mijas**	**1.69**	**333**	P		**Pn**	**17 23 57.9**	**+3.8**
EMIJ				S		**Sn**	**17 24 17.5**	**+1.7**
EMIJ	**Mijas**	**1.69**	**333**	P		**Pn**	**17 23 55.2**	**+1.1**
EMIJ	2.0nm,0.2s,SNR=4.0			S		**Sn**	**17 24 17.5**	**+1.7**
	9.6nm,0.4s,SNR=5.4							
EMIJ	**Mijas**	**1.69**	**333**	P		**Pn**	**17 23 57.9**	**+3.8**
EMIJ	2.0nm,0.2s,SNR=4.0			S		**Sn**	**17 24 17.5**	**+1.7**
	9.6nm,0.4s,SNR=5.4							
IFR	**Ifrane**	**1.88**	**215**	P		**Pn**	**17 24 00.0**	**+3.1**
IFR				S		**Sn**	**17 24 22.0**	**+1.3**
EJIF	**Jimena Fronter**	**1.92**	**317**	P		**Pn**	**17 24 01.4**	**+3.8**
EJIF				S		**Sg**	**17 24 32.8**	**+4.1**
EJIF	**Jimena Fronter**	**1.92**	**317**	P		**Pn**	**17 23 58.8**	**+1.3**
EJIF	1.4nm,0.2s,SNR=7.9			S		**Sn**	**17 24 23.2**	**+1.3**
	29nm,0.8s,SNR=4.0							
EJIF	**Jimena Fronter**	**1.92**	**317**	P		**Pn**	**17 24 01.4**	**+3.8**
EJIF				S		**Sg**	**17 24 32.8**	**+4.1**
	SNR=4.0							
ERON	**Agron**	**1.95**	**1**	P		**Pg**	**17 24 02.5**	**-1.0**
ERON				S		**Sg**	**17 24 31.7**	**+2.1**
ERON	**Agron**	**1.95**	**1**	P		**Pn**	**17 23 58.3**	**+0.3**
ERON	5.0nm,0.4s,SNR=4.0			S		**Sn**	**17 24 22.8**	**+0.1**
	8.4nm,0.7s,SNR=7.9							
ERON	**Agron**	**1.95**	**1**	P		**Pg**	**17 24 02.5**	**-1.1**
ERON	5.0nm,0.4s,SNR=4.0			S		**Sg**	**17 24 31.7**	**+2.0**
	SNR=7.9							
EBER	**Berja**	**1.99**	**22**	P		**Pn**	**17 23 59.7**	**+1.2**
EBER				S		**Sn**	**17 24 27.0**	**+3.5**
EBER	**Berja**	**1.99**	**22**	P		**Pn**	**17 23 59.7**	**+1.2**
EBER	0.8nm,0.1s,SNR=4.7			S		**Sn**	**17 24 23.8**	**+0.4**
	13nm,0.6s,SNR=4.0							
EBER	**Berja**	**1.99**	**22**	P		**Pn**	**17 23 59.7**	**+1.3**
EBER	0.8nm,0.1s,SNR=4.7			S		**Sn**	**17 24 27.0**	**+3.5**
	SNR=4.0							
MIF	**Mishlifen**	**2.01**	**216**	*eP*		**Pn**	**17 23 58.0**	**-0.9**
MIF				*iS*		**Sn**	**17 24 24.0**	**-0.2**
ELOJ	**Sierra Loja**	**2.10**	**353**	P		**Pg**	**17 24 04.7**	**-1.7**
ELOJ				S		**Sg**	**17 24 33.4**	**-1.1**
ELOJ	**Sierra Loja**	**2.10**	**353**	P		**Pn**	**17 24 00.5**	**+0.4**
ELOJ	0.6nm,0.1s,SNR=4.0			S		**Sn**	**17 24 27.6**	**+1.2**
	4.5nm,0.6s,SNR=7.9							
ELOJ	**Sierra Loja**	**2.10**	**353**	P		**Pg**	**17 24 04.7**	**-1.8**
ELOJ	0.6nm,0.1s,SNR=4.0			S		**Sg**	**17 24 33.3**	**-1.2**
	SNR=7.9							
ECOG	**Cogollos-Vega**	**2.22**	**5**	P		**Pn**	**17 24 05.2**	**+3.4**
ECOG				S		**Sg**	**17 24 37.9**	**-0.7**
ECOG	**Cogollos-Vega**	**2.22**	**5**	P		**Pn**	**17 24 01.4**	**-0.4**
ECOG	0.3nm,0.1s,SNR=4.0			S		**Sn**	**17 24 28.9**	**-0.6**
	5.5nm,0.5s,SNR=4.0							
ECOG	**Cogollos-Vega**	**2.22**	**5**	P		**Pn**	**17 24 05.2**	**+3.4**
ECOG	0.3nm,0.1s,SNR=4.0			S		**Sg**	**17 24 37.9**	**-0.7**
	SNR=4.0							
CZD	**Col de Zad**	**2.26**	**207**	*iP*		**Pn**	**17 24 02.5**	**+0.1**
CZD				*iS*		**Sn**	**17 24 29.0**	**-1.4**
ENIJ	**Nijar**	**2.32**	**34**	P		**Pn**	**17 24 02.3**	**-0.9**
ENIJ	2.9nm,0.3s,SNR=7.9			S		**Sn**	**17 24 31.5**	**-0.4**
	15nm,0.6s,SNR=7.9							
ESPR	**Espera**	**2.44**	**318**	P		**Pg**	**17 24 11.3**	**-2.0**
ESPR				S		**Sg**	**17 24 45.8**	**0.0**
ESPR	**Espera**	**2.44**	**318**	P		**Pn**	**17 24 05.2**	**+0.3**
ESPR	0.3nm,0.1s,SNR=4.0			S		**Sn**	**17 24 34.9**	**-0.1**
	19nm,1.0s,SNR=4.0							
ESPR	**Espera**	**2.44**	**318**	P		**Pg**	**17 24 11.3**	**-2.0**
ESPR	0.3nm,0.1s,SNR=4.0			S		**Sg**	**17 24 45.8**	**0.0**
	SNR=4.0							
ELUQ	**Luque**	**2.52**	**352**	P		**Pn**	**17 24 06.2**	**+0.1**
ELUQ	3.8nm,0.4s,SNR=7.9			S		**Sn**	**17 24 35.9**	**-1.2**
	6.7nm,0.7s,SNR=7.9							
EQES	**Quesada**	**2.80**	**12**	P		**Pn**	**17 24 13.5**	**+3.3**
EQES				S		**Sn**	**17 24 48.9**	**+4.6**
EQES	**Quesada**	**2.80**	**12**	P		**Pn**	**17 24 09.9**	**-0.3**
EQES	3.1nm,0.3s,SNR=6.2			S		**Sn**	**17 24 42.5**	**-1.7**
	4.4nm,0.4s,SNR=7.9							
EQES	**Quesada**	**2.80**	**12**	P		**Pn**	**17 24 13.5**	**+3.3**
EQES	3.1nm,0.3s,SNR=6.2			S		**Sn**	**17 24 48.9**	**+4.6**
ZFT	**Errachidia**	**3.05**	**188**	*eP*		**Pn**	**17 24 13.0**	**-0.6**
ZFT				*iS*		**Sn**	**17 24 49.5**	**-1.0**
KIB	**El Ksiba**	**3.09**	**217**	*iP*		**Pn**	**17 24 15.0**	**+0.8**
KIB				*iS*		**Sn**	**17 24 51.0**	**-0.4**
EADA	**Adamuz**	**3.16**	**349**	P		**Pn**	**17 24 19.9**	**+4.7**
EADA				S		**Sn**	**17 24 58.1**	**+4.8**
EADA	**Adamuz**	**3.16**	**349**	P		**Pn**	**17 24 14.3**	**-0.8**
EADA	2.1nm,0.4s,SNR=4.0			S		**Sn**	**17 24 51.2**	**-2.0**
	8.3nm,1.0s,SNR=7.9							
EADA	**Adamuz**	**3.16**	**349**	P		**Pn**	**17 24 19.9**	**+4.7**
EADA				S		**Sn**	**17 24 58.1**	**+4.9**
EMIN	**Mina Concepcio**	**3.54**	**321**	P		**Pn**	**17 24 21.8**	**+1.1**
EMIN				S		**Sn**	**17 25 00.4**	**-2.6**
EMIN	**Mina Concepcio**	**3.54**	**321**	P		**Pn**	**17 24 20.6**	**0.0**
EMIN	0.2nm,0.1s,SNR=9.0			S		**Sn**	**17 25 00.4**	**-2.6**
	11nm,0.8s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.54**	**321**	P		**Pn**	**17 24 21.8**	**+1.2**
EVIA	**Vianos**	**3.73**	**16**	S		**Sn**	**17 25 05.3**	**-2.3**
	0.2nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**3.85**	**311**	P		**Pn**	**17 24 24.6**	**-0.4**
EGRO	0.4nm,0.1s,SNR=4.0			S		**Sn**	**17 25 07.9**	**-2.7**
	14nm,0.8s,SNR=7.9							
ETOB	**Tobarra**	**4.02**	**26**	S		**Sn**	**17 25 12.4**	**-2.6**
	12nm,1.1s,SNR=7.9							
EBAD	**Badajoz**	**4.48**	**326**	S		**Sn**	**17 25 23.2**	**-3.5**
	13nm,0.7s,SNR=7.9							

*IDC **20** 17:27:59.0±1.7, 2.23N×96.29E, mb3.9/8, mb1 4.0/9, mb1mx3.8/21, mbtmp3.8/9, ML3.6/1, Error ellipse: s-maj=74.3km s-min=20.6km az=56.0*
*NEIC **20** 17:28:03.6±0.7, 2.23N×96.37E, h30km, mb3.9/1, Error ellipse: s-maj=17.2km s-min=10.0km az=58.0*
ISC 20 17:28:01.8±0.9, 2.3N±0.1×96.4E±0.1, h30km, n11, σ0°63/11, mb3.8/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.23**	**55**	*eP*		**Pn**	**17 29 19.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.30**	**9**	Pn		**P**	**17 31 51.7**	**+1.3**
	0.1nm,0.3s,baz=199,slow=11,SNR=7.6							
WRA	**Warramunga Arr**	**43.29**	**122**	P		**P**	**17 36 03.0**	**+0.1**
	0.6nm,0.7s,mb3.4,baz=303,slow=9.0,SNR=4.6							
WRAB	**Tennant Creek**	**43.30**	**122**	P		**P**	**17 36 02.8**	**-0.2**
	1.1nm,0.5s,mb3.8							
ASAR	**Alice Springs**	**44.69**	**127**	P		**P**	**17 36 14.7**	**+0.5**
	0.7nm,0.7s,mb3.6,baz=302,slow=7.8,SNR=6.7							
MKAR	**Makanchi Array**	**46.03**	**347**	P		**P**	**17 36 24.6**	**+0.1**
	0.9nm,0.4s,mb4.0,baz=158,slow=7.9,SNR=9.2							
SONM	**Songino Array**	**46.23**	**9**	P		**P**	**17 36 25.4**	**-0.6**
	0.8nm,0.8s,mb3.7,baz=188,slow=8.6,SNR=5.2							
ZAL	**Zalesovo**	**52.39**	**351**	P		**P**	**17 37 12.7**	**-0.8**
	0.9nm,0.5s,mb4.0,baz=312,slow=2.4,SNR=3.6							
BVAR	**Borovoye Array**	**54.99**	**341**	P		**P**	**17 37 31.8**	**-0.8**
	0.8nm,0.6s,mb3.9,baz=141,slow=9.2,SNR=5.3							
FINES	**FINESS Array B**	**78.69**	**333**	P		**P**	**17 40 02.8**	**+0.2**
	0.6nm,0.6s,mb3.7,baz=180,slow=1.9,SNR=4.0							
ARCES	**ARCESS Array B**	**81.27**	**340**	P		**P**	**17 40 16.9**	**+0.7**
	3.4nm,0.9s,mb4.3,baz=63,slow=2.7,SNR=5.3							

*IDC **20** 17:40:34.2±6.5, 31.87S×179.83W, h285km±66km, mb3.8/5, mb1 4.0/7, mb1mx3.7/17, mbtmp4.6/7, Error ellipse: s-maj=65.2km s-min=26.0km az=7.0*
*NEIC **20** 17:40:39.1±2.0, 32.28S×179.87E, h328km±16km, mb4.1/2, Error ellipse: s-maj=26.0km s-min=16.9km az=220.0*
ISC 20 17:40:39.3±0.8, 32.31S±0.06×179.7E±0.1, h329km±9km, n82, σ1°09/94, mb3.9/6, 3C-3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.36**	**192**	*eP*		**P**	**17 42 03.6**	**+1.0**
MXZ	**Matakaoa Point**	**5.36**	**192**	PN		**P**	**17 42 03.6**	**+0.9**
MXZ				SN		**S**	**17 43 12.6**	**+4.5**
PUZ	**Puketiti**	**5.87**	**191**	*eP*		**P**	**17 42 09.9**	**+1.4**
PUZ				S		**S**	**17 43 22.4**	**+3.9**
PUZ	**Puketiti**	**5.87**	**191**	PN		**P**	**17 42 10.0**	**+1.5**
PUZ				SN		**S**	**17 43 22.4**	**+3.9**
MWZ	**Matawai**	**6.26**	**196**	*eP*		**P**	**17 42 14.5**	**+1.3**
MWZ	**Matawai**	**6.26**	**196**	PN		**P**	**17 42 14.6**	**+1.4**
MWZ				SN		**S**	**17 43 33.1**	**+6.3**
URZ	**Urewera**	**6.30**	**199**	P		**P**	**17 42 14.5**	**+1.0**
	19nm,0.3s,baz=298,slow=3.3,SNR=52							
URZ				S		**S**	**17 43 31.9**	**+4.4**
	5.6nm,0.3s,baz=253,slow=22,SNR=9.0							
URZ	**Urewera**	**6.30**	**199**	P		**P**	**17 42 14.5**	**+0.9**
URZ	**Urewera**	**6.30**	**199**	PN		**P**	**17 42 14.5**	**+0.9**
URZ				SN		**S**	**17 43 32.9**	**+5.3**
KNZ	**Kokohu**	**6.89**	**193**	*eP*		**P**	**17 42 20.8**	**+0.2**
KNZ	**Kokohu**	**6.89**	**193**	PN		**P**	**17 42 20.8**	**+0.1**
BKZ	**Black Stump Fm**	**7.32**	**200**	*eP*		**P**	**17 42 26.0**	**+0.3**
BKZ	**Black Stump Fm**	**7.32**	**200**	PN		**P**	**17 42 26.0**	**+0.3**
BKZ				SN		**S**	**17 43 53.1**	**+3.8**
NGZ	**Ngauruhoe**	**7.61**	**205**	*eP*		**P**	**17 42 31.2**	**+2.0**
NGZ	**Ngauruhoe**	**7.61**	**205**	PN		**P**	**17 42 31.3**	**+2.1**
TUVZ	**Tukino**	**7.67**	**204**	*eP*		**P**	**17 42 31.0**	**+1.0**
TUVZ	**Tukino**	**7.67**	**204**	*e*PN		**P**	**17 42 31.1**	**+1.1**
FWVZ	**Far West T-bar**	**7.70**	**205**	*eP*		**P**	**17 42 31.3**	**+1.0**
WNVZ	**Wahianoa**	**7.75**	**204**	*eP*		**P**	**17 42 32.0**	**+1.1**
MOVZ	**Moawhango**	**7.77**	**203**	*eP*		**P**	**17 42 31.0**	**-0.1**
PWZ	**Pawanui**	**8.03**	**196**	*eP*		**P**	**17 42 33.6**	**-0.7**
PWZ	**Pawanui**	**8.03**	**196**	PN		**P**	**17 42 33.7**	**-0.7**
TSZ	**Takapari Road**	**8.30**	**200**	*eP*		**P**	**17 42 36.3**	**-1.2**
TSZ	**Takapari Road**	**8.30**	**200**	*e*PN		**P**	**17 42 36.4**	**-1.1**
TSZ				SN		**S**	**17 44 12.7**	**+2.1**
WAZ	**Wanganui**	**8.34**	**206**	*eP**		**P**	**17 42 38.4**	**+0.4**
WAZ	**Wanganui**	**8.34**	**206**	*e*PN		**P**	**17 42 38.4**	**+0.3**
BFZ	**Birch Farm**	**8.80**	**197**	*eP*		**P**	**17 42 44.1**	**+0.6**
BFZ	**Birch Farm**	**8.80**	**197**	*e*PN		**P**	**17 42 44.1**	**+0.5**
MRZ	**Mangatainoka R**	**8.96**	**200**	*eP*		**P**	**17 42 43.1**	**-2.4**
MRZ	**Mangatainoka R**	**8.96**	**200**	*e*PN		**P**	**17 42 43.2**	**-2.3**
MRZ				SN		**S**	**17 44 25.2**	**+0.1**
KIW	**Kapiti Island**	**9.36**	**203**	*eP*		**P**	**17 42 49.0**	**-1.3**
KIW				S		**S**	**17 44 34.4**	**+0.7**
KIW	**Kapiti Island**	**9.36**	**203**	*e*PN		**P**	**17 42 49.0**	**-1.3**
KIW				*e*SN		**S**	**17 44 34.4**	**+0.8**
MTW	**Mount Morrison**	**9.45**	**200**	*e*PN		**P**	**17 42 50.3**	**-1.1**
CAW	**Cannon Point**	**9.53**	**201**	P		**P**	**17 42 50.9**	**-1.5**
CAW	**Cannon Point**	**9.53**	**201**	*e*PN		**P**	**17 42 50.9**	**-1.5**
DUWZ	**D'Urville Isla**	**9.66**	**207**	*e*PN		**P**	**17 42 53.4**	**-0.5**
PAWZ	**Paruwai Farm**	**9.67**	**199**	*e*PN		**P**	**17 42 54.0**	**-0.1**
MRW	**Makara Radio**	**9.76**	**203**	P		**P**	**17 42 54.9**	**-0.2**
MRW	**Makara Radio**	**9.76**	**203**	*e*PN		**P**	**17 42 55.1**	**0.0**
MSWZ	**Moikau Station**	**9.76**	**200**	P		**P**	**17 42 55.3**	**+0.2**
SNZO	**South Karori**	**9.82**	**202**	P		**P**	**17 42 54.1**	**-1.9**
SNZO	**South Karori**	**9.82**	**202**	*e*PN		**P**	**17 42 53.6**	**-2.4**
SNZO				*e*SN		**S**	**17 44 44.4**	**+0.4**
BHW	**Baring Head**	**9.86**	**202**	*eP*		**P**	**17 42 56.1**	**-0.3**
TCW	**Tory Channel**	**9.88**	**204**	P		**P**	**17 42 55.8**	**-0.9**
TCW	**Tory Channel**	**9.88**	**204**	*e*PN		**P**	**17 42 55.6**	**-1.0**
TCW				*e*SN		**S**	**17 44 46.3**	**+1.1**
NNZ	**Nelson**	**10.22**	**208**	*eP*		**P**	**17 42 59.1**	**-1.7**
NNZ				S		**S**	**17 44 53.3**	**+0.6**
NNZ	**Nelson**	**10.22**	**208**	*e*PN		**P**	**17 42 59.1**	**-1.6**
NNZ				SN		**S**	**17 44 53.2**	**+0.5**
QRZ	**Quartz Range**	**10.26**	**212**	*eP*		**P**	**17 43 01.2**	**0.0**
QRZ	**Quartz Range**	**10.26**	**212**	*e*PN		**P**	**17 43 01.1**	**-0.1**
BSWZ	**Blackbirch Sta**	**10.47**	**205**	*eP*		**P**	**17 43 03.0**	**-0.8**
THZ	**Tophouse**	**10.87**	**208**	*eP*		**P**	**17 43 07.2**	**-1.5**
THZ	**Tophouse**	**10.87**	**208**	PN		**P**	**17 43 07.0**	**-1.7**
THZ				*e*SN		**S**	**17 45 07.3**	**+

	2.5nm,0.6s,mb3.6,baz=120,slow=18,SNR=5.8						
SNAA	Sanae	76.30	179	⇓i	P	17 51 53.4	+0.2
VNA3	Neumayer Olymp	76.53	177	⇓i	P	17 51 55.2	+0.8
VNA2	Neumayer--Watz	76.94	178	⇓i	P	17 51 57.8	+1.1
KAF	Kangasniemi	145.62	338	epkp	PKPdf	17 59 36.5	-1.1
	baz=44,slow=2.9						
FINES	FINESS Array B	146.19	337	PKPbc	PKPbc	17 59 39.2	-0.8
	2.7nm,0.4s,baz=44,slow=4.9,SNR=46						
FINES	FINESS Array B	146.19	337	PKPbc	PKPbc	17 59 39.2	-0.8
NB2	NORSAR Subarra	150.28	349	PKPabc	PKPdf	17 59 50.0	+4.9
	0.6nm,0.5s,baz=17,slow=2.5						
NB2	NORSAR Subarra	150.28	349	⇑PKPab	PKPdf	17 59 50.0	+4.9
NOA	NORSAR Array B	150.28	349	PKPbc	PKPdf	17 59 49.3	+4.2
	0.7nm,0.6s,baz=18,slow=4.1,SNR=4.0						
HFS	Hagfors	150.66	346	PKPbc	PKPdf	17 59 50.2	+4.6
	1.5nm,0.7s,baz=90,slow=1.5,SNR=5.6						

ATH ***20*** *17:41:43.4, 40.83N×22.91E, h23km±1km, MD3.4/6*
NEIC ***20*** *17:41:43.4, 40.83N×22.91E, h23km, MD3.4(ATH), After ATH.*
CSEM ***20*** *17:41:43.9±0.1, 40.84N×22.90E, h19km±2km, ML3.3, Error ellipse: s-maj=2.9km s-min=1.7km az=25.0*
THE ***20*** *17:41:44.1, 40.83N×22.91E, h12km, ML3.3*
ISC 20 17:41:44.0±0.4, 40.83N±0.03×22.95E±0.03, h18km±5km, n20, σ1§05/29, 3C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	Thessaloniki	0.20	176	ePg	Pb	17 41 47.9	-1.1
SOH	Sokhos	0.31	92	ePg	Pb	17 41 51.2	+0.4
SOH				eSg	Sb	17 41 55.5	+0.2
KNT	Kendrikon	0.33	354	ePg	Pb	17 41 51.0	-0.1
GRG	Griva	0.43	287	ePg	Pb	17 41 52.0	-0.8
GRG				eSg	Sb	17 41 57.8	-1.0
VAY	Valandovo	0.56	330	⇑iPg	Pb	17 41 54.9	-0.2
VAY				⇑iSg	Sb	17 42 03.0	+0.4
SRS	Serrai	0.57	60	ePg	Pb	17 41 55.3	+0.2
PLG	Polygyros	0.59	140	⇑iPN	Pn	17 41 55.1	-2.2
PLG				eSN	Sn	17 42 03.8	-2.7
LIT	Litokhoron	0.81	206	ePg	Pb	17 41 59.9	+0.7
LIT				eSg	Sb	17 42 10.7	+1.0
NVR	Nevrokopi	0.86	53	ePN	Pn	17 42 00.7	-0.5
NVR				eSN	Sn	17 42 12.7	-0.6
OUR	Ouranopolis	0.93	122	ePg	Pb	17 42 02.4	+1.1
KZN	Kozani	1.04	240	ePN	Pn	17 42 03.1	-0.5
KZN				eSN	Sn	17 42 17.3	-0.4
PAIG	Paliouri	1.06	148	ePg	Pb	17 42 03.9	+0.3
PAIG	Paliouri	1.06	148	ePg	Pb	17 42 03.8	+0.2
FNA	Florina	1.19	268	ePg	Pb	17 42 05.7	-0.1
FNA				eSg	Sb	17 42 20.9	+0.2
NEO	Neokhori	1.54	172	ePN	Pn	17 42 11.2	+0.4
NEO				eSN	Sn	17 42 31.7	+1.3
SKO	Skopje	1.61	316	ePn	Pn	17 42 14.0	+2.2
SKO				i		17 42 18.0	
AGG	Agios Georgios	1.87	195	ePb	Pb	17 42 14.7	-2.6
RDO	Rodhopi	1.99	80	ePN	Pn	17 42 19.0	+1.8
EVR	Evrytania	2.10	205	ePN	Pn	17 42 20.0	+1.1
LERZ	Lernakert	15.93	84	S	S	17 48 24.5	-0.5

IDC ***20*** *17:42:20.8±0.7, 41.86N×46.33E, mb3.6/8, mb1 3.8/10, mb1mx3.7/22, mbtmp3.6/10, ML2.1/1, MS3.7/2, Ms1 3.7/2, ms1mx2.7/30, Error ellipse: s-maj=19.1km s-min=8.8km az=131.0*
NSSP ***20*** *17:42:21.9, 41.97N×45.95E, h7km, ML3.6*
TIF ***20*** *17:42:22.0, 41.90N×45.95E, h6km±1km*
CSEM ***20*** *17:42:22.6±0.1, 42.09N×46.00E, h15km, mb3.8, Error ellipse: s-maj=4.7km s-min=2.3km az=138.0*
NEIC ***20*** *17:42:23.0±8.4, 42.00N×46.35E, h6km±59km, mb3.8/2, Error ellipse: s-maj=17.6km s-min=13.4km az=168.0*
MOS ***20*** *17:42:24.4±1.3, 42.10N×46.21E, h25km, mb3.8/1, Error ellipse: s-maj=7.4km s-min=6.2km az=113.0*
TEH ***20*** *17:42:55.2, 40.01N×47.24E, h11km, Mn3.3*
ISC 20 17:42:22.3±0.5, 42.02N±0.02×46.10E±0.03, h8km±4km, n71, σ1§33/105, mb3.4/8, MS3.7/2, 4C-6D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.65	8	i PG	Pg	17 42 33.5	-1.9
BTLR				pmax	pmax		
	comp=Z,3μm,0.2s						
BTLR	Botlikh	0.65	8	i Pg	Pg	17 42 33.5	-1.9
	comp=Z,3μm,0.2s						
XNZR	Khunzakh	0.69	41	i PG	Pg	17 42 36.5	+0.4
XNZR				eS	Sg	17 42 46.5	+1.1
XNZR				pmax	pmax		
	comp=Z,546nm,0.4s						
XNZR	Khunzakh	0.69	41	i Pg	Pg	17 42 36.5	+0.4
	comp=Z,546nm,0.4s						
XNZR				eSg	Sg	17 42 46.5	+1.1
GNBR	Gunib	0.74	60	⇑iPG	Pg	17 42 37.5	+0.3
GNBR				eS	Sg	17 42 48.5	+1.4
GNBR				pmax	pmax		
	comp=Z,610nm,0.2s						
GNBR	Gunib	0.74	60	i Pg	Pg	17 42 37.5	+0.3
	comp=Z,610nm,0.2s						
GNBR				eSg	Sg	17 42 48.5	+1.4
KMKR	Kumukh	0.75	81	i PG	Pg	17 42 37.0	-0.4
KMKR				i S	Sb	17 42 49.0	+1.7
DGRG	David-gareji	0.78	224	P	Pb	17 42 38.1	+0.4
DGRG				S	Sb	17 42 41.1	-7.1
KRNR	Karanay	1.01	36	⇑iPG	Pg	17 42 40.0	-2.4
KRNR				eS	Sb	17 42 54.0	-0.7
KRNR				pmax	pmax		
	comp=Z,334nm,0.3s						
KRNR	Karanay	1.01	36	i Pg	Pg	17 42 40.0	-2.4
	comp=Z,334nm,0.3s						
KRNR				eSg	Sb	17 42 54.0	-0.7
MTA	Mtatsminda	1.03	252	P	Pb	17 42 40.7	-1.2
MTA				S	Sb	17 42 54.7	-0.5
TI2	Plekhanov	1.05	255	⇓iP	Pb	17 42 40.8	-1.4
TI2	comp=Z,240nm,0.2s						
				i S	Sb	17 42 54.8	-1.0
	comp=Z,700nm,0.4s						
TBLG	Delisi	1.05	255	P	Pb	17 42 41.1	-1.2
TBLG				S	Sb	17 42 55.1	-1.0
BUJR	Buynaksk	1.10	43	⇓iPG	Pg	17 42 43.0	-1.3
BUJR				eS	Sg	17 43 00.0	+1.0
BUJR				pmax	pmax		
	comp=Z,649nm,0.2s						
BUJR	Buynaksk	1.10	43	i Pg	Pg	17 42 43.0	-1.3
	comp=Z,649nm,0.2s						
BUJR				eSg	Sg	17 43 00.0	+1.0
DLMR	Dylym	1.12	20	⇑iPG	Pg	17 42 41.0	-3.7
DLMR				i S	Sb	17 42 56.0	-2.0
DLMR	Dylym	1.12	20	i Sg	Sb	17 42 56.0	-2.0
DBC	Dubki	1.14	28	PG	Pg	17 42 42.0	-3.0
DBC				eS	Sb	17 42 59.5	+1.0
URKR	Urkarakh	1.15	82	ePG	Pg	17 42 46.0	+0.7
URKR				eS	Sb	17 43 04.0	+5.1
SGKR	Sergokala	1.24	69	i PG	Pg	17 42 46.0	-1.1
SGKR				eS	Sg	17 43 05.0	+1.4
SGKR				pmax	pmax		
	comp=Z,550nm,0.3s						
SGKR	Sergokala	1.24	69	i Pg	Pg	17 42 46.0	-1.1
	comp=Z,550nm,0.3s						
SGKR				eSg	Sg	17 43 05.0	+1.4
AKT	Akhty	1.33	113	⇑iPG	Pg	17 42 46.0	-3.0
AKT				eS	Sg	17 43 07.5	+0.7
AKT				pmax	pmax		
	comp=Z,667nm,0.3s						
AKT	Akhty	1.33	113	eSg	Sg	17 43 07.5	+0.7
MAK	Makhachkala	1.40	47	ePG	Pg	17 42 52.0	+1.7
MAK				pmax	pmax		
	comp=Z,924nm,1.0s						
MAK				pmax	pmax		
	comp=N,850nm,0.7s						
MAK				pmax	pmax		
	comp=E,1μm,0.7s						
DRN	Derbent	1.66	89	ePG	Pg	17 42 55.0	-0.5
DRN				eS	Sn	17 43 19.0	+5.4
DRN				pmax	pmax		
	comp=Z,305nm,0.3s						
DRN	Derbent	1.66	89	ePg	Pg	17 42 55.0	-0.5
	comp=Z,305nm,0.3s						
ZEI	Tsey	1.79	295	ePN	Pn	17 42 54.1	+0.3
ZEI				e		17 42 58.9	
ZEI				pmax	pmax		
	comp=Z,120nm,0.2s						
ZEI				pmax	pmax		
	comp=Z,387nm,0.4s						
ZEI	Tsey	1.79	295	ePg	Pg	17 42 58.9	+0.8
	comp=Z,387nm,0.4s						
BAW	Bavra	1.94	243	P	Pn	17 42 52.0	-3.9
GNI	Garni	2.13	209	Pn	Pn	17 42 59.2	+0.7
	comp=Z,145nm,0.3s,baz=314,slow=3.0,SNR=251						
GNI				Sn	Sn	17 43 27.9	+2.5
	comp=Z,74nm,0.3s,baz=73,slow=22,SNR=13						
GNI	Garni	2.13	209	eP	Pn	17 42 58.9	+0.3
AMBZ	Amberd	2.14	221	⇓P	Pn	17 43 00.1	+1.4
AMBZ				S	Sn	17 43 25.8	+0.1
ARUZ	Aruch	2.30	222	⇓P	Pn	17 43 00.2	-0.9
ARUZ				S	Sn	17 43 30.0	+0.2
VRNZ	Vardanashen	2.44	217	⇓P	Pn	17 43 03.7	+0.7
VRNZ				S	Sn	17 43 28.7	-4.6
AKSZ	Araks	2.48	223	P	Pn	17 43 04.0	+0.5
AKSZ				S	Sn	17 43 35.6	+1.4
VNNZ	Vanand	2.57	223	P	Pn	17 43 05.1	+0.2
VNNZ				S	Sn	17 43 35.3	-1.4
KUBR	Kubataba	2.66	313	ePN	Pn	17 43 08.3	+2.1
KUBR				eS	Sn	17 43 47.9	+9.0
PYA	Pyatigorsk	3.00	313	ePN	Pn	17 43 12.4	+1.3
PYA				eS	Sn	17 43 55.8	+8.2
SHAR	Shatzhatmas	3.05	306	ePN	Pn	17 43 13.9	+2.1
SHAR				eS	Sn	17 43 56.9	+8.0
KIV	Kislovodsk	3.16	309	ePN	Pn	17 43 15.0	+1.7
KIV				eS	Sn	17 44 00.8	+9.1
IHRS	Heris	3.77	169	Pn	Pn	17 43 23.2	+1.3
GOF	Gofitskoye	3.77	325	ePN	Pn	17 43 28.4	+6.5
GOF				i S	Sn	17 44 19.4	+12
GOF				pmax	pmax		
	comp=Z,68nm,1.2s						
GOF				smax			
	comp=E,524nm,0.7s						
ITBZ	Tabriz	3.78	179	Pn	Pn	17 43 28.4	+6.3
IBST	Bostanabad	4.36	172	Pn	Pn	17 43 31.6	+1.3
SOC	Sochi	4.95	291	ePN	Pn	17 43 49.9	+11
SOC				e		17 44 59.5	
SOC				pmax	pmax		
	comp=Z,18nm,0.8s						
SOC				pmax	pmax		
	comp=N,33nm,1.5s						
SOC				pmax	pmax		
	comp=E,29nm,1.1s						
SOC				smax			
	comp=N,127nm,0.9s						
IRAZ	Razeghan	7.25	154	Pn	Pn	17 44 11.6	+0.5
IPRN	Paran-Amol	7.49	138	Pn	Pn	17 44 13.3	-1.1
IDMV	Damavand	7.92	142	Pn	Pn	17 44 20.7	+0.2
IGLO	Galoogah	8.09	132	Pn	P	17 44 21.3	-1.6
IFIR	Firoozkooh	8.21	139	Pn	P	17 44 25.3	+0.7
IKIA	Kiasar	8.27	132	Pn	P	17 44 23.5	-1.9
BRTR	Keskin Array B	9.71	260	Pn	P	17 44 48.5	+3.2
	comp=N,0.1nm,0.3s,baz=127,slow=12,SNR=3.5						
OBN	Obninsk	14.52	338	P	P	17 45 49.0	-0.8
OBN				eS	S	17 48 36.4	+4.5
ARU	Arti	16.52	25	⇓iP	P	17 46 14.2	-1.4
ARU				eS	S	17 49 15.0	-3.7
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ARU	Arti	16.52	25	eP	P	17 46 13.3	-2.3
	comp=Z,5.7nm,0.6s						
ARU	Arti	16.52	25	i P	P	17 46 14.2	-1.4
	comp=Z,7.0nm,0.9s						
SVE	Sverdlovsk	17.52	27	eP	P	17 46 23.9	-4.3
BVAR	Borovoye Array	19.66	48	P	P	17 46 52.1	-2.0
	comp=Z,0.7nm,0.3s,baz=242,slow=10,SNR=16						
BVAR				S	S	17 50 30.6	+0.8
	comp=Z,0.1nm,0.3s,baz=258,slow=21,SNR=5.4						
AAK	Ala-Archa	20.97	79	eP	P	17 47 05.2	-2.8
	comp=Z,3.0nm,0.7s						
AAK	Ala-Archa	20.97	79	i P	P	17 47 05.3	-2.7
FINES	FINESS Array B	22.89	335	P	P	17 47 26.6	-0.3
	comp=Z,2.6nm,1.0s,mb3.6,baz=185,slow=21,SNR=3.0						
FINES	FINESS Array B	22.89	335	P	P	17 47 26.6	-0.4
GERES	GERESS Array B	23.61	298	P	P	17 47 34.8	+0.7
	comp=Z,0.1nm,0.3s,mb2.7,baz=96,slow=9.7,SNR=2.7						
MKAR	Makanchi Array	26.14	67	P	P	17 47 56.0	-2.3
	comp=Z,0.2nm,0.3s,mb3.1,baz=263,slow=8.4,SNR=7.5						
HFS	Hagfors	26.85	324	P	P	17 48 06.6	+1.9
	comp=Z,1.9nm,0.8s,mb3.7,baz=122,slow=14,SNR=2.7						
ARCES	ARCESS Array B	29.59	345	P	P	17 48 29.2	-0.2
	comp=Z,2.6nm,0.9s,mb4.0,baz=143,slow=6.1,SNR=4.7						
ARCES	ARCESS Array B	29.59	345	P	P	17 48 29.2	-0.2
SONM	Songino Array	42.14	61	P	P	17 50 15.3	-1.1
	comp=Z,0.2nm,0.7s,mb2.9,baz=270,slow=2.9,SNR=2.9						
SONM				LR	LR	18 09 37.3	
	comp=Z,69nm,19.6s,MS3.5,baz=260,slow=39						
CMAR	Chiang Mai Arr	50.43	101	P	P	17 51 20.4	-1.9
	comp=Z,0.5nm,0.6s,mb3.7,baz=301,slow=7.7,SNR=4.2						
YKA	Yellowknife Ar	74.69	351	i P	P	17 54 06.5	+3.1
YKA	Yellowknife Ar	74.69	351	P	P	17 54 03.5	+0.2
	comp=Z,0.4nm,0.8s,mb3.4,baz=12,slow=6.1,SNR=6.2						
YKA				LR	LR	18 32 13.6	
	comp=Z,54nm,18.6s,MS3.9,baz=280,slow=40						

IDC ***20*** *17:48:50.1±1.5, 42.32N×76.53E, mb3.8/7, mb1 4.0/10, mb1mx3.8/26, mbtmp3.9/10, ML3.6/3, MS3.2/1, Ms1 3.3/1, ms1mx2.5/30, Error ellipse: s-maj=26.7km s-min=14.9km az=151.0*
MOS ***20*** *17:48:51.5±1.3, 42.05N×76.68E, h33km, mb4.1/1, Error ellipse: s-maj=23.8km s-min=15.3km az=83.5*
NNC ***20*** *17:48:53.8±1.6, 42.54N×76.48E, mpv4.0, Error ellipse: s-maj=18.6km s-min=6.9km az=162.0*
KNET ***20*** *17:48:54.0±0.5, 42.38N×76.39E, h17km±1km, ml3.9, Error ellipse: s-maj=3.5km s-min=1.9km az=100.0*
BJI ***20*** *17:48:55.9, 42.69N×76.54E, h35km, mb4.1, ML4.1*
NEIC ***20*** *17:48:56.9±1.8, 42.53N×76.41E, h42km±12km, mb3.9/1, Error ellipse: s-maj=27.0km s-min=10.6km az=164.0*
ISC 20 17:48:50.9±0.6, 42.51N±0.05×76.72E±0.04, h10km, n37, σ1§29/55, mb3.7/7, MS3.2/1, 17C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	0.44	234	⇓P	Pg	17 48 58.4	-1.5
	6μm,0.1s,SNR=4307						
ULHL				⇑S	Sg	17 49 02.5	-3.4
	23μm,0.2s						
AAA	Alma-Ata	0.78	12	i PG	Pg	17 49 10.9	+4.3
AAA				pmax	pmax		
	comp=Z,9.0nm,0.1s						
TKM2	Tokmak 2	0.93	297	P	Pb	17 49 09.6	+1.0
	comp=Z,685nm,0.2s,SNR=1296						
TKM2				⇓S	Sb	17 49 21.9	+1.2
	comp=Z,4μm,0.2s						
KZA	Kyzart	1.18	249	P	Pb	17 49 11.4	-1.4
	comp=Z,500nm,0.2s,SNR=427						
KZA				⇑S	Sb	17 49 24.6	-3.3
	comp=Z,3μm,0.3s						
KBK	Karagaybulak	1.32	277	P	Pb	17 49 15.2	-0.1
	comp=Z,295nm,0.2s,SNR=830						
KBK				⇓S	Sb	17 49 31.8	-0.4
	comp=Z,2μm,0.2s						
CHMS	Chumysh	1.53	289	⇓P	Pn	17 49 19.2	+0.7
	comp=Z,149nm,0.2s,SNR=95						
CHMS				⇓S	Sb	17 49 38.3	0.0
	comp=Z,2μm,0.2s						
AAK	Ala-Archa	1.65	275	P	Pn	17 49 20.7	+0.5
	comp=Z,163nm,0.2s,SNR=287						
AAK				⇑S	Sn	17 49 41.0	-0.6
	comp=Z,845nm,0.3s						
AAK	Ala-Archa	1.65	275	⇓P	Pn	17 49 20.7	+0.6
	comp=Z,112nm,0.3s						
AAK				⇑S	Sn	17 49 41.2	-0.4
	comp=Z,338nm,0.4s						
AAK	Ala-Archa	1.65	275	PN	Pn	17 49 20.7	+0.5
AAK				S	Sn	17 49 39.9	-1.7
AAK				pmax	pmax		
	comp=Z,10.0nm,0.3s						
AAK	Ala-Archa	1.65	275	eP	Pn	17 49 19.7	-0.5
UCH	Uchtor	1.66	261	⇑P	Pn	17 49 20.0	-0.4
	comp=Z,113nm,0.2s,SNR=134						
UCH				⇓S	Sn	17 49 40.6	-1.3
	comp=Z,332nm,0.2s						
USP	Ospenovka	1.80	296	P	Pn	17 49 24.3	+2.0
	comp=Z,444nm,0.2s,SNR=1135						
USP				⇑S	Sn	17 49 47.1	+1.7
	comp=Z,2μm,0.3s						
EKS2	Erkin-Say	2.18	275	⇑P	Pn	17 49 29.8	+2.0
	comp=Z,269nm,0.2s,SNR=440						
AML	Almayashu	2.28	262	⇑P	Pn	17 49 31.2	+2.1
	comp=Z,214nm,0.2s,SNR=441						
AML				⇓S	Sn	17 49 59.2	+1.7
	comp=Z,744nm,0.3s						
KSH	Kashi	3.04	191	eP	Pn	17 49 46.5	+6.5
KSH				S	Sn	17 50 26.5	+10
KSH				Smax			
	comp=N,270nm,0.7s						
KSH				Smax			
	comp=E,540nm,1.0s						
KK31	Karatay Array	4.61	280	⇑Pn	Pn	17 50 03.2	+0.8
	comp=E,0.8nm,0.4s,baz=97,slow=13,SNR=229						
KK31				⇑Pg	Pg	17 50 14.3	-8.6
	comp=E,40nm,0.6s,baz=95,slow=15,SNR=60						
KK31				⇓Lg		17 51 14.2	
	comp=E,44nm,0.4s,baz=104,slow=33,SNR=7.1						
KKAR	Karatay Array	4.61	280	ePN	Pn	17 50 11.5	+9.2
KKAR				e		17 51 10.0	
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KKAR				pmax	pmax		
	comp=Z,14nm,0.3s						
MK31	Makanchi Array	5.84	41	⇑Pn	Pn	17 50 24.1	+4.4
	comp=Z,31nm,0.7s,baz=219,slow=15						
MK31				⇑Lg		17 52 00.9	
	comp=Z,48nm,0.6s,baz=225,slow=27,SNR=4.0						
MKAR	Makanchi Array	5.84	41	PN	Pn	17 50 24.0	+4.3
MKAR						17 51 58.7	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MKAR	Makanchi Array	5.84	41	Pn	Pn	17 50 24.1	+4.4
	comp=Z,0.3nm,0.3s,baz=122,slow=27,SNR=20						
MKAR				Pg	Pg	17 50 29.6	-18
	comp=Z,5.7nm,0.3s,baz=217,slow=15,SNR=61						
MKAR				Lg		17 52 01.5	
	comp=Z,9.8nm,0.3s,baz=220,slow=28,SNR=6.7						
BVA0	Borovoye Array	11.35	340	⇑Pn	P	17 51 35.9	-0.1
	comp=Z,0.4nm,0.5s						
BVA0				⇑Sn	S	17 53 42.2	-1.8
	comp=Z,1.0nm,0.8s						
BVA0				⇑Lg		17 54 49.4	
	comp=Z,8.6nm,0.7s						
BVAR	Borovoye Array	11.35	340	Pn	P	17 51 34.7	-1.4
	comp=Z,0.6nm,0.3s,baz=150,slow=14,SNR=8.8						
BVAR				Sn	S	17 53 33.7	-10
	comp=Z,0.4nm,0.3s,baz=151,slow=18,SNR=3.2						
BVAR				Lg		17 54 49.6	
	comp=Z,2.4nm,0.3s,baz=164,slow=26,SNR=5.9						
CHKZ	Chkalovo	11.89	342	⇑Pn	P	17 51 43.8	+0.4
	comp=Z,2.4nm,0.7s						
CHKZ				⇑Sn	S	17 53 55.7	-1.5
	comp=Z,3.3nm,0.5s						
CHKZ				⇓Lg		17 55 07.2	
	comp=Z,33nm,1.2s						
ZAL	Zalesovo	12.63	22	Pn	P	17 51 54.0	+0.7
	comp=Z,1.4nm,0.3s,baz=256,slow=7.7,SNR=11						
ZAL				Sn	S	17 54 11.4	-3.7
	comp=Z,0.4nm,0.3s,baz=297,slow=12,SNR=3.1						
ZAL				Lg		17 55 37.5	
	comp=Z,0.5nm,0.3s,baz=122,slow=20,SNR=1.8						
ZAL	Zalesovo	12.63	22	Pn	P	17 51 54.0	+0.7
ZAL				Sn	S	17 54 11.4	-3.7
ZAL				Lg		17 55 37.5	
GTA	Gaotai	17.70	92	eP	P	17 53 03.0	+4.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.7s						
ZAK	Zakamensk	19.84	57	eP	P	17 53 24.9	+0.3
SONM	Songino Array	21.51	65	P	P	17 53 44.0	+2.1
	comp=Z,3.2nm,0.7s,mb3.9,baz=261,slow=10.0,SNR=31						
BRTR	Keskin Array B	32.32	280	P	P	17 55 21.2	-1.0
	comp=Z,0.4nm,0.7s,mb3.4,baz=63,slow=5.5,SNR=2.8						
FINES	FINESS Array B	35.34	320	P	P	17 55 46.9	-1.2
	comp=Z,0.3nm,0.4s,mb3.5,baz=90,slow=7.6,SNR=3.5						
ARCES	ARCESS Array B	37.52	333	P	P	17 56 06.2	-0.1
	comp=Z,2.5nm,0.9s,mb4.0,baz=98,slow=8.6,SNR=9.5						
NOA	NORSAR Array B	42.50	319	LR	LR	18 14 50.8	
	comp=Z,32nm,21.4s,MS3.2,baz=100,slow=37						
INK	Inuvik	67.20	12	P	P	17 59 45.6	-1.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	Inuvik	67.20	12	P	P	17 59 45.3	-1.3
	comp=Z,0.8nm,0.7s,mb3.9,baz=13,slow=6.8,SNR=3.5						
INK	Inuvik	67.20	12	P	P	17 59 45.6	-1.0
	comp=Z,0.9nm,0.8s,mb3.9						
ILAR	Eielson Array	67.74	19	P	P	17 59 49.4	-0.7
	comp=Z,0.8nm,0.9s,mb3.8,baz=322,slow=5.8,SNR=8.9						
YKA	Yellowknife Ar	74.95	5	P	P	18 00 32.6	-0.6
	comp=Z,0.7nm,0.6s,mb3.8,baz=347,slow=5.8,SNR=20						

IDC 20 17:50:34.6±3.3, 1.45N×97.63E, mb3.5/4, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=124.9km s-min=23.3km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.95	4	Pn	P	17 54 33.7	-1.2
	0.1nm,0.3s,baz=196,slow=12,SNR=6.9						
WRA	Warramunga Arr	41.80	122	P	P	17 58 26.3	-1.7
	0.5nm,0.6s,baz=301,slow=9.2,SNR=6.2						
ASAR	Alice Springs	43.20	128	P	P	17 58 37.6	-1.7
	0.2nm,0.4s,baz=298,slow=7.7,SNR=5.0						
SONM	Songino Array	46.82	8	P	P	17 59 06.0	-2.0
	0.4nm,0.4s,baz=190,slow=8.8,SNR=5.7						
MKAR	Makanchi Array	47.10	346	P	P	17 59 08.4	-1.9
	0.7nm,0.5s,baz=170,slow=8.8,SNR=6.0						

NIED ***20*** *17:55:00, 29.00N×129.40E, h5km, Mw3.5 Best double couple: M0:1.95×10^14 NP1:φs135°, δ81°, λ-50°. NP2: φs235°, δ41°, λ-167°.*

JMA 20 17:55:56.6±0.2, 28.99N×129.41E, h7km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	Amami Oshima	0.60	163	P	Pg	17 56 08.0	-0.7
JAM				S	Sg	17 56 16.2	-0.5
JZK	Kikaishima	0.83	144	P	Pb	17 56 12.8	-0.2
JZK				eS	Sb	17 56 24.0	-0.2
JNN	Nakanoshima	0.94	25	P	Pb	17 56 14.0	-0.8
JNN				eS	Sb	17 56

JTA S Sb 18 20 58.3 +0.1
JTU Tsushima 0.96 322 ⇑P Pb 18 20 47.9 -0.2
JTU S Sb 18 21 00.8 +0.3

DJA 20 18:33:53.1±1.0, 9.61S×113.92E, h93km, MD4.7/4, ML4.1/3, 4C-3D, Error ellipse: s-maj=22.7km s-min=12.5km az=45.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed** 229nm,0.2s	**1.14**	**11**	⇑*i*Pn	Pn	18 34 11.2	-1.8
SRDI				⇓*i*Sn	Sn	18 34 25.8	-1.8
KELI	**Kelakatan** 70nm,0.2s	**1.49**	**22**	⇑*i*Pn	Pn	18 34 16.8	-1.2
KELI				⇓*i*Sn	Sn	18 34 33.9	-2.6
RATI	**Rata** 380nm,0.2s	**1.81**	**61**	⇑*i*Pn	Pn	18 34 21.5	-1.1
RATI				⇓*i*Sn	Sn	18 34 40.8	-3.9
KEDI	**Kedomdong**	**2.43**	**63**	⇑*i*Pn	Pn	18 34 29.5	-2.0

*NEIC **20** 18:50:53.4, 37.05N×10.54W, MG3.8(MDD), After MDD.*
*INMG **20** 18:50:54.1±0.9, 36.92N×10.62W, h10km, ML1.9, Error ellipse: s-maj=7.1km s-min=4.2km az=81.0*
*CSEM **20** 18:50:54.6±0.7, 37.09N×10.43W, h135km±6km, ML3.0/4, Error ellipse: s-maj=15.2km s-min=9.8km az=65.0*
MDD 20 18:50:53.4±2.4, 36.86N×10.78W, h67km±76km, mb3.6/6, Error ellipse: s-maj=24.2km s-min=14.8km az=75.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.78**	**67**	*e*Pn	P	18 51 21.3	-1.2
PTEO	5.2nm,0.2s			*e*Sn	S	18 51 41.7	-2.4
PTEO	**Sao Teotonio**	**1.78**	**67**	*e*Pn	P	18 51 21.3	-1.2
PTEO	5.2nm,0.2s			*e*Sn	S	18 51 41.7	-2.4
PLOU	**Loures** 8.8nm,0.1s	**2.40**	**32**	*e*Sn	S	18 51 56.9	-2.5
PLOU	**Loures** 8.8nm,0.1s	**2.40**	**32**	*e*Sn	S	18 51 56.9	-2.5
MOE	**Montemor**	**2.54**	**49**	*e*Sn	S	18 52 00.0	-3.1
PBEJ	**Beja** 3.1nm,0.1s	**2.60**	**62**	*e*Sn	S	18 52 00.9	-3.5
PBEJ	**Beja** 3.1nm,0.1s	**2.60**	**62**	*e*Sn	S	18 52 00.9	-3.5
PALC	**Alcoutim**	**2.71**	**76**	*e*Pn	P	18 51 34.1	-1.5
PALC	1.9nm,0.1s			*e*Sn	S	18 52 04.1	-3.1
PALC	**Alcoutim**	**2.71**	**76**	*e*Pn	P	18 51 34.1	-1.5
PALC	1.9nm,0.1s			*e*Sn	S	18 52 04.1	-3.1
EGRO	**El Granado** 0.7nm,0.1s,SNR=7.3	**2.72**	**75**	P	P	18 51 33.9	-1.8
EGRO	1.0nm,0.1s,SNR=7.9			S	S	18 52 03.4	-4.1
EGRO	**El Granado** 0.7nm,0.1s,SNR=7.3	**2.72**	**75**	P	P	18 51 33.9	-1.8
EGRO	1.0nm,0.1s,SNR=7.9			S	S	18 52 03.4	-4.1
PTOM	**Tomar** 5.1nm,0.1s	**3.33**	**33**	*e*Sn	S	18 52 19.3	-3.5
PTOM	**Tomar** 2.5nm,0.1s	**3.33**	**33**	Sn	S	18 52 19.3	-3.5
EMIN	**Mina Concepcio** 0.9nm,0.1s,SNR=11	**3.40**	**73**	P	P	18 51 43.1	-2.2
EMIN	0.7nm,0.1s,SNR=7.9			S	S	18 52 19.7	-4.9
EMIN	**Mina Concepcio** 0.9nm,0.1s,SNR=11	**3.40**	**73**	P	P	18 51 43.1	-2.2
EMIN	0.7nm,0.1s,SNR=7.9			S	S	18 52 19.7	-4.9
EBAD	**Badajoz** 0.6nm,0.1s,SNR=7.9	**3.53**	**56**	P	P	18 51 44.8	-2.4
EBAD	2.3nm,0.1s,SNR=9.0			S	S	18 52 23.4	-4.5
EBAD	**Badajoz** 0.6nm,0.1s,SNR=7.9	**3.53**	**56**	P	P	18 51 44.8	-2.4
EBAD	2.3nm,0.1s,SNR=9.0			S	S	18 52 23.4	-4.6
ESPR	**Espera**	**3.95**	**88**	P	P	18 51 51.1	-1.8
ESPR				S	S	18 52 34.7	-3.6
ESPR	**Espera** 4.5nm,0.1s,SNR=12	**3.95**	**88**	P	P	18 51 51.1	-1.8
ESPR	3.1nm,0.2s,SNR=7.9			S	S	18 52 33.8	-4.6
ESPR	**Espera** 4.5nm,0.1s,SNR=12	**3.95**	**88**	P	P	18 51 51.1	-1.9
ESPR	3.1nm,0.2s,SNR=7.9			S	S	18 52 34.7	-3.7
PCBR	**Castelo Branco** 1.7nm,0.1s	**3.95**	**40**	*e*Sn	S	18 52 33.1	-5.3
PCBR	**Castelo Branco** 0.9nm,0.1s	**3.95**	**40**	Sn	S	18 52 33.1	-5.3
PVIS	**Viseu** 2.5nm,0.1s	**4.46**	**29**	*e*Sn	S	18 52 45.9	-5.3
PVIS	**Viseu** 1.2nm,0.1s	**4.46**	**29**	Sn	S	18 52 45.9	-5.3
EADA	**Adamuz**	**5.10**	**73**	P	P	18 52 06.6	-2.4
EADA				S	S	18 52 59.5	-7.8
EADA	**Adamuz** 1.2nm,0.1s,SNR=5.8	**5.10**	**73**	P	P	18 52 06.6	-2.4
EADA	0.3nm,0.1s,SNR=7.9			S	S	18 53 00.5	-6.7
EADA	**Adamuz** 1.2nm,0.1s,SNR=5.8	**5.10**	**73**	P	P	18 52 06.6	-2.4
EADA	0.3nm,0.1s,SNR=7.9			S	S	18 52 59.5	-7.7
ELOB	**Lobios** 0.4nm,0.1s,SNR=4.0	**5.43**	**22**	P	P	18 52 10.8	-2.7
ELOB	0.3nm,0.1s,SNR=7.9			S	S	18 53 07.6	-7.7
ELOB	**Lobios** 0.4nm,0.1s,SNR=4.0	**5.43**	**22**	P	P	18 52 10.8	-2.7
ELOB	0.3nm,0.1s,SNR=7.9			S	S	18 53 07.6	-7.7
ECAL	**Calabor** 2.0nm,0.3s,SNR=4.0	**5.96**	**30**	S	S	18 53 20.4	-8.2
ECAL	**Calabor** 2.0nm,0.3s,SNR=4.0	**5.96**	**30**	S	S	18 53 20.4	-8.2

WEL 20 18:51:12.7±0.5, 39.25S×174.90E, h192km±3km, ML3.8/16, 2C, Error ellipse: s-maj=5.3km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.46**	**67**	PN	P	18 51 38.2	-0.9
MTVZ	**Mangateitei**	**0.47**	**107**	PN	P	18 51 37.9	-1.2
MTVZ				*e*SN	S	18 51 58.5	-1.0
WPVZ	**Whakapapa**	**0.51**	**85**	PN	P	18 51 38.8	-0.5
CNZ	**Chateau**	**0.51**	**85**	PN	P	18 51 38.8	-0.5
FWVZ	**Far West T-bar**	**0.51**	**91**	PN	P	18 51 39.0	-0.3
WAZ	**Wanganui**	**0.51**	**172**	PN	P	18 51 39.2	-0.1
WAZ				SN	S	18 51 59.1	-0.8
NGZ	**Ngauruhoe**	**0.55**	**83**	PN	P	18 51 39.1	-0.4
MGZ	**Maungaku**	**0.56**	**64**	PN	P	18 51 38.9	-0.6
TUVZ	**Tukino**	**0.59**	**92**	PN	P	18 51 39.5	-0.1
MOVZ	**Moawhango**	**0.68**	**104**	PN	P	18 51 39.5	-0.6
MOVZ				SN	S	18 51 59.1	-2.1
TSZ	**Takapari Road**	**1.15**	**135**	PN	P	18 51 43.2	+0.1
TSZ				SN	S	18 52 06.0	-0.6
BKZ	**Black Stump Fm**	**1.24**	**87**	PN	P	18 51 43.1	-0.7
BKZ				SN	S	18 52 05.7	-2.2
MRZ	**Mangatainoka R**	**1.50**	**160**	PN	P	18 51 45.6	-0.5
KIW	**Kapiti Island**	**1.61**	**180**	PN	P	18 51 46.5	-0.7
KIW				*e*SN	S	18 52 11.6	-2.1
DUWZ	**D'Urville Isla**	**1.72**	**205**	PN	P	18 51 47.1	-1.2
BFZ	**Birch Farm**	**1.77**	**144**	PN	P	18 51 48.4	-0.3
CAW	**Cannon Point**	**1.86**	**176**	PN	P	18 51 48.9	-0.7
MTW	**Mount Morrison**	**1.96**	**167**	PN	P	18 51 49.7	-0.9
MRW	**Makara Radio**	**1.98**	**184**	⇑PN	P	18 51 50.0	-0.9
URZ	**Urewera**	**1.99**	**61**	PN	P	18 51 48.6	-2.4
URZ				SN	S	18 52 15.8	-4.6
TCW	**Tory Channel**	**2.02**	**193**	⇑PN	P	18 51 50.4	-0.8
TCW				SN	S	18 52 18.0	-2.8
WEL	**Wellington**	**2.04**	**183**	PN	P	18 51 50.4	-1.0
SNZO	**South Karori**	**2.06**	**184**	PN	P	18 51 50.6	-1.1
PAWZ	**Paruwai Farm**	**2.17**	**169**	PN	P	18 51 51.8	-1.1

ISC 20 19:21:16.2±0.7, 44.57N±0.04×17.44E±0.09, h10km, n11, σ0§96/18, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBLS	**Bajina Basta -**	**1.58**	**115**	*e*Pn	**Pn**	**19 21 43.8**	**-0.7**
STON	**Ston**	**1.70**	**173**	*i* Pn	**Pn**	**19 21 45.0**	**-1.2**
STON				*i* Sn	**Sn**	**19 22 09.7**	**+1.5**
STON				*i* Sg	**Sg**	**19 22 12.4**	**-0.5**
BOJS	**Bojanci**	**1.81**	**302**	*i* Pn	**Pn**	**19 21 47.9**	**+0.1**
BOJS				*e*Sn	**Sn**	**19 22 11.4**	**+0.5**
NVLJ	**Novalja**	**1.83**	**271**	*i* Pn	**Pn**	**19 21 47.7**	**-0.4**
NVLJ				*i* Sn	**Sn**	**19 22 11.1**	**-0.4**
CRES	**Cresnjev**	**1.88**	**313**	*i* Pn	**Pn**	**19 21 48.7**	**-0.1**
KOGS	**Kog**	**2.06**	**337**	*e*Pn	**Pn**	**19 21 51.8**	**+0.4**
VISS	**Visnje**	**2.21**	**305**	*e*Pn	**Pn**	**19 21 53.3**	**-0.3**
CEY	**Cerknica**	**2.43**	**300**	*e*Pn	**Pn**	**19 21 59.0**	**+2.4**
PERS	**Pernice**	**2.63**	**323**	*e*Pn	**Pn**	**19 21 59.9**	**+0.3**
PERS				*e*Sn	**Sn**	**19 22 29.9**	**-2.0**
OBKA	**Obir**	**2.81**	**315**	⇑*i*PN	**Pn**	**19 22 01.7**	**-0.3**
OBKA				*i* SN	**Sn**	**19 22 37.3**	**+1.0**
VOY	**Vojsko**	**2.90**	**302**	*e*Pn	**Pn**	**19 22 04.4**	**+1.1**
VOY				*e*Sg	**Sg**	**19 22 51.7**	**-1.0**

*IDC **20** 19:23:31.6±3.8, 29.98N×82.98E, mb3.3/3, mb1 3.5/5, mb1mx3.4/22, mbtmp3.3/5, ML3.4/2, Error ellipse: s-maj=95.8km s-min=35.7km az=61.0*
ISC 20 19:23:40.3±1.0, 30.6N±0.1×84.2E±0.1, h33km, n6, σ0§87/6, mb3.2/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**3.59**	**253**	*e*P	**P**	**19 24 35.0**	**+0.1**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=175,slow=9.3,SNR=9.9	**16.28**	**355**	Pn	**P**	**19 27 27.5**	**-0.3**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=296,slow=11,SNR=5.5	**18.02**	**129**	P	**P**	**19 27 50.0**	**+0.1**
ZAL	**Zalesovo** 0.6nm,0.6s,mb3.2,baz=170,slow=7.5,SNR=3.7	**23.37**	**1**	P	**P**	**19 28 47.4**	**+1.0**
SONM	**Songino Array** 0.3nm,0.6s,mb2.9,baz=231,slow=11,SNR=3.2	**24.23**	**38**	P	**P**	**19 28 59.9**	**+5.0**
YKA	**Yellowknife Ar** 0.2nm,0.6s,mb3.5,baz=337,slow=5.1,SNR=6.3	**86.05**	**9**	P	**P**	**19 36 17.3**	**-0.8**

*LDG **20** 19:30:14.8±0.1, 49.33N×6.79E, h1km, Md2.8/1, Ml2.8/14, Error ellipse: s-maj=1.8km s-min=1.6km az=163.0, Suspected Mining induced.*
*BGR **20** 19:30:14.6±0.6, 49.32N×6.85E, h1km, ML2.2/2, Error ellipse: s-maj=10.0km s-min=6.7km az=59.0*
*NEIC **20** 19:30:14.8, 49.33N×6.79E, h1km, ML2.8(LDG), ML2.3(STR), After LDG.*
*CSEM **20** 19:30:14.4±0.1, 49.34N×6.82E, h2km, ML2.8/11, Error ellipse: s-maj=1.4km s-min=1.1km az=88.0*
*BNS **20** 19:30:15.1, 49.34N×6.86E, h1km, ML1.8*
ISC 20 19:30:12.3±0.2, 49.30N±0.01×6.74E±0.03, n43, σ1§15/74, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.46**	**28**	Pg	**Pg**	**19 30 22.2**	**+0.8**
RUP				Sg	**Sg**	**19 30 28.7**	**+1.2**
WLF	**Walferdange**	**0.53**	**314**	*e*Pg	**Pg**	**19 30 25.6**	**+2.8**
WLF	**Walferdange**	**0.53**	**314**	*e*P	**Pg**	**19 30 25.4**	**+2.6**
WLF	**Walferdange**	**0.53**	**314**	*e*P	**Pg**	**19 30 25.4**	**+2.6**
WLF	**Walferdange**	**0.53**	**314**	Pg	**Pg**	**19 30 25.6**	**+2.8**
LANF	**Langenberg**	**0.77**	**114**	Pg	**Pg**	**19 30 27.5**	**-0.2**
ABH	**Alteburg**	**0.79**	**42**	Pg	**Pg**	**19 30 27.7**	**-0.3**
ABH				Sg	**Sg**	**19 30 38.2**	**-0.3**
KTD	**Kalmit**	**0.88**	**88**	Pg	**Pg**	**19 30 30.2**	**+0.3**
CDF	**Champ du Feu**	**0.96**	**158**	*e*Pg	**Pg**	**19 30 32.9**	**+1.5**
CDF	74nm,0.2s			*e*Sg	**Sg**	**19 30 45.4**	**+1.3**
WLS	**Welschbruch**	**0.97**	**155**	Pg	**Pg**	**19 30 33.3**	**+1.6**
BGG	**Burgeitz**	**0.99**	**23**	*e*Pg	**Pg**	**19 30 32.2**	**+0.1**
BGG	45nm,0.3s			*e*Sg	**Sg**	**19 30 45.1**	**-0.1**
ECH	**Echery**	**1.12**	**165**	Pg	**Pg**	**19 30 36.0**	**+1.4**
THEF	**They Montfort**	**1.18**	**205**	Pg	**Pg**	**19 30 37.3**	**+1.4**
STB	**Steinbach**	**1.30**	**3**	*e*Pg	**Pg**	**19 30 38.3**	**0.0**
STB	21nm,1.0s			*e*Sg	**Sg**	**19 30 55.3**	**-0.2**
HAU	**Haudompre**	**1.32**	**191**	*e*Pn	**Pn**	**19 30 39.0**	**+1.1**
HAU				*e*Pg	**Pg**	**19 30 40.0**	**+1.4**
HAU	34nm,0.3s			*e*Sg	**Sg**	**19 30 57.4**	**+1.2**
MEZF	**Maizieres J'vi**	**1.37**	**235**	*e*Pg	**Pg**	**19 30 40.9**	**+1.3**
MEZF	18nm,0.4s			*e*Sg	**Sg**	**19 30 59.7**	**+1.9**
KLL	**Kalltalsperre**	**1.38**	**349**	*e*Pg	**Pg**	**19 30 38.8**	**-1.0**
KLL	13nm,0.4s			*e*Sg	**Sg**	**19 30 57.5**	**-0.6**
TOD	**Tromm**	**1.38**	**76**	Pg	**Pg**	**19 30 38.1**	**-1.8**
MEM	**Membach**	**1.40**	**341**	P	**Pb**	**19 30 40.5**	**+1.6**
MEM				S	**Sb**	**19 30 57.7**	**+0.5**
BFO	**Black Forest**	**1.43**	**132**	*e*Pg	**Pg**	**19 30 41.5**	**+0.6**
BFO				*e*Sg	**Sg**	**19 30 58.4**	**-1.5**
TNS	**Taunus Mts**	**1.45**	**50**	*e*Pg	**Pg**	**19 30 39.1**	**-2.0**
TNS				*e*Sg	**Sg**	**19 30 58.8**	**-1.6**
MOF	**Molkenrain**	**1.47**	**170**	Pg	**Pg**	**19 30 42.3**	**+0.6**
MOF				Sg	**Sg**	**19 31 02.3**	**+1.0**
GIVF	**Givet**	**1.48**	**304**	*e*Pn	**Pn**	**19 30 41.6**	**+1.4**
GIVF	13nm,0.3s			*e*Sg	**Sg**	**19 31 01.5**	**-0.1**
HINF	**Hinteralfeld**	**1.48**	**177**	*e*Pg	**Pg**	**19 30 42.5**	**+0.6**
HINF	44nm,0.3s			*e*Sg	**Sg**	**19 31 02.7**	**+1.0**
HGN	**Heimansgroeve**	**1.56**	**341**	*e*Pg	**Pg**	**19 30 43.6**	**+0.3**
HGN				*e*Sg	**Sg**	**19 31 03.2**	**-0.9**
DOU	**Dourbes**	**1.60**	**301**	P	**Pn**	**19 30 43.3**	**+1.3**
DOU				S	**Sb**	**19 31 04.3**	**+1.1**
FELD	**Feldberg**	**1.65**	**149**	Pg	**Pg**	**19 30 45.2**	**-0.1**
FELD				Sg	**Sg**	**19 31 06.4**	**-0.9**
BAIF	**Baives**	**1.81**	**296**	*e*Pn	**Pn**	**19 30 46.9**	**+1.9**
BAIF				*e*Pg	**Pg**	**19 30 48.8**	**+0.4**
BAIF				*e*Sg	**Sg**	**19 31 11.4**	**-1.2**
BAIF	**Baives**	**1.81**	**296**	*e*Pg	**Pg**	**19 30 48.8**	**+0.4**
BAIF				*e*Sg	**Sg**	**19 31 11.4**	**-1.2**
CABF	**La Chapelle**	**2.72**	**189**	*e*Pn	**Pn**	**19 30 58.4**	**+0.4**
CABF				*e*Pg	**Pg**	**19 31 06.3**	**-0.4**
CABF	9.1nm,0.5s			*e*Sg	**Sg**	**19 31 41.5**	**-1.5**
SSF	**Saint Saulge**	**3.11**	**225**	*e*Pn	**Pn**	**19 31 03.3**	**-0.3**
SSF				*e*Sn	**Sn**	**19 31 40.9**	**-1.1**
SSF	3.5nm,0.4s			*e*Sg	**Sg**	**19 31 53.7**	**-2.2**
SMF	**Signal de Mont**	**3.29**	**217**	*e*Pn	**Pn**	**19 31 05.6**	**-0.5**
SMF				*e*Sn	**Sn**	**19 31 44.4**	**-2.1**
SMF	8.4nm,0.5s			*e*Sg	**Sg**	**19 31 56.0**	**-5.8**
AVF	**Avril sur Loir**	**3.38**	**223**	*e*Pn	**Pn**	**19 31 06.8**	**-0.6**
AVF	2.3nm,0.4s			*e*Sn	**Sn**	**19 31 45.9**	**-3.0**
HYF	**Humbligny**	**3.41**	**235**	*e*Pn	**Pn**	**19 31 08.5**	**+0.7**
BGF	**Bois d'Agland**	**3.79**	**225**	*e*Pn	**Pn**	**19 31 12.9**	**-0.3**
BGF	8.0nm,0.4s			*e*Sn	**Sn**	**19 31 57.8**	**-1.3**
LPG	**La Plagne**	**3.80**	**180**	*e*Sn	**Sn**	**19 31 57.7**	**-1.8**
TCF	**Toulx Ste Croi**	**4.29**	**227**	*e*Pn	**Pn**	**19 31 19.4**	**-0.9**
TCF	2.7nm,0.4s			*e*Sg	**Sg**	**19 32 29.1**	**-5.9**
ORIF	**Oris-en-Rattie**	**4.42**	**188**	*e*Pn	**Pn**	**19 31 21.6**	**-0.6**
LDF	**La Druitiere**	**4.58**	**264**	*e*Pn	**Pn**	**19 31 24.4**	**0.0**
LDF				*e*Pg	**Pg**	**19 31 40.5**	**-3.1**
FLN	**La Foliniere**	**4.78**	**266**	*e*Pn	**Pn**	**19 31 27.4**	**+0.1**
MFF	**Saint Martin d**	**5.35**	**242**	*e*Pn	**Pn**	**19 31 34.6**	**-0.8**
CAF	**Calviac**	**5.41**	**218**	*e*Pn	**Pn**	**19 31 34.9**	**-1.3**
SGMF	**Saint Gilles**	**6.23**	**264**	*e*Pn	**Pn**	**19 31 46.3**	**-1.5**

*IDC **20** 19:32:17.5±0.6, 1.84S×99.60E, mb4.1/14, mb1 4.2/14, mb1mx4.1/21, mbtmp4.1/14, MS3.1/1, Ms1 3.1/1, ms1mx2.6/27, Error ellipse: s-maj=27.5km s-min=13.9km az=51.0*
*BJI **20** 19:32:21.1, 1.70S×99.80E, h28km, mb5.0*
*NEIC **20** 19:32:22.2±0.5, 1.72S×99.76E, h30km, mb4.4/2, Error ellipse: s-maj=17.1km s-min=9.3km az=57.0*
ISC 20 19:32:20.8±0.5, 1.75S±0.09×99.7E±0.1, h33km, n25, σ0§87/23, mb4.2/14, MS3.0/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 2.0nm,0.6s,baz=187,slow=10,SNR=23	**20.09**	**358**	P	**P**	**19 36 54.8**	**+0.3**
QIZ	**Qiongzhong**	**22.91**	**25**	*e*P	**P**	**19 37 21.6**	**-1.5**
FITZ	**Fitzroy Crossi** 6.6nm,0.8s,mb4.4	**30.18**	**124**	*e*P	**P**	**19 38 30.6**	**+0.1**
FITZ	**Fitzroy Crossi** 3.3nm,0.7s,mb4.2,baz=18,slow=3.2,SNR=4.5	**30.18**	**124**	P	**P**	**19 38 30.4**	**-0.1**
FITZ	comp=Z,42nm,21.5s,MS3.0,baz=95,slow=34			LR	LR	19 49 20.7	
LSA	**Lhasa** 6.0nm,1.1s,mb4.3	**32.32**	**346**	*e*P	**P**	**19 38 50.1**	**+0.7**
ENH	**Enshi**	**33.17**	**16**	P	**P**	**19 38 53.4**	**-3.3**
WRA	**Warramunga Arr** 1.7nm,0.4s,mb4.1,baz=303,slow=9.0,SNR=33	**38.36**	**121**	P	**P**	**19 39 40.7**	**0.0**
WRA	0.6nm,0.5s,baz=316,slow=2.3,SNR=5.6			PcP	PcP	19 41 54.9	+0.4
WB2	**Warramunga Arr**	**38.37**	**121**	*e*P	**P**	**19 39 40.7**	**-0.1**
ASPA	**Alice Springs**	**39.62**	**126**	*e*P	**P**	**19 39 51.9**	**+0.7**
ASAR	**Alice Springs** 1.1nm,0.6s,mb3.7,baz=301,slow=7.8,SNR=18	**39.62**	**126**	P	**P**	**19 39 51.2**	**+0.1**
ASAR	1.3nm,0.7s,baz=300,slow=2.5,SNR=7.4			PcP	PcP	19 41 59.1	+0.6
WMQ	**Urumqi**	**46.63**	**348**	P	**P**	**19 40 49.5**	**+1.6**
WMQ				AP	pP	19 40 59.5	+1.8
WMQ				XP	sP	19 41 04.0	+2.1
STKA	**Stephens Creek** 2.2nm,0.7s,mb4.3,baz=213,slow=9.0,SNR=3.5	**49.52**	**132**	P	**P**	**19 41 10.4**	**-0.1**
SONM	**Songino Array** 0.9nm,0.7s,mb3.9,baz=188,slow=8.3,SNR=11	**49.72**	**6**	P	**P**	**19 41 12.5**	**+0.6**
SONM	0.8nm,0.5s,baz=187,slow=4.4,SNR=3.9			PcP	PcP	19 42 33.0	+0.1
MKAR	**Makanchi Array** 3.2nm,0.6s,mb4.5,baz=148,slow=8.1,SNR=55	**50.71**	**345**	P	**P**	**19 41 19.5**	**0.0**
ZAL	**Zalesovo** 4.3nm,0.5s,mb4.7	**56.86**	**350**	P	**P**	**19 42 04.1**	**-0.5**
ZAL	**Zalesovo**	**56.86**	**350**	P	**P**	**19 42 04.1**	**-0.6**
BVAR	**Borovoye Array** 1.8nm,0.6s,mb4.2,baz=135,slow=8.4,SNR=18	**59.85**	**340**	P	**P**	**19 42 24.3**	**-1.2**
KMBO	**Kilima Mbogo** 0.8nm,0.7s,mb3.9,baz=248,slow=23,SNR=4.0	**62.46**	**270**	P	**P**	**19 42 43.7**	**0.0**
KMBO	**Kilima Mbogo**	**62.46**	**270**	P	**P**	**19 42 43.7**	**0.0**
MATP	**Matopo** 2.7nm,0.8s,mb4.2,baz=96,slow=5.1,SNR=5.2	**71.81**	**249**	P	**P**	**19 43 41.5**	**-1.0**
BRTR	**Keskin Array B** 0.5nm,0.6s,mb3.6,baz=180,slow=7.2,SNR=2.9	**72.95**	**312**	P	**P**	**19 43 48.3**	**-0.7**
FINES	**FINESS Array B** 0.6nm,0.5s,mb4.0,baz=90,slow=7.6,SNR=8.8	**83.76**	**332**	P	**P**	**19 44 48.2**	**+0.5**
ARCES	**ARCESS Array B** 4.0nm,0.9s,mb4.6,baz=315,slow=8.6,SNR=4.1	**86.14**	**340**	P	**P**	**19 45 00.9**	**+1.5**
MIAR	**Mount Ida**	**145.09**	**19**	*e*P	PKPdf	19 51 56.5	+1.1
JCT	**Junction City**	**145.95**	**31**	*e*P	PKPdf	19 51 60.0	+2.9

*IDC **20** 19:32:30.1±0.8, 8.23N×82.84W, h32km±5km, mb3.8/7, mb1 4.1/9, mb1mx3.8/21, mbtmp4.0/9, ML3.1/2, MS3.5/6, Ms1 3.4/6, ms1mx3.1/27, Error ellipse: s-maj=33.7km s-min=16.6km az=57.0*
*NEIC **20** 19:32:30.6±0.6, 8.11N×82.74W, h35km, mb4.4/4, MD4.4(CASC), Error ellipse: s-maj=18.8km s-min=6.8km az=225.0*
NEIC Felt in the southern part of Costa Rica.
ISC 20 19:32:27.9±0.5, 7.99N±0.06×82.67W±0.07, h32km, h32km±1.3km: pP-P, n57, σ1§32/54, mb4.0/10, MS3.6/4, 12C-5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.80**	**359**	⇑*e*P	**Pn**	**19 32 43.9**	**+0.9**
BRU2				*e*S	**Sb**	**19 32 53.9**	**+0.1**
ACR	**Cerro Adams**	**0.82**	**323**	⇑*i*P	**Pn**	**19 32 43.3**	**-0.1**
ACR				*e*S	**Sb**	**19 32 53.4**	**-1.1**
ACR	**Cerro Adams**	**0.82**	**323**	⇑*i*P	**Pn**	**19 32 43.2**	**-0.1**
ACR				*e*S	**Sb**	**19 32 54.2**	**-0.2**
BUS	**Buena Vista**	**1.89**	**326**	⇑*i*P	**Pn**	**19 32 59.8**	**+1.2**
BUS	**Buena Vista**	**1.89**	**326**	⇑*i*P	**Pn**	**19 32 59.9**	**+1.2**
QCR	**Quepos**	**2.05**	**314**	*e*P	**Pn**	**19 33 00.4**	**-0.5**
LCR2	**La Lucha 2**	**2.18**	**323**	⇑*e*P	**Pn**	**19 33 03.8**	**+1.0**
LCR2	**La Lucha 2**	**2.18**	**323**	⇑*e*P	**Pn**	**19 33 03.9**	**+1.0**
LAJ	**Bijagual**	**2.35**	**323**	⇑*e*P	**Pn**	**19 33 07.6**	**+2.4**
LAJ	**Bijagual**	**2.35**	**323**	⇓*e*P	**Pn**	**19 33 07.6**	**+2.4**
SJS	**Escuela Geolog**	**2.37**	**325**	⇓*e*P	**Pn**	**19 33 07.1**	**+1.6**
SJS				*e*S	**Sn**	**19 33 36.2**	**+2.5**
SJS	**Escuela Geolog**	**2.37**	**325**	⇑*e*P	**Pn**	**19 33 07.1**	**+1.6**
SJS				*e*S	**Sn**	**19 33 35.3**	**+1.6**
PRS1	**Puriscal**	**2.56**	**321**	⇓*e*P	**Pn**	**19 33 08.0**	**-0.2**
PRS1	**Puriscal**	**2.56**	**321**	⇑*e*P	**Pn**	**19 33 08.2**	**0.0**
VPS2	**Volcan Poas 2**	**2.67**	**325**	*e*P	**Pn**	**19 33 11.9**	**+2.0**
VPS2				*e*S	**Sn**	**19 33 53.0**	**+11**
VPS2	**Volcan Poas 2**	**2.67**	**325**	⇑*e*P	**Pn**	**19 33 12.0**	**+2.2**
CGA2	**Cerro Gallo 2**	**2.68**	**319**	*e*P	**Pn**	**19 33 10.4**	**+0.5**
CGA2	**Cerro Gallo 2**	**2.68**	**319**	*e*P	**Pn**	**19 33 10.4**	**+0.5**
TRTC	**Tortuguero**	**2.77**	**338**	⇓*e*P	**Pn**	**19 33 11.6**	**+0.4**
TRTC	**Tortuguero**	**2.77**	**338**	⇓*i*P	**Pn**	**19 33 12.4**	**+1.3**
JCR	**Jicaral**	**3.04**	**308**	*e*P	**Pn**	**19 33 14.3**	**-0.6**
JCR	**Jicaral**	**3.04**	**308**	*e*P	**Pn**	**19 33 14.5**	**-0.5**
JTS	**JuntasAbangare** 59nm,0.3s,baz=288,slow=22,SNR=172	**3.21**	**316**	Pn	**Pn**	**19 33 17.1**	**-0.3**
JTS	82nm,0.3s,baz=317,slow=21,SNR=7.2			Sn	**Sn**	**19 33 59.9**	**+4.9**
JTS	comp=Z,258nm,21.5s,baz=71,slow=42			LR	LR	19 34 33.1	
JTS	**JuntasAbangare**	**3.21**	**316**	*e*P	**Pn**	**19 33 17.1**	**-

1.0nm,0.7s,baz=351,slow=0.7,SNR=11
SONM pPKP 19 51 33.6
0.4nm,0.7s,baz=320,slow=1.8,SNR=3.4
STKA Stephens Creek 132.53 234 PKhKP 19 51 36.2
0.7nm,0.5s,baz=321,slow=20,SNR=3.4
ASAR Alice Springs 141.66 242 PKhKP 19 51 52.5
0.8nm,0.6s,baz=120,slow=3.7,SNR=14
ASAR PKP PKPdf 19 51 58.5 -3.9
1.1nm,0.7s,baz=122,slow=2.3,SNR=12
WRA Warramunga Arr 142.26 248 PKhKP 19 51 55.4
1.0nm,0.6s,baz=94,slow=2.9,SNR=16
FITZ Fitzroy Crossi 150.69 247 PKPbc PKPdf 19 52 19.7 +2.1
6.6nm,0.7s,baz=166,slow=6.2,SNR=10
CMAR Chiang Mai Arr 153.67 357 PKP PKPdf 19 52 18.9 -2.9
0.6nm,0.7s,baz=299,slow=1.7,SNR=5.2
CMAR PKPbc PKPdf 19 52 25.2 +3.4
1.3nm,0.8s,baz=332,slow=3.0,SNR=7.9

IDC 20 19:43:46.2±2.0,3.00N×124.33E,mb3.5/3,mb1 3.7/3, mb1mx3.4/19,mbtmp3.5/3,1C,Error ellipse: s-maj=210.5km s-min=27.3km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.83**	**157**	P	P	19 49 10.5	-1.3
	1.3nm,0.4s,baz=336,slow=10,SNR=32						
WB2	**Warramunga Arr**	**24.83**	**157**	⇑*i*P	P	19 49 10.6	-1.2
ASAR	**Alice Springs**	**28.10**	**161**	P	P	19 49 39.9	-2.0
	0.4nm,0.7s,baz=335,slow=8.2,SNR=7.1						
MKAR	**Makanchi Array**	**56.81**	**327**	P	P	19 53 32.4	-2.4
	0.2nm,0.6s,baz=127,slow=7.2,SNR=4.1						

IDC 20 19:55:13.3±43.0,3.63S×104.50E,mb3.7/3,mb1 3.9/3, mb1mx3.4/18,mbtmp3.7/3,Error ellipse: s-maj=785.8km s-min=233.0km az=145.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.31**	**122**	P	P	20 01 53.1	-2.0
	0.2nm,0.3s,baz=291,slow=9.4,SNR=7.8						
ASAR	**Alice Springs**	**34.69**	**128**	P	P	20 02 04.8	-2.3
	0.5nm,0.4s,baz=301,slow=7.8,SNR=19						
STKA	**Stephens Creek**	**44.74**	**133**	P	P	20 03 28.8	-1.7
	1.5nm,0.5s,baz=332,slow=8.2,SNR=7.2						

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*NEIC **20** 19:56:41.4,31.07S×72.00W,h5km,ML3.3(GUC),After GUC.*

GUC 20 19:56:41.4±1.0,31.07S×72.00W,h5km±7km,MD3.5, ML3.3,1C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.91**	**129**	⇓*i*P	Pb	19 56 58.9	-0.3
ILCH				*i*S	Sb	19 57 12.0	+0.6
ILCH				AMP		19 57 12.8	
	comp=E,2μm,0.3s						
CHNG	**Los Chungos**	**0.92**	**152**	⇑*i*P	Pb	19 56 59.0	-0.4
CHNG				*i*S	Sb	19 57 11.8	+0.1
CHNG				AMP		19 57 15.3	
	comp=E,399nm,0.4s						
TLL	**Tololo Astrono**	**1.37**	**49**	*i*P	Pb	19 57 06.4	-0.7
TLL				*i*S	Sb	19 57 26.1	+1.2
TLL				AMP		19 57 29.2	
	comp=N,868nm,0.3s						
JACH	**Jahuel**	**2.00**	**144**	*i*P	Pn	19 57 16.3	0.0
JACH				*i*S	Sn	19 57 43.3	+1.3
ROCH	**El Roble**	**2.07**	**156**	*i*P	Pn	19 57 17.9	+0.6
ROCH				*i*S	Sn	19 57 45.1	+1.3
PEL	**Peldehue**	**2.35**	**152**	AMP		19 57 57.7	
	comp=N,562nm,0.4s						
CLCH	**Cerro Calan**	**2.63**	**152**	AMP		19 58 10.6	
	comp=N,238nm,0.5s						
FCH	**Farellones**	**2.68**	**148**	AMP		19 58 13.6	
	comp=E,136nm,0.3s						
TACH	**Talagante**	**2.73**	**161**	*e*P	Pn	19 57 26.6	0.0
TACH				*i*S	Sn	19 58 01.6	+1.2
LMEL	**Las Melosas**	**3.16**	**152**	AMP		19 58 25.7	
	comp=N,114nm,0.4s						

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*IDC **20** 19:58:59.7±2.2,35.03N×3.33W,mb3.3/2,mb1 3.5/3, mb1mx3.2/24,mbtmp3.2/3,ML3.6/1,Error ellipse: s-maj=46.6km s-min=29.1km az=70.0*
*SFS **20** 19:59:00.0,34.86N×3.72W*
*NEIC **20** 19:59:01.9,34.94N×3.76W,MG3.4(MDD),After MDD.*
*CSEM **20** 19:59:01.5±0.1,34.96N×3.72W,h10km,ML3.4/3,Error ellipse: s-maj=3.1km s-min=2.0km az=120.0*
*INMG **20** 19:59:02.4±1.4,34.98N×3.82W,h11km±12km,ML2.6, Error ellipse: s-maj=11.8km s-min=8.1km az=139.0*
*MDD **20** 19:59:02.6±0.4,35.05N×3.68W,h6km±3km,mbLg2.4/25, Error ellipse: s-maj=3.9km s-min=3.5km az=127.0, PRXIMO*
*CNRM **20** 19:59:03.1,35.05N×3.77W,h3km,MD3.7*

ISC 20 19:59:01.2±0.2,35.08N±0.02×3.86W±0.02,h6km,n97, σ1°35/166,mb3.4/2,1C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.15**	**144**	P	**Pg**	19 59 04.0	-0.3
TOU				S	**Sg**	19 59 07.0	+0.6
TOU	**Touzarine**	**0.15**	**144**	*i*P	**Pg**	19 59 04.0	-0.3
MPAL	**Palemas**	**0.16**	**335**	P	**Pg**	19 59 07.0	+2.6
MPAL				S	**Sg**	19 59 11.0	+4.4
MPAL	**Palemas**	**0.16**	**335**	*i*P	**Pg**	19 59 07.0	+2.6
MELI	**Melilla**	**0.79**	**74**	⇑P	**Pg**	19 59 16.6	-0.3
MELI	**Melilla**	**0.79**	**74**	*i*P	**Pg**	19 59 16.6	-0.3
MELI				*i*S	**Sg**	19 59 28.4	+0.9
ZAI	**Zaio**	**0.92**	**97**	*i*P	**Pb**	19 59 18.5	-0.7
ZAI				*i*S	**Sb**	19 59 30.5	-1.0
TZK	**Tazeka**	**1.03**	**195**	*i*P	**Pb**	19 59 21.0	0.0
TZK				*i*S	**Sb**	19 59 36.0	+1.4
EALB	**Alboran**	**1.09**	**38**	P	**Pb**	19 59 22.9	+0.8
EALB				S	**Sb**	19 59 38.7	+2.3
EALB	**Alboran**	**1.09**	**38**	P	**Pb**	19 59 22.5	+0.5
	51nm,0.3s,SNR=12						
EALB				S	**Sb**	19 59 35.5	-0.8
	51nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.09**	**38**	P	**Pb**	19 59 22.9	+0.8
	51nm,0.3s,SNR=12						
EALB				S	**Sb**	19 59 38.7	+2.3
	SNR=7.9						
TAF	**Taforalt**	**1.22**	**102**	P	**Pb**	19 59 26.0	+1.7
TAF				S	**Sb**	19 59 42.0	+1.9
EMIJ	**Mijas**	**1.65**	**334**	P	**Pn**	19 59 31.1	+0.1
EMIJ				S	**Sb**	19 59 55.2	+2.4
EMIJ	**Mijas**	**1.65**	**334**	P	**Pn**	19 59 31.8	+0.8
	0.7nm,0.1s,SNR=9.8						
EMIJ				S	**Sb**	19 59 55.2	+2.4
	22nm,0.3s,SNR=9.6						
EMIJ	**Mijas**	**1.65**	**334**	P	**Pn**	19 59 31.1	+0.1
	0.7nm,0.1s,SNR=9.8						
EMIJ				S	**Sb**	19 59 55.2	+2.5
	22nm,0.3s,SNR=9.6						
TSY	**Tnine Yamani**	**1.75**	**280**	*i*P	**Pn**	19 59 34.0	+1.6
REAL	**Reales**	**1.77**	**322**	*e*P	**Pn**	19 59 35.0	+2.3
IFR	**Ifrane**	**1.88**	**214**	P	**Pn**	19 59 36.0	+1.8
IFR				S	**Sn**	19 59 59.0	+0.4
EJIF	**Jimena Fronter**	**1.89**	**317**	P	**Pn**	19 59 37.9	+3.5
EJIF				S	**Sn**	20 00 02.2	+3.4
EJIF	**Jimena Fronter**	**1.89**	**317**	P	**Pn**	19 59 35.2	+0.9
	2.0nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	20 00 00.1	+1.3
	31nm,0.6s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.89**	**317**	P	**Pn**	19 59 37.9	+3.5
	2.0nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	20 00 02.2	+3.4
	SNR=7.9						
ERON	**Agron**	**1.93**	**1**	P	**Pn**	19 59 33.0	-2.0
ERON				S	**Sn**	20 00 04.5	+4.6
ERON	**Agron**	**1.93**	**1**	P	**Pn**	19 59 35.7	+0.8
	0.6nm,0.1s,SNR=5.1						
ERON				S	**Sn**	20 00 00.1	+0.2
	12nm,0.5s,SNR=7.9						
ERON	**Agron**	**1.93**	**1**	P	**Pn**	19 59 33.0	-2.0
	0.6nm,0.1s,SNR=5.1						
ERON				S	**Sn**	20 00 04.5	+4.6
	SNR=7.9						
EBER	**Berja**	**1.98**	**23**	P	**Pn**	19 59 36.6	+1.0
EBER				S	**Sn**	20 00 02.0	+1.1
EBER	**Berja**	**1.98**	**23**	P	**Pn**	19 59 35.0	-0.6
	2.6nm,0.3s,SNR=9.8						
EBER				S	**Sn**	19 59 59.3	-1.7
	33nm,0.5s,SNR=7.9						
EBER	**Berja**	**1.98**	**23**	P	**Pn**	19 59 36.6	+1.0
	2.6nm,0.3s,SNR=9.8						
EBER				S	**Sn**	20 00 02.0	+1.0
	SNR=7.9						
MIF	**Mishlifen**	**2.02**	**215**	*i*P	**Pn**	19 59 36.0	-0.2
MIF				*i*S	**Sn**	20 00 01.0	-1.0
ELOJ	**Sierra Loja**	**2.07**	**354**	P	**Pn**	19 59 38.3	+1.3
ELOJ				S	**Sn**	20 00 09.2	+5.7
ELOJ	**Sierra Loja**	**2.07**	**354**	P	**Pn**	19 59 37.2	+0.2
	1.3nm,0.2s,SNR=8.1						
ELOJ				S	**Sn**	20 00 04.1	+0.7
	12nm,0.4s,SNR=9.1						
ELOJ	**Sierra Loja**	**2.07**	**354**	P	**Pn**	19 59 38.3	+1.3
	1.3nm,0.2s,SNR=8.1						
ELOJ				S	**Sn**	20 00 09.2	+5.7
	12nm,0.4s,SNR=9.1						
ECOG	**Cogollos-Vega**	**2.20**	**6**	P	**Pn**	19 59 40.9	+2.0
ECOG	**Cogollos-Vega**	**2.20**	**6**	P	**Pn**	19 59 39.4	+0.5
	0.9nm,0.2s,SNR=7.8						
ECOG				S	**Sn**	20 00 06.1	-0.6
	8.6nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.20**	**6**	P	**Pn**	19 59 40.9	+2.1
	0.9nm,0.2s,SNR=7.8						
LIJA	**Lijar**	**2.21**	**326**	*e*P	**Pn**	19 59 42.2	+3.3
LIJA				*e*S	**Sn**	20 00 13.2	+6.3
CZD	**Col de Zad**	**2.27**	**206**	*i*P	**Pn**	19 59 41.0	+1.2
CZD				*i*S	**Sn**	20 00 07.0	-1.4
ENIJ	**Nijar**	**2.31**	**35**	P	**Pn**	19 59 39.5	-1.0
ENIJ				S	**Sn**	20 00 11.1	+1.5
ENIJ	**Nijar**	**2.31**	**35**	P	**Pn**	19 59 39.5	-1.0
	0.9nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	20 00 07.2	-2.4
	19nm,0.4s,SNR=6.0						
ENIJ	**Nijar**	**2.31**	**35**	P	**Pn**	19 59 39.5	-0.9
	0.9nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	20 00 11.1	+1.5
	19nm,0.4s,SNR=6.0						
ESPR	**Espera**	**2.41**	**318**	P	**Pn**	19 59 44.9	+3.2
ESPR				S	**Sn**	20 00 15.4	+3.5
ESPR	**Espera**	**2.41**	**318**	P	**Pn**	19 59 42.4	+0.7
	0.9nm,0.1s,SNR=12						
ESPR				S	**Sn**	20 00 13.4	+1.5
	9.2nm,0.6s,SNR=7.9						
ESPR	**Espera**	**2.41**	**318**	P	**Pn**	19 59 44.9	+3.1
	0.9nm,0.1s,SNR=12						
ESPR				S	**Sn**	20 00 15.4	+3.5
	SNR=7.9						
ELUQ	**Luque**	**2.49**	**353**	P	**Pn**	19 59 45.4	+2.4
ELUQ				S	**Sn**	20 00 19.1	+5.0
ELUQ	**Luque**	**2.49**	**353**	P	**Pn**	19 59 43.6	+0.5
	1.1nm,0.2s,SNR=8.1						
ELUQ				S	**Sn**	20 00 14.2	0.0
	7.3nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.49**	**353**	P	**Pn**	19 59 45.4	+2.4
	1.1nm,0.2s,SNR=8.1						
ELUQ				S	**Sn**	20 00 19.1	+5.0
	SNR=7.9						
EQES	**Quesada**	**2.79**	**13**	P	**Pn**	19 59 49.6	+2.4
EQES				S	**Sn**	20 00 25.6	+3.9
EQES	**Quesada**	**2.79**	**13**	P	**Pn**	19 59 46.9	-0.3
	1.3nm,0.1s,SNR=14						
EQES				S	**Sn**	20 00 19.4	-2.3
	19nm,0.4s,SNR=6.2						
EQES	**Quesada**	**2.79**	**13**	P	**Pn**	19 59 49.6	+2.4
	1.3nm,0.1s,SNR=14						
EQES				S	**Sn**	20 00 25.5	+3.9
	19nm,0.4s,SNR=6.2						
ZFT	**Errachidia**	**3.07**	**188**	*i*P	**Pn**	19 59 51.5	+0.3
ZFT				*i*S	**Sn**	20 00 27.0	-1.7
EBAN	**Banos Encina**	**3.08**	**1**	P	**Pn**	19 59 51.1	-0.2
	1.5nm,0.4s,SNR=7.9						
EBAN				S	**Sn**	20 00 27.0	-1.9
	7.8nm,0.5s,SNR=4.0						
EBAN	**Banos Encina**	**3.08**	**1**	S	**Sn**	20 00 30.5	+1.6
	SNR=4.0						
KIB	**El Ksiba**	**3.09**	**217**	*i*P	**Pn**	19 59 51.5	0.0
KIB				*i*S	**Sn**	20 00 28.0	-1.2
EADA	**Adamuz**	**3.13**	**350**	P	**Pn**	19 59 53.7	+1.6
EADA				S	**Sn**	20 00 32.1	+1.8
EADA	**Adamuz**	**3.13**	**350**	P	**Pn**	19 59 52.1	0.0
	0.9nm,0.1s,SNR=11						
EADA				S	**Sn**	20 00 28.9	-1.4
	11nm,0.5s,SNR=4.6						
EADA	**Adamuz**	**3.13**	**350**	P	**Pn**	19 59 53.7	+1.6
	0.9nm,0.1s,SNR=11						
EADA				S	**Sn**	20 00 32.1	+1.8
	11nm,0.5s,SNR=4.6						
AVE	**Averroes**	**3.44**	**240**	P	**Pn**	19 59 57.0	+0.5
EMUR	**La Murta**	**3.47**	**37**	P	**Pn**	19 59 55.5	-1.4
	0.3nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	20 00 34.2	-4.7
	10.0nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.51**	**321**	P	**Pn**	19 59 57.5	+0.1
EMIN				S	**Sn**	20 00 41.6	+1.8
EMIN	**Mina Concepcio**	**3.51**	**321**	P	**Pn**	19 59 57.5	0.0
	0.8nm,0.1s,SNR=20						
EMIN				S	**Sn**	20 00 39.0	-0.9
	8.1nm,0.7s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.51**	**321**	P	**Pn**	19 59 57.6	+0.1
	0.8nm,0.1s,SNR=20						
EMIN				S	**Sn**	20 00 41.7	+1.8
EVIA	**Vianos**	**3.71**	**17**	P	**Pn**	19 59 59.1	-1.2
	4.2nm,0.4s,SNR=7.9						
EVIA				S	**Sn**	20 00 42.1	-2.9
	9.9nm,0.5s,SNR=7.9						
PALC	**Alcoutim**	**3.77**	**310**	*e*Pn	**Pn**	20 00 01.1	0.0
PALC				*e*Sn	**Sn**	20 00 44.1	-2.2
	9.5nm,0.3s						
PALC	**Alcoutim**	**3.77**	**310**	*e*Pn	**Pn**	20 00 01.1	0.0
PALC				*e*Sn	**Sn**	20 00 44.1	-2.2
	9.5nm,0.3s						
EGRO	**El Granado**	**3.81**	**311**	P	**Pn**	20 00 01.9	+0.1
EGRO				S	**Sn**	20 00 46.1	-1.4
EGRO	**El Granado**	**3.81**	**311**	P	**Pn**	20 00 01.6	-0.2
	2.4nm,0.1s,SNR=13						
EGRO				S	**Sn**	20 00 46.2	-1.3
	10nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**3.81**	**311**	P	**Pn**	20 00 01.9	+0.1
	2.4nm,0.1s,SNR=13						
ETOB	**Tobarra**	**4.01**	**27**	P	**Pn**	20 00 05.9	+1.4
ETOB				S	**Sn**	20 00 50.6	-1.9
ETOB	**Tobarra**	**4.01**	**27**	P	**Pn**	20 00 03.0	-1.6
	0.8nm,0.2s,SNR=15						
ETOB				S	**Sn**	20 00 48.0	-4.5
	5.1nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**4.01**	**27**	P	**Pn**	20 00 05.9	+1.3
ETOB				S	**Sn**	20 00 50.6	-1.9
PBEJ	**Beja**	**4.36**	**314**	*e*Pn	**Pn**	20 00 09.9	+0.3
PBEJ				*e*Sn	**Sn**	20 00 59.0	-2.4
	4.5nm,0.2s						
PBEJ	**Beja**	**4.36**	**314**	*e*Pn	**Pn**	20 00 09.9	+0.3
PBEJ				*e*Sn	**Sn**	20 00 59.0	-2.4
	4.5nm,0.2s						
EBAD	**Badajoz**	**4.45**	**326**	P	**Pn**	20 00 11.2	+0.3
EBAD				S	**Sn**	20 01 02.4	-1.3
EBAD	**Badajoz**	**4.45**	**326**	P	**Pn**	20 00 10.5	-0.4
	1.3nm,0.1s,SNR=8.6						
EBAD				S	**Sn**	20 01 02.4	-1.3
	3.3nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.45**	**326**	P	**Pn**	20 00 11.1	+0.3
ESDC	**Sonseca Array**	**4.58**	**359**	Pn	**Pn**	20 00 13.3	+0.5
	1.4nm,0.3s,baz=179,slow=12,SNR=14						
ESDC				Sn	**Sn**	20 01 06.3	-0.7
	0.8nm,0.3s,baz=191,slow=22,SNR=4.5						
ESDC				Lg		20 01 26.8	
	1.1nm,0.3s,baz=172,slow=28,SNR=5.1						
ESDC	**Sonseca Array**	**4.58**	**359**	P	**Pn**	20 00 13.1	+0.4
ESDC	**Sonseca Array**	**4.58**	**359**	P	**Pn**	20 00 12.1	-0.6
	3.5nm,0.1s,baz=120,slow=45,SNR=7.9						
ESDC				S	**Sn**	20 01 03.0	-4.0
	2.9nm,0.8s,baz=181,slow=22,SNR=7.9						
ESDC	**Sonseca Array**	**4.58**	**359**	P	**Pn**	20 00 13.1	+0.4
EBEN	**Beniarda**	**4.64**	**38**	P	**Pn**	20 00 12.1	-1.5
	0.2nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	20 01 01.8	-6.7
	3.8nm,0.6s,SNR=7.9						
MOE	**Montemor**	**4.97**	**315**	*e*Sn	**Sn**	20 01 14.2	-2.7
OUK	**Oukaimeden**	**5.12**	**222**	*i*P	**Pn**	20 00 20.0	-0.3
CIA	**Chichaoua**	**5.39**	**231**	*i*P	**Pn**	20 00 24.0	-0.2
PCBR	**Castelo Branco**	**5.55**	**330**	*e*Pn	**Pn**	20 00 26.3	-0.1
PCBR				*e*Sn	**Sn**	20 01 28.1	-3.3
	5.1nm,0.5s						
PCBR	**Castelo Branco**	**5.55**	**330**	*e*Pn	**Pn**	20 00 26.3	-0.1
PCBR				*e*Sn	**Sn**	20 01 28.1	-3.3
	5.1nm,0.5s						
JHA	**Jbel Lahdid**	**5.75**	**236**	*i*P	**Pn**	20 00 28.0	-1.1
PTOM	**Tomar**	**5.80**	**323**	*e*Pn	**Pn**	20 00 29.6	-0.3
PTOM				*e*Sn	**Sn**	20 01 33.9	-3.7
ERTA	**Horta de San J**	**6.73**	**28**	P	**Pn**	20 00 40.9	-2.2
	1.3nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**6.89**	**335**	*e*Sn	**Sn**	20 02 00.8	-4.0
	4.5nm,0.2s						
PVRL	**Vila Real**	**6.89**	**335**	S	**Sn**	20 02 00.8	-4.0
	2.2nm,0.2s						
PBRG	**Braganca**	**7.08**	**342**	*e*Pn	**Pn**	20 00 47.8	-0.2
ECAL	**Calabor**	**7.21**	**343**	P	**Pn**	20 00 49.4	-0.4
	2.6nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**7.53**	**335**	P	**Pn**	20 00 53.9	-0.4
	0.3nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**7.74**	**342**	P	**Pn**	20 00 56.3	-0.8
	1.0nm,0.4s,SNR=7.9						
EARI	**Arrioondas**	**8.27**	**353**	P	**P**	20 01 03.2	-1.4
	0.5nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**8.33**	**12**	P	**P**	20 01 04.1	-1.3
	0.7nm,0.2s,SNR=7.9						
MKAR	**Makanchi Array**	**63.03**	**50**	P	**P**	20 09 26.3	-4.9
	0.2nm,0.5s,mb3.5,baz=262,slow=8.4,SNR=5.2						
YKA	**Yellowknife Ar**	**68.17**	**332**	P	**P**	20 10 02.8	-1.1
	0.2nm,0.6s,mb3.3,baz=61,slow=6.5,SNR=5.0						

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*IDC **20** 20:05:23.9±4.3,21.52N×94.82E,h110km±38km,mb3.4/3, mb1 3.6/4,mb1mx3.1/21,mbtmp3.7/4,Error ellipse: s-maj=75.0km s-min=19.9km az=61.0*

ISC 20 20:05:19.8±3.7,21.3N±0.5×94.3E±0.8,h102km±22km,n5, σ0°22/6,mb3.6/3,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.85**	**333**	*e*P	**P**	20 06 32.0	+0.2
SHL				*e*S	**S**	20 07 27.0	-0.2
CMAR	**Chiang Mai Arr**	**5.15**	**122**	P	**P**	20 06 35.8	0.0
	0.5nm,0.3s,baz=304,slow=13,SNR=36						
MKAR	**Makanchi Array**	**27.30**	**342**	P	**P**	20 10 56.8	0.0
	0.3nm,0.6s,mb3.0,baz=149,slow=10,SNR=7.7						
ZAL	**Zalesovo**	**33.43**	**350**	P	**P**	20 11 50.8	+0.1
	1.7nm,0.3s,mb4.3,baz=313,slow=8.3,SNR=4.2						
WRA	**Warramunga Arr**	**56.63**	**134**	P	**P**	20 14 54.7	-0.1
	0.2nm,0.4s,mb3.5,baz=320,slow=7.5,SNR=14						

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*IDC **20** 20:21:37.5±4.7,63.72N×150.15W,h120km±34km,mb3.3/2, mb1 3.1/4,mb1mx2.9/20,mbtmp3.4/4,Error ellipse: s-maj=53.7km s-min=43.2km az=19.0*
*NEIC **20** 20:21:38.3,63.62N×149.79W,h126km,MG3.1(AEIC), After AEIC.*

ISC 20 20:21:37.4±0.3,63.61N±0.02×149.80W±0.07,h126km, n65,σ0°83/75,mb3.7/2,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.27**	**234**	P	**P**	20 21 56.2	+1.3
TRF				S	**S**	20 22 09.5	+1.1
MCK	**McKinley**	**0.40**	**72**	P	**P**	20 21 55.8	+0.2
MCK				S	**S**	20 22 10.1	+0.8
RND	**Reindeer**	**0.47**	**116**	P	**P**	20 21 56.8	+0.8
KTH	**Kantishna Hill**	**0.51**	**264**	P	**P**	20 21 57.1	+0.9
KTH				S	**S**	20 22 10.8	+0.4
BWN	**Browne**	**0.58**	**15**	P	**P**	20 21 57.8	+1.2
BWN				S	**S**	20 22 11.8	+0.6
HUR	**Hurricane**	**0.64**	**173**	P	**P**	20 21 57.9	+0.9
HUR				S	**S**	20 22 12.8	+0.8
NEA	**Nenana**	**1.02**	**18**	P	**P**	20 22 00.6	+0.2
CCB	**Clear Creek Bu**	**1.36**	**39**	P	**P**	20 22 04.2	+0.2
MLY	**Manley**	**1.48**	**344**	P	**P**	20 22 05.7	+0.3
MDM	**Murphy Dome**	**1.52**	**26**	P	**P**	20 22 06.4	+0.6
COLA	**College**	**1.52**	**33**	P	**P**	20 22 06.3	+0.4
COLA				S	**S**	20 22 26.9	-0.7
ILAR	**Eielson Array**	**1.73**	**46**	P	**P**	20 22 08.2	0.0
	5.7nm,0.3s,baz=227,slow=12,SNR=264						
ILAR				S	**S**	20 22 31.6	-0.1
	5.1nm,0.3s,baz=225,slow=18,SNR=13						
GLM	**Gilmore Dome**	**1.73**	**36**	P	**P**	20 22 08.6	+0.2
DDM	**Donnelly Dome**	**1.76**	**83**	P	**P**	20 22 08.9	+0.2
THY	**Trims Highway**	**1.82**	**94**	P	**P**	20 22 10.4	+1.0
THY				S	**S**	20 22 34.9	+1.2
GHO	**Glory Hole Cre**	**1.89**	**167**	P	**P**	20 22 10.7	+0.5
GHO				S	**S**	20 22 36.1	+0.9
SML	**Sawmill**	**1.93**	**159**	P	**P**	20 22 10.9	+0.1
SML				S	**S**	20 22 37.0	+1.0
PWA	**Palmer West**	**1.97**	**181**	P	**P**	20 22 11.8	+0.6
PMR	**Palmer**	**2.05**	**171**	P	**P**	20 22 12.4	+0.1
PAX	**Paxson**	**2.06**	**106**	P	**P**	20 22 13.1	+0.8
SCM	**Sheep Creek Mo**	**2.12**	**146**	P	**P**	20 22 13.1	0.0
KNK	**Knik Glacier**	**2.29**	**164**	P	**P**	20 22 15.6	+0.1
STLK	**Strandline Lak**	**2.32**	**205**	P	**P**	20 22 15.9	+0.1
RC01	**Rabbit Creek A**	**2.53**	**179**	P	**P**	20 22 18.5	-0.1
DOT	**Dot Lake**	**2.56**	**87**	P	**P**	20 22 18.5	-0.4
CKN	**Chakachatna No**	**2.64**	**206**	P	**P**	20 22 20.9	+0.9
VOGL	**Vogel Lake**	**2.64**	**187**	P	**P**	20 22 20.9	+0.9
CKL	**Chakachamna La**	**2.70**	**207**	P	**P**	20 22 21.2	+0.4
MENT	**Mentasta**	**2.83**	**101**	P	**P**	20 22 22.6	+0.1
TTA	**Tatalina**	**2.89**	**259**	P	**P**	20 22 22.8	-0.

0.3nm,0.3s,baz=199,slow=12,SNR=20
CMAR LR LR 20 53 15.4
comp=Z,121nm,19.6s,baz=190,slow=38
KKM Kota Kinabalu 19.60 76 *eP* **P 20 46 46.6 -1.3**
KKM Kota Kinabalu 19.60 76 P **P 20 46 48.3 +0.4**
QIZ Qiongzhong 21.59 34 *eP* **P 20 47 08.3 -0.1**
QIZ S **S 20 50 57.8 -3.4**
QIZ LR LR
comp=N,135nm,15.8s,MS3.6
QIZ LR LR
comp=E,109nm,12.5s,MS3.6
QIZ LR LR
comp=Z,105nm,14.8s,MS3.4
KMI Kunming 24.31 12 P **P 20 47 36.6 +1.3**
KMI XS 20 52 10.6
KMI AMB AMB
comp=Z,5.0nm,1.3s,mb3.8
KMI AMB AMB
comp=Z,47nm,3.2s
KMI LR LR
comp=N,310nm,13.4s,MS4.1
KMI LR LR
comp=E,234nm,11.7s,MS4.1
KMI LR LR
comp=Z,325nm,14.2s,MS4.0
KMI Kunming 24.31 12 P **P 20 47 36.6 +1.3**
comp=Z,5.0nm,1.3s,mb3.8
KMI sP 20 47 43.4
KMI S **S 20 52 02.0 +12**
KMI sS 20 52 10.6
KMI LR LR
comp=Z,330nm,14.2s,MS4.0
SHL Shillong 24.67 349 *eP* **P 20 47 39.0 +0.3**
GYA Guiyang 26.66 19⇑ *iP* **P 20 47 55.1 -2.1**
GYA AP pP 20 48 04.0 -0.8
GYA XP sP 20 48 08.4 +0.2
GYA S **S 20 52 22.8 -6.1**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,90nm,3.0s
GYA LR LR
comp=N,240nm,15.0s,MS4.1
GYA LR LR
comp=E,310nm,15.8s,MS4.1
GYA LR LR
comp=Z,280nm,15.2s,MS3.9
JIRN Jiri 28.25 339 *eP* **P 20 48 12.3 +0.5**
comp=Z,48nm,1.1s,mb5.0
PKI Pulchoki 28.46 338 *eP* **P 20 48 13.9 +0.3**
comp=Z,23nm,1.1s,mb4.7
GUN Gumba 28.59 339 *eP* **P 20 48 15.1 +0.3**
comp=Z,19nm,0.6s,mb5.0
DMN Daman 28.61 337 *eP* **P 20 48 15.2 +0.2**
KKN Kakani 28.71 338 *eP* **P 20 48 15.8 0.0**
comp=Z,17nm,0.9s,mb4.8
LSA Lhasa 28.83 349 P **P 20 48 17.3 +0.3**
LSA Lhasa 28.83 349 *eP* **P 20 48 17.6 +0.7**
GKN Gorkha 29.15 337 *eP* **P 20 48 19.6 -0.2**
comp=Z,34nm,1.1s,mb5.0
KOLN Koldanda 29.36 335 *eP* **P 20 48 22.1 +0.3**
comp=Z,17nm,0.7s,mb4.9
ENH Enshi 31.12 21 *eP* **P 20 48 35.2 -2.2**
comp=Z,15nm,0.8s,mb4.9
ENH *ep*P pP 20 48 42.5 -2.4
FITZ Fitzroy Crossi 34.02 126 P **P 20 49 01.5 -1.1**
comp=Z,2.6nm,0.6s,mb4.3,baz=294,slow=9.4,SNR=6.3
XAN Xi'an 34.40 17 P **P 20 49 06.4 +0.6**
XAN AMB AMB
comp=Z,11nm,1.0s,mb4.7
GTA Gaotai 38.03 3 P **P 20 49 36.4 0.0**
GTA AP pP 20 49 44.1 -0.1
GTA PP PP 20 51 04.5 -2.2
GTA S **S 20 55 21.6 -5.2**
GTA SCP 20 55 38.8
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.3
GTA AMB AMB
comp=Z,40nm,9.1s
GTA LR LR
comp=N,113nm,17.1s,MS3.9
GTA LR LR
comp=E,82nm,15.2s,MS3.9
GTA LR LR
comp=Z,115nm,14.8s,MS3.8
JOW Kunigami 39.23 47 P **P 20 49 47.0 +0.4**
comp=Z,12nm,0.6s,mb4.8,baz=208,slow=4.2,SNR=6.2
WRA Warramunga Arr 42.12 122 P **P 20 50 10.9 +0.3**
comp=Z,2.3nm,0.7s,mb3.9,baz=301,slow=9.1,SNR=26
WRAB Tennant Creek 42.13 122 *eP* **P 20 50 09.2 -1.5**
WB2 Warramunga Arr 42.13 122 *eP* **P 20 50 11.0 +0.4**
BJT Baijiatuau 42.26 22 P **P 20 50 11.9 +0.4**
comp=Z,9.6nm,0.6s,mb4.6
BJI Beijing 42.28 22 *eP* **P 20 50 11.8 +0.1**
BJI AMB AMB
comp=Z,12nm,0.7s,mb4.6
BJI Beijing 42.28 22 *eP* **P 20 50 11.8 +0.1**
comp=Z,12nm,0.7s,mb4.6
WMQ Urumqi 43.19 350 P **P 20 50 20.3 +1.4**
WMQ AP pP 20 50 27.8 +1.1
WMQ XP sP 20 50 31.3 +1.4
WMQ PP PP 20 52 03.3 +1.8
WMQ PCP PcP 20 52 09.3 +0.6
WMQ *eS* **S 20 56 45.3 +1.7**
WMQ AMB AMB
comp=Z,5.0nm,0.7s,mb4.3
WMQ AMB AMB
comp=Z,86nm,4.2s
WMQ LR LR
comp=N,41nm,21.6s,MS3.5
WMQ LR LR
comp=E,50nm,20.5s,MS3.5
WMQ LR LR
comp=Z,18nm,19.2s,MS3.0
ASAR Alice Springs 43.48 127 P **P 20 50 22.2 +0.6**
comp=Z,1.4nm,0.8s,mb3.8,baz=297,slow=8.0,SNR=13
SONM Songino Array 47.06 9 P **P 20 50 50.0 +0.1**
comp=Z,3.8nm,0.8s,mb4.4,baz=190,slow=9.5,SNR=45
MKAR Makanchi Array 47.15 346 P **P 20 50 50.6 +0.1**
comp=Z,2.1nm,0.6s,mb4.3,baz=159,slow=8.9,SNR=38
ULN Ulaanbaatar 47.19 9 *eP* **P 20 50 50.7 -0.2**
comp=Z,2.1nm,0.7s,mb4.2
CN2 Changchun 49.26 27 *eP* **P 20 51 05.8 -1.2**
TLY Talaya 50.52 5 *eP* **P 20 51 16.9 +0.4**
comp=Z,2.3nm,0.7s,mb4.2
HIA Hailar 51.58 19 *eP* **P 20 51 24.4 -0.2**
comp=Z,2.4nm,0.4s,mb4.5
MDJ Mudanjiang 51.82 29 P **P 20 51 28.5 +2.0**
MDJ PP PP 20 53 25.9 +0.9
MDJ S **S 20 58 49.4 +3.7**
MDJ AMB AMB
comp=Z,17nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,119nm,3.2s
MDJ LR LR
comp=N,43nm,21.8s,MS3.6
MDJ LR LR
comp=E,35nm,19.8s,MS3.6
MDJ LR LR
comp=Z,37nm,15.0s,MS3.5
STKA Stephens Creek 53.45 132 P **P 20 51 39.6 +0.8**
comp=Z,2.2nm,0.8s,mb4.1,baz=318,slow=5.5,SNR=3.1
STKA Stephens Creek 53.45 132 *eP* **P 20 51 39.5 +0.7**
STKA *ep*P pP 20 51 46.7 0.0
ZAL Zalesovo 53.46 351 P **P 20 51 38.0 -0.6**
comp=Z,5.3nm,0.6s,mb4.7,baz=301,slow=5.3,SNR=30
ARU Arti 63.09 337 *eP* **P 20 52 34.0 -12**
BRTR Keskin Array B 69.02 312 P **P 20 53 20.6 -3.5**
comp=Z,0.4nm,0.7s,mb3.5,baz=127,slow=7.2,SNR=2.1
AKASG Malin Array Be 75.16 322 P **P 20 53 59.4 -1.0**
comp=Z,0.3nm,0.3s,mb3.6,baz=83,slow=6.0,SNR=2.8
FINES FINESS Array B 79.90 333 P **P 20 54 25.9 -0.4**
comp=Z,1.1nm,0.9s,mb3.8,slow=1.9,SNR=4.8
ARCES ARCESS Array B 82.44 340 P **P 20 54 39.7 +0.2**
comp=Z,1.3nm,0.7s,mb4.0,baz=90,slow=6.1,SNR=5.6
ARCES ARCESS Array B 82.44 340 P **P 20 54 39.7 +0.2**
NOA NORSAR Array B 86.91 331 P **P 20 55 01.9 -0.2**
comp=Z,1.1nm,1.0s,mb4.0,baz=96,slow=5.1,SNR=3.8
NOA NORSAR Array B 86.91 331 P **P 20 55 01.9 -0.2**

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*IDC **20** 20:49:07.2±1.2, 13.34N×120.45E, mb3.5/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=153.8km s-min=20.4km az=67.0*
*MAN **20** 20:49:13.2, 13.30N×120.33E, h29km, mb3.8, ML2.6, MS2.2*
ISC 20 20:49:12.7±0.6, 13.32N±0.04×120.28E±0.08, h54km±7km, n13, σ0°68/16, mb3.5/4, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.41**	**355**	*eP*	**P**	**20 49 23.2**	**-0.2**
LUBP				*eS*	**S**	**20 49 30.1**	**-1.1**
TGY	**Tagaytay City**	**1.01**	**39⇑**	*eP*	**P**	**20 49 31.5**	**+0.7**
TGY				*i* S	**S**	**20 49 44.9**	**+0.6**
SJMP	**San Jose**	**1.18**	**136**	*eP*	**P**	**20 49 33.6**	**+0.4**
SJMP				*eS*	**S**	**20 49 48.5**	**+0.1**
BUSP	**Coron**	**1.31**	**184**	*eP*	**P**	**20 49 35.9**	**+0.7**
BOAC	**Boac**	**1.53**	**85**	*eP*	**P**	**20 49 37.0**	**-1.1**
OTRP	**Odiongan**	**1.94**	**119**	*eP*	**P**	**20 49 43.7**	**-0.2**
ENPP	**El Nido**	**2.26**	**202**	*eP*	**P**	**20 49 49.1**	**+0.7**
CUYO	**Cuyo Island**	**2.56**	**164**	*eP*	**P**	**20 49 52.4**	**-0.2**
BALP	**Baler**	**2.71**	**27**	*eP*	**P**	**20 49 55.8**	**+0.9**
WRA	**Warramunga Arr**	**35.83**	**157**	P	**P**	**20 56 07.9**	**-1.3**
	0.4nm,0.4s,mb3.7,baz=334,slow=9.8,SNR=7.8						
SONM	**Songino Array**	**36.31**	**344**	P	**P**	**20 56 12.6**	**-0.4**
	0.8nm,0.5s,mb3.9,baz=165,slow=10,SNR=12						
ASAR	**Alice Springs**	**39.10**	**160**	P	**P**	**20 56 36.5**	**0.0**
	0.5nm,0.6s,mb3.4,baz=338,slow=7.0,SNR=6.3						
MKAR	**Makanchi Array**	**46.10**	**324**	P	**P**	**20 57 33.7**	**+0.5**
	0.3nm,0.9s,mb3.2,baz=130,slow=11,SNR=2.7						

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*CSEM **20** 20:57:50.2±0.2, 35.02N×3.79W, h12km, MD2.7, Error ellipse: s-maj=5.3km s-min=3.7km az=81.0*
*MDD **20** 20:57:52.3±0.4, 35.04N×3.77W, mbLg1.3/4, Error ellipse: s-maj=5.1km s-min=3.0km az=69.0, PRXIMO*
*CNRM **20** 20:57:52.3, 35.03N×3.77W, h6km, MD2.7*
ISC 20 20:57:51.6±0.6, 35.05N±0.03×3.78W±0.05, h10km±4km, n17, σ0°65/29, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOU	**Touzarine**	**0.09**	**165**	P	**Pg**	**20 57 53.5**	**-0.6**
TOU				S	**Sg**	**20 57 55.5**	**-0.3**
TOU	**Touzarine**	**0.09**	**165**	*i* P	**Pg**	**20 57 53.5**	**-0.6**
MPAL	**Palemas**	**0.22**	**323**	P	**Pg**	**20 57 56.5**	**+0.2**
MPAL				S	**Sg**	**20 58 00.0**	**+0.5**
MPAL	**Palemas**	**0.22**	**323**	*i* P	**Pg**	**20 57 56.5**	**+0.2**
ZAI	**Zaio**	**0.85**	**95**	*i* P	**Pb**	**20 58 07.5**	**-0.5**
ZAI				*i* S	**Sb**	**20 58 20.0**	**+0.7**
TZK	**Tazeka**	**1.01**	**199**	*i* P	**Pb**	**20 58 10.5**	**-0.2**
TZK				*i* S	**Sb**	**20 58 24.4**	**+0.5**
EALB	**Alboran**	**1.08**	**34**	P	**Pb**	**20 58 11.6**	**-0.3**
	0.3nm,0.2s,SNR=4.0						
EALB				S	**Sb**	**20 58 26.5**	**+0.7**
	6.3nm,0.6s,SNR=7.9						
EALB	**Alboran**	**1.08**	**34**	P	**Pb**	**20 58 11.6**	**-0.3**
	0.3nm,0.2s,SNR=4.0						
EALB				S	**Sb**	**20 58 25.1**	**-0.7**
	6.3nm,0.6s,SNR=7.9						
EMIJ	**Mijas**	**1.71**	**332**	P	**Pn**	**20 58 21.8**	**+0.1**
	0.3nm,0.5s,SNR=4.0						
EMIJ				S	**Sn**	**20 58 44.0**	**+0.2**
	1.6nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.71**	**332**	P	**Pn**	**20 58 22.0**	**+0.3**
	0.3nm,0.5s,SNR=4.0						
EMIJ				S	**Sn**	**20 58 42.0**	**-1.9**
	1.6nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**1.96**	**316**	P	**Pn**	**20 58 25.9**	**+0.6**
	0.9nm,0.4s,SNR=7.9						
EJIF				S	**Sn**	**20 58 50.6**	**+0.5**
	0.9nm,0.4s,SNR=4.0						
EJIF	**Jimena Fronter**	**1.96**	**316**	S	**Sn**	**20 58 48.1**	**-2.0**
	0.9nm,0.4s,SNR=4.0						
ERON	**Agron**	**1.97**	**359**	P	**Pn**	**20 58 26.3**	**+1.0**
	1.0nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.98**	**21**	P	**Pn**	**20 58 26.1**	**+0.5**
	0.9nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**20 58 50.8**	**+0.1**
	0.6nm,0.6s,SNR=7.9						
EBER	**Berja**	**1.98**	**21**	P	**Pn**	**20 58 26.1**	**+0.5**
	0.9nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**20 58 50.8**	**+0.1**
	0.6nm,0.6s,SNR=7.9						
EQES	**Quesada**	**2.81**	**12**	P	**Pn**	**20 58 37.1**	**-0.3**
	0.4nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**20 59 11.0**	**-0.6**
	1.3nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.81**	**12**	P	**Pn**	**20 58 37.1**	**-0.3**
	0.4nm,0.2s,SNR=7.9						

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*BJI **20** 21:18:31.9, 0.76N×97.00E, h41km, mB4.4, mb4.4, Ms4.0, Ms23.7*
*IDC **20** 21:18:31.4±2.6, 1.17N×97.26E, mb3.8/6, mb1 4.0/7, mb1mx3.7/20, mbtmp3.8/7, MS3.1/1, Ms1 3.3/1, ms1mx2.1/37, Error ellipse: s-maj=109.6km s-min=18.3km az=62.0*
*NEIC **20** 21:18:35.5±1.0, 1.14N×97.19E, h30km, mb4.4/2, Error ellipse: s-maj=25.9km s-min=11.1km az=72.0*
ISC 20 21:18:33.5±1.2, 1.1N±0.1×97.2E±0.2, h30km, n12, σ0°73/12, mb3.9/9, MS3.7/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.39**	**40**	*eP*	**Pn**	**21 19 54.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**17.30**	**6**	P	**P**	**21 22 34.1**	**-0.6**
	baz=190,slow=10,SNR=10						
CMAR				LR	LR	21 30 29.7	
	comp=Z,65nm,18.9s,baz=200,slow=42						
KMI	**Kunming**	**24.45**	**12**	P	**P**	**21 23 52.8**	**+1.6**
KMI				AP		21 23 58.8	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.1						
KMI				AMB	AMB		
	comp=Z,78nm,5.0s						
KMI				LR	LR		
	comp=N,180nm,13.7s						
KMI				LR	LR		
	comp=E,85nm,9.4s						
KMI				LR	LR		
	comp=Z,159nm,13.7s,MS3.7						
ENH	**Enshi**	**31.25**	**21**	*eP*	**P**	**21 24 51.6**	**-1.5**
	comp=Z,6.9nm,0.9s,mb4.5						
GTA	**Gaotai**	**38.17**	**3**	P	**P**	**21 25 52.5**	**+0.3**
GTA				AP	pP	21 25 59.6	-1.6
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**42.02**	**122**	P	**P**	**21 26 23.8**	**-0.5**
	comp=Z,1.0nm,0.7s,mb3.6,baz=300,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**43.38**	**127**	P	**P**	**21 26 35.2**	**-0.1**
	comp=Z,0.7nm,0.8s,mb3.4,baz=295,slow=7.7,SNR=5.9						
SONM	**Songino Array**	**47.20**	**8**	P	**P**	**21 27 05.9**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=191,slow=10,SNR=7.8						
MKAR	**Makanchi Array**	**47.30**	**346**	P	**P**	**21 27 06.1**	**-0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=160,slow=8.0,SNR=16						
MKAR	**Makanchi Array**	**47.30**	**346**	P	**P**	**21 27 06.1**	**-0.2**
STKA	**Stephens Creek**	**53.33**	**132**	P	**P**	**21 27 53.1**	**+0.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=328,slow=16,SNR=2.4						
ZAL	**Zalesovo**	**53.61**	**351**	P	**P**	**21 27 54.0**	**-0.2**
	comp=Z,1.5nm,0.9s,mb3.9,baz=280,slow=8.5,SNR=8.4						

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*NEIC **20** 21:53:22.0, 38.53S×146.53E, h10km, ML3.5(AUST), After AUST.*
NEIC Felt in the epicentral area.
AUST 20 21:53:22.4, 38.53S×146.53E, h10km, ML3.5, Near southeast coast of Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOO	**Toolangi**	**1.27**	**319**	*eP*	Pb	21 53 46.4	+0.5
TOO				*i* S	Sb	21 54 02.1	+0.1
	248nm,0.4s						
MILA	**Mila**	**2.55**	**55**	*eP*	Pn	21 54 04.3	-0.2
MILA				*i* S	Sn	21 54 35.6	-0.3
	152nm,0.5s						
CNB	**Canberra Magne**	**3.93**	**36**	*eP*	Pn	21 54 25.1	+0.9
ARPS	**Mount Arapiles**	**4.12**	**294**	*eP*	Pn	21 54 27.5	+0.6
ARPS				*eS*	Sn	21 55 17.0	+1.3
	515nm,1.0s						
YNG	**Young**	**4.48**	**20**	*eP*	Pn	21 54 34.1	+2.1
STKA	**Stephens Creek**	**7.77**	**327**	*eP*	Pn	21 55 16.7	-1.7
STKA				*eS*	Sn	21 56 41.9	-5.4
	1.4nm,0.6s						
STKA	**Stephens Creek**	**7.77**	**327**	*eP*	Pn	21 55 16.7	-1.7
	1.4nm,0.6s						
STKA				*eS*	Sn	21 56 41.9	-5.4

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*NEIC **20** 21:56:32.3, 19.58N×64.43W, h25km, MD3.6(RSPR), After RSPR.*
RSPR 20 21:56:32.3, 19.58N×64.43W, h25km±26km, MD3.6/8, MD3.6/8, 11C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**1.32**	**202⇑**	*eP*	Pn	21 56 52.9	-2.5
MTP	**Monte Pirata**	**1.82**	**216⇑**	*eP*	Pn	21 56 59.8	-2.8
MTP				*eS*	Sn	21 57 21.8	-3.3
CBYP	**Canovanas**	**1.88**	**226⇑**	*eP*	Pn	21 57 00.2	-3.1
HUMP	**Col San Antoni**	**1.96**	**223⇑**	*eP*	Pn	21 57 01.9	-2.7
HUMP				*eS*	Sn	21 57 25.7	-2.9
CPD	**Cerro la Pandu**	**2.08**	**223⇑**	*eP*	Pn	21 57 03.8	-2.5
AOPR	**Arecibo Observ**	**2.51**	**241⇑**	*eP*	Pn	21 57 10.2	-2.2
CELP	**Cerrillos**	**2.53**	**234⇑**	*eP*	Pn	21 57 09.9	-2.7
PORP	**Portuguez**	**2.58**	**234⇑**	*eP*	Pn	21 57 10.6	-2.9
PORP				*eS*	Sn	21 57 40.4	-4.0
LRS	**Lares**	**2.62**	**241⇑**	*eP*	Pn	21 57 11.4	-2.5
LRS				*eS*	Sn	21 57 41.4	-3.9
LSP	**Las Mesas**	**2.88**	**241⇑**	*eP*	Pn	21 57 15.5	-2.1
MGP	**Maguayo**	**2.96**	**238⇑**	*eP*	Pn	21 57 16.2	-2.7

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*IDC **20** 22:08:44.0±0.7, 5.97S×147.08E, h87km±5km, mb4.1/9, mb1 4.3/11, mb1mx4.2/14, mbtmp4.4/11, MS3.5/8, Ms1 3.5/8, ms1mx3.2/21, Error ellipse: s-maj=16.5km s-min=8.5km az=92.0*
*NEIC **20** 22:08:43.4±0.6, 5.85S×147.09E, mb4.7/5, Error ellipse: s-maj=13.3km s-min=9.6km az=96.0*
ISC 20 22:08:41.8±0.6, 5.88S±0.06×147.16E±0.08, h89km, h89km±2.9km: pP-P, n39, σ1°09/33, mb4.3/13, 3D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.50**	**180**	P	**P**	**22 09 35.1**	**-0.2**
	48nm,0.3s,baz=23,slow=5.9,SNR=124						
PMG				S	**S**	**22 10 15.3**	**-0.5**
	96nm,0.3s,baz=290,slow=22,SNR=14						
PMG	**Port Moresby**	**3.50**	**180**	*eP*	**P**	**22 09 35.0**	**-0.4**
HNR	**Honiara**	**13.15**	**106**	LR	LR	22 16 01.2	
	comp=Z,144nm,20.1s,baz=300,slow=33						
CTA	**Charters Tower**	**14.15**	**183**	*eP*	**P**	**22 12 02.7**	**+3.3**
	12nm,0.9s						
CTA	**Charters Tower**	**14.15**	**183**	P	**P**	**22 12 02.3**	**+2.9**
	0.7nm,0.3s,baz=12,slow=15,SNR=5.6						
CTAO	**Charters Tower**	**14.15**	**183**	*eP*	**P**	**22 12 02.1**	**+2.8**
	18nm,0.9s						
KAKA	**Kakadu**	**16.03**	**244**	*eP*	**P**	**22 12 23.1**	**-0.3**
	27nm,0.5s						
WRAB	**Tennant Creek**	**18.72**	**221**	*eP*	**P**	**22 12 54.4**	**-1.6**
	50nm,0.7s						
WB2	**Warramunga Arr**	**18.72**	**221⇓**	*iP*	**P**	**22 12 54.3**	**-1.7**
WB2				*eS*	**S**	**22 16 18.9**	**+0.6**
WRA	**Warramunga Arr**	**18.73**	**221**	P	**P**	**22 12 54.5**	**-1.7**
	3.4nm,0.3s,baz=41,slow=12,SNR=106						
WRA				S	**S**	**22 16 20.9**	**+2.4**
	0.1nm,0.3s,baz=46,slow=21,SNR=5.9						
ASAR	**Alice Springs**	**21.81**	**214**	P	**P**	**22 13 27.7**	**-0.3**
	15nm,0.5s,mb4.6,baz=52,slow=8.7,SNR=139						
ASAR				S	**S**	**22 17 24.8**	**+6.4**
	8.2nm,0.9s,baz=28,slow=20,SNR=9.2						
ASAR				LR	LR	22 22 28.5	
	comp=Z,68nm,20.9s,baz=38,slow=38						
ASPA	**Alice Springs**	**21.81**	**214⇓**	*iP*	**P**	**22 13 28.1**	**+0.1**
ASPA				*eS*	**S**	**22 17 21.8**	**+3.4**
FITZ	**Fitzroy Crossi**	**24.27**	**238**	P	**P**	**22 13 52.6**	**+0.6**
	77nm,0.5s,mb5.3,baz=47,slow=5.5,SNR=79						
FITZ				LR	LR	22 23 54.9	
	comp=Z,114nm,20.2s,baz=180,slow=38						
DZM	**Mont Dzumac**	**24.63**	**133**	P	**P**	**22 13 56.5**	**+1.0**
	9.6nm,0.6s,mb4.4,baz=348,slow=8.0,SNR=5.1						
STKA	**Stephens Creek**	**26.38**	**191⇓**	*iP*	**P**	**22 14 11.5**	**-0.3**
	11nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**26.38**	**191**	P	**P**	**22 14 11.5**	**-0.3**
	10nm,0.7s,mb4.4,baz=354,slow=9.3,SNR=17						
STKA				LR	LR	22 24 43.9	
	comp=Z,122nm,18.4s,baz=20,slow=36						
FORT	**Forrest**	**30.59**	**214**	*eP*	**P**	**22 14 48.8**	**-0.7**
	348nm,0.6s						
MBWA	**Marble Bar**	**30.61**	**238**	*eP*	**P**	**22 14 48.9**	**-0.9**
	8.0nm,0.9s,mb4.5						
JOW	**Kunigami**	**37.31**	**331**	LR	LR	22 27 59.3	
	comp=Z,84nm,19.7s,baz=108,slow=31						
KLBR	**Kellerberrin**	**37.57**	**223**	*eP*	**P**	**22 15 48.6**	**-0.7**
	2μm,2.0s						
NWAO	**Narrogin (SRO)**	**38.73**	**222**	P	**P**	**22 15 59.0**	**+0.1**
	12nm,0.9s,mb4.7,baz=291,slow=4.3,SNR=5.4						
MJAR	**Matsushiro Arr**	**43.02**	**349**	pP	pP	22 16 57.0	+1.3
	4.0nm,0.9s,baz=171,slow=7.7,SNR=4.6						
ASAJ	**Asahikawa**	**49.93**	**356**	LR	LR	22 36 26.2	
	comp=Z,53nm,20.0s,baz=182,slow=33						
CMAR	**Chiang Mai Arr**	**53.34**	**298**	P	**P**	**22 17 56.0**	**+1.5**
	0.3nm,0.3s,mb3.8,baz=113,slow=6.9,SNR=3.5						
CMAR				pP	pP	22 18 16.6	0.0
	0.7nm,0.7s,baz=130,slow=6.6,SNR=2.6						
RAR	**Rarotonga**	**53.53**	**112**	LR	LR	22 37 39.2	
	comp=Z,26nm,21.5s,baz=305,slow=32						
SONM	**Songino Array**	**64.38**	**331**	P	**P**	**22 19 09.5**	**-1.0**
	0.6nm,0.7s,mb3.5,baz=148,slow=4.9,SNR=4.8						
SONM				pP	pP	22 19 32.3	-1.0
	1.8nm,1.0s,baz=143,slow=6.2,SNR=5.9						
VNDA	**Vanda**	**72.02**	**177**	P	**P**	**22 19 58.0**	**+0.4**
	4.0nm,0.7s,mb4.4,baz=328,slow=6.5,SNR=26						
VNDA	**Vanda**	**72.02**	**177**	P	**P**	**22 19 58.0**	**+0.4**
MKAR	**Makanchi Array**	**77.51**	**320**	P	**P**	**22 20 30.5**	**+1.1**
	0.1nm,0.3s,baz=96,slow=7.7,SNR=3.4						
MKAR				pP	pP	22 20 53.1	+0.1
	1.5nm,1.0s,baz=112,slow=6.5,SNR=6.2						
ZAL	**Zalesovo**	**79.00**	**328**	pP	pP	22 21 01.4	+0.3
	0.9nm,0.7s,baz=3.3,slow=5.1,SNR=4.0						
MAW	**Mawson**	**82.42**	**203**	P	**P**	**22 20 55.4**	**+0.1**
	3.3nm,0.9s,mb4.2,baz=90,slow=9.1,SNR=4.4						
MAW				LR	LR	22 56 07.1	
	comp=Z,70nm,19.7s,baz=123,slow=34						
QSPA	**South Pole Qui**	**84.09**	**180**	*eP*	**P**	**22 21 04.2**	**+0.8**
	14nm,0.6s,mb5.0						
ILAR	**Eielson Array**	**85.31**	**23**	P	**P**	**22 21 08.4**	**-1.3**
	1.0nm,0.6s,mb3.9,baz=247,slow=4.8,SNR=11						
ILAR				pP	pP	22 21 34.9	+1.2
	1.0nm,0.8s,baz=247,slow=4.8,SNR=4.3						
BVAR	**Borovoye Array**	**86.77**	**324**	P	**P**	**22 21 18.5**	**+1.3**
	0.3nm,0.5s,mb3.5,baz=90,slow=7.2,SNR=2.9						
BVAR				pP	pP	22 21 42.4	+1.2
	1.6nm,0.8s,baz=104,slow=6.1,SNR=8.9						
PLCA	**Paso Flores**	**122.13**	**147**	PKP	PKPdf	22 27 28.9	+2.3
	1.3nm,0.7s,baz=197,slow=2.0,SNR=4.2						
LPAZ	**La Paz**	**138.71**	**123**	PKhKP		22 27 55.8	
	0.7nm,0.8s,baz=219,slow=6.5,SNR=3.6						
LPAZ				PKP	PKPdf	22 28 01.4	+2.9
	1.0nm,0.7s,baz=305,slow=4.4,SNR=4.4						
LPAZ	**La Paz**	**138.71**	**123**	PKP	PKPdf	22 27 55.8	-2.7
LPAZ				PKP	PKPdf	22 28 01.4	+2.9
SAML	**Samuel**	**146.35**	**116**	*e*PKPdf	PKPdf	22 28 13.8	+1.7
BDFB	**Brasilia**	**153.86**	**145**	PKPbc	PKPdf	22 28 33.6	+10
	3.9nm,0.5s,baz=299,slow=5.6,SNR=6.5						

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*NEIC **20** 22:12:21.9, 18.36N×64.21W, h87km, MD3.5(RSPR), After RSPR.*
RSPR 20 22:12:21.9, 18.36N×64.21W, h87km±2km, MD3.5/10, MD3.5/10, 10C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.71**	**269⇑**	*eP*	P	22 12 37.7	-0.8
STVI				*eS*	S	22 12 50.2	-0.6
CDVI	**St. Croix**	**0.80**	**221⇑**	*eP*	P	22 12 38.0	-1.4
CDVI	**St. Croix**	**0.80**	**221**	*eS*	S

PORP			*e*S	S	22 13 26.1	-0.5
AOPR	**Arecibo Observ**	**2.41 270**	⇑*e*P	P	22 12 58.6	-1.6
AOPR			*e*S	S	22 13 27.6	-1.1
LRS	**Lares**	**2.50 269**	*e*S	S	22 13 29.3	-1.7
LSP	**Las Mesas**	**2.73 267**	*e*S	S	22 13 36.4	-0.4
MGP	**Maguayo**	**2.76 263**	*e*S	S	22 13 36.4	-1.0

*NEIC **20** 22:23:40.9, 32.98S×72.93W, h21km, ML2.8(GUC), After GUC.*

GUC 20 22:23:40.9±0.8, 32.98S×72.93W, h21km±5km, MD3.6, ML2.8, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**1.24**	**114**	⇑*i*P	Pn	22 24 03.0	-0.3
PACH	**Papudo**	**1.34**	**71**	⇓*i*P	Pn	22 24 04.1	-0.5
PACH				*e*S	Sb	22 24 21.9	+0.1
LNV	**Longovilo**	**1.60**	**128**	*e*P	Pn	22 24 07.6	-0.8
LNV				*e*S	Sn	22 24 28.1	-0.5
CHNG	**Los Chungos**	**1.64**	**48**	*e*P	Pn	22 24 08.2	-0.7
CHNG				*i* S	Sn	22 24 29.4	0.0
CHNG				AMP		22 24 30.8	
	comp=E,92nm,0.3s						
TACH	**Talagante**	**1.80**	**112**	⇓*i*P	Pn	22 24 11.6	+0.3
TACH				*i* S	Sn	22 24 34.8	+1.1
CHCH	**Chadas Angostu**	**2.13**	**117**	*e*P	Pn	22 24 16.3	+0.3
FCH	**Farellones**	**2.24**	**100**	*i* S	Sn	22 24 47.8	+2.9
CACH	**El Canelo**	**2.25**	**121**	*i* S	Sn	22 24 47.7	+2.5
LMEL	**Las Melosas**	**2.44**	**111**	⇓*i*P	Pn	22 24 21.1	+0.7
LMEL				*i* S	Sn	22 24 51.6	+1.6
LMEL				AMP		22 24 54.0	
	comp=N,129nm,0.3s						
CICH	**Cipreses**	**2.48**	**123**	⇑*i*P	Pn	22 24 21.7	+0.7
CICH				*i* S	Sn	22 24 52.5	+1.4

*NIED **20** 22:32:00, 33.80N×130.10E, h8km, Mw3.7 Best double couple: M0 3.81×10^14 NP1:φs27°, δ76°, λ-165°. NP2: φs294°, δ75°, λ-14°.*
*JMA **20** 22:32:12.4, 33.77N×130.11E, h12km, M3.8*
JMA Felt II J1.

ISC 20 22:32:12.1±0.8, 33.76N±0.06×130.11E±0.06, h12km±10km, n5, σ0§17/9, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.32**	**276**	⇓P	**Pg**	**22 32 18.9**	**+0.1**
JII				S	**Sg**	**22 32 23.2**	**-0.1**
JFI	**Itaya**	**0.41**	**145**	⇑P	**Pg**	**22 32 20.5**	**0.0**
JFI				S	**Sg**	**22 32 26.1**	**0.0**
JFA	**Akaike**	**0.57**	**95**	⇓P	**Pb**	**22 32 23.3**	**-0.3**
JFA				S	**Sg**	**22 32 31.6**	**+0.1**
JTA	**Tamana**	**0.87**	**156**	⇑P	**Pb**	**22 32 28.8**	**+0.1**
JTU	**Tsushima**	**0.96**	**322**	⇑P	**Pb**	**22 32 30.1**	**-0.2**
JTU				S	**Sb**	**22 32 43.0**	**+0.2**

NEIC 20 22:40:48.8, 34.89N×119.09W, h11km, ML3.6(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWC	**Mount Wilson**	**1.08**	**128**	*e*Pg	Pg	22 41 07.7	-2.8
MWC				*e*Sg	Sg	22 41 21.4	-3.5
DAC	**Darwin (Calif)**	**1.84**	**41**	*e*Pn	Pn	22 41 21.0	+0.3
LRV	**Little Rabbit**	**2.19**	**315**	*e*Pn	Pn	22 41 24.4	-1.2
MTUM	**Tungsten Hills**	**2.49**	**10**	*e*Pn	Pn	22 41 29.5	-0.5
MTUM				*e*Sb	Sb	22 42 03.6	-0.2
PFO	**Pinyon Flat Ob**	**2.53**	**120**	*e*Pn	Pn	22 41 29.4	-1.0
SAO	**San Andreas Ge**	**2.68**	**315**	*e*Pn	Pn	22 41 29.9	-2.6
OMM	**Old Mammoth Mi**	**2.72**	**2**	*e*Pn	Pn	22 41 32.2	-1.0
OMM				*e*Sn	Sn	22 42 05.1	-1.2
BAR	**Barrett**	**2.99**	**137**	*e*Pn	Pn	22 41 34.9	-2.1
CMB	**Columbia Colle**	**3.31**	**342**	*e*Pn	Pn	22 41 40.1	-1.4
TPH	**Tonopah**	**3.51**	**25**	*e*Pb	Pb	22 41 50.3	-0.3
MNV	**Mina**	**3.61**	**12**	*e*Pn	Pn	22 41 45.1	-0.7
MNV				*e*Pb	Pb	22 41 51.4	-0.9
MNV				*e*Pg	Pg	22 41 56.2	-4.7
WCN	**Washoe City**	**4.43**	**353**	*e*Pn	Pn	22 41 56.1	-1.5
TRCR	**Troy Canyon**	**4.45**	**38**	*e*Pn	Pn	22 41 55.1	-2.7
ARUT	**Antelope Range**	**5.40**	**56**	*e*Pg	Pg	22 42 30.8	-5.7
MSU	**Marysvale**	**6.62**	**55**	*e*Pg	Pg	22 42 54.9	-6.1

*BJI **20** 22:43:02.7, 6.07N×124.16E, h67km, mB4.8, mb4.8, Ms3.9, Msz3.8*
*MAN **20** 22:43:02.5, 6.24N×124.12E, h60km, mb5.0, ML3.9, MS4.0*
MAN Cotabato City Intensity II.
*IDC **20** 22:43:03.0±0.6, 6.26N×124.37E, h53km±5km, mb3.9/14, mb1 4.1/14, mb1mx3.9/24, mbtmp4.2/14, MS3.3/6, Ms1 3.3/6, ms1mx3.1/34, Error ellipse: s-maj=27.4km s-min=11.6km az=70.0*
*NEIC **20** 22:43:03.2±0.3, 6.25N×124.34E, mb4.6/13, Error ellipse: s-maj=16.8km s-min=5.0km az=70.0*

ISC 20 22:43:01.9±0.6, 6.14N±0.04×124.13E±0.04, h51km±6km, h52km±2.5km: pP-P, n65, σ1§06/71, mb4.4/30, MS3.2/8, 5C-8D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.08**	**6**	*i* P	**P**	**22 43 32.0**	**+11**
CTBH				*i* S	**S**	**22 43 34.0**	**-1.1**
KCP	**Kidapawan**	**1.29**	**48**	⇑*i*P	**P**	**22 43 24.5**	**+0.6**
KCP				*i* S	**S**	**22 43 40.9**	**+0.6**
PAGZ	**Pagadian**	**1.85**	**337**	*e*P	**P**	**22 43 31.3**	**-0.5**
ZMPH	**Zamboanga City**	**2.20**	**292**	⇑*i*P	**P**	**22 43 38.0**	**+1.2**
ZMPH				*i* S	**S**	**22 44 02.0**	**-0.9**
IPIL	**Ipil**	**2.25**	**317**	*e*P	**P**	**22 43 37.8**	**+0.3**
IPIL				*e*S	**S**	**22 44 03.4**	**-0.7**
MATI	**Mati**	**2.26**	**69**	*e*P	**P**	**22 43 37.4**	**-0.3**
CGP	**Cagayan de Oro**	**2.37**	**14**	⇓*e*P	**P**	**22 43 38.8**	**-0.4**
CGP				*e*S	**S**	**22 44 08.1**	**+1.0**
BUTP	**Butuan**	**3.18**	**28**	*e*P	**P**	**22 43 52.9**	**+2.3**
TBP	**Tagbilaran**	**3.54**	**356**	*e*P	**P**	**22 43 55.1**	**-0.6**
TBP				*e*S	**S**	**22 44 30.8**	**-6.0**
SCPH	**Surigao**	**3.86**	**20**	⇓*i*P	**P**	**22 44 10.3**	**+10**
MSLP	**Maasin**	**4.04**	**10**	*e*P	**P**	**22 44 02.2**	**-0.5**
LLP	**Lapu-Lapu**	**4.16**	**358**	*e*P	**P**	**22 44 04.5**	**0.0**
LLP				*e*S	**S**	**22 44 56.6**	**+4.4**
GUIM	**Jordan**	**4.71**	**341**	*e*P	**P**	**22 44 12.2**	**-0.1**
RCP	**Roxas**	**5.56**	**346**	⇓*e*P	**P**	**22 44 26.6**	**+2.6**
	62μm,1.0s						
CUYO	**Cuyo Island**	**5.60**	**327**	*e*P	**P**	**22 44 23.6**	**-1.0**
OTRP	**Odiongan**	**6.52**	**342**	*e*P	**P**	**22 44 37.9**	**+0.4**
SJMP	**San Jose**	**6.95**	**335**	*e*P	**P**	**22 44 42.2**	**-1.3**
BUSP	**Coron**	**7.00**	**327**	*e*P	**P**	**22 44 42.6**	**-1.6**
QIZ	**Qiongzhong**	**18.91**	**314**	⇓P	**P**	**22 47 21.6**	**+0.5**
QIZ				*e*S	**S**	**22 50 49.3**	**+2.6**
QIZ				AMB	AMB		
	comp=Z,16nm,1.2s						
QIZ	**Qiongzhong**	**18.91**	**314**	*e*P	**P**	**22 47 21.4**	**+0.2**
	comp=Z,13nm,0.9s						
GZH	**Guangzhou**	**19.80**	**329**	P	**P**	**22 47 32.8**	**+2.0**
KAKA	**Kakadu**	**20.47**	**156**	⇓*i*P	**P**	**22 47 38.0**	**+0.1**
	comp=Z,48nm,0.6s						
JOW	**Kunigami**	**20.95**	**10**	LR	LR	22 54 43.4	
	comp=Z,109nm,21.0s,MS3.2,baz=242,slow=34						
FITZ	**Fitzroy Crossi**	**24.13**	**176**	⇑*i*P	**P**	**22 48 15.5**	**+1.2**
	comp=Z,19nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**24.13**	**176**	P	**P**	**22 48 15.2**	**+0.9**
	comp=Z,27nm,0.6s,mb4.8,baz=4.0,slow=8.2,SNR=31						
FITZ				LR	LR	22 59 00.9	
	comp=Z,72nm,20.7s,MS3.1,baz=306,slow=40						
CMAR	**Chiang Mai Arr**	**27.43**	**299**	P	**P**	**22 48 45.7**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.5,baz=103,slow=7.3,SNR=8.1						
CMAR				sP	sP	22 49 05.2	+0.7
	comp=Z,2.0nm,0.8s,baz=118,slow=8.3,SNR=5.8						
CMAR				LR	LR	23 00 13.7	
	comp=Z,47nm,18.8s,MS3.1,baz=228,slow=37						
MBWA	**Marble Bar**	**27.47**	**189**	*e*P	**P**	**22 48 45.4**	**-0.1**
	comp=Z,16nm,0.9s,mb4.6						
ENH	**Enshi**	**27.68**	**332**	*e*P	**P**	**22 48 46.3**	**-1.1**
	comp=Z,9.0nm,1.1s,mb4.3						
WRAB	**Tennant Creek**	**27.79**	**159**	*e*P	**P**	**22 48 47.1**	**-1.3**
	comp=Z,15nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**27.80**	**159**	P	**P**	**22 48 47.4**	**-1.1**
	comp=Z,1.7nm,0.5s,mb3.9,baz=334,slow=10,SNR=9.6						
WRA				PcP	PcP	22 52 02.0	-2.0
	comp=Z,0.5nm,0.6s,baz=327,slow=2.6,SNR=5.3						
WB2	**Warramunga Arr**	**27.80**	**159**	⇑*i*P	**P**	**22 48 47.3**	**-1.2**

ASPA	**Alice Springs**	**31.12**	**162**	*e*P	**P**	**22 49 19.2**	**+1.2**
ASAR	**Alice Springs**	**31.12**	**162**	P	**P**	**22 49 17.4**	**-0.6**
	comp=Z,1.2nm,0.6s,mb3.9,baz=337,slow=6.2,SNR=11						
ASAR				PcP	PcP	22 52 10.4	-2.0
	comp=Z,1.0nm,0.4s,baz=342,slow=2.5,SNR=5.8						
ASAR				LR	LR	23 01 26.1	
	comp=Z,52nm,19.2s,MS3.2,baz=26,slow=35						
MJAR	**Matsushiro Arr**	**32.89**	**21**	LR	LR	23 00 52.0	
	comp=Z,55nm,19.5s,MS3.3,baz=200,slow=33						
BJT	**Baijiatuau**	**34.48**	**349**	*e*P	**P**	**22 49 45.8**	**-1.3**
	comp=Z,11nm,0.7s,mb4.9						
BJI	**Beijing**	**34.50**	**349**	*e*P	**P**	**22 49 45.6**	**-1.6**
BJI				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
BJI				LR	LR		
	comp=Z,77nm,34.4s,MS3.2						
BJI	**Beijing**	**34.50**	**349**	*e*P	**P**	**22 49 45.6**	**-1.6**
	comp=Z,15nm,0.8s,mb5.0						
BJI				LR	LR		
	comp=Z,80nm,34.4s,MS3.2						
LZH	**Lanzhou**	**35.14**	**331**	⇓P	**P**	**22 49 52.1**	**-0.6**
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.0						
LZH	**Lanzhou**	**35.14**	**331**	⇓P	**P**	**22 49 52.1**	**-0.6**
	comp=Z,28nm,1.3s,mb5.0						
LZH				pP	pP	22 50 01.5	-4.6
LZH				sP	sP	22 50 05.1	-7.4
SHL	**Shillong**	**36.37**	**306**	*e*P	**P**	**22 50 03.5**	**+0.3**
KLBR	**Kellerberrin**	**38.01**	**189**	⇓*i*P	**P**	**22 50 17.1**	**+0.2**
	comp=Z,130nm,0.5s						
MDJ	**Mudanjiang**	**38.62**	**6**	P	**P**	**22 50 24.1**	**+2.3**
MDJ				AP	pP	22 50 38.6	+3.2
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,72nm,3.3s						
LSA	**Lhasa**	**38.91**	**311**	*e*P	**P**	**22 50 26.0**	**+1.6**
	comp=Z,4.0nm,0.7s,mb4.3						
NWAO	**Narrogin (SRO)**	**39.40**	**189**	P	**P**	**22 50 29.4**	**+1.1**
	comp=Z,20nm,0.9s,mb4.8,baz=18,slow=9.1,SNR=7.6						
GTA	**Gaotai**	**39.72**	**330**	P	**P**	**22 50 32.0**	**+1.0**
GTA				AP	pP	22 50 46.0	+1.4
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**41.31**	**157**	*e*P	**P**	**22 50 44.9**	**+0.7**
	comp=Z,4.8nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**41.31**	**157**	P	**P**	**22 50 44.6**	**+0.4**
	comp=Z,3.3nm,0.5s,mb4.3,baz=346,slow=7.0,SNR=11						
JIRN	**Jiri**	**41.87**	**305**	*e*P	**P**	**22 50 49.5**	**+0.6**
	comp=Z,8.8nm,0.7s,mb4.5						
GUN	**Gumba**	**42.22**	**305**	*e*P	**P**	**22 50 52.6**	**+0.8**
	comp=Z,23nm,0.8s,mb4.9						
KKN	**Kakani**	**42.66**	**305**	*e*P	**P**	**22 50 55.9**	**+0.4**
	comp=Z,8.4nm,0.9s,mb4.5						
DMN	**Daman**	**42.73**	**305**	*e*P	**P**	**22 50 56.9**	**+0.9**
	comp=Z,13nm,0.8s,mb4.7						
KOLN	**Koldanda**	**44.03**	**304**	*e*P	**P**	**22 51 07.0**	**+0.4**
	comp=Z,9.8nm,0.8s,mb4.6						
ULN	**Ulaanbaatar**	**44.06**	**343**	*e*P	**P**	**22 51 06.0**	**-0.5**
	comp=Z,4.5nm,0.9s,mb4.2						
SONM	**Songino Array**	**44.23**	**343**	P	**P**	**22 51 07.7**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.0,baz=158,slow=9.4,SNR=26						
SONM				pP	pP	22 51 21.2	-0.3
	comp=Z,2.4nm,1.1s,baz=156,slow=7.4,SNR=6.0						
SONM				LR	LR	23 09 48.7	
	comp=Z,28nm,20.3s,MS3.2,baz=335,slow=36						
WMQ	**Urumqi**	**49.28**	**325**	⇑P	**P**	**22 51 49.0**	**+1.4**
WMQ				AP	pP	22 52 09.5	+8.1
WMQ				PCP	PcP	22 53 10.5	+0.3
WMQ				PP	PP	22 53 44.5	+2.4
WMQ				*e*S	**S**	**22 58 47.0**	**-1.8**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,54nm,4.0s						
WMQ				LR	LR		
	comp=N,43nm,17.4s,MS3.5						
WMQ				LR	LR		
	comp=E,14nm,20.9s,MS3.5						
MKAR	**Makanchi Array**	**54.11**	**326**	P	**P**	**22 52 23.2**	**-0.7**
	comp=E,0.6nm,0.5s,mb3.8,baz=124,slow=8.1,SNR=9.0						
MKAR				pP	pP	22 52 36.5	-1.5
	comp=E,2.6nm,0.7s,baz=127,slow=8.3,SNR=16						
ZAL	**Zalesovo**	**57.29**	**334**	P	**P**	**22 52 44.9**	**-1.8**
	comp=E,0.5nm,0.4s,mb3.9,baz=347,slow=14,SNR=3.6						
ZAL				pP	pP	22 52 59.9	-1.0
	comp=E,0.7nm,0.6s,baz=327,slow=6.9,SNR=2.8						
BVAR	**Borovoye Array**	**63.90**	**327**	P	**P**	**22 53 30.5**	**-1.1**
	comp=E,1.8nm,0.8s,mb4.1,baz=129,slow=9.5,SNR=13						
BVAR				pP	pP	22 53 45.9	0.0
	comp=E,1.9nm,0.9s,baz=112,slow=8.0,SNR=5.7						
OPO	**Ambohidratompo**	**79.66**	**250**	P	**P**	**22 55 06.3**	**+0.1**
	comp=E,1.2nm,0.6s,mb4.0,baz=90,slow=5.1,SNR=4.8						
ILAR	**Eielson Array**	**84.06**	**26**	P	**P**	**22 55 25.7**	**-2.3**
	comp=E,0.6nm,0.6s,mb3.9,baz=246,slow=5.0,SNR=9.0						
ILAR				pP	pP	22 55 41.5	-1.4
	comp=E,1.1nm,0.8s,baz=244,slow=5.5,SNR=7.5						
MAW	**Mawson**	**85.12**	**200**	P	**P**	**22 55 33.3**	**0.0**
	comp=E,3.1nm,0.9s,mb4.5,baz=37,slow=5.1,SNR=7.0						
VNDA	**Vanda**	**86.14**	**172**	P	**P**	**22 55 37.5**	**-0.6**
	comp=E,2.0nm,0.8s,mb4.4,baz=304,slow=5.7,SNR=11						
VNDA	**Vanda**	**86.14**	**172**	*e*P	**P**	**22 55 37.6**	**-0.5**
	comp=E,3.8nm,1.1s,mb4.5						
QSPA	**South Pole Qui**	**96.03**	**180**	P	**P**	**22 56 24.2**	**0.0**
CPUP	**Villa Florida**	**159.87**	**176**	PKPab	PKPab	23 03 36.7	-0.7
	comp=E,1.3nm,0.7s,baz=212,slow=5.2,SNR=5.2						

*MOS **20** 23:19:13.3±1.1, 19.16N×121.26E, h33km, mb5.0/25, Error ellipse: s-maj=13.3km s-min=6.7km az=113.0*
*MAN **20** 23:19:15.9, 19.18N×121.24E, h14km, mb4.9, ML3.8, MS3.9*
*IDC **20** 23:19:16.2±2.7, 19.14N×121.31E, h43km±23km, mb4.0/20, mb1 4.2/21, mb1mx4.2/24, mbtmp4.3/21, ML4.0/1, MS4.1/14, Ms1 4.1/14, ms1mx3.9/28, Error ellipse: s-maj=18.6km s-min=10.9km az=70.0*
*NEIC **20** 23:19:16.8±0.9, 19.15N×121.30E, h49km±8km, mb4.7/25, Error ellipse: s-maj=8.2km s-min=5.7km az=76.0*
*BJI **20** 23:19:23.2, 19.78N×120.69E, h49km, mB4.7, mb4.4, ML4.0, Ms4.4, Msz4.1*

ISC 20 23:19:16.6±0.4, 19.21N±0.03×121.23E±0.04, h60km±4km, h44km±4.9km: pP-P, n149, σ1§15/158, mb4.6/59, MS4.2/29, 10C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.23**	**141**	*e*P	**P**	**23 19 37.7**	**-0.3**
SGCP				*e*S	**S**	**23 19 55.4**	**+1.5**
APYP	**Conner**	**1.34**	**180**	*e*P	**P**	**23 19 38.4**	**-1.2**
APYP				*e*S	**S**	**23 19 56.9**	**+0.2**
BBP	**Basco**	**1.41**	**29**	*e*P	**P**	**23 19 40.3**	**-0.2**
CVP	**Callao Caves**	**1.60**	**159**	⇓*i*P	**P**	**23 19 42.0**	**-1.1**
ABRA	**Dolores**	**1.63**	**198**	*e*P	**P**	**23 19 42.4**	**-1.1**
CAUP	**Cauayan**	**2.32**	**166**	*e*P	**P**	**23 19 55.6**	**+2.3**
PALP	**Palanan**	**2.42**	**152**	*e*P	**P**	**23 19 55.3**	**+0.7**
BCPH	**Baguio City Da**	**2.88**	**193**	⇓*i*P	**P**	**23 20 02.7**	**+1.5**
BCPH				*i* S	**S**	**23 20 50.6**	**+16**
BOLP	**Bolinao**	**3.08**	**204**	*e*P	**P**	**23 20 03.3**	**-0.7**
BALP	**Baler**	**3.46**	**175**	*e*P	**P**	**23 20 09.2**	**-0.2**
PCPH	**Palayan**	**3.63**	**182**	*e*P	**P**	**23 20 12.2**	**+0.5**
SCZP	**Santa Cruz**	**3.64**	**200**	*e*P	**P**	**23 20 12.9**	**+1.0**
POLP	**Polilio Island**	**4.51**	**171**	*e*P	**P**	**23 20 24.2**	**+0.2**
NBP	**Mount Natib**	**4.51**	**190**	⇑*e*P	**P**	**23 20 24.5**	**+0.4**
NACB	**Ninganchiao**	**4.95**	**4**	*e*P	**P**	**23 20 28.4**	**-1.9**
NACB				*e*S	**S**	**23 21 22.0**	**-4.9**
LBPH	**Los Banos**	**5.03**	**181**	*e*P	**P**	**23 20 33.3**	**+2.1**
TGY	**Tagaytay City**	**5.09**	**183**	*e*P	**P**	**23 20 35.6**	**+3.5**
YHNB	**Yeheng**	**5.44**	**1**	*e*P	**P**	**23 20 35.7**	**-1.2**
LUBP	**Lubang**	**5.53**	**190**	*e*P	**P**	**23 20 39.5**	**+1.4**
QZH	**Quanzhou**	**6.21**	**337**	P	**P**	**23 20 42.6**	**-5.1**
QZH				S	**S**	**23 21 48.0**	**-10**
QZH				Smax			
	comp=N,120nm,0.9s						
QZH				Smax			
	comp=E,160nm,0.9s						
QZH				LR	LR		
	comp=N,1μm,11.6s						
QZH				LR	LR		
	comp=E,2μm,15.2s						
QZH				LR	LR		
	comp=Z,3μm,17.0s						
PVCP	**Virac**	**6.25**	**153**	*e*P	**P**	**23 20 46.8**	**-1.4**
GZH	**Guangzhou**	**8.31**	**299**	P	**P**	**23 21 10.6**	**-6.2**
JOW	**Kunigami**	**9.98**	**39**	P	**P**	**23 21 37.9**	**-1.8**
	comp=Z,3.2nm,0.3s,baz=246,slow=8.6,SNR=8.2						
JOW				LR	LR	23 25 35.7	
	comp=Z,1μm,21.3s,baz=144,slow=38						
QIZ	**Qiongzhong**	**10.77**	**271**	*e*P	**P**	**23 21 43.6**	**-6.9**
	comp=Z,32nm,0.6s						
NJ2	**Nanjing**	**12.97**	**351**	*e*P	**P**	**23 22 19.6**	**-0.3**
NJ2				AP		23 22 26.6	
NJ2				XP		23 22 31.1	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=N,1μm,15.6s						
NJ2				LR	LR		
	comp=E,2μm,13.2s						
NJ2				LR	LR		
	comp=Z,1μm,13.6s						
GYA	**Guiyang**	**15.24**	**301**	⇑*i*P	**P**	**23 22 45.9**	**-3.6**
GYA				AP		23 22 53.3	
GYA				XP		23 22 58.6	
GYA				AMB	AMB		
	comp=Z,20nm,0.8s						
GYA				AMB	AMB		
	comp=Z,240nm,3.3s						
GYA				LR	LR		
	comp=N,710nm,14.1s						
GYA				LR	LR		
	comp=E,980nm,13.2s						
GYA				LR	LR		
	comp=Z,1μm,14.1s						
ENH	**Enshi**	**15.32**	**318**	*e*P	**P**	**23 22 50.1**	**-0.5**
	comp=Z,11nm,0.8s						
KKTK	**Khon Kaen**	**17.76**	**264**	P	**P**	**23 23 22.0**	**+0.6**
KMI	**Kunming**	**18.10**	**292**	P	**P**	**23 23 25.6**	**+0.1**
KMI				AP		23 23 35.5	
KMI				XP		23 23 40.3	
KMI				AMB	AMB		
	comp=Z,12nm,1.2s						
KMI				AMB	AMB		
	comp=Z,207nm,6.2s						
KMI				LR	LR		
	comp=N,638nm,14.0s						
KMI				LR	LR		
	comp=E,1μm,15.9s						
KMI				LR	LR		
	comp=Z,1μm,13.3s						
KMI	**Kunming**	**18.10**	**292**	P	**P**	**23 23 25.6**	**+0.1**
KMI				S	**S**	**23 26 50.4**	**+8.2**
KMI				pmax	pmax		
	comp=Z,12nm,1.2s						
KMI	**Kunming**	**18.10**	**292**	P	**P**	**23 23 25.6**	**+0.1**
	comp=Z,12nm,1.2s						
KMI				pP		23 23 35.5	
KMI				sP		23 23 40.2	
KMI				S	**S**	**23 26 50.4**	**+8.2**
KMI				sS		23 27 08.7	
NANT	**Nan**	**19.42**	**272**	P	**P**	**23 23 37.5**	**-3.2**
CD2	**Chengdu**	**19.62**	**310**	P	**P**	**23 23 42.3**	**-0.6**
CD2				PP	PP	23 24 02.0	-0.2
CD2				XS		23 27 23.1	
CD2				AMB	AMB		
	comp=Z,40nm,0.7s						
CD2				LR	LR		
	comp=N,960nm,15.6s						
CD2				LR	LR		
	comp=Z,1μm,15.9s						
KSM	**Kuching**	**20.62**	**213**	*e*P	**P**	**23 23 52.1**	**-1.3**
CBIJ	**Chichi jima**	**21.08**	**64**	LR	LR	23 30 07.4	
	comp=Z,434nm,21.1s,MS3.8,baz=88,slow=31						
CHG	**Chiang Mai**	**21.08**	**273**	P	**P**	**23 23 57.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**21.11**	**272**	P	**P**	**23 23 58.1**	**-0.2**
	comp=Z,5.4nm,0.9s,mb3.9,baz=80,slow=9.1,SNR=23						
CMAR				PcP	PcP	23 28 04.2	+1.0
	comp=Z,1.0nm,0.3s,baz=48,slow=0.8,SNR=9.4						
CMAR				LR	LR	23 32 53.9	
	comp=Z,530nm,18.5s,MS4.0,baz=90,slow=39						
BJT	**Baijiatuau**	**21.19**	**349**	*e*P	**P**	**23 23 59.9**	**+0.8**
BJT				pmax	pmax		
	comp=Z,30nm,1.0s						
BJT	**Baijiatuau**	**21.19**	**349**	*e*P	**P**	**23 23 59.9**	**+0.9**
	comp=Z,30nm,1.0s,mb4.6						
BJI	**Beijing**	**21.21**	**349**	*e*P	**P**	**23 23 59.6**	**+0.3**
BJI				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.1						
BJI				LR	LR		
	comp=N,443nm,16.1s,MS4.2						
BJI				LR	LR		
	comp=E,589nm,16.3s,MS4.2						
BJI				LR	LR		
	comp=Z,373nm,17.4s,MS3.8						
BJI	**Beijing**	**21.21**	**349**	*e*P	**P**	**23 23 59.6**	**+0.3**
	comp=Z,14nm,1.4s,mb4.1						
BJI				pP		23 24 27.5	
BJI				sP		23 24 44.3	
BJI				S	**S**	**23 27 53.3**	**+6.7**
BJI				LR	LR		
	comp=Z,370nm,17.4s,MS3.8						
SNY	**Shenyang**	**22.64**	**5**	⇑P	**P**	**23 24 19.5**	**+6.2**
SNY				S	**S**	**23 28 19.3**	**+6.8**
SNY				LR	LR		
	comp=E,650nm,17.1s						
SNY				LR	LR		
	comp=Z,420nm,13.3s,MS4.0						
LZH	**Lanzhou**	**22.74**	**321**	⇑P	**P**	**23 24 17.3**	**+2.9**
LZH				AP		23 24 25.0	
LZH				XP		23 24 28.5	
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,161nm,4.3s						
LZH				LR	LR		

comp=E,218nm,18.3s,MS4.0
GTA LR LR
comp=Z,378nm,17.1s,MS4.0
LSA Lhasa 29.23 297 *e*P **P 23 25 17.2 +2.2**
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
LSA Lhasa 29.23 297 *e*P **P 23 25 17.1 +2.1**
comp=Z,2.7nm,0.6s,mb4.2
HIA Hailar 30.01 358 *e*P **P 23 25 21.0 -0.7**
HIA pmax pmax
comp=Z,6.0nm,0.9s
HIA Hailar 30.01 358 *e*P **P 23 25 21.0 -0.8**
comp=Z,6.4nm,0.9s,mb4.3
ASAJ Asahikawa 30.60 31 LR LR 23 38 18.5
comp=Z,203nm,20.4s,MS3.8,baz=270,slow=37
ULN Ulaanbaatar 30.83 341 *e*P **P 23 25 29.3 +0.3**
ULN pmax pmax
comp=Z,11nm,1.5s,mb4.5
ULN Ulaanbaatar 30.83 341 *e*P **P 23 25 29.3 +0.3**
comp=Z,11nm,1.5s,mb4.5
SONM Songino Array 31.00 340 P **P 23 25 30.9 +0.3**
comp=Z,1.8nm,0.9s,mb3.9,baz=159,slow=9.8,SNR=15
SONM PcP PcP 23 28 25.7 +0.3
comp=Z,1.0nm,1.0s,baz=180,slow=3.7,SNR=3.9
JIRN Jiri 33.15 291 *e*P **P 23 25 49.8 +0.4**
comp=Z,74nm,1.4s,mb5.4
GUN Gumba 33.45 292 *e*P **P 23 25 52.4 +0.3**
comp=Z,40nm,0.9s,mb5.3
PKI Pulchoki 33.82 291 *e*P **P 23 25 55.0 -0.3**
comp=Z,35nm,1.5s,mb5.1
KKN Kakani 33.96 291 *e*P **P 23 25 56.3 -0.2**
comp=Z,34nm,1.3s,mb5.1
ZAK Zakamensk 34.23 339 *e*P **P 23 25 57.6 -0.9**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
ZAK pmax pmax
comp=Z,2.0nm,1.9s,mb3.7
GKN Gorkha 34.55 292 *e*P **P 23 26 01.2 -0.3**
comp=Z,51nm,1.2s,mb5.3
TLY Talaya 35.23 341 *e*P **P 23 26 08.0 +0.9**
TLY *e*S **S 23 31 38.1 +2.6**
TLY *e*SS SS 23 34 25.5 +30
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TLY MLR MLR
comp=Z,411nm,18.0s,MS4.2
KOLN Koldanda 35.44 291 *e*P **P 23 26 07.1 -2.0**
comp=Z,35nm,1.2s,mb5.2
WMQ Urumqi 37.27 319 ⇓P **P 23 26 26.9 +2.6**
WMQ AP pP 23 26 39.4 -0.1
WMQ XP sP 23 26 44.4 -2.4
WMQ PCP PcP 23 28 45.9 +2.6
WMQ S **S 23 32 11.4 +4.6**
WMQ AMB AMB
comp=Z,8.0nm,0.5s,mb4.8
WMQ AMB AMB
comp=Z,72nm,4.5s
WMQ LR LR
comp=N,282nm,17.0s
WMQ LR LR
comp=Z,285nm,17.8s,MS4.1
FITZ Fitzroy Crossi 37.33 173 *e*P **P 23 26 23.4 -1.7**
comp=Z,8.4nm,1.1s,mb4.5
FITZ Fitzroy Crossi 37.33 173 P **P 23 26 23.6 -1.5**
comp=Z,6.6nm,0.7s,mb4.6,baz=350,slow=16,SNR=7.0
FITZ PcP PcP 23 28 43.7 0.0
comp=Z,5.6nm,0.7s,baz=28,slow=4.9,SNR=3.7
BOD Bodaibo 38.92 354 *e*P **P 23 26 37.4 -0.5**
BOD pmax pmax
comp=Z,6.0nm,1.6s,mb4.1
WRAB Tennant Creek 40.97 161 *e*P **P 23 26 55.0 -0.3**
WRAB pmax pmax
comp=Z,25nm,1.3s,mb4.7
WRAB Tennant Creek 40.97 161 *e*P **P 23 26 55.0 -0.2**
comp=Z,25nm,1.3s,mb4.7
WRA Warramunga Arr 40.98 161 P **P 23 26 52.8 -2.5**
comp=Z,2.2nm,0.4s,mb4.1,baz=346,slow=8.8,SNR=22
WRA PcP PcP 23 28 55.4 +0.1
comp=Z,2.2nm,0.9s,baz=342,slow=3.6,SNR=4.9
WRA S **S 23 32 55.9 -6.8**
comp=Z,0.9nm,0.8s,baz=344,slow=15,SNR=3.0
WB2 Warramunga Arr 40.98 161 *e*P **P 23 26 54.4 -0.9**
MKAR Makanchi Array 42.04 320 P **P 23 27 05.2 +1.4**
comp=Z,5.7nm,0.8s,mb4.3,baz=113,slow=9.9,SNR=65
MKAR PcP PcP 23 28 58.4 -0.1
comp=Z,1.6nm,1.0s,baz=112,slow=5.1,SNR=3.4
MKAR LR LR 23 45 44.0
comp=Z,181nm,18.8s,MS4.0,baz=90,slow=38
MKAR Makanchi Array 42.04 320 P **P 23 27 05.2 +1.4**
MKAR PcP PcP 23 28 58.4 -0.1
MKAR LR LR 23 45 44.0
YAK Yakutsk 43.19 6 *i*P **P 23 27 13.8 +0.8**
YAK pmax pmax
comp=Z,7.0nm,0.5s,mb4.7
YAK MLR MLR
comp=Z,200nm,18.0s,MS4.1
KSH Kashi 43.80 307 P **P 23 27 20.1 +1.9**
KSH AP pP 23 27 29.0 -4.6
ASPA Alice Springs 44.37 163 *e*P **P 23 27 23.0 -0.1**
ASAR Alice Springs 44.37 163 P **P 23 27 21.8 -1.3**
comp=Z,1.9nm,0.3s,mb4.3,baz=344,slow=6.8,SNR=31
ASAR PcP PcP 23 29 06.8 +0.2
comp=Z,2.1nm,1.0s,baz=354,slow=4.5,SNR=4.9
ASAR S **S 23 33 52.7 +0.2**
comp=Z,0.9nm,1.0s,baz=356,slow=21,SNR=4.2
PET Petropavlovsk 44.44 32 *e*P **P 23 27 26.2 +3.0**
PET *e*S **S 23 33 53.7 +0.6**
PET pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
PET MLR MLR
comp=Z,100nm,19.0s,MS3.8
ZAL Zalesovo 44.50 330 *i*P **P 23 27 24.2 +0.6**
ZAL pmax pmax
comp=Z,2.0nm,0.8s
ZAL Zalesovo 44.50 330 P **P 23 27 23.8 +0.1**
comp=Z,1.8nm,0.8s,mb3.9,baz=353,slow=8.1,SNR=13
ZAL LR LR 23 47 38.9
comp=Z,563nm,18.7s,MS4.5,baz=339,slow=38
ZAL Zalesovo 44.50 330 P **P 23 27 23.8 +0.1**
ZAL LR LR 23 47 38.9
AAK Ala-Archa 45.68 311 *i*P **P 23 27 33.5 +0.2**
AAK pmax pmax
comp=Z,6.0nm,2.0s,mb4.2
AAK MLR MLR
comp=Z,300nm,18.0s,MS4.3
AAK Ala-Archa 45.68 311 *e*P **P 23 27 34.2 +0.9**
comp=Z,3.1nm,1.0s,mb4.2
HNR Honiara 47.60 123 LR LR 23 43 53.2
comp=Z,209nm,21.5s,MS4.1,baz=318,slow=31
BVAR Borovoye Array 51.60 323 P **P 23 28 19.7 +0.8**
comp=Z,1.0nm,0.6s,mb4.0,baz=108,slow=9.4,SNR=9.3
BVAR PcP PcP 23 29 30.1 -2.0
comp=Z,1.2nm,0.6s,baz=108,slow=4.7,SNR=4.4
NWAO Narrogin (SRO) 51.98 184 P **P 23 28 21.2 -0.8**
NWAO pmax pmax
comp=Z,5.0nm,0.6s
NWAO Narrogin (SRO) 51.98 184 P **P 23 28 21.2 -0.8**
comp=Z,4.8nm,0.6s,mb4.6
TIXI Tiksi 52.63 3 *i*P **P 23 28 24.8 -1.6**
TIXI pmax pmax
comp=Z,28nm,1.5s,mb5.0
TIXI MLR MLR
comp=Z,200nm,19.0s,MS4.2
STKA Stephens Creek 54.42 159 P **P 23 28 38.5 -1.6**
comp=Z,1.0nm,0.4s,mb4.1,baz=293,slow=24,SNR=4.4
BILL Bilibino 56.34 19 *e*P **P 23 28 53.6 +0.1**
BILL *e* 23 29 03.1
BILL pmax pmax
comp=Z,15nm,1.6s,mb4.8
BILL MLR MLR
comp=Z,100nm,13.0s,MS4.1
BILL Bilibino 56.34 19 *e*P **P 23 28 52.8 -0.7**
comp=Z,8.7nm,1.1s,mb4.7
SVE Sverdlovsk 58.11 326⇑ *e*P **P 23 29 06.2 +0.1**
SVE pmax pmax
comp=Z,48nm,1.5s,mb5.3
ARU Arti 59.14 325⇑ *i*P **P 23 29 12.8 -0.4**
ARU *e* 23 29 57.3
ARU *e*S **S 23 37 20.4 +6.1**
ARU pmax pmax
comp=Z,18nm,1.3s,mb4.9
ARU MLR MLR
comp=Z,2μm,16.5s,MS5.3
ARU MLR MLR
comp=N,100nm,17.0s,MS4.4
ARU MLR MLR
comp=E,200nm,17.0s,MS4.4
ARU Arti 59.14 325 *e*P **P 23 29 12.7 -0.5**
comp=E,12nm,0.8s,mb5.0
RBK Rabkut 63.27 280 ⇓P **P 23 29 40.4 -1.3**
SNR=12
WHFO Wadi Hawf 63.59 281 ⇑P **P 23 29 41.8 -2.0**
SNR=10
ABTO Aybut 64.15 280 ⇓P **P 23 29 45.8 -1.7**
SNR=9.3
GNI Garni 67.71 306 *i*P **P 23 30 10.4 +0.6**
GNI pmax pmax
comp=Z,9.0nm,1.3s
GNI MLR MLR
comp=Z,100nm,19.0s
KIV Kislovodsk 68.79 311 *e*P **P 23 30 17.1 +0.6**
KIV *e* 23 30 41.7
KIV *e*S S 23 39 18.6 +4.5
KIV pmax pmax
comp=N,8.0nm,0.9s
KIV pmax pmax
comp=Z,14nm,0.9s,mb4.9
KIV MLR MLR
comp=E,93nm,16.0s
KIV MLR MLR
comp=Z,143nm,16.0s,MS4.3
IMA Indian Mountai 70.63 26 *e*P **P 23 30 28.3 +1.0**
IMA pmax pmax
comp=Z,35nm,1.5s,mb5.1
IMA Indian Mountai 70.63 26 *e*P **P 23 30 28.3 +1.0**
comp=Z,34nm,1.5s,mb5.1
SOC Sochi 70.97 311 *e*P **P 23 30 27.2 -2.5**
SOC *e*S S 23 39 37.1 -2.5
SOC pmax pmax
comp=Z,13nm,0.8s,mb4.9
SOC pmax pmax
comp=N,13nm,1.1s
SOC pmax pmax
comp=E,9.0nm,0.8s
SOC MLR MLR
comp=Z,308nm,23.0s,MS4.5
SOC MLR MLR
comp=N,220nm,24.0s
SOC MLR MLR
comp=E,156nm,17.0s
OBN Obninsk 71.45 323 *e*P **P 23 30 32.3 -0.1**
OBN *e* 23 30 39.5
OBN S S 23 39 46.0 +1.2
OBN pmax pmax
comp=Z,16nm,1.4s,mb4.8
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
MALT Malatya 72.84 305 *e*P **P 23 30 41.9 +1.0**
MALT pmax pmax
comp=Z,11nm,1.1s,mb4.7
MALT Malatya 72.84 305 *e*P **P 23 30 41.9 +1.0**
comp=Z,11nm,1.1s,mb4.7
ILAR Eielson Array 73.61 27 P **P 23 30 44.3 -0.6**
comp=Z,0.8nm,0.6s,mb3.8,baz=278,slow=4.6,SNR=8.2
ARCES ARCESS Array B 74.16 339 P **P 23 30 47.5 -0.5**
comp=Z,2.3nm,0.6s,mb4.3,baz=72,slow=7.7,SNR=9.4
ARCES LR LR 00 07 16.1
comp=Z,166nm,19.8s,MS4.3,baz=82,slow=39
FINES FINESS Array B 75.76 330 P **P 23 30 57.5 +0.1**
comp=Z,2.7nm,0.9s,mb4.2,baz=117,slow=4.3,SNR=7.7
FINES LR LR 00 08 41.3
comp=Z,112nm,18.4s,MS4.2,baz=52,slow=39
BRTR Keskin Array B 76.19 307 P **P 23 30 59.3 -0.9**
comp=Z,0.7nm,0.5s,mb3.9,baz=101,slow=6.3,SNR=6.3
AKASG Malin Array Be 76.62 319 P **P 23 31 01.4 -1.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=63,slow=5.6,SNR=11
INK Inuvik 77.81 22 *e*P **P 23 31 07.3 -1.4**
INK pmax pmax
comp=Z,25nm,1.5s
INK Inuvik 77.81 22 P **P 23 31 07.7 -1.0**
comp=Z,5.6nm,1.1s,mb4.4,baz=307,slow=6.7,SNR=9.8
INK Inuvik 77.81 22 *e*P **P 23 31 07.3 -1.4**
comp=Z,25nm,1.5s,mb4.9
SUW Suwalki 79.29 324 *e*P **P 23 31 16.5 -0.6**
SUW pmax pmax
comp=Z,38nm,1.2s,mb5.2
SUW Suwalki 79.29 324 *e*P **P 23 31 16.5 -0.5**
comp=Z,38nm,1.2s,mb5.2
KWP Kalwaria 80.95 319 *e*P **P 23 31 26.1 +0.1**
KWP pmax pmax
comp=Z,22nm,1.2s,mb5.0
KWP Kalwaria 80.95 319 *e*P **P 23 31 26.1 +0.1**
comp=Z,22nm,1.2s,mb5.0
DAG Danmarks Havn 81.27 351 *e*P **P 23 31 27.0 -0.2**
DAG Danmarks Havn 81.27 351 *i*P **P 23 31 27.0 -0.2**
OJC Ojcow 82.51 321 *e*P **P 23 31 34.4 +0.3**
NB2 NORSAR Subarra 82.63 333 P **P 23 31 33.5 -1.0**
comp=Z,2.8nm,1.0s,mb4.2,baz=65,slow=4.8
NB2 NORSAR Subarra 82.63 333 P **P 23 31 33.5 -1.0**
NB2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
NOA NORSAR Array B 82.63 333 P **P 23 31 34.2 -0.3**
comp=Z,1.2nm,0.9s,mb3.9,baz=35,slow=7.1,SNR=4.6
NOA LR LR 00 11 28.2
comp=Z,332nm,19.0s,MS4.7,baz=60,slow=38
RES Resolute Bay 83.54 9 *e*P **P 23 31 39.5 +0.7**
RES pmax pmax
comp=Z,14nm,1.1s,mb5.0
RES Resolute Bay 83.54 9 *e*P **P 23 31 39.5 +0.7**
comp=Z,14nm,1.1s,mb5.0
VYHS Vyhne 83.73 319 *e*P **P 23 31 41.0 +0.7**
KMBO Kilima Mbogo 84.68 267 *e*P **P 23 31 47.4 +1.5**
KMBO pmax pmax
comp=Z,13nm,1.2s
KMBO Kilima Mbogo 84.68 267 P **P 23 31 47.9 +2.0**
comp=Z,4.4nm,0.9s,mb4.6,baz=53,slow=7.1,SNR=15
KMBO LR LR 00 07 46.6
comp=Z,110nm,19.8s,MS4.2,baz=92,slow=34
KMBO Kilima Mbogo 84.68 267 *e*P **P 23 31 47.4 +1.5**
comp=Z,13nm,1.2s,mb4.9
BRG Berggiesshubel 85.69 323 *e*P **P 23 31 51.3 +1.3**
BRG *e* 23 32 02.5
BRG pmax pmax
comp=Z,18nm,1.6s,mb5.0
BRG Berggiesshubel 85.69 323 *e*P **P 23 31 51.3 +1.3**
comp=Z,18nm,1.6s,mb5.0
BRG *e* 23 32 02.5
GERES GERESS Array B 86.70 321 P **P 23 31 56.8 +1.8**
comp=Z,0.6nm,0.7s,mb3.9,baz=18,slow=4.2,SNR=5.4
GERES LR LR 00 16 30.9
comp=Z,108nm,18.9s,MS4.3,baz=45,slow=40
YKW3 Yellowknife Ar 87.47 23 *e*P **P 23 31 59.5 +1.1**
YKA Yellowknife Ar 87.52 23 P **P 23 31 59.7 +1.1**
comp=Z,4.6nm,0.7s,mb4.8,baz=311,slow=4.6,SNR=103
YKA Yellowknife Ar 87.52 23 P **P 23 31 59.7 +1.1**
LPG La Plagne 92.46 320 *e*P **P 23 32 21.7 -0.5**
comp=Z,14nm,1.2s,mb4.9
LPG La Plagne 92.46 320 *e*P **P 23 32 21.7 -0.5**
LPG pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
LPL La Plagne 92.46 320 *e*P **P 23 32 21.4 -0.8**
MBDF Montbardon 92.84 319 *e*P **P 23 32 23.2 -0.8**
comp=Z,18nm,1.1s,mb5.1
MBDF Montbardon 92.84 319 *e*P **P 23 32 23.2 -0.8**
MBDF pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
PPT Papeete 94.90 107 *e*LR LR 00 02 56.0
comp=Z,177nm,26.0s
NEW Newport 95.05 35 P **P 23 32 35.8 +1.8**
comp=Z,1.5nm,0.5s,mb4.7,baz=304,slow=7.3,SNR=3.1
MAW Mawson 96.44 199 LR LR 00 09 23.0
comp=Z,63nm,19.0s,MS4.1,baz=237,slow=31
RKT Rikitea 109.58 108 *e*LR LR 00 09 43.8
comp=Z,137nm,25.5s
TXAR Lajitas Array 115.16 43 PKP PKPdf 23 37 54.4 +2.7
comp=Z,0.5nm,0.5s,baz=179,slow=1.1,SNR=9.1
SDV Santo Domingo 149.73 24 *e*PKPdf PKPdf 23 38 58.4 +2.6
SDV *e*PKPbc PKPdf 23 39 02.8 +7.0
ROSC El Rosal 151.60 34 PKPbc PKPdf 23 39 08.6 +10
comp=Z,7.2nm,0.5s,baz=273,slow=16,SNR=9.2

*NEIC **20** 23:31:20.3, 19.70N×64.34W, h45km, MD3.8(RSPR), After RSPR.*
RSPR 20 23:31:20.3, 19.70N×64.34W, h45km±18km, MD3.8/9, MD3.8/9, 5C-7D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.46**	**204**⇑	*e*P	P	23 31 42.9	-1.7
STVI				*e*S	S	23 32 00.7	-2.1
MTP	**Monte Pirata**	**1.97**	**216**⇓	*e*P	P	23 31 49.9	-1.9
MTP				*e*S	S	23 32 13.9	-1.4
CDVI	**St. Croix**	**1.98**	**192**	*e*S	S	23 32 14.2	-1.3
CBYP	**Canovanas**	**2.02**	**226**⇓	*e*P	P	23 31 50.5	-2.0
CBYP				*e*S	S	23 32 14.6	-1.9
HUMP	**Col San Antoni**	**2.10**	**223**⇓	*e*P	P	23 31 51.9	-1.9
HUMP				*e*S	S	23 32 16.5	-2.3
CPD	**Cerro la Pandu**	**2.22**	**222**⇑	*e*P	P	23 31 53.9	-1.6
CPD				*e*S	S	23 32 20.2	-1.6
SJG	**San Juan**	**2.33**	**228**	*e*P	P	23 31 54.9	-2.1
AOPR	**Arecibo Observ**	**2.65**	**240**⇑	*e*P	P	23 31 60.0	-1.5
CELP	**Cerrillos**	**2.66**	**233**⇓	*e*P	P	23 31 59.9	-1.9
PORP	**Portuguez**	**2.72**	**233**⇓	*e*P	P	23 32 00.6	-2.0
ICM	**Isla Caja Muer**	**2.74**	**229**⇑	*e*P	P	23 32 01.2	-1.6
LRS	**Lares**	**2.75**	**240**⇑	*e*P	P	23 32 01.6	-1.4
MGP	**Maguayo**	**3.10**	**238**⇓	*e*P	P	23 32 06.2	-1.7
CRPR	**Cabo Rojo, PR**	**3.12**	**238**⇓	*e*P	P	23 32 06.5	-1.7

*NAO **20** 23:36:30.1±1.4, 67.79N×20.31E, ML2.2*
*IDC **20** 23:36:30.7±1.1, 67.82N×20.55E, mb1 2.9/4, mb1mx2.8/23, mbtmp2.8/4, ML2.5/4, Error ellipse: s-maj=17.7km s-min=6.2km az=121.0*
*BER **20** 23:36:31.6±3.9, 67.88N×20.17E, ML2.0, ML2.2(NAO), Suspected explosion*
HEL 20 23:36:30.8±0.2, 67.86N×20.37E, ML1.9, ML2.0(BER), **ML2.2**(NAO), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.16**	**8**	*e*P	Pb	23 36 52.3	-1.1
KIF				*e*S	Sb	23 37 08.1	-0.8
KTK1	**Kautokeino**	**1.57**	**41**	*e*P	Pn	23 37 00.3	+0.3
KTK1				*e*SN	Sn	23 37 21.1	-0.2
KTK1				AML	AML	23 37 25.6	
	comp=Z,19nm,0.2s						
TRO	**Tromso**	**1.85**	**344**	*e*P	Pn	23 37 02.5	-1.7
TRO				*e*S	Sn	23 37 27.2	-1.4
TRO				AML	AML	23 37 29.9	
	comp=Z,21nm,0.3s						
SGF	**Sodankyl**	**2.39**	**97**	*e*P	Pn	23 37 11.4	-0.4
SGF				*e*S	Sn	23 37 40.6	-1.6
SGF				*e*SG	Sg	23 37 45.4	-5.0
SGF				MSG		23 37 46.2	
	comp=Z,5.0nm,0.2s						
ARA0	**ARCESS Array S**	**2.52**	**46**	Pn	Pn	23 37 13.1	-0.5
	baz=229,slow=14						
ARA0				Sn	Sn	23 37 45.7	+0.2
	baz=230,slow=28						
ARA0	**ARCESS Array S**	**2.52**	**46**	*e*P	Pn	23 37 13.1	-0.5
ARA0				*e*SB	Sb	23 37 45.7	-2.6
ARCES	**ARCESS Array B**	**2.52**	**46**	Pn	Pn	23 37 13.2	-0.4
	comp=Z,1.2nm,0.3s,baz=226,slow=15,SNR=33						
ARCES				Sn	Sn	23 37 45.4	-0.1
	comp=Z,3.3nm,0.3s,baz=231,slow=25,SNR=18						
ARCES				Lg		23 37 48.5	
	comp=Z,3.3nm,0.3s,baz=227,slow=31,SNR=15						
LOF	**Lofoten**	**2.58**	**279**	*e*SG	Sg	23 37 51.6	-5.2
LOF				AML	AML	23 37 53.4	
	comp=Z,10nm,0.6s						
MELSS	**Ber_school_2**	**2.76**	**252**	*e*Sg	Sg	23 37 54.5	-8.1
MOR8	**Moi Rana**	**2.88**	**237**	*e*SB	Sb	23 37 52.3	-6.5
MOR8				AML	AML	23 37 54.1	
	comp=Z,24nm,0.5s						
KEV	**Kevo**	**3.07**	**49**	*e*S	Sn	23 37 56.7	-2.8
STOK	**Stokkvaagen**	**3.26**	**245**	*e*SG	Sg	23 38 12.2	-7.1
KU4	**Liikasenvaara**	**3.90**	**108**	*e*P	Pn	23 37 31.6	-1.6
NSS	**Namsos**	**4.77**	**229**	*e*SG	Sg	23 38 57.1	-13
NSS				AML	AML	23 38 58.7	
	comp=Z,6.5nm,0.4s						
APA0	**Apatity Array**	**4.81**	**87**	Pn	Pn	23 37 43.4	-2.8
	baz=288,slow=14						
APA0				Sn	Sn	23 38 39.4	-4.1
	baz=286,slow=28						
APA0				Lg		23 38 58.8	
	baz=284,slow=37						
APA0	**Apatity Array**	**4.81**	**87**	*e*P	Pn	23 37 43.4	-2.8
APA0				*e*S	Sn	23 38 39.4	-4.1
APA0				*e*SG		23 38 58.8	
FIA0	**FINESS Array S**	**6.89**	**157**	Pn	Pn	23 38 11.0	-4.6
	baz=334,slow=14						
FIA0				Sn	Sn	23 39 29.4	-6.3
	baz=348,slow=22						
FIA0				Lg		23 40 05.1	
	baz=341,slow=37						
FIA0	**FINESS Array S**	**6.89**	**157**	*e*P	Pn	23 38 11.0	-4.6
FIA0				*e*S	Sn	23 39 29.4	-6.3
FIA0				*e*SG		23 40 05.1	
FINES	**FINESS Array B**	**6.89**	**157**	Pn	Pn	23 38 11.8	-3.8
	comp=Z,0.1nm,0.3s,baz=336,slow=14,SNR=3.4						
FINES				Sn	Sn	23 39 30.4	-5.3
	comp=Z,0.2nm,0.3s,baz=344,slow=21,SNR=4.5						
FINES				Lg		23 40 03.7	
	comp=Z,0.5nm,0.3s,baz=343,slow=27,SNR=9.1						
NB2	**NORSAR Subarra**	**7.90**	**214**	Lg		23 40 33.8	
	baz=18,slow=37						
NB2	**NORSAR Subarra**	**7.90**	**214**	*e*SG		23 40 33.8	
NB2	**NORSAR Subarra**	**7.90**	**214**	Lg		23 40 33.8	
	baz=18,slow=37						
NOA	**NORSAR Array B**	**7.90**	**214**	Pn	Pn	23 38 25.4	-4.3
	comp=Z,0.1nm,0.3s,baz=12,slow=13,SNR=2.5						
NOA				Sn	Sn	23 39 51.8	-9.1
	comp=Z,0.1nm,0.3s,baz=307,slow=14,SNR=2.5						
NOA				Lg		23 40 33.0	
	comp=Z,0.3nm,0.3s,baz=126,slow=23,SNR=3.3						
HFS	**Hagfors**	**8.29**	**204**	Pn	P	23 38 29.6	-5.6
	baz=12,slow=14						
HFS				Sn	Sn	23 40 01.1	-9.4
	baz=24,slow=22						
HFS				Lg		23 40 48.7	
	baz=7.6,slow=37						
HFS	**Hagfors**	**8.29**	**204**	*e*P	P	23 38 29.6	-5.6
HFS				*e*S	Sn	23 40 01.1	-9.4
HFS				*e*SG		23 40 48.7	
HFS	**Hagfors**	**8.29**	**204**	Pn	P	23 38 29.5	-5.6
	comp=Z,0.0nm,0.3s,baz=21,slow=12,SNR=3.1						
HFS				Sn	Sn	23 40 01.8	-8.8
	comp=Z,0.0nm,0.3s,baz=23,slow=22,SNR=4.5						
HFS				Lg		23 40 48.5	
	comp=Z,0.1nm,0.3s,baz=34,slow=26,SNR=3.8						

*IDC **20** 23:37:38.2±0.8, 22.18S×67.31W, h170km±7km, mb3.7/7, mb1 3.8/11, mb1mx3.6/18, mbtmp4.0/11, Error ellipse: s-maj=13.5km s-min=11.9km az=98.0*
*NEIC **20** 23:37:38.6±0.6, 22.22S×67.35W, h173km±8km, mb4.0/2, Error ellipse: s-maj=10.3km s-min=7.4km az=87.0*
ISC 20 23:37:37.2±0.5, 22.21S±0.04×67.36W±0.07, h178km±6km, n28, σ1°905/32, mb3.7/7, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.49**	**254**	P	P	**23 38 11.1**	**+1.8**
	104nm,0.3s,baz=65,slow=6.4,SNR=1551						
LVC				S	S	**23 38 34.7**	**+0.6**
	71nm,0.3s,baz=278,slow=21,SNR=79						
LVC	**Limon Verde**	**1.49**	**254**	*e*P	P	**23 38 10.5**	**+1.2**
LVC				*e*S	S	**23 38 33.8**	**-0.2**
LPAZ	**La Paz**	**5.94**	**353**	P	P	**23 39 05.4**	**+1.3**
	2.2nm,0.3s,baz=156,slow=7.6,SNR=47						
LPAZ				S	S	**23 40 10.9**	**-0.8**
	0.8nm,0.3s,baz=341,slow=20,SNR=6.7						
LPAZ	**La Paz**	**5.94**	**353**	*e*P	P	**23 39 05.1**	**+0.9**
	8.0nm,0.6s						
ARE	**Arequipa**	**6.93**	**325**	*e*P	P	**23 39 15.0**	**-2.2**
ARE				*e*S	S	**23 40 31.0**	**-4.1**
SIV	**San Ignacio**	**8.58**	**45**	P	P	**23 39 37.2**	**-1.7**
	35nm,0.3s,baz=231,slow=11,SNR=402						
SIV				S	S	**23 41 07.0**	**-7.0**
	4.6nm,0.3s,baz=144,slow=24,SNR=12						
CFAA	**Coronel Fontan**	**9.39**	**185**	P	P	**23 39 50.0**	**+0.5**
	0.1nm,0.3s,baz=10,slow=11,SNR=5.4						
CFAA				S	S	**23 41 31.3**	**-1.7**
	0.1nm,0.3s,baz=156,slow=20,SNR=5.1						
CFAA	**Coronel Fontan**	**9.39**	**185**	P	P	**23 39 50.0**	**+0.5**
CFAA				S	S	**23 41 31.3**	**-1.7**
CPUP	**Villa Florida**	**10.02**	**116**	P	P	**23 39 58.8**	**+0.9**
	0.2nm,0.3s,baz=300,slow=14,SNR=6.1						
SAML	**Samuel**	**13.79**	**18**	*e*P	P	**23 40 47.2**	**+0.9**
TRQA	**Tornquist**	**16.45**	**165**	*e*P	P	**23 41 19.0**	**-0.3**
	3.0nm,0.6s						
PLCA	**Paso Flores**	**18.66**	**188**	P	P	**23 41 43.1**	**-0.7**
	0.1nm,0.3s,baz=5.1,slow=12,SNR=5.6						
BDFB	**Brasilia**	**19.42**	**74**	P	P	**23 41 51.6**	**-0.3**
	1.0nm,0.3s,baz=259,slow=11,SNR=8.4						

BAO Brasilia Array 19.44 74 P P 23 41 52.3 +0.2
CAM4 Nova Friburgo 22.93 95 (P) P 23 42 27.4 +0.7
CAM4 *i* 23 42 28.2
CAM4 *i* 23 42 32.1
ELN Prospectdale 60.46 348 *e*P **P 23 47 28.9 -1.4**
TXAR Lajitas Array 62.04 324 P **P 23 47 40.2 -0.9**
0.3nm,0.6s,mb3.3,baz=146,slow=9.0,SNR=5.9
DBIC Dimbokro 67.56 72 P **P 23 48 16.6 -0.3**
1.9nm,0.5s,mb4.1,baz=205,slow=4.1,SNR=9.5
ANMO Albuquerque 67.89 326 P **P 23 48 19.1 +0.5**
0.4nm,0.3s,mb3.6,baz=166,slow=6.7,SNR=4.9
ARUT Antelope Range 73.75 324 P **P 23 48 54.3 +0.7**
PDAR Pinedale Array 75.45 329 P **P 23 49 03.6 +0.4**
0.8nm,0.6s,mb3.5,baz=133,slow=8.1,SNR=4.7
ULM Lac du Bonnet 76.44 342 P **P 23 49 07.8 -0.7**
2.1nm,0.6s,mb4.0,baz=170,slow=3.1,SNR=3.4
NVAR Mina Array Bea 76.95 321 P **P 23 49 13.0 +1.4**
0.3nm,0.3s,mb3.4,baz=136,slow=6.4,SNR=5.2
MCMT McKenzie Canyo 78.57 329 *e*P **P 23 49 22.2 +1.8**
YKA Yellowknife Ar 92.34 340 P **P 23 50 28.0 +0.1**
1.4nm,0.6s,mb4.2,baz=133,slow=4.5,SNR=46
ASAR Alice Springs 129.93 206 PKP PKPdf 23 56 27.9 +1.7
0.5nm,0.8s,baz=157,slow=1.5,SNR=4.6
WRA Warramunga Arr 133.05 208 PKP PKPdf 23 56 33.1 +0.9
0.6nm,0.6s,baz=193,slow=2.1,SNR=3.6
MKAR Makanchi Array 145.34 38 PKPbc PKPbc 23 56 55.8 +1.6
0.7nm,0.6s,baz=318,slow=4.0,SNR=13

*TIF **20** 23:45:11.8, 42.09N×45.99E, h15km±4km*
MOS 20 23:45:11.7±1.1, 42.18N×46.00E, h15km, mb3.5/1, Error ellipse: s-maj=12.6km s-min=10.7km az=93.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.52**	**18**	*i* PG		Pg	23 45 21.0	-1.3
BTLR				*i* S		Sb	23 45 30.5	+1.7
BTLR				pmax		pmax		
	comp=Z,114nm,0.2s							
XNZR	**Khunzakh**	**0.64**	**55**	*e*PG		Pg	23 45 25.0	+0.3
XNZR				*i* S		Sb	23 45 36.0	+3.6
KMKR	**Kumukh**	**0.81**	**93**	*e*PG		Pg	23 45 27.0	-1.2
KMKR				*i* S		Sb	23 45 40.0	+2.4
KMKR				pmax		pmax		
	comp=Z,32nm,0.2s							
DGRG	**David-gareji**	**0.86**	**213**	P		Pb	23 45 28.4	+0.5
DGRG				S		Sb	23 45 40.4	+1.4
KRNR	**Karanay**	**0.93**	**45**	*e*PG		Pg	23 45 30.0	-0.5
KRNR				*i* S		Sb	23 45 45.0	+4.0
DLMR	**Dylym**	**1.01**	**27**	*e*PG		Pg	23 45 32.0	0.0
DLMR				*e*S		Sb	23 45 48.0	+4.9
MTA	**Mtatsminda**	**1.02**	**242**	P		Pb	23 45 31.0	+0.4
MTA				S		Sb	23 45 45.3	+1.7
DBC	**Dubki**	**1.04**	**36**	*e*PG		Pg	23 45 32.0	-0.7
DBC				*e*S		Sb	23 45 49.0	+4.9
TBLG	**Delisi**	**1.04**	**245**	P		Pb	23 45 31.7	+0.8
TBLG				S		Sb	23 45 45.3	+1.2
ARNR	**Ardon**	**1.63**	**309**	*e*PN		Pn	23 45 39.6	-0.5
ARNR				*e*S		Sn	23 46 04.9	+4.1
ZEI	**Tsey**	**1.67**	**292**	*e*PN		Pn	23 45 41.8	+1.1
ZEI				*e*S		Sn	23 46 08.4	+6.6
ONI	**Oni**	**1.94**	**283**	P		Pn	23 45 48.9	+4.5
ONI				S		Sn	23 46 15.4	+6.8

*NEIC **21** 00:03:09.1, 19.72N×64.37W, h25km, MD3.5(RSPR), After RSPR.*
RSPR 21 00:03:09.1, 19.72N×64.37W, h25km±43km, MD3.5/6, MD3.5/6, 5C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**1.97**	**215**	⇑*e*P		Pn	00 03 38.4	-3.1
MTP				*e*S		Sn	00 04 02.9	-2.8
CBYP	**Canovanas**	**2.02**	**224**	⇑*e*P		Pn	00 03 39.0	-3.2
CBYP				*e*S		Sn	00 04 03.5	-3.4
HUMP	**Col San Antoni**	**2.11**	**222**	⇑*e*P		Pn	00 03 40.6	-2.8
HUMP				*e*S		Sn	00 04 05.0	-4.1
CPD	**Cerro la Pandu**	**2.23**	**221**	⇓*e*P		Pn	00 03 42.4	-2.8
CPD				*e*S		Sn	00 04 08.8	-3.3
PORP	**Portuguez**	**2.71**	**233**	⇑*e*P		Pn	00 03 49.8	-2.4
PORP				*e*S		Sn	00 04 20.2	-4.3
MGP	**Maguayo**	**3.09**	**237**	⇑*e*P		Pn	00 03 55.6	-1.9

*ISK **21** 00:11:57.6, 37.04N×28.37E, h18km, MD3.2*
*CSEM **21** 00:11:57.1±0.1, 37.05N×28.34E, h12km, MD3.2, Error ellipse: s-maj=2.4km s-min=2.2km az=44.0*
*ATH **21** 00:11:58.5, 37.06N×28.25E, h9km±3km, MD3.3/5*
*NEIC **21** 00:11:58.1, 37.03N×28.26E, h5km, MD3.3(ATH), After ATH.*
ISC 21 00:11:57.5±0.5, 37.04N±0.02×28.30E±0.03, h4km±6km, n20, σ0°99/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.38**	**135**	PG		**Pg**	**00 12 04.9**	**-0.3**
DALT				SG		**Sg**	**00 12 11.2**	**+0.9**
BDRM	**Kayabasi**	**0.69**	**272**	*i* P		**Pg**	**00 12 11.4**	**+0.2**
BDRM				*i* S		**Sg**	**00 12 23.4**	**+3.0**
AYDN	**Tasoluk**	**0.70**	**332**	*i* P		**Pg**	**00 12 11.1**	**-0.6**
AYDN				*i* S		**Sg**	**00 12 21.5**	**+0.5**
FETY	**Fethiye**	**0.75**	**123**	PG		**Pg**	**00 12 11.5**	**-0.9**
BODT	**Bodrum**	**0.79**	**272**	PG		**Pg**	**00 12 13.8**	**+0.4**
BODT				SG		**Sg**	**00 12 27.2**	**+3.3**
ARG	**Arkhangelos**	**0.83**	**190**	*e*PB		**Pb**	**00 12 13.8**	**-0.4**
ARG				*e*SG		**Sg**	**00 12 27.0**	**+1.7**
ARG	**Arkhangelos**	**0.83**	**190**	*e*Pg		**Pg**	**00 12 13.2**	**-1.0**
DENT	**Denizli**	**0.92**	**39**	PG		**Pg**	**00 12 14.9**	**-1.0**
DENT				SG		**Sg**	**00 12 28.5**	**+0.3**
GOLH	**Golhisar**	**1.02**	**79**	*i* P		**Pb**	**00 12 17.2**	**-0.3**
GOLH				*i* S		**Sb**	**00 12 32.1**	**+1.0**
NISR	**Nisiros**	**1.03**	**246**	*e*PB		**Pb**	**00 12 17.5**	**-0.1**
NISR				*e*SB		**Sb**	**00 12 31.2**	**-0.2**
ELL	**Elmali**	**1.32**	**102**	PN		**Pn**	**00 12 21.5**	**-1.3**
AKAS	**Kas**	**1.32**	**127**	*i* P		**Pb**	**00 12 23.0**	**+0.4**
AKAS				*i* S		**Sb**	**00 12 45.9**	**+6.2**
SMG	**Samos**	**1.34**	**300**	*e*PB		**Pb**	**00 12 23.2**	**+0.3**
KSL	**Kastellorizon**	**1.36**	**130**	*e*PB		**Pb**	**00 12 25.0**	**+1.8**
MANT	**Manisa**	**1.46**	**8**	*i* P		**Pn**	**00 12 24.1**	**-0.7**
MANT				*i* S		**Sb**	**00 12 44.8**	**+1.0**
IZM	**Izmir**	**1.59**	**329**	*e*PN		**Pn**	**00 12 25.5**	**-1.0**
BLCB	**Balcova**	**1.67**	**324**	PN		**Pn**	**00 12 27.2**	**-0.6**
KARP	**Karpathos**	**1.75**	**212**	*e*PG		**Pg**	**00 12 30.0**	**-2.5**
KARP				*e*SN		**Sg**	**00 12 55.2**	**-0.6**
KARP	**Karpathos**	**1.75**	**212**	*e*Pg		**Pg**	**00 12 29.6**	**-2.9**
KARP				*e*Sg		**Sg**	**00 12 55.2**	**-0.6**
TKTP	**Tekketepe**	**1.89**	**58**	*i* P		**Pn**	**00 12 31.2**	**+0.3**
TKTP				*i* S		**Sn**	**00 13 00.6**	**+5.1**

*IDC **21** 00:13:52.8±0.9, 1.39N×96.87E, h27km±3km, mb3.8/10, mb1 4.0/11, mb1mx3.8/20, mbtmp4.0/11, ML4.2/1, MS2.4/1, Ms1 2.4/1, ms1mx2.3/25, Error ellipse: s-maj=37.0km s-min=15.2km az=52.0*
*NEIC **21** 00:13:53.4±0.6, 1.50N×97.05E, h30km, mb4.6/4, Error ellipse: s-maj=14.7km s-min=11.2km az=55.0*
ISC 21 00:13:51.4±0.8, 1.5N±0.1×97.1E±0.1, h28km, h28km±.4km: pP-P, n23, σ0°72/19, mb4.1/13, MS2.4/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.19**	**44**	*e*Pn		**Pn**	**00 15 09.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.94**	**6**	P		**P**	**00 17 48.6**	**+0.3**
0.3nm,0.3s,baz=195,slow=11,SNR=10
SHL Shillong 24.43 349 *e*P **P 00 19 10.0 +0.8**
ENH Enshi 30.94 21 *e*P **P 00 20 06.8 -1.6**
9.8nm,0.7s,mb4.8
WRA Warramunga Arr 42.32 122 P **P 00 21 45.3 +0.3**
0.4nm,0.4s,mb3.4,baz=302,slow=9.1,SNR=2.3
ASAR Alice Springs 43.70 127 P **P 00 21 56.4 +0.3**
0.5nm,0.4s,mb3.6,baz=301,slow=7.7,SNR=6.3
ASAR pP pP 00 22 04.3 -0.1
0.8nm,0.7s,baz=305,slow=7.4,SNR=5.5
JNU Nakatsue 44.67 42 LR LR 00 40 48.8
comp=Z,5.3nm,21.5s,MS2.4,baz=303,slow=36
AAK Ala-Archa 45.66 337 *e*P **P 00 22 12.9 +1.3**
2.2nm,1.0s,mb4.0
SONM Songino Array 46.84 9 P **P 00 22 21.6 +0.7**
6.9nm,0.9s,mb4.6,baz=190,slow=9.2,SNR=43
SONM pP pP 00 22 29.9 +0.7
1.2nm,0.5s,baz=192,slow=9.2,SNR=5.1
MKAR Makanchi Array 46.90 346 P **P 00 22 22.1 +0.7**
5.6nm,0.8s,mb4.6,baz=159,slow=8.3,SNR=66
MKAR pP pP 00 22 30.0 +0.3
2.5nm,0.5s,baz=157,slow=8.9,SNR=11
MKAR Makanchi Array 46.90 346 P **P 00 22 22.1 +0.7**
MKAR pP pP 00 22 30.0 +0.3
ULN Ulaanbaatar 46.98 9 *e*P **P 00 22 22.1 +0.2**
5.8nm,0.9s,mb4.5
ZAL Zalesovo 53.22 351 P **P 00 23 09.2 -0.4**
2.1nm,0.4s,mb4.5,baz=327,slow=5.4,SNR=9.6
ZAL pP pP 00 23 17.5 -0.5
3.4nm,0.5s,baz=317,slow=6.9,SNR=7.8
ZAL Zalesovo 53.22 351 P **P 00 23 09.2 -0.4**
ZAL pP pP 00 23 17.5 -0.5
BVAR Borovoye Array 55.91 341 P **P 00 23 28.3 -0.9**
1.2nm,0.6s,mb4.1,baz=141,slow=9.5,SNR=8.4
BVAR pP pP 00 23 37.0 -0.7
2.0nm,0.6s,baz=143,slow=9.7,SNR=9.2
BRTR Keskin Array B 68.79 312 P **P 00 24 55.0 -0.4**
0.3nm,0.4s,mb3.6,baz=141,slow=7.9,SNR=4.3
BRTR pP pP 00 25 03.5 -0.6
1.4nm,0.7s,baz=135,slow=6.2,SNR=7.2
AKASG Malin Array Be 74.92 322 P **P 00 25 30.9 -0.8**
0.4nm,0.4s,mb3.7,baz=76,slow=38,SNR=3.3
AKASG pP pP 00 25 39.4 -1.0
0.9nm,0.4s,baz=86,slow=5.2,SNR=4.3
AKASG Malin Array Be 74.92 322 P **P 00 25 30.9 -0.8**
AKASG pP pP 00 25 39.4 -1.0
FINES FINESS Array B 79.66 332 P **P 00 25 57.3 -0.5**
0.8nm,0.5s,mb3.9,baz=321,slow=36,SNR=7.0
FINES pP pP 00 26 06.7 +0.1
1.2nm,0.6s,baz=98,slow=6.1,SNR=2.7
ARCES ARCESS Array B 82.19 340 P **P 00 26 11.2 +0.2**
2.5nm,0.9s,mb4.1,baz=90,slow=7.3,SNR=7.1
ARCES pP pP 00 26 20.3 +0.5
1.2nm,0.6s,baz=90,slow=6.1,SNR=1.9
GERES GERESS Array B 84.48 319 pP pP 00 26 33.5 +1.6
0.4nm,0.5s,baz=135,slow=3.8,SNR=2.9
SUMG Summit 100.94 348 P P 00 27 39.1 -0.1
6.4nm,0.8s
TXAR Lajitas Array 143.48 31 pPKP 00 33 32.2
0.1nm,0.5s,baz=340,slow=1.3,SNR=2.4

*TEH **21** 00:15:56.7, 33.03N×47.24E, h10km, Mn3.2*
*THR **21** 00:15:56.9±1.4, 33.16N×47.44E, h14km±11km, ML3.0*
*CSEM **21** 00:15:56.5±0.1, 33.09N×47.32E, h20km, ML3.2, Error ellipse: s-maj=2.5km s-min=1.5km az=99.0*
ISC 21 00:15:56.2±0.5, 33.02N±0.03×47.43E±0.06, h10km, n24, σ0°79/32, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IKOM	**Komasi**	**1.15**	**3**	Pn		**Pn**	**00 16 17.3**	**-1.1**
SHGO	**Shushtar**	**1.47**	**128**	*e*PG		**Pg**	**00 16 25.4**	**-0.3**
SHGO				AML		AML	00 17 00.9	
	comp=N,205nm,0.6s							
SHGR	**Shooshtar-Gavs**	**1.47**	**128**	*e*PG		**Pg**	**00 16 25.4**	**-0.2**
SHGR				AML		AML	00 16 57.5	
	comp=N,218nm,0.4s							
IGHG	**Ghaleghazi**	**1.49**	**331**	Pn		**Pn**	**00 16 22.5**	**-0.7**
IVIS	**Veys**	**1.57**	**342**	Pn		**Pn**	**00 16 24.1**	**-0.3**
IDHR	**Dehrash**	**1.89**	**333**	Pn		**Pn**	**00 16 28.8**	**0.0**
SNGE	**Sanandaj**	**2.07**	**358**	*e*PG		**Pg**	**00 16 32.0**	**-5.5**
SNGE				AML		AML	00 17 10.5	
	comp=N,129nm,0.7s							
ASAO	**Ashtian**	**2.64**	**54**	*e*PN		**Pn**	**00 16 41.0**	**+1.4**
ASAO				*e*SG		**Sg**	**00 17 17.0**	**-7.2**
ASAO				AML		AML	00 17 31.0	
	comp=N,78nm,0.5s							
IRAZ	**Razeghan**	**3.15**	**40**	Pn		**Pn**	**00 16 48.6**	**+1.7**
UMR	**Umm Al-Rimmam**	**3.47**	**176**	*e*P		**Pn**	**00 16 51.9**	**+0.5**
UMR				*e*S		**Sn**	**00 17 32.4**	**-0.6**
IKLH	**Kalahroud**	**3.49**	**84**	Pn		**Pn**	**00 16 52.2**	**+0.5**
IQOM	**Qom**	**3.53**	**58**	Pn		**Pn**	**00 16 52.9**	**+0.6**
IQOM				Sn		**Sn**	**00 17 34.6**	**+0.1**
RST	**Umm Al-Ruwaisa**	**3.53**	**186**	*e*P		**Pn**	**00 16 52.6**	**+0.3**
RST				*e*S		**Sn**	**00 17 34.9**	**+0.3**
IMHD	**Mahdasht**	**3.77**	**44**	Pn		**Pn**	**00 16 56.0**	**+0.3**
KBD	**Kabd**	**3.84**	**177**	*e*P		**Pn**	**00 16 57.1**	**+0.4**
KBD				*e*S		**Sn**	**00 17 41.0**	**-1.4**
IVRN	**Varamin**	**4.08**	**60**	Pn		**Pn**	**00 17 00.4**	**+0.4**
IVRN				Sn		**Sn**	**00 17 47.8**	**-0.6**
RDF	**Al-Radifah**	**4.08**	**179**	*e*P		**Pn**	**00 17 01.0**	**+0.8**
RDF				*e*S		**Sn**	**00 17 47.7**	**-0.9**
IZEF	**Zefreh**	**4.12**	**90**	Pn		**Pn**	**00 17 01.4**	**+0.7**
THR	**Tehran**	**4.20**	**46**	*e*PN		**Pn**	**00 17 01.1**	**-0.6**
THR	**Tehran**	**4.20**	**46**	*e*Pn		**Pn**	**00 17 01.1**	**-0.7**
SNR=52
QRN Al-Qurain 4.28 174 *e*P **Pn 00 17 03.8 +0.8**
NASN Na'in 4.53 91 *e*PN **Pn 00 17 06.7 +0.2**
IDMV Damavand 4.58 55 Pn **Pn 00 17 07.2 0.0**
IFIR Firoozkooh 5.12 58 Pn **Pn 00 17 14.5 -0.3**
IFIR Sn **Sn 00 18 12.4 -2.3**

*NEIC **21** 00:24:22.2±0.6, 6.94N×92.65E, mb4.6/5, Error ellipse: s-maj=19.6km s-min=9.3km az=68.0*
*IDC **21** 00:24:23.2±1.8, 7.02N×92.84E, h46km±7km, mb4.0/7, mb1 4.2/8, mb1mx3.8/22, mbtmp4.2/8, ML4.3/1, Error ellipse: s-maj=67.5km s-min=13.2km az=65.0*
ISC 21 00:24:21.7±0.5, 6.96N±0.07×92.98E±0.07, h45km, h45km±2.3km: pP-P, n29, σ1°27/31, mb4.4/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.81**	**102**	*e*Pn		**P**	**00 26 12.3**	**-3.1**
PALK	**Pallekele**	**12.19**	**272**	*e*Pn		**P**	**00 27 16.2**	**+0.7**
PALK				*e*Sn		**S**	**00 29 16.1**	**-15**
CM31	**Chiang Mai Arr**	**12.82**	**26**	*e*P		**P**	**00 27 25.9**	**+2.0**
16nm,0.8s
CMAR Chiang Mai Arr 12.82 26 P **P 00 27 24.7 +0.8**
0.5nm,0.3s,baz=229,slow=14,SNR=37
HYB Hyderabad 17.50 308 *i* P **P 00 28 26.5 +2.3**
HYB *e*S **S 00 31 36.0 +0.6**
JIRN Jiri 21.57 343 *e*P **P 00 29 09.9 +0.5**
20nm,0.7s,mb4.6
PKI Pulchoki 21.72 342 *e*P **P 00 29 12.3 +1.4**
29nm,0.8s,mb4.7
DMN Daman 21.85 341 *e*P **P 00 29 12.9 +0.7**
24nm,0.6s,mb4.8
GUN Gumba 21.90 343 *e*P **P 00 29 11.7 -1.0**
26nm,0.8s,mb4.7
KKN Kakani 21.96 342 *e*P **P 00 29 13.6 +0.2**
10nm,0.4s,mb4.6
GKN Gorkha 22.37 340 *e*P **P 00 29 15.8 -1.6**
14nm,0.3s,mb4.8
KOLN Koldanda 22.53 338 *e*P **P 00 29 17.8 -1.2**
16nm,0.6s,mb4.6
LSA Lhasa 22.69 356 *e*P **P 00 29 21.1 +0.6**
3.9nm,0.3s,mb4.3
KKM Kota Kinabalu 23.11 91 P **P 00 29 20.0 -4.8**
AAK Ala-Archa 39.10 338 *e*P **P 00 31 43.6 -2.7**
1.7nm,0.9s,mb3.8
FITZ Fitzroy Crossi 40.74 128 *e*P **P 00 32 01.2 +1.1**
12nm,0.9s,mb4.5
FITZ *e* pP 00 32 13.4 +0.9
FITZ Fitzroy Crossi 40.74 128 P **P 00 32 01.4 +1.3**
15nm,0.8s,mb4.7,baz=231,slow=1.7,SNR=13
FITZ pP pP 00 32 13.6 +1.1
8.0nm,0.6s,baz=309,slow=5.6,SNR=4.8
MKAR Makanchi Array 40.74 349 P **P 00 31 58.4 -1.4**
0.9nm,0.6s,mb3.6,baz=170,slow=8.3,SNR=15
MKAR Makanchi Array 40.74 349 P **P 00 31 58.4 -1.4**
SONM Songino Array 42.31 13 P **P 00 32 10.7 -2.1**
0.3nm,0.7s,mb3.0,baz=191,slow=7.3,SNR=3.8
SONM pP pP 00 32 25.8 +0.7
0.7nm,0.8s,baz=190,slow=8.1,SNR=5.3
SONM PcP PcP 00 34 05.6 -0.8
0.7nm,0.6s,baz=204,slow=3.0,SNR=6.3
SONM pPcP 00 34 18.7
0.4nm,0.6s,baz=191,slow=3.4,SNR=3.6
ZAL Zalesovo 47.31 353 P **P 00 32 52.2 -0.5**
1.5nm,0.5s,mb4.2,baz=297,slow=6.2,SNR=10
ZAL pP pP 00 33 03.8 -1.4
1.4nm,0.4s,baz=341,slow=4.8,SNR=3.5
ZAL Zalesovo 47.31 353 P **P 00 32 52.2 -0.5**
ZAL pP pP 00 33 03.8 -1.4
WRA Warramunga Arr 48.69 124 P **P 00 33 03.6 -0.3**
3.2nm,0.5s,mb4.6,baz=303,slow=8.9,SNR=22
WRA pP pP 00 33 16.7 +0.3
5.2nm,1.0s,baz=305,slow=9.2,SNR=12
WRAB Tennant Creek 48.69 124 *e*P **P 00 33 04.2 +0.3**
11nm,0.8s,mb4.9
WRAB *e*pP pP 00 33 16.7 +0.3
WB2 Warramunga Arr 48.70 124 *e*P **P 00 33 04.6 +0.6**
WB2 *e* pP 00 33 17.5 +1.0
ASAR Alice Springs 50.23 129 P **P 00 33 16.6 +0.8**
5.0nm,0.6s,mb4.7,baz=302,slow=7.5,SNR=60
ASAR pP pP 00 33 28.7 +0.4
3.1nm,0.8s,baz=299,slow=6.3,SNR=12
STKA Stephens Creek 60.32 133 P **P 00 34 28.9 +0.3**
1.7nm,0.7s,mb4.2,baz=294,slow=6.7,SNR=3.5
STKA Stephens Creek 60.32 133 *e*P **P 00 34 28.9 +0.3**
STKA *e* pP 00 34 39.7 -1.8
TSUM Tsumeb 78.62 249 P **P 00 36 18.6 -2.6**
11nm,1.3s,mb4.6

*NEIC **21** 00:37:48.5, 17.80N×101.90W, h13km, MD3.8(MEX), After MEX.*
MEX 21 00:37:48.2±0.7, 17.85N×101.86W, h3km±7km, MD3.9, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.45**	**122**	⇑*i*P		Pg	00 37 56.2	-1.0
ZIIG				*i* S		Sg	00 38 03.2	0.0
CAIG	**El Cayaco**	**1.72**	**117**	*e*P		Pn	00 38 15.3	-3.9
CAIG				*i* S		Sn	00 38 34.7	-7.2
CAIG	**El Cayaco**	**1.72**	**117**	*e*P		Pn	00 38 16.2	-3.0
CAIG				*i* S		Sn	00 38 36.4	-5.5
ACX	**Acapulco**	**2.10**	**117**	*i* P		Pn	00 38 21.5	-3.2
ACX				*i* S		Sn	00 38 45.5	-6.1
COLM	**Colima**	**2.18**	**308**	*i* P		Pn	00 38 22.2	-3.7
COLM				*i* S		Sn	00 38 46.5	-7.2
COLM	**Colima**	**2.18**	**308**	*i* P		Pn	00 38 22.2	-3.7
COLM				*i* S		Sn	00 38 48.3	-5.4
PLIG	**Platanillo**	**2.31**	**76**	*e*P		Pn	00 38 23.6	-4.0
PLIG				*i* S		Sn	00 38 51.2	-5.7
PLIG	**Platanillo**	**2.31**	**76**	*e*P		Pn	00 38 25.1	-2.6
PLIG				*i* S		Sn	00 38 51.2	-5.7
SFJM	**Santa Fe**	**2.85**	**337**	*e*P		Pn	00 38 34.0	-1.4
SFJM				*i* S		Sn	00 39 06.0	-4.7
PPM	**Popocatepetl**	**3.30**	**68**	*e*P		Pn	00 38 38.5	-3.3
PPM				*i* S		Sn	00 39 17.9	-4.2
PPM	**Popocatepetl**	**3.30**	**68**	*e*P		Pn	00 38 38.5	-3.3
PPM				*e*P			00 38 43.0	
PPM				*i* S		Sn	00 39 17.9	-4.2
PPM				*i* S		Sn	00 39 20.0	-2.1
ZAIG	**Zacatecas**	**4.94**	**352**	*e*P		Pn	00 38 58.7	-6.4
ZAIG				*i* S		Sn	00 39 58.4	-5.2
ZAIG	**Zacatecas**	**4.94**	**352**	*e*P		Pn	00 39 05.0	0.0
ZAIG				*i* S		Sn	00 39 58.4	-5.2
CMIG	**Matias Romero**	**6.70**	**95**	*i* S		Sn	00 40 41.5	-6.2

*NEIC **21** 00:39:21.8, 17.70N×101.94W, h16km, MD3.7(MEX), After MEX.*
MEX 21 00:39:21.2±0.5, 17.71N×101.91W, h9km±5km, MD3.8, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.43**	**104**	*i* P		Pg	00 39 29.0	-1.0
ZIIG				*i* S		Sg	00 39 35.8	-0.1
ZIIG	**Zihuatanejo**	**0.43**	**104**	⇑*i*P		Pg	00 39 29.1	-1.0
ZIIG				*i* S		Sg	00 39 35.8	-0.1
CAIG	**El Cayaco**	**1.70**	**113**	*i* P		Pn	00 39 48.1	-3.2
CAIG				*i* S		Sn	00 40 07.2	-6.1
ACX	**Acapulco**	**2.08**	**113**	*i* P		Pn	00 39 53.0	-3.7
ACX				*i* S		Sn	00 40 18.0	-5.0
COLM	**Colima**	**2.24**	**311**	*e*P		Pn	00 39 56.7	-2.3
COLM				*i* S		Sn	00 40 19.7	-7.3
COLM	**Colima**	**2.24**	**311**	*e*P		Pn	00 39 56.3	-2.7
COLM				*i* S		Sn	00 40 21.1	-5.9
PLIG	**Platanillo**	**2.39**	**73**	*e*P		Pn	00 39 58.0	-3.1
PLIG				*i* S		Sn	00 40 24.9	-5.9
PLIG	**Platanillo**	**2.39**	**73**	*e*P		Pn	00 39 58.0	-3.1
PLIG				*i* S		Sn	00 40 25.8	-5.0
SFJM	**Santa Fe**	**2.96**	**339**	*e*P		Pn	00 40 06.0	-3.3
PPM	**Popocatepetl**	**3.40**	**66**	*i* S		Sn	00 40 52.0	-4.3
ZAIG	**Zacatecas**	**5.07**	**353**	*i* S		Sn	00 41 39.5	+0.8
CMIG	**Matias Romero**	**6.73**	**94**	*i* S		Sn	00 42 23.2	+2.9

*TIF **21** 00:45:51.6, 42.11N×45.98E, h17km±2km*
*MOS **21** 00:45:56.8±1.4, 42.47N×46.13E, h17km, mb3.8/1, Error ellipse: s-maj=14.4km s-min=10.6km az=141.8*
*CSEM **21** 00:45:56.8±0.7, 42.47N×46.13E, h17km, mb3.8, Error ellipse: s-maj=25.9km s-min=10.2km az=156.0, After OBN*
ISC 21 00:45:53.7±0.6, 42.11N±0.07×45.98E±0.08, h17km, n12, σ1°39/20, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.58**	**18**	*i* PG		**Pb**	**00 46 03.0**	**-2.0**
XNZR	**Khunzakh**	**0.69**	**51**	*e*PG		**Pb**	**00 46 06.5**	**-0.3**
XNZR				*i* S		**Sb**	**00 46 18.0**	**+2.2**
DGRG	**David-gareji**	**0.80**	**215**	P		**Pb**	**00 46 08.0**	**-0.8**
DGRG				S		**Sb**	**00 46 20.5**	**+1.3**
MTA	**Mtatsminda**	**0.98**	**245**	P		**Pb**	**00 46 10.8**	**-1.1**
MTA				S		**Sb**	**00 46 24.4**	**+0.1**
KRNR	**Karanay**	**0.99**	**43**	⇓*i*PG		**Pb**	**00 46 11.0**	**-1.0**
KRNR				*i* S		**Sb**	**00 46 26.0**	**+1.4**
KRNR				pmax		pmax		
	comp=Z,10.0nm,0.2s							
TI2	**Plekhanov**	**0.99**	**248**	*e*PG		**Pb**	**00 46 20.2**	**+8.1**
TI2				pmax		pmax		
	comp=E,30nm,0.4s							
TBLG	**Delisi**	**1.00**	**248**	P		**Pb**	**00 46 11.1**	**-1.1**
TBLG				S		**Sb**	**00 46 24.9**	**-0.1**
DLMR	**Dylym**	**1.07**	**26**	*e*PG		**Pb**	**00 46 10.0**	**-3.4**
DLMR				*e*S		**Sb**	**00 46 26.0**	**-0.9**
BUJR	**Buynaksk**	**1.09**	**49**	*e*PG		**Pb**	**00 46 12.8**	**-1.0**
BUJR				*e*S		**Sb**	**00 46 29.8**	**+2.1**
DBC	**Dubki**	**1.10**	**34**	*e*PG		**Pb**	**00 46 12.5**	**-1.4**
ZEI	**Tsey**	**1.68**	**294**	*e*PN		**Pn**	**00 46 23.9**	**+1.2**
ZEI				pmax		pmax		
	comp=Z,9.0nm,0.2s							
ONI	**Oni**	**1.94**	**285**	P		**Pn**	**00 46 28.3**	**+2.0**
ONI				S		**Sn**	**00 46 54.6**	**+4.2**

*NEIC **21** 00:50:57.4, 17.61N×101.96W, h7km, MD3.8(MEX), After MEX.*
MEX 21 00:50:57.3±0.7, 17.59N×101.96W, h7km±6km, MD3.8, 1C, Near coast of Guerrero

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

*CSEM **21** 01:14:05.8±0.1,39.59N×27.19E,h10km,MD3.1,Error ellipse: s-maj=1.8km s-min=1.6km az=153.0*
*ISK **21** 01:14:06.1,39.60N×27.19E,h13km,MD3.1*
*ATH **21** 01:14:09.9,39.35N×26.80E,h51km,MD3.2/4*
*NEIC **21** 01:14:09.9,39.35N×26.80E,h51km,MD3.2(ATH),After ATH.*
ISC 21 01:14:05.9±0.7,39.58N±0.03×27.18E±0.04,h4km±6km,n25,σ0°71/31,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.55**	**84**	*i* PG			**Pg**	**01 14 17.0**	**+0.2**
BTOK	**Tokmak**	**0.68**	**74**	*i* P			**Pg**	**01 14 20.0**	**+0.5**
BTOK				*i* S			**Sg**	**01 14 30.0**	**+1.4**
EZN	**Ezine**	**0.70**	**291**	PG			**Pg**	**01 14 20.1**	**+0.2**
PRK	**Paraskevi**	**0.78**	**245**	*e*P			**Pg**	**01 14 20.8**	**-0.6**
BOZC	**Bozcaada**	**0.91**	**287**	*i* P			**Pb**	**01 14 24.4**	**+0.7**
BOZC				*i* S			**Sb**	**01 14 36.2**	**+0.2**
EDC	**Edincik**	**0.93**	**34**	PG			**Pg**	**01 14 24.2**	**-0.2**
EDC				SG			**Sg**	**01 14 36.6**	**-0.2**
BNT	**Bandirma**	**0.96**	**36**	PG			**Pg**	**01 14 24.9**	**-0.1**
MRMT	**Marmara Adasi**	**1.07**	**17**	PG			**Pg**	**01 14 26.0**	**-1.2**
MRMT				SG			**Sg**	**01 14 41.7**	**+0.2**
SART	**Tekirdag**	**1.11**	**0**	*i* P			**Pb**	**01 14 27.9**	**+0.7**
SART				*i* S			**Sb**	**01 14 42.5**	**+0.8**
DST	**Dursunbey**	**1.12**	**88**	PN			**Pn**	**01 14 27.6**	**-0.6**
KCT	**Karacabey**	**1.13**	**53**	PN			**Pn**	**01 14 27.6**	**-0.8**
KDAG	**Bornova**	**1.18**	**177**	*i* P			**Pb**	**01 14 28.8**	**+0.4**
KDAG				*i* S			**Sb**	**01 14 45.4**	**+1.5**
IZM	**Izmir**	**1.18**	**177**	PN			**Pn**	**01 14 29.3**	**+0.2**
BLCB	**Balcova**	**1.20**	**185**	PN			**Pn**	**01 14 29.3**	**-0.1**
MFT	**Murefte**	**1.21**	**4**	*e*PN			**Pn**	**01 14 29.3**	**-0.1**
ORLT	**Orhaneli**	**1.40**	**70**	*e*PN			**Pn**	**01 14 31.8**	**-0.4**
LIA	**Limnos Island**	**1.57**	**282**	*e*P			**Pn**	**01 14 34.0**	**-0.7**
SMG	**Samos**	**1.89**	**188**	*e*P			**Pn**	**01 14 37.6**	**-1.6**
YLV	**Yalova**	**1.95**	**59**	*e*PN			**Pn**	**01 14 39.9**	**-0.2**
RDO	**Rodhopi**	**2.00**	**322**	*e*P			**Pn**	**01 14 42.5**	**+1.6**
ISK	**Istanbul-Kandi**	**2.06**	**44**	*e*PN			**Pn**	**01 14 41.7**	**0.0**
HRT	**Hereke**	**2.27**	**56**	*e*PN			**Pn**	**01 14 44.2**	**-0.5**
EDRB	**Edirne**	**2.29**	**352**	*e*PN			**Pn**	**01 14 44.2**	**-0.7**
ALT	**Altintas**	**2.33**	**102**	*e*PN			**Pn**	**01 14 45.4**	**-0.2**
ESKT	**Eskisehir**	**2.84**	**90**	*e*PN			**Pn**	**01 14 52.6**	**-0.2**

*BJI **21** 01:15:06.8,52.20S×13.70E,h10km,mB5.4,Ms4.9, Msz4.7*
*IDC **21** 01:15:07.6±0.5,52.19S×13.75E,mb4.5/18,mb1 4.6/18, mb1mx4.6/20,mbtmp4.5/18,MS4.6/21,Ms1 4.6/21, ms1mx4.6/21,Error ellipse: s-maj=17.9km s-min=14.5km az=106.0*
*HRVD **21** 01:15:08.8±0.2,52.32S×13.99E,h12km,MW5.3/77, Centroid moment Tensor Solution. LP body waves: s56,c90;Mantle waves: s77,c146; Half duration: 1ŝ1 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.94±.02; $M_{\theta\theta}$1.07±.02; $M_{\phi\phi}$-0.12±.02; $M_{r\theta}$0.49±.05; $M_{\theta\phi}$-0.08±.02; $M_{r\phi}$0.03±.05; Best double couple: $M_0$1.12×10^{17} NP1:ϕ_s99°, δ32°,λ-83°. NP2:ϕ_s270°,δ58°,λ-95°. Principal axes: T 1.187, Plg13°, Azm3°; N -.129, Plg4°, Azm272°; P -1.053, Plg77°, Azm166°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 01:15:08.8±0.2,52.19S×13.70E,h10km,mb5.0/14, MS4.8/81 Error ellipse: s-maj=10.4km s-min=7.3km az=106.0*
ISC 21 01:15:07.9±0.3,52.16S±0.05×13.6E±0.1,h10km,n201, σ0°91/64,mb4.6/24,MS4.7/104,10C-3D,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MAIT	**Maitri**	**18.70**	**182**	*e*P			**P**	**01 19 17.4**	**-11**
MAIT				*e*S			**S**	**01 22 55.0**	**+1.5**
SUR	**Sutherland**	**20.46**	**18**	P			**P**	**01 19 48.2**	**0.0**
	60nm,0.7s,baz=189,slow=9.9,SNR=23								
SUR				LR			LR	01 25 51.4	
	comp=Z,3μm,20.0s,MS4.6,baz=213,slow=32								
SUR	**Sutherland**	**20.46**	**18**	*e*P			**P**	**01 19 48.1**	**-0.1**
	90nm,0.8s								
SYO	**Syowa Base**	**20.89**	**154**	⇑P			**P**	**01 19 47.0**	**-5.4**
SYO	**Syowa Base**	**20.89**	**154**	⇑Pn			**P**	**01 19 50.0**	**-2.4**
SYO	**Syowa Base**	**20.89**	**154**	⇓P			**P**	**01 19 53.0**	**+0.6**
SNAA	**Sanae**	**20.90**	**195**	*e*			**P**	**01 19 53.3**	**+0.9**
SNAA	**Sanae**	**20.90**	**195**	*e*			**P**	**01 19 53.9**	**+1.5**
SNAA	**Sanae**	**20.90**	**195**	*e*			**P**	**01 19 59.1**	**+6.7**
SNAA	**Sanae**	**20.90**	**195**	*e*			**P**	**01 20 01.9**	**+9.5**
SNAA	**Sanae**	**20.90**	**195**	P			**P**	**01 19 51.4**	**-1.0**
	29nm,0.8s,baz=30,slow=9.6,SNR=68								
SNAA				LR			LR	01 25 48.8	
	comp=Z,1μm,22.0s,MS4.2,baz=22,slow=31								
SNAA	**Sanae**	**20.90**	**195**	⇑*i*P			**P**	**01 19 50.9**	**-1.5**
SNAA				*e*				01 19 53.3	
SNAA				*e*				01 19 53.9	
SNAA				*e*				01 19 59.1	
SNAA				*e*				01 20 01.9	
VNA2	**Neumayer--Watz**	**21.08**	**199**	*e*			**P**	**01 19 55.8**	**+1.4**
VNA2	**Neumayer--Watz**	**21.08**	**199**	*e*			**P**	**01 19 56.5**	**+2.1**
VNA2	**Neumayer--Watz**	**21.08**	**199**	*e*			**P**	**01 19 59.8**	**+5.5**
VNA2	**Neumayer--Watz**	**21.08**	**199**	*e*			**P**	**01 20 01.1**	**+6.8**
VNA2	**Neumayer--Watz**	**21.08**	**199**	*e*			**P**	**01 20 03.6**	**+9.2**
VNA2	**Neumayer--Watz**	**21.08**	**199**	⇑*i*P			**P**	**01 19 52.9**	**-1.4**
VNA2				*e*				01 19 55.8	
VNA2				*e*				01 19 56.5	
VNA2				*e*				01 19 59.8	
VNA2				*e*				01 20 01.1	
VNA2				*e*				01 20 03.6	
VNA3	**Neumayer Olymp**	**21.80**	**200**	*e*			**P**	**01 20 03.4**	**+1.8**
VNA3	**Neumayer Olymp**	**21.80**	**200**	*e*			**P**	**01 20 06.2**	**+4.6**
VNA3	**Neumayer Olymp**	**21.80**	**200**	*e*			**P**	**01 20 08.0**	**+6.4**
VNA3	**Neumayer Olymp**	**21.80**	**200**	*e*			**P**	**01 20 11.1**	**+10**
VNA3	**Neumayer Olymp**	**21.80**	**200**	⇑*i*P			**P**	**01 20 00.4**	**-1.2**
VNA3				*e*				01 20 03.4	
VNA3				*e*				01 20 06.2	
VNA3				*e*				01 20 08.0	
VNA3				*e*				01 20 11.1	
BOSA	**Boshof**	**25.08**	**25**	P			**P**	**01 20 34.3**	**+0.4**
	6.3nm,0.8s,mb4.2,baz=187,slow=10,SNR=9.0								
BOSA				LR			LR	01 28 34.5	
	comp=Z,3μm,21.2s,MS4.7,baz=204,slow=32								
BOSA	**Boshof**	**25.08**	**25**	*e*P			**P**	**01 20 32.4**	**-1.5**
	33nm,0.8s,mb4.9								
BOSA				LR			LR		
	comp=Z,3μm,21.0s,MS4.8								
MAW	**Mawson**	**28.17**	**142**	P			**P**	**01 21 01.2**	**-0.7**
	comp=Z,5.4nm,0.8s,mb4.2,baz=274,slow=14,SNR=6.6								
MAW				LR			LR	01 29 58.4	
	comp=Z,2μm,19.5s,MS4.7,baz=291,slow=32								
LBTB	**Lobatse**	**28.61**	**23**	P			**P**	**01 21 05.5**	**-0.8**
	comp=Z,8.1nm,1.1s,mb4.4,baz=219,slow=12,SNR=3.9								
LBTB				LR			LR	01 30 40.4	
	comp=Z,2μm,20.9s,MS4.7,baz=202,slow=33								
TSUM	**Tsumeb**	**33.04**	**7**	*e*P			**P**	**01 21 45.0**	**-0.5**
	comp=Z,5.0nm,0.9s,mb4.4								
TSUM				LR			LR		
	comp=Z,2μm,21.0s,MS4.8								
QSPA	**South Pole Qui**	**38.08**	**180**	*e*P			**P**	**01 22 27.4**	**-0.4**
	comp=Z,35nm,1.3s,mb4.9								
QSPA				LR			LR		
	comp=Z,2μm,21.0s,MS4.8								
LSZ	**Lusaka**	**38.60**	**23**	PFAKE				01 22 40.0	+7.2
LSZ				LR			LR		
	comp=Z,2μm,20.0s,MS5.0								
USHA	**Ushuaia**	**46.21**	**233**	P			**P**	**01 23 34.4**	**+0.2**
	comp=Z,21nm,0.9s,mb5.1,baz=125,slow=3.8,SNR=4.7								
CASY	**Casey**	**46.36**	**146**	*e*P			**P**	**01 23 34.8**	**-0.5**
	comp=Z,15nm,1.1s,mb4.8								
CASY				LR			LR		
	comp=Z,887nm,20.0s,MS4.7								
VNDA	**Vanda**	**49.09**	**171**	P			**P**	**01 23 56.3**	**-0.3**
	comp=Z,5.6nm,0.8s,mb4.6,baz=236,slow=7.7,SNR=16								
VNDA				LR			LR	01 43 24.8	
	comp=Z,2μm,20.3s,MS5.2,baz=196,slow=35								
VNDA	**Vanda**	**49.09**	**171**	*e*P			**P**	**01 23 56.0**	**-0.6**
	comp=Z,17nm,1.0s,mb5.0								
VNDA				*e*				01 24 03.8	
VNDA				LR			LR		
	comp=Z,2μm,20.0s,MS5.1								
SBA	**Scott Base**	**49.20**	**173**	PFAKE				01 24 10.0	+13
SBA				LR			LR		
	comp=Z,1μm,21.0s,MS4.9								
CAM4	**Nova Friburgo**	**52.00**	**283**	(P)			**P**	**01 24 29.0**	**+10**
TRQA	**Tornquist**	**52.78**	**254**	*e*P			**P**	**01 24 24.5**	**-0.6**
	comp=Z,22nm,1.1s,mb5.0								
TRQA				LR			LR		
	comp=Z,840nm,19.0s,MS4.8								
MBAR	**Mbarara**	**53.36**	**22**	*e*P			**P**	**01 24 30.4**	**+0.7**
	comp=Z,22nm,1.8s,mb4.8								
MBAR				LR			LR		
	comp=Z,375nm,19.0s,MS4.5								
KMBO	**Kilima Mbogo**	**54.59**	**30**	P			**P**	**01 24 37.6**	**-1.1**
	comp=Z,0.2nm,0.3s,mb3.6,baz=194,slow=12,SNR=2.2								
KMBO				LR			LR	01 46 36.6	
	comp=Z,1μm,18.7s,MS4.9,baz=105,slow=35								
KMBO	**Kilima Mbogo**	**54.59**	**30**	P			**P**	**01 24 37.4**	**-1.3**
	comp=Z,16nm,1.8s,mb4.8								
KMBO				LR			LR		
	comp=Z,1μm,19.0s,MS4.9								
PLCA	**Paso Flores**	**55.95**	**246**	P			**P**	**01 24 47.0**	**-1.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=122,slow=14,SNR=5.5								
PLCA				LR			LR	01 44 24.1	
	comp=Z,322nm,19.1s,MS4.4,baz=128,slow=31								
CPUP	**Villa Florida**	**58.10**	**267**	LR			LR	01 46 05.3	
	comp=Z,209nm,20.0s,MS4.2,baz=178,slow=32								
CPUP	**Villa Florida**	**58.10**	**267**	*e*P			**P**	**01 25 02.9**	**-0.8**
	comp=Z,22nm,1.0s,mb5.1								
CPUP				*e*				01 25 12.1	
CPUP				LR			LR		
	comp=Z,429nm,20.0s,MS4.6								
MSEY	**Mahe Island**	**58.62**	**51**	PFAKE				01 25 20.0	+13
MSEY				LR			LR		
	comp=Z,164nm,20.0s,MS4.2								
BAO	**Brasilia Array**	**60.42**	**283**	P			**P**	**01 25 20.5**	**+0.6**
BDFB	**Brasilia**	**60.43**	**283**	P			**P**	**01 25 19.7**	**-0.2**
	comp=Z,11nm,1.0s,mb4.8,baz=97,slow=1.3,SNR=12								
BDFB				LR			LR	01 46 12.0	
	comp=Z,277nm,18.0s,MS4.4,baz=139,slow=31								
BDFB	**Brasilia**	**60.43**	**283**	P			**P**	**01 25 19.7**	**-0.2**
BDFB				LR			LR	01 46 12.0	
DBIC	**Dimbokro**	**60.68**	**339**	P			**P**	**01 25 20.6**	**-1.1**
	comp=Z,8.5nm,1.0s,mb4.8,baz=108,slow=10,SNR=5.9								
DBIC				LR			LR	01 47 12.2	
	comp=Z,356nm,19.2s,MS4.5,baz=145,slow=32								
CFAA	**Coronel Fontan**	**60.94**	**255**	P			**P**	**01 25 22.7**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.8,baz=138,slow=4.1,SNR=8.4								
RCBR	**Riachuelo**	**61.46**	**301**	PFAKE				01 25 40.0	+13
RCBR				LR			LR		
	comp=Z,518nm,20.0s,MS4.7								
DGAR	**Diego Garcia**	**65.37**	**69**	PFAKE				01 26 00.0	+7.3
DGAR				LR			LR		
	comp=Z,100nm,19.0s,MS4.0								
LPAZ	**La Paz**	**72.25**	**266**	P			**P**	**01 26 37.0**	**+1.8**
	comp=Z,12nm,0.9s,mb4.8,baz=134,slow=5.2,SNR=41								
LPAZ				LR			LR	01 55 23.0	
	comp=Z,190nm,18.6s,MS4.4,baz=77,slow=33								
LPAZ	**La Paz**	**72.25**	**266**	*e*P			**P**	**01 26 36.3**	**+1.1**
	comp=Z,18nm,0.9s,mb5.0								
LPAZ				LR			LR		
	comp=Z,387nm,21.0s,MS4.7								
NWAO	**Narrogin (SRO)**	**72.32**	**121**	LR			LR	01 50 37.2	
	comp=Z,225nm,18.8s,MS4.5,baz=325,slow=30								
SAML	**Samuel**	**74.86**	**275**	*e*P			**P**	**01 26 50.1**	**-0.3**
	comp=Z,16nm,1.0s,mb4.9								
SAML				*e*				01 26 58.9	
SAML				LR			LR		
	comp=Z,546nm,20.0s,MS4.8								
ABTO	**Aybut**	**77.35**	**39**	⇑P			**P**	**01 27 05.4**	**+0.9**
	SNR=10								
RBK	**Rabkut**	**77.84**	**39**	⇑P			**P**	**01 27 07.9**	**+0.8**
WHFO	**Wuhi Hawf**	**78.05**	**39**	⇓P			**P**	**01 27 09.0**	**+0.7**
	SNR=9.9								
PALK	**Pallekele**	**82.04**	**67**	PFAKE				01 27 40.0	+10
PALK				LR			LR		
	comp=Z,77nm,20.0s,MS4.1								
RPZ	**Rata Peaks**	**82.54**	**164**	LR			LR	02 02 37.0	
	comp=Z,1μm,18.8s,MS5.3,baz=201,slow=34								
BSY	**Bisya**	**83.75**	**40**	⇑P			**P**	**01 27 38.1**	**-0.3**
	SNR=7.7								
HOQ	**Hoqain**	**84.55**	**40**	⇑P			**P**	**01 27 42.9**	**+0.5**
	SNR=8.8								
STKA	**Stephens Creek**	**84.77**	**138**	⇑*i*P			**P**	**01 27 43.2**	**-0.1**
	comp=Z,6.7nm,0.8s,mb4.8								
STKA	**Stephens Creek**	**84.77**	**138**	P			**P**	**01 27 43.0**	**-0.2**
	comp=Z,6.7nm,0.8s,mb4.8,baz=199,slow=3.9,SNR=10								
STKA				LR			LR	02 02 32.7	
	comp=Z,177nm,18.1s,MS4.5,baz=203,slow=34								
ASHO	**Ashiyiah**	**85.06**	**38**	⇓P			**P**	**01 27 45.6**	**+0.7**
	SNR=7.2								
SNZO	**South Karori**	**85.48**	**166**	PFAKE				01 28 00.0	+13
SNZO				LR			LR		
	comp=Z,1μm,19.0s,MS5.3								
ASPA	**Alice Springs**	**88.33**	**128**	*e*P			**P**	**01 28 00.6**	**-0.3**
ASAR	**Alice Springs**	**88.33**	**128**	P			**P**	**01 28 00.5**	**-0.4**
	comp=Z,7.1nm,0.8s,mb4.9,baz=203,slow=5.1,SNR=38								
ASAR				LR			LR	02 00 34.5	
	comp=Z,209nm,20.6s,MS4.5,baz=202,slow=31								
FITZ	**Fitzroy Crossi**	**88.67**	**118**	*e*P			**P**	**01 27 54.5**	**-8.1**
	comp=Z,4.5nm,0.6s,mb5.0								
FITZ	**Fitzroy Crossi**	**88.67**	**118**	LR			LR	02 03 20.7	
	comp=Z,161nm,19.3s,MS4.5,baz=82,slow=33								
URZ	**Urewera**	**88.82**	**167**	LR			LR	02 08 02.9	
	comp=Z,551nm,19.1s,MS5.0,baz=178,slow=36								
TIP	**Timpagrande**	**91.00**	**2**	*e*P			**P**	**01 28 15.6**	**+2.6**
OTAV	**Otavalo**	**91.43**	**269**	PFAKE				01 28 30.0	+14
OTAV				LR			LR		
	comp=Z,235nm,19.0s,MS4.7								
WRA	**Warramunga Arr**	**91.69**	**126**	P			**P**	**01 28 15.8**	**-0.8**
	comp=Z,1.1nm,0.7s,mb4.3,baz=208,slow=3.8,SNR=3.8								
WRAB	**Tennant Creek**	**91.70**	**126**	PFAKE				01 28 30.0	+13
WRAB				LR			LR		
	comp=Z,107nm,19.0s,MS4.3								
ROSC	**El Rosal**	**92.51**	**275**	LR			LR	02 06 54.7	
	comp=Z,189nm,21.6s,MS4.5,baz=348,slow=34								
ESDC	**Sonseca Array**	**92.72**	**347**	P			**P**	**01 28 22.2**	**+1.3**
	comp=Z,1.0nm,0.8s,mb4.3,baz=166,slow=3.5,SNR=5.6								
ESLA	**Sonseca Array**	**92.72**	**347**	PFAKE				01 28 30.0	+9.1
ESLA				LR			LR		
	comp=Z,2μm,20.0s,MS5.6								
BR131	**Keskin Array S**	**93.16**	**15**	PFAKE				01 28 30.0	+7.1
BR131				LR			LR		
	comp=Z,206nm,19.0s,MS4.6								
BRTR	**Keskin Array B**	**93.16**	**15**	P			**P**	**01 28 23.9**	**+1.0**
	comp=Z,0.4nm,0.6s,mb4.0,baz=196,slow=9.0,SNR=3.6								
SDV	**Santo Domingo**	**93.41**	**280**	PFAKE				01 28 40.0	+15
SDV				LR			LR		
	comp=Z,313nm,21.0s,MS4.7								
GNI	**Garni**	**95.85**	**24**	PFAKE				01 28 50.0	+15
GNI				LR			LR		
	comp=Z,530nm,20.0s,MS5.0								
CTA	**Charters Tower**	**97.10**	**136**	LR			LR	02 06 44.8	
	comp=Z,120nm,20.2s,MS4.4,baz=48,slow=32								
RAO	**Raoul Island**	**98.32**	**170**	LR			LR	02 09 32.2	
	comp=Z,452nm,20.3s,MS5.0,baz=118,slow=33								
RKT	**Rikitea**	**100.15**	**209**	*e*LR			LR	02 01 35.2	
	comp=Z,381nm,32.8s								
JTS	**JuntasAbangare**	**103.28**	**270**	PFAKE				01 29 20.0	+11
JTS				LR			LR		
	comp=Z,49nm,19.0s,MS4.0								
TBI	**Tubuai**	**103.36**	**196**	*e*LR			LR	02 03 12.3	
	comp=Z,832nm,33.2s								
LSA	**Lhasa**	**105.84**	**62**	PFAKE				01 33 40.0	
LSA				LR			LR		
	comp=Z,224nm,20.0s,MS4.7								
ESK	**Eskdalemuir**	**108.01**	**350**	PFAKE				01 33 50.0	
ESK				LR			LR		
	comp=Z,131nm,20.0s,MS4.5								
AAK	**Ala-Archa**	**108.10**	**43**	PFAKE				01 33 50.0	
AAK				LR			LR		
	comp=Z,59nm,22.0s,MS4.1								
OBN	**Obninsk**	**108.60**	**14**	PFAKE				01 33 50.0	
OBN				LR			LR		
	comp=Z,56nm,22.0s,MS4.1								
QIZ	**Qiongzhong**	**108.60**	**83**	PFAKE				01 33 50.0	
QIZ				LR			LR		
	comp=Z,172nm,19.0s,MS4.6								
KMI	**Kunming**	**108.94**	**73**	P				01 33 38.2	
KMI				LR			LR		
	comp=Z,180nm,23.7s,MS4.6								
PPT	**Papeete**	**109.03**	**197**	*e*LR			LR	02 05 52.5	
	comp=Z,854nm,28.2s								
KONO	**Kongsberg**	**111.50**	**358**	PFAKE				01 33 50.0	+5.8
KONO				LR			LR		
	comp=Z,306nm,22.0s,MS4.8								
KONO	**Kongsberg**	**111.50**	**358**	*e*PP			PP	01 34 21.9	-4.9
KONO				*i*				01 43 54.0	
KONO				*e*				01 49 60.0	
KONO				*e*SS			SS	01 50 02.0	+4.1
BER	**Bergen**	**112.39**	**356**	*e*SS			SS	01 50 13.6	+3.8
BER				AMS			AMS	02 18 11.4	
	comp=Z,75nm,28.8s,MS4.1								
TEIG	**Tepich**	**112.92**	**274**	PFAKE				01 34 00.0	+12
TEIG				LR			LR		
	comp=Z,90nm,20.0s,MS4.4								
ARU	**Arti**	**114.39**	**26**	PFAKE				01 34 00.0	+10
ARU				LR			LR		
	comp=Z,116nm,21.0s,MS4.5								
DWPF	**Disney**	**114.62**	**285**	PFAKE				01 34 00.0	+8.8
DWPF				LR			LR		
	comp=Z,189nm,20.0s,MS4.7								
MKAR	**Makanchi Array**	**114.75**	**45**	PKP			PKPdf	01 33 47.6	-3.3
	comp=Z,0.5nm,0.9s,baz=174,slow=1.2,SNR=5.2								
WMQ	**Urumqi**	**114.93**	**50**	*e*PKP			PKPdf	01 33 47.8	-3.6
WMQ				XPKP				01 33 54.8	
WMQ				PP			PP	01 34 51.8	-0.5
WMQ				PP			PP		
	comp=Z,79nm,6.0s								
WMQ				LR			LR		
	comp=N,126nm,23.2s,MS4.5								
WMQ				LR			LR		
	comp=E,105nm,25.6s,MS4.5								
WMQ				LR			LR		
	comp=Z,158nm,24.8s,MS4.5								
ENH	**Enshi**	**116.75**	**74**	PFAKE				01 34 00.0	+4.7
ENH				LR			LR		
	comp=Z,154nm,22.0s,MS4.6								
NHSC	**New Hope**	**117.52**	**289**	PFAKE				01 34 10.0	+13
NHSC				LR			LR		
	comp=Z,211nm,19.0s,MS4.8								
EMMW	**East Machias**	**118.93**	**306**	PFAKE				01 34 10.0	+11
EMMW				LR			LR		
	comp=Z,2μm,22.0s,MS5.8								
WES	**Weston**	**119.24**	**302**	PFAKE				01 34 10.0	+10
WES				LR			LR		
	comp=Z,684nm,21.0s,MS5.3								
CBN	**Corbin**	**119.55**	**295**	PFAKE				01 34 10.0	+10
CBN				LR			LR		
	comp=Z,302nm,22.0s,MS4.9								
GOGA	**Godfrey**	**119.66**	**287**	PFAKE				01 34 10.0	+9.2
GOGA				LR			LR		
	comp=Z,172nm,20.0s,MS4.7								
BLA	**Blacksburg**	**120.57**	**292**	PFAKE				01 34 10.0	+7.4
BLA				LR			LR		
	comp=Z,162nm,20.0s,MS4.7								
ZAL	**Zalesovo**	**121.20**	**41**	PKP			PKPdf	01 33 58.8	-4.7
	comp=Z,1.1nm,0.3s,baz=48,slow=1.3,SNR=3.3								
LRAL	**Lakeview Retre**	**121.49**	**284**	PFAKE				01 34 10.0	+5.5
LRAL				LR			LR		
	comp=Z,91nm,20.4s,MS4.4								
TRO	**Tromso**	**121.54**	**2**	*e*SS			SS	01 52 10.2	+1.0
TRO				AMS			AMS	02 23 05.7	
	comp=Z,103nm,26.9s,MS4.3								
PLAL	**Pickwick Lake**	**123.48**	**285**	PFAKE				01 34 20.0	+12
PLAL				LR			LR		
	comp=Z,146nm,20.0s,MS4.6								
NJ2	**Nanjing**	**123.64**	**80**	*e*PKP			PKPdf	01 34 00.1	-8.5
NJ2				XPKP				01 34 14.1	
NJ2				PP			PP	01 35 47.0	-5.5
NJ2				PKS			PKS	01 37 36.0	-5.2
NJ2				PP			PP		
	comp=Z,140nm,4.5s								
NJ2				LR			LR		
	comp=N,550nm,32.7s,MS5.1								
NJ2				LR			LR		
	comp=E,440nm,29.0s,MS5.1								
NJ2				LR			LR		
	comp=Z,370nm,31.4s,MS4.8								
ERPA	**Erie**	**123.69**	**297**	PFAKE				01 34 20.0	+11
ERPA				LR			LR		
	comp=Z,130nm,19.0s,MS4.6								
JMIC	**Jan Mayen**	**123.86**	**351**	AMS			AMS	02 21 14.4	
	comp=Z,144nm,24.0s,MS4.5								
OXF	**Oxford**	**123.95**	**284**	PFAKE				01 34 20.0	+11
OXF				LR			LR		
	comp=Z,173nm,19.0s,MS4.7								
ACSO	**Alum Creek Sta**	**124.10**	**293**	PFAKE				01 34 20.0	+11
ACSO				LR			LR		
	comp=Z,447nm,20.0s,MS5.1								
WVT	**Waverly**	**124.12**	**287**	*e*PKPdf			PKPdf	01 34 06.2	-3.4
SSE	**Sheshan**	**124.39**	**82**	*e*PKP			PKPdf	01 34 10.3	+0.2
SSE				PP			PP	01 36 01.4	+4.0
SSE				PP			PP		
	comp=Z,16nm,12.0s						

SRU	**San Rafael**	**139.78**	**274**	*e*PKPdf	PKPdf	01 34 35.4	-3.3
TMUT	**Trail Mountain**	**140.31**	**274**	*e*PKPdf	PKPdf	01 34 39.4	-0.3
MSU	**Marysvale**	**140.43**	**272**	*e*PKPdf	PKPdf	01 34 31.1	-8.8
MVU	**Marysvale**	**140.44**	**272**	*e*PKPpre		01 34 29.7	
MVU				*e*PKPdf	PKPdf	01 34 39.6	-0.3
MVU				LR	LR		
	comp=Z,111nm,21.0s,MS4.6						
NLU	**North Lily Min**	**141.24**	**274**	*e*PKPdf	PKPdf	01 34 39.8	-1.4
JLU	**Jordanelle**	**141.25**	**275**	*e*PKPdf	PKPdf	01 34 38.3	-2.9
PDAR	**Pinedale Array**	**141.34**	**279**	PKhKP		01 34 33.0	
	comp=Z,8nm,0.9s,baz=104,slow=3.0,SNR=20						
BW06	**Boulder Array**	**141.34**	**279**	PFAKE		01 34 50.0	+8.7
BW06				LR	LR		
	comp=Z,193nm,20.0s,MS4.8						
LAO	**LASA Array**	**141.45**	**287**	*e*PKPdf	PKPdf	01 34 38.2	-3.1
DUG	**Dugway**	**141.84**	**274**	PFAKE		01 34 50.0	+7.8
DUG				LR	LR		
	comp=Z,175nm,21.0s,MS4.8						
HWUT	**Hardware Ranch**	**141.90**	**276**	*e*PKPpre		01 34 36.3	
HWUT				LR	LR		
	comp=Z,228nm,19.0s,MS5.0						
LOHW	**Long Hollow**	**142.44**	**280**	*e*PKPdf	PKPdf	01 34 42.8	-0.3
TPAW	**Teton Pass**	**142.59**	**279**	*e*PKPpre		01 34 36.8	
MOOW	**Moose Ponds**	**142.60**	**280**	*e*PKPpre		01 34 38.2	
RRI2	**Red Ridge**	**142.73**	**279**	*e*PKPpre		01 34 38.5	
IMW	**Indian Meadow**	**142.80**	**280**	*e*PKPpre		01 34 38.7	
LKWY	**Lake**	**142.84**	**281**	PFAKE		01 34 50.0	+6.2
LKWY				LR	LR		
	comp=Z,292nm,21.0s,MS5.0						
QLMT	**Earthquake Lak**	**143.60**	**281**	*e*PKPdf	PKPdf	01 34 41.9	-3.2
ELK	**Elko**	**143.66**	**272**	*e*PKPdf	PKPdf	01 34 42.1	-3.2
ELK				LR	LR		
	comp=Z,161nm,19.0s,MS4.8						
BOZ	**Bozeman (W)**	**144.14**	**282**	*e*PKPdf	PKPdf	01 34 42.9	-3.1
BOZ				LR	LR		
	comp=Z,261nm,22.0s,MS5.0						
NVAR	**Mina Array Bea**	**144.15**	**267**	PKP	PKPdf	01 34 43.9	-2.4
	comp=Z,4,2nm,0.8s,baz=131,slow=5.4,SNR=16						
RES	**Resolute Bay**	**144.22**	**334**	*e*PKPdf	PKPdf	01 34 42.8	-2.5
MCMT	**McKenzie Canyo**	**144.46**	**280**	*e*PKPdf	PKPdf	01 34 44.2	-2.4
BMN	**Battle Mountai**	**144.69**	**271**	PFAKE		01 35 00.0	+16
BMN				LR	LR		
	comp=Z,257nm,20.0s,MS5.0						
HLID	**Hailey**	**144.74**	**277**	*e*PKPdf	PKPdf	01 34 45.5	-1.7
HLID				LR	LR		
	comp=Z,239nm,19.0s,MS5.0						
CMB	**Columbia Colle**	**145.18**	**265**	*e*PKPdf	PKPdf	01 34 46.4	-1.7
YAK	**Yakutsk**	**145.34**	**48**	PFAKE		01 35 00.0	+15
YAK				LR	LR		
	comp=Z,157nm,21.0s,MS4.8						
CHMT	**Chamberlain Mo**	**145.75**	**283**	*e*PKPdf	PKPdf	01 34 48.8	0.0
MSO	**Missoula**	**146.12**	**282**	*e*PKPdf	PKPdf	01 34 49.0	-0.4
MSO				LR	LR		
	comp=Z,130nm,19.0s,MS4.7						
TIXI	**Tiksi**	**146.15**	**31**	PFAKE		01 35 00.0	+13
TIXI				LR	LR		
	comp=Z,165nm,20.0s,MS4.8						
WVOR	**Wild Horse Val**	**146.71**	**272**	*e*PKPbc	PKPbc	01 34 52.0	+3.1
WVOR				LR	LR		
	comp=Z,366nm,21.0s,MS5.1						
WALA	**Waterton Lakes**	**147.13**	**286**	*e*PKPbc	PKPdf	01 34 51.9	+0.8
BMO	**Blue Mountains**	**147.19**	**277**	*e*PKPdf	PKPdf	01 34 49.7	-1.5
BMO				LR	LR		
	comp=Z,131nm,20.0s,MS4.7						
MOD	**Modoc**	**147.44**	**270**	*e*PKPbc	PKPdf	01 34 53.0	+1.3
WDC	**Whiskeytown Da**	**148.06**	**266**	*e*PKPdf	PKPdf	01 34 51.8	-1.0
WDC				LR	LR		
	comp=Z,138nm,22.0s,MS4.7						
EDM	**Edmonton**	**148.42**	**293**	*e*PKPbc	PKPdf	01 34 53.7	+0.8
NEW	**Newport**	**148.70**	**283**	*e*PKPbc	PKPdf	01 34 54.4	+0.9
NEW				LR	LR		
	comp=Z,173nm,20.0s,MS4.8						
YBH	**Yreka Blue Hor**	**148.83**	**268**	*e*PKPbc	PKPdf	01 34 56.1	+2.1
KHMM	**Horse Mountain**	**148.96**	**266**	*e*PKPbc	PKPdf	01 34 58.2	+4.0
HAWA	**Hanford**	**149.31**	**278**	*e*PKPbc	PKPdf	01 34 54.8	+0.2
HUMO	**Hull Mountain**	**149.47**	**269**	*e*PKPbc	PKPdf	01 34 58.3	+3.3
YKA	**Yellowknife Ar**	**150.98**	**311**	PKP	PKPdf	01 34 52.8	-3.9
	comp=Z,0.6nm,0.8s,baz=84,slow=1.5,SNR=12						
YKA				PKPbc	PKPdf	01 35 00.1	+3.4
	comp=Z,9.8nm,0.8s,baz=90,slow=2.4,SNR=105						
YKA	**Yellowknife Ar**	**150.98**	**311**	PKP	PKPdf	01 34 52.8	-3.9
YKA				PKPbc	PKPdf	01 35 00.1	+3.4
YKW3	**Yellowknife Ar**	**150.99**	**311**	*e*PKPbc	PKPdf	01 34 59.8	+3.1
PET	**Petropavlovsk**	**158.89**	**74**	PFAKE		01 35 20.0	+12
PET				LR	LR		
	comp=Z,175nm,21.0s,MS4.9						
ILAR	**Eielson Array**	**163.85**	**329**	PKPab	PKPab	01 36 04.6	+0.4
	comp=Z,2.2nm,1.0s,baz=24,slow=3.5,SNR=11						
COLA	**College**	**164.08**	**330**	PFAKE		01 35 20.0	+7.4
COLA				LR	LR		
	comp=Z,176nm,22.0s						
MCK	**McKinley**	**165.21**	**328**	PFAKE		01 35 20.0	+6.3
MCK				LR	LR		
	comp=Z,109nm,21.0s						
TNA	**Tin City**	**166.54**	**3**	PFAKE		01 35 20.0	+5.2
TNA				LR	LR		
	comp=Z,161nm,21.0s						
UNV	**Unalaska Valle**	**178.31**	**1**	PFAKE		01 35 30.0	+10
UNV				LR	LR		
	comp=Z,1μm,20.0s						

NIED ***21*** *02:08:00,22.50N×123.80E,h14km,Mw3.7 Best double couple: M0:3.6×10^14 NP1:φs297°,δ54°,λ-52°. NP2:φs64°, δ50°,λ-130°.*
IDC ***21*** *02:08:12.3±15.0,22.22N×123.96E,mb3.4/2,mb1 3.9/4, mb1mx3.5/22,mbtmp3.8/4,ML4.2/1,Error ellipse: s-maj=292.4km s-min=37.9km az=166.0*
JMA ***21*** *02:08:16.3±0.5,22.50N×123.84E,h25km,M3.8*
NEIC ***21*** *02:08:19.5±5.6,22.78N×123.89E,h20km,Error ellipse: s-maj=95.6km s-min=15.9km az=178.0*

ISC 21 02:08:15.2±2.2,22.46N±0.08×123.87E±0.06,h22km±24km, n19,σ1§10/31,mb3.2/2,Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.59**	**358**	P	**Pn**	**02 08 43.1**	**+0.6**
HATJ				S	**Sn**	**02 09 02.9**	**+0.4**
JKRS	**Kuro-shima**	**1.77**	**4**	P	**Pn**	**02 08 46.0**	**+0.9**
JKRS				S	**Sn**	**02 09 08.2**	**+1.0**
IRIF	**Iriomote-Funau**	**1.87**	**356**	P	**Pn**	**02 08 47.3**	**+0.8**
IRIF				S	**Sn**	**02 09 09.4**	**-0.2**
JIJ	**Ishigaki jima**	**1.91**	**8**	P	**Pn**	**02 08 47.1**	**0.0**
JIJ				S	**Sn**	**02 09 09.9**	**-0.8**
YOJ	**Yonaguni jima**	**2.14**	**339**	P	**Pn**	**02 08 51.0**	**+0.6**
YOJ				S	**Sn**	**02 09 15.9**	**-0.6**
JTJ	**Tarama**	**2.30**	**19**	P	**Pn**	**02 08 54.5**	**+1.8**
JTJ				*e*S	**Sn**	**02 09 20.9**	**+0.3**
JOGS	**Gusukube**	**2.69**	**31**	P	**Pn**	**02 08 58.5**	**+0.3**
JOGS				*e*S	**Sn**	**02 09 30.8**	**+0.3**
NACB	**Ninganchiao**	**2.69**	**310**	*e*Pn	**Pn**	**02 08 54.5**	**-3.8**
NACB				*e*Sn	**Sn**	**02 09 19.5**	**-11**
YHNB	**Yeheng**	**3.17**	**314**	*e*Pn	**Pn**	**02 09 04.6**	**-0.4**
YHNB				*e*Sn	**Sn**	**02 09 27.9**	**-15**
TATO	**Taipei**	**3.32**	**319**	*e*Pn	**Pn**	**02 09 08.0**	**+0.8**
TATO				*e*Sn	**Sn**	**02 09 44.6**	**-1.8**
JKE	**Kume jima 2**	**4.68**	**34**	P	**Pn**	**02 09 24.8**	**-1.7**
JIH	**Iheya**	**5.88**	**38**	P	**Pn**	**02 09 40.7**	**-2.8**
JOW	**Kunigami**	**5.92**	**42**	Pn	**Pn**	**02 09 41.4**	**-2.6**
	13nm,0.3s,baz=206,slow=14,SNR=37						
JOW				Sn	**Sn**	**02 10 46.1**	**-5.8**
	1.6nm,0.3s,baz=277,slow=15,SNR=2.9						
JOW	**Kunigami**	**5.92**	**42**	P	**Pn**	**02 09 41.4**	**-2.6**
JOW				*e*S	**Sn**	**02 10 46.8**	**-5.1**
JTK	**Tokunoshima**	**7.02**	**40**	P	**Pn**	**02 09 55.5**	**-4.0**
JAM	**Amami Oshima**	**7.87**	**40**	P	**Pn**	**02 10 06.8**	**-4.6**
MJAR	**Matsushiro Arr**	**18.75**	**38**	P	**P**	**02 12 35.6**	**+0.6**
	0.3nm,0.3s,baz=228,slow=9.3,SNR=6.0						
SONM	**Songino Array**	**28.93**	**335**	P	**P**	**02 14 15.9**	**+0.9**
	0.4nm,0.8s,mb3.2,baz=153,slow=6.4,SNR=2.3						
MKAR	**Makanchi Array**	**41.28**	**316**	P	**P**	**02 16 00.9**	**+0.3**
	0.4nm,0.7s,mb3.2,baz=108,slow=9.1,SNR=4.9						

CASC 21 02:18:55.4±1.3,13.25N×89.92W,h41km±42km,MD3.8, ML3.8,1C-7D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.65**	**26**	‖*e*P	P	02 19 08.7	+0.5
SBLS				*e*S	S	02 19 18.5	+1.0
SNJE	**San Jose**	**0.68**	**27**	‖*e*P	P	02 19 09.2	+0.5
SNJE				*e*S	S	02 19 19.2	+0.8
RTR	**El Retiro**	**0.69**	**23**	‖*e*P	P	02 19 09.4	+0.6
RTR				*e*S	S	02 19 20.4	+1.9
BOQS	**Boqueron**	**0.79**	**52**	*e*P	P	02 19 10.3	+0.2
BOQS				*e*S	S	02 19 22.4	+1.5
SNET	**Serv Nac Est T**	**0.80**	**57**	*e*S	S	02 19 21.6	+0.4
RBDL	**Robledal**	**0.89**	**15**	‖*e*P	P	02 19 12.4	+0.9
RBDL				*e*S	S	02 19 25.1	+1.8
LFRS	**El Faro**	**0.91**	**66**	‖*e*P	P	02 19 11.6	-0.3
LFRS				*e*S	S	02 19 24.3	+0.2
LFU	**La Fuente**	**0.93**	**58**	*e*P	P	02 19 12.7	+0.6
LBRS	**Las Brisas**	**0.98**	**60**	‖*e*P	P	02 19 13.0	+0.1
LBRS				*e*S	S	02 19 26.8	+1.0
LCBS	**La Ceiba**	**1.00**	**66**	*e*P	P	02 19 12.8	-0.4
LCBS				*e*S	S	02 19 25.8	-0.4
IXG	**Ixpaco**	**1.05**	**331**	‖*e*P	P	02 19 13.4	-0.5
IXG				*e*S	S	02 19 27.7	+0.1
IXG				AML	AML	02 19 29.2	
	comp=E,10μm,0.4s						
SNVI	**San Vicente**	**1.11**	**71**	*e*P	P	02 19 14.9	+0.2
SNVI				*e*S	S	02 19 29.4	+0.3
MTO2	**Montecristo 2**	**1.26**	**25**	*e*P	P	02 19 16.7	-0.2
BLLM	**Bellamira**	**1.65**	**83**	*e*P	P	02 19 22.4	0.0
BLLM				*e*S	S	02 19 42.6	0.0
TP2	**Tecpan 2**	**1.86**	**325**	‖*e*P	P	02 19 25.9	+0.5
TP2				*e*S	S	02 19 48.8	+1.0
TP2				AML	AML	02 19 52.9	
	comp=N,412nm,0.3s						
JAT	**Jato**	**1.98**	**303**	*e*P	P	02 19 26.8	-0.3
JAT				*e*S	S	02 19 50.5	-0.3
JAT				AML	AML	02 19 53.7	
	comp=E,538nm,0.2s						
CNCH	**Conchagua**	**2.03**	**89**	*e*P	P	02 19 27.3	-0.6
CNCH				*e*S	S	02 19 53.0	+0.8

IDC ***21*** *02:19:23.1±1.5,5.58N×94.47E,mb3.9/6,mb1 4.1/6, mb1mx3.8/20,mbtmp3.9/6,MS2.7/1,Ms1 2.9/1, ms1mx2.7/20,Error ellipse: s-maj=66.2km s-min=26.4km az=57.0*
NEIC ***21*** *02:19:25.8±1.0,5.18N×93.99E,h30km,Error ellipse: s-maj=22.9km s-min=15.1km az=193.0*

ISC 21 02:19:26.2±1.3,5.5N±0.2×94.4E±0.2,h33km,n11, σ0§83/11,mb3.9/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.26**	**92**	*e*Pn	**Pn**	**02 20 59.3**	**+0.5**
KULM				*e*Sn	**Sn**	**02 22 03.5**	**-6.5**
CMAR	**Chiang Mai Arr**	**13.60**	**19**	Pn	**P**	**02 22 43.2**	**+3.9**
	0.5nm,0.3s,baz=209,slow=15,SNR=6.7						
CMAR				LR	LR	02 28 19.0	
	comp=Z,35nm,21.5s,baz=175,slow=40						
PALK	**Pallekele**	**13.69**	**278**	P	**P**	**02 22 32.2**	**-8.3**
	42nm,1.5s						
MKAR	**Makanchi Array**	**42.40**	**348**	P	**P**	**02 27 20.1**	**+0.7**
	2.4nm,0.6s,mb4.0,baz=170,slow=7.7,SNR=33						
SONM	**Songino Array**	**43.39**	**12**	P	**P**	**02 27 26.0**	**-1.4**
	0.4nm,0.5s,mb3.4,baz=187,slow=10.0,SNR=4.5						
ASAR	**Alice Springs**	**48.27**	**129**	P	**P**	**02 28 06.0**	**-0.4**
	0.5nm,0.4s,mb3.9,baz=300,slow=7.8,SNR=8.4						
ZAL	**Zalesovo**	**48.88**	**353**	P	**P**	**02 28 10.7**	**0.0**
	1.4nm,0.2s,mb4.5,baz=166,slow=4.6,SNR=5.0						
FINES	**FINESS Array B**	**74.87**	**332**	P	**P**	**02 31 04.6**	**-0.5**
	0.3nm,0.3s,mb3.7,baz=135,slow=2.7,SNR=4.4						
FINES	**FINESS Array B**	**74.87**	**332**	P	**P**	**02 31 04.6**	**-0.6**
GERES	**GERESS Array B**	**79.71**	**319**	P	**P**	**02 31 33.3**	**+0.9**
	0.5nm,0.5s,mb3.7,baz=108,slow=6.2,SNR=3.0						
TXAR	**Lajitas Array**	**141.24**	**26**	PKP	PKPdf	02 38 57.2	+2.9
	0.2nm,0.5s,baz=29,slow=2.1,SNR=4.4						

IDC ***21*** *02:24:39.1±0.9,10.18S×123.92E,mb4.2/6,mb1 4.4/9, mb1mx4.2/16,mbtmp4.2/9,ML4.1/3,MS3.3/1,Ms1 3.3/1, ms1mx2.9/17,Error ellipse: s-maj=76.8km s-min=16.7km az=64.0*
NEIC ***21*** *02:24:41.7±8.5,10.44S×123.47E,h18km±55km,mb4.6/4, Error ellipse: s-maj=19.1km s-min=17.2km az=84.0*

ISC 21 02:24:40.9±0.6,10.52S±0.05×123.68E±0.08,h33km,n21, σ1§40/30,mb4.2/9,1C,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.77**	**166**	⇑*i*P	**P**	**02 26 35.6**	**+1.2**
	12nm,0.3s						
FITZ				*i*S	**S**	**02 28 02.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**7.77**	**166**	Pn	**Pn**	**02 26 35.6**	**+1.0**
	3.3nm,0.3s,baz=4.8,slow=9.7,SNR=64						
FITZ				Sn	**Sn**	**02 28 00.9**	**-1.5**
	8.4nm,0.3s,baz=173,slow=5.5,SNR=9.9						
KAKA	**Kakadu**	**8.85**	**105**	*e*P	**P**	**02 26 53.4**	**+4.0**
	7.6nm,0.4s						
KAKA				*e*S	**S**	**02 28 30.0**	**+0.9**
MBWA	**Marble Bar**	**11.24**	**199**	*e*P	**P**	**02 27 21.9**	**-0.4**
MBWA				*e*S	**S**	**02 29 20.7**	**-7.1**
WRA	**Warramunga Arr**	**13.90**	**134**	Pn	**P**	**02 27 56.7**	**-1.2**
	0.9nm,0.3s,baz=305,slow=14,SNR=16						
WRA				Sn	**S**	**02 30 25.2**	**-6.9**
	1.2nm,0.3s,baz=301,slow=20,SNR=13						
WRAB	**Tennant Creek**	**13.90**	**134**	*e*P	**P**	**02 27 54.2**	**-3.8**
	10nm,0.6s						
WRAB				*e*S	**S**	**02 30 25.6**	**-6.6**
WB2	**Warramunga Arr**	**13.91**	**134**	*e*P	**P**	**02 27 55.2**	**-2.8**
WB2				*e*S	**S**	**02 30 25.1**	**-7.2**
ASPA	**Alice Springs**	**16.31**	**145**	*e*P	**P**	**02 28 30.6**	**+1.6**
ASPA				*e*S	**S**	**02 31 22.9**	**-5.5**
ASAR	**Alice Springs**	**16.31**	**145**	Pn	**P**	**02 28 30.3**	**+1.2**
	0.9nm,0.3s,baz=316,slow=11,SNR=40						
ASAR				Sn	**S**	**02 31 25.1**	**-3.3**
	0.3nm,0.3s,baz=314,slow=23,SNR=14						
ASAR				LR	LR	02 35 40.7	
	comp=Z,100nm,18.8s,baz=316,slow=40						
NWAO	**Narrogin (SRO)**	**23.08**	**194**	P	**P**	**02 29 48.2**	**+3.5**
	62nm,1.6s,mb4.8						
STKA	**Stephens Creek**	**26.95**	**145**	P	**P**	**02 30 24.7**	**+3.3**
	1.6nm,0.6s,mb3.7,baz=295,slow=8.2,SNR=3.4						
STKA	**Stephens Creek**	**26.95**	**145**	P	**P**	**02 30 24.7**	**+3.3**
STKA				*e*P		02 30 25.3	
CMAR	**Chiang Mai Arr**	**37.75**	**320**	P	**P**	**02 31 55.8**	**+0.1**
	1.0nm,0.3s,mb4.0,baz=143,slow=7.6,SNR=4.7						
SONM	**Songino Array**	**60.09**	**347**	P	**P**	**02 34 46.8**	**-0.5**
	0.8nm,0.6s,mb3.9,baz=166,slow=7.2,SNR=6.4						
MKAR	**Makanchi Array**	**67.97**	**331**	P	**P**	**02 35 38.7**	**0.0**
	4.0nm,0.5s,mb4.7,baz=137,slow=7.1,SNR=68						
MKAR	**Makanchi Array**	**67.97**	**331**	P	**P**	**02 35 38.7**	**0.0**
AAK	**Ala-Archa**	**69.39**	**323**	*e*P	**P**	**02 35 46.9**	**-0.7**
	2.3nm,0.7s,mb4.2						
VNDA	**Vanda**	**69.81**	**172**	P	**P**	**02 35 53.5**	**+4.0**
	1.0nm,0.6s,mb3.9,baz=337,slow=6.5,SNR=7.1						
VNDA	**Vanda**	**69.81**	**172**	*e*P	**P**	**02 35 52.1**	**+2.6**
	1.5nm,0.9s,mb3.9						
ZAL	**Zalesovo**	**72.16**	**337**	P	**P**	**02 36 03.5**	**-0.5**
	1.9nm,0.7s,mb4.2,baz=315,slow=5.3,SNR=6.9						
ARU	**Arti**	**85.47**	**330**	*e*P	**P**	**02 37 21.8**	**+5.5**
	6.5nm,1.0s,mb4.7						

IDC ***21*** *03:33:48.4±1.0,1.46N×85.52W,mb3.8/8,mb1 4.0/11, mb1mx3.8/25,mbtmp3.9/11,ML3.2/3,MS5.0/1,Ms1 5.0/1, ms1mx3.2/28,Error ellipse: s-maj=31.1km s-min=17.7km az=64.0*
NEIC ***21*** *03:33:55.4±1.2,1.52N×85.35W,h54km±13km,mb4.3/5, Error ellipse: s-maj=12.9km s-min=11.5km az=203.0*

ISC 21 03:33:52.9±1.4,1.58N±0.08×85.32W±0.08,h44km±15km, n20,σ1§24/22,mb3.9/11,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAYG	**Puerto Ayora**	**5.45**	**246**	*e*Pn	**P**	**03 35 14.1**	**+0.5**
	60nm,0.9s						
OTAV	**Otavalo**	**6.99**	**101**	*e*Pn	**P**	**03 35 33.5**	**-1.9**
	18nm,1.1s						
OTAV				*e*Sn	**S**	**03 36 42.4**	**-12**
JTS	**JuntasAbangare**	**8.66**	**2**	Pn	**P**	**03 35 58.9**	**+0.4**
	1.8nm,0.3s,baz=185,slow=5.2,SNR=9.4						
JTS	**JuntasAbangare**	**8.66**	**2**	Pn	**P**	**03 35 58.9**	**+0.4**
JTS				*e*Sn	**S**	**03 37 26.3**	**-10**
ROSC	**El Rosal**	**11.44**	**73**	Pn	**P**	**03 36 37.4**	**+0.8**
	0.4nm,0.3s,baz=274,slow=19,SNR=3.4						
ROSC				LR	LR	03 40 34.4	
	comp=Z,7μm,18.9s,baz=6.2,slow=35						
SDV	**Santo Domingo**	**16.32**	**63**	Pn	**P**	**03 37 44.2**	**+3.6**
	0.2nm,0.3s,baz=242,slow=6.9,SNR=5.6						
PCRV	**Puerto La Cruz**	**22.26**	**67**	P	**P**	**03 38 50.0**	**+2.4**
	4.6nm,0.8s,mb4.0,baz=294,slow=5.4,SNR=4.2						
SAML	**Samuel**	**24.41**	**116**	*e*P	**P**	**03 39 08.7**	**-0.1**
	16nm,1.4s,mb4.3						
LPAZ	**La Paz**	**24.56**	**137**	P	**P**	**03 39 11.3**	**+1.1**
	7.4nm,1.0s,mb4.2,baz=330,slow=10,SNR=18						
LPAZ	**La Paz**	**24.56**	**137**	*e*P	**P**	**03 39 11.3**	**+1.1**
	13nm,1.1s,mb4.4						
SIV	**San Ignacio**	**29.64**	**127**	P	**P**	**03 39 56.0**	**-0.7**
	0.4nm,0.7s,mb3.3,baz=305,slow=12,SNR=3.9						
WMOK	**Wichita Mounta**	**35.30**	**341**	P	**P**	**03 40 44.2**	**-1.6**
	1.9nm,0.9s,mb4.0						
PLCA	**Paso Flores**	**44.21**	**164**	P	**P**	**03 41 59.4**	**-0.3**
	0.8nm,0.8s,mb3.5,baz=344,slow=16,SNR=2.8						
WALA	**Waterton Lakes**	**53.28**	**337**	P	**P**	**03 43 16.9**	**+7.3**
	2.4nm,1.0s,mb4.1						
SCHQ	**Schefferville**	**55.19**	**13**	P	**P**	**03 43 22.4**	**-1.1**
	3.0nm,1.0s,mb4.3,baz=180,slow=8.1,SNR=3.5						
SCHQ	**Schefferville**	**55.19**	**13**	P	**P**	**03 43 21.9**	**-1.6**
	12nm,1.3s,mb4.8						
YKA	**Yellowknife Ar**	**64.60**	**345**	P	**P**	**03 44 27.1**	**-0.7**
	0.3nm,1.1s,mb3.2,baz=139,slow=6.9,SNR=6.9						
YKA	**Yellowknife Ar**	**64.60**	**345**	P	**P**	**03 44 27.1**	**-0.7**
INK	**Inuvik**	**74.15**	**343**	P	**P**	**03 45 26.1**	**-0.1**
	2.5nm,1.3s,mb4.0,baz=135,slow=7.5,SNR=2.4						
ILAR	**Eielson Array**	**76.78**	**337**	P	**P**	**03 45 43.9**	**+2.5**
	1.9nm,1.2s,mb3.9,baz=113,slow=1.6,SNR=4.4						

CASC ***21*** *03:39:18.8±1.4,5.54N×75.70W,h35km±999km,MD5.2, mb4.9(NEIC)*
IDC ***21*** *03:39:23.4±0.4,5.07N×76.12W,h100km±3km,mb4.5/26, mb1 4.7/30,mb1mx4.6/33,mbtmp4.9/30,MS3.9/9, Ms1 3.8/9,ms1mx3.7/18,Error ellipse: s-maj=10.5km s-min=6.9km az=61.0*
HRVD ***21*** *03:39:24.1±0.2,5.18N×76.32W,h116km±2km,MW5.2/70, Centroid moment Tensor Solution. LP body waves: s50,c74;Mantle waves: s70,c129; Half duration: 1§0 Moment tensor: Scale 10^17Nm; Mrr-0.02±.02; Mθθ-0.71±.02; Mφφ0.73±.02; Mrθ0.28±.01; Mθφ0.15±.02; Mφr-0.42±.02; Best double couple: M0.891×10^17 NP1: φs232°,δ56°,λ1°. NP2:φs141°,δ90°,λ146°. Principal axes: T .917, Plg24°, Azm91°; N -.051, Plg56°, Azm321°; P -.865, Plg23°, Azm192°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***21*** *03:39:24.1±0.1,5.01N×76.27W,mb4.9/148, MD5.2(CASC) Error ellipse: s-maj=3.3km s-min=2.3km az=25.0*
NEIC Felt [IV] at Medellin. Also felt at Cali and Santa Rosa de Cabal.
BJI ***21*** *03:39:27.1,5.00N×76.30W,h102km,mB5.3*

ISC 21 03:39:22.7±0.3,5.07N±0.02×76.25W±0.02,h100km±3km, h100km±.7km:pP-P,n394,σ0§95/365,mb4.9/168,87C-27D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOBC	**El Hobo**	**0.72**	**171**	⇑P	**P**	**03 39 40.9**	**+0.4**
SEGC	**San Emigdio**	**1.51**	**178**	‖P	**P**	**03 39 50.6**	**+1.1**
HOQC	**Horqueta**	**1.64**	**193**	‖P	**P**	**03 39 50.8**	**-0.3**
HOQC				S	**S**	**03 40 11.4**	**-0.6**
ROSC	**El Rosal**	**1.93**	**96**	P	**P**	**03 39 58.6**	**+3.8**
	1μm,0.3s,baz=301,slow=2.4,SNR=3653						
ROSC				S	**S**	**03 40 23.3**	**+4.8**
	1μm,0.3s,baz=113,slow=22,SNR=17						
OTAV	**Otavalo**	**5.28**	**205**	*e*Pn	**P**	**03 40 39.1**	**-1.4**
OTAV				*e*Sn	**S**	**03 41 33.5**	**-7.1**
SDV	**Santo Domingo**	**6.75**	**55**	P	**P**	**03 40 59.7**	**-1.0**
	108nm,0.3s,baz=254,slow=12,SNR=416						
SDV				S	**S**	**03 42 11.9**	**-4.7**
	364nm,0.3s,baz=77,slow=22,SNR=14						
SDV	**Santo Domingo**	**6.75**	**55**	*e*Pn	**P**	**03 41 00.4**	**-0.4**
	500nm,0.6s						
SDV				*e*Sn	**S**	**03 42 14.5**	**-2.1**
ACR	**Cerro Adams**	**7.73**	**298**	*e*P	**P**	**03 41 13.2**	**-1.0**
ACR	**Cerro Adams**	**7.73**	**298**	*e*P	**P**	**03 41 13.2**	**-1.0**
BUS	**Buena Vista**	**8.68**	**301**	*e*P	**P**	**03 41 27.6**	**+0.7**
BUS	**Buena Vista**	**8.68**	**301**	*e*P	**P**	**03 41 27.1**	**+0.1**
LCR2	**La Lucha 2**	**8.98**	**302**	*e*P	**P**	**03 41 30.7**	**-0.3**
LCR2	**La Lucha 2**	**8.98**	**302**	*e*P	**P**	**03 41 30.7**	**-0.3**
SJS	**Escuela Geolog**	**9.12**	**302**	‖*e*P	**P**	**03 41 33.0**	**+0.1**
SJS

LVC Limon Verde 28.43 166 P P 03 45 09.6 -0.7
30nm,0.8s,mb4.8,baz=351,slow=5.9,SNR=35
LVC Limon Verde 28.43 166 eP P 03 45 10.7 +0.3
38nm,0.9s,mb4.9
LVC epP pP 03 45 30.3 -2.3
LVC eS S 03 49 51.7 +3.0
GOGA Godfrey 28.99 347 eP P 03 45 14.5 -0.7
11nm,0.9s,mb4.5
GOGA epP pP 03 45 38.3 +0.9
JSC Jenkinsville 29.44 352 eP P 03 45 19.3 +0.1
JSC epP pP 03 45 42.5 +1.0
JSC esP sP 03 45 54.7 +1.6
LRAL Lakeview Retre 29.57 342 eP P 03 45 20.4 0.0
102nm,1.8s,mb5.2
LRAL epP pP 03 45 44.3 +1.5
CPCT Cooper Cave 31.18 347⇓eP P 03 45 34.4 -0.1
CPCT epP pP 03 45 58.1 +1.0
SWET Sewanee 31.30 345 eP P 03 45 34.9 -0.8
SWET epP pP 03 45 55.4 -2.8
NATX Nacogdoches 31.67 329 eP P 03 45 36.7 -2.1
PLAL Pickwick Lake 31.71 341 eP P 03 45 38.1 -1.1
66nm,1.4s,mb5.2
PLAL esP sP 03 46 14.1 +0.5
PLAL PcP PcP 03 48 26.7 -1.9
PLAL eScP 03 52 00.6
TZTN Tazewell 32.03 349 eP P 03 45 41.6 -0.3
TZTN epP pP 03 46 05.5 +0.8
TZTN esP sP 03 46 18.7 +2.3
BLA Blacksburg 32.22 354 eP P 03 45 42.1 -1.4
30nm,1.0s,mb5.0
BLA epP pP 03 46 04.5 -1.8
ELN Prospectdale 32.27 353 eP P 03 45 44.6 +0.6
FWV Forest Hill 32.63 353 eP P 03 45 47.4 +0.3
WVT Waverly 32.70 342 eP P 03 45 46.8 -0.9
17nm,0.9s,mb4.9
WVT epP pP 03 46 10.8 +0.2
WVT eScP 03 52 04.8
UALR University of 33.10 335 eP P 03 45 50.2 -1.1
6.3nm,0.7s,mb4.5
UALR epP pP 03 46 13.0 -1.1
UALR esP sP 03 46 27.2 +1.3
GLAT Glass 33.28 341 P P 03 45 51.0 -1.8
GLAT epP pP 03 46 17.8 +2.2
GLAT esP sP 03 46 28.0 +0.4
MIAR Mount Ida 33.43 334 eP P 03 45 52.1 -2.0
5.6nm,0.9s,mb4.4
MIAR epP pP 03 46 13.8 -3.2
MIAR ePcP PcP 03 48 32.4 -0.9
MIAR eScP 03 52 08.6
PARMO Parma 33.80 340 P P 03 45 55.0 -2.2
PARMO epP pP 03 46 20.7 +0.6
PARMO esP sP 03 46 32.5 +0.5
WCI Wyandotte Cave 34.25 346 eP P 03 46 00.7 -0.4
10nm,0.6s,mb4.8
WCI epP pP 03 46 23.7 -0.3
BDFB Brasilia 34.72 127 P P 03 46 03.8 -1.5
29nm,0.8s,mb5.2,baz=297,slow=9.7,SNR=51
BDFB LR LR 04 00 06.2
comp=Z,194nm,18.3s,baz=304,slow=36
BAO Brasilia Array 34.73 127 P P 03 46 04.7 -0.7
BLO Bloomington 35.20 346⇓eP P 03 46 08.6 -0.5
12nm,0.6s,mb4.9
BLO epP pP 03 46 33.1 +1.0
BLO esP sP 03 46 45.4 +1.3
BLO ePcP PcP 03 48 37.4 -1.0
FVM French Village 35.22 340⇓eP P 03 46 07.6 -1.7
40nm,0.8s,mb5.3
FVM epP pP 03 46 32.4 0.0
FVM ePcP PcP 03 48 37.3 -1.2
TXAR Lajitas Array 35.42 316 P P 03 46 11.1 -0.1
2.8nm,0.9s,mb4.1,baz=137,slow=9.0,SNR=28
TXAR pP pP 03 46 32.6 -1.6
2.4nm,1.0s,baz=132,slow=19,SNR=4.7
TXAR PcP PcP 03 48 39.5 +0.3
9.5nm,0.8s,baz=141,slow=6.2,SNR=17
TXAR pPcP 03 49 07.4
4.9nm,0.9s,baz=135,slow=7.1,SNR=4.7
TXAR ScP 03 52 15.8
1.2nm,0.9s,baz=127,slow=6.3,SNR=4.3
TXAR LR LR 04 03 01.9
comp=Z,95nm,21.0s,baz=180,slow=40
TXAR Lajitas Array 35.42 316 P P 03 46 11.1 -0.1
TXAR pP pP 03 46 32.6 -1.6
TXAR PcP PcP 03 48 39.5 +0.3
TXAR pPcP 03 49 07.4
TXAR ScP 03 52 15.8
TXAR LR LR 04 03 01.9
SSPA Standing Stone 35.44 358 eP P 03 46 11.6 +0.5
15nm,1.2s,mb4.7
ACSO Alum Creek Sta 35.53 351 eP P 03 46 12.8 +0.9
6.8nm,0.8s,mb4.6
ACSO epP pP 03 46 36.7 +1.7
CCM Cathedral Cave 35.56 339⇓eP P 03 46 10.0 -2.2
63nm,1.1s,mb5.5
CCM ePcP PcP 03 48 38.5 -1.0
CCM eScP 03 52 13.9
SLM Saint Louis 35.75 341 P P 03 46 12.2 -1.6
SLM epP pP 03 46 35.8 -1.1
SLM esP sP 03 46 49.3 +0.5
WMOK Wichita Mounta 36.14 328⇑eP P 03 46 16.0 -1.2
29nm,1.4s,mb5.0
WMOK ePcP PcP 03 48 40.2 -0.9
WMOK eScP 03 52 18.6
CPUP Villa Florida 36.20 150⇓eP P 03 46 13.6 -4.1
27nm,1.0s,mb5.1
CPUP eS S 03 51 43.1 -6.6
CFAA Coronel Fontan 37.26 169 P P 03 46 26.3 -0.2
7.9nm,0.7s,mb4.7,baz=342,slow=7.8,SNR=120
CFAA ScP 03 52 21.4
0.3nm,0.3s,baz=223,slow=4.7,SNR=6.7
AMTX Amarillo 37.85 325 eP P 03 46 30.9 -0.5
14nm,1.0s,mb4.8
AMTX epP pP 03 46 56.1 +1.4
MNTX Cornudas Mount 38.04 318 eP P 03 46 32.8 -0.2
21nm,0.9s,mb5.0
MNTX epP pP 03 46 54.3 -2.0
MNTX eScP 03 52 24.5
KSU1 Kansas State U 38.57 334 eP P 03 46 34.9 -2.5
KSU1 epP pP 03 47 00.5 -0.2
KSU1 esP sP 03 47 12.0 -0.4
FCH Farellones 38.60 172⇓iP P 03 46 38.7 +1.0
CLCH Cerro Calan 38.64 172⇓iP P 03 46 39.0 +1.0
CS6B Jaguaretama 38.97 105c iP P 03 46 38.6 -2.3
CS6B e 03 52 28.2
LMEL Las Melosas 39.12 172⇓iP P 03 46 43.2 +1.2
CBKS Cedar Bluff 39.78 331 eP P 03 46 46.3 -1.1
CBKS epP pP 03 47 10.8 +0.1
CBKS esP sP 03 47 23.6 +1.2
ANMO Albuquerque 40.78 321 P P 03 46 56.8 +1.2
5.8nm,0.7s,mb4.5,baz=132,slow=9.4,SNR=25
ANMO ScP 03 52 36.7
0.7nm,0.5s,baz=82,slow=7.2,SNR=3.8
ANMO Albuquerque 40.78 321⇓eP P 03 46 55.6 -0.1
18nm,1.1s,mb4.8
ANMO epP pP 03 47 22.2 +3.2
ANMO eScP 03 52 36.5
SDCO Great Sand Dun 42.05 325⇓iP P 03 47 07.1 +0.9
28nm,0.9s,mb5.0
SDCO epP pP 03 47 31.1 +1.5
SDCO eScP 03 52 41.8
TUC Tucson 42.13 314⇓eP P 03 47 07.7 +0.8
22nm,0.8s,mb4.9
TUC epP pP 03 47 33.5 +3.3
TUC eScP 03 52 41.2
CAM4 Nova Friburgo 42.77 131 eP P 03 47 10.7 -1.5
CAM4 i 03 47 18.3
PV01 Paradox Valley 44.12 323 eP P 03 47 24.2 +1.2
PV01 epP pP 03 47 48.0 +1.5
PV01 esP sP 03 48 01.2 +3.2
PV01 eScP 03 52 50.4
WUAZ Wupatki 44.32 318 eP P 03 47 26.0 +1.4
68nm,0.9s,mb5.4
WUAZ ePcP PcP 03 49 07.4 -0.2
WUAZ eScP 03 52 51.4
PHWY Pilot Hill 44.53 328⇑eP P 03 47 26.9 +0.7
PHWY epP pP 03 47 52.8 +3.0
PV10 Paradox Valley 44.56 323 eP P 03 47 26.7 +0.2
EYMN Ely 44.67 345 eP P 03 47 26.1 -1.2
29nm,0.8s,mb5.1
TRQA Tornquist 44.91 164⇓eP P 03 47 28.6 -0.7
88nm,1.0s,mb5.5
TRQA ePcP PcP 03 49 06.9 -2.6
RPN Rapa Nui 45.24 223 P P 03 47 32.7 +0.7
38nm,0.9s,mb5.1,baz=33,slow=3.6,SNR=5.6
RPN LR LR 04 01 57.0
comp=Z,261nm,21.3s,baz=110,slow=30
RWWY Rawlins 45.73 327 eP P 03 47 36.5 +0.7
6.9nm,0.7s,mb4.5
RWWY epP pP 03 48 01.0 +1.6
PLCA Paso Flores 45.88 174 P P 03 47 36.5 -0.3
49nm,0.7s,mb5.4,baz=349,slow=8.7,SNR=176
PLCA ScP 03 52 55.2
3.8nm,1.0s,baz=323,slow=4.6,SNR=3.6
PLCA LR LR 04 05 59.2
comp=Z,112nm,21.3s,baz=346,slow=35
PLCA Paso Flores 45.88 174 P P 03 47 36.5 -0.3
PLCA ScP 03 52 55.2
PLCA LR LR 04 05 59.2
RSSD Black Hills 45.92 332 eP P 03 47 37.2 0.0
56nm,1.2s,mb5.2
RSSD epP pP 03 48 02.6 +1.7
RSSD esP sP 03 48 13.8 +1.6
SRU San Rafael 45.92 322⇑eP P 03 47 37.9 +0.6
SRU epP pP 03 48 00.8 -0.1
MSU Marysvale 46.59 321 eP P 03 47 43.0 +0.4
MSU epP pP 03 48 05.1 -1.1
MSU ePcP PcP 03 49 14.4 -1.1
MVU Marysvale 46.60 321 eP P 03 47 43.8 +1.1
22nm,1.0s,mb4.8
MVU ePcP PcP 03 49 15.8 +0.3
MVU eScP 03 53 01.2
NEN Nelson 46.76 316 eP P 03 47 44.5 +0.6
NEN epP pP 03 48 08.8 +1.2
ARUT Antelope Range 46.98 319⇑eP P 03 47 46.6 +1.0
ARUT epP pP 03 48 08.1 -1.2
ARUT eScP 03 53 02.2
DAU Daniels Canyon 47.18 323⇑eP P 03 47 48.1 +0.9
DAU epP pP 03 48 09.1 -1.8
DAU eScP 03 53 03.8
NLU North Lily Min 47.39 322 eP P 03 47 48.8 0.0
NLU epP pP 03 48 14.2 +1.7
JLU Jordanelle 47.41 323⇑eP P 03 47 49.7 +0.7
JLU eScP 03 53 04.6
CTU Camp Tracy 47.65 323⇑eP P 03 47 51.1 +0.3
CTU epP pP 03 48 13.0 -1.6
TCUT Toone Canyon 47.71 324⇑eP P 03 47 52.1 +0.8
TCUT eScP 03 53 04.5
PDAR Pinedale Array 47.74 327 P P 03 47 50.1 -1.4
3.3nm,0.8s,mb4.2,baz=129,slow=9.5,SNR=25
PDAR pP pP 03 48 16.4 +1.0
14nm,1.1s,baz=180,slow=2.7,SNR=12
PDAR ScP 03 53 03.1
2.6nm,1.1s,baz=117,slow=3.3,SNR=5.3
ULM Lac du Bonnet 47.96 343 P P 03 47 50.8 -2.3
2.4nm,0.4s,mb4.4,baz=156,slow=8.2,SNR=6.3
ULM pP pP 03 48 15.8 -1.1
21nm,0.8s,baz=145,slow=10,SNR=10
ULM LR LR 04 07 23.8
comp=Z,133nm,21.6s,baz=123,slow=35
ULM Lac du Bonnet 47.96 343⇑eP P 03 47 51.2 -1.9
7.9nm,0.9s,mb4.5
ULM epP pP 03 48 16.5 -0.4
DUG Dugway 47.98 322⇑eP P 03 47 54.1 +0.7
15nm,0.8s,mb4.9
DUG eScP 03 53 06.2
HWUT Hardware Ranch 48.11 324⇑eP P 03 47 54.3 -0.1
20nm,0.9s,mb5.0
HWUT ePcP PcP 03 49 18.6 -2.2
HWUT ePP PP 03 49 47.7 +0.6
BGU Big Grassy Mou 48.56 323⇓eP P 03 47 57.6 -0.2
BGU esP sP 03 48 33.8 +1.0
BGU eScP 03 53 07.3
AHID Auburn Hatcher 48.59 326⇑eP P 03 47 58.0 -0.1
6.5nm,0.6s,mb4.7
AHID epP pP 03 48 23.1 +1.1
AHID ePcP PcP 03 49 20.1 -2.5
TRCR Troy Canyon 48.70 318⇑eP P 03 47 60.0 +1.0
TRCR epP pP 03 48 23.3 +0.5
REDW Red Top Meadow 48.85 327⇑eP P 03 48 00.0 0.0
96nm,1.1s,mb5.6
REDW esP sP 03 48 35.5 +0.5
SNOW Snow King Moun 48.86 327⇑eP P 03 48 00.4 +0.3
43nm,0.9s,mb5.4
LOHW Long Hollow 48.88 327⇑eP P 03 48 00.3 +0.1
59nm,1.2s,mb5.4
LOHW esP sP 03 48 33.6 -1.7
LOHW ePcP PcP 03 49 22.4 -1.2
WUWY Wally Ulrich 48.90 327 eP P 03 48 00.2 -0.3
WUWY esP sP 03 48 36.1 +0.7
TPAW Teton Pass 48.98 327⇑eP P 03 48 01.3 +0.2
26nm,0.9s,mb5.2
MOOW Moose Ponds 49.04 327 eP P 03 48 00.5 -1.0
25nm,1.0s,mb5.1
MOOW esP sP 03 48 38.0 +1.4
MOOW ePcP PcP 03 49 23.2 -1.0
RRI2 Red Ridge 49.09 326⇓eP P 03 48 01.0 -0.9
43nm,1.0s,mb5.3
IMW Indian Meadow 49.25 327⇑eP P 03 48 03.3 +0.2
33nm,1.1s,mb5.2
IMW esP sP 03 48 38.2 +0.1
YFT Old Faithful 49.56 328 eP P 03 48 07.0 +1.5
YFT epP pP 03 48 29.7 +0.2
TPH Tonopah 49.65 317⇑eP P 03 48 06.8 +0.6
14nm,1.3s,mb4.7
TPH ePcP PcP 03 49 26.4 -0.1
YMR Madison River 49.77 328⇑eP P 03 48 07.6 +0.4
YMR ePcP PcP 03 49 26.3 -0.5
ELK Elko 49.81 321⇑eP P 03 48 07.4 -0.1
4.2nm,0.8s,mb4.4
ELK eScP 03 53 13.9
GCMT Greycliff 49.87 330 eP P 03 48 07.3 -0.6
QLMT Earthquake Lak 50.13 328⇑eP P 03 48 10.8 +0.9
SCHQ Schefferville 50.20 7 P P 03 48 09.9 -0.3
9.5nm,0.6s,mb4.9,baz=195,slow=6.6,SNR=30
SCHQ LR LR 04 08 40.6
comp=Z,87nm,18.3s,baz=143,slow=35
SCHQ Schefferville 50.20 7 eP P 03 48 10.2 0.0
12nm,0.6s,mb5.0
MTUM Tungsten Hills 50.20 316⇑eP P 03 48 10.4 -0.1
MTUM epP pP 03 48 36.7 +2.2
MNV Mina 50.46 317⇓eP P 03 48 12.7 +0.3
20nm,1.1s,mb5.0
MNV ePcP PcP 03 49 29.2 -0.2
NVAR Mina Array Bea 50.56 317 P P 03 48 13.0 -0.2
9.9nm,0.8s,mb4.9,baz=122,slow=8.0,SNR=59
NVAR pP pP 03 48 37.1 -0.1
14nm,1.0s,baz=119,slow=8.1,SNR=7.1
NVAR PcP PcP 03 49 29.9 +0.1
16nm,0.7s,baz=122,slow=5.2,SNR=16
NVAR pPcP 03 49 57.8
3.1nm,0.6s,baz=125,slow=5.2,SNR=3.7
NVAR ScP 03 53 17.2
1.9nm,0.9s,baz=123,slow=6.2,SNR=5.0
NVAR LR LR 04 10 09.7
comp=Z,110nm,20.1s,baz=270,slow=36
NVAR Mina Array Bea 50.56 317 P P 03 48 13.0 -0.2
NVAR pP pP 03 48 37.1 -0.1
NVAR PcP PcP 03 49 29.9 +0.1
NVAR pPcP 03 49 57.8
NVAR ScP 03 53 17.2
NVAR LR LR 04 10 09.7
OMM Old Mammoth Mi 50.63 316 eP P 03 48 13.7 -0.1
OMM epP pP 03 48 37.9 +0.1
OMM esP sP 03 48 49.7 +0.9
OMM ePcP PcP 03 49 30.0 -0.1
BOZ Bozeman (W) 50.78 328 eP P 03 48 14.2 -0.6
26nm,1.0s,mb5.2
BOZ epP pP 03 48 39.2 +0.3
BMN Battle Mountai 50.89 320⇑eP P 03 48 16.0 +0.3
6.8nm,0.9s,mb4.7
BMN ePcP PcP 03 49 31.0 0.0
MCMT McKenzie Canyo 50.89 327⇑eP P 03 48 16.3 +0.6
HLID Hailey 50.98 325⇓eP P 03 48 16.0 -0.3
14nm,0.9s,mb5.0
HLID epP pP 03 48 41.5 +1.1
LRV Little Rabbit 51.51 313 eP P 03 48 20.1 -0.3
WCN Washoe City 51.98 317⇑eP P 03 48 24.5 +0.6
12nm,1.0s,mb4.9
CHMT Chamberlain Mo 52.46 329 eP P 03 48 26.6 -0.8
CHMT epP pP 03 48 53.0 +1.4
CHMT esP sP 03 49 03.9 +1.2
CHMT ePP PP 03 50 27.3 -0.8
MSO Missoula 52.77 328 eP P 03 48 28.6 -1.1
4.5nm,1.0s,mb4.5
MSO epP pP 03 48 55.0 +1.2
WVOR Wild Horse Val 52.86 321 eP P 03 48 29.9 -0.5
39nm,1.1s,mb5.3
WVOR ePcP PcP 03 49 36.4 -1.9
BMO Blue Mountains 53.41 324 eP P 03 48 32.9 -1.7
9.9nm,1.1s,mb4.8
BMO epP pP 03 48 57.9 -0.9
BMO esP sP 03 49 10.1 +0.2
BMO ePcP PcP 03 49 39.6 -0.7
BMO ePP PP 03 50 35.1 -2.2
WALA Waterton Lakes 54.21 330 eP P 03 48 39.1 -1.1
8.7nm,1.1s,mb4.7
WALA epP pP 03 49 04.8 +0.2
WALA esP sP 03 49 16.6 +1.0
WALA ePcP PcP 03 49 42.2 -1.1
WALA ePP PP 03 50 42.6 -1.7
LASM Arnica Sink 54.31 319 P P 03 48 40.9 -0.3
YBH Yreka Blue Hor 55.12 319 P P 03 48 45.3 -1.7
4.3nm,0.8s,mb4.5,baz=118,slow=4.7,SNR=12
YBH pP pP 03 49 09.6 -1.8
6.6nm,0.7s,baz=95,slow=6.4,SNR=8.1
YBH LR LR 04 16 08.4
comp=Z,113nm,21.2s,baz=130,slow=40
FCC Fort Churchill 55.31 349 eP P 03 48 45.7 -2.5
53nm,1.0s,mb5.5
FCC epP pP 03 49 11.1 -1.4
FCC esP sP 03 49 23.3 -0.4
FCC ePcP PcP 03 49 44.8 -2.5
FCC ePP PP 03 50 51.9 -2.2
NEW Newport 55.34 328 P P 03 48 46.4 -2.1
5.8nm,0.9s,mb4.6,baz=158,slow=6.5,SNR=8.2
NEW Newport 55.34 328⇑eP P 03 48 47.4 -1.1
24nm,1.3s,mb5.1
NEW epP pP 03 49 12.9 0.0
HBO Huckleberry Mo 55.90 321 P P 03 48 52.0 -0.6
EPH Ephrata 56.16 326 P P 03 48 54.0 -0.4
KBO Bosley Butte 56.34 318 eP P 03 48 55.3 -0.5
KBO epP pP 03 49 20.4 +0.1
KBO esP sP 03 49 31.2 -0.3
EDM Edmonton 56.78 334 eP P 03 48 56.6 -2.0
EDM epP pP 03 49 22.6 -0.6
OSD Olympics--Snow 58.75 324 P P 03 49 13.0 +0.5
PGC Sidney 59.03 325 eP P 03 49 14.1 -0.3
PGC epP pP 03 49 39.9 +0.7
PGC esP sP 03 49 50.2 -0.2
PGC ePP PP 03 51 24.3 -3.4
CHIE El Hierro 59.69 61 P P 03 49 18.9 -0.4
119nm,0.8s
USHA Ushuaia 60.04 175 P P 03 49 20.4 -0.9
16nm,0.6s,mb5.2,baz=337,slow=6.7,SNR=18
EGOM La Gomera 60.42 61 P P 03 49 22.9 -1.4
130nm,1.0s,mb5.9
CCAN Las Canadas 60.96 61 P P 03 49 28.1 +0.2
26nm,0.9s,mb5.3
EBAJ Bajamar 61.24 60 P P 03 49 29.7 -0.2
124nm,0.9s,mb5.9
RKT Rikitea 63.77 241 eP P 03 49 46.5 -0.3
115nm,1.1s,mb5.6
YKA Yellowknife Ar 63.87 341 P P 03 49 44.2 -2.5
6.0nm,0.6s,mb4.6,baz=134,slow=6.2,SNR=324
YKA pP pP 03 50 08.8 -2.9
4.2nm,0.6s,baz=134,slow=6.5,SNR=4.9
YKA LR LR 04 16 51.5
comp=Z,135nm,19.4s,baz=110,slow=35
YKA Yellowknife Ar 63.87 341 P P 03 49 44.2 -2.5
YKA pP pP 03 50 08.8 -2.9
YKA LR LR 04 16 51.5
YKW3 Yellowknife Ar 63.92 341 eP P 03 49 44.8 -2.3
YKW3 epP pP 03 50 11.2 -1.0
YKW3 ePcP PcP 03 50 18.9 -2.7
DLBC Dease Lake 67.40 333 P P 03 50 09.1 -0.3
5.4nm,0.8s,mb4.4,baz=126,slow=5.9,SNR=14
DLBC pP pP 03 50 34.1 -0.5
8.0nm,0.9s,baz=115,slow=4.9,SNR=6.6
DLBC Dease Lake 67.40 333 eP P 03 50 08.9 -0.4
DLBC epP pP 03 50 35.0 +0.3
DLBC esP sP 03 50 46.1 +0.7
EVO Evora 69.88 51⇑iP P 03 50 24.0 -1.0
31nm,0.9s,mb4.9
EVO eR
105nm,20.8s
PBEJ Beja 69.90 51 eP P 03 50 25.1 0.0
EGRO El Granado 70.12 52 P P 03 50 26.8 +0.3
14nm,0.8s,mb4.8
PVIS Viseu 70.35 49 eP P 03 50 27.4 -0.4
RES Resolute Bay 70.40 355 eP P 03 50 25.9 -1.7
22nm,1.0s,mb4.9
RES epP pP 03 50 52.4 -0.7
PCBR Castelo Branco 70.51 50 eP P 03 50 28.2 -0.6
17nm,1.0s,mb4.8
MTE Manteigas 70.56 49 eP P 03 50 28.6 -0.4
PVRL Vila Real 70.58 48 eP P 03 50 28.9 -0.3
38nm,1.5s,mb5.0
EMIN Mina Concepcio 70.80 52 P P 03 50 30.2 -0.3
7.1nm,0.7s,mb4.6
DBIC Dimbokro 70.99 85 P P 03 50 30.8 -1.2
23nm,0.7s,mb5.1,baz=255,slow=6.3,SNR=43
DBIC Dimbokro 70.99 85 eP P 03 50 30.5 -1.5
22nm,0.7s,mb5.1
EINC Incio 71.11 47 P P 03 50 31.9 -0.4
21nm,0.7s,mb5.1
ERUA La Rua 71.21 47 P P 03 50 33.0 +0.1
14nm,0.8s,mb4.8
SUMG Summit 71.29 11 eP P 03 50 32.5 -0.3
34nm,0.8s,mb5.2
ESPR Espera 71.31 53 P P 03 50 33.2 -0.4
20nm,0.9s,mb4.9
PBRG Braganca 71.40 48 eP P 03 50 33.8 -0.3
EADA Adamuz 72.49 52 P P 03 50 40.2 -0.4
5.6nm,0.6s,mb4.6
ELUQ Luque 72.66 52 P P 03 50 41.7 +0.1
7.0nm,0.8s,mb4.5
ELOJ Sierra Loja 72.70 53 P P 03 50 42.8 +0.9
13nm,0.7s,mb4.9
ERON Agron 72.96 53 P P 03 50 44.3 +1.0
9.4nm,0.8s,mb4.7
GUD Guadarrama 73.15 49 P P 03 50 44.7 +0.3
9.1nm,0.8s,mb4.7
ESDC Sonseca Array 73.16 50 P P 03 50 43.9 -0.6
4.1nm,0.6s,mb4.5,baz=264,slow=5.7,SNR=29
ESDC pP pP 03 51 08.7 -1.5
1.0nm,0.4s,baz=273,slow=4.5,SNR=3.3
ESDC Sonseca Array 73.16 50 P P 03 50 44.2 -0.3
12nm,0.8s,mb4.8
ESLA Sonseca Array 73.16 50 eP P 03 50 44.4 -0.1
3.9nm,1.0s,mb4.2
ESLA e pP 03 51 09.5 -0.7
ECOG Cogollos-Vega 73.18 53 P P 03 50 45.0 +0.4
5.3nm,0.6s,mb4.5
DCN Croghan 73.47 36⇑iP P 03 50 45.9 -0.1
DCN Croghan 73.47 36⇑iP pP 03 51 11.6 -0.1
EQES Quesada 73.63 52 P P 03 50 47.7 +0.4
32nm,1.1s,mb5.0
INK Inuvik 73.64 341 P P 03 50 45.5 -1.1
2.9nm,0.6s,mb4.2,baz=111,slow=5.5,SNR=35
INK pP pP 03 51 11.6 -0.9
5.3nm,0.6s,baz=87,slow=3.0,SNR=6.8
INK Inuvik 73.64 341 eP P 03 50 45.0 -1.6
27nm,1.3s,mb4.8
INK epP pP 03 51 10.8 -1.7
EBER Berja 73.67 53 P P 03 50 48.0 +0.4
24nm,0.8s,mb5.0
PMOR Pomariorio Ree 73.70 253 eP P 03 50 48.7 +0.6
67nm,1.1s,mb5.3
DMUB Kingscourt 73.82 35⇑iP P 03 50 48.0 0.0
DMUB Kingscourt 73.82 35⇑iP pP 03 51 13.7 -0.1
DLF Lyons Farm 73.89 36⇑iP P 03 50 48.2 -0.3
DLF Lyons Farm 73.89 36⇑iP pP 03 51 14.5 +0.2
DAWY Dawson 73.93 336⇑eP P 03 50 47.6 -0.9
DAWY ePcP PcP 03 51 02.4 -1.2
DAWY epP pP 03 51 14.2 -0.1
DAWY eSP sP 03 51 26.1 +1.1
ELAN Lanestosa 74.04 47 P P 03 50 49.5 0.0
41nm,1.0s,mb5.1
EVIA Vianos 74.17 51 P P 03 50 50.5 +0.1
11nm,0.6s,mb4.8
ENIJ Nijar 74.23 53 P P 03 50 50.4 -0.4
15nm,0.6s,mb4.9
MEH Mehetia 74.38 250 eP P 03 50 52.4 +0.4
80nm,1.2s,mb5.3
ECRI Cripan 74.63 47 P P 03 50 53.7 +0.7
12nm,0.7s,mb4.7
ETOB Tobarra 74.91 51 P P 03 50 55.0 +0.3
34nm,0.8s,mb5.1
ROSF Rostrenen 74.93 41⇑iP P 03 50 54.5 -0.1
61nm,1.0s,mb5.0
QUIF Quistinic 74.94 42⇑iP P 03 50 54.6 0.0
13nm,0.7s,mb4.4

EMUR	La Murta	75.08	52	P		P	03 50 54.8	-0.8
	18nm,0.7s,mb4.9							
SGMF	Saint Gilles	75.39	42⇑	*i*P		P	03 50 57.0	-0.2
	64nm,0.9s,mb5.0							
ECHE	Chera	75.45	51	P		P	03 50 58.2	+0.5
	15nm,1.3s,mb4.6							
OSSF	Osses	75.62	47⇑	*e*P		P	03 50 58.4	-0.2
SJPF	Ste Jean	75.63	47⇑	*i*P		P	03 50 59.1	+0.5
	83nm,0.9s,mb5.2							
SJPF				*ep*P		pP	03 51 24.3	-0.2
PAE	Paea	75.76	250	*e*P		P	03 51 00.5	+0.6
	110nm,1.1s,mb5.5							
EMOS	Mosqueruela	75.90	50	P		P	03 51 01.0	+0.7
	17nm,0.7s,mb4.9							
ESAC	San Caprasio	76.04	48	P		P	03 51 01.6	+0.6
	84nm,0.9s,mb5.5							
ETSF	Etsaut	76.09	47⇑	*i*P		P	03 51 01.7	+0.4
	23nm,1.0s,mb4.6							
GRR	Gorron	76.53	42⇑	*i*P		P	03 51 03.4	-0.2
	63nm,0.8s,mb5.1							
GRR				*ep*P		pP	03 51 28.8	-0.8
ERTA	Horta de San J	76.57	49	P		P	03 51 04.5	+0.5
	33nm,0.9s,mb5.1							
LABF	Labassere	76.57	47⇑	*e*P		P	03 51 04.3	+0.4
EBIE	Bielsa	76.58	47	P		P	03 51 05.0	+0.9
	4.7nm,0.6s,mb4.4							
EPF	Esparros	76.76	47⇑	*i*P		P	03 51 05.4	+0.4
	40nm,0.8s,mb4.9							
MFF	Saint Martin d	76.79	43⇑	*i*P		P	03 51 05.1	0.0
	62nm,0.8s,mb5.1							
FLN	La Foliniere	76.83	41⇑	*i*P		P	03 51 05.4	+0.1
	70nm,0.9s,mb5.1							
FLN				*e*R				
	58nm,18.5s							
LDF	La Druitiere	77.05	41⇑	*i*P		P	03 51 06.4	-0.1
	82nm,1.1s,mb5.1							
LDF				*ep*P		pP	03 51 31.8	-0.6
SML	Sawmill	77.13	332	*e*PcP		PcP	03 51 17.3	-0.1
SML				*ep*P		pP	03 51 30.1	-2.5
EPOB	Poblet	77.16	49	P		P	03 51 07.1	-0.2
	24nm,0.9s,mb4.9							
LFF	La Frestale	77.23	45⇑	*i*P		P	03 51 07.6	0.0
	39nm,0.8s,mb4.9							
ILAR	Eielson Array	77.24	336	P		P	03 51 05.5	-1.7
	5.6nm,0.9s,mb4.3,baz=110,slow=3.9,SNR=47							
ILAR				pP		pP	03 51 32.6	-0.6
	4.0nm,0.8s,baz=130,slow=4.2,SNR=6.4							
SALF	Salau	77.36	47⇑	*e*P		P	03 51 09.3	+1.0
RJF	Les Rejaudoux	77.81	45⇑	*i*P		P	03 51 10.7	-0.1
	44nm,0.9s,mb4.9							
RJF				*e*R				
	79nm,19.8s							
MCK	McKinley	77.85	334⇑	*e*P		P	03 51 10.2	-0.4
	6.1nm,1.0s,mb4.3							
MCK				*ep*P		pP	03 51 36.4	-0.1
DAG	Danmarks Havn	77.97	11⇓	*i*P		P	03 51 10.5	-0.6
	3.4nm,0.7s,mb4.2							
MTLF	Montolieu	78.15	47⇑	*i*P		P	03 51 12.6	-0.1
	52nm,1.1s,mb4.9							
CAF	Calviac	78.17	45⇑	*i*P		P	03 51 12.8	+0.1
	55nm,1.0s,mb4.9							
CAF				*ep*P		pP	03 51 38.2	-0.5
TCF	Toulx Ste Croi	78.38	44⇑	*i*P		P	03 51 13.6	-0.3
	25nm,0.9s,mb4.7							
EJON	La Jonquera	78.59	48	P		P	03 51 16.4	+1.4
	64nm,1.6s,mb5.2							
HYF	Humbligny	78.76	43⇑	*i*P		P	03 51 16.0	+0.1
HYF				*ep*P		pP	03 51 41.5	-0.4
BGF	Bois d'Agland	78.84	44⇑	*i*P		P	03 51 16.3	-0.1
	32nm,0.8s,mb4.9							
PYM	Petit Puy Mans	78.89	45	*e*P		P	03 51 16.8	+0.1
AGO	Saint Agoulin	79.00	44	*e*P		P	03 51 17.5	+0.2
LBL	Lubilhac	79.03	45	*e*P		P	03 51 17.9	+0.5
AVF	Avril sur Loir	79.21	43⇑	*i*P		P	03 51 17.9	-0.5
	42nm,1.1s,mb4.9							
SSF	Saint Saulge	79.33	43⇑	*i*P		P	03 51 18.6	-0.5
	33nm,1.0s,mb4.8							
SSF				*ep*P		pP	03 51 43.8	-1.3
PLDF	La Plantade	79.34	44	*e*P		P	03 51 19.2	+0.1
LASF	Ste Croix	79.39	46⇑	*i*P		P	03 51 20.0	+0.6
	34nm,0.9s,mb4.9							
SMF	Signal de Mont	79.53	44⇑	*i*P		P	03 51 19.8	-0.4
	58nm,1.0s,mb5.1							
SMF				*ep*P		pP	03 51 45.2	-1.0
BAIF	Baives	80.01	40⇑	*i*P		P	03 51 22.3	-0.3
	14nm,0.8s,mb4.5							
VIVF	Saint-Julien-l	80.01	45⇑	*i*P		P	03 51 23.4	+0.6
	32nm,0.9s,mb4.9							
IMA	Indian Mountai	80.29	336	*e*P		P	03 51 23.1	-0.7
GIVF	Givet	80.41	40⇑	*i*P		P	03 51 24.8	0.0
	52nm,1.0s,mb5.0							
GIVF				*ep*P		pP	03 51 50.3	-0.5
SVW2	Sparrevohn	80.42	331	*e*P		P	03 51 22.1	-2.5
MEZF	Maizieres J'vi	80.46	42⇑	*i*P		P	03 51 25.0	-0.1
	30nm,0.8s,mb4.9							
SMRF	Simiane la Rot	80.62	46	*e*P		P	03 51 26.9	+0.9
	24nm,0.9s,mb4.7							
ORIF	Oris-en-Rattie	80.87	45⇑	*i*P		P	03 51 28.3	+1.0
	47nm,1.0s,mb5.0							
ORIF				*e*R				
	70nm,20.8s							
THEF	They Montfort	81.07	42	*e*P		P	03 51 28.3	0.0
CABF	La Chapelle	81.08	44⇑	*i*P		P	03 51 28.4	0.0
	47nm,1.0s,mb5.0							
CABF				*ep*P		pP	03 51 54.0	-0.5
HGN	Heimansgroeve	81.15	40	*e*P		P	03 51 29.1	+0.5
	17nm,1.6s,mb4.6							
HGN				*ex*		x	03 51 54.3	
HGN				*e*S		S	04 01 18.0	-11
WLF	Walferdange	81.24	41⇑	*e*P		P	03 51 29.8	+0.7
	37nm,0.8s,mb5.3							
WLF				*e*PcP		PcP	03 51 34.8	-0.6
WLF				*ep*P		pP	03 51 55.6	+0.3
WLF				*es*P		sP	03 52 06.9	+0.6
LMR	La Mourre	81.28	47⇑	*i*P		P	03 51 29.6	+0.1
	48nm,1.1s,mb4.9							
HAU	Haudompre	81.31	42⇑	*i*P		P	03 51 29.3	-0.2
	10nm,0.8s,mb4.4							
HAU				*e*R				
	62nm,18.0s							
FRF	La Foret Royal	81.39	47⇑	*i*P		P	03 51 30.1	0.0
	30nm,0.9s,mb4.8							
LPL	La Plagne	81.49	45⇑	*i*P		P	03 51 31.6	+1.0
	21nm,0.9s,mb4.7							
MBDF	Montbardon	81.50	46⇑	*i*P		P	03 51 31.3	+0.7
	18nm,0.9s,mb4.6							
LPG	La Plagne	81.51	45	*e*P		P	03 51 31.7	+1.1
	49nm,1.2s,mb4.9							
LPG				*ep*P		pP	03 51 57.3	+0.5
HINF	Hinteralfeld	81.64	43⇑	*i*P		P	03 51 30.8	-0.5
	11nm,0.7s,mb4.5							
HINF				*ep*P		pP	03 51 56.4	-1.0
WTSB	Winterswijk	81.75	38	*e*P		P	03 51 32.0	+0.3
	35nm,1.2s,mb5.1							
WTSB				*ex*		x	03 51 57.2	
MOF	Molkenrain	81.83	43	*e*P		P	03 51 32.2	-0.1
RUP	Ruppelstein	81.83	41	*e*P		P	03 51 33.3	+1.1
ECH	Echery	81.86	42	*e*P		P	03 51 32.4	0.0
CDF	Champ du Feu	81.94	42⇑	*i*P		P	03 51 32.7	-0.1
	34nm,1.1s,mb4.8							
SBF	Sospel	81.96	47⇑	*i*P		P	03 51 33.2	+0.2
	21nm,0.7s,mb4.8							
WLS	Welschbruch	81.99	42	*e*P		P	03 51 33.0	-0.1
ABH	Alteburg	82.15	40	*e*P		P	03 51 34.8	+0.9
LANF	Langenberg	82.30	41	*e*P		P	03 51 35.0	+0.3
FELD	Feldberg	82.42	43	*e*P		P	03 51 35.2	-0.1
BFO	Black Forest	82.64	42	*e*P		P	03 51 36.2	-0.2
	9.0nm,1.0s,mb4.5							
TNS	Taunus Mts	82.74	40	*e*P		P	03 51 37.4	+0.5
	14nm,0.9s,mb4.8							
TNS				*ep*P		pP	03 52 03.1	0.0
TNS				*es*P		sP	03 52 14.2	+0.1
PGF	Pioggiola	83.11	48⇑	*i*P		P	03 51 39.2	+0.3
	60nm,1.1s,mb5.0							
DAVA	Damuels	83.68	43⇑	*i*P		P	03 51 42.6	+0.9
	24nm,1.1s,mb4.9							
BSEG	Bad Segeberg	83.91	36	*e*P		P	03 51 42.9	+0.2
CLZ	Clausthal	83.96	39	*e*P		P	03 51 44.0	+1.0
	13nm,1.1s,mb4.7							
NB2	NORSAR Subarra	84.37	29	P		P	03 51 45.3	+0.5
	4.4nm,0.7s,mb4.4,baz=269,slow=5.0							
NOA	NORSAR Array B	84.37	29	P		P	03 51 43.7	-1.1
	3.2nm,0.7s,mb4.2,baz=270,slow=5.0,SNR=12							
NOA				pP		pP	03 52 11.1	0.0
	8.7nm,1.1s,baz=269,slow=5.2,SNR=5.2							
NOA	NORSAR Array B	84.37	29	P		P	03 51 43.7	-1.1
NOA				pP		pP	03 52 11.1	0.0
GRA1	Grafenberg Arr	84.53	41	*e*P		P	03 51 46.7	+0.8
	9.0nm,0.9s,mb4.7							
GRA1				*ep*P		pP	03 52 11.9	-0.3
GRA1				*es*P		sP	03 52 23.4	+0.3
GRA1				LR		LR		
	comp=Z,100nm,21.0s							
GRF	Grafenberg Arr	84.53	41	*e*P		P	03 51 46.7	+0.8
	comp=Z,9.0nm,0.9s,mb4.7							
GRF				*ep*P		pP	03 52 11.9	-0.3
GRF				*es*P		sP	03 52 23.4	+0.3
GRF				LR		LR		
	comp=Z,100nm,21.0s							
MOX	Moxa	84.76	40	*e*P		P	03 51 46.8	-0.2
MOX	Moxa	84.76	40	*i*P		P	03 51 46.8	-0.2
WTTA	Wattenberg	84.88	43⇑	*i*P		P	03 51 48.4	+0.7
	comp=Z,9.2nm,0.8s,mb4.8							
NKC	Novy Kostel	85.31	40	*e*P		P	03 51 50.7	+1.0
NKC				*ep*P		pP	03 52 16.3	+0.2
CLL	Collm	85.62	39	*i*P		P	03 51 51.7	+0.5
	comp=Z,17nm,1.0s,mb4.9							
CLL				*i*		pP	03 52 17.7	+0.1
CLL				*e*S		S	04 02 14.0	+0.7
CLL	Collm	85.62	39	P		P	03 51 51.7	+0.5
	comp=Z,logA/T=1.2,mb4.9							
CLL				*i*			03 52 05.6	
CLL				*i* *PP		pP	03 52 17.7	+0.1
CLL				*e*SP		sP	03 52 29.0	+0.6
CLL				*e*S		S	04 02 14.0	+0.7
WET	Wettzell	85.64	41	*e*P		P	03 51 52.5	+1.1
	comp=Z,18nm,1.1s,mb4.9							
KBA	Koelnbreinsper	86.05	43⇑	*i*P		P	03 51 54.3	+0.9
	comp=Z,13nm,1.5s,mb4.6							
KHC	Kasperske Hory	86.09	41	*e*P		P	03 51 54.5	+0.9
KHC				*ep*P		pP	03 52 20.0	0.0
GEC2	GERESS Array S	86.19	41	*e*P		P	03 51 54.9	+0.8
	comp=Z,12nm,1.0s,mb4.8							
GERES	GERESS Array B	86.19	41	P		P	03 51 55.0	+0.9
	comp=Z,7.4nm,0.8s,mb4.7,baz=252,slow=4.2,SNR=38							
GERES				pP		pP	03 52 19.4	-1.2
	comp=Z,6.3nm,1.1s,baz=270,slow=4.0,SNR=4.0							
BRG	Berggiesshubel	86.23	39	*i*P		P	03 51 55.5	+1.3
	comp=Z,18nm,1.3s,mb4.8							
BRG				*i*		pP	03 52 21.0	+0.3
BRG				*e*			03 52 32.0	
CADS	Cadrg	86.37	44	*e*P		P	03 51 55.7	+0.7
JAVS	Javornik	86.62	44	*e*P		P	03 51 57.1	+0.9
JAVS				*e*		pP	03 52 22.7	-0.1
MOA	Molln	86.63	42⇑	*i*P		P	03 51 57.1	+0.8
	comp=Z,11nm,0.9s,mb4.8							
PVCC	Panska Ves	86.65	40	*e*P		P	03 51 57.5	+1.2
PVCC				*ep*P		pP	03 52 23.7	+1.0
PRU	Pruhonice	86.67	40	*e*P		P	03 51 57.6	+1.2
PRU				*ep*P		pP	03 52 22.8	0.0
PDKS	Podkum	87.26	44	*e*P		P	03 52 00.5	+1.1
VNA3	Neumayer Olymp	87.42	163	*e*		P	03 51 59.9	+0.3
VNA3	Neumayer Olymp	87.42	163⇑	*i*P		P	03 51 59.2	-0.4
VNA3				*e*			03 51 59.9	
VNA3				*e*		pP	03 52 22.3	-3.8
VNA3				*e*			03 52 36.0	
VNA3				*e*			03 55 28.2	
VNA3				*e*			03 57 05.6	
ARSA	Arzberg	87.52	43⇑	*i*P		P	03 52 01.2	+0.6
	comp=Z,7.2nm,0.8s,mb4.8							
UPC	Upice	87.57	40	*e*P		P	03 52 02.2	+1.5
UPC				*ep*P		pP	03 52 27.7	+0.4
KSP	Ksiaz	87.72	39	*e*P		P	03 52 02.8	+1.4
KSP				*ep*P		pP	03 52 28.5	+0.5
DPC	Dobruska-Polom	87.78	40	*e*P		P	03 52 03.2	+1.4
DPC				*ep*P		pP	03 52 28.8	+0.5
VNA2	Neumayer--Watz	87.98	162	*e*		P	03 52 02.7	+0.4
VNA2	Neumayer--Watz	87.98	162⇑	*i*P		P	03 52 02.1	-0.2
VNA2				*e*			03 52 02.7	
VNA2				*e*		pP	03 52 26.9	-1.9
VNA2				*e*			03 52 38.0	
VNA2				*e*			03 55 28.7	
VNA2				*e*			03 57 06.8	
MORC	Moravsky Berou	88.62	40	*e*PcP		PcP	03 52 07.0	-0.5
	comp=Z,2.6nm,0.8s							
OKC	Ostrava-Krasne	89.00	40	*e*P		P	03 52 09.3	+1.8
ARCES	ARCESS Array B	89.38	20	P		P	03 52 07.7	-1.1
	comp=Z,2.2nm,0.8s,mb4.2,baz=297,slow=2.7,SNR=9.1							
ARCES	ARCESS Array B	89.38	20	P		P	03 52 07.7	-1.2
VYHS	Vyhne	89.61	41	*e*P		P	03 52 11.7	+1.3
VYHS				*e*		pP	03 52 36.9	-0.2
OJC	Ojcow	90.01	40	*e*P		pP	03 52 39.7	+0.8
NIE	Niedzica	90.45	40	*e*P		pP	03 52 42.0	+1.0
FINES	FINESS Array B	91.45	28	P		P	03 52 18.0	-0.7
	comp=Z,1.9nm,0.8s,mb4.3,baz=214,slow=6.9,SNR=4.3							
KOLS	Kolonicke sedl	91.80	41	*e*		P	03 52 35.0	+14
QSPA	South Pole Qui	95.09	180	*e*P		P	03 52 36.2	+1.2
	comp=Z,24nm,0.9s,mb5.6							
ZAL	Zalesovo	119.10	13	PKP		PKPdf	03 57 59.9	0.0
	comp=Z,1.2nm,0.3s,baz=201,slow=2.2,SNR=7.1							
MKAR	Makanchi Array	124.97	18	PKP		PKPdf	03 58 10.8	-0.7
	comp=Z,1.5nm,0.5s,baz=299,slow=2.5,SNR=30							
MKAR				pPKP			03 58 38.2	
	comp=Z,0.6nm,0.4s,slow=2.4,SNR=4.6							
MKAR	Makanchi Array	124.97	18	PKP		PKPdf	03 58 10.8	-0.7
MKAR				pPKP			03 58 38.2	
MDJ	Mudanjiang	125.37	338	PKP		PKPdf	03 58 12.6	+0.3
MDJ				PP		PP		
	comp=Z,222nm,4.2s							
ULN	Ulaanbaatar	127.21	357	*e*PKPdf		PKPdf	03 58 16.9	+1.2
SONM	Songino Array	127.27	358	PKP		PKPdf	03 58 15.5	-0.4
	comp=Z,1.4nm,0.5s,baz=350,slow=1.2,SNR=16							
SONM				pPKP			03 58 43.3	
	comp=Z,1.3nm,0.7s,slow=1.2,SNR=3.6							
MJAR	Matsushiro Arr	127.55	325	PKP		PKPdf	03 58 16.9	+0.2
	comp=Z,4.3nm,0.8s,baz=221,slow=1.7,SNR=10							
MJAR				pPKP			03 58 44.6	
	comp=Z,0.9nm,0.4s,baz=68,slow=1.9,SNR=3.5							
MJAR	Matsushiro Arr	127.55	325	PKP		PKPdf	03 58 16.9	+0.2
MJAR				pPKP			03 58 44.6	
WMQ	Urumqi	129.23	15	⇓PKP		PKPdf	03 58 20.3	+0.6
WMQ				XPKP			03 58 58.8	
WMQ				PP		PP	04 00 34.6	+0.6
WMQ				PP		PP		
	comp=Z,79nm,4.5s							
WMQ				LR		LR		
	comp=N,86nm,30.1s							
WMQ				LR		LR		
	comp=E,132nm,28.2s							
WMQ				LR		LR		
	comp=Z,89nm,25.6s							
STKA	Stephens Creek	135.67	228	*e*PKP		PKPdf	03 58 33.0	+0.9
	comp=Z,4.2nm,0.7s							
STKA	Stephens Creek	135.67	228	PKP		PKPdf	03 58 32.8	+0.7
	comp=Z,5.8nm,0.8s,baz=137,slow=3.9,SNR=9.6							
SSE	Sheshan	140.37	336	PKP		PKPdf	03 58 40.5	-0.2
SSE				PP		PP	04 01 44.1	+0.9
SSE				SS		SS	04 19 56.4	-0.7
SSE				PP		PP		
	comp=Z,73nm,4.9s							
SSE				LR		LR		
	comp=N,31nm,24.0s							
SSE				LR		LR		
	comp=E,60nm,23.9s							
SSE				LR		LR		
	comp=Z,44nm,22.9s							
NJ2	Nanjing	140.38	340	*e*PKP		PKPdf	03 58 40.8	+0.1
NJ2				XPKP			03 59 18.1	
NJ2				PP		PP	04 01 45.0	+1.7
NJ2				PKS		PKS	04 02 16.0	+0.4
NJ2				SKS		SKS	04 05 40.0	+1.2
NJ2				SKKS			04 08 24.0	
NJ2				PP		PP		
	comp=Z,200nm,6.3s							
NJ2				LR		LR		
	comp=N,360nm,29.0s							
NJ2				LR		LR		
	comp=E,320nm,26.8s							
NJ2				LR		LR		
	comp=Z,290nm,27.8s							
KOLN	Koldanda	142.00	30	*e*P		PKPdf	03 58 45.7	+2.0
	comp=Z,8.7nm,0.9s							
GKN	Gorkha	142.31	28	*e*P		PKPdf	03 58 45.2	+0.9
	comp=Z,12nm,0.5s							
KKN	Kakani	142.79	28	*e*P		PKPdf	03 58 42.2	-2.9
	comp=Z,19nm,0.7s							
DMN	Daman	142.86	28	*e*P		PKPdf	03 58 42.3	-2.9
	comp=Z,26nm,0.7s							
GUN	Gumba	142.96	27	*e*P		PKPdf	03 58 42.8	-2.6
	comp=Z,27nm,0.7s							
PKI	Pulchoki	143.03	28	*e*P		PKPbc	03 58 42.3	-1.2
	comp=Z,18nm,0.7s							
JIRN	Jiri	143.31	27	*e*P		PKPbc	03 58 42.0	-2.4
	comp=Z,22nm,0.9s							
CD2	Chengdu	144.22	360	PKP		PKPdf	03 58 46.8	-0.7
ENH	Enshi	144.43	351	*e*PKPdf		PKPdf	03 58 47.2	-0.7
ASAR	Alice Springs	145.56	235	PKPbc		PKPbc	03 58 50.4	-0.4
	comp=Z,43nm,0.8s,baz=121,slow=3.9,SNR=216							
ASPA	Alice Springs	145.57	235	*i* PKP		PKPdf	03 58 50.2	+0.2
FORT	Forrest	145.69	219	*e*PKP		PKPdf	03 58 50.8	+0.8
	comp=Z,973nm,0.7s							
HYB	Hyderabad	146.56	48	*i* PKP		PKPdf	03 58 45.0	-6.8
HYB				*e*			03 58 55.0	
WB2	Warramunga Arr	146.76	241	*i* PKP		PKPdf	03 58 52.4	+0.3
WRAB	Tennant Creek	146.76	241	*e*PKPdf		PKPdf	03 58 52.5	+0.4
WRA	Warramunga Arr	146.77	241	PKPbc		PKPbc	03 58 52.6	-1.1
	comp=Z,45nm,1.0s,baz=108,slow=3.7,SNR=53							
SHL	Shillong	147.44	20	*e*P		PKPdf	03 58 54.0	+0.9
GYA	Guiyang	148.53	355	*i* PKP		PKPdf	03 58 55.9	+1.1
GYA				PKP2		PKPab	03 59 06.3	+1.8
GYA				APKP			03 59 26.3	
GYA				XPKP			03 59 32.8	
GYA				PP		PP	04 02 36.3	+4.4
GYA				SKKS			04 09 13.9	
GYA				PP		PP		
	comp=Z,280nm,9.2s							
GYA				LR		LR		
	comp=N,380nm,25.0s							
GYA				LR		LR		
	comp=E,240nm,24.8s							
GYA				LR		LR		
	comp=Z,290nm,23.5s							
KMI	Kunming	149.97	2	PKP		PKPdf	03 58 57.3	+0.1
KMI	Kunming	149.97	2	PKP		PKPdf	03 58 57.2	0.0
KMI				LR		LR		
	comp=Z,90nm,20.4s							
KLBR	Kellerberrin	150.52	205	*e*PKP		PKPdf	03 58 57.6	-0.2
	comp=Z,1μm,1.2s							
KAKA	Kakadu	150.68	253	*i* PKP		PKPdf	03 59 04.4	+5.9
	comp=Z,40nm,0.8s							
MUN	Mundaring	150.79	202	*e*PKP		PKPdf	03 58 59.4	+1.2
	comp=Z,153nm,0.7s							
FITZ	Fitzroy Crossi	154.99	237	*e*PKP		PKPdf	03 59 05.7	+1.3
	comp=Z,8.2nm,0.9s							
FITZ				*i*			03 59 14.0	
FITZ				*i*			03 59 30.6	
FITZ	Fitzroy Crossi	154.99	237	PKP		PKPdf	03 59 03.2	-1.2
	comp=Z,12nm,0.8s,baz=189,slow=2.4,SNR=4.8							
FITZ				PKPab		PKPab	03 59 30.0	-1.7
	comp=Z,32nm,0.8s,baz=198,slow=2.2,SNR=10							
CMAR	Chiang Mai Arr	156.15	11	PKP		PKPdf	03 59 06.5	+0.5
	comp=Z,2.2nm,0.7s,baz=292,slow=2.7,SNR=9.2							
CMAR				PKPab		PKPab	03 59 33.8	-2.8
	comp=Z,5.8nm,0.8s,baz=328,slow=5.3,SNR=17							
CMAR				pPKPab			04 00 01.0	
	comp=Z,7.0nm,0.8s,baz=328,slow=4.7,SNR=8.6							

HRVD ***21*** *03:47:26.0±0.4,23.16S×169.13E,h17km±1km,MW5.0/60, Centroid moment Tensor Solution. LP body waves: s23,c31;Mantle waves: s60,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.45±.21; $M_{\theta\theta}$3.46±.19; $M_{\phi\phi}$-2.02±.15; $M_{r\theta}$0.58±.42; $M_{r\phi}$1.86±.14; $M_{\theta r}$-1.58±.49; Best double couple: $M_0$3.916×10^{16} NP1:ϕ_s34°,δ65°, λ-154°. NP2:ϕ_s292°,δ67°,λ-28°. Principal axes: T 4.033, Plg1°, Azm343°; N -.246, Plg54°, Azm75°; P -3.798, Plg36°, Azm252°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50.*

NEIC ***21*** *03:47:26.0±0.6,23.09S×169.23E,h10km,mb4.9/14 Error ellipse: s-maj=12.3km s-min=11.3km az=168.0*

IDC ***21*** *03:47:36.8±0.8,22.91S×168.86E,h82km±5km,mb4.1/11, mb1 4.3/11,mb1mx4.2/18,mbtmp4.4/11,MS4.1/16, Ms1 4.1/16,ms1mx4.0/26,Error ellipse: s-maj=21.2km s-min=18.8km az=130.0*

ISC 21 03:47:29.2±2.4,23.10S±0.09×169.1E±0.1,h44km±17km, n53,σ1$06/37,mb4.7/18,MS4.2/12,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.67	292	*e*P	P	03 48 09.7	-1.2
DZM				*e*S	S	03 48 41.4	-0.9
DZM	Mont Dzumac	2.67	292	P	P	03 48 10.7	-0.2
	11nm,0.3s,baz=93,slow=17,SNR=375						
DZM				S	S	03 48 44.3	+2.1
	60nm,0.3s,baz=119,slow=19,SNR=6.9						
NOUC	Port Laguerre	2.78	290	*e*P	P	03 48 11.6	-0.9
NOUC				*e*S	S	03 48 45.5	+0.5
RAO	Raoul Island	13.15	120	LR	LR	03 54 15.7	
	comp=Z,903nm,19.3s,baz=122,slow=30						
HNR	Honiara	16.18	326	LR	LR	03 56 13.9	
	comp=Z,773nm,21.2s,baz=342,slow=32						
URZ	Urewera	16.59	157	LR	LR	03 56 14.9	
	comp=Z,2μm,21.6s,baz=339,slow=31						
ARMA	Armidale	17.23	241	*e*P	P	03 51 30.3	+2.1
RPZ	Rata Peaks	20.62	176	P	P	03 52 12.1	+4.8

MJAR Matsushiro Arr 66.11 333 P **P 03 58 14.0 -0.2**
1.2nm,0.6s,mb4.1,baz=172,slow=7.1,SNR=8.0
MJAR LR LR 04 23 54.5
comp=Z,139nm,18.8s,MS4.2,baz=160,slow=33
MJAR Matsushiro Arr 66.11 333 P **P 03 58 14.0 -0.2**
MJAR LR LR 04 23 54.5
MAJO Matsushiro 66.11 333 P **P 03 58 14.3 +0.1**
11nm,0.8s,mb5.0
QSPA South Pole Qui 66.97 180 *e*P **P 03 58 18.6 -0.3**
9.1nm,1.0s,mb4.8
ASAJ Asahikawa 71.17 340 LR LR 04 26 57.6
comp=Z,310nm,19.9s,MS4.6,baz=188,slow=33
FX1 Attu Island--F 75.74 3 LR LR 04 29 19.8
comp=Z,5.7nm,18.6s,baz=11,slow=33
SONM Songino Array 90.23 323 P **P 04 00 27.2 +0.9**
0.8nm,0.8s,mb4.1,baz=135,slow=4.1,SNR=3.0
SONM pP pP 04 00 48.4 +8.7
1.1nm,0.9s,baz=135,slow=2.0,SNR=2.7
NVAR Mina Array Bea 91.43 49 LR LR 04 34 06.4
comp=Z,42nm,21.8s,MS3.8,baz=110,slow=30
ILAR Eielson Array 93.93 17 P **P 04 00 43.9 +1.0**
0.4nm,0.7s,mb4.0,baz=241,slow=4.0,SNR=5.1
PLCA Paso Flores 95.73 139 LR LR 04 37 27.5
comp=Z,79nm,19.6s,MS4.2,baz=46,slow=31
TXAR Lajitas Array 98.69 62 LR LR 04 37 21.1
comp=Z,123nm,19.0s,MS4.4,baz=185,slow=30
VYHS Vyhne 145.41 324 *e*PKP PKPdf 04 07 05.9 +3.7
BRG Berggiesshubel 146.23 331 *e*P PKPdf 04 07 07.6 +4.1
BRG *e* 04 07 30.6
CLL Collm 146.32 333 *e*PKP1 PKPbc 04 07 09.0 +4.1
IDI Anoyia 146.67 300 PKPbc PKPbc 04 07 08.4 +2.2
3.3nm,0.6s,baz=90,slow=5.1,SNR=4.2
EKA Eskdalemuir Ar 147.30 352 PKPbc PKPdf 04 07 09.6 +4.4
3.1nm,0.8s,slow=2.5,SNR=6.9
KHC Kasperske Hory 147.64 329 *e*P PKPdf 04 07 11.5 +5.6
KHC x x 04 07 32.5
GERES GERESS Array B 147.78 329 PKPbc PKPdf 04 07 10.5 +4.3
1.3nm,0.9s,baz=45,slow=1.9,SNR=5.1
GERES pPKPbc 04 07 33.6
3.8nm,0.9s,baz=45,slow=3.8,SNR=8.0
DAVOX Davos 151.05 330 PKPbc PKPdf 04 07 18.8 +7.5
2.5nm,0.7s,baz=29,slow=10,SNR=2.7
DAVOX pPKPbc 04 07 42.3
8.3nm,0.9s,baz=352,slow=7.1,SNR=5.4

GUC 21 03:49:12.0±0.7, 24.41S×67.37W, h170km, ML3.6,
Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.28**	**321**	*e*P	P	03 49 52.8	+0.7
LVC				*i* S	S	03 50 23.5	+0.6
LVC				AMP		03 50 27.1	
	comp=N,229nm,0.5s						
CPN1	**Cerro Paranal**	**2.77**	**265**	*i* P	P	03 49 59.0	+1.0
CPN1				*i* S	S	03 50 34.4	+1.1
CPN1				AMP		03 50 36.5	
	comp=E,171nm,0.3s						
ANCH	**Antofagasta**	**2.87**	**284**	*e*P	P	03 50 00.2	+1.0
ANCH				*i* S	S	03 50 35.8	+0.3
CPCH	**Copiapo**	**3.98**	**222**	*e*P	P	03 50 13.0	-0.2
CPCH				*i* S	S	03 51 00.2	-0.3

*IDC **21** 03:55:56.7±4.2, 34.59N×3.20W, mb3.5/2, mb1 3.6/3, mb1mx3.2/25, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=79.3km s-min=52.5km az=111.0*
*CSEM **21** 03:56:01.0±0.1, 35.00N×3.71W, h12km, ML3.0/2, Error ellipse: s-maj=2.8km s-min=1.5km az=109.0*
*MDD **21** 03:56:02.6±0.3, 35.02N×3.89W, mbLg2.2/27, Error ellipse: s-maj=3.8km s-min=2.6km az=59.0, PRXIMO*
*CNRM **21** 03:56:02.3, 35.07N×3.77W, h5km, MD3.3*
*NEIC **21** 03:56:03.5, 35.08N×3.84W, MG3.5(MDD), After MDD.*
*SFS **21** 03:56:03.0, 35.08N×3.84W*
*INMG **21** 03:56:04.0±0.9, 35.08N×3.80W, h13km±7km, ML2.3, Error ellipse: s-maj=7.1km s-min=4.2km az=142.0*
ISC 21 03:56:01.8±0.5, 35.05N±0.02×3.88W±0.03, h12km±3km,
n92, σ1°13/153, mb3.6/2, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.14**	**131**	P	**Pg**	03 56 04.5	-0.8
TOU				S	**Sg**	03 56 06.5	-1.1
TOU	**Touzarine**	**0.14**	**131**	*i* P	**Pg**	03 56 04.5	-0.8
MPAL	**Palemas**	**0.18**	**343**	P	**Pg**	03 56 06.0	0.0
MPAL				S	**Sg**	03 56 09.5	+0.7
MPAL	**Palemas**	**0.18**	**343**	*i* P	**Pg**	03 56 06.0	0.0
MELI	**Melilla**	**0.81**	**72**	||P	**Pb**	03 56 16.9	-0.4
MELI				S	**Sb**	03 56 28.7	+0.8
MELI	**Melilla**	**0.81**	**72**	*i* P	**Pb**	03 56 16.9	-0.4
MELI				*e*S	**Sb**	03 56 28.7	+0.8
ZAI	**Zaio**	**0.93**	**95**	*i* P	**Pb**	03 56 17.5	-1.9
ZAI				*i* S	**Sb**	03 56 30.0	-1.5
TZK	**Tazeka**	**0.99**	**195**	*i* P	**Pb**	03 56 21.0	+0.6
TZK				*i* S	**Sb**	03 56 34.5	+1.3
EALB	**Alboran**	**1.12**	**38**	P	**Pb**	03 56 23.1	+0.5
EALB				S	**Sb**	03 56 37.0	0.0
EALB	**Alboran**	**1.12**	**38**	P	**Pb**	03 56 24.1	+1.5
	5.8nm,0.1s,SNR=8.2						
EALB				S	**Sb**	03 56 37.7	+0.7
	116nm,0.2s,SNR=9.9						
EALB	**Alboran**	**1.12**	**38**	P	**Pb**	03 56 23.1	+0.5
	5.8nm,0.1s,SNR=8.2						
EALB				S	**Sb**	03 56 37.0	0.0
	116nm,0.2s,SNR=9.9						
TAF	**Taforalt**	**1.23**	**101**	P	**Pb**	03 56 20.0	-4.4
TAF				S	**Sb**	03 56 34.0	-6.0
EMIJ	**Mijas**	**1.68**	**335**	P	**Pn**	03 56 32.0	+0.9
EMIJ				S	**Sn**	03 56 52.5	-0.1
EMIJ	**Mijas**	**1.68**	**335**	P	**Pn**	03 56 30.8	-0.4
	5.6nm,0.4s,SNR=11						
EMIJ				S	**Sn**	03 56 54.0	+1.4
	15nm,0.2s,SNR=6.0						
EMIJ	**Mijas**	**1.68**	**335**	P	**Pn**	03 56 32.0	+0.9
	5.6nm,0.4s,SNR=11						
EMIJ				S	**Sn**	03 56 52.5	-0.1
	15nm,0.2s,SNR=6.0						
ERON	**Agron**	**1.96**	**2**	P	**Pn**	03 56 35.5	+0.3
ERON				S	**Sn**	03 57 00.3	+0.4
ERON	**Agron**	**1.96**	**2**	P	**Pn**	03 56 36.2	+0.9
	0.9nm,0.2s,SNR=7.9						
ERON				S	**Sn**	03 57 02.0	+2.1
	6.0nm,0.3s,SNR=7.9						
ERON	**Agron**	**1.96**	**2**	P	**Pn**	03 56 35.5	+0.2
	0.9nm,0.2s,SNR=7.9						
ERON				S	**Sn**	03 57 00.3	+0.3
	6.0nm,0.3s,SNR=7.9						
MIF	**Mishlifen**	**1.98**	**215**	*i* P	**Pn**	03 56 35.5	-0.1
MIF				*i* S	**Sn**	03 57 01.5	+1.0
EBER	**Berja**	**2.01**	**23**	P	**Pn**	03 56 35.1	-0.8
EBER				S	**Sn**	03 57 01.2	+0.1
EBER	**Berja**	**2.01**	**23**	P	**Pn**	03 56 36.8	+0.9
	0.8nm,0.1s,SNR=7.9						
EBER				S	**Sn**	03 57 02.8	+1.7
	7.2nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.01**	**23**	P	**Pn**	03 56 35.1	-0.8
	0.8nm,0.1s,SNR=7.9						
EBER				S	**Sn**	03 57 01.2	+0.1
	7.2nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.10**	**354**	P	**Pn**	03 56 38.4	+1.1
	2.3nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	03 57 05.3	+1.8
	6.0nm,0.4s,SNR=7.9						
CZD	**Col de Zad**	**2.23**	**206**	*i* P	**Pn**	03 56 39.0	-0.1
CZD				*i* S	**Sn**	03 57 07.0	+0.2
ECOG	**Cogollos-Vega**	**2.23**	**6**	P	**Pn**	03 56 40.8	+1.6
	1.7nm,0.2s,SNR=13						
ECOG				S	**Sn**	03 57 08.4	+1.5
	7.9nm,0.4s						
ENIJ	**Nijar**	**2.35**	**35**	P	**Pn**	03 56 41.3	+0.5
	3.7nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	03 57 11.3	+1.6
	4.8nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.35**	**35**	S	**Sn**	03 57 10.3	+0.6
	4.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.42**	**319**	P	**Pn**	03 56 43.5	+1.7
ESPR				S	**Sn**	03 57 13.5	+1.9
ESPR	**Espera**	**2.42**	**319**	P	**Pn**	03 56 43.0	+1.2
	0.9nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	03 57 12.1	+0.5
	7.7nm,0.4s,SNR=7.9						
ESPR	**Espera**	**2.42**	**319**	P	**Pn**	03 56 43.5	+1.7
	0.9nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	03 57 13.5	+1.9
	7.7nm,0.4s,SNR=7.9						
ELUQ	**Luque**	**2.52**	**353**	P	**Pn**	03 56 44.7	+1.5
ELUQ				S	**Sn**	03 57 15.9	+1.7
ELUQ	**Luque**	**2.52**	**353**	P	**Pn**	03 56 44.7	+1.5
	3.6nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	03 57 15.1	+0.9
	2.8nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.52**	**353**	P	**Pn**	03 56 44.7	+1.4
	3.6nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	03 57 15.9	+1.7
	2.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.82**	**13**	P	**Pn**	03 56 49.3	+1.7
EQES				S	**Sn**	03 57 21.9	+0.2
EQES	**Quesada**	**2.82**	**13**	P	**Pn**	03 56 49.1	+1.5
	2.8nm,0.1s,SNR=26						
EQES				S	**Sn**	03 57 21.9	+0.2
	9.2nm,0.3s,SNR=4.7						
EQES	**Quesada**	**2.82**	**13**	P	**Pn**	03 56 49.3	+1.8
	2.8nm,0.1s,SNR=26						
EQES				S	**Sn**	03 57 21.9	+0.1
	9.2nm,0.3s,SNR=4.7						
EHUE	**Huescar**	**2.95**	**20**	P	**Pn**	03 56 50.6	+1.2
EHUE	**Huescar**	**2.95**	**20**	P	**Pn**	03 56 50.6	+1.3
	0.1nm,0.1s,SNR=7.9						
EBAN	**Banos Encina**	**3.11**	**1**	S	**Sn**	03 57 29.4	+0.4
	7.6nm,1.4s,SNR=7.9						
EADA	**Adamuz**	**3.16**	**350**	P	**Pn**	03 56 53.3	+0.9
EADA				S	**Sn**	03 57 32.1	+1.8
EADA	**Adamuz**	**3.16**	**350**	P	**Pn**	03 56 53.3	+0.9
	0.3nm,0.1s,SNR=14						
EADA				S	**Sn**	03 57 30.5	+0.2
	3.9nm,0.3s						
EADA	**Adamuz**	**3.16**	**350**	P	**Pn**	03 56 53.3	+1.0
	0.3nm,0.1s,SNR=14						
EADA				S	**Sn**	03 57 32.1	+1.8
	3.9nm,0.3s						
EMUR	**La Murta**	**3.50**	**37**	P	**Pn**	03 57 00.9	+3.7
EMUR				S	**Sn**	03 57 35.4	-3.6
EMUR	**La Murta**	**3.50**	**37**	P	**Pn**	03 56 58.0	+0.8
	0.7nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	03 57 38.5	-0.5
	1.5nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.50**	**37**	S	**Sn**	03 57 35.4	-3.6
	1.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.52**	**321**	P	**Pn**	03 56 57.3	-0.2
	0.4nm,0.1s,SNR=17						
EMIN				S	**Sn**	03 57 37.9	-1.6
	1.3nm,0.3s						
EMIN	**Mina Concepcio**	**3.52**	**321**	P	**Pn**	03 56 57.3	-0.2
	0.4nm,0.1s,SNR=17						
EMIN				S	**Sn**	03 57 37.9	-1.6
	1.3nm,0.3s						
EVIA	**Vianos**	**3.75**	**17**	P	**Pn**	03 57 04.3	+3.6
EVIA				S	**Sn**	03 57 46.1	+1.0
EVIA	**Vianos**	**3.75**	**17**	P	**Pn**	03 57 01.4	+0.8
	1.0nm,0.4s,SNR=7.9						
EVIA				S	**Sn**	03 57 44.1	-1.1
	4.3nm,0.5s,SNR=7.9						
EVIA	**Vianos**	**3.75**	**17**	S	**Sn**	03 57 46.1	+0.9
	4.3nm,0.5s,SNR=7.9						
PALC	**Alcoutim**	**3.77**	**311**	*e*Pn	**Pn**	03 57 01.3	+0.2
PALC				*e*Sn	**Sn**	03 57 44.1	-1.8
	6.5nm,0.4s						
PALC	**Alcoutim**	**3.77**	**311**	*e*Pn	**Pn**	03 57 01.3	+0.2
PALC				*e*Sn	**Sn**	03 57 44.1	-1.8
	6.5nm,0.4s						
EGRO	**El Granado**	**3.82**	**311**	P	**Pn**	03 57 01.6	-0.1
EGRO				S	**Sn**	03 57 45.7	-1.4
EGRO	**El Granado**	**3.82**	**311**	P	**Pn**	03 57 01.6	-0.1
	0.7nm,0.1s,SNR=11						
EGRO				S	**Sn**	03 57 44.7	-2.3
	0.1nm,0.2s						
EGRO	**El Granado**	**3.82**	**311**	P	**Pn**	03 57 01.6	-0.2
	0.7nm,0.1s,SNR=11						
EGRO				S	**Sn**	03 57 45.7	-1.4
	0.1nm,0.2s						
ETOB	**Tobarra**	**4.04**	**27**	P	**Pn**	03 57 05.7	+0.8
	0.3nm,0.1s,SNR=6.9						
ETOB				S	**Sn**	03 57 51.5	-1.2
	2.0nm,0.3s						
ETOB	**Tobarra**	**4.04**	**27**	P	**Pn**	03 57 05.7	+0.8
	0.3nm,0.1s,SNR=6.9						
ETOB				S	**Sn**	03 57 51.5	-1.2
	2.0nm,0.3s						
PBEJ	**Beja**	**4.37**	**314**	*e*Pn	**Pn**	03 57 09.7	+0.1
PBEJ				*e*Sn	**Sn**	03 57 58.8	-2.2
	3.5nm,0.4s						
PBEJ	**Beja**	**4.37**	**314**	*e*Pn	**Pn**	03 57 09.7	+0.1
PBEJ				*e*Sn	**Sn**	03 57 58.8	-2.2
	3.5nm,0.4s						
EBAD	**Badajoz**	**4.47**	**327**	P	**Pn**	03 57 11.0	+0.1
EBAD				S	**Sn**	03 58 01.0	-2.4
EBAD	**Badajoz**	**4.47**	**327**	P	**Pn**	03 57 11.0	+0.1
	0.6nm,0.2s,SNR=10						
EBAD				S	**Sn**	03 58 00.3	-3.1
	2.2nm,0.3s						
EBAD	**Badajoz**	**4.47**	**327**	P	**Pn**	03 57 11.0	+0.1
	0.6nm,0.2s,SNR=10						
ESDC	**Sonseca Array**	**4.62**	**359**	Pn	**Pn**	03 57 12.9	-0.1
	1.2nm,0.3s,baz=180,slow=12,SNR=9.6						
ESDC				Sn	**Sb**	03 58 18.5	+0.1
	0.5nm,0.3s,baz=173,slow=28,SNR=3.4						
ESDC	**Sonseca Array**	**4.62**	**359**	P	**Pn**	03 57 12.6	-0.4
	1.1nm,0.1s,baz=179,slow=12,SNR=11						
ESDC				S	**Sn**	03 58 04.8	-2.3
	1.8nm,1.4s,baz=189,slow=40,SNR=7.9						
ESDC	**Sonseca Array**	**4.62**	**359**	P	**Pn**	03 57 12.6	-0.4
	1.1nm,0.1s,baz=179,slow=12,SNR=11						
EBEN	**Beniarda**	**4.68**	**38**	P	**Pn**	03 57 14.0	+0.1
	0.4nm,0.3s,SNR=7.9						
EBEN				S	**Sn**	03 58 06.5	-2.2
	7.4nm,0.6s,SNR=7.9						
PCBR	**Castelo Branco**	**5.57**	**330**	*e*Pn	**Pn**	03 57 26.2	-0.3
PCBR				*e*Sn	**Sn**	03 58 27.8	-3.4
	2.5nm,0.4s						
PCBR	**Castelo Branco**	**5.57**	**330**	P	**Pn**	03 57 26.2	-0.3
PCBR				S	**Sn**	03 58 27.8	-3.4
	1.2nm,0.4s						
GUD	**Guadarrama**	**5.59**	**358**	P	**Pn**	03 57 26.3	-0.4
	0.5nm,0.2s,SNR=7.9						
GUD				S	**Sn**	03 58 28.7	-2.9
	2.4nm,0.6s,SNR=7.9						
PTOM	**Tomar**	**5.81**	**323**	*e*Pn	**Pn**	03 57 29.3	-0.6
EMOS	**Mosqueruela**	**5.95**	**26**	P	**Pn**	03 57 31.3	-0.5
	1.4nm,0.5s,SNR=7.9						
EMOS				S	**Sn**	03 58 37.2	-3.5
	18nm,1.1s,SNR=7.9						
MTE	**Manteigas**	**6.08**	**333**	*e*Sn	**Sn**	03 58 39.9	-4.0
	3.5nm,0.5s						
MTE	**Manteigas**	**6.08**	**333**	S	**Sn**	03 58 39.9	-4.0
	1.8nm,0.5s						
ERTA	**Horta de San J**	**6.77**	**28**	P	**Pn**	03 57 43.6	+0.3
ERTA	**Horta de San J**	**6.77**	**28**	P	**Pn**	03 57 43.2	-0.2
	0.7nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**6.77**	**28**	P	**Pn**	03 57 43.6	+0.2
	0.7nm,0.4s,SNR=7.9						
PVRL	**Vila Real**	**6.91**	**335**	*e*Pn	**Pn**	03 57 44.3	-1.1
PVRL				*e*Sn	**Sn**	03 59 00.5	-4.2
	1.9nm,0.2s						
PVRL	**Vila Real**	**6.91**	**335**	P	**Pn**	03 57 44.3	-1.1
PVRL				S	**Sn**	03 59 00.5	-4.2
	0.9nm,0.2s						
PBRG	**Braganca**	**7.11**	**342**	*e*Pn	**Pn**	03 57 47.5	-0.6
ETOS	**Mallorca**	**7.11**	**47**	P	**Pn**	03 57 47.9	-0.3
	0.1nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**7.18**	**21**	P	**Pn**	03 57 48.9	-0.3
	1.1nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.23**	**343**	P	**Pn**	03 57 50.1	+0.1
ECAL	**Calabor**	**7.23**	**343**	P	**Pn**	03 57 49.5	-0.4
	1.2nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.23**	**343**	P	**Pn**	03 57 50.1	+0.2
ELOB	**Lobios**	**7.55**	**336**	P	**Pn**	03 57 53.3	-1.1
	0.6nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**7.55**	**336**	P	**Pn**	03 57 53.3	-1.1
ERUA	**La Rua**	**7.76**	**342**	P	**Pn**	03 57 56.2	-1.1
	0.9nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**8.36**	**12**	P	**P**	03 58 05.1	-0.6
	1.5nm,0.4s,SNR=7.9						
SCHQ	**Schefferville**	**46.99**	**315**	P	**P**	04 04 35.4	+1.2
	2.2nm,0.9s,mb4.1,baz=96,slow=9.2,SNR=3.9						
SCHQ	**Schefferville**	**46.99**	**315**	P	**P**	04 04 35.3	+1.1
YKA	**Yellowknife Ar**	**68.19**	**332**	P	**P**	04 07 02.6	-0.9
	0.1nm,0.5s,mb3.1,baz=59,slow=6.7,SNR=3.7						
PPT	**Papeete**	**144.89**	**291**	*e*LR	LR	04 15 31.6	
	233nm,27.0s						

*IDC **21** 04:16:37.2±1.9, 0.58S×97.65E, mb4.0/8, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, ML4.3/1, Error ellipse: s-maj=81.2km s-min=17.0km az=58.0*
*NEIC **21** 04:16:42.2±0.9, 0.45S×97.96E, h30km, mb4.5/1, Error ellipse: s-maj=27.9km s-min=10.4km az=66.0*
ISC 21 04:16:41.1±1.1, 0.4S±0.1×98.0E±0.2, h33km, n13,
σ0°86/12, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.20**	**25**	*e*Pn	**Pn**	04 18 12.4	-0.5
CMAR	**Chiang Mai Arr**	**18.72**	**3**	P	**P**	04 20 59.2	-0.4
	0.4nm,0.3s,baz=186,slow=10,SNR=5.2						
FITZ	**Fitzroy Crossi**	**32.38**	**125**	P	**P**	04 23 09.7	-0.4
	4.5nm,0.9s,mb4.3,baz=265,slow=24,SNR=3.2						
WRA	**Warramunga Arr**	**40.54**	**121**	P	**P**	04 24 19.4	+0.3
	1.6nm,0.8s,mb3.7,baz=300,slow=8.9,SNR=7.2						
WRAB	**Tennant Creek**	**40.54**	**121**	P	**P**	04 24 18.8	-0.4
	8.2nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**41.82**	**126**	P	**P**	04 24 30.6	+0.8
	0.9nm,0.5s,mb3.7,baz=295,slow=7.5,SNR=8.9						
SONM	**Songino Array**	**48.56**	**8**	P	**P**	04 25 25.0	+1.9
	0.2nm,0.3s,mb3.6,baz=207,slow=9.7,SNR=5.5						
MKAR	**Makanchi Array**	**48.94**	**346**	P	**P**	04 25 26.5	+0.3
	1.0nm,0.6s,mb4.0,baz=151,slow=9.3,SNR=8.4						
STKA	**Stephens Creek**	**51.72**	**132**	P	**P**	04 25 48.6	+1.0
	1.5nm,0.6s,mb4.1,baz=258,slow=9.9,SNR=3.7						
STKA	**Stephens Creek**	**51.72**	**132**	P	**P**	04 25 45.4	-2.1
ZAL	**Zalesovo**	**55.21**	**351**	P	**P**	04 26 12.9	-0.1
	1.0nm,0.4s,mb4.2,baz=291,slow=7.6,SNR=4.8						
FINES	**FINESS Array B**	**81.75**	**333**	P	**P**	04 28 56.8	-1.0
	1.8nm,0.9s,mb4.0,baz=124,slow=6.9,SNR=3.3						
TXAR	**Lajitas Array**	**144.54**	**34**	PKP	PKPdf	04 36 17.1	+2.2
	0.4nm,0.7s,baz=295,slow=1.2,SNR=7.2						

*IDC **21** 04:25:49.1±1.8, 1.11N×97.18E, mb4.0/8, mb1 4.2/9, mb1mx3.9/21, mbtmp4.0/9, ML4.2/1, Error ellipse: s-maj=82.4km s-min=17.5km az=59.0*
*BJI **21** 04:25:51.8, 0.70N×97.46E, h52km, mb4.8*
*NEIC **21** 04:25:53.6±0.7, 1.12N×97.29E, h30km, mb4.4/4, Error ellipse: s-maj=18.3km s-min=9.7km az=62.0*
ISC 21 04:25:51.6±0.9, 1.12N±0.10×97.2E±0.1, h30km, n18,
σ0°96/18, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.36**	**39**	*e*Pn	**Pn**	04 27 11.8	+0.1
CMAR	**Chiang Mai Arr**	**17.31**	**5**	P	**P**	04 29 52.2	-0.7
	0.3nm,0.3s,baz=192,slow=11,SNR=12						
KKM	**Kota Kinabalu**	**19.55**	**75**	*e*P	**P**	04 30 17.0	-3.0
KMI	**Kunming**	**24.45**	**12**	P	**P**	04 31 11.8	+2.6
KMI				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.3						
KMI	**Kunming**	**24.45**	**12**	P	**P**	04 31 11.7	+2.5
	comp=Z,17nm,1.2s,mb4.3						
GTA	**Gaotai**	**38.18**	**3**	*e*P	**P**	04 33 11.1	+0.8
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**41.96**	**122**	P	**P**	04 33 41.7	-0.2
	comp=Z,1.4nm,0.7s,mb3.7,baz=300,slow=9.1,SNR=7.3						
WRAB	**Tennant Creek**	**41.96**	**122**	*e*P	**P**	04 33 41.8	-0.1
	comp=Z,6.1nm,1.0s,mb4.2						
BJT	**Baijiatuau**	**42.38**	**22**	P	**P**	04 33 45.5	+0.5
	comp=Z,9.1nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**43.31**	**127**	P	**P**	04 33 53.0	+0.1
	comp=Z,0.8nm,0.8s,mb3.5,baz=306,slow=7.9,SNR=6.5						
SONM	**Songino Array**	**47.20**	**8**	P	**P**	04 34 24.1	+0.5
	comp=Z,2.4nm,0.8s,mb4.2,baz=190,slow=8.8,SNR=9.3						
SONM				PcP	PcP	04 35 55.4	+0.4
	comp=Z,0.8nm,0.8s,baz=180,slow=7.2,SNR=3.7						
MKAR	**Makanchi Array**	**47.33**	**346**	P	**P**	04 34 24.6	0.0
	comp=Z,2.0nm,0.7s,mb4.2,baz=158,slow=8.0,SNR=25						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	04 35 11.2	+1.1
	comp=Z,1.5nm,0.6s,mb4.1,baz=326,slow=8.7,SNR=4.6						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	04 35 10.4	+0.3
ZAL	**Zalesovo**	**53.64**	**351**	P	**P**	04 35 12.2	-0.3
	comp=Z,1.6nm,0.8s,mb4.0,baz=292,slow=6.5,SNR=15						
BVAR	**Borovoye Array**	**56.34**	**341**	P	**P**	04 35 31.0	-1.2
	comp=Z,0.7nm,0.6s,mb3.9,baz=153,slow=6.6,SNR=5.9						
CHKZ	**Chkalovo**	**56.82**	**341**	*e*P	**P**	04 35 34.1	-1.4
	comp=Z,2.4nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**82.63**	**340**	P	**P**	04 38 13.7	+0.6
	comp=Z,2.1nm,1.0s,mb4.1,baz=63,slow=8.1,SNR=4.3						

*INMG **21** 04:42:44.0±0.8, 43.12N×11.45W, h10km, ML1.8, Error ellipse: s-maj=6.7km s-min=4.3km az=91.0*
MDD 21 04:42:42.5±1.9, 43.08N×11.35W, h40km±87km, mb3.4/4,
Error ellipse: s-maj=23.6km s-min=13.4km az=122.0,
PRXIMO, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**1.74**	**93**	P	P	04 43 09.4	-1.4
	1.0nm,0.1s,SNR=4.0						
EMAZ				S	S	04 43 28.9	-3.1
	5.8nm,0.1s,SNR=7.9						
**

4.6nm,1.5s,SNR=7.9
EADA Adamuz 7.11 131 P P 04 44 23.5 -3.1
3.1nm,0.7s,SNR=7.9

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*NEIC **21** 04:54:47.9±1.0,3.92N×95.08E,h30km,mb4.3/4,Error ellipse: s-maj=20.5km s-min=11.5km az=48.0*
*IDC **21** 04:55:02.0±13.0,4.39N×95.70E,h143km±114km,mb3.6/7, mb1 3.7/8,mb1mx3.5/21,mbtmp4.0/8,ML4.2/1,MS3.1/2, Ms1 3.2/2,ms1mx2.8/23,Error ellipse: s-maj=107.7km s-min=15.3km az=58.0*
ISC 21 04:54:48.4±0.8,4.3N±0.1×95.50E±0.07,h33km,n27, σ0°92/26,mb4.2/16,MS3.3/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.24**	**78**	*e*Pn	**Pn**	**04 56 08.8**	**+2.2**
KULM				*e*S	**S**	**04 57 05.3**	**-1.2**
CM31	**Chiang Mai Arr**	**14.52**	**13**	P	**P**	**04 58 18.4**	**+4.9**
6.4nm,0.9s							
CMAR	**Chiang Mai Arr**	**14.52**	**13**	P	**P**	**04 58 19.1**	**+5.5**
0.4nm,0.3s,baz=205,slow=12,SNR=13							
CMAR				LR	LR	05 03 51.8	
comp=Z,53nm,20.7s,baz=195,slow=37							
PALK	**Pallekele**	**15.02**	**282**	*e*P	**P**	**04 58 27.7**	**+7.5**
KSM	**Kuching**	**15.04**	**100**	*e*P	**P**	**04 58 24.4**	**+3.9**
QIZ	**Qiongzhong**	**20.30**	**43**	P	**P**	**04 59 28.2**	**+3.9**
25nm,1.6s							
KKM	**Kota Kinabalu**	**20.71**	**84**	P	**P**	**04 59 29.4**	**+0.7**
JIRN	**Jiri**	**24.91**	**340**	*e*P	**P**	**05 00 11.3**	**+1.2**
7.9nm,0.5s,mb4.5							
PKI	**Pulchoki**	**25.11**	**338**	*e*P	**P**	**05 00 13.5**	**+1.6**
6.5nm,0.5s,mb4.4							
GUN	**Gumba**	**25.25**	**340**	*e*P	**P**	**05 00 13.4**	**+0.1**
7.8nm,0.3s,mb4.7							
KKN	**Kakani**	**25.35**	**338**	*e*P	**P**	**05 00 14.6**	**+0.3**
4.5nm,0.3s,mb4.5							
LSA	**Lhasa**	**25.64**	**351**	P	**P**	**05 00 16.4**	**-0.6**
7.9nm,1.3s,mb4.1							
GKN	**Gorkha**	**25.79**	**337**	*e*P	**P**	**05 00 18.8**	**+0.5**
4.9nm,0.3s,mb4.5							
KOLN	**Koldanda**	**25.99**	**335**	*e*P	**P**	**05 00 20.4**	**+0.2**
6.6nm,0.6s,mb4.4							
NACB	**Ninganchiao**	**32.01**	**49**	*e*P	**P**	**05 01 06.6**	**-7.6**
MKAR	**Makanchi Array**	**43.90**	**347**	P	**P**	**05 02 52.9**	**-0.8**
1.3nm,0.4s,mb4.0,baz=153,slow=8.1,SNR=25							
MKAR	**Makanchi Array**	**43.90**	**347**	P	**P**	**05 02 52.9**	**-0.8**
SONM	**Songino Array**	**44.42**	**10**	P	**P**	**05 02 57.4**	**-0.5**
0.3nm,0.5s,mb3.3,baz=191,slow=7.3,SNR=3.8							
WRA	**Warramunga Arr**	**45.10**	**124**	P	**P**	**05 03 03.5**	**-0.3**
1.4nm,0.7s,mb3.9,baz=304,slow=9.1,SNR=11							
WRAB	**Tennant Creek**	**45.11**	**124**	*e*P	**P**	**05 03 03.7**	**-0.1**
10nm,1.1s,mb4.6							
ASAR	**Alice Springs**	**46.59**	**128**	P	**P**	**05 03 15.4**	**-0.1**
1.6nm,0.8s,mb4.0,baz=306,slow=7.8,SNR=11							
ZAL	**Zalesovo**	**50.30**	**352**	P	**P**	**05 03 42.8**	**-1.0**
1.6nm,0.3s,mb4.5,baz=332,slow=3.1,SNR=5.1							
MJAR	**Matsushiro Arr**	**50.67**	**45**	LR	LR	05 28 36.3	
comp=Z,32nm,20.9s,MS3.3,baz=150,slow=40							
CHKZ	**Chkalovo**	**53.31**	**342**	*e*P	**P**	**05 04 05.3**	**-1.2**
1.3nm,0.6s,mb4.0							
FINES	**FINESS Array B**	**76.53**	**332**	P	**P**	**05 06 36.1**	**-0.7**
0.5nm,0.4s,mb3.8,baz=100,slow=5.0,SNR=10							
ARCES	**ARCESS Array B**	**79.11**	**340**	P	**P**	**05 06 50.6**	**-0.3**
2.5nm,0.9s,mb4.2,baz=100,slow=6.6,SNR=6.1							
TXAR	**Lajitas Array**	**141.88**	**28**	PKP	PKPdf	05 14 14.6	-3.1
0.1nm,0.4s,slow=2.7,SNR=3.0							

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*CSEM **21** 05:07:21.6±0.1,35.04N×3.78W,h10km,MD3.1,Error ellipse: s-maj=3.4km s-min=1.9km az=106.0*
*NEIC **21** 05:07:23.1,35.06N×3.85W,MG3.3(MDD),After MDD.*
*CNRM **21** 05:07:23.4,35.05N×3.74W,h6km,MD3.1*
*MDD **21** 05:07:23.6±0.3,35.02N×3.81W,h4km±4km,mbLg1.7/11, Error ellipse: s-maj=4.1km s-min=3.0km az=72.0,PRXIMO*
ISC 21 05:07:22.8±0.5,35.06N±0.02×3.84W±0.03,h12km±3km, n42,σ1§15/72,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**142**	P	**Pg**	**05 07 25.0**	**-1.0**
TOU				S	**Sg**	**05 07 27.0**	**-1.1**
TOU	**Touzarine**	**0.12**	**142**	*i* P	**Pg**	**05 07 25.0**	**-1.0**
MPAL	**Palemas**	**0.19**	**335**	P	**Pg**	**05 07 28.0**	**+0.9**
MPAL				S	**Sg**	**05 07 31.0**	**+1.0**
MPAL	**Palemas**	**0.19**	**335**	*i* P	**Pg**	**05 07 28.0**	**+0.9**
MELI	**Melilla**	**0.78**	**72**	P	**Pb**	**05 07 38.1**	**+0.3**
MELI				S	**Sb**	**05 07 49.4**	**+1.3**
MELI	**Melilla**	**0.78**	**72**	*e*P	**Pb**	**05 07 38.1**	**+0.3**
MELI				*e*S	**Sb**	**05 07 49.4**	**+1.3**
ZAI	**Zaio**	**0.91**	**95**	P	**Pb**	**05 07 38.0**	**-1.9**
ZAI				S	**Sb**	**05 07 50.0**	**-1.7**
ZAI	**Zaio**	**0.91**	**95**	*i* P	**Pb**	**05 07 38.0**	**-1.9**
TZK	**Tazeka**	**1.00**	**196**	*i* P	**Pb**	**05 07 42.0**	**+0.4**
TZK				*i* S	**Sb**	**05 07 55.5**	**+0.9**
EALB	**Alboran**	**1.10**	**37**	P	**Pb**	**05 07 42.3**	**-1.0**
EALB				S	**Sb**	**05 07 58.8**	**+1.3**
EALB	**Alboran**	**1.10**	**37**	P	**Pb**	**05 07 43.7**	**+0.4**
5.4nm,0.1s,SNR=7.9							
EALB				S	**Sb**	**05 07 58.7**	**+1.3**
6.1nm,0.4s,SNR=7.9							
EALB	**Alboran**	**1.10**	**37**	P	**Pb**	**05 07 42.3**	**-1.0**
5.4nm,0.1s,SNR=7.9							
EALB				S	**Sb**	**05 07 58.7**	**+1.3**
6.1nm,0.4s,SNR=7.9							
TAF	**Taforalt**	**1.20**	**101**	P	**Pb**	**05 07 42.0**	**-2.9**
TAF				S	**Sb**	**05 08 00.0**	**-0.2**
EMIJ	**Mijas**	**1.69**	**334**	P	**Pn**	**05 07 52.0**	**-0.3**
EMIJ				S	**Sn**	**05 08 13.5**	**-0.4**
EMIJ	**Mijas**	**1.69**	**334**	P	**Pn**	**05 07 52.7**	**+0.4**
1.2nm,0.2s,SNR=7.9							
EMIJ				S	**Sn**	**05 08 14.5**	**+0.5**
3.2nm,0.3s,SNR=7.9							
EMIJ	**Mijas**	**1.69**	**334**	P	**Pn**	**05 07 52.0**	**-0.3**
1.2nm,0.2s,SNR=7.9							
EMIJ				S	**Sn**	**05 08 13.5**	**-0.4**
3.2nm,0.3s,SNR=7.9							
IFR	**Ifrane**	**1.87**	**215**	P	**Pn**	**05 07 57.0**	**+2.1**
IFR				S	**Sn**	**05 08 20.0**	**+1.5**
ERON	**Agron**	**1.96**	**1**	P	**Pn**	**05 07 57.0**	**+0.7**
1.6nm,0.6s,SNR=7.9							
ERON				S	**Sn**	**05 08 21.1**	**+0.2**
3.9nm,0.4s,SNR=4.0							
ERON	**Agron**	**1.96**	**1**	S	**Sn**	**05 08 20.8**	**-0.1**
3.9nm,0.4s,SNR=4.0							
EBER	**Berja**	**2.00**	**23**	P	**Pn**	**05 07 56.9**	**+0.1**
0.4nm,0.1s,SNR=7.9							
EBER				S	**Sn**	**05 08 22.5**	**+0.6**
9.2nm,0.4s,SNR=4.0							
EBER	**Berja**	**2.00**	**23**	P	**Pn**	**05 07 56.9**	**+0.2**
0.4nm,0.1s,SNR=7.9							
EBER				S	**Sn**	**05 08 22.5**	**+0.7**
9.2nm,0.4s,SNR=4.0							
MIF	**Mishlifen**	**2.00**	**215**	*e*P	**Pn**	**05 07 56.5**	**-0.4**
MIF				*e*S	**Sn**	**05 08 22.5**	**+0.5**
ELOJ	**Sierra Loja**	**2.10**	**353**	P	**Pn**	**05 07 59.3**	**+1.0**
1.3nm,0.4s,SNR=7.9							
ELOJ				S	**Sn**	**05 08 25.9**	**+1.3**
2.8nm,0.8s,SNR=7.9							
ECOG	**Cogollos-Vega**	**2.23**	**6**	P	**Pn**	**05 08 01.2**	**+1.1**
1.7nm,0.2s,SNR=7.9							
CZD	**Col de Zad**	**2.25**	**207**	*i* P	**Pn**	**05 08 00.0**	**-0.4**
CZD				*i* S	**Sn**	**05 08 28.5**	**+0.2**
EQES	**Quesada**	**2.81**	**13**	P	**Pn**	**05 08 10.5**	**+2.1**
EQES				S	**Sn**	**05 08 42.2**	**-0.4**
EQES	**Quesada**	**2.81**	**13**	P	**Pn**	**05 08 09.8**	**+1.3**
1.1nm,0.1s,SNR=9.1							
EQES				S	**Sn**	**05 08 42.2**	**-0.4**
1.7nm,0.2s,SNR=6.7							
EQES	**Quesada**	**2.81**	**13**	S	**Sn**	**05 08 42.2**	**-0.4**
1.7nm,0.2s,SNR=6.7							
EADA	**Adamuz**	**3.16**	**349**	P	**Pn**	**05 08 13.5**	**+0.1**
3.3nm,0.4s,SNR=7.9							
EADA				S	**Sn**	**05 08 51.0**	**-0.4**
3.8nm,0.6s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.54**	**321**	P	**Pn**	**05 08 18.6**	**-0.2**
0.3nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**05 08 58.6**	**-2.4**
0.5nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.54**	**321**	P	**Pn**	**05 08 18.6**	**-0.2**
0.3nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**05 08 58.6**	**-2.4**
0.5nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**3.73**	**16**	P	**Pn**	**05 08 21.5**	**0.0**
6.5nm,0.8s,SNR=7.9							

PALC	**Alcoutim**	**3.79**	**310**	*e*Sn	**Sn**	**05 09 05.3**	**-2.1**
1.8nm,0.4s							
PALC	**Alcoutim**	**3.79**	**310**	*e*Sn	**Sn**	**05 09 05.3**	**-2.1**
1.8nm,0.4s							
EGRO	**El Granado**	**3.84**	**311**	P	**Pn**	**05 08 22.0**	**-1.1**
EGRO				S	**Sn**	**05 09 05.9**	**-2.7**
EGRO	**El Granado**	**3.84**	**311**	P	**Pn**	**05 08 22.7**	**-0.4**
0.4nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	**05 09 05.9**	**-2.7**
1.1nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**3.84**	**311**	P	**Pn**	**05 08 22.0**	**-1.1**
0.4nm,0.1s,SNR=7.9							
EGRO				S	**Sn**	**05 09 05.9**	**-2.7**
1.1nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**4.03**	**27**	P	**Pn**	**05 08 26.7**	**+1.0**
ETOB	**Tobarra**	**4.03**	**27**	P	**Pn**	**05 08 26.2**	**+0.5**
1.8nm,0.4s,SNR=7.9							
ETOB	**Tobarra**	**4.03**	**27**	P	**Pn**	**05 08 26.7**	**+1.0**
1.8nm,0.4s,SNR=7.9							
EBAD	**Badajoz**	**4.48**	**326**	P	**Pn**	**05 08 31.0**	**-1.2**
0.4nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**05 09 21.6**	**-3.2**
0.3nm,0.1s,SNR=4.0							
EBAD	**Badajoz**	**4.48**	**326**	P	**Pn**	**05 08 31.0**	**-1.2**
0.4nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**05 09 21.6**	**-3.3**

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*IDC **21** 05:10:34.7±1.9,1.69N×96.99E,mb4.2/6,mb1 4.3/7, mb1mx4.0/20,mbtmp4.2/7,ML4.3/1,MS3.0/1,Ms1 3.2/1, ms1mx2.8/21,Error ellipse: s-maj=84.7km s-min=21.7km az=60.0*
*NEIC **21** 05:10:39.3±0.6,1.75N×97.04E,h30km,mb4.4/5,Error ellipse: s-maj=13.6km s-min=8.2km az=56.0*
ISC 21 05:10:38.8±5.7,1.8N±0.2×97.1E±0.3,h40km±43km,n14, σ0°41/14,mb4.2/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.97**	**45**	*e*Pn	**P**	**05 11 52.9**	**-0.1**
KSM	**Kuching**	**13.20**	**91**	P	**P**	**05 13 46.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**16.68**	**6**	Pn	**P**	**05 14 31.3**	**+0.1**
0.4nm,0.3s,baz=197,slow=10,SNR=5.6							
CMAR				LR	LR	05 22 16.4	
comp=Z,46nm,18.7s,baz=185,slow=42							
QIZ	**Qiongzhong**	**21.21**	**35**	*e*P	**P**	**05 15 22.7**	**-0.7**
12nm,1.3s,mb4.1							
BJT	**Baijiatuan**	**41.83**	**22**	*e*P	**P**	**05 18 26.7**	**+0.2**
11nm,0.5s,mb4.7							
WRA	**Warramunga Arr**	**42.42**	**122**	P	**P**	**05 18 31.7**	**+0.1**
0.4nm,0.4s,mb3.4,baz=303,slow=9.2,SNR=5.3							
WRAB	**Tennant Creek**	**42.43**	**122**	P	**P**	**05 18 31.4**	**-0.2**
5.8nm,1.0s,mb4.2							
SONM	**Songino Array**	**46.58**	**9**	P	**P**	**05 19 05.0**	**+0.4**
1.4nm,0.4s,mb4.3,baz=190,slow=9.6,SNR=24							
MKAR	**Makanchi Array**	**46.66**	**346**	P	**P**	**05 19 05.7**	**+0.3**
4.1nm,0.7s,mb4.5,baz=160,slow=8.0,SNR=50							
ULN	**Ulaanbaatar**	**46.71**	**9**	*e*P	**P**	**05 19 06.0**	**+0.3**
4.1nm,1.0s,mb4.3							
ZAL	**Zalesovo**	**52.97**	**351**	P	**P**	**05 19 53.5**	**0.0**
4.9nm,0.5s,mb4.7,baz=306,slow=5.8,SNR=20							
STKA	**Stephens Creek**	**53.81**	**132**	P	**P**	**05 19 59.9**	**-0.2**
1.3nm,0.6s,mb4.0,baz=39,slow=19,SNR=3.4							
CHKZ	**Chkalovo**	**56.16**	**341**	*e*P	**P**	**05 20 15.8**	**-1.0**
2.9nm,0.7s,mb4.4							
ARCES	**ARCESS Array B**	**81.97**	**340**	P	**P**	**05 22 56.1**	**+0.5**
2.4nm,0.8s,mb4.2,baz=90,slow=6.1,SNR=12							

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*IDC **21** 05:19:20.1±3.0,49.02S×161.59E,mb4.0/3,mb1 4.2/4, mb1mx3.9/12,mbtmp4.0/4,ML3.4/1,Error ellipse: s-maj=85.8km s-min=38.8km az=177.0*
*NEIC **21** 05:19:20.4±2.0,49.47S×161.44E,h10km,mb4.3/1,Error ellipse: s-maj=51.0km s-min=10.9km az=165.0*
ISC 21 05:19:21.1±1.5,49.0S±0.2×161.4E±0.2,h10km,n26, σ1§32/28,mb4.1/4,North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**5.89**	**54**	*e*P	**Pn**	**05 20 51.4**	**+0.8**
MLZ				S	**Sn**	**05 21 58.2**	**-0.8**
MLZ	**Mavora Lakes**	**5.89**	**54**	PN	**Pn**	**05 20 51.5**	**+0.9**
MLZ				SN	**Sn**	**05 21 58.0**	**-1.0**
MSZ	**Milford Sound**	**6.23**	**48**	*e*PN	**Pn**	**05 20 57.3**	**+1.9**
TUZ	**Tuapeka**	**6.36**	**64**	*e*P	**Pn**	**05 20 56.4**	**-0.8**
TUZ	**Tuapeka**	**6.36**	**64**	PN	**Pn**	**05 20 56.3**	**-0.9**
EAZ	**Earnscleugh**	**6.58**	**58**	*e*P	**Pn**	**05 20 59.9**	**-0.5**
EAZ	**Earnscleugh**	**6.58**	**58**	*e*PN	**Pn**	**05 20 59.8**	**-0.6**
WKZ	**Wanaka**	**6.68**	**54**	*e*P	**Pn**	**05 21 03.6**	**+1.8**
WKZ	**Wanaka**	**6.68**	**54**	PN	**Pn**	**05 21 03.6**	**+1.8**
JCZ	**Jackson Bay**	**7.08**	**48**	*e*P	**Pn**	**05 21 09.4**	**+2.1**
JCZ				*e*S	**Sn**	**05 22 27.5**	**-1.1**
JCZ	**Jackson Bay**	**7.08**	**48**	PN	**Pn**	**05 21 09.4**	**+2.1**
JCZ				SN	**Sn**	**05 22 28.5**	**0.0**
ODZ	**Otahua Downs**	**7.45**	**61**	*e*P	**Pn**	**05 21 10.0**	**-2.6**
ODZ	**Otahua Downs**	**7.45**	**61**	PN	**Pn**	**05 21 10.0**	**-2.6**
FOZ	**Fox Glacier**	**7.91**	**50**	*e*P	**Pn**	**05 21 20.5**	**+1.6**
FOZ	**Fox Glacier**	**7.91**	**50**	PN	**Pn**	**05 21 20.4**	**+1.4**
RPZ	**Rata Peaks**	**8.52**	**55**	Pn	**P**	**05 21 23.6**	**-3.8**
0.5nm,0.3s,baz=343,slow=16,SNR=5.4							
THZ	**Tophouse**	**10.85**	**52**	*e*P	**P**	**05 21 57.8**	**-1.7**
THZ	**Tophouse**	**10.85**	**52**	*e*PN	**P**	**05 21 57.8**	**-1.7**
QRZ	**Quartz Range**	**11.35**	**48**	*e*P	**P**	**05 22 06.3**	**-0.1**
QRZ	**Quartz Range**	**11.35**	**48**	*e*PN	**P**	**05 22 06.3**	**0.0**
ASAR	**Alice Springs**	**33.30**	**310**	P	**P**	**05 26 00.5**	**-0.4**
1.3nm,0.7s,mb4.0,baz=147,slow=8.5,SNR=11							
WRA	**Warramunga Arr**	**36.22**	**314**	P	**P**	**05 26 24.9**	**-1.1**
1.3nm,0.7s,mb4.0,baz=145,slow=8.2,SNR=6.4							
WRAB	**Tennant Creek**	**36.23**	**314**	P	**P**	**05 26 20.9**	**-5.1**
3.2nm,0.6s,mb4.4							
CMAR	**Chiang Mai Arr**	**87.02**	**303**	P	**P**	**05 32 08.4**	**+0.5**
0.5nm,0.3s,mb4.2,baz=147,slow=3.4,SNR=4.5							
FINES	**FINESS Array B**	**152.26**	**313**	PKPbc	PKPdf	05 39 16.0	+4.1
0.5nm,0.7s,baz=135,slow=3.9,SNR=3.5							
FINES	**FINESS Array B**	**152.26**	**313**	PKPbc	PKPdf	05 39 16.0	+4.1

IDC 21 05:41:51.9±3.7,1.69S×99.95E,mb3.7/5,mb1 3.9/5, mb1mx3.7/18,mbtmp3.7/5,Error ellipse: s-maj=167.2km s-min=21.8km az=56.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.19**	**121**	P	P	05 49 12.3	-3.0
0.7nm,0.4s,baz=303,slow=9.0,SNR=6.2							
ASAR	**Alice Springs**	**39.47**	**126**	P	P	05 49 25.4	-0.5
0.7nm,0.6s,baz=304,slow=7.3,SNR=9.5							
SONM	**Songino Array**	**49.64**	**6**	P	P	05 50 45.8	-1.5
0.3nm,0.5s,baz=196,slow=10,SNR=3.1							
MKAR	**Makanchi Array**	**50.72**	**344**	P	P	05 50 53.6	-1.9
0.5nm,0.4s,baz=161,slow=8.7,SNR=14							
ZAL	**Zalesovo**	**56.85**	**349**	P	P	05 51 37.6	-3.0
1.0nm,0.3s,baz=59,slow=0.3,SNR=3.8							
TXAR	**Lajitas Array**	**144.48**	**37**	PKP	PKPdf	06 01 29.9	-2.8
0.1nm,0.4s,baz=302,slow=1.1,SNR=4.8							

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*BJI **21** 06:36:16.0,33.70N×120.00W,h6km,mB4.9,Msz4.4*
*NEIC **21** 06:36:19.0,33.66N×120.03W,h6km,mb3.9/2, ML4.0(PAS),After PAS.*
*IDC **21** 06:36:20.7±2.0,33.83N×119.91W,mb3.2/2,mb1 3.6/8, mb1mx3.5/25,mbtmp3.3/8,ML3.6/6,MS3.1/5,Ms1 3.1/5, ms1mx2.9/14,Error ellipse: s-maj=27.6km s-min=16.1km az=48.0*
ISC 21 06:36:17.8±0.7,33.69N±0.05×120.09W±0.06,h6km,n46, σ1§26/50,mb3.6/3,MS3.2/2,Off coast of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWC	**Mount Wilson**	**1.77**	**72**	*e*Pn	**Pn**	**06 36 48.2**	**-1.1**
PFO	**Pinyon Flat Ob**	**3.04**	**91**	*e*Pn	**Pn**	**06 37 05.8**	**-1.6**
BAR	**Barrett**	**3.04**	**108**	*e*Pn	**Pn**	**06 37 05.1**	**-2.3**
SAO	**San Andreas Ge**	**3.26**	**341**	*e*Pn	**Pn**	**06 37 09.0**	**-1.5**
SAO				*e*S	**Sn**	**06 37 49.5**	**-0.6**
DAC	**Darwin (Calif)**	**3.30**	**38**	*e*Pn	**Pn**	**06 37 14.0**	**+3.0**
OMM	**Old Mammoth Mi**	**4.02**	**13**	*e*Pn	**Pn**	**06 37 21.8**	**+0.5**
OMM				*e*Sn	**Sn**	**06 38 08.0**	**-1.3**
CMB	**Columbia Colle**	**4.34**	**357**	*e*Pn	**Pn**	**06 37 25.8**	**-0.1**
CMB				*e*Sn	**Sn**	**06 38 16.9**	**-0.6**
LDFC	**Landfair**	**4.35**	**70**	*e*Pn	**Pn**	**06 37 23.6**	**-2.4**
NEN	**Nelson**	**4.75**	**64**	*e*Pn	**Pn**	**06 37 29.8**	**-1.8**
NVAR	**Mina Array Bea**	**4.95**	**17**	Pn	**Pn**	**06 37 35.2**	**+0.8**
0.9nm,0.3s,baz=201,slow=19,SNR=15							
NVAR				Lg		06 38 49.0	
2.3nm,0.3s,baz=194,slow=31,SNR=8.8							
TPH	**Tonopah**	**4.96**	**27**	Pn	**Pn**	**06 37 36.3**	**+1.6**
MNV	**Mina**	**4.99**	**18**	*e*Pn	**Pn**	**06 37 34.8**	**-0.2**
WCN	**Washoe City**	**5.61**	**3**	*e*Pn	**Pn**	**06 37 44.3**	**+0.5**
19nm,0.8s							
WCN				*e*Pb	**Pb**	**06 37 52.6**	**-3.4**
WCN				*e*Pg	**Pg**	**06 38 01.6**	**-8.1**
WCN				*e*S	**Sn**	**06 39 02.3**	**+13**
HOPS	**Hopland**	**5.81**	**336**	P	**Pn**	**06 37 44.7**	**-2.0**
ARUT	**Antelope Range**	**6.78**	**51**	*e*P	**Pn**	**06 38 00.4**	**0.0**
WUAZ	**Wupatki**	**7.42**	**73**	P	**Pn**	**06 38 09.7**	**+0.4**
TUC	**Tucson**	**7.94**	**97**	*e*P	**Pn**	**06 38 14.4**	**-2.2**
1.8nm,0.6s							
MVU	**Marysvale**	**7.98**	**51**	*e*P	**Pn**	**06 38 17.9**	**+0.8**
MSU	**Marysvale**	**8.01**	**51**	*e*P	**P**	**06 38 18.2**	**+0.6**
ELK	**Elko**	**8.03**	**27**	*e*P	**P**	**06 38 18.6**	**+0.7**
ELK				*e*S	Sx	06 40 23.7	
YBH	**Yreka Blue Hor**	**8.29**	**346**	Pn	**P**	**06 38 21.7**	**+0.2**
0.2nm,0.3s,baz=162,slow=13,SNR=2.9							
YBH				LR	LR	06 41 18.0	
comp=Z,84nm,18.8s,baz=297,slow=36							
SRU	**San Rafael**	**9.42**	**52**	*e*P	**P**	**06 38 38.7**	**+1.6**
HVU	**Hansel Valley**	**9.94**	**34**	*e*P	**P**	**06 38 45.1**	**+0.9**
PV10	**Paradox Valley**	**10.10**	**59**	*e*P	**P**	**06 38 46.5**	**+0.1**
PV01	**Paradox Valley**	**10.34**	**61**	*e*Pn	**P**	**06 38 51.2**	**+1.4**
ANMO	**Albuquerque**	**11.35**	**80**	Pn	**P**	**06 39 02.3**	**-1.2**
baz=297,slow=14,SNR=2.1							
PDAR	**Pinedale Array**	**12.27**	**39**	Pn	**P**	**06 39 16.2**	**+0.2**
0.2nm,0.3s,baz=27,slow=32,SNR=9.0							
LTX	**Lajitas**	**14.67**	**103**	Pn	**P**	**06 39 48.8**	**+1.0**
12nm,1.1s							
TXAR	**Lajitas Array**	**14.67**	**103**	Pn	**P**	**06 39 49.7**	**+1.9**
0.1nm,0.3s,baz=283,slow=7.9,SNR=16							
TXAR	**Lajitas Array**	**14.67**	**103**	Pn	**P**	**06 39 49.7**	**+1.9**
NEW	**Newport**	**14.73**	**8**	Pn	**P**	**06 39 51.4**	**+3.0**
0.1nm,0.3s,baz=205,slow=16,SNR=4.0							
NEW				LR	LR	06 44 42.2	
comp=Z,54nm,21.6s,baz=200,slow=34							
NEW	**Newport**	**14.73**	**8**	Pn	**P**	**06 39 51.4**	**+3.0**
NEW				LR	LR	06 44 42.2	
WALA	**Waterton Lakes**	**16.03**	**15**	P	**P**	**06 40 05.5**	**+0.1**
4.4nm,0.9s							
BBB	**Bella Bella**	**19.37**	**345**	LR	LR	06 49 00.8	
comp=Z,58nm,18.8s,baz=80,slow=39							
EDM	**Edmonton**	**20.11**	**12**	*e*P	**P**	**06 40 54.2**	**-0.8**
MIAR	**Mount Ida**	**21.96**	**80**	*e*P	**P**	**06 41 14.4**	**+0.4**
14nm,1.2s,mb4.3							
DLBC	**Dease Lake**	**25.64**	**348**	LR	LR	06 52 11.8	
comp=Z,62nm,21.1s,MS3.1,baz=317,slow=37							
YKA	**Yellowknife Ar**	**29.03**	**5**	P	**P**	**06 42 20.4**	**0.0**
0.2nm,0.7s,mb3.0,baz=202,slow=8.2,SNR=7.1							
YKA				LR	LR	06 54 57.3	
comp=Z,64nm,18.7s,MS3.3,baz=215,slow=39							
YKA	**Yellowknife Ar**	**29.03**	**5**	P	**P**	**06 42 20.4**	**0.0**
YKA				LR	LR	06 54 57.3	
ILAR	**Eielson Array**	**35.13**	**340**	P	**P**	**06 43 15.2**	**+1.4**
0.6nm,0.6s,mb3.7,baz=154,slow=8.8,SNR=8.5							
MDJ	**Mudanjiang**	**79.64**	**317**	P	**P**	**06 48 27.3**	**-0.2**
MDJ				AMB	AMB		
comp=Z,11nm,3.5s							
CN2	**Changchun**	**82.48**	**318**	*e*P	**P**	**06 48 40.6**	**-1.8**
BJI	**Beijing**	**90.09**	**320**	P	**P**	**06 49 21.0**	**+1.1**
SSE	**Sheshan**	**93.44**	**311**	P	**P**	**06 49 30.6**	**-4.9**
SSE				AMB	AMB		
comp=Z,18nm,3.6s							
NJ2	**Nanjing**	**94.22**	**313**	*e*P	**P**	**06 49 39.4**	**+0.3**
WMQ	**Urumqi**	**98.80**	**340**	*e*P	**P**	**06 50 02.5**	**+3.0**

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*IDC **21** 06:39:59.9±2.5,12.05N×90.37E,mb3.5/3,m

0.6nm,0.3s,baz=347,slow=14,SNR=23
WRA S **S** **07 23 51.0 -5.0**
2.5nm,0.3s,baz=346,slow=22,SNR=9.5
WB2 Warramunga Arr 14.39 167 *e*P **P** **07 21 16.9 -2.0**
WB2 *i* 07 21 25.0
WB2 *e*S **S** **07 23 46.1 -10**
ASAR Alice Springs 17.93 171 P **P** **07 22 04.7 +1.7**
3.4nm,0.3s,baz=350,slow=9.9,SNR=237
ASAR S **S** **07 25 17.2 +1.0**
0.7nm,0.3s,baz=354,slow=25,SNR=5.7
ASPA Alice Springs 17.93 171 *e*P **P** **07 22 04.6 +1.6**
ASPA *e*S **S** **07 25 14.5 -1.7**
MBWA Marble Bar 18.60 214 *e*P **P** **07 22 10.6 0.0**
7.3nm,0.6s
CTA Charters Tower 20.60 135 P **P** **07 22 33.9 +2.2**
5.7nm,0.7s,baz=322,slow=11,SNR=5.8
CTA Charters Tower 20.60 135 P **P** **07 22 33.9 +2.2**
CTAO Charters Tower 20.60 135 *e*P **P** **07 22 30.2 -1.5**
9.4nm,0.9s
STKA Stephens Creek 27.76 160⇓*i*P **P** **07 23 40.2 +0.3**
2.1nm,0.3s,mb4.2
STKA Stephens Creek 27.76 160 P **P** **07 23 40.2 +0.3**
2.5nm,0.3s,mb4.2,baz=342,slow=8.4,SNR=8.8
STKA Stephens Creek 27.76 160 *e*P **P** **07 23 39.9 -0.1**
KULM Kulim 32.10 290 P **P** **07 24 18.9 +0.4**
CMAR Chiang Mai Arr 39.66 308 P **P** **07 25 21.4 -0.9**
1.5nm,0.6s,mb4.0,baz=145,slow=8.2,SNR=6.1
SONM Songino Array 57.65 341 P **P** **07 27 40.0 -0.5**
0.2nm,0.5s,mb3.4,baz=167,slow=6.0,SNR=3.6
MKAR Makanchi Array 67.75 326 P **P** **07 28 47.4 +0.1**
0.5nm,0.4s,mb3.7,baz=114,slow=7.5,SNR=13
VNDA Vanda 73.45 173 P **P** **07 29 21.5 +0.4**
1.0nm,0.7s,mb3.8,baz=6.2,slow=2.4,SNR=7.3
VNDA Vanda 73.45 173 *e*P **P** **07 29 21.3 +0.2**
2.7nm,0.9s,mb4.1
SBA Scott Base 74.33 173 *e*P **P** **07 29 27.3 +1.1**
0.7nm,0.5s,mb3.6
QSPA South Pole Qui 84.09 180 *e*P **P** **07 30 18.8 +0.2**
4.3nm,0.8s,mb4.3
ILAR Eielson Array 92.00 25 P **P** **07 30 55.2 -1.5**
0.4nm,0.7s,mb3.7,baz=263,slow=3.8,SNR=6.4
LVC Limon Verde 145.73 146 PKPbc PKPbc 07 37 29.9 +3.2
1.2nm,0.5s,baz=244,slow=8.0,SNR=4.9
LVC Limon Verde 145.73 146 PKPbc PKPbc 07 37 29.9 +3.2

IDC 21 07:26:36.0±1.2, 8.84S×130.10E, mb3.8/3, mb1 4.0/6, mb1mx3.9/15, mbtmp3.9/6, ML3.6/3, MS3.6/3, Ms1 3.6/3, ms1mx3.1/22, Error ellipse: s-maj=46.1km s-min=18.3km az=76.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.18**	**205**	Pn	P	07 29 05.6	-1.1
	0.8nm,0.3s,baz=15,slow=13,SNR=14						
FITZ				Sn	S	07 30 58.6	-4.1
	2.1nm,0.3s,baz=203,slow=14,SNR=6.3						
WRA	**Warramunga Arr**	**11.78**	**160**	Pn	P	07 29 24.8	-3.6
	0.3nm,0.3s,baz=338,slow=13,SNR=8.2						
WRA				Sn	S	07 31 36.2	-5.6
	0.5nm,0.3s,baz=335,slow=22,SNR=8.2						
ASAR	**Alice Springs**	**15.19**	**167**	Pn	P	07 30 12.4	-1.3
	0.4nm,0.3s,baz=331,slow=9.1,SNR=7.4						
ASAR				Sn	S	07 32 59.4	-4.2
	0.1nm,0.3s,baz=351,slow=26,SNR=4.0						
ASAR				LR	LR	07 36 18.5	
	comp=Z,84nm,20.4s,baz=32,slow=38						
CTA	**Charters Tower**	**19.20**	**127**	LR	LR	07 38 51.6	
	comp=Z,64nm,20.4s,baz=228,slow=38						
STKA	**Stephens Creek**	**25.29**	**157**	P	P	07 32 04.6	-1.2
	0.7nm,0.4s,baz=337,slow=15,SNR=2.4						
SONM	**Songino Array**	**60.21**	**342**	P	P	07 36 45.8	-2.5
	0.6nm,0.8s,baz=162,slow=7.6,SNR=6.2						
SONM				LR	LR	08 08 16.3	
	comp=Z,296nm,18.2s,baz=224,slow=42						
MKAR	**Makanchi Array**	**69.81**	**327**	P	P	07 37 48.4	-2.1
	0.8nm,0.6s,baz=132,slow=6.3,SNR=6.4						

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*IDC **21** 07:33:55.7±0.5, 13.48N×145.76E, mb4.5/22, mb1 4.7/22, mb1mx4.6/27, mbtmp4.5/22, MS4.1/15, Ms1 4.1/15, ms1mx3.9/29, Error ellipse: s-maj=18.7km s-min=13.4km az=101.0*
*MOS **21** 07:33:58.2±1.1, 13.48N×145.87E, h33km, mb4.9/22, Error ellipse: s-maj=13.0km s-min=7.6km az=108.4*
*BJI **21** 07:34:00.0, 13.72N×145.53E, h20km, mB5.3, mb4.9, Ms4.5, Msz4.2*
*NEIC **21** 07:34:01.5±0.2, 13.48N×145.66E, mb4.8/39, MS4.1/2, Error ellipse: s-maj=7.1km s-min=6.0km az=135.0*
NEIC Felt at Hagatna.
ISC 21 07:33:59.3±0.2, 13.44N±0.04×145.67E±0.04, h34km, h34km±1.6km: pP-P, n156, σ1§21/158, mb4.8/80, MS4.2/30, 8C-7D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.79**	**281**	*e*P	**P**	**07 34 17.3**	**+3.3**
JOW	**Kunigami**	**21.04**	**312**	P	**P**	**07 38 42.6**	**-0.2**
	11nm,0.5s,mb4.5,baz=127,slow=5.2,SNR=4.4						
MJAR	**Matsushiro Arr**	**23.96**	**345**	P	**P**	**07 39 10.6**	**-0.9**
	4.5nm,0.7s,mb4.0,baz=153,slow=9.1,SNR=9.7						
MAJO	**Matsushiro**	**23.96**	**345**	*e*P	**P**	**07 39 10.1**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.5						
MAJO	**Matsushiro**	**23.96**	**345**	*e*P	**P**	**07 39 10.1**	**-1.5**
	comp=Z,18nm,0.9s,mb4.5						
MAT	**Matsushiro**	**23.96**	**345**	*e*P	**P**	**07 39 12.0**	**+0.5**
MAT				*e*S	**S**	**07 43 25.0**	**+2.0**
MAT				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.5						
MAT	**Matsushiro**	**23.96**	**345**	*e*P	**P**	**07 39 12.0**	**+0.5**
	comp=Z,22nm,1.2s,mb4.5						
MAT				*e*S	**S**	**07 43 25.0**	**+2.0**
MAT	**Matsushiro**	**23.96**	**345**	P	**P**	**07 39 12.1**	**+0.6**
MAT				S	**S**	**07 43 25.0**	**+2.0**
HNR	**Honiara**	**26.78**	**147**	LR	LR	07 48 03.2	
	comp=Z,308nm,21.8s,MS3.8,baz=149,slow=32						
SSE	**Sheshan**	**28.56**	**312**	P	**P**	**07 39 51.4**	**-3.0**
SSE				AP	pP	07 40 02.8	-1.3
SSE				XP	sP	07 40 07.5	-1.0
SSE				S	**S**	**07 44 37.6**	**-1.1**
SSE				XS		07 44 56.3	
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,42nm,3.5s						
SSE				LR	LR		
	comp=N,239nm,25.0s,MS3.9						
SSE				LR	LR		
	comp=E,260nm,25.0s,MS3.9						
SSE				LR	LR		
	comp=Z,369nm,19.9s						
SSE	**Sheshan**	**28.56**	**312**	P	**P**	**07 39 51.4**	**-3.0**
	comp=Z,19nm,0.7s,mb4.9						
SSE				pP	pP	07 40 02.7	-1.4
SSE				sP	sP	07 40 07.5	-1.0
SSE				S	**S**	**07 44 37.6**	**-1.1**
SSE				sS		07 44 56.3	
SSE				LR	LR		
	comp=Z,370nm,19.9s,MS4.0						
ASAJ	**Asahikawa**	**30.69**	**356**	LR	LR	07 53 20.5	
	comp=Z,259nm,19.4s,MS3.9,baz=1.5,slow=38						
NJ2	**Nanjing**	**30.76**	**311**	*e*P	**P**	**07 40 10.8**	**-3.1**
NJ2				AP	pP	07 40 20.8	-2.9
NJ2				PP	PP	07 41 17.5	+2.1
NJ2				S	**S**	**07 45 16.0**	**+2.5**
NJ2				AMB	AMB		
	comp=Z,80nm,1.3s,mb5.4						
NJ2				LR	LR		
	comp=N,950nm,21.0s,MS4.5						
NJ2				LR	LR		
	comp=E,570nm,20.1s,MS4.5						
NJ2				LR	LR		
	comp=Z,340nm,18.9s,MS4.0						
MDJ	**Mudanjiang**	**33.97**	**339**	P	**P**	**07 40 40.9**	**-0.9**
MDJ				AP	pP	07 40 49.4	-2.2
MDJ				XP	sP	07 40 53.4	-2.7
MDJ				PCP	PcP	07 43 18.8	-0.8
MDJ				S	**S**	**07 46 04.3**	**+0.8**
MDJ				XS		07 46 19.0	
MDJ				SCP		07 46 59.0	
MDJ				PCS		07 47 05.1	
MDJ				AMB	AMB		
	comp=Z,320nm,5.1s						
MDJ				LR	LR		
	comp=E,291nm,31.1s						
MDJ				LR	LR		
	comp=Z,336nm,22.5s						
QIZ	**Qiongzhong**	**34.80**	**284**	*e*P	**P**	**07 40 50.8**	**+1.6**
QIZ				S	**S**	**07 46 19.4**	**+2.8**
QIZ				LR	LR		
	comp=E,341nm,20.4s						
QIZ				LR	LR		
	comp=Z,409nm,20.5s,MS4.2						
QIZ	**Qiongzhong**	**34.80**	**284**	P	**P**	**07 40 54.7**	**+5.5**
	comp=Z,12nm,1.3s,mb4.7						
CN2	**Changchun**	**34.88**	**334**	*e*P	**P**	**07 40 49.8**	**+0.2**
CN2				*e*S	**S**	**07 46 19.0**	**+1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,19.0s,MS4.1						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.1						
CN2				LR	LR		
	comp=Z,200nm,19.0s,MS3.9						
WRAB	**Tennant Creek**	**34.98**	**199**	*e*P	**P**	**07 40 49.6**	**-1.1**
WB2	**Warramunga Arr**	**34.99**	**199**	*e*P	**P**	**07 40 50.1**	**-0.7**
WRA	**Warramunga Arr**	**34.99**	**199**	P	**P**	**07 40 50.5**	**-0.3**
	comp=Z,10nm,0.8s,mb4.8,baz=20,slow=9.6,SNR=30						
KSM	**Kuching**	**36.95**	**254**	*e*P	**P**	**07 41 07.2**	**-0.2**
KSM				*e*		07 41 20.9	
BJT	**Baijiatuau**	**37.04**	**321**	P	**P**	**07 41 07.8**	**-0.1**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJT	**Baijiatuau**	**37.04**	**321**	P	**P**	**07 41 07.8**	**-0.1**
	comp=Z,9.0nm,0.7s,mb4.7						
BJI	**Beijing**	**37.05**	**321**	P	**P**	**07 41 10.0**	**+2.0**
BJI				AP	pP	07 41 18.8	+0.9
BJI				XP	sP	07 41 22.8	+0.5
BJI				PCP	PcP	07 43 28.3	-0.4
BJI				S	**S**	**07 46 54.1**	**+3.1**
BJI				SCS	ScS	07 51 21.3	+3.5
BJI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.5						
BJI				LR	LR		
	comp=N,391nm,14.5s,MS4.4						
BJI				LR	LR		
	comp=E,230nm,12.9s,MS4.4						
BJI				LR	LR		
	comp=Z,187nm,21.4s						
FITZ	**Fitzroy Crossi**	**37.05**	**213**	P	**P**	**07 41 08.1**	**-0.1**
	comp=Z,42nm,0.8s,mb5.3,baz=36,slow=7.9,SNR=20						
ENH	**Enshi**	**37.32**	**303**	*e*P	**P**	**07 41 10.8**	**+0.4**
	comp=Z,15nm,0.8s,mb4.9						
ASAR	**Alice Springs**	**38.63**	**197**	P	**P**	**07 41 21.1**	**-0.3**
	comp=Z,3.5nm,0.8s,mb4.1,baz=17,slow=11,SNR=20						
ASAR				LR	LR	07 57 06.5	
	comp=Z,195nm,18.9s,MS4.0,baz=15,slow=36						
ASPA	**Alice Springs**	**38.63**	**197**	*e*P	**P**	**07 41 21.0**	**-0.4**
GYA	**Guiyang**	**38.73**	**296**	↑*i*P	**P**	**07 41 23.4**	**+1.2**
GYA				AP	pP	07 41 33.3	+1.2
GYA				XP	sP	07 41 37.1	+0.6
GYA				PP	PP	07 42 55.5	+0.6
GYA				S	**S**	**07 47 15.8**	**-0.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				LR	LR		
	comp=N,280nm,15.2s,MS4.4						
GYA				LR	LR		
	comp=E,340nm,15.0s,MS4.4						
GYA				LR	LR		
	comp=Z,420nm,15.8s,MS4.4						
PET	**Petropavlovsk**	**40.82**	**12**	*e*P	sP	07 41 52.9	-0.7
HIA	**Hailar**	**41.61**	**334**	*e*P	**P**	**07 41 46.1**	**+0.3**
HIA				*e*	pP	07 41 56.7	+0.9
HIA				pmax	pmax		
	comp=Z,14nm,0.8s						
HIA	**Hailar**	**41.61**	**334**	*e*P	**P**	**07 41 46.1**	**+0.3**
	comp=Z,14nm,0.8s,mb4.6						
HIA				*e*	pP	07 41 56.7	+0.9
KMI	**Kunming**	**41.99**	**293**	P	**P**	**07 41 49.4**	**+0.2**
KMI				S	**S**	**07 48 06.6**	**+1.2**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.5						
KMI				LR	LR		
	comp=N,256nm,15.9s,MS4.3						
KMI				LR	LR		
	comp=E,270nm,17.7s,MS4.3						
KMI				LR	LR		
	comp=Z,316nm,21.0s,MS4.2						
KMI	**Kunming**	**41.99**	**293**	P	**P**	**07 41 49.4**	**+0.2**
	comp=Z,8.0nm,0.6s,mb4.5						
KMI				S	**S**	**07 48 06.6**	**+1.2**
KMI				LR	LR		
	comp=Z,320nm,21.0s,MS4.2						
MBWA	**Marble Bar**	**42.79**	**217**	*e*P	**P**	**07 41 56.0**	**+0.1**
	comp=Z,20nm,0.8s,mb4.9						
LZH	**Lanzhou**	**43.72**	**309**	⇑P	**P**	**07 42 03.5**	**+0.3**
LZH				AP	pP	07 42 14.0	+0.7
LZH				PP	PP	07 43 52.0	+5.3
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,100nm,5.0s						
LZH				LR	LR		
	comp=E,630nm,16.0s						
LZH				LR	LR		
	comp=Z,860nm,16.6s,MS4.7						
CM31	**Chiang Mai Arr**	**45.11**	**283**	*e*P	**P**	**07 42 14.3**	**-0.3**
	comp=Z,15nm,0.9s,mb4.8						
CMAR	**Chiang Mai Arr**	**45.11**	**283**	P	**P**	**07 42 15.9**	**+1.4**
	comp=Z,7.9nm,0.7s,mb4.6,baz=85,slow=6.1,SNR=32						
CMAR				PcP	PcP	07 43 57.1	+1.9
	comp=Z,9.4nm,0.8s,baz=94,slow=1.6,SNR=22						
CMAR				LR	LR	08 02 23.4	
	comp=Z,143nm,18.1s,MS3.9,baz=95,slow=38						
STKA	**Stephens Creek**	**45.22**	**185**	*e*P	**P**	**07 42 13.4**	**-1.9**
	comp=Z,3.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**45.22**	**185**	P	**P**	**07 42 13.9**	**-1.4**
	comp=Z,4.2nm,0.8s,mb4.3,baz=10,slow=8.1,SNR=7.6						
ULN	**Ulaanbaatar**	**46.95**	**325**⇓	*e*P	**P**	**07 42 29.3**	**+0.6**
ULN	**Ulaanbaatar**	**46.95**	**325**	*e*P	**P**	**07 42 28.4**	**-0.3**
	comp=Z,3.6nm,0.7s,mb4.4						
FORT	**Forrest**	**47.11**	**201**⇓	*i*P	**P**	**07 42 30.3**	**+0.1**
	comp=Z,446nm,0.9s						
SONM	**Songino Array**	**47.30**	**325**	P	**P**	**07 42 31.9**	**+0.4**
	comp=Z,2.2nm,0.6s,mb4.3,baz=137,slow=7.7,SNR=21						
SONM				PcP	PcP	07 44 02.8	+0.2
	comp=Z,2.3nm,1.0s,baz=180,slow=1.2,SNR=4.4						
GTA	**Gaotai**	**47.85**	**311**	*e*P	**P**	**07 42 36.8**	**+0.8**
GTA				AP	pP	07 42 47.5	+1.4
GTA				XP	sP	07 42 52.4	+2.1
GTA				PCP	PcP	07 44 06.1	+1.4
GTA				PP	PP	07 44 27.1	0.0
GTA				S	**S**	**07 49 31.8**	**+2.1**
GTA				SS	SS	07 52 49.0	-3.8
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.8						
GTA				AMB	AMB		
	comp=Z,75nm,6.5s						
GTA				LR	LR		
	comp=N,312nm,19.2s,MS4.3						
GTA				LR	LR		
	comp=E,229nm,24.2s,MS4.3						
GTA				LR	LR		
	comp=Z,283nm,22.7s,MS4.2						
YAK	**Yakutsk**	**49.86**	**350**	*e*P	**P**	**07 42 47.9**	**-3.3**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
BOD	**Bodaibo**	**50.34**	**339**	*e*P	**P**	**07 42 53.3**	**-1.5**
BOD				*e*	pP	07 43 01.9	-3.1
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
BOD				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
ZAK	**Zakamensk**	**50.40**	**326**	*e*P	**P**	**07 42 54.7**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
TLY	**Talaya**	**50.90**	**328**⇓	*e*P	**P**	**07 42 57.0**	**-2.2**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
TLY				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.9						
LSA	**Lhasa**	**52.76**	**297**	*e*P	**P**	**07 43 13.9**	**+0.5**
LSA				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
LSA	**Lhasa**	**52.76**	**297**	*e*P	**P**	**07 43 13.9**	**+0.4**
	comp=Z,11nm,1.1s,mb4.7						
BILL	**Bilibino**	**56.18**	**9**⇓	*e*P	**P**	**07 43 36.3**	**-1.7**
BILL				*i*	pP	07 43 47.5	-0.8
BILL				*i*		07 43 53.9	
BILL				*e*		07 45 38.6	
BILL				*e*S	**S**	**07 51 16.9**	**-6.4**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
BILL	**Bilibino**	**56.18**	**9**	*e*P	**P**	**07 43 35.7**	**-2.2**
	comp=Z,14nm,0.9s,mb5.0						
JIRN	**Jiri**	**56.98**	**294**	*e*P	**P**	**07 43 44.0**	**-0.2**
	comp=Z,14nm,0.7s,mb5.1						
GUN	**Gumba**	**57.26**	**295**	*e*P	**P**	**07 43 46.1**	**-0.1**
	comp=Z,25nm,0.8s,mb5.3						
PKI	**Pulchoki**	**57.67**	**294**	*e*P	**P**	**07 43 48.0**	**-1.1**
	comp=Z,10nm,0.6s,mb5.1						
KKN	**Kakani**	**57.79**	**294**	*e*P	**P**	**07 43 49.0**	**-0.9**
	comp=Z,18nm,1.0s,mb5.1						
WMQ	**Urumqi**	**57.80**	**314**	P	**P**	**07 43 50.6**	**+0.8**
WMQ				AP	pP	07 44 00.8	+0.7
WMQ				XP	sP	07 44 05.1	+1.0
WMQ				PCP	PcP	07 44 39.6	-2.4
WMQ				PP	PP	07 46 02.3	+2.7
WMQ				S	**S**	**07 51 45.6**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,12nm,0.6s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,22nm,4.9s						
WMQ				LR	LR		
	comp=N,280nm,28.0s,MS4.4						
WMQ				LR	LR		
	comp=E,277nm,24.7s,MS4.4						
WMQ				LR	LR		
	comp=Z,189nm,21.4s,MS4.2						
DMN	**Daman**	**57.94**	**294**	*e*P	**P**	**07 43 50.4**	**-0.6**
	comp=Z,7.7nm,0.3s,mb5.2						
GKN	**Gorkha**	**58.36**	**295**	*e*P	**P**	**07 43 52.8**	**-1.1**
	comp=Z,26nm,0.9s,mb5.3						
TIXI	**Tiksi**	**59.06**	**354**⇓	*e*P	**P**	**07 43 54.9**	**-3.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,100nm,13.0s,MS4.1						
KOLN	**Koldanda**	**59.28**	**294**	*e*P	**P**	**07 43 59.5**	**-0.8**
	comp=Z,11nm,0.7s,mb5.0						
TNA	**Tin City**	**60.72**	**20**	*e*P	**P**	**07 44 08.9**	**-0.8**
	comp=Z,7.9nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**62.14**	**316**	*i*P	**P**	**07 44 19.0**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**62.14**	**316**	P	**P**	**07 44 19.4**	**0.0**
	comp=Z,2.3nm,0.4s,mb4.7,baz=95,slow=8.8,SNR=42						
MKAR				LR	LR	08 12 23.8	
	comp=Z,122nm,18.8s,MS4.1,slow=37						
ZAL	**Zalesovo**	**62.21**	**324**	P	**P**	**07 44 18.1**	**-1.7**
	comp=Z,1.3nm,0.6s,mb4.3,baz=358,slow=7.1,SNR=7.1						
NVS	**Novosibirsk**	**63.33**	**325**	*e*P	**P**	**07 44 25.8**	**-1.5**
NVS				*e*S	**S**	**07 52 57.8**	**+2.3**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.8						
NVS				smax			
	comp=N,10.0nm,1.6s						
SVW2	**Sparrevohn**	**63.45**	**28**	*e*P	**P**	**07 44 26.5**	**-1.4**
PALK	**Pallekele**	**64.06**	**272**	*e*P	**P**	**07 44 32.4**	**-0.2**
	comp=N,11nm,0.9s,mb4.9						
IMA	**Indian Mountai**	**66.09**	**23**	*e*P	**P**	**07 44 44.0**	**-0.9**
IMA				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
IMA	**Indian Mountai**	**66.09**	**23**	*e*P	**P**	**07 44 44.0**	**-0.9**
	comp=Z,0.9nm,0.5s,mb4.1						
SML	**Sawmill**	**66.97**	**28**	*e*P	**P**	**07 44 49.3**	**-1.2**
MCK	**McKinley**	**67.23**	**26**	*e*P	**P**	**07 44 49.6**	**-2.5**
MCK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
MCK	**McKinley**	**67.23**	**26**	*e*P	**P**	**07 44 49.6**	**-2.5**
	comp=Z,10nm,1.3s,mb4.7						
COLA	**College**	**68.00**	**25**	*e*P	**P**	**07 44 54.9**	**-2.0**
COLA				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
COLA	**College**	**68.00**	**25**	*e*P	**P**	**07 44 54.9**	**-2.1**
	comp=Z,15nm,1.3s,mb4.9						
ILAR	**Eielson Array**	**68.37**	**25**	P	**P**	**07 44 57.3**	**-1.9**
	comp=Z,4.3nm,0.8s,mb4.5,baz=253,slow=5.5,SNR=30						
ILAR				LR	LR	08 16 56.7	
	comp=Z,118nm,18.4s,MS4.2,baz=184,slow=38						
THY	**Trims Highway**	**68.53**	**27**	*e*P	**P**	**07 44 59.5**	**-0.7**
BVA0	**Borovoye Array**	**70.53**	**322**	P	**P**	**07 45 12.2**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
BVAR	**Borovoye Array**	**70.53**	**322**	P	**P**	**07 45 12.3**	**-0.3**
	comp=Z,3.5nm,0.5s,mb4.5,baz=101,slow=7.5,SNR=27						
PPT	**Papeete**	**70.94**	**114**	*e*LR	LR	08 06 03.4	
	comp=Z,393nm,21.2s,baz=323						
PPT	**Papeete**	**70.94**	**114**	*e*LR	LR	08 09 38.0	
	comp=Z,382nm,21.1s,MS4.6,baz=62,slow=30						
DAWY	**Dawson**	**71.42**	**27**	*e*P	**P**	**07 45 17.2**	**-0.7**
TBI	**Tubuai**	**73.22**	**120**	*e*LR	LR	08 07 09.9	
	comp=Z,262nm,31.5s,baz=321						
INK	**Inuvik**	**74.21**	**22**	P	**P**	**07 45 33.7**	**-0.5**
	comp=Z,7.1nm,1.0s,mb4.5,baz=266,slow=7.1,SNR=22						
INK	**Inuvik**	**74.21**	**22**	*e*P	**P**	**07 45 32.9**	**-1.2**
	comp=Z,31nm,1.3s,mb5.1						
DLBC	**Dease Lake**	**75.69**	**33**	*e*P	**P**	**07 45 42.9**	**0.0**
SVE	**Sverdlovsk**	**76.16**	**326**	*e*P	**P**	**07 45 48.6**	**+3.1**
SVE				MLR	MLR		
	comp=N,100nm,20.0s,MS4.6						
SVE				MLR	MLR		
	comp=E,300nm,20.0s,MS4.6						
SVE				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.8						
ARU	**Arti**	**77.33**	**325**⇓	*e*P	**P**	**07 45 51.4**	**-0.8**
ARU				pmax	pmax		
	comp=Z,24nm,0.7s,mb5.2						
ARU				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
WBK	**Wadi Bani Khal**	**81.95**	**291**	⇑P	**P**	**07 46 19.1**	**+1.4**
YBH	**Yreka Blue Hor**	**82.38**	**49**	P	**P**	**07 46 20.9**	**+1.3**
	comp=Z,3.0nm,0.8s,mb4.3,baz=299,slow=8.1,SNR=7.7						
YKW3	**Yellowknife Ar**	**82.61**	**27**	*e*P	**P**	**07 46 17.6**	**-2.6**
YKA	**Yellowknife Ar**	**82.64**	**27**	P	**P**	**07 46 20.4**	**0.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=286,slow=5.2,SNR=36						
YKA				LR	LR	08 21 17.8	
	comp=Z,134nm,19.2s,MS4.3,baz=285,slow=34						
HOQ	**Hoqain**	**83.25**	**293**	⇑P	**P**	**07 46 25.6**	**+1.2**
	SNR=9.1						
ARQ	**Araqi**	**84.02**	**292**	⇓P	**P**	**07 46 30.4**	**+2.1**
	SNR=6.6						
MOD	**Modoc**	**84.11**	**48**	*e*P	**P**	**07 46 28.8**	**+0.4**
	comp=Z,13nm,1.2s,mb4.9						
RES	**Resolute Bay**	**84.52**	**13**	*e*P	**P**	**07 46 29.4**	**-0.3**
RES				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
RES	**Resolute Bay**	**84.52**	**13**	*e*P	**P**	**07 46 29.4**	**-0.2**

KEV	**Kevo**	**86.90**	**342**	*ep*	**P**		**07 46 41.0**	**-0.5**
	comp=Z,1.3nm,0.4s,mb4.5							
KEV	**Kevo**	**86.90**	**342**	*eP*	**P**		**07 46 41.0**	**-0.5**
KEV				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.4							
RBK	**Rabkut**	**87.40**	**287**	⇑P	**P**		**07 46 46.1**	**+1.0**
	SNR=11							
ARCES	**ARCESS Array B**	**87.47**	**342**	P	**P**		**07 46 44.5**	**+0.3**
	comp=Z,11nm,0.9s,mb5.1,baz=70,slow=6.3,SNR=16							
ARCES				LR	LR		08 26 57.1	
	comp=Z,134nm,21.3s,MS4.3,baz=182,slow=36							
ARCES	**ARCESS Array B**	**87.47**	**342**	P	**P**		**07 46 44.5**	**+0.3**
ARCES				LR	LR		08 26 57.1	
WHFO	**Wadi Hawf**	**87.71**	**288**	⇑P	**P**		**07 46 47.0**	**+0.5**
	SNR=12							
CHMT	**Chamberlain Mo**	**87.71**	**42**	*eP*	**P**		**07 46 46.3**	**+0.5**
HLID	**Hailey**	**87.89**	**46**	*eP*	**P**		**07 46 48.1**	**+1.3**
	comp=Z,9.9nm,1.1s,mb5.0							
ELK	**Elko**	**88.09**	**49**	*eP*	**P**		**07 46 48.9**	**+1.0**
	comp=Z,17nm,1.1s,mb5.2							
ABTO	**Aybut**	**88.28**	**287**	⇑P	**P**		**07 46 49.8**	**+0.5**
	SNR=13							
HRY	**Holter Researc**	**88.70**	**42**	*eP*	**P**		**07 46 52.2**	**+1.6**
JOF	**Joensuu**	**88.76**	**335**	*ep*	**P**		**07 46 49.3**	**-1.2**
	comp=Z,0.8nm,0.3s,mb4.5							
QLMT	**Earthquake Lak**	**89.56**	**44**	*eP*	**P**		**07 46 56.8**	**+2.0**
OBN	**Obninsk**	**89.65**	**327**	*eP*	**P**		**07 46 54.1**	**-0.8**
OBN				*e*			07 57 16.0	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.8							
OBN				MLR	MLR			
	comp=Z,100nm,19.0s,MS4.3							
LDFC	**Landfair**	**89.76**	**54**	*eP*	**P**		**07 46 57.8**	**+1.9**
NEN	**Nelson**	**89.81**	**53**	*eP*	**P**		**07 46 57.7**	**+1.5**
KIV	**Kislovodsk**	**89.89**	**315**	*eP*	**P**		**07 46 56.8**	**+0.5**
KIV				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb5.0							
KIV				pmax	pmax			
	comp=E,6.0nm,0.7s							
YMR	**Madison River**	**89.93**	**44**	*eP*	**P**		**07 46 54.8**	**-1.7**
DUG	**Dugway**	**90.02**	**49**	*eP*	**P**		**07 46 56.8**	**-0.2**
	comp=E,18nm,1.3s,mb5.2							
YNR	**Norris Junctio**	**90.10**	**44**	*eP*	**P**		**07 47 01.5**	**+4.2**
RRI2	**Red Ridge**	**90.11**	**45**	*eP*	**P**		**07 46 58.9**	**+1.5**
	comp=E,17nm,1.4s,mb5.2							
ARUT	**Antelope Range**	**90.27**	**51**	*eP*	**P**		**07 46 59.7**	**+1.5**
LKWY	**Lake**	**90.34**	**44**	*eP*	**P**		**07 47 05.8**	**+7.4**
	comp=E,13nm,1.2s,mb5.1							
HWUT	**Hardware Ranch**	**90.49**	**47**	*eP*	**P**		**07 47 00.2**	**+1.1**
	comp=E,12nm,1.3s,mb5.0							
MSU	**Marysvale**	**91.00**	**50**	*eP*	**P**		**07 47 01.8**	**+0.1**
DAU	**Daniels Canyon**	**91.09**	**48**	*eP*	**P**		**07 47 04.1**	**+2.1**
KAF	**Kangasniemi**	**91.18**	**336**	*ep*	**P**		**07 46 59.1**	**-2.8**
	comp=E,2.1nm,0.6s,mb4.6							
KAF	**Kangasniemi**	**91.18**	**336**	*eP*	**P**		**07 46 59.1**	**-2.8**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.6							
VNDA	**Vanda**	**91.27**	**177**	LR	LR		08 27 38.5	
	comp=Z,71nm,20.5s,MS4.1,baz=230,slow=35							
PDAR	**Pinedale Array**	**91.52**	**45**	P	**P**		**07 47 02.6**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=270,slow=3.6,SNR=2.4							
PDAR				LR	LR		08 26 18.3	
	comp=Z,162nm,19.2s,MS4.5,baz=279,slow=34							
FINES	**FINESS Array B**	**91.62**	**335**	P	**P**		**07 47 02.9**	**-1.1**
	comp=Z,1.4nm,0.3s,mb4.7,baz=60,slow=4.9,SNR=27							
FINES				LR	LR		08 31 27.2	
	comp=Z,82nm,18.8s,MS4.2,baz=155,slow=38							
SRU	**San Rafael**	**92.04**	**49**	*eP*	**P**		**07 47 07.6**	**+1.1**
WUAZ	**Wupatki**	**92.55**	**53**	*eP*	**P**		**07 47 11.3**	**+2.4**
	comp=Z,13nm,1.1s,mb5.3							
PV10	**Paradox Valley**	**93.38**	**49**	*eP*	**P**		**07 47 12.1**	**-0.5**
PV01	**Paradox Valley**	**93.81**	**50**	*eP*	**P**		**07 47 15.1**	**+0.6**
ULM	**Lac du Bonnet**	**96.93**	**35**	LR	LR		08 31 46.5	
	comp=Z,153nm,18.1s,MS4.5,baz=278,slow=36							
NB2	**NORSAR Subarra**	**97.47**	**339**	P	**P**		**07 47 29.6**	**-1.0**
	comp=Z,1.4nm,0.8s,mb4.4,baz=52,slow=4.8							
NOA	**NORSAR Array B**	**97.47**	**339**	P	**P**		**07 47 30.1**	**-0.5**
	comp=Z,0.5nm,0.9s,mb4.0,baz=56,slow=4.1,SNR=6.0							
NOA				LR	LR		08 35 18.6	
	comp=Z,90nm,20.7s,MS4.2,baz=10.0,slow=38							
BRTR	**Keskin Array B**	**97.73**	**314**	P	**P**		**07 47 31.3**	**-1.0**
	comp=Z,0.7nm,0.5s,mb4.5,baz=56,slow=4.5,SNR=4.9							
LSZ	**Lusaka**	**119.59**	**260**	*e*PKPdf	PKPdf		07 52 49.5	+2.9
DBIC	**Dimbokro**	**144.56**	**303**	PKP	PKPdf		07 53 34.1	+0.7
	comp=Z,29nm,0.9s,baz=30,slow=4.7,SNR=21							
DBIC	**Dimbokro**	**144.56**	**303**	*e*PKPpre			07 53 33.6	
LPAZ	**La Paz**	**147.23**	**99**	PKPbc	PKPdf		07 53 42.9	+5.0
	comp=Z,1.6nm,0.7s,baz=271,slow=4.2,SNR=7.4							
LPAZ	**La Paz**	**147.23**	**99**	*e*PKPdf	PKPdf		07 53 42.2	+4.4
SAML	**Samuel**	**151.36**	**84**	*e*PKPdf	PKPdf		07 53 46.0	+1.6

NIED ***21*** *08:09:00,24.10N×121.40E,h23km,Mw3.7 Best double couple: M₀3.42×10¹⁴ NP1:φ=40°,δ58°,λ65°. NP2:φ=262°, δ40°,λ125°.*
JMA ***21*** *08:09:54.2±0.3,24.07N×121.43E,h29km,M3.5*
TAP ***21*** *08:09:58.7,24.25N×121.76E,h11km,ML3.8*
TAP Felt III J at Nanau, I J at Chiawan, I J at Suao, I J at Nanshan, II J at Nioudou, I J at Neicheng.

ISC 21 08:09:58.9±0.2,24.25N±0.01×121.79E±0.02,h11km,n56, σ1§12/98,9C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.07**	**325**	⇓P	**Pg**	**08 10 01.0**	**-0.3**
EHP				S	**Sg**	**08 10 03.0**	**+0.1**
ENA	**Nanau**	**0.18**	**347**	⇑*i*P	**Pg**	**08 10 02.5**	**-0.4**
ENA				S	**Sg**	**08 10 05.6**	**-0.1**
TWD	**Chiawan**	**0.24**	**225**	⇑*i*P	**Pg**	**08 10 03.3**	**-0.8**
TWD				S	**Sg**	**08 10 06.9**	**-0.7**
HWA	**Hwalien**	**0.32**	**211**	*eP*	**Pg**	**08 10 05.3**	**-0.3**
TWC	**Suao**	**0.36**	**9**	⇑*i*P	**Pg**	**08 10 05.9**	**-0.5**
TWC				S	**Sg**	**08 10 11.1**	**-0.2**
NNS	**Nan Shan**	**0.42**	**297**	⇑*i*P	**Pg**	**08 10 06.5**	**-0.9**
NNS				S	**Sg**	**08 10 12.1**	**-1.2**
ENTT	**Nioudou**	**0.43**	**333**	⇑*i*P	**Pg**	**08 10 07.1**	**-0.7**
ENTT				S	**Sg**	**08 10 13.1**	**-0.6**
TWE	**Neicheng**	**0.48**	**347**	⇑*i*P	**Pg**	**08 10 08.0**	**-0.7**
TWE				S	**Sg**	**08 10 14.8**	**-0.4**
ILA	**Ilan**	**0.51**	**356**	*eP*	**Pg**	**08 10 08.7**	**-0.6**
ILA				S	**Sg**	**08 10 16.2**	**0.0**
ESL	**Shilin**	**0.54**	**216**	⇑*i*P	**Pg**	**08 10 08.4**	**-1.5**
ESL				S	**Sg**	**08 10 16.1**	**-1.2**
NSK	**Sanguang**	**0.57**	**317**	⇑*i*P	**Pb**	**08 10 09.5**	**-0.9**
NSK				S	**Sg**	**08 10 17.1**	**-1.2**
EGS		**0.60**	**13**	*eP*	**Pb**	**08 10 10.5**	**-0.5**
TWA	**Mucha**	**0.75**	**346**	*eP*	**Pb**	**08 10 13.6**	**+0.2**
TWA				S	**Sb**	**08 10 22.7**	**-0.7**
TWB1	**Santiao Chiao**	**0.78**	**14**	P	**Pb**	**08 10 13.4**	**-0.5**
TWB1				S	**Sb**	**08 10 23.4**	**-0.8**
NSTT	**Nanjuang**	**0.81**	**298**	*eP*	**Pb**	**08 10 14.3**	**-0.2**
NSTT				S	**Sb**	**08 10 24.4**	**-0.7**
NWF	**Wu-fen Shan**	**0.81**	**360**	P	**Pb**	**08 10 14.3**	**-0.3**
NWF				S	**Sb**	**08 10 25.1**	**-0.3**
TAP1	**Taipei**	**0.82**	**343**	*eP*	**Pb**	**08 10 15.3**	**+0.7**
TAP1				S	**Sb**	**08 10 25.7**	**+0.2**
TAP	**Taipei**	**0.82**	**342**	*eP*	**Pb**	**08 10 15.5**	**+0.7**
TAP				S	**Sb**	**08 10 26.0**	**+0.4**
EHY	**Hungye**	**0.85**	**210**	*eP*	**Pb**	**08 10 13.3**	**-2.0**
SMLT	**Sun Moon Lake**	**0.89**	**246**	P	**Pb**	**08 10 15.2**	**-0.7**
SMLT				S	**Sb**	**08 10 27.3**	**-0.2**
NCU	**National Centr**	**0.90**	**323**	*eP*	**Pb**	**08 10 17.0**	**+1.0**
NCU				S	**Sb**	**08 10 30.0**	**+2.2**
TWS1	**Kuangyinshan**	**0.91**	**339**	*eP*	**Pb**	**08 10 16.7**	**+0.5**
TWS1				S	**Sb**	**08 10 29.9**	**+1.8**
TYC	**Yuchr**	**0.92**	**248**	P	**Pb**	**08 10 15.4**	**-0.9**
TYC				S	**Sb**	**08 10 26.9**	**-1.4**
HSN	**Hsinchu**	**0.92**	**307**	*eP*	**Pb**	**08 10 16.5**	**+0.1**
TWQ1	**Liyutan**	**0.93**	**276**	*eP*	**Pb**	**08 10 16.8**	**+0.3**
TWQ1				S	**Sb**	**08 10 30.2**	**+1.6**
NSY	**Sanyi**	**0.95**	**280**	*eP*	**Pb**	**08 10 17.5**	**+0.6**
NSY				S	**Sb**	**08 10 31.3**	**+2.1**
TWF1	**Yuli**	**1.00**	**207**	*eP*	**Pb**	**08 10 15.4**	**-2.4**
TWF1				S	**Sb**	**08 10 30.8**	**0.0**
TCU	**Taichung**	**1.02**	**264**	*eP*	**Pb**	**08 10 18.7**	**+0.6**
TCU				S	**Sb**	**08 10 33.4**	**+2.2**
WNT	**Mingjian**	**1.07**	**250**	*eP*	**Pb**	**08 10 19.0**	**0.0**
WNT				S	**Sb**	**08 10 35.2**	**+2.4**
YUS	**Yu-Shan**	**1.08**	**225**	⇑P	**Pb**	**08 10 18.4**	**-0.6**
YUS				S	**Sb**	**08 10 33.3**	**+0.4**
YOJ	**Yonaguni jima**	**1.14**	**79**	P	**Pb**	**08 10 19.9**	**-0.2**
YOJ				*e*S	**Sb**	**08 10 38.1**	**+3.4**
ALS	**Alishan**	**1.16**	**231**	*eP*	**Pb**	**08 10 20.1**	**-0.4**
ALS				S	**Sb**	**08 10 35.9**	**+0.5**
CHN5	**Tsauling**	**1.20**	**237**	*eP*	**Pb**	**08 10 21.1**	**-0.1**
CHN5				S	**Sb**	**08 10 38.3**	**+1.6**
CHKT	**Chengkung**	**1.21**	**199**	*eP*	**Pb**	**08 10 20.3**	**-1.1**
ELDTW	**Lidau**	**1.27**	**214**	*eP*	**Pb**	**08 10 20.3**	**-2.1**
ELDTW				S	**Sb**	**08 10 38.5**	**-0.1**
PCYT	**Pengchaiyu**	**1.40**	**11**	*eP*	**Pn**	**08 10 23.6**	**-0.8**
PCYT				S	**Sb**	**08 10 43.9**	**+1.7**
CHN4	**Tsaushan**	**1.41**	**231**	*eP*	**Pn**	**08 10 25.0**	**+0.4**
CHN4				S	**Sb**	**08 10 45.0**	**+2.4**
STYT	**Tauyuan**	**1.44**	**221**	*eP*	**Pn**	**08 10 24.1**	**-0.9**
STYT				S	**Sb**	**08 10 44.0**	**+0.7**
CHY	**Chiayi**	**1.45**	**239**	*eP*	**Pn**	**08 10 24.6**	**-0.7**
CHY				S	**Sb**	**08 10 45.5**	**+1.6**
WTP	**Ta-pu**	**1.47**	**227**	*eP*	**Pn**	**08 10 25.4**	**0.0**
WTP				S	**Sb**	**08 10 46.2**	**+2.0**
TWK	**Hsinying**	**1.54**	**231**	*eP*	**Pn**	**08 10 26.6**	**+0.1**
TWK				S	**Sb**	**08 10 47.9**	**+1.4**
CHN1	**Nanshi**	**1.57**	**228**	*eP*	**Pn**	**08 10 27.2**	**+0.3**
CHN1				S	**Sb**	**08 10 50.0**	**+2.8**
TWG	**Pinlang**	**1.57**	**205**	*eP*	**Pn**	**08 10 23.9**	**-3.0**
SGST	**Jiashian**	**1.60**	**224**	*eP*	**Pn**	**08 10 27.5**	**+0.2**
SGST				S	**Sn**	**08 10 49.8**	**+1.7**
IRIF	**Iriomote-Funau**	**1.78**	**87**	P	**Pn**	**08 10 28.4**	**-1.5**
IRIF				*e*S	**Sn**	**08 10 55.2**	**+2.6**
SSD	**Sandimen**	**1.83**	**215**	*eP*	**Pn**	**08 10 30.4**	**-0.3**
HATJ	**Hateruma jima**	**1.86**	**96**	*e*S	**Sn**	**08 10 55.7**	**+1.1**
TWM1	**Shoushan**	**1.89**	**222**	*eP*	**Pn**	**08 10 29.2**	**-2.3**
JKRS	**Kuro-shima**	**2.03**	**90**	P	**Pn**	**08 10 32.5**	**-1.0**
JKRS				*e*S	**Sn**	**08 11 01.3**	**+2.3**
EAST	**Anshuo**	**2.05**	**205**	*eP*	**Pn**	**08 10 33.9**	**+0.1**
PNG	**Penghu**	**2.15**	**252**	*eP*	**Pn**	**08 10 35.2**	**0.0**
JIJ	**Ishigaki jima**	**2.15**	**87**	P	**Pn**	**08 10 34.0**	**-1.3**
JIJ				*e*S	**Sn**	**08 11 03.5**	**+1.3**
SCZT	**Fangliau**	**2.16**	**210**	*eP*	**Pn**	**08 10 35.7**	**+0.4**
WDGT	**Dungji**	**2.18**	**244**	*eP*	**Pn**	**08 10 34.7**	**-0.9**
WDGT				S	**Sn**	**08 11 01.6**	**-1.3**
LAY	**Lan-yu**	**2.21**	**186**	*eP*	**Pn**	**08 10 32.4**	**-3.7**
JTJ	**Tarama**	**2.69**	**81**	*e*S	**Sn**	**08 11 17.7**	**+2.0**

IDC 21 08:11:43.3±47.0,15.91S×173.28W,mb3.7/3,mb1 3.9/3, mb1mx3.6/18,mbtmp3.7/3,Error ellipse: s-maj=910.1km s-min=190.9km az=79.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.88**	**240**	P	P	08 19 52.3	-1.1
	0.4nm,0.3s,baz=82,slow=7.1,SNR=3.6						
WRA	**Warramunga Arr**	**49.84**	**257**	P	P	08 20 37.6	-2.9
	0.1nm,0.2s,baz=96,slow=8.1,SNR=5.7						
ASAR	**Alice Springs**	**50.06**	**252**	P	P	08 20 40.5	-1.7
	1.3nm,0.6s,baz=88,slow=8.1,SNR=26						

BJI ***21*** *08:40:02.5,1.09N×97.07E,h41km,mB5.1,mb4.8,Ms4.1, Msz3.8*
IDC ***21*** *08:40:03.9±1.0,1.25N×97.02E,h24km±4km,mb4.2/11, mb1 4.3/12,mb1mx4.1/21,mbtmp4.3/12,ML3.9/1,MS3.5/3, Ms1 3.6/3,ms1mx3.3/26,Error ellipse: s-maj=33.4km s-min=13.3km az=58.0*
NEIC ***21*** *08:40:03.8±0.7,1.36N×97.08E,mb4.7/9,Error ellipse: s-maj=15.4km s-min=10.9km az=64.0*

ISC 21 08:40:02.3±0.6,1.30N±0.07×97.10E±0.07,h25km, h25km±1.1km:pP-P,n49,σ1§10/53,mb4.6/29,MS3.8/9,2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**42**	*e*Pn	**Pn**	**08 41 22.2**	**-0.1**
KSM	**Kuching**	**13.20**	**89**	P	**P**	**08 43 13.6**	**+2.5**
CM31	**Chiang Mai Arr**	**17.15**	**6**	*eP*	**P**	**08 43 58.5**	**-3.7**
	12nm,1.1s						
CMAR	**Chiang Mai Arr**	**17.15**	**6**	P	**P**	**08 44 00.8**	**-1.4**
	0.1nm,0.3s,baz=202,slow=11,SNR=17						
CMAR				LR	LR	08 50 48.6	
	comp=Z,158nm,20.8s,baz=185,slow=38						
KKM	**Kota Kinabalu**	**19.64**	**76**	P	**P**	**08 44 31.0**	**-1.4**
QIZ	**Qiongzhong**	**21.60**	**35**	*eP*	**P**	**08 44 52.6**	**0.0**
QIZ				*e*S	**S**	**08 48 45.0**	**-0.6**
QIZ				LR	LR		
	comp=N,195nm,15.6s,MS3.7						
QIZ				LR	LR		
	comp=E,109nm,13.5s,MS3.7						
QIZ				LR	LR		
	comp=Z,163nm,15.6s,MS3.5						
KMI	**Kunming**	**24.30**	**12**	P	**P**	**08 45 21.6**	**+2.3**
KMI				AP		08 45 27.0	
KMI				PP	PP	08 45 57.4	+2.8
KMI				S	**S**	**08 49 38.0**	**+4.2**
KMI				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.5						
KMI				LR	LR		
	comp=N,468nm,14.5s,MS4.2						
KMI				LR	LR		
	comp=E,312nm,13.6s,MS4.2						
KMI				LR	LR		
	comp=Z,491nm,15.5s,MS4.1						
KMI	**Kunming**	**24.30**	**12**	P	**P**	**08 45 21.6**	**+2.3**
	comp=Z,25nm,1.3s,mb4.5						
KMI				pP		08 45 27.0	
KMI				sP		08 45 29.8	
KMI				PP	PP	08 45 57.4	+2.8
KMI				S	**S**	**08 49 38.0**	**+4.2**
KMI				sS		08 49 47.1	
KMI				LR	LR		
	comp=Z,490nm,15.5s,MS4.1						
SHL	**Shillong**	**24.64**	**349**	*eP*	**P**	**08 45 22.7**	**+0.1**
GYA	**Guiyang**	**26.65**	**19**	⇑*i*P	**P**	**08 45 40.9**	**-0.4**
GYA				AP	pP	08 45 49.8	+1.3
GYA				XP	sP	08 45 53.3	+1.5
GYA				PP	PP	08 46 26.1	+0.3
GYA				S	**S**	**08 50 12.9**	**-0.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,220nm,3.6s						
GYA				LR	LR		
	comp=N,410nm,13.2s,MS4.4						
GYA				LR	LR		
	comp=E,580nm,14.6s,MS4.4						
GYA				LR	LR		
	comp=Z,370nm,14.2s,MS4.1						
JIRN	**Jiri**	**28.22**	**339**	*eP*	**P**	**08 45 56.9**	**+1.3**
	comp=Z,52nm,1.0s,mb5.1						
PKI	**Pulchoki**	**28.42**	**338**	*eP*	**P**	**08 45 59.1**	**+1.7**
	comp=Z,19nm,0.9s,mb4.7						
GUN	**Gumba**	**28.56**	**339**	*eP*	**P**	**08 45 59.8**	**+1.2**
	comp=Z,34nm,0.8s,mb5.2						
KKN	**Kakani**	**28.67**	**338**	*eP*	**P**	**08 46 00.2**	**+0.6**
	comp=Z,42nm,1.0s,mb5.1						
LSA	**Lhasa**	**28.80**	**349**	*eP*	**P**	**08 46 02.5**	**+1.7**
	comp=Z,14nm,0.9s,mb4.7						
GKN	**Gorkha**	**29.11**	**337**	*eP*	**P**	**08 46 04.3**	**+0.7**
	comp=Z,43nm,1.0s,mb5.1						
KOLN	**Koldanda**	**29.32**	**335**	*eP*	**P**	**08 46 06.5**	**+1.0**
	comp=Z,25nm,0.8s,mb5.0						
ENH	**Enshi**	**31.12**	**21**	*eP*	**P**	**08 46 19.9**	**-1.5**
	comp=Z,26nm,0.8s,mb5.1						
ENH				*ep*P	pP	08 46 26.3	-2.4
MBWA	**Marble Bar**	**31.43**	**136**	P	**P**	**08 46 24.2**	**-0.1**
	comp=Z,22nm,1.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.07**	**126**	LR	LR	08 59 31.2	
	comp=Z,128nm,21.6s,MS3.6,baz=285,slow=34						
XAN	**Xi'an**	**34.40**	**18**	P	**P**	**08 46 48.6**	**-1.3**
XAN				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
LZH	**Lanzhou**	**35.17**	**10**	*eP*	**P**	**08 46 56.0**	**-0.5**
LZH				AP	pP	08 47 04.0	+0.1
LZH				XP	sP	08 47 08.0	+1.0
LZH				AMB	AMB		
	comp=Z,28nm,1.3s,mb5.0						
LZH	**Lanzhou**	**35.17**	**10**	*eP*	**P**	**08 46 56.0**	**-0.5**
	comp=Z,28nm,1.3s,mb5.0						
LZH				pP	pP	08 47 04.0	+0.1
LZH				sP	sP	08 47 08.0	+1.0
SSE	**Sheshan**	**37.39**	**35**	P	**P**	**08 47 14.4**	**-0.8**
SSE				PP	PP	08 48 39.9	-3.4
SSE				S	**S**	**08 53 03.6**	**+2.2**
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,76nm,5.1s						
SSE				LR	LR		
	comp=N,44nm,19.3s,MS3.4						
SSE				LR	LR		
	comp=E,41nm,19.2s,MS3.4						
SSE				LR	LR		
	comp=Z,67nm,16.6s,MS3.5						
SSE	**Sheshan**	**37.39**	**35**	P	**P**	**08 47 14.4**	**-0.8**
	comp=Z,26nm,0.7s,mb5.2						
SSE				sP	sP	08 47 18.9	-6.8
SSE				PP	PP	08 48 39.9	-3.4
SSE				S	**S**	**08 53 03.6**	**+2.2**
SSE				sS		08 53 08.8	
SSE				SS	SS	08 55 48.5	+14
SSE				LR	LR		
	comp=Z,70nm,16.6s,MS3.5						
GTA	**Gaotai**	**38.01**	**3**	*eP*	**P**	**08 47 21.0**	**+0.6**
GTA				PP	PP	08 48 53.3	+2.7
GTA				S	**S**	**08 53 16.8**	**+6.0**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
GTA				AMB	AMB		
	comp=Z,78nm,5.7s						
GTA				LR	LR		
	comp=N,160nm,13.3s,MS4.1						
GTA				LR	LR		
	comp=E,150nm,14.8s,MS4.1						
GTA				LR	LR		
	comp=Z,169nm,12.9s,MS4.0						
JOW	**Kunigami**	**39.24**	**47**	P	**P**	**08 47 31.2**	**+0.4**
	comp=Z,14nm,0.6s,mb4.9,baz=253,slow=7.6,SNR=6.9						
JOW				pP	pP	08 47 38.1	-0.2
	comp=Z,6.6nm,0.5s,baz=137,slow=24,SNR=1.9						
WRA	**Warramunga Arr**	**42.17**	**122**	P	**P**	**08 47 54.7**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.0,baz=298,slow=9.2,SNR=5.3						
WRA				pP	pP	08 48 01.6	-0.9
	comp=Z,3.1nm,0.6s,baz=299,slow=9.3,SNR=4.4						
KSH	**Kashi**	**42.64**	**336**	*eP*	**P**	**08 47 57.0**	**-1.7**
KSH				*e*PP	PP	08 49 38.1	-2.1
KSH				*e*PCP	PcP	08 49 50.0	-1.1
KSH				*e*SCP		08 53 39.0	
KSH				*e*PCS		08 53 41.6	
KSH				*e*S	**S**	**08 54 17.5**	**-2.4**
KSH				*e*SCS	ScS	08 57 56.1	0.0
WMQ	**Urumqi**	**43.16**	**350**	⇑P	**P**	**08 48 03.0**	**+0.2**
WMQ				PP	PP	08 49 45.4	+0.1
WMQ				*e*S	**S**	**08 54 27.6**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,117nm,5.1s						
WMQ				LR	LR		
	comp=N,44nm,22.0s,MS3.9						
WMQ				LR	LR		
	comp=E,158nm,23.2s,MS3.9						
WMQ				LR	LR		
	comp=Z,36nm,18.9s,MS3.3						
ASAR	**Alice Springs**	**43.53**	**127**	P	**P**	**08 48 06.7**	**+0.6**
	comp=Z,4.2nm,0.8s,mb4.2,baz=323,slow=9.0,SNR=5.3						
ASAR				PcP	PcP	08 49 52.3	-2.0
	comp=Z,1.1nm,0.8s,baz=307,slow=4.5,SNR=4.1						
AAK	**Ala-Archa**	**45.87**	**337**	P	**P**	**08 48 24.7**	**0.0**
	comp=Z,3.7nm,1.0s,mb4.3						
SONM	**Songino Array**	**47.05**	**9**	P	**P**	**08 48 34.3**	**+0.4**
	comp=Z,5.4nm,0.7s,mb4.6,baz=189,slow=8.9,SNR=45						
SONM				pP	pP	08 48 41.7	+0.3
	comp=Z,4.9nm,0.9s,baz=183,slow=7.9,SNR=12						
SONM				PcP	PcP	08 50 06.0	-0.2
	comp=Z,1.0nm,0.7s,baz=190,slow=3.1,SNR=3.9						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**08 48 34.5**	**+0.1**
	comp=Z,4.1nm,0.7s,mb4.5,baz=157,slow=8.0,SNR=41						
MKAR				pP	pP	08 48 42.6	+0.7
	comp=Z,1.8nm,0.5s,baz=163,slow=8.4,SNR=8.9						
MKAR				LR	LR	09 12 33.2	
	comp=Z,44nm,18.8s,MS3.5,baz=180,slow=41						
ULN	**Ulaanbaatar**	**47.18**	**9**	*eP*	**P**	**08 48 33.3**	**-1.6**
	comp=Z,5.1nm,0.9s,mb4.5						
CN2	**Changchun**	**49.26**	**27**	*eP*	**P**	**08 48 52.3**	**+1.2**
MDJ	**Mudanjiang**	**51.83**	**29**	P	**P**	**08 49 09.3**	**-1.4**
MDJ				PCP	PcP	08 50 22.0	-1.6
MDJ				PP	PP	08 51 07.4	-1.8
MDJ				SCP		08 54 17.5	
MDJ				PCS		08 54 20.1	
MDJ				S	**S**	**08 56 32.6**	**+2.6**
MDJ				AMB	AMB		
	comp=Z,523nm,4.0s						
MDJ				LR	LR		
	comp=N,34nm,20.1s,MS3.5						
MDJ				LR	LR		
	comp=E,24nm,21.6s,MS3.5						
MDJ				LR	LR		
	comp=Z,56nm,19.3s,MS3.6						
ZAL	**Zalesovo**	**53.44**	**351**	P	**P**	**08 49 22.6**	**0.0**
	comp=Z,6.7nm,0.5s,mb4.8,baz=270,slow=4.7,SNR=6.4						
STKA	**Stephens Creek**	**53.50**	**132**	*eP*	**P**	**08 49 23.4**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**53.50**	**132**	P	**P**	**08 49 23.8**	**+0.5**
	comp=Z,3.6nm,0.8s,mb4.3,baz=310,slow=5

GUN	Gumba	53.31 317	*e*P		P	08 53 13.1	+0.3
	14nm,0.8s,mb5.0						
PKI	Pulchoki	53.42 316	*e*P		P	08 53 12.5	-1.1
	7.5nm,0.5s,mb4.9						
KKN	Kakani	53.65 316	*e*P		P	08 53 14.6	-0.6
	8.8nm,0.7s,mb4.9						
GKN	Gorkha	54.22 316	*e*P		P	08 53 19.6	+0.2
	6.2nm,0.5s,mb4.9						
KOLN	Koldanda	54.79 315	*e*P		P	08 53 21.5	-2.1
	5.9nm,0.7s,mb4.7						
SONM	Songino Array	60.20 346	P		P	08 54 01.3	0.0
	0.4nm,0.5s,mb3.7,baz=159,slow=8.6,SNR=4.3						
MKAR	Makanchi Array	68.25 330	P		P	08 54 54.1	+0.4
	2.5nm,0.7s,mb4.2,baz=141,slow=7.8,SNR=8.7						
AAK	Ala-Archa	69.75 323	P		P	08 55 03.5	+0.5
	4.5nm,1.1s,mb4.2						
ZAL	Zalesovo	72.37 337	P		P	08 55 18.9	+0.4
	0.8nm,0.3s,mb4.0,baz=356,slow=2.5,SNR=4.0						
BVAR	Borovoye Array	78.13 330	P		P	08 55 52.8	+1.5
	1.0nm,0.8s,mb3.6,baz=117,slow=6.6,SNR=4.4						
CHKZ	Chkalovo	78.40 331	*e*P		P	08 55 53.7	+0.9
	2.0nm,0.9s,mb3.9						
LPAZ	La Paz	150.69 155	PKPbc		PKPdf	09 03 53.0	+15
	1.4nm,0.6s,baz=207,slow=2.3,SNR=8.6						

IDC 21 08:59:12.6±5.7,23.81N×108.74W,mb3.1/1,mb1 3.7/4, mb1mx3.6/20,mbtmp3.2/4,ML3.6/1,MS3.2/2,Ms1 3.2/2, ms1mx2.7/9,Error ellipse: s-maj=87.5km s-min=29.1km az=152.0,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	7.13	38	Pn	Pn	09 00 59.4	-1.3
	0.3nm,0.3s,baz=213,slow=14,SNR=21						
TXAR				Sn	Sn	09 02 17.2	-6.1
	0.5nm,0.3s,baz=227,slow=21,SNR=11						
TXAR				Lg		09 02 57.9	
	0.2nm,0.3s,baz=227,slow=29,SNR=4.7						
ANMO	Albuquerque	11.27	10	LR	LR	09 06 22.5	
	comp=Z,98nm,20.6s,slow=38						
NVAR	Mina Array Bea	16.70	333	Pn	P	09 03 10.1	+0.6
	0.0nm,0.3s,baz=150,slow=12,SNR=5.6						
PDAR	Pinedale Array	18.91	358	P	P	09 03 36.2	-0.9
	0.1nm,0.3s,baz=164,slow=11,SNR=10						
NEW	Newport	25.29	347	LR	LR	09 14 12.2	
	comp=Z,54nm,18.9s,baz=61,slow=36						
YKA	Yellowknife Ar	38.87	356	P	P	09 06 39.0	-2.0
	0.3nm,1.0s,baz=171,slow=8.5,SNR=4.1						
ILAR	Eielson Array	47.82	339	P	P	09 07 59.6	+6.1
	0.4nm,0.8s,baz=134,slow=5.6,SNR=4.5						

*BJI **21** 09:07:44.6,4.20S×153.52E,h105km,mB5.1,mb4.7*
*NEIC **21** 09:07:45.7±0.3,4.42S×153.51E,mb4.5/17,Error ellipse: s-maj=9.5km s-min=6.9km az=104.0*
*IDC **21** 09:07:46.2±2.3,4.49S×153.52E,h115km±20km,mb4.1/14, mb1 4.3/15,mb1mx4.2/19,mbtmp4.5/15,MS3.5/3, Ms1 3.5/3,ms1mx3.0/26,Error ellipse: s-maj=16.2km s-min=12.5km az=108.0*

ISC 21 09:07:43.3±1.6,4.44S±0.06×153.53E±0.05,h101km±14km, h110km±2.5km;pP-P,n67,σ0§94/70,mb4.6/38,3C-1D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.02	232	P	P	09 09 38.8	+0.2
	12nm,0.3s,baz=30,slow=6.2,SNR=38						
PMG				S	S	09 11 09.5	+1.2
	4.8nm,0.3s,baz=132,slow=21,SNR=20						
PMG	Port Moresby	8.02	232	*e*Pn	P	09 09 39.3	+0.7
	70nm,0.6s						
PMG				*e*Sn	S	09 10 54.5	-14
HNR	Honiara	8.08	128	S	S	09 11 09.9	+0.2
	36nm,0.3s,baz=235,slow=22,SNR=6.9						
CTA	Charters Tower	17.09	204	P	P	09 11 40.0	+2.7
	0.3nm,0.3s,baz=40,slow=14,SNR=4.1						
CTA				LR	LR	09 16 20.0	
	comp=Z,112nm,20.5s,baz=46,slow=30						
CTA	Charters Tower	17.09	204	P	P	09 11 40.0	+2.7
CTAO	Charters Tower	17.09	204	*e*P	P	09 11 39.9	+2.6
	9.1nm,0.8s						
DZM	Mont Dzumac	21.54	146	P	P	09 12 26.1	+0.3
	8.2nm,0.8s,mb4.1,baz=299,slow=19,SNR=4.3						
KAKA	Kakadu	22.39	247	⇑*i*P	P	09 12 34.2	+0.1
	28nm,0.6s,mb4.8						
KAKA				*e*S	S	09 16 21.4	-7.1
WRAB	Tennant Creek	24.21	229	*e*P	P	09 12 52.0	+0.2
	39nm,0.6s,mb4.9						
WRAB				*e*pP		09 13 18.6	
WB2	Warramunga Arr	24.22	229	⇓*i*P	P	09 12 52.3	+0.5
WB2				*e*S	S	09 17 08.1	+8.1
WRA	Warramunga Arr	24.23	229	P	P	09 12 52.1	+0.2
	23nm,0.6s,mb4.7,baz=54,slow=9.9,SNR=239						
WRA				PcP	PcP	09 16 30.0	-1.0
	2.1nm,0.7s,baz=54,slow=2.2,SNR=7.5						
WRA				S	S	09 17 10.5	+10
	3.7nm,1.1s,baz=45,slow=17,SNR=5.4						
ASAR	Alice Springs	26.90	223	P	P	09 13 15.9	-1.0
	3.1nm,0.7s,mb4.0,baz=58,slow=8.8,SNR=35						
ASAR				PcP	PcP	09 16 36.0	-1.0
	1.9nm,0.7s,baz=58,slow=2.8,SNR=9.7						
ASAR				S	S	09 17 45.3	+0.9
	0.8nm,1.0s,baz=49,slow=17,SNR=2.8						
ASPA	Alice Springs	26.91	223	*e*P	P	09 13 16.3	-0.7
STKA	Stephens Creek	29.50	201	⇑*i*P	P	09 13 38.9	-1.3
	8.5nm,0.6s,mb4.5						
STKA	Stephens Creek	29.50	201	P	P	09 13 39.2	-1.0
	11nm,0.6s,mb4.7,baz=11,slow=7.6,SNR=54						
STKA				LR	LR	09 24 50.0	
	comp=Z,70nm,21.8s,baz=26,slow=35						
STKA	Stephens Creek	29.50	201	*e*P	P	09 13 38.9	-1.4
FITZ	Fitzroy Crossi	30.47	241	*e*P	P	09 13 47.3	-1.6
	21nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	30.47	241	P	P	09 13 47.3	-1.6
	24nm,0.7s,mb4.9,baz=85,slow=3.3,SNR=23						
FITZ				PcP	PcP	09 16 44.2	-1.6
	8.0nm,0.8s,baz=68,slow=1.9,SNR=3.9						
CBIJ	Chichi jima	33.21	341	LR	LR	09 25 22.0	
	comp=Z,216nm,21.9s,baz=56,slow=32						
FORT	Forrest	35.52	220	*e*P	P	09 14 31.4	-1.0
	886nm,0.6s						
MBWA	Marble Bar	36.78	240	*e*P	P	09 14 41.2	-1.9
	10nm,0.9s,mb4.8						
MBWA				*e*		09 14 52.5	
TAU	Tasmania Unive	38.70	187	*e*P	P	09 14 59.0	+0.1
	9.9nm,0.6s,mb4.8						
RPZ	Rata Peaks	42.07	161	P	P	09 15 26.5	-0.1
	9.2nm,0.9s,mb4.5,baz=284,slow=4.2,SNR=5.0						
KSM	Kuching	43.58	277	*e*P	P	09 15 39.4	0.0
QIZ	Qiongzhong	48.91	300	*e*P	P	09 16 21.5	+0.2
	3.6nm,0.8s,mb4.3						
NJ2	Nanjing	49.03	320	*e*P	P	09 16 21.8	-0.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
MDJ	Mudanjiang	53.34	339	P	P	09 16 53.6	-0.8
MDJ				AP	pP	09 17 18.3	-0.7
MDJ				XP	sP	09 17 32.4	+2.2
MDJ				PCP	PcP	09 17 59.9	-0.5
MDJ				PP	PP	09 18 54.3	-2.7
MDJ				SCP		09 21 45.6	
MDJ				PCS		09 21 58.3	
MDJ				S	S	09 24 18.3	+1.8
MDJ				XS		09 25 04.1	
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.5s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,101nm,4.0s						
MDJ				LR	LR		
	comp=N,11nm,28.1s						
MDJ				LR	LR		
	comp=E,12nm,30.3s						
MDJ				LR	LR		
	comp=Z,15nm,21.4s						
KULM	Kulim	53.69	280	*e*P	P	09 16 55.9	-1.4
CM31	Chiang Mai Arr	58.38	295	P	P	09 17 29.1	-1.7
	comp=Z,8.0nm,0.8s,mb4.8						
CMAR	Chiang Mai Arr	58.38	295	P	P	09 17 31.4	+0.6
	comp=Z,3.6nm,0.8s,mb4.5,baz=110,slow=5.3,SNR=17						
ULN	Ulaanbaatar	66.08	328	*e*P	P	09 18 20.8	-0.9
	comp=Z,2.7nm,1.0s,mb4.0						
SONM	Songino Array	66.41	327	P	P	09 18 23.4	-0.4
	comp=Z,0.9nm,0.6s,mb3.8,baz=145,slow=7.0,SNR=7.6						
LSA	Lhasa	68.63	304	*e*P	P	09 18 38.9	+1.0
	comp=Z,15nm,0.7s,mb4.9						
JIRN	Jiri	72.22	301	*e*P	P	09 19 00.0	+0.4
	comp=Z,17nm,0.7s,mb5.0						
GUN	Gumba	72.56	301	*e*P	P	09 19 02.1	+0.5
	comp=Z,43nm,0.8s,mb5.3						
PKI	Pulchoki	72.87	300	*e*P	P	09 19 03.5	0.0
	comp=Z,28nm,1.1s,mb5.0						
KKN	Kakani	73.04	301	*e*P	P	09 19 04.5	+0.1
	comp=Z,27nm,0.8s,mb5.1						
DMN	Daman	73.14	300	*e*P	P	09 19 05.5	+0.5
	comp=Z,56nm,0.9s,mb5.4						
VNDA	Vanda	73.16	178	P	P	09 19 04.2	0.0
	comp=Z,4.0nm,0.6s,mb4.4,baz=328,slow=6.8,SNR=34						
VNDA	Vanda	73.16	178	*e*P	P	09 19 03.7	-0.5
	comp=Z,4.0nm,0.6s,mb4.4						
VNDA				*e*pP	pP	09 19 32.9	+2.6
GKN	Gorkha	73.64	301	*e*P	P	09 19 07.8	-0.2
	comp=Z,55nm,1.0s,mb5.2						
SBA	Scott Base	73.70	177	*e*P	P	09 19 08.3	+1.0
	comp=Z,3.8nm,0.9s,mb4.1						
KOLN	Koldanda	74.48	300	*e*P	P	09 19 12.5	-0.3
	comp=Z,25nm,1.0s,mb4.9						
WMQ	Urumqi	75.97	317	P	P	09 19 21.3	+0.3
WMQ				PCP	PcP	09 19 33.3	+0.1
WMQ				AP	pP	09 19 49.8	+2.6
WMQ				XP	sP	09 20 02.3	+4.1
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.9						
MCK	McKinley	80.25	22	*e*P	P	09 19 42.9	-1.2
	comp=Z,5.9nm,1.0s,mb4.4						
MKAR	Makanchi Array	80.53	319	P	P	09 19 46.0	+0.1
	comp=Z,2.6nm,0.9s,mb4.0,baz=101,slow=6.2,SNR=18						
COLA	College	81.25	22	*e*P	P	09 19 48.3	-1.0
	comp=Z,5.7nm,1.1s,mb4.3						
ZAL	Zalesovo	81.26	326	P	P	09 19 48.5	-1.1
	comp=Z,0.7nm,0.5s,mb3.8,baz=351,slow=8.0,SNR=5.6						
ULHL	Ulahol	83.60	313	P	P	09 20 00.9	-0.9
	SNR=5.8						
DAWY	Dawson	84.16	24	*e*P	P	09 20 04.5	+0.4
TKM2	Tokmak 2	84.20	314	P	P	09 20 05.7	+0.9
	SNR=6.1						
KZA	Kyzart	84.29	313	P	P	09 20 07.3	+2.0
	SNR=10						
UCH	Uchtor	84.86	313	P	P	09 20 10.2	+2.2
	SNR=6.8						
AAK	Ala-Archa	84.94	313	P	P	09 20 09.6	+1.0
	SNR=7.0						
AAK	Ala-Archa	84.94	313	*e*P	P	09 20 08.1	-0.5
	comp=Z,6.7nm,0.8s,mb4.6						
USP	Uspenovka	85.06	314	P	P	09 20 09.8	+0.7
	SNR=8.6						
AML	Almayashu	85.44	313	P	P	09 20 12.4	+1.4
	SNR=13						
EKS2	Erkin-Say	85.47	313	P	P	09 20 12.6	+1.5
	SNR=5.5						
QSPA	South Pole Qui	85.52	180	*e*P	P	09 20 10.2	-0.3
	comp=Z,2.2nm,0.6s,mb4.3						
QSPA				*e*pP	pP	09 20 39.4	+2.1
MAW	Mawson	86.18	203	P	P	09 20 13.8	-0.2
	comp=Z,5.7nm,0.8s,mb4.5,baz=51,slow=4.5,SNR=7.3						
CHKZ	Chkalovo	89.34	324	*e*P	P	09 20 27.7	-1.7
	comp=Z,3.4nm,0.9s,mb4.4						
NVAR	Mina Array Bea	91.29	52	P	P	09 20 39.5	+0.5
	comp=Z,0.4nm,0.8s,mb3.6,baz=239,slow=4.7,SNR=4.0						
SYO	Syowa Base	94.25	199	⇑X		09 20 48.1	
YKA	Yellowknife Ar	94.77	28	P	P	09 20 54.5	+0.3
	comp=Z,0.4nm,0.8s,mb3.9,baz=268,slow=4.7,SNR=11						
YKA	Yellowknife Ar	94.77	28	P	P	09 20 54.5	+0.3
GERES	GERESS Array B	124.12	329	PKP	PKPdf	09 26 31.2	+1.1
	comp=Z,1.0nm,0.7s,baz=135,slow=1.9,SNR=5.9						
BDFB	Brasilia	150.80	134	PKPbc	PKPdf	09 27 24.7	+5.7
	comp=Z,1.5nm,0.6s,baz=299,slow=4.8,SNR=3.6						

IDC 21 09:13:39.0±1.4,13.58N×145.78E,mb3.3/4,mb1 3.7/4, mb1mx3.4/21,mbtmp3.3/4,Error ellipse: s-maj=254.9km s-min=23.4km az=111.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	35.16	199	P	P	09 20 34.2	-2.6
	0.4nm,0.8s,baz=23,slow=9.5,SNR=4.8						
ASAR	Alice Springs	38.79	198	P	P	09 21 06.0	-1.4
	0.2nm,0.6s,baz=24,slow=8.9,SNR=3.7						
ILAR	Eielson Array	68.20	25	P	P	09 24 40.6	-2.5
	0.4nm,0.5s,baz=252,slow=5.9,SNR=7.5						
YKA	Yellowknife Ar	82.46	28	P	P	09 26 03.7	-0.7
	0.1nm,0.5s,baz=286,slow=5.0,SNR=5.9						

*MOS **21** 09:25:57.9±1.0,51.27N×178.42W,h39km,mb5.5/112, MS5.4/69,Error ellipse: s-maj=6.7km s-min=3.7km az=90.1*
*BJI **21** 09:25:58.2,51.32N×178.62W,h38km,mB5.8,mb5.4, Ms5.7,Msz5.5*
*IDC **21** 09:25:58.4±1.9,51.37N×178.49W,h28km±12km,mb4.8/26, mb1 4.9/26,mb1mx4.9/28,mbtmp4.9/26,MS5.4/27, Ms1 5.4/27,ms1mx5.4/33,Error ellipse: s-maj=14.7km s-min=8.9km az=148.0*
*HRVD **21** 09:26:00.4±0.1,51.08N×178.30W,h27km,MW5.9/84, Centroid moment Tensor Solution. LP body waves: s79,c192;Mantle waves: s84,c214; Half duration: 2s2 Moment tensor: Scale 10^{18}Nm; M_{rr}0.48±.01; $M_{\theta\theta}$-0.57±.01; $M_{\phi\phi}$0.09±.01; $M_{r\theta}$0.50±.01; $M_{\theta\phi}$-0.22±.01; $M_{\phi r}$0.56±.01; Best double couple: M_o.948×10^{18} NP1: ϕ_s279°,δ25°,λ138°. NP2:ϕ_s48°,δ73°,λ71°. Principal axes: T .939, Plg57°, Azm293°; N .019, Plg19°, Azm54°; P -.957, Plg26°, Azm154°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **21** 09:26:00.4±0.4,51.31N×178.41W,h45km±2km,mb5.3/183, MS5.5/132,MW5.8,ML5.1(AEIC) Error ellipse: s-maj=3.9km s-min=2.1km az=184.0,Moment Tensor Solution. s59 Moment tensor: Scale 10^{17}Nm; M_{rr}2.95; $M_{\theta\theta}$-4.20; $M_{\phi\phi}$ 1.25; $M_{r\theta}$2.70; $M_{\theta\phi}$-1.40; $M_{\phi r}$3.91; Best double couple: M_o6.2×10^{17} NP1:ϕ_s287°,δ31°,λ148°. NP2:ϕ_s45°,δ74°,λ63°. Principal axes: T 6.26, Plg53°, Azm282°; N -.11, Plg26°, Azm53°; P -6.15, Plg24°, Azm156°;*

ISC 21 09:25:58.7±0.5,51.22N±0.03×178.42W±0.02,h45km±3km, h41km±2.2km;pP-P,n787,σ1§03/743,mb5.3/247,MS5.5/191, 65C-25D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	0.91	53	P	P	09 26 15.1	-0.1
KIWB	Kanaga Island	1.01	51	P	P	09 26 16.8	+0.2
KIKV	Kanaga Island	1.02	49	P	P	09 26 17.0	+0.3
KIRH	Kanaga Island	1.07	50	P	P	09 26 17.8	+0.4
KINC	Kanaga Island	1.07	48	P	P	09 26 17.9	+0.4
ADAG	Mount Adagdak	1.36	55	P	P	09 26 21.9	+0.2
GSTD	Great Sitkin T	1.64	59	P	P	09 26 26.1	+0.5
GSSP	Great Sitkin S	1.64	57	P	P	09 26 26.2	+0.5
GSMY	Great Sitkin M	1.68	60	P	P	09 26 26.6	+0.4
GSTR	Great Sitkin T	1.71	58	P	P	09 26 27.3	+0.8
GSIG	Igitkin Island	1.73	63	P	P	09 26 26.9	0.0
ATKA	Atka Island	2.80	68	P	P	09 26 41.1	-1.0
ATKA				S	S	09 27 16.7	+1.7
SMY	Shemya	4.87	291	P	P	09 27 12.4	+1.1
SMY				S	S	09 28 11.3	+4.2
FX1	Attu Island--F	5.46	291	Pn	P	09 27 20.6	+1.1
	44nm,0.3s,baz=243,slow=4.1,SNR=50						
FX1				Sn	S	09 28 21.6	-0.2
	baz=93,slow=19,SNR=1.8						
FX1	Attu Island--F	5.46	291	P	P	09 27 20.4	+0.9
NIKO	Nikolski	6.15	70	P	P	09 27 28.6	-0.6
NIKO				S	S	09 28 40.0	+0.9
UNV	Unalaska Valle	7.73	65	*e*P	P	09 27 49.2	-2.1
	1μm,0.8s						
AKUT	Akutan	8.22	64	*e*P	P	09 27 59.4	+1.3
PET	Petropavlovsk	14.19	286	*c i*P	P	09 29 17.0	-1.4
PET				*i* S	S	09 31 58.0	+2.7
PET				pmax	pmax		
	comp=Z,2μm,13.6s						
PET				pmax	pmax		
	comp=Z,3μm,16.2s						
PET				pmax	pmax		
	comp=Z,70nm,1.1s						
PET				smax			
	comp=N,11μm,35.7s						
PET				MLR	MLR		
	comp=Z,31μm,21.0s						
PET				MLR	MLR		
	comp=Z,26μm,20.0s						
PET	Petropavlovsk	14.19	286	⇑*i*P	P	09 29 18.9	+0.5
	comp=Z,4.1nm,0.9s						
TNA	Tin City	15.36	17	*e*P	P	09 29 33.1	-0.4
	comp=Z,103nm,1.3s						
SVW2	Sparrevohn	16.02	43	*e*P	P	09 29 43.8	+1.8
SKR	Severo-Kuril's	16.04	278	*e*P	P	09 29 38.0	-4.3
SKR				*e*S	S	09 32 38.0	-0.4
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=N,2μm,12.0s						
SKR				pmax	pmax		
	comp=Z,5μm,12.0s						
SKR				pmax	pmax		
	comp=E,5μm,14.0s						
SKR				smax			
	comp=N,50nm,0.5s						
SKR				smax			
	comp=E,60nm,0.7s						
SKR				smax			
	comp=N,5μm,10.0s						
SKR				smax			
	comp=E,4μm,10.0s						
SKR				MLR	MLR		
	comp=Z,6μm,18.0s						
SKR				MLR	MLR		
	comp=N,7μm,20.0s						
SKR				MLR	MLR		
	comp=E,6μm,20.0s						
KDAK	Kodiak Island	16.31	56	*e*P	P	09 29 44.9	-0.8
TTA	Tatalina	16.79	37	*e*P	P	09 29 53.9	+2.2
SPU	Mount Spurr	17.60	45	*e*P	P	09 30 03.4	+1.5
SLKM	Skilak Lake	18.21	48	*e*P	P	09 30 09.1	-0.4
BILL	Bilibino	18.46	342	*c i*P	P	09 30 13.0	+0.6
BILL				*e*S	S	09 33 38.4	+5.0
BILL				pmax	pmax		
	comp=Z,61nm,1.4s						
BILL				MLR	MLR		
	comp=Z,16μm,22.0s						
BILL	Bilibino	18.46	342	⇑*i*P	P	09 30 13.1	+0.7
PWA	Palmer West	18.75	45	*e*P	P	09 30 15.7	-0.3
PMR	Palmer	19.06	46	*e*P	P	09 30 19.8	+0.2
IMA	Indian Mountai	19.46	31	*e*P	P	09 30 23.5	-0.5
SML	Sawmill	19.50	46	*e*P	P	09 30 23.1	-1.3
SEY	Seymchan	19.52	318	*e*P	P	09 30 24.1	-0.6
SEY				*e*S	S	09 33 57.2	0.0
SEY				pmax	pmax		
	comp=N,60nm,0.7s						
SEY				pmax	pmax		
	comp=E,70nm,0.7s						
SEY				pmax	pmax		
	comp=Z,70nm,0.7s						
MCK	McKinley	19.96	40	*e*P	P	09 30 27.5	-1.9
MCK				pmax	pmax		
	comp=Z,49nm,0.8s						
MCK	McKinley	19.96	40	*e*P	P	09 30 27.5	-2.0
	comp=Z,49nm,0.8s						
EYAK	Cordova Ski Ar	20.35	50	*e*P	P	09 30 32.3	-1.2
DIV	Divide	20.48	48	*e*P	P	09 30 34.7	-0.1
	comp=Z,249nm,0.7s						
DIV				LR	LR		
	comp=Z,63μm,21.0s,MS6.0						
COLA	College	20.89	38	*e*P	P	09 30 38.4	-0.6
COLA				*e*S	S	09 34 33.6	+9.2
COLA				pmax	pmax		
	comp=Z,89nm,0.9s						
COLA	College	20.89	38	*e*P	P	09 30 39.3	+0.3
COLA				LR	LR		
	comp=Z,8μm,17.0s,MS5.2						
THY	Trims Highway	21.16	42	*e*P	P	09 30 40.5	-1.3
ILAR	Eielson Array	21.21	38	P	P	09 30 41.4	-0.9
	comp=Z,12nm,0.6s,mb4.4,baz=240,slow=9.9,SNR=39						
ILAR				S	S	09 34 36.6	+6.1
	comp=Z,2.5nm,1.0s,baz=211,slow=10,SNR=2.7						
ILAR				ScP		09 38 18.6	
	comp=Z,3.7nm,1.1s,baz=268,slow=3.1,SNR=7.0						
ILAR				P3KPbc		10 04 39.0	
	comp=Z,0.6nm,0.9s,slow=0.9,SNR=6.3						
MIDW	Midway	22.99	178	PFAKE		09 31 10.0	+10
MIDW				LR	LR		
	comp=Z,14μm,20.0s,MS5.4						
DAWY	Dawson	24.06	43	*e*P	P	09 31 09.3	-0.7
SIT	Sitka	25.56	60	*e*P	P	09 31 23.9	-0.7
SIT				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.2						
SIT	Sitka	25.56	60	*e*P	P	09 31 23.9	-0.6
	comp=Z,70nm,0.9s,mb5.2						
YSS	Yuzh-Sakhalins	25.57	276	*o e*P	P	09 31 25.3	+0.5
YSS				*e**PP	pP	09 31 36.0	-0.5
YSS				*e*		09 32 19.0	
YSS				*e*S	S	09 35 50.0	+3.0
YSS				*SS		09 36 12.0	
YSS				pmax	pmax		
	comp=N,130nm,1.0s						
YSS				pmax	pmax		
	comp=E,170nm,1.0s						
YSS				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.5						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.1						
YSS				pmax	pmax		
	comp=N,140nm,1.1s						
YSS				pmax	pmax		
	comp=E,110nm,1.1s						
YSS				MLR	MLR		
	comp=Z,5μm,18.0s,MS5.1						
YSS				MLR	MLR		
	comp=N,4μm,16.0s,MS5.2						
YSS				MLR	MLR		
	comp=E,6μm,20.0s,MS5.2						
YSS	Yuzh-Sakhalins	25.57	276	⇑*i*P	P	09 31 25.6	+0.8
ASAJ	Asahikawa	26.95	270	P	P	09 31 38.0	+0.5
	comp=E,47nm,0.9s,mb5.0,baz=89,slow=2.4,SNR=15						
ASAJ				LR	LR	09 41 47.2	
	comp=E,6μm,19.4s,MS5.2,baz=81,slow=35						
INK	Inuvik	27.45	35	*e*P	P	09 31 40.2	-1.7
INK				pmax	pmax		
	comp=Z,23nm,0.8s						
INK	Inuvik	27.45	35	P	P	09 31 40.3	-1.6
	comp=Z,6.5nm,0.3s,mb4.6,baz=246,slow=7.2,SNR=166						
INK				PcP	PcP	09 34 59.2	-0.7
	comp=Z,5.6nm,0.6s,baz=328,slow=4.0,SNR=4.0						
INK				ScP		09 38 35.9	
	comp=Z,7.3nm,1.1s,baz=263,slow=11,SNR=7.5						
INK	Inuvik	27.45	35	*e*P	P	09 31 40.2	-1.7
	comp=Z,23nm,0.8s,mb4.8						
DLBC	Dease Lake	28.25	56	P	P	09 31 49.1	0.0
	comp=Z,2.1nm,0.6s,baz=305,slow=12,SNR=8.3						
DLBC	Dease Lake	28.25	56	*e*P	P	09 31 47.6	-1.6
YAK	Yakutsk	29.70	312	*e*P	P	09 32 03.8	+1.7
YAK				*e*		09 33 05.4	
YAK				*e*		09 35 05.8	
Y

CLNS e*PP pP 09 32 35.6 -7.0
CLNS e 09 35 16.4
CLNS pmax pmax
comp=Z,13nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,4.0nm,0.7s
CLNS pmax pmax
comp=E,4.0nm,0.7s
CLNS pmax pmax
comp=Z,35nm,1.4s,mb5.1
CLNS pmax pmax
comp=N,16nm,0.7s
CLNS pmax pmax
comp=E,11nm,1.3s
CLNS MLR MLR
comp=Z,13µm,23.0s,MS5.6
CLNS MLR MLR
comp=N,6µm,21.0s,MS5.2
CLNS MLR MLR
comp=E,2µm,24.0s,MS5.2
KIP Kipapa 33.75 144 PFAKE 09 32 50.0 +12
KIP LR LR
comp=Z,13µm,20.0s,MS5.7
MAJO Matsushiro 34.00 262⇑ eP **P 09 32 39.8 -0.2**
MAJO e 09 35 16.3
MAJO pmax pmax
comp=Z,104nm,1.3s,mb5.6
MAJO MLR MLR
comp=Z,9µm,20.0s,MS5.5
MAJO Matsushiro 34.00 262⇑ eP **P 09 32 39.8 -0.2**
comp=Z,104nm,1.3s,mb5.6
MAJO ePcP PcP 09 35 16.3 -1.1
MAJO LR LR
comp=Z,9µm,20.0s,MS5.5
MAT Matsushiro 34.00 262 eP **P 09 32 40.0 0.0**
comp=Z,106nm,1.3s,mb5.6
MAT eS **S 09 38 06.0 +5.0**
MAT LR LR
comp=Z,9µm,20.0s,MS5.5
MAT Matsushiro 34.00 262 P **P 09 32 39.8 -0.2**
MAT S **S 09 38 06.0 +5.0**
MJAR Matsushiro Arr 34.00 262 P **P 09 32 39.9 -0.1**
comp=Z,15nm,0.6s,mb5.1,baz=50,slow=7.2,SNR=30
MJAR PcP PcP 09 35 17.3 0.0
comp=Z,8.7nm,0.9s,baz=65,slow=1.7,SNR=6.9
MJAR ScP 09 38 57.7
comp=Z,1.4nm,0.5s,baz=84,slow=2.0,SNR=4.3
MJAR LR LR 09 45 28.6
comp=Z,8µm,19.9s,MS5.4,baz=65,slow=34
PGC Sidney 34.78 72 eP **P 09 32 47.8 +1.3**
comp=Z,224nm,1.5s,mb5.9
MDJ Mudanjiang 34.84 280 P **P 09 32 45.5 -1.6**
MDJ AP pP 09 32 56.8 -2.4
MDJ XP sP 09 33 01.8 -3.2
MDJ PP PP 09 34 03.3 -2.2
MDJ PCP PcP 09 35 19.9 +0.2
MDJ S **S 09 38 13.1 -0.8**
MDJ XS 09 38 32.4
MDJ SCP 09 39 00.6
MDJ PCS 09 39 05.8
MDJ AMB AMB
comp=Z,24nm,1.4s,mb4.9
MDJ AMB AMB
comp=Z,427nm,4.3s
MDJ LR LR
comp=N,4µm,31.5s,MS5.2
MDJ LR LR
comp=E,5µm,31.5s,MS5.2
MDJ LR LR
comp=Z,8µm,23.0s
MDJ Mudanjiang 34.84 280 eP **P 09 32 45.5 -1.6**
comp=Z,31nm,0.8s,mb5.3
YKW3 Yellowknife Ar 35.15 46 eP **P 09 32 47.9 -1.6**
YKA Yellowknife Ar 35.16 46 P **P 09 32 47.9 -1.8**
comp=Z,12nm,0.8s,mb4.9,baz=283,slow=7.8,SNR=139
YKA PcP PcP 09 35 20.0 -0.5
comp=Z,3.4nm,0.7s,baz=282,slow=2.9,SNR=4.2
YKA ScP 09 39 01.4
comp=Z,3.0nm,1.1s,baz=276,slow=3.1,SNR=4.4
YKA LR LR 09 49 20.3
comp=Z,10µm,18.4s,MS5.6,baz=275,slow=40
YKA P3KPbc 10 03 38.7
comp=Z,0.1nm,0.5s,baz=95,slow=5.1,SNR=7.0
YKA Yellowknife Ar 35.16 46 P **P 09 32 47.9 -1.8**
YKA PcP PcP 09 35 20.0 -0.5
YKA ScP 09 39 01.4
YKA LR LR 09 49 20.3
YKA e 10 03 38.7
JHJ Hachijo jima 2 35.29 256 P **P 09 32 51.0 -0.1**
comp=Z,143nm,1.0s,mb5.9,baz=84,slow=17,SNR=3.0
COR Corvallis 36.78 78 eP **P 09 33 04.2 +0.7**
COR pmax pmax
comp=Z,77nm,0.9s,mb5.5
COR MLR MLR
comp=Z,2µm,20.0s,MS4.9
COR Corvallis 36.78 78 eP **P 09 33 04.2 +0.7**
comp=Z,77nm,0.9s,mb5.5
COR LR LR
comp=Z,2µm,20.0s,MS4.9
KEBM Edson Butte 37.03 81 eP **P 09 33 07.5 +1.8**
SSOR Sweet Springs 37.16 77 P **P 09 33 08.5 +1.8**
EBG Ellensburg 37.30 73 P **P 09 33 09.1 +1.2**
KBO Bosley Butte 37.46 82 eP **P 09 33 11.0 +1.8**
CN2 Changchun 37.81 281 eP **P 09 33 10.5 -1.7**
CN2 PP PP 09 34 43.9 +1.8
CN2 AMB AMB
comp=Z,30nm,1.3s,mb4.9
CN2 AMB AMB
comp=Z,900nm,5.0s
CN2 LR LR
comp=N,4µm,21.0s,MS5.4
CN2 LR LR
comp=E,4µm,21.0s,MS5.4
CN2 LR LR
comp=Z,5µm,23.0s,MS5.3
HUMO Hull Mountain 38.03 81 eP **P 09 33 15.0 +1.0**
comp=Z,16nm,0.8s,mb4.8
HUMO LR LR
comp=Z,7µm,21.0s,MS5.5
HAWA Hanford 38.17 73 eP **P 09 33 15.5 +0.4**
comp=Z,7.6nm,0.8s,mb4.5
HAWA LR LR
comp=Z,475nm,21.0s
OD2 Odessa Site #2 38.18 72 P **P 09 33 16.2 +1.0**
WRD Warden 38.21 73 P **P 09 33 16.2 +0.8**
BOD Bodaibo 38.27 307 eP **P 09 33 14.1 -1.7**
BOD e 09 39 13.3
BOD pmax pmax
comp=Z,14nm,0.8s,mb4.7
BOD pmax pmax
comp=Z,27nm,1.1s,mb4.9
KHMM Horse Mountain 38.51 84 eP **P 09 33 19.4 +1.4**
HIA Hailar 38.57 292 eP **P 09 33 16.2 -2.2**
HIA pmax pmax
comp=Z,67nm,1.2s
HIA Hailar 38.57 292 eP **P 09 33 16.2 -2.2**
comp=Z,67nm,1.2s,mb5.2
YBH Yreka Blue Hor 38.66 82 eP **P 09 33 20.5 +1.2**
YBH pmax pmax
comp=Z,29nm,1.0s
YBH MLR MLR
comp=Z,7µm,22.0s
YBH Yreka Blue Hor 38.66 82 eP **P 09 33 20.5 +1.2**
comp=Z,29nm,1.0s,mb5.0
YBH LR LR
comp=Z,7µm,22.0s,MS5.4
EDM Edmonton 38.68 61 eP **P 09 33 18.2 -1.1**
NEW Newport 38.71 70 P **P 09 33 20.1 +0.5**
NEW pmax pmax
comp=Z,78nm,0.9s
NEW Newport 38.71 70 P **P 09 33 20.0 +0.4**
WDC Whiskeytown Da 39.42 83 eP **P 09 33 26.5 +1.0**
WDC pmax pmax
comp=Z,37nm,1.2s,mb5.0
WDC MLR MLR
comp=Z,3µm,19.0s,MS5.2
WDC Whiskeytown Da 39.42 83 eP **P 09 33 26.5 +1.0**
comp=Z,37nm,1.2s,mb5.0
WDC LR LR
comp=Z,3µm,19.0s,MS5.2
RES Resolute Bay 39.79 24 eP **P 09 33 27.1 -1.2**
RES pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
RES Resolute Bay 39.79 24 eP **P 09 33 27.1 -1.2**
comp=Z,5.4nm,0.7s,mb4.4
KS15 Wonju Array Si 39.91 271 eP **P 09 33 29.9 +0.3**

HOPS Hopland 40.01 86 eP **P 09 33 31.5 +1.0**
comp=Z,46nm,1.1s,mb5.1
HOPS LR LR
comp=Z,7µm,22.0s,MS5.5
SNY Shenyang 40.04 280 ⇑P **P 09 33 30.8 +0.1**
SNY PP PP 09 35 09.3 +2.4
SNY AMB AMB
comp=Z,60nm,1.2s,mb5.2
SNY LR LR
comp=N,5µm,21.3s
SNY LR LR
comp=Z,7µm,21.4s,MS5.5
MOD Modoc 40.06 80 eP **P 09 33 31.6 +0.7**
comp=Z,52nm,1.1s,mb5.2
MOD LR LR
comp=Z,8µm,21.0s,MS5.5
WALA Waterton Lakes 40.21 67 eP **P 09 33 31.9 -0.1**
comp=Z,90nm,1.0s,mb5.5
BMO Blue Mountains 40.30 74 eP **P 09 33 33.1 +0.2**
comp=Z,47nm,1.0s,mb5.2
BMO LR LR
comp=Z,8µm,22.0s,MS5.5
NSHM Saint Helena R 40.59 86 eP **P 09 33 35.9 +0.7**
INCN Inchon 40.67 272 eP **P 09 33 35.8 -0.2**
comp=Z,53nm,0.8s,mb5.2
INCN LR LR
comp=Z,2µm,19.0s,MS5.0
WVOR Wild Horse Val 40.80 78 eP **P 09 33 37.7 +0.8**
WVOR pmax pmax
comp=Z,78nm,0.9s,mb5.3
WVOR MLR MLR
comp=Z,8µm,21.0s,MS5.6
WVOR Wild Horse Val 40.80 78 eP **P 09 33 37.7 +0.8**
comp=Z,78nm,0.9s,mb5.3
WVOR LR LR
comp=Z,8µm,21.0s,MS5.6
MSO Missoula 41.29 70 eP **P 09 33 41.0 +0.1**
comp=Z,43nm,0.9s,mb5.1
MSO LR LR
comp=Z,3µm,20.0s,MS5.1
CHMT Chamberlain Mo 41.66 69 eP **P 09 33 43.7 -0.2**
PAHR Pah Rah Range 41.90 82 eP **P 09 33 46.7 +0.8**
comp=Z,26nm,0.9s,mb4.9
WCN Washoe City 41.90 83 eP **P 09 33 47.0 +1.0**
WCN pmax pmax
comp=Z,44nm,1.2s,mb5.0
WCN Washoe City 41.90 83 eP **P 09 33 47.0 +1.1**
comp=Z,44nm,1.2s,mb5.0
CMB Columbia Colle 42.27 85 eP **P 09 33 49.5 +0.5**
CMB pmax pmax
comp=Z,52nm,1.4s,mb5.0
CMB MLR MLR
comp=Z,7µm,21.0s,MS5.5
CMB Columbia Colle 42.27 85 eP **P 09 33 49.5 +0.5**
comp=Z,52nm,1.4s,mb5.0
CMB LR LR
comp=Z,7µm,21.0s,MS5.5
SAO San Andreas Ge 42.39 87 P **P 09 33 54.0 +4.0**
SAO e pP 09 34 08.3 +5.9
SAO pmax pmax
comp=Z,32nm,1.0s,mb4.9
SAO San Andreas Ge 42.39 87 eP **P 09 33 50.8 +0.8**
comp=Z,24nm,1.1s,mb4.8
SAO LR LR
comp=Z,3µm,19.0s,MS5.2
HRY Holter Researc 42.60 69 eP **P 09 33 51.6 0.0**
HLID Hailey 42.75 74 eP **P 09 33 53.5 +0.6**
comp=Z,94nm,1.0s,mb5.5
HLID LR LR
comp=Z,8µm,22.0s,MS5.6
BMN Battle Mountai 42.81 80 eP **P 09 33 53.9 +0.5**
BMN pmax pmax
comp=Z,18nm,0.8s,mb4.8
BMN MLR MLR
comp=Z,5µm,20.0s,MS5.4
BMN Battle Mountai 42.81 80 eP **P 09 33 53.9 +0.5**
comp=Z,18nm,0.8s,mb4.8
BMN LR LR
comp=Z,5µm,20.0s,MS5.4
LRV Little Rabbit 42.87 87 eP **P 09 33 54.4 +0.4**
DL2 Dalian 42.95 278 P **P 09 33 54.6 0.0**
DL2 PP PP 09 35 39.8 +2.9
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.8
DL2 AMB AMB
comp=Z,410nm,8.4s
DL2 LR LR
comp=N,1µm,16.7s,MS5.0
DL2 LR LR
comp=E,1µm,15.5s,MS5.0
DL2 LR LR
comp=Z,2µm,30.0s
MCMT McKenzie Canyo 43.00 72 eP **P 09 33 55.1 +0.2**
BOZ Bozeman (W) 43.28 70 eP **P 09 33 57.5 +0.3**
BOZ pmax pmax
comp=Z,52nm,0.8s,mb5.3
BOZ MLR MLR
comp=Z,3µm,20.0s,MS5.2
BOZ Bozeman (W) 43.28 70 eP **P 09 33 57.5 +0.3**
comp=Z,52nm,0.8s,mb5.3
BOZ LR LR
comp=Z,3µm,20.0s,MS5.2
NVAR Mina Array Bea 43.33 83 P **P 09 33 58.6 +0.9**
comp=Z,16nm,1.0s,mb4.7,baz=301,slow=6.2,SNR=48
NVAR ScP 09 39 36.4
comp=Z,1.1nm,0.9s,baz=270,slow=2.7,SNR=3.8
NVAR LR LR 09 48 34.1
comp=Z,3µm,21.5s,MS5.2,baz=300,slow=31
OMM Old Mammoth Mi 43.40 84 eP **P 09 33 59.0 +0.7**
MNV Mina 43.42 83 eP **P 09 33 59.1 +0.6**
MNV pmax pmax
comp=Z,26nm,1.1s,mb4.9
MNV MLR MLR
comp=Z,3µm,21.0s,MS5.2
MNV Mina 43.42 83 eP **P 09 33 59.1 +0.7**
comp=Z,26nm,1.1s,mb4.9
MNV LR LR
comp=Z,3µm,21.0s,MS5.2
MTUM Tungsten Hills 43.83 84 eP **P 09 34 02.9 +1.1**
KWAJ Kwajalein Atol 43.83 200 PFAKE 09 34 10.0 +7.9
KWAJ LR LR
comp=Z,1µm,21.0s,MS4.7
QLMT Earthquake Lak 43.84 71 eP **P 09 34 01.8 0.0**
ELK Elko 43.85 78 eP **P 09 34 02.5 +0.6**
ELK pmax pmax
comp=Z,22nm,0.8s
ELK MLR MLR
comp=Z,6µm,19.0s
ELK Elko 43.85 78 eP **P 09 34 02.5 +0.6**
comp=Z,22nm,0.8s,mb4.9
ELK LR LR
comp=Z,6µm,19.0s,MS5.5
YMR Madison River 44.21 71 eP **P 09 34 04.9 +0.2**
TPH Tonopah 44.22 83 eP **P 09 34 05.0 +0.1**
TPH pmax pmax
comp=Z,22nm,0.8s,mb4.9
TPH MLR MLR
comp=Z,3µm,21.0s,MS5.2
TPH Tonopah 44.22 83 eP **P 09 34 05.0 +0.1**
comp=Z,22nm,0.8s,mb5.0
TPH LR LR
comp=Z,3µm,21.0s,MS5.2
YNR Norris Junctio 44.35 71 eP **P 09 34 06.7 +0.8**
GCMT Greycliff 44.36 69 eP **P 09 34 05.9 0.0**
YFT Old Faithful 44.41 71 eP **P 09 34 07.8 +1.5**
LKWY Lake 44.60 71 eP **P 09 34 09.3 +1.5**
LKWY pmax pmax
comp=Z,76nm,0.9s,mb5.5
LKWY MLR MLR
comp=Z,3µm,19.0s,MS5.3
LKWY Lake 44.60 71 eP **P 09 34 09.3 +1.5**
comp=Z,76nm,0.9s,mb5.5
LKWY LR LR
comp=Z,3µm,19.0s,MS5.3
IMW Indian Meadow 44.65 72 eP **P 09 34 08.9 +0.6**
comp=Z,58nm,0.9s,mb5.4
RRI2 Red Ridge 44.74 73 eP **P 09 34 09.5 +0.5**
comp=Z,118nm,1.0s,mb5.7
HVU Hansel Valley 44.76 75 eP **P 09 34 09.1 0.0**
MOOW Moose Ponds 44.85 72 eP **P 09 34 10.0 +0.1**
comp=Z,17nm,0.9s,mb4.9
TPAW Teton Pass 44.88 72 eP **P 09 34 10.8 +0.8**
comp=Z,30nm,0.9s,mb5.1
WUWY Wally Ulrich 44.97 72 eP **P 09 34 11.4 +0.6**
REDW Red Top Meadow 45.01 72 eP **P 09 34 11.6 +0.5**
comp=Z,65nm,1.1s,mb5.4
SNOW Snow King Moun 45.01 72 eP **P 09 34 11.4 +0.3**

comp=Z,47nm,0.9s,mb5.3
LOHW Long Hollow 45.02 72 eP **P 09 34 11.2 0.0**
comp=Z,19nm,0.8s,mb5.0
TRCR Troy Canyon 45.07 81 eP **P 09 34 11.6 -0.1**
BGU Big Grassy Mou 45.10 77 eP **P 09 34 12.3 +0.4**
DAC Darwin (Calif) 45.11 85 PFAKE 09 34 20.0 +8.0
DAC LR LR
comp=Z,4µm,21.0s,MS5.3
AHID Auburn Hatcher 45.20 73 eP **P 09 34 12.6 -0.1**
comp=Z,50nm,1.0s,mb5.3
AHID LR LR
comp=Z,9µm,22.0s,MS5.6
SPUT South Promonto 45.23 76 eP **P 09 34 13.7 +0.7**
HWUT Hardware Ranch 45.59 75 eP **P 09 34 15.8 0.0**
comp=Z,41nm,0.9s,mb5.4
HWUT LR LR
comp=Z,3µm,20.0s,MS5.2
BJI Beijing 45.64 282 P **P 09 34 16.3 +0.1**
BJI AP pP 09 34 28.3 -0.4
BJI XP sP 09 34 33.0 -1.1
BJI PCP PcP 09 35 57.5 +3.2
BJI PP PP 09 36 01.6 -2.2
BJI S **S 09 40 47.9 -7.1**
BJI SS SS 09 44 15.0 +4.0
BJI AMB AMB
comp=Z,26nm,0.9s,mb5.2
BJI LR LR
comp=N,4µm,22.4s,MS5.5
BJI LR LR
comp=E,4µm,21.9s,MS5.5
BJI LR LR
comp=Z,6µm,28.2s
BJI Beijing 45.64 282 P **P 09 34 16.3 +0.1**
BJI *PP pP 09 34 28.2 -0.5
BJI *SP sP 09 34 33.0 -1.1
BJI 09 35 57.5
BJI 09 36 01.6
BJI S **S 09 40 47.9 -7.1**
BJI SS SS 09 44 15.0 +4.0
BJI pmax pmax
comp=Z,26nm,0.9s,mb5.2
BJI MLR MLR
comp=Z,6µm,28.2s,MS5.4
BJI Beijing 45.64 282 P **P 09 34 16.3 +0.1**
comp=Z,26nm,0.9s,mb5.2
BJI pP pP 09 34 28.2 -0.5
BJI sP sP 09 34 33.0 -1.1
BJI PcP PcP 09 35 57.5 +3.2
BJI PP PP 09 36 01.6 -2.2
BJI S **S 09 40 47.9 -7.1**
BJI SS SS 09 44 15.0 +4.0
BJI LR LR
comp=Z,6µm,28.2s,MS5.4
BJT Baijiatuau 45.66 282 eP **P 09 34 15.9 -0.5**
BJT pmax pmax
comp=Z,51nm,1.1s
BJT Baijiatuau 45.66 282 eP **P 09 34 15.9 -0.5**
comp=Z,51nm,1.1s,mb5.4
DUG Dugway 45.67 77 eP **P 09 34 16.9 +0.5**
DUG pmax pmax
comp=Z,165nm,1.1s,mb5.9
DUG Dugway 45.67 77 eP **P 09 34 16.9 +0.5**
comp=Z,165nm,1.1s,mb5.9
NOQ North Oquirrh 45.82 76 eP **P 09 34 18.2 +0.6**
FCC Fort Churchill 45.90 46 eP **P 09 34 15.9 -2.1**
FCC pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
FCC Fort Churchill 45.90 46 eP **P 09 34 15.9 -2.1**
comp=Z,10nm,0.5s,mb5.0
TCUT Toone Canyon 45.98 75 eP **P 09 34 19.3 +0.4**
CTU Camp Tracy 46.02 76 eP **P 09 34 19.1 -0.2**
BW06 Boulder Array 46.13 72 eP **P 09 34 20.0 0.0**
comp=Z,143nm,0.9s,mb5.9
BW06 LR LR
comp=Z,7µm,22.0s,MS5.6
PDAR Pinedale Array 46.13 72 P **P 09 34 20.4 +0.3**
comp=Z,148nm,0.9s,mb5.9,baz=288,slow=4.7,SNR=115
PDAR LR LR 09 51 09.7
comp=Z,5µm,21.8s,MS5.5,baz=312,slow=33
MWC Mount Wilson 46.13 87 eP **P 09 34 20.0 -0.2**
JLU Jordanelle 46.26 76 eP **P 09 34 22.0 +0.9**
NLU North Lily Min 46.27 77 eP **P 09 34 21.2 +0.1**
TLY Talaya 46.35 303 eP **P 09 34 20.6 -1.0**
TLY e 09 36 15.0
TLY pmax pmax
comp=Z,16nm,1.0s,mb4.9
TLY Talaya 46.35 303⇑ eP **P 09 34 22.4 +0.8**
DAU Daniels Canyon 46.49 76 eP **P 09 34 23.5 +0.6**
MPU Maple Canyon 46.50 77 eP **P 09 34 23.1 +0.1**
ULN Ulaanbaatar 46.55 297 P **P 09 34 23.3 +0.1**
ULN pmax pmax
comp=Z,36nm,0.7s,mb5.4
ULN Ulaanbaatar 46.55 297⇑ iP **P 09 34 23.6 +0.4**
ARUT Antelope Range 46.75 80 eP **P 09 34 24.8 -0.2**
JOW Kunigami 46.78 260 P **P 09 34 25.4 0.0**
comp=Z,26nm,0.7s,mb5.3,baz=335,slow=14,SNR=8.4
SONM Songino Array 46.93 297 P **P 09 34 25.9 -0.4**
comp=Z,30nm,0.8s,mb5.3,baz=66,slow=8.1,SNR=114
SONM ScP 09 39 51.3
comp=Z,2.2nm,0.9s,baz=46,slow=3.4,SNR=5.1
SONM LR LR 09 54 57.0
comp=Z,14µm,20.9s,MS5.9,baz=62,slow=37
MVU Marysvale 47.07 79 eP **P 09 34 28.2 +0.7**
comp=Z,45nm,1.1s,mb5.3
MVU LR LR
comp=Z,6µm,20.0s,MS5.6
MSU Marysvale 47.08 79 eP **P 09 34 27.9 +0.3**
TMUT Trail Mountain 47.20 77 eP **P 09 34 29.2 +0.7**
NEN Nelson 47.23 84 eP **P 09 34 28.1 -0.7**
ZAK Zakamensk 47.24 301⇑ iP **P 09 34 28.8 +0.1**
ZAK pmax pmax
comp=Z,27nm,1.5s,mb5.0
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TIA Tai'an 47.42 278 eP **P 09 34 29.5 -0.8**
TIA S **S 09 41 26.0 +5.7**
TIA AMB AMB
comp=Z,38nm,1.3s,mb5.2
TIA LR LR
comp=N,1µm,14.0s,MS5.3
TIA LR LR
comp=E,2µm,15.0s,MS5.3
LDFC Landfair 47.43 84 eP **P 09 34 30.0 -0.3**
PFO Pinyon Flat Ob 47.54 87 eP **P 09 34 31.6 +0.3**
PFO pmax pmax
comp=Z,21nm,1.1s,mb5.1
PFO MLR MLR
comp=Z,750nm,21.0s,MS4.6
PFO Pinyon Flat Ob 47.54 87 eP **P 09 34 31.6 +0.4**
comp=Z,21nm,1.1s,mb5.1
PFO LR LR
comp=Z,750nm,21.0s,MS4.6
SRU San Rafael 47.73 77 eP **P 09 34 33.1 +0.4**
MOY Mondy 47.75 304 eP **P 09 34 33.3 +0.6**
GUMO Guam 47.80 232 PFAKE 09 34 50.0 +16
GUMO LR LR
comp=Z,2µm,21.0s,MS5.1
HHC Hu-ho-hao-te 47.96 286 ⇑P **P 09 34 35.3 +0.8**
HHC XP sP 09 34 51.9 -0.4
HHC PCP PcP 09 36 00.0 -2.5
HHC SCP 09 39 52.8
HHC PCS 09 39 55.3
HHC S **S 09 41 32.3 +4.4**
HHC XS 09 41 49.6
HHC SCS ScS 09 44 21.0 +0.1
HHC AMB AMB
comp=Z,36nm,1.7s,mb5.1
HHC LR LR
comp=N,5µm,19.6s,MS5.8
HHC LR LR
comp=E,7µm,20.1s,MS5.8
HHC LR LR
comp=Z,10µm,22.3s,MS5.7
BAR Barrett 48.02 88 eP **P 09 34 35.1 +0.1**
RWWY Rawlins 48.17 72 eP **P 09 34 35.3 -0.8**
comp=Z,98nm,1.0s,mb5.8
SSE Sheshan 48.24 270 P **P 09 34 32.8 -3.9**
SSE AP pP 09 34 46.6 -2.6
SSE PP PP 09 36 25.3 -3.5
SSE S **S 09 41 27.3 -4.6**
SSE XS 09 41 49.8
SSE SS SS 09 44 58.1 +1.6
SSE AMB AMB
comp=Z,24nm,0.8s,mb5.3
SSE AMB AMB

comp=Z,80nm,4.1s
SSE LR LR
comp=N,2µm,23.1s,MS5.1
SSE LR LR
comp=E,1µm,23.1s,MS5.1
SSE LR LR
comp=Z,3µm,23.1s,MS5.2
SSE Sheshan 48.24 270 P **P** **09 34 32.8 -3.9**
comp=Z,24nm,0.8s,mb5.3
SSE pP pP 09 34 46.6 -2.6
SSE PP PP 09 36 25.3 -3.5
SSE S **S** **09 41 27.3 -4.6**
SSE sS 09 41 49.8
SSE SS SS 09 44 58.1 +1.6
SSE LR LR
comp=Z,3µm,23.1s,MS5.2
RSSD Black Hills 48.60 68 *e*P **P** **09 34 38.4 -0.9**
RSSD pmax pmax
comp=Z,37nm,0.9s,mb5.4
RSSD MLR MLR
comp=Z,832nm,19.0s,MS4.7
RSSD Black Hills 48.60 68 *e*P **P** **09 34 38.4 -0.9**
comp=Z,37nm,0.9s,mb5.4
RSSD LR LR
comp=Z,832nm,19.0s,MS4.7
BTO Baotou 49.04 287 *e*P **P** **09 34 43.0 +0.2**
BTO S **S** **09 41 42.5 -0.5**
BTO AMB AMB
comp=Z,47nm,0.8s,mb5.6
NJ2 Nanjing 49.06 272 *e*P **P** **09 34 42.8 -0.2**
NJ2 AP pP 09 34 52.4 -3.1
NJ2 XP sP 09 34 56.5 -4.4
NJ2 PP PP 09 36 37.9 +0.9
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.5
NJ2 AMB AMB
comp=Z,970nm,11.2s
NJ2 LR LR
comp=N,7µm,22.6s,MS5.8
NJ2 LR LR
comp=E,8µm,21.2s,MS5.8
NJ2 LR LR
comp=Z,6µm,22.0s,MS5.6
PV10 Paradox Valley 49.10 77 *e*P **P** **09 34 43.5 +0.2**
TIY Taiyuan 49.38 282 PR 09 34 50.0
TIY LR LR
comp=N,4µm,17.0s
PHWY Pilot Hill 49.45 71 *e*P **P** **09 34 44.5 -1.5**
WUAZ Wupatki 49.47 81 *e*P **P** **09 34 45.9 -0.3**
comp=N,36nm,0.9s,mb5.4
WUAZ LR LR
comp=Z,6µm,22.0s,MS5.6
PV01 Paradox Valley 49.53 77 *e*P **P** **09 34 46.2 -0.4**
ULM Lac du Bonnet 49.57 57 P **P** **09 34 45.5 -1.2**
comp=Z,4.9nm,0.4s,mb4.9,baz=313,slow=7.2,SNR=8.4
ULM LR LR 09 55 32.1
comp=Z,4µm,21.7s,MS5.4,baz=308,slow=36
ULM Lac du Bonnet 49.57 57 *e*P **P** **09 34 45.0 -1.7**
comp=Z,15nm,0.6s,mb5.2
ULM LR LR
comp=Z,7µm,22.0s,MS5.6
KBS Kingsbay 49.97 357 *e*P **P** **09 34 48.2 -1.2**
KBS pmax pmax
comp=Z,87nm,1.3s,mb5.6
KBS MLR MLR
comp=Z,3µm,19.0s,MS5.3
KBS Kingsbay 49.97 357 *e*P **P** **09 34 48.2 -1.2**
comp=Z,87nm,1.3s,mb5.6
KBS LR LR
comp=Z,3µm,19.0s,MS5.3
KBS Kingsbay 49.97 357 *e*P **P** **09 34 49.6 +0.2**
KBS AMS AMS 09 58 07.2
comp=Z,2µm,19.9s,MS5.0
DAG Danmarks Havn 51.63 6 *e*P **P** **09 35 00.0 -2.1**
DAG MLR MLR
comp=N,5µm,22.0s
DAG MLR MLR
comp=Z,6µm,22.0s,MS5.6
DAG Danmarks Havn 51.63 6 *i* P **P** **09 35 00.0 -2.1**
comp=Z,6µm,22.0s
SDCO Great Sand Dun 51.65 75 *e*P **P** **09 35 02.7 0.0**
comp=Z,73nm,1.2s,mb5.5
SDCO LR LR
comp=Z,4µm,20.0s,MS5.4
TUC Tucson 51.96 84 *e*P **P** **09 35 04.4 -0.7**
TUC pmax pmax
comp=Z,19nm,0.8s,mb5.1
TUC MLR MLR
comp=Z,1µm,19.0s,MS5.0
TUC Tucson 51.96 84 *e*P **P** **09 35 04.4 -0.7**
comp=Z,19nm,0.8s,mb5.1
TUC LR LR
comp=Z,1µm,19.0s,MS5.0
TATO Taipei 52.34 264 PFAKE 09 35 20.0 +12
TATO LR LR
comp=Z,6µm,21.0s,MS5.6
YHNB Yeheng 52.63 263 *e*P **P** **09 35 08.6 -1.6**
ANMO Albuquerque 52.88 78 *e*P **P** **09 35 11.8 -0.2**
ANMO pmax pmax
comp=Z,25nm,1.1s
ANMO MLR MLR
comp=Z,5µm,21.0s
ANMO Albuquerque 52.88 78 *e*P **P** **09 35 11.8 -0.2**
comp=Z,25nm,1.1s,mb5.1
ANMO LR LR
comp=Z,5µm,21.0s,MS5.5
WHN Wuhan 52.91 274 ⇑P **P** **09 35 10.0 -2.2**
WHN PCP PcP 09 36 21.0 +0.2
WHN PP PP 09 37 10.0 -3.4
WHN AMB AMB
comp=Z,1µm,7.6s
WHN LR LR
comp=Z,9µm,27.8s,MS5.7
EYMN Ely 53.25 57 *e*P **P** **09 35 12.6 -2.0**
comp=Z,49nm,1.0s,mb5.4
EYMN LR LR
comp=Z,5µm,22.0s,MS5.5
SUMG Summit 53.39 14 *e*P **P** **09 35 13.3 -1.9**
comp=Z,26nm,0.9s,mb5.2
XAN Xi'an 53.93 281 P **P** **09 35 18.3 -1.4**
XAN PP PP 09 37 17.6 -5.0
XAN S **S** **09 42 51.0 +0.8**
XAN AMB AMB
comp=Z,34nm,1.6s,mb5.0
XAN LR LR
comp=N,2µm,23.7s,MS5.4
XAN LR LR
comp=E,3µm,21.9s,MS5.4
XAN LR LR
comp=Z,4µm,23.4s,MS5.4
QZH Quanzhou 54.17 266 ⇑*i*P **P** **09 35 20.4 -1.2**
QZH PCP PcP 09 36 23.8 -1.8
QZH PP PP 09 37 24.0 -1.0
QZH AMB AMB
comp=Z,100nm,1.1s,mb5.7
QZH AMB AMB
comp=Z,1µm,8.5s
QZH LR LR
comp=N,3µm,16.3s,MS5.4
QZH LR LR
comp=E,1µm,15.3s,MS5.4
QZH LR LR
comp=Z,5µm,22.0s
ZAL Zalesovo 54.33 314 P **P** **09 35 22.4 0.0**
comp=Z,2.2nm,0.6s,mb4.3,baz=56,slow=8.6,SNR=7.7
ZAL PcP PcP 09 36 26.3 +0.5
comp=Z,12nm,0.6s,baz=73,slow=6.3,SNR=10
CBKS Cedar Bluff 54.42 70 *e*P **P** **09 35 22.6 -0.7**
CBKS pmax pmax
comp=Z,135nm,0.9s,mb5.9
CBKS MLR MLR
comp=Z,3µm,19.0s,MS5.3
CBKS Cedar Bluff 54.42 70 *e*P **P** **09 35 22.6 -0.7**
comp=Z,135nm,0.9s,mb5.9
CBKS LR LR
comp=Z,3µm,19.0s,MS5.3
NVS Novosibirsk 54.45 315 *e*P **P** **09 35 21.3 -1.9**
NVS *i* 09 36 25.0
NVS pmax pmax
comp=Z,20nm,1.0s,mb5.0
NVS pmax pmax
comp=E,11nm,1.0s
LZH Lanzhou 55.66 287 ⇑P **P** **09 35 32.1 -0.2**
LZH PP PP 09 37 39.0 +0.8
LZH S **S** **09 43 18.0 +4.6**
LZH XS 09 43 36.3
LZH AMB AMB
comp=Z,300nm,1.5s,mb6.1
LZH AMB AMB
comp=Z,630nm,5.0s
LZH LR LR
comp=E,15µm,15.7s
LZH LR LR
comp=Z,21µm,16.5s,MS6.3
LZH Lanzhou 55.66 287 ⇑P **P** **09 35 32.1 -0.2**
LZH *SP sP 09 35 42.3 -8.0
LZH 09 37 39.0
LZH S **S** **09 43 18.0 +4.6**
LZH *SS 09 43 36.2
LZH pmax pmax
comp=Z,300nm,1.5s,mb6.1
LZH MLR MLR
comp=Z,21µm,16.5s,MS6.3
LZH Lanzhou 55.66 287 ⇑P **P** **09 35 32.1 -0.2**
comp=Z,300nm,1.5s,mb6.1
LZH pP pP 09 35 38.2 -6.8
LZH sP sP 09 35 42.3 -8.0
LZH PP PP 09 37 39.0 +0.8
LZH S **S** **09 43 18.0 +4.6**
LZH sS 09 43 36.2
LZH SS SS 09 47 08.3 +9.4
LZH LR LR
comp=Z,21µm,16.5s,MS6.3
SFJD Kangerlussuaq 55.70 22 *e*P **P** **09 35 31.3 -0.9**
SFJD *i* 09 36 31.5
SFJD pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
SFJD Kangerlussuaq 55.70 22 *e*P **P** **09 35 31.3 -0.9**
comp=Z,2.6nm,0.3s,mb4.7
SFJD *i* 09 36 31.5
SFJD Kangerlussuaq 55.70 22 *i* P **P** **09 35 31.3 -0.9**
comp=Z,2.6nm,0.3s,mb4.7
SFJD *i* 09 36 31.5
MNTX Cornudas Mount 55.74 81 *e*P **P** **09 35 31.9 -1.0**
comp=Z,22nm,0.9s,mb5.2
MNTX LR LR
comp=Z,2µm,20.0s,MS5.2
GTA Gaotai 55.85 292 ⇑*i*P **P** **09 35 33.0 -0.6**
GTA AP pP 09 35 46.3 0.0
GTA XP sP 09 35 51.5 -0.1
GTA PCP PcP 09 36 30.8 -1.1
GTA PP PP 09 37 38.9 -1.0
GTA PPP PPP 09 38 54.0 -1.6
GTA SCP 09 40 24.6
GTA PCS 09 40 30.8
GTA S **S** **09 43 16.3 +0.4**
GTA PS PS 09 43 32.6 -1.4
GTA SCS ScS 09 45 16.4 +1.2
GTA SS SS 09 47 01.8 -0.1
GTA AMB AMB
comp=Z,115nm,1.0s,mb5.9
GTA AMB AMB
comp=Z,797nm,8.8s
GTA LR LR
comp=N,5µm,18.4s,MS5.7
GTA LR LR
comp=E,4µm,21.3s,MS5.7
GTA LR LR
comp=Z,4µm,25.0s,MS5.4
AMTX Amarillo 55.85 75 *e*P **P** **09 35 32.6 -1.0**
comp=Z,30nm,0.9s,mb5.3
AMTX LR LR
comp=Z,3µm,20.0s,MS5.3
KSU1 Kansas State U 56.07 68 *e*P **P** **09 35 33.5 -1.7**
ENH Enshi 56.14 278 *e*P **P** **09 35 33.7 -2.1**
comp=Z,27nm,0.6s,mb5.5
WMOK Wichita Mounta 57.71 73 *e*P **P** **09 35 45.7 -1.2**
WMOK pmax pmax
comp=Z,38nm,0.9s,mb5.4
WMOK MLR MLR
comp=Z,5µm,22.0s,MS5.6
WMOK Wichita Mounta 57.71 73 *e*P **P** **09 35 45.7 -1.2**
comp=Z,38nm,0.9s,mb5.4
WMOK LR LR
comp=Z,5µm,22.0s,MS5.6
JMIC Jan Mayen 57.88 4 LR LR 10 02 49.6
comp=Z,2µm,19.6s,MS5.1,baz=345,slow=38
JMIC Jan Mayen 57.88 4 *e*P **P** **09 35 47.8 +0.2**
JMIC *e*S **S** **09 43 45.8 +3.6**
JMIC AMS AMS 10 02 41.6
comp=Z,1µm,23.8s,MS5.0
KEV Kevo 57.91 350 *e*P **P** **09 35 45.9 -1.9**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KEV MLR MLR
comp=Z,2µm,20.0s,MS5.3
KEV Kevo 57.91 350 *e*P **P** **09 35 45.9 -1.9**
comp=Z,1.1nm,0.3s,mb4.4
KEV LR LR
comp=Z,2µm,20.0s,MS5.3
ARCES ARCESS Array B 58.29 350 P **P** **09 35 48.2 -2.2**
comp=Z,4.8nm,0.4s,mb4.8,baz=26,slow=8.4,SNR=56
ARCES PcP PcP 09 36 41.5 +0.5
comp=Z,18nm,1.0s,baz=14,slow=3.7,SNR=4.0
ARCES ARCESS Array B 58.29 350 P **P** **09 35 48.2 -2.2**
ARCES PcP PcP 09 36 41.5 +0.5
ARE0 ARCESS Array S 58.29 350 *e*P **P** **09 35 48.0 -2.5**
LTX Lajitas 58.44 81 *e*P **P** **09 35 51.1 -1.0**
LTX pmax pmax
comp=Z,48nm,1.3s,mb5.4
LTX MLR MLR
comp=Z,2µm,19.0s,MS5.3
LTX Lajitas 58.44 81 *e*P **P** **09 35 51.1 -1.0**
comp=Z,48nm,1.3s,mb5.4
LTX LR LR
comp=Z,2µm,19.0s,MS5.3
TXAR Lajitas Array 58.44 81 P **P** **09 35 51.2 -0.9**
comp=Z,2.6nm,0.5s,mb4.5,baz=301,slow=4.6,SNR=47
TXAR LR LR 10 01 56.6
comp=Z,2µm,18.0s,MS5.3,baz=320,slow=37
TXAR PKP2bc 10 05 44.4
comp=Z,0.8nm,1.0s,baz=135,slow=3.8,SNR=5.1
TXAR Lajitas Array 58.44 81 P **P** **09 35 51.2 -0.9**
TXAR LR LR 10 01 56.6
TXAR ⇑*e* 10 05 44.4
LVZ Lovozero 58.65 346 *i* P **P** **09 35 53.0 0.0**
LVZ pmax pmax
comp=Z,64nm,1.5s,mb5.4
LVZ MLR MLR
comp=Z,3µm,21.0s,MS5.4
LVZ Lovozero 58.65 346 *i* P **P** **09 35 53.1 +0.1**
TRO Tromso 58.79 353 *e*P **P** **09 35 51.0 -3.0**
TRO *e*S **S** **09 43 53.0 -1.1**
TRO AMS AMS 10 08 38.6
comp=Z,1µm,18.8s,MS5.1
APA Apatity 59.14 346 ⇑*i*P **P** **09 35 54.0 -2.4**
APA *e*S **S** **09 44 00.0 +1.3**
APA *e* 09 45 38.0
APA pmax pmax
comp=Z,1µm,17.0s
CD2 Chengdu 59.24 282 ⇑*i*P **P** **09 35 56.4 -1.2**
CD2 AP pP 09 36 07.8 -2.6
CD2 XP sP 09 36 15.8 +0.1
CD2 S **S** **09 43 53.3 -7.2**
CD2 AMB AMB
comp=Z,30nm,0.4s,mb5.7
CD2 AMB AMB
comp=Z,1µm,9.1s
CD2 LR LR
comp=E,4µm,19.2s
CD2 LR LR
comp=Z,4µm,18.0s,MS5.6
WMQ Urumqi 59.63 303 ⇓P **P** **09 36 00.1 0.0**
WMQ AP pP 09 36 12.6 -0.3
WMQ XP sP 09 36 18.1 -0.1
WMQ PCP PcP 09 36 46.6 0.0
WMQ PP PP 09 38 14.1 +0.3
WMQ SCP 09 40 42.1
WMQ PCS 09 40 47.6
WMQ S **S** **09 44 05.1 -0.2**
WMQ XS 09 44 26.6
WMQ SCS ScS 09 45 42.6 -0.1
WMQ SS SS 09 48 02.6 0.0
WMQ AMB AMB
comp=Z,38nm,0.6s,mb5.6
WMQ AMB AMB
comp=Z,849nm,7.4s
WMQ LR LR
comp=N,5µm,20.6s,MS5.8
WMQ LR LR
comp=E,5µm,21.5s,MS5.8
WMQ LR LR
comp=Z,7µm,23.2s,MS5.8
CCM Cathedral Cave 59.88 66 *e*P **P** **09 35 59.6 -2.3**
CCM pmax pmax
comp=Z,59nm,1.2s,mb5.5
CCM MLR MLR
comp=Z,630nm,21.0s,MS4.7
CCM Cathedral Cave 59.88 66 *e*P **P** **09 35 59.6 -2.4**
comp=Z,59nm,1.2s,mb5.5
CCM LR LR
comp=Z,630nm,21.0s,MS4.7
SCHQ Schefferville 59.98 38 P **P** **09 36 00.8 -1.6**
comp=Z,3.1nm,0.5s,mb4.6,baz=310,slow=8.3,SNR=8.4
SCHQ LR LR 10 03 21.0
comp=Z,5µm,21.2s,MS5.6,baz=318,slow=37
SCHQ Schefferville 59.98 38 *e*P **P** **09 36 00.8 -1.5**
comp=Z,17nm,0.9s,mb5.1
SCHQ LR LR
comp=Z,8µm,22.0s,MS5.8
JCT Junction City 60.03 78 *e*P **P** **09 36 02.0 -1.0**
JCT pmax pmax
comp=Z,18nm,0.6s,mb5.3
JCT MLR MLR
comp=Z,6µm,21.0s,MS5.7
JCT Junction City 60.03 78 *e*P **P** **09 36 02.0 -1.0**
comp=Z,18nm,0.6s,mb5.3
JCT LR LR
comp=Z,6µm,21.0s,MS5.7
SLM Saint Louis 60.06 65 *e*P **P** **09 36 00.8 -2.3**
SLM pmax pmax
comp=Z,98nm,1.1s,mb5.8
SLM Saint Louis 60.06 65 *e*P **P** **09 36 00.8 -2.3**
comp=Z,98nm,1.1s,mb5.8
MKAR Makanchi Array 60.32 309 *i* P **P** **09 36 02.7 -2.1**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 60.32 309 P **P** **09 36 02.6 -2.2**
comp=Z,12nm,0.7s,mb5.1,baz=50,slow=6.4,SNR=34
MKAR LR LR 10 04 22.4
comp=Z,2µm,19.3s,MS5.4,baz=16,slow=38
MKAR PKP2bc 10 05 34.9
comp=Z,0.6nm,0.9s,baz=248,slow=3.4,SNR=4.9
MKAR Makanchi Array 60.32 309 P **P** **09 36 02.6 -2.2**
MKAR LR LR 10 04 22.4
MKAR ⇑*e* 10 05 34.9
FVM French Village 60.40 65 *e*P **P** **09 36 03.6 -1.9**
FVM pmax pmax
comp=Z,78nm,1.2s,mb5.6
FVM French Village 60.40 65 *e*P **P** **09 36 03.6 -1.9**
comp=Z,78nm,1.2s,mb5.6
GYA Guiyang 60.58 276 ⇑*i*P **P** **09 36 08.6 +1.7**
GYA AP pP 09 36 21.4 +1.7
GYA XP sP 09 36 26.6 +1.6
GYA PP PP 09 38 21.8 -0.8
GYA SCP 09 40 48.4
GYA S **S** **09 44 15.3 -2.5**
GYA PS PS 09 44 31.8 -7.8
GYA SS SS 09 48 11.5 -6.2
GYA AMB AMB
comp=Z,60nm,1.0s,mb5.7
GYA LR LR
comp=N,3µm,20.1s,MS5.5
GYA LR LR
comp=E,3µm,21.6s,MS5.5
GYA LR LR
comp=Z,3µm,21.0s,MS5.4
SOKR Solikamsk 60.88 331 *d i*P **P** **09 36 08.2 -0.2**
SOKR *e* 09 39 46.6
SOKR *i* S **S** **09 44 25.9 +4.7**
SOKR SS SS 09 48 16.1 -6.0
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
SOKR MLR MLR
comp=Z,4µm,20.0s,MS5.6
MIAR Mount Ida 60.95 70 *e*P **P** **09 36 07.7 -1.6**
MIAR pmax pmax
comp=Z,111nm,1.1s,mb5.9
MIAR MLR MLR
comp=Z,3µm,22.0s,MS5.4
MIAR Mount Ida 60.95 70 *e*P **P** **09 36 07.7 -1.6**
comp=Z,111nm,1.1s,mb5.9
MIAR LR LR
comp=Z,3µm,22.0s,MS5.4
UALR University of 61.52 69 *e*P **P** **09 36 11.5 -1.5**
comp=Z,49nm,1.1s,mb5.5
PARMO Parma 61.70 66 *e*P **P** **09 36 13.2 -1.1**
BLO Bloomington 61.77 62 *e*P **P** **09 36 13.1 -1.6**
BLO pmax pmax
comp=Z,176nm,0.9s,mb6.2
BLO Bloomington 61.77 62 *e*P **P** **09 36 13.1 -1.6**
comp=Z,176nm,0.9s,mb6.2
SVE Sverdlovsk 61.85 328 ⇑*e*P **P** **09 36 12.0 -3.0**
SVE *e*PPP PPP 09 40 07.0 +4.3
SVE *e*S **S** **09 44 52.0 +18**
SVE pmax pmax
comp=Z,75nm,2.5s,mb5.4
SVE MLR MLR
comp=N,5µm,19.0s,MS5.8
SVE MLR MLR
comp=E,3µm,19.0s,MS5.8
SVE MLR MLR
comp=Z,10µm,19.0s,MS6.0
HBAR Harrisburg 61.95 67 *e*P **P** **09 36 14.5 -1.5**
GLAT Glass 62.24 66 *e*P **P** **09 36 16.4 -1.5**
NATX Nacogdoches 62.26 73 *e*P **P** **09 36 16.7 -1.3**
comp=Z,42nm,0.8s,mb5.6
NATX LR LR
comp=Z,7µm,22.0s,MS5.8
UTMT University of 62.44 66 *e*P **P** **09 36 17.9 -1.3**
comp=Z,188nm,1.0s,mb6.2
HALT Halls 62.47 66 *e*P **P** **09 36 18.0 -1.4**
WCI Wyandotte Cave 62.56 62 *e*P **P** **09 36 18.8 -1.2**
WCI pmax pmax
comp=Z,110nm,0.8s,mb6.0
WCI MLR MLR
comp=Z,735nm,19.0s,MS4.9
WCI Wyandotte Cave 62.56 62 *e*P **P** **09 36 18.8 -1.2**
comp=Z,110nm,0.8s,mb6.0
WCI LR LR
comp=Z,735nm,19.0s,MS4.9
ARU Arti 62.86 328 *i* P **P** **09 36 21.6 -0.2**
ARU MLR MLR
comp=Z,1µm,19.0s,MS5.2
ACSO Alum Creek Sta 62.96 59 *e*P **P** **09 36 21.0 -1.7**
comp=Z,76nm,1.1s,mb5.7
ACSO LR LR
comp=Z,5µm,22.0s,MS5.6
BORG Borgarnes 63.01 11 LR LR 10 04 48.7
comp=Z,795nm,18.8s,MS4.9,baz=332,slow=37
BORG Borgarnes 63.01 11 PFAKE 09 36 30.0 +7.4
BORG LR LR
comp=Z,580nm,19.0s,MS4.8
WVT Waverly 63.18 65 *e*P **P** **09 36 22.5 -1.6**
WVT pmax pmax
comp=Z,47nm,1.0s,mb5.6
WVT MLR MLR
comp=Z,3µm,21.0s,MS5.5
WVT Waverly 63.18 65 *e*P **P** **09 36 22.5 -1.7**
comp=Z,47nm,1.0s,mb5.6
WVT LR LR
comp=Z,3µm,21.0s,MS5.5
ERPA Erie 63.20 56 *e*P **P** **09 36 21.7 -2.5**
comp=Z,127nm,1.4s,mb5.9
ERPA LR LR
comp=Z,5µm,19.0s,MS5.7
HNR Honiara 63.25 204 PFAKE 09 36 40.0 +15
HNR LR LR
comp=Z,2µm,21.0s,MS5.3
OXF Oxford 63.41 67 *e*P **P** **09 36 24.2 -1.5**
OXF pmax pmax
comp=Z,302nm,1.0s,mb6.4
OXF MLR MLR
comp=Z,3µm,19.0s,MS5.5
OXF Oxford 63.41 67 *e*P **P** **09 36 24.2 -1.5**
comp=Z,302nm,1.0s,mb6.4
OXF LR LR
comp=Z,3µm,19.0s,MS5.5
ALLY Alegheny Colle 63.45 56 *e*P **P** **09 36 25.1 -0.8**
MSNY Massena 63.68 50 *e*P **P** **09 36 27.0 -0.2**
JOF Joensuu 63.81 345 *e*p **P** **09 36 25.0 -2.7**
comp=Z,3.0nm,0.4s,mb4.7
GENY Geneseo 63.84 54 *e*P **P** **09 36 26.5 -1.8**
PLAL Pickwick Lake 63.85 66 *e*P **P** **09 36 26.8 -1.7**
comp=Z,43nm,0.7s,mb5.6
PLAL LR LR
comp=Z,3µm,22.0s,MS5.5

KMI Kunming 63.99 278 P **P** **09 36 28.5 -1.0**
KMI AP pP 09 36 42.3 -0.2
KMI PP PP 09 38 53.1 +0.8
KMI PPP PPP 09 40 25.1 +0.7
KMI S **S** **09 45 02.8 +2.1**
KMI XS 09 45 22.9
KMI SCS ScS 09 46 15.3 -0.3
KMI SKS SKS 09 46 18.3 +2.8
KMI SS SS 09 49 13.8 +2.6
KMI AMB AMB
comp=Z,24nm,1.6s,mb5.0
KMI AMB AMB
comp=Z,624nm,7.4s
KMI LR LR
comp=N,2μm,18.8s,MS5.5
KMI LR LR
comp=E,2μm,21.4s,MS5.5
KMI LR LR
comp=Z,3μm,30.8s
KMI Kunming 63.99 278 P **P** **09 36 28.5 -1.0**
KMI *PP pP 09 36 42.3 -0.2
KMI 09 38 53.1
KMI PPP PPP 09 40 25.1 +0.7
KMI S **S** **09 45 02.7 +2.0**
KMI *SS 09 45 22.9
KMI 09 46 15.2
KMI SS SS 09 49 13.7 +2.5
KMI pmax pmax
comp=Z,24nm,1.6s,mb5.0
KMI MLR MLR
comp=Z,3μm,30.8s,MS5.3
KMI Kunming 63.99 278 P **P** **09 36 28.5 -1.0**
comp=Z,24nm,1.6s,mb5.0
KMI pP pP 09 36 42.3 -0.2
KMI PP PP 09 38 53.1 +0.8
KMI PPP PPP 09 40 25.1 +0.7
KMI S **S** **09 45 02.7 +2.0**
KMI sS 09 45 22.9
KMI ScS ScS 09 46 15.2 -0.4
KMI SKS SKS 09 46 18.3 +2.8
KMI SS SS 09 49 13.7 +2.5
KMI LR LR
comp=Z,3μm,30.8s,MS5.3
QIZ Qiongzhong 64.00 268⇑ *i*P **P** **09 36 29.8 +0.1**
QIZ XP sP 09 36 50.0 +2.2
QIZ PP PP 09 38 53.4 +0.9
QIZ S **S** **09 45 01.6 +0.7**
QIZ SCS ScS 09 46 14.6 -1.2
QIZ SS SS 09 49 14.3 +2.8
QIZ AMB AMB
comp=Z,14nm,1.3s,mb4.8
QIZ LR LR
comp=N,1μm,23.1s,MS5.2
QIZ LR LR
comp=E,1μm,22.3s,MS5.2
QIZ LR LR
comp=Z,2μm,22.8s,MS5.3
QIZ Qiongzhong 64.00 268 *e*P **P** **09 36 29.2 -0.5**
comp=Z,21nm,1.3s,mb5.0
NSS Namsos 64.30 355 AMS AMS 10 03 35.5
comp=Z,2μm,21.2s,MS5.3
NCB Newcomb 64.75 51 *e*P **P** **09 36 33.1 -1.0**
comp=Z,16nm,0.7s,mb5.2
NCB LR LR
comp=Z,3μm,19.0s,MS5.5
SWET Sewanee 64.91 65 *e*P **P** **09 36 33.6 -1.7**
MCWV Mont Chateau 65.05 57 *e*P **P** **09 36 35.2 -1.0**
comp=Z,68nm,1.0s,mb5.6
MCWV LR LR
comp=Z,5μm,19.0s,MS5.7
BINY Binghamton 65.18 53 PFAKE 09 36 50.0 +13
BINY LR LR
comp=Z,3μm,19.0s,MS5.6
TZTN Tazewell 65.29 62 *e*P **P** **09 36 36.4 -1.4**
KAF Kangasniemi 65.31 348 *e*p **P** **09 36 35.5 -2.0**
comp=Z,11nm,0.5s,mb5.2
KAF Kangasniemi 65.31 348 *e*P **P** **09 36 35.5 -2.0**
KAF pmax pmax
comp=Z,11nm,0.5s,mb5.1
SSPA Standing Stone 65.36 55 *e*P **P** **09 36 36.8 -1.3**
comp=Z,57nm,1.0s,mb5.6
SSPA LR LR
comp=Z,926nm,22.0s,MS4.9
ACCN Adirondack Com 65.45 51 *e*P **P** **09 36 36.9 -1.8**
CPCT Cooper Cave 65.54 63 *e*P **P** **09 36 38.2 -1.1**
PQI Presque Isle 65.62 45 PFAKE 09 36 50.0 +10
PQI LR LR
comp=Z,29μm,19.0s,MS6.5
LRAL Lakeview Retre 65.87 67 *e*P **P** **09 36 39.8 -1.8**
comp=Z,40nm,0.8s,mb5.5
LRAL LR LR
comp=Z,3μm,20.0s,MS5.5
FINES FINESS Array B 65.99 347 P **P** **09 36 39.7 -2.1**
comp=Z,11nm,0.6s,mb5.1,baz=22,slow=6.9,SNR=33
FINES LR LR 10 11 23.3
comp=Z,2μm,18.1s,MS5.2,baz=1.3,slow=41
FINES FINESS Array B 65.99 347 P **P** **09 36 39.7 -2.1**
FINES LR LR 10 11 23.3
FWV Forest Hill 66.04 60 *e*P **P** **09 36 41.9 -0.7**
ELN Prospectdale 66.33 60 *e*P **P** **09 36 43.4 -1.0**
TKM2 Tokmak 2 66.40 310 P **P** **09 36 46.0 +1.3**
SNR=15
WVL Waterville 66.47 48 PFAKE 09 37 00.0 +15
WVL LR LR
comp=Z,15μm,20.0s,MS6.2
BLA Blacksburg 66.52 60 *e*P **P** **09 36 43.6 -2.0**
BLA pmax pmax
comp=Z,76nm,1.1s,mb5.6
BLA MLR MLR
comp=Z,4μm,22.0s,MS5.6
BLA Blacksburg 66.52 60 *e*P **P** **09 36 43.6 -2.0**
comp=Z,76nm,1.1s,mb5.6
BLA LR LR
comp=Z,4μm,22.0s,MS5.6
ULHL Ulahol 66.59 309 P **P** **09 36 45.9 0.0**
SNR=13
MVL Millersville 66.62 55 *e*P **P** **09 36 44.9 -1.3**
USP Ospenovka 66.67 310 P **P** **09 36 45.9 -0.5**
SNR=33
CHMS Chumysh 66.75 310 P **P** **09 36 47.7 +0.8**
SNR=5.7
SDMD Soldier's Deli 66.80 56 *e*P **P** **09 36 45.1 -2.2**
FRU Bishkek 66.94 310 *e*P **P** **09 36 49.0 +0.9**
FRU *e* 09 37 18.0
FRU pmax pmax
comp=Z,160nm,1.8s,mb5.8
FRU MLR MLR
comp=Z,4μm,20.0s,MS5.7
HRV Harvard--Oak R 67.13 50 PFAKE 09 37 00.0 +11
HRV LR LR
comp=Z,3μm,21.0s,MS5.5
AAK Ala-Archa 67.15 310 P **P** **09 36 49.0 -0.4**
SNR=22
AAK Ala-Archa 67.15 310 *e*P **P** **09 36 47.4 -2.0**
AAK pmax pmax
comp=Z,20nm,0.7s,mb5.3
AAK Ala-Archa 67.15 310 *e*P **P** **09 36 47.4 -2.1**
comp=Z,20nm,0.7s,mb5.3
KZA Kyzart 67.20 309 P **P** **09 36 50.0 +0.2**
SNR=13
PMG Port Moresby 67.32 217 P **P** **09 36 50.4 -0.6**
comp=Z,13nm,0.9s,mb5.0,baz=319,slow=8.7,SNR=4.1
PMG Port Moresby 67.32 217 P **P** **09 36 50.4 -0.6**
PMG LR LR
comp=Z,3μm,20.0s,MS5.5
WES Weston 67.34 50 PFAKE 09 37 00.0 +9.4
WES LR LR
comp=Z,4μm,20.0s,MS5.7
EMMW East Machias 67.37 46 PFAKE 09 37 00.0 +9.2
EMMW LR LR
comp=Z,22μm,19.0s,MS6.4
CBN Corbin 67.42 57 PFAKE 09 37 00.0 +8.8
CBN LR LR
comp=Z,6μm,19.0s,MS5.8
UCH Uchtor 67.45 310 P **P** **09 36 53.2 +1.9**
SNR=6.7
EKS2 Erkin-Say 67.47 311 P **P** **09 36 51.3 -0.2**
SNR=27
GOGA Godfrey 67.62 64 *e*P **P** **09 36 51.0 -1.6**
GOGA pmax pmax
comp=Z,48nm,0.9s,mb5.5
GOGA MLR MLR
comp=Z,5μm,20.0s,MS5.7
GOGA Godfrey 67.62 64 *e*P **P** **09 36 51.0 -1.6**
comp=Z,48nm,0.9s,mb5.5
GOGA LR LR
comp=Z,5μm,20.0s,MS5.7
LSA Lhasa 67.72 290 P **P** **09 36 55.4 +2.1**
LSA Lhasa 67.72 290 *e*P **P** **09 36 54.2 +0.9**
LSA pmax pmax
comp=Z,55nm,0.7s,mb5.7
LSA Lhasa 67.72 290 *e*P **P** **09 36 54.2 +0.9**
comp=Z,55nm,0.7s,mb5.7
NB2 NORSAR Subarra 67.82 355 P **P** **09 36 51.9 -1.4**
comp=Z,14nm,1.0s,mb5.0,baz=8.0,slow=6.5
NB2 NORSAR Subarra 67.82 355 P **P** **09 36 51.9 -1.4**
NB2 pmax pmax
comp=Z,14nm,1.0s,mb5.0
NB2 NORSAR Subarra 67.82 355 P **P** **09 36 51.9 -1.4**
baz=7.6,slow=6.5
NOA NORSAR Array B 67.82 355 P **P** **09 36 51.9 -1.5**
comp=Z,6.3nm,0.8s,mb4.7,baz=5.4,slow=6.2,SNR=21
NOA LR LR 10 05 06.8
comp=Z,1μm,21.9s,MS5.2,baz=355,slow=35
AML Almayashu 67.92 310 P **P** **09 36 54.7 +0.5**
SNR=26
NAO01 NORSAR Array S 68.04 355 PFAKE 09 37 10.0 +15
NAO01 LR LR
comp=Z,2μm,21.0s,MS5.4
JSC Jenkinsville 68.22 62 *e*P **P** **09 36 55.7 -0.6**
HFS Hagfors 68.57 354 LR LR 10 07 37.8
comp=Z,2μm,20.3s,MS5.3,baz=6.0,slow=36
KKAR Karatay Array 68.67 313 *i*P **P** **09 36 57.6 -1.3**
KKAR pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BER Bergen 68.71 358 *e*P **P** **09 37 00.4 +1.6**
BER *e*S S 09 45 56.2 -1.0
KSH Kashi 68.79 307 *e*P **P** **09 36 59.1 -0.6**
KSH *e*AP pP 09 37 12.0 -0.8
KSH *e*XP sP 09 37 17.1 -0.6
KSH *e*PCP PcP 09 37 24.0 -0.2
KSH *e*PP PP 09 39 32.1 -2.1
KSH *e*PPP PPP 09 41 10.0 -2.0
KSH *e*SCP 09 41 22.0
KSH *e*PCS 09 41 27.1
KSH *e*S S 09 45 54.6 -4.0
KSH *e*XS 09 46 17.0
KSH *e*PS PS 09 46 26.1 -4.0
KSH *e*SCS ScS 09 46 51.0 -1.4
KSH *e*SS SS 09 50 21.3 -4.5
KSH AMB AMB
comp=Z,170nm,2.5s,mb5.5
KSH LR LR
comp=N,6μm,16.2s,MS6.2
KSH LR LR
comp=E,9μm,17.4s,MS6.2
COW Cow Castle Cre 69.20 62 *e*P **P** **09 37 01.9 -0.5**
MOS Moscow 69.29 339 *e*P **P** **09 37 01.8 -0.7**
MOS *e* 09 37 24.3
MOS pmax pmax
comp=Z,100nm,1.6s,mb5.5
MOS pmax pmax
comp=Z,92nm,1.6s,mb5.5
MOS MLR MLR
comp=Z,5μm,18.7s,MS5.8
KONO Kongsberg 69.29 356 *e*P **P** **09 37 01.2 -1.3**
KONO pmax pmax
comp=Z,30nm,1.1s,mb5.1
KONO MLR MLR
comp=Z,2μm,21.0s,MS5.3
KONO Kongsberg 69.29 356 *e*P **P** **09 37 01.2 -1.3**
comp=Z,30nm,1.1s,mb5.1
KONO LR LR
comp=Z,2μm,21.0s,MS5.3
KONO Kongsberg 69.29 356 *e*P **P** **09 36 57.4 -5.1**
KONO *e*S S 09 46 07.1 +2.9
NHSC New Hope 69.69 62 *e*P **P** **09 37 05.6 +0.2**
comp=Z,389nm,1.0s,mb6.3
NHSC LR LR
comp=Z,6μm,19.0s,MS5.8
TWB Tillmans-White 69.73 62 *e*P **P** **09 37 05.4 -0.2**
CSU Charleston Sou 69.84 62 *e*P **P** **09 37 06.2 -0.1**
NANT Nan 69.91 275⇑ *i*P **P** **09 37 04.0 -2.9**
OBN Obninsk 70.10 339*c i*P **P** **09 37 06.2 -1.3**
OBN *e* pP 09 37 19.5 -1.1
OBN *e* 09 39 42.0
OBN *e*S S 09 46 13.9 +0.1
OBN *e*SS SS 09 50 44.5 -1.0
OBN pmax pmax
comp=Z,49nm,1.1s,mb5.3
OBN Obninsk 70.10 339 *i* Pu 09 37 06.2
OBN LR LR
comp=Z,3μm,20.0s,MS5.6
SHL Shillong 70.33 286 *e*P **P** **09 37 09.0 -0.4**
SHL *e*S S 09 46 18.0 +1.1
CHG Chiang Mai 71.00 277⇑ *i*P **P** **09 37 12.7 -0.8**
PMOR Pomariorio Ree 71.13 149 *e*P **P** **09 37 16.2 +1.9**
comp=Z,65nm,1.2s,mb5.4
CM31 Chiang Mai Arr 71.27 276 *e*P **P** **09 37 15.0 -0.1**
comp=Z,20nm,0.7s,mb5.2
CM31 LR LR
comp=Z,3μm,20.0s,MS5.5
CMAR Chiang Mai Arr 71.27 276 P **P** **09 37 14.4 -0.7**
comp=Z,15nm,0.8s,mb5.0,baz=28,slow=6.8,SNR=37
CMAR LR LR 10 12 16.6
comp=Z,2μm,20.0s,MS5.5,baz=55,slow=39
GUN Gumba 72.14 292 *e*P **P** **09 37 21.1 +0.9**
comp=Z,988nm,0.6s
JIRN Jiri 72.15 292 *e*P **P** **09 37 21.3 +1.1**
comp=Z,892nm,0.9s
MNK Minsk 72.39 344 *e*P **P** **09 37 20.0 -1.2**
MUD Monsted U'grnd 72.50 356 *i*P **P** **09 37 23.0 +1.3**
MUD *i*S S 09 46 47.3 +5.9
comp=Z,2μm,21.0s
KKN Kakani 72.58 293 *e*P **P** **09 37 23.2 +0.5**
comp=Z,258nm,0.6s,mb6.3
PKI Pulchoki 72.67 292 *e*P **P** **09 37 23.9 +0.6**
comp=Z,346nm,0.9s,mb6.3
DWPF Disney 72.73 67 *e*P **P** **09 37 24.0 +0.4**
comp=Z,38nm,0.7s,mb5.4
DWPF LR LR
comp=Z,525nm,20.0s,MS4.8
GKN Gorkha 72.79 293 *e*P **P** **09 37 24.4 +0.4**
comp=Z,818nm,1.3s
DMN Daman 72.81 293 *e*P **P** **09 37 24.8 +0.6**
comp=Z,315nm,1.0s,mb6.2
PPT Papeete 73.01 151 *e*S S 09 46 48.8 +1.0
PPT *e*SS SS 09 51 28.4 -3.2
PPT *e*LR LR 09 59 01.6
comp=Z,10μm,28.5s,baz=349
PPT Papeete 73.01 151 LR LR 10 04 29.2
comp=Z,3μm,18.1s,MS5.6,baz=322,slow=32
COP Copenhagen 73.08 354 *i*P **P** **09 37 26.1 +1.0**
COP *i*S S 09 46 52.3 +4.4
comp=Z,990nm,19.0s
KOLN Koldanda 73.56 294 *e*P **P** **09 37 28.9 +0.3**
comp=Z,208nm,0.9s,mb6.0
SUW Suwalki 73.59 347 *e*P **P** **09 37 27.4 -0.7**
SUW *e*pP pP 09 37 40.1 -1.2
SUW *e*PcP PcP 09 37 44.2 0.0
SUW MLR MLR 10 14 02.4
comp=Z,2μm,19.2s,MS5.5
KLP Kalpa 73.69 300 *e*P **P** **09 37 29.7 +0.5**
KLP *e* 09 37 36.2
comp=Z,87nm,1.0s
ESK Eskdalemuir 73.75 3 PFAKE 09 37 40.0 +11
ESK LR LR
comp=Z,430nm,19.0s,MS4.8
RAR Rarotonga 73.96 162 LR LR 10 04 24.4
comp=Z,5μm,18.8s,MS5.9,baz=274,slow=31
RAR Rarotonga 73.96 162 PFAKE 09 37 40.0 +9.0
RAR LR LR
comp=Z,7μm,21.0s,MS6.0
DZM Mont Dzumac 74.18 195 P **P** **09 37 34.6 +2.4**
baz=85,slow=15
LGTI Lohaghat 74.19 297 *e*P **P** **09 37 33.0 +0.9**
TEIG Tepich 74.59 77 PFAKE 09 37 50.0 +15
TEIG LR LR
comp=Z,727nm,21.0s,MS5.0
SMLA Simla 74.59 301⇓ *i* **P** **09 37 27.6 -6.9**
BSEG Bad Segeberg 74.96 355 *e*P **P** **09 37 35.8 -0.3**
DMUB Kingscourt 75.01 5 *e*P **P** **09 37 36.7 +0.4**
GKP Gorka Klasztor 75.05 350 *e*P **P** **09 37 36.0 -0.6**
GKP *e*pP pP 09 37 46.3 -3.5
GKP MLR MLR 10 12 05.5
comp=Z,3μm,21.5s,MS5.6
BOK Bokaro 75.24 290⇓ *i*P **P** **09 37 37.7 -0.6**
DCN Croghan 75.54 5 *e*P **P** **09 37 38.9 -0.5**
WAR Warsaw 75.61 348 *e*P **P** **09 37 40.6 +0.8**
WAR MLR MLR 10 16 11.9
comp=Z,2μm,20.8s,MS5.5
DLF Lyons Farm 75.63 5 *e*P **P** **09 37 39.2 -0.7**
DSB Dublin 75.69 5 *e*P **P** **09 37 40.9 +0.6**
comp=Z,26nm,0.8s,mb5.2
AKASG Malin Array Be 75.77 342 P **P** **09 37 39.6 -1.1**
comp=Z,32nm,0.8s,mb5.3,baz=16,slow=5.6,SNR=26
NDI New Delhi 76.46 299 *e*P **P** **09 37 43.5 -1.7**
BHGR Bahadurgarh 76.61 299 *e*P **P** **09 37 46.1 +0.1**
KAKA Kakadu 76.62 229 *e*P **P** **09 37 45.9 -0.4**
comp=Z,29nm,0.6s,mb5.4
RTK Rohtak 76.63 300 *e*P **P** **09 37 45.8 -0.4**
RTK AMb AMB 09 37 47.7
comp=Z,68nm,0.6s,mb5.7
AYAN Aya Nagar 76.67 299 *e*P **P** **09 37 45.2 -1.2**
SONA Sohna 76.87 299 *e*P **P** **09 37 47.3 -0.2**
SONA *e* 09 37 51.6
comp=Z,54nm,1.8s
CLZ Clausthal 77.04 354 *e*P **P** **09 37 47.9 -0.1**
comp=Z,84nm,1.6s,mb5.4
WTSB Winterswijk 77.09 357 *e*P **P** **09 37 50.0 +1.8**
comp=Z,27nm,0.9s,mb5.2
AGRA Agra 77.18 297 *e*P **P** **09 37 49.2 -0.1**
KSM Kuching 77.19 256 *e*P **P** **09 37 49.4 -0.2**
CLL Collm 77.39 353 *i*P **P** **09 37 49.0 -0.9**
CLL *i* pP 09 37 59.5 -3.6
CLL *e*S S 09 47 33.0 -2.5
CLL pmax pmax
comp=Z,17nm,1.0s,mb4.9
CLL MLR MLR
comp=Z,2μm,17.8s,MS5.5
CLL Collm 77.39 353 *i*P **P** **09 37 49.0 -0.9**
comp=Z,17nm,1.0s,mb4.9
CLL *i* pP 09 37 59.5 -3.6
CLL *e*S S 09 47 33.0 -2.5
CLL LR LR
comp=Z,2μm,17.8s,MS5.5
CLL Collm 77.39 353 P **P** **09 37 49.0 -0.9**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *PP pP 09 37 59.5 -3.6
CLL *e* 09 38 13.0
CLL *i* 09 38 32.1
CLL *e*PPP PPP 09 42 35.0 +0.3
CLL *e*S S 09 47 33.0 -2.5
CLL *e*SP SP 09 48 11.0 -4.5
CLL *e*SS SS 09 52 34.0 -3.5
CLL *e* 09 58 18.0
CTA Charters Tower 77.48 214 *e*P **P** **09 37 51.0 0.0**
comp=Z,13nm,0.9s,mb4.9
CTA Charters Tower 77.48 214 *e*P **P** **09 37 51.0 0.0**
CTA pmax pmax
comp=Z,13nm,0.9s
CTAO Charters Tower 77.48 214 *e*P **P** **09 37 50.8 -0.2**
CTAO pmax pmax
comp=Z,33nm,1.1s,mb5.2
CTAO MLR MLR
comp=Z,2μm,20.0s,MS5.4
CTAO Charters Tower 77.48 214 *e*P **P** **09 37 50.8 -0.3**
comp=Z,33nm,1.1s,mb5.2
CTAO LR LR
comp=Z,2μm,20.0s,MS5.4
LVV L'vov 77.53 345 *e*P **P** **09 37 50.2 -0.5**
LVV *e* pP 09 38 05.6 +1.6
LVV *e* 09 40 48.2
LVV *e* 09 42 36.2
LVV *e*S S 09 47 35.4 -1.7
LVV *e* 09 48 28.0
LVV MLR MLR
comp=N,2μm,18.0s,MS5.6
LVV MLR MLR
comp=E,2μm,18.0s,MS5.6
LVV MLR MLR
comp=Z,2μm,18.0s,MS5.5
KSP Ksiaz 77.55 351 *e*P **P** **09 37 49.6 -1.2**
KSP *e*S S 09 47 37.0 -0.2
KSP MLR MLR
comp=Z,5μm,23.2s,MS5.8
KSP Ksiaz 77.55 351 *e*P **P** **09 37 49.6 -1.2**
KSP *e*S S 09 47 37.0 -0.2
KSP *e*SS SS 09 52 32.0 -7.9
KSP LR LR
comp=Z,5μm,23.2s,MS5.8
KSP Ksiaz 77.55 351 *e*P **P** **09 37 53.1 +2.3**
KSP *e*PcP PcP 09 38 00.1 -1.2
KSP MLR MLR 10 14 22.0
comp=Z,4μm,23.2s,MS5.7
GOF Gofitskoye 77.62 331⇓ *i*P **P** **09 37 49.5 -1.8**
GOF pmax pmax
comp=Z,180nm,1.1s,mb5.9
KHET Khetri 77.71 300 *e*P **P** **09 37 51.6 -0.6**
KHET *e* 09 37 55.6
comp=Z,45nm,1.3s
BRG Berggiesshubel 77.74 352 *e*P **P** **09 37 51.5 -0.3**
BRG *i*S S 09 47 40.0 +0.7
BRG *i*SS SS 09 52 38.0 -4.8
BRG pmax pmax
comp=Z,42nm,1.5s,mb5.2
BRG MLR MLR
comp=Z,2μm,19.7s,MS5.4
BRG Berggiesshubel 77.74 352 *e*P **P** **09 37 51.5 -0.3**
comp=Z,42nm,1.5s,mb5.2
BRG *e* 09 38 17.5
BRG *e* 09 38 56.4
BRG *i*S S 09 47 40.0 +0.7
BRG *i*SS SS 09 52 38.0 -4.8
BRG LR LR
comp=Z,2μm,19.7s,MS5.4
OJC Ojcow 77.75 348 *e*P **P** **09 37 52.1 +0.2**
UPC Upice 77.91 351 *e*P **P** **09 37 51.1 -1.6**
KWP Kalwaria 77.92 346 *e*P **P** **09 37 53.4 +0.6**
KWP *e*PcP PcP 09 38 01.1 -1.8
KWP *e*PcP Px 09 38 51.8
KWP Kalwaria 77.92 346 *e*P **P** **09 37 53.4 +0.5**
KWP *e*PcP PcP 09 38 01.1 -1.8
KWP *e*PcP Px 09 38 51.8
KWP MLR MLR 10 13 48.9
comp=Z,3μm,24.1s,MS5.5
PVCC Panska Ves 78.03 352 *e*P **P** **09 37 52.9 -0.5**
PVCC AMS AMS 10 16 00.0
comp=Z,2μm,21.4s
DPC Dobruska-Polom 78.03 350 *e*P **P** **09 37 53.3 -0.1**
DPC AMS AMS 10 14 40.0
comp=Z,2μm,23.4s
MOX Moxa 78.15 353 *e*P **P** **09 37 53.4 -0.7**
MOX pmax pmax
comp=Z,24nm,1.0s,mb5.1
MOX Moxa 78.15 353 *e*P **P** **09 37 53.4 -0.7**
comp=Z,24nm,1.0s,mb5.1
MOX Moxa 78.15 353 *i*P **P** **09 37 54.3 +0.2**
comp=Z,logA/T=1.4,mb5.1
MOX pP pP 09 38 26.0 +19
MOX S S 09 47 47.0 +3.3
MOX L 10 16 36.0
HGN Heimansgroeve 78.32 357 *e*P **P** **09 37 54.5 -0.6**
comp=Z,31nm,1.2s,mb5.1
HGN *e*PP Px 09 39 46.9
HGN *e*PPP PPP 09 42 49.1 +5.3
HGN *e*S S 09 47 38.5 -7.0
HGN *e*SS SS 09 53 10.3 +19
OKC Ostrava-Krasne 78.33 349 *e*P **P** **09 37 55.1 0.0**
OKC AMS AMS 10 18 40.0
comp=Z,2μm,18.4s
BBSR BB Station 78.45 52 *e*P **P** **09 37 55.3 -0.8**
comp=Z,38nm,0.8s,mb5.4
BBSR LR LR
comp=Z,2μm,19.0s,MS5.4
MORC Moravsky Berou 78.46 350 P **P** **09 37 56.4 +0.6**
MORC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MORC Moravsky Berou 78.46 350⇓ *i*P **P** **09 37 57.1 +1.3**
NIE Niedzica 78.47 348 *e*P **P** **09 37 56.0 +0.1**
NKC Novy Kostel 78.50 353 *e*P **P** **09 37 55.7 -0.3**
NKC AMS AMS 10 20 20.0
comp=Z,2μm,18.5s
TBI Tubuai 78.50 153 *e*S S 09 47 49.1 +1.0
TBI *e*SS SS 09 52 58.2 +3.4
TBI *e*LR LR 10 01 38.0
comp=Z,7μm,31.2s,baz=342
PRU Pruhonice 78.56 352 *e*P **P** **09 37 56.2 -0.2**
PRU AMS AMS 10 16 20.0
comp=Z,2μm,20.6s
KOLS Kolonicke sedl 78.67 346 *e*P **P** **09 37 57.3 +0.3**
KOLS *e* pP 09 38 08.0 -2.2
KIV Kislovodsk 78.72 331*c i*P **P** **09 37 57.6 +0.2**
KIV *e* pP 09 38 07.2 -3.4

KIV				e		09 40 55.9	
KIV				ePPP	PPP	09 42 44.3	-3.2
KIV				eS	S	09 47 51.3	+1.3
KIV				eSS	SS	09 52 57.7	0.0
KIV				pmax	pmax		
	comp=N,31nm,1.1s						
KIV				pmax	pmax		
	comp=Z,66nm,1.1s,mb5.5						
KIV				pmax	pmax		
	comp=E,17nm,0.8s						
KIV				MLR	MLR		
	comp=N,3µm,24.0s,MS5.7						
KIV				MLR	MLR		
	comp=Z,4µm,24.0s,MS5.6						
KIV				MLR	MLR		
	comp=E,2µm,21.0s,MS5.7						
TNS	Taunus Mts	78.76	356	eP	P	09 37 57.3	-0.2
TNS				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.2						
TNS	Taunus Mts	78.76	356	eP	P	09 37 57.3	-0.2
	comp=Z,37nm,1.2s,mb5.2						
CRVS	Cervenica-Dubn	78.81	347	eP	P	09 38 03.0	+5.2
CRVS	Cervenica-Dubn	78.81	347	e	P	09 38 03.0	+5.2
CRVS				e		09 58 44.8	
GIVF	Givet	79.02	358	eP	P	09 37 58.3	-0.6
	comp=Z,43nm,0.8s,mb5.1						
GIVF	Givet	79.02	358	eP	P	09 37 58.3	-0.6
GIVF				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
VRAC	Vranov	79.03	350	P	P	09 37 59.6	+0.6
BAIF	Baives	79.07	358	eP	P	09 37 59.0	-0.2
	comp=Z,92nm,1.1s,mb5.3						
BAIF	Baives	79.07	358	eP	P	09 37 59.0	-0.2
BAIF				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.3						
GRA1	Grafenberg Arr	79.13	354	eP	P	09 37 59.7	+0.2
	comp=Z,61nm,1.1s,mb5.4						
GRA1				eS	S	09 47 58.8	+4.7
GRA1				LR	LR		
	comp=Z,2µm,21.4s,MS5.5						
GRF	Grafenberg Arr	79.13	354	eP	P	09 37 59.7	+0.2
GRF				eS	S	09 47 58.8	+4.7
GRF				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.4						
GRF				MLR	MLR		
	comp=Z,2µm,21.4s,MS5.5						
GRF	Grafenberg Arr	79.13	354	eP	P	09 37 59.7	+0.2
GRF				eS	S	09 47 58.8	+4.7
GRF				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.4						
GRF				MLR	MLR		
	comp=Z,2µm,21.4s,MS5.5						
GRF	Grafenberg Arr	79.13	354	eP	P	09 37 59.7	+0.2
	comp=Z,61nm,1.1s,mb5.4						
GRF				eS	S	09 47 58.8	+4.7
GRF				LR	LR		
	comp=Z,2µm,21.4s,MS5.5						
RUP	Ruppelstein	79.35	356	eP	P	09 38 00.7	0.0
KECS	Kecovo	79.36	347	eP	P	09 38 01.5	+0.7
TOD	Tromm	79.36	355	eP	P	09 38 00.7	0.0
KIS	Kishinev	79.39	341α	iP	P	09 38 00.0	-1.0
KIS				e		09 41 04.0	
KIS				eS	S	09 47 56.0	-0.9
KIS				pmax	pmax		
	comp=Z,200nm,2.0s,mb5.7						
KIS				pmax	pmax		
	comp=Z,600nm,11.0s						
KIS				MLR	MLR		
	comp=N,4µm,16.0s,MS5.8						
KIS				MLR	MLR		
	comp=Z,4µm,16.0s,MS5.8						
KIS				MLR	MLR		
	comp=E,1µm,17.0s,MS5.8						
KIS				MLR	MLR		
	comp=Z,4µm,20.0s						
WLF	Walferdange	79.42	357	P	P	09 38 01.2	+0.2
WLF				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
WLF	Walferdange	79.42	357	P	P	09 38 01.2	+0.2
	comp=Z,21nm,0.8s,mb5.1						
ZEI	Tsey	79.42	330	iP	P	09 38 00.9	-0.3
ZEI				i *PP	pP	09 38 04.8	-10
ZEI				i		09 40 58.0	
ZEI				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.2						
ANN	Anapa	79.45	335	eP	P	09 38 01.9	+0.6
ANN				i	pP	09 38 12.3	-2.3
ANN				i *PP	pP	09 38 20.6	+6.0
ANN				e		09 40 59.1	
ANN				eS	S	09 48 01.6	+4.0
ANN				i		09 48 16.3	
ANN				iPS	PS	09 48 52.2	+4.5
ANN				eSS	SS	09 53 02.7	-5.9
ANN				pmax	pmax		
	comp=Z,78nm,1.6s,mb5.4						
ANN				pmax	pmax		
	comp=N,52nm,1.3s						
ANN				pmax	pmax		
	comp=E,21nm,1.2s						
IAS	Iasi	79.45	342	P	P	09 38 01.5	+0.2
KHC	Kasperske Hory	79.50	352	eP	P	09 38 01.3	-0.2
KHC				e		09 38 05.0	
KHC				MLR	MLR		
	comp=Z,2µm,22.4s,MS5.4						
KHC	Kasperske Hory	79.50	352	⇑iP	P	09 38 01.3	-0.2
KHC	Kasperske Hory	79.50	352	eP	P	09 38 01.3	-0.2
KHC				x	x	09 38 05.0	
KHC				AMS	AMS	10 17 20.0	
	comp=Z,2µm,22.4s						
WET	Wettzell	79.55	352	eP	P	09 38 01.6	-0.2
WET				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
WET	Wettzell	79.55	352	eP	P	09 38 01.6	-0.2
	comp=Z,18nm,1.4s,mb4.8						
VYHS	Vyhne	79.57	348	eP	P	09 38 02.0	+0.1
VYHS				e		09 38 09.9	
AJM	Ajmer	79.60	299	⇑iP	P	09 38 01.0	-1.5
KTD	Kalmit	79.68	356	eP	P	09 38 02.7	+0.2
ONI	Oni	79.73	330	P	P	09 38 02.9	0.0
GEC2	GERESS Array S	79.77	352	eP	P	09 38 02.3	-0.7
GEC2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
GEC2	GERESS Array S	79.77	352	eP	P	09 38 02.3	-0.7
	comp=Z,10.0nm,0.9s,mb4.8						
GERES	GERESS Array B	79.77	352	P	P	09 38 02.2	-0.8
	comp=Z,6.5nm,0.8s,mb4.6,baz=25,slow=5.2,SNR=18						
GERES				LR	LR	10 17 46.9	
	comp=Z,2µm,21.0s,MS5.4,baz=11,slow=39						
SOC	Sochi	79.94	333	eP	P	09 38 02.5	-1.5
SOC				e		09 41 06.2	
SOC				ePPP	PPP	09 42 52.8	-5.7
SOC				eS	S	09 48 01.8	-1.0
SOC				eSS	SS	09 53 12.5	-3.4
SOC				eSSS	SSS	09 56 38.0	+1.0
SOC				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.2						
SOC				pmax	pmax		
	comp=N,5.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.5s						
SOC				MLR	MLR		
	comp=N,2µm,17.0s,MS5.6						
SOC				MLR	MLR		
	comp=Z,5µm,17.0s,MS6.0						
SOC				MLR	MLR		
	comp=E,1µm,19.0s,MS5.6						
PSZ	Piszkesteto	80.00	348	P	P	09 38 05.0	+0.8
PSZ				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.2						
PSZ	Piszkesteto	80.00	348	P	P	09 38 05.3	+1.1
PSZ	Piszkesteto	80.00	348	eP	P	09 38 04.8	+0.6
ZST	Bratislava	80.07	350	eP	P	09 38 05.5	+0.9
ZST				e		09 38 13.7	
TI2	Plekhanov	80.08	329	eP	P	09 38 01.4	-3.4
TBLG	Delisi	80.08	329	P	P	09 38 06.2	+1.4
MTA	Mtatsminda	80.10	329	P	P	09 38 04.8	-0.1
RAO	Raoul Island	80.12	180	LR	LR	10 07 30.2	
	comp=Z,4µm,20.7s,MS5.7,baz=1.1,slow=31						
RAO	Raoul Island	80.12	180	PFAKE		09 38 20.0	+15
RAO				LR	LR		
	comp=Z,5µm,22.0s,MS5.8						
SIM	Simferopol'	80.16	337c	eP	P	09 38 03.3	-1.8
SIM				S	S	09 48 05.2	+0.2
SIM				pmax	pmax		
	comp=Z,360nm,14.0s						
SRO	Srobarova	80.30	349	eP	P	09 38 10.5	+4.7
FLN	La Foliniere	80.38	1	eP	P	09 38 06.6	+0.4
	comp=Z,111nm,1.0s,mb5.4						
FLN				eR			
	comp=Z,3µm,20.8s						
FLN	La Foliniere	80.38	1	eP	P	09 38 06.6	+0.4
FLN				pmax	pmax		
	comp=Z,55nm,1.0s,mb5.4						
FLN				MLR	MLR		
	comp=Z,3µm,20.8s,MS5.7						
LDF	La Druitiere	80.55	1	eP	P	09 38 07.3	+0.2
	comp=Z,94nm,0.7s,mb5.5						
LDF	La Druitiere	80.55	1	eP	P	09 38 07.3	+0.2
LDF				pmax	pmax		
	comp=Z,47nm,0.7s,mb5.5						
BHPL	Bhopal	80.59	295	iP	P	09 38 07.2	-0.6
BHPL				e		09 38 10.7	
	comp=Z,139nm,1.7s						
BHPL				iS	S	09 48 14.1	+4.1
MEZF	Maizieres J'vi	80.61	358	eP	P	09 38 07.4	-0.1
WLS	Welschbruch	80.62	356	eP	P	09 38 07.6	+0.1
CDF	Champ du Feu	80.62	356	eP	P	09 38 07.1	-0.4
BFO	Black Forest	80.66	355	eP	P	09 38 07.5	-0.2
BFO				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
BFO	Black Forest	80.66	355	eP	P	09 38 07.5	-0.2
	comp=Z,20nm,1.1s,mb5.0						
DRGR		80.68	345	P	P	09 38 08.5	+0.6
DRGR		80.68	345	⇑P	P	09 38 07.6	-0.3
ROSF	Rostrenen	80.73	3	eP	P	09 38 07.6	-0.5
	comp=Z,120nm,1.2s,mb5.4						
ROSF	Rostrenen	80.73	3	eP	P	09 38 07.6	-0.5
ROSF				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.4						
GRR	Gorron	80.75	2	eP	P	09 38 07.7	-0.5
	comp=Z,115nm,0.9s,mb5.5						
GRR	Gorron	80.75	2	eP	P	09 38 07.7	-0.5
GRR				pmax	pmax		
	comp=Z,57nm,0.9s,mb5.5						
ECH	Echery	80.83	356	eP	P	09 38 08.7	+0.1
SGMF	Saint Gilles	80.84	3	eP	P	09 38 08.3	-0.4
	comp=Z,78nm,0.8s,mb5.4						
SGMF	Saint Gilles	80.84	3	eP	P	09 38 08.3	-0.4
SGMF				pmax	pmax		
	comp=Z,39nm,0.8s,mb5.4						
THEF	They Montfort	80.86	357	eP	P	09 38 07.9	-0.9
VRI	Vrincioaia	80.88	343	⇑P	P	09 38 09.7	+0.7
VRI	Vrincioaia	80.88	343	P	P	09 38 09.8	+0.8
VRI	Vrincioaia	80.88	343	⇑P	P	09 38 09.6	+0.6
HAU	Haudompre	81.07	357	eP	P	09 38 09.5	-0.4
	comp=Z,38nm,0.9s,mb5.0						
HAU				eR			
	comp=Z,2µm,22.0s						
HAU	Haudompre	81.07	357	eP	P	09 38 09.5	-0.4
HAU				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
HAU				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.5						
TLCR		81.12	341	⇓P	P	09 38 12.1	+1.9
FELD	Feldberg	81.13	356	eP	P	09 38 10.2	0.0
QUIF	Quistinic	81.16	3	eP	P	09 38 09.8	-0.5
	comp=Z,123nm,1.2s,mb5.4						
QUIF	Quistinic	81.16	3	eP	P	09 38 09.8	-0.5
QUIF				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.4						
ARSA	Arzberg	81.18	350	⇓iP	P	09 38 11.3	+0.8
	comp=Z,26nm,1.3s,mb5.0						
HINF	Hinteralfeld	81.24	356	eP	P	09 38 10.1	-0.7
JASL	Jaisalmer	81.26	302	eP	P	09 38 11.3	0.0
CFR	Carcaliu	81.27	341	P	P	09 38 11.5	+0.5
CFR	Carcaliu	81.27	341	⇑P	P	09 38 11.6	+0.6
MLR	Muntele Rosu	81.39	343	P	P	09 38 12.8	+1.2
MLR	Muntele Rosu	81.39	343	⇓P	P	09 38 13.0	+1.4
WATA	Walderalm	81.45	353	⇑iP	P	09 38 12.2	+0.3
	comp=Z,33nm,1.1s,mb5.2						
WATA	Walderalm	81.45	353	⇑iP	P	09 38 12.2	+0.3
WATA				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.2						
MOTA	Moosalm	81.47	353	⇑iP	P	09 38 12.5	+0.5
GNI	Garni	81.50	328c	iP	P	09 38 13.5	+1.2
GNI				pmax	pmax		
	comp=Z,55nm,1.6s						
GNI				MLR	MLR		
	comp=Z,2µm,24.0s						
GNI	Garni	81.50	328	LR	LR	10 18 48.5	
	comp=Z,5µm,21.4s,MS5.8,baz=344,slow=39						
GNI	Garni	81.50	328	⇑iP	P	09 38 13.6	+1.3
WTTA	Wattenberg	81.51	353	⇑iP	P	09 38 12.6	+0.4
	comp=Z,54nm,1.2s,mb5.3						
WTTA	Wattenberg	81.51	353	⇑iP	P	09 38 12.6	+0.4
WTTA				pmax	pmax		
	comp=Z,54nm,1.2s,mb5.3						
KBA	Koelnbreinsper	81.56	352	⇑iP	P	09 38 13.0	+0.6
	comp=Z,143nm,1.3s,mb5.7						
KBA	Koelnbreinsper	81.56	352	⇑iP	P	09 38 13.0	+0.6
KBA				pmax	pmax		
	comp=Z,143nm,1.3s,mb5.7						
SQTA	Sankt Quirin	81.59	353	⇑iP	P	09 38 12.9	+0.3
	comp=Z,43nm,1.4s,mb5.2						
SQTA	Sankt Quirin	81.59	353	⇑iP	P	09 38 12.9	+0.3
SQTA				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.2						
VOIR		81.61	344	⇑P	P	09 38 14.1	+1.4
DAVA	Damuels	81.61	354	⇑iP	P	09 38 13.1	+0.4
	comp=Z,25nm,1.4s,mb5.0						
ISR	Istrita	81.64	342	P	P	09 38 10.5	-2.4
ISR				⇑P		09 38 14.9	
ISR	Istrita	81.64	342	⇑P	P	09 38 14.9	+2.0
LOMF	Lomont	81.70	356	eP	P	09 38 13.7	+0.5
HARR	Harsova	81.78	341	P	P	09 38 14.2	+0.5
HARR	Harsova	81.78	341	⇓P	P	09 38 13.8	+0.1
MTUR	Matau	81.81	343	P	P	09 38 15.7	+1.9
PERS	Pernice	81.83	351	iP	P	09 38 14.1	+0.2
PKSM	Moragy	81.84	348	⇑P	P	09 38 14.3	+0.4
HYF	Humbligny	81.89	359	eP	P	09 38 14.1	0.0
TIRR	Tirgusor	81.90	341	P	P	09 38 14.6	+0.3
TIRR	Tirgusor	81.90	341	⇑P	P	09 38 14.8	+0.5
BZS	Buzias	82.00	346	P	P	09 38 15.4	+0.7
BZS	Buzias	82.00	346	⇑P	P	09 38 14.8	0.0
OBKA	Obir	82.01	351	⇓iP	P	09 38 15.3	+0.5
	comp=Z,57nm,1.2s,mb5.4						
WRAB	Tennant Creek	82.06	224	eP	P	09 38 15.0	-0.6
WRAB				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3						
WRAB				MLR	MLR		
	comp=Z,809nm,20.0s,MS5.1						
WRAB	Tennant Creek	82.06	224	eP	P	09 38 15.0	-0.6
	comp=Z,39nm,1.0s,mb5.3						
WRAB				LR	LR		
	comp=Z,809nm,20.0s,MS5.1						
WB2	Warramunga Arr	82.06	224	eP	P	09 38 15.2	-0.4
WRA	Warramunga Arr	82.07	224	P	P	09 38 14.9	-0.8
	comp=Z,14nm,0.8s,mb4.9,baz=33,slow=6.1,SNR=60						
WRA				PKKPbc		09 56 45.1	
	comp=Z,0.3nm,1.0s,baz=220,slow=2.4,SNR=4.9						
SSF	Saint Saulge	82.08	359	eP	P	09 38 15.0	-0.2
SSF				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
SSF	Saint Saulge	82.08	359	eP	P	09 38 15.0	-0.2
	comp=Z,32nm,0.9s,mb5.2						
AVF	Avril sur Loir	82.36	359	eP	P	09 38 16.3	-0.3
	comp=Z,80nm,1.0s,mb5.3						
AVF	Avril sur Loir	82.36	359	eP	P	09 38 16.3	-0.3
AVF				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
LCHF	La Chataignera	82.47	2	eP	P	09 38 18.1	+1.0
CABF	La Chapelle	82.47	357	eP	P	09 38 17.3	+0.1
	comp=Z,87nm,1.1s,mb5.3						
CABF	La Chapelle	82.47	357	eP	P	09 38 17.3	+0.1
CABF				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.3						
BUC1	Bucharest	82.48	343	P	P	09 38 17.1	-0.2
SMF	Signal de Mont	82.49	358	eP	P	09 38 17.1	-0.2
	comp=Z,143nm,1.0s,mb5.5						
SMF	Signal de Mont	82.49	358	eP	P	09 38 17.1	-0.2
SMF				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.6						
MFF	Saint Martin d	82.55	1	eP	P	09 38 17.4	-0.1
	comp=Z,68nm,0.9s,mb5.4						
MFF	Saint Martin d	82.55	1	eP	P	09 38 17.4	-0.1
MFF				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.4						
CRES	Cresnjev	82.59	350	eP	P	09 38 19.4	+1.6
BGF	Bois d'Agland	82.59	359	eP	P	09 38 17.6	-0.2
	comp=Z,43nm,0.8s,mb5.2						
BGF	Bois d'Agland	82.59	359	eP	P	09 38 17.6	-0.2
BGF				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
AKL	Akola	82.81	294	iS	S	09 48 29.9	-2.8
	comp=Z,91nm,1.5s						
ERZM	Erzurum	82.81	330	iP	P	09 38 20.7	+1.6
TCF	Toulx Ste Croi	82.87	360	eP	P	09 38 18.9	-0.3
	comp=Z,40nm,0.9s,mb5.1						
TCF	Toulx Ste Croi	82.87	360	eP	P	09 38 18.9	-0.3
TCF				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
AGO	Saint Agoulin	83.10	359	eP	P	09 38 21.3	+0.9
PLDF	La Plantade	83.17	359	eP	P	09 38 21.8	+1.1
KELT	Kelkit	83.23	332	iP	P	09 38 23.1	+1.9
BOYT	Boyabat	83.27	335	iP	P	09 38 21.9	+0.6
RKT	Rikitea	83.29	140	eS	S	09 48 38.3	+0.8
RKT				eSS	SS	09 54 06.6	+0.2
RKT				eLR	LR	10 04 04.7	
	comp=Z,8µm,27.5s,baz=333						
SVIS	Svilajnac	83.35	346	⇑iP	P	09 38 19.8	-1.9
ORX	Oropa	83.37	355	P	P	09 38 23.8	+2.1
PYM	Petit Puy Mans	83.40	359	eP	P	09 38 24.3	+2.4
LPL	La Plagne	83.54	356	eP	P	09 38 23.6	+1.1
BALT	Daday	83.55	337	iP	P	09 38 23.6	+0.9
LPG	La Plagne	83.56	356	eP	P	09 38 23.8	+1.2
	comp=Z,65nm,1.1s,mb5.4						
LPG	La Plagne	83.56	356	eP	P	09 38 23.8	+1.2
LPG				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.4						
LSD	Ceresole Reale	83.58	356	P	P	09 38 24.5	+1.8
BOLS	Boljevac	83.69	345	⇑iP	P	09 38 22.9	-0.5
DIVS	Divcibare	83.73	347	⇓iP	P	09 38 23.4	-0.1
GRUS	Gruza	83.83	346	⇑iP	P	09 38 23.9	-0.1
GRN	Grenoble	83.85	357	eP	P	09 38 25.5	+1.4
RJF	Les Rejaudoux	83.85	0	eP	P	09 38 24.0	-0.1
	comp=Z,79nm,1.1s,mb5.4						
RJF				eR			
	comp=Z,4µm,22.2s						
RJF	Les Rejaudoux	83.85	0	eP	P	09 38 24.0	-0.1
RJF				pmax	pmax		
	comp=Z,39nm,1.1s,mb5.5						
RJF				MLR	MLR		
	comp=Z,4µm,22.3s,MS5.7						
RSP	Reno Superiore	83.88	356	P	P	09 38 26.0	+1.7
BNI	Bardonecchia	84.00	356	P	P	09 38 26.8	+1.9
BNI				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.6						
BNI	Bardonecchia	84.00	356	eP	P	09 38 26.3	+1.4
	comp=Z,46nm,1.0s,mb5.6						
FENE	Fenestrelle	84.01	356	P	P	09 38 26.4	+1.5
BBLS	Bajina Basta -	84.03	347	⇑iP	P	09 38 25.9	+0.9
CTKT	Corum	84.05	335	iP	P	09 38 26.5	+1.3
RRL	Cesana Torines	84.13	356	P	P	09 38 27.1	+1.6
ORIF	Oris-en-Rattie	84.17	357	eP	P	09 38 26.4	+0.7
	comp=Z,48nm,0.8s,mb5.4						
ORIF				eR			
	comp=Z,2µm,22.5s						
BHB	Bricherasio	84.19	356	P	P	09 38 27.1	+1.2
LFF	La Frestale	84.22	1	eP	P	09 38 26.2	+0.2
	comp=Z,64nm,0.6s,mb5.6						
LFF	La Frestale	84.22	1	eP	P	09 38 26.2	+0.2
LFF				pmax	pmax		
	comp=Z,32nm,0.6s,mb5.6						
JTS	JuntasAbangare	84.22	81	PFAKE		09 38 40.0	+13
JTS				LR	LR		
	comp=Z,266nm,22.0s,MS4.6						
CAF	Calviac	84.23	360	eP	P	09 38 26.4	+0.4
	comp=Z,63nm,0.9s,mb5.4						
CAF	Calviac	84.23	360	eP	P	09 38 26.4	+0.4
CAF				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.5						
VIVF	Saint-Julien-l	84.27	358	eP	P	09 38 26.7	+0.5
	comp=Z,42nm,0.9s,mb5.2						
VIVF	Saint-Julien-l	84.27	358	eP	P	09 38 26.7	+0.5
VIVF				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.3						
MBDF	Montbardon	84.33	356	eP	P	09 38 27.2	+0.7
	comp=Z,40nm,0.7s,mb5.4						
MBDF	Montbardon	84.33	356	eP	P	09 38 27.2	+0.7
MBDF				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.4						
PCP	Pian Castagno	84.43	355	P	P	09 38 27.7	+0.7
HYB	Hyderabad	84.50	291	eP	P	09 38 28.0	0.0
HYB	Hyderabad	84.50	291	iP	P	09 38 28.0	0.0
HYB				eS	S	09 48 52.0	+2.4
ELDT	Eldivan	84.52	336	iP	P	09 38 28.9	+1.3
PZZ	Prazzo	84.53	356	P	P	09 38 28.3	+0.7
FITZ	Fitzroy Crossi	84.56	232	eP	P	09 38 28.6	+0.3
	comp=Z,54nm,0.8s,mb5.7						
FITZ	Fitzroy Crossi	84.56	232	LR	LR	10 16 59.9	
	comp=Z,1µm,18.3s,MS5.4,baz=352,slow=36						
PLE	Pljevlja	84.56	347	⇓iP	P	09 38 27.8	+0.1
SURF	Saint Ours	84.57	356	eP	P	09 38 27.9	+0.2
BEST	Besiri	84.69	330	iP	P	09 38 29.5	+1.0
ROB	Roburent	84.71	355	P	P	09 38 28.0	-0.4
OG25	Le Caire	84.71	357	eP	P	09 38 29.7	+1.3
UPM	Unac-Piva	84.76	347	⇓iP	P	09 38 29.2	+0.5
FIN	Finale Ligure	84.78	355	P	P	09 38 28.3	-0.5
STV2	Anna di Valdie	84.78	356	P	P	09 38 28.5	-0.3
STV	Sta Anna Valdi	84.78	356	P	P	09 38 28.1	-0.7
SGKT	Sivrigoynuk	84.78	337	iP	P	09 38 29.9	+1.0
ENR	Entracque	84.80	356	P	P	09 38 27.8	-1.1
HENT	Hendek	84.83	338	iP	P	09 38 28.6	-0.5
ELZG	Elazig	84.84	331	iP	P	09 38 30.7	+1.4
MONE	Monesi	84.93	356	P	P	09 38 28.8	-0.7
IVA	Berane	84.94	347	⇓iP	P	09 38 29.1	-0.6
TOUF	Mont Tournerai	85.02	356	eP	P	09 38 30.8	+0.8
AUTN	L'Aution	85.03	356	eP	P	09 38 30.8	+0.8
SAOF	Saorge	85.03	356	eP	P	09 38 30.4	+0.4
LASF	Ste Croix	85.06	358	eP	P	09 38 30.7	+0.5
	comp=Z,29nm,0.9s,mb5.1						
STOF	St-Etienne Org	85.09	357	eP	P	09 38 32.1	+1.8
IMI	Imperia	85.09	355	P	P	09 38 30.6	+0.3
CDAG	Cicekdag	85.09	335	iP	P	09 38 31.4	+0.9
BRY	Bratogost	85.10	348	⇓iP	P	09 38 30.3	-0.1
SMRF	Simiane la Rot	85.12	357	eP	P	09 38 31.4	+0.9
	comp=Z,86nm,0.9s,mb5.6						
NKY	Niksic	85.13	347	⇓iP	P	09 38 30.7	+0.2
MVIF	Mont Vial	85.14	356	eP	P	09 38 31.5	+0.9
SBF	Sospel	85.16	356	eP	P	09 38 30.7	0.0
	comp=Z,147nm,0.8s,mb5.8						
SBF	Sospel	85.16	356	eP	P	09 38 30.7	0.0
SBF				pmax	pmax		
	comp=Z,73nm,0.8s,mb5.9						
MALT	Malatya	85.17	332	P	P	09 38 31.9	+1.0
MALT				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.6						
MALT	Malatya	85.17	332	P	P	09 38 32.0	+1.1
BR131	Keskin Array S	85.19	336	PFAKE		09 38 40.0	+9.1
BR131				LR	LR		
	comp=Z,1µm,21.0s,MS5.2						
BRTR	Keskin Array B	85.19	336	P	P	09 38 30.9	0.0
	comp=Z,21nm,0.7s,mb5.4,baz=38,slow=2.6,SNR=55						
PVY	Plav	85.20	346	⇓iP	P	09 38 29.3	-1.6
VILF	Villemus	85.24	357	eP	P	09 38 32.3	+1.2
ANTO	Ankara	85.27	336	⇑P	P	09 38 31.8	+0.5
CALN	Calern	85.29	356	eP	P	09 38 32.1	+0.8
PRAF	Pradon	85.30	357	eP	P	09 38 33.2	+1.8
TAVF	Tavernes	85.46	357	eP	P	09 38 33.2	+1.0
TTG	Podgorica	85.47	347	⇓iP	P	09 38 32.3	+0.1
FRF	La Foret Royal	85.50	356	eP	P	09 38 32.3	0.0
	comp=Z,71nm,0.9s,mb5.5						
FRF	La Foret Royal	85.50	356	eP	P	09 38 32.3	0.0
FRF				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.5						
EPON	Pontenova	85.53	6	P	P	09 38 32.6	+0.1
	comp=Z,13nm,0.6s,mb5.3						
ASAR	Alice Springs	85.53	223	P	P	09 38 33.1	+0.1
	comp=Z,20nm,0.8s,mb5.4,baz=24,slow=5.6,SNR=89						
ASAR				LR	LR	10 13 56.9	
	comp=Z,1µm,20.2s,MS5.3,baz=27,slow=34						
ASPA	Alice Springs	85.54	223	eP	P	09 38 33.6	+0.6
MSL	Mosul	85.54	328	eP	P	09 38 36.8	+4.0
MSL	Mosul	85.54	328	eS	S	09 48 54.5	-5.0
HCY	Herceg Novi	85.55	348	⇓iP	P	09 38 31.9	-0.8
SKO	Skopje	85.58	345	iP	P	09 38 33.9	+1.1
BUM	Brajici-Budva	85.64	347	⇓iP	P	09 38 32.2	-0.9
EARI	Arriondas	85.67	5	P	P	09 38 33.7	+0.5
	comp=Z,4.5nm,0.6s,mb4.9						
GELF	Grande-Etoile	85.72	357	eP	P	09 38 31.9	-1.5
LMR	La Mourre	85.73	356	eP	P	09 38 33.6	+0.1
	comp=Z,116nm,1.2s,mb5.7						
LMR	La Mourre	85.73	356	eP	P	09 38 33.6	+0.1
LMR				pmax	pmax		

comp=Z,58nm,1.2s,mb5.7
BERF Bertagne 85.78 357 *e*P **P 09 38 32.3 -1.4**
MTLF Montolieu 85.82 360 *e*P **P 09 38 34.4 +0.5**
comp=Z,55nm,0.9s,mb5.5
MTLF Montolieu 85.82 360 *e*P **P 09 38 34.4 +0.5**
MTLF pmax pmax
comp=Z,28nm,0.9s,mb5.5
ELAN Lanestosa 85.83 4 P **P 09 38 34.6 +0.6**
comp=Z,30nm,0.6s,mb5.7
ULDT Uludag 85.88 339 *i* P **P 09 38 35.1 +0.8**
EALK Alkurruntz 85.90 2 P **P 09 38 35.5 +1.1**
comp=Z,6.1nm,0.6s,mb5.0
ULC Ulcinj 85.92 347 ⇓*i*P **P 09 38 34.9 +0.5**
SJPF Ste Jean 86.01 2 *e*P **P 09 38 35.8 +0.9**
comp=Z,21nm,0.6s,mb5.2
SJPF Ste Jean 86.01 2 *e*P **P 09 38 35.8 +0.9**
SJPF pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
ESKT Eskisehir 86.08 338 *i* P **P 09 38 35.7 +0.4**
EPF Esparros 86.12 1 *e*P **P 09 38 35.0 -0.4**
comp=Z,24nm,0.9s,mb5.1
EPF Esparros 86.12 1 *e*P **P 09 38 35.0 -0.4**
EPF pmax pmax
comp=Z,12nm,0.9s,mb5.1
EINC Incio 86.17 7 P **P 09 38 37.0 +1.3**
comp=Z,4.3nm,0.5s,mb4.9
MLS Moulis 86.20 0 *e*P **P 09 38 36.5 +0.7**
AQU L'Aquila 86.24 351 ⇑P **P 09 38 39.1 +3.1**
ETSF Etsaut 86.24 2 *e*P **P 09 38 36.7 +0.7**
comp=Z,30nm,0.6s,mb5.4
ETSF Etsaut 86.24 2 *e*P **P 09 38 36.7 +0.7**
ETSF pmax pmax
comp=Z,15nm,0.6s,mb5.4
VIEF Viey 86.27 1 *e*P **P 09 38 37.3 +1.2**
GZT Gaziantep 86.32 332 *i* P **P 09 38 37.6 +1.1**
POO Poona 86.34 295 ⇓*i*P **P 09 38 36.0 -1.0**
comp=Z,80nm,1.0s,mb5.9
RESF Ens 86.34 1 *e*P **P 09 38 39.2 +2.7**
PGF Pioggiola 86.39 355 *e*P **P 09 38 36.4 -0.3**
comp=Z,166nm,0.9s,mb6.0
PGF Pioggiola 86.39 355 *e*P **P 09 38 36.4 -0.3**
PGF pmax pmax
comp=Z,83nm,0.9s,mb6.0
EBIE Bielsa 86.46 1 P **P 09 38 39.0 +1.9**
comp=Z,9.1nm,0.7s,mb5.1
ECRI Cripan 86.48 3 P **P 09 38 39.9 +2.7**
ECRI pmax pmax
comp=Z,6.0nm,0.5s,mb5.1
ECRI Cripan 86.48 3 P **P 09 38 39.9 +2.7**
comp=Z,5.8nm,0.5s,mb5.1
CII Carovilli 86.77 350 *e*P **P 09 38 40.0 +1.4**
comp=Z,65nm,0.9s,mb5.9
MDRS Chennai 86.89 287 *e*P **P 09 38 38.9 -0.9**
MDRS *e* 09 49 08.0
PTCN Pitcairn Islan 87.04 137 PFAKE 09 38 50.0 +10
PTCN LR LR
comp=Z,8μm,20.0s,MS6.1
KAD Karad 87.12 294 *e*P **P 09 38 40.0 -0.9**
ESAC San Caprasio 87.42 2 P **P 09 38 45.1 +3.3**
comp=Z,20nm,0.5s,mb5.6
COBT Iskenderun 87.47 333 *i* P **P 09 38 43.4 +1.2**
PVRL Vila Real 87.52 7 *e*P **P 09 38 42.4 +0.1**
EPOB Poblet 87.80 0 P **P 09 38 46.6 +3.0**
comp=Z,8.1nm,0.6s,mb5.1
PVIS Viseu 88.07 7 *e*P **P 09 38 45.2 +0.3**
GUD Guadarrama 88.38 4 P **P 09 38 48.1 +1.7**
GUD pmax pmax
comp=Z,4.0nm,0.5s,mb4.9
GUD Guadarrama 88.38 4 P **P 09 38 48.1 +1.7**
comp=Z,4.4nm,0.5s,mb4.9
MTE Manteigas 88.41 7 *e*P **P 09 38 47.1 +0.6**
MTE *e*PP PP 09 42 19.9 +2.8
MTE *e*S S 09 49 31.2 +4.6
comp=Z,1μm,19.4s
MTE Manteigas 88.41 7 *e*P **P 09 38 46.9 +0.3**
comp=Z,30nm,1.1s,mb5.4
EMOS Mosqueruela 88.77 2 P **P 09 38 50.4 +2.1**
comp=Z,2.7nm,0.5s,mb4.8
TIP Timpagrande 89.00 348 *e*P **P 09 38 49.6 +0.2**
URZ Urewera 89.19 184 LR LR 10 18 24.2
comp=Z,3μm,18.5s,MS5.8,baz=240,slow=35
SJG San Juan 89.22 62 P **P 09 38 51.9 +1.0**
SJG MLR MLR
comp=Z,3μm,22.0s
PAYG Puerto Ayora 89.34 92 PFAKE 09 39 00.0 +8.4
PAYG LR LR
comp=Z,2μm,20.0s,MS5.5
ESDC Sonseca Array 89.35 4 P **P 09 38 50.3 -0.7**
comp=Z,4.1nm,0.6s,mb5.0,baz=355,slow=4.6,SNR=21
ESDC Sonseca Array 89.35 4 P **P 09 38 51.2 +0.1**
comp=Z,6.2nm,0.6s,mb5.1
ESLA Sonseca Array 89.35 4 *e*P **P 09 38 51.1 +0.1**
comp=Z,5.6nm,1.1s,mb4.8
ESLA LR LR
comp=Z,10μm,21.0s,MS6.2
STKA Stephens Creek 89.93 213 ⇑*i*P **P 09 38 54.6 +0.7**
comp=Z,22nm,0.7s,mb5.6
STKA Stephens Creek 89.93 213 P **P 09 38 54.8 +0.9**
comp=Z,36nm,0.8s,mb5.7,baz=345,slow=5.9,SNR=57
STKA LR LR 10 16 42.1
comp=Z,3μm,19.8s,MS5.8,baz=13,slow=34
MBWA Marble Bar 90.12 235 *e*P **P 09 38 54.6 -0.4**
comp=Z,17nm,0.8s,mb5.4
MBWA LR LR
comp=Z,1μm,20.0s,MS5.3
EVIA Vianos 90.44 3 P **P 09 38 58.5 +2.3**
EVIA pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
EVIA Vianos 90.44 3 P **P 09 38 58.5 +2.3**
comp=Z,10nm,0.8s,mb5.2
EADA Adamuz 90.82 5 P **P 09 38 58.4 +0.4**
comp=Z,3.7nm,0.6s,mb4.9
EMIN Mina Concepcio 91.09 7 P **P 09 38 59.4 +0.1**
comp=Z,3.7nm,0.6s,mb4.9
PALK Pallekele 91.15 283 PFAKE 09 39 10.0 +10
PALK LR LR
comp=Z,377nm,20.0s,MS4.8
EQES Quesada 91.25 4 P **P 09 39 03.9 +3.9**
comp=Z,4.6nm,0.7s,mb4.9
EGRO El Granado 91.26 7 P **P 09 39 01.9 +1.9**
comp=Z,4.4nm,0.8s,mb4.8
SNZO South Karori 92.35 185 PFAKE 09 39 20.0 +15
SNZO LR LR
comp=Z,4μm,22.0s,MS5.8
EMIJ Mijas 92.41 5 P **P 09 39 07.4 +2.0**
comp=Z,8.9nm,0.6s,mb5.3
SDV Santo Domingo 94.04 71 *e*P **P 09 39 14.8 +1.5**
comp=Z,5.7nm,0.7s,mb5.1
SDV LR LR
comp=Z,1μm,20.0s,MS5.4
FORT Forrest 94.25 224 *e*P **P 09 39 16.0 +2.1**
comp=Z,358nm,0.7s
ROSC El Rosal 95.00 76 LR LR 10 22 11.8
comp=Z,492nm,20.9s,MS5.0,baz=101,slow=36
RPZ Rata Peaks 95.00 188 LR LR 10 18 58.8
comp=Z,5μm,19.3s,MS6.0,baz=37,slow=33
OTAV Otavalo 96.06 82 PFAKE 09 39 30.0 +7.5
OTAV LR LR
comp=Z,802nm,21.0s,MS5.2
TAU Tasmania Unive 98.37 205 PFAKE 09 39 40.0 +7.7
TAU LR LR
comp=Z,413nm,22.0s,MS4.9
NWAO Narrogin (SRO) 101.05 231 PFAKE 09 40 00.0 +15
NWAO LR LR
comp=Z,1μm,22.0s,MS5.4
NNA Nana 106.49 89 PFAKE 09 44 30.0
NNA LR LR
comp=Z,342nm,20.0s,MS4.9
DGAR Diego Garcia 107.70 280 PFAKE 09 44 30.0
DGAR LR LR
comp=Z,267nm,21.0s,MS4.8
SAML Samuel 112.64 76 PFAKE 09 44 40.0 +10
SAML LR LR
comp=Z,1μm,21.0s,MS5.5
LPAZ La Paz 115.22 85 PFAKE 09 44 50.0 +15
LPAZ LR LR
comp=Z,1μm,21.0s,MS5.4
MSEY Mahe Island 115.61 297 PFAKE 09 44 50.0 +14
MSEY LR LR
comp=Z,235nm,21.0s,MS4.8
SIV San Ignacio 119.39 79 PKP PKPdf 09 44 43.5 +0.2
comp=Z,0.6nm,0.8s,baz=328,slow=9.5,SNR=4.4
SIV PP PP 09 46 05.7 -4.0
comp=Z,1.6nm,1.0s,baz=359,slow=9.7,SNR=2.2
LVC Limon Verde 119.42 90 PKhKP 09 44 41.1
comp=Z,2.6nm,0.3s,baz=270,slow=3.0,SNR=9.7
LVC Limon Verde 119.42 90 PKP PKPdf 09 44 41.1 -2.1
LVC LR LR
comp=Z,1μm,22.0s,MS5.6
DRV Dumont d'Urvil 121.72 198 Pdif Pdif 09 41 13.0 -1.9
KMBO Kilima Mbogo 121.73 317 *e*PKIKP PKPdf 09 44 49.6 +1.7
KMBO MLR MLR
comp=Z,3μm,20.0s
KMBO Kilima Mbogo 121.73 317 PKP PKPdf 09 44 50.4 +2.5
comp=Z,1.7nm,0.6s,baz=196,slow=3.5,SNR=5.6
DBIC Dimbokro 122.07 8 *e*PKIKP PKPdf 09 44 48.9 +0.4
DBIC MLR MLR
comp=Z,2μm,21.0s
DBIC Dimbokro 122.07 8 PKP PKPdf 09 44 49.3 +0.8
comp=Z,4.8nm,0.4s,baz=37,slow=1.1,SNR=26
MBAR Mbarara 123.87 324 PFAKE 09 45 10.0 +18
MBAR LR LR
comp=Z,485nm,20.0s,MS5.2
RCBR Riachuelo 125.09 48 PFAKE 09 45 10.0 +16
RCBR LR LR
comp=Z,2μm,19.0s,MS5.8
BDFB Brasilia 126.94 67 PKP PKPdf 09 45 00.9 +3.1
comp=Z,2.1nm,0.6s,baz=238,slow=1.7,SNR=3.6
BDFB PP PP 09 47 00.5 +0.5
comp=Z,4.4nm,0.9s,baz=320,slow=4.2,SNR=3.5
CASY Casey 128.94 209 PFAKE 09 45 10.0 +10
CASY LR LR
comp=Z,1μm,20.0s,MS5.6
VNDA Vanda 129.06 185 PFAKE 09 45 10.0 +10
VNDA LR LR
comp=Z,1μm,21.0s,MS5.5
SBA Scott Base 129.13 184 PFAKE 09 45 10.0 +9.5
SBA LR LR
comp=Z,1μm,20.0s,MS5.7
CPUP Villa Florida 129.38 84 PFAKE 09 45 20.0 +18
CPUP LR LR
comp=Z,1μm,21.0s,MS5.6
PLCA Paso Flores 130.69 107 PKP PKPdf 09 45 06.2 +1.8
comp=Z,12nm,1.0s,baz=304,slow=1.8,SNR=12
TRQA Tornquist 134.29 99 PFAKE 09 45 20.0 +8.7
TRQA LR LR
comp=Z,1μm,21.0s,MS5.6
LSZ Lusaka 138.26 320 PFAKE 09 45 30.0 +11
LSZ LR LR
comp=Z,1μm,21.0s,MS5.7
QSPA South Pole Qui 140.98 180 *e*PKP PKPdf 09 45 17.2 -5.0
QSPA LR LR
comp=Z,1μm,20.0s,MS5.6
PMSA Palmer Station 144.46 138 PFAKE 09 45 40.0 +12
PMSA LR LR
comp=Z,3μm,22.0s,MS6.0
TSUM Tsumeb 145.64 333 PKPdf PKPdf 09 45 33.7 +1.8
TSUM Tsumeb 145.64 333 *e*PKP PKPdf 09 45 33.4 +1.5
TSUM LR LR
comp=Z,1μm,21.0s,MS5.7
MAW Mawson 146.51 218 PKPbc PKPbc 09 45 34.9 +1.6
comp=Z,34nm,0.9s,baz=68,slow=3.2,SNR=18
LBTB Lobatse 148.01 316 *e*PKP2 PKPab 09 45 40.6 -3.1
LBTB MLR MLR
comp=Z,1μm,20.0s,MS5.8
BOSA Boshof 151.26 313 PKPbc PKPdf 09 45 48.5 +7.8
comp=Z,20nm,0.6s,baz=24,slow=1.6,SNR=44
BOSA Boshof 151.26 313 *e*PKPbc PKPdf 09 45 48.2 +7.5
BOSA LR LR
comp=Z,2μm,20.0s,MS5.9
SYO Syowa Base 154.67 211 ⇓pPKPdf 09 46 01.3
SUR Sutherland 156.46 316 PFAKE 09 46 00.0 +12
SUR LR LR
comp=Z,546nm,21.0s,MS5.4
SNAA Sanae 159.38 176 PKPab PKPab 09 46 27.8 -2.5
comp=Z,5.1nm,1.1s,baz=239,slow=5.9,SNR=3.9
NVL N'lazarevskaya 159.83 190 ⇓*i*PKP2 PKPab 09 46 30.7 -1.6
NVL pmax pmax
comp=Z,16nm,1.1s
TRIS Tristan da Cun 162.73 40 PFAKE 09 46 10.0 +15
TRIS LR LR
comp=Z,2μm,19.0s

GUC 21 09:29:21.2±0.8, 27.18S×70.42W, h81km±8km, ML3.7, 1C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**0.19**	**162**	⇑*i*P		P	09 29 33.5	+0.4
CPCH				*i* S		S	09 29 42.2	+0.3
CPCH				AMP			09 29 42.6	
comp=E,28μm,0.1s								
VACH	**Vallenar**	**1.42**	**192**	*i* P		P	09 29 45.6	-0.4
VACH				*i* S		S	09 30 04.7	+0.3
VACH				AMP			09 30 06.0	
comp=E,2μm,0.1s								
LCO	**Las Campanas**	**1.84**	**188**	*i* P		P	09 29 51.7	+0.2
LCO				*i* S		S	09 30 15.9	+2.0
LCO				AMP			09 30 16.0	
comp=E,175nm,0.2s								
CPN1	**Cerro Paranal**	**2.54**	**0**	*i* P		P	09 30 01.8	+0.5
CPN1				*i* S		S	09 30 32.3	+1.1

*NEIC **21** 09:36:59.8, 51.11N×178.44W, h23km, ML3.4(AEIC), After AEIC.*
*IDC **21** 09:37:02.6±4.3, 51.25N×178.41W, h60km±37km, mb3.5/10, mb1 3.7/11, mb1mx3.6/25, mbtmp3.8/11, ML2.7/1, Error ellipse: s-maj=31.9km s-min=16.7km az=166.0*
ISC 21 09:37:00.7±1.2, 51.3N±0.2×178.4W±0.1, h57km±9km, n23, σ0=54/23, mb3.8/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIMD	**Kanaga Island**	**0.86**	**59**	P		**P**	**09 37 16.2**	**-0.8**
KIMD				S		**S**	**09 37 29.2**	**+0.1**
KIWB	**Kanaga Island**	**0.95**	**56**	P		**P**	**09 37 17.8**	**-0.4**
KIKV	**Kanaga Island**	**0.96**	**54**	P		**P**	**09 37 18.0**	**-0.3**
KIRH	**Kanaga Island**	**1.01**	**55**	P		**P**	**09 37 18.9**	**-0.1**
ADAG	**Mount Adagdak**	**1.31**	**59**	P		**P**	**09 37 23.8**	**+0.5**
GSTD	**Great Sitkin T**	**1.60**	**62**	P		**P**	**09 37 27.9**	**+0.7**
GSMY	**Great Sitkin M**	**1.64**	**63**	P		**P**	**09 37 28.2**	**+0.4**
GSIG	**Igitkin Island**	**1.69**	**66**	P		**P**	**09 37 28.8**	**+0.2**
ATKA	**Atka Island**	**2.77**	**70**	P		**P**	**09 37 43.5**	**-0.3**
FX1	**Attu Island--F**	**5.41**	**290**	P		**P**	**09 38 20.7**	**-0.1**
0.9nm,0.3s,baz=167,slow=14,SNR=2.6								
ILAR	**Eielson Array**	**21.14**	**38**	P		**P**	**09 41 43.3**	**+0.8**
0.6nm,0.7s,mb3.0,baz=236,slow=8.0,SNR=4.9								
INK	**Inuvik**	**27.37**	**35**	P		**P**	**09 42 41.8**	**-0.3**
1.5nm,0.9s,mb3.5,baz=266,slow=14,SNR=6.3								
INK				PcP		PcP	09 45 59.5	-0.7
0.7nm,0.8s,baz=171,slow=3.5,SNR=4.0								
YKA	**Yellowknife Ar**	**35.10**	**46**	P		**P**	**09 43 49.5**	**-0.4**
0.3nm,0.4s,mb3.6,baz=283,slow=7.8,SNR=6.6								
YKA	**Yellowknife Ar**	**35.10**	**46**	P		**P**	**09 43 49.5**	**-0.4**
PDAR	**Pinedale Array**	**46.10**	**72**	P		**P**	**09 45 21.3**	**+0.7**
2.2nm,0.7s,mb4.2,baz=316,slow=4.2,SNR=17								
SONM	**Songino Array**	**46.88**	**297**	P		**P**	**09 45 27.7**	**+1.1**
0.7nm,0.8s,mb3.6,baz=45,slow=8.2,SNR=3.3								
ARCES	**ARCESS Array B**	**58.19**	**350**	P		**P**	**09 46 49.6**	**-0.8**
8.3nm,1.1s,mb4.7,baz=8.1,slow=8.6,SNR=4.3								
TXAR	**Lajitas Array**	**58.43**	**81**	P		**P**	**09 46 51.9**	**-0.8**
0.2nm,0.5s,mb3.4,baz=309,slow=5.6,SNR=5.1								
TXAR	**Lajitas Array**	**58.43**	**81**	P		**P**	**09 46 51.9**	**-0.8**
MKAR	**Makanchi Array**	**60.25**	**309**	P		**P**	**09 47 04.9**	**-0.1**
0.5nm,0.6s,mb3.7,baz=45,slow=6.9,SNR=4.8								
ASAR	**Alice Springs**	**85.61**	**223**	P		**P**	**09 49 33.4**	**-0.6**
0.7nm,0.8s,mb4.0,baz=24,slow=6.2,SNR=5.9								
STKA	**Stephens Creek**	**90.01**	**213**	P		**P**	**09 49 55.4**	**+0.5**
1.5nm,0.9s,mb4.3,baz=346,slow=8.3,SNR=3.4								
BOSA	**Boshof**	**151.19**	**313**	PKPbc		PKPdf	09 56 48.1	+7.0
2.0nm,0.5s,baz=53,slow=18,SNR=6.5								

*IDC **21** 09:49:41.0±2.7, 1.19N×97.35E, mb4.0/5, mb1 4.2/6, mb1mx3.9/19, mbtmp4.1/6, ML4.1/1, Error ellipse: s-maj=110.4km s-min=19.5km az=62.0*
*BJI **21** 09:49:42.8, 1.15N×97.65E, h26km, mb4.9*
*NEIC **21** 09:49:45.8±1.1, 1.15N×97.48E, h30km, mb4.4/7, Error ellipse: s-maj=23.7km s-min=11.0km az=66.0*
ISC 21 09:49:43.9±1.1, 1.11N±0.10×97.3E±0.2, h33km, n19, σ0=90/18, mb4.2/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.31**	**39**	*e*Pn		**Pn**	**09 51 02.9**	**-0.2**
KSM	**Kuching**	**12.99**	**88**	P		**P**	**09 52 44.3**	**-4.5**
CM31	**Chiang Mai Arr**	**17.31**	**5**	*e*P		**P**	**09 53 46.4**	**+1.7**
6.9nm,0.8s								
CMAR	**Chiang Mai Arr**	**17.31**	**5**	Pn		**P**	**09 53 42.8**	**-1.9**
0.3nm,0.3s,baz=195,slow=11,SNR=14								
QIZ	**Qiongzhong**	**21.63**	**34**	P		**P**	**09 54 33.0**	**-0.2**
9.2nm,1.1s,mb4.1								
KMI	**Kunming**	**24.44**	**12**	P		**P**	**09 55 02.8**	**+1.9**
KMI				AP			09 55 08.4	
KMI				AMB		AMB		
comp=Z,22nm,1.1s,mb4.5								
KMI	**Kunming**	**24.44**	**12**	P		**P**	**09 55 02.7**	**+1.8**
comp=Z,22nm,1.1s,mb4.5								
KMI				pP			09 55 08.4	
LSA	**Lhasa**	**29.03**	**349**	P		**P**	**09 55 43.1**	**-0.1**
comp=Z,4.0nm,0.7s,mb4.3								
ENH	**Enshi**	**31.22**	**21**	*e*P		**P**	**09 56 06.9**	**+4.3**
comp=Z,14nm,0.9s,mb4.8								
GTA	**Gaotai**	**38.18**	**3**	*e*P		**P**	**09 57 01.9**	**-0.2**
GTA				AP		pP	09 57 08.5	-3.4
GTA				XP		sP	09 57 11.9	-4.2
WRA	**Warramunga Arr**	**41.89**	**122**	P		**P**	**09 57 33.3**	**+0.2**
comp=Z,1.7nm,0.6s,mb3.9,baz=301,slow=9.1,SNR=17								
WRAB	**Tennant Creek**	**41.89**	**122**	*e*P		**P**	**09 57 32.2**	**-0.9**
comp=Z,8.1nm,1.0s,mb4.3								
BJT	**Baijiatuau**	**42.35**	**22**	P		**P**	**09 57 36.4**	**-0.3**
comp=Z,11nm,0.6s,mb4.7								
ASAR	**Alice Springs**	**43.25**	**127**	P		**P**	**09 57 44.5**	**+0.4**
comp=Z,0.8nm,0.6s,mb3.6,baz=298,slow=7.7,SNR=11								
SONM	**Songino Array**	**47.20**	**8**	P		**P**	**09 58 15.4**	**0.0**
comp=Z,0.9nm,0.4s,mb4.1,baz=193,slow=9.1,SNR=11								
SONM				PcP		PcP	09 59 46.7	-0.1
comp=Z,0.7nm,0.8s,baz=191,slow=3.3,SNR=3.6								
MKAR	**Makanchi Array**	**47.35**	**346**	P		**P**	**09 58 15.9**	**-0.7**
comp=Z,2.2nm,0.8s,mb4.1,baz=159,slow=8.0,SNR=30								
STKA	**Stephens Creek**	**53.21**	**132**	P		**P**	**09 59 01.9**	**+0.5**
comp=Z,1.4nm,0.6s,mb4.0,baz=297,slow=21,SNR=4.4								
STKA	**Stephens Creek**	**53.21**	**132**	*e*P		**P**	**09 59 01.9**	**+0.4**
STKA				*e*pP		pP	09 59 07.9	-3.5
TXAR	**Lajitas Array**	**143.68**	**32**	PKhKP			10 09 15.1	
comp=Z,0.3nm,0.9s,slow=3.6,SNR=3.2								

IDC 21 09:53:18.7±2.4, 22.04S×66.97W, h190km±28km, mb3.2/1, mb1 3.4/4, mb1mx3.2/16, mbtmp3.7/4, Error ellipse: s-maj=30.8km s-min=22.7km az=90.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.83**	**349**	P		P	09 54 45.0	+0.7
1.1nm,0.3s,baz=163,slow=6.9,SNR=40								
LPAZ				S		S	09 55 51.4	+0.5
0.2nm,0.3s,baz=333,slow=18,SNR=4.3								
SIV	**San Ignacio**	**8.20**	**44**	P		P	09 55 15.2	-0.2
3.1nm,0.3s,baz=228,slow=11,SNR=60								
SIV				S		S	09 56 46.6	0.0
1.1nm,0.3s,baz=150,slow=20,SNR=11								
PLCA	**Paso Flores**	**18.88**	**188**	P		P	09 57 24.4	-2.3
0.1nm,0.3s,baz=27,slow=11,SNR=4.6								
YKA	**Yellowknife Ar**	**92.30**	**340**	P		P	10 06 06.6	-1.3
0.2nm,0.7s,baz=132,slow=4.5,SNR=8.7								

IDC 21 10:24:27.7±4.0, 1.27N×97.43E, mb3.4/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=161.1km s-min=24.4km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.88**	**122**	P		P	10 32 19.9	-1.7
0.4nm,0.5s,baz=302,slow=9.1,SNR=8.8								
ASAR	**Alice Springs**	**43.25**	**127**	P		P	10 32 31.1	-1.7
0.2nm,0.5s,baz=297,slow=7.9,SNR=4.8								
SONM	**Songino Array**	**47.03**	**8**	P		P	10 33 01.4	-1.4
0.3nm,0.4s,baz=189,slow=8.7,SNR=5.3								
MKAR	**Makanchi Array**	**47.23**	**346**	P		P	10 33 02.1	-2.3
0.4nm,0.5s,baz=161,slow=9.2,SNR=7.7								

*JMA **21** 10:28:08.1±0.5, 34.23N×141.91E, h19km±3km, M3.3*
*IDC **21** 10:28:11.2±1.0, 34.34N×141.65E, mb3.4/6, mb1 3.6/7, mb1mx3.5/22, mbtmp3.4/7, ML3.5/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/17, Error ellipse: s-maj=22.4km s-min=18.8km az=98.0*
*NEIC **21** 10:28:16.4±0.7, 34.35N×141.51E, h35km, Error ellipse: s-maj=18.4km s-min=10.6km az=48.0*
ISC 21 10:28:12.8±1.6, 34.40N±0.06×141.71E±0.08, h26km±10km, n17, σ0=88/21, mb3.3/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.66**	**293**	P		**Pb**	**10 28 24.5**	**-1.1**
BSO1				S		**Sb**	**10 28 36.4**	**+2.0**
BSO3	**Boso 3**	**1.07**	**293**	P		**Pn**	**10 28 31.4**	**-0.9**
BSO4	**Boso 4**	**1.28**	**298**	P		**Pn**	**10 28 35.8**	**+0.6**
JHJ	**Hachijo jima 2**	**2.05**	**232**	Pn		**Pn**	**10 28 46.1**	**-0.1**
18nm,0.3s,baz=69,slow=16,SNR=11								
JHJ				Sn		**Sn**	**10 29 12.1**	**+0.8**
67nm,0.3s,baz=238,slow=22,SNR=7.8								
JOD2	**Odawara 2**	**2.33**	**293**	P		**Pn**	**10 28 49.8**	**-0.4**
JOD2				S		**Sn**	**10 29 18.3**	**+0.1**
MJAR	**Matsushiro Arr**	**3.57**	**308**	Pn		**Pn**	**10 29 08.2**	**+0.2**
4.2nm,0.3s,baz=154,slow=13,SNR=30								
MJAR				Sn		**Sn**	**10 29 50.1**	**+0.4**
1.7nm,0.3s,baz=147,slow=20,SNR=6.7								
MAJO	**Matsushiro**	**3.57**	**308**	*e*P		**Pn**	**10 29 07.2**	**-0.8**
MAT	**Matsushiro**	**3.57**	**308**	*e*P		**Pn**	**10 29 08.0**	**0.0**
MAT				*e*S		**Sn**	**10 29 49.0**	**-0.8**
MAT	**Matsushiro**	**3.57**	**308**	P		**Pn**	**10 29 07.8**	**-0.2**
MAT				S		**Sn**	**10 29 48.8**	**-1.0**
ASAJ	**Asahikawa**	**9.73**	**4**	LR		LR	10 34 09.3	
comp=Z,245nm,20.2s,baz=349,slow=37								
JOW	**Kunigami**	**13.80**	**241**	LR		LR	10 36 33.5	
comp=Z,354nm,18.8s,baz=236,slow=37								
SONM	**Songino Array**	**29.53**	**308**	P		**P**	**10 34 17.4**	**+0.3**
0.4nm,0.8s,mb3.2,baz=90,slow=7.2,SNR=3.2								
MKAR	**Makanchi Array**	**45.77**	**304**	P		**P**	**10 36 33.6**	**-0.1**
0.1nm,0.5s,mb3.0,baz=69,slow=12,SNR=3.1								
ILAR	**Eielson Array**	**51.61**	**31**	P		**P**	**10 37 19.1**	**+0.4**
0.4nm,0.8s,mb3.4,baz=276,slow=7.4,SNR=5.4								
WRA	**Warramunga Arr**	**54.49**	**189**	P		**P**	**10 37 39.7**	**-1.0**
0.2nm,0.3s,mb3.5,baz=1.5,slow=7.6,SNR=17								
ASAR	**Alice Springs**	**58.22**	**188**	P		**P**	**10 38 06.8**	**-0.5**
0.3nm,0.6s,mb3.5,baz=22,slow=9.7,SNR=4.1								
NVAR	**Mina Array Bea**	**76.38**	**53**	P		**P**	**10 40 04.1**	**+2.6**
0.4nm,0.8s,mb3.4,baz=286,slow=7.8,SNR=3.6								

IDC 21 10:30:11.5±2.1, 1.78N×96.76E, mb3.9/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=89.7km s-min=20.1km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.71**	**7**	Pn		P	10 34 06.8	-2.0
0.2nm,0.3s,baz=191,slow=14,SNR=4.1								
WRA	**Warramunga Arr**	**42.71**	**122**	P		P	10 38 09.7	-2.6
0.7nm,0.7s,baz=299,slow=9.1,SNR=6.0								
ASAR	**Alice Springs**	**44.09**	**127**	P		P	10 38 22.3	-1.2
0.2nm,0.5s,baz=302,slow=7.6,SNR=5.1								
MKAR	**Makanchi Array**	**46.58**	**346**	P		P	10 38 42.2	-0.8
1.1nm,0.5s,baz=160,slow=8.8,SNR=18								
SONM	**Songino Array**	**46.63**	**9**	P		P	10 38 41.5	-1.9
1.4nm,0.7s,baz=190,slow=9.5,SNR=14								
STKA	**Stephens Creek**	**54.06**	**132**	P		P	10 39 38.7	-1.6
0.8nm,0.7s,baz=294,slow=12,SNR=3.0								
ARCES	**ARCESS Array B**	**81.85**	**340**	P		P	10 42 31.0	-2.7
1.9nm,0.8s,baz=45,slow=1.7,SNR=4.0								

IDC 21 10:43:44.0±3.1, 0.58S×96.53E, mb3.5/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=119.2km s-min=28.0km az=63.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**19.07**	**7**	P		P	10 48 08.2	-2.2
0.4nm,0.3s,baz=192,slow=11,SNR=4.6								
ASAR	**Alice Springs**	**42.89**	**125**	P		P	10 51 44.2	-2.0
0.4nm,0.7s,baz=302,slow=7.

*ATH **21** 10:57:00.1, 40.57N×19.93E, h31km±14km, MD3.4/5*
*NEIC **21** 10:57:00.4, 40.54N×19.94E, h33km, MD3.3(ATH), After ATH.*
*TIR **21** 10:57:00.6, 40.51N×20.11E, h13km*
*CSEM **21** 10:57:00.9±0.1, 40.51N×20.10E, h2km, MD3.3, Error ellipse: s-maj=2.6km s-min=1.5km az=102.0*
ISC 21 10:57:01.2±0.7, 40.50N±0.03×20.04E±0.06, h13km±5km, n12, σ1§10/19, 1C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	**Tepelena**	**0.20**	**187**	*e*Pg	**Pg**	**10 57 05.7**	**-0.1**
TPE				*i* Sg	**Sg**	**10 57 09.9**	**+1.0**
LSK	**Leskovik**	**0.55**	**129**	*e*Pg	**Pg**	**10 57 11.1**	**-1.3**
LSK				*i* Sg	**Sg**	**10 57 20.0**	**+0.1**
KBN	**Korca**	**0.58**	**77**	*e*Pg	**Pg**	**10 57 11.7**	**-1.3**
KBN				*i* Sg	**Sg**	**10 57 21.4**	**+0.5**
SRN	**Sarande**	**0.62**	**183**	*i* Pg	**Pg**	**10 57 13.5**	**-0.2**
SRN				*i* Sg	**Sg**	**10 57 24.1**	**+2.0**
KEK	**Kerkira**	**0.81**	**193**	*e*PN	**Pn**	**10 57 17.0**	**-1.1**
OHR	**Ohrid**	**0.84**	**43**	*i* Pg	**Pg**	**10 57 16.0**	**-2.1**
OHR				⇑*i* Sg	**Sg**	**10 57 29.8**	**+0.4**
QSH	**Qafa e Shtames**	**1.03**	**354**	*i* Pg	**Pg**	**10 57 21.0**	**-0.8**
QSH				*i* Sg	**Sg**	**10 57 37.0**	**+1.4**
JAN	**Janina**	**1.04**	**143**	*e*PN	**Pn**	**10 57 21.1**	**-0.4**
KZN	**Kozani**	**1.33**	**98**	*e*PN	**Pn**	**10 57 25.5**	**-0.1**
KZN				*e*SN	**Sn**	**10 57 44.9**	**+1.6**
SKO	**Skopje**	**1.81**	**35**	*i* Pn	**Pn**	**10 57 34.4**	**+1.9**
EVR	**Evrytania**	**2.09**	**139**	*e*PB	**Pb**	**10 57 37.7**	**-0.8**
VLS	**Valsamata**	**2.36**	**169**	*e*PN	**Pn**	**10 57 39.8**	**-0.5**

*DJA **21** 11:02:41.2±1.2, 5.38S×119.46E, h100km, mb4.9/2, Error ellipse: s-maj=67.9km s-min=24.0km az=129.0*
*IDC **21** 11:02:48.4±4.2, 9.04S×120.95E, h94km±32km, mb3.5/1, mb1 3.7/4, mb1mx3.3/16, mbtmp3.8/4, Error ellipse: s-maj=90.1km s-min=34.3km az=53.0*
ISC 21 11:02:40.2±1.5, 9.1S±0.2×120.6E±0.1, h33km, n8, σ1§64/13, mb3.6/1, 2C-2D, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**4.47**	**278**	*e*P	**P**	**11 03 49.4**	**+1.9**
KEDI				⇓*e*Sn	**Sn**	**11 04 40.1**	**+0.9**
RATI	**Rata**	**5.02**	**274**	*e*P	**P**	**11 03 56.4**	**+1.2**
	297nm,0.2s						
RATI				⇓*e*Sn	**Sn**	**11 04 50.8**	**-2.1**
KELI	**Kelakatan**	**6.10**	**278**	⇑*e*P	**P**	**11 04 02.0**	**-8.4**
SRDI	**Scrawed**	**6.41**	**275**	⇑*e*P	**P**	**11 04 13.2**	**-1.5**
	126nm,0.2s						
FITZ	**Fitzroy Crossi**	**10.19**	**152**	P	**P**	**11 05 11.9**	**+4.5**
	0.5nm,0.3s,baz=277,slow=8.7,SNR=13						
FITZ				S	**S**	**11 07 01.7**	**0.0**
	0.7nm,0.3s,baz=194,slow=19,SNR=4.6						
WRA	**Warramunga Arr**	**17.10**	**131**	P	**P**	**11 06 40.1**	**+1.7**
	0.3nm,0.3s,baz=307,slow=11,SNR=23						
WRA				S	**S**	**11 09 43.2**	**-2.9**
	0.3nm,0.3s,baz=302,slow=26,SNR=10						
ASAR	**Alice Springs**	**19.28**	**140**	P	**P**	**11 07 04.8**	**-0.2**
	0.8nm,0.3s,baz=323,slow=11,SNR=116						
ASAR				S	**S**	**11 10 37.2**	**+1.9**
	0.1nm,0.3s,baz=315,slow=23,SNR=4.9						
STKA	**Stephens Creek**	**29.88**	**142**	P	**P**	**11 08 44.8**	**-2.4**
	0.6nm,0.4s,mb3.6,baz=319,slow=9.3,SNR=3.8						

*IDC **21** 11:39:23.9±7.2, 21.21S×176.61W, h235km±65km, mb3.6/5, mb1 3.8/7, mb1mx3.5/17, mbtmp4.3/7, Error ellipse: s-maj=35.1km s-min=25.5km az=6.0*
*NEIC **21** 11:39:24.3±5.3, 21.16S×176.51W, h254km±50km, mb4.0/3, Error ellipse: s-maj=31.0km s-min=21.9km az=46.0*
ISC 21 11:39:23.5±4.8, 21.2S±0.2×176.7W±0.2, h251km±45km, n20, σ0§88/12, mb3.9/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.74**	**264**	P	**P**	**11 42 54.1**	**+0.3**
	0.3nm,0.3s,baz=128,slow=18,SNR=2.1						
URZ	**Urewera**	**17.80**	**196**	P	**P**	**11 43 14.8**	**-1.3**
	1.2nm,0.3s,baz=350,slow=6.1,SNR=7.4						
RPZ	**Rata Peaks**	**24.64**	**202**	P	**P**	**11 44 23.9**	**+1.1**
	8.5nm,0.6s,mb4.5,baz=76,slow=4.2,SNR=4.8						
STKA	**Stephens Creek**	**38.62**	**245**	P	**P**	**11 46 25.6**	**+1.3**
	1.8nm,0.5s,mb3.9,baz=85,slow=12,SNR=11						
STKA	**Stephens Creek**	**38.62**	**245**	*e*P	**P**	**11 46 24.6**	**+0.4**
ASAR	**Alice Springs**	**45.58**	**257**	P	**P**	**11 47 21.2**	**+0.6**
	2.7nm,0.8s,mb3.6,baz=90,slow=9.0,SNR=35						
ASAR				PcP	PcP	11 48 55.6	+0.6
	0.5nm,0.6s,baz=102,slow=3.7,SNR=4.1						
WRAB	**Tennant Creek**	**45.74**	**262**	P	**P**	**11 47 21.1**	**-0.8**
	7.4nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**45.75**	**262**	P	**P**	**11 47 21.9**	**-0.1**
	1.5nm,0.6s,mb3.5,baz=96,slow=5.0,SNR=42						
MBWA	**Marble Bar**	**58.93**	**258**	*e*P	**P**	**11 48 58.1**	**-0.6**
	1.6nm,0.4s,mb4.0						
NVAR	**Mina Array Bea**	**80.70**	**43**	P	**P**	**11 51 11.2**	**+1.1**
	0.3nm,0.5s,mb3.1,baz=219,slow=9.5,SNR=4.5						
PV10	**Paradox Valley**	**86.75**	**47**	P	**P**	**11 51 49.1**	**+8.5**
COLA	**College**	**88.66**	**12**	P	**P**	**11 51 47.8**	**-1.1**
	2.0nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**120.46**	**320**	PKP	PKPdf	11 57 46.6	+1.6
	2.0nm,0.4s,baz=133,slow=2.1,SNR=11						
ARCES	**ARCESS Array B**	**129.87**	**350**	PKP	PKPdf	11 58 04.2	+1.6
	2.0nm,0.9s,slow=0.9,SNR=4.8						
AKASG	**Malin Array Be**	**144.27**	**332**	PKP	PKPdf	11 58 28.6	-0.5
	1.1nm,0.5s,baz=40,slow=3.9,SNR=7.3						
EKA	**Eskdalemuir Ar**	**145.61**	**7**	PKPbc	PKPbc	11 58 33.6	+1.3
	0.7nm,0.5s,baz=306,slow=3.1,SNR=5.4						
BRTR	**Keskin Array B**	**148.27**	**312**	PKPbc	PKPdf	11 58 42.5	+6.2
	0.6nm,0.5s,baz=153,slow=5.5,SNR=3.8						
CLL	**Collm**	**149.06**	**348**	*i* PKP1	PKPdf	11 58 44.1	+7.0
VYHS	**Vyhne**	**150.11**	**339**	*e*PKP	PKPdf	11 58 47.0	+8.2
GERES	**GERESS Array B**	**151.24**	**346**	PKPbc	PKPdf	11 58 49.6	+9.1
	0.6nm,0.3s,SNR=8.5						

*NAO **21** 11:46:30.9±1.0, 61.92N×23.63E, ML2.1*
*IDC **21** 11:46:31.4±0.7, 62.01N×23.71E, mb1 2.7/3, mb1mx2.6/22, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=9.6km s-min=4.8km az=19.0*
*BER **21** 11:46:31.9±4.7, 61.95N×23.62E, ML2.1(NAO), Suspected explosion*
*HEL **21** 11:46:31.6±0.1, 61.98N×23.73E, ML2.1, ML2.4(UPP), ML2.1(NAO), Explosion*
ISC 21 11:46:30.1±0.3, 61.97N±0.02×23.77E±0.04, n32, σ1§00/52, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.55**	**69**	*e*P	**Pg**	**11 46 41.6**	**+0.5**
KEF				*e*S	**Sg**	**11 46 49.2**	**+0.7**
VAF	**Ylistaro**	**1.19**	**335**	*e*P	**Pb**	**11 46 52.5**	**-0.8**
VAF				*e*S	**Sb**	**11 47 07.2**	**-1.9**
KAF	**Kangasniemi**	**1.20**	**82**	*e*P	**Pb**	**11 46 53.4**	**0.0**
KAF				*e*S	**Sb**	**11 47 09.3**	**-0.1**
FIA0	**FINESS Array S**	**1.22**	**115**	*e*P	**Pb**	**11 46 53.8**	**+0.1**
FIA0				*e*S	**Sb**	**11 47 08.8**	**-1.1**
FIA0				*e*S	**Sb**	**11 47 10.8**	**+0.9**
FIA0	**FINESS Array S**	**1.22**	**115**	Pn	**Pn**	**11 46 54.1**	**-0.2**
	baz=301,slow=16						
FIA0				Lg		11 47 11.2	
	baz=300,slow=28						
FINES	**FINESS Array B**	**1.22**	**115**	Pg	**Pg**	**11 46 54.1**	**-0.3**
	4.4nm,0.3s,baz=302,slow=17,SNR=114						
FINES				Lg		11 47 11.0	
	3.4nm,0.3s,baz=302,slow=27,SNR=19						
SUF	**Sumiainen**	**1.34**	**55**	*e*P	**Pb**	**11 46 55.6**	**-0.2**
SUF				*e*S	**Sb**	**11 47 13.2**	**-0.2**
PVF	**Pernaja**	**1.75**	**144**	*e*P	**Pn**	**11 47 03.0**	**+1.1**
PVF				*e*S	**Sn**	**11 47 24.5**	**-0.8**
VJF	**Virojoki**	**2.33**	**126**	*e*P	**Pn**	**11 47 11.9**	**+1.8**
VJF				*e*S	**Sn**	**11 47 39.3**	**-0.6**
UMAU	**Umeaa**	**2.38**	**325**	*e*P	**Pn**	**11 47 11.8**	**+0.8**
UMAU				*e*S	**Sn**	**11 47 43.0**	**+1.6**
HUSU	**Husum**	**2.51**	**305**	*e*P	**Pn**	**11 47 14.1**	**+1.2**
HUSU				*e*S	**Sn**	**11 47 46.3**	**+1.7**
AAL	**Aland**	**2.57**	**227**	*e*P	**Pn**	**11 47 14.5**	**+0.9**
AAL				*e*S	**Sn**	**11 47 46.1**	**+0.1**
HEMU	**Hemsoen**	**2.77**	**287**	*e*P	**Pn**	**11 47 16.5**	**0.0**
KJN	**Kajaani**	**2.78**	**38**	*e*P	**Pn**	**11 47 17.5**	**+0.8**
KJN				*e*SB	**Sb**	**11 47 54.8**	**-0.4**
KJN				MSG		11 47 56.1	
	comp=Z,7.9nm,0.2s						
BURU	**Burvik**	**2.84**	**339**	*e*P	**Pn**	**11 47 17.8**	**+0.3**
GRAU	**Graesoe**	**3.02**	**239**	*e*P	**Pn**	**11 47 19.8**	**-0.3**
ARNU	**Arnoeviken**	**3.05**	**268**	*e*P	**Pn**	**11 47 20.3**	**-0.1**
BREU	**Bredtraesk**	**3.06**	**311**	*e*P	**Pn**	**11 47 21.4**	**+0.8**
SVAU	**Svanoeiden**	**3.17**	**325**	*e*P	**Pn**	**11 47 23.8**	**+1.6**
OUL	**Oulu**	**3.27**	**16**	*e*P	**Pn**	**11 47 24.0**	**+0.4**
OUL				*e*S	**Sn**	**11 48 03.1**	**-0.7**
HASU	**Hassela**	**3.38**	**276**	*e*P	**Pn**	**11 47 25.6**	**+0.5**
SJUU	**Sjulsmark**	**3.68**	**346**	*e*P	**Pn**	**11 47 29.4**	**0.0**
ERTU	**Ertsjaerv**	**4.65**	**352**	*e*P	**Pn**	**11 47 43.2**	**-0.1**
PAJU	**Pajala**	**5.08**	**357**	*e*P	**Pn**	**11 47 48.9**	**-0.4**
HFS	**Hagfors**	**5.23**	**254**	Pn	**Pn**	**11 47 49.5**	**-1.9**
	baz=66,slow=12						
HFS				Sn	**Sn**	**11 48 48.8**	**-4.6**
	baz=70,slow=22						
HFS				Lg		11 49 05.3	
	baz=74,slow=28						
HFS	**Hagfors**	**5.23**	**254**	*e*P	**Pn**	**11 47 49.5**	**-1.9**
HFS				*e*S	**Sn**	**11 48 48.8**	**-4.6**
HFS				*e*SB	**Sb**	**11 49 05.3**	**-1.0**
HFS	**Hagfors**	**5.23**	**254**	Pn	**Pn**	**11 47 49.5**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=70,slow=12,SNR=5.0						
HFS				Sn	**Sn**	**11 48 48.9**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=74,slow=26,SNR=8.6						
HFS				Lg		11 49 09.7	
	comp=Z,0.2nm,0.3s,baz=70,slow=30,SNR=8.4						
NB2	**NORSAR Subarra**	**6.08**	**267**	*e*P	**Pn**	**11 48 01.7**	**-1.8**
NB2				*e*SG	**Sg**	**11 49 37.9**	**-15**
NOA	**NORSAR Array B**	**6.08**	**267**	Pn	**Pn**	**11 48 02.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=87,slow=19,SNR=2.3						
NOA				Sn	**Sn**	**11 49 09.6**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=297,slow=12,SNR=2.4						
NOA				Lg		11 49 41.6	
	comp=Z,0.6nm,0.3s,baz=43,slow=25,SNR=4.0						
ARA0	**ARCESS Array S**	**7.63**	**5**	Pn	**Pn**	**11 48 22.4**	**-2.9**
	baz=182,slow=16						
ARA0	**ARCESS Array S**	**7.63**	**5**	*e*P	**Pn**	**11 48 22.4**	**-2.9**
ARCES	**ARCESS Array B**	**7.63**	**5**	Pn	**Pn**	**11 48 22.4**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=176,slow=15,SNR=20						
ARCES				Sn	**Sn**	**11 49 45.4**	**-8.1**
	comp=Z,0.4nm,0.3s,baz=182,slow=24,SNR=7.9						

*IDC **21** 11:53:48.3±2.4, 1.17N×97.39E, h19km±4km, mb3.3/5, mb1 3.5/6, mb1mx3.5/18, mbtmp3.5/6, ML4.2/1, Error ellipse: s-maj=97.0km s-min=15.3km az=59.0*
*NEIC **21** 11:53:49.2±1.2, 1.11N×97.24E, h30km, Error ellipse: s-maj=29.4km s-min=14.6km az=69.0*
ISC 21 11:53:45.6±1.3, 1.1N±0.1×97.2E±0.2, h19km, h19km±.4km: pP-P, n11, σ0§49/9, mb3.5/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.43**	**40**	*e*Pn	**Pn**	**11 55 08.1**	**+0.4**
KULM				*e*		11 55 13.7	
CMAR	**Chiang Mai Arr**	**17.34**	**6**	P	**P**	**11 57 47.4**	**-1.1**
	0.3nm,0.3s,baz=193,slow=12,SNR=3.1						
KKM	**Kota Kinabalu**	**19.63**	**75**	P	**P**	**11 58 09.8**	**-6.4**
WRA	**Warramunga Arr**	**42.01**	**122**	P	**P**	**12 01 37.5**	**-0.3**
	0.5nm,0.8s,mb3.2,baz=300,slow=9.0,SNR=5.9						
WRA				pP	pP	12 01 43.3	-0.3
	0.9nm,0.6s,baz=300,slow=9.1,SNR=7.9						
ASAR	**Alice Springs**	**43.36**	**127**	P	**P**	**12 01 48.7**	**-0.1**
	0.2nm,0.8s,mb2.9,baz=292,slow=7.3,SNR=2.8						
ASAR				pP	pP	12 01 54.5	-0.1
	0.6nm,0.7s,baz=299,slow=8.1,SNR=5.9						
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**12 02 19.8**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=195,slow=9.1,SNR=4.3						
SONM				pP	pP	12 02 25.5	+0.3
	1.1nm,0.8s,baz=186,slow=9.3,SNR=6.8						
MKAR	**Makanchi Array**	**47.33**	**346**	P	**P**	**12 02 20.4**	**+0.3**
	0.5nm,0.8s,mb3.5,baz=146,slow=4.4,SNR=7.0						
MKAR				pP	pP	12 02 26.6	+0.6
	1.4nm,0.7s,baz=160,slow=8.0,SNR=13						
MKAR	**Makanchi Array**	**47.33**	**346**	P	**P**	**12 02 20.4**	**+0.2**
MKAR				pP	pP	12 02 26.6	+0.6
STKA	**Stephens Creek**	**53.31**	**132**	pP	pP	12 03 12.0	+0.2
	2.0nm,0.4s,baz=256,slow=4.2,SNR=1.9						
ZAL	**Zalesovo**	**53.65**	**351**	P	**P**	**12 03 08.4**	**+0.3**
	1.4nm,0.3s,mb4.3,baz=280,slow=6.1,SNR=3.5						
ZAL				pP	pP	12 03 14.1	+0.1
	1.4nm,0.3s,baz=306,slow=6.2,SNR=3.4						
ARCES	**ARCESS Array B**	**82.62**	**340**	pP	pP	12 06 14.8	-0.1
	1.3nm,0.8s,baz=80,slow=7.4,SNR=1.4						

*IDC **21** 12:18:43.0±1.2, 30.11N×83.57E, mb3.7/9, mb1 4.0/10, mb1mx3.8/23, mbtmp3.7/10, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/30, Error ellipse: s-maj=42.6km s-min=19.8km az=57.0*
*NDI **21** 12:18:46.1±0.6, 28.96N×84.31E, h39km±999km, MD3.3, mb3.7(NEIC)*
*NEIC **21** 12:18:47.9±1.4, 30.13N×83.50E, h35km, mb3.7/2, Error ellipse: s-maj=30.2km s-min=12.6km az=219.0*
*MOS **21** 12:18:48.2±1.0, 30.32N×83.38E, h33km, mb3.9/2, Error ellipse: s-maj=50.3km s-min=17.6km az=100.4*
ISC 21 12:18:48.1±1.2, 30.16N±0.08×83.58E±0.06, h49km±14km, n27, σ1§16/28, mb3.7/11, MS3.2/1, 1C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LGTI	**Lohaghat**	**2.99**	**257**	*e*P	**P**	**12 19 40.5**	**+6.3**
LGTI				*e*		12 20 27.0	
SMLA	**Simla**	**5.61**	**281**	⇑*i*	**P**	**12 20 07.0**	**-4.0**
NDI	**New Delhi**	**5.75**	**257**	*e*P	**P**	**12 20 15.0**	**+2.1**
NDI				*e*		12 20 32.5	
AYAN	**Aya Nagar**	**5.88**	**255**	*e*P	**P**	**12 20 16.4**	**+1.6**
SONA	**Sohna**	**5.99**	**253**	*e*P	**P**	**12 20 17.1**	**+0.7**
SONA				*e*S	**S**	**12 21 23.9**	**-0.7**
LSA	**Lhasa**	**6.58**	**92**	*e*P	**P**	**12 20 24.6**	**-0.1**
LSA				pmax	pmax		
	comp=Z,13nm,0.7s						
LSA	**Lhasa**	**6.58**	**92**	*e*P	**P**	**12 20 24.6**	**-0.1**
	comp=Z,13nm,0.7s						
KHET	**Khetri**	**7.12**	**255**	*e*P	**P**	**12 20 32.5**	**+0.3**
KHET				*e*S	**S**	**12 21 50.3**	**-2.2**
AAK	**Ala-Archa**	**14.42**	**332**	P	**P**	**12 22 08.8**	**-2.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**14.42**	**332**	P	**P**	**12 22 08.8**	**-2.1**
	comp=Z,2.9nm,0.8s						
MKAR	**Makanchi Array**	**16.64**	**357**	Pn	**P**	**12 22 39.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=177,slow=11,SNR=28						
MKAR	**Makanchi Array**	**16.64**	**357**	Pn	**P**	**12 22 39.2**	**0.0**
CMAR	**Chiang Mai Arr**	**18.19**	**126**	P	**P**	**12 22 57.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=309,slow=12,SNR=13						
ZAL	**Zalesovo**	**23.77**	**2**	P	**P**	**12 23 56.6**	**-0.1**
	comp=Z,1.0nm,0.4s,mb3.6,baz=283,slow=13,SNR=4.9						
SONM	**Songino Array**	**24.86**	**38**	P	**P**	**12 24 08.1**	**+0.7**
	comp=Z,0.6nm,0.8s,mb3.2,baz=234,slow=9.6,SNR=5.4						
ULN	**Ulaanbaatar**	**25.24**	**39**	P	**P**	**12 24 10.3**	**-0.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8						
ULN	**Ulaanbaatar**	**25.24**	**39**	P	**P**	**12 24 10.3**	**-0.7**
	comp=Z,2.1nm,0.7s,mb3.8						
CHKZ	**Chkalovo**	**25.32**	**342**	P	**P**	**12 24 10.0**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.4						
CHKZ	**Chkalovo**	**25.32**	**342**	P	**P**	**12 24 10.0**	**-1.6**
	comp=Z,1.4nm,0.8s,mb3.5						
GNI	**Garni**	**33.06**	**298**	LR	LR	12 41 37.7	
	comp=Z,51nm,20.0s,MS3.2,baz=159,slow=42						
AKASG	**Malin Array Be**	**45.03**	**313**	P	**P**	**12 27 00.1**	**-0.4**
	comp=Z,0.2nm,0.2s,mb3.6,baz=107,slow=9.4,SNR=4.4						
ARCES	**ARCESS Array B**	**51.02**	**337**	P	**P**	**12 27 48.6**	**+1.8**
	comp=Z,2.2nm,0.8s,mb4.1,baz=97,slow=7.3,SNR=3.8						
WRA	**Warramunga Arr**	**69.76**	**129**	P	**P**	**12 29 55.6**	**+0.2**
	comp=Z,0.6nm,0.8s,mb3.5,baz=326,slow=6.3,SNR=8.2						
ASAR	**Alice Springs**	**72.09**	**132**	P	**P**	**12 30 08.7**	**-0.7**
	comp=Z,0.5nm,0.9s,mb3.4,baz=313,slow=5.8,SNR=4.4						
ILAR	**Eielson Array**	**77.56**	**20**	P	**P**	**12 30 41.2**	**+1.2**
	comp=Z,0.7nm,0.9s,mb3.6,baz=293,slow=5.4,SNR=6.6						
INK	**Inuvik**	**78.04**	**12**	P	**P**	**12 30 43.8**	**+1.2**
	comp=Z,1.1nm,0.8s,mb3.8,baz=319,slow=5.3,SNR=7.2						
YKA	**Yellowknife Ar**	**86.52**	**8**	P	**P**	**12 31 26.2**	**-0.2**
	comp=Z,1.0nm,0.8s,mb4.1,baz=338,slow=5.0,SNR=25						

IDC 21 12:30:51.0±3.0, 36.62N×32.58W, mb3.7/7, mb1 3.9/7, mb1mx3.6/25, mbtmp3.7/7, MS3.7/2, Ms1 3.6/2, ms1mx2.9/26, Error ellipse: s-maj=84.3km s-min=25.6km az=171.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**29.64**	**319**	LR	LR	12 47 20.5	
	comp=Z,119nm,19.1s,baz=69,slow=33						
NOA	**NORSAR Array B**	**36.73**	**34**	P	P	12 37 59.9	-1.5
	1.5nm,0.8s,baz=251,slow=8.5,SNR=3.3						
FINES	**FINESS Array B**	**43.78**	**36**	P	P	12 38 57.3	-2.3
	1.6nm,0.8s,baz=259,slow=7.1,SNR=4.2						
AKASG	**Malin Array Be**	**45.56**	**52**	P	P	12 39 12.2	-1.9
	1.4nm,0.6s,baz=274,slow=7.8,SNR=7.3						
BDFB	**Brasilia**	**53.98**	**198**	LR	LR	13 00 05.9	
	comp=Z,78nm,21.1s,baz=196,slow=32						
YKA	**Yellowknife Ar**	**54.70**	**326**	P	P	12 40 20.2	-3.6
	0.5nm,0.9s,baz=75,slow=7.2,SNR=6.5						
TXAR	**Lajitas Array**	**58.86**	**285**	P	P	12 40 51.7	-2.1
	0.2nm,0.3s,baz=78,slow=8.3,SNR=3.3						
INK	**Inuvik**	**60.36**	**335**	P	P	12 41 02.5	-1.2
	0.6nm,0.8s,baz=57,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**78.52**	**40**	P	P	12 42 54.2	-1.1
	0.7nm,0.8s,baz=323,slow=6.1,SNR=7.5						

*CSEM **21** 12:53:39.6±0.1, 37.83N×14.96E, h25km, ML3.6/3, Error ellipse: s-maj=1.8km s-min=1.3km az=144.0*
ROM 21 12:53:40.0±0.1, 37.83N×14.99E, h22km±4km, Md2.7/15, Ml3.0/4, Error ellipse: s-maj=1.7km s-min=1.6km az=45.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMME	**Mongiuffi-Meli**	**0.24**	**62**	Pg	Pb	12 53 46.6	+0.8
MMME				Sg	Sb	12 53 52.1	+2.3
	935nm,0.6s						
MNO	**Monte Soro**	**0.26**	**295**	Pg	Pb	12 53 46.4	+0.3
MSI	**Messina ING**	**0.59**	**49**	Pg	Pb	12 53 52.1	+0.6
	2μm,0.6s						
MTTG	**Motta San Giov**	**0.59**	**72**	Pg	Pb	12 53 52.6	+1.1
MTTG				Sg	Sb	12 54 02.3	+3.0
	360nm,0.4s						
AGST	**Augusta-Monte**	**0.60**	**161**	Pg	Pb	12 53 52.5	+0.8
AGST				Sg	Sb	12 54 02.3	+2.6
	455nm,0.2s						
MSRU	**Castanea**	**0.60**	**43**	Pg	Pb	12 53 52.1	+0.4
MSRU				Sg	Sb	12 54 01.4	+1.7
	584nm,0.4s						
SSY	**Sortino**	**0.67**	**174**	Pg	Pb	12 53 53.8	+0.9
SSY				Sg	Sb	12 54 04.6	+2.8
	1μm,0.4s						
PLLN	**Pollina**	**0.69**	**284**	Pg	Pb	12 53 53.8	+0.6
PLLN				Sg	Sb	12 54 06.7	+4.4
SCLL	**Scilla**	**0.72**	**53**	Pg	Pb	12 53 54.4	+0.7
SCLL				Sg	Sb	12 54 06.3	+3.2
	158nm,0.4s						
PZI	**Palazzolo**	**0.77**	**182**	Pg	Pb	12 53 55.4	+0.9
PZI				Sg	Sb	12 54 07.3	+2.8
GIB	**Gibilmanna**	**0.78**	**282**	Pg	Pb	12 53 55.0	+0.3
GIB				Sg	Sb	12 54 08.1	+3.3
	159nm,0.3s						
CEL	**Celeste**	**0.84**	**58**	Pg	Pb	12 53 56.6	+0.9
CEL				Sg	Sb	12 54 09.9	+3.4
	651nm,0.7s						
SOI	**Samo**	**0.88**	**73**	Pg	Pb	12 53 57.2	+0.8
SOI				Sg	Sb	12 54 12.3	+4.5
FAVR	**Favara**	**1.19**	**242**	Pg	Pn	12 54 04.1	+2.6
	633nm,0.9s						
CLTB	**Caltabellotta**	**1.43**	**261**	Pg	Pn	12 54 07.2	+2.3
	175nm,0.3s						

*IDC **21** 13:26:36.7±2.6, 33.30N×120.34W, mb3.3/3, mb1 3.7/7, mb1mx3.6/24, mbtmp3.3/7, ML3.5/4, MS3.2/7, Ms1 3.2/7, ms1mx3.0/19, Error ellipse: s-maj=37.6km s-min=19.9km az=39.0*
*NEIC **21** 13:26:37.3, 33.66N×120.03W, h6km, mb4.0/1, ML3.8(PAS), After PAS.*
ISC 21 13:26:35.7±1.1, 33.62N±0.09×120.00W±0.07, h6km, n34, σ1§34/33, mb3.5/4, MS3.2/4, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWC	**Mount Wilson**	**1.72**	**69**	*e*Pn	**Pn**	**13 27 06.2**	**-0.2**
MWC				*e*Sg	**Sg**	**13 27 33.2**	**+0.2**
LRV	**Little Rabbit**	**2.92**	**344**	*e*Pn	**Pn**	**13 27 22.0**	**-1.6**
BAR	**Barrett**	**2.94**	**108**	*e*Pn	**Pn**	**13 27 22.8**	**-1.1**
PFO	**Pinyon Flat Ob**

5.6nm,0.2s
EGRO El Granado 2.96 75 P Pn 13 29 43.8 -3.1
EGRO S Sn 13 30 19.2 -2.8
EGRO El Granado 2.96 75 P Pn 13 29 44.7 -2.2
8.9nm,1.1s,SNR=8.1
EGRO S Sn 13 30 17.7 -4.3
3.4nm,0.3s,SNR=6.0
EGRO El Granado 2.96 75 Pn Pn 13 29 43.8 -3.0
8.9nm,1.1s,SNR=8.1
EGRO Sn Sn 13 30 17.7 -4.3
3.4nm,0.3s,SNR=6.0
EGRO S Sn 13 30 19.2 -2.8
PTOM Tomar 3.50 36 *e*Sn Sn 13 30 31.2 -4.6
8.2nm,0.2s
PTOM Tomar 3.50 36 *e*Sn Sn 13 30 31.2 -4.6
8.2nm,0.2s
EMIN Mina Concepcio 3.64 73 ⇑P Pn 13 29 53.9 -2.6
EMIN S Sn 13 30 33.9 -5.3
EMIN Mina Concepcio 3.64 73 ⇑P Pn 13 29 53.9 -2.6
0.5nm,0.1s,SNR=18
EMIN S Sn 13 30 33.4 -5.9
2.6nm,0.3s,SNR=10.0
EMIN Mina Concepcio 3.64 73 Pn Pn 13 29 53.9 -2.6
0.5nm,0.1s,SNR=18
EMIN Sn Sn 13 30 33.4 -5.8
2.6nm,0.3s,SNR=10.0
EBAD Badajoz 3.76 58 ⇑P Pn 13 29 55.9 -2.3
0.3nm,0.1s,SNR=18
EBAD S Sn 13 30 37.4 -4.9
2.7nm,0.4s,SNR=5.4
EBAD Badajoz 3.76 58 Pn Pn 13 29 55.9 -2.3
0.3nm,0.1s,SNR=18
EBAD Sn Sn 13 30 37.4 -4.9
2.7nm,0.4s,SNR=5.4
PCBR Castelo Branco 4.14 42 *e*Sn Sn 13 30 46.3 -5.7
2.4nm,0.3s
PCBR Castelo Branco 4.14 42 *e*Sn Sn 13 30 46.3 -5.7
2.4nm,0.3s
ESPR Espera 4.19 88 P Pn 13 30 01.7 -2.5
ESPR S Sn 13 30 48.4 -4.7
ESPR Espera 4.19 88 P Pn 13 30 01.7 -2.5
3.2nm,0.1s,SNR=7.9
ESPR S Sn 13 30 46.7 -6.4
2.6nm,0.3s,SNR=4.0
ESPR Espera 4.19 88 Pn Pn 13 30 01.7 -2.6
3.2nm,0.1s,SNR=7.9
ESPR Sn Sn 13 30 48.4 -4.7
SNR=4.0
EADA Adamuz 5.34 73 ⇑P Pn 13 30 17.5 -3.1
EADA S Sn 13 31 16.0 -6.3
EADA Adamuz 5.34 73 ⇑P Pn 13 30 17.5 -3.1
1.4nm,0.1s,SNR=18
EADA S Sn 13 31 14.8 -7.4
6.0nm,0.7s,SNR=7.9
EADA Adamuz 5.34 73 Pn Pn 13 30 17.5 -3.1
1.4nm,0.1s,SNR=18
EADA Sn Sn 13 31 14.8 -7.4
SNR=7.9
EADA S Sn 13 31 16.0 -6.2
ELUQ Luque 5.49 80 S Sn 13 31 17.5 -8.4
17nm,0.6s,SNR=7.9
ELOB Lobios 5.57 24 P Pn 13 30 20.6 -3.2
ELOB S Sn 13 31 21.6 -6.3
ELOB Lobios 5.57 24 P Pn 13 30 20.6 -3.2
0.4nm,0.0s,SNR=5.6
ELOB S Sn 13 31 19.2 -8.7
2.3nm,0.3s,SNR=7.1
ELOB Lobios 5.57 24 Pn Pn 13 30 20.6 -3.2
0.4nm,0.0s,SNR=5.6
ELOB Sn Sn 13 31 19.2 -8.7
2.3nm,0.3s,SNR=7.1
ELOB S Sn 13 31 21.6 -6.3
EZAM Zamans 5.64 18 S Sn 13 31 21.8 -8.0
8.0nm,0.9s,SNR=7.9
PBRG Braganca 6.02 33 *e*Sn Sn 13 31 30.4 -8.7
2.7nm,0.2s
PBRG Braganca 6.02 33 S Sn 13 31 30.4 -8.7
1.4nm,0.2s
ECAL Calabor 6.13 32 ⇑P Pn 13 30 28.1 -3.6
ECAL S Sn 13 31 34.6 -7.3
ECAL Calabor 6.13 32 ⇑P Pn 13 30 28.1 -3.6
1.6nm,0.2s,SNR=18
ECAL S Sn 13 31 33.9 -8.0
10nm,0.5s,SNR=7.9
ECAL Calabor 6.13 32 Pn Pn 13 30 28.1 -3.6
1.6nm,0.2s,SNR=18
ECAL Sn Sn 13 31 33.9 -8.0
SNR=7.9
ECAL S Sn 13 31 34.6 -7.3
ESDC Sonseca Array 6.29 61 P Pn 13 30 30.9 -3.0
1.2nm,0.9s,baz=247,slow=13,SNR=7.9
ESDC S Sn 13 31 36.8 -9.0
1.7nm,0.5s,baz=246,slow=23,SNR=7.9
EMAZ Mazaricos 6.34 14 P Pn 13 30 31.4 -3.3
3.4nm,1.0s,SNR=7.9
EMAZ S Sn 13 31 37.5 -10
19nm,1.0s,SNR=4.0
EMAZ Mazaricos 6.34 14 Sn Sn 13 31 37.5 -10
SNR=4.0
EQES Quesada 6.46 79 P Pn 13 30 33.2 -3.1
EQES S Sn 13 31 41.7 -8.4
EQES Quesada 6.46 79 P Pn 13 30 33.2 -3.1
0.4nm,0.1s,SNR=7.9
EQES S Sn 13 31 40.8 -9.3
2.3nm,0.5s,SNR=7.9
EQES Quesada 6.46 79 Pn Pn 13 30 33.2 -3.1
0.4nm,0.1s,SNR=7.9
EQES Sn Sn 13 31 41.7 -8.4
SNR=7.9
EINC Incio 6.51 25 ⇑P Pn 13 30 33.5 -3.6
EINC S Sn 13 31 45.2 -6.2
EINC Incio 6.51 25 ⇑P Pn 13 30 33.5 -3.6
1.5nm,0.1s,SNR=18
EINC S Sn 13 31 42.5 -9.0
32nm,1.6s,SNR=7.9
EINC Incio 6.51 25 Pn Pn 13 30 33.5 -3.6
1.5nm,0.1s,SNR=18
EINC S Sn 13 31 45.2 -6.3
EPON Pontenova 7.17 24 ⇑P Pn 13 30 42.5 -3.9
5.1nm,0.2s,SNR=18
EPON S Sn 13 31 58.4 -10
11nm,0.7s,SNR=7.9
EPON Pontenova 7.17 24 ⇑P Pn 13 30 42.5 -3.9

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*IDC **21** 13:30:00.5±9.7,5.27N×95.26E,h146km±84km,mb3.5/6, mb1 3.7/7,mb1mx3.5/21,mbtmp4.0/7,MS2.7/1,Ms1 2.9/1, ms1mx2.5/31,Error ellipse: s-maj=75.3km s-min=15.2km az=58.0*

ISC 21 13:29:46.4±1.3,5.2N±0.3×95.2E±0.3,h33km,n13, σ0°57/13,mb4.2/12,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.67**	**15**	P	**P**	**13 33 09.1**	**+8.7**
	0.2nm,0.3s,baz=209,slow=11,SNR=19						
CMAR				LR	LR	13 38 20.3	
	comp=Z,29nm,19.8s,baz=185,slow=37						
JIRN	**Jiri**	**23.90**	**340**	*e*P	**P**	**13 34 59.4**	**+1.2**
	6.4nm,0.4s,mb4.4						
PKI	**Pulchoki**	**24.09**	**338**	*e*P	**P**	**13 35 00.8**	**+0.7**
	6.5nm,0.5s,mb4.3						
GUN	**Gumba**	**24.23**	**340**	*e*P	**P**	**13 35 00.8**	**-0.7**
	14nm,0.8s,mb4.4						
KKN	**Kakani**	**24.34**	**338**	*e*P	**P**	**13 35 02.7**	**+0.2**
	5.1nm,0.4s,mb4.3						
GKN	**Gorkha**	**24.77**	**337**	*e*P	**P**	**13 35 05.9**	**-0.8**
	4.9nm,0.3s,mb4.5						
KOLN	**Koldanda**	**24.98**	**335**	*e*P	**P**	**13 35 08.5**	**-0.2**
	6.5nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**42.89**	**347**	P	**P**	**13 37 44.0**	**+0.5**
	1.2nm,0.3s,mb4.1,baz=169,slow=8.0,SNR=34						
SONM	**Songino Array**	**43.54**	**11**	P	**P**	**13 37 48.2**	**-0.6**
	0.9nm,0.7s,mb3.6,baz=187,slow=9.8,SNR=8.0						
SONM				PcP	PcP	13 39 36.4	-0.4
	0.5nm,0.6s,baz=180,slow=2.5,SNR=4.1						
WRA	**Warramunga Arr**	**45.92**	**124**	P	**P**	**13 38 08.5**	**+0.2**
	1.9nm,0.6s,mb4.2,baz=300,slow=9.5,SNR=19						
ASAR	**Alice Springs**	**47.45**	**129**	P	**P**	**13 38 20.2**	**-0.1**
	0.9nm,0.6s,mb3.9,baz=300,slow=8.0,SNR=25						
ZAL	**Zalesovo**	**49.30**	**352**	P	**P**	**13 38 34.3**	**+0.2**
	1.5nm,0.5s,mb4.3,baz=281,slow=3.7,SNR=6.0						
GERES	**GERESS Array B**	**80.47**	**319**	P	**P**	**13 41 56.3**	**-0.4**
	0.3nm,0.2s,mb3.8,baz=90,slow=4.0,SNR=5.1						

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*IDC **21** 13:35:42.4±0.9,52.64S×25.97E,mb4.0/7,mb1 4.2/7, mb1mx4.0/16,mbtmp4.1/7,MS3.9/9,Ms1 3.8/9, ms1mx3.7/20,Error ellipse: s-maj=38.7km s-min=19.4km az=77.0*

*NEIC **21** 13:35:43.1±0.6,52.68S×25.90E,h10km,mb4.5/10,Error ellipse: s-maj=23.0km s-min=11.2km az=77.0*

ISC 21 13:35:41.8±0.6,52.66S±0.08×25.8E±0.3,h10km,n24, σ1°14/17,mb4.2/12,MS3.9/9,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.58**	**348**	*e*P	**P**	**13 40 24.0**	**+0.6**
	25nm,1.2s						
SNAA	**Sanae**	**22.85**	**203**	P	**P**	**13 40 47.9**	**+2.1**
	2.5nm,0.8s,mb3.7,baz=10.0,slow=5.8,SNR=4.9						
SNAA	**Sanae**	**22.85**	**203**	*e*P	**P**	**13 40 46.2**	**+0.4**
	18nm,1.1s,mb4.4						
MAW	**Mawson**	**23.26**	**144**	P	**P**	**13 40 51.4**	**+1.6**
	3.0nm,0.8s,mb3.8,baz=280,slow=10,SNR=4.0						
MAW				LR	LR	13 48 04.5	
	comp=Z,246nm,20.2s,MS3.7,baz=258,slow=32						
BOSA	**Boshof**	**24.02**	**359**	P	**P**	**13 40 58.9**	**+1.3**
	3.0nm,0.7s,mb3.8,baz=175,slow=9.1,SNR=7.0						
BOSA				LR	LR	13 48 27.4	
	comp=Z,250nm,21.2s,MS3.7,baz=173,slow=32						
BOSA	**Boshof**	**24.02**	**359**	*e*P	**P**	**13 40 58.1**	**+0.5**
	15nm,1.2s,mb4.3						
BOSA				LR	LR	13 48 27.4	
LBTB	**Lobatse**	**27.60**	**360**	LR	LR	13 50 45.1	
	comp=Z,188nm,19.3s,MS3.7,baz=218,slow=33						
TSUM	**Tsumeb**	**33.99**	**346**	P	**P**	**13 42 28.1**	**+0.3**
	1.8nm,0.7s,mb4.1,baz=148,slow=9.5,SNR=3.1						
TSUM	**Tsumeb**	**33.99**	**346**	*e*P	**P**	**13 42 27.8**	**0.0**
	11nm,1.2s,mb4.7						
QSPA	**South Pole Qui**	**37.56**	**180**	*e*P	**P**	**13 42 56.5**	**-0.9**
	34nm,1.1s,mb5.0						
CASY	**Casey**	**41.60**	**143**	*e*P	**P**	**13 43 29.8**	**-1.1**
	2.5nm,0.7s,mb4.0						
VNDA	**Vanda**	**47.27**	**168**	P	**P**	**13 44 16.0**	**-0.3**
	2.2nm,0.7s,mb4.2,baz=242,slow=7.9,SNR=16						
VNDA				LR	LR	14 03 51.6	
	comp=Z,125nm,21.4s,MS3.9,baz=42,slow=36						
VNDA	**Vanda**	**47.27**	**168**	*e*P	**P**	**13 44 15.6**	**-0.7**
	2.2nm,0.7s,mb4.2						
VNDA				LR	LR	14 03 51.6	
MBAR	**Mbarara**	**52.04**	**6**	P	**P**	**13 44 52.0**	**-1.8**
	7.8nm,1.5s,mb4.4						
DBIC	**Dimbokro**	**64.59**	**326**	LR	LR	14 07 09.8	
	comp=Z,100nm,19.6s,MS4.0,baz=94,slow=29						
CPUP	**Villa Florida**	**65.45**	**258**	LR	LR	14 09 04.1	
	comp=Z,74nm,19.7s,MS3.9,baz=143,slow=30						
BDFB	**Brasília**	**67.89**	**273**	LR	LR	14 10 32.0	
	comp=Z,88nm,20.0s,MS4.0,baz=338,slow=31						
MBWA	**Marble Bar**	**75.80**	**106**	P	**P**	**13 47 26.2**	**-3.4**
	15nm,1.3s,mb4.8						
ASAR	**Alice Springs**	**81.79**	**118**	P	**P**	**13 48 02.2**	**0.0**
	2.0nm,0.7s,mb4.2,baz=211,slow=4.9,SNR=28						
SAML	**Samuel**	**82.33**	**265**	*e*P	**P**	**13 48 04.5**	**-0.6**
	1.6nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**85.04**	**116**	P	**P**	**13 48 20.0**	**+1.3**
	1.6nm,1.0s,mb4.1,baz=209,slow=3.9,SNR=10						
URZ	**Urewera**	**86.09**	**158**	LR	LR	14 21 59.1	
	comp=Z,147nm,20.9s,MS4.4,baz=168,slow=32						
GNI	**Garni**	**93.88**	**14**	LR	LR	14 29 17.6	
	comp=Z,26nm,21.4s,MS3.7,baz=168,slow=34						
NVAR	**Mina Array Bea**	**151.44**	**255**	PKPbc	PKPdf	13 55 37.9	+5.8
	0.9nm,0.6s,baz=126,slow=3.4,SNR=10.0						

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*STR **21** 13:37:02.0±0.2,44.32N×7.50E,h5km±1km,Ml2.1,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*LDG **21** 13:37:02.2±0.1,44.31N×7.61E,h2km,Md2.4/2,Ml2.5/3, Error ellipse: s-maj=2.6km s-min=1.1km az=84.0*

*NEIC **21** 13:37:02.2,44.31N×7.61E,h2km,ML2.5(LDG),After LDG.*

ISC 21 13:37:02.0±1.1,44.30N±0.03×7.52E±0.08,h14km±10km, n10,σ0°52/18,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUTN	**L'Aution**	**0.31**	**192**	Pg	**Pg**	**13 37 08.6**	**-0.1**
AUTN				Sg	**Sg**	**13 37 13.2**	**0.0**
SAOF	**Saorge**	**0.32**	**175**	Pg	**Pg**	**13 37 08.7**	**-0.1**
SAOF				Sg	**Sg**	**13 37 13.8**	**+0.5**
TOUF	**Mont Tournerai**	**0.35**	**214**	Pg	**Pg**	**13 37 09.1**	**-0.2**
TOUF				Sg	**Sg**	**13 37 14.3**	**+0.1**
SBF	**Sospel**	**0.44**	**187**	*e*Pg	**Pg**	**13 37 11.2**	**0.0**
SBF				*e*Sg	**Sg**	**13 37 17.6**	**+0.3**
	42nm,0.3s						
MBDF	**Montbardon**	**0.68**	**309**	*e*Pg	**Pg**	**13 37 16.4**	**+0.6**
MBDF				*e*Sg	**Sg**	**13 37 26.1**	**+1.0**
	12nm,0.3s						
FRF	**La Foret Royal**	**0.97**	**221**	*e*Pg	**Pg**	**13 37 21.5**	**0.0**
FRF				*e*Sg	**Sg**	**13 37 34.9**	**+0.3**
	8.3nm,0.2s						
LMR	**La Mourre**	**1.21**	**217**	*e*Pn	**Pn**	**13 37 25.2**	**+0.7**
LMR				*e*Sg	**Sg**	**13 37 41.5**	**-1.0**
	13nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.32**	**298**	*e*Pg	**Pg**	**13 37 28.0**	**-0.5**
LPL	**La Plagne**	**1.34**	**336**	*e*Pg	**Pg**	**13 37 27.7**	**-1.1**
SMRF	**Simiane la Rot**	**1.43**	**258**	*e*Pg	**Pg**	**13 37 30.4**	**-0.3**
SMRF				*e*Sg	**Sg**	**13 37 49.8**	**-0.1**
	12nm,0.5s						

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*JMA **21** 15:19:43.5±0.2,24.20N×121.86E,h84km,M2.3*

TAP 21 15:19:43.3,24.06N×121.83E,h60km,ML3.1,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.15**	**69**	P	P	15 20 04.0	+0.4
YOJ				*e*S	S	15 20 19.0	+0.3
IRIF	**Iriomote-Funau**	**1.76**	**81**	P	P	15 20 11.8	-0.3
IRIF				*e*S	S	15 20 33.4	+0.1
HATJ	**Hateruma jima**	**1.81**	**90**	*e*S	S	15 20 35.5	+1.0
JKRS	**Kuro-shima**	**2.00**	**84**	P	P	15 20 15.6	+0.2
JKRS				*e*S	S	15 20 40.0	+0.8
JIJ	**Ishigaki jima**	**2.13**	**81**	P	P	15 20 17.1	-0.3
JIJ				*e*S	S	15 20 41.9	-0.7
JTJ	**Tarama**	**2.68**	**77**	P	P	15 20 24.9	-0.3
JTJ				*e*S	S	15 20 55.8	-0.7

IDC 21 15:29:47.8±3.3,0.93S×100.79E,mb3.4/4,mb1 3.5/5, mb1mx3.4/17,mbtmp3.3/5,ML3.4/1,MS3.9/1,Ms1 3.9/1, ms1mx2.8/29,Error ellipse: s-maj=130.2km s-min=22.1km az=59.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.35**	**355**	P	P	15 34 15.5	-2.2
	0.1nm,0.3s,baz=184,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**37.87**	**122**	P	P	15 37 06.6	-1.9
	0.4nm,0.4s,baz=302,slow=9.3,SNR=4.9						
ASAR	**Alice Springs**	**39.26**	**128**	P	P	15 37 18.4	-1.7
	0.4nm,0.9s,baz=294,slow=7.5,SNR=2.9						
SONM	**Songino Array**	**48.81**	**5**	P	P	15 38 35.5	-1.2
	0.3nm,0.7s,baz=187,slow=10.0,SNR=3.6						
STKA	**Stephens Creek**	**49.28**	**133**	LR	LR	15 59 08.4	
	comp=Z,134nm,19.1s,baz=211,slow=36						
MKAR	**Makanchi Array**	**50.22**	**344**	P	P	15 38 45.0	-2.7
	0.5nm,0.6s,baz=146,slow=7.9,SNR=6.9						

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*BJI **21** 15:32:14.5,13.20N×146.18E,h46km,mB4.6,mb4.3, Ms3.6,Msz3.5*

*IDC **21** 15:32:15.4±0.6,13.46N×145.69E,mb4.1/14,mb1 4.2/14, mb1mx4.2/23,mbtmp4.1/14,MS3.9/9,Ms1 4.0/9, ms1mx3.6/30,Error ellipse: s-maj=21.8km s-min=15.2km az=104.0*

*NEIC **21** 15:32:21.3±2.0,13.51N×145.57E,h46km±17km,mb4.4/17, Error ellipse: s-maj=16.5km s-min=9.3km az=96.0*

ISC 21 15:32:21.4±1.5,13.47N±0.07×145.5E±0.1,h60km±12km, n47,σ1°21/38,mb4.2/28,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.63**	**281**	*e*Pg	**P**	**15 32 35.3**	**+0.4**
JOW	**Kunigami**	**20.91**	**312**	P	**P**	**15 36 59.5**	**-1.5**
	2.3nm,0.8s,baz=117,slow=18,SNR=2.2						
JOW				LR	LR	15 43 43.5	
	comp=Z,452nm,20.3s,baz=131,slow=33						
MJAR	**Matsushiro Arr**	**23.89**	**345**	P	**P**	**15 37 28.6**	**-1.7**
	2.0nm,0.8s,mb3.6,baz=147,slow=9.2,SNR=4.5						
MAJO	**Matsushiro**	**23.89**	**345**	*e*P	**P**	**15 37 30.8**	**+0.4**
	6.5nm,0.7s,mb4.2						
MAT	**Matsushiro**	**23.89**	**345**	P	**P**	**15 37 31.0**	**+0.7**
MAT	**Matsushiro**	**23.89**	**345**	P	**P**	**15 37 30.7**	**+0.4**
HNR	**Honiara**	**26.89**	**147**	LR	LR	15 47 26.4	
	comp=Z,265nm,18.5s,baz=151,slow=34						
WRAB	**Tennant Creek**	**34.96**	**199**	*e*P	**P**	**15 39 08.0**	**-1.8**
	8.2nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**34.97**	**199**	P	**P**	**15 39 08.9**	**-1.0**
	2.1nm,0.7s,mb4.2,baz=22,slow=9.6,SNR=22						
FITZ	**Fitzroy Crossi**	**36.98**	**212**	*e*P	**P**	**15 39 26.9**	**-0.1**
	8.3nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**36.98**	**212**	P	**P**	**15 39 27.3**	**+0.4**
	11nm,0.8s,mb4.7,baz=47,slow=8.4,SNR=8.8						
ENH	**Enshi**	**37.17**	**303**	P	**P**	**15 39 27.0**	**-1.5**
	7.3nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**38.61**	**197**	P	**P**	**15 39 40.7**	**+0.3**
	0.9nm,0.7s,mb3.6,baz=11,slow=11,SNR=14						
MBWA	**Marble Bar**	**42.72**	**217**	*e*P	**P**	**15 40 14.3**	**-0.2**
	1.0nm,0.4s,mb3.9						
CMAR	**Chiang Mai Arr**	**44.95**	**283**	P	**P**	**15 40 34.1**	**+1.6**
	2.1nm,0.8s,mb4.0,baz=85,slow=6.2,SNR=19						
CMAR				PcP	PcP	15 42 15.8	+2.3
	2.2nm,0.8s,baz=96,slow=1.8,SNR=12						
CMAR				LR	LR	16 00 42.9	
	comp=Z,82nm,18.7s,baz=105,slow=38						
STKA	**Stephens Creek**	**45.24**	**185**	*e*P	**P**	**15 40 36.3**	**+1.6**
	1.3nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**45.24**	**185**	P	**P**	**15 40 35.3**	**+0.6**
	1.8nm,0.7s,mb4.0,baz=336,slow=10,SNR=4.7						
ULN	**Ulaanbaatar**	**46.84**	**325**	*e*P	**P**	**15 40 48.5**	**+1.4**
	0.3nm,0.5s,mb3.5						
SONM	**Songino Array**	**47.19**	**325**	P	**P**	**15 40 52.3**	**+2.5**
	0.5nm,0.5s,mb3.7,baz=131,slow=6.1,SNR=4.9						
SONM				LR	LR	16 00 00.9	
	comp=Z,151nm,19.3s,baz=119,slow=35						
BILL	**Bilibino**	**56.18**	**9**	*e*P	**P**	**15 41 55.0**	**-2.1**
	6.8nm,1.1s,mb4.6						
WMQ	**Urumqi**	**57.67**	**314**	*e*P	**P**	**15 42 08.0**	**0.0**
RPZ	**Rata Peaks**	**61.50**	**159**	LR	LR	16 06 56.6	
	comp=Z,244nm,18.9s,baz=156,slow=34						
MKAR	**Makanchi Array**	**62.01**	**316**	P	**P**	**15 42 37.7**	**+0.1**
	0.7nm,0.6s,mb4.0,baz=95,slow=9.0,SNR=12						
MKAR				LR	LR	16 10 51.2	
	comp=Z,63nm,19.6s,slow=37						
MKAR	**Makanchi Array**	**62.01**	**316**	P	**P**	**15 42 37.7**	**0.0**
MKAR				LR	LR	16 10 51.1	
ZAL	**Zalesovo**	**62.09**	**324**	LR	LR	16 10 58.3	
	comp=Z,124nm,18.8s,baz=7.5,slow=37						
RAR	**Rarotonga**	**63.83**	**122**	LR	LR	16 05 46.5	
	comp=Z,54nm,18.5s,baz=286,slow=32						
ILAR	**Eielson Array**	**68.42**	**25**	P	**P**	**15 43 17.1**	**-1.4**
	0.8nm,0.7s,mb3.9,baz=246,slow=5.6,SNR=7.4						
CHKZ	**Chkalovo**	**70.31**	**322**	P	**P**	**15 43 29.3**	**-1.0**
	2.1nm,1.1s,mb4.0						
PPT	**Papeete**	**71.10**	**114**	*e*LR	LR	16 04 33.8	
	174nm,21.5s,baz=325						
INK	**Inuvik**	**74.25**	**22**	P	**P**	**15 43 55.5**	**+2.2**
	3.3nm,0.8s,mb4.3,baz=258,slow=7.6,SNR=7.1						
INK	**Inuvik**	**74.25**	**22**	*e*P	**P**	**15 43 51.9**	**-1.5**
	6.2nm,1.0s,mb4.5						
DLBC	**Dease Lake**	**75.75**	**33**	P	**P**	**15 44 01.6**	**-0.5**
YBH	**Yreka Blue Hor**	**82.49**	**49**	P	**P**	**15 44 39.3**	**+0.3**
	1.7nm,0.8s,mb4.0,baz=304,slow=8.2,SNR=4.5						
YKA	**Yellowknife Ar**	**82.68**	**27**	P	**P**	**15 44 39.7**	**+0.2**
	0.9nm,0.6s,mb4.0,baz=285,slow=5.3,SNR=12						
RES	**Resolute Bay**	**84.53**	**13**	*e*P	**P**	**15 44 47.7**	**-0.8**
	2.0nm,0.8s,mb4.3						
BMO	**Blue Mountains**	**85.64**	**45**	*e*P	**P**	**15 44 54.2**	**-0.5**
	2.6nm,1.0s,mb4.4						
RKT	**Rikitea**	**85.84**	**115**	*e*LR	LR	16 11 25.6	
	149nm,31.2s						
NVAR	**Mina Array Bea**	**86.52**	**51**	P	**P**	**15 44 59.6**	**+0.4**
	0.8nm,0.7s,mb4.1,baz=262,slow=4.1,SNR=7.2						
WALA	**Waterton Lakes**	**86.75**	**40**	P	**P**	**15 45 02.0**	**+2.0**
	15nm,1.8s,mb4.9						
HLID	**Hailey**	**87.99**	**46**	*e*P	**P**	**15 45 05.6**	**-0.5**
	3.0nm,1.1s,mb4.4						
ELK	**Elko**	**88.19**	**49**	*e*P	**P**	**15 45 07.1**	**-0.1**
	3.9nm,0.9s,mb4.6						
DUG	**Dugway**	**90.12**	**49**	*e*P	**P**	**15 45 18.3**	**+2.0**
	4.2nm,0.9s,mb4.8						
KAF	**Kangasniemi**	**91.09**	**336**	*e*p	**P**	**15 45 25.4**	**+5.1**
	0.2nm,0.3s,mb3.9						
FINES	**FINESS Array B**	**91.53**	**335**	P	**P**	**15 45 25.0**	**+2.6**
	0.6nm,0.4s,mb4.2,baz=90,slow=3.8,SNR=5.7						
FINES				LR	LR	16 32 44.0	
	comp=Z,68nm,18.2s,baz=353,slow=40						
DBIC	**Dimbokro**	**144.41**	**302**	PKP	PKPdf	15 51 52.3	+0.5
	8.2nm,1.0s,baz=335,slow=4.2,SNR=6.7						
LVC	**Limon Verde**	**146.11**	**111**	PKPbc	PKPbc	15 51 58.6	+3.0
	3.3nm,0.9s,baz=130,slow=4.3,SNR=4.3						
LPAZ	**La Paz**	**147.39**	**99**	PKPbc	PKPdf	15 52 01.9	+5.2
	0.6nm,0.3s,baz=341,slow=9.0,SNR=3.2						

DJA 21 15:38:54.0±0.9,9.67S×114.80E,h15km,ML4.8/4,4C-4D, Error ellipse: s-maj=20.1km s-min=8.4km az=9.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.18**	**38**	⇑*e*Pn	Pn	15 39 13.2	-2.8
	2μm,0.2s						
RATI				⇑*e*Sn	Sn	15 39 27.3	-4.6
SRDI	**Scrawed**	**1.34**	**331**	⇑*e*Pn	Pn	15 39 15.8	-2.5
	1μm,0.2s						
SRDI				⇓*e*Sn	Sn	15 39 31.5	-4.4
KELI	**Kelakatan**	**1.47**	**348**	⇑*e*Pn	Pn	15 39 17.8	-2.3
	286nm,0.1s						
KELI				⇓*e*Sn	Sn	15 39 35.0	-4.2
KEDI	**Kedomdong**	**1.75**	**48**	⇓*e*Pn	Pn	15 39 21.5	-2.6
	855nm,0.2s						
KEDI				⇓*e*Sn	Sn	15 39 41.8	-4.4

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*NEIC **21** 15:39:53.4,30.60S×72.22W,h5km,ML3.6(GUC),After GUC.*

GUC 21 15:39:53.4±0.8,30.60S×72.22W,h5km±11km,MD3.8, ML3.6,1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.30**	**71**	⇓*i*P	Pb	15 40 17.7	-0.3
TLL				*i* S	Sb	15 40 35.7	+0.9
TLL				AMP		15 40 37.3	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**2.85**	**153**	*i* P	Pn	15 40 40.4	-0.1
PEL				*i* S	Sn	15 41 16.8	+1.1
PEL				AMP		15 41 21.4	
	comp=N,318nm,0.4s						
LCCH	**Las Cruces**	**2.92**	**169**	*i* P	Pn	15 40 41.7	+0.3
LCCH				*i* S	Sn	15 41 17.9	+0.4
CLCH	**Cerro Calan**	**3.13**	**153**	*i* P	Pn	15 40 44.1	-0.4
CLCH				*i* S	Sn	15 41 23.2	+0.4
CLCH				AMP		15 41 31.8	
	comp=N,347nm,0.7s						
FCH	**Farellones**	**3.18**	**149**	AMP		15 41 29.1	
	comp=E,93nm,0.4s						
TACH

94nm,0.3s,baz=282,slow=7.7,SNR=147
JTS Lg 15 41 29.5
391nm,0.3s,baz=229,slow=11,SNR=12
JTS JuntasAbangare 1.33 91 *e*Pg **Pn 15 41 14.1 -1.3**
CONN Concepcion 1.41 28⇑*i*P **Pn 15 41 16.8 +0.3**
APON Apoyo 1.61 8 *e*P **Pn 15 41 21.1 +1.6**
FORC Fortuna 1.61 84⇓*i*P **Pn 15 41 20.7 +1.3**
CRUN El Crucero 1.66 0⇑*e*P **Pn 15 41 22.2 +2.0**
MASN Masaya 1.67 5⇑*e*P **Pn 15 41 20.1 -0.2**
TICN Ticuantepe 1.71 2⇓*e*P **Pn 15 41 22.0 +1.1**
MGAN Managua 1.83 2 *e*P **Pn 15 41 23.6 +1.1**
MGAN *e*S **Sn 15 41 54.5 +9.4**
comp=E,645nm,0.5s
XAVN Gruta Xavier 1.83 359⇑*e*P **Pn 15 41 23.5 +1.0**
CGA2 Cerro Gallo 2 1.83 99 *e*P **Pn 15 41 23.1 +0.6**
WILN Americas 2 1.84 3⇑*e*P **Pn 15 41 23.4 +0.6**
COPN Copaltepe 1.88 351⇓*e*P **Pn 15 41 24.4 +1.1**
APYN Apoyeque 1.91 359⇑*e*P **Pn 15 41 25.1 +1.3**
PRS1 Puriscal 1.99 99 *e*P **Pn 15 41 24.9 +0.1**
VPS2 Volcan Poas 2 2.04 93 *e*P **Pn 15 41 26.7 +1.2**
MOMJ Momotombo 2.10 354⇑*e*P **Pn 15 41 27.1 +0.7**
LEON Leon 2.17 345⇑*e*P **Pn 15 41 28.6 +1.2**
LAJ Bijagual 2.19 101 *e*P **Pn 15 41 22.7 -5.1**
CNGN Cerro Negro 2.21 350⇓*e*P **Pn 15 41 29.9 +1.9**
PYTN Playitas 2.23 6⇑*e*P **Pn 15 41 28.8 +0.5**
PYTN *e*S **Sn 15 42 03.5 +8.2**
SJS Escuela Geolog 2.24 99 *e*P **Pn 15 41 28.7 +0.2**
SJS *e*S **Sn 15 42 05.1 +9.4**
TEL3 Telica 3 2.31 347 *e*P **Pn 15 41 30.9 +1.4**
LCR2 La Lucha 2 2.33 104 *e*P **Pn 15 41 30.4 +0.7**
TELN Telica 2.34 347 *e*P **Pn 15 41 31.2 +1.4**
CRIN San Cristobal 2.49 343 *e*P **Pn 15 41 33.6 +1.7**
TRTC Tortuguero 2.56 84 *e*P **Pn 15 41 32.6 -0.4**
BUS Buena Vista 2.62 106 *e*P **Pn 15 41 34.9 +1.1**
ACR Cerro Adams 3.50 118 *e*P **Pn 15 41 45.2 -1.2**
TEIG Tepich 10.04 349 P **P 15 43 11.2 -6.9**
comp=E,13nm,1.0s
PAYG Puerto Ayora 11.61 200 P **P 15 43 41.7 +2.2**
comp=E,35nm,1.0s
OTAV Otavalo 12.69 142 P **P 15 43 58.0 +4.0**
comp=E,13nm,1.4s
ROSC El Rosal 13.04 114 Pn **P 15 44 02.2 +3.5**
comp=E,1.8nm,0.3s,baz=292,slow=22,SNR=2.0
ROSC Sn **S 15 46 22.5 -1.6**
comp=E,3.4nm,0.3s,baz=280,slow=19,SNR=3.8
ROSC LR LR 15 48 17.1
comp=E,230nm,19.1s,baz=345,slow=34
SDV Santo Domingo 15.52 94 Pn **P 15 44 28.2 -3.1**
comp=E,0.6nm,0.3s,baz=273,slow=17,SNR=2.2
SDV Santo Domingo 15.52 94 Pn **P 15 44 28.2 -3.1**
SDV P 15 44 31.7
PCRV Puerto La Cruz 21.32 88 P **P 15 45 35.3 -4.4**
comp=E,6.0nm,0.9s,mb3.9,baz=225,slow=7.1,SNR=2.4
PCRV pP 15 45 42.6
comp=E,13nm,0.6s,baz=165,slow=4.5,SNR=4.9
LRAL Lakeview Retre 22.63 358 *e*P **P 15 45 51.7 -1.0**
comp=E,56nm,1.3s,mb4.8
LRAL *e* 15 45 59.6
NATX Nacogdoches 22.71 341 *e*P **P 15 45 51.0 -2.6**
comp=E,50nm,0.8s,mb5.0
NATX *e* 15 46 00.1
GOGA Godfrey 23.14 6 *e*P **P 15 45 57.0 -0.7**
comp=E,16nm,0.9s,mb4.4
GOGA *e* 15 46 03.9
OXF Oxford 24.26 354 P **P 15 46 01.4 -7.2**
comp=E,60nm,0.9s,mb5.0
JSC Jenkinsville 24.30 10 *e*P **P 15 46 07.5 -1.6**
PLAL Pickwick Lake 24.61 357 *e*P **P 15 46 10.0 -2.0**
comp=E,17nm,0.8s,mb4.6
PLAL *e* 15 46 17.5
SWET Sewanee 24.80 1 *e*P **P 15 46 11.2 -2.5**
TXAR Lajitas Array 24.94 322 P **P 15 46 14.9 -0.3**
comp=E,4.6nm,0.7s,mb4.1,baz=140,slow=9.8,SNR=36
TXAR sP 15 46 24.6
comp=E,7.7nm,0.8s,baz=146,slow=10,SNR=12
TXAR PcP PcP 15 49 53.0 +1.5
comp=E,2.8nm,0.8s,baz=135,slow=5.3,SNR=8.9
TXAR pPcP 15 49 59.8
comp=E,1.4nm,0.8s,baz=143,slow=6.3,SNR=4.2
TXAR LR LR 15 57 05.2
comp=E,75nm,20.1s,MS3.2,baz=110,slow=39
TXAR Lajitas Array 24.94 322 P **P 15 46 14.8 -0.3**
TXAR sP 15 46 24.6
TXAR PcP PcP 15 49 53.0 +1.5
TXAR pPcP 15 49 59.8
TXAR LR LR 15 57 05.2
UALR University of 24.97 348 *e*P **P 15 46 13.5 -2.0**
comp=E,26nm,0.8s,mb4.8
MIAR Mount Ida 25.02 346 *e*P **P 15 46 13.9 -2.0**
comp=E,23nm,0.8s,mb4.8
CPCT Cooper Cave 25.08 3 *e*P **P 15 46 14.7 -1.8**
WVT Waverly 25.74 357 *e*P **P 15 46 19.3 -3.4**
comp=E,4.6nm,0.8s,mb4.1
WMOK Wichita Mounta 26.86 337 *e*P **P 15 46 34.5 +1.5**
comp=E,26nm,0.9s,mb4.8
SAML Samuel 29.92 129 *e*P **P 15 46 59.0 -1.9**
comp=E,3.1nm,0.8s,mb4.1
ANMO Albuquerque 30.66 326 P **P 15 47 08.2 +1.1**
comp=E,3.9nm,0.9s,mb4.3,baz=133,slow=4.1,SNR=8.0
ANMO Albuquerque 30.66 326 *e*P **P 15 47 07.8 +0.6**
comp=E,3.2nm,0.8s,mb4.2
ANMO *e* pP 15 47 14.4 +0.7
LPAZ La Paz 31.96 146 P **P 15 47 20.8 +2.0**
comp=E,0.5nm,0.4s,mb3.7,baz=312,slow=8.6,SNR=4.5
LPAZ LR LR 16 00 56.9
comp=E,171nm,20.7s,MS3.7,baz=216,slow=37
LPAZ La Paz 31.96 146 P **P 15 47 20.8 +2.0**
LPAZ LR LR 16 00 56.9
SDCO Great Sand Dun 32.32 331 *e*P **P 15 47 20.4 -1.2**
comp=E,4.8nm,0.8s,mb4.4
PV01 Paradox Valley 34.16 328 *e*P **P 15 47 37.9 +0.2**
PV10 Paradox Valley 34.59 328 *e*P **P 15 47 39.5 -1.8**
SADO Sadowa 34.89 9 P **P 15 47 40.8 -3.0**
comp=E,3.9nm,0.4s,mb4.7,baz=210,slow=7.9,SNR=6.7
SADO pP pP 15 47 46.5 -3.9
comp=E,3.6nm,0.5s,baz=235,slow=7.8,SNR=3.0
LVC Limon Verde 36.89 153 P **P 15 48 04.3 +3.4**
comp=E,11nm,1.3s,mb4.5
RSSD Black Hills 37.02 339 *e*P **P 15 48 01.1 -0.8**
comp=E,3.3nm,0.8s,mb4.2
DAU Daniels Canyon 37.24 328 *e*P **P 15 48 03.6 -0.2**
PDAR Pinedale Array 38.18 332 P **P 15 48 10.1 -1.5**
comp=E,1.4nm,0.7s,mb3.8,baz=126,slow=9.8,SNR=14
PDAR pP pP 15 48 16.6 -1.6
comp=E,1.4nm,0.8s,baz=139,slow=7.9,SNR=8.4
PDAR PcP PcP 15 50 25.9 -0.7
comp=E,1.0nm,0.7s,baz=127,slow=5.3,SNR=6.7
PDAR pPcP 15 50 33.2
comp=E,0.7nm,0.8s,baz=108,slow=4.7,SNR=3.8
HWUT Hardware Ranch 38.28 329 *e*P **P 15 48 11.7 -0.7**
comp=E,5.0nm,0.7s,mb4.3
HWUT *e* pP 15 48 19.0 -0.1
HWUT *e*PcP PcP 15 50 27.0 +0.1
TPH Tonopah 39.15 320 *e*P **P 15 48 21.4 +1.6**
comp=E,8.8nm,1.0s,mb4.4
SNOW Snow King Moun 39.27 332 *e*P **P 15 48 20.3 -0.4**
MNV Mina 39.96 320 *e*P **P 15 48 28.5 +2.0**
comp=E,22nm,1.2s,mb4.8
OMM Old Mammoth Mi 40.03 318 *e*P **P 15 48 29.8 +2.7**
OMM *e* pP 15 48 36.4 +2.6
NVAR Mina Array Bea 40.05 320 P **P 15 48 29.7 +2.5**
comp=E,7.4nm,0.8s,mb4.5,baz=126,slow=8.7,SNR=53
NVAR pP pP 15 48 36.5 +2.6
comp=E,4.3nm,1.0s,baz=133,slow=6.5,SNR=6.1
NVAR PcP PcP 15 50 34.6 +2.1
comp=E,2.7nm,0.7s,baz=126,slow=5.6,SNR=12
NVAR pPcP 15 50 41.5
comp=E,2.3nm,0.8s,baz=128,slow=5.3,SNR=8.1
NVAR LR LR 16 06 15.1
comp=E,84nm,20.8s,MS3.6,slow=38
ULM Lac du Bonnet 40.60 351 P **P 15 48 27.4 -4.2**
comp=E,4.9nm,0.9s,mb4.1,baz=164,slow=6.7,SNR=4.5
ULM pP pP 15 48 35.5 -2.8
comp=E,1.8nm,0.4s,baz=160,slow=5.3,SNR=2.9
ULM PcP PcP 15 50 33.1 -1.1
comp=E,2.9nm,0.8s,baz=156,slow=2.9,SNR=3.5
ULM LR LR 16 07 02.3
comp=E,64nm,19.0s,MS3.5,baz=8.3,slow=39
ULM Lac du Bonnet 40.60 351 P **P 15 48 27.4 -4.2**
ULM pP pP 15 48 35.5 -2.8
ULM PcP PcP 15 50 33.1 -1.1
ULM LR LR 16 07 02.3
HLID Hailey 41.14 329 *e*P **P 15 48 35.5 -0.6**
comp=E,3.3nm,0.9s,mb4.0
WVOR Wild Horse Val 42.69 324 *e*P **P 15 48 48.3 -0.6**
comp=E,11nm,0.9s,mb4.6
YBH Yreka Blue Hor 44.71 321 P **P 15 49 04.7 -0.6**
comp=E,1.1nm,0.6s,mb3.9,baz=117,slow=4.5,SNR=3.4
WALA Waterton Lakes 44.97 334 *e*P **P 15 49 06.3 -1.0**
comp=E,12nm,1.4s,mb4.5
CFAA Coronel Fontan 45.13 158 P **P 15 49 10.9 +2.2**
comp=E,0.2nm,0.3s,mb3.4,baz=307,slow=6.7,SNR=3.6
CFAA pP pP 15 49 17.1 +1.7
comp=E,0.1nm,0.4s,baz=327,slow=11,SNR=2.4
BDFB Brasilia 45.85 124 P **P 15 49 15.6 +1.0**
comp=E,1.8nm,0.4s,mb4.3,baz=296,slow=8.4,SNR=5.0
BDFB pP pP 15 49 21.0 -0.3
comp=E,6.6nm,1.0s,baz=288,slow=4.7,SNR=4.6
CPUP Villa Florida 46.04 143 LR LR 16 10 30.6
comp=E,97nm,18.8s,MS3.8,baz=326,slow=38
SCHQ Schefferville 47.01 15 P **P 15 49 18.9 -4.4**
comp=E,5.7nm,0.8s,mb4.6,baz=182,slow=5.5,SNR=7.0
SCHQ LR LR 16 09 32.6
comp=E,134nm,19.9s,MS3.9,baz=123,slow=37
SCHQ Schefferville 47.01 15 P **P 15 49 18.9 -4.4**
SCHQ LR LR 16 09 32.6
FCC Fort Churchill 48.71 355 *e*P **P 15 49 32.3 -4.2**
comp=E,3.3nm,0.8s,mb4.4
YKA Yellowknife Ar 55.96 345 P **P 15 50 26.8 -3.9**
comp=E,1.6nm,0.9s,mb4.0,baz=138,slow=7.2,SNR=27
YKA pP pP 15 50 34.4 -3.1
comp=E,1.0nm,0.8s,baz=138,slow=7.4,SNR=8.0
YKA PcP PcP 15 51 27.3 -1.6
comp=E,0.5nm,0.7s,baz=144,slow=4.2,SNR=6.3
YKA pPcP 15 51 35.8
comp=E,0.3nm,0.7s,baz=146,slow=4.2,SNR=4.3
YKA Yellowknife Ar 55.96 345 P **P 15 50 26.8 -3.9**
YKA pP pP 15 50 34.4 -3.1
YKA PcP PcP 15 51 27.3 -1.6
YKA pPcP 15 51 35.8
DLBC Dease Lake 58.31 335 *e*P **P 15 50 45.7 -1.7**
RES Resolute Bay 64.53 357 *e*P **P 15 51 24.3 -4.8**
comp=E,1.6nm,0.6s,mb4.2
INK Inuvik 65.57 343 P **P 15 51 33.7 -2.1**
comp=E,2.8nm,0.9s,mb4.3,baz=137,slow=8.1,SNR=8.5
INK pP pP 15 51 41.0 -1.8
comp=E,2.2nm,0.9s,baz=119,slow=11,SNR=4.7
INK PcP PcP 15 52 06.1 -1.2
comp=E,1.1nm,0.8s,baz=156,slow=4.0,SNR=3.1
INK Inuvik 65.57 343 *e*P **P 15 51 33.1 -2.7**
comp=E,4.8nm,1.0s,mb4.5
ILAR Eielson Array 68.42 336 P **P 15 51 51.5 -2.4**
comp=E,1.8nm,0.9s,mb4.1,baz=108,slow=4.2,SNR=14
ILAR pP pP 15 51 58.4 -2.5
comp=E,1.7nm,0.9s,baz=114,slow=4.1,SNR=7.4
MCK McKinley 68.87 335 *e*P **P 15 51 55.0 -1.7**
comp=E,2.7nm,0.8s,mb4.2
MCK *e* pP 15 52 01.6 -2.1
EKA Eskdalemuir Ar 77.70 35 P **P 15 52 43.0 -5.4**
comp=E,1.3nm,0.9s,mb3.9,baz=260,slow=4.3,SNR=4.1
DBIC Dimbokro 80.45 85 LR LR 16 23 35.3
comp=E,53nm,18.4s,MS3.9,baz=138,slow=32
MDJ Mudanjiang 116.42 332 PKP PKPdf 15 59 35.4 -3.2
MDJ PP PP
comp=Z,14nm,3.9s
CN2 Changchun 118.90 334 *e*PKP PKPdf 15 59 40.8 -2.6
SONM Songino Array 121.03 350 PKP PKPdf 15 59 44.4 -3.0
comp=Z,0.8nm,1.0s,baz=27,slow=2.8,SNR=5.1
SONM pPKP 15 59 51.4
comp=Z,0.5nm,0.8s,baz=8.5,slow=1.4,SNR=3.0
MKAR Makanchi Array 122.25 9 PKP PKPdf 15 59 45.5 -4.3
comp=Z,0.4nm,0.7s,baz=349,slow=2.1,SNR=5.5
MKAR pPKP 15 59 53.4
comp=Z,0.3nm,0.7s,slow=4.9,SNR=3.3
WMQ Urumqi 125.85 5 *e*PKP PKPdf 15 59 51.6 -5.2
WMQ XPKP 15 59 58.6
WMQ PP PP 16 01 47.4 -2.4
WMQ LR LR
comp=N,52nm,21.8s,MS4.2
WMQ LR LR
comp=E,14nm,21.0s,MS4.2
WMQ LR LR
comp=Z,45nm,20.3s,MS4.1
STKA Stephens Creek 130.90 237 PKP PKPdf 16 00 06.3 -0.6
comp=Z,1.1nm,0.8s,baz=293,slow=15,SNR=2.9
NJ2 Nanjing 131.49 331 *e*PKP PKPdf 16 00 00.3 -7.7
ASAR Alice Springs 139.47 246 PKP PKPdf 16 00 20.6 -2.4
comp=Z,0.7nm,0.9s,baz=106,slow=2.1,SNR=9.0
ASAR pPKP 16 00 28.8
comp=Z,2.5nm,1.2s,baz=111,slow=1.5,SNR=5.4
WRA Warramunga Arr 139.71 251 PKP PKPdf 16 00 21.1 -2.4
comp=Z,0.6nm,0.7s,baz=94,slow=1.8,SNR=9.9
WRA pPKP 16 00 28.0
comp=Z,0.8nm,0.7s,baz=93,slow=1.6,SNR=4.9
CMAR Chiang Mai Arr 150.95 350 PKPbc PKPdf 16 00 44.6 +2.2
comp=Z,4.7nm,0.9s,baz=334,slow=2.9,SNR=23
CMAR pPKPbc 16 00 51.5
comp=Z,3.2nm,1.0s,baz=336,slow=2.6,SNR=6.7

IDC 21 15:41:35.7±1.9, 9.77S×127.22E, mb3.4/1, mb1 3.4/4, mb1mx3.3/16, mbtmp3.2/4, ML3.0/3, Error ellipse: s-maj=87.2km s-min=27.4km az=70.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.42**	**190**	*e*P	P	15 43 38.4	-3.5
	1.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**8.42**	**190**	Pn	P	15 43 38.6	-3.3
	0.6nm,0.3s,baz=6.9,slow=13,SNR=12						
FITZ				Sn	Sn	15 45 08.1	-11
	1.4nm,0.3s,baz=121,slow=9.3,SNR=8.0						
WRA	**Warramunga Arr**	**12.23**	**147**	Pn	P	15 44 30.8	-3.3
	0.1nm,0.3s,baz=328,slow=14,SNR=6.1						
ASAR	**Alice Springs**	**15.22**	**156**	Pn	P	15 45 13.5	-0.3
	0.1nm,0.3s,baz=335,slow=9.5,SNR=5.5						
MKAR	**Makanchi Array**	**69.09**	**329**	P	P	15 52 43.7	-2.0
	0.2nm,0.5s,baz=141,slow=5.9,SNR=3.9						

IDC 21 15:42:34.3±2.7, 7.30N×94.67E, mb3.6/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=91.8km s-min=23.1km az=68.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.84**	**20**	Pn	P	15 45 25.2	-2.4
	0.1nm,0.3s,baz=213,slow=14,SNR=5.0						
MKAR	**Makanchi Array**	**40.76**	**347**	P	P	15 50 17.5	-1.2
	0.2nm,0.6s,baz=170,slow=8.1,SNR=3.6						
SONM	**Songino Array**	**41.61**	**12**	P	P	15 50 23.3	-2.3
	0.4nm,0.6s,baz=190,slow=7.5,SNR=3.7						
WRA	**Warramunga Arr**	**47.51**	**125**	P	P	15 51 11.7	-1.8
	1.2nm,0.6s,baz=306,slow=8.6,SNR=21						
ASAR	**Alice Springs**	**49.15**	**130**	P	P	15 51 24.0	-2.2
	1.5nm,0.7s,baz=302,slow=7.7,SNR=17						

NEIC ***21*** *15:51:52.8±3.2, 36.61N×71.82E, h68km±28km, Error ellipse: s-maj=31.0km s-min=26.3km az=215.0*
IDC ***21*** *15:51:55.6±14.0, 36.74N×71.99E, h92km±126km, mb3.5/4, mb1 3.5/6, mb1mx3.1/23, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=98.4km s-min=53.3km az=26.0*
NNC ***21*** *15:52:09.6±4.3, 37.97N×71.72E, h191km±65km, mpv4.1, Error ellipse: s-maj=61.2km s-min=16.6km az=31.0*

ISC 21 15:51:57.8±1.2, 37.10N±0.05×71.6E±0.1, h96km±14km, n34, σ0s71/41, mb3.9/5, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.28**	**17**	P	P	15 53 15.8	+0.2
	SNR=48						
UCH	**Uchtor**	**5.59**	**23**	P	P	15 53 20.2	+0.4
	SNR=10						
KZA	**Kyzart**	**5.71**	**28**	P	P	15 53 21.4	-0.1
	SNR=9.8						
THN	**Thein Dam**	**5.75**	**143**	*e*P	P	15 53 26.8	+4.7
THN				*e*S	S	15 54 29.0	+1.6
EKS2	**Erkin-Say**	**5.80**	**16**	P	P	15 53 23.1	+0.4
	SNR=19						
AAK	**Ala-Archa**	**5.96**	**21**	P	P	15 53 25.4	+0.5
	SNR=16						
AAK	**Ala-Archa**	**5.96**	**21**	⇓P	P	15 53 25.3	+0.5
	7.3nm,0.4s						
AAK				⇑S	S	15 54 27.3	-5.1
	9.4nm,0.5s						
AAK	**Ala-Archa**	**5.96**	**21**	*e*Pn	P	15 53 24.0	-0.9
	14nm,0.4s						
AAK				*e*Sn	S	15 54 25.8	-6.6
KK31	**Karatay Array**	**6.05**	**352**	⇓P	P	15 53 26.5	+0.2
	12nm,0.3s,baz=185,slow=14,SNR=190						
KK31				S	S	15 54 27.7	-7.1
	6.4nm,0.3s,baz=179,slow=23,SNR=12						
KBK	**Karagaybulak**	**6.12**	**24**	P	P	15 53 27.4	+0.3
	SNR=8.0						
ULHL	**Ulahol**	**6.26**	**33**	P	P	15 53 28.6	-0.5
	SNR=6.1						
CHMS	**Chumysh**	**6.37**	**21**	P	P	15 53 30.4	-0.1
	SNR=10						
USP	**Ospenovka**	**6.55**	**19**	P	P	15 53 32.5	-0.5
	SNR=17						
TKM2	**Tokmak 2**	**6.57**	**27**	P	P	15 53 33.5	+0.1
	SNR=11						
SMLA	**Simla**	**7.53**	**141**	⇑*i*P	P	15 53 40.5	-6.1
	441nm,0.2s						
SMLA				*i*S	S	15 55 03.7	-7.3
MKAR	**Makanchi Array**	**12.52**	**36**	P	P	15 54 52.0	-1.5
	0.1nm,0.3s,baz=221,slow=13,SNR=5.6						
MKAR				S	S	15 57 11.5	+0.4
	0.2nm,0.3s,baz=186,slow=24,SNR=8.5						
MKAR	**Makanchi Array**	**12.52**	**36**	P	P	15 54 52.0	-1.5
MKAR				S	S	15 57 11.5	+0.3
KOLN	**Koldanda**	**13.74**	**129**	*e*P	P	15 55 09.9	+0.4
	3.3nm,0.3s						
GKN	**Gorkha**	**14.24**	**126**	*e*P	P	15 55 15.1	-0.8
	11nm,0.4s						
KKN	**Kakani**	**14.80**	**125**	*e*P	P	15 55 22.3	-0.8
	5.4nm,0.4s						
AB31	**Akbulak array**	**14.81**	**329**	⇑P	P	15 55 22.1	-1.0
	0.2nm,0.3s,baz=134,slow=14						
AB31				⇑S	S	15 57 55.1	-10
	1.6nm,0.5s,baz=140,slow=25						
PKI	**Pulchoki**	**15.03**	**125**	*e*P	P	15 55 25.6	-0.5
	4.8nm,0.4s						
GUN	**Gumba**	**15.12**	**123**	*e*P	P	15 55 26.8	-0.4
	6.2nm,0.5s						
JIRN	**Jiri**	**15.49**	**123**	*e*P	P	15 55 31.9	0.0
	7.3nm,0.3s						
BVAR	**Borovoye Array**	**15.95**	**357**	P	P	15 55 38.6	+1.2
	0.3nm,0.3s,baz=152,slow=9.9,SNR=4.5						
JOF	**Joensuu**	**35.60**	**329**	*e*p	P	15 58 48.0	+0.6
	0.8nm,0.3s,mb4.1						
FINES	**FINESS Array B**	**37.26**	**326**	P	P	15 59 01.9	+0.5
	0.5nm,0.3s,mb3.9,baz=124,slow=8.5,SNR=7.8						
GVD	**Gavdhos**	**38.21**	**281**	P	P	15 59 08.1	-1.5
ARCES	**ARCESS Array B**	**40.78**	**337**	P	P	15 59 30.8	+0.3
	3.2nm,1.0s,mb4.1,baz=113,slow=9.2,SNR=7.3						
HFS	**Hagfors**	**42.90**	**321**	P	P	15 59 48.4	+0.6
	1.8nm,0.5s,mb4.1,baz=98,slow=10						
HFS	**Hagfors**	**42.90**	**321**	P	P	15 59 48.4	+0.6
STOK	**Stokkvaagen**	**44.13**	**330**	*i*P	P	15 59 53.3	-4.5
STOK				*i*P		15 59 53.8	
NOA	**NORSAR Array B**	**44.20**	**323**	P	P	15 59 58.9	+0.6
	0.3nm,0.6s,mb3.2,baz=97,slow=8.3,SNR=2.6						
BDFB	**Brasilia**	**122.80**	**275**	PKP	PKPdf	16 10 41.7	-1.1
	1.0nm,0.3s,baz=90,slow=4.9,SNR=3.1						

IDC 21 15:54:48.8±5.1, 27.34N×142.56E, h35km±44km, mb3.3/3, mb1 3.6/3, mb1mx3.1/21, mbtmp3.5/3, Error ellipse: s-maj=58.6km s-min=23.5km az=125.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.42**	**234**	Pn	P	15 54 58.1	0.0
	49nm,0.3s,baz=100,slow=11,SNR=84						
CBIJ				Sn	S	15 55 05.5	+0.8
	373nm,0.3s,baz=278,slow=22,SNR=62						
WRA	**Warramunga Arr**	**47.67**	**190**	P	P	16 03 20.7	-3.3
	0.8nm,0.6s,baz=12,slow=8.7,SNR=9.4						
ASAR	**Alice Springs**	**51.39**	**190**	P	P	16 03 52.1	-0.4
	0.3nm,0.9s,baz=6.7,slow=6.0,SNR=3.7						
YKA	**Yellowknife Ar**	**71.77**	**28**	P	P	16 06 07.2	-1.8
	0.3nm,0.7s,baz=292,slow=5.7,SNR=5.8						

IDC 21 16:07:42.7±6.6, 6.76N×75.38W, h149km±93km, mb3.2/1, mb1 3.6/2, mb1mx3.1/19, mbtmp3.7/2, Error ellipse: s-maj=269.4km s-min=38.2km az=84.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.16**	**151**	P	P	16 08 20.1	+0.1
	26nm,0.3s,baz=87,slow=20,SNR=18						
ROSC				S	S	16 08 49.6	+0.9
	18nm,0.3s,baz=90,slow=22,SNR=6.5						
YKA	**Yellowknife Ar**	**62.56**	**341**	P	P	16 17 50.5	-2.4
	0.4nm,0.6s,baz=132,slow=6.9,SNR=13						
WRA	**Warramunga Arr**	**148.33**	**243**	PKPbc	PKPdf	16 27 11.7	+3.1
	0.2nm,0.4s,baz=106,slow=2.9,SNR=7.7						

LDG ***21*** *16:12:27.2±0.2, 36.49N×3.17W, h2km, Ml3.6/2, Error ellipse: s-maj=3.6km s-min=2.8km az=165.0*
INMG ***21*** *16:12:27.3±1.4, 36.52N×3.16W, h4km±4km, ML3.0, Error ellipse: s-maj=2.8km s-min=2.3km az=83.0*
NEIC ***21*** *16:12:27.2, 36.51N×3.15W, h5km, MN3.4(MDD), After MDD.*
SFS ***21*** *16:12:27.0, 36.50N×3.10W, h3km*
CSEM ***21*** *16:12:27.2±0.1, 36.52N×3.08W, h8km, ML3.5/11, Error ellipse: s-maj=2.2km s-min=1.6km az=162.0*
CNRM ***21*** *16:12:33.2, 34.66N×1.58W, h30km, MD3.8*

MDD 21 16:12:27.1±0.2, 36.52N×3.15W, h4km±3km, mbLg3.3/33, 1C-3D, Error ellipse: s-maj=2.5km s-min=1.9km az=92.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBER	**Berja**	**0.44**	**29**	⇓Pg	Pg	16 12 35.3	-0.6
	173nm,0.2s,SNR=18						
EBER				Lg		16 12 41.0	
	3μm,0.2s,SNR=5.0						
EBER	**Berja**	**0.44**	**29**	Pg	Pg	16 12 35.3	-0.6
	173nm,0.2s,SNR=18						
EALB	**Alboran**	**0.58**	**170**	⇓Pg	Pg	16 12 37.8	-1.0
	668nm,0.1s,SNR=18						
EALB				Lg		16 12 45.9	
	2μm,0.2s,SNR=13						
EALB	**Alboran**	**0.58**	**170**	Pg	Pg	16 12 37.8	-1.0
	668nm,0.1s,SNR=18						
ERON	**Agron**	**0.73**	**314**	⇓Pg	Pg	16 12 40.1	-1.5
	136nm,0.1s,SNR=18						
ERON				Lg		16 12 50.0	
	151nm,0.1s,SNR=5.0						
ECOG	**Cogollos-Vega**	**0.83**	**337**	⇑Pg	Pg	16 12 42.8	-0.9
	177nm,0.2s,SNR=18						
ECOG				Lg		16 12 54.1	
	224nm,0.2s,SNR=15						
ENIJ	**Nijar**	**0.89**	**59**	Pg	Pg	16 12 42.9	-1.9
	354nm,0.2s,SNR=120						
ENIJ				Lg		16 12 55.1	
	424nm,0.2s,SNR=5.0						
ELOJ	**Sierra Loja**	**1.02**	**309**	Pg	Pg	16 12 45.9	-1.6
ELOJ				Lg		16 13 02.5	
ELOJ	**Sierra Loja**	**1.02**	**309**	Pg	Pg	16 12 45.9	-1.6
	52nm,0.2s,SNR=28						
ELOJ				Lg		16 12 59.8	
	149nm,0.3s,SNR=20						
EMAL	**Malaga-Limoner**	**1.05**	**284**	Pg	Pg	16 12 43.8	-4.4
EMAL				Lg		16 12 55.9	
EMAL	**Malaga-Limoner**	**1.05**	**284**	Lg		16 12 55.9	
	169nm,0.1s,SNR=7.9						
MELI	**Melilla**	**1.23**	**172**	Lg		16 13 06.8	
MELI	**Melilla**	**1.23**	**172**	*e*P	Pb	16 12 52.0	+1.4
MELI				*e*S	Sb	16 13 06.8	+0.2
EQES	**Quesada**	**1.29**	**3**	Pg	Pg	16 12 51.5	-1.4
EQES				Lg		16 13 09.6	
EQES	**Quesada**	**1.29**	**3**	Pg	Pg	16 12 51.5	-1.4
	99nm,0.2s,SNR=260						
EQES				Lg		16 13 08.6	
	155nm,0.1s,SNR=12						
EQES	**Quesada**	**1.29**	**3**	Pg	Pg	16 12 51.5	-1.4
	99nm,0.2s,SNR=260						
EMIJ	**Mijas**	**1.30**	**273**	Pn	Pn	16 12 47.5	-4.6
EMIJ				Pg	Pg	16 12 49.5	-3.8
EMIJ				Lg		16 13 02.0	
EMIJ	**Mijas**	**1.30**	**273**	Pg	Pg	16 12 49.5	-3.8
	64nm,0.2s

ELUQ	**Luque**	**1.37 320**	Pg	Pg	16 12 52.2	-2.3	
	89nm,0.2s,SNR=28						
ELUQ			Lg		16 13 10.9		
	100nm,0.2s,SNR=5.0						
ELUQ	**Luque**	**1.37 320**	Pg	Pg	16 12 53.1	-1.4	
	89nm,0.2s,SNR=28						
ZAI	**Zaio**	**1.58 168**	*i* P	Pn	16 12 51.0	-5.0	
TOU	**Touzarine**	**1.62 198**	*e*S	Sb	16 13 22.0	+4.0	
REAL	**Reales**	**1.66 270**	*e*P	Pn	16 12 59.0	+1.9	
EBAN	**Banos Encina**	**1.72 343**	Pn	Pn	16 12 57.0	-1.1	
	4.5nm,0.2s,SNR=87						
EBAN			Pg	Pg	16 12 59.0	-2.6	
	66nm,0.2s,SNR=17						
EBAN			Lg		16 13 21.7		
	106nm,0.3s,SNR=9.1						
EBAN	**Banos Encina**	**1.72 343**	Pg	Pg	16 12 59.0	-2.5	
	66nm,0.2s,SNR=17						
TAF	**Taforalt**	**1.80 160**	P	Pn	16 12 56.0	-3.2	
LIJA	**Lijar**	**1.85 283**	Pg	Pg	16 13 00.2	-3.8	
LIJA			Lg		16 13 27.5		
LIJA	**Lijar**	**1.85 283**	*i* P	Pn	16 13 00.2	+0.3	
LIJA			*i* S	Sn	16 13 27.5	+3.5	
EADA	**Adamuz**	**2.00 326**	Pn	Pn	16 13 00.3	-1.8	
	5.3nm,0.3s,SNR=126						
EADA			Pg	Pg	16 13 03.5	-3.6	
	87nm,0.2s,SNR=6.2						
EADA			Lg		16 13 30.4		
	155nm,0.3s,SNR=5.0						
EADA	**Adamuz**	**2.00 326**	Pn	Pn	16 13 00.3	-1.8	
	5.3nm,0.3s,SNR=126						
EADA	**Adamuz**	**2.00 326**	Pg	Pg	16 13 03.5	-3.6	
	87nm,0.2s,SNR=6.2						
EMUR	**La Murta**	**2.02 48**	Pn	Pn	16 12 59.8	-2.6	
EMUR			Pg	Pg	16 13 03.3	-4.2	
EMUR			Lg		16 13 24.1		
EMUR	**La Murta**	**2.02 48**	Pn	Pn	16 13 00.2	-2.2	
	11nm,0.3s,SNR=26						
EMUR			Pg	Pg	16 13 03.4	-4.1	
	68nm,0.3s,SNR=14						
EMUR			Sn	Sn	16 13 25.0	-3.3	
	114nm,0.5s,SNR=4.2						
EMUR			Lg		16 13 31.4		
	74nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**2.02 48**	Pn	Pn	16 12 59.8	-2.6	
	11nm,0.3s,SNR=26						
EMUR	**La Murta**	**2.02 48**	Pg	Pg	16 13 03.3	-4.2	
	68nm,0.3s,SNR=14						
EMUR			Sn	Sn	16 13 24.1	-4.2	
	114nm,0.5s,SNR=4.2						
CART	**Cartagena**	**2.03 58**	*e*Pn	Pn	16 12 57.9	-4.5	
CART	**Cartagena**	**2.03 58**	*i* P	Pn	16 12 58.3	-4.1	
CART			*e*S	Sn	16 13 21.9	-6.6	
MOMI	**Momias**	**2.08 266**	Pg	Pg	16 13 05.4	-3.2	
MOMI	**Momias**	**2.08 266**	*e*P	Pn	16 13 05.4	+2.2	
EVIA	**Vianos**	**2.18 14**	Pn	Pn	16 13 03.9	-0.8	
EVIA			Pg	Pg	16 13 06.9	-3.8	
EVIA			Lg		16 13 33.4		
EVIA	**Vianos**	**2.18 14**	Pn	Pn	16 13 03.9	-0.8	
	1.1nm,0.2s,SNR=4.0						
EVIA			Pg	Pg	16 13 06.9	-3.8	
	198nm,0.6s,SNR=84						
EVIA			Lg		16 13 36.6		
	354nm,0.6s,SNR=8.8						
ESPR	**Espera**	**2.20 280**	Pn	Pn	16 13 03.8	-1.2	
ESPR			Lg		16 13 33.5		
ESPR	**Espera**	**2.20 280**	Pn	Pn	16 13 03.8	-1.2	
	2.8nm,0.2s,SNR=6.7						
ESPR			Lg		16 13 37.1		
	69nm,0.2s,SNR=6.0						
ESPR	**Espera**	**2.20 280**	Pn	Pn	16 13 03.8	-1.1	
	2.8nm,0.2s,SNR=6.7						
ETOB	**Tobarra**	**2.48 30**	Pn	Pn	16 13 07.5	-1.4	
ETOB			Pg	Pg	16 13 12.8	-3.8	
ETOB			Lg		16 13 45.3		
ETOB	**Tobarra**	**2.48 30**	Pn	Pn	16 13 07.5	-1.4	
	17nm,0.1s,SNR=58						
ETOB			Pg	Pg	16 13 12.8	-3.8	
	25nm,0.2s,SNR=12						
ETOB			Lg		16 13 46.2		
	89nm,0.3s,SNR=6.8						
ETOB	**Tobarra**	**2.48 30**	Pn	Pn	16 13 07.6	-1.3	
	17nm,0.1s,SNR=58						
ETOB	**Tobarra**	**2.48 30**	Pg	Pg	16 13 12.8	-3.8	
	25nm,0.2s,SNR=12						
TZK	**Tazeka**	**2.56 199**	*e*P	Pn	16 13 07.0	-3.1	
EMIN	**Mina Concepcio**	**3.08 295**	Pn	Pn	16 13 14.0	-3.4	
EMIN			Sn	Sn	16 13 49.6	-5.5	
EMIN	**Mina Concepcio**	**3.08 295**	Pn	Pn	16 13 14.0	-3.4	
	6.5nm,0.1s,SNR=28						
EMIN			Pg	Pg	16 13 22.4	-6.2	
	1.8nm,0.1s,SNR=7.9						
EMIN			Sn	Sn	16 13 50.6	-4.5	
	20nm,0.2s,SNR=6.3						
EMIN			Lg		16 14 05.1		
	26nm,0.3s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.08 295**	Pn	Pn	16 13 14.0	-3.4	
	6.5nm,0.1s,SNR=28						
EBEN	**Beniarda**	**3.19 46**	Pn	Pn	16 13 15.8	-3.3	
EBEN	**Beniarda**	**3.19 46**	Pn	Pn	16 13 16.0	-3.1	
	2.6nm,0.3s,SNR=5.8						
EBEN			Pg	Pg	16 13 25.5	-5.4	
	1.6nm,0.2s,SNR=7.9						
EBEN			Sn	Sn	16 13 53.9	-4.1	
	25nm,0.7s,SNR=7.9						
EBEN			Lg		16 14 08.5		
	22nm,0.8s,SNR=7.9						
EBEN	**Beniarda**	**3.19 46**	Pn	Pn	16 13 15.8	-3.2	
	5.7nm,0.3s,SNR=5.8						
ESDC	**Sonseca Array**	**3.22 349**	Pn	Pn	16 13 17.9	-1.5	
ESDC			Pg	Pg	16 13 27.2	-4.2	
ESDC			Lg		16 14 08.4		
ESDC	**Sonseca Array**	**3.22 349**	Pn	Pn	16 13 17.9	-1.5	
	17nm,0.1s,baz=172,slow=12,SNR=22						
ESDC			Pg	Pg	16 13 25.7	-5.7	
	32nm,0.3s,baz=167,slow=17,SNR=24						
ESDC			Lg		16 14 09.3		
	99nm,0.6s,baz=167,slow=28,SNR=13						
ESDC	**Sonseca Array**	**3.22 349**	Pn	Pn	16 13 17.9	-1.5	
	17nm,0.1s,SNR=22						
ESDC	**Sonseca Array**	**3.22 349**	Pg	Pg	16 13 27.2	-4.2	
	32nm,0.3s,SNR=24						
ERIP	**Rio Piedras**	**3.40 286**	Pn	Pn	16 13 18.9	-3.1	
ERIP			Sn	Sn	16 13 56.6	-6.6	
ERIP	**Rio Piedras**	**3.40 286**	Pn	Pn	16 13 19.6	-2.4	
	4.3nm,0.1s,SNR=7.9						
ERIP			Sn	Sn	16 13 57.9	-5.3	
	40nm,0.2s,SNR=7.9						
ERIP	**Rio Piedras**	**3.40 286**	Pn	Pn	16 13 18.9	-3.0	
ECHE	**Chera**	**3.52 29**	Pn	Pn	16 13 24.5	+0.8	
ECHE			Pg	Pg	16 13 32.3	-5.2	
ECHE			Lg		16 14 18.9		
ECHE	**Chera**	**3.52 29**	Pn	Pn	16 13 21.5	-2.2	
	1.4nm,0.2s,SNR=8.8						
ECHE			Pg	Pg	16 13 31.8	-5.7	
	5.3nm,0.3s,SNR=8.8						
ECHE			Sn	Sn	16 14 01.4	-4.9	
	8.5nm,0.4s,SNR=7.9						
ECHE			Lg		16 14 19.3		
	43nm,0.7s,SNR=4.0						
ECHE	**Chera**	**3.52 29**	Pn	Pn	16 13 24.5	+0.8	
ECHE	**Chera**	**3.52 29**	Pg	Pg	16 13 32.3	-5.2	
	5.3nm,0.3s,SNR=8.8						
PALC	**Alcoutim**	**3.59 287**	*e*Pn	Pn	16 13 22.1	-2.6	
PALC			*e*Sn	Sn	16 14 01.8	-6.2	
	29nm,0.2s						
PALC	**Alcoutim**	**3.59 287**	*e*Pn	Pn	16 13 22.1	-2.6	
PALC			*e*Sn	Sn	16 14 01.8	-6.2	
	29nm,0.2s						
EGRO	**El Granado**	**3.61 288**	Pn	Pn	16 13 21.8	-3.2	
EGRO			Sn	Sn	16 14 02.3	-6.3	
EGRO	**El Granado**	**3.61 288**	Pn	Pn	16 13 22.4	-2.6	
	7.4nm,0.2s,SNR=17						
EGRO			Sn	Sn	16 14 03.0	-5.6	
	16nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**3.61 288**	Pn	Pn	16 13 21.8	-3.2	
	7.4nm,0.2s,SNR=17						
EBAD	**Badajoz**	**3.79 307**	Pn	Pn	16 13 24.1	-3.4	
EBAD			Sn	Sn	16 14 06.7	-6.5	
EBAD	**Badajoz**	**3.79 307**	Pn	Pn	16 13 24.2	-3.4	
	3.6nm,0.1s,SNR=18						
EBAD			Sn	Sn	16 14 06.7	-6.5	
	12nm,0.1s,SNR=4.9						
EBAD			Lg		16 14 27.3		
	26nm,0.4s,SNR=4.0						
EBAD	**Badajoz**	**3.79 307**	Pn	Pn	16 13 24.1	-3.5	
	3.6nm,0.1s,SNR=18						
CZD	**Col de Zad**	**3.81 205**	*i* P	Pn	16 13 22.0	-5.8	
PBEJ	**Beja**	**4.05 293**	*e*Pn	Pn	16 13 28.9	-2.3	
PBEJ			*e*Sn	Sn	16 14 13.1	-6.6	
	12nm,0.2s						
PBEJ	**Beja**	**4.05 293**	*e*Pn	Pn	16 13 28.9	-2.3	
PBEJ			*e*Sn	Sn	16 14 13.1	-6.6	
	12nm,0.2s						
EVO	**Evora**	**4.36 299**	*e*Pn	Pn	16 13 33.4	-2.2	
EVO			*e*Sn	Sn	16 14 21.3	-6.2	
EMOS	**Mosqueruela**	**4.38 28**	Pn	Pn	16 13 33.7	-2.3	
EMOS			Pg	Pg	16 13 49.6	-5.0	
EMOS			Sn	Sn	16 14 21.2	-7.0	
EMOS			Lg		16 14 41.5		
EMOS	**Mosqueruela**	**4.38 28**	Pn	Pn	16 13 33.7	-2.3	
	0.5nm,0.1s,SNR=7.9						
EMOS			Pg	Pg	16 13 46.4	-8.3	
	6.4nm,0.4s,SNR=5.8						
EMOS			Sn	Sn	16 14 22.2	-5.9	
	6.3nm,0.6s,SNR=4.0						
EMOS			Lg		16 14 47.6		
	59nm,1.1s,SNR=4.0						
EMOS	**Mosqueruela**	**4.38 28**	Pn	Pn	16 13 33.7	-2.3	
	0.5nm,0.1s,SNR=7.9						
EMOS			Sn	Sn	16 14 21.2	-6.9	
	6.3nm,0.6s,SNR=4.0						
PTEO	**Sao Teotonio**	**4.57 285**	*e*Pn	Pn	16 13 36.4	-2.3	
PTEO			*e*Sn	Sn	16 14 26.8	-6.2	
	16nm,0.5s						
PTEO	**Sao Teotonio**	**4.57 285**	*e*Pn	Pn	16 13 36.4	-2.3	
PTEO			*e*Sn	Sn	16 14 26.8	-6.2	
	16nm,0.5s						
MOE	**Montemor**	**4.59 297**	*e*Sn	Sn	16 14 25.6	-7.9	
KIB	**El Ksiba**	**4.59 212**	*e*P	Pn	16 13 36.0	-3.0	
PCBR	**Castelo Branco**	**4.76 316**	*e*Pn	Pn	16 13 38.4	-2.9	
PCBR			*e*Sn	Sn	16 14 30.1	-7.5	
	20nm,0.6s						
PCBR	**Castelo Branco**	**4.76 316**	*e*Pn	Pn	16 13 38.4	-2.9	
PCBR			*e*Sn	Sn	16 14 30.1	-7.5	
	20nm,0.6s						
PTOM	**Tomar**	**5.18 308**	*e*Pn	Pn	16 13 44.0	-3.2	
	28nm,0.6s						
PTOM	**Tomar**	**5.18 308**	*e*Pn	Pn	16 13 44.0	-3.2	
	28nm,0.6s						
MTE	**Manteigas**	**5.19 320**	*e*Pn	Pn	16 13 44.8	-2.6	
	53nm,0.5s						
MTE	**Manteigas**	**5.19 320**	*e*Pn	Pn	16 13 44.8	-2.6	
	53nm,0.5s						
ERTA	**Horta de San J**	**5.21 31**	Pn	Pn	16 13 45.4	-2.2	
	5.3nm,0.3s,SNR=7.9						
ERTA			Sn	Sn	16 14 42.3	-6.6	
	2.4nm,0.3s,SNR=7.9						
ERTA			Lg		16 15 13.4		
	2.4nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**5.21 31**	Pn	Pn	16 13 45.4	-2.2	
	5.3nm,0.3s,SNR=7.9						
ERTA			Sn	Sn	16 14 42.3	-6.6	
	2.4nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**5.60 320**	*e*Pn	Pn	16 13 50.4	-2.8	
PVIS			*e*Sn	Sn	16 14 51.4	-7.4	
	12nm,0.8s						
PVIS	**Viseu**	**5.60 320**	Pn	Pn	16 13 50.4	-2.8	
PVIS			Sn	Sn	16 14 51.4	-7.4	
	6.2nm,0.8s						
ESAC	**San Caprasio**	**5.60 21**	Pn	Pn	16 13 51.9	-1.4	
ESAC			Lg		16 15 20.8		
ESAC	**San Caprasio**	**5.60 21**	Pn	Pn	16 13 50.7	-2.6	
	7.4nm,0.2s,SNR=7.9						
ESAC			Pg	Pg	16 14 09.0	-10	
	5.2nm,0.1s,SNR=7.9						
ESAC			Sn	Sn	16 14 50.2	-8.7	
	21nm,0.7s,SNR=7.9						
ESAC			Lg		16 15 25.4		
	103nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**5.60 21**	Pn	Pn	16 13 51.9	-1.3	
	7.4nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**5.72 54**	Pn	Pn	16 13 50.7	-4.1	
ETOS			Sn	Sn	16 14 52.4	-9.4	
ETOS	**Mallorca**	**5.72 54**	Pn	Pn	16 13 51.8	-3.1	
	14nm,0.4s,SNR=18						
ETOS			Sn	Sn	16 14 52.7	-9.0	
	1.5nm,0.3s,SNR=5.0						
ETOS	**Mallorca**	**5.72 54**	Pn	Pn	16 13 50.7	-4.1	
	14nm,0.4s,SNR=18						
ETOS			Sn	Sn	16 14 52.4	-9.3	
	1.5nm,0.3s,SNR=5.0						
EPOB	**Poblet**	**5.85 33**	Pn	Pn	16 13 54.1	-2.6	
	2.6nm,0.4s,SNR=4.0						
EPOB	**Poblet**	**5.85 33**	Pn	Pn	16 13 54.1	-2.6	
	2.6nm,0.4s,SNR=4.0						
PVRL	**Vila Real**	**5.94 325**	*e*Pn	Pn	16 13 55.4	-2.5	
PVRL			*e*Sn	Sn	16 15 00.2	-7.1	
	9.1nm,0.4s						
PVRL	**Vila Real**	**5.94 325**	Pn	Pn	16 13 55.4	-2.5	
PVRL			Sn	Sn	16 15 00.2	-7.1	
	4.6nm,0.4s						
PBRG	**Braganca**	**5.97 333**	*e*Pn	Pn	16 13 56.1	-2.3	
PBRG			*e*Sn	Sn	16 15 01.3	-6.9	
	13nm,0.6s						
PBRG	**Braganca**	**5.97 333**	Pn	Pn	16 13 56.1	-2.3	
PBRG			Sn	Sn	16 15 01.3	-6.9	
	6.3nm,0.6s						
ECAL	**Calabor**	**6.09 334**	Pn	Pn	16 13 57.0	-3.1	
ECAL			Sn	Sn	16 15 03.0	-8.1	
ECAL			Lg		16 15 40.2		
ECAL	**Calabor**	**6.09 334**	Pn	Pn	16 13 57.0	-3.1	
	4.1nm,0.2s,SNR=4.6						
ECAL			Sn	Sn	16 15 03.0	-8.1	
	6.7nm,0.4s,SNR=7.9						
ECAL			Lg		16 15 41.2		
	31nm,0.7s,SNR=7.9						
ECAL	**Calabor**	**6.09 334**	Pn	Pn	16 13 57.0	-3.1	
	4.1nm,0.2s,SNR=4.6						
ECAL			Sn	Sn	16 15 03.0	-8.1	
	6.7nm,0.4s,SNR=7.9						
ECRI	**Cripan**	**6.11 4**	Pn	Pn	16 13 57.8	-2.5	
ECRI			Lg		16 15 43.4		
ECRI	**Cripan**	**6.11 4**	Pn	Pn	16 13 57.8	-2.5	
	2.8nm,0.3s,SNR=4.0						
ECRI			Sn	Sn	16 15 02.6	-8.9	
	13nm,0.8s,SNR=7.9						
ECRI			Lg		16 15 41.9		
	12nm,0.6s,SNR=7.9						
ELOB	**Lobios**	**6.56 326**	Pn	Pn	16 14 03.5	-3.3	
ELOB			Sn	Sn	16 15 10.0	-13	
ELOB			Lg		16 15 56.2		
ELOB	**Lobios**	**6.56 326**	Pn	Pn	16 14 03.5	-3.3	
	2.2nm,0.1s,SNR=6.1						
ELOB			Sn	Sn	16 15 14.5	-8.5	
	3.8nm,0.3s,SNR=7.9						
ELOB			Lg		16 15 56.2		
	60nm,0.9s,SNR=5.0						
ERUA	**La Rua**	**6.63 333**	Pn	Pn	16 14 03.9	-3.8	
	1.5nm,0.4s,SNR=7.9						
ERUA			Sn	Sn	16 15 15.8	-8.9	
	6.7nm,0.7s,SNR=7.9						
ERUA			Lg		16 15 58.7		
	18nm,0.8s,SNR=7.9						
EBIE	**Bielsa**	**6.67 21**	Pn	Pn	16 14 05.9	-2.3	
EBIE	**Bielsa**	**6.67 21**	Pn	Pn	16 14 05.4	-2.9	
	1.2nm,0.3s,SNR=4.0						
EBIE			Sn	Sn	16 15 17.1	-8.4	
	2.8nm,0.8s,SNR=7.9						
EBIE			Lg		16 16 00.4		
	11nm,1.2s,SNR=7.9						
EBIE	**Bielsa**	**6.67 21**	Pn	Pn	16 14 05.9	-2.3	
ETSF	**Etsaut**	**6.68 17**	*e*Pn	Pn	16 14 05.1	-3.3	
ELAN	**Lanestosa**	**6.71 358**	Pn	Pn	16 14 05.9	-3.0	
ELAN			Lg		16 16 00.4		
ELAN	**Lanestosa**	**6.71 358**	Pn	Pn	16 14 05.9	-3.0	
	4.4nm,0.4s,SNR=7.9						
ELAN			Sn	Sn	16 15 16.5	-10	
	2.9nm,0.9s,SNR=7.9						
ELAN			Lg		16 16 00.9		
	31nm,1.2s,SNR=7.9						
ELAN	**Lanestosa**	**6.71 358**	Pn	Pn	16 14 05.9	-3.0	
SJPF	**Ste Jean**	**6.75 12**	*e*Pn	Pn	16 14 05.3	-4.2	
SJPF			*e*Sg	Sg	16 15 59.8	-12	
	11nm,0.6s						
ELIZ	**Elizondo**	**6.76 10**	Pn	Pn	16 14 08.1	-1.5	
ELIZ	**Elizondo**	**6.76 10**	Pn	Pn	16 14 06.8	-2.7	
	2.3nm,0.3s,SNR=7.9						
ELIZ			Lg		16 16 02.5		
	56nm,1.8s,SNR=7.9						
ELIZ	**Elizondo**	**6.76 10**	Pn	Pn	16 14 08.1	-1.4	
EALK	**Alkurruntz**	**6.81 10**	Pn	Pn	16 14 07.7	-2.7	
	5.3nm,0.4s,SNR=7.0						
EALK			Lg		16 16 04.9		
	47nm,1.9s,SNR=7.9						
EALK	**Alkurruntz**	**6.81 10**	Pn	Pn	16 14 08.6	-1.7	
EINC	**Incio**	**6.94 333**	Pn	Pn	16 14 09.2	-2.9	
	3.3nm,0.3s,SNR=5.0						
EINC			Sn	Sn	16 15 23.0	-9.3	
	2.3nm,0.4s,SNR=5.0						
EINC			Lg		16 16 08.7		
	84nm,2.2s,SNR=7.9						
EINC	**Incio**	**6.94 333**	Pn	Pn	16 14 09.2	-2.9	
EARI	**Arriondas**	**6.96 348**	Pn	Pn	16 14 08.6	-3.8	
EARI			Lg		16 16 11.0		
EARI	**Arriondas**	**6.96 348**	Pn	Pn	16 14 08.6	-3.8	
	0.2nm,0.1s,SNR=7.9						
EARI			Sn	Sn	16 15 23.6	-9.2	
	2.1nm,1.0s,SNR=7.9						
EARI			Lg		16 16 09.9		
	17nm,0.8s,SNR=5.3						
EARI	**Arriondas**	**6.96 348**	Pn	Pn	16 14 08.6	-3.8	
EPF	**Esparros**	**7.04 21**	*e*Pn	Pn	16 14 08.2	-5.3	
EPF			*e*Sg	Sg	16 16 09.4	-12	
	21nm,0.8s						
EZAM	**Zamans**	**7.08 324**	Pn	Pn	16 14 09.0	-5.0	
	SNR=7.9						
EZAM			Lg		16 16 13.4		
	28nm,1.0s,SNR=7.9						
EPON	**Pontenova**	**7.46 337**	Pn	Pn	16 14 15.8	-3.6	
	1.4nm,0.2s,SNR=7.9						
EPON			Sn	Sn	16 15 35.7	-10	
	4.8nm,1.4s,SNR=7.9						
EPON	**Pontenova**	**7.46 337**	Pn	Pn	16 14 15.8	-3.6	
EMAZ	**Mazaricos**	**7.83 327**	Pn	Pn	16 14 22.0	-2.6	
EMAZ	**Mazaricos**	**7.83 327**	Pn	Pn	16 14 21.2	-3.4	
	2.9nm,0.3s,SNR=4.0						
EMAZ			Pg	Pg	16 14 49.5	-14	
	0.7nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**7.83 327**	Pn	Pn	16 14 22.0	-2.6	

*IDC **21** 16:21:28.1±3.5,21.97N×144.19E,h104km±31km,mb3.6/6, mb1 3.7/7,mb1mx3.4/24,mbtmp4.0/7,Error ellipse: s-maj=61.6km s-min=17.1km az=84.0*

ISC 21 16:21:27.0±3.4,**22.0N**±0.2×**144.3E**±0.7,**h114**km±29km,**n8,** σ**1**§**11/8,mb3.8**/6,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.43**	**340**	P	**P**	**16 22 48.2**	**+1.3**
	6.0nm,0.3s,baz=283,slow=22,SNR=7.1						
CBIJ				S	**S**	**16 23 47.4**	**-1.3**
	26nm,0.3s,baz=285,slow=23,SNR=11						
WRA	**Warramunga Arr**	**42.78**	**194**	P	**P**	**16 29 15.2**	**0.0**
	1.7nm,0.4s,mb4.2,baz=17,slow=8.9,SNR=47						
FITZ	**Fitzroy Crossi**	**43.81**	**206**	P	**P**	**16 29 23.6**	**+0.2**
	2.1nm,0.3s,mb4.3,baz=18,slow=6.4,SNR=6.5						
ASAR	**Alice Springs**	**46.48**	**193**	P	**P**	**16 29 44.2**	**-0.4**
	0.4nm,0.6s,mb3.3,baz=10,slow=7.3,SNR=10						
STKA	**Stephens Creek**	**53.61**	**183**	P	**P**	**16 30 38.1**	**-0.8**
	0.8nm,0.4s,mb4.1,baz=5.5,slow=12,SNR=8.8						
MKAR	**Makanchi Array**	**55.24**	**312**	P	**P**	**16 30 51.4**	**+0.9**
	0.2nm,0.6s,mb3.4,baz=80,slow=8.6,SNR=3.6						
FINES	**FINESS Array B**	**83.35**	**335**	P	**P**	**16 33 42.4**	**+0.1**
	0.4nm,0.3s,mb3.7,baz=90,slow=5.7,SNR=7.8						
PLCA	**Paso Flores**	**145.19**	**131**	PKPbc	PKPbc	16 40 53.8	+2.1
	0.7nm,0.5s,baz=258,slow=4.3,SNR=4.5						

*NEIC **21** 16:28:34.5,35.63N×0.30W,h6km,MG3.7(MDD),After MDD.*
*CRAAG **21** 16:28:35.9,35.67N×0.29W,Ml3.2*
*MDD **21** 16:28:36.8±0.7,35.90N×0.35W,h11km±8km,mbLg2.2/11, Error ellipse: s-maj=6.7km s-min=6.1km az=57.0,PRXIMO*
*CSEM **21** 16:28:36.2±0.2,35.75N×0.31W,h10km,ML2.9/1,Error ellipse: s-maj=7.3km s-min=3.7km az=39.0*

ISC 21 16:28:35.4±0.6,**35.96N**±0.03×**0.38W**±0.05,**h10**km,**n41,** σ**1**§**12/65,Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USTO	**Oran**	**0.26**	**213**	P	**Pg**	**16 28 41.0**	**0.0**
ODJA	**Bouhanifia**	**0.65**	**164**	P	**Pb**	**16 28 49.0**	**+0.6**
OJBR	**Djebel Berber**	**0.69**	**122**	P	**Pb**	**16 28 48.0**	**-1.2**
OTSS	**Djebel Tessala**	**0.75**	**207**	P	**Pb**	**16 28 49.0**	**-1.2**
ODZI	**Dziouia**	**0.96**	**227**	P	**Pb**	**16 28 54.0**	**+0.3**
OLHC	**Oulhaca**	**1.10**	**231**	P	**Pb**	**16 28 58.0**	**+1.8**
OLHC	**Oulhaca**	**1.10**	**231**	S	**Pb**	**16 28 58.0**	**+1.8**
ENIJ	**Nijar**	**1.79**	**305**	P	**Pn**	**16 29 07.0**	**+0.3**
ENIJ				S	**Sn**	**16 29 28.4**	**-1.3**
ENIJ	**Nijar**	**1.79**	**305**	P	**Pn**	**16 29 06.5**	**-0.2**
	5.5nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**16 29 28.4**	**-1.3**
	24nm,0.3s,SNR=6.2						
EMUR	**La Murta**	**2.01**	**340**	P	**Pn**	**16 29 10.2**	**+0.3**
	1.5nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**16 29 35.0**	**-0.2**
	4.7nm,0.4s,SNR=7.9						
EALB	**Alboran**	**2.16**	**270**	P	**Pn**	**16 29 11.2**	**-0.8**
	2.8nm,0.4s,SNR=7.9						
EALB				S	**Sn**	**16 29 38.2**	**-0.8**
	12nm,0.4s,SNR=4.0						
EALB	**Alboran**	**2.16**	**270**	Sn	**Sn**	**16 29 38.2**	**-0.8**
	SNR=4.0						
EBER	**Berja**	**2.23**	**296**	P	**Pn**	**16 29 13.2**	**+0.2**
EBER				S	**Sn**	**16 29 43.4**	**+2.4**
EBER	**Berja**	**2.23**	**296**	P	**Pn**	**16 29 13.2**	**+0.2**
	3.

EADA	Adamuz	4.02 305	P	Pn	16 29 39.1	+0.6
EADA			S	Sn	16 30 27.2	+1.0
EADA	Adamuz	4.02 305	P	Pn	16 29 38.3	-0.2
0.2nm,0.1s,SNR=4.0						
EADA			S	Sn	16 30 23.8	-2.4
8.6nm,0.8s,SNR=4.0						
EADA	Adamuz	4.02 305	Pn	Pn	16 29 39.1	+0.6
0.2nm,0.1s,SNR=4.0						
EADA			Sn	Sn	16 30 27.2	+1.0
SNR=4.0						
EMIN	Mina Concepcio	5.36 292	P	Pn	16 29 56.6	-0.9
EMIN	Mina Concepcio	5.36 292	P	Pn	16 29 56.6	-0.9
0.1nm,0.1s,SNR=4.0						
EMIN	Mina Concepcio	5.36 292	P	Pn	16 29 56.6	-0.9
EPOB	Poblet	5.51 11	P	Pn	16 29 59.2	-0.3
1.6nm,0.5s,SNR=7.9						
EBAD	Badajoz	5.98 300	P	Pn	16 30 05.7	-0.5
0.8nm,0.1s,SNR=4.0						
EBAD	Badajoz	5.98 300	P	Pn	16 30 05.7	-0.5

*MAN **21** 16:44:30.6, 12.53N×125.94E, h15km, mb4.4, ML3.3, MS3.1*

*IDC **21** 16:44:30.9±1.7, 12.17N×125.56E, mb3.6/4, mb1 3.7/4, mb1mx3.4/21, mbtmp3.6/4, Error ellipse: s-maj=79.1km s-min=24.6km az=59.0*

ISC 21 16:44:29.8±2.4, 12.54N±0.06×125.92E±0.07, h11km±17km, n13, σ1§30/17, mb3.4/4, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	1.05 207		eP	Pb	16 44 48.9	-0.6
BESP				eS	Sb	16 45 04.8	+1.7
CNP	Catarman	1.23 269		eP	Pb	16 44 52.5	0.0
CNP				eS	Sb	16 45 06.9	-1.4
PLP	Palo	1.65 214		eP	Pn	16 44 57.9	-1.1
PLP				i/S	Sn	16 45 17.3	-3.0
PVCP	Virac	2.01 301		eP	Pn	16 45 03.2	-1.0
MSLP	Maasin	2.61 204		eP	Pn	16 45 14.4	+1.7
SCPH	Surigao	2.78 189		⇑iP	Pn	16 45 14.8	-0.3
RCP	Roxas	3.26 253		⇓eP	Pn	16 45 23.0	+1.1
RCP				eS	Sn	16 46 02.5	+1.4
GUIM	Jordan	3.78 240		eP	Pn	16 45 30.1	+0.7
BOAC	Boac	4.08 283		eP	Pn	16 45 38.4	+4.8
CMAR	Chiang Mai Arr	26.63 286		P	P	16 50 09.4	-1.1
0.9nm,0.9s,mb3.3,baz=96,slow=8.1,SNR=6.1							
ASAR	Alice Springs	36.82 168		P	P	16 51 38.4	-1.6
0.3nm,0.9s,mb3.1,baz=351,slow=7.1,SNR=4.4							
ASAR				PcP	PcP	16 54 02.2	-0.1
0.2nm,0.7s,baz=348,slow=2.6,SNR=3.8							
MKAR	Makanchi Array	50.03 322		P	P	16 53 28.1	+1.7
0.6nm,0.7s,mb3.8,baz=113,slow=9.1,SNR=7.1							
BVAR	Borovoye Array	59.62 325		P	P	16 54 36.9	+0.8
0.5nm,0.8s,mb3.6,baz=127,slow=7.4,SNR=4.1							

IDC 21 17:05:42.0±11.0, 7.81S×121.07E, mb3.4/2, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=179.5km s-min=139.5km az=90.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.16 157		Pn	P	17 08 22.7	-3.3
0.7nm,0.3s,baz=351,slow=5.7,SNR=7.5							
FITZ				Sn	S	17 10 22.8	-10
0.3nm,0.3s,baz=270,slow=20,SNR=2.6							
WRA	Warramunga Arr	17.63 135		P	P	17 09 50.3	-0.5
0.1nm,0.3s,baz=306,slow=13,SNR=4.7							
ASAR	Alice Springs	20.01 143		P	P	17 10 16.0	-3.2
0.3nm,0.5s,baz=323,slow=10,SNR=12							
STKA	Stephens Creek	30.64 144		P	P	17 11 58.2	-2.2
1.1nm,0.9s,baz=326,slow=11,SNR=2.9							

IDC 21 17:08:41.2±2.3, 8.11N×91.56E, mb3.4/5, mb1 3.5/6, mb1mx3.4/21, mbtmp3.4/6, ML3.7/1, Error ellipse: s-maj=79.0km s-min=22.1km az=69.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.54 34		Pn	P	17 11 41.7	-2.2
0.1nm,0.3s,baz=231,slow=15,SNR=4.9							
MKAR	Makanchi Array	39.36 350		P	P	17 16 12.5	-1.6
0.6nm,0.6s,baz=166,slow=9.0,SNR=9.1							
SONM	Songino Array	41.55 15		P	P	17 16 30.1	-2.0
0.3nm,0.7s,baz=189,slow=7.7,SNR=2.8							
WRA	Warramunga Arr	50.49 124		P	P	17 17 41.7	-1.7
0.3nm,0.8s,baz=301,slow=9.4,SNR=3.9							
ASAR	Alice Springs	52.04 128		P	P	17 17 52.3	-2.8
0.2nm,0.7s,baz=298,slow=7.8,SNR=4.3							
STKA	Stephens Creek	62.13 132		P	P	17 19 04.6	-2.1
1.3nm,0.9s,baz=329,slow=13,SNR=3.4							

IDC 21 17:13:00.0±2.6, 1.92S×99.68E, mb3.4/7, mb1 3.6/7, mb1mx3.5/19, mbtmp3.4/7, Error ellipse: s-maj=111.8km s-min=20.3km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.26 358		P	P	17 17 37.3	-2.7
0.4nm,0.6s,baz=190,slow=8.8,SNR=4.2							
WRA	Warramunga Arr	38.31 120		P	P	17 20 22.7	-1.7
0.3nm,0.3s,baz=302,slow=9.2,SNR=4.8							
ASAR	Alice Springs	39.56 126		P	P	17 20 33.1	-1.6
0.2nm,0.5s,baz=304,slow=7.8,SNR=6.4							
SONM	Songino Array	49.89 6		P	P	17 21 55.1	-2.1
0.4nm,0.7s,baz=180,slow=9.9,SNR=4.4							
MKAR	Makanchi Array	50.86 345		P	P	17 22 03.2	-1.5
0.5nm,0.3s,baz=160,slow=8.7,SNR=17							
ZAL	Zalesovo	57.02 350		P	P	17 22 47.0	-3.0
0.8nm,0.3s,baz=17,slow=1.2,SNR=3.8							
BVAR	Borovoye Array	59.99 340		P	P	17 23 08.0	-2.7
0.3nm,0.6s,baz=162,slow=9.1,SNR=2.6							

*IDC **21** 17:14:29.7±8.4, 33.74S×179.43W, h41km±76km, mb3.8/2, mb1 4.1/3, mb1mx3.7/15, mbtmp4.1/3, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/24, Error ellipse: s-maj=61.4km s-min=51.3km az=142.0*

*NEIC **21** 17:14:40.0±3.2, 34.68S×179.69W, h145km±24km, mb4.7/1, Error ellipse: s-maj=39.7km s-min=18.7km az=52.0*

ISC 21 17:14:33.5±1.3, 34.19S±0.07×179.6W±0.1, h167km±13km, n33, σ1§00/43, mb4.1/3, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.78 206		P	P	17 15 31.8	-0.3
MXZ				S	S	17 16 21.0	+3.8
MXZ	Matakaoa Point	3.78 206		PN	P	17 15 31.8	-0.3
MXZ				SN	S	17 16 20.8	+3.6
PUZ	Puketiti	4.25 204		eP	P	17 15 38.0	-0.2
PUZ				S	S	17 16 28.6	+0.5
PUZ	Puketiti	4.25 204		ePN	P	17 15 38.2	0.0
PUZ				SN	S	17 16 28.6	+0.5
MWZ	Matawai	4.75 209		ePN	P	17 15 44.4	-0.3
MWZ				SN	S	17 16 44.4	+4.7
URZ	Urewera	4.86 212		P	P	17 15 46.9	+0.7
4.6nm,0.3s,baz=1.0,slow=16,SNR=25							
URZ				S	S	17 16 46.5	+4.1
4.8nm,0.3s,baz=293,slow=21,SNR=7.1							
URZ	Urewera	4.86 212		ePN	P	17 15 45.7	-0.5
URZ				SN	S	17 16 44.2	+1.8
OUZ	Omahuta	5.71 258		eP	P	17 15 58.4	+1.1
OUZ	Omahuta	5.71 258		PN	P	17 15 58.4	+1.2
OUZ				SN	S	17 17 02.1	-0.2
PWZ	Pawanui	6.48 205		eP	P	17 16 07.2	-0.4
PWZ	Pawanui	6.48 205		ePN	P	17 16 07.2	-0.4
BFZ	Birch Farm	7.28 206		eP	P	17 16 16.9	-1.3
BFZ				S	S	17 17 41.3	+1.6
BFZ	Birch Farm	7.28 206		ePN	P	17 16 17.2	-0.9
BFZ				SN	S	17 17 41.1	+1.4
MRZ	Mangatainoka R	7.52 209		SN	S	17 17 44.9	-0.6
KIW	Kapiti Island	7.97 212		SN	S	17 17 56.5	+0.4
MTW	Mount Morrison	7.97 208		SN	S	17 17 56.9	+0.6
CAW	Cannon Point	8.10 210		eP	P	17 16 28.3	-0.8
CAW	Cannon Point	8.10 210		ePN	P	17 16 28.3	-0.8
MRW	Makara Radio	8.36 211		SN	S	17 18 06.2	+0.8
TCW	Tory Channel	8.53 213		SN	S	17 18 08.8	-0.7
NNZ	Nelson	8.96 216		SN	S	17 18 20.6	+1.1
THZ	Tophouse	9.61 216		eP	P	17 16 48.3	-0.5
THZ				S	S	17 18 35.7	+1.0
THZ	Tophouse	9.61 216		ePN	P	17 16 47.9	-0.8
THZ				SN	S	17 18 35.7	+1.0
KHZ	Kahutara	9.83 211		eP	P	17 16 51.2	-0.5
KHZ	Kahutara	9.83 211		ePN	P	17 16 51.2	-0.5
KHZ				SN	S	17 18 39.1	-0.9
LTZ	Lake Taylor	10.69 214		SN	S	17 18 58.5	-1.7
MQZ	McQueen's Vall	11.26 210		SN	S	17 19 11.2	-2.3
HNR	Honiara	30.98 318		LR	LR	17 29 28.2	
comp=Z,57nm,20.9s,baz=263,slow=29							
ASAR	Alice Springs	41.73 272		P	P	17 22 15.6	+8.0
1.5nm,0.7s,mb3.7,baz=113,slow=7.4,SNR=22							
WRA	Warramunga Arr	43.06 277		P	P	17 22 26.6	+8.1
1.0nm,0.4s,mb3.8,baz=116,slow=7.9,SNR=30							
QSPA	South Pole Qui	55.93 180		⇑iP	P	17 23 57.4	+1.7
10.0nm,0.9s,mb4.7							
KAF	Kangasniemi	147.59 337		ep	PKPdf	17 34 04.6	+11
0.4nm,0.3s							
FINES	FINESS Array B	148.16 337		PKPbc	PKPdf	17 34 08.4	+13
1.2nm,0.5s,baz=31,slow=4.3,SNR=16							

*IDC **21** 17:17:26.8±0.7, 59.23S×17.60W, mb4.0/9, mb1 4.1/9, mb1mx4.0/17, mbtmp3.9/9, ML5.0/1, MS4.6/16, Ms1 4.6/16, ms1mx4.5/22, Error ellipse: s-maj=27.4km s-min=19.1km az=26.0*

*HRVD **21** 17:17:29.1±0.1, 59.31S×17.06W, h12km, MW5.4/77, Centroid moment Tensor Solution. LP body waves: s64,c130;Mantle waves: s77,c159; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.03±.02; $M_{\theta\theta}$-0.31±.03; $M_{\phi\phi}$0.34±.02; $M_{r\theta}$0.33±.06; $M_{\phi\phi}$1.45±.02; $M_{\phi r}$-0.14±.06; Best double couple: $M_0$1.53×10^{17} NP1: ϕ_s354°, δ78°, λ-173°. NP2:ϕ_s263°, δ84°, λ-12°. Principal axes: T 1.511, Plg4°, Azm309°; N .039, Plg77°, Azm55°; P -1.55, Plg13°, Azm218°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **21** 17:17:29.1±5.6, 59.23S×17.08W, h8km±34km, mb4.9/18 Error ellipse: s-maj=14.1km s-min=11.1km az=197.0*

*BJI **21** 17:17:31.1, 59.20S×17.10W, h8km, mb5.5, Ms5.3, Msz4.9*

ISC 21 17:17:27.7±0.4, 59.29S±0.06×17.0W±0.1, h10km, n68, σ1§41/38, mb4.6/23, MS4.7/21, 6C-1D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	11.98 166		⇓iP	P	17 20 21.4	+0.2
VNA2	Neumayer--Watz	12.34 165		⇑iP	P	17 20 25.6	-0.6
VNA2	Neumayer--Watz	12.34 165		P	P	17 20 28.6	+2.4
VNA2	Neumayer--Watz	12.34 165		⇑i	P	17 20 33.9	+7.7
VNA3	Neumayer Olymp	12.38 169		⇑iP	P	17 20 25.9	-0.7
VNA3	Neumayer Olymp	12.38 169		P	P	17 20 28.9	+2.3
SNAA	Sanae	13.69 161		Pn	P	17 20 43.9	0.0
7.3nm,0.3s,baz=348,slow=12,SNR=172							
SNAA				LR	LR	17 24 22.4	
comp=Z,1μm,21.5s,baz=21,slow=30							
MAIT	Maitri	16.50 146		eP	P	17 21 18.6	-1.8
PMSA	Palmer Station	22.27 236		P	P	17 22 27.7	+1.7
66nm,1.3s,mb4.9							
SYO	Syowa Base	25.54 136		⇑P	P	17 22 55.5	-1.9
SYO	Syowa Base	25.54 136		⇑pP	pP	17 22 57.2	-3.2
USHA	Ushuaia	27.71 256		LR	LR	17 31 34.3	
comp=Z,4μm,21.5s,MS4.9,baz=90,slow=31							
MAW	Mawson	34.19 138		P	P	17 24 13.4	-1.2
3.5nm,0.9s,mb4.3,baz=235,slow=11,SNR=4.3							
MAW				LR	LR	17 36 04.4	
comp=Z,2μm,21.5s,MS4.7,baz=252,slow=32							
MAW	Mawson	34.19 138		eP	P	17 24 13.7	-1.0
31nm,1.5s,mb5.0							
TRQA	Tornquist	35.55 286		P	P	17 24 25.9	-0.8
8.1nm,1.1s,mb4.6							
SUR	Sutherland	36.84 60		P	P	17 24 37.6	+0.1
55nm,1.5s,mb5.2							
PLCA	Paso Flores	37.83 275		P	P	17 24 41.0	-4.8
1.0nm,0.9s,mb3.5,baz=159,slow=8.6,SNR=2.0							
PLCA				LR	LR	17 39 49.7	
comp=Z,1μm,18.4s,MS4.7,baz=132,slow=36							
BOSA	Boshof	42.04 62		P	P	17 25 20.9	+0.2
2.6nm,0.8s,mb3.9,baz=147,slow=9.8,SNR=3.5							
BOSA				LR	LR	17 38 52.9	
comp=Z,537nm,19.6s,MS4.4,baz=210,slow=30							
BOSA	Boshof	42.04 62		P	P	17 25 20.3	-0.4
9.1nm,1.2s,mb4.3							
SBA	Scott Base	43.09 181		eP	P	17 25 32.3	+3.6
17nm,1.2s,mb4.6							
CPUP	Villa Florida	43.12 302		LR	LR	17 42 54.1	
comp=Z,348nm,18.4s,MS4.3,baz=182,slow=36							
CPUP	Villa Florida	43.12 302		eP	P	17 25 27.7	-1.9
11nm,1.3s,mb4.4							
VNDA	Vanda	43.44 180		P	P	17 25 32.2	+0.6
0.4nm,0.9s,baz=191,slow=5.2,SNR=2.5							
VNDA				LR	LR	17 43 13.4	
comp=Z,785nm,18.1s,MS4.7,baz=184,slow=36							
VNDA	Vanda	43.44 180		P	P	17 25 32.2	+0.6
VNDA				LR	LR	17 43 13.4	
CFAA	Coronel Fontan	43.78 286		P	P	17 25 31.6	-3.2
0.8nm,0.9s,mb3.5,baz=148,slow=9.1,SNR=9.1							
LBTB	Lobatse	45.29 60		P	P	17 25 48.8	+1.7
4.5nm,1.0s,mb4.2,baz=236,slow=10,SNR=3.3							
TSUM	Tsumeb	47.18 47		eP	P	17 26 08.7	+6.6
6.8nm,1.0s,mb4.5							
CASY	Casey	48.83 155		P	P	17 26 13.9	-0.4
18nm,1.3s,mb5.0							
MATP	Matopo	50.59 60		LR	LR	17 44 17.0	
comp=Z,561nm,20.7s,MS4.6,baz=66,slow=32							
LVC	Limon Verde	51.62 292		eP	P	17 26 35.2	-1.0
22nm,1.1s,mb5.0							
LSZ	Lusaka	55.00 57		eP	P	17 27 00.1	-1.3
7.5nm,1.0s,mb4.7							
LPAZ	La Paz	56.72 297		P	P	17 27 10.6	-3.1
1.2nm,0.6s,mb4.1,baz=136,slow=6.9,SNR=5.0							
LPAZ				LR	LR	17 49 41.5	
comp=Z,469nm,20.3s,MS4.6,baz=147,slow=34							
LPAZ	La Paz	56.72 297		eP	P	17 27 09.7	-4.0
20nm,1.4s,mb5.0							
ARE	Arequipa	58.13 293		eP	P	17 27 23.0	-0.6
SAML	Samuel	61.06 306		eP	P	17 27 38.4	-5.5
17nm,1.2s,mb5.0							
NNA	Nana	64.55 291		P	P	17 28 11.2	+4.2
41nm,1.3s,mb5.3							
DBIC	Dimbokro	66.47 13		LR	LR	17 49 35.7	
comp=Z,172nm,20.4s,MS4.2,baz=278,slow=29							
DBIC	Dimbokro	66.47 13		P	P	17 28 21.1	+1.8
31nm,1.6s,mb5.1							
MBAR	Mbarara	69.28 52		eP	P	17 28 37.4	+0.4
12nm,1.5s,mb4.6							
KMBO	Kilima Mbogo	71.56 59		LR	LR	17 56 39.6	
comp=Z,313nm,20.5s,MS4.6,baz=99,slow=33							
OTAV	Otavalo	75.99 295		eP	P	17 29 18.6	+2.0
17nm,1.2s,mb4.9							
ROSC	El Rosal	78.22 301		LR	LR	18 05 26.2	
comp=Z,233nm,18.2s,MS4.5,baz=179,slow=37							
SDV	Santo Domingo	80.25 306		P	P	17 29 42.2	+2.2
26nm,1.4s,mb5.0							
RKT	Rikitea	83.47 235		eLR	LR	17 56 18.9	
853nm,28.2s,baz=164							
STKA	Stephens Creek	87.46 162		P	P	17 30 17.8	+1.7
1.7nm,0.7s,mb4.4,baz=249,slow=1.1,SNR=3.6							
TBI	Tubuai	88.85 223		eLR	LR	17 58 49.5	
251nm,21.2s							
RAO	Raoul Island	90.38 197		LR	LR	18 04 54.3	
comp=Z,233nm,20.1s,MS4.6,baz=144,slow=32							
ASAR	Alice Springs	93.94 153		P	P	17 30 46.7	+0.2
0.4nm,0.9s,mb3.8,baz=189,slow=4.0,SNR=4.1							
ASAR				LR	LR	18 07 06.1	
comp=Z,284nm,21.8s,MS4.7,baz=192,slow=32							
PPT	Papeete	94.22 225		eLR	LR	18 01 18.9	
533nm,27.5s,baz=160							
PPT	Papeete	94.22 225		LR	LR	18 03 42.1	
comp=Z,356nm,20.5s,MS4.8,baz=136,slow=30							
FITZ	Fitzroy Crossi	97.08 144		LR	LR	18 08 42.5	
comp=Z,348nm,21.2s,MS4.8,baz=232,slow=32							
KULM	Kulim	108.43 112		ePn		17 35 59.1	
KMI	Kunming	126.40 102		PKP	PKPdf	17 36 33.8	+0.2
KMI				PP	PP	17 38 33.0	+2.9
KMI				PP	PP		
comp=Z,84nm,6.2s							
KMI				LR	LR		
comp=Z,164nm,31.2s,MS4.5							
BVAR	Borovoye Array	132.07 54		PKP	PKPdf	17 36 42.9	-0.8
comp=Z,0.3nm,0.7s,SNR=2.1							
WMQ	Urumqi	133.37 74		PKP	PKPdf	17 36 44.0	-2.3
WMQ				PP	PP	17 39 19.8	+5.0
WMQ				PP	PP		
comp=Z,105nm,4.9s							
WMQ				LR	LR		
comp=N,153nm,28.3s,MS4.6							
WMQ				LR	LR		
comp=E,65nm,26.3s,MS4.6							
WMQ				LR	LR		
comp=Z,150nm,25.6s,MS4.6							
NJ2	Nanjing	140.01 113		ePKP	PKPdf	17 36 54.8	-4.1
NJ2				PKS	PKS	17 40 32.0	+1.4
NJ2				SKKS		17 46 45.0	
NJ2				PP	PP		
comp=Z,340nm,10.9s							
NJ2				LR	LR		
comp=N,670nm,30.1s,MS5.3							
NJ2				LR	LR		
comp=E,560nm,28.1s,MS5.3							
NJ2				LR	LR		
comp=Z,430nm,30.3s,MS5.0							
SSE	Sheshan	140.30 117		PKP	PKPdf	17 37 01.3	+1.8
YKA	Yellowknife Ar	142.33 311		PKP	PKPdf	17 36 57.9	-4.0
comp=Z,0.2nm,0.5s,baz=126,slow=3.2,SNR=4.1							
BJI	Beijing	145.06 102		PKP	PKPdf	17 37 07.3	-0.1
BJI	Beijing	145.06 102		P	PKPbc	17 37 07.2	+2.6
SONM	Songino Array	145.56 84		PKPbc	PKPbc	17 37 05.4	-0.2
comp=Z,1.5nm,1.0s,baz=236,slow=4.5,SNR=7.3							
ULN	Ulaanbaatar	145.92 84		ePKPdf	PKPdf	17 37 07.8	-0.8
SNY	Shenyang	150.08 108		⇑PKP	PKPdf	17 37 20.3	+4.8
SNY				LR	LR		
comp=N,430nm,4.3s							
SNY				LR	LR		
comp=E,590nm,6.6s							
SNY				LR	LR		
comp=Z,580nm,10.5s,MS5.7							
INK	Inuvik	151.86 315		PKPbc	PKPdf	17 37 21.4	+4.1
comp=Z,4.2nm,1.0s,baz=103,slow=2.4,SNR=7.3							
INK	Inuvik	151.86 315		ePKPdf	PKPdf	17 37 18.2	+0.8
INK				PKPbc	PKPdf	17 37 21.4	+4.1
CN2	Changchun	152.47 107		ePKP	PKPdf	17 37 20.3	+1.3
CN2				PP	PP		
comp=Z,200nm,7.0s							
CN2				LR	LR		
comp=Z,200nm,22.0s,MS4.9							
MDJ	Mudanjiang	155.07 111		PKP	PKPdf	17 37 21.5	-1.0
MDJ				APKP		17 37 30.5	
MDJ				SKS	SKS	17 44 27.1	-1.3
MDJ				PP	PP		
comp=Z,287nm,4.1s							
MDJ				LR	LR		
comp=N,92nm,48.1s,MS4.3							
MDJ				LR	LR		
comp=E,82nm,53.0s,MS4.3							
MDJ				LR	LR		
comp=Z,94nm,28.2s							
ILAR	Eielson Array	156.40 305		PKPab	PKPab	17 37 48.3	-3.3
comp=Z,1.3nm,1.1s,baz=196,slow=2.3,SNR=5.4							

*IDC **21** 17:21:09.2±10.0, 7.53S×120.93E, mb3.4/2, mb1 3.8/4, mb1mx3.4/19, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=173.2km s-min=133.6km az=83.0*

*DJA **21** 17:21:16.3±1.5, 8.05S×120.66E, h154km±18km, mb4.3/2, ML4.3/1, Error ellipse: s-maj=53.1km s-min=10.9km az=133.0*

ISC 21 17:21:16.4±1.6, 8.1S±0.1×120.67E±0.08, h59km±36km, n10, σ0§59/11, mb3.7/1, 5C, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	Niniconang	3.77 346		ePn	P	17 22 13.4	-0.1
BUNI	Buntu Taipa	4.43 356		ePn	P	17 22 23.0	+0.2
KEDI	Kedomdong	4.52 265		⇑ePn	P	17 22 25.3	+1.2
54nm,0.2s							
RATI	Rata	5.12 263		⇑eP	P	17 22 31.9	-0.5
133nm,0.2s							
RATI				⇑eS	S	17 23 31.2	+0.4
KELI	Kelakatan	6.11 269		⇑eP	P	17 22 46.2	0.0
SRDI	Scrawed	6.47 266		⇑eP	P	17 22 49.8	-1.4
27nm,0.2s							
FITZ	Fitzroy Crossi	11.05 155		Pn	P	17 23 54.3	0.0
0.8nm,0.3s,baz=345,slow=13,SNR=10.0							
WRA	Warramunga Arr	17.71 133		P	P	17 25 20.8	+0.1
0.2nm,0.3s,baz=305,slow=13,SNR=6.5							
ASAR	Alice Springs	20.01 142		P	P	17 25 46.9	-0.2
0.3nm,0.3s,baz=321,slow=10,SNR=19							
STKA	Stephens Creek	30.64 143		P	P	17 27 27.8	+0.3
0.4nm,0.3s,mb3.7,baz=340,slow=14,SNR=4.5							

IDC 21 17:27:29.7±3.1, 0.60N×98.23E, mb3.5/4, mb1 3.6/5, mb1mx3.5/20, mbtmp3.4/5, ML3.4/1, Error ellipse: s-maj=115.6km s-min=22.1km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.76 2		P	P	17 31 39.8	-0.4
0.1nm,0.3s,baz=190,slow=11,SNR=2.7							
WRA	Warramunga Arr	40.85 122		P	P	17 35 13.4	-1.8
0.6nm,0.5s,baz=304,slow=8.9,SNR=8.1							
ASAR	Alice Springs	42.22 127		P	P	17 35 25.1	-1.4
0.4nm,0.7s,baz=301,slow=8.1,SNR=8.3							
SONM	Songino Array	47.58 7		P	P	17 36 07.4	-1.7
0.3nm,0.4s,baz=189,slow=9.2,SNR=4.3							
MKAR	Makanchi Array	48.07 345		P	P	17 36 10.5	-2.5
0.3nm,0.4s,baz=160,slow=9.1,SNR=10							

*NIED **21** 17:33:00, 31.70N×129.00E, h5km, Mw4.1 Best double couple: $M_0$1.63×10^{15} NP1:ϕ_s23°, δ72°, λ-140°. NP2: ϕ_s278°, δ52°, λ-23°.*

*JMA **21** 17:33:30.1±0.1, 31.68N×128.99E, h14km±1km, M4.1*

JMA Felt I J1.

*IDC **21** 17:33:37.4±4.8, 31.74N×128.65E, h44km±42km, mb3.2/7, mb1 3.3/8, mb1mx3.2/24, mbtmp3.4/8, ML3.0/1, MS3.2/4, Ms1 3.2/4, ms1mx2.7/14, Error ellipse: s-maj=63.3km s-min=18.9km az=65.0*

ISC 21 17:33:31.5±1.2, 31.72N±0.05×129.03E±0.06, h23km±10km, n18, σ0§98/21, mb3.4/7, MS3.4/1, 2C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.59 94		⇓P	Pb	17 33 42.0	-1.1
JSJ				S	Sb	17 33 50.2	-0.9
JFU	Fukue jima 2	0.96 346		⇑P	Pb	17 33 48.7	-0.7
JFU				eS	Sb	17 34 02.2	+0.5
NGSJ	Nagasakinomoza	1.12 36		P	Pn	17 33 51.9	-0.1
NGSJ				S	Sb	17 34 07.3	+0.9
JHD	Hondo	1.20 51		P	Pn	17 33 52.6	-0.5
JHD				S	Sb	17 34 09.8	+1.2
JSU	Suzuyama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.86**	**7**	Pn	P	17 38 39.9	-0.7
	0.1nm,0.3s,baz=194,slow=11,SNR=5.3						
WRA	**Warramunga Arr**	**43.10**	**123**	P	P	17 42 56.4	-1.7
	1.0nm,0.8s,baz=302,slow=9.2,SNR=6.7						
MKAR	**Makanchi Array**	**45.77**	**346**	P	P	17 43 17.1	-2.1
	0.1nm,0.4s,baz=172,slow=8.6,SNR=3.8						

*IDC **21** 17:36:01.3±1.9, 0.30N×97.91E, mb4.3/7, mb1 4.4/8, mb1mx4.0/20, mbtmp4.2/8, ML4.4/1, MS3.7/4, Ms1 3.8/4, ms1mx3.4/24, Error ellipse: s-maj=82.4km s-min=18.7km az=57.0*
*BJI **21** 17:36:06.4, 0.40N×98.10E, h30km, mb4.3, Ms3.9, Msz3.7*
*NEIC **21** 17:36:06.4±1.1, 0.44N×98.10E, h30km, mb4.6/2, Error ellipse: s-maj=40.9km s-min=12.2km az=60.0*
ISC 21 17:36:05.7±1.1, 0.6N±0.2×98.4E±0.2, h30km, n22, σ1§25/20, mb4.5/17, MS3.9/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.80**	**2**	P	P	**17 40 12.5**	**-0.7**
	0.4nm,0.3s,baz=190,slow=11,SNR=27						
CMAR				LR	LR	17 46 58.1	
	comp=Z,53nm,18.3s,baz=205,slow=36						
KMI	**Kunming**	**24.79**	**9**	P	P	**17 41 33.8**	**+7.1**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.0						
KMI				LR	LR		
	comp=N,185nm,17.0s,MS3.7						
KMI				LR	LR		
	comp=E,153nm,20.0s,MS3.7						
KMI				LR	LR		
	comp=Z,172nm,16.3s,MS3.6						
JIRN	**Jiri**	**29.38**	**338**	*eP*	P	**17 42 08.0**	**-0.7**
	comp=Z,13nm,0.8s,mb4.7						
PKI	**Pulchoki**	**29.61**	**336**	*eP*	P	**17 42 12.3**	**+1.5**
	comp=Z,16nm,1.0s,mb4.7						
GUN	**Gumba**	**29.72**	**337**	*eP*	P	**17 42 10.7**	**-1.1**
	comp=Z,25nm,0.7s,mb5.0						
DMN	**Daman**	**29.76**	**336**	*eP*	P	**17 42 14.2**	**+2.0**
	comp=Z,9.4nm,0.8s,mb4.6						
LSA	**Lhasa**	**29.79**	**347**	P	P	**17 42 12.8**	**+0.4**
KKN	**Kakani**	**29.85**	**336**	*eP*	P	**17 42 14.5**	**+1.5**
	comp=Z,14nm,0.8s,mb4.8						
GKN	**Gorkha**	**30.30**	**335**	*eP*	P	**17 42 18.9**	**+2.0**
	comp=Z,14nm,0.6s,mb4.8						
KOLN	**Koldanda**	**30.55**	**334**	*eP*	P	**17 42 23.7**	**+4.6**
	comp=Z,27nm,1.3s,mb4.9						
WRA	**Warramunga Arr**	**40.70**	**122**	P	P	**17 43 45.8**	**+0.2**
	comp=Z,1.3nm,0.7s,mb3.7,baz=302,slow=9.0,SNR=9.0						
ASAR	**Alice Springs**	**42.07**	**127**	P	P	**17 43 57.1**	**+0.3**
	comp=Z,1.5nm,0.8s,mb3.7,baz=302,slow=7.7,SNR=11						
SONM	**Songino Array**	**47.61**	**7**	P	P	**17 44 41.9**	**+0.9**
	comp=Z,2.8nm,0.6s,mb4.5,baz=189,slow=9.7,SNR=26						
ULN	**Ulaanbaatar**	**47.73**	**8**	*eP*	P	**17 44 42.5**	**+0.7**
	comp=Z,3.8nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**48.16**	**345**	P	P	**17 44 44.4**	**-0.9**
	comp=Z,1.7nm,0.4s,mb4.4,baz=163,slow=7.9,SNR=33						
MJAR	**Matsushiro Arr**	**51.39**	**41**	LR	LR	18 11 09.6	
	comp=Z,40nm,18.7s,MS3.5,baz=15,slow=41						
ZAL	**Zalesovo**	**54.38**	**350**	P	P	**17 45 31.2**	**-0.9**
	comp=Z,7.5nm,0.4s,mb4.9,baz=311,slow=4.4,SNR=25						
ZAL	**Zalesovo**	**54.38**	**350**	P	P	**17 45 31.2**	**-0.9**
BVAR	**Borovoye Array**	**57.25**	**340**	P	P	**17 45 50.7**	**-2.1**
	comp=Z,2.1nm,0.5s,mb4.4,baz=140,slow=8.8,SNR=21						
CHKZ	**Chkalovo**	**57.72**	**341**	*eP*	P	**17 45 53.9**	**-2.2**
	comp=Z,7.2nm,0.8s,mb4.8						
FINES	**FINESS Array B**	**81.11**	**332**	LR	LR	18 31 16.7	
	comp=Z,117nm,20.5s,MS4.2,baz=171,slow=41						
ARCES	**ARCESS Array B**	**83.54**	**340**	P	P	**17 48 31.0**	**-0.9**
	comp=Z,1.9nm,0.8s,mb4.3,baz=101,slow=6.2,SNR=6.1						
ARCES				LR	LR	18 28 09.6	
	comp=Z,128nm,21.9s,MS4.3,baz=218,slow=37						

*IDC **21** 17:50:47.2±1.1, 1.59N×96.97E, mb4.0/10, mb1 4.2/11, mb1mx4.0/20, mbtmp4.0/11, ML3.9/1, Error ellipse: s-maj=44.1km s-min=19.1km az=52.0*
*BJI **21** 17:50:49.7, 1.65N×97.08E, h26km, mB4.8, mb4.5, Ms3.9, Msz3.8*
*NEIC **21** 17:50:51.8±0.6, 1.60N×97.01E, h30km, mb4.2/5, Error ellipse: s-maj=14.5km s-min=8.9km az=61.0*
ISC 21 17:50:50.0±0.7, 1.59N±0.08×97.0E±0.1, h30km, (h30km±1.5km-pP-P), n25, σ0§93/26, mb4.2/20, MS3.7/3, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.17**	**45**	*eP*	Pn	**17 52 06.8**	**-0.7**
CM31	**Chiang Mai Arr**	**16.88**	**6**	*eP*	P	**17 54 46.4**	**+0.5**
	2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.88**	**6**	Pn	P	**17 54 44.5**	**-1.3**
	0.2nm,0.3s,baz=197,slow=11,SNR=14						
GYA	**Guiyang**	**26.42**	**20**	P	P	**17 56 27.8**	**+1.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
XAN	**Xi'an**	**34.16**	**18**	P	P	**17 57 33.0**	**-1.8**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
SSE	**Sheshan**	**37.21**	**36**	*eP*	P	**17 58 01.3**	**+0.6**
SSE				AP	pP	17 58 09.9	+0.2
SSE				PP	PP	17 59 25.1	-3.1
SSE				S	S	**18 03 46.9**	**+1.7**
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,70nm,4.4s						
SSE				LR	LR		
	comp=N,103nm,26.8s,MS3.7						
SSE				LR	LR		
	comp=E,122nm,26.8s,MS3.7						
SSE				LR	LR		
	comp=Z,171nm,25.9s,MS3.7						
GTA	**Gaotai**	**37.73**	**4**	*eP*	P	**17 58 04.8**	**-0.2**
GTA				AP	pP	17 58 13.1	-0.9
GTA				XP	sP	17 58 17.5	-0.2
GTA				PP	PP	17 59 35.4	+1.1
GTA				S	S	**18 03 54.8**	**+1.7**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
GTA				AMB	AMB		
	comp=Z,106nm,6.5s						
GTA				LR	LR		
	comp=N,77nm,17.5s,MS3.8						
GTA				LR	LR		
	comp=E,79nm,15.2s,MS3.8						
GTA				LR	LR		
	comp=Z,88nm,11.8s,MS3.8						
WRA	**Warramunga Arr**	**42.40**	**122**	P	P	**17 58 44.0**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.5,baz=301,slow=9.2,SNR=9.2						
WRAB	**Tennant Creek**	**42.41**	**122**	P	P	**17 58 43.8**	**-0.2**
	comp=Z,4.2nm,0.8s,mb4.1						
WMQ	**Urumqi**	**42.86**	**350**	⇑P	P	**17 58 47.6**	**+0.2**
WMQ				AP	pP	17 58 57.6	+1.2
WMQ				XP	sP	17 59 01.6	+1.5
WMQ				PP	PP	18 00 29.9	+0.7
WMQ				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,73nm,5.2s						
WMQ				LR	LR		
	comp=N,139nm,26.6s,MS3.8						
WMQ				LR	LR		
	comp=E,57nm,25.2s,MS3.8						
WMQ				LR	LR		
	comp=Z,95nm,25.0s,MS3.6						
ASAR	**Alice Springs**	**43.78**	**127**	P	P	**17 58 55.5**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.3,baz=298,slow=8.0,SNR=7.9						
AAK	**Ala-Archa**	**45.57**	**337**	*eP*	P	**17 59 10.0**	**+0.8**
	comp=Z,1.4nm,0.6s,mb4.1						
SONM	**Songino Array**	**46.78**	**9**	P	P	**17 59 18.6**	**-0.1**
	comp=Z,2.4nm,0.5s,mb4.4,baz=195,slow=9.6,SNR=37						
SONM				PcP	PcP	18 00 51.7	-0.4
	comp=Z,0.5nm,0.6s,baz=191,slow=3.4,SNR=4.0						
MKAR	**Makanchi Array**	**46.82**	**346**	P	P	**17 59 19.3**	**+0.3**
	comp=Z,5.8nm,0.6s,mb4.7,baz=159,slow=7.6,SNR=84						
ULN	**Ulaanbaatar**	**46.91**	**9**	*eP*	P	**17 59 19.2**	**-0.5**
	comp=Z,1.8nm,0.5s,mb4.3						
CN2	**Changchun**	**49.05**	**27**	*eP*	P	**17 59 37.9**	**+1.5**
MJAR	**Matsushiro Arr**	**51.54**	**43**	P	P	**17 59 54.9**	**-0.6**
	comp=Z,1.7nm,0.7s,mb4.1,baz=239,slow=7.9,SNR=4.4						
MDJ	**Mudanjiang**	**51.63**	**29**	P	P	**17 59 54.8**	**-1.3**
MDJ				AMB	AMB		
	comp=Z,12nm,2.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,108nm,3.8s						
ZAL	**Zalesovo**	**53.14**	**351**	P	P	**18 00 06.8**	**-0.5**
	comp=Z,5.3nm,0.7s,mb4.6,baz=319,slow=6.8,SNR=24						
CHKZ	**Chkalovo**	**56.30**	**341**	*eP*	P	**18 00 29.0**	**-1.3**
	comp=Z,5.9nm,0.9s,mb4.6						
AKASG	**Malin Array Be**	**74.84**	**322**	P	P	**18 02 28.9**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.6,baz=86,slow=5.5,SNR=4.5						
FINES	**FINESS Array B**	**79.57**	**332**	P	P	**18 02 54.9**	**-0.7**
	comp=Z,1.3nm,0.8s,mb3.9,baz=63,slow=4.3,SNR=5.8						
SYO	**Syowa Base**	**80.31**	**198**	⇑PcP	PcP	18 03 08.2	+1.4
ARCES	**ARCESS Array B**	**82.11**	**340**	P	P	**18 03 09.5**	**+0.7**
	comp=Z,2.0nm,0.9s,mb4.0,baz=90,slow=7.3,SNR=14						
GERES	**GERESS Array B**	**84.40**	**319**	P	P	**18 03 22.3**	**+1.4**
	comp=Z,0.5nm,0.7s,mb3.8,baz=113,slow=10,SNR=3.9						

*IDC **21** 18:20:39.4±1.5, 7.88S×120.95E, mb3.7/5, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.9/2, Error ellipse: s-maj=143.8km s-min=18.3km az=60.0*
*DJA **21** 18:20:41.5±1.1, 8.24S×120.87E, h100km, mb4.1/1, MD4.6/1, ML4.5/1, Error ellipse: s-maj=32.6km s-min=7.2km az=132.0*
*NEIC **21** 18:20:43.9±0.9, 8.01S×120.75E, h30km, mb3.9/1, Error ellipse: s-maj=61.9km s-min=10.4km az=59.0*
ISC 21 18:20:43.2±1.1, 8.14S±0.06×120.69E±0.05, h48km±14km, n18, σ0§93/24, mb3.7/4, 3C-3D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang**	**3.81**	**346**	*e*Pn	P	**18 21 40.5**	**-0.5**
BUNI	**Buntu Taipa**	**4.47**	**355**	*e*Pn	P	**18 21 50.3**	**0.0**
KEDI	**Kedomdong**	**4.54**	**265**	⇑*e*Pn	P	**18 21 51.9**	**+0.6**
	72nm,0.2s						
KEDI				⇓*e*Sn	S	**18 22 44.0**	**+0.5**
RATI	**Rata**	**5.14**	**263**	⇓*e*Pn	P	**18 22 00.1**	**+0.5**
RATI	**Rata**	**5.14**	**263**	⇓*e*P	P	**18 22 00.9**	**+1.3**
RATI				⇓*e*Sn	S	**18 22 57.7**	**-0.7**
SRDI	**Scrawed**	**6.49**	**267**	⇑*e*P	P	**18 22 17.1**	**-1.4**
	22nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.01**	**155**	*e*P	P	**18 23 20.6**	**-0.3**
	6.1nm,0.6s						
FITZ				*e*S	S	**18 25 22.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.01**	**155**	Pn	P	**18 23 20.0**	**-0.9**
	1.4nm,0.3s,baz=348,slow=8.0,SNR=21						
FITZ				Sn	S	**18 25 17.7**	**-5.8**
	0.7nm,0.3s,baz=202,slow=15,SNR=3.2						
WRA	**Warramunga Arr**	**17.67**	**133**	P	P	**18 24 48.0**	**+0.4**
	0.3nm,0.3s,baz=303,slow=14,SNR=9.4						
WRA				S	S	**18 27 59.2**	**-1.2**
	0.1nm,0.3s,baz=307,slow=22,SNR=4.6						
WRAB	**Tennant Creek**	**17.67**	**133**	P	P	**18 24 42.9**	**-4.7**
	10nm,1.1s						
WB2	**Warramunga Arr**	**17.68**	**133**	*e*P	P	**18 24 48.8**	**+1.1**
ASPA	**Alice Springs**	**19.96**	**142**	*e*P	P	**18 25 16.5**	**+2.3**
ASAR	**Alice Springs**	**19.96**	**142**	P	P	**18 25 14.1**	**-0.2**
	0.9nm,0.6s,baz=311,slow=9.9,SNR=39						
ASAR				S	S	**18 28 58.6**	**+7.5**
	2.1nm,1.2s,baz=307,slow=18,SNR=4.6						
STKA	**Stephens Creek**	**30.59**	**143**	P	P	**18 26 55.4**	**+0.4**
	0.6nm,0.4s,mb3.8,baz=323,slow=13,SNR=5.9						
SONM	**Songino Array**	**57.15**	**349**	P	P	**18 30 26.2**	**-1.3**
	0.3nm,0.6s,mb3.5,baz=117,slow=3.2,SNR=3.3						
MKAR	**Makanchi Array**	**64.48**	**332**	P	P	**18 31 17.1**	**-0.1**
	0.4nm,0.9s,mb3.5,baz=150,slow=7.4,SNR=5.1						
ZAL	**Zalesovo**	**68.85**	**338**	P	P	**18 31 45.5**	**+0.8**
	0.7nm,0.3s,mb4.1,baz=206,slow=8.9,SNR=3.9						
ZAL	**Zalesovo**	**68.85**	**338**	P	P	**18 31 45.5**	**+0.8**

IDC 21 18:27:59.0±1.6, 8.13S×120.56E, mb3.6/4, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML3.9/2, Error ellipse: s-maj=135.5km s-min=19.6km az=59.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.08**	**154**	Pn	P	18 30 40.8	-1.1
	1.0nm,0.3s,baz=344,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**17.78**	**133**	P	P	18 32 07.1	-2.6
	0.3nm,0.3s,baz=307,slow=14,SNR=8.8						
ASAR	**Alice Springs**	**20.06**	**142**	P	P	18 32 33.8	-3.1
	1.0nm,0.3s,baz=313,slow=9.8,SNR=28						
STKA	**Stephens Creek**	**30.68**	**143**	P	P	18 34 15.6	-2.2
	0.7nm,0.3s,baz=338,slow=9.4,SNR=8.1						
SONM	**Songino Array**	**57.11**	**349**	P	P	18 37 47.6	-2.1
	0.3nm,0.8s,baz=162,slow=8.9,SNR=3.8						
MKAR	**Makanchi Array**	**64.40**	**332**	P	P	18 38 37.0	-2.4
	0.5nm,0.7s,baz=144,slow=7.4,SNR=7.5						

*MOS **21** 18:35:43.0±1.3, 34.40N×24.90E, h10km, mb4.1/15, Error ellipse: s-maj=8.7km s-min=4.8km az=109.7*
*IDC **21** 18:35:44.2±0.9, 34.63N×24.82E, mb3.9/10, mb1 4.1/13, mb1mx4.0/25, mbtmp4.0/13, ML4.1/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/30, Error ellipse: s-maj=18.9km s-min=11.2km az=88.0*
*BJI **21** 18:35:45.2, 34.60N×25.00E, h16km, mB5.2, mb4.5, Ms4.4, Msz4.2*
*NEIC **21** 18:35:46.2, 34.64N×24.97E, h16km, mb4.0/27, MD3.7(ATH), After ATH.*
*CSEM **21** 18:35:46.6±0.1, 34.45N×24.89E, h40km, mb4.1/13, Error ellipse: s-maj=3.2km s-min=1.5km az=39.0*
*ATH **21** 18:35:47.3, 34.70N×24.97E, h18km±1km, MD4.0/15, ML4.1*
*HLW **21** 18:35:50.9, 34.69N×25.39E, h24km, Mb3.9*
ISC 21 18:35:45.9±0.8, 34.50N±0.03×24.91E±0.03, h24km±6km, n158, σ1§23/171, mb4.0/29, 7C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.74**	**60**	*e*PN	Pn	**18 35 59.8**	**-1.1**
GVD	**Gavdhos**	**0.76**	**296**	*e*Pn	Pn	**18 36 01.7**	**+0.6**
GVD				*e*Sn	Sn	**18 36 11.7**	**-0.1**
GVD	**Gavdhos**	**0.76**	**296**	*e*Pn	Pn	**18 36 01.7**	**+0.6**
GVD				*e*Sn	Sn	**18 36 11.7**	**-0.1**
IDI	**Anoyia**	**0.78**	**359**	Pg	Pb	**18 35 58.2**	**-2.5**
	132nm,0.3s,baz=170,slow=17,SNR=1364						
IDI				Lg		18 36 05.5	
	674nm,0.3s,baz=282,slow=20,SNR=85						
NPS	**Neapolis**	**0.95**	**37**	⇓*i*PN	Pn	**18 36 02.0**	**-1.8**
NPS				*e*SN	Sn	**18 36 12.0**	**-4.7**
NPS	**Neapolis**	**0.95**	**37**	*e*Pn	Pn	**18 36 02.0**	**-1.8**
NPS				*e*Sn	Sn	**18 36 12.0**	**-4.7**
VAM	**Vamos**	**1.08**	**327**	*e*PB	Pb	**18 36 04.7**	**-1.0**
VAM				*e*SN	Sn	**18 36 19.8**	**-0.1**
THR6	**Thira Island,**	**1.89**	**12**	*e*P	Pn	**18 36 19.5**	**+2.2**
THR1	**Thera Island**	**1.92**	**13**	*e*P	Pn	**18 36 17.8**	**+0.2**
SANT	**Santorini**	**1.92**	**13**	*e*Pn	Pn	**18 36 17.9**	**+0.3**
SANT				*e*Sn	Sn	**18 36 40.3**	**-0.9**
SANT	**Santorini**	**1.92**	**13**	*e*Pn	Pn	**18 36 18.0**	**+0.4**
SANT				*e*Sn	Sn	**18 36 40.3**	**-0.9**
THR3	**Thira Island,**	**1.94**	**12**	*e*P	Pn	**18 36 18.4**	**+0.4**
THR5	**Thira Island,**	**1.94**	**10**	*e*P	Pn	**18 36 18.5**	**+0.5**
KARP	**Karpathos**	**2.12**	**60**	*e*PB	Pb	**18 36 21.7**	**-1.7**
KARP				*e*SN	Sn	**18 36 48.3**	**+1.9**
KAP	**Karpathos**	**2.13**	**60**	*e*Pn	Pn	**18 36 21.7**	**+1.0**
KAP				*e*Sn	Sn	**18 36 48.3**	**+1.6**
KYTH	**Kithira**	**2.34**	**320**	*e*PN	Pn	**18 36 25.7**	**+1.9**
APE	**Apeiranthos**	**2.61**	**11**	*e*PB	Pb	**18 36 27.8**	**-4.0**
APE				*e*SN	Sn	**18 36 58.5**	**-0.3**
VLI	**Veliai**	**2.73**	**324**	⇑*i*PN	Pn	**18 36 30.7**	**+1.3**
VLI				*e*SN	Sn	**18 37 03.2**	**+1.2**
SLUM		**3.01**	**175**	⇓P	Pn	**18 36 38.6**	**+5.3**
SLUM				S	Sn	**18 37 13.6**	**+4.5**
ARG	**Arkhangelos**	**3.13**	**56**	*e*PN	Pn	**18 36 36.9**	**+1.9**
BDRM	**Kayabasi**	**3.28**	**38**	*i* P	Pn	**18 36 40.5**	**+3.4**
SMG	**Samos**	**3.56**	**25**	*e*PN	Pn	**18 36 41.6**	**+0.6**
NSAL	**Nisos Salamina**	**3.59**	**341**	*e*PN	Pn	**18 36 42.5**	**+1.0**
ATH	**Athens Observa**	**3.59**	**345**	*e*PN	Pn	**18 36 42.0**	**+0.4**
ITM	**Ithomi**	**3.61**	**319**	*e*PN	Pn	**18 36 42.8**	**+1.0**
PTL	**Penteli**	**3.64**	**347**	*e*PN	Pn	**18 36 42.7**	**+0.5**
MGER	**Gerania Oros**	**3.72**	**339**	*e*PN	Pn	**18 36 43.5**	**+0.1**
MPAR	**Parnis Oros**	**3.76**	**346**	*e*PN	Pn	**18 36 44.5**	**+0.6**
AYDN	**Tasoluk**	**3.96**	**36**	*i* P	Pn	**18 36 48.8**	**+2.0**
KDAG	**Bornova**	**4.33**	**25**	*i* P	Pn	**18 36 52.5**	**+0.5**
DABA	**Dabaa**	**4.49**	**140**	⇓P	Pn	**18 36 54.9**	**+0.6**
DNZL	**Cakiroluk**	**4.62**	**45**	*i* P	Pn	**18 36 57.0**	**+0.9**
GOLH	**Golhisar**	**4.66**	**53**	*i* P	Pn	**18 36 57.8**	**+1.2**
CSS	**Prodhromos**	**6.95**	**84**	*e*Pn	Pn	**18 37 23.1**	**-5.8**
	13nm,0.9s						
CSS				*e*Sn	Sn	**18 38 37.5**	**-10**
FYM	**Al Fayyum**	**7.07**	**131**	⇓P	Pn	**18 37 30.3**	**-0.4**
HSAF	**As Saff**	**7.45**	**129**	P	Pn	**18 37 35.3**	**-0.6**
HFRF	**Wahat Farafira**	**7.89**	**157**	⇑P	Pn	**18 37 44.2**	**+2.1**
AMAG	**Maghara**	**7.99**	**117**	P	Pn	**18 37 42.2**	**-1.3**
TIP	**Timpagrande**	**8.03**	**308**	P	P	**18 37 40.0**	**-4.1**
ZAF		**8.32**	**127**	⇑P	P	**18 37 47.1**	**-1.0**
ZNM		**8.48**	**125**	P	P	**18 37 49.2**	**-1.1**
BRTR	**Keskin Array B**	**8.70**	**51**	Pn	P	**18 37 53.0**	**-0.4**
	0.2nm,0.3s,baz=234,slow=15,SNR=13						
ASUT		**9.10**	**139**	P	P	**18 37 59.1**	**+0.3**
HDK1	**Dakhla**	**9.74**	**155**	P	P	**18 38 09.9**	**+2.2**
HKAT	**Jabal Katrina**	**9.77**	**125**	⇓P	P	**18 38 07.5**	**-0.8**
EIL	**Elat**	**9.78**	**117**	Pn	P	**18 38 08.0**	**-0.4**
	0.9nm,0.3s,baz=336,slow=21,SNR=8.3						
EIL	**Elat**	**9.78**	**117**	*e*P	P	**18 38 04.8**	**-3.5**
	5.8nm,0.6s						
EIL				Pn	P	**18 38 08.0**	**-0.4**
EIL				*e*S	Sn	18 39 39.5	-19
EIL	**Elat**	**9.78**	**117**	Pn	P	**18 38 07.9**	**-0.4**
NUB		**9.92**	**121**	⇑P	P	**18 38 08.9**	**-1.3**
HDHB	**Dhahab**	**10.08**	**122**	⇑P	P	**18 38 11.5**	**-0.9**
AKRG	**Al Kharijah**	**10.19**	**150**	⇑P	P	**18 38 15.2**	**+1.3**
GTR	**Jabal at Tayr**	**10.21**	**150**	⇑P	P	**18 38 14.7**	**+0.5**
MLR	**Muntele Rosu**	**11.00**	**4**	LR	LR	18 42 20.6	
	comp=Z,87nm,20.3s,baz=178,slow=36						
MALT	**Malatya**	**11.53**	**67**	P	P	**18 38 31.3**	**-0.9**
AQU	**L'Aquila**	**11.95**	**314**	P	P	**18 38 30.9**	**-6.9**
	40nm,1.3s						
MORC	**Moravsky Berou**	**16.20**	**343**	P	P	**18 39 28.6**	**-4.9**
MORC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MORC	**Moravsky Berou**	**16.20**	**343**	P	P	**18 39 28.6**	**-4.9**
	comp=Z,4.7nm,1.1s						
SBF	**Sospel**	**16.43**	**310**	*e*P	P	**18 39 40.1**	**+3.5**
AKASG	**Malin Array Be**	**16.49**	**10**	Pn	P	**18 39 37.2**	**0.0**
	comp=Z,4.2nm,0.3s,baz=201,slow=11,SNR=37						
AKASG	**Malin Array Be**	**16.49**	**10**	Pn	P	**18 39 37.2**	**0.0**
GEC2	**GERESS Array S**	**16.57**	**333**	*e*P	P	**18 39 40.7**	**+2.5**
GERES	**GERESS Array B**	**16.57**	**333**	Pn	P	**18 39 37.6**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=148,slow=12,SNR=63						
KHC	**Kasperske Hory**	**16.85**	**334**	*e*P	P	**18 39 42.0**	**+0.2**
ZEI	**Tsey**	**16.95**	**55**	*e*P	P	**18 39 43.5**	**+0.4**
WET	**Wettzell**	**17.13**	**332**	*e*P	P	**18 39 46.3**	**+1.1**
MBDF	**Montbardon**	**17.27**	**312**	*e*P	P	**18 39 48.6**	**+1.5**
	comp=Z,9.8nm,0.9s						
MBDF	**Montbardon**	**17.27**	**312**	*e*P	P	**18 39 48.6**	**+1.5**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LPG	**La Plagne**	**17.68**	**314**	*e*P	P	**18 39 55.2**	**+3.0**
	comp=Z,8.2nm,0.9s						
LPG	**La Plagne**	**17.68**	**314**	*e*P	P	**18 39 55.2**	**+3.0**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LPL	**La Plagne**	**17.70**	**314**	*e*P	P	**18 39 54.5**	**+2.0**
	comp=Z,2.3nm,0.5s						
LPL	**La Plagne**	**17.70**	**314**	*e*P	P	**18 39 54.5**	**+2.0**
LPL				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GRA1	**Grafenberg Arr**	**18.22**	**331**	*e*P	P	**18 40 00.2**	**+1.3**
GRF	**Grafenberg Arr**	**18.22**	**331**	*e*P	P	**18 40 00.2**	**+1.3**
CABF	**La Chapelle**	**18.68**	**316**	*e*P	P	**18 40 06.5**	**+2.0**
CLL	**Collm**	**18.88**	**336**	P	P	**18 40 06.0**	**-0.9**
HINF	**Hinteralfeld**	**18.96**	**320**	*e*P	P	**18 40 06.9**	**-0.9**
CDF	**Champ du Feu**	**19.11**	**322**	*e*P	P	**18 40 09.9**	**+0.2**
	comp=Z,8.8nm,0.8s						
CDF	**Champ du Feu**	**19.11**	**322**	*e*P	P	**18 40 09.9**	**+0.2**
CDF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HAU	**Haudompre**	**19.34**	**320**	*e*P	P	**18 40 11.2**	**-1.2**
	comp=Z,4.9nm,0.5s						
HAU	**Haudompre**	**19.34**	**320**	*e*P	P	**18 40 11.2**	**-1.2**
HAU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SUW	**Suwalki**	**19.54**	**357**	*e*P	P	**18 40 09.7**	**-4.9**
SUW				pmax	pmax		
	comp=Z,27nm,0.7s						
SUW	**Suwalki**	**19.54**	**357**	*e*P	P	**18 40 09.7**	**-4.9**
	comp=Z,27nm,0.7s						
TNS	**Taunus Mts**	**19.80**	**327**	*e*P	P	**18 40 18.7**	**+1.3**
SMF	**Signal de Mont**	**20.01**	**314**	*e*P	P	**18 40 17.8**	**-1.9**
	comp=Z,12nm,0.9s						
SMF	**Signal de Mont**	**20.01**	**314**	*e*P	P	**18 40 17.8**	**-1.9**
SMF				pmax	pmax		
	comp=Z,6.0nm,0.9s						
LOR	**Lormes**	**20.32**	**315**	*e*P	P	**18 40 21.8**	**-1.1**
	comp=Z,4.3nm,0.5s						
LOR	**Lormes**	**20.32**	**315**	*e*P	P	**

CHKZ					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1							
CHKZ	**Chkalovo**	**37.22**	**45**	*e*P		**P**	**18 42 56.1**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.1							
CHKZ	**Chkalovo**	**37.22**	**45**	*e*P		**P**	**18 42 56.1**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.1							
AAK	**Ala-Archa**	**39.13**	**63**	*e*P		**P**	**18 43 13.0**	**-0.2**
AAK					pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6							
AAK	**Ala-Archa**	**39.13**	**63**	*e*P		**P**	**18 43 13.0**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.6							
AAK	**Ala-Archa**	**39.13**	**63**	*e*P		**P**	**18 43 13.0**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.6							
MKAR	**Makanchi Array**	**44.31**	**56**	P		**P**	**18 43 55.8**	**+0.3**
	comp=Z,4.2nm,0.7s,mb4.3,baz=280,slow=6.4,SNR=62							
ZAK	**Zakamensk**	**57.33**	**48**	*e*P		**P**	**18 45 34.0**	**-0.2**
ZAK					pmax	pmax		
	comp=Z,1.0nm,1.8s,mb3.5							
ZAK	**Zakamensk**	**57.33**	**48**	*e*P		**P**	**18 45 34.0**	**-0.2**
	comp=Z,1.0nm,1.8s,mb3.5							
PALK	**Pallekele**	**57.89**	**104**	P		**P**	**18 45 41.0**	**+2.4**
	comp=Z,3.4nm,1.0s,mb4.3							
SONM	**Songino Array**	**60.06**	**50**	P		**P**	**18 45 52.8**	**-0.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=288,slow=7.5,SNR=16							
ULN	**Ulaanbaatar**	**60.47**	**50**	*e*P		**P**	**18 45 55.7**	**-0.3**
ULN					pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
ULN	**Ulaanbaatar**	**60.47**	**50**	*e*P		**P**	**18 45 55.7**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.2							
ULN	**Ulaanbaatar**	**60.47**	**50**	*e*P		**P**	**18 45 55.7**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.2							
SCHQ	**Schefferville**	**63.56**	**320**	P		**P**	**18 46 16.2**	**-0.3**
	comp=Z,2.0nm,0.5s,mb4.4,baz=32,slow=10.0,SNR=5.9							
SCHQ	**Schefferville**	**63.56**	**320**	*e*P		**P**	**18 46 16.1**	**-0.4**
	comp=Z,2.7nm,0.6s,mb4.5							
SCHQ	**Schefferville**	**63.56**	**320**	*e*P		**P**	**18 46 16.1**	**-0.4**
	comp=Z,2.7nm,0.6s,mb4.5							
RES	**Resolute Bay**	**64.25**	**345**	*e*P		**P**	**18 46 20.1**	**-0.6**
RES					pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3							
RES	**Resolute Bay**	**64.25**	**345**	*e*P		**P**	**18 46 20.1**	**-0.7**
	comp=Z,2.4nm,0.7s,mb4.3							
RES	**Resolute Bay**	**64.25**	**345**	*e*P		**P**	**18 46 20.1**	**-0.6**
	comp=Z,2.0nm,0.7s,mb4.3							
CM31	**Chiang Mai Arr**	**66.85**	**83**	*e*P		**P**	**18 46 39.5**	**+1.1**
	comp=Z,2.6nm,0.9s,mb4.3							
CMAR	**Chiang Mai Arr**	**66.85**	**83**	P		**P**	**18 46 38.5**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.5,baz=305,slow=11,SNR=4.1							
CN2	**Changchun**	**73.76**	**48**	*e*P		**P**	**18 47 19.3**	**-0.5**
MDJ	**Mudanjiang**	**75.81**	**45**	P		**P**	**18 47 28.4**	**-3.2**
MDJ					AMB	AMB		
	comp=Z,243nm,4.6s							
INK	**Inuvik**	**76.24**	**352**	*e*P		**P**	**18 47 32.6**	**-0.9**
INK					pmax	pmax		
	comp=Z,2.0nm,0.7s							
INK	**Inuvik**	**76.24**	**352**	*e*P		**P**	**18 47 32.6**	**-0.9**
	comp=Z,1.8nm,0.7s,mb4.1							
INK	**Inuvik**	**76.24**	**352**	*e*P		**P**	**18 47 32.6**	**-0.9**
	comp=Z,2.0nm,0.7s,mb4.2							
YKA	**Yellowknife Ar**	**78.01**	**342**	P		**P**	**18 47 43.4**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=31,slow=5.4,SNR=12							
COLA	**College**	**80.79**	**357**	P		**P**	**18 47 56.4**	**-2.0**
COLA					pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
COLA	**College**	**80.79**	**357**	P		**P**	**18 47 56.4**	**-2.0**
	comp=Z,3.3nm,0.6s,mb4.4							
COLA	**College**	**80.79**	**357**	P		**P**	**18 47 56.4**	**-2.0**
	comp=Z,3.0nm,0.6s,mb4.4							
YSS	**Yuzh-Sakhalins**	**81.57**	**38**	P		**P**	**18 48 04.4**	**+1.5**
YSS					pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1							
YSS	**Yuzh-Sakhalins**	**81.57**	**38**	P		**P**	**18 48 04.3**	**+1.5**
	comp=Z,26nm,1.1s,mb5.1							

*IDC **21** 18:47:01.2±2.1,34.62N×24.64E,mb3.6/2,mb1 3.7/4, mb1mx3.4/24,mbtmp3.5/4,ML3.7/2,Error ellipse: s-maj=46.9km s-min=15.8km az=105.0*
*ATH **21** 18:47:06.3,34.81N×24.95E,h5km,MD3.6/6*
*NEIC **21** 18:47:06.3,34.81N×24.95E,h5km,MD3.6(ATH),After ATH.*
*CSEM **21** 18:47:07.1±0.1,34.84N×24.92E,h2km,MD3.6,Error ellipse: s-maj=3.4km s-min=1.8km az=176.0*
ISC 21 18:47:05.1±1.6,34.8N±0.1×24.98E±0.06,h2km±10km,n14,σ1$26/16,mb3.4/2,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**0.53**	**352**	Pg		**Pg**	**18 47 15.7**	**+0.1**
	58nm,0.3s,baz=185,slow=15,SNR=158						
IDI				Lg			18 47 23.6
	189nm,0.3s,baz=308,slow=18,SNR=43						
XRY	**Khrisi**	**0.60**	**79**	*e*PB		**Pb**	**18 47 19.0**	**+1.1**
NPS	**Neapolis**	**0.72**	**46**	*e*PG		**Pg**	**18 47 19.3**	**-0.1**
NPS				*e*SB		**Sb**	**18 47 29.4**	**-0.5**
GVD	**Gavdhos**	**0.74**	**276**	*e*PB		**Pb**	**18 47 20.0**	**-0.3**
VAM	**Vamos**	**0.91**	**315**	*e*PG		**Pg**	**18 47 22.3**	**-0.9**
VAM				*e*SB		**Sb**	**18 47 35.9**	**+0.5**
THR1	**Thera Island**	**1.65**	**14**	*e*P		**Pn**	**18 47 36.4**	**+1.2**
THR3	**Thira Island,**	**1.67**	**12**	*e*P		**Pn**	**18 47 35.4**	**-0.2**
THR5	**Thira Island,**	**1.67**	**10**	*e*P		**Pn**	**18 47 36.0**	**+0.4**
KARP	**Karpathos**	**1.95**	**66**	*e*PN		**Pn**	**18 47 42.9**	**+3.4**
VLI	**Veliai**	**2.56**	**320**	*e*PN		**Pn**	**18 47 50.6**	**+2.3**
AKASG	**Malin Array Be**	**16.22**	**10**	Pn		**P**	**18 50 53.7**	**-1.8**
	0.6nm,0.3s,baz=201,slow=11,SNR=2.8						
GERES	**GERESS Array B**	**16.36**	**333**	Pn		**P**	**18 50 53.6**	**-3.7**
	0.1nm,0.3s,baz=158,slow=43,SNR=1.7						
FINES	**FINESS Array B**	**26.70**	**1**	P		**P**	**18 52 41.5**	**-5.7**
	0.8nm,0.7s,mb3.4,baz=180,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**44.11**	**56**	P		**P**	**18 55 13.3**	**-3.0**
	0.4nm,0.4s,mb3.5,baz=277,slow=6.8,SNR=8.0						

IDC 21 19:03:29.3±1.6,1.66N×126.42E,mb3.7/4,mb1 3.9/5, mb1mx3.7/18,mbtmp3.8/5,ML3.8/1,Error ellipse: s-maj=105.1km s-min=22.5km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.65**	**182**	P		P	19 08 00.0	-2.7
	0.2nm,0.3s,baz=21,slow=8.6,SNR=4.5						
WRA	**Warramunga Arr**	**22.83**	**160**	P		P	19 08 33.1	-2.4
	4.9nm,0.9s,baz=339,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.20**	**164**	P		P	19 09 06.8	-0.9
	1.0nm,0.4s,baz=348,slow=8.3,SNR=20						
STKA	**Stephens Creek**	**36.33**	**158**	P		P	19 10 35.0	-1.9
	1.1nm,0.8s,baz=318,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**59.08**	**326**	P		P	19 13 31.4	-2.4
	0.2nm,0.4s,baz=120,slow=7.8,SNR=7.3						

MAN 21 19:04:07.3,6.26N×124.80E,h16km,mb4.5,ML3.4,MS3.2, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.79**	**21**	⇓*e*P		Pb	19 04 22.4	+0.2
KCP				*i* S		Sb	19 04 33.5	+1.0
BUKP	**Musuan**	**1.63**	**9**	*e*P		Pn	19 04 34.6	-1.0
PAGZ	**Pagadian**	**2.11**	**318**	*e*P		Pn	19 04 42.4	-0.2
PAGZ				*e*S		Sn	19 04 49.1	-20
CGP	**Cagayan de Oro**	**2.18**	**357**	⇑*i*P		Pn	19 04 43.0	-0.4
CGP				*i* S		Sn	19 05 10.8	+0.5
IPIL	**Ipil**	**2.68**	**305**	*e*P		Pn	19 04 50.8	+0.1
IPIL				*e*S		Sn	19 05 23.8	+0.7

*MOS **21** 19:24:26.9±1.2,13.52N×145.64E,h58km,mb4.7/18,Error ellipse: s-maj=14.2km s-min=8.2km az=105.6*
*BJI **21** 19:24:26.4,13.37N×145.96E,h70km,mB5.1,mb4.8, Ms4.3,Msz4.0*
*IDC **21** 19:24:27.5±6.0,13.48N×145.75E,h46km±57km,mb4.1/18, mb1 4.2/18,mb1mx4.2/23,mbtmp4.3/18,MS4.0/17, Ms1 4.0/17,ms1mx3.8/29,Error ellipse: s-maj=23.9km s-min=14.5km az=87.0*
*NEIC **21** 19:24:28.1±1.3,13.51N×145.68E,h52km±11km,mb4.7/28, MS4.5/1,Error ellipse: s-maj=9.4km s-min=5.9km az=92.0*
ISC 21 19:24:26.3±0.3,13.50N±0.04×145.71E±0.05,h50km, h50km±3.6km:pP-P,n113,σ1$23/109,mb4.6/60,MS4.0/26, 5C-3D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.82**	**276**	*e*Pg		**P**	**19 24 42.8**	**+1.1**
GUMO				*e*Sg		**S**	**19 24 56.1**	**+3.0**
JOW	**Kunigami**	**21.03**	**312**	P		**P**	**19 29 09.1**	**+1.0**
	7.4nm,0.6s,mb4.2,baz=139,slow=10,SNR=7.1						
JOW				LR	LR		19 36 00.4	
	comp=Z,675nm,19.6s,MS4.0,baz=132,slow=33						
PMG	**Port Moresby**	**22.80**	**176**	*e*P		**P**	**19 29 26.1**	**+0.2**
PMG					pmax	pmax		
	comp=Z,38nm,1.2s							
PMG	**Port Moresby**	**22.80**	**176**	*e*P		**P**	**19 29 26.1**	**+0.2**
	comp=Z,38nm,1.2s,mb4.7							
MJAR	**Matsushiro Arr**	**23.91**	**345**	P		**P**	**19 29 36.3**	**-0.1**
	comp=Z,4.2nm,0.8s,mb3.9,baz=163,slow=10.0,SNR=8.8							
MAJO	**Matsushiro**	**23.91**	**345**	*e*P		**P**	**19 29 37.0**	**+0.6**
MAJO					pmax	pmax		
	comp=Z,18nm,1.0s,mb4.5							
MAJO	**Matsushiro**	**23.91**	**345**	*e*P		**P**	**19 29 37.0**	**+0.6**
	comp=Z,18nm,1.0s,mb4.5							
SSE	**Sheshan**	**28.55**	**312**	P		**P**	**19 30 18.6**	**-1.0**
SSE				S		**S**	**19 35 02.9**	**+0.3**
SSE				AMB		AMB		
	comp=Z,35nm,0.7s,mb5.2							
SSE				AMB		AMB		
	comp=Z,81nm,6.5s							
SSE				LR		LR		
	comp=N,202nm,26.0s,MS3.8							
SSE				LR		LR		
	comp=E,216nm,26.0s,MS3.8							
SSE				LR		LR		
	comp=Z,244nm,24.6s,MS3.7							
SSE	**Sheshan**	**28.55**	**312**	P		**P**	**19 30 18.6**	**-1.0**
	comp=Z,35nm,0.7s,mb5.2							
SSE				pP		pP	19 30 31.6	-0.9
SSE				S		**S**	**19 35 02.9**	**+0.3**
SSE				sS			19 35 25.5	
SSE				LR		LR		
	comp=Z,240nm,24.6s,MS3.7							
KAKA	**Kakadu**	**29.18**	**207**	⇓*i*P		**P**	**19 30 24.7**	**-0.6**
	comp=Z,10nm,0.6s,mb4.7							
NJ2	**Nanjing**	**30.75**	**311**	*e*P		**P**	**19 30 40.5**	**+1.3**
NJ2				AP		pP	19 30 52.9	+0.8
NJ2				PP		PP	19 31 41.8	+0.5
NJ2				S		**S**	**19 35 37.0**	**-0.4**
NJ2				AMB		AMB		
	comp=Z,20nm,0.5s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,170nm,4.5s							
NJ2				LR		LR		
	comp=N,820nm,26.0s							
NJ2				LR		LR		
	comp=E,400nm,14.6s							
NJ2				LR		LR		
	comp=Z,340nm,24.3s,MS3.9							
MDJ	**Mudanjiang**	**33.92**	**339**	P		**P**	**19 31 05.0**	**-1.7**
MDJ				PP		PP	19 32 20.3	-1.1
MDJ				PCP		PcP	19 33 43.1	-1.3
MDJ				S		**S**	**19 36 25.9**	**-0.9**
MDJ				SCP			19 37 22.8	
MDJ				PCS			19 37 29.0	
MDJ				AMB		AMB		
	comp=Z,344nm,4.5s							
MDJ				LR		LR		
	comp=N,79nm,40.3s,MS3.5							
MDJ				LR		LR		
	comp=E,172nm,36.3s,MS3.5							
MDJ				LR		LR		
	comp=Z,183nm,22.4s							
CN2	**Changchun**	**34.84**	**334**	*e*P		**P**	**19 31 17.3**	**+2.7**
WRAB	**Tennant Creek**	**35.05**	**199**	*e*P		**P**	**19 31 15.8**	**-0.8**
WRAB					pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9							
WRAB	**Tennant Creek**	**35.05**	**199**	*e*P		**P**	**19 31 15.8**	**-0.8**
	comp=Z,14nm,0.8s,mb4.9							
WB2	**Warramunga Arr**	**35.06**	**199**	⇓*i*P		**P**	**19 31 16.3**	**-0.4**
WRA	**Warramunga Arr**	**35.06**	**199**	P		**P**	**19 31 16.1**	**-0.6**
	comp=Z,8.0nm,0.8s,mb4.7,baz=22,slow=9.5,SNR=33							
FITZ	**Fitzroy Crossi**	**37.12**	**213**	⇑*i*P		**P**	**19 31 34.4**	**+0.3**
	comp=Z,15nm,0.8s,mb4.9							
FITZ	**Fitzroy Crossi**	**37.12**	**213**	LR		LR	19 46 11.2	
	comp=Z,262nm,20.4s,MS4.0,baz=244,slow=35							
ASAR	**Alice Springs**	**38.70**	**197**	P		**P**	**19 31 47.0**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.0,baz=19,slow=9.7,SNR=28							
ASPA	**Alice Springs**	**38.70**	**197**	*e*P		**P**	**19 31 47.4**	**+0.2**
DZM	**Mont Dzumac**	**40.78**	**150**	LR		LR	19 46 45.6	
	comp=Z,108nm,18.4s,MS3.7,baz=25,slow=33							
KMI	**Kunming**	**42.00**	**293**	P		**P**	**19 32 16.3**	**+1.8**
KMI				AMB		AMB		
	comp=Z,4.0nm,1.5s,mb3.8							
KMI	**Kunming**	**42.00**	**293**	P		**P**	**19 32 16.2**	**+1.7**
KMI					pmax	pmax		
	comp=Z,4.0nm,1.5s,mb3.8							
KMI	**Kunming**	**42.00**	**293**	P		**P**	**19 32 16.2**	**+1.7**
	comp=Z,4.0nm,1.5s,mb3.8							
MBWA	**Marble Bar**	**42.87**	**217**	*e*P		**P**	**19 32 21.7**	**0.0**
	comp=Z,13nm,0.8s,mb4.7							
LZH	**Lanzhou**	**43.71**	**309**	*e*P		**P**	**19 32 28.5**	**+0.1**
LZH				AMB		AMB		
	comp=Z,15nm,1.0s,mb4.7							
LZH				AMB		AMB		
	comp=Z,86nm,4.5s							
LZH				LR		LR		
	comp=E,380nm,15.4s							
LZH				LR		LR		
	comp=Z,560nm,18.0s,MS4.5							
LZH	**Lanzhou**	**43.71**	**309**	*e*P		**P**	**19 32 28.5**	**+0.1**
	comp=Z,15nm,1.0s,mb4.7							
LZH				pP		pP	19 32 36.5	-5.3
LZH				sP		sP	19 32 40.0	-7.8
LZH				LR		LR		
	comp=Z,560nm,18.0s,MS4.5							
CM31	**Chiang Mai Arr**	**45.13**	**283**	*e*P		**P**	**19 32 40.9**	**+0.9**
	comp=Z,8.2nm,0.9s,mb4.6							
CMAR	**Chiang Mai Arr**	**45.13**	**283**	P		**P**	**19 32 40.2**	**+0.2**
	comp=Z,4.6nm,0.8s,mb4.4,baz=85,slow=6.2,SNR=39							
CMAR				PcP		PcP	19 34 21.9	+1.6
	comp=Z,4.6nm,0.7s,baz=100,slow=1.7,SNR=19							
CMAR				LR		LR	19 49 59.4	
	comp=Z,123nm,18.6s,MS3.9,baz=110,slow=34							
STKA	**Stephens Creek**	**45.29**	**185**	*e*P		**P**	**19 32 40.3**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**45.29**	**185**	P		**P**	**19 32 39.9**	**-1.2**
	comp=Z,4.5nm,1.0s,mb4.2,baz=345,slow=11,SNR=6.5							
ULN	**Ulaanbaatar**	**46.92**	**325**	*e*P		**P**	**19 32 53.8**	**+0.1**
ULN					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3							
ULN	**Ulaanbaatar**	**46.92**	**325**	*e*P		**P**	**19 32 53.8**	**0.0**
	comp=Z,3.5nm,0.8s,mb4.3							
SONM	**Songino Array**	**47.28**	**324**	P		**P**	**19 32 57.2**	**+0.7**
	comp=Z,3.5nm,1.0s,mb4.2,baz=127,slow=6.2,SNR=10							
GTA	**Gaotai**	**47.84**	**311**	*e*P		**P**	**19 33 04.3**	**+3.2**
GTA				AP		pP	19 33 18.3	+3.7
GTA				XP		sP	19 33 25.3	+4.8
GTA				PCP		PcP	19 34 31.0	+1.4
GTA				PP		PP	19 34 56.8	+4.2
GTA				S		**S**	**19 40 00.6**	**+7.2**
GTA				XS			19 40 21.5	
GTA				AMB		AMB		
	comp=Z,4.0nm,0.9s,mb4.5							
GTA				AMB		AMB		
	comp=Z,78nm,6.5s							
GTA				LR		LR		
	comp=N,141nm,18.3s							
GTA				LR		LR		
	comp=E,177nm,24.0s							
GTA				LR		LR		
	comp=Z,196nm,22.8s,MS4.0							
YAK	**Yakutsk**	**49.81**	**350**	*e*P		**P**	**19 33 14.7**	**-1.2**
YAK					pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1							
YAK	**Yakutsk**	**49.81**	**350**	*e*P		**P**	**19 33 14.7**	**-1.3**
	comp=Z,13nm,0.7s,mb5.1							
BOD	**Bodaibo**	**50.30**	**339**	*e*P		**P**	**19 33 18.7**	**-1.0**
BOD					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5							
ZAK	**Zakamensk**	**50.37**	**326**	⇑*e*P		**P**	**19 33 19.9**	**-0.5**
ZAK				*e*			19 34 39.1	
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1							
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1							
TLY	**Talaya**	**50.87**	**327**	*e*P		**P**	**19 33 20.9**	**-3.2**
TLY				*e*			19 40 36.3	
TLY					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4							
TLY				MLR		MLR		
	comp=Z,105nm,18.0s,MS3.9							
LSA	**Lhasa**	**52.76**	**297**	P		**P**	**19 33 40.0**	**+1.3**
NWAO	**Narrogin (SRO)**	**53.59**	**210**	LR		LR	19 54 19.4	
	comp=Z,163nm,20.5s,MS4.1,baz=125,slow=33							
BILL	**Bilibino**	**56.12**	**9**	*e*P		**P**	**19 34 02.3**	**-0.4**
BILL				*e*			19 34 58.4	
BILL					pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4							
BILL				MLR		MLR		
	comp=Z,100nm,17.0s,MS4.0							
BILL	**Bilibino**	**56.12**	**9**	P		**P**	**19 34 00.5**	**-2.1**
	comp=Z,13nm,1.0s,mb4.9							
JIRN	**Jiri**	**56.99**	**294**	*e*P		**P**	**19 34 08.4**	**-1.1**
	comp=Z,7.6nm,0.7s,mb4.8							
GUN	**Gumba**	**57.27**	**295**	*e*P		**P**	**19 34 11.3**	**-0.2**
	comp=Z,27nm,1.1s,mb5.2							
PKI	**Pulchoki**	**57.68**	**294**	*e*P		**P**	**19 34 11.6**	**-2.7**
	comp=Z,6.1nm,0.8s,mb4.7							
WMQ	**Urumqi**	**57.79**	**313**	P		**P**	**19 34 15.8**	**+0.9**
WMQ				AP		pP	19 34 30.8	+2.0
WMQ				PCP		PcP	19 35 07.6	+0.7
WMQ				PP		PP	19 36 25.8	+0.9
WMQ				*e*S		**S**	**19 42 10.0**	**+1.5**
WMQ				AMB		AMB		
	comp=Z,62nm,0.8s,mb5.7							
WMQ				AMB		AMB		
	comp=Z,149nm,3.7s							
WMQ				LR		LR		
	comp=N,125nm,21.1s,MS4.0							
WMQ				LR		LR		
	comp=E,58nm,21.0s,MS4.0							
WMQ				LR		LR		
	comp=Z,146nm,22.8s,MS4.0							
KKN	**Kakani**	**57.80**	**294**	*e*P		**P**	**19 34 13.5**	**-1.7**
	comp=Z,8.2nm,0.7s,mb4.9							
DMN	**Daman**	**57.95**	**294**	*e*P		**P**	**19 34 13.1**	**-3.1**
	comp=Z,11nm,0.9s,mb4.9							
GKN	**Gorkha**	**58.37**	**295**	*e*P		**P**	**19 34 18.6**	**-0.5**
	comp=Z,2.6nm,0.2s,mb5.0							
KOLN	**Koldanda**	**59.29**	**294**	*e*P		**P**	**19 34 22.9**	**-2.6**
	comp=Z,9.9nm,0.8s,mb4.9							
TNA	**Tin City**	**60.65**	**20**	*e*P		**P**	**19 34 34.0**	**-0.3**
	comp=Z,3.2nm,1.0s,mb4.4							
MKAR	**Makanchi Array**	**62.12**	**316**	P		**P**	**19 34 43.8**	**-0.7**
	comp=Z,0.9nm,0.3s,mb4.3,baz=95,slow=8.1,SNR=26							
MKAR				LR		LR	20 03 57.0	
	comp=Z,66nm,18.5s,MS3.8,slow=38							
ZAL	**Zalesovo**	**62.18**	**324**	P		**P**	**19 34 44.9**	**+0.1**
	comp=Z,1.0nm,0.5s,mb4.2,baz=10,slow=6.4,SNR=4.9							
ZAL				LR		LR	20 03 06.0	
	comp=Z,165nm,19.8s,MS4.2,baz=7.7,slow=37							
NVS	**Novosibirsk**	**63.30**	**325**	*e*P		**P**	**19 34 51.4**	**-0.8**
NVS					pmax	pmax		
	comp=N,3.0nm,1.2s							
NVS					pmax	pmax		
	comp=E,5.0nm,1.2s							
NVS					pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7							
PALK	**Pallekele**	**64.09**	**272**	*e*P		**P**	**19 34 57.3**	**-0.7**
	comp=Z,9.4nm,1.1s,mb4.7							
SML	**Sawmill**	**66.90**	**28**	*e*P		**P**	**19 35 14.5**	**-0.7**
AAK	**Ala-Archa**	**67.19**	**311**	P		**P**	**19 35 15.2**	**-2.1**
COLA	**College**	**67.93**	**25**	P		**P**	**19 35 22.0**	**+0.4**
ILAR	**Eielson Array**	**68.30**	**25**	P		**P**	**19 35 22.9**	**-1.0**
	comp=Z,2.4nm,0.6s,mb4.4,baz=252,slow=6.1,SNR=26							
THY	**Trims Highway**	**68.45**	**27**	*e*P		**P**	**19 35 23.2**	**-1.7**
CHKZ	**Chkalovo**	**70.41**	**322**	*e*P		**P**	**19 35 35.8**	**-1.2**
CHKZ					pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
CHKZ	**Chkalovo**	**70.41**	**322**	*e*P		**P**	**19 35 35.8**	**-1.2**
	comp=Z,3.1nm,0.9s,mb4.2							
PPT	**Papeete**	**70.93**	**114**	LR		LR	20 00 58.4	
	comp=Z,234nm,21.8s,MS4.4,baz=289,slow=31							
INK	**Inuvik**	**74.14**	**22**	*e*P		**P**	**19 35 58.8**	**0.0**
INK					pmax	pmax		
	comp=Z,7.0nm,1.0s							
INK	**Inuvik**	**74.14**	**22**	P		**P**	**19 35 58.8**	**0.0**
	comp=Z,6.1nm,1.1s,mb4.5,baz=272,slow=6.2,SNR=11							
INK	**Inuvik**	**74.14**	**22**	*e*P		**P**	**19 35 58.8**	**0.0**
	comp=Z,7.1nm,1.0s,mb4.5							
DLBC	**Dease Lake**	**75.62**	**33**	*e*P		**P**	**19 35 59.7**	**-7.8**
ARU	**Arti**	**77.30**	**325**	*e*P		**P**	**19 36 16.9**	**-0.1**
ARU	**Arti**	**77.30**	**325**	*e*P		**P**	**19 36 16.9**	**-0.1**
YKA	**Yellowknife Ar**	**82.56**	**27**	P		**P**	**19 36 46.1**	**+1.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=286,slow=5.1,SNR=11							
YKA				LR		LR	20 13 31.6	
	comp=Z,93nm,19.1s,MS4.2,baz=290,slow=36							
HOQ	**Hoqain**	**83.27**	**293**	⇓P		**P**	**19 36 51.6**	**+2.2**
	SNR=6.2							
RES	**Resolute Bay**	**84.45**	**13**	*e*P		**P**	**19 36 55.0**	**+0.7**
RES					pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4							
RES	**Resolute Bay**	**84.45**	**13**	*e*P		**P**	**19 36 55.0**	**+0.7**
	comp=Z,3.5nm,0.9s,mb4.5							
CMB	**Columbia Colle**	**84.83**	**52**	P		**P**	**19 36 58.2**	**+1.1**
CMB					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6							
CMB	**Columbia Colle**	**84.83**	**52**	P		**P**	**19 36 58.2**	**+1.1**

BRTR	Keskin Array B	97.71 314	P	P	19 37 56.6	-0.6
	comp=Z,0.6nm,0.6s,mb4.3,baz=90,slow=1.2,SNR=4.6					
MAW	Mawson	99.66 203	LR	LR	20 18 59.3	
	comp=Z,85nm,18.1s,MS4.3,baz=246,slow=33					
DBIC	Dimbokro	144.56 303	PKP	PKPdf	19 43 59.5	+1.3
	comp=Z,18nm,0.9s,baz=38,slow=3.0,SNR=14					
DBIC	Dimbokro	144.56 303	*e*PKPdf	PKPdf	19 43 59.5	+1.2
LPAZ	La Paz	147.20 99	PKPbc	PKPdf	19 44 06.1	+3.4
	comp=Z,0.7nm,0.3s,baz=292,slow=4.6,SNR=3.5					
SAML	Samuel	151.31 84	*e*PKPdf	PKPdf	19 44 12.4	+3.2
SAML			*e*PKPbc	PKPdf	19 44 18.1	+8.8

*IDC **21** 19:38:31.0±3.1, 8.13S×120.87E, h56km±28km, mb3.9/9, mb1 4.1/12, mb1mx4.0/21, mbtmp4.3/12, ML4.3/2, MS3.9/2, Ms1 3.8/2, ms1mx2.9/26, Error ellipse: s-maj=34.0km s-min=10.1km az=58.0*
*NEIC **21** 19:38:30.2±1.0, 8.15S×120.69E, h49km±10km, mb4.6/6, Error ellipse: s-maj=14.7km s-min=6.2km az=215.0*
*BJI **21** 19:38:31.7, 8.10S×120.70E, h48km, mb4.3*
*DJA **21** 19:39:29.9±2.8, 8.70S×116.17E, h22km±3km, MD4.6/2, Error ellipse: s-maj=74.0km s-min=11.9km az=124.0*

ISC 21 19:38:27.6±1.2, 8.13S±0.06×120.77E±0.06, h41km±12km, n49, σ1§12/57, mb4.5/21, MS3.9/2, 11C, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	4.63	265⇑	*e*Pn	P	19 39 38.9	+2.0
KEDI				*e*Sn	S	19 40 34.5	+4.5
KEDI	Kedomdong	4.63	265⇑	*e*P	P	19 39 39.0	+2.1
KEDI			⇑	*e*Sn	S	19 40 34.5	+4.5
RATI	Rata	5.22	263⇑	*e*P	P	19 39 44.6	-0.6
RATI				*e*S	S	19 40 46.2	+1.2
RATI	Rata	5.22	263⇑	*e*P	P	19 39 44.9	-0.3
RATI			⇑	*e*S	S	19 40 44.9	-0.1
KELI	Kelakatan	6.22	269⇑	*e*P	P	19 39 59.3	+0.1
KELI	Kelakatan	6.22	269⇑	*e*P	P	19 39 59.4	+0.2
SRDI	Scrawed	6.57	266⇑	*e*P	P	19 40 02.0	-2.2
SRDI	Scrawed	6.57	266⇑	*e*P	P	19 40 03.0	-1.2
KNA	Kununurra	10.88	135	*e*P	P	19 41 02.5	-1.4
	6.0nm,0.8s						
FITZ	Fitzroy Crossi	10.98	155	*e*S	S	19 43 07.6	-0.2
FITZ	Fitzroy Crossi	10.98	155	P	P	19 41 05.1	-0.1
	1.9nm,0.3s,baz=274,slow=23,SNR=30						
FITZ				S	S	19 43 07.5	-0.3
	1.6nm,0.3s,baz=207,slow=20,SNR=6.4						
KAKA	Kakadu	12.34	113	*e*P	P	19 41 22.9	-0.7
	12nm,0.4s						
MBWA	Marble Bar	12.99	184	*e*P	P	19 41 30.8	-1.4
MBWA				*e*S	S	19 43 36.5	-20
KSM	Kuching	14.14	312	P	P	19 41 39.8	-7.6
WRA	Warramunga Arr	17.62	133	P	P	19 42 33.2	+1.3
	1.1nm,0.3s,baz=314,slow=12,SNR=36						
WRA				S	S	19 45 44.0	-0.4
	0.2nm,0.3s,baz=295,slow=26,SNR=5.5						
WRAB	Tennant Creek	17.62	133	*e*P	P	19 42 34.1	+2.2
	9.7nm,0.6s						
WRAB				*e*S	S	19 45 43.7	-0.8
WB2	Warramunga Arr	17.63	133	*e*P	P	19 42 34.1	+2.2
WB2				*e*S	S	19 45 42.1	-2.5
ASPA	Alice Springs	19.93	142	*e*P	P	19 42 59.7	+0.9
ASAR	Alice Springs	19.93	142	P	P	19 42 59.4	+0.6
	0.9nm,0.3s,baz=326,slow=11,SNR=54						
ASAR				S	S	19 46 37.7	+1.9
	0.1nm,0.3s,baz=310,slow=21,SNR=3.3						
KULM	Kulim	24.09	303	*e*P	P	19 43 38.8	-1.9
NWAO	Narrogin (SRO)	24.89	187	P	P	19 43 46.8	-1.5
	7.2nm,0.8s,mb4.3,baz=49,slow=7.3,SNR=4.1						
NWAO	Narrogin (SRO)	24.89	187	*e*P	P	19 43 46.2	-2.0
	96nm,1.7s,mb5.0						
STKA	Stephens Creek	30.55	143	P	P	19 44 40.5	+0.8
	2.4nm,0.3s,mb4.5,baz=332,slow=8.1,SNR=30						
STKA	Stephens Creek	30.55	143	*e*P	P	19 44 40.5	+0.8
CM31	Chiang Mai Arr	34.09	321	P	P	19 45 10.6	-0.1
	2.7nm,0.7s,mb4.3						
CMAR	Chiang Mai Arr	34.09	321	P	P	19 45 10.3	-0.3
	0.6nm,0.7s,mb3.6,baz=141,slow=6.3,SNR=7.7						
CD2	Chengdu	42.10	338	P	P	19 46 18.3	+0.6
LSA	Lhasa	47.19	324	P	P	19 47 01.0	+2.6
JIRN	Jiri	48.84	318	*e*P	P	19 47 11.5	+0.2
	16nm,0.9s,mb5.0						
GUN	Gumba	49.21	318	*e*P	P	19 47 15.0	+0.8
	26nm,0.9s,mb5.3						
PKI	Pulchoki	49.30	317	*e*P	P	19 47 15.8	+0.9
	8.6nm,0.6s,mb4.9						
DMN	Daman	49.53	317	*e*P	P	19 47 16.5	-0.1
	9.6nm,0.8s,mb4.9						
KKN	Kakani	49.53	317	*e*P	P	19 47 16.7	+0.1
	14nm,1.0s,mb5.0						
GKN	Gorkha	50.10	317	*e*P	P	19 47 20.5	-0.5
	13nm,0.9s,mb5.0						
KOLN	Koldanda	50.66	316	*e*P	P	19 47 24.3	-0.9
	9.1nm,1.1s,mb4.6						
GTA	Gaotai	51.14	339	*e*P	P	19 47 29.4	+0.7
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.2						
ULN	Ulaanbaatar	57.06	349	*e*P	P	19 48 12.3	+0.3
	comp=Z,10nm,1.4s,mb4.7						
SONM	Songino Array	57.15	349	P	P	19 48 12.6	-0.1
	comp=Z,2.7nm,1.1s,mb4.2,baz=166,slow=6.6,SNR=8.9						
SONM				LR	LR	20 12 43.6	
	comp=Z,56nm,18.0s,MS3.7,baz=314,slow=36						
YSS	Yuzh-Sakhalins	58.22	18	P	P	19 48 16.6	-3.6
	comp=Z,71nm,1.8s,mb5.4						
MKAR	Makanchi Array	64.50	332	P	P	19 49 01.7	-0.9
	comp=Z,1.5nm,0.5s,mb4.2,baz=140,slow=7.5,SNR=26						
MKAR	Makanchi Array	64.50	332	P	P	19 49 01.7	-0.9
ZAL	Zalesovo	68.87	338	P	P	19 49 28.9	-1.1
	comp=Z,1.2nm,0.4s,mb4.2,baz=332,slow=5.0,SNR=5.3						
VNDA	Vanda	72.58	171	P	P	19 49 52.8	+0.8
	comp=Z,0.8nm,0.5s,mb3.9,baz=301,slow=5.0,SNR=6.5						
BVAR	Borovoye Array	74.37	331	P	P	19 50 02.7	-0.1
	comp=Z,0.6nm,0.7s,mb3.6,baz=108,slow=4.7,SNR=5.4						
CHKZ	Chkalovo	74.66	332	*e*P	P	19 50 03.1	-1.5
	comp=Z,8.0nm,1.3s,mb4.5						
KMBO	Kilima Mbogo	83.43	270	P	P	19 50 53.4	+0.5
BOSA	Boshof	90.96	241	P	P	19 51 29.5	+0.3
	comp=Z,0.9nm,0.5s,mb4.4,baz=90,slow=2.0,SNR=5.6						
BOSA				LR	LR	20 27 21.9	
	comp=Z,80nm,18.6s,MS4.2,baz=241,slow=32						
ARE	Arequipa	152.72	154⇑	*i*P	PKPdf	19 58 13.8	+0.1
ARE				*i*S	tx	19 58 40.6	
SIV	San Ignacio	155.97	176	PKPab	PKPab	19 58 48.5	+0.7
	comp=Z,1.4nm,0.6s,baz=172,slow=5.1,SNR=7.7						

*NEIC **21** 19:56:10.1, 30.82S×71.83W, h7km, After GUC.*

GUC 21 19:56:10.1±0.8, 30.82S×71.83W, h7km±3km, ML4.4, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.58	69	*i*P	Pg	19 56 22.1	+0.3
OVCH				*i*S	Sg	19 56 31.1	+1.5
ILCH	Illapel	0.99	145⇑	*i*P	Pb	19 56 27.3	-1.9
ILCH				*i*S	Sb	19 56 41.6	-0.7
ILCH				AMP		19 56 42.5	
	comp=E,13μm,0.1s						
CHNG	Los Chungos	1.10	165⇓	*i*P	Pb	19 56 28.3	-2.7
CHNG				*i*S	Sb	19 56 43.4	-2.0
CHNG				AMP		19 56 47.7	
	comp=N,4μm,0.5s						
TLL	Tololo Astrono	1.10	54⇓	*i*P	Pb	19 56 30.4	-0.6
TLL				*i*S	Sb	19 56 46.7	+1.3
TLL				AMP		19 56 53.3	
	comp=N,6μm,0.8s						
PTCH	Petorca	1.63	152⇓	*i*P	Pn	19 56 37.7	-1.8
PTCH				*i*S	Sb	19 56 59.6	-1.3
PTCH				AMP		19 57 02.8	
	comp=N,8μm,0.4s						
LCO	Las Campanas	2.05	29	AMP		19 57 29.8	
	comp=N,763nm,0.5s						
JACH	Jahuel	2.13	151	*i*S	Sn	19 57 14.9	+1.2
IHA	Instituto Hidr	2.21	176	*i*P	Pn	19 56 47.9	+0.2
ROCH	El Roble	2.26	162	*i*S	Sn	19 57 18.6	+1.7
PEL	Peldehue	2.51	158	*e*P	Pn	19 56 52.2	+0.1
PEL				AMP		19 57 34.5	
	comp=N,3μm,0.3s						
DSCH	Colegio Aleman	2.79	158	AMP		19 57 41.2	
	comp=N,4μm,0.6s						
CLCH	Cerro Calan	2.79	157⇓	*i*P	Pn	19 56 57.0	+0.9
CLCH				*i*S	Sn	19 57 32.2	+1.8
CLCH				AMP		19 57 41.0	
	comp=E,3μm,0.6s						
CLCH				AMP		19 57 41.6	
	comp=E,4μm,0.6s						
FCH	Farellones	2.82	153	AMP		19 57 42.5	
	comp=E,944nm,0.9s						
FSR	Penalolen	2.87	158	*i*P	Pn	19 56 58.0	+0.8
FSR				*i*S	Sn	19 57 33.6	+1.1
FSR				AMP		19 57 40.5	
	comp=N,2μm,0.5s						
LNV	Longovilo	3.15	174	*i*P	Pn	19 57 01.1	0.0
CHCH	Chadas Angostu	3.26	163	*e*P	Pn	19 57 03.2	+0.5
LMEL	Las Melosas	3.32	156	AMP		19 57 59.4	
	comp=E,747nm,0.5s						
TRQA	Tornquist	10.87	134	*e*P	P	19 58 45.4	-3.8
	comp=E,7.9nm,0.8s						

IDC 21 19:57:43.0±3.1, 15.34S×69.12W, h168km±55km, mb3.1/1, mb1 3.1/2, mb1mx2.9/19, mbtmp3.3/2, Error ellipse: s-maj=141.9km s-min=54.2km az=3.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.34	135	P	P	19 58 12.4	-0.3
	9.2nm,0.3s,baz=287,slow=9.1,SNR=153						
LPAZ				S	S	19 58 36.5	+0.7
	3.1nm,0.3s,baz=41,slow=21,SNR=14						
SIV	San Ignacio	7.78	96	P	P	19 59 33.4	-0.9
	0.1nm,0.3s,baz=282,slow=16,SNR=3.1						
YKA	Yellowknife Ar	85.34	341	P	P	20 10 01.1	-0.9
	0.3nm,0.6s,baz=135,slow=4.8,SNR=6.2						
SONM	Songino Array	147.38	6	PKPbc	PKPdf	20 17 06.3	+2.2
	0.9nm,0.5s,baz=325,slow=1.9,SNR=13						

DJA 21 19:58:19.6±1.0, 8.60S×114.96E, h109km±8km, MD4.7/3, 6C-1D, Error ellipse: s-maj=40.6km s-min=7.7km az=7.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	0.58	102⇑	*e*Pg	P	19 58 36.9	-0.1
	229nm,0.2s						
RATI			⇑	*e*Sg	S	19 58 49.2	-0.9
KELI	Kelakatan	0.60	309⇑	*e*Pg	P	19 58 37.2	0.0
SRDI	Scrawed	0.82	278⇓	*e*Pg	P	19 58 38.6	-0.5
	34nm,0.2s						
SRDI			⇑	*e*Sg	S	19 58 52.4	-1.4
KEDI	Kedomdong	1.15	85⇑	*e*Pg	P	19 58 41.7	-0.9
KEDI			⇑	*e*Sg	S	19 58 57.9	-2.0

*IDC **21** 20:29:25.7±1.2, 4.42S×138.05E, mb3.8/3, mb1 4.2/6, mb1mx3.9/13, mbtmp4.0/6, ML3.8/3, MS3.7/1, Ms1 3.7/1, ms1mx2.8/19, Error ellipse: s-maj=38.8km s-min=26.0km az=88.0*
*NEIC **21** 20:29:30.8±0.8, 4.59S×138.04E, h35km, mb4.3/2, Error ellipse: s-maj=16.7km s-min=13.2km az=132.0*

ISC 21 20:29:28.0±4.7, 4.63S±0.09×138.0E±0.1, h30km±36km, n22, σ1§25/24, mb4.4/10, MS3.6/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.73	214	*e*P	P	20 31 49.9	+0.6
	16nm,0.4s						
KAKA				*e*S	Sn	20 33 37.3	-1.4
PMG	Port Moresby	10.26	118	Pn	P	20 31 55.4	-1.2
	0.9nm,0.3s,baz=299,slow=13,SNR=3.4						
PMG	Port Moresby	10.26	118	Pn	P	20 31 55.4	-1.2
PMG				*e*P		20 31 55.6	
WRAB	Tennant Creek	15.62	193	*e*P	P	20 33 08.4	+0.4
	26nm,0.6s						
WB2	Warramunga Arr	15.63	193	*e*P	P	20 33 14.4	+6.2
WRA	Warramunga Arr	15.63	193	Pn	P	20 33 06.5	-1.7
	0.3nm,0.3s,baz=17,slow=13,SNR=12						
WRA				Sn	S	20 35 46.0	-15
	0.0nm,0.3s,baz=4.3,slow=24,SNR=2.7						
FITZ	Fitzroy Crossi	18.04	221	*e*P	P	20 33 38.9	+0.3
	3.5nm,0.3s						
FITZ	Fitzroy Crossi	18.04	221	P	P	20 33 38.5	-0.1
	1.0nm,0.3s,baz=48,slow=10,SNR=12						
FITZ				S	S	20 36 47.6	-8.3
	0.7nm,0.3s,baz=152,slow=15,SNR=4.4						
ASAR	Alice Springs	19.34	191	P	P	20 33 56.9	+2.8
	0.6nm,0.3s,baz=15,slow=9.9,SNR=30						
ASPA	Alice Springs	19.34	191	*e*P	P	20 33 56.8	+2.7
JOW	Kunigami	32.66	344	LR	LR	20 46 45.5	
	comp=Z,130nm,21.2s,MS3.6,baz=100,slow=32						
JIRN	Jiri	59.36	306	*e*P	P	20 39 31.2	+1.0
	3.9nm,0.5s,mb4.7						
GUN	Gumba	59.71	306	*e*P	P	20 39 33.6	+0.9
	8.2nm,0.8s,mb4.8						
PKI	Pulchoki	59.96	305	*e*P	P	20 39 32.0	-2.3
	5.9nm,0.6s,mb4.8						
KKN	Kakani	60.15	306	*e*P	P	20 39 35.6	-0.1
	4.4nm,0.6s,mb4.7						
DMN	Daman	60.22	305	*e*P	P	20 39 34.2	-1.9
	4.3nm,0.7s,mb4.6						
GKN	Gorkha	60.76	306	*e*P	P	20 39 40.6	+0.8
	8.0nm,0.7s,mb5.0						
KOLN	Koldanda	61.51	305	*e*P	P	20 39 45.0	+0.1
	2.7nm,0.5s,mb4.6						
MKAR	Makanchi Array	70.88	323	P	P	20 40 44.5	+0.1
	0.4nm,0.7s,mb3.5,baz=119,slow=7.8,SNR=6.3						
MKAR	Makanchi Array	70.88	323	P	P	20 40 44.5	+0.1
VNDA	Vanda	73.95	175	P	P	20 41 03.2	+1.2
	0.6nm,0.6s,mb3.7,baz=322,slow=8.2,SNR=3.9						
ILAR	Eielson Array	87.86	24	P	P	20 42 15.3	-0.4
	0.9nm,0.7s,mb4.1,baz=255,slow=4.1,SNR=7.9						

*NEIC **21** 20:34:04.2, 37.28N×24.66E, h16km, MD3.0(ATH), After ATH.*
*CSEM **21** 20:34:04.2, 37.28N×24.66E, h16km, MD3.1/4, After ATH*
*ATH **21** 20:34:32.2, 35.60N×26.07E, h14km, MD2.9/3*

ISC 21 20:34:31.0±0.8, 35.68N±0.06×25.98E±0.09, h29km±16km, n7, σ0§27/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPS	Neapolis	0.51	216	*e*PB	Pb	20 34 41.5	-0.1
NPS				*e*SB	Sb	20 34 48.7	-0.2
THR1	Thera Island	0.81	329	*e*P	Pb	20 34 46.5	0.0
XRY	Khrisi	0.84	196	*e*PB	Pb	20 34 47.3	+0.4
THR3	Thira Island,	0.87	327	*e*P	Pn	20 34 47.1	-0.2
THR5	Thira Island,	0.90	325	*e*P	Pn	20 34 48.0	+0.2
KARP	Karpathos	0.97	97	*e*PB	Pb	20 34 49.2	0.0
KARP	Karpathos	0.97	97	*e*Pn	Pn	20 34 48.7	-0.1

*NEIC **21** 20:35:46.4, 35.82N×22.16E, h34km, MD3.5(ATH), After ATH.*
*ATH **21** 20:35:47.2, 35.81N×22.17E, h45km, MD3.6/10*
*CSEM **21** 20:35:47.4±0.6, 35.84N×22.19E, h60km, MD3.5, Error ellipse: s-maj=15.9km s-min=5.6km az=43.0*
*IDC **21** 20:35:48.5±4.4, 35.76N×22.12E, h69km±35km, mb3.5/6, mb1 3.4/9, mb1mx3.2/28, mbtmp3.6/9, ML3.0/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/21, Error ellipse: s-maj=68.5km s-min=24.5km az=28.0*

ISC 21 20:35:47.4±1.3, 35.83N±0.09×22.14E±0.10, h70km±9km, n26, σ0§88/29, mb3.5/6, 2C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.86	58⇑	*i*P	P	20 36 03.7	-0.6
VLI	Veliai	1.10	36⇑	*e*P	P	20 36 07.7	+0.2
VLI				*e*S	S	20 36 21.5	-0.8
ITM	Ithomi	1.36	353	*e*P	P	20 36 10.9	-0.1
ITM				*e*S	S	20 36 29.8	+1.3
VAM	Vamos	1.73	103	*e*P	P	20 36 15.9	-0.1
RLS	Riolos of Patr	2.29	347	*e*P	P	20 36 25.2	+1.4
IDI	Anoyia	2.31	103	P	P	20 36 23.7	-0.3
	2.1nm,0.3s,baz=292,slow=14,SNR=7.9						
IDI				S	S	20 36 52.5	+1.2
	7.6nm,0.3s,baz=283,slow=19,SNR=5.7						
NSAL	Nisos Salamina	2.33	27	*e*P	P	20 36 23.8	-0.6
MGER	Gerania Oros	2.34	22	*e*P	P	20 36 25.7	+1.3
VLS	Valsamata	2.65	333	*e*P	P	20 36 28.6	-0.3
VLS				*e*S	S	20 37 00.1	+0.2
LKR	Lokris	2.90	13	*e*P	P	20 36 32.0	-0.4
EVR	Evrytania	3.10	355	*e*P	P	20 36 36.5	+1.4
IGT	Igoumenitsa	3.97	339	*e*P	P	20 36 46.1	-1.2
LIT	Litokhoron	4.28	4	*e*P	P	20 36 50.8	-0.8
FNA	Florina	4.99	353	*e*P	P	20 37 00.5	-0.9
GRG	Griva	5.13	2	*e*P	P	20 37 01.8	-1.6
STON	Ston	7.83	335	*i*Pn	P	20 37 36.0	-4.8
STON				*i*Sn	S	20 38 57.0	-12
BRTR	Keskin Array B	9.90	63	P	P	20 38 08.5	-0.6
	0.0nm,0.3s,baz=270,slow=12,SNR=2.7						
MLR	Muntele Rosu	10.08	15	LR	LR	20 42 30.0	
	comp=Z,34nm,19.2s,baz=95,slow=40						
AKASG	Malin Array Be	15.73	17	P	P	20 39 27.9	+2.1
	0.6nm,0.3s,baz=214,slow=11,SNR=5.5						
HFS	Hagfors	24.93	350	P	P	20 41 05.4	+0.2
	1.2nm,0.4s,mb3.7,baz=166,slow=12,SNR=15						
FINES	FINESS Array B	25.76	4	P	P	20 41 12.3	-0.6
	0.4nm,0.5s,mb3.1,baz=170,slow=12,SNR=3.6						
EKA	Eskdalemuir Ar	26.09	326	P	P	20 41 16.6	+0.5
	0.6nm,0.5s,mb3.3,baz=138,slow=8.5,SNR=4.0						
NOA	NORSAR Array B	26.18	348	P	P	20 41 17.0	+0.2
	0.3nm,0.4s,mb3.1,baz=153,slow=9.9,SNR=2.4						
ARCES	ARCESS Array B	33.81	2	P	P	20 42 23.9	-0.6
	0.9nm,0.5s,mb3.8,baz=180,slow=8.5,SNR=13						
MKAR	Makanchi Array	45.47	57	P	P	20 44 01.1	0.0
	2.3nm,0.5s,mb4.2,baz=270,slow=8.0,SNR=48						
BOSA	Boshof	64.16	177	LR	LR	21 15 58.7	
	comp=Z,73nm,19.0s,baz=341,slow=38						

IDC 21 20:46:00.1±4.0, 15.87S×175.29W, mb3.9/3, mb1 4.2/3, mb1mx3.8/16, mbtmp3.9/3, MS3.6/2, Ms1 3.6/2, ms1mx2.9/30, Error ellipse: s-maj=259.2km s-min=33.7km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.29	195	LR	LR	20 58 14.2	
	comp=Z,96nm,18.5s,baz=356,slow=32						
HNR	Honiara	24.98	282	LR	LR	20 59 08.0	
	comp=Z,179nm,21.4s,baz=297,slow=32						
WRA	Warramunga Arr	47.97	257	P	P	20 54 40.7	-2.2
	1.2nm,1.0s,baz=89,slow=7.6,SNR=5.7						
ASAR	Alice Springs	48.24	252	P	P	20 54 43.2	-1.7
	2.5nm,1.0s,baz=87,slow=8.5,SNR=11						
PDAR	Pinedale Array	83.83	42	P	P	20 58 31.9	-1.0
	0.7nm,0.9s,baz=236,slow=3.3,SNR=4.3						
BRTR	Keskin Array B	145.34	319	PKPbc	PKPbc	21 05 39.5	-1.2
	1.0nm,0.9s,baz=93,slow=4.3,SNR=5.6						

IDC 21 20:47:47.1±51.0, 19.69S×176.73W, mb3.9/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=946.9km s-min=168.0km az=82.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.21	243	P	P	20 55 16.5	-2.4
	1.0nm,0.8s,baz=69,slow=8.6,SNR=3.0						
ASAR	Alice Springs	45.87	256	P	P	20 56 11.8	-1.4
	0.8nm,0.5s,baz=91,slow=8.3,SNR=22						
WRA	Warramunga Arr	45.90	261	P	P	20 56 11.7	-1.8
	0.4nm,0.4s,baz=97,slow=7.4,SNR=23						

*IDC **21** 21:06:33.1±1.2, 25.23N×126.41E, mb3.5/4, mb1 3.7/5, mb1mx3.4/23, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=30.5km s-min=20.8km az=92.0*
*JMA **21** 21:06:39.0±0.1, 25.68N×126.16E, h69km, M3.1*

ISC 21 21:06:38.1±0.6, 25.35N±0.09×126.51E±0.09, h61km±9km, n19, σ1§15/26, mb3.3/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	1.00	14	P	P	21 06 55.8	-0.7
JOGS	Gusukube	1.16	240	P	P	21 06 58.7	+0.1
JOGS				S	S	21 07 15.2	+1.3
JMJ	Miyako jima 2	1.23	245	P	P	21 06 59.7	+0.2
JMJ				S	S	21 07 16.3	+0.8
NAH1	Naha	1.36	51	P	P	21 07 04.1	+2.6
NAH1				*e*S	S	21 07 22.5	+3.7
JJT2	Tamagusuku 2	1.36	55	P	P	21 07 04.8	+3.3
JAGN	Aguni-jima	1.40	28	P	P	21 07 01.5	-0.5
JAGN				*e*S	S	21 07 20.2	+0.5
JTJ	Tarama	1.79	247	P	P	21 07 06.9	-0.4
JTJ				*e*S	S	21 07 26.9	-2.0
JIH	Iheya	2.13	38	P	P	21 07 12.3	+0.3
JOW	Kunigami	2.17	47	Pn	P	21 07 12.3	-0.2
	13nm,0.3s,baz=194,slow=16,SNR=17						
JOW				Sn	S	21 07 42.8	+4.6
	10nm,0.3s,baz=118,slow=26,SNR=7.2						
JOW	Kunigami	2.17	47	P	P	21 07 12.5	-0.1
JIJ	Ishigaki jima	2.37	246	P	P	21 07 14.8	-0.7
JTK	Tokunoshima	3.26	41	P	P	21 07 26.8	-1.3
YOJ	Yonaguni jima	3.30	255	P	P	21 07 28.5	-0.2
JAM	Amami Oshima	4.11	41	P	P	21 07 38.1	-1.9
JMZ	Minamidaito 2	4.28	83	P	P	21 07 38.1	-4.2
JMZ				*e*S	S	21 08 22.4	-9.0
SONM	Songino Array	27.49	330	P	P	21 12 23.1	+2.5
	0.2nm,0.6s,mb2.8,baz=130,slow=8.8,SNR=2.9						
MKAR	Makanchi Array	40.98	313	P	P	21 14 16.3	-0.2
	0.1nm,0.4s,mb2.8,baz=97,slow=11,SNR=4.5						
FITZ	Fitzroy Crossi	43.20	181	P	P	21 14 35.0	0.0
	2.3nm,0.6s,mb4.1,baz=49,slow=11,SNR=3.5						
WRA	Warramunga Arr	45.66	170	P	P	21 14 54.7	0.0
	0.6nm,0.7s,mb3.6,baz=350,slow=8.6,SNR=4.7						

IDC 21 21:20:03.5±9.8, 2.26N×96.32E, mb3.8/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=195.3km s-min=113.5km az=147.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.30	9	Pn	P	21 23 54.0	-1.5
	0.1nm,0.3s,baz=200,slow=11,SNR=2.9						
MKAR	Makanchi Array	46.01	347	P	P	21 28 28.5

comp=E,1.8nm,0.8s,baz=340,slow=2.9,SNR=11
WB2 Warramunga Arr 25.02 166 *e*P **P** **21 25 43.3 -0.3**
WB2 *e*S **S** **21 30 08.3 +7.4**
MBWA Marble Bar 26.71 197 *e*P **P** **21 25 58.7 -0.5**
comp=E,8.8nm,0.6s,mb4.5
SSE Sheshan 27.28 347 P **P** **21 26 04.9 +0.5**
SSE AMB AMB
comp=Z,26nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,38nm,4.3s
SSE Sheshan 27.28 347 P **P** **21 26 04.9 +0.5**
comp=Z,26nm,0.7s,mb4.9
KKTK Khon Kaen 27.40 297 P **P** **21 26 07.0 +1.4**
ASAR Alice Springs 28.52 169 P **P** **21 26 14.8 -0.8**
comp=Z,1.3nm,0.6s,mb3.9,baz=355,slow=8.6,SNR=23
ASAR PcP PcP 21 29 25.6 -0.7
comp=Z,0.6nm,0.5s,baz=356,slow=2.7,SNR=3.8
ASAR ScP 21 33 03.2
comp=Z,1.2nm,0.7s,baz=340,slow=2.8,SNR=8.5
ASPA Alice Springs 28.52 169 *e*P **P** **21 26 15.3 -0.4**
NJ2 Nanjing 28.77 344 *e*P **P** **21 26 18.4 +0.6**
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb5.0
NST Nakhon Sawan 29.58 294 P **P** **21 26 25.8 +0.7**
GYA Guiyang 29.93 319⇑*i*P **P** **21 26 27.8 -0.4**
GYA AP pP 21 26 36.8 -5.7
GYA XP sP 21 26 41.3 -8.1
GYA PP PP 21 27 25.4 -2.0
GYA S **S** **21 31 20.6 +0.3**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA LR LR
comp=N,230nm,15.2s,MS4.2
GYA LR LR
comp=E,340nm,15.6s,MS4.2
GYA LR LR
comp=Z,380nm,15.0s,MS4.2
NANT Nan 30.24 300 P **P** **21 26 28.0 -3.0**
CMAR Chiang Mai Arr 31.63 298 P **P** **21 26 42.9 -0.4**
comp=Z,2.9nm,0.8s,mb4.2,baz=103,slow=7.2,SNR=18
CMAR ScP 21 33 14.3
comp=Z,0.7nm,0.9s,baz=151,slow=2.9,SNR=5.6
CHG Chiang Mai 31.77 299 P **P** **21 26 43.8 -0.6**
KMI Kunming 31.81 313 P **P** **21 26 44.9 +0.2**
KMI AMB AMB
comp=Z,4.0nm,1.1s,mb4.2
KMI Kunming 31.81 313 P **P** **21 26 44.9 +0.2**
comp=Z,4.0nm,1.1s,mb4.2
MJAR Matsushiro Arr 33.29 15 P **P** **21 26 56.0 -1.5**
comp=Z,1.3nm,0.5s,mb4.1,baz=175,slow=10,SNR=4.6
XAN Xi'an 34.38 331 P **P** **21 27 06.0 -0.9**
XAN AMB AMB
comp=Z,1.0nm,0.7s,mb3.9
FORT Forrest 35.02 180 *e*P **P** **21 27 11.6 -0.8**
comp=Z,380nm,0.7s
KLBR Kellerberrin 37.14 195 *e*P **P** **21 27 31.4 +1.1**
comp=Z,2μm,1.8s
MUN Mundaring 37.92 196 *e*P **P** **21 27 39.4 +2.6**
comp=Z,64nm,1.7s,mb5.1
STKA Stephens Creek 38.37 161 *e*P **P** **21 27 40.4 -0.1**
comp=Z,14nm,0.9s,mb4.7
STKA Stephens Creek 38.37 161 P **P** **21 27 39.8 -0.7**
comp=Z,7.8nm,0.8s,mb4.5,baz=345,slow=6.9,SNR=22
NWAO Narrogin (SRO) 38.55 195 P **P** **21 27 42.6 +0.6**
comp=Z,6.5nm,0.6s,mb4.5,baz=346,slow=14,SNR=7.1
LZH Lanzhou 38.56 328 *e*P **P** **21 27 43.5 +1.5**
LZH AP pP 21 27 50.0 -6.8
LZH XP sP 21 27 54.0 -10
LZH AMB AMB
comp=Z,28nm,1.4s,mb4.8
LZH Lanzhou 38.56 328 *e*P **P** **21 27 43.5 +1.5**
comp=Z,28nm,1.4s,mb4.8
LZH pP pP 21 27 50.0 -6.8
LZH sP sP 21 27 54.0 -10
HHC Hu-ho-hao-te 39.14 340 *e*P **P** **21 27 42.8 -4.0**
HHC AP pP 21 27 52.8 -8.8
HHC AMB AMB
comp=Z,15nm,1.2s,mb4.6
HHC AMB AMB
comp=Z,73nm,4.3s
CN2 Changchun 39.26 357 *e*P **P** **21 27 50.3 +2.5**
MDJ Mudanjiang 40.03 2 P **P** **21 27 55.1 +0.9**
MDJ AP pP 21 28 04.0 -5.0
MDJ XP sP 21 28 07.3 -8.5
MDJ PP PP 21 29 27.8 -2.9
MDJ PCP PcP 21 29 57.3 -1.6
MDJ SCP 21 33 45.4
MDJ PCS 21 33 49.3
MDJ S **S** **21 34 00.4 +4.8**
MDJ XS 21 34 15.6
MDJ AMB AMB
comp=Z,11nm,1.9s,mb4.3
MDJ LR LR
comp=N,95nm,27.9s,MS3.6
MDJ LR LR
comp=E,65nm,30.0s,MS3.6
MDJ LR LR
comp=Z,159nm,28.2s,MS3.7
ASAJ Asahikawa 41.55 16 P **P** **21 28 06.8 +0.1**
comp=Z,5.6nm,0.4s,mb4.5,baz=266,slow=33,SNR=6.9
GTA Gaotai 43.16 328 *e*P **P** **21 28 21.3 +1.3**
GTA AP pP 21 28 31.6 -3.3
GTA XP sP 21 28 36.5 -5.1
GTA PP PP 21 30 04.6 +1.6
GTA PCP PcP 21 30 08.8 -0.5
GTA PPP PPP 21 30 39.3 +0.4
GTA S **S** **21 34 46.8 +4.9**
GTA XS 21 35 02.8
GTA SS SS 21 37 53.5 +4.3
GTA AMB AMB
comp=Z,11nm,0.6s,mb4.8
GTA AMB AMB
comp=Z,147nm,5.3s
GTA LR LR
comp=N,106nm,18.6s
GTA LR LR
comp=E,257nm,27.4s
GTA LR LR
comp=Z,193nm,15.2s,MS4.1
JIRN Jiri 46.00 305 *e*P **P** **21 28 43.2 +0.3**
comp=Z,41nm,0.7s,mb5.5
GUN Gumba 46.35 305 *e*P **P** **21 28 45.9 +0.2**
comp=Z,45nm,0.7s,mb5.5
PKI Pulchoki 46.61 304 *e*P **P** **21 28 47.4 -0.3**
comp=Z,11nm,0.6s,mb5.0
KKN Kakani 46.80 304 *e*P **P** **21 28 48.8 -0.4**
comp=Z,32nm,0.9s,mb5.2
ULN Ulaanbaatar 46.85 341 *e*P **P** **21 28 49.1 -0.2**
comp=Z,115nm,1.2s,mb5.7
DMN Daman 46.88 304 *e*P **P** **21 28 49.6 -0.2**
comp=Z,21nm,0.8s,mb5.1
SONM Songino Array 47.05 340 P **P** **21 28 50.9 +0.1**
comp=Z,3.0nm,0.6s,mb4.4,baz=152,slow=8.1,SNR=32
PALK Pallekele 47.13 276 *e*P **P** **21 28 53.7 +1.8**
comp=Z,10.0nm,1.2s,mb4.6
GKN Gorkha 47.41 304 *e*P **P** **21 28 53.1 -0.9**
comp=Z,8.2nm,0.4s,mb5.0
KOLN Koldanda 48.18 304 *e*P **P** **21 29 00.0 0.0**
comp=Z,65nm,0.8s,mb5.7
WMQ Urumqi 52.89 324 P **P** **21 29 37.3 +1.7**
WMQ AP pP 21 29 47.3 -3.5
WMQ XP sP 21 29 51.3 -6.0
WMQ PCP PcP 21 30 46.3 +2.3
WMQ PP PP 21 31 37.8 +1.0
WMQ AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,73nm,4.4s
WMQ LR LR
comp=N,53nm,20.0s,MS3.7
WMQ LR LR
comp=E,41nm,20.0s,MS3.7
WMQ LR LR
comp=Z,95nm,24.6s,MS3.8
THN Thein Dam 56.17 306 *e*P **P** **21 29 57.6 -2.0**
MKAR Makanchi Array 57.71 324 P **P** **21 30 09.9 -0.5**
comp=Z,10nm,0.7s,mb5.0,baz=112,slow=7.9,SNR=77
KZA Kyzart 59.96 317 P **P** **21 30 27.2 +1.2**
SNR=8.7
UCH Uchtor 60.52 317 P **P** **21 30 31.2 +1.3**
SNR=9.4
ZAL Zalesovo 60.55 332 P **P** **21 30 27.8 -2.1**
comp=Z,1.4nm,0.4s,mb4.5,baz=343,slow=3.6,SNR=4.1
AAK Ala-Archa 60.70 317 *e*P **P** **21 30 29.0 -2.0**
comp=Z,4.5nm,1.0s,mb4.5
USP Ospenovka 60.94 318 P **P** **21 30 32.6 -0.1**
SNR=9.0
AML Almayashu 61.05 316 P **P** **21 30 34.1 +0.6**
SNR=13
EKS2 Erkin-Say 61.19 317 P **P** **21 30 35.0 +0.6**
SNR=9.9
CHKZ Chkalovo 67.57 327 *e*P **P** **21 31 14.3 -1.4**
comp=Z,4.7nm,0.9s,mb4.5
ARU Arti 75.02 327 *e*P **P** **21 31 53.9 -6.3**
comp=Z,4.3nm,0.5s,mb4.6
IMA Indian Mountai 81.22 24 *e*P **P** **21 32 35.5 +1.4**
comp=Z,29nm,0.8s,mb5.3
ILAR Eielson Array 83.92 25 P **P** **21 32 47.4 -0.5**
comp=Z,1.8nm,0.5s,mb4.4,baz=247,slow=5.3,SNR=29
VNDA Vanda 83.97 173 P **P** **21 32 48.4 +0.5**
comp=Z,0.7nm,0.7s,mb3.9,baz=324,slow=5.2,SNR=2.3
VNDA Vanda 83.97 173 P **P** **21 32 48.4 +0.5**
ARCES ARCESS Array B 90.22 340 P **P** **21 33 16.7 -1.6**
comp=Z,1.3nm,0.5s,mb4.5,baz=82,slow=7.8,SNR=12
FINES FINESS Array B 91.81 332 P **P** **21 33 24.6 -1.2**
comp=Z,2.6nm,1.0s,mb4.5,baz=90,slow=1.9,SNR=6.4
HFS Hagfors 97.98 333 P **P** **21 33 52.5 -1.5**
comp=Z,0.8nm,0.6s,mb4.5,baz=90,slow=4.4,SNR=4.8

MOS ***21*** *21:31:46.4±1.2, 13.33N×145.02E, h37km, mb5.8/64, MS4.9/47, Error ellipse: s-maj=7.7km s-min=4.9km az=99.4*
BJI ***21*** *21:31:47.1, 13.20N×145.17E, h52km, mB5.5, mb5.2, Ms4.9, Msz4.8*
IDC ***21*** *21:31:47.5±2.0, 13.16N×145.17E, h41km±17km, mb5.2/34, mb1 5.3/35, mb1mx5.3/37, mbtmp5.4/35, ML4.2/1, MS4.7/24, Ms1 4.8/24, ms1mx4.6/28, Error ellipse: s-maj=14.7km s-min=8.8km az=90.0*
BGS ***21*** *21:31:48.6, 13.18N×145.06E, h50km*
HRVD ***21*** *21:31:48.8±0.1, 12.96N×145.33E, h48km, MW5.4/73, Centroid moment Tensor Solution. LP body waves: s72,c146;Mantle waves: s73,c158; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.74±.02; $M_{\theta\theta}$-0.68±.02; $M_{\phi\phi}$-0.06±.02; $M_{r\theta}$1.14±.02; $M_{\theta\phi}$0.24±.02; $M_{r\phi}$0.70±.02; Best double couple: $M_0$1.504×10^{17} NP1: ϕ_s303°, δ21°, λ142°. NP2:ϕ_s68°, δ78°, λ73°. Principal axes: T 1.684, Plg54°, Azm318°; N -.359, Plg16°, Azm72°; P -1.325, Plg31°, Azm172°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***21*** *21:31:48.8±0.7, 13.18N×145.06E, h50km±6km, mb5.6/93, MS4.9/110, MW5.4 Error ellipse: s-maj=4.4km s-min=3.3km az=118.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; M_{rr}0.94; $M_{\theta\theta}$0.13; $M_{\phi\phi}$-1.08; $M_{r\theta}$1.28; $M_{\theta\phi}$0.11; $M_{\phi r}$0.83; Best double couple: $M_0$1.8×10^{17} NP1:ϕ_s158°, δ28°, λ33°. NP2:ϕ_s38°, δ75°, λ114°. Principal axes: T 2.05, Plg53°, Azm337°; N -.58, Plg23°, Azm212°; P -1.47, Plg26°, Azm109°;*
NEIC Felt [IV] at Hagatna, Santa Rita and Yigo; [III] at Barrigada; [II] on Saipan.

ISC 21 21:31:46.4±0.1, 13.18N±0.03×145.10E±0.02, h41km, h41km±1.5km:pP-P, n636, σ1≟10/462, mb5.6/168, MS4.9/164, 75C-34D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.46**	**331**	*e*Pg		**P**		**21 32 02.6**	**+6.0**
GUMO				*e*Sg		**S**		**21 32 13.4**	**+10**
CBIJ	**Chichi jima**	**14.11**	**349**	P		**P**		**21 35 03.5**	**-2.2**
	4.1nm,0.3s,baz=256,slow=18,SNR=2.1								
MENI	**Mendum Tagoi**	**16.27**	**197**⇓	*e*P		**P**		**21 35 33.0**	**-0.7**
MENI				pmax		pmax			
	comp=Z,67nm,0.9s								
MENI	**Mendum Tagoi**	**16.27**	**197**⇓	*e*P		**P**		**21 35 33.0**	**-0.7**
	comp=Z,67nm,0.9s								
YOMI	**Yo Moklole**	**16.36**	**196**	*e*P		**P**		**21 35 33.5**	**-1.3**
	comp=Z,250nm,1.1s								
CNP	**Catarman**	**19.94**	**270**	*e*P		**P**		**21 36 20.1**	**+2.3**
MSLP	**Maasin**	**20.05**	**263**	*e*P		**P**		**21 36 21.6**	**+2.6**
PVCP	**Virac**	**20.38**	**274**	*e*P		**P**		**21 36 24.9**	**+2.5**
BUKP	**Musuan**	**20.39**	**257**	*e*P		**P**		**21 36 24.2**	**+1.7**
JHJ	**Hachijo jima 2**	**20.43**	**347**	P		**P**		**21 36 22.6**	**-0.2**
	comp=Z,240nm,0.6s,baz=210,slow=20,SNR=3.8								
JHJ				LR		LR		21 43 28.7	
	comp=Z,5μm,21.3s,MS4.8,baz=182,slow=34								
JOW	**Kunigami**	**20.80**	**313**	P		**P**		**21 36 27.6**	**+0.9**
	comp=Z,147nm,0.8s,baz=140,slow=11,SNR=68								
JOW				LR		LR		21 42 59.0	
	comp=Z,3μm,21.1s,MS4.7,baz=127,slow=32								
LLP	**Lapu-Lapu**	**20.88**	**264**	*e*P		**P**		**21 36 29.4**	**+1.7**
WAKE	**Wake Island**	**21.55**	**71**	PFAKE				21 36 50.0	+16
WAKE				LR		LR			
	comp=Z,4μm,20.0s,MS4.8								
RCP	**Roxas**	**21.89**	**268**⇓	*e*P		**P**		**21 36 39.8**	**+2.0**
PAGZ	**Pagadian**	**21.99**	**258**	*e*P		**P**		**21 36 41.6**	**+2.8**
GUIM	**Jordan**	**22.17**	**266**	*e*P		**P**		**21 36 43.4**	**+2.9**
KWAJ	**Kwajalein Atol**	**22.52**	**99**	PFAKE				21 37 00.0	+16
KWAJ				LR		LR			
	comp=Z,577nm,19.0s,MS4.0								
OTRP	**Odiongan**	**22.52**	**271**	*e*P		**P**		**21 36 46.7**	**+2.6**
PMG	**Port Moresby**	**22.54**	**175**⇓	*i*P		**P**		**21 36 42.6**	**-1.7**
PMG				pmax		pmax			
	comp=Z,208nm,0.8s								
PMG				MLR		MLR			
	comp=Z,2μm,21.0s								
PMG	**Port Moresby**	**22.54**	**175**	P		**P**		**21 36 42.8**	**-1.5**
	comp=Z,183nm,0.8s,mb5.6,baz=358,slow=6.7,SNR=34								
PMG				LR		LR		21 44 37.4	
	comp=Z,1μm,18.4s,MS4.3,baz=177,slow=34								
PMG	**Port Moresby**	**22.54**	**175**⇓	*i*P		**P**		**21 36 42.6**	**-1.7**
	comp=Z,208nm,0.8s,mb5.6								
PMG				LR		LR			
	comp=Z,2μm,21.0s,MS4.5								
BOAC	**Boac**	**22.63**	**273**	*e*P		**P**		**21 36 47.7**	**+2.5**
CAUP	**Cauayan**	**22.78**	**282**	*e*P		**P**		**21 36 49.0**	**+2.4**
CVP	**Callao Caves**	**22.87**	**284**⇓	*e*P		**P**		**21 36 51.0**	**+3.4**
SJMP	**San Jose**	**23.39**	**271**	*e*P		**P**		**21 36 55.0**	**+2.4**
CUYO	**Cuyo Island**	**23.66**	**267**	*e*P		**P**		**21 36 57.4**	**+2.1**
MJAR	**Matsushiro Arr**	**24.07**	**346**	P		**P**		**21 36 57.4**	**-1.6**
	comp=Z,63nm,1.0s,mb5.0,baz=173,slow=9.8,SNR=64								
MJAR				PcP		PcP		21 40 40.5	-0.7
	comp=Z,13nm,0.8s,baz=186,slow=2.9,SNR=7.4								
MAJO	**Matsushiro**	**24.07**	**346**	*e*P		**P**		**21 36 57.9**	**-1.1**
MAJO				*e*				21 40 40.7	
MAJO				pmax		pmax			
	comp=Z,123nm,0.9s,mb5.3								
MAJO				MLR		MLR			
	comp=Z,4μm,21.0s,MS4.8								
MAJO	**Matsushiro**	**24.07**	**346**	*e*P		**P**		**21 36 57.9**	**-1.1**
	comp=Z,123nm,0.9s,mb5.3								
MAJO				*e*PcP		PcP		21 40 40.7	-0.6
MAJO				LR		LR			
	comp=Z,4μm,21.0s,MS4.8								
MAT	**Matsushiro**	**24.07**	**346**	*e*P		**P**		**21 36 58.0**	**-1.0**
MAT				*e*S		**S**		**21 41 12.0**	**+1.3**
MAT				pmax		pmax			
	comp=Z,113nm,1.0s,mb5.2								
MAT				MLR		MLR			
	comp=Z,5μm,21.0s,MS4.9								
MAT	**Matsushiro**	**24.07**	**346**	*e*P		**P**		**21 36 58.0**	**-1.0**
	comp=Z,113nm,1.0s,mb5.2								
MAT				*e*S		**S**		**21 41 12.0**	**+1.3**
MAT				LR		LR			
	comp=Z,5μm,21.0s,MS4.9								
MAT	**Matsushiro**	**24.07**	**346**	P		**P**		**21 36 57.9**	**-1.1**
MAT				S		**S**		**21 41 12.0**	**+1.3**
LUBP	**Lubang**	**24.18**	**274**	*e*P		**P**		**21 37 02.1**	**+1.9**
BUSP	**Coron**	**24.33**	**270**	*e*P		**P**		**21 37 03.4**	**+1.6**
SCZP	**Santa Cruz**	**24.52**	**279**	*e*P		**P**		**21 37 04.2**	**+0.7**
YHNB	**Yeheng**	**25.14**	**300**	*e*P		**P**		**21 37 09.9**	**+0.4**
TATO	**Taipei**	**25.16**	**301**	PFAKE				21 37 20.0	+10
TATO				LR		LR			
	comp=Z,3μm,22.0s,MS4.8								
ENPP	**El Nido**	**25.17**	**268**	*e*P		**P**		**21 37 11.2**	**+1.4**
HNR	**Honiara**	**26.87**	**146**	PFAKE				21 37 40.0	+14
HNR				LR		LR			
	comp=Z,2μm,21.0s,MS4.6								
BATP	**Bataraza**	**27.14**	**264**	*e*P		**P**		**21 37 30.0**	**+1.8**
QZH	**Quanzhou**	**27.59**	**299**⇑	*i*P		**P**		**21 37 30.0**	**-2.1**
QZH				LR		LR			
	comp=N,1μm,16.6s								
QZH				LR		LR			
	comp=E,3μm,22.0s								
QZH				LR		LR			
	comp=Z,2μm,18.6s,MS4.7								
SSE	**Sheshan**	**28.32**	**313**	P		**P**		**21 37 36.3**	**-2.4**
SSE				S		**S**		**21 42 20.9**	**+0.1**
SSE				PCS				21 44 29.8	
SSE				AMB		AMB			
	comp=Z,47nm,0.9s,mb5.1								
SSE				AMB		AMB			
	comp=Z,199nm,6.7s								
SSE				LR		LR			
	comp=N,974nm,29.2s,MS4.4								
SSE				LR		LR			
	comp=E,1μm,29.2s,MS4.4								
SSE				LR		LR			
	comp=Z,2μm,20.5s								
SSE	**Sheshan**	**28.32**	**313**	P		**P**		**21 37 36.2**	**-2.5**
	comp=Z,47nm,0.9s,mb5.1								
SSE				sP		sP		21 37 45.0	-10
SSE				S		**S**		**21 42 20.9**	**+0.1**
SSE				sS				21 42 31.8	
SSE				PcS				21 44 29.7	
SSE				LR		LR			
	comp=Z,2μm,20.5s,MS4.7								
KAKA	**Kakadu**	**28.63**	**207**	*e*P		**P**		**21 37 40.2**	**-1.3**
	comp=Z,20nm,0.6s,mb5.0								
KS15	**Wonju Array Si**	**28.63**	**331**	*e*P		**P**		**21 37 40.6**	**-0.8**
KS15				*e*PcP		PcP		21 40 51.9	+0.1
INCN	**Inchon**	**29.28**	**329**	PFAKE				21 38 00.0	+13
INCN				LR		LR			
	comp=Z,2μm,21.0s,MS4.7								
KKM	**Kota Kinabalu**	**29.33**	**259**	P		**P**		**21 37 48.3**	**+0.6**
NJ2	**Nanjing**	**30.51**	**312**	*e*P		**P**		**21 37 59.1**	**+1.0**
NJ2				PP		PP		21 39 00.1	+1.2
NJ2				XS				21 43 14.0	
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.8								
NJ2				AMB		AMB			
	comp=Z,420nm,6.6s								
NJ2				LR		LR			
	comp=N,4μm,24.9s,MS5.1								
NJ2				LR		LR			
	comp=E,3μm,21.9s,MS5.1								
NJ2				LR		LR			
	comp=Z,2μm,19.6s,MS4.8								
ASAJ	**Asahikawa**	**30.90**	**356**	P		**P**		**21 38 00.2**	**-1.2**
	comp=Z,30nm,0.9s,mb5.1,baz=215,slow=13,SNR=9.6								
ASAJ				PcP		PcP		21 40 57.0	-0.5
	comp=Z,27nm,0.8s,baz=266,slow=8.5,SNR=6.5								
GZH	**Guangzhou**	**31.68**	**293**	P		**P**		**21 38 07.3**	**-1.2**
DL2	**Dalian**	**32.98**	**325**	P		**P**		**21 38 20.3**	**+0.6**
DL2				PCP		PcP		21 41 03.8	+0.7
DL2				S		**S**		**21 43 40.3**	**+6.2**
DL2				PCS				21 44 47.3	
DL2				AMB		AMB			
	comp=Z,60nm,0.9s,mb5.5								
DL2				AMB		AMB			
	comp=Z,350nm,2.5s,mb5.8								
DL2				LR		LR			
	comp=N,560nm,18.6s,MS4.4								
DL2				LR		LR			
	comp=E,410nm,19.2s,MS4.4								
DL2				LR		LR			
	comp=Z,890nm,25.2s								
CTA	**Charters Tower**	**33.08**	**178**	*e*P		**P**		**21 38 20.1**	**-0.7**
	comp=Z,40nm,1.5s,mb5.1								
CTA	**Charters Tower**	**33.08**	**178**	*e*P		**P**		**21 38 20.1**	**-0.7**
CTA				pmax		pmax			
	comp=Z,40nm,1.5s								
CTA	**Charters Tower**	**33.08**	**178**	P		**P**		**21 38 19.4**	**-1.4**
	comp=Z,36nm,0.8s,mb5.3,baz=353,slow=8.7,SNR=22								
CTAO	**Charters Tower**	**33.08**	**178**	*e*P		**P**		**21 38 18.7**	**-2.1**
CTAO				pmax		pmax			
	comp=Z,328nm,1.8s,mb6.0								
CTAO				MLR		MLR			
	comp=Z,999nm,20.0s,MS4.5								
CTAO	**Charters Tower**	**33.08**	**178**	*e*P		**P**		**21 38 18.7**	**-2.0**
	comp=Z,328nm,1.8s,mb6.0								
CTAO				LR		LR			
	comp=Z,999nm,20.0s,MS4.5								
WHN	**Wuhan**	**33.20**	**306**	P		**P**		**21 38 22.1**	**+0.4**
WHN				PP		PP		21 39 33.0	-0.6
WHN				LR		LR			
	comp=Z,4μm,24.3s,MS5.0								
YSS	**Yuzh-Sakhalins**	**33.72**	**357**	*e*P		**P**		**21 38 24.0**	**-2.0**
YSS				*e*				21 38 43.3	
YSS				pmax		pmax			
	comp=N,40nm,1.0s								
YSS				pmax		pmax			
	comp=Z,50nm,1.0s,mb5.4								
YSS				MLR		MLR			
	comp=Z,5μm,20.0s,MS5.2								
YSS				MLR		MLR			
	comp=N,2μm,21.0s,MS4.9								
YSS				MLR		MLR			
	comp=E,1μm,20.0s,MS4.9								
YSS	**Yuzh-Sakhalins**	**33.72**	**357**	*e*P		**P**		**21 38 22.8**	**-3.2**
	comp=E,72nm,1.2s,mb5.5								
YSS				LR		LR			
	comp=Z,3μm,22.0s,MS5.0								
TIA	**Tai'an**	**34.01**	**317**	*e*P		**P**		**21 38 28.8**	**+0.2**
MDJ	**Mudanjiang**	**34.01**	**340**	P		**P**		**21 38 28.5**	**0.0**
MDJ				AP		pP		21 38 40.1	+0.3
MDJ				XP		sP		21 38 47.6	+2.6
MDJ				PP		PP		21 39 46.8	+3.6
MDJ				PCP		PcP		21 41 05.4	-0.6
MDJ				S		**S**		**21 43 50.8**	**+0.8**
MDJ				XS				21 44 13.3	
MDJ				SCP				21 44 45.4	
MDJ				PCS				21 44 51.8	
MDJ				AMB		AMB			
	comp=Z,39nm,1.0s,mb5.3								
MDJ				AMB		AMB			
	comp=Z,419nm,5.1s								
MDJ				LR		LR			
	comp=N,1μm,32.9s,MS4.5								
MDJ				LR		LR			
	comp=E,805nm,28.2s,MS4.5								
MDJ				LR		LR			
	comp=Z,2μm,32.1s,MS4.6								
SNY	**Shenyang**	**34.13**	**331**	PR				21 38 26.8	
SNY				XP		sP		21 38 45.0	-1.0
SNY				PP		PP		21 39 49.6	+4.9
SNY				AMB		AMB			
	comp=Z,270nm,4.7s								
SNY				LR		LR			
	comp=N,1μm,21.8s								
SNY				LR		LR			
	comp=Z,1μm,20.6s,MS4.7								
QIZ	**Qiongzhong**	**34.32**	**284**	⇓P		**P**		**21 38 32.3**	**+0.9**
QIZ				AP		pP		21 38 46.3	+3.6
QIZ				XP		sP		21 38 53.8	+5.9
QIZ				PP		PP		21 39 48.1	+0.6
QIZ				S		**S**		**21 43 58.8**	**+3.7**
QIZ				XS				21 44 19.3	
QIZ				AMB		AMB			
	comp=Z,32nm,1.3s,mb5.1								
QIZ				LR		LR			
	comp=N,569nm,20.7s,MS4.6								
QIZ				LR		LR			
	comp=E,1μm,23.3s,MS4.6								
QIZ				LR		LR			
	comp=Z,2μm,23.4s,MS4.8								
WRAB	**Tennant Creek**	**34.57**	**198**	*e*P		**P**		**21 38 32.7**	**-0.8**
WRAB				pmax		pmax			
	comp=Z,65nm,0.8s,mb5.6								
WRAB				MLR		MLR			
	comp=Z,485nm,19.0s,MS4.3								
WRAB	**Tennant Creek**	**34.57**	**198**	*e*P		**P**		**21 38 32.7**	**-0.9**
	comp=Z,65nm,0.8s,mb5.6								
WRAB				LR		LR			
	comp=Z,485nm,19.0s,MS4.3								
WB2	**Warramunga Arr**	**34.58**	**198**	*e*P		**P**		**21 38 32.4**	**-1.2**
WRA	**Warramunga Arr**	**34.58**	**198**	P		**P**		**21 38 30.6**	**-3.0**
	comp=Z,25nm,0.7s,mb5.3,baz=22,slow=9.7,SNR=103								
WRA				ScP				21 44 47.6	
	comp=Z,3.8nm,1.0s,baz=18,slow=3.7,SNR=5.3								
CN2	**Changchun**	**34.87**	**335**	*e*P		**P**		**21 38 34.8**	**-1.1**
CN2				PP		PP		21 39 51.5	-2.8
CN2				PCP		PcP		21 41 08.3	-0.1
CN2				*e*S		**S**		**21 44 03.5**	**+0.2**
CN2				SS		SS		21 46 23.1	+4.4
CN2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.9								
CN2				AMB		AMB			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,2μm,19.0s,MS4.9								
CN2				LR		LR			
	comp=E,1μm,19.0s,MS4.9								
CN2				LR		LR			

comp=Z,2μm,19.0s,MS4.8
KEDI Kedomdong 35.95 235⇑ *e*P **P 21 38 45.3 -0.1**
KEDI pmax pmax
comp=Z,181nm,0.9s,mb6.0
KEDI Kedomdong 35.95 235⇑ *e*P **P 21 38 45.3 -0.1**
comp=Z,181nm,0.9s,mb6.0
KSM Kuching 36.35 254 *e*P **P 21 38 49.1 +0.3**
KSM *e*PcP PcP 21 41 13.7 +0.6
KSM *e*ScP 21 44 57.1
FITZ Fitzroy Crossi 36.54 212 *e*P **P 21 38 50.7 +0.4**
comp=Z,23nm,0.8s,mb5.1
FITZ Fitzroy Crossi 36.54 212 P **P 21 38 50.2 0.0**
comp=Z,34nm,1.0s,mb5.2,baz=48,slow=9.5,SNR=26
RATI Rata 36.55 235⇑ *e*P **P 21 38 48.9 -1.5**
comp=Z,135nm,0.3s,mb6.2
BJI Beijing 36.90 322 P **P 21 38 53.1 0.0**
BJI PP PP 21 40 17.4 -2.2
BJI PCP PcP 21 41 13.6 -0.9
BJI S **S 21 44 35.6 +1.0**
BJI SCP 21 44 59.3
BJI AMB AMB
comp=Z,63nm,1.0s,mb5.4
BJI LR LR
comp=N,982nm,22.1s,MS4.7
BJI LR LR
comp=E,1μm,21.1s,MS4.7
BJI LR LR
comp=Z,2μm,33.7s
BJI Beijing 36.90 322 P **P 21 38 53.1 0.0**
BJI *SP sP 21 39 01.9 -7.6
BJI 21 40 17.4
BJI 21 41 13.6
BJI S **S 21 44 35.6 +1.0**
BJI pmax pmax
comp=Z,63nm,1.0s,mb5.4
BJI MLR MLR
comp=Z,2μm,33.7s,MS4.8
BJI Beijing 36.90 322 P **P 21 38 53.1 0.0**
comp=Z,63nm,1.0s,mb5.4
BJI pP pP 21 38 59.2 -5.2
BJI sP sP 21 39 01.9 -7.6
BJI PP PP 21 40 17.4 -2.2
BJI PcP PcP 21 41 13.6 -0.9
BJI S **S 21 44 35.6 +1.0**
BJI ScP 21 44 59.3
BJI SS SS 21 47 21.7 +17
BJI LR LR
comp=Z,2μm,33.7s,MS4.8
KELI Kelakatan 37.10 237⇓ *e*P **P 21 38 55.5 +0.5**
SRDI Scrawed 37.53 237⇓ *e*P **P 21 38 58.4 -0.2**
SRDI pmax pmax
comp=Z,34nm,0.5s,mb5.3
SRDI Scrawed 37.53 237⇓ *e*P **P 21 38 58.4 -0.2**
comp=Z,34nm,0.5s,mb5.3
KLR Kul'dur 37.59 346 *e*P **P 21 38 54.2 -4.6**
KLR *e* 21 41 13.1
KLR pmax pmax
comp=N,34nm,1.6s
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s,mb5.0
KLR MLR MLR
comp=E,1μm,17.0s
ASAR Alice Springs 38.23 197 P **P 21 39 04.0 -0.4**
comp=E,21nm,0.7s,mb5.0,baz=22,slow=9.5,SNR=113
ASAR PP PP 21 40 26.0 -10
comp=E,3.8nm,0.7s,baz=5.5,slow=6.8,SNR=1.8
ASAR LR LR 21 54 59.7
comp=E,686nm,20.6s,MS4.5,baz=12,slow=36
ASPA Alice Springs 38.23 197 *e*P **P 21 39 04.0 -0.4**
ASPA *e*PP PP 21 40 30.8 -4.8
GYA Guiyang 38.34 296⇑ *i*P **P 21 39 06.8 +1.5**
GYA AP pP 21 39 23.0 +6.4
GYA XP sP 21 39 29.3 +7.6
GYA PP PP 21 40 39.0 +2.1
GYA PPP PPP 21 40 55.5 -4.1
GYA PCP PcP 21 41 19.8 +0.7
GYA S **S 21 44 59.3 +2.7**
GYA AMB AMB
comp=Z,40nm,0.7s,mb5.3
GYA AMB AMB
comp=Z,280nm,8.1s
GYA LR LR
comp=N,700nm,16.8s,MS4.9
GYA LR LR
comp=E,1μm,18.9s,MS4.9
GYA LR LR
comp=Z,2μm,18.9s,MS4.9
SKR Severo-Kuril's 38.46 11 *e*P **P 21 39 03.7 -2.3**
SKR *e* pP 21 39 17.0 -0.4
SKR *e* 21 47 39.0
SKR pmax pmax
comp=N,80nm,0.5s
SKR pmax pmax
comp=E,60nm,0.5s
SKR pmax pmax
comp=Z,80nm,0.5s,mb5.7
SKR MLR MLR
comp=Z,3μm,22.0s,MS5.0
XAN Xi'an 38.82 309 P **P 21 39 09.3 +0.1**
XAN PP PP 21 40 38.8 -3.5
XAN SS SS 21 47 51.8 +4.1
XAN AMB AMB
comp=Z,27nm,1.3s,mb4.8
XAN LR LR
comp=N,489nm,24.9s,MS4.5
XAN LR LR
comp=E,817nm,24.0s,MS4.5
XAN LR LR
comp=Z,1μm,17.2s
HHC Hu-ho-hao-te 40.22 320 ⇑P **P 21 39 20.9 +0.1**
HHC AP pP 21 39 38.3 +6.1
HHC XP sP 21 39 43.6 +6.4
HHC PCS 21 45 16.3
HHC S **S 21 45 17.8 -7.0**
HHC XS 21 45 46.5
HHC SCS ScS 21 49 20.9 -0.7
HHC AMB AMB
comp=Z,52nm,1.6s,mb5.0
HHC AMB AMB
comp=Z,602nm,5.2s
HHC LR LR
comp=N,656nm,21.0s,MS4.8
HHC LR LR
comp=E,1μm,20.8s,MS4.8
HHC LR LR
comp=Z,1μm,20.0s,MS4.8
NOUC Port Laguerre 40.77 149 *e*P **P 21 39 24.8 -0.7**
NOUC Port Laguerre 40.77 149 *e*P **P 21 39 24.8 -0.7**
DZM Mont Dzumac 40.81 149 *e*P **P 21 39 24.2 -1.7**
DZM Mont Dzumac 40.81 149 P **P 21 39 25.5 -0.4**
comp=Z,167nm,1.0s,mb5.6,baz=357,slow=6.6,SNR=33
DZM Mont Dzumac 40.81 149 *e*P **P 21 39 24.2 -1.7**
KKTK Khon Kaen 40.95 280 P **P 21 39 28.0 +1.0**
BTO Baotou 41.08 318 *e*P **P 21 39 28.3 +0.4**
BTO S **S 21 45 42.8 +5.2**
BTO AMB AMB
comp=Z,68nm,0.8s,mb5.3
PET Petropavlovsk 41.19 12 *e*P **P 21 39 27.6 -1.0**
PET *e* 21 41 00.8
PET *e*S **S 21 45 40.3 +1.3**
PET pmax pmax
comp=Z,48nm,1.2s,mb5.0
PET pmax pmax
comp=Z,100nm,15.0s
PET MLR MLR
comp=Z,900nm,21.0s,MS4.6
PET Petropavlovsk 41.19 12 *e*P **P 21 39 26.7 -1.9**
comp=Z,23nm,0.8s,mb4.9
PET LR LR
comp=Z,1μm,20.0s,MS4.7
KMI Kunming 41.57 293 ⇑P **P 21 39 33.8 +1.6**
KMI PP PP 21 41 11.6 +0.1
KMI S **S 21 45 47.3 +2.1**
KMI SS SS 21 48 47.8 +1.9
KMI AMB AMB
comp=Z,23nm,1.1s,mb4.7
KMI AMB AMB
comp=Z,239nm,5.3s
KMI LR LR
comp=N,642nm,22.4s,MS4.6
KMI LR LR
comp=E,823nm,24.5s,MS4.6
KMI LR LR
comp=Z,1μm,27.5s,MS4.6
KMI Kunming 41.57 293 ⇑P **P 21 39 33.8 +1.6**
KMI *SP sP 21 39 41.3 -7.3
KMI 21 41 11.6
KMI PPP PPP 21 41 43.2 +0.5
KMI S **S 21 45 47.2 +2.0**
KMI SS SS 21 48 47.7 +1.8
KMI 21 49 35.3
KMI pmax pmax
comp=Z,23nm,1.1s,mb4.7
KMI MLR MLR
comp=Z,1μm,27.5s,MS4.6
KMI Kunming 41.57 293 ⇑P **P 21 39 33.8 +1.6**
comp=Z,23nm,1.1s,mb4.7
KMI pP pP 21 39 40.0 -3.6
KMI sP sP 21 39 41.3 -7.3
KMI PP PP 21 41 11.6 +0.1
KMI PPP PPP 21 41 43.2 +0.5
KMI S **S 21 45 47.2 +2.0**
KMI sS 21 45 58.3
KMI SS SS 21 48 47.7 +1.8
KMI ScS ScS 21 49 35.3 +5.4
KMI LR LR
comp=Z,1μm,27.5s,MS4.6
CD2 Chengdu 41.90 302 P **P 21 39 34.8 +0.1**
CD2 S **S 21 45 50.1 +0.3**
CD2 SS SS 21 48 51.8 0.0
CD2 AMB AMB
comp=Z,30nm,0.9s,mb4.9
CD2 LR LR
comp=E,1μm,25.8s
CD2 LR LR
comp=Z,2μm,22.7s,MS4.8
MBWA Marble Bar 42.26 216 *e*P **P 21 39 38.3 +0.5**
comp=Z,47nm,1.0s,mb5.1
MBWA *e*sP sP 21 39 58.1 +3.9
MBWA LR LR
comp=Z,603nm,20.0s,MS4.5
KGM Kluang 42.80 259 P **P 21 39 43.6 +1.2**
NANT Nan 42.96 283 ⇑P **P 21 39 41.5 -2.1**
comp=Z,222nm,0.6s,mb6.1
PULI Pulasari 43.43 246⇓ *e*P **P 21 39 45.2 -2.3**
LZH Lanzhou 43.45 309 ⇑P **P 21 39 48.3 +0.9**
LZH AP pP 21 39 59.1 +0.3
LZH XP sP 21 40 05.3 +1.5
LZH PP PP 21 41 31.0 +0.5
LZH PCP PcP 21 41 36.3 +0.7
LZH S **S 21 46 20.3 +7.9**
LZH XS 21 46 37.0
LZH AMB AMB
comp=Z,110nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,370nm,4.0s
LZH LR LR
comp=E,2μm,14.1s
LZH LR LR
comp=Z,3μm,16.0s,MS5.2
LZH Lanzhou 43.45 309 ⇑P **P 21 39 48.2 +0.8**
LZH *PP pP 21 39 59.1 +0.3
LZH *SP sP 21 40 05.3 +1.5
LZH 21 41 31.0
LZH 21 41 36.3
LZH S **S 21 46 20.2 +7.8**
LZH *SS 21 46 37.0
LZH pmax pmax
comp=Z,110nm,1.0s,mb5.5
LZH MLR MLR
comp=Z,3μm,16.0s,MS5.2
LZH Lanzhou 43.45 309 ⇑P **P 21 39 48.2 +0.8**
comp=Z,110nm,1.0s,mb5.5
LZH pP pP 21 39 59.1 +0.3
LZH sP sP 21 40 05.3 +1.5
LZH PP PP 21 41 31.0 +0.5
LZH PcP PcP 21 41 36.3 +0.7
LZH S **S 21 46 20.2 +7.8**
LZH sS 21 46 37.0
LZH SS SS 21 49 28.2 +8.1
LZH LR LR
comp=Z,3μm,16.0s,MS5.2
NST Nakhon Sawan 43.56 279 ⇓P **P 21 39 49.8 +1.3**
comp=Z,79nm,1.0s,mb5.4
PENI Pendagan 43.81 247⇑ *e*P **P 21 39 48.7 -1.9**
PENI pmax pmax
comp=Z,144nm,0.8s,mb5.8
PENI Pendagan 43.81 247⇑ *e*P **P 21 39 48.7 -1.9**
comp=Z,144nm,0.8s,mb5.8
SNG Songkhla 44.14 267 P **P 21 39 55.5 +2.3**
NNT Nongplab 44.18 275 P **P 21 39 57.5 +4.0**
comp=Z,604nm,0.7s,mb6.4
IPM Ipoh 44.31 263 P **P 21 39 55.9 +1.3**
KULM Kulim 44.51 264 *e*P **P 21 39 57.4 +1.2**
KULM *e* 21 41 37.4
CHG Chiang Mai 44.62 283 ⇑P **P 21 39 55.0 -2.0**
comp=Z,18nm,1.0s,mb4.8
CM31 Chiang Mai Arr 44.62 283 *e*P **P 21 39 57.9 +0.9**
comp=Z,47nm,0.6s,mb5.5
CM31 *e*PcP PcP 21 41 41.0 +1.2
CM31 LR LR
comp=Z,988nm,19.0s,MS4.8
CMAR Chiang Mai Arr 44.62 283 P **P 21 39 58.1 +1.1**
comp=Z,37nm,0.6s,mb5.4,baz=83,slow=5.3,SNR=108
CMAR PcP PcP 21 41 40.2 +0.4
comp=Z,26nm,0.8s,baz=82,slow=2.1,SNR=11
CMAR LR LR 21 56 52.8
comp=Z,602nm,21.0s,MS4.5,baz=100,slow=34
STKA Stephens Creek 44.93 184 *e*P **P 21 39 57.7 -1.6**
comp=Z,40nm,0.7s,mb5.4
STKA Stephens Creek 44.93 184 P **P 21 39 58.1 -1.2**
comp=Z,53nm,0.8s,mb5.4,baz=351,slow=8.4,SNR=123
STKA LR LR 21 59 28.5
comp=Z,2μm,18.7s,MS5.0,baz=7.8,slow=37
FX1 Attu Island--F 45.48 24 P **P 21 40 02.9 -0.5**
comp=Z,223nm,1.0s,mb5.9,baz=203,slow=1.8,SNR=14
FX1 Attu Island--F 45.48 24 *e*P **P 21 40 03.6 +0.1**
FX1 *e*pP pP 21 40 15.1 +0.2
SMY Shemya 45.74 24 PFAKE 21 40 20.0 +15
SMY LR LR
comp=Z,2μm,21.0s,MS5.1
CLNS Chul'man 46.24 345*c* *i*P **P 21 40 08.6 -0.7**
CLNS *e**PP pP 21 40 15.9 -4.9
CLNS *e* 21 41 38.5
CLNS *e*PPP PP 21 41 54.4 -3.6
CLNS *e*S **S 21 46 44.8 -7.4**
CLNS pmax pmax
comp=Z,100nm,0.8s,mb5.8
CLNS pmax pmax
comp=N,43nm,0.7s
CLNS pmax pmax
comp=E,17nm,0.7s
CLNS pmax pmax
comp=Z,54nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,25nm,1.1s
CLNS pmax pmax
comp=E,13nm,0.8s
CLNS smax
comp=E,18nm,1.6s
CLNS smax
comp=N,7.0nm,1.1s
FORT Forrest 46.68 200 *e*P **P 21 40 13.0 -0.2**
comp=N,1μm,0.8s
ULN Ulaanbaatar 46.84 325 *e*P **P 21 40 14.5 +0.3**
ULN *e* 21 41 47.4
ULN pmax pmax
comp=Z,68nm,1.4s,mb5.4
ULN Ulaanbaatar 46.84 325 *e*P **P 21 40 14.5 +0.3**
comp=Z,68nm,1.4s,mb5.4
ULN *e*PcP PcP 21 41 47.4 +0.2
SONM Songino Array 47.19 325 P **P 21 40 17.3 +0.4**
comp=Z,12nm,0.7s,mb4.9,baz=134,slow=7.8,SNR=64
SONM PcP PcP 21 41 46.8 -1.6
comp=Z,21nm,1.0s,baz=146,slow=2.9,SNR=9.6
SONM ScP 21 45 37.4
comp=Z,4.2nm,1.0s,baz=153,slow=3.2,SNR=3.5
SONM LR LR 22 00 12.2
comp=Z,2μm,20.4s,MS5.0,baz=131,slow=36
GTA Gaotai 47.61 312 *e*P **P 21 40 20.8 +0.4**
GTA PCP PcP 21 41 49.8 -0.2
GTA PP PP 21 42 12.1 +0.7
GTA PPP PPP 21 43 01.6 +0.6
GTA SCP 21 45 40.8
GTA PCS 21 45 44.0
GTA S **S 21 47 17.3 +5.3**
GTA SCS ScS 21 50 09.8 +2.0
GTA AMB AMB
comp=Z,38nm,1.2s,mb5.3
GTA AMB AMB
comp=Z,280nm,7.7s
GTA LR LR
comp=N,385nm,17.3s,MS4.7
GTA LR LR
comp=E,497nm,16.5s,MS4.7
GTA LR LR
comp=Z,793nm,16.1s,MS4.8
ADE Adelaide 48.27 187 *e*P **P 21 40 25.5 -0.1**
CNB Canberra Magne 48.40 175 *e*P **P 21 40 26.3 -0.3**
comp=Z,2μm,1.3s
KIWB Kanaga Island 49.05 30 *e*P **P 21 40 30.6 -0.7**
KIWB *e*pP pP 21 40 43.8 +0.9
SEY Seymchan 49.95 4 *e*P **P 21 40 38.9 +0.8**
SEY *e* 21 42 40.3
SEY *e*PPP PPP 21 43 31.9 +1.8
SEY *e*S **S 21 47 45.6 +1.3**
SEY *e* 21 50 26.7
SEY *e*SSS SSS 21 52 38.8 -5.5
SEY pmax pmax
comp=N,30nm,0.9s
SEY pmax pmax
comp=Z,40nm,0.9s,mb5.5
SEY pmax pmax
comp=E,7.0nm,0.6s
SEY smax
comp=N,2μm,24.9s
SEY smax
comp=E,1μm,29.8s
SEY MLR MLR
comp=Z,3μm,20.0s,MS5.3
SEY MLR MLR
comp=E,900nm,19.0s
YAK Yakutsk 50.02 351 *e*P **P 21 40 36.5 -2.2**
YAK *e**PP pP 21 40 46.6 -3.6
YAK *e* 21 41 57.3
YAK *e* 21 42 26.5
YAK *e*S **S 21 47 47.5 +2.1**
YAK *e* 21 50 24.4
YAK *e*SS SS 21 51 19.1 +3.8
YAK pmax pmax
comp=N,64nm,0.9s
YAK pmax pmax
comp=Z,112nm,0.9s,mb5.9
YAK pmax pmax
comp=E,25nm,1.2s
YAK pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK smax
comp=N,5.0nm,0.8s
YAK smax
comp=E,10.0nm,1.2s
YAK MLR MLR
comp=Z,407nm,16.0s,MS4.5
YAK MLR MLR
comp=N,242nm,15.0s,MS4.5
YAK MLR MLR
comp=E,323nm,18.0s,MS4.5
YAK Yakutsk 50.02 351 PFAKE 21 40 50.0 +11
YAK LR LR
comp=Z,859nm,19.0s,MS4.8
ZAK Zakamensk 50.30 326⇑ *i*P **P 21 40 40.8 -0.2**
ZAK pmax pmax
comp=Z,24nm,1.6s,mb5.0
ZAK pmax pmax
comp=Z,16nm,1.2s,mb4.9
BOD Bodaibo 50.37 339 *e*P **P 21 40 39.2 -2.2**
BOD pmax pmax
comp=Z,90nm,1.7s,mb5.5
TOO Toolangi 50.48 180 *e*P **P 21 40 42.9 +0.3**
comp=Z,68nm,0.8s,mb5.7
TOO Toolangi 50.48 180 *e*P **P 21 40 42.9 +0.3**
TOO pmax pmax
comp=Z,68nm,0.8s,mb5.7
IRK Irkutsk 50.81 329 *e*P **P 21 40 43.8 -1.0**
IRK *e* 21 40 58.8
IRK *e* 21 42 00.8
IRK pmax pmax
comp=Z,78nm,2.2s,mb5.2
TLY Talaya 50.81 328 *e*P **P 21 40 44.3 -0.6**
TLY *e* 21 42 38.4
TLY *e*S **S 21 48 09.4 +13**
TLY pmax pmax
comp=Z,31nm,1.0s,mb5.2
TLY MLR MLR
comp=Z,776nm,20.0s,MS4.7
TLY Talaya 50.81 328 *e*P **P 21 40 44.8 -0.1**
comp=Z,30nm,0.9s,mb5.2
TLY *e*PcP PcP 21 42 00.8 -0.6
TLY LR LR
comp=Z,219nm,21.0s,MS4.2
SHL Shillong 51.39 292 *e*P **P 21 40 50.0 +0.4**
SHL ⇑*e*S **S 21 48 04.0 -0.7**
KLBR Kellerberrin 51.67 210 *e*P **P 21 40 49.9 -1.7**
comp=Z,554nm,1.0s,mb6.4
MOY Mondy 52.20 327 *e*P **P 21 40 55.1 -0.2**
MOY *e* 21 42 06.6
MOY pmax pmax
comp=Z,108nm,1.8s,mb5.5
LSA Lhasa 52.38 297 P **P 21 40 58.3 +1.4**
MUN Mundaring 52.75 211 *e*P **P 21 40 59.2 -0.5**
comp=Z,49nm,0.7s,mb5.5
MUN Mundaring 52.75 211 *e*P **P 21 40 59.2 -0.5**
MUN pmax pmax
comp=Z,49nm,0.7s,mb5.5
NWAO Narrogin (SRO) 53.02 209 P **P 21 40 59.4 -2.3**
comp=Z,21nm,1.2s,mb5.0,baz=130,slow=4.3,SNR=2.5
NWAO Narrogin (SRO) 53.02 209 P **P 21 40 59.4 -2.3**
NWAO LR LR
comp=Z,864nm,19.0s,MS4.8
NIKO Nikolski 53.89 33 *e*P **P 21 41 05.5 -2.3**
RAO Raoul Island 55.27 140 PFAKE 21 41 30.0 +12
RAO LR LR
comp=Z,2μm,22.0s,MS5.0
UNV Unalaska Valle 55.55 33 *e*P **P 21 41 17.4 -2.5**
comp=Z,138nm,0.8s,mb6.0
UNV LR LR
comp=Z,3μm,20.0s,MS5.4
TAU Tasmania Unive 55.85 178 PFAKE 21 41 30.0 +7.7
TAU LR LR
comp=Z,403nm,20.0s,MS4.5
BILL Bilibino 56.52 9*c* *i*P **P 21 41 24.3 -2.4**
BILL *i* 21 41 44.6
BILL *e* 21 42 21.7
BILL *e* 21 43 27.9
BILL *i*S **S 21 49 09.5 -4.0**
BILL pmax pmax
comp=Z,102nm,0.9s,mb5.8
BILL MLR MLR
comp=Z,500nm,18.0s,MS4.7
BILL Bilibino 56.52 9 *e*P **P 21 41 24.5 -2.2**
comp=Z,150nm,1.0s,mb6.0
BILL LR LR
comp=Z,613nm,20.0s,MS4.7
JIRN Jiri 56.58 294 *e*P **P 21 41 27.5 -0.2**
comp=Z,99nm,0.3s,mb6.3
GUN Gumba 56.86 295 *e*P **P 21 41 29.3 -0.4**
comp=Z,252nm,0.8s,mb6.3
PKI Pulchoki 57.27 294 *e*P **P 21 41 31.4 -1.2**
comp=Z,52nm,0.3s,mb6.0
KKN Kakani 57.39 295 *e*P **P 21 41 32.4 -1.1**
comp=Z,147nm,1.0s,mb6.0
DMN Daman 57.54 294 *e*P **P 21 41 33.8 -0.7**
comp=Z,47nm,0.4s,mb5.9
WMQ Urumqi 57.58 314 ⇑P **P 21 41 34.1 -0.4**
WMQ AP pP 21 41 50.1 +3.7
WMQ XP sP 21 41 57.1 +6.0
WMQ PCP PcP 21 42 26.9 -0.4
WMQ PP PP 21 43 43.8 -0.2
WMQ PPP PPP 21 45 06.3 +0.6
WMQ SCP 21 46 19.8
WMQ S **S 21 49 25.1 -2.6**
WMQ PS PS 21 49 47.1 +0.7
WMQ XS 21 49 52.6
WMQ SCS ScS 21 51 14.3 -2.5
WMQ AMB AMB
comp=Z,65nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,291nm,4.1s
WMQ LR LR

comp=N,449nm,19.0s,MS4.8
WMQ LR LR
comp=E,620nm,23.6s,MS4.8
WMQ LR LR
comp=Z,628nm,21.8s,MS4.7
GKN Gorkha 57.97 295 *e*P **P 21 41 36.6 -0.9**
comp=Z,278nm,1.0s,mb6.2
KOLN Koldanda 58.88 295 *e*P **P 21 41 42.9 -0.9**
comp=Z,249nm,1.1s,mb6.2
TIXI Tiksi 59.26 354⇓*e*P **P 21 41 43.1 -2.8**
TIXI pmax pmax
comp=Z,17nm,1.3s,mb4.9
TIXI Tiksi 59.26 354⇓*e*P **P 21 41 43.2 -2.7**
VIS Vishakhapatnam 59.49 283 *e*P **P 21 41 48.3 +0.2**
VIS *e* 21 41 49.6
comp=Z,80nm,0.6s
BLSP Bilaspur 60.31 288 *e*P **P 21 41 53.3 -0.5**
BLSP *e* 21 41 54.8
comp=Z,72nm,0.7s
SNZO South Karori 60.73 155 PFAKE 21 42 10.0 +14
SNZO LR LR
comp=Z,862nm,20.0s,MS4.9
TNA Tin City 61.15 20 *e*P **P 21 41 57.0 -1.8**
comp=Z,27nm,0.8s,mb5.4
TNA LR LR
comp=Z,354nm,22.0s,MS4.5
MLZ Mavora Lakes 61.89 162 PN **P 21 42 02.5 -1.5**
MKAR Makanchi Array 61.94 316 P **P 21 42 03.8 -0.6**
comp=Z,30nm,0.8s,mb5.5,baz=94,slow=8.2,SNR=220
MKAR PcP PcP 21 42 43.5 -1.1
comp=Z,21nm,0.8s,baz=90,slow=6.1,SNR=8.2
MKAR PKPPKP 22 11 15.1
comp=Z,1.4nm,0.9s,baz=297,slow=2.7,SNR=9.9
MKAR LR LR 22 13 22.9
comp=Z,441nm,18.1s,MS4.7,baz=178,slow=40
MKAR Makanchi Array 61.94 316 P **P 21 42 03.8 -0.6**
MKAR PcP PcP 21 42 43.5 -1.1
MKAR P'P' 22 11 15.1
MKAR LR LR 22 13 22.9
ZAL Zalesovo 62.09 324 P **P 21 42 04.4 -0.9**
comp=Z,5.1nm,0.9s,mb4.7,baz=6.0,slow=6.9,SNR=44
ZAL PcP PcP 21 42 44.1 -1.0
comp=Z,15nm,0.5s,baz=336,slow=5.7,SNR=12
ZAL LR LR 22 10 27.4
comp=Z,1μm,19.6s,MS5.1,baz=5.6,slow=37
NVS Novosibirsk 63.22 325 *i* P **P 21 42 11.2 -1.7**
NVS *e* 21 42 45.1
NVS *e*S **S 21 50 39.6 -0.2**
NVS pmax pmax
comp=N,66nm,1.7s
NVS pmax pmax
comp=E,166nm,1.7s
NVS pmax pmax
comp=Z,217nm,1.7s,mb6.0
NVS smax
comp=N,30nm,2.1s
NVS smax
comp=E,24nm,2.1s
PALK Pallekele 63.51 272 *e*P **P 21 42 15.0 -0.5**
comp=E,65nm,1.2s,mb5.5
PALK LR LR
comp=Z,87nm,21.0s,MS3.9
SVW2 Sparrevohn 63.93 28 *e*P **P 21 42 17.3 0.0**
HYB Hyderabad 64.05 283⇑*e*P **P 21 42 18.5 -0.4**
HYB pmax pmax
comp=Z,27nm,1.6s,mb5.0
HYB Hyderabad 64.05 283⇑*e*P **P 21 42 18.5 -0.4**
comp=Z,27nm,1.6s,mb5.0
HYB Hyderabad 64.05 283⇑*i*P **P 21 42 18.5 -0.4**
comp=Z,123nm,0.8s,mb6.0
HYB *e*PcP PcP 21 42 53.0 -0.7
HYB *e*S **S 21 50 52.0 +1.2**
HYB *e* 21 51 28.0
KDAK Kodiak Island 64.29 32 *e*P **P 21 42 19.2 -0.6**
KDAK LR LR
comp=Z,600nm,19.0s,MS4.8
TTA Tatalina 64.42 26 *e*P **P 21 42 19.6 -0.9**
NDI New Delhi 64.50 296 *e*P **P 21 42 20.0 -1.6**
SMLA Simla 64.51 298⇓*i* **P 21 42 14.5 -7.1**
BHPL Bhopal 64.58 290 *e*P **P 21 42 21.7 -0.5**
BHPL *e* 21 42 22.2
comp=Z,34nm,0.6s
ULHL Ulahol 65.63 311 P **P 21 42 30.3 +1.6**
SNR=7.9
KSH Kashi 65.66 308 *e*P **P 21 42 28.1 -0.8**
KSH *e*PCP PcP 21 42 59.0 -1.0
KSH *e*PP PP 21 44 54.1 -1.8
KSH *e*PPP PPP 21 46 28.0 -2.6
KSH *e*SCP 21 47 00.4
KSH *e*PCS 21 47 02.0
KSH *e*S S 21 51 09.1 -1.1
KSH *e*SCS ScS 21 52 18.3 +0.8
KSH *e*SS SS 21 55 24.1 -2.2
KSH AMB AMB
comp=Z,660nm,4.1s
KSH LR LR
comp=N,380nm,5.6s
KSH LR LR
comp=E,2μm,17.2s
THN Thein Dam 65.73 300 *e*P **P 21 42 27.8 -1.7**
TKM2 Tokmak 2 66.15 311 P **P 21 42 33.0 +1.0**
SNR=9.3
SLKM Skilak Lake 66.23 29 *e*P **P 21 42 30.6 -1.6**
KZA Kyzart 66.35 310 P **P 21 42 34.0 +0.7**
SNR=15
FIB Fire Island 66.43 29 PFAKE 21 42 40.0 +6.6
FIB LR LR
comp=Z,1μm,21.0s,MS5.0
IMA Indian Mountai 66.53 23 *e*P **P 21 42 33.1 -0.9**
KBK Karagaybulak 66.61 311 P **P 21 42 35.8 +0.9**
SNR=14
PWA Palmer West 66.71 28 *e*P **P 21 42 33.1 -2.0**
FRU Bishkek 66.86 311 *e*P **P 21 42 37.0 +0.5**
FRU *e* 21 43 01.0
FRU pmax pmax
comp=Z,40nm,2.0s,mb5.1
UCH Uchtor 66.91 310 P **P 21 42 38.0 +1.2**
SNR=12
AAK Ala-Archa 66.94 311 P **P 21 42 37.1 +0.1**
AAK pmax pmax
comp=Z,32nm,1.9s,mb5.0
AAK Ala-Archa 66.94 311 *i* P **P 21 42 37.2 +0.2**
USP Ospenovka 66.98 312 P **P 21 42 37.0 -0.2**
SNR=8.4
PMR Palmer 67.03 28 *e*P **P 21 42 35.8 -1.4**
PMR MLR MLR
comp=Z,900nm,23.0s,MS4.9
SML Sawmill 67.46 28⇑*e*P **P 21 42 38.8 -1.1**
EKS2 Erkin-Say 67.47 311 P **P 21 42 41.1 +0.8**
SNR=6.7
AML Almayashu 67.51 310 P **P 21 42 41.5 +0.9**
SNR=16
MCK McKinley 67.70 26 *e*P **P 21 42 39.4 -1.9**
MCK pmax pmax
comp=Z,95nm,1.3s,mb5.7
MCK MLR MLR
comp=Z,475nm,22.0s,MS4.7
MCK McKinley 67.70 26 *e*P **P 21 42 39.4 -2.0**
comp=Z,95nm,1.3s,mb5.7
MCK LR LR
comp=Z,475nm,22.0s,MS4.7
MID Middleton Isla 67.87 31 *e*P **P 21 42 43.1 +0.6**
KAD Karad 68.21 284 *e*P **P 21 42 44.7 -0.6**
KAD *e* 21 42 45.6
comp=Z,109nm,0.6s
POO Poona 68.37 285⇓*i*P **P 21 42 44.0 -2.3**
EYAK Cordova Ski Ar 68.39 30 *e*P **P 21 42 45.0 -0.7**
COLA College 68.46 25 P **P 21 42 44.3 -1.8**
COLA pmax pmax
comp=Z,130nm,1.3s,mb5.8
COLA College 68.46 25 *e*P **P 21 42 44.5 -1.6**
COLA LR LR
comp=Z,1μm,23.0s,MS5.0
DIV Divide 68.50 29 *e*P **P 21 42 46.0 -0.4**
comp=Z,1μm,1.3s
DIV LR LR
comp=Z,3μm,22.0s,MS5.5
ILAR Eielson Array 68.84 25 P **P 21 42 46.0 -2.4**
comp=Z,74nm,0.8s,mb5.7,baz=271,slow=4.1,SNR=328
THY Trims Highway 69.00 27 *e*P **P 21 42 49.0 -0.5**
THY *e*pP pP 21 42 59.3 -2.2
MENT Mentasta 69.80 27 *e*P **P 21 42 53.4 -1.0**
KKAR Karatay Array 69.89 311 *i* P **P 21 42 54.8 -0.4**
KKAR pmax pmax
comp=Z,49nm,1.2s,mb5.3

CHKZ Chkalovo 70.30 322 P **P 21 42 56.3 -1.2**
CHKZ pmax pmax
comp=Z,132nm,1.7s,mb5.6
CHKZ Chkalovo 70.30 322⇑*i*P **P 21 42 56.1 -1.4**
BVA0 Borovoye Array 70.38 322 P **P 21 42 57.3 -0.7**
BVA0 pmax pmax
comp=Z,42nm,1.7s,mb5.1
BVAR Borovoye Array 70.38 322 P **P 21 42 57.9 -0.2**
comp=Z,44nm,0.6s,mb5.6,baz=102,slow=7.7,SNR=294
PPT Papeete 71.34 114 *e*S S 21 52 11.8 -6.2
PPT *e*LR LR 22 03 49.7
comp=Z,3μm,25.5s,baz=294
PPT Papeete 71.34 114 LR LR 22 05 35.3
comp=Z,972nm,21.8s,MS5.0,baz=288,slow=28
TIAR Tiarei 71.55 114 *e*P **P 21 43 05.6 0.0**
comp=Z,101nm,0.9s,mb5.7
DAWY Dawson 71.90 27⇑*e*P **P 21 43 06.7 -0.2**
DAWY *e*pP pP 21 43 17.2 -1.8
DAWY *e*PP PP 21 45 39.4 -9.2
PMOR Pomariorio Ree 71.98 111 *e*P **P 21 43 08.1 -0.1**
comp=Z,76nm,1.1s,mb5.5
SIT Sitka 73.38 34 PFAKE 21 43 30.0 +14
SIT LR LR
comp=Z,732nm,21.0s,MS4.9
TBI Tubuai 73.58 119 *e*S S 21 52 17.5 -26
TBI *e*LR LR 22 05 02.7
comp=Z,1μm,33.0s,baz=293
INK Inuvik 74.65 22⇑*e*P **P 21 43 21.9 -1.1**
INK pmax pmax
comp=Z,123nm,0.9s
INK Inuvik 74.65 22 P **P 21 43 22.1 -0.9**
comp=Z,102nm,0.9s,mb5.7,baz=261,slow=7.0,SNR=224
INK Inuvik 74.65 22⇑*e*P **P 21 43 21.9 -1.1**
comp=Z,123nm,0.9s,mb5.8
DGAR Diego Garcia 74.98 259 PFAKE 21 43 40.0 +14
DGAR LR LR
comp=Z,131nm,20.0s,MS4.2
SVE Sverdlovsk 76.06 326⇑*i*P **P 21 43 31.6 +0.4**
SVE *e* 21 53 48.0
SVE *e*PS PS 21 54 10.0 +16
SVE pmax pmax
comp=Z,320nm,1.8s,mb6.0
SVE MLR MLR
comp=N,200nm,18.0s,MS4.8
SVE MLR MLR
comp=E,400nm,18.0s,MS4.8
SVE MLR MLR
comp=Z,600nm,18.0s,MS5.0
DLBC Dease Lake 76.20 33 P **P 21 43 31.8 -0.2**
comp=Z,130nm,1.0s,mb5.8,baz=275,slow=5.6,SNR=197
DLBC Dease Lake 76.20 33⇑*e*P **P 21 43 32.6 +0.6**
DLBC *e*pP pP 21 43 44.3 +0.1
ARU Arti 77.22 325⇑*i*P **P 21 43 37.1 -0.7**
ARU *e* 21 43 45.4
ARU *e* 21 46 32.4
ARU *e*PPP PPP 21 48 17.7 -4.1
ARU *e*S S 21 53 29.3 +6.3
ARU *e* 21 54 00.6
ARU *e*SS SS 21 58 26.9 +2.6
ARU pmax pmax
comp=Z,101nm,1.3s,mb5.6
ARU MLR MLR
comp=Z,700nm,18.0s,MS5.0
ARU MLR MLR
comp=N,100nm,17.0s,MS4.9
ARU MLR MLR
comp=E,500nm,18.0s,MS4.9
ARU Arti 77.22 325 *e*P **P 21 43 37.3 -0.6**
comp=E,95nm,1.0s,mb5.7
ARU LR LR
comp=Z,190nm,19.0s,MS4.4
BBB Bella Bella 77.75 39 LR LR 22 14 39.6
comp=Z,839nm,20.5s,MS5.0,baz=299,slow=33
SOKR Solikamsk 77.89 329*c i*P **P 21 43 40.5 -1.0**
SOKR pmax pmax
comp=Z,110nm,1.0s,mb5.7
SOKR MLR MLR
comp=Z,870nm,21.0s,MS5.1
DRV Dumont d'Urvil 79.71 182 P **P 21 43 48.0 -3.3**
OZB Mount Ozzard 79.80 42 P **P 21 43 52.8 +0.7**
PGC Sidney 81.18 42 *e*P **P 21 43 60.0 +0.5**
comp=Z,143nm,0.9s,mb5.9
WBK Wadi Bani Khal 81.52 291⇓P **P 21 44 02.0 +0.3**
SNR=7.4
KEBM Edson Butte 81.57 48 *e*P **P 21 44 02.5 +0.9**
MCW Mount Constitu 81.58 42⇓P **P 21 44 02.6 +1.1**
HDW Hoodsport 81.62 43 P **P 21 44 03.2 +1.4**
ERW Mount Erie 81.76 42 P **P 21 44 03.4 +1.0**
GNW Green Mountain 81.79 43 P **P 21 44 03.6 +1.0**
GMW Gold Mountain 81.82 43 P **P 21 44 03.8 +1.0**
VDB Vedder Mountai 81.99 42 P **P 21 44 03.8 +0.2**
COR Corvallis 82.00 46 *e*P **P 21 44 05.1 +1.3**
COR pmax pmax
comp=Z,98nm,1.1s,mb5.7
COR MLR MLR
comp=Z,257nm,21.0s,MS4.6
COR Corvallis 82.00 46 *e*P **P 21 44 05.0 +1.3**
comp=Z,98nm,1.1s,mb5.7
COR LR LR
comp=Z,257nm,21.0s,MS4.6
BIDO Bidbid 82.12 292⇓P **P 21 44 05.1 +0.3**
SNR=15
KRMB Red Mountain 82.13 49⇑*e*P **P 21 44 05.7 +1.2**
KRMB *e*pP pP 21 44 18.6 +1.8
MBW Mount Baker 82.17 42 P **P 21 44 05.3 +0.8**
JCW Jim Creek 82.26 42 P **P 21 44 05.9 +0.8**
SMDO Samad 82.27 292⇓P **P 21 44 05.2 -0.4**
SNR=11
LMW Ladd Mountain 82.31 44 P **P 21 44 06.3 +0.9**
LVP Lakeview Peak 82.35 45 P **P 21 44 06.3 +0.8**
JMDO Jabal Madar 82.36 291⇓P **P 21 44 05.9 -0.1**
KHMM Horse Mountain 82.38 50 *e*P **P 21 44 07.4 +1.6**
KHMM *e*pP pP 21 44 20.4 +2.3
STD Studebaker Rid 82.44 44 P **P 21 44 07.2 +1.2**
HTW Haystack Looko 82.44 43 P **P 21 44 06.5 +0.6**
RPW Rockport 82.49 42 P **P 21 44 06.6 +0.5**
HUMO Hull Mountain 82.62 48⇑*e*P **P 21 44 07.8 +0.9**
comp=Z,52nm,1.1s,mb5.5
HUMO *e*pP pP 21 44 18.5 -0.8
HUMO LR LR
comp=Z,907nm,22.0s,MS5.1
RCS Mount Rainier- 82.65 44 P **P 21 44 08.2 +1.1**
HOQ Hoqain 82.84 292⇓P **P 21 44 08.8 +0.3**
SNR=14
IRO Indian Ridge 82.85 47 P **P 21 44 08.8 +0.7**
TDH Tom, Dick, Har 82.92 45 P **P 21 44 09.2 +0.7**
YBH Yreka Blue Hor 82.97 49 *e*P **P 21 44 09.5 +0.7**
YBH pmax pmax
comp=Z,49nm,0.9s
YBH MLR MLR
comp=Z,639nm,22.0s
YBH Yreka Blue Hor 82.97 49 P **P 21 44 09.9 +1.1**
comp=Z,43nm,0.8s,mb5.5,baz=295,slow=1.3,SNR=78
YBH LR LR 22 14 54.2
comp=Z,594nm,20.6s,MS5.0,baz=324,slow=31
YBH Yreka Blue Hor 82.97 49 *e*P **P 21 44 09.5 +0.8**
comp=Z,49nm,0.9s,mb5.5
YBH LR LR
comp=Z,639nm,22.0s,MS5.0
WRW Wenatchee Ridg 83.02 43 P **P 21 44 09.6 +0.7**
YKW3 Yellowknife Ar 83.09 27 *e*P **P 21 44 08.7 -0.3**
BSY Bisya 83.10 292⇓P **P 21 44 09.6 -0.2**
SNR=12
VBEM Beaver Butte 83.11 45 P **P 21 44 10.1 +0.7**
YKA Yellowknife Ar 83.11 27 P **P 21 44 08.8 -0.3**
comp=Z,53nm,0.8s,mb5.7,baz=287,slow=5.3,SNR=477
YKA LR LR 22 20 29.5
comp=Z,460nm,20.1s,MS4.8,baz=285,slow=35
HOPS Hopland 83.23 52 *e*P **P 21 44 10.9 +0.7**
comp=Z,50nm,1.1s,mb5.5
HOPS LR LR
comp=Z,616nm,21.0s,MS5.0
CASY Casey 83.27 193 *e*P **P 21 44 10.6 +0.8**
SLFW Sugar Loaf 83.27 43 P **P 21 44 10.9 +0.7**
BANOM Banah 83.29 295⇑P **P 21 44 10.8 +0.1**
SNR=6.7
WDC Whiskeytown Da 83.32 50⇑*e*P **P 21 44 11.1 +0.5**
WDC pmax pmax
comp=Z,32nm,1.0s,mb5.3
WDC MLR MLR
WDC Whiskeytown Da 83.32 50⇑*e*P **P 21 44 11.1 +0.5**
comp=Z,32nm,1.0s,mb5.3
WDC LR LR
comp=Z,887nm,22.0s,MS5.1

LHEM Herd Peak 83.35 49 P **P 21 44 11.6 +0.9**
PNT Penticton 83.53 41 P **P 21 44 11.8 +0.3**
ARQ Araqi 83.60 292⇓P **P 21 44 12.7 +0.2**
SNR=17
MXC Moxie City 83.68 44 P **P 21 44 13.0 +0.7**
ASHO Ashiyiah 83.75 294⇑P **P 21 44 13.7 +0.5**
PINOR Pine Mountain 83.87 47 P **P 21 44 14.4 +1.1**
BVW Beverly 83.91 43 P **P 21 44 14.5 +1.1**
LTIM Timbered Crate 83.98 49 P **P 21 44 14.8 +0.8**
MDW Midway 84.03 44 P **P 21 44 14.7 +0.6**
LBCM Butte Creek Ri 84.16 50 P **P 21 44 15.5 +0.6**
HAWA Hanford 84.23 44⇑*e*P **P 21 44 15.6 +0.5**
comp=Z,1.9nm,0.8s
REDWA Red Mountain 84.32 44 P **P 21 44 16.3 +0.8**
OD2 Odessa Site #2 84.55 43⇑P **P 21 44 17.1 +0.4**
KBS Kingsbay 84.63 352 *e*P **P 21 44 16.9 +0.5**
KBS pmax pmax
comp=Z,30nm,0.6s,mb5.6
KBS MLR MLR
comp=Z,291nm,19.0s,MS4.7
KBS Kingsbay 84.63 352 *e*P **P 21 44 16.9 +0.4**
comp=Z,30nm,0.6s,mb5.6
KBS LR LR
comp=Z,291nm,19.0s,MS4.7
KBS Kingsbay 84.63 352 *e*P **P 21 44 16.8 +0.3**
KBS AMS AMS 22 19 21.2
comp=Z,108nm,24.1s,MS4.2
MOD Modoc 84.69 48⇑*e*P **P 21 44 18.3 +0.8**
comp=Z,46nm,1.0s,mb5.6
MOD *e*pP pP 21 44 30.0 +0.2
MOD LR LR
comp=Z,674nm,21.0s,MS5.0
RES Resolute Bay 84.89 13⇑*e*P **P 21 44 17.7 -0.1**
RES pmax pmax
comp=Z,120nm,1.2s,mb5.9
RES Resolute Bay 84.89 13⇑*e*P **P 21 44 17.6 -0.1**
comp=Z,120nm,1.2s,mb5.9
SAO San Andreas Ge 84.96 54 PFAKE 21 44 30.0 +11
SAO LR LR
comp=Z,490nm,20.0s,MS4.9
PECR Pechory 85.15 327 *i* P **P 21 44 19.3 -0.1**
PECR *e*S S 21 54 41.0 -3.7
PECR pmax pmax
comp=Z,2μm,1.4s
PECR pmax pmax
comp=Z,800nm,2.4s,mb6.4
PECR smax
comp=E,300nm,4.0s
PECR MLR MLR
comp=Z,1μm,21.0s,MS5.2
PECR MLR MLR
comp=E,900nm,20.0s
LVZ Lovozero 85.35 339⇑*i*P **P 21 44 19.0 -1.2**
NEW Newport 85.38 42⇑*e*P **P 21 44 21.1 +0.3**
NEW *e*'PP pP 21 44 34.4 +1.3
NEW pmax pmax
comp=Z,126nm,1.0s
NEW MLR MLR
comp=Z,605nm,20.0s
NEW Newport 85.38 42 P **P 21 44 21.4 +0.6**
comp=Z,55nm,0.7s,mb5.8,baz=268,slow=3.5,SNR=53
NEW LR LR 22 21 33.5
comp=Z,416nm,19.4s,MS4.8,baz=317,slow=35
NEW Newport 85.38 42⇑*e*P **P 21 44 21.1 +0.3**
comp=Z,126nm,1.0s,mb6.0
NEW *e*pP pP 21 44 34.4 +1.2
NEW LR LR
comp=Z,605nm,20.0s,MS5.0
CMB Columbia Colle 85.50 52⇑*e*P **P 21 44 22.0 +0.4**
CMB *e*'PP pP 21 44 33.4 -0.6
CMB pmax pmax
comp=Z,37nm,1.1s,mb5.4
CMB MLR MLR
comp=Z,473nm,20.0s,MS4.9
CMB Columbia Colle 85.50 52⇑*e*P **P 21 44 22.0 +0.4**
comp=Z,37nm,1.1s,mb5.4
CMB *e*pP pP 21 44 33.4 -0.6
CMB LR LR
comp=Z,473nm,20.0s,MS4.9
SHAO Shalim 85.51 287⇑P **P 21 44 22.3 +0.2**
SNR=10
WCN Washoe City 85.69 51 *e*P **P 21 44 23.4 +0.9**
WCN pmax pmax
comp=Z,27nm,1.0s,mb5.4
WCN Washoe City 85.69 51 *e*P **P 21 44 23.4 +0.9**
comp=Z,27nm,1.0s,mb5.4
WVOR Wild Horse Val 85.78 48⇑*e*P **P 21 44 23.3 +0.5**
WVOR *e*'PP pP 21 44 37.0 +1.8
WVOR pmax pmax
comp=Z,124nm,1.4s,mb6.0
WVOR MLR MLR
comp=Z,902nm,20.0s,MS5.2
WVOR Wild Horse Val 85.78 48⇑*e*P **P 21 44 23.3 +0.5**
comp=Z,124nm,1.4s,mb6.0
WVOR *e*pP pP 21 44 37.0 +1.8
WVOR LR LR
comp=Z,902nm,20.0s,MS5.2
PAHR Pah Rah Range 85.87 50 *e*P **P 21 44 24.6 +1.2**
comp=Z,44nm,1.5s,mb5.5
APA Apatity 85.92 339⇓*i*P **P 21 44 22.6 -0.4**
APA *i* pP 21 44 37.6 +2.3
APA *e* 21 54 51.0
APA pmax pmax
comp=Z,350nm,1.4s,mb6.4
RKT Rikitea 86.08 115 *e*S S 21 54 33.6 -21
RKT *e*LR LR 22 10 41.4
comp=Z,1μm,30.0s
BMO Blue Mountains 86.12 45⇑*i*P **P 21 44 24.9 +0.5**
BMO pmax pmax
comp=Z,74nm,1.0s,mb5.9
BMO MLR MLR
comp=Z,599nm,21.0s,MS5.0
BMO Blue Mountains 86.12 45⇑*i*P **P 21 44 24.9 +0.5**
comp=Z,74nm,1.0s,mb5.9
BMO LR LR
comp=Z,599nm,21.0s,MS5.0
EDM Edmonton 86.34 36 *e*P **P 21 44 25.8 +0.5**
OMM Old Mammoth Mi 86.67 52 *e*P **P 21 44 27.9 +0.6**
RBK Rabkut 86.95 287⇓P **P 21 44 28.9 -0.2**
SNR=34
KEV Kevo 86.97 342 *e*p **P 21 44 27.6 -0.5**
comp=Z,8.3nm,0.4s,mb5.3
KEV Kevo 86.97 342 P **P 21 44 27.3 -0.8**
KEV pmax pmax
comp=Z,200nm,1.1s,mb6.3
NVAR Mina Array Bea 87.00 51 P **P 21 44 29.1 +0.2**
comp=Z,15nm,0.7s,mb5.3,baz=263,slow=9.0,SNR=84
NVAR LR LR 22 24 06.2
comp=Z,312nm,18.1s,MS4.8,baz=270,slow=36
MTUM Tungsten Hills 87.06 52 *e*P **P 21 44 29.6 +0.3**
MNV Mina 87.11 51⇑*e*P **P 21 44 30.2 +0.7**
MNV pmax pmax
comp=Z,32nm,1.2s,mb5.4
MNV MLR MLR
comp=Z,338nm,20.0s,MS4.8
MNV Mina 87.11 51⇑*e*P **P 21 44 30.2 +0.8**
comp=Z,32nm,1.2s,mb5.4
MNV LR LR
comp=Z,338nm,20.0s,MS4.8
WALA Waterton Lakes 87.22 40 *e*P **P 21 44 30.8 +1.1**
comp=Z,123nm,1.2s,mb6.0
WHFO Wadi Hawf 87.26 288⇓P **P 21 44 29.9 -0.7**
SNR=27
BMN Battle Mountai 87.30 49 *e*P **P 21 44 31.3 +0.9**
BMN *e*'PP pP 21 44 42.2 -0.6
BMN pmax pmax
comp=Z,25nm,0.9s,mb5.4
BMN MLR MLR
comp=Z,650nm,20.0s,MS5.0
BMN Battle Mountai 87.30 49 *e*P **P 21 44 31.3 +0.9**
comp=Z,25nm,0.9s,mb5.4
BMN *e*pP pP 21 44 42.2 -0.6
BMN LR LR
comp=Z,650nm,20.0s,MS5.0
ARCES ARCESS Array B 87.54 342 P **P 21 44 30.6 -0.1**
comp=Z,144nm,0.8s,mb6.2,baz=59,slow=7.1,SNR=189
ARCES LR LR 22 30 17.6
comp=Z,396nm,18.5s,MS4.9,baz=53,slow=40
ARE0 ARCESS Array S 87.54 342⇑*e*P **P 21 44 30.6 -0.2**
ABTO Aybut 87.83 287⇓P **P 21 44 33.2 -0.1**
SNR=40
MSO Missoula 87.84 42 *e*P **P 21 44 33.0 +0.2**
comp=Z,21nm,1.3s,mb5.2
MSO *e*PP PP 21 47 57.5 -3.9
MSO LR LR
comp=Z,338nm,19.0s,MS4.8

TPH Tonopah 87.91 52 *eP* **P 21 44 34.0 +0.7**
TPH pmax pmax
comp=Z,33nm,1.0s,mb5.5
TPH MLR MLR
comp=Z,336nm,19.0s,MS4.8
TPH Tonopah 87.91 52 *eP* **P 21 44 34.0 +0.6**
comp=Z,33nm,1.0s,mb5.5
TPH LR LR
comp=Z,336nm,19.0s,MS4.8
DAC Darwin (Calif) 88.09 53 *eP* **P 21 44 34.6 +0.4**
DAC pmax pmax
comp=Z,17nm,1.0s,mb5.2
DAC MLR MLR
comp=Z,510nm,20.0s,MS4.9
DAC Darwin (Calif) 88.09 53 *eP* **P 21 44 34.6 +0.4**
comp=Z,17nm,1.0s,mb5.2
DAC LR LR
comp=Z,510nm,20.0s,MS4.9
MWC Mount Wilson 88.24 55 *eP* **P 21 44 35.1 +0.1**
CHMT Chamberlain Mo 88.27 42 *eP* **P 21 44 34.5 -0.3**
HLID Hailey 88.47 46 *eP* **P 21 44 36.8 +0.9**
comp=Z,31nm,0.2s,mb6.2
HLID LR LR
comp=Z,759nm,20.0s,MS5.1
KTK1 Kautokeino 88.50 342⇑ *iP* **P 21 44 35.5 +0.1**
KTK1 AMb AMB 21 44 37.8
comp=Z,140nm,1.4s,mb6.1
ELK Elko 88.67 49 *eP* **P 21 44 37.9 +1.0**
ELK *e**PP pP 21 44 51.4 +2.0
ELK pmax pmax
comp=Z,55nm,0.9s
ELK MLR MLR
comp=Z,798nm,21.0s
ELK Elko 88.67 49 *eP* **P 21 44 37.9 +1.0**
comp=Z,54nm,0.9s,mb5.9
ELK *e*pP pP 21 44 51.4 +2.0
ELK LR LR
comp=Z,798nm,21.0s,MS5.1
JOF Joensuu 88.76 335 *ep* **P 21 44 32.5 -4.2**
comp=Z,113nm,0.7s,mb6.3
MOS Moscow 88.77 327α *iP* **P 21 44 36.6 -0.4**
MOS *e* 21 44 53.1
MOS pmax pmax
comp=Z,400nm,1.3s,mb6.6
MOS pmax pmax
comp=Z,247nm,1.1s,mb6.5
TI2 Plekhanov 88.89 313⇓ *iP* **P 21 44 35.4 -2.5**
TI2 pmax pmax
comp=Z,40nm,0.8s,mb5.8
TRCR Troy Canyon 89.08 51 *eP* **P 21 44 39.6 +0.7**
GOF Gofitskoye 89.11 316⇑ *iP* **P 21 44 36.9 -2.0**
GOF pmax pmax
comp=Z,170nm,1.7s,mb6.1
MCMT McKenzie Canyo 89.17 44 *eP* **P 21 44 39.7 +0.5**
MCMT *e*pP pP 21 44 52.4 +0.8
ZEI Tsey 89.20 314 *eP* **P 21 44 34.5 -4.8**
ZEI *i* *PP pP 21 44 44.8 -7.0
ZEI pmax pmax
comp=Z,24nm,1.1s,mb5.4
HRY Holter Researc 89.26 42 *eP* **P 21 44 39.7 +0.2**
VOR Voronezh 89.34 323⇑ *iP* **P 21 44 38.8 -1.0**
VOR *e* pP 21 44 50.5 -1.7
VOR *e*S S 21 55 21.5 -2.9
VOR pmax pmax
comp=N,50nm,1.3s
VOR pmax pmax
comp=E,150nm,1.3s
VOR pmax pmax
comp=Z,250nm,1.3s,mb6.4
VOR smax
comp=N,50nm,1.6s
VOR smax
comp=E,50nm,1.6s
GNI Garni 89.35 311*c iP* **P 21 44 39.8 -0.3**
GNI pmax pmax
comp=Z,42nm,1.5s
GNI Garni 89.35 311 LR LR 22 28 53.4
comp=Z,270nm,20.7s,MS4.7,baz=231,slow=38
GNI Garni 89.35 311⇑ *iP* **P 21 44 39.9 -0.2**
TRO Tromso 89.37 344⇑ *iP* **P 21 44 37.9 -1.6**
TRO AMb AMB 21 44 40.1
comp=Z,144nm,1.4s,mb6.1
TRO AMS AMS 22 30 48.7
comp=Z,378nm,21.4s,MS4.8
LCCM Lewis and Clar 89.51 43 P **P 21 44 41.4 +0.7**
OBN Obninsk 89.56 327*c iP* **P 21 44 39.7 -1.0**
OBN *e*S 21 55 12.0
OBN *e*SS SS 22 01 26.0 -0.3
OBN pmax pmax
comp=Z,240nm,1.1s,mb6.4
OBN MLR MLR
comp=Z,700nm,18.0s,MS5.1
OBN Obninsk 89.56 327⇑ *iP* **P 21 44 39.8 -0.9**
ONI Oni 89.57 314 P **P 21 44 41.1 0.0**
KIV Kislovodsk 89.68 315*c iP* **P 21 44 39.9 -1.7**
KIV *e* 21 48 11.4
KIV *i* 21 55 10.5
KIV pmax pmax
comp=N,18nm,1.0s
KIV pmax pmax
comp=Z,32nm,1.0s,mb5.6
KIV pmax pmax
comp=N,84nm,3.7s
KIV pmax pmax
comp=E,139nm,3.7s
PFO Pinyon Flat Ob 89.69 56 *eP* **P 21 44 42.0 +0.1**
PFO *e**PP pP 21 44 53.2 -1.2
PFO pmax pmax
comp=Z,24nm,1.0s,mb5.5
PFO MLR MLR
comp=Z,162nm,20.0s,MS4.5
PFO Pinyon Flat Ob 89.69 56 *eP* **P 21 44 42.0 +0.1**
comp=Z,24nm,1.0s,mb5.5
PFO *e*pP pP 21 44 53.2 -1.2
PFO LR LR
comp=Z,162nm,20.0s,MS4.5
DAG Danmarks Havn 89.70 356⇓ *eP* **P 21 44 40.0 -1.0**
comp=Z,37nm,0.8s,mb5.8
DAG Danmarks Havn 89.70 356⇓ *iP* **P 21 44 40.0 -1.0**
comp=Z,36nm,0.8s,mb5.8
BOZ Bozeman (W) 89.73 43 *eP* **P 21 44 42.4 +0.6**
BOZ pmax pmax
comp=Z,49nm,1.3s,mb5.7
BOZ MLR MLR
comp=Z,482nm,19.0s,MS5.0
BOZ Bozeman (W) 89.73 43 *eP* **P 21 44 42.4 +0.6**
comp=Z,49nm,1.3s,mb5.7
BOZ LR LR
comp=Z,482nm,19.0s,MS5.0
BAR Barrett 89.76 57 *eP* **P 21 44 41.5 -0.7**
QLMT Earthquake Lak 90.13 44 *eP* **P 21 44 45.0 +1.3**
HVU Hansel Valley 90.15 47 *eP* **P 21 44 44.6 +0.8**
BGU Big Grassy Mou 90.23 48 *eP* **P 21 44 44.6 +0.4**
LDFC Landfair 90.36 54⇑ *eP* **P 21 44 45.8 +0.8**
LDFC *e*pP pP 21 44 57.3 -0.1
LDFC *e*PP PP 21 48 19.6 -2.2
NEN Nelson 90.40 53 *eP* **P 21 44 45.9 +0.7**
YMR Madison River 90.49 44 *eP* **P 21 44 47.0 +1.6**
SPUT South Promonto 90.53 47 *eP* **P 21 44 46.1 +0.5**
DUG Dugway 90.61 49 *eP* **P 21 44 46.5 +0.5**
DUG pmax pmax
comp=Z,99nm,1.5s,mb5.9
DUG Dugway 90.61 49 *eP* **P 21 44 46.5 +0.5**
comp=Z,99nm,1.5s,mb5.9
YFT Old Faithful 90.65 44 *eP* **P 21 44 48.6 +2.5**
YNR Norris Junctio 90.67 44 *eP* **P 21 44 48.3 +2.1**
YNR *e*PP PP 21 48 22.4 -1.7
RRI2 Red Ridge 90.68 45 *eP* **P 21 44 47.3 +1.0**
comp=Z,45nm,1.0s,mb5.8
MSEY Mahe Island 90.68 265 *eP* **P 21 44 45.4 -1.6**
comp=Z,18nm,1.3s,mb5.2
MSEY LR LR
comp=Z,55nm,21.0s,MS4.0
IMW Indian Meadow 90.76 45 *eP* **P 21 44 47.8 +1.1**
comp=Z,47nm,1.0s,mb5.8
ARUT Antelope Range 90.86 51 *eP* **P 21 44 48.0 +0.7**
TPAW Teton Pass 90.89 45 *eP* **P 21 44 47.8 +0.5**
comp=Z,56nm,1.4s,mb5.7
LKWY Lake 90.91 44 *eP* **P 21 44 49.6 +2.3**
LKWY pmax pmax
comp=Z,57nm,1.2s,mb5.8
LKWY MLR MLR
comp=Z,630nm,19.0s,MS5.1
LKWY Lake 90.91 44 *eP* **P 21 44 49.6 +2.3**
comp=Z,57nm,1.2s,mb5.8
LKWY LR LR
comp=Z,630nm,19.0s,MS5.1
MOOW Moose Ponds 90.94 45 *eP* **P 21 44 47.9 +0.4**
comp=Z,37nm,1.2s,mb5.6
REDW Red Top Meadow 91.00 45 *eP* **P 21 44 48.5 +0.8**
comp=Z,47nm,1.2s,mb5.7
WUWY Wally Ulrich 91.01 45 *eP* **P 21 44 48.8 +1.0**
AHID Auburn Hatcher 91.02 46 *eP* **P 21 44 48.7 +0.8**
comp=Z,80nm,1.3s,mb5.9
AHID LR LR
comp=Z,580nm,20.0s,MS5.0
SNOW Snow King Moun 91.03 45 P **P 21 44 49.3 +1.3**
comp=Z,8.2nm,0.8s,mb5.1
VNDA Vanda 91.05 176 *eP* **P 21 44 46.9 -0.4**
VNDA pmax pmax
comp=Z,9.0nm,1.2s
VNDA Vanda 91.05 176 P **P 21 44 47.0 -0.3**
comp=Z,5.0nm,1.0s,mb4.8,baz=324,slow=5.2,SNR=19
VNDA LR LR 22 20 03.4
comp=Z,296nm,20.4s,MS4.7,baz=346,slow=32
VNDA Vanda 91.05 176 *eP* **P 21 44 46.9 -0.4**
comp=Z,8.9nm,1.2s,mb5.0
HWUT Hardware Ranch 91.06 47 *eP* **P 21 44 48.1 -0.1**
comp=Z,43nm,1.1s,mb5.7
HWUT *e*pP pP 21 45 01.3 +0.6
HWUT LR LR
comp=Z,724nm,20.0s,MS5.1
LOHW Long Hollow 91.08 45 *eP* **P 21 44 48.8 +0.6**
comp=Z,36nm,1.3s,mb5.5
LOHW *e*pP pP 21 45 01.2 +0.5
KAF Kangasniemi 91.18 336 *ep* **P 21 44 47.0 -1.2**
comp=Z,6.6nm,0.4s,mb5.3,baz=56,slow=4.5
KAF Kangasniemi 91.18 336 *eP* **P 21 44 47.0 -1.2**
KAF pmax pmax
comp=Z,7.0nm,0.4s,mb5.3
NLU North Lily Min 91.22 49 *eP* **P 21 44 49.4 +0.5**
CTU Camp Tracy 91.22 48 *eP* **P 21 44 49.2 +0.3**
TCUT Toone Canyon 91.33 47 *eP* **P 21 44 49.8 +0.5**
JLU Jordanelle 91.47 48 *eP* **P 21 44 50.7 +0.6**
JLU *e*pP pP 21 45 04.0 +1.5
MPU Maple Canyon 91.52 48 *eP* **P 21 44 51.0 +0.7**
MPU *e*pP pP 21 45 04.6 +1.8
MVU Marysvale 91.57 50 *eP* **P 21 44 49.0 -1.6**
comp=Z,22nm,1.2s,mb5.3
MVU LR LR
comp=Z,728nm,22.0s,MS5.1
MSU Marysvale 91.59 50 *eP* **P 21 44 51.3 +0.7**
FINES FINESS Array B 91.62 335 P **P 21 44 48.7 -1.5**
comp=Z,48nm,0.6s,mb6.0,baz=63,slow=4.9,SNR=232
FINES LR LR 22 31 44.7
comp=Z,376nm,19.5s,MS4.8,baz=60,slow=39
FINES FINESS Array B 91.62 335 P **P 21 44 48.7 -1.5**
FINES LR LR 22 31 44.7
DAU Daniels Canyon 91.67 48 *eP* **P 21 44 51.6 +0.6**
MSL Mosul 91.73 308 *eP* **P 21 44 45.5 -5.8**
SOC Sochi 91.84 315 *eP* **P 21 44 49.8 -1.8**
SOC *e* 21 48 32.0
SOC *e*S 21 55 20.2
SOC *e* 21 55 51.5
SOC *e*SS SS 22 02 10.0 +11
SOC pmax pmax
comp=N,5.0nm,1.0s
SOC pmax pmax
comp=Z,23nm,1.0s,mb5.5
SOC pmax pmax
comp=E,7.0nm,0.8s
SOC MLR MLR
comp=N,283nm,21.0s,MS4.8
SOC MLR MLR
comp=Z,465nm,21.0s,MS4.9
SOC MLR MLR
comp=E,124nm,19.0s,MS4.8
BW06 Boulder Array 92.09 45 PFAKE 21 45 00.0 +7.2
BW06 LR LR
comp=Z,563nm,20.0s,MS5.0
PDAR Pinedale Array 92.09 45 P **P 21 44 52.9 0.0**
comp=Z,4.1nm,0.8s,mb4.8,baz=276,slow=2.1,SNR=29
PDAR PP PP 21 48 30.6 -4.9
comp=Z,1.1nm,0.8s,baz=270,slow=5.9,SNR=4.3
PDAR LR LR 22 23 15.3
comp=Z,379nm,18.8s,MS4.9,baz=309,slow=34
SRU San Rafael 92.62 49 *eP* **P 21 44 55.3 -0.1**
LAO LASA Array 92.89 41 *eP* **P 21 44 56.5 +0.1**
comp=Z,180nm,1.2s,mb6.4
LAO LR LR
comp=Z,617nm,19.0s,MS5.1
MOR8 Moi Rana 92.91 342⇑ *iP* **P 21 44 54.3 -1.8**
MOR8 AMb AMB 21 44 56.4
comp=Z,139nm,1.2s,mb6.2
MOR8 *es*P sP 21 45 15.7 +3.0
ANN Anapa 92.94 317*c iP* **P 21 44 55.2 -1.5**
ANN *e* 21 55 27.8
ANN *e* 21 55 47.4
ANN pmax pmax
comp=N,25nm,1.1s
ANN pmax pmax
comp=E,20nm,1.1s
ANN pmax pmax
comp=Z,91nm,1.1s,mb6.1
WUAZ Wupatki 93.14 53 *eP* **P 21 44 58.2 +0.4**
WUAZ LR LR
comp=Z,543nm,20.0s,MS5.0
FCC Fort Churchill 93.82 27 *eP* **P 21 44 59.5 -0.8**
FCC pmax pmax
comp=Z,75nm,1.5s,mb5.9
FCC Fort Churchill 93.82 27 *eP* **P 21 44 59.5 -0.8**
comp=Z,75nm,1.5s,mb5.9
PV10 Paradox Valley 93.96 49 *eP* **P 21 45 01.9 +0.4**
JMIC Jan Mayen 94.12 352 AMS AMS 22 29 34.5
comp=Z,81nm,8.4s
PV01 Paradox Valley 94.39 49 *eP* **P 21 45 03.5 +0.1**
SUMG Summit 94.40 1 *eP* **P 21 45 02.4 -0.3**
comp=Z,20nm,0.9s,mb5.5
MALT Malatya 94.58 311 *eP* **P 21 45 04.1 -0.2**
MALT pmax pmax
comp=Z,24nm,1.1s,mb5.5
MALT Malatya 94.58 311 *eP* **P 21 45 04.1 -0.2**
comp=Z,24nm,1.1s,mb5.5
TUC Tucson 94.62 55 PFAKE 21 45 20.0 +15
TUC LR LR
comp=Z,458nm,20.0s,MS4.9
NSS Namsos 94.80 342 *eP* **P 21 45 02.9 -1.7**
NSS AMb AMB 21 45 04.8
comp=Z,96nm,2.3s,mb5.8
NSS AMS AMS 22 29 52.3
comp=Z,632nm,16.6s,MS5.2
SIM Simferopol' 95.05 318⇑ *eP* **P 21 45 05.3 -1.0**
RSSD Black Hills 95.31 43 *eP* **P 21 45 07.3 -0.2**
RSSD pmax pmax
comp=Z,15nm,0.8s,mb5.5
RSSD Black Hills 95.31 43 *eP* **P 21 45 07.3 -0.2**
comp=Z,15nm,0.8s,mb5.5
AKASG Malin Array Be 95.47 325 *i* P **P 21 45 06.6 -1.4**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 95.47 325 P **P 21 45 06.3 -1.7**
comp=Z,9.4nm,0.8s,mb5.3,baz=49,slow=4.6,SNR=56
SDCO Great Sand Dun 96.80 49 PFAKE 21 45 30.0 +16
SDCO LR LR
comp=Z,615nm,20.0s,MS5.1
SUW Suwalki 96.95 330 *eP* **P 21 45 13.5 -1.2**
SUW Suwalki 96.95 330 *eP* **P 21 45 13.6 -1.1**
SUW MLR MLR 22 34 25.9
comp=Z,600nm,20.4s,MS5.1
ANMO Albuquerque 97.11 52 *eP* **P 21 45 15.2 -0.7**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO MLR MLR
comp=Z,329nm,19.0s
ANMO Albuquerque 97.11 52 *eP* **P 21 45 15.2 -0.7**
comp=Z,4.0nm,0.9s,mb4.8
ANMO LR LR
comp=Z,329nm,19.0s,MS4.8
HFS Hagfors 97.25 338 P **P 21 45 14.1 -1.8**
comp=Z,15nm,0.7s,mb5.6,baz=90,slow=4.4,SNR=57
ULM Lac du Bonnet 97.45 34 P **P 21 45 16.1 -0.9**
comp=Z,13nm,0.9s,mb5.3,baz=312,slow=4.9,SNR=10.0
ULM LR LR 22 27 06.7
comp=Z,447nm,20.5s,MS4.9,baz=278,slow=34
ULM Lac du Bonnet 97.45 34 *eP* **P 21 45 16.0 -1.0**
comp=Z,27nm,1.0s,mb5.6
ULM LR LR
comp=Z,748nm,19.0s,MS5.2
KIS Kishinev 97.47 322 *eP* **P 21 45 15.0 -2.2**
KIS *e* 21 55 50.0
KIS MLR MLR
comp=Z,500nm,16.0s,MS5.1
KIS MLR MLR
comp=Z,500nm,16.0s
BRTR Keskin Array B 97.50 314 P **P 21 45 17.0 -0.6**
comp=Z,12nm,0.9s,mb5.4,baz=72,slow=3.9,SNR=47
NB2 NORSAR Subarra 97.51 339 P **P 21 45 15.9 -1.1**
comp=Z,42nm,0.8s,mb6.0,baz=49,slow=4.5
NB2 NORSAR Subarra 97.51 339 P **P 21 45 15.9 -1.1**
baz=49,slow=4.6
NOA NORSAR Array B 97.51 339 P **P 21 45 15.3 -1.7**
comp=Z,5.3nm,0.8s,mb5.1,baz=55,slow=3.9,SNR=70
NOA PP PP 21 49 09.5 -7.9
comp=Z,2.1nm,0.7s,baz=46,slow=8.4,SNR=5.0
NOA LR LR 22 33 26.3
comp=Z,296nm,20.3s,MS4.8,baz=25,slow=38
NAO01 NORSAR Array S 97.76 339 *eP* **P 21 45 16.6 -1.6**
comp=Z,14nm,0.7s,mb5.6
NAO01 LR LR
comp=Z,760nm,19.0s,MS5.2
ASF Jabal al Asfar 97.93 306 LR LR 22 35 56.7
comp=Z,161nm,21.7s,MS4.5,baz=312,slow=39
KONO Kongsberg 99.06 339⇓ *eP* **P 21 45 23.3 -0.8**
KONO MLR MLR
comp=Z,718nm,21.0s,MS5.2
MAW Mawson 99.14 203 LR LR 22 29 48.5
comp=Z,398nm,19.6s,MS4.9,baz=70,slow=35
MNTX Cornudas Mount 99.14 54 *eP* **P 21 45 25.8 +0.6**
comp=Z,10nm,1.1s,mb5.3
MNTX LR LR
comp=Z,490nm,21.0s,MS5.0
KWP Kalwaria 99.62 326 *eP* **P 21 45 26.6 -0.3**
KWP MLR MLR 22 32 52.9
comp=Z,900nm,20.7s,MS5.3
BER Bergen 99.94 341 AMS AMS 22 32 54.2
comp=Z,388nm,24.7s,MS4.8
MLR Muntele Rosu 99.94 321 P **P 21 45 28.1 -0.3**
comp=Z,4.8nm,0.8s,mb5.0,baz=19,slow=3.7,SNR=9.7
KOLS Kolonicke sedl 100.24 326 *eP* P 21 45 29.2 -0.5
GKP Gorka Klasztor 100.25 331 *eP* P 21 45 27.8 -1.9
GKP MLR MLR 22 32 28.8
comp=Z,1μm,22.7s,MS5.3
EIL Elat 100.39 304 *eP* P 21 45 30.1 -0.8
comp=Z,7.8nm,0.7s
CBKS Cedar Bluff 100.49 46 PFAKE 21 45 40.0 +8.9
CBKS LR LR
comp=Z,475nm,19.0s,MS5.0
CRVS Cervenica-Dubn 100.70 326 *eP* P 21 45 32.8 +1.0
AMTX Amarillo 100.76 50 PFAKE 21 45 40.0 +7.6
AMTX LR LR
comp=Z,448nm,19.0s,MS5.0
OJC Ojcow 100.83 328 *eP* P 21 45 30.8 -1.5
NIE Niedzica 101.03 327 *eP* P 21 45 32.5 -0.7
EYMN Ely 101.11 35 PFAKE 21 45 50.0 +16
EYMN LR LR
comp=Z,553nm,20.0s,MS5.1
LTX Lajitas 101.39 56 PFAKE 21 45 50.0 +15
LTX LR LR
comp=Z,646nm,22.0s,MS5.1
TXAR Lajitas Array 101.39 56 P P 21 45 35.0 -0.5
comp=Z,0.7nm,0.6s,baz=270,slow=3.8,SNR=7.7
KECS Kecovo 101.47 326 *eP* P 21 45 35.7 +0.4
BORG Borgarnes 101.62 354 P P 21 45 36.1 +0.5
comp=Z,18nm,0.9s,baz=147,slow=1.1,SNR=4.2
OKC Ostrava-Krasne 101.91 328 *e*PDIF P 21 45 36.2 -1.0
OKC AMS AMS 22 36 30.0
comp=Z,600nm,17.8s
PSZ Piszkesteto 102.12 326 *eP* Pdif 21 45 36.9 -1.3
PSZ pmax pmax
comp=Z,32nm,1.2s
PSZ Piszkesteto 102.12 326 *e*Pdif Pdif 21 45 36.9 -1.3
comp=Z,32nm,1.2s
KSP Ksiaz 102.22 330 *eP* Pdif 21 45 38.3 -0.3
KSP MLR MLR 22 33 25.6
comp=Z,1μm,23.1s,MS5.3
VYHS Vyhne 102.36 327 *i* P Pdif 21 45 39.0 -0.2
DPC Dobruska-Polom 102.52 329 *e*PDIF Pdif 21 45 38.9 -1.0
DPC AMS AMS 22 33 00.0
comp=Z,800nm,23.1s
UPC Upice 102.57 329 *e*PDIF Pdif 21 45 39.5 -0.6
WMOK Wichita Mounta 102.98 49 PFAKE 21 45 50.0 +7.7
WMOK LR LR
comp=Z,420nm,20.0s,MS5.0
VRAC Vranov 103.03 328 Pdiff Pdif 21 45 41.9 -0.3
comp=Z,2.6nm,0.4s,baz=334,slow=22,SNR=5.4
SMOL Smolenice 103.09 327 *eP* Pdif 21 45 43.0 +0.5
SRO1 Iza 103.12 326 *eP* Pdif 21 45 43.0 +0.4
PVCC Panska Ves 103.27 330 *e*PDIF Pdif 21 45 42.4 -0.8
PVCC AMS AMS 22 34 40.0
comp=Z,600nm,21.9s
BRG Berggiesshubel 103.34 331 *eP* Pdif 21 45 42.7 -0.8
BRG pmax pmax
comp=Z,15nm,1.6s
BRG MLR MLR
comp=Z,650nm,21.7s,MS5.1
BRG Berggiesshubel 103.34 331 *eP* Pdif 21 45 42.7 -0.8
comp=Z,15nm,1.6s
BRG *e* 21 49 18.2
BRG *e* 21 59 18.0
BRG *e* 22 05 07.0
BRG LR LR
comp=Z,650nm,21.7s,MS5.1
ZST Bratislava 103.46 327 *eP* Pdif 21 45 44.4 +0.3
CLL Collm 103.50 331 *i* P Pdif 21 45 43.1 -1.1
CLL *e* 21 56 17.0
CLL pmax pmax
comp=Z,38nm,1.6s
CLL Collm 103.50 331 *i* P Pdif 21 45 43.1 -1.1
comp=Z,38nm,1.6s
CLL *e*SKS SKS 21 56 17.0 -2.3
CLL Collm 103.50 331 P Pdif 21 45 43.1 -1.1
comp=Z,logA/T=1.4
CLL *e* 21 45 51.0
CLL *e*PP PP 21 49 57.0 -6.1
CLL *e* 21 56 20.0
CLL *e* 21 56 42.0
CLL *e*PS PS 21 59 16.0 +5.2
PRU Pruhonice 103.63 330 *e*PDIF Pdif 21 45 43.4 -1.4
PRU *e*PP PP 21 49 56.1 -7.9
PRU AMS AMS 22 34 30.0
comp=Z,500nm,16.2s
JCT Junction City 104.02 54 PFAKE 21 46 00.0 +13
JCT LR LR
comp=Z,374nm,20.0s,MS4.9
DIVS Divcibare 104.27 323⇓ *iP* Pdif 21 45 46.9 -0.9
NKC Novy Kostel 104.48 331 *e*PDIF Pdif 21 45 47.7 -0.8
NKC AMS AMS 22 34 40.0
comp=Z,600nm,20.9s
MOX Moxa 104.59 331 *eP* Pdif 21 45 49.4 +0.4
MOX pmax pmax
comp=Z,28nm,1.9s
MOX MLR MLR
comp=Z,300nm,21.0s,MS4.8
MOX Moxa 104.59 331 *e*PKP Pdif 21 45 49.4 +0.4
comp=Z,28nm,1.9s
MOX LR LR
comp=Z,300nm,21.0s,MS4.8
MOX Moxa 104.59 331 *i* P Pdif 21 45 49.4 +0.4
comp=Z,logA/T=1.2
MOX L 22 38 51.0
KHC Kasperske Hory 104.67 329 *eP* Pdif 21 45 48.7 -0.7
KHC *e* 21 50 03.7
KHC MLR MLR
comp=Z,800nm,21.5s,MS5.2
KHC Kasperske Hory 104.67 329 *e*PDIF Pdif 21 45 48.7 -0.7
KHC *ex* x 21 48 55.5
KHC *ex* x 21 49 07.0
KHC *e*PP PP 21 50 03.7 -8.3
KHC AMS AMS 22 35 30.0
comp=Z,800nm,21.5s
GERES GERESS Array B 104.79 329 Pdiff Pdif 21 45 48.5 -1.5
comp=Z,1.4nm,0.8s,baz=34,slow=4.8,SNR=9.2
GERES PKiKP 21 50 05.2
comp=Z,1.0nm,0.6s,baz=80,slow=2.1,SNR=8.8
GRA1 Grafenberg Arr 105.43 331 *e*PKP Pdif 21 45 52.9 +0.2
GRA1 LR LR
comp=Z,600nm,21.8s,MS5.1
GRF Grafenberg Arr 105.43 331 *eP* Pdif 21 45 52.9 +0.2
GRF MLR MLR
comp=Z,600nm,21.8s,MS5.1
CCM Cathedral Cave 106.68 43 PFAKE 21 50 20.0
CCM LR LR
comp=Z,146nm,20.0s,MS4.5
EKA Eskdalemuir Ar 106.70 342 Pdiff Pdif 21 45 58.4 +0.3
comp=Z,6.3nm,0.9s,baz=34,slow=4.2,SNR=16
ESK Eskdalemuir 106.72 342 PFAKE 21 50 20.0

ESK LR LR
comp=Z,133nm,21.0s,MS4.5
ESK Eskdalemuir 106.72 342 *e*P Pdif 21 45 58.1 -0.1
ESK AMb AMB 21 45 60.0
comp=Z,16nm,1.9s
MIAR Mount Ida 106.86 47 PFAKE 21 50 20.0
MIAR LR LR
comp=Z,729nm,22.0s,MS5.2
SCHQ Schefferville 107.06 19 PFAKE 21 50 20.0
SCHQ LR LR
comp=Z,931nm,19.0s,MS5.4
NATX Nacogdoches 107.41 50 PFAKE 21 50 20.0
NATX LR LR
comp=Z,441nm,20.0s,MS5.0
KMBO Kilima Mbogo 107.63 273 Pdiff Pdif 21 46 03.7 +0.4
comp=Z,1.0nm,0.8s,baz=55,slow=8.4,SNR=4.2
KMBO Kilima Mbogo 107.63 273 Pdif Pdif 21 46 03.7 +0.4
KMBO LR LR
comp=Z,325nm,20.0s,MS4.9
SYO Syowa Base 107.77 201 ||P PP 21 50 42.5 +7.9
LHO Holmfirth 107.78 340 *e*P Pdif 21 46 02.8 -0.1
LHO AMb AMB 21 46 05.6
comp=Z,40nm,1.4s
HAU Haudompre 108.89 332 *e*PKP1 21 50 12.5
WCI Wyandotte Cave 109.81 41 PFAKE 21 50 30.0
WCI LR LR
comp=Z,124nm,19.0s,MS4.5
OXF Oxford 109.83 46 PFAKE 21 50 30.0
OXF LR LR
comp=Z,717nm,20.0s,MS5.2
WVT Waverly 110.02 43 PFAKE 21 50 30.0 +16
WVT LR LR
comp=Z,523nm,19.0s,MS5.1
CABF La Chapelle 110.04 331 *e*PKP1 PKPdf 21 50 15.2 +1.8
comp=Z,18nm,1.0s
PLAL Pickwick Lake 110.49 45 PFAKE 21 50 30.0 +15
PLAL LR LR
comp=Z,624nm,21.0s,MS5.2
LPL La Plagne 110.53 330 *e*PKP1 PKPdf 21 50 15.3 +0.9
LPG La Plagne 110.53 330 *e*PKP1 PKPdf 21 50 15.8 +1.3
comp=Z,10nm,0.8s
LOR Lormes 110.57 333 *e*PKP1 PKPdf 21 50 15.8 +1.3
SSF Saint Saulge 110.88 333 *e*PKP1 PKPdf 21 50 16.4 +1.3
comp=Z,8.4nm,0.8s
BNI Bardonecchia 110.89 330 *e*PKIKP PKPdf 21 50 15.5 +0.3
SMF Signal de Mont 111.05 332 *e*PKP1 PKPdf 21 50 17.0 +1.5
MBDF Montbardon 111.08 329 *e*PKP1 PKPdf 21 50 16.6 +1.0
comp=Z,6.9nm,0.8s
ERPA Erie 111.11 34 PFAKE 21 50 30.0 +14
ERPA LR LR
comp=Z,870nm,20.0s,MS5.3
AVF Avril sur Loir 111.15 333 *e*PKP1 PKPdf 21 50 17.1 +1.4
LDF La Druitiere 111.20 336 *e*PKP1 PKPdf 21 50 16.7 +1.0
FLN La Foliniere 111.21 336 *e*PKP1 PKPdf 21 50 16.7 +1.0
SBF Sospel 111.36 328 *e*PKP1 PKPdf 21 50 16.9 +0.7
comp=Z,32nm,1.0s
ORIF Oris-en-Rattie 111.38 330 *e*PKP1 PKPdf 21 50 18.1 +1.9
comp=Z,11nm,0.9s
PGF Pioggiola 111.46 327 *e*PKP1 PKPdf 21 50 18.3 +1.9
comp=Z,18nm,0.7s
GRR Gorron 111.66 336 *e*PKP1 PKPdf 21 50 18.4 +1.8
FRF La Foret Royal 111.98 329 *e*PKP1 PKPdf 21 50 18.4 +1.0
VIVF Saint-Julien-l 112.00 331 *e*PKP1 PKPdf 21 50 18.4 +1.0
TCF Toulx Ste Croi 112.05 333 *e*PKP1 PKPdf 21 50 19.4 +2.0
comp=Z,8.9nm,0.8s
LMR La Mourre 112.21 329 *e*PKP1 PKPdf 21 50 19.5 +1.7
SMRF Simiane la Rot 112.22 330 *e*PKP1 PKPdf 21 50 20.3 +2.5
comp=Z,18nm,0.9s
LRAL Lakeview Retre 112.31 46 PFAKE 21 50 30.0 +12
LRAL LR LR
comp=Z,632nm,20.0s,MS5.2
SGMF Saint Gilles 112.42 337 *e*PKP1 PKPdf 21 50 19.6 +1.5
NCB Newcomb 112.78 30 PFAKE 21 50 30.0 +11
NCB LR LR
comp=Z,771nm,20.0s,MS5.3
MFF Saint Martin d 112.81 335 *e*PKP1 PKPdf 21 50 21.0 +2.1
MCWV Mont Chateau 112.84 36 PFAKE 21 50 30.0 +11
MCWV LR LR
comp=Z,1μm,20.0s,MS5.5
LASF Ste Croix 112.97 331 *e*PKP1 PKPdf 21 50 21.3 +2.0
comp=Z,18nm,0.8s
RJF Les Rejaudoux 113.11 333 *e*PKP1 PKPdf 21 50 20.7 +1.2
BINY Binghamton 113.19 32 PFAKE 21 50 30.0 +10
BINY LR LR
comp=Z,584nm,19.0s,MS5.2
SSPA Standing Stone 113.28 34 PFAKE 21 50 30.0 +10
SSPA LR LR
comp=Z,227nm,20.0s,MS4.8
PQI Presque Isle 113.42 24 PFAKE 21 50 30.0 +10
PQI LR LR
comp=Z,5μm,19.0s
LFF La Frestale 113.74 333 *e*PKP1 PKPdf 21 50 22.2 +1.4
MBAR Mbarara 113.83 275 *c i*PKIKP PKPdf 21 50 23.3 +1.6
MBAR Mbarara 113.83 275 PFAKE 21 50 30.0 +8.3
MBAR LR LR
comp=Z,71nm,22.0s,MS4.2
BLA Blacksburg 114.10 39 PFAKE 21 50 30.0 +8.3
BLA LR LR
comp=Z,561nm,22.0s,MS5.1
MTLF Montolieu 114.31 331 *e*PKP1 PKPdf 21 50 23.6 +1.6
WVL Waterville 114.43 27 PFAKE 21 50 40.0 +18
WVL LR LR
comp=Z,5μm,22.0s
GOGA Godfrey 114.52 44 PFAKE 21 50 40.0 +17
GOGA LR LR
comp=Z,468nm,21.0s,MS5.1
CBN Corbin 115.24 36 PFAKE 21 50 40.0 +16
CBN LR LR
comp=Z,1μm,20.0s,MS5.5
EMMW East Machias 115.24 25 PFAKE 21 50 40.0 +16
EMMW LR LR
comp=Z,4μm,19.0s
WES Weston 115.37 29 PFAKE 21 50 40.0 +16
WES LR LR
comp=Z,1μm,19.0s,MS5.5
EPF Esparros 115.42 332 *e*PKP1 PKPdf 21 50 26.2 +2.1
comp=Z,15nm,0.9s
ETSF Etsaut 115.93 333 *e*PKP1 PKPdf 21 50 27.6 +2.5
comp=Z,26nm,0.9s
SJPF Ste Jean 116.05 333 *e*PKP1 PKPdf 21 50 26.4 +1.0
EPOB Poblet 116.37 330 PKP PKPdf 21 50 29.1 +3.1
NHSC New Hope 116.88 42 PFAKE 21 50 40.0 +13
NHSC LR LR
comp=Z,381nm,20.0s,MS5.0
ECRI Cripan 117.02 334 PKIKP PKPdf 21 50 30.5 +3.3
ERTA Horta de San J 117.04 331 PKP PKPdf 21 50 29.7 +2.4
EMOS Mosqueruela 117.88 331 PKP PKPdf 21 50 31.6 +2.7
TEIG Tepich 117.89 59 PFAKE 21 50 40.0 +11
TEIG LR LR
comp=Z,132nm,19.0s,MS4.6
ECHE Chera 118.72 331 PKIKP PKPdf 21 50 33.1 +2.5
EINC Incio 118.95 337 PKP PKPdf 21 50 32.9 +2.0
LSZ Lusaka 119.00 260 *e*PKIKP PKPdf 21 50 34.5 +2.9
LSZ MLR MLR
comp=Z,314nm,21.0s,MS4.9
EBEN Beniarda 119.05 329 PKP PKPdf 21 50 33.2 +2.0
DWPF Disney 119.06 47 PFAKE 21 50 40.0 +8.5
DWPF LR LR
comp=Z,141nm,21.0s,MS4.6
ERUA La Rua 119.09 337 PKIKP PKPdf 21 50 35.0 +3.7
STS Santiago 119.20 338 PKIKP PKPdf 21 50 34.0 +2.5
ECAL Calabor 119.32 336 PKP PKPdf 21 50 33.0 +1.3
GUD Guadarrama 119.34 333 PKIKP PKPdf 21 50 34.2 +2.4
PBRG Braganca 119.44 336 *e*PKPdf PKPdf 21 50 33.8 +1.8
ETOB Tobarra 119.75 330 PKP PKPdf 21 50 34.5 +1.8
VNA2 Neumayer--Watz 119.87 190 P PKPdf 21 50 38.9 +6.8
VNA2 Neumayer--Watz 119.87 190 ||*i* PKPdf 21 50 54.3 +22
ELOB Lobios 119.90 337 PKP PKPdf 21 50 35.1 +2.3
VNA3 Neumayer Olymp 119.97 189 ||*iP* PKPdf 21 50 37.5 +5.2
VNA3 Neumayer Olymp 119.97 189 ||*i* PKPdf 21 50 54.2 +22
ESDC Sonseca Array 120.04 333 PKP PKPdf 21 50 35.4 +2.2
comp=Z,3.9nm,0.8s,baz=33,slow=2.0,SNR=16
ESDC PP PP 21 51 56.1 -6.1
comp=Z,3.1nm,0.9s,baz=29,slow=8.8,SNR=6.9
ESDC Sonseca Array 120.04 333 PKP PKPdf 21 50 34.8 +1.6
ESLA Sonseca Array 120.04 333 *e*PKPdf PKPdf 21 50 34.4 +1.2
ESLA LR LR
comp=Z,4μm,21.0s
EVIA Vianos 120.21 331 PKIKP PKPdf 21 50 35.8 +2.3
EMUR La Murta 120.22 329 PKP PKPdf 21 50 34.9 +1.3
PVRL Vila Real 120.27 337 *e*PKPdf PKPdf 21 50 35.9 +2.3
PVIS Viseu 120.82 336 *e*PKPdf PKPdf 21 50 36.9 +2.2
MTE Manteigas 120.95 336 *e*PKPdf PKPdf 21 50 37.4 +2.5
MTE *e*PP PP 21 52 05.8 -2.7
MTE Manteigas 120.95 336 *e*PKPdf PKPdf 21 50 36.8 +1.9
EQES Quesada 121.14 331 PKP PKPdf 21 50 37.0 +1.6
EBAN Banos Encina 121.19 332 PKIKP PKPdf 21 50 37.6 +2.2
ENIJ Nijar 121.38 330 PKIKP PKPdf 21 50 38.0 +2.2
PCBR Castelo Branco 121.40 335 *e*PKPdf PKPdf 21 50 38.0 +2.2
EADA Adamuz 121.55 332 PKP PKPdf 21 50 37.4 +1.3
EBER Berja 121.78 330 PKP PKPdf 21 50 38.4 +1.9
ECOG Cogollos-Vega 121.80 331 PKIKP PKPdf 21 50 38.2 +1.6
ELUQ Luque 121.90 332 PKIKP PKPdf 21 50 38.9 +2.1
PTOM Tomar 121.97 336 *e*PKPdf PKPdf 21 50 38.8 +1.9
LBTB Lobatse 122.04 249 *e*PKIKP PKPdf 21 50 39.0 +1.6
ERON Agron 122.12 331 PKP PKPdf 21 50 38.9 +1.6
EBAD Badajoz 122.13 334 PKP PKPdf 21 50 38.7 +1.5
ELOJ Sierra Loja 122.18 331 PKIKP PKPdf 21 50 38.6 +1.2
BOSA Boshof 122.28 244 PKP PKPdf 21 50 39.8 +2.0
comp=Z,2.3nm,0.3s,baz=150,slow=5.0,SNR=13
EALB Alboran 122.60 329 PKP PKPdf 21 50 39.6 +1.4
EVO Evora 122.73 335 *e*PKIKP PKPdf 21 50 39.9 +1.5
comp=Z,73nm,1.1s
EMIN Mina Concepcio 122.81 334 PKP PKPdf 21 50 40.5 +1.9
EMIJ Mijas 122.94 331 PKP PKPdf 21 50 40.4 +1.5
PBEJ Beja 123.10 335 *e*PKPdf PKPdf 21 50 41.6 +2.4
ESPR Espera 123.19 332 PKP PKPdf 21 50 42.4 +3.0
EGRO El Granado 123.36 334 PKP PKPdf 21 50 41.8 +2.1
PALC Alcoutim 123.41 334 *e*PKPdf PKPdf 21 50 42.4 +2.6
PTEO Sao Teotonio 123.87 335 *e*PKPdf PKPdf 21 50 43.4 +2.8
JTS JuntasAbangare 125.12 67 PFAKE 21 51 00.0 +16
JTS LR LR
comp=Z,57nm,19.0s,MS4.3
BBSR BB Station 126.48 32 PFAKE 21 51 00.0 +14
BBSR LR LR
comp=Z,387nm,19.0s,MS5.1
TSUM Tsumeb 129.39 256 PFAKE 21 51 00.0 +8.3
TSUM LR LR
comp=Z,157nm,20.0s,MS4.7
OTAV Otavalo 134.83 76 PFAKE 21 51 20.0 +18
OTAV LR LR
comp=Z,360nm,22.0s,MS5.0
SJG San Juan 136.21 45 *e*PKIKP PKPdf 21 51 03.3 -1.2
SJG MLR MLR
comp=Z,420nm,21.0s
ROSC El Rosal 136.94 68 PKP PKPdf 21 51 07.5 +1.5
comp=Z,5.5nm,0.6s,baz=103,slow=19,SNR=3.8
SDV Santo Domingo 138.29 60 *e*PKPpre 21 50 59.1
SDV *e*PKPdf PKPdf 21 51 08.7 +0.3
SDV LR LR
comp=Z,207nm,19.0s,MS4.9
PLCA Paso Flores 138.48 138 PKP PKPdf 21 51 09.7 +1.6
comp=Z,6.4nm,1.0s,baz=235,slow=2.6,SNR=4.5
MDZ Mendoza 143.35 128 *e*P PKPbc 21 51 30.0 +15
DBIC Dimbokro 144.23 302 PKPbc PKPbc 21 51 18.9 +0.4
DBIC Dimbokro 144.23 302 PKP PKPdf 21 51 18.9 -0.1
comp=Z,158nm,0.9s,baz=38,slow=3.8,SNR=158
DBIC Dimbokro 144.23 302 *e*PKPdf PKPdf 21 51 18.7 -0.3
ARE Arequipa 144.51 100 *e*PKIKP PKPdf 21 51 21.0 +1.6
TRQA Tornquist 145.46 141 *e*PKPdf PKPdf 21 51 21.5 +1.0
LVC Limon Verde 146.38 111 *e*PKPdf PKPdf 21 51 25.6 +3.1
LPAZ La Paz 147.74 100 *e*PKIKP PKPdf 21 51 27.9 +3.1
LPAZ La Paz 147.74 100 PKPbc PKPdf 21 51 28.1 +3.3
comp=Z,13nm,0.9s,baz=287,slow=1.6,SNR=29
SAML Samuel 151.94 84 *e*PKPdf PKPdf 21 51 33.2 +1.7
SAML *e*PKPbc PKPdf 21 51 39.1 +7.6
SAML *e*PKPab PKPab 21 51 47.7 -2.0
SAML LR LR
comp=Z,353nm,22.0s,MS5.1
CPUP Villa Florida 155.22 125 *e*PKIKP PKPdf 21 51 46.2 +11
BDFB Brasilia 167.06 102 PKP PKPdf 21 51 50.9 +2.4
comp=Z,8.4nm,0.9s,baz=176,slow=2.8,SNR=11
BAO Brasilia Array 167.09 102 PKPdf PKPdf 21 51 51.7 +3.2
CS6B Jaguaretama 171.50 26 *e*P PKPab 21 53 13.2 -1.2
CS6B *i* 21 53 30.5
RCBR Riachuelo 172.62 8 PFAKE 21 52 00.0 +8.1
RCBR LR LR
comp=Z,497nm,22.0s

BJI ***21*** *22:07:04.4, 0.80N×97.40E, h22km, mB4.7, mb4.5, Ms4.0, Msz3.8*
IDC ***21*** *22:07:04.6±0.7, 0.82N×97.38E, h23km±3km, mb4.1/14, mb1 4.2/15, mb1mx4.1/23, mbtmp4.3/15, ML4.2/1, MS3.2/1, Ms1 3.4/1, ms1mx3.1/18, Error ellipse: s-maj=26.5km s-min=11.8km az=55.0*
NEIC ***21*** *22:07:04.5±0.3, 0.80N×97.38E, mb4.2/4, Error ellipse: s-maj=10.0km s-min=6.3km az=56.0*
ISC 21 22:07:02.9±3.1,**0.78N**±0.07×**97.40E**±0.08,**h23**km±22km, **h23**km±.4km:**pP-P**,**n45**,σ0°**76**/46,**mb4.4**/27,**MS3.8**/1,
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.23**	**44**	P	**Pn**	**22 08 22.1**	**+0.4**
KULM	**Kulim**	**5.53**	**36**	*e*Pn	**Pn**	**22 08 25.6**	**-0.4**
KGM	**Kluang**	**6.04**	**78**	P	**Pn**	**22 08 34.0**	**+0.8**
CM31	**Chiang Mai Arr** 14nm,1.1s	**17.64**	**5**	*e*P	**P**	**22 11 01.9**	**-7.0**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=194,slow=13,SNR=20	**17.64**	**5**	P	**P**	**22 11 07.0**	**-2.0**
CMAR				LR	LR	22 18 13.6	
	comp=Z,78nm,19.4s,baz=190,slow=38						
KKM	**Kota Kinabalu**	**19.49**	**74**	*e*P	**P**	**22 11 31.2**	**-0.2**
KMI	**Kunming**	**24.75**	**12**	P	**P**	**22 12 25.4**	**+1.1**
KMI				S	**S**	**22 16 42.8**	**+0.6**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
KMI				AMB	AMB		
	comp=Z,106nm,4.2s						
KMI				LR	LR		
	comp=N,165nm,12.7s,MS3.9						
KMI				LR	LR		
	comp=E,155nm,11.4s,MS3.9						
KMI				LR	LR		
	comp=Z,194nm,13.5s,MS3.8						
KMI	**Kunming**	**24.75**	**12**	P	**P**	**22 12 25.4**	**+1.1**
	comp=Z,10.0nm,1.2s,mb4.2						
KMI				S	**S**	**22 16 42.8**	**+0.6**
KMI				LR	LR		
	comp=Z,190nm,13.5s,MS3.8						
SHL	**Shillong**	**25.21**	**348**	*e*P	**P**	**22 12 30.0**	**+1.3**
JIRN	**Jiri**	**28.81**	**339**	*e*P	**P**	**22 13 02.3**	**+0.7**
	comp=Z,20nm,0.9s,mb4.9						
PKI	**Pulchoki**	**29.02**	**338**	*e*P	**P**	**22 13 04.0**	**+0.5**
	comp=Z,11nm,0.7s,mb4.7						
GUN	**Gumba**	**29.15**	**339**	*e*P	**P**	**22 13 05.2**	**+0.5**
	comp=Z,17nm,0.4s,mb5.1						
DMN	**Daman**	**29.17**	**337**	*e*P	**P**	**22 13 04.8**	**-0.1**
KKN	**Kakani**	**29.27**	**338**	*e*P	**P**	**22 13 05.8**	**+0.1**
	comp=Z,17nm,0.9s,mb4.8						
LSA	**Lhasa**	**29.37**	**349**	P	**P**	**22 13 07.8**	**+1.1**
GKN	**Gorkha**	**29.71**	**337**	*e*P	**P**	**22 13 09.7**	**0.0**
	comp=Z,12nm,0.7s,mb4.7						
KOLN	**Koldanda**	**29.92**	**335**	*e*P	**P**	**22 13 11.7**	**+0.1**
	comp=Z,12nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.52**	**125**	P	**P**	**22 13 42.5**	**-0.7**
	comp=Z,2.2nm,0.4s,mb4.4,baz=184,slow=4.9,SNR=3.2						
XAN	**Xi'an**	**34.80**	**17**	P	**P**	**22 13 52.5**	**-1.6**
XAN				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.9						
GTA	**Gaotai**	**38.51**	**3**	*e*P	**P**	**22 14 25.5**	**+0.2**
GTA				AP	pP	22 14 31.8	-0.5
GTA				XP	sP	22 14 35.3	+0.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
JOW	**Kunigami**	**39.38**	**46**	P	**P**	**22 14 33.0**	**+0.3**
	comp=Z,9.2nm,0.6s,mb4.7,baz=278,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**41.64**	**122**	P	**P**	**22 14 51.4**	**-0.1**
	comp=Z,2.0nm,0.5s,mb4.0,baz=302,slow=8.9,SNR=9.0						
WRA				pP	pP	22 14 58.3	-0.1
	comp=Z,3.0nm,0.8s,baz=301,slow=9.1,SNR=9.0						
WRAB	**Tennant Creek**	**41.65**	**122**	P	**P**	**22 14 51.2**	**-0.3**
	comp=Z,12nm,1.1s,mb4.4						
WB2	**Warramunga Arr**	**41.65**	**122**	*e*P	**P**	**22 14 51.3**	**-0.2**
ASPA	**Alice Springs**	**42.98**	**127**	*e*P	**P**	**22 15 02.9**	**+0.5**
ASAR	**Alice Springs**	**42.98**	**127**	P	**P**	**22 15 02.6**	**+0.3**
	comp=Z,1.9nm,0.6s,mb4.0,baz=297,slow=7.9,SNR=22						
ASAR				pP	pP	22 15 09.3	0.0
	comp=Z,0.9nm,0.5s,baz=297,slow=7.6,SNR=6.0						
SONM	**Songino Array**	**47.52**	**8**	P	**P**	**22 15 38.3**	**0.0**
	comp=Z,1.2nm,0.3s,mb4.4,baz=189,slow=9.7,SNR=27						
SONM				pP	pP	22 15 45.2	-0.1
	comp=Z,1.0nm,0.4s,baz=190,slow=10,SNR=8.1						
MKAR	**Makanchi Array**	**47.70**	**346**	P	**P**	**22 15 39.6**	**-0.1**
	comp=Z,4.8nm,0.5s,mb4.8,baz=160,slow=9.1,SNR=97						
MKAR				pP	pP	22 15 46.0	-0.7
	comp=Z,3.5nm,0.6s,baz=157,slow=7.4,SNR=12						
STKA	**Stephens Creek**	**52.92**	**132**	P	**P**	**22 16 20.2**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.1,baz=350,slow=12,SNR=4.0						
STKA				pP	pP	22 16 27.9	+1.0
	comp=Z,2.2nm,0.7s,baz=320,slow=8.5,SNR=3.4						
STKA	**Stephens Creek**	**52.92**	**132**	*e*P	**P**	**22 16 19.7**	**-0.1**
ZAL	**Zalesovo**	**54.00**	**351**	P	**P**	**22 16 26.5**	**-0.8**
	comp=Z,4.4nm,0.3s,mb4.8,baz=317,slow=6.1,SNR=22						
CHKZ	**Chkalovo**	**57.19**	**341**	*e*P	**P**	**22 16 49.1**	**-1.4**
	comp=Z,34nm,0.6s,mb5.6						
CHKZ				*e*pP	pP	22 16 56.0	-1.7
MATP	**Matopo**	**70.56**	**248**	P	**P**	**22 18 19.1**	**+0.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=110,slow=12,SNR=4.4						
AKASG	**Malin Array Be**	**75.72**	**322**	P	**P**	**22 18 47.0**	**-1.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=87,slow=5.1,SNR=8.5						
JOF	**Joensuu**	**78.61**	**335**	*e*p	**P**	**22 18 53.2**	**-11**
	comp=Z,0.4nm,0.4s,mb3.7						
FINES	**FINESS Array B**	**80.47**	**333**	P	**P**	**22 19 14.0**	**-0.2**
	comp=Z,1.5nm,0.7s,mb4.0,baz=101,slow=4.9,SNR=11						
FINES				pP	pP	22 19 21.1	-0.5
	comp=Z,0.8nm,0.7s,baz=108,slow=12,SNR=1.9						
FINES	**FINESS Array B**	**80.47**	**333**	P	**P**	**22 19 14.0**	**-0.2**
FINES				pP	pP	22 19 21.1	-0.5
KAF	**Kangasniemi**	**80.55**	**333**	*e*p	**P**	**22 19 13.1**	**-1.6**
	comp=Z,1.3nm,0.4s,mb4.2						
ARCES	**ARCESS Array B**	**83.00**	**340**	P	**P**	**22 19 27.7**	**+0.4**
	comp=Z,3.0nm,0.9s,mb4.3,baz=104,slow=5.0,SNR=11						
ARCES	**ARCESS Array B**	**83.00**	**340**	P	**P**	**22 19 27.7**	**+0.4**
GERES	**GERESS Array B**	**85.26**	**319**	P	**P**	**22 19 40.0**	**+0.9**
	comp=Z,0.6nm,0.8s,mb3.8,baz=90,slow=2.7,SNR=4.7						
NB2	**NORSAR Subarra**	**87.47**	**331**	P	**P**	**22 19 50.0**	**+0.3**
	comp=Z,0.8nm,0.7s,mb4.1,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**87.47**	**331**	P	**P**	**22 19 50.0**	**+0.3**
	comp=Z,1.5nm,0.8s,mb4.3,baz=93,slow=5.0,SNR=5.1						
NOA	**NORSAR Array B**	**87.47**	**331**	P	**P**	**22 19 50.0**	**+0.3**
TXAR	**Lajitas Array**	**143.92**	**32**	PKP	PKPdf	22 26 37.4	-4.1
	comp=Z,0.3nm,0.8s,baz=340,slow=1.6,SNR=4.0						

IDC ***21*** *22:15:23.9±1.0, 1.84N×96.73E, h26km±3km, mb3.8/11, mb1 3.9/12, mb1mx3.8/21, mbtmp3.9/12, ML4.1/1, Error ellipse: s-maj=35.4km s-min=19.0km az=52.0*
BJI ***21*** *22:15:24.0, 1.90N×96.80E, h27km, mb4.5*
NEIC ***21*** *22:15:24.0±0.5, 1.86N×96.78E, mb4.3/2, Error ellipse: s-maj=12.0km s-min=9.3km az=59.0*
ISC 21 22:15:22.3±0.8,**1.9N**±0.1×**96.8E**±0.1,**h27**km, **h27**km±.6km:**pP-P**,**n25**,σ0°**57**/25,**mb4.2**/17,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.13**	**48**	*e*Pn	**Pn**	**22 16 39.3**	**-0.1**
CM31	**Chiang Mai Arr** 11nm,0.9s	**16.62**	**7**	*e*P	**P**	**22 19 14.9**	**-0.4**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=197,slow=12,SNR=21	**16.62**	**7**	Pn	**P**	**22 19 15.7**	**+0.4**
JIRN	**Jiri** 32nm,1.0s,mb4.9	**27.59**	**339**	*e*P	**P**	**22 21 10.4**	**+0.9**
PKI	**Pulchoki**	**27.80**	**338**	*e*P	**P**	**22 21 11.1**	**-0.3**
GUN	**Gumba** 20nm,0.8s,mb4.8	**27.93**	**339**	*e*P	**P**	**22 21 13.4**	**+0.8**
DMN	**Daman**	**27.94**	**337**	*e*P	**P**	**22 21 11.9**	**-0.8**
KKN	**Kakani**	**28.04**	**338**	*e*P	**P**	**22 21 13.8**	**+0.2**
GKN	**Gorkha** 24nm,1.1s,mb4.7	**28.48**	**337**	*e*P	**P**	**22 21 18.0**	**+0.5**
KOLN	**Koldanda** 9.1nm,0.9s,mb4.5	**28.69**	**335**	*e*P	**P**	**22 21 20.2**	**+0.8**
GTA	**Gaotai**	**37.47**	**4**	*e*P	**P**	**22 22 35.3**	**-0.2**
GTA				AP	pP	22 22 44.0	+0.4
GTA				XP	sP	22 22 48.0	+1.0
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**42.72**	**122**	P	**P**	**22 23 19.4**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.7,baz=302,slow=9.1,SNR=5.3						
ASAR	**Alice Springs**	**44.11**	**127**	P	**P**	**22 23 30.5**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.4,baz=300,slow=7.8,SNR=5.1						
MKAR	**Makanchi Array**	**46.51**	**346**	P	**P**	**22 23 49.4**	**+0.2**
	comp=Z,4.4nm,0.8s,mb4.5,baz=161,slow=7.8,SNR=50						
MKAR				pP	pP	22 23 56.8	-0.6
	comp=Z,3.9nm,0.8s,baz=158,slow=7.8,SNR=12						
SONM	**Songino Array**	**46.54**	**9**	P	**P**	**22 23 49.4**	**0.0**
	comp=Z,2.5nm,1.0s,mb4.1,baz=194,slow=7.9,SNR=13						
SONM				pP	pP	22 23 56.8	-0.8
	comp=Z,0.7nm,0.6s,baz=189,slow=8.9,SNR=5.2						
SONM				PcP	PcP	22 25 24.3	+0.4
	comp=Z,0.4nm,0.3s,baz=197,slow=3.8,SNR=6.4						
SONM				pPcP		22 25 33.3	
	comp=Z,0.5nm,0.6s,baz=173,slow=3.5,SNR=3.6						
ZAL	**Zalesovo**	**52.84**	**351**	P	**P**	**22 24 37.4**	**-0.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=283,slow=5.8,SNR=15						
ZAL				pP	pP	22 24 45.5	-0.6
	comp=Z,2.6nm,0.8s,baz=295,slow=5.9,SNR=7.3						
BVAR	**Borovoye Array**	**55.50**	**341**	P	**P**	**22 24 56.3**	**-0.9**
	comp=Z,2.1nm,0.7s,mb4.3,baz=146,slow=11,SNR=8.1						
BVAR				pP	pP	22 25 05.3	-0.3
	comp=Z,1.8nm,0.8s,baz=158,slow=8.0,SNR=3.2						
CHKZ	**Chkalovo**	**55.98**	**342**	*e*P	**P**	**22 25 00.0**	**-0.6**
	comp=Z,4.2nm,0.7s,mb4.6						
BRTR	**Keskin Array B**	**68.38**	**312**	P	**P**	**22 26 23.1**	**-0.8**
	comp=Z,0.5nm,0.7s,mb3.6,baz=90,slow=5.8,SNR=3.2						
BRTR				pP	pP	22 26 31.6	-0.7
	comp=Z,0.6nm,0.8s,baz=124,slow=8.9,SNR=3.1						
AKASG	**Malin Array Be**	**74.50**	**322**	P	**P**	**22 26 59.6**	**-0.6**
	comp=Z,0.1nm,0.2s,mb3.3,baz=280,slow=11,SNR=2.8						
AKASG				pP	pP	22 27 08.1	-0.6
	comp=Z,0.7nm,0.6s,baz=93,slow=5.1,SNR=2.1						
FINES	**FINESS Array B**	**79.23**	**333**	P	**P**	**22 27 25.8**	**-0.7**
	comp=Z,1.3nm,0.8s,mb3.9,baz=198,slow=6.0,SNR=4.1						
FINES				pP	pP	22 27 35.2	+0.1
	comp=Z,1.3nm,0.9s,baz=180,slow=1.9,SNR=1.7						
FINES	**FINESS Array B**	**79.23**	**333**	P	**P**	**22 27 25.8**	**-0.7**
FINES				pP	pP	22 27 35.2	+0.1
ARCES	**ARCESS Array B**	**81.78**	**340**	P	**P**	**22 27 40.5**	**+0.7**
	comp=Z,2.8nm,0.9s,mb4.2,baz=101,slow=6.2,SNR=5.2						
ARCES				pP	pP	22 27 48.9	+0.4
	comp=Z,0.7nm,0.5s,baz=90,slow=4.9,SNR=1.5						
ARCES	**ARCESS Array B**	**81.78**	**340**	P	**P**	**22 27 40.5**	**+0.7**
ARCES				pP	pP	22 27 48.9	+0.4
GERES	**GERESS Array B**	**84.06**	**319**	P	**P**	**22 27 52.9**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.6,baz=60,slow=11,SNR=4.4						
GERES				pP	pP	22 28 01.6	+1.0
	comp=Z,0.4nm,0.7s,baz=100,slow=8.1,SNR=3.2						

SOF ***21*** *22:51:38.2, 40.77N×24.11E, h2km, MD2.8*
ATH ***21*** *22:51:40.2, 40.89N×24.08E, h40km±6km, MD3.2/5*
NEIC ***21*** *22:51:40.2, 40.89N×24.08E, h40km, MD3.2(ATH), After ATH.*
CSEM ***21*** *22:51:40.1±0.1, 40.83N×24.16E, h12km, ML3.0, Error ellipse: s-maj=3.4km s-min=2.1km az=167.0*
THE ***21*** *22:51:41.4, 40.84N×24.07E, h17

*NEIC **21** 23:11:12.5, 34.98N×25.76E, h2km, MD3.5(ATH), After ATH.*
*CSEM **21** 23:11:12.5, 34.98N×25.76E, h2km, MD3.5/5, After ATH*
ATH 21 23:11:12.3, 34.99N×25.75E, h6km±3km, MD3.6/5, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.12**	**202**	⇓*i*PG	Pg	23 11 15.0	0.0
XRY	**Khrisi**	**0.12**	**202**	*e*Pg	Pg	23 11 15.0	0.0
KARP	**Karpathos**	**1.28**	**64**	*e*PB	Pb	23 11 36.5	+0.1
VAM	**Vamos**	**1.34**	**289**	*e*PB	Pb	23 11 37.5	+0.1
GVD	**Gavdhos**	**1.38**	**264**	*e*Pn	Pn	23 11 38.6	+0.5
SANT	**Santorini**	**1.40**	**350**	*e*Pn	Pn	23 11 36.9	-1.5
APE	**Apeiranthos**	**2.08**	**355**	*e*PN	Pn	23 11 50.0	+1.8
APE	**Apeiranthos**	**2.08**	**355**	*e*Pg	Pg	23 11 51.5	-2.4
VLI	**Veliai**	**2.86**	**308**	*e*PN	Pn	23 12 01.5	+2.1

*IDC **21** 23:12:28.5±1.4, 27.20S×69.09W, h104km±13km, mb3.5/4, mb1 3.6/8, mb1mx3.5/19, mbtmp3.8/8, Error ellipse: s-maj=34.7km s-min=9.6km az=86.0*
*GUC **21** 23:12:28.1±0.8, 27.23S×69.19W, h102km±17km, ML4.6*
*NEIC **21** 23:12:28.1, 27.23S×69.19W, h102km, mb4.4/2, After GUC.*
ISC 21 23:12:27.5±0.4, 27.22S±0.03×69.20W±0.08, h118km±8km, n25, σ0§86/32, mb3.8/5, 1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.04**	**262**	*e*P	**P**	**23 12 50.4**	**+0.4**
CPCH				*i* S	**S**	**23 13 05.5**	**-1.3**
VACH	**Vallenar**	**1.93**	**225**	*i* P	**P**	**23 13 00.5**	**+0.1**
VACH				*i* S	**S**	**23 13 24.9**	**-0.3**
VACH				AMP		23 13 26.4	
	comp=E,9μm,0.1s						
LCO	**Las Campanas**	**2.22**	**216**	⇓*i*P	**P**	**23 13 04.7**	**+0.4**
LCO				*i* S	**S**	**23 13 32.3**	**+0.3**
LCO				AMP		23 13 33.5	
	comp=E,3μm,0.3s						
CPN1	**Cerro Paranal**	**2.80**	**337**	*i* P	**P**	**23 13 13.0**	**+1.0**
CPN1				*i* S	**S**	**23 13 46.4**	**+0.8**
CPN1				AMP		23 13 49.8	
	comp=N,1μm,0.7s						
TLL	**Tololo Astrono**	**3.26**	**205**	*i* P	**P**	**23 13 18.3**	**+0.2**
TLL				*i* S	**S**	**23 13 56.4**	**-0.1**
TLL				AMP		23 14 36.1	
	comp=N,1000nm,0.7s						
ANCH	**Antofagasta**	**3.69**	**342**	⇓*i*P	**P**	**23 13 23.4**	**-0.5**
ANCH				*i* S	**S**	**23 14 06.3**	**-0.6**
CFAA	**Coronel Fontan**	**4.45**	**169**	P	**P**	**23 13 35.8**	**+1.6**
	comp=N,1.3nm,0.3s,baz=343,slow=12,SNR=67						
CFAA				S	**S**	**23 14 24.4**	**-0.9**
	comp=N,1.8nm,0.3s,baz=211,slow=18,SNR=9.9						
CFAA	**Coronel Fontan**	**4.45**	**169**	P	**P**	**23 13 35.8**	**+1.6**
CFAA				S	**S**	**23 14 24.4**	**-0.9**
LVC	**Limon Verde**	**4.59**	**3**	P	**P**	**23 13 37.2**	**+1.1**
	comp=N,17nm,0.3s,baz=187,slow=8.7,SNR=174						
LVC				S	**S**	**23 14 27.9**	**-0.9**
LVC	**Limon Verde**	**4.59**	**3**	⇑*i*P	**P**	**23 13 37.2**	**+1.0**
LVC				*i* S	**S**	**23 14 28.9**	**0.0**
CPUP	**Villa Florida**	**10.64**	**88**	*e*P	**P**	**23 14 57.6**	**-0.1**
	comp=N,3.3nm,0.7s						
LPAZ	**La Paz**	**10.93**	**5**	P	**P**	**23 15 01.9**	**+0.5**
	comp=N,0.2nm,0.3s,baz=207,slow=6.0,SNR=4.3						
LPAZ	**La Paz**	**10.93**	**5**	*e*P	**P**	**23 15 01.7**	**+0.2**
TRQA	**Tornquist**	**12.39**	**152**	*e*P	**P**	**23 15 20.4**	**-0.4**
SIV	**San Ignacio**	**13.48**	**36**	P	**P**	**23 15 33.5**	**-1.5**
	comp=N,0.2nm,0.3s,baz=232,slow=13,SNR=8.2						
BDFB	**Brasilia**	**22.80**	**64**	P	**P**	**23 17 21.4**	**+0.6**
	comp=N,2.5nm,0.7s,mb3.6,baz=251,slow=6.0,SNR=4.4						
JTS	**JuntasAbangare**	**40.30**	**336**	P	**P**	**23 20 06.5**	**+12**
SNAA	**Sanae**	**57.00**	**160**	P	**P**	**23 22 02.4**	**-0.3**
	comp=N,1.0nm,0.5s,mb4.1,baz=331,slow=17,SNR=8.6						
TXAR	**Lajitas Array**	**65.21**	**327**	P	**P**	**23 22 58.5**	**-0.2**
	comp=N,0.1nm,0.4s,mb3.0,baz=153,slow=11,SNR=4.9						
WVT	**Waverly**	**65.41**	**343**	*e*P	**P**	**23 22 57.6**	**-2.2**
	comp=N,5.1nm,0.8s,mb4.4						
YKA	**Yellowknife Ar**	**96.47**	**341**	P	**P**	**23 25 45.4**	**+1.5**
	comp=N,0.2nm,0.6s,mb3.7,baz=139,slow=4.5,SNR=7.4						
YKA	**Yellowknife Ar**	**96.47**	**341**	P	**P**	**23 25 45.4**	**+1.5**
ASAR	**Alice Springs**	**124.71**	**206**	PKP	PKPdf	23 31 16.1	+2.3
	comp=N,0.3nm,0.6s,baz=133,slow=1.3,SNR=4.2						
ZAL	**Zalesovo**	**147.16**	**29**	PKPbc	PKPdf	23 31 58.1	+4.2
	comp=N,1.9nm,0.7s,baz=85,slow=0.4,SNR=4.4						
MKAR	**Makanchi Array**	**150.25**	**41**	PKPbc	PKPdf	23 32 07.9	+8.9
	comp=N,3.5nm,0.7s,baz=315,slow=2.6,SNR=21						

*MOS **21** 23:19:50.4±0.8, 2.29N×95.02E, h33km, mb4.7/9, Error ellipse: s-maj=18.8km s-min=10.4km az=111.0*
*BJI **21** 23:19:51.4, 1.97N×94.52E, h45km, mB4.8, mb4.8, Ms4.4, Msz4.2*
*IDC **21** 23:19:51.6±0.5, 2.27N×94.97E, h28km±3km, mb3.9/14, mb1 4.0/15, mb1mx3.9/24, mbtmp4.1/15, ML3.7/1, MS3.9/8, Ms1 3.9/8, ms1mx3.7/19, Error ellipse: s-maj=17.7km s-min=11.5km az=56.0*
*NEIC **21** 23:19:51.8±0.4, 2.23N×94.95E, h30km, mb4.7/8, Error ellipse: s-maj=9.8km s-min=7.8km az=197.0*
ISC 21 23:19:50.0±0.4, 2.21N±0.05×94.98E±0.05, h30km, h30km±.9km: pP-P, n80, σ0§98/81, mb4.5/41, MS4.0/16, 3C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.44**	**61**	*e*P	**Pn**	**23 21 23.4**	**-1.9**
PALK	**Pallekele**	**15.09**	**290**	*e*P	**P**	**23 23 22.4**	**-0.6**
	12nm,0.9s						
KSM	**Kuching**	**15.34**	**92**	P	**P**	**23 23 26.6**	**+0.2**
CM31	**Chiang Mai Arr**	**16.61**	**13**	*e*P	**P**	**23 23 43.3**	**+0.7**
	55nm,1.1s						
CM31				*e*		23 23 51.6	
CMAR	**Chiang Mai Arr**	**16.61**	**13**	Pn	**P**	**23 23 41.0**	**-1.6**
	0.1nm,0.3s,baz=206,slow=11,SNR=35						
CMAR				LR	LR	23 31 19.8	
	comp=Z,489nm,18.8s,baz=195,slow=42						
CHG	**Chiang Mai**	**16.96**	**13**	⇑P	**P**	**23 23 46.5**	**-0.4**
	27nm,1.0s						
NANT	**Nan**	**17.42**	**18**	⇑P	**P**	**23 23 52.0**	**-0.7**
	61nm,0.9s						
KKM	**Kota Kinabalu**	**21.52**	**79**	P	**P**	**23 24 41.0**	**+2.0**
HYB	**Hyderabad**	**22.11**	**314**	*e*P	**P**	**23 24 45.0**	**+0.2**
HYB	**Hyderabad**	**22.11**	**314**	*i* P	**P**	**23 24 45.0**	**+0.2**
SHL	**Shillong**	**23.41**	**353**	*e*P	**P**	**23 24 58.0**	**+0.4**
SHL				*e*S	**S**	**23 29 07.0**	**+1.9**
KMI	**Kunming**	**23.98**	**18**	P	**P**	**23 25 05.6**	**+2.5**
KMI				AP		23 25 13.1	
KMI				PP	PP	23 25 40.9	+3.5
KMI				S	**S**	**23 29 18.5**	**+3.6**
KMI				SS	SS	23 30 19.1	+13
KMI				AMB	AMB		
	comp=Z,112nm,4.0s						
KMI				LR	LR		
	comp=N,474nm,15.5s,MS4.2						
KMI				LR	LR		
	comp=E,543nm,17.9s,MS4.2						
KMI				LR	LR		
	comp=Z,646nm,13.9s,MS4.3						
KMI	**Kunming**	**23.98**	**18**	P	**P**	**23 25 05.6**	**+2.5**
	comp=Z,0.1nm,4.0s						
KMI				pP		23 25 13.1	
KMI				PP	PP	23 25 40.9	+3.5
KMI				S	**S**	**23 29 18.5**	**+3.6**
KMI				sS		23 29 31.4	
KMI				SS	SS	23 30 19.1	+13
KMI				LR	LR		
	comp=Z,650nm,13.9s,MS4.3						
GYA	**Guiyang**	**26.60**	**24**	⇑*i*P	**P**	**23 25 35.3**	**+7.5**
GYA				AP	pP	23 25 44.3	+7.8
GYA				XP	sP	23 25 48.5	+8.1
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				LR	LR		
	comp=N,500nm,15.0s,MS4.2						
GYA				LR	LR		
	comp=E,180nm,16.2s,MS4.2						
GYA				LR	LR		
	comp=Z,640nm,14.5s,MS4.3						
JIRN	**Jiri**	**26.67**	**342**	*e*P	**P**	**23 25 28.9**	**+0.4**
	comp=Z,38nm,0.8s,mb5.0						
PKI	**Pulchoki**	**26.83**	**341**	*e*P	**P**	**23 25 29.8**	**-0.1**
	comp=Z,73nm,1.3s,mb5.0						
DMN	**Daman**	**26.97**	**340**	*e*P	**P**	**23 25 30.5**	**-0.7**
GUN	**Gumba**	**27.00**	**342**	*e*P	**P**	**23 25 31.5**	**0.0**
	comp=Z,38nm,0.8s,mb5.0						
KKN	**Kakani**	**27.08**	**341**	*e*P	**P**	**23 25 32.2**	**0.0**
	comp=Z,55nm,1.2s,mb5.0						
GKN	**Gorkha**	**27.49**	**340**	*e*P	**P**	**23 25 35.3**	**-0.6**
	comp=Z,23nm,0.9s,mb4.7						
LSA	**Lhasa**	**27.58**	**353**	P	**P**	**23 25 38.0**	**+1.2**
KOLN	**Koldanda**	**27.65**	**338**	*e*P	**P**	**23 25 37.0**	**-0.4**
	comp=Z,13nm,0.7s,mb4.6						
CD2	**Chengdu**	**29.73**	**15**	⇓*i*P	**P**	**23 26 02.8**	**+6.7**
CD2				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.2						
XAN	**Xi'an**	**34.24**	**21**	P	**P**	**23 26 40.8**	**+5.2**
XAN				S	**S**	**23 31 58.6**	**-0.8**
XAN				AMB	AMB		
	comp=Z,16nm,1.6s,mb4.7						
XAN				LR	LR		
	comp=N,269nm,15.1s,MS4.3						
XAN				LR	LR		
	comp=E,321nm,13.3s,MS4.3						
XAN				LR	LR		
	comp=Z,373nm,14.1s,MS4.3						
LZH	**Lanzhou**	**34.70**	**13**	*e*P	**P**	**23 26 46.0**	**+6.6**
LZH				AP	pP	23 26 59.0	+11
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.0						
FITZ	**Fitzroy Crossi**	**36.32**	**125**	pP	pP	23 27 01.9	-0.3
	comp=Z,8.3nm,0.8s,baz=300,slow=4.0,SNR=4.7						
NJ2	**Nanjing**	**37.24**	**35**	*e*P	**P**	**23 27 01.3**	**+0.4**
NJ2				PP	PP	23 28 30.3	+1.8
NJ2				S	**S**	**23 32 44.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,110nm,4.5s						
NJ2				LR	LR		
	comp=N,750nm,14.8s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,16.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,360nm,15.8s,MS4.3						
GTA	**Gaotai**	**37.29**	**6**	*e*P	**P**	**23 27 00.8**	**-0.5**
GTA				PP	PP	23 28 31.3	+2.3
GTA				PPP	PPP	23 28 51.8	+2.2
GTA				S	**S**	**23 32 48.3**	**+2.0**
GTA				XS		23 33 05.3	
GTA				SS	SS	23 35 22.6	+4.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,79nm,5.3s						
GTA				LR	LR		
	comp=N,155nm,19.0s,MS4.0						
GTA				LR	LR		
	comp=E,138nm,16.7s,MS4.0						
GTA				LR	LR		
	comp=Z,265nm,17.9s,MS4.1						
SSE	**Sheshan**	**37.93**	**38**	P	**P**	**23 27 07.5**	**+0.7**
SSE				S	**S**	**23 32 57.1**	**+0.9**
SSE				SS	SS	23 35 43.8	+11
SSE				SCS	ScS	23 37 15.3	+0.6
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,48nm,3.8s						
SSE				LR	LR		
	comp=N,198nm,16.7s,MS4.3						
SSE				LR	LR		
	comp=E,334nm,16.7s,MS4.3						
SSE				LR	LR		
	comp=Z,332nm,15.1s,MS4.3						
SSE	**Sheshan**	**37.93**	**38**	P	**P**	**23 27 07.5**	**+0.7**
	comp=Z,36nm,0.7s,mb5.2						
SSE				sP	sP	23 27 20.2	+0.8
SSE				PP	PP	23 28 35.4	-1.4
SSE				S	**S**	**23 32 57.1**	**+0.9**
SSE				sS		23 33 12.0	
SSE				SS	SS	23 35 43.8	+11
SSE				ScS	ScS	23 37 15.2	+0.5
SSE				LR	LR		
	comp=Z,330nm,15.1s,MS4.3						
NWAO	**Narrogin (SRO)**	**40.79**	**151**	LR	LR	23 43 31.1	
	comp=Z,141nm,19.4s,MS3.8,baz=126,slow=35						
WMQ	**Urumqi**	**41.94**	**352**	P	**P**	**23 27 40.1**	**+0.3**
WMQ				AP	pP	23 27 50.1	+1.4
WMQ				XP	sP	23 27 53.8	+1.4
WMQ				PP	PP	23 29 20.6	+0.6
WMQ				PCP	PcP	23 29 35.6	0.0
WMQ				*e*S	**S**	**23 33 56.1**	**0.0**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,150nm,3.5s						
WMQ				LR	LR		
	comp=N,52nm,18.1s,MS3.8						
WMQ				LR	LR		
	comp=E,109nm,19.5s,MS3.8						
WMQ				LR	LR		
	comp=Z,56nm,21.2s,MS3.4						
BJI	**Beijing**	**42.29**	**24**	P	**P**	**23 27 49.8**	**+7.0**
BJI				SS	SS	23 37 08.9	+4.4
BJI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.1						
BJI				LR	LR		
	comp=N,268nm,9.8s						
BJI				LR	LR		
	comp=E,198nm,13.8s						
BJI				LR	LR		
	comp=Z,129nm,28.0s						
ULHL	**Ulahol**	**43.26**	**340**	P	**P**	**23 27 51.6**	**+1.0**
	SNR=7.2						
UCH	**Uchtor**	**43.87**	**338**	P	**P**	**23 27 57.2**	**+1.6**
	SNR=6.8						
KBK	**Karagaybulak**	**44.08**	**339**	P	**P**	**23 27 59.0**	**+1.8**
	SNR=8.9						
AML	**Almayashu**	**44.09**	**337**	P	**P**	**23 27 58.5**	**+1.1**
	SNR=8.7						
WRA	**Warramunga Arr**	**44.45**	**122**	P	**P**	**23 28 00.6**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.0,baz=301,slow=9.1,SNR=10						
WRA				pP	pP	23 28 09.3	-0.2
	comp=Z,6.4nm,0.8s,baz=301,slow=9.0,SNR=18						
WRAB	**Tennant Creek**	**44.46**	**122**	*e*P	**P**	**23 28 00.8**	**+0.2**
WRAB				*e*	pP	23 28 09.3	-0.3
WRAB				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**44.46**	**122**	*e*P	**P**	**23 28 00.8**	**+0.1**
	comp=Z,17nm,1.1s,mb4.7						
WRAB				*e*	pP	23 28 09.2	-0.3
USP	**Osponovka**	**44.77**	**339**	P	**P**	**23 28 03.7**	**+0.8**
	SNR=14						
MKAR	**Makanchi Array**	**45.77**	**348**	P	**P**	**23 28 10.7**	**0.0**
	comp=Z,5.9nm,0.7s,mb4.6,baz=163,slow=8.1,SNR=94						
MKAR				pP	pP	23 28 19.7	+0.1
	comp=Z,5.7nm,0.7s,baz=164,slow=8.3,SNR=14						
MKAR				LR	LR	23 51 45.6	
	comp=Z,66nm,18.4s,MS3.6,baz=175,slow=42						
ASAR	**Alice Springs**	**45.77**	**126**	P	**P**	**23 28 10.5**	**-0.6**
	comp=Z,0.7nm,0.9s,mb3.6,baz=300,slow=7.2,SNR=5.4						
ASAR				pP	pP	23 28 20.2	+0.2
	comp=Z,1.4nm,0.9s,baz=296,slow=7.5,SNR=6.9						
KKAR	**Karatay Array**	**46.20**	**335**	*i* P	**P**	**23 28 13.9**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
SONM	**Songino Array**	**46.51**	**11**	P	**P**	**23 28 16.7**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.1,baz=189,slow=9.0,SNR=22						
SONM				pP	pP	23 28 24.6	-1.0
	comp=Z,4.1nm,0.9s,baz=196,slow=9.0,SNR=15						
SONM				LR	LR	23 49 53.1	
	comp=Z,263nm,19.7s,MS4.2,baz=331,slow=39						
ULN	**Ulaanbaatar**	**46.67**	**11**	*e*P	**P**	**23 28 16.6**	**-1.2**
ULN				*e*	pP	23 28 25.9	-0.9
ULN				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.7						
ULN	**Ulaanbaatar**	**46.67**	**11**	*e*P	**P**	**23 28 16.6**	**-1.2**
	comp=Z,18nm,1.7s,mb4.7						
ULN				*e*	pP	23 28 25.9	-0.9
ZAK	**Zakamensk**	**48.52**	**7**	*e*P	**P**	**23 28 31.2**	**-1.0**
ZAK				*e*		23 30 01.6	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
CN2	**Changchun**	**49.46**	**29**	*e*P	**P**	**23 28 41.0**	**+1.4**
TLY	**Talaya**	**49.84**	**7**	*e*P	**P**	**23 28 42.6**	**+0.2**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
TLY				MLR	MLR		
	comp=Z,179nm,19.0s,MS4.1						
TLY	**Talaya**	**49.84**	**7**	*e*P	**P**	**23 28 42.8**	**+0.4**
	comp=Z,15nm,1.3s,mb4.9						
MDJ	**Mudanjiang**	**52.11**	**31**	P	**P**	**23 28 58.8**	**-1.0**
MDJ				PCP	PcP	23 30 10.0	-1.5
MDJ				PP	PP	23 30 57.3	-1.5
MDJ				SCP		23 34 04.6	
MDJ				PCS		23 34 07.1	
MDJ				AMB	AMB		
	comp=Z,11nm,2.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,146nm,3.7s						
MDJ				LR	LR		
	comp=N,46nm,24.2s,MS3.8						
MDJ				LR	LR		
	comp=E,103nm,22.6s,MS3.8						
MDJ				LR	LR		
	comp=Z,110nm,22.6s,MS3.8						
ZAL	**Zalesovo**	**52.24**	**352**	P	**P**	**23 28 59.8**	**-0.8**
	comp=Z,2.6nm,0.5s,mb4.4,baz=288,slow=7.1,SNR=17						
ZAL				pP	pP	23 29 08.4	-1.3
	comp=Z,4.4nm,0.7s,baz=305,slow=4.6,SNR=10						
MJAR	**Matsushiro Arr**	**52.48**	**44**	LR	LR	23 50 23.9	
	comp=Z,128nm,21.5s,MS3.9,baz=230,slow=35						
NVS	**Novosibirsk**	**53.34**	**352**	*e*P	**P**	**23 29 07.3**	**-1.4**
NVS				pmax	pmax		
	comp=N,11nm,1.3s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7						
BVA0	**Borovoye Array**	**54.59**	**342**	P	**P**	**23 29 16.6**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,3.0nm,2.0s,mb4.0						
BVAR	**Borovoye Array**	**54.59**	**342**	P	**P**	**23 29 16.4**	**-1.6**
	comp=Z,2.4nm,0.7s,mb4.3,baz=149,slow=8.6,SNR=21						
BVAR				pP	pP	23 29 24.6	-2.4
	comp=Z,3.0nm,0.8s,baz=143,slow=7.4,SNR=15						
CHKZ	**Chkalovo**	**55.09**	**343**	P	**P**	**23 29 20.5**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,23nm,1.8s,mb4.9						
STKA	**Stephens Creek**	**55.68**	**132**	P	**P**	**23 29 25.8**	**-0.3**
	comp=Z,1.7nm,0.5s,mb4.3,baz=290,slow=9.0,SNR=7.5						
STKA				pP	pP	23 29 35.1	-0.2
	comp=Z,1.8nm,0.5s,baz=334,slow=6.4,SNR=3.1						
STKA	**Stephens Creek**	**55.68**	**132**	*e*P	**P**	**23 29 26.5**	**+0.3**
BOD	**Bodaibo**	**57.46**	**12**	*e*P	**P**	**23 29 45.3**	**+6.8**
BOD				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.6						
KMBO	**Kilima Mbogo**	**57.81**	**267**	P	**P**	**23 29 42.7**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KMBO	**Kilima Mbogo**	**57.81**	**267**	P	**P**	**23 29 42.2**	**+0.6**
	comp=Z,0.6nm,0.8s,mb3.7,baz=60,slow=18,SNR=3.3						
KMBO	**Kilima Mbogo**	**57.81**	**267**	P	**P**	**23 29 42.6**	**+1.1**
	comp=Z,2.6nm,1.1s,mb4.2						
ARU	**Arti**	**61.41**	**338**	*e*P	**P**	**23 30 10.2**	**+4.5**
KIV	**Kislovodsk**	**62.10**	**320**	*e*P	**P**	**23 30 17.1**	**+6.5**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
MALT	**Malatya**	**62.81**	**312**	*e*P	**P**	**23 30 15.0**	**-0.4**
MALT				*e*	pP	23 30 23.6	-1.1
MALT				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.7						
MALT	**Malatya**	**62.81**	**312**	*e*P	**P**	**23 30 15.0**	**-0.4**
	comp=Z,7.5nm,1.2s,mb4.7						
MALT				*e*	pP	23 30 23.6	-1.1
BRTR	**Keskin Array B**	**66.80**	**313**	P	**P**	**23 30 39.8**	**-1.5**
	comp=Z,1.5nm,0.8s,mb4.1,baz=124,slow=6.1,SNR=9.0						
BRTR				pP	pP	23 30 48.8	-1.7
	comp=Z,1.6nm,0.9s,baz=135,slow=5.2,SNR=6.4						
MATP	**Matopo**	**68.85**	**247**	P	**P**	**23 30 54.5**	**+0.2**
	comp=Z,3.6nm,1.1s,mb4.2,baz=169,slow=2.7,SNR=3.0						
LBTB	**Lobatse**	**72.35**	**243**	P	**P**	**23 31 15.7**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.1,baz=133,slow=8.3,SNR=3.1						
LBTB				pP	pP	23 31 25.3	+0.5
	comp=Z,2.9nm,0.8s,baz=98,slow=5.9,SNR=3.8						
LBTB	**Lobatse**	**72.35**	**243**	P	**P**	**23 31 15.7**	**+0.2**
LBTB				pP	pP	23 31 25.3	+0.5
AKASG	**Malin Array Be**	**73.11**	**323**	P	**P**	**23 31 18.2**	**-1.3**
	comp=Z,0.2nm,0.3s,mb3.6,baz=132,slow=21,SNR=3.9						
BOSA	**Boshof**	**73.36**	**239**	LR	LR	00 00 59.1	
	comp=Z,86nm,18.1s,MS4.1,baz=347,slow=34						
ARCES	**ARCESS Array B**	**80.85**	**341**	P	**P**	**23 32 02.7**	**+0.4**
	comp=Z,2.6nm,0.9s,mb4.2,baz=74,slow=6.6,SNR=4.1						
ARCES				LR	LR	00 11 31.0	
	comp=Z,96nm,18.4s,MS4.2,baz=109,slow=38						
GERES	**GERESS Array B**	**82.60**	**319**	P	**P**	**23 32 12.6**	**+0.9**
	comp=Z,1.1nm,0.8s,mb4.0,baz=90,slow=5.3,SNR=11						
GERES				pP	pP	23 32 21.0	-0.3
	comp=Z,1.6nm,0.9s,baz=104,slow=5.5,SNR=5.8						
NOA	**NORSAR Array B**	**85.05**	**331**	LR	LR	00 13 48.3	
	comp=Z,33nm,19.0s,MS3.7,baz=230,slow=38						
TXAR	**Lajitas Array**	**143.91**	**28**	PKP	PKPdf	23 39 24.2	-4.1
	comp=Z,0.2nm,0.5s,baz=288,slow=1.5,SNR=3.9						
TXAR				pPKP		23 39 33.0	
	comp=Z,0.6nm,0.8s,baz=260,slow=1.7,SNR=6.8						
CPUP	**Villa Florida**	**144.19**	**225**	*e*PKIKP	PKPdf	23 39 24.7	-4.1
CPUP				*e*		23 39 32.8	
JCT	**Junction City**	**144.57**	**22**	*e*PKIKP	PKPdf	23 39 23.6	-5.8

*IDC **21** 23:20:28.6±0.7, 55.26S×27.99W, mb4.0/8, mb1 4.1/9, mb1mx4.0/19, mbtmp4.0/9, ML3.9/1, Error ellipse: s-maj=26.7km s-min=18.8km az=32.0*
*NEIC **21** 23:20:29.4±0.4, 55.24S×28.08W, h10km, mb4.4/9, Error ellipse: s-maj=14.4km s-min=10.3km az=217.0*
ISC 21 23:20:27.4±0.5, 55.25S±0.10×28.0W±0.2, h10km, n26, σ1§27/19, mb4.2/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.66**	**156**	P	**P**	**23 24 57.9**	**-0.9**
	0.4nm,0.3s,baz=320,slow=11,SNR=15						
TRIS	**Tristan da Cun**	**21.10**	**37**	P	**P**	**23 25 12.6**	**-1.6**
TRQA	**Tornquist**	**28.58**	**293**	P	**P**	**23 26 24.6**	**-0.7**
	6.8nm,1.2s,mb4.2						
CPUP	**Villa Florida**	**35.93**	**312**	*e*P	**P**	**23 27 28.3**	**-1.4**
	5.8nm,1.1s,mb4.4						
CFAA	**Coronel Fontan**	**36.81**	**293**	P	**P**	**23 27 36.4**	**

*IDC **21** 23:24:50.2±2.2, 20.25S×177.66W, h478km±27km, mb3.6/11, mb1 3.8/14, mb1mx3.7/20, mbtmp4.5/14, Error ellipse: s-maj=21.7km s-min=12.9km az=148.0*
*NEIC **21** 23:24:50.2±1.2, 20.21S×177.68W, h482km±16km, mb4.4/8, Error ellipse: s-maj=17.5km s-min=11.7km az=151.0*
ISC 21 23:24:47.6±1.1, 20.25S±0.1×177.79W±0.09, h460km±14km, n36, σ0=84/35, mb4.1/18, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.46**	**44**	P	**P**	**23 26 50.2**	**+0.8**
	9.6nm,0.3s,baz=66,slow=8.3,SNR=7.4						
AFI				S	**S**	**23 28 25.0**	**-1.0**
	19nm,0.3s,baz=178,slow=22,SNR=8.4						
DZM	**Mont Dzumac**	**14.84**	**260**	P	**P**	**23 28 02.1**	**+4.2**
	0.6nm,0.3s,baz=80,slow=18,SNR=4.9						
URZ	**Urewera**	**18.58**	**193**	P	**P**	**23 28 35.0**	**-0.2**
	0.9nm,0.3s,baz=312,slow=6.9,SNR=4.3						
CTA	**Charters Tower**	**33.72**	**264**	⇓*iP*	**P**	**23 30 52.5**	**+2.0**
	7.2nm,0.3s,mb4.6						
CTA	**Charters Tower**	**33.72**	**264**	P	**P**	**23 30 52.4**	**+1.8**
	7.5nm,0.3s,mb4.6,baz=92,slow=13						
CTAO	**Charters Tower**	**33.72**	**264**	*eP*	**P**	**23 30 51.9**	**+1.4**
	20nm,0.7s,mb4.7						
PMG	**Port Moresby**	**35.46**	**282**	P	**P**	**23 31 04.9**	**-0.2**
	7.4nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**38.12**	**244**	⇓*iP*	**P**	**23 31 28.2**	**+1.2**
	4.1nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**38.12**	**244**	P	**P**	**23 31 28.1**	**+1.1**
	5.4nm,0.6s,mb4.2,baz=86,slow=10,SNR=13						
ASAR	**Alice Springs**	**44.79**	**256**	P	**P**	**23 32 21.3**	**+0.7**
	27nm,0.5s,mb4.9,baz=96,slow=7.5,SNR=387						
ASPA	**Alice Springs**	**44.80**	**256**	*eP*	**P**	**23 32 21.1**	**+0.5**
WB2	**Warramunga Arr**	**44.84**	**262**	*eP*	**P**	**23 32 21.2**	**+0.2**
WRAB	**Tennant Creek**	**44.84**	**262**	*eP*	**P**	**23 32 21.1**	**0.0**
	38nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**44.85**	**262**	P	**P**	**23 32 21.3**	**+0.2**
	6.9nm,0.4s,mb4.5,baz=96,slow=7.6,SNR=85						
KAKA	**Kakadu**	**48.17**	**271**	*eP*	**P**	**23 32 46.4**	**-0.2**
	5.8nm,0.4s,mb4.3						
FORT	**Forrest**	**49.62**	**246**	⇑*iP*	**P**	**23 32 56.5**	**-0.8**
	301nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.27**	**262**	*eP*	**P**	**23 33 24.3**	**+0.1**
	8.0nm,0.4s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.27**	**262**	P	**P**	**23 33 24.3**	**+0.1**
	10nm,0.5s,mb4.4,baz=134,slow=2.4,SNR=15						
MBWA	**Marble Bar**	**58.12**	**257**	*eP*	**P**	**23 33 57.0**	**-1.0**
	8.2nm,0.6s,mb4.2						
SBA	**Scott Base**	**58.23**	**184**	*eP*	**P**	**23 33 58.3**	**+0.4**
	4.4nm,1.0s,mb3.7						
VNDA	**Vanda**	**58.27**	**185**	P	**P**	**23 33 57.2**	**-1.0**
	0.6nm,0.6s,baz=351,slow=3.4,SNR=5.8						
VNDA	**Vanda**	**58.27**	**185**	*eP*	**P**	**23 33 57.4**	**-0.8**
	1.3nm,0.8s,mb3.3						
KLBR	**Kellerberrin**	**58.38**	**245**	*eP*	**P**	**23 33 59.2**	**-0.4**
	709nm,1.7s						
NWAO	**Narrogin (SRO)**	**58.70**	**243**	P	**P**	**23 33 59.1**	**-2.6**
MJAR	**Matsushiro Arr**	**70.05**	**323**	P	**P**	**23 35 14.2**	**+0.6**
	2.7nm,0.7s,mb3.9,baz=156,slow=4.3,SNR=4.9						
CMB	**Columbia Colle**	**79.07**	**43**	P	**P**	**23 36 03.8**	**-0.5**
NJ2	**Nanjing**	**79.81**	**310**	*eP*	**P**	**23 36 07.3**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
MDJ	**Mudanjiang**	**80.35**	**325**	P	**P**	**23 36 09.8**	**-1.0**
MDJ				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,252nm,4.7s						
NVAR	**Mina Array Bea**	**80.64**	**43**	P	**P**	**23 36 13.6**	**+1.2**
	comp=Z,1.1nm,0.7s,mb3.5,baz=231,slow=11,SNR=6.3						
CN2	**Changchun**	**82.15**	**322**	*eP*	**P**	**23 36 20.0**	**-0.1**
TXAR	**Lajitas Array**	**86.70**	**57**	P	**P**	**23 36 43.8**	**+1.0**
	comp=Z,0.6nm,0.6s,mb3.5,baz=219,slow=6.8,SNR=9.9						
MCMT	**McKenzie Canyo**	**87.56**	**40**	*eP*	**P**	**23 36 47.3**	**+0.8**
ILAR	**Eielson Array**	**87.93**	**13**	P	**P**	**23 36 47.0**	**-0.7**
	comp=Z,0.5nm,0.6s,mb3.4,baz=219,slow=6.3,SNR=7.8						
PDAR	**Pinedale Array**	**88.57**	**43**	P	**P**	**23 36 51.6**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.6,baz=212,slow=3.3,SNR=6.4						
AKASG	**Malin Array Be**	**142.81**	**331**	PKhKP		23 43 24.6	
	comp=Z,0.2nm,0.3s,baz=41,slow=4.0,SNR=6.0						
GERES	**GERESS Array B**	**149.92**	**345**	PKPbc	PKPdf	23 43 44.2	+5.1
	comp=Z,0.5nm,0.7s,baz=90,slow=1.3,SNR=3.9						

*NEIC **21** 23:27:19.8±1.0, 0.46S×98.27E, h30km, mb4.1/1, Error ellipse: s-maj=25.4km s-min=17.1km az=56.0*
*IDC **21** 23:27:21.7±2.1, 0.29S×98.59E, h32km±6km, mb3.5/6, mb1 3.7/7, mb1mx3.5/19, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=87.3km s-min=15.0km az=57.0*
ISC 21 23:27:18.4±0.9, 0.4S±0.1×98.2E±0.1, h32km, h32km±1.3km: pP-P, n11, σ0=11/9, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.14**	**23**	*ePn*	**Pn**	**23 28 49.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**18.75**	**2**	P	**P**	**23 31 34.9**	**-2.4**
	0.1nm,0.3s,baz=191,slow=9.5,SNR=4.2						
PALK	**Pallekele**	**19.07**	**294**	*eP*	**P**	**23 31 40.2**	**-0.9**
	20nm,1.5s						
WRA	**Warramunga Arr**	**40.33**	**121**	P	**P**	**23 34 54.0**	**-0.9**
	1.4nm,0.7s,mb3.8,baz=298,slow=9.3,SNR=5.0						
WRA				pP	pP	23 35 03.7	-0.8
	1.4nm,0.7s,baz=300,slow=9.3,SNR=5.5						
ASAR	**Alice Springs**	**41.63**	**126**	P	**P**	**23 35 05.9**	**+0.3**
	0.9nm,0.5s,mb3.6,baz=302,slow=7.6,SNR=5.5						
ASAR				pP	pP	23 35 14.7	-0.5
	2.3nm,0.7s,baz=300,slow=7.8,SNR=10.0						
SONM	**Songino Array**	**48.56**	**7**	P	**P**	**23 36 01.7**	**+1.0**
	0.5nm,0.6s,mb3.7,baz=194,slow=6.9,SNR=4.6						
SONM				pP	pP	23 36 10.7	+0.4
	1.3nm,0.6s,baz=187,slow=9.4,SNR=8.6						
MKAR	**Makanchi Array**	**49.03**	**346**	P	**P**	**23 36 04.1**	**-0.2**
	0.7nm,0.5s,mb3.9,baz=160,slow=8.7,SNR=11						
MKAR				pP	pP	23 36 14.9	+1.0
	1.6nm,0.7s,baz=156,slow=8.1,SNR=9.2						
STKA	**Stephens Creek**	**51.53**	**132**	pP	pP	23 36 33.1	-0.3
	4.2nm,0.8s,baz=319,slow=7.0,SNR=6.9						
ZAL	**Zalesovo**	**55.28**	**350**	P	**P**	**23 36 52.1**	**+1.0**
	0.8nm,0.4s,mb4.1,baz=317,slow=6.4,SNR=4.6						
BVAR	**Borovoye Array**	**58.08**	**341**	P	**P**	**23 37 12.8**	**+1.7**
	0.2nm,0.6s,mb3.4,baz=143,slow=7.2,SNR=2.3						
TXAR	**Lajitas Array**	**144.44**	**34**	PKP	PKPdf	23 46 52.3	-5.2
	0.3nm,0.8s,baz=269,slow=0.8,SNR=4.1						

*NEIC **21** 23:52:41.7, 45.11S×167.56E, h118km, MG3.8(WEL), After WEL.*
WEL 21 23:52:41.1±0.3, 45.15S×167.38E, h117km±2km, ML3.8/5, 2C-9D, Error ellipse: s-maj=3.1km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**206**	PN	P	23 52 57.5	-0.5
DCZ				SN	S	23 53 09.8	-1.0
MLZ	**Mavora Lakes**	**0.59**	**109**	⇑P	P	23 52 59.1	-0.3
MLZ				S	S	23 53 12.5	-0.9
MLZ	**Mavora Lakes**	**0.59**	**109**	⇑PN	P	23 52 59.1	-0.3
MLZ				SN	S	23 53 12.5	-0.8
MSZ	**Milford Sound**	**0.62**	**39**	PN	P	23 52 59.4	-0.2
MSZ				SN	S	23 53 12.9	-0.8
WHZ	**Wether Hill Ro**	**0.84**	**152**	P	P	23 53 01.5	-0.1
WHZ	**Wether Hill Ro**	**0.84**	**152**	PN	P	23 53 01.4	-0.2
WHZ				SN	S	23 53 15.8	-1.2
WKZ	**Wanaka**	**1.21**	**75**	⇓P	P	23 53 05.1	-0.3
WKZ	**Wanaka**	**1.21**	**75**	⇓PN	P	23 53 05.1	-0.3
WKZ				SN	S	23 53 22.1	-1.5
EAZ	**Earnscleugh**	**1.37**	**94**	P	P	23 53 06.5	-0.7
EAZ				S	S	23 53 24.3	-2.7
EAZ	**Earnscleugh**	**1.37**	**94**	PN	P	23 53 06.5	-0.7
EAZ				SN	S	23 53 24.3	-2.7
JCZ	**Jackson Bay**	**1.46**	**43**	⇓P	P	23 53 07.4	-0.9
JCZ	**Jackson Bay**	**1.46**	**43**	⇓PN	P	23 53 07.4	-0.8
JCZ				SN	S	23 53 26.3	-2.6
TUZ	**Tuapeka**	**1.78**	**118**	⇓P	P	23 53 11.4	-0.6
TUZ	**Tuapeka**	**1.78**	**118**	⇓PN	P	23 53 11.4	-0.6
TUZ				SN	S	23 53 31.8	-3.6
LBZ	**Lake Benmore**	**2.14**	**70**	⇓P	P	23 53 14.4	-2.3
LBZ				S	S	23 53 39.1	-4.4
LBZ	**Lake Benmore**	**2.14**	**70**	⇓PN	P	23 53 14.4	-2.3
LBZ				SN	S	23 53 38.9	-4.6
FOZ	**Fox Glacier**	**2.30**	**47**	P	P	23 53 17.1	-1.7
FOZ				S	S	23 53 44.6	-2.6
FOZ	**Fox Glacier**	**2.30**	**47**	PN	P	23 53 16.8	-1.9
FOZ				SN	S	23 53 44.6	-2.6
ODZ	**Otahua Downs**	**2.32**	**88**	P	P	23 53 17.1	-1.9
ODZ	**Otahua Downs**	**2.32**	**88**	⇓PN	P	23 53 17.1	-1.9
RPZ	**Rata Peaks**	**3.00**	**63**	*eP*	P	23 53 24.8	-3.4
RPZ	**Rata Peaks**	**3.00**	**63**	PN	P	23 53 24.7	-3.5
RPZ				SN	S	23 53 59.0	-4.9
WVZ	**Waitaha Valley**	**3.19**	**51**	*eP*	P	23 53 26.3	-4.4
MQZ	**McQueen's Vall**	**4.04**	**71**	*eP*	P	23 53 38.8	-3.5
MQZ	**McQueen's Vall**	**4.04**	**71**	*ePN*	P	23 53 38.4	-3.8
LTZ	**Lake Taylor**	**4.25**	**58**	*eP*	P	23 53 40.8	-4.3
LTZ	**Lake Taylor**	**4.25**	**58**	PN	P	23 53 40.8	-4.2
DSZ	**Denniston Nort**	**4.69**	**45**	SN	S	23 54 36.7	-7.9
THZ	**Tophouse**	**5.26**	**52**	*eP*	P	23 53 53.0	-5.6
THZ	**Tophouse**	**5.26**	**52**	*ePN*	P	23 53 53.0	-5.6
QRZ	**Quartz Range**	**5.74**	**43**	*eP*	P	23 54 01.0	-4.1
QRZ	**Quartz Range**	**5.74**	**43**	*ePN*	P	23 54 00.7	-4.4

*NIED **22** 00:01:00, 24.70N×121.70E, h53km, Mw3.7 Best double couple: M0=3.44×10^14 NP1:φs=340°, δ67°, λ111°. NP2: φs=115°, δ31°, λ50°.*
*BJI **22** 00:01:04.4, 23.61N×122.12E, h15km, mB4.8, mb4.5, ML4.0, Ms4.1, Msz3.5*
*TAP **22** 00:01:20.4, 24.39N×121.59E, h56km±1km, ML4.2*
TAP Felt III J at Nanau, II J at Nanshan, II J at Nioudou, I J at Suao, I J at Neicheng, I J at Sanguang, III J at Hehuanshan, I J at Hualien, II J at Tachien.
ISC 22 00:01:20.8±0.4, 24.42N±0.02×121.59E±0.03, h55km±3km, n60, σ1=06/102, 7C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.14**	**85**	⇓*iP*	**P**	**00 01 29.5**	**+0.2**
ENA				S	**S**	**00 01 35.8**	**+0.2**
EHP	**Heping Village**	**0.17**	**128**	*iP*	**P**	**00 01 29.4**	**0.0**
EHP				S	**S**	**00 01 36.2**	**+0.3**
NNS	**Nan Shan**	**0.20**	**277**	⇑*iP*	**P**	**00 01 29.9**	**+0.2**
NNS				S	**S**	**00 01 36.1**	**-0.1**
ENT	**Nioudou**	**0.23**	**354**	⇓*iP*	**P**	**00 01 30.4**	**+0.5**
TWC	**Suao**	**0.30**	**50**	⇓*iP*	**P**	**00 01 30.8**	**+0.3**
TWC				S	**S**	**00 01 37.6**	**+0.1**
TWE	**Neicheng**	**0.31**	**12**	⇓*iP*	**P**	**00 01 31.1**	**+0.5**
TWE				S	**S**	**00 01 38.6**	**+0.9**
TWD	**Chiawan**	**0.33**	**180**	⇓*iP*	**P**	**00 01 30.2**	**-0.6**
TWD				S	**S**	**00 01 36.9**	**-1.1**
NSK	**Sanguang**	**0.34**	**321**	⇑*iP*	**P**	**00 01 30.5**	**-0.3**
NSK				S	**S**	**00 01 37.3**	**-0.8**
ILA	**Ilan**	**0.38**	**22**	*eP*	**P**	**00 01 32.4**	**+1.1**
ILA				S	**S**	**00 01 40.0**	**+1.2**
WHF	**Hehuan Shan**	**0.40**	**228**	⇑*iP*	**P**	**00 01 31.9**	**+0.4**
WHF				S	**S**	**00 01 39.3**	**+0.1**
TWT	**Tachien**	**0.41**	**247**	⇑*iP*	**P**	**00 01 31.9**	**+0.3**
TWT				S	**S**	**00 01 38.6**	**-0.8**
HWA	**Hwalien**	**0.44**	**179**	*iP*	**P**	**00 01 31.4**	**-0.4**
HWA				S	**S**	**00 01 40.0**	**+0.2**
ESF	**Shoufeng Towns**	**0.55**	**188**	*eP*	**P**	**00 01 32.1**	**-0.9**
TWA	**Mucha**	**0.56**	**359**	⇓*iP*	**P**	**00 01 33.3**	**+0.2**
TWA				S	**S**	**00 01 42.7**	**+0.5**
NSTT	**Nanjuang**	**0.58**	**292**	*eP*	**P**	**00 01 32.9**	**-0.5**
NSTT				S	**S**	**00 01 41.6**	**-1.0**
ESL	**Shilin**	**0.62**	**194**	⇓*iP*	**P**	**00 01 32.8**	**-1.0**
ESL				S	**S**	**00 01 42.0**	**-1.4**
TAP1	**Taipei**	**0.62**	**354**	*eP*	**P**	**00 01 33.3**	**-0.6**
TAP1				S	**S**	**00 01 43.1**	**-0.4**
TAP	**Taipei**	**0.63**	**353**	*eP*	**P**	**00 01 33.6**	**-0.3**
TAP				S	**S**	**00 01 43.4**	**-0.2**
NCU	**National Centr**	**0.66**	**326**	*eP*	**P**	**00 01 34.3**	**-0.1**
NCU				S	**S**	**00 01 43.6**	**-0.9**
NWF	**Wu-fen Shan**	**0.68**	**15**	⇓*iP*	**P**	**00 01 35.0**	**+0.5**
NWF				S	**S**	**00 01 45.0**	**+0.2**
HSN	**Hsinchu**	**0.69**	**304**	*eP*	**P**	**00 01 34.3**	**-0.3**
HSN				S	**S**	**00 01 44.2**	**-0.8**
TWB1	**Santiao Chiao**	**0.69**	**31**	P	**P**	**00 01 35.6**	**+0.9**
TWB1				S	**S**	**00 01 45.7**	**+0.6**
TWS1	**Kuangyinshan**	**0.70**	**347**	⇓*iP*	**P**	**00 01 35.0**	**+0.1**
TWS1				S	**S**	**00 01 45.4**	**+0.1**
TWQ1	**Liyutan**	**0.75**	**265**	*eP*	**P**	**00 01 35.2**	**-0.3**
TWQ1				S	**S**	**00 01 45.8**	**-0.6**
NSY	**Sanyi**	**0.76**	**270**	*eP*	**P**	**00 01 35.4**	**-0.2**
NSY				S	**S**	**00 01 46.4**	**-0.2**
SMLT	**Sun Moon Lake**	**0.83**	**230**	⇑P	**P**	**00 01 37.2**	**+0.7**
SMLT				S	**S**	**00 01 48.8**	**+0.6**
TYC	**Yuchr**	**0.84**	**233**	⇑P	**P**	**00 01 37.1**	**+0.4**
TYC				S	**S**	**00 01 48.6**	**0.0**
TWY	**Chenhua**	**0.86**	**0**	*eP*	**P**	**00 01 37.0**	**+0.1**
TCU	**Taichung**	**0.88**	**253**	*eP*	**P**	**00 01 37.0**	**-0.2**
TCU				S	**S**	**00 01 49.1**	**-0.4**
EHY	**Hungye**	**0.94**	**195**	⇓*iP*	**P**	**00 01 36.3**	**-1.7**
EHY				S	**S**	**00 01 50.7**	**-0.2**
WNT	**Mingjian**	**0.99**	**237**	*eP*	**P**	**00 01 38.7**	**0.0**
WNT				S	**S**	**00 01 52.0**	**0.0**
TWF1	**Yuli**	**1.09**	**194**	*eP*	**P**	**00 01 38.3**	**-1.9**
YUS	**Yu-Shan**	**1.09**	**213**	*eP*	**P**	**00 01 41.1**	**+0.9**
YUS				S	**S**	**00 01 55.8**	**+1.2**
ALS	**Alishan**	**1.15**	**219**	*eP*	**P**	**00 01 42.3**	**+1.4**
ALS				S	**S**	**00 01 58.1**	**+2.0**
CHN5	**Tsauling**	**1.17**	**226**	*eP*	**P**	**00 01 41.3**	**+0.2**
CHN5				S	**S**	**00 01 58.1**	**+1.8**
WGK	**Gukeng**	**1.19**	**233**	*eP*	**P**	**00 01 41.1**	**-0.3**
WGK				S	**S**	**00 01 57.8**	**+0.9**
PCYT	**Pengchaiyu**	**1.28**	**20**	P	**P**	**00 01 42.6**	**-0.3**
PCYT				S	**S**	**00 01 59.3**	**0.0**
CHKT	**Chengkung**	**1.33**	**189**	*eP*	**P**	**00 01 42.4**	**-1.2**
CHKT				S	**S**	**00 01 59.2**	**-1.3**
ELDTW	**Lidau**	**1.33**	**203**	*eP*	**P**	**00 01 42.6**	**-1.1**
CHN4	**Tsaushan**	**1.40**	**221**	*eP*	**P**	**00 01 45.9**	**+1.3**
CHN4				S	**S**	**00 02 04.9**	**+2.8**
CHY	**Chiayi**	**1.41**	**230**	*eP*	**P**	**00 01 44.3**	**-0.3**
STYT	**Tauyuan**	**1.46**	**212**	*eP*	**P**	**00 01 46.2**	**+0.8**
STYT				S	**S**	**00 02 05.3**	**+1.7**
WTP	**Ta-pu**	**1.47**	**218**	*eP*	**P**	**00 01 46.1**	**+0.6**
WTP				S	**S**	**00 02 05.6**	**+1.8**
TWK	**Hsinying**	**1.53**	**222**	*eP*	**P**	**00 01 46.8**	**+0.5**
TWK				S	**S**	**00 02 08.1**	**+2.9**
CHN1	**Nanshi**	**1.57**	**219**	*eP*	**P**	**00 01 47.3**	**+0.5**
CHN1				S	**S**	**00 02 08.4**	**+2.3**
SGST	**Jiashian**	**1.62**	**215**	*eP*	**P**	**00 01 49.0**	**+1.4**
SGST				S	**S**	**00 02 10.7**	**+3.3**
TWG	**Pinlang**	**1.66**	**197**	*eP*	**P**	**00 01 46.1**	**-2.1**
SSD	**Sandimen**	**1.88**	**208**	*eP*	**P**	**00 01 52.1**	**+0.9**
ECL	**Taimali**	**1.90**	**198**	*eP*	**P**	**00 01 49.2**	**-2.4**
TWM1	**Shoushan**	**1.91**	**214**	*eP*	**P**	**00 01 54.2**	**+2.5**
PNG	**Penghu**	**2.05**	**246**	*eP*	**P**	**00 01 51.2**	**-2.3**
PNG				S	**S**	**00 02 14.9**	**-2.9**
WDGT	**Dungji**	**2.11**	**237**	*eP*	**P**	**00 01 53.0**	**-1.5**
EAST	**Anshuo**	**2.14**	**199**	*eP*	**P**	**00 01 53.0**	**-1.8**
SCZT	**Fangliau**	**2.22**	**204**	*eP*	**P**	**00 01 55.7**	**-0.4**
LAY	**Lan-yu**	**2.37**	**181**	*eP*	**P**	**00 01 56.2**	**-1.9**
TWK1	**Hengchun**	**2.56**	**197**	*eP*	**P**	**00 02 00.3**	**-0.6**
QZH	**Quanzhou**	**2.78**	**282**	⇑*iP*	**P**	**00 02 01.3**	**-2.7**
QZH				Smax			
	comp=N,540nm,0.5s						
QZH				Smax			
	comp=E,340nm,0.4s						
KNM	**Kinmen**	**2.88**	**271**	*eP*	**P**	**00 02 04.5**	**-0.9**
GZH	**Guangzhou**	**7.67**	**262**	P	**P**	**00 03 01.6**	**-11**
GZH				Smax			
	comp=N,25nm,0.9s						
GZH				Smax			
	comp=E,25nm,0.9s						
NJ2	**Nanjing**	**7.98**	**343**	*eP*	**P**	**00 03 19.3**	**+2.6**
NJ2				S	**S**	**00 04 50.0**	**+3.6**
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,170nm,4.2s						
NJ2				Smax			
	comp=N,70nm,1.0s						
NJ2				Smax			
	comp=E,50nm,0.6s						
NJ2				LR	LR		
	comp=N,350nm,4.0s						
NJ2				LR	LR		
	comp=E,210nm,4.0s						
NJ2				LR	LR		
	comp=Z,240nm,10.0s						

*NEIC **22** 00:11:29.6±1.5, 5.41S×147.31E, h194km±14km, mb4.8/3, Error ellipse: s-maj=17.6km s-min=12.1km az=110.0*
*IDC **22** 00:11:30.1±1.5, 5.53S×147.25E, h198km±15km, mb3.4/8, mb1 3.7/11, mb1mx3.6/17, mbtmp4.1/11, Error ellipse: s-maj=27.6km s-min=11.2km az=111.0*
ISC 22 00:11:26.9±1.3, 5.36S±0.08×147.3E±0.1, h181km±13km, n17, σ0=94/22, mb3.6/8, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.03**	**182**	P	**P**	**00 12 30.7**	**+1.7**
	53nm,0.3s,baz=345,slow=5.4,SNR=116						
PMG				S	**S**	**00 13 16.0**	**-1.1**
	32nm,0.3s,baz=24,slow=19,SNR=9.5						
CTA	**Charters Tower**	**14.68**	**184**	P	**P**	**00 14 48.2**	**+1.1**
	0.8nm,0.3s,baz=326,slow=15,SNR=5.3						
CTA	**Charters Tower**	**14.68**	**184**	P	**P**	**00 14 48.2**	**+1.1**
KAKA	**Kakadu**	**16.38**	**242**	*eP*	**P**	**00 15 07.6**	**-0.6**
	24nm,0.5s						
WRAB	**Tennant Creek**	**19.20**	**220**	*eP*	**P**	**00 15 38.2**	**-0.9**
	8.0nm,0.3s						
WB2	**Warramunga Arr**	**19.20**	**220**	⇓*iP*	**P**	**00 15 38.6**	**-0.6**
WB2				*eS*	**S**	**00 19 01.7**	**-0.5**
WRA	**Warramunga Arr**	**19.21**	**220**	P	**P**	**00 15 38.8**	**-0.4**
	2.1nm,0.3s,baz=50,slow=12,SNR=58						
WRA				S	**S**	**00 19 02.3**	**-0.1**
	0.2nm,0.3s,baz=32,slow=22,SNR=4.9						
ASAR	**Alice Springs**	**22.31**	**214**	P	**P**	**00 16 11.4**	**+1.3**
	7.8nm,0.8s,mb4.2,baz=51,slow=8.4,SNR=59						
ASAR				S	**S**	**00 19 59.9**	**+1.5**
	1.1nm,0.8s,baz=31,slow=16,SNR=4.5						
ASPA	**Alice Springs**	**22.32**	**214**	*eP*	**P**	**00 16 11.2**	**+1.1**
ASPA				*eS*	**S**	**00 19 59.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**24.66**	**237**	*eP*	**P**	**00 16 32.7**	**+0.1**
	9.0nm,0.4s,mb4.7						
FITZ	**Fitzroy Crossi**	**24.66**	**237**	P	**P**	**00 16 31.7**	**-0.9**
	12nm,0.5s,mb4.7,baz=33,slow=6.6,SNR=25						
STKA	**Stephens Creek**	**26.92**	**191**	P	**P**	**00 16 52.0**	**-1.4**
	1.1nm,0.5s,mb3.8,baz=291,slow=5.4,SNR=5.1						
SONM	**Songino Array**	**63.99**	**331**	P	**P**	**00 21 43.4**	**+0.3**
	0.3nm,0.5s,mb3.4,baz=169,slow=7.3,SNR=3.9						
VNDA	**Vanda**	**72.53**	**177**	P	**P**	**00 22 34.4**	**-1.0**
	0.3nm,0.6s,mb3.2,baz=324,slow=6.5,SNR=5.8						
MKAR	**Makanchi Array**	**77.19**	**320**	P	**P**	**00 23 03.5**	**+1.2**
	0.1nm,0.4s,mb2.8,baz=79,slow=6.2,SNR=3.9						
ZAL	**Zalesovo**	**78.63**	**328**	P	**P**	**00 23 09.4**	**-0.7**
	0.5nm,0.4s,mb3.5,baz=234,slow=5.9,SNR=3.8						
ILAR	**Eielson Array**	**84.78**	**23**	P	**P**	**00 23 41.2**	**-0.4**
	0.5nm,0.6s,mb3.4,baz=256,slow=5.1,SNR=7.4						

*BJI **22** 00:20:06.2, 8.50S×79.60W, h50km, mB4.7, Ms4.9, Msz4.8*
*IDC **22** 00:20:06.1±0.6, 8.46S×79.57W, h49km±6km, mb3.7/11, mb1 3.9/15, mb1mx3.8/24, mbtmp3.9/15, MS3.5/7, Ms1 3.5/7, ms1mx3.3/28, Error ellipse: s-maj=26.7km s-min=11.9km az=59.0*
*NEIC **22** 00:20:06.3±0.3, 8.52S×79.58W, mb4.1/15, Error ellipse: s-maj=11.6km s-min=4.7km az=59.0*
NEIC Felt [III] at Trujillo.
ISC 22 00:20:04.6±1.8, 8.51S±0.07×79.6W±0.1, h53km±17km, h50km±2.6km: pP-P, n49, σ0=99/37, mb4.0/24, MS3.4/4, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.41**	**142**	*ePn*	**P**	**00 21 09.8**	**-0.9**
OTAV	**Otavalo**	**8.77**	**8**	*ePn*	**P**	**00 22 11.9**	**+0.6**
	14nm,0.8s						
ARE	**Arequipa**	**11.20**	**136**	*eP*	**P**	**00 22 54.0**	**+9.3**
LPAZ	**La Paz**	**13.63**	**126**	P	**P**	**00 23 17.4**	**+0.4**
	0.0nm,0.3s,baz=314,slow=14,SNR=3.5						
LPAZ				S	**S**	**00 25 49.1**	**+1.5**
	0.1nm,0.3s,baz=327,slow=18,SNR=1.9						
LPAZ	**La Paz**	**13.63**	**126**	*ePn*	**P**	**00 23 16.9**	**-0.2**
	1.3nm,0.7s						
ROSC	**El Rosal**	**14.29**	**22**	LR	LR	00 29 03.2	
	comp=Z,229nm,19.3s,baz=178,slow=38						
SAML	**Samuel**	**16.26**	**93**	*ePn*	**P**	**00 23 46.2**	**-4.9**
	14nm,0.8

0.9nm,0.8s,baz=80,slow=2.9,SNR=7.3
ASAR pPKP 00 39 33.0
1.3nm,0.9s,baz=115,slow=1.9,SNR=7.0
WRA Warramunga Arr 136.21 229 PKP PKPdf 00 39 24.1 +2.9
0.2nm,0.5s,baz=118,slow=1.8,SNR=4.6
WRA pPKP 00 39 37.7
1.2nm,0.6s,baz=122,slow=2.1,SNR=4.4
CN2 Changchun 138.60 332 *e*PKP PKPdf 00 39 23.6 -1.3
MKAR Makanchi Array 138.84 19 PKP PKPdf 00 39 26.7 +1.4
0.4nm,0.7s,slow=2.4,SNR=4.0
WMQ Urumqi 143.12 15 *e*PKP PKPdf 00 39 32.8 -0.1
BJI Beijing 145.58 338 PKP PKPdf 00 39 33.1 -4.2
NJ2 Nanjing 150.96 326 *e*PKP PKPdf 00 39 44.6 -1.6

*IDC **22** 00:28:28.3±0.7,34.13N×69.64E,mb3.9/13,mb1 4.0/15, mb1mx3.9/24,mbtmp3.9/15,ML3.9/2,MS3.3/3,Ms1 3.4/3, ms1mx2.9/33,Error ellipse: s-maj=18.9km s-min=16.8km az=64.0*
*MOS **22** 00:28:32.1±1.6,34.10N×69.62E,h33km,mb4.0/5,Error ellipse: s-maj=16.4km s-min=9.1km az=88.8*
*NNC **22** 00:28:35.4±3.7,34.69N×69.20E,mpv4.1,Error ellipse: s-maj=59.1km s-min=24.5km az=119.0*
*BJI **22** 00:28:36.1,34.20N×69.70E,h68km,mb3.7,Ms4.5*
*NEIC **22** 00:28:37.1±3.4,34.23N×69.74E,h69km±31km,mb4.0/3, Error ellipse: s-maj=15.7km s-min=11.9km az=198.0*
ISC 22 00:28:30.6±1.8,**34.01N**±0.03×**69.73E**±0.06,**h29**km±14km, **n66**,σ1§**38**/76,**mb3.8**/17,**MS3.3**/3,**7C-9D,Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.42**	**104**	*e*P	**Pn**	**00 29 54.0**	**+2.3**
DLH				*e*		00 31 02.0	
SDNR	**Sundarnagar**	**6.59**	**110**	*e*P	**Pn**	**00 30 11.0**	**+2.8**
SDNR				*e*S	**Sn**	**00 31 26.2**	**+3.0**
SMLA	**Simla**	**6.90**	**113**	⇓*i*P	**Pn**	**00 30 08.3**	**-4.2**
SMLA				*i* S	**Sn**	**00 31 24.4**	**-6.6**
KSH	**Kashi**	**7.43**	**41**	*e*P	**Pn**	**00 30 22.0**	**+2.0**
KSH				LR	LR		
KSH	comp=N,4μm,5.1s			LR	LR		
RTK	**Rohtak**	**7.56**	**129**	*e*P	**Pn**	**00 30 21.8**	**0.0**
KLP	**Kalpa**	**7.59**	**107**	*e*P	**Pn**	**00 30 23.5**	**+1.3**
KHET	**Khetri**	**7.88**	**137**	*e*P	**Pn**	**00 30 26.1**	**-0.2**
KHET				*e*S	**Sn**	**00 31 52.9**	**-2.5**
KHET				*e*		00 33 11.1	
KHET	comp=E,83nm,0.5s			*e*		00 33 12.4	
KHET	comp=N,50nm,1.5s						
BHGR	**Bahadurgarh**	**8.13**	**129**	*e*P	**P**	**00 30 30.1**	**+0.4**
NDI	**New Delhi**	**8.31**	**128**	*e*P	**P**	**00 30 32.0**	**-0.3**
NDI				*e*S	**Sn**	**00 32 04.5**	**-1.7**
AYAN	**Aya Nagar**	**8.39**	**129**	*e*P	**P**	**00 30 33.5**	**+0.1**
SONA	**Sohna**	**8.52**	**130**	*e*P	**P**	**00 30 34.3**	**-0.9**
SONA				*e*S	**Sn**	**00 32 08.0**	**-3.4**
SONA				*e*		00 33 23.3	
SONA	comp=E,93nm,0.8s			*e*		00 33 25.9	
SONA	comp=N,71nm,1.4s						
AJM	**Ajmer**	**8.62**	**149**	*e*S	**Sn**	**00 32 10.0**	**-3.9**
AML	**Almayashu**	**8.69**	**20**	P	**P**	**00 30 36.9**	**-0.5**
	SNR=40						
UCH	**Uchtor**	**9.03**	**23**	P	**P**	**00 30 43.5**	**+1.4**
	SNR=17						
KK31	**Karatay Array**	**9.10**	**4**	⇑Pn	**P**	**00 30 41.6**	**-1.5**
	comp=N,3.0nm,0.3s,baz=185,slow=12,SNR=103						
KK31				⇓Sn	**Sn**	**00 32 22.5**	**-3.2**
	comp=N,24nm,0.7s,baz=195,slow=23						
KK31				⇓Rg		00 33 32.7	
	comp=N,108nm,9.2s						
KKAR	**Karatay Array**	**9.10**	**4**	P	**P**	**00 30 41.8**	**-1.4**
KKAR				S	**Sn**	**00 32 27.1**	**+1.4**
KKAR	comp=Z,3.0nm,0.4s			pmax	pmax		
KZA	**Kyzart**	**9.15**	**27**	P	**P**	**00 30 43.8**	**-0.1**
	SNR=8.2						
EKS2	**Erkin-Say**	**9.20**	**19**	P	**P**	**00 30 44.8**	**+0.2**
	SNR=9.9						
AAK	**Ala-Archa**	**9.39**	**22**	P	**P**	**00 30 47.8**	**+0.7**
	SNR=11						
AAK	**Ala-Archa**	**9.39**	**22**	⇑Pn	**P**	**00 30 47.2**	**+0.1**
AAK	comp=Z,5.5nm,0.6s			⇑Sn	**Sn**	**00 32 33.0**	**+0.3**
AAK	comp=Z,41nm,1.1s						
AAK				⇓Lg		00 33 18.7	
AAK	comp=Z,20nm,1.0s						
AAK				⇓Rg		00 33 34.8	
AAK	comp=Z,315nm,8.3s						
AAK	**Ala-Archa**	**9.39**	**22**	P	**P**	**00 30 47.5**	**+0.4**
AAK				S	**Sn**	**00 32 34.0**	**+1.3**
AAK	comp=Z,3.0nm,0.6s			pmax	pmax		
FRU	**Bishkek**	**9.61**	**22**	*e*P	**P**	**00 30 52.0**	**+1.9**
FRU				*e*		00 32 44.0	
AGRA	**Agra**	**9.78**	**132**	*e*P	**P**	**00 30 53.4**	**+0.8**
AGRA				*e*S	**Sn**	**00 32 35.9**	**-6.6**
AGRA	comp=N,82nm,0.5s			AML	AML	00 33 57.3	
AGRA	comp=E,70nm,0.5s			AML	AML	00 34 04.5	
USP	**Ospenovka**	**9.96**	**21**	P	**P**	**00 30 54.0**	**-1.0**
	SNR=9.7						
KOLN	**Koldanda**	**13.43**	**114**	*e*P	**P**	**00 31 40.9**	**-0.9**
	comp=E,19nm,0.6s						
GKN	**Gorkha**	**14.11**	**111**	*e*P	**P**	**00 31 50.5**	**-0.3**
	comp=E,24nm,0.4s						
DMN	**Daman**	**14.66**	**112**	*e*P	**P**	**00 31 57.2**	**-0.8**
	comp=E,32nm,0.6s						
KKN	**Kakani**	**14.71**	**111**	*e*P	**P**	**00 31 58.3**	**-0.3**
	comp=E,37nm,0.6s						
PKI	**Pulchoki**	**14.92**	**111**	*e*P	**P**	**00 32 00.3**	**-1.0**
	comp=E,46nm,0.6s						
GUN	**Gumba**	**15.12**	**109**	*e*P	**P**	**00 32 03.1**	**-0.9**
	comp=E,40nm,0.7s						
JIRN	**Jiri**	**15.48**	**110**	*e*P	**P**	**00 32 07.7**	**-1.0**
	comp=E,46nm,0.6s						
MK31	**Makanchi Array**	**15.93**	**33**	⇑P	**P**	**00 32 13.4**	**-0.9**
	comp=E,2.6nm,0.6s,baz=206,slow=11						
MK31				⇓S	**S**	**00 35 23.8**	**+14**
	comp=E,2.2nm,1.0s,baz=189,slow=24						
MK31				⇓Rg		00 38 00.4	
	comp=E,132nm,8.6s						
MKAR	**Makanchi Array**	**15.93**	**33**	P	**P**	**00 32 15.9**	**+1.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**15.93**	**33**	Pn	**P**	**00 32 13.7**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=216,slow=12,SNR=19						
BVA0	**Borovoye Array**	**19.01**	**1**	⇑P	**P**	**00 32 51.9**	**-0.7**
	comp=Z,1.0nm,1.1s						
BVAR	**Borovoye Array**	**19.01**	**1**	P	**P**	**00 32 49.9**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=180,slow=8.9,SNR=11						
CHKZ	**Chkalovo**	**19.67**	**2**	⇑P	**P**	**00 32 57.0**	**-3.1**
	comp=Z,3.0nm,0.6s						
CHKZ				⇑S	**S**	**00 36 31.4**	**-3.2**
	comp=Z,5.7nm,2.0s						
CHKZ	**Chkalovo**	**19.67**	**2**	*e*P	**P**	**00 32 58.0**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,83nm,0.8s						
CHKZ	**Chkalovo**	**19.67**	**2**	*e*P	**P**	**00 32 58.0**	**-2.1**
	comp=Z,83nm,0.8s						
GNI	**Garni**	**20.82**	**294**	*e*P	**P**	**00 33 14.0**	**+1.7**
GNI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GNI	**Garni**	**20.82**	**294**	P	**P**	**00 33 12.9**	**+0.6**
	comp=Z,4.4nm,0.8s,baz=121,slow=5.9,SNR=2.9						
GNI	**Garni**	**20.82**	**294**	*e*P	**P**	**00 33 14.0**	**+1.8**
	comp=Z,7.5nm,0.8s						
SHL	**Shillong**	**20.96**	**108**	*e*P	**P**	**00 33 17.0**	**+3.3**
ZEI	**Tsey**	**21.99**	**301**	*e*P	**P**	**00 33 26.1**	**+2.1**
ZEI				*i* *PP		00 33 36.7	
ZEI				*i*		00 33 48.4	
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
ZAL	**Zalesovo**	**22.59**	**24**	P	**P**	**00 33 28.3**	**-1.6**
	comp=Z,2.3nm,0.4s,mb3.9,baz=285,slow=8.4,SNR=8.0						
ZAL	**Zalesovo**	**22.59**	**24**	P	**P**	**00 33 28.3**	**-1.6**
KIV	**Kislovodsk**	**23.16**	**303**	⇓*e*P	**P**	**00 33 30.4**	**-5.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.7						
ARU	**Arti**	**23.70**	**344**	⇓*i*P	**P**	**00 33 42.6**	**+2.0**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
ARU	**Arti**	**23.70**	**344**	*e*P	**P**	**00 33 42.4**	**+1.8**
	comp=Z,5.3nm,0.8s,mb4.0						
GTA	**Gaotai**	**24.65**	**69**	*e*P	**P**	**00 33 53.3**	**+3.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.8						
BRTR	**Keskin Array B**	**29.30**	**292**	P	**P**	**00 34 32.0**	**-0.7**
	comp=Z,0.9nm,0.8s,mb3.5,baz=126,slow=11,SNR=4.8						
CMAR	**Chiang Mai Arr**	**30.30**	**113**	P	**P**	**00 34 44.0**	**+2.3**
	comp=Z,0.9nm,0.3s,mb3.9,baz=294,slow=8.5,SNR=7.9						
SONM	**Songino Array**	**30.64**	**52**	P	**P**	**00 34 44.5**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.5,baz=253,slow=9.2,SNR=6.2						
FINES	**FINESS Array B**	**39.01**	**328**	P	**P**	**00 35 54.5**	**-1.5**
	comp=Z,1.9nm,1.0s,mb3.8,baz=114,slow=14,SNR=3.2						
ARCES	**ARCESS Array B**	**43.07**	**339**	P	**P**	**00 36 27.6**	**-1.6**
	comp=Z,1.9nm,0.8s,mb3.9,baz=106,slow=8.8,SNR=4.5						
ARCES				LR	LR	00 54 27.0	
	comp=Z,32nm,18.3s,MS3.3,baz=283,slow=36						
HFS	**Hagfors**	**44.42**	**324**	P	**P**	**00 36 40.8**	**+0.6**
	comp=Z,1.3nm,0.5s,mb3.9,baz=98,slow=10,SNR=7.4						
NB2	**NORSAR Subarra**	**45.77**	**325**	P	**P**	**00 36 49.6**	**-1.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=102,slow=7.9						
NB2	**NORSAR Subarra**	**45.77**	**325**	P	**P**	**00 36 49.6**	**-1.4**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**45.77**	**325**	P	**P**	**00 36 50.1**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.8,baz=102,slow=8.0,SNR=4.1						
NOA				LR	LR	00 58 51.8	
	comp=Z,36nm,19.9s,MS3.3,baz=200,slow=40						
DAVOX	**Davos**	**46.28**	**305**	LR	LR	00 58 32.9	
	comp=Z,42nm,19.6s,MS3.4,baz=78,slow=39						
KMBO	**Kilima Mbogo**	**46.39**	**228**	P	**P**	**00 36 58.0**	**+1.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=34,slow=12,SNR=6.8						
BOSA	**Boshof**	**75.17**	**220**	P	**P**	**00 40 12.2**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=345,slow=18,SNR=6.2						
WRA	**Warramunga Arr**	**81.58**	**121**	P	**P**	**00 40 48.5**	**+1.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=323,slow=5.1,SNR=6.2						
ASAR	**Alice Springs**	**83.71**	**124**	P	**P**	**00 40 59.2**	**+0.8**
	comp=Z,1.1nm,0.8s,mb4.0,baz=307,slow=4.8,SNR=5.7						
YKA	**Yellowknife Ar**	**83.77**	**2**	P	**P**	**00 40 58.6**	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.5,baz=349,slow=5.5,SNR=8.8						
CFAA	**Coronel Fontan**	**144.77**	**262**	PKP	PKPdf	00 48 04.9	-4.9
	comp=Z,0.2nm,0.9s,baz=288,slow=21,SNR=3.6						

*ROM **22** 00:35:04.8±0.2,46.64N×11.53E,h8km±3km,Md2.6/10, Ml1.9/2,Error ellipse: s-maj=3.7km s-min=1.6km az=39.0*
*CSEM **22** 00:35:05.5±0.1,46.65N×11.57E,h10km,ML2.8/4,Error ellipse: s-maj=2.4km s-min=1.3km az=33.0*
*NEIC **22** 00:35:07.4±0.4,46.74N×11.62E,h10km,ML2.8(LDG), ML2.5(VIE),Error ellipse: s-maj=5.7km s-min=3.7km az=163.0*
NEIC 2.5 [GRF], 2.4 [FUR].
*LDG **22** 00:35:08.5±0.4,46.69N×11.73E,h10km,Ml2.8/4,Error ellipse: s-maj=8.0km s-min=5.8km az=83.0*
ISC 22 00:35:05.5±0.2,**46.67N**±0.02×**11.54E**±0.02,**h10**km,**n62**, σ1§**48**/98,**9C-2D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRES	**Bressanone**	**0.14**	**76**	Pg	**Pg**	**00 35 08.8**	**0.0**
BRES				Sg	**Sg**	**00 35 11.0**	**0.0**
APPI	**Appiano**	**0.28**	**229**	Pg	**Pg**	**00 35 11.3**	**-0.1**
	102nm,0.3s						
AFL	**Alpe Faloria**	**0.46**	**107**	⇑*i*Pn	**Pn**	**00 35 14.8**	**-3.0**
SEST	**Monte Rota**	**0.47**	**79**	Pg	**Pg**	**00 35 15.1**	**0.0**
	130nm,0.3s						
FAU	**Forcella Aurin**	**0.53**	**145**	⇑*i*Pn	**Pn**	**00 35 15.7**	**-3.0**
SQTA	**Sankt Quirin**	**0.60**	**338**	⇑*i*PG	**Pg**	**00 35 17.7**	**+0.1**
SQTA				*i* SG	**Sg**	**00 35 25.7**	**0.0**
	34nm,0.2s						
WTTA	**Wattenberg**	**0.60**	**6**	⇑*i*PG	**Pg**	**00 35 17.5**	**-0.2**
WTTA				*i* SG	**Sg**	**00 35 25.8**	**0.0**
	29nm,0.2s						
CTI	**Castel Tesino**	**0.62**	**173**	Pg	**Pg**	**00 35 17.5**	**-0.5**
CTI				Sg	**Sg**	**00 35 26.1**	**-0.3**
	50nm,0.2s						
CSO	**Casso**	**0.67**	**126**	*e*Pn	**Pn**	**00 35 18.1**	**-2.6**
WATA	**Walderalm**	**0.67**	**2**	⇑*i*PG	**Pg**	**00 35 19.0**	**0.0**
WATA				*i* SG	**Sg**	**00 35 28.0**	**-0.1**
	37nm,0.1s						
MOTA	**Moosalm**	**0.74**	**337**	⇑*i*PG	**Pg**	**00 35 20.1**	**-0.3**
MOTA				*i* SG	**Sg**	**00 35 30.7**	**+0.3**
CSMI	**Casera Mimoias**	**0.78**	**101**	*i* Pn	**Pn**	**00 35 20.6**	**-1.7**
CSMI				*i* Sn	**Sn**	**00 35 31.9**	**-2.2**
CGRP	**Cima Grappa**	**0.81**	**167**	*e*Pn	**Pn**	**00 35 20.0**	**-2.6**
BRMO	**Bormio**	**0.83**	**257**	Pg	**Pg**	**00 35 21.2**	**-0.9**
	18nm,0.3s						
FUORN	**Ofenpass**	**0.88**	**268**	Pg	**Pg**	**00 35 22.1**	**-1.0**
CAE	**Caneva**	**0.91**	**136**	*e*Pn	**Pn**	**00 35 23.4**	**-0.7**
MABI	**Malga Bissina**	**0.94**	**230**	Pg	**Pg**	**00 35 23.0**	**-1.2**
MABI				Sg	**Sg**	**00 35 35.4**	**-1.4**
DAVOX	**Davos**	**1.15**	**276**	Pg	**Pg**	**00 35 27.1**	**-1.4**
GMNA	**Gemona**	**1.24**	**108**	Pn	**Pn**	**00 35 28.0**	**-0.8**
GMNA				Sn	**Sn**	**00 35 49.1**	**+3.4**
BAD	**Bernadia**	**1.25**	**109**	*e*Pn	**Pn**	**00 35 29.5**	**+0.4**
BAD				*e*Sn	**Sn**	**00 35 48.7**	**+2.6**
PTCC	**Patocco-Chiusa**	**1.28**	**101**	Pg	**Pg**	**00 35 29.6**	**-1.5**
PTCC				Sg	**Sg**	**00 35 51.6**	**+3.4**
	26nm,0.3s						
DAVA	**Damuels**	**1.29**	**299**	⇑*i*PG	**Pg**	**00 35 30.9**	**-0.5**
DAVA				*i* SG	**Sg**	**00 35 48.8**	**+0.1**
	15nm,0.3s						
KBA	**Koelnbreinsper**	**1.31**	**71**	⇑*i*PG	**Pg**	**00 35 30.3**	**-1.3**
KBA				*i* SG	**Sg**	**00 35 47.7**	**-1.4**
	10nm,0.2s						
TEOL	**Teolo**	**1.31**	**176**	*e*Pn	**Pn**	**00 35 30.9**	**+1.1**
TEOL				*e*Sn	**Sn**	**00 35 48.3**	**+0.9**
COLI	**Coloredo**	**1.38**	**112**	*e*Pn	**Pn**	**00 35 32.8**	**+1.9**
LSR	**Lussari**	**1.39**	**97**	*e*Pn	**Pn**	**00 35 32.5**	**+1.5**
LSR				*e*Sn	**Sn**	**00 35 52.7**	**+3.3**
ROBS	**Robic**	**1.43**	**106**	*i* Pn	**Pn**	**00 35 34.0**	**+2.5**
ROBS	**Robic**	**1.43**	**106**	*i* Pn	**Pn**	**00 35 34.0**	**+2.5**
FUR	**Furstenfeldbru**	**1.51**	**353**	*e*Pn	**Pn**	**00 35 35.8**	**+3.0**
FUR				*e*Sn	**Sn**	**00 35 56.8**	**+4.1**
DRE	**Drenchia**	**1.54**	**108**	⇓*e*Pn	**Pn**	**00 35 35.6**	**+2.4**
DRE				*e*Sn	**Sn**	**00 35 57.4**	**+4.1**
CADS	**Cadrg**	**1.58**	**105**	*i* Pn	**Pn**	**00 35 36.1**	**+2.3**
VOJS	**Vojsko**	**1.74**	**110**	*i* Pn	**Pn**	**00 35 38.2**	**+2.1**
JAVS	**Javornik**	**1.91**	**113**	*i* Pn	**Pn**	**00 35 40.4**	**+1.8**
OBKA	**Obir**	**2.08**	**93**	⇑*i*PG	**Pg**	**00 35 44.6**	**-2.5**
OBKA				*i* SG	**Sg**	**00 36 12.9**	**-1.9**
	3.1nm,0.3s						
MOA	**Molln**	**2.20**	**56**	⇓*i*PG	**Pg**	**00 35 47.0**	**-2.5**
MOA				*i* SG	**Sg**	**00 36 17.8**	**-1.1**
	4.2nm,0.3s						
GEC2	**GERESS Array S**	**2.62**	**33**	*e*Pn	**Pn**	**00 35 49.9**	**+1.2**
GEC2				*e*Sn	**Sn**	**00 36 22.8**	**+1.9**
WET	**Wettzell**	**2.64**	**19**	*e*Pn	**Pn**	**00 35 50.2**	**+1.3**
WET				*e*Sn	**Sn**	**00 36 23.2**	**+1.9**
BFO	**Black Forest**	**2.74**	**309**	*e*Pn	**Pn**	**00 35 52.1**	**+1.7**
BFO				*e*Sn	**Sn**	**00 36 25.8**	**+1.9**
KHC	**Kasperske Hory**	**2.82**	**28**	*e*PN	**Pn**	**00 35 53.6**	**+2.1**
KHC				*e*PG	**Pg**	**00 35 58.5**	**-3.4**
KHC				*e*SN	**Sn**	**00 36 27.5**	**+1.5**
KHC				*e*SG	**Sg**	**00 36 36.7**	**-2.8**
KHC	**Kasperske Hory**	**2.82**	**28**	*e*Pg	**Pg**	**00 35 58.5**	**-3.4**
KHC				*e*Sg	**Sg**	**00 36 36.7**	**-2.8**
GRA1	**Grafenberg Arr**	**3.04**	**356**	*e*Pg	**Pg**	**00 36 03.9**	**-2.2**
GRA1				*e*Sn	**Sn**	**00 36 31.2**	**-0.2**
GRF	**Grafenberg Arr**	**3.04**	**356**	*e*Pg	**Pg**	**00 36 03.9**	**-2.2**
GRF				*e*Sn	**Sn**	**00 36 31.2**	**-0.2**
CDF	**Champ du Feu**	**3.38**	**303**	*e*Pn	**Pn**	**00 36 00.6**	**+1.2**
CDF				*e*Pg	**Pg**	**00 36 13.5**	**+0.6**
HINF	**Hinteralfeld**	**3.39**	**292**	*e*Pn	**Pn**	**00 36 01.0**	**+1.4**
HINF				*e*Sn	**Sn**	**00 36 39.4**	**-1.0**
LPG	**La Plagne**	**3.53**	**252**	*e*Pn	**Pn**	**00 36 03.7**	**+2.1**
LPL	**La Plagne**	**3.54**	**253**	*e*Pn	**Pn**	**00 36 03.4**	**+1.7**
NKC	**Novy Kostel**	**3.62**	**9**	*e*SN	**Sn**	**00 36 45.5**	**-0.7**
NKC				*e*SG	**Sg**	**00 37 02.9**	**-3.2**
CABF	**La Chapelle**	**3.76**	**271**	*e*Pn	**Pn**	**00 36 06.8**	**+2.0**
HAU	**Haudompre**	**3.78**	**293**	*e*Pn	**Pn**	**00 36 06.4**	**+1.3**
HAU				*e*Sn	**Sn**	**00 36 48.5**	**-1.6**
PRU	**Pruhonice**	**3.88**	**30**	*e*SN	**Sn**	**00 36 53.0**	**+0.2**
PRU				*e*SG	**Sg**	**00 37 10.6**	**-4.2**
CLL	**Collm**	**4.75**	**11**	*e*SG	**Sg**	**00 37 40.0**	**-3.5**
SMF	**Signal de Mont**	**5.30**	**273**	*e*Pn	**Pn**	**00 36 27.6**	**+0.9**
SMF				*e*Sn	**Sn**	**00 37 26.3**	**-2.3**
	1.8nm,0.4s						
SSF	**Saint Saulge**	**5.52**	**277**	*e*Pn	**Pn**	**00 36 30.1**	**+0.3**
AVF	**Avril sur Loir**	**5.63**	**274**	*e*Pn	**Pn**	**00 36 31.6**	**+0.3**
BAIF	**Baives**	**5.95**	**307**	*e*Pn	**Pn**	**00 36 35.7**	**-0.1**
BGF	**Bois d'Agland**	**5.99**	**272**	*e*Pn	**Pn**	**00 36 36.4**	**0.0**
BGF				*e*Sn	**Sn**	**00 37 43.6**	**-2.3**
	3.8nm,0.3s						
HYF	**Humbligny**	**6.12**	**279**	*e*Pn	**Pn**	**00 36 38.4**	**+0.1**
TCF	**Toulx Ste Croi**	**6.45**	**270**	*e*Pn	**Pn**	**00 36 43.2**	**+0.2**
TCF				*e*Sn	**Sn**	**00 37 53.7**	**-3.8**
	1.4nm,0.4s						
CAF	**Calviac**	**6.85**	**259**	*e*Pn	**Pn**	**00 36 50.1**	**+1.6**
RJF	**Les Rejaudoux**	**7.11**	**263**	*e*Pn	**Pn**	**00 36 51.1**	**-1.1**
LDF	**La Druitiere**	**8.11**	**288**	*e*Pn	**P**	**00 37 04.8**	**-1.4**
GRR	**Gorron**	**8.57**	**286**	*e*Pn	**P**	**00 37 12.3**	**-0.2**

*IDC **22** 00:46:12.2±1.1,1.07S×127.18E,mb4.0/5,mb1 4.2/6, mb1mx3.9/19,mbtmp4.0/6,ML4.1/1,Error ellipse: s-maj=99.9km s-min=17.9km az=70.0*
*NEIC **22** 00:46:16.2±0.7,0.99S×127.46E,h30km,mb3.9/2,Error ellipse: s-maj=49.9km s-min=10.3km az=71.0*
ISC 22 00:46:14.3±0.9,**1.0S**±0.2×**127.6E**±0.4,**h33**km,**n9**,σ0§**93**/9, **mb4.0**/5,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.15**	**186**	Pn	**P**	**00 50 13.5**	**+0.3**
	0.5nm,0.3s,baz=360,slow=5.7,SNR=6.6						
WRAB	**Tennant Creek**	**19.99**	**161**	*e*P	**P**	**00 50 46.2**	**-0.7**
	1.6nm,0.3s						
WRA	**Warramunga Arr**	**20.00**	**161**	P	**P**	**00 50 45.7**	**-1.3**
	1.3nm,0.4s,baz=338,slow=11,SNR=10						
WB2	**Warramunga Arr**	**20.00**	**161**	*e*P	**P**	**00 50 46.5**	**-0.6**
ASAR	**Alice Springs**	**23.40**	**165**	P	**P**	**00 51 22.2**	**+1.0**
	2.4nm,0.6s,mb3.8,baz=346,slow=12,SNR=23						
STKA	**Stephens Creek**	**33.48**	**158**	P	**P**	**00 52 54.6**	**+1.8**
	4.2nm,0.8s,mb4.4,baz=327,slow=9.7,SNR=7.1						
SONM	**Songino Array**	**51.98**	**342**	P	**P**	**00 55 23.3**	**+0.8**
	0.9nm,0.7s,mb3.8,baz=152,slow=7.9,SNR=9.7						
MKAR	**Makanchi Array**	**61.88**	**326**	P	**P**	**00 56 32.5**	**-0.3**
	1.1nm,0.4s,mb4.3,baz=116,slow=7.9,SNR=36						
CHKZ	**Chkalovo**	**71.88**	**328**	*e*P	**P**	**00 57 35.1**	**-0.8**
	1.0nm,0.8s,mb3.8						

*NEIC **22** 01:04:37.6,15.78N×61.54W,h31km,MD3.5(TRN), MD3.3(FDF),After TRN.*
NEIC Felt [IV] on Guadeloupe.
TRN 22 01:04:36.9,15.82N×61.58W,h22km,**MD3.5,M3.3**(FDF), **1C,Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBL	**Barber's Block**	**0.31**	**160**	⇑*i*P	Pb	01 04 46.3	+2.5
BBL				*e*S	Sb	01 04 51.3	+2.8
MDN	**Morne-Daniel**	**0.53**	**160**	*e*P	Pb	01 04 50.0	+2.6
MDN				*e*S	Sb	01 04 58.1	+3.6
DBCT	**Belle View Cho**	**0.59**	**158**	*e*P	Pb	01 04 51.1	+2.7
DBCT				*e*S	Sb	01 04 59.5	+3.3
DSHT	**Scott's Head**	**0.63**	**162**	*e*P	Pb	01 04 52.2	+3.1
DSHT				*e*S	Sb	01 05 00.6	+3.0
BPA	**Boggy Peak**	**1.25**	**348**	*e*P	Pn	01 05 01.6	+2.2
BPA				*i* S	Sb	01 05 17.4	+2.0
NEV	**Hard Times**	**1.62**	**324**	*e*P	Pn	01 04 56.9	-7.8
SLB	**Belfond**	**2.05**	**165**	*e*P	Pn	01 05 15.2	+4.4

*BJI **22** 01:08:27.3,8.89S×121.05E,h38km,mB5.3,mb4.6,Ms4.3, Msz3.8*
*IDC **22** 01:08:29.9±0.6,8.05S×120.72E,mb4.3/12,mb1 4.5/14, mb1mx4.4/20,mbtmp4.4/14,ML4.6/2,MS4.0/13,Ms1 4.0/13, ms1mx3.9/20,Error ellipse: s-maj=29.5km s-min=10.7km az=60.0*
*DJA **22** 01:08:31.9±1.0,8.20S×120.89E,h166km±22km,mb4.5/2, MD4.8/3,ML5.3/2,Error ellipse: s-maj=36.0km s-min=7.5km az=137.0*
*NEIC **22** 01:08:35.5±0.8,8.02S×120.75E,h39km±9km,mb4.7/7, Error ellipse: s-maj=11.4km s-min=5.3km az=221.0*
ISC 22 01:08:34.0±0.8,**8.08S**±0.05×**120.73E**±0.04,**h40**km±8km, **h26**km±2.9km:**pP-P,n60**,σ1§**01**/71,**mb4.7**/24,**MS4.0**/15, **8C-4D,Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang**	**3.76**	**345**	*e*Pn	**P**	**01 09 32.3**	**+1.2**
BUNI	**Buntu Taipa**	**4.42**	**355**	*e*Pn	**P**	**01 09 41.0**	**+0.7**
KEDI	**Kedomdong**	**4.59**	**265**	⇓*e*Pn

comp=Z,168nm,23.7s,MS3.8
KMI Kunming 37.37 333 P P 01 15 46.8 +2.0
comp=Z,10.0nm,0.8s,mb4.7
KMI pP pP 01 15 55.9 -0.2
KMI S S 01 21 36.5 +7.0
KMI sS 01 21 48.4
KMI LR LR
comp=Z,170nm,23.7s,MS3.8
CD2 Chengdu 42.05 338 P P 01 16 24.0 +0.4
CD2 AMB AMB
comp=Z,10.0nm,0.4s,mb4.8
SHL Shillong 43.66 321 *eP* **P 01 16 37.0 +0.1**
LZH Lanzhou 46.72 341 *eP* **P 01 16 59.0 -2.1**
LZH AMB AMB
comp=Z,20nm,1.3s,mb4.9
LZH Lanzhou 46.72 341 *eP* **P 01 16 59.0 -2.1**
comp=Z,20nm,1.3s,mb4.9
LZH pP pP 01 17 07.0 -5.5
LZH sP sP 01 17 11.0 -6.4
LSA Lhasa 47.13 324 P P 01 17 07.3 +2.9
MJAR Matsushiro Arr 47.33 19 P P 01 17 04.8 -1.1
comp=Z,2.2nm,0.8s,mb4.2,baz=207,slow=8.2,SNR=3.1
MJAR LR LR 01 34 51.0
comp=Z,84nm,19.0s,MS3.7,baz=235,slow=33
BJI Beijing 48.06 355 P P 01 17 09.1 -2.5
BJI S S **01 24 12.8 +6.7**
BJI AMB AMB
comp=Z,8.0nm,1.1s,mb4.7
BJI LR LR
comp=N,225nm,10.3s,MS4.5
BJI LR LR
comp=E,118nm,10.2s,MS4.5
BJI LR LR
comp=Z,75nm,32.8s
BJI Beijing 48.06 355 P P 01 17 09.1 -2.5
comp=Z,8.0nm,1.1s,mb4.7
BJI S S **01 24 12.8 +6.7**
BJI LR LR
comp=Z,80nm,32.8s,MS3.5
JIRN Jiri 48.78 318 *eP* **P 01 17 16.7 -0.6**
GUN Gumba 49.15 318 *eP* **P 01 17 20.0 -0.1**
comp=Z,129nm,1.3s,mb5.8
PKI Pulchoki 49.24 317 *eP* **P 01 17 20.7 -0.1**
comp=Z,34nm,1.0s,mb5.3
DMN Daman 49.47 317 *eP* **P 01 17 22.7 +0.1**
comp=Z,20nm,0.6s,mb5.3
KKN Kakani 49.47 317 *eP* **P 01 17 22.2 -0.4**
comp=Z,57nm,1.2s,mb5.5
GKN Gorkha 50.04 317 *eP* **P 01 17 27.8 +0.8**
comp=Z,37nm,1.0s,mb5.4
KOLN Koldanda 50.59 316 *eP* **P 01 17 31.5 +0.3**
comp=Z,26nm,1.0s,mb5.1
GTA Gaotai 51.08 339 *eP* **P 01 17 35.5 +0.8**
GTA AP pP 01 17 43.8 -2.4
GTA XP sP 01 17 48.9 -2.1
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
SONM Songino Array 57.10 349 P P 01 18 18.2 -0.5
comp=Z,3.9nm,1.0s,mb4.4,baz=162,slow=7.5,SNR=15
SONM LR LR 01 44 12.6
comp=Z,103nm,19.1s,MS4.0,baz=230,slow=38
TLY Talaya 61.31 348 *eP* **P 01 18 47.8 0.0**
comp=Z,20nm,1.4s,mb5.1
MKAR Makanchi Array 64.44 332 P P 01 19 08.4 -0.2
comp=Z,2.3nm,0.7s,mb4.3,baz=140,slow=7.9,SNR=24
ZAL Zalesovo 68.81 338 P P 01 19 35.0 -1.1
comp=Z,3.5nm,0.9s,mb4.3,baz=329,slow=5.5,SNR=24
ZAL LR LR 01 48 40.6
comp=Z,76nm,19.8s,MS3.9,baz=173,slow=35
ZAL Zalesovo 68.81 338 P P 01 19 35.0 -1.1
ZAL LR LR 01 48 40.6
MAW Mawson 70.68 200 LR LR 01 44 17.0
comp=Z,70nm,20.9s,MS3.9,baz=239,slow=30
VNDA Vanda 72.63 171 P P 01 19 59.2 +0.5
comp=Z,3.1nm,1.1s,mb4.2,baz=312,slow=6.0,SNR=7.6
VNDA LR LR 01 48 01.2
comp=Z,156nm,20.2s,MS4.3,baz=325,slow=33
CHKZ Chkalovo 74.60 332 *eP* **P 01 20 10.1 -0.6**
comp=Z,3.9nm,1.2s,mb4.2
SYO Syowa Base 79.32 201 ⇑pP **P 01 20 41.1 +4.3**
SYO Syowa Base 79.32 201 ⇓pP pP 01 20 51.5 +2.6
KMBO Kilima Mbogo 83.39 270 P P 01 20 58.6 -0.5
comp=Z,1.3nm,0.8s,mb4.0,baz=45,slow=19,SNR=3.4
KMBO LR LR 01 51 56.8
comp=Z,124nm,21.5s,MS4.2,baz=92,slow=31
BOSA Boshof 90.95 241 P P 01 21 35.4 -0.2
comp=Z,2.4nm,0.9s,mb4.5,baz=145,slow=12,SNR=5.1
BOSA LR LR 01 56 02.0
comp=Z,96nm,19.6s,MS4.2,baz=257,slow=31
BRTR Keskin Array B 92.88 310 P P 01 21 45.0 +0.8
comp=Z,0.9nm,1.1s,mb4.1,baz=169,slow=6.3,SNR=4.5
ARCES ARCESS Array B 99.35 339 LR LR 02 11 14.5
comp=Z,65nm,20.5s,MS4.1,baz=96,slow=38
CPUP Villa Florida 145.74 183 PKPbc PKPbc 01 28 10.2 +0.3
comp=Z,3.7nm,1.0s,baz=155,slow=1.9,SNR=6.8

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*IDC **22** 01:23:46.2±2.6, 1.69N×97.02E, mb3.9/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, Error ellipse: s-maj=109.6km s-min=26.2km az=54.0*
*NEIC **22** 01:23:50.6±1.0, 1.66N×97.01E, h30km, mb4.2/1, Error ellipse: s-maj=21.4km s-min=16.0km az=216.0*
ISC 22 01:23:48.7±1.4, 1.7N±0.2×97.0E±0.2, h30km, n8, σ0.9±58/8, mb3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.11**	**46**	*e*Pn	**Pn**	**01 25 05.3**	**0.0**
WRA	**Warramunga Arr**	**42.48**	**122**	P	**P**	**01 31 43.1**	**-0.1**
	0.3nm,0.4s,mb3.3,baz=302,slow=9.1,SNR=4.0						
SONM	**Songino Array**	**46.68**	**9**	P	**P**	**01 32 17.0**	**+0.5**
	0.8nm,0.5s,mb3.9,baz=192,slow=9.4,SNR=6.4						
MKAR	**Makanchi Array**	**46.71**	**346**	P	**P**	**01 32 17.5**	**+0.7**
	2.0nm,0.8s,mb4.1,baz=161,slow=8.2,SNR=21						
ZAL	**Zalesovo**	**53.03**	**351**	P	**P**	**01 33 04.5**	**-0.7**
	1.3nm,0.4s,mb4.2,baz=306,slow=5.1,SNR=5.3						
BVAR	**Borovoye Array**	**55.71**	**341**	P	**P**	**01 33 24.2**	**-0.6**
	0.4nm,0.5s,mb3.7,baz=135,slow=8.2,SNR=3.2						
CHKZ	**Chkalovo**	**56.19**	**341**	*e*P	**P**	**01 33 27.6**	**-0.6**
	0.8nm,0.3s,mb4.2						
ARCES	**ARCESS Array B**	**82.00**	**340**	P	**P**	**01 36 07.9**	**+0.9**
	1.2nm,0.7s,mb3.9,baz=92,slow=5.4,SNR=3.6						

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*IDC **22** 01:26:34.6±3.0, 8.73N×93.27E, mb4.0/10, mb1 4.1/11, mb1mx3.8/23, mbtmp4.0/11, ML4.2/1, Error ellipse: s-maj=87.5km s-min=30.7km az=117.0*
*NEIC **22** 01:26:38.4±0.5, 8.66N×93.47E, h30km, mb4.4/1, Error ellipse: s-maj=12.6km s-min=9.9km az=218.0*
ISC 22 01:26:36.8±0.8, 8.6N±0.1×93.6E±0.1, h33km, n24, σ0.9±64/24, mb4.0/13, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.75**	**115**	*e*Pn	**Pn**	**01 28 30.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**11.07**	**27**	Pn	**P**	**01 29 15.2**	**-0.7**
	0.6nm,0.3s,baz=214,slow=14,SNR=5.5						
JIRN	**Jiri**	**20.18**	**341**	*e*P	**P**	**01 31 12.0**	**+0.6**
	16nm,0.9s						
PKI	**Pulchoki**	**20.37**	**339**	*e*P	**P**	**01 31 14.5**	**+1.1**
	10nm,0.6s						
GUN	**Gumba**	**20.52**	**340**	*e*P	**P**	**01 31 15.9**	**+1.0**
	17nm,0.6s						
KKN	**Kakani**	**20.61**	**339**	*e*P	**P**	**01 31 16.3**	**+0.4**
	17nm,0.7s						
GKN	**Gorkha**	**21.05**	**337**	*e*P	**P**	**01 31 20.9**	**+0.6**
	12nm,0.4s,mb4.5						
KOLN	**Koldanda**	**21.25**	**335**	*e*P	**P**	**01 31 22.6**	**+0.2**
	8.3nm,0.6s,mb4.2						
MKAR	**Makanchi Array**	**39.24**	**348**	P	**P**	**01 34 03.7**	**-0.1**
	0.6nm,0.7s,mb3.5,baz=169,slow=9.0,SNR=5.9						
ZAL	**Zalesovo**	**45.74**	**353**	P	**P**	**01 34 56.4**	**-0.3**
	2.9nm,0.5s,mb4.5,baz=301,slow=5.8,SNR=9.9						
ZAL	**Zalesovo**	**45.74**	**353**	P	**P**	**01 34 56.4**	**-0.3**
BVAR	**Borovoye Array**	**48.11**	**341**	P	**P**	**01 35 14.4**	**-1.0**
	0.5nm,0.5s,mb3.8,baz=124,slow=10,SNR=3.9						
CHKZ	**Chkalovo**	**48.59**	**342**	*e*P	**P**	**01 35 18.5**	**-0.5**
	2.1nm,0.5s,mb4.4						
CHKZ				*e*pP	pP	01 35 26.5	-2.4
BRTR	**Keskin Array B**	**61.53**	**311**	P	**P**	**01 36 51.6**	**-1.4**
	0.7nm,0.7s,mb3.9,baz=127,slow=9.2,SNR=5.8						
FINES	**FINESS Array B**	**71.80**	**332**	P	**P**	**01 37 57.3**	**-0.4**
	1.3nm,0.8s,mb3.9,baz=90,slow=5.7,SNR=6.5						
ARCES	**ARCESS Array B**	**74.38**	**340**	P	**P**	**01 38 12.6**	**-0.1**
	2.4nm,0.9s,mb4.1,baz=104,slow=7.4,SNR=4.1						
ARCES	**ARCESS Array B**	**74.38**	**340**	P	**P**	**01 38 12.6**	**-0.1**
BOSA	**Boshof**	**75.53**	**238**	P	**P**	**01 38 20.5**	**+0.4**
	2.5nm,0.8s,mb4.2,baz=88,slow=6.4,SNR=3.8						
GERES	**GERESS Array B**	**76.91**	**318**	P	**P**	**01 38 27.9**	**+0.4**
	0.3nm,0.5s,mb3.4,baz=90,slow=4.0,SNR=3.6						
HFS	**Hagfors**	**77.54**	**330**	P	**P**	**01 38 30.6**	**-0.2**
	1.2nm,0.5s,mb4.1,baz=127,slow=7.4,SNR=8.5						
HFS	**Hagfors**	**77.54**	**330**	P	**P**	**01 38 30.6**	**-0.2**
NB2	**NORSAR Subarra**	**78.81**	**331**	P	**P**	**01 38 37.2**	**-0.6**
	0.7nm,0.8s,mb3.8,baz=96,slow=5.0						
NOA	**NORSAR Array B**	**78.81**	**331**	P	**P**	**01 38 37.5**	**-0.3**
	0.9nm,0.7s,mb3.8,baz=92,slow=5.7,SNR=3.7						
NOA	**NORSAR Array B**	**78.81**	**331**	P	**P**	**01 38 37.5**	**-0.3**

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*IDC **22** 01:42:14.9±4.7, 21.59N×94.46E, h94km±37km, mb3.6/4, mb1 3.8/5, mb1mx3.3/21, mbtmp3.9/5, Error ellipse: s-maj=83.4km s-min=20.3km az=64.0*
ISC 22 01:42:09.6±1.0, 21.4N±0.1×94.0E±0.1, h74km±14km, n13, σ0.8±82/15, mb3.8/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.58**	**335**	*e*P	**P**	**01 43 20.0**	**+2.0**
SHL				*e*S	**S**	**01 44 09.0**	**-1.4**
CHG	**Chiang Mai**	**5.31**	**118**	PG	**P**	**01 43 27.6**	**-0.4**
CHG				SG	**S**	**01 44 46.4**	**+18**
CMAR	**Chiang Mai Arr**	**5.50**	**121**	P	**P**	**01 43 30.6**	**0.0**
	1.0nm,0.3s,baz=299,slow=15,SNR=20						
NANT	**Nan**	**6.81**	**111**	P	**P**	**01 43 49.0**	**+0.1**
	62nm,0.9s						
JIRN	**Jiri**	**9.45**	**313**	*e*P	**P**	**01 44 25.3**	**+0.3**
	7.9nm,0.3s						
GUN	**Gumba**	**9.82**	**313**	*e*P	**P**	**01 44 30.1**	**0.0**
	12nm,0.5s						
KKN	**Kakani**	**10.17**	**310**	*e*P	**P**	**01 44 34.8**	**0.0**
	11nm,0.5s						
GKN	**Gorkha**	**10.75**	**310**	*e*P	**P**	**01 44 41.8**	**-0.9**
	8.7nm,0.3s						
KOLN	**Koldanda**	**11.39**	**306**	*e*P	**P**	**01 44 51.2**	**0.0**
	6.2nm,0.2s						
MKAR	**Makanchi Array**	**27.06**	**342**	P	**P**	**01 47 48.5**	**+1.5**
	0.5nm,0.6s,mb3.2,baz=169,slow=7.3,SNR=5.9						
WRA	**Warramunga Arr**	**56.96**	**133**	P	**P**	**01 51 49.5**	**-0.5**
	1.6nm,0.7s,mb4.2,baz=322,slow=7.4,SNR=6.4						
ASAR	**Alice Springs**	**59.29**	**137**	P	**P**	**01 52 06.2**	**+0.1**
	1.1nm,0.6s,mb4.1,baz=318,slow=6.9,SNR=21						
ILAR	**Eielson Array**	**82.34**	**22**	P	**P**	**01 54 23.6**	**-0.6**
	0.9nm,0.6s,mb3.8,baz=291,slow=4.7,SNR=11						

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*IDC **22** 02:04:27.4±1.0, 52.54N×168.24W, mb4.1/17, mb1 4.3/19, mb1mx4.2/27, mbtmp4.1/19, ML3.7/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/34, Error ellipse: s-maj=27.7km s-min=12.7km az=0.0*
*NEIC **22** 02:04:31.7±1.1, 52.46N×168.16W, h29km±7km, mb4.4/17, Error ellipse: s-maj=9.3km s-min=4.5km az=164.0*
ISC 22 02:04:29.9±1.7, 52.37N±0.07×168.18W±0.07, h30km±11km, n69, σ1.9±06/72, mb4.2/31, MS3.6/2, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.73**	**326**	P	**Pn**	**02 04 45.1**	**+0.9**
NIKO				S	**Sb**	**02 04 57.6**	**+3.8**
UNV	**Unalaska Valle**	**1.79**	**34**	P	**Pn**	**02 04 59.7**	**+0.4**
UNV				S	**Sn**	**02 05 22.1**	**+0.8**
ATKA	**Atka Island**	**3.70**	**270**	P	**Pn**	**02 05 26.9**	**+0.4**
ATKA				S	**Sn**	**02 06 10.6**	**+0.9**
GSMY	**Great Sitkin M**	**4.86**	**269**	P	**Pn**	**02 05 43.0**	**0.0**
GSTD	**Great Sitkin T**	**4.91**	**269**	P	**Pn**	**02 05 43.6**	**-0.1**
ADAG	**Mount Adagdak**	**5.20**	**269**	P	**Pn**	**02 05 47.7**	**-0.1**
KIWB	**Kanaga Island**	**5.55**	**268**	P	**Pn**	**02 05 52.8**	**0.0**
KIKV	**Kanaga Island**	**5.56**	**268**	P	**Pn**	**02 05 52.9**	**0.0**
KIMD	**Kanaga Island**	**5.62**	**267**	P	**Pn**	**02 05 53.3**	**-0.4**
FX1	**Attu Island-F**	**11.35**	**280**	Pn	**P**	**02 07 11.9**	**-1.2**
	2.6nm,0.3s,baz=45,slow=4.3,SNR=3.7						
COLA	**College**	**16.29**	**32**	*e*P	**P**	**02 08 16.8**	**-1.1**
	7.7nm,1.1s						
ILAR	**Eielson Array**	**16.55**	**33**	Pn	**P**	**02 08 17.8**	**-3.3**
	0.1nm,0.3s,baz=237,slow=11,SNR=9.5						
DAWY	**Dawson**	**18.95**	**41**	*e*P	**P**	**02 08 49.3**	**-1.5**
BILL	**Bilibino**	**19.94**	**332**	*e*P	**P**	**02 09 02.2**	**+0.1**
	11nm,1.1s						
INK	**Inuvik**	**22.95**	**33**	P	**P**	**02 09 30.3**	**-1.9**
	3.3nm,0.5s,mb4.0,baz=246,slow=12,SNR=9.5						
INK	**Inuvik**	**22.95**	**33**	*e*P	**P**	**02 09 30.2**	**-2.0**
	3.6nm,0.6s,mb4.0						
YKA	**Yellowknife Ar**	**29.69**	**49**	P	**P**	**02 10 34.8**	**-0.2**
	0.4nm,0.6s,mb3.4,baz=273,slow=8.1,SNR=15						
YKA				PcP	PcP	02 13 37.5	-1.3
	0.3nm,0.6s,baz=280,slow=2.6,SNR=7.1						
YKA				LR	LR	02 23 40.8	
	comp=Z,99nm,18.1s,MS3.5,baz=235,slow=39						
YKA	**Yellowknife Ar**	**29.69**	**49**	P	**P**	**02 10 34.8**	**-0.2**
YKA				PcP	PcP	02 13 37.5	-1.3
YKA				LR	LR	02 23 40.8	
MCMT	**McKenzie Canyo**	**36.56**	**79**	*e*P	**P**	**02 11 34.8**	**+0.1**
NVAR	**Mina Array Bea**	**36.94**	**92**	P	**P**	**02 11 39.1**	**+1.2**
	0.5nm,0.4s,mb3.7,baz=300,slow=7.3,SNR=6.9						
BW06	**Boulder Array**	**39.69**	**80**	*e*P	**P**	**02 12 00.8**	**0.0**
	8.4nm,1.6s,mb4.2						
PDAR	**Pinedale Array**	**39.69**	**80**	P	**P**	**02 12 01.2**	**+0.4**
	1.7nm,1.0s,mb3.7,baz=297,slow=6.6,SNR=10.0						
FCC	**Fort Churchill**	**40.38**	**51**	*e*P	**P**	**02 12 05.9**	**-0.4**
	2.5nm,0.6s,mb4.1						
PV01	**Paradox Valley**	**43.08**	**85**	*e*P	**P**	**02 12 28.1**	**-0.5**
SUMG	**Summit**	**50.56**	**17**	*e*P	**P**	**02 13 26.1**	**-1.0**
	4.8nm,0.6s,mb4.6						
SONM	**Songino Array**	**51.92**	**301**	P	**P**	**02 13 36.8**	**-0.9**
	1.5nm,0.6s,mb4.1,baz=71,slow=5.4,SNR=11						
TXAR	**Lajitas Array**	**52.02**	**90**	P	**P**	**02 13 38.0**	**-0.6**
	1.0nm,0.8s,mb3.8,baz=304,slow=5.6,SNR=13						
KEV	**Kevo**	**57.68**	**354**	*e*p	**P**	**02 14 17.6**	**-1.7**
ZAL	**Zalesovo**	**57.93**	**318**	P	**P**	**02 14 19.2**	**-2.0**
	0.9nm,0.3s,mb4.2,baz=108,slow=14,SNR=3.5						
ARCES	**ARCESS Array B**	**57.99**	**354**	P	**P**	**02 14 19.9**	**-1.6**
	2.2nm,0.9s,mb4.2,baz=31,slow=7.1,SNR=6.9						
ARCES	**ARCESS Array B**	**57.99**	**354**	P	**P**	**02 14 19.9**	**-1.6**
CHKZ	**Chkalovo**	**63.51**	**325**	*e*P	**P**	**02 14 57.6**	**-1.4**
	2.0nm,0.4s,mb4.5						
JOF	**Joensuu**	**64.03**	**350**	*e*p	**P**	**02 15 00.5**	**-1.8**
	2.3nm,0.5s,mb4.5						
BVAR	**Borovoye Array**	**64.12**	**325**	P	**P**	**02 15 02.5**	**-0.6**
	4.3nm,0.5s,mb4.8,baz=48,slow=6.4,SNR=15						
MKAR	**Makanchi Array**	**64.33**	**314**	P	**P**	**02 15 02.9**	**-1.6**
	1.3nm,0.7s,mb4.1,baz=51,slow=7.1,SNR=16						
MKAR				LR	LR	02 46 26.4	
	comp=Z,49nm,18.0s,MS3.7,baz=180,slow=39						
MKAR	**Makanchi Array**	**64.33**	**314**	P	**P**	**02 15 02.9**	**-1.6**
MKAR				LR	LR	02 46 26.4	
ARU	**Arti**	**64.95**	**333**	*e*P	**P**	**02 15 07.1**	**-1.2**
	3.5nm,0.8s,mb4.4						
KAF	**Kangasniemi**	**65.29**	**353**	*e*p	**P**	**02 15 08.3**	**-2.1**
	baz=13,slow=6.2						
FINES	**FINESS Array B**	**65.97**	**353**	P	**P**	**02 15 13.6**	**-1.2**
	3.5nm,0.7s,mb4.5,baz=20,slow=9.0,SNR=22						
FINES	**FINESS Array B**	**65.97**	**353**	P	**P**	**02 15 13.6**	**-1.2**
NB2	**NORSAR Subarra**	**66.94**	**0**	P	**P**	**02 15 19.9**	**-1.1**
	1.3nm,0.5s,mb4.2,baz=359,slow=6.2						
NOA	**NORSAR Array B**	**66.94**	**0**	P	**P**	**02 15 20.1**	**-0.9**
	1.9nm,0.7s,mb4.3,baz=0.6,slow=6.3,SNR=9.4						
AKASG	**Malin Array Be**	**76.25**	**349**	P	**P**	**02 16 15.5**	**-1.2**
	1.5nm,0.5s,mb4.2,baz=12,slow=5.7,SNR=7.0						
CMAR	**Chiang Mai Arr**	**77.33**	**284**	P	**P**	**02 16 23.4**	**+0.1**
	1.9nm,0.6s,mb4.2,baz=28,slow=6.5,SNR=12						
GIVF	**Givet**	**77.73**	**5**	*e*P	**P**	**02 16 25.3**	**+0.4**
	2.3nm,0.4s,mb4.1						
BAIF	**Baives**	**77.74**	**5**	*e*P	**P**	**02 16 25.5**	**+0.5**
KOLS	**Kolonicke sedl**	**78.68**	**353**	*e*P	**P**	**02 16 29.1**	**-1.1**
GERES	**GERESS Array B**	**79.15**	**359**	P	**P**	**02 16 33.3**	**+0.6**
	0.3nm,0.5s,mb3.5,slow=4.0,SNR=8.3						
VYHS	**Vyhne**	**79.33**	**355**	*e*P	**P**	**02 16 34.7**	**+1.0**
ZST	**Bratislava**	**79.71**	**356**	*e*P	**P**	**02 16 37.3**	**+1.5**
HAU	**Haudompre**	**79.89**	**4**	*e*P	**P**	**02 16 37.4**	**+0.7**
HINF	**Hinteralfeld**	**80.10**	**3**	*e*P	**P**	**02 16 38.3**	**+0.4**
LOR	**Lormes**	**80.51**	**5**	*e*P	**P**	**02 16 40.8**	**+0.8**
SSF	**Saint Saulge**	**80.69**	**6**	*e*P	**P**	**02 16 41.7**	**+0.7**
MFF	**Saint Martin d**	**80.87**	**8**	*e*P	**P**	**02 16 42.5**	**+0.5**
	19nm,1.0s,mb4.7						
AVF	**Avril sur Loir**	**80.95**	**6**	*e*P	**P**	**02 16 43.0**	**+0.6**
	6.8nm,0.8s,mb4.3						
SMF	**Signal de Mont**	**81.13**	**6**	*e*P	**P**	**02 16 44.0**	**+0.7**
BGF	**Bois d'Agland**	**81.15**	**6**	*e*P	**P**	**02 16 44.0**	**+0.6**
TCF	**Toulx Ste Croi**	**81.38**	**7**	*e*P	**P**	**02 16 45.2**	**+0.6**
	1.4nm,0.5s,mb3.8						
LFF	**La Frestale**	**82.60**	**8**	*e*P	**P**	**02 16 52.1**	**+1.1**
	12nm,0.7s,mb4.7						
ORIF	**Oris-en-Rattie**	**82.95**	**4**	*e*P	**P**	**02 16 53.9**	**+1.1**
VIVF	**Saint-Julien-l**	**82.96**	**5**	*e*P	**P**	**02 16 54.3**	**+1.5**
MBDF	**Montbardon**	**83.18**	**4**	*e*P	**P**	**02 16 56.0**	**+2.0**
	7.7nm,0.8s,mb4.5						
SJPF	**Ste Jean**	**84.23**	**10**	*e*P	**P**	**02 17 00.9**	**+1.6**
	6.9nm,0.8s,mb4.5						
MTLF	**Montolieu**	**84.31**	**7**	*e*P	**P**	**02 17 00.7**	**+1.1**
	6.5nm,0.8s,mb4.5						
EPF	**Esparros**	**84.46**	**8**	*e*P	**P**	**02 17 00.8**	**+0.4**
ETSF	**Etsaut**	**84.51**	**9**	*e*P	**P**	**02 17 01.5**	**+0.8**
BRTR	**Keskin Array B**	**86.34**	**343**	P	**P**	**02 17 11.7**	**+1.8**
	1.8nm,0.6s,mb4.5,baz=6.8,slow=2.1,SNR=8.5						
ESDC	**Sonseca Array**	**87.31**	**12**	P	**P**	**02 17 15.2**	**+0.7**
	0.9nm,0.7s,mb4.1,baz=340,slow=3.7,SNR=6.5						

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*IDC **22** 02:22:33.5±1.2, 13.06N×86.52W, mb3.6/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.6/5, ML3.1/1, Error ellipse: s-maj=110.4km s-min=14.1km az=59.0*
*CASC **22** 02:22:36.8±1.6, 12.06N×87.80W, h29km±10km, MD3.8, ML3.6*
*INET **22** 02:22:36.6, 12.05N×87.85W, h22km, MD3.9, ML3.7*
*SSS **22** 02:22:37.5, 12.24N×87.71W, h86km, MD3.9*
ISC 22 02:22:36.2±0.7, 11.97N±0.06×87.82W±0.04, h53km±10km, n27, σ0.8±80/48, mb3.6/4, 2C-10D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.01**	**64**	⇓*e*P	**P**	**02 22 53.7**	**-0.8**
LEON				*e*S	**S**	**02 23 08.2**	**+0.3**
CRIN	**San Cristobal**	**1.05**	**46**	*e*P	**P**	**02 22 54.8**	**-0.2**
TEL3	**Telica 3**	**1.13**	**58**	⇓*e*P	**P**	**02 22 55.3**	**-0.7**
TEL3				*e*S	**S**	**02 23 11.1**	**+0.3**
TELN	**Telica**	**1.16**	**57**	⇓*e*P	**P**	**02 22 55.6**	**-0.8**
TELN				*e*S	**S**	**02 23 11.5**	**+0.1**
CNGN	**Cerro Negro**	**1.22**	**64**	*e*P	**P**	**02 22 56.7**	**-0.6**
CNGN				*e*S	**S**	**02 23 13.3**	**+0.4**
CNCH	**Conchagua**	**1.30**	**360**	*e*P	**P**	**02 22 57.6**	**-1.0**
CNCH				*e*S	**S**	**02 23 14.3**	**-0.9**
MOMJ	**Momotombo**	**1.33**	**71**	⇑*e*P	**P**	**02 22 58.3**	**-0.7**
MOMJ				*e*S	**S**	**02 23 16.9**	**+1.1**
APYN	**Apoyeque**	**1.47**	**79**	⇓*e*P	**P**	**02 23 00.5**	**-0.4**
APYN				*e*S	**S**	**02 23 17.9**	**-1.1**
XAVN	**Gruta Xavier**	**1.48**	**83**	⇓*e*P	**P**	**02 23 00.5**	**-0.5**
XAVN				*e*S	**S**	**02 23 18.9**	**-0.4**
CRUN	**El Crucero**	**1.49**	**89**	*e*P	**P**	**02 23 02.4**	**+1.2**
CRUN				*e*S	**S**	**02 23 20.1**	**+0.4**
VSM	**San Miguel**	**1.52**	**343**	*e*P	**P**	**02 23 01.3**	**-0.3**
VSM				*e*S	**S**	**02 23 19.9**	**-0.4**
MGAN	**Managua**	**1.55**	**83**	*e*P	**P**	**02 23 02.6**	**+0.6**
MGAN				*e*S	**S**	**02 23 20.8**	**-0.3**
MGAN				*i*		02 23 24.7	
	comp=N,876nm,0.5s						
TICN	**Ticuantepe**	**1.56**	**87**	⇓*e*P	**P**	**02 23 02.9**	**+0.7**
TICN				*e*S	**S**	**02 23 22.1**	**+0.7**
WILN	**Americas 2**	**1.61**	**83**	⇓*e*P	**P**	**02 23 03.2**	**+0.3**
WILN				*e*S	**S**	**02 23 23.8**	**+1.1**
APON	**Apoyo**	**1.72**	**92**	⇓*e*P	**P**	**02 23 03.8**	**-0.5**
APON				*e*S	**S**	**02 23 27.4**	**+2.1**
LCBS	**La Ceiba**	**2.02**	**326**	⇑*e*P	**P**	**02 23 08.4**	**-0.2**
LCBS				*e*S	**S**	**02 23 32.8**	**+0.2**
LFRS	**El Faro**	**2.04**	**324**	⇓*e*P	**P**	**02 23 08.9**	**0.0**
LFRS				*e*S	**S**	**02 23 33.0**	**-0.2**
LBRS	**Las Brisas**	**2.12**	**326**	*e*P	**P**	**02 23 10.0**	**0.0**
LBRS				*e*S	**S**	**02 23 34.5**	**-0.7**
CONN	**Concepcion**	**2.19**	**100**	⇓*e*P	**P**	**02 23 10.8**	**-0.2**
BOQS	**Boqueron**	**2.26**	**321**	*e*P	**P**	**02 23 12.2**	**+0.2**
BOQS				*e*S	**S**	**02 23 40.0**	**+1.4**
SBLS	**San Blas**	**2.56**	**317**	*e*P	**P**	**02 23 16.8**	**+0.5**
SBLS				*e*S	**S**	**02 23 47.3**	**+1.1**
RTR	**El Retiro**	**2.61**	**317**	*e*P	**P**	**02 23 17.4**	**+0.3**
RTR				*e*S	**S**	**02 23 47.8**	**+0.1**
JTS	**JuntasAbangare**	**3.27**	**120**	Pn	**P**	**02 23 25.9**	**-0.5**
	comp=N,2.1nm,0.3s,baz=324,slow=21,SNR=13						
JTS				Sn	**S**	**02 24 03.1**	**-1.3**
	comp=N,3.6nm,0.3s,baz=282,slow=20,SNR=3.5						
JTS				Lg		02 24 14.7	
	comp=N,3.8nm,0.3s,baz=301,slow=17,SNR=4.1						
TXAR	**Lajitas Array**	**22.72**	**322**	P	**P**	**02 27 36.5**	**+1.8**
	comp=N,3.8nm,0.7s,mb4.0,baz=136,slow=10,SNR=60						
PDAR	**Pinedale Array**	**36.02**	**332**	P	**P**	**02 29 33.4**	**-0.9**
	comp=N,0.4nm,0.8s,mb3.4,baz=121,slow=8.6,SNR=3.5						
SIV	**San Ignacio**	**38.37**	**136**	P	**P**	**02 29 54.9**	**+0.8**

AMTX Amarillo 26.08 333 *eP* **P 02 30 16.2 -0.4**
comp=E,5.6nm,0.8s,mb4.2
SDCO Great Sand Dun 30.17 331 *eP* **P 02 30 54.1 +0.5**
comp=E,2.2nm,0.9s,mb3.9
SAML Samuel 32.10 129 *eP* **P 02 31 09.3 -1.5**
comp=E,2.4nm,0.9s,mb4.0
PDAR Pinedale Array 36.04 332 P **P 02 31 44.0 -0.3**
comp=E,1.2nm,0.9s,mb3.8,baz=121,slow=8.6,SNR=8.8
HWUT Hardware Ranch 36.12 329 *eP* **P 02 31 44.4 -0.6**
comp=E,4.4nm,0.9s,mb4.4
REDW Red Top Meadow 37.10 332 *eP* **P 02 31 53.2 0.0**
comp=E,18nm,1.1s,mb4.8
SNOW Snow King Moun 37.13 332 *eP* **P 02 31 53.9 +0.4**
comp=E,13nm,0.9s,mb4.8
LOHW Long Hollow 37.18 332 *eP* **P 02 31 53.3 -0.6**
comp=E,2.4nm,0.6s,mb4.2
TPAW Teton Pass 37.25 332 *eP* **P 02 31 54.2 -0.2**
comp=E,5.9nm,0.8s,mb4.5
MOOW Moose Ponds 37.35 332 *eP* **P 02 31 54.7 -0.6**
comp=E,5.3nm,0.9s,mb4.4
ELK Elko 37.47 325 *eP* **P 02 31 57.5 +1.2**
comp=E,2.9nm,1.3s,mb4.0
NVAR Mina Array Bea 37.85 319 P **P 02 32 02.4 +2.9**
comp=E,0.8nm,0.8s,mb3.5,baz=140,slow=7.3,SNR=5.4
NVAR Mina Array Bea 37.85 319 P **P 02 32 02.4 +2.9**
SIV San Ignacio 38.35 136 P **P 02 32 04.0 +0.1**
comp=E,3.2nm,0.8s,mb4.1,baz=317,slow=10.0,SNR=14
ULM Lac du Bonnet 38.75 352 P **P 02 32 04.1 -2.8**
comp=E,2.8nm,0.6s,mb4.2,baz=163,slow=6.3,SNR=3.4
HLID Hailey 38.98 329 *eP* **P 02 32 09.2 +0.3**
comp=E,1.5nm,1.0s,mb3.7
BOZ Bozeman (W) 39.23 333 *eP* **P 02 32 10.7 -0.2**
comp=E,7.8nm,1.3s,mb4.3
WVOR Wild Horse Val 40.50 324 *eP* **P 02 32 22.1 +0.6**
comp=E,2.3nm,0.8s,mb4.0
BDFB Brasilia 47.98 124 LR LR 02 55 08.0
comp=E,47nm,21.7s,MS3.4,baz=172,slow=38
YKA Yellowknife Ar 53.99 345 P **P 02 34 03.4 -3.5**
comp=E,0.7nm,0.8s,mb3.6,baz=138,slow=7.8,SNR=18
YKA LR LR 02 59 49.0
comp=E,53nm,18.1s,MS3.6,baz=245,slow=39
ILAR Eielson Array 66.33 336 P **P 02 35 28.5 -2.6**
comp=E,0.9nm,1.0s,mb3.7,baz=107,slow=4.9,SNR=5.0
CMAR Chiang Mai Arr 149.06 347 PKPbc PKPdf 02 44 28.6 +3.5
comp=E,0.7nm,0.4s,slow=2.7,SNR=6.0

IDC 22 02:41:59.8±13.0, 17.25S×178.54W, h486km±162km, mb2.9/6, mb1 3.3/6, mb1mx3.1/16, mbtmp3.8/6, Error ellipse: s-maj=103.7km s-min=42.8km az=164.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.84**	**240**	P	P	02 48 41.9	-1.4
	1.5nm,0.7s,baz=91,slow=8.5,SNR=4.4						
WRA	**Warramunga Arr**	**44.63**	**259**	P	P	02 49 28.5	-1.3
	0.5nm,0.4s,baz=97,slow=7.7,SNR=5.2						
ASAR	**Alice Springs**	**44.85**	**254**	P	P	02 49 30.2	-1.2
	1.8nm,0.5s,baz=87,slow=9.0,SNR=29						
ILAR	**Eielson Array**	**85.28**	**13**	P	P	02 53 44.1	-0.8
	0.2nm,0.5s,baz=222,slow=5.1,SNR=6.7						
TXAR	**Lajitas Array**	**85.75**	**58**	P	P	02 53 47.9	-0.2
	0.4nm,0.7s,baz=220,slow=6.0,SNR=6.7						
PDAR	**Pinedale Array**	**86.96**	**44**	P	P	02 53 52.3	-1.2
	0.4nm,0.7s,baz=225,slow=2.1,SNR=3.5						
GERES	**GERESS Array B**	**146.95**	**345**	PKPbc	PKPbc	03 00 46.6	+0.5
	0.7nm,0.6s,baz=18,slow=4.2,SNR=7.4						

*BJI **22** 02:48:32.5, 7.63S×68.06E, h25km, mB5.1, mb4.7, Ms4.7, Msz4.6*
*IDC **22** 02:48:32.3±1.1, 7.30S×67.90E, mb4.0/9, mb1 4.2/9, mb1mx4.0/20, mbtmp4.0/9, MS3.8/9, Ms1 3.8/9, ms1mx3.5/30, Error ellipse: s-maj=38.5km s-min=20.5km az=46.0*
*NEIC **22** 02:48:34.0±0.4, 7.26S×68.03E, h10km, mb4.7/4, Error ellipse: s-maj=14.5km s-min=9.5km az=198.0*
ISC 22 02:48:32.5±0.7, 7.3S±0.1×68.14E±0.07, h10km, n37, σ1§12/22, mb4.3/17, MS3.9/10, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.29**	**92**	*e*Pn	**Pn**	**02 49 39.2**	**0.0**
DGAR				Sn	**Sn**	**02 50 27.8**	**-2.1**
KMBO	**Kilima Mbogo**	**31.38**	**280**	LR	LR	03 04 47.2	
	comp=Z,95nm,21.4s,MS3.4,baz=95,slow=31						
CMAR	**Chiang Mai Arr**	**39.70**	**50**	P	**P**	**02 56 08.8**	**+1.8**
	0.9nm,0.4s,mb3.8,baz=245,slow=9.1,SNR=6.4						
LSZ	**Lusaka**	**39.93**	**255**	*eP*	**P**	**02 56 08.2**	**-0.6**
	3.8nm,1.0s,mb4.1						
BOSA	**Boshof**	**45.66**	**237**	LR	LR	03 12 26.8	
	comp=Z,106nm,21.7s,MS3.7,baz=29,slow=32						
GNI	**Garni**	**51.87**	**337**	LR	LR	03 18 33.3	
	comp=Z,46nm,19.0s,MS3.5,baz=331,slow=35						
WMQ	**Urumqi**	**53.83**	**17**	P	**P**	**02 57 57.6**	**-0.2**
WMQ				PCP	PcP	02 59 02.8	-0.7
WMQ				PP	PP	03 00 00.4	-0.2
WMQ				*e*S	**S**	**03 05 30.9**	**0.0**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,124nm,4.6s						
WMQ				LR	LR		
	comp=N,155nm,22.8s,MS4.1						
WMQ				LR	LR		
	comp=E,57nm,19.9s,MS4.1						
WMQ				LR	LR		
	comp=Z,193nm,22.0s,MS4.1						
GTA	**Gaotai**	**54.91**	**30**	*eP*	**P**	**02 58 07.8**	**+2.0**
GTA				AP	pP	02 58 16.8	+7.9
GTA				XP	sP	02 58 21.0	+11
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
MKAR	**Makanchi Array**	**55.26**	**12**	P	**P**	**02 58 06.4**	**-1.8**
	comp=Z,0.7nm,1.0s,mb3.7,baz=187,slow=9.8,SNR=5.2						
MKAR				PcP	PcP	02 59 08.5	-0.5
	comp=Z,0.4nm,0.6s,baz=198,slow=4.6,SNR=3.7						
MKAR				LR	LR	03 22 06.2	
	comp=Z,106nm,18.2s,MS4.0,baz=180,slow=36						
BRTR	**Keskin Array B**	**56.58**	**328**	P	**P**	**02 58 16.6**	**-1.3**
	comp=Z,1.7nm,1.1s,mb4.0,baz=121,slow=7.2,SNR=6.5						
MAW	**Mawson**	**60.37**	**182**	LR	LR	03 19 12.2	
	comp=Z,108nm,18.3s,MS4.0,baz=70,slow=30						
CHKZ	**Chkalovo**	**60.73**	**2**	*eP*	**P**	**02 58 46.5**	**-0.1**
	comp=Z,6.9nm,1.1s,mb4.7						
CHKZ				*e*		02 58 52.4	
NJ2	**Nanjing**	**62.15**	**48**	*eP*	**P**	**02 58 55.3**	**-1.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.4						
ZAL	**Zalesovo**	**62.56**	**11**	P	**P**	**02 58 58.0**	**-0.8**
	comp=Z,0.9nm,0.3s,mb4.3,baz=115,slow=11,SNR=3.4						
ZAL				LR	LR	03 25 37.7	
	comp=Z,89nm,19.8s,MS3.9,baz=296,slow=36						
SONM	**Songino Array**	**64.39**	**28**	P	**P**	**02 59 11.9**	**+0.9**
	comp=Z,1.5nm,0.9s,mb4.0,baz=225,slow=7.0,SNR=12						
BJI	**Beijing**	**64.60**	**39**	P	**P**	**02 59 15.5**	**+3.0**
BJI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
BJI	**Beijing**	**64.60**	**39**	P	**P**	**02 59 15.5**	**+3.0**
	comp=Z,7.0nm,1.0s,mb4.7						
ASAR	**Alice Springs**	**64.95**	**113**	P	**P**	**02 59 15.7**	**+0.6**
	comp=Z,1.8nm,0.8s,mb4.1,baz=276,slow=5.9,SNR=16						
WRA	**Warramunga Arr**	**65.22**	**109**	P	**P**	**02 59 17.4**	**+0.6**
	comp=Z,2.1nm,0.8s,mb4.2,baz=282,slow=6.2,SNR=12						
WRAB	**Tennant Creek**	**65.23**	**109**	*eP*	**P**	**02 59 17.3**	**+0.4**
	comp=Z,5.2nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**72.17**	**121**	P	**P**	**02 59 59.9**	**+0.1**
	comp=Z,1.4nm,0.9s,mb3.9,baz=274,slow=2.6,SNR=3.6						
CN2	**Changchun**	**72.45**	**40**	*eP*	**P**	**03 00 02.3**	**+1.1**
MDJ	**Mudanjiang**	**75.47**	**40**	P	**P**	**03 00 18.4**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,119nm,4.9s						
FINES	**FINESS Array B**	**75.88**	**341**	LR	LR	03 34 16.9	
	comp=Z,36nm,20.4s,MS3.7,baz=348,slow=36						
JHJ	**Hachijo jima 2**	**78.81**	**54**	LR	LR	03 31 43.6	
	comp=Z,524nm,21.4s,MS4.8,baz=91,slow=33						
ESDC	**Sonseca Array**	**81.05**	**312**	P	**P**	**03 00 48.7**	**-0.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=100,slow=5.1,SNR=4.9						
ARCES	**ARCESS Array B**	**81.99**	**346**	LR	LR	03 35 28.0	
	comp=Z,45nm,20.3s,MS3.8,baz=281,slow=34						
YKA	**Yellowknife Ar**	**124.83**	**2**	PKP	PKPdf	03 07 33.5	-2.1
	comp=Z,0.6nm,1.0s,baz=354,slow=2.1,SNR=7.5						
YKA	**Yellowknife Ar**	**124.83**	**2**	PKP	PKPdf	03 07 33.5	-2.1
PDAR	**Pinedale Array**	**144.57**	**357**	PKP	PKPdf	03 08 11.3	-1.3
	comp=Z,0.3nm,0.8s,baz=270,slow=1.5,SNR=3.7						
KSU1	**Kansas State U**	**145.44**	**339**	*e*PKPdf	PKPdf	03 08 11.8	-2.4
LRAL	**Lakeview Retre**	**145.50**	**321**	*e*PKPdf	PKPdf	03 08 12.4	-2.1
HWUT	**Hardware Ranch**	**145.79**	**360**	*e*PKPdf	PKPdf	03 08 14.1	-0.7
OTAV	**Otavalo**	**145.96**	**260**	*e*PKPdf	PKPdf	03 08 15.5	-0.4
NVAR	**Mina Array Bea**	**148.42**	**10**	PKPbc	PKPdf	03 08 22.3	+3.2
	comp=Z,1.4nm,0.9s,baz=274,slow=3.2,SNR=8.6						
WMOK	**Wichita Mounta**	**150.11**	**338**	*e*PKPbc	PKPdf	03 08 25.2	+3.3
TXAR	**Lajitas Array**	**156.72**	**342**	PKPab	PKPab	03 08 58.9	-1.4
	comp=Z,0.8nm,0.9s,baz=76,slow=5.2,SNR=7.0						

IDC 22 03:03:36.4±3.6, 4.27S×103.27E, mb3.8/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=157.7km s-min=21.4km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.04**	**120**	P	P	03 10 21.4	-3.2
	0.6nm,0.9s,baz=305,slow=8.9,SNR=2.8						
ASAR	**Alice Springs**	**35.28**	**126**	P	P	03 10 34.1	-1.2
	0.2nm,0.5s,baz=295,slow=7.2,SNR=3.4						
SONM	**Songino Array**	**51.95**	**3**	P	P	03 12 49.2	-0.2
	0.7nm,0.6s,baz=178,slow=8.0,SNR=6.4						
MKAR	**Makanchi Array**	**54.12**	**342**	P	P	03 13 02.6	-2.8
	1.6nm,0.6s,baz=150,slow=9.0,SNR=18						
ZAL	**Zalesovo**	**60.02**	**348**	P	P	03 13 43.8	-3.5
	2.3nm,0.3s,baz=352,slow=4.5,SNR=4.9						

IDC 22 03:08:49.9±3.6, 18.99S×176.78W, mb3.7/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=177.6km s-min=28.2km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.27**	**186**	LR	LR	03 14 32.3	
	comp=Z,194nm,21.3s,baz=189,slow=33						
STKA	**Stephens Creek**	**39.49**	**243**	P	P	03 16 22.4	-1.6
	0.6nm,0.3s,baz=72,slow=6.4,SNR=3.7						
WRA	**Warramunga Arr**	**45.97**	**260**	P	P	03 17 14.3	-2.5
	0.4nm,0.7s,baz=96,slow=7.1,SNR=5.5						
ASAR	**Alice Springs**	**46.00**	**255**	P	P	03 17 15.7	-1.4
	1.5nm,0.7s,baz=93,slow=8.1,SNR=20						
ILAR	**Eielson Array**	**86.59**	**12**	P	P	03 21 34.5	-1.5
	0.2nm,0.4s,baz=213,slow=5.2,SNR=7.2						
YKA	**Yellowknife Ar**	**94.66**	**24**	P	P	03 22 12.7	-1.0
	0.2nm,0.6s,baz=241,slow=4.5,SNR=5.4						

*IDC **22** 03:14:30.4±0.6, 1.75N×97.15E, mb4.6/17, mb1 4.7/18, mb1mx4.5/25, mbtmp4.6/18, ML4.2/1, MS4.0/5, Ms1 4.1/5, ms1mx3.6/33, Error ellipse: s-maj=20.2km s-min=14.6km az=46.0*
*MOS **22** 03:14:33.6±0.9, 1.78N×97.23E, h33km, mb4.9/26, Error ellipse: s-maj=13.5km s-min=7.2km az=109.2*
*BJI **22** 03:14:33.0, 1.51N×97.31E, h37km, mB5.0, mb5.0, Ms4.7, Msz4.6*
*NEIC **22** 03:14:34.7±0.3, 1.70N×97.13E, mb4.9/22, Error ellipse: s-maj=8.2km s-min=6.3km az=36.0*
ISC 22 03:14:32.6±1.3, 1.62N±0.05×97.12E±0.04, h28km±9km, h30km±.9km: pP-P, n131, σ1§05/139, mb4.8/66, MS4.3/22, 6C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.88**	**53**	P	**Pn**	**03 15 47.3**	**+1.2**
KULM	**Kulim**	**5.07**	**44**	*e*Pn	**Pn**	**03 15 49.4**	**+0.6**
KGM	**Kluang**	**6.21**	**86**	P	**Pn**	**03 16 07.2**	**+2.3**
SNG	**Songkhla**	**6.53**	**32**	P	**Pn**	**03 16 09.0**	**-0.4**
	380nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.83**	**6**	Pn	**P**	**03 18 25.9**	**-2.2**
	0.3nm,0.3s,baz=194,slow=12,SNR=18						
CMAR				LR	LR	03 25 09.0	
	comp=Z,490nm,20.3s,baz=185,slow=38						
CHG	**Chiang Mai**	**17.18**	**6**	⇓P	**P**	**03 18 34.0**	**+1.5**
	10nm,1.0s						
NANT	**Nan**	**17.43**	**11**	P	**P**	**03 18 36.0**	**+0.4**
	75nm,0.6s						
KKM	**Kota Kinabalu**	**19.54**	**76**	*eP*	**P**	**03 19 00.7**	**-0.6**
KKM	**Kota Kinabalu**	**19.54**	**76**	P	**P**	**03 19 03.0**	**+1.7**
VIS	**Vishakhapatnam**	**20.97**	**321**	*eP*	**P**	**03 19 16.2**	**0.0**
QIZ	**Qiongzhong**	**21.32**	**35**	P	**P**	**03 19 18.8**	**-1.0**
QIZ				*e*S	**S**	**03 23 12.3**	**+2.2**
QIZ				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.5						
QIZ				LR	LR		
	comp=N,341nm,15.1s,MS4.0						
QIZ				LR	LR		
	comp=E,408nm,15.1s,MS4.0						
QIZ				LR	LR		
	comp=Z,425nm,14.8s,MS4.0						
KMI	**Kunming**	**23.98**	**13**	P	**P**	**03 19 47.8**	**+1.8**
KMI				AP		03 19 55.8	
KMI				XP		03 19 59.8	
KMI				PP	PP	03 20 22.1	+1.8
KMI				S	**S**	**03 24 00.3**	**+2.3**
KMI				XS		03 24 16.5	
KMI				SS	SS	03 24 54.3	+4.8
KMI				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.5						
KMI				AMB	AMB		
	comp=Z,161nm,5.7s						
KMI				LR	LR		
	comp=N,842nm,15.0s,MS4.4						
KMI				LR	LR		
	comp=E,646nm,15.3s,MS4.4						
KMI				LR	LR		
	comp=Z,884nm,15.6s,MS4.3						
KMI	**Kunming**	**23.98**	**13**	P	**P**	**03 19 47.8**	**+1.8**
KMI				*PP		03 19 55.7	
KMI				*SP		03 19 59.8	
KMI						03 20 22.1	
KMI				S	**S**	**03 24 00.3**	**+2.3**
KMI				*SS		03 24 16.5	
KMI				SS	SS	03 24 54.3	+4.8
KMI				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.5						
KMI				MLR	MLR		
	comp=Z,880nm,15.6s,MS4.3						
KMI	**Kunming**	**23.98**	**13**	P	**P**	**03 19 47.8**	**+1.8**
	comp=Z,18nm,1.0s,mb4.5						
KMI				pP		03 19 55.7	
KMI				sP		03 19 59.8	
KMI				PP	PP	03 20 22.1	+1.8
KMI				S	**S**	**03 24 00.3**	**+2.3**
KMI				sS		03 24 16.5	
KMI				SS	SS	03 24 54.3	+4.8
KMI				LR	LR		
	comp=Z,880nm,15.6s,MS4.3						
HYB	**Hyderabad**	**24.07**	**312**	*eP*	**P**	**03 19 48.0**	**+1.0**
HYB	**Hyderabad**	**24.07**	**312**	*i P*	**P**	**03 19 48.0**	**+1.0**
BLSP	**Bilaspur**	**25.06**	**326**	*eP*	**P**	**03 19 56.7**	**+0.2**
GYA	**Guiyang**	**26.34**	**20**	⇓*i*P	**P**	**03 20 08.1**	**-0.3**
GYA				AP	pP	03 20 17.4	+1.0
GYA				XP	sP	03 20 21.8	+1.7
GYA				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.5						
GYA				AMB	AMB		
	comp=Z,100nm,5.4s						
GYA				LR	LR		
	comp=N,1μm,17.3s,MS4.6						
GYA				LR	LR		
	comp=E,600nm,17.1s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,15.6s,MS4.6						
JIRN	**Jiri**	**27.93**	**339**	*eP*	**P**	**03 20 23.4**	**+0.6**
	comp=Z,38nm,0.9s,mb5.0						
PKI	**Pulchoki**	**28.14**	**338**	*eP*	**P**	**03 20 25.3**	**+0.6**
	comp=Z,33nm,0.9s,mb5.0						
GUN	**Gumba**	**28.27**	**339**	*eP*	**P**	**03 20 26.1**	**+0.2**
	comp=Z,48nm,0.8s,mb5.2						
DMN	**Daman**	**28.29**	**337**	*eP*	**P**	**03 20 25.9**	**-0.2**
	comp=Z,34nm,0.9s,mb5.0						
KKN	**Kakani**	**28.38**	**338**	*eP*	**P**	**03 20 27.2**	**+0.3**
	comp=Z,25nm,0.6s,mb5.0						
GKN	**Gorkha**	**28.82**	**337**	*eP*	**P**	**03 20 31.3**	**+0.4**
	comp=Z,75nm,1.1s,mb5.3						
KOLN	**Koldanda**	**29.05**	**335**	*eP*	**P**	**03 20 33.0**	**+0.1**
	comp=Z,46nm,1.0s,mb5.2						
WHN	**Wuhan**	**33.08**	**28**	⇓P	**P**	**03 21 08.0**	**-0.4**
XAN	**Xi'an**	**34.09**	**18**	P	**P**	**03 21 15.3**	**-1.8**
XAN				S	**S**	**03 26 28.9**	**-11**
XAN				AMB	AMB		
	comp=Z,49nm,1.0s,mb5.4						
XAN				LR	LR		
	comp=N,451nm,15.6s,MS4.4						
XAN				LR	LR		
	comp=E,358nm,14.1s,MS4.4						
XAN				LR	LR		
	comp=Z,785nm,15.6s,MS4.5						
FITZ	**Fitzroy Crossi**	**34.24**	**126**	*eP*	**P**	**03 21 18.6**	**+0.1**
	comp=Z,7.2nm,0.8s,mb4.7						
LZH	**Lanzhou**	**34.85**	**10**	⇑P	**P**	**03 21 22.5**	**-1.2**
LZH				AMB	AMB		
	comp=Z,56nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,186nm,4.5s						
LZH				LR	LR		
	comp=N,800nm,14.6s						
LZH				LR	LR		
	comp=Z,970nm,16.0s,MS4.6						
LZH	**Lanzhou**	**34.85**	**10**	⇑P	**P**	**03 21 22.5**	**-1.2**
	comp=Z,56nm,1.0s,mb5.5						
LZH				pP	pP	03 21 43.0	+11
LZH				sP	sP	03 21 50.0	+15
LZH				LR	LR		
	comp=Z,970nm,16.0s,MS4.6						
NJ2	**Nanjing**	**36.55**	**32**	*eP*	**P**	**03 21 38.6**	**+0.6**
NJ2				AP	pP	03 21 48.3	+2.0
NJ2				XP	sP	03 21 52.3	+2.5
NJ2				PP	PP	03 23 02.4	-0.2
NJ2				S	**S**	**03 27 19.0**	**+0.9**
NJ2				XS		03 27 34.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,120nm,4.6s						
NJ2				LR	LR		
	comp=N,2μm,16.3s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,14.7s,MS5.0						
NJ2				LR	LR		
	comp=Z,830nm,14.9s,MS4.6						
SSE	**Sheshan**	**37.12**	**35**	P	**P**	**03 21 40.9**	**-1.9**
SSE				AP	pP	03 21 49.6	-1.5
SSE				XP	sP	03 21 53.8	-0.7
SSE				PP	PP	03 23 04.0	-5.9
SSE				S	**S**	**03 27 21.3**	**-5.5**
SSE				PCS		03 27 52.6	
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,64nm,9.7s						
SSE				LR	LR		
	comp=N,243nm,19.8s,MS4.0						
SSE				LR	LR		
	comp=E,79nm,19.8s,MS4.0						
SSE				LR	LR		
	comp=Z,280nm,17.5s,MS4.1						
SSE	**Sheshan**	**37.12**	**35**	P	**P**	**03 21 40.9**	**-1.9**
	comp=Z,26nm,0.7s,mb5.2						
SSE				pP	pP	03 21 49.6	-1.5
SSE				sP	sP	03 21 53.7	-0.8
SSE				PP	PP	03 23 04.0	-5.9
SSE				S	**S**	**03 27 21.2**	**-5.6**
SSE				sS		03 27 36.8	
SSE				PcS		03 27 52.6	
SSE				SS	SS	03 30 02.1	+4.6
SSE				LR	LR		
	comp=Z,280nm,17.5s,MS4.1						
GTA	**Gaotai**	**37.69**	**3**	*eP*	**P**	**03 21 47.4**	**-0.2**
GTA				AP	pP	03 21 54.8	-1.0
GTA				XP	sP	03 21 58.3	-1.0
GTA				PP	PP	03 23 17.8	+1.1
GTA				PPP	PPP	03 23 40.1	+2.0
GTA				S	**S**	**03 27 37.8**	**+2.3**
GTA				XS		03 27 53.0	
GTA				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,161nm,6.5s						
GTA				LR	LR		
	comp=N,235nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=E,310nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,269nm,13.7s,MS4.2						
JOW	**Kunigami**	**39.01**	**47**	P	**P**	**03 21 57.0**	**-1.7**
	comp=Z,12nm,0.6s,mb4.8,baz=266,slow=9.2,SNR=6.9						
NWAO	**Narrogin (SRO)**	**39.27**	**153**	LR	LR	03 37 50.6	
	comp=Z,316nm,20.5s,MS4.1,baz=326,slow=36						
HHC	**Hu-ho-hao-te**	**41.18**	**17**	⇑P	**P**	**03 22 17.5**	**+1.0**
HHC				AP	pP	03 22 26.8	+2.0
HHC				XP	sP	03 22 30.8	+2.6
HHC				SCP		03 27 55.5	
HHC				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,122nm,5.1s						
HHC				LR	LR		
	comp=N,546nm,15.5s,MS4.6						
HHC				LR	LR		
	comp=E,354nm,15.6s,MS4.6						
HHC				LR	LR		
	comp=Z,582nm,15.4s,MS4.6						
BJI	**Beijing**	**41.98**	**22**	P	**P**	**03 22 23.8**	**+0.7**
BJI				AP	pP	03 22 32.6	+1.2
BJI				XP	sP	03 22 36.5	+1.7
BJI				S	**S**	**03 28 37.4**	**-2.4**
BJI				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.2						
BJI				LR	LR		
	comp=N,319nm,12.7s,MS4.5						
BJI				LR	LR		
	comp=E,287nm,16.6s,MS4.5						
BJI				LR	LR		
	comp=Z,149nm,24.7s						
BJI	**Beijing**	**41.98**	**22**	P	**P**	**03 22 23.8**	**+0.7**
	comp=Z,70nm,1.0s,mb5.2						
BJI				pP	pP	03 22 32.6	+1.2
BJI				sP	sP	03 22 36.5	+1.7
BJI				S	**S**	**03 28 37.4**	**-2.4**
BJI				SS	SS	03 31 50.5	+8.8
BJI				LR	LR		
	comp=Z,150nm,24.7s,MS3.8						
WRA	**Warramunga Arr**	**42.32**	**122**	P	**P**	**03 22 25.9**	**-0.3**
	comp=Z,4.6nm,0.8s,mb4.1,baz=301,slow=9.2,SNR=20						
WRAB	**Tennant Creek**	**42.33**	**122**	*eP*	**P**	**03 22 26.7**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**42.33**	**122**	*eP*	**P**	**03 22 26.7**	**+0.5**
	comp=Z,18nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**42.33**	**122**	*eP*	**P**	**03 22 26.8**	**+0.5**
KSH	**Kashi**	**42.36**	**336**	*eP*	**P**	**03 22 30.0**	**+3.8**
KSH				*e*AP	pP	03 22 39.0	+4.5
KSH				*e*XP	sP	03 22 43.0	+5.0
KSH				*e*PP	PP	03 24 12.0	+4.8
KSH				*e*PCP	PcP	03 24 21.1	+1.1
KSH				*e*PPP	PPP	03 24 46.0	+5.9
KSH				*e*SCP		03 28 08.3	
KSH				*e*PCS		03 28 12.0	
KSH				*e*S	**S**	**03 28 51.

WMQ LR LR
comp=Z,82nm,20.0s,MS3.6
ASAR Alice Springs 43.71 127 P **P 03 22 38.0 +0.5**
comp=Z,5.2nm,1.0s,mb4.2,baz=301,slow=7.0,SNR=21
ULHL Ulahol 44.58 338 P **P 03 22 44.9 +0.7**
SNR=22
KZA Kyzart 44.82 337 P **P 03 22 47.3 +1.2**
SNR=6.6
UCH Uchtor 45.23 336 P **P 03 22 50.6 +1.1**
SNR=20
TKM2 Tokmak 2 45.40 338 P **P 03 22 51.6 +0.8**
SNR=16
KBK Karagaybulak 45.42 337 P **P 03 22 52.6 +1.6**
SNR=7.3
AML Almayashu 45.49 335 P **P 03 22 52.7 +1.2**
SNR=19
KS15 Wonju Array Si 45.52 35 *e*P **P 03 22 51.6 -0.2**
AAK Ala-Archa 45.58 337 *i* P **P 03 22 53.2 +1.0**
AAK pmax pmax
comp=Z,13nm,1.5s,mb4.6
FRU Bishkek 45.70 337 *e*P **P 03 22 54.0 +0.8**
EKS2 Erkin-Say 45.90 336 P **P 03 22 55.9 +1.2**
SNR=9.0
USP Ospenovka 46.12 337 P **P 03 22 57.0 +0.6**
SNR=19
SONM Songino Array 46.73 9 P **P 03 23 01.1 -0.1**
comp=Z,8.9nm,0.7s,mb4.8,baz=189,slow=8.9,SNR=76
SONM PcP PcP 03 24 34.8 0.0
comp=Z,2.1nm,0.6s,baz=198,slow=4.4,SNR=4.4
MKAR Makanchi Array 46.82 346 P **P 03 23 01.9 0.0**
comp=Z,29nm,0.8s,mb5.3,baz=159,slow=7.8,SNR=198
MKAR LR LR 03 46 18.8
comp=Z,146nm,20.5s,MS3.9,slow=41
ULN Ulaanbaatar 46.86 9 *e*P **P 03 23 01.4 -0.8**
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ULN Ulaanbaatar 46.86 9 *e*P **P 03 23 01.4 -0.9**
comp=Z,9.7nm,0.9s,mb4.7
KKAR Karatay Array 47.65 334 *i* P **P 03 23 08.5 0.0**
KKAR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ZAK Zakamensk 48.86 5 *e*P **P 03 23 17.0 -0.8**
ZAK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CN2 Changchun 48.97 27 ⇑P **P 03 23 19.0 +0.3**
CN2 *e*S **S 03 30 20.6 +0.6**
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
CN2 LR LR
comp=N,300nm,14.0s,MS4.6
CN2 LR LR
comp=E,300nm,14.0s,MS4.6
CN2 LR LR
comp=Z,500nm,14.0s,MS4.7
TLY Talaya 50.18 5 *e*P **P 03 23 28.4 +0.5**
TLY pmax pmax
comp=Z,13nm,0.8s,mb5.0
TLY MLR MLR
comp=Z,274nm,18.0s,MS4.3
MAT Matsushiro 51.43 43 *e*P **P 03 23 36.0 -1.6**
MAT pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MAT Matsushiro 51.43 43 *e*P **P 03 23 36.0 -1.6**
comp=Z,10nm,0.8s,mb4.8
MAT Matsushiro 51.43 43 P **P 03 23 36.2 -1.4**
MJAR Matsushiro Arr 51.43 43 P **P 03 23 36.5 -1.2**
comp=Z,8.7nm,0.9s,mb4.7,baz=215,slow=6.1,SNR=15
MDJ Mudanjiang 51.54 29 P **P 03 23 37.8 -0.5**
MDJ AP pP 03 23 46.8 0.0
MDJ XP sP 03 23 50.8 +0.7
MDJ PP PP 03 25 35.3 -1.1
MDJ S **S 03 30 57.4 +1.8**
MDJ XS 03 31 12.9
MDJ AMB AMB
comp=Z,15nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,113nm,3.8s
MDJ LR LR
comp=N,73nm,17.2s,MS4.1
MDJ LR LR
comp=E,148nm,17.8s,MS4.1
MDJ LR LR
comp=Z,196nm,17.2s,MS4.2
CTAO Charters Tower 52.76 117 *e*P **P 03 23 48.5 +0.7**
CTAO pmax pmax
comp=Z,16nm,1.0s,mb4.9
CTAO Charters Tower 52.76 117 *e*P **P 03 23 48.5 +0.7**
comp=Z,16nm,1.0s,mb4.9
ZAL Zalesovo 53.12 351 P **P 03 23 49.4 -0.7**
comp=Z,34nm,1.1s,mb5.2,baz=290,slow=8.1
STKA Stephens Creek 53.69 132 P **P 03 23 55.9 +1.3**
comp=Z,7.3nm,1.0s,mb4.6,baz=324,slow=7.4,SNR=12
STKA Stephens Creek 53.69 132 *e*P **P 03 23 55.4 +0.8**
STKA *e*pP pP 03 24 05.0 +1.9
NVS Novosibirsk 54.25 350⇑*i*P **P 03 23 56.6 -1.7**
NVS pmax pmax
comp=N,28nm,1.3s
NVS pmax pmax
comp=E,18nm,1.3s
NVS pmax pmax
comp=Z,41nm,1.3s,mb5.2
KLR Kul'dur 55.91 27 *e*P **P 03 24 07.8 -2.7**
KLR MLR MLR
comp=Z,1μm,14.0s,MS5.0
CHKZ Chkalovo 56.30 341 *i* P **P 03 24 12.4 -0.9**
CHKZ pmax pmax
comp=Z,18nm,1.0s,mb5.1
CHKZ Chkalovo 56.30 341 *e*P **P 03 24 12.1 -1.1**
comp=Z,27nm,1.0s,mb5.2
ASAJ Asahikawa 58.37 37 P **P 03 24 27.4 -0.5**
comp=Z,4.3nm,0.4s,mb4.8,baz=316,slow=15,SNR=5.6
ASAJ LR LR 03 48 29.0
comp=Z,137nm,20.3s,MS4.1,baz=320,slow=35
CLNS Chul'man 59.36 17 *e*P **P 03 24 33.4 -1.3**
CLNS pmax pmax
comp=Z,18nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS MLR MLR
comp=Z,700nm,17.0s,MS4.9
CLNS MLR MLR
comp=N,200nm,13.0s,MS4.5
CLNS MLR MLR
comp=E,100nm,14.0s,MS4.5
YSS Yuzh-Sakhalins 60.05 34 *e*P **P 03 24 38.6 -0.9**
YSS pmax pmax
comp=Z,50nm,0.9s,mb5.5
YSS Yuzh-Sakhalins 60.05 34 *e*P **P 03 24 38.5 -1.0**
comp=Z,44nm,1.0s,mb5.4
GNI Garni 60.94 316 *i* P **P 03 24 45.5 -0.2**
GNI pmax pmax
comp=Z,6.0nm,1.1s
GNI Garni 60.94 316 P **P 03 24 45.5 -0.2**
comp=Z,2.2nm,0.3s,mb4.8,baz=177,slow=15,SNR=2.6
GNI Garni 60.94 316 P **P 03 24 44.7 -1.0**
comp=Z,2.8nm,0.4s,mb4.8
SVE Sverdlovsk 62.27 338 *e*P **P 03 24 53.0 -1.5**
SVE *e* 03 25 07.7
SVE pmax pmax
comp=Z,20nm,1.5s,mb5.0
ARU Arti 62.77 337⇑*i*P **P 03 24 55.2 -2.5**
ARU *e* 03 25 34.0
ARU *e*S **S 03 33 18.8 -4.4**
ARU *e*SS SS 03 37 22.0 -8.2
ARU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ARU Arti 62.77 337 *e*P **P 03 24 56.1 -1.6**
comp=Z,5.4nm,0.3s,mb5.2
KIV Kislovodsk 63.94 319*d i*P **P 03 25 05.3 -0.4**
KIV *e* 03 27 23.4
KIV *e*SS SS 03 37 49.7 +1.5
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.9
ASF Jabal al Asfar 64.16 305 P **P 03 25 08.1 +0.7**
comp=Z,1.3nm,0.7s,mb4.1,baz=329,slow=5.7,SNR=3.9
GOF Gofitskoye 64.19 320 *e*P **P 03 25 15.7 +8.4**
MALT Malatya 64.79 312 *e*P **P 03 25 10.6 -0.7**
MALT pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
MALT Malatya 64.79 312 *e*P **P 03 25 10.6 -0.7**
comp=Z,5.1nm,1.2s,mb4.4
YAK Yakutsk 65.04 16⇓*e*P **P 03 25 11.8 -0.7**
YAK pmax pmax
comp=Z,83nm,1.0s,mb5.7
YAK Yakutsk 65.04 16 *e*P **P 03 25 11.2 -1.3**
comp=Z,35nm,0.6s,mb5.6
EIL Elat 65.17 302 *e*P **P 03 25 11.8 -2.1**
comp=Z,10nm,1.2s,mb4.7
SOC Sochi 65.76 318 *e*P **P 03 25 15.7 -1.7**
SOC *e* 03 25 48.2
SOC *e* 03 27 38.7
SOC *e*S S 03 33 58.3 -2.1
SOC *e* 03 35 10.4
SOC pmax pmax
comp=Z,12nm,0.8s,mb5.0
SOC pmax pmax
comp=N,11nm,0.9s
SOC pmax pmax
comp=E,5.0nm,0.6s
BRTR Keskin Array B 68.77 312 P **P 03 25 34.9 -1.6**
comp=E,3.0nm,0.9s,mb4.2,baz=135,slow=7.0,SNR=14
MATP Matopo 70.61 248 P **P 03 25 48.8 +0.8**
comp=E,2.9nm,1.1s,mb4.1,baz=99,slow=5.7,SNR=3.4
MOS Moscow 71.93 329 *e*P **P 03 26 06.3 +11**
MOS pmax pmax
comp=Z,45nm,0.6s,mb5.6
OBN Obninsk 72.22 328*d i*P **P 03 25 56.7 -0.4**
OBN *e* 03 28 36.9
OBN *e*S S 03 35 15.3 -1.3
OBN pmax pmax
comp=Z,12nm,0.8s,mb4.9
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.1
SEY Seymchan 73.41 23 *e*P **P 03 26 01.5 -2.4**
SEY *e* 03 26 17.5
SEY *e* 03 36 07.9
SEY *e* 03 43 20.8
SEY pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LBTB Lobatse 74.00 244 LR LR 03 53 49.1
comp=Z,113nm,18.1s,MS4.2,baz=293,slow=32
KWP Kalwaria 78.70 320 *e*P **P 03 26 33.9 -0.1**
KWP pmax pmax
comp=Z,15nm,1.4s,mb4.7
KWP Kalwaria 78.70 320 *e*P **P 03 26 33.9 -0.2**
comp=Z,15nm,1.4s,mb4.7
KOLS Kolonicke sedl 78.85 320 *i* P **P 03 26 36.0 +1.1**
KOLS *e* pP 03 26 43.9 +0.2
FINES FINESS Array B 79.59 332 P **P 03 26 38.3 -0.3**
comp=Z,2.0nm,0.6s,mb4.2,baz=102,slow=6.7,SNR=13
KAF Kangasniemi 79.67 333 *e*p **P 03 26 38.9 -0.2**
comp=Z,5.8nm,0.9s,mb4.5
KAF Kangasniemi 79.67 333 *e*P **P 03 26 38.9 -0.2**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
PSZ Piszkesteto 80.25 318 *e*P **P 03 26 42.8 +0.4**
PSZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
PSZ Piszkesteto 80.25 318 *e*P **P 03 26 42.8 +0.4**
comp=Z,5.5nm,0.9s,mb4.5
BILL Bilibino 80.80 21⇓*e*P **P 03 26 43.5 -1.5**
BILL pmax pmax
comp=Z,8.0nm,1.9s,mb4.3
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.5
ARCES ARCESS Array B 82.11 340 P **P 03 26 51.9 +0.1**
comp=Z,2.8nm,0.5s,mb4.4,baz=102,slow=5.0,SNR=23
ZST Bratislava 82.14 318 *e*P **P 03 26 53.0 +0.7**
BRG Berggiesshubel 84.44 321 *e*P **P 03 27 05.0 +1.0**
BRG pmax pmax
comp=Z,15nm,1.9s,mb4.8
BRG Berggiesshubel 84.44 321 *e*P **P 03 27 05.0 +1.0**
comp=Z,15nm,1.9s,mb4.8
GERES GERESS Array B 84.45 319 P **P 03 27 04.9 +0.7**
comp=Z,1.4nm,0.5s,mb4.3,baz=104,slow=5.5,SNR=19
GRA1 Grafenberg Arr 86.11 320 *e*P **P 03 27 12.2 -0.2**
comp=Z,3.0nm,0.9s,mb4.5
GRF Grafenberg Arr 86.11 320 *e*P **P 03 27 12.2 -0.2**
GRF pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
GRF Grafenberg Arr 86.11 320 *e*P **P 03 27 12.2 -0.2**
GRF pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
GRF Grafenberg Arr 86.11 320 *e*P **P 03 27 12.2 -0.2**
comp=Z,3.0nm,0.9s,mb4.5
NB2 NORSAR Subarra 86.60 331 P **P 03 27 14.5 -0.1**
comp=Z,0.2nm,0.8s,mb3.4,baz=94,slow=5.8
NOA NORSAR Array B 86.60 331 P **P 03 27 14.6 0.0**
comp=Z,2.4nm,0.9s,mb4.5,baz=94,slow=4.8,SNR=7.5
IMA Indian Mountai 96.22 23 *e*P **P 03 28 00.1 +0.9**
YKA Yellowknife Ar 111.71 15 PP PP 03 33 41.2 -10
comp=Z,0.4nm,0.9s,baz=325,slow=7.9,SNR=5.4
TXAR Lajitas Array 143.35 31 PKP PKPdf 03 34 04.7 -5.3
comp=Z,1.0nm,1.0s,baz=316,slow=0.9,SNR=5.7
JCT Junction City 144.23 25 *e*PKPdf PKPdf 03 34 06.9 -4.7
CPUP Villa Florida 145.26 223 PKPbc PKPbc 03 34 11.1 +2.0
comp=Z,3.5nm,0.9s,baz=125,slow=3.2,SNR=11
CPUP Villa Florida 145.26 223 *e*PKPbc PKPbc 03 34 11.2 +2.2
LRAL Lakeview Retre 145.31 6 *e*PKPdf PKPdf 03 34 09.1 -4.3

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*IDC **22** 03:22:26.4±0.7, 1.68N×97.04E, mb4.3/16, mb1 4.4/17, mb1mx4.3/23, mbtmp4.3/17, ML4.6/1, Error ellipse: s-maj=24.7km s-min=14.7km az=52.0*
*BJI **22** 03:22:27.7, 1.91N×97.21E, h7^{km}, mB5.1, mb4.8, Ms5.1, Msz4.7*
*MOS **22** 03:22:28.9±1.3, 1.51N×96.86E, h33^{km}, mb4.7/10, Error ellipse: s-maj=29.6km s-min=13.6km az=97.9*
*NEIC **22** 03:22:30.2±0.4, 1.65N×97.03E, mb4.6/6, Error ellipse: s-maj=10.3km s-min=8.2km az=54.0*
ISC 22 03:22:29.9±2.2**, 1.65N**±0.08×**97.11E**±0.08**, h34**^{km}±18^{km}**, h21**^{km}±3.6^{km}**:pP-P, n64, σ0^{s}76**/62**, mb4.5**/36**, MS4.8**/1**, 2C-3D, Northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KULM Kulim 5.06 44 *e*Pn **P 03 23 45.5 +0.1**
CMAR Chiang Mai Arr 16.80 6 *i* P **P 03 26 26.1 +1.8**
CMAR pmax pmax
comp=Z,3.0nm,0.4s
CMAR Chiang Mai Arr 16.80 6 Pn **P 03 26 23.1 -1.3**
comp=Z,0.7nm,0.3s,baz=197,slow=12,SNR=12
KKM Kota Kinabalu 19.55 77 *e*P **P 03 26 57.8 0.0**
QIZ Qiongzhong 21.31 35 *e*P **P 03 27 15.4 -0.7**
JIRN Jiri 27.90 339 *e*P **P 03 28 19.6 +0.5**
PKI Pulchoki 28.11 338 *e*P **P 03 28 20.8 -0.1**
comp=Z,6.2nm,0.5s,mb4.5
GUN Gumba 28.24 339 *e*P **P 03 28 22.5 +0.4**
comp=Z,16nm,0.6s,mb4.9
DMN Daman 28.26 337 *e*P **P 03 28 22.3 0.0**
KKN Kakani 28.35 338 *e*P **P 03 28 23.4 +0.3**
GKN Gorkha 28.80 337 *e*P **P 03 28 27.3 +0.2**
comp=Z,18nm,0.6s,mb4.9
KOLN Koldanda 29.02 335 *e*P **P 03 28 29.3 +0.3**
comp=Z,19nm,1.0s,mb4.8
XAN Xi'an 34.07 18 P **P 03 29 12.1 -1.2**
XAN AMB AMB
comp=Z,21nm,0.9s,mb5.1
FITZ Fitzroy Crossi 34.26 126 P **P 03 29 14.3 -0.8**
comp=Z,4.8nm,0.7s,mb4.5,baz=253,slow=3.1,SNR=4.7
NJ2 Nanjing 36.53 32 *e*P **P 03 29 35.3 +1.0**
NJ2 PP PP 03 31 01.3 +2.3
NJ2 S **S 03 35 16.0 +2.2**
NJ2 AMB AMB
comp=Z,450nm,5.6s
NJ2 LR LR
comp=N,2μm,16.3s,MS5.0
NJ2 LR LR
comp=E,1μm,15.5s,MS5.0
NJ2 LR LR
comp=Z,870nm,13.5s,MS4.7
SSE Sheshan 37.10 35 P **P 03 29 39.5 +0.4**
SSE AMB AMB
comp=Z,12nm,0.8s,mb4.8
SSE AMB AMB
comp=Z,40nm,4.6s
SSE Sheshan 37.10 35 P **P 03 29 39.5 +0.4**
comp=Z,12nm,0.8s,mb4.8
GTA Gaotai 37.67 3 P **P 03 29 43.8 0.0**
GTA AP pP 03 29 49.5 -4.3
GTA XP sP 03 29 53.0 -5.2
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb4.3
JOW Kunigami 39.01 47 P **P 03 29 53.7 -1.3**
comp=Z,7.8nm,0.5s,mb4.7,baz=230,slow=7.1,SNR=7.3
HHC Hu-ho-hao-te 41.16 17 *e*P **P 03 30 07.8 -4.9**
HHC AP pP 03 30 15.9 -6.9
HHC XP sP 03 30 23.1 -4.1
HHC AMB AMB
comp=Z,14nm,1.3s,mb4.4
HHC AMB AMB
comp=Z,116nm,6.2s
BJI Beijing 41.96 22 P **P 03 30 19.6 +0.2**
BJI AMB AMB
comp=Z,26nm,0.7s,mb5.0
BJI Beijing 41.96 22 P **P 03 30 19.6 +0.2**
comp=Z,26nm,0.7s,mb5.0
WRA Warramunga Arr 42.35 122 *i* P **P 03 30 23.6 +0.8**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 42.35 122 P **P 03 30 23.0 +0.2**
comp=Z,1.3nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=6.6
WRAB Tennant Creek 42.35 122 P **P 03 30 23.4 +0.5**
comp=Z,4.4nm,0.6s,mb4.3
WRAB *e*pP pP 03 30 30.6 -2.5
ASAR Alice Springs 43.74 127 P **P 03 30 34.5 +0.5**
comp=Z,1.7nm,0.9s,mb3.8,baz=302,slow=6.7,SNR=7.9
ULHL Ulahol 44.55 338 P **P 03 30 41.2 +0.9**
SNR=5.9
UCH Uchtor 45.20 336 P **P 03 30 47.4 +1.8**
SNR=8.5
TKM2 Tokmak 2 45.37 338 P **P 03 30 47.0 0.0**
SNR=5.3
AML Almayashu 45.46 335 P **P 03 30 49.1 +1.4**
SNR=7.9
USP Ospenovka 46.09 337 P **P 03 30 53.3 +0.7**
SNR=11
SONM Songino Array 46.70 9 P **P 03 30 57.7 +0.3**
comp=Z,6.8nm,0.6s,mb4.7,baz=191,slow=8.9,SNR=51
SONM PcP PcP 03 32 31.0 0.0
comp=Z,0.8nm,0.4s,baz=179,slow=3.9,SNR=4.5
MKAR Makanchi Array 46.79 346 P **P 03 30 58.2 +0.2**
comp=Z,15nm,0.8s,mb5.0,baz=161,slow=8.2,SNR=93
MKAR Makanchi Array 46.79 346 P **P 03 30 58.2 +0.2**
ULN Ulaanbaatar 46.84 9*c i*P **P 03 30 58.5 +0.1**
ZAK Zakamensk 48.84 5 *e*P **P 03 31 13.7 -0.3**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
TLY Talaya 50.16 5 *e*P **P 03 31 24.8 +0.7**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
TLY Talaya 50.16 5 *e*P **P 03 31 24.3 +0.2**
comp=Z,5.9nm,0.8s,mb4.7
MJAR Matsushiro Arr 51.42 43 P **P 03 31 34.0 0.0**
comp=Z,2.8nm,0.7s,mb4.3,baz=209,slow=6.0,SNR=6.3
ZAL Zalesovo 53.10 351 P **P 03 31 45.6 -0.6**
comp=Z,7.3nm,0.6s,mb4.8,baz=308,slow=6.7,SNR=39
STKA Stephens Creek 53.72 132 P **P 03 31 52.0 +0.8**
comp=Z,2.9nm,0.9s,mb4.2,baz=319,slow=7.4,SNR=6.7
NVS Novosibirsk 54.22 350 *e*P **P 03 31 52.3 -2.2**
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,5.0nm,0.9s
NVS pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CHKZ Chkalovo 56.27 341 *e*P **P 03 32 08.5 -0.9**
comp=Z,1.9nm,0.4s,mb4.5
CHKZ *e*pP pP 03 32 16.8 -3.0
ASAJ Asahikawa 58.36 37 P **P 03 32 24.2 -0.1**
comp=Z,8.2nm,0.8s,mb4.8,baz=239,slow=5.9,SNR=4.3
YSS Yuzh-Sakhalins 60.03 34 *e*P **P 03 32 35.0 -0.8**
ARU Arti 62.74 337 *i* P **P 03 32 52.7 -1.2**
ARU pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
KIV Kislovodsk 63.91 319⇓*e*P **P 03 33 01.5 -0.3**
KIV *e* 03 35 17.4
KIV *e*S **S 03 41 27.0 -6.4**
KIV pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
YAK Yakutsk 65.02 16⇑*e*P **P 03 33 08.6 -0.1**
YAK pmax pmax
comp=Z,24nm,0.5s,mb5.5
SOC Sochi 65.73 318 *e*P **P 03 33 09.9 -3.7**
SOC *e* 03 33 41.4
SOC *e* 03 35 35.2
SOC *e*PPP PPP 03 37 18.3 +3.0
SOC *e*S S 03 41 52.1 -3.7
SOC *e* 03 43 03.2
SOC *e*SS SS 03 46 08.1 -3.7
SOC pmax pmax
comp=Z,13nm,1.0s,mb4.9
SOC pmax pmax
comp=N,11nm,0.8s
SOC pmax pmax
comp=E,5.0nm,0.8s
BRTR Keskin Array B 68.74 312 P **P 03 33 31.8 -0.8**
comp=E,1.2nm,0.8s,mb3.9,baz=133,slow=7.1,SNR=8.2
OBN Obninsk 72.19 328⇓*e*P **P 03 33 53.0 -0.1**
OBN *e* 03 36 32.4
OBN pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
AKASG Malin Array Be 74.85 322 *i* P **P 03 34 08.8 0.0**
AKASG Malin Array Be 74.85 322 P **P 03 34 07.9 -0.9**
comp=Z,0.2nm,0.2s,mb3.6,baz=92,slow=4.4,SNR=5.5
FINES FINESS Array B 79.56 332 *i* P **P 03 34 34.7 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 79.56 332 P **P 03 34 34.5 -0.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=108,slow=6.0,SNR=8.5
BILL Bilibino 80.78 21⇓*e*P **P 03 34 32.0 -9.3**
BILL pmax pmax
comp=Z,3.0nm,1.8s,mb3.9
ARCES ARCESS Array B 82.09 340 P **P 03 34 47.9 -0.2**
comp=Z,1.8nm,0.5s,mb4.3,baz=90,slow=7.3,SNR=7.5
GERES GERESS Array B 84.42 319 P **P 03 35 00.5 +0.1**
comp=Z,1.0nm,0.8s,mb4.0,baz=104,slow=5.5,SNR=7.5
NB2 NORSAR Subarra 86.57 331 P **P 03 35 10.7 +0.1**
comp=Z,0.6nm,0.7s,mb3.9,baz=94,slow=5.0
NOA NORSAR Array B 86.57 331 P **P 03 35 10.7 +0.1**
comp=Z,1.1nm,0.8s,mb4.1,baz=95,slow=4.9,SNR=4.2
YKA Yellowknife Ar 111.69 15 PP PP 03 41 45.0 -2.4
comp=Z,0.2nm,0.9s,baz=335,slow=6.7,SNR=3.9
TXAR Lajitas Array 143.34 31 PKP PKPdf 03 42 01.1 -0.3
comp=Z,0.2nm,0.5s,baz=166,slow=2.7,SNR=4.1
CPUP Villa Florida 145.27 223 PKPbc PKPbc 03 42 06.9 +1.6
comp=Z,1.3nm,0.8s,baz=142,slow=5.4,SNR=6.5
SIV San Ignacio 154.20 235 PKPbc PKPdf 03 42 29.1 +10
comp=Z,0.8nm,0.9s,baz=160,slow=10,SNR=3.8

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*BJI **22** 03:46:03.3, 10.11S×13.63W, h10^{km}, mB5.4, Ms5.2, Msz4.9*
*MOS **22** 03:46:04.3±0.9, 10.11S×13.19W, h10^{km}, mb5.3/64, MS4.7/20, Error ellipse: s-maj=13.9km s-min=4.3km az=71.7*
*IDC **22** 03:46:04.3±0.4, 10.24S×13.23W, mb4.4/33, mb1 4.4/34, mb1mx4.4/36, mbtmp4.4/34, ML3.7/1, MS4.6/29, Ms1 4.6/29, ms1mx4.6/30, Error ellipse: s-maj=13.5km s-min=10.6km az=139.0*
*HRVD **22** 03:46:06.1±0.2, 10.25S×13.18W, h12^{km}, MW5.2/69, Centroid moment Tensor Solution. LP body waves: s46,c67;Mantle waves: s69,c133; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.46±.14; $M_{\theta\theta}$0.15±.14; $M_{\phi\phi}$6.31±.13; $M_{r\theta}$0.46±.41; $M_{\theta\phi}$-0.75±.12; $M_{\phi r}$0.33±.39; Best double couple: $M_0$6.454×10^{16} NP1: ϕ_s349°, δ44°, λ-96°. NP2: ϕ_s177°, δ46°, λ-84°. Principal axes: T 6.406, Plg1°, Azm263°; N .095, Plg4°, Azm353°; P -6.503, Plg86°, Azm157°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **22** 03:46:06.0±0.2, 10.23S×13.19W, h10^{km}, mb5.1/91, MS4.8/14 Error ellipse: s-maj=5.7km s-min=4.1km az=126.0*
ISC 22 03:46:04.3±0.2**, 10.17S**±0.04×**13.16W**±0.05**, h10**^{km}**, (h22**^{km}±2.4^{km}**:pP-P), n277, σ0^{s}98**/253**, mb4.9**/122**, MS4.7**/45**, 25C-5D, Ascension Island region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
DBIC Dimbokro 18.66 27 P **P 03 50 26.2 +1.6**
0.2nm,0.3s,baz=188,slow=13,SNR=5.9
DBIC LR LR 03 55 57.6
comp=Z,2μm,20.1s,baz=186,slow=32
DBIC Dimbokro 18.66 27 *e*P **P 03 50 26.4 +1.8**
33nm,1.1s
CAUB Caruaru 22.64 273 *e*P **P 03 51 02.4 -4.7**
CAUB *e* 03 51 05.9
CAUB *e* 03 51 11.7
CAUB *e* 03 51 17.4
CAUB *e* 03 52 14.7
RCBR Riachuelo 22.92 279 *e*P **P 03 51 10.1 +0.3**

52nm,1.5s,mb4.7
CS6B Jaguaretama 25.68 278 *c iP* **P 03 51 37.1 +0.7**
CS6B *i* 03 51 43.1
CS6B *i* 03 52 11.0
TSUM Tsumeb 31.02 110 P **P 03 52 23.2 -1.4**
2.0nm,0.5s,mb4.2,baz=251,slow=2.5,SNR=4.0
TSUM LR LR 04 02 13.7
comp=Z,3μm,21.7s,MS4.9,baz=264,slow=31
BAO Brasilia Array 34.35 257 P **P 03 52 53.0 -0.6**
BAO pP pP 03 52 57.0 +0.4
BDFB Brasilia 34.37 257 P **P 03 52 52.8 -1.0**
7.8nm,1.0s,mb4.6,baz=66,slow=5.2,SNR=9.1
BDFB LR LR 04 04 04.4
comp=Z,3μm,21.4s,MS5.0,baz=86,slow=32
SUR Sutherland 38.35 130 P **P 03 53 27.2 -0.1**
4.0nm,0.8s,mb4.2,baz=325,slow=12,SNR=2.4
SUR Sutherland 38.35 130 P **P 03 53 27.3 0.0**
6.0nm,0.7s,mb4.4
LBTB Lobatse 39.62 117 P **P 03 53 38.0 0.0**
1.5nm,0.6s,mb3.9,baz=280,slow=6.1,SNR=2.9
BOSA Boshof 40.38 123 P **P 03 53 44.5 +0.3**
2.4nm,1.0s,mb3.9,baz=303,slow=11,SNR=3.4
BOSA LR LR 04 07 38.1
comp=Z,967nm,18.7s,MS4.7,baz=290,slow=32
BOSA Boshof 40.38 123 *eP* **P 03 53 45.0 +0.8**
30nm,1.8s,mb4.7
LSZ Lusaka 40.61 102 *eP* **P 03 53 47.6 +1.4**
95nm,2.2s,mb5.0
MATP Matopo 41.35 109 P **P 03 53 52.6 +0.4**
5.9nm,0.9s,mb4.2,baz=275,slow=7.9,SNR=12
MBAR Mbarara 44.67 80 *eP* **P 03 54 20.4 +0.9**
MBAR pmax pmax
comp=Z,134nm,2.3s,mb5.4
MBAR Mbarara 44.67 80 *eP* **P 03 54 20.4 +0.8**
comp=Z,134nm,2.3s,mb5.4
CPUP Villa Florida 44.67 243 P **P 03 54 18.6 -0.8**
comp=Z,2.9nm,1.0s,mb4.0,baz=93,slow=7.8,SNR=5.6
CPUP LR LR 04 10 24.9
comp=Z,1μm,20.4s,MS4.9,baz=109,slow=33
CPUP Villa Florida 44.67 243 P **P 03 54 18.6 -0.8**
CPUP LR LR 04 10 24.9
SIV San Ignacio 46.94 258 P **P 03 54 35.7 -1.7**
comp=Z,4.1nm,0.9s,mb4.3,baz=97,slow=11,SNR=14
ESPR Espera 47.28 8 P **P 03 54 41.0 +1.1**
comp=Z,23nm,2.3s,mb4.7
ENIJ Nijar 48.00 12 P **P 03 54 46.9 +1.3**
comp=Z,5.2nm,0.6s,mb4.7
ECOG Cogollos-Vega 48.04 10 P **P 03 54 47.6 +1.7**
ECOG pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ECOG Cogollos-Vega 48.04 10 P **P 03 54 47.6 +1.8**
comp=Z,4.4nm,0.6s,mb4.7
EMIN Mina Concepcio 48.06 7 P **P 03 54 49.0 +3.0**
comp=Z,16nm,1.6s,mb4.8
ELUQ Luque 48.20 9 P **P 03 54 48.0 +0.9**
ELUQ pmax pmax
comp=Z,20nm,0.9s,mb5.2
ELUQ Luque 48.20 9 P **P 03 54 48.0 +1.0**
comp=Z,20nm,0.9s,mb5.2
EVO Evora 48.68 5 *eP* **P 03 54 50.8 0.0**
EVO *eR*
comp=Z,53nm,1.5s,mb5.0
comp=Z,1μm,22.2s
EHUE Huescar 48.74 11 P **P 03 54 53.8 +2.5**
EHUE pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
EHUE Huescar 48.74 11 P **P 03 54 53.8 +2.5**
comp=Z,0.5nm,0.5s,mb3.8
EADA Adamuz 48.74 9 P **P 03 54 51.6 +0.4**
comp=Z,48nm,2.0s,mb5.2
EBAD Badajoz 49.00 6 P **P 03 54 56.1 +2.8**
comp=Z,35nm,1.6s,mb5.1
SAML Samuel 49.30 267 *eP* **P 03 54 56.5 +0.6**
comp=Z,31nm,1.5s,mb5.1
SAML LR LR
comp=Z,2μm,19.0s,MS5.1
ETOB Tobarra 49.75 12 P **P 03 55 00.3 +1.3**
comp=Z,46nm,1.8s,mb5.2
ESDC Sonseca Array 50.31 9 P **P 03 55 02.7 -0.6**
comp=Z,3.0nm,1.1s,mb4.2,baz=201,slow=6.5,SNR=7.0
ESDC PcP PcP 03 56 21.6 -0.8
comp=Z,0.9nm,0.8s,baz=180,slow=1.3,SNR=3.0
ESDC PP PP 03 56 59.1 -0.7
comp=Z,0.4nm,0.6s,baz=188,slow=10,SNR=4.1
ESDC Sonseca Array 50.31 9 P **P 03 55 03.8 +0.5**
comp=Z,10nm,1.8s,mb4.5
MTE Manteigas 50.58 6 *eP* **P 03 55 06.3 +1.0**
comp=Z,45nm,1.3s,mb5.2
comp=Z,556nm,18.7s
MTE Manteigas 50.58 6 *eP* **P 03 55 06.0 +0.8**
comp=Z,48nm,1.5s,mb5.2
KMBO Kilima Mbogo 50.90 83 *eP* **P 03 55 08.6 +0.5**
KMBO pmax pmax
comp=Z,21nm,1.8s
KMBO MLR MLR
comp=Z,972nm,21.0s
KMBO Kilima Mbogo 50.90 83 P **P 03 55 08.7 +0.6**
comp=Z,1.3nm,0.7s,mb4.0,baz=66,slow=22,SNR=7.3
KMBO LR LR 04 16 04.7
comp=Z,1μm,18.1s,MS5.0,baz=99,slow=35
KMBO Kilima Mbogo 50.90 83 *eP* **P 03 55 08.6 +0.5**
comp=Z,21nm,1.8s,mb4.8
KMBO LR LR
comp=Z,972nm,21.0s,MS4.8
TRQA Tornquist 51.73 229 *eP* **P 03 55 13.0 -1.1**
comp=Z,26nm,1.2s,mb5.0
ELOB Lobios 51.99 5 P **P 03 55 17.0 +1.0**
comp=Z,59nm,1.3s,mb5.4
ERTA Horta de San J 52.37 13 P **P 03 55 19.4 +0.6**
comp=Z,48nm,1.4s,mb5.2
ERUA La Rua 52.59 6 P **P 03 55 23.5 +3.0**
ERUA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
ERUA La Rua 52.59 6 P **P 03 55 23.5 +3.0**
comp=Z,7.9nm,0.9s,mb4.6
EPOB Poblet 52.91 13 P **P 03 55 23.0 +0.1**
comp=Z,18nm,1.0s,mb5.0
ESAC San Caprasio 52.93 12 P **P 03 55 24.0 +0.9**
comp=Z,16nm,0.7s,mb5.1
LPAZ La Paz 53.73 257 *eP* **P 03 55 28.4 -0.8**
LPAZ pmax pmax
comp=Z,6.0nm,1.0s
LPAZ MLR MLR
comp=Z,901nm,22.0s
LPAZ La Paz 53.73 257 P **P 03 55 28.4 -0.8**
comp=Z,3.7nm,0.9s,mb4.3,baz=83,slow=8.1,SNR=12
LPAZ LR LR 04 16 07.1
comp=Z,543nm,19.2s,MS4.6,baz=80,slow=34
LPAZ La Paz 53.73 257 *eP* **P 03 55 28.4 -0.8**
comp=Z,5.9nm,1.0s,mb4.5
LPAZ LR LR
comp=Z,901nm,22.0s,MS4.8
ETSF Etsaut 54.05 11 *eP* **P 03 55 31.2 0.0**
comp=Z,57nm,1.4s,mb5.0
ETSF Etsaut 54.05 11 *eP* **P 03 55 31.2 0.0**
ETSF pmax pmax
comp=Z,28nm,1.4s,mb5.0
SJPF Ste Jean 54.13 11 *eP* **P 03 55 31.9 +0.1**
comp=Z,49nm,1.2s,mb5.0
SJPF Ste Jean 54.13 11 *eP* **P 03 55 31.9 +0.1**
SJPF pmax pmax
comp=Z,25nm,1.2s,mb5.0
EPF Esparros 54.36 12 *eP* **P 03 55 33.5 0.0**
comp=Z,142nm,1.7s,mb5.3
EPF Esparros 54.36 12 *eP* **P 03 55 33.5 0.0**
EPF pmax pmax
comp=Z,71nm,1.7s,mb5.3
PCRV Puerto La Cruz 55.04 290 LR LR 04 21 10.3
comp=Z,369nm,18.1s,MS4.5,baz=126,slow=38
MTLF Montolieu 55.06 14 *eP* **P 03 55 37.6 -1.1**
comp=Z,58nm,1.5s,mb5.1
MTLF Montolieu 55.06 14 *eP* **P 03 55 37.6 -1.1**
MTLF pmax pmax
comp=Z,29nm,1.5s,mb5.1
CFAA Coronel Fontan 55.08 239 P **P 03 55 37.4 -1.6**
comp=Z,1.0nm,1.0s,mb3.8,baz=84,slow=7.5,SNR=9.9
LASF Ste Croix 56.15 15 *eP* **P 03 55 45.7 -0.8**
PGF Pioggiola 56.24 20 *eP* **P 03 55 45.6 -1.6**
LFF La Frestale 56.27 12 *eP* **P 03 55 46.9 -0.4**
comp=Z,36nm,1.0s,mb5.0
LFF La Frestale 56.27 12 *eP* **P 03 55 46.9 -0.4**
LFF pmax pmax
comp=Z,18nm,1.0s,mb5.1
TIP Timpagrande 56.43 28 *eP* **P 03 55 48.7 +0.1**
CAF Calviac 56.53 13 *eP* **P 03 55 48.5 -0.8**
comp=Z,101nm,1.7s,mb5.3
CAF Calviac 56.53 13 *eP* **P 03 55 48.5 -0.8**
CAF pmax pmax
comp=Z,50nm,1.7s,mb5.3
RJF Les Rejaudoux 56.78 12 *eP* **P 03 55 50.1 -0.9**
comp=Z,93nm,1.6s,mb5.3
RJF *eR*
comp=Z,1μm,19.0s
RJF Les Rejaudoux 56.78 12 *eP* **P 03 55 50.1 -0.9**
RJF pmax pmax
comp=Z,46nm,1.6s,mb5.3
RJF MLR MLR
comp=Z,1μm,19.0s,MS5.0
ARE Arequipa 56.95 257 *eP* **P 03 55 52.0 -0.6**
TOUF Mont Tournerai 57.02 17⇑ *eP* **P 03 55 54.3 +1.5**
VIVF Saint-Julien-I 57.09 15 *eP* **P 03 55 52.8 -0.4**
LBL Lubilhac 57.09 14⇑ *eP* **P 03 55 53.9 +0.6**
ORIF Oris-en-Rattie 57.47 16 *eP* **P 03 55 55.9 0.0**
ORIF *eR*
comp=Z,1μm,18.0s
PYM Petit Puy Mans 57.53 13⇑ *eP* **P 03 55 57.2 +0.9**
MBDF Montbardon 57.54 17 *eP* **P 03 55 55.9 -0.5**
comp=Z,88nm,1.6s,mb5.2
MBDF Montbardon 57.54 17 *eP* **P 03 55 55.9 -0.5**
MBDF pmax pmax
comp=Z,44nm,1.6s,mb5.2
AQU L'Aquila 57.65 23 *eP* **P 03 55 56.5 -0.7**
AQU pmax pmax
comp=Z,48nm,1.1s,mb5.4
AQU L'Aquila 57.65 23 *eP* **P 03 55 56.5 -0.7**
comp=Z,48nm,1.1s,mb5.4
MFF Saint Martin d 57.70 11 *eP* **P 03 55 56.6 -0.9**
comp=Z,104nm,1.6s,mb5.3
MFF Saint Martin d 57.70 11 *eP* **P 03 55 56.6 -0.9**
MFF pmax pmax
comp=Z,52nm,1.6s,mb5.3
IDI Anoyia 57.77 37 P **P 03 55 58.6 +0.4**
comp=Z,15nm,1.0s,mb5.0,baz=182,slow=4.2,SNR=3.9
BNI Bardonecchia 57.81 17 *eP* **P 03 55 58.9 +0.6**
BNI pmax pmax
comp=Z,22nm,1.4s,mb5.0
BNI Bardonecchia 57.81 17 *eP* **P 03 55 58.9 +0.6**
comp=Z,22nm,1.4s,mb5.0
TCF Toulx Ste Croi 57.86 13 *eP* **P 03 55 58.3 -0.3**
comp=Z,106nm,1.6s,mb5.3
TCF Toulx Ste Croi 57.86 13 *eP* **P 03 55 58.3 -0.3**
TCF pmax pmax
comp=Z,53nm,1.6s,mb5.3
PLDF La Plantade 57.88 14⇑ *eP* **P 03 55 59.2 +0.5**
LPG La Plagne 58.24 16 *eP* **P 03 56 01.5 +0.2**
comp=Z,41nm,1.4s,mb5.0
LPG La Plagne 58.24 16 *eP* **P 03 56 01.5 +0.2**
LPG pmax pmax
comp=Z,20nm,1.4s,mb5.0
LPL La Plagne 58.25 16 *eP* **P 03 56 01.6 +0.3**
comp=Z,45nm,1.3s,mb5.0
LPL La Plagne 58.25 16 *eP* **P 03 56 01.6 +0.3**
LPL pmax pmax
comp=Z,23nm,1.3s,mb5.0
BGF Bois d'Agland 58.26 13 *eP* **P 03 56 00.9 -0.5**
QUIF Quistinic 58.50 8 *eP* **P 03 56 02.2 -0.9**
SMF Signal de Mont 58.56 14 *eP* **P 03 56 02.8 -0.7**
comp=Z,101nm,1.8s,mb5.2
SMF Signal de Mont 58.56 14 *eP* **P 03 56 02.8 -0.7**
SMF pmax pmax
comp=Z,51nm,1.8s,mb5.2
AVF Avril sur Loir 58.59 13 *eP* **P 03 56 03.0 -0.7**
comp=Z,52nm,1.5s,mb5.0
AVF Avril sur Loir 58.59 13 *eP* **P 03 56 03.0 -0.7**
AVF pmax pmax
comp=Z,26nm,1.5s,mb5.0
PLCA Paso Flores 58.85 228 *eP* **P 03 56 03.8 -1.8**
PLCA pmax pmax
comp=Z,1.0nm,0.7s
PLCA Paso Flores 58.85 228 P **P 03 56 03.7 -2.0**
comp=Z,0.9nm,0.7s,mb3.9,baz=86,slow=12,SNR=4.6
PLCA LR LR 04 18 11.5
comp=Z,577nm,19.8s,MS4.7,baz=80,slow=33
PLCA Paso Flores 58.85 228 *eP* **P 03 56 03.8 -1.8**
comp=Z,1.0nm,0.7s,mb4.0
SSF Saint Saulge 58.88 13 *eP* **P 03 56 05.0 -0.7**
SSF pmax pmax
comp=Z,25nm,1.3s,mb5.1
SSF Saint Saulge 58.88 13 *eP* **P 03 56 05.0 -0.7**
comp=Z,25nm,1.3s,mb5.1
HYF Humbligny 58.89 13 *eP* **P 03 56 05.3 -0.5**
ROSF Rostrenen 58.90 8 *eP* **P 03 56 04.0 -1.8**
SGMF Saint Gilles 58.92 8 *eP* **P 03 56 04.9 -1.1**
CABF La Chapelle 59.09 15 *eP* **P 03 56 06.2 -1.0**
comp=Z,52nm,1.3s,mb5.1
CABF La Chapelle 59.09 15 *eP* **P 03 56 06.2 -1.0**
CABF pmax pmax
comp=Z,26nm,1.3s,mb5.1
LOR Lormes 59.16 13 *eP* **P 03 56 06.7 -0.9**
comp=Z,25nm,1.2s,mb4.8
LOR *eR*
comp=Z,657nm,17.8s
LOR Lormes 59.16 13 *eP* **P 03 56 06.7 -0.9**
LOR pmax pmax
comp=Z,12nm,1.2s,mb4.8
LOR MLR MLR
comp=Z,660nm,17.8s,MS4.8
GRR Gorron 59.30 10 *eP* **P 03 56 07.7 -1.0**
comp=Z,221nm,1.8s,mb5.6
GRR Gorron 59.30 10 *eP* **P 03 56 07.7 -1.0**
GRR pmax pmax
comp=Z,110nm,1.8s,mb5.6
SJG San Juan 59.37 298 LR LR 04 17 42.6
comp=Z,306nm,20.2s,MS4.4,baz=99,slow=32
LDF La Druitiere 59.63 10 *eP* **P 03 56 09.9 -1.0**
comp=Z,56nm,1.5s,mb5.1
LDF La Druitiere 59.63 10 *eP* **P 03 56 09.9 -1.0**
LDF pmax pmax
comp=Z,28nm,1.5s,mb5.1
FLN La Foliniere 59.73 10 *eP* **P 03 56 10.9 -0.7**
comp=Z,17nm,0.9s,mb4.8
FLN *eR*
comp=Z,901nm,20.2s
FLN La Foliniere 59.73 10 *eP* **P 03 56 10.9 -0.7**
FLN pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
FLN MLR MLR
comp=Z,900nm,20.3s,MS4.9
SDV Santo Domingo 60.25 286 LR LR 04 20 09.2
comp=Z,392nm,21.8s,MS4.5,baz=290,slow=34
SDV Santo Domingo 60.25 286 *eP* **P 03 56 16.2 +0.6**
comp=Z,45nm,1.5s,mb5.3
BBS Basel-Blauen 60.25 16⇑ *eP* **P 03 56 15.4 +0.2**
DAVOX Davos 60.31 18 P **P 03 56 14.8 -0.8**
comp=Z,2.2nm,0.7s,mb4.3,baz=190,slow=16,SNR=3.9
DAVOX LR LR 04 21 30.0
comp=Z,1μm,20.6s,MS4.9,baz=210,slow=35
HINF Hinteralfeld 60.40 15 *eP* **P 03 56 14.8 -1.4**
HAU Haudompre 60.45 15 *eP* **P 03 56 15.3 -1.2**
comp=Z,35nm,1.3s,mb4.9
HAU *eR*
comp=Z,712nm,21.0s
HAU Haudompre 60.45 15 *eP* **P 03 56 15.3 -1.2**
HAU pmax pmax
comp=Z,17nm,1.3s,mb4.9
HAU MLR MLR
comp=Z,710nm,21.0s,MS4.8
MOF Molkenrain 60.51 16⇑ *eP* **P 03 56 16.5 -0.4**
THEF They Montfort 60.56 15⇑ *eP* **P 03 56 17.6 +0.3**
MEZF Maizieres J'vi 60.59 14 *eP* **P 03 56 16.7 -0.8**
FELD Feldberg 60.76 16⇑ *eP* **P 03 56 18.5 -0.1**
DAVA Damuels 60.77 18⇑ *iP* **P 03 56 17.1 -1.6**
comp=Z,19nm,1.5s,mb5.0
SKO Skopje 60.83 29 *i P* **P 03 56 19.3 +0.1**
ECH Echery 60.85 15⇑ *eP* **P 03 56 18.9 -0.3**
JAVS Javornik 60.93 21 *eP* **P 03 56 20.2 +0.4**
EIL Elat 60.94 48 P **P 03 56 21.0 +0.9**
comp=Z,2.5nm,0.7s,mb4.5,baz=255,slow=5.4,SNR=2.9
EIL LR LR 04 22 34.5
comp=Z,700nm,20.2s,MS4.8,baz=43,slow=36
EIL Elat 60.94 48 *eP* **P 03 56 20.5 +0.4**
comp=Z,3.4nm,0.6s,mb4.7
BOJS Bojanci 61.03 22 *eP* **P 03 56 21.5 +1.0**
CDF Champ du Feu 61.06 15 *eP* **P 03 56 19.3 -1.3**
comp=Z,50nm,1.6s,mb5.1
CDF Champ du Feu 61.06 15 *eP* **P 03 56 19.3 -1.3**
CDF pmax pmax
comp=Z,25nm,1.6s,mb5.1
WLS Welschbruch 61.08 15⇑ *eP* **P 03 56 20.4 -0.4**
SQTA Sankt Quirin 61.12 19⇑ *iP* **P 03 56 20.7 -0.4**
comp=Z,28nm,1.4s,mb5.2
SQTA Sankt Quirin 61.12 19⇑ *iP* **P 03 56 20.7 -0.4**
SQTA pmax pmax
comp=Z,28nm,1.4s,mb5.2
LJU Ljubljana 61.22 22 *eP* **P 03 56 23.7 +1.9**
BFO Black Forest 61.27 16 *eP* **P 03 56 21.1 -1.0**
BFO pmax pmax
comp=Z,35nm,1.7s,mb5.2
BFO Black Forest 61.27 16 *eP* **P 03 56 21.1 -1.0**
comp=Z,35nm,1.7s,mb5.2
WTTA Wattenberg 61.29 19⇑ *iP* **P 03 56 21.1 -1.2**
comp=Z,18nm,1.1s,mb5.1
WTTA Wattenberg 61.29 19⇑ *iP* **P 03 56 21.1 -1.2**
WTTA pmax pmax
comp=Z,18nm,1.1s,mb5.1
KBA Koelnbreinsper 61.70 20⇑ *iP* **P 03 56 31.1 +6.1**
comp=Z,11nm,1.5s,mb4.8
KBA Koelnbreinsper 61.70 20⇑ *iP* **P 03 56 31.1 +6.1**
KBA pmax pmax
comp=Z,11nm,1.5s,mb4.8
SNAA Sanae 61.78 176 P **P 03 56 24.1 -1.1**
comp=Z,8.3nm,1.3s,mb4.7,baz=340,slow=6.3,SNR=5.0
DIVS Divcibare 61.82 27 *eP* **P 03 56 25.5 -0.4**
BAIF Baives 61.87 13 *eP* **P 03 56 24.9 -1.2**
comp=Z,40nm,1.1s,mb5.1
BAIF Baives 61.87 13 *eP* **P 03 56 24.9 -1.2**
BAIF pmax pmax
comp=Z,20nm,1.1s,mb5.2
WLF Walferdange 61.94 14 *eP* **P 03 56 25.5 -1.1**
WLF pmax pmax
comp=Z,12nm,0.9s,mb5.0
WLF Walferdange 61.94 14 *eP* **P 03 56 25.5 -1.1**
comp=Z,12nm,0.9s,mb5.0
PERS Pernice 61.94 22 *eP* **P 03 56 26.4 -0.2**
FUR Furstenfeldbru 61.98 18 *eP* **P 03 56 27.0 +0.1**
FUR pmax pmax
comp=Z,19nm,0.8s,mb5.3
FUR Furstenfeldbru 61.98 18 *eP* **P 03 56 27.0 +0.1**
comp=Z,19nm,0.8s,mb5.3
GIVF Givet 62.04 13 *eP* **P 03 56 26.0 -1.3**
comp=Z,67nm,1.3s,mb5.3
GIVF Givet 62.04 13 *eP* **P 03 56 26.0 -1.3**
GIVF pmax pmax
comp=Z,34nm,1.3s,mb5.3
TOD Tromm 62.56 16⇑ *eP* **P 03 56 30.8 +0.1**
ARSA Arzberg 62.61 22⇑ *iP* **P 03 56 31.3 +0.2**
comp=Z,6.6nm,1.0s,mb4.7
MOA Molln 62.68 20⇑ *iP* **P 03 56 30.3 -1.2**
comp=Z,10.0nm,1.1s,mb4.9
ROSC El Rosal 62.72 281 P **P 03 56 33.0 +0.8**
comp=Z,5.3nm,0.9s,mb4.7,baz=72,slow=21,SNR=10.0
ROSC LR LR 04 22 10.2
comp=Z,1μm,19.6s,MS5.1,baz=165,slow=35
TNS Taunus Mts 63.03 15 *eP* **P 03 56 33.1 -0.7**
TNS pmax pmax
comp=Z,65nm,2.2s,mb5.4
TNS Taunus Mts 63.03 15 *eP* **P 03 56 33.1 -0.7**
comp=Z,65nm,2.2s,mb5.4
GRA1 Grafenberg Arr 63.32 17 *eP* **P 03 56 34.7 -1.0**
comp=Z,40nm,1.9s,mb5.2
GRA1 *e*pP pP 03 56 42.2 +3.3
GRA1 LR LR
comp=Z,600nm,21.3s,MS4.7
GRF Grafenberg Arr 63.32 17 *eP* **P 03 56 34.7 -1.0**
GRF *e**PP pP 03 56 42.2 +3.3
GRF pmax pmax
comp=Z,40nm,1.9s,mb5.2
GRF MLR MLR
comp=Z,600nm,21.3s,MS4.7
GRF Grafenberg Arr 63.32 17 *eP* **P 03 56 34.7 -1.0**
GRF *e**PP pP 03 56 42.2 +3.3
GRF pmax pmax
comp=Z,40nm,1.9s,mb5.2
GRF MLR MLR
comp=Z,600nm,21.3s,MS4.7
GRF Grafenberg Arr 63.32 17 *eP* **P 03 56 34.7 -1.0**
comp=Z,40nm,1.9s,mb5.2
GRF *e*pP pP 03 56 42.2 +3.3
GRF LR LR
comp=Z,600nm,21.3s,MS4.7
WET Wettzell 63.34 19 *eP* **P 03 56 35.3 -0.6**
WET pmax pmax
comp=Z,18nm,1.3s,mb5.0
WET Wettzell 63.34 19 *eP* **P 03 56 35.3 -0.6**
comp=Z,18nm,1.3s,mb5.0
GEC2 GERESS Array S 63.35 20 *eP* **P 03 56 35.8 -0.1**
GEC2 pmax pmax
comp=Z,114nm,2.6s,mb5.5
GEC2 GERESS Array S 63.35 20 *eP* **P 03 56 35.8 -0.1**
comp=Z,114nm,2.6s,mb5.5
GERES GERESS Array B 63.35 20 P **P 03 56 35.3 -0.7**
comp=Z,2.4nm,0.9s,mb4.3,baz=194,slow=5.5,SNR=14
GERES PP PP 03 58 54.3 -2.6
comp=Z,0.3nm,0.5s,baz=201,slow=11,SNR=3.6
GERES LR LR 04 24 02.5
comp=Z,577nm,20.0s,MS4.8,baz=211,slow=36
KHC Kasperske Hory 63.56 19 *eP* **P 03 56 37.0 -0.3**
KHC *e*PP PP 03 58 56.0 -2.8
KHC AMS AMS 04 23 50.0
comp=Z,500nm,18.2s
ASF Jabal al Asfar 63.70 46 P **P 03 56 39.8 +1.2**
comp=Z,1.3nm,0.3s,mb4.4,baz=128,slow=4.9,SNR=4.6
ASF LR LR 04 23 04.2
comp=Z,778nm,20.5s,MS4.9,baz=92,slow=35
ZST Bratislava 63.98 22 *eP* **P 03 56 40.9 +0.7**
NKC Novy Kostel 64.17 18 *eP* **P 03 56 41.1 -0.2**
NKC AMS AMS 04 23 40.0
comp=Z,500nm,19.9s
MOX Moxa 64.28 17 *eP* **P 03 56 41.9 -0.2**
MOX pmax pmax
comp=Z,16nm,1.3s,mb4.9
MOX Moxa 64.28 17 *eP* **P 03 56 41.9 -0.2**
comp=Z,16nm,1.3s,mb4.9
MOX Moxa 64.28 17 *i P* **P 03 56 42.2 +0.1**
comp=Z,logA/T=1.3,mb5.1
PRU Pruhonice 64.61 19 *eP* **P 03 56 42.2 -2.0**
PRU AMS AMS 04 25 10.0
comp=Z,500nm,17.4s
VRAC Vranov 64.73 21 P **P 03 56 43.6 -1.4**
comp=Z,1.4nm,0.5s,mb4.3,baz=172,slow=16,SNR=3.4
PSZ Piszkesteto 64.83 24 *eP* **P 03 56 45.8 +0.1**
PSZ pmax pmax
comp=Z,57nm,1.6s,mb5.3
PSZ Piszkesteto 64.83 24 *eP* **P 03 56 45.8 +0.1**
comp=Z,57nm,1.6s,mb5.3
PSZ Piszkesteto 64.83 24 *e*pP pP 03 56 45.9 -2.9
VYHS Vyhne 64.88 23 *eP* **P 03 56 44.9 -1.1**
CLZ Clausthal 65.01 16 *eP* **P 03 56 45.4 -1.3**
CLZ pmax pmax
comp=Z,28nm,1.8s,mb5.0
CLZ Clausthal 65.01 16 *eP* **P 03 56 45.4 -1.3**
comp=Z,28nm,1.8s,mb5.0
PVCC Panska Ves 65.09 19 *eP* **P 03 56 47.1 -0.2**
PVCC AMS AMS 04 23 10.0
comp=Z,500nm,20.6s
CLL Collm 65.28 18 *eP* **P 03 56 50.0 +1.5**
CLL LR LR
comp=Z,500nm,19.6s,MS4.7
CLL Collm 65.28 18 P **P 03 56 50.0 +1.5**
MORC Moravsky Berou 65.46 21 *eP* **P 03 56 49.8 +0.1**
MORC pmax pmax
comp=Z,28nm,1.6s,mb5.0
MORC Moravsky Berou 65.46 21 *eP* **P 03 56 49.8 +0.1**
comp=Z,28nm,1.6s,mb5.0
DPC Dobruska-Polom 65.52 20 *eP* **P 03 56 49.8 -0.2**
DPC AMS AMS 04 25 00.0
comp=Z,600nm,20.1s
UPC Upice 65.55 20 *eP* **P 03 56 49.9 -0.3**
MLR Muntele Rosu 65.62 29 P **P 03 56 51.0 +0.2**
comp=Z,13nm,1.2s,mb4.8,baz=0.7,slow=2.4,SNR=10
OKC Ostrava-Krasne 65.73 22 *eP* **P 03 56 51.5 +0.1**
OKC AMS AMS 04 25 50.0
comp=Z,600nm,17.0s
OTAV Otavalo 65.74 275 *eP* **P 03 56 53.3 +1.2**
comp=Z,31nm,1.4s,mb5.2
OTAV LR LR
comp=Z,1μm,19.0s,MS5.2
EKA Eskdalemuir Ar 65.79 6 P **P 03 56 51.5 -0.2**
comp=Z,8.0nm,1.0s,mb4.7,baz=186,slow=7.6,SNR=12
BRTR Keskin Array B 65.91 38 P **P 03 56 53.5 +0.7**
comp=Z,3.4nm,1.0s,mb4.3,baz=190,slow=7.5,SNR=14
KSP Ksiaz 65.93 20 *eP* **P 03 56 52.2 -0.4**
KSP *e*S S 04 05 47.0 +8.6
KSP MLR MLR
comp=Z,1μm,20.2s,MS5.1
KOLS Kolonicke sedl 66.60 25 *eP* **P 03 56 57.5 +0.5**
OJC Ojcow 66.66 22 *eP* **P 03 56 57.5 +0.2**
OJC *e* 03 58 53.9
BSEG Bad Segeberg 66.89 15 *eP* **P 03 56 58.4 -0.3**

KWP	**Kalwaria**	**67.32**	**24**	*eP*		**P**	**03 57 01.6**	**0.0**
KWP					pmax	pmax		
	comp=Z,34nm,1.4s,mb5.2							
KWP	**Kalwaria**	**67.32**	**24**	*eP*		**P**	**03 57 01.6**	**+0.1**
	comp=Z,34nm,1.4s,mb5.2							
SYO	**Syowa Base**	**67.77**	**162**	⇓P		**P**	**03 57 01.0**	**-3.1**
SYO	**Syowa Base**	**67.77**	**162**	⇓PcP		PcP	03 57 29.5	-1.4
LVV	**L'vov**	**68.01**	**25**	*eP*		**P**	**03 57 04.8**	**-1.1**
LVV				*e*			04 06 05.0	
LVV				MLR		MLR		
	comp=N,300nm,17.0s,MS4.7							
LVV				MLR		MLR		
	comp=Z,400nm,17.0s,MS4.7							
LVV				MLR		MLR		
	comp=E,200nm,18.0s,MS4.7							
MALT	**Malatya**	**68.11**	**42**	*eP*		**P**	**03 57 07.7**	**+1.0**
MALT					pmax	pmax		
	comp=Z,16nm,1.4s,mb4.9							
MALT	**Malatya**	**68.11**	**42**	*eP*		**P**	**03 57 07.7**	**+1.0**
	comp=Z,16nm,1.4s,mb4.8							
AKASG	**Malin Array Be**	**70.91**	**27**	P		**P**	**03 57 22.6**	**-1.0**
	comp=Z,14nm,1.0s,mb4.9,baz=227,slow=6.7,SNR=44							
SUW	**Suwalki**	**70.94**	**22**	*eP*		**P**	**03 57 23.4**	**-0.4**
SUW					pmax	pmax		
	comp=Z,45nm,1.1s,mb5.3							
SUW	**Suwalki**	**70.94**	**22**	*eP*		**P**	**03 57 23.4**	**-0.4**
	comp=Z,45nm,1.1s,mb5.3							
ANN	**Anapa**	**71.23**	**36**	*eP*		**P**	**03 57 24.7**	**-1.0**
ANN					pmax	pmax		
	comp=Z,34nm,1.7s,mb5.0							
SOC	**Sochi**	**71.86**	**38**	*d iP*		**P**	**03 57 28.1**	**-1.4**
SOC				*e*			03 57 49.5	
SOC				*e*			04 00 09.5	
SOC				*e*PPP		PPP	04 01 48.8	-3.9
SOC				*e*S		S	04 06 44.7	-4.2
SOC				*e*			04 07 30.0	
SOC				*e*SS		SS	04 11 21.3	-5.7
SOC				*e*SSS		SSS	04 14 42.3	+6.8
SOC					pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0							
SOC					pmax	pmax		
	comp=N,8.0nm,0.7s							
SOC					pmax	pmax		
	comp=E,14nm,0.8s							
SOC				MLR		MLR		
	comp=Z,151nm,17.0s,MS4.3							
SOC				MLR		MLR		
	comp=N,157nm,18.0s,MS4.4							
SOC				MLR		MLR		
	comp=E,83nm,19.0s,MS4.4							
GNI	**Garni**	**73.24**	**43**	P		**P**	**03 57 38.9**	**+1.2**
	comp=E,2.0nm,0.3s,mb4.5,baz=137,slow=11,SNR=9.0							
GNI	**Garni**	**73.24**	**43**	*eP*		**P**	**03 57 38.6**	**+0.9**
	comp=E,79nm,1.6s,mb5.4							
GNI				LR		LR		
	comp=Z,265nm,20.0s,MS4.5							
HFS	**Hagfors**	**73.27**	**14**	P		**P**	**03 57 37.3**	**-0.2**
	comp=Z,6.5nm,0.9s,mb4.5,baz=198,slow=4.7,SNR=7.2							
HFS				LR		LR	04 31 23.5	
	comp=Z,186nm,18.1s,MS4.4,baz=212,slow=37							
NOA	**NORSAR Array B**	**73.54**	**12**	P		**P**	**03 57 38.7**	**-0.3**
	comp=Z,1.6nm,0.8s,mb4.0,baz=203,slow=6.2,SNR=6.1							
NOA				LR		LR	04 32 24.3	
	comp=Z,174nm,18.0s,MS4.4,baz=215,slow=38							
KIV	**Kislovodsk**	**73.87**	**38**	*c iP*		**P**	**03 57 42.7**	**+1.4**
KIV				*e*SS		SS	04 11 50.9	-7.2
KIV					pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1							
TI2	**Plekhanov**	**74.03**	**41**	*eP*		**P**	**03 57 41.8**	**-0.5**
JTS	**JuntasAbangare**	**74.24**	**284**	LR		LR	04 29 31.1	
	comp=Z,504nm,20.0s,MS4.8,baz=120,slow=35							
GOF	**Gofitskoye**	**74.66**	**38**	*i P*		**P**	**03 57 45.4**	**-0.5**
GOF					pmax	pmax		
	comp=Z,40nm,1.7s,mb5.1							
BORG	**Borgarnes**	**74.95**	**356**	LR		LR	04 24 42.8	
	comp=Z,178nm,18.9s,MS4.4,baz=344,slow=31							
MAW	**Mawson**	**75.34**	**157**	*eP*		**P**	**03 57 49.4**	**+0.1**
MAW					pmax	pmax		
	comp=Z,6.0nm,0.9s							
MAW	**Mawson**	**75.34**	**157**	P		**P**	**03 57 49.4**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=278,slow=7.8,SNR=3.8							
MAW				LR		LR	04 23 52.1	
	comp=Z,397nm,19.9s,MS4.7,baz=275,slow=30							
MAW	**Mawson**	**75.34**	**157**	*eP*		**P**	**03 57 49.4**	**+0.1**
	comp=Z,6.1nm,0.9s,mb4.5							
OBN	**Obninsk**	**77.17**	**27**	⇑*iP*		**P**	**03 58 00.0**	**+0.2**
OBN				*e*SS		SS	04 12 47.2	-1.1
OBN					pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9							
OBN				MLR		MLR		
	comp=Z,500nm,17.0s,MS4.9							
FINES	**FINESS Array B**	**77.72**	**18**	P		**P**	**03 58 03.1**	**+0.4**
	comp=Z,9.6nm,0.9s,mb4.7,baz=180,slow=3.8,SNR=25							
FINES				LR		LR	04 32 14.4	
	comp=Z,304nm,20.9s,MS4.6,baz=188,slow=36							
FINES	**FINESS Array B**	**77.72**	**18**	P		**P**	**03 58 03.1**	**+0.4**
FINES				LR		LR	04 32 14.4	
MOS	**Moscow**	**78.03**	**27**	*eP*		**P**	**03 58 05.2**	**+0.7**
MOS				*e*			03 58 11.5	
MOS				*e*			04 01 00.1	
MOS				*e*PPP		PPP	04 02 47.3	-4.7
MOS					pmax	pmax		
	comp=Z,200nm,1.7s,mb5.8							
MOS					pmax	pmax		
	comp=Z,113nm,1.7s,mb5.5							
SCHQ	**Schefferville**	**78.79**	**332**	LR		LR	04 26 30.5	
	comp=Z,178nm,18.2s,MS4.4,baz=4.5,slow=31							
QSPA	**South Pole Qui**	**79.97**	**180**	*eP*		**P**	**03 58 16.0**	**+1.3**
	comp=Z,36nm,1.1s,mb5.2							
QSPA				LR		LR		
	comp=Z,202nm,21.0s,MS4.4							
SADO	**Sadowa**	**80.65**	**319**	LR		LR	04 26 31.7	
	comp=Z,502nm,20.6s,MS4.8,baz=121,slow=30							
SWET	**Sewanee**	**82.06**	**308**	*eP*		**P**	**03 58 27.7**	**+1.2**
LRAL	**Lakeview Retre**	**82.23**	**305**	*eP*		**P**	**03 58 28.8**	**+1.3**
	comp=Z,15nm,1.2s,mb4.8							
WVT	**Waverly**	**83.81**	**308**	*eP*		**P**	**03 58 36.2**	**+0.6**
WVT					pmax	pmax		
	comp=Z,20nm,1.3s,mb5.1							
WVT	**Waverly**	**83.81**	**308**	*eP*		**P**	**03 58 36.2**	**+0.6**
	comp=Z,20nm,1.3s,mb5.1							
ARCES	**ARCESS Array B**	**83.90**	**13**	P		**P**	**03 58 36.1**	**+0.9**
	comp=Z,5.0nm,0.8s,mb4.7,baz=225,slow=3.4,SNR=12							
ARCES				LR		LR	04 39 52.2	
	comp=Z,312nm,18.9s,MS4.7,baz=222,slow=38							
SUMG	**Summit**	**84.20**	**353**	*eP*		**P**	**03 58 39.6**	**+2.9**
	comp=Z,191nm,2.1s,mb5.9							
OXF	**Oxford**	**84.58**	**306**	*eP*		**P**	**03 58 39.3**	**-0.2**
OXF					pmax	pmax		
	comp=Z,32nm,1.1s,mb5.4							
OXF	**Oxford**	**84.58**	**306**	*eP*		**P**	**03 58 39.2**	**-0.3**
	comp=Z,32nm,1.1s,mb5.4							
FVM	**French Village**	**86.33**	**309**	*eP*		**P**	**03 58 48.4**	**+0.3**
	comp=Z,22nm,1.0s,mb5.3							
DAG	**Danmarks Havn**	**86.84**	**359**	⇓*iP*		**P**	**03 58 52.0**	**+2.2**
DAG					pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.7							
DAG	**Danmarks Havn**	**86.84**	**359**	⇓*iP*		**P**	**03 58 52.0**	**+2.2**
	comp=Z,5.0nm,0.9s,mb4.7							
CCM	**Cathedral Cave**	**86.97**	**309**	*eP*		**P**	**03 58 51.1**	**-0.2**
CCM					pmax	pmax		
	comp=Z,30nm,1.1s,mb5.4							
CCM	**Cathedral Cave**	**86.97**	**309**	*eP*		**P**	**03 58 51.1**	**-0.1**
	comp=Z,30nm,1.1s,mb5.4							
ARU	**Arti**	**88.53**	**32**	⇑*iP*		**P**	**03 58 59.0**	**+0.7**
ARU				*e*			04 02 26.6	
ARU				*e*S			04 09 24.4	
ARU				*e*S		tx	04 10 48.2	
ARU				*e*SS		SS	04 15 33.3	-2.8
ARU					pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.9							
SBA	**Scott Base**	**92.13**	**180**	*eP*		**P**	**03 59 15.9**	**+1.3**
SBA					pmax	pmax		
	comp=Z,37nm,1.6s,mb5.5							
SBA	**Scott Base**	**92.13**	**180**	*eP*		**P**	**03 59 15.8**	**+1.2**
	comp=Z,37nm,1.6s,mb5.5							
WMOK	**Wichita Mounta**	**92.15**	**305**	*eP*		**P**	**03 59 17.5**	**+1.8**
WMOK					pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.8							
WMOK				MLR		MLR		
	comp=Z,627nm,20.0s,MS5.1							
WMOK	**Wichita Mounta**	**92.15**	**305**	*eP*		**P**	**03 59 17.5**	**+1.9**
	comp=Z,7.3nm,1.3s,mb4.8							
WMOK				LR		LR		
	comp=Z,627nm,20.0s,MS5.1							
VNDA	**Vanda**	**92.42**	**179**	P		**P**	**03 59 16.5**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.6,baz=223,slow=3.8,SNR=12							
VNDA				LR		LR	04 36 33.6	
	comp=Z,186nm,19.3s,MS4.5,baz=173,slow=33							
ULM	**Lac du Bonnet**	**93.11**	**320**	LR		LR	04 33 20.8	
	comp=Z,269nm,21.7s,MS4.7,baz=164,slow=30							
CASY	**Casey**	**93.48**	**160**	*eP*		**P**	**03 59 22.1**	**+1.1**
	comp=Z,3.1nm,0.8s,mb4.8							
CHKZ	**Chkalovo**	**94.44**	**36**	*eP*		**P**	**03 59 27.0**	**+1.3**
CHKZ					pmax	pmax		
	comp=Z,22nm,2.0s,mb5.2							
CHKZ	**Chkalovo**	**94.44**	**36**	*eP*		**P**	**03 59 27.0**	**+1.2**
	comp=Z,22nm,2.0s,mb5.2							
LTX	**Lajitas**	**95.34**	**299**	*eP*		**P**	**03 59 32.4**	**+1.9**
LTX					pmax	pmax		
	comp=Z,9.0nm,1.2s,mb5.1							
LTX	**Lajitas**	**95.34**	**299**	*eP*		**P**	**03 59 32.4**	**+1.9**
	comp=Z,8.8nm,1.2s,mb5.1							
TXAR	**Lajitas Array**	**95.34**	**299**	P		**P**	**03 59 32.6**	**+2.1**
	comp=Z,1.8nm,0.9s,mb4.5,baz=114,slow=6.0,SNR=17							
TXAR				LR		LR	04 37 46.3	
	comp=Z,187nm,21.4s,MS4.5,baz=35,slow=32							
SDCO	**Great Sand Dun**	**97.97**	**307**	P		**P**	**03 59 43.0**	**+0.8**
	comp=Z,8.6nm,1.6s,mb5.0							
ANMO	**Albuquerque**	**98.42**	**304**	⇑*eP*		**P**	**03 59 47.1**	**+2.8**
ANMO	**Albuquerque**	**98.42**	**304**	LR		LR	04 38 27.5	
	comp=Z,517nm,20.2s,MS5.0,slow=32							
RKT	**Rikitea**	**114.16**	**239**	*e*LR		LR	04 39 09.2	
	comp=Z,266nm,27.2s							
SONM	**Songino Array**	**117.18**	**41**	PKP		PKPdf	04 04 52.1	-0.9
	comp=Z,0.2nm,0.4s,baz=297,slow=3.2,SNR=4.1							
KMI	**Kunming**	**117.64**	**67**	PKP		PKPdf	04 04 52.8	-1.6
KMI				PP		PP	04 06 11.5	+2.6
KMI				PP		PP		
	comp=Z,89nm,8.5s							
KMI				LR		LR		
	comp=N,171nm,27.0s,MS4.7							
KMI				LR		LR		
	comp=E,203nm,30.0s,MS4.7							
KMI				LR		LR		
	comp=Z,343nm,26.7s,MS4.8							
KMI	**Kunming**	**117.64**	**67**	PKP		PKPdf	04 04 52.7	-1.7
KMI				PP		PP	04 06 11.5	+2.6
KMI				LR		LR		
	comp=Z,340nm,26.7s,MS4.8							
BILL	**Bilibino**	**122.19**	**0**	*e*PKIKP		PKPdf	04 05 00.9	-1.3
BILL				*e*			04 06 35.2	
TAOE	**Nuku Hiva Isla**	**123.95**	**252**	*e*LR		LR	04 43 44.1	
TBI	**Tubuai**	**125.81**	**232**	*e*LR		LR	04 44 32.9	
	comp=Z,349nm,35.5s							
BJI	**Beijing**	**126.26**	**47**	PKP		PKPdf	04 05 11.0	+0.3
PPT	**Papeete**	**128.88**	**238**	*e*LR		LR	04 45 58.1	
	comp=Z,366nm,24.0s							
NJ2	**Nanjing**	**130.71**	**56**	*e*PKP		PKPdf	04 05 14.1	-5.4
NJ2				PP		PP	04 07 34.0	-2.3
NJ2				SKS		SKS	04 12 21.0	-7.7
NJ2				PP		PP		
	comp=Z,210nm,5.2s							
NJ2				LR		LR		
	comp=N,1μm,30.4s							
NJ2				LR		LR		
	comp=E,330nm,19.4s							
NJ2				LR		LR		
	comp=Z,170nm,16.4s							
CN2	**Changchun**	**130.98**	**39**	*e*PKP		PKPdf	04 05 14.5	-5.2
SSE	**Sheshan**	**132.88**	**57**	PKP		PKPdf	04 05 22.3	-1.4
SSE				PP		PP	04 07 50.1	+0.4
SSE				PP		PP		
	comp=Z,35nm,4.3s							
SSE				LR		LR		
	comp=N,89nm,25.9s,MS4.5							
SSE				LR		LR		
	comp=E,97nm,25.9s,MS4.5							
SSE				LR		LR		
	comp=Z,140nm,22.9s,MS4.6							
MDJ	**Mudanjiang**	**133.04**	**36**	PKP		PKPdf	04 05 21.4	-2.2
MDJ				LR		LR		
	comp=N,81nm,36.2s							
MDJ				LR		LR		
	comp=E,74nm,30.1s							
MDJ				LR		LR		
	comp=Z,112nm,28.1s							

JMA 22 03:47:33.5±0.3, 26.08N×123.20E, h230km, M3.7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.62**	**186**	P	P	03 48 11.0	-0.3
IRIF	**Iriomote-Funau**	**1.80**	**164**	P	P	03 48 12.3	-0.5
IRIF				S	S	03 48 43.2	0.0
JIJ	**Ishigaki jima**	**1.91**	**153**	P	P	03 48 13.3	-0.5
JIJ				*e*S	S	03 48 43.8	-1.1
JTJ	**Tarama**	**1.98**	**136**	P	P	03 48 14.5	+0.1
JTJ				S	S	03 48 45.9	-0.1
JKRS	**Kuro-shima**	**1.98**	**158**	P	P	03 48 14.2	-0.2
JKRS				*e*S	S	03 48 45.9	-0.1
HATJ	**Hateruma jima**	**2.09**	**165**	P	P	03 48 15.5	0.0
JMJ	**Miyako jima 2**	**2.27**	**123**	*e*S	S	03 48 50.7	-0.7
JOGS	**Gusukube**	**2.39**	**123**	*e*S	S	03 48 52.9	-0.6

INET ***22*** *03:55:44.6, 12.25N×87.88W, h30km, MD3.3, ML3.4*
SSS ***22*** *03:55:46.7, 12.18N×87.86W, h19km, MD3.6*
CASC 22 03:55:45.8±1.6, 12.14N×87.73W, h24km±6km, MD3.6, ML3.3, 3C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.87**	**71**	⇓*eP*	Pb	03 56 01.4	-0.7
LEON				*e*S	Sb	03 56 14.5	+1.2
CRIN	**San Cristobal**	**0.87**	**50**	⇓*eP*	Pb	03 56 02.2	+0.1
TEL3	**Telica 3**	**0.97**	**63**	⇓*eP*	Pb	03 56 03.0	-0.8
TELN	**Telica**	**0.99**	**62**	⇓*eP*	Pb	03 56 03.3	-1.0
CNGN	**Cerro Negro**	**1.07**	**70**	*eP*	Pn	03 56 04.6	-0.9
CNCH	**Conchagua**	**1.14**	**355**	*eP*	Pn	03 56 06.4	0.0
MOMJ	**Momotombo**	**1.20**	**77**	⇑*eP*	Pn	03 56 05.9	-1.4
APYN	**Apoyeque**	**1.36**	**86**	*eP*	Pn	03 56 08.3	-1.2
XAVN	**Gruta Xavier**	**1.38**	**89**	*eP*	Pn	03 56 09.2	-0.6
BLLM	**Bellamira**	**1.39**	**339**	⇓*eP*	Pn	03 56 10.4	+0.4
BLLM				*e*S	Sn	03 56 28.1	+0.4
VSM	**San Miguel**	**1.39**	**338**	*eP*	Pn	03 56 10.4	+0.5
VSM				*e*S	Sn	03 56 29.1	+1.5
CRUN	**El Crucero**	**1.41**	**96**	*eP*	Pn	03 56 11.1	+0.8
MGAN	**Managua**	**1.45**	**90**	⇑*eP*	Pn	03 56 09.6	-1.3
MGAN				*e*S	Sn	03 56 29.3	0.0
MGAN				*i*		03 56 32.2	
	comp=N,453nm,0.4s						
TICN	**Ticuantepe**	**1.47**	**94**	⇑*eP*	Pn	03 56 10.8	-0.4
WILN	**Americas 2**	**1.51**	**89**	*e*S	Sn	03 56 31.1	+0.3
APON	**Apoyo**	**1.65**	**98**	*eP*	Pn	03 56 14.2	+0.6
LCBS	**La Ceiba**	**1.94**	**321**	⇓*eP*	Pn	03 56 17.1	-0.8
LCBS				*e*S	Sn	03 56 42.0	+0.4
LFRS	**El Faro**	**1.96**	**319**	*eP*	Pn	03 56 17.7	-0.5
LFRS				*e*S	Sn	03 56 41.8	-0.5

IDC 22 03:55:58.2±13.0, 11.40S×15.47W, mb4.3/7, mb1 4.4/7, mb1mx4.0/23, mbtmp4.3/7, MS4.3/5, Ms1 4.3/5, ms1mx3.9/22, Error ellipse: s-maj=316.3km s-min=113.9km az=28.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**20.82**	**31**	LR	LR	04 06 05.7	
	comp=Z,454nm,20.6s,baz=180,slow=29						
BDFB	**Brasilia**	**31.90**	**259**	LR	LR	04 14 09.8	
	comp=Z,956nm,18.4s,baz=109,slow=34						
BOSA	**Boshof**	**41.68**	**120**	LR	LR	04 16 51.0	
	comp=Z,231nm,20.4s,baz=319,slow=30						
CPUP	**Villa Florida**	**42.10**	**243**	LR	LR	04 20 12.0	
	comp=Z,524nm,18.4s,baz=20,slow=34						
MATP	**Matopo**	**43.12**	**108**	LR	LR	04 18 53.7	
	comp=Z,592nm,18.2s,baz=298,slow=32						
GERES	**GERESS Array B**	**65.28**	**21**	P	P	04 06 42.3	-1.7
	0.6nm,0.6s,baz=207,slow=9.0,SNR=6.8						
ASF	**Jabal al Asfar**	**66.19**	**47**	P	P	04 06 48.0	-2.1
	0.8nm,0.3s,baz=249,slow=5.8,SNR=3.3						
MLR	**Muntele Rosu**	**67.81**	**30**	P	P	04 06 57.7	-2.5
	4.8nm,1.0s,baz=212,slow=5.8						
BRTR	**Keskin Array B**	**68.28**	**39**	P	P	04 07 01.3	-1.9
	1.2nm,0.9s,baz=214,slow=5.2,SNR=6.5						
AKASG	**Malin Array Be**	**73.04**	**28**	P	P	04 07 30.0	-1.8
	1.1nm,0.5s,baz=227,slow=6.9,SNR=24						
GNI	**Garni**	**75.68**	**43**	P	P	04 07 46.2	-1.1
	3.2nm,0.3s,baz=192,slow=22,SNR=4.2						
FINES	**FINESS Array B**	**79.60**	**19**	P	P	04 08 06.7	-1.8
	2.3nm,0.8s,baz=254,slow=10,SNR=7.1						

IDC ***22*** *04:07:37.1±1.7, 12.63N×87.24W, mb3.6/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.6/5, ML3.2/1, MS4.4/1, Ms1 4.3/1, ms1mx3.0/23, Error ellipse: s-maj=67.1km s-min=15.7km az=50.0*
INET ***22*** *04:07:38.2, 12.00N×87.78W, h4km, MD3.3, ML3.7*
CASC ***22*** *04:07:38.5±1.5, 11.96N×87.80W, h17km±5km, MD3.8, ML3.6, mb3.9(NEIC)*
SSS ***22*** *04:07:38.2, 11.91N×87.69W, h50km, MD4.1*
NEIC ***22*** *04:07:43.6±1.4, 12.24N×87.39W, h70km±17km, mb3.9/11, Error ellipse: s-maj=34.2km s-min=10.3km az=46.0*
ISC 22 04:07:39.5±0.7, 11.92N±0.06×87.78W±0.04, h49km±6km, n42, σ0990/54, mb3.8/15, MS4.4/1, 6C-8D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.00**	**61**	⇓*eP*	**P**	**04 07 56.3**	**-1.0**
LEON				*e*S	**S**	**04 08 10.8**	**+0.2**
CRIN	**San Cristobal**	**1.05**	**43**	⇓*eP*	**P**	**04 07 57.3**	**-0.8**
CRIN				*e*S	**S**	**04 08 12.9**	**+1.0**
TEL3	**Telica 3**	**1.12**	**55**	⇓*eP*	**P**	**04 07 58.0**	**-1.1**
TELN	**Telica**	**1.15**	**54**	⇓*eP*	**P**	**04 07 58.2**	**-1.2**
CNGN	**Cerro Negro**	**1.20**	**62**	*eP*	**P**	**04 07 59.7**	**-0.5**
MOMJ	**Momotombo**	**1.31**	**68**	⇑*eP*	**P**	**04 08 00.9**	**-0.9**
CNCH	**Conchagua**	**1.34**	**358**	⇓*eP*	**P**	**04 08 01.0**	**-1.3**
CNCH				*e*S	**S**	**04 08 19.6**	**+0.3**
APYN	**Apoyeque**	**1.43**	**77**	⇑*eP*	**P**	**04 08 03.4**	**-0.2**
XAVN	**Gruta Xavier**	**1.44**	**81**	⇑*eP*	**P**	**04 08 03.9**	**+0.2**
CRUN	**El Crucero**	**1.45**	**88**	⇓*eP*	**P**	**04 08 03.9**	**0.0**
MGAN	**Managua**	**1.52**	**81**	⇑*eP*	**P**	**04 08 04.8**	**0.0**
MGAN				*e*S	**S**	**04 08 24.4**	**+0.9**
MGAN				*i*		04 08 27.5	
	comp=E,919nm,0.4s						
TICN	**Ticuantepe**	**1.52**	**86**	⇓*eP*	**P**	**04 08 05.3**	**+0.5**
VSM	**San Miguel**	**1.57**	**342**	*eP*	**P**	**04 08 04.8**	**-0.6**
BLLM	**Bellamira**	**1.57**	**344**	*eP*	**P**	**04 08 04.6**	**-0.9**
BLLM				*e*S	**S**	**04 08 25.4**	**+0.6**
WILN	**Americas 2**	**1.58**	**81**	⇑*eP*	**P**	**04 08 05.3**	**-0.3**
WILN				*e*S	**S**	**04 08 26.2**	**+1.2**
APON	**Apoyo**	**1.68**	**90**	⇑*eP*	**P**	**04 08 08.3**	**+1.3**
CAHU	**Cacacuatique**	**1.88**	**347**	*eP*	**P**	**04 08 09.1**	**-0.8**
SNVI	**San Vicente**	**1.97**	**329**	*eP*	**P**	**04 08 10.1**	**-1.0**
LCBS	**La Ceiba**	**2.08**	**326**	*eP*	**P**	**04 08 11.6**	**-1.0**
LCBS				*e*S	**S**	**04 08 38.7**	**+1.4**
LFRS	**El Faro**	**2.10**	**324**	⇓*eP*	**P**	**04 08 12.3**	**-0.6**
LFRS				*e*S	**S**	**04 08 38.3**	**+0.4**
CONN	**Concepcion**	**2.14**	**99**	*eP*	**P**	**04 08 13.3**	**-0.2**
LBRS	**Las Brisas**	**2.18**	**326**	*eP*	**P**	**04 08 14.3**	**+0.1**
LBRS				*e*S	**S**	**04 08 40.5**	**+0.5**
BOQS	**Boqueron**	**2.32**	**321**	*eP*	**P**	**04 08 15.9**	**-0.1**
BOQS				*e*S	**S**	**04 08 45.1**	**+1.6**
SBLS	**San Blas**	**2.62**	**317**	*eP*	**P**	**04 08 20.2**	**-0.1**
SBLS				*e*S	**S**	**04 08 52.8**	**+1.7**
RTR	**El Retiro**	**2.67**	**317**	*eP*	**P**	**04 08 20.9**	**-0.2**
RBDL	**Robledal**	**2.86**	**320**	*eP*	**P**	**04 08 23.6**	**-0.1**
JTS	**JuntasAbangare**	**3.22**	**120**	Pn	**P**	**04 08 29.6**	**+0.8**
	comp=E,2.8nm,0.3s,baz=319,slow=21,SNR=14						
JTS				Sn	**S**	**04 09 08.5**	**+2.2**
	comp=E,5.9nm,0.3s,baz=271,slow=19,SNR=5.4						
JTS				Lg		04 09 19.7	
	comp=E,4.8nm,0.3s,baz=311,slow=20,SNR=4.2						
JCT	**Junction City**	**21.57**	**331**	*eP*	**P**	**04 12 28.1**	**+1.4**
	comp=E,7.8nm,0.8s,mb4.2						
LTX	**Lajitas**	**22.78**	**322**	*eP*	**P**	**04 12 39.9**	**+1.1**
	comp=E,3.1nm,0.6s,mb3.9						
TXAR	**Lajitas Array**	**22.78**	**322**	P	**P**	**04 12 40.0**	**+1.1**
	comp=E,2.9nm,0.6s,mb3.9,baz=134,slow=10,SNR=58						
MIAR	**Mount Ida**	**23.13**	**348**	*eP*	**P**	**04 12 41.6**	**-0.6**
	comp=E,2.7nm,0.6s,mb3.9						
WMOK	**Wichita Mounta**	**24.82**	**338**	*eP*	**P**	**04 12 58.7**	**+0.1**
	comp=E,1.5nm,0.7s,mb3.6						
MNTX	**Cornudas Mount**	**25.51**	**323**	*eP*	**P**	**04 13 05.3**	**+0.2**
	comp=E,1.2nm,0.8s,mb3.5						
SAML	**Samuel**	**32.06**	**129**	*eP*	**P**	**04 14 03.7**	**-0.5**
	comp=E,1.5nm,0.7s,mb3.9						
PDAR	**Pinedale Array**	**36.08**	**332**	P	**P**	**04 14 37.4**	**-1.1**
	comp=E,0.3nm,0.6s,mb3.4,baz=121,slow=8.6,SNR=4.1						
REDW	**Red Top Meadow**	**37.14**	**332**	*eP*	**P**	**04 14 47.2**	**-0.1**
	comp=E,2.9nm,0.6s,mb4.3						
LOHW	**Long Hollow**	**37.22**	**332**	*eP*	**P**	**04 14 47.9**	**-0.1**
	comp=E,1.0nm,0.6s,mb3.8						
TPAW	**Teton Pass**	**37.28**	**332**	*eP*	**P**	**04 14 49.0**	**+0.5**
	comp=E,1.5nm,0.6s,mb4.0						
MOOW	**Moose Ponds**	**37.39**	**332**	*eP*	**P**	**04 14 49.0**	**-0.4**
	comp=E,1.0nm,0.5s,mb3.9						
BOZ	**Bozeman (W)**	**39.26**	**333**	*eP*	**P**	**04 15 04.3**	**-0.6**
	comp=E,0.8nm,0.6s,mb3.6						
SCHQ	**Schefferville**	**45.87**	**17**	P	**P**	**04 15 55.5**	**-3.2**
	comp=E,1.8nm,0.7s,mb4.1,baz=230,slow=7.9,SNR=3.5						
YKA	**Yellowknife Ar**	**54.03**	**345**	P	**P**	**04 16 57.8**	**-3.1**

0.4nm,0.5s,baz=252,slow=3.9,SNR=3.6
AKASG **Malin Array Be 69.32 28** P P 04 41 22.8 -2.5
3.0nm,0.9s,baz=230,slow=6.7,SNR=13
GNI **Garni 72.20 44** LR LR 05 17 00.3
comp=Z,44nm,19.2s,baz=105,slow=39
FINES **FINESS Array B 75.88 19** P P 04 42 02.8 -1.0
2.4nm,0.8s,baz=180,slow=3.8,SNR=7.6
ARCES **ARCESS Array B 81.92 13** P P 04 42 36.2 -0.2
2.8nm,0.9s,baz=270,slow=3.6,SNR=5.0
TXAR **Lajitas Array 93.51 299** P P 04 43 30.7 -2.7
0.4nm,0.9s,baz=127,slow=6.3,SNR=4.0

IDC 22 04:36:43.2±5.8, 26.21S×68.53E, mb3.7/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=200.1km s-min=42.8km az=48.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**58.77**	**103**	P	P	04 46 44.5	-1.2
0.6nm,0.4s,baz=251,slow=6.5,SNR=8.9							
WRA	**Warramunga Arr**	**60.31**	**99**	P	P	04 46 53.1	-3.3
0.8nm,0.8s,baz=253,slow=6.0,SNR=4.3							
MKAR	**Makanchi Array**	**73.72**	**10**	P	P	04 48 19.0	-1.7
0.3nm,0.8s,baz=180,slow=7.2,SNR=3.8							
YKA	**Yellowknife Ar**	**143.66**	**2**	PKP	PKPdf	04 56 18.8	-2.4
0.1nm,0.7s,baz=340,slow=3.2,SNR=3.4							

IDC 22 04:58:26.4±0.8, 57.79S×25.50W, mb4.0/7, mb1 4.1/8, mb1mx4.0/16, mbtmp4.0/8, ML3.9/1, MS3.5/1, Ms1 3.5/1, ms1mx3.0/16, Error ellipse: s-maj=33.9km s-min=20.5km az=57.0
NEIC 22 04:58:28.6±4.6, 57.82S×25.54W, h15km±28km, mb4.2/5, Error ellipse: s-maj=18.2km s-min=8.3km az=57.0
ISC 22 04:58:26.5±0.7, 57.8S±0.1×25.7W±0.3, h10km, n24, σ0°80/16, mb4.0/10, MS3.5/1, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.85**	**157**		**P**	**05 02 00.4**	**+2.6**
VNA3	**Neumayer Olymp**	**15.05**	**160**		**P**	**05 02 00.1**	**-0.4**
VNA2	**Neumayer--Watz**	**15.24**	**157**		**P**	**05 02 02.5**	**-0.5**
SNAA	**Sanae**	**16.79**	**155**	Pn	**P**	**05 02 21.7**	**-1.2**
0.4nm,0.3s,baz=316,slow=12,SNR=11							
QSPA	**South Pole Qui**	**32.43**	**180**	*e*P	**P**	**05 04 58.0**	**-0.2**
2.4nm,0.5s,mb4.3							
PLCA	**Paso Flores**	**33.14**	**281**	P	**P**	**05 05 03.6**	**-1.1**
1.3nm,0.9s,mb3.9,baz=136,slow=6.8,SNR=3.7							
CPUP	**Villa Florida**	**38.59**	**311**	P	**P**	**05 05 51.5**	**+0.3**
1.1nm,0.8s,mb3.6,baz=173,slow=11,SNR=3.9							
CPUP				LR	LR	05 18 33.9	
comp=Z,67nm,19.4s,MS3.5,baz=208,slow=31							
SBA	**Scott Base**	**44.37**	**184**	*e*P	**P**	**05 06 38.1**	**+0.2**
2.9nm,0.9s,mb4.0							
VNDA	**Vanda**	**44.84**	**182**	P	**P**	**05 06 42.4**	**+0.7**
2.4nm,0.7s,mb4.2,baz=182,slow=6.1,SNR=24							
VNDA	**Vanda**	**44.84**	**182**	*e*P	**P**	**05 06 42.3**	**+0.6**
1.7nm,0.6s,mb4.0							
BDFB	**Brasilia**	**45.30**	**329**	P	**P**	**05 06 46.0**	**-0.2**
2.9nm,0.8s,mb4.1,baz=224,slow=2.9,SNR=4.4							
SIV	**San Ignacio**	**49.39**	**313**	P	**P**	**05 07 18.4**	**+0.3**
0.6nm,0.5s,mb3.9,baz=166,slow=8.2,SNR=8.3							
LPAZ	**La Paz**	**52.06**	**305**	P	**P**	**05 07 39.6**	**+1.1**
0.9nm,0.8s,mb3.8,baz=207,slow=7.9,SNR=4.9							
LPAZ	**La Paz**	**52.06**	**305**	*e*P	**P**	**05 07 38.9**	**+0.5**
0.9nm,0.6s,mb3.9							
SAML	**Samuel**	**56.63**	**314**	*e*P	**P**	**05 08 11.7**	**-0.3**
2.1nm,0.6s,mb4.3							
DBIC	**Dimbokro**	**66.46**	**23**	P	**P**	**05 09 18.0**	**-0.1**
4.3nm,1.1s,mb4.4,baz=166,slow=14,SNR=3.8							
NVAR	**Mina Array Bea**	**122.82**	**291**	PKP	PKPdf	05 17 23.5	-1.7
0.3nm,0.5s,baz=158,slow=1.6,SNR=3.7							
FINES	**FINESS Array B**	**125.56**	**28**	PKP	PKPdf	05 17 26.4	-3.5
1.0nm,0.6s,baz=153,slow=3.1,SNR=4.7							
YKA	**Yellowknife Ar**	**138.03**	**316**	PKP	PKPdf	05 17 51.0	-2.3
0.9nm,0.7s,baz=128,slow=2.3,SNR=28							
YKA	**Yellowknife Ar**	**138.03**	**316**	PKP	PKPdf	05 17 51.0	-2.3
INK	**Inuvik**	**147.68**	**319**	*e*PKPbc	PKPdf	05 18 10.9	+1.2
INK				*e*		05 18 26.1	
DAWY	**Dawson**	**148.57**	**309**	*e*PKPbc	PKPdf	05 18 13.4	+2.1
SONM	**Songino Array**	**149.98**	**88**	PKPbc	PKPdf	05 18 16.6	+2.5
1.8nm,0.7s,baz=222,slow=3.3,SNR=13							
ILAR	**Eielson Array**	**151.89**	**309**	PKPbc	PKPdf	05 18 21.5	+5.1
3.8nm,0.8s,baz=145,slow=2.2,SNR=30							

SKHL 22 05:06:08.4±0.4, 53.03N×142.89E, h10km±1km, mb4.0/2, Sakhalin Island

IDC 22 05:14:56.7±3.2, 1.17N×97.07E, mb3.5/4, mb1 3.7/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=116.7km s-min=23.2km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.28**	**6**	P	P	05 19 01.0	-0.1
baz=194,slow=13,SNR=7.3							
WRA	**Warramunga Arr**	**42.13**	**122**	P	P	05 22 50.8	-1.9
0.7nm,0.6s,baz=301,slow=9.1,SNR=3.2							
ASAR	**Alice Springs**	**43.48**	**127**	P	P	05 23 02.2	-1.4
0.4nm,0.6s,baz=298,slow=8.1,SNR=4.0							
SONM	**Songino Array**	**47.18**	**9**	P	P	05 23 30.9	-2.1
0.5nm,0.5s,baz=188,slow=8.7,SNR=5.8							
MKAR	**Makanchi Array**	**47.24**	**346**	P	P	05 23 31.2	-2.2
0.3nm,0.5s,baz=166,slow=8.8,SNR=8.5							

PRU 22 05:36:11.5, 50.29N×18.70E
WAR 22 05:36:11.1, 50.24N×18.88E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.47**	**251**	*e*PG	Pg	05 36 21.0	+0.6
RAC				*e*SG	Sg	05 36 28.0	+1.3
OJC	**Ojcow**	**0.59**	**92**	*e*PG	Pg	05 36 23.0	+0.1
OJC				*e*SG	Sg	05 36 32.0	+1.2
OKC	**Ostrava-Krasne**	**0.62**	**230**	*e*PG	Pg	05 36 22.2	-1.3
OKC				*e*SG	Sg	05 36 30.3	-1.5
NIE	**Niedzica**	**1.24**	**131**	*e*PG	Pg	05 36 34.0	-1.8
NIE				*e*SG	Sg	05 36 52.0	-0.4
DPC	**Dobruska-Polom**	**1.64**	**275**	*e*PG	Pg	05 36 39.1	-4.8
DPC				*e*SG	Sg	05 37 00.1	-5.7
9.3nm,0.3s							
VYHS	**Vyhne**	**1.75**	**181**	*e*PN	Pn	05 36 42.1	-0.7
KSP	**Ksiaz**	**1.76**	**291**	*e*PG	Pg	05 36 43.0	-3.2
KSP				*e*SG	Sg	05 37 06.0	-3.6
UPC	**Upice**	**1.86**	**279**	*e*SG	Sg	05 37 06.7	-6.2
CRVS	**Cervenica-Dubn**	**2.15**	**128**	*e*PN	Pn	05 36 51.8	+3.2
CRVS				*e*SN	Sn	05 37 19.6	+3.3
PRU	**Pruhonice**	**2.80**	**267**	*e*SG	Sg	05 37 35.9	-8.5
KHC	**Kasperske Hory**	**3.62**	**254**	*e*SG	Sg	05 38 03.0	-8.5
MOA	**Molln**	**3.86**	**234**	*i*	Pn	05 37 16.6	+3.6
MOA	**Molln**	**3.86**	**234**	*i* SG	Sg	05 38 12.2	-7.6
2.6nm,0.5s							
CLL	**Collm**	**3.88**	**288**	*e*SG	Sg	05 38 14.0	-6.3

IDC 22 05:44:45.7±3.8, 3.92N×32.48W, mb3.8/7, mb1 4.1/7, mb1mx3.8/23, mbtmp3.8/7, MS3.5/2, Ms1 3.4/2, ms1mx3.0/29, Error ellipse: s-maj=135.3km s-min=22.2km az=98.0
NEIC 22 05:44:46.3±1.9, 3.78N×32.28W, h10km, mb3.8/2, Error ellipse: s-maj=56.2km s-min=13.6km az=98.0
ISC 22 05:44:45.1±2.3, 3.9N±0.2×32.4W±0.5, h10km, n12, σ0°80/12, mb3.8/9, MS3.4/2, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.24**	**200**	*e*Pn	**P**	**05 47 11.5**	**-3.9**
12nm,0.4s							
BDFB	**Brasilia**	**24.80**	**218**	P	**P**	**05 50 08.6**	**-0.2**
1.7nm,0.5s,mb3.8,baz=39,slow=13,SNR=3.9							
BDFB				LR	LR	05 58 48.3	
comp=Z,93nm,18.2s,MS3.3,baz=29,slow=34							
SAML	**Samuel**	**33.26**	**247**	*e*P	**P**	**05 51 23.9**	**-1.0**
2.6nm,1.1s,mb4.1							
CPUP	**Villa Florida**	**38.53**	**217**	P	**P**	**05 52 09.7**	**0.0**
1.5nm,1.0s,mb3.7,baz=68,slow=11,SNR=2.8							

CPUP				LR	LR	06 10 10.2	
comp=Z,65nm,19.0s,MS3.5,baz=25,slow=40							
LPAZ	**La Paz**	**40.63**	**240**	P	**P**	**05 52 28.5**	**+1.3**
1.3nm,1.0s,mb3.5							
PLCA	**Paso Flores**	**56.45**	**214**	P	**P**	**05 54 30.3**	**+0.7**
1.1nm,0.3s,mb4.3,baz=323,slow=10.0,SNR=15							
PLCA	**Paso Flores**	**56.45**	**214**	P	**P**	**05 54 30.3**	**+0.7**
SCHQ	**Schefferville**	**57.98**	**337**	P	**P**	**05 54 39.5**	**-0.5**
1.6nm,0.6s,mb4.2,baz=126,slow=11,SNR=4.0							
TXAR	**Lajitas Array**	**71.84**	**299**	P	**P**	**05 56 10.6**	**+0.2**
0.4nm,0.7s,mb3.5,baz=117,slow=4.8,SNR=7.0							
TXAR	**Lajitas Array**	**71.84**	**299**	P	**P**	**05 56 10.6**	**+0.1**
PDAR	**Pinedale Array**	**78.00**	**313**	P	**P**	**05 56 45.8**	**+0.3**
0.1nm,0.4s,mb3.1,baz=90,slow=7.4,SNR=3.4							
YKA	**Yellowknife Ar**	**83.02**	**332**	P	**P**	**05 57 11.6**	**-0.1**
0.5nm,0.7s,mb3.7,baz=98,slow=5.0,SNR=18							

IDC 22 06:19:23.3±2.1, 2.71N×96.06E, mb3.7/5, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, ML4.3/1, Error ellipse: s-maj=90.9km s-min=21.6km az=58.0
NEIC 22 06:19:27.8±0.9, 2.71N×96.09E, h30km, mb4.2/1, Error ellipse: s-maj=21.1km s-min=11.8km az=65.0
ISC 22 06:19:26.1±1.2, 2.7N±0.1×96.1E±0.2, h30km, n8, σ0°50/8, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.20**	**60**	*e*Pn	**Pn**	**06 20 43.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**15.89**	**10**	Pn	**P**	**06 23 10.3**	**+0.8**
0.5nm,0.3s,baz=207,slow=12,SNR=3.1							
WRA	**Warramunga Arr**	**43.76**	**123**	P	**P**	**06 27 30.7**	**-0.4**
1.7nm,0.6s,mb4.0,baz=301,slow=9.2,SNR=13							
WRAB	**Tennant Creek**	**43.77**	**123**	*e*P	**P**	**06 27 31.3**	**+0.2**
1.9nm,0.4s,mb4.2							
ASAR	**Alice Springs**	**45.17**	**128**	P	**P**	**06 27 43.0**	**+0.5**
0.5nm,0.6s,mb3.5,baz=298,slow=7.9,SNR=6.1							
MKAR	**Makanchi Array**	**45.52**	**347**	P	**P**	**06 27 44.6**	**-0.3**
1.1nm,0.5s,mb4.0,baz=160,slow=8.0,SNR=17							
SONM	**Songino Array**	**45.81**	**10**	P	**P**	**06 27 46.3**	**-0.8**
0.5nm,0.7s,mb3.6,baz=203,slow=9.4,SNR=3.6							
SONM				PcP	PcP	06 29 25.1	+0.3
0.2nm,0.5s,baz=180,slow=2.9,SNR=2.5							
ARCES	**ARCESS Array B**	**80.75**	**340**	P	**P**	**06 31 38.0**	**+0.2**
1.6nm,0.8s,mb4.0,baz=90,slow=4.9,SNR=6.0							

BJI 22 06:27:22.9, 20.52S×178.09W, h514km, mB4.5, mb4.0
NEIC 22 06:27:26.2±0.9, 21.36S×178.53W, h532km±10km, mb4.4/10, Error ellipse: s-maj=15.4km s-min=9.3km az=153.0
IDC 22 06:27:30.6±2.6, 21.52S×178.80W, h569km±27km, mb3.8/5, mb1 3.8/7, mb1mx3.3/19, mbtmp4.8/7, Error ellipse: s-maj=29.1km s-min=20.3km az=168.0
ISC 22 06:27:26.0±1.4, 21.3S±0.1×178.5W±0.1, h549km±24km, n27, σ0°51/22, mb4.5/11, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.77**	**42**	*e*Pn	**P**	**06 29 42.1**	**-0.3**
113nm,0.9s							
DZM	**Mont Dzumac**	**13.98**	**264**	P	**P**	**06 30 25.8**	**+0.7**
0.5nm,0.3s,baz=37,slow=5.1,SNR=4.5							
URZ	**Urewera**	**17.33**	**192**	P	**P**	**06 30 57.5**	**-0.2**
3.3nm,0.3s,baz=270,slow=3.0,SNR=17							
CTA	**Charters Tower**	**32.92**	**266**	*e*P	**P**	**06 33 17.5**	**+0.8**
6.0nm,0.5s,mb4.4							
CTA	**Charters Tower**	**32.92**	**266**	P	**P**	**06 33 17.2**	**+0.6**
6.4nm,0.4s,mb4.5,baz=99,slow=11,SNR=14							
CTAO	**Charters Tower**	**32.92**	**266**	*e*P	**P**	**06 33 17.2**	**+0.5**
6.4nm,0.5s,mb4.4							
PMG	**Port Moresby**	**35.04**	**284**	P	**P**	**06 33 34.2**	**-0.2**
24nm,0.8s,mb4.8,baz=84,slow=7.6,SNR=5.8							
PMG	**Port Moresby**	**35.04**	**284**	*e*P	**P**	**06 33 34.9**	**+0.5**
24nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**37.00**	**245**	*e*P	**P**	**06 33 51.2**	**+0.8**
2.8nm,0.5s,mb4.0							
STKA	**Stephens Creek**	**37.00**	**245**	P	**P**	**06 33 50.9**	**+0.5**
3.5nm,0.5s,mb4.2,baz=91,slow=9.4,SNR=13							
ASAR	**Alice Springs**	**43.83**	**258**	P	**P**	**06 34 45.6**	**+0.2**
16nm,0.7s,mb4.7,baz=99,slow=7.9,SNR=204							
ASAR				PcP	PcP	06 36 21.3	+1.3
1.6nm,0.6s,baz=102,slow=4.2,SNR=5.8							
ASAR				S	**S**	**06 40 33.2**	**-4.1**
1.3nm,0.9s,baz=92,slow=16,SNR=6.9							
ASPA	**Alice Springs**	**43.86**	**258**	||*i*P	**P**	**06 34 45.5**	**0.0**
WB2	**Warramunga Arr**	**43.99**	**263**	||*i*P	**P**	**06 34 46.1**	**-0.4**
WRAB	**Tennant Creek**	**43.99**	**263**	*e*P	**P**	**06 34 45.6**	**-0.9**
4.9nm,0.5s,mb4.3							
WRA	**Warramunga Arr**	**44.00**	**263**	P	**P**	**06 34 46.0**	**-0.6**
2.7nm,0.3s,mb4.3,baz=98,slow=7.0,SNR=71							
KAKA	**Kakadu**	**47.49**	**272**	*e*P	**P**	**06 35 13.2**	**-0.3**
6.5nm,0.3s,mb4.6							
FORT	**Forrest**	**48.52**	**247**	*e*P	**P**	**06 35 20.7**	**-0.4**
275nm,0.5s,mb6.0							
FITZ	**Fitzroy Crossi**	**52.43**	**263**	||*i*P	**P**	**06 35 49.9**	**+0.1**
5.0nm,0.3s,mb4.3							
MBWA	**Marble Bar**	**57.19**	**258**	*e*P	**P**	**06 36 22.5**	**-0.5**
7.0nm,0.6s,mb4.1							
QSPA	**South Pole Qui**	**68.78**	**180**	*e*P	**P**	**06 37 36.8**	**+0.5**
3.6nm,0.6s,mb4.1							
CN2	**Changchun**	**82.62**	**323**	*e*P	**P**	**06 38 53.5**	**+0.7**
MKAR	**Makanchi Array**	**111.37**	**313**	PKiKP		06 44 59.9	
0.2nm,0.5s,baz=90,slow=4.3,SNR=3.4							
ARCES	**ARCESS Array B**	**129.60**	**349**	PKP	PKPdf	06 45 34.6	+2.6
1.4nm,0.6s,slow=1.2,SNR=7.6							
FINES	**FINESS Array B**	**136.38**	**343**	PKP	PKPdf	06 45 47.1	+2.3
0.4nm,0.4s,baz=90,slow=1.9,SNR=4.8							
AKASG	**Malin Array Be**	**143.45**	**330**	PKP	PKPdf	06 45 58.1	+0.5
6.0nm,0.4s,baz=43,slow=4.2,SNR=42							
BRTR	**Keskin Array B**	**146.99**	**311**	PKPbc	PKPbc	06 46 10.2	+3.9
1.7nm,0.6s,baz=132,slow=3.7,SNR=7.1							
GERES	**GERESS Array B**	**150.81**	**343**	PKPbc	PKPdf	06 46 19.4	+10
1.3nm,0.7s,baz=45,slow=1.9,SNR=7.6							

IDC 22 06:31:54.5±2.1, 13.21N×87.57W, mb3.6/3, mb1 3.8/5, mb1mx3.6/22, mbtmp3.6/5, ML2.7/2, Error ellipse: s-maj=133.0km s-min=16.2km az=50.0
CASC 22 06:32:00.1±1.8, 12.59N×88.26W, h36km±999km, MD3.8, ML3.6
SSS 22 06:32:00.2, 12.65N×88.25W, h50km, MD3.7
INET 22 06:32:00.5, 12.71N×88.18W, h14km, MD3.5, ML3.7
ISC 22 06:31:59.4±0.6, 12.61N±0.09×88.23W±0.06, h73km±8km, n33, σ0°82/45, mb3.6/3, 9C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.77**	**30**	*e*P	**P**	**06 32 15.0**	**-0.4**
CNCH				*e*S	**S**	**06 32 26.6**	**-0.7**
VSM	**San Miguel**	**0.81**	**357**	*e*P	**P**	**06 32 15.7**	**-0.3**
VSM				*e*S	**S**	**06 32 28.0**	**-0.3**
CAHU	**Cacacuatique**	**1.15**	**1**	*e*P	**P**	**06 32 20.5**	**+0.2**
CRIN	**San Cristobal**	**1.16**	**85**	||*e*P	**P**	**06 32 21.2**	**+0.9**
SNVI	**San Vicente**	**1.16**	**329**	*e*P	**P**	**06 32 19.5**	**-0.8**
SNVI				*e*S	**S**	**06 32 35.4**	**-0.6**
LCBS	**La Ceiba**	**1.27**	**325**	||*e*P	**P**	**06 32 21.4**	**-0.4**
LFRS	**El Faro**	**1.29**	**321**	||*e*P	**P**	**06 32 21.4**	**-0.7**
LEON	**Leon**	**1.32**	**98**	||*e*P	**P**	**06 32 22.4**	**-0.2**
TEL3	**Telica 3**	**1.35**	**91**	*e*P	**P**	**06 32 23.3**	**+0.2**
TELN	**Telica**	**1.36**	**90**	||*e*P	**P**	**06 32 23.5**	**+0.3**
LBRS	**Las Brisas**	**1.37**	**325**	*e*P	**P**	**06 32 23.0**	**-0.3**
LBRS				*i* S	**S**	**06 32 40.2**	**-0.8**
LBRS				*e*S	**S**	**06 32 40.2**	**-0.8**
LFU	**La Fuente**	**1.42**	**323**	*e*P	**P**	**06 32 23.7**	**-0.2**
SNET	**Serv Nac Est T**	**1.45**	**318**	*e*P	**P**	**06 32 23.9**	**-0.4**
SNET				*e*S	**S**	**06 32 42.6**	**-0.1**
CNGN	**Cerro Negro**	**1.50**	**94**	||*e*P	**P**	**06 32 25.1**	**+0.2**
BOQS	**Boqueron**	**1.52**	**318**	*e*P	**P**	**06 32 25.0**	**-0.2**
BOQS				*e*S	**S**	**06 32 44.7**	**+0.5**
MOMJ	**Momotombo**	**1.66**	**97**	||*e*P	**P**	**06 32 27.4**	**+0.2**
SBLS	**San Blas**	**1.83**	**312**	*e*P	**P**	**06 32 29.5**	**+0.1**
SBLS				*e*S	**S**	**06 32 52.6**	**+1.2**
SNJE	**San Jose**	**1.83**	**313**	*e*P	**P**	**06 32 29.7**	**+0.3**
SNJE				*e*S	**S**	**06 32 53.0**	**+1.5**
APYN	**Apoyeque**	**1.87**	**101**	*e*P	**P**	**06 32 30.4**	**+0.4**
RTR	**El Retiro**	**1.88**	**313**	*e*P	**P**	**06 32 30.0**	**-0.1**
RTR				*e*S	**S**	**06 32 53.2**	**+0.5**
XAVN	**Gruta Xavier**	**1.92**	**104**	||*e*P	**P**	**06 32 31.0**	**+0.4**
CRUN	**El Crucero**	**1.99**	**108**	||*e*P	**P**	**06 32 32.3**	**+0.8**
MGAN	**Managua**	**1.99**	**103**	||*e*P	**P**	**06 32 31.9**	**+0.3**
MGAN				*e*S	**S**	**06 32 55.6**	**+0.3**

MGAN				*i*		06 32 57.9	
comp=N,620nm,0.4s							
TICN	**Ticuantepe**	**2.04**	**106**	*e*P	**P**	**06 32 32.7**	**+0.5**
WILN	**Americas 2**	**2.04**	**102**	*e*S	**S**	**06 32 57.8**	**+1.1**
RBDL	**Robledal**	**2.06**	**317**	*e*P	**P**	**06 32 32.6**	**0.0**
APON	**Apoyo**	**2.22**	**108**	*e*P	**P**	**06 32 35.8**	**+1.0**
CONN	**Concepcion**	**2.75**	**112**	*e*P	**P**	**06 32 38.7**	**-3.5**
JTS	**JuntasAbangare**	**3.95**	**125**	Pn	**P**	**06 32 57.4**	**-1.6**
comp=N,1.0nm,0.3s,baz=312,slow=20,SNR=5.6							
JTS				Sn	**S**	**06 33 41.5**	**-3.0**
comp=N,0.7nm,0.3s,baz=302,slow=19,SNR=1.9							
JTS				Lg		06 33 55.5	
comp=N,1.9nm,0.3s,baz=336,slow=20,SNR=6.2							
ROSC	**El Rosal**	**15.74**	**118**	Pn	**P**	**06 35 36.1**	**-2.1**
comp=N,0.3nm,0.3s,baz=252,slow=19,SNR=2.7							
TXAR	**Lajitas Array**	**21.97**	**322**	P	**P**	**06 36 50.3**	**+1.7**
comp=N,1.6nm,0.7s,mb3.5,baz=141,slow=11,SNR=31							
YKA	**Yellowknife Ar**	**53.26**	**345**	P	**P**	**06 41 11.1**	**-1.6**
comp=N,0.3nm,0.7s,mb3.5,baz=151,slow=7.3,SNR=11							
DLBC	**Dease Lake**	**55.44**	**335**	P	**P**	**06 41 28.8**	**+0.2**
comp=N,0.7nm,0.5s,mb3.9,baz=140,slow=12,SNR=4.6							

IDC 22 06:42:30.6±1.2, 12.47N×86.22W, mb3.2/3, mb1 3.6/4, mb1mx3.5/20, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=125.7km s-min=14.1km az=60.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.49**	**150**	Pn	Pn	06 43 13.6	+0.5
3.1nm,0.3s,baz=314,slow=16,SNR=18							
JTS				Sn	Sn	06 43 43.1	-1.5
4.3nm,0.3s,baz=285,slow=22,SNR=4.7							
JTS				Lg		06 43 49.7	
5.6nm,0.3s,baz=297,slow=17,SNR=5.0							
TXAR	**Lajitas Array**	**23.34**	**319**	P	P	06 47 40.3	-1.2
0.9nm,0.8s,baz=143,slow=9.9,SNR=11							
PDAR	**Pinedale Array**	**36.34**	**331**	P	P	06 49 36.8	-1.3
0.1nm,0.5s,baz=122,slow=8.5,SNR=2.6							
YKA	**Yellowknife Ar**	**53.92**	**344**	P	P	06 51 55.3	-2.5
0.2nm,0.7s,baz=141,slow=7.5,SNR=9.1							

IDC 22 06:47:25.0±2.1, 13.15N×92.33E, mb4.0/4, mb1 4.1/5, mb1mx3.7/22, mbtmp3.9/5, ML3.7/1, MS2.6/1, Ms1 2.8/1, ms1mx2.4/28, Error ellipse: s-maj=66.5km s-min=26.9km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.27**	**50**	Pn	P	06 49 25.6	-3.4
0.3nm,0.3s,baz=241,slow=15,SNR=3.8							
CMAR				LR	LR	06 53 23.2	
comp=Z,33nm,18.4s,baz=175,slow=43							
MKAR	**Makanchi Array**	**34.58**	**348**	P	P	06 54 15.8	-1.8
0.1nm,0.3s,baz=162,slow=7.7,SNR=3.7							
FITZ	**Fitzroy Crossi**	**45.22**	**133**	*e*P	P	06 55 44.2	-1.9
3.2nm,0.4s							
FITZ	**Fitzroy Crossi**	**45.22**	**133**	P	P	06 55 43.7	-2.4
5.7nm,0.5s,baz=343,slow=7.9,SNR=9.0							
WRA	**Warramunga Arr**	**52.83**	**128**	P	P	06 56 42.6	-2.3
1.1nm,0.6s,baz=304,slow=8.6,SNR=10							
WB2	**Warramunga Arr**	**52.84**	**128**	*e*P	P	06 56 42.8	-2.1
ASAR	**Alice Springs**	**54.70**	**132**	P	P	06 56 56.7	-1.9
0.8nm,0.4s,baz=308,slow=6.5,SNR=13							

IDC 22 06:50:39.9±6.3, 2.91N×96.43E, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=318.8km s-min=28.1km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.60**	**123**	P	P	06 58 46.4	-1.5
0.9nm,0.4s,baz=301,slow=9.2,SNR=5.0							
ASAR	**Alice Springs**	**45.05**	**128**	P	P	06 58 57.5	-2.1
0.4nm,0.5s,baz=298,slow=7.8,SNR=5.5							
MKAR	**Makanchi Array**	**45.40**	**346**	P	P	06 59 00.1	-1.9
0.5nm,0.5s,baz=163,slow=8.5,SNR=8.4							

IDC 22 07:25:57.2±2.3, 6.01S×130.01E, mb3.5/1, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, ML4.1/3, Error ellipse: s-maj=92.3km s-min=29.2km az=76.0
NEIC 22 07:25:58.2±1.5, 5.93S×130.39E, h10km, Error ellipse: s-maj=41.2km s-min=16.1km az=71.0
ISC 22 07:26:13.6±2.1, 6.79S±0.10×129.9E±0.1, h180km±23km, n9, σ1°04/15, mb3.2/1, 1D, Banda Sea

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AVH *i* S Sn 07 28 25.9 -0.6
KOK Koryaka 2.65 236 *e*P Pn 07 27 55.0 -0.3
KOK *e*S Sn 07 28 27.0 -0.3
GNL Ganaly 2.80 248 *e*P Pn 07 27 57.9 +0.5
GNL *e*S Sn 07 28 31.6 +0.6
PET Petropavlovsk 2.81 232 *e*P Pn 07 27 57.5 -0.1
PET *e*S Sn 07 28 31.4 0.0
KRMR Karymshinskiy 3.18 233 *e*P Pn 07 28 05.3 +2.5
KRMR *e*S Sn 07 28 42.3 +1.7
RUS Russkaya 3.29 225 *e*P Pn 07 28 03.8 -0.6
RUS *i* S Sn 07 28 41.7 -1.7
GRL Gorelyy 3.39 230 *e*P Pn 07 28 07.1 +1.3
GRL *e*S Sn 07 28 47.1 +1.1
APC Apacha 3.59 240 *e*P Pn 07 28 09.6 +1.0
APC *e*S Sn 07 28 50.8 -0.3
APC Smax
10.0nm,0.9s

BJI ***22*** *07:30:44.2, 1.87N×95.77E, h30km, mB4.9, mb4.6*
IDC ***22*** *07:30:48.0±2.4, 2.64N×95.54E, mb4.1/6, mb1 4.3/7, mb1mx4.0/20, mbtmp4.1/7, ML4.3/1, MS3.3/1, Ms1 3.5/1, ms1mx2.8/33, Error ellipse: s-maj=99.6km s-min=18.8km az=62.0*
NEIC ***22*** *07:30:53.8±0.7, 2.69N×95.75E, h30km, mb4.1/2, Error ellipse: s-maj=16.2km s-min=10.9km az=218.0*
ISC 22 07:30:50.6±0.8, 2.63N±0.10×95.6E±0.1, h30km, n24, σ0§91/24, mb4.4/17, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.72**	**62**	*e*Pn	**Pn**	**07 32 15.4**	**-0.4**
PALK	**Pallekele**	**15.51**	**288**	*e*P	**P**	**07 34 34.5**	**+5.4**
12nm,1.2s							
CMAR	**Chiang Mai Arr**	**16.08**	**12**	Pn	**P**	**07 34 37.4**	**+1.0**
0.4nm,0.3s,baz=204,slow=11,SNR=28							
CMAR				LR	LR	07 41 33.3	
comp=Z,102nm,18.2s,baz=210,slow=40							
KKM	**Kota Kinabalu**	**20.87**	**80**	*e*P	**P**	**07 35 32.4**	**-0.5**
KMI	**Kunming**	**23.41**	**17**	P	**P**	**07 35 59.9**	**+1.8**
GYA	**Guiyang**	**25.98**	**23**	P	**P**	**07 36 22.3**	**-0.4**
GYA				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.3							
JIRN	**Jiri**	**26.46**	**341**	*e*P	**P**	**07 36 27.4**	**+0.3**
comp=Z,6.9nm,0.6s,mb4.4							
PKI	**Pulchoki**	**26.64**	**340**	*e*P	**P**	**07 36 26.5**	**-2.2**
comp=Z,8.0nm,0.5s,mb4.5							
GUN	**Gumba**	**26.79**	**341**	*e*P	**P**	**07 36 30.7**	**+0.6**
comp=Z,11nm,0.7s,mb4.5							
KKN	**Kakani**	**26.88**	**340**	*e*P	**P**	**07 36 30.0**	**-1.0**
comp=Z,6.3nm,0.5s,mb4.4							
GKN	**Gorkha**	**27.31**	**339**	*e*P	**P**	**07 36 35.1**	**+0.3**
comp=Z,27nm,0.9s,mb4.8							
KOLN	**Koldanda**	**27.49**	**337**	*e*P	**P**	**07 36 37.1**	**+0.6**
comp=Z,26nm,1.0s,mb4.7							
XAN	**Xi'an**	**33.65**	**20**	P	**P**	**07 37 29.3**	**-1.7**
XAN				AMB	AMB		
comp=Z,22nm,0.8s,mb5.1							
HHC	**Hu-ho-hao-te**	**40.70**	**19**	*e*P	**P**	**07 38 31.3**	**+1.1**
HHC				AP	pP	07 38 41.0	+1.8
HHC				XP	sP	07 38 44.8	+1.9
HHC				AMB	AMB		
comp=Z,15nm,1.2s,mb4.5							
HHC				AMB	AMB		
comp=Z,135nm,6.2s							
AAK	**Ala-Archa**	**44.06**	**338**	*e*P	**P**	**07 38 58.5**	**+0.9**
WRA	**Warramunga Arr**	**44.17**	**122**	P	**P**	**07 38 58.9**	**0.0**
comp=Z,1.8nm,0.6s,mb4.0,baz=299,slow=9.4,SNR=8.9							
WRAB	**Tennant Creek**	**44.18**	**122**	*e*P	**P**	**07 38 59.4**	**+0.4**
comp=Z,2.9nm,0.5s,mb4.3							
MKAR	**Makanchi Array**	**45.48**	**347**	P	**P**	**07 39 09.2**	**+0.1**
comp=Z,6.5nm,0.7s,mb4.6,baz=162,slow=8.2,SNR=65							
ASAR	**Alice Springs**	**45.55**	**127**	P	**P**	**07 39 10.3**	**+0.4**
comp=Z,1.2nm,0.7s,mb4.0,baz=301,slow=8.1,SNR=12							
SONM	**Songino Array**	**46.00**	**10**	P	**P**	**07 39 12.4**	**-0.6**
comp=Z,1.2nm,0.5s,mb4.1,baz=195,slow=8.2,SNR=9.7							
SONM				PcP	PcP	07 40 49.5	-0.4
comp=Z,1.2nm,0.6s,baz=181,slow=3.7,SNR=4.5							
ZAL	**Zalesovo**	**51.91**	**352**	P	**P**	**07 39 58.0**	**-0.6**
comp=Z,3.2nm,0.5s,mb4.5,baz=292,slow=7.7,SNR=15							
ZAL	**Zalesovo**	**51.91**	**352**	P	**P**	**07 39 58.0**	**-0.6**
STKA	**Stephens Creek**	**55.52**	**132**	P	**P**	**07 40 25.6**	**0.0**
comp=Z,0.8nm,0.6s,mb3.9,baz=321,slow=7.6,SNR=2.9							
NB2	**NORSAR Subarra**	**84.97**	**331**	P	**P**	**07 43 20.5**	**-3.6**
comp=Z,0.7nm,0.7s,mb3.9,baz=238,slow=6.2							

IDC ***22*** *07:32:40.2±0.4, 8.24N×39.65W, mb4.2/28, mb1 4.3/28, mb1mx4.3/31, mbtmp4.2/28, MS3.7/11, Ms1 3.7/11, ms1mx3.6/32, Error ellipse: s-maj=16.2km s-min=10.8km az=127.0*
NEIC ***22*** *07:32:42.0±0.2, 8.17N×39.55W, h10km, mb4.4/24, Error ellipse: s-maj=6.7km s-min=5.5km az=108.0*
ISC 22 07:32:40.2±0.3, 8.17N±0.05×39.53W±0.06, h10km, n67, σ0§86/64, mb4.2/49, MS3.7/11, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**14.37**	**165**	*e*Pn	**P**	**07 36 04.3**	**-1.7**
BAO	**Brasilia Array**	**25.09**	**200**	P	**P**	**07 38 08.5**	**+1.8**
BDFB	**Brasilia**	**25.10**	**200**	P	**P**	**07 38 07.1**	**+0.3**
6.9nm,0.8s,mb4.2,baz=24,slow=9.8,SNR=9.5							
BDFB				LR	LR	07 47 38.3	
comp=Z,273nm,19.5s,MS3.8,baz=173,slow=36							
SAML	**Samuel**	**29.06**	**235**	*e*P	**P**	**07 38 43.6**	**+0.5**
14nm,1.2s,mb4.6							
SDV	**Santo Domingo**	**30.76**	**274**	LR	LR	07 50 01.5	
comp=Z,108nm,21.1s,MS3.5,baz=26,slow=34							
SDV	**Santo Domingo**	**30.76**	**274**	*e*P	**P**	**07 38 58.3**	**+0.1**
0.9nm,0.4s,mb4.0							
SIV	**San Ignacio**	**32.11**	**222**	P	**P**	**07 39 10.5**	**+0.4**
7.1nm,0.9s,mb4.5,baz=66,slow=10,SNR=34							
DBIC	**Dimbokro**	**34.41**	**90**	P	**P**	**07 39 30.0**	**-0.1**
3.2nm,0.7s,mb4.3,baz=237,slow=12,SNR=4.1							
ROSC	**El Rosal**	**34.72**	**267**	P	**P**	**07 39 32.6**	**-0.2**
2.9nm,0.7s,mb4.3,baz=96,slow=14,SNR=2.9							
ROSC				LR	LR	07 53 22.0	
comp=Z,122nm,21.4s,MS3.6,baz=6.3,slow=36							
LPAZ	**La Paz**	**37.30**	**229**	P	**P**	**07 39 56.3**	**+1.8**
6.7nm,1.0s,mb4.4,baz=30,slow=8.0,SNR=18							
LPAZ				LR	LR	07 54 26.3	
comp=Z,89nm,21.6s,MS3.5,baz=265,slow=35							
LPAZ	**La Paz**	**37.30**	**229**	*e*P	**P**	**07 39 56.5**	**+2.0**
11nm,1.1s,mb4.6							
CPUP	**Villa Florida**	**38.40**	**206**	P	**P**	**07 40 02.4**	**-1.3**
0.8nm,0.9s,mb3.5,baz=36,slow=9.4,SNR=2.3							
CPUP				LR	LR	07 55 44.5	
comp=Z,186nm,18.8s,MS3.9,baz=210,slow=36							
OTAV	**Otavalo**	**39.57**	**260**	*e*P	**P**	**07 40 15.1**	**+1.4**
2.1nm,0.8s,mb3.9							
LVC	**Limon Verde**	**42.00**	**223**	P	**P**	**07 40 31.8**	**-1.7**
2.2nm,0.8s,mb3.9,baz=65,slow=7.4,SNR=2.8							
LVC				LR	LR	07 58 28.6	
comp=Z,128nm,21.6s,MS3.8,baz=36,slow=37							
LVC	**Limon Verde**	**42.00**	**223**	P	**P**	**07 40 31.8**	**-1.7**
LVC				LR	LR	07 58 28.6	
ESDC	**Sonseca Array**	**44.66**	**40**	P	**P**	**07 40 55.9**	**+0.9**
0.3nm,0.3s,mb3.6,baz=243,slow=6.6,SNR=4.1							
JTS	**JuntasAbangare**	**44.85**	**276**	LR	LR	07 57 58.0	
comp=Z,64nm,21.9s,MS3.5,baz=323,slow=34							
CFAA	**Coronel Fontan**	**48.14**	**213**	P	**P**	**07 41 22.2**	**-0.4**
0.7nm,1.1s,mb3.6,baz=55,slow=8.6,SNR=9.3							
CFAA				LR	LR	08 02 25.8	
comp=Z,16nm,21.1s,MS3.0,baz=41,slow=37							
CFAA	**Coronel Fontan**	**48.14**	**213**	P	**P**	**07 41 22.2**	**-0.4**
CFAA				LR	LR	08 02 25.8	
SADO	**Sadowa**	**50.03**	**324**	LR	LR	07 58 21.1	
comp=Z,125nm,19.3s,MS3.9,baz=125,slow=31							
SCHQ	**Schefferville**	**51.38**	**340**	P	**P**	**07 41 46.8**	**-0.3**
4.7nm,0.9s,mb4.4,baz=146,slow=10.0,SNR=4.4							
WVT	**Waverly**	**51.97**	**310**	*e*P	**P**	**07 41 51.5**	**-0.4**
2.5nm,0.9s,mb4.1							
PLCA	**Paso Flores**	**56.43**	**208**	P	**P**	**07 42 23.4**	**-1.0**
4.5nm,0.9s,mb4.5,baz=37,slow=8.0,SNR=14							
PLCA				LR	LR	08 09 06.3	
comp=Z,190nm,18.2s,MS4.2,baz=17,slow=39							
DAVOX	**Davos**	**56.96**	**39**	P	**P**	**07 42 28.6**	**+0.4**
3.4nm,0.5s,mb4.6,baz=323,slow=7.8,SNR=5.7							
GERES	**GERESS Array B**	**60.17**	**38**	P	**P**	**07 42 49.7**	**-0.8**
0.9nm,0.7s,mb3.9,baz=256,slow=5.5,SNR=6.0							
WMOK	**Wichita Mounta**	**60.20**	**305**	P	**P**	**07 42 49.6**	**-1.3**
0.9nm,0.4s,mb4.2							

TXAR	**Lajitas Array**	**63.52**	**299**	P	**P**	**07 43 12.1**	**-1.3**
0.4nm,0.6s,mb3.6,baz=108,slow=6.8,SNR=7.0						
TXAR	**Lajitas Array**	**63.52**	**299**	P	**P**	**07 43 12.1**	**-1.3**
SUMG	**Summit**	**64.36**	**0**	*e*P	**P**	**07 43 18.6**	**+0.5**
12nm,0.8s,mb5.0							
IDI	**Anoyia**	**64.48**	**55**	P	**P**	**07 43 19.5**	**0.0**
12nm,0.9s,mb4.9,baz=349,slow=7.4,SNR=3.9							
NOA	**NORSAR Array B**	**64.65**	**25**	P	**P**	**07 43 20.0**	**-0.2**
1.6nm,0.9s,mb4.1,baz=239,slow=7.0,SNR=3.6							
NOA				LR	LR	08 07 04.4	
comp=Z,61nm,19.1s,MS3.8,slow=32							
FCC	**Fort Churchill**	**65.19**	**332**	*e*P	**P**	**07 43 22.5**	**-1.2**
13nm,1.3s,mb4.8							
MNTX	**Cornudas Mount**	**65.23**	**301**	*e*P	**P**	**07 43 23.6**	**-0.9**
1.5nm,0.8s,mb4.1							
SDCO	**Great Sand Dun**	**66.07**	**308**	*e*P	**P**	**07 43 30.2**	**+0.5**
2.9nm,1.0s,mb4.3							
PV01	**Paradox Valley**	**68.53**	**308**	*e*P	**P**	**07 43 45.4**	**+0.2**
PV10	**Paradox Valley**	**68.92**	**308**	*e*P	**P**	**07 43 47.4**	**-0.2**
AKASG	**Malin Array Be**	**70.30**	**39**	P	**P**	**07 43 55.4**	**-0.5**
0.4nm,0.3s,mb3.8,baz=258,slow=6.2,SNR=7.7							
WUAZ	**Wupatki**	**70.53**	**305**	*e*P	**P**	**07 43 58.5**	**+1.0**
6.2nm,1.0s,mb4.5							
LOHW	**Long Hollow**	**70.72**	**313**	*e*P	**P**	**07 43 58.4**	**-0.1**
1.0nm,0.6s,mb3.9							
SNOW	**Snow King Moun**	**70.81**	**313**	*e*P	**P**	**07 43 59.1**	**0.0**
1.2nm,0.6s,mb4.0							
MOOW	**Moose Ponds**	**70.83**	**313**	P	**P**	**07 43 58.9**	**-0.4**
3.6nm,1.6s,mb4.0							
TPAW	**Teton Pass**	**70.95**	**313**	*e*P	**P**	**07 44 00.2**	**+0.3**
5.6nm,1.1s,mb4.4							
IMW	**Indian Meadow**	**70.99**	**314**	*e*P	**P**	**07 44 00.5**	**+0.3**
3.7nm,1.0s,mb4.3							
HWUT	**Hardware Ranch**	**71.19**	**311**	*e*P	**P**	**07 44 01.6**	**+0.2**
3.7nm,0.9s,mb4.3							
FINES	**FINESS Array B**	**71.32**	**28**	P	**P**	**07 44 01.9**	**+0.1**
2.1nm,0.8s,mb4.1,baz=270,slow=1.9,SNR=4.5							
FINES	**FINESS Array B**	**71.32**	**28**	P	**P**	**07 44 01.9**	**0.0**
BOZ	**Bozeman (W)**	**71.70**	**315**	*e*P	**P**	**07 44 04.5**	**+0.1**
1.3nm,0.8s,mb3.9							
BRTR	**Keskin Array B**	**71.89**	**51**	P	**P**	**07 44 06.1**	**+0.5**
1.7nm,0.7s,mb4.1,baz=278,slow=8.2,SNR=6.4							
BGU	**Big Grassy Mou**	**72.23**	**310**	*e*P	**P**	**07 44 08.2**	**+0.5**
BOSA	**Boshof**	**72.33**	**123**	P	**P**	**07 44 09.1**	**+0.6**
2.1nm,0.9s,mb4.1,baz=180,slow=5.1,SNR=2.8							
MATP	**Matopo**	**72.64**	**114**	P	**P**	**07 44 11.8**	**+1.2**
3.8nm,1.2s,mb4.2,baz=256,slow=8.3,SNR=2.7							
RES	**Resolute Bay**	**73.41**	**347**	*e*P	**P**	**07 44 14.1**	**+0.1**
3.0nm,0.9s,mb4.2							
HLID	**Hailey**	**73.46**	**313**	*e*P	**P**	**07 44 15.9**	**+1.0**
5.4nm,1.6s,mb4.2							
ARCES	**ARCESS Array B**	**73.80**	**19**	P	**P**	**07 44 15.4**	**-0.9**
5.3nm,0.9s,mb4.5,baz=256,slow=5.0,SNR=9.0							
EDM	**Edmonton**	**73.82**	**323**	*e*P	**P**	**07 44 15.8**	**-0.9**
ELK	**Elko**	**73.89**	**310**	*e*P	**P**	**07 44 17.9**	**+0.5**
1.7nm,1.0s,mb3.9							
NEW	**Newport**	**75.69**	**318**	P	**P**	**07 44 26.6**	**-1.0**
2.0nm,0.8s,mb4.1,baz=123,slow=5.7,SNR=5.0							
NEW	**Newport**	**75.69**	**318**	*e*P	**P**	**07 44 27.2**	**-0.4**
3.1nm,1.0s,mb4.2							
YKA	**Yellowknife Ar**	**75.91**	**332**	P	**P**	**07 44 26.1**	**-2.5**
1.0nm,0.8s,mb3.8,baz=101,slow=6.1,SNR=30							
YKA	**Yellowknife Ar**	**75.91**	**332**	P	**P**	**07 44 26.1**	**-2.5**
NVAR	**Mina Array Bea**	**76.19**	**308**	P	**P**	**07 44 29.8**	**-0.9**
0.2nm,0.3s,mb3.5,baz=76,slow=3.7,SNR=3.2							
MOD	**Modoc**	**77.73**	**311**	*e*P	**P**	**07 44 40.4**	**+1.3**
4.0nm,0.8s,mb4.4							
DLBC	**Dease Lake**	**83.36**	**328**	P	**P**	**07 45 09.5**	**+0.8**
2.4nm,1.0s,mb4.2,baz=99,slow=7.3,SNR=4.3							
INK	**Inuvik**	**83.95**	**338**	P	**P**	**07 45 11.8**	**+0.4**
5.6nm,1.1s,mb4.6,baz=87,slow=7.7,SNR=10							
INK	**Inuvik**	**83.95**	**338**	*e*P	**P**	**07 45 12.6**	**+1.1**
7.6nm,1.1s,mb4.7							
DAWY	**Dawson**	**87.01**	**334**	*e*P	**P**	**07 45 28.0**	**+1.3**
ILAR	**Eielson Array**	**89.94**	**336**	P	**P**	**07 45 40.5**	**-0.2**
1.5nm,1.0s,mb4.3,baz=52,slow=3.5,SNR=10							

MOS ***22*** *07:41:19.8±1.1, 4.98N×126.08E, h45km, mb5.7/44, MS4.5/15, Error ellipse: s-maj=10.6km s-min=5.4km az=107.5*
CSEM ***22*** *07:41:21.5, 5.62N×125.83E, h33km, mb5.7*
BJI ***22*** *07:41:24.6, 5.01N×126.08E, h79km, mB5.2, mb5.5, Ms4.7, Msz4.5*
IDC ***22*** *07:41:26.4±0.7, 4.79N×126.10E, h92km±5km, mb5.0/29, mb1 5.1/29, mb1mx5.1/30, mbtmp5.3/29, MS4.3/22, Ms1 4.3/22, ms1mx4.2/35, Error ellipse: s-maj=12.3km s-min=5.7km az=73.0*
NEIC ***22*** *07:41:26.2±0.1, 4.90N×126.09E, mb5.5/54, MW5.4, Error ellipse: s-maj=6.7km s-min=3.9km az=76.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^17 Nm; Mrr 1.50; Mθθ -0.12; Mφφ -1.39; Mrθ -0.31; Mθφ 0.36; Mφr -0.46; Best double couple: M0 1.6×10^17 NP1:φs332°, δ40°, λ68°. NP2:φs179°, δ54°, λ107°. Principal axes: T 1.65, Plg74°, Azm140°; N -.12, Plg14°, Azm349°; P -1.53, Plg7°, Azm257°;*
NEIC Felt [II] in Sangihe-Talaud and at Tahuna.
HRVD ***22*** *07:41:26.2±0.1, 4.86N×126.40E, h71km±1km, MW5.4/73, Centroid moment Tensor Solution. LP body waves: s61,c113;Mantle waves: s73,c152; Half duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr 0.45±.03; Mθθ 0.45±.03; Mφφ -0.89±.03; Mrθ 0.25±.02; Mθφ -0.73±.03; Mφr 1.13±.02; Best double couple: M0 1.465×10^17 NP1:φs244°, δ28°, λ150°. NP2:φs1°, δ76°, λ65°. Principal axes: T 1.137, Plg52°, Azm242°; N .656, Plg24°, Azm8°; P -1.793, Plg27°, Azm111°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MAN ***22*** *07:41:29.3, 5.04N×126.08E, h50km, mb5.4, ML4.4, MS4.6*
MAN General Santos City Intensity I.
ISC 22 07:41:24.3±0.1, 4.82N±0.02×126.20E±0.03, h89km, h89km±1.5km: pP-P, n402, σ1§30/378, mb5.4/114, 40C-28D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.12**	**2**	*e*P	**P**	**07 41 59.4**	**+0.8**
MATI				*e*S	**S**	**07 42 26.0**	**+2.1**
DAV	**Davao City (W)**	**2.32**	**345**	↓*e*P	**P**	**07 42 03.0**	**+1.5**
KCP	**Kidapawan**	**2.44**	**333**	↑*e*P	**P**	**07 42 05.3**	**+2.1**
KCP				*i* S	**S**	**07 42 42.8**	**+11**
BUKP	**Musuan**	**3.24**	**340**	*e*P	**P**	**07 42 16.3**	**+2.0**
BUKP				*e*S	**S**	**07 42 54.8**	**+2.8**
MNI	**Manado**	**3.62**	**202**	*e*Pn	**P**	**07 42 21.0**	**+1.6**
CGP	**Cagayan de Oro**	**3.91**	**338**	↓*e*P	**P**	**07 42 25.8**	**+2.3**
CGP				*e*S	**S**	**07 43 25.2**	**+17**
TNE	**Ternate**	**4.08**	**165**	↓*e*Pn	**P**	**07 42 27.0**	**+1.2**
PAGZ	**Pagadian**	**4.11**	**317**	*e*P	**P**	**07 42 27.6**	**+1.3**
PAGZ				*e*S	**S**	**07 43 20.1**	**+6.7**
BUTP	**Butuan**	**4.16**	**352**	*e*P	**P**	**07 42 29.0**	**+2.0**
BUTP				*e*S	**S**	**07 43 23.8**	**+9.1**
IPIL	**Ipil**	**4.66**	**309**	*e*P	**P**	**07 42 35.2**	**+1.4**
IPIL				*e*S	**S**	**07 43 27.4**	**+0.4**
DCPH	**Dipolog City**	**4.69**	**323**	↑*e*P	**P**	**07 42 36.8**	**+2.6**
SCPH	**Surigao**	**4.98**	**352**	↑*e*P	**P**	**07 42 40.4**	**+2.2**
MSLP	**Maasin**	**5.45**	**346**	*e*P	**P**	**07 42 45.7**	**+1.2**
LLP	**Lapu-Lapu**	**5.89**	**338**	↑*i*P	**P**	**07 42 52.6**	**+2.0**
PLP	**Palo**	**6.42**	**349**	*i* P	**P**	**07 42 59.0**	**+1.0**
BESP	**Borongan**	**6.78**	**354**	*e*P	**P**	**07 43 07.4**	**+4.3**
BESP				*e*S	**S**	**07 44 29.2**	**+10**
GUIM	**Jordan**	**6.79**	**328**	*e*P	**P**	**07 43 05.1**	**+2.0**
AAP	**Anini-y**	**6.98**	**323**	↑*e*P	**P**	**07 43 04.0**	**-1.8**
7μm,2.0s							
RCP	**Roxas**	**7.52**	**333**	*i* P	**P**	**07 43 15.5**	**+2.3**
907μm,1.0s							
CNP	**Catarman**	**7.79**	**349**	*e*P	**P**	**07 43 19.6**	**+2.7**
CNP				*e*S	S	07 45 05.0	+21
KALP	**Kalibo**	**7.81**	**331**	*i* P	**P**	**07 43 08.0**	**-9.1**
2μm,1.0s							
CUYO	**Cuyo Island**	**7.89**	**320**	*e*P	**P**	**07 43 20.5**	**+2.3**
TSM	**Tawau**	**8.32**	**267**	P	**P**	**07 43 25.0**	**+1.0**
OTRP	**Odiongan**	**8.56**	**331**	*e*P	**P**	**07 43 30.7**	**+3.5**
PPR	**Puerto Princes**	**8.90**	**304**	*i* P	**P**	**07 43 36.0**	**+4.2**
PVCP	**Virac**	**8.95**	**347**	*e*P	**P**	**07 43 34.8**	**+2.2**
SJMP	**San Jose**	**9.10**	**327**	*e*P	**P**	**07 43 37.4**	**+2.7**
BATP	**Bataraza**	**9.23**	**296**	*e*P	**P**	**07 43 36.6**	**+0.3**
BUSP	**Coron**	**9.28**	**321**	*e*P	**P**	**07 43 38.6**	**+1.5**
BOAC	**Boac**	**9.60**	**334**	*e*P	**P**	**07 43 43.9**	**+2.4**
KKM	**Kota Kinabalu**	**10.02**	**277**	*e*Pn	**P**	**07 43 49.5**	**+2.4**
KKM				*e*Sn	**S**	**07 45 38.5**	**+0.1**
KKM	**Kota Kinabalu**	**10.02**	**277**	P	**P**	**07 43 52.2**	**+5.0**

BUNI	**Buntu Taipa**	**10.26**	**215**	*e*P	**P**	**07 43 53.1**	**+2.6**
LUBP	**Lubang**	**10.63**	**327**	*e*P	**P**	**07 43 58.5**	**+3.2**
NINI	**Niniconang**	**11.21**	**215**	*e*P	**P**	**07 44 06.9**	**+3.7**
BALP	**Baler**	**11.77**	**338**	*e*P	**P**	**07 44 15.8**	**+5.2**
SCZP	**Santa Cruz**	**12.52**	**331**	*e*P	**P**	**07 44 27.6**	**+7.0**
CAUP	**Cauayan**	**12.79**	**341**	*e*P	**P**	**07 44 24.5**	**+0.3**
BOLP	**Bolinao**	**13.04**	**332**	*e*P	**P**	**07 44 33.0**	**+5.6**
CVP	**Callao Caves**	**13.50**	**342**	↑*e*P	**P**	**07 44 39.0**	**+5.5**
APYP	**Conner**	**13.84**	**340**	*e*P	**P**	**07 44 38.5**	**+0.6**
MENI	**Mendum Tagoi**	**15.96**	**117**	↓*e*P	**P**	**07 45 01.5**	**-3.5**
BBP	**Basco**	**16.07**	**346**	*e*P	**P**	**07 45 05.2**	**-1.1**
YOMI	**Yo Moklole**	**16.15**	**117**	↓*e*P	**P**	**07 45 02.4**	**-5.0**
235nm,0.8s							
KSM	**Kuching**	**16.21**	**259**	*e*P	**P**	**07 45 11.8**	**+3.6**
KSM				*e*ScP		07 53 24.7	
KEDI	**Kedomdong**	**16.61**	**217**	↑*e*P	**P**	**07 45 14.6**	**+1.5**
530nm,0.8s							
RATI	**Rata**	**17.15**	**218**	↓*e*P	**P**	**07 45 23.4**	**+3.5**
616nm,0.5s							
KELI	**Kelakatan**	**17.44**	**222**	↓*e*P	**P**	**07 45 27.4**	**+3.9**
SRDI	**Scrawed**	**17.86**	**222**	↑*e*P	**P**	**07 45 30.2**	**+1.5**
295nm,0.7s							
KAKA	**Kakadu**	**18.49**	**160**	↓*i*P	**P**	**07 45 33.4**	**-2.5**
241nm,0.8s							
YHNB	**Yeheng**	**20.27**	**347**	*e*P	**P**	**07 45 53.3**	**-1.9**
QZH	**Quanzhou**	**21.30**	**341**	P	**P**	**07 46 03.9**	**-1.6**
QZH				S	**S**	**07 49 57.8**	**+6.0**
QZH				AMB	AMB		
comp=Z,130nm,1.0s,mb5.2							
QZH				LR	LR		
comp=Z,2μm,22.8s							
QIZ	**Qiongzhong**	**21.31**	**313**	P	**P**	**07 46 04.8**	**-0.9**
QIZ				AP		07 46 24.4	
QIZ				PP	PP	07 46 32.9	+0.9
QIZ				*e*S	**S**	**07 49 50.8**	**-1.2**
QIZ				SS	SS	07 50 27.3	-5.2
QIZ				AMB	AMB		
comp=Z,83nm,0.9s,mb5.1							
QIZ				AMB	AMB		
comp=Z,502nm,5.5s							
QIZ				LR	LR		
comp=Z,2μm,29.7s							
JOW	**Kunigami**	**21.98**	**5**	P	**P**	**07 46 12.1**	**-0.1**
comp=Z,484nm,0.8s,mb5.9,baz=193,slow=7.4,SNR=82							
JOW				S	**S**	**07 50 12.6**	**+8.5**
comp=Z,11nm,0.8s,baz=114,slow=9.5,SNR=2.6							
GZH	**Guangzhou**	**22.00**	**327**	P	**P**	**07 46 14.3**	**+1.9**
GZH				S	**S**	**07 50 05.3**	**+0.8**
GZH				AMB	AMB		
comp=Z,98nm,0.9s,mb5.1							
GZH				LR	LR		
comp=N,740nm,19.0s							
GZH				LR	LR		
comp=E,787nm,17.4s							
GZH				LR	LR		
comp=Z,1μm,17.1s							
FITZ	**Fitzroy Crossi**	**22.78**	**181**	↓*i*P	**P**	**07 46 20.6**	**+0.4**
comp=Z,316nm,1.1s,mb5.6							
FITZ				*e*S	**S**	**07 50 24.0**	**+5.6**
FITZ	**Fitzroy Crossi**	**22.78**	**181**	P	**P**	**07 46 20.4**	**+0.2**
comp=Z,223nm,0.9s,mb5.5,baz=7.5,slow=9.3,SNR=75							
FITZ				S	**S**	**07 50 22.7**	**+4.3**
comp=Z,130nm,0.9s,baz=178,slow=14,SNR=7.1							
KGM	**Kluang**	**23.01**	**264**	P	**P**	**07 46 25.9**	**+3.5**
PULI	**Pulasari**	**23.04**	**241**	↑*e*P	**P**	**07 46 23.4**	**+0.7**
UBT	**Ubonrachathani**	**23.26**	**298**	↓P	**P**	**07 46 26.0**	**+1.2**
PENI	**Pendagan**	**23.40**	**244**	↑*e*P	**P**	**07 46 25.4**	**-0.8**
IPM	**Ipoh**	**25.09**	**271**	P	**P**	**07 46 43.5**	**+1.0**
PMG	**Port Moresby**	**25.22**	**124**	*e*P	**P**	**07 46 43.6**	**-0.1**
PMG				pmax	pmax		
comp=Z,107nm,1.1s							
PMG	**Port Moresby**	**25.22**	**124**	P	**P**	**07 46 43.6**	**-0.1**
comp=Z,39nm,0.7s,mb4.9,baz=285,slow=4.3,SNR=9.3							
PMG				S	**S**	**07 51 01.8**	**+1.8**
comp=Z,3.2nm,0.4s,ba

GYA LR LR
comp=N,1μm,20.9s
GYA LR LR
comp=E,1μm,20.3s
GYA LR LR
comp=Z,1μm,19.1s
NANT Nan 28.51 301 ⇑P **P 07 47 13.0 -0.7**
ASAR Alice Springs 29.29 165 P **P 07 47 20.8 +0.1**
comp=Z,37nm,0.6s,mb5.2,baz=349,slow=7.4,SNR=498
ASAR PP PP 07 48 19.6 +0.8
comp=Z,14nm,0.7s,baz=335,slow=13,SNR=2.4
ASAR S **S 07 52 04.7 -1.2**
comp=Z,8.9nm,0.9s,baz=355,slow=19,SNR=3.1
ASAR ScP 07 53 59.2
comp=Z,20nm,1.1s,baz=350,slow=4.4,SNR=5.5
ASAR Alice Springs 29.29 165 P **P 07 47 20.8 +0.1**
ASAR PP PP 07 48 19.6 +0.8
ASAR S **S 07 52 04.7 -1.2**
ASAR ScP 07 53 59.2
ASPA Alice Springs 29.29 165 ⇓*i*P **P 07 47 20.7 0.0**
ASPA *e*S **S 07 52 05.7 -0.2**
ASPA *e*SCS ScS 07 57 52.2 +1.5
CM31 Chiang Mai Arr 29.88 299 *e*P **P 07 47 26.0 +0.1**
comp=Z,24nm,0.6s,mb5.0
CM31 *e*PcP PcP 07 50 27.3 +0.4
CM31 *e*ScP 07 54 00.7
CMAR Chiang Mai Arr 29.88 299 P **P 07 47 25.4 -0.5**
comp=Z,20nm,0.9s,mb4.8,baz=110,slow=6.8,SNR=59
CMAR PcP PcP 07 50 28.1 +1.2
comp=Z,24nm,0.8s,baz=130,slow=1.1,SNR=24
CMAR ScP 07 54 01.6
comp=Z,9.4nm,0.7s,baz=115,slow=1.8,SNR=16
CMAR LR LR 07 59 17.2
comp=Z,570nm,20.0s,baz=115,slow=36
CHG Chiang Mai 30.02 300 ⇑P **P 07 47 26.3 -0.9**
comp=Z,56nm,0.8s,mb5.2
KMI Kunming 30.24 314 P **P 07 47 30.8 +1.7**
KMI AP pP 07 47 49.6 +0.1
KMI XP sP 07 47 59.3 -0.6
KMI PP PP 07 48 30.3 -0.8
KMI PPP PPP 07 48 48.3 +2.9
KMI S **S 07 52 23.4 +2.5**
KMI AMB AMB
comp=Z,123nm,5.3s
KMI LR LR
comp=N,601nm,20.2s
KMI LR LR
comp=E,1μm,21.1s
KMI LR LR
comp=Z,2μm,24.6s
KMI Kunming 30.24 314 P **P 07 47 30.8 +1.7**
KMI *PP pP 07 47 49.6 +0.1
KMI 07 48 30.3
KMI S **S 07 52 23.4 +2.5**
KMI MLR MLR
comp=Z,2μm,24.6s
KMI Kunming 30.24 314 P **P 07 47 30.8 +1.7**
comp=Z,0.1nm,5.3s
KMI pP pP 07 47 49.6 +0.1
KMI sP sP 07 47 59.3 -0.6
KMI PP PP 07 48 30.3 -0.8
KMI PPP PPP 07 48 48.2 +2.8
KMI S **S 07 52 23.4 +2.5**
KMI sS 07 52 57.3
KMI SS SS 07 54 09.6 +3.8
KMI LR LR
comp=Z,2μm,24.6s
CTA Charters Tower 31.64 142 ⇑*i*P **P 07 47 42.8 +1.4**
comp=Z,43nm,0.8s,mb5.2
CTA Charters Tower 31.64 142 ⇑*i*P **P 07 47 42.8 +1.4**
CTA pmax pmax
comp=Z,43nm,0.8s
CTA Charters Tower 31.64 142 P **P 07 47 42.4 +1.0**
comp=Z,49nm,0.9s,mb5.2,baz=327,slow=11,SNR=15
CTAO Charters Tower 31.64 142 *e*P **P 07 47 42.8 +1.4**
CTAO pmax pmax
comp=Z,81nm,0.9s,mb5.5
CTAO Charters Tower 31.64 142 *e*P **P 07 47 42.8 +1.4**
comp=Z,81nm,0.9s,mb5.5
TIA Tai'an 32.34 346 *e*P **P 07 47 45.5 -1.8**
INCN Inchon 32.51 1 *e*P **P 07 47 48.4 -0.5**
comp=Z,97nm,0.8s,mb5.7
XAN Xi'an 33.21 333 P **P 07 47 53.3 -1.6**
XAN AMB AMB
comp=Z,142nm,1.2s,mb5.7
XAN LR LR
comp=N,549nm,26.6s
XAN LR LR
comp=E,698nm,27.5s
XAN LR LR
comp=Z,952nm,37.2s
MAJO Matsushiro 33.44 18 *e*P **P 07 47 54.5 -2.4**
MAJO pmax pmax
comp=Z,29nm,0.9s,mb5.1
MAJO Matsushiro 33.44 18 *e*P **P 07 47 54.5 -2.4**
comp=Z,29nm,0.9s,mb5.1
MAT Matsushiro 33.44 18 *e*P **P 07 47 55.0 -1.9**
MAT pmax pmax
comp=Z,21nm,1.0s,mb4.9
MAT MLR MLR
comp=Z,720nm,21.0s
MAT Matsushiro 33.44 18 *e*P **P 07 47 55.0 -1.9**
comp=Z,21nm,1.0s,mb4.9
MAT LR LR
comp=Z,720nm,21.0s
MAT Matsushiro 33.44 18 P **P 07 47 54.6 -2.3**
MAT S **S 07 53 11.6 +0.8**
MJAR Matsushiro Arr 33.44 18 P **P 07 47 54.5 -2.5**
comp=Z,16nm,0.8s,mb4.9,baz=190,slow=8.8,SNR=24
MJAR PcP PcP 07 50 37.2 +0.9
comp=Z,7.5nm,0.8s,baz=193,slow=3.1,SNR=4.7
MJAR ScP 07 54 14.2
comp=Z,9.1nm,1.0s,baz=201,slow=4.4,SNR=7.1
MJAR LR LR 08 01 16.3
comp=Z,347nm,18.3s,baz=210,slow=36
CD2 Chengdu 33.46 323 ⇑*i*P **P 07 47 55.6 -1.5**
CD2 AP pP 07 48 13.1 -4.8
CD2 XP sP 07 48 22.5 -6.0
CD2 S **S 07 53 06.0 -5.1**
CD2 AMB AMB
comp=Z,20nm,0.4s,mb5.3
CD2 LR LR
comp=N,1μm,17.1s
CD2 LR LR
comp=Z,1μm,18.6s
DL2 Dalian 34.19 354 P **P 07 48 03.6 +0.4**
DL2 AP pP 07 48 26.8 +2.7
DL2 *e*S **S 07 53 20.6 -1.6**
DL2 SCS ScS 07 58 13.6 -1.5
DL2 AMB AMB
comp=Z,130nm,0.8s,mb5.8
FORT Forrest 35.44 177 ⇓*i*P **P 07 48 14.5 +0.5**
comp=Z,3μm,0.6s
BJI Beijing 36.21 347 P **P 07 48 19.8 -0.7**
BJI AP pP 07 48 40.6 -0.8
BJI XP sP 07 48 51.5 -0.6
BJI S **S 07 53 54.5 +1.1**
BJI AMB AMB
comp=Z,305nm,1.0s,mb6.2
BJI LR LR
comp=N,595nm,26.3s
BJI LR LR
comp=E,363nm,29.5s
BJI LR LR
comp=Z,421nm,23.6s
BJI Beijing 36.21 347 P **P 07 48 19.8 -0.7**
BJI *PP pP 07 48 40.6 -0.8
BJI 07 50 40.2
BJI S **S 07 53 54.5 +1.1**
BJI SS SS 07 56 44.1 +22
BJI pmax pmax
comp=Z,305nm,1.0s,mb6.2
BJI MLR MLR
comp=Z,420nm,23.6s
BJI Beijing 36.21 347 P **P 07 48 19.8 -0.7**
comp=Z,305nm,1.0s,mb6.2
BJI pP pP 07 48 40.6 -0.8
BJI sP sP 07 48 51.5 -0.6
BJI PcP PcP 07 50 40.2 -4.2
BJI S **S 07 53 54.5 +1.1**
BJI SS SS 07 56 44.1 +22
BJI LR LR
comp=Z,420nm,23.6s
HNR Honiara 36.49 113 *e*P **P 07 48 22.7 -0.3**
HNR pmax pmax
comp=Z,184nm,0.8s,mb6.1
HNR Honiara 36.49 113 *e*P **P 07 48 22.6 -0.4**
comp=Z,184nm,0.8s,mb6.1
SNY Shenyang 36.92 357 ⇑P **P 07 48 27.0 +0.6**
SNY S **S 07 54 06.0 +1.8**
SNY AMB AMB
comp=Z,330nm,1.0s,mb6.2
SNY LR LR
comp=E,560nm,12.3s
SNY LR LR
comp=Z,490nm,17.7s
KLBR Kellerberrin 37.09 192 ⇓*i*P **P 07 48 28.6 +0.7**
comp=Z,940nm,0.6s
KLBR *e*S **S 07 54 07.9 +1.1**
LZH Lanzhou 37.30 329 ⇑P **P 07 48 29.8 +0.2**
LZH PCP PcP 07 50 49.1 +1.4
LZH PCS 07 54 36.6
LZH AMB AMB
comp=Z,560nm,1.2s,mb6.4
LZH AMB AMB
comp=Z,1μm,4.0s
LZH LR LR
comp=N,2μm,12.8s
LZH LR LR
comp=Z,2μm,16.0s
LZH Lanzhou 37.30 329 ⇑P **P 07 48 29.8 +0.2**
LZH 07 50 49.1
LZH 07 54 02.0
LZH pmax pmax
comp=Z,560nm,1.2s,mb6.4
LZH MLR MLR
comp=Z,2μm,16.0s
MUN Mundaring 37.81 194 *e*P **P 07 48 34.8 +0.9**
comp=Z,373nm,0.6s,mb6.4
MUN Mundaring 37.81 194 *e*P **P 07 48 34.8 +0.9**
MUN pmax pmax
comp=Z,373nm,0.6s,mb6.4
HHC Hu-ho-hao-te 38.21 342 ⇑P **P 07 48 37.0 -0.1**
HHC AP pP 07 48 55.8 -2.3
HHC XP sP 07 49 02.9 -5.7
HHC S **S 07 54 25.4 +1.7**
HHC SCP 07 54 27.5
HHC PCS 07 54 36.9
HHC SCS ScS 07 58 39.3 +2.0
HHC AMB AMB
comp=Z,88nm,1.1s,mb5.5
HHC AMB AMB
comp=Z,179nm,4.5s
HHC LR LR
comp=N,470nm,17.2s
HHC LR LR
comp=E,228nm,15.1s
HHC LR LR
comp=Z,571nm,19.1s
BTO Baotou 38.49 340 *e*P **P 07 48 40.8 +1.4**
BTO AMB AMB
comp=Z,18nm,0.7s,mb5.0
NWAO Narrogin (SRO) 38.49 192 *e*P **P 07 48 40.5 +1.0**
NWAO pmax pmax
comp=Z,68nm,0.9s
NWAO Narrogin (SRO) 38.49 192 P **P 07 48 40.2 +0.7**
comp=Z,89nm,0.9s,mb5.6,baz=16,slow=8.8,SNR=47
NWAO Narrogin (SRO) 38.49 192 *e*P **P 07 48 40.5 +1.0**
comp=Z,68nm,0.9s,mb5.5
SHL Shillong 38.81 306 *e*P **P 07 48 41.5 -0.8**
SHL *e* 07 50 53.2
SHL *e*S **S 07 54 31.7 -1.3**
CN2 Changchun 38.83 359 ⇑P **P 07 48 42.3 +0.1**
CN2 PP PP 07 50 12.5 -3.6
CN2 PCP PcP 07 50 52.5 +0.1
CN2 *e*S **S 07 54 32.3 -0.7**
CN2 SS SS 07 57 21.3 +1.1
CN2 AMB AMB
comp=Z,80nm,0.9s,mb5.5
CN2 AMB AMB
comp=Z,300nm,7.0s
CN2 LR LR
comp=N,300nm,12.0s
CN2 LR LR
comp=E,400nm,12.0s
CN2 LR LR
comp=Z,500nm,12.0s
STKA Stephens Creek 39.33 159 ⇑*i*P **P 07 48 47.6 +1.1**
comp=Z,117nm,0.8s,mb5.8
STKA *e* 07 48 53.1
STKA *e*S **S 07 54 40.3 -0.4**
STKA Stephens Creek 39.33 159 P **P 07 48 47.7 +1.2**
comp=Z,162nm,0.7s,mb6.0,baz=334,slow=8.0,SNR=362
STKA PP PP 07 50 17.4 -4.4
comp=Z,58nm,0.9s,baz=318,slow=8.0,SNR=2.3
STKA S **S 07 54 38.2 -2.5**
comp=Z,4.4nm,1.0s,baz=36,slow=18,SNR=2.4
STKA LR LR 08 05 57.0
comp=Z,424nm,19.9s,baz=334,slow=37
MDJ Mudanjiang 39.75 4 P **P 07 48 51.0 +1.2**
MDJ PCP PcP 07 50 51.3 -4.0
MDJ S **S 07 54 48.0 +1.1**
MDJ SS SS 07 57 40.8 +0.8
MDJ AMB AMB
comp=Z,228nm,1.0s,mb6.0
MDJ AMB AMB
comp=Z,288nm,6.1s
MDJ LR LR
comp=N,202nm,21.6s
MDJ LR LR
comp=E,192nm,24.1s
MDJ LR LR
comp=Z,266nm,20.8s
ADE Adelaide 41.29 164 ⇓*i*P **P 07 49 05.0 +2.4**
LSA Lhasa 41.33 311 P **P 07 49 06.0 +3.0**
ASAJ Asahikawa 41.72 18 P **P 07 49 06.5 +0.4**
comp=Z,20nm,0.5s,mb5.1,baz=247,slow=21,SNR=10
GTA Gaotai 41.90 329 P **P 07 49 07.1 -0.5**
GTA AP pP 07 49 26.8 -2.0
GTA XP sP 07 49 35.4 -3.8
GTA PP PP 07 50 48.4 -0.6
GTA PCP PcP 07 51 03.0 +0.6
GTA PPP PPP 07 51 20.4 -1.3
GTA SCP 07 54 45.9
GTA PCS 07 54 52.8
GTA S **S 07 55 18.8 -0.1**
GTA XS 07 55 49.6
GTA SS SS 07 58 21.8 -0.7
GTA SCS ScS 07 59 01.0 +1.9
GTA AMB AMB
comp=Z,38nm,1.8s,mb4.8
GTA AMB AMB
comp=Z,189nm,7.6s
GTA LR LR
comp=N,601nm,18.6s
GTA LR LR
comp=E,676nm,19.8s
GTA LR LR
comp=Z,725nm,20.2s
BOK Bokaro 43.16 300 *e*P **P 07 49 16.3 -1.8**
VIS Vishakhapatnam 43.83 291 *e*P **P 07 49 23.6 -0.1**
YSS Yuzh-Sakhalins 44.35 16 *e*P **P 07 49 26.6 -0.8**
YSS *e* pP 07 49 48.0 -0.7
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 44.35 16 *e*P **P 07 49 27.2 -0.2**
comp=Z,26nm,0.5s,mb5.2
YSS *e* pP 07 49 49.7 +1.0
KLR Kul'dur 44.50 5 ⇓*i*P **P 07 49 26.0 -2.6**
KLR *e* pP 07 49 47.9 -2.1
KLR *e*S **S 07 55 49.5 -7.1**
KLR *e* 07 59 19.5
KLR pmax pmax
comp=E,36nm,1.0s
KLR pmax pmax
comp=Z,56nm,1.0s,mb5.2
PALK Pallekele 45.30 275 *e*P **P 07 49 35.1 -0.4**
comp=Z,49nm,1.2s,mb5.1
PALK *e*PcP PcP 07 51 14.9 +0.7
CNB Canberra Magne 45.47 153 ⇓*i*P **P 07 49 38.1 +1.6**
comp=Z,1μm,1.2s,mb6.5
CNB *e* 07 51 23.9
TOO Toolangi 45.84 159 *e*P **P 07 49 41.6 +2.2**
comp=Z,40nm,1.1s,mb5.1
TOO Toolangi 45.84 159 *e*P **P 07 49 41.6 +2.2**
TOO pmax pmax
comp=Z,40nm,1.1s,mb5.1
ULN Ulaanbaatar 45.93 342 *e*P **P 07 49 39.2 -0.8**
ULN *e* 07 51 15.9
ULN pmax pmax
comp=Z,28nm,0.6s,mb5.2
ULN MLR MLR
comp=Z,628nm,22.0s
ULN Ulaanbaatar 45.93 342 *e*P **P 07 49 39.2 -0.8**
comp=Z,28nm,0.6s,mb5.2
ULN *e*PcP PcP 07 51 15.9 -0.1
ULN LR LR
comp=Z,628nm,22.0s
BLSP Bilaspur 45.96 296 *e*P **P 07 49 39.2 -1.4**
BLSP *e* 07 49 45.0
comp=Z,69nm,1.2s
SONM Songino Array 46.10 342 P **P 07 49 40.5 -0.9**
comp=Z,15nm,0.6s,mb4.9,baz=162,slow=7.8,SNR=62
SONM pP pP 07 50 01.8 -1.0
comp=Z,17nm,0.9s,baz=162,slow=7.8,SNR=4.6
SONM PcP PcP 07 51 16.4 -0.2
comp=Z,21nm,0.7s,baz=162,slow=3.6,SNR=9.5
SONM ScP 07 55 02.0
comp=Z,4.3nm,0.9s,baz=117,slow=3.0,SNR=4.8
SONM LR LR 08 09 58.3
comp=Z,404nm,20.8s,baz=60,slow=37
NOUC Port Laguerre 47.49 126 *e*P **P 07 49 53.2 +0.6**
NOUC Port Laguerre 47.49 126 *e*P **P 07 49 53.2 +0.5**
DZM Mont Dzumac 47.59 126 *e*P **P 07 49 52.7 -0.7**
SALM Salem 47.94 281 *e*P **P 07 49 55.0 -1.2**
HYB Hyderabad 48.26 289 *e*P **P 07 49 57.5 -1.1**
HYB Hyderabad 48.26 289 *i*P **P 07 49 57.5 -1.1**
HYB *e* pP 07 50 17.0 -3.2
ZAK Zakamensk 49.33 341 ⇑*e*P **P 07 50 05.1 -1.3**
ZAK *e* 07 51 25.8
ZAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
ZAK pmax pmax
comp=Z,19nm,1.0s,mb5.0
AKL Akola 50.27 293 ⇑*i*P **P 07 50 12.6 -1.5**
LATR Latur 50.29 290 *e*P **P 07 50 12.7 -1.6**
TLY Talaya 50.34 342 *e*P **P 07 50 13.4 -0.8**
TLY *e*S **S 07 57 11.1 -7.7**
TLY *e*PS PS 07 57 29.5 -13
TLY pmax pmax
comp=Z,68nm,1.2s,mb5.5
TLY Talaya 50.34 342 *e*P **P 07 50 13.2 -1.0**
comp=Z,48nm,0.9s,mb5.4
IRK Irkutsk 50.64 343 *e*P **P 07 50 15.8 -0.6**
IRK *e* 07 50 28.9
IRK pmax pmax
comp=Z,58nm,1.6s,mb5.4
MOY Mondy 51.19 340 *e*P **P 07 50 20.0 -0.6**
MOY *e* 08 00 03.2
MOY pmax pmax
comp=Z,81nm,1.4s,mb5.6
WMQ Urumqi 51.53 325 P **P 07 50 22.8 -0.5**
WMQ AP pP 07 50 45.3 +0.2
WMQ XP sP 07 50 55.8 +0.8
WMQ PCP PcP 07 51 36.3 0.0
WMQ PP PP 07 52 22.3 +0.3
WMQ PPP PPP 07 53 24.8 -1.1
WMQ S **S 07 57 33.8 -1.6**
WMQ PS PS 07 57 58.3 -1.0
WMQ XS 07 58 14.3
WMQ AMB AMB
comp=Z,17nm,1.4s,mb4.9
WMQ LR LR
comp=N,1μm,16.6s
WMQ LR LR
comp=E,676nm,17.3s
WMQ LR LR
comp=Z,667nm,21.0s
CLNS Chul'man 51.88 359 *e*P **P 07 50 25.5 -0.2**
CLNS *e* 07 57 37.5
CLNS pmax pmax
comp=Z,209nm,0.9s,mb6.2
CLNS pmax pmax
comp=N,120nm,1.0s
CLNS pmax pmax
comp=E,48nm,0.8s
CLNS pmax pmax
comp=N,13nm,1.1s
CLNS pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
CLNS pmax pmax
comp=E,16nm,1.0s
NDI New Delhi 52.09 303 *e*P **P 07 50 24.0 -3.7**
SKR Severo-Kuril's 52.13 24 *e*P **P 07 50 24.5 -3.2**
KAD Karad 52.37 288 *e*P **P 07 50 28.0 -1.9**
POO Poona 52.85 290 *e*P **P 07 50 31.7 -1.8**
POO *e* 07 50 33.6
comp=Z,42nm,0.5s
SMLA Simla 52.90 306 *i*P **P 07 50 30.0 -3.8**
BHK Bhakra 53.60 306 *e*P **P 07 50 50.2 +11**
DLH Dalhousie 54.33 307 *e*P **P 07 50 45.0 +0.8**
PET Petropavlovsk 54.94 23 *e*P **P 07 50 48.1 -0.2**
PET *e*PP pP 07 51 04.9 -5.5
PET *e*S **S 07 58 25.6 +4.3**
PET pmax pmax
comp=Z,48nm,0.6s,mb5.7
PET pmax pmax
comp=Z,46nm,1.4s,mb5.3
PET smax
comp=E,200nm,12.4s
PET smax
comp=N,100nm,14.1s
PET MLR MLR
comp=Z,100nm,21.0s
PET Petropavlovsk 54.94 23 *e*P **P 07 50 47.8 -0.6**
comp=Z,26nm,0.6s,mb5.4
MKAR Makanchi Array 56.37 325 P **P 07 50 56.9 -1.8**
MKAR 07 51 54.5
MKAR S **S 07 58 40.5 +0.1**
MKAR Makanchi Array 56.37 325 P **P 07 50 56.9 -1.8**
comp=Z,42nm,0.6s,mb5.6,baz=122,slow=8.0,SNR=394
MKAR PcP PcP 07 51 54.5 -0.2
comp=Z,51nm,0.6s,baz=124,slow=4.4,SNR=16
MKAR ScP 07 55 45.5
comp=Z,30nm,1.0s,baz=135,slow=5.1,SNR=14
MKAR S **S 07 58 40.5 +0.2**
comp=Z,0.9nm,0.9s,baz=124,slow=16,SNR=3.1
MKAR LR LR 08 16 44.3
comp=Z,660nm,18.2s,baz=156,slow=38
KSH Kashi 56.91 315 *e*P **P 07 51 00.3 -2.3**
KSH *e*AP pP 07 51 24.0 -0.8
KSH *e*XP sP 07 51 35.0 +0.2
KSH *e*SCS ScS 08 00 42.1 +2.6
KSH AMB AMB
comp=Z,210nm,4.0s
KSH LR LR
comp=N,350nm,5.4s
KSH LR LR
comp=E,440nm,6.0s
YAK Yakutsk 57.14 2 *c i*P **P 07 51 03.5 -0.5**
YAK *e* 07 51 57.6
YAK *e* 07 53 11.9
YAK *e*PPP PPP 07 54 27.1 -7.0
YAK *e*S **S 07 58 51.3 +0.9**
YAK *e* 08 00 41.0
YAK *e*SS SS 08 02 44.4 +2.5
YAK pmax pmax
comp=N,79nm,1.0s
YAK pmax pmax
comp=Z,182nm,1.0s,mb6.1
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,18nm,0.9s,mb5.1
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK smax
comp=N,15nm,1.2s
YAK smax
comp=Z,4.0nm,0.9s
YAK smax
comp=E,10.0nm,1.2s
YAK Yakutsk 57.14 2 *e*P **P 07 51 03.3 -0.7**
comp=E,384nm,1.0s,mb6.4
YAK *e*pP pP 07 51 26.1 -0.1
KZA Kyzart 58.46 317 P **P 07 51 13.3 -0.1**
SNR=12
TKM2 Tokmak 2 58.59 318 P **P 07 51 13.2 -1.1**
SNR=18
UCH Uchtor 59.02 317 P **P 07 51 17.1 -0.2**
SNR=10
AAK Ala-Archa 59.20 318 P **P 07 51 17.6 -0.9**
SNR=6.3

AAK Ala-Archa 59.20 318 *i* P **P 07 51 17.4 -1.1**
AAK pmax pmax
comp=Z,39nm,2.0s,mb5.1
AAK Ala-Archa 59.20 318 *i* P **P 07 51 17.5 -1.0**
FRU Bishkek 59.20 318 *e*P **P 07 51 18.0 -0.5**
FRU *e* 07 52 04.0
ZAL Zalesovo 59.39 333 P **P 07 51 17.4 -2.3**
comp=Z,16nm,0.5s,mb5.3,baz=344,slow=6.1,SNR=60
ZAL pP pP 07 51 38.9 -3.2
comp=Z,8.5nm,0.4s,baz=348,slow=6.4,SNR=4.3
ZAL PcP PcP 07 52 05.3 -1.1
comp=Z,19nm,0.8s,baz=346,slow=3.6,SNR=9.1
ZAL S **S 07 59 18.1 -1.6**
comp=Z,0.8nm,0.3s,baz=260,slow=6.1,SNR=3.1
ZAL LR LR 08 18 47.0
comp=Z,248nm,21.9s,baz=340,slow=38
USP Ospenovka 59.46 318 P **P 07 51 18.9 -1.4**
SNR=22
AML Almayashu 59.54 317 P **P 07 51 20.2 -0.6**
SNR=15
EKS2 Erkin-Say 59.70 317 P **P 07 51 20.7 -1.2**
SNR=7.8
NVS Novosibirsk 60.67 333 *e*P **P 07 51 25.3 -3.1**
NVS *e**PP pP 07 52 09.2 +18
NVS *e*S **S 07 59 32.7 -3.5**
NVS pmax pmax
comp=N,28nm,0.8s
NVS pmax pmax
comp=E,33nm,0.8s
NVS pmax pmax
comp=Z,49nm,0.8s,mb5.6
NVS smax
comp=N,5.0nm,1.3s
NVS smax
comp=E,13nm,1.3s
SEY Seymchan 61.10 13 *e*P **P 07 51 34.3 +3.1**
SEY *e* 07 52 12.0
SEY 07 53 47.5
SEY *e*S **S 07 59 51.1 +10**
SEY 08 01 18.3
SEY *e*SS SS 08 03 49.9 +5.7
SEY *e*SSS SSS 08 06 24.7 +0.5
SEY pmax pmax
comp=N,80nm,0.9s
SEY pmax pmax
comp=Z,120nm,0.9s,mb5.9
SEY pmax pmax
comp=E,40nm,0.7s
SEY smax
comp=N,510nm,6.6s
SEY smax
comp=E,570nm,8.9s
SEY MLR MLR
comp=Z,300nm,22.0s
SEY MLR MLR
comp=N,260nm,19.0s
SEY MLR MLR
comp=E,90nm,20.0s
FX1 Attu Island--F 61.41 30 P **P 07 51 32.6 -0.8**
comp=E,58nm,0.6s,mb5.8,baz=299,slow=2.8,SNR=13
FX1 Attu Island--F 61.41 30 *e*P **P 07 51 33.5 +0.1**
MSZ Milford Sound 61.82 147 PN **P 07 51 37.7 +1.3**
KKAR Karatay Array 62.08 317 *i* P **P 07 51 36.3 -1.8**
KKAR pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
THZ Tophouse 62.88 142 PN **P 07 51 43.4 0.0**
RPZ Rata Peaks 62.95 145 PN **P 07 51 44.4 +0.5**
BKZ Black Stump Fm 63.74 138 PN **P 07 51 49.2 0.0**
CHKZ Chkalovo 66.29 328 *i* P **P 07 52 03.2 -2.1**
CHKZ pmax pmax
comp=Z,56nm,1.2s,mb5.3
TIXI Tiksi 66.77 1⇑*i*P **P 07 52 07.1 -1.0**
WBK Wadi Bani Khal 67.15 292 ⇓P **P 07 52 09.4 -1.9**
JMDO Jabal Madar 67.93 292 ⇑P **P 07 52 14.5 -1.7**
SNR=12
SMDO Samad 68.03 293 ⇑P **P 07 52 15.0 -1.8**
SNR=8.1
BILL Bilibino 68.64 15*c i*P **P 07 52 19.3 -0.5**
BILL pmax pmax
comp=Z,30nm,1.0s,mb5.1
BILL MLR MLR
comp=Z,100nm,20.0s
BILL Bilibino 68.64 15 *e*P **P 07 52 19.5 -0.3**
comp=Z,18nm,0.6s,mb5.1
BILL *e* pP 07 52 43.0 +0.2
HOQ Hoqain 68.75 293 ⇓P **P 07 52 19.2 -1.9**
SHAO Shalim 70.06 287 ⇑P **P 07 52 28.2 -1.0**
SNR=12
RBK Rabkut 71.41 287 ⇓P **P 07 52 35.4 -1.9**
SNR=9.7
WHFO Wadi Hawf 71.82 287 ⇓P **P 07 52 37.9 -2.0**
SNR=26
CASY Casey 71.83 187⇓*i*P **P 07 52 40.4 +1.3**
ABTO Aybut 72.27 287 ⇓P **P 07 52 40.8 -1.7**
SNR=14
SVE Sverdlovsk 72.76 328⇑*e*P **P 07 52 43.0 -1.7**
SVE *e* pP 07 53 07.3 -0.6
SVE *e*S S 08 02 04.0 +2.1
SVE *e* 08 02 52.0
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.0
SVE MLR MLR
comp=N,100nm,20.0s
SVE MLR MLR
comp=E,200nm,20.0s
SVE MLR MLR
comp=Z,200nm,20.0s
UNV Unalaska Valle 72.84 35 *e*P **P 07 52 45.0 -0.2**
comp=Z,142nm,0.6s,mb6.0
ARU Arti 73.74 328⇑*i*P **P 07 52 48.6 -1.8**
ARU *e* 07 53 00.2
ARU *e*S S 08 02 12.2 -0.6
ARU *e* 08 02 47.3
ARU *e*SS SS 08 06 59.3 -1.1
ARU pmax pmax
comp=Z,53nm,0.8s,mb5.3
ARU Arti 73.74 328 *e*P **P 07 52 48.5 -1.9**
comp=Z,52nm,0.6s,mb5.4
MIR Mirnyy 75.09 193 *e*P **P 07 52 59.0 +1.0**
MIR pmax pmax
comp=Z,39nm,1.2s,mb5.0
RAR Rarotonga 76.95 113 LR LR 08 25 12.4
comp=Z,250nm,19.9s,baz=303,slow=34
TTA Tatalina 80.18 27 *e*P **P 07 53 27.5 +1.3**
GNI Garni 80.38 310 *e*P **P 07 53 28.7 +0.9**
GNI pmax pmax
comp=Z,29nm,1.1s
GNI MLR MLR
comp=Z,175nm,22.0s
GNI Garni 80.38 310 P **P 07 53 28.1 +0.3**
comp=Z,2.9nm,0.3s,mb4.5,baz=151,slow=15,SNR=4.3
GNI Garni 80.38 310 *e*P **P 07 53 28.7 +0.9**
comp=Z,29nm,1.1s,mb5.0
GNI LR LR
comp=Z,175nm,22.0s
ZEI Tsey 81.10 312 *e*P **P 07 53 30.7 -0.8**
ZEI *i* 07 56 40.9
ZEI pmax pmax
comp=Z,23nm,0.9s,mb5.0
OPO Ambohidratompo 81.16 250 P **P 07 53 31.0 -1.3**
comp=Z,6.3nm,0.7s,mb4.6,baz=58,slow=4.2,SNR=14
KDAK Kodiak Island 81.26 32 *e*P **P 07 53 32.7 +0.7**
comp=Z,32nm,0.7s,mb5.3
ONI Oni 81.42 312 P **P 07 53 33.7 +0.5**
IMA Indian Mountai 81.61 24 *e*P **P 07 53 35.4 +1.7**
MSL Mosul 81.62 306 *e*P **P 07 53 37.0 +2.6**
KIV Kislovodsk 82.01 314*d i*P **P 07 53 36.2 0.0**
KIV pmax pmax
comp=Z,18nm,0.8s,mb5.0
KIV MLR MLR
comp=Z,200nm,19.0s
SLKM Skilak Lake 82.67 30 *e*P **P 07 53 39.3 +0.1**
SLKM *e*pP pP 07 54 03.9 +1.0
PMR Palmer 83.25 29 *e*P **P 07 53 43.0 +0.9**
MCK McKinley 83.43 26 *e*P **P 07 53 43.4 +0.4**
MCK pmax pmax
comp=Z,91nm,1.2s,mb5.5
MCK McKinley 83.43 26 *e*P **P 07 53 43.4 +0.3**
comp=Z,91nm,1.2s,mb5.5
MCK *e*pP pP 07 54 07.2 +0.5
SML Sawmill 83.64 28 *e*P **P 07 53 45.0 +0.9**
SML *e*pP pP 07 54 08.8 +1.0
COLA College 83.94 25 *e*P **P 07 53 45.6 +0.1**
COLA pmax pmax
comp=Z,29nm,0.9s,mb5.1
COLA MLR MLR
comp=Z,317nm,19.0s
COLA College 83.94 25 *e*P **P 07 53 45.5 0.0**
comp=Z,29nm,0.9s,mb5.1
COLA *e*pP pP 07 54 09.8 +0.5
COLA LR LR
comp=Z,317nm,19.0s
SOC Sochi 84.16 313 *e*P **P 07 53 45.4 -1.7**
SOC *e* 07 56 57.8
SOC *e*S S 08 03 56.1 -7.1
SOC *e*SSS SSS 08 13 03.5 -1.0
SOC pmax pmax
comp=Z,11nm,0.5s,mb4.9
SOC pmax pmax
comp=N,5.0nm,0.4s
SOC pmax pmax
comp=E,4.0nm,0.5s
ILAR Eielson Array 84.35 25 P **P 07 53 47.4 -0.2**
comp=E,6.6nm,0.6s,mb4.6,baz=248,slow=5.1,SNR=79
ILAR PKKPbc 08 11 55.9
comp=E,0.8nm,0.9s,baz=315,slow=2.0,SNR=4.5
VNDA Vanda 84.56 173 *e*P **P 07 53 49.7 +1.3**
VNDA pmax pmax
comp=Z,10.0nm,0.8s
VNDA Vanda 84.56 173 P **P 07 53 49.7 +1.3**
comp=Z,5.1nm,0.7s,mb4.6,baz=318,slow=6.1,SNR=25
VNDA LR LR 08 30 06.0
comp=Z,131nm,18.3s,baz=346,slow=34
VNDA Vanda 84.56 173 *e*P **P 07 53 49.7 +1.3**
comp=Z,10nm,0.8s,mb4.8
VNDA *e*pP pP 07 54 13.6 +1.4
MAW Mawson 84.59 200 *e*P **P 07 53 50.2 +1.5**
comp=Z,10nm,0.9s,mb4.8
MAW Mawson 84.59 200 *e*P **P 07 53 50.2 +1.5**
MAW pmax pmax
comp=Z,10.0nm,0.9s
MAW Mawson 84.59 200 P **P 07 53 49.8 +1.1**
comp=Z,9.5nm,0.8s,mb4.8,baz=62,slow=6.7,SNR=10
THY Trims Highway 84.85 27 *e*P **P 07 53 52.1 +2.0**
ELZG Elazig 84.85 308 *i* P **P 07 53 52.5 +1.7**
DIV Divide 84.86 29 *e*P **P 07 53 51.6 +1.4**
comp=Z,412nm,1.1s,mb6.3
DIV *e*pP pP 07 54 15.9 +2.0
MOS Moscow 85.25 325 *e*P **P 07 53 52.3 +0.1**
MOS *e* 07 54 02.3
MOS *e* 07 57 07.6
MOS pmax pmax
comp=Z,100nm,0.6s,mb5.9
MOS MLR MLR
comp=Z,800nm,21.4s
MALT Malatya 85.30 308 *e*P **P 07 53 52.8 -0.1**
MALT pmax pmax
comp=Z,15nm,0.8s,mb5.0
MALT Malatya 85.30 308 *e*P **P 07 53 52.8 -0.1**
comp=Z,15nm,0.8s,mb5.0
ANN Anapa 85.77 314 *e*P **P 07 53 53.9 -1.1**
ANN *e* 08 04 09.1
ANN pmax pmax
comp=Z,102nm,0.8s,mb5.8
ANN Anapa 85.77 314⇑*i*P **P 07 53 54.5 -0.5**
OBN Obninsk 85.87 325*c i*P **P 07 53 54.6 -0.7**
OBN pmax pmax
comp=Z,67nm,0.7s,mb5.7
OBN MLR MLR
comp=Z,300nm,25.0s
OBN Obninsk 85.87 325 *e*P **P 07 53 54.2 -1.1**
comp=Z,79nm,0.8s,mb5.7
PPT Papeete 85.95 108 *e*S S 08 04 25.5 +4.3
PPT *e*LR LR 08 21 22.6
comp=Z,935nm,29.5s
PPT Papeete 85.95 108 LR LR 08 26 45.2
comp=Z,203nm,21.9s,baz=295,slow=32
LVZ Lovozero 86.16 338 *i* P **P 07 53 56.3 -0.1**
LVZ pmax pmax
comp=Z,72nm,1.0s,mb5.6
LVZ Lovozero 86.16 338 *i* P **P 07 53 56.4 0.0**
APA Apatity 86.65 337⇑*i*P **P 07 53 59.0 +0.2**
APA *i* pP 07 54 20.5 -2.2
APA pmax pmax
comp=Z,73nm,1.0s,mb5.6
APA MLR MLR
comp=Z,500nm,20.0s
TBI Tubuai 86.71 114 *e*S S 08 04 31.7 +3.4
TBI *e*LR LR 08 21 44.9
comp=Z,781nm,33.8s
ASF Jabal al Asfar 86.88 302 P **P 07 54 00.6 -0.2**
comp=Z,14nm,0.8s,mb5.0,baz=337,slow=0.9,SNR=14
ASF LR LR 08 37 03.0
comp=Z,118nm,21.0s,baz=309,slow=38
ASF Jabal al Asfar 86.88 302 P **P 07 54 00.6 -0.2**
ASF LR LR 08 37 03.0
DAWY Dawson 87.64 26 *e*P **P 07 54 04.8 +1.1**
DAWY *e*pP pP 07 54 30.1 +2.4
BOYT Boyabat 87.82 311 *i* P **P 07 54 05.3 +0.2**
CTKT Corum 87.97 310 *i* P **P 07 54 03.6 -2.2**
JOF Joensuu 87.98 333 *e*p **P 07 54 04.0 -1.3**
comp=Z,100nm,0.9s,mb5.8
JOF Joensuu 87.98 333 *e*P **P 07 54 04.0 -1.3**
JOF pmax pmax
comp=Z,100nm,0.9s,mb5.8
SIM Simferopol' 88.11 315 P **P 07 54 06.4 0.0**
SIM pmax pmax
comp=Z,18nm,0.7s,mb5.2
SIM MLR MLR
comp=Z,400nm,22.0s
KEV Kevo 88.69 340 *e*p **P 07 54 07.0 -1.6**
comp=Z,47nm,0.7s,mb5.6
KEV Kevo 88.69 340 *e*P **P 07 54 07.0 -1.6**
KEV pmax pmax
comp=Z,47nm,0.7s,mb5.6
EIL Elat 88.73 300 LR LR 08 38 59.4
comp=Z,123nm,19.8s,baz=105,slow=39
EIL Elat 88.73 300 *e*P **P 07 54 09.2 -0.5**
comp=Z,27nm,1.3s,mb5.1
PUL Pulkovo 88.84 330 *e*P **P 07 54 09.6 +0.1**
PUL pmax pmax
comp=Z,154nm,0.7s,mb6.1
PUL pmax pmax
comp=N,71nm,0.6s
PUL pmax pmax
comp=E,64nm,0.6s
PUL Pulkovo 88.84 330 *i* P **P 07 54 08.8 -0.7**
BRTR Keskin Array B 88.92 310 P **P 07 54 09.1 -1.3**
comp=E,11nm,0.8s,mb4.9,baz=120,slow=4.1,SNR=27
BRTR sP sP 07 54 44.0 +0.2
comp=E,7.9nm,1.0s,baz=146,slow=4.5,SNR=2.6
BALT Daday 88.95 311 *i* P **P 07 54 09.9 -0.6**
KMBO Kilima Mbogo 89.05 269 *e*P **P 07 54 12.4 +0.8**
KMBO pmax pmax
comp=Z,38nm,1.1s
KMBO MLR MLR
comp=Z,224nm,20.0s
KMBO Kilima Mbogo 89.05 269 P **P 07 54 11.7 +0.1**
comp=Z,22nm,0.9s,mb5.2,baz=47,slow=6.4,SNR=47
KMBO LR LR 08 30 33.1
comp=Z,172nm,20.4s,baz=97,slow=33
KMBO Kilima Mbogo 89.05 269 *e*P **P 07 54 12.4 +0.9**
comp=Z,38nm,1.1s,mb5.3
KMBO LR LR
comp=Z,224nm,20.0s
ARCES ARCESS Array B 89.25 340 P **P 07 54 10.9 -0.3**
comp=Z,143nm,0.7s,mb6.1,baz=75,slow=6.6,SNR=382
ARCES PKiKP 07 59 09.8
comp=Z,2.7nm,1.0s,baz=90,slow=1.8,SNR=3.7
ARCES LR LR 08 37 27.4
comp=Z,200nm,20.5s,baz=82,slow=38
ARE0 ARCESS Array S 89.25 340 *e*P **P 07 54 11.3 +0.1**
INK Inuvik 89.35 21 *e*P **P 07 54 12.1 +0.4**
INK pmax pmax
comp=Z,31nm,1.1s
INK Inuvik 89.35 21 P **P 07 54 11.8 +0.1**
comp=Z,13nm,0.7s,mb5.1,baz=279,slow=5.2,SNR=77
INK PKKPbc 08 11 47.3
comp=Z,2.0nm,0.9s,baz=96,slow=4.2,SNR=7.1
INK Inuvik 89.35 21 *e*P **P 07 54 12.1 +0.4**
comp=Z,31nm,1.1s,mb5.2
INK *e*pP pP 07 54 36.4 +0.6
KBS Kingsbay 89.84 350 *e*P **P 07 54 14.3 +0.4**
KBS pmax pmax
comp=Z,23nm,0.8s,mb5.4
KBS Kingsbay 89.84 350 *e*P **P 07 54 14.3 +0.4**
comp=Z,23nm,0.8s,mb5.3
KBS Kingsbay 89.84 350 *e*P **P 07 54 13.4 -0.5**
KBS *e* 08 34 09.5
KBS *i* 08 34 27.5
KBS AMS AMS 08 38 22.9
comp=Z,98nm,22.0s
KTK1 Kautokeino 90.16 339⇑*i*P **P 07 54 15.2 -0.3**
comp=Z,137nm,0.9s,mb6.1
KTK1 Kautokeino 90.16 339⇑*i*P **P 07 54 15.2 -0.3**
KTK1 AMb AMB 07 54 16.8
comp=Z,137nm,0.9s,mb6.1
KAF Kangasniemi 90.39 332 *e*p **P 07 54 15.9 -0.8**
comp=Z,41nm,0.7s,mb5.7,baz=76,slow=4.2
KAF Kangasniemi 90.39 332 *e*P **P 07 54 15.9 -0.8**
KAF pmax pmax
comp=Z,41nm,0.7s,mb5.7
FINES FINESS Array B 90.63 332 P **P 07 54 17.1 -0.8**
comp=Z,13nm,0.4s,mb5.4,baz=68,slow=4.0,SNR=92
FINES LR LR 08 38 08.4
comp=Z,185nm,19.3s,baz=60,slow=38
AKASG Malin Array Be 90.72 321 P **P 07 54 17.4 -1.1**
comp=Z,6.3nm,0.6s,mb4.9,baz=72,slow=3.9,SNR=17
TRO Tromso 91.46 340 *e*P **P 07 54 21.0 -0.5**
TRO Tromso 91.46 340 *e*P **P 07 54 20.1 -1.4**
TRO AMS AMS 08 38 50.8
comp=Z,205nm,21.8s
ULDT Uludag 92.31 310 *i* P **P 07 54 25.0 -1.2**
DLBC Dease Lake 93.09 31 P **P 07 54 30.6 +1.4**
comp=Z,4.5nm,0.9s,mb4.8,baz=268,slow=5.1,SNR=6.9
DLBC Dease Lake 93.09 31 *e*P **P 07 54 30.8 +1.5**
DLBC *e*pP pP 07 54 54.7 +1.3
SYO Syowa Base 93.24 201 ⇓P **P 07 54 30.4 +0.7**
SUW Suwalki 93.73 325 *e*P **P 07 54 31.7 -0.6**
MLR Muntele Rosu 93.75 316 LR LR 08 41 51.9
comp=Z,177nm,21.8s,baz=60,slow=39
LOF Lofoten 93.81 340 *e*P **P 07 54 33.9 +1.6**
MOR8 Moi Rana 94.23 338 *e*P **P 07 54 32.9 -1.4**
comp=Z,54nm,0.5s,mb6.1
MOR8 Moi Rana 94.23 338 *e*P **P 07 54 32.9 -1.4**
MOR8 AMb AMB 07 54 33.5
comp=Z,54nm,0.5s,mb6.2
MELSS Ber_school_2 94.24 339 *e*P **P 07 54 33.6 -0.7**
QSPA South Pole Qui 94.72 180 *e*P **P 07 54 38.7 +2.5**
comp=Z,7.6nm,0.9s,mb5.1
KWP Kalwaria 95.04 321 *e*P **P 07 54 38.5 +0.1**
KOLS Kolonicke sedl 95.48 320 *e*P **P 07 54 40.5 +0.1**
KOLS *e* 07 54 43.0
BBB Bella Bella 95.75 37 LR LR 08 35 41.0
comp=Z,110nm,18.1s,baz=251,slow=34
CRVS Cervenica-Dubn 96.00 320 *e*P **P 07 54 45.1 +2.4**
CRVS Cervenica-Dubn 96.00 320 *e* P **P 07 54 45.1 +2.4**
DAG Danmarks Havn 96.11 352⇓*e*P **P 07 54 42.9 +0.3**
DAG pmax pmax
comp=Z,24nm,0.8s,mb5.7
DAG Danmarks Havn 96.11 352⇓*e*P **P 07 54 42.9 +0.3**
comp=Z,24nm,0.8s,mb5.7
DAG Danmarks Havn 96.11 352⇓*i*P **P 07 54 42.9 +0.3**
comp=Z,24nm,0.8s,mb5.7
KECS Kecovo 96.74 320 *e*P **P 07 54 45.5 -0.6**
HFS Hagfors 96.82 332 LR LR 08 42 35.9
comp=Z,208nm,20.7s,baz=119,slow=38
RES Resolute Bay 96.84 10 *e*P **P 07 54 46.5 +0.5**
RES pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
RES Resolute Bay 96.84 10 *e*P **P 07 54 46.5 +0.4**
comp=Z,8.8nm,0.8s,mb5.2
NB2 NORSAR Subarra 97.58 334 P **P 07 54 48.7 -0.9**
comp=Z,39nm,0.7s,mb6.0,baz=65,slow=4.5
NB2 NORSAR Subarra 97.58 334 P **P 07 54 48.7 -0.9**
NB2 pmax pmax
comp=Z,39nm,0.7s,mb6.0
NB2 NORSAR Subarra 97.58 334 P **P 07 54 48.7 -0.9**
baz=65,slow=4.4
NOA NORSAR Array B 97.58 334 P **P 07 54 48.4 -1.2**
comp=Z,30nm,0.7s,mb5.9,baz=66,slow=4.6,SNR=135
NOA LR LR 08 41 11.4
comp=Z,142nm,20.4s,baz=50,slow=37
NOA NORSAR Array B 97.58 334 P **P 07 54 48.4 -1.2**
NOA LR LR 08 41 11.4
NAO01 NORSAR Array S 97.81 333 *e*P **P 07 54 49.7 -0.9**
comp=Z,31nm,0.7s,mb6.0
MOL Molde 98.47 336⇑*i*P **P 07 54 58.0 +4.4**
comp=Z,31nm,1.1s,mb5.8
MOL Molde 98.47 336⇑*i*P **P 07 54 58.0 +4.4**
MOL AMb AMB 07 55 02.9
comp=Z,31nm,1.1s,mb5.8
KSP Ksiaz 98.66 323 *e*P **P 07 54 58.3 +3.5**
JMIC Jan Mayen 98.68 346 LR LR 08 45 14.4
comp=Z,104nm,18.2s,baz=258,slow=39
YKW3 Yellowknife Ar 98.69 24 *e*P **P 07 54 55.6 +1.0**
YKA Yellowknife Ar 98.73 24 P **P 07 54 54.8 0.0**
comp=Z,3.2nm,0.7s,mb4.9,baz=301,slow=4.4,SNR=86
YKA pP pP 07 55 17.4 -1.5
comp=Z,4.8nm,1.0s,baz=299,slow=4.7,SNR=4.1
YKA PP PP 07 58 56.4 -2.7
comp=Z,0.6nm,0.8s,baz=289,slow=7.0,SNR=3.6
YKA PKiKP 07 59 26.7
comp=Z,0.8nm,0.7s,baz=304,slow=1.6,SNR=12
YKA PKKPbc 08 11 22.1
comp=Z,0.5nm,0.6s,baz=121,slow=3.5,SNR=12
YKA LR LR 08 41 59.2
comp=Z,129nm,20.2s,baz=280,slow=37
YKA Yellowknife Ar 98.73 24 P **P 07 54 54.8 0.0**
YKA pP pP 07 55 17.4 -1.5
YKA PP PP 07 58 56.4 -2.7
MATP Matopo 98.87 250 P **P 07 54 55.5 -0.9**
comp=Z,6.9nm,1.0s,mb5.1,baz=85,slow=4.9,SNR=11
MATP LR LR 08 37 25.3
comp=Z,110nm,19.5s,baz=76,slow=34
LSZ Lusaka 98.97 255 *e*P **P 07 54 56.3 -0.7**
LSZ pmax pmax
comp=Z,6.0nm,0.9s,mb5.1
LSZ Lusaka 98.97 255 *e*P **P 07 54 56.3 -0.7**
comp=Z,5.6nm,0.9s,mb5.1
PGC Sidney 99.63 39 *e*Pdif **P 07 54 59.8 +0.5**
RKT Rikitea 99.98 113 *e*LR LR 08 27 54.2
comp=Z,437nm,39.5s
BRG Berggiesshubel 100.06 323 *i* P P 07 55 01.5 +0.4
BRG pmax pmax
comp=Z,15nm,1.0s
BRG Berggiesshubel 100.06 323 *i* P P 07 55 01.5 +0.4
comp=Z,15nm,1.0s
BRG *e* 07 58 15.0
BRG *e* 08 11 30.0
BRG LR LR
comp=Z,260nm,33.8s
CLL Collm 100.45 324 *e*P P 07 55 02.0 -0.9
CLL *e* 07 55 16.0
CLL Collm 100.45 324 P P 07 55 02.0 -0.9
CLL *e* 07 55 16.0
CLL *e* 07 55 21.0
BER Bergen 100.46 334 AMS AMS 08 42 00.2
comp=Z,196nm,19.3s
KHC Kasperske Hory 100.89 322 *e*P P 07 55 05.0 +0.1
GERES GERESS Array B 100.91 322 P P 07 55 03.5 -1.5
comp=Z,2.5nm,0.7s,baz=76,slow=5.5,SNR=16
VISS Visnje 101.20 318 *e*P P 07 55 06.3 0.0
LBTB Lobatse 101.62 246 P P 07 55 10.3 +1.6
comp=Z,1.3nm,0.7s,baz=159,slow=8.3,SNR=3.6
LBTB Lobatse 101.62 246 P P 07 55 10.3 +1.6
ROBS Robic 101.93 319 *e*P P 07 55 09.6 0.0
SUMG Summit 102.12 355 *e*Pdif Pdif 07 55 11.1 +1.2
comp=Z,6.9nm,1.0s
NEW Newport 103.70 38 *e*P Pdif 07 55 18.8 +1.5
NVAR Mina Array Bea 106.58 48 Pdiff Pdif 07 55 33.4 +3.1
comp=Z,0.4nm,0.6s,baz=294,slow=6.5,SNR=4.8
NVAR PKiKP 07 59 42.8
comp=Z,0.7nm,0.6s,baz=321,slow=0.6,SNR=5.4
NVAR PKKPbc 08 11 02.7
comp=Z,1.8nm,0.7s,baz=124,slow=5.1,SNR=18
FCC Fort Churchill 108.96 21 *e*PKP 07 59 45.3
SNOW Snow King Moun 109.78 40 *e*PKP 07 59 49.4
JLU Jordanelle 110.61 43 *e*PKP PKPdf 07 59 50.2 +3.5
PDAR Pinedale Array 110.88 41 PKiKP 07 59 50.4
comp=Z,0.8nm,0.5s,baz=170,slow=3.4,SNR=7.5
PDAR PKKPbc 08 10 46.3
comp=Z,0.5nm,0.7s,baz=90,slow=4.4,SNR=5.3
PDAR PKKPab 08 10 56.5
comp=Z,2.8nm,0.9s,baz=113,slow=4.7,SNR=16
SRU San Rafael 111.90 45 *e*PKIKP PKPdf 07 59 52.6 +3.4
PV10 Paradox Valley 113.27 45 *e*PKP PKPdf 07 59 55.1 +3.2
PV10 *e*SKPdf 08 03 22.9
RSSD Black Hills 113.65 37 *e*PKIKP PKPdf 07 59 54.6 +2.0
PV01 Paradox Valley 113.70 45 *e*PKP PKPdf 07 59 56.2 +3.4
PV01 *e*SKPdf 08 03 23.9
ANMO Albuquerque 116.67 47 *e*PKPdf PKPdf 08 00 01.1 +2.4
ANMO *e*SKPdf 08 03 30.1
MNTX Cornudas Mount 118.96 50 *e*PKPdf PKPdf 08 00 06.2 +3.0
MNTX *e*SKPdf 08 03 34.4
SCHQ Schefferville 119.58 9 PKP PKPdf 08 00 05.9 +2.1

comp=Z,5.9nm,0.4s,baz=348,slow=2.0,SNR=24
KSU1 Kansas State U 121.09 38 *e*PKPdf PKPdf 08 00 09.1 +1.9
TXAR Lajitas Array 121.35 51 PKP PKPdf 08 00 10.9 +3.0
comp=Z,1.4nm,0.4s,baz=180,slow=1.7,SNR=41
TXAR SKP 08 03 38.1
comp=Z,1.4nm,1.0s,baz=342,slow=4.0,SNR=3.6
TXAR PKKPbc 08 10 11.1
comp=Z,1.7nm,0.8s,baz=129,slow=6.4,SNR=18
WMOK Wichita Mounta 122.22 43 *e*PKIKP PKPdf 08 00 11.6 +2.2
JCT Junction City 123.74 48 *e*PKPdf PKPdf 08 00 15.5 +3.0
JCT *e*SKPdf 08 03 43.0
CCM Cathedral Cave 124.98 36 *e*PKIKP PKPdf 08 00 16.6 +1.8
SADO Sadowa 125.66 22 PKP PKPdf 08 00 17.9 +2.1
comp=Z,12nm,0.7s,baz=347,slow=3.3,SNR=19
SADO Sadowa 125.66 22 PKP PKPdf 08 00 17.9 +2.1
MIAR Mount Ida 125.81 41 *e*PKIKP PKPdf 08 00 19.5 +3.1
MSNY Massena 126.94 19 *e*PKPdf PKPdf 08 00 20.3 +2.1
ACSO Alum Creek Sta 127.76 28 *e*PKPdf PKPdf 08 00 22.8 +2.8
NCB Newcomb 128.06 19 *e*PKPdf PKPdf 08 00 22.7 +2.1
WVT Waverly 128.29 35 *e*PKIKP PKPdf 08 00 23.4 +2.2
WVL Waterville 128.82 15 *e*PKPdf PKPdf 08 00 24.2 +2.3
HNH Hanover 128.90 17 *e*PKPdf PKPdf 08 00 25.0 +2.9
PLAL Pickwick Lake 128.94 36 *e*PKPdf PKPdf 08 00 23.8 +1.3
SSPA Standing Stone 129.66 24 *e*PKPdf PKPdf 08 00 26.2 +2.5
SSPA *e*SKPdf 08 03 40.9
DBIC Dimbokro 129.83 283 PKP PKPdf 08 00 26.6 +2.0
comp=Z,9.0nm,0.6s,baz=52,slow=1.8,SNR=17
DBIC SKPbc 08 03 40.6
comp=Z,24nm,0.9s,baz=49,slow=5.1,SNR=14
DBIC Dimbokro 129.83 283 *e*PKPdf PKPdf 08 00 27.0 +2.3
DBIC *e*SKP 08 03 41.3
MVL Millersville 130.81 23 *e*PKPdf PKPdf 08 00 28.6 +2.7
MVL *e* 08 03 44.8
LRAL Lakeview Retre 130.93 38 *e*PKPdf PKPdf 08 00 28.6 +2.2
LRAL *e* 08 03 45.6
ELN Prospectdale 131.21 29 *e*PKPdf PKPdf 08 00 29.3 +2.6
ELN *e*SKPbc 08 03 45.9
PLCA Paso Flores 141.20 160 PKKP 08 00 40.8
comp=Z,2.6nm,1.0s,baz=3.9,slow=6.6,SNR=4.8
PLCA PKP PKPdf 08 00 48.1 +3.1
comp=Z,3.2nm,0.8s,baz=184,slow=1.3,SNR=9.5
PLCA SKPbc 08 04 16.8
comp=Z,2.3nm,0.6s,baz=137,slow=2.3,SNR=3.8
JTS JuntasAbangare 145.53 64 PKPbc PKPbc 08 00 56.3 +2.4
comp=Z,22nm,0.8s,baz=239,slow=2.1,SNR=23
JTS JuntasAbangare 145.53 64 *e*PKPbc PKPbc 08 00 57.3 +3.3
TRQA Tornquist 146.09 168 *e*PKPbc PKPbc 08 00 57.4 +2.8
CFAA Coronel Fontan 150.10 155 PKP PKPdf 08 01 03.2 +3.0
comp=Z,0.4nm,0.8s,baz=260,slow=5.4,SNR=5.8
CFAA PKPbc PKPdf 08 01 06.6 +6.4
comp=Z,1.8nm,0.6s,baz=226,slow=2.4,SNR=17
CFAA Coronel Fontan 150.10 155 PKP PKPdf 08 01 03.2 +3.0
CFAA PKPbc PKPdf 08 01 06.6 +6.4
SJG San Juan 154.16 28 PKIKP PKPdf 08 01 09.4 +3.1
SJG *e* 08 01 17.3
SJG 08 01 30.3
SJG San Juan 154.16 28 PKP PKPdf 08 01 09.4 +3.1
comp=Z,2.5nm,0.3s,baz=324,slow=18,SNR=2.6
SJG PKPbc PKPdf 08 01 16.8 +10
comp=Z,8.1nm,0.5s,baz=349,slow=16,SNR=3.2
SJG PKPab PKPab 08 01 30.3 -0.8
comp=Z,16nm,0.6s,baz=37,slow=7.7,SNR=6.1
SJG San Juan 154.16 28 PKP PKPdf 08 01 09.4 +3.1
SJG PKPbc PKPdf 08 01 16.8 +10
SJG *e*PKPbc PKPdf 08 01 17.3 +11
SJG PKPab PKPab 08 01 30.3 -0.8
OTAV Otavalo 154.87 79 *e*PKPbc PKPdf 08 01 17.9 +10
LVC Limon Verde 157.05 142 PKP PKPdf 08 01 14.3 +4.2
comp=Z,2.1nm,0.8s,baz=235,slow=4.9,SNR=2.2
LVC PKPab PKPab 08 01 47.1 +3.7
comp=Z,5.6nm,0.7s,baz=245,slow=4.5,SNR=7.5
LVC Limon Verde 157.05 142 PKP PKPdf 08 01 14.3 +4.2
LVC PKPab PKPab 08 01 47.1 +3.7
ROSC El Rosal 157.35 65 PKP PKPdf 08 01 14.9 +4.2
comp=Z,11nm,1.1s,baz=88,slow=14,SNR=7.7
ROSC PKPab PKPab 08 01 43.2 -1.7
comp=Z,4.2nm,0.6s,baz=77,slow=12,SNR=4.5
CPUP Villa Florida 158.34 171 PKP PKPdf 08 01 14.5 +2.9
comp=Z,3.2nm,0.9s,baz=144,slow=2.4,SNR=9.2
CPUP Villa Florida 158.34 171 PKP PKPdf 08 01 14.5 +2.9
SDV Santo Domingo 158.39 51 PKP PKPdf 08 01 15.2 +3.2
comp=Z,18nm,0.8s,baz=270,slow=1.5,SNR=39
SDV Santo Domingo 158.39 51 *e*PKPdf PKPdf 08 01 15.3 +3.3
LPAZ La Paz 161.90 130 *e*PKIKP PKPdf 08 01 19.9 +4.3
LPAZ La Paz 161.90 130 PKP PKPdf 08 01 20.1 +4.4
comp=Z,3.0nm,1.0s,baz=62,slow=7.8,SNR=7.7
LPAZ PKPab PKPab 08 02 07.0 +2.5
comp=Z,7.0nm,1.0s,baz=203,slow=7.7,SNR=3.3
SIV San Ignacio 166.80 148 PKP PKPdf 08 01 23.4 +3.2
comp=Z,5.1nm,1.0s,baz=172,slow=1.3,SNR=21
SIV PKPab PKPab 08 02 26.5 +0.8
comp=Z,4.9nm,1.0s,baz=269,slow=5.4,SNR=4.6
BAO Brasilia Array 167.83 208 PKPdf PKPdf 08 01 24.2 +3.4
BDFB Brasilia 167.83 207 PKP PKPdf 08 01 24.0 +3.1
comp=Z,8.2nm,1.0s,baz=360,slow=7.2,SNR=10.0
BDFB PKPab PKPab 08 02 31.2 +0.9
comp=Z,7.2nm,0.8s,baz=108,slow=4.0,SNR=4.4
SAML Samuel 169.82 114 *e*PKPdf PKPdf 08 01 25.2 +3.1
SAML *e*PKPab PKPab 08 02 40.2 +1.1

TIF ***22*** *07:41:35.0, 42.10N×46.05E, h11km±3km*
CSEM ***22*** *07:41:34.1±0.1, 42.04N×45.94E, h5km, mb4.1, Error ellipse: s-maj=7.6km s-min=1.8km az=139.0*
NSSP ***22*** *07:41:34.9, 41.50N×46.13E, h8km, ML3.4*
MOS ***22*** *07:41:37.5±2.0, 42.30N×46.08E, h7km, mb4.1/1, Error ellipse: s-maj=11.1km s-min=8.4km az=50.9*
ISC 22 07:41:34.3±0.6,**41.96N**±0.05×**46.11E**±0.05,**h10**km,**n23,**
σ1§31/38,1C-4D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.71**	**7**	⇓*i*PG	**Pg**	**07 41 47.0**	**-1.5**
BTLR				*i* S	**Sb**	**07 41 57.0**	**-0.8**
BTLR				pmax	pmax		
	comp=Z,385nm,0.5s						
BTLR	**Botlikh**	**0.71**	**7**	*i* Pg	**Pg**	**07 41 47.0**	**-1.5**
	comp=Z,385nm,0.5s						
BTLR				*i* Sg	**Sb**	**07 41 57.0**	**-0.8**
GNBR	**Gunib**	**0.77**	**56**	*e*PG	**Pg**	**07 41 50.0**	**+0.3**
GNBR				*e*S	**Sg**	**07 42 01.0**	**+1.1**
GNBR				pmax	pmax		
	comp=Z,100nm,0.1s						
GNBR	**Gunib**	**0.77**	**56**	*e*Pg	**Pg**	**07 41 50.0**	**+0.3**
	comp=Z,100nm,0.1s						
GNBR				*e*Sg	**Sg**	**07 42 01.0**	**+1.1**
ARKR	**Arakani**	**0.92**	**45**	*e*Pg	**Pg**	**07 41 52.0**	**-0.7**
ARKR				*i* Sg	**Sg**	**07 42 06.0**	**+1.0**
TI2	**Plekhanov**	**1.04**	**258**	⇑*i*P	**Pb**	**07 41 54.2**	**+0.2**
	comp=Z,50nm,0.2s						
TI2				*i* S	**Sb**	**07 42 08.2**	**+0.7**
	comp=Z,300nm,0.4s						
KRNR	**Karanay**	**1.05**	**34**	⇓*i*PG	**Pg**	**07 41 53.0**	**-2.3**
KRNR				*i* S	**Sb**	**07 42 07.5**	**-0.1**
KRNR				pmax	pmax		
	comp=Z,60nm,0.2s						
KRNR	**Karanay**	**1.05**	**34**	*i* Pg	**Pg**	**07 41 53.0**	**-2.3**
	comp=Z,60nm,0.2s						
KRNR				*i* Sg	**Sb**	**07 42 07.5**	**-0.1**
TBLG	**Delisi**	**1.05**	**258**	P	**Pb**	**07 41 54.6**	**+0.5**
TBLG				S	**Sb**	**07 42 08.6**	**+0.9**
BUJR	**Buynaksk**	**1.14**	**40**	⇓*i*PG	**Pg**	**07 41 56.5**	**-0.5**
BUJR				*i* S	**Sb**	**07 42 13.0**	**+2.8**
BUJR				pmax	pmax		
	comp=Z,130nm,0.2s						
BUJR	**Buynaksk**	**1.14**	**40**	*i* Pg	**Pg**	**07 41 56.5**	**-0.5**
	comp=Z,130nm,0.2s						
DLMR	**Dylym**	**1.17**	**19**	*i* PG	**Pg**	**07 41 55.0**	**-2.8**
DLMR				*i* S	**Sb**	**07 42 11.0**	**-0.3**
DLMR				pmax	pmax		
	comp=Z,368nm,0.4s						
DLMR	**Dylym**	**1.17**	**19**	*i* Pg	**Pg**	**07 41 55.0**	**-2.8**
	comp=Z,368nm,0.4s						
DBC	**Dubki**	**1.19**	**26**	*e*PG	**Pg**	**07 41 56.0**	**-2.0**
DBC				*e*S	**Sb**	**07 42 13.0**	**+1.4**
DBC				pmax	pmax		
	comp=Z,193nm,0.2s						
DBC	**Dubki**	**1.19**	**26**	*e*Pg	**Pg**	**07 41 56.0**	**-2.0**
	comp=Z,193nm,0.2s						
MAK	**Makhachkala**	**1.44**	**45**	*e*PG	**Pg**	**07 42 04.5**	**+1.5**
MAK				pmax	pmax		
	comp=N,340nm,0.7s						
MAK				pmax	pmax		
	comp=E,918nm,0.7s						

ZEI	**Tsey**	**1.83**	**297**	*i* PN	**Pn**	**07 42 07.6**	**+1.5**
ZEI				*e*		07 42 30.5	
ZEI				pmax	pmax		
	comp=Z,54nm,0.3s						
ZEI				smax			
	comp=E,173nm,0.5s						
KAMZ	**Kamo**	**1.98**	**236**	P	**Pn**	**07 42 06.6**	**-1.7**
KAMZ				S	**Sn**	**07 42 30.8**	**-2.6**
ONI	**Oni**	**2.07**	**288**	P	**Pn**	**07 42 11.2**	**+1.6**
ONI				S	**Sn**	**07 42 39.0**	**+3.4**
GNI	**Garni**	**2.08**	**210**	S	**Sn**	**07 42 41.5**	**+5.5**
LERZ	**Lernakert**	**2.14**	**230**	P	**Pn**	**07 42 11.1**	**+0.5**
LERZ				S	**Sn**	**07 42 37.5**	**0.0**
NARZ	**Nor Artik**	**2.34**	**231**	S	**Sn**	**07 42 42.7**	**+0.1**
KIV	**Kislovodsk**	**3.21**	**310**	*de*PN	**Pg**	**07 42 37.1**	**-1.3**
KIV				*e*		07 43 06.4	
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KIV				smax			
	comp=N,15nm,0.9s						

NEIC ***22*** *07:48:16.9, 38.69N×23.92E, h20km, ML3.7(ATH), ML3.7(THE), After ATH.*
ATH ***22*** *07:48:17.0, 38.68N×23.90E, h22km±1km, MD3.7/20, ML4.0*
CSEM ***22*** *07:48:17.8±0.1, 38.67N×23.91E, h10km, ML4.0, Error ellipse: s-maj=2.0km s-min=1.3km az=99.0*
THE ***22*** *07:48:19.0, 38.72N×23.92E, h13km, ML3.9*
ISC 22 07:48:16.9±0.5,**38.68N**±0.02×**23.90E**±0.03,**h13**km±4km,
n53,σ0§96/62,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.54**	**194**	*e*PN	**Pg**	**07 48 27.8**	**-0.1**
MPAR				*e*SN	**Sg**	**07 48 35.5**	**+0.2**
PTL	**Penteli**	**0.63**	**182**	*e*PN	**Pg**	**07 48 29.4**	**-0.2**
LKR	**Lokris**	**0.70**	**268**	*e*PB	**Pb**	**07 48 30.1**	**-0.5**
LKR				*e*SN	**Sg**	**07 48 40.8**	**+0.2**
ATH	**Athens Observa**	**0.72**	**192**	*e*PN	**Pg**	**07 48 31.0**	**-0.4**
ATH				*e*SN	**Sg**	**07 48 41.5**	**+0.4**
NEO	**Neokhori**	**0.82**	**320**	*e*PN	**Pg**	**07 48 33.6**	**+0.2**
NEO				*e*SN	**Sg**	**07 48 44.5**	**0.0**
NSAL	**Nisos Salamina**	**0.84**	**204**	*e*PB	**Pb**	**07 48 32.8**	**-0.1**
NSAL				*e*SN	**Sg**	**07 48 45.5**	**+0.3**
NSAL	**Nisos Salamina**	**0.84**	**204**	*e*Pb	**Pb**	**07 48 32.8**	**-0.1**
NSAL				*e*Sn	**Sn**	**07 48 46.5**	**0.0**
MGER	**Gerania Oros**	**0.85**	**216**	*e*PN	**Pn**	**07 48 33.2**	**-1.3**
MGER				*e*SN	**Sn**	**07 48 46.0**	**-0.8**
NAIG	**Nisos Aigina**	**0.97**	**199**	*e*PN	**Pn**	**07 48 35.4**	**-0.8**
NAIG				*e*SN	**Sn**	**07 48 50.0**	**+0.1**
PAIG	**Paliouri**	**1.26**	**352**	*e*Pb	**Pb**	**07 48 40.5**	**+0.4**
AGG	**Agios Georgios**	**1.27**	**286**	*e*Pb	**Pb**	**07 48 40.8**	**+0.5**
AGG				*e*Sb	**Sb**	**07 48 59.1**	**+2.7**
LIA	**Limnos Island**	**1.58**	**39**	*e*PN	**Pn**	**07 48 45.8**	**+1.0**
EVR	**Evrytania**	**1.65**	**279**	*e*PN	**Pn**	**07 48 46.9**	**+1.0**
OUR	**Ouranopolis**	**1.66**	**2**	*e*Pb	**Pb**	**07 48 46.4**	**-0.5**
PLG	**Polygyros**	**1.73**	**348**	*e*PB	**Pb**	**07 48 47.0**	**-1.1**
LIT	**Litokhoron**	**1.79**	**323**	*e*Pb	**Pb**	**07 48 48.4**	**-0.8**
PRK	**Paraskevi**	**1.94**	**72**	*e*PN	**Pn**	**07 48 51.2**	**+1.2**
RLS	**Riolos of Patr**	**2.01**	**253**	*e*PN	**Pn**	**07 48 52.5**	**+1.5**
THE	**Thessaloniki**	**2.08**	**340**	*e*Pn	**Pn**	**07 48 52.5**	**+0.4**
THE	**Thessaloniki**	**2.08**	**340**	*e*Pn	**Pn**	**07 48 52.4**	**+0.3**
VLI	**Veliai**	**2.10**	**202**	*e*PB	**Pb**	**07 48 52.3**	**-2.1**
ITM	**Ithomi**	**2.16**	**227**	*e*PN	**Pn**	**07 48 54.5**	**+1.3**
SOH	**Sokhos**	**2.18**	**349**	*e*Pn	**Pn**	**07 48 54.0**	**+0.5**
MEV	**Metsovon**	**2.35**	**299**	*e*Pn	**Pn**	**07 48 56.8**	**+0.9**
SRS	**Serrai**	**2.45**	**355**	*e*Pn	**Pn**	**07 48 57.5**	**+0.1**
KYTH	**Kithira**	**2.49**	**196**	*e*PN	**Pn**	**07 48 58.0**	**+0.1**
SMG	**Samos**	**2.51**	**112**	*e*PN	**Pn**	**07 48 58.8**	**+0.6**
GRG	**Griva**	**2.55**	**334**	*e*Pn	**Pn**	**07 48 58.5**	**-0.3**
THR3	**Thira Island,**	**2.56**	**152**	*e*Pn	**Pn**	**07 49 00.1**	**+1.2**
JAN	**Janina**	**2.56**	**293**	*e*PB	**Pb**	**07 49 00.0**	**-2.4**
JAN	**Janina**	**2.56**	**293**	*e*Pb	**Pb**	**07 49 03.5**	**+1.1**
VLS	**Valsamata**	**2.65**	**260**	*e*PB	**Pb**	**07 49 01.8**	**-2.0**
VLS	**Valsamata**	**2.65**	**260**	*e*Pb	**Pb**	**07 49 03.5**	**-0.3**
KDAG	**Bornova**	**2.66**	**95**	*i* P	**Pn**	**07 49 02.1**	**+1.8**
ALN	**Alexandroupoli**	**2.77**	**36**	*e*Pn	**Pn**	**07 49 01.4**	**-0.5**
RDO	**Rodhopi**	**2.77**	**27**	*e*PN	**Pn**	**07 49 02.1**	**+0.2**
RDO	**Rodhopi**	**2.77**	**27**	*e*Pn	**Pn**	**07 49 01.0**	**-0.9**
FNA	**Florina**	**2.87**	**318**	*e*Pn	**Pn**	**07 49 04.2**	**+0.9**
MMB	**Musomiste**	**2.91**	**357**	P	**Pn**	**07 49 03.0**	**-0.9**
RZN	**Rozhen**	**3.07**	**12**	P	**Pn**	**07 49 06.0**	**-0.2**
KDZ	**Kurdzhali**	**3.19**	**21**	*e*P	**Pn**	**07 49 07.0**	**-0.9**
SART	**Tekirdag**	**3.23**	**51**	*i* P	**Pn**	**07 49 05.8**	**-2.7**
BDRM	**Kayabasi**	**3.23**	**119**	*i* P	**Pn**	**07 49 08.5**	**-0.1**
KKB	**Krupnik**	**3.25**	**349**	P	**Pn**	**07 49 18.5**	**+10**
VAM	**Vamos**	**3.27**	**176**	*e*PN	**Pn**	**07 49 09.0**	**-0.1**
VAM	**Vamos**	**3.27**	**176**	*e*Pn	**Pn**	**07 49 07.5**	**-1.6**
KEK	**Kerkira**	**3.35**	**289**	*e*Pb	**Pb**	**07 49 12.5**	**-3.3**
BTOK	**Tokmak**	**3.39**	**70**	*i* P	**Pn**	**07 49 12.1**	**+1.3**
VTS	**Vitosha**	**3.95**	**353**	P	**Pn**	**07 49 19.0**	**+0.4**
ULDT	**Uludag**	**4.31**	**69**	*i* P	**Pn**	**07 49 18.5**	**-5.4**
TIP	**Timpagrande**	**5.59**	**277**	*e*Pn	**Pn**	**07 49 41.4**	**-0.5**
TIP	**Timpagrande**	**5.59**	**277**	*e*Pn	**Pn**	**07 49 41.4**	**-0.5**
SGKT	**Sivrigoynuk**	**6.58**	**71**	*i* P	**Pn**	**07 49 54.8**	**-1.0**

JMA ***22*** *07:59:06.8±0.4, 24.17N×122.37E, h26km, M3.0*
TAP 22 07:59:05.3, 24.14N×122.21E, h14km±1km, ML3.7,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.80**	**66**	P	Pb	07 59 19.4	-1.0
YOJ				S	Sb	07 59 28.1	-2.7
IRIF	**Iriomote-Funau**	**1.40**	**82**	P	Pn	07 59 28.0	-2.5
IRIF				S	Sb	07 59 45.7	-2.6
HATJ	**Hateruma jima**	**1.46**	**93**	P	Pn	07 59 30.2	-1.2
HATJ				*e*S	Sb	07 59 46.3	-3.7
JKRS	**Kuro-shima**	**1.65**	**86**	P	Pn	07 59 32.1	-1.9
JKRS				S	Sn	07 59 53.1	-1.9
JIJ	**Ishigaki jima**	**1.78**	**82**	P	Pn	07 59 32.6	-3.3
JIJ				*e*S	Sn	07 59 54.3	-4.1
JTJ	**Tarama**	**2.33**	**77**	P	Pn	07 59 42.3	-1.5
JTJ				*e*S	Sn	08 00 09.5	-2.8

IDC ***22*** *07:59:27.0±1.2, 18.71S×169.58E, mb4.3/8, mb1 4.5/9, mb1mx4.3/18, mbtmp4.3/9, ML3.8/1, MS3.9/5, Ms1 3.8/5, ms1mx3.5/23, Error ellipse: s-maj=29.4km s-min=25.6km az=145.0*
NEIC ***22*** *07:59:33.2±3.0, 18.69S×169.47E, h39km±23km, mb4.7/5, Error ellipse: s-maj=22.4km s-min=15.4km az=223.0*
ISC 22 07:59:30.9±0.9,**18.72S**±0.1×**169.5E**±0.1,**h33**km,**n21,**
σ0§91/19,mb4.5/13,MS3.8/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.38**	**220**	*e*P	**P**	**08 00 37.3**	**+0.4**
DZM	**Mont Dzumac**	**4.38**	**220**	Pn	**Pn**	**08 00 36.3**	**-0.7**
	5.3nm,0.3s,baz=45,slow=17,SNR=32						
DZM				Sn	**Sn**	**08 01 27.5**	**-0.1**
	1.8nm,0.3s,baz=314,slow=23,SNR=2.5						
DZM				LR	LR	08 02 05.3	
	comp=Z,1μm,19.3s,baz=35,slow=36						
DZM	**Mont Dzumac**	**4.38**	**220**	*e*P	**P**	**08 00 37.3**	**+0.4**
CTA	**Charters Tower**	**21.95**	**263**	P	**P**	**08 04 24.6**	**+1.2**
	2.5nm,0.5s,mb3.9,baz=97,slow=16,SNR=4.1						
CTA				LR	LR	08 11 46.9	
	comp=Z,229nm,19.8s,MS3.6,baz=261,slow=34						
CNB	**Canberra Magne**	**24.30**	**223**	*e*P	**P**	**08 04 49.0**	**+2.5**
	336nm,0.6s,mb6.0						
STKA	**Stephens Creek**	**28.31**	**237**	P	**P**	**08 05 23.4**	**-0.4**
	2.9nm,0.6s,mb4.1,baz=61,slow=8.7,SNR=13						
STKA				LR	LR	08 15 50.7	
	comp=Z,227nm,19.6s,MS3.8,baz=26,slow=35						
WRA	**Warramunga Arr**	**33.14**	**262**	P	**P**	**08 06 04.9**	**-1.6**
	2.6nm,0.9s,mb4.1,baz=102,slow=7.9,SNR=5.7						
ASAR	**Alice Springs**	**33.47**	**255**	P	**P**	**08 06 09.0**	**-0.3**
	9.6nm,0.8s,mb4.8,baz=84,slow=8.7,SNR=94						
ASAR				LR	LR	08 19 27.0	
	comp=Z,111nm,18.8s,MS3.6,baz=91,slow=36						
ASPA	**Alice Springs**	**33.48**	**255**	*e*P	**P**	**08 06 08.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**41.52**	**264**	*e*P	**P**	**08 07 17.9**	**+0.8**
	23nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**41.52**	**264**	P	**P**	**08 07 17.6**	**+0.6**
	29nm,0.8s,mb5.0,baz=120,slow=7.1,SNR=18						
MBWA	**Marble Bar**	**46.68**	**258**	*e*P	**P**	**08 07 58.9**	**+0.3**
	4.1nm,0.6s,mb4.5						
NWAO	**Narrogin (SRO)**	**48.65**	**242**	LR	LR	08 27 49.2	

	comp=Z,200nm,21.9s,MS4.1,baz=283,slow=35						
VNDA	**Vanda**	**58.96**	**182**	P	**P**	**08 09 28.1**	**-1.0**
	0.6nm,0.6s,mb3.8,baz=359,slow=6.8,SNR=7.9						
SBA	**Scott Base**	**59.19**	**181**	*e*P	**P**	**08 09 31.7**	**+1.1**
	2.0nm,0.3s,mb4.6						
CASY	**Casey**	**60.69**	**203**	*e*P	**P**	**08 09 39.9**	**-1.2**
	2.9nm,0.6s,mb4.6						
QSPA	**South Pole Qui**	**71.33**	**180**	*e*P	**P**	**08 10 49.4**	**+0.6**
	13nm,1.2s,mb4.7						
SONM	**Songino Array**	**86.94**	**323**	P	**P**	**08 12 13.6**	**-0.1**
	0.5nm,0.9s,mb3.8,baz=135,slow=2.0,SNR=3.5						
SNAA	**Sanae**	**89.69**	**182**	P	**P**	**08 12 26.2**	**-0.2**
	1.2nm,0.8s,mb4.3,baz=221,slow=18,SNR=2.6						
YKA	**Yellowknife Ar**	**100.10**	**27**	P	P	08 13 15.0	+0.9
	0.2nm,0.7s,baz=253,slow=4.8,SNR=5.1						
GERES	**GERESS Array B**	**144.14**	**332**	PKP	PKPdf	08 19 03.9	+0.7
	0.3nm,0.2s,baz=90,slow=1.0,SNR=4.3						

NEIC ***22*** *08:10:40.9, 32.22S×71.75W, h28km, ML2.7(GUC), After GUC.*
GUC 22 08:10:40.9±0.8,**32.22S×71.75W,h28**km±3km,**MD3.5,**
ML2.7,8C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.40**	**32**	⇓*i*P	Pb	08 10 49.5	-0.1
CHNG				*i* S	Sb	08 10 55.8	+0.3
CHNG				AMP		08 10 56.6	
	comp=N,1μm,0.3s						
PACH	**Papudo**	**0.41**	**140**	⇓*i*P	Pb	08 10 49.4	-0.3
PACH				*i* S	Sb	08 10 56.0	+0.3
ILCH	**Illapel**	**0.76**	**40**	⇑*i*P	Pb	08 10 55.2	-0.3
ILCH				*i* S	Sb	08 11 06.1	+0.6
ILCH				AMP		08 11 06.6	
	comp=N,469nm,0.2s						
ROCH	**El Roble**	**0.97**	**141**	⇑*i*P	Pn	08 10 58.4	-0.4
ROCH				*i* S	Sb	08 11 11.8	+0.4
JACH	**Jahuel**	**1.08**	**116**	⇑*i*P	Pn	08 11 00.1	-0.2
JACH				*i* S	Sn	08 11 15.0	+0.5
LCCH	**Las Cruces**	**1.26**	**173**	*e*P	Pn	08 11 02.4	-0.5
LCCH				*i* S	Sn	08 11 19.9	+0.8
PEL	**Peldehue**	**1.28**	**136**	*e*P	Pn	08 11 03.7	+0.4
PEL				*i* S	Sn	08 11 20.8	+1.2
STL	**Santa Lucia**	**1.53**	**143**	⇑*i*P	Pn	08 11 06.9	+0.2
STL				AMP		08 11 28.9	
	comp=N,71nm,0.2s						
DSCH	**Colegio Aleman**	**1.54**	**140**	⇓*i*P	Pn	08 11 07.3	+0.4
DSCH				*i* S	Sn	08 11 27.6	+1.5
DSCH				AMP		08 11 30.1	
	comp=E,317nm,0.3s						
CLCH	**Cerro Calan**	**1.55**	**139**	⇑*i*P	Pn	08 11 07.5	+0.4
CLCH				*i* S	Sn	08 11 27.8	+1.3
CLCH				AMP		08 11 33.4	
	comp=E,206nm,0.5s						
TACH	**Talagante**	**1.58**	**155**	⇑*i*P	Pn	08 11 08.1	+0.6
TACH				*i* S	Sn	08 11 28.6	+1.4
FCH	**Farellones**	**1.65**	**132**	⇑*i*P	Pn	08 11 09.2	+0.7
FCH				*i* S	Sn	08 11 31.2	+2.2
FCH				AMP		08 11 34.3	
	comp=E,166nm,0.2s						
PCH	**Pirque**	**1.74**	**144**	*e*P	Pn	08 11 10.6	+0.8
PCH				*i* S	Sn	08 11 33.3	+2.1
LNV	**Longovilo**	**1.75**	**171**	⇑*i*P	Pn	08 11 10.9	+0.9
LNV				*i* S	Sn	08 11 34.6	+3.0
CHCH	**Chadas Angostu**	**1.94**	**152**	*i* P	Pn	08 11 13.4	+0.8
CHCH				*i* S	Sn	08 11 38.0	+1.7
LMEL	**Las Melosas**	**2.08**	**142**	⇓*i*P	Pn	08 11 15.8	+1.2
LMEL				*i* S	Sn	08 11 41.8	+2.0
LMEL				AMP		08 11 50.0	
	comp=N,143nm,0.1s						
CICH	**Cipreses**	**2.37**	**152**	*i* P	Pn	08 11 19.6	+0.8

NEIC ***22*** *08:15:53.6, 14.60N×62.01W, h10km, MD3.7(TRN), After TRN.*
TRN 22 08:15:54.3, 14.60N×61.45W, h138km, MD3.7,
Md2.5(FDF),2D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLB	**Belfond**	**0.86**	**153**	⇓*i*P	P	08 16 17.7	+0.6
SLB				*e*S	S	08 16 36.1	+1.5
SFAN	**Fancy Village**	**1.23**	**167**	*e*P	P	08 16 21.1	+0.6
SSV	**Crater Summit**	**1.29**	**169**	*e*P	P	08 16 21.7	+0.6
SSV				*e*S	S	08 16 43.0	+1.4
SVV	**Soufriere Volc**	**1.29**	**170**	⇓*i*P	P	08 16 21.9	+0.8
SVV				*e*S	S	08 16 41.7	0.0
SVB	**Belmont**	**1.33**	**172**	*e*P	P	08 16 22.3	+0.8
SVB				*e*S	S	08 16 40.1	-2.3
GRHS	**Sauteurs**	**2.37**	**185**	*e*P	P	08 16 34.4	+0.6
GRW	**Mount Saint Ca**	**2.43**	**185**	*e*P	P	08 16 35.5	+0.9

IDC ***22*** *08:22:45.6±0.7,

SONM Songino Array 46.45 9 P P 08 31 14.7 +0.2
comp=Z,7.2nm,1.0s,mb4.5,baz=188,slow=8.7,SNR=7.0
SONM PcP PcP 08 32 49.3 0.0
comp=Z,1.1nm,0.6s,baz=191,slow=4.6,SNR=3.5
MKAR Makanchi Array 46.51 346 P P 08 31 14.8 -0.3
comp=Z,5.3nm,0.7s,mb4.6,baz=158,slow=6.5,SNR=33
MKAR LR LR 08 54 38.1
comp=Z,72nm,20.9s,MS3.6,baz=177,slow=41
CN2 Changchun 48.74 27 *eP* **P 08 31 32.4 -0.2**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
MJAR Matsushiro Arr 51.27 43 P P 08 31 52.4 +0.4
comp=Z,4.2nm,0.9s,mb4.4,baz=218,slow=5.4,SNR=6.1
ZAL Zalesovo 52.82 351 P P 08 32 02.8 -0.5
comp=Z,12nm,0.7s,mb4.9,baz=312,slow=6.0,SNR=60
STKA Stephens Creek 53.96 132 P P 08 32 11.9 -0.2
comp=Z,2.4nm,1.1s,mb4.0,baz=330,slow=22,SNR=4.3
KMBO Kilima Mbogo 59.85 268 P P 08 32 54.2 0.0
comp=Z,1.4nm,0.3s,mb4.4,baz=36,slow=22,SNR=4.5
KMBO Kilima Mbogo 59.85 268 P P 08 32 54.2 0.0
BRTR Keskin Array B 68.51 312 P P 08 33 49.3 -1.0
comp=Z,0.6nm,0.7s,mb3.6,baz=130,slow=11,SNR=2.4
FINES FINESS Array B 79.29 332 P P 08 34 51.9 -0.7
comp=Z,1.0nm,0.6s,mb4.0,baz=90,slow=5.7,SNR=10
ARCES ARCESS Array B 81.81 340 P P 08 35 06.0 +0.2
comp=Z,5.4nm,1.1s,mb4.4,baz=90,slow=4.9,SNR=8.2
ARCES ARCESS Array B 81.81 340 P P 08 35 06.0 +0.2
GERES GERESS Array B 84.17 319 P P 08 35 18.6 +0.4
comp=Z,1.0nm,0.7s,mb4.1,baz=104,slow=5.5,SNR=5.5
NOA NORSAR Array B 86.30 331 P P 08 35 30.6 +2.2
comp=Z,0.6nm,0.7s,mb3.9,baz=92,slow=5.0,SNR=3.7
DAVOX Davos 86.66 317 P P 08 35 31.7 +1.2
comp=Z,5.0nm,0.7s,mb4.9,baz=340,slow=22,SNR=5.5
TXAR Lajitas Array 143.14 31 PKhKP 08 42 18.7
comp=Z,0.4nm,1.0s,baz=270,slow=2.7,SNR=3.5
CPUP Villa Florida 145.42 223 PKPbc PKPbc 08 42 25.7 +0.9
comp=Z,2.6nm,0.7s,baz=115,slow=3.2,SNR=13
CFAA Coronel Fontan 147.37 204 PKPbc PKPdf 08 42 31.7 +4.3
comp=Z,0.3nm,0.6s,baz=153,slow=3.6,SNR=13

CSEM ***22*** *08:27:22.3±0.5, 13.41N×50.85E, h10km, mb3.1, Error ellipse: s-maj=24.2km s-min=3.9km az=150.0*
IDC ***22*** *08:27:24.2±1.6, 13.16N×51.06E, mb3.9/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, MS3.5/1, Ms1 3.5/1, ms1mx2.9/26, Error ellipse: s-maj=49.4km s-min=47.0km az=69.0*
OMAN ***22*** *08:27:25.2, 13.42N×50.70E, h30km, Error ellipse: s-maj=91.5km s-min=13.3km az=314.0*
ISC 22 08:27:22.3±3.4, 13.44N±0.10×50.8E±0.1, h4km±23km, n14, σ0°62/17, mb3.9/4, MS3.4/1, 3C-6D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut** SNR=12	**4.55**	**31**	↓P	**Pn**	**08 28 33.5**	**0.0**
ABTO				↓S	**Sn**	**08 29 27.9**	**+0.3**
BDHA	**Al Bayda'**	**5.15**	**276**	↓*e*P	**Pn**	**08 28 42.0**	**-0.1**
BDHA	baz=113,slow=16			*e*		08 28 42.2	
BDHA	comp=E,89nm,0.3s			AML	AML	08 28 43.3	
BDHA				*i* S	**Sn**	**08 29 34.3**	**-8.5**
BDHA	**Al Bayda'**	**5.15**	**276**	↓*e*P	**Pn**	**08 28 42.0**	**-0.1**
BDHA	comp=E,44nm,0.3s			*i* S	**Sn**	**08 29 34.3**	**-8.5**
RBK	**Rabkut** SNR=6.0	**5.18**	**38**	↑P	**Pn**	**08 28 42.5**	**+0.1**
RBK				↑S	**Sn**	**08 29 41.5**	**-1.9**
RBK				↓S	**Sn**	**08 29 43.1**	**-0.3**
RBK	**Rabkut** SNR=6.0	**5.18**	**38**	P	**Pn**	**08 28 42.5**	**+0.1**
RBK				S	**Sn**	**08 29 43.1**	**-0.2**
WHFO	**Wadi Hawf** SNR=16	**5.27**	**32**	↓P	**Pn**	**08 28 43.3**	**-0.4**
LBOS		**5.45**	**275**	↑*e*P	**Pn**	**08 28 46.0**	**-0.2**
GNI	**Garni**	**27.14**	**350**	LR	LR	08 46 16.0	
	comp=E,95nm,18.1s,MS3.4,baz=285,slow=41						
MKAR	**Makanchi Array**	**42.43**	**32**	P	**P**	**08 35 21.4**	**+1.7**
	comp=E,0.5nm,0.8s,mb3.2,baz=217,slow=8.4,SNR=3.5						
CMAR	**Chiang Mai Arr**	**46.41**	**77**	P	**P**	**08 35 52.2**	**+0.1**
	comp=E,1.8nm,0.7s,mb4.1,baz=270,slow=8.4,SNR=9.4						
WRA	**Warramunga Arr**	**88.55**	**111**	P	**P**	**08 40 17.7**	**-0.4**
	comp=E,1.1nm,0.8s,mb4.2,baz=305,slow=4.0,SNR=6.8						
ASAR	**Alice Springs**	**89.11**	**114**	P	**P**	**08 40 20.6**	**-0.2**
	comp=E,0.8nm,0.8s,mb4.1,baz=300,slow=4.7,SNR=5.9						
NVAR	**Mina Array Bea**	**127.41**	**349**	PKP	PKPdf	08 46 33.0	+1.7
	comp=E,0.5nm,0.7s,baz=315,slow=1.3,SNR=5.2						
TXAR	**Lajitas Array**	**130.87**	**330**	PKP	PKPdf	08 46 38.3	+0.1
	comp=E,0.4nm,1.0s,baz=72,slow=2.9,SNR=3.1						

THE ***22*** *08:29:15.8, 38.62N×24.02E, h10km, ML3.2*
ATH ***22*** *08:29:17.3, 38.65N×23.78E, h25km±2km, MD3.2/11, ML3.4*
NEIC ***22*** *08:29:17.2, 38.66N×23.80E, h22km, ML3.6(ATH), After ATH.*
CSEM ***22*** *08:29:17.1±0.1, 38.66N×23.86E, h8km, ML3.6, Error ellipse: s-maj=4.7km s-min=2.0km az=92.0*
ISC 22 08:29:16.5±0.7, 38.62N±0.03×23.81E±0.08, h17km±9km, n19, σ1°01/25, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.47**	**187**	*e*PN	**Pn**	**08 29 27.0**	**-1.2**
MPAR				*e*SN	**Sn**	**08 29 35.0**	**-1.0**
AOS	**Alonnisos**	**0.55**	**6**	*e*Pg	**Pn**	**08 29 27.0**	**-0.2**
AOS				*e*Sg	**Sb**	**08 29 35.1**	**+0.4**
PTL	**Penteli**	**0.57**	**176**	*e*PB	**Pb**	**08 29 28.5**	**+0.8**
PTL				*e*SN	**Sn**	**08 29 38.0**	**-0.6**
LKR	**Lokris**	**0.63**	**273**	*e*PN	**Pn**	**08 29 29.4**	**-1.1**
LKR				*e*SN	**Sn**	**08 29 39.4**	**-0.7**
ATH	**Athens Observa**	**0.65**	**186**	*e*PN	**Pn**	**08 29 30.3**	**-0.5**
ATH				*e*SN	**Sn**	**08 29 41.2**	**+0.6**
NSAL	**Nisos Salamina**	**0.77**	**201**	*e*PN	**Pn**	**08 29 32.5**	**+0.2**
MGER	**Gerania Oros**	**0.77**	**214**	*e*PN	**Pn**	**08 29 32.2**	**-0.2**
NEO	**Neokhori**	**0.82**	**326**	*e*PN	**Pn**	**08 29 32.8**	**-0.4**
NAIG	**Nisos Aigina**	**0.90**	**196**	*e*PN	**Pn**	**08 29 35.0**	**+0.7**
AGG	**Agios Georgios**	**1.22**	**290**	*e*Pg	**Pn**	**08 29 41.0**	**+2.1**
AGG				*e*Sg	**Sb**	**08 30 01.9**	**+7.8**
EVR	**Evrytania**	**1.59**	**281**	*e*PN	**Pn**	**08 29 45.5**	**+1.3**
LOS	**Limnos**	**1.64**	**37**	*e*Pg	**Pn**	**08 29 44.4**	**-0.5**
LIA	**Limnos Island**	**1.66**	**40**	*e*PN	**Pn**	**08 29 47.0**	**+1.8**
OUR	**Ouranopolis**	**1.71**	**4**	*e*Pb	**Pb**	**08 29 45.7**	**-1.4**
PLG	**Polygyros**	**1.77**	**351**	*e*PB	**Pb**	**08 29 47.0**	**-1.1**
VLI	**Veliai**	**2.02**	**200**	*e*PB	**Pb**	**08 29 52.5**	**+0.1**
VLI	**Veliai**	**2.02**	**200**	*e*Pn	**Pn**	**08 29 54.0**	**+3.7**
ITM	**Ithomi**	**2.07**	**227**	*e*Pn	**Pn**	**08 29 54.6**	**+3.6**
SRS	**Serrai**	**2.50**	**356**	*e*Pn	**Pn**	**08 29 57.2**	**+0.1**

IDC ***22*** *08:38:48.4±4.6, 21.78S×178.10W, h391km±47km, mb3.6/14, mb1 3.8/15, mb1mx3.7/21, mbtmp4.4/15, Error ellipse: s-maj=25.2km s-min=17.7km az=153.0*
NEIC ***22*** *08:38:49.8±2.9, 21.81S×178.17W, h408km±30km, mb4.3/8, Error ellipse: s-maj=16.9km s-min=11.5km az=181.0*
ISC 22 08:38:41.8±5.0, 21.64S±0.09×178.2W±0.1, h333km±50km, n34, σ0°83/28, mb4.0/17, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.9nm,0.3s,baz=275,slow=11,SNR=5.8	**17.06**	**193**	P	**P**	**08 42 21.7**	**+0.2**
URZ				S	**S**	**08 45 19.0**	**+0.8**
CTA	**Charters Tower** 0.8nm,0.3s,baz=127,slow=17,SNR=10	**33.22**	**266**	↓*i*P	**P**	**08 44 51.6**	**+1.3**
CTA	**Charters Tower** 7.4nm,0.5s,mb4.2,baz=96,slow=12,SNR=23	**33.22**	**266**	P	**P**	**08 44 51.6**	**+1.3**
CTAO	**Charters Tower** 6.8nm,0.5s,mb4.1	**33.22**	**266**	*e*P	**P**	**08 44 51.7**	**+1.4**
PMG	**Port Moresby** 6.6nm,0.5s,mb4.2,baz=170,slow=16,SNR=3.3	**35.45**	**285**	P	**P**	**08 45 10.4**	**+1.3**
STKA	**Stephens Creek** 4.7nm,0.4s,mb4.1	**37.15**	**245**	↓*i*P	**P**	**08 45 23.9**	**+0.7**
STKA	**Stephens Creek** 7.0nm,0.6s,mb4.1,baz=89,slow=9.8,SNR=40	**37.15**	**245**	P	**P**	**08 45 24.3**	**+1.1**
ASAR	**Alice Springs** 5.3nm,0.7s,mb3.8,baz=91,slow=7.7,SNR=57	**44.10**	**258**	P	**P**	**08 46 19.9**	**0.0**
ASAR	1.1nm,0.5s,baz=111,slow=4.1,SNR=6.6			PcP	PcP	08 47 58.9	-0.2
ASPA	**Alice Springs**	**44.10**	**258**	*e*P	**P**	**08 46 19.8**	**0.0**
WB2	**Warramunga Arr**	**44.27**	**263**	*e*P	**P**	**08 46 20.7**	**-0.5**
WRAB	**Tennant Creek** 13nm,0.9s,mb4.0	**44.28**	**263**	*e*P	**P**	**08 46 20.1**	**-1.2**
WRA	**Warramunga Arr** 2.2nm,0.3s,mb3.7,baz=94,slow=7.7,SNR=75	**44.28**	**263**	P	**P**	**08 46 20.9**	**-0.4**
KAKA	**Kakadu** 6.3nm,0.4s,mb4.2	**47.84**	**272**	↑*i*P	**P**	**08 46 48.8**	**-0.2**
FORT	**Forrest** 453nm,0.6s	**48.70**	**248**	*e*P	**P**	**08 46 54.6**	**-0.8**
FITZ	**Fitzroy Crossi** 4.8nm,0.4s,mb4.2,baz=56,slow=4.3,SNR=5.4	**52.72**	**263**	P	**P**	**08 47 25.8**	**+0.4**
KLBR	**Kellerberrin** 1μm,1.8s	**57.43**	**246**	*e*P	**P**	**08 47 57.6**	**-0.9**
MBWA	**Marble Bar** 9.3nm,0.6s,mb4.3	**57.45**	**258**	*e*P	**P**	**08 47 57.7**	**-1.1**
NWAO	**Narrogin (SRO)** 4.1nm,0.6s,mb4.0,baz=102,slow=7.9,SNR=5.4	**57.71**	**244**	P	**P**	**08 47 59.4**	**-1.1**
NWAO	**Narrogin (SRO)** 2.9nm,0.5s,mb3.9	**57.71**	**244**	*e*P	**P**	**08 47 59.7**	**-0.8**
QSPA	**South Pole Qui** 3.9nm,0.6s,mb4.3	**68.44**	**180**	*e*P	**P**	**08 49 08.6**	**-0.8**
MJAR	**Matsushiro Arr** 1.4nm,0.5s,mb3.9,baz=66,slow=0.6,SNR=4.8	**71.02**	**324**	P	**P**	**08 49 26.4**	**+0.7**
YBH	**Yreka Blue Hor** 1.9nm,0.5s,mb4.0,baz=288,slow=5.3,SNR=7.8	**81.28**	**39**	P	**P**	**08 50 23.3**	**+0.7**
NVAR	**Mina Array Bea** 0.7nm,0.7s,mb3.6,baz=231,slow=11,SNR=6.1	**81.96**	**43**	P	**P**	**08 50 26.6**	**+0.3**
TXAR	**Lajitas Array** 0.2nm,0.8s,baz=217,slow=6.3,SNR=3.4	**87.81**	**57**	P	**P**	**08 50 55.6**	**+0.4**
ILAR	**Eielson Array** 0.9nm,0.5s,mb3.9,baz=214,slow=5.5,SNR=21	**89.45**	**13**	P	**P**	**08 51 00.8**	**-1.2**
PDAR	**Pinedale Array** 0.5nm,0.7s,mb3.5,baz=270,slow=1.5,SNR=6.4	**89.90**	**43**	P	**P**	**08 51 04.2**	**-0.5**
CMAR	**Chiang Mai Arr** 1.4nm,0.4s,mb4.2,baz=131,slow=3.4,SNR=9.5	**90.33**	**290**	P	**P**	**08 51 08.8**	**+1.6**
ARCES	**ARCESS Array B** 4.4nm,1.0s,baz=55,slow=2.7,SNR=12	**130.00**	**349**	PKP	PKPdf	08 57 11.0	-0.7
FINES	**FINESS Array B** 0.4nm,0.5s,baz=155,slow=32,SNR=3.8	**136.81**	**343**	PKP	PKPdf	08 57 24.1	-0.5
AKASG	**Malin Array Be** 3.5nm,0.5s,baz=42,slow=4.3,SNR=15	**143.91**	**330**	PKP	PKPdf	08 57 35.5	-1.9
AKASG	**Malin Array Be**	**143.91**	**330**	PKP	PKPdf	08 57 35.5	-1.9
BRTR	**Keskin Array B** 1.3nm,0.6s,baz=108,slow=3.9,SNR=4.6	**147.46**	**311**	PKPbc	PKPdf	08 57 46.8	+3.1
CLL	**Collm**	**149.12**	**346**	*i* PKP1	PKPdf	08 57 51.0	+5.0
GERES	**GERESS Array B** 0.9nm,0.5s,baz=27,slow=3.0,SNR=7.4	**151.24**	**344**	PKPbc	PKPdf	08 57 55.9	+6.6

IDC ***22*** *08:53:32.5±2.2, 2.57N×95.46E, mb4.1/6, mb1 4.2/7, mb1mx3.9/22, mbtmp4.1/7, ML3.7/1, MS3.5/2, Ms1 3.6/2, ms1mx3.0/29, Error ellipse: s-maj=90.1km s-min=19.8km az=59.0*
NEIC ***22*** *08:53:37.0±0.7, 2.60N×95.56E, h30km, mb4.7/1, Error ellipse: s-maj=16.3km s-min=10.5km az=203.0*
ISC 22 08:53:36.7±2.5, 2.7N±0.1×95.6E±0.1, h42km±23km, n13, σ0°70/12, mb4.1/7, MS4.1/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.67**	**62**	*e*Pn	**P**	**08 54 59.8**	**-0.9**
PALK	**Pallekele**	**15.54**	**288**	*e*P	**P**	**08 57 14.7**	**0.0**
CMAR	**Chiang Mai Arr**	**16.05**	**12**	Pn	**P**	**08 57 23.1**	**+1.9**
CMAR	0.1nm,0.3s,baz=202,slow=11,SNR=23			LR	LR	09 03 30.6	
	comp=Z,56nm,18.8s,baz=200,slow=37						
KKM	**Kota Kinabalu**	**20.82**	**80**	*e*P	**P**	**08 58 17.1**	**-0.2**
WRA	**Warramunga Arr** 0.6nm,1.0s,mb3.3,baz=300,slow=9.3,SNR=7.9	**44.15**	**122**	P	**P**	**09 01 43.7**	**+0.3**
MKAR	**Makanchi Array** 5.8nm,0.7s,mb4.5,baz=166,slow=8.1,SNR=46	**45.47**	**347**	P	**P**	**09 01 53.7**	**+0.1**
MKAR	**Makanchi Array**	**45.47**	**347**	P	**P**	**09 01 53.7**	**0.0**
ASAR	**Alice Springs** 0.4nm,0.5s,mb3.6,baz=300,slow=8.0,SNR=9.2	**45.53**	**127**	P	**P**	**09 01 55.0**	**+0.6**
SONM	**Songino Array** 1.3nm,0.7s,mb4.0,baz=186,slow=8.2,SNR=7.1	**45.97**	**10**	P	**P**	**09 01 57.5**	**-0.1**
SONM	0.9nm,0.6s,baz=198,slow=2.7,SNR=4.4			PcP	PcP	09 03 35.2	+0.9
ZAL	**Zalesovo** 2.7nm,0.6s,mb4.4,baz=313,slow=5.8,SNR=10	**51.89**	**352**	P	**P**	**09 02 43.0**	**-0.2**
BVAR	**Borovoye Array** 2.9nm,0.8s,mb4.3	**54.38**	**342**	P	**P**	**09 03 01.2**	**-0.4**
CHKZ	**Chkalovo** 5.2nm,0.7s,mb4.7	**54.86**	**342**	*e*P	**P**	**09 03 04.3**	**-0.8**
CHKZ				*ep*P	pP	09 03 11.6	-5.7
BORG	**Borgarnes** comp=Z,61nm,18.3s,MS4.1,baz=18,slow=38	**98.78**	**337**	LR	LR	09 56 04.9	

WEL 22 08:53:46.8±0.1, 38.99S×174.66E, h27km±1km, ML3.6/17, 10C-4D, Error ellipse: s-maj=0.7km s-min=0.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.15**	**149**	↓P*	Pb	08 53 52.1	-0.1
VRZ				S*	Sb	08 53 56.5	+0.7
RAEZ	**Rainy Point**	**0.36**	**215**	↓P*	Pb	08 53 54.8	0.0
HIZ	**Hauiti**	**0.50**	**18**	↑P*	Pb	08 53 56.7	-0.4
HIZ				S*	Sb	08 54 04.3	+0.1
HIZ				S*	Sb	08 54 04.5	+0.3
NEZ	**North Egmont**	**0.52**	**237**	↓P*	Pb	08 53 57.6	+0.2
PKE	**Pukeiti**	**0.56**	**249**	P*	Pb	08 53 58.0	0.0
PKE				S*	Sb	08 54 05.2	-0.5
PKE				S*	Sb	08 54 06.6	+1.0
PKVZ	**Pokaka**	**0.61**	**119**	↑P*	Pb	08 53 58.5	-0.5
PKVZ				S*	Sb	08 54 07.5	+0.2
TWVZ	**Taurewa**	**0.61**	**98**	↑P*	Pb	08 53 58.3	-0.6
TWVZ				S*	Sb	08 54 07.1	-0.1
NRZ	**Ngariki Road**	**0.66**	**238**	P*	Pb	08 53 59.5	-0.2
NWEZ	**Newall Road**	**0.68**	**245**	P*	Pb	08 53 59.7	-0.3
MGZ	**Maungaku**	**0.69**	**91**	P*	Pb	08 53 59.6	-0.6
CNZ	**Chateau**	**0.72**	**107**	P*	Pb	08 54 00.2	-0.6
WPVZ	**Whakapapa**	**0.72**	**107**	↑P*	Pb	08 54 00.2	-0.6
WPVZ				S*	Sb	08 54 11.2	+0.9
WTVZ	**West Tongariro**	**0.74**	**100**	↑P*	Pb	08 54 00.4	-0.6
WTVZ				S*	Sb	08 54 11.2	+0.5
FWVZ	**Far West T-bar**	**0.74**	**111**	↓P*	Pb	08 54 00.6	-0.6
FWVZ				S*	Sb	08 54 12.0	+1.0
MTVZ	**Mangateitei**	**0.74**	**122**	P*	Pb	08 54 00.4	-0.7
MTVZ				S*	Sb	08 54 11.5	+0.5
NGZ	**Ngauruhoe**	**0.76**	**104**	P*	Pb	08 54 00.7	-0.6
NGZ				S*	Sb	08 54 11.7	+0.4
TRVZ	**Turoa**	**0.76**	**114**	↑P*	Pb	08 54 00.8	-0.6
TRVZ				S*	Sb	08 54 12.1	+0.8
DRZ	**Dome Shelter**	**0.76**	**112**	P*	Pb	08 54 01.0	-0.3
DRZ				S*	Sb	08 54 12.5	+1.1
WAZ	**Wanganui**	**0.80**	**162**	PN	Pn	08 54 01.9	-0.5
WAZ				S*	Sb	08 54 14.2	+1.6
OTVZ	**Oturere**	**0.81**	**103**	PN	Pn	08 54 01.6	-0.8
OTVZ				S*	Sb	08 54 12.5	-0.1
WNVZ	**Wahianoa**	**0.81**	**115**	PN	Pn	08 54 01.6	-0.8
WNVZ				S*	Sb	08 54 13.3	+0.7
KATZ	**Kakaramea**	**0.81**	**89**	↑PN	Pn	08 54 01.8	-0.7
KATZ				S*	Sb	08 54 12.9	+0.1
TUVZ	**Tukino**	**0.82**	**110**	PN	Pn	08 54 02.1	-0.6
TUVZ				SN	Sn	08 54 13.9	-0.1
RATZ	**Rangitukua**	**0.88**	**82**	↑PN	Pn	08 54 03.1	-0.4
RATZ				SN	Sn	08 54 14.9	-0.5
WATZ	**Wairara**	**0.89**	**72**	↑PN	Pn	08 54 02.9	-0.7
WATZ				SN	Sn	08 54 14.8	-0.9
RITZ	**Rihia Road**	**0.94**	**89**	PN	Pn	08 54 04.2	-0.1
MOVZ	**Moawhango**	**0.95**	**116**	↑PN	Pn	08 54 03.9	-0.6
MOVZ				SN	Sn	08 54 16.1	-1.1
WHTZ	**Whakaora**	**1.07**	**73**	PN	Pn	08 54 06.0	-0.2
WHTZ				SN	Sn	08 54 20.4	+0.2
HATZ	**Hinemaiaia**	**1.12**	**85**	PN	Pn	08 54 08.9	+1.9
TOZ	**Tahuroa Road**	**1.43**	**28**	PN	Pn	08 54 10.3	-1.1
TOZ				SN	Sn	08 54 27.8	-1.5
BKZ	**Black Stump Fm**	**1.44**	**98**	PN	Pn	08 54 09.8	-1.7
BKZ				SN	Sn	08 54 29.5	-0.2
TSZ	**Takapari Road**	**1.47**	**137**	PN	Pn	08 54 11.6	-0.3
TSZ				SN	Sn	08 54 31.9	+1.5
MRZ	**Mangatainoka R**	**1.81**	**157**	PN	Pn	08 54 17.1	+0.2
MRZ				SN	Sn	08 54 40.3	+1.2
KIW	**Kapiti Island**	**1.88**	**174**	PN	Pn	08 54 18.0	+0.2
KIW				SN	Sn	08 54 41.2	+0.4
DUWZ	**D'Urville Isla**	**1.89**	**197**	PN	Pn	08 54 17.5	-0.5
DUWZ				SN	Sn	08 54 41.3	+0.1
MKAZ	**Moumakai**	**1.92**	**12**	PN	Pn	08 54 17.4	-1.0
URZ	**Urewera**	**2.06**	**70**	PN	Pn	08 54 21.8	+1.4
WTAZ	**Waiatarua**	**2.06**	**358**	PN	Pn	08 54 19.4	-1.0
BFZ	**Birch Farm**	**2.08**	**145**	PN	Pn	08 54 20.9	+0.1
CAW	**Cannon Point**	**2.14**	**172**	PN	Pn	08 54 22.0	+0.5
MRW	**Makara Radio**	**2.23**	**179**	PN	Pn	08 54 23.5	+0.6
TCW	**Tory Channel**	**2.24**	**187**	PN	Pn	08 54 22.4	-0.5
MTW	**Mount Morrison**	**2.26**	**164**	PN	Pn	08 54 23.6	+0.3
SNZO	**South Karori**	**2.31**	**179**	PN	Pn	08 54 23.9	-0.2
MWZ	**Matawai**	**2.34**	**75**	PN	Pn	08 54 23.8	-0.6
KUZ	**Kuaotunu**	**2.40**	**21**	PN	Pn	08 54 23.0	-2.2
TUWZ	**Tuamarina**	**2.50**	**192**	PN	Pn	08 54 25.6	-1.0
BSWZ	**Blackbirch Sta**	**2.78**	**192**	PN	Pn	08 54 30.3	-0.4

NIED ***22*** *08:54:00, 33.20N×137.00E, h8km, Mw4.1 Best double couple: M0.1 66×10^15 NP1:φ=60°, δ=69°, λ=62°. NP2:φ=297°, δ=34°, λ=142°.*
IDC ***22*** *08:54:14.7±0.6, 33.11N×137.00E, mb4.0/18, mb1 4.2/23, mb1mx4.1/29, mbtmp4.1/23, ML3.9/5, MS3.2/4, Ms1 3.3/4, ms1mx3.1/28, Error ellipse: s-maj=16.2km s-min=15.5km az=118.0*
BJI ***22*** *08:54:16.2, 32.73N×137.07E, h32km, mB4.6, mb4.4*
JMA ***22*** *08:54:16.7±0.1, 33.10N×136.96E, h36km±4km, M4.4*
JMA Felt I J1.
NEIC ***22*** *08:54:17.4±2.7, 33.13N×136.96E, h16km±16km, mb4.6/4, MW4.1(NIED), Error ellipse: s-maj=10.2km s-min=6.2km az=126.0*
ISC 22 08:54:16.3±0.8, 33.15N±0.03×136.97E±0.03, h21km±5km, n51, σ1°01/69, mb3.9/23, MS3.6/1, 3C-8D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.80**	**40**	P	**Pb**	**08 54 32.0**	**+0.6**
TK02	**Tokai 2**	**1.03**	**40**	↓P	**Pb**	**08 54 35.7**	**+0.4**
TK02				S	**Sb**	**08 54 49.2**	**+0.8**
JWZ	**Kozaga**	**1.11**	**290**	↑P	**Pb**	**08 54 36.4**	**-0.3**
JWZ				S	**Sb**	**08 54 50.0**	**-0.9**
JKN2	**Miekihoku**	**1.23**	**332**	↓P	**Pn**	**08 54 38.8**	**+0.3**
JKN2				S	**Sb**	**08 54 53.5**	**-0.6**
JIE	**Ise**	**1.25**	**350**	↓P	**Pn**	**08 54 39.6**	**+0.8**
JIE				S	**Sb**	**08 54 55.8**	**+0.9**
TK04	**Tokai 4**	**1.44**	**31**	↓P	**Pn**	**08 54 41.9**	**+0.4**
TK04				S	**Sn**	**08 55 00.1**	**+0.1**
JWM	**Minabe**	**1.52**	**298**	↑P	**Pn**	**08 54 42.5**	**-0.1**
JWM				S	**Sn**	**08 55 00.7**	**-1.2**
JWY	**Kouya**	**1.56**	**313**	↓P	**Pn**	**08 54 43.9**	**+0.6**
JWY				S	**Sn**	**08 55 02.5**	**-0.5**
TSUJ	**Tsu 2**	**1.62**	**344**	↓P	**Pn**	**08 54 44.7**	**+0.7**
TSUJ				S	**Sn**	**08 55 04.4**	**0.0**
JHE	**Heguri**	**1.84**	**325**	↓P	**Pn**	**08 54 47.8**	**+0.6**
JHE				S	**Sn**	**08 55 09.2**	**-0.8**
JAJ2	**Tsuna**	**2.15**	**307**	P	**Pn**	**08 54 52.5**	**+0.9**
JAJ2				S	**Sn**	**08 55 16.8**	**-1.1**
SHZ3	**Shizuoka 3**	**2.17**	**28**	↓P	**Pn**	**08 54 51.7**	**-0.2**
SHZ3				S	**Sn**	**08 55 16.8**	**-1.6**
JAI	**Aioi**	**2.20**	**288**	↑P	**Pn**	**08 54 52.1**	**-0.3**
JAI				S	**Sn**	**08 55 17.0**	**-2.2**
JHJ	**Hachijo jima 2** 45nm,0.3s,baz=210,slow=13,SNR=7.4	**2.36**	**90**	Pn	**Pn**	**08 54 54.0**	**-0.7**
JHJ				Sn	**Sn**	**08 55 21.9**	**-1.5**
	104nm,0.3s,baz=40,slow=20,SNR=9.8						
JHJ2	**Mitsune**	**2.39**	**90**	P	**Pn**	**08 54 54.1**	**-1.0**
JHJ2				S	**Sn**	**08 55 20.9**	**-3.1**
MJAR	**Matsushiro Arr** 29nm,0.3s,baz=204,slow=14,SNR=216	**3.53**	**16**	Pn	**Pn**	**08 55 11.9**	**+0.6**
MJAR				Sn	**Sn**	**08 55 52.0**	**-0.9**
	27nm,0.3s,baz=183,slow=22,SNR=8.9						
MJAR				LR	LR	08 56 38.9	
	comp=Z,211nm,20.9s,baz=190,slow=41						
MAJO	**Matsushiro**	**3.53**	**16**	*e*Pn	**Pn**	**08 55 11.8**	**+0.4**
MAJO				*e*Sn	**Sn**	**08 55 52.6**	**-0.4**
MAT	**Matsushiro**	**3.53**	**16**	*e*P	**Pn**	**08 55 12.0**	**+0.7**
MAT				*e*S	**Sn**	**08 55 52.0**	**-1.0**
MAT	**Matsushiro**	**3.53**	**16**	P	**Pn**	**08 55 11.9**	**+0.6**
MAT				S	**Sn**	**08 55 52.1**	**-0.9**
CBIJ	**Chichi jima** 6.6nm,0.3s,baz=306,slow=21,SNR=5.2	**7.54**	**142**	Pn	**Pn**	**08 56 04.3**	**-3.6**
CBIJ				LR	LR	08 58 36.1	
	comp=Z,244nm,20.9s,baz=355,slow=35						
JOW	**Kunigami** 2.6nm,0.3s,baz=92,slow=21,SNR=7.3	**9.82**	**232**	Pn	**P**	**08 56 38.1**	**-1.4**
ASAJ	**Asahikawa** 0.8nm,0.3s,baz=232,slow=33,SNR=4.2	**11.79**	**20**	Pn	**P**	**08 57 04.0**	**-2.5**
ASAJ				LR	LR	09 01 47.7	
	comp=Z

FITZ	Fitzroy Crossi	41.34	264	eP	P	09 47 37.2	-1.1
	10nm,0.8s						
FITZ	Fitzroy Crossi	41.34	264	P	P	09 47 37.4	-0.9
	14nm,0.8s,baz=112,slow=6.4,SNR=9.3						
VNDA	Vanda	58.79	182	P	P	09 49 48.4	-2.4
	0.9nm,1.1s,baz=4.4,slow=7.0,SNR=3.7						

*CSEM **22** 09:42:40.5±0.8, 13.94N×50.58E, h10km, mb2.9, Error ellipse: s-maj=30.8km s-min=7.2km az=156.0*
*OMAN **22** 09:42:43.1±0.2, 13.68N×50.75E, h30km, Error ellipse: s-maj=170.0km s-min=22.4km az=303.0*
*IDC **22** 09:42:58.8±33.0, 10.35N×54.34E, mb3.8/3, mb1 4.1/3, mb1mx3.4/20, mbtmp3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=998.2km s-min=81.9km az=126.0*

ISC 22 09:42:38.0±0.8, 13.64N±0.09×50.75E±0.06, h10km, n10, σ0§99/14, mb4.0/3, MS3.1/1, 4C-5D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	Aybut	4.43	33	⇑P	Pn	09 43 47.9	+1.0
	SNR=8.9						
ABTO				⇑S	Sn	09 44 38.2	-1.0
BDHA	Al Bayda'	5.05	274	⇓iP	Pn	09 43 56.9	+1.3
	baz=116,slow=16						
BDHA				AML	AML	09 43 58.0	
	comp=E,56nm,0.2s						
BDHA				iS	Sn	09 44 52.9	-1.9
BDHA	Al Bayda'	5.05	274	⇓iP	Pn	09 43 56.9	+1.3
BDHA				iS	Sn	09 44 52.9	-1.9
	comp=E,28nm,0.2s						
RBK	Rabkut	5.08	40	⇓P	Pn	09 43 57.0	+0.9
	SNR=13						
RBK				⇑S	Sn	09 44 54.7	-0.8
WHFO	Wadi Hawf	5.15	34	⇓P	Pn	09 43 58.0	+0.9
	SNR=6.6						
WHFO				⇑S	Sn	09 44 57.5	+0.2
LBOS		5.35	273	⇓iP	Pn	09 44 00.9	+1.0
GNI	Garni	26.93	350	LR	LR	10 01 22.0	
	comp=E,60nm,20.7s,MS3.1,baz=341,slow=36						
CMAR	Chiang Mai Arr	46.45	77	P	P	09 51 07.2	-0.1
	comp=E,1.1nm,0.4s,mb4.1,baz=270,slow=9.0,SNR=5.7						
WRA	Warramunga Arr	88.70	111	P	P	09 55 32.8	-0.8
	comp=E,0.8nm,0.9s,mb4.1,baz=297,slow=4.2,SNR=6.0						
ASAR	Alice Springs	89.27	114	P	P	09 55 35.5	-0.8
	comp=E,0.6nm,0.8s,mb4.0,baz=299,slow=5.7,SNR=5.4						

IDC 22 09:49:33.5±8.5, 13.18N×93.23E, h61km±78km, mb3.6/6, mb1 3.8/7, mb1mx3.5/21, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=120.2km s-min=53.7km az=142.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.60	46	P	P	09 51 22.0	-2.0
	0.3nm,0.3s,baz=236,slow=15,SNR=22						
CMAR				S	S	09 52 46.3	-3.1
	0.2nm,0.3s,baz=238,slow=29,SNR=3.8						
MKAR	Makanchi Array	34.75	347	P	P	09 56 18.1	-1.9
	1.4nm,0.8s,baz=157,slow=8.5,SNR=14						
SONM	Songino Array	36.25	15	P	P	09 56 31.3	-1.4
	0.6nm,0.9s,baz=198,slow=9.1,SNR=3.5						
ZAL	Zalesovo	41.20	352	P	P	09 57 12.1	-1.7
	1.0nm,0.6s,baz=325,slow=5.9,SNR=4.4						
FINES	FINESS Array B	67.64	331	P	P	10 00 23.4	-2.6
	0.9nm,0.7s,baz=117,slow=8.5,SNR=6.1						
ARCES	ARCESS Array B	70.01	340	P	P	10 00 38.7	-1.7
	1.9nm,0.8s,baz=90,slow=4.9,SNR=5.3						
GERES	GERESS Array B	73.32	317	P	P	10 00 58.9	-1.6
	0.9nm,0.7s,baz=90,slow=2.7,SNR=6.3						

GUC 22 09:53:37.9±0.8, 29.36S×70.51W, h58km±8km, ML3.7, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.39	334	eP	P	09 53 49.6	+0.9
LCO				iS	S	09 53 58.3	+1.7
LCO				AMP		09 54 00.3	
	comp=E,2μm,0.2s						
VACH	Vallenar	0.82	344	⇑iP	P	09 53 53.8	+0.2
VACH				iS	S	09 54 05.6	+0.3
VACH				AMP		09 54 07.5	
	comp=N,7μm,0.1s						
TLL	Tololo Astrono	0.84	198	eP	P	09 53 54.7	+0.7
TLL				iS	S	09 54 07.3	+1.4
CPCH	Copiapo	2.00	4	eP	P	09 54 09.4	-0.6
CPCH				iS	S	09 54 34.6	+0.7
CPCH				AMP		09 54 42.0	
	comp=E,2μm,0.1s						
CHNG	Los Chungos	2.65	199	iP	P	09 54 18.7	-0.6
CHNG				iS	S	09 54 49.8	-0.5
CHNG				AMP		09 54 58.1	
	comp=E,295nm,0.7s						

*IDC **22** 09:55:21.0±8.9, 18.47S×173.35W, mb4.1/5, mb1 4.3/6, mb1mx3.9/20, mbtmp4.2/6, ML4.4/1, Error ellipse: s-maj=161.1km s-min=50.5km az=62.0*
*NEIC **22** 09:55:29.7±4.1, 18.66S×173.51W, h55km, mb4.5/2, Error ellipse: s-maj=73.5km s-min=23.3km az=61.0*

ISC 22 09:55:26.0±5.6, 18.7S±0.4×173.6W±0.6, h33km, n9, σ0§20/9, mb4.2/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	19.04	256	P	P	09 59 48.1	-0.1
	1.1nm,0.3s,baz=73,slow=17,SNR=11						
URZ	Urewera	21.14	201	P	P	10 00 10.5	0.0
	4.8nm,0.4s,mb4.2,baz=279,slow=3.7,SNR=8.0						
CTA	Charters Tower	37.87	261	P	P	10 02 42.2	+0.4
	2.3nm,0.4s,mb4.3,baz=77,slow=12,SNR=11						
CTA	Charters Tower	37.87	261	P	P	10 02 42.2	+0.4
CTAO	Charters Tower	37.87	261	eP	P	10 02 42.3	+0.5
	2.0nm,0.3s,mb4.3						
STKA	Stephens Creek	42.34	243	P	P	10 03 18.8	0.0
	0.5nm,0.7s,mb3.3,baz=149,slow=14,SNR=2.9						
WRAB	Tennant Creek	49.01	260	eP	P	10 04 11.9	0.0
	1.3nm,0.3s,mb4.4						
WRA	Warramunga Arr	49.02	260	P	P	10 04 11.7	-0.3
	0.7nm,0.3s,mb4.2,baz=96,slow=7.6,SNR=69						
ASAR	Alice Springs	49.02	255	P	P	10 04 11.8	-0.1
	4.1nm,0.7s,mb4.6,baz=96,slow=8.2,SNR=66						

*IDC **22** 10:04:39.3±0.6, 10.33S×161.25E, h65km±4km, mb4.0/15, mb1 4.2/17, mb1mx4.2/20, mbtmp4.3/17, MS3.8/6, Ms1 3.8/6, ms1mx3.5/18, Error ellipse: s-maj=18.3km s-min=12.8km az=119.0*
*BJI **22** 10:04:41.7, 10.30S×161.30E, h88km, mB5.3, mb5.0, Ms4.3, Msz4.4*
*NEIC **22** 10:04:41.8±1.2, 10.30S×161.27E, h88km±10km, mb4.5/13, Error ellipse: s-maj=10.5km s-min=8.6km az=115.0*

ISC 22 10:04:37.5±0.4, 10.37S±0.06×161.23E±0.07, h65km, h65km±2.1km: pP-P, n43, σ0§94/44, mb4.3/24, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.57	306	ePn	P	10 05 07.3	+3.4
HNR				eSn	S	10 05 29.4	+6.1
DZM	Mont Dzumac	12.66	157	P	P	10 07 38.4	+1.8
	2.2nm,0.3s,baz=70,slow=16,SNR=27						
DZM				S	S	10 09 53.6	-3.0
	2.0nm,0.3s,baz=226,slow=20,SNR=7.6						
PMG	Port Moresby	13.90	273	ePn	P	10 07 57.5	+4.5
	58nm,1.1s						
CTA	Charters Tower	17.37	234	eP	P	10 08 41.9	+4.7
	8.4nm,0.6s						
CTA	Charters Tower	17.37	234	P	P	10 08 39.5	+2.3
	0.8nm,0.3s,baz=76,slow=11,SNR=11						
CTA				LR	LR	10 14 00.5	
	comp=Z,229nm,21.9s,baz=298,slow=32						
CTAO	Charters Tower	17.37	234	eP	P	10 08 41.4	+4.2
	10nm,0.7s						
RAO	Raoul Island	27.07	137	LR	LR	10 18 49.0	
	comp=Z,571nm,21.0s,baz=173,slow=31						
WRAB	Tennant Creek	27.60	247	eP	P	10 10 20.7	-0.3
	43nm,1.5s,mb4.8						
WB2	Warramunga Arr	27.60	247	eP	P	10 10 21.2	+0.2
WRA	Warramunga Arr	27.61	247	P	P	10 10 21.3	+0.2
	3.3nm,0.5s,mb4.1,baz=77,slow=8.9,SNR=37						
WRA				sP	sP	10 10 43.7	-0.9
	3.9nm,0.6s,baz=78,slow=9.3,SNR=6.0						
WRA				ScP		10 17 11.4	
	0.4nm,0.5s,baz=74,slow=3.6,SNR=5.3						
STKA	Stephens Creek	28.07	217	eP	P	10 10 26.0	+0.8
	3.1nm,0.7s,mb4.0						
STKA	Stephens Creek	28.07	217	P	P	10 10 25.6	+0.4
	2.0nm,0.7s,mb3.8,baz=29,slow=16,SNR=5.6						
STKA				LR	LR	10 20 21.3	
	comp=Z,200nm,19.8s,baz=24,slow=34						
KAKA	Kakadu	28.30	262	eP	P	10 10 27.0	-0.4
	10nm,0.6s,mb4.5						
ASAR	Alice Springs	29.21	240	P	P	10 10 34.9	-0.5
	1.7nm,0.8s,mb3.8,baz=63,slow=9.9,SNR=15						
ASAR				LR	LR	10 21 33.7	
	comp=Z,172nm,20.6s,baz=56,slow=35						
FITZ	Fitzroy Crossi	35.30	253	eP	P	10 11 28.0	-0.4
	6.4nm,0.5s,mb4.7						
FITZ	Fitzroy Crossi	35.30	253	P	P	10 11 28.3	-0.1
	9.9nm,0.6s,mb4.8,baz=81,slow=6.5,SNR=12						
MBWA	Marble Bar	41.24	250	eP	P	10 12 18.3	+0.4
	2.7nm,0.6s,mb4.2						
KKM	Kota Kinabalu	47.70	288	eP	P	10 13 09.5	-0.6
MJAR	Matsushiro Arr	51.45	336	P	P	10 13 37.3	-1.2
	3.3nm,0.7s,mb4.5,baz=170,slow=8.7,SNR=6.6						
MJAR				pP	pP	10 13 55.5	+0.3
	3.0nm,0.6s,baz=169,slow=8.1,SNR=3.9						
KSM	Kuching	52.02	280	eP	P	10 13 42.6	-0.4
KULM	Kulim	62.30	282	eP	P	10 14 54.4	-1.3
CN2	Changchun	62.96	332	eP	P	10 14 59.0	-0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
FX1	Attu Island--F	63.82	8	eP	P	10 15 04.8	-0.4
VNDA	Vanda	67.13	180	P	P	10 15 26.6	+0.6
	comp=Z,1.2nm,1.0s,mb3.7,baz=353,slow=7.8,SNR=3.8						
VNDA				pP	pP	10 15 42.9	-0.8
	comp=Z,1.8nm,0.8s,baz=347,slow=7.7,SNR=6.1						
VNDA	Vanda	67.13	180	eP	P	10 15 26.2	+0.1
	comp=Z,0.5nm,0.6s,mb3.5						
CMAR	Chiang Mai Arr	67.79	295	P	P	10 15 31.4	+0.3
	comp=Z,2.0nm,0.7s,mb4.0,baz=126,slow=5.4,SNR=9.9						
ULN	Ulaanbaatar	75.20	326	eP	P	10 16 15.0	+0.2
	comp=Z,7.9nm,0.7s,mb4.5						
SONM	Songino Array	75.55	325	P	P	10 16 17.4	+0.6
	comp=Z,10nm,0.7s,mb4.7,baz=143,slow=5.6,SNR=63						
YAK	Yakutsk	76.26	345	eP	P	10 16 20.1	-0.5
	comp=Z,29nm,0.7s,mb5.1						
BILL	Bilibino	78.29	2	eP	P	10 16 31.2	-0.6
	comp=Z,7.5nm,0.9s,mb4.4						
QSPA	South Pole Qui	79.63	180	eP	P	10 16 39.1	+0.2
	comp=Z,4.7nm,1.0s,mb4.3						
IMA	Indian Mountai	83.10	17	eP	P	10 16 57.7	+0.5
	comp=Z,12nm,0.7s,mb4.8						
MAW	Mawson	83.66	202	P	P	10 17 00.8	+0.8
	comp=Z,2.3nm,0.7s,mb4.1,baz=13,slow=3.3,SNR=4.1						
MAW				LR	LR	10 52 42.1	
	comp=Z,46nm,20.5s,baz=59,slow=34						
ILAR	Eielson Array	84.33	20	P	P	10 17 02.5	-0.9
	comp=Z,1.3nm,0.4s,mb4.1,baz=243,slow=5.0,SNR=32						
ILAR				pP	pP	10 17 21.1	-0.5
	comp=Z,2.1nm,0.8s,baz=266,slow=4.2,SNR=6.7						
WMQ	Urumqi	85.50	316	eP	P	10 17 09.8	+0.1
WMQ				AP	pP	10 17 35.3	+7.3
WMQ				XP	sP	10 17 45.8	+11
DAWY	Dawson	86.57	22	eP	P	10 17 15.1	+0.6
NVAR	Mina Array Bea	89.01	51	P	P	10 17 29.1	+2.3
	comp=Z,1.2nm,0.7s,mb4.0,baz=228,slow=5.7,SNR=11						
NVAR				pP	pP	10 17 46.9	+1.7
	comp=Z,1.3nm,0.7s,baz=232,slow=5.7,SNR=6.8						
MKAR	Makanchi Array	90.02	318	P	P	10 17 30.9	-0.4
	comp=Z,1.1nm,0.4s,mb4.3,baz=94,slow=6.6,SNR=11						
MKAR	Makanchi Array	90.02	318	P	P	10 17 30.9	-0.4
INK	Inuvik	90.74	20	P	P	10 17 33.9	-0.3
	comp=Z,0.5nm,0.5s,mb3.9,baz=260,slow=11,SNR=6.5						
PDAR	Pinedale Array	96.37	48	P	P	10 18 01.9	+1.4
	comp=Z,0.4nm,0.7s,mb3.9,baz=207,slow=3.3,SNR=3.7						
YKA	Yellowknife Ar	96.43	28	P	P	10 17 59.5	-0.8
	comp=Z,1.2nm,0.6s,mb4.5,baz=260,slow=4.7,SNR=49						
YKA				pP	pP	10 18 18.2	-0.6
	comp=Z,0.9nm,0.8s,baz=258,slow=4.5,SNR=6.7						
YKA				LR	LR	10 55 27.6	
	comp=Z,46nm,19.9s,baz=250,slow=32						
YKA	Yellowknife Ar	96.43	28	P	P	10 17 59.5	-0.8
YKA				pP	pP	10 18 18.2	-0.6
YKA				LR	LR	10 55 27.6	

IDC 22 10:07:25.7±2.9, 0.50N×99.02E, mb3.8/5, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, ML4.0/1, MS3.1/1, Ms1 3.3/1, ms1mx2.8/25, Error ellipse: s-maj=121.3km s-min=20.7km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.85	360	P	P	10 11 37.5	+0.2
	0.2nm,0.3s,baz=190,slow=10,SNR=11						
CMAR				LR	LR	10 19 07.7	
	comp=Z,66nm,19.9s,baz=200,slow=39						
WRA	Warramunga Arr	40.13	122	P	P	10 15 03.0	-2.3
	0.4nm,0.5s,baz=302,slow=9.1,SNR=4.9						
SONM	Songino Array	47.58	7	P	P	10 16 02.6	-2.6
	1.6nm,0.8s,baz=187,slow=8.5,SNR=11						
MKAR	Makanchi Array	48.37	345	P	P	10 16 07.4	-3.9
	0.5nm,0.5s,baz=157,slow=7.7,SNR=5.3						
STKA	Stephens Creek	51.55	133	P	P	10 16 34.4	-1.5
	1.4nm,0.9s,baz=291,slow=8.6,SNR=3.3						
ZAL	Zalesovo	54.54	350	P	P	10 16 57.2	-0.5
	1.7nm,0.5s,baz=252,slow=1.6,SNR=5.7						

*JMA **22** 10:09:22.0±0.2, 24.49N×121.89E, h71km, M2.7*

TAP 22 10:09:22.3, 24.63N×121.81E, h63km, ML3.5, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.11	98	P	P	10 09 41.0	-1.2
YOJ				eS	S	10 09 55.0	-1.9
IRIF	Iriomote-Funau	1.77	99	P	P	10 09 49.7	-1.7
IRIF				S	S	10 10 10.9	-1.9
HATJ	Hateruma jima	1.91	107	eS	S	10 10 13.1	-2.9
JKRS	Kuro-shima	2.04	101	P	P	10 09 53.9	-1.2
JKRS				S	S	10 10 17.8	-1.6
JIJ	Ishigaki jima	2.14	97	P	P	10 09 54.7	-1.8
JIJ				eS	S	10 10 19.0	-2.9
JTJ	Tarama	2.63	89	P	P	10 10 02.6	-0.9
JTJ				eS	S	10 10 32.5	-1.8

IDC 22 10:15:05.9±3.6, 5.74N×94.21E, mb3.6/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=141.6km s-min=23.2km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	42.17	348	P	P	10 23 00.4	-1.5
	0.6nm,0.4s,baz=162,slow=8.6,SNR=11						
SONM	Songino Array	43.22	12	P	P	10 23 08.5	-2.0
	0.7nm,0.6s,baz=199,slow=7.8,SNR=7.4						
WRA	Warramunga Arr	47.00	124	P	P	10 23 39.4	-1.7
	0.3nm,0.3s,baz=300,slow=9.1,SNR=16						
ASAR	Alice Springs	48.52	129	P	P	10 23 50.8	-2.1
	0.2nm,0.4s,baz=299,slow=7.3,SNR=4.1						

IDC 22 10:37:33.2±8.6, 0.64N×97.17E, mb3.8/3, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, ML4.4/1, Error ellipse: s-maj=186.1km s-min=116.3km az=132.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.79	6	P	P	10 41 42.0	-2.0
	0.5nm,0.3s,baz=196,slow=10,SNR=7.2						
SHL	Shillong	25.30	349	eP	P	10 43 00.5	-2.7
SONM	Songino Array	47.68	8	P	P	10 46 11.7	-1.8
	0.9nm,0.9s,baz=189,slow=8.4,SNR=6.7						
MKAR	Makanchi Array	47.77	346	P	P	10 46 12.2	-2.0
	0.4nm,0.4s,baz=160,slow=8.3,SNR=6.3						
ZAL	Zalesovo	54.09	351	P	P	10 46 59.5	-2.4
	1.3nm,0.3s,baz=118,slow=3.9,SNR=5.6						

*TIF **22** 10:51:17.8, 42.11N×46.15E, h4km±4km*
*CSEM **22** 10:51:17.4±0.4, 41.97N×46.11E, h10km, mb3.9, Error ellipse: s-maj=13.0km s-min=5.2km az=144.0*
*MOS **22** 10:51:19.5±2.3, 41.98N×46.17E, h12km, mb3.9/1, Error ellipse: s-maj=11.5km s-min=9.0km az=78.2*

ISC 22 10:51:19.2±0.6, 42.04N±0.05×46.10E±0.04, h4km, n21, σ1§32/39, 6D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	Botlikh	0.63	8	⇓iPG	Pg	10 51 30.5	-1.2
BTLR				iS	Sg	10 51 40.5	+0.4
BTLR				pmax	pmax		
	comp=Z,225nm,0.4s						
BTLR	Botlikh	0.63	8	iPg	Pg	10 51 30.5	-1.2
	comp=Z,225nm,0.4s						
BTLR				iSg	Sg	10 51 40.5	+0.4
XNZR	Khunzakh	0.67	42	ePg	Pg	10 51 35.7	+3.1
XNZR				eSg	Sg	10 51 47.4	+5.8
GNBR	Gunib	0.73	61	ePG	Pg	10 51 32.0	-1.8
GNBR				eS	Sg	10 51 43.0	-0.5
GNBR				pmax	pmax		
	comp=Z,120nm,0.1s						
GNBR	Gunib	0.73	61	ePg	Pg	10 51 32.0	-1.8
	comp=Z,120nm,0.1s						
GNBR				eSg	Sg	10 51 43.0	-0.5
KMKR	Kumukh	0.75	83	⇓iPG	Pg	10 51 35.0	+0.8
KMKR				iS	Sg	10 51 47.5	+3.3
KMKR				pmax	pmax		
	comp=Z,108nm,0.2s						
KMKR	Kumukh	0.75	83	iPg	Pg	10 51 35.0	+0.8
	comp=Z,108nm,0.2s						
KMKR				iSg	Sg	10 51 47.5	+3.3
DGRG	David-gareji	0.80	223	P	Pg	10 51 36.2	+1.0
KRNR	Karanay	0.99	37	⇓iPG	Pg	10 51 43.5	+4.6
KRNR				iS	Sg	10 51 57.8	+5.8
KRNR				pmax	pmax		
	comp=Z,40nm,0.2s						
KRNR	Karanay	0.99	37	iPg	Pg	10 51 43.5	+4.6
	comp=Z,40nm,0.2s						
KRNR				iSg	Sg	10 51 57.8	+5.8
TI2	Plekhanov	1.05	253	ePG	Pb	10 51 38.6	-1.0
TI2				iS	Sb	10 51 53.4	-0.1
TI2				pmax	pmax		
	comp=Z,10.0nm,0.2s						
TI2	Plekhanov	1.05	253	⇓ePP	Pb	10 51 38.6	-1.0
	comp=Z,10.0nm,0.2s						
TI2				⇓iS	Sb	10 51 53.0	-0.5
	comp=Z,100nm,0.4s						
TBLG	Delisi	1.06	253	P	Pb	10 51 38.7	-1.1
TBLG				S	Sb	10 51 53.0	-0.9
BUJR	Buynaksk	1.08	43	⇓iPG	Pg	10 51 38.0	-2.8
BUJR				iS	Sb	10 51 54.5	+0.1
BUJR				pmax	pmax		
	comp=Z,104nm,0.2s						
BUJR	Buynaksk	1.08	43	iPg	Pg	10 51 38.0	-2.8
	comp=Z,104nm,0.2s						
BUJR				iSg	Sb	10 51 54.5	+0.1
DBC	Dubki	1.12	29	ePG	Pg	10 51 39.0	-2.5
DBC				eS	Sg	10 51 56.5	+0.1
DBC				pmax	pmax		
	comp=Z,45nm,0.3s						
DBC	Dubki	1.12	29	ePg	Pg	10 51 39.0	-2.5
	comp=Z,45nm,0.3s						
DBC				eSg	Sg	10 51 56.5	+0.1
ARNR	Ardon	1.77	311	ePN	Pn	10 51 52.5	+1.8
ARNR				eS	Sn	10 52 19.4	+5.5
ZEI	Tsey	1.78	295	ePN	Pn	10 51 51.9	+0.9
ZEI				pmax	pmax		
	comp=Z,21nm,0.2s						
ZEI	Tsey	1.78	295	ePn	Pn	10 51 51.9	+0.9
	comp=Z,21nm,0.2s						
ONI	Oni	2.04	286	P	Pn	10 51 55.2	+0.6
ONI				S	Sn	10 52 21.9	+1.1

*IPEC **22** 11:01:12.5±0.3, 51.64N×16.12E, ML1.9/3, Error ellipse: s-maj=2.0km s-min=1.6km az=38.0*
*NEIC **22** 11:01:13.2±4.2, 51.62N×16.09E, h5km, ML3.0(VIE), ML2.4(CLL), ML2.2(BRG), Error ellipse: s-maj=53.1km s-min=11.6km az=209.0*
*CSEM **22** 11:01:13.4±0.2, 51.59N×16.07E, h2km, ML3.1/3, Error ellipse: s-maj=2.7km s-min=1.1km az=24.0*
*PRU **22** 11:01:14.6, 51.52N×16.05E*
*WAR **22** 11:01:15.0, 51.54N×16.02E, h1km, ML2.5, Mining Induced*

ISC 22 11:01:13.0±0.9, 51.49N±0.04×15.99E±0.04, n25, σ1§17/46, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	164	iPg	Pg	11 01 28.1	+1.6
KSP				i		11 01 30.2	
KSP				eSg	Sg	11 01 37.7	+2.1
KSP				e		11 01 41.5	
KSP	Ksiaz	0.68	164	iPG	Pg	11 01 28.1	+1.6
KSP				eSG	Sg	11 01 38.1	+2.5
KSP	Ksiaz	0.68	164	iPg	Pg	11 01 28.1	+1.6
KSP				eSg	Sg	11 01 37.7	+2.1
UPC	Upice	0.98	179	ePG	Pg	11 01 33.2	+0.5
DPC	Dobruska-Polom	1.16	170	ePG	Pg	11 01 36.8	+0.6
DPC				eSG	Sg	11 01 51.4	-0.3
	15nm,0.2s						
DPC	Dobruska-Polom	1.16	170	Pg	Pg	11 01 36.8	+0.6
DPC				eSg	Sg	11 01 53.1	+1.4
PVCC	Panska Ves	1.32	224	ePG	Pg	11 01 40.3	+0.9
PVCC	Panska Ves	1.32	224	Pg	Pg	11 01 40.3	+0.9
PVCC				eSg	Sg	11 01 58.9	+2.0
BRG	Berggiesshubel	1.43	245	iPg	Pg	11 01 42.1	+0.5
BRG				iSg	Sg	11 02 01.8	+1.1
PRU	Pruhonice	1.77	212	ePG	Pg	11 01 47.4	-0.9
PRU				eSG	Sg	11 02 11.4	-0.4
CLL	Collm	1.88	266	ePg	Pg	11 01 50.0	-0.6
CLL				iSg	Sg	11 02 15.5	-0.2
CLL	Collm	1.88	266	ePG	Pg	11 01 50.0	-0.6
CLL				e		11 01 54.0	
CLL				e		11 02 10.0	
CLL				iSG	Sg	11 02 15.5	-0.2
CLL	Collm	1.88	266	ePg	Pg	11 01 50.0	-0.6
CLL				iSg	Sg	11 02 15.5	-0.2
MORC	Moravsky Berou	1.98	150	ePn	Pn	11 01 48.4	+0.2
MORC				eSg	Sg	11 02 18.0	-1.0
MORC	Moravsky Berou	1.98	150	ePn	Pn	11 01 48.4	+0.2
MORC				eSg	Sg	11 02 18.0	-1.0
OKC	Ostrava-Krasne	2.15	140	ePG	Pg	11 01 54.3	-1.7
OKC				eSG	Sg	11 02 22.9	-1.7
VRAC	Vranov	2.22	170	ePn	Pn	11 01 52.6	+1.0
VRAC				eSg	Sg	11 02 25.8	-1.1
	8.3nm,0.3s						
KRUC	Moravsky	2.45	174	ePn	Pn	11 01 55.5	+0.7
KRUC				eSg	Sg	11 02 33.6	-0.9
	4.1nm,0.2s						
NKC	Novy Kostel	2.58	242	ePN	Pn	11 01 57.6	+0.9
NKC				eSG	Sg	11 02 36.9	-1.9
	19nm,0.3s						
KHC	Kasper

VYHS eSN Sn 11 04 12.8 -1.6
DPC Dobruska-Polom 1.82 280 ePG Pg 11 03 55.3 -4.3
DPC eSG Sg 11 04 19.0 -4.9
26nm,0.3s
KECS Kecovo 1.83 150 ePN Pn 11 03 55.2 -0.9
KECS eSG Sg 11 04 20.6 -3.4
CRVS Cervenica-Dubn 1.92 127 ePG Pg 11 03 59.4 -2.2
CRVS eSG Sg 11 04 26.7 -0.6
KSP Ksiaz 1.97 294 ePG Pg 11 04 00.0 -2.5
KSP eSN Sn 11 04 24.0 +0.3
KSP eSG Sg 11 04 26.0 -2.7
UPC Upice 2.04 283 eSG Sg 11 04 25.4 -5.8
PSZ Piszkesteto 2.22 167⇑ eP Pn 11 04 01.0 -0.7
PSZ eS Sn 11 04 33.6 +3.4
KOLS Kolonicke sedl 2.35 118 ePN Pn 11 04 06.2 +2.7
KOLS ePG Pg 11 04 10.0 -0.1
PRU Pruhonice 2.96 270 eSG Sg 11 04 54.4 -7.3
KHC Kasperske Hory 3.73 257 eSN Sn 11 05 04.0 -4.5
KHC eSG Sg 11 05 21.1 -6.3
MOA Molln 3.90 237⇑ iPN Pn 11 04 24.7 -1.0
MOA i SG Sg 11 05 28.0 -5.1
4.2nm,0.6s
CLL Collm 4.08 290 eSG Sg 11 05 34.0 -5.2
CLL Collm 4.08 290 eSg Sg 11 05 34.0 -5.2

*IDC **22** 11:04:18.5±4.6,2.29N×95.28E,mb3.6/4,mb1 3.8/5, mb1mx3.6/21,mbtmp3.6/5,ML4.3/1,Error ellipse: s-maj=155.1km s-min=26.1km az=70.0*
*NEIC **22** 11:04:24.9±1.1,2.46N×95.80E,h30km,mb4.2/1,Error ellipse: s-maj=26.0km s-min=15.0km az=72.0*
ISC 22 11:04:23.4±1.3,2.5N±0.1×95.9E±0.2,h30km,n8,σ0s87/7, mb3.8/5,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.54**	**60**	ePn	**Pn**	**11 05 45.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**16.16**	**11**	Pn	**P**	**11 08 12.0**	**+1.7**
	0.4nm,0.3s,baz=201,slow=12,SNR=8.0						
WRA	**Warramunga Arr**	**43.85**	**122**	P	**P**	**11 12 29.4**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=301,slow=9.1,SNR=5.9						
ASAR	**Alice Springs**	**45.24**	**127**	P	**P**	**11 12 40.6**	**+0.4**
	0.4nm,0.6s,mb3.4,baz=302,slow=7.7,SNR=7.0						
SONM	**Songino Array**	**46.09**	**10**	P	**P**	**11 12 46.3**	**-0.2**
	1.3nm,0.9s,mb3.9,baz=185,slow=7.4,SNR=8.7						
CHKZ	**Chkalovo**	**55.10**	**342**	eP	**P**	**11 13 53.8**	**-1.2**
	2.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**55.21**	**132**	P	**P**	**11 13 56.1**	**0.0**
	1.5nm,1.1s,mb4.0,baz=346,slow=12,SNR=3.4						
TXAR	**Lajitas Array**	**143.25**	**29**	PKP	PKPdf	11 23 55.6	-4.9
	0.1nm,0.5s,baz=270,slow=1.8,SNR=2.7						

DJA 22 11:10:54.8±1.0,9.10S×114.94E,h98km±10km,MD4.5/3, ML3.6/2,1C-6D,Error ellipse: s-maj=45.8km s-min=8.2km az=6.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.69**	**58⇓**	ePn	P	11 11 12.1	-0.1
	453nm,0.2s						
RATI			⇓	eSn	S	11 11 23.6	-1.6
KELI	**Kelakatan**	**0.98**	**333⇓**	ePn	P	11 11 14.9	-0.2
	104nm,0.2s						
SRDI	**Scrawed**	**1.00**	**308⇓**	ePn	P	11 11 14.8	-0.6
	86nm,0.2s						
SRDI			⇓	eSn	S	11 11 29.7	-1.1
KEDI	**Kedomdong**	**1.31**	**62⇓**	ePn	P	11 11 18.1	-0.9
KEDI			⇑	eSn	S	11 11 35.6	-1.5

*ORF **22** 11:24:56.0,17.79S×179.43E,h30km,mb5.7*
*MOS **22** 11:25:41.6±2.7,20.58S×179.07W,h513km,mb4.8/12, Error ellipse: s-maj=15.1km s-min=13.9km az=138.1*
*NEIC **22** 11:25:46.6±0.1,21.06S×178.77W,mb4.7/53,Error ellipse: s-maj=5.2km s-min=2.8km az=128.0*
*IDC **22** 11:25:47.2±0.7,20.96S×178.84W,h591km±7km,mb4.0/17, mb1 4.2/18,mb1mx4.2/19,mbtmp4.9/18,Error ellipse: s-maj=14.3km s-min=8.8km az=150.0*
*BJI **22** 11:25:55.4,20.13S×179.43W,h649km,mb5.0,mb4.8*
ISC 22 11:25:46.3±0.8,21.12S±0.06×178.78W±0.04, h600km±11km,h588km±2.0km:pP-P,n345,σ1s01/249, mb4.7/81,34C-25D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.14**	**175**	S	**S**	**11 29 25.7**	**+1.6**
	283nm,0.3s,baz=32,slow=22,SNR=6.2						
AFI	**Afiamalu**	**9.80**	**44**	eP	**P**	**11 27 57.8**	**-5.5**
	271nm,0.8s						
AFI				eS	S	11 29 42.3	-11
DZM	**Mont Dzumac**	**13.78**	**263**	eP	**P**	**11 28 43.3**	**+0.7**
DZM	**Mont Dzumac**	**13.78**	**263**	P	**P**	**11 28 43.8**	**+1.2**
	6.9nm,0.3s,baz=78,slow=15,SNR=58						
NOUC	**Port Laguerre**	**13.91**	**263**	eP	**P**	**11 28 44.8**	**+0.9**
OUZ	**Omahuta**	**15.56**	**204**	P	**P**	**11 29 02.8**	**+3.0**
OUZ	**Omahuta**	**15.56**	**204**	PN	**P**	**11 29 02.9**	**+3.1**
KUZ	**Kuaotunu**	**16.29**	**196**	eP	**P**	**11 29 08.8**	**+2.0**
KUZ	**Kuaotunu**	**16.29**	**196**	PN	**P**	**11 29 08.8**	**+2.1**
MTAZ	**Motutapu**	**16.55**	**198**	P	**P**	**11 29 12.1**	**+2.9**
MTAZ	**Motutapu**	**16.55**	**198**	PN	**P**	**11 29 12.2**	**+3.0**
MXZ	**Matakaoa Point**	**16.58**	**188**	eP	**P**	**11 29 08.7**	**-0.8**
MXZ	**Matakaoa Point**	**16.58**	**188**	PN	**P**	**11 29 08.7**	**-0.8**
KAAZ	**Kauri Point**	**16.65**	**199**	P	**P**	**11 29 13.3**	**+3.2**
KAAZ	**Kauri Point**	**16.65**	**199**	PN	**P**	**11 29 13.3**	**+3.2**
MYRZ	**Mayor Island**	**16.68**	**194**	PN	**P**	**11 29 13.2**	**+2.9**
MKAZ	**Moumakai**	**16.78**	**197**	P	**P**	**11 29 13.8**	**+2.4**
MKAZ	**Moumakai**	**16.78**	**197**	PN	**P**	**11 29 13.8**	**+2.4**
WTAZ	**Waiatarua**	**16.79**	**199**	P	**P**	**11 29 13.8**	**+2.4**
WTAZ	**Waiatarua**	**16.79**	**199**	PN	**P**	**11 29 14.3**	**+2.9**
PUZ	**Puketiti**	**17.09**	**188**	eP	**P**	**11 29 14.0**	**-0.3**
PUZ	**Puketiti**	**17.09**	**188**	PN	**P**	**11 29 14.0**	**-0.2**
TGRZ	**Tauranga**	**17.10**	**193**	P	**P**	**11 29 17.7**	**+3.3**
TGRZ	**Tauranga**	**17.10**	**193**	PN	**P**	**11 29 17.7**	**+3.3**
MARZ	**Manawahe**	**17.26**	**192**	PN	**P**	**11 29 17.5**	**+1.6**
LIRZ	**Lichensteins R**	**17.34**	**193**	PN	**P**	**11 29 18.5**	**+1.9**
URZ	**Urewera**	**17.45**	**191**	P	**P**	**11 29 15.6**	**-2.0**
	18nm,0.3s,baz=284,slow=2.3,SNR=83						
URZ	**Urewera**	**17.45**	**191**	eP	**P**	**11 29 14.8**	**-2.8**
URZ	**Urewera**	**17.45**	**191**	PN	**P**	**11 29 15.3**	**-2.4**
TAZ	**Tarawera**	**17.54**	**192**	PN	**P**	**11 29 19.2**	**+0.7**
PATZ	**Paeroa**	**17.73**	**193**	eP	**P**	**11 29 20.5**	**+0.2**
PATZ	**Paeroa**	**17.73**	**193**	PN	**P**	**11 29 20.6**	**+0.3**
HIZ	**Hauiti**	**18.19**	**196**	eP	**P**	**11 29 26.5**	**+2.0**
HIZ	**Hauiti**	**18.19**	**196**	PN	**P**	**11 29 26.7**	**+2.1**
BKZ	**Black Stump Fm**	**18.44**	**192**	P	**P**	**11 29 24.5**	**-2.4**
BKZ	**Black Stump Fm**	**18.44**	**192**	PN	**P**	**11 29 24.7**	**-2.2**
NGZ	**Ngauruhoe**	**18.64**	**194**	eP	**P**	**11 29 28.0**	**-0.7**
NGZ	**Ngauruhoe**	**18.64**	**194**	PN	**P**	**11 29 28.5**	**-0.2**
CNZ	**Chateau**	**18.67**	**194**	PN	**P**	**11 29 29.7**	**+0.6**
TUVZ	**Tukino**	**18.71**	**194**	PN	**P**	**11 29 29.6**	**+0.2**
TSZ	**Takapari Road**	**19.41**	**192**	eP	**P**	**11 29 34.0**	**-1.9**
TSZ	**Takapari Road**	**19.41**	**192**	PN	**P**	**11 29 34.0**	**-1.9**
MRZ	**Mangatainoka R**	**20.07**	**193**	eP	**P**	**11 29 40.0**	**-1.9**
MRZ	**Mangatainoka R**	**20.07**	**193**	PN	**P**	**11 29 40.0**	**-1.9**
KIW	**Kapiti Island**	**20.40**	**194**	eP	**P**	**11 29 44.1**	**-0.9**
KIW	**Kapiti Island**	**20.40**	**194**	PN	**P**	**11 29 44.2**	**-0.7**
CAW	**Cannon Point**	**20.60**	**193**	eP	**P**	**11 29 44.9**	**-1.9**
CAW	**Cannon Point**	**20.60**	**193**	PN	**P**	**11 29 45.0**	**-1.8**
QRZ	**Quartz Range**	**20.99**	**199**	eP	**P**	**11 29 50.4**	**+0.1**
QRZ	**Quartz Range**	**20.99**	**199**	PN	**P**	**11 29 50.4**	**+0.1**
NNZ	**Nelson**	**21.11**	**197**	P	**P**	**11 29 50.0**	**-1.4**
NNZ	**Nelson**	**21.11**	**197**	PN	**P**	**11 29 50.1**	**-1.4**
TUWZ	**Tuamarina**	**21.17**	**195**	PN	**P**	**11 29 50.3**	**-1.7**
THZ	**Tophouse**	**21.75**	**197**	eP	**P**	**11 29 55.7**	**-1.5**
THZ	**Tophouse**	**21.75**	**197**	PN	**P**	**11 29 55.7**	**-1.5**
DSZ	**Denniston Nort**	**22.05**	**199**	eP	**P**	**11 29 59.1**	**-0.9**
DSZ	**Denniston Nort**	**22.05**	**199**	PN	**P**	**11 29 59.3**	**-0.7**
KHZ	**Kahutara**	**22.20**	**195**	eP	**P**	**11 29 59.5**	**-1.8**
KHZ	**Kahutara**	**22.20**	**195**	PN	**P**	**11 29 59.5**	**-1.8**
LTZ	**Lake Taylor**	**22.87**	**197**	eP	**P**	**11 30 05.2**	**-2.1**
LTZ	**Lake Taylor**	**22.87**	**197**	PN	**P**	**11 30 05.2**	**-2.1**
HNR	**Honiara**	**23.54**	**296⇑**	eP	**P**	**11 30 12.3**	**-1.3**
	83nm,0.6s,mb5.5						
WVZ	**Waitaha Valley**	**23.59**	**199**	eP	**P**	**11 30 12.3**	**-1.4**
RPZ	**Rata Peaks**	**24.07**	**198**	P	**P**	**11 30 17.0**	**-0.9**
	7.0nm,0.3s,mb4.7,baz=10,slow=5.4,SNR=17						
FOZ	**Fox Glacier**	**24.36**	**201**	eP	**P**	**11 30 18.8**	**-1.7**
FOZ	**Fox Glacier**	**24.36**	**201**	PN	**P**	**11 30 18.8**	**-1.7**
JCZ	**Jackson Bay**	**25.13**	**201**	P	**P**	**11 30 26.6**	**-0.6**
JCZ	**Jackson Bay**	**25.13**	**201**	PN	**P**	**11 30 26.6**	**-0.6**
TIAR	**Tiarei**	**27.98**	**88**	eP	**P**	**11 30 50.4**	**-1.9**
	152nm,1.0s,mb5.6						
ARMA	**Armidale**	**28.14**	**245**	eP	**P**	**11 30 53.9**	**+0.3**
PMOR	**Pomariorio Ree**	**29.96**	**83**	eP	**P**	**11 31 07.4**	**-1.9**
	79nm,1.0s,mb5.3						
VAH	**Vaihoa**	**30.14**	**84**	eP	**P**	**11 31 08.8**	**-2.0**
	92nm,1.0s,mb5.4						
CNB	**Canberra Magne**	**31.28**	**236**	eP	**P**	**11 31 21.4**	**+1.1**
	562nm,1.0s						
CNB				e		11 32 57.3	
CTA	**Charters Tower**	**32.71**	**265**	eP	**P**	**11 31 32.7**	**+0.3**
	34nm,0.4s,mb5.3						
CTAO	**Charters Tower**	**32.71**	**265⇓**	iP	**P**	**11 31 32.5**	**+0.1**
	53nm,0.6s,mb5.3						
PMG	**Port Moresby**	**34.78**	**284**	P	**P**	**11 31 49.7**	**0.0**
	300nm,0.8s,baz=81,slow=5.4,SNR=71						
PMG	**Port Moresby**	**34.78**	**284⇓**	iP	**P**	**11 31 49.5**	**-0.2**
	320nm,0.8s						
TOO	**Toolangi**	**34.94**	**234⇓**	iP	**P**	**11 31 52.1**	**+1.2**
	11nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**36.86**	**245**	eP	**P**	**11 32 07.8**	**+1.1**
	17nm,0.6s,mb4.8						
STKA				eSCP		11 37 07.2	
STKA	**Stephens Creek**	**36.86**	**245**	P	**P**	**11 32 07.9**	**+1.2**
	24nm,0.6s,mb4.9,baz=90,slow=9.5,SNR=93						
STKA				ScP		11 37 06.6	
	5.0nm,0.9s,baz=34,slow=6.6,SNR=5.5						
TAOE	**Nuku Hiva Isla**	**39.15**	**78**	eP	**P**	**11 32 24.1**	**-1.4**
ASAR	**Alice Springs**	**43.67**	**257**	P	**P**	**11 33 01.0**	**-0.2**
ASAR						11 34 34.7	
ASAR				S	**S**	**11 38 48.6**	**-0.6**
ASAR	**Alice Springs**	**43.67**	**257**	P	**P**	**11 33 00.9**	**-0.2**
	95nm,0.8s,mb5.4,baz=99,slow=7.7,SNR=903						
ASAR				PcP	PcP	11 34 34.7	-0.3
	13nm,0.7s,baz=98,slow=4.3,SNR=11						
ASAR				ScP		11 37 32.9	
	6.8nm,0.8s,baz=105,slow=4.5,SNR=11						
ASAR				S	**S**	**11 38 48.6**	**-0.6**
	13nm,0.9s,baz=92,slow=14,SNR=18						
ASAR	**Alice Springs**	**43.67**	**257**	P	**P**	**11 33 00.9**	**-0.2**
ASAR				PcP	PcP	11 34 34.7	-0.3
ASAR				ScP		11 37 32.9	
ASAR				S	**S**	**11 38 48.6**	**-0.6**
ASPA	**Alice Springs**	**43.67**	**257⇓**	iP	**P**	**11 33 01.1**	**-0.1**
ASPA				ePCP	PcP	11 34 34.9	-0.1
ASPA				eSCP		11 37 33.5	
ASPA				ePCS		11 38 27.2	
ASPA				eS	**S**	**11 38 47.5**	**-1.7**
ASPA				i SCS	ScS	11 41 57.4	+5.1
ASPA	**Alice Springs**	**43.67**	**257⇓**	iP	**P**	**11 33 01.1**	**-0.1**
ASPA				e		11 34 34.9	
ASPA				eS	**S**	**11 38 47.5**	**-1.7**
ASPA				i		11 41 57.4	
WB2	**Warramunga Arr**	**43.78**	**263**	eP	**P**	**11 33 01.2**	**-0.9**
WB2				eS	**S**	**11 38 48.5**	**-2.4**
WRAB	**Tennant Creek**	**43.79**	**263⇓**	iP	**P**	**11 33 01.3**	**-0.9**
WRAB				eS	**S**	**11 38 50.6**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,114nm,0.9s,mb5.4						
WRAB	**Tennant Creek**	**43.79**	**263⇓**	iP	**P**	**11 33 01.3**	**-0.8**
	comp=Z,114nm,0.9s,mb5.4						
WRAB				eS	**S**	**11 38 50.5**	**-0.3**
WRA	**Warramunga Arr**	**43.79**	**263**	P	**P**	**11 33 01.3**	**-1.0**
	comp=Z,21nm,0.3s,mb5.1,baz=96,slow=6.6,SNR=1605						
WRA				PcP	PcP	11 34 35.7	+0.2
	comp=Z,4.4nm,0.7s,baz=98,slow=4.2,SNR=6.6						
WRA				S	**S**	**11 38 48.6**	**-2.4**
	comp=Z,7.0nm,0.8s,baz=99,slow=13,SNR=11						
KAKA	**Kakadu**	**47.26**	**272**	eP	**P**	**11 33 27.7**	**-1.0**
	comp=Z,36nm,0.9s,mb4.9						
FORT	**Forrest**	**48.38**	**247⇓**	iP	**P**	**11 33 36.3**	**-0.7**
	comp=Z,2μm,0.6s						
FITZ	**Fitzroy Crossi**	**52.22**	**263⇓**	iP	**P**	**11 34 04.8**	**-0.3**
	comp=Z,34nm,0.5s,mb4.9						
FITZ				i S	**S**	**11 40 47.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**52.22**	**263**	S	**S**	**11 40 47.1**	**+1.1**
	comp=Z,5.6nm,0.9s,baz=274,slow=21,SNR=5.5						
MBWA	**Marble Bar**	**57.01**	**258⇓**	eP	**P**	**11 34 37.5**	**-0.8**
	comp=Z,107nm,0.8s,mb5.1						
KLBR	**Kellerberrin**	**57.13**	**245⇓**	iP	**P**	**11 34 38.7**	**-0.3**
	comp=Z,2μm,0.9s						
VNDA	**Vanda**	**57.23**	**185**	eP	**P**	**11 34 40.8**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**57.23**	**185**	P	**P**	**11 34 40.5**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=13,slow=6.9,SNR=3.9						
VNDA	**Vanda**	**57.23**	**185**	eP	**P**	**11 34 40.8**	**+1.7**
	comp=Z,1.5nm,0.7s						
NWAO	**Narrogin (SRO)**	**57.44**	**244**	eP	**P**	**11 34 41.0**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,29nm,1.0s						
NWAO	**Narrogin (SRO)**	**57.44**	**244**	P	**P**	**11 34 41.4**	**+0.3**
	comp=Z,26nm,0.8s,mb4.5,baz=104,slow=6.8,SNR=14						
NWAO	**Narrogin (SRO)**	**57.44**	**244**	eP	**P**	**11 34 41.0**	**-0.1**
	comp=Z,29nm,1.0s,mb4.5						
MUN	**Mundaring**	**58.40**	**245⇓**	iP	**P**	**11 34 47.7**	**+0.1**
	comp=Z,240nm,0.7s,mb5.4						
MUN	**Mundaring**	**58.40**	**245⇓**	iP	**P**	**11 34 47.7**	**+0.1**
MUN				pmax	pmax		
	comp=Z,240nm,0.7s,mb5.4						
CASY	**Casey**	**63.09**	**205⇓**	iP	**P**	**11 35 18.4**	**+0.6**
TSM	**Tawau**	**66.98**	**284**	P	**P**	**11 35 43.0**	**+0.2**
QSPA	**South Pole Qui**	**68.95**	**180**	eP	**P**	**11 35 54.4**	**+0.9**
KKM	**Kota Kinabalu**	**69.21**	**285⇓**	iP	**P**	**11 35 56.0**	**-0.2**
KKM	**Kota Kinabalu**	**69.21**	**285**	P	**P**	**11 35 56.6**	**+0.4**
JOW	**Kunigami**	**70.01**	**311**	P	**P**	**11 36 00.5**	**-0.1**
	comp=Z,26nm,0.7s,mb4.8,baz=169,slow=5.3,SNR=5.5						
MJAR	**Matsushiro Arr**	**70.28**	**324**	P	**P**	**11 36 00.6**	**-1.4**
	comp=Z,14nm,0.7s,mb4.5,baz=156,slow=5.6,SNR=29						
MAT	**Matsushiro**	**70.28**	**324**	eP	**P**	**11 36 01.0**	**-1.0**
MAT				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.7						
MAT	**Matsushiro**	**70.28**	**324**	eP	**P**	**11 36 01.0**	**-1.0**
	comp=Z,34nm,1.0s,mb4.7						
MAT	**Matsushiro**	**70.28**	**324**	P	**P**	**11 36 00.7**	**-1.3**
KSM	**Kuching**	**72.78**	**278⇓**	iP	**P**	**11 36 17.1**	**+0.1**
YHNB	**Yeheng**	**73.86**	**305**	eP	**P**	**11 36 21.7**	**-1.1**
YSS	**Yuzh-Sakhalins**	**76.12**	**334**	iP	**P**	**11 36 30.6**	**-4.3**
YSS				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.5						
SSE	**Sheshan**	**77.53**	**310**	P	**P**	**11 36 39.9**	**-2.9**
SSE				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.5						
SSE				AMB	AMB		
	comp=Z,55nm,5.5s						
SSE	**Sheshan**	**77.53**	**310**	P	**P**	**11 36 39.9**	**-2.9**
	comp=Z,19nm,0.9s,mb4.5						
SAO	**San Andreas Ge**	**78.98**	**44**	eP	**P**	**11 36 50.8**	**+0.5**
	comp=Z,11nm,1.0s,mb4.2						
LRV	**Little Rabbit**	**79.05**	**44**	eP	**P**	**11 36 50.7**	**-0.1**
HOPS	**Hopland**	**79.31**	**41**	eP	**P**	**11 36 52.1**	**+0.1**
	comp=Z,21nm,1.1s,mb4.4						
GZH	**Guangzhou**	**79.39**	**300**	P	**P**	**11 36 53.3**	**+0.5**
KGM	**Kluang**	**79.45**	**276**	P	**P**	**11 36 54.2**	**+0.9**
NJ2	**Nanjing**	**79.71**	**310**	eP	**P**	**11 36 53.9**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.6						
MWC	**Mount Wilson**	**79.76**	**47**	eP	**P**	**11 36 54.2**	**-0.2**
CMB	**Columbia Colle**	**80.41**	**43**	eP	**P**	**11 36 57.5**	**-0.3**
	comp=Z,24nm,1.3s,mb4.4						
PFO	**Pinyon Flat Ob**	**80.53**	**49**	eP	**P**	**11 36 58.8**	**+0.3**
PFO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
PFO	**Pinyon Flat Ob**	**80.53**	**49**	eP	**P**	**11 36 58.8**	**+0.3**
	comp=Z,3.2nm,0.9s,mb3.8						
MDJ	**Mudanjiang**	**80.61**	**325**	P	**P**	**11 36 59.3**	**+0.7**
MDJ				PCP	PcP	11 37 03.8	0.0
MDJ				AMB	AMB		
	comp=Z,28nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,143nm,4.2s						
WDC	**Whiskeytown Da**	**80.61**	**40⇑**	iP	**P**	**11 36 58.7**	**0.0**
WDC				pmax	pmax		
	comp=Z,43nm,1.4s,mb4.7						
WDC	**Whiskeytown Da**	**80.61**	**40⇑**	iP	**P**	**11 36 58.7**	**-0.1**
	comp=Z,44nm,1.4s,mb4.7						
MAW	**Mawson**	**80.74**	**200**	P	**P**	**11 37 00.5**	**+1.7**
	comp=Z,6.1nm,1.0s,mb4.0,baz=148,slow=7.3,SNR=5.4						
OMM	**Old Mammoth Mi**	**81.06**	**44⇑**	eP	**P**	**11 37 01.5**	**+0.4**
MTUM	**Tungsten Hills**	**81.19**	**44**	eP	**P**	**11 37 02.1**	**+0.4**
LAMM	**Antelope Mount**	**81.20**	**39**	P	**P**	**11 37 02.3**	**+0.6**
YBH	**Yreka Blue Hor**	**81.23**	**39⇑**	eP	**P**	**11 37 02.5**	**+0.7**
	comp=Z,47nm,1.3s,mb4.8						
LBCM	**Butte Creek Ri**	**81.49**	**40**	P	**P**	**11 37 03.5**	**+0.3**
WCN	**Washoe City**	**81.55**	**42⇑**	eP	**P**	**11 37 03.8**	**+0.3**
	comp=Z,26nm,1.1s,mb4.7						
LTIM	**Timbered Crate**	**81.61**	**40**	P	**P**	**11 37 04.2**	**+0.4**
HUMO	**Hull Mountain**	**81.63**	**38⇑**	iP	**P**	**11 37 04.2**	**+0.3**
	comp=Z,26nm,1.1s,mb4.7						
LASM	**Arnica Sink**	**81.81**	**40**	P	**P**	**11 37 05.5**	**+0.7**
BUOR	**Burton Butte**	**81.84**	**39**	P	**P**	**11 37 05.8**	**+0.9**
BBOR	**Butler Butte**	**81.96**	**38**	P	**P**	**11 37 06.0**	**+0.4**
NVAR	**Mina Array Bea**	**81.97**	**44**	P	**P**	**11 37 06.2**	**+0.5**
	comp=Z,10nm,0.6s,mb4.5,baz=216,slow=7.0,SNR=105						
NVAR				pP	pP	11 39 10.7	-2.4
	comp=Z,1.1nm,1.0s,baz=75,slow=3.6,SNR=4.2						
MNV	**Mina**	**82.07**	**44⇑**	iP	**P**	**11 37 06.1**	**-0.1**
MNV				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.6						
MNV	**Mina**	**82.07**	**44⇑**	iP	**P**	**11 37 06.0**	**-0.1**
	comp=Z,23nm,1.1s,mb4.6						
HOG	**Hogback Mounta**	**82.13**	**39**	P	**P**	**11 37 07.2**	**+0.7**
WHN	**Wuhan**	**82.22**	**307⇑**	P	**P**	**11 37 08.0**	**+0.9**
LDFC	**Landfair**	**82.26**	**48⇑**	iP	**P**	**11 37 07.6**	**+0.4**
CN2	**Changchun**	**82.34**	**323**	eP	**P**	**11 37 07.4**	**0.0**
CN2				eS	S	11 46 34.8	+0.5
CN2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
TPH	**Tonopah**	**82.47**	**44⇑**	iP	**P**	**11 37 08.2**	**0.0**
	comp=Z,31nm,1.1s,mb4.8						
IPM	**Ipoh**	**82.52**	**278**	P	**P**	**11 37 10.0**	**+1.1**
KLR	**Kul'dur**	**82.69**	**330**	eP	**P**	**11 37 07.0**	**-2.0**
NEN	**Nelson**	**82.75**	**48**	eP	**P**	**11 37 09.5**	**-0.2**
NEN				pP	pP	11 39 16.1	-1.2
MOD	**Modoc**	**82.76**	**40⇑**	iP	**P**	**11 37 09.5**	**-0.1**
	comp=Z,12nm,0.7s,mb4.5						
KULM	**Kulim**	**83.13**	**278⇓**	iP	**P**	**11 37 12.8**	**+0.8**
SSOR	**Sweet Springs**	**83.31**	**37**	P	**P**	**11 37 12.5**	**+0.3**
BKCOR	**Black Crater**	**83.40**	**37**	P	**P**	**11 37 13.1**	**+0.5**
SNG	**Songkhla**	**83.87**	**280**	P	**P**	**11 37 17.0**	**+1.3**
	comp=Z,180nm,0.8s,mb5.7						
BMW	**Boistfort Moun**	**83.91**	**35**	P	**P**	**11 37 15.5**	**+0.4**
TUC	**Tucson**	**83.93**	**52⇑**	iP	**P**	**11 37 16.3**	**+0.7**
	comp=Z,24nm,1.3s,mb4.6						
WVOR	**Wild Horse Val**	**84.07**	**40⇑**	eP	**P**	**11 37 16.1**	**0.0**
	comp=Z,14nm,1.0s,mb4.4						
VIPM	**Ingram Point**	**84.14**	**38**	P	**P**	**11 37 16.8**	**+0.5**
OOW	**Octopus West**	**84.21**	**34**	P	**P**	**11 37 17.6**	**+1.0**
CROR	**Criterion Ridg**	**84.21**	**37**	P	**P**	**11 37 16.8**	**+0.1**
OSD	**Olympics--Snow**	**84.52**	**34**	P	**P**	**11 37 18.8**	**+0.8**
VTHM	**Trough**	**84.58**	**37**	P	**P**	**11 37 18.6**	**+0.2**
ARUT	**Antelope Range**	**84.83**	**46**	eP	**P**	**11 37 20.0**	**+0.1**
WUAZ	**Wupatki**	**85.10**	**49**	eP	**P**	**11 37 21.7**	**+0.5**
	comp=Z,11nm,1.0s,mb4.5						
ELK	**Elko**	**85.23**	**43**	eP	**P**	**11 37 21.5**	**-0.2**
	comp=Z,4.6nm,0.8s,mb4.2						
MXC	**Moxie City**	**85.57**	**36**	P	**P**	**11 37 23.5**	**+0.3**
TWW	**Teanaway**	**85.59**	**35**	P	**P**	**11 37 23.8**	**+0.5**
EBG	**Ellensburg**	**85.62**	**36**	P	**P**	**11 37 23.7**	**+0.2**
TBM	**Table Mountain**	**85.76**	**36**	P	**P**	**11 37 24.1**	**0.0**
BJI	**Beijing**	**85.82**	**316**	P	**P**	**11 37 24.9**	**+0.3**
BJI				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.9						
BJI	**Beijing**	**85.82**	**316**	P	**P**	**11 37 24.9**	**+0.3**
	comp=Z,21nm,0.7s,mb4.9						
SYO	**Syowa Base**	**85.97**	**193**	⇑P	**P**	**11 37 22.4**	**-2.2**
SYO	**Syowa Base**	**85.97**	**193**	⇓PcP	PcP	11 37 24.0	-2.6
MVU	**Marysvale**	**86.03**	**46**	eP	**P**	**11 37 26.2**	**+0.5**
	comp=Z,4.5nm,0.9s,mb4.1						
**

PDAR Pinedale Array 89.91 44 P **P 11 37 43.5 -0.2**
comp=Z,8.8nm,0.7s,mb4.7,baz=215,slow=3.2,SNR=101
PDAR PP PP 11 41 24.6 -4.4
comp=Z,0.6nm,0.9s,baz=256,slow=6.1,SNR=4.3
BOZ Bozeman (W) 90.06 40 *eP* **P 11 37 44.3 +0.1**
comp=Z,5.7nm,0.9s,mb4.4
SDCO Great Sand Dun 90.31 49 *eP* **P 11 37 45.5 -0.1**
RWWY Rawlins 90.93 45 *eP* **P 11 37 48.0 -0.4**
comp=Z,8.1nm,0.9s,mb4.7
JCT Junction City 91.53 58 *eP* **P 11 37 50.0 -1.4**
comp=Z,6.0nm,0.7s,mb4.7
YAK Yakutsk 92.41 338 *eP* **P 11 37 52.2 -2.4**
YAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
YAK Yakutsk 92.41 338 *eP* **P 11 37 53.8 -0.8**
EDM Edmonton 93.03 33 *eP* **P 11 37 56.5 -1.1**
RSSD Black Hills 94.10 44 *eP* **P 11 38 02.3 -0.4**
comp=Z,2.3nm,0.6s,mb4.5
ULN Ulaanbaatar 95.35 319 *i P* **P 11 38 05.9 -2.3**
ULN Ulaanbaatar 95.35 319 *eP* **P 11 38 07.6 -0.6**
comp=Z,1.3nm,0.7s,mb4.2
SONM Songino Array 95.74 319 P **P 11 38 09.9 0.0**
comp=Z,0.7nm,0.7s,mb4.0,baz=180,slow=2.5,SNR=5.1
SONM PP PP 11 42 08.0 -5.3
comp=Z,1.2nm,0.8s,baz=117,slow=5.5,SNR=5.8
GTA Gaotai 96.80 310 *eP* **P 11 38 15.5 +0.6**
GTA AMB AMB
comp=Z,6.0nm,1.3s,mb4.7
YKA Yellowknife Ar 97.38 25 P **P 11 38 16.1 -0.9**
comp=Z,0.4nm,0.7s,mb3.7,baz=243,slow=4.7,SNR=10
YKA PP PP 11 42 21.4 -4.3
comp=Z,0.7nm,1.0s,baz=241,slow=7.0,SNR=5.5
YKA Yellowknife Ar 97.38 25 P **P 11 38 16.1 -0.9**
YKA PP PP 11 42 21.4 -4.3
TIXI Tiksi 99.15 345 *i P* **P 11 38 23.1 -1.7**
TIXI pmax pmax
comp=Z,5.0nm,2.5s,mb4.4
NVS Novosibirsk 111.54 322 *e*PKIKP PKPdf 11 43 20.3 +7.4
CHKZ Chkalovo 118.91 320 *e*PKIKP PKPdf 11 43 26.9 -0.3
ARU Arti 125.29 325 *i* PKIKP PKPdf 11 43 40.2 +0.7
ARU *e* 11 45 35.7
BOSA Boshof 125.38 206 PKP PKPdf 11 43 42.1 +1.7
comp=Z,3.3nm,0.9s,baz=90,slow=4.6,SNR=3.7
ARCES ARCESS Array B 129.39 349 PKP PKPdf 11 43 47.6 +0.5
comp=Z,2.9nm,0.6s,baz=63,slow=1.7,SNR=16
ARCES SKPbc 11 46 17.8
LSZ Lusaka 135.18 218 *e*PKPdf PKPdf 11 44 01.1 +1.9
FINES FINESS Array B 136.15 343 PKhKP 11 43 51.8
comp=Z,0.4nm,0.6s,baz=45,slow=2.7,SNR=5.1
FINES PKP PKPdf 11 43 59.4 -0.4
comp=Z,2.7nm,0.8s,baz=27,slow=4.3,SNR=7.6
FINES SKP 11 46 39.9
comp=Z,4.5nm,0.8s,baz=63,slow=4.3,SNR=13
FINES FINESS Array B 136.15 343 PKP PKPdf 11 43 51.8 -8.0
FINES PKP PKPdf 11 43 59.4 -0.4
FINES SKP 11 46 39.9
OBN Obninsk 136.94 331 ⇑*i*PKIKP PKPdf 11 44 02.0 +0.5
OBN pmax pmax
comp=Z,10.0nm,0.5s
KMBO Kilima Mbogo 138.41 242 PKhKP 11 43 59.3
comp=Z,0.6nm,0.2s,baz=27,slow=20,SNR=4.3
KMBO SKP 11 46 48.0
comp=Z,2.6nm,1.0s,baz=246,slow=23,SNR=5.0
KMBO Kilima Mbogo 138.41 242 PKP PKPdf 11 43 59.3 -5.9
KMBO *e*PKPdf PKPdf 11 44 09.8 +4.6
KMBO SKP 11 46 48.0
NB2 NORSAR Subarra139.50 353 PKPabc PKPdf 11 43 58.6 -7.3
comp=Z,0.4nm,0.5s,baz=16,slow=3.1
NB2 NORSAR Subarra139.50 353 ⇑PKPab PKPdf 11 43 58.6 -7.3
NOA NORSAR Array B 139.50 353 PKhKP 11 44 00.2
comp=Z,2.3nm,0.8s,baz=16,slow=4.6,SNR=8.7
NOA SKPbc 11 46 48.4
comp=Z,1.5nm,0.7s,baz=14,slow=4.3,SNR=4.7
KELT Kelkit 142.53 309 *i P* PKPdf 11 44 11.7 -0.1
SUW Suwalki 143.15 338 *e*PKP PKPdf 11 44 12.0 -0.4
SUW Suwalki 143.15 338 *e*PKP PKPdf 11 44 12.0 -0.5
AKASG Malin Array Be 143.19 330 PKhKP 11 44 11.0
comp=Z,20nm,0.4s,baz=43,slow=4.3,SNR=165
AKASG SKPbc 11 46 58.5
comp=Z,1.3nm,0.5s,baz=38,slow=2.5,SNR=6.5
ELZG Elazig 143.24 307 *i P* PKPbc 11 44 14.4 +2.4
MALT Malatya 143.72 307 PKIKP PKPdf 11 44 15.4 +1.5
MALT Malatya 143.72 307 *e*PKPdf PKPdf 11 44 15.0 +1.1
MBAR Mbarara 143.97 237 *i* PKHKP 11 44 16.2
MBAR Mbarara 143.97 237 *e*PKPdf PKPdf 11 44 16.0 +0.9
SIM Simferopol' 143.99 319 *ce*PKHKP 11 44 15.1
SIM pmax pmax
comp=Z,102nm,0.8s
GZT Gaziantep 144.65 305 *i P* PKPdf 11 44 17.9 +2.4
BOYT Boyabat 145.12 313 *i P* PKPdf 11 44 19.2 +3.0
CTKT Corum 145.53 312 *i P* PKPdf 11 44 20.2 +3.3
EKA Eskdalemuir Ar 145.68 4 PKPbc PKPbc 11 44 19.2 +1.1
comp=Z,4.7nm,0.8s,slow=1.7,SNR=11
COBT Iskenderun 145.90 304 *i P* PKPdf 11 44 21.4 +3.8
BALT Daday 146.09 314 *i P* PKPdf 11 44 21.8 +4.0
BSEG Bad Segeberg 146.51 350 *e*PKIKP PKPdf 11 44 21.9 +3.8
ELDT Eldivan 146.53 313 *i P* PKPdf 11 44 22.7 +4.1
BRTR Keskin Array B 146.70 311 PKPbc PKPbc 11 44 22.8 +1.7
comp=Z,1.0nm,0.7s,baz=133,slow=4.6,SNR=36
BURAR Bucovina Array 147.23 329 P PKPdf 11 44 25.5 +5.9
CFR Carcaliu 147.35 324 PKIKP PKPdf 11 44 25.1 +5.3
SGKT Sivrigoynuk 147.43 314 *i P* PKPdf 11 44 25.0 +4.9
MEST Erdemli 147.49 306 *i P* PKPdf 11 44 24.9 +4.5
KOLS Kolonicke sedl 147.55 334 *e*PKP PKPdf 11 44 25.7 +5.7
KOLS *e* 11 44 33.9
CRVS Cervenica-Dubn 147.90 335 *e*PKP PKPdf 11 44 27.0 +6.4
CRVS *e* 11 44 31.2
NIE Niedzica 147.93 336 *e*PKP PKPdf 11 44 25.6 +5.0
KSP Ksiaz 148.06 342 *e*PKIKP PKPdf 11 44 26.6 +5.8
KSP *e* 11 44 31.2
KSP Ksiaz 148.06 342 *e*PKP PKPdf 11 44 27.0 +6.2
HENT Hendek 148.09 315 *i P* PKPdf 11 44 26.3 +5.2
MLR Muntele Rosu 148.33 326 PKPbc PKPdf 11 44 27.1 +5.8
comp=Z,16nm,0.7s,baz=12,slow=3.1,SNR=23
MLR Muntele Rosu 148.33 326 P PKPdf 11 44 27.2 +5.9
OKC Ostrava-Krasne 148.35 339 *i* PKIKP PKPdf 11 44 27.4 +6.2
OKC *e* 11 44 32.9
OKC Ostrava-Krasne 148.35 339 ⇑*i*PKPB PKPdf 11 44 27.4 +6.2
OKC *e*PKPAB PKPab 11 44 32.9 -0.8
UPC Upice 148.44 342 *i* PKHKP 11 44 27.3
UPC *e* 11 44 32.9
UPC Upice 148.44 342 ⇑*i*PKPB PKPdf 11 44 27.3 +6.0
UPC *e*PKPAB PKPab 11 44 32.9 -1.1
EIL Elat 148.45 293 *e*PKPbc PKPdf 11 44 27.7 +5.7
EIL *e*PKPab PKPab 11 44 34.4 -0.4
DPC Dobruska-Polom 148.48 341 *i* PKHKP 11 44 27.2
DPC Dobruska-Polom 148.48 341 ⇑*i*PKPB PKPdf 11 44 27.2 +5.8
CLL Collm 148.49 346 *i* PKHKP 11 44 27.1
CLL *i* 11 44 32.1
CLL pmax pmax
comp=Z,27nm,1.0s
CLL Collm 148.49 346 ⇓*i*PKP1 PKPdf 11 44 27.1 +5.7
CLL *i* PKP2 PKPab 11 44 32.1 -2.1
CLL *e**PPKP 11 46 45.0
CLZ Clausthal 148.52 349 *e*PKPbc PKPdf 11 44 27.5 +6.1
CLZ *e*PKPab PKPab 11 44 32.8 -1.5
MORC Moravsky Berou 148.60 340 *e*PKPbc PKPdf 11 44 27.8 +6.2
MORC *e*PKPab PKPab 11 44 33.6 -1.1
KECS Kecovo 148.63 335 *e*PKP PKPdf 11 44 28.9 +7.2
KECS *e* 11 44 33.6
CSS Prodhromos 148.63 303 *e*PKPbc PKPdf 11 44 27.7 +5.5
BRG Berggiesshubel 148.66 344 *i* PKHKP 11 44 27.9
BRG pmax pmax
comp=Z,38nm,1.6s
ESKT Eskisehir 148.73 313 *i P* PKPdf 11 44 27.1 +4.9
PVCC Panska Ves 148.82 343 *i* PKHKP 11 44 28.0
PVCC Panska Ves 148.82 343 ⇑*i*PKPB PKPdf 11 44 28.0 +6.1
DRGR 149.00 331 P PKPdf 11 44 28.8 +6.5
VYHS Vyhne 149.25 337 *e*PKP PKPdf 11 44 29.2 +6.5
VYHS *e* 11 44 36.1
PRU Pruhonice 149.32 343 *i* PKHKP 11 44 29.2
PRU *e* 11 44 36.4
PRU Pruhonice 149.32 343 ⇑*i*PKPB PKPdf 11 44 29.2 +6.5
PRU *e*PKPAB PKPab 11 44 36.4 -1.3
PSZ Piszkesteto 149.32 335 *e*PKPbc PKPdf 11 44 29.1 +6.3
PSZ *e*PKPab PKPab 11 44 36.4 -1.4
PSZ Piszkesteto 149.32 335 *e*P PKPdf 11 44 29.4 +6.6
VRAC Vranov 149.32 340 PKPbc PKPdf 11 44 29.4 +6.6
comp=Z,3.5nm,0.6s,baz=56,slow=15,SNR=8.6
MOX Moxa 149.41 347 *e*PKPbc PKPdf 11 44 29.6 +6.7
MOX *e*PKPab PKPab 11 44 36.5 -1.5
MOX Moxa 149.41 347 PP2 11 44 30.0
MOX PKP2 PKPab 11 44 36.0 -2.0
NKC Novy Kostel 149.62 346 *i* PKHKP 11 44 30.1
NKC *e* 11 44 36.9
NKC Novy Kostel 149.62 346 ⇑*i*PKPB PKPdf 11 44 30.1 +6.9
NKC *e*PKPAB PKPab 11 44 36.9 -2.0
ZST Bratislava 150.12 338 *e*PKP PKPdf 11 44 41.0 +17
KHC Kasperske Hory 150.36 343 ⇑*i*PKPB PKPdf 11 44 31.6 +7.2
KHC *e*PKPAB PKPab 11 44 40.9 -1.1
BZS Buzias 150.38 330 P PKPdf 11 44 31.8 +7.3
TNS Taunus Mts 150.40 351 *e*PKPbc PKPdf 11 44 31.8 +7.4
TNS *e*PKPab PKPab 11 44 40.5 -1.6
GRA1 Grafenberg Arr 150.40 347 *e*PKPbc PKPdf 11 44 31.6 +7.2
GRA1 *e*PKPab PKPab 11 44 41.2 -1.0
GRF Grafenberg Arr 150.40 347 *e*PKP PKPdf 11 44 31.6 +7.2
GRF *e*PKP PKPab 11 44 41.2 -1.0
BTOK Tokmak 150.51 315 *i P* PKPdf 11 44 31.9 +7.0
WET Wettzell 150.53 344 *e*PKPbc PKPdf 11 44 32.0 +7.4
WET *e*PKPab PKPab 11 44 41.6 -1.1
GEC2 GERESS Array S 150.59 343 *e*PKPbc PKPdf 11 44 32.3 +7.6
GEC2 *e*PKPab PKPab 11 44 41.9 -1.1
GERES GERESS Array B 150.59 343 PKPbc PKPdf 11 44 32.5 +7.8
comp=Z,6.3nm,0.8s,baz=45,slow=1.9,SNR=34
DNZL Cakiroluk 150.82 311 *i P* PKPdf 11 44 33.8 +8.3
GIVF Givet 150.94 355 *e*PKIKP PKPdf 11 44 32.4 +7.2
comp=Z,39nm,1.0s
BAIF Baives 151.02 356 *e*PKIKP PKPdf 11 44 32.8 +7.5
MOA Molln 151.33 342 ⇑*i P* PKPdf 11 44 34.0 +8.2
comp=Z,7.2nm,1.1s
ARSA Arzberg 151.47 339 ⇑*i P* PKPdf 11 44 34.2 +8.1
comp=Z,4.8nm,0.7s
AYDN Tasoluk 151.66 311 *i P* PKPdf 11 44 35.1 +8.5
PERS Pernice 152.14 339 *e*PKPbc PKPdf 11 44 35.4 +8.4
BFO Black Forest 152.25 350 *e*PKPbc PKPdf 11 44 35.7 +8.6
BFO *e*PKPab PKPab 11 44 48.2 -1.8
DIVS Divcibare 152.29 330 ⇓*i*PKP PKPdf 11 44 36.1 +8.8
KBA Koelnbreinsper 152.29 342 ⇑*i P* PKPdf 11 44 35.7 +8.5
comp=Z,4.7nm,0.7s
CDF Champ du Feu 152.34 351 *e*PKIKP PKPdf 11 44 35.5 +8.3
comp=Z,10nm,0.8s
FLN La Foliniere 152.38 2 *e*PKIKP PKPdf 11 44 35.2 +7.9
MEZF Maizieres J'vi 152.50 354 *e*PKIKP PKPdf 11 44 36.0 +8.5
LDF La Druitiere 152.56 2 *e*PKIKP PKPdf 11 44 35.6 +8.1
SGMF Saint Gilles 152.76 6 *e*PKIKP PKPdf 11 44 35.1 +7.3
HAU Haudompre 152.86 352 *e*PKIKP PKPdf 11 44 36.5 +8.5
HINF Hinteralfeld 152.98 352 *e*PKIKP PKPdf 11 44 36.6 +8.5
BOJS Bojanci 153.08 338 *e*PKPbc PKPdf 11 44 37.9 +10
DAVOX Davos 153.45 347 PKPbc PKPdf 11 44 38.9 +10
comp=Z,6.1nm,0.5s,baz=210,slow=5.2,SNR=6.1
LOR Lormes 153.82 356 *e*PKIKP PKPdf 11 44 38.7 +9.4
CABF La Chapelle 154.26 352 *e*PKIKP PKPdf 11 44 39.3 +9.4
SMF Signal de Mont 154.45 356 *e*PKIKP PKPdf 11 44 39.7 +10
RJF Les Rejaudoux 155.88 359 *e*PKIKP PKPdf 11 44 41.7 +10

*IDC **22** 11:30:13.2±2.9, 64.61N×31.55E, mb1 2.9/4, mb1mx2.8/23, mbtmp2.9/4, ML2.4/4, Error ellipse: s-maj=41.4km s-min=9.9km az=106.0*
*HEL **22** 11:30:13.4±0.3, 64.70N×30.97E, ML1.7, Explosion*
ISC 22 11:30:11.8±1.1, 64.68N±0.05×30.9E±0.2, n10, σ1§31/15, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.46**	**328**	*e*P	**Pn**	**Pn**	**11 30 39.3**	**-0.2**
MSF				*e*S	**Sb**	**Sb**	**11 30 59.3**	**+0.8**
KJN	**Kajaani**	**1.51**	**248**	*e*P	**Pn**	**Pn**	**11 30 39.4**	**-0.8**
KJN				*e*S	**Sb**	**Sb**	**11 31 00.4**	**+0.3**
JOF	**Joensuu**	**1.78**	**174**	*e*P	**Pn**	**Pn**	**11 30 45.0**	**+0.9**
OUL	**Oulu**	**2.17**	**283**	*e*P	**Pn**	**Pn**	**11 30 51.1**	**+1.4**
OUL				*e*S	**Sn**	**Sn**	**11 31 18.4**	**+0.7**
SUF	**Sumiainen**	**2.89**	**229**	*e*SG	**Sg**	**Sg**	**11 31 43.8**	**-4.2**
SUF				MSG			11 31 46.3	
comp=Z,1.6nm,0.1s								
KEF	**Keuruu**	**3.70**	**230**	*e*P	**Pn**	**Pn**	**11 31 12.7**	**+1.1**
KEF				MSG			11 32 14.0	
comp=Z,1.6nm,0.2s								
FINES	**FINESS Array B**	**3.92**	**216**	Pn	**Pn**	**Pn**	**11 31 15.9**	**+1.3**
comp=Z,0.1nm,0.3s,baz=34,slow=12,SNR=4.0								
FINES				Pg	**Pg**	**Pg**	**11 31 23.3**	**-6.8**
comp=Z,0.2nm,0.3s,baz=27,slow=16,SNR=6.0								
FINES				Lg			11 32 17.7	
comp=Z,0.9nm,0.3s,baz=39,slow=26,SNR=9.3								
ARCES	**ARCESS Array B**	**5.31**	**339**	Pn	**Pn**	**Pn**	**11 31 33.2**	**-1.0**
comp=Z,0.2nm,0.3s,baz=153,slow=13,SNR=12								
ARCES				Pg	**Pg**	**Pg**	**11 31 45.9**	**-12**
comp=Z,0.2nm,0.3s,baz=157,slow=14,SNR=5.0								
ARCES				Lg			11 32 57.9	
comp=Z,0.6nm,0.3s,baz=135,slow=36,SNR=6.0								
HFS	**Hagfors**	**9.18**	**248**	Pn	**P**		**11 32 25.7**	**-2.8**
comp=Z,0.0nm,0.3s,baz=72,slow=14,SNR=3.2								
NOA	**NORSAR Array B**	**9.69**	**257**	Pn	**P**	**Pn**	**11 32 33.2**	**-2.1**
comp=Z,0.1nm,0.3s,baz=331,slow=20,SNR=2.3								

MAN 22 11:31:29.3, 8.22N×123.35E, h32km, mb4.4, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.36**	**1**	⇑*i*P		Pb	11 31 38.9	+1.1
PAGZ	**Pagadian**	**0.37**	**174**	*e*P		Pb	11 31 39.5	+1.6
PAGZ				*e*S		Sb	11 31 46.1	+2.4
IPIL	**Ipil**	**0.88**	**241**	*e*P		Pn	11 31 45.6	+0.1
IPIL				*e*S		Sn	11 31 53.6	-3.6

IDC 22 12:30:42.0±3.4, 1.25S×99.94E, mb3.8/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, ML4.3/1, Error ellipse: s-maj=157.4km s-min=20.4km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.61**	**357**	P		P	12 35 12.1	-2.8
0.4nm,0.3s,baz=297,slow=22,SNR=3.6								
WRA	**Warramunga Arr**	**38.42**	**121**	P		P	12 38 05.3	-2.0
0.4nm,0.5s,baz=303,slow=9.1,SNR=9.4								
ASAR	**Alice Springs**	**39.74**	**127**	P		P	12 38 17.0	-1.3
0.7nm,0.6s,baz=305,slow=7.6,SNR=12								
MKAR	**Makanchi Array**	**50.30**	**344**	P		P	12 39 40.3	-2.1
0.9nm,0.6s,baz=146,slow=7.9,SNR=11								
ZAL	**Zalesovo**	**56.42**	**349**	P		P	12 40 25.2	-2.4
1.1nm,0.4s,baz=322,slow=3.8,SNR=6.9								
TXAR	**Lajitas Array**	**144.15**	**37**	PKP		PKPdf	12 50 19.4	-2.9
0.9nm,0.5s,baz=272,slow=1.6,SNR=8.2								

*NEIC **22** 12:33:06.8±0.4, 19.62S×69.45W, mb4.1/7, Error ellipse: s-maj=12.0km s-min=7.8km az=49.0*
*IDC **22** 12:33:08.1±1.6, 19.76S×69.40W, h122km±16km, mb3.8/4, mb1 3.9/8, mb1mx3.6/19, mbtmp4.1/8, MS3.6/3, Ms1 3.5/3, ms1mx3.0/22, Error ellipse: s-maj=24.4km s-min=14.9km az=102.0*
ISC 22 12:33:05.0±0.9, 19.60S±0.07×69.48W±0.09, h105km±10km, n21, σ1§05/19, mb4.2/9, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.04**	**170**	P		**P**	**12 33 53.7**	**+1.2**
17nm,0.3s,baz=333,slow=11,SNR=438								
LVC				S		**S**	**12 34 27.9**	**-0.3**
52nm,0.3s,baz=326,slow=16,SNR=22								
LPAZ	**La Paz**	**3.54**	**21**	P		**P**	**12 34 04.8**	**+5.7**
4.2nm,0.3s,baz=214,slow=5.4,SNR=65								
ARE	**Arequipa**	**3.66**	**328**	⇑*i P*		**P**	**12 34 01.3**	**+0.4**
ARE				*i* S		**S**	**12 34 40.6**	**-2.8**
SIV	**San Ignacio**	**8.77**	**67**	P		**P**	**12 35 10.9**	**+0.5**
4.8nm,0.3s,baz=265,slow=10,SNR=126								
CPUP	**Villa Florida**	**13.03**	**123**	P		**P**	**12 36 06.4**	**-0.8**
0.2nm,0.3s,baz=328,slow=14,SNR=8.6								
TRQA	**Tornquist**	**19.51**	**162**	*e*P		**P**	**12 37 25.4**	**-0.9**
10nm,1.0s								
BDFB	**Brasilia**	**20.83**	**82**	P		**P**	**12 37 39.6**	**-0.3**
2.8nm,0.5s,baz=225,slow=6.4,SNR=3.7								
BDFB				LR		LR	12 46 40.8	
comp=Z,52nm,18.7s,baz=4.1,slow=39								
RCBR	**Riachuelo**	**35.40**	**72**	P		**P**	**12 39 53.5**	**+0.8**
28nm,1.2s,mb5.0								
WVT	**Waverly**	**58.09**	**343**	*e*P		**P**	**12 42 47.7**	**-2.0**
3.0nm,0.6s,mb4.5								
MNTX	**Cornudas Mount**	**61.54**	**325**	*e*P		**P**	**12 43 12.0**	**-1.4**
0.8nm,0.6s,mb3.9								
SDCO	**Great Sand Dun**	**66.35**	**329**	*e*P		**P**	**12 43 44.6**	**-0.1**
1.2nm,0.5s,mb4.0								
DBIC	**Dimbokro**	**68.72**	**74**	P		**P**	**12 43 59.4**	**-0.5**
2.1nm,0.6s,mb4.2,baz=250,slow=14,SNR=5.9								
RRI2	**Red Ridge**	**73.48**	**329**	*e*P		**P**	**12 44 29.5**	**+1.7**
2.5nm,0.7s,mb4.2								
NVAR	**Mina Array Bea**	**73.68**	**322**	P		**P**	**12 44 29.3**	**+0.2**
0.9nm,0.6s,mb3.6,baz=136,slow=7.0,SNR=7.6								
NVAR				pP		pP	12 44 56.5	+0.4
0.3nm,0.4s,baz=166,slow=7.4,SNR=2.6								
HLID	**Hailey**	**75.16**	**328**	*e*P		**P**	**12 44 39.2**	**+1.7**
1.3nm,0.6s,mb3.8								
BOSA	**Boshof**	**84.81**	**118**	LR		LR	13 19 10.3	
comp=Z,47nm,18.0s,baz=52,slow=33								
YKA	**Yellowknife Ar**	**89.23**	**341**	P		**P**	**12 45 50.2**	**+0.4**
1.7nm,0.7s,mb4.2,baz=135,slow=4.7,SNR=54								
YKA				pP		pP	12 46 18.9	+1.2
0.7nm,0.8s,baz=134,slow=4.8,SNR=5.2								
YKA	**Yellowknife Ar**	**89.23**	**341**	P		**P**	**12 45 50.2**	**+0.4**
YKA				pP		pP	12 46 18.9	+1.2
JMIC	**Jan Mayen**	**99.50**	**17**	LR		LR	13 32 39.7	
comp=Z,38nm,18.9s,baz=274,slow=36								
ASAR	**Alice Springs**	**131.33**	**209**	PKP		PKPdf	12 52 06.8	+1.1
0.5nm,1.0s,baz=125,slow=1.7,SNR=6.9								
WRA	**Warramunga Arr**	**134.29**	**212**	PKP		PKPdf	12 52 13.0	+1.7
0.3nm,0.4s,baz=147,slow=1.6,SNR=11								

*CSEM **22** 12:34:20.0±0.9, 45.48N×26.34E, h126km±8km, MD3.7/6, Error ellipse: s-maj=8.3km s-min=5.2km az=27.0, After BUC*
*NEIC **22** 12:34:21.2, 45.41N×26.34E, h115km, MG3.7(BUC), After BUC.*
ISC 22 12:34:20.1±0.9, 45.44N±0.05×26.40E±0.05, h127km±6km, n32, σ0§91/47, 9C-7D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.32**	**279**	P		**P**	**12 34 38.0**	**0.0**
MLR	**Muntele Rosu**	**0.32**	**279**	⇑*i P*		**P**	**12 34 37.9**	**-0.1**
MLR				*i* S		**S**	**12 34 50.9**	**-0.8**
ISR	**Istrita**	**0.34**	**163**	P		**P**	**12 34 38.7**	**+0.6**
ISR	**Istrita**	**0.34**	**163**	⇑*i P*		**P**	**12 34 38.7**	**+0.6**
ISR				*i* S		**S**	**12 34 52.7**	**+0.9**
BRD	**Bordesti**	**0.46**	**76**	⇓P		**P**	**12 34 39.9**	**+1.2**
BRD				S		**S**	**12 34 52.8**	**0.0**
BRD	**Bordesti**	**0.46**	**76**	⇑*i P*		**P**	**12 34 40.0**	**+1.3**
BRD				*i* S		**S**	**12 34 55.5**	**+2.7**
VRI	**Vrincioaia**	**0.48**	**28**	P		**P**	**12 34 38.6**	**-0.2**
VRI	**Vrincioaia**	**0.48**	**28**	⇑*i P*		**P**	**12 34 38.7**	**-0.1**
VRI				S		**S**	**12 34 52.1**	**-1.0**
SNX	**Sinaia**	**0.63**	**262**	⇓*i P*		**P**	**12 34 40.1**	**+0.4**
SNX				*i* S		**S**	**12 34 55.8**	**+1.0**
VOIR		**0.95**	**270**	⇑P		**P**	**12 34 41.7**	**-0.7**
VOIR				S		**S**	**12 34 56.9**	**-2.6**
VOIR		**0.95**	**270**	⇓*i P*		**P**	**12 34 41.8**	**-0.7**
VOIR				S		**S**	**12 34 56.9**	**-2.5**
MTUR	**Matau**	**0.97**	**258**	⇓*i P*		**P**	**12 34 42.3**	**-0.3**
MTUR				*i* S		**S**	**12 35 01.4**	**+1.7**
BUC1	**Bucharest**	**1.13**	**194**	*i* S		**S**	**12 35 02.7**	**+0.2**
CFR	**Carcaliu**	**1.25**	**102**	P		**P**	**12 34 45.8**	**+0.2**
CFR	**Carcaliu**	**1.25**	**102**	⇓*i P*		**P**	**12 34 45.7**	**+0.1**
CFR				*i* S		**S**	**12 35 03.5**	**-1.4**
HARR	**Harsova**	**1.32**	**124**	P		**P**	**12 34 47.0**	**+0.6**
HARR	**Harsova**	**1.32**	**124**	⇑*i P*		**P**	**12 34 46.9**	**+0.5**
HARR				*i* S		**S**	**12 35 06.3**	**-0.1**
TLCR		**1.72**	**98**	⇑P		**P**	**12 34 51.6**	**+0.7**
TLCR				S		**S**	**12 35 14.2**	**-0.3**
TLCR		**1.72**	**98**	⇓*i P*		**P**	**12 34 51.6**	**+0.6**
TLCR				S		**S**	**12 35 13.8**	**-0.7**
TIRR	**Tirgusor**	**1.74**	**124**	P		**P**	**12 34 51.7**	**+0.6**
TIRR	**Tirgusor**	**1.74**	**124**	⇑*i P*		**P**	**12 34 51.7**	**+0.6**
TIRR				*i* S		**S**	**12 35 14.0**	**-0.7**
ZIMR		**1.93**	**203**	S		**S**	**12 35 17.8**	**-1.0**
SZH	**Strazhica**	**2.20**	**189**	P		**P**	**12 34 57.0**	**+0.1**
SZH	**Strazhica**	**2.20**	**189**	P		**P**	**12 34 57.0**	**+0.1**
BURAR	**Bucovina Array**	**2.32**	**340**	⇑P		**P**	**12 34 59.1**	**+0.6**
BURAR	**Bucovina Array**	**2.32**	**340**	⇓*i P*		**P**	**12 34 57.9**	**-0.6**
BURAR				S		**S**	**12 35 21.6**	**-6.0**
PVL	**Pavlikeni**	**2.35**	**199**	P		**P**	**12 35 00.0**	**+1.1**
PVL	**Pavlikeni**	**2.35**	**199**	P		**P**	**12 35 00.0**	**+1.1**
VTS	**Vitosha**	**3.66**	**220**	*e*P		**P**	**12 35 15.0**	**-1.3**
VTS	**Vitosha**	**3.66**	**220**	*e*P		**P**	**12 35 15.0**	**-1.3**
RZN	**Rozhen**	**3.95**	**199**	*e*P		**P**	**12 35 20.0**	**-0.1**
RZN	**Rozhen**	**3.95**	**199**	*e*P		**P**	**12 35 20.0**	**-0.1**

IDC 22 12:38:38.7±2.2, 4.27N×123.55E, mb3.6/3, mb1 3.7/3, mb1mx3.5/20, mbtmp3.6/3, Error ellipse: s-maj=298.3km s-min=24.9km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.30**	**157**	P		P	12 44 16.2	-1.7
0.2nm,0.3s,baz=336,slow=9.6,SNR=8.6								
ASAR	**Alice Springs**	**29.55**	**160**	P		P	12 44 45.2	-2.2
0.2nm,0.5s,baz=334,slow=7.7,SNR=4.2								
MKAR	**Makanchi Array**	**55.33**	**327**	P		P	12 48 14.3	-2.3
0.8nm,0.3s,baz=122,slow=8.7,SNR=12								

IDC 22 12:39:38.4±1.2, 2.01N×122.97E, mb3.9/5, mb1 4.1/5, mb1mx3.8/20, mbtmp3.9/5, Error ellipse: s-maj=141.9km s-min=18.8km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.15**	**173**	*e*P		P	12 44 13.1	-4.2
4.6nm,1.0s								
FITZ	**Fitzroy Crossi**	**20.15**	**173**	P		P	12 44 12.7	-4.6
3.1nm,0.5s,baz=355,slow=3.9,SNR=8.2								
WRA	**Warramunga Arr**	**24.50**	**153**	P		P	12 45 00.0	-0.8
1.8nm,0.4s,baz=337,slow=10.0,SNR=46								
WB2	**Warramunga Arr**	**24.51**	**153**	*e*P		P	12 45 00.3	-0.5
ASAR	**Alice Springs**	**27.65**	**

*IDC **22** 13:08:27.1±2.8, 39.75S×179.82W, mb4.2/3, mb1 4.4/5, mb1mx4.1/15, mbtmp4.3/5, ML4.9/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/21, Error ellipse: s-maj=58.9km s-min=44.0km az=154.0*
*BJI **22** 13:08:30.0, 39.72S×179.90W, h21km, mB5.4, Ms4.4*
*NEIC **22** 13:08:32.4, 39.71S×179.92W, h33km, ML4.8(WEL), After WEL.*
*WEL **22** 13:08:32.2±0.4, 39.74S×179.92W, h33km, ML4.8/39, Error ellipse: s-maj=4.1km s-min=2.2km az=90.0*

ISC 22 13:08:31.0±1.1, 39.92S±0.04×179.92E±0.07, h33km±12km, n122, σ1$22/143, mb4.0/3, MS3.8/4, 9C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**1.96**	**297**	⇑P	**Pn**	**13 09 02.7**	**+0.1**
KNZ	**Kokohu**	**1.96**	**297**	⇑PN	**Pn**	**13 09 02.7**	**+0.1**
KNZ				SN	**Sn**	**13 09 25.8**	**-0.4**
KNZ				SN	**Sn**	**13 09 26.3**	**+0.1**
PUZ	**Puketiti**	**2.25**	**324**	⇑P	**Pn**	**13 09 04.6**	**-2.2**
PUZ				S	**Sn**	**13 09 27.7**	**-6.1**
PUZ	**Puketiti**	**2.25**	**324**	⇑PN	**Pn**	**13 09 04.6**	**-2.2**
PUZ				SN	**Sn**	**13 09 28.1**	**-5.7**
PWZ	**Pawanui**	**2.35**	**266**	P	**Pn**	**13 09 09.3**	**+1.0**
PWZ				S	**Sn**	**13 09 36.7**	**+0.4**
PWZ	**Pawanui**	**2.35**	**266**	PN	**Pn**	**13 09 09.4**	**+1.1**
PWZ				SN	**Sn**	**13 09 38.6**	**+2.2**
MWZ	**Matawai**	**2.44**	**310**	⇑P	**Pn**	**13 09 08.6**	**-0.9**
MWZ				S	**Sn**	**13 09 34.7**	**-3.9**
MWZ	**Matawai**	**2.44**	**310**	⇑PN	**Pn**	**13 09 08.6**	**-0.9**
MWZ				SN	**Sn**	**13 09 35.6**	**-3.0**
MWZ				SN	**Sn**	**13 09 35.8**	**-2.8**
MXZ	**Matakaoa Point**	**2.67**	**331**	P	**Pn**	**13 09 10.4**	**-2.4**
MXZ	**Matakaoa Point**	**2.67**	**331**	PN	**Pn**	**13 09 10.4**	**-2.3**
MXZ				SN	**Sn**	**13 09 39.6**	**-4.7**
MXZ				SN	**Sn**	**13 09 40.4**	**-3.9**
URZ	**Urewera**	**2.74**	**306**	Pn	**Pn**	**13 09 13.2**	**-0.7**
168nm,0.3s,baz=118,slow=8.2,SNR=570							
URZ				Sn	**Sn**	**13 09 44.7**	**-1.6**
61nm,0.3s,baz=346,slow=12,SNR=4.9							
URZ	**Urewera**	**2.74**	**306**	P	**Pn**	**13 09 13.1**	**-0.7**
URZ	**Urewera**	**2.74**	**306**	PN	**Pn**	**13 09 13.1**	**-0.8**
URZ				SN	**Sn**	**13 09 43.8**	**-2.4**
URZ				SN	**Sn**	**13 09 44.1**	**-2.1**
BKZ	**Black Stump Fm**	**2.75**	**285**	P	**Pn**	**13 09 14.6**	**+0.6**
BKZ				S	**Sn**	**13 09 45.9**	**-0.6**
BKZ	**Black Stump Fm**	**2.75**	**285**	PN	**Pn**	**13 09 14.6**	**+0.6**
BKZ				SN	**Sn**	**13 09 46.4**	**-0.2**
BKZ				SN	**Sn**	**13 09 46.4**	**-0.1**
BFZ	**Birch Farm**	**2.91**	**254**	*e*P	**Pn**	**13 09 16.8**	**+0.6**
BFZ				S	**Sn**	**13 09 52.1**	**+1.6**
BFZ	**Birch Farm**	**2.91**	**254**	PN	**Pn**	**13 09 16.8**	**+0.6**
BFZ				SN	**Sn**	**13 09 52.1**	**+1.6**
TSZ	**Takapari Road**	**3.05**	**266**	P	**Pn**	**13 09 18.8**	**+0.7**
TSZ	**Takapari Road**	**3.05**	**266**	PN	**Pn**	**13 09 18.8**	**+0.6**
TSZ				SN	**Sn**	**13 09 53.9**	**+0.1**
EDRZ	**Edgecumbe**	**3.07**	**305**	P	**Pn**	**13 09 18.3**	**-0.1**
EDRZ	**Edgecumbe**	**3.07**	**305**	PN	**Pn**	**13 09 18.3**	**-0.1**
HATZ	**Hinemaiaia**	**3.14**	**288**	P	**Pn**	**13 09 20.0**	**+0.6**
HATZ	**Hinemaiaia**	**3.14**	**288**	PN	**Pn**	**13 09 20.1**	**+0.7**
HATZ				SN	**Sn**	**13 09 53.5**	**-2.7**
TAZ	**Tarawera**	**3.14**	**301**	PN	**Pn**	**13 09 19.6**	**+0.1**
MARZ	**Manawahe**	**3.18**	**306**	PN	**Pn**	**13 09 19.5**	**-0.6**
WIZ	**White Island**	**3.20**	**317**	P	**Pn**	**13 09 18.5**	**-1.8**
WIZ	**White Island**	**3.20**	**317**	PN	**Pn**	**13 09 18.5**	**-1.9**
PATZ	**Paeroa**	**3.23**	**297**	P	**Pn**	**13 09 20.9**	**+0.1**
PATZ	**Paeroa**	**3.23**	**297**	PN	**Pn**	**13 09 20.9**	**+0.1**
MOVZ	**Moawhango**	**3.26**	**278**	P	**Pn**	**13 09 22.3**	**+1.2**
MOVZ	**Moawhango**	**3.26**	**278**	PN	**Pn**	**13 09 22.3**	**+1.2**
MOVZ				SN	**Sn**	**13 09 58.1**	**-1.1**
RITZ	**Rihia Road**	**3.28**	**285**	PN	**Pn**	**13 09 22.5**	**+1.0**
WHTZ	**Whakaora**	**3.32**	**291**	P	**Pn**	**13 09 22.5**	**+0.5**
WHTZ	**Whakaora**	**3.32**	**291**	PN	**Pn**	**13 09 22.5**	**+0.5**
LIRZ	**Lichensteins R**	**3.35**	**304**	PN	**Pn**	**13 09 22.4**	**-0.1**
TUVZ	**Tukino**	**3.36**	**280**	P	**Pn**	**13 09 24.0**	**+1.4**
TUVZ	**Tukino**	**3.36**	**280**	PN	**Pn**	**13 09 24.0**	**+1.4**
TUVZ				SN	**Sn**	**13 10 01.1**	**-0.7**
OTVZ	**Oturere**	**3.38**	**282**	PN	**Pn**	**13 09 24.0**	**+1.2**
OTVZ				SN	**Sn**	**13 10 02.2**	**0.0**
RATZ	**Rangitukua**	**3.38**	**287**	PN	**Pn**	**13 09 23.6**	**+0.7**
UTU	**Utuhina**	**3.38**	**300**	PN	**Pn**	**13 09 22.8**	**-0.1**
WNVZ	**Wahianoa**	**3.39**	**279**	P	**Pn**	**13 09 24.4**	**+1.4**
WNVZ	**Wahianoa**	**3.39**	**279**	PN	**Pn**	**13 09 24.4**	**+1.4**
MRZ	**Mangatainoka R**	**3.40**	**256**	P	**Pn**	**13 09 22.9**	**-0.3**
MRZ	**Mangatainoka R**	**3.40**	**256**	PN	**Pn**	**13 09 22.9**	**-0.3**
KATZ	**Kakaramea**	**3.41**	**285**	P	**Pn**	**13 09 24.0**	**+0.8**
KATZ	**Kakaramea**	**3.41**	**285**	PN	**Pn**	**13 09 24.1**	**+0.8**
NGZ	**Ngauruhoe**	**3.42**	**281**	P	**Pn**	**13 09 24.5**	**+1.1**
NGZ	**Ngauruhoe**	**3.42**	**281**	PN	**Pn**	**13 09 24.6**	**+1.1**
DRZ	**Dome Shelter**	**3.43**	**279**	PN	**Pn**	**13 09 26.1**	**+2.6**
TRVZ	**Turoa**	**3.43**	**279**	PN	**Pn**	**13 09 24.8**	**+1.2**
TRVZ				SN	**Sn**	**13 10 03.8**	**+0.1**
FWVZ	**Far West T-bar**	**3.44**	**280**	*e*P	**Pn**	**13 09 24.9**	**+1.2**
FWVZ	**Far West T-bar**	**3.44**	**280**	PN	**Pn**	**13 09 25.0**	**+1.2**
WTVZ	**West Tongariro**	**3.44**	**282**	PN	**Pn**	**13 09 24.8**	**+1.0**
CNZ	**Chateau**	**3.46**	**281**	P	**Pn**	**13 09 25.0**	**+1.1**
CNZ	**Chateau**	**3.46**	**281**	PN	**Pn**	**13 09 25.0**	**+1.1**
WPVZ	**Whakapapa**	**3.46**	**280**	⇑P	**Pn**	**13 09 25.1**	**+1.2**
WPVZ	**Whakapapa**	**3.46**	**280**	⇑PN	**Pn**	**13 09 25.1**	**+1.2**
WATZ	**Wairara**	**3.46**	**289**	P	**Pn**	**13 09 24.2**	**+0.1**
WATZ	**Wairara**	**3.46**	**289**	PN	**Pn**	**13 09 24.2**	**+0.1**
MTVZ	**Mangateitei**	**3.48**	**277**	PN	**Pn**	**13 09 26.0**	**+1.8**
TWVZ	**Taurewa**	**3.57**	**282**	*e*P	**Pn**	**13 09 26.2**	**+0.6**
TWVZ	**Taurewa**	**3.57**	**282**	PN	**Pn**	**13 09 26.2**	**+0.6**
MTW	**Mount Morrison**	**3.59**	**248**	P	**Pn**	**13 09 25.4**	**-0.4**
MTW	**Mount Morrison**	**3.59**	**248**	PN	**Pn**	**13 09 25.4**	**-0.4**
PKVZ	**Pokaka**	**3.59**	**279**	PN	**Pn**	**13 09 27.2**	**+1.3**
PAWZ	**Paruwai Farm**	**3.72**	**245**	PN	**Pn**	**13 09 26.8**	**-0.9**
WAZ	**Wanganui**	**3.80**	**271**	P	**Pn**	**13 09 31.3**	**+2.4**
WAZ	**Wanganui**	**3.80**	**271**	PN	**Pn**	**13 09 31.3**	**+2.4**
MSWZ	**Moikau Station**	**3.85**	**246**	P	**Pn**	**13 09 28.6**	**-1.0**
MSWZ	**Moikau Station**	**3.85**	**246**	PN	**Pn**	**13 09 28.6**	**-1.1**
CAW	**Cannon Point**	**3.89**	**251**	*e*P	**Pn**	**13 09 29.2**	**-0.9**
CAW	**Cannon Point**	**3.89**	**251**	PN	**Pn**	**13 09 29.2**	**-0.8**
KIW	**Kapiti Island**	**3.94**	**255**	*e*P	**Pn**	**13 09 31.1**	**+0.3**
KIW	**Kapiti Island**	**3.94**	**255**	PN	**Pn**	**13 09 31.1**	**+0.3**
VRZ	**Vera Road**	**4.07**	**280**	*e*P	**Pn**	**13 09 33.5**	**+0.8**
VRZ	**Vera Road**	**4.07**	**280**	PN	**Pn**	**13 09 33.4**	**+0.7**
BHW	**Baring Head**	**4.12**	**247**	P	**Pn**	**13 09 32.2**	**-1.2**
BHW	**Baring Head**	**4.12**	**247**	PN	**Pn**	**13 09 32.4**	**-1.0**
BHW				SN	**Sn**	**13 10 19.6**	**-1.5**
WEL	**Wellington**	**4.15**	**249**	P	**Pn**	**13 09 33.1**	**-0.8**
WEL	**Wellington**	**4.15**	**249**	PN	**Pn**	**13 09 33.2**	**-0.7**
HIZ	**Hauiti**	**4.18**	**288**	*e*P	**Pn**	**13 09 34.2**	**0.0**
HIZ	**Hauiti**	**4.18**	**288**	PN	**Pn**	**13 09 34.2**	**0.0**
MRW	**Makara Radio**	**4.19**	**250**	P	**Pn**	**13 09 33.4**	**-0.9**
MRW	**Makara Radio**	**4.19**	**250**	PN	**Pn**	**13 09 33.7**	**-0.7**
SNZO	**South Karori**	**4.21**	**249**	P	**Pn**	**13 09 33.6**	**-1.0**
SNZO	**South Karori**	**4.21**	**249**	PN	**Pn**	**13 09 33.7**	**-0.9**
RAEZ	**Rainy Point**	**4.32**	**277**	P	**Pn**	**13 09 37.6**	**+1.4**
RAEZ	**Rainy Point**	**4.32**	**277**	PN	**Pn**	**13 09 37.9**	**+1.7**
TCW	**Tory Channel**	**4.49**	**251**	*e*P	**Pn**	**13 09 37.8**	**-0.8**
TCW	**Tory Channel**	**4.49**	**251**	PN	**Pn**	**13 09 37.9**	**-0.7**
NEZ	**North Egmont**	**4.55**	**276**	*e*P	**Pn**	**13 09 41.1**	**+1.7**
NEZ	**North Egmont**	**4.55**	**276**	PN	**Pn**	**13 09 41.1**	**+1.7**
KUZ	**Kuaotunu**	**4.58**	**312**	*e*P	**Pn**	**13 09 36.2**	**-3.6**
KUZ	**Kuaotunu**	**4.58**	**312**	PN	**Pn**	**13 09 36.4**	**-3.4**
PKE	**Pukeiti**	**4.64**	**277**	*e*P	**Pn**	**13 09 42.9**	**+2.1**
PKE	**Pukeiti**	**4.64**	**277**	PN	**Pn**	**13 09 43.2**	**+2.4**
MKAZ	**Moumakai**	**4.66**	**305**	*e*P	**Pn**	**13 09 39.8**	**-1.3**
MKAZ	**Moumakai**	**4.66**	**305**	PN	**Pn**	**13 09 39.8**	**-1.3**
CMWZ	**Cape Campbell**	**4.70**	**245**	*e*P	**Pn**	**13 09 41.1**	**-0.5**
OTAZ	**Otara**	**4.92**	**305**	*e*P	**Pn**	**13 09 44.1**	**-0.6**
BSWZ	**Blackbirch Sta**	**4.93**	**247**	*e*P	**Pn**	**13 09 43.3**	**-1.5**
KHZ	**Kahutara**	**5.42**	**241**	*e*P	**Pn**	**13 09 49.1**	**-2.7**
THZ	**Tophouse**	**5.63**	**249**	*e*P	**Pn**	**13 09 52.9**	**-1.8**
DSZ	**Denniston Nort**	**6.42**	**251**	*e*P	**Pn**	**13 10 03.8**	**-2.1**
LTZ	**Lake Taylor**	**6.43**	**241**	*e*P	**Pn**	**13 10 03.4**	**-2.6**
CRLZ	**Canterbury Las**	**6.57**	**234**	*e*P	**Pn**	**13 10 04.5**	**-3.5**
MQZ	**McQueen's Vall**	**6.62**	**233**	*e*P	**Pn**	**13 10 04.7**	**-4.0**
OUZ	**Omahuta**	**6.87**	**311**	*e*P	**Pn**	**13 10 10.7**	**-1.5**
RPZ	**Rata Peaks**	**7.63**	**237**	Pn	**Pn**	**13 10 21.1**	**-1.8**
3.1nm,0.3s,baz=31,slow=5.2,SNR=21							
RPZ				Sn	**Sn**	**13 11 42.4**	**-6.6**
11nm,0.3s,baz=359,slow=18,SNR=22							
TBI	**Tubuai**	**30.66**	**67**	*e*LR	LR	13 22 24.2	
143nm,36.0s							
STKA	**Stephens Creek**	**31.88**	**272**	P	**P**	**13 14 55.7**	**+0.3**
1.9nm,0.9s,mb3.9,baz=121,slow=12,SNR=3.4							
STKA	**Stephens Creek**	**31.88**	**272**	P	**P**	**13 14 55.7**	**+0.3**
PPT	**Papeete**	**34.53**	**59**	*e*LR	LR	13 23 59.2	
64nm,25.2s							
ASAR	**Alice Springs**	**41.86**	**279**	P	**P**	**13 16 20.9**	**+1.2**
5.2nm,0.7s,mb4.3,baz=119,slow=7.2,SNR=63							
ASAR				LR	LR	13 34 56.3	
comp=Z,56nm,18.9s,MS3.5,baz=141,slow=38							
ASPA	**Alice Springs**	**41.86**	**279**	*e*P	**P**	**13 16 21.1**	**+1.4**
WB2	**Warramunga Arr**	**43.68**	**283**	⇑*i*P	**P**	**13 16 35.1**	**+0.5**
WRA	**Warramunga Arr**	**43.69**	**283**	P	**P**	**13 16 35.0**	**+0.3**
1.6nm,0.5s,mb4.0,baz=124,slow=7.4,SNR=36							
MAW	**Mawson**	**62.85**	**203**	LR	LR	13 43 17.7	
comp=Z,69nm,20.1s,MS3.8,baz=238,slow=33							
KMI	**Kunming**	**96.61**	**297**	P	**P**	**13 21 59.8**	**+0.8**
TXAR	**Lajitas Array**	**98.84**	**59**	LR	LR	13 59 46.8	
comp=Z,37nm,18.1s,MS3.9,baz=165,slow=31							
WMQ	**Urumqi**	**117.56**	**305**	PKP	PKPdf	13 27 13.9	-4.7
WMQ				XPKP		13 27 28.4	
WMQ				PP	PP	13 28 30.9	+0.3
WMQ				PP	PP		
comp=Z,128nm,5.2s							
WMQ				LR	LR		
comp=N,25nm,21.5s,MS3.8							
WMQ				LR	LR		
comp=E,12nm,25.6s,MS3.8							
ARCES	**ARCESS Array B**	**147.38**	**344**	PKPbc	PKPdf	13 28 10.6	-2.5
comp=E,4.5nm,1.0s,baz=63,slow=2.7,SNR=6.6							

IDC 22 13:12:23.7±6.2, 2.77N×96.22E, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=305.8km s-min=29.2km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.70**	**123**	P	P	13 20 30.6	-1.9
0.4nm,0.4s,baz=301,slow=9.1,SNR=6.6							
ASAR	**Alice Springs**	**45.12**	**128**	P	P	13 20 42.3	-1.7
0.2nm,0.6s,baz=297,slow=7.8,SNR=4.8							
MKAR	**Makanchi Array**	**45.49**	**347**	P	P	13 20 44.7	-1.9
0.3nm,0.4s,baz=160,slow=8.6,SNR=5.7							

IDC 22 13:16:51.7±4.6, 2.36N×95.55E, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=236.1km s-min=26.9km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.05**	**122**	P	P	13 25 01.8	-1.7
0.4nm,0.5s,baz=301,slow=9.1,SNR=8.3							
ASAR	**Alice Springs**	**45.41**	**127**	P	P	13 25 12.8	-1.6
0.3nm,0.6s,baz=295,slow=7.5,SNR=6.1							
MKAR	**Makanchi Array**	**45.73**	**347**	P	P	13 25 14.7	-1.9
0.3nm,0.4s,baz=158,slow=8.5,SNR=7.3							
STKA	**Stephens Creek**	**55.36**	**132**	P	P	13 26 27.3	-2.8
1.8nm,0.7s,baz=333,slow=9.0,SNR=4.3							

*MOS **22** 13:25:26.9±1.5, 43.71N×147.27E, h77km, mb4.3/3, Error ellipse: s-maj=23.9km s-min=14.5km az=98.1*
*SKHL **22** 13:25:27.4±0.0, 43.75N×147.47E, h33km, mb5.2/2*
*JMA **22** 13:25:30.4±0.2, 43.63N×147.34E, h69km±4km, M4.1*
*NEIC **22** 13:25:31.9±2.2, 43.80N×147.11E, h101km±18km, mb4.1/3, Error ellipse: s-maj=18.9km s-min=14.3km az=128.0*
*IDC **22** 13:25:34.5±3.1, 43.78N×147.06E, h124km±28km, mb3.4/9, mb1 3.6/10, mb1mx3.4/23, mbtmp3.7/10, Error ellipse: s-maj=23.5km s-min=17.4km az=114.0*

ISC 22 13:25:28.1±0.8, 43.82N±0.06×147.39E±0.08, h83km±6km, n37, σ1$22/49, mb3.8/12, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.12**	**281**	⇓*i*PN	**P**	**13 25 47.2**	**-1.8**
YUK				*i* S	**S**	**13 26 02.1**	**-2.7**
YUK				pmax	pmax		
comp=Z,2μm,0.2s							
YUK				pmax	pmax		
comp=N,310nm,0.2s							
YUK				pmax	pmax		
comp=E,490nm,0.3s							
YUK				pmax	pmax		
comp=Z,3μm,0.2s							
YUK				smax			
comp=N,8μm,0.4s							
YUK				smax			
comp=E,21μm,0.4s							
YUK				smax			
comp=N,6μm,0.3s							
YUK				smax			
comp=E,11μm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.12**	**281**	⇓*i*P	**P**	**13 25 47.2**	**-1.8**
YUK				AMB	AMB	13 25 47.5	
comp=E,3μm,0.2s							
YUK				AMB	AMB	13 25 47.5	
comp=E,490nm,0.3s							
YUK				AMB	AMB	13 25 47.5	
comp=E,310nm,0.1s							
YUK				AMB	AMB	13 25 47.5	
comp=E,2μm,0.2s							
YUK				*i* S	**S**	**13 26 02.1**	**-2.7**
YUK				A		13 26 02.6	
comp=E,8μm,0.4s							
YUK				A		13 26 02.6	
comp=E,21μm,0.4s							
YUK				A		13 26 02.7	
comp=E,11μm,0.5s							
YUK				A		13 26 02.7	
comp=E,6μm,0.2s							
NEM2	**Nemuro 2**	**1.28**	**250**	P	**P**	**13 25 51.4**	**+0.3**
NEM2				*e*S	**S**	**13 26 07.1**	**-1.2**
KUR	**Kuril'sk**	**1.45**	**14**	⇑*i*PN	**P**	**13 25 52.3**	**-1.1**
KUR				*i* S	**S**	**13 26 11.0**	**-1.1**
KUR				pmax	pmax		
comp=N,150nm,0.3s							
KUR				pmax	pmax		
comp=E,90nm,0.3s							
KUR				pmax	pmax		
comp=Z,180nm,0.3s							
KUR				smax			
comp=N,2μm,0.4s							
KUR				smax			
comp=E,640nm,0.4s							
KUR	**Kuril'sk**	**1.45**	**14**	⇑*i*P	**P**	**13 25 52.3**	**-1.1**
KUR				AMB	AMB	13 25 54.2	
comp=E,153nm,0.3s							
KUR				AMB	AMB	13 25 54.2	
comp=E,90nm,0.3s							
KUR				AMB	AMB	13 25 54.2	
comp=E,180nm,0.3s							
KUR				*i* S	**S**	**13 26 11.0**	**-1.1**
KUR				A		13 26 13.0	
comp=E,2μm,0.4s							
KUR				A		13 26 13.0	
comp=E,636nm,0.4s							
JRA	**Rausu**	**1.64**	**275**	P	**P**	**13 25 57.5**	**+1.6**
JRA				*e*S	**S**	**13 26 17.7**	**+1.4**
JNK	**Nakash**	**1.95**	**264**	P	**P**	**13 26 00.8**	**+0.9**
JNK				*e*S	**S**	**13 26 23.6**	**+0.2**
JAK	**Akkeshi**	**2.13**	**248**	P	**P**	**13 26 02.7**	**+0.3**
JAK				*e*S	**S**	**13 26 26.5**	**-1.3**
JTKR	**Abashiri--Toko**	**2.52**	**275**	P	**P**	**13 26 09.5**	**+1.6**
JAR	**Ashorobuto**	**2.68**	**260**	P	**P**	**13 26 11.2**	**+1.0**
JAR				*e*S	**S**	**13 26 42.4**	**+0.8**
JOB	**Onbets**	**2.75**	**252**	P	**P**	**13 26 11.7**	**+0.6**
JOB				*e*S	**S**	**13 26 41.8**	**-1.5**
JMP	**Maruseppu**	**2.92**	**275**	P	**P**	**13 26 15.3**	**+1.9**
JCH	**Churui**	**3.18**	**249**	P	**P**	**13 26 17.3**	**+0.2**
JCH				*e*S	**S**	**13 26 51.9**	**-2.1**
ASAJ	**Asahikawa**	**3.47**	**276**	P	**P**	**13 26 23.4**	**+2.3**
comp=E,2.3nm,0.3s,baz=87,slow=8.5,SNR=15							
JFR	**Furan**	**3.55**	**261**	P	**P**	**13 26 24.0**	**+1.8**
JNBK	**Urakawa-nobuka**	**3.73**	**247**	P	**P**	**13 26 24.5**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.52**	**315**	*e*Pn	**P**	**13 26 36.2**	**+0.5**
YSS	**Yuzh-Sakhalins**	**4.52**	**315**	⇑*i*P	**P**	**13 26 37.0**	**+1.4**
YSS				*e*S	**S**	**13 27 27.0**	**-0.4**
YSS				A		13 27 28.3	
comp=E,60nm,1.0s							
TYV	**Tymovskoe**	**7.74**	**337**	*e*P	**P**	**13 27 19.6**	**-0.4**
ILAR	**Eielson Array**	**41.33**	**36**	P	**P**	**13 33 09.9**	**+3.2**
comp=E,0.4nm,0.4s,mb3.6,baz=267,slow=6.3,SNR=12							
MKAR	**Makanchi Array**	**44.70**	**298**	P	**P**	**13 33 34.6**	**+0.4**
comp=E,0.9nm,0.5s,mb3.8,baz=80,slow=8.1,SNR=16							
MKAR				pP	pP	13 33 56.1	+1.8
comp=E,0.5nm,0.8s,baz=77,slow=11,SNR=2.7							
INK	**Inuvik**	**46.25**	**30**	*e*P	**P**	**13 33 47.3**	**+1.0**
INK				pmax	pmax		
comp=Z,1.0nm,0.4s							
INK	**Inuvik**	**46.25**	**30**	*e*P	**P**	**13 33 47.3**	**+1.0**
comp=Z,1.4nm,0.4s,mb4.0							
AAK	**Ala-Archa**	**51.48**	**296**	*e*P	**P**	**13 34 26.1**	**-0.8**
AAK				pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**51.48**	**296**	*e*P	**P**	**13 34 26.1**	**-0.8**
comp=Z,1.1nm,0.6s,mb4.1							
RES	**Resolute Bay**	**54.85**	**17**	*e*P	**P**	**13 34 50.8**	**-0.6**
RES				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
RES	**Resolute Bay**	**54.85**	**17**	*e*P	**P**	**13 34 50.8**	**-0.6**
comp=Z,0.9nm,0.4s,mb4.2							
YKA	**Yellowknife Ar**	**55.65**	**34**	P	**P**	**13 34 58.2**	**+0.9**
comp=Z,0.8nm,0.7s,mb3.9,baz=301,slow=7.0,SNR=13							
YKA	**Yellowknife Ar**	**55.65**	**34**	P	**P**	**13 34 58.2**	**+0.9**
ARCES	**ARCESS Array B**	**59.24**	**340**	P	**P**	**13 35 20.7**	**-1.8**
comp=Z,2.4nm,0.9s,mb4.2,baz=48,slow=7.4,SNR=5.1							
ARCES	**ARCESS Array B**	**59.24**	**340**	P	**P**	**13 35 20.7**	**-1.8**
WRA	**Warramunga Arr**	**64.57**	**194**	P	**P**	**13 35 57.4**	**-1.4**
comp=Z,0.9nm,0.7s,mb3.7,baz=9.7,slow=6.5,SNR=5.3							
FINES	**FINESS Array B**	**64.89**	**333**	P	**P**	**13 35 58.9**	**-1.3**
comp=Z,0.4nm,0.5s,mb3.5,baz=34,slow=6.9,SNR=6.6							
NVAR	**Mina Array Bea**	**67.39**	**58**	P	**P**	**13 36 17.4**	**+0.9**
comp=Z,0.2nm,0.4s,mb3.3,baz=294,slow=8.9,SNR=3.7							
ASAR	**Alice Springs**	**68.29**	**193**	P	**P**	**13 36 21.6**	**-0.6**
comp=Z,0.3nm,0.6s,mb3.3,baz=11,slow=7.1,SNR=6.7							
NB2	**NORSAR Subarra**	**69.60**	**339**	P	**P**	**13 36 29.4**	**-0.3**
comp=Z,0.7nm,0.4s,mb3.8,baz=32,slow=6.5							
NOA	**NORSAR Array B**	**69.60**	**339**	P	**P**	**13 36 29.1**	**-0.6**
comp=Z,0.9nm,0.6s,mb3.8,baz=32,slow=6.3,SNR=6.1							

JSN 22 14:44:20.0±0.8, 17.74N×79.76W, h19km±999km, MD4.5, 3C-2D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBJ	**Bamboo Saint A**	**2.46**	**75**	⇑*e*P	Pn	14 44 58.3	-1.6
PCJ	**Portland Cotta**	**2.48**	**90**	⇑*e*P	Pn	14 44 58.3	-2.0
PCJ				*i* S	Sn	14 45 27.8	-2.6
BNJ	**Bonny Gate**	**2.74**	**77**	⇑*e*P	Pn	14 45 02.3	-1.6
STH	**Stony Hill**	**2.83**	**83**	⇓*e*P	Pn	14 45 03.5	-1.7
STH				*e*S	Sn	14 45 35.9	-3.3
HOJ	**Hope**	**2.88**	**84**	⇓*e*P	Pn	14 45 05.0	-1.0
GWJ	**Greenwich**	**2.91**	**83**	*e*P	Pn	14 45 04.2	-2.2

WEL 22 14:46:32.0±0.1, 42.33S×173.06E, h5km, ML3.5/8, 2C-1D, Error ellipse: s-maj=1.8km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.37**	**105**	⇓PG	Pg	14 46 40.9	+1.5
KHZ				SG	Sg	14 46 45.1	+0.8
THZ	**Tophouse**	**0.57**	**348**	⇑PG	Pg	14 46 42.9	-0.6
THZ				SG	Sg	14 46 49.7	-1.5
LTZ	**Lake Taylor**	**0.74**	**232**	⇑P*	Pb	14 46 47.1	0.0
LTZ				S*	Sb	14 46 56.7	-0.6
LTZ				S*	Sb	14 46 59.0	+1.8
BSWZ	**Blackbirch Sta**	**0.86**	**45**	P*	Pb	14 46 48.5	-0.6
BSWZ				S*	Sb	14 47 00.6	-0.1
CMWZ	**Cape Campbell**	**1.03**	**57**	P*	Pb	14 46 53.3	+1.2
DSZ	**Denniston Nort**	**1.10**	**301**	P*	Pb	14 46 53.1	-0.1
TUWZ	**Tuamarina**	**1.11**	**37**	P*	Pb	14 46 52.6	-0.8
NNZ	**Nelson**	**1.13**	**12**	*e*P*	Pb	14 46 52.5	-1.2
CRLZ	**Canterbury Las**	**1.

JMA 22 15:23:29.0, 36.66N×138.30E, h4km±2km, M4.1
Broadband fault plane solution: P waves. NP1:φ₀326°, δ37°, λ60°. NP2:φ₀182°, δ58°, λ111°. Principal axes: T Plg69°, Azm137°; N Plg18°, Azm351°; P Plg11°, Azm257°;
JMA Felt IV J1.
IDC 22 15:23:05.0±4.1, 36.62N×138.04E, h62km±38km, mb3.7/9, mb1 4.0/10, mb1mx3.7/23, mbtmp4.0/10, ML4.1/1, MS3.0/3, Ms1 3.1/3, ms1mx2.7/36 Error ellipse: s-maj=25.1km s-min=17.5km az=96.0

ISC 22 15:23:27.1±0.4, 36.72N±0.03×138.24E±0.04, h4km, n33, σ1§20/36, mb3.9/13, MS3.2/1, 1C-8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	Matsushiro	0.18	189	eP	Pg	15 23 30.8	+0.1
MAT	Matsushiro	0.18	189	⫼iP	Pg	15 23 31.7	+1.0
MAT				eS	Sg	15 23 34.0	+0.8
MAT	Matsushiro	0.18	189	⫼P	Pg	15 23 31.6	+0.9
MAT				S	Sg	15 23 33.7	+0.5
MAT	Matsushiro	0.18	189	P	Pg	15 23 31.7	+1.0
JNG	Nsakai	0.33	200	⫼P	Pg	15 23 34.7	+0.9
JNG				S	Sg	15 23 38.8	+0.5
JGK	Kuni	0.36	116	⫼P	Pg	15 23 35.1	+0.8
JGK				S	Sg	15 23 39.6	+0.5
JTT	Ttatey	0.74	261	⫼P	Pg	15 23 44.1	+2.3
JKT	Katashina	0.81	87	⫼P	Pg	15 23 43.6	+0.3
JHK	Hiroka	0.81	50	⫼P	Pg	15 23 44.3	+1.0
JHK				S	Sg	15 23 55.1	+0.9
JRY	Ryogami san	0.88	143	⇑P	Pb	15 23 43.9	-0.7
JRY				S	Sg	15 23 54.7	-1.8
JIZZ	Izumozaki	0.89	25	P	Pb	15 23 47.4	+2.7
JAG	Ashikaga	1.02	107	⫼P	Pb	15 23 47.0	+0.1
JHJ	Hachijo jima 2	3.81	160	P	Pn	15 24 31.4	+3.5
	37nm,0.3s,baz=124,slow=16,SNR=5.7						
ASAJ	Asahikawa	8.10	23	LR	LR	15 29 03.0	
	comp=Z,96nm,21.4s,baz=349,slow=40						
KS15	Wonju Array Si	8.31	278	ePn	P	15 25 32.0	+0.8
CBIJ	Chichi jima	10.16	160	LR	LR	15 29 50.9	
	comp=Z,55nm,19.2s,baz=311,slow=37						
CMAR	Chiang Mai Arr	38.97	253	LR	LR	15 47 42.5	
	comp=Z,35nm,18.4s,MS3.2,baz=255,slow=37						
MKAR	Makanchi Array	42.13	302	P	P	15 31 20.2	-1.6
	0.5nm,1.1s,mb3.1,baz=84,slow=13,SNR=2.7						
ILAR	Eielson Array	51.12	32	P	P	15 32 31.0	-1.5
	1.5nm,0.8s,mb4.0,baz=283,slow=7.0,SNR=10						
INK	Inuvik	55.82	27	eP	P	15 33 07.0	-0.3
	3.4nm,1.0s,mb4.3						
WB2	Warramunga Arr	56.48	184	eP	P	15 33 09.2	-3.4
WRA	Warramunga Arr	56.48	184	P	P	15 33 09.7	-2.9
	4.5nm,0.8s,mb4.6,baz=2.9,slow=7.5,SNR=30						
ASAR	Alice Springs	60.20	185	P	P	15 33 35.5	-3.1
	1.9nm,0.7s,mb4.2,baz=358,slow=4.9,SNR=21						
YKA	Yellowknife Ar	65.34	29	P	P	15 34 11.5	-0.6
	0.3nm,0.7s,mb3.5,baz=304,slow=6.5,SNR=8.1						
YKA	Yellowknife Ar	65.34	29	P	P	15 34 11.5	-0.6
FINES	FINESS Array B	67.89	331	P	P	15 34 26.6	-1.8
	1.6nm,1.0s,mb4.0,baz=45,slow=5.4,SNR=6.4						
NB2	NORSAR Subarra	73.47	336	P	P	15 35 01.2	-0.7
	2.5nm,1.0s,mb4.1,baz=42,slow=5.8						
NOA	NORSAR Array B	73.47	336	P	P	15 35 01.2	-0.7
	1.4nm,0.9s,mb3.9,baz=43,slow=6.0,SNR=3.6						
FCC	Fort Churchill	75.39	25	P	P	15 35 12.2	-0.9
	0.7nm,0.6s,mb3.8						
BOZ	Bozeman (W)	76.68	43	eP	P	15 35 21.1	+0.4
	1.1nm,0.6s,mb4.0						
NVAR	Mina Array Bea	77.19	52	P	P	15 35 24.1	+0.4
	1.4nm,0.8s,mb4.0,baz=307,slow=4.1,SNR=9.3						
PDAR	Pinedale Array	79.68	44	P	P	15 35 37.6	+0.4
	0.8nm,0.7s,mb3.8,baz=299,slow=1.5,SNR=8.1						
TXAR	Lajitas Array	92.30	50	P	P	15 36 39.6	-0.2
	0.4nm,0.6s,mb4.0,baz=301,slow=3.5,SNR=4.9						

IDC 22 15:40:48.0±2.0, 35.31N×15.20E, mb4.0/3, mb1 4.0/11, mb1mx3.8/30, mbtmp3.9/11, ML4.1/8, MS3.4/2, Ms1 3.4/2, ms1mx2.6/29, Error ellipse: s-maj=34.4km s-min=16.3km az=37.0
ROM 22 15:40:49.9±0.6, 35.47N×15.17E, h7km, Md3.2/3, Ml4.0/7, Error ellipse: s-maj=8.2km s-min=3.9km az=1.0
CSEM 22 15:40:49.1±0.3, 35.07N×15.40E, h40km, ML4.9/3, Error ellipse: s-maj=7.5km s-min=3.1km az=16.0
NEIC 22 15:40:53.4±1.2, 35.43N×15.21E, h37km±10km, Error ellipse: s-maj=13.9km s-min=6.8km az=201.0

ISC 22 15:40:50.5±1.0, 35.25N±0.07×15.29E±0.05, h45km±12km, n60, σ1§18/68, mb3.9/3, MS3.4/2, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDD	Wield Dalam	0.88	315	Pg	P	15 41 02.4	-4.2
WDD				Sg	S	15 41 15.0	-3.4
	11μm,0.5s						
PZI	Palazzolo	1.83	351	Pg	P	15 41 20.1	+0.1
	455nm,0.2s						
SSY	Sortino	1.91	355	Pg	P	15 41 22.2	+1.0
SSY				Sg	S	15 41 46.8	+2.7
	2μm,0.4s						
AGST	Augusta-Monte	2.00	358	Pg	P	15 41 22.9	+0.4
VAE	Valguarnera	2.34	343	Pn	P	15 41 27.7	+0.4
	23nm,0.3s,baz=270,slow=2.0,SNR=14						
VAE				Sn	S	15 41 55.1	+0.2
	60nm,0.3s,baz=321,slow=9.2,SNR=10						
FAVR	Favara	2.41	327	Pg	P	15 41 28.8	+0.5
	547nm,0.6s						
MMME	Mongiuffi-Meli	2.68	359	Pg	P	15 41 32.8	+0.6
MMME				Sg	S	15 42 04.8	+1.1
	477nm,0.5s						
MNO	Monte Soro	2.72	350	Pg	P	15 41 33.9	+1.1
MNO				Sg	S	15 42 04.6	-0.1
	541nm,0.4s						
MTTG	Motta San Giov	2.77	7	Pg	P	15 41 33.6	+0.2
	273nm,0.6s						
CLTB	Caltabellotta	2.87	325	Pn	P	15 41 35.2	+0.4
	182nm,0.3s						
SOI	Samo	2.88	12	Pg	P	15 41 35.3	+0.2
SOI				Sg	S	15 42 09.8	+1.0
PLLN	Pollina	2.89	342	Pg	P	15 41 36.7	+1.5
GIB	Gibilmanna	2.92	340	Pg	P	15 41 36.4	+0.8
	351nm,0.6s						
GMB	Gambarie	2.94	8	Pg	P	15 41 36.6	+0.7
	94nm,0.3s						
MSI	Messina ING	2.96	4	Pn	P	15 41 37.4	+1.3
	1μm,0.6s						
MSRU	Castanea	3.01	3	Pg	P	15 41 37.6	+0.7
	667nm,0.9s						
SCLL	Scilla	3.02	6	Pg	P	15 41 37.3	+0.3
	165nm,0.3s						
CEL	Celeste	3.04	9	Pg	P	15 41 37.7	+0.4
	816nm,1.0s						
ERC	Erice	3.53	323	Pg	P	15 41 42.7	-1.6
	631nm,0.8s						
GRI	Girifalco	3.68	14	Pn	P	15 41 46.8	+0.5
	290nm,0.6s						
USI	Ustica	3.84	335	Pn	P	15 41 47.6	-1.1
	152nm,0.4s						
TIP	Timpagrande	4.09	16	ePn	P	15 41 51.9	-0.3
TIP				eSn	S	15 42 35.3	-4.1
TIP	Timpagrande	4.09	16	Pn	P	15 41 52.1	-0.1
	95nm,0.6s						
TIP				eSn	S	15 42 35.3	-4.1
MGR	Morigerati	4.88	2	Pn	P	15 42 02.9	-0.5
	71nm,0.7s						
ORI	Oriolo Calabro	4.89	10	Pn	P	15 42 03.5	0.0
	48nm,0.4s						
SGO	Sicignano	5.30	0	Pn	P	15 42 09.6	+0.4
	12nm,0.5s						
PE1	Pezze di Greco	5.80	16	ePn	P	15 42 13.1	-2.9
IGT	Igoumenitsa	5.86	42	eP	P	15 42 15.5	-1.5
CDT	Castel del Mon	5.87	7	ePn	P	15 42 15.0	-2.1
BAI	Bari	5.98	12	ePn	P	15 42 15.9	-2.7
CII	Carovilli	6.51	353	Pn	P	15 42 24.0	-2.1
	19nm,0.6s						
CII	Carovilli	6.51	353	Pn	P	15 42 24.0	-2.1
	19nm,0.6s						
MEV	Metsovon	6.54	44	eP	P	15 42 26.2	-0.3
AGG	Agios Georgios	6.76	54	eP	P	15 42 30.9	+1.2
FNA	Florina	7.32	39	eP	P	15 42 36.3	-1.1
LIT	Litokhoron	7.48	48	eP	P	15 42 38.9	-0.8
LIT	Litokhoron	7.48	48	P	P	15 42 38.8	-0.9
IDI	Anoyia	7.85	87	Pn	P	15 42 46.6	+1.8
	4.1nm,0.3s,baz=291,slow=17,SNR=13						
IDI				Sn	S	15 44 12.7	-0.5
	6.2nm,0.3s,baz=105,slow=22,SNR=8.6						
AOS	Alonnisos	7.89	58	eP	P	15 42 44.8	-0.5
PAIG	Paliouri	8.13	52	eP	P	15 42 47.8	-0.8
SKO	Skopje	8.26	34	iPn	P	15 42 49.8	-0.6
SOH	Sokhos	8.45	46	eP	P	15 42 51.8	-1.2
OUR	Ouranopolis	8.55	51	eP	P	15 42 53.6	-0.8
ALN	Alexandroupoli	10.18	53	eP	P	15 43 15.1	-1.7
MLR	Muntele Rosu	13.05	35	Pn	P	15 43 55.9	+0.4
	0.6nm,0.3s,baz=258,slow=16,SNR=7.0						
MLR	Muntele Rosu	13.05	35	Pn	P	15 43 55.8	+0.3
GERES	GERESS Array B	13.64	356	Pn	P	15 44 01.7	-1.4
	0.2nm,0.3s,baz=180,slow=8.0,SNR=5.6						
BRTR	Keskin Array B	15.23	68	Pn	P	15 44 25.6	+1.6
	0.3nm,0.3s,baz=255,slow=12,SNR=13						
ESDC	Sonseca Array	15.91	292	Pn	P	15 44 32.3	-0.4
	0.5nm,0.3s,baz=147,slow=13,SNR=2.8						
EIL	Elat	17.49	103	P	P	15 44 55.7	+3.0
	0.2nm,0.3s,baz=305,slow=16,SNR=2.5						
EIL				S	S	15 48 10.2	+6.5
	0.6nm,0.3s,baz=351,slow=13,SNR=6.0						
EIL	Elat	17.49	103	P	P	15 44 55.7	+3.0
EIL				S	S	15 48 10.2	+6.5
AKASG	Malin Array Be	18.45	29	P	P	15 45 03.4	-1.1
	0.8nm,0.3s,baz=222,slow=10,SNR=12						
AKASG	Malin Array Be	18.45	29	P	P	15 45 03.3	-1.2
GNI	Garni	23.75	69	LR	LR	15 57 05.4	
	comp=Z,28nm,18.7s,MS2.8,baz=345,slow=41						
FINES	FINESS Array B	27.10	11	P	P	15 46 30.3	-0.5
	1.3nm,0.6s,mb3.6,baz=180,slow=5.7,SNR=8.1						
MKAR	Makanchi Array	50.42	55	P	P	15 49 48.4	+3.0
	0.8nm,0.6s,mb3.9,baz=273,slow=7.2,SNR=13						
ZAL	Zalesovo	50.74	46	P	P	15 49 49.0	+1.3
	0.7nm,0.3s,mb4.1,baz=152,slow=12,SNR=3.0						
ZAL	Zalesovo	50.74	46	P	P	15 49 49.0	+1.3
BDFB	Brasilia	78.45	241	LR	LR	16 30 32.1	
	comp=Z,63nm,19.6s,MS4.0,baz=344,slow=38						
WRA	Warramunga Arr	124.66	91	PKP	PKPdf	15 59 49.3	+3.6
	0.2nm,0.8s,baz=312,slow=1.5,SNR=3.0						

IDC 22 15:59:53.8±3.5, 1.31S×100.61E, mb3.7/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=175.6km s-min=24.7km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.71	355	P	P	16 04 25.4	-2.5
	0.1nm,0.3s,baz=183,slow=10,SNR=4.4						
ASAR	Alice Springs	39.17	127	P	P	16 07 23.8	-1.6
	0.5nm,0.6s,baz=305,slow=8.2,SNR=14						
MKAR	Makanchi Array	50.54	344	P	P	16 08 53.3	-2.7
	0.7nm,0.4s,baz=153,slow=8.1,SNR=12						
ZAL	Zalesovo	56.60	349	P	P	16 09 39.0	-1.8
	0.7nm,0.3s,baz=308,slow=5.7,SNR=4.6						
TXAR	Lajitas Array	143.79	37	PKP	PKPdf	16 19 30.3	-3.1
	0.1nm,0.3s,baz=297,slow=4.0,SNR=2.8						

IDC 22 16:03:50.5±2.1, 6.98S×128.75E, mb3.6/1, mb1 4.1/4, mb1mx3.7/16, mbtmp3.9/4, ML4.0/3, Error ellipse: s-maj=85.6km s-min=28.1km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.46	195	Pn	P	16 06 35.3	-3.4
	1.9nm,0.3s,baz=18,slow=13,SNR=32						
FITZ				Sn	S	16 08 28.7	-20
	0.5nm,0.3s,baz=90,slow=12,SNR=2.6						
WRA	Warramunga Arr	13.98	158	Pn	P	16 07 10.2	-2.3
	1.0nm,0.3s,baz=342,slow=13,SNR=89						
WRA				Sn	S	16 09 32.9	-17
	0.3nm,0.3s,baz=333,slow=22,SNR=4.2						
ASAR	Alice Springs	17.32	164	P	P	16 07 54.1	-1.3
	0.3nm,0.3s,baz=332,slow=10.0,SNR=16						
ASAR				S	S	16 10 56.5	-11
	0.1nm,0.3s,baz=346,slow=26,SNR=3.6						
MKAR	Makanchi Array	67.53	327	P	P	16 14 48.8	-2.1
	0.2nm,0.4s,baz=125,slow=8.2,SNR=5.3						

NEIC 22 16:16:26.2±0.8, 51.53N×16.20E, h5km, ML3.1(VIE), ML2.9(SZGRF), ML2.9(FUR), ML2.6(BRG), ML2.4(CLL), Error ellipse: s-maj=10.6km s-min=5.7km az=211.0
WAR 22 16:16:27.8, 51.45N×16.17E, h1km, ML2.8, Mining Induced
IPEC 22 16:16:27.2±0.3, 51.44N×16.32E, ML2.1/3, Error ellipse: s-maj=1.7km s-min=1.5km az=149.0
PRU 22 16:16:28.1, 51.40N×16.16E
CSEM 22 16:16:28.0±0.2, 51.40N×16.14E, h2km, ML3.3/8, Error ellipse: s-maj=2.7km s-min=1.7km az=14.0

ISC 22 16:16:26.3±0.6, 51.34N±0.03×16.14E±0.03, n32, σ1§31/65, 2C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.51	169	⫼iPg	Pg	16 16 39.0	+2.5
KSP				eSg	Sg	16 16 46.9	+3.7
KSP	Ksiaz	0.51	169	ePg	Pg	16 16 39.0	+2.5
KSP				eSg	Sg	16 16 47.0	+3.8
KSP	Ksiaz	0.51	169	ePg	Pg	16 16 38.8	+2.3
KSP				eSg	Sg	16 16 46.0	+2.8
UPC	Upice	0.84	186	ePG	Pg	16 16 45.0	+1.9
DPC	Dobruska-Polom	1.00	173	ePG	Pg	16 16 47.7	+1.4
DPC				eSG	Sg	16 17 01.9	+2.3
	60nm,0.3s						
PVCC	Panska Ves	1.28	231	ePg	Pg	16 16 52.8	+0.9
PVCC				eSg	Sg	16 17 12.0	+2.9
BRG	Berggiesshubel	1.46	252	ePn	Pn	16 16 54.7	+0.7
BRG				iPg	Pg	16 16 55.7	+0.2
BRG				iSg	Sg	16 17 16.2	+1.2
BRG	Berggiesshubel	1.46	252	iPg	Pg	16 16 55.7	+0.2
PRU	Pruhonice	1.69	218	ePN	Pn	16 16 58.1	+0.8
PRU				ePG	Pg	16 17 00.0	-0.1
PRU				eSG	Sg	16 17 23.6	+0.9
PRU	Pruhonice	1.69	218	ePg	Pg	16 17 00.0	-0.1
PRU				eSg	Sg	16 17 23.6	+0.9
MORC	Moravsky Berou	1.80	150	ePn	Pn	16 16 59.5	+0.5
MORC				eSn	Sn	16 17 23.9	+1.0
MORC	Moravsky Berou	1.80	150	ePn	Pn	16 16 59.5	+0.6
MORC				eSn	Sn	16 17 23.9	+1.1
MORC				eSg	Sg	16 17 24.6	-1.8
	10.0nm,0.2s						
RUE	Ruedersdorf	1.85	309	ePn	Pn	16 16 57.3	-2.4
RUE	Ruedersdorf	1.85	309	ePn	Pn	16 16 57.3	-2.3
CLL	Collm	1.97	270	iPn	Pn	16 17 00.5	-0.8
CLL				iPg	Pg	16 17 04.3	-1.3
CLL				iSg	Sg	16 17 31.5	-0.3
CLL	Collm	1.97	270	iPN	Pn	16 17 00.5	-0.8
CLL				iPG	Pg	16 17 04.3	-1.3
CLL				i		16 17 18.6	
CLL				iSG	Sg	16 17 31.5	-0.3
OKC	Ostrava-Krasne	1.98	139	ePG	Pg	16 17 06.1	+0.3
OKC				eSG	Sg	16 17 30.7	-1.4
VRAC	Vranov	2.06	172	ePn	Pn	16 17 04.1	+1.6
VRAC				eSg	Sg	16 17 33.8	-1.0
	11nm,0.2s						
KRUC	Moravsky	2.29	176	ePn	Pn	16 17 07.6	+1.8
KRUC				eSg	Sg	16 17 42.1	-0.4
	8.7nm,0.3s						
OJC	Ojcow	2.58	114	ePG	Pg	16 17 17.0	-0.8
OJC				eSG	Sg	16 17 51.0	-1.2
OJC	Ojcow	2.58	114	ePn	Pn	16 17 09.7	-0.3
OJC	Ojcow	2.58	114	ePg	Pg	16 17 17.1	-0.7
OJC				eSg	Sg	16 17 51.5	-0.7
NKC	Novy Kostel	2.59	246	ePN	Pn	16 17 10.5	+0.3
NKC				eSG	Sg	16 17 51.9	-0.7
	42nm,0.3s						
KHC	Kasperske Hory	2.76	218	ePN	Pn	16 17 13.6	+1.1
KHC				ePG	Pg	16 17 19.4	-1.9
KHC				eSG	Sg	16 17 56.6	-1.5
KHC	Kasperske Hory	2.76	218	Pg	Pg	16 17 19.4	-1.9
KHC				Sg	Sg	16 17 56.6	-1.5
MOX	Moxa	2.94	258	ePn	Pn	16 17 15.2	0.0
MOX				eSg	Sg	16 18 02.5	-1.8
GEC2	GERESS Array S	2.95	213	ePn	Pn	16 17 16.5	+1.2
GEC2				eSg	Sg	16 18 02.0	-2.5
WET	Wettzell	3.04	225	ePn	Pn	16 17 17.4	+0.9
WET				eSg	Sg	16 18 05.3	-2.1
NIE	Niedzica	3.29	124	eP	Pg	16 17 30.0	-2.0
NIE				eS	Sg	16 18 15.3	-0.6
MOA	Molln	3.70	200	⫼iPN	Pn	16 17 27.0	+1.0
MOA				iSG	Sg	16 18 28.4	-1.1
	16nm,0.6s						
ARSA	Arzberg	4.11	186	⇑iPN	Pn	16 17 32.4	+0.6
ARSA				iSG	Sg	16 18 41.7	-1.6
	18nm,0.8s						
KBA	Koelnbreinsper	4.64	204	⇑iPN	Pn	16 17 40.1	+0.7
KBA				iSG	Sg	16 19 00.3	-0.6
	6.3nm,0.5s						

IDC 22 16:43:59.8±0.9, 67.17N×21.58E, mb1 2.9/3, mb1mx2.8/22, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=19.8km s-min=7.2km az=113.0
HEL 22 16:44:00.2±0.1, 67.09N×20.96E, ML2.3, ML2.3(UPP), Explosion

ISC 22 16:43:59.1±0.4, 67.06N±0.03×20.96E±0.07, n26, σ1§03/29, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.17	294	iP	Pg	16 44 02.6	+0.2
DUNU				iS	Sg	16 44 05.4	+0.8
MASU	Masugnsbyn	0.57	45	iP	Pg	16 44 10.2	-0.4
ERTU	Ertsjaerv	0.70	135	iP	Pg	16 44 12.9	-0.2
PAJU	Pajala	0.85	91	iP	Pg	16 44 15.3	-0.7
KUA	Kurravaara	0.93	346	eP	Pg	16 44 16.3	-1.5
SALU	Saltoluokta	1.01	290	eP	Pb	16 44 18.0	-1.1
NIKU	Nikkaluokta	1.10	319	eP	Pb	16 44 19.4	-1.3
SJUU	Sjulsmark	1.58	170	eP	Pn	16 44 28.6	+0.2
LILU	Liiltraesk	1.83	195	eP	Pn	16 44 32.8	+0.7
KTK1	Kautokeino	2.15	23	eP	Pn	16 44 37.9	+1.3
SGF	Sodankyl	2.20	77	eP	Pn	16 44 38.7	+1.3
SGF				eS	Sn	16 45 08.4	+2.7
TRO	Tromso	2.70	345	eP	Pn	16 44 44.2	-0.3
MOR8	Moi Rana	2.75	254	eSG	Sn	16 45 21.0	+1.4
MELSS	Ber_school_2	2.85	269	e	Pn	16 44 47.5	+0.9
ARCES	ARCESS Array B	3.01	32	Pg	Pn	16 44 48.5	-0.4
	0.8nm,0.3s,baz=210,slow=14,SNR=91						
ARCES				Lg		16 45 27.2	
	0.8nm,0.3s,baz=207,slow=27,SNR=10						
STOK	Stokkvaagen	3.24	261	ePG	Pb	16 44 58.6	+1.3
STOK	Stokkvaagen	3.24	261	e	Pb	16 44 58.6	+1.3
KU4	Liikasenvaara	3.50	97	eP	Pn	16 44 56.5	+0.6
KEV	Kevo	3.52	37	eP	Pn	16 44 55.1	-1.0
KJN	Kajaani	4.09	134	eP	Pn	16 45 05.0	+0.6
KJN				MSN		16 45 55.2	
	comp=Z,1.7nm,0.2s						
VAF	Ylistaro	4.09	169	eP	Pn	16 45 04.5	+0.2
NSS	Namsos	4.49	240	eS	Sn	16 46 02.8	-0.8
KAF	Kangasniemi	5.47	153	eP	Pn	16 45 23.5	-0.3
KAF				MSN		16 46 26.8	
	comp=Z,0.7nm,0.2s						
FINES	FINESS Array B	6.06	156	Pn	Pn	16 45 31.8	-0.3
	comp=Z,0.1nm,0.3s,baz=347,slow=14,SNR=5.1						
FINES				Sn	Sn	16 46 40.0	-3.1
	comp=Z,0.3nm,0.3s,baz=348,slow=27,SNR=10						
NOA	NORSAR Array B	7.39	220	Pn	Pn	16 45 51.0	+0.1
	comp=Z,0.1nm,0.3s,baz=6.3,slow=19,SNR=2.2						
HFS	Hagfors	7.66	208	Pn	Pn	16 45 52.6	-2.0
	comp=Z,0.0nm,0.3s,baz=27,slow=13,SNR=5.5						

DJA 22 16:43:57.6±0.5, 10.14S×130.26E, h2km, mb5.0/5, Error ellipse: s-maj=23.2km s-min=5.5km az=168.0
NEIC 22 16:44:11.0±1.5, 7.32S×129.21E, h59km±16km, mb4.3/7, Error ellipse: s-maj=15.8km s-min=8.1km az=45.0
IDC 22 16:44:15.0±4.0, 7.37S×129.18E, h104km±40km, mb3.9/8, mb1 4.2/11, mb1mx4.0/18, mbtmp4.5/11, MS4.0/2, Ms1 4.0/2, ms1mx3.0/20, Error ellipse: s-maj=31.4km s-min=15.2km az=54.0

ISC 22 16:44:14.5±1.0, 7.31S±0.05×129.50E±0.06, h127km±11km, n41, σ1§19/48, mb4.6/13, 4C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.10	152	eP	P	16 45 45.0	+1.6
	116nm,0.1s						
KAKA				eS	S	16 46 51.4	-1.0
FITZ	Fitzroy Crossi	11.37	199	eP	P	16 46 53.5	-0.5
	39nm,0.4s						
FITZ				eS	S	16 48 51.8	-7.2
FITZ	Fitzroy Crossi	11.37	199	P	P	16 46 54.0	0.0
	15nm,0.3s,baz=17,slow=10,SNR=108						
FITZ				S	S	16 48 52.3	-6.7
	6.0nm,0.3s,baz=13,slow=11,SNR=3.7						
MENI	Mendum Tagoi	11.88	67	⫼eP	P	16 47 01.2	+0.5
	31nm,0.3s						
YOMI	Yo Moklole	11.95	68	⫼eP	P	16 47 01.3	-0.4
	220nm,0.5s						
KEDI	Kedomdong	13.31	264	⫼eP	P	16 47 19.9	+0.5
	93nm,0.7s						
WRAB	Tennant Creek	13.40	160	ePn	P	16 47 19.2	-1.4
	184nm,0.9s						
WRAB				eSn	S	16 49 37.9	-9.0
WRA	Warramunga Arr	13.41	160	P	P	16 47 20.1	-0.6
	10nm,0.3s,baz=341,slow=13,SNR=470						
WRA				S	S	16 49 41.0	-5.9
	12nm,0.3s,baz=338,slow=23,SNR=11						
WB2	Warramunga Arr	13.41	160	eP	P	16 47 18.9	-1.8
WB2				eS	S	16 49 42.9	-4.2
RATI	Rata	13.90	263	⇑eP	P	16 47 29.0	+1.9
KELI	Kelakatan	14.90	266	⇑eP	P	16 47 40.5	+0.7
	57nm,0.4s						
SRDI	Scrawed	15.26	265	⫼eP	P	16 47 45.1	+0.8
	123nm,0.4s						
MBWA	Marble Bar	16.70	213	Pn	P	16 47 58.3	-3.9
	11nm,0.8s						
ASAR	Alice Springs	16.81	166	P	P	16 48 04.2	+0.7
	3.5nm,0.3s,baz=344,slow=14,SNR=138						
ASAR				S	S	16 51 04.2	-0.7
	2.3nm,0.3s,baz=357,slow=25,SNR=4.8						
ASAR				LR	LR	16 55 08.3	
	comp=Z,75nm,21.3s,baz=13,slow=39						
ASPA	Alice Springs	16.81	166	eP	P	16 48 02.6	-1.0
ASPA			

coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.51**	**290**	P	Pn	16 45 02.8	0.0
BSO1				S	Sb	16 45 22.5	+0.2
BSO3	**Boso 3**	**1.92**	**290**	P	Pn	16 45 09.0	+0.3
BSO3				*e*S	Sn	16 45 33.7	+0.6
JYN	**Shimob**	**3.67**	**292**	S	Sn	16 46 16.2	-1.3
JMM	**Marumori**	**4.01**	**338**	P	Pn	16 45 39.2	+0.7
JMK	**Ichinoseki**	**4.93**	**346**	P	Pn	16 45 51.9	+0.4

IDC ***22*** *16:54:57.7±2.0, 1.14N×97.30E, mb4.0/8, mb1 4.1/9, mb1mx3.8/22, mbtmp4.0/9, ML4.0/1, MS3.3/1, Ms1 3.5/1, ms1mx2.9/27, Error ellipse: s-maj=82.4km s-min=17.1km az=58.0*

BJI ***22*** *16:55:00.0, 1.10N×97.20E, h30km, mb4.1*

NEIC ***22*** *16:55:01.8±0.8, 1.11N×97.20E, h30km, mb3.7/1, Error ellipse: s-maj=18.8km s-min=9.3km az=65.0*

ISC 22 16:54:59.8±1.0, 1.1N±0.1×97.2E±0.1, h30km, n13, σ0§50/13, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**39**	*e*Pn	**Pn**	**16 56 20.5**	**+0.1**
CM31	**Chiang Mai Arr**	**17.33**	**6**	*e*P	**P**	**16 59 01.4**	**0.0**
	7.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.33**	**6**	P	**P**	**16 59 00.6**	**-0.8**
	0.2nm,0.3s,baz=195,slow=12,SNR=9.3						
CMAR				LR	LR	17 06 38.0	
	comp=Z,84nm,18.4s,baz=189,slow=40						
KKM	**Kota Kinabalu**	**19.59**	**75**	*e*P	**P**	**16 59 29.0**	**+0.3**
GTA	**Gaotai**	**38.20**	**3**	*e*P	**P**	**17 02 19.6**	**+0.8**
GTA				AP	pP	17 02 25.5	-2.2
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**41.98**	**122**	P	**P**	**17 02 49.9**	**-0.3**
	comp=Z,1.2nm,0.8s,mb3.6,baz=300,slow=9.2,SNR=9.1						
ASAR	**Alice Springs**	**43.33**	**127**	P	**P**	**17 03 01.4**	**+0.2**
	comp=Z,0.8nm,0.8s,mb3.5,baz=308,slow=8.4,SNR=5.5						
SONM	**Songino Array**	**47.22**	**8**	P	**P**	**17 03 32.3**	**+0.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=191,slow=9.2,SNR=12						
MKAR	**Makanchi Array**	**47.34**	**346**	P	**P**	**17 03 33.5**	**+0.6**
	comp=Z,1.2nm,0.7s,mb4.0,baz=162,slow=8.0,SNR=18						
PMG	**Port Moresby**	**50.82**	**103**	P	**P**	**17 03 59.5**	**-0.7**
	comp=Z,7.6nm,0.7s,mb4.7,baz=306,slow=6.6,SNR=3.1						
STKA	**Stephens Creek**	**53.28**	**132**	P	**P**	**17 04 18.9**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=90,slow=17,SNR=3.2						
ZAL	**Zalesovo**	**53.65**	**351**	P	**P**	**17 04 20.6**	**-0.2**
	comp=Z,1.0nm,0.4s,mb4.1,baz=303,slow=9.1,SNR=7.8						
BVAR	**Borovoye Array**	**56.34**	**341**	P	**P**	**17 04 39.7**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.8						

KRSC 22 17:08:03.3±0.6, 55.02N×161.57E, h78km±3km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.47**	**169**	*i* P	P	17 08 17.2	+0.5
MKZ				*i* S	S	17 08 27.2	+0.4
TUMR	**Tumrok**	**0.86**	**288**	*i* P	P	17 08 21.2	+0.4
TUMR				*i* S	S	17 08 34.3	+0.5
KMNR	**Kamenistaya**	**1.06**	**315**	*i* P	P	17 08 23.7	+0.5
KMNR				*e*S	S	17 08 38.3	+0.2
ZLN	**Zelenaya**	**1.09**	**337**	*e*P	P	17 08 24.7	+1.1
ZLN				*e*S	S	17 08 40.0	+1.2
LGNR	**Loginova**	**1.18**	**335**	*e*P	P	17 08 25.9	+1.2
LGNR				*e*S	S	17 08 42.3	+1.6
CIRR	**Tsirk**	**1.19**	**337**	*e*P	P	17 08 26.4	+1.5
CIRR				*e*S	S	17 08 43.1	+2.0
KPT	**Kopyto**	**1.22**	**322**	*i* P	P	17 08 25.9	+0.6
KPT				*e*S	S	17 08 41.8	+0.1
KRSR	**Krestovskiy**	**1.33**	**335**	*e*P	P	17 08 26.9	+0.1
KRSR				*e*S	S	17 08 43.6	-0.6
KBTR	**Krutoberegovo**	**1.39**	**30**	*i* P	P	17 08 27.9	+0.3
KBTR				*e*S	S	17 08 46.2	+0.7
KLY	**Klyuchi**	**1.40**	**339**	*i* P	P	17 08 27.4	-0.3
KLY				*e*S	S	17 08 45.0	-0.7
KOZ	**Kozyrevsk**	**1.42**	**318**	*i* P	P	17 08 28.3	+0.3
KOZ				*e*S	S	17 08 46.4	+0.2
KII	**Karymskiy**	**1.58**	**232**	*e*P	P	17 08 30.5	+0.4
KII				*e*S	S	17 08 50.7	+0.8
SRDR	**Sredinnyy**	**1.67**	**322**	*i* P	P	17 08 31.2	-0.1
SRDR				*e*S	S	17 08 51.1	-0.8
ESO	**Esso**	**1.87**	**300**	*e*P	P	17 08 33.6	-0.3
ESO				*e*S	S	17 08 55.9	-0.6
ESO				Smax			
	30nm,1.3s						
SPN	**Mys Shipunski**	**2.13**	**206**	*i* P	P	17 08 37.4	-0.2
SPN				*e*S	S	17 09 02.1	-0.8
NLC	**Nalytchevo**	**2.27**	**216**	*i* P	P	17 08 39.8	+0.3
NLC				*i* S	S	17 09 06.9	+0.5
SMAR	**Somma**	**2.40**	**224**	*i* P	P	17 08 42.2	+0.9
SMAR				*e*S	S	17 09 10.5	+0.9
AVH	**Avacha**	**2.42**	**225**	*i* P	P	17 08 42.5	+0.8
AVH				*e*S	S	17 09 10.7	+0.5
UGLR	**Uglovaya**	**2.43**	**223**	*i* P	P	17 08 42.7	+0.9
UGLR				*i* S	S	17 09 11.2	+0.8
KOK	**Koryaka**	**2.44**	**226**	*e*P	P	17 08 42.7	+0.7
KOK				*e*S	S	17 09 11.3	+0.5
GNL	**Ganaly**	**2.50**	**239**	*i* P	P	17 08 43.5	+0.7
GNL				*e*S	S	17 09 12.2	-0.1
BKI	**Bering**	**2.54**	**84**	*e*P	P	17 08 42.8	-0.5
BKI				*i* S	S	17 09 10.5	-2.5
BKI				Smax			
	50nm,0.2s						
PET	**Petropavlovsk**	**2.64**	**222**	*i* P	P	17 08 45.2	+0.5
PET				*i* S	S	17 09 16.0	+0.4
KRMR	**Karymshinskiy**	**2.99**	**224**	*e*P	P	17 08 50.3	+0.7
KRMR				*e*S	S	17 09 25.9	+1.4
RUS	**Russkaya**	**3.17**	**216**	*i* P	P	17 08 51.9	-0.1
RUS				*i* S	S	17 09 28.1	-0.7
GRL	**Gorelyy**	**3.23**	**221**	*e*P	P	17 08 53.9	+1.0
GRL				*e*S	S	17 09 30.4	+0.1
APC	**Apacha**	**3.35**	**233**	*e*P	P	17 08 55.5	+1.0
APC				*e*S	S	17 09 35.1	+1.8
APC				Smax			
	10.0nm,1.1s						
PAU	**Pauzhetka**	**4.56**	**221**	P	P	17 09 13.0	+1.5
ALID	**Alaid**	**5.53**	**224**	*e*P	P	17 09 26.1	+1.5
KAMR	**Kamenskoye**	**7.84**	**16**	P	P	17 09 57.4	+0.8

IDC ***22*** *17:10:59.0±0.6, 3.62S×144.17E, mb4.6/14, mb1 4.6/17, mb1mx4.6/20, mbtmp4.5/17, ML3.6/3, MS4.3/15, Ms1 4.3/15, ms1mx4.1/22, Error ellipse: s-maj=24.7km s-min=13.7km az=87.0*

MOS ***22*** *17:11:02.5±1.1, 3.66S×144.10E, h33km, mb5.0/18, Error ellipse: s-maj=14.0km s-min=7.5km az=92.0*

BJI ***22*** *17:11:03.9, 3.57S×144.45E, h55km, mB5.2, mb4.8, Ms4.5, Msz4.3*

NEIC ***22*** *17:11:05.9±1.4, 3.71S×144.11E, h51km±13km, mb4.8/20, Error ellipse: s-maj=9.1km s-min=7.0km az=94.0*

ISC 22 17:11:04.0±0.3, 3.74S±0.04×144.15E±0.07, h48km, h48km±2.5km: pP-P, n132, σ0§92/129, mb4.8/53, MS4.2/25, 10C-4D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOMI	**Yo Moklole**	**3.75**	**287**	*e*Pn	**P**	**17 11 56.0**	**-4.8**
YOMI	**Yo Moklole**	**3.75**	**287**	‖*e*P	**P**	**17 11 57.3**	**-3.5**
MENI	**Mendum Tagoi**	**3.92**	**288**	‖*e*Pn	**P**	**17 11 58.8**	**-4.5**
MENI	**Mendum Tagoi**	**3.92**	**288**	*e*P	**P**	**17 12 00.7**	**-2.6**
PMG	**Port Moresby**	**6.37**	**152**	*e*P	**P**	**17 12 37.8**	**+0.2**
PMG				pmax	pmax		
	comp=Z,54nm,0.6s						
PMG	**Port Moresby**	**6.37**	**152**	Pn	**P**	**17 12 37.3**	**-0.3**
	comp=Z,3.6nm,0.3s,baz=328,slow=7.7,SNR=13						
PMG	**Port Moresby**	**6.37**	**152**	*e*Pn	**P**	**17 12 37.8**	**+0.2**
	comp=Z,54nm,0.6s						
KAKA	**Kakadu**	**14.61**	**232**	*e*P	**P**	**17 14 18.0**	**-12**
	comp=Z,49nm,0.5s						
CTA	**Charters Tower**	**16.38**	**173**	Pn	**P**	**17 14 53.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=336,slow=12,SNR=2.9						
CTAO	**Charters Tower**	**16.38**	**173**	*e*P	**P**	**17 14 53.3**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,32nm,1.3s						
CTAO	**Charters Tower**	**16.38**	**173**	*e*P	**P**	**17 14 53.3**	**+1.1**
	comp=Z,32nm,1.3s						
WRAB	**Tennant Creek**	**18.71**	**210**	*i* P	**P**	**17 15 20.7**	**-0.5**
WRAB	**Tennant Creek**	**18.71**	**210**	*e*P	**P**	**17 15 20.4**	**-0.8**
	comp=Z,4.9nm,1.1s						
WB2	**Warramunga Arr**	**18.72**	**210**	*e*P	**P**	**17 15 20.6**	**-0.7**
WRA	**Warramunga Arr**	**18.73**	**210**	P	**P**	**17 15 20.4**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=34,slow=12,SNR=29						
ASAR	**Alice Springs**	**22.14**	**206**	P	**P**	**17 15 57.4**	**+0.2**
	comp=Z,5.0nm,0.6s,mb4.1,baz=31,slow=13,SNR=54						
ASAR				PcP	PcP	17 19 55.5	+1.4
	comp=Z,2.7nm,0.8s,baz=30,slow=3.8,SNR=4.3						
ASAR				LR	LR	17 26 12.2	
	comp=Z,506nm,18.7s,MS4.0,baz=31,slow=41						
ASPA	**Alice Springs**	**22.14**	**206**	*e*P	**P**	**17 15 57.6**	**+0.4**
ASPA				*e*S	**S**	**17 20 04.6**	**+11**
FITZ	**Fitzroy Crossi**	**23.07**	**230**	*e*P	**P**	**17 16 06.3**	**-0.1**
	comp=Z,37nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**23.07**	**230**	P	**P**	**17 16 07.2**	**+0.8**
	comp=Z,45nm,0.7s,mb5.0,baz=32,slow=4.8,SNR=23						
FITZ				LR	LR	17 25 26.3	
	comp=Z,560nm,18.4s,MS4.0,baz=181,slow=38						
STKA	**Stephens Creek**	**28.09**	**185**	*e*P	**P**	**17 16 53.3**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.2						
STKA				*e*		17 17 59.8	
STKA	**Stephens Creek**	**28.09**	**185**	P	**P**	**17 16 53.5**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.2,baz=0.9,slow=9.6,SNR=11						
STKA				LR	LR	17 29 30.8	
	comp=Z,1μm,19.1s,MS4.5,baz=4.0,slow=39						
MBWA	**Marble Bar**	**29.38**	**232**	*e*P	**P**	**17 17 04.1**	**-1.0**
	comp=Z,21nm,1.3s,mb4.7						
FORT	**Forrest**	**30.88**	**208**	*e*P	**P**	**17 17 18.0**	**-0.3**
	comp=Z,568nm,0.7s						
JOW	**Kunigami**	**34.05**	**334**	LR	LR	17 29 18.1	
	comp=Z,412nm,19.7s,MS4.2,baz=177,slow=32						
KSM	**Kuching**	**34.22**	**278**	*e*P	**P**	**17 17 44.0**	**-3.4**
KLBR	**Kellerberrin**	**37.19**	**219**	*e*P	**P**	**17 18 12.3**	**-0.2**
	comp=Z,428nm,1.2s						
NWAO	**Narrogin (SRO)**	**38.42**	**218**	P	**P**	**17 18 23.0**	**+0.2**
	comp=Z,8.0nm,0.8s,mb4.5,baz=63,slow=4.5,SNR=2.8						
NWAO	**Narrogin (SRO)**	**38.42**	**218**	P	**P**	**17 18 23.0**	**+0.2**
MUN	**Mundaring**	**38.43**	**220**	*e*P	**P**	**17 18 24.6**	**+1.8**
	comp=Z,33nm,1.2s,mb4.9						
MUN	**Mundaring**	**38.43**	**220**	*e*P	**P**	**17 18 24.6**	**+1.8**
MUN				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.9						
GZH	**Guangzhou**	**40.18**	**313**	P	**P**	**17 18 38.4**	**+0.9**
MJAR	**Matsushiro Arr**	**40.46**	**353**	LR	LR	17 34 19.3	
	comp=Z,156nm,18.1s,MS3.9,baz=190,slow=35						
SSE	**Sheshan**	**40.98**	**329**	P	**P**	**17 18 44.3**	**+0.3**
SSE				PP	PP	17 20 22.1	+0.2
SSE				S	**S**	**17 24 48.3**	**-4.2**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,96nm,4.8s						
SSE				LR	LR		
	comp=N,63nm,21.4s,MS3.8						
SSE				LR	LR		
	comp=E,122nm,21.5s,MS3.8						
SSE				LR	LR		
	comp=Z,148nm,26.8s						
SSE	**Sheshan**	**40.98**	**329**	P	**P**	**17 18 44.3**	**+0.3**
	comp=Z,32nm,0.7s,mb5.1						
SSE				sP	Px	17 19 31.8	
SSE				PP	PP	17 20 22.1	+0.2
SSE				S	**S**	**17 24 48.3**	**-4.2**
SSE				sS		17 25 43.4	
SSE				SS	SS	17 28 00.2	+8.7
SSE				LR	LR		
	comp=Z,150nm,26.8s,MS3.7						
NJ2	**Nanjing**	**42.95**	**328**	*e*P	**P**	**17 19 00.5**	**+0.2**
NJ2				AP	pP	17 19 12.5	-0.7
NJ2				XP	sP	17 19 17.8	-1.1
NJ2				PP	PP	17 20 43.3	+0.6
NJ2				S	**S**	**17 25 22.0**	**+0.4**
NJ2				XS		17 25 41.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,160nm,4.1s						
NJ2				LR	LR		
	comp=N,340nm,13.7s,MS4.5						
NJ2				LR	LR		
	comp=E,290nm,18.4s,MS4.5						
NJ2				LR	LR		
	comp=Z,200nm,12.7s						
KS15	**Wonju Array Si**	**43.68**	**341**	*e*P	**P**	**17 19 04.6**	**-1.5**
KULM	**Kulim**	**44.37**	**281**	P	**P**	**17 19 11.2**	**-0.7**
WHN	**Wuhan**	**44.41**	**322**	⇑P	**P**	**17 19 14.0**	**+1.9**
RPZ	**Rata Peaks**	**46.38**	**153**	LR	LR	17 36 11.8	
	comp=Z,474nm,18.4s,MS4.5,baz=342,slow=33						
GYA	**Guiyang**	**47.07**	**312**	⇑*i*P	**P**	**17 19 34.1**	**+0.9**
GYA				AP	pP	17 19 48.3	+2.1
GYA				XP	sP	17 19 54.8	+3.0
GYA				PP	PP	17 21 24.6	+0.9
GYA				S	**S**	**17 26 22.8**	**+2.0**
GYA				XS		17 26 43.4	
GYA				AMB	AMB		
	comp=Z,20nm,1.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,180nm,4.6s						
GYA				LR	LR		
	comp=N,240nm,18.5s,MS4.5						
GYA				LR	LR		
	comp=E,390nm,18.3s,MS4.5						
GYA				LR	LR		
	comp=Z,270nm,17.9s,MS4.3						
NANT	**Nan**	**48.28**	**299**	P	**P**	**17 19 43.0**	**+0.3**
SNY	**Shenyang**	**49.07**	**340**	‖P	**P**	**17 19 48.3**	**-0.2**
SNY				S	**S**	**17 26 43.8**	**-4.9**
SNY				LR	LR		
	comp=N,330nm,16.8s						
SNY				LR	LR		
	comp=Z,360nm,20.1s,MS4.4						
KMI	**Kunming**	**49.38**	**308**	⇑P	**P**	**17 19 52.0**	**+0.9**
KMI				AP	pP	17 20 05.9	+1.7
KMI				XP	sP	17 20 11.0	+1.2
KMI				PP	PP	17 21 45.8	0.0
KMI				S	**S**	**17 26 53.1**	**-0.1**
KMI				XS		17 27 18.6	
KMI				SS	SS	17 30 22.3	+1.0
KMI				AMB	AMB		
	comp=Z,12nm,1.5s,mb4.7						
KMI				AMB	AMB		
	comp=Z,107nm,4.5s						
KMI				LR	LR		
	comp=N,135nm,16.4s,MS4.2						
KMI				LR	LR		
	comp=E,130nm,13.1s,MS4.2						
KMI				LR	LR		
	comp=Z,142nm,20.4s						
KMI	**Kunming**	**49.38**	**308**	⇑P	**P**	**17 19 52.0**	**+0.9**
KMI				*PP	pP	17 20 05.9	+1.7
KMI						17 21 45.7	
KMI				S	**S**	**17 26 53.1**	**-0.1**
KMI				SS	SS	17 30 22.2	+0.9
KMI				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.7						
KMI				MLR	MLR		
	comp=Z,140nm,20.4s,MS4.0						
KMI	**Kunming**	**49.38**	**308**	⇑P	**P**	**17 19 52.0**	**+0.9**
	comp=Z,12nm,1.5s,mb4.7						
KMI				pP	pP	17 20 05.9	+1.7
KMI				sP	sP	17 20 11.0	+1.2
KMI				PP	PP	17 21 45.7	-0.1
KMI				S	**S**	**17 26 53.1**	**-0.1**
KMI				sS		17 27 18.6	
KMI				SS	SS	17 30 22.2	+0.9
KMI				LR	LR		
	comp=Z,140nm,20.4s,MS4.0						
CM31	**Chiang Mai Arr**	**49.69**	**298**	*e*P	**P**	**17 19 53.3**	**-0.3**
	comp=Z,3.9nm,0.6s,mb4.6						
CMAR	**Chiang Mai Arr**	**49.69**	**298**	P	**P**	**17 19 53.9**	**+0.3**
	comp=Z,3.6nm,0.6s,mb4.6,baz=118,slow=6.4,SNR=35						
CMAR				LR	LR	17 40 19.9	
	comp=Z,90nm,18.6s,MS3.8,baz=115,slow=36						
CMAR	**Chiang Mai Arr**	**49.69**	**298**	P	**P**	**17 19 53.9**	**+0.3**
CMAR				LR	LR	17 40 19.9	
CHG	**Chiang Mai**	**49.82**	**298**	P	**P**	**17 19 54.3**	**-0.3**
	comp=Z,16nm,1.3s,mb4.9						
MDJ	**Mudanjiang**	**49.88**	**346**	P	**P**	**17 19 54.3**	**-0.4**
MDJ				AP	pP	17 20 07.1	-0.7
MDJ				XP	sP	17 20 13.8	+0.4
MDJ				PP	PP	17 21 49.0	-1.5
MDJ				SCP		17 25 05.1	
MDJ				S	**S**	**17 27 05.0**	**+5.1**
MDJ				SCS	ScS	17 29 40.3	+1.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,2.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,68nm,3.9s						
MDJ				LR	LR		
	comp=N,75nm,28.1s,MS4.0						
MDJ				LR	LR		
	comp=E,222nm,26.4s,MS4.0						
MDJ				LR	LR		
	comp=Z,265nm,26.4s,MS4.1						
XAN	**Xi'an**	**50.15**	**321**	P	**P**	**17 19 56.0**	**-1.0**
XAN				AMB	AMB		
	comp=Z,21nm,1.9s,mb4.8						
CN2	**Changchun**	**50.23**	**342**	*e*P	**P**	**17 19 59.9**	**+2.5**
CD2	**Chengdu**	**51.68**	**315**	P	**P**	**17 20 07.8**	**-0.7**
CD2				AMB	AMB		
	comp=Z,20nm,0.4s,mb5.4						
HHC	**Hu-ho-hao-te**	**53.44**	**329**	*e*P	**P**	**17 20 21.3**	**-0.3**
HHC				AP	pP	17 20 30.8	-4.0
HHC				PCS		17 25 29.6	
HHC				S	**S**	**17 27 38.3**	**-11**
HHC				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,169nm,4.7s						
HHC				LR	LR		
	comp=N,156nm,21.2s,MS4.2						
HHC				LR	LR		
	comp=E,141nm,20.4s,MS4.2						
HHC				LR	LR		
	comp=Z,202nm,21.5s,MS4.1						
BTO	**Baotou**	**54.06**	**328**	*e*P	**P**	**17 20 25.9**	**-0.3**
LZH	**Lanzhou**	**54.66**	**320**	⇑P	**P**	**17 20 30.0**	**-0.6**
LZH				AMB	AMB		
	comp=Z,68nm,1.5s,mb5.5						
LZH	**Lanzhou**	**54.66**	**320**	⇑P	**P**	**17 20 30.0**	**-0.6**
LZH				*SP	sP	17 20 41.5	-7.9
LZH				pmax	pmax		
	comp=Z,68nm,1.5s,mb5.5						
LZH	**Lanzhou**	**54.66**	**320**	⇑P	**P**	**17 20 30.0**	**-0.6**
	comp=Z,68nm,1.5s,mb5.5						
LZH				pP	pP	17 20 36.0	-7.9
LZH				sP	sP	17 20 41.5	-7.9
PET	**Petropavlovsk**	**57.87**	**10**	*e*P	**P**	**17 20 59.0**	**+5.7**
PET				*e*S	**S**	**17 28 56.8**	**+9.3**
PET				*e*		17 30 37.8	
PET				*e*SS	SS	17 32 39.9	-0.4
PET				pmax	pmax		
	comp=Z,20nm,1.6s,mb4.9						
PET				pmax	pmax		
	comp=Z,100nm,12.4s						
PET				smax			
	comp=N,200nm,22.8s						
GTA	**Gaotai**	**59.20**	**321**	*e*P	**P**	**17 21 02.4**	**-0.4**
GTA				AP	pP	17 21 16.3	+0.1
GTA				XP	sP	17 21 22.4	+0.7
GTA				PCP	PcP	17 21 46.3	-4.2
GTA				PP	PP	17 23 17.4	+1.7
GTA				PPP	PPP	17 24 43.0	+2.4
GTA				SCP		17 25 43.9	
GTA				S	**S**	**17 29 08.8**	**+3.6**
GTA				XS		17 29 29.3	
GTA				SS	SS	17 33 02.6	+0.9
GTA				AMB	AMB		
	comp=Z,13nm,1.9s,mb4.6						
GTA				AMB	AMB		
	comp=Z,235nm,6.8s						
GTA				LR	LR		
	comp=N,172nm,19.0s,MS4.3						
GTA				LR	LR		
	comp=E,85nm,15.2s,MS4.3						
GTA				LR	LR		
	comp=Z,89nm,15.2s,MS4.0						
LSA	**Lhasa**	**60.62**	**307**	P	**P**	**17 21 14.0**	**+1.4**
ULN	**Ulaanbaatar**	**60.79**	**332**	*e*P	**P**	**17 21 13.0**	**-0.5**
ULN				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.3						
ULN	**Ulaanbaatar**	**60.79**	**332**	*e*P	**P**	**17 21 13.0**	**-0.5**
	comp=Z,40nm,1.5s,mb5.3						
SONM	**Songino Array**	**61.08**	**332**	P	**P**	**17 21 14.6**	**-0.8**
	comp=Z,2.2nm,0.7s,mb4.4,baz=152,slow=6.8,SNR=14						
SONM				LR	LR	17 46 46.9	
	comp=Z,269nm,20.5s,MS4.4,baz=229,slow=35						
FX1	**Attu Island--F**	**61.49**	**20**	*e*P	**P**	**17 21 18.4**	**+0.2**
JIRN	**Jiri**	**63.92**	**303**	*e*P	**P**	**17 21 34.8**	**+0.1**
	comp=Z,28nm,0.9s,mb5.3						
ZAK	**Zakamensk**	**64.32**	**332**	*e*P	**P**	**17 21 36.0**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.7						
PKI	**Pulchoki**	**64.54**	**303**	*e*P	**P**	**17 21 38.4**	**-0.4**
	comp=Z,50nm,1.1s,mb5.5						
KKN	**Kakani**	**64.72**	**303**	*e*P	**P**	**17 21 39.8**	**-0.1**
	comp=Z,56nm,0.8s,mb5.6						
DMN	**Daman**	**64.81**	**303**	*e*P	**P**	**17 21 40.6**	**+0.1**
	comp=Z,43nm,0.9s,mb5.5						
TLY	**Talaya**	**65.06**	**334**	*e*P	**P**	**17 21 41.5**	**-0.2**
TLY				*e*		17 30 26.2	
TLY				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
GKN	**Gorkha**	**65.33**	**303**	*e*P	**P**	**17 21 43.9**	**+0.1**
	comp=Z,97nm,1.1s,mb5.8						
KOLN	**Koldanda**	**66.13**	**302**	*e*P	**P**	**17 21 48.9**	**0.0**
	comp=Z,64nm,0.8s,mb5.7						
MOY	**Mondy**	**66.26**	**332**	*e*P	**P**	**17 21 48.7**	**-0.6**
MOY				pmax	pmax		
	comp=Z,42nm,2.0s,mb5.1						
YAK	**Yakutsk**	**66.52**	**353**	*i* P	**P**	**17 21 49.7**	**-1.1**
YAK				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
SEY	**Seymchan**	**66.79**	**4**	*e*P	**P**	**17 21 54.1**	**+1.6**
SEY				*PP	pP	17 22 08.3	+2.1
SEY						17 22 22.3	
SEY				*e*S	S	17 30 41.8	+2.2
SEY				*SS		17 31 05.9	
SEY				*e*		17 31 45.0	
SEY				SS	SS	17 35 02.8	+2.9
SEY				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.3						
SEY				pmax	pmax		
	comp=N,30nm,1.4s						
SEY				smax			
	comp=N,110nm,5.5s						
SEY				smax			
	comp=E,40nm,7.2s						
SEY				MLR	MLR		
	comp=N,260nm,17.0s,MS4.6						
SEY				MLR	MLR		
	comp=Z,380nm,17.0s,MS4.7						
SEY				MLR	MLR		
	comp=E,50nm,14.0s,MS4.6						
WMQ	**Urumqi**	**69.24**	**320**	*e*P	**P**	**17 22 08.4**	**+0.3**
WMQ				AP	pP	17 22 22.9	+1.1
WMQ				XP	sP	17 22 28.6	+1.6
WMQ				PCP

comp=Z,160nm,18.6s,MS4.3,baz=352,slow=36
TIXI Tiksi 75.91 355 *i* P **P 17 22 45.3 -1.7**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
NVS Novosibirsk 76.84 329 *i* P **P 17 22 51.5 -1.0**
NVS pmax pmax
comp=Z,47nm,1.8s,mb5.1
NVS pmax pmax
comp=N,19nm,1.8s
NVS pmax pmax
comp=E,13nm,1.2s
KZA Kyzart 77.05 315 P **P 17 22 55.8 +1.8**
SNR=43
TKM2 Tokmak 2 77.05 315 P **P 17 22 54.8 +0.8**
SNR=11
KBK Karagaybulak 77.43 315 P **P 17 22 57.0 +0.9**
SNR=9.0
UCH Uchtor 77.61 315 P **P 17 22 58.7 +1.6**
SNR=23
CHMS Chumysh 77.67 315 P **P 17 22 57.8 +0.4**
SNR=7.7
FRU Bishkek 77.72 315 *e*P **P 17 22 59.0 +1.3**
FRU pmax pmax
comp=Z,40nm,2.1s,mb5.0
AAK Ala-Archa 77.74 315 P **P 17 22 58.7 +0.9**
SNR=8.6
AAK Ala-Archa 77.74 315 *e*P **P 17 22 57.0 -0.8**
AAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
AAK Ala-Archa 77.74 315 *e*P **P 17 22 57.0 -0.8**
comp=Z,8.8nm,0.9s,mb4.7
USP Ospenovka 77.92 316 P **P 17 22 59.3 +0.5**
SNR=13
AML Almayashu 78.17 314 P **P 17 23 01.6 +1.5**
SNR=34
EKS2 Erkin-Say 78.26 315 P **P 17 23 01.8 +1.2**
SNR=16
IMA Indian Mountai 82.48 21 *e*P **P 17 23 22.8 +0.2**
IMA pmax pmax
comp=Z,30nm,1.0s,mb5.2
IMA Indian Mountai 82.48 21 *e*P **P 17 23 22.8 +0.2**
comp=Z,30nm,1.0s,mb5.2
MAW Mawson 83.23 202 *e*P **P 17 23 24.8 -1.6**
comp=Z,3.8nm,0.6s,mb4.6
MAW Mawson 83.23 202 *e*P **P 17 23 24.8 -1.6**
MAW pmax pmax
comp=Z,4.0nm,0.6s
MAW Mawson 83.23 202 P **P 17 23 26.5 +0.1**
comp=Z,3.9nm,0.7s,mb4.5,baz=88,slow=4.8,SNR=9.1
MAW LR LR 17 59 46.8
comp=Z,206nm,19.2s,MS4.5,baz=71,slow=35
BVAR Borovoye Array 83.29 324 P **P 17 23 27.8 +0.8**
comp=Z,18nm,0.7s,mb5.2
MCK McKinley 83.34 24 *e*P **P 17 23 26.1 -0.9**
MCK *e* 17 23 33.8
MCK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
MCK McKinley 83.34 24 *e*P **P 17 23 26.1 -0.9**
comp=Z,6.8nm,1.0s,mb4.6
MCK *e* 17 23 33.8
COLA College 84.20 23 *e*P **P 17 23 30.7 -0.6**
COLA pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
COLA College 84.20 23 *e*P **P 17 23 30.7 -0.6**
comp=Z,6.7nm,0.9s,mb4.8
ILAR Eielson Array 84.55 24 P **P 17 23 31.8 -1.3**
comp=Z,8.3nm,0.8s,mb4.9,baz=256,slow=5.0,SNR=51
QSPA South Pole Qui 86.21 180 ⇑*i*P **P 17 23 42.0 +1.1**
comp=Z,16nm,0.8s,mb5.3
DAWY Dawson 87.45 25 *e*P **P 17 23 47.8 +0.5**
INK Inuvik 90.61 22 *e*P **P 17 24 02.2 0.0**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 90.61 22 LR LR 18 00 47.1
comp=Z,207nm,19.2s,MS4.6,baz=234,slow=33
INK Inuvik 90.61 22 *e*P **P 17 24 02.2 0.0**
comp=Z,3.1nm,0.9s,mb4.6
ARU Arti 90.64 326 ⇑*i*P **P 17 24 01.3 -1.3**
ARU *e* 17 27 39.7
ARU *e*SS SS 17 40 54.0 -4.2
ARU pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
ARU Arti 90.64 326 *e*P **P 17 24 02.0 -0.6**
comp=Z,2.1nm,0.4s,mb4.8
OPO Ambohidratompo 95.40 251 P **P 17 24 24.7 -0.6**
comp=Z,1.3nm,0.8s,mb4.4,baz=325,slow=9.9,SNR=3.5
NVAR Mina Array Bea 98.23 52 LR LR 17 58 07.1
comp=Z,180nm,21.8s,MS4.5,baz=270,slow=29
YKA Yellowknife Ar 98.50 27 P **P 17 24 38.3 0.0**
comp=Z,0.6nm,0.7s,mb4.2,baz=280,slow=4.8,SNR=12
YKA LR LR 18 03 22.5
comp=Z,192nm,21.9s,MS4.5,baz=285,slow=32
YKA Yellowknife Ar 98.50 27 P **P 17 24 38.3 0.0**
YKA LR LR 18 03 22.5
GNI Garni 99.59 310 *i* P **P 17 24 42.5 -1.3**
GERES GERESS Array B 118.45 325 PKP PKPdf 17 29 49.2 +2.6
comp=Z,0.2nm,0.4s,baz=90,slow=5.3,SNR=3.9
PLCA Paso Flores 125.54 148 PKP PKPdf 17 30 03.1 +2.6
comp=Z,2.6nm,0.6s,baz=215,slow=3.6,SNR=13
LPAZ La Paz 142.39 123 PKhKP 17 30 32.3
comp=Z,2.4nm,0.7s,baz=67,slow=0.7,SNR=12
LPAZ La Paz 142.39 123 *e*PKPdf PKPdf 17 30 32.5 0.0
CPUP Villa Florida 143.59 146 PKP PKPdf 17 30 34.7 +0.4
comp=Z,3.4nm,1.0s,baz=233,slow=3.2,SNR=5.2
CPUP Villa Florida 143.59 146 *e*PKPdf PKPdf 17 30 36.4 +2.1
SDV Santo Domingo 145.07 80 *e*PKPdf PKPdf 17 30 39.0 +1.8
SIV San Ignacio 148.27 129 PKPbc PKPdf 17 30 48.6 +6.1
comp=Z,12nm,0.5s,baz=244,slow=3.6,SNR=15
DBIC Dimbokro 149.00 277 PKPbc PKPdf 17 30 50.4 +6.7
comp=Z,5.5nm,0.6s,baz=4,slow=4.9,SNR=11
DBIC Dimbokro 149.00 277 PKPbc PKPdf 17 30 50.4 +6.7
SAML Samuel 149.98 115 *e*PKPdf PKPdf 17 30 47.4 +2.0
SAML *e*PKPbc PKPdf 17 30 52.1 +6.8

*BJI **22** 17:21:25.5,8.55S×158.82E,h20km,mB5.3,mb4.7*
*NEIC **22** 17:21:28.3±1.3,8.95S×158.99E,h48km±14km,mb4.6/6,*
Error ellipse: s-maj=11.9km s-min=8.3km az=129.0
*IDC **22** 17:21:31.6±5.8,8.96S×158.98E,h77km±52km,mb3.9/12,*
mb1 4.1/14,mb1mx4.0/19,mbtmp4.2/14,ML3.9/2,MS3.2/1,
Ms1 3.2/1,ms1mx2.8/22,Error ellipse: s-maj=23.7km
s-min=18.7km az=81.0
ISC 22 17:21:27.5±1.7,8.95S±0.10×159.0E±0.1,h56km±18km,
n26,σ0§72/26,mb4.3/19,1D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.06**	**117**	*e*Pn	**P**	**17 21 46.8**	**+0.4**
HNR				*e*Sn	**S**	**17 21 59.8**	**-0.6**
PMG	**Port Moresby**	**11.69**	**267**	LR	LR	17 27 38.1	
	comp=Z,138nm,21.3s,baz=246,slow=31						
DZM	**Mont Dzumac**	**14.88**	**152**	P	**P**	**17 24 59.5**	**+3.3**
	0.7nm,0.3s,baz=336,slow=18,SNR=6.3						
CTA	**Charters Tower**	**16.56**	**227**	P	**P**	**17 25 20.5**	**+3.1**
	0.2nm,0.3s,baz=69,slow=17,SNR=3.4						
WRAB	**Tennant Creek**	**26.20**	**243**	*e*P	**P**	**17 26 58.7**	**-0.3**
	5.7nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**26.21**	**243**	P	**P**	**17 26 59.0**	**-0.1**
	2.7nm,0.6s,mb4.0,baz=66,slow=9.4,SNR=16						
WRA				PcP	PcP	17 30 24.9	-0.3
	0.6nm,1.0s,baz=88,slow=2.4,SNR=5.2						
STKA	**Stephens Creek**	**27.95**	**213**	P	**P**	**17 27 14.8**	**-0.1**
	2.2nm,1.1s,mb3.7,baz=33,slow=17,SNR=2.0						
ASAR	**Alice Springs**	**28.10**	**236**	P	**P**	**17 27 15.7**	**-0.7**
	1.0nm,0.5s,mb3.7,baz=61,slow=9.9,SNR=14						
ASAR				PcP	PcP	17 30 29.1	-0.5
	0.6nm,0.7s,baz=79,slow=2.6,SNR=5.0						
FITZ	**Fitzroy Crossi**	**33.63**	**251**	⇓*i*P	**P**	**17 28 04.1**	**-0.9**
	10nm,0.5s,mb5.0						
FITZ	**Fitzroy Crossi**	**33.63**	**251**	P	**P**	**17 28 04.4**	**-0.6**
	16nm,0.6s,mb5.1,baz=63,slow=4.7,SNR=25						
RPZ	**Rata Peaks**	**36.20**	**165**	P	**P**	**17 28 26.4**	**-0.2**
	19nm,1.1s,mb4.9,baz=332,slow=2.8,SNR=3.7						
MBWA	**Marble Bar**	**39.69**	**248**	*e*P	**P**	**17 28 55.4**	**-0.6**
	7.2nm,0.7s,mb4.5						
KKM	**Kota Kinabalu**	**45.17**	**288**	*e*P	**P**	**17 29 41.0**	**+0.2**
MJAR	**Matsushiro Arr**	**49.29**	**338**	P	**P**	**17 30 11.9**	**-0.9**
	2.5nm,0.6s,mb4.4,baz=164,slow=8.8,SNR=7.3						
CN2	**Changchun**	**60.68**	**333**	*e*P	**P**	**17 31 35.4**	**0.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
XAN	**Xi'an**	**63.87**	**315**	P	**P**	**17 31 56.0**	**-0.8**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
CMAR	**Chiang Mai Arr**	**65.19**	**295**	P	**P**	**17 32 06.1**	**+0.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=138,slow=5.2,SNR=7.5						
VNDA	**Vanda**	**68.56**	**179**	P	**P**	**17 32 25.8**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=326,slow=11,SNR=4.2						
VNDA	**Vanda**	**68.56**	**179**	P	**P**	**17 32 25.8**	**-0.1**
ULN	**Ulaanbaatar**	**72.79**	**326**	*e*P	**P**	**17 32 52.6**	**+0.8**
	comp=Z,3.3nm,1.0s,mb4.2						
SONM	**Songino Array**	**73.13**	**326**	P	**P**	**17 32 54.8**	**+1.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=141,slow=5.2,SNR=16						
YAK	**Yakutsk**	**74.34**	**346**	*e*P	**P**	**17 33 00.3**	**-0.3**
	comp=Z,8.0nm,0.4s,mb5.0						
BILL	**Bilibino**	**76.97**	**3**	*e*P	**P**	**17 33 15.7**	**+0.2**
	comp=Z,4.9nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**83.77**	**20**	P	**P**	**17 33 51.4**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.3,baz=254,slow=5.0,SNR=23						
MKAR	**Makanchi Array**	**87.49**	**318**	P	**P**	**17 34 10.5**	**+0.2**
	comp=Z,1.2nm,0.5s,mb4.4,baz=95,slow=5.9,SNR=20						
YKA	**Yellowknife Ar**	**96.21**	**28**	P	**P**	**17 34 50.6**	**+0.4**
	comp=Z,0.2nm,0.7s,mb3.7,baz=260,slow=4.6,SNR=5.4						

*NNC **22** 17:35:38.5±8.5,38.49N×76.27E,mpv3.1,Error ellipse:*
s-maj=88.5km s-min=51.3km az=37.0
BJI 22 17:35:45.9,38.73N×76.73E,h15km,ML3.2,5C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.98**	**323**	PG	Pg	17 36 02.4	-3.3
KSH				SG	Sg	17 36 19.1	+0.2
KSH				Smax			
	comp=N,280nm,0.3s						
KSH				Smax			
	comp=E,440nm,0.3s						
AAK	**Ala-Archa**	**4.25**	**337**	⇑Pn	Pn	17 36 49.9	-1.8
	comp=E,1.1nm,0.4s						
AAK				⇓Pg	Pg	17 36 57.1	-14
	comp=E,5.6nm,0.6s						
AAK				⇑Lg		17 37 58.7	
	comp=E,22nm,0.8s						
KK31	**Karatay Array**	**6.42**	**315**	⇑Pn	Pn	17 37 16.7	-5.6
	comp=E,0.4nm,0.4s,baz=124,slow=13,SNR=8.9						
KK31				⇑Sn	Sn	17 38 28.7	-7.4
	comp=E,0.5nm,0.3s						
KK31				⇑Lg		17 38 58.4	
	comp=E,3.3nm,0.8s						
MK31	**Makanchi Array**	**9.03**	**25**	Pn	P	17 37 54.8	-4.0

WEL 22 17:40:19.6±0.2,40.01S×174.41E,h96km±2km,ML3.8/11, 7C,Error ellipse: s-maj=1.1km s-min=0.5km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.51**	**60**	PN	P	17 40 35.3	0.0
WAZ				SN	S	17 40 46.8	0.0
WAZ				SN	S	17 40 47.3	+0.4
RAEZ	**Rainy Point**	**0.72**	**359**	PN	P	17 40 36.7	-0.4
NRZ	**Ngariki Road**	**0.77**	**331**	PN	P	17 40 36.9	-0.6
NEZ	**North Egmont**	**0.78**	**342**	PN	P	17 40 36.9	-0.8
NWEZ	**Newall Road**	**0.84**	**330**	PN	P	17 40 37.7	-0.6
DUWZ	**D'Urville Isla**	**0.88**	**205**	PN	P	17 40 38.6	0.0
DUWZ				SN	S	17 40 53.0	+0.2
PKE	**Pukeiti**	**0.88**	**338**	PN	P	17 40 37.9	-0.7
PKE				SN	S	17 40 51.9	-0.9
VRZ	**Vera Road**	**0.92**	**17**	⇑PN	P	17 40 38.4	-0.7
VRZ				SN	S	17 40 53.1	-0.6
KIW	**Kapiti Island**	**0.93**	**156**	PN	P	17 40 39.0	-0.2
KIW				SN	S	17 40 52.8	-1.1
PKVZ	**Pokaka**	**1.02**	**46**	⇑PN	P	17 40 39.9	-0.3
PKVZ				SN	S	17 40 55.2	-0.5
MTVZ	**Mangateitei**	**1.03**	**53**	PN	P	17 40 40.0	-0.3
MTVZ				SN	S	17 40 55.7	-0.2
MRZ	**Mangatainoka R**	**1.11**	**126**	PN	P	17 40 40.9	-0.4
MRZ				SN	S	17 40 55.7	-1.8
TRVZ	**Turoa**	**1.13**	**52**	PN	P	17 40 41.1	-0.5
TRVZ				SN	S	17 40 57.6	-0.4
WNVZ	**Wahianoa**	**1.14**	**54**	PN	P	17 40 41.3	-0.5
WNVZ				SN	S	17 40 58.0	-0.3
DRZ	**Dome Shelter**	**1.15**	**51**	PN	P	17 40 42.0	+0.1
DRZ				SN	S	17 40 58.5	0.0
FWVZ	**Far West T-bar**	**1.16**	**50**	PN	P	17 40 41.5	-0.5
FWVZ				SN	S	17 40 58.1	-0.5
WPVZ	**Whakapapa**	**1.19**	**48**	PN	P	17 40 42.0	-0.3
WPVZ				SN	S	17 40 58.8	-0.4
TSZ	**Takapari Road**	**1.19**	**93**	PN	P	17 40 41.3	-1.1
CNZ	**Chateau**	**1.20**	**48**	PN	P	17 40 41.6	-0.8
MOVZ	**Moawhango**	**1.20**	**60**	PN	P	17 40 41.6	-0.9
MOVZ				SN	S	17 40 58.0	-1.4
TCW	**Tory Channel**	**1.21**	**185**	PN	P	17 40 42.2	-0.3
TCW				SN	S	17 40 57.7	-1.9
CAW	**Cannon Point**	**1.21**	**156**	PN	P	17 40 42.4	-0.2
CAW				SN	S	17 40 57.8	-1.8
TUVZ	**Tukino**	**1.21**	**53**	PN	P	17 40 42.0	-0.6
TUVZ				SN	S	17 40 59.8	+0.1
TWVZ	**Taurewa**	**1.23**	**41**	PN	P	17 40 42.0	-0.8
TWVZ				SN	S	17 40 58.7	-1.3
MRW	**Makara Radio**	**1.24**	**170**	⇑PN	P	17 40 42.8	-0.1
MRW				SN	S	17 40 58.6	-1.7
NGZ	**Ngauruhoe**	**1.24**	**48**	PN	P	17 40 42.4	-0.6
NGZ				SN	S	17 40 59.9	-0.5
WTVZ	**West Tongariro**	**1.28**	**46**	PN	P	17 40 42.6	-0.8
WTVZ				SN	S	17 41 00.3	-0.8
OTVZ	**Oturere**	**1.29**	**49**	PN	P	17 40 43.0	-0.5
OTVZ				SN	S	17 41 00.7	-0.6
WEL	**Wellington**	**1.30**	**168**	PN	P	17 40 43.4	-0.2
WEL				SN	S	17 40 59.7	-1.8
SNZO	**South Karori**	**1.32**	**170**	⇑PN	P	17 40 43.6	-0.3
SNZO				SN	S	17 40 59.9	-1.9
MGZ	**Maungaku**	**1.33**	**41**	PN	P	17 40 43.4	-0.6
MTW	**Mount Morrison**	**1.42**	**144**	PN	P	17 40 44.5	-0.6
MTW				SN	S	17 41 01.9	-2.0
KATZ	**Kakaramea**	**1.43**	**44**	PN	P	17 40 45.0	-0.2
KATZ				SN	S	17 41 04.1	-0.1
NNZ	**Nelson**	**1.44**	**213**	PN	P	17 40 45.0	-0.3
NNZ				SN	S	17 41 04.9	+0.5
BHW	**Baring Head**	**1.44**	**166**	⇑PN	P	17 40 44.8	-0.6
BHW				SN	S	17 41 02.0	-2.4
TUWZ	**Tuamarina**	**1.46**	**194**	PN	P	17 40 45.0	-0.7
TUWZ				SN	S	17 41 03.9	-1.0
RITZ	**Rihia Road**	**1.52**	**48**	PN	P	17 40 45.9	-0.4
HIZ	**Hauiti**	**1.53**	**13**	⇑PN	P	17 40 45.4	-1.1
HIZ				SN	S	17 41 05.0	-1.4
MSWZ	**Moikau Station**	**1.54**	**156**	PN	P	17 40 46.2	-0.4
MSWZ				SN	S	17 41 04.4	-2.3
RATZ	**Rangitukua**	**1.55**	**43**	PN	P	17 40 46.6	-0.2
BFZ	**Birch Farm**	**1.56**	**116**	PN	P	17 40 45.8	-1.0
PAWZ	**Paruwai Farm**	**1.57**	**151**	PN	P	17 40 46.5	-0.5
PAWZ				SN	S	17 41 05.0	-2.3
QRZ	**Quartz Range**	**1.65**	**240**	⇑PN	P	17 40 47.2	-0.8
QRZ				SN	S	17 41 08.0	-1.0
WATZ	**Wairara**	**1.66**	**39**	PN	P	17 40 47.3	-0.7
WATZ				SN	S	17 41 08.9	-0.1
CMWZ	**Cape Campbell**	**1.74**	**185**	PN	P	17 40 49.3	+0.1
CMWZ				SN	S	17 41 11.0	0.0
BSWZ	**Blackbirch Sta**	**1.75**	**193**	PN	P	17 40 49.0	-0.3
BSWZ				SN	S	17 41 09.6	-1.6
BKZ	**Black Stump Fm**	**1.82**	**63**	PN	P	17 40 48.4	-1.7
BKZ				SN	S	17 41 10.4	-2.2
PWZ	**Pawanui**	**1.88**	**91**	PN	P	17 40 49.8	-1.2
THZ	**Tophouse**	**2.09**	**213**	PN	P	17 40 53.2	-0.6
THZ				SN	S	17 41 19.7	+0.7

*BJI **22** 17:47:06.8,19.69N×120.42E,h10km,mB4.5,mb4.4,*
ML3.8,Ms3.6,Msz3.6
*NEIC **22** 17:47:08.5±3.3,19.78N×120.68E,h11km±20km,mb4.4/6,*
Error ellipse: s-maj=10.4km s-min=5.8km az=74.0
*MAN **22** 17:47:10.0,19.76N×120.67E,h19km,mb4.7,ML3.6,*
MS3.6
*IDC **22** 17:47:15.9±4.6,19.71N×120.51E,h68km±42km,mb4.0/23,*
mb1 4.1/23,mb1mx4.1/27,mbtmp4.3/23,MS3.3/5,
Ms1 3.3/5,ms1mx3.0/29,Error ellipse: s-maj=18.8km
s-min=10.0km az=68.0
ISC 22 17:47:07.8±1.7,19.84N±0.03×120.53E±0.04,h15km±11km,
n60,σ1§02/65,mb4.3/31,MS3.1/4,1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.47**	**66**	*e*P	**Pn**	**17 47 34.0**	**0.0**
BBP				*e*S	**Sb**	**17 47 53.2**	**+0.4**
APYP	**Conner**	**2.08**	**161**	*e*P	**Pn**	**17 47 43.1**	**+0.4**
APYP				*e*S	**Sn**	**17 48 08.3**	**-0.1**
SGCP	**Mt. Cagua**	**2.14**	**138**	*e*P	**Pn**	**17 47 43.2**	**-0.2**
SGCP				*e*S	**Sn**	**17 48 07.6**	**-2.3**
ABRA	**Dolores**	**2.18**	**176**	*e*P	**Pn**	**17 47 43.3**	**-0.9**
ABRA				*e*S	**Sn**	**17 48 10.4**	**-0.7**
CVP	**Callao Caves**	**2.45**	**150**	⇓*e*P	**Pn**	**17 47 50.0**	**+2.0**
CVP				*e*S	**Sn**	**17 48 19.0**	**+1.2**
CAUP	**Cauayan**	**3.13**	**157**	*e*P	**Pn**	**17 47 59.4**	**+1.8**
PALP	**Palanan**	**3.29**	**147**	*e*P	**Pn**	**17 47 54.9**	**-5.1**
PALP				*e*S	**Sn**	**17 48 40.3**	**+1.1**
BOLP	**Bolinao**	**3.49**	**190**	*e*P	**Pn**	**17 48 03.4**	**+0.7**
SCZP	**Santa Cruz**	**4.08**	**188**	*e*P	**Pn**	**17 48 12.3**	**+1.1**
BALP	**Baler**	**4.19**	**166**	*e*P	**Pn**	**17 48 12.8**	**+0.1**
BALP				*e*S	**Sn**	**17 49 03.7**	**+1.7**
NACB	**Ninganchiao**	**4.43**	**13**	*e*Pn	**Pn**	**17 48 15.1**	**-1.0**
YHNB	**Yeheng**	**4.87**	**9**	*e*Pn	**Pn**	**17 48 23.2**	**+0.7**
YHNB				*e*Sn	**Sn**	**17 49 12.7**	**-6.5**
TATO	**Taipei**	**5.19**	**10**	*e*Pn	**Pn**	**17 48 25.6**	**-1.3**
GZH	**Guangzhou**	**7.43**	**297**	P	**Pn**	**17 48 54.0**	**-4.5**
GZH				Smax			
	comp=N,42nm,0.8s						
GZH				Smax			
	comp=E,39nm,0.7s						
JOW	**Kunigami**	**9.95**	**44**	LR	LR	17 53 18.7	
	comp=E,272nm,21.9s,baz=177,slow=36						
QIZ	**Qiongzhong**	**10.12**	**267**	P	**P**	**17 49 32.8**	**-3.0**
QIZ				S	**S**	**17 51 21.0**	**-9.0**
QIZ				LR	LR		
	comp=E,291nm,12.2s						
QIZ				LR	LR		
	comp=Z,305nm,12.4s						
CMAR	**Chiang Mai Arr**	**20.44**	**270**	P	**P**	**17 51 48.4**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=72,slow=9.5,SNR=16						
CMAR				LR	LR	17 59 32.5	
	comp=Z,72nm,18.9s,MS3.0,baz=60,slow=36						
CBIJ	**Chichi jima**	**21.12**	**66**	LR	LR	17 58 33.8	
	comp=Z,64nm,18.7s,MS3.0,baz=9,slow=32						
LZH	**Lanzhou**	**21.84**	**321**	*e*P	**P**	**17 52 03.5**	**+1.8**
LZH				AP		17 52 12.0	
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
LZH	**Lanzhou**	**21.84**	**321**	*e*P	**P**	**17 52 03.5**	**+1.8**
	comp=Z,20nm,1.2s,mb4.4						
LZH				pP		17 52 12.0	
LZH				sP		17 52 17.0	
HHC	**Hu-ho-hao-te**	**22.30**	**342**	*e*P	**P**	**17 52 05.5**	**-0.7**
HHC				AP		17 52 15.9	
HHC				XP		17 52 20.1	
HHC				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.2						
HHC				AMB	AMB		
	comp=Z,107nm,7.0s						
MJAR	**Matsushiro Arr**	**22.73**	**39**	P	**P**	**17 52 15.5**	**+4.9**
	comp=Z,2.3nm,0.8s,mb3.7,baz=226,slow=12,SNR=3.2						
MJAR				LR	LR	18 00 30.7	
	comp=Z,49nm,18.2s,MS3.0,baz=260,slow=35						
ULN	**Ulaanbaatar**	**30.02**	**342**	*e*P	**P**	**17 53 18.7**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.1						
SONM	**Songino Array**	**30.20**	**341**	P	**P**	**17 53 20.3**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.0,baz=158,slow=8.6,SNR=15						
ASAJ	**Asahikawa**	**30.41**	**32**	LR	LR	18 05 20.8	
	comp=Z,66nm,20.9s,MS3.3,baz=295,slow=36						
JIRN	**Jiri**	**32.31**	**291**	*e*P	**P**	**17 53 39.2**	**+0.7**
	comp=Z,8.7nm,0.7s,mb4.7						
PKI	**Pulchoki**	**32.98**	**290**	*e*P	**P**	**17 53 44.0**	**-0.5**
KKN	**Kakani**	**33.12**	**291**	*e*P	**P**	**17 53 45.8**	**+0.1**
	comp=Z,14nm,0.9s,mb4.9						
GKN	**Gorkha**	**33.71**	**291**	*e*P	**P**	**17 53 49.9**	**-0.9**
	comp=Z,14nm,0.9s,mb4.9						
KOLN	**Koldanda**	**34.60**	**290**	*e*P	**P**	**17 53 58.5**	**0.0**
	comp=Z,12nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**38.03**	**172**	P	**P**	**17 54 25.4**	**-2.1**
	comp=Z,5.8nm,0.6s,mb4.5,baz=18,slow=6.3,SNR=9.2						
MKAR	**Makanchi Array**	**41.14**	**320**	P	**P**	**17 54 54.4**	**+1.4**
	comp=Z,7.7nm,0.8s,mb4.4,baz=115,slow=9.4,SNR=72						
WRA	**Warramunga Arr**	**41.78**	**160**	P	**P**	**17 54 56.9**	**-1.7**
	comp=Z,3.8nm,0.6s,mb4.2,baz=342,slow=9.1,SNR=30						
WRA				PcP	PcP	17 56 54.0	-1.5
	comp=Z,1.8nm,0.5s,baz=343,slow=3.2,SNR=12						
WB2	**Warramunga Arr**	**41.79**	**160**	⇑*i*P	**P**	**17 54 56.9**	**-1.8**
YAK	**Yakutsk**	**42.64**	**6**	*e*P	**P**	**17 55 04.6**	**-0.5**
	comp=Z,7.6nm,0.8s,mb4.5						
ZAL	**Zalesovo**	**43.63**	**330**	P	**P**	**17 55 13.4**	**+0.2**
	comp=Z,1.4nm,0.8s,mb3.8,baz=2.8,slow=7.9,SNR=10						
ASPA	**Alice Springs**	**45.16**	**163**	*e*P	**P**	**17 55 25.2**	**-0.8**
ASAR	**Alice Springs**	**45.16**	**163**	P	**P**	**17 55 24.9**	**-1.1**
	comp=Z,4.7nm,0.6s,mb4.5,baz=343,slow=7.3,SNR=69						
ASAR				PcP	PcP	17 57 05.7	-1.1
	comp=Z,0.7nm,0.7s,baz=333,slow=3.4,SNR=6.1						
BVAR	**Borovoye Array**	**50.71**	**323**	P	**P**	**17 56 09.1**	**+0.2**
	comp=Z,1.6nm,0.6s,mb4.2						
BVAR				PcP	PcP	17 57 25.6	-0.7
NWAO	**Narrogin (SRO)**	**52.56**	**183**	P	**P**	**17 56 21.5**	**-1.6**
	comp=Z,7.7nm,0.8s,mb4.7,baz=23,slow=7.7,SNR=4.2						
STKA	**Stephens Creek**	**55.24**	**158**	*e*P	**P**	**17 56 41.6**	**-1.3**
	comp=Z,1.6nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**55.24**	**158**	P	**P**	**17 56 41.3**	**-1.6**
	comp=Z,2.2nm,0.8s,mb4.2,baz=355,slow=5.8,SNR=5.8						
STKA				PcP	PcP	17 57 41.9	-1.8
	comp=Z,1.5nm,0.7s,baz=313,slow=5.4,SNR=3.5						
DZM	**Mont Dzumac**	**61.21**	**131**	P	**P**	**17 57 25.0**	**+0.2**
	comp=Z,12nm,1.1s,mb4.9,baz=267,slow=16,SNR=2.5						
GNI	**Garni**	**66.81**	**306**	P	**P**	**17 58 01.4**	**+0.2**
	comp=Z,1.4nm,0.3s,mb4.4,baz=126,slow=14,SNR=3.1						
MALT	**Malatya**	**71.94**	**305**	*e*P	**P**	**17 58 33.4**	**+0.6**
	comp=Z,7.6nm,1.1s,mb4.5						
ARCES	**ARCESS Array B**	**73.34**	**339**	P	**P**	**17 58 41.2**	**+0.9**
	comp=Z,5.5nm,1.0s,mb4.5,baz=27,slow=5.4,SNR=5.8						
ILAR	**Eielson Array**	**73.35**	**27**	P	**P**	**17 58 39.7**	**-0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=289,slow=5.7,SNR=13						

0.2nm,0.3s,baz=156,slow=8.6,SNR=8.7
KMBO Kilima Mbogo 62.80 270 LR LR 18 42 55.7
comp=Z,32nm,20.9s,baz=82,slow=32
FINES FINESS Array B 83.85 332 P P 18 22 10.7 -2.6
0.9nm,0.9s,baz=53,slow=6.9,SNR=2.5
TXAR Lajitas Array 144.40 37 PKP PKPdf 18 29 19.6 -1.8
0.2nm,0.4s,baz=180,slow=1.3,SNR=4.3

*NEIC **22** 18:20:18.4, 11.11N×62.22W, h78km, MD3.2(TRN), After TRN.*
*TRN **22** 18:20:18.0, 11.09N×62.11W, h113km, MD3.2*
*FUNV **22** 18:20:19.9, 11.01N×62.36W, h96km, MW3.0*
ISC 22 18:20:16.2±0.6, 11.05N±0.03×62.32W±0.03, h108km±6km, n26, σ1§06/48, 2C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.41**	**167**	*e*P	**P**	**18 20 34.1**	**+1.7**
GUIV				*e*S	**S**	**18 20 44.6**	**0.0**
ITEV	**Isla Los Testi**	**0.86**	**291**	*e*P	**P**	**18 20 37.7**	**+1.6**
ITEV				*e*S	**S**	**18 20 51.2**	**+0.3**
CRUV	**Carupano**	**0.98**	**248**	*e*P	**P**	**18 20 38.8**	**+1.6**
CRUV				*e*S	**S**	**18 20 52.6**	**-0.5**
TRN	**Trinidad (W)**	**0.98**	**114⇑**	*i*P	**P**	**18 20 37.8**	**+0.5**
TRN				*e*S	**S**	**18 20 51.3**	**-1.9**
GUNV	**Guanoco**	**1.07**	**215**	*e*P	**P**	**18 20 41.1**	**+2.7**
GUNV				*e*S	**S**	**18 20 55.1**	**+0.2**
TPP	**Pointe-a-Pierr**	**1.12**	**130**	*e*P	**P**	**18 20 40.3**	**+1.4**
TPP				*e*S	**S**	**18 20 57.2**	**+1.4**
GRW	**Mount Saint Ca**	**1.28**	**30⇓**	*i*P	**P**	**18 20 41.0**	**+0.4**
GRW				*e*S	**S**	**18 20 58.7**	**-0.4**
GRHS	**Sauteurs**	**1.34**	**29⇓**	*e*P	**P**	**18 20 41.4**	**0.0**
GRHS				*e*S	**S**	**18 20 56.8**	**-3.6**
TBH	**Brigand Hill**	**1.35**	**114**	*e*P	**P**	**18 20 41.9**	**+0.4**
TBH				*e*S	**S**	**18 20 59.8**	**-0.8**
GRSS	**Sisters**	**1.42**	**29**	*e*P	**P**	**18 20 42.6**	**+0.2**
GRSS				*e*S	**S**	**18 21 01.3**	**-0.8**
GRIC	**Isle de Caille**	**1.42**	**30**	*e*S	**S**	**18 20 57.3**	**-4.8**
TPR	**Prospect**	**1.52**	**85⇑**	*i*P	**P**	**18 20 42.5**	**-1.0**
BOT	**Bacolet**	**1.57**	**86**	*e*P	**P**	**18 20 43.0**	**-1.3**
IBAV	**Isla La Blanqu**	**2.35**	**289**	*e*P	**P**	**18 20 54.9**	**+0.7**
IBAV				*e*S	**S**	**18 21 22.4**	**-0.4**
PCRV	**Puerto La Cruz**	**2.44**	**249**	*e*P	**P**	**18 20 56.3**	**+0.8**
PCRV				*e*S	**S**	**18 21 23.0**	**-2.0**
SVV	**Soufriere Volc**	**2.50**	**25**	*e*P	**P**	**18 20 56.8**	**+0.5**
SVV				*e*S	**S**	**18 21 26.3**	**-0.1**
SVV	**Soufriere Volc**	**2.50**	**25**	*e*P	**P**	**18 20 56.9**	**+0.6**
SVV				*e*S	**S**	**18 21 26.3**	**-0.1**
SSV	**Crater Summit**	**2.52**	**26**	*e*P	**P**	**18 20 56.9**	**+0.4**
SSV				*e*S	**S**	**18 21 26.4**	**-0.5**
SFAN	**Fancy Village**	**2.58**	**26**	*e*P	**P**	**18 20 57.1**	**-0.2**
SFAN				*e*S	**S**	**18 21 32.7**	**+4.4**
SLB	**Belfond**	**3.03**	**24**	*e*P	**P**	**18 21 02.8**	**-0.7**
SLB				*e*S	**S**	**18 21 39.5**	**+0.3**
GURV	**El Guri**	**3.35**	**193**	*e*P	**P**	**18 21 08.3**	**+0.4**
GURV				*e*S	**S**	**18 21 44.6**	**-2.5**
CUPV	**Cœpira**	**3.55**	**254**	*e*P	**P**	**18 21 11.6**	**+1.0**
CUPV				*e*S	**S**	**18 21 49.4**	**-2.6**
MERV	**Las Mercedes**	**4.31**	**246**	*e*P	**P**	**18 21 21.2**	**+0.4**
MERV				*e*S	**S**	**18 22 06.4**	**-3.9**
CAOV	**Caicara del Or**	**5.41**	**227**	*e*P	**P**	**18 21 35.8**	**-0.1**
CAOV				*e*S	**S**	**18 22 31.8**	**-5.7**
BAUV	**El Baul**	**6.01**	**250**	*e*P	**P**	**18 21 43.6**	**-0.4**
BAUV				*e*S	**S**	**18 22 45.6**	**-6.6**
PAYV	**Puerto Ayacuch**	**7.69**	**224**	*e*P	**P**	**18 22 06.5**	**-0.5**

*IDC **22** 18:26:46.9±14.0, 20.72S×178.23W, h578km±153km, mb3.2/5, mb1 3.3/6, mb1mx3.0/18, mbtmp4.2/6, Error ellipse: s-maj=119.0km s-min=35.1km az=38.0*
NEIC 22 18:26:48.5±1.3, 20.79S×178.28W, h600km, mb4.1/2, Error ellipse: s-maj=28.7km s-min=21.1km az=51.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.86**	**192**	P	P	18 30 22.6	-1.1
0.5nm,0.3s,baz=37,slow=12,SNR=4.4							
CTA	**Charters Tower**	**33.20**	**265**	P	P	18 32 37.9	-0.8
3.6nm,0.4s,baz=73,slow=8.2,SNR=8.8							
CTA	**Charters Tower**	**33.20**	**265**	P	P	18 32 37.9	-0.8
STKA	**Stephens Creek**	**37.43**	**244**	P	P	18 33 12.4	-1.1
0.6nm,0.5s,baz=197,slow=21,SNR=2.3							
ASAR	**Alice Springs**	**44.20**	**257**	P	P	18 34 06.2	-1.2
2.1nm,0.6s,baz=91,slow=7.4,SNR=62							
ASPA	**Alice Springs**	**44.20**	**257**	*e*P	P	18 34 06.5	-1.0
WB2	**Warramunga Arr**	**44.29**	**262**	*e*P	P	18 34 05.9	-2.3
WRAB	**Tennant Creek**	**44.30**	**262**	*e*P	P	18 34 06.2	-2.0
1.6nm,0.4s							
WRA	**Warramunga Arr**	**44.30**	**262**	P	P	18 34 06.6	-1.7
1.6nm,0.3s,baz=97,slow=7.6,SNR=112							
KAKA	**Kakadu**	**47.72**	**272**	*e*P	P	18 34 33.0	-1.3
7.1nm,0.8s							
FITZ	**Fitzroy Crossi**	**52.73**	**263**	P	P	18 35 09.4	-1.4
1.8nm,0.5s,baz=91,slow=3.7,SNR=5.3							
AKASG	**Malin Array Be**	**143.14**	**331**	PKP	PKPdf	18 45 15.0	+0.3
0.8nm,0.4s,baz=43,slow=3.9,SNR=8.2							

*IDC **22** 18:45:59.4±1.8, 5.71S×130.59E, mb4.0/3, mb1 4.3/6, mb1mx4.0/15, mbtmp4.1/6, ML4.1/3, Error ellipse: s-maj=69.0km s-min=24.0km az=76.0*
*NEIC **22** 18:46:02.0±0.8, 5.73S×130.70E, h20km, mb4.2/2, Error ellipse: s-maj=34.0km s-min=8.3km az=73.0*
ISC 22 18:46:11.9±1.8, 6.26S±0.07×130.3E±0.1, h141km±20km, n13, σ1§37/21, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.74**	**162**	*e*P	**P**	**18 47 50.3**	**+0.9**
17nm,0.2s							
KAKA				*e*S	**S**	**18 49 05.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**12.63**	**201**	*e*P	**P**	**18 49 09.1**	**+1.6**
6.0nm,0.2s							
FITZ				*e*S	**S**	**18 51 23.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**12.63**	**201**	Pn	**P**	**18 49 08.4**	**+0.9**
2.8nm,0.3s,baz=22,slow=10.0,SNR=52							
FITZ				Sn	**S**	**18 51 24.0**	**-1.3**
4.7nm,0.3s,baz=174,slow=21,SNR=10							
WRAB	**Tennant Creek**	**14.14**	**164**	*e*Pn	**P**	**18 49 25.1**	**-1.8**
WRAB				*e*Sn	**S**	**18 51 56.7**	**-3.8**
WRA	**Warramunga Arr**	**14.14**	**164**	Pn	**P**	**18 49 27.1**	**0.0**
0.8nm,0.3s,baz=348,slow=13,SNR=47							
WRA				Sn	**S**	**18 51 58.2**	**-2.5**
2.2nm,0.3s,baz=332,slow=22,SNR=12							
WB2	**Warramunga Arr**	**14.15**	**164**	*e*P	**P**	**18 49 26.8**	**-0.3**
WB2				*e*S	**S**	**18 51 55.7**	**-5.0**
ASAR	**Alice Springs**	**17.64**	**169**	P	**P**	**18 50 13.3**	**+3.0**
0.3nm,0.3s,baz=354,slow=11,SNR=11							
ASAR				S	**S**	**18 53 22.6**	**+2.9**
0.5nm,0.3s,baz=355,slow=27,SNR=6.4							
ASPA	**Alice Springs**	**17.64**	**169**	*e*P	**P**	**18 50 13.9**	**+3.6**
ASPA				*e*S	**S**	**18 53 21.4**	**+1.7**
CMAR	**Chiang Mai Arr**	**39.52**	**309**	P	**P**	**18 53 31.6**	**+0.9**
0.7nm,0.6s,mb3.5,baz=133,slow=6.8,SNR=9.6							
ULN	**Ulaanbaatar**	**57.67**	**342**	*e*P	**P**	**18 55 48.8**	**-1.0**
1.3nm,0.7s,mb3.9							
SONM	**Songino Array**	**57.85**	**341**	P	**P**	**18 55 50.4**	**-0.7**
0.5nm,0.5s,mb3.6,baz=165,slow=8.0,SNR=5.1							
MKAR	**Makanchi Array**	**67.80**	**327**	P	**P**	**18 56 56.8**	**0.0**
2.8nm,0.3s,mb4.4,baz=114,slow=8.0,SNR=94							
AAK	**Ala-Archa**	**70.20**	**320**	*e*P	**P**	**18 57 11.4**	**0.0**
0.9nm,0.4s,mb3.9							

*NEIC **22** 19:07:06.1±2.0, 3.90S×141.14E, h53km±20km, mb3.8/2, Error ellipse: s-maj=18.2km s-min=14.9km az=133.0*
*IDC **22** 19:07:09.7±5.1, 4.04S×141.42E, h99km±53km, mb3.6/7, mb1 3.7/9, mb1mx3.6/16, mbtmp4.0/9, Error ellipse: s-maj=41.1km s-min=24.4km az=132.0*
ISC 22 19:07:03.5±2.5, 3.9S±0.1×141.1E±0.1, h48km±24km, n16, σ1§08/17, mb4.0/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.12**	**133**	P	**P**	**19 09 01.4**	**0.0**
2.7nm,0.3s,baz=74,slow=2.8,SNR=13							
KAKA	**Kakadu**	**12.28**	**224**	*e*P	**P**	**19 09 57.1**	**-1.2**
14nm,0.6s							
KAKA				*e*S	**S**	**19 12 12.3**	**-2.2**
WRAB	**Tennant Creek**	**17.27**	**202**	*e*P	**P**	**19 11 05.2**	**+2.3**
2.9nm,0.4s							
WB2	**Warramunga Arr**	**17.28**	**202**	*e*P	**P**	**19 11 03.6**	**+0.6**
WRA	**Warramunga Arr**	**17.28**	**202**	P	**P**	**19 11 03.2**	**+0.2**
0.6nm,0.3s,baz=14,slow=12,SNR=37							
FITZ	**Fitzroy Crossi**	**20.73**	**226**	*e*P	**P**	**19 11 43.8**	**+1.3**
3.7nm,0.6s							
FITZ				*e*S	**S**	**19 15 27.5**	**+1.3**
FITZ	**Fitzroy Crossi**	**20.73**	**226**	P	**P**	**19 11 42.8**	**+0.3**
2.0nm,0.5s,baz=4.8,slow=12,SNR=3.7							
ASAR	**Alice Springs**	**20.87**	**199**	P	**P**	**19 11 43.9**	**0.0**
0.7nm,0.5s,baz=24,slow=11,SNR=23							
ASPA	**Alice Springs**	**20.87**	**199**	*e*P	**P**	**19 11 43.7**	**-0.2**
SONM	**Songino Array**	**59.82**	**334**	P	**P**	**19 17 06.8**	**+0.5**
0.3nm,0.8s,mb3.4,baz=146,slow=5.2,SNR=2.6							
MKAR	**Makanchi Array**	**72.19**	**322**	P	**P**	**19 18 26.0**	**+0.8**
1.0nm,0.5s,mb4.0,baz=101,slow=8.5,SNR=15							
VNDA	**Vanda**	**74.42**	**175**	P	**P**	**19 18 37.0**	**-0.8**
BVAR	**Borovoye Array**	**81.65**	**325**	P	**P**	**19 19 18.6**	**+0.6**
0.8nm,0.5s,mb3.9							
ILAR	**Eielson Array**	**85.90**	**24**	P	**P**	**19 19 37.0**	**-2.2**
0.8nm,0.7s,mb4.1,baz=264,slow=4.9,SNR=6.9							
INK	**Inuvik**	**91.85**	**22**	P	**P**	**19 20 06.9**	**-0.4**
1.6nm,0.4s,mb4.7,baz=276,slow=4.6,SNR=12							
DBIC	**Dimbokro**	**146.02**	**276**	PKPbc	PKPbc	19 26 40.2	+0.9
8.1nm,1.2s,baz=53,slow=6.6,SNR=3.4							

*MOS **22** 19:12:31.6±0.9, 47.92N×154.03E, h43km, mb4.2/11, Error ellipse: s-maj=18.8km s-min=9.6km az=73.4*
*NEIC **22** 19:12:31.7±3.1, 47.91N×154.19E, h30km±23km, mb4.3/7, Error ellipse: s-maj=18.5km s-min=7.6km az=151.0*
*IDC **22** 19:12:33.3±2.9, 47.93N×154.21E, h45km±29km, mb3.6/10, mb1 3.9/13, mb1mx3.7/27, mbtmp4.0/13, ML4.0/3, MS3.2/2, Ms1 3.2/2, ms1mx2.5/27, Error ellipse: s-maj=27.0km s-min=17.1km az=149.0*
ISC 22 19:12:31.0±1.3, 47.9N±0.1×154.1E±0.1, h44km±11km, n48, σ1§22/48, mb4.2/24, MS3.1/2, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.12**	**24**	*e*PN	**P**	**19 13 18.4**	**-0.5**
SKR				pmax	pmax		
comp=N,60nm,0.4s							
SKR				pmax	pmax		
comp=E,40nm,0.4s							
SKR				pmax	pmax		
comp=Z,110nm,0.4s							
PET	**Petropavlovsk**	**5.93**	**28**	*e*PN	**P**	**19 13 59.1**	**+0.6**
PET				*e*S	**S**	**19 15 11.8**	**+5.7**
PET				smax			
comp=N,33nm,0.5s							
PET				MLR	MLR		
comp=Z,100nm,23.0s							
YSS	**Yuzh-Sakhalins**	**7.76**	**268**	*e*PN	**P**	**19 14 23.4**	**-0.6**
ASAJ	**Asahikawa**	**8.84**	**249**	P	**P**	**19 14 39.2**	**+0.2**
comp=Z,1.3nm,0.3s,baz=86,slow=15,SNR=7.0							
FX1	**Attu Island--F**	**13.15**	**60**	P	**P**	**19 15 35.4**	**-1.8**
comp=Z,4.7nm,0.3s,baz=79,slow=19,SNR=12							
FX1	**Attu Island--F**	**13.15**	**60**	*e*Pn	**P**	**19 15 34.1**	**-3.2**
MJAR	**Matsushiro Art**	**16.29**	**232**	P	**P**	**19 16 19.4**	**+1.4**
comp=Z,0.2nm,0.3s,baz=159,slow=29,SNR=6.0							
BILL	**Bilibino**	**21.16**	**13⇓**	*i*P	**P**	**19 17 16.3**	**+2.1**
BILL				*e*PP		19 17 42.3	
BILL				*e*S	**S**	**19 21 21.0**	**+19**
BILL				pmax	pmax		
comp=Z,3.0nm,1.0s,mb3.6							
SSE	**Sheshan**	**30.13**	**248**	P	**P**	**19 18 39.1**	**+0.4**
comp=Z,26nm,0.7s,mb5.1							
ULN	**Ulaanbaatar**	**31.19**	**288**	*i*P	**P**	**19 18 49.4**	**+1.5**
SONM	**Songino Array**	**31.62**	**288**	LR	LR	19 32 42.7	
comp=Z,29nm,21.3s,MS2.9,baz=228,slow=38							
MCK	**McKinley**	**34.37**	**41**	P	**P**	**19 19 16.4**	**+1.1**
MCK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb4.2							
MCK	**McKinley**	**34.37**	**41**	P	**P**	**19 19 16.4**	**+1.0**
comp=Z,1.7nm,0.6s,mb4.2							
SML	**Sawmill**	**34.70**	**45**	*e*P	**P**	**19 19 17.5**	**-0.7**
COLA	**College**	**34.85**	**39**	*i*P	**P**	**19 19 20.2**	**+0.8**
ILAR	**Eielson Array**	**35.26**	**40**	P	**P**	**19 19 23.0**	**0.0**
comp=Z,1.3nm,1.0s,mb3.8,baz=246,slow=7.1,SNR=7.1							
KRAR	**Krasnoyarsk**	**37.47**	**306**	*e*P	**P**	**19 19 40.6**	**-1.1**
ZAL	**Zalesovo**	**42.54**	**305**	*i*P	**P**	**19 20 24.0**	**+0.5**
ZAL				pmax	pmax		
comp=Z,1.0nm,0.3s							
ZAL	**Zalesovo**	**42.54**	**305**	LR	LR	19 38 26.9	
comp=Z,38nm,18.4s,MS3.3,baz=289,slow=36							
RES	**Resolute Bay**	**49.57**	**19**	*e*P	**P**	**19 21 19.9**	**+1.0**
RES				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.2							
RES	**Resolute Bay**	**49.57**	**19**	*e*P	**P**	**19 21 19.9**	**+1.0**
comp=Z,1.0nm,0.4s,mb4.2							
YKA	**Yellowknife Ar**	**49.63**	**38**	P	**P**	**19 21 20.1**	**+0.6**
comp=Z,1.3nm,0.9s,mb4.0,baz=296,slow=7.8,SNR=12							
YKA	**Yellowknife Ar**	**49.63**	**38**	P	**P**	**19 21 20.1**	**+0.6**
BVAR	**Borovoye Array**	**50.68**	**309**	P	**P**	**19 21 26.3**	**-1.3**
comp=Z,1.1nm,0.7s,mb3.9							
CMAR	**Chiang Mai Arr**	**53.29**	**256**	*i*P	**P**	**19 21 51.3**	**+3.6**
CMAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**53.29**	**256**	P	**P**	**19 21 49.8**	**+2.1**
comp=Z,0.5nm,0.7s,mb3.5,baz=36,slow=7.8,SNR=4.6							
AAK	**Ala-Archa**	**53.95**	**296**	*i*P	**P**	**19 21 49.1**	**-3.2**
AAK				pmax	pmax		
comp=Z,1.0nm,1.3s,mb3.6							
ARU	**Arti**	**54.66**	**317**	*i*P	**P**	**19 21 58.9**	**+1.7**
ARU				pmax	pmax		
comp=Z,2.0nm,1.3s,mb4.0							
JIRN	**Jiri**	**55.53**	**274**	*e*P	**P**	**19 22 01.4**	**-2.6**
comp=Z,9.4nm,0.6s,mb5.0							
KKN	**Kakani**	**56.06**	**275**	*e*P	**P**	**19 22 05.9**	**-1.8**
comp=Z,7.5nm,0.7s,mb4.8							
PKI	**Pulchoki**	**56.12**	**275**	*e*P	**P**	**19 22 04.2**	**-3.9**
DMN	**Daman**	**56.29**	**275**	*e*P	**P**	**19 22 06.1**	**-3.3**
comp=Z,14nm,0.9s,mb5.0							
KOLN	**Koldanda**	**57.20**	**276**	*e*P	**P**	**19 22 12.7**	**-3.2**
comp=Z,7.7nm,0.9s,mb4.7							
FFC	**Flin Flon**	**59.46**	**41**	*e*P	**P**	**19 22 30.8**	**-0.5**
FFC				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.4							
FFC	**Flin Flon**	**59.46**	**41**	*e*P	**P**	**19 22 30.8**	**-0.4**
comp=Z,1.9nm,0.5s,mb4.4							
FCC	**Fort Churchill**	**59.97**	**34**	*e*P	**P**	**19 22 34.1**	**-0.6**
FCC				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.4							
FCC	**Fort Churchill**	**59.97**	**34**	*e*P	**P**	**19 22 34.1**	**-0.6**
comp=Z,1.6nm,0.5s,mb4.3							
RRI2	**Red Ridge**	**62.20**	**55**	*e*P	**P**	**19 22 49.5**	**-0.4**
comp=Z,1.1nm,0.6s,mb4.2							
FINES	**FINESS Array B**	**63.33**	**335**	P	**P**	**19 22 56.5**	**-0.7**
comp=Z,0.6nm,0.4s,mb4.1,baz=41,slow=8.3,SNR=12							
NB2	**NORSAR Subarra**	**67.40**	**341**	P	**P**	**19 23 23.2**	**0.0**
comp=Z,0.9nm,0.6s,mb4.0,baz=25,slow=6.2							
NB2	**NORSAR Subarra**	**67.40**	**341**	P	**P**	**19 23 23.2**	**0.0**
NB2				pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.0							
NOA	**NORSAR Array B**	**67.40**	**341**	P	**P**	**19 23 23.6**	**+0.4**
comp=Z,1.1nm,0.6s,mb4.1,baz=25,slow=6.3,SNR=9.3							
HFS	**Hagfors**	**67.66**	**340**	P	**P**	**19 23 24.9**	**+0.1**
comp=Z,1.4nm,0.5s,mb4.3,baz=27,slow=3.3,SNR=14							
KIV	**Kislovodsk**	**70.51**	**315**	*e*P	**P**	**19 23 48.3**	**+5.6**
KIV				*e*		19 26 22.5	
KIV				pmax	pmax		
comp=Z,8.0nm,1.6s,mb4.4							
ASAR	**Alice Springs**	**73.47**	**199**	P	**P**	**19 24 01.5**	**+0.9**
comp=Z,0.5nm,0.8s,mb3.5,baz=9.9,slow=4.8,SNR=5.2							
CLL	**Collm**	**75.73**	**336**	P	**P**	**19 24 14.0**	**+0.9**
TXAR	**Lajitas Array**	**76.36**	**61**	P	**P**	**19 24 15.9**	**-1.2**
comp=Z,0.9nm,0.7s,mb3.8,baz=302,slow=4.0,SNR=12							
BRTR	**Keskin Array B**	**78.04**	**317**	P	**P**	**19 24 26.9**	**+0.7**
comp=Z,0.8nm,0.8s,mb3.7,baz=59,slow=7.2,SNR=3.7							

*NEIC **22** 19:21:23.6, 35.81N×22.12E, h5km, MD3.6(ATH), After ATH.*
*ATH **22** 19:21:24.8, 35.82N×22.22E, h30km±4km, MD3.6/7*
*CSEM **22** 19:21:25.7±0.2, 35.98N×22.28E, h60km, MD3.6, Error ellipse: s-maj=6.4km s-min=2.0km az=31.0*
*IDC **22** 19:21:28.4±3.9, 36.04N×22.32E, h60km±41km, mb3.4/6, mb1 3.4/8, mb1mx3.2/27, mbtmp3.5/8, ML2.6/2, Error ellipse: s-maj=70.2km s-min=24.9km az=28.0*
ISC 22 19:21:19.9±1.3, 35.77N±0.07×22.00E±0.06, h8km±7km, n28, σ1§42/32, mb3.6/6, 2C, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.99**	**59⇑**	*i*PN	**Pn**	**19 21 40.8**	**+0.9**
KYTH				*e*SN	**Sn**	**19 21 52.5**	**-1.5**
KYTH	**Kithira**	**0.99**	**59⇑**	*i*Pb	**Pb**	**19 21 41.0**	**+2.2**
VLI	**Veliai**	**1.21**	**39**	*e*PN	**Pn**	**19 21 45.2**	**+2.0**
VLI				*e*SN	**Sn**	**19 22 00.0**	**+0.2**
VLI	**Veliai**	**1.21**	**39**	*e*Pn	**Pn**	**19 21 45.0**	**+1.8**
ITM	**Ithomi**	**1.41**	**358**	*e*PB	**Pb**	**19 21 49.1**	**+3.1**
ITM	**Ithomi**	**1.41**	**358**	*e*Pb	**Pb**	**19 21 47.6**	**+1.6**
VAM	**Vamos**	**1.83**	**101**	*e*PB	**Pb**	**19 21 53.4**	**+0.1**
NAIG	**Nisos Aigina**	**2.32**	**31**	*e*Pg	**Pg**	**19 22 06.0**	**-0.3**
NAIG	**Nisos Aigina**	**2.32**	**31**	*e*PB	**Pb**	**19 22 02.9**	**+1.3**
IDI	**Anoyia**	**2.41**	**101**	P	**Pn**	**19 22 01.5**	**+1.2**
1.9nm,0.3s,baz=326,slow=22,SNR=2							
IDI				S	**Sn**	**19 22 30.3**	**+0.1**
3.3nm,0.3s,baz=200,slow=22,SNR=6.5							
MGER	**Gerania Oros**	**2.43**	**24**	*e*Pn	**Pn**	**19 22 06.5**	**+5.9**
NSAL	**Nisos Salamina**	**2.44**	**28**	*e*Pg	**Pg**	**19 22 07.0**	**-1.6**
MPAR	**Parnis Oros**	**2.75**	**30**	*e*Pn	**Pn**	**19 22 10.5**	**+5.3**
NPS	**Neapolis**	**3.00**	**99**	*e*Pg	**Pg**	**19 22 18.0**	**-1.7**
NPS	**Neapolis**	**3.00**	**99**	*e*PN	**Pn**	**19 22 10.6**	**+2.0**
EVR	**Evrytania**	**3.14**	**357**	*e*PN	**Pn**	**19 22 15.0**	**+4.3**
AGG	**Agios Georgios**	**3.26**	**5**	*e*P	**Pn**	**19 22 14.4**	**+2.1**
AGG				*e*S	**Sn**	**19 22 36.1**	**-16**
LIT	**Litokhoron**	**4.34**	**5**	*e*P	**Pn**	**19 22 27.0**	**-0.7**
FNA	**Florina**	**5.03**	**355**	*e*P	**Pn**	**19 22 37.1**	**-0.4**
SG1	**Sgolgore (BA)**	**6.56**	**322**	*e*Pn	**Pn**	**19 22 59.6**	**+0.5**
CDT	**Castel del Mon**	**6.95**	**321**	*e*Pn	**Pn**	**19 23 04.5**	**0.0**
BRTR	**Keskin Array B**	**10.03**	**63**	P	**P**	**19 23 45.7**	**-1.6**
0.1nm,0.3s,baz=203,slow=11,SNR=2.3							
HFS	**Hagfors**	**24.96**	**350**	P	**P**	**19 26 43.2**	**-1.6**
1.1nm,0.5s,mb3.7,baz=153,slow=13,SNR=14							
FINES	**FINESS Array B**	**25.82**	**5**	P	**P**	**19 26 50.9**	**-2.1**
0.4nm,0.4s,mb3.3,baz=180,slow=8.3,SNR=4.1							
EKA	**Eskdalemuir Ar**	**26.08**	**326**	P	**P**	**19 26 56.5**	**+1.1**
1.0nm,0.6s,mb3.5,baz=128,slow=8.1,SNR=4.0							
NOA	**NORSAR Array B**	**26.21**	**348**	P	**P**	**19 26 56.3**	**-0.2**
0.2nm,0.4s,mb3.0,baz=168,slow=10,SNR=3.4							
ARCES	**ARCESS Array B**	**33.88**	**2**	P	**P**	**19 28 01.7**	**-3.0**
1.8nm,0.9s,mb4.0,baz=180,slow=11,SNR=7.1							
MKAR	**Makanchi Array**	**45.60**	**57**	P	**P**	**19 29 39.3**	**-2.7**
0.9nm,0.5s,mb4.0,baz=268,slow=8.0,SNR=13							

*IDC **22** 19:22:12.7±3.2, 1.85N×96.56E, mb3.6/4, mb1 3.8/5, mb1mx3.5/20, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=115.3km s-min=28.2km az=59.0*
*NEIC **22** 19:22:17.7±1.2, 1.90N×96.74E, h30km, mb3.9/1, Error ellipse: s-maj=23.9km s-min=15.6km az=64.0*
ISC 22 19:22:15.7±1.7, 1.9N±0.2×96.7E±0.2, h30km, n7, σ0§61/7, mb3.6/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.17**	**49**	*e*Pn	**Pn**	**19 23 32.4**	**-0.7**
CM31	**Chiang Mai Arr**	**16.60**	**7**	*e*P	**P**	**19 26 08.7**	**+0.6**
12nm,1.2s							
CMAR	**Chiang Mai Arr**	**16.60**	**7**	Pn	**P**	**19 26 08.8**	**+0.8**
0.1nm,0.3s,baz=197,slow=11,SNR=16							
WRA	**Warramunga Arr**	**42.81**	**122**	P	**P**	**19 30 13.5**	**+0.5**
0.6nm,0.6s,mb3.5,baz=302,slow=9.0,SNR=5.7							
MKAR	**Makanchi Array**	**46.45**	**346**	P	**P**	**19 30 41.0**	**-0.8**
0.7nm,0.6s,mb3.8,baz=162,slow=7.7,SNR=7.3							
SONM	**Songino Array**	**46.52**	**9**	P	**P**	**19 30 42.4**	**+0.1**
0.2nm,0.6s,mb3.2,baz=191,slow=7.3,SNR=3.5							
ZAL	**Zalesovo**	**52.79**	**351**	P	**P**	**19 31 29.9**	**-0.5**
0.7nm,0.4s,mb3.9,baz=289,slow=5.9,SNR=4.6							

IDC 22 19:31:50.8±10.0, 11.92N×93.19E, h101km±80km, mb3.1/4, mb1 3.3/5, mb1mx3.1/21, mbtmp3.4/5, ML3.9/1, Error ellipse: s-maj=102.4km s-min=21.2km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.55**	**40**

YKA	**Yellowknife Ar**	**19.16 347**	P	**P**	**20 06 39.7**	**+4.2**
YKA	**Yellowknife Ar**	**19.16 347**	P	**P**	**20 06 39.7**	**+4.2**
	0.1nm,0.3s,baz=163,slow=13,SNR=3.1					

*IDC **22** 20:21:16.2±4.6, 22.00N×45.21W, mb3.6/8, mb1 4.0/8, mb1mx3.7/26, mbtmp3.6/8, MS3.4/8, Ms1 3.4/8, ms1mx3.1/31, Error ellipse: s-maj=128.8km s-min=26.7km az=174.0*

ISC 22 20:21:16.0±3.7, **22.0N**±0.7×**45.2W**±0.2, **h10**km, **n13**, σ0°**78**/8, **mb3.7**/8, **MS3.4**/8, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**27.72**	**246**	LR	LR	20 36 31.6	
	comp=Z,35nm,21.6s,MS2.9,baz=43,slow=33						
ROSC	**El Rosal**	**32.97**	**243**	LR	LR	20 40 12.5	
	comp=Z,38nm,19.1s,MS3.1,baz=345,slow=34						
ULM	**Lac du Bonnet**	**48.43**	**318**	LR	LR	20 47 14.1	
	comp=Z,49nm,19.9s,MS3.5,baz=309,slow=32						
DAVOX	**Davos**	**50.51**	**47**	LR	LR	20 48 50.4	
	comp=Z,36nm,21.2s,MS3.4,baz=87,slow=33						
TXAR	**Lajitas Array**	**52.73**	**291**	P	**P**	**20 30 33.5**	**+0.1**
	0.5nm,0.9s,mb3.5,baz=67,slow=9.5,SNR=4.1						
GERES	**GERESS Array B**	**53.37**	**45**	P	**P**	**20 30 36.5**	**-1.3**
	0.2nm,0.3s,mb3.5,baz=288,slow=9.3,SNR=2.9						
NOA	**NORSAR Array B**	**54.85**	**30**	P	**P**	**20 30 49.2**	**+0.7**
	0.1nm,0.5s,mb3.1,baz=206,slow=12,SNR=2.7						
NOA				LR	LR	20 48 34.0	
	comp=Z,33nm,20.9s,MS3.4,baz=270,slow=30						
PDAR	**Pinedale Array**	**56.76**	**307**	P	**P**	**20 31 02.2**	**-0.4**
	0.6nm,0.9s,mb3.6,baz=105,slow=10,SNR=4.5						
PDAR				LR	LR	20 51 14.8	
	comp=Z,52nm,20.9s,MS3.6,baz=246,slow=32						
YKA	**Yellowknife Ar**	**61.18**	**330**	P	**P**	**20 31 31.8**	**-1.1**
	0.8nm,1.0s,mb3.8,baz=100,slow=7.5,SNR=3.8						
YKA				LR	LR	20 56 16.2	
	comp=Z,53nm,18.8s,MS3.7,baz=280,slow=34						
MLR	**Muntele Rosu**	**61.57**	**49**	P	**P**	**20 31 36.4**	**+0.5**
	1.5nm,0.6s,mb4.3,baz=180,slow=5.9,SNR=3.8						
NVAR	**Mina Array Bea**	**63.72**	**303**	LR	LR	20 57 52.1	
	comp=Z,31nm,20.6s,MS3.5,baz=180,slow=34						
INK	**Inuvik**	**69.11**	**337**	P	**P**	**20 32 25.0**	**+1.0**
	0.9nm,0.9s,mb3.7,baz=84,slow=5.1,SNR=3.2						
ILAR	**Eielson Array**	**75.13**	**334**	P	**P**	**20 33 00.2**	**+0.4**
	1.2nm,0.9s,mb3.8,baz=70,slow=5.0,SNR=13						

NIED 22 20:31:00, 28.70N×142.70E, h5km, **Mw3.7 Best double couple:** M0 4.45×10^14 **NP1:**φs328°, δ62°, λ75°. **NP2:** φs177°, δ32°, λ115°., **Bonin Islands region**

*IDC **22** 20:31:12.8±1.1, 14.02N×120.68E, mb3.8/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, MS3.0/1, Ms1 3.2/1, ms1mx2.4/26, Error ellipse: s-maj=64.8km s-min=19.3km az=58.0*

*MAN **22** 20:31:15.1, 13.76N×120.05E, h11km, mb4.7, ML3.6, MS3.5*

ISC 22 20:31:15.1±0.9, **13.74N**±0.03×**120.04E**±0.04, **h14**km±5km, **n29**, σ1°**33**/43, **mb4.0**/5, **MS2.8**/1, **1C-1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.20**	**90**	*e*P	**Pg**	**20 31 20.1**	**+0.2**
LUBP				*e*S	**Sg**	**20 31 22.5**	**-0.6**
TGY	**Tagaytay City**	**0.95**	**67⇑**	*e*P	**Pb**	**20 31 32.7**	**0.0**
SJMP	**San Jose**	**1.65**	**140**	*e*P	**Pn**	**20 31 46.0**	**+2.1**
SJMP				*e*S	**Sn**	**20 32 12.4**	**+7.6**
BUSP	**Coron**	**1.73**	**175**	*e*P	**Pn**	**20 31 45.9**	**+0.9**
BUSP				*e*S	**Sn**	**20 32 04.6**	**-2.4**
BOAC	**Boac**	**1.78**	**99**	*e*P	**Pn**	**20 31 45.2**	**-0.5**
BOAC				*e*S	**Sn**	**20 32 06.9**	**-1.2**
SCZP	**Santa Cruz**	**2.03**	**357**	*e*P	**Pn**	**20 31 49.1**	**-0.3**
PCPH	**Palayan**	**2.09**	**29⇓**	*e*P	**Pn**	**20 31 48.4**	**-1.7**
PCPH				*e*S	**Sn**	**20 32 14.3**	**-1.7**
POLP	**Polilio Island**	**2.09**	**62**	*e*P	**Pn**	**20 31 49.6**	**-0.6**
POLP				*e*S	**Sn**	**20 32 16.5**	**+0.4**
GQP	**Guinayangan**	**2.35**	**86**	*e*P	**Pn**	**20 31 45.0**	**-8.8**
GQP				*e*S	**Sn**	**20 32 27.1**	**+4.5**
OTRP	**Odiongan**	**2.37**	**125**	*e*P	**Pn**	**20 31 55.8**	**+1.6**
OTRP				*e*S	**Sn**	**20 32 28.2**	**+5.1**
BALP	**Baler**	**2.49**	**37**	*e*P	**Pn**	**20 31 56.0**	**+0.1**
BALP				*e*S	**Sn**	**20 32 27.1**	**+0.9**
ENPP	**El Nido**	**2.58**	**193**	*e*P	**Pn**	**20 31 57.6**	**+0.4**
ENPP				*e*S	**Sn**	**20 32 27.8**	**-0.9**
AUQP	**San Andres**	**2.60**	**99**	*e*P	**Pn**	**20 31 59.2**	**+1.7**
BOLP	**Bolinao**	**2.63**	**357**	*e*P	**Pn**	**20 31 56.5**	**-1.4**
BCPH	**Baguio City Da**	**2.68**	**11**	*e*P	**Pn**	**20 31 58.7**	**0.0**
BCPH				*e*S	**Sn**	**20 32 34.3**	**+3.1**
CUYO	**Cuyo Island**	**3.02**	**161**	*e*P	**Pn**	**20 32 03.6**	**+0.1**
CUYO				*e*S	**Sn**	**20 32 35.2**	**-4.6**
KALP	**Kalibo**	**3.04**	**132**	*e*P	**Pn**	**20 32 04.0**	**+0.3**
GUIM	**Jordan**	**3.97**	**141**	*e*P	**Pn**	**20 32 15.6**	**-1.4**
GUIM				*e*S	**Sn**	**20 33 06.5**	**+2.7**
PVCP	**Virac**	**4.00**	**91**	*e*P	**Pn**	**20 32 16.8**	**-0.7**
APYP	**Conner**	**4.26**	**16**	*e*P	**Pn**	**20 32 23.2**	**+2.1**
APYP				*e*S	**Sn**	**20 33 11.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**20.80**	**286**	P	**P**	**20 36 01.1**	**+2.4**
	2.6nm,0.9s,baz=96,slow=8.8,SNR=12						
CMAR				LR	LR	20 45 01.1	
	comp=Z,37nm,18.6s,MS2.8,baz=130,slow=39						
WRA	**Warramunga Arr**	**36.30**	**157**	P	**P**	**20 38 18.2**	**-2.1**
	3.8nm,0.7s,mb4.4,baz=335,slow=9.6,SNR=19						
WB2	**Warramunga Arr**	**36.31**	**157**	*e*P	**P**	**20 38 15.3**	**-5.1**
ASPA	**Alice Springs**	**39.57**	**160**	*e*P	**P**	**20 38 49.7**	**+2.0**
ASAR	**Alice Springs**	**39.57**	**160**	P	**P**	**20 38 46.7**	**-1.0**
	3.9nm,0.6s,mb4.3,baz=336,slow=6.4,SNR=18						
MKAR	**Makanchi Array**	**45.62**	**324**	P	**P**	**20 39 37.4**	**+0.6**
	0.7nm,0.8s,mb3.7,baz=132,slow=9.3,SNR=8.3						
FINES	**FINESS Array B**	**79.94**	**331**	P	**P**	**20 43 22.0**	**-3.0**
	0.4nm,0.5s,mb3.6,baz=72,slow=6.0,SNR=4.1						
NB2	**NORSAR Subarra**	**86.93**	**333**	P	**P**	**20 43 53.0**	**-7.6**
	1.1nm,0.7s,mb4.2,baz=69,slow=4.5						
NOA	**NORSAR Array B**	**86.93**	**333**	P	**P**	**20 44 00.1**	**-0.5**
	0.5nm,0.7s,mb3.9,baz=68,slow=4.5,SNR=5.4						

*NEIC **22** 20:32:20.0±0.9, 20.59S×69.01W, h107km±11km, mb3.4/1, Error ellipse: s-maj=20.5km s-min=11.7km az=86.0*

*IDC **22** 20:32:22.1±1.4, 20.74S×68.75W, h125km±16km, mb3.2/1, mb1 3.4/4, mb1mx3.2/17, mbtmp3.6/4, Error ellipse: s-maj=52.1km s-min=15.0km az=104.0*

ISC 22 20:32:18.8±0.7, **20.55S**±0.05×**69.0W**±0.1, **h121**km±11km, **n9**, σ0°**99**/12, **mb3.4**/1, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.05**	**178**	P	**P**	**20 32 54.5**	**+1.1**
	9.7nm,0.3s,baz=6.4,slow=10.0,SNR=87						
LVC				S	**S**	**20 33 19.6**	**-0.1**
	82nm,0.3s,baz=98,slow=23,SNR=86						
LVC	**Limon Verde**	**2.05**	**178**	P	**P**	**20 32 54.5**	**+1.1**
LVC				S	**S**	**20 33 19.6**	**-0.1**
LPAZ	**La Paz**	**4.31**	**11**	P	**P**	**20 33 28.9**	**+5.2**
	0.7nm,0.3s,baz=192,slow=7.6,SNR=14						
LPAZ				S	**S**	**20 34 12.6**	**-0.8**
	0.9nm,0.3s,baz=204,slow=19,SNR=4.6						
ARE	**Arequipa**	**4.71**	**329**	*e*P	**P**	**20 33 29.0**	**-0.1**
ARE				*e*S	**S**	**20 34 23.0**	**-0.1**
SIV	**San Ignacio**	**8.77**	**60**	P	**P**	**20 34 24.5**	**+0.6**
	1.3nm,0.3s,baz=252,slow=12,SNR=27						
TRQA	**Tornquist**	**18.47**	**162**	*e*P	**P**	**20 36 26.7**	**-1.0**
	1.3nm,0.6s						
PLCA	**Paso Flores**	**20.16**	**183**	P	**P**	**20 36 44.4**	**-1.2**
	0.1nm,0.3s,baz=8.3,slow=12,SNR=6.3						
YKA	**Yellowknife Ar**	**90.27**	**341**	P	**P**	**20 45 09.0**	**+2.4**
	0.2nm,0.6s,mb3.4,baz=135,slow=5.2,SNR=6.1						
YKA				pP	pP	20 45 38.1	-0.1
	0.2nm,0.6s,baz=130,slow=4.4,SNR=4.3						
MKAR	**Makanchi Array**	**144.90**	**35**	PKP	PKPdf	20 51 44.9	+3.5
	0.3nm,0.5s,baz=323,slow=4.0,SNR=6.5						
MKAR				pPKP		20 52 16.1	
	0.4nm,0.8s,baz=299,slow=3.6,SNR=3.1						

*MOS **22** 20:33:44.4±1.0, 42.02N×46.11E, h6km, mb4.2/1, Error ellipse: s-maj=11.4km s-min=9.4km az=69.5*

*CSEM **22** 20:33:44.4±99.0, 42.02N×46.11E, h6km, mb4.2, After OBN*

*TIF **22** 20:33:45.6, 42.00N×46.00E, h20km±3km*

ISC 22 20:33:44.6±0.6, **42.10N**±0.04×**46.00E**±0.04, **h2**km±6km, **n24**, σ1°**15**/43, **3C-2D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XNZR	**Khunzakh**	**0.69**	**49**	*e*PG	**Pg**	**20 34 00.0**	**+1.7**
XNZR				*e*S	**Sg**	**20 34 11.5**	**+4.1**
XNZR				pmax	pmax		
	comp=Z,181nm,0.2s						
XNZR	**Khunzakh**	**0.69**	**49**	*e*Pg	**Pg**	**20 34 00.0**	**+1.7**
	comp=Z,181nm,0.2s						
XNZR				*e*Sg	**Sg**	**20 34 11.5**	**+4.1**
DGRG	**David-gareji**	**0.80**	**216**	P	**Pg**	**20 34 01.1**	**+0.5**
KMKR	**Kumukh**	**0.82**	**87**	*e*PG	**Pg**	**20 34 00.0**	**-0.9**
KMKR				*i* S	**Sg**	**20 34 11.5**	**-0.3**
KMKR				pmax	pmax		
	comp=Z,126nm,0.2s						
KMKR	**Kumukh**	**0.82**	**87**	*e*Pg	**Pg**	**20 34 00.0**	**-0.9**
	comp=Z,126nm,0.2s						
KMKR				*i* Sg	**Sg**	**20 34 11.5**	**-0.3**
UNCR	**Uncukul**	**0.85**	**43**	*i*PG	**Pg**	**20 34 01.5**	**-0.1**
UNCR				*i* S	**Sg**	**20 34 15.0**	**+2.0**
UNCR				pmax	pmax		
	comp=Z,215nm,0.2s						
UNCR	**Uncukul**	**0.85**	**43**	*i* Pg	**Pg**	**20 34 01.5**	**-0.1**
	comp=Z,215nm,0.2s						
UNCR				*i* Sg	**Sg**	**20 34 15.0**	**+2.0**
MTA	**Mtatsminda**	**0.99**	**246**	P	**Pb**	**20 34 03.9**	**-0.2**
MTA				S	**Sb**	**20 34 17.6**	**+0.2**
KRNR	**Karanay**	**0.99**	**42**	*e*PG	**Pg**	**20 34 02.0**	**-2.4**
KRNR				*i* S	**Sb**	**20 34 16.0**	**-1.5**
TI2	**Plekhanov**	**1.00**	**249**	*i*PG	**Pg**	**20 34 04.2**	**-0.4**
TI2				*i* S	**Sg**	**20 34 18.2**	**+0.2**
TI2				smax			
	comp=N,150nm,0.4s						
TI2	**Plekhanov**	**1.00**	**249**	*i* Pg	**Pg**	**20 34 04.2**	**-0.4**
	comp=N,150nm,0.4s						
TI2				*i* Sg	**Sg**	**20 34 18.2**	**+0.2**
TBLG	**Delisi**	**1.01**	**249**	P	**Pb**	**20 34 04.0**	**-0.5**
TBLG				S	**Sb**	**20 34 17.7**	**-0.4**
BUJR	**Buynaksk**	**1.10**	**48⇑**	*i*PG	**Pg**	**20 34 06.0**	**-0.5**
BUJR				*i* S	**Sg**	**20 34 22.0**	**+0.9**
BUJR				pmax	pmax		
	comp=Z,130nm,0.2s						
BUJR	**Buynaksk**	**1.10**	**48**	*i* Pg	**Pg**	**20 34 06.0**	**-0.5**
	comp=Z,130nm,0.2s						
BUJR				*i* Sg	**Sg**	**20 34 22.0**	**+0.9**
DBC	**Dubki**	**1.11**	**33**	*i* PG	**Pg**	**20 34 05.0**	**-1.7**
DBC				*i* S	**Sb**	**20 34 20.0**	**-0.9**
DBC				pmax	pmax		
	comp=Z,96nm,0.2s						
DBC	**Dubki**	**1.11**	**33**	*i* Pg	**Pg**	**20 34 05.0**	**-1.7**
	comp=Z,96nm,0.2s						
DBC				*i* Sg	**Sb**	**20 34 20.0**	**-0.9**
MAK	**Makhachkala**	**1.41**	**52**	*e*PG	**Pg**	**20 34 15.3**	**+2.6**
MAK				*i*		20 34 38.0	
MAK				pmax	pmax		
	comp=E,259nm,0.3s						
MAK				pmax	pmax		
	comp=Z,185nm,0.3s						
MAK				smax			
	comp=E,1μm,0.6s						
MAK				smax			
	comp=N,204nm,0.8s						
MAK				smax			
	comp=Z,272nm,0.8s						
ZEI	**Tsey**	**1.69**	**294**	*e*PN	**Pn**	**20 34 16.9**	**+1.4**
ZEI				*e*		20 34 39.9	
ZEI				pmax	pmax		
	comp=Z,33nm,0.2s						
ZEI				smax			
	comp=E,94nm,0.3s						
ZEI	**Tsey**	**1.69**	**294**	*e*Pn	**Pn**	**20 34 16.9**	**+1.4**
	comp=E,33nm,0.2s						
ZEI				*e*Sg	**Sg**	**20 34 39.9**	**-1.1**
ONI	**Oni**	**1.95**	**285**	P	**Pn**	**20 34 20.4**	**+1.3**
ONI				S	**Sn**	**20 34 45.3**	**+0.8**
KIV	**Kislovodsk**	**3.06**	**308**	*ce*PN	**Pg**	**20 34 44.6**	**-1.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIV	**Kislovodsk**	**3.06**	**308**	*e*Pn	**Pg**	**20 34 44.6**	**-1.1**
	comp=Z,9.0nm,0.8s						
GOF	**Gofitskoye**	**3.66**	**325⇑**	*i*PN	**Pg**	**20 34 58.4**	**+0.7**
GOF				*i* S	**Sb**	**20 35 41.5**	**+6.5**
GOF				pmax	pmax		
	comp=Z,10.0nm,1.3s						
GOF				smax			
	comp=N,40nm,0.9s						
GOF				smax			
	comp=E,40nm,0.9s						
GOF	**Gofitskoye**	**3.66**	**325**	*i* Pn	**Pg**	**20 34 58.4**	**+0.7**
	comp=E,10.0nm,1.3s						
GOF				*i* Sb	**Sb**	**20 35 41.5**	**+6.5**

IDC 22 20:46:12.4±5.2, **2.84N×98.41E, h26**km±7km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx3.2**/19, **mbtmp3.5**/3, **Error ellipse: s-maj=256.9km s-min=21.2km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.91**	**124**	P	P	20 54 01.0	-1.9
	0.5nm,0.9s,baz=301,slow=9.3,SNR=3.1						
WRA				pP	pP	20 54 08.9	-1.7
	0.3nm,0.7s,baz=304,slow=9.0,SNR=1.7						
MKAR	**Makanchi Array**	**45.97**	**345**	P	P	20 54 33.0	-2.3
	0.4nm,0.5s,baz=162,slow=8.2,SNR=8.0						
MKAR				pP	pP	20 54 40.8	-2.3
	0.4nm,0.7s,baz=154,slow=8.5,SNR=3.7						
ZAL	**Zalesovo**	**52.15**	**350**	P	P	20 55 20.9	-2.0
	0.5nm,0.8s,baz=310,slow=15,SNR=3.3						
ZAL				pP	pP	20 55 28.9	-1.9
	0.7nm,0.4s,baz=268,slow=9.9,SNR=2.3						

*IDC **22** 21:44:59.3±0.8, 1.62S×99.98E, mb4.0/10, mb1 4.1/11, mb1mx3.9/19, mbtmp4.0/11, ML3.8/1, Error ellipse: s-maj=46.9km s-min=15.8km az=63.0*

*NEIC **22** 21:45:03.6±0.6, 1.73S×99.80E, h30km, mb4.4/1, Error ellipse: s-maj=28.1km s-min=10.6km az=66.0*

ISC 22 21:45:02.8±0.7, **1.6S**±0.1×**100.0E**±0.2, **h33**km, **n19**, σ1°**06**/17, **mb4.1**/12, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.90**	**6**	*e*Pn	**Pn**	**21 46 46.4**	**+2.1**
CMAR	**Chiang Mai Arr**	**19.97**	**357**	P	**P**	**21 49 33.2**	**-2.1**
	0.1nm,0.3s,baz=186,slow=10.0,SNR=8.3						
FITZ	**Fitzroy Crossi**	**30.06**	**125**	P	**P**	**21 51 13.0**	**+1.6**
	5.0nm,0.8s,mb4.3,baz=171,slow=2.6,SNR=3.1						
NWAO	**Narrogin (SRO)**	**35.12**	**154**	P	**P**	**21 51 54.5**	**-0.9**
	13nm,1.0s,mb4.8,baz=326,slow=5.2,SNR=3.1						
NWAO	**Narrogin (SRO)**	**35.12**	**154**	P	**P**	**21 51 54.5**	**-0.9**
WRA	**Warramunga Arr**	**38.22**	**121**	P	**P**	**21 52 20.7**	**-0.9**
	0.8nm,0.4s,mb3.8,baz=304,slow=9.1,SNR=8.8						
WRAB	**Tennant Creek**	**38.23**	**121**	*e*P	**P**	**21 52 21.2**	**-0.5**
	5.1nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**39.51**	**126**	P	**P**	**21 52 31.8**	**-0.5**
	0.7nm,0.6s,mb3.5,baz=301,slow=8.1,SNR=8.9						
SONM	**Songino Array**	**49.57**	**6**	P	**P**	**21 53 52.8**	**+0.1**
	0.8nm,0.6s,mb3.9,baz=186,slow=8.1,SNR=8.8						
SONM				PcP	PcP	21 55 13.8	-0.5
	0.4nm,0.4s,baz=199,slow=4.6,SNR=5.7						
MKAR	**Makanchi Array**	**50.65**	**344**	P	**P**	**21 54 00.9**	**-0.1**
	1.4nm,0.4s,mb4.3,baz=158,slow=8.7,SNR=38						
ZAL	**Zalesovo**	**56.78**	**349**	P	**P**	**21 54 45.3**	**-0.7**
	3.7nm,0.4s,mb4.8,baz=312,slow=5.8,SNR=12						
VNDA	**Vanda**	**82.54**	**169**	P	**P**	**21 57 25.0**	**+1.7**
	0.4nm,0.7s,mb3.6,baz=309,slow=6.5,SNR=3.1						
VNDA	**Vanda**	**82.54**	**169**	P	**P**	**21 57 25.0**	**+1.7**
FINES	**FINESS Array B**	**83.76**	**332**	P	**P**	**21 57 29.4**	**-0.3**
	0.5nm,0.4s,mb4.0,baz=122,slow=4.2,SNR=10.0						
ARCES	**ARCESS Array B**	**86.10**	**340**	P	**P**	**21 57 41.4**	**+0.3**
	1.5nm,0.8s,mb4.3,baz=101,slow=6.2,SNR=5.8						
ARCES	**ARCESS Array B**	**86.10**	**340**	P	**P**	**21 57 41.4**	**+0.2**
GERES	**GERESS Array B**	**88.74**	**319**	P	**P**	**21 57 54.9**	**+0.5**
	0.5nm,0.8s,mb3.9,baz=217,slow=6.7,SNR=4.2						
TXAR	**Lajitas Array**	**144.43**	**37**	PKP	PKPdf	22 04 37.6	+1.2
	0.9nm,0.5s,baz=204,slow=0.7,SNR=14						
CPUP	**Villa Florida**	**144.60**	**217**	PKP	PKPdf	22 04 36.8	0.0
	2.0nm,0.8s,baz=29,slow=2.8,SNR=6.6						

*MOS **22** 22:07:43.2±0.8, 7.39S×122.81E, h520km, mb4.6/13, Error ellipse: s-maj=19.5km s-min=8.5km az=115.5*

*BJI **22** 22:07:44.4, 7.61S×123.29E, h571km, mB4.6, mb4.7*

*IDC **22** 22:07:46.2±1.0, 7.45S×122.95E, h542km±11km, mb4.0/18, mb1 4.1/21, mb1mx4.1/26, mbtmp4.9/21, Error ellipse: s-maj=15.0km s-min=6.6km az=60.0*

*NEIC **22** 22:07:46.3±0.5, 7.46S×122.90E, h544km±6km, mb4.7/23, Error ellipse: s-maj=8.2km s-min=4.2km az=56.0*

ISC 22 22:07:46.0±0.6, **7.44S**±0.04×**122.92E**±0.06, **h556**km±9km, **n149**, σ0°**82**/134, **mb4.6**/50, **21C-9D, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.74**	**120⇑**	*i*P	**P**	**22 10 11.5**	**-0.7**
	98nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.92**	**166⇓**	*i*P	**P**	**22 10 13.6**	**-0.4**
	26nm,0.6s						
FITZ				*e*S	**S**	**22 12 12.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**10.92**	**166**	P	**P**	**22 10 13.6**	**-0.4**
	4.3nm,0.3s,baz=359,slow=7.1,SNR=118						
FITZ				S	**S**	**22 12 11.8**	**-1.0**
	3.5nm,0.3s,baz=20,slow=23,SNR=26						
TSM	**Tawau**	**12.70**	**336**	P	**P**	**22 10 33.1**	**+1.1**
MBWA	**Marble Bar**	**13.98**	**192⇓**	*i*P	**P**	**22 10 44.9**	**-0.1**
	128nm,0.6s						
KKM	**Kota Kinabalu**	**14.97**	**333**	*e*P	**P**	**22 10 55.5**	**+0.7**
KKM	**Kota Kinabalu**	**14.97**	**333**	P	**P**	**22 10 55.9**	**+1.1**
KSM	**Kuching**	**15.38**	**305⇑**	*i*P	**P**	**22 11 00.4**	**+1.5**
WRA	**Warramunga Arr**	**16.64**	**139**	P	**P**	**22 11 11.3**	**+0.3**
	8.3nm,0.3s,baz=317,slow=9.6,SNR=279						
WRA				S	**S**	**22 13 57.8**	**+1.4**
	1.0nm,0.3s,baz=314,slow=17,SNR=12						
WRAB	**Tennant Creek**	**16.64**	**139**	*e*P	**P**	**22 11 11.3**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,117nm,1.0s						
WRAB	**Tennant Creek**	**16.64**	**139**	*e*P	**P**	**22 11 11.3**	**+0.3**
	comp=Z,117nm,1.0s						
WB2	**Warramunga Arr**	**16.65**	**139⇓**	*i*P	**P**	**22 11 11.4**	**+0.3**
WB2				*e*S	**S**	**22 13 58.2**	**+1.6**
ASPA	**Alice Springs**	**19.27**	**148**	*e*P	**P**	**22 11 36.0**	**0.0**
ASPA				*e*S	**S**	**22 14 41.5**	**+0.4**
ASAR	**Alice Springs**	**19.27**	**148**	P	**P**	**22 11 36.1**	**+0.1**
	comp=Z,8.0nm,0.3s,baz=320,slow=7.9,SNR=566						
ASAR				S	**S**	**22 14 42.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=335,slow=15,SNR=3.5						
ASAR				ScP		22 18 14.8	
	baz=352,slow=2.1,SNR=4.3						
KGM	**Kluang**	**21.69**	**295**	P	**P**	**22 11 59.6**	**+1.1**
FORT	**Forrest**	**23.71**	**169**	*e*P	**P**	**22 12 15.4**	**-1.2**
	comp=Z,1μm,0.5s						
KLBR	**Kellerberrin**	**24.51**	**191**	*e*P	**P**	**22 12 22.3**	**-1.4**
	comp=Z,662nm,0.5s						
IPM	**Ipoh**	**24.90**	**298**	P	**P**	**22 12 26.8**	**-0.5**
MUN	**Mundaring**	**25.20**	**193**	*e*P	**P**	**22 12 28.6**	**-1.2**
	comp=Z,91nm,0.4s,mb5.8						
MUN	**Mundaring**	**25.20**	**193**	*e*P	**P**	**22 12 28.6**	**-1.2**
MUN				pmax	pmax		
	comp=Z,91nm,0.4s,mb5.8						
KULM	**Kulim**	**25.57**	**299⇑**	*i*P	**P**	**22 12 32.3**	**-0.9**
CTA	**Charters Tower**	**25.87**	**121**	P	**P**	**22 12 35.3**	**-0.5**
	comp=Z,18nm,1.1s,mb4.6,baz=286,slow=8.2,SNR=4.2						
CTAO	**Charters Tower**	**25.87**	**121**	*e*P	**P**	**22 12 35.0**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.7						
CTAO	**Charters Tower**	**25.87**	**121**	*e*P	**P**	**22 12 35.0**	**-0.8**
	comp=Z,22nm,1.1s,mb4.7						
NWAO	**Narrogin (SRO)**	**25.90**	**191**	*e*P	**P**	**22 12 35.0**	**-1.0**
NWAO				pmax	pmax		
	comp=Z,19nm,0.5s						
NWAO	**Narrogin (SRO)**	**25.90**	**191**	P	**P**	**22 12 35.1**	**-0.9**
	comp=Z,28nm,0.5s,mb5.2,baz=19,slow=8.3,SNR=79						
NWAO	**Narrogin (SRO)**	**25.90**	**191**	*e*P	**P**	**22 12 35.0**	**-1.0**
	comp=Z,19nm,0.5s,mb5.0						
SNG	**Songkhla**	**26.56**	**303**	P	**P**	**22 12 42.1**	**+0.2**
	comp=Z,242nm,1.0s,mb5.8						
QIZ	**Qiongzhong**	**29.29**	**334**	P	**P**	**22 13 05.4**	**-0.2**
STKA	**Stephens Creek**	**29.90**	**147⇓**	*i*P	**P**	**22 13 10.5**	**-0.2**
	comp=Z,62nm,0.6s,mb5.3						
STKA				*e*PCP		22 14 40.4	
STKA				*e*S	**S**	**22 17 27.5**	**-2.6**
STKA	**Stephens Creek**	**29.90**	**147**	P	**P**	**22 13 10.5**	**-0.2**
	comp=Z,66nm,0.5s,mb5.4,baz=322,slow=8.4,SNR=196						
STKA				S	**S**	**22 17 27.9**	**-2.2**
	comp=Z,3.0nm,0.7s,baz=106,slow=15,SNR=3.8						
KKTK	**Khon Kaen**	**30.88**	**320**	⇓P	**P**	**22 13 20.0**	**+0.8**
	comp=Z,370nm,0.9s						
GZH	**Guangzhou**	**31.75**	**343**	P	**P**	**22 13 26.6**	**+0.1**
NANT	**Nan**	**34.06**	**320**	P	**P**	**22 13 47.0**	**+1.1**
	comp=Z,262nm,0.6s						
CM31	**Ch

ULN Ulaanbaatar 56.82 347⇑ *i*P P 22 16 39.2 -0.5
comp=Z,13nm,0.9s,mb4.2
NDI New Delhi 56.83 311 *e* **P 22 16 36.0 -4.0**
SONM Songino Array 56.94 347 P **P 22 16 40.1 -0.3**
comp=Z,8.0nm,0.5s,mb4.2,baz=161,slow=8.0,SNR=105
URZ Urewera 57.58 131 P **P 22 16 44.0 -1.0**
comp=Z,24nm,0.7s,mb4.5,baz=20,slow=1.6,SNR=15
CASY Casey 59.37 186 *e*P **P 22 16 55.6 -1.0**
ZAK Zakamensk 60.06 346 *e*P **P 22 17 00.4 -0.9**
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb3.9
WMQ Urumqi 60.16 331 *e*P **P 22 17 02.5 +0.4**
WMQ PCP PcP 22 17 41.5 +0.6
WMQ AP pP 22 18 50.8 -1.8
WMQ PP PP 22 19 25.8 +2.0
WMQ *e*S **S 22 24 34.5 +1.5**
WMQ AMB AMB
comp=Z,20nm,0.7s,mb4.6
MOY Mondy 61.82 345 *e*P **P 22 17 12.5 -0.3**
MKAR Makanchi Array 64.94 330 P **P 22 17 32.5 -0.2**
comp=Z,26nm,0.7s,mb4.8,baz=135,slow=7.7,SNR=256
ULHL Ulahol 65.23 323 P **P 22 17 34.7 0.0**
SNR=6.7
BOD Bodaibo 65.44 355 *e*P **P 22 17 34.9 -0.8**
BOD pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
KZA Kyzart 65.72 323 P **P 22 17 38.5 +0.8**
SNR=18
TKM2 Tokmak 2 66.01 324 P **P 22 17 39.7 +0.1**
SNR=12
KBK Karagaybulak 66.24 323 P **P 22 17 40.9 0.0**
SNR=16
UCH Uchtor 66.25 323 P **P 22 17 42.0 +1.1**
SNR=12
AAK Ala-Archa 66.49 323 P **P 22 17 42.9 +0.4**
SNR=24
AAK Ala-Archa 66.49 323 *i*P **P 22 17 41.4 -1.1**
AAK pmax pmax
comp=Z,23nm,0.9s,mb4.7
AAK Ala-Archa 66.49 323⇑ *i*P **P 22 17 41.4 -1.1**
comp=Z,23nm,0.9s,mb4.7
AML Almayashu 66.69 322 P **P 22 17 44.2 +0.5**
SNR=37
USP Ospenovka 66.86 324 P **P 22 17 44.7 -0.1**
SNR=12
EKS2 Erkin-Say 66.94 323 P **P 22 17 45.7 +0.5**
SNR=21
ZAL Zalesovo 69.05 337 P **P 22 17 56.6 -1.2**
comp=Z,7.5nm,0.9s,mb4.2,baz=333,slow=4.2,SNR=49
WBK Wadi Bani Khal 69.31 297⇑P **P 22 18 00.4 +0.5**
YAK Yakutsk 69.46 3 *e*P **P 22 18 00.1 0.0**
YAK pmax pmax
comp=Z,19nm,0.6s,mb4.8
YAK Yakutsk 69.46 3 *e*P **P 22 18 00.1 0.0**
comp=Z,19nm,0.6s,mb4.8
JMDO Jabal Madar 70.00 297⇑P **P 22 18 04.2 +0.3**
SMDO Samad 70.26 298⇑P **P 22 18 05.9 +0.5**
SNR=7.0
BIDO Bidbid 70.33 298⇑P **P 22 18 06.5 +0.7**
SNR=11
NVS Novosibirsk 70.33 337 *i*P **P 22 18 04.9 -0.4**
BSY Bisya 70.91 297⇑P **P 22 18 09.6 +0.3**
SHAO Shalim 71.05 292⇑P **P 22 18 10.2 0.0**
HOQ Hoqain 71.06 298⇑P **P 22 18 10.8 +0.6**
SNR=8.1
ARQ Araqi 71.68 297⇑P **P 22 18 14.0 +0.2**
SNR=6.2
RBK Rabkut 72.24 291⇓P **P 22 18 16.4 -0.6**
ASHO Ashiyiah 72.48 299⇑P **P 22 18 18.4 +0.1**
SNR=13
WHFO Wadi Hawf 72.74 291⇓P **P 22 18 19.3 -0.7**
SNR=21
VNDA Vanda 72.94 172 *e*P **P 22 18 19.7 -0.3**
VNDA pmax pmax
comp=Z,12nm,0.9s
VNDA Vanda 72.94 172 P **P 22 18 20.1 0.0**
comp=Z,8.4nm,0.6s,mb4.3,baz=316,slow=6.3,SNR=96
VNDA Vanda 72.94 172 *e*P **P 22 18 19.7 -0.3**
comp=Z,12nm,0.9s,mb4.3
ABTO Aybut 73.04 291⇓P **P 22 18 21.5 -0.2**
SNR=9.9
SBA Scott Base 73.90 171 *e*P **P 22 18 26.5 +1.1**
SBA pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
SBA Scott Base 73.90 171 *e*P **P 22 18 26.5 +1.0**
comp=Z,6.1nm,0.8s,mb4.1
OPO Ambohidratompo 74.18 253 P **P 22 18 28.4 +0.3**
comp=Z,2.0nm,0.6s,mb3.7,baz=90,slow=4.6,SNR=9.4
BVAR Borovoye Array 74.82 330 P **P 22 18 30.7 -0.3**
comp=Z,5.7nm,0.9s,mb4.0
SYO Syowa Base 80.70 201⇓P **P 22 19 01.4 -0.7**
ARU Arti 82.45 330⇑ *i*P **P 22 19 10.6 -0.6**
ARU pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
ARU Arti 82.45 330 *e*P **P 22 19 10.4 -0.7**
comp=Z,7.0nm,0.8s,mb4.1
KMBO Kilima Mbogo 85.56 269 *e*P **P 22 19 28.0 +0.5**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 85.56 269 P **P 22 19 28.7 +1.2**
comp=Z,0.7nm,0.5s,baz=52,slow=8.8,SNR=8.9
KMBO Kilima Mbogo 85.56 269 *e*P **P 22 19 28.0 +0.5**
comp=Z,2.6nm,0.9s,mb3.9
GNI Garni 85.81 311 P **P 22 19 31.5 +3.4**
comp=Z,2.0nm,0.7s,mb3.9,baz=107,slow=14,SNR=3.3
ASF Jabal al Asfar 90.56 302 P **P 22 19 51.0 +0.5**
comp=Z,1.1nm,0.3s,mb4.2,baz=57,slow=9.3,SNR=3.5
EIL Elat 91.88 300 P **P 22 19 59.6 +3.1**
comp=Z,2.0nm,0.8s,mb4.2,baz=124,slow=3.6,SNR=2.6
LSZ Lusaka 92.59 254 *e*P **P 22 20 00.4 +0.3**
comp=Z,2.0nm,0.6s,mb4.3
BOSA Boshof 93.15 241 P **P 22 20 02.6 +0.2**
comp=Z,1.6nm,0.7s,mb4.1,baz=109,slow=4.2,SNR=3.6
SNAA Sanae 93.51 195 *e*P **P 22 20 03.5 +0.4**
SNAA pmax pmax
comp=Z,3.0nm,0.7s
SNAA Sanae 93.51 195 *e*P **P 22 20 03.5 +0.5**
comp=Z,3.3nm,0.7s,mb4.6
BRTR Keskin Array B 94.14 309 P **P 22 20 06.3 -0.4**
comp=Z,0.5nm,0.8s,mb3.7,baz=135,slow=6.1,SNR=2.6
AKASG Malin Array Be 98.04 320 PP PP 22 24 32.4 -1.4
comp=Z,0.2nm,0.3s,baz=78,slow=7.0,SNR=5.1
YKA Yellowknife Ar 111.17 25 PKiKP 22 25 17.3
comp=Z,0.5nm,0.6s,baz=299,slow=1.7,SNR=9.7
ELK Elko 118.76 47 *e*PKPdf PKPdf 22 25 33.5 +2.1
DUG Dugway 120.69 47 *e*PKPdf PKPdf 22 25 37.5 +2.4
SNOW Snow King Moun 121.06 43 *e*PKPdf PKPdf 22 25 38.6 +2.9
HWUT Hardware Ranch 121.14 45 *e*PKPdf PKPdf 22 25 38.0 +2.0
FCC Fort Churchill 121.50 22 *e*PKPdf PKPdf 22 25 36.8 +0.6
PDAR Pinedale Array 122.13 44 PKP PKPdf 22 25 39.8 +1.9
comp=Z,0.3nm,0.6s,baz=225,slow=3.6,SNR=7.3
PV10 Paradox Valley 124.05 48 *e*PKPdf PKPdf 22 25 44.3 +2.6
PV01 Paradox Valley 124.48 48 PKPdf PKPdf 22 25 45.1 +2.6
RSSD Black Hills 125.22 40 *e*PKPdf PKPdf 22 25 44.9 +1.1
ULM Lac du Bonnet 126.50 30 PKP PKPdf 22 25 47.2 +1.1
comp=Z,1.4nm,0.4s,baz=214,slow=3.6,SNR=2.2
PLCA Paso Flores 130.49 167 PKP PKPdf 22 25 56.3 +2.3
comp=Z,0.7nm,0.5s,baz=261,slow=3.2,SNR=3.6
PLCA SKPbc 22 28 28.1
comp=Z,3.9nm,1.1s,baz=148,slow=6.1,SNR=4.8
TXAR Lajitas Array 131.14 57 PKP PKPdf 22 25 57.4 +1.8
comp=Z,0.6nm,0.7s,baz=315,slow=1.8,SNR=6.1
TXAR SKPbc 22 28 32.0
comp=Z,2.3nm,1.1s,baz=251,slow=4.2,SNR=9.6
SCHQ Schefferville 132.10 8 PKP PKPdf 22 25 59.2 +2.6
comp=Z,3.9nm,1.0s,baz=278,slow=19,SNR=5.0
GOGA Godfrey 144.45 40 *e*PKPdf PKPdf 22 26 21.2 +1.7
CPUP Villa Florida 146.43 180 PKPbc PKPbc 22 26 27.4 +2.5
comp=Z,11nm,0.8s,baz=186,slow=3.2,SNR=44
CPUP Villa Florida 146.43 180 *e*PKPbc PKPbc 22 26 26.9 +2.0
TEIG Tepich 147.23 64 *e*PKPbc PKPdf 22 26 29.3 +4.8
LVC Limon Verde 147.96 159 *e*PKPbc PKPdf 22 26 32.5 +6.9
LPAZ La Paz 154.01 155 PKPbc PKPdf 22 26 46.9 +12
comp=Z,0.5nm,0.4s,baz=358,slow=0.8,SNR=3.0
LPAZ PKPab PKPab 22 27 03.1 +1.2
comp=Z,6.1nm,0.7s,baz=100,slow=1.4,SNR=24
LPAZ La Paz 154.01 155 *e*PKPdf PKPdf 22 26 37.4 +2.8
LPAZ PKPbc PKPdf 22 26 46.9 +12
LPAZ *e*PKPab PKPab 22 27 02.5 +0.6
LPAZ PKPab PKPab 22 27 03.1 +1.2
BDFB Brasilia 155.37 201 PKPbc PKPdf 22 26 48.6 +12
comp=Z,0.9nm,0.4s,baz=233,slow=16,SNR=2.1
BDFB PKPab PKPab 22 27 07.6 -0.1
comp=Z,2.8nm,0.8s,baz=154,slow=3.2,SNR=4.9
SAML Samuel 162.62 159 *e*PKPab PKPab 22 27 38.4 -0.7

IDC 22 22:38:36.0±13.0, 5.15N×95.10E, h131km±111km, mb3.0/5, mb1 3.2/6, mb1mx3.0/20, mbtmp3.4/6, ML4.0/1, Error ellipse: s-maj=101.1km s-min=18.3km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.75**	**16**	P	P	22 41 45.6	-0.9
	0.2nm,0.3s,baz=207,slow=11,SNR=8.1						
MKAR	**Makanchi Array**	**42.94**	**347**	P	P	22 46 21.7	-1.7
	0.3nm,0.4s,baz=166,slow=7.9,SNR=8.9						
SONM	**Songino Array**	**43.62**	**11**	P	P	22 46 27.3	-1.6
	0.2nm,0.6s,baz=190,slow=8.8,SNR=2.4						
WRA	**Warramunga Arr**	**45.94**	**124**	P	P	22 46 45.8	-1.9
	0.5nm,0.6s,baz=303,slow=9.1,SNR=6.1						
ASAR	**Alice Springs**	**47.46**	**129**	P	P	22 46 58.0	-1.7
	0.3nm,0.6s,baz=302,slow=8.3,SNR=3.8						
FINES	**FINESS Array B**	**75.55**	**332**	P	P	22 50 06.0	-1.6
	0.2nm,0.4s,baz=124,slow=6.9,SNR=5.2						

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*IDC **22** 22:50:46.9±1.4, 0.28S×96.48E, mb3.7/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=56.8km s-min=20.6km az=54.0*
*NEIC **22** 22:50:52.3±1.0, 0.07S×96.81E, h30km, mb3.8/2, Error ellipse: s-maj=26.6km s-min=16.9km az=68.0*
ISC 22 22:50:49.8±0.9, 0.2S±0.1×96.5E±0.1, h30km, n12, σ0§95/11, mb3.7/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.80**	**37**	*e*Pn	Pn	22 52 25.3	-5.0
PALK	**Pallekele**	**17.43**	**295**	P	P	22 54 51.9	-0.7
	12nm,1.4s						
CM31	**Chiang Mai Arr**	**18.66**	**7**	*e*P	P	22 55 07.4	-0.4
	4.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**18.66**	**7**	P	P	22 55 07.2	-0.6
	0.1nm,0.3s,baz=196,slow=12,SNR=11						
WRA	**Warramunga Arr**	**41.90**	**120**	P	P	22 58 40.9	+1.3
	0.3nm,0.6s,mb3.1,baz=303,slow=9.1,SNR=3.5						
WRA	**Warramunga Arr**	**41.90**	**120**	P	P	22 58 40.9	+1.3
ASAR	**Alice Springs**	**43.13**	**126**	P	P	22 58 47.8	-1.8
	0.5nm,0.6s,mb3.4,baz=296,slow=7.8,SNR=8.1						
MKAR	**Makanchi Array**	**48.41**	**347**	P	P	22 59 32.1	+0.9
	2.5nm,0.5s,mb4.5,baz=157,slow=8.2,SNR=38						
SONM	**Songino Array**	**48.58**	**9**	P	P	22 59 33.0	+0.6
	0.8nm,0.8s,mb3.8,baz=186,slow=9.7,SNR=8.1						
BRTR	**Keskin Array B**	**69.54**	**313**	P	P	23 01 58.4	+0.4
	0.4nm,0.7s,mb3.5,baz=104,slow=5.9,SNR=3.4						
FINES	**FINESS Array B**	**80.90**	**333**	P	P	23 03 02.9	+0.5
	0.7nm,0.8s,mb3.7,baz=113,slow=11,SNR=3.9						
TXAR	**Lajitas Array**	**145.18**	**32**	PKPbc	PKPbc	23 10 25.9	+0.4
	0.7nm,0.8s,baz=270,slow=1.8,SNR=5.9						

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*NEIC **22** 22:57:11.7±0.9, 24.10S×66.88W, h193km±12km, mb3.8/1, Error ellipse: s-maj=19.0km s-min=13.1km az=78.0*
*IDC **22** 22:57:12.4±2.6, 23.98S×66.85W, h192km±21km, mb3.3/1, mb1 3.4/4, mb1mx3.2/16, mbtmp3.7/4, Error ellipse: s-maj=36.0km s-min=30.2km az=159.0*
*GUC **22** 22:57:12.6±0.7, 24.29S×67.17W, h180km, ML3.6*
ISC 22 22:57:11.0±1.0, 24.17S±0.06×67.1W±0.1, h210km±16km, n11, σ1§09/16, mb3.1/1, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.27**	**313**	P	P	22 57 54.4	+0.9
	15nm,0.3s,baz=123,slow=8.3,SNR=297						
LVC				S	S	22 58 27.0	+0.7
	12nm,0.3s,baz=278,slow=22,SNR=26						
LVC	**Limon Verde**	**2.27**	**313**	P	P	22 57 54.4	+0.9
LVC				S	S	22 58 27.0	+0.7
LVC	**Limon Verde**	**2.27**	**313**⇑	*i*P	P	22 57 54.4	+0.9
LVC				*i*S	S	22 58 27.0	+0.6
LVC				AMP		22 58 28.2	
	comp=E,152nm,0.4s						
CPN1	**Cerro Paranal**	**3.04**	**261**⇓	*i*P	P	22 58 03.2	+1.0
CPN1				*i*S	S	22 58 41.3	-0.4
CPN1				AMP		22 58 44.6	
	comp=E,169nm,0.2s						
ANCH	**Antofagasta**	**3.07**	**278**⇓	*i*P	P	22 58 03.6	+1.2
ANCH				*i*S	S	22 58 41.3	-0.9
CRCH	**Chaqaral**	**3.85**	**235**	*i*S	S	22 58 57.5	-1.6
LPAZ	**La Paz**	**7.90**	**353**	P	P	22 59 04.0	+0.3
	comp=E,0.5nm,0.3s,baz=162,slow=9.6,SNR=14						
LPAZ				S	S	23 00 30.8	-1.1
	comp=E,0.1nm,0.3s,baz=78,slow=20,SNR=4.3						
TRQA	**Tornquist**	**14.52**	**164**	*e*P	P	23 00 28.6	+0.7
	comp=E,2.5nm,0.6s						
BDFB	**Brasilia**	**19.84**	**68**	P	P	23 01 25.2	-2.2
	comp=E,0.2nm,0.3s,baz=262,slow=11,SNR=3.2						
YKA	**Yellowknife Ar**	**94.25**	**340**	P	P	23 10 07.9	+1.1
	comp=E,0.1nm,0.5s,mb3.1,baz=133,slow=4.4,SNR=7.0						
MKAR	**Makanchi Array**	**146.72**	**40**	PKPbc	PKPbc	23 16 30.6	+3.1
	comp=E,0.4nm,0.7s,baz=300,slow=3.4,SNR=4.8						

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*NEIC **22** 23:47:28.8±0.5, 44.15N×11.75E, h10km, ML3.4(VIE), ML3.1(SZGRF), ML2.9(FUR), ML2.9(LDG), Error ellipse: s-maj=7.5km s-min=3.7km az=151.0*
*ROM **22** 23:47:29.7±0.1, 44.09N×11.69E, h29km±2km, Md3.0/32, Ml2.8/12, Error ellipse: s-maj=3.7km s-min=2.5km az=106.0*
*LDG **22** 23:47:30.8±0.1, 44.14N×11.73E, h10km, Ml2.9/16, Error ellipse: s-maj=2.8km s-min=2.3km az=39.0*
*CSEM **22** 23:47:30.4±0.1, 44.15N×11.71E, h15km, ML2.9/9, Error ellipse: s-maj=1.5km s-min=1.4km az=65.0*
ISC 22 23:47:29.8±0.3, 44.19N±0.02×11.67E±0.02, h30km±3km, n100, σ1§29/155, 8C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMG	**Vicchio**	**0.25**	**201**	Pg	Pb	23 47 35.6	-0.9
VMG				Sg	Sb	23 47 40.6	-0.5
SEI	**Scarperia**	**0.26**	**239**	Pg	Pb	23 47 36.5	-0.2
SEI				Sg	Sb	23 47 41.3	-0.1
BRSN	**Barisano**	**0.31**	**73**	Pg	Pb	23 47 37.8	+0.5
	404nm,0.2s						
SFI	**Santa Sofia**	**0.32**	**156**	Pg	Pb	23 47 36.0	-1.4
SFI				Sg	Sb	23 47 41.6	-1.0
	2μm,0.2s						
PGD	**Poggio Sodo**	**0.32**	**173**	Pg	Pb	23 47 36.3	-1.2
PGD				Sg	Sb	23 47 41.7	-1.0
FNVD	**Fontana Vidola**	**0.39**	**267**	Pg	Pb	23 47 39.3	+0.8
	1μm,0.5s						
ZCCA	**Zocca**	**0.52**	**288**	Pg	Pb	23 47 43.1	+2.6
RAVA	**Ravarino**	**0.69**	**325**	Pg	Pb	23 47 47.7	+4.5
	532nm,0.7s						
CSNT	**Castellina Chi**	**0.77**	**201**	Pn	Pn	23 47 44.2	-0.5
GSCL	**Gusciola**	**0.79**	**282**	Pg	Pb	23 47 48.4	+3.4
	34nm,0.4s						
SARO	**Sassorosso**	**0.91**	**270**	P	Pn	23 47 47.5	+0.9
SARO				S	Sb	23 48 02.6	+3.8
SARO	**Sassorosso**	**0.91**	**270**	P	Pn	23 47 47.5	+0.8
SARO	**Sassorosso**	**0.91**	**270**	P	Pn	23 47 47.5	+0.8
SARO				S	Sb	23 48 02.6	+3.8
VLC	**Villacollemand**	**0.92**	**268**	*e*Pn	Pn	23 47 49.3	+2.4
VLC				*e*Sn	Sn	23 48 02.4	+3.2
VLC	**Villacollemand**	**0.92**	**268**	*e*Pn	Pn	23 47 49.3	+2.4
VLC				*e*Sn	Sn	23 48 02.4	+3.2
ERBM	**Eremo**	**0.93**	**285**	Pn	Pn	23 47 51.1	+4.2
	95nm,0.8s						
FSSB	**Fossombrone**	**0.94**	**122**	Pg	Pn	23 47 47.5	+0.3
	231nm,0.8s						
PII	**Pisa**	**0.95**	**241**	Pg	Pn	23 47 47.0	-0.2
	74nm,0.2s						
VALM		**1.03**	**279**	P	Pn	23 47 51.0	+2.5
VALM				S	Sn	23 48 09.4	+7.4
VALM		**1.03**	**279**	P	Pn	23 47 51.0	+2.6
VALM				S	Sn	23 48 09.4	+7.4
VINC	**Vinca**	**1.09**	**268**	P	Pn	23 47 51.1	+1.9
VINC				S	Sn	23 48 09.8	+6.4
VINC	**Vinca**	**1.09**	**268**	P	Pn	23 47 51.1	+1.8
VINC	**Vinca**	**1.09**	**268**	P	Pn	23 47 51.1	+1.8
VINC				S	Sn	23 48 09.9	+6.4
MURB	**Monte Urbino**	**1.12**	**146**	Pn	Pn	23 47 49.8	+0.2
	452nm,0.3s						
BACM		**1.15**	**275**	P	Pn	23 47 52.1	+2.0
BACM				S	Sn	23 48 12.0	+7.1
BACM		**1.15**	**275**	P	Pn	23 47 52.1	+2.0
BACM				S	Sn	23 48 12.0	+7.1

ARV Arcevia 1.15 127 Pn **Pn 23 47 51.0 +0.9**
29nm,0.4s
GRFL Gerfalco 1.16 206 Pg **Pn 23 47 49.6 -0.6**
20nm,0.4s
GRAM 1.19 285 P **Pn 23 47 54.4 +3.7**
GRAM S **Sn 23 48 16.1 +10**
GRAM 1.19 285 P **Pn 23 47 54.4 +3.8**
SNTG Esanatoglia 1.31 135 Pn **Pn 23 47 53.7 +1.2**
68nm,0.6s
CODM 1.32 279 P **Pn 23 47 54.4 +1.8**
CODM S **Sn 23 48 16.1 +6.8**
CODM 1.32 279 P **Pn 23 47 54.4 +1.9**
CODM S **Sn 23 48 16.1 +6.8**
ASS Assisi 1.34 147 Pn **Pn 23 47 52.1 -0.7**
38nm,0.5s
SACS San Casciano d 1.35 172 Pn **Pn 23 47 52.3 -0.7**
65nm,0.6s
CING Cingoli 1.38 126 Pn **Pn 23 47 54.5 +1.2**
64nm,0.6s
AOI Ancona 1.54 114 Pn **Pn 23 47 56.3 +0.6**
36nm,0.5s
NRCA Norcia 1.72 142 Pn **Pn 23 47 59.8 +1.6**
20nm,0.6s
CTI Castel Tesino 1.86 360 Pn **Pn 23 48 01.1 +0.9**
MNS Montasola 1.95 157 Pn **Pn 23 48 01.1 -0.5**
26nm,0.4s
MABI Malga Bissina 2.03 337 Pn **Pn 23 48 04.2 +1.4**
9.0nm,0.4s
TERO Teramo 2.11 137 Pn **Pn 23 48 05.0 +1.2**
FIAM Fiamignano 2.20 151 Pn **Pn 23 48 06.0 +0.9**
30nm,0.6s
AQU L'Aquila 2.23 145 *e*Pn **Pn 23 48 07.5 +1.9**
AQU L'Aquila 2.23 145 *e*Pn **Pn 23 48 07.5 +1.9**
APPI Appiano 2.31 352 Pn **Pn 23 48 07.9 +1.2**
71nm,0.3s
NVLJ Novalja 2.33 80 *i*Pn **Pn 23 48 06.2 -0.8**
NVLJ *i*Sg **Sn 23 48 33.9 -0.9**
NVLJ Novalja 2.33 80 *i*Pn **Pn 23 48 06.1 -0.8**
JAVS Javornik 2.40 44 *i*Pn **Pn 23 48 07.2 -0.9**
VOY Vojsko 2.42 40 *e*Pn **Pn 23 48 07.4 -0.9**
VOY *e*Sn **Sn 23 48 37.5 +0.3**
ROBS Robic 2.43 32 *i*Pn **Pn 23 48 08.0 -0.5**
ROBS *i*Sn **Sn 23 48 37.4 0.0**
comp=Z,19nm,0.2s
ROBS Robic 2.43 32 *i*Pn **Pn 23 48 07.9 -0.5**
ROBS *i*Sn **Sn 23 48 37.4 0.0**
BRMO Bormio 2.46 339 Pn **Pn 23 48 10.9 +2.1**
comp=Z,8.0nm,0.5s
CEY Cerknica 2.50 51 *i*Pn **Pn 23 48 08.4 -1.0**
CEY *i* 23 48 15.7
CADS Cadrg 2.51 35 *i*Pn **Pn 23 48 09.0 -0.5**
BRES Bressanone 2.51 1 Pn **Pn 23 48 11.5 +2.0**
comp=Z,113μm,35.0s
PTCC Patocco-Chiusa 2.51 28 Pn **Pn 23 48 09.2 -0.4**
PTQR Pietraquaria 2.51 149 Pn **Pn 23 48 10.9 +1.3**
PGF Pioggiola 2.55 231 *e*Pn **Pn 23 48 08.8 -1.3**
PGF *e*Sn **Sn 23 48 38.9 -1.5**
comp=Z,11nm,0.3s
SEST Monte Rota 2.59 8 Pn **Pn 23 48 12.0 +1.4**
comp=Z,167nm,2.1s
VAI Varese 2.65 310 Pn **Pn 23 48 12.5 +0.9**
comp=Z,5.0nm,0.2s
VISS Visnje 2.77 53 *i*Pn **Pn 23 48 12.7 -0.5**
VISS *i*Sn **Sn 23 48 45.8 -0.2**
SDI San Donato 2.94 147 Pn **Pn 23 48 16.4 +0.7**
comp=Z,8.0nm,0.4s
SQTA Sankt Quirin 3.04 354⇑ *i*PN **Pn 23 48 19.2 +2.0**
SQTA *i*SN **Sn 23 48 56.3 +3.3**
SBF Sospel 3.07 265 *e*Pn **Pn 23 48 17.4 -0.1**
SBF *e*Sn **Sn 23 48 53.8 +0.1**
comp=Z,12nm,0.3s
WTTA Wattenberg 3.07 360⇑ *i*PN **Pn 23 48 19.1 +1.6**
WTTA *i*SN **Sn 23 48 57.4 +3.7**
OBKA Obir 3.08 40⇑ *i*PN **Pn 23 48 16.7 -1.0**
OBKA *i*SN **Sn 23 48 52.1 -1.8**
KBA Koelnbreinsper 3.12 22⇑ *i*PN **Pn 23 48 18.5 +0.3**
KBA *i*SN **Sn 23 48 55.8 +1.0**
WATA Walderalm 3.14 359⇑ *i*PN **Pn 23 48 20.2 +1.6**
WATA *i*SN **Sn 23 48 59.4 +3.9**
MOTA Moosalm 3.18 353⇑ *i*PN **Pn 23 48 21.1 +2.1**
MOTA *i*SN **Sn 23 49 00.6 +4.2**
DOI San Damiano 3.19 277 Pn **Pn 23 48 19.6 +0.4**
comp=Z,3.0nm,0.3s
DAVA Damuels 3.34 339⇑ *i*PN **Pn 23 48 24.1 +2.8**
DAVA *i*SN **Sn 23 49 04.7 +4.3**
MBDF Montbardon 3.55 280 *e*Pn **Pn 23 48 24.8 +0.5**
MBDF *e*Sn **Sn 23 49 05.8 +0.1**
comp=Z,16nm,0.9s
FRF La Foret Royal 3.69 262 *e*Pn **Pn 23 48 25.6 -0.7**
FRF *e*Sn **Sn 23 49 07.2 -2.0**
comp=Z,5.4nm,0.3s
LPG La Plagne 3.73 292 *e*Pn **Pn 23 48 27.0 +0.1**
LPG *e*Sn **Sn 23 49 10.8 +0.4**
comp=Z,6.4nm,0.6s
LPL La Plagne 3.75 292 *e*Pn **Pn 23 48 27.5 +0.3**
LPL *e*Sn **Sn 23 49 08.6 -2.3**
comp=Z,4.4nm,0.5s
LMR La Mourre 3.83 259 *e*Pn **Pn 23 48 27.5 -0.9**
LMR *e*Sn **Sn 23 49 11.1 -1.9**
comp=Z,3.4nm,0.4s
ARSA Arzberg 4.08 40⇓ *i*PN **Pn 23 48 30.5 -1.4**
ARSA *i*SN **Sn 23 49 16.5 -2.7**
MOA Molln 4.08 25⇑ *i*PN **Pn 23 48 31.4 -0.5**
MOA *i*SN **Sn 23 49 19.4 +0.1**
ORIF Oris-en-Rattie 4.20 282 *e*Pn **Pn 23 48 35.1 +1.5**
ORIF *e*Sn **Sn 23 49 21.6 -0.7**
comp=Z,2.9nm,0.4s
SMRF Simiane la Rot 4.40 269 *e*Pn **Pn 23 48 36.9 +0.6**
SMRF *e*Sn **Sn 23 49 27.1 -0.1**
comp=Z,3.6nm,0.6s
CABF La Chapelle 4.62 304 *e*Pn **Pn 23 48 39.9 +0.4**
CABF *e*Sn **Sn 23 49 29.2 -3.5**
comp=Z,3.1nm,0.5s
GEC2 GERESS Array S 4.86 16 *e*Pn **Pn 23 48 42.0 -0.9**
GEC2 *e*Sn **Sn 23 49 35.9 -3.0**
HINF Hinteralfeld 4.94 319 *e*Pn **Pn 23 48 43.7 -0.3**
HINF *e*Sn **Sn 23 49 39.4 -1.5**
comp=Z,7.5nm,0.4s
WET Wettzell 5.02 9 *e*Pn **Pn 23 48 44.2 -1.0**
WET *e*Sn **Sn 23 49 38.9 -4.1**
VIVF Saint-Julien-l 5.05 280 *e*Pn **Pn 23 48 45.2 -0.3**
KHC Kasperske Hory 5.11 14 *e*PN **Pn 23 48 45.5 -1.0**
KHC *e*PG **Pn 23 49 05.8 +19**
KHC *e*SN **Sn 23 49 42.6 -2.6**
CDF Champ du Feu 5.20 326 *e*Pn **Pn 23 48 47.5 -0.2**
CDF *e*Sn **Sn 23 49 45.9 -1.6**
comp=Z,3.9nm,0.4s
HAU Haudompre 5.31 318 *e*Pn **Pn 23 48 48.7 -0.6**
HAU *e*Sn **Sn 23 49 47.6 -2.7**
comp=Z,11nm,0.4s
LASF Ste Croix 5.62 272 *e*Pn **Pn 23 48 53.3 -0.4**
NOTT Nottersdorf 5.63 3 *e*Pn **Pn 23 48 51.6 -2.2**
NOTT *e*Sn **Sn 23 49 52.7 -5.5**
SMF Signal de Mont 6.03 297 *e*Pn **Pn 23 48 58.4 -1.0**
SMF *e*Sn **Sn 23 50 03.3 -4.9**
comp=Z,8.1nm,0.8s
LOR Lormes 6.27 302 *e*Pn **Pn 23 49 01.7 -1.1**
LOR *e*Sn **Sn 23 50 11.3 -3.0**
comp=Z,4.7nm,0.4s
SSF Saint Saulge 6.40 299 *e*Pn **Pn 23 49 03.2 -1.5**
SSF *e*Sn **Sn 23 50 13.7 -3.8**
MOX Moxa 6.46 360 *i*P **Pn 23 49 04.8 -0.6**
MOX S **Sn 23 50 13.0 -5.9**
MOX Moxa 6.46 360 *e*Pn **Pn 23 49 04.8 -0.6**
MOX *e*Sn **Sn 23 50 13.6 -5.3**
BGF Bois d'Agland 6.65 294 *e*Pn **Pn 23 49 07.4 -0.7**
BGF *e*Sn **Sn 23 50 19.9 -3.8**
comp=Z,2.9nm,0.4s
MTLF Montolieu 6.90 266 *e*Pn **Pn 23 49 10.3 -1.3**
TCF Toulx Ste Croi 7.00 291 *e*Sn **Sn 23 50 27.8 -4.6**
HYF Humbligny 7.03 299 *e*Pn **Pn 23 49 11.6 -1.8**

IDC 23 00:29:55.2±17.0, 6.05S×129.46E, h132km±177km, mb2.9/1, mb1 3.2/4, mb1mx3.0/16, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=126.0km s-min=58.9km az=41.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.54**	**197**	P	P	00 32 49.1	-1.0
	0.3nm

WRA	**Warramunga Arr**	**14.60**	**162**	P	P	00 33 16.1	-0.4
	0.2nm,0.3s,baz=341,slow=12,SNR=3.7						
WRA				S	S	00 35 49.5	-5.5
	baz=334,slow=19,SNR=2.8						
ASAR	**Alice Springs**	**18.02**	**167**	P	P	00 33 55.8	-2.9
	0.2nm,0.3s,baz=347,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**67.15**	**327**	P	P	00 40 35.0	-2.1
	0.1nm,0.4s,baz=121,slow=7.9,SNR=4.1						

DJA 23 00:35:06.6±0.9, 8.51S×112.79E, h154km±9km, ML4.9/4, 1C-7D, Error ellipse: s-maj=69.4km s-min=20.7km az=5.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.34**	**89**	⇓ePn	P	00 35 34.9	-0.3
	757nm,0.2s						
SRDI				⇓eSn	S	00 35 55.0	-2.2
KELI	**Kelakatan**	**1.71**	**80**	⇓ePn	P	00 35 39.1	+0.1
	864nm,0.2s						
KELI				⇓eSn	S	00 36 02.5	-1.6
RATI	**Rata**	**2.72**	**95**	⇑ePn	P	00 35 51.4	+0.1
	1μm,0.2s						
RATI				⇓eSn	S	00 36 23.5	-2.0
KEDI	**Kedomdong**	**3.29**	**90**	⇓ePn	P	00 35 57.5	-1.0
	212nm,0.2s						
KEDI				⇓eSn	S	00 36 36.2	-2.1

*PRU **23** 00:59:17.8, 51.40N×16.24E*
*NEIC **23** 00:59:17.1±3.1, 51.44N×16.22E, h5km, ML2.5(VIE), Error ellipse: s-maj=37.5km s-min=9.0km az=211.0*
*WAR **23** 00:59:18.5, 51.40N×16.21E, h1km, ML2.4, Mining Induced*

ISC 23 00:59:16.4±1.0, 51.38N±0.05×16.15E±0.05, n15, σ1°19/30, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.54**	**170**	⇓iPg	**Pg**	**00 59 28.8**	**+1.6**
KSP				eSg	**Sg**	**00 59 36.2**	**+1.8**
KSP	**Ksiaz**	**0.54**	**170**	ePG	**Pg**	**00 59 29.0**	**+1.8**
KSP				eSG	**Sg**	**00 59 36.0**	**+1.6**
UPC	**Upice**	**0.87**	**186**	ePG	**Pg**	**00 59 35.0**	**+1.2**
DPC	**Dobruska-Polom**	**1.03**	**174**	ePG	**Pg**	**00 59 37.7**	**+0.7**
DPC				eSG	**Sg**	**00 59 51.5**	**+0.8**
	16nm,0.4s						
PVCC	**Panska Ves**	**1.31**	**230**	ePG	**Pg**	**00 59 43.9**	**+1.4**
BRG	**Berggiesshubel**	**1.48**	**251**	iPg	**Pg**	**00 59 46.2**	**+0.4**
BRG				iSg	**Sg**	**01 00 06.8**	**+1.3**
PRU	**Pruhonice**	**1.72**	**217**	ePG	**Pg**	**00 59 50.5**	**-0.3**
PRU				eSG	**Sg**	**01 00 14.1**	**+0.4**
MORC	**Moravsky Berou**	**1.83**	**150**	eP	**Pn**	**00 59 49.5**	**+0.1**
CLL	**Collm**	**1.97**	**269**	iPG	**Pg**	**00 59 55.5**	**-0.2**
CLL				iSG	**Sg**	**01 00 22.7**	**+0.7**
OKC	**Ostrava-Krasne**	**2.00**	**140**	ePG	**Pg**	**00 59 54.9**	**-1.4**
OKC				eSG	**Sg**	**01 00 19.9**	**-3.0**
NKC	**Novy Kostel**	**2.61**	**245**	ePN	**Pn**	**01 00 01.7**	**+1.2**
NKC				ePG	**Pg**	**01 00 07.3**	**-1.2**
NKC				eSG	**Sg**	**01 00 44.1**	**+0.9**
KHC	**Kasperske Hory**	**2.79**	**217**	ePN	**Pn**	**01 00 03.8**	**+0.8**
KHC				ePG	**Pg**	**01 00 09.9**	**-2.1**
KHC				eSN	**Sn**	**01 00 37.0**	**-0.8**
KHC				eSG	**Sg**	**01 00 47.3**	**-1.8**
MOX	**Moxa**	**2.95**	**257**	ePg	**Pg**	**01 00 14.3**	**-1.0**
MOX				eSg	**Sg**	**01 00 53.4**	**-1.3**
MOX	**Moxa**	**2.95**	**257**	Pg	**Pg**	**01 00 14.0**	**-1.3**
MOX				Sg	**Sg**	**01 00 53.0**	**-1.7**
MOA	**Molln**	**3.73**	**200**	⇑iPN	**Pn**	**01 00 16.3**	**-0.2**
MOA				iSG	**Sg**	**01 01 19.5**	**-1.2**
	2.6nm,0.5s						

*ISK **23** 01:47:30.4, 36.99N×27.40E, h22km, MD3.3*
*CSEM **23** 01:47:31.6±0.2, 37.04N×27.50E, h20km, MD3.3, Error ellipse: s-maj=5.9km s-min=4.8km az=142.0*
*ATH **23** 01:47:32.9, 36.97N×27.32E, h39km±2km, MD3.1/6*
*NEIC **23** 01:47:32.9, 36.97N×27.32E, h39km, MD3.1(ATH), After ATH.*

ISC 23 01:47:31.9±0.5, 37.02N±0.03×27.44E±0.05, h12km±3km, n22, σ1°11/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.05**	**8**	iP	**Pg**	**01 47 34.9**	**+0.6**
BDRM				iS	**Sg**	**01 47 36.3**	**+0.4**
BODT	**Bodrum**	**0.11**	**295**	iPG	**Pg**	**01 47 34.6**	**-0.4**
MLSB	**Milas**	**0.39**	**44**	iPG	**Pg**	**01 47 39.9**	**-0.1**
MLSB				iSG	**Sg**	**01 47 46.4**	**+1.0**
NISR	**Nisiros**	**0.47**	**212**	ePB	**Pb**	**01 47 42.0**	**+0.4**
NISR				eSB	**Sb**	**01 47 50.0**	**+1.9**
YER	**Yerkesik**	**0.69**	**80**	iPG	**Pg**	**01 47 45.6**	**-0.2**
AYDN	**Tasoluk**	**0.73**	**29**	iP	**Pb**	**01 47 46.7**	**+0.6**
AYDN				iS	**Sb**	**01 47 56.7**	**+0.9**
SMG	**Samos**	**0.84**	**326**	ePB	**Pb**	**01 47 48.5**	**+0.6**
SMG				eSN	**Sn**	**01 48 01.5**	**0.0**
ARG	**Arkhangelos**	**0.97**	**145**	ePN	**Pn**	**01 47 52.0**	**+0.8**
ARG				eSN	**Sn**	**01 48 06.0**	**+1.2**
DALT	**Dalyan (Mudla)**	**0.99**	**104**	PG	**Pg**	**01 47 49.7**	**-2.2**
FETY	**Fethiye**	**1.38**	**106**	PN	**Pn**	**01 47 55.1**	**-1.8**
IZM	**Izmir**	**1.39**	**354**	ePN	**Pn**	**01 47 56.2**	**-0.9**
KDAG	**Bornova**	**1.39**	**355**	iP	**Pn**	**01 47 57.4**	**+0.2**
KDAG				iS	**Sb**	**01 48 19.6**	**+4.8**
BLCB	**Balcova**	**1.40**	**347**	ePN	**Pn**	**01 47 56.0**	**-1.3**
DNZL	**Cakiroluk**	**1.45**	**62**	iP	**Pn**	**01 48 00.1**	**+2.1**
DNZL				iS	**Sb**	**01 48 21.2**	**+4.7**
DENT	**Denizli**	**1.47**	**59**	ePN	**Pn**	**01 47 57.0**	**-1.3**
KARP	**Karpathos**	**1.48**	**189**	ePN	**Pn**	**01 47 58.0**	**-0.4**
APE	**Apeiranthos**	**1.52**	**273**	ePN	**Pn**	**01 47 57.0**	**-2.1**
MANT	**Manisa**	**1.72**	**31**	iP	**Pn**	**01 48 02.1**	**+0.2**
MANT				iS	**Sn**	**01 48 29.5**	**+5.6**
ELL	**Elmali**	**2.00**	**97**	ePN	**Pn**	**01 48 03.4**	**-2.5**
PRK	**Paraskevi**	**2.41**	**338**	ePN	**Pn**	**01 48 12.0**	**+0.3**
BTOK	**Tokmak**	**2.78**	**10**	iP	**Pn**	**01 48 26.2**	**+9.1**
BOZC	**Bozcaada**	**3.02**	**339**	iP	**Pn**	**01 48 20.8**	**+0.3**

IDC 23 02:02:09.6±40.0, 53.12S×136.95W, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=1001.0km s-min=61.7km az=68.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**32.65**	**201**	P	P	02 08 42.6	-2.2
	0.5nm,0.8s,baz=80,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**70.93**	**256**	P	P	02 13 29.2	-1.3
	1.7nm,1.1s,baz=137,slow=6.9,SNR=9.7						
WRA	**Warramunga Arr**	**73.54**	**259**	P	P	02 13 43.9	-2.2
	0.8nm,0.6s,baz=144,slow=5.3,SNR=7.3						

*ATH **23** 02:18:09.3, 40.84N×22.66E, h10km, MD3.1/3*
*THE **23** 02:18:12.4, 40.84N×22.92E, h1km, ML2.9*
*CSEM **23** 02:18:12.4±0.1, 40.82N×22.93E, h8km, ML2.9, Error ellipse: s-maj=2.1km s-min=2.0km az=26.0*

ISC 23 02:18:11.6±0.6, 40.83N±0.03×22.94E±0.05, h11km±11km, n13, σ0°45/18, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.20**	**174**	ePg	**Pg**	**02 18 16.1**	**+0.1**
KNT	**Kendrikon**	**0.33**	**355**	eSg	**Sg**	**02 18 23.1**	**-0.1**
GRG	**Griva**	**0.42**	**288**	ePg	**Pg**	**02 18 20.2**	**-0.1**
GRG				eSg	**Sg**	**02 18 26.3**	**+0.2**
VAY	**Valandovo**	**0.56**	**331**	⇑iPg	**Pg**	**02 18 23.0**	**0.0**
VAY				iSg	**Sg**	**02 18 30.8**	**+0.1**
SRS	**Serrai**	**0.57**	**60**	ePg	**Pg**	**02 18 23.4**	**+0.2**
PLG	**Polygyros**	**0.60**	**139**	ePB	**Pb**	**02 18 23.3**	**-0.3**
LIT	**Litokhoron**	**0.80**	**205**	ePg	**Pg**	**02 18 27.3**	**-0.4**
LIT				eSg	**Sg**	**02 18 39.5**	**+1.0**
NVR	**Nevrokopi**	**0.87**	**53**	ePB	**Pb**	**02 18 28.9**	**+0.6**
OUR	**Ouranopolis**	**0.94**	**121**	ePg	**Pg**	**02 18 30.6**	**+0.2**
KZN	**Kozani**	**1.03**	**240**	ePB	**Pb**	**02 18 25.9**	**-5.1**
PAIG	**Paliouri**	**1.06**	**147**	ePg	**Pg**	**02 18 32.0**	**-0.9**
FNA	**Florina**	**1.19**	**268**	ePg	**Pg**	**02 18 34.7**	**-0.6**
FNA				eSg	**Sg**	**02 18 51.0**	**-0.1**
FNA	**Florina**	**1.19**	**268**	ePg	**Pg**	**02 18 34.7**	**-0.6**
FNA				eSg	**Sg**	**02 18 51.0**	**-0.2**

*ATH **23** 02:31:48.4, 38.59N×25.84E, h75km±6km, ML3.3*
*ISK **23** 02:31:48.2, 38.40N×25.54E, h31km, MD3.2*
*CSEM **23** 02:31:48.4±0.1, 38.52N×25.80E, h10km, ML3.3, Error ellipse: s-maj=3.5km s-min=2.4km az=171.0*

ISC 23 02:31:49.2±0.5, 38.62N±0.04×25.66E±0.04, h10km, n25, σ1°27/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.78**	**37**	eP	**Pb**	**02 32 04.9**	**+0.5**
BLCB	**Balcova**	**1.11**	**102**	iPN	**Pn**	**02 32 08.9**	**-1.9**
BLCB				iSN	**Sn**	**02 32 24.1**	**-2.1**
BOZC	**Bozcaada**	**1.25**	**14**	iP	**Pb**	**02 32 12.8**	**+0.3**
BOZC				iS	**Sb**	**02 32 34.7**	**+6.2**
IZM	**Izmir**	**1.28**	**100**	PN	**Pn**	**02 32 11.4**	**-1.7**
KDAG	**Bornova**	**1.28**	**99**	iP	**Pb**	**02 32 11.8**	**-1.2**
KDAG				iS	**Sb**	**02 32 31.9**	**+2.6**
SMG	**Samos**	**1.30**	**134**	eP	**Pb**	**02 32 10.3**	**-3.0**
EZN	**Ezine**	**1.31**	**23**	ePN	**Pn**	**02 32 14.3**	**+0.8**
LIA	**Limnos Island**	**1.32**	**344**	eP	**Pb**	**02 32 13.2**	**-0.5**
PTL	**Penteli**	**1.52**	**248**	eP	**Pn**	**02 32 16.2**	**-0.4**
PTL				eS	**Sb**	**02 32 36.2**	**-0.1**
APE	**Apeiranthos**	**1.56**	**184**	PN	**Pn**	**02 32 11.0**	**-6.1**
APE	**Apeiranthos**	**1.56**	**184**	eP	**Pn**	**02 32 15.0**	**-2.1**
MPAR	**Parnis Oros**	**1.58**	**253**	eP	**Pn**	**02 32 18.0**	**+0.5**
MPAR	**Parnis Oros**	**1.58**	**253**	eP	**Pn**	**02 32 16.5**	**-1.0**
ATH	**Athens Observa**	**1.66**	**248**	eP	**Pn**	**02 32 19.0**	**+0.4**
NSAL	**Nisos Salamina**	**1.87**	**248**	eP	**Pn**	**02 32 22.0**	**+0.4**
NAIG	**Nisos Aigina**	**1.92**	**244**	eP	**Pn**	**02 32 22.5**	**+0.3**
NAIG	**Nisos Aigina**	**1.92**	**244**	eP	**Pn**	**02 32 23.0**	**+0.8**
AYDN	**Tasoluk**	**2.00**	**118**	iP	**Pn**	**02 32 24.9**	**+1.5**
AYDN				iS	**Sn**	**02 32 49.1**	**+0.4**
BALB	**Balikesir**	**2.00**	**59**	ePN	**Pn**	**02 32 24.0**	**+0.5**
BODT	**Bodrum**	**2.04**	**139**	ePN	**Pn**	**02 32 19.8**	**-4.2**
BDRM	**Kayabasi**	**2.10**	**137**	iP	**Pn**	**02 32 26.4**	**+1.5**
BDRM				iS	**Sn**	**02 32 53.1**	**+1.7**
BTOK	**Tokmak**	**2.17**	**58**	iP	**Pn**	**02 32 30.9**	**+5.0**
MANT	**Manisa**	**2.28**	**92**	iP	**Pn**	**02 32 32.4**	**+5.0**
MANT				iS	**Sn**	**02 33 02.0**	**+6.2**
DNZL	**Cakiroluk**	**2.83**	**108**	iP	**Pn**	**02 32 42.1**	**+6.8**
ULDT	**Uludag**	**3.09**	**60**	iP	**Pn**	**02 32 49.3**	**+10**

IDC 23 02:32:26.4±2.1, 5.42N×94.18E, mb3.5/5, mb1 3.6/5, mb1mx3.5/20, mbtmp3.5/5, Error ellipse: s-maj=96.7km s-min=25.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.77**	**19**	Pn	P	02 35 49.5	+4.0
	0.6nm,0.3s,baz=203,slow=14,SNR=6.2						
MKAR	**Makanchi Array**	**42.48**	**348**	P	P	02 40 24.3	-0.6
	0.6nm,0.6s,baz=169,slow=8.9,SNR=9.6						
SONM	**Songino Array**	**43.54**	**12**	P	P	02 40 31.3	-2.3
	0.5nm,0.7s,baz=180,slow=5.8,SNR=2.6						
WRA	**Warramunga Arr**	**46.84**	**124**	P	P	02 40 57.1	-3.1
	0.4nm,0.7s,baz=302,slow=9.6,SNR=2.5						
ASAR	**Alice Springs**	**48.34**	**128**	P	P	02 41 11.6	-0.5
	0.2nm,0.5s,baz=306,slow=7.8,SNR=3.0						
FINES	**FINESS Array B**	**74.89**	**332**	P	P	02 44 08.1	-2.5
	0.3nm,0.4s,baz=104,slow=5.7,SNR=5.6						

MAN 23 02:59:29.9, 8.06N×122.62E, h23km, mb3.7, ML2.4, MS2.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.27**	**190**	eP	Pb	02 59 38.5	+2.1
IPIL				eS	Sb	02 59 45.4	+4.7
PAGZ	**Pagadian**	**0.78**	**105**	eP	Pb	02 59 44.3	-0.5
PAGZ				eS	Sb	02 59 57.9	+3.0
SNPH	**Sibulan**	**1.42**	**25**	eP	Pn	02 59 54.0	-0.6

*IDC **23** 03:01:26.9±1.0, 0.85N×97.17E, mb4.1/12, mb1 4.2/13, mb1mx4.1/20, mbtmp4.1/13, ML4.3/1, Error ellipse: s-maj=47.9km s-min=15.2km az=52.0*
*NEIC **23** 03:01:31.7±0.5, 0.92N×97.31E, h30km, mb4.2/1, Error ellipse: s-maj=14.0km s-min=7.4km az=60.0*

ISC 23 03:01:30.8±6.2, 1.0N±0.2×97.4E±0.3, h35km±49km, n18, σ0°55/18, mb4.0/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.42**	**37**	eP	**P**	**03 02 50.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.47**	**5**	P	**P**	**03 05 34.5**	**+1.1**
	0.4nm,0.3s,baz=196,slow=11,SNR=16						
FITZ	**Fitoy Crossi**	**33.65**	**126**	P	**P**	**03 08 10.1**	**-0.5**
	6.8nm,1.1s,mb4.5,baz=248,slow=5.4,SNR=4.7						
WRA	**Warramunga Arr**	**41.76**	**122**	P	**P**	**03 09 18.7**	**0.0**
	1.0nm,0.5s,mb3.7,baz=301,slow=9.1,SNR=8.1						
WRAB	**Tennant Creek**	**41.77**	**122**	P	**P**	**03 09 18.7**	**-0.1**
	2.4nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**43.11**	**127**	P	**P**	**03 09 30.1**	**+0.3**
	0.5nm,0.5s,mb3.5,baz=301,slow=7.8,SNR=7.2						
SONM	**Songino Array**	**47.35**	**8**	P	**P**	**03 10 03.5**	**+0.2**
	1.3nm,0.5s,mb4.1,baz=187,slow=9.2,SNR=7.4						
ULN	**Ulaanbaatar**	**47.48**	**9**	P	**P**	**03 10 04.0**	**-0.3**
MKAR	**Makanchi Array**	**47.52**	**346**	P	**P**	**03 10 04.6**	**-0.1**
	2.7nm,0.5s,mb4.5,baz=161,slow=8.4,SNR=47						
MKAR	**Makanchi Array**	**47.52**	**346**	P	**P**	**03 10 04.6**	**-0.1**
STKA	**Stephens Creek**	**53.06**	**132**	P	**P**	**03 10 47.8**	**+0.7**
	0.5nm,0.3s,mb3.9,baz=260,slow=6.1,SNR=3.9						
ZAL	**Zalesovo**	**53.82**	**351**	P	**P**	**03 10 51.5**	**-0.9**
	5.6nm,0.4s,mb4.8,baz=314,slow=5.3,SNR=17						
BRTR	**Keskin Array B**	**69.40**	**312**	P	**P**	**03 12 36.5**	**-0.9**
	0.3nm,0.7s,mb3.3,baz=72,slow=4.6,SNR=2.9						
FINES	**FINESS Array B**	**80.30**	**333**	P	**P**	**03 13 39.3**	**-0.3**
	1.2nm,0.8s,mb3.9,baz=108,slow=6.0,SNR=4.9						
ARCES	**ARCESS Array B**	**82.83**	**340**	P	**P**	**03 13 52.8**	**+0.2**
	1.9nm,0.8s,mb4.2,baz=90,slow=8.5,SNR=4.1						
GERES	**GERESS Array B**	**85.11**	**319**	P	**P**	**03 14 05.4**	**+0.9**
	0.3nm,0.5s,mb3.6,baz=63,slow=9.0,SNR=4.5						
NB2	**NORSAR Subarra**	**87.30**	**331**	P	**P**	**03 14 15.1**	**+0.1**
	0.1nm,0.7s,mb3.1,baz=91,slow=5.6						
NOA	**NORSAR Array B**	**87.30**	**331**	P	**P**	**03 14 15.2**	**+0.3**
	0.7nm,0.8s,mb3.9,baz=94,slow=4.8,SNR=4.9						

*NEIC **23** 03:04:56.9±1.1, 50.27N×18.37E, h5km, ML2.6(VIE), Error ellipse: s-maj=16.0km s-min=8.8km az=171.0*
*WAR **23** 03:04:57.7, 50.07N×18.46E, h0km, ML2.4, Mining Induced*
*CSEM **23** 03:04:57.6±0.2, 50.16N×18.43E, h2km, ML2.9/2, Error ellipse: s-maj=4.6km s-min=2.7km az=10.0*
*IPEC **23** 03:04:57.7±0.2, 50.08N×18.49E, h4km±2km, ML1.6/4, Error ellipse: s-maj=2.0km s-min=1.1km az=163.0*
*PRU **23** 03:04:57.9, 50.13N×18.43E*

ISC 23 03:04:56.1±0.4, 50.12N±0.03×18.44E±0.03, n26, σ1°28/50, 4C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.16**	**256**	⇑iPG	**Pg**	**03 05 02.0**	**+2.7**
RAC				⇑eSG	**Sg**	**03 05 05.0**	**+3.5**
RAC	**Raciborz**	**0.16**	**256**	⇑iPg	**Pg**	**03 05 02.0**	**+2.7**
RAC				eSg	**Sg**	**03 05 05.3**	**+3.8**
OKC	**Ostrava-Krasne**	**0.34**	**213**	ePG	**Pg**	**03 05 04.2**	**+1.3**
OKC				eSG	**Sg**	**03 05 09.4**	**+1.9**
	70nm,0.4s						
MORC	**Moravsky Berou**	**0.68**	**239**	eP	**Pg**	**03 05 09.9**	**+0.3**
MORC	**Moravsky Berou**	**0.68**	**239**	eP	**Pg**	**03 05 09.9**	**+0.4**
MORC	**Moravsky Berou**	**0.68**	**239**	ePg	**Pg**	**03 05 10.3**	**+0.8**
MORC				eSg	**Sg**	**03 05 19.5**	**+1.0**
	9.4nm,0.1s						
OJC	**Ojcow**	**0.88**	**83**	ePG	**Pg**	**03 05 14.0**	**+0.4**
OJC				eSG	**Sg**	**03 05 26.0**	**+0.7**
LIKS	**Likavka**	**1.16**	**158**	eSN	**Sn**	**03 05 37.6**	**+1.4**
JAVC	**Velka Javorina**	**1.36**	**202**	ePg	**Pg**	**03 05 23.4**	**+0.2**
DPC	**Dobruska-Polom**	**1.38**	**280**	ePG	**Pg**	**03 05 23.6**	**0.0**
DPC				eSG	**Sg**	**03 05 42.5**	**+0.6**
	31nm,0.3s						
NIE	**Niedzica**	**1.41**	**119**	ePG	**Pg**	**03 05 23.0**	**-1.1**
NIE				eSG	**Sg**	**03 05 42.0**	**-0.9**
VRAC	**Vranov**	**1.45**	**236**	ePg	**Pg**	**03 05 24.3**	**-0.7**
VRAC				eSg	**Sg**	**03 05 43.2**	**-1.1**
	8.6nm,0.2s						
KOLL	**Kolacno**	**1.55**	**181**	eSN	**Sn**	**03 05 45.3**	**-0.8**
KSP	**Ksiaz**	**1.55**	**299**	ePn	**Pn**	**03 05 25.9**	**+0.9**
KSP				ePg	**Pg**	**03 05 28.6**	**+1.6**
KSP				eSn	**Sn**	**03 05 48.2**	**+2.1**
KSP				eSg	**Sg**	**03 05 50.5**	**+2.9**
UPC	**Upice**	**1.60**	**285**	ePG	**Pg**	**03 05 27.3**	**-0.8**
UPC				eSG	**Sg**	**03 05 48.7**	**-0.7**
VYHS	**Vyhne**	**1.65**	**171**	ePN	**Pn**	**03 05 26.8**	**+0.3**
VYHS				eSN	**Sn**	**03 05 49.2**	**+0.5**
KRUC	**Moravsky**	**1.70**	**232**	ePn	**Pn**	**03 05 28.2**	**+1.0**
KRUC				eSg	**Sg**	**03 05 50.9**	**-1.8**
	5.5nm,0.2s						
SMOL	**Smolenice**	**1.74**	**203**	ePN	**Pn**	**03 05 28.0**	**+0.2**
SMOL				eSN	**Sn**	**03 05 51.9**	**+0.9**
CRVS	**Cervenica-Dubn**	**2.32**	**121**	ePG	**Pg**	**03 05 41.0**	**-1.4**
CRVS				eSG	**Sg**	**03 06 11.8**	**-1.5**
PSZ	**Piszkesteto**	**2.41**	**156**	ePn	**Pn**	**03 05 37.3**	**0.0**
PSZ				eSn	**Sn**	**03 06 08.5**	**+0.6**
PRU	**Pruhonice**	**2.52**	**268**	ePG	**Pg**	**03 05 42.9**	**-3.4**
PRU				eSG	**Sg**	**03 06 15.5**	**-4.3**
BRG	**Berggiesshubel**	**2.97**	**286**	ePg	**Pg**	**03 05 52.4**	**-2.9**
BRG				eSg	**Sg**	**03 06 31.6**	**-3.3**
KHC	**Kasperske Hory**	**3.31**	**254**	ePN	**Pn**	**03 05 49.0**	**-1.2**
KHC				ePG	**Pg**	**03 05 58.2**	**-4.0**
KHC				eSG	**Sg**	**03 06 42.5**	**-3.9**
KHC	**Kasperske Hory**	**3.31**	**254**	ePg	**Pg**	**03 05 58.2**	**-4.0**
KHC				eSg	**Sg**	**03 06 42.5**	**-3.9**
MOA	**Molln**	**3.57**	**232**	⇑iPN	**Pn**	**03 05 53.9**	**+0.1**
MOA				iSG	**Sg**	**03 06 53.6**	**-1.3**
	3.1nm,0.5s						
CLL	**Collm**	**3.65**	**291**	ePG	**Pg**	**03 06 10.0**	**+1.0**
CLL				eSG	**Sg**	**03 06 56.0**	**-1.7**

WEL 23 03:21:12.0±0.4, 39.13S×175.29E, h206km±2km, ML3.5/12, Error ellipse: s-maj=6.9km s-min=3.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.17**	**165**	PN	P	03 21 38.7	-0.6
PKVZ				SN	S	03 21 59.4	-0.9
MOVZ	**Moawhango**	**0.46**	**128**	ePN	P	03 21 40.0	0.0
MOVZ				SN	S	03 22 00.5	-1.1
WAZ	**Wanganui**	**0.67**	**201**	PN	P	03 21 40.6	-0.2
WAZ				SN	S	03 22 02.4	-0.7
BKZ	**Black Stump Fm**	**0.94**	**93**	ePN	P	03 21 43.0	+0.8
MRZ	**Mangatainoka R**	**1.55**	**172**	PN	P	03 21 47.2	+0.2
MRZ				SN	S	03 22 13.3	-0.8
URZ	**Urewera**	**1.67**	**59**	PN	P	03 21 47.6	-0.5
KIW	**Kapiti Island**	**1.76**	**189**	PN	P	03 21 48.2	-0.8
KIW				eSN	S	03 22 14.7	-2.7
MWZ	**Matawai**	**1.92**	**66**	PN	P	03 21 50.7	+0.2
DUWZ	**D'Urville Isla**	**1.98**	**212**	PN	P	03 21 49.3	-1.8
CAW	**Cannon Point**	**1.99**	**185**	PN	P	03 21 50.7	-0.5
MTW	**Mount Morrison**	**2.04**	**176**	PN	P	03 21 51.2	-0.4
MRW	**Makara Radio**	**2.15**	**192**	PN	P	03 21 51.8	-1.0
TCW	**Tory Channel**	**2.22**	**200**	PN	P	03 21 52.4	-1.3
SNZO	**South Karori**	**2.23**	**191**	PN	P	03 21 52.5	-1.3
MSWZ	**Moikau Station**	**2.29**	**181**	PN	P	03 21 53.7	-0.7
TUWZ	**Tuamarina**	**2.52**	**204**	PN	P	03 21 55.1	-1.9
NNZ	**Nelson**	**2.55**	**214**	PN	P	03 21 54.5	-2.9
QRZ	**Quartz Range**	**2.72**	**230**	PN	P	03 21 54.9	-4.3
BSWZ	**Blackbirch Sta**	**2.80**	**202**	PN	P	03 21 58.8	-1.3
THZ	**Tophouse**	**3.20**	**214**	PN	P	03 22 01.5	-3.4

*NNC **23** 03:59:21.3±7.3, 39.06N×73.04E, mpv3.9, Error ellipse: s-maj=57.5km s-min=39.8km az=170.0*
*IDC **23** 03:59:22.2±13.0, 39.04N×73.38E, h108km±80km, mb3.3/6, mb1 3.5/9, mb1mx3.3/25, mbtmp3.7/9, ML3.8/3, Error ellipse: s-maj=140.3km s-min=27.2km az=9.0*
*MOS **23** 03:59:27.9±0.9, 39.51N×73.24E, h150km, mb3.9/2, Error ellipse: s-maj=32.6km s-min=12.7km az=85.2*

ISC 23 03:59:15.3±0.7, 38.45N±0.03×73.4E±0.1, h96km±9km, n43, σ1°08/51, mb3.5/6, 2C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.68**	**3**	P	**P**	**04 00 11.6**	**+0.3**
	SNR=207						
UCH	**Uchtor**	**3.87**	**12**	P	**P**	**04 00 14.7**	**+0.9**
	SNR=111						
KZA	**Kyzart**	**3.89**	**21**	P	**P**	**04 00 14.6**	**+0.4**
	SNR=25						
EKS2	**Erkin-Say**	**4.21**	**4**	P	**P**	**04 00 19.1**	**+0.5**
	SNR=38						
AAK	**Ala-Archa**	**4.26**	**11**	P	**P**	**04 00 20.1**	**+0.8**
	SNR=32						
AAK	**Ala-Archa**	**4.26**	**11**	⇓P	**P**	**04 00 19.9**	**+0.7**
	15nm,0.5s						
AAK				⇓S	**S**	**04 01 06.4**	**-1.7**
	180nm,1.1s						
AAK	**Ala-Archa**	**4.26**	**11**	PN	**P**	**04 00 19.9**	**+0.7**
AAK				S	**S**	**04 01 06.4**	**-1.7**
AAK				pmax	pmax		

comp=Z,0.3nm,0.3s,mb3.7,baz=113,slow=9.0,SNR=11
ARCES ARCESS Array B 40.10 336 P **P** **04 06 43.0 +0.6**
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 40.10 336 P **P** **04 06 43.0 +0.6**
comp=Z,1.2nm,0.5s,mb4.0,baz=111,slow=8.4,SNR=10.0
NOA NORSAR Array B 44.00 322 P **P** **04 07 14.2 0.0**
comp=Z,0.4nm,0.7s,mb3.3,baz=96,slow=7.7,SNR=3.6
INK Inuvik 71.66 10 P **P** **04 10 28.3 +0.6**
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 71.66 10 P **P** **04 10 28.3 +0.6**
comp=Z,1.0nm,0.6s,mb3.8,baz=325,slow=2.8,SNR=9.4
YKA Yellowknife Ar 79.19 4 P **P** **04 11 11.2 +0.7**
comp=Z,0.3nm,0.5s,mb3.4,baz=349,slow=5.6,SNR=12

*MOS **23** 04:11:58.0±1.4, 41.47N×45.53E, h10km, mb3.8/1, Error ellipse: s-maj=31.1km s-min=15.9km az=108.0*
*TIF **23** 04:12:00.6, 42.03N×46.01E, h19km±3km*
ISC 23 04:11:60.0±1.5, 41.9N±0.1×46.2E±0.1, h18km±13km, n9, σ1§12/14, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.74**	**237**	P	**Pb**	**04 12 16.1**	**+2.1**
DGRG				S	**Sb**	**04 12 28.8**	**+5.2**
XNZR	**Khunzakh**	**0.78**	**29**	*i* PG	**Pb**	**04 12 16.4**	**+1.7**
XNZR				pmax	pmax		
	comp=Z,67nm,0.3s						
MTA	**Mtatsminda**	**1.06**	**262**	P	**Pb**	**04 12 19.0**	**-0.5**
MTA				S	**Sb**	**04 12 32.6**	**-0.5**
TI2	**Plekhanov**	**1.09**	**264**	*i* PG	**Pb**	**04 12 17.6**	**-2.4**
TI2				pmax	pmax		
	comp=Z,30nm,0.2s						
TBLG	**Delisi**	**1.10**	**264**	P	**Pb**	**04 12 19.6**	**-0.6**
TBLG				S	**Sb**	**04 12 34.4**	**+0.3**
KRNR	**Karanay**	**1.10**	**28⇊**	*i* PN	**Pn**	**04 12 18.8**	**-1.7**
KRNR				*i* S	**Sb**	**04 12 34.0**	**-0.1**
KRNR				pmax	pmax		
	comp=Z,50nm,0.2s						
ZEI	**Tsey**	**1.94**	**299**	*e* PN	**Pn**	**04 12 32.4**	**-0.1**
ZEI				*e*		04 12 55.8	
ZEI				pmax	pmax		
	comp=Z,16nm,0.2s						
ZEI				smax			
	comp=N,143nm,0.4s						
ARNR	**Ardon**	**1.95**	**314**	*e* PN	**Pn**	**04 12 32.5**	**-0.1**
ONI	**Oni**	**2.17**	**290**	P	**Pn**	**04 12 36.3**	**+0.5**
ONI				S	**Sn**	**04 13 03.3**	**+0.9**

IDC 23 04:18:27.1±6.2, 1.62N×98.78E, mb3.7/3, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, Error ellipse: s-maj=329.9km s-min=26.3km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.93**	**123**	P	P	04 26 11.9	-1.4
	1.3nm,0.7s,baz=302,slow=9.2,SNR=7.0						
ASAR	**Alice Springs**	**42.40**	**129**	P	P	04 26 23.4	-1.9
	0.5nm,0.5s,baz=299,slow=7.9,SNR=6.5						
MKAR	**Makanchi Array**	**47.24**	**345**	P	P	04 27 01.9	-2.0
	0.9nm,0.5s,baz=164,slow=8.3,SNR=16						

KRSC 23 04:26:02.5±0.6, 50.28N×157.49E, h34km±16km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.26**	**340**	*e* P	P	04 26 24.5	+0.6
PAU				*i* S	S	04 26 40.5	+0.5
PAU				Smax			
	900nm,0.5s						
PAU	**Pauzhetka**	**1.26**	**340**	*i* P	P	04 26 24.7	+0.8
PAU				*i* S	S	04 26 40.4	+0.4
PAU				Smax			
	940nm,0.3s						
ALID	**Alaid**	**1.37**	**296**	*i* P	P	04 26 26.0	+0.5
ALID				*e* S	S	04 26 43.0	+0.3
RUS	**Russkaya**	**2.25**	**16**	*i* P	P	04 26 37.5	-0.6
RUS				*e* S	S	04 27 03.5	-1.4
GRL	**Gorelyy**	**2.30**	**9**	*i* P	P	04 26 39.5	+0.6
GRL				*e* S	S	04 27 06.5	+0.2
KRMR	**Karymshinskiy**	**2.58**	**9**	P	P	04 26 43.5	+0.6
KRMR				*e* S	S	04 27 12.8	-0.6
APC	**Apacha**	**2.66**	**356**	*e* P	P	04 26 44.5	+0.6
APC				*e* S	S	04 27 15.6	+0.3
APC				Smax			
	20nm,0.8s						
PET	**Petropavlovsk**	**2.84**	**14**	*e* P	P	04 26 47.2	+0.7
PET				*e* S	S	04 27 19.8	-0.2
UGLR	**Uglovaya**	**3.05**	**15**	*i* P	P	04 26 50.5	+1.0
UGLR				*e* S	S	04 27 25.9	+0.7
AVH	**Avacha**	**3.09**	**14**	*e* P	P	04 26 51.4	+1.3
AVH				*e* S	S	04 27 27.6	+1.4
KOK	**Koryaka**	**3.10**	**13**	*i* P	P	04 26 51.7	+1.5
KOK				*e* S	S	04 27 28.1	+1.6
NLC	**Nalytchevo**	**3.12**	**21**	*e* P	P	04 26 49.4	-1.1
NLC				*e* S	S	04 27 24.3	-2.7
SPN	**Mys Shipunski**	**3.23**	**28**	*e* P	P	04 26 52.6	+0.5
SPN				*e* S	S	04 27 29.3	-0.6
GNL	**Ganaly**	**3.43**	**4**	*i* P	P	04 26 56.0	+1.1
GNL				*e* S	S	04 27 35.5	+0.5
MKZ	**Mys Kozlova**	**5.01**	**30**	*e* P	P	04 27 17.7	+0.4
MKZ				*e* S	S	04 28 12.1	-2.6
KBTR	**Krutoberegovo**	**6.74**	**26**	*i* P	P	04 27 40.3	-1.4

*TAP **23** 04:29:47.6, 24.53N×121.93E, h20km, ML3.5*
TAP Felt II J at Suao, IV J at Nanau, I J at Nioudou.
*JMA **23** 04:29:47.4±0.2, 24.75N×122.00E, h52km±3km, M2.8*
ISC 23 04:29:47.7±0.3, 24.53N±0.02×122.02E±0.02, h20km, n49, σ0§84/77, 5C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.17**	**296⇓**	*i* P	**Pb**	**04 29 52.2**	**-0.3**
TWC				S	**Sb**	**04 29 54.8**	**-1.0**
ENA	**Nanau**	**0.27**	**248⇑**	*i* P	**Pb**	**04 29 53.4**	**-0.6**
ENA				S	**Sb**	**04 29 57.3**	**-1.0**
EHP	**Heping Village**	**0.34**	**229**	*e* P	**Pb**	**04 29 54.4**	**-0.5**
EHP				S	**Sb**	**04 29 59.7**	**-0.2**
ILA	**Ilan**	**0.34**	**313**	*e* P	**Pb**	**04 29 55.2**	**+0.2**
ILA				S	**Sb**	**04 29 60.0**	**0.0**
TWE	**Neicheng**	**0.37**	**300⇓**	*i* P	**Pb**	**04 29 55.0**	**-0.6**
TWE				S	**Sb**	**04 29 59.9**	**-1.0**
ENTT	**Nioudou**	**0.43**	**285⇑**	*i* P	**Pb**	**04 29 55.8**	**-0.7**
ENTT				S	**Sb**	**04 30 01.4**	**-1.0**
TWB1	**Santiao Chiao**	**0.47**	**357**	*i* P	**Pb**	**04 29 57.5**	**+0.3**
TWB1				S	**Sb**	**04 30 04.1**	**+0.3**
NWF	**Wu-fen Shan**	**0.58**	**338**	*i* P	**Pb**	**04 29 59.2**	**+0.2**
NWF				S	**Sb**	**04 30 07.1**	**+0.4**
TWD	**Chiawan**	**0.59**	**221⇓**	*i* P	**Pb**	**04 29 58.6**	**-0.7**
TWD				S	**Sb**	**04 30 06.8**	**-0.4**
NNS	**Nan Shan**	**0.60**	**261**	*i* P	**Pb**	**04 29 58.5**	**-0.8**
NNS				S	**Sb**	**04 30 05.9**	**-1.4**
TWA	**Mucha**	**0.60**	**318**	*e* P	**Pb**	**04 29 59.8**	**+0.4**
TWA				S	**Sb**	**04 30 07.2**	**0.0**
NSK	**Sanguang**	**0.62**	**283⇑**	*i* P	**Pb**	**04 29 59.0**	**-0.7**
NSK				S	**Sb**	**04 30 06.0**	**-1.9**
HWA	**Hwalien**	**0.67**	**214**	*e* P	**Pb**	**04 30 00.8**	**+0.3**
TAP1	**Taipei**	**0.68**	**318**	*e* P	**Pb**	**04 29 60.0**	**-0.7**
TAP1				S	**Sb**	**04 30 09.9**	**+0.3**
TAP	**Taipei**	**0.69**	**317**	*e* P	**Pb**	**04 30 00.9**	**+0.1**
TAP				S	**Sb**	**04 30 09.9**	**0.0**
TWS1	**Kuangyinshan**	**0.79**	**316**	*e* P	**Pb**	**04 30 02.8**	**+0.2**
TWS1				S	**Sb**	**04 30 13.4**	**+0.7**
WHF	**Hehuan Shan**	**0.79**	**241⇑**	*i* P	**Pb**	**04 30 02.0**	**-0.6**
WHF				S	**Sb**	**04 30 12.0**	**-0.8**
TWT	**Tachien**	**0.82**	**250⇑**	*i* P	**Pb**	**04 30 02.7**	**-0.3**
TWT				S	**Sb**	**04 30 14.0**	**+0.4**
TWY	**Chenhua**	**0.83**	**333**	*e* P	**Pb**	**04 30 04.0**	**+0.7**
TWY				S	**Sb**	**04 30 14.3**	**+0.3**
NCU	**National Centr**	**0.87**	**300**	*e* P	**Pb**	**04 30 05.6**	**+1.6**
NCU				S	**Sb**	**04 30 16.4**	**+1.2**
ESL	**Shilin**	**0.89**	**217**	*e* P	**Pb**	**04 30 04.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.91**	**94**	P	**Pb**	**04 30 04.8**	**+0.2**
YOJ				*e* S	**Sb**	**04 30 17.8**	**+1.6**
NSTT	**Nanjuang**	**0.93**	**276**	*e* P	**Pb**	**04 30 04.9**	**-0.1**
NSTT				S	**Sb**	**04 30 16.5**	**-0.5**
HSN	**Hsinchu**	**0.99**	**286**	*e* P	**Pb**	**04 30 06.2**	**+0.2**
HSN				S	**Sb**	**04 30 18.6**	**-0.1**
TWQ1	**Liyutan**	**1.15**	**261**	*e* P	**Pb**	**04 30 09.1**	**+0.4**
NSY	**Sanyi**	**1.15**	**264**	*e* P	**Pb**	**04 30 09.5**	**+0.7**
EHY	**Hungye**	**1.20**	**212**	*e* P	**Pn**	**04 30 08.1**	**-1.5**
SMLT	**Sun Moon Lake**	**1.21**	**238**	*e* P	**Pn**	**04 30 09.6**	**0.0**
TYC	**Yuchr**	**1.23**	**240**	*e* P	**Pn**	**04 30 09.5**	**-0.4**
TYC				S	**Sb**	**04 30 26.5**	**+0.8**
TCU	**Taichung**	**1.28**	**253**	*e* P	**Pn**	**04 30 12.1**	**+1.5**
TWF1	**Yuli**	**1.35**	**209**	*e* P	**Pn**	**04 30 10.2**	**-1.5**
WNT	**Mingjian**	**1.38**	**242**	*e* P	**Pn**	**04 30 13.0**	**+0.9**
YUS	**Yu-Shan**	**1.43**	**223**	*e* P	**Pn**	**04 30 12.8**	**+0.1**
ALS	**Alishan**	**1.51**	**228**	*e* P	**Pn**	**04 30 14.4**	**+0.6**
CHN5	**Tsauling**	**1.54**	**233**	*e* P	**Pn**	**04 30 14.9**	**+0.5**
IRIF	**Iriomote-Funau**	**1.57**	**97**	P	**Pn**	**04 30 14.2**	**-0.6**
IRIF				*e* S	**Sn**	**04 30 34.1**	**-0.6**
ELDTW	**Lidau**	**1.62**	**215**	*e* P	**Pn**	**04 30 14.7**	**-0.8**
HATJ	**Hateruma jima**	**1.70**	**106**	P	**Pn**	**04 30 16.7**	**+0.1**
HATJ				*e* S	**Sn**	**04 30 37.8**	**-0.1**
CHN4	**Tsaushan**	**1.76**	**228**	*e* P	**Pn**	**04 30 18.8**	**+1.4**
STYT	**Tauyuan**	**1.79**	**221**	*e* P	**Pn**	**04 30 17.9**	**+0.1**
WTP	**Ta-pu**	**1.81**	**225**	*e* P	**Pn**	**04 30 19.0**	**+0.8**
JKRS	**Kuro-shima**	**1.84**	**99**	P	**Pn**	**04 30 18.0**	**-0.6**
JKRS				*e* S	**Sn**	**04 30 40.6**	**-0.9**
TWK	**Hsinying**	**1.89**	**228**	*e* P	**Pn**	**04 30 20.4**	**+1.1**
TWG	**Pinlang**	**1.91**	**207**	*e* P	**Pn**	**04 30 22.1**	**+2.4**
CHN1	**Nanshi**	**1.91**	**226**	*e* P	**Pn**	**04 30 20.5**	**+0.8**
JIJ	**Ishigaki jima**	**1.94**	**95**	P	**Pn**	**04 30 19.6**	**-0.5**
JIJ				*e* S	**Sn**	**04 30 42.3**	**-1.8**
SGST	**Jiashian**	**1.95**	**223**	*e* P	**Pn**	**04 30 21.5**	**+1.2**
SGST				S	**Sn**	**04 30 46.7**	**+2.3**
SSD	**Sandimen**	**2.19**	**216**	*e* P	**Pn**	**04 30 25.0**	**+1.4**
WDGT	**Dungji**	**2.50**	**240**	*e* P	**Pn**	**04 30 28.0**	**-0.2**

*IDC **23** 04:34:32.9±0.6, 55.76N×162.30E, mb3.9/16, mb1 4.2/17, mb1mx4.1/26, mbtmp4.0/17, ML4.3/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/33, Error ellipse: s-maj=16.1km s-min=12.6km az=4.0*
*KRSC **23** 04:34:33.5±0.6, 55.75N×162.48E, h10km±2km, ML4.8*
*MOS **23** 04:34:35.5±1.1, 55.75N×162.52E, h33km, mb4.5/10, Error ellipse: s-maj=15.4km s-min=7.6km az=71.9*
*BJI **23** 04:34:37.6, 56.02N×162.85E, h64km, mB4.5, mb4.4, Ms4.2, Msz3.6*
*NEIC **23** 04:34:39.1±0.4, 55.68N×162.48E, h50km, mb4.4/8, Error ellipse: s-maj=12.8km s-min=8.1km az=145.0*
ISC 23 04:34:34.3±0.6, 55.72N±0.02×162.60E±0.04, h20km±4km, n86, σ1§05/124, mb4.1/25, MS3.5/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.50**	**14**	*i* P	**Pb**	**04 34 44.2**	**-0.2**
KBTR				*e* S	**Sb**	**04 34 50.9**	**-0.4**
ZLN	**Zelenaya**	**1.05**	**287**	*i* P	**Pb**	**04 34 53.5**	**-0.2**
ZLN				*e* S	**Sb**	**04 35 07.4**	**+0.3**
CIRR	**Tsirk**	**1.11**	**292**	*e* P	**Pb**	**04 34 54.1**	**-0.6**
CIRR				*e* S	**Sb**	**04 35 08.4**	**-0.4**
LGNR	**Loginova**	**1.13**	**289**	*i* P	**Pb**	**04 34 55.0**	**-0.1**
LGNR				*i* S	**Sb**	**04 35 10.0**	**+0.6**
KLY	**Klyuchi**	**1.24**	**299**	P	**Pn**	**04 34 53.9**	**-2.9**
KLY				S	**Sb**	**04 35 08.6**	**-4.0**
KLY	**Klyuchi**	**1.24**	**299**	*i* P	**Pn**	**04 34 54.1**	**-2.7**
KLY				*e* S	**Sb**	**04 35 08.4**	**-4.2**
KRSR	**Krestovskiy**	**1.25**	**294**	*i* P	**Pn**	**04 34 55.5**	**-1.3**
KRSR				*e* S	**Sb**	**04 35 11.1**	**-1.6**
MKZ	**Mys Kozlova**	**1.27**	**203**	P	**Pn**	**04 34 56.9**	**-0.2**
MKZ				S	**Sb**	**04 35 15.0**	**+1.6**
MKZ	**Mys Kozlova**	**1.27**	**203**	*i* P	**Pn**	**04 34 56.4**	**-0.7**
MKZ				*e* S	**Sb**	**04 35 13.0**	**-0.4**
KMNR	**Kamenistaya**	**1.33**	**272**	*e* P	**Pn**	**04 34 58.2**	**+0.1**
KMNR				*e* S	**Sb**	**04 35 16.5**	**+1.3**
KPT	**Kopyto**	**1.36**	**281**	*i* P	**Pn**	**04 34 58.1**	**-0.4**
KPT				*e* S	**Sb**	**04 35 16.1**	**+0.1**
TUMR	**Tumrok**	**1.46**	**254**	*i* P	**Pn**	**04 35 00.4**	**+0.5**
TUMR				*e* S	**Sn**	**04 35 20.1**	**+1.5**
KOZR	**Kozyr**	**1.56**	**284**	PN	**Pn**	**04 35 02.1**	**+0.8**
KOZR				S	**Sn**	**04 35 22.5**	**+1.4**
KOZ	**Kozyrevsk**	**1.57**	**284**	*e* P	**Pn**	**04 35 02.1**	**+0.7**
KOZ				*e* S	**Sn**	**04 35 22.5**	**+1.2**
SRDR	**Sredinnyy**	**1.72**	**291**	*i* P	**Pn**	**04 35 03.7**	**+0.1**
SRDR				*i* S	**Sn**	**04 35 25.5**	**+0.3**
BKI	**Bering**	**1.99**	**104**	*i* P	**Pn**	**04 35 08.7**	**+1.2**
BKI				*e* S	**Sn**	**04 35 33.5**	**+1.5**
BKI				Smax			
	950nm,1.3s						
KII	**Karymskiy**	**2.48**	**228**	P	**Pn**	**04 35 15.1**	**+0.6**
KII				S	**Sn**	**04 35 45.5**	**+1.0**
KII	**Karymskiy**	**2.48**	**228**	*e* P	**Pn**	**04 35 15.0**	**+0.5**
KII				*e* S	**Sn**	**04 35 45.2**	**+0.7**
SPN	**Mys Shipunski**	**3.03**	**211**	P	**Pn**	**04 35 20.9**	**-1.4**
SPN				S	**Sn**	**04 35 55.2**	**-3.1**
SPN	**Mys Shipunski**	**3.03**	**211**	*e* P	**Pn**	**04 35 20.7**	**-1.6**
SPN				*e* S	**Sn**	**04 35 56.2**	**-2.1**
NLC	**Nalytchevo**	**3.18**	**218**	*i* P	**Pn**	**04 35 24.2**	**-0.3**
NLC				*e* S	**Sn**	**04 36 00.9**	**-1.3**
SMAR	**Somma**	**3.31**	**224**	*i* P	**Pn**	**04 35 26.6**	**+0.3**
SMAR				*e* S	**Sn**	**04 36 05.2**	**-0.3**
AVH	**Avacha**	**3.33**	**224**	*i* P	**Pn**	**04 35 27.0**	**+0.4**
AVH				*e* S	**Sn**	**04 36 06.6**	**+0.5**
UGLR	**Uglovaya**	**3.34**	**223**	*i* P	**Pn**	**04 35 27.1**	**+0.3**
UGLR				*e* S	**Sn**	**04 36 06.9**	**+0.6**
KOK	**Koryaka**	**3.35**	**225**	*e* P	**Pn**	**04 35 27.3**	**+0.4**
KOK				*e* S	**Sn**	**04 36 06.6**	**0.0**
GNL	**Ganaly**	**3.38**	**235**	*i* P	**Pn**	**04 35 27.8**	**+0.6**
GNL				*e* S	**Sn**	**04 36 07.4**	**+0.2**
OSSR	**Ossora**	**3.55**	**4**	*e* P	**Pn**	**04 35 26.5**	**-3.1**
OSSR				*e* S	**Sn**	**04 36 12.0**	**+0.5**
OSSR				Smax			
	230nm,1.0s						
PET	**Petropavlovsk**	**3.55**	**222**	P	**Pn**	**04 35 29.7**	**0.0**
PET				S	**Sn**	**04 36 10.9**	**-0.7**
PET	**Petropavlovsk**	**3.55**	**222**	*i* PN	**Pn**	**04 35 29.4**	**-0.3**
PET				*i* S	**Sn**	**04 36 10.8**	**-0.8**
PET	**Petropavlovsk**	**3.55**	**222**	*e* P	**Pn**	**04 35 29.2**	**-0.5**
PET	**Petropavlovsk**	**3.55**	**222**	*e* P	**Pn**	**04 35 29.7**	**0.0**
PET				*e* S	**Sn**	**04 36 10.8**	**-0.8**
KRMR	**Karymshinskiy**	**3.90**	**224**	*e* P	**Pn**	**04 35 34.4**	**-0.3**
KRMR				*e* S	**Sn**	**04 36 19.4**	**-1.1**
RUS	**Russkaya**	**4.08**	**218**	*e* P	**Pn**	**04 35 36.6**	**-0.6**
RUS				*e* S	**Sn**	**04 36 23.3**	**-1.6**
GRL	**Gorelyy**	**4.14**	**222**	*e* P	**Pn**	**04 35 39.2**	**+1.1**
GRL				*e* S	**Sn**	**04 36 26.8**	**+0.3**
APC	**Apacha**	**4.24**	**231**	*i* P	**Pn**	**04 35 40.4**	**+0.9**
APC				*e* S	**Sn**	**04 36 29.9**	**+0.9**
APC				Smax			
	150nm,1.1s						
PAU	**Pauzhetka**	**5.48**	**221**	*e* P	**Pn**	**04 35 58.1**	**+1.1**
PAU				Smax			
	180nm,1.1s						
PAU	**Pauzhetka**	**5.48**	**221**	*e* P	**Pn**	**04 35 58.6**	**+1.6**
PAU				*e* S	**Sn**	**04 36 59.3**	**-0.9**
PAU				Smax			
	110nm,0.7s						
SKR	**Severo-Kuril's**	**6.37**	**220**	*e* P	**Pn**	**04 36 08.5**	**-1.1**
FX1	**Attu Island--F**	**6.81**	**110**	Pn	**Pn**	**04 36 15.4**	**-0.3**
	18nm,0.3s,baz=210,slow=2.9,SNR=23						
FX1				Sn	**Sn**	**04 37 29.8**	**-3.6**
	4.6nm,0.3s,baz=273,slow=18,SNR=3.7						
FX1	**Attu Island--F**	**6.81**	**110**	*e* P	**Pn**	**04 36 14.3**	**-1.5**
KAMR	**Kamenskoye**	**7.01**	**14**	*i* P	**Pn**	**04 36 19.6**	**+1.1**
KAMR				*e* S	**Sn**	**04 37 36.6**	**-1.8**
KAMR				Smax			
	30nm,1.3s						
BILL	**Bilibino**	**12.48**	**6**	*i* PN	**P**	**04 37 36.5**	**+2.9**
BILL				pmax	pmax		
	comp=Z,12nm,1.7s						
ASAJ	**Asahikawa**	**17.27**	**236**	P	**P**	**04 38 37.7**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,139nm,19.0s						
ASAJ	**Asahikawa**	**17.27**	**236**	P	**P**	**04 38 37.7**	**+2.0**
	comp=Z,1.4nm,0.3s,baz=32,slow=13,SNR=6.7						
ASAJ				LR	LR	04 45 00.0	
	comp=Z,139nm,18.9s,baz=197,slow=37						
IMA	**Indian Mountai**	**23.13**	**46**	*e* P	**P**	**04 39 39.8**	**+0.2**
IMA				pmax	pmax		
	comp=Z,17nm,0.6s,mb4.7						
IMA	**Indian Mountai**	**23.13**	**46**	*e* P	**P**	**04 39 39.8**	**+0.3**
	comp=Z,17nm,0.6s,mb4.7						
MJAR	**Matsushiro Arr**	**25.34**	**231**	P	**P**	**04 40 00.6**	**-0.5**
	comp=Z,9.5nm,0.8s,mb4.4,baz=29,slow=8.2,SNR=24						
MJAR				LR	LR	04 49 52.6	
	comp=Z,100nm,22.0s,MS3.3,baz=50,slow=36						
MJAR	**Matsushiro Arr**	**25.34**	**231**	P	**P**	**04 40 00.6**	**-0.5**
MJAR				LR	LR	04 49 52.6	
MAJO	**Matsushiro**	**25.34**	**231**	*e* P	**P**	**04 40 00.1**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
MAJO	**Matsushiro**	**25.34**	**231**	*e* P	**P**	**04 40 00.1**	**-1.1**
	comp=Z,12nm,0.8s,mb4.5						
MAT	**Matsushiro**	**25.34**	**231**	*e* P	**P**	**04 40 00.0**	**-1.2**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.5						
MAT	**Matsushiro**	**25.34**	**231**	*e* P	**P**	**04 40 00.0**	**-1.2**
	comp=Z,10nm,0.7s,mb4.5						
MAT	**Matsushiro**	**25.34**	**231**	P	**P**	**04 40 00.4**	**-0.8**
COLA	**College**	**25.54**	**49**	*i* P	**P**	**04 40 04.5**	**+1.8**
ILAR	**Eielson Array**	**25.95**	**49**	P	**P**	**04 40 07.7**	**+1.1**
	comp=Z,2.7nm,0.9s,mb3.8,baz=268,slow=9.6,SNR=16						
BOD	**Bodaibo**	**26.26**	**295**	*e* P	**P**	**04 40 09.5**	**0.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.8						
INK	**Inuvik**	**30.90**	**41**	*e* P	**P**	**04 40 51.3**	**+0.1**
INK				pmax	pmax		
	comp=Z,14nm,1.5s						
INK	**Inuvik**	**30.90**	**41**	P	**P**	**04 40 52.0**	**+0.8**
	comp=Z,1.3nm,0.6s,mb3.9,baz=290,slow=9.6,SNR=7.6						
INK	**Inuvik**	**30.90**	**41**	*e* P	**P**	**04 40 51.3**	**+0.1**
	comp=Z,14nm,1.5s,mb4.6						
SONM	**Songino Array**	**34.78**	**281**	P	**P**	**04 41 25.2**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.4,baz=112,slow=7.8,SNR=2.5						
SONM				LR	LR	04 56 53.3	
	comp=Z,43nm,18.6s,MS3.2,baz=78,slow=39						
YKW3	**Yellowknife Ar**	**40.22**	**45**	*e* P	**P**	**04 42 11.3**	**+0.7**
YKA	**Yellowknife Ar**	**40.25**	**45**	*i* P	**P**	**04 42 08.8**	**-2.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**40.25**	**45**	P	**P**	**04 42 12.4**	**+1.5**
	comp=Z,1.0nm,0.5s,mb3.8,baz=299,slow=8.2,SNR=8.7						
YKA				PcP	PcP	04 44 14.1	-1.1
	comp=Z,0.1nm,0.8s,baz=310,slow=3.7,SNR=3.4						
YKA				pPcP		04 44 21.0	
	comp=Z,0.3nm,0.7s,baz=309,slow=3.3,SNR=5.7						
WMQ	**Urumqi**	**47.50**	**289**	P	**P**	**04 43 10.9**	**+1.4**
WMQ				PCP	PcP	04 44 40.9	+1.0
WMQ				PP	PP	04 45 01.9	+1.6
WMQ				S	**S**	**04 50 04.9**	**+2.8**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,45nm,3.7s						
WMQ				LR	LR		
	comp=N,478nm,18.3s,MS4.5						
WMQ				LR	LR		
	comp=E,285nm,19.3s,MS4.5						
WMQ				LR	LR		
	comp=Z,62nm,19.8s,MS3.6						
MKAR	**Makanchi Array**	**48.35**	**295**	P	**P**	**04 43 14.1**	**-2.0**
	comp=Z,0.3nm,0.5s,mb3.6,baz=60,slow=7.2,SNR=6.2						
FCC	**Fort Churchill**	**50.52**	**41**	*e* P	**P**	**04 43 31.7**	**-0.9**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
FCC	**Fort Churchill**	**50.52**	**41**	*e* P	**P**	**04 43 31.7**	**-0.8**
	comp=Z,2.8nm,0.7s,mb4.3						
ARCES	**ARCESS Array B**	**51.24**	**342**	P	**P**	**04 43 37.2**	**-0.7**
	comp=Z,4.4nm,0.8s,mb4.4,baz=36,slow=7.8,SNR=3.7						
PDAR	**Pinedale Array**	**55.01**	**64**	P	**P**	**04 44 07.8**	**+1.5**
	comp=Z,0.8nm,0.8s,mb3.8,baz=324,slow=4.3,SNR=7.8						
AAK	**Ala-Archa**	**55.23**	**296**	P	**P**	**04 44 07.1**	**-0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**55.23**	**296**	P	**P**	**04 44 07.1**	**-0.8**
	comp=Z,1.6nm,0.8s,mb4.1						
JOF	**Joensuu**	**55.79**	**335**	*ep*	**P**	**04 44 06.8**	**-4.8**
	comp=Z,1.7nm,0.5s,mb4.3						
KAF	**Kangasniemi**	**57.63**	**337**	*ep*	**P**	**04 44 19.1**	**-5.6**
	comp=Z,2.6nm,0.9s,mb4.3						
KAF	**Kangasniemi**	**57.63**	**337**	*e* P	**P**	**04 44 19.1**	**-5.6**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
FINES	**FINESS Array B**	**58.28**	**337**	P	**P**	**04 44 27.4**	**-1.8**
	comp=Z,1.7nm,0.6s,mb4.2,baz=41,slow=8.5,SNR=14						
FINES				LR	LR	05 13 45.9	
	comp=Z,44nm,19.0s,MS3.6,baz=335,slow=40						
PV10	**Paradox Valley**	**58.50**	**67**	P	**P**	**04 44 31.0**	**-0.2**
NB2	**NORSAR Subarra**	**61.41**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.78**	**243**	P	P	05 05 21.2	-1.8
	0.4nm,0.4s,baz=102,slow=9.3,SNR=3.9						
WRA	**Warramunga Arr**	**44.26**	**261**	P	P	05 06 15.0	-1.6
	0.5nm,0.3s,baz=96,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**44.27**	**256**	P	P	05 06 14.8	-1.9
	1.1nm,0.8s,baz=96,slow=7.7,SNR=11						

*IDC **23** 05:19:02.7±0.8, 8.87N×93.66E, mb3.9/12, mb1 4.1/12, mb1mx4.0/21, mbtmp3.9/12, MS2.8/1, Ms1 3.0/1, ms1mx2.7/26, Error ellipse: s-maj=37.8km s-min=19.8km az=62.0*
*MOS **23** 05:19:06.0±1.2, 8.78N×93.51E, h33km, mb5.1/3, Error ellipse: s-maj=27.0km s-min=14.8km az=102.4*
*NEIC **23** 05:19:07.7±0.5, 8.93N×93.68E, h30km, mb4.7/3, Error ellipse: s-maj=16.1km s-min=8.9km az=210.0*
ISC 23 05:19:05.9±0.6, 8.75N±0.09×93.63E±0.08, h33km, n39, σ0§98/37, mb4.1/15, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.77**	**116**	P	P	05 20 58.0	-1.3
CMAR	**Chiang Mai Arr**	**10.94**	**28**	Pn	P	05 21 44.3	+1.1
	baz=214,slow=14,SNR=8.7						
CMAR				LR	LR	05 26 24.2	
	comp=Z,44nm,19.4s,baz=213,slow=41						
PALK	**Pallekele**	**12.89**	**264**	*e*P	P	05 22 11.3	+1.8
	8.6nm,1.0s						
VIS	**Vishakhapatnam**	**13.41**	**313**	*e*P	P	05 22 10.8	-5.6
VIS				*e*S	S	05 24 29.3	-16
SHL	**Shillong**	**16.80**	**355**	*e*P	P	05 23 01.0	+0.7
KSM	**Kuching**	**18.10**	**113**	*e*P	P	05 23 20.3	+3.6
JIRN	**Jiri**	**20.08**	**340**	*e*P	P	05 23 39.6	+0.2
	7.8nm,0.3s						
PKI	**Pulchoki**	**20.27**	**338**	*e*P	P	05 23 41.3	-0.1
	46nm,1.0s						
DMN	**Daman**	**20.41**	**338**	*e*P	P	05 23 43.3	+0.4
	42nm,1.0s						
GUN	**Gumba**	**20.41**	**340**	*e*P	P	05 23 42.7	-0.2
	45nm,0.8s						
KKN	**Kakani**	**20.51**	**338**	*e*P	P	05 23 43.5	-0.4
	19nm,0.8s						
GKN	**Gorkha**	**20.95**	**337**	*e*P	P	05 23 48.5	+0.1
	60nm,0.8s						
KOLN	**Koldanda**	**21.16**	**335**	*e*P	P	05 23 50.6	+0.1
	27nm,0.7s,mb4.7						
POO	**Poona**	**21.52**	**299**	*e*	P	05 23 58.0	+3.8
POO				*e*		05 28 28.0	
KKM	**Kota Kinabalu**	**22.55**	**95**	P	P	05 24 05.4	+0.7
NDI	**New Delhi**	**25.13**	**324**	*e*P	P	05 24 29.5	-0.1
MKAR	**Makanchi Array**	**39.13**	**348**	P	P	05 26 31.2	-0.7
	1.0nm,0.7s,mb3.7,baz=164,slow=8.6,SNR=14						
SONM	**Songino Array**	**40.42**	**13**	P	P	05 26 42.5	-0.1
	0.8nm,1.0s,mb3.4,baz=194,slow=5.9,SNR=5.0						
ZAL	**Zalesovo**	**45.62**	**353**	P	P	05 27 23.9	-0.9
	1.8nm,0.4s,mb4.3,baz=297,slow=8.3,SNR=11						
BVAR	**Borovoye Array**	**48.00**	**341**	P	P	05 27 41.9	-1.7
	0.7nm,0.4s,mb4.1,baz=129,slow=9.2,SNR=6.2						
ASAR	**Alice Springs**	**50.86**	**130**	P	P	05 28 05.2	-0.8
	0.8nm,0.7s,mb3.7,baz=302,slow=6.4,SNR=7.9						
ASAR				PcP	PcP	05 29 22.9	+0.5
	0.5nm,0.6s,baz=317,slow=3.4,SNR=4.2						
BOD	**Bodaibo**	**51.42**	**14**	*e*P	P	05 28 05.0	-4.6
BRTR	**Keskin Array B**	**61.48**	**311**	P	P	05 29 20.4	-1.3
	0.9nm,0.6s,mb4.0,baz=131,slow=6.0,SNR=5.7						
AKASG	**Malin Array Be**	**67.16**	**322**	P	P	05 29 57.0	-1.5
	0.9nm,0.6s,mb4.0,baz=88,slow=5.3,SNR=6.2						
FINES	**FINESS Array B**	**71.70**	**332**	P	P	05 30 25.9	-0.3
	1.5nm,0.8s,mb4.0,baz=108,slow=6.0,SNR=5.6						
FINES	**FINESS Array B**	**71.70**	**332**	P	P	05 30 25.9	-0.3
ARCES	**ARCESS Array B**	**74.27**	**340**	P	P	05 30 41.5	+0.4
	1.5nm,0.4s,mb4.2,baz=102,slow=6.0,SNR=7.0						
GERES	**GERESS Array B**	**76.84**	**318**	P	P	05 30 56.9	+0.6
	0.6nm,0.5s,mb3.8,baz=90,slow=5.3,SNR=12						
NB2	**NORSAR Subarra**	**78.72**	**331**	P	P	05 31 05.8	-0.6
	16nm,2.0s,mb4.6,baz=95,slow=5.0						
NB2	**NORSAR Subarra**	**78.72**	**331**	P	P	05 31 05.8	-0.6
NB2				pmax	pmax		
	comp=Z,16nm,2.0s,mb4.6						
NOA	**NORSAR Array B**	**78.72**	**331**	P	P	05 31 06.2	-0.2
	comp=Z,1.2nm,0.7s,mb4.0,baz=92,slow=5.7,SNR=11						
LPG	**La Plagne**	**81.65**	**315**	*e*P	P	05 31 22.9	+0.6
	comp=Z,9.1nm,0.9s,mb4.4						
LPG	**La Plagne**	**81.65**	**315**	*e*P	P	05 31 22.9	+0.6
LPG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
IMA	**Indian Mountai**	**91.00**	**22**	*e*P	P	05 32 09.9	+2.2
IMA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0						
IMA	**Indian Mountai**	**91.00**	**22**	*e*P	P	05 32 09.9	+2.2
	comp=Z,4.9nm,0.7s,mb5.0						
ILAR	**Eielson Array**	**94.12**	**22**	P	P	05 32 21.8	-0.2
	comp=Z,0.5nm,0.7s,mb4.1,baz=300,slow=3.4,SNR=6.8						
PDAR	**Pinedale Array**	**124.53**	**21**	PKP	PKPdf	05 38 04.4	+2.1
	comp=Z,0.6nm,0.7s,baz=45,slow=4.2,SNR=5.8						
PLCA	**Paso Flores**	**145.19**	**201**	PKPbc	PKPbc	05 38 42.8	+2.0
	comp=Z,1.6nm,0.9s,baz=78,slow=3.8,SNR=3.2						
CPUP	**Villa Florida**	**147.38**	**234**	PKPbc	PKPdf	05 38 49.6	+5.1
	comp=Z,2.7nm,1.1s,baz=133,slow=5.8,SNR=5.4						

*NNC **23** 05:28:01.1±5.1, 41.89N×71.88E, mpv3.4, Error ellipse: s-maj=66.5km s-min=22.5km az=15.0*
*KNET **23** 05:28:05.1±0.5, 42.11N×72.23E, h3km±1km, ml2.8, Error ellipse: s-maj=3.8km s-min=2.2km az=147.0*
ISC 23 05:28:04.2±1.4, 42.0N±0.1×71.95E±0.08, h10km, n10, σ1§30/17, 10C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.31**	**82**	⇑P	Pb	05 28 26.1	-2.3
	30nm,0.1s,SNR=17						
AML				⇑S	Sb	05 28 42.8	-2.4
	74nm,0.2s						
EKS2	**Erkin-Say**	**1.53**	**62**	⇑P	Pn	05 28 30.0	-1.7
	8.2nm,0.1s,SNR=14						
EKS2				⇓S	Sb	05 28 48.3	-3.1
	25nm,0.2s						
KK31	**Karatay Array**	**1.56**	**318**	⇑Pn	Pn	05 28 32.2	0.0
	12nm,0.3s,baz=137,slow=16,SNR=393						
KK31				⇑Lg		05 28 52.4	
	32nm,0.3s,baz=140,slow=29,SNR=13						
UCH	**Uchtor**	**1.93**	**81**	⇓P	Pn	05 28 37.4	0.0
	19nm,0.3s,SNR=20						
UCH				⇓S	Sn	05 29 03.3	+1.5
	48nm,0.2s						
AAK	**Ala-Archa**	**2.01**	**70**	⇓P	Pn	05 28 38.6	+0.1
	11nm,0.2s,SNR=14						
AAK				⇑S	Sn	05 29 03.7	-0.1
	34nm,0.3s						
AAK	**Ala-Archa**	**2.01**	**70**	⇑Pn	Pn	05 28 38.4	-0.1
	12nm,0.5s						
AAK				⇑Lg		05 29 05.4	
	45nm,0.6s						
USP	**Ospenovka**	**2.29**	**54**	⇓P	Pn	05 28 42.6	0.0
	24nm,0.3s,SNR=18						
USP				⇓S	Sn	05 29 11.9	+0.7
	127nm,0.3s						
CHMS	**Chumysh**	**2.32**	**62**	⇑P	Pn	05 28 43.3	+0.3
	14nm,0.3s,SNR=8.9						
CHMS				⇓S	Sn	05 29 13.2	+1.4
	21nm,0.2s						
KZA	**Kyzart**	**2.46**	**86**	⇓P	Pn	05 28 46.1	+1.0
	21nm,0.2s,SNR=25						
KZA				⇓S	Sn	05 29 18.6	+3.2
	90nm,0.4s						
TKM2	**Tokmak 2**	**2.87**	**69**	⇑P	Pn	05 28 51.3	+0.5
	14nm,0.4s,SNR=22						

*IDC **23** 05:42:46.4±2.3, 15.88S×177.68W, h424km±27km, mb3.3/9, mb1 3.6/10, mb1mx3.5/18, mbtmp4.0/10, Error ellipse: s-maj=36.0km s-min=13.7km az=144.0*
*NEIC **23** 05:42:46.3±1.4, 15.86S×177.71W, h425km±17km, mb4.2/1, Error ellipse: s-maj=32.5km s-min=12.1km az=142.0*
ISC 23 05:42:45.2±1.6, 15.9S±0.2×177.8W±0.2, h422km±20km, n15, σ0§68/13, mb3.6/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.10**	**72**	P	P	05 44 20.4	0.0
	5.5nm,0.3s,baz=95,slow=11,SNR=6.7						
URZ	**Urewera**	**22.75**	**191**	P	P	05 47 13.8	-0.8
	3.8nm,0.5s,mb4.1,baz=150,slow=5.0,SNR=5.8						
STKA	**Stephens Creek**	**40.18**	**239**	P	P	05 49 45.4	+1.0
	1.4nm,0.5s,mb3.6,baz=91,slow=8.3,SNR=5.8						
STKA	**Stephens Creek**	**40.18**	**239**	P	P	05 49 45.4	+1.0
STKA				*e*P		05 49 45.8	
WRA	**Warramunga Arr**	**45.65**	**257**	P	P	05 50 27.6	-0.4
	0.4nm,0.4s,mb3.1,baz=93,slow=6.7,SNR=4.6						
WRA	**Warramunga Arr**	**45.65**	**257**	P	P	05 50 27.6	-0.4
ASAR	**Alice Springs**	**45.97**	**252**	P	P	05 50 30.5	0.0
	6.3nm,0.5s,mb4.2,baz=86,slow=8.3,SNR=48						
NWAO	**Narrogin (SRO)**	**60.73**	**241**	*e*P	P	05 52 20.3	+4.1
	4.6nm,0.6s,mb4.1						
NVAR	**Mina Array Bea**	**77.53**	**44**	P	P	05 53 57.7	+0.3
	0.7nm,0.8s,mb3.3,baz=216,slow=6.2,SNR=5.2						
ILAR	**Eielson Array**	**83.78**	**13**	P	P	05 54 28.2	-1.0
	1.2nm,0.5s,mb3.9,baz=222,slow=5.5,SNR=23						
TXAR	**Lajitas Array**	**84.38**	**58**	P	P	05 54 34.0	+1.0
	0.4nm,0.7s,mb3.3,baz=202,slow=9.7,SNR=3.6						
PDAR	**Pinedale Array**	**85.45**	**43**	P	P	05 54 38.1	+0.2
	0.4nm,0.5s,mb3.4,baz=220,slow=3.7,SNR=6.2						
YKA	**Yellowknife Ar**	**92.23**	**24**	P	P	05 55 08.6	-0.6
	0.4nm,0.6s,mb3.5,baz=239,slow=4.5,SNR=14						
BRTR	**Keskin Array B**	**143.77**	**317**	PKP	PKPdf	06 01 30.9	-0.1
	2.5nm,0.8s,baz=90,slow=2.5,SNR=10						
GERES	**GERESS Array B**	**145.81**	**346**	PKPbc	PKPbc	06 01 37.1	+1.5
	0.7nm,0.6s,baz=34,slow=4.8,SNR=6.8						

IDC 23 05:46:45.5±9.6, 2.17N×96.40E, mb4.2/3, mb1 4.3/4, mb1mx3.7/20, mbtmp4.1/4, ML4.4/1, MS3.1/2, Ms1 3.2/2, ms1mx3.0/23, Error ellipse: s-maj=189.6km s-min=112.7km az=148.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.38**	**9**	Pn	P	05 50 37.1	-1.4
	0.5nm,0.3s,baz=198,slow=12,SNR=9.8						
CMAR				LR	LR	05 56 38.3	
	comp=Z,59nm,18.8s,baz=182,slow=36						
MKAR	**Makanchi Array**	**46.12**	**347**	P	P	05 55 11.4	-1.9
	1.8nm,0.4s,baz=158,slow=8.8,SNR=41						
MKAR				LR	LR	06 15 50.6	
	comp=Z,26nm,20.9s,baz=253,slow=38						
SONM	**Songino Array**	**46.31**	**9**	P	P	05 55 12.9	-1.9
	1.0nm,0.3s,baz=191,slow=9.6,SNR=7.5						
ZAL	**Zalesovo**	**52.48**	**351**	P	P	05 56 00.1	-2.2
	1.5nm,0.5s,baz=325,slow=7.0,SNR=6.8						

*IDC **23** 05:47:32.1±0.9, 11.37S×117.87E, mb4.2/4, mb1 4.4/7, mb1mx4.1/17, mbtmp4.2/7, ML4.1/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/17, Error ellipse: s-maj=51.6km s-min=17.7km az=58.0*
*DJA **23** 05:47:36.5±1.0, 11.61S×117.22E, h134km±87km, MD4.7/4, ML4.9/4, Error ellipse: s-maj=107.5km s-min=26.8km az=8.0*
*NEIC **23** 05:47:37.6±0.7, 11.53S×117.80E, h40km, mb4.4/2, Error ellipse: s-maj=19.4km s-min=11.0km az=54.0*
ISC 23 05:47:33.8±0.5, 11.52S±0.08×117.7E±0.1, h33km, n25, σ1§21/31, mb4.5/5, 6D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.39**	**333**	⇓*e*Pn	Pn	05 48 27.4	+1.6
	526nm,0.2s						
KEDI				⇓*e*Sn	Sn	05 49 05.3	-0.1
RATI	**Rata**	**3.50**	**322**	*e*Pn	Pn	05 48 28.3	+1.0
	650nm,0.2s						
RATI				⇓*e*Sn	Sn	05 49 05.4	-2.7
KELI	**Kelakatan**	**4.55**	**316**	⇓*e*Pn	Pn	05 48 42.0	-0.3
	86nm,0.2s						
KELI				*e*Sn	S	05 49 21.7	-13
SRDI	**Scrawed**	**4.62**	**311**	⇓*e*Pn	Pn	05 48 41.2	-2.1
	199nm,0.2s						
SRDI				⇓*e*Sn	S	05 49 29.4	-7.0
MBWA	**Marble Bar**	**9.78**	**169**	*e*P	P	05 49 48.1	-7.3
	11nm,0.4s						
MBWA				*e*S	Sx	05 51 19.0	
FITZ	**Fitzroy Crossi**	**10.09**	**131**	*e*P	P	05 49 56.0	-3.6
	14nm,0.5s						
FITZ				*e*S	Sx	05 51 40.2	
FITZ	**Fitzroy Crossi**	**10.09**	**131**	Pn	P	05 49 56.1	-3.5
	3.6nm,0.3s,baz=323,slow=5.4,SNR=49						
FITZ				Sn	S	05 51 41.0	-12
	4.1nm,0.3s,baz=181,slow=16,SNR=6.0						
FITZ				LR	LR	05 53 39.8	
	comp=Z,117nm,20.9s,baz=255,slow=37						
WRA	**Warramunga Arr**	**18.07**	**120**	P	P	05 51 43.2	-0.9
	0.6nm,0.3s,baz=283,slow=15,SNR=18						
WRA				S	S	05 54 51.7	-10
	0.3nm,0.3s,baz=290,slow=23,SNR=9.5						
WRAB	**Tennant Creek**	**18.07**	**120**	*e*P	P	05 51 43.6	-0.6
	9.2nm,1.0s						
WB2	**Warramunga Arr**	**18.08**	**120**	*e*P	P	05 51 44.0	-0.3
WB2				*e*S	S	05 54 52.5	-9.4
ASPA	**Alice Springs**	**19.59**	**130**	*e*P	P	05 52 04.3	+2.2
ASPA				*e*S	S	05 55 29.1	-6.8
ASAR	**Alice Springs**	**19.59**	**130**	P	P	05 52 02.7	+0.6
	0.3nm,0.3s,baz=310,slow=11,SNR=46						
ASAR				S	S	05 55 28.4	-7.5
	0.2nm,0.3s,baz=303,slow=22,SNR=5.9						
KLBR	**Kellerberrin**	**19.98**	**180**	*e*P	P	05 52 05.2	-1.0
	2μm,1.8s						
KLBR				*e*S	Sx	05 55 24.3	
MUN	**Mundaring**	**20.41**	**184**	*e*P	P	05 52 11.0	+0.2
	83nm,1.3s						
NWAO	**Narrogin (SRO)**	**21.31**	**181**	P	P	05 52 21.5	+1.5
	4.8nm,0.4s,mb4.2,baz=357,slow=13,SNR=11						
NWAO	**Narrogin (SRO)**	**21.31**	**181**	P	P	05 52 21.5	+1.5
FORT	**Forrest**	**21.44**	**155**	*e*P	P	05 52 21.2	-0.1
	258nm,0.6s,mb5.7						
STKA	**Stephens Creek**	**29.93**	**136**	P	P	05 53 41.0	-0.2
CMAR	**Chiang Mai Arr**	**35.06**	**328**	P	P	05 54 27.4	+1.3
	1.3nm,0.3s,mb4.3,baz=149,slow=6.1,SNR=7.7						
MKAR	**Makanchi Array**	**66.12**	**334**	P	P	05 58 20.5	+0.5
	2.2nm,0.7s,mb4.3,baz=147,slow=7.7,SNR=20						
MKAR	**Makanchi Array**	**66.12**	**334**	P	P	05 58 20.5	+0.5
ZAL	**Zalesovo**	**70.94**	**340**	P	P	05 58 50.0	+0.2
	1.9nm,0.7s,mb4.2,baz=316,slow=2.5,SNR=9.4						
YKA	**Yellowknife Ar**	**117.00**	**24**	PKP	PKPdf	06 06 18.7	+3.6
	0.2nm,0.6s,baz=300,slow=1.9,SNR=12						
YKA	**Yellowknife Ar**	**117.00**	**24**	PKP	PKPdf	06 06 18.7	+3.6
LPAZ	**La Paz**	**151.78**	**168**	PKPbc	PKPdf	06 07 31.4	+12
	2.2nm,0.8s,baz=149,slow=3.6,SNR=12						

*ATH **23** 06:28:28.8, 38.95N×27.85E, h24km, MD3.5/3*
*CSEM **23** 06:28:28.6±0.1, 38.95N×27.70E, h5km, MD3.2, Error ellipse: s-maj=2.4km s-min=1.5km az=108.0*
*ISK **23** 06:28:29.2, 38.95N×27.64E, h12km, MD3.2*
ISC 23 06:28:29.2±0.6, 38.92N±0.02×27.70E±0.04, h4km±5km, n32, σ0§69/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.62**	**214**	*i*P	Pg	06 28 41.0	-0.6
KDAG				*i*S	Sg	06 28 50.8	+1.0
IZM	**Izmir**	**0.63**	**214**	*i*PG	Pg	06 28 41.3	-0.4
BALB	**Balikesir**	**0.73**	**11**	PG	Pg	06 28 43.4	-0.4
BALB				SG	Sg	06 28 53.9	+0.4
BLCB	**Balcova**	**0.75**	**224**	PG	Pg	06 28 43.9	-0.1
MANT	**Manisa**	**0.80**	**123**	*i*P	Pg	06 28 44.7	-0.3
MANT				*i*S	Sg	06 28 56.0	+0.4
BTOK	**Tokmak**	**0.88**	**17**	*i*P	Pb	06 28 46.2	-0.4
BTOK				*i*S	Sg	06 28 58.8	+0.5
DST	**Dursunbey**	**0.99**	**46**	PG	Pg	06 28 49.5	+0.5
PRK	**Paraskevi**	**1.16**	**287**	*e*PN	Pn	06 28 52.7	+0.5
AYDN	**Tasoluk**	**1.27**	**174**	*i*P	Pb	06 28 52.8	-0.5
AYDN				*i*S	Sb	06 29 10.3	+0.5
SMG	**Samos**	**1.39**	**210**	*e*PN	Pn	06 28 55.9	+0.5
SMG				*e*SN	Sn	06 29 15.7	+1.2
EZN	**Ezine**	**1.40**	**311**	*e*PN	Pn	06 28 54.5	-1.1
EDC	**Edincik**	**1.43**	**5**	PN	Pn	06 28 55.2	-0.7
KCT	**Karacabey**	**1.43**	**20**	PN	Pn	06 28 55.4	-0.7
ORLT	**Orhaneli**	**1.45**	**39**	*e*PN	Pn	06 28 56.1	-0.2
KHL	**Karahalli**	**1.54**	**112**	*e*PN	Pn	06 28 58.1	+0.4
DENT	**Denizli**	**1.57**	**138**	PN	Pn	06 28 58.4	+0.5
BOZC	**Bozcaada**	**1.57**	**306**	*i*P	Pn	06 28 57.8	-0.3
BOZC				*i*S	Sb	06 29 20.1	+1.3
DNZL	**Cakiroluk**	**1.62**	**139**	*i*P	Pn	06 28 58.3	-0.5
DNZL				*i*S	Sb	06 29 19.3	-0.8
LPK	**Lapseki**	**1.62**	**334**	PN	Pn	06 28 58.3	-0.4
MLSB	**Milas**	**1.62**	**178**	*e*PN	Pn	06 28 59.0	+0.2
ULDT	**Uludag**	**1.65**	**42**	*i*P	Pn	06 29 00.1	+1.0
ULDT				*i*S	Sb	06 29 22.9	+2.1
YER	**Yerkesik**	**1.84**	**165**	*e*PN	Pn	06 29 02.3	+0.4
BDRM	**Kayabasi**	**1.86**	**186**	*i*P	Pn	06 29 07.0	+4.8
BDRM				*i*S	Sn	06 29 25.6	-1.0
ALT	**Altintas**	**1.88**	**85**	*e*PN	Pn	06 29 01.9	-0.5
BODT	**Bodrum**	**1.88**	**190**	*e*PN	Pn	06 29 02.6	+0.2
HRT	**Hereke**	**2.43**	**38**	*e*PN	Pn	06 29 09.7	-0.5
ESKT	**Eskisehir**	**2.52**	**75**	*e*PN	Pn	06 29 11.7	+0.1
ESKT	**Eskisehir**	**2.52**	**75**	*i*P	Pn	06 29 19.0	+7.5
ESKT				*i*S	Sn	06 29 50.1	+7.0
FETY	**Fethiye**	**2.53**	**154**	*e*PN	Pn	06 29 11.9	+0.1
RDO	**Rodhopi**	**2.77**	**324**	*e*PN	Pn	06 29 14.8	-0.5
EDRB	**Edirne**	**3.01**	**346**	*e*PN	Pn	06 29 17.4	-1.2
KIZT	**Kizilcal**	**3.26**	**89**	*e*PN	Pn	06 29 21.9	-0.3

*IDC **23** 06:34:36.6±2.9, 39.43N×44.59E, mb3.6/3, mb1 3.9/3, mb1mx3.4/18, mbtmp3.6/3, MS3.2/2, Ms1 3.3/2, ms1mx2.6/25, Error ellipse: s-maj=68.8km s-min=13.7km az=111.0*
*TIF **23** 06:34:36.6, 39.75N×44.26E, h15km±5km*
*CSEM **23** 06:34:38.3±0.1, 39.74N×44.34E, h2km, mb3.7/1, Error ellipse: s-maj=2.7km s-min=1.9km az=57.0*
*ISK **23** 06:34:40.8, 39.76N×44.50E, h33km, MD3.7*
*NSSP **23** 06:34:41.7, 39.67N×44.20E, h7km, ML3.3*
*MOS **23** 06:34:42.4±1.1, 39.71N×44.34E, h33km, mb3.7/1, Error ellipse: s-maj=19.8km s-min=14.0km az=83.2*
*THR **23** 06:34:43.4±0.6, 39.45N×44.43E, h14km±5km, ML3.3*
ISC 23 06:34:40.2±0.3, 39.70N±0.03×44.35E±0.04, h10km, n51, σ1§33/64, mb3.3/3, MS3.1/2, 9D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRNZ	**Vardanashen**	**0.37**	**340**	⇓P	Pg	06 34 46.0	-1.7
MAKU	**Maku**	**0.43**	**144**	*e*PG	Pg	06 34 48.2	-0.8
MAKU				AML	AML	06 34 56.9	
	comp=E,7μm,0.3s						
GNI	**Garni**	**0.54**	**34**	*i*PG	Pg	06 34 50.9	-0.2
GNI	**Garni**	**0.54**	**34**	Pg	Pg	06 34 51.3	+0.3
	comp=E,220nm,0.3s,baz=241,slow=2.5,SNR=184						
GNI				Lg		06 35 01.9	
	comp=E,376nm,0.3s,baz=155,slow=23,SNR=24						
GNI	**Garni**	**0.54**	**34**	⇓P	Pg	06 34 51.3	+0.2
ARUZ	**Aruch**	**0.61**	**341**	⇓P	Pg	06 34 48.1	-4.5
AMBZ	**Amberd**	**0.69**	**354**	⇓P	Pb	06 34 50.1	-3.7
STE	**Stepanavan**	**1.29**	**2**	⇓P	Pb	06 35 03.0	-1.2
KARS	**Kars**	**1.32**	**314**	PN	Pn	06 35 03.8	-1.0
VANB	**Van**	**1.34**	**214**	PN	Pn	06 35 04.4	-0.6
TVAN	**Van**	**1.39**	**212**	*i*P	Pn	06 35 04.4	-1.3
TVAN				*i*S	Sb	06 35 28.4	+5.0
GRS	**Goris**	**1.54**	**96**	⇓P	Pn	06 35 06.0	-2.0
GRS				S	Sb	06 35 28.0	0.0
DGRG	**David-gareji**	**1.91**	**24**	P	Pn	06 35 15.3	+2.2
DGRG				S	Sn	06 35 42.6	+5.1
MTA	**Mtatsminda**	**2.02**	**9**	P	Pn	06 35 16.2	+1.5
MTA				S	Sn	06 35 43.7	+3.6
TBLG	**Delisi**	**2.05**	**8**	P	Pn	06 35 16.7	+1.6
TBLG				S	Sn	06 35 45.0	+4.1
TI2	**Plekhanov**	**2.05**	**8**	⇓*i*PN	Pn	06 35 15.4	+0.2
TI2				pmax	pmax		
	comp=Z,50nm,0.4s						
TI2				pmax	pmax		
	comp=Z,200nm,0.6s						
TI2				MLR	MLR		
	comp=N,2μm,5.0s						
TI2				MLR	MLR		
	comp=E,2μm,5.0s						
TI2				MLR	MLR		
	comp=Z,2μm,5.0s						
TI2	**Plekhanov**	**2.05**	**8**	⇓*i*P	Pn	06 35 15.4	+0.2
	comp=Z,50nm,0.4s						
TI2				*i*S	Sn	06 35 44.5	+3.5
HKR	**Hakkari**	**2.18**	**193**	PN	Pn	06 35 17.5	+0.5
ERZM	**Erzurum**	**2.31**	**276**	*i*P	Pn	06 35 21.2	+2.3
ERZM				*i*S	Sn	06 35 43.5	-4.1
EZM	**Erzurum**	**2.31**	**276**	*e*PN	Pn	06 35 19.8	+0.8
BTMT	**Batman**	**2.69**	**237**	*e*PN	Pn	06 35 27.1	+2.7
BCA	**Borcka**	**2.71**	**311**	*e*PN	Pn	06 35 24.2	-0.4
GRMI	**Germi**	**2.89**	**107**	*e*PN	Pn	06 35 29.5	+2.3
GRMI				*e*SG	Sg	06 36 09.9	-6.6
GRMI				AML	AML	06 36 18.0	
	comp=N,101nm,0.4s						
GRMI	**Germi**	**2.89**	**107**	*e*Pn	Pn	06 35 29.5	+2.3
	SNR=52						
GRMI				*e*Sg	Sg	06 36 09.9	-6.6
	comp=N,101nm,0.4s,SNR=90						
ONI	**Oni**	**2.95**	**347**	P	Pn	06 35 29.3	+1.2
BEST	**Besiri**	**3.01**	**234**	*i*P	Pn	06 35 27.8	-1.1
BEST				*i*S	Sn	06 36 10.4	+5.0
ZEI	**Tsey**	**3.08**	**354**	*e*PN	Pn	06 35

ANCH	**Antofagasta**	**2.77 284**	⇑*i*P	P	06 43 59.6	+1.5
ANCH			*i* S	S	06 44 35.0	+1.6
CRCH	**Chaqaral**	**3.43 235**	*i* S	S	06 44 49.2	+0.9

*JMA **23** 06:52:37.2±0.1, 35.66N×141.10E, h30km±1km, M3.2*
*NEIC **23** 06:52:40.8±3.2, 35.60N×140.98E, h48km±30km, Error ellipse: s-maj=35.3km s-min=20.8km az=97.0*
*IDC **23** 06:52:41.5±5.3, 35.60N×140.93E, h53km±49km, mb3.2/4, mb1 3.5/5, mb1mx3.2/23, mbtmp3.4/5, ML3.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.1/12, Error ellipse: s-maj=47.4km s-min=26.8km az=97.0*
ISC 23 06:52:36.4±1.3, 35.64N±0.05×141.2E±0.1, h27km±6km, n18, σ0§81/22, mb3.4/4, 2C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.25**	**285**	⇑P	**Pb**	**06 52 43.2**	**+0.3**
CHOJ				S	**Sb**	**06 52 47.1**	**-0.2**
JCN	**Nagara**	**0.81**	**255**	P	**Pb**	**06 52 52.3**	**+0.6**
BSO4	**Boso 4**	**0.93**	**226**	⇑P	**Pn**	**06 52 53.6**	**-0.1**
JYT	**Yasato**	**0.98**	**307**	P	**Pn**	**06 52 54.0**	**-0.4**
JYT				S	**Sb**	**06 53 05.4**	**-1.7**
BSO3	**Boso 3**	**0.99**	**212**	P	**Pn**	**06 52 54.1**	**-0.5**
BSO1	**Boso 1**	**0.99**	**188**	P	**Pn**	**06 52 54.2**	**-0.4**
BSO1				S	**Sb**	**06 53 08.0**	**+0.4**
JHO	**Hitachi**	**1.08**	**334**	⇓P	**Pn**	**06 52 55.8**	**-0.1**
JAG	**Ashikaga**	**1.59**	**300**	P	**Pn**	**06 53 03.2**	**+0.1**
JIM2	**Oshima 3**	**1.68**	**237**	P	**Pn**	**06 53 04.4**	**-0.1**
MJAR	**Matsushiro Arr**	**2.55**	**292**	P	**Pn**	**06 53 17.9**	**+1.0**
	3.5nm,0.3s,baz=90,slow=14,SNR=14						
MAJO	**Matsushiro**	**2.55**	**292**	*e*P	**Pn**	**06 53 18.5**	**+1.5**
MAT	**Matsushiro**	**2.55**	**292**	*e*P	**Pn**	**06 53 18.0**	**+1.1**
MAT				*e*S	**Sn**	**06 53 56.0**	**+8.6**
MAT	**Matsushiro**	**2.55**	**292**	P	**Pn**	**06 53 18.4**	**+1.5**
MAT				S	**Sn**	**06 53 47.2**	**-0.2**
ASAJ	**Asahikawa**	**8.54**	**7**	LR	LR	06 59 01.1	
	comp=Z,58nm,19.3s,baz=220,slow=44						
MKAR	**Makanchi Array**	**44.70**	**303**	P	**P**	**07 00 48.1**	**-0.6**
	0.4nm,0.7s,mb3.4,baz=88,slow=11,SNR=4.4						
ILAR	**Eielson Array**	**50.79**	**32**	P	**P**	**07 01 36.6**	**+0.8**
	0.3nm,0.9s,mb3.2,baz=299,slow=9.8,SNR=4.9						
WRA	**Warramunga Arr**	**55.65**	**188**	P	**P**	**07 02 10.7**	**-1.9**
	0.7nm,0.6s,mb3.9,baz=4.4,slow=7.4,SNR=5.5						
ASAR	**Alice Springs**	**59.38**	**188**	P	**P**	**07 02 38.9**	**0.0**
	0.2nm,0.6s,mb3.3,baz=12,slow=14,SNR=4.9						

*BJI **23** 07:08:44.8, 50.20N×129.70W, h10km, mB5.0, mb4.7, Ms4.1, Msz3.9*
*PGC **23** 07:08:45.0, 50.00N×130.06W, h10km, MLSn3.8/1, Mw4.7/7, Mw4.4, West of Vancouver Island, British Columbia*
*IDC **23** 07:08:48.3±1.2, 50.18N×129.64W, mb4.1/5, mb1 4.3/14, mb1mx4.0/30, mbtmp4.0/14, ML3.7/9, MS3.5/15, Ms1 3.5/15, ms1mx3.4/33, Error ellipse: s-maj=21.7km s-min=10.1km az=70.0*
*NEIC **23** 07:08:48.9±0.5, 50.24N×129.69W, h10km, mb4.3/17, MW4.7(PGC), Error ellipse: s-maj=7.9km s-min=3.7km az=55.0*
ISC 23 07:08:46.9±0.8, 50.21N±0.03×129.66W±0.05, h9km±7km, n146, σ1§17/170, mb4.4/12, MS3.5/7, 6C-2D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.07**	**66**	⇑Pn	**Pn**	**07 09 08.6**	**+0.7**
HOLB				Sn	**Sn**	**07 09 24.4**	**+1.5**
	comp=Z,327nm,0.4s						
HOLB				Trac		07 09 39.1	
	comp=Z,327nm,0.4s						
BPBC	**Brooks Peninsu**	**1.21**	**92**	⇑Pn	**Pn**	**07 09 09.2**	**-0.8**
BPBC				Sn	**Sn**	**07 09 25.7**	**-1.0**
	comp=Z,528nm,0.5s						
BPBC				Trac		07 09 36.9	
	comp=Z,528nm,0.5s						
PHC	**Port Hardy**	**1.51**	**70**	Pn	**Pn**	**07 09 14.8**	**+0.6**
PHC				Sn	**Sn**	**07 09 36.3**	**+2.2**
PHC				Trac		07 09 39.9	
	comp=Z,130nm,0.3s						
MAYB	**Maynard**	**1.60**	**82**	⇑Pn	**Pn**	**07 09 15.4**	**-0.2**
MAYB				Sn	**Sn**	**07 09 39.0**	**+2.4**
	comp=Z,89nm,0.4s						
MAYB				Trac		07 09 52.3	
	comp=Z,89nm,0.4s						
EDB	**Eliza Dome**	**1.67**	**101**	Pn	**Pn**	**07 09 14.8**	**-1.8**
EDB				Sn	**Sn**	**07 09 37.7**	**-0.6**
EDB				Trac		07 09 40.4	
	comp=Z,280nm,0.9s						
WOSB	**Woss**	**1.98**	**90**	⇑Pn	**Pn**	**07 09 21.0**	**-0.1**
WOSB				Sn	**Sn**	**07 09 45.3**	**-1.0**
	comp=Z,49nm,0.3s						
WOSB				Trac		07 09 49.5	
	comp=Z,49nm,0.3s						
BBB	**Bella Bella**	**2.20**	**26**	Pn	**Pn**	**07 09 24.9**	**+0.7**
	47nm,0.3s,baz=223,slow=12,SNR=366						
BBB				Sn	**Sn**	**07 09 52.4**	**+0.7**
	53nm,0.3s,baz=315,slow=21,SNR=10						
BBB				LR	LR	07 10 24.3	
	comp=Z,467nm,18.2s,baz=40,slow=43						
BBB	**Bella Bella**	**2.20**	**26**	⇓Pn	**Pn**	**07 09 24.8**	**+0.6**
BBB				Sn	**Sn**	**07 09 52.7**	**+1.0**
BBB				Trac		07 10 01.1	
	comp=Z,278nm,0.5s						
NCRB	**Newcastle Ridg**	**2.32**	**84**	⇑Pn	**Pn**	**07 09 26.4**	**+0.5**
NCRB				Sn	**Sn**	**07 09 55.8**	**+1.1**
	comp=Z,100nm,0.6s						
NCRB				Trac		07 10 08.3	
	comp=Z,100nm,0.6s						
GDR	**Gold River**	**2.38**	**99**	Pn	**Pn**	**07 09 24.7**	**-2.0**
GDR				Sn	**Sn**	**07 09 55.9**	**-0.4**
	comp=Z,79nm,0.7s						
GDR				Trac		07 10 09.7	
	comp=Z,79nm,0.7s						
CBB	**Campbell River**	**2.77**	**92**	⇑Pn	**Pn**	**07 09 32.1**	**-0.2**
CBB				Sn	**Sn**	**07 10 07.0**	**+0.9**
CBB				Trac		07 10 26.3	
	comp=Z,71nm,0.8s						
BTB	**Buttle Lake**	**2.78**	**104**	Pn	**Pn**	**07 09 31.1**	**-1.4**
BTB				Sn	**Sn**	**07 10 04.7**	**-1.8**
	comp=Z,66nm,0.4s						
BTB				Trac		07 10 10.3	
	comp=Z,66nm,0.4s						
OZB	**Mount Ozzard**	**2.99**	**113**	Pn	**Pn**	**07 09 34.4**	**-1.0**
OZB				Sn	**Sn**	**07 10 09.4**	**-2.3**
OZB				Trac		07 10 15.2	
	comp=Z,23nm,0.3s						
ALB	**Alberni**	**3.27**	**105**	Pn	**Pn**	**07 09 37.6**	**-1.8**
MOBC	**Moresby Island**	**3.30**	**336**	Pn	**Pn**	**07 09 37.2**	**-2.6**
BNAB	**Bonilla**	**3.34**	**350**	Pn	**Pn**	**07 09 37.8**	**-2.6**
BNAB				Sn	**Sn**	**07 10 18.6**	**-2.1**
	comp=Z,16nm,0.4s						
BNAB				Trac		07 10 22.0	
	comp=Z,16nm,0.4s						
TXB	**Texada**	**3.41**	**97**	Pn	**Pn**	**07 09 41.2**	**-0.2**
MGB	**Mount Grey**	**3.45**	**109**	Pn	**Pn**	**07 09 41.3**	**-0.7**
MGB				Trac		07 10 23.1	
	comp=Z,17nm,0.4s						
VIB	**Van Inlet**	**3.53**	**331**	Pn	**Pn**	**07 09 36.4**	**-6.8**
PFB	**Port Renfrew**	**3.78**	**114**	Pn	**Pn**	**07 09 45.9**	**-0.8**
PFB				Sn	**Sn**	**07 10 29.3**	**-2.6**
SHB	**Sechelt**	**3.79**	**97**	Pn	**Pn**	**07 09 46.3**	**-0.5**
SHB				Sn	**Sn**	**07 10 31.4**	**-0.6**
SHB				Trac		07 10 35.2	
	comp=Z,35nm,0.4s						
NLLB	**Nanaimo Lost L**	**3.81**	**103**	Pn	**Pn**	**07 09 47.1**	**0.0**
NLLB				Sn	**Sn**	**07 10 30.7**	**-1.8**
NLLB				Trac		07 10 35.9	
	comp=Z,20nm,0.6s						
LZB	**Mount Lazard**	**4.13**	**111**	Pn	**Pn**	**07 09 51.4**	**-0.3**
LZB				Sn	**Sn**	**07 10 36.7**	**-4.0**
LZB				Trac		07 10 49.9	
	comp=Z,5.1nm,0.7s						
RUBB	**Prince Rupert**	**4.14**	**355**	Pn	**Pn**	**07 09 49.8**	**-1.9**
RUBB				Sn	**Sn**	**07 10 35.4**	**-5.4**
RUBB				Trac		07 10 41.2	
	comp=Z,21nm,0.2s						
BIB	**Bowen Island**	**4.19**	**99**	Pn	**Pn**	**07 09 49.4**	**-3.1**
BIB				Trac		07 11 34.1	
	comp=Z,22nm,0.9s						
GOBB	**Galiano Island**	**4.20**	**105**	Pn	**Pn**	**07 09 51.8**	**-0.7**
GOBB				Sn	**Sn**	**07 10 30.6**	**-12**
	comp=Z,10.0nm,0.4s						
GOBB				Trac		07 10 53.0	
	comp=Z,10.0nm,0.4s						
WPB	**Watts Point**	**4.20**	**95**	Pn	**Pn**	**07 09 53.2**	**+0.6**
WPB				Trac		07 11 03.9	
	comp=Z,46nm,1.0s						
NDB	**Naden**	**4.26**	**333**	Pn	**Pn**	**07 09 49.8**	**-3.7**
OBC	**Olympics--Boni**	**4.26**	**119**	P	**Pn**	**07 09 53.6**	**+0.1**
WSLR	**Whistler**	**4.33**	**89**	Pn	**Pn**	**07 09 54.8**	**+0.3**
PGC	**Sidney**	**4.34**	**109**	*e*P	**Pn**	**07 09 54.0**	**-0.6**
PGC	**Sidney**	**4.34**	**109**	Pn	**Pn**	**07 09 54.2**	**-0.5**
PGC				Sn	**Sn**	**07 10 44.9**	**-1.1**
PGC				Trac		07 11 04.3	
	comp=Z,10.0nm,0.6s						
STW	**Striped Peak**	**4.44**	**115**	P	**Pn**	**07 09 56.9**	**+0.9**
SNB	**Saturna Island**	**4.47**	**106**	Pn	**Pn**	**07 09 56.8**	**+0.4**
VGZ	**Gonzales**	**4.52**	**111**	Pn	**Pn**	**07 09 55.9**	**-1.2**
VGZ				Trac		07 10 57.2	
	comp=Z,12nm,0.6s						
OSD	**Olympics--Snow**	**4.59**	**119**	P	**Pn**	**07 09 58.3**	**+0.1**
HNB	**Haney**	**4.69**	**99**	Pn	**Pn**	**07 09 59.9**	**+0.3**
HNB				Sn	**Sn**	**07 10 55.0**	**+0.3**
HNB				Trac		07 10 58.2	
	comp=Z,10.0nm,0.5s						
MCW	**Mount Constitu**	**4.71**	**106**	P	**Pn**	**07 09 59.9**	**+0.1**
SQM	**Sequim**	**4.84**	**114**	P	**Pn**	**07 10 03.3**	**+1.6**
BLN	**Blyn Mountain**	**4.92**	**114**	P	**Pn**	**07 10 02.3**	**-0.5**
LLLB	**Lilloоet**	**4.99**	**82**	Pn	**Pn**	**07 10 04.1**	**+0.3**
HDW	**Hoodsport**	**5.05**	**118**	P	**Pn**	**07 10 05.0**	**+0.3**
VDB	**Vedder Mountai**	**5.05**	**101**	P	**Pn**	**07 10 05.0**	**+0.3**
VDB	**Vedder Mountai**	**5.05**	**101**	Pn	**Pn**	**07 10 04.9**	**+0.2**
CMW	**Cultus Mountai**	**5.25**	**107**	P	**Pn**	**07 10 08.3**	**+0.8**
MBW	**Mount Baker**	**5.25**	**103**	P	**Pn**	**07 10 08.1**	**+0.5**
FSB	**Fort Saint Jam**	**5.38**	**35**	Pn	**Pn**	**07 10 10.3**	**+1.0**
FSB				Sn	**Sn**	**07 11 15.6**	**+3.5**
	comp=Z,33nm,0.9s						
FSB				Trac		07 11 43.2	
	comp=Z,33nm,0.9s						
HOPB	**Hope**	**5.40**	**96**	Pn	**Pn**	**07 10 08.8**	**-0.8**
HOPB				Sn	**Sn**	**07 11 13.8**	**+1.1**
HOPB				Trac		07 11 15.0	
	comp=Z,11nm,0.6s						
JCW	**Jim Creek**	**5.45**	**109**	P	**Pn**	**07 10 11.9**	**+1.5**
RPW	**Rockport**	**5.61**	**105**	P	**Pn**	**07 10 13.5**	**+0.9**
HTW	**Haystack Looko**	**5.72**	**112**	P	**Pn**	**07 10 14.3**	**+0.1**
PNT	**Penticton**	**6.57**	**94**	Pn	**Pn**	**07 10 26.2**	**+0.1**
TWW	**Teanaway**	**6.58**	**115**	⇓P	**Pn**	**07 10 27.2**	**+0.9**
ETW	**Entiat**	**6.68**	**109**	P	**Pn**	**07 10 28.3**	**+0.7**
TBM	**Table Mountain**	**6.73**	**113**	P	**Pn**	**07 10 28.7**	**+0.4**
EBG	**Ellensburg**	**6.88**	**115**	P	**Pn**	**07 10 30.5**	**+0.1**
EPH	**Ephrata**	**7.24**	**109**	P	**Pn**	**07 10 34.4**	**-1.1**
BMBC	**Bull Mountain**	**7.39**	**35**	Pn	**Pn**	**07 10 39.3**	**+1.7**
BMBC				Sn	**Sn**	**07 12 02.7**	**+0.3**
BMBC				Trac		07 12 11.2	
	comp=Z,11nm,0.5s						
MDW	**Midway**	**7.51**	**115**	P	**Pn**	**07 10 38.6**	**-0.7**
GBB	**Gable Butte**	**7.59**	**115**	P	**Pn**	**07 10 39.4**	**-1.0**
GBL	**Gable Mountain**	**7.69**	**114**	P	**Pn**	**07 10 40.6**	**-1.2**
HAWA	**Hanford**	**7.76**	**116**	*e*P	**Pn**	**07 10 41.9**	**-0.9**
OD2	**Odessa Site #2**	**7.76**	**107**	P	**Pn**	**07 10 41.7**	**-1.1**
DLBC	**Dease Lake**	**8.24**	**359**	Pn	**P**	**07 10 49.3**	**-0.2**
	0.6nm,0.3s,baz=177,slow=14,SNR=13						
DLBC				Lg		07 13 16.0	
	baz=272,slow=16,SNR=3.6						
DLBC				LR	LR	07 13 59.1	
	comp=Z,445nm,18.5s,baz=188,slow=38						
DLBC	**Dease Lake**	**8.24**	**359**	*e*P	**P**	**07 10 48.8**	**-0.8**
DLBC	**Dease Lake**	**8.24**	**359**	Pn	**P**	**07 10 49.0**	**-0.5**
DLBC				Trac		07 13 39.1	
	comp=Z,6.0nm,1.3s						
NEW	**Newport**	**8.43**	**99**	Pn	**P**	**07 10 51.0**	**-1.1**
	0.7nm,0.3s,baz=295,slow=13,SNR=11						
NEW				LR	LR	07 14 09.2	
	comp=Z,1μm,18.5s,baz=290,slow=38						
NEW	**Newport**	**8.43**	**99**	*e*P	**P**	**07 10 50.2**	**-1.9**
FNBB	**Fort Nelson**	**9.51**	**21**	Pn	**P**	**07 11 07.5**	**+0.6**
FNBB				Sn	**Sn**	**07 12 54.7**	**-0.3**
YBH	**Yreka Blue Hor**	**9.76**	**148**	Pn	**P**	**07 11 12.2**	**+1.7**
	0.1nm,0.3s,baz=336,slow=9.1,SNR=8.6						
YBH				LR	LR	07 14 25.3	
	comp=Z,308nm,19.6s,baz=330,slow=35						
YBH	**Yreka Blue Hor**	**9.76**	**148**	*e*P	**P**	**07 11 10.3**	**-0.1**
BMO	**Blue Mountains**	**9.92**	**118**	*e*P	**P**	**07 11 11.1**	**-1.6**
WALA	**Waterton Lakes**	**10.28**	**90**	*e*P	**P**	**07 11 17.2**	**-0.4**
WALA	**Waterton Lakes**	**10.28**	**90**	Pn	**P**	**07 11 17.1**	**-0.6**
MOD	**Modoc**	**10.54**	**138**	*e*P	**P**	**07 11 20.8**	**-0.4**
EDM	**Edmonton**	**10.56**	**67**	*e*P	**P**	**07 11 19.4**	**-1.9**
WHY	**Whitehorse**	**10.88**	**346**	Pn	**P**	**07 11 24.5**	**-1.2**
WVOR	**Wild Horse Val**	**10.88**	**131**	*e*P	**P**	**07 11 23.6**	**-2.2**
MSO	**Missoula**	**10.96**	**102**	*e*P	**P**	**07 11 25.0**	**-1.8**
CHMT	**Chamberlain Mo**	**11.36**	**101**	*e*P	**P**	**07 11 31.8**	**-0.6**
HLID	**Hailey**	**12.36**	**117**	*e*P	**P**	**07 11 44.9**	**-1.0**
MCMT	**McKenzie Canyo**	**12.57**	**109**	*e*P	**P**	**07 11 47.3**	**-1.3**
BOZ	**Bozeman (W)**	**12.92**	**104**	*e*P	**P**	**07 11 53.0**	**-0.3**
QLMT	**Earthquake Lak**	**13.43**	**107**	P	**P**	**07 12 00.6**	**+0.5**
YMR	**Madison River**	**13.80**	**107**	*e*P	**P**	**07 12 06.3**	**+1.5**
YFT	**Old Faithful**	**13.99**	**107**	*e*P	**P**	**07 12 07.9**	**+0.5**
GCMT	**Greycliff**	**14.09**	**101**	*e*P	**P**	**07 12 09.5**	**+0.8**
NVAR	**Mina Array Bea**	**14.29**	**141**	Pn	**P**	**07 12 12.6**	**+1.2**
	0.1nm,0.3s,baz=326,slow=11,SNR=6.1						
NVAR				LR	LR	07 17 28.5	
	comp=Z,172nm,18.0s,baz=175,slow=36						
RRI2	**Red Ridge**	**14.30**	**112**	*e*P	**P**	**07 12 13.1**	**+1.6**
	17nm,1.1s						
MOOW	**Moose Ponds**	**14.42**	**109**	*e*P	**P**	**07 12 14.3**	**+1.3**
	24nm,0.6s						
HVU	**Hansel Valley**	**14.43**	**119**	*e*P	**P**	**07 12 12.6**	**-0.5**
TPAW	**Teton Pass**	**14.44**	**111**	*e*P	**P**	**07 12 15.9**	**+2.6**
	45nm,1.0s						
WUWY	**Wally Ulrich**	**14.54**	**110**	*e*P	**P**	**07 12 16.0**	**+1.4**
REDW	**Red Top Meadow**	**14.57**	**111**	*e*P	**P**	**07 12 15.7**	**+0.7**
	20nm,0.9s						
SNOW	**Snow King Moun**	**14.57**	**110**	*e*P	**P**	**07 12 16.9**	**+1.8**
	44nm,1.1s						
LOHW	**Long Hollow**	**14.58**	**110**	*e*P	**P**	**07 12 16.9**	**+1.8**
	44nm,1.3s						
AHID	**Auburn Hatcher**	**14.77**	**113**	*e*P	**P**	**07 12 19.5**	**+1.9**
	48nm,1.3s						
YKA	**Yellowknife Ar**	**14.81**	**28**	Pn	**P**	**07 12 17.2**	**-0.8**
	0.1nm,0.3s,baz=223,slow=12,SNR=19						
YKA				LR	LR	07 18 45.0	
	comp=Z,61nm,19.6s,baz=160,slow=40						
DAWY	**Dawson**	**14.83**	**343**	Pn	**P**	**07 12 21.7**	**+3.4**
YKW3	**Yellowknife Ar**	**14.86**	**28**	Pn	**P**	**07 12 16.9**	**-1.8**
YKW3				Pn	**P**	**07 12 18.9**	**+0.2**
YKW3				Trac		07 17 15.8	
	comp=Z,21nm,1.8s						
BGU	**Big Grassy Mou**	**14.87**	**122**	*e*P	**P**	**07 12 19.9**	**+1.0**
SPUT	**South Promonto**	**14.92**	**120**	*e*P	**P**	**07 12 21.7**	**+2.1**
TPH	**Tonopah**	**15.04**	**139**	*e*P	**P**	**07 12 22.1**	**+0.9**
	9.4nm,1.0s						
HWUT	**Hardware Ranch**	**15.22**	**118**	*e*P	**P**	**07 12 25.4**	**+1.8**
	16nm,1.3s						
DUG	**Dugway**	**15.50**	**124**	*e*P	**P**	**07 12 27.4**	**+0.3**
	23nm,1.3s						
BW06	**Boulder Array**	**15.69**	**111**	*e*P	**P**	**07 12 31.0**	**+1.4**
	22nm,1.2s						
PDAR	**Pinedale Array**	**15.69**	**111**	Pn	**P**	**07 12 31.4**	**+1.9**
	0.1nm,0.3s,baz=308,slow=10.0,SNR=35						
PDAR				LR	LR	07 18 43.9	
	comp=Z,217nm,20.4s,baz=357,slow=38						
LAO	**LASA Array**	**15.93**	**94**	*e*P	**P**	**07 12 32.3**	**-0.3**
	16nm,0.9s						
JLU	**Jordanelle**	**15.96**	**120**	*e*P	**P**	**07 12 33.8**	**+0.7**
PWA	**Palmer West**	**16.02**	**323**	*e*P	**P**	**07 12 36.2**	**+2.4**
ARUT	**Antelope Range**	**17.00**	**131**	*e*P	**P**	**07 12 47.1**	**+0.9**
MSU	**Marysvale**	**17.07**	**127**	*e*P	**P**	**07 12 47.9**	**+0.7**
ILAR	**Eielson Array**	**17.18**	**335**	P	**P**	**07 12 50.2**	**+1.8**
	0.1nm,0.3s,baz=144,slow=9.5,SNR=14						
ILAR				LR	LR	07 19 05.2	
	comp=Z,60nm,18.4s,baz=176,slow=36						
FFC	**Flin Flon**	**17.40**	**64**	*e*P	**P**	**07 12 50.2**	**-1.0**
	18nm,0.8s						
SRU	**San Rafael**	**17.51**	**122**	*e*P	**P**	**07 12 53.5**	**+0.8**
RWWY	**Rawlins**	**17.73**	**110**	*e*P	**P**	**07 12 55.1**	**-0.3**
	15nm,1.1s						
NEN	**Nelson**	**18.10**	**138**	*e*P	**P**	**07 13 00.6**	**+0.5**
INK	**Inuvik**	**18.25**	**355**	P	**P**	**07 13 01.7**	**-0.1**
	0.0nm,0.3s,baz=163,slow=12,SNR=20						
INK				LR	LR	07 19 41.6	
	comp=Z,148nm,21.1s,baz=185,slow=36						
INK	**Inuvik**	**18.25**	**355**	P	**P**	**07 13 01.7**	**-0.1**
INK				LR	LR	07 19 41.6	
INK	**Inuvik**	**18.25**	**355**	Pn	**P**	**07 13 01.3**	**-0.4**
RSSD	**Black Hills**	**18.41**	**99**	*e*P	**P**	**07 13 04.0**	**+0.2**
	9.2nm,1.1s						
LDFC	**Landfair**	**18.48**	**139**	*e*P	**P**	**07 13 04.2**	**-0.6**
TTA	**Tatalina**	**19.13**	**322**	*e*P	**P**	**07 13 11.4**	**-1.0**
WUAZ	**Wupatki**	**19.80**	**131**	*e*P	**P**	**07 13 18.9**	**-1.5**
	5.5nm,0.9s						
IMA	**Indian Mountai**	**20.11**	**331**	*e*P	**P**	**07 13 21.9**	**-1.5**
SDCO	**Great Sand Dun**	**21.28**	**117**	*e*P	**P**	**07 13 34.8**	**-0.9**
	35nm,1.6s,mb4.4						
ULM	**Lac du Bonnet**	**21.51**	**77**	P	**P**	**07 13 39.0**	**+1.0**
	28nm,0.9s,mb4.7,baz=289,slow=11,SNR=15						
ULM				LR	LR	07 21 38.1	
	comp=Z,122nm,20.7s,MS3.3,baz=296,slow=36						
ULM	**Lac du Bonnet**	**21.51**	**77**	*e*P	**P**	**07 13 37.9**	**-0.1**
	54nm,1.0s,mb4.9						
ULM	**Lac du Bonnet**	**21.51**	**77**	Pn	**P**	**07 13 38.8**	**+0.8**
FCC	**Fort Churchill**	**22.13**	**54**	*e*P	**P**	**07 13 43.2**	**-0.9**
FCC	**Fort Churchill**	**22.13**	**54**	Pn	**P**	**07 13 46.8**	**+2.7**
ANMO	**Albuquerque**	**22.77**	**123**	P	**P**	**07 13 52.4**	**+1.9**
	5.7nm,1.0s,mb4.0,baz=322,slow=9.4,SNR=12						
ANMO				LR	LR	07 23 18.5	
	comp=Z,103nm,19.9s,MS3.3,baz=153,slow=38						
ANMO	**Albuquerque**	**22.77**	**123**	*e*P	**P**	**07 13 49.5**	**-1.0**
	12nm,1.3s,mb4.2						
CBKS	**Cedar Bluff**	**24.02**	**107**	*e*P	**P**	**07 14 03.5**	**+0.8**
	36nm,1.4s,mb4.6						
AMTX	**Amarillo**	**25.48**	**116**	*e*P	**P**	**07 14 16.4**	**-0.4**
	33nm,0.9s,mb4.9						
MNTX	**Cornudas Mount**	**25.85**	**127**	*e*P	**P**	**07 14 20.9**	**+0.7**
	29nm,1.8s,mb4.5						
WMOK	**Wichita Mounta**	**27.28**	**113**	*e*P	**P**	**07 14 32.4**	**-0.9**
	16nm,1.3s,mb4.4						
TXAR	**Lajitas Array**	**28.63**	**127**	P	**P**	**07 14 46.5**	**+1.0**
	1.0nm,0.7s,mb3.6,baz=324,slow=6.5,SNR=10						
TXAR				LR	LR	07 26 58.0	
	comp=Z,179nm,18.7s,MS3.7,baz=280,slow=38						
JCT	**Junction City**	**29.80**	**120**	*e*P	**P**	**07 14 54.9**	**-1.2**
	14nm,1.2s,mb4.6						
SCHQ	**Schefferville**	**37.36**	**58**	LR	LR	07 32 46.6	
	comp=Z,43nm,21.9s,MS3.2,baz=336,slow=38						
ARCES	**ARCESS Array B**	**59.18**	**10**	LR	LR	07 47 37.3	
	comp=Z,54nm,18.3s,MS3.7,baz=150,slow=39						
SJG	**San Juan**	**59.38**	**98**	LR	LR	07 47 09.9	
	comp=Z,56nm,20.8s,MS3.7,baz=305,slow=39						
FINES	**FINESS Array B**	**67.01**	**12**	P	**P**	**07 19 44.2**	**+2.6**
	1.4nm,0.7s,mb4.1,baz=34,slow=6.9,SNR=5.4						
FINES	**FINESS Array B**	**67.01**	**12**	P	**P**	**07 19 44.2**	**+2.6**
MKAR	**Makanchi Array**	**79.50**	**338**	P	**P**	**07 20 55.8**	**+0.9**
	0.6nm,0.8s,mb3.6,baz=27,slow=5.9,SNR=4.7						
WMQ	**Urumqi**	**80.85**	**334**	P	**P**	**07 21 02.8**	**+0.7**
WMQ				AP	pP	07 21 07.3	+2.3
WMQ				XP	sP	07 21 09.8	+3.8
WMQ				PP	PP	07 24 08.8	+0.2
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,63nm,4.4s						
WMQ				LR	LR		
	comp=N,41nm,20.5s,MS3.9						
WMQ				LR	LR		
	comp=E,31nm,21.4s,MS3.9						
WMQ				LR	LR		
	comp=Z,36nm,17.8s,MS3.8						

DJA 23 07:09:18.6±0.8, 9.75S×115.35E, h33km, MD4.7/4, ML4.0/4, 3C-6D, Error ellipse: s-maj=18.4km s-min=8.2km az=177.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.04**	**10**	⇓*i*Pn	Pn	07 09 35.4	-1.6
	852nm,0.2s						
RATI				⇓*i*Sn	Sn	07 09 46.9	-3.6
KEDI	**Kedomdong**	**1.47**	**31**	⇑*i*Pn	Pn	07 09 42.2	-0.9
	162nm,0.2s						
KEDI	**Kedomdong**	**1.47**	**31**	⇓*e*P	P	07 09 42.4	-0.6
KEDI				⇓*i*Sn	Sn	07 09 59.0	-2.3
SRDI	**Scrawed**	**1.74**	**317**	⇓*i*Pn	Pn	07 09 45.2	-1.9
	67nm,0.2s						
SRDI				⇓*i*Sn	Sn	07 10 03.9	-4.4
KELI	**Kelakatan**	**1.75**	**331**	⇑*i*Pn

ellipse: s-maj=24.0km s-min=4.9km az=197.0

ISC 23 07:48:51.9±0.8, 45.0S±0.1×158.82E±0.06, h10km, n44, σ1§55/67, mb3.9/3, Southeast of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**5.91**	**98**	PN	**Pn**	**07 50 20.8**	**-0.8**
DCZ				SN	**Sn**	**07 51 26.3**	**-3.8**
MSZ	**Milford Sound**	**6.48**	**90**	PN	**Pn**	**07 50 30.5**	**+0.7**
MSZ				SN	**Sn**	**07 51 43.5**	**-1.1**
MLZ	**Mavora Lakes**	**6.62**	**96**	*e*P	**Pn**	**07 50 31.3**	**-0.4**
MLZ				S	**Sn**	**07 51 46.1**	**-2.0**
MLZ	**Mavora Lakes**	**6.62**	**96**	PN	**Pn**	**07 50 31.3**	**-0.4**
MLZ				SN	**Sn**	**07 51 46.1**	**-2.0**
JCZ	**Jackson Bay**	**7.16**	**86**	*e*P	**Pn**	**07 50 41.2**	**+1.9**
JCZ				S	**Sn**	**07 51 59.3**	**-2.2**
JCZ	**Jackson Bay**	**7.16**	**86**	PN	**Pn**	**07 50 41.2**	**+1.9**
JCZ				SN	**Sn**	**07 51 59.3**	**-2.2**
WKZ	**Wanaka**	**7.24**	**92**	P	**Pn**	**07 50 42.6**	**+2.1**
WKZ				S	**Sn**	**07 52 04.9**	**+1.3**
WKZ	**Wanaka**	**7.24**	**92**	PN	**Pn**	**07 50 42.6**	**+2.2**
WKZ				SN	**Sn**	**07 52 04.9**	**+1.3**
EAZ	**Earnscleugh**	**7.42**	**96**	*e*P	**Pn**	**07 50 43.7**	**+0.7**
EAZ				S	**Sn**	**07 52 06.1**	**-2.1**
EAZ	**Earnscleugh**	**7.42**	**96**	PN	**Pn**	**07 50 43.7**	**+0.7**
EAZ				SN	**Sn**	**07 52 06.1**	**-2.0**
TUZ	**Tuapeka**	**7.66**	**101**	*e*P	**Pn**	**07 50 45.5**	**-0.8**
TUZ	**Tuapeka**	**7.66**	**101**	PN	**Pn**	**07 50 45.5**	**-0.9**
FOZ	**Fox Glacier**	**7.93**	**84**	*e*P	**Pn**	**07 50 53.1**	**+3.1**
FOZ				S	**Sn**	**07 52 20.8**	**+0.1**
FOZ	**Fox Glacier**	**7.93**	**84**	PN	**Pn**	**07 50 53.1**	**+3.1**
FOZ				SN	**Sn**	**07 52 20.8**	**+0.1**
LBZ	**Lake Benmore**	**8.12**	**90**	*e*P	**P**	**07 50 53.1**	**+0.4**
LBZ				S	**Sn**	**07 52 24.7**	**-0.8**
LBZ	**Lake Benmore**	**8.12**	**90**	PN	**P**	**07 50 53.1**	**+0.4**
LBZ				SN	**Sn**	**07 52 24.7**	**-0.8**
ODZ	**Otahua Downs**	**8.38**	**95**	P	**P**	**07 50 55.8**	**-0.5**
ODZ				S	**Sn**	**07 52 28.2**	**-3.8**
ODZ	**Otahua Downs**	**8.38**	**95**	PN	**P**	**07 50 55.8**	**-0.5**
ODZ				SN	**Sn**	**07 52 28.2**	**-3.8**
WVZ	**Waitaha Valley**	**8.79**	**82**	*e*P	**P**	**07 51 03.3**	**+1.2**
WVZ				S	**Sn**	**07 52 40.6**	**-1.7**
RPZ	**Rata Peaks**	**8.86**	**86**	Pn	**P**	**07 51 04.4**	**+1.5**
	5.7nm,0.3s,baz=279,slow=14,SNR=24						
RPZ				Sn	**Sn**	**07 52 42.8**	**-1.0**
	5.5nm,0.3s,baz=17,slow=17,SNR=7.6						
RPZ	**Rata Peaks**	**8.86**	**86**	*e*P	**P**	**07 51 03.9**	**+0.9**
RPZ	**Rata Peaks**	**8.86**	**86**	PN	**P**	**07 51 03.9**	**+0.9**
LTZ	**Lake Taylor**	**9.96**	**82**	*e*P	**P**	**07 51 22.4**	**+4.3**
LTZ	**Lake Taylor**	**9.96**	**82**	PN	**P**	**07 51 22.4**	**+4.4**
DSZ	**Denniston Nort**	**9.99**	**76**	*e*P	**P**	**07 51 20.2**	**+1.7**
DSZ	**Denniston Nort**	**9.99**	**76**	PN	**P**	**07 51 20.2**	**+1.6**
THZ	**Tophouse**	**10.74**	**78**	*e*P	**P**	**07 51 31.2**	**+2.3**
THZ				*e*S	**S**	**07 53 30.9**	**+0.7**
THZ	**Tophouse**	**10.74**	**78**	PN	**P**	**07 51 31.2**	**+2.3**
THZ				SN	**S**	**07 53 30.9**	**+0.7**
QRZ	**Quartz Range**	**10.88**	**72**	*e*P	**P**	**07 51 33.2**	**+2.5**
QRZ				S	**S**	**07 53 31.9**	**-1.6**
QRZ	**Quartz Range**	**10.88**	**72**	PN	**P**	**07 51 33.2**	**+2.5**
QRZ				SN	**S**	**07 53 31.9**	**-1.5**
KHZ	**Kahutara**	**10.96**	**82**	*e*P	**P**	**07 51 34.7**	**+2.9**
KHZ	**Kahutara**	**10.96**	**82**	PN	**P**	**07 51 34.7**	**+2.9**
NNZ	**Nelson**	**11.29**	**76**	*e*P	**P**	**07 51 38.9**	**+2.6**
NNZ	**Nelson**	**11.29**	**76**	PN	**P**	**07 51 38.9**	**+2.6**
TUWZ	**Tuamarina**	**11.59**	**77**	PN	**P**	**07 51 44.1**	**+3.7**
CNB	**Canberra Magne**	**12.06**	**320**	*e*P	**P**	**07 51 45.5**	**-1.2**
	134nm,0.2s						
CNB				*e*S	**S**	**07 53 54.3**	**-8.0**
TOO	**Toolangi**	**12.45**	**302**	*e*P	**P**	**07 51 47.1**	**-5.0**
	108nm,0.4s						
TOO				*e*S	**S**	**07 54 02.0**	**-10**
RIV	**Riverview**	**12.61**	**329**	*e*P	**P**	**07 51 55.1**	**+1.0**
STKA	**Stephens Creek**	**18.75**	**308**	*e*P	**P**	**07 53 14.3**	**+1.3**
	1.9nm,0.8s						
STKA	**Stephens Creek**	**18.75**	**308**	P	**P**	**07 53 12.6**	**-0.4**
	0.3nm,0.3s,baz=137,slow=14,SNR=6.4						
ASAR	**Alice Springs**	**29.38**	**308**	P	**P**	**07 54 55.5**	**-1.8**
	0.8nm,0.8s,mb3.5,baz=143,slow=8.2,SNR=7.7						
WRA	**Warramunga Arr**	**32.17**	**313**	P	**P**	**07 55 19.9**	**-2.0**
	1.1nm,0.8s,mb3.7,baz=148,slow=8.5,SNR=5.1						
WRAB	**Tennant Creek**	**32.17**	**313**	*e*P	**P**	**07 55 20.0**	**-2.0**
	7.3nm,1.0s,mb4.5						
FINES	**FINESS Array B**	**148.13**	**318**	PKPbc	PKPdf	08 08 36.1	-0.4
	0.9nm,0.7s,baz=90,slow=3.8,SNR=4.6						

*GUC **23** 08:45:11.8±0.8, 22.81S×70.19W, h108km±6km, ML3.9*
*IDC **23** 08:45:15.2±4.9, 22.59S×70.30W, h66km±37km, mb3.3/1, mb1 3.7/3, mb1mx3.4/16, mbtmp3.7/3, ML3.7/1, MS3.0/3, Ms1 3.0/3, ms1mx2.8/8, Error ellipse: s-maj=59.2km s-min=31.1km az=46.0*

ISC 23 08:45:12.0±1.1, 22.78S±0.09×70.3W±0.1, h107km±14km, n11, σ0§62/13, mb3.5/1, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**0.91**	**189**	*e*P	**P**	**08 45 31.6**	**-0.7**
ANCH				*i* S	**S**	**08 45 47.1**	**-0.5**
LVC	**Limon Verde**	**1.26**	**83**	P	**P**	**08 45 36.5**	**+0.4**
	276nm,0.3s,baz=266,slow=10,SNR=1513						
LVC				S	**S**	**08 45 54.2**	**-0.2**
	371nm,0.3s,baz=45,slow=18,SNR=36						
LVC	**Limon Verde**	**1.26**	**83**	*e*P	**P**	**08 45 36.3**	**+0.1**
LVC				*i* S	**S**	**08 45 54.1**	**-0.2**
LVC				AMP		08 45 57.4	
	comp=E,2μm,0.4s						
CPN1	**Cerro Paranal**	**1.85**	**184**	*e*P	**P**	**08 45 44.0**	**+0.7**
CPN1				*i* S	**S**	**08 46 08.2**	**+1.4**
CPN1				AMP		08 46 16.8	
	comp=E,1μm,0.3s						
CRCH	**Chaqaral**	**3.57**	**185**	*e*P	**P**	**08 46 06.0**	**-0.6**
CRCH				*i* S	**S**	**08 46 47.7**	**-0.4**
CRCH				AMP		08 47 17.4	
	comp=E,322nm,0.2s						
LPAZ	**La Paz**	**6.76**	**18**	P	**P**	**08 46 50.5**	**+0.4**
	comp=E,0.8nm,0.3s,baz=203,slow=6.8,SNR=28						
LPAZ				LR	LR	08 49 39.6	
	comp=E,70nm,20.9s,baz=135,slow=40						
SIV	**San Ignacio**	**10.98**	**54**	P	**P**	**08 47 46.9**	**-0.2**
	comp=E,1.0nm,0.3s,baz=244,slow=13,SNR=25						
PLCA	**Paso Flores**	**17.91**	**181**	LR	LR	08 56 02.8	
	comp=E,75nm,18.6s,baz=1.3,slow=36						
BDFB	**Brasilia**	**22.16**	**75**	LR	LR	09 00 04.3	
	comp=E,50nm,20.5s,baz=125,slow=40						
YKA	**Yellowknife Ar**	**91.97**	**341**	P	**P**	**08 58 15.6**	**+6.3**
	comp=E,0.2nm,0.7s,mb3.5,baz=136,slow=4.1,SNR=8.8						
MKAR	**Makanchi Array**	**147.40**	**36**	PKPbc	PKPdf	09 04 50.1	+10
	comp=E,0.8nm,0.7s,baz=315,slow=1.7,SNR=6.5						

*OMAN **23** 08:47:32.3, 33.50N×56.78E, h30km, Error ellipse: s-maj=120.4km s-min=23.4km az=7.0*
*IDC **23** 08:48:47.6±0.7, 27.66N×56.82E, mb4.3/19, mb1 4.4/21, mb1mx4.3/26, mbtmp4.3/21, ML4.3/2, MS3.5/3, Ms1 3.5/3, ms1mx3.0/27, Error ellipse: s-maj=17.5km s-min=16.5km az=157.0*
*TEH **23** 08:48:48.7, 27.35N×57.09E, h16km, Mn4.0*
*MOS **23** 08:48:50.6±1.0, 27.68N×56.82E, h33km, mb4.7/27, Error ellipse: s-maj=10.6km s-min=5.1km az=127.0*
*BJI **23** 08:48:50.5, 27.60N×56.70E, h55km, mB5.3, mb5.0, Ms4.5, Msz4.1*
*CSEM **23** 08:48:51.4±0.1, 27.54N×56.88E, h60km, mb4.6/8, Error ellipse: s-maj=5.6km s-min=2.0km az=69.0*
*NEIC **23** 08:48:54.5±0.8, 27.63N×56.74E, h55km±5km, mb4.5/26, Error ellipse: s-maj=8.2km s-min=6.2km az=162.0*
*THR **23** 08:48:54.5±0.6, 27.84N×56.43E, h15km±6km, ML4.2*

ISC 23 08:48:51.6±0.4, 27.59N±0.03×56.79E±0.04, h45km±4km, h61km±4.8km: pP-P, n190, σ1§21/200, mb4.4/52, MS3.8/5, 17C-12D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.58**	**251**	*e*Pg	**P**	**08 49 04.7**	**+1.1**
BNDS	**Bandar-Abbas**	**0.58**	**251**	*e*PG	**P**	**08 49 04.4**	**+0.8**
BANOM	**Banah**	**1.72**	**195**	⇑P	**P**	**08 49 20.8**	**+1.2**
	SNR=1261						
KRBR	**Kerman**	**2.38**	**359**	*e*Pg	**P**	**08 49 32.4**	**+3.4**
KRBR				*e*Sg	**S**	**08 50 02.9**	**+5.6**
KRBR	**Kerman**	**2.38**	**359**	*e*PN	**P**	**08 49 32.3**	**+3.3**
KRBR				*e*SG	**S**	**08 50 02.6**	**+5.4**
KRBR				AML	AML	08 50 11.4	
	comp=N,2μm,0.6s						
KRBR	**Kerman**	**2.38**	**359**	*e*Pn	**P**	**08 49 32.3**	**+3.2**
	SNR=52						
KRBR				*e*Sg	**S**	**08 50 02.6**	**+5.4**
	comp=N,2μm,0.6s,SNR=90						
ASHO	**Ashiyiah**	**2.97**	**193**	⇓P	**P**	**08 49 38.4**	**+1.0**
	SNR=13						
GHIR	**Ghir-Karzin**	**3.44**	**283**	*e*Pn	**P**	**08 49 45.5**	**+1.5**
GHIR	**Ghir-Karzin**	**3.44**	**283**	*e*PN	**P**	**08 49 45.0**	**+0.9**
GHIR				AML	AML	08 51 09.0	
	comp=N,647nm,0.7s						
IMOK	**Mook**	**3.88**	**293**	Pn	**P**	**08 49 51.7**	**+1.5**
IPAR	**Pars**	**3.98**	**305**	Pn	**P**	**08 49 53.7**	**+2.0**
HOQ	**Hoqain**	**4.02**	**173**	⇑P	**P**	**08 49 51.2**	**-1.0**
	SNR=26						
IBAF	**Bafgh**	**4.13**	**345**	Pn	**P**	**08 49 54.4**	**+0.6**
BIDO	**Bidbid**	**4.23**	**163**	⇓P	**P**	**08 49 53.8**	**-1.4**
	SNR=58						
IMEH	**Mehriz**	**4.24**	**334**	Pn	**P**	**08 49 56.5**	**+1.2**
ARQ	**Araqi**	**4.24**	**183**	⇑P	**P**	**08 49 56.3**	**+0.9**
	SNR=42						
SHI	**Shiraz**	**4.28**	**300**	Pn	**P**	**08 49 56.7**	**+0.7**
SMDO	**Samad**	**4.65**	**166**	⇓P	**P**	**08 50 00.5**	**-0.7**
	SNR=196						
BSY	**Bisya**	**4.84**	**176**	⇑P	**P**	**08 50 04.4**	**+0.6**
	SNR=115						
BSYO	**Bisya**	**4.85**	**175**	P	**P**	**08 50 04.4**	**+0.4**
	SNR=115						
ICHK	**Chekchek**	**5.08**	**337**	Pn	**P**	**08 50 07.9**	**+0.7**
JMDO	**Jabal Madar**	**5.33**	**167**	⇓P	**P**	**08 50 10.7**	**0.0**
	SNR=110						
WBK	**Wadi Bani Khal**	**5.34**	**158**	⇑P	**P**	**08 50 09.4**	**-1.3**
	SNR=44						
NASN	**Na'in**	**6.23**	**327**	*e*Pn	**P**	**08 50 23.4**	**+0.1**
NASN	**Na'in**	**6.23**	**327**	*e*PN	**P**	**08 50 23.3**	**0.0**
QAM	**Qamsar**	**7.62**	**327**	Pn	**P**	**08 50 44.0**	**+1.4**
IVRN	**Varamin**	**8.56**	**331**	Pn	**P**	**08 50 56.3**	**+0.6**
IVRN				Sn	**S**	**08 52 29.3**	**-2.7**
IQOM	**Qom**	**8.73**	**327**	Pn	**P**	**08 50 57.7**	**-0.4**
IFIR	**Firoozkooh**	**8.73**	**338**	Pn	**P**	**08 50 57.4**	**-0.7**
IFIR				Sn	**S**	**08 52 33.1**	**-3.2**
IDMV	**Damavand**	**8.94**	**334**	Pn	**P**	**08 51 00.3**	**-0.6**
ASAO	**Ashtian**	**9.04**	**322**	*e*PN	**P**	**08 51 01.4**	**-0.9**
SHAO	**Shalim**	**9.58**	**187**	⇓P	**P**	**08 51 07.5**	**-2.4**
	SNR=29						
THR	**Tehran**	**9.59**	**331**	*e*PN	**P**	**08 51 09.0**	**-0.9**
IRAZ	**Razeghan**	**9.74**	**325**	Pn	**P**	**08 51 11.4**	**-0.6**
IRAZ				Sn	**S**	**08 52 57.6**	**-3.6**
WHFO	**Wadi Hawf**	**10.02**	**197**	⇓P	**P**	**08 51 12.6**	**-3.2**
RBK	**Rabkut**	**10.32**	**194**	⇑P	**P**	**08 51 17.3**	**-2.7**
	SNR=16						
IKOM	**Komasi**	**10.32**	**312**	Pn	**P**	**08 51 18.0**	**-2.0**
ABTO	**Aybut**	**10.69**	**198**	⇑P	**P**	**08 51 22.0**	**-3.0**
	SNR=23						
IGHG	**Ghaleghazi**	**11.05**	**310**	Pn	**P**	**08 51 27.5**	**-2.3**
ILIN	**Laeen**	**11.14**	**313**	Pn	**P**	**08 51 28.8**	**-2.2**
IDHR	**Dehrash**	**11.38**	**311**	Pn	**P**	**08 51 32.0**	**-2.3**
GNI	**Garni**	**16.01**	**325**	P	**P**	**08 52 35.0**	**-0.1**
GNI				pmax	pmax		
	comp=Z,43nm,1.0s						
GNI	**Garni**	**16.01**	**325**	Pn	**P**	**08 52 39.5**	**+4.4**
	comp=Z,2.1nm,0.3s,baz=115,slow=3.9,SNR=10						
GNI				LR	LR	08 59 31.0	
	comp=Z,231nm,18.6s,baz=169,slow=40						
GNI	**Garni**	**16.01**	**325**	Pn	**P**	**08 52 35.0**	**-0.1**
	comp=Z,43nm,1.0s						
GNI				*e*		08 52 39.6	
BEST	**Besiri**	**16.59**	**312**	*i* P	**P**	**08 52 41.5**	**-0.9**
ASF	**Jabal al Asfar**	**17.84**	**290**	P	**P**	**08 52 55.5**	**-2.7**
	comp=Z,2.1nm,0.3s,baz=338,slow=7.9,SNR=9.5						
ASF				S	**S**	**08 56 03.6**	**-9.2**
	comp=Z,0.4nm,0.3s,baz=348,slow=19,SNR=2.8						
ZEI	**Tsey**	**18.42**	**329**	*e*P	**P**	**08 53 07.6**	**+2.4**
ELZG	**Elazig**	**18.44**	**311**	*i* P	**P**	**08 53 06.5**	**+1.0**
MALT	**Malatya**	**18.73**	**309**	*e*P	**P**	**08 53 09.3**	**+0.4**
MALT				pmax	pmax		
	comp=Z,13nm,0.9s						
MALT	**Malatya**	**18.73**	**309**	*e*P	**P**	**08 53 09.3**	**+0.3**
	comp=Z,13nm,0.9s						
GZT	**Gaziantep**	**18.89**	**306**	*i* P	**P**	**08 53 11.3**	**+0.5**
EIL	**Elat**	**19.28**	**281**	P	**P**	**08 53 15.1**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=160,slow=5.5,SNR=5.3						
EIL	**Elat**	**19.28**	**281**	*e*P	**P**	**08 53 14.8**	**-0.5**
	comp=Z,7.6nm,0.6s						
COBT	**Iskenderun**	**19.52**	**302**	*i* P	**P**	**08 53 18.7**	**+0.8**
AML	**Almayashu**	**20.02**	**39**	P	**P**	**08 53 22.8**	**-0.4**
	SNR=20						
EKS2	**Erkin-Say**	**20.41**	**38**	P	**P**	**08 53 27.8**	**+0.4**
	SNR=14						
AAK	**Ala-Archa**	**20.79**	**39**	P	**P**	**08 53 31.9**	**+0.6**
	SNR=5.7						
AAK	**Ala-Archa**	**20.79**	**39**	*e*P	**P**	**08 53 30.2**	**-1.1**
AAK				pmax	pmax		
	comp=Z,12nm,0.9s						
AAK	**Ala-Archa**	**20.79**	**39**	*e*P	**P**	**08 53 30.2**	**-1.0**
	comp=Z,12nm,0.9s						
KZA	**Kyzart**	**20.88**	**41**	P	**P**	**08 53 33.5**	**+1.4**
	SNR=11						
FRU	**Bishkek**	**20.99**	**39**	*e*P	**P**	**08 53 37.0**	**+3.7**
MEST	**Erdemli**	**21.14**	**301**	*i* P	**P**	**08 53 36.5**	**+1.6**
CSS	**Prodhromos**	**21.33**	**296**	*e*P	**P**	**08 53 37.5**	**+0.8**
	comp=Z,18nm,0.8s,mb4.5						
AVNT	**Avonos**	**21.43**	**307**	*i* P	**P**	**08 53 39.0**	**+1.3**
ULHL	**Ulahol**	**21.56**	**42**	P	**P**	**08 53 45.2**	**+6.2**
	SNR=7.5						
CDAG	**Cicekdag**	**22.13**	**309**	*i* P	**P**	**08 53 48.2**	**+3.5**
CTKT	**Corum**	**22.31**	**311**	*i* P	**P**	**08 53 48.1**	**+1.7**
BOYT	**Boyabat**	**22.63**	**313**	*i* P	**P**	**08 53 51.1**	**+1.5**
BRTR	**Keskin Array B**	**22.69**	**308**	P	**P**	**08 53 51.5**	**+1.4**
	comp=Z,13nm,0.8s,mb4.4,baz=129,slow=13,SNR=23						
ANN	**Anapa**	**23.12**	**323**	*e*P	**P**	**08 53 56.3**	**+1.9**
ANN				*e*PP		08 54 26.2	
ANN				pmax	pmax		
	comp=Z,73nm,1.7s,mb4.8						
ELDT	**Eldivan**	**23.17**	**310**	*i* P	**P**	**08 53 58.2**	**+3.3**
KOLN	**Koldanda**	**23.73**	**83**	*e*P	**P**	**08 54 08.6**	**+8.2**
	comp=Z,16nm,0.9s,mb4.5						
SGKT	**Sivrigoynuk**	**24.14**	**309**	*i* P	**P**	**08 54 06.3**	**+2.0**
ISP	**Isparta**	**24.29**	**302**	*e*P	**P**	**08 54 12.3**	**+6.5**
ESKT	**Eskisehir**	**24.59**	**306**	*i* P	**P**	**08 54 11.0**	**+2.3**
DMN	**Daman**	**25.07**	**83**	*e*P	**P**	**08 54 17.4**	**+3.9**
	comp=Z,9.7nm,0.3s,mb4.8						
KKN	**Kakani**	**25.20**	**83**	*e*P	**P**	**08 54 16.0**	**+1.3**
	comp=Z,23nm,0.6s,mb4.9						
PKI	**Pulchoki**	**25.34**	**83**	*e*P	**P**	**08 54 19.5**	**+3.5**
GUN	**Gumba**	**25.72**	**82**	*e*P	**P**	**08 54 19.2**	**-0.3**
ULDT	**Uludag**	**26.04**	**306**	*i* P	**P**	**08 54 22.9**	**+0.4**
BVAR	**Borovoye Array**	**27.35**	**18**	P	**P**	**08 54 34.3**	**+0.1**
	comp=Z,12nm,0.7s,mb4.6,baz=198,slow=9.1,SNR=94						
MKAR	**Makanchi Array**	**27.73**	**39**	*i* P	**P**	**08 54 37.8**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**27.73**	**39**	P	**P**	**08 54 37.6**	**-0.2**
	comp=Z,1.7nm,0.7s,mb3.8,baz=224,slow=8.4,SNR=20						
ARU	**Arti**	**28.85**	**2**	⇑*i*P	**P**	**08 54 43.4**	**-4.3**
ARU				*e*SS	SS	09 01 19.4	+16
ARU				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.9						
WMQ	**Urumqi**	**29.64**	**49**	*e*P	**P**	**08 54 51.0**	**-3.9**
AKASG	**Malin Array Be**	**31.14**	**325**	*i* P	**P**	**08 55 08.1**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	**Malin Array Be**	**31.14**	**325**	P	**P**	**08 55 07.5**	**-0.7**
	comp=Z,4.1nm,0.5s,mb4.5,baz=128,slow=7.7,SNR=35						
AKASG	**Malin Array Be**	**31.14**	**325**	P	**P**	**08 55 07.5**	**-0.7**
OBN	**Obninsk**	**31.18**	**337**	⇑*i*P	**P**	**08 55 07.9**	**-0.5**
OBN				*e*	pP	08 55 18.0	-2.4
OBN				*e*S	**S**	**09 00 11.6**	**+1.6**
OBN				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.9						
NVS	**Novosibirsk**	**33.33**	**28**	*i* P	**P**	**08 55 27.5**	**+0.3**
NVS				pmax	pmax		
	comp=N,12nm,1.3s						
NVS				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
NVS				pmax	pmax		
	comp=E,3.0nm,0.8s						
ZAL	**Zalesovo**	**33.40**	**30**	*i* P	**P**	**08 55 27.8**	**0.0**
ZAL				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ZAL	**Zalesovo**	**33.40**	**30**	P	**P**	**08 55 27.1**	**-0.7**
	comp=Z,6.7nm,0.5s,mb4.9,baz=230,slow=6.7,SNR=25						
ZAL				LR	LR	09 10 35.4	
	comp=Z,52nm,18.4s,MS3.3,baz=76,slow=39						
KMBO	**Kilima Mbogo**	**34.18**	**217**	*e*P	**P**	**08 55 37.5**	**+2.6**
KMBO				*e*	pP	08 55 53.2	+6.2
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KMBO	**Kilima Mbogo**	**34.18**	**217**	P	**P**	**08 55 37.4**	**+2.5**
	comp=Z,1.1nm,0.5s,mb4.1,baz=22,slow=11,SNR=4.1						
KMBO	**Kilima Mbogo**	**34.18**	**217**	*e*P	**P**	**08 55 37.5**	**+2.6**
	comp=Z,4.3nm,0.8s,mb4.4						
KMBO				*e*	pP	08 55 53.2	+6.3
TIP	**Timpagrande**	**35.11**	**300**	*e*P	**P**	**08 55 43.3**	**+0.7**
TIP				*e*	pP	08 55 59.1	+4.4
OJC	**Ojcow**	**36.06**	**319**	*e*P	**P**	**08 55 50.9**	**+0.4**
BOJS	**Bojanci**	**37.37**	**310**	*e*P	**P**	**08 56 02.5**	**+0.9**
GTA	**Gaotai**	**37.44**	**60**	*e*P	**P**	**08 56 04.4**	**+2.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.4						
LEGS	**Legarje**	**37.44**	**311**	*e*P	**P**	**08 56 02.9**	**+0.7**
DPC	**Dobruska-Polom**	**38.16**	**318**	*e*P	**P**	**08 56 09.0**	**+0.9**
UPC	**Upice**	**38.40**	**318**	*e*P	**P**	**08 56 10.8**	**+0.7**
MOA	**Molln**	**38.64**	**313**	⇓*i*P	**P**	**08 56 12.1**	**-0.1**
	comp=Z,7.5nm,0.9s,mb4.4						
KBA	**Koelnbreinsper**	**39.04**	**312**	⇑*i*P	**P**	**08 56 16.4**	**+0.9**
	comp=Z,6.4nm,0.8s,mb4.4						
KBA	**Koelnbreinsper**	**39.04**	**312**	⇑*i*P	**P**	**08 56 16.4**	**+0.9**
KBA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
JOF	**Joensuu**	**39.08**	**342**	*e*p	**P**	**08 56 13.6**	**-2.0**
	comp=Z,1.7nm,0.4s,mb4.1						
GERES	**GERESS Array B**	**39.28**	**315**	P	**P**	**08 56 17.5**	**0.0**
	comp=Z,1.4nm,0.5s,mb3.9,baz=117,slow=9.0,SNR=9.6						
GERES				LR	LR	09 14 20.3	
	comp=Z,53nm,19.8s,MS3.4,baz=71,slow=39						
KHC	**Kasperske Hory**	**39.44**	**315**	*e*P	**P**	**08 56 19.1**	**+0.3**
KHC				*e*	pP	08 56 27.5	-3.6
KHC	**Kasperske Hory**	**39.44**	**315**	*d i*P	**P**	**08 56 19.4**	**+0.6**
KHC	**Kasperske Hory**	**39.44**	**315**	*e*P	**P**	**08 56 19.1**	**+0.3**
KHC				x	x	08 56 27.5	
FINES	**FINESS Array B**	**39.59**	**337**	P	**P**	**08 56 19.8**	**-0.1**
	comp=Z,3.2nm,0.6s,mb4.2,baz=137,slow=9.2,SNR=23						
FINES	**FINESS Array B**	**39.59**	**337**	P	**P**	**08 56 19.8**	**-0.1**
BRG	**Berggiesshubel**	**39.76**	**318**	P	**P**	**08 56 22.5**	**+1.0**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
BRG	**Berggiesshubel**	**39.76**	**318**	P	**P**	**08 56 22.5**	**+1.0**
	comp=Z,3.4nm,0.8s,mb4.1						
KAF	**Kangasniemi**	**39.98**	**338**	*e*p	**P**	**08 56 20.5**	**-2.7**
	comp=Z,1.7nm,0.8s,mb3.8						
KAF	**Kangasniemi**	**39.98**	**338**	*e*P	**P**	**08 56 20.5**	**-2.7**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
WTTA	**Wattenberg**	**40.22**	**312**	⇑*i*P	**P**	**08 56 25.8**	**+0.5**
	comp=Z,11nm,0.9s,mb4.6						
WTTA	**Wattenberg**	**40.22**	**312**	⇑*i*P	**P**	**08 56 25.8**	**+0.5**
WTTA				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.6						
CLL	**Collm**	**40.47**	**318**	⇓*i*P	**P**	**08 56 28.4**	**+1.1**
CLL				*i*	pP	08 56 45.6	+6.1
CLL				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.4						
CLL	**Collm**	**40.47**	**318**	⇓*i*P	**P**	**08 56 28.4**	**+1.1**
	comp=Z,13nm,1.5s,mb4.4						
CLL				*i*	pP	08 56 45.6	+6.1
CLL	**Collm**	**40.47**	**318**	⇓P	**P**	**08 56 28.4**	**+1.1**
	comp=Z,logA/T=0.9,mb4.4						
CLL				*i* *PP	pP	08 56 45.6	+6.1
SQTA	**Sankt Quirin**	**40.49**	**311**	⇑*i*P	**P**	**08 56 27.6**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.2						
SQTA	**Sankt Quirin**	**40.49**	**311**	⇑*i*P	**P**	**08 56 27.6**	**+0.1**
SQTA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2	

NJ2 AP pP 08 58 21.1 -0.5
NJ2 XP sP 08 58 27.8 +1.0
NJ2 PP PP 09 00 09.0 -2.1
NJ2 S **S** **09 05 31.0 -5.2**
NJ2 XS 09 05 59.0
NJ2 AMB AMB
comp=Z,530nm,5.4s
NJ2 LR LR
comp=N,700nm,10.0s,MS5.0
NJ2 LR LR
comp=E,310nm,10.0s,MS5.0
NJ2 LR LR
comp=Z,640nm,12.1s,MS4.9
SSE Sheshan 55.54 70 *e*P **P** **08 58 23.4 -1.3**
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,91nm,4.2s
SSE LR LR
comp=N,7.0nm,24.4s,MS3.6
SSE LR LR
comp=E,56nm,24.5s,MS3.6
SSE LR LR
comp=Z,40nm,28.3s,MS3.4
SSE Sheshan 55.54 70 *e*P **P** **08 58 23.4 -1.3**
comp=Z,33nm,0.7s,mb5.5
SSE pP pP 08 59 03.7 +26
SSE sP PcP 08 59 23.5 -0.6
SSE S **S** **09 05 50.1 -15**
SSE sS 09 07 03.3
SSE ScS ScS 09 07 54.2 -12
SSE SS SS 09 10 00.4 +10
SSE LR LR
comp=Z,40nm,28.3s,MS3.4
YAK Yakutsk 58.04 32 *e*P **P** **08 58 40.6 -1.4**
YAK pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
TIXI Tiksi 58.43 21 ↓*i*P **P** **08 58 43.3 -1.4**
TIXI *i* *PP PcP 08 59 33.3 -1.5
TIXI pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BOSA Boshof 63.54 211 P **P** **08 59 19.8 -0.1**
comp=Z,1.6nm,0.5s,mb4.3,baz=26,slow=8.4,SNR=7.0
YSS Yuzh-Sakhalins 67.76 48 *i* P **P** **08 59 42.5 -4.0**
BILL Bilibino 71.61 22 *e*P **P** **09 00 09.5 -0.2**
BILL pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
INK Inuvik 84.09 4 P **P** **09 01 19.1 +0.8**
comp=Z,1.7nm,1.0s,mb4.1,baz=14,slow=11,SNR=10
SCHQ Schefferville 84.76 331 P **P** **09 01 22.8 +0.8**
comp=Z,1.2nm,0.6s,mb4.2,baz=15,slow=0.8,SNR=5.1
ILAR Eielson Array 86.11 10 P **P** **09 01 28.8 +0.5**
comp=Z,0.5nm,0.6s,mb3.9,baz=320,slow=3.9,SNR=11
DAWY Dawson 87.77 7 *e*P **P** **09 01 38.0 +1.6**
WRA Warramunga Arr 88.63 113 P **P** **09 01 42.9 +1.4**
comp=Z,1.1nm,0.8s,mb4.2,baz=313,slow=4.0,SNR=7.6
YKA Yellowknife Ar 89.97 356 P **P** **09 01 48.5 +1.6**
comp=Z,2.2nm,0.7s,mb4.6,baz=2.1,slow=5.5,SNR=64
YKA Yellowknife Ar 89.97 356 P **P** **09 01 48.5 +1.6**
ASAR Alice Springs 90.13 117 P **P** **09 01 50.1 +1.6**
comp=Z,0.6nm,0.8s,mb4.0,baz=298,slow=4.9,SNR=6.3

IDC 23 08:50:52.6±7.3, 0.87N×97.70E, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=359.2km s-min=23.8km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.43**	**122**	P	P	08 58 41.1	-1.8
0.3nm,0.5s,baz=301,slow=9.1,SNR=4.0							
ASAR	**Alice Springs**	**42.79**	**127**	P	P	08 58 52.6	-1.5
0.4nm,0.6s,baz=294,slow=7.5,SNR=5.0							
MKAR	**Makanchi Array**	**47.69**	**346**	P	P	08 59 30.9	-2.0
0.9nm,0.5s,baz=158,slow=9.0,SNR=10							
ZAL	**Zalesovo**	**53.96**	**351**	P	P	09 00 17.9	-2.4
0.8nm,0.7s,baz=312,slow=11,SNR=3.6							

*BJI **23** 09:06:59.3, 1.05S×97.00E, h27km, mB5.2, mb4.8, Ms4.0, Msz3.8*
*IDC **23** 09:07:06.8±0.9, 0.31S×96.74E, h28km±5km, mb4.1/16, mb1 4.2/17, mb1mx4.2/21, mbtmp4.3/17, ML4.3/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/27, Error ellipse: s-maj=21.1km s-min=13.8km az=57.0*
*NEIC **23** 09:07:06.5±0.3, 0.29S×96.88E, mb4.3/4, Error ellipse: s-maj=9.1km s-min=7.2km az=48.0*
ISC 23 09:07:05.1±0.5, 0.30S±0.07×96.92E±0.08, h28km, h28km±1.2km: pP-P, n36, σ0°92/32, mb4.3/21, MS3.7/3, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.68**	**34**	*e*P	**Pn**	**09 08 41.9**	**-2.1**
PALK	**Pallekele**	**17.84**	**295**	*e*P	**P**	**09 11 13.6**	**+0.4**
4.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**18.74**	**6**	P	**P**	**09 11 23.8**	**-0.5**
0.4nm,0.3s,baz=198,slow=11,SNR=14							
CMAR				LR	LR	09 19 13.8	
comp=Z,64nm,21.6s,baz=220,slow=39							
KKM	**Kota Kinabalu**	**20.26**	**72**	*e*P	**P**	**09 11 40.9**	**-0.4**
SHL	**Shillong**	**26.17**	**350**	*e*P	**P**	**09 12 40.0**	**+0.8**
GTA	**Gaotai**	**39.60**	**4**	*e*P	**P**	**09 14 36.9**	**+0.9**
GTA				AP	pP	09 14 44.9	+0.5
GTA				XP	sP	09 14 49.3	+1.3
GTA				AMB	AMB		
comp=Z,6.0nm,0.7s,mb4.4							
WRA	**Warramunga Arr**	**41.50**	**120**	P	**P**	**09 14 52.3**	**+0.5**
comp=Z,2.5nm,0.9s,mb3.8,baz=288,slow=9.2,SNR=16							
WRAB	**Tennant Creek**	**41.51**	**120**	*e*P	**P**	**09 14 50.8**	**-1.0**
comp=Z,4.9nm,0.8s,mb4.2							
ASAR	**Alice Springs**	**42.74**	**126**	P	**P**	**09 15 02.6**	**+0.7**
comp=Z,3.6nm,0.7s,mb4.2,baz=297,slow=7.7,SNR=42							
WMQ	**Urumqi**	**44.69**	**351**	P	**P**	**09 15 18.9**	**+1.4**
WMQ				AP	pP	09 15 28.9	+2.9
WMQ				XP	sP	09 15 32.9	+3.4
WMQ				PP	PP	09 17 03.9	+1.0
WMQ				AMB	AMB		
comp=Z,9.0nm,1.0s,mb4.5							
UCH	**Uchtor**	**46.91**	**337**	P	**P**	**09 15 36.1**	**+1.1**
SNR=8.7							
TKM2	**Tokmak 2**	**47.09**	**339**	P	**P**	**09 15 37.4**	**+0.8**
SNR=6.5							
AML	**Almayashu**	**47.15**	**336**	P	**P**	**09 15 38.0**	**+1.0**
SNR=11							
AAK	**Ala-Archa**	**47.26**	**337**	*e*P	**P**	**09 15 37.8**	**-0.1**
comp=Z,2.9nm,0.9s,mb4.2							
EKS2	**Erkin-Say**	**47.56**	**337**	P	**P**	**09 15 41.2**	**+0.9**
SNR=5.9							
USP	**Ospenovka**	**47.80**	**338**	P	**P**	**09 15 42.5**	**+0.4**
SNR=8.0							
MKAR	**Makanchi Array**	**48.62**	**347**	P	**P**	**09 15 48.5**	**+0.1**
comp=Z,12nm,0.6s,mb5.1,baz=156,slow=8.2,SNR=181							
MKAR				pP	pP	09 15 56.5	-0.5
comp=Z,5.9nm,0.6s,baz=155,slow=8.1,SNR=11							
SONM	**Songino Array**	**48.64**	**8**	P	**P**	**09 15 48.9**	**+0.4**
comp=Z,1.9nm,1.0s,mb4.1,baz=188,slow=8.7,SNR=7.4							
SONM				LR	LR	09 38 55.2	
comp=Z,65nm,22.0s,MS3.6,baz=51,slow=39							
STKA	**Stephens Creek**	**52.58**	**131**	P	**P**	**09 16 19.8**	**+1.1**
comp=Z,2.3nm,0.6s,mb4.3,baz=305,slow=8.8,SNR=20							
STKA	**Stephens Creek**	**52.58**	**131**	*e*P	**P**	**09 16 19.6**	**+0.9**
MJAR	**Matsushiro Arr**	**52.98**	**42**	LR	LR	09 38 15.1	
comp=Z,54nm,18.9s,MS3.6,baz=90,slow=35							
ZAL	**Zalesovo**	**54.98**	**351**	P	**P**	**09 16 35.4**	**-0.7**
comp=Z,7.2nm,0.6s,mb4.9,baz=307,slow=5.7,SNR=38							
ZAL				pP	pP	09 16 44.2	-0.6
comp=Z,4.9nm,0.5s,baz=327,slow=5.1,SNR=8.4							
BVAR	**Borovoye Array**	**57.57**	**341**	P	**P**	**09 16 53.0**	**-1.6**
comp=Z,2.8nm,0.7s,mb4.4,baz=158,slow=7.8,SNR=16							
KMBO	**Kilima Mbogo**	**59.67**	**269**	P	**P**	**09 17 08.6**	**-1.2**
comp=Z,0.9nm,0.4s,mb4.1,baz=41,slow=11,SNR=2.4							
MATP	**Matopo**	**69.71**	**248**	P	**P**	**09 18 14.2**	**-0.7**
comp=Z,4.5nm,0.6s,mb4.8,baz=85,slow=5.8,SNR=15							
BRTR	**Keskin Array B**	**69.91**	**313**	P	**P**	**09 18 14.1**	**-1.8**
comp=Z,1.4nm,0.7s,mb4.0,baz=135,slow=8.7,SNR=7.6							
BOSA	**Boshof**	**73.80**	**240**	P	**P**	**09 18 38.4**	**-0.9**
comp=Z,1.9nm,0.6s,mb4.2,baz=130,slow=6.0,SNR=4.6							
BOSA				LR	LR	09 46 46.9	
comp=Z,51nm,18.3s,MS3.9,baz=349,slow=32							
FINES	**FINESS Array B**	**81.19**	**333**	P	**P**	**09 19 19.1**	**-0.4**
comp=Z,1.3nm,0.6s,mb4.0,baz=102,slow=6.2,SNR=13							
FINES				pP	pP	09 19 27.6	-0.9
comp=Z,0.8nm,0.6s,baz=135,slow=8.1,SNR=2.7							

KAF	**Kangasniemi**	**81.29**	**333**	*e*p	**P**	**09 19 19.2**	**-0.8**
comp=Z,2.1nm,0.6s,mb4.2							
ARCES	**ARCESS Array B**	**83.84**	**340**	P	**P**	**09 19 33.3**	**+0.3**
comp=Z,4.2nm,0.8s,mb4.6,baz=117,slow=2.0,SNR=3.6							
VNDA	**Vanda**	**84.42**	**169**	P	**P**	**09 19 37.0**	**+1.2**
comp=Z,1.0nm,0.9s,mb3.9,baz=265,slow=6.3,SNR=4.0							
GERES	**GERESS Array B**	**85.75**	**319**	P	**P**	**09 19 43.5**	**+0.5**
comp=Z,0.9nm,0.9s,mb4.0,baz=90,slow=6.7,SNR=7.0							
NOA	**NORSAR Array B**	**88.17**	**331**	P	**P**	**09 19 53.9**	**-0.6**
comp=Z,0.6nm,0.7s,mb4.0,baz=96,slow=4.6,SNR=3.6							
TXAR	**Lajitas Array**	**145.08**	**32**	PKPbc	PKPbc	09 26 42.2	+1.3
comp=Z,2.0nm,0.8s,baz=246,slow=1.1,SNR=22							
TXAR	**Lajitas Array**	**145.08**	**32**	PKPbc	PKPbc	09 26 42.2	+1.3
JCT	**Junction City**	**146.03**	**26**	*e*PKPdf	PKPdf	09 26 43.9	-3.3

IDC 23 09:16:37.0±3.3, 3.61N×95.03E, mb3.7/3, mb1 4.0/4, mb1mx3.6/21, mbtmp3.7/4, Error ellipse: s-maj=124.6km s-min=27.2km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.24**	**14**	Pn	P	09 20 14.8	-0.7
baz=198,slow=11,SNR=4.9							
SHL	**Shillong**	**22.04**	**352**	*e*P	P	09 21 39.0	+3.9
MKAR	**Makanchi Array**	**44.41**	**348**	P	P	09 24 49.1	-2.1
0.2nm,0.5s,baz=156,slow=8.6,SNR=4.4							
WRA	**Warramunga Arr**	**45.15**	**123**	P	P	09 24 55.7	-1.9
1.8nm,0.4s,baz=302,slow=9.2,SNR=23							
ASAR	**Alice Springs**	**46.57**	**128**	P	P	09 25 07.0	-1.7
0.7nm,0.6s,baz=300,slow=7.8,SNR=7.2							

*WAR **23** 09:27:43.8, 50.26N×18.86E, h0km, ML2.6, Mining Induced*
*PRU **23** 09:27:44.9, 50.30N×18.77E*
ISC 23 09:27:42.5±0.6, 50.32N±0.05×18.78E±0.04, n15, σ1°43/24, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.63**	**221**	*e*PG	**Pg**	**09 27 56.2**	**+1.1**
OKC				*e*SG	**Sg**	**09 28 06.2**	**+2.7**
15nm,0.3s							
OJC	**Ojcow**	**0.66**	**98**	*e*PG	**Pg**	**09 27 56.0**	**+0.4**
OJC				*e*SG	**Sg**	**09 28 04.0**	**-0.4**
LIKS	**Likavka**	**1.29**	**170**	*e*PN	**Pn**	**09 28 07.6**	**-0.1**
LIKS				*e*SN	**Sn**	**09 28 24.5**	**-1.4**
NIE	**Niedzica**	**1.34**	**132**	*e*PG	**Pg**	**09 28 08.0**	**-1.2**
NIE				*e*SG	**Sg**	**09 28 25.0**	**-2.1**
DPC	**Dobruska-Polom**	**1.58**	**272**	*e*PG	**Pg**	**09 28 13.1**	**-0.8**
DPC				*e*SG	**Sg**	**09 28 34.3**	**-0.7**
32nm,0.5s							
KSP	**Ksiaz**	**1.67**	**289**	*e*PG	**Pg**	**09 28 17.0**	**+1.2**
KSP				*e*SG	**Sg**	**09 28 39.0**	**+0.9**
KOLL	**Kolacno**	**1.76**	**188**	*e*PN	**Pn**	**09 28 17.3**	**+2.9**
KOLL				*e*SN	**Sn**	**09 28 40.1**	**+2.2**
UPC	**Upice**	**1.78**	**277**	*e*SG	**Sg**	**09 28 40.9**	**-0.9**
VYHS	**Vyhne**	**1.83**	**179**	*e*PN	**Pn**	**09 28 15.0**	**-0.4**
VYHS				*e*SN	**Sn**	**09 28 37.4**	**-2.2**
CRVS	**Cervenica-Dubn**	**2.25**	**128**	*e*PN	**Pn**	**09 28 25.0**	**+3.6**
CRVS				*e*SN	**Sn**	**09 28 52.2**	**+2.0**
PSZ	**Piszkesteto**	**2.51**	**163**	*e*P	**Pn**	**09 28 28.9**	**+3.7**
KOLS	**Kolonicke sedl**	**2.66**	**120**	*e*PG	**Pg**	**09 28 36.2**	**+0.6**
PRU	**Pruhonice**	**2.75**	**265**	*e*SG	**Sg**	**09 29 09.5**	**-4.4**
KHC	**Kasperske Hory**	**3.58**	**253**	*e*SG	**Sg**	**09 29 38.0**	**-3.7**
CLL	**Collm**	**3.80**	**287**	*e*SG	**Sg**	**09 29 48.0**	**-0.9**

*IDC **23** 09:28:17.4±2.1, 33.38N×73.44E, mb3.5/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.5/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/29, Error ellipse: s-maj=142.5km s-min=28.2km az=51.0*
NDI 23 09:28:14.2±5.5, 32.83N×72.26E, h10km, MD3.4, ML3.6, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.94**	**97**	*e*P	Pn	09 29 00.0	-1.9
THN				*e*SG	Sg	09 29 49.7	-2.5
DLH	**Dalhousie**	**3.14**	**94**	*e*PG	Pg	09 29 15.0	-1.8
DLH				*e*S	Sn	09 29 41.0	-1.6
PONG	**Pong**	**3.24**	**105**	*e*	Pn	09 29 00.0	-6.2
PONG				*e*		09 29 54.0	
SDNR	**Sundarnagar**	**4.21**	**107**	*e*	Pn	09 29 12.0	-7.9
SDNR				*e*		09 30 14.4	
SMLA	**Simla**	**4.50**	**111**	*i*	Pn	09 29 13.2	-11
SMLA				*i*		09 29 56.6	
KKR	**Kurukshetra**	**4.83**	**125**	*e*P	Pn	09 29 27.8	-1.0
KKR				*e*S	Sn	09 30 21.2	-4.4
KKR				*e*		09 30 32.4	
comp=Z,348nm,0.4s							
RTK	**Rohtak**	**5.20**	**136**	*e*P	Pn	09 29 31.3	-2.7
RTK				*e*S	Sn	09 30 30.4	-4.4
KLP	**Kalpa**	**5.24**	**103**	*e*	Pn	09 29 28.2	-6.3
KLP				*e*S	Sn	09 30 32.5	-3.2
KHET	**Khetri**	**5.64**	**146**	*e*	Pn	09 29 32.6	-7.6
KHET				*e*S	Sn	09 30 37.5	-8.4
KHET				*e*		09 30 46.9	
comp=N,35nm,0.4s							
KHET				*e*		09 30 47.9	
comp=E,50nm,0.4s							
NDI	**New Delhi**	**5.94**	**133**	*e*P	Pn	09 29 50.5	+6.1
NDI				*e*S	Sn	09 30 55.0	+1.7
JASL	**Jaisalmer**	**6.00**	**192**	*e*P	Pn	09 29 42.8	-2.5
JASL				*e*S	Sn	09 30 49.4	-5.6
JASL				*e*		09 30 50.2	
comp=Z,127nm,0.1s							
AJM	**Ajmer**	**6.66**	**161**	*e*P	Pn	09 29 48.7	-5.8
AJM				*e*		09 30 56.8	
AGRA	**Agra**	**7.44**	**137**	*e*	Pn	09 30 05.8	+0.2
AGRA				*e*S	Sn	09 31 19.4	-11
KOLN	**Koldanda**	**11.02**	**114**	*e*P	P	09 30 40.6	-14
comp=Z,7.9nm,0.3s							
GKN	**Gorkha**	**11.71**	**111**	*e*P	P	09 30 48.3	-16
comp=Z,8.2nm,0.3s							
KKN	**Kakani**	**12.31**	**111**	*e*P	P	09 30 56.2	-16
comp=Z,7.4nm,0.2s							
PKI	**Pulchoki**	**12.52**	**111**	*e*P	P	09 31 00.7	-15
comp=Z,5.5nm,0.2s							
GUN	**Gumba**	**12.74**	**109**	*e*P	P	09 31 02.9	-15
comp=Z,16nm,0.3s							
JIRN	**Jiri**	**13.09**	**110**	*e*P	P	09 31 07.5	-15
comp=Z,8.4nm,0.2s							
NOA	**NORSAR Array B**	**47.95**	**325**	P	P	09 36 58.2	+3.6
comp=Z,0.4nm,0.8s,baz=104,slow=7.5,SNR=3.0							
JNU	**Nakatsue**	**48.59**	**73**	LR	LR	09 59 17.9	
comp=Z,5.9nm,21.5s,baz=335,slow=39							
WRA	**Warramunga Arr**	**79.17**	**122**	P	P	09 40 21.4	+0.3
comp=Z,0.5nm,0.8s,baz=321,slow=5.4,SNR=8.1							
ASAR	**Alice Springs**	**81.30**	**125**	P	P	09 40 33.2	+0.9
comp=Z,0.3nm,0.5s,baz=313,slow=5.0,SNR=6.1							
YKA	**Yellowknife Ar**	**84.85**	**3**	P	P	09 40 50.7	+1.0
comp=Z,0.2nm,0.5s,baz=346,slow=5.2,SNR=9.9							

*STR **23** 09:29:48.4±0.1, 44.48N×6.98E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **23** 09:29:48.5±0.1, 44.48N×6.97E, h2km, Md2.3/2, Ml2.3/9, Error ellipse: s-maj=2.2km s-min=1.4km az=69.0*
*NEIC **23** 09:29:48.1, 44.46N×6.94E, h6km, ML2.5(GEN), ML2.3(LDG), ML2.2(STR), After GEN.*
ISC 23 09:29:47.5±0.2, 44.47N±0.01×6.94E±0.02, h11km±2km, n35, σ0°79/65, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Prazzo**	**0.12**	**71**	P	**Pg**	**09 29 51.1**	**+0.4**
PZZ				S	**Sg**	**09 29 52.8**	**0.0**
MBDF	**Montbardon**	**0.29**	**335**	*e*Pg	**Pg**	**09 29 54.0**	**+0.4**
MBDF				*e*Sg	**Sg**	**09 29 58.8**	**+1.1**
29nm,0.2s							
STV	**Sta Anna Valdi**	**0.35**	**129**	P	**Pg**	**09 29 54.8**	**0.0**
STV				S	**Sg**	**09 29 59.6**	**-0.1**
STV2	**Anna di Valdie**	**0.35**	**128**	P	**Pg**	**09 29 54.9**	**0.0**
STV2				S	**Sg**	**09 29 59.7**	**0.0**
OG22	**Abries**	**0.36**	**0**	Pg	**Pg**	**09 29 55.3**	**+0.4**
OG22				Sg	**Sg**	**09 30 00.4**	**+0.5**
ENR	**Entracque**	**0.42**	**125**	P	**Pg**	**09 29 56.0**	**-0.1**
ENR				S	**Sg**	**09 30 01.6**	**-0.2**
BHB	**Bricherasio**	**0.44**	**31**	P	**Pg**	**09 29 56.6**	**0.0**
BHB				S	**Sg**	**09 30 02.2**	**-0.4**
RRL	**Cesana Torines**	**0.47**	**346**	P	**Pg**	**09 29 57.5**	**+0.4**
RRL				S	**Sg**	**09 30 03.7**	**+0.3**
TOUF	**Mont Tournerai**	**0.50**	**154**	Pg	**Pg**	**09 29 57.6**	**-0.1**
FENE	**Fenestrelle**	**0.57**	**9**	P	**Pb**	**09 29 59.0**	**-0.1**
FENE				S	**Sg**	**09 30 06.4**	**-0.4**
AUTN	**L'Aution**	**0.58**	**143**	Pg	**Pg**	**09 29 59.7**	**+0.3**
AUTN				Sg	**Sg**	**09 30 07.1**	**-0.2**
MVIF	**Mont Vial**	**0.59**	**165**	Pg	**Pg**	**09 30 00.0**	**+0.6**
OG25	**Le Caire**	**0.63**	**262**	Pg	**Pg**	**09 30 00.7**	**+0.5**
OG25				Sg	**Sg**	**09 30 10.3**	**+1.6**
SAOF	**Saorge**	**0.65**	**137**	Pg	**Pg**	**09 30 00.9**	**+0.2**
SAOF				Sg	**Sg**	**09 30 09.7**	**+0.3**
ROB	**Roburent**	**0.69**	**104**	P	**Pb**	**09 30 01.3**	**+0.2**
ROB				S	**Sb**	**09 30 10.2**	**-0.1**
SBF	**Sospel**	**0.70**	**149**	*e*Pg	**Pg**	**09 30 01.9**	**+0.3**
SBF				*e*Sg	**Sg**	**09 30 10.1**	**-0.9**
12nm,0.3s							
MONE	**Monesi**	**0.70**	**123**	P	**Pb**	**09 30 01.1**	**-0.2**
MONE				S	**Sb**	**09 30 10.5**	**-0.1**
CALN	**Calern**	**0.71**	**183**	Pg	**Pg**	**09 30 02.6**	**+0.7**
RSP	**Reno Superiore**	**0.72**	**18**	P	**Pb**	**09 30 02.0**	**+0.4**
RSP				S	**Sb**	**09 30 11.2**	**-0.1**
NEGI	**Negi**	**0.83**	**138**	P	**Pb**	**09 30 03.7**	**+0.3**
NEGI				S	**Sb**	**09 30 14.1**	**-0.2**
IMI	**Imperia**	**0.88**	**129**	P	**Pb**	**09 30 04.9**	**+0.5**
IMI				S	**Sb**	**09 30 16.1**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.88**	**301**	*e*Pg	**Pg**	**09 30 05.0**	**-0.2**
ORIF				*e*Sg	**Sg**	**09 30 16.5**	**-0.6**
4.1nm,0.3s							
FRF	**La Foret Royal**	**0.93**	**193**	*e*Pg	**Pg**	**09 30 05.6**	**-0.6**
FRF				*e*Sg	**Sg**	**09 30 17.7**	**-0.9**
13nm,0.2s							
FIN	**Finale Ligure**	**0.94**	**105**	P	**Pb**	**09 30 05.5**	**+0.1**
FIN				S	**Sb**	**09 30 17.5**	**-0.2**
LSD	**Ceresole Reale**	**1.00**	**9**	P	**Pb**	**09 30 07.2**	**+0.8**
LPG	**La Plagne**	**1.04**	**353**	*e*Pg	**Pg**	**09 30 08.7**	**+0.3**
LPG				*e*Sg	**Sg**	**09 30 21.8**	**-0.5**
3.0nm,0.2s							
TAVF	**Tavernes**	**1.06**	**217**	Pg	**Pg**	**09 30 08.8**	**0.0**
TAVF				Sg	**Sg**	**09 30 25.0**	**+2.0**
LPL	**La Plagne**	**1.06**	**352**	*e*Pg	**Pg**	**09 30 08.3**	**-0.5**
LPL				*e*Sg	**Sg**	**09 30 22.1**	**-0.9**
6.9nm,0.4s							
VILF	**Villemus**	**1.07**	**236**	Pg	**Pg**	**09 30 09.4**	**+0.4**
SMRF	**Simiane la Rot**	**1.10**	**244**	*e*Pn	**Pn**	**09 30 10.2**	**+1.4**
SMRF				*e*Sn	**Sn**	**09 30 25.7**	**+1.7**
11nm,0.3s							
LMR	**La Mourre**	**1.17**	**196**	*e*Pg	**Pg**	**09 30 10.6**	**-0.4**
LMR				*e*Sg	**Sg**	**09 30 24.9**	**-1.8**
18nm,0.3s							
PUYF	**Puyloubier**	**1.29**	**224**	Pg	**Pg**	**09 30 13.5**	**+0.1**
PUYF				Sg	**Sg**	**09 30 31.2**	**+0.5**
VIVF	**Saint-Julien-l**	**1.67**	**284**	*e*Pg	**Pg**	**09 30 18.6**	**-2.2**
VIVF				*e*Sg	**Sg**	**09 30 41.2**	**-1.9**
3.9nm,0.4s							
LASF	**Ste Croix**	**2.25**	**261**	*e*Pg	**Pg**	**09 30 29.9**	**-2.6**
LASF				*e*Sn	**Sn**	**09 30 51.7**	**-1.5**
1.3nm,0.3s							
PGF	**Pioggiola**	**2.43**	**141**	*e*Pn	**Pn**	**09 30 28.8**	**+0.9**
PGF				*e*Sn	**Sn**	**09 30 56.5**	**-1.4**
3.7nm,0.4s							

IDC 23 09:32:36.5±2.8, 2.27N×96.70E, h30km±7km, mb3.5/4, mb1 3.7/5, mb1mx3.4/20, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=124.7km s-min=18.3km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.24**	**8**	Pn	P	09 36 24.4	0.0
0.2nm,0.3s,baz=199,slow=12,SNR=4.4							
WRA	**Warramunga Arr**	**43.02**	**123**	P	P	09 40 33.1	-2.5
0.4nm,0.6s,baz=301,slow=9.2,SNR=3.6							
WRA				pP	pP	09 40 42.8	-1.7
0.6nm,0.8s,baz=304,slow=8.9,SNR=2.9							
ASAR	**Alice Springs**	**44.43**	**128**	P	P	09 40 45.5	-1.4
0.4nm,0.9s,baz=300,slow=8.4,SNR=3.7							
MKAR	**Makanchi Array**	**46.09**	**346**	P	P	09 40 57.4	-2.4
0.7nm,0.4s,baz=164,slow=8.7,SNR=11							
MKAR				pP	pP	09 41 06.7	-2.0
1.2nm,0.7s,baz=162,slow=7.7,SNR=7.0							
ZAL	**Zalesovo**	**52.42**	**351**	P	P	09 41 46.4	-2.2
1.6nm,0.5s,baz=320,slow=6.1,SNR=7.0							
ZAL				pP	pP	09 41 54.9	-2.7
0.9nm,0.5s,baz=314,slow=5.1,SNR=3.0							

*CNRM **23** 09:40:29.9, 35.31N×4.12W, h9km, MD3.1*
*CSEM **23** 09:40:30.2±0.1, 35.24N×4.02W, h15km, MD3.1, Error ellipse: s-maj=3.6km s-min=2.5km az=68.0*
*MDD **23** 09:40:31.5±0.5, 35.20N×4.05W, h10km±4km, mbLg1.8/9, Error ellipse: s-maj=7.1km s-min=4.7km az=101.0, PRXIMO*
*NEIC **23** 09:40:32.3, 35.33N×4.07W, MG3.1(MDD), After MDD.*
ISC 23 09:40:29.9±0.4, 35.24N±0.03×4.12W±0.04, h10km, n27, σ1°04/50, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.15**	**95**	P	**Pg**	**09 40 33.5**	**+0.1**
MPAL				S	**Sg**	**09 40 36.0**	**+0.3**
MPAL	**Palemas**	**0.15**	**95**	*i* P	**Pg**	**09 40 33.5**	**+0.1**
EALB	**Alboran**	**1.13**	**51**	P	**Pb**	**09 40 50.8**	**-0.3**
EALB				S	**Sb**	**09 41 05.3**	**-0.3**
EALB	**Alboran**	**1.13**	**51**	P	**Pb**	**09 40 51.6**	**+0.5**
6.3nm,0.1s,SNR=7.9							
EALB				S	**Sb**	**09 41 05.3**	**-0.4**
7.6nm,0.1s,SNR=7.9							
EALB	**Alboran**	**1.13**	**51**	P	**Pb**	**09 40 50.8**	**-0.3**
6.3nm,0.1s,SNR=7.9							
EALB				S	**Sb**	**09 41 05.3**	**-0.3**
7.6nm,0.1s,SNR=7.9

EMIN	**Mina Concepcio**	**3.25 322**	P	**Pn**	**09 41 22.7**	**+0.7**
EMIN			S	**Sn**	**09 41 58.1**	**-3.1**
EMIN	**Mina Concepcio**	**3.25 322**	P	**Pn**	**09 41 22.7**	**+0.6**
0.2nm,0.1s,SNR=7.9						
EMIN			S	**Sn**	**09 42 00.3**	**-0.9**
SNR=7.9						
EMIN	**Mina Concepcio**	**3.25 322**	P	**Pn**	**09 41 22.7**	**+0.7**
0.2nm,0.1s,SNR=7.9						
EMIN			S	**Sn**	**09 41 58.2**	**-3.0**
0.6nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**3.55 311**	P	**Pn**	**09 41 24.3**	**-2.0**
EGRO	**El Granado**	**3.55 311**	P	**Pn**	**09 41 26.8**	**+0.6**
1.0nm,0.3s,SNR=7.9						
EGRO			S	**Sn**	**09 42 07.6**	**-1.1**
12nm,1.2s,SNR=7.9						
EGRO	**El Granado**	**3.55 311**	P	**Pn**	**09 41 24.3**	**-1.9**

NSSP ***23*** *09:50:00.0, 39.70N×44.22E, h8km, ML3.3*
TIF ***23*** *09:50:04.7, 39.81N×43.98E, h13km±3km*
IDC ***23*** *09:50:06.9±1.0, 39.65N×44.22E, mb4.0/11, mb1 4.0/13, mb1mx3.9/23, mbtmp3.9/13, ML2.8/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/33, Error ellipse: s-maj=20.4km s-min=8.3km az=141.0*
CSEM ***23*** *09:50:06.7±0.1, 39.78N×44.22E, h2km, mb4.1/5, Error ellipse: s-maj=2.0km s-min=1.6km az=19.0*
NEIC ***23*** *09:50:08.3±1.6, 39.74N×44.16E, h4km±11km, mb4.0/4, Error ellipse: s-maj=8.0km s-min=5.4km az=216.0*
ISK ***23*** *09:50:09.4, 39.75N×44.34E, h32km, MD3.9*
MOS ***23*** *09:50:10.8±1.3, 39.72N×44.07E, h33km, mb4.2/7, Error ellipse: s-maj=11.3km s-min=7.6km az=103.1*
THR ***23*** *09:50:11.1±1.2, 39.53N×44.38E, h14km±15km, ML3.5*
TEH ***23*** *09:50:20.0, 39.14N×44.76E, h10km, Mn3.2*

ISC 23 09:50:08.3±0.6, 39.69N±0.02×44.26E±0.03, h10km±4km, n98, σ1§31/109, mb3.9/17, MS3.2/6, 6D,
Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRNZ	**Vardanashen**	**0.36**	**352**	P	**Pg**	**09 50 15.3**	**-0.4**
MAKU	**Maku**	**0.47**	**136**	*e*PG	**Pg**	**09 50 16.6**	**-1.3**
MAKU				*e*SG	**Sg**	**09 50 22.2**	**-2.0**
VNNZ	**Vanand**	**0.53**	**321**	⇓P	**Pg**	**09 50 15.1**	**-3.9**
GNI	**Garni**	**0.59**	**39**	PG	**Pg**	**09 50 19.5**	**-0.7**
GNI				SG	**Sg**	**09 50 29.2**	**+1.1**
GNI	**Garni**	**0.59**	**39**	Pg	**Pg**	**09 50 19.7**	**-0.5**
381nm,0.3s,baz=253,slow=2.9,SNR=285							
GNI				Lg		09 50 28.9	
1μm,0.3s,baz=17,slow=19,SNR=31							
GNI	**Garni**	**0.59**	**39**	*e*P	**Pg**	**09 50 19.3**	**-0.9**
AMBZ	**Amberd**	**0.69**	**0**	⇓P	**Pb**	**09 50 18.3**	**-3.7**
AMBZ				S	**Sb**	**09 50 34.4**	**+3.0**
KARS	**Kars**	**1.28**	**316**	PN	**Pn**	**09 50 31.1**	**-1.2**
VANB	**Van**	**1.29**	**212**	PN	**Pn**	**09 50 32.7**	**+0.3**
STE	**Stepanavan**	**1.31**	**5**	⇓P	**Pb**	**09 50 31.0**	**-1.6**
TVAN	**Van**	**1.34**	**210**	*i* P	**Pb**	**09 50 32.6**	**-0.5**
TVAN				*i* S	**Sb**	**09 50 44.8**	**-5.3**
VANT	**Van**	**1.42**	**209**	*e*PN	**Pn**	**09 50 35.1**	**+0.8**
GRS	**Goris**	**1.62**	**95**	⇓P	**Pn**	**09 50 34.0**	**-3.1**
GRS				S	**Sn**	**09 50 57.0**	**-1.2**
DGRG	**David-gareji**	**1.95**	**25**	P	**Pn**	**09 50 43.6**	**+1.7**
MTA	**Mtatsminda**	**2.04**	**11**	P	**Pn**	**09 50 44.6**	**+1.4**
MTA				S	**Sn**	**09 51 12.1**	**+3.2**
TBLG	**Delisi**	**2.07**	**10**	P	**Pn**	**09 50 45.6**	**+2.0**
TBLG				S	**Sn**	**09 51 13.2**	**+3.6**
ITBZ	**Tabriz**	**2.07**	**134**	Pn	**Pn**	**09 50 44.6**	**+1.0**
TI2	**Plekhanov**	**2.07**	**10**	*i* PN	**Pn**	**09 50 43.2**	**-0.4**
TI2				MLR	MLR		
comp=N,3μm,5.0s							
TI2				MLR	MLR		
comp=E,2μm,5.0s							
TI2				MLR	MLR		
comp=Z,4μm,5.0s							
TI2	**Plekhanov**	**2.07**	**10**	*i* Pn	**Pn**	**09 50 43.2**	**-0.4**
HKR	**Hakkari**	**2.15**	**191**	*e*PN	**Pn**	**09 50 45.7**	**+1.0**
ERZM	**Erzurum**	**2.24**	**276**	*i* P	**Pn**	**09 50 49.4**	**+3.4**
ERZM				*i* S	**Sn**	**09 51 21.1**	**+7.1**
EZM	**Erzurum**	**2.24**	**276**	*e*PN	**Pn**	**09 50 47.0**	**+1.0**
IAZR	**Azarshahr**	**2.42**	**146**	Pn	**Pn**	**09 50 50.5**	**+1.9**
BTMT	**Batman**	**2.63**	**236**	*e*PN	**Pn**	**09 50 54.5**	**+2.9**
BCA	**Borcka**	**2.66**	**312**	*e*PN	**Pn**	**09 50 51.6**	**-0.5**
IBST	**Bostanabad**	**2.87**	**133**	Pn	**Pn**	**09 50 56.0**	**+1.0**
BEST	**Besiri**	**2.95**	**233**	*i* P	**Pn**	**09 50 57.5**	**+1.3**
BEST				*i* S	**Sn**	**09 51 31.4**	**-0.5**
ONI	**Oni**	**2.95**	**348**	P	**Pn**	**09 50 57.9**	**+1.7**
GRMI	**Germi**	**2.96**	**106**	*e*PN	**Pn**	**09 50 57.8**	**+1.5**
GRMI				*e*SG	**Sg**	**09 51 39.6**	**-7.2**
GRMI				AML	AML	09 51 59.2	
comp=N,252nm,0.4s							
BINT	**Bingol**	**3.04**	**256**	*e*PN	**Pn**	**09 50 57.3**	**-0.1**
ZEI	**Tsey**	**3.09**	**355**	*e*PN	**Pn**	**09 50 59.7**	**+1.6**
ZEI				*e*		09 51 10.7	
ZEI				*e*		09 51 41.9	
ZEI				pmax	pmax		
comp=Z,97nm,0.4s							
ZEI				pmax	pmax		
comp=Z,94nm,0.5s							
ZEI				smax			
comp=N,261nm,0.7s							
EZC	**Erzincan**	**3.43**	**272**	*e*PN	**Pn**	**09 51 08.1**	**+5.2**
MSL	**Mosul**	**3.52**	**196**	*e*Pn	**Pn**	**09 51 08.0**	**+3.7**
MSL				*e*Pb	**Pb**	**09 51 14.0**	**+3.6**
MSL				*e*Sn	Sn	09 52 51.0	+65
MSL				*e*Sb	Sb	09 52 59.0	+66
MSL				*e*Lg		09 53 05.0	
MSL				*e*Sg	Sg	09 53 07.5	+62
DIY	**Diyarbakir**	**3.62**	**242**	*e*PN	**Pn**	**09 51 06.3**	**+0.5**
GUMT	**Gumushane**	**3.75**	**283**	*e*PN	**Pn**	**09 51 07.9**	**+0.4**
PTK	**Pertek**	**3.86**	**260**	*e*PN	**Pn**	**09 51 09.6**	**+0.5**
KELT	**Kelkit**	**3.87**	**278**	*i* P	**Pg**	**09 51 25.3**	**-0.4**
KELT				*i* S	**Sg**	**09 52 19.7**	**+2.4**
ELZG	**Elazig**	**4.27**	**255**	*i* P	**Pn**	**09 51 14.6**	**-0.4**
MYA	**Malataya**	**4.74**	**255**	*e*PN	**Pn**	**09 51 22.3**	**+0.7**
MALT	**Malatya**	**4.75**	**255**	*e*PN	**Pn**	**09 51 22.4**	**+0.7**
MALT	**Malatya**	**4.75**	**255**	*e*P	**Pn**	**09 51 20.4**	**-1.3**
MALT	**Malatya**	**4.75**	**255**	*e*P	**Pn**	**09 51 20.4**	**-1.3**
URFA	**Urfa**	**4.82**	**244**	*e*PN	**Pn**	**09 51 22.9**	**+0.2**
SOC	**Sochi**	**5.17**	**320**	*e*PN	**Pn**	**09 51 25.2**	**-2.4**
SOC				*e*		09 52 24.9	
SOC						09 52 53.5	
SOC				pmax	pmax		
comp=Z,14nm,0.6s							
SOC				pmax	pmax		
comp=N,25nm,0.8s							
SOC				pmax	pmax		
comp=E,6.0nm,0.6s							
SOC				MLR	MLR		
comp=Z,227nm,13.0s							
SOC				MLR	MLR		
comp=N,308nm,12.0s							
SOC				MLR	MLR		
comp=E,128nm,11.0s							
SOC	**Sochi**	**5.17**	**320**	*e*Pn	**Pn**	**09 51 25.2**	**-2.4**
comp=E,25nm,0.8s							
SNGE	**Sanandaj**	**5.21**	**151**	*e*PN	**Pn**	**09 51 28.6**	**+0.4**
SNGE				AML	AML	09 52 50.2	
comp=N,16nm,0.7s							
GZT	**Gaziantep**	**5.74**	**248**	*i* P	**Pn**	**09 51 35.1**	**-0.6**
GAZ	**Gaziantep**	**6.08**	**248**	*e*PN	**Pn**	**09 51 41.3**	**+0.8**
IRAZ	**Razeghan**	**6.21**	**132**	Pn	**Pn**	**09 51 42.0**	**-0.4**
ASAO	**Ashtian**	**6.90**	**136**	*e*PN	**Pn**	**09 51 52.3**	**+0.3**
ANN	**Anapa**	**7.19**	**317**	*e*P	**Pn**	**09 51 55.2**	**-0.9**
ANN				pmax	pmax		
comp=Z,41nm,1.4s							
ANN	**Anapa**	**7.19**	**317**	*e*P	**Pn**	**09 51 55.2**	**-0.9**
comp=Z,41nm,1.4s							
DAMV	**Damavand**	**7.34**	**121**	*e*PN	**Pn**	**09 51 58.8**	**+0.6**
IDMV	**Damavand**	**7.41**	**121**	Pn	**Pn**	**09 51 58.8**	**-0.4**
IVRN	**Varamin**	**7.57**	**126**	Sn	**Sn**	**09 53 15.4**	**-13**
IFIR	**Firoozkooh**	**7.86**	**118**	Sn	**Sn**	**09 53 23.0**	**-12**
IFIR	**Firoozkooh**	**7.86**	**118**	Pn	**Pn**	**09 52 05.2**	**-0.3**
BRTR	**Keskin Array B**	**8.19**	**274**	Pn	**P**	**09 52 08.9**	**-1.2**
comp=Z,0.1nm,0.3s,baz=107,slow=13,SNR=9.7							
NASN	**Na'in**	**9.74**	**132**	*e*PN	**P**	**09 52 31.4**	**-0.2**
AKASG	**Malin Array Be**	**15.25**	**321**	Pn	**P**	**09 53 42.6**	**-2.6**
baz=137,slow=12,SNR=3.0							
OBN	**Obninsk**	**16.27**	**344**	⇓*i* P	**P**	**09 53 56.9**	**-1.4**
OBN				*e*S	**S**	**09 57 02.6**	**+4.0**
OBN				pmax	pmax		
comp=Z,32nm,1.1s							
OBN				MLR	MLR		
comp=Z,100nm,18.0s							
OBN	**Obninsk**	**16.27**	**344**	*i* P	**P**	**09 53 56.9**	**-1.4**
comp=Z,100nm,18.0s							
SVE	**Sverdlovsk**	**20.23**	**27**	*e*P	**P**	**09 54 48.0**	**+1.9**
SVE				*e*		09 55 07.3	
SVE				pmax	pmax		
comp=Z,40nm,1.9s							
TIP	**Timpagrande**	**21.22**	**277**	*e*P	**P**	**09 54 54.1**	**-2.3**
TIP	**Timpagrande**	**21.22**	**277**	*e*P	**P**	**09 54 54.1**	**-2.4**
BVAR	**Borovoye Array**	**22.27**	**45**	P	**P**	**09 55 06.3**	**-0.7**
comp=Z,0.9nm,0.6s,mb3.4,baz=248,slow=7.8,SNR=3.2							
BVAR	**Borovoye Array**	**22.27**	**45**	P	**P**	**09 55 06.3**	**-0.7**
AAK	**Ala-Archa**	**22.89**	**73**	*e*P	**P**	**09 55 14.8**	**+1.7**
AAK				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.0							
AAK	**Ala-Archa**	**22.89**	**73**	*e*P	**P**	**09 55 14.8**	**+1.7**
comp=Z,6.5nm,1.0s,mb4.0							
AAK	**Ala-Archa**	**22.89**	**73**	*e*P	**P**	**09 55 14.8**	**+1.7**
comp=Z,6.5nm,1.0s,mb4.0							
FRU	**Bishkek**	**22.98**	**72**	*e*P	**P**	**09 55 19.0**	**+5.1**
GERES	**GERESS Array B**	**23.58**	**303**	P	**P**	**09 55 19.9**	**+0.2**
comp=Z,2.2nm,0.7s,mb3.7,baz=106,slow=9.7,SNR=16							
GERES				LR	LR	10 06 19.7	
comp=Z,82nm,18.8s,MS3.2,baz=345,slow=41							
KHC	**Kasperske Hory**	**23.72**	**304**	*e*P	**P**	**09 55 21.5**	**+0.5**
KHC	**Kasperske Hory**	**23.72**	**304**	*e*P	**P**	**09 55 21.2**	**+0.2**
FINES	**FINESS Array B**	**24.48**	**339**	P	**P**	**09 55 27.3**	**-1.0**
comp=Z,2.7nm,0.6s,mb3.9,baz=141,slow=10,SNR=19							
FINES				LR	LR	10 05 22.9	
comp=Z,56nm,21.2s,MS3.0,baz=173,slow=37							
FINES	**FINESS Array B**	**24.48**	**339**	P	**P**	**09 55 27.3**	**-1.0**
FINES				LR	LR	10 05 22.9	
JOF	**Joensuu**	**24.53**	**346**	*e*p	**P**	**09 55 27.5**	**-1.3**
comp=Z,7.6nm,0.7s,mb4.3							
CLL	**Collm**	**24.60**	**309**	P	**P**	**09 55 31.0**	**+1.4**
KAF	**Kangasniemi**	**24.97**	**340**	*e*p	**P**	**09 55 29.8**	**-3.2**
comp=Z,2.1nm,0.5s,mb3.9,baz=144,slow=9.4							
KAF	**Kangasniemi**	**24.97**	**340**	*e*P	**P**	**09 55 29.8**	**-3.2**
KAF				pmax	pmax		
comp=Z,2.0nm,0.5s,mb3.9							
GRA1	**Grafenberg Arr**	**25.34**	**304**	*e*P	**P**	**09 55 35.6**	**-1.0**
comp=Z,3.0nm,1.0s,mb3.8							
GRF	**Grafenberg Arr**	**25.34**	**304**	*e*P	**P**	**09 55 35.6**	**-1.0**
GRF				pmax	pmax		
comp=Z,3.0nm,1.0s,mb3.8							
GRF	**Grafenberg Arr**	**25.34**	**304**	*e*P	**P**	**09 55 35.6**	**-1.0**
GRF				pmax	pmax		
comp=Z,3.0nm,1.0s,mb3.8							
GRF	**Grafenberg Arr**	**25.34**	**304**	*e*P	**P**	**09 55 35.6**	**-1.0**
comp=Z,3.0nm,1.0s,mb3.8							
DAVOX	**Davos**	**25.88**	**297**	P	**P**	**09 55 40.5**	**-1.2**
comp=Z,5.9nm,0.6s,mb4.3,baz=124,slow=6.4,SNR=10.0							
DAVOX				LR	LR	10 08 43.6	
comp=Z,84nm,18.4s,MS3.3,baz=92,slow=43							
HFS	**Hagfors**	**27.96**	**327**	P	**P**	**09 55 58.5**	**-2.2**
comp=Z,1.3nm,0.7s,mb3.7,baz=135,slow=4.1,SNR=3.1							
HFS				LR	LR	10 07 55.4	
comp=Z,108nm,19.2s,MS3.5,baz=291,slow=38							
MKAR	**Makanchi Array**	**28.39**	**63**	P	**P**	**09 56 05.0**	**+0.4**
comp=Z,0.6nm,0.6s,mb3.4,baz=266,slow=8.1,SNR=3.5							
NOA	**NORSAR Array B**	**29.48**	**327**	LR	LR	10 08 52.4	
comp=Z,63nm,19.9s,MS3.2,baz=180,slow=38							
ZAL	**Zalesovo**	**30.71**	**49**	P	**P**	**09 56 25.6**	**+0.2**
comp=Z,0.8nm,0.3s,mb4.1,baz=193,slow=15,SNR=3.5							
ARCES	**ARCESS Array B**	**31.52**	**348**	P	**P**	**09 56 31.0**	**-1.3**
comp=Z,2.9nm,0.8s,mb4.1,baz=135,slow=8.6,SNR=5.2							
ARCES				LR	LR	10 09 11.4	
comp=Z,57nm,20.1s,MS3.2,baz=326,slow=36							
ARCES	**ARCESS Array B**	**31.52**	**348**	P	**P**	**09 56 31.0**	**-1.3**
ARCES				LR	LR	10 09 11.4	
ZAK	**Zakamensk**	**42.02**	**55**	*e*P	**P**	**09 58 05.1**	**+3.9**
ZAK				*e*		09 59 55.5	
ZAK				pmax	pmax		
comp=Z,1.0nm,1.2s,mb3.3							
ZAK				pmax	pmax		
comp=Z,1.0nm,1.1s,mb3.4							
ZAK	**Zakamensk**	**42.02**	**55**	*e*PcP	PcP	09 59 55.5	-1.4
comp=Z,1.0nm,1.1s							
ULN	**Ulaanbaatar**	**44.94**	**58**	*e*P	**P**	**09 58 25.5**	**+0.5**
BOD	**Bodaibo**	**47.13**	**43**	*e*P	**P**	**09 58 38.1**	**-4.0**
BOD				pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.4							
DBIC	**Dimbokro**	**54.90**	**247**	P	**P**	**09 59 37.5**	**-4.1**
comp=Z,3.6nm,0.6s,mb4.6,baz=26,slow=12,SNR=9.5							
BOSA	**Boshof**	**70.22**	**198**	P	**P**	**10 01 21.2**	**-2.3**
comp=Z,2.0nm,0.7s,mb4.2,baz=26,slow=5.9,SNR=5.1							
YKA	**Yellowknife Ar**	**76.75**	**350**	P	**P**	**10 01 59.8**	**-1.1**
comp=Z,1.4nm,1.0s,mb3.9,baz=7.4,slow=5.2,SNR=19							

IDC 23 09:54:47.5±5.0, 0.20N×98.61E, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=274.8km s-min=22.4km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.32**	**122**	P	P	10 02 26.4	-2.1
0.3nm,0.7s,baz=303,slow=9.1,SNR=5.3							
ASAR	**Alice Springs**	**41.67**	**127**	P	P	10 02 38.4	-1.4
1.0nm,0.9s,baz=295,slow=7.8,SNR=8.8							
MKAR	**Makanchi Array**	**48.55**	**345**	P	P	10 03 32.5	-1.9
0.4nm,0.5s,baz=158,slow=9.6,SNR=5.7							
MKAR				pP	pP	10 03 42.2	+7.8
0.7nm,0.5s,baz=152,slow=7.9,SNR=11							
STKA	**Stephens Creek**	**51.65**	**132**	P	P	10 03 56.5	-1.8
0.8nm,0.4s,baz=315,slow=13,SNR=4.8							
ZAL	**Zalesovo**	**54.76**	**350**	P	P	10 04 18.9	-2.2
0.9nm,0.3s,baz=323,slow=9.1,SNR=3.6							
TXAR	**Lajitas Array**	**143.74**	**34**	PKP	PKPdf	10 14 22.9	-4.1
0.1nm,0.4s,baz=332,slow=1.9,SNR=3.9							

IDC ***23*** *10:05:22.3±1.7, 7.94S×120.78E, mb4.0/3, mb1 4.3/5, mb1mx3.9/19, mbtmp4.2/5, ML4.1/2, Error ellipse: s-maj=169.1km s-min=24.1km az=57.0*
NEIC ***23*** *10:05:23.7±1.3, 8.16S×120.47E, h100km, mb3.9/1, Error ellipse: s-maj=37.2km s-min=18.3km az=51.0*
DJA ***23*** *10:05:27.1±1.0, 7.83S×120.45E, h200km, MD4.7/4, ML4.9/4, Error ellipse: s-maj=32.2km s-min=5.8km az=131.0*

ISC 23 10:05:25.1±0.5, 8.12S±0.06×120.70E±0.04, h33km, n19, σ1§32/27, mb4.5/3, 3C-5D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang**	**3.79**	**346**	*e*P	**P**	**10 06 23.0**	**+0.4**
BUNI	**Buntu Taipa**	**4.45**	**355**	*e*P	**P**	**10 06 32.7**	**+0.7**
KEDI	**Kedomdong**	**4.56**	**265**	⇓*e*Pn	**Pn**	**10 06 35.1**	**+1.5**
181nm,0.2s							
KEDI				⇓*i*Sn	**Sn**	**10 07 24.8**	**-1.3**
TANI	**Tanete Lipujan**	**4.83**	**344**	*e*P	**P**	**10 06 34.8**	**-2.6**
RATI	**Rata**	**5.15**	**263**	⇑*i*Pn	**Pn**	**10 06 42.3**	**+0.3**
326nm,0.2s							
RATI	**Rata**	**5.15**	**263**	⇑*i*P	**P**	**10 06 43.1**	**+1.2**
RATI				⇓*i*Sn	**Sn**	**10 07 42.2**	**+1.2**
KELI	**Kelakatan**	**6.15**	**269**	⇓*i*Pn	**Pn**	**10 06 54.9**	**-1.2**
26nm,0.2s							
SRDI	**Scrawed**	**6.50**	**266**	⇓*i*Pn	**Pn**	**10 06 59.3**	**-1.8**
148nm,0.2s							
SRDI				⇑*i*Sn	**Sn**	**10 08 10.6**	**-4.2**
FITZ	**Fitzroy Crossi**	**11.02**	**155**	*e*P	**P**	**10 08 02.7**	**-0.9**
9.6nm,0.8s							
FITZ				*e*S	**S**	**10 10 02.8**	**-3.9**
FITZ	**Fitzroy Crossi**	**11.02**	**155**	Pn	**P**	**10 08 02.7**	**-0.9**
1.8nm,0.3s,baz=331,slow=8.7,SNR=13							
FITZ				Sn	**S**	**10 10 03.0**	**-3.7**
1.4nm,0.3s,baz=152,slow=16,SNR=6.1							
KAKA	**Kakadu**	**12.41**	**113**	*e*P	**P**	**10 08 22.9**	**+0.6**
6.3nm,0.9s							
WRA	**Warramunga Arr**	**17.68**	**133**	P	**P**	**10 09 30.1**	**-0.3**
0.4nm,0.3s,baz=306,slow=13,SNR=22							
WRA				S	**S**	**10 12 42.3**	**-1.7**
0.1nm,0.3s,baz=308,slow=21,SNR=5.0							
WRAB	**Tennant Creek**	**17.68**	**133**	*e*P	**P**	**10 09 30.4**	**-0.1**
6.4nm,0.7s							
WB2	**Warramunga Arr**	**17.69**	**133**	*e*P	**P**	**10 09 31.4**	**+0.8**
WB2				*e*S	**S**	**10 12 41.5**	**-2.7**
ASPA	**Alice Springs**	**19.97**	**142**	*e*P	**P**	**10 10 00.1**	**+2.6**
ASAR	**Alice Springs**	**19.98**	**142**	P	**P**	**10 09 58.8**	**+1.2**
4.7nm,0.5s,baz=328,slow=12,SNR=42							
ASAR				S	**S**	**10 13 37.5**	**+2.1**
1.3nm,0.8s,baz=307,slow=21,SNR=6.3							
FORT	**Forrest**	**23.57**	**164**	*e*P	**P**	**10 10 33.7**	**+0.1**
201nm,0.7s,mb5.7							
STKA	**Stephens Creek**	**30.60**	**143**	P	**P**	**10 11 38.9**	**+0.5**
1.0nm,0.5s,mb3.9,baz=322,slow=9.2,SNR=6.2							
MKAR	**Makanchi Array**	**64.46**	**332**	P	**P**	**10 15 59.9**	**-0.8**
1.0nm,0.7s,mb4.0,baz=134,slow=7.8,SNR=4.5							

IDC ***23*** *10:06:30.8±1.7, 2.58N×95.79E, mb4.1/7, mb1 4.2/8, mb1mx3.9/21, mbtmp4.1/8, ML4.3/1, MS3.1/1, Ms1 3.3/1, ms1mx2.9/24, Error ellipse: s-maj=62.9km s-min=25.9km az=56.0*

ISC 23 10:06:34.1±1.2, 2.6N±0.2×95.8E±0.2, h33km, n14, σ0§74/14, mb4.3/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.07**	**11**	Pn	**P**	**10 10 20.2**	**+0.9**
0.4nm,0.3s,baz=196,slow=11,SNR=9.9							
CMAR				LR	LR	10 16 16.8	
comp=Z,66nm,19.2s,baz=205,slow=36							
PKI	**Pulchoki**	**26.76**	**339**	*e*P	**P**	**10 12 12.6**	**-0.4**
11nm,0.8s,mb4.5							
DMN	**Daman**	**26.91**	**339**	*e*P	**P**	**10 12 13.0**	**-1.3**
4.6nm,0.3s,mb4.5							
GUN	**Gumba**	**26.91**	**340**	*e*P	**P**	**10 12 15.0**	**+0.7**
24nm,0.8s,mb4.8							
KKN	**Kakani**	**27.01**	**339**	*e*P	**P**	**10 12 15.3**	**+0.1**
11nm,0.5s,mb4.7							
GKN	**Gorkha**	**27.44**	**338**	*e*P	**P**	**10 12 19.2**	**+0.1**
17nm,0.6s,mb4.7							
KOLN	**Koldanda**	**27.63**	**336**	*e*P	**P**	**10 12 21.6**	**+0.7**
9.3nm,0.6s,mb4.6							
WRA	**Warramunga Arr**	**43.94**	**122**	P	**P**	**10 14 40.0**	**-0.1**
1.0nm,0.8s,mb3.6,baz=301,slow=9.2,SNR=4.1							
MKAR	**Makanchi Array**	**45.58**	**347**	P	**P**	**10 14 52.8**	**0.0**
1.9nm,0.4s,mb4.4,baz=158,slow=8.8,SNR=49							
SONM	**Songino Array**	**45.99**	**10**	P	**P**	**10 14 55.7**	**-0.4**
2.0nm,0.6s,mb4.2,baz=186,slow=8.1,SNR=10							
ZAL	**Zalesovo**	**51.98**	**352**	P	**P**	**10 15 41.0**	**-1.1**
1.9nm,0.5s,mb4.3,baz=317,slow=6.1,SNR=7.3							
BVAR	**Borovoye Array**	**54.50**	**341**	P	**P**	**10 15 60.0**	**-0.9**
0.8nm,0.5s,mb3.9,baz=153,slow=9.7,SNR=4.5							
ARCES	**ARCESS Array B**	**80.77**	**340**	P	**P**	**10 18 45.7**	**+0.2**
5.6nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=6.3							
GERES	**GERESS Array B**	**82.86**	**319**	P	**P**	**10 18 58.1**	**+1.4**
0.3nm,0.2s,mb4.0,baz=90,slow=5.3,SNR=3.7							

NSSP ***23*** *10:06:45.4, 39.68N×44.20E, h8km, ML3.4*
IDC ***23*** *10:06:48.5±1.4, 39.62N×44.23E, mb3.7/7, mb1 3.7/9, mb1mx3.6/22, mbtmp3.6/9, ML3.1/2, MS3.1/5, Ms1 3.2/5, ms1mx2.8/33, Error ellipse: s-maj=27.8km s-min=9.1km az=144.0*
TIF ***23*** *10:06:48.6, 39.55N×44.32E, h15km±3km*
CSEM ***23*** *10:06:49.7±0.1, 39.75N×44.31E, h5km, mb3.8/1, Error ellipse: s-maj=2.0km s-min=2.0km az=8.0*
ISK ***23*** *10:06:50.7, 39.72N×44.56E, h31km, MD3.9*
NEIC ***23*** *10:06:50.9±0.4, 39.76N×44.16E, h10km, mb4.0/1, Error ellipse: s-maj=8.1km s-min=5.3km az=223.0*
MOS ***23*** *10:06:51.8±1.7, 39.68N×44.13E, h33km, mb4.0/3, Error ellipse: s-maj=11.6km s-min=8.9km az=90.0*
THR ***23*** *10:06:53.9±0.9, 39.48N×44.48E, h14km±7km, ML3.7*
TEH ***23*** *10:06:58.1, 39.42N×44.63E, h8km, Mn3.1*

ISC 23 10:06:50.6±0.3, 39.72N±0.02×44.33E±0.04, h10km, n76, σ1§40/85, mb3.8/12, MS3.1/4, 2C-3D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRNZ	**Vardanashen**	**0.34**	**342**	⇓P	**Pg**	**10 06 54.0**	**-3.6**
MAKU	**Maku**	**0.46**	**143**	*e*PG	**Pg**	**10 06 58.3**	**-1.6**
MAKU				AML	AML	10 07 06.2	
comp=N,16μm,0.3s							
GNI	**Garni**	**0.53**	**37**	*i* PG	**Pg**	**10 07 01.1**	**-0.2**
GNI	**Garni**	**0.53**	**37**	Pg	**Pg**	**10 07 01.4**	**+0.1**
comp=N,232nm,0.3s,baz=252,slow=2.5,SNR=209							
GNI				Lg		10 07 11.6	
comp=N,1μm,0.3s,baz=200,slow=20,SNR=34							
KARS	**Kars**	**1.30**	**314**	PN	**Pn**	**10 07 13.7**	**-1.1**
VANB	**Van**	**1.34**	**213**	PN	**Pn**	**10 07 14.6**	**-0.8**
TVAN	**Van**	**1.39**	**211**	*i* P	**Pn**	**10 07 14.4**	**-1.7**
TVAN				*i* S	**Sb**	**10 07

comp=E,69nm,11.0s
SNGE Sanandaj 5.21 152 *e*PN **Pn** **10 08 10.4 -0.1**
IDHR Dehrash 5.28 161 Pn **Pn** **10 08 11.8 +0.4**
IRAZ Razeghan 6.19 132 Pn **Pn** **10 08 24.4 +0.1**
IRAZ Lg 10 09 59.3
ASAO Ashtian 6.88 137 *e*PN **Pn** **10 08 33.8 -0.2**
DAMV Damavand 7.31 122 *e*PN **Pn** **10 08 39.2 -0.8**
IDMV Damavand 7.38 122 Pn **Pn** **10 08 40.4 -0.6**
IFIR Firoozkooh 7.82 119 Pn **Pn** **10 08 53.1 +5.9**
IFIR Sn **Sn** **10 10 06.6 -10**
BRTR Keskin Array B 8.24 273 Pn **P** **10 08 48.9 -4.1**
comp=E,0.1nm,0.3s,baz=104,slow=12,SNR=2.5
ISP Isparta 10.95 265 *e*P **P** **10 09 30.2 -0.2**
MLR Muntele Rosu 14.70 299 LR LR 10 17 39.4
comp=E,47nm,19.6s,baz=101,slow=44
AKASG Malin Array Be 15.26 321 Pn **P** **10 10 24.8 -2.8**
comp=E,0.3nm,0.3s,baz=134,slow=12,SNR=3.1
OBN Obninsk 16.25 344⇑*i*P **P** **10 10 38.4 -1.9**
OBN pmax pmax
comp=Z,17nm,1.3s
OBN Obninsk 16.25 344 *i*P **P** **10 10 38.4 -1.9**
comp=Z,17nm,1.3s
SVE Sverdlovsk 20.18 27 *e*P **P** **10 11 27.6 -0.2**
BVAR Borovoye Array 22.21 45 P **P** **10 11 48.9 +0.4**
comp=Z,0.6nm,0.4s,mb3.4,baz=233,slow=7.2,SNR=3.9
AAK Ala-Archa 22.83 73 *e*P **P** **10 11 52.1 -2.6**
AAK pmax pmax
comp=Z,4.0nm,1.4s,mb3.7
AAK Ala-Archa 22.83 73 *e*P **P** **10 11 52.1 -2.6**
comp=Z,4.0nm,1.4s,mb3.7
GERES GERESS Array B 23.61 303 P **P** **10 12 00.8 -1.4**
comp=Z,0.9nm,0.7s,mb3.3,baz=106,slow=9.7,SNR=7.3
KHC Kasperske Hory 23.75 303⇑*i*P **P** **10 12 03.3 -0.2**
KHC Kasperske Hory 23.75 303 *i*P **P** **10 12 03.3 -0.2**
FINES FINESS Array B 24.47 339 P **P** **10 12 08.9 -1.6**
comp=Z,2.5nm,0.7s,mb3.7,baz=146,slow=6.9,SNR=13
FINES LR LR 10 21 18.5
comp=Z,34nm,18.5s,MS2.9,baz=164,slow=36
JOF Joensuu 24.51 346 *e*p **P** **10 12 02.2 -8.7**
comp=Z,4.3nm,0.7s,mb4.1
KAF Kangasniemi 24.96 340 *e*p **P** **10 12 13.4 -1.7**
comp=Z,3.7nm,1.0s,mb3.9
KAF Kangasniemi 24.96 340 *e*P **P** **10 12 13.4 -1.7**
KAF pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
DAVOX Davos 25.91 297 P **P** **10 12 22.8 -1.5**
comp=Z,3.1nm,0.7s,mb4.0,baz=84,slow=9.2,SNR=4.5
HFS Hagfors 27.97 327 LR LR 10 24 28.7
comp=Z,72nm,18.9s,MS3.3,baz=266,slow=38
MKAR Makanchi Array 28.32 63 P **P** **10 12 46.6 +0.3**
comp=Z,0.4nm,0.8s,mb3.1,baz=274,slow=7.4,SNR=5.8
NOA NORSAR Array B 29.49 327 LR LR 10 25 43.9
comp=Z,41nm,16.4s,MS3.1,baz=20,slow=38
ARCES ARCESS Array B 31.50 347 LR LR 10 27 00.4
comp=Z,42nm,20.5s,MS3.1,baz=301,slow=38
TLY Talaya 42.00 53 *e*P **P** **10 14 41.7 -1.5**
ULN Ulaanbaatar 44.88 58 *e*P **P** **10 15 09.8 +3.1**
BOD Bodaibo 47.07 43 *e*P **P** **10 15 17.5 -6.4**
BOD pmax pmax
comp=Z,26nm,1.0s,mb5.1
TIXI Tiksi 51.17 24⇓*i*P **P** **10 15 54.8 -0.5**
TIXI pmax pmax
comp=Z,2.0nm,1.7s,mb3.8
TIXI Tiksi 51.17 24 *i*P **P** **10 15 54.8 -0.5**
comp=Z,2.0nm,1.7s,mb3.8
DBIC Dimbokro 54.96 247 P **P** **10 16 19.6 -4.7**
comp=Z,3.0nm,0.9s,mb4.3,baz=134,slow=10,SNR=4.1
YKA Yellowknife Ar 76.73 350 P **P** **10 18 41.6 -1.4**
comp=Z,1.0nm,1.0s,mb3.7,baz=14,slow=5.7,SNR=10

IDC 23 10:13:35.1±3.3, 4.82N×92.50E, mb3.2/2, mb1 3.6/3, mb1mx3.3/21, mbtmp3.3/3, ML4.0/1, Error ellipse: s-maj=110.1km s-min=33.3km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.95**	**24**	Pn	P	10 17 08.2	-1.4
0.2nm,0.3s,baz=212,slow=8.5,SNR=4.9							
MKAR	**Makanchi Array**	**42.74**	**350**	P	P	10 21 34.0	-1.8
0.2nm,0.6s,baz=177,slow=7.0,SNR=3.4							
WRA	**Warramunga Arr**	**47.92**	**122**	P	P	10 22 15.5	-2.0
0.3nm,0.9s,baz=300,slow=8.9,SNR=4.6							

*IDC **23** 10:31:39.6±0.4, 2.79N×95.99E, mb4.8/22, mb1 4.9/23, mb1mx4.9/24, mbtmp4.8/23, ML4.8/1, MS4.7/21, Ms1 4.7/21, ms1mx4.5/37, Error ellipse: s-maj=18.4km s-min=11.0km az=53.0*

*BJI **23** 10:31:42.7, 2.54N×95.83E, h42km, mB5.3, mb5.3, Ms5.2, Msz5.0*

*MOS **23** 10:31:43.5±1.3, 2.77N×96.00E, h33km, mb5.3/47, MS4.8/16, Error ellipse: s-maj=9.0km s-min=5.2km az=113.6*

*NEIC **23** 10:31:45.0±2.1, 2.75N×95.99E, h33km±14km, mb5.1/46, MS4.9/37, Error ellipse: s-maj=7.2km s-min=4.8km az=224.0*

*HRVD **23** 10:31:45.0±0.3, 2.40N×95.74E, h25km, MW5.2/57, Centroid moment Tensor Solution. LP body waves: s48,c78; Mantle waves: s57,c95; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.95±.17; $M_{\theta\theta}$-2.38±.12; $M_{\phi\phi}$-0.57±.16; $M_{r\theta}$5.34±.26; $M_{\theta\phi}$2.21±.11; $M_{\phi r}$-4.36±.32; Best double couple: $M_0$7.693×10^{16} NP1:ϕ_s295°, δ13°, λ77°. NP2:ϕ_s129°, δ77°, λ93°. Principal axes: T 7.253, Plg58°, Azm43°; N .878, Plg3°, Azm308°; P -8.132, Plg32°, Azm216°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 10:31:43.2±0.2, 2.72N±0.03×95.97E±0.03, h33km, h33km±1.1km: pP-P, n310, σ19/24/281, mb5.2/99, MS4.9/88, 18C-7D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**61**	*e*Pn	**Pn**	**10 33 03.1**	**+0.5**
IPM	**Ipoh**	**5.37**	**70**	P	**Pn**	**10 33 04.1**	**+0.8**
SNG	**Songkhla**	**6.41**	**46**	P	**Pn**	**10 33 18.0**	**+0.1**
640nm,0.9s							
KGM	**Kluang**	**7.38**	**95**	P	**Pn**	**10 33 32.5**	**+1.0**
PBA	**Port Blair**	**9.44**	**340**	*e*	**Sn**	**10 35 44.0**	**-2.1**
NST	**Nakhon Sawan**	**13.51**	**17**	P	**P**	**10 35 00.0**	**+4.7**
50nm,0.8s							
KSM	**Kuching**	**14.38**	**95**	*e*P	**P**	**10 35 08.1**	**+1.3**
KKTK	**Khon Kaen**	**15.12**	**26**	PG	**P**	**10 35 18.0**	**+1.6**
UBT	**Ubonrachathani**	**15.31**	**35**	P	**P**	**10 35 22.5**	**+3.6**
PALK	**Pallekele**	**15.87**	**287**	*e*P	**P**	**10 35 25.0**	**-1.1**
75nm,1.1s							
CM31	**Chiang Mai Arr**	**15.91**	**10**	*e*P	**P**	**10 35 26.7**	**+0.1**
73nm,0.9s							
CMAR	**Chiang Mai Arr**	**15.91**	**10**	Pn	**P**	**10 35 25.1**	**-1.6**
1.4nm,0.3s,baz=196,slow=12,SNR=46							
CMAR				LR	LR	10 41 36.8	
comp=Z,2μm,20.2s,baz=200,slow=38							
CHG	**Chiang Mai**	**16.26**	**10**	P	**P**	**10 35 29.6**	**-1.4**
24nm,0.8s							
NANT	**Nan**	**16.64**	**16**	P	**P**	**10 35 37.0**	**+1.2**
375nm,0.6s							
MDRS	**Chennai**	**18.65**	**304**	*e*	**P**	**10 35 54.0**	**-6.8**
MDRS				*e*		10 41 13.0	
MDRS				*e*		10 45 45.0	
VIS	**Vishakhapatnam**	**19.40**	**321**	*e*P	**P**	**10 36 06.1**	**-3.5**
VIS				*e*		10 36 19.3	
comp=Z,97nm,1.5s							
VIS				*e*S	**S**	**10 39 31.9**	**-9.2**
SALM	**Salem**	**19.72**	**298**	*e*	**P**	**10 36 16.0**	**+2.7**
SALM				*e*S	**S**	**10 39 37.0**	**-11**
TRD	**Trivandrum**	**19.77**	**288⇓**	*e*	**P**	**10 36 23.7**	**+10**
TRD				*e*		10 36 24.0	
TRD				*e*		10 39 45.7	
TRD				*e*		10 39 58.0	
KKM	**Kota Kinabalu**	**20.45**	**80**	*e*P	**P**	**10 36 20.7**	**-0.2**
KKM	**Kota Kinabalu**	**20.45**	**80**	P	**P**	**10 36 21.3**	**+0.4**
CAL	**Calcutta**	**21.05**	**340**	*e*	**P**	**10 36 28.7**	**+1.7**
QIZ	**Qiongzhong**	**21.14**	**39**	P	**P**	**10 36 28.0**	**+0.1**
QIZ				PP	PP	10 36 55.0	+3.7
QIZ				S	**S**	**10 40 23.6**	**+7.2**
QIZ				XS		10 40 35.1	
QIZ				LR	LR		
comp=N,4μm,16.4s,MS5.2							
QIZ				LR	LR		
comp=E,6μm,16.8s,MS5.2							
QIZ				LR	LR		
comp=Z,3μm,18.6s,MS4.7							
TSM Tawau 21.92 85 P **P** **10 36 38.3 +2.6**							
HYB Hyderabad 22.49 312 *e*P **P** **10 36 43.5 +2.1**							
HYB *e*S **S** **10 40 55.0 +14**							
HYB Hyderabad 22.49 312 *i*P **P** **10 36 43.5 +2.1**							
HYB *e*S **S** **10 40 55.0 +14**							
SHL Shillong 23.06 351 *e* **P** **10 36 40.0 -7.0**							
SHL *e*S **S** **10 40 58.0 +6.6**							
BOK Bokaro 23.11 336⇑*i*P **P** **10 36 49.0 +1.5**							
BOK *i* 10 41 00.0							
KMI Kunming 23.21 16 P **P** **10 36 50.3 +1.8**							
KMI AP 10 36 56.5							
KMI PP PP 10 37 22.1 +2.6							
KMI S **S** **10 40 58.9 +4.7**							
KMI XS 10 41 09.4							
KMI AMB AMB							
comp=Z,68nm,1.1s,mb5.0							
KMI AMB AMB							
comp=Z,443nm,3.7s							
KMI LR LR							
comp=N,4μm,15.6s,MS5.0							
KMI LR LR							
comp=E,2μm,14.5s,MS5.0							
KMI LR LR							
comp=Z,4μm,15.6s,MS5.0							
KMI Kunming 23.21 16 P **P** **10 36 50.2 +1.7**							
KMI *SP 10 36 59.0							
KMI 10 37 22.1							
KMI PPP PPP 10 37 32.4 +2.9							
KMI S **S** **10 40 58.9 +4.7**							
KMI *SS 10 41 09.4							
KMI pmax pmax							
comp=Z,68nm,1.1s,mb5.0							
KMI MLR MLR							
comp=Z,4μm,15.6s,MS5.0							
KMI Kunming 23.21 16 P **P** **10 36 50.2 +1.7**							
comp=Z,68nm,1.1s,mb5.0							
KMI pP 10 36 56.5							
KMI sP 10 36 59.0							
KMI PP PP 10 37 22.1 +2.6							
KMI PPP PPP 10 37 32.4 +2.9							
KMI S **S** **10 40 58.9 +4.7**							
KMI sS 10 41 09.4							
KMI LR LR							
comp=Z,4μm,15.6s,MS5.0							
DGAR Diego Garcia 25.53 247 PFAKE 10 37 20.0 +9.1							
DGAR LR LR							
comp=Z,524nm,20.0s,MS4.0							
GYA Guiyang 25.74 23⇑*i*P **P** **10 37 12.6 -0.1**							
GYA AP pP 10 37 21.4 -0.8							
GYA XP sP 10 37 25.9 -0.6							
GYA AMB AMB							
comp=Z,20nm,1.0s,mb4.6							
GYA AMB AMB							
comp=Z,330nm,7.2s							
GYA LR LR							
comp=N,3μm,15.9s,MS5.0							
GYA LR LR							
comp=E,2μm,16.2s,MS5.0							
GYA LR LR							
comp=Z,4μm,16.8s,MS5.0							
KAD Karad 25.84 306 *e*P **P** **10 37 11.9 -1.9**							
KAD *e* 10 37 33.6							
comp=Z,28nm,0.9s							
GZH Guangzhou 26.33 38 P **P** **10 37 22.1 +3.9**							
GZH LR LR							
comp=N,2μm,17.0s,MS4.9							
GZH LR LR							
comp=E,3μm,18.5s,MS4.9							
GZH LR LR							
comp=Z,3μm,18.2s,MS4.9							
JIRN Jiri 26.51 340 *e*P **P** **10 37 16.5 -3.3**							
comp=Z,40nm,0.4s,mb5.3							
PKI Pulchoki 26.70 339 *e*P **P** **10 37 17.6 -4.0**							
comp=Z,255nm,1.0s,mb5.7							
GUN Gumba 26.84 340 *e*P **P** **10 37 18.3 -4.6**							
comp=Z,482nm,0.8s,mb6.1							
DMN Daman 26.84 338 *e*P **P** **10 37 19.5 -3.4**							
comp=Z,254nm,0.9s,mb5.7							
KKN Kakani 26.95 339 *e*P **P** **10 37 18.8 -5.0**							
comp=Z,489nm,0.9s,mb6.0							
BHPL Bhopal 27.18 320 *e*P **P** **10 37 25.1 -0.9**							
BHPL *e* 10 37 39.3							
comp=Z,28nm,1.2s							
LSA Lhasa 27.22 351 P **P** **10 37 27.0 +0.7**							
LSA AMB AMB							
comp=Z,50nm,0.7s,mb5.2							
GKN Gorkha 27.38 338 *e*P **P** **10 37 22.7 -5.0**							
comp=Z,465nm,0.9s,mb6.0							
KOLN Koldanda 27.58 336 *e*P **P** **10 37 25.4 -4.2**							
comp=Z,198nm,0.7s,mb5.9							
CD2 Chengdu 28.99 14⇓*i*P **P** **10 37 40.5 -1.8**							
CD2 AP pP 10 37 51.3 -0.5							
CD2 XP sP 10 37 55.8 -0.3							
CD2 S **S** **10 42 26.8 -3.0**							
CD2 AMB AMB							
comp=Z,30nm,0.5s,mb5.3							
CD2 AMB AMB							
comp=Z,300nm,3.7s							
CD2 LR LR							
comp=N,4μm,13.2s							
CD2 LR LR							
comp=Z,4μm,13.1s,MS5.2							
LGTI Lohaghat 30.50 332 *e* **P** **10 37 59.3 +3.6**							
NDI New Delhi 31.40 327 *e*P **P** **10 38 01.5 -2.2**							
NDI *e*S **S** **10 43 07.0 -0.8**							
WHN Wuhan 32.69 30 ⇑P **P** **10 38 16.8 +1.9**							
WHN S **S** **10 43 38.0 +10**							
WHN AMB AMB							
comp=Z,100nm,1.2s,mb5.6							
WHN LR LR							
comp=N,1μm,12.0s,MS5.1							
WHN LR LR							
comp=E,2μm,14.0s,MS5.1							
WHN LR LR							
comp=Z,4μm,15.2s,MS5.2							
MBWA Marble Bar 33.23 137 *e*P **P** **10 38 17.9 -1.9**							
comp=Z,10nm,0.8s,mb4.8							
MBWA LR LR							
comp=Z,1μm,20.0s,MS4.6							
SMLA Simla 33.38 330⇓*i* **P** **10 38 16.2 -4.6**							
comp=Z,156nm,1.9s,mb5.6							
SMLA *i*S **S** **10 43 34.0 -4.6**							
XAN Xi'an 33.42 20 P **P** **10 38 19.6 -1.7**							
XAN AMB AMB							
comp=Z,82nm,1.0s,mb5.6							
XAN LR LR							
comp=N,1μm,16.4s,MS5.0							
XAN LR LR							
comp=E,2μm,16.4s,MS5.0							
XAN LR LR							
comp=Z,2μm,19.6s,MS4.7							
SDNR Sundarnagar 33.77 330 *e*P **P** **10 38 24.0 -0.3**							
LZH Lanzhou 33.99 11 ⇑P **P** **10 38 25.0 -1.2**							
LZH AP pP 10 38 34.3 -1.5							
LZH XP sP 10 38 37.8 -2.2							
LZH PP PP 10 39 45.0 +4.6							
LZH *e*S **S** **10 43 52.0 +3.9**							
LZH XS 10 44 09.0							
LZH AMB AMB							
comp=Z,50nm,1.0s,mb5.4							
LZH AMB AMB							
comp=Z,250nm,4.0s							
LZH LR LR							
comp=E,2μm,13.4s							
LZH LR LR							
comp=Z,3μm,17.6s,MS5.1							
LZH Lanzhou 33.99 11 ⇑P **P** **10 38 25.0 -1.2**							
LZH *PP pP 10 38 34.3 -1.5							
LZH *SP sP 10 38 37.7 -2.3							
LZH 10 39 45.0							
LZH *e*S **S** **10 43 52.0 +3.9**							
LZH *SS 10 44 09.0							
LZH pmax pmax							
comp=Z,50nm,1.0s,mb5.4							
LZH MLR MLR							
comp=Z,3μm,17.6s,MS5.1							
LZH Lanzhou 33.99 11 ⇑P **P** **10 38 25.0 -1.2**							
comp=Z,50nm,1.0s,mb5.4							
LZH pP pP 10 38 34.3 -1.5							
LZH sP sP 10 38 37.7 -2.3							
LZH PP PP 10 39 45.0 +4.6							
LZH *e*S **S** **10 43 52.0 +3.9**							
LZH sS 10 44 09.0							
LZH SS SS 10 46 10.0 +14							
LZH LR LR							
comp=Z,3μm,17.6s,MS5.1							
DLH Dalhousie 35.12 330 *e*P **P** **10 38 37.0 +1.2**							
THN Thein Dam 35.16 329 *e*P **P** **10 38 37.1 +0.9**							
FITZ Fitzroy Crossi 35.81 126 *e*P **P** **10 38 40.6 -1.2**							
comp=Z,20nm,0.9s,mb5.0							
FITZ Fitzroy Crossi 35.81 126 P **P** **10 38 40.8 -1.1**							
comp=Z,28nm,0.8s,mb5.2,baz=280,slow=4.3,SNR=19							
FITZ LR LR 10 54 34.8							
comp=Z,1μm,19.2s,MS4.6,baz=177,slow=38							
NJ2 Nanjing 36.26 34 *e*P **P** **10 38 48.0 +2.5**							
NJ2 AP pP 10 38 59.1 +3.9							
NJ2 XP sP 10 39 01.6 +2.3							
NJ2 PP PP 10 40 12.0 +3.1							
NJ2 S **S** **10 44 25.0 +1.8**							
NJ2 XS 10 44 42.0							
NJ2 AMB AMB							
comp=Z,460nm,1.2s							
NJ2 AMB AMB							
comp=Z,670nm,5.2s							
NJ2 LR LR							
comp=N,4μm,18.8s,MS5.4							
NJ2 LR LR							
comp=E,4μm,15.7s,MS5.4							
NJ2 LR LR							
comp=Z,2μm,13.9s,MS5.0							
GTA Gaotai 36.69 5 *e*P **P** **10 38 48.3 -0.8**							
GTA AP pP 10 38 56.9 -1.9							
GTA PP PP 10 40 14.1 -0.3							
GTA PCP PcP 10 41 10.5 -1.2							
GTA S **S** **10 44 29.6 -0.1**							
GTA XS 10 44 45.6							
GTA SS SS 10 46 59.8 +2.2							
GTA AMB AMB							
comp=Z,45nm,0.8s,mb5.3							
GTA AMB AMB							
comp=Z,275nm,6.8s							
GTA LR LR							
comp=N,1μm,18.3s,MS4.8							
GTA LR LR							
comp=E,751nm,15.6s,MS4.8							
GTA LR LR							
comp=Z,1μm,19.0s,MS4.7							
SSE Sheshan 36.92 37 *e*P **P** **10 38 48.5 -2.6**							
SSE AP pP 10 38 58.1 -2.7							
SSE S **S** **10 44 30.4 -3.0**							
SSE AMB AMB							
comp=Z,24nm,0.7s,mb5.1							
SSE AMB AMB							
comp=Z,103nm,3.5s							
SSE LR LR							
comp=N,1μm,18.9s,MS5.0							
SSE LR LR							
comp=E,2μm,18.9s,MS5.0							
SSE LR LR							
comp=Z,2μm,21.6s,MS4.8							
SSE Sheshan 36.92 37 *e*P **P** **10 38 48.5 -2.6**							
comp=Z,24nm,0.7s,mb5.1							
SSE pP pP 10 38 58.1 -2.7							
SSE sP sP 10 39 02.0 -2.9							
SSE PP PP 10 40 12.0 -5.5							
SSE S **S** **10 44 30.4 -3.0**							
SSE sS 10 44 46.0							
SSE SS SS 10 47 12.9 +10							
SSE LR LR							
comp=Z,2μm,21.6s,MS4.8							
TIY Taiyuan 37.97 21 *e*P **P** **10 39 03.0 +3.2**							
TIY LR LR							
comp=N,5μm,15.0s							
TIY LR LR							
comp=Z,1μm,15.0s,MS4.8							
JOW Kunigami 39.15 49 LR LR 10 56 20.1							
comp=Z,644nm,19.8s,MS4.5,baz=153,slow=38							
KAKA Kakadu 39.33 114 *e*P **P** **10 39 10.4 -1.0**							
comp=Z,19nm,0.6s,mb5.0							
BTO Baotou 39.80 17 *e*P **P** **10 39 16.1 +1.0**							
BTO AMB AMB							
comp=Z,34nm,0.8s,mb5.1							
KLBR Kellerberrin 39.91 150 *e*P **P** **10 39 17.7 +1.6**							
comp=Z,3μm,2.0s							
HHC Hu-ho-hao-te 40.49 18⇑*i*P **P** **10 39 21.8 +1.1**							
HHC AP pP 10 39 31.8 +1.3							
HHC XP sP 10 39 35.3 +0.8							
HHC PP PP 10 41 01.3 +4.0							
HHC PCP PcP 10 41 24.5 +0.9							
HHC SCP 10 45 08.0							
HHC S **S** **10 45 31.3 +4.2**							
HHC XS 10 45 45.3							
HHC SS SS 10 48 29.3 +7.4							
HHC SCS ScS 10 49 24.8 +3.0							
HHC AMB AMB							
comp=Z,27nm,1.2s,mb4.8							
HHC AMB AMB							
comp=Z,342nm,7.1s							
HHC LR LR							
comp=N,3μm,16.3s,MS5.3							
HHC LR LR							
comp=E,1μm,16.5s,MS5.3							
HHC LR LR							
comp=Z,3μm,15.9s,MS5.2							
NWAO Narrogin (SRO) 40.76 152 P **P** **10 39 23.8 +0.7**							
comp=Z,11nm,1.0s,mb4.4,baz=306,slow=8.7,SNR=3.2							
NWAO LR LR 10 56 39.7							
comp=Z,1μm,19.4s,MS4.8,baz=330,slow=37							
NWAO Narrogin (SRO) 40.76 152 P **P** **10 39 23.8 +0.7**							
NWAO LR LR 10 56 39.7							
KSH Kashi 40.89 336 *e*P **P** **10 39 22.5 -1.6**							
KSH *e*AP pP 10 39 32.0 -1.8							
KSH *e*XP sP 10 39 36.1 -1.8							
KSH *e*PP PP 10 40 59.0 -2.3							
KSH *e*PCP PcP 10 41 25.5 +0.6							
KSH *e*SCP 10 45 10.5							
KSH *e*PCS 10 45 14.5							
KSH *e*S **S** **10 45 28.3 -4.9**							
KSH *e*SCS ScS 10 49 23.6 -0.6							
KSH AMB AMB							
comp=Z,240nm,2.2s,mb5.4							
KSH LR LR							
comp=N,550nm,11.8s,MS5.0							
KSH LR LR							
comp=E,1μm,14.0s,MS5.0							
MSEY Mahe Island 41.12 260 PFAKE 10 39 40.0 +14							
MSEY LR LR							
comp=Z,334nm,19.0s,MS4.2							
BJI Beijing 41.42 24 P **P** **10 39 29.5 +1.1**							
BJI AP pP 10 39 38.4 +0.2							
BJI PP PP 10 41 07.8 +0.7							
BJI AMB AMB							
comp=Z,272nm,2.3s,mb5.5							
BJI LR LR							
comp=N,2μm,16.4s,MS5.1							
BJI LR LR							
comp=E,1μm,16.4s,MS5.1							
BJI LR LR							
comp=Z,526nm,26.1s							
BJI Beijing 41.42 24 P **P** **10 39 29.5 +1.1**							
BJI *PP pP 10 39 38.4 +0.2							
BJI 10 41 07.7							
BJI pmax pmax							
comp=Z,302nm,0.7s,mb6.0							
BJI MLR MLR							
comp=Z,530nm,26.1s,MS4.3							
BJI Beijing 41.42 24 P **P** **10 39 29.5 +1.1**							
comp=Z,302nm,0.7s,mb6.0							
BJI pP pP 10 39 38.4 +0.2							
BJI PP PP 10 41 07.7 +0.6							
BJI S **S** **10 45 53.1 +12**							
BJI SS SS 10 49 11.0 +30							
BJI LR LR							
comp=Z,530nm,26.1s,MS4.3							
WMQ Urumqi 41.58 351 ⇑P **P** **10 39 30.3 +0.6**							
WMQ AP pP 10 39 40.3 +0.8							
WMQ XP sP 10 39 44.3 +0.8							
WMQ PP PP 10 41 10.3 +1.5							
WMQ PCP PcP 10 41 27.6 +0.5							
WMQ S **S** **10 45 43.9 +0.5**							
WMQ XS 10 46 00.3							
WMQ AMB AMB							
comp=Z,59nm,1.2s,mb5.1							
WMQ LR LR							
comp=N,1μm,20.0s,MS4.9							
WMQ LR LR							
comp=E,1μm,18.2s,MS4.9							
WMQ LR LR							
comp=Z,867nm,21.5s,MS4.6							

DL2	**Dalian**	**42.95**	**30**	P	**P**	**10 39 40.9**	**-0.1**
DL2				AP	pP	10 39 49.4	-1.3
DL2				S	**S**	**10 46 02.3**	**-1.2**
DL2				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.5						
DL2				LR	LR		
	comp=N,680nm,18.6s,MS4.7						
DL2				LR	LR		
	comp=E,560nm,14.5s,MS4.7						
DL2				LR	LR		
	comp=Z,730nm,19.6s						
ULHL	**Ulahol**	**43.14**	**338**	P	**P**	**10 39 43.0**	**+0.6**
	SNR=10						
KZA	**Kyzart**	**43.37**	**337**	P	**P**	**10 39 47.0**	**+2.7**
	SNR=20						
UCH	**Uchtor**	**43.78**	**337**	P	**P**	**10 39 48.5**	**+0.9**
	SNR=36						
WRA	**Warramunga Arr**	**43.88**	**123**	P	**P**	**10 39 47.7**	**-1.0**
	comp=Z,6.1nm,0.4s,mb4.6,baz=300,slow=9.3,SNR=24						
WRAB	**Tennant Creek**	**43.88**	**123**	⇑*i*P	**P**	**10 39 49.8**	**+1.0**
WRAB	**Tennant Creek**	**43.88**	**123**	*e*P	**P**	**10 39 48.0**	**-0.8**
	comp=Z,57nm,1.1s,mb5.2						
WRAB				LR	LR		
	comp=Z,657nm,20.0s,MS4.5						
WB2	**Warramunga Arr**	**43.89**	**123**	*e*P	**P**	**10 39 47.9**	**-0.9**
TKM2	**Tokmak 2**	**43.96**	**338**	P	**P**	**10 39 51.4**	**+2.3**
	SNR=11						
KBK	**Karagaybulak**	**43.98**	**338**	P	**P**	**10 39 50.4**	**+1.2**
	SNR=19						
AML	**Almayashu**	**44.02**	**336**	P	**P**	**10 39 50.1**	**+0.5**
	SNR=43						
AAK	**Ala-Archa**	**44.13**	**337**	P	**P**	**10 39 51.6**	**+1.1**
	SNR=12						
AAK	**Ala-Archa**	**44.13**	**337**	P	**P**	**10 39 51.4**	**+0.9**
AAK				pmax	pmax		
	comp=Z,74nm,1.3s,mb5.3						
AAK	**Ala-Archa**	**44.13**	**337**	*e*P	**P**	**10 39 50.3**	**-0.3**
	comp=Z,50nm,1.0s,mb5.2						
AAK				LR	LR		
	comp=Z,227nm,20.0s,MS4.1						
FRU	**Bishkek**	**44.26**	**337**	*e*P	**P**	**10 39 51.5**	**0.0**
FRU				*i*	pP	10 40 01.0	-0.3
FRU				*e*S	**S**	**10 46 25.0**	**+2.6**
FRU				pmax	pmax		
	comp=Z,100nm,2.1s,mb5.2						
FRU				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.8						
EKS2	**Erkin-Say**	**44.44**	**337**	P	**P**	**10 39 53.5**	**+0.5**
	SNR=24						
USP	**Ospenovka**	**44.67**	**338**	P	**P**	**10 39 55.0**	**+0.1**
	SNR=41						
FORT	**Forrest**	**45.22**	**140**	*e*P	**P**	**10 39 59.5**	**+0.1**
	comp=Z,851nm,0.5s						
ASPA	**Alice Springs**	**45.28**	**128**	*e*P	**P**	**10 39 59.3**	**-0.7**
ASAR	**Alice Springs**	**45.28**	**128**	P	**P**	**10 39 59.0**	**-1.1**
	comp=Z,4.8nm,0.6s,mb4.5,baz=299,slow=7.6,SNR=35						
KS15	**Wonju Array Si**	**45.30**	**36**	*e*P	**P**	**10 39 59.1**	**-0.8**
MKAR	**Makanchi Array**	**45.49**	**347**	P	**P**	**10 40 00.8**	**-0.5**
	comp=Z,39nm,0.5s,mb5.5,baz=162,slow=8.2,SNR=175						
MKAR	**Makanchi Array**	**45.49**	**347**	P	**P**	**10 40 00.8**	**-0.5**
SONM	**Songino Array**	**45.84**	**10**	P	**P**	**10 40 03.5**	**-0.5**
	comp=Z,49nm,0.7s,mb5.5,baz=190,slow=9.1,SNR=107						
SONM				PcP	PcP	10 41 40.5	-1.0
	comp=Z,8.6nm,0.7s,baz=195,slow=3.7,SNR=5.0						
ULN	**Ulaanbaatar**	**45.98**	**10**	⇑*i*P	**P**	**10 40 04.8**	**-0.4**
ULN				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.0						
SNY	**Shenyang**	**46.15**	**29**	⇑P	**P**	**10 40 04.5**	**-2.1**
SNY				S	**S**	**10 46 53.3**	**+3.7**
SNY				SS	SS	10 50 06.5	-0.4
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
SNY				AMB	AMB		
	comp=Z,290nm,4.7s						
SNY				LR	LR		
	comp=N,2μm,18.3s,MS5.1						
SNY				LR	LR		
	comp=E,860nm,14.1s,MS5.1						
SNY				LR	LR		
	comp=Z,2μm,17.3s,MS5.1						
KKAR	**Karatay Array**	**46.16**	**334**	*i*P	**P**	**10 40 06.4**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.1						
ZAK	**Zakamensk**	**47.90**	**6**	⇑*e*P	**P**	**10 40 19.8**	**-0.5**
ZAK				*e*		10 41 44.0	
ZAK				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
CN2	**Changchun**	**48.54**	**28**	⇑P	**P**	**10 40 24.5**	**-0.8**
CN2				*e*XP	sP	10 40 40.4	+1.3
CN2				PCP	PcP	10 41 51.0	-0.1
CN2				PP	PP	10 42 16.8	-1.0
CN2				*e*S	**S**	**10 47 21.8**	**-1.6**
CN2				SS	SS	10 50 48.3	-0.3
CN2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.5						
CN2				LR	LR		
	comp=N,800nm,17.0s,MS4.9						
CN2				LR	LR		
	comp=E,800nm,17.0s,MS4.9						
CN2				LR	LR		
	comp=Z,1μm,18.0s,MS4.9						
TLY	**Talaya**	**49.22**	**6**	*e*P	**P**	**10 40 32.0**	**+1.6**
TLY				*e*S	**S**	**10 47 35.4**	**+2.6**
TLY				*e*PS	PS	10 47 48.2	+2.9
TLY				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
TLY				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.9						
TLY	**Talaya**	**49.22**	**6**	*e*P	**P**	**10 40 29.0**	**-1.5**
	comp=Z,19nm,0.8s,mb5.2						
TLY				LR	LR		
	comp=Z,292nm,19.0s,MS4.3						
IRK	**Irkutsk**	**49.84**	**7**	*e*P	**P**	**10 40 35.9**	**+0.7**
IRK				*e*		10 41 58.1	
IRK				pmax	pmax		
	comp=Z,67nm,2.4s,mb5.2						
CBIJ	**Chichi jima**	**50.39**	**57**	LR	LR	11 00 24.0	
	comp=Z,464nm,18.7s,MS4.5,baz=290,slow=34						
MDJ	**Mudanjiang**	**51.17**	**31**	P	**P**	**10 40 46.0**	**+0.6**
MDJ				AP	pP	10 40 54.3	-1.1
MDJ				XP	sP	10 40 57.3	-1.9
MDJ				PCP	PcP	10 42 00.1	-0.6
MDJ				PP	PP	10 42 43.9	+1.0
MDJ				S	**S**	**10 48 04.0**	**+4.1**
MDJ				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,177nm,5.5s						
MDJ				LR	LR		
	comp=N,1μm,17.2s,MS5.0						
MDJ				LR	LR		
	comp=E,583nm,14.7s,MS5.0						
MDJ				LR	LR		
	comp=Z,1μm,12.3s,MS5.2						
MAT	**Matsushiro**	**51.43**	**44**	*e*P	**P**	**10 40 49.0**	**+1.5**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
MAT				MLR	MLR		
	comp=Z,710nm,20.0s,MS4.7						
MAT	**Matsushiro**	**51.43**	**44**	*e*P	**P**	**10 40 49.0**	**+1.5**
	comp=Z,8.4nm,0.9s,mb4.7						
MAT				*e*S	S	10 48 26.0	+22
MAT				LR	LR		
	comp=Z,710nm,20.0s,MS4.7						
MAT	**Matsushiro**	**51.43**	**44**	P	**P**	**10 40 47.5**	**0.0**
MAT				S	**S**	**10 48 21.6**	**+18**
MJAR	**Matsushiro Arr**	**51.43**	**44**	P	**P**	**10 40 46.7**	**-0.8**
	comp=Z,4.1nm,1.1s,mb4.3,baz=213,slow=7.1,SNR=8.6						
MJAR				PcP	PcP	10 42 01.7	-0.1
	comp=Z,7.9nm,0.8s,baz=234,slow=2.6,SNR=14						
MJAR				LR	LR	11 04 50.0	
	comp=Z,620nm,18.6s,MS4.7,baz=250,slow=39						
ZAL	**Zalesovo**	**51.88**	**352**	P	**P**	**10 40 49.5**	**-1.1**
	comp=Z,30nm,0.5s,mb5.5,baz=304,slow=6.0,SNR=104						
PMG	**Port Moresby**	**52.40**	**104**	P	**P**	**10 40 54.1**	**-1.0**
	comp=Z,15nm,0.6s,mb5.1,baz=326,slow=16,SNR=6.2						
NVS	**Novosibirsk**	**52.99**	**351**	⇑*i*P	**P**	**10 40 57.2**	**-1.8**
NVS				*e*		10 42 04.0	
NVS				*i*S	**S**	**10 48 24.4**	**-0.2**
NVS				*e*SS	ScS	10 50 40.9	-1.6
NVS				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.3						
NVS				pmax	pmax		
	comp=N,46nm,1.4s						
NVS				pmax	pmax		
	comp=E,37nm,1.2s						
NVS				smax			
	comp=N,53nm,2.0s						
NVS				smax			
	comp=E,12nm,1.7s						
CTA	**Charters Tower**	**54.28**	**117**	*e*P	**P**	**10 41 06.7**	**-2.2**
	comp=E,20nm,0.9s,mb5.0						
CTA	**Charters Tower**	**54.28**	**117**	*e*P	**P**	**10 41 06.7**	**-2.2**
CTA				pmax	pmax		
	comp=Z,20nm,0.9s						
CTA	**Charters Tower**	**54.28**	**117**	P	**P**	**10 41 07.2**	**-1.7**
	comp=Z,24nm,0.8s,mb5.1,baz=290,slow=6.8,SNR=9.5						
CTA				LR	LR	11 07 32.3	
	comp=Z,851nm,19.6s,MS4.8,baz=285,slow=40						
CTAO	**Charters Tower**	**54.28**	**117**	*e*P	**P**	**10 41 06.9**	**-2.0**
CTAO				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
CTAO	**Charters Tower**	**54.28**	**117**	*e*P	**P**	**10 41 06.9**	**-2.0**
	comp=Z,27nm,0.9s,mb5.2						
BVAR	**Borovoye Array**	**54.43**	**341**	P	**P**	**10 41 07.6**	**-1.9**
	comp=Z,25nm,0.8s,mb5.2,baz=154,slow=9.2,SNR=36						
STKA	**Stephens Creek**	**55.28**	**132**	*e*P	**P**	**10 41 15.2**	**-0.9**
	comp=Z,9.8nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**55.28**	**132**	P	**P**	**10 41 14.9**	**-1.2**
	comp=Z,12nm,0.7s,mb5.0,baz=316,slow=6.8,SNR=30						
STKA				LR	LR	11 09 58.2	
	comp=Z,476nm,18.0s,MS4.6,baz=304,slow=42						
KLR	**Kul'dur**	**55.47**	**28**	*e*P	**P**	**10 41 13.0**	**-4.2**
KLR				*e*S	**S**	**10 49 02.5**	**+4.3**
KLR				pmax	pmax		
	comp=N,35nm,1.8s						
KLR				pmax	pmax		
	comp=E,46nm,1.8s						
KLR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.4						
KLR				MLR	MLR		
	comp=E,900nm,14.0s						
KLR				MLR	MLR		
	comp=Z,3μm,14.0s,MS5.5						
ASAJ	**Asahikawa**	**58.21**	**38**	LR	LR	11 06 20.1	
	comp=Z,689nm,20.9s,MS4.8,baz=90,slow=36						
CLNS	**Chul'man**	**58.68**	**18**	*e*P	**P**	**10 41 39.4**	**-0.4**
CLNS				*e*		10 43 48.7	
CLNS				*e*S	**S**	**10 49 41.7**	**+1.3**
CLNS				*e*SS	SS	10 53 38.0	+2.9
CLNS				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.2						
CLNS				pmax	pmax		
	comp=N,16nm,0.9s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.0s						
CLNS				smax			
	comp=N,4.0nm,1.2s						
CLNS				smax			
	comp=E,4.0nm,0.9s						
CLNS				smax			
	comp=Z,4.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,3μm,15.0s,MS5.5						
CLNS				MLR	MLR		
	comp=N,2μm,14.0s,MS5.4						
CLNS				MLR	MLR		
	comp=E,600nm,15.0s,MS5.4						
KMBO	**Kilima Mbogo**	**58.83**	**267**	*i*P	**P**	**10 41 42.4**	**+0.9**
KMBO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KMBO	**Kilima Mbogo**	**58.83**	**267**	P	**P**	**10 41 41.2**	**-0.2**
	comp=Z,6.0nm,0.9s,mb4.6,baz=54,slow=7.5,SNR=15						
KMBO				LR	LR	11 05 04.8	
	comp=Z,1μm,18.3s,MS5.1,baz=277,slow=34						
KMBO	**Kilima Mbogo**	**58.83**	**267**	*e*P	**P**	**10 41 40.8**	**-0.6**
	comp=Z,15nm,1.0s,mb5.0						
GNI	**Garni**	**59.36**	**316**	*e*P	**P**	**10 41 47.0**	**+2.2**
GNI				pmax	pmax		
	comp=Z,19nm,0.9s						
GNI	**Garni**	**59.36**	**316**	*e*P	**P**	**10 41 47.0**	**+2.2**
	comp=Z,19nm,0.9s,mb5.1						
YSS	**Yuzh-Sakhalins**	**59.81**	**35**	⇑*e*P	**P**	**10 41 48.9**	**+1.1**
YSS				*e*		10 41 54.8	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
YSS				MLR	MLR		
	comp=N,500nm,17.0s,MS4.8						
YSS				MLR	MLR		
	comp=E,400nm,17.0s,MS4.8						
YSS				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**59.81**	**35**	*e*P	**P**	**10 41 47.9**	**+0.1**
	comp=Z,45nm,1.1s,mb5.4						
SVE	**Sverdlovsk**	**60.84**	**339**	*e*P	**P**	**10 41 53.0**	**-1.6**
SVE				*e*		10 42 07.0	
SVE				*e*S	**S**	**10 50 08.0**	**-0.2**
SVE				pmax	pmax		
	comp=Z,120nm,1.0s,mb6.0						
SVE				MLR	MLR		
	comp=N,400nm,22.0s,MS4.5						
SVE				MLR	MLR		
	comp=E,100nm,22.0s,MS4.5						
SVE				MLR	MLR		
	comp=Z,500nm,22.0s,MS4.6						
ARU	**Arti**	**61.32**	**337**	⇓*i*P	**P**	**10 41 56.9**	**-1.0**
ARU				*e*		10 42 35.7	
ARU				*e*		10 44 10.2	
ARU				*e*S	**S**	**10 50 16.5**	**+2.2**
ARU				*e*SS	SS	10 54 15.8	-0.6
ARU				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.5						
ARU				MLR	MLR		
	comp=Z,800nm,19.0s,MS4.9						
ARU				MLR	MLR		
	comp=N,300nm,18.0s,MS4.9						
ARU				MLR	MLR		
	comp=E,700nm,19.0s,MS4.9						
ARU	**Arti**	**61.32**	**337**	⇓*i*P	**P**	**10 41 56.6**	**-1.3**
KIV	**Kislovodsk**	**62.36**	**319**	*e*P	**P**	**10 42 17.2**	**+12**
KIV				*e*S	**S**	**10 50 44.6**	**+17**
KIV				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.2						
KIV				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.3						
MALT	**Malatya**	**63.21**	**312**	*e*P	**P**	**10 42 11.7**	**+0.9**
MALT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
MALT	**Malatya**	**63.21**	**312**	*e*P	**P**	**10 42 11.7**	**+0.9**
	comp=Z,10nm,1.0s,mb4.9						
EIL	**Elat**	**63.62**	**302**	*e*P	**P**	**10 42 14.5**	**+0.8**
	comp=Z,19nm,1.1s,mb5.0						
SOC	**Sochi**	**64.18**	**318**	*e*P	**P**	**10 42 14.4**	**-2.7**
SOC				*e*		10 42 50.7	
SOC				*e*		10 44 35.6	
SOC				*e*PPP	PPP	10 46 05.6	-6.8
SOC				*e*S	**S**	**10 50 48.6**	**-1.8**
SOC				*e*		10 52 02.6	
SOC				*e*SS	SS	10 55 03.9	+2.6
SOC				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
SOC				pmax	pmax		
	comp=N,19nm,1.0s						
SOC				pmax	pmax		
	comp=E,16nm,0.9s						
SOC				MLR	MLR		
	comp=N,91nm,17.0s,MS4.4						
SOC				MLR	MLR		
	comp=E,171nm,17.0s,MS4.4						
SOC				MLR	MLR		
	comp=Z,129nm,17.0s,MS4.2						
SOKR	**Solikamsk**	**64.24**	**339**	⇑*i*P	**P**	**10 42 14.9**	**-2.3**
SOKR				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.6						
SOKR				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.6						
YAK	**Yakutsk**	**64.33**	**17**	*e*P	**P**	**10 42 16.2**	**-1.5**
YAK				pmax	pmax		
	comp=Z,124nm,0.9s,mb5.9						
YAK	**Yakutsk**	**64.33**	**17**	*e*P	**P**	**10 42 16.2**	**-1.6**
	comp=Z,124nm,0.9s,mb5.9						
MBAR	**Mbarara**	**65.30**	**268**	*e*P	**P**	**10 42 24.3**	**-0.5**
MBAR				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
MBAR	**Mbarara**	**65.30**	**268**	*e*P	**P**	**10 42 24.3**	**-0.5**
	comp=Z,17nm,1.0s,mb5.0						
BRTR	**Keskin Array B**	**67.19**	**312**	P	**P**	**10 42 34.6**	**-1.9**
	comp=Z,2.2nm,0.8s,mb4.3,baz=130,slow=7.2,SNR=11						
VOR	**Voronezh**	**67.83**	**326**	P	**P**	**10 42 40.0**	**-0.3**
VOR				*e**SP	sP	10 42 52.0	-2.1
VOR				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.3						
SIM	**Simferopol'**	**68.42**	**318**	P	**P**	**10 42 43.2**	**-0.9**
SIM				*e*		10 51 42.0	
SIM				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
SKR	**Severo-Kuril's**	**69.35**	**36**	*e*P	**P**	**10 42 47.5**	**-2.2**
LSZ	**Lusaka**	**69.38**	**253**	*e*P	**P**	**10 42 50.9**	**+0.4**
LSZ				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
LSZ	**Lusaka**	**69.38**	**253**	*e*P	**P**	**10 42 50.9**	**+0.4**
	comp=Z,8.4nm,1.0s,mb4.6						
MOS	**Moscow**	**70.41**	**329**	*e*P	**P**	**10 42 54.5**	**-1.6**
MOS				*e*		10 43 14.9	
MOS				*e*		10 45 30.2	
MOS				*e*PPP	PPP	10 47 14.9	+0.6
MOS				pmax	pmax		
	comp=Z,59nm,0.7s,mb5.6						
MOS				MLR	MLR		
	comp=Z,800nm,21.8s,MS4.9						
OBN	**Obninsk**	**70.69**	**328**	*e*P	**P**	**10 42 56.1**	**-1.7**
OBN				*i*		10 43 10.3	
OBN				*i*		10 43 18.5	
OBN				*e*		10 45 37.1	
OBN				*i*S	S	10 52 07.7	-0.7
OBN				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
OBN				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.7						
OBN	**Obninsk**	**70.69**	**328**	*e*P	**P**	**10 42 56.4**	**-1.5**
	comp=Z,13nm,0.4s,mb5.2						
PET	**Petropavlovsk**	**71.67**	**34**	*e*P	**P**	**10 43 03.7**	**-0.1**
PET				*e**PP	pP	10 43 11.6	-2.4
PET				*e*PS	PS	10 53 02.9	+9.2
PET				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.3						
PET				pmax	pmax		
	comp=Z,100nm,16.3s						
PET				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.3						
PET				MLR	MLR		
	comp=Z,800nm,19.0s,MS5.0						
PET				MLR	MLR		
	comp=Z,800nm,21.0s						
PET	**Petropavlovsk**	**71.67**	**34**	PFAKE		10 43 20.0	+16
PET				LR	LR		
	comp=Z,752nm,19.0s,MS5.0						
TIXI	**Tiksi**	**71.92**	**10**	⇑*i*P	**P**	**10 43 03.3**	**-1.7**
TIXI				MLR	MLR		
	comp=Z,736nm,20.0s,MS5.0						
SEY	**Seymchan**	**72.86**	**24**	*e*P	**P**	**10 43 12.1**	**+1.5**
SEY				*e*		10 43 27.8	
SEY				*e*		10 45 56.9	
SEY				*e*PPP	PPP	10 47 43.5	+5.8
SEY				*e*S	S	10 52 39.7	+6.5
SEY						10 53 21.2	
SEY				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
SEY				smax			
	comp=N,700nm,21.0s						
SEY				smax			
	comp=E,400nm,17.8s						
SEY				MLR	MLR		
	comp=N,3μm,20.0s,MS5.7						
SEY				MLR	MLR		
	comp=E,2μm,20.0s,MS5.7						
SEY				MLR	MLR		
	comp=Z,4μm,20.0s,MS5.7						
DZM	**Mont Dzumac**	**73.02**	**114**	LR	LR	11 16 17.7	
	comp=Z,569nm,21.4s,MS4.8,baz=27,slow=37						
AKASG	**Malin Array Be**	**73.31**	**322**	P	**P**	**10 43 12.1**	**-1.4**
	comp=Z,5.7nm,0.7s,mb4.6,baz=82,slow=5.2,SNR=15						
LBTB	**Lobatse**	**73.47**	**243**	*e*P	**P**	**10 43 14.5**	**-0.4**
LBTB				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.3						
LBTB	**Lobatse**	**73.47**	**243**	*e*P	**P**	**10 43 14.5**	**-0.4**
	comp=Z,37nm,1.0s,mb5.3						
MAW	**Mawson**	**73.91**	**193**	P	**P**	**10 43 17.3**	**+0.8**
	comp=Z,2.7nm,0.9s,mb4.2,baz=286,slow=13,SNR=3.4						
MAW				LR	LR	11 11 11.6	
	comp=Z,304nm,18.6s,MS4.6,baz=49,slow=32						
BOSA	**Boshof**	**74.48**	**239**	*e*P	**P**	**10 43 20.4**	**-0.3**
BOSA				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
BOSA	**Boshof**	**74.48**	**239**	P	**P**	**10 43 20.6**	**-0.1**
	comp=Z,2.8nm,0.8s,mb4.2,baz=70,slow=6.3,SNR=3.9						
BOSA				LR	LR	11 13 26.5	
	comp=Z,872nm,18.4s,MS5.1,baz=66,slow=34						
BOSA	**Boshof**	**74.48**	**239**	*e*P	**P**	**10 43 20.4**	**-0.3**
	comp=Z,22nm,1.0s,mb5.0						
MNK	**Minsk**	**75.22**	**326**	*e*P	**P**	**10 43 23.0**	**-1.4**
JOF	**Joensuu**	**76.26**	**335**	*e*p	**P**	**10 43 28.7**	**-1.4**
	comp=Z,14nm,0.8s,mb4.9						
LVV	**L'vov**	**76.32**	**321**	*e*P	**P**	**10 43 31.4**	**+0.6**
KOLS	**Kolonicke sedl**	**77.27**	**320**	*e*P	**P**	**10 43 36.2**	**+0.1**
KOLS				*e*		10 43 43.4	
APA	**Apatity**	**77.29**	**340**	⇓*i*P	**P**	**10 43 35.5**	**-0.3**
APA				*i*	pP	10 43 47.0	+0.9
APA				*e*S	S	10 53 29.0	+7.0
APA				*e*PS	PS	10 54 03.0	-2.7
APA				*e*SS	SS	10 58 29.0	+5.7
APA				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.1						
SUW	**Suwalki**	**77.73**	**325**	*e*P	**P**	**10 43 38.2**	**-0.3**
SUW				pmax	pmax		
	comp=Z,54nm,0.9s,mb5.5						
SUW	**Suwalki**	**77.73**	**325**	*e*P	**P**	**10 43 38.2**	**-0.3**
	comp=Z,54nm,0.9s,mb5.5						
CRVS	**Cervenica-Dubn**	**77.80**	**319**	*e*P	**P**	**10 43 42.6**	**+3.7**
CRVS	**Cervenica-Dubn**	**77.80**	**319**	*e*	**P**	**10 43 42.6**	**+3.7**
FINES	**FINESS Array B**	**78.10**	**333**	P	**P**	**10 43 38.8**	**-1.5**
	comp=Z,13nm,0.8s,mb4.9,baz=104,slow=7.9,SNR=26						
FINES				LR	LR	11 22 46.5	
	comp=Z,489nm,21.5s,MS4.8,baz=124,slow=39						
KAF	**Kangasniemi**	**78.19**	**333**	*e*p	**P**	**10 43 39.4**	**-1.4**
	comp=Z,18nm,0.8s,mb5.0,baz=104,slow=5.2						
KAF	**Kangasniemi**	**78.19**	**333**	*e*P	**P**	**10 43 39.4**	**-1.4**
KAF				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
PSZ	**Piszkesteto**	**78.67**	**318**	*e*P	**P**	**10 43 44.1**	**+0.3**
PSZ				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
PSZ	**Piszkesteto**	**78.67**	**318**	*e*P	**P**	**10 43 44.1**	**+0.3**
	comp=Z,16nm,1.0s,mb4.9						
PSZ	**Piszkesteto**	**78.67**	**318**	⇑*e*P	**P**	**10 43 44.4**	**+0.6**
SUR	**Sutherland**	**78.97**	**236**	*e*P	**P**	**10 43 47.6**	**+1.9**
	comp=Z,34nm,1.1s,mb5.2						
SUR				LR	LR		
	comp=Z,215nm,19.0s,MS4.5						
OJC	**Ojcow**	**79.08**	**321**	*e*P	**P**	**10 43 46.4**	**+0.4**
VYHS	**Vyhne**	**79.45**	**319**	*e*P	**P**	**10 43 49.3**	**+1.3**
TIP	**Timpagrande**	**79.93**	**309**	*e*P	**P**	**10 43 50.4**	**-0.4**
TSUM	**Tsumeb**	**79.94**	**250**	*e*P	**P**	**10 43 51.8**	**+0.6**
	comp=Z,15nm,1.0s,mb4.9						
OKC	**Ostrava-Krasne**	**80.08**	**320**	*e*P	**P**	**10 43 52.6**	**+1.2**
OKC				*e*sP	sP	10 44 08.2	+3.1
BILL	**Bilibino**	**80.20**	**21**	*d*⇑*i*P	**P**	**10 43 51.5**	**-0.1

SYO	Syowa Base	81.06	198	⇑P	P	10 43 55.0	-1.2
DPC	Dobruska-Polom	81.31	320	eP	P	10 43 57.6	-0.2
DPC				epP	pP	10 44 10.7	+2.5
DPC				AMS	AMS	11 26 30.0	
	comp=Z,200nm,19.5s						
UPC	Upice	81.52	321	eP	P	10 44 00.3	+1.4
BOJS	Bojanci	81.56	315	eP	P	10 43 59.8	+0.6
PERS	Pernice	81.75	317	i P	P	10 44 02.6	+2.4
PDKS	Podkum	81.78	316	eP	P	10 44 00.5	+0.1
PRU	Pruhonice	82.41	320	eP	P	10 44 03.9	+0.3
PRU				esP	sP	10 44 19.7	+2.3
PRU				AMS	AMS	11 24 50.0	
	comp=Z,200nm,21.5s						
PVCC	Panska Ves	82.44	320	eP	P	10 44 05.8	+2.1
PVCC				AMS	AMS	11 29 50.0	
	comp=Z,300nm,22.2s						
BRG	Berggiesshubel	82.87	321	eP	P	10 44 06.7	+0.8
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
BRG	Berggiesshubel	82.87	321	eP	P	10 44 06.7	+0.8
	comp=Z,6.7nm,1.1s,mb4.6						
BRG				eS	S	10 54 32.0	+11
BRG				eSS	SS	11 00 02.0	+15
GEC2	GERESS Array S	82.87	319	eP	P	10 44 06.8	+0.8
GEC2				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
GEC2	GERESS Array S	82.87	319	eP	P	10 44 06.8	+0.8
	comp=Z,15nm,1.1s,mb4.9						
GERES	GERESS Array B	82.87	319	P	P	10 44 05.9	0.0
	comp=Z,8.0nm,0.9s,mb4.8,baz=90,slow=5.3,SNR=28						
GERES				LR	LR	11 27 12.5	
	comp=Z,293nm,19.5s,MS4.7,baz=302,slow=40						
KHC	Kasperske Hory	82.97	319	eP	P	10 44 07.6	+1.1
KHC	Kasperske Hory	82.97	319	eP	P	10 44 06.4	-0.1
KHC				AMS	AMS	11 27 00.0	
	comp=Z,200nm,18.5s						
CLL	Collm	83.49	321	eP	P	10 44 09.0	-0.1
CLL				e		10 44 22.0	
CLL	Collm	83.49	321	P	P	10 44 09.0	-0.1
CLL				e*SP	sP	10 44 22.0	-0.9
NKC	Novy Kostel	83.78	320	eP	P	10 44 11.2	+0.6
NKC				epP	pP	10 44 23.3	+2.3
NKC				AMS	AMS	11 25 20.0	
	comp=Z,200nm,19.8s						
MOX	Moxa	84.33	320	eP	P	10 44 12.6	-0.7
MOX				pmax	pmax		
	comp=Z,20nm,1.6s,mb5.0						
MOX				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5						
MOX	Moxa	84.33	320	eP	P	10 44 12.6	-0.7
	comp=Z,20nm,1.6s,mb5.0						
MOX				LR	LR		
	comp=Z,200nm,19.0s,MS4.5						
MOX	Moxa	84.33	320	i P	P	10 44 12.6	-0.7
	comp=Z,logA/T=1.1,mb5.0						
MOX				L		11 31 40.0	
GRA1	Grafenberg Arr	84.54	319	eP	P	10 44 15.3	+0.9
	comp=Z,22nm,1.2s,mb5.2						
GRF	Grafenberg Arr	84.54	319	eP	P	10 44 15.3	+0.9
GRF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.2						
GRF	Grafenberg Arr	84.54	319	eP	P	10 44 15.3	+0.9
GRF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.2						
GRF	Grafenberg Arr	84.54	319	eP	P	10 44 15.3	+0.9
	comp=Z,22nm,1.2s,mb5.2						
URZ	Urewera	84.72	129	LR	LR	11 20 30.7	
	comp=Z,677nm,21.6s,MS5.0,baz=297,slow=35						
SARO	Sassorosso	84.94	314	P	pP	10 44 24.4	-2.6
NB2	NORSAR Subarra	85.09	331	P	P	10 44 16.9	0.0
	comp=Z,8.2nm,0.9s,mb4.9,baz=98,slow=5.6						
NB2	NORSAR Subarra	85.09	331	P	P	10 44 16.9	0.0
NB2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
NOA	NORSAR Array B	85.09	331	P	P	10 44 16.9	-0.1
	comp=Z,6.8nm,0.9s,mb4.8,baz=94,slow=5.4,SNR=21						
NOA				LR	LR	11 26 47.0	
	comp=Z,351nm,21.4s,MS4.7,baz=90,slow=39						
CLZ	Clausthal	85.15	322	eP	P	10 44 17.8	+0.4
	comp=Z,9.0nm,1.0s,mb4.8						
NAO01	NORSAR Array S	85.24	331	eP	P	10 44 18.0	+0.4
	comp=Z,22nm,1.3s,mb5.1						
BSEG	Bad Segeberg	85.25	324	eP	P	10 44 18.4	+0.5
KONO	Kongsberg	85.83	329	eP	P	10 44 20.4	-0.2
KONO				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.3						
KONO	Kongsberg	85.83	329	eP	P	10 44 20.4	-0.2
	comp=Z,22nm,1.1s,mb5.3						
KBS	Kingsbay	86.20	349	PFAKE		10 44 30.0	+7.9
KBS				LR	LR		
	comp=Z,498nm,22.0s,MS4.9						
TNS	Taunus Mts	86.34	320	eP	P	10 44 24.4	+1.0
TNS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
TNS	Taunus Mts	86.34	320	eP	P	10 44 24.4	+1.0
	comp=Z,10.0nm,0.9s,mb5.0						
FIN	Finale Ligure	86.52	314	P	P	10 44 24.5	+0.1
ORX	Oropa	86.67	315	P	P	10 44 24.5	-0.6
IMI	Imperia	86.75	314	P	P	10 44 26.6	+1.1
ROB	Roburent	86.76	314	P	P	10 44 25.4	-0.2
MONE	Monesi	86.84	314	P	P	10 44 25.7	-0.3
NEGI	Negi	86.89	314	P	P	10 44 27.0	+0.8
ENR	Entracque	87.08	314	P	P	10 44 28.3	+1.1
BHB	Bricherasio	87.19	315	P	P	10 44 27.4	-0.2
LSD	Ceresole Reale	87.25	315	P	P	10 44 28.2	+0.3
FENE	Fenestrelle	87.32	315	P	P	10 44 27.2	-1.1
LPG	La Plagne	87.53	315	eP	P	10 44 30.4	+1.1
	comp=Z,14nm,0.7s,mb5.0						
LPG	La Plagne	87.53	315	eP	P	10 44 30.4	+1.1
LPG				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.0						
VNDA	Vanda	87.54	169	P	P	10 44 30.6	+2.0
	comp=Z,0.4nm,0.7s,baz=258,slow=6.7,SNR=3.2						
VNDA				LR	LR	11 21 57.3	
	comp=Z,485nm,19.2s,MS4.9,baz=300,slow=34						
RAO	Raoul Island	87.92	119	LR	LR	11 25 47.3	
	comp=Z,306nm,21.8s,MS4.7,baz=262,slow=37						
TNA	Tin City	90.08	24	eP	P	10 44 39.9	-1.0
	comp=Z,8.1nm,1.5s,mb4.8						
TNA				LR	LR		
	comp=Z,306nm,20.0s,MS4.7						
AFI	Afiamalu	92.83	104	LR	LR	11 21 57.7	
	comp=Z,207nm,20.2s,MS4.6,baz=86,slow=32						
IMA	Indian Mountai	95.67	23	eP	P	10 45 07.6	+1.0
IMA				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.9						
IMA	Indian Mountai	95.67	23	eP	P	10 45 07.6	+1.0
	comp=Z,68nm,1.4s,mb5.9						
COLA	College	98.37	23	i P	P	10 45 19.4	+0.6
COLA	College	98.37	23	PFAKE		10 45 30.0	+11
COLA				LR	LR		
	comp=Z,369nm,19.0s,MS4.9						
MCK	McKinley	98.42	24	PFAKE		10 45 30.0	+11
MCK				LR	LR		
	comp=Z,274nm,20.0s,MS4.8						
ILAR	Eielson Array	98.79	23	P	P	10 45 19.2	-1.4
	comp=Z,0.5nm,0.8s,mb4.1,baz=295,slow=3.8,SNR=5.7						
FIB	Fire Island	98.90	27	PFAKE		10 45 30.0	+8.8
FIB				LR	LR		
	comp=Z,696nm,21.0s,MS5.1						
KDAK	Kodiak Island	98.97	30	PFAKE		10 45 30.0	+8.4
KDAK				LR	LR		
	comp=Z,111nm,21.0s,MS4.3						
DIV	Divide	100.86	26	PFAKE		10 45 40.0	+10
DIV				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
INK	Inuvik	101.39	17	P	P	10 45 32.6	+0.2
	comp=Z,1.4nm,0.8s,baz=310,slow=5.0,SNR=7.2						
INK				PP	PP	10 49 37.0	-7.6
	comp=Z,1.7nm,1.0s,baz=286,slow=4.6,SNR=4.4						
YKA	Yellowknife Ar	110.95	15	PP	PP	10 50 47.7	-8.1
	comp=Z,0.6nm,0.9s,baz=329,slow=6.2,SNR=5.0						
YKA				PKKPbc		11 01 11.2	
	comp=Z,0.2nm,0.7s,baz=150,slow=3.2,SNR=9.4						
TBI	Tubuai	113.59	114	eLR	LR	11 24 25.9	
	comp=Z,311nm,25.8s						
PPT	Papeete	114.11	108	eLR	LR	11 24 39.6	
	comp=Z,361nm,25.2s						
SCHQ	Schefferville	120.91	349	PFAKE		10 50 50.0	+12
SCHQ				LR	LR		
	comp=Z,679nm,20.0s,MS5.3						
NEW	Newport	121.61	25	PKP	PKPdf	10 50 35.8	-3.4
	comp=Z,3.1nm,0.8s,baz=19,slow=1.5,SNR=6.6						
MSO	Missoula	124.08	24	ePKPdf	PKPdf	10 50 38.5	-5.6
MSO				LR	LR		
	comp=Z,193nm,19.0s,MS4.8						
WVOR	Wild Horse Val	125.24	31	ePKIKP	PKPdf	10 50 43.5	-2.9
WVOR				MLR	MLR		
	comp=Z,419nm,19.0s,MS5.1						
BOZ	Bozeman (W)	125.97	24	ePKIKP	PKPdf	10 50 43.6	-4.1
MCMT	McKenzie Canyo	126.14	25	PKPdf	PKPdf	10 50 45.4	-2.6
ULM	Lac du Bonnet	126.27	9	PKP	PKPdf	10 50 43.5	-4.6
	comp=Z,2.8nm,0.5s,baz=342,slow=4.8,SNR=4.3						
RKT	Rikitea	126.71	117	eLR	LR	11 30 30.9	
	comp=Z,289nm,24.8s						
LAO	LASA Array	127.05	19	ePKPdf	PKPdf	10 50 46.2	-3.5
LAO				LR	LR		
	comp=Z,367nm,19.0s,MS5.1						
RRI2	Red Ridge	127.98	25	PKPdf	PKPdf	10 50 45.0	-6.7
SNOW	Snow King Moun	128.12	25	ePKPdf	PKPdf	10 50 48.5	-3.5
NVAR	Mina Array Bea	128.25	34	PKP	PKPdf	10 50 49.4	-3.0
	comp=Z,3.5nm,0.8s,baz=14,slow=0.7,SNR=15						
MNV	Mina	128.34	34	PFAKE		10 51 00.0	+7.5
MNV				LR	LR		
	comp=Z,224nm,22.0s,MS4.8						
AHID	Auburn Hatcher	128.55	25	PFAKE		10 51 00.0	+7.2
AHID				LR	LR		
	comp=Z,384nm,19.0s,MS5.1						
PQI	Presque Isle	128.83	346	PFAKE		10 51 00.0	+6.8
PQI				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
PDAR	Pinedale Array	129.19	24	PKP	PKPdf	10 50 51.0	-3.0
	comp=Z,1.3nm,0.8s,baz=315,slow=2.1,SNR=10						
HWUT	Hardware Ranch	129.28	27	ePKPdf	PKPdf	10 50 51.3	-2.9
DUG	Dugway	129.82	29	ePKIKP	PKPdf	10 50 52.6	-2.7
RSSD	Black Hills	130.04	19	ePKIKP	PKPdf	10 50 52.5	-3.1
DAC	Darwin (Calif)	130.16	36	PFAKE		10 51 00.0	+4.0
DAC				LR	LR		
	comp=Z,210nm,19.0s,MS4.8						
TMUT	Trail Mountain	131.29	28	ePKPdf	PKPdf	10 50 55.3	-2.8
MVU	Marysvale	131.43	30	ePKPdf	PKPdf	10 50 56.2	-2.2
MVU				LR	LR		
	comp=Z,245nm,21.0s,MS4.9						
MSU	Marysvale	131.44	30	ePKIKP	PKPdf	10 50 56.3	-2.1
SRU	San Rafael	131.75	28	ePKIKP	PKPdf	10 50 56.3	-2.7
NEN	Nelson	132.18	34	ePKPdf	PKPdf	10 50 57.3	-2.6
PV10	Paradox Valley	133.03	27	ePKPdf	PKPdf	10 50 58.9	-2.6
PV01	Paradox Valley	133.44	27	ePKPdf	PKPdf	10 51 01.0	-1.1
HRV	Harvard--Oak R	133.59	347	PFAKE		10 51 10.0	+7.7
HRV				LR	LR		
	comp=Z,291nm,19.0s,MS5.0						
WUAZ	Wupatki	134.16	31	ePKPdf	PKPdf	10 51 02.1	-1.5
WUAZ				LR	LR		
	comp=Z,318nm,19.0s,MS5.1						
ANMO	Albuquerque	137.02	27	ePKIKP	PKPdf	10 51 05.4	-3.4
MNTX	Cornudas Mount	140.21	29	ePKPdf	PKPdf	10 51 09.8	-5.0
WMOK	Wichita Mounta	140.25	19	PFAKE		10 51 20.0	+5.3
WMOK				LR	LR		
	comp=Z,253nm,20.0s,MS5.0						
WVT	Waverly	141.19	5	PFAKE		10 51 20.0	+3.6
WVT				LR	LR		
	comp=Z,476nm,20.0s,MS5.2						
BAO	Brasilia Array	142.26	248	PKPdf	PKPdf	10 51 15.5	-3.3
BDFB	Brasilia	142.28	248	PKP	PKPdf	10 51 14.3	-4.5
	comp=Z,1.0nm,0.4s,baz=180,slow=2.0,SNR=2.7						
LTX	Lajitas	142.99	29	PFAKE		10 51 30.0	+10
LTX				LR	LR		
	comp=Z,389nm,21.0s,MS5.2						
TXAR	Lajitas Array	142.99	29	PKhKP		10 51 12.6	
	comp=Z,2.1nm,0.8s,baz=263,slow=1.4,SNR=8.1						
JCT	Junction City	143.72	23	ePKIKP	PKPdf	10 51 14.2	-6.7
CPUP	Villa Florida	145.25	225	PKPbc	PKPbc	10 51 19.9	+1.1
	comp=Z,3.6nm,0.7s,baz=133,slow=3.2,SNR=10						
CPUP	Villa Florida	145.25	225	ePKPdf	PKPdf	10 51 20.8	-2.9
SIV	San Ignacio	153.83	238	PKP	PKPdf	10 51 34.2	-3.1
	comp=Z,0.9nm,0.8s,baz=151,slow=7.2,SNR=5.6						
SIV				PKPbc	PKPdf	10 51 42.0	+4.7
	comp=Z,1.4nm,0.7s,baz=132,slow=4.1,SNR=7.0						
SAML	Samuel	158.37	252	ePKP	PKPdf	10 51 45.1	+1.7
SAML				LR	LR		
	comp=Z,404nm,21.0s,MS5.2						
LPAZ	La Paz	159.35	228	PKP	PKPdf	10 51 41.9	-2.5
	comp=Z,0.9nm,0.5s,baz=193,slow=1.6,SNR=6.1						
LPAZ	La Paz	159.35	228	ePKPdf	PKPdf	10 51 41.7	-2.8
OTAV	Otavalo	173.70	298	ePKPdf	PKPdf	10 51 53.6	-2.1

TAP 23 10:57:45.5, 21.17N×121.89E, h179km±1km, ML3.7, Taiwan region

*NEIC **23** 11:07:55.1, 32.05S×71.71W, h50km, MD3.7(GUC), After GUC.*

GUC 23 11:07:55.1±0.9, 32.05S×71.71W, h50km±5km, MD3.7, ML3.3, 11C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.24	48	⇑iP	P	11 08 04.0	+0.2
CHNG				i S	S	11 08 10.7	+0.7
CHNG				AMP		11 08 11.0	
	comp=N,2μm,0.2s						
PACH	Papudo	0.54	155	⇓iP	P	11 08 07.0	+0.1
PACH				i S	S	11 08 15.9	+0.5
ILCH	Illapel	0.61	49	⇓iP	P	11 08 08.2	+0.4
ILCH				i S	S	11 08 18.1	+1.0
ILCH				AMP		11 08 18.6	
	comp=E,6μm,0.2s						
ROCH	El Roble	1.10	148	⇑iP	P	11 08 14.8	+0.4
ROCH				i S	S	11 08 29.7	+1.0
JACH	Jahuel	1.14	124	⇑iP	P	11 08 15.8	+0.8
JACH				i S	S	11 08 31.1	+1.4
PEL	Peldehue	1.40	142	eP	P	11 08 19.0	+0.3
PEL				i S	S	11 08 36.7	+0.5
LCCH	Las Cruces	1.43	175	⇓iP	P	11 08 18.7	-0.5
STL	Santa Lucia	1.65	147	i S	S	11 08 42.6	+0.1
STL				AMP		11 08 42.9	
	comp=N,239nm,0.3s						
DSCH	Colegio Aleman	1.66	145	⇑iP	P	11 08 22.8	+0.5
DSCH				i S	S	11 08 43.0	+0.5
DSCH				AMP		11 08 45.0	
	comp=E,772nm,0.3s						
CLCH	Cerro Calan	1.67	144	⇑iP	P	11 08 22.5	-0.1
CLCH				i S	S	11 08 43.5	+0.6
CLCH				AMP		11 08 46.6	
	comp=E,615nm,0.4s						
TACH	Talagante	1.73	158	⇑iP	P	11 08 24.3	+1.0
TACH				i S	S	11 08 45.2	+0.9
FCH	Farellones	1.75	137	⇓iP	P	11 08 24.2	+0.5
FCH				i S	S	11 08 46.0	+1.2
FCH				AMP		11 08 48.5	
	comp=E,331nm,0.2s						
PCH	Pirque	1.87	148	i P	P	11 08 25.3	+0.1
PCH				i S	S	11 08 48.4	+0.7
SJCH	San Jose de Ma	1.96	145	⇑iP	P	11 08 26.6	+0.1
SJCH				i S	S	11 08 50.4	+0.5
SJCH				AMP		11 08 51.3	
	comp=E,282nm,0.6s						
TLL	Tololo Astrono	2.03	23	⇑iP	P	11 08 27.6	+0.1
TLL				i S	S	11 08 51.4	-0.3
TLL				AMP		11 08 56.8	
	comp=N,314nm,0.6s						
CHCH	Chadas Angostu	2.08	155	⇑iP	P	11 08 28.9	+0.6
CHCH				i S	S	11 08 54.5	+1.5
LMEL	Las Melosas	2.20	145	⇑iP	P	11 08 30.5	+0.5
LMEL				i S	S	11 08 57.1	+1.1
LMEL				AMP		11 08 58.4	
	comp=N,749nm,0.2s						
CACH	El Canelo	2.27	156	i P	P	11 08 32.1	+1.2
CACH				i S	S	11 08 58.8	+1.1
CICH	Cipreses	2.51	155	eP	P	11 08 34.5	+0.1
CICH				i S	S	11 09 04.2	+0.3
SFDO	San Fernando	2.63	167	⇑iP	P	11 08 35.6	-0.4

*BJI **23** 11:10:26.4, 36.10N×69.90E, h120km*
*NEIC **23** 11:10:26.5±2.8, 36.15N×69.90E, h121km±22km, mb4.3/2, Error ellipse: s-maj=23.5km s-min=13.3km az=200.0*
*MOS **23** 11:10:27.3±0.8, 36.18N×69.86E, h144km, mb3.9/2, Error ellipse: s-maj=24.2km s-min=11.6km az=84.2*
*IDC **23** 11:10:27.9±6.6, 36.13N×69.92E, h135km±57km, mb3.3/10, mb1 3.5/12, mb1mx3.4/23, mbtmp3.8/12, Error ellipse: s-maj=33.4km s-min=19.3km az=24.0*
*NNC **23** 11:10:34.2±16.0, 37.02N×69.59E, mpv4.4, Error ellipse: s-maj=149.1km s-min=130.6km az=104.0*
ISC 23 11:10:29.2±0.6, 36.25N±0.03×70.06E±0.09, h160km±7km, n55, σ1°16/62, mb3.3/9, 1C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.86	147	⇓P	P	11 11 17.4	+1.6
CHCP	Chirah Chowk	3.69	134	⇓P	P	11 11 28.4	+1.9
THW	Thamme Wali	3.72	158	P	P	11 11 27.3	+0.4
SBDP	Sheikh Budin	3.99	171	P	P	11 11 30.3	-0.1
DRP	Derazinda	4.50	178	P	P	11 11 38.0	+1.0
SARP	Sargodha	4.83	153	P	P	11 11 41.3	-0.1
KSH	Kashi	5.70	53	eP	P	11 11 57.1	+4.3
PONG	Pong	6.50	130	eP	P	11 12 05.0	+1.5
PONG				e		11 13 18.0	
AML	Almayashu	6.51	25	P	P	11 12 03.9	+0.3
	SNR=118						
KK31	Karatay Array	6.85	3	⇓P	P	11 12 06.6	-1.6
	20nm,0.7s,baz=197,slow=16,SNR=75						
KK31				⇓S	S	11 13 18.0	-7.2
	38nm,0.5s						
KKAR	Karatay Array	6.85	3	PN	P	11 12 06.5	-1.7
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.1s						
UCH	Uchtor	6.89	29	P	P	11 12 09.4	+0.6
	SNR=68						
EKS2	Erkin-Say	7.01	23	P	P	11 12 10.6	+0.2
	SNR=26						
KZA	Kyzart	7.08	33	P	P	11 12 11.6	+0.4
	SNR=23						
AAK	Ala-Archa	7.24	27	P	P	11 12 14.0	+0.7
	SNR=36						
AAK	Ala-Archa	7.24	27	⇑P	P	11 12 14.2	+0.9
	comp=Z,12nm,0.3s						
AAK				⇓S	S	11 13 33.5	-0.9
	comp=Z,31nm,0.6s						
AAK	Ala-Archa	7.24	27	eP	P	11 12 11.8	-1.5
	comp=Z,19nm,0.4s						
KBK	Karagaybulak	7.43	29	P	P	11 12 17.0	+1.1
	SNR=9.6						
SDNR	Sundarnagar	7.45	128	eP	P	11 12 15.5	-0.7
SDNR				e		11 13 37.0	
CHMS	Chumysh	7.65	27	P	P	11 12 19.0	+0.2
	SNR=24						
ULHL	Ulahol	7.67	37	P	P	11 12 19.8	+0.7
	SNR=12						
USP	Ospenovka	7.79	25	P	P	11 12 20.2	-0.5
	SNR=35						
SMLA	Simla	7.82	129	⇓i	P	11 12 18.2	-3.0
	comp=Z,857nm,0.3s						
SMLA				eS	S	11 13 44.1	-4.3
TKM2	Tokmak 2	7.91	31	P	P	11 12 22.8	+0.5
	SNR=11						
KLP	Kalpa	8.28	122	eP	P	11 12 28.3	+1.2
KLP				e		11 13 51.5	
KLP				e		11 14 14.6	
	comp=N,363nm,0.9s						
KLP				e		11 14 14.7	
	comp=E,273nm,1.1s						
RTK	Rohtak	8.97	142	e	S	11 14 10.9	-4.8
RTK				e		11 14 14.5	
	comp=Z,125nm,0.2s						
JASL	Jaisalmer	9.33	175	eP	P	11 12 36.1	-4.9
KHET	Khetri	9.50	148	eP	P	11 12 41.3	-1.9
KHET				eS	S	11 14 14.7	-13
KHET				eS	S	11 14 21.2	-6.9
KHET				e		11 14 25.5	
	comp=Z,19nm,0.3s						
BHGR	Bahadurgarh	9.52	140	e	S	11 14 23.7	-5.0
BHGR				e		11 14 26.6	
	comp=Z,155nm,0.2s						
NDI	New Delhi	9.67	139	eP	P	11 12 46.0	+0.6
NDI				e		11 14 27.0	
SONA	Sohna	9.95	141	eP	P	11 12 48.6	-0.6
SONA				eS	S	11 14 27.7	-11
SONA				eS	S	11 14 33.4	-5.4
AGRA	Agra	11.22	141	e	P	11 12 57.7	-8.1
AGRA				e		11 14 47.9	
MKAR	Makanchi Array	13.94	37	P	P	11 13 40.4	-0.2
	comp=Z,0.4nm,0.3s,baz=235,slow=15,SNR=9.9						
MKAR	Makanchi Array	13.94	37	P	P	11 13 40.4	-0.2
KOLN	Koldanda	14.25	123	eP	P	11 13 39.9	-4.8
BHPL	Bhopal	14.45	152	eP	P	11 13 51.9	+4.6
BHPL				e		11 16 20.4	
GKN	Gorkha	14.83	120	eP	P	11 13 50.3	-1.6
KKN	Kakani	15.41	119	eP	P	11 13 57.5	-1.7
PKI	Pulchoki	15.63	119	eP	P	11 13 59.7	-2.3
GUN	Gumba	15.76	117	eP	P	11 14 04.7	+1.1
JIRN	Jiri	16.13	118	eP	P	11 14 08.9	+0.7
BVAR	Borovoye Array	16.77	1	P	P	11 14 14.3	-1.5
	comp=Z,2.4nm,0.3s,baz=162,slow=14,SNR=30						
ZAL	Zalesovo	20.44	26	P	P	11 14 56.1	+0.8
	comp=Z,6.8nm,0.3s,baz=252,slow=7.9,SNR=23						
NVS	Novosibirsk	20.69	22	i P	P	11 14 58.6	+0.8
NVS				pmax	pmax		
	comp=N,9.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,13nm,1.1s						
BRTR	Keskin Array B	28.79	288	P	P	11 16 13.6	-0.4
	comp=Z,0.3nm,0.4s,mb3.4,baz=101,slow=7.3,SNR=2.7						
SONM	Songino Array	29.10	55	P	P	11 16 18.9	+2.2
	comp=Z,0.7nm,0.8s,mb3.4,baz=262,slow=8.7,SNR=4.9						
FINES	FINESS Array B	37.27	327	P	P	11 17 26.4	-0.4
	comp=Z,0.4nm,0.4s,mb3.4,baz=124,slow=6.9,SNR=3.9						
ARCES	ARCESS Array B	41.09	338	P	P	11 17 58.5	+0.3
	comp=Z,1.8nm,0.8s,mb3.8,baz=108,slow=7.7,SNR=6.2						
NB2	NORSAR Subarra	44.12	323	P	P	11 18 21.9	-0.9
	comp=Z,0.6nm,0.5s,mb3.5,baz=98,slow=7.9						
NB2	NORSAR Subarra	44.12	323	P	P	11 18 21.9	-0.9
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
NOA	NORSAR Array B	44.12	323	P	P	11 18 22.1	-0.6
	comp=Z,0.6nm,0.5s,mb3.5,baz=98,slow=7.9,SNR=4.9						
ILAR	Eielson Array	75.22	15	P	P	11 21 55.6	+0.4
	comp=Z,0.4nm,0.8s,mb3.1,baz=298,slow=3.2,SNR=5.3						
YKA	Yellowknife Ar	81.52	2	P	P	11 22 30.8	+1.3
	comp=Z,0.3nm,0.6s,mb3.1,baz=350,slow=5.4,SNR=14						
WRA	Warramunga Arr	82.51	121	P	P	11 22 35.7	+0.3
	comp=Z,0.1nm,0.5s,mb2.8,baz=325,slow=4.8,SNR=7.1						
ASAR	Alice Springs	84.74	124

mb1 4.3/11, mb1mx4.0/22, mbtmp4.4/11, ML4.1/1, Error ellipse: s-maj=31.4km s-min=14.2km az=56.0
*NEIC **23** 11:20:05.6±0.5, 0.32S×96.88E, mb4.1/2, Error ellipse: s-maj=13.6km s-min=7.7km az=64.0*
ISC 23 11:20:03.4±0.7, 0.29S±0.08×96.9E±0.1, h25km, h25km±1.6km: pP-P, n21, σ0 71/20, mb4.4/13, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.69**	**34**	*e*P	**Pn**	**11 21 41.3**	**-1.4**
CM31	**Chiang Mai Arr**	**18.74**	**6**	*e*P	**P**	**11 24 22.7**	**-0.1**
12nm,0.8s							
CMAR	**Chiang Mai Arr**	**18.74**	**6**	P	**P**	**11 24 23.2**	**+0.4**
0.3nm,0.3s,baz=197,slow=11,SNR=29							
KKM	**Kota Kinabalu**	**20.28**	**72**	*e*P	**P**	**11 24 40.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**33.33**	**124**	P	**P**	**11 26 40.9**	**-0.9**
7.5nm,0.8s,mb4.7,baz=305,slow=13,SNR=6.7							
XAN	**Xi'an**	**35.97**	**17**	P	**P**	**11 27 04.3**	**+0.1**
XAN				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.8							
GTA	**Gaotai**	**39.60**	**4**	*e*P	**P**	**11 27 35.8**	**+1.2**
GTA				AP	pP	11 27 41.3	-0.9
GTA				XP	sP	11 27 44.5	-0.9
GTA				AMB	AMB		
comp=Z,6.0nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**41.52**	**120**	P	**P**	**11 27 49.8**	**-0.9**
comp=Z,2.4nm,0.7s,mb4.0,baz=295,slow=8.7,SNR=20							
WRAB	**Tennant Creek**	**41.53**	**120**	*e*P	**P**	**11 27 51.1**	**+0.4**
comp=Z,3.0nm,0.7s,mb4.0							
WB2	**Warramunga Arr**	**41.53**	**120**	*e*P	**P**	**11 27 50.9**	**+0.1**
ASPA	**Alice Springs**	**42.76**	**126**	*e*P	**P**	**11 28 01.3**	**+0.5**
ASAR	**Alice Springs**	**42.76**	**126**	P	**P**	**11 28 01.4**	**+0.5**
comp=Z,4.6nm,0.6s,mb4.4,baz=297,slow=7.9,SNR=53							
MKAR	**Makanchi Array**	**48.61**	**347**	P	**P**	**11 28 47.7**	**+0.7**
comp=Z,8.6nm,0.5s,mb5.0,baz=161,slow=9.0,SNR=87							
MKAR				pP	pP	11 28 55.8	+1.1
comp=Z,5.4nm,0.6s,baz=158,slow=8.4,SNR=17							
SONM	**Songino Array**	**48.64**	**9**	P	**P**	**11 28 48.2**	**+1.0**
comp=Z,1.6nm,0.8s,mb4.1,baz=192,slow=9.4,SNR=11							
SONM				pP	pP	11 28 56.6	+1.7
comp=Z,1.8nm,0.9s,baz=191,slow=9.2,SNR=7.6							
STKA	**Stephens Creek**	**52.60**	**131**	P	**P**	**11 29 17.4**	**-0.2**
comp=Z,3.4nm,0.7s,mb4.4,baz=296,slow=8.8,SNR=11							
STKA	**Stephens Creek**	**52.60**	**131**	*e*P	**P**	**11 29 18.0**	**+0.4**
ZAL	**Zalesovo**	**54.97**	**351**	P	**P**	**11 29 34.5**	**-0.3**
comp=Z,6.5nm,0.5s,mb5.0,baz=304,slow=4.9,SNR=21							
ZAL				pP	pP	11 29 42.7	+0.2
comp=Z,1.6nm,0.7s,baz=299,slow=8.6,SNR=6.6							
BVAR	**Borovoye Array**	**57.55**	**341**	P	**P**	**11 29 52.0**	**-1.3**
comp=Z,1.4nm,0.6s,mb4.2,baz=135,slow=8.2,SNR=10							
BVAR				pP	pP	11 30 00.1	-0.9
comp=Z,1.1nm,0.7s,baz=153,slow=6.4,SNR=5.2							
MATP	**Matopo**	**69.70**	**248**	P	**P**	**11 31 13.4**	**-0.2**
comp=Z,1.6nm,0.7s,mb4.1,baz=101,slow=3.1,SNR=5.1							
FINES	**FINESS Array B**	**81.17**	**333**	P	**P**	**11 32 17.6**	**-0.6**
comp=Z,1.2nm,0.6s,mb4.0,baz=90,slow=7.6,SNR=8.7							
TXAR	**Lajitas Array**	**145.08**	**32**	PKPbc	PKPbc	11 39 41.6	+1.9
comp=Z,2.6nm,0.7s,baz=257,slow=1.3,SNR=31							

*NNC **23** 11:33:15.6±4.9, 37.86N×71.45E, mpv3.8, Error ellipse: s-maj=38.0km s-min=34.4km az=4.0*
ISC 23 11:33:04.5±2.6, 36.9N±0.1×71.4E±0.4, h33km, n9, σ0 9 23/12, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.51**	**18**	P	**P**	**11 34 26.5**	**+0.2**
SNR=69							
UCH	**Uchtor**	**5.83**	**23**	P	**P**	**11 34 30.8**	**0.0**
SNR=9.3							
KZA	**Kyzart**	**5.95**	**29**	P	**P**	**11 34 32.6**	**+0.1**
SNR=7.4							
EKS2	**Erkin-Say**	**6.03**	**17**	P	**P**	**11 34 33.9**	**+0.3**
SNR=5.6							
AAK	**Ala-Archa**	**6.19**	**22**	P	**P**	**11 34 36.1**	**+0.2**
SNR=7.7							
AAK	**Ala-Archa**	**6.19**	**22**	⇑P	**P**	**11 34 35.8**	**-0.1**
3.8nm,0.3s							
AAK				⇓S	**S**	**11 35 39.6**	**-6.8**
8.0nm,0.5s							
KK31	**Karatay Array**	**6.23**	**354**	P	**P**	**11 34 36.5**	**-0.1**
3.7nm,0.2s,baz=179,slow=13,SNR=207							
KK31				⇑S	**S**	**11 35 38.6**	**-8.9**
1.8nm,0.3s,baz=168,slow=21,SNR=5.9							
CHMS	**Chumysh**	**6.60**	**22**	P	**P**	**11 34 41.2**	**-0.5**
SNR=7.2							
SMLA	**Simla**	**7.48**	**139**	*e*P	**P**	**11 34 54.0**	**0.0**
SMLA				*e*S	**S**	**11 36 12.0**	**-6.5**

IDC 23 11:48:57.2±5.1, 22.73S×66.44W, h168km±40km, mb3.0/1, mb1 3.3/3, mb1mx3.1/15, mbtmp3.5/3, Error ellipse: s-maj=76.1km s-min=36.0km az=128.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.29**	**272**	P	P	11 49 37.0	-0.3
6.4nm,0.3s,baz=113,slow=7.4,SNR=155							
LVC				S	S	11 50 08.3	+0.3
5.7nm,0.3s,baz=283,slow=20,SNR=19							
LPAZ	**La Paz**	**6.60**	**346**	P	P	11 50 32.4	-0.5
0.7nm,0.3s,baz=194,slow=15,SNR=22							
YKA	**Yellowknife Ar**	**93.11**	**340**	P	P	12 01 51.7	-0.9
0.1nm,0.6s,baz=134,slow=4.6,SNR=6.8							
MKAR	**Makanchi Array**	**145.22**	**39**	PKPbc	PKPbc	12 08 13.7	-1.4
0.2nm,0.5s,baz=326,slow=5.2,SNR=3.0							

*IDC **23** 12:06:37.1±6.2, 9.45S×130.24E, mb3.7/1, mb1 3.6/3, mb1mx3.3/14, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=89.0km s-min=69.3km az=88.0*
ISC 23 12:06:38.9±2.3, 9.3S±0.1×130.39E±0.10, h33km, n6, σ1 9 24/9, mb3.5/1, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**3.94**	**149**	*e*P	**P**	**12 07 40.4**	**+1.9**
9.5nm,0.6s							
FITZ	**Fitzroy Crossi**	**9.89**	**207**	*e*P	**P**	**12 09 00.9**	**-0.9**
3.0nm,0.6s							
FITZ				*e*S	**S**	**12 10 53.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**9.89**	**207**	Sn	**Sn**	**12 10 52.8**	**-0.1**
WRA	**Warramunga Arr**	**11.24**	**161**	Pn	**P**	**12 09 17.6**	**-2.8**
0.2nm,0.3s,baz=341,slow=13,SNR=12							
WRA				Sn	**S**	**12 11 24.6**	**-1.3**
0.4nm,0.3s,baz=337,slow=22,SNR=6.7							
ASAR	**Alice Springs**	**14.67**	**167**	Pn	**P**	**12 10 05.5**	**-0.5**
0.1nm,0.3s,baz=331,slow=9.3,SNR=8.5							
ASAR				Sn	**S**	**12 12 49.4**	**+1.1**
0.1nm,0.3s,baz=353,slow=28,SNR=4.5							
STKA	**Stephens Creek**	**24.75**	**157**	P	**P**	**12 11 59.8**	**+0.9**
0.7nm,0.4s,mb3.5,baz=340,slow=14,SNR=4.3							

*CSEM **23** 12:07:18.2, 35.02N×3.97W, h15km, MD2.7, After CNRM*
*CNRM **23** 12:07:18.2, 35.02N×3.97W, h15km, MD2.7*
MDD 23 12:07:17.9±0.7, 35.00N×3.96W, h7km±6km, mbLg2.1/4, Error ellipse: s-maj=7.9km s-min=4.8km az=81.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.23**	**3**	*i*P	Pg	12 07 22.0	-0.7
MPAL				*i*S	Sg	12 07 26.0	+0.1
TZK	**Tazeka**	**0.92**	**192**	*i*P	Pb	12 07 35.5	-0.4
TZK				*i*S	Sb	12 07 47.0	-1.2
ZAI	**Zaio**	**0.99**	**91**	*e*P	Pb	12 07 36.5	-0.6
ZAI				*i*S	Sb	12 07 49.0	-1.3
EMIJ	**Mijas**	**1.70**	**337**	P	Pn	12 07 46.7	-1.6
8.7nm,0.7s,SNR=7.9							
EMIJ				S	Sn	12 08 09.2	-1.4
36nm,1.2s,SNR=7.9							
EJIF	**Jimena Fronter**	**1.90**	**320**	P	Pn	12 07 48.7	-2.5
3.9nm,0.6s,SNR=7.9							
EQES	**Quesada**	**2.89**	**14**	P	Pn	12 08 03.4	-2.0
0.6nm,0.7s,SNR=7.9							
EQES				S	Sn	12 08 37.1	-3.8
31nm,1.7s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.53**	**322**	P	Pn	12 08 11.7	-2.7
17nm,1.5s,SNR=7.9							
EMIN				S	Sn	12 08 51.8	-5.1
21nm,1.7s,SNR=7.9							
EGRO	**El Granado**	**3.81**	**313**	P	Pn	12 08 17.0	-1.5
3.5nm,0.8s,SNR=7.9							
EGRO				S	Sn	12 08 59.3	-4.9
10nm,1.8s,SNR=7.9							

*NEIC **23** 12:11:22.8, 37.17N×10.33W, MG3.6(MDD), After MDD.*
*CSEM **23** 12:11:22.9±0.8, 37.13N×10.40W, h10km, ML2.9/8, Error ellipse: s-maj=15.6km s-min=10.6km az=55.0*
*INMG **23** 12:11:23.3±0.7, 36.98N×10.58W, h31km, ML2.2, Error ellipse: s-maj=5.4km s-min=3.1km az=79.0*
MDD 23 12:11:22.2±1.9, 37.03N×10.57W, h24km±50km, mbLg2.4/20, Error ellipse: s-maj=54.0km s-min=10.3km az=54.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.56**	**70**	*e*P	Pn	12 11 47.5	-1.3
PTEO				*e*S	Sn	12 12 06.0	-2.4
10nm,0.2s							
PTEO	**Sao Teotonio**	**1.56**	**70**	*e*P	Pn	12 11 47.5	-1.3
PTEO				*e*S	Sn	12 12 06.0	-2.4
10nm,0.2s							
PLOU	**Loures**	**2.17**	**31**	*e*Pn	Pn	12 11 55.9	-1.7
PLOU				*e*Sn	Sn	12 12 20.9	-3.0
17nm,0.1s							
PLOU	**Loures**	**2.17**	**31**	*e*Pn	Pn	12 11 55.9	-1.7
PLOU				*e*Sn	Sn	12 12 20.9	-3.0
17nm,0.1s							
MOE	**Montemor**	**2.31**	**49**	*e*Sn	Sn	12 12 24.2	-3.2
PBEJ	**Beja**	**2.37**	**64**	*e*Sn	Sn	12 12 25.4	-3.6
3.6nm,0.2s							
PBEJ	**Beja**	**2.37**	**64**	*e*Sn	Sn	12 12 25.4	-3.6
3.6nm,0.2s							
PALC	**Alcoutim**	**2.50**	**79**	*e*Pn	Pn	12 12 00.7	-1.7
PALC				*e*Sn	Sn	12 12 28.5	-4.0
4.9nm,0.2s							
PALC	**Alcoutim**	**2.50**	**79**	*e*Pn	Pn	12 12 00.7	-1.7
PALC				*e*Sn	Sn	12 12 28.5	-4.0
4.9nm,0.2s							
EGRO	**El Granado**	**2.51**	**77**	P	Pn	12 12 00.6	-1.8
0.4nm,0.1s,SNR=6.9							
EGRO				S	Sn	12 12 28.5	-4.1
3.0nm,0.3s,SNR=8.1							
EGRO	**El Granado**	**2.51**	**77**	Pn	Pn	12 12 00.6	-1.9
0.4nm,0.1s,SNR=6.9							
EGRO				Sn	Sn	12 12 28.5	-4.1
3.0nm,0.3s,SNR=8.1							
EMIN	**Mina Concepcio**	**3.19**	**75**	Pn	Pn	12 12 09.9	-2.2
EMIN				Sn	Sn	12 12 44.0	-5.8
EMIN	**Mina Concepcio**	**3.19**	**75**	P	Pn	12 12 09.9	-2.2
0.6nm,0.1s,SNR=7.4							
EMIN				S	Sn	12 12 44.7	-5.1
1.7nm,0.3s,SNR=9.3							
EMIN	**Mina Concepcio**	**3.19**	**75**	Pn	Pn	12 12 09.9	-2.2
0.6nm,0.1s,SNR=7.4							
EMIN				Sn	Sn	12 12 44.0	-5.8
1.7nm,0.3s,SNR=9.3							
EBAD	**Badajoz**	**3.30**	**57**	P	Pn	12 12 11.9	-1.7
0.7nm,0.1s,SNR=7.9							
EBAD				S	Sn	12 12 47.8	-4.8
1.4nm,0.3s,SNR=7.4							
EBAD	**Badajoz**	**3.30**	**57**	Pn	Pn	12 12 11.9	-1.8
0.7nm,0.1s,SNR=7.9							
EBAD				Sn	Sn	12 12 47.8	-4.8
1.4nm,0.3s,SNR=7.4							
PCBR	**Castelo Branco**	**3.71**	**40**	*e*Sn	Sn	12 12 57.8	-5.2
5.1nm,0.4s							
PCBR	**Castelo Branco**	**3.71**	**40**	*e*Sn	Sn	12 12 57.8	-5.2
5.1nm,0.4s							
ESPR	**Espera**	**3.78**	**91**	P	Pn	12 12 17.6	-2.8
1.7nm,0.1s,SNR=7.9							
ESPR				S	Sn	12 12 59.2	-5.4
2.5nm,0.1s,SNR=7.9							
ESPR	**Espera**	**3.78**	**91**	Pn	Pn	12 12 17.6	-2.8
1.7nm,0.1s,SNR=7.9							
ESPR				Sn	Sn	12 12 59.2	-5.4
SNR=7.9							
EJIF	**Jimena Fronter**	**4.13**	**96**	S	Sn	12 13 07.7	-6.1
10.0nm,0.9s,SNR=7.9							
PVIS	**Viseu**	**4.23**	**29**	*e*Pn	Pn	12 12 24.3	-2.6
PVIS				*e*Sn	Sn	12 13 10.3	-6.0
4.4nm,0.1s							
PVIS	**Viseu**	**4.23**	**29**	P	Pn	12 12 24.3	-2.6
PVIS				S	Sn	12 13 10.3	-6.0
2.2nm,0.1s							
EMIJ	**Mijas**	**4.67**	**94**	S	Sn	12 13 20.3	-7.0
12nm,0.8s,SNR=7.9							
PVRL	**Vila Real**	**4.79**	**27**	*e*Sn	Sn	12 13 23.1	-7.1
3.5nm,0.1s							
PVRL	**Vila Real**	**4.79**	**27**	S	Sn	12 13 23.1	-7.1
1.8nm,0.1s							
EADA	**Adamuz**	**4.89**	**75**	Pn	Pn	12 12 33.2	-3.1
EADA				Sn	Sn	12 13 24.3	-8.6
EADA	**Adamuz**	**4.89**	**75**	P	Pn	12 12 33.2	-3.1
0.4nm,0.1s,SNR=7.9							
EADA				S	Sn	12 13 25.7	-7.1
8.7nm,0.9s,SNR=7.9							
EADA	**Adamuz**	**4.89**	**75**	Pn	Pn	12 12 33.2	-3.1
0.4nm,0.1s,SNR=7.9							
EADA				Sn	Sn	12 13 24.3	-8.5
SNR=7.9							
ELOB	**Lobios**	**5.21**	**21**	Pn	Pn	12 12 36.8	-4.0
ELOB				Sn	Sn	12 13 34.0	-6.8
ELOB	**Lobios**	**5.21**	**21**	P	Pn	12 12 37.3	-3.5
0.8nm,0.1s,SNR=7.9							
ELOB				S	Sn	12 13 33.2	-7.6
2.9nm,0.3s,SNR=7.1							
ELOB	**Lobios**	**5.21**	**21**	Pn	Pn	12 12 36.8	-3.9
0.8nm,0.1s,SNR=7.9							
ELOB				Sn	Sn	12 13 34.0	-6.8
2.9nm,0.3s,SNR=7.1							
EZAM	**Zamans**	**5.32**	**15**	P	Pn	12 12 38.6	-3.6
3.1nm,0.3s,SNR=7.9							
EZAM				S	Sn	12 13 35.8	-7.7
6.5nm,0.5s,SNR=7.9							
PBRG	**Braganca**	**5.62**	**31**	*e*Sn	Sn	12 13 43.3	-7.7
1.8nm,0.2s							
PBRG	**Braganca**	**5.62**	**31**	S	Sn	12 13 43.3	-7.7
0.9nm,0.2s							
ECAL	**Calabor**	**5.73**	**30**	S	Sn	12 13 45.2	-8.8
7.1nm,0.5s,SNR=7.9							
ECAL	**Calabor**	**5.73**	**30**	Sn	Sn	12 13 44.6	-9.4
SNR=7.9							
ESDC	**Sonseca Array**	**5.83**	**61**	S	Sn	12 13 48.5	-7.7
2.1nm,0.3s,baz=246,slow=23,SNR=7.9							
EQES	**Quesada**	**6.02**	**80**	Pn	Pn	12 12 50.8	-1.4
EQES				Sn	Sn	12 13 53.0	-8.0
EQES	**Quesada**	**6.02**	**80**	P	Pn	12 12 49.1	-3.1
1.1nm,0.2s,SNR=7.9							
EQES	**Quesada**	**6.02**	**80**	Pn	Pn	12 12 50.8	-1.3
1.1nm,0.2s,SNR=7.9							
EQES				Sn	Sn	12 13 53.0	-8.0
SNR=7.9							
EPON	**Pontenova**	**6.82**	**22**	S	Sn	12 14 12.1	-8.9
22nm,1.0s,SNR=7.9							

IDC 23 12:12:54.4±3.0, 0.81N×97.09E, mb3.8/5, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, ML4.3/1, Error ellipse: s-maj=118.3km s-min=21.5km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.63**	**6**	P	P	12 17 02.1	-1.1
0.4nm,0.3s,baz=197,slow=11,SNR=5.6							
WRA	**Warramunga Arr**	**41.92**	**122**	P	P	12 20 47.0	-1.7
0.8nm,0.6s,baz=300,slow=9.0,SNR=3.7							
ASAR	**Alice Springs**	**43.25**	**127**	P	P	12 20 57.9	-1.6
0.4nm,0.6s,baz=306,slow=8.3,SNR=4.3							
SONM	**Songino Array**	**47.53**	**8**	P	P	12 21 31.2	-2.2
0.3nm,0.4s,baz=187,slow=9.0,SNR=4.8							
MKAR	**Makanchi Array**	**47.59**	**346**	P	P	12 21 31.9	-2.0
1.1nm,0.6s,baz=164,slow=9.1,SNR=13							
ZAL	**Zalesovo**	**53.91**	**351**	P	P	12 22 19.4	-2.3
1.7nm,0.5s,baz=310,slow=5.0,SNR=7.8							

IDC 23 12:16:38.8±7.1, 9.70S×130.00E, mb3.7/1, mb1 3.6/3, mb1mx3.3/14, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=94.0km s-min=83.2km az=89.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.37**	**206**	Sn	Sn	12 20 51.4	+5.9
0.5nm,0.3s,baz=165,slow=19,SNR=3.6							
WRA	**Warramunga Arr**	**11.02**	**158**	Pn	P	12 19 16.2	-4.6
0.2nm,0.3s,baz=339,slow=13,SNR=5.4							
WRA				Sn	S	12 21 24.5	-1.5
0.2nm,0.3s,baz=332,slow=23,SNR=3.8							
ASAR	**Alice Springs**	**14.38**	**165**	Pn	P	12 20 04.5	-1.5
0.1nm,0.3s,baz=360,slow=14,SNR=5.5							
STKA	**Stephens Creek**	**24.55**	**156**	P	P	12 22 00.7	-0.8
1.6nm,0.9s,baz=332,slow=12,SNR=3.4							

IDC 23 12:23:53.4±2.8, 3.73S×144.53E, mb3.5/5, mb1 3.7/6, mb1mx3.6/16, mbtmp3.5/6, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.8/18, Error ellipse: s-maj=88.0km s-min=22.4km az=102.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.93**	**211**	P	P	12 28 17.1	-1.3
0.1nm,0.3s,baz=35,slow=11,SNR=9.3							
ASAR	**Alice Springs**	**22.32**	**206**	P	P	12 28 54.1	-0.2
0.7nm,0.7s,baz=31,slow=9.8,SNR=8.7							
FITZ	**Fitzroy Crossi**	**23.37**	**231**	P	P	12 29 02.2	-2.6
3.3nm,0.8s,baz=48,slow=15,SNR=9.0							
STKA	**Stephens Creek**	**28.14**	**185**	LR	LR	12 42 43.9	
comp=Z,97nm,18.1s,baz=235,slow=40							
SONM	**Songino Array**	**61.24**	**332**	P	P	12 34 09.7	-3.0
0.2nm,0.5s,baz=106,slow=10,SNR=2.1							
MKAR	**Makanchi Array**	**74.19**	**321**	P	P	12 35 32.6	-1.3
0.2nm,0.6s,baz=92,slow=8.1,SNR=4.0							
BVAR	**Borovoye Array**	**83.50**	**324**	P	P	12 36 23.9	-0.6
1.3nm,0.7s,baz=90,slow=7.2,SNR=9.5							

*NEIC **23** 12:48:19.7, 36.55N×7.47W, h24km, MG3.8(MDD), After MDD.*
*INMG **23** 12:48:20.8±1.0, 36.56N×7.53W, h31km±10km, ML2.3, Error ellipse: s-maj=5.6km s-min=3.8km az=32.0*
*CSEM **23** 12:48:20.4±0.2, 36.73N×7.35W, h50km±1km, mb3.8/7, Error ellipse: s-maj=4.2km s-min=1.7km az=39.0*
MDD 23 12:48:19.8±1.1, 36.59N×7.56W, h23km±9km, mbLg2.4/32, 3D, Error ellipse: s-maj=10.4km s-min=4.2km az=35.0, PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.82**	**17**	⇓P	Pb	12 48 35.1	-0.2
14nm,0.1s,SNR=18							
ERIP				S	Sb	12 48 45.8	-0.1
108nm,0.1s,SNR=7.9							
PALC	**Alcoutim**	**0.88**	**4**	*i*P	Pb	12 48 36.1	-0.1
PALC				*e*S	Sb	12 48 47.7	+0.1
71nm,0.1s							
PALC	**Alcoutim**	**0.88**	**4**	⇓P	Pb	12 48 36.1	-0.1
PALC				S	Sb	12 48 47.7	+0.1
35nm,0.1s							
EGRO	**El Granado**	**0.94**	**4**	P	Pb	12 48 37.0	-0.4
6.6nm,0.1s,SNR=107							
EGRO				S	Sb	12 48 48.7	-0.8
45nm,0.1s,SNR=6.3							
EGRO	**El Granado**	**0.94**	**4**	P	Pb	12 48 37.0	-0.4
6.6nm,0.1s,SNR=107							
EGRO				S	Sb	12 48 48.7	-0.8
14nm,0.3s,SNR=6.3							
PTEO	**Sao Teotonio**	**1.33**	**316**	*i*P	Pn	12 48 42.2	-1.1
PTEO				*e*S	Sn	12 48 58.5	-2.0
12nm,0.2s							
PTEO	**Sao Teotonio**	**1.33**	**316**	⇓P	Pn	12 48 42.2	-1.1
PTEO				S	Sn	12 48 58.5	-2.0
6.0nm,0.2s							
EMIN	**Mina Concepcio**	**1.37**	**31**	P	Pn	12 48 42.5	-1.4
0.6nm,0.1s,SNR=9.6							
EMIN				S	Sn	12 48 58.7	-2.8
8.2nm,0.1s,SNR=16							
EMIN	**Mina Concepcio**	**1.37**	**31**	Pn	Pn	12 48 42.5	-1.4
EMIN				Sn	Sn	12 48 58.7	-2.8
ESPR	**Espera**	**1.40**	**78**	Pn	Pn	12 48 41.0	-3.2
ESPR				Sn	Sn	12 48 59.0	-3.1
ESPR	**Espera**	**1.40**	**78**	P	Pn	12 48 42.5	-1.7
0.8nm,0.1s,SNR=14							
ESPR				S	Sn	12 48 59.7	-2.4
5.7nm,0.2s,SNR=6.2							
ESPR	**Espera**	**1.40**	**78**	Pn	Pn	12 48 41.0	-3.2
ESPR				S	Sn	12 48 59.0	-3.1
5.2nm,0.2s,SNR=6.2							
PBEJ	**Beja**	**1.46**	**350**	*e*P	Pn	12 48 43.9	-1.2
PBEJ				*e*S	Sn	12 49 01.6	-2.0
13nm,0.1s							
PBEJ	**Beja**	**1.46**	**350**	*e*P	Pn	12 48 43.9	-1.2
PBEJ				*e*S	Sn	12 49 01.6	-2.0
13nm,0.1s							
EJIF	**Jimena Fronter**	**1.69**	**94**	Pn	Pn	12 48 46.3	-2.1
EJIF				Sn	Sn	12 49 04.4	-5.1
EJIF	**Jimena Fronter**	**1.69**	**94**	P	Pn	12 48 46.3	-2.1
2.2nm,0.2s,SNR=7.9							
EJIF				S	Sn	12 49 07.2	-2.4
4.8nm,0.4s,SNR=7.9							
EJIF	**Jimena Fronter**	**1.69**	**94**	P	Pn	12 48 46.3	-2.1
2.2nm,0.2s,SNR=7.9							
EJIF				Sn	Sn	12 49 04.4	-5.1
MOE	**Montemor**	**2.03**	**342**	*e*S	Sn	12 49 15.3	-2.9
EBAD	**Badajoz**	**2.21**	**11**	Pn	Pn	12 48 54.1	-1.7
EBAD				Sn	Sn	12 49 21.6	-1.1
EBAD	**Badajoz**	**2.21**	**11**	P	Pn	12 48 54.1	-1.7
1.3nm,0.1s,SNR=6.9							
EBAD				S	Sn	12 49 19.9	-2.7
6.7nm,0.1s							
EBAD	**Badajoz**	**2.21**	**11**	P	Pn	12 48 54.1	-1.7
1.3nm,0.1s,SNR=6.9							
EBAD				Sn	Sn	12 49 21.6	-1.0
EMIJ	**Mijas**	**2.24**	**90**	Pn	Pn	12 48 52.8	-3.6
EMIJ				Sn	Sn	12 49 18.2	-5.4
EMIJ	**Mijas**	**2.24**	**90**	P	Pn	12 48 54.1	-2.3
0.1nm,0.1s,SNR=4.0							
EMIJ				S	Sn	12 49 20.8

EBER				Sn	Sn	12 49 55.0	-7.1
EQES	**Quesada**	**3.78**	**70**	Pn	Pn	12 49 15.5	-2.8
EQES				Sn	Sn	12 49 56.1	-6.4
EQES	**Quesada**	**3.78**	**70**	P	Pn	12 49 15.5	-2.8
	0.7nm,0.1s,SNR=6.0						
EQES				S	Sn	12 49 57.1	-5.5
	1.2nm,0.1s,SNR=5.0						
EQES	**Quesada**	**3.78**	**70**	P	Pn	12 49 15.5	-2.7
	0.7nm,0.1s,SNR=6.0						
EQES				S	Sn	12 49 56.1	-6.5
	2.0nm,0.2s,SNR=5.0						
MTE	**Manteigas**	**3.81**	**0**	S	Sn	12 49 58.2	-4.9
	7.7nm,0.4s						
MTE	**Manteigas**	**3.81**	**0**	S	Sn	12 49 58.2	-4.9
	7.7nm,0.4s						
PVIS	**Viseu**	**4.13**	**356**	*eP*	Pn	12 49 20.6	-2.6
PVIS				S	Sn	12 50 05.9	-5.5
	5.3nm,0.1s						
PVIS	**Viseu**	**4.13**	**356**	P	Pn	12 49 20.6	-2.6
PVIS				S	Sn	12 50 05.9	-5.5
	2.7nm,0.1s						
ESDC	**Sonseca Array**	**4.19**	**42**	P	Pn	12 49 21.4	-2.6
	0.3nm,0.2s,baz=225,slow=14,SNR=7.3						
ESDC				S	Sn	12 50 06.8	-6.0
	1.2nm,0.3s,baz=225,slow=23,SNR=8.4						
ESDC	**Sonseca Array**	**4.19**	**42**	P	Pn	12 49 21.4	-2.6
	0.3nm,0.2s,SNR=7.3						
ESDC				S	Sn	12 50 06.8	-6.0
	1.2nm,0.3s,SNR=8.4						
EVIA	**Vianos**	**4.51**	**61**	P	Pn	12 49 24.7	-3.8
	0.8nm,0.1s,SNR=7.9						
EVIA				S	Sn	12 50 14.7	-6.2
	4.5nm,0.2s,SNR=10						
PVRL	**Vila Real**	**4.68**	**359**	S	Sn	12 50 18.5	-6.8
	6.8nm,0.2s						
PVRL	**Vila Real**	**4.68**	**359**	S	Sn	12 50 18.5	-6.8
	3.4nm,0.2s						
GUD	**Guadarrama**	**4.85**	**32**	P	Pn	12 49 30.5	-2.8
	0.2nm,0.1s,SNR=7.9						
GUD				S	Sn	12 50 22.8	-6.7
	0.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.20**	**65**	Pn	Pn	12 49 34.1	-4.2
ETOB				Sn	Sn	12 50 29.0	-9.2
ETOB	**Tobarra**	**5.20**	**65**	P	Pn	12 49 34.1	-4.1
	0.7nm,0.1s,SNR=7.9						
ETOB				S	Sn	12 50 30.6	-7.7
	3.3nm,0.3s,SNR=7.7						
ETOB	**Tobarra**	**5.20**	**65**	P	Pn	12 49 34.1	-4.2
	0.7nm,0.1s,SNR=7.9						
ETOB				Sn	Sn	12 50 29.0	-9.2
EMUR	**La Murta**	**5.20**	**74**	S	Sn	12 50 30.7	-7.5
	2.2nm,0.4s,SNR=7.9						
PBRG	**Braganca**	**5.25**	**7**	*eP*	Pn	12 49 35.8	-3.2
PBRG				S	Sn	12 50 32.4	-7.1
	3.3nm,0.2s						
PBRG	**Braganca**	**5.25**	**7**	P	Pn	12 49 35.8	-3.2
PBRG				S	Sn	12 50 32.4	-7.1
	1.6nm,0.2s						
ELOB	**Lobios**	**5.29**	**356**	Pn	Pn	12 49 35.3	-4.2
ELOB	**Lobios**	**5.29**	**356**	P	Pn	12 49 36.8	-2.7
	0.3nm,0.1s,SNR=7.9						
ELOB				S	Sn	12 50 33.2	-7.3
	4.4nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.29**	**356**	Pn	Pn	12 49 35.3	-4.2
ECAL	**Calabor**	**5.38**	**7**	P	Pn	12 49 38.3	-2.6
ECAL				S	Sn	12 50 35.4	-7.5
ECAL	**Calabor**	**5.38**	**7**	P	Pn	12 49 38.2	-2.7
	0.5nm,0.1s,SNR=4.0						
ECAL				S	Sn	12 50 35.4	-7.5
	32nm,1.2s,SNR=5.0						
ECAL	**Calabor**	**5.38**	**7**	P	Pn	12 49 38.3	-2.6
	0.5nm,0.1s,SNR=4.0						
EMOS	**Mosqueruela**	**6.72**	**54**	Pn	Pn	12 49 55.8	-3.9
EMOS				Sn	Sn	12 51 04.6	-12
EMOS	**Mosqueruela**	**6.72**	**54**	P	Pn	12 49 55.8	-3.9
	0.3nm,0.3s,SNR=4.0						
EMOS				S	Sn	12 51 07.5	-8.8
	3.2nm,2.6s,SNR=4.0						
EMOS	**Mosqueruela**	**6.72**	**54**	P	Pn	12 49 55.8	-3.9
	0.1nm,0.1s,SNR=4.0						
EMOS				Sn	Sn	12 51 04.6	-12
EMOS				S	Sn	12 51 07.5	-8.8
	SNR=4.0						

*IDC **23** 12:56:40.8±1.2,51.97S×139.78E,mb3.9/4,mb1 4.1/4, mb1mx3.9/11,mbtmp3.9/4,MS3.7/7,Ms1 3.6/7, ms1mx3.5/17,Error ellipse: s-maj=104.7km s-min=23.4km az=84.0*

*NEIC **23** 12:56:42.4±0.6,51.93S×139.68E,h10km,mb4.0/3,Error ellipse: s-maj=57.9km s-min=11.6km az=85.0*

ISC 23 12:56:40.1±0.9,51.85±0.1×14 1E± ,h10km,n18,σ0§55/8, mb4.1/5,MS3.6/6,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**19.93**	**2**	P	**P**	**13 01 14.8**	**0.0**
	1.4nm,0.9s,baz=173,slow=15,SNR=3.3						
STKA				LR	LR	13 07 20.6	
	comp=Z,138nm,20.5s,baz=201,slow=32						
VNDA	**Vanda**	**26.96**	**170**	P	**P**	**13 02 23.3**	**+0.3**
	0.9nm,0.7s,mb3.4,baz=322,slow=7.6,SNR=5.4						
VNDA				LR	LR	13 12 18.2	
	comp=Z,75nm,18.0s,MS3.3,baz=313,slow=35						
VNDA	**Vanda**	**26.96**	**170**	*eP*	**P**	**13 02 23.3**	**+0.2**
	1.0nm,0.8s,mb3.4						
VNDA				P		13 02 23.3	
VNDA				LR	LR	13 12 18.2	
ASAR	**Alice Springs**	**28.61**	**347**	P	**P**	**13 02 39.5**	**+0.9**
	1.6nm,0.7s,mb3.8,baz=165,slow=9.7,SNR=11						
CTA	**Charters Tower**	**31.94**	**10**	LR	LR	13 15 42.7	
	comp=Z,143nm,21.2s,MS3.6,baz=223,slow=35						
WB2	**Warramunga Arr**	**32.22**	**348**	*eP*	**P**	**13 03 09.9**	**-0.7**
WRA	**Warramunga Arr**	**32.22**	**348**	P	**P**	**13 03 11.1**	**+0.5**
	5.6nm,0.8s,mb4.5,baz=171,slow=6.6,SNR=26						
WRAB	**Tennant Creek**	**32.23**	**348**	*eP*	**P**	**13 03 09.9**	**-0.7**
	13nm,0.9s,mb4.8						
DZM	**Mont Dzumac**	**35.67**	**43**	LR	LR	13 15 16.7	
	comp=Z,174nm,19.7s,MS3.8,baz=199,slow=31						
QSPA	**South Pole Qui**	**38.30**	**180**	*eP*	**P**	**13 04 01.7**	**-0.2**
	2.4nm,1.0s,mb3.9						
MAW	**Mawson**	**39.33**	**216**	LR	LR	13 18 21.1	
	comp=Z,118nm,19.8s,MS3.7,baz=57,slow=34						
PMG	**Port Moresby**	**42.59**	**9**	LR	LR	13 22 27.4	
	comp=Z,79nm,20.8s,MS3.6,baz=137,slow=36						
BOSA	**Boshof**	**82.10**	**233**	LR	LR	13 37 49.4	
	comp=Z,40nm,19.7s,MS3.8,baz=336,slow=30						
YKA	**Yellowknife Ar**	**140.04**	**44**	PKP	PKPdf	13 16 11.7	+0.9
	0.1nm,0.6s,baz=256,slow=2.7,SNR=3.7						
YKA	**Yellowknife Ar**	**140.04**	**44**	PKP	PKPdf	13 16 11.7	+0.9
ARCES	**ARCESS Array B**	**145.84**	**326**	PKPbc	PKPbc	13 16 19.2	+0.9
	3.0nm,0.8s,baz=90,slow=1.2,SNR=6.8						
GERES	**GERESS Array B**	**146.77**	**286**	PKPbc	PKPbc	13 16 21.1	0.0
	0.4nm,0.6s,baz=90,slow=1.0,SNR=5.1						
NOA	**NORSAR Array B**	**151.38**	**309**	PKPbc	PKPdf	13 16 33.1	+3.5
	1.0nm,0.9s,baz=89,slow=3.9,SNR=3.4						

*IDC **23** 13:01:24.2±1.4, 18.89N×155.44W,mb3.5/7,mb1 3.9/7, mb1mx3.7/24,mbtmp3.5/7,MS3.5/3,Ms1 3.5/3, ms1mx3.0/25,Error ellipse: s-maj=48.4km s-min=26.1km az=142.0*

*NEIC **23** 13:01:29.9, 18.80N×155.19W,h44km,mb3.6/1, ML4.3(HVO),After HVO.*

NEIC Felt [IV] at Hawaiian Paradise Park, Hilo, Honaunau, Honomu, Ocean View Estates and Papaikou; [III] at Captain Cook, Glenwood and Wood Valley; [II] at Volcano Golf Course.

ISC 23 13:01:29.8±0.8,18.92N±0.08×155.26W±0.06,h52km±5km, n49,σ0§58/57,mb3.5/8,MS3.5/3,9C-28D,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPL	**Puu Pili**	**0.31**	**320**	⇓*iP*	**P**	**13 01 39.1**	**-0.1**
PWH	**Poliokeawe Pal**	**0.36**	**5**	⇓*iP*	**P**	**13 01 39.7**	**-0.1**
HLP	**Hilina Pali**	**0.38**	**352**	⇓*iP*	**P**	**13 01 40.2**	**+0.3**
WOH	**Wood Valley**	**0.40**	**325**	⇑*iP*	**P**	**13 01 40.3**	**+0.2**
DES	**Desert**	**0.43**	**343**	⇑*iP*	**P**	**13 01 40.4**	**0.0**
AHA	**Ahua**	**0.45**	**359**	⇑*iP*	**P**	**13 01 40.5**	**-0.1**
PUH	**Pauahi**	**0.45**	**5**	⇑*iP*	**P**	**13 01 40.5**	**-0.2**
PUH				*eS*	**S**	**13 01 48.2**	**-0.4**
KNHH	**Kane Nui o Ham**	**0.46**	**10**	⇓*iP*	**P**	**13 01 40.5**	**-0.2**
OUT	**Outlet**	**0.47**	**357**	⇓*iP*	**P**	**13 01 40.7**	**-0.1**
RIM	**Rim**	**0.47**	**358**	⇓*iP*	**P**	**13 01 40.8**	**-0.1**
CPK	**Cone Peak**	**0.48**	**352**	⇓*iP*	**P**	**13 01 40.8**	**-0.1**
STCH	**Steam Cracks**	**0.48**	**15**	⇓*iP*	**P**	**13 01 40.6**	**-0.4**
ESR	**Escape Road**	**0.49**	**2**	⇓*iP*	**P**	**13 01 40.9**	**-0.1**
AIN	**Ainahou**	**0.49**	**337**	⇓*iP*	**P**	**13 01 41.6**	**+0.5**
AIN				*eS*	**S**	**13 01 50.2**	**+1.0**
NPH	**North Pit**	**0.49**	**357**	⇓*eP*	**P**	**13 01 40.9**	**-0.2**
NPH				*eS*	**S**	**13 01 49.2**	**-0.1**
UWE	**Uwekahuna**	**0.50**	**356**	⇓*iP*	**P**	**13 01 41.1**	**-0.1**
UWE				*eS*	**S**	**13 01 49.6**	**+0.2**
KLCH	**Kalalua Cone**	**0.51**	**20**	⇓*iP*	**P**	**13 01 40.9**	**-0.5**
OVEH	**Oceanview Est**	**0.53**	**296**	⇓*iP*	**P**	**13 01 41.4**	**-0.2**
RSD	**Rainshed**	**0.54**	**358**	⇓*eP*	**P**	**13 01 41.4**	**-0.2**
HUL	**Heiheiahulu**	**0.56**	**28**	⇓*iP*	**P**	**13 01 41.3**	**-0.6**
DAH	**Dandelion**	**0.58**	**318**	⇓*iP*	**P**	**13 01 42.3**	**+0.2**
MLH	**Mauna Loa**	**0.58**	**348**	⇓*iP*	**P**	**13 01 42.5**	**+0.3**
MLH				*eS*	**S**	**13 01 51.8**	**+0.5**
RCO	**Red Cone**	**0.60**	**324**	⇓*eP*	**P**	**13 01 42.5**	**+0.1**
PKL	**Puu Kaliu**	**0.62**	**31**	⇓*iP*	**P**	**13 01 41.8**	**-0.8**
SWH	**Southwest Rift**	**0.62**	**328**	⇓*eP*	**P**	**13 01 42.8**	**+0.2**
WIH	**Wilkes Camp**	**0.63**	**330**	⇓*eP*	**P**	**13 01 43.1**	**+0.4**
PLL	**Puu Ulaula**	**0.64**	**342**	⇓*iP*	**P**	**13 01 43.1**	**+0.3**
MWH	**Mokuaweoweo**	**0.65**	**330**	⇓*eP*	**P**	**13 01 43.3**	**+0.3**
HMH	**Humuula**	**0.71**	**342**	⇑*eP*	**P**	**13 01 44.4**	**+0.5**
HMH				*eS*	**S**	**13 01 55.0**	**+0.8**
KIH	**Kanekii**	**0.76**	**321**	⇑*eP*	**P**	**13 01 44.9**	**+0.5**
KIH				*eS*	**S**	**13 01 56.0**	**+0.8**
NGH	**National Guard**	**0.81**	**15**	⇑*eP*	**P**	**13 01 44.9**	**-0.2**
HPU	**Hale Pohaku**	**0.88**	**347**	⇑*eP*	**P**	**13 01 46.2**	**+0.2**
HUH	**Hualalai**	**0.94**	**324**	⇓*eP*	**P**	**13 01 47.1**	**+0.2**
KKU	**Keanakolu**	**0.97**	**355**	⇓*eP*	**P**	**13 01 47.5**	**+0.3**
WKH	**Waikii**	**1.01**	**338**	⇑*eP*	**P**	**13 01 47.7**	**-0.1**
KKH	**Kailua Kona**	**1.03**	**316**	⇓*iP*	**P**	**13 01 47.7**	**-0.4**
KOH	**Kohala**	**1.30**	**338**	⇓*eP*	**P**	**13 01 51.2**	**-0.7**
KOH				*eS*	**S**	**13 02 07.0**	**-1.4**
HKL	**Haleakala**	**2.01**	**332**	*eP*	**P**	**13 02 01.4**	**-0.6**
KIP	**Kipapa**	**3.59**	**314**	*eP*	**P**	**13 02 21.5**	**-2.9**
KIP				*eS*	**S**	**13 02 59.0**	**-6.9**
PPT	**Papeete**	**36.69**	**171**	LR	LR	13 20 58.9	
	comp=Z,75nm,18.4s,MS3.5,baz=203,slow=32						
NVAR	**Mina Array Bea**	**37.47**	**51**	P	**P**	**13 08 40.9**	**+0.8**
	0.4nm,0.7s,mb3.3,baz=231,slow=12,SNR=2.7						
HLID	**Hailey**	**42.10**	**45**	*eP*	**P**	**13 09 18.4**	**0.0**
	0.9nm,0.7s,mb3.5						
PDAR	**Pinedale Array**	**45.17**	**48**	P	**P**	**13 09 45.0**	**+1.8**
	0.7nm,0.9s,mb3.5,baz=270,slow=5.9,SNR=5.5						
PDAR	**Pinedale Array**	**45.17**	**48**	P	**P**	**13 09 45.0**	**+1.8**
ILAR	**Eielson Array**	**46.16**	**5**	P	**P**	**13 09 51.0**	**+0.3**
	1.1nm,0.9s,mb3.8,baz=196,slow=6.8,SNR=8.8						
ILAR				LR	LR	13 26 11.4	
	comp=Z,61nm,19.6s,MS3.6,baz=355,slow=32						
TXAR	**Lajitas Array**	**47.88**	**67**	P	**P**	**13 10 05.5**	**+0.7**
	0.2nm,0.5s,mb3.4,baz=239,slow=10,SNR=3.3						
INK	**Inuvik**	**51.23**	**10**	P	**P**	**13 10 29.5**	**-0.4**
	0.6nm,0.8s,mb3.6,baz=196,slow=9.4,SNR=4.4						
INK				LR	LR	13 27 18.9	
	comp=Z,34nm,21.1s,MS3.4,baz=138,slow=30						
YKA	**Yellowknife Ar**	**51.76**	**23**	P	**P**	**13 10 33.1**	**-0.8**
	0.2nm,0.5s,mb3.3,baz=232,slow=7.6,SNR=8.6						
ASAR	**Alice Springs**	**81.01**	**241**	P	**P**	**13 13 40.5**	**-0.5**
	1.0nm,0.6s,mb3.9,baz=63,slow=6.5,SNR=9.7						

GUC 23 13:03:15.6±0.6,23.88S×69.17W,h70km,MD3.5,ML3.1, 2C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.16**	**279**	⇑*iP*	P	13 03 36.2	-0.1
ANCH				*i* S	S	13 03 52.3	+0.4
LVC	**Limon Verde**	**1.28**	**11**	⇑*iP*	P	13 03 38.9	+0.8
LVC				*i* S	S	13 03 56.0	+1.2
LVC				AMP		13 03 58.8	
	comp=E,719nm,0.4s						
CPN1	**Cerro Paranal**	**1.35**	**236**	*eP*	P	13 03 39.9	+0.7
CPN1				*i* S	S	13 03 57.7	+1.1
CPN1				AMP		13 04 03.3	
	comp=N,821nm,0.3s						
CRCH	**Chaqaral**	**2.79**	**208**	*eP*	P	13 03 59.3	+0.3
CRCH				*i* S	S	13 04 31.8	+0.2
CRCH				AMP		13 04 39.7	
	comp=E,25nm,0.5s						

*IDC **23** 13:05:31.2±1.3,52.06S×139.34E,mb4.2/6,mb1 4.4/6, mb1mx4.2/12,mbtmp4.2/6,MS3.5/2,Ms1 3.5/2, ms1mx3.1/16,Error ellipse: s-maj=82.9km s-min=23.2km az=84.0*

*NEIC **23** 13:05:32.4±0.6,52.07S×139.26E,h10km,mb4.5/5,Error ellipse: s-maj=44.5km s-min=9.6km az=85.0*

ISC 23 13:05:30.7±0.8,52.0S±0.1×139.7E±0.8,h10km,n20, σ0§57/13,mb4.3/8,MS3.4/2,1C,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.16**	**5**	*eP*	**P**	**13 10 08.5**	**+0.7**
	2.0nm,0.6s						
STKA	**Stephens Creek**	**20.16**	**5**	P	**P**	**13 10 08.7**	**+0.8**
	2.2nm,0.6s,baz=158,slow=9.3,SNR=9.3						
NWAO	**Narrogin (SRO)**	**25.07**	**311**	LR	LR	13 18 14.6	
	comp=Z,151nm,20.5s,MS3.5,baz=71,slow=31						
VNDA	**Vanda**	**26.91**	**170**	P	**P**	**13 11 13.5**	**+0.3**
	1.1nm,1.0s,mb3.3,baz=312,slow=9.2,SNR=3.5						
ASPA	**Alice Springs**	**28.63**	**349**	*eP*	**P**	**13 11 29.1**	**-0.2**
ASAR	**Alice Springs**	**28.63**	**349**	P	**P**	**13 11 29.2**	**-0.1**
	3.1nm,0.7s,mb4.2,baz=163,slow=9.6,SNR=37						
CTA	**Charters Tower**	**32.26**	**12**	LR	LR	13 25 09.9	
	comp=Z,63nm,21.0s,MS3.3,baz=318,slow=36						
WB2	**Warramunga Arr**	**32.26**	**351**	⇑*iP*	**P**	**13 12 01.1**	**-0.4**
WRA	**Warramunga Arr**	**32.27**	**351**	P	**P**	**13 12 01.2**	**-0.3**
	12nm,0.8s,mb4.8,baz=173,slow=7.0,SNR=87						
WRAB	**Tennant Creek**	**32.27**	**351**	*eP*	**P**	**13 12 01.4**	**-0.2**
	32nm,0.8s,mb5.2						
WRAB				*e*		13 12 06.8	
FITZ	**Fitzroy Crossi**	**35.59**	**337**	*eP*	**P**	**13 12 30.0**	**-0.2**
	5.8nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**35.59**	**337**	P	**P**	**13 12 29.8**	**-0.4**
	6.5nm,0.8s,mb4.6,baz=169,slow=11,SNR=6.4						
QSPA	**South Pole Qui**	**38.11**	**180**	*eP*	**P**	**13 12 50.3**	**-0.6**
	8.4nm,1.3s,mb4.3						
KAKA	**Kakadu**	**39.62**	**349**	*eP*	**P**	**13 13 03.6**	**-0.5**
	14nm,1.0s,mb4.6						
CMAR	**Chiang Mai Arr**	**78.62**	**321**	P	**P**	**13 17 35.5**	**+1.4**
	0.5nm,0.6s,mb3.6,baz=191,slow=4.6,SNR=4.5						
ARCES	**ARCESS Array B**	**145.57**	**325**	PKPbc	PKPbc	13 25 09.3	+1.2
	5.3nm,0.8s,baz=63,slow=2.7,SNR=12						
ARCES	**ARCESS Array B**	**145.57**	**325**	PKPbc	PKPbc	13 25 09.3	+1.2
GERES	**GERESS Array B**	**146.09**	**287**	PKPbc	PKPbc	13 25 10.6	+0.5
	0.4nm,0.4s,baz=146,slow=4.8,SNR=6.9						
NB2	**NORSAR Subarra**	**150.90**	**308**	PKPab	PKPab	13 25 22.8	-8.8
	3.1nm,1.0s,baz=80,slow=3.7						
NOA	**NORSAR Array B**	**150.90**	**308**	PKPbc	PKPdf	13 25 22.8	+3.5
	1.8nm,0.9s,baz=90,slow=3.6,SNR=4.6						

IDC 23 13:06:40.9±4.3,1.33N×97.21E,mb3.6/4,mb1 3.8/4, mb1mx3.5/19,mbtmp3.6/4,Error ellipse: s-maj=166.1km s-min=27.8km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.10**	**122**	P	P	13 14 35.0	-1.7
	0.4nm,0.7s,baz=302,slow=9.0,SNR=2.8						
SONM	**Songino Array**	**47.00**	**8**	P	P	13 15 14.2	-1.5
	0.7nm,0.8s,baz=186,slow=9.9,SNR=5.8						
MKAR	**Makanchi Array**	**47.12**	**346**	P	P	13 15 14.7	-2.0
	0.3nm,0.5s,baz=167,slow=8.5,SNR=9.4						
ZAL	**Zalesovo**	**53.42**	**351**	P	P	13 16 02.1	-2.6
	0.7nm,0.3s,baz=287,slow=6.2,SNR=3.3						

*CSEM **23** 13:26:57.7±0.8,38.65N×28.53W,h1km±4km,ML1.6,Error ellipse: s-maj=3.3km s-min=1.8km az=6.0,After PDA*

*PDA **23** 13:26:57.7±0.8,38.65N×28.53W,h1km±4km,MD2.7, ML1.6,Error ellipse: s-maj=3.3km s-min=1.8km az=6.0*

SVSA 23 13:26:57.7±0.8,38.65N×28.53W,h1km±4km,MD2.7, ML1.6,Error ellipse: s-maj=3.3km s-min=1.8km az=6.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.14**	**263**	*eP*	Pg	13 27 00.4	-0.1
PCED				*eS*	Sg	13 27 02.7	+0.4
	34nm,0.2s						
PCED	**Cedros**	**0.14**	**263**	*eP*	Pg	13 27 00.4	-0.1
PCED				*eS*	Sg	13 27 02.7	+0.4
	34nm,0.2s						
HOR	**Horta**	**0.14**	**215**	*eS*	Sg	13 27 02.3	-0.2
CALA	**Caldeira**	**0.15**	**245**	*eP*	Pg	13 27 00.7	0.0
CALA				*eS*	Sg	13 27 03.2	+0.4
PICO	**Pico**	**0.16**	**151**	*eP*	Pg	13 27 00.9	-0.1
PICO				*eS*	Sg	13 27 03.7	+0.5
PMAN	**Manadas**	**0.34**	**92**	*eS*	Sg	13 27 08.7	-0.4
	30nm,0.1s						

IDC 23 13:29:18.7±2.2,1.81S×99.29E,mb3.3/5,mb1 3.5/5, mb1mx3.4/17,mbtmp3.4/5,Error ellipse: s-maj=90.7km s-min=26.9km az=56.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.14**	**359**	P	P	13 33 55.8	-1.7
	0.4nm,0.5s,baz=186,slow=9.3,SNR=4.1						
WRA	**Warramunga Arr**	**38.70**	**120**	P	P	13 36 44.7	-1.7
	0.4nm,0.6s,baz=305,slow=8.6,SNR=8.9						
ASAR	**Alice Springs**	**39.94**	**126**	pP	pP	13 37 02.1	+5.5
	0.6nm,0.8s,baz=303,slow=7.3,SNR=4.5						
SONM	**Songino Array**	**49.83**	**6**	P	P	13 38 13.1	-2.3
	0.1nm,0.3s,baz=207,slow=9.7,SNR=3.5						
MKAR	**Makanchi Array**	**50.66**	**345**	P	P	13 38 18.7	-3.1
	0.1nm,0.3s,baz=158,slow=7.8,SNR=4.0						
FINES	**FINESS Array B**	**83.61**	**332**	P	P	13 41 49.3	-0.8
	0.3nm,0.4s,baz=121,slow=11,SNR=5.3						
TXAR	**Lajitas Array**	**144.98**	**36**	PKP	PKPdf	13 48 58.5	-2.0
	0.3nm,0.4s,baz=233,slow=1.1,SNR=4.6						
TXAR				pPKP		13 49 06.2	
	0.8nm,0.6s,baz=269,slow=0.8,SNR=6.9						

IDC 23 14:02:09.5±3.9,5.38N×93.05E,mb3.8/4,mb1 3.9/5, mb1mx3.6/21,mbtmp3.8/5,ML3.7/1,MS2.7/1,Ms1 2.9/1, ms1mx2.5/36,Error ellipse: s-maj=101.1km s-min=69.5km az=123.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.22**	**23**	Pn	P	14 05 34.5	-0.1
	0.1nm,0.3s,baz=234,slow=14,SNR=7.4						
CMAR				LR	LR	14 12 15.2	
	comp=Z,30nm,18.3s,baz=205,slow=43						
MKAR	**Makanchi Array**	**42.30**	**349**	P	P	14 10 04.7	-1.9
	0.4nm,0.6s,baz=169,slow=9.0,SNR=6.5						
SONM	**Songino Array**	**43.82**	**13**	P	P	14 10 16.4	-2.6
	0.6nm,0.6s,baz=196,slow=8.2,SNR=6.5						
SONM				PcP	PcP	14 12 04.0	-2.1
	0.2nm,0.4s,baz=175,slow=4.8,SNR=4.4						
ZAL	**Zalesovo**	**48.88**	**354**	P	P	14 10 57.1	-1.8
	0.7nm,0.4s,baz=316,slow=10,SNR=3.2						
ARCES	**ARCESS Array B**	**77.24**	**341**	P	P	14 14 05.5	-1.4
	2.9nm,0.9s,baz=90,slow=5.4,SNR=5.4						

*IDC **23** 14:03:19.7±1.6,8.88S×129.93E,mb3.6/2,mb1 3.6/4, mb1mx3.4/14,mbtmp3.4/4,ML3.2/1,Error ellipse: s-maj=120.3km s-min=25.7km az=65.0*

ISC 23 14:03:23.9±2.6,8.9S±0.1×130.3E±0.2,h56km±27km,n6, σ1§79/8,mb3.5/2,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**4.29**	**151**	*eP*	**P**	**14 04 29.4**	**+1.1**
	9.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.19**	**206**	*eP*	**P**	**14 05 50.1**	**-0.1**
	7.3nm,1.5s						
WRA	**Warramunga Arr**	**11.61**	**161**	Pn	**P**	**14 06 07.5**	**-1.9**
	0.2nm,0.3s,baz=342,slow=13,SNR=12						
WRA				Sn	**S**	**14 08 16.8**	**-1.6**
	0.3nm,0.3s,baz=336,slow=22,SNR=6.6						
ASAR	**Alice Springs**	**15.04**	**167**	Pn	**P**	**14 06 55.0**	**+0.3**
	0.1nm,0.3s,baz=342,slow=8.7,SNR=6.8						
ASAR				Sn	**S**	**14 09 41.6**	**+1.5**
	0.1nm,0.3s,baz=330,slow=12,SNR=3.9						
STKA	**Stephens Creek**	**25.11**	**157**	P	**P**	**14 08 49.3**	**+4.1**
	1.1nm,0.7s,mb3.5,baz=316,slow=9.4,SNR=3.8						
MKAR	**Makanchi Array**	**70.02**	**327**	P	**P**	**14 14 31.6**	**-0.1**
	0.4nm,0.8s,mb3.4,baz=126,slow=7.6,SNR=3.0						

*NDI **23** 14:09:02.4±5.4,27.83N×84.80E,h31km±172km,ML3.5*

*IDC **23** 14:09:05.3±1.5,30.27N×83.47E,mb3.5/4,mb1 3.8/5, mb1mx3.5/22,mbtmp3.5/5,ML3.5/1,MS3.2/1,Ms1 3.2/1, ms1mx2.5/29,Error ellipse: s-ma

SCPH				*e*S	**S**	**14 22 34.6**	**+3.9**
KCP	**Kidapawan**	**1.59**	**200**	⇑*i*P	**P**	**14 22 20.3**	**+2.1**
KCP				*i* S	**S**	**14 22 40.3**	**+2.3**
MATI	**Mati**	**1.67**	**159**	*e*P	**P**	**14 22 18.1**	**-1.2**
MSLP	**Maasin**	**1.79**	**334**	*e*P	**P**	**14 22 20.3**	**-0.6**
TBP	**Tagbilaran**	**2.12**	**304**	*e*P	**P**	**14 22 25.8**	**+0.4**
TBP				*e*S	**S**	**14 22 51.1**	**+0.5**
DCPH	**Dipolog City**	**2.27**	**272**	⇑*e*P	**P**	**14 22 27.9**	**+0.3**
DCPH				*i* S	**S**	**14 22 53.3**	**-1.2**
LLP	**Lapu-Lapu**	**2.44**	**317**	⇑*i*P	**P**	**14 22 30.6**	**+0.6**
LLP				*e*S	**S**	**14 22 54.5**	**-4.3**
PLP	**Palo**	**2.72**	**346**	*e*P	**P**	**14 22 34.5**	**+0.6**
PLP				*e*S	**S**	**14 23 04.6**	**-1.0**
GUIM	**Jordan**	**3.68**	**305**	*e*P	**P**	**14 22 47.3**	**+0.1**
CNP	**Catarman**	**4.09**	**346**	*e*P	**P**	**14 22 53.9**	**+0.9**
RCP	**Roxas**	**4.17**	**317**	⇓*e*P	**P**	**14 22 54.8**	**+0.7**
CUYO	**Cuyo Island**	**5.12**	**297**	*e*P	**P**	**14 23 07.2**	**-0.1**
JOW	**Kunigami**	**18.39**	**7**	LR	LR	14 32 16.0	
	comp=Z,113nm,18.9s,baz=200,slow=35						
FITZ	**Fitzroy Crossi**	**26.45**	**180**	*e*P	**P**	**14 27 23.6**	**+0.1**
	3.2nm,0.6s,mb3.9						
FITZ	**Fitzroy Crossi**	**26.45**	**180**	P	**P**	**14 27 23.6**	**+0.1**
	4.5nm,0.7s,mb4.0,baz=257,slow=5.6,SNR=4.0						
CMAR	**Chiang Mai Arr**	**27.75**	**294**	LR	LR	14 38 54.3	
	comp=Z,26nm,18.6s,baz=288,slow=37						
WRA	**Warramunga Arr**	**29.54**	**163**	P	**P**	**14 27 49.0**	**-2.4**
	0.3nm,0.8s,mb3.0,baz=338,slow=10.0,SNR=3.8						
MJAR	**Matsushiro Arr**	**30.15**	**20**	LR	LR	14 37 22.5	
	comp=Z,59nm,19.1s,baz=20,slow=31						
ASAR	**Alice Springs**	**32.98**	**166**	P	**P**	**14 28 20.4**	**-1.1**
	0.3nm,0.6s,mb3.3,baz=336,slow=7.3,SNR=7.9						
SONM	**Songino Array**	**42.45**	**341**	P	**P**	**14 29 41.4**	**+0.8**
	0.2nm,0.4s,mb3.2,baz=150,slow=7.6,SNR=3.6						
MKAR	**Makanchi Array**	**53.06**	**324**	P	**P**	**14 31 04.1**	**+0.7**
	2.6nm,0.6s,mb4.4,baz=124,slow=8.3,SNR=37						
MKAR				PcP	PcP	14 32 10.1	-0.7
	1.1nm,0.7s,baz=108,slow=4.8,SNR=4.7						
BVAR	**Borovoye Array**	**62.76**	**326**	P	**P**	**14 32 11.2**	**0.0**
	1.8nm,0.8s,mb4.0,baz=112,slow=8.0,SNR=9.0						
ILAR	**Eielson Array**	**81.28**	**26**	P	**P**	**14 34 00.2**	**-0.5**
	0.5nm,0.7s,mb3.5,baz=265,slow=4.2,SNR=6.0						
FINES	**FINESS Array B**	**87.14**	**332**	P	**P**	**14 34 30.1**	**0.0**
	0.3nm,0.6s,mb3.4,baz=90,slow=5.6,SNR=4.2						
VNDA	**Vanda**	**88.28**	**173**	P	**P**	**14 34 35.8**	**+0.5**
	0.4nm,0.7s,mb3.6,baz=334,slow=8.2,SNR=3.6						
YKA	**Yellowknife Ar**	**95.60**	**24**	P	**P**	**14 35 09.5**	**+0.1**
	0.3nm,0.9s,mb3.7,baz=291,slow=4.8,SNR=4.2						

SSS ***23*** *14:29:47.4, 11.84N×87.93W, h50km, MD3.5*
INET ***23*** *14:29:47.4, 11.93N×87.90W, h17km, MD3.1*
CASC 23 14:29:46.9±1.1, 11.88N×87.88W, h24km±6km, MD3.4, 1C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**1.10**	**61**	⇓*e*P	Pn	14 30 06.5	-0.5
LEON				*e*S	Sb	14 30 21.8	+0.6
CRIN	**San Cristobal**	**1.15**	**45**	⇓*e*P	Pn	14 30 07.5	-0.2
CRIN				*e*S	Sb	14 30 23.4	+0.9
TEL3	**Telica 3**	**1.22**	**55**	⇓*e*P	Pn	14 30 08.1	-0.6
TELN	**Telica**	**1.25**	**55**	⇑*e*P	Pn	14 30 08.5	-0.7
COPN	**Copaltepe**	**1.29**	**76**	⇓*e*P	Pn	14 30 10.0	+0.2
COPN				*e*S	Sn	14 30 26.5	+0.1
CNGN	**Cerro Negro**	**1.31**	**62**	*e*P	Pn	14 30 10.0	+0.1
CNCH	**Conchagua**	**1.39**	**2**	*e*P	Pn	14 30 11.4	+0.3
CNCH				*e*S	Sn	14 30 30.1	+1.3
MOMJ	**Momotombo**	**1.41**	**68**	*e*P	Pn	14 30 10.4	-0.9
APYN	**Apoyeque**	**1.54**	**76**	*e*P	Pn	14 30 13.4	+0.2
LCBS	**La Ceiba**	**2.07**	**329**	*e*P	Pn	14 30 20.1	-0.7
LCBS				*e*S	Sn	14 30 45.9	-0.1
LFRS	**El Faro**	**2.09**	**327**	*e*P	Pn	14 30 20.6	-0.4
LFRS				*e*S	Sn	14 30 46.2	-0.3

TEH ***23*** *14:39:33.4, 31.61N×61.27E, h10km, Mn4.5*
DHMR ***23*** *14:39:34.1±3.0, 32.75N×60.88E, h15km, mb5.5*
THR ***23*** *14:39:36.0±0.4, 32.19N×60.92E, h16km±10km, ML4.8*
CSEM ***23*** *14:39:37.8±0.1, 32.14N×60.78E, h14km, mb4.7/70, ML5.3/1, Ms3.7, Error ellipse: s-maj=2.7km s-min=1.7km az=5.0*
BJI ***23*** *14:39:39.0, 32.11N×60.75E, h20km, mB5.0, mb4.8, Ms4.6, Msz4.3*
MOS ***23*** *14:39:40.5±0.9, 31.97N×60.66E, h33km, mb5.0/68, Error ellipse: s-maj=7.4km s-min=3.5km az=130.8*
NEIC ***23*** *14:39:40.0±0.2, 32.06N×60.76E, mb4.8/77, ML4.8(THR), MN4.5(TEH), Error ellipse: s-maj=4.3km s-min=3.3km az=191.0*
IDC ***23*** *14:39:43.7±3.4, 32.04N×60.77E, h44km±32km, mb4.3/29, mb1 4.5/30, mb1mx4.4/35, mbtmp4.6/30, ML1.4/1, MS3.9/13, Ms1 3.9/13, ms1mx3.7/31, Error ellipse: s-maj=14.1km s-min=11.0km az=7.0*
ISC 23 14:39:36.8±0.9, 32.03N±0.02×60.75E±0.02, h8km±6km, h21km±3.7km: pP-P, n397, σ1§06/404, mb4.7/121, MS4.0/26, 24C-8D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**3.98**	**240**	*e*Pn	**Pn**	**14 40 42.2**	**+2.6**
KRBR				*e*Sg	**Sg**	**14 41 48.1**	**-1.4**
KRBR	**Kerman**	**3.98**	**240**	*e*PN	**Pn**	**14 40 42.0**	**+2.4**
KRBR				*e*SG	**Sg**	**14 41 46.3**	**-3.2**
KRBR				AML	AML	14 41 49.8	
	comp=N,894nm,0.7s						
KRBR				AML	AML	14 41 57.3	
	comp=E,1μm,0.6s						
KRBR	**Kerman**	**3.98**	**240**	*e*Pn	**Pn**	**14 40 42.0**	**+2.4**
	SNR=52						
KRBR				*e*Sg	**Sg**	**14 41 46.3**	**-3.2**
	comp=E,1μm,0.6s,SNR=90						
IMOG	**Moghan**	**4.23**	**344**	Pn	**Pn**	**14 40 44.0**	**+0.9**
IMYA	**Miamay**	**4.33**	**353**	Pn	**Pn**	**14 40 45.3**	**+0.7**
MHI	**Mashhad**	**4.40**	**346**	Pn	**Pn**	**14 40 46.8**	**+1.3**
MHI	**Mashhad**	**4.40**	**346**	Pn	**Pn**	**14 40 46.8**	**+1.3**
IBAF	**Bafgh**	**4.43**	**266**	Pn	**Pn**	**14 40 47.3**	**+1.3**
IPAY	**Payeh**	**4.64**	**342**	Pn	**Pn**	**14 40 50.2**	**+1.2**
IKRD	**Kardeh**	**5.08**	**339**	Pn	**Pn**	**14 40 53.3**	**-1.8**
IKRD	**Kardeh**	**5.08**	**339**	Pn	**Pn**	**14 40 53.3**	**-1.8**
IMEH	**Mehriz**	**5.27**	**265**	Pn	**Pn**	**14 40 59.0**	**+1.2**
ICHK	**Chekchek**	**5.38**	**274**	Pn	**Pn**	**14 40 59.9**	**+0.5**
ISAD	**Sadrabad**	**6.00**	**271**	Pn	**Pn**	**14 41 14.7**	**+6.6**
BNDS	**Bandar-Abbas**	**6.09**	**222**	*e*Pn	**Pn**	**14 41 11.7**	**+2.3**
BNDS	**Bandar-Abbas**	**6.09**	**222**	*e*PN	**Pn**	**14 41 10.6**	**+1.2**
NASN	**Na'in**	**6.76**	**279**	*e*Pn	**Pn**	**14 41 19.8**	**+1.0**
NASN	**Na'in**	**6.76**	**279**	*e*PN	**Pn**	**14 41 18.8**	**0.0**
NASN				*e*PG	**Pg**	**14 41 38.8**	**-13**
NASN	**Na'in**	**6.76**	**279**	*e*Pn	**Pn**	**14 41 19.8**	**+1.0**
IZEF	**Zefreh**	**7.17**	**279**	Pn	**Pn**	**14 41 24.8**	**+0.2**
IKIA	**Kiasar**	**7.19**	**307**	Pn	**Pn**	**14 41 25.5**	**+0.7**
IGAR	**Garneh**	**7.25**	**274**	Pn	**Pn**	**14 41 28.1**	**+2.3**
IGAR	**Garneh**	**7.25**	**274**	Pn	**Pn**	**14 41 28.1**	**+2.3**
IFIR	**Firoozkooh**	**7.56**	**301**	Pn	**Pn**	**14 41 30.5**	**+0.4**
IFIR	**Firoozkooh**	**7.56**	**301**	Sn	**Sn**	**14 42 57.7**	**+0.8**
IFIR	**Firoozkooh**	**7.56**	**301**	Pn	**Pn**	**14 41 30.6**	**+0.5**
IFIR	**Firoozkooh**	**7.56**	**301**	Sn	**Sn**	**14 42 57.7**	**+0.8**
IFIR	**Firoozkooh**	**7.56**	**301**	Pn	**Pn**	**14 41 30.6**	**+0.5**
IFIR				Sn	**Sn**	**14 42 57.7**	**+0.8**
GHIR	**Ghir-Karzin**	**7.68**	**243**	*e*Pn	**Pn**	**14 41 33.3**	**+1.5**
GHIR				*e*Sg	**Sg**	**14 43 40.9**	**-12**
GHIR	**Ghir-Karzin**	**7.68**	**243**	*e*PN	**Pn**	**14 41 32.3**	**+0.5**
IKLH	**Kalahroud**	**7.84**	**282**	Pn	**Pn**	**14 41 33.3**	**-0.6**
IDMV	**Damavand**	**8.07**	**298**	Pn	**P**	**14 41 37.4**	**+0.2**
IVRN	**Varamin**	**8.09**	**294**	Pn	**P**	**14 41 27.3**	**-10**
IVRN	**Varamin**	**8.09**	**294**	Sn	**Sn**	**14 43 09.8**	**-0.4**
IVRN	**Varamin**	**8.09**	**294**	Pn	**P**	**14 41 27.3**	**-10**
IVRN	**Varamin**	**8.09**	**294**	Sn	**Sn**	**14 43 09.8**	**-0.4**
DAMV	**Damavand**	**8.14**	**299**	*e*Pn	**P**	**14 41 37.4**	**-0.7**
DAMV	**Damavand**	**8.14**	**299**	*e*PN	**P**	**14 41 36.7**	**-1.4**
DAMV	**Damavand**	**8.14**	**299**	*e*Pn	**P**	**14 41 37.4**	**-0.7**
ASHO	**Ashiyiah**	**8.40**	**211**	⇓P	**P**	**14 41 44.0**	**+2.2**
	SNR=17						
IQOM	**Qom**	**8.56**	**292**	Sn	**Sn**	**14 43 20.9**	**-0.9**
IQOM	**Qom**	**8.56**	**292**	Pn	**P**	**14 41 43.9**	**-0.1**
IQOM	**Qom**	**8.56**	**292**	Lg		14 44 17.7	
IQOM	**Qom**	**8.56**	**292**	Lg		14 44 17.7	
IQOM	**Qom**	**8.56**	**292**	Pn	**P**	**14 41 43.8**	**-0.2**
IQOM	**Qom**	**8.56**	**292**	Sn	**Sn**	**14 43 20.7**	**-1.1**
IQOM	**Qom**	**8.56**	**292**	Pn	**P**	**14 41 43.8**	**-0.2**
THR	**Tehran**	**8.88**	**298**	*e*PN	**P**	**14 41 47.2**	**-1.2**
ASAO	**Ashtian**	**9.32**	**289**	*e*PN	**P**	**14 41 53.8**	**-0.7**
ARQ	**Araqi**	**9.43**	**204**	⇑P	**P**	**14 41 56.6**	**+0.5**
	SNR=38						
WBK	**Wadi Bani Khal**	**9.51**	**190**	⇓P	**P**	**14 41 55.1**	**-2.1**
	SNR=21						
IRAZ	**Razeghan**	**9.62**	**293**	Sn	**Sn**	**14 43 45.9**	**-2.1**
IRAZ	**Razeghan**	**9.62**	**293**	Pn	**P**	**14 41 58.2**	**-0.5**
IRAZ	**Razeghan**	**9.62**	**293**	Pn	**P**	**14 41 58.3**	**-0.4**
IRAZ	**Razeghan**	**9.62**	**293**	Sn	**Sn**	**14 43 45.8**	**-2.2**
BSY	**Bisya**	**9.77**	**200**	P	**P**	**14 42 00.7**	**-0.1**
	SNR=24						
BSYO	**Bisya**	**9.77**	**199**	P	**P**	**14 42 00.7**	**-0.1**
	SNR=24						
JMDO	**Jabal Madar**	**9.90**	**194**	⇑P	**P**	**14 42 01.6**	**-1.0**
	SNR=16						
JASL	**Jaisalmer**	**10.21**	**117**	*e*P	**P**	**14 42 05.1**	**-1.6**
SNGE	**Sanandaj**	**11.59**	**289**	*e*PN	**P**	**14 42 24.9**	**-0.7**
KKAR	**Karatay Array**	**13.48**	**32**	*i* P	**P**	**14 42 48.3**	**-2.7**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	**Karatay Array**	**13.48**	**32**	*i* P	**P**	**14 42 48.3**	**-2.7**
	comp=Z,2.0nm,0.6s						
SMLA	**Simla**	**14.03**	**89**	*i* P	**P**	**14 42 55.1**	**-3.1**
SMLA				*i*		14 45 39.9	
AML	**Almayashu**	**14.42**	**42**	P	**P**	**14 43 00.9**	**-2.4**
	SNR=6.4						
KSH	**Kashi**	**14.43**	**55**	*e*P	**P**	**14 43 01.0**	**-2.4**
KSH				*e*AP		14 43 05.0	
KSH				*e*XP		14 43 09.0	
KSH				*e*PP	PP	14 43 12.3	-2.6
KSH				*e*PPP	PPP	14 43 20.0	-1.9
KSH				*e*S	**S**	**14 45 38.0**	**-6.6**
KSH				*e*SS	SS	14 45 56.1	-5.2
KSH				LR	LR		
	comp=N,2μm,4.2s						
KSH				LR	LR		
	comp=E,2μm,3.7s						
NDI	**New Delhi**	**14.61**	**99**	*e*P	**P**	**14 43 04.0**	**-1.8**
NDI				*e*		14 46 07.0	
SONA	**Sohna**	**14.63**	**101**	*e*P	**P**	**14 43 04.7**	**-1.4**
SONA				*e*		14 43 17.7	
	comp=Z,28nm,0.8s						
EKS2	**Erkin-Say**	**14.81**	**41**	P	**P**	**14 43 07.4**	**-1.0**
	SNR=13						
KLP	**Kalpa**	**14.90**	**87**	*e*P	**P**	**14 43 09.7**	**+0.2**
DDI	**Dehra Dun**	**14.92**	**92**	*e*	**P**	**14 43 08.5**	**-1.3**
AAK	**Ala-Archa**	**15.20**	**42**	P	**P**	**14 43 11.2**	**-2.2**
	SNR=7.1						
AAK	**Ala-Archa**	**15.20**	**42**	*e*P	**P**	**14 43 12.1**	**-1.3**
AAK				pmax	pmax		
	comp=Z,47nm,1.0s						
AAK	**Ala-Archa**	**15.20**	**42**	*e*P	**P**	**14 43 12.1**	**-1.3**
	comp=Z,47nm,1.0s						
AAK	**Ala-Archa**	**15.20**	**42**	*e*P	**P**	**14 43 12.1**	**-1.3**
	comp=Z,47nm,1.0s						
MSL	**Mosul**	**15.22**	**291**	*e*P	**P**	**14 43 19.0**	**+5.2**
MSL				*i* S		14 49 18.0	
GNI	**Garni**	**15.25**	**307**	*d i*P	**P**	**14 43 16.0**	**+1.9**
GNI				pmax	pmax		
	comp=Z,29nm,1.3s						
GNI				MLR	MLR		
	comp=Z,200nm,16.0s						
GNI	**Garni**	**15.25**	**307**	P	**P**	**14 43 17.4**	**+3.2**
	comp=Z,0.4nm,0.3s,baz=32,slow=5.2,SNR=8.0						
GNI				LR	LR	14 49 41.6	
	comp=Z,224nm,18.3s,baz=339,slow=39						
GNI	**Garni**	**15.25**	**307**	*e*P	**P**	**14 43 17.1**	**+3.0**
	comp=Z,59nm,1.1s						
GNI	**Garni**	**15.25**	**307**	*i* P	**P**	**14 43 16.0**	**+1.9**
	comp=Z,200nm,16.0s						
KZA	**Kyzart**	**15.30**	**45**	P	**P**	**14 43 13.3**	**-1.4**
	SNR=33						
FRU	**Bishkek**	**15.39**	**42**	*e*P	**P**	**14 43 15.0**	**-1.0**
FRU				*e*		14 46 06.0	
FRU				pmax	pmax		
	comp=E,360nm,2.5s						
KBK	**Karagaybulak**	**15.47**	**43**	P	**P**	**14 43 15.9**	**-1.1**
	SNR=8.6						
USP	**Ospenovka**	**15.61**	**40**	P	**P**	**14 43 25.6**	**+6.8**
	SNR=5.2						
RBK	**Rabkut**	**15.63**	**204**	⇑P	**P**	**14 43 18.1**	**-1.0**
	SNR=21						
TKM2	**Tokmak 2**	**16.01**	**43**	P	**P**	**14 43 23.0**	**-0.9**
	SNR=9.6						
TI2	**Plekhanov**	**16.03**	**312**	*i* P	**P**	**14 43 26.6**	**+2.4**
ABTO	**Aybut**	**16.09**	**207**	⇑P	**P**	**14 43 23.7**	**-1.4**
	SNR=20						
ZEI	**Tsey**	**17.12**	**314**	*e*P	**P**	**14 43 41.0**	**+3.0**
BHPL	**Bhopal**	**17.16**	**117**	*e*P	**P**	**14 43 39.9**	**+1.2**
BHPL				*e*		14 43 41.7	
	comp=Z,25nm,0.8s						
BHPL				*e*		14 47 06.2	
ONI	**Oni**	**17.30**	**312**	P	**P**	**14 43 41.4**	**+1.2**
POO	**Poona**	**17.89**	**136**	⇓*i*P	**P**	**14 43 49.0**	**+1.2**
	comp=Z,100nm,1.0s						
GOF	**Gofitskoye**	**18.95**	**318**	⇑*i*P	**P**	**14 43 58.0**	**-2.7**
GOF				pmax	pmax		
	comp=Z,28nm,1.3s						
KAD	**Karad**	**19.05**	**137**	*e*P	**P**	**14 44 00.4**	**-1.6**
KAD				*e*		14 44 05.4	
	comp=Z,21nm,0.6s						
KAD				*e*		14 47 47.9	
KAD				*i*		14 49 39.4	
MALT	**Malatya**	**19.27**	**295**	*e*P	**P**	**14 44 05.3**	**+0.8**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MALT	**Malatya**	**19.27**	**295**	*e*P	**P**	**14 44 05.3**	**+0.8**
	comp=Z,4.4nm,0.7s						
MALT	**Malatya**	**19.27**	**295**	*e*P	**P**	**14 44 05.3**	**+0.8**
	comp=Z,4.4nm,0.7s						
SOC	**Sochi**	**20.17**	**311**	*e*P	**P**	**14 44 12.7**	**-1.7**
SOC				*e*		14 44 28.9	
SOC				*e*		14 44 30.0	
SOC				*e*S	**S**	**14 47 57.0**	**+1.4**
SOC				*e*SS	SS	14 48 18.1	-6.3
SOC				pmax	pmax		
	comp=N,12nm,0.9s						
SOC				pmax	pmax		
	comp=Z,20nm,0.9s						
SOC				pmax	pmax		
	comp=E,13nm,0.7s						
SOC				MLR	MLR		
	comp=Z,167nm,13.0s,MS3.6						
SOC				MLR	MLR		
	comp=N,166nm,11.0s,MS3.8						
SOC				MLR	MLR		
	comp=E,158nm,13.0s,MS3.8						
ASF	**Jabal al Asfar**	**20.20**	**277**	P	**P**	**14 44 16.2**	**+1.3**
	comp=E,13nm,0.8s,baz=338,slow=5.7,SNR=13						
ASF				LR	LR	14 53 28.3	
	comp=E,303nm,19.0s,MS3.7,baz=135,slow=41						
KOLN	**Koldanda**	**20.25**	**96**	*e*P	**P**	**14 44 15.7**	**+0.3**
	comp=E,125nm,1.0s						
GKN	**Gorkha**	**21.06**	**95**	*e*P	**P**	**14 44 25.3**	**+1.5**
	comp=E,161nm,1.1s,mb5.3						
BHL	**Bhannes**	**21.13**	**282**	*e*P	**P**	**14 44 26.2**	**+1.8**
DMN	**Daman**	**21.57**	**95**	*e*P	**P**	**14 44 30.3**	**+1.3**
	comp=E,89nm,1.0s,mb5.2						
KKN	**Kakani**	**21.67**	**95**	*e*P	**P**	**14 44 31.5**	**+1.6**
	comp=E,115nm,1.0s,mb5.2						
HYB	**Hyderabad**	**21.71**	**128**	*i* P	**P**	**14 44 31.0**	**+0.6**
HYB	**Hyderabad**	**21.71**	**128**	*e*P	**P**	**14 44 31.0**	**+0.6**
PKI	**Pulchoki**	**21.84**	**95**	*e*P	**P**	**14 44 32.8**	**+1.1**
	comp=E,90nm,0.9s,mb5.2						
BVAR	**Borovoye Array**	**22.11**	**16**	P	**P**	**14 44 35.2**	**+0.9**
	comp=E,50nm,0.8s,mb5.0,baz=196,slow=11,SNR=53						
MKAR	**Makanchi Array**	**22.14**	**42**	P	**P**	**14 44 34.5**	**+0.1**
	comp=E,18nm,0.8s,mb4.5,baz=236,slow=13,SNR=27						
GUN	**Gumba**	**22.14**	**94**	*e*P	**P**	**14 44 36.9**	**+2.3**
	comp=E,220nm,1.0s,mb5.5						
ANN	**Anapa**	**22.19**	**312**	*e*P	**P**	**14 44 36.9**	**+1.9**
ANN				*e**PP		14 44 43.6	
ANN				*e*S	**S**	**14 48 41.0**	**+6.5**
ANN				pmax	pmax		
	comp=Z,94nm,1.6s,mb5.0						
EIL	**Elat**	**22.26**	**271**	P	**P**	**14 44 36.5**	**+0.7**
	comp=Z,6.2nm,0.9s,mb4.0,baz=357,slow=7.1,SNR=4.7						
EIL				LR	LR	14 55 05.3	
	comp=Z,665nm,18.2s,MS4.1,baz=98,slow=41						
EIL	**Elat**	**22.26**	**271**	*e*P	**P**	**14 44 36.0**	**+0.2**
	comp=Z,20nm,1.4s,mb4.3						
EIL	**Elat**	**22.26**	**271**	*e*P	**P**	**14 44 36.0**	**+0.2**
	comp=Z,20nm,1.4s,mb4.3						
SANA	**San'a**	**22.39**	**226**	⇑*e*P	**P**	**14 44 38.5**	**+1.3**
JIRN	**Jiri**	**22.48**	**95**	*e*P	**P**	**14 44 40.3**	**+2.3**
	comp=Z,76nm,1.0s,mb5.1						
DHBB	**Dhamar BB**	**22.92**	**224**	⇓*e*P	**P**	**14 44 44.2**	**+1.8**
	comp=Z,386nm,1.5s,mb5.6						
LBOS		**22.98**	**222**	⇑*e*P	**P**	**14 44 44.9**	**+1.8**
	comp=Z,91nm,0.7s,mb5.3						
BRTR	**Keskin Array B**	**23.21**	**297**	P	**P**	**14 44 46.3**	**+1.2**
	comp=Z,4.5nm,0.9s,mb3.9,baz=112,slow=13,SNR=14						
BRTR				PcP	PcP	14 48 34.5	-0.3
	comp=Z,1.2nm,0.9s,baz=143,slow=3.9,SNR=4.2						
BRTR	**Keskin Array B**	**23.21**	**297**	PcP	PcP	14 48 34.5	-0.3
WMQ	**Urumqi**	**24.19**	**53**	P	**P**	**14 44 55.0**	**+0.4**
WMQ				AP		14 45 00.5	
WMQ				XP		14 45 04.0	
WMQ				PP	PP	14 45 29.6	+0.3
WMQ				S	**S**	**14 49 09.5**	**-0.4**
WMQ				XS		14 49 18.5	
WMQ				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,106nm,3.5s						
WMQ				LR	LR		
	comp=N,349nm,9.2s						
WMQ				LR	LR		
	comp=E,425nm,12.0s						
WMQ				LR	LR		
	comp=Z,410nm,18.9s						
SIM	**Simferopol'**	**24.39**	**310**	*e*P	**P**	**14 44 58.0**	**+1.5**
SIM				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.6						
ARU	**Arti**	**24.44**	**357**	*c i*P	**P**	**14 44 58.5**	**+1.6**
ARU				pmax	pmax		
	comp=Z,42nm,1.7s,mb4.6						
ARU				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.4						
ARU	**Arti**	**24.44**	**357**	*e*P	**P**	**14 44 58.5**	**+1.6**
	comp=Z,16nm,0.8s,mb4.5						
ARU	**Arti**	**24.44**	**357**	*e*P	**P**	**14 44 58.5**	**+1.6**
	comp=Z,16nm,0.8s,mb4.5						
SVE	**Sverdlovsk**	**24.79**	**360**	*e*P	**P**	**14 45 01.9**	**+1.6**
SVE				*e*		14 45 39.0	
SVE				pmax	pmax		
	comp=Z,60nm,2.0s,mb4.8						
SVE				MLR	MLR		
	comp=N,300nm,10.0s,MS4.2						
SVE				MLR	MLR		
	comp=E,300nm,10.0s,MS4.2						
SVE				MLR	MLR		
	comp=Z,400nm,10.0s,MS4.2						
VOR	**Voronezh**	**25.23**	**328**	P	**P**	**14 45 06.5**	**+2.0**
VOR				pmax	pmax		
	comp=Z,50nm,1.5s,mb4.8						
LSA	**Lhasa**	**26.16**	**87**	P	**P**	**14 45 17.4**	**+4.0**
NVS	**Novosibirsk**	**27.81**	**28**	⇑*i*P	**P**	**14 45 28.5**	**+0.2**
NVS				*e*S	**S**	**14 50 16.5**	**+6.7**
NVS				pmax	pmax		
	comp=N,11nm,1.0s						
NVS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
NVS				smax			
	comp=N,12nm,1.8s						
ZAL	**Zalesovo**	**27.84**	**31**	P	**P**	**14 45 28.6**	**+0.1**
	comp=N,5.3nm,0.8s,mb4.2,baz=249,slow=11,SNR=14						
ZAL				LR	LR	14 58 44.9	
	comp=N,429nm,20.8s,MS4.0,baz=241,slow=41						
SHL	**Shillong**	**27.97**	**95**	*e*P	**P**	**14 45 30.0**	**0.0**
SHL				*e*		14 50 40.0	
OBN	**Obninsk**	**28.70**	**331**	⇓*i*P	**P**	**14 45 37.1**	**+0.9**
OBN				*i* *PP	pP	14 45 53.0	+14
OBN				*i*		14 51 45.5	
OBN				pmax	pmax		
	comp=Z,37nm,1.6s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.5						
MOS	**Moscow**	**28.71**	**332**	*e*P	**P**	**14 45 37.4**	**+1.0**
MOS				*e*		14 46 42.2	
MOS				*e*		14 48 40.4	
AKASG	**Malin Array Be**	**29.80**	**318**	P	**P**	**14 45 45.6**	**-0.7**
	comp=Z,9.0nm,0.8s,mb4.6,baz=118,slow=8.2,SNR=28						
AKASG				PcP	PcP	14 48 48.3	-1.5
	comp=Z,1.3nm,0.6s,baz=83,slow=2.7,SNR=5.5						
AKASG	**Malin Array Be**	**29.80**	**318**	PcP	PcP	14 48 48.3	-1.5
IDI	**Anoyia**	**29.92**	**286**	P	**P**	**14 45 47.2**	**-0.2**
	comp=Z,12nm,0.9s,mb4.6,baz=57,slow=13,SNR=4.1						
MLR	**Muntele Rosu**	**30.03**	**307**	P	**P**	**14 45 49.6**	**+1.2**
MLR						14 48 49.9	
MLR				pmax	pmax		
	comp=Z,17nm,0.9s						
MLR				pmax	pmax		
	comp=Z,5.0

MORC Moravsky Berou 36.56 312 *eP* **P 14 46 44.9 +0.1**
comp=Z,12nm,0.9s,mb4.7
MORC Moravsky Berou 36.56 312 *eP* **P 14 46 44.9 +0.1**
comp=Z,12nm,0.9s,mb4.7
TLY Talaya 36.83 45 *eP* **P 14 46 49.1 +2.0**
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
TLY MLR MLR
comp=Z,300nm,21.0s,MS4.0
KOGS Kog 36.85 306 *i* P **P 14 46 47.5 +0.3**
CM31 Chiang Mai Arr 36.90 102 *eP* **P 14 46 48.0 0.0**
comp=Z,5.6nm,0.8s,mb4.5
CM31 Chiang Mai Arr 36.90 102 *eP* **P 14 46 48.0 0.0**
comp=Z,5.6nm,0.8s,mb4.5
CMAR Chiang Mai Arr 36.90 102 P **P 14 46 47.6 -0.3**
comp=Z,4.0nm,0.8s,mb4.3,baz=297,slow=8.8,SNR=34
FINES FINESS Array B 37.01 333 P **P 14 46 48.8 +0.3**
comp=Z,6.6nm,0.9s,mb4.5,baz=121,slow=11,SNR=22
FINES LR LR 15 05 24.2
comp=Z,64nm,18.3s,MS3.5,baz=171,slow=42
VRAC Vranov 37.07 311 P **P 14 46 49.5 +0.4**
comp=Z,6.2nm,0.7s,mb4.5,baz=102,slow=11,SNR=7.2
KAF Kangasniemi 37.33 334 *ep* **P 14 46 49.4 -1.7**
comp=Z,4.5nm,1.0s,mb4.2
KAF Kangasniemi 37.33 334 *eP* **P 14 46 49.4 -1.7**
KAF pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
CRES Cresnjev 37.33 305 *eP* **P 14 46 51.5 +0.2**
KMI Kunming 37.34 90 P **P 14 46 52.4 +0.8**
KMI AP pP 14 46 56.8 +2.9
KMI XP sP 14 46 59.0 +4.1
KMI S **S 14 52 40.3 +1.3**
KMI SS SS 14 55 08.1 -2.2
KMI AMB AMB
comp=Z,24nm,0.8s,mb5.1
KMI AMB AMB
comp=Z,64nm,3.5s
KMI LR LR
comp=N,113nm,14.0s,MS4.1
KMI LR LR
comp=E,191nm,16.8s,MS4.1
KMI LR LR
comp=Z,221nm,21.1s,MS3.9
KMI Kunming 37.34 90 P **P 14 46 52.4 +0.8**
KMI *SP sP 14 46 59.0 +4.1
KMI S **S 14 52 40.3 +1.3**
KMI SS SS 14 55 08.1 -2.2
KMI pmax pmax
comp=Z,24nm,0.8s,mb5.1
KMI MLR MLR
comp=Z,220nm,21.1s,MS3.9
KMI Kunming 37.34 90 P **P 14 46 52.4 +0.8**
comp=Z,24nm,0.8s,mb5.1
KMI pP pP 14 46 56.8 +2.9
KMI sP sP 14 46 59.0 +4.1
KMI S **S 14 52 40.3 +1.3**
KMI SS SS 14 55 08.1 -2.2
KMI LR LR
comp=Z,220nm,21.1s,MS3.9
ARSA Arzberg 37.45 307 ⇑ *iP* **P 14 46 52.7 +0.4**
comp=Z,13nm,1.0s,mb4.7
DPC Dobruska-Polom 37.45 312 *eP* **P 14 46 52.8 +0.5**
PDKS Podkum 37.67 305 *eP* **P 14 46 54.6 +0.4**
UPC Upice 37.68 313 *eP* **P 14 46 55.0 +0.8**
SONM Songino Array 37.81 52 P **P 14 46 56.7 +1.3**
comp=Z,5.7nm,1.0s,mb4.3,baz=264,slow=7.1,SNR=37
SONM LR LR 15 04 36.9
comp=Z,370nm,18.1s,MS4.2,baz=62,slow=40
CII Carovilli 37.99 298 *eP* **P 14 46 59.0 +2.1**
comp=Z,17nm,0.9s,mb4.8
ULN Ulaanbaatar 38.25 52 ⇓ *iP* **P 14 47 00.2 +1.2**
MOA Molln 38.37 308 ⇑ *iP* **P 14 47 00.0 0.0**
comp=Z,8.6nm,1.1s,mb4.4
PRU Pruhonice 38.51 312 *eP* **P 14 47 01.0 -0.2**
PVCC Panska Ves 38.59 312 *eP* **P 14 47 02.1 +0.3**
GEC2 GERESS Array S 38.87 310 *eP* **P 14 47 04.5 +0.3**
GEC2 pmax pmax
comp=Z,19nm,0.9s,mb4.8
GEC2 GERESS Array S 38.87 310 *eP* **P 14 47 04.5 +0.3**
comp=Z,19nm,0.9s,mb4.8
GERES GERESS Array B 38.87 310 P **P 14 47 04.5 +0.3**
comp=Z,12nm,0.8s,mb4.7,baz=101,slow=6.8,SNR=71
GERES PcP PcP 14 49 15.0 -0.8
comp=Z,2.2nm,0.9s,baz=135,slow=1.9,SNR=5.0
GERES LR LR 15 03 39.4
comp=Z,96nm,19.1s,MS3.6,baz=344,slow=37
GERES GERESS Array B 38.87 310 PcP PcP 14 49 15.0 -0.7
KBA Koelnbreinsper 38.90 307 ⇑ *iP* **P 14 47 04.6 +0.1**
comp=Z,7.6nm,0.8s,mb4.5
KBA Koelnbreinsper 38.90 307 ⇑ *iP* **P 14 47 04.6 +0.1**
KBA pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
KHC Kasperske Hory 38.99 310 *eP* **P 14 47 04.6 -0.6**
KHC *e* 14 49 14.0
KHC Kasperske Hory 38.99 310 *eP* **P 14 47 04.6 -0.6**
KHC PCP PcP 14 49 14.0 -2.1
BRG Berggiesshubel 39.04 313 *eP* **P 14 47 06.7 +1.1**
BRG *e* 14 47 16.5
BRG pmax pmax
comp=Z,12nm,0.9s,mb4.6
BRG Berggiesshubel 39.04 313 *eP* **P 14 47 06.7 +1.1**
comp=Z,12nm,0.9s,mb4.6
BRG *e* 14 47 16.5
CLL Collm 39.70 313 *i* P **P 14 47 12.1 +1.0**
CLL *e* 14 47 18.0
CLL pmax pmax
comp=Z,22nm,1.0s,mb4.8
CLL Collm 39.70 313 *i* P **P 14 47 12.1 +1.0**
comp=Z,22nm,1.0s,mb4.8
CLL *e* 14 47 18.0
CLL Collm 39.70 313 P **P 14 47 12.1 +1.0**
comp=Z,logA/T=1.3,mb4.8
CLL *e*PP pP 14 47 18.0 +4.5
CLL *e*SP sP 14 47 22.0 +7.6
CLL *e* 14 47 37.0
KMBO Kilima Mbogo 39.78 219 *eP* **P 14 47 13.5 +1.4**
KMBO pmax pmax
comp=Z,11nm,0.9s
KMBO Kilima Mbogo 39.78 219 P **P 14 47 13.7 +1.5**
comp=Z,7.2nm,0.8s,mb4.5,baz=32,slow=12,SNR=29
KMBO Kilima Mbogo 39.78 219 *eP* **P 14 47 13.5 +1.3**
comp=Z,11nm,0.9s,mb4.6
KMBO Kilima Mbogo 39.78 219 *eP* **P 14 47 13.5 +1.4**
comp=Z,11nm,0.9s,mb4.6
WTTA Wattenberg 40.08 307 ⇑ *iP* **P 14 47 14.0 -0.3**
comp=Z,22nm,0.9s,mb4.9
WTTA Wattenberg 40.08 307 ⇑ *iP* **P 14 47 14.0 -0.3**
WTTA pmax pmax
comp=Z,22nm,0.9s,mb4.9
XAN Xi'an 40.15 74 P **P 14 47 14.8 -0.2**
XAN AMB AMB
comp=Z,16nm,1.2s,mb4.6
GYA Guiyang 40.22 86 ⇓ *iP* **P 14 47 15.9 +0.3**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
SQTA Sankt Quirin 40.37 307 ⇑ *iP* **P 14 47 16.1 -0.5**
comp=Z,10nm,1.1s,mb4.5
SQTA Sankt Quirin 40.37 307 ⇑ *iP* **P 14 47 16.1 -0.5**
SQTA pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
FUR Furstenfeldbru 40.40 308 *eP* **P 14 47 17.7 +0.8**
FUR pmax pmax
comp=Z,12nm,0.7s,mb4.7
FUR Furstenfeldbru 40.40 308 *eP* **P 14 47 17.7 +0.8**
comp=Z,12nm,0.7s,mb4.7
MOTA Moosalm 40.45 307 ⇑ *iP* **P 14 47 16.6 -0.7**
MOX Moxa 40.46 312 *eP* **P 14 47 18.1 +0.7**
MOX pmax pmax
comp=Z,12nm,0.8s,mb4.7
MOX Moxa 40.46 312 *i* P **P 14 47 18.5 +1.1**
MOX Moxa 40.46 312 *eP* **P 14 47 18.1 +0.7**
comp=Z,12nm,0.8s,mb4.7
GRA1 Grafenberg Arr 40.59 311 *eP* **P 14 47 19.0 +0.6**
comp=Z,9.0nm,0.9s,mb4.4
GRF Grafenberg Arr 40.59 311 *eP* **P 14 47 19.0 +0.6**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
GRF Grafenberg Arr 40.59 311 *eP* **P 14 47 19.0 +0.6**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
GRF Grafenberg Arr 40.59 311 *eP* **P 14 47 19.0 +0.6**
comp=Z,9.0nm,0.9s,mb4.4
DAVOX Davos 41.25 306 P **P 14 47 23.7 -0.2**
comp=Z,4.8nm,0.7s,mb4.2,baz=104,slow=7.4,SNR=8.7
DAVOX PcP PcP 14 49 23.2 -0.2
comp=Z,5.5nm,0.8s,baz=29,slow=3.0,SNR=4.7
DAVOX LR LR 15 05 45.4
comp=Z,73nm,20.8s,MS3.5,baz=253,slow=38
DAVOX Davos 41.25 306 PcP PcP 14 49 23.2 -0.2
DAVA Damuels 41.28 307 ⇑ *iP* **P 14 47 23.4 -0.7**
comp=Z,26nm,0.8s,mb4.9
CLZ Clausthal 41.41 314 *eP* **P 14 47 26.0 +0.9**
comp=Z,10.0nm,0.9s,mb4.5
HFS Hagfors 41.71 327 P **P 14 47 28.2 +0.8**
comp=Z,9.0nm,0.7s,mb4.5,baz=127,slow=7.4,SNR=21
HFS Hagfors 41.71 327 P **P 14 47 28.1 +0.7**
BSEG Bad Segeberg 41.79 317 *eP* **P 14 47 29.4 +1.2**
PGF Pioggiola 41.91 300 *eP* **P 14 47 27.9 -1.4**
comp=Z,22nm,1.3s,mb4.3
PGF Pioggiola 41.91 300 *eP* **P 14 47 27.9 -1.4**
PGF pmax pmax
comp=Z,11nm,1.3s,mb4.3
TOD Tromm 42.14 310 *eP* **P 14 47 31.3 +0.2**
BFO Black Forest 42.37 308 *eP* **P 14 47 32.5 -0.5**
TNS Taunus Mts 42.43 311 *eP* **P 14 47 34.7 +1.3**
TNS pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
TNS Taunus Mts 42.43 311 *eP* **P 14 47 34.7 +1.3**
comp=Z,9.0nm,1.0s,mb4.3
ARCES ARCESS Array B 42.43 342 P **P 14 47 34.9 +1.6**
comp=Z,6.1nm,0.7s,mb4.3,baz=143,slow=6.1,SNR=12
ARCES LR LR 15 07 20.9
comp=Z,118nm,18.4s,MS3.8,baz=320,slow=39
FELD Feldberg 42.57 308 *eP* **P 14 47 34.5 -0.2**
KTD Kalmit 42.59 310 *eP* **P 14 47 34.9 +0.1**
LANF Langenberg 42.75 309 *eP* **P 14 47 35.3 -0.9**
LIBD Limburg 42.85 308 *eP* **P 14 47 36.3 -0.7**
BBS Basel-Blauen 42.89 307 *eP* **P 14 47 36.9 -0.4**
ABH Altebburg 42.98 311 *eP* **P 14 47 38.6 +0.6**
AUTN L'Aution 42.99 302 *eP* **P 14 47 38.3 +0.2**
SBF Sospel 42.99 302 *eP* **P 14 47 37.3 -0.8**
comp=Z,60nm,1.0s,mb5.0
SBF Sospel 42.99 302 *eP* **P 14 47 37.3 -0.8**
SBF pmax pmax
comp=Z,30nm,1.0s,mb5.0
WLS Welschbruch 43.03 308 *eP* **P 14 47 38.0 -0.4**
REVF Revere 43.04 302 *eP* **P 14 47 37.8 -0.8**
CDF Champ du Feu 43.08 308 *eP* **P 14 47 37.6 -1.2**
comp=Z,13nm,0.8s,mb4.4
CDF Champ du Feu 43.08 308 *eP* **P 14 47 37.6 -1.2**
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
TOUF Mont Tournerai 43.12 302 *eP* **P 14 47 38.5 -0.7**
MBAR Mbarara 43.12 227 *eP* **P 14 47 39.2 -0.4**
MBAR pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
MBAR Mbarara 43.12 227 *eP* **P 14 47 39.2 -0.4**
comp=Z,7.0nm,1.0s,mb4.3
MBAR Mbarara 43.12 227 *eP* **P 14 47 39.2 -0.4**
comp=Z,7.0nm,1.0s,mb4.3
ECH Echery 43.15 308 *eP* **P 14 47 39.2 -0.2**
NB2 NORSAR Subarra 43.17 327 P **P 14 47 38.9 -0.4**
comp=Z,16nm,1.2s,mb4.6,baz=109,slow=7.9
NB2 NORSAR Subarra 43.17 327 P **P 14 47 38.9 -0.4**
NB2 pmax pmax
comp=Z,16nm,1.2s,mb4.6
NOA NORSAR Array B 43.17 327 P **P 14 47 38.8 -0.6**
comp=Z,5.3nm,0.8s,mb4.3,baz=111,slow=8.0,SNR=23
NOA PP PP 14 49 22.5 +0.5
comp=Z,1.6nm,0.8s,baz=106,slow=10,SNR=5.7
MVIF Mont Vial 43.19 302 *eP* **P 14 47 39.2 -0.6**
NAO01 NORSAR Array S 43.26 327 *eP* **P 14 47 40.1 0.0**
comp=Z,6.4nm,1.0s,mb4.3
NAO01 NORSAR Array S 43.26 327 *eP* **P 14 47 40.1 0.0**
comp=Z,6.4nm,1.0s,mb4.3
RUP Ruppelstein 43.28 310 *eP* **P 14 47 40.9 +0.5**
HINF Hinteralfeld 43.34 308 *eP* **P 14 47 39.7 -1.3**
LOMF Lomont 43.35 307 *eP* **P 14 47 40.5 -0.6**
LPG La Plagne 43.42 304 *eP* **P 14 47 41.0 -0.6**
comp=Z,16nm,0.8s,mb4.5
LPG La Plagne 43.42 304 *eP* **P 14 47 41.0 -0.6**
LPG pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
MBDF Montbardon 43.43 303 *eP* **P 14 47 40.8 -0.9**
comp=Z,20nm,0.8s,mb4.6
MBDF Montbardon 43.43 303 *eP* **P 14 47 40.8 -0.9**
MBDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
LPL La Plagne 43.43 304 *eP* **P 14 47 41.1 -0.6**
comp=Z,24nm,0.9s,mb4.6
LPL La Plagne 43.43 304 *eP* **P 14 47 41.1 -0.6**
LPL pmax pmax
comp=Z,12nm,0.9s,mb4.6
BNI Bardonecchia 43.48 303 *eP* **P 14 47 41.2 -0.9**
BNI pmax pmax
comp=Z,19nm,1.1s,mb4.7
BNI Bardonecchia 43.48 303 *eP* **P 14 47 41.2 -0.9**
comp=Z,19nm,1.1s,mb4.7
BNI Bardonecchia 43.48 303 *eP* **P 14 47 41.2 -0.9**
comp=Z,19nm,1.1s,mb4.7
FRF La Foret Royal 43.57 301 *eP* **P 14 47 41.5 -1.4**
comp=Z,21nm,1.1s,mb4.5
FRF La Foret Royal 43.57 301 *eP* **P 14 47 41.5 -1.4**
FRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
HAU Haudompre 43.69 308 *eP* **P 14 47 42.8 -0.9**
HAU *eR*
comp=Z,68nm,20.8s
LMR La Mourre 43.69 301 *eP* **P 14 47 42.4 -1.4**
comp=Z,23nm,1.1s,mb4.5
LMR La Mourre 43.69 301 *eP* **P 14 47 42.4 -1.4**
LMR pmax pmax
comp=Z,12nm,1.1s,mb4.5
CABF La Chapelle 43.86 306 *eP* **P 14 47 45.0 -0.2**
comp=Z,40nm,1.1s,mb4.8
CABF La Chapelle 43.86 306 *eP* **P 14 47 45.0 -0.2**
CABF pmax pmax
comp=Z,20nm,1.1s,mb4.8
ORIF Oris-en-Rattie 44.05 303 *eP* **P 14 47 45.5 -1.3**
ORIF *eR*
comp=Z,141nm,20.8s
BOD Bodaibo 44.13 38 *eP* **P 14 47 46.5 -0.7**
BOD pmax pmax
comp=Z,7.0nm,1.7s,mb4.1
SMRF Simiane la Rot 44.32 302 *eP* **P 14 47 48.4 -0.6**
MEZF Maizieres J'vi 44.56 308 *eP* **P 14 47 50.5 -0.3**
comp=Z,18nm,0.9s,mb4.6
GIVF Givet 44.74 311 *eP* **P 14 47 51.2 -1.1**
comp=Z,18nm,0.9s,mb4.6
GIVF Givet 44.74 311 *eP* **P 14 47 51.2 -1.1**
GIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
BJI Beijing 44.91 64 P **P 14 47 56.3 +2.5**
BJI AMB AMB
comp=Z,13nm,0.8s,mb4.8
BJI LR LR
comp=N,326nm,19.8s,MS4.4
BJI LR LR
comp=E,331nm,20.0s,MS4.4
BJI LR LR
comp=Z,402nm,20.9s,MS4.3
BJI Beijing 44.91 64 P **P 14 47 56.3 +2.5**
comp=Z,13nm,0.8s,mb4.8
BJI S **S 14 54 51.2 +20**
BJI LR LR
comp=Z,400nm,20.9s,MS4.3
VIVF Saint-Julien-l 44.91 303 *eP* **P 14 47 52.6 -1.1**
comp=Z,65nm,1.4s,mb5.0
VIVF Saint-Julien-l 44.91 303 *eP* **P 14 47 52.6 -1.1**
VIVF pmax pmax
comp=Z,33nm,1.4s,mb5.0
BAIF Baives 45.14 311 *eP* **P 14 47 54.5 -0.9**
comp=Z,37nm,1.3s,mb4.8
BAIF Baives 45.14 311 *eP* **P 14 47 54.5 -0.9**
BAIF pmax pmax
comp=Z,19nm,1.3s,mb4.8
LOR Lormes 45.38 307 *eP* **P 14 47 56.3 -1.0**
comp=Z,14nm,0.9s,mb4.5
LOR *eR*
comp=Z,123nm,17.8s
LOR Lormes 45.38 307 *eP* **P 14 47 56.3 -1.0**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
LOR MLR MLR
comp=Z,120nm,17.8s,MS3.9
SMF Signal de Mont 45.41 306 *eP* **P 14 47 56.8 -0.8**
comp=Z,42nm,1.0s,mb4.9
SMF Signal de Mont 45.41 306 *eP* **P 14 47 56.8 -0.8**
SMF pmax pmax
comp=Z,21nm,1.0s,mb4.9
LASF Ste Croix 45.55 302 *eP* **P 14 47 57.8 -1.0**
comp=Z,36nm,1.2s,mb4.9
PLDF La Plantade 45.59 305 *eP* **P 14 47 58.5 -0.6**
SSF Saint Saulge 45.62 306 *eP* **P 14 47 58.6 -0.7**
SSF pmax pmax
comp=Z,13nm,0.9s,mb4.9
SSF Saint Saulge 45.62 306 *eP* **P 14 47 58.6 -0.7**
comp=Z,13nm,0.9s,mb4.8
LBL Lubilhac 45.90 304 *eP* **P 14 48 00.1 -1.4**
AGO Saint Agoulin 45.93 305 *eP* **P 14 48 01.3 -0.4**
PYM Petit Puy Mans 46.03 305 *eP* **P 14 48 02.0 -0.5**
BGF Bois d'Agland 46.10 306 *eP* **P 14 48 02.3 -0.8**
TCF Toulx Ste Croi 46.55 305 *eP* **P 14 48 06.2 -0.5**
comp=Z,22nm,1.0s,mb4.7
TCF Toulx Ste Croi 46.55 305 *eP* **P 14 48 06.2 -0.5**
TCF pmax pmax
comp=Z,11nm,1.0s,mb4.7
CAF Calviac 46.76 304 *eP* **P 14 48 07.7 -0.6**
comp=Z,37nm,1.2s,mb4.9
CAF Calviac 46.76 304 *eP* **P 14 48 07.7 -0.6**
CAF pmax pmax
comp=Z,19nm,1.2s,mb4.9
MTLF Montolieu 46.81 301 *eP* **P 14 48 07.8 -0.9**
comp=Z,21nm,0.8s,mb4.8
MTLF Montolieu 46.81 301 *eP* **P 14 48 07.8 -0.9**
MTLF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
RJF Les Rejaudoux 47.11 304 *eP* **P 14 48 10.7 -0.4**
RJF *eR*
comp=Z,120nm,17.2s
LFF La Frestale 47.69 304 *eP* **P 14 48 14.9 -0.8**
LDF La Druitiere 47.99 309 *eP* **P 14 48 16.6 -1.4**
EPF Esparros 48.21 301 *eP* **P 14 48 18.3 -1.4**
FLN La Foliniere 48.22 309 *eP* **P 14 48 18.5 -1.3**
comp=Z,23nm,1.0s,mb4.9
FLN *eR*
comp=Z,104nm,18.5s
FLN La Foliniere 48.22 309 *eP* **P 14 48 18.5 -1.3**
FLN pmax pmax
comp=Z,12nm,1.0s,mb4.9
FLN MLR MLR
comp=Z,100nm,18.5s,MS3.8
GRR Gorron 48.50 308 *eP* **P 14 48 20.6 -1.3**
comp=Z,23nm,0.9s,mb4.9
GRR Gorron 48.50 308 *eP* **P 14 48 20.6 -1.3**
GRR pmax pmax
comp=Z,11nm,0.9s,mb4.9
NJ2 Nanjing 48.72 74 *eP* **P 14 48 24.1 +0.3**
NJ2 PP PP 14 50 17.6 +0.7
NJ2 S **S 14 55 21.0 -4.5**
NJ2 AMB AMB
comp=Z,430nm,5.6s
NJ2 LR LR
comp=N,440nm,18.1s,MS4.6
NJ2 LR LR
comp=E,330nm,13.7s,MS4.6
NJ2 LR LR
comp=Z,560nm,14.3s,MS4.7
ETSF Etsaut 48.88 301 *eP* **P 14 48 24.0 -0.9**
comp=Z,28nm,1.0s,mb4.9
ETSF Etsaut 48.88 301 *eP* **P 14 48 24.0 -0.9**
ETSF pmax pmax
comp=Z,14nm,1.0s,mb5.0
SJPF Ste Jean 49.33 302 *eP* **P 14 48 27.5 -0.9**
comp=Z,21nm,1.2s,mb4.8
SJPF Ste Jean 49.33 302 *eP* **P 14 48 27.5 -0.9**
SJPF pmax pmax
comp=Z,11nm,1.2s,mb4.8
SGMF Saint Gilles 49.64 308 *eP* **P 14 48 29.9 -0.8**
EKA Eskdalemuir Ar 49.71 318 P **P 14 48 30.8 -0.4**
comp=Z,11nm,0.9s,mb4.9,baz=101,slow=8.0,SNR=21
ROSF Rostrenen 50.11 309 *eP* **P 14 48 33.4 -0.9**
comp=Z,64nm,1.2s,mb5.2
ROSF Rostrenen 50.11 309 *eP* **P 14 48 33.4 -0.9**
ROSF pmax pmax
comp=Z,32nm,1.2s,mb5.2
SSE Sheshan 50.90 74 *eP* **P 14 48 37.3 -3.2**
SSE AP pP 14 48 49.5 +6.6
SSE XP sP 14 48 53.3 +9.5
SSE S **S 14 55 50.0 -5.8**
SSE XS 14 56 09.1
SSE SCS ScS 14 58 21.5 -7.2
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,70nm,4.4s
SSE LR LR
comp=N,113nm,22.2s,MS3.9
SSE LR LR
comp=E,64nm,22.1s,MS3.9
SSE LR LR
comp=Z,121nm,20.8s,MS3.9
SSE Sheshan 50.90 74 *eP* **P 14 48 37.3 -3.2**
comp=Z,30nm,0.7s,mb5.3
SSE pP pP 14 48 49.5 +6.6
SSE sP sP 14 48 53.2 +9.4
SSE S **S 14 55 50.0 -5.8**
SSE sS 14 56 09.1
SSE ScS ScS 14 58 21.5 -7.2
SSE SS SS 14 59 51.2 +23
SSE LR LR
comp=Z,120nm,20.8s,MS3.9
ESDC Sonseca Array 52.00 298 P **P 14 48 47.9 -0.8**
comp=Z,6.4nm,0.9s,mb4.5,baz=63,slow=6.8,SNR=14
ESDC PcP PcP 14 50 00.0 -1.2
comp=Z,3.0nm,0.9s,baz=45,slow=4.6,SNR=4.7
ESDC Sonseca Array 52.00 298 PcP PcP 14 50 00.0 -1.3
YAK Yakutsk 52.45 34 ⇑ *iP* **P 14 48 50.8 -1.1**
YAK pmax pmax
comp=Z,20nm,0.9s,mb5.0
YAK MLR MLR
comp=Z,200nm,13.0s,MS4.3
YAK Yakutsk 52.45 34 *eP* **P 14 48 50.1 -1.8**
comp=Z,25nm,1.0s,mb5.1
YAK Yakutsk 52.45 34 *eP* **P 14 48 50.1 -1.8**
comp=Z,25nm,1.0s,mb5.1
TIXI Tiksi 53.07 22 ⇑ *iP* **P 14 48 57.3 +0.9**
TIXI pmax pmax
comp=Z,13nm,1.7s,mb4.6
KS15 Wonju Array Si 54.40 64 *eP* **P 14 49 05.6 -0.9**
KS15 Wonju Array Si 54.40 64 *eP* **P 14 49 05.6 -0.9**
EVO Evora 55.34 297 *eP* **P 14 49 12.4 -1.0**
comp=Z,96nm,1.7s,mb5.2
LSZ Lusaka 56.45 219 *eP* **P 14 49 21.2 -0.5**
LSZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
LSZ Lusaka 56.45 219 *eP* **P 14 49 21.2 -0.4**
comp=Z,7.9nm,1.1s,mb4.7
LSZ Lusaka 56.45 219 *eP* **P 14 49 21.2 -0.5**
comp=Z,7.9nm,1.1s,mb4.7
YSS Yuzh-Sakhalins 62.27 50 *eP* **P 14 50 00.6 -0.9**
YSS pmax pmax
comp=Z,16nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 62.27 50 *eP* **P 14 50 00.6 -0.9**
comp=Z,16nm,0.9s,mb5.2
YSS Yuzh-Sakhalins 62.27 50 *eP* **P 14 50 00.6 -0.9**
comp=Z,16nm,0.9s,mb5.2
MJAR Matsushiro Arr 62.52 62 LR LR 15 19 17.3
comp=Z,151nm,18.3s,MS4.2,baz=60,slow=38
TSUM Tsumeb 65.61 225 *eP* **P 14 50 22.4 -1.4**
comp=Z,7.9nm,1.0s,mb4.7
TSUM Tsumeb 65.61 225 *eP* **P 14 50 22.4 -1.4**
comp=Z,7.9nm,1.0s,mb4.7
DBIC Dimbokro 65.83 263 P **P 14 50 25.7 +0.4**
comp=Z,2.5nm,0.7s,mb4.4,baz=78,slow=9.5,SNR=3.6
DBIC LR LR 15 20 58.3
comp=Z,162nm,19.6s,MS4.2,baz=44,slow=38
LBTB Lobatse 65.91 215 *eP* **P 14 50 25.1 -0.5**
LBTB pmax pmax
comp=Z,16nm,1.2s,mb4.9
LBTB Lobatse 65.91 215 *eP* **P 14 50 25.1 -0.5**
comp=Z,16nm,1.2s,mb4.9
LBTB Lobatse 65.91 215 *eP* **P 14 50 25.1 -0.5**
comp=Z,16nm,1.2s,mb4.9
BILL Bilibino 66.20 23 *i* P **P 14 50 27.2 +0.4**
BILL pmax pmax
comp=Z,12nm,1.0s,mb4.9
BILL Bilibino 66.20 23 *eP* **P 14 50 26.9 +0.2**
comp=Z,16nm,1.2s,mb4.9
BILL Bilibino 66.20 23 *eP* **P 14 50 27.0 +0.2**
comp=Z,16nm,1.2s,mb4.9
BOSA Boshof 69.11 213 P **P 14 50 45.2 -0.5**
BOSA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BOSA MLR MLR
comp=Z,82nm,18.3s,MS4.0
BOSA Boshof 69.11 213 P **P 14 50 45.2 -0.5**
comp=Z,6.5nm,0.9s,mb4.5,baz=48,slow=11,SNR=6.4

BOSA LR LR 15 20 51.2
comp=Z,82nm,18.3s,MS4.0,baz=160,slow=36
BOSA Boshof 69.11 213 *eP* **P 14 50 44.5 -1.2**
comp=Z,7.6nm,0.9s,mb4.6
RES Resolute Bay 72.35 353 P **P 14 51 04.2 -0.4**
RES pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
RES Resolute Bay 72.35 353 P **P 14 51 04.2 -0.3**
comp=Z,3.3nm,1.3s,mb4.1
RES Resolute Bay 72.35 353 P **P 14 51 04.2 -0.4**
comp=Z,3.3nm,1.3s,mb4.1
SUR Sutherland 74.35 214 LR LR 15 27 15.5
comp=Z,138nm,20.2s,MS4.2,baz=56,slow=38
SUR Sutherland 74.35 214 *eP* **P 14 51 17.3 +0.4**
comp=Z,19nm,1.2s,mb4.9
TNA Tin City 75.73 19 *eP* **P 14 51 24.3 +0.1**
comp=Z,3.7nm,0.8s,mb4.4
TNA Tin City 75.73 19 *eP* **P 14 51 24.3 +0.2**
comp=Z,3.7nm,0.8s,mb4.4
MBWA Marble Bar 77.34 125 *eP* **P 14 51 32.8 -1.3**
comp=Z,7.7nm,0.9s,mb4.6
MBWA Marble Bar 77.34 125 *eP* **P 14 51 32.8 -1.3**
comp=Z,7.7nm,0.9s,mb4.6
IMA Indian Mountai 78.69 14 *eP* **P 14 51 41.0 +0.4**
IMA pmax pmax
comp=Z,50nm,0.9s,mb5.4
IMA Indian Mountai 78.69 14 *eP* **P 14 51 41.0 +0.4**
comp=Z,50nm,0.9s,mb5.4
IMA Indian Mountai 78.69 14 *eP* **P 14 51 41.0 +0.4**
comp=Z,50nm,0.9s,mb5.4
INK Inuvik 79.40 5 *eP* **P 14 51 44.5 +0.1**
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 79.40 5 *eP* **P 14 51 44.5 +0.1**
comp=Z,7.5nm,1.1s,mb4.5
INK Inuvik 79.40 5 *eP* **P 14 51 44.5 +0.1**
comp=Z,7.5nm,1.1s,mb4.5
FITZ Fitzroy Crossi 79.64 119 *eP* **P 14 51 46.4 -0.3**
comp=Z,9.7nm,0.8s,mb4.8
FITZ Fitzroy Crossi 79.64 119 P **P 14 51 47.1 +0.4**
comp=Z,13nm,0.8s,mb4.9,baz=287,slow=6.4,SNR=11
COLA College 80.86 12 *eP* **P 14 51 52.5 +0.3**
COLA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
COLA College 80.86 12 *eP* **P 14 51 52.5 +0.3**
comp=Z,6.9nm,0.9s,mb4.6
ILAR Eielson Array 81.12 12 P **P 14 51 53.4 -0.3**
comp=Z,1.2nm,0.7s,mb4.0,baz=317,slow=3.9,SNR=16
ILAR Eielson Array 81.12 12 P **P 14 51 53.3 -0.3**
KAKA Kakadu 81.67 111 *eP* **P 14 51 57.2 -0.2**
comp=Z,21nm,0.8s,mb5.1
MCK McKinley 81.70 13 *eP* **P 14 51 57.1 +0.4**
MCK pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MCK McKinley 81.70 13 *eP* **P 14 51 57.1 +0.5**
comp=Z,4.5nm,1.1s,mb4.3
MCK McKinley 81.70 13 *eP* **P 14 51 57.1 +0.4**
comp=Z,4.5nm,1.1s,mb4.3
DAWY Dawson 82.92 9 *eP* **P 14 52 03.2 +0.3**
DAWY Dawson 82.92 9 *eP* **P 14 52 03.2 +0.2**
SML Sawmill 83.57 13 *eP* **P 14 52 07.1 +0.8**
NWAO Narrogin (SRO) 83.75 135 *eP* **P 14 52 07.0 -0.9**
NWAO pmax pmax
comp=Z,18nm,1.0s
NWAO Narrogin (SRO) 83.75 135 P **P 14 52 07.0 -0.9**
comp=Z,18nm,0.9s,mb5.2,baz=298,slow=8.7,SNR=6.9
NWAO Narrogin (SRO) 83.75 135 *eP* **P 14 52 07.0 -0.9**
comp=Z,18nm,1.0s,mb5.2
NWAO Narrogin (SRO) 83.75 135 *eP* **P 14 52 07.0 -0.9**
comp=Z,18nm,1.0s,mb5.2
YKW3 Yellowknife Ar 85.67 358 *eP* **P 14 52 17.1 +0.3**
YKA Yellowknife Ar 85.73 358 P **P 14 52 17.8 +0.7**
comp=Z,2.1nm,0.7s,mb4.5,baz=357,slow=5.4,SNR=41
WRA Warramunga Arr 87.32 115 P **P 14 52 25.6 -0.3**
comp=Z,11nm,0.7s,mb5.2,baz=317,slow=4.2,SNR=66
WRAB Tennant Creek 87.32 115 ⇑*iP* **P 14 52 25.6 -0.3**
WRAB Tennant Creek 87.32 115 *eP* **P 14 52 25.8 -0.1**
comp=Z,23nm,0.8s,mb5.5
WB2 Warramunga Arr 87.33 115 *eP* **P 14 52 25.7 -0.2**
ASPA Alice Springs 89.14 119 *eP* **P 14 52 34.1 -0.4**
ASAR Alice Springs 89.14 119 P **P 14 52 34.6 +0.1**
comp=Z,8.7nm,0.7s,mb5.2,baz=308,slow=5.1,SNR=74
FORT Forrest 89.24 127 *eP* **P 14 52 34.2 -0.7**
comp=Z,402nm,0.8s
VNDA Vanda 123.42 165 PKIKP PKPdf 14 58 35.4 -1.3

BJI ***23*** *14:44:37.1,9.28S×71.10W,h608km,mB5.1*
IDC ***23*** *14:44:38.1±0.3,10.19S×70.90W,h635km±3km,mb3.8/28, mb1 3.9/32,mb1mx3.9/33,mbtmp4.7/32,Error ellipse: s-maj=12.3km s-min=6.7km az=66.0*
NEIC ***23*** *14:44:38.0±0.1,10.22S×70.91W,mb4.4/81,Error ellipse: s-maj=5.7km s-min=4.1km az=62.0*
ISC 23 14:44:37.1±0.2,10.17S±0.04×70.92W±0.05,h634km, h634km±2.0km;pP-P,n213,σ0s97/166,mb4.3/103,2C-8D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**6.08**	**252**	*eP*	**P**	**14 46 22.0**	**+0.9**
NNA	70nm,0.7s			*eS*	**S**	**14 47 46.4**	**+2.7**
ARE	**Arequipa**	**6.28**	**185**	*eP*	**P**	**14 46 23.6**	**+0.9**
LPAZ	**La Paz**	**6.67**	**156**	P	**P**	**14 46 27.6**	**+1.7**
LPAZ	2.5nm,0.3s,baz=336,slow=9.2,SNR=113			S	**S**	**14 47 54.8**	**+2.2**
LPAZ	**La Paz**	**6.67**	**156**	⇓*iP*	**P**	**14 46 27.5**	**+1.5**
LPAZ	0.3nm,0.3s,baz=200,slow=22,SNR=4.4 24nm,0.8s			*eS*	**S**	**14 47 54.9**	**+2.3**
SAML	**Samuel**	**7.73**	**82**	⇑*eP*	**P**	**14 46 37.1**	**+1.7**
SAML	408nm,0.8s			*eS*	**S**	**14 48 13.7**	**+4.0**
SIV	**San Ignacio**	**11.21**	**122**	P	**P**	**14 47 09.4**	**+1.3**
SIV	5.9nm,0.3s,baz=300,slow=9.9,SNR=204			S	**S**	**14 49 13.5**	**+4.1**
LVC	**Limon Verde**	**12.53**	**171**	P	**P**	**14 47 22.3**	**+1.3**
LVC	0.7nm,0.3s,baz=312,slow=18,SNR=5.1 0.9nm,0.3s,baz=359,slow=6.9,SNR=17			S	**S**	**14 49 37.9**	**+5.6**
LVC	**Limon Verde**	**12.53**	**171**	*eP*	**P**	**14 47 21.8**	**+0.9**
LVC	baz=240,slow=20,SNR=16 8.2nm,0.7s			*eS*	**S**	**14 49 36.2**	**+3.9**
OTAV	**Otavalo**	**12.76**	**324**	*eP*	**P**	**14 47 26.5**	**+3.2**
ROSC	**El Rosal**	**15.30**	**347**	S	**S**	**14 50 26.7**	**+6.1**
SDV	**Santo Domingo**	**18.93**	**1**	P	**P**	**14 48 21.5**	**+0.1**
CPUP	**Villa Florida**	**20.59**	**143**	P	**P**	**14 48 34.5**	**-1.9**
CPUP	**Villa Florida**	**20.59**	**143**	*eP*	**P**	**14 48 34.5**	**-1.9**
CFAA	**Coronel Fontan**	**21.48**	**174**	P	**P**	**14 48 43.3**	**-1.2**
BDFB	**Brasilia**	**22.98**	**106**	P	**P**	**14 48 57.8**	**-0.3**
BDFB	9.0nm,0.5s,mb4.6,baz=280,slow=10,SNR=15 3.2nm,0.5s,baz=158,slow=3.3,SNR=3.5			PcP	PcP	14 52 22.3	-1.5
TRQA	**Tornquist**	**28.91**	**165**	*eP*	**P**	**14 49 47.0**	**-2.4**
CAM4	**Nova Friburgo**	**29.73**	**118**	*eP*	**P**	**14 49 55.2**	**-1.4**
CAM4	11nm,0.6s,mb4.7			*i*		14 49 58.5	
PLCA	**Paso Flores**	**30.45**	**179**	P	**P**	**14 50 01.7**	**-0.7**
PLCA	3.3nm,0.5s,mb4.2,baz=358,slow=9.2,SNR=18			PcP	PcP	14 52 40.5	-1.1
PLCA	3.2nm,0.6s,baz=340,slow=3.3,SNR=6.6			ScP		14 55 22.9	
PLCA	**Paso Flores**	**30.45**	**179**	P	**P**	**14 50 01.7**	**-0.7**
PLCA	2.3nm,0.6s,baz=32,slow=4.1,SNR=7.5			PcP	PcP	14 52 40.5	-1.1
PLCA				ScP		14 55 22.9	
USHA	**Ushuaia**	**44.59**	**178**	P	**P**	**14 51 56.3**	**-0.5**
SWET	**Sewanee**	**47.31**	**343**	*eP*	**P**	**14 52 16.0**	**-1.7**
ELN	**Prospectdale**	**48.04**	**349**	*eP*	**P**	**14 52 23.1**	**0.0**
WVT	**Waverly**	**48.73**	**342**	*eP*	**P**	**14 52 26.1**	**-2.2**
TXAR	**Lajitas Array**	**50.39**	**322**	P	**P**	**14 52 39.9**	**-0.5**
TXAR	8.4nm,0.5s,mb4.4 0.6nm,0.5s,mb3.3,baz=148,slow=8.5,SNR=5.4			PcP	PcP	14 53 46.7	-0.5
TXAR	1.6nm,0.5s,baz=141,slow=5.3,SNR=12			pP	pP	14 54 35.2	+0.7
TXAR	2.0nm,0.8s,baz=146,slow=9.0,SNR=6.1			ScP		14 56 41.8	
TXAR	**Lajitas Array**	**50.39**	**322**	P	**P**	**14 52 39.9**	**-0.5**
TXAR	0.8nm,0.7s,baz=140,slow=9.8,SNR=4.8			PcP	PcP	14 53 46.7	-0.5
TXAR				pP	pP	14 54 35.2	+0.7
TXAR				ScP		14 56 41.8	
FVM	**French Village**	**51.26**	**340**	*eP*	**P**	**14 52 45.1**	**-1.5**
CCM	120nm,0.5s **Cathedral Cave**	**51.60**	**340**	*eP*	**P**	**14 52 47.3**	**-1.7**
SADO	30nm,1.1s,mb4.5 **Sadowa**	**55.18**	**353**	P	**P**	**14 53 12.3**	**-1.7**
ANMO	9.0nm,0.9s,mb4.1,baz=177,slow=11,SNR=4.1 **Albuquerque**	**56.08**	**325**	P	**P**	**14 53 20.1**	**-0.2**
ANMO	1.3nm,0.4s,mb3.5,baz=149,slow=11,SNR=7.2 1.4nm,0.7s,baz=153,slow=7.1,SNR=4.2			PcP	PcP	14 54 08.4	-0.6
ANMO	1.9nm,0.7s,baz=140,slow=8.4,SNR=4.2			pP	pP	14 55 17.8	-1.0
SDCO	**Great Sand Dun**	**57.61**	**328**	*eP*	**P**	**14 53 31.0**	**+0.3**
SDCO	15nm,0.6s,mb4.3			*epP*	pP	14 55 30.7	+0.4
PV01	**Paradox Valley**	**59.54**	**326**	*eP*	**P**	**14 53 44.3**	**+0.7**
SRU	**San Rafael**	**61.31**	**326**	*eP*	**P**	**14 53 55.2**	**+0.1**
RSSD	**Black Hills**	**61.82**	**333**	*eP*	**P**	**14 53 58.7**	**+0.4**
TMUT	13nm,0.5s,mb4.4 **Trail Mountain**	**61.83**	**325**	*eP*	**P**	**14 53 58.9**	**+0.5**
MSU	**Marysvale**	**61.84**	**324**	*eP*	**P**	**14 53 59.2**	**+0.7**
MSU				*ePcP*	PcP	14 54 32.1	+0.1
MVU	**Marysvale**	**61.85**	**324**	*eP*	**P**	**14 53 59.2**	**+0.6**
MVU	6.3nm,0.8s,mb3.9			*ePcP*	PcP	14 54 31.4	-0.7
JLU	**Jordanelle**	**62.86**	**326**	*eP*	**P**	**14 54 05.9**	**+0.8**
PDAR	**Pinedale Array**	**63.40**	**329**	P	**P**	**14 54 08.2**	**-0.2**
PDAR	3.7nm,0.5s,mb4.0,baz=121,slow=8.5,SNR=50 0.8nm,0.4s,baz=108,slow=4.7,SNR=5.1			PcP	PcP	14 54 37.4	-1.1
PDAR	2.3nm,0.9s,baz=117,slow=6.6,SNR=7.3			pP	pP	14 56 10.8	-1.2
HWUT	**Hardware Ranch**	**63.62**	**327**	*eP*	**P**	**14 54 09.8**	**0.0**
ULM	7.1nm,0.6s,mb4.2 **Lac du Bonnet**	**63.98**	**342**	P	**P**	**14 54 10.4**	**-1.6**
ULM	27nm,0.4s,mb4.9,baz=152,slow=5.9,SNR=27 3.7nm,0.7s,baz=197,slow=6.6,SNR=3.2			pP	pP	14 56 12.8	-3.1
ULM	**Lac du Bonnet**	**63.98**	**342**	P	**P**	**14 54 10.4**	**-1.6**
ULM				pP	pP	14 56 12.8	-3.1
REDW	**Red Top Meadow**	**64.49**	**329**	*eP*	**P**	**14 54 15.3**	**+0.1**
LOHW	3.6nm,0.6s,mb3.9 **Long Hollow**	**64.54**	**329**	*eP*	**P**	**14 54 15.5**	**-0.1**
MOOW	5.7nm,0.6s,mb4.2 **Moose Ponds**	**64.71**	**329**	*eP*	**P**	**14 54 16.4**	**-0.3**
MOOW	3.4nm,0.8s,mb3.8			*ePcP*	PcP	14 54 42.6	-1.2
MOOW				*epP*	pP	14 56 19.9	-1.2
RRI2	**Red Ridge**	**64.72**	**328**	*eP*	**P**	**14 54 16.7**	**0.0**
RRI2	21nm,0.7s,mb4.7			*epP*	pP	14 56 20.0	-1.1
SCHQ	**Schefferville**	**64.84**	**3**	P	**P**	**14 54 16.1**	**-1.2**
SCHQ	1.5nm,0.3s,mb3.8,baz=167,slow=8.6,SNR=5.9 2.3nm,0.5s,baz=153,slow=2.3,SNR=5.6			PcP	PcP	14 54 43.0	-1.2
IMW	**Indian Meadow**	**64.92**	**329**	*eP*	**P**	**14 54 18.6**	**+0.6**
IMW	8.1nm,0.6s,mb4.3			*epP*	pP	14 56 22.2	-0.2
LKWY	**Lake**	**65.13**	**330**	*eP*	**P**	**14 54 20.9**	**+1.7**
NVAR	8.8nm,0.9s,mb4.2 **Mina Array Bea**	**65.48**	**321**	P	**P**	**14 54 22.4**	**+0.9**
NVAR	1.8nm,0.6s,mb3.7,baz=157,slow=6.4,SNR=14 2.2nm,0.6s,baz=140,slow=3.9,SNR=10			PcP	PcP	14 54 46.7	-0.5
NVAR	0.9nm,0.6s,baz=139,slow=6.3,SNR=4.5			pP	pP	14 56 26.6	+0.3
NVAR	**Mina Array Bea**	**65.48**	**321**	P	**P**	**14 54 22.4**	**+0.9**
NVAR				PcP	PcP	14 54 46.7	-0.5
NVAR				pP	pP	14 56 26.6	+0.3
YMR	**Madison River**	**65.48**	**330**	*eP*	**P**	**14 54 23.0**	**+1.6**
HLID	**Hailey**	**66.50**	**327**	*eP*	**P**	**14 54 28.1**	**+0.4**
HLID	2.3nm,0.5s,mb3.9			*e*		14 54 35.9	
HLID				*epP*	pP	14 56 33.0	0.0
BOZ	**Bozeman (W)**	**66.51**	**330**	*eP*	**P**	**14 54 27.8**	**0.0**
MCMT	3.5nm,0.5s,mb4.0 **McKenzie Canyo**	**66.54**	**329**	*eP*	**P**	**14 54 28.6**	**+0.7**
HRY	**Holter Researc**	**67.37**	**331**	*eP*	**P**	**14 54 33.3**	**+0.4**
HRY				*epP*	pP	14 56 38.3	-0.4
DBIC	**Dimbokro**	**67.89**	**79**	P	**P**	**14 54 35.8**	**-0.7**
MSO	16nm,0.5s,mb4.7,baz=226,slow=6.7,SNR=12 **Missoula**	**68.48**	**330**	*eP*	**P**	**14 54 39.4**	**-0.1**
MSO	7.5nm,0.8s,mb4.2			*epP*	pP	14 56 45.9	-0.2
BMO	**Blue Mountains**	**68.91**	**327**	*eP*	**P**	**14 54 42.2**	**+0.1**
WALA	5.8nm,0.7s,mb4.1 **Waterton Lakes**	**70.02**	**331**	*eP*	**P**	**14 54 48.5**	**-0.1**
WALA	7.8nm,0.6s,mb4.3			*epP*	pP	14 56 53.8	-2.1
YBH	**Yreka Blue Hor**	**70.15**	**321**	P	**P**	**14 54 48.7**	**-0.8**
NEW	2.9nm,0.5s,mb4.0,baz=162,slow=3.2,SNR=17 **Newport**	**71.04**	**329**	P	**P**	**14 54 54.1**	**-0.4**
NEW	1.2nm,0.4s,mb3.7,baz=116,slow=12,SNR=3.7 2.8nm,0.7s,baz=118,slow=9.3,SNR=3.8			pP	pP	14 57 00.9	-1.4
FCC	**Fort Churchill**	**71.21**	**347**	*eP*	**P**	**14 54 54.5**	**-0.8**
VNA3	12nm,0.5s,mb4.7 **Neumayer Olymp**	**71.39**	**163**	⇓*iP*	**P**	**14 54 55.8**	**-0.4**
VNA1	**Neumayer--Stat**	**71.58**	**162**	P	**P**	**14 54 57.4**	**+0.1**
VNA2	**Neumayer--Watz**	**71.95**	**162**	P	**P**	**14 54 59.0**	**-0.4**
VNA2	**Neumayer--Watz**	**71.95**	**162**		**P**	**14 55 03.5**	**+4.1**
VNA2	**Neumayer--Watz**	**71.95**	**162**		PcP	14 55 11.5	-2.6
EDM	**Edmonton**	**72.73**	**335**	*eP*	**P**	**14 55 03.1**	**-1.0**
SNAA	**Sanae**	**73.58**	**162**	⇓*iP*	**P**	**14 55 07.8**	**-0.8**
SNAA	**Sanae**	**73.58**	**162**	⇓*i*	PcP	14 55 21.0	0.0
FRB	**Frobisher Bay**	**73.72**	**1**	P	**P**	**14 55 08.3**	**-1.1**
EGRO	5.5nm,0.5s,mb4.3,baz=173,slow=8.0,SNR=9.5 **El Granado**	**75.90**	**47**	P	**P**	**14 55 23.3**	**+1.1**
EVO	9.3nm,0.6s,mb4.4 **Evora**	**75.95**	**46**	*eP*	**P**	**14 55 22.4**	**0.0**
EMIN	8.2nm,0.6s,mb4.1 **Mina Concepcio**	**76.58**	**47**	P	**P**	**14 55 26.6**	**+0.8**
EBAD	6.0nm,0.7s,mb4.1 **Badajoz**	**76.75**	**46**	P	**P**	**14 55 26.9**	**+0.2**
ESPR	3.1nm,0.5s,mb4.0 **Espera**	**76.82**	**48**	P	**P**	**14 55 28.5**	**+1.5**
EMIJ	8.9nm,0.7s,mb4.3 **Mijas**	**77.50**	**49**	P	**P**	**14 55 31.6**	**+0.9**
ELOJ	2.9nm,0.6s,mb3.9 **Sierra Loja**	**78.18**	**49**	P	**P**	**14 55 35.9**	**+1.5**
ERUA	7.1nm,0.4s,mb4.5 **La Rua**	**78.20**	**43**	P	**P**	**14 55 35.2**	**+0.9**
ELUQ	38nm,1.3s,mb4.7 **Luque**	**78.25**	**48**	P	**P**	**14 55 36.1**	**+1.4**
EADA	3.8nm,0.4s,mb4.2 **Adamuz**	**78.26**	**48**	P	**P**	**14 55 35.3**	**+0.6**
ECAL	8.3nm,1.6s,mb3.9 **Calabor**	**78.28**	**43**	P	**P**	**14 55 35.4**	**+0.6**
ERON	3.4nm,0.6s,mb4.0 **Agron**	**78.39**	**49**	P	**P**	**14 55 36.7**	**+1.2**
EPON	4.9nm,0.4s,mb4.3 **Pontenova**	**78.60**	**42**	P	**P**	**14 55 37.2**	**+0.8**
ECOG	15nm,0.5s,mb4.6 **Cogollos-Vega**	**78.66**	**49**	P	**P**	**14 55 37.7**	**+0.8**
EBER	4.1nm,0.4s,mb4.1 **Berja**	**79.03**	**49**	P	**P**	**14 55 40.5**	**+1.8**
EQES	9.7nm,0.8s,mb4.2 **Quesada**	**79.22**	**48**	P	**P**	**14 55 40.3**	**+0.5**
ESDC	5.9nm,0.4s,mb4.3 **Sonseca Array**	**79.29**	**46**	P	**P**	**14 55 41.0**	**+0.9**
GUD	1.8nm,0.4s,mb3.7,baz=253,slow=5.2,SNR=22 **Guadarrama**	**79.53**	**45**	P	**P**	**14 55 42.6**	**+1.2**
ENIJ	7.0nm,0.8s,mb4.0 **Nijar**	**79.56**	**49**	P	**P**	**14 55 41.5**	**0.0**
EARI	9.0nm,0.5s,mb4.4 **Arriondas**	**79.88**	**43**	P	**P**	**14 55 44.0**	**+1.0**
YKA	21nm,0.7s,mb4.6 **Yellowknife Ar**	**79.91**	**341**	P	**P**	**14 55 42.5**	**-0.3**
YKA	14nm,0.6s,mb4.5,baz=135,slow=5.4,SNR=295 0.7nm,0.6s,baz=138,slow=6.4,SNR=4.8			pP	pP	14 57 50.9	-3.9
YKA	**Yellowknife Ar**	**79.91**	**341**	P	**P**	**14 55 42.5**	**-0.3**
YKA				pP	pP	14 57 50.9	-3.9
EVIA	**Vianos**	**79.95**	**48**	P	**P**	**14 55 44.9**	**+1.4**
YKW3	19nm,0.7s,mb4.5 **Yellowknife Ar**	**79.96**	**341**	*eP*	**P**	**14 55 42.6**	**-0.4**
QSPA	**South Pole Qui**	**79.96**	**180**	⇓*iP*	**P**	**14 55 43.1**	**+0.3**
EMUR	21nm,0.7s,mb4.6 **La Murta**	**80.59**	**49**	P	**P**	**14 55 46.2**	**-0.6**
ETOB	6.0nm,0.8s,mb4.1 **Tobarra**	**80.65**	**48**	P	**P**	**14 55 48.1**	**+1.0**
ELAN	22nm,0.8s,mb4.6 **Lanestosa**	**81.04**	**43**	P	**P**	**14 55 50.6**	**+1.6**
ECHE	17nm,1.2s,mb4.3 **Chera**	**81.41**	**47**	P	**P**	**14 55 52.4**	**+1.4**
ECRI	4.4nm,0.5s,mb4.1 **Cripan**	**81.42**	**44**	P	**P**	**14 55 52.1**	**+1.2**
EBEN	0.2nm,0.7s **Beniarda**	**81.64**	**48**	P	**P**	**14 55 53.0**	**+0.9**
EMOS	17nm,0.8s,mb4.6 **Mosqueruela**	**82.03**	**47**	P	**P**	**14 55 55.7**	**+1.6**
SJPF	6.5nm,0.6s,mb4.3 **Ste Jean**	**82.49**	**44**	*eP*	**P**	**14 55 56.7**	**+0.3**
SJPF	5.1nm,0.6s,mb3.9			*epP*	pP	14 58 11.3	+1.9
ERTA	**Horta de San J**	**82.81**	**46**	P	**P**	**14 55 58.5**	**+0.5**
ETSF	7.2nm,0.6s,mb4.4 **Etsaut**	**82.87**	**44**	*eP*	**P**	**14 55 59.3**	**+1.1**
QUIF	**Quistinic**	**83.05**	**39**	*eP*	**P**	**14 55 58.7**	**-0.3**
ROSF	**Rostrenen**	**83.16**	**38**	*eP*	**P**	**14 55 59.1**	**-0.4**
EBIE	**Bielsa**	**83.28**	**45**	P	**P**	**14 56 01.0**	**+0.7**
DLBC	2.7nm,0.5s,mb4.0 **Dease Lake**	**83.29**	**333**	P	**P**	**14 56 00.8**	**+0.9**
DLBC	7.5nm,0.7s,mb4.3,baz=140,slow=5.4,SNR=14 2.1nm,0.8s,baz=163,slow=5.9,SNR=3.6			pP	pP	14 58 11.5	-1.8
DLBC	**Dease Lake**	**83.29**	**333**	P	**P**	**14 56 00.8**	**+0.9**
DLBC				pP	pP	14 58 11.5	-1.8
BORG	**Borgarnes**	**83.38**	**19**	P	**P**	**14 56 01.3**	**+1.0**
EPF	12nm,0.8s,mb4.5,baz=225,slow=4.1,SNR=5.0 **Esparros**	**83.53**	**44**	*eP*	**P**	**14 56 01.4**	**-0.1**
EPF	2.8nm,0.5s,mb3.8			*epP*	pP	14 58 16.9	+1.9
LFF	**La Frestale**	**84.46**	**43**	*eP*	**P**	**14 56 05.4**	**-0.7**
LFF	13nm,0.7s,mb4.3			*epP*	pP	14 58 20.9	+1.0
MFF	**Saint Martin d**	**84.46**	**41**	*eP*	**P**	**14 56 05.2**	**-0.8**
GRR	**Gorron**	**84.66**	**39**	*eP*	**P**	**14 56 06.1**	**-0.8**
GRR	19nm,0.8s,mb4.5			*epP*	pP	14 58 22.4	+1.6
MTLF	**Montolieu**	**84.93**	**45**	*eP*	**P**	**14 56 07.5**	**-0.9**
FLN	6.7nm,0.7s,mb4.1 **La Foliniere**	**85.03**	**39**	*eP*	**P**	**14 56 08.0**	**-0.7**
RJF	7.0nm,0.5s,mb4.2 **Les Rejaudoux**	**85.10**	**42**	*eP*	**P**	**14 56 08.2**	**-0.9**
LDF	12nm,0.8s,mb4.2 **La Druitiere**	**85.19**	**39**	*eP*	**P**	**14 56 08.7**	**-0.8**
SUMG	**Summit**	**85.24**	**9**	*eP*	**P**	**14 56 09.8**	**+0.6**
SUMG	13nm,0.5s,mb4.8			*epP*	pP	14 58 23.0	-0.2
TSUM	**Tsumeb**	**85.32**	**109**	*eP*	**P**	**14 56 10.1**	**-0.7**
TSUM	15nm,1.1s,mb4.5			*epP*	pP	14 58 23.5	-1.3
CAF	**Calviac**	**85.34**	**43**	*eP*	**P**	**14 56 09.6**	**-0.7**
CAF	13nm,0.7s,mb4.4			*epP*	pP	14 58 25.4	+1.0
TCF	**Toulx Ste Croi**	**85.89**	**42**	*eP*	**P**	**14 56 11.7**	**-1.1**
TCF	6.8nm,0.8s,mb4.0			*epP*	pP	14 58 27.5	+0.4
EKA	**Eskdalemuir Ar**	**86.05**	**32**	P	**P**	**14 56 12.8**	**-0.5**
EKA	4.7nm,0.7s,mb4.2,baz=240,slow=5.5,SNR=14 1.2nm,0.8s,baz=255,slow=9.5,SNR=4.2			pP	pP	14 58 27.8	0.0
LASF	**Ste Croix**	**86.29**	**44**	*eP*	**P**	**14 56 14.5**	**-0.3**
BGF	5.6nm,0.6s,mb4.0 **Bois d'Agland**	**86.39**	**42**	*eP*	**P**	**14 56 14.3**	**-0.9**
BGF	11nm,0.6s,mb4.4			*epP*	pP	14 58 31.3	+1.6
HYF	**Humbligny**	**86.48**	**41**	*eP*	**P**	**14 56 15.0**	**-0.6**
SSF	**Saint Saulge**	**86.98**	**41**	*eP*	**P**	**14 56 16.6**	**-1.3**
SMF	5.1nm,0.7s,mb4.1 **Signal de Mont**	**87.07**	**42**	*eP*	**P**	**14 56 17.4**	**-1.0**
SMF	18nm,1.0s,mb4.5			*epP*	pP	14 58 33.6	+0.5
LOR	**Lormes**	**87.27**	**41**	*eP*	**P**	**14 56 18.0**	**-1.3**
VNDA	7.8nm,0.8s,mb4.2 **Vanda**	**87.62**	**190**	P	**P**	**14 56 19.1**	**-1.3**
SYO	2.8nm,0.7s,mb4.1,baz=141,slow=4.1,SNR=23 **Syowa Base**	**87.75**	**160**	⇑P	**P**	**14 56 19.7**	**-1.4**
SYO	**Syowa Base**	**87.75**	**160**	⇓PcP	PcP	14 56 22.3	-0.1
LMR	**La Mourre**	**87.91**	**45**	*eP*	**P**	**14 56 21.3**	**-1.1**
ORIF	**Oris-en-Rattie**	**87.92**	**44**	*eP*	**P**	**14 56 22.5**	**+0.1**
FRF	23nm,0.6s,mb4.8 **La Foret Royal**	**88.07**	**45**	*eP*	**P**	**14 56 22.0**	**-1.2**
BAIF	17nm,0.9s,mb4.5 **Baives**	**88.35**	**39**	*eP*	**P**	**14 56 23.5**	**-0.8**
MEZF	3.8nm,0.7s,mb3.9 **Maizieres J'vi**	**88.41**	**40**	*eP*	**P**	**14 56 23.3**	**-1.3**
CABF	**La Chapelle**	**88.54**	**42**	*eP*	**P**	**14 56 24.5**	**-0.8**
LPL	18nm,0.9s,mb4.6 **La Plagne**	**88.67**	**43**	*eP*	**P**	**14 56 26.1**	**+0.2**
LPL	13nm,0.7s,mb4.6			*epP*	pP	14 58 42.1	+1.0
LPG	**La Plagne**	**88.67**	**43**	*eP*	**P**	**14 56 26.4**	**+0.5**
SBF	12nm,0.7s,mb4.5 **Sospel**	**88.70**	**45**	*eP*	**P**	**14 56 24.5**	**-1.6**
GIVF	**Givet**	**88.74**	**39**	*eP*	**P**	**14 56 25.5**	**-0.6**
HINF	21nm,0.8s,mb4.7 **Hinteralfeld**	**89.37**	**41**	*eP*	**P**	**14 56 28.0**	**-1.1**
PGF	2.1nm,0.4s,mb4.0 **Pioggiola**	**89.48**	**47**	*eP*	**P**	**14 56 29.3**	**-0.4**
INK	16nm,0.9s,mb4.6 **Inuvik**	**89.67**	**341**	P	**P**	**14 56 30.2**	**+0.2**
INK	11nm,0.6s,mb4.9,baz=120,slow=6.2,SNR=40 2.4nm,0.9s,baz=101,slow=5.3,SNR=4.9			pP	pP	14 58 44.1	-1.4
INK	**Inuvik**	**89.67**	**341**	*eP*	**P**	**14 56 30.0**	**0.0**
CDF	10nm,0.6s,mb4.8 **Champ du Feu**	**89.81**	**41**	*eP*	**P**	**14 56 30.2**	**-0.9**
CDF				*epP*	pP	14 58 46.9	+0.2
BOSA	**Boshof**	**90.55**	**119**	P	**P**	**14 56 33.8**	**-1.2**
DAVOX	2.1nm,0.6s,mb4.2,baz=286,slow=5.5,SNR=7.9 **Davos**	**91.10**	**43**	P	**P**	**14 56 37.0**	**-0.1**
DAVOX	3.9nm,0.7s,mb4.5,baz=329,slow=10,SNR=6.4 2.9nm,0.7s,baz=354,slow=22,SNR=4.5			pP	pP	14 58 53.8	+0.8
DAVOX	**Davos**	**91.10**	**43**	P	**P**	**14 56 37.0**	**-0.1**
DAVOX				pP	pP	14 58 53.8	+0.8
GRA1	**Grafenberg Arr**	**92.64**	**40**	*eP*	**P**	**14 56 44.1**	**+0.1**
GRF	6.0nm,1.2s,mb4.5 **Grafenberg Arr**	**92.64**	**40

AAK				*e*PKPdf		15 05 21.5	
MKAR	**Makanchi Array**	**136.99**	**27**	PKP	PKPdf	15 02 50.2	+0.6
	2.4nm,0.5s,baz=288,slow=1.7,SNR=4.0						
MKAR				pPKP		15 05 14.7	
	0.5nm,0.7s,baz=298,slow=2.1,SNR=4.1						
MKAR				SKPbc		15 05 24.6	
	1.7nm,0.7s,baz=333,slow=2.7,SNR=8.8						
MKAR	**Makanchi Array**	**136.99**	**27**	PKP	PKPdf	15 02 50.2	+0.6
MKAR				pPKP		15 05 14.7	
MKAR				SKPbc		15 05 24.6	
ASAR	**Alice Springs**	**138.53**	**216**	PKhKP		15 02 43.9	
	0.8nm,0.5s,baz=142,slow=3.6,SNR=8.1						
ASAR				PKP	PKPdf	15 02 53.4	+0.4
	4.2nm,0.5s,baz=128,slow=1.9,SNR=21						
ASAR				pPKP		15 05 20.1	
	1.4nm,0.9s,baz=144,slow=3.1,SNR=5.2						
ASAR				SKPbc		15 05 28.2	
	4.0nm,0.7s,baz=135,slow=3.9,SNR=17						
WRA	**Warramunga Arr**	**141.09**	**220**	PKhKP		15 02 52.8	
	1.5nm,0.5s,baz=146,slow=2.9,SNR=33						
WRA				SKPbc		15 05 35.6	
	2.7nm,0.5s,baz=133,slow=2.7,SNR=4.7						
WRAB	**Tennant Creek**	**141.09**	**220**	*e*PKPpre		15 02 51.9	
MDJ	**Mudanjiang**	**141.38**	**336**	PKP	PKPdf	15 03 00.0	+2.6
MDJ				PP	PP		
	comp=Z,104nm,5.5s						
WMQ	**Urumqi**	**141.68**	**25**	PKP	PKPdf	15 02 54.9	-3.1
WMQ				PP	PP	15 06 10.9	-2.1
WMQ				PP	PP		
	comp=Z,128nm,3.7s						
ULN	**Ulaanbaatar**	**142.39**	**2**	*e*PKPpre		15 02 57.6	
SONM	**Songino Array**	**142.39**	**3**	PKP	PKPdf	15 02 58.2	-0.8
	comp=Z,4.8nm,0.3s,baz=320,slow=1.8,SNR=72						
SONM				SKPbc		15 05 39.4	
	comp=Z,2.2nm,0.7s,baz=333,slow=2.0,SNR=9.2						
SONM				SKKPbc		15 13 55.5	
	comp=Z,0.7nm,0.7s,baz=173,slow=3.8,SNR=5.4						
MJAR	**Matsushiro Arr**	**142.80**	**320**	PKP	PKPdf	15 02 59.3	-0.9
	comp=Z,13nm,0.8s,baz=94,slow=2.3,SNR=36						
MAJO	**Matsushiro**	**142.80**	**320**	*e*PKPpre		15 02 59.1	
MAT	**Matsushiro**	**142.80**	**320**	*e*PKP	PKPdf	15 02 59.0	-1.2
MAT	**Matsushiro**	**142.80**	**320**	PKP	PKPdf	15 02 59.1	-1.1
CN2	**Changchun**	**143.60**	**340**	‖PKP	PKPdf	15 03 00.4	-0.9
KKR	**Kurukshetra**	**144.06**	**52**	*e*P	PKPbc	15 03 03.9	+1.5
RTK	**Rohtak**	**144.14**	**54**	*e*P	PKPbc	15 03 03.7	+1.0
KLP	**Kalpa**	**144.41**	**49**	*e*P	PKPdf	15 03 05.6	+2.5
POO	**Poona**	**144.93**	**72**	*e*P	PKPdf	15 03 06.1	+1.8
NDI	**New Delhi**	**144.93**	**54**	*e*P	PKPdf	15 03 04.5	+0.4
AYAN	**Aya Nagar**	**144.94**	**54**	*e*P	PKPdf	15 03 06.2	+2.1
SONA	**Sohna**	**145.00**	**55**	*e*P	PKPdf	15 03 06.0	+1.8
KAD	**Karad**	**145.41**	**74**	*e*P	PKPdf	15 03 07.5	+2.3
KAD				*e*		15 03 08.2	
	comp=Z,46nm,0.6s						
BHPL	**Bhopal**	**147.10**	**63**	*e*P	PKPdf	15 03 10.9	+3.0
MBWA	**Marble Bar**	**147.16**	**199**	*e*PKPbc	PKPdf	15 03 11.1	+3.1
FITZ	**Fitzroy Crossi**	**147.50**	**210**	*e*PKP	PKPdf	15 03 09.8	+1.2
	comp=Z,30nm,0.7s						
FITZ				*e*pPKP		15 03 36.6	
FITZ	**Fitzroy Crossi**	**147.50**	**210**	PKP	PKPdf	15 03 09.7	+1.1
	comp=Z,44nm,0.6s,baz=177,slow=2.1,SNR=47						
FITZ				PKPbc	PKPdf	15 03 13.1	+4.5
	comp=Z,44nm,0.6s,baz=179,slow=2.5,SNR=70						
FITZ				pPKPbc		15 05 36.8	
	comp=Z,34nm,0.8s,baz=187,slow=3.2,SNR=12						
KAKA	**Kakadu**	**147.52**	**226**	*i* PKP	PKPdf	15 03 12.8	+4.1
	comp=Z,23nm,0.6s						
KS15	**Wonju Array Si**	**147.99**	**331**	*e*PKPbc	PKPdf	15 03 14.0	+5.2
HHC	**Hu-ho-hao-te**	**149.36**	**356**	*e*PKP	PKPdf	15 03 14.3	+3.4
HHC				PP	PP		
	comp=Z,139nm,5.5s						
HYB	**Hyderabad**	**149.53**	**73**	*e*P	PKPdf	15 03 18.0	+6.2
HYB	**Hyderabad**	**149.53**	**73**	*i* PKP	PKPdf	15 03 18.0	+6.2
BJI	**Beijing**	**149.59**	**349**	PKP	PKPdf	15 03 17.8	+6.5
GTA	**Gaotai**	**149.73**	**14**	*e*PKP	PKPdf	15 03 13.6	+2.1
KOLN	**Koldanda**	**150.32**	**50**	*e*P	PKPdf	15 03 19.6	+6.8
	comp=Z,14nm,0.5s						
GKN	**Gorkha**	**150.98**	**49**	*e*P	PKPdf	15 03 21.7	+8.0
	comp=Z,79nm,0.5s						
DMN	**Daman**	**151.54**	**49**	*e*P	PKPdf	15 03 22.8	+8.3
	comp=Z,60nm,0.6s						
KKN	**Kakani**	**151.57**	**49**	*e*P	PKPdf	15 03 22.9	+8.3
	comp=Z,65nm,0.6s						
PKI	**Pulchoki**	**151.79**	**49**	*e*P	PKPdf	15 03 23.1	+8.2
	comp=Z,23nm,0.6s						
GUN	**Gumba**	**151.94**	**48**	*e*P	PKPdf	15 03 23.8	+8.7
	comp=Z,63nm,0.7s						
JIRN	**Jiri**	**152.31**	**48**	*e*P	PKPdf	15 03 24.3	+8.7
	comp=Z,5.6nm,0.4s						
GYA	**Guiyang**	**163.63**	**8**	‖PKP	PKPdf	15 03 30.3	+1.2
CMAR	**Chiang Mai Arr**	**167.19**	**49**	PKP	PKPdf	15 03 33.8	+1.6
	comp=Z,2.2nm,0.8s,baz=283,slow=1.5,SNR=16						
CMAR				PKPab	PKPab	15 04 42.2	-1.1
	comp=Z,0.4nm,0.3s,baz=302,slow=4.9,SNR=4.5						

CSEM ***23*** *14:48:03.4±0.1,24.82N×36.24E,h35km,ML2.7,Error ellipse: s-maj=2.8km s-min=1.8km az=1.0*
HLW ***23*** *14:48:05.9,24.76N×36.03E,h33km,Mb3.0*
SNSN ***23*** *14:48:06.4,24.77N×36.55E,h11km,Ml2.7*

ISC 23 14:48:00.9±0.5,24.76N±0.06×36.25E±0.04,h10km,n11, σ0=98/15,5D,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJS	**Umm Lajj**	**1.08**	**64**	P	**Pb**	**14 48 22.0**	**+0.8**
UMJS				S	**Sb**	**14 48 34.4**	**-0.7**
HAGS	**Hagol**	**1.21**	**252**	‖P	**Pb**	**14 48 24.5**	**+1.1**
EMRS	**Mersa Alam**	**1.30**	**281**	‖P	**Pb**	**14 48 25.2**	**+0.2**
HADB		**1.58**	**292**	P	**Pn**	**14 48 28.8**	**-0.4**
YNBS	**Yanbu' al Bahr**	**1.65**	**104**	P	**Pn**	**14 48 31.5**	**+1.4**
YNBS				S	**Sn**	**14 48 50.9**	**-0.6**
HSHL	**Bi'r Shalatayn**	**1.82**	**205**	P	**Pn**	**14 48 33.7**	**+1.1**
HSHL				S	**Sn**	**14 48 53.8**	**-2.1**
HQSR		**1.95**	**301**	‖P	**Pn**	**14 48 34.3**	**-0.1**
HSFG		**2.76**	**311**	‖P	**Pn**	**14 48 45.6**	**-0.4**
HEDF	**Idfu**	**2.80**	**277**	P	**Pn**	**14 48 45.7**	**-0.9**
KBRS	**Khaybar**	**2.92**	**69**	P	**Pn**	**14 48 49.7**	**+1.4**
KBRS				S	**Sn**	**14 49 22.4**	**-1.4**
HHRG	**Al Ghardaqah**	**3.43**	**316**	‖P	**Pn**	**14 48 55.6**	**0.0**

IDC ***23*** *14:52:59.1±1.1,1.91S×99.59E,mb3.9/10,mb1 4.1/10, mb1mx3.9/20,mbtmp3.9/10,MS3.1/1,Ms1 3.3/1, ms1mx2.9/29,Error ellipse: s-maj=56.6km s-min=15.1km az=52.0*
NEIC ***23*** *14:52:59.9±11.0,1.92S×99.63E,h6km±65km,mb4.3/1, Error ellipse: s-maj=46.4km s-min=7.8km az=55.0*

ISC 23 14:53:02.5±0.9,1.8S±0.1×99.8E±0.2,h33km,n14, σ0=57/13,mb3.9/10,MS2.9/1,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.07**	**7**	P	**P**	**14 54 46.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**20.12**	**358**	P	**P**	**14 57 36.1**	**-0.4**
	0.5nm,0.3s,baz=189,slow=9.8,SNR=5.0						
CMAR				LR	LR	15 07 07.9	
	comp=Z,50nm,19.4s,MS2.9,baz=305,slow=42						
FITZ	**Fitzroy Crossi**	**30.12**	**124**	P	**P**	**14 59 10.9**	**-0.8**
	2.8nm,0.5s,mb4.2,baz=315,slow=5.7,SNR=3.2						
WRA	**Warramunga Arr**	**38.30**	**121**	P	**P**	**15 00 22.0**	**0.0**
	2.0nm,0.6s,mb4.0,baz=303,slow=9.1,SNR=29						
WRA				PcP	PcP	15 02 36.9	+0.8
	0.7nm,1.1s,baz=304,slow=2.3,SNR=4.9						
WRAB	**Tennant Creek**	**38.30**	**121**	*e*P	**P**	**15 00 21.7**	**-0.3**
	3.9nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**39.56**	**126**	P	**P**	**15 00 33.0**	**+0.6**
	0.7nm,0.6s,mb3.6,baz=299,slow=7.8,SNR=9.6						
STKA	**Stephens Creek**	**49.46**	**132**	P	**P**	**15 01 52.5**	**+0.7**
	0.9nm,0.5s,mb4.1,baz=314,slow=6.8,SNR=4.6						
STKA	**Stephens Creek**	**49.46**	**132**	P	**P**	**15 01 51.7**	**-0.1**
SONM	**Songino Array**	**49.74**	**6**	P	**P**	**15 01 54.9**	**+1.2**
	0.5nm,0.5s,mb3.8,baz=189,slow=8.8,SNR=5.8						
MKAR	**Makanchi Array**	**50.75**	**345**	P	**P**	**15 02 01.9**	**+0.4**
	0.8nm,0.4s,mb4.0,baz=156,slow=8.8,SNR=19						
BVAR	**Borovoye Array**	**59.90**	**340**	P	**P**	**15 03 06.6**	**-0.9**
	0.7nm,0.6s,mb3.9,baz=141,slow=9.2,SNR=3.4						
BRTR	**Keskin Array B**	**73.01**	**312**	P	**P**	**15 04 31.0**	**-0.1**
	0.3nm,0.5s,mb3.5,baz=98,slow=10,SNR=2.6						
FINES	**FINESS Array B**	**83.81**	**332**	P	**P**	**15 05 30.0**	**+0.3**
	0.8nm,0.6s,mb4.0,baz=108,slow=6.0,SNR=10						
TXAR	**Lajitas Array**	**144.65**	**37**	PKP	PKPdf	15 12 38.4	+1.8
	1.2nm,0.6s,baz=268,slow=0.7,SNR=11						

IDC 23 15:14:27.4±3.2,0.78N×96.67E,mb3.6/4,mb1 3.8/5, mb1mx3.5/19,mbtmp3.6/5,ML3.3/1,Error ellipse: s-maj=112.8km s-min=26.9km az=59.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.71**	**7**	P	P	15 18 37.6	+0.4
	0.0nm,0.3s,baz=198,slow=9.7,SNR=4.9						
WRA	**Warramunga Arr**	**42.27**	**121**	P	P	15 22 22.9	-1.6
	0.5nm,1.0s,baz=302,slow=9.1,SNR=3.1						
MKAR	**Makanchi Array**	**47.53**	**347**	P	P	15 23 04.3	-2.1
	0.4nm,0.5s,baz=157,slow=9.8,SNR=5.8						
SONM	**Songino Array**	**47.63**	**9**	P	P	15 23 04.7	-2.4
	0.1nm,0.3s,baz=183,slow=9.4,SNR=2.7						
ZAL	**Zalesovo**	**53.88**	**351**	P	P	15 23 52.2	-2.4
	2.7nm,0.4s,baz=313,slow=2.8,SNR=9.0						

TAP 23 15:18:33.9,22.26N×121.74E,h116km±1km,ML3.6, Taiwan region

IDC 23 15:31:39.7±7.6,9.90N×93.00E,mb3.7/3,mb1 3.7/4, mb1mx3.4/21,mbtmp3.5/4,ML3.5/1,Error ellipse: s-maj=179.5km s-min=44.2km az=97.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.27**	**33**	Pn	P	15 34 08.3	-3.2
	0.1nm,0.3s,baz=227,slow=14,SNR=4.3						
WRA	**Warramunga Arr**	**50.35**	**126**	P	P	15 40 38.4	-2.4
	0.4nm,0.5s,baz=304,slow=8.8,SNR=16						
ASAR	**Alice Springs**	**52.08**	**130**	P	P	15 40 51.5	-2.3
	0.6nm,0.6s,baz=306,slow=7.1,SNR=17						
STKA	**Stephens Creek**	**62.31**	**134**	P	P	15 42 04.6	-1.8
	0.8nm,0.8s,baz=309,slow=6.5,SNR=3.7						

MEX 23 15:39:42.0±1.0,15.36N×94.58W,h35km,MD3.8,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.53**	**286**	*i* P	P	15 40 05.1	-2.2
HUIG				*i* S	S	15 40 22.7	-3.5
CMIG	**Matias Romero**	**1.75**	**350**	*i* P	P	15 40 08.2	-2.2
CMIG				*i* S	S	15 40 29.0	-2.8
CCIG	**Comitan**	**2.53**	**68**	*i* P	P	15 40 20.6	-1.0
CCIG				*i* S	S	15 40 47.2	-4.2
SCIG		**4.84**	**42**	*i* S	S	15 41 47.2	-2.8

IDC ***23*** *15:40:25.7±1.8,0.41S×96.67E,mb3.8/7,mb1 4.0/8, mb1mx3.7/19,mbtmp3.8/8,ML3.8/1,MS3.5/3,Ms1 3.5/3, ms1mx3.0/25,Error ellipse: s-maj=80.6km s-min=18.3km az=58.0*
NEIC ***23*** *15:40:31.1±0.9,0.19S×96.95E,h30km,Error ellipse: s-maj=21.9km s-min=11.8km az=67.0*

ISC 23 15:40:29.3±1.0,0.2S±0.1×97.0E±0.2,h30km,n14, σ0=84/11,mb3.8/7,MS3.7/2,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.53**	**34**	*e*Pn	**Pn**	**15 42 05.4**	**-0.4**
CM31	**Chiang Mai Arr**	**18.60**	**6**	P	**P**	**15 44 44.5**	**-2.1**
CMAR	**Chiang Mai Arr**	**18.60**	**6**	Pn	**P**	**15 44 47.8**	**+1.2**
	0.1nm,0.3s,baz=199,slow=13,SNR=12						
CMAR				LR	LR	15 52 04.4	
	comp=Z,42nm,19.1s,baz=180,slow=37						
KKM	**Kota Kinabalu**	**20.15**	**72**	*e*P	**P**	**15 45 04.7**	**+0.5**
NWAO	**Narrogin (SRO)**	**37.76**	**152**	LR	LR	16 01 22.7	
	comp=Z,100nm,21.6s,MS3.6,baz=321,slow=33						
WRA	**Warramunga Arr**	**41.51**	**121**	P	**P**	**15 48 15.7**	**-0.2**
	0.7nm,0.9s,mb3.3,baz=301,slow=8.7,SNR=5.3						
ASAR	**Alice Springs**	**42.76**	**126**	P	**P**	**15 48 25.8**	**-0.3**
	0.5nm,0.6s,mb3.5,baz=296,slow=7.5,SNR=12						
SONM	**Songino Array**	**48.49**	**8**	P	**P**	**15 49 12.7**	**+1.3**
	0.2nm,0.4s,mb3.5,baz=188,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**48.50**	**347**	P	**P**	**15 49 11.9**	**+0.5**
	3.2nm,0.6s,mb4.5,baz=157,slow=8.2,SNR=56						
STKA	**Stephens Creek**	**52.61**	**131**	P	**P**	**15 49 43.0**	**0.0**
	0.7nm,0.6s,mb3.7,baz=313,slow=14,SNR=5.0						
ZAL	**Zalesovo**	**54.85**	**351**	P	**P**	**15 49 58.9**	**-0.3**
	2.1nm,0.4s,mb4.6,baz=314,slow=8.1,SNR=8.2						
KMBO	**Kilima Mbogo**	**59.75**	**269**	LR	LR	16 10 21.0	
	comp=Z,77nm,22.0s,MS3.8,baz=112,slow=30						
FINES	**FINESS Array B**	**81.10**	**333**	P	**P**	**15 52 42.5**	**-0.5**
	0.3nm,0.7s,mb3.3,baz=63,slow=6.2,SNR=6.2						
TXAR	**Lajitas Array**	**144.92**	**32**	PKPbc	PKPbc	16 00 06.3	+1.9
	0.3nm,0.5s,baz=206,slow=2.1,SNR=4.1						

TAP 23 15:49:21.3,22.17N×121.13E,h31km±1km,ML3.5, Taiwan region

IDC ***23*** *15:56:46.2±2.3,8.28S×112.50E,mb3.5/5,mb1 3.6/5, mb1mx3.6/17,mbtmp3.5/5,Error ellipse: s-maj=115.1km s-min=20.5km az=55.0*
DJA ***23*** *15:57:02.2±0.9,8.60S×112.72E,h160km,MD4.7/4, ML4.3/4,Error ellipse: s-maj=58.2km s-min=20.0km az=1.0*

ISC 23 15:57:03.3±1.5,8.1S±0.2×112.9E±0.2,h160km±10km,n9, σ0=81/13,mb3.4/5,3C-5D,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.28**	**105**	‖*i*Pn	**P**	**15 57 31.5**	**-0.3**
	265nm,0.2s						
SRDI				⇑*i*Sn	**S**	**15 57 52.3**	**-1.6**
KELI	**Kelakatan**	**1.58**	**93**	‖*i*Pn	**P**	**15 57 36.1**	**+1.3**
	218nm,0.2s						
KELI				⇑*i*Sn	**S**	**15 58 00.7**	**+1.5**
RATI	**Rata**	**2.68**	**103**	‖*i*Pn	**P**	**15 57 48.1**	**+0.4**
	314nm,0.3s						
RATI				‖*i*Sn	**S**	**15 58 21.6**	**-0.1**
KEDI	**Kedomdong**	**3.21**	**96**	‖*i*Pn	**P**	**15 57 54.0**	**-0.4**
	49nm,0.2s						
KEDI				⇑*e*Sn	**S**	**15 58 32.8**	**-0.8**
WRA	**Warramunga Arr**	**23.85**	**122**	P	**P**	**16 02 03.9**	**+0.7**
	0.4nm,0.5s,mb3.2,baz=296,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**25.37**	**130**	P	**P**	**16 02 17.3**	**-0.1**
	0.4nm,0.3s,mb3.4,baz=303,slow=8.3,SNR=10						
STKA	**Stephens Creek**	**35.64**	**135**	P	**P**	**16 03 47.7**	**+0.1**
	0.5nm,0.4s,mb3.5,baz=319,slow=10,SNR=3.2						
SONM	**Songino Array**	**56.02**	**355**	P	**P**	**16 06 27.8**	**+0.3**
	0.5nm,0.5s,mb3.6,baz=177,slow=8.6,SNR=7.1						
MKAR	**Makanchi Array**	**61.09**	**336**	P	**P**	**16 07 01.6**	**-1.0**
	0.2nm,0.3s,mb3.4,baz=145,slow=6.9,SNR=5.3						

TAP ***23*** *16:14:02.8,24.12N×122.22E,h19km±1km,ML2.8*

JMA 23 16:14:02.5±0.6,24.12N×122.31E,h26km,M2.3,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.72**	**62**	P	Pb	16 14 16.2	-0.2
YOJ				*e*S	Sb	16 14 25.7	-0.3
IRIF	**Iriomote-Funau**	**1.31**	**80**	P	Pn	16 14 25.4	-0.1
IRIF				*e*S	Sn	16 14 42.8	+0.5
HATJ	**Hateruma jima**	**1.37**	**92**	*e*S	Sn	16 14 45.0	+1.4
JKRS	**Kuro-shima**	**1.56**	**85**	P	Pn	16 14 28.4	-0.5
JKRS				*e*S	Sn	16 14 49.0	+0.6
JIJ	**Ishigaki jima**	**1.69**	**81**	P	Pn	16 14 29.8	-1.0
JIJ				*e*S	Sn	16 14 50.3	-1.5
JTJ	**Tarama**	**2.24**	**76**	*e*S	Sn	16 15 06.0	+0.1

CSEM ***23*** *16:17:14.6±0.7,38.65N×28.53W,h5km±14km,ML1.3, Error ellipse: s-maj=7.9km s-min=3.5km az=121.0,After PDA*
PDA ***23*** *16:17:14.6±0.7,38.65N×28.53W,h5km±14km,MD2.6, ML1.3,Error ellipse: s-maj=7.9km s-min=3.5km az=121.0*

SVSA 23 16:17:14.6±0.7,38.65N×28.53W,h5km±14km,MD2.6, ML1.3,Error ellipse: s-maj=7.9km s-min=3.5km az=121.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.14**	**259**	*e*P	Pg	16 17 17.1	-0.4
PCED				*e*S	Sg	16 17 19.4	0.0
	46nm,0.2s						
PCED	**Cedros**	**0.14**	**259**	*e*P	Pg	16 17 17.1	-0.4
PCED				*e*S	Sg	16 17 19.4	0.0
	46nm,0.2s						
CALA	**Caldeira**	**0.15**	**242**	*e*P	Pg	16 17 17.4	-0.4
CALA				*e*S	Sg	16 17 20.0	+0.1
PICO	**Pico**	**0.17**	**152**	*e*P	Pg	16 17 17.7	-0.5
PICO				*e*S	Sg	16 17 20.5	-0.1
PMAN	**Manadas**	**0.35**	**93**	*e*S	Sg	16 17 25.7	-0.5
	14nm,0.2s						

IDC 23 16:29:30.8±1.1,0.25N×124.55E,mb3.8/5,mb1 3.9/5, mb1mx3.7/18,mbtmp3.8/5,Error ellipse: s-maj=139.3km s-min=18.4km az=66.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.24**	**155**	P	P	16 34 28.6	-2.3
	2.1nm,0.8s,baz=331,slow=11,SNR=15						
WB2	**Warramunga Arr**	**22.24**	**155**	*e*P	P	16 34 28.6	-2.3
ASAR	**Alice Springs**	**25.45**	**160**	P	P	16 35 01.4	-0.7
	0.9nm,0.3s,baz=342,slow=8.6,SNR=20						
ASPA	**Alice Springs**	**25.45**	**160**	*e*P	P	16 35 02.4	+0.3
STKA	**Stephens Creek**	**35.79**	**155**	P	P	16 36 31.4	-2.4
	2.8nm,0.9s,baz=330,slow=6.6,SNR=6.0						
SONM	**Songino Array**	**49.96**	**344**	P	P	16 38 25.5	-3.0
	0.3nm,0.6s,baz=162,slow=9.1,SNR=2.9						
MKAR	**Makanchi Array**	**59.23**	**327**	P	P	16 39 34.7	-1.6
	0.4nm,0.3s,baz=123,slow=7.3,SNR=13						

IDC 23 16:40:24.9±16.0,4.77S×129.49E,h138km±168km, mb3.2/1,mb1 3.1/4,mb1mx2.9/16,mbtmp3.4/4,ML3.3/3, Error ellipse: s-maj=104.0km s-min=53.7km az=44.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.78**	**196**	P	P	16 43 34.4	-1.1
	0.6nm,0.3s,baz=334,slow=9.5,SNR=12						
FITZ				S	S	16 45 56.9	-8.5
	0.4nm,0.3s,baz=0.7,slow=18,SNR=3.0						
WRA	**Warramunga Arr**	**15.80**	**163**	P	P	16 44 01.4	+0.3
	0.1nm,0.3s,baz=342,slow=12,SNR=9.6						
WRA				S	S	16 46 56.5	+4.7
	0.1nm,0.3s,baz=346,slow=21,SNR=3.6						
ASAR	**Alice Springs**	**19.26**	**168**	P	P	16 44 38.0	-3.1
	0.1nm,0.3s,baz=342,slow=11,SNR=7.6						
MKAR	**Makanchi Array**	**66.10**	**327**	P	P	16 50 57.4	-2.1
	0.3nm,0.4s,baz=143,slow=7.2,SNR=7.9						

NIED ***23*** *16:45:00,46.00N×147.70E,h5km,Mw3.4 Best double couple: M0=1.68×10^14 NP1:φs=122°,δ88°,λ-57°. NP2: φs=216°,δ33°,λ-176°.*
JMA ***23*** *16:45:48.3±0.3,45.98N×147.69E,M4.1*
IDC ***23*** *16:45:50.9±1.0,46.06N×148.00E,h29km±5km,mb3.5/7, mb1 3.9/8,mb1mx3.5/23,mbtmp3.7/8,ML3.2/1,Error ellipse: s-maj=60.8km s-min=17.1km az=126.0*

ISC 23 16:45:50.6±1.4,46.1N±0.1×147.7E±0.2,h47km±16km, h29km±1.4km:pP-P,n17,σ0=76/22,mb3.7/7,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**2.86**	**221**	P	**P**	**16 46 34.3**	**-0.6**
JRA				*e*S	**S**	**16 47 07.7**	**-0.6**
NEM2	**Nemuro 2**	**3.09**	**208**	P	**P**	**16 46 36.9**	**-1.3**
JNK	**Nakash**	**3.31**	**221**	P	**P**	**16 46 41.5**	**+0.2**
JNK				*e*S	**S**	**16 47 20.8**	**+0.9**
JTKR	**Abashiri--Toko**	**3.46**	**233**	P	**P**	**16 46 43.3**	**0.0**
JTKR				*e*S	**S**	**16 47 23.0**	**-0.4**
JAK	**Akkeshi**	**3.80**	**216**	P	**P**	**16 46 47.8**	**-0.4**
JAR	**Ashorobuto**	**3.99**	**227**	P	**P**	**16 46 51.2**	**+0.3**
JAR				*e*S	**S**	**16 47 37.5**	**+0.6**
ASAJ	**Asahikawa**	**4.15**	**243**	Pn	**P**	**16 46 54.6**	**+1.5**
	1.1nm,0.3s,baz=68,slow=19,SNR=8.0						
ASAJ				Sn	**S**	**16 47 39.8**	**-1.1**
	2.6nm,0.3s,baz=225,slow=20,SNR=13						
JKK2	**Kamakawa 2**	**4.19**	**239**	*e*S	**S**	**16 47 41.7**	**-0.2**
JCH	**Churui**	**4.70**	**223**	P	**P**	**16 47 01.5**	**+0.6**
JFR	**Furan**	**4.71**	**233**	P	**P**	**16 47 01.7**	**+0.7**
ILAR	**Eielson Array**	**39.35**	**38**	P	**P**	**16 53 16.3**	**-0.3**
	0.4nm,0.7s,mb3.2,baz=286,slow=8.9,SNR=6.9						
ILAR				pP	pP	16 53 25.8	-3.4
	1.0nm,0.8s,baz=279,slow=8.9,SNR=8.2						
YKA	**Yellowknife Ar**	**53.62**	**35**	P	**P**	**16 55 08.0**	**-0.8**
	0.2nm,0.4s,mb3.4,baz=303,slow=7.0,SNR=5.2						
YKA				pP	pP	16 55 16.6	-5.2
	0.3nm,0.4s,baz=302,slow=7.0,SNR=6.1						
NVAR	**Mina Array Bea**	**65.99**	**59**	P	**P**	**16 56 33.8**	**-0.3**
	1.0nm,0.7s,mb3.9,baz=288,slow=6.9,SNR=5.7						
NVAR				pP	pP	16 56 43.5	-3.9
	0.3nm,0.4s,baz=313,slow=8.5,SNR=2.7						
WRA	**Warramunga Arr**	**66.85**	**194**	P	**P**	**16 56 38.8**	**-1.0**
	1.9nm,1.0s,mb4.1,baz=9.9,slow=6.8,SNR=10						
PDAR	**Pinedale Array**	**68.08**	**51**	P	**P**	**16 56 47.2**	**+0.1**
	0.5nm,0.7s,mb3.7,baz=304,slow=2.0,SNR

ISC 23 17:10:51.9±0.7, 21.24N±0.08×108.88W±0.08, h10km, n72, σ1§26/62, mb4.2/19, MS4.1/16, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	3.13	335	eP	Pn	17 11 38.8	-3.5
LTX	Lajitas	9.33	29	ePn	P	17 13 08.0	-1.6
	7.1nm,0.7s						
TXAR	Lajitas Array	9.33	29	Pn	P	17 13 08.6	-0.9
	0.6nm,0.3s,baz=204,slow=13,SNR=40						
PPM	Popocatepetl	9.87	101	i P	P	17 13 19.7	+2.6
MNTX	Cornudas Mount	10.87	16	eP	P	17 13 29.4	-1.3
	5.5nm,0.9s						
TUC	Tucson	11.15	352	eP	P	17 13 34.8	+0.2
	10nm,0.8s						
ANMO	Albuquerque	13.82	8	Pn	P	17 14 11.9	+1.6
	baz=201,slow=13,SNR=11						
ANMO				LR	LR	17 19 23.9	
	comp=Z,1μm,19.4s,baz=99,slow=38						
ANMO	Albuquerque	13.82	8	eP	P	17 14 12.7	+2.4
	4.8nm,0.8s						
CMIG	Matias Romero	13.86	105	i P	P	17 14 10.5	-0.3
AMTX	Amarillo	14.99	23	eP	P	17 14 26.9	+1.3
	16nm,0.8s						
NEN	Nelson	15.27	341	eP	P	17 14 30.6	+1.3
SDCO	Great Sand Dun	16.70	9	eP	P	17 14 49.8	+2.1
	33nm,1.5s						
DAC	Darwin (Calif)	16.80	335	P	P	17 14 50.0	+1.2
PV01	Paradox Valley	16.84	1	eP	P	17 14 50.8	+1.5
PV10	Paradox Valley	17.07	360	eP	P	17 14 52.5	+0.2
MVU	Marysvale	17.44	351	eP	P	17 14 58.9	+2.0
	10nm,1.0s						
MSU	Marysvale	17.44	351	eP	P	17 14 59.9	+2.9
MTUM	Tungsten Hills	18.12	334	P	P	17 15 06.9	+1.5
OMM	Old Mammoth Mi	18.52	334	eP	P	17 15 11.9	+1.6
MNV	Mina	18.90	337	eP	P	17 15 15.5	+0.5
	81nm,2.0s						
NVAR	Mina Array Bea	18.96	337	P	P	17 15 16.0	+0.4
	0.1nm,0.3s,baz=179,slow=13,SNR=18						
NVAR				LR	LR	17 22 18.3	
	comp=Z,566nm,20.2s,baz=160,slow=37						
DUG	Dugway	19.19	351	eP	P	17 15 18.2	-0.1
	20nm,1.2s						
TEIG	Tepich	19.30	89	eP	P	17 15 19.2	-0.6
	7.4nm,1.0s						
CMB	Columbia Colle	19.46	332	P	P	17 15 20.2	-1.3
	4.5nm,1.0s						
ELK	Elko	20.18	346	eP	P	17 15 28.3	-1.1
	12nm,1.2s						
PHWY	Pilot Hill	20.21	7	eP	P	17 15 28.8	-0.9
WCN	Washoe City	20.27	335	eP	P	17 15 29.1	-1.3
	21nm,1.0s						
HWUT	Hardware Ranch	20.43	354	eP	P	17 15 31.2	-0.8
HVU	Hansel Valley	20.74	352	eP	P	17 15 34.6	-0.6
PDAR	Pinedale Array	21.47	359	P	P	17 15 41.5	-1.1
	8.1nm,0.7s,mb4.2,baz=174,slow=9.5,SNR=14						
PDAR				LR	LR	17 23 52.2	
	comp=Z,315nm,18.6s,MS3.7,baz=168,slow=37						
REDW	Red Top Meadow	22.12	356	eP	P	17 15 50.7	+1.5
RRI2	Red Ridge	22.14	355	eP	P	17 15 49.0	-0.4
SNOW	Snow King Moun	22.21	356	eP	P	17 15 51.4	+1.3
	16nm,0.8s,mb4.5						
TPAW	Teton Pass	22.25	356	eP	P	17 15 49.9	-0.6
WUWY	Wally Ulrich	22.29	356	eP	P	17 15 51.0	+0.2
LOHW	Long Hollow	22.35	357	eP	P	17 15 51.6	+0.1
MOOW	Moose Ponds	22.50	356	eP	P	17 15 53.3	+0.4
IMW	Indian Meadow	22.66	356	eP	P	17 15 54.8	+0.4
WVOR	Wild Horse Val	22.66	341	eP	P	17 15 54.6	+0.1
	17nm,1.2s,mb4.3						
LRAL	Lakeview Retre	22.69	54	eP	P	17 15 55.6	+0.6
	12nm,1.0s,mb4.3						
MOD	Modoc	22.74	338	eP	P	17 15 56.1	+0.8
	31nm,1.5s,mb4.5						
RSSD	Black Hills	23.17	9	eP	P	17 15 59.8	+0.3
	5.6nm,0.9s,mb4.0						
YBH	Yreka Blue Hor	23.52	333	LR	LR	17 25 27.2	
	comp=Z,365nm,19.3s,MS3.9,baz=154,slow=38						
QLMT	Earthquake Lak	23.62	355	eP	P	17 16 05.5	+1.7
BOZ	Bozeman (W)	24.45	355	eP	P	17 16 11.8	-0.1
	7.9nm,0.8s,mb4.2						
SWET	Sewanee	24.47	50	eP	P	17 16 11.1	-1.2
BMO	Blue Mountains	24.55	345	eP	P	17 16 12.2	-0.7
	7.0nm,1.0s,mb4.2						
HRY	Holter Researc	25.52	355	eP	P	17 16 21.2	-0.9
CHMT	Chamberlain Mo	25.85	353	eP	P	17 16 25.0	-0.2
NEW	Newport	27.76	348	LR	LR	17 28 08.4	
	comp=Z,297nm,18.7s,MS3.9,baz=175,slow=38						
ULM	Lac du Bonnet	30.72	16	P	P	17 17 07.2	-2.0
	1.2nm,0.5s,mb4.0,baz=212,slow=8.2,SNR=3.1						
ULM				LR	LR	17 30 11.3	
	comp=Z,293nm,20.2s,MS3.9,baz=190,slow=38						
OTAV	Otavalo	36.31	121	eP	P	17 17 59.1	+1.2
	12nm,1.4s,mb4.6						
ROSC	El Rosal	37.26	111	LR	LR	17 36 28.5	
	comp=Z,129nm,18.1s,MS3.8,baz=191,slow=41						
SDV	Santo Domingo	38.81	103	eP	P	17 18 18.1	-0.8
	6.8nm,0.8s,mb4.4						
YKA	Yellowknife Ar	41.41	356	P	P	17 18 37.8	-2.0
	1.4nm,0.7s,mb3.7,baz=172,slow=8.0,SNR=42						
YKA				LR	LR	17 37 10.5	
	comp=Z,331nm,19.0s,MS4.2,baz=190,slow=38						
YKA	Yellowknife Ar	41.41	356	P	P	17 18 37.8	-2.1
YKA				LR	LR	17 37 10.5	
SCHQ	Schefferville	46.01	33	P	P	17 19 15.3	-1.7
	4.1nm,1.1s,mb4.3,baz=272,slow=7.8,SNR=4.0						
SCHQ				LR	LR	17 39 14.7	
	comp=Z,222nm,19.0s,MS4.1,baz=276,slow=37						
SCHQ	Schefferville	46.01	33	P	P	17 19 14.9	-2.2
SCHQ				LR	LR	17 39 14.7	
INK	Inuvik	49.48	348	eP	P	17 19 42.6	-1.5
	5.6nm,0.9s,mb4.6						
ILAR	Eielson Array	50.17	340	P	P	17 19 47.6	-1.7
	2.2nm,0.8s,mb4.2,baz=152,slow=6.7,SNR=24						
ILAR				LR	LR	17 40 30.2	
	comp=Z,110nm,18.4s,MS3.9,baz=162,slow=36						
MCK	McKinley	50.18	338	P	P	17 19 48.3	-1.2
	1.5nm,0.8s,mb4.1						
SAML	Samuel	53.98	119	P	P	17 20 20.4	+1.8
	6.7nm,1.5s,mb4.3						
LPAZ	La Paz	54.67	130	P	P	17 20 28.6	+5.0
	0.6nm,0.6s,mb3.8,baz=328,slow=11,SNR=4.2						
LPAZ				LR	LR	17 39 56.6	
	comp=Z,113nm,21.5s,MS3.9,baz=189,slow=32						
PPT	Papeete	55.48	229	LR	LR	17 38 53.5	
	comp=Z,211nm,19.4s,MS4.2,baz=128,slow=30						
CPUP	Villa Florida	68.80	131	P	P	17 22 02.1	+3.4
	1.4nm,0.6s,mb4.0,baz=337,slow=6.6,SNR=5.1						
ARCES	ARCESS Array B	83.82	15	LR	LR	18 00 54.0	
	comp=Z,129nm,20.5s,MS4.3,baz=134,slow=36						
NOA	NORSAR Array B	85.01	25	LR	LR	18 00 04.7	
	comp=Z,100nm,19.9s,MS4.2,baz=145,slow=35						
GERES	GERESS Array B	93.52	34	LR	LR	18 04 49.6	
	comp=Z,100nm,18.9s,MS4.3,baz=132,slow=35						
MJAR	Matsushiro Arr	94.53	312	LR	LR	18 03 15.9	
	comp=Z,74nm,18.1s,MS4.2,baz=105,slow=33						
JHJ	Hachijo jima 2	95.10	308	LR	LR	18 01 30.6	
	comp=Z,88nm,19.6s,MS4.2,baz=2.2,slow=32						
CN2	Changchun	98.36	324	eP	P	17 24 29.3	-2.0
WMQ	Urumqi	113.49	347	PKP	PKPdf	17 29 28.9	-4.5
WMQ				XPKP		17 29 35.9	
WMQ				PP	PP	17 30 26.8	-0.1
WMQ				LR	LR		
	comp=N,49nm,26.0s,MS4.3						
WMQ				LR	LR		
	comp=E,84nm,23.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,79nm,23.0s,MS4.2						

WEL 23 17:11:14.5±0.6, 38.35S×175.90E, h165km±5km, ML3.5/10, 1C, Error ellipse: s-maj=4.2km s-min=4.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGZ	Ngauruhoe	0.86	196	PN	P	17 11 40.0	+0.1
CNZ	Chateau	0.90	198	PN	P	17 11 40.1	0.0
TUVZ	Tukino	0.94	192	ePN	P	17 11 40.7	+0.3
URZ	Urewera	0.95	85	PN	P	17 11 40.1	-0.4
URZ				SN	S	17 12 00.2	-0.4
MOVZ	Moawhango	1.07	186	⇑PN	P	17 11 41.0	-0.4
MOVZ				SN	S	17 12 01.5	-0.7
MWZ	Matawai	1.28	90	PN	P	17 11 43.2	-0.2
MWZ				SN	S	17 12 05.4	-0.4
KNZ	Kokohu	1.54	116	PN	P	17 11 46.0	0.0
TSZ	Takapari Road	1.71	178	PN	P	17 11 46.9	-0.8
TSZ				SN	S	17 12 12.2	-1.2
PUZ	Puketiti	1.88	82	PN	P	17 11 48.9	-0.6
PUZ				SN	S	17 12 14.8	-1.7
MRZ	Mangatainoka R	2.33	186	PN	P	17 11 52.5	-2.2
MRZ				SN	S	17 12 21.7	-4.0
KIW	Kapiti Island	2.63	197	PN	P	17 11 55.5	-3.0
KIW				eSN	S	17 12 27.3	-4.9
CAW	Cannon Point	2.83	193	PN	P	17 11 57.9	-3.0
MRW	Makara Radio	3.02	197	PN	P	17 11 59.9	-3.5
TUWZ	Tuamarina	3.43	205	PN	P	17 12 04.5	-4.0
NNZ	Nelson	3.46	213	ePN	P	17 12 04.9	-4.1
NNZ				eSN	S	17 12 45.5	-5.5

IDC 23 17:15:38.4±2.3, 1.99S×99.36E, mb3.3/6, mb1 3.5/6, mb1mx3.4/17, mbtmp3.3/6, Error ellipse: s-maj=95.4km s-min=21.5km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	20.32	359	P	P	17 20 14.9	-4.0
	0.4nm,0.5s,baz=187,slow=10,SNR=5.6						
WRA	Warramunga Arr	38.55	120	P	P	17 23 02.8	-2.0
	0.3nm,0.7s,baz=306,slow=8.8,SNR=6.1						
ASAR	Alice Springs	39.78	126	P	P	17 23 13.3	-1.6
	0.2nm,0.6s,baz=301,slow=8.2,SNR=5.3						
SONM	Songino Array	49.99	6	P	P	17 24 35.6	-0.8
	0.2nm,0.5s,baz=194,slow=7.2,SNR=2.4						
MKAR	Makanchi Array	50.85	345	P	P	17 24 40.6	-2.3
	0.2nm,0.3s,baz=155,slow=8.5,SNR=7.6						
ZAL	Zalesovo	57.03	350	pP	pP	17 25 36.5	+8.0
	1.2nm,0.3s,baz=295,slow=6.5,SNR=3.2						
FINES	FINESS Array B	83.80	332	P	P	17 28 09.4	-1.4
	0.5nm,0.6s,baz=90,slow=9.7,SNR=4.4						
TXAR	Lajitas Array	145.07	37	PKPbc	PKPbc	17 35 17.8	-1.0
	0.1nm,0.4s,baz=211,slow=2.4,SNR=3.8						
TXAR				pPKP		17 35 27.5	
	0.3nm,0.6s,baz=295,slow=1.3,SNR=3.1						

IDC 23 17:21:42.7±11.0, 16.91N×144.59E, mb3.7/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.7/3, Error ellipse: s-maj=438.3km s-min=31.2km az=79.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	37.98	196	P	P	17 29 02.5	-1.8
	1.4nm,0.9s,baz=18,slow=9.2,SNR=5.2						
SONM	Songino Array	43.90	323	P	P	17 29 51.6	-1.2
	0.4nm,0.8s,baz=125,slow=7.6,SNR=3.0						
MKAR	Makanchi Array	58.95	315	P	P	17 31 43.6	-2.6
	0.5nm,0.5s,baz=93,slow=8.7,SNR=9.9						

*IDC **23** 17:44:40.4±2.8, 1.18N×97.31E, mb3.7/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=111.0km s-min=21.4km az=60.0*
*NEIC **23** 17:44:44.4±1.0, 1.17N×97.22E, h30km, mb3.9/1, Error ellipse: s-maj=27.7km s-min=12.0km az=71.0*

ISC 23 17:44:42.3±1.2, 1.2N±0.1×97.2E±0.2, h30km, n9, σ0§62/9, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.35	40	ePn	Pn	17 46 02.6	+0.3
CMAR	Chiang Mai Arr	17.27	6	P	P	17 48 42.9	-0.2
	0.1nm,0.3s,baz=196,slow=11,SNR=5.5						
WRA	Warramunga Arr	42.02	122	P	P	17 52 33.0	-0.1
	0.7nm,0.6s,mb3.4,baz=301,slow=9.1,SNR=7.4						
ASAR	Alice Springs	43.37	127	P	P	17 52 44.5	+0.4
	0.3nm,0.4s,mb3.3,baz=299,slow=7.1,SNR=4.4						
SONM	Songino Array	47.16	8	P	P	17 53 14.5	+0.5
	1.0nm,0.7s,mb3.9,baz=189,slow=8.5,SNR=10						
SONM				PcP	PcP	17 54 46.0	+0.3
	0.2nm,0.7s,baz=175,slow=2.7,SNR=3.5						
MKAR	Makanchi Array	47.27	346	P	P	17 53 15.6	+0.7
	1.1nm,0.7s,mb3.9,baz=158,slow=8.0,SNR=14						
ULN	Ulaanbaatar	47.29	9	P	P	17 53 13.5	-1.5
	0.8nm,0.6s,mb3.8						
STKA	Stephens Creek	53.33	132	P	P	17 54 01.0	-0.3
ZAL	Zalesovo	53.58	351	P	P	17 54 03.0	+0.2
	0.8nm,0.4s,mb4.0,baz=297,slow=6.0,SNR=5.9						

*IDC **23** 17:55:41.8±3.7, 47.75N×152.51E, h175km±35km, mb3.2/10, mb1 3.3/11, mb1mx3.2/24, mbtmp3.6/11, Error ellipse: s-maj=21.6km s-min=17.8km az=144.0*

ISC 23 17:55:40.7±2.9, 47.8N±0.2×152.5E±0.2, h181km±29km, n13, σ0§57/13, mb3.5/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	7.79	246	P	P	17 57 31.9	-0.2
	0.3nm,0.3s,baz=66,slow=16,SNR=3.7						
SONM	Songino Array	30.60	288	P	P	18 01 39.7	+0.3
	0.2nm,0.4s,mb3.2,baz=48,slow=9.2,SNR=3.8						
INK	Inuvik	41.03	33	P	P	18 03 07.9	+0.8
	0.6nm,0.8s,mb3.3,baz=298,slow=6.2,SNR=3.4						
ZAL	Zalesovo	41.68	305	P	P	18 03 12.8	+0.3
	1.0nm,0.3s,mb3.9,baz=35,slow=8.3,SNR=3.6						
MKAR	Makanchi Array	46.09	296	P	P	18 03 48.4	+0.5
	0.4nm,0.5s,mb3.3,baz=68,slow=7.7,SNR=8.8						
YKA	Yellowknife Ar	50.37	37	P	P	18 04 20.5	0.0
	0.1nm,0.3s,mb2.9,baz=299,slow=6.9,SNR=3.1						
JOF	Joensuu	60.23	333	ep	P	18 05 29.9	-1.3
	2.9nm,1.0s,mb4.1						
FINES	FINESS Array B	62.93	334	P	P	18 05 48.7	-0.7
	1.0nm,0.3s,mb4.1,baz=34,slow=7.5,SNR=48						
NB2	NORSAR Subarra	67.12	341	P	P	18 06 16.6	+0.5
	0.9nm,0.7s,mb3.7,baz=26,slow=6.5						
NOA	NORSAR Array B	67.12	341	P	P	18 06 16.6	+0.5
	1.2nm,0.7s,mb3.8,baz=27,slow=6.4,SNR=8.5						
AKASG	Malin Array Be	70.46	326	P	P	18 06 36.8	+0.1
	0.7nm,0.3s,mb3.8,baz=35,slow=6.0,SNR=6.9						
ASAR	Alice Springs	73.04	198	P	P	18 06 52.6	+0.2
	0.5nm,0.7s,mb3.4,baz=5.0,slow=5.3,SNR=9.5						
TXAR	Lajitas Array	77.36	60	P	P	18 07 16.3	-0.5
	0.3nm,0.5s,mb3.2,baz=292,slow=4.9,SNR=4.2						

*MOS **23** 18:10:41.1±1.1, 18.63N×145.49E, h179km, mb4.5/11, Error ellipse: s-maj=13.2km s-min=6.7km az=91.6*
*NEIC **23** 18:10:43.9±0.1, 18.56N×145.43E, mb4.7/31, Error ellipse: s-maj=6.2km s-min=3.8km az=106.0*
*IDC **23** 18:10:44.3±0.6, 18.62N×145.49E, h193km±5km, mb4.1/21, mb1 4.2/24, mb1mx4.1/27, mbtmp4.6/24, MS3.7/6, Ms1 3.7/6, ms1mx3.2/32, Error ellipse: s-maj=13.2km s-min=6.9km az=90.0*
*BJI **23** 18:10:50.7, 19.44N×144.81E, h191km, mB5.1, mb4.6*

ISC 23 18:10:41.5±0.7, 18.58N±0.03×145.46E±0.04, h180km±6km, h190km±2.4km; pP-P, n152, σ0§98/162, mb4.5/61, 3C-3D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	1.89	171	⇑iP	P	18 11 16.6	-1.1
GUMO	Guam	4.99	187	eP	P	18 11 55.8	-0.3
CBIJ	Chichi jima	9.00	341	P	P	18 12 49.0	+0.2
	5.5nm,0.3s,baz=295,slow=19,SNR=5.6						
CBIJ				S	S	18 14 28.9	+0.7
	13nm,0.3s,baz=254,slow=22,SNR=5.6						
CBIJ				LR	LR	18 15 28.2	
	comp=Z,118nm,20.1s,baz=82,slow=32						
JHJ	Hachijo jima 2	15.35	342	P	P	18 14 10.7	+0.6
	7.8nm,0.3s,baz=261,slow=23,SNR=4.1						
JHJ				S	S	18 16 55.9	+1.0
	2.6nm,0.3s,baz=71,slow=20,SNR=2.5						
JOW	Kunigami	17.84	301	P	P	18 14 43.0	+3.4
	baz=111,slow=14						
JOW				LR	LR	18 20 08.1	
	comp=Z,196nm,19.9s,baz=13,slow=32						
MJAR	Matsushiro Arr	19.00	342	P	P	18 14 51.1	-0.5
	1.6nm,0.3s,baz=163,slow=9.3,SNR=24						
MJAR				S	S	18 18 13.3	+0.3
	0.2nm,0.3s,baz=142,slow=13,SNR=4.6						
MAJO	Matsushiro	19.00	342	eP	P	18 14 51.5	-0.1
MAJO				eS	S	18 18 10.7	-2.3
MAJO				pmax	pmax		
	comp=Z,19nm,0.7s						
MAJO	Matsushiro	19.00	342	eP	P	18 14 51.5	-0.2
	comp=Z,19nm,0.7s						
MAJO				eS	S	18 18 10.7	-2.4
MAT	Matsushiro	19.00	342	eP	P	18 14 51.0	-0.6
MAT				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MAT	Matsushiro	19.00	342	eP	P	18 14 51.0	-0.6
	comp=Z,9.9nm,0.5s						
MAT	Matsushiro	19.00	342	P	P	18 14 51.1	-0.5
MAT				S	S	18 18 17.3	+4.3
SSE	Sheshan	25.24	304	eP	P	18 15 48.4	-4.2
SSE				S	S	18 20 02.5	0.0
SSE				XS		18 20 59.3	
SSE				AMB	AMB		
	comp=Z,48nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,73nm,3.5s						
SSE				LR	LR		
	comp=N,82nm,20.6s						
SSE				LR	LR		
	comp=E,26nm,20.7s						
SSE				LR	LR		
	comp=Z,62nm,25.2s						
SSE	Sheshan	25.24	304	eP	P	18 15 48.4	-4.2
	comp=Z,48nm,0.7s,mb5.1						
SSE				pP	pP	18 16 19.7	-8.9
SSE				sP	sP	18 16 38.7	-11
SSE				S	S	18 20 02.5	0.0
SSE				sS		18 20 59.3	
SSE				LR	LR		
	comp=Z,60nm,25.2s						
ASAJ	Asahikawa	25.57	355	P	P	18 15 56.6	+1.0
	comp=Z,7.8nm,0.6s,mb4.5,baz=263,slow=13,SNR=8.5						
NJ2	Nanjing	27.45	304	eP	P	18 16 10.3	-2.5
NJ2				PP	PP	18 17 04.8	-2.9
NJ2				S	S	18 20 37.0	-1.3
NJ2				XS		18 21 37.0	
NJ2				AMB	AMB		
	comp=Z,450nm,5.6s						
NJ2				LR	LR		
	comp=N,550nm,17.4s						
NJ2				LR	LR		
	comp=E,440nm,24.8s						
NJ2				LR	LR		
	comp=Z,410nm,23.7s						
PMG	Port Moresby	27.86	176	P	P	18 16 17.9	+1.3
	comp=Z,14nm,0.5s,mb5.0,baz=255,slow=4.1,SNR=11						
YSS	Yuzh-Sakhalins	28.39	356	P	P	18 16 20.7	-0.4
CN2	Changchun	30.26	331	eP	P	18 16 39.0	+1.3
KKM	Kota Kinabalu	31.10	250	eP	P	18 16 47.2	+1.8
KLR	Kul'dur	32.52	343	eP	P	18 16 55.3	-2.0
KAKA	Kakadu	33.64	203	⇓iP	P	18 17 06.5	-0.7
	comp=Z,22nm,0.6s,mb5.1						
GYA	Guiyang	36.58	290	P	P	18 17 34.8	+2.9
GYA				XP	sP	18 18 32.3	+0.9
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
GYA				LR	LR		
	comp=N,280nm,17.2s						
GYA				LR	LR		
	comp=E,460nm,17.6s						
GYA				LR	LR		
	comp=Z,390nm,16.8s						
CTA	Charters Tower	38.43	179	eP	P	18 17 47.5	0.0
	comp=Z,8.3nm,1.2s,mb4.2						
CTA	Charters Tower	38.43	179	eP	P	18 17 47.5	0.0
CTA				pmax	pmax		
	comp=Z,8.0nm,1.2s						
CTA	Charters Tower	38.43	179	P	P	18 17 48.6	+1.2
	comp=Z,4.9nm,0.5s,mb4.4,baz=17,slow=12,SNR=13						
WRAB	Tennant Creek	39.79	196	eP	P	18 17 58.7	0.0
WRAB				pmax	pmax		
	comp=Z,158nm,0.9s,mb5.6						
WRAB	Tennant Creek	39.79	196	eP	P	18 17 58.6	0.0
	comp=Z,158nm,0.9s,mb5.6						
WRA	Warramunga Arr	39.80	196	P	P	18 17 59.2	+0.4
WRA				S	S	18 23 49.4	+0.2
WRA	Warramunga Arr	39.80	196	P	P	18 17 59.2	+0.4
	comp=Z,68nm,0.8s,mb5.3,baz=13,slow=7.9,SNR=244						
WRA				ScP		18 23 30.8	
	comp=Z,3.4nm,0.8s,baz=14,slow=4.0,SNR=12						
WRA				S	S	18 23 49.4	+0.2
	comp=Z,5.9nm,1.0s,baz=27,slow=15,SNR=7.1						
KMI	Kunming	40.05	287	P	P	18 18 02.8	+2.0
KMI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.1						
KMI	Kunming	40.05	287	P	P	18 18 02.7	+1.9
KMI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
KMI	Kunming	40.05	287	P	P	18 18 02.7	+1.9
	comp=Z,4.0nm,0.8s,mb4.1						
FITZ	Fitzroy Crossi	41.33	209	eP	P	18 18 11.2	-0.1
	comp=Z,34nm,0.8s,mb5.0						
FITZ				eS	S	18 24 09.9	-1.7
FITZ	Fitzroy Crossi	41.33	209	P	P	18 18 12.0	+0.7
	comp=Z,20nm,0.3s,mb5.2,baz=36,slow=8.7,SNR=174						
FITZ				S	S	18 24 11.7	0.0
	comp=Z,5.2nm,0.9s,baz=228,slow=18,SNR=5.0						
ULN	Ulaanbaatar	42.72	322	eP	P	18 18 22.6	+0.2
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
ULN	Ulaanbaatar	42.72	322	eP	P	18 18 22.6	+0.3
	comp=Z,1.6nm,0.6s,mb3.8						
SONM	Songino Array	43.09	322	P	P	18 18 25.9	+0.6
	comp=Z,2.1nm,0.6s,mb3.9,baz=137,slow=8.5,SNR=27						
SONM				PcP	PcP	18 20 12.3	-0.1
	comp=Z,1.6nm,0.8s,baz=162,slow=3.9,SNR=4.3						
SONM				ScP		18 23 43.5	
	comp=Z,0.8nm,0.8s,baz=117,slow=2.8,SNR=5.0						
SONM				LR	LR	18 37 45.2	
	comp=Z,47nm,18.2s,baz=267,slow=38						
ASAR	Alice Springs	43.48	195	P	P	18 18 28.6	-0.1
ASAR						18 20 10.4	
ASAR				S	S	18 24 42.0	-0.9
ASAR	Alice Springs	43.48	195	P	P	18 18 28.6	-0.1
	comp=Z,10nm,0.7s,mb4.6,baz=13,slow=6.2,SNR=150						
ASAR				PP	PP	18 20 10.4	-3.4
	comp=Z,2.4nm,0.7s,baz=27,slow=8.1,SNR=3.5						
ASAR				ScP		18 23 45.0	
	comp=Z,1.9nm,0.9s,baz=16,slow=3.9,SNR=7.0						
ASAR				S	S	18 24 42.0	-0.9
	comp=Z,6.1nm,1.0s,baz=19,slow=22,SNR=9.1						
ASPA	Alice Springs	43.48	195	eP	P	18 18 28.6	-0.1
ASPA				eS	S	18 24 41.9	-1.1
CMAR

WMQ XS 18 28 23.3
WMQ AMB AMB
comp=Z,9.0nm,0.7s,mb4.6
WMQ AMB AMB
comp=Z,123nm,5.9s
WMQ LR LR
comp=N,31nm,21.6s
WMQ LR LR
comp=E,27nm,19.1s
WMQ LR LR
comp=Z,31nm,20.3s
PKI Pulchoki 55.52 291 *eP* **P 18 20 00.8 +0.5**
KKN Kakani 55.61 291 *eP* **P 18 20 01.9 +0.9**
comp=Z,5.7nm,0.7s,mb4.5
DMN Daman 55.78 291 *eP* **P 18 20 02.4 +0.2**
comp=Z,5.6nm,0.4s,mb4.7
TNA Tin City 56.01 21 *eP* **P 18 20 02.5 -0.8**
comp=Z,13nm,1.3s,mb4.6
GKN Gorkha 56.16 292 *eP* **P 18 20 06.4 +1.5**
comp=Z,32nm,1.1s,mb5.0
KOLN Koldanda 57.10 291 *eP* **P 18 20 10.9 -0.6**
comp=Z,7.0nm,0.8s,mb4.5
MUN Mundaring 57.56 209 *eP* **P 18 20 12.8 -1.8**
comp=Z,48nm,0.8s,mb5.4
MUN Mundaring 57.56 209 *eP* **P 18 20 12.8 -1.8**
MUN pmax pmax
comp=Z,48nm,0.8s,mb5.4
NWAO Narrogin (SRO) 57.89 208 P **P 18 20 16.7 -0.2**
comp=Z,4.8nm,0.7s,mb4.4,baz=37,slow=10,SNR=3.7
NWAO Narrogin (SRO) 57.89 208 P **P 18 20 16.7 -0.3**
ZAL Zalesovo 57.98 323 P **P 18 20 15.8 -1.4**
comp=Z,1.2nm,0.6s,mb3.9,baz=24,slow=7.3,SNR=8.1
ZAL pP pP 18 21 00.2 +1.4
comp=Z,1.3nm,0.5s,baz=119,slow=4.8,SNR=2.6
ZAL Zalesovo 57.98 323 P **P 18 20 15.8 -1.5**
ZAL pP pP 18 21 00.2 +1.4
MKAR Makanchi Array 58.38 314 P **P 18 20 20.1 -0.1**
comp=Z,3.8nm,0.6s,mb4.4,baz=89,slow=8.8,SNR=67
MKAR pP pP 18 21 04.5 +2.8
comp=Z,4.0nm,0.8s,baz=82,slow=8.6,SNR=5.9
SVW2 Sparrevohn 59.04 29 *eP* **P 18 20 24.8 +0.2**
NVS Novosibirsk 59.07 323 *eP* **P 18 20 17.5 -7.3**
TTA Tatalina 59.46 27 *eP* **P 18 20 27.5 +0.1**
SLKM Skilak Lake 61.41 31 *eP* **P 18 20 38.1 -2.5**
IMA Indian Mountai 61.48 24 *eP* **P 18 20 41.1 +0.1**
PWA Palmer West 61.83 29 *eP* **P 18 20 41.7 -1.7**
PMR Palmer 62.17 29 *eP* **P 18 20 44.5 -1.1**
SML Sawmill 62.59 29 *eP* **P 18 20 47.4 -1.0**
COLA College 63.47 26 *eP* **P 18 20 54.3 +0.1**
EYAK Cordova Ski Ar 63.59 31 *eP* **P 18 20 54.1 -0.9**
DIV Divide 63.67 30 *eP* **P 18 20 55.3 -0.1**
comp=Z,64nm,1.2s,mb5.3
AAK Ala-Archa 63.77 309 *eP* **P 18 20 55.2 -1.2**
AAK pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
AAK Ala-Archa 63.77 309 *eP* **P 18 20 55.2 -1.2**
comp=Z,0.6nm,0.3s,mb3.9
ILAR Eielson Array 63.85 26 P **P 18 20 54.5 -2.0**
comp=Z,10nm,0.8s,mb4.7,baz=260,slow=5.1,SNR=90
ILAR LR LR 18 46 39.6
comp=Z,66nm,18.9s,baz=356,slow=34
THY Trims Highway 64.07 28 *eP* **P 18 20 57.4 -0.6**
MENT Mentasta 64.91 28 *eP* **P 18 21 03.3 -0.1**
BVAR Borovoye Array 66.42 320 P **P 18 21 12.3 -1.0**
comp=Z,8.8nm,0.6s,mb4.7,baz=93,slow=7.8,SNR=71
BVAR pP pP 18 21 58.1 +2.1
comp=Z,5.7nm,0.9s,baz=90,slow=7.4,SNR=2.8
KKAR Karatay Array 66.67 310 *i* P **P 18 21 14.9 -0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
DAWY Dawson 66.96 28 *eP* **P 18 21 15.7 -0.8**
INK Inuvik 69.57 23 *eP* **P 18 21 31.1 -1.4**
INK pmax pmax
comp=Z,26nm,1.1s
INK Inuvik 69.57 23 *eP* **P 18 21 31.1 -1.4**
comp=Z,26nm,1.1s,mb4.9
DLBC Dease Lake 71.52 34 *eP* **P 18 21 44.7 +0.4**
ARU Arti 73.03 325 ⇑ *iP* **P 18 21 53.2 0.0**
ARU pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
ARU Arti 73.03 325 *eP* **P 18 21 51.9 -1.4**
comp=Z,2.5nm,0.4s,mb4.3
YKW3 Yellowknife Ar 78.18 28 *eP* **P 18 22 21.2 -0.9**
YKA Yellowknife Ar 78.20 28 P **P 18 22 21.7 -0.5**
comp=Z,8.2nm,0.7s,mb4.5,baz=290,slow=5.5,SNR=135
YKA pP pP 18 23 06.8 +0.7
comp=Z,1.2nm,0.8s,baz=287,slow=5.7,SNR=1.9
YKA LR LR 18 55 27.9
comp=Z,73nm,18.4s,baz=35,slow=34
YKA Yellowknife Ar 78.20 28 P **P 18 22 21.8 -0.4**
YKA pP pP 18 23 06.8 +0.7
YKA LR LR 18 55 27.9
HUMO Hull Mountain 78.80 49 *eP* **P 18 22 26.3 +0.4**
comp=Z,18nm,1.1s,mb4.6
YBH Yreka Blue Hor 79.20 50 *eP* **P 18 22 28.8 +0.7**
comp=Z,16nm,1.2s,mb4.5
RES Resolute Bay 79.59 14 *eP* **P 18 22 29.2 -0.3**
RES pmax pmax
comp=Z,17nm,1.2s,mb4.5
RES Resolute Bay 79.59 14 *eP* **P 18 22 29.2 -0.3**
comp=Z,17nm,1.2s,mb4.6
HAWA Hanford 80.14 44 *eP* **P 18 22 32.7 -0.3**
comp=Z,1.0nm,0.9s,mb3.5
NEW Newport 81.16 42 *eP* **P 18 22 38.6 +0.3**
NEW pmax pmax
comp=Z,16nm,1.0s
NEW Newport 81.16 42 *eP* **P 18 22 38.6 +0.3**
comp=Z,16nm,1.0s,mb4.6
WVOR Wild Horse Val 81.92 48 *eP* **P 18 22 42.8 +0.5**
comp=Z,12nm,0.9s,mb4.5
CMB Columbia Colle 81.95 53 *eP* **P 18 22 42.9 +0.2**
comp=Z,27nm,1.2s,mb4.8
ARCES ARCESS Array B 82.54 342 P **P 18 22 45.1 +0.2**
comp=Z,2.1nm,0.6s,mb4.0,baz=90,slow=11,SNR=9.5
NVAR Mina Array Bea 83.39 52 P **P 18 22 50.8 +0.8**
comp=Z,23nm,0.7s,mb5.0,baz=264,slow=7.2,SNR=76
NVAR pP pP 18 23 36.6 +2.1
comp=Z,1.0nm,0.5s,baz=63,slow=13,SNR=1.4
NVAR Mina Array Bea 83.39 52 P **P 18 22 50.8 +0.9**
NVAR pP pP 18 23 36.6 +2.1
MNV Mina 83.50 52 *eP* **P 18 22 51.0 +0.5**
comp=Z,19nm,0.9s,mb4.8
MTUM Tungsten Hills 83.53 53 *eP* **P 18 22 51.2 +0.5**
TPH Tonopah 84.31 52 *eP* **P 18 22 55.1 +0.5**
comp=Z,27nm,1.2s,mb4.8
ELK Elko 84.87 49 *eP* **P 18 22 58.0 +0.7**
ELK pmax pmax
comp=Z,20nm,0.9s
ELK Elko 84.87 49 *eP* **P 18 22 58.0 +0.7**
comp=Z,20nm,0.9s,mb4.9
HRY Holter Researc 85.06 42 *eP* **P 18 22 58.5 +0.4**
MCMT McKenzie Canyo 85.08 44 *eP* **P 18 22 58.8 +0.5**
BOZ Bozeman (W) 85.58 43 *eP* **P 18 23 01.2 +0.5**
comp=Z,4.8nm,0.7s,mb4.3
QLMT Earthquake Lak 86.02 44 *eP* **P 18 23 03.9 +1.1**
GNI Garni 86.09 311 *i* P **P 18 23 04.4 +1.1**
HVU Hansel Valley 86.24 47 *eP* **P 18 23 04.4 +0.3**
KAF Kangasniemi 86.43 336 *ep* **P 18 23 02.1 -2.3**
comp=Z,1.1nm,0.6s,mb3.8
KAF Kangasniemi 86.43 336 *eP* **P 18 23 02.1 -2.3**
KAF pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
YNR Norris Junctio 86.56 44 *eP* **P 18 23 07.7 +2.2**
SPUT South Promonto 86.64 48 *eP* **P 18 23 06.1 +0.2**
RRI2 Red Ridge 86.66 45 *eP* **P 18 23 06.7 +0.7**
IMW Indian Meadow 86.70 45 *eP* **P 18 23 06.7 +0.5**
DUG Dugway 86.80 49 *eP* **P 18 23 06.8 +0.1**
MOOW Moose Ponds 86.89 45 *eP* **P 18 23 07.7 +0.6**
FINES FINESS Array B 86.90 335 P **P 18 23 05.1 -1.6**
comp=Z,1.1nm,0.3s,mb4.1,baz=61,slow=5.0,SNR=31
FINES FINESS Array B 86.90 335 P **P 18 23 05.1 -1.6**
NEN Nelson 86.93 54 *eP* **P 18 23 08.1 +0.7**
HWUT Hardware Ranch 87.15 47 *eP* **P 18 23 08.9 +0.5**
ARUT Antelope Range 87.22 51 *eP* **P 18 23 09.6 +0.8**
CTU Camp Tracy 87.36 48 *eP* **P 18 23 09.7 +0.3**
NLU North Lily Min 87.41 49 *eP* **P 18 23 10.7 +1.0**
TCUT Toone Canyon 87.44 47 *eP* **P 18 23 10.0 +0.2**
JLU Jordanelle 87.61 48 *eP* **P 18 23 11.5 +0.9**
MPU Maple Canyon 87.70 49 *eP* **P 18 23 11.6 +0.6**
DAU Daniels Canyon 87.82 48 *eP* **P 18 23 12.5 +0.9**
MVU Marysvale 87.86 50 *eP* **P 18 23 12.4 +0.6**
comp=Z,7.7nm,0.8s,mb4.6
MSU Marysvale 87.88 50 *eP* **P 18 23 12.7 +0.8**
PDAR Pinedale Array 88.07 45 P **P 18 23 12.9 +0.2**
comp=Z,0.8nm,0.4s,mb3.9,baz=230,slow=2.1,SNR=7.4
NOA NORSAR Array B 92.61 340 P **P 18 23 33.0 -0.4**
comp=Z,0.2nm,0.6s,mb3.5,baz=46,slow=4.8,SNR=3.4
ULM Lac du Bonnet 92.83 34 P **P 18 23 34.6 -0.1**
comp=Z,3.4nm,0.8s,mb4.5,baz=286,slow=3.9,SNR=4.0
BRTR Keskin Array B 94.03 314 P **P 18 23 39.5 -1.0**
comp=Z,1.2nm,0.8s,mb4.1,baz=61,slow=4.3,SNR=6.5
BRTR pP pP 18 24 27.8 +2.2
comp=Z,0.4nm,0.5s,baz=333,slow=14,SNR=3.2
TXAR Lajitas Array 98.09 55 P **P 18 24 00.9 +1.8**
comp=Z,0.4nm,0.7s,mb3.9,baz=315,slow=7.1,SNR=4.1
KHC Kasperske Hory 100.20 330 *i* P P 18 24 11.1 +2.9
SDV Santo Domingo 135.14 56 *e*PKPdf PKPdf 18 29 40.9 +0.4
LVC Limon Verde 147.62 103 *e*PKPdf PKPdf 18 30 04.2 +2.0
LVC *e*PKPbc PKPdf 18 30 07.4 +5.1
LPAZ La Paz 147.90 91 PKP PKPdf 18 30 05.0 +2.1
comp=Z,22nm,0.7s,baz=287,slow=2.6,SNR=29
LPAZ PKPbc PKPdf 18 30 08.4 +5.6
comp=Z,22nm,0.7s,baz=288,slow=2.5,SNR=48
LPAZ La Paz 147.90 91 *e*PKPdf PKPdf 18 30 04.8 +2.0
LPAZ *e*PKPbc PKPdf 18 30 08.3 +5.5
SAML Samuel 150.62 75 *e*PKPdf PKPdf 18 30 08.2 +1.0
SAML *e*PKPbc PKPdf 18 30 13.5 +6.3
SAML *e*PKPab PKPab 18 30 20.5 -2.2
CPUP Villa Florida 157.59 114 PKPab PKPab 18 30 51.5 -0.4
comp=Z,5.8nm,0.8s,baz=292,slow=4.1,SNR=18

NEIC 23 18:37:47.8, 55.78N×158.09W, h42km, ML3.1(AEIC), After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVV	**Pavlof Volcano**	**2.14**	**261**	P	P	18 38 20.0	-1.8
HAG	**Hague Volcano**	**2.22**	**259**	P	P	18 38 21.4	-1.5
DOL	**Dolgoi Island**	**2.24**	**255**	P	P	18 38 21.3	-2.0
PN7A	**Pavlof North-7**	**2.25**	**263**	P	P	18 38 21.9	-1.4
BLHA	**Black Hill**	**2.25**	**270**	P	P	18 38 21.6	-1.7
DTNA	**Dutton South F**	**2.45**	**257**	P	P	18 38 24.3	-1.9
DT1	**Dutton Round H**	**2.48**	**256**	P	P	18 38 24.7	-2.0
CNTC	**Contact Creek**	**2.77**	**25**	P	P	18 38 29.0	-1.8
FALS	**False Pass**	**3.18**	**255**	P	P	18 38 35.1	-1.5
FALS				S	S	18 39 12.0	-1.8
KAHC	**Katmai Hardscr**	**3.33**	**29**	P	P	18 38 36.8	-1.9
KDAK	**Kodiak Island**	**3.63**	**54**	P	P	18 38 41.6	-1.5
WESN	**West Dahl Nort**	**3.92**	**255**	P	P	18 38 45.3	-1.8
UNV	**Unalaska Valle**	**5.24**	**252**	P	P	18 39 01.7	-3.9
RES	**Resolute Bay**	**30.32**	**28**	P	P	18 43 56.2	-0.7
	4.5nm,0.9s						

*LDG **23** 18:39:43.6±0.1, 45.90N×1.44W, h2km, Md2.5/3, Ml2.3/19, Error ellipse: s-maj=1.8km s-min=1.1km az=52.0*
*NEIC **23** 18:39:44.6, 45.92N×1.44W, h5km, ML2.7(STR), ML2.3(LDG), After STR.*

STR 23 18:39:44.6±0.2, 45.92N×1.44W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLEF	**Ile d'Oleron**	**0.07**	**69**	Pg	Pg	18 39 46.6	+0.4
OLEF				Sg	Sg	18 39 48.4	+1.1
LRYF	**La Roche-sur-Y**	**0.66**	**354**	Pg	Pg	18 39 57.2	-0.7
LRYF				Sg	Sg	18 40 06.4	-0.3
CHIF	**Chize**	**0.75**	**73**	Pg	Pg	18 39 58.8	-0.8
CHIF				Sg	Sg	18 40 09.3	-0.3
LCHF	**La Chataignera**	**0.89**	**33**	Pg	Pg	18 40 01.7	-0.7
MFF	**Saint Martin d**	**1.13**	**52**	*e*Pg	Pg	18 40 05.3	-1.8
MFF				*e*Sg	Sg	18 40 19.9	-2.3
	8.5nm,0.3s						
LFF	**La Frestale**	**1.82**	**122**	*e*Pn	Pn	18 40 12.7	-4.2
LFF				*e*Pg	Pg	18 40 17.5	-3.5
LFF				*e*Sn	Sn	18 40 35.9	-4.7
LFF				*e*Sg	Sg	18 40 40.3	-5.0
	12nm,0.4s						
RJF	**Les Rejaudoux**	**2.16**	**105**	*e*Pg	Pg	18 40 23.7	-4.1
RJF				*e*Sg	Sg	18 40 50.7	-6.0
	6.2nm,0.2s						
QUIF	**Quistinic**	**2.32**	**330**	*e*Pn	Pn	18 40 22.0	-2.0
QUIF				*e*Pg	Pg	18 40 27.1	-3.9
QUIF				*e*Sg	Sg	18 40 57.2	-4.7
	3.7nm,0.3s						
SGMF	**Saint Gilles**	**2.46**	**342**	*e*Pn	Pn	18 40 23.3	-2.7
SGMF				*e*Pg	Pg	18 40 29.2	-4.5
SGMF				*e*Sg	Sg	18 41 00.9	-5.5
	9.9nm,0.5s						
GRR	**Gorron**	**2.50**	**9**	*e*Pg	Pg	18 40 29.3	-5.2
GRR				*e*Sg	Sg	18 41 01.6	-6.3
	1.8nm,0.2s						
TCF	**Toulx Ste Croi**	**2.57**	**80**	*e*Pn	Pn	18 40 24.8	-2.7
TCF				*e*Pg	Pg	18 40 31.6	-4.2
TCF				*e*Sn	Sn	18 40 54.0	-5.5
TCF				*e*Sg	Sg	18 41 04.4	-5.6
	2.8nm,0.3s						
CAF	**Calviac**	**2.66**	**111**	*e*Pg	Pg	18 40 32.3	-5.4
CAF				*e*Sn	Sn	18 40 56.3	-5.6
CAF				*e*Sg	Sg	18 41 06.8	-6.4
	4.8nm,0.3s						
ROSF	**Rostrenen**	**2.72**	**333**	*e*Pn	Pn	18 40 26.4	-3.4
ROSF				*e*Pg	Pg	18 40 34.3	-4.7
ROSF				*e*Sg	Sg	18 41 09.1	-6.1
	1.0nm,0.2s						
SJPF	**Ste Jean**	**2.81**	**177**	*e*Pg	Pg	18 40 34.8	-5.9
SJPF				*e*Sg	Sg	18 41 11.2	-7.0
	2.1nm,0.4s						
LDF	**La Druitiere**	**2.82**	**18**	*e*Pg	Pg	18 40 34.9	-6.0
LDF				*e*Sg	Sg	18 41 12.5	-6.0
	1.8nm,0.2s						
FLN	**La Foliniere**	**2.92**	**13**	*e*Pn	Pn	18 40 29.7	-2.9
FLN				*e*Pg	Pg	18 40 37.8	-5.1
FLN				*e*Sg	Sg	18 41 15.7	-6.0
	2.8nm,0.3s						
BGF	**Bois d'Agland**	**3.04**	**76**	*e*Pn	Pn	18 40 30.6	-3.7
BGF				*e*Pg	Pg	18 40 40.0	-5.3
BGF				*e*Sg	Sg	18 41 18.7	-7.2
	4.5nm,0.2s						
EPF	**Esparros**	**3.16**	**156**	*e*Pg	Pg	18 40 41.8	-5.8
EPF				*e*Sn	Sn	18 41 08.4	-6.1
EPF				*e*Sg	Sg	18 41 22.5	-7.2
	3.0nm,0.4s						
SSF	**Saint Saulge**	**3.60**	**70**	*e*Pn	Pn	18 40 39.1	-3.2
SSF				*e*Pg	Pg	18 40 50.2	-6.3
SSF				*e*Sg	Sg	18 41 36.8	-7.7
	0.9nm,0.3s						
MTLF	**Montolieu**	**3.67**	**133**	*e*Pn	Pn	18 40 40.1	-3.1
MTLF				*e*Pg	Pg	18 40 51.2	-6.7
MTLF				*e*Sn	Sn	18 41 20.1	-7.4
MTLF				*e*Sg	Sg	18 41 38.2	-8.6
	0.5nm,0.2s						
SMF	**Signal de Mont**	**3.73**	**77**	*e*Pg	Pg	18 40 52.6	-6.5
SMF				*e*Sg	Sg	18 41 40.7	-8.2
	2.2nm,0.3s						
LOR	**Lormes**	**3.89**	**68**	*e*Pg	Pg	18 40 55.2	-7.1
LOR				*e*Sg	Sg	18 41 45.6	-8.7
	0.9nm,0.3s						

*CSEM **23** 18:43:11.5, 34.95N×3.74W, h7km, MD3.1, After CNRM*
*CNRM **23** 18:43:11.5, 34.95N×3.74W, h7km, MD3.1*

MDD 23 18:43:11.4±0.5, 34.98N×3.74W, h17km±5km, mbLg1.7/4, Error ellipse: s-maj=5.5km s-min=4.7km az=67.0, PRXIMO, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.29**	**326**	*i* P	Pb	18 43 17.5	-0.3
MPAL				*i* S	Sb	18 43 21.5	-0.6
ZAI	**Zaio**	**0.82**	**91**	*i* P	Pb	18 43 26.0	-0.7
ZAI				*i* S	Sb	18 43 38.0	+0.7
TZK	**Tazeka**	**0.96**	**202**	*i* P	Pb	18 43 29.0	-0.2
TZK				*i* S	Sb	18 43 41.0	-0.5
EALB	**Alboran**	**1.12**	**31**	P	Pb	18 43 30.6	-1.2
	0.3nm,0.1s,SNR=7.9						
EALB				S	Sb	18 43 45.0	-1.0
	10.0nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**1.79**	**332**	P	Pn	18 43 40.9	-1.0
	0.2nm,0.3s,SNR=7.9						
EMIJ				S	Sn	18 44 02.1	-2.2
	1.7nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.03**	**20**	P	Pn	18 43 44.0	-1.4
	0.3nm,0.2s,SNR=7.9						
EBER				S	Sn	18 44 08.7	-1.9
	1.7nm,0.3s,SNR=7.9						
CZD	**Col de Zad**	**2.22**	**209**	*e*P	Pn	18 43 47.0	-1.1
CZD				*i* S	Sn	18 44 13.0	-2.4
EMIN	**Mina Concepcio**	**3.65**	**320**	P	Pn	18 44 06.6	-1.9
	0.3nm,0.3s,SNR=7.9						
EMIN				S	Sn	18 44 46.1	-5.4
	4.6nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**4.06**	**25**	P	Pn	18 44 11.4	-2.9
	1.2nm,0.3s,SNR=7.9						

*NEIC **23** 18:45:04.3±2.5, 5.03N×125.11E, h289km±26km, mb4.2/5, Error ellipse: s-maj=24.1km s-min=11.0km az=69.0*
*IDC **23** 18:45:09.7±5.0, 4.91N×125.04E, h349km±58km, mb3.2/10, mb1 3.4/10, mb1mx3.2/20, mbtmp4.0/10, Error ellipse: s-maj=28.1km s-min=11.4km az=75.0*

ISC 23 18:45:03.2±2.7, 5.01N±0.10×125.1E±0.2, h295km±28km, n20, σ0°93/20, mb3.8/15, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**8.89**	**277**	*e*Pn	P	**18 47 08.7**	**+0.3**
KSM	**Kuching**	**15.17**	**257**	*eP*	P	**18 48 24.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**22.98**	**179**	*eP*	P	**18 49 43.5**	**-0.4**
	4.3nm,0.8s,mb3.8						
FITZ	**Fitzroy Crossi**	**22.98**	**179**	P	P	**18 49 43.6**	**-0.4**
	2.6nm,0.3s,mb4.0,baz=338,slow=4.7,SNR=14						
WRA	**Warramunga Arr**	**26.41**	**160**	P	P	**18 50 14.2**	**-1.2**
	0.3nm,0.3s,mb3.2,baz=333,slow=11,SNR=19						
MBWA	**Marble Bar**	**26.54**	**191**	P	P	**18 50 11.5**	**-5.0**
	15nm,1.3s,mb4.3						
CMAR	**Chiang Mai Arr**	**28.82**	**300**	P	P	**18 50 37.5**	**+0.6**
	0.9nm,0.7s,mb3.3,baz=116,slow=6.8,SNR=6.3						
ASAR	**Alice Springs**	**29.77**	**164**	P	P	**18 50 44.8**	**-0.6**
	0.3nm,0.3s,mb3.3,baz=339,slow=8.0,SNR=23						
MJAR	**Matsushiro Arr**	**33.61**	**19**	P	P	**18 51 19.4**	**+1.2**
	2.5nm,0.7s,mb3.9,baz=193,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**39.91**	**158**	P	P	**18 52 12.0**	**+1.3**
	0.5nm,0.3s,mb3.3,baz=340,slow=13,SNR=5.8						
STKA	**Stephens Creek**	**39.91**	**158**	P	P	**18 52 12.0**	**+1.3**
ULN	**Ulaanbaatar**	**45.41**	**343**	P	P	**18 52 53.2**	**-1.5**
	4.8nm,1.2s,mb3.6						
SONM	**Songino Array**	**45.58**	**342**	P	P	**18 52 56.5**	**+0.5**
	1.8nm,0.9s,mb3.4,baz=156,slow=8.8,SNR=14						
MKAR	**Makanchi Array**	**55.58**	**326**	P	P	**18 54 10.6**	**+0.1**
	2.4nm,0.4s,mb3.9,baz=121,slow=8.3,SNR=60						
MKAR				PcP	PcP	18 55 05.4	-1.2
	0.6nm,0.5s,baz=107,slow=3.9,SNR=4.6						
ZAL	**Zalesovo**	**58.71**	**333**	P	P	**18 54 31.8**	**-0.5**
	1.5nm,0.4s,mb3.8,baz=32,slow=2.7,SNR=6.5						
MAW	**Mawson**	**84.39**	**200**	P	P	**18 57 05.7**	**+2.3**
	2.9nm,0.5s,mb4.4						
JOF	**Joensuu**	**87.30**	**333**	*ep*	P	**18 57 12.7**	**-5.0**
	3.1nm,0.8s,mb4.2						
FINES	**FINESS Array B**	**89.93**	**332**	P	P	**18 57 29.4**	**-0.7**
	0.2nm,0.4s,mb3.3,baz=72,slow=6.0,SNR=7.0						
MLR	**Muntele Rosu**	**92.84**	**316**	P	P	**18 57 43.5**	**-0.4**
MBAR	**Mbarara**	**94.38**	**270**	P	P	**18 57 59.5**	**+7.8**
	4.2nm,0.6s,mb4.7						

IDC 23 18:48:05.4±1.8, 10.33S×126.75E, mb3.7/2, mb1 3.7/3, mb1mx3.4/14, mbtmp3.7/3, Error ellipse: s-maj=561.9km s-min=28.2km az=61.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.04**	**143**	Sn	S	18 52 59.7	-18
ASAR	**Alice Springs**	**14.92**	**154**	P	P	18 51 36.6	-2.9
	0.1nm,0.3s,baz=338,slow=8.2,SNR=4.5						
ASAR				Sn	S	18 54 23.2	-3.4
	0.1nm,0.3s,baz=351,slow=25,SNR=3.6						
STKA	**Stephens Creek**	**25.47**	**150**	P	P	18 53 35.8	-1.1
	1.2nm,0.7s,baz=330,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**69.32**	**329**	P	P	18 59 14.6	-2.1
	0.6nm,0.8s,baz=135,slow=6.9,SNR=4.4						

*IDC **23** 18:49:33.1±1.9, 12.89N×92.47E, mb4.0/6, mb1 4.1/7, mb1mx3.8/21, mbtmp3.9/7, ML3.8/1, MS2.8/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=63.1km s-min=20.6km az=73.0*
*BJI **23** 18:49:35.8, 12.79N×92.47E, h34km, mb4.2*
*NEIC **23** 18:49:37.0±0.6, 12.92N×92.40E, h30km, mb4.5/3, Error ellipse: s-maj=15.5km s-min=10.5km az=128.0*

ISC 23 18:49:32.6±0.6, 13.30N±0.06×92.02E±0.05, h34km, h34km±2.2km: pP-P, n20, σ1°11/21, mb4.1/10, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**8.40**	**52**	*e*Pn	P	**18 51 35.4**	**+0.5**
	3.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**8.40**	**52**	Pn	P	**18 51 35.3**	**+0.4**
	0.3nm,0.3s,baz=240,slow=15,SNR=10						
CMAR				LR	LR	18 55 41.9	
	comp=Z,57nm,18.0s,baz=235,slow=44						
VIS	**Vishakhapatnam**	**9.46**	**299**	*eP*	P	**18 51 54.6**	**+5.0**
VIS				*e*S	S	**18 53 37.2**	**+1.3**
SHL	**Shillong**	**12.20**	**359**	*eS*	S	**18 54 42.0**	**-0.8**
SHL				*e*		18 54 48.0	
PALK	**Pallekele**	**12.64**	**243**	*eP*	P	**18 52 35.8**	**+2.9**
PALK				*eS*	S	**18 54 39.7**	**-14**
KAD	**Karad**	**17.66**	**285**	*eS*	S	**18 56 50.0**	**-1.0**
POO	**Poona**	**18.23**	**289**	*eS*	S	**18 57 03.0**	**-0.9**
KSM	**Kuching**	**21.58**	**121**	*eP*	P	**18 54 22.4**	**+0.9**
GTA	**Gaotai**	**26.90**	**13**	*eP*	P	**18 55 19.8**	**+7.2**
GTA				AP	pP	18 55 29.0	+6.8
GTA				XP	sP	18 55 32.0	+5.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
MKAR	**Makanchi Array**	**34.38**	**348**	P	P	**18 56 25.9**	**+7.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=157,slow=9.2,SNR=4.8						
MKAR				pP	pP	18 56 35.1	+6.7
	comp=Z,5.1nm,1.2s,baz=162,slow=7.7,SNR=8.2						
SONM	**Songino Array**	**36.46**	**16**	P	P	**18 56 42.3**	**+6.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=209,slow=7.3,SNR=13						
SONM				pP	pP	18 56 53.2	+7.1
	comp=Z,0.8nm,0.7s,baz=194,slow=8.1,SNR=5.2						
ULN	**Ulaanbaatar**	**36.67**	**17**	P	P	**18 56 39.0**	**+1.0**
	comp=Z,1.9nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**45.53**	**132**	P	P	**18 57 49.7**	**-1.5**
	comp=Z,13nm,1.1s,mb4.8,baz=330,slow=8.1,SNR=3.8						
WRA	**Warramunga Arr**	**53.15**	**128**	P	P	**18 58 48.7**	**-1.0**
	comp=Z,0.7nm,0.4s,mb3.9,baz=300,slow=9.8,SNR=6.5						
ASAR	**Alice Springs**	**55.02**	**132**	P	P	**18 59 02.4**	**-1.1**
	comp=Z,0.5nm,0.4s,mb3.9,baz=311,slow=7.0,SNR=16						
STKA	**Stephens Creek**	**65.36**	**135**	P	P	**19 00 14.1**	**+0.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=350,slow=7.2,SNR=3.6						
STKA	**Stephens Creek**	**65.36**	**135**	*eP*	P	**19 00 14.0**	**0.0**
FINES	**FINESS Array B**	**66.97**	**332**	pP	pP	19 00 40.3	+6.0
	comp=Z,0.8nm,0.7s,baz=90,slow=5.7,SNR=2.2						
CASY	**Casey**	**80.54**	**173**	P	P	**19 01 43.0**	**+0.4**
	comp=Z,3.8nm,0.5s,mb4.6					

TSZ			SN	S	18 51 56.9	-1.7
MRZ	**Mangatainoka R**	**1.46 131**	P	P	18 51 33.9	-0.5
MRZ	**Mangatainoka R**	**1.46 131**	PN	P	18 51 33.9	-0.4
MRZ			SN	S	18 51 57.4	-1.4
TCW	**Tory Channel**	**1.51 176**	P	P	18 51 34.9	+0.1
TCW			S	S	18 51 57.7	-1.8
TCW	**Tory Channel**	**1.51 176**	PN	P	18 51 34.9	+0.1
TCW			SN	S	18 51 57.7	-1.8
CAW	**Cannon Point**	**1.57 153**	P	P	18 51 35.1	-0.3
CAW	**Cannon Point**	**1.57 153**	PN	P	18 51 35.1	-0.3
CAW			SN	S	18 51 59.4	-1.3
MRW	**Makara Radio**	**1.58 164**	P	P	18 51 35.3	-0.2
MRW	**Makara Radio**	**1.58 164**	PN	P	18 51 35.3	-0.2
MRW			SN	S	18 51 59.0	-1.8
NNZ	**Nelson**	**1.61 201**	*e*P	P	18 51 35.3	-0.5
NNZ	**Nelson**	**1.61 201**	PN	P	18 51 35.3	-0.5
NNZ			SN	S	18 51 59.7	-1.7
QRZ	**Quartz Range**	**1.66 227**	*e*P	P	18 51 35.1	-1.2
QRZ	**Quartz Range**	**1.66 227**	PN	P	18 51 35.1	-1.2
QRZ			SN	S	18 51 59.8	-2.3
SNZO	**South Karori**	**1.66 165**	P	P	18 51 35.9	-0.4
SNZO	**South Karori**	**1.66 165**	PN	P	18 51 35.9	-0.4
SNZO			SN	S	18 52 00.2	-2.0
TUWZ	**Tuamarina**	**1.73 185**	PN	P	18 51 36.4	-0.5
MTW	**Mount Morrison**	**1.79 145**	P	P	18 51 36.9	-0.7
MTW	**Mount Morrison**	**1.79 145**	PN	P	18 51 36.9	-0.7
BFZ	**Birch Farm**	**1.89 122**	*e*P	P	18 51 37.9	-0.8
BFZ	**Birch Farm**	**1.89 122**	PN	P	18 51 37.9	-0.8
BKZ	**Black Stump Fm**	**1.91 74**	P	P	18 51 37.6	-1.3
BKZ	**Black Stump Fm**	**1.91 74**	PN	P	18 51 37.6	-1.3
PAWZ	**Paruwai Farm**	**1.94 150**	*e*PN	P	18 51 38.4	-0.8
BSWZ	**Blackbirch Sta**	**2.01 185**	P	P	18 51 39.8	-0.2
BSWZ	**Blackbirch Sta**	**2.01 185**	*e*PN	P	18 51 39.9	-0.1
THZ	**Tophouse**	**2.25 204**	*e*P	P	18 51 42.1	-0.7
THZ	**Tophouse**	**2.25 204**	PN	P	18 51 41.7	-1.2
DSZ	**Denniston Nort**	**2.70 220**	*e*P	P	18 51 46.4	-1.7
DSZ	**Denniston Nort**	**2.70 220**	PN	P	18 51 46.2	-1.8
URZ	**Urewera**	**2.74 59**	P	P	18 51 45.5	-3.0
KHZ	**Kahutara**	**2.74 189**	*e*P	P	18 51 47.2	-1.4
KNZ	**Kokohu**	**2.83 77**	P	P	18 51 47.2	-2.5
MWZ	**Matawai**	**2.98 64**	P	P	18 51 48.6	-2.9
LTZ	**Lake Taylor**	**3.38 204**	*e*P	P	18 51 54.1	-2.4
MXZ	**Matakaoa Point**	**3.91 58**	P	P	18 51 59.0	-4.3
MQZ	**McQueen's Vall**	**4.15 195**	*e*P	P	18 52 02.3	-4.0
WVZ	**Waitaha Valley**	**4.22 216**	*e*P	P	18 52 04.9	-2.4
RPZ	**Rata Peaks**	**4.62 209**	*e*P	P	18 52 09.1	-3.3
FOZ	**Fox Glacier**	**5.09 219**	*e*P	P	18 52 14.7	-3.8
LBZ	**Lake Benmore**	**5.52 211**	*e*P	P	18 52 20.4	-3.8
JCZ	**Jackson Bay**	**5.92 221**	*e*P	P	18 52 25.0	-4.4
ODZ	**Otahua Downs**	**5.92 205**	*e*P	P	18 52 26.3	-3.2
EAZ	**Earnscleugh**	**6.57 211**	*e*P	P	18 52 33.7	-4.3

*IDC **23** 19:01:22.3±1.5,39.63N×16.84E,mb3.5/5,mb1 3.7/8, mb1mx3.6/26,mbtmp3.7/8,ML3.6/2,Error ellipse: s-maj=29.6km s-min=16.4km az=67.0*
*PDG **23** 19:01:23.6±1.3,39.39N×16.99E,h24km±3km*
*ROM **23** 19:01:23.5±0.1,39.44N×16.84E,h29km±2km,Md3.3/10, Ml3.5/7,Error ellipse: s-maj=4.2km s-min=2.5km az=27.0*
*NEIC **23** 19:01:24.3±0.5,39.51N×16.99E,h10km,mb3.4/1, MD3.7(PDG),Error ellipse: s-maj=6.8km s-min=5.8km az=152.0*
*CSEM **23** 19:01:24.6±0.1,39.38N×16.81E,h60km,ML4.2/1,Error ellipse: s-maj=2.4km s-min=1.4km az=128.0*

ISC 23 19:01:24.3±0.2,**39.51N**±0.02×**16.83E**±0.03,**h29**km,**n115,** σ**1**§**11**/152,**mb3.7**/**4**,**10C-9D**,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIP	**Timpagrande**	**0.34**	**190**	*e*Pg	**Pb**	**19 01 30.6**	**-1.6**
TIP				*e*Sg	**Sb**	**19 01 37.0**	**-0.5**
TIP	**Timpagrande**	**0.34**	**190**	Pg	**Pb**	**19 01 31.2**	**-1.0**
TIP				Sg	**Sb**	**19 01 37.0**	**-0.5**
	12μm,0.7s						
TIP	**Timpagrande**	**0.34**	**190**	*e*Pg	**Pb**	**19 01 30.6**	**-1.6**
ORI	**Oriolo Calabro**	**0.63**	**332**	Pg	**Pb**	**19 01 37.4**	**+0.7**
GRI	**Girifalco**	**0.76**	**205**	Pg	**Pb**	**19 01 37.6**	**-1.3**
GRI				Sg	**Sb**	**19 01 49.4**	**+0.5**
	6μm,1.0s						
LTRZ	**Laterza**	**1.09**	**359**	Pg	**Pn**	**19 01 45.4**	**+1.5**
LTRZ				Sg	**Sn**	**19 02 03.1**	**+5.0**
	1μm,1.0s						
MGR	**Morigerati**	**1.17**	**303**	Pg	**Pn**	**19 01 46.6**	**+1.6**
	674nm,0.7s						
LCI	**Lecce**	**1.28**	**50**	Pg	**Pn**	**19 01 47.9**	**+1.3**
	1μm,0.8s						
SG1	**Sgolgore (BA)**	**1.33**	**355**	*e*Pn	**Pn**	**19 01 48.5**	**+1.2**
PE1	**Pezze di Greco**	**1.37**	**19**	*e*Pn	**Pn**	**19 01 49.1**	**+1.2**
BRT	**Bari-Castellan**	**1.40**	**12**	Pn	**Pn**	**19 01 49.4**	**+1.2**
	14nm,0.5s						
CEL	**Celeste**	**1.45**	**211**	Pn	**Pn**	**19 01 48.8**	**-0.2**
CEL				Sg	**Sn**	**19 02 09.2**	**+2.0**
	2μm,1.2s						
SCLL	**Scilla**	**1.53**	**215**	Pn	**Pn**	**19 01 49.4**	**-0.7**
	230nm,0.4s						
GMB	**Gambarie**	**1.55**	**211**	Pn	**Pn**	**19 01 50.1**	**-0.4**
	480nm,0.8s						
SOI	**Samo**	**1.56**	**203**	Pn	**Pn**	**19 01 51.4**	**+0.8**
	557nm,0.8s						
SGO	**Sicignano**	**1.57**	**312**	Pn	**Pn**	**19 01 52.6**	**+1.8**
	206nm,0.5s						
BAI	**Bari**	**1.59**	**1**	*e*Pn	**Pn**	**19 01 52.1**	**+1.0**
MSRU	**Castanea**	**1.62**	**220**	Pn	**Pn**	**19 01 50.5**	**-0.9**
	633nm,0.9s						
CDT	**Castel del Mon**	**1.63**	**345**	*e*Pn	**Pn**	**19 01 52.4**	**+0.9**
MTTG	**Motta San Giov**	**1.75**	**211**	Pn	**Pn**	**19 01 53.4**	**+0.1**
	615nm,0.6s						
CSSN	**Cassano Irpino**	**1.93**	**315**	Pn	**Pn**	**19 01 57.9**	**+2.0**
	334nm,1.0s						
MMME	**Mongiuffi-Meli**	**2.00**	**219**	Pn	**Pn**	**19 01 56.1**	**-0.8**
	252nm,0.8s						
ISOR	**Termini**	**2.19**	**300**	Pn	**Pn**	**19 02 00.0**	**+0.3**
FGMS	**Monte Sant'Ang**	**2.29**	**343**	Pn	**Pn**	**19 02 02.2**	**+1.1**
	615nm,0.6s						
MS1	**Monte Sant'Ang**	**2.29**	**343**	*e*Pn	**Pn**	**19 02 01.9**	**+0.8**
MNO	**Monte Soro**	**2.30**	**227**	Pn	**Pn**	**19 02 01.6**	**+0.4**
	351nm,0.6s						
KEK	**Kerkira**	**2.30**	**84**	*e*P	**Pn**	**19 02 01.5**	**+0.3**
KEK	**Kerkira**	**2.30**	**84**	Pn	**Pn**	**19 02 01.6**	**+0.4**
	1μm,1.4s						
RGNG	**Rignano Grg**	**2.36**	**337**	Pn	**Pn**	**19 02 02.7**	**+0.7**
SRN	**Sarande**	**2.47**	**80**	*i* Pn	**Pn**	**19 02 04.7**	**+1.1**
SRN				*i* Sn	**Sn**	**19 02 32.6**	**-0.6**
SSY	**Sortino**	**2.73**	**211**	Pn	**Pn**	**19 02 04.6**	**-2.7**
	103nm,0.7s						
VAE	**Valguarnera**	**2.78**	**224**	Pn	**Pn**	**19 02 09.9**	**+1.9**
	5.5nm,0.3s,baz=287,slow=1.7,SNR=7.6						
CII	**Carovilli**	**2.93**	**320**	*e*Pn	**Pn**	**19 02 13.4**	**+3.2**
CII	**Carovilli**	**2.93**	**320**	*e*Pn	**Pn**	**19 02 13.4**	**+3.2**
ULC	**Ulcinj**	**3.06**	**36**	⇓*i*Pn	**Pn**	**19 02 12.0**	**0.0**
ULC				*e*Sn	**Sn**	**19 02 48.8**	**+0.7**
QSH	**Qafa e Shtames**	**3.08**	**48**	*i* Pn	**Pn**	**19 02 11.0**	**-1.4**
QSH				*i* Sn	**Sn**	**19 02 48.0**	**-0.7**
JAN	**Janina**	**3.11**	**86**	*e*P	**Pn**	**19 02 14.2**	**+1.5**
HCY	**Herceg Novi**	**3.19**	**23**	⇓*i*Pn	**Pn**	**19 02 13.5**	**-0.4**
HCY				*e*Sn	**Sn**	**19 02 52.3**	**+0.9**
BUM	**Brajici-Budva**	**3.20**	**29**	⇓*i*Pn	**Pn**	**19 02 14.6**	**+0.6**
BUM				*e*Sn	**Sn**	**19 02 52.5**	**+1.0**
BUM	**Brajici-Budva**	**3.20**	**29**	⇓*i*Pn	**Pn**	**19 02 14.6**	**+0.7**
BUM				*e*Sn	**Sn**	**19 02 52.5**	**+1.0**
VLS	**Valsamata**	**3.22**	**113**	*e*P	**Pn**	**19 02 13.5**	**-0.8**
TREB	**Trebinje**	**3.40**	**19**	Pn	**Pn**	**19 02 16.4**	**-0.5**
TREB				Sn	**Sn**	**19 02 56.4**	**-0.3**
STON	**Ston**	**3.42**	**11**	*i* Pn	**Pn**	**19 02 16.7**	**-0.5**
STON				*i* Sn	**Sn**	**19 02 54.5**	**-2.7**
STON	**Ston**	**3.42**	**11**	*i* Pn	**Pn**	**19 02 16.6**	**-0.5**
STON				*i* Sn	**Sn**	**19 02 54.5**	**-2.7**
TTG	**Podgorica**	**3.45**	**31**	⇓*i*Pn	**Pn**	**19 02 17.5**	**0.0**
TTG				*e*Sn	**Sn**	**19 02 58.2**	**+0.3**
BRY	**Bratogost**	**3.62**	**20**	⇓*i*Pn	**Pn**	**19 02 20.0**	**0.0**
BRY				*e*Sn	**Sn**	**19 03 03.3**	**+1.0**
NKY	**Niksic**	**3.68**	**26**	⇓*i*Pn	**Pn**	**19 02 21.1**	**+0.2**
NKY				*e*Sn	**Sn**	**19 03 04.8**	**+1.0**
KKS	**Kukesi**	**3.73**	**46**	*i* p	**Pn**	**19 02 22.6**	**+1.0**
AQU	**L'Aquila**	**3.85**	**319**	*e*Pn	**Pn**	**19 02 26.6**	**+3.4**
KZN	**Kozani**	**3.88**	**77**	*e*P	**Pn**	**19 02 38.0**	**+14**
PVY	**Plav**	**3.89**	**37**	*e*Pn	**Pn**	**19 02 23.7**	**-0.1**
PVY				*e*Sn	**Sn**	**19 03 09.0**	**-0.1**
EVR	**Evrytania**	**3.91**	**97**	*e*P	**Pn**	**19 02 25.2**	**+1.1**
EVR	**Evrytania**	**3.91**	**97**	*e*P	**Pn**	**19 02 26.0**	**+1.9**
UPM	**Unac-Piva**	**4.01**	**22**	*e*Pn	**Pn**	**19 02 26.1**	**+0.7**
UPM				*e*Sn	**Sn**	**19 03 12.7**	**+0.6**
IVA	**Berane**	**4.08**	**34**	⇓*i*Pn	**Pn**	**19 02 26.8**	**+0.3**
IVA				*e*Sn	**Sn**	**19 03 13.5**	**-0.3**
PLE	**Pljevlja**	**4.27**	**26**	⇓*i*Pn	**Pn**	**19 02 29.9**	**+0.7**
PLE				*e*Sn	**Sn**	**19 03 18.8**	**0.0**
SKO	**Skopje**	**4.28**	**53**	*e*Pn	**Pn**	**19 02 29.8**	**+0.5**
NVSS	**Nova Varos 2**	**4.54**	**27**	⇑*i*Pn	**Pn**	**19 02 34.0**	**+1.1**
NVSS				Sn	**Sn**	**19 03 25.9**	**+0.5**
NVSS	**Nova Varos 2**	**4.54**	**27**	Pn	**Pn**	**19 02 34.0**	**+1.0**
NVSS				Sn	**Sn**	**19 03 25.9**	**+0.4**
ITM	**Ithomi**	**4.63**	**119**	*e*P	**Pn**	**19 02 35.0**	**+0.7**
BBLS	**Bajina Basta -**	**4.76**	**23**	⇑*i*Pn	**Pn**	**19 02 36.1**	**-0.1**
BBLS				Sn	**Sn**	**19 03 29.6**	**-1.5**
DIVS	**Divcibare**	**5.16**	**26**	⇑*i*Pn	**Pn**	**19 02 40.8**	**-0.9**
PLG	**Polygyros**	**5.16**	**78**	*e*P	**Pn**	**19 02 42.0**	**+0.3**
BLY	**Banja Luka**	**5.24**	**3**	Pn	**Pn**	**19 02 43.3**	**+0.4**
BLY				Sn	**Sn**	**19 03 42.2**	**-0.9**
MGER	**Gerania Oros**	**5.25**	**105**	*e*P	**Pn**	**19 02 42.0**	**-1.1**
NVLJ	**Novalja**	**5.25**	**345**	*i* Pn	**Pn**	**19 02 42.3**	**-0.8**
NVLJ				*i* Sn	**Sn**	**19 03 41.0**	**-2.5**
KKB	**Krupnik**	**5.30**	**62**	*i* P	**Pn**	**19 02 43.5**	**-0.3**
NSAL	**Nisos Salamina**	**5.43**	**105**	*e*P	**Pn**	**19 02 45.0**	**-0.6**
NAIG	**Nisos Aigina**	**5.50**	**106**	*e*P	**Pn**	**19 02 46.0**	**-0.5**
MPAR	**Parnis Oros**	**5.56**	**102**	*e*P	**Pn**	**19 02 47.0**	**-0.4**
VLI	**Veliai**	**5.56**	**118**	*e*P	**Pn**	**19 02 47.5**	**0.0**
ATH	**Athens Observa**	**5.60**	**104**	*e*P	**Pn**	**19 02 47.8**	**-0.1**
MMB	**Musomiste**	**5.65**	**66**	*i* P	**Pn**	**19 02 48.0**	**-0.7**
PTL	**Penteli**	**5.69**	**103**	*e*P	**Pn**	**19 02 49.0**	**-0.2**
VTS	**Vitosha**	**5.72**	**55**	*i* P	**Pn**	**19 02 50.0**	**+0.4**
KYTH	**Kithira**	**5.87**	**121**	*e*P	**Pn**	**19 02 52.0**	**+0.2**
RZN	**Rozhen**	**6.38**	**68**	*i* P	**Pn**	**19 02 59.0**	**0.0**
PGF	**Pioggiola**	**6.65**	**300**	*e*P	**Pn**	**19 03 03.0**	**+0.2**
	25nm,0.6s						
VOY	**Vojsko**	**6.87**	**343**	*e*Pn	**Pn**	**19 03 04.3**	**-1.5**
VOY				*e*Sn	**Sn**	**19 04 20.7**	**-3.1**
OBKA	**Obir**	**7.19**	**347**	⇑*i*PN	**Pn**	**19 03 09.3**	**-1.1**
OBKA				*i* SN	**Sn**	**19 04 24.9**	**-7.0**
IDI	**Anoyia**	**7.67**	**121**	Pn	**Pn**	**19 03 15.3**	**-1.8**
	2.4nm,0.3s,baz=322,slow=8.3,SNR=19						
IDI				Sn	**Sn**	**19 04 38.8**	**-5.2**
	3.7nm,0.3s,baz=346,slow=23,SNR=17						
ARSA	**Arzberg**	**7.79**	**353**	⇑*i*PN	**Pn**	**19 03 16.7**	**-2.1**
ARSA				*i* SN	**Sn**	**19 04 39.8**	**-7.2**
KBA	**Koelnbreinsper**	**7.98**	**343**	⇑*i*PN	**Pn**	**19 03 20.0**	**-1.4**
KBA				*i* SN	**Sn**	**19 04 45.6**	**-6.0**
SBF	**Sospel**	**8.27**	**305**	*e*P	**P**	**19 03 26.1**	**+0.7**
	9.7nm,0.6s						
MOA	**Molln**	**8.54**	**348**	⇑*i*PN	**P**	**19 03 27.8**	**-1.4**
MOA				*i* SN	**Sn**	**19 04 59.3**	**-6.3**
WTTA	**Wattenberg**	**8.62**	**336**	⇑*i*PN	**P**	**19 03 29.7**	**-0.6**
WTTA				*i* SN	**Sn**	**19 05 02.1**	**-5.5**
PSZ	**Piszkesteto**	**8.69**	**14**	*e*Pn	**P**	**19 03 28.8**	**-2.5**
PSZ	**Piszkesteto**	**8.69**	**14**	*e*Pn	**P**	**19 03 28.8**	**-2.5**
WATA	**Walderalm**	**8.70**	**336**	⇑*i*PN	**P**	**19 03 30.4**	**-1.0**
WATA				*i* SN	**Sn**	**19 05 04.2**	**-5.4**
SQTA	**Sankt Quirin**	**8.72**	**334**	⇑*i*PN	**P**	**19 03 31.0**	**-0.7**
SQTA				*i* SN	**Sn**	**19 05 04.6**	**-5.5**
DAVOX	**Davos**	**8.86**	**327**	Pn	**P**	**19 03 35.4**	**+1.7**
	0.4nm,0.3s,baz=154,slow=15,SNR=3.7						
MLR	**Muntele Rosu**	**9.00**	**45**	Pn	**P**	**19 03 36.9**	**+1.4**
	0.4nm,0.3s,baz=150,slow=16,SNR=6.2						
MBDF	**Montbardon**	**9.11**	**308**	*e*P	**P**	**19 03 39.3**	**+2.2**
	11nm,0.9s						
LPG	**La Plagne**	**9.55**	**312**	*e*P	**P**	**19 03 47.7**	**+4.7**
	8.8nm,0.9s						
LPL	**La Plagne**	**9.57**	**312**	*e*P	**P**	**19 03 47.8**	**+4.5**
GERES	**GERESS Array B**	**9.60**	**348**	Pn	**P**	**19 03 41.6**	**-2.1**
	0.3nm,0.3s,baz=170,slow=12,SNR=13						
GERES				Sn	**Sn**	**19 05 25.4**	**-6.2**
	0.3nm,0.3s,baz=170,slow=24,SNR=4.6						
ORIF	**Oris-en-Rattie**	**9.75**	**307**	*e*P	**P**	**19 03 48.7**	**+2.8**
KHC	**Kasperske Hory**	**9.89**	**347**	*e*P	**P**	**19 03 45.2**	**-2.6**
KHC				*ex*	x	19 03 55.5	
KHC				*ex*	x	19 04 11.5	
MORC	**Moravsky Berou**	**10.28**	**3**	*e*P	**P**	**19 03 51.9**	**-1.1**
MORC				*e*S	**S**	**19 05 35.7**	**-13**
MORC	**Moravsky Berou**	**10.28**	**3**	*e*P	**P**	**19 03 51.9**	**-1.1**
CABF	**La Chapelle**	**10.58**	**316**	*e*P	**P**	**19 03 57.1**	**-0.1**
PRU	**Pruhonice**	**10.60**	**352**	*e*P	**P**	**19 03 55.5**	**-2.0**
DPC	**Dobruska-Polom**	**10.85**	**358**	*e*P	**P**	**19 04 00.2**	**-0.6**
HAU	**Haudompre**	**11.37**	**322**	*e*P	**P**	**19 04 06.9**	**-1.1**
SMF	**Signal de Mont**	**11.87**	**311**	*e*P	**P**	**19 04 19.2**	**+4.5**
BRTR	**Keskin Array B**	**12.96**	**84**	Pn	**P**	**19 04 31.9**	**+2.5**
	0.1nm,0.3s,baz=267,slow=12,SNR=4.8						
MALT	**Malatya**	**16.85**	**87**	*e*P	**P**	**19 05 25.4**	**+5.7**
	2.9nm,0.9s						
HFS	**Hagfors**	**20.74**	**356**	P	**P**	**19 06 03.8**	**-1.2**
	2.9nm,0.9s,baz=153,slow=9.9,SNR=9.1						
NB2	**NORSAR Subarra**	**21.83**	**353**	P	**P**	**19 06 14.8**	**-1.3**
	1.7nm,0.8s,mb3.5,baz=167,slow=9.3						
NOA	**NORSAR Array B**	**21.83**	**353**	P	**P**	**19 06 15.2**	**-0.9**
	0.8nm,0.5s,mb3.4,baz=166,slow=9.6,SNR=8.0						
FINES	**FINESS Array B**	**22.69**	**12**	P	**P**	**19 06 24.9**	**+0.5**
	7.2nm,1.2s,mb4.0,baz=191,slow=9.7,SNR=11						
FINES	**FINESS Array B**	**22.69**	**12**	P	**P**	**19 06 24.9**	**+0.5**
MKAR	**Makanchi Array**	**47.06**	**59**	P	**P**	**19 09 55.2**	**+0.1**
	0.5nm,0.5s,mb3.7,baz=279,slow=6.7,SNR=10						
MKAR	**Makanchi Array**	**47.06**	**59**	P	**P**	**19 09 55.2**	**+0.1**
SONM	**Songino Array**	**61.82**	**50**	P	**P**	**19 11 41.9**	**-0.9**
	0.4nm,0.7s,mb3.7,baz=288,slow=7.6,SNR=6.0						

*BJI **23** 19:11:33.8,38.93N×16.07E,h10km,mB5.0,mb4.5,Ms4.0, Msz3.8*
*ROM **23** 19:11:41.6±0.1,39.46N×16.83E,h19km,Ml4.1/16,Error ellipse: s-maj=3.0km s-min=1.8km az=74.0*
*MOS **23** 19:11:42.1±1.4,39.70N×16.87E,h10km,mb4.2/13,Error ellipse: s-maj=5.3km s-min=3.2km az=100.2*
*PDG **23** 19:11:43.9±0.6,39.54N×16.83E,h30km±3km*
*CSEM **23** 19:11:43.9±0.1,39.40N×16.83E,h60km,mb4.1/6,ML4.5/1, Ms3.2,Error ellipse: s-maj=1.5km s-min=1.2km az=149.0*
*NEIC **23** 19:11:43.4±0.4,39.57N×16.93E,h10km,mb4.0/16, ML4.1(PDG),Error ellipse: s-maj=5.5km s-min=4.2km az=174.0*
*IDC **23** 19:11:43.8±4.3,39.49N×16.51E,h30km±29km,mb3.7/13, mb1 3.9/18,mb1mx3.8/31,mbtmp3.9/18,ML4.0/5,MS3.5/15, Ms1 3.5/15,ms1mx3.4/30,Error ellipse: s-maj=22.1km s-min=12.5km az=56.0*
*LDG **23** 19:11:46.0±0.5,39.57N×16.66E,h70km,Mb4.7/15, Ms3.2/6,Error ellipse: s-maj=28.1km s-min=12.3km az=30.0*

ISC 23 19:11:41.6±0.2,**39.59N**±0.01×**16.85E**±0.02,**h10**km,**n283,** σ**1**§**37**/325,**mb4.0**/**19**,**MS3.6**/**15**,**13C-14D**,**Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIP	**Timpagrande**	**0.42**	**190**	*e*Pg	**Pg**	**19 11 50.0**	**-0.2**
GRI	**Girifalco**	**0.84**	**204**	Pg	**Pg**	**19 11 56.3**	**-2.2**
MGR	**Morigerati**	**1.14**	**299**	Pg	**Pg**	**19 12 04.7**	**+0.3**
LCI	**Lecce**	**1.22**	**52**	Pg	**Pg**	**19 12 07.0**	**+1.0**
LCI				Sg	**Sg**	**19 12 27.3**	**+5.0**
	901nm,0.6s						
SG1	**Sgolgore (BA)**	**1.25**	**354**	*e*Pn	**Pn**	**19 12 07.2**	**+2.0**
PE1	**Pezze di Greco**	**1.29**	**20**	*e*Pn	**Pn**	**19 12 07.7**	**+2.0**
BRT	**Bari-Castellan**	**1.31**	**12**	Pg	**Pg**	**19 12 07.9**	**0.0**
	241nm,1.1s						
BAI	**Bari**	**1.51**	**1**	*e*Pn	**Pn**	**19 12 10.7**	**+1.8**
SGO	**Sicignano**	**1.53**	**310**	Pg	**Pn**	**19 12 11.1**	**+1.9**
CDT	**Castel del Mon**	**1.55**	**344**	*e*Pn	**Pn**	**19 12 11.0**	**+1.5**
SCLL	**Scilla**	**1.60**	**214**	Pg	**Pn**	**19 12 09.0**	**-1.2**
GMB	**Gambarie**	**1.63**	**210**	Pg	**Pn**	**19 12 09.8**	**-0.8**
SOI	**Samo**	**1.64**	**203**	Pg	**Pn**	**19 12 10.7**	**-0.1**
	3μm,0.9s						
MSI	**Messina ING**	**1.72**	**217**	Pg	**Pn**	**19 12 11.2**	**-0.6**
	3μm,0.7s						
MTTG	**Motta San Giov**	**1.83**	**210**	Pg	**Pn**	**19 12 13.2**	**-0.2**
SNAL	**S. Angelo Dei**	**1.83**	**317**	Pn	**Pn**	**19 12 16.2**	**+2.7**
	14μm,1.6s						
FG4	**Candela**	**1.84**	**327**	Pg	**Pg**	**19 12 15.6**	**-2.9**
	571nm,0.8s						
MMME	**Mongiuffi-Meli**	**2.07**	**218**	Pn	**Pn**	**19 12 15.6**	**-1.4**
	1μm,1.0s						
FG5	**Orsara di Pugl**	**2.08**	**325**	Pn	**Pn**	**19 12 18.6**	**+1.6**
	615nm,0.6s						
MRB1	**Monte Rocchett**	**2.10**	**317**	Pn	**Pn**	**19 12 19.4**	**+2.1**
	5μm,1.3s						
ISOR	**Termini**	**2.17**	**298**	Pn	**Pn**	**19 12 18.3**	**0.0**
FGMS	**Monte Sant'Ang**	**2.22**	**342**	Pn	**Pn**	**19 12 20.3**	**+1.2**
MS1	**Monte Sant'Ang**	**2.22**	**342**	*e*Pn	**Pn**	**19 12 20.1**	**+1.0**
OVO	**Vesuviano**	**2.25**	**304**	Pn	**Pn**	**19 12 21.6**	**+2.2**
PSB1	**Pescosannita**	**2.25**	**317**	Pn	**Pn**	**19 12 21.0**	**+1.5**
	3μm,1.4s						
KEK	**Kerkira**	**2.28**	**86**	*e*P	**Pn**	**19 12 20.8**	**+0.9**
KEK	**Kerkira**	**2.28**	**86**	Pn	**Pn**	**19 12 20.8**	**+0.9**
	2μm,1.4s						
RGNG	**Rignano Grg**	**2.29**	**336**	Pn	**Pn**	**19 12 21.2**	**+1.1**
MNO	**Monte Soro**	**2.37**	**226**	Pn	**Pn**	**19 12 20.3**	**-0.8**
	2μm,0.7s						
IPOZ	**Pozzuoli**	**2.42**	**301**	Pn	**Pn**	**19 12 24.1**	**+2.1**
CIGN	**Sant'Elia a Pi**	**2.54**	**325**	Pn	**Pn**	**19 12 25.7**	**+2.1**
FG2	**Serracapriola**	**2.56**	**330**	Pn	**Pn**	**19 12 24.6**	**+0.7**
BSSO	**Busso**	**2.60**	**319**	Pn	**Pn**	**19 12 26.6**	**+2.1**
	2μm,1.5s						
PLLN	**Pollina**	**2.65**	**234**	Pn	**Pn**	**19 12 23.7**	**-1.5**
AGST	**Augusta-Monte**	**2.66**	**209**	Pn	**Pn**	**19 12 21.5**	**-3.8**
	342nm,0.8s						
IGT	**Igoumenitsa**	**2.69**	**90**	*e*P	**Pn**	**19 12 26.8**	**+1.0**
VAGA	**Valle Agricola**	**2.70**	**313**	Pn	**Pn**	**19 12 27.3**	**+1.4**
GIB	**Gibilmanna**	**2.73**	**235**	Pn	**Pn**	**19 12 24.9**	**-1.4**
	221nm,0.9s						
TRIV	**Trivento**	**2.79**	**322**	Pn	**Pn**	**19 12 28.8**	**+1.6**
SSY	**Sortino**	**2.81**	**210**	Pn	**Pn**	**19 12 23.8**	**-3.7**
	392nm,1.0s						
VAE	**Valguarnera**	**2.85**	**223**	Pn	**Pn**	**19 12 30.4**	**+2.4**
	10nm,0.3s,baz=12,slow=5.3,SNR=12						
VAE				LR	LR	19 13 08.3	
	comp=Z,382nm,18.1s,baz=98,slow=32						
CII	**Carovilli**	**2.88**	**318**	*e*Pn	**Pn**	**19 12 29.6**	**+1.1**
CII	**Carovilli**	**2.88**	**318**	Pn	**Pn**	**19 12 31.4**	**+3.0**
	6μm,2.6s						
CII	**Carovilli**	**2.88**	**318**	*e*Pn	**Pn**	**19 12 29.5**	**+1.1**
TIR	**Tirane**	**2.89**	**52**	*e*Pn	**Pn**	**19 12 30.8**	**+2.2**
TIR	**Tirane**	**2.89**	**52**	Pn	**Pn**	**19 12 30.6**	**+2.0**
	1μm,1.2s						
FRES	**Fresagrandinar**	**2.90**	**326**	Pn	**Pn**	**19 12 30.0**	**+1.3**
	4μm,1.9s						
PZI	**Palazzolo**	**2.94**	**211**	Pn	**Pn**	**19 12 26.0**	**-3.4**
	53nm,0.1s						
RNI2	**Rionero Sannit**	**2.94**	**317**	Pn	**Pn**	**19 12 30.3**	**+0.9**
	3μm,1.8s						
ULC	**Ulcinj**	**2.99**	**37**	⇓*i*Pn	**Pn**	**19 12 30.6**	**+0.6**
ULC				*e*Sn	**Sn**	**19 13 06.9**	**+0.7**
USI	**Ustica**	**2.99**	**254**	Pn	**Pn**	**19 12 28.4**	**-1.6**
	90nm,0.4s						
QSH	**Qafa e Shtames**	**3.02**

2.4nm,0.3s,baz=335,slow=12,SNR=22
IDI Sn **Sn** **19 14 57.7 -7.1**
7.6nm,0.3s,baz=328,slow=24,SNR=15
ARSA Arzberg 7.71 353 ⇑*i*PN **Pn** **19 13 35.6 -1.2**
ARSA *i* SN **Sn** **19 14 59.8 -5.3**
KBA Koelnbreinsper 7.91 342 ⇑*i*PN **Pn** **19 13 38.4 -1.0**
KBA *i* SN **Sn** **19 15 07.5 -2.4**
FIN Finale Ligure 7.92 308 P **Pn** **19 13 40.8 +1.1**
IMI Imperia 7.97 306 P **Pn** **19 13 40.8 +0.5**
IMI Imperia 7.97 306 P **Pn** **19 13 40.8 +0.5**
NEGI Negi 8.05 305 P **P** **19 13 41.9 +0.4**
NEGI Negi 8.05 305 P **P** **19 13 41.9 +0.4**
MONE Monesi 8.14 306 P **P** **19 13 43.5 +0.8**
MONE Monesi 8.14 306 P **P** **19 13 43.5 +0.8**
ROB Roburent 8.18 308 P **P** **19 13 44.7 +1.5**
SBF Sospel 8.23 304 *e*P **P** **19 13 43.5 -0.5**
86nm,0.9s
SRO Srobarova 8.29 7 *e*SN **Sn** **19 15 12.4 -7.0**
ENR Entracque 8.42 306 P **P** **19 13 47.4 +0.8**
MOA Molln 8.46 348 ⇑*i*PN **P** **19 13 46.2 -1.0**
MOA *i* SN **Sn** **19 15 20.8 -3.0**
STV Sta Anna Valdi 8.49 306 P **P** **19 13 49.1 +1.6**
STV2 Anna di Valdie 8.49 306 P **P** **19 13 48.5 +1.0**
STV2 Anna di Valdie 8.49 306 P **P** **19 13 48.5 +1.0**
WTTA Wattenberg 8.55 335 ⇑*i*PN **P** **19 13 47.9 -0.5**
WTTA *i* SN **Sn** **19 15 24.6 -1.4**
ZST Bratislava 8.60 1 *e*PN **P** **19 13 47.9 -1.2**
ZST *e*SN **Sn** **19 15 18.8 -8.5**
PSZ Piszkesteto 8.61 14 *e*P **P** **19 13 46.4 -2.8**
PSZ pmax pmax
comp=Z,13nm,0.8s
PSZ Piszkesteto 8.61 14 *e*Pn **P** **19 13 46.4 -2.8**
comp=Z,13nm,0.8s
PSZ Piszkesteto 8.61 14 *e*Pn **P** **19 13 47.3 -1.9**
PSZ *e*Sn **Sn** **19 15 19.8 -7.6**
LMR La Mourre 8.62 299 *e*P **P** **19 13 47.8 -1.5**
comp=Z,26nm,1.1s
WATA Walderalm 8.63 335 ⇓*i*PN **P** **19 13 49.1 -0.5**
WATA *i* SN **Sn** **19 15 26.6 -1.5**
SQTA Sankt Quirin 8.66 334 ⇑*i*PN **P** **19 13 49.6 -0.3**
SQTA *i* SN **Sn** **19 15 26.9 -1.7**
PZZ Prazzo 8.76 307 P **P** **19 13 51.7 +0.4**
MOTA Moosalm 8.80 334 ⇓*i*PN **P** **19 13 51.9 0.0**
MOTA *i* SN **Sn** **19 15 29.8 -2.4**
DAVOX Davos 8.80 327 Pn **P** **19 13 52.3 +0.4**
comp=Z,1.3nm,0.3s,baz=153,slow=18,SNR=12
BHB Bricherasio 8.84 310 P **P** **19 13 53.9 +1.6**
MLR Muntele Rosu 8.93 46 Pn **P** **19 13 55.6 +1.9**
comp=Z,1.0nm,0.3s,baz=303,slow=3.3,SNR=13
SMOL Smolenice 8.93 2 *e*SN **Sn** **19 15 27.3 -8.0**
RSP Reno Superiore 9.01 311 P **P** **19 13 56.8 +2.0**
VYHS Vyhne 9.01 8 *e*PN **P** **19 13 53.6 -1.2**
VYHS *e*SN **Sn** **19 15 30.4 -7.0**
KOLL Kolacno 9.05 7 *e*SN **Sn** **19 15 31.4 -7.0**
FENE Fenestrelle 9.06 310 P **P** **19 13 57.2 +1.7**
MBDF Montbardon 9.07 308 *e*P **P** **19 13 57.7 +2.1**
comp=Z,27nm,0.8s
RRL Cesana Torines 9.16 309 P **P** **19 13 59.0 +2.1**
DAVA Damuels 9.21 329 ⇓*i*PN **P** **19 13 57.8 +0.3**
DAVA *i* SN **Sn** **19 15 41.2 -1.1**
LSD Ceresole Reale 9.25 312 P **P** **19 14 00.5 +2.4**
BNI Bardonecchia 9.30 309 *e*P **P** **19 14 00.5 +1.7**
BNI pmax pmax
comp=Z,14nm,0.8s
BNI Bardonecchia 9.30 309 *e*Pn **P** **19 14 00.5 +1.7**
comp=Z,14nm,0.8s
BNI Bardonecchia 9.30 309 *e*P **P** **19 14 00.5 +1.7**
comp=Z,14nm,0.8s
LPG La Plagne 9.50 312 *e*P **P** **19 14 05.2 +3.7**
comp=Z,63nm,1.3s
GEC2 GERESS Array S 9.52 347 *e*Pn **P** **19 14 00.1 -1.7**
GEC2 *e*Sn **Sn** **19 15 43.4 -6.5**
GERES GERESS Array B 9.52 347 Pn **P** **19 14 00.2 -1.6**
comp=Z,0.9nm,0.3s,baz=175,slow=13,SNR=36
GERES Sn **Sn** **19 15 43.3 -6.6**
comp=Z,1.2nm,0.3s,baz=171,slow=26,SNR=7.4
GERES LR LR 19 18 31.3
comp=Z,284nm,20.5s,baz=160,slow=43
LPL La Plagne 9.52 312 *e*P **P** **19 14 05.0 +3.2**
comp=Z,41nm,1.2s
VRAC Vranov 9.71 359 Sn **Sn** **19 15 45.0 -10**
comp=Z,0.4nm,0.3s,baz=276,slow=17,SNR=2.9
ORIF Oris-en-Rattie 9.72 307 *e*P **P** **19 14 05.6 +1.1**
comp=Z,48nm,1.1s
ORIF *e*R
comp=Z,445nm,20.8s
KHC Kasperske Hory 9.82 347 *e*P **P** **19 14 03.7 -2.2**
KHC *e* 19 15 48.5
KHC MLR MLR
comp=Z,500nm,9.8s
KHC Kasperske Hory 9.82 347 *e*P **P** **19 14 03.7 -2.2**
KHC *e*x x 19 14 13.0
KHC *e*S **Sn** **19 15 48.5 -8.8**
KHC AMS AMS 19 18 30.0
comp=Z,500nm,9.8s
KOLS Kolonicke sedl 10.11 21 *e*PN **P** **19 14 10.5 +0.6**
MORC Moravsky Berou 10.19 3 *e*Pn **P** **19 14 11.0 -0.1**
MORC *e*Sn **S** **19 15 58.1 -8.4**
MORC Moravsky Berou 10.19 3 *e*Pn **P** **19 14 11.2 +0.2**
MORC *e*Sn **S** **19 15 58.1 -8.4**
OKC Ostrava-Krasne 10.29 5 *e*S **S** **19 16 02.3 -6.4**
VIVF Saint-Julien-l 10.45 304 *e*P **P** **19 14 11.0 -3.5**
PRU Pruhonice 10.52 352 *e*P **P** **19 14 14.5 -1.0**
PRU *e*S **S** **19 16 06.0 -8.5**
PRU AMS AMS 19 18 50.0
comp=Z,500nm,12.6s
CABF La Chapelle 10.54 315 *e*P **P** **19 14 14.9 -0.8**
BFO Black Forest 10.67 328 *e*Pn **P** **19 14 15.9 -1.7**
DPC Dobruska-Polom 10.76 358 *e*P **P** **19 14 18.0 -0.8**
ETOS Mallorca 10.82 275 P **P** **19 14 19.6 -0.1**
comp=Z,3.2nm,0.6s
ETOS Mallorca 10.82 275 P **P** **19 14 19.6 -0.1**
comp=Z,3.2nm,0.6s,SNR=4.6
KWP Kalwaria 10.87 21 *e*P **P** **19 14 20.3 +0.1**
KWP pmax pmax
comp=Z,14nm,1.0s
KWP Kalwaria 10.87 21 *e*P **P** **19 14 20.3 +0.1**
comp=Z,14nm,1.0s
HINF Hinteralfeld 10.94 322 *e*P **P** **19 14 18.8 -2.5**
NKC Novy Kostel 11.09 345 *e*P **P** **19 14 19.6 -3.6**
NKC AMS AMS 19 19 10.0
comp=Z,300nm,15.7s
CDF Champ du Feu 11.18 325 *e*P **P** **19 14 21.3 -3.3**
comp=Z,4.3nm,0.3s
CDF Champ du Feu 11.18 325 *e*P **P** **19 14 21.3 -3.3**
CDF pmax pmax
comp=Z,2.0nm,0.3s
HAU Haudompre 11.32 321 *e*P **P** **19 14 24.4 -2.0**
HAU *e*R
comp=Z,420nm,20.0s
BRG Berggiesshubel 11.46 351 *e*Pn **P** **19 14 31.7 +3.3**
BRG *e* 19 16 56.9
MOX Moxa 11.65 343 *i*P **P** **19 14 30.8 -0.1**
MOX L L 19 19 42.0
MOX Moxa 11.65 343 *e*Pn **P** **19 14 27.7 -3.2**
MOX *e*Sn **S** **19 16 30.5 -12**
SMF Signal de Mont 11.83 311 *e*P **P** **19 14 36.1 +2.8**
comp=Z,32nm,1.2s
SMF Signal de Mont 11.83 311 *e*P **P** **19 14 36.1 +2.8**
SMF pmax pmax
comp=Z,16nm,1.2s
CLL Collm 12.02 348 P **P** **19 14 34.0 -1.9**
CLL S **S** **19 17 04.0 +13**
CLL *e* 19 17 50.0
CLL Collm 12.02 348 P **P** **19 14 26.0 -10**
CLL *e* 19 14 34.0
CLL *e* 19 17 04.0
CLL *e* 19 17 50.0
LOR Lormes 12.16 313 *e*P **P** **19 14 37.9 +0.1**
LOR *e*R
comp=Z,274nm,18.5s
SSF Saint Saulge 12.24 312 *e*P **P** **19 14 42.0 +3.1**
SSF pmax pmax
comp=Z,7.0nm,1.2s
SSF Saint Saulge 12.24 312 *e*P **P** **19 14 42.0 +3.1**
comp=Z,7.3nm,1.2s
MEZF Maizieres J'vi 12.29 320 *e*P **P** **19 14 38.7 -0.9**
TCF Toulx Ste Croi 12.63 307 *e*P **P** **19 14 46.5 +2.3**
comp=Z,6.9nm,0.9s
TCF Toulx Ste Croi 12.63 307 *e*P **P** **19 14 46.5 +2.3**
TCF pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 12.94 84 Pn **P** **19 14 49.5 +1.2**
comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=12
EBEN Beniarda 13.29 272 P **P** **19 14 53.0 +0.1**
comp=Z,3.5nm,0.6s
EBEN Beniarda 13.29 272 P **P** **19 14 53.0 +0.1**
comp=Z,3.5nm,0.6s,SNR=7.9
EMOS Mosqueruela 13.31 279 P **P** **19 15 00.0 +6.8**
comp=Z,2.1nm,1.0s
CSS Prodhromos 13.91 104 *e*P **P** **19 14 55.0 -6.1**
AKASG Malin Array Be 14.10 34 Pn **P** **19 15 03.2 -0.3**
comp=Z,0.2nm,0.3s,baz=225,slow=12,SNR=5.7
AKASG Malin Array Be 14.10 34 Pn **P** **19 15 03.2 -0.3**
SUW Suwalki 15.05 15 P **P** **19 15 13.0 -2.9**
SUW pmax pmax
comp=Z,20nm,1.1s
SUW Suwalki 15.05 15 P **P** **19 15 13.0 -2.9**
comp=Z,20nm,1.1s
RGN Rugen 15.15 352 P **P** **19 15 13.8 -3.4**
ESDC Sonseca Array 16.04 277 P **P** **19 15 36.5 +7.7**
comp=Z,2.6nm,1.2s
ESLA Sonseca Array 16.04 277 *e*P **P** **19 15 26.5 -2.3**
comp=Z,2.9nm,1.2s
GUD Guadarrama 16.11 280 P **P** **19 15 37.8 +8.2**
GUD pmax pmax
comp=Z,2.0nm,0.6s
GUD Guadarrama 16.11 280 P **P** **19 15 37.8 +8.1**
comp=Z,2.1nm,0.6s
MALT Malatya 16.83 87 *e*P **P** **19 15 40.4 +1.5**
MALT pmax pmax
comp=Z,7.0nm,0.9s
MALT Malatya 16.83 87 *e*P **P** **19 15 40.4 +1.6**
comp=Z,7.4nm,0.9s
ASF Jabal al Asfar 17.83 108 LR LR 19 24 05.8
comp=Z,67nm,20.4s,baz=143,slow=41
EIL Elat 17.86 118 P **P** **19 15 47.4 -4.3**
comp=Z,0.6nm,0.3s,baz=355,slow=12,SNR=16
EIL Elat 17.86 118 P **P** **19 15 45.0 -6.7**
comp=Z,8.8nm,0.9s
EMIN Mina Concepcio 18.45 272 P **P** **19 15 59.0 -0.2**
comp=Z,2.7nm,0.6s
KIV Kislovodsk 19.72 69 *e*P **P** **19 16 19.7 +5.6**
KIV pmax pmax
comp=Z,8.0nm,1.6s
GOF Gofitskoye 20.07 66 ⇑*i*P **P** **19 16 17.0 -0.8**
GOF pmax pmax
comp=Z,16nm,1.3s
GOF Gofitskoye 20.07 66 *i*P **P** **19 16 17.0 -0.8**
comp=Z,16nm,1.3s
OBN Obninsk 20.37 34 *e*P **P** **19 16 21.5 +0.6**
OBN *i* 19 16 29.7
OBN *i* 19 16 51.7
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.2
OBN Obninsk 20.37 34 *e*P **P** **19 16 21.5 +0.6**
comp=Z,14nm,1.2s
KONO Kongsberg 20.59 349 *e*P **P** **19 16 20.3 -2.9**
KONO pmax pmax
comp=Z,7.0nm,1.0s
KONO Kongsberg 20.59 349 *e*P **P** **19 16 20.3 -2.9**
comp=Z,6.8nm,1.0s
KONO Kongsberg 20.59 349 *e*P **P** **19 16 20.3 -2.9**
comp=Z,7.0nm,1.0s
EKA Eskdalemuir Ar 20.64 326 P **P** **19 16 20.4 -3.4**
comp=Z,3.2nm,0.8s,baz=138,slow=12,SNR=7.7
ESK Eskdalemuir 20.65 326 *e*P **P** **19 16 20.7 -3.1**
ESK pmax pmax
comp=Z,10.0nm,1.0s
ESK Eskdalemuir 20.65 326 *e*P **P** **19 16 20.6 -3.2**
comp=Z,10nm,1.0s
ESK Eskdalemuir 20.65 326 *e*P **P** **19 16 20.7 -3.1**
comp=Z,10.0nm,1.0s
HFS Hagfors 20.66 356 P **P** **19 16 22.6 -1.3**
comp=Z,5.6nm,0.6s,baz=172,slow=10,SNR=26
GNI Garni 21.38 80 P **P** **19 16 31.9 +0.5**
GNI pmax pmax
comp=Z,5.0nm,0.7s
GNI Garni 21.38 80 P **P** **19 16 31.9 +0.5**
comp=Z,5.1nm,0.7s,mb4.0,baz=66,slow=7.8,SNR=8.4
GNI Garni 21.38 80 *e*P **P** **19 16 26.8 -4.6**
comp=Z,9.4nm,0.8s,mb4.2
NAO01 NORSAR Array S 21.60 352 *e*P **P** **19 16 32.0 -1.4**
comp=Z,9.0nm,0.7s,mb4.3
NB2 NORSAR Subarra 21.75 353 P **P** **19 16 33.0 -2.0**
comp=Z,5.0nm,0.7s,mb4.0,baz=169,slow=9.3
NB2 NORSAR Subarra 21.75 353 P **P** **19 16 33.0 -2.0**
NB2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
NOA NORSAR Array B 21.75 353 P **P** **19 16 34.1 -0.9**
comp=Z,3.7nm,0.7s,mb3.9,baz=182,slow=11,SNR=27
NOA LR LR 19 26 15.7
comp=Z,49nm,20.1s,MS2.9,baz=195,slow=40
FINES FINESS Array B 22.60 12 P **P** **19 16 42.3 -1.0**
comp=Z,2.0nm,0.5s,mb3.8,baz=180,slow=7.1,SNR=24
FINES PcP PcP 19 20 35.3 -2.4
comp=Z,0.4nm,0.5s,baz=146,slow=6.9,SNR=3.7
FINES LR LR 19 25 49.9
comp=Z,67nm,19.1s,MS3.1,baz=188,slow=37
KAF Kangasniemi 23.27 11 *e*p **P** **19 16 48.4 -1.5**
comp=Z,4.2nm,0.9s,mb3.9
KAF Kangasniemi 23.27 11 *e*P **P** **19 16 48.4 -1.5**
KAF pmax pmax
comp=Z,4.0nm,0.9s,mb3.9
ARCES ARCESS Array B 30.36 6 P **P** **19 17 54.0 -1.3**
comp=Z,0.7nm,0.5s,mb3.7,baz=193,slow=8.8,SNR=5.5
ARCES LR LR 19 31 15.1
comp=Z,70nm,19.0s,MS3.3,baz=197,slow=38
ARU Arti 31.98 44 ⇓*i*P **P** **19 18 04.0 -5.7**
ARU *e* 19 19 10.5
ARU *e*S **S** **19 23 17.3 -2.6**
ARU *e*SS SS 19 25 09.6 -2.4
ARU pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
BVAR Borovoye Array 38.44 51 P **P** **19 19 04.4 -0.6**
comp=Z,0.4nm,0.5s,mb3.4,baz=248,slow=8.0,SNR=6.6
AAK Ala-Archa 42.81 67 ⇑*i*P **P** **19 19 41.3 +0.2**
AAK Ala-Archa 42.81 67 *e*P **P** **19 19 41.2 +0.1**
comp=Z,2.6nm,1.0s,mb3.9
KMBO Kilima Mbogo 44.63 150 *i*P **P** **19 19 55.5 -0.7**
KMBO pmax pmax
comp=Z,2.0nm,1.0s
KMBO Kilima Mbogo 44.63 150 P **P** **19 19 54.5 -1.7**
comp=Z,1.5nm,1.0s,mb3.8,baz=334,slow=4.8,SNR=4.5
KMBO Kilima Mbogo 44.63 150 *e*P **P** **19 19 55.1 -1.1**
comp=Z,2.8nm,1.1s,mb4.0
ZAL Zalesovo 46.88 49 P **P** **19 20 12.4 -1.1**
comp=Z,0.8nm,0.4s,mb4.0,baz=203,slow=9.8,SNR=4.8
ZAL LR LR 19 42 54.9
comp=Z,84nm,19.5s,MS3.7,baz=186,slow=40
MKAR Makanchi Array 47.01 59 P **P** **19 20 14.2 -0.4**
comp=Z,1.6nm,0.4s,mb4.3,baz=282,slow=7.3,SNR=40
MKAR LR LR 19 43 56.4
comp=Z,31nm,20.2s,MS3.3,baz=80,slow=41
WMQ Urumqi 51.57 61 P **P** **19 20 51.0 +1.2**
WMQ AP pP 19 20 57.0 +4.1
WMQ XP sP 19 21 00.0 +5.9
WMQ PCP PcP 19 22 04.0 +0.1
WMQ PP PP 19 22 49.5 +1.4
WMQ AMB AMB
comp=Z,5.0nm,0.5s,mb4.7
WMQ AMB AMB
comp=Z,93nm,4.7s
WMQ LR LR
comp=N,64nm,21.6s,MS3.6
WMQ LR LR
comp=E,18nm,20.2s,MS3.6
SCHQ Schefferville 55.47 316 LR LR 19 44 41.8
comp=E,54nm,19.4s,MS3.6,baz=121,slow=36
TLY Talaya 58.42 47 *e*P **P** **19 21 39.4 -0.1**
TLY pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
TSUM Tsumeb 58.49 179 LR LR 19 46 34.8
comp=Z,46nm,18.6s,MS3.6,baz=340,slow=36
ZAK Zakamensk 58.77 48 *e*P **P** **19 21 41.6 -0.3**
ZAK pmax pmax
comp=Z,1.0nm,1.5s,mb3.6
ZAK Zakamensk 58.77 48 *e*P **P** **19 21 41.6 -0.3**
comp=Z,1.0nm,1.5s,mb3.6
TIXI Tiksi 59.31 20 *e*P **P** **19 21 44.2 -1.3**
TIXI pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
TIXI MLR MLR
comp=Z,100nm,17.0s,MS4.0
TIXI Tiksi 59.31 20 *e*P **P** **19 21 44.2 -1.3**
comp=Z,100nm,17.0s
MATP Matopo 60.69 167 LR LR 19 50 39.3
comp=Z,46nm,18.5s,MS3.7,baz=61,slow=38
BOD Bodaibo 61.00 37 *e*P **P** **19 21 45.6 -12**
SONM Songino Array 61.76 50 P **P** **19 22 01.6 -0.8**
comp=Z,1.3nm,0.8s,mb4.1,baz=297,slow=7.6,SNR=14
ULN Ulaanbaatar 62.13 50 *e*P **P** **19 22 03.4 -1.5**
YAK Yakutsk 65.26 29 *e*P **P** **19 22 22.4 -2.7**
BOSA Boshof 68.31 172 *e*P **P** **19 22 41.6 -3.4**
BOSA pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BOSA Boshof 68.31 172 P **P** **19 22 41.1 -3.9**
comp=Z,2.7nm,0.9s,mb4.2,baz=257,slow=2.5,SNR=3.6
BOSA LR LR 19 53 52.7
comp=Z,66nm,18.9s,MS3.9,baz=174,slow=37
BOSA Boshof 68.31 172 *e*P **P** **19 22 41.6 -3.5**
comp=Z,4.0nm,0.9s,mb4.5
BOSA Boshof 68.31 172 *e*P **P** **19 22 41.6 -3.4**
comp=Z,4.0nm,0.9s,mb4.5
YKA Yellowknife Ar 71.05 338 P **P** **19 22 58.2 -3.0**
comp=Z,0.1nm,0.4s,mb3.1,baz=40,slow=5.5,SNR=5.3
YKA LR LR 19 55 48.7
comp=Z,70nm,18.1s,MS4.0,baz=240,slow=37
MDJ Mudanjiang 76.64 43 P **P** **19 23 32.5 -1.5**
MDJ AMB AMB
comp=Z,60nm,3.6s
NVAR Mina Array Bea 92.14 326 LR LR 20 11 45.6
comp=Z,38nm,18.5s,MS3.9,baz=180,slow=39
CPUP Villa Florida 95.22 240 LR LR 20 10 22.8
comp=Z,43nm,21.4s,MS3.9,baz=46,slow=37
ASAR Alice Springs 125.14 93 PKP PKPdf 19 30 41.5 -4.2
comp=Z,0.3nm,0.6s,baz=281,slow=1.3,SNR=4.0

DJA 23 19:24:27.3±0.9, 8.45S×112.56E, h160km, MD4.8/4, ML4.3/4, 8C-3D, Error ellipse: s-maj=54.6km s-min=19.6km az=3.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.57**	**91**	⇑*i*Pn	P	P	19 24 57.9	-0.8
	218nm,0.2s							
SRDI	**Scrawed**	**1.57**	**91**	⇓*i*P	P	P	19 24 58.1	-0.6
SRDI				⇓*i*Sn	S	S	19 25 19.5	-3.4
KELI	**Kelakatan**	**1.93**	**83**	⇑*i*Pn	P	P	19 25 02.8	+0.3
	153nm,0.2s							
KELI	**Kelakatan**	**1.93**	**83**	⇑*i*P	P	P	19 25 03.0	+0.5
KELI				⇑*i*Sn	S	S	19 25 27.8	-1.9
RATI	**Rata**	**2.96**	**95**	⇓*i*Pn	P	P	19 25 15.8	+0.7
	245nm,0.3s							
RATI				⇑*i*Sn	S	S	19 25 50.1	-1.7
KEDI	**Kedomdong**	**3.52**	**91**	⇑*i*Pn	P	P	19 25 22.0	-0.4
	70nm,0.2s							
KEDI	**Kedomdong**	**3.52**	**91**	⇑*i*P	P	P	19 25 22.1	-0.3
KEDI				⇑*i*Sn	S	S	19 26 01.8	-2.9

IDC 23 19:34:48.2±2.0, 1.63S×99.55E, mb3.7/6, mb1 3.8/7, mb1mx3.6/18, mbtmp3.6/7, ML4.3/1, Error ellipse: s-maj=89.0km s-min=20.5km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.97**	**358**	P	P	P	19 39 22.2	-2.9
	0.3nm,0.3s,baz=187,slow=11,SNR=4.9							
WRA	**Warramunga Arr**	**38.57**	**121**	P	P	P	19 42 13.0	-1.8
	0.5nm,0.4s,baz=303,slow=9.1,SNR=4.2							
ASAR	**Alice Springs**	**39.84**	**126**	P	P	P	19 42 23.7	-1.6
	0.4nm,0.5s,baz=305,slow=8.0,SNR=9.6							
SONM	**Songino Array**	**49.62**	**6**	P	P	P	19 43 41.6	-1.8
	0.3nm,0.5s,baz=194,slow=7.6,SNR=5.5							
MKAR	**Makanchi Array**	**50.55**	**345**	P	P	P	19 43 48.7	-1.8
	1.0nm,0.6s,baz=151,slow=8.2,SNR=13							
ZAL	**Zalesovo**	**56.72**	**350**	P	P	P	19 44 33.0	-3.0
	0.8nm,0.4s,baz=344,slow=10.0,SNR=3.7							
FINES	**FINESS Array B**	**83.58**	**332**	P	P	P	19 47 18.1	-1.3
	0.3nm,0.4s,baz=117,slow=4.3,SNR=8.9							

MAN 23 19:45:05.2, 10.97N×123.88E, h1km, mb3.8, ML2.6, MS2.2, 2C, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.65**	**173**	⇑*i*P	P	Pg	19 45 17.9	-0.3
LLP				*i*S	S	Sg	19 45 26.0	-0.9
PLP	**Palo**	**1.09**	**80**	*i*P	P	Pb	19 45 27.8	+1.2
PLP				*e*S	S	Sb	19 45 43.0	+1.9
RCP	**Roxas**	**1.26**	**298**	⇑*e*P	P	Pb	19 45 29.2	-0.2
MSLP	**Maasin**	**1.27**	**131**	*e*P	P	Pb	19 45 29.1	-0.4
MSLP				*e*S	S	Sb	19 45 33.8	-12
TBP	**Tagbilaran**	**1.27**	**181**	*e*P	P	Pb	19 45 29.8	+0.2
TBP				*e*S	S	Sb	19 45 45.3	-1.0
GUIM	**Jordan**	**1.32**	**255**	*e*P	P	Pb	19 45 29.4	-1.0
CUYO	**Cuyo Island**	**2.82**	**268**	*e*P	P	Pn	19 45 52.2	0.0

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*CSEM **23** 19:52:49.5±0.4, 38.69N×28.51W, h2km±4km, ML1.3, Error ellipse: s-maj=2.1km s-min=1.1km az=1.0, After PDA*
*PDA **23** 19:52:49.5±0.4, 38.69N×28.51W, h2km±4km, MD2.7, ML1.3, Error ellipse: s-maj=2.1km s-min=1.1km az=1.0*
SVSA 23 19:52:49.5±0.4, 38.69N×28.51W, h2km±4km, MD2.7, ML1.3, Error ellipse: s-maj=2.1km s-min=1.1km az=1.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.16**	**246**	*e*P	P	Pg	19 52 52.6	-0.2
PCED				*e*S	S	Sg	19 52 54.8	-0.2
	13nm,0.1s							
PCED	**Cedros**	**0.16**	**246**	*e*P	P	Pg	19 52 52.6	-0.2
PCED				*e*S	S	Sg	19 52 54.8	-0.2
	13nm,0.1s							
CALA	**Caldeira**	**0.19**	**233**	*e*P	P	Pg	19 52 53.1	-0.1
CALA				*e*S	S	Sg	19 52 55.8	0.0
PICO	**Pico**	**0.20**	**161**	*i*P	P	Pg	19 52 53.3	-0.3
PICO				*e*S	S	Sg	19 52 56.3	0.0
PICO	**Pico**	**0.20**	**161**	*e*S	S	Sg	19 52 56.3	0.0
PMAN	**Manadas**	**0.34**	**100**	*e*S	S	Sg	19 53 00.2	-0.5
	14nm,0.1s							

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*CSEM **23** 19:53:11.8±0.0, 44.50N×6.50E, h5km, ML2.8/23, Error ellipse: s-maj=0.9km s-min=0.7km az=80.0*
*LDG **23** 19:53:12.3±0.0, 44.51N×6.46E, h3km, Md2.7/3, Ml2.8/23, Error ellipse: s-maj=1.0km s-min=0.7km az=93.0*
*NEIC **23** 19:53:12.4, 44.49N×6.45E, h5km, ML2.8(LDG), ML2.6(STR), After STR.*
STR 23 19:53:12.4±0.1, 44.49N×6.45E, h5km±1km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.26**	**92**	Pg	P	Pg	19 53 17.1	-0.6
SURF					Sg	Sg	19 53 21.8	+0.6
OG25	**Le Caire**	**0.29**	**246**	Pg	Pg	Pg	19 53 18.4	0.0
OG25					Sg	Sg	19 53 22.7	+0.4
MBDF	**Montbardon**	**0.33**	**44**	*e*Pg	Pg	Pg	19 53 18.4	-0.6
MBDF				*e*Sg	Sg	Sg	19 53 22.8	-0.7
	300nm,0.5s							
PZZ	**Prazzo**	**0.47**	**88**	P	P	Pg	19 53 21.2	-0.6
PZZ					S	Sg	19 53 28.2	+0.2
PZZ	**Prazzo**	**0.47**	**88**	P	P	Pg	19 53 21.2	-0.6
PZZ					S	Sg	19 53 28.2	+0.2
OG22	**Abries**	**0.48**	**47**	Pg	Pg	Pg	19 53 22.1	0.0
OG22					Sg	Sg	19 53 29.3	+0.7
RRL	**Cesana Torines**	**0.49**	**29**	P	P	Pg	19 53 21.8	-0.5
RRL					S	Sg	19 53 29.9	+1.1
RRL	**Cesana Torines**	**0.49**	**29**	P	P	Pg	19 53 21.8	-0.5
RRL					S	Sg	19 53 29.9	+1.1
BNI	**Bardonecchia**	**0.58**	**16**	*e*Pg	Pg	Pg	19 53 23.7	-0.4
BNI				*e*Sg	Sg	Sg	19 53 32.2	+0.2
BNI	**Bardonecchia**	**0.58**	**16**	*e*Pg	Pg	Pg	19 53 23.7	-0.4
BNI				*e*Sg	Sg	Sg	19 53 32.2	+0.3
ORIF	**Oris-en-Rattie**	**0.59**	**317**	*e*Pg	Pg	Pg	19 53 22.2	-2.0
ORIF				*e*Sg	Sg	Sg	19 53 30.8	-1.3
	141nm,0.5s							
STOF	**St-Etienne Org**	**0.63**	**219**	Pg	Pg	Pg	19 53 23.8	-1.1
STV	**Sta Anna Valdi**	**0.67**	**111**	P	Pg	Pg	19 53 24.5	-1.3
STV					S	Sg	19 53 33.7	-1.2
STV	**Sta Anna Valdi**	**0.67**	**111**	P	Pg	Pg	19 53 24.5	-1.4
STV					S	Sg	19 53 33.7	-1.2
STV2	**Anna di Valdie**	**0.67**	**111**	P	Pg	Pg	19 53 24.2	-1.7
STV2					S	Sg	19 53 33.8	-1.1
STV2	**Anna di Valdie**	**0.67**	**111**	P	Pg	Pg	19 53 24.2	-1.7

STV2				S	Sg	19 53 33.8	-1.1
BHB	**Bricherasio**	**0.68**	**59**	P	Pg	19 53 24.9	-1.1
BHB				S	Sg	19 53 33.9	-1.1
BHB	**Bricherasio**	**0.68**	**59**	P	Pg	19 53 24.9	-1.1
BHB				S	Sg	19 53 33.9	-1.1
FENE	**Fenestrelle**	**0.69**	**39**	P	Pg	19 53 25.0	-1.3
FENE				S	Sg	19 53 35.6	+0.1
FENE	**Fenestrelle**	**0.69**	**39**	P	Pg	19 53 25.0	-1.3
FENE				S	Sg	19 53 35.6	0.0
ENR	**Entracque**	**0.74**	**110**	P	Pg	19 53 25.7	-1.6
ENR	**Entracque**	**0.74**	**110**	P	Pg	19 53 25.7	-1.6
TOUF	**Mont Tournerai**	**0.75**	**129**	Pg	Pg	19 53 25.9	-1.4
GDM	**Grand'Maison**	**0.75**	**342**	Pg	Pg	19 53 26.5	-0.9
GDM				Sg	Sg	19 53 36.3	-1.2
MVIF	**Mont Vial**	**0.78**	**139**	Pg	Pg	19 53 27.8	-0.2
CALN	**Calern**	**0.80**	**157**	Pg	Pg	19 53 27.2	-1.2
SMRF	**Simiane la Rot**	**0.81**	**231**	*e*Pg	Pg	19 53 27.1	-1.5
SMRF				*e*Sg	Sg	19 53 38.4	-1.1
57nm,0.5s							
OCF	**Saint Nazaire**	**0.83**	**277**	Pg	Pg	19 53 28.7	-0.2
OG26	**St.-Nazaire-De**	**0.83**	**277**	Pg	Pg	19 53 28.7	-0.2
VILF	**Villemus**	**0.83**	**220**	Pg	Pg	19 53 28.1	-0.9
AUTN	**L'Aution**	**0.86**	**125**	Pg	Pg	19 53 28.2	-1.4
RSP	**Reno Superiore**	**0.88**	**41**	P	Pb	19 53 28.8	-0.9
RSP				S	Sb	19 53 40.7	-0.8
RSP	**Reno Superiore**	**0.88**	**41**	P	Pb	19 53 28.8	-0.9
RSP				S	Sb	19 53 40.7	-0.8
TAVF	**Tavernes**	**0.92**	**198**	Pg	Pg	19 53 30.1	-0.6
TAVF				Sg	Sg	19 53 43.3	+0.3
FRF	**La Foret Royal**	**0.94**	**171**	*e*Pg	Pg	19 53 30.2	-1.0
FRF				*e*Sg	Sg	19 53 42.7	-1.0
96nm,0.6s							
SAOF	**Saorge**	**0.94**	**122**	Pg	Pg	19 53 29.7	-1.5
SAOF				Sg	Sg	19 53 44.2	+0.4
SBF	**Sospel**	**0.95**	**131**	*e*Pg	Pg	19 53 29.6	-1.7
SBF				*e*Sg	Sg	19 53 43.0	-0.9
85nm,0.5s							
REVF	**Revere**	**1.00**	**138**	Pg	Pg	19 53 32.0	-0.4
MONE	**Monesi**	**1.02**	**113**	P	Pb	19 53 30.9	-1.3
MONE				S	Sb	19 53 44.8	-0.9
MONE	**Monesi**	**1.02**	**113**	P	Pb	19 53 30.9	-1.3
MONE				S	Sb	19 53 44.8	-1.0
LPG	**La Plagne**	**1.03**	**12**	*e*Pg	Pg	19 53 31.5	-1.5
LPG				*e*Sg	Sg	19 53 44.8	-1.9
81nm,0.5s							
ROB	**Roburent**	**1.04**	**100**	P	Pb	19 53 31.4	-1.1
ROB				S	Sb	19 53 45.9	-0.3
ROB	**Roburent**	**1.04**	**100**	P	Pb	19 53 31.4	-1.1
ROB				S	Sb	19 53 45.9	-0.3
LPL	**La Plagne**	**1.05**	**11**	*e*Pg	Pg	19 53 31.7	-1.6
LPL				*e*Sg	Sg	19 53 44.6	-2.6
60nm,0.5s							
LSD	**Ceresole Reale**	**1.09**	**27**	P	Pb	19 53 31.9	-1.4
LSD				S	Sb	19 53 46.9	-0.8
LSD	**Ceresole Reale**	**1.09**	**27**	P	Pb	19 53 31.9	-1.5
LSD				S	Sb	19 53 46.9	-0.8
PUYF	**Puyloubier**	**1.10**	**210**	Pg	Pg	19 53 33.4	-1.0
PUYF				Sg	Sg	19 53 47.8	-1.2
NEGI	**Negi**	**1.11**	**125**	P	Pb	19 53 33.0	-0.6
NEGI				S	Sb	19 53 46.4	-1.8
NEGI	**Negi**	**1.11**	**125**	P	Pb	19 53 33.0	-0.7
NEGI				S	Sb	19 53 46.4	-1.8
PRAF	**Pradon**	**1.15**	**234**	Pg	Pg	19 53 34.6	-0.8
LMR	**La Mourre**	**1.16**	**178**	*e*Pg	Pg	19 53 33.7	-1.8
LMR				*e*Sg	Sg	19 53 49.4	-1.5
74nm,0.6s							
TREF	**Trevaresse**	**1.16**	**222**	Pg	Pg	19 53 34.3	-1.2
IMI	**Imperia**	**1.19**	**119**	P	Pb	19 53 34.1	-0.9
IMI	**Imperia**	**1.19**	**119**	P	Pb	19 53 34.1	-0.9
FIN	**Finale Ligure**	**1.29**	**102**	P	Pb	19 53 36.2	-0.6
FIN	**Finale Ligure**	**1.29**	**102**	P	Pb	19 53 36.2	-0.6
VIVF	**Saint-Julien-l**	**1.32**	**287**	*e*Pg	Pg	19 53 36.0	-2.8
VIVF				*e*Sg	Sg	19 53 53.9	-2.5
28nm,0.5s							
GELF	**Grande-Etoile**	**1.33**	**214**	Pg	Pg	19 53 37.7	-1.3
TRAV		**1.38**	**42**	P	Pb	19 53 37.6	-0.6
TRAV		**1.38**	**42**	P	Pb	19 53 37.7	-0.5
PCP	**Pian Castagno**	**1.50**	**87**	P	Pn	19 53 39.1	-1.0
PCP	**Pian Castagno**	**1.50**	**87**	P	Pn	19 53 39.1	-1.0
ORX	**Oropa**	**1.58**	**43**	P	Pn	19 53 40.4	-0.7
ORX				S	Sb	19 54 00.6	-1.2
ORX	**Oropa**	**1.58**	**43**	P	Pn	19 53 40.4	-0.8
ORX				S	Sb	19 54 00.6	-1.2
LASF	**Ste Croix**	**1.91**	**258**	*e*Pn	Pn	19 53 43.6	-2.3
LASF				*e*Pg	Pg	19 53 47.8	-2.7
LASF				*e*Sg	Sg	19 54 12.0	-3.9
6.8nm,0.4s							
CABF	**La Chapelle**	**2.14**	**353**	*e*Pn	Pn	19 53 47.3	-1.9
CABF				*e*Pg	Pg	19 53 51.6	-3.5
CABF				*e*Sn	Sn	19 54 11.8	-4.6
CABF				*e*Sg	Sg	19 54 19.1	-4.4
70nm,0.9s							
LBL	**Lubilhac**	**2.40**	**289**	Pn	Pn	19 53 51.4	-1.5
PGF	**Pioggiola**	**2.68**	**135**	*e*Pn	Pn	19 53 54.5	-2.5
PGF				*e*Sn	Sn	19 54 25.3	-5.0
3.2nm,0.3s							
SMF	**Signal de Mont**	**2.83**	**321**	*e*Pn	Pn	19 53 56.8	-2.3
SMF				*e*Pg	Pg	19 54 03.3	-5.6
SMF				*e*Sn	Sn	19 54 28.7	-5.3
SMF				*e*Sg	Sg	19 54 40.2	-6.4
13nm,0.5s							
CAF	**Calviac**	**3.16**	**279**	*e*Pn	Pn	19 54 01.1	-2.7
CAF				*e*Sg	Sg	19 54 50.8	-6.7
13nm,0.8s							
MTLF	**Montolieu**	**3.27**	**251**	*e*Pn	Pn	19 54 02.6	-2.7
MTLF				*e*Sn	Sn	19 54 40.1	-5.0
6.2nm,0.6s							
BGF	**Bois d'Agland**	**3.27**	**310**	*e*Pn	Pn	19 54 03.4	-2.0
BGF				*e*Pg	Pg	19 54 13.1	-4.6
BGF				*e*Sn	Sn	19 54 39.8	-5.3
BGF				*e*Sg	Sg	19 54 54.6	-6.7
28nm,0.6s							
SSF	**Saint Saulge**	**3.29**	**322**	*e*Pn	Pn	19 54 03.7	-2.0
SSF				*e*Sg	Sg	19 54 55.1	-7.0
5.8nm,0.6s							
LOR	**Lormes**	**3.32**	**328**	*e*Pn	Pn	19 54 03.4	-2.6
LOR				*e*Sg	Sg	19 54 56.1	-6.7
9.5nm,0.6s							
HINF	**Hinteralfeld**	**3.34**	**5**	*e*Pn	Pn	19 54 03.3	-3.0
HINF				*e*Pg	Pg	19 54 14.2	-4.9
HINF				*e*Sn	Sn	19 54 41.3	-5.6
HINF				*e*Sg	Sg	19 54 56.4	-7.2
7.9nm,0.6s							
TCF	**Toulx Ste Croi**	**3.49**	**303**	*e*Pn	Pn	19 54 05.6	-2.8
TCF				*e*Sg	Sg	19 55 01.2	-7.3
4.5nm,0.5s							
HAU	**Haudompre**	**3.52**	**359**	*e*Pn	Pn	19 54 06.1	-2.8
HAU				*e*Pg	Pg	19 54 16.7	-5.9
HAU				*e*Sn	Sn	19 54 44.7	-6.7
HAU				*e*Sg	Sg	19 55 01.9	-7.6
7.3nm,0.4s							
HYF	**Humbligny**	**3.85**	**318**	*e*Sn	Sn	19 54 52.9	-6.9
HYF				*e*Sg	Sg	19 55 12.5	-8.0
46nm,0.5s							
CDF	**Champ du Feu**	**3.96**	**8**	*e*Pn	Pn	19 54 12.0	-3.2
CDF				*e*Pg	Pg	19 54 25.7	-5.9
CDF				*e*Sn	Sn	19 54 56.0	-6.7
CDF				*e*Sg	Sg	19 55 16.2	-8.2
6.9nm,0.7s							
LFF	**La Frestale**	**4.09**	**278**	*e*Pn	Pn	19 54 13.6	-3.5
MEZF	**Maizieres J'vi**	**4.13**	**347**	*e*Pn	Pn	19 54 13.9	-3.7
MEZF				*e*Pg	Pg	19 54 27.6	-7.2
MEZF				*e*Sn	Sn	19 54 59.1	-7.8
MEZF				*e*Sg	Sg	19 55 20.7	-9.1
16nm,0.7s							
MFF	**Saint Martin d**	**5.09**	**297**	*e*Pn	Pn	19 54 27.4	-3.8
GIVF	**Givet**	**5.72**	**349**	*e*Pn	Pn	19 54 36.2	-3.9
GIVF				*e*Sn	Sn	19 55 36.8	-10
GIVF				*e*Sg	Sg	19 56 10.7	-12
1.2nm,0.2s							
BAIF	**Baives**	**5.78**	**345**	*e*Pn	Pn	19 54 35.9	-5.0
BAIF				*e*Sn	Sn	19 55 38.4	-10
FLN	**La Foliniere**	**6.41**	**314**	*e*Pn	Pn	19 54 44.8	-5.0

*ROM **23** 20:09:01.9±0.2, 39.49N×16.77E, h22km±3km, Md3.0/12, Ml2.5/5, Error ellipse: s-maj=7.4km s-min=3.7km az=0.0*
*CSEM **23** 20:09:02.8±0.2, 39.40N×16.89E, h30km, ML3.5/2, Error ellipse: s-maj=7.6km s-min=2.8km az=101.0*
ISC 23 20:09:02.8±0.8, 39.46N±0.04×16.9E±0.1, h25km±7km, n15, σ0s66/19, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIP	**Timpagrande**	**0.30**	**200**	Pg	**Pb**	**20 09 09.6**	**-0.2**
TIP				Sg	**Sb**	**20 09 15.0**	**+0.4**
364nm,0.6s							
ORI	**Oriolo Calabro**	**0.69**	**331**	Pg	**Pb**	**20 09 15.3**	**-0.9**
185nm,0.3s							
GRI	**Girifalco**	**0.73**	**210**	Pg	**Pb**	**20 09 16.2**	**-0.6**
335nm,0.6s							
LTRZ	**Laterza**	**1.14**	**357**	Pg	**Pn**	**20 09 23.4**	**0.0**
LTRZ				Sg	**Sb**	**20 09 39.5**	**+1.3**
64nm,0.3s							
MGR	**Morigerati**	**1.23**	**304**	Pg	**Pn**	**20 09 24.2**	**-0.4**
MGR				Sg	**Sn**	**20 09 41.3**	**+0.7**
76nm,0.5s							
SG1	**Sgolgore (BA)**	**1.39**	**353**	*e*Pn	**Pn**	**20 09 26.5**	**-0.4**
PE1	**Pezze di Greco**	**1.41**	**17**	*e*Pn	**Pn**	**20 09 27.2**	**+0.1**
CEL	**Celeste**	**1.43**	**213**	Pg	**Pn**	**20 09 28.3**	**+0.9**
73nm,0.7s							
SOI	**Samo**	**1.53**	**206**	Pg	**Pn**	**20 09 29.9**	**+1.0**
SOI				Sg	**Sn**	**20 09 52.4**	**+4.3**
17nm,0.4s							
MSRU	**Castanea**	**1.61**	**223**	Pg	**Pn**	**20 09 29.0**	**-1.0**
39nm,0.6s							
SGO	**Sicignano**	**1.64**	**313**	Pg	**Pn**	**20 09 30.1**	**-0.3**
MRLC	**Muro Lucano**	**1.68**	**321**	Pg	**Pn**	**20 09 31.1**	**0.0**
17nm,0.4s							
CDT	**Castel del Mon**	**1.69**	**344**	*e*Pn	**Pn**	**20 09 30.3**	**-0.8**
CLLN	**Colliano**	**1.74**	**317**	Pn	**Pn**	**20 09 31.7**	**-0.2**
80nm,0.6s							
CSSN	**Cassano Irpino**	**2.00**	**315**	Pn	**Pn**	**20 09 35.9**	**+0.3**
9.0nm,0.4s							

*IDC **23** 20:15:34.4±2.5, 0.05S×96.31E, h25km±6km, mb3.4/5, mb1 3.6/6, mb1mx3.4/19, mbtmp3.6/6, ML3.5/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/16, Error ellipse: s-maj=96.5km s-min=20.7km az=59.0*
*NEIC **23** 20:15:35.3±0.9, 0.07N×96.52E, Error ellipse: s-maj=20.4km s-min=10.9km az=67.0*
ISC 23 20:15:33.3±1.2, 0.1N±0.1×96.5E±0.2, h26km, h26km±1.0km: pP-P, n12, σ0s52/10, mb3.5/5, MS3.6/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.58**	**38**	*e*Pn	**Pn**	**20 17 10.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**18.39**	**7**	P	**P**	**20 19 49.3**	**+0.7**
0.1nm,0.3s,baz=201,slow=12,SNR=5.4							
CMAR				LR	LR	20 27 37.3	
comp=Z,49nm,19.2s,baz=205,slow=39							
KKM	**Kota Kinabalu**	**20.50**	**73**	P	**P**	**20 20 12.8**	**+0.5**
NWAO	**Narrogin (SRO)**	**38.20**	**151**	LR	LR	20 39 42.8	
comp=Z,97nm,18.4s,MS3.6,baz=203,slow=38							
WRA	**Warramunga Arr**	**42.03**	**121**	P	**P**	**20 23 25.1**	**+0.4**
0.3nm,0.9s,mb2.9,baz=300,slow=8.8,SNR=3.6							
ASAR	**Alice Springs**	**43.28**	**126**	P	**P**	**20 23 34.9**	**0.0**
0.4nm,0.6s,mb3.3,baz=299,slow=7.8,SNR=7.0							
MKAR	**Makanchi Array**	**48.15**	**347**	P	**P**	**20 24 13.2**	**-0.2**
0.7nm,0.6s,mb3.9,baz=161,slow=8.3,SNR=16							
MKAR				pP	pP	20 24 20.5	-0.7
1.7nm,0.7s,baz=158,slow=8.1,SNR=16							
MKAR	**Makanchi Array**	**48.15**	**347**	P	**P**	**20 24 13.2**	**-0.2**
MKAR				pP	pP	20 24 20.5	-0.7
SONM	**Songino Array**	**48.31**	**9**	P	**P**	**20 24 15.0**	**+0.5**
0.2nm,0.5s,mb3.4,baz=185,slow=8.2,SNR=4.3							
SONM				pP	pP	20 24 23.2	+0.8
0.6nm,0.8s,baz=194,slow=8.2,SNR=5.2							
STKA	**Stephens Creek**	**53.12**	**131**	P	**P**	**20 24 50.9**	**-0.5**
ZAL	**Zalesovo**	**54.52**	**352**	P	**P**	**20 25 00.8**	**-0.6**
1.0nm,0.4s,mb4.2,baz=270,slow=3.5,SNR=3.7							
ZAL				pP	pP	20 25 08.9	-0.3
1.7nm,0.4s,baz=299,slow=4.7,SNR=4.9							
TXAR	**Lajitas Array**	**144.94**	**32**	pPKPbc		20 35 20.1	
0.3nm,0.5s,baz=207,slow=2.8,SNR=3.0							

*CSEM **23** 20:33:08.6±1.0, 38.64N×28.52W, h5km, ML1.3, Error ellipse: s-maj=4.2km s-min=2.5km az=6.0, After PDA*
*PDA **23** 20:33:08.6±1.0, 38.64N×28.52W, h5km, MD2.9, ML1.3, Error ellipse: s-maj=4.2km s-min=2.5km az=6.0*
SVSA 23 20:33:08.6±1.0, 38.64N×28.52W, h5km, MD2.9, ML1.3, Error ellipse: s-maj=4.2km s-min=2.5km az=6.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.14**	**218**	*e*S	Sg	20 33 13.3	-0.3
PCED	**Cedros**	**0.14**	**265**	*e*P	Pg	20 33 11.1	-0.5
PCED				*e*S	Sg	20 33 13.8	+0.2
29nm,0.2s							
PCED	**Cedros**	**0.14**	**265**	*e*P	Pg	20 33 11.1	-0.5
PCED				*e*S	Sg	20 33 13.8	+0.2
29nm,0.2s							
CALA	**Caldeira**	**0.16**	**248**	*e*P	Pg	20 33 11.4	-0.4
CALA				*e*S	Sg	20 33 14.2	+0.2
PICO	**Pico**	**0.16**	**153**	*e*P	Pg	20 33 11.3	-0.6
PICO				*e*S	Sg	20 33 14.2	+0.1
PMAN	**Manadas**	**0.34**	**91**	*e*S	Sg	20 33 19.4	-0.5
12nm,0.2s							

*BJI **23** 20:35:56.8, 33.00S×68.20W, h155km, mB4.9*
*GUC **23** 20:35:57.1±0.6, 32.94S×68.11W, h154km, ML4.8*
*IDC **23** 20:35:58.6±0.4, 32.98S×68.21W, h151km±3km, mb4.1/12, mb1 4.3/16, mb1mx4.2/19, mbtmp4.6/16, MS2.9/2, Ms1 2.9/2, ms1mx2.7/16, Error ellipse: s-maj=16.4km s-min=7.5km az=84.0*
*NEIC **23** 20:35:58.8±0.1, 32.98S×68.24W, mb4.7/27, Error ellipse: s-maj=4.2km s-min=3.7km az=102.0*
ISC 23 20:35:57.6±0.4, 32.94S±0.03×68.15W±0.05, h155km±3km, h155km±2.1km: pP-P, n122, σ0s81/99, mb4.5/35, 8C-13D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDZ	**Mendoza**	**0.59**	**275**	⇓*i*P	**P**	**20 36 20.7**	**+0.3**
MDZ				*i* S	**S**	**20 36 36.6**	**-1.4**
CFAA	**Coronel Fontan**	**1.33**	**357**	P	**P**	**20 36 27.0**	**+0.8**
105nm,0.3s,baz=177,slow=9.6,SNR=5866							
CFAA				S	**S**	**20 36 48.5**	**+0.1**
361nm,0.3s,baz=62,slow=22,SNR=148							
ZON	**Zonda**	**1.46**	**342**	⇓*i*P	**P**	**20 36 32.2**	**+4.7**
ZON				*e*S	**S**	**20 36 55.5**	**+4.9**
FCH	**Farellones**	**1.84**	**257**	⇓*i*P	**P**	**20 36 32.1**	**+0.6**
FCH				*i* S	**S**	**20 36 58.7**	**+1.0**
FCH				AMP		20 37 10.9	
comp=N,2μm,0.5s							
LMEL	**Las Melosas**	**1.94**	**242**	⇓*i*P	**P**	**20 36 33.2**	**+0.5**
CLCH	**Cerro Calan**	**2.05**	**257**	⇓*i*P	**P**	**20 36 34.1**	**+0.2**
CLCH				*i* S	**S**	**20 37 01.8**	**-0.2**
CLCH				AMP		20 37 11.2	
comp=E,6μm,0.7s							
JACH	**Jahuel**	**2.07**	**277**	⇑*i*P	**P**	**20 36 34.6**	**+0.4**
JACH				*i* S	**S**	**20 37 02.6**	**+0.2**
DSCH	**Colegio Aleman**	**2.08**	**257**	⇑*i*P	**P**	**20 36 34.4**	**+0.1**
DSCH				*i* S	**S**	**20 37 03.0**	**+0.4**
DSCH				AMP		20 37 04.1	
comp=E,9μm,0.4s							
PCH	**Pirque**	**2.09**	**250**	⇑*i*P	**P**	**20 36 34.7**	**+0.2**
PCH				*i* S	**S**	**20 37 03.1**	**+0.3**
PEL	**Peldehue**	**2.14**	**264**	⇑*i*P	**P**	**20 36 34.8**	**-0.2**
PEL				*i* S	**S**	**20 37 04.1**	**+0.3**
PEL				AMP		20 37 07.2	
comp=N,9μm,0.8s							
STL	**Santa Lucia**	**2.15**	**256**	⇓*i*P	**P**	**20 36 35.0**	**-0.2**
STL				*i* S	**S**	**20 37 03.7**	**-0.3**
STL				AMP		20 37 05.6	
comp=N,2μm,0.3s							
SAN	**Santiago**	**2.17**	**256**	⇓*i*P	**P**	**20 36 35.5**	**+0.1**
SAN				*i* S	**S**	**20 37 04.0**	**-0.5**
PUEX	**Pudahuel**	**2.24**	**256**	⇑*i*P	**P**	**20 36 35.9**	**-0.4**
PUEX				*i* S	**S**	**20 37 05.9**	**-0.2**
PUEX				AMP		20 37 06.2	
comp=E,16μm,0.6s							
CHCH	**Chadas Angostu**	**2.31**	**244**	⇑*i*P	**P**	**20 36 36.9**	**-0.3**
CHCH				*i* S	**S**	**20 37 07.9**	**+0.3**
CICH	**Cipreses**	**2.34**	**233**	⇑*i*P	**P**	**20 36 37.6**	**0.0**
CICH				*i* S	**S**	**20 37 08.5**	**+0.3**
CACH	**El Canelo**	**2.36**	**240**	⇓*i*P	**P**	**20 36 37.8**	**0.0**
CACH				*i* S	**S**	**20 37 08.6**	**0.0**
ILCH	**Illapel**	**2.87**	**296**	⇑*i*P	**P**	**20 36 43.8**	**-0.4**

ILCH				AMP		20 37 20.4	
comp=E,2μm,0.3s							
CHNG	**Los Chungos**	**3.02**	**290**	*i* P	**P**	**20 36 45.8**	**-0.3**
CHNG				*i* S	**S**	**20 37 22.8**	**-0.5**
CHNG				AMP		20 37 24.0	
comp=N,2μm,0.4s							
NICH	**Los Niches**	**3.28**	**230**	*i* S	**S**	**20 37 28.6**	**-0.7**
TLL	**Tololo Astrono**	**3.58**	**320**	⇓*i*P	**P**	**20 36 53.7**	**+0.4**
TLL				*i* S	**S**	**20 37 36.3**	**+0.3**
TRQA	**Tornquist**	**7.17**	**137**	*e*P	**P**	**20 37 41.1**	**+0.3**
comp=N,27nm,0.6s							
PLCA	**Paso Flores**	**8.01**	**193**	P	**P**	**20 37 50.5**	**-1.6**
comp=N,11nm,0.3s,baz=3.8,slow=12,SNR=266							
PLCA				LR	LR	20 40 29.9	
comp=N,89nm,21.8s,baz=3.8,slow=34							
LVC	**Limon Verde**	**10.31**	**356**	P	**P**	**20 38 21.9**	**-0.5**
comp=N,10nm,0.3s,baz=191,slow=8.3,SNR=36							
LVC				S	**S**	**20 40 11.4**	**-4.6**
comp=N,2.2nm,0.3s,baz=329,slow=19,SNR=4.6							
LVC	**Limon Verde**	**10.31**	**356**	*e*P	**P**	**20 38 21.7**	**-0.8**
comp=N,30nm,0.4s							
CPUP	**Villa Florida**	**11.48**	**58**	P	**P**	**20 38 34.8**	**-3.0**
comp=N,2.7nm,0.3s,baz=263,slow=14,SNR=39							
CPUP				LR	LR	20 43 25.4	
comp=N,53nm,20.5s,baz=358,slow=39							
CPUP	**Villa Florida**	**11.48**	**58**	*e*P	**P**	**20 38 34.5**	**-3.3**
comp=N,19nm,0.5s							
LPAZ	**La Paz**	**16.58**	**0**	P	**P**	**20 39 45.2**	**+2.8**
comp=N,1.1nm,0.3s,baz=123,slow=6.6,SNR=3.4							
SIV	**San Ignacio**	**18.05**	**22**	P	**P**	**20 39 59.7**	**0.0**
comp=N,2.5nm,0.3s,baz=213,slow=11,SNR=202							
USHA	**Ushuaia**	**21.89**	**180**	P	**P**	**20 40 38.6**	**+0.2**
comp=N,14nm,0.6s,mb4.6,baz=334,slow=10,SNR=5.5							
NNA	**Nana**	**22.33**	**337**	*e*P	**P**	**20 40 41.1**	**-1.9**
comp=N,22nm,0.8s,mb4.6							
SAML	**Samuel**	**24.31**	**12**	*e*P	**P**	**20 41 02.4**	**+0.2**
comp=N,16nm,0.9s,mb4.5							
SAML				*e*pP		20 41 34.5	
SAML				*e*sP		20 41 51.7	
BDFB	**Brasilia**	**25.09**	**51**	P	**P**	**20 41 09.5**	**+0.1**
comp=N,4.4nm,0.6s,mb4.2,baz=239,slow=8.3,SNR=8.7							
BDFB				pP	pP	20 41 40.8	-0.3
comp=N,9.1nm,0.7s,baz=238,slow=8.7,SNR=7.8							
OTAV	**Otavalo**	**34.40**	**342**	*e*P	**P**	**20 42 32.4**	**+0.4**
comp=N,3.5nm,0.6s,mb4.3							
OTAV				*e*PcP	PcP	20 45 05.0	+0.8
SDV	**Santo Domingo**	**41.66**	**356**	*e*P	**P**	**20 43 29.5**	**-2.9**
comp=N,6.5nm,0.8s,mb4.3							
SDV				*e*pP	pP	20 44 09.0	+2.1
VNA3	**Neumayer Olymp**	**49.13**	**159**	⇓*i*	**P**	**20 44 33.9**	**+3.1**
VNA2	**Neumayer--Watz**	**49.75**	**158**	⇓*i*	**P**	**20 44 38.1**	**+2.6**
SJG	**San Juan**	**50.80**	**2**	*e*P	**P**	**20 44 40.6**	**-3.6**
comp=N,32nm,0.9s,mb5.0							
SNAA	**Sanae**	**51.35**	**158**		**P**	**20 44 47.6**	**0.0**
SNAA	**Sanae**	**51.35**	**158**	P	**P**	**20 44 47.1**	**-0.5**
comp=N,1.0nm,0.7s,mb3.5,baz=267,slow=13,SNR=9.5							
SNAA	**Sanae**	**51.35**	**158**	P	**P**	**20 44 47.6**	**0.0**
TEIG	**Tepich**	**56.26**	**337**	*e*P	**P**	**20 45 23.3**	**-0.9**
comp=N,29nm,0.6s,mb5.3							
TEIG				*e*pP	pP	20 46 00.0	-0.3
TEIG				*e*sP	sP	20 46 15.6	-1.9
QSPA	**South Pole Qui**	**57.30**	**180**	*e*P	**P**	**20 45 30.9**	**+0.2**
comp=N,6.5nm,0.6s,mb4.6							
QSPA				*e*		20 45 37.5	
QSPA				*e*pP	pP	20 46 07.0	+0.1
QSPA				*e*sP	sP	20 46 23.1	-0.9
SYO	**Syowa Base**	**65.64**	**158**	⇓P	**P**	**20 46 24.8**	**-1.8**
SYO	**Syowa Base**	**65.64**	**158**	⇓pP	pP	20 47 01.5	-2.3
VNDA	**Vanda**	**65.75**	**191**	P	**P**	**20 46 25.0**	**-2.3**
comp=N,0.7nm,0.6s,mb3.6,baz=119,slow=8.0,SNR=3.8							
SWET	**Sewanee**	**69.82**	**345**	*e*P	**P**	**20 46 52.1**	**-1.0**
JCT	**Junction City**	**69.83**	**331**	*e*P	**P**	**20 46 52.9**	**-0.4**
comp=N,22nm,0.8s,mb4.9							
TXAR	**Lajitas Array**	**70.50**	**327**	P	**P**	**20 46 57.3**	**0.0**
comp=N,3.6nm,0.7s,mb4.2,baz=147,slow=7.6,SNR=36							
TXAR				pP	pP	20 47 35.5	+0.5
comp=N,0.9nm,0.6s,baz=163,slow=9.0,SNR=2.6							
WVT	**Waverly**	**71.14**	**343**	*e*P	**P**	**20 47 00.0**	**-1.0**
comp=N,39nm,0.8s,mb5.2							
DBIC	**Dimbokro**	**71.76**	**69**	P	**P**	**20 47 05.5**	**+0.4**
comp=N,7.5nm,0.7s,mb4.6,baz=201,slow=7.2,SNR=11							
DBIC				pP	pP	20 47 42.4	-0.5
comp=N,6.1nm,0.8s,baz=210,slow=4.6,SNR=3.5							
DBIC	**Dimbokro**	**71.76**	**69**	P	**P**	**20 47 05.5**	**+0.4**
DBIC				pP	pP	20 47 42.4	-0.5
MAW	**Mawson**	**73.24**

ASAR					PKKPbc			21 04 38.8	
	comp=N,0.8nm,0.8s,baz=346,slow=2.6,SNR=6.9								
FINES	**FINESS Array B**	**120.29**	**34**		PKP	PKPdf		20 54 30.8	+1.2
	comp=N,0.3nm,0.4s,baz=331,slow=0.4,SNR=9.3								
KAF	**Kangasniemi**	**120.56**	**33**	*ep*		PKPdf		20 54 27.0	-3.1
	comp=N,1.5nm,0.5s								
ARCES	**ARCESS Array B**	**121.70**	**24**		PKP	PKPdf		20 54 33.4	+1.2
	comp=N,0.9nm,0.4s,baz=270,slow=3.6,SNR=8.2								
JOF	**Joensuu**	**122.99**	**33**	*ep*		PKPdf		20 54 34.0	-0.8
	comp=N,2.4nm,0.7s								
WRA	**Warramunga Arr**	**123.19**	**205**		PKP	PKPdf		20 54 36.9	+0.7
	comp=N,1.3nm,0.5s,baz=156,slow=1.8,SNR=29								
WRA					pPKP			20 55 17.9	
	comp=N,1.2nm,0.6s,baz=165,slow=1.7,SNR=5.2								
WRA					PKKPbc			21 04 29.1	
	comp=N,0.7nm,0.8s,baz=343,slow=4.0,SNR=6.3								
ARU	**Arti**	**136.83**	**41**	*e*	PKPdf	PKPdf		20 55 02.4	+1.3
BVAR	**Borovoye Array**	**144.29**	**43**		PKP	PKPdf		20 55 15.7	+1.3
	comp=N,2.3nm,0.4s,baz=283,slow=2.1,SNR=28								
HYB	**Hyderabad**	**146.31**	**109**	*e*	P	PKPdf		20 55 22.0	+3.1
HYB	**Hyderabad**	**146.31**	**109**	*i*	PKP	PKPdf		20 55 22.0	+3.1
AML	**Almayashu**	**148.60**	**62**		P	PKPdf		20 55 29.3	+7.4
	SNR=8.8								
EKS2	**Erkin-Say**	**148.62**	**61**		P	PKPdf		20 55 28.9	+7.0
	SNR=12								
YAK	**Yakutsk**	**148.72**	**344**	*e*	PKPbc	PKPdf		20 55 26.4	+4.9
USP	**Ospenovka**	**149.08**	**60**		P	PKPdf		20 55 29.9	+7.3
	SNR=9.5								
AAK	**Ala-Archa**	**149.15**	**61**		P	PKPdf		20 55 30.5	+7.7
	SNR=11								
AAK	**Ala-Archa**	**149.15**	**61**	*e*	PKPdf	PKPdf		20 55 24.5	+1.7
AAK				*e*	PKPbc	PKPdf		20 55 29.1	+6.3
AAK				*e*	PKPab	PKPab		20 55 33.5	-0.8
UCH	**Uchtor**	**149.20**	**62**		P	PKPdf		20 55 31.1	+8.2
	SNR=12								
CHMS	**Chumysh**	**149.30**	**60**		P	PKPdf		20 55 30.3	+7.3
	SNR=9.0								
KBK	**Karagaybulak**	**149.48**	**61**		P	PKPdf		20 55 31.2	+8.0
	SNR=11								
KZA	**Kyzart**	**149.76**	**62**		P	PKPdf		20 55 32.5	+8.7
	SNR=13								
TKM2	**Tokmak 2**	**149.92**	**60**		P	PKPdf		20 55 32.0	+8.0
	SNR=17								
ULHL	**Ulahol**	**150.48**	**61**		P	PKPdf		20 55 33.2	+8.4
	SNR=7.4								
ZAL	**Zalesovo**	**151.56**	**34**		PKPbc	PKPdf		20 55 34.7	+8.7
	comp=N,24nm,0.5s,baz=147,slow=2.0,SNR=102								
ZAL					pPKPbc			20 56 13.4	
	comp=N,8.0nm,0.5s,baz=142,slow=1.5,SNR=5.3								
ZAL	**Zalesovo**	**151.56**	**34**		PKPbc	PKPdf		20 55 34.7	+8.7
ZAL					pPKPbc			20 56 13.4	
MKAR	**Makanchi Array**	**153.61**	**50**		PKP	PKPdf		20 55 31.5	+2.3
	comp=N,0.6nm,0.7s,baz=268,slow=1.5,SNR=6.6								
MKAR					PKPbc	PKPdf		20 55 39.5	+10
	comp=N,4.4nm,0.7s,baz=303,slow=1.9,SNR=38								
MKAR					PKPab	PKPab		20 55 52.7	-0.1
	comp=N,1.9nm,0.6s,baz=294,slow=4.7,SNR=8.7								
MKAR					pPKPbc			20 56 18.6	
	comp=N,1.2nm,0.6s,baz=297,slow=1.5,SNR=3.1								
MJAR	**Matsushiro Arr**	**158.07**	**287**		PKPab	PKPab		20 56 11.8	-0.3
	comp=N,2.1nm,0.8s,baz=100,slow=2.6,SNR=8.7								
WMQ	**Urumqi**	**158.25**	**53**		PKP	PKPdf		20 55 37.0	+1.6
WMQ					PKP2	PKPab		20 56 13.5	+0.8
WMQ					APKP			20 56 18.5	
WMQ					XPKP			20 56 35.5	
WMQ					PP	PP		20 59 54.5	+0.4
WMQ					PP	PP			
	comp=Z,63nm,5.1s								
WMQ					LR	LR			
	comp=N,29nm,23.2s								
WMQ					LR	LR			
	comp=E,18nm,17.4s								
WMQ					LR	LR			
	comp=Z,22nm,17.2s								
CMAR	**Chiang Mai Arr**	**161.50**	**138**		PKP	PKPdf		20 55 42.0	+2.4
	comp=Z,0.5nm,0.7s,baz=236,slow=1.4,SNR=4.6								
MDJ	**Mudanjiang**	**161.95**	**315**		PKP	PKPdf		20 55 40.5	+1.1
MDJ					PP	PP			
	comp=Z,134nm,4.5s								
SONM	**Songino Array**	**164.56**	**14**		PKP	PKPdf		20 55 44.9	+3.1
	comp=Z,0.4nm,0.7s,baz=243,slow=0.8,SNR=4.9								
SONM					PKPab	PKPab		20 56 40.8	+0.9
	comp=Z,1.7nm,0.7s,baz=322,slow=4.9,SNR=16								
SONM					pPKPab			20 57 19.9	
	comp=Z,0.7nm,0.7s,baz=326,slow=4.5,SNR=4.8								
CN2	**Changchun**	**164.81**	**319**	*e*	PKP	PKPdf		20 55 43.4	+1.2
BJI	**Beijing**	**172.11**	**335**		PKP	PKPdf		20 55 48.0	+0.9
GYA	**Guiyang**	**172.12**	**144**	*e*	PKP	PKPdf		20 55 41.3	-6.2
GYA					APKP			20 56 24.0	
GYA					PP	PP			
	comp=Z,100nm,7.6s								
NJ2	**Nanjing**	**174.01**	**263**	*e*	PKP	PKPdf		20 55 49.3	+1.2
NJ2					APKP			20 56 31.5	
NJ2					XPKP			20 56 47.3	
NJ2					PP	PP		21 01 18.1	+2.8
NJ2					SKS	SKS		21 02 35.0	+1.0
NJ2					PP	PP			
	comp=Z,20nm,4.1s								
NJ2					LR	LR			
	comp=N,340nm,36.6s								
NJ2					LR	LR			
	comp=E,250nm,14.6s								
NJ2					LR	LR			
	comp=Z,190nm,22.2s								

IDC 23 20:41:15.3±3.1, 1.89N×96.56E, mb3.7/4, mb1 3.9/5, mb1mx3.5/20, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=113.1km s-min=26.8km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.63**	**8**	Pn	P	20 45 11.1	-0.4
	0.1nm,0.3s,baz=198,slow=11,SNR=11						
WRA	**Warramunga Arr**	**42.94**	**122**	P	P	20 49 16.3	-1.7
	0.7nm,0.6s,baz=301,slow=9.1,SNR=7.9						
MKAR	**Makanchi Array**	**46.42**	**346**	P	P	20 49 44.2	-1.3
	0.7nm,0.5s,baz=160,slow=7.5,SNR=12						
MKAR				pP	pP	20 49 52.4	+6.8
	0.5nm,0.7s,baz=155,slow=8.1,SNR=4.7						
SONM	**Songino Array**	**46.55**	**9**	P	P	20 49 44.7	-1.9
	0.2nm,0.3s,baz=190,slow=9.0,SNR=4.9						
SONM				pP	pP	20 49 53.0	+6.5
	0.3nm,0.5s,baz=192,slow=11,SNR=3.4						
ZAL	**Zalesovo**	**52.77**	**351**	P	P	20 50 31.0	-3.3
	0.9nm,0.4s,baz=288,slow=3.5,SNR=5.4						

IDC 23 20:45:02.0±1.8, 1.92N×123.59E, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=208.0km s-min=26.3km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.15**	**155**	P	P	20 50 20.0	-0.9
	0.6nm,0.4s,baz=333,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.34**	**159**	P	P	20 50 49.3	-1.5
	0.5nm,0.3s,baz=338,slow=8.0,SNR=7.9						
MKAR	**Makanchi Array**	**57.32**	**327**	P	P	20 54 51.5	-2.7
	0.4nm,0.7s,baz=135,slow=6.1,SNR=4.6						

*CSEM **23** 21:08:20.3±0.4, 37.04N×24.13W, h5km, ML2.6, Error ellipse: s-maj=9.1km s-min=4.8km az=85.0, After PDA*
*PDA **23** 21:08:20.3±0.8, 37.04N×24.13W, h5km, MD2.8, ML2.6, Error ellipse: s-maj=18.0km s-min=6.3km az=28.0*

SVSA 23 21:08:20.3±0.8, 37.04N×24.13W, h5km, MD2.8, ML2.6, Error ellipse: s-maj=18.0km s-min=6.3km az=28.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.75**	**267**	*e*P	Pg	21 08 33.9	-1.4
PSMN				*i* S	Sg	21 08 43.1	-2.2
MIRA	**Miradouro**	**1.18**	**310**	*e*S	Sb	21 08 53.2	-5.0
FRA1	**Furnas**	**1.20**	**306**	*e*S	Sb	21 08 52.9	-6.0
PFAD	**Fenais da Ajud**	**1.24**	**310**	*e*S	Sb	21 08 54.1	-5.8
PCNG	**Congro**	**1.24**	**306**	*e*S	Sb	21 08 54.5	-5.5
	34nm,0.3s						
VIF	**Vila Franca**	**1.26**	**304**	*e*P	Pb	21 08 39.6	-4.5
VIF				*e*S	Sb	21 08 54.3	-6.2
	21nm,0.2s						
PRCH	**Ribeira Ch**	**1.27**	**303**	*e*S	Sb	21 08 54.6	-6.4
	90nm,0.3s						
MESC	**Monte Escuro**	**1.29**	**306**	*e*P	Pb	21 08 39.9	-4.8
MESC				*e*S	Sb	21 08 55.0	-6.4
LFA	**Lagoa do Fogo**	**1.30**	**305**	*e*P	Pb	21 08 40.2	-4.7
CML	**Cha da Macela**	**1.34**	**303**	*e*P	Pb	21 08 41.3	-4.3
CML				*e*S	Sb	21 08 56.6	-6.3
FAC	**Faja de Cima**	**1.41**	**302**	*e*S	Sb	21 08 57.7	-7.3

*CNRM **23** 21:49:17.5, 33.76N×5.93W, h6km, MD3.0*
*NEIC **23** 21:49:18.6, 33.78N×5.81W, MG3.3(MDD), After MDD.*
*CSEM **23** 21:49:18.4±0.2, 33.75N×5.87W, h30km, MD3.0, Error ellipse: s-maj=5.0km s-min=3.4km az=76.0*
*MDD **23** 21:49:19.1±2.0, 33.68N×5.88W, h18km±20km, mbLg2.3/7, Error ellipse: s-maj=12.8km s-min=9.0km az=64.0, PRXIMO*

ISC 23 21:49:18.6±0.9, 33.79N±0.03×5.86W±0.05, h32km±9km, n19, σ0§98/35, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFR	**Ifrane**	**0.67**	**114**	P	**Pb**	**21 49 32.0**	**+0.2**
IFR				S	**Sb**	**21 49 40.0**	**-0.9**
CZD	**Col de Zad**	**1.02**	**138**	*i* P	**Pn**	**21 49 36.5**	**-0.3**
CZD				*i* S	**Sn**	**21 49 50.0**	**0.0**
KIB	**El Ksiba**	**1.22**	**187**	*i* P	**Pn**	**21 49 38.5**	**-1.2**
KIB				*i* S	**Sn**	**21 49 54.5**	**-0.7**
AVE	**Averroes**	**1.39**	**250**	P	**Pn**	**21 49 43.0**	**+0.8**
AVE				S	**Sn**	**21 50 00.0**	**+0.4**
TZK	**Tazeka**	**1.42**	**77**	*i* P	**Pn**	**21 49 43.5**	**+0.9**
TZK				*i* S	**Sn**	**21 50 02.0**	**+1.7**
EMIJ	**Mijas**	**2.91**	**17**	P	**Pn**	**21 50 05.4**	**+1.6**
	0.1nm,0.1s,SNR=4.0						
EMIJ				S	**Sn**	**21 50 39.1**	**+1.1**
	19nm,1.0s,SNR=7.9						
EGRO	**El Granado**	**3.96**	**341**	P	**Pn**	**21 50 19.6**	**+0.8**
EGRO				S	**Sn**	**21 51 05.7**	**+1.0**
EGRO	**El Granado**	**3.96**	**341**	P	**Pn**	**21 50 19.6**	**+0.8**
	0.3nm,0.1s,SNR=7.0						
EGRO				S	**Sn**	**21 51 04.2**	**-0.6**
	1.9nm,0.6s,SNR=5.6						
EGRO	**El Granado**	**3.96**	**341**	P	**Pn**	**21 50 19.6**	**+0.8**
	0.3nm,0.1s,SNR=7.0						
EGRO				S	**Sn**	**21 51 05.7**	**+0.9**
	1.9nm,0.6s,SNR=5.6						
ELUQ	**Luque**	**3.98**	**19**	S	**Sn**	**21 51 03.9**	**-1.2**
	2.7nm,0.8s,SNR=7.9						
ELUQ	**Luque**	**3.98**	**19**	S	**Sn**	**21 51 05.2**	**+0.1**
	SNR=7.9						
EMIN	**Mina Concepcio**	**4.02**	**351**	P	**Pn**	**21 50 20.6**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**21 51 06.2**	**-0.1**
	8.6nm,0.6s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.02**	**351**	P	**Pn**	**21 50 20.6**	**+0.9**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**21 51 06.2**	**-0.1**
	SNR=7.9						
EADA	**Adamuz**	**4.49**	**13**	P	**Pn**	**21 50 26.2**	**-0.1**
	2.3nm,0.5s,SNR=7.9						
EADA				S	**Sn**	**21 51 16.5**	**-1.6**
	2.7nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**4.49**	**13**	S	**Sn**	**21 51 15.8**	**-2.3**
	SNR=7.9						
EBAN	**Banos Encina**	**4.67**	**20**	P	**Pn**	**21 50 28.9**	**0.0**
	0.2nm,0.3s,SNR=7.9						
EBAN				S	**Sn**	**21 51 21.3**	**-1.5**
	2.5nm,0.6s,SNR=7.9						
EBAD	**Badajoz**	**5.04**	**350**	P	**Pn**	**21 50 33.9**	**-0.2**
EBAD				S	**Sn**	**21 51 30.3**	**-1.6**
EBAD	**Badajoz**	**5.04**	**350**	P	**Pn**	**21 50 33.9**	**-0.2**
	0.5nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**21 51 30.3**	**-1.6**
	25nm,1.0s,SNR=7.9						
EBAD	**Badajoz**	**5.04**	**350**	P	**Pn**	**21 50 33.8**	**-0.3**
	0.5nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**21 51 30.3**	**-1.7**
	SNR=7.9						

*NEIC **23** 22:02:46.8, 35.12N×22.29E, h5km, MD3.6(ATH), After ATH.*
*CSEM **23** 22:02:51.4±0.2, 35.40N×22.56E, h5km, MD3.6, Error ellipse: s-maj=4.6km s-min=2.1km az=38.0*
*ATH **23** 22:02:54.8, 35.45N×22.82E, h9km±3km, MD3.8/9*
*IDC **23** 22:02:58.1±4.3, 35.75N×22.90E, h51km±29km, mb3.4/7, mb1 3.5/9, mb1mx3.4/25, mbtmp3.6/9, ML3.9/2, Error ellipse: s-maj=64.6km s-min=23.1km az=41.0*

ISC 23 22:02:47.4±1.1, 35.09N±0.09×22.40E±0.08, h10km, n47, σ1§49/48, mb3.6/7, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.30**	**23**	*e*PB	**Pb**	**22 03 10.2**	**-1.3**
GVD	**Gavdhos**	**1.41**	**100**	*e*Pn	**Pn**	**22 03 15.4**	**+2.2**
GVD	**Gavdhos**	**1.41**	**100**	*e*Pn	**Pn**	**22 03 15.4**	**+2.2**
VAM	**Vamos**	**1.51**	**77**	*e*Pg	**Pg**	**22 03 16.5**	**-1.0**
VAM				*e*Sb	**Sb**	**22 03 40.0**	**+5.9**
VLI	**Veliai**	**1.69**	**15**	*e*PB	**Pb**	**22 03 18.5**	**+0.4**
IDI	**Anoyia**	**2.05**	**84**	P	**Pn**	**22 03 24.9**	**+2.5**
	10nm,0.3s,baz=303,slow=16,SNR=54						
ITM	**Ithomi**	**2.12**	**350**	*e*PG	**Pg**	**22 03 29.5**	**-0.3**
NPS	**Neapolis**	**2.64**	**85**	*e*PB	**Pb**	**22 03 33.9**	**-0.5**
SANT	**Santorini**	**2.80**	**62**	*e*Pn	**Pn**	**22 03 33.5**	**+0.4**
SANT	**Santorini**	**2.80**	**62**	*e*Pn	**Pn**	**22 03 33.5**	**+0.4**
NAIG	**Nisos Aigina**	**2.81**	**18**	*e*PN	**Pn**	**22 03 36.5**	**+3.3**
NSAL	**Nisos Salamina**	**2.94**	**17**	*e*PN	**Pn**	**22 03 38.0**	**+2.9**
MGER	**Gerania Oros**	**2.98**	**13**	*e*PN	**Pn**	**22 03 39.0**	**+3.4**
MGER	**Gerania Oros**	**2.98**	**13**	*e*Pb	**Pb**	**22 03 37.0**	**-3.1**
APE	**Apeiranthos**	**3.22**	**51**	*e*PN	**Pn**	**22 03 41.5**	**+2.5**
VLS	**Valsamata**	**3.41**	**335**	*e*Pb	**Pb**	**22 03 43.0**	**-4.6**
EVR	**Evrytania**	**3.85**	**353**	*e*PN	**Pn**	**22 03 52.1**	**+4.0**
AGG	**Agios Georgios**	**3.93**	**359**	*e*P	**Pn**	**22 03 50.9**	**+1.8**
NEO	**Neokhori**	**4.26**	**9**	*e*Pn	**Pn**	**22 03 54.8**	**+0.9**
MEV	**Metsovon**	**4.78**	**349**	*e*P	**Pn**	**22 04 03.4**	**+2.2**
OUR	**Ouranopolis**	**5.39**	**13**	*e*P	**Pn**	**22 04 09.4**	**-0.4**
FNA	**Florina**	**5.75**	**352**	*e*P	**Pn**	**22 04 15.1**	**+0.2**
SOH	**Sokhos**	**5.78**	**7**	*e*P	**Pn**	**22 04 15.1**	**-0.2**
GRG	**Griva**	**5.86**	**0**	*e*P	**Pn**	**22 04 15.8**	**-0.7**
TIP	**Timpagrande**	**6.08**	**314**	*e*Pn	**Pn**	**22 04 20.5**	**+0.9**
TIP	**Timpagrande**	**6.08**	**314**	*e*Pn	**Pn**	**22 04 20.5**	**+0.9**
SRS	**Serrai**	**6.09**	**9**	*e*P	**Pn**	**22 04 19.0**	**-0.8**
MMB	**Musomiste**	**6.58**	**9**	*e*P	**Pn**	**22 04 25.0**	**-1.6**
KKB	**Krupnik**	**6.79**	**4**	*e*P	**Pn**	**22 04 29.0**	**-0.6**
RZN	**Rozhen**	**6.84**	**15**	*e*P	**Pn**	**22 04 30.0**	**-0.2**
BRTR	**Keskin Array B**	**10.07**	**59**	P	**P**	**22 05 14.8**	**-0.3**
	0.1nm,0.3s,baz=243,slow=13,SNR=3.9						
MLR	**Muntele Rosu**	**10.74**	**14**	P	**P**	**22 05 20.2**	**-4.1**
	0.6nm,0.3s,baz=196,slow=14,SNR=3.6						
EIL	**Elat**	**11.90**	**113**	P	**P**	**22 05 36.9**	**-3.3**
	0.4nm,0.3s,baz=292,slow=5.4,SNR=5.8						
VRAC	**Vranov**	**14.84**	**345**	P	**P**	**22 06 19.9**	**+0.9**
	0.8nm,0.3s,baz=173,slow=17,SNR=3.1						
GERES	**GERESS Array B**	**15.18**	**338**	P	**P**	**22 06 23.3**	**-0.1**
	0.1nm,0.3s,baz=163,slow=13,SNR=4.3						
KHC	**Kasperske Hory**	**15.47**	**338**	*e*P	**P**	**22 06 33.2**	**+6.0**
DPC	**Dobruska-Polom**	**15.89**	**346**	*e*P	**P**	**22 06 36.9**	**+4.3**
PRU	**Pruhonice**	**15.96**	**341**	*e*P	**P**	**22 06 37.5**	**+3.9**
UPC	**Upice**	**16.10**	**345**	*e*P	**P**	**22 06 39.0**	**+3.7**
HFS	**Hagfors**	**25.69**	**350**	P	**P**	**22 08 17.8**	**-1.2**
	1.3nm,0.4s,mb3.8,baz=164,slow=10,SNR=20						
FINES	**FINESS Array B**	**26.48**	**4**	P	**P**	**22 08 23.9**	**-2.3**
	0.4nm,0.3s,mb3.5,baz=172,slow=10.0,SNR=10.0						
NB2	**NORSAR Subarra**	**26.95**	**348**	P	**P**	**22 08 29.0**	**-1.5**
	0.6nm,0.5s,mb3.4,baz=155,slow=8.6						
NOA	**NORSAR Array B**	**26.95**	**348**	P	**P**	**22 08 29.0**	**-1.5**
	0.6nm,0.5s,mb3.4,baz=156,slow=8.8,SNR=8.9						
ARCES	**ARCESS Array B**	**34.55**	**2**	P	**P**	**22 09 35.2**	**-2.5**
	2.9nm,0.9s,mb4.2,baz=188,slow=8.6,SNR=5.2						
MKAR	**Makanchi Array**	**45.70**	**56**	P	**P**	**22 11 08.0**	**-2.1**
	0.4nm,0.6s,mb3.5,baz=281,slow=6.4,SNR=7.6						
SONM	**Songino Array**	**61.27**	**50**	P	**P**	**22 13 03.6**	**-1.4**
	0.1nm,0.5s,mb3.2,baz=311,slow=15,SNR=2.8						
YKA	**Yellowknife Ar**	**76.80**	**341**	P	**P**	**22 14 41.5**	**+1.2**
	0.3nm,0.6s,mb3.4,baz=31,slow=5.3,SNR=9.4						

DJA 23 22:09:26.8±1.0, 9.37S×117.96E, h144km±15km, MD4.5/3, ML4.3/2, 4C-5D, Error ellipse: s-maj=71.6km s-min=24.2km az=0.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**2.02**	**296**	⇓*i*Pn	P	22 10 02.6	+0.4
	89nm,0.2s						
KEDI	**Kedomdong**	**2.02**	**296**	⇑*i*P	P	22 10 02.9	+0.7
KEDI				⇓*i*Sn	S	22 10 28.1	-1.3
RATI	**Rata**	**2.48**	**285**	⇑*i*Pn	P	22 10 07.8	-0.2
	239nm,0.2s						
RATI	**Rata**	**2.48**	**285**	⇑*i*P	P	22 10 08.2	+0.2
RATI				⇓*i*Sn	S	22 10 38.1	-1.4
SRDI	**Scrawed**	**3.88**	**283**	⇓*i*Pn	P	22 10 26.1	0.0
SRDI	**Scrawed**	**3.88**	**283**	⇑*i*P	P	22 10 26.2	+0.1
SRDI				⇓*i*Sn	S	22 11 09.6	-2.1

*IDC **23** 22:14:07.7±2.5, 0.23N×97.80E, h24km±5km, mb3.7/6, mb1 3.8/7, mb1mx3.5/19, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=99.5km s-min=14.6km az=61.0*
*NEIC **23** 22:14:07.5±0.8, 0.22N×97.83E, mb4.2/2, Error ellipse: s-maj=17.4km s-min=9.3km az=63.0*

ISC 23 22:14:05.7±1.1, 0.3N±0.1×97.9E±0.1, h25km, h25km±.2km: pP-P, n14, σ0§65/14, mb3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.72**	**29**	*e*Pn	**Pn**	**22 15 31.8**	**+0.5**
KSM	**Kuching**	**12.49**	**84**	P	**P**	**22 17 04.3**	**-0.6**
CMAR	**Chiang Mai Arr**	**18.12**	**3**	P	**P**	**22 18 17.6**	**0.0**
	0.1nm,0.3s,baz=205,slow=11,SNR=4.2						
KKM	**Kota Kinabalu**	**19.19**	**72**	P	**P**	**22 18 30.6**	**+0.1**
WRA	**Warramunga Arr**	**40.97**	**121**	P	**P**	**22 21 48.9**	**+0.5**
	1.1nm,0.6s,mb3.7,baz=311,slow=9.2,SNR=22						
WRA				pP	pP	22 21 56.5	+0.6
	1.4nm,0.5s,baz=302,slow=9.0,SNR=8.0						
WRAB	**Tennant Creek**	**40.97**	**121**	*e*P	**P**	**22 21 47.3**	**-1.1**
	18nm,1.3s,mb4.5						
ASAR	**Alice Springs**	**42.29**	**127**	P	**P**	**22 22 00.1**	**+0.7**
	1.8nm,0.5s,mb4.0,baz=299,slow=8.1,SNR=31						
ASAR				pP	pP	22 22 07.3	+0.5
	1.2nm,0.5s,baz=299,slow=8.1,SNR=7.6						
SONM	**Songino Array**	**47.96**	**8**	P	**P**	**22 22 45.0**	**+0.6**
	0.4nm,0.5s,mb3.7,baz=194,slow=9.3,SNR=6.1						
SONM				pP	pP	22 22 52.6	+0.6
	0.8nm,0.7s,baz=188,slow=8.9,SNR=6.5						
ULN	**Ulaanbaatar**	**48.09**	**8**	P	**P**	**22 22 41.5**	**-3.8**
	0.8nm,0.8s,mb3.8						
MKAR	**Makanchi Array**	**48.31**	**346**	P	**P**	**22 22 46.9**	**-0.2**
	0.3nm,0.5s,mb3.6,baz=163,slow=8.8,SNR=6.6						
STKA	**Stephens Creek**	**52.23**	**132**	P	**P**	**22 23 17.6**	**+0.4**
	0.9nm,0.5s,mb3.9,baz=332,slow=15,SNR=3.2						
STKA				pP	pP	22 23 25.1	+0.3
	0.8nm,0.3s,baz=350,slow=8.0,SNR=2.2						
STKA	**Stephens Creek**	**52.23**	**132**	P	**P**	**22 23 17.4**	**+0.2**
STKA				pP	pP	22 23 25.1	+0.3
ZAL	**Zalesovo**	**54.58**	**351**	P	**P**	**22 23 33.7**	**-0.6**
	0.9nm,0.4s,mb4.2,baz=189,slow=3.2,SNR=4.2						
ZAL				pP	pP	22 23 41.4	-0.5
	0.8nm,0.4s,baz=343,slow=9.0,SNR=2.6						
ZAL	**Zalesovo**	**54.58**	**351**	P	**P**	**22 23 33.7**	**-0.6**
ZAL				pP	pP	22 23 41.4	-0.5

*TIF **23** 22:14:12.3, 39.75N×44.19E, h4km±2km*
*NEIC **23** 22:14:13.9, 39.71N×44.21E, h7km, MD3.3(ISK), After ISK.*
*CSEM **23** 22:14:13.2±0.1, 39.73N×44.21E, h5km, MD3.3, Error ellipse: s-maj=5.8km s-min=2.5km az=125.0*
*ISK **23** 22:14:14.5, 39.67N×44.21E, h9km, MD3.3*

ISC 23 22:14:15.8±0.8, 39.62N±0.06×44.2E±0.1, h9km, n14, σ1§10/18, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.52**	**205**	*i* PG	**Pg**	**22 14 26.0**	**-0.3**
GNI	**Garni**	**0.68**	**38**	PG	**Pg**	**22 14 26.4**	**-3.0**
GNI				SG	**Sg**	**22 14 36.9**	**-1.5**
GNI	**Garni**	**0.68**	**38**	Pg	**Pg**	**22 14 26.1**	**-3.3**
VANB	**Van**	**1.20**	**212**	*e*PN	**Pn**	**22 14 39.0**	**+0.3**
VANB	**Van**	**1.20**	**212**	Pn	**Pn**	**22 14 38.5**	**-0.3**
KARS	**Kars**	**1.31**	**320**	*e*PN	**Pn**	**22 14 38.7**	**-1.6**
KARS	**Kars**	**1.31**	**320**	Pn	**Pn**	**22 14 38.5**	**-1.8**
VANT	**Van**	**1.33**	**209**	*e*PN	**Pn**	**22 14 41.9**	**+1.3**
VANT	**Van**	**1.33**	**209**	Pn	**Pn**	**22 14 42.0**	**+1.4**
DGRG	**David-gareji**	**2.04**	**26**	P	**Pn**	**22 14 51.4**	**+0.7**
DGRG				S	**Sn**	**22 15

baz=209,slow=9.3,SNR=3.9
MKAR Makanchi Array 46.35 347 P P 22 50 06.1 -1.9
0.5nm,0.7s,baz=156,slow=7.3,SNR=6.9
SONM Songino Array 46.65 10 P P 22 50 08.6 -1.8
0.4nm,0.6s,baz=190,slow=7.8,SNR=4.7
PMG Port Moresby 52.06 103 LR LR 23 17 42.2
comp=Z,97nm,18.4s,baz=140,slow=42

*NEIC **23** 22:44:52.7±0.9, 52.04S×25.70E, h10km, mb4.3/4, Error ellipse: s-maj=58.1km s-min=14.3km az=74.0*
*IDC **23** 22:44:53.1±0.9, 52.23S×26.01E, mb3.7/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, MS3.6/7, Ms1 3.6/7, ms1mx3.3/20, Error ellipse: s-maj=54.6km s-min=22.1km az=68.0*
ISC 23 22:44:50.9±1.4, 52.2S±0.2×25.1E±0.9, h10km, n18, σ1$26/10, mb4.0/6, MS3.6/7, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.05**	**349**	P	**P**	**22 49 30.3**	**+3.4**
	1.3nm,0.7s,baz=195,slow=12,SNR=2.4						
SUR	**Sutherland**	**20.05**	**349**	*e*P	**P**	**22 49 26.0**	**-0.9**
	16nm,1.2s						
BOSA	**Boshof**	**23.56**	**0**	P	**P**	**22 50 04.0**	**+1.8**
	1.5nm,0.8s,mb3.5,baz=182,slow=11,SNR=3.4						
BOSA				LR	LR	22 57 30.2	
	comp=Z,95nm,20.9s,MS3.2,baz=172,slow=32						
BOSA	**Boshof**	**23.56**	**0**	P	**P**	**22 50 00.7**	**-1.4**
	4.7nm,1.1s,mb3.8						
BOSA				LR	LR	22 57 30.2	
MAW	**Mawson**	**23.88**	**145**	P	**P**	**22 50 04.3**	**-0.5**
	1.1nm,0.4s,mb3.6,baz=308,slow=12,SNR=3.2						
MAW				LR	LR	22 56 45.3	
	comp=Z,102nm,21.3s,MS3.3,baz=73,slow=30						
LBTB	**Lobatse**	**27.15**	**1**	LR	LR	22 59 15.8	
	comp=Z,94nm,19.3s,MS3.4,baz=185,slow=32						
TSUM	**Tsumeb**	**33.45**	**347**	P	**P**	**22 51 38.3**	**+6.2**
	3.1nm,0.8s,mb4.3						
VNDA	**Vanda**	**47.80**	**168**	P	**P**	**22 53 29.8**	**+0.2**
	1.3nm,0.7s,mb4.0,baz=251,slow=7.7,SNR=6.9						
VNDA				LR	LR	23 10 52.2	
	comp=Z,96nm,18.8s,MS3.8,baz=255,slow=33						
VNDA	**Vanda**	**47.80**	**168**	P	**P**	**22 53 29.8**	**+0.2**
VNDA				LR	LR	23 10 52.2	
CPUP	**Villa Florida**	**65.13**	**259**	LR	LR	23 19 41.1	
	comp=Z,27nm,18.4s,MS3.5,baz=133,slow=32						
BDFB	**Brasilia**	**67.45**	**273**	LR	LR	23 19 30.9	
	comp=Z,64nm,18.0s,MS3.9,baz=324,slow=30						
EIL	**Elat**	**81.98**	**9**	P	**P**	**22 57 10.7**	**-1.3**
	11nm,1.3s,mb4.6						
ASAR	**Alice Springs**	**82.38**	**119**	P	**P**	**22 57 15.2**	**+0.9**
	0.5nm,0.7s,mb3.5,baz=212,slow=5.4,SNR=4.3						
DAVOX	**Davos**	**99.46**	**349**	LR	LR	23 47 23.6	
	comp=Z,51nm,19.1s,MS4.0,baz=260,slow=38						
PDAR	**Pinedale Array**	**148.40**	**271**	PKP	PKPdf	23 04 36.2	0.0
	0.2nm,0.5s,baz=90,slow=1.8,SNR=3.6						
PDAR				PKPbc	PKPdf	23 04 41.5	+5.2
	0.2nm,0.4s,baz=135,slow=2.6,SNR=3.8						
NVAR	**Mina Array Bea**	**151.15**	**256**	PKP	PKPdf	23 04 43.8	+3.1
	1.7nm,0.8s,baz=117,slow=4.0,SNR=4.1						
NVAR				PKPbc	PKPdf	23 04 48.4	+7.8
	0.6nm,0.3s,baz=117,slow=3.3,SNR=4.8						
NVAR	**Mina Array Bea**	**151.15**	**256**	PKP	PKPdf	23 04 43.8	+3.1
NVAR				PKPbc	PKPdf	23 04 48.4	+7.8
YKA	**Yellowknife Ar**	**156.34**	**312**	PKPab	PKPab	23 05 20.0	+5.2
	0.2nm,0.9s,baz=80,slow=5.1,SNR=4.6						

IDC 23 22:45:31.6±2.5, 1.69N×97.86E, mb3.6/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.6/4, Error ellipse: s-maj=107.3km s-min=31.7km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.74**	**123**	P	P	22 53 22.9	-1.5
	0.4nm,0.7s,baz=303,slow=9.3,SNR=3.2						
SONM	**Songino Array**	**46.56**	**8**	P	P	22 54 00.9	-2.1
	0.2nm,0.7s,baz=190,slow=8.8,SNR=2.8						
MKAR	**Makanchi Array**	**46.94**	**345**	P	P	22 54 04.8	-1.1
	0.8nm,0.7s,baz=156,slow=7.7,SNR=12						
FINES	**FINESS Array B**	**79.87**	**332**	P	P	22 57 41.3	-2.2
	1.0nm,1.1s,baz=108,slow=8.8,SNR=5.0						

*JMA **23** 23:05:21.5±0.1, 36.05N×140.15E, h70km±1km, M3.0*
*IDC **23** 23:05:23.8±1.7, 35.89N×139.88E, h92km±13km, mb3.3/8, mb1 3.5/9, mb1mx3.3/25, mbtmp3.7/9, Error ellipse: s-maj=28.1km s-min=7.4km az=66.0*
*NEIC **23** 23:05:23.9±1.6, 35.91N×139.82E, h91km±12km, Error ellipse: s-maj=26.6km s-min=14.2km az=79.0*
ISC 23 23:05:20.1±0.6, 36.00N±0.05×140.22E±0.08, h81km±5km, n21, σ0$94/27, mb3.6/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.23**	**356**	P	**P**	**23 05 32.1**	**-0.1**
JYT				S	**S**	**23 05 40.1**	**-1.1**
JAG	**Ashikaga**	**0.75**	**305**	P	**P**	**23 05 36.5**	**-0.2**
JRY	**Ryogami san**	**1.06**	**271**	P	**P**	**23 05 40.6**	**+0.4**
JRY				S	**S**	**23 05 54.4**	**-1.0**
JKT	**Katashina**	**1.09**	**315**	P	**P**	**23 05 40.7**	**+0.1**
JOD2	**Odawara 2**	**1.18**	**232**	P	**P**	**23 05 42.1**	**+0.5**
JYN	**Shimob**	**1.45**	**250**	P	**P**	**23 05 46.1**	**+0.8**
JFY	**Yanaizu**	**1.47**	**344**	P	**P**	**23 05 45.8**	**+0.3**
JHK	**Hiroka**	**1.58**	**323**	P	**P**	**23 05 47.2**	**+0.2**
MJAR	**Matsushiro Arr**	**1.71**	**289**	P	**P**	**23 05 48.9**	**+0.1**
	29nm,0.3s,baz=100,slow=14,SNR=420						
MJAR				S	**S**	**23 06 08.6**	**-1.3**
	7.0nm,0.3s,baz=105,slow=18,SNR=11						
MAJO	**Matsushiro**	**1.71**	**289**	*e*Pn	**P**	**23 05 49.3**	**+0.6**
MAT	**Matsushiro**	**1.71**	**289**	*e*P	**P**	**23 05 49.0**	**+0.2**
MAT				*e*S	**S**	**23 06 12.0**	**+2.1**
MAT	**Matsushiro**	**1.71**	**289**	P	**P**	**23 05 49.3**	**+0.5**
MAT				S	**S**	**23 06 11.6**	**+1.7**
JHJ	**Hachijo jima 2**	**2.89**	**187**	P	**P**	**23 06 05.3**	**+0.2**
	18nm,0.3s,slow=8.1,SNR=7.3						
JHJ				S	**S**	**23 06 39.4**	**+0.5**
	38nm,0.3s,baz=96,slow=24,SNR=10						
SONM	**Songino Array**	**27.59**	**306**	P	**P**	**23 10 59.5**	**-2.0**
	0.3nm,0.5s,mb3.1,baz=101,slow=8.9,SNR=5.2						
MKAR	**Makanchi Array**	**43.86**	**303**	P	**P**	**23 13 18.6**	**-1.2**
	0.5nm,0.6s,mb3.4,baz=85,slow=10.0,SNR=8.3						
BVAR	**Borovoye Array**	**50.56**	**313**	P	**P**	**23 14 12.9**	**+0.7**
	0.4nm,0.4s,mb3.8,baz=88,slow=8.0,SNR=6.2						
ILAR	**Eielson Array**	**50.88**	**32**	P	**P**	**23 14 16.8**	**+2.3**
	0.4nm,0.8s,mb3.5,baz=263,slow=7.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**55.55**	**197**	P	**P**	**23 14 49.2**	**-0.3**
	1.8nm,0.5s,mb4.4,baz=355,slow=9.3,SNR=2.9						
WRA	**Warramunga Arr**	**55.91**	**187**	P	**P**	**23 14 50.6**	**-1.5**
	0.7nm,0.5s,mb4.0,baz=0.8,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**59.64**	**187**	P	**P**	**23 15 17.6**	**-0.5**
	0.3nm,0.5s,mb3.6,baz=355,slow=6.6,SNR=3.9						
FINES	**FINESS Array B**	**69.28**	**332**	P	**P**	**23 16 20.7**	**+0.6**
	0.7nm,0.9s,mb3.5,baz=45,slow=14,SNR=2.9						

IDC 23 23:06:59.7±1.7, 8.19S×120.29E, mb3.5/3, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=161.8km s-min=22.7km az=57.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.14**	**153**	Pn	P	23 09 40.8	-2.8
	0.6nm,0.3s,baz=352,slow=14,SNR=7.0						
FITZ				Sn	S	23 11 43.7	-6.4
	0.2nm,0.3s,baz=180,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**17.93**	**132**	P	P	23 11 08.9	-3.5
	0.2nm,0.3s,baz=307,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**20.18**	**141**	P	P	23 11 37.0	-1.8
	2.3nm,0.6s,baz=315,slow=9.7,SNR=24						
MKAR	**Makanchi Array**	**64.33**	**332**	P	P	23 17 37.3	-2.2
	0.3nm,0.7s,baz=146,slow=6.5,SNR=4.2						
ZAL	**Zalesovo**	**68.75**	**338**	P	P	23 18 05.2	-2.2
	0.6nm,0.6s,baz=339,slow=3.8,SNR=4.2						

IDC 23 23:11:37.8±3.3, 4.50S×138.32E, mb3.3/1, mb1 3.6/4, mb1mx3.4/13, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=115.2km s-min=31.0km az=93.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.83**	**194**	Pn	P	23 15 22.7	-1.2
	0.1nm,0.3s,baz=16,slow=12,SNR=3.9						
FITZ	**Fitzroy Crossi**	**18.34**	**222**	P	P	23 15 53.8	-1.8
	0.2nm,0.3s,baz=25,slow=14,SNR=2.8						
ASAR	**Alice Springs**	**19.52**	**192**	P	P	23 16 06.8	-2.9
	0.1nm,0.3s,baz=15,slow=11,SNR=5.5						
SONM	**Songino Array**	**59.17**	**335**	P	P	23 21 40.6	-2.3
	0.3nm,0.9s,baz=135,slow=6.1,SNR=2.4						

MAN 23 23:24:55.3, 13.87N×124.54E, h23km, mb4.3, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.46**	**234**	*e*P	Pb	23 25 05.6	+0.8
PVCP				*e*S	Sb	23 25 12.1	+0.8
CNP	**Catarman**	**1.36**	**175**	*e*P	Pn	23 25 18.4	-0.8
CNP				*e*S	Sn	23 25 36.0	-0.6
GQP	**Guinayangan**	**2.03**	**271**	*e*P	Pn	23 25 29.0	+0.2
GQP				*i* S	Sn	23 25 59.2	+5.4
POLP	**Polilio Island**	**2.66**	**289**	*e*P	Pn	23 25 42.6	+4.8
RCP	**Roxas**	**2.89**	**218**⇑	*e*P	Pn	23 25 41.2	+0.2
RCP				*e*S	Sn	23 26 15.2	-0.2
BALP	**Baler**	**3.42**	**303**	*e*P	Pn	23 25 47.8	-0.7

IDC 23 23:24:56.3±6.4, 1.55N×96.93E, mb3.9/6, mb1 4.0/7, mb1mx3.6/21, mbtmp3.8/7, ML3.9/1, MS2.9/1, Ms1 3.1/1, ms1mx2.2/30, Error ellipse: s-maj=164.0km s-min=61.6km az=128.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.91**	**7**	Pn	P	23 28 54.9	-1.2
	0.1nm,0.3s,baz=195,slow=10,SNR=3.5						
CMAR				LR	LR	23 36 57.7	
	comp=Z,37nm,18.4s,baz=185,slow=43						
SONM	**Songino Array**	**46.82**	**9**	P	P	23 33 27.7	-2.0
	0.3nm,0.3s,baz=191,slow=8.8,SNR=8.3						
MKAR	**Makanchi Array**	**46.83**	**346**	P	P	23 33 27.6	-2.2
	0.7nm,0.5s,baz=155,slow=8.9,SNR=14						
ZAL	**Zalesovo**	**53.16**	**351**	P	P	23 34 16.2	-1.9
	3.4nm,0.5s,baz=318,slow=5.5,SNR=15						
BVAR	**Borovoye Array**	**55.83**	**341**	P	P	23 34 35.0	-2.6
	0.8nm,0.5s,baz=142,slow=9.4,SNR=11						
FINES	**FINESS Array B**	**79.56**	**333**	P	P	23 37 04.8	-1.6
	0.8nm,1.0s,baz=11,slow=7.1,SNR=3.9						
GERES	**GERESS Array B**	**84.37**	**319**	P	P	23 37 30.9	-0.9
	0.2nm,0.4s,baz=124,slow=4.8,SNR=3.8						

*MOS **23** 23:31:31.4±0.8, 35.94N×70.86E, h99km, mb3.9/6, Error ellipse: s-maj=17.2km s-min=9.9km az=88.8*
*BJI **23** 23:31:31.5, 35.90N×70.90E, h87km, mB4.6, mb4.4, Ms3.7, Msz3.3*
*NEIC **23** 23:31:31.6±1.6, 35.87N×70.90E, h88km±14km, mb4.1/6, Error ellipse: s-maj=10.8km s-min=9.1km az=165.0*
*IDC **23** 23:31:33.1±4.9, 35.91N×70.92E, h100km±44km, mb3.6/17, mb1 3.7/19, mb1mx3.6/29, mbtmp3.9/19, MS3.6/2, Ms1 3.7/2, ms1mx2.7/30, Error ellipse: s-maj=18.1km s-min=15.3km az=152.0*
*NNC **23** 23:31:42.5±12.0, 36.92N×70.24E, h250km±241km, mpv4.1, Error ellipse: s-maj=162.7km s-min=98.9km az=171.0*
ISC 23 23:31:31.3±0.5, 35.89N±0.03×70.98E±0.06, h101km±6km, n69, σ1$11/77, mb3.8/17, 4C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.20**	**159**	⇓P	**P**	**23 32 09.2**	**+2.1**
CEP				S	**S**	**23 32 49.0**	**+15**
CHCP	**Chirah Chowk**	**2.92**	**139**	P	**P**	**23 32 18.9**	**+2.0**
THW	**Thamme Wali**	**3.15**	**168**	P	**P**	**23 32 21.0**	**+0.9**
SBDP	**Sheikh Budin**	**3.58**	**182**	⇑P	**P**	**23 32 25.6**	**-0.4**
DRP	**Derazinda**	**4.18**	**189**	P	**P**	**23 32 34.0**	**-0.2**
SARP	**Sargodha**	**4.20**	**160**	P	**P**	**23 32 34.0**	**-0.5**
SARP				S	**S**	**23 33 23.0**	**+0.3**
THN	**Thein Dam**	**5.23**	**130**	*e*P	**P**	**23 32 49.2**	**+0.8**
THN				*e*		23 33 50.8	
DLH	**Dalhousie**	**5.32**	**127**	*e*P	**P**	**23 32 50.0**	**+0.4**
DLH				*e*		23 33 52.0	
AML	**Almayashu**	**6.58**	**18**	P	**P**	**23 33 07.3**	**+0.3**
	SNR=35						
SDNR	**Sundarnagar**	**6.64**	**130**	*e*P	**P**	**23 33 08.8**	**+0.9**
SDNR				*e*S	**S**	**23 34 21.0**	**-1.6**
UCH	**Uchtor**	**6.90**	**22**	P	**P**	**23 33 12.0**	**+0.6**
	SNR=11						
KZA	**Kyzart**	**7.02**	**27**	P	**P**	**23 33 14.0**	**+0.9**
	SNR=11						
SMLA	**Simla**	**7.02**	**131**	*e*P	**P**	**23 33 09.4**	**-3.7**
SMLA				*e*S	**S**	**23 34 26.7**	**-5.2**
EKS2	**Erkin-Say**	**7.10**	**17**	P	**P**	**23 33 14.4**	**+0.2**
	SNR=15						
KK31	**Karatay Array**	**7.21**	**357**	⇑P	**P**	**23 33 13.9**	**-1.8**
	4.1nm,0.3s						
KK31				⇑S	**S**	**23 34 25.0**	**-12**
	8.4nm,0.3s,baz=178,slow=13,SNR=10						
KKAR	**Karatay Array**	**7.21**	**357**	PN	**P**	**23 33 13.9**	**-1.8**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AAK	**Ala-Archa**	**7.27**	**21**	P	**P**	**23 33 16.9**	**+0.5**
	SNR=21						
AAK	**Ala-Archa**	**7.27**	**21**	⇑P	**P**	**23 33 16.8**	**+0.3**
	comp=Z,11nm,0.6s						
AAK				⇓S	**S**	**23 34 35.6**	**-2.3**
	comp=Z,18nm,0.6s						
AAK	**Ala-Archa**	**7.27**	**21**	PN	**P**	**23 33 16.7**	**+0.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AAK	**Ala-Archa**	**7.27**	**21**	*e*Pn	**P**	**23 33 15.5**	**-0.9**
	comp=Z,15nm,0.5s						
KBK	**Karagaybulak**	**7.42**	**23**	P	**P**	**23 33 20.6**	**+2.0**
	SNR=11						
CHMS	**Chumysh**	**7.68**	**21**	P	**P**	**23 33 22.5**	**+0.6**
	SNR=18						
USP	**Ospenovka**	**7.85**	**19**	P	**P**	**23 33 23.5**	**-0.9**
	SNR=14						
TKM2	**Tokmak 2**	**7.88**	**26**	P	**P**	**23 33 25.4**	**+0.6**
	SNR=11						
KOLN	**Koldanda**	**13.44**	**124**	*e*P	**P**	**23 34 36.6**	**-2.2**
	comp=Z,12nm,0.4s						
MK31	**Manchi Array**	**13.80**	**34**	⇓P	**P**	**23 34 42.4**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=219,slow=13,SNR=3.8						
MKAR	**Makanchi Array**	**13.80**	**34**	P	**P**	**23 34 43.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=221,slow=13,SNR=4.3						
GKN	**Gorkha**	**14.00**	**120**	*e*P	**P**	**23 34 43.6**	**-2.6**
	comp=Z,20nm,0.3s						
KKN	**Kakani**	**14.59**	**120**	*e*P	**P**	**23 34 51.7**	**-2.0**
	comp=Z,17nm,0.5s						
PKI	**Pulchoki**	**14.81**	**120**	*e*P	**P**	**23 34 55.2**	**-1.3**
	comp=Z,16nm,0.5s						
WMQ	**Urumqi**	**15.07**	**53**	P	**P**	**23 35 00.8**	**+1.0**
WMQ				AP		23 35 13.3	
WMQ				PP	PP	23 35 15.1	+2.1
WMQ				XP		23 35 26.3	
WMQ				S	**S**	**23 37 45.8**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.4s						
WMQ				AMB	AMB		
	comp=Z,146nm,4.6s						
JIRN	**Jiri**	**15.31**	**118**	*e*P	**P**	**23 35 02.4**	**-0.5**
	comp=Z,28nm,0.3s						
BVAR	**Borovoye Array**	**17.14**	**359**	P	**P**	**23 35 24.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=152,slow=9.9,SNR=9.1						
BVAR				S	**S**	**23 38 25.8**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=165,slow=23,SNR=6.6						
ZAL	**Zalesovo**	**20.46**	**24**	P	**P**	**23 36 02.6**	**0.0**
	comp=Z,2.4nm,0.4s,baz=242,slow=6.5,SNR=8.8						
NVS	**Novosibirsk**	**20.76**	**20**	*e*P	**P**	**23 36 05.0**	**-0.6**
GNI	**Garni**	**21.07**	**290**	*e*P	**P**	**23 36 09.2**	**+0.4**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GNI	**Garni**	**21.07**	**290**	P	**P**	**23 36 10.0**	**+1.2**
	comp=Z,5.9nm,0.7s,mb4.1,baz=180,slow=7.1,SNR=9.7						
GNI	**Garni**	**21.07**	**290**	*e*P	**P**	**23 36 09.2**	**+0.4**
	comp=Z,7.4nm,0.8s,mb4.1						
ARU	**Arti**	**22.20**	**342**	⇓*i*P	**P**	**23 36 22.2**	**+2.3**
ARU				*e*		23 36 42.3	
ARU				*e*S	**S**	**23 40 20.4**	**+7.7**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
ARU	**Arti**	**22.20**	**342**	*e*P	**P**	**23 36 21.4**	**+1.5**
	comp=Z,2.8nm,0.4s,mb4.0						
SONM	**Songino Array**	**28.70**	**54**	P	**P**	**23 37 22.7**	**+1.9**
	comp=Z,0.3nm,0.7s,mb3.0,baz=262,slow=8.7,SNR=4.5						
BRTR	**Keskin Array B**	**29.61**	**289**	P	**P**	**23 37 27.3**	**-1.6**
	comp=Z,0.6nm,0.7s,mb3.3,baz=90,slow=11,SNR=4.3						
MLR	**Muntele Rosu**	**35.06**	**300**	P	**P**	**23 38 17.1**	**+0.9**
	comp=Z,2.1nm,0.7s,mb4.1,baz=190,slow=8.1,SNR=6.6						
FINES	**FINESS Array B**	**37.98**	**327**	P	**P**	**23 38 40.4**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.1,baz=117,slow=9.3,SNR=10						
ARCES	**ARCESS Array B**	**41.70**	**338**	P	**P**	**23 39 11.4**	**+0.4**
	comp=Z,2.2nm,0.6s,mb4.0,baz=108,slow=7.7,SNR=6.0						
HFS	**Hagfors**	**43.53**	**322**	P	**P**	**23 39 25.6**	**-0.5**
	comp=Z,1.5nm,0.5s,mb4.0,baz=97,slow=12,SNR=12						
NB2	**NORSAR Subarra**	**44.86**	**323**	P	**P**	**23 39 35.7**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.5,baz=100,slow=7.9						
NB2	**NORSAR Subarra**	**44.86**	**323**	P	**P**	**23 39 35.7**	**-1.0**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
NOA	**NORSAR Array B**	**44.86**	**323**	P	**P**	**23 39 35.9**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.5,baz=97,slow=7.8,SNR=4.7						
NOA	**NORSAR Array B**	**44.86**	**323**	P	**P**	**23 39 35.9**	**-0.8**
KMBO	**Kilima Mbogo**	**48.41**	**228**	LR	LR	00 03 51.2	
	comp=Z,31nm,18.4s,baz=80,slow=40						
MBAR	**Mbarara**	**52.14**	**235**	P	**P**	**23 40 32.9**	**-0.7**
MATP	**Matopo**	**68.95**	**223**	P	**P**	**23 42 27.2**	**-0.4**
	comp=Z,0.8nm,0.4s,mb3.9,baz=30,slow=8.9,SNR=4.7						
LBTB	**Lobatse**	**74.21**	**222**	P	**P**	**23 42 59.6**	**+0.6**
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
LBTB	**Lobatse**	**74.21**	**222**	P	**P**	**23 42 59.6**	**+0.6**
	comp=Z,1.6nm,0.7s,mb3.9,baz=31,slow=5.9,SNR=4.2						
LBTB	**Lobatse**	**74.21**	**222**	P	**P**	**23 42 57.8**	**-1.1**
	comp=Z,5.5nm,1.2s,mb4.2						
INK	**Inuvik**	**74.51**	**9**	*e*P	**P**	**23 43 00.4**	**+0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**74.51**	**9**	P	**P**	**23 43 00.8**	**+1.0**
	comp=Z,0.9nm,0.5s,mb3.8,baz=342,slow=4.9,SNR=13						
INK	**Inuvik**	**74.51**	**9**	*e*P	**P**	**23 43 00.4**	**+0.6**
	comp=Z,1.2nm,0.5s,mb3.9						
ILAR	**Eielson Array**	**75.37**	**16**	P	**P**	**23 43 04.9**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.3,baz=302,slow=6.0,SNR=7.1						
ILAR				LR	LR	00 17 55.6	
	comp=Z,70nm,19.1s,baz=3.2,slow=37						
BOSA	**Boshof**	**77.27**	**220**	P	**P**	**23 43 16.7**	**+0.5**
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
BOSA	**Boshof**	**77.27**	**220**	P	**P**	**23 43 16.7**	**+0.6**
	comp=Z,3.1nm,0.7s,mb4.2,baz=14,slow=4.0,SNR=8.1						
BOSA	**Boshof**	**77.27**	**220**	*e*P	**P**	**23 43 16.5**	**+0.3**
	comp=Z,3.4nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**81.69**	**122**	P	**P**	**23 43 40.7**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.5,baz=329,slow=4.9,SNR=3.8						
WRA	**Warramunga Arr**	**81.69**	**122**	P	**P**	**23 43 40.7**	**+0.6**
YKW3	**Yellowknife Ar**	**81.79**	**3**	P	**P**	**23 43 39.7**	**0.0**
YKA	**Yellowknife Ar**	**81.86**	**3**	P	**P**	**23 43 40.8**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.6,baz=351,slow=5.4,SNR=19						
YKA	**Yellowknife Ar**	**81.86**	**3**	P	**P**	**23 43 40.8**	**+0.7**
ASAR	**Alice Springs**	**83.92**	**125**	P	**P**	**23 43 51.9**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.6,baz=313,slow=5.3,SNR=8.8						

*NAO **23** 23:34:50.0±1.9, 67.78N×20.37E, ML2.0*
*IDC **23** 23:34:50.5±1.0, 67.80N×20.63E, mb1 2.7/3, mb1mx2.6/22, mbtmp2.6/3, ML2.4/3, Error ellipse: s-maj=16.3km s-min=6.5km az=121.0*
*BER **23** 23:34:51.4±4.3, 67.88N×20.13E, ML2.0, ML2.0(NAO), Suspected explosion*
HEL 23 23:34:50.5±0.1, 67.84N×20.32E, ML1.9, ML2.0(BER), **ML2.0**(NAO), **Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIF	**Kilpisjarvi**	**1.18**	**8**	*e*P	Pb	23 35 12.7	-0.8
KIF				*e*S	Sb	23 35 28.2	-1.0
KTK1	**Kautokeino**	**1.60**	**41**	*e*P	Pn	23 35 19.4	-0.8
KTK1				*e*S	Sb	23 35 41.7	+0.5
TRO	**Tromso**	**1.87**	**345**	*e*P	Pn	23 35 22.3	-1.7
TRO				*e*S	Sn	23 35 46.9	-1.8
TRO				AML	AML	23 35 50.2	
	comp=Z,16nm,0.5s						
SGF	**Sodankyl**	**2.41**	**97**	*e*P	Pn	23 35 31.5	-0.3
SGF				*e*SB	Sb	23 36 02.1	-2.7
SGF				MSG		23 36 06.4	
	comp=Z,3.7nm,0.2s						
ARA0	**ARCESS Array S**	**2.55**	**46**	Pn	Pn	23 35 32.8	-0.9
	baz=225,slow=14						
ARA0				Sn	Sn	23 36 04.8	-1.1
	baz=232,slow=28						
ARA0	**ARCESS Array S**	**2.55**	**46**	*e*P	Pn	23 35 32.8	-0.9
ARA0				*e*S	Sn	23 36 04.8	-1.1
ARCES	**ARCESS Array B**	**2.55**	**46**	Pn	Pn	23 35 33.3	-0.4
	comp=Z,0.6nm,0.3s,baz=226,slow=15,SNR=45						
ARCES				Sn	Sn	23 36 04.9	-1.0
	comp=Z,3.3nm,0.3s,baz=229,slow=26,SNR=18						
ARCES				Lg		23 36 07.7	
	comp=Z,3.3nm,0.3

mb1 3.8/7, mb1mx3.5/21, mbtmp3.8/7, ML4.4/1, Error ellipse: s-maj=69.9km s-min=20.4km az=57.0
*NEIC **23** 23:51:56.0±0.8, 1.20N×97.13E, Error ellipse: s-maj=19.7km s-min=12.0km az=64.0*
ISC 23 23:51:53.9±1.1, 1.2N±0.1×97.1E±0.2, h25km, h25km±.8km:pP-P, n12, σ0§69/11, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.38**	**41**	*eP*n	**Pn**	**23 53 14.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**17.24**	**6**	P	**P**	**23 55 56.5**	**+1.6**
0.5nm,0.3s,baz=194,slow=11,SNR=4.1							
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**	**23 59 46.6**	**+0.4**
0.7nm,0.6s,mb3.5,baz=301,slow=9.0,SNR=5.9							
WRA				pP	pP	23 59 54.4	+0.8
0.3nm,0.3s,baz=301,slow=9.1,SNR=2.1							
WRAB	**Tennant Creek**	**42.12**	**122**	P	**P**	**23 59 46.3**	**0.0**
SONM	**Songino Array**	**47.14**	**9**	P	**P**	**00 00 26.2**	**0.0**
0.9nm,0.6s,mb3.9,baz=190,slow=8.9,SNR=13							
SONM				pP	pP	00 00 33.1	-0.5
0.7nm,0.7s,baz=192,slow=9.5,SNR=6.0							
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**00 00 26.9**	**+0.2**
0.7nm,0.5s,mb3.9,baz=158,slow=8.4,SNR=14							
MKAR				pP	pP	00 00 34.5	+0.3
0.7nm,0.5s,baz=154,slow=9.5,SNR=6.9							
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**00 00 26.9**	**+0.2**
MKAR				pP	pP	00 00 34.5	+0.3
STKA	**Stephens Creek**	**53.43**	**132**	P	**P**	**00 01 08.9**	**-5.5**
ZAL	**Zalesovo**	**53.53**	**351**	P	**P**	**00 01 14.2**	**-0.5**
2.2nm,0.3s,mb4.5,baz=296,slow=4.5,SNR=5.0							
BVAR	**Borovoye Array**	**56.21**	**341**	P	**P**	**00 01 33.4**	**-0.9**
0.7nm,0.5s,mb4.0,baz=137,slow=8.8,SNR=11							
FINES	**FINESS Array B**	**79.95**	**333**	P	**P**	**00 04 02.4**	**+0.1**
0.4nm,0.8s,mb3.4,baz=117,slow=4.3,SNR=3.5							
TXAR	**Lajitas Array**	**143.71**	**32**	PKP	PKPdf	00 11 30.2	-1.9
0.2nm,0.3s,baz=158,slow=4.9,SNR=6.4							

*CSEM **23** 23:55:01.9±0.2, 34.95N×3.81W, h2km, MD2.9, Error ellipse: s-maj=5.1km s-min=3.8km az=114.0*
*MDD **23** 23:55:03.6±0.4, 35.02N×3.85W, mbLg1.6/10, Error ellipse: s-maj=5.1km s-min=2.7km az=54.0, PRXIMO*
*CNRM **23** 23:55:03.6, 35.03N×3.81W, h4km, MD2.9*
*NEIC **23** 23:55:07.3, 35.17N×3.94W, MG2.8(MDD), After MDD.*
ISC 23 23:55:02.9±0.6, 35.02N±0.02×3.89W±0.04, h8km±4km, n31, σ1§15/49, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**118**	P	**Pg**	**23 55 05.0**	**-0.7**
TOU				S	**Sg**	**23 55 07.0**	**-0.6**
TOU	**Touzarine**	**0.12**	**118**	*i* P	**Pg**	**23 55 05.0**	**-0.7**
MPAL	**Palemas**	**0.21**	**347**	P	**Pg**	**23 55 07.0**	**-0.3**
MPAL				S	**Sg**	**23 55 11.0**	**+0.7**
MPAL	**Palemas**	**0.21**	**347**	*i* P	**Pg**	**23 55 07.0**	**-0.3**
ZAI	**Zaio**	**0.94**	**93**	*i* P	**Pb**	**23 55 20.0**	**-1.0**
ZAI				*i* S	**Sb**	**23 55 33.5**	**+0.2**
TZK	**Tazeka**	**0.96**	**195**	*i* P	**Pb**	**23 55 22.0**	**+0.6**
TZK				*i* S	**Sb**	**23 55 35.0**	**+1.0**
EALB	**Alboran**	**1.15**	**37**	S	**Sb**	**23 55 40.1**	**+0.6**
7.4nm,0.1s,SNR=4.0							
EALB	**Alboran**	**1.15**	**37**	S	**Sb**	**23 55 40.0**	**+0.4**
7.4nm,0.1s,SNR=4.0							
TAF	**Taforalt**	**1.23**	**99**	P	**Pb**	**23 55 23.0**	**-2.9**
TAF				S	**Sb**	**23 55 43.0**	**+1.3**
EMIJ	**Mijas**	**1.70**	**335**	P	**Pn**	**23 55 34.0**	**+0.8**
EMIJ				S	**Sn**	**23 55 52.1**	**-3.2**
EMIJ	**Mijas**	**1.70**	**335**	P	**Pn**	**23 55 33.4**	**+0.2**
1.0nm,0.2s,SNR=7.9							
EMIJ				S	**Sn**	**23 55 55.3**	**0.0**
2.5nm,0.3s,SNR=5.9							
EMIJ	**Mijas**	**1.70**	**335**	P	**Pn**	**23 55 34.0**	**+0.9**
1.0nm,0.2s,SNR=7.9							
EJIF	**Jimena Fronter**	**1.92**	**318**	P	**Pn**	**23 55 36.5**	**+0.2**
2.7nm,0.8s,SNR=7.9							
EJIF				S	**Sn**	**23 56 01.2**	**+0.3**
10nm,1.1s,SNR=7.9							
EBER	**Berja**	**2.04**	**23**	S	**Sn**	**23 56 03.4**	**-0.5**
50nm,1.5s,SNR=4.0							
EBER	**Berja**	**2.04**	**23**	S	**Sn**	**23 56 06.0**	**+2.1**
0.4nm,0.2s,SNR=4.0							
CZD	**Col de Zad**	**2.20**	**206**	*e*P	**Pn**	**23 55 40.0**	**-0.3**
CZD				*i* S	**Sn**	**23 56 07.5**	**-0.5**
ENIJ	**Nijar**	**2.38**	**34**	S	**Sn**	**23 56 11.1**	**-1.3**
7.9nm,1.3s,SNR=7.9							
ESPR	**Espera**	**2.44**	**320**	P	**Pn**	**23 55 44.4**	**+0.7**
0.6nm,0.2s,SNR=7.9							
ESPR				S	**Sn**	**23 56 13.8**	**-0.3**
6.2nm,0.9s,SNR=7.9							
EQES	**Quesada**	**2.85**	**13**	P	**Pn**	**23 55 51.9**	**+2.3**
EQES				S	**Sn**	**23 56 26.8**	**+2.3**
EQES	**Quesada**	**2.85**	**13**	P	**Pn**	**23 55 49.5**	**-0.1**
0.3nm,0.1s,SNR=7.9							
EQES				S	**Sn**	**23 56 23.0**	**-1.6**
0.4nm,0.2s,SNR=4.0							
EQES	**Quesada**	**2.85**	**13**	P	**Pn**	**23 55 51.9**	**+2.3**
0.3nm,0.1s,SNR=7.9							
EQES				S	**Sn**	**23 56 26.8**	**+2.3**
0.4nm,0.2s,SNR=4.0							
EADA	**Adamuz**	**3.19**	**350**	P	**Pn**	**23 55 56.9**	**+2.5**
EADA				S	**Sn**	**23 56 31.5**	**-1.6**
EADA	**Adamuz**	**3.19**	**350**	P	**Pn**	**23 55 54.7**	**+0.4**
0.1nm,0.1s,SNR=4.0							
EADA				S	**Sn**	**23 56 31.5**	**-1.6**
0.1nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**3.19**	**350**	P	**Pn**	**23 55 56.9**	**+2.5**
0.1nm,0.1s,SNR=4.0							
EADA				S	**Sn**	**23 56 31.5**	**-1.6**
0.1nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.55**	**321**	P	**Pn**	**23 56 00.3**	**+0.9**
EMIN				S	**Sn**	**23 56 38.8**	**-3.2**
EMIN	**Mina Concepcio**	**3.55**	**321**	P	**Pn**	**23 55 58.9**	**-0.5**
0.3nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**23 56 38.8**	**-3.2**
0.1nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.55**	**321**	P	**Pn**	**23 56 00.3**	**+0.9**
0.3nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**3.84**	**312**	S	**Sn**	**23 56 46.3**	**-3.2**
0.8nm,0.2s,SNR=4.0							
ETOB	**Tobarra**	**4.08**	**27**	P	**Pn**	**23 56 07.5**	**+0.6**
ETOB	**Tobarra**	**4.08**	**27**	P	**Pn**	**23 56 06.7**	**-0.3**
0.5nm,0.4s,SNR=4.0							
ETOB	**Tobarra**	**4.08**	**27**	P	**Pn**	**23 56 07.5**	**+0.5**

*IDC **24** 00:09:16.1±6.5, 0.94N×126.11E, h52km±63km, mb3.8/11, mb1 4.0/12, mb1mx3.8/20, mbtmp4.1/12, ML4.0/1, Error ellipse: s-maj=39.1km s-min=14.7km az=72.0*
*BJI **24** 00:09:19.3, 0.90N×126.30E, h83km, mB5.1, mb4.6, Ms3.9, Msz4.1*
*NEIC **24** 00:09:19.4±3.4, 0.92N×126.25E, h83km±33km, mb4.4/5, Error ellipse: s-maj=23.1km s-min=9.0km az=60.0*
ISC 24 00:09:19.3±3.7, 0.90N±0.08×126.2E±0.1, h96km±36km, n26, σ1§18/26, mb4.1/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**15.92**	**272**	*e*P	**P**	**00 13 00.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**18.89**	**182**	P	**P**	**00 13 32.5**	**-2.3**
0.3nm,0.3s,baz=3.5,slow=9.7,SNR=3.8							
WRAB	**Tennant Creek**	**22.18**	**159**	*e*P	**P**	**00 14 08.2**	**-0.3**
17nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**22.19**	**159**	P	**P**	**00 14 08.3**	**-0.3**
8.6nm,0.9s,mb4.1,baz=337,slow=11,SNR=11							
WB2	**Warramunga Arr**	**22.19**	**159**	*e*P	**P**	**00 14 08.4**	**-0.2**
MBWA	**Marble Bar**	**22.82**	**196**	*e*P	**P**	**00 14 14.8**	**0.0**
ASAR	**Alice Springs**	**25.53**	**163**	P	**P**	**00 14 41.0**	**+0.2**
2.4nm,0.7s,mb3.8,baz=339,slow=6.8,SNR=30							
ASPA	**Alice Springs**	**25.53**	**163**	*e*P	**P**	**00 14 43.3**	**+2.5**
CMAR	**Chiang Mai Arr**	**31.96**	**305**	P	**P**	**00 15 36.4**	**-2.0**
0.6nm,0.4s,mb3.7,baz=124,slow=6.5,SNR=4.2							
KMI	**Kunming**	**33.08**	**319**	P	**P**	**00 15 48.1**	**-0.1**
KMI				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.8							
KMI	**Kunming**	**33.08**	**319**	P	**P**	**00 15 48.1**	**-0.1**
comp=Z,10.0nm,0.7s,mb4.8							
KMI				sP	pP	00 16 09.8	-0.4
KMI				LR	LR		
comp=Z,30nm,17.9s							
STKA	**Stephens Creek**	**35.70**	**157**	*e*P	**P**	**00 16 10.5**	**0.0**
comp=Z,4.1nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**35.70**	**157**	P	**P**	**00 16 10.9**	**+0.4**
comp=Z,4.9nm,0.9s,mb4.5,baz=335,slow=6.3,SNR=8.5							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**37.17**	**16**	P	**P**	**00 16 22.2**	**-0.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=180,slow=9.4,SNR=5.2							
CN2	**Changchun**	**42.73**	**359**	*e*P	**P**	**00 17 11.8**	**+3.2**
MDJ	**Mudanjiang**	**43.64**	**3**	P	**P**	**00 17 16.6**	**+0.6**
MDJ				AMB	AMB		
comp=Z,4.0nm,0.7s,mb4.3							
MDJ				AMB	AMB		
comp=Z,111nm,3.5s							
ULN	**Ulaanbaatar**	**49.65**	**343**	P	**P**	**00 18 03.7**	**+0.5**
comp=Z,0.8nm,0.6s,mb3.8							
SONM	**Songino Array**	**49.82**	**343**	P	**P**	**00 18 04.3**	**-0.2**
comp=Z,0.7nm,0.6s,mb3.8,baz=156,slow=7.4,SNR=8.9							
WMQ	**Urumqi**	**54.77**	**326**	P	**P**	**00 18 42.8**	**+1.4**
WMQ				AMB	AMB		
comp=Z,7.0nm,0.8s,mb4.7							
WMQ				AMB	AMB		
comp=Z,60nm,4.0s							
WMQ				LR	LR		
comp=N,36nm,16.4s							
WMQ				LR	LR		
comp=E,32nm,17.3s							
MKAR	**Makanchi Array**	**59.60**	**326**	P	**P**	**00 19 13.1**	**-2.3**
comp=E,1.2nm,0.4s,mb4.3,baz=121,slow=7.8,SNR=18							
BVAR	**Borovoye Array**	**69.42**	**328**	P	**P**	**00 20 17.9**	**-1.0**
comp=E,1.0nm,0.4s,mb4.0,baz=124,slow=11,SNR=11							
ARU	**Arti**	**77.05**	**328**	*e*P	**P**	**00 21 03.5**	**+0.1**
comp=E,2.5nm,0.5s,mb4.2							
VNDA	**Vanda**	**80.70**	**173**	P	**P**	**00 21 23.1**	**+0.3**
comp=E,1.0nm,0.7s,mb3.8,baz=326,slow=5.7,SNR=9.9							
KMBO	**Kilima Mbogo**	**88.98**	**269**	P	**P**	**00 22 07.7**	**+2.3**
comp=E,1.1nm,0.8s,mb3.9,baz=55,slow=2.9,SNR=5.7							
KMBO	**Kilima Mbogo**	**88.98**	**269**	P	**P**	**00 22 07.7**	**+2.3**
BRTR	**Keskin Array B**	**91.42**	**310**	P	**P**	**00 22 15.2**	**-1.0**
comp=E,0.4nm,0.6s,mb3.7,baz=104,slow=5.9,SNR=2.9							

*IDC **24** 00:10:12.2±1.0, 1.02N×126.30E, mb4.1/11, mb1 4.2/11, mb1mx4.1/18, mbtmp4.1/11, MS3.5/2, Ms1 3.5/2, ms1mx2.9/23, Error ellipse: s-maj=70.9km s-min=15.1km az=65.0*
*NEIC **24** 00:10:17.1±6.2, 0.90N×126.19E, h29km±44km, mb4.2/5, Error ellipse: s-maj=24.9km s-min=8.3km az=56.0*
ISC 24 00:10:15.7±0.6, 0.95N±0.09×126.2E±0.1, h33km, n22, σ0§90/20, mb4.2/13, MS3.3/2, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.20**	**297**	P	**P**	**00 12 51.5**	**-5.1**
KSM	**Kuching**	**15.93**	**272**	P	**P**	**00 13 59.3**	**+0.2**
WRAB	**Tennant Creek**	**22.23**	**159**	*e*P	**P**	**00 15 11.2**	**+0.1**
18nm,0.7s,mb4.6							
WRA	**Warramunga Arr**	**22.23**	**159**	P	**P**	**00 15 10.4**	**-0.8**
5.7nm,0.5s,mb4.2,baz=337,slow=11,SNR=8.3							
WB2	**Warramunga Arr**	**22.24**	**159**	*e*P	**P**	**00 15 11.3**	**+0.1**
MBWA	**Marble Bar**	**22.87**	**196**	P	**P**	**00 15 17.2**	**-0.4**
PMG	**Port Moresby**	**23.25**	**117**	LR	LR	00 24 39.5	
comp=Z,99nm,18.9s,MS3.3,baz=162,slow=37							
ASAR	**Alice Springs**	**25.58**	**164**	P	**P**	**00 15 43.8**	**+0.1**
2.0nm,0.3s,mb4.1,baz=345,slow=12,SNR=9.8							
CTA	**Charters Tower**	**28.68**	**138**	LR	LR	00 26 25.2	
comp=Z,91nm,19.1s,MS3.4,baz=48,slow=34							
CMAR	**Chiang Mai Arr**	**31.93**	**305**	P	**P**	**00 16 39.9**	**-1.0**
0.4nm,0.4s,mb3.6,baz=127,slow=7.1,SNR=4.3							
STKA	**Stephens Creek**	**35.75**	**157**	*e*P	**P**	**00 17 14.0**	**+0.4**
4.5nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**35.75**	**157**	P	**P**	**00 17 13.8**	**+0.2**
6.0nm,0.8s,mb4.6,baz=321,slow=6.4,SNR=7.5							
ULN	**Ulaanbaatar**	**49.60**	**343**	*e*P	**P**	**00 19 08.0**	**+2.2**
1.4nm,0.6s,mb4.2							
SONM	**Songino Array**	**49.77**	**343**	P	**P**	**00 19 06.7**	**-0.4**
1.2nm,0.8s,mb4.0,baz=160,slow=7.3,SNR=7.2							
MKAR	**Makanchi Array**	**59.56**	**326**	P	**P**	**00 20 17.1**	**-1.4**
1.0nm,0.3s,mb4.3,baz=120,slow=8.0,SNR=10.0							
ZAL	**Zalesovo**	**62.84**	**334**	P	**P**	**00 20 40.7**	**+0.2**
0.8nm,0.3s,mb4.3,baz=192,slow=4.4,SNR=3.0							
BVAR	**Borovoye Array**	**69.37**	**328**	P	**P**	**00 21 21.0**	**-1.2**
1.9nm,0.7s,mb4.2,baz=135,slow=8.4,SNR=7.8							
VNDA	**Vanda**	**80.75**	**173**	P	**P**	**00 22 27.0**	**+0.1**
1.0nm,0.6s,mb4.0,baz=328,slow=6.7,SNR=8.8							
VNDA	**Vanda**	**80.75**	**173**	*e*P	**P**	**00 22 27.2**	**+0.2**
1.0nm,0.6s,mb3.9							
KMBO	**Kilima Mbogo**	**89.00**	**269**	P	**P**	**00 23 11.6**	**+2.2**
0.6nm,0.7s,mb4.0,baz=63,slow=13,SNR=3.9							
KMBO	**Kilima Mbogo**	**89.00**	**269**	P	**P**	**00 23 10.9**	**+1.6**
1.0nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**91.39**	**310**	P	**P**	**00 23 20.6**	**+0.6**
0.6nm,0.8s,mb4.0,baz=90,slow=4.9,SNR=3.8							

*IDC **24** 00:11:30.7±12.0, 6.71S×129.18E, h111km±140km, mb3.6/1, mb1 3.7/4, mb1mx3.4/16, mbtmp3.9/4, ML3.9/3, MS3.9/1, Ms1 3.9/1, ms1mx2.8/21, Error ellipse: s-maj=80.2km s-min=57.4km az=21.0*
ISC 24 00:11:32.0±2.3, 6.9S±0.1×129.5E±0.2, h154km±25km, n7, σ1§18/11, mb3.7/1, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.52**	**153⇑**	*i*P	**P**	**00 13 05.4**	**-1.2**
11nm,0.5s							
KAKA				*e*S	**S**	**00 14 14.7**	**-5.4**
FITZ	**Fitzroy Crossi**	**11.79**	**198**	*e*P	**P**	**00 14 18.5**	**+2.3**
1.4nm,0.2s							
FITZ				*e*S	**S**	**00 16 24.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.79**	**198**	P	**P**	**00 14 17.7**	**+1.5**
0.9nm,0.3s,baz=25,slow=8.9,SNR=14							
FITZ				S	**S**	**00 16 22.8**	**-2.2**
1.8nm,0.3s,baz=185,slow=17,SNR=7.0							
WRA	**Warramunga Arr**	**13.85**	**160**	P	**P**	**00 14 43.5**	**+0.7**
0.9nm,0.3s,baz=339,slow=14,SNR=9.0							
WRA				S	**S**	**00 17 06.5**	**-6.6**
0.8nm,0.3s,baz=336,slow=23,SNR=6.2							
ASAR	**Alice Springs**	**17.25**	**166**	P	**P**	**00 15 28.9**	**+3.9**
0.3nm,0.3s,baz=340,slow=8.8,SNR=5.8							
ASAR				S	**S**	**00 18 30.3**	**+0.2**
0.1nm,0.3s,baz=346,slow=27,SNR=4.5							
DZM	**Mont Dzumac**	**38.74**	**117**	LR	LR	00 35 13.0	
comp=Z,146nm,18.6s,baz=49,slow=36							
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**00 22 15.0**	**-0.5**
0.8nm,0.5s,mb3.7,baz=115,slow=8.2,SNR=5.2							

JMA 24 00:14:17.6±0.7, 32.27N×142.53E, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**4.14**	**317**	P	Pn	00 15 23.7	+0.2
JHU	**Hanno**	**4.47**	**324**	S	Sn	00 16 21.4	-0.5
JRY	**Ryogami san**	**4.80**	**322**	P	Pn	00 15 33.9	+1.1
JAG	**Ashikaga**	**4.86**	**329**	P	Pn	00 15 34.7	+0.9
MAT	**Matsushiro**	**5.56**	**321**	P	Pn	00 15 44.3	+0.7
MAT				S	Sn	00 16 47.9	-1.3

*IDC **24** 00:15:52.5±1.2, 51.20N×179.33W, h35km±6km, mb3.5/13, mb1 3.8/14, mb1mx3.6/27, mbtmp3.7/14, ML3.3/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/24, Error ellipse: s-maj=30.2km s-min=12.3km az=1.0*
*NEIC **24** 00:15:53.1±0.7, 51.29N×179.36W, mb3.9/3, Error ellipse: s-maj=19.3km s-min=8.0km az=176.0*
ISC 24 00:15:51.1±0.8, 51.3N±0.1×179.47W±0.08, h38km, h38km±2.6km:pP-P, n27, σ0§83/26, mb3.8/16, MS3.4/2, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**1.56**	**67**	*e*P	**P**	**00 16 16.6**	**-0.2**
GSTR	**Great Sitkin T**	**2.28**	**67**	*e*P	**P**	**00 16 30.3**	**+3.3**
FX1	**Attu Island--F**	**4.83**	**292**	Pn	**P**	**00 17 04.6**	**+1.3**
4.4nm,0.3s,baz=196,slow=15,SNR=3.9							
FX1				Sn	**S**	**00 17 58.8**	**+0.2**
1.6nm,0.3s,baz=245,slow=21,SNR=1.8							
FX1	**Attu Island--F**	**4.83**	**292**	P	**P**	**00 17 05.3**	**+2.1**
UNV	**Unalaska Valle**	**8.31**	**67**	P	**P**	**00 17 52.7**	**+0.8**
THY	**Trims Highway**	**21.57**	**43**	P	**P**	**00 20 39.2**	**+0.2**
ILAR	**Eielson Array**	**21.59**	**39**	P	**P**	**00 20 39.2**	**+0.1**
0.4nm,0.5s,mb3.1,baz=230,slow=8.2,SNR=7.2							
DAWY	**Dawson**	**24.47**	**43**	*e*P	**P**	**00 21 07.6**	**+0.4**
ASAJ	**Asahikawa**	**26.29**	**269**	P	**P**	**00 21 23.7**	**-0.9**
4.3nm,0.7s,mb4.1,baz=86,slow=19,SNR=2.6							
INK	**Inuvik**	**27.79**	**35**	LR	LR	00 34 33.3	
comp=Z,61nm,20.9s,MS3.2,baz=328,slow=40							
DLBC	**Dease Lake**	**28.77**	**56**	LR	LR	00 33 14.8	
comp=Z,138nm,18.3s,MS3.6,baz=304,slow=36							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**35.61**	**46**	P	**P**	**00 22 47.0**	**+0.4**
1.0nm,0.5s,mb4.0,baz=280,slow=7.4,SNR=36							
YKA	**Yellowknife Ar**	**35.61**	**46**	P	**P**	**00 22 47.0**	**+0.4**
HLID	**Hailey**	**43.37**	**74**	*e*P	**P**	**00 23 50.2**	**-0.9**
0.7nm,0.7s,mb3.5							
SONM	**Songino Array**	**46.32**	**296**	P	**P**	**00 24 14.8**	**+0.1**
0.5nm,0.6s,mb3.6,baz=60,slow=8.9,SNR=6.0							
SONM				pP	pP	00 24 27.0	+1.5
0.3nm,0.4s,baz=61,slow=7.4,SNR=4.1							
FCC	**Fort Churchill**	**46.34**	**46**	P	**P**	**00 24 13.2**	**-1.4**
1.4nm,0.7s,mb4.0							
BW06	**Boulder Array**	**46.74**	**72**	*e*P	**P**	**00 24 17.5**	**-0.4**
1.0nm,0.5s,mb4.0							
PDAR	**Pinedale Array**	**46.74**	**72**	P	**P**	**00 24 19.1**	**+1.1**
1.4nm,0.5s,mb4.2,baz=340,slow=3.6,SNR=16							
TXAR	**Lajitas Array**	**59.08**	**81**	P	**P**	**00 25 49.6**	**-0.1**
0.2nm,0.5s,mb3.5,baz=315,slow=5.1,SNR=3.4							
MKAR	**Makanchi Array**	**59.78**	**308**	P	**P**	**00 25 53.0**	**-1.2**
0.8nm,0.5s,mb4.0,baz=52,slow=5.9,SNR=15							
MKAR				pP	pP	00 26 03.7	-1.8
0.7nm,0.5s,baz=49,slow=5.9,SNR=7.6							
SCHQ	**Schefferville**	**60.35**	**38**	P	**P**	**00 25 57.4**	**-0.7**
3.5nm,0.9s,mb4.4,baz=342,slow=8.0,SNR=5.3							
BVAR	**Borovoye Array**	**60.70**	**319**	P	**P**	**00 26 00.0**	**-0.5**
0.4nm,0.3s,mb4.0,baz=53,slow=8.0,SNR=5.2							
FINES	**FINESS Array B**	**65.80**	**347**	P	**P**	**00 26 33.3**	**-0.5**
0.5nm,0.6s,mb3.7,baz=37,slow=14,SNR=3.0							
NB2	**NORSAR Subarra**	**67.72**	**354**	P	**P**	**00 26 46.6**	**+0.7**
0.2nm,0.5s,mb3.4,baz=6.0,slow=6.5							
NOA	**NORSAR Array B**	**67.72**	**354**	P	**P**	**00 26 45.8**	**-0.1**
0.3nm,0.4s,mb3.7,baz=8.5,slow=6.4,SNR=5.5							
NOA				pP	pP	00 26 56.6	-0.7
0.2nm,0.5s,baz=343,slow=4.7,SNR=2.0							
GERES	**GERESS Array B**	**79.63**	**351**	P	**P**	**00 27 55.2**	**-0.3**
0.1nm,0.3s,mb3.2,baz=32,slow=9.3,SNR=3.1							
WRA	**Warramunga Arr**	**81.64**	**223**	P	**P**	**00 28 07.7**	**+1.1**
0.4nm,0.7s,mb3.5,baz=35,slow=6.0,SNR=3.0							

*IDC **24** 00:22:11.9±4.3, 27.13N×128.22E, h36km±43km, mb3.2/7, mb1 3.3/7, mb1mx3.2/23, mbtmp3.4/7, Error ellipse: s-maj=51.6km s-min=25.0km az=65.0*
*JMA **24** 00:22:13.3±0.1, 27.02N×128.13E, h41km±1km, M3.4*
JMA Felt I J1.
ISC 24 00:22:12.4±0.4, 27.07N±0.06×128.09E±0.07, h49km±5km, n19, σ0§90/28, mb3.3/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.12**	**253**	P	**P**	**00 22 20.2**	**+0.1**
JIH				S	**S**	**00 22 25.0**	**-0.6**
JOW	**Kunigami**	**0.29**	**145**	Pn	**P**	**00 22 19.9**	**-1.5**
baz=124,slow=16							
JOW				Sn	**S**	**00 22 25.6**	**-2.0**
baz=162,slow=20							
JOW	**Kunigami**	**0.29**	**145**	P	**P**	**00 22 20.8**	**-0.6**
JOW				S	**S**	**00 22 25.7**	**-2.0**
JAGN	**Aguni-jima**	**0.90**	**238**	P	**P**	**00 22 29.0**	**+0.1**
JAGN				S	**S**	**00 22 41.8**	**+0.7**
NAH1	**Naha**	**0.94**	**203**	P	**P**	**00 22 29.8**	**+0.4**
NAH1				S	**S**	**00 22 41.9**	**-0.1**
JJT2	**Tamagusuku 2**	**0.98**	**198**	P	**P**	**00 22 30.7**	**+0.7**
JJT2				S	**S**	**00 22 43.8**	**+0.8**
JTK	**Tokunoshima**	**1.04**	**47**	P	**P**	**00 22 31.7**	**+0.8**
JTK				S	**S**	**00 22 44.5**	**-0.1**
JKE	**Kume jima 2**	**1.38**	**238**	P	**P**	**00 22 35.7**	**-0.1**
JKE				S	**S**	**00 22 53.6**	**+0.4**
JAM	**Amami Oshima**	**1.89**	**45**	P	**P**	**00 22 43.7**	**+0.8**
JAM				S	**S**	**00 23 06.2**	**+0.6**
JZK	**Kikaishima**	**2.08**	**53**	P	**P**	**00 22 47.9**	**+2.4**
JMZ	**Minamidaito 2**	**3.07**	**113**	S	**S**	**00 23 29.6**	**-5.8**
SONM	**Songino Array**	**26.79**	**326**	P	**P**	**00 27 48.4**	**-1.3**
0.2nm,0.7s,mb2.8,baz=135,slow=4.1,SNR=2.5							
MKAR	**Makanchi Array**	**40.89**	**311**	P	**P**	**00 29 51.5**	**

Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.39**	**159**	P	P	00 33 33.3	-2.9
	2.3nm,0.7s,baz=337,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**25.72**	**163**	P	P	00 34 07.3	-1.2
	0.7nm,0.4s,baz=345,slow=11,SNR=9.5						
STKA	**Stephens Creek**	**35.91**	**157**	P	P	00 35 37.3	-1.4
	0.5nm,0.4s,baz=342,slow=9.6,SNR=4.3						
MKAR	**Makanchi Array**	**59.35**	**327**	P	P	00 38 38.5	-2.4
	0.3nm,0.4s,baz=120,slow=7.8,SNR=5.8						

*NEIC **24** 01:05:33.1±1.6,52.32N×179.56E,h182km±23km,mb3.2/1, Error ellipse: s-maj=29.0km s-min=22.6km az=189.0*
*IDC **24** 01:05:34.2±1.3,52.36N×179.14E,h206km±8km,mb2.9/6, mb1 3.3/7,mb1mx3.0/25,mbtmp3.4/7,Error ellipse: s-maj=39.8km s-min=11.5km az=3.0*

ISC 24 01:05:32.2±2.1,52.3N±0.3×179.3E±0.3,h198km±32km, h205km±3.5km:pP-P,n12,σ0s57/13,mb3.0/7,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**3.80**	**282**	P	**P**	**01 06 33.0**	**+0.9**
	4.8nm,0.3s,baz=262,slow=22,SNR=6.6						
FX1				S	**S**	**01 07 17.4**	**-0.9**
	22nm,0.3s,baz=293,slow=21,SNR=16						
FX1	**Attu Island--F**	**3.80**	**282**	*e*P	**P**	**01 06 33.5**	**+1.4**
ILAR	**Eielson Array**	**21.31**	**41**	P	**P**	**01 10 03.2**	**-0.5**
	0.4nm,0.6s,mb3.1,baz=264,slow=11,SNR=5.9						
DAWY	**Dawson**	**24.28**	**45**	*e*P	**P**	**01 10 32.3**	**+0.3**
YKA	**Yellowknife Ar**	**35.48**	**47**	P	**P**	**01 12 11.3**	**+0.4**
	0.1nm,0.5s,mb2.6,baz=280,slow=7.7,SNR=7.5						
YKA				pP	pP	01 12 52.8	+0.2
	0.1nm,0.6s,baz=283,slow=7.9,SNR=1.9						
HLID	**Hailey**	**43.83**	**74**	*e*P	**P**	**01 13 19.9**	**+0.1**
	0.5nm,0.6s,mb3.0						
NVAR	**Mina Array Bea**	**44.60**	**82**	P	**P**	**01 13 26.3**	**+0.3**
	0.5nm,0.6s,mb3.0,baz=315,slow=7.7,SNR=4.3						
NVAR				pP	pP	01 14 11.4	+2.4
	0.3nm,0.4s,baz=308,slow=8.8,SNR=3.0						
NVAR	**Mina Array Bea**	**44.60**	**82**	P	**P**	**01 13 26.3**	**+0.3**
NVAR				pP	pP	01 14 11.4	+2.4
BW06	**Boulder Array**	**47.15**	**72**	P	**P**	**01 13 45.6**	**-0.3**
PDAR	**Pinedale Array**	**47.15**	**72**	P	**P**	**01 13 45.3**	**-0.7**
	0.5nm,0.8s,mb2.9,baz=342,slow=4.7,SNR=4.6						
TXAR	**Lajitas Array**	**59.67**	**80**	P	**P**	**01 15 17.3**	**-0.3**
	0.3nm,0.6s,mb3.1,baz=323,slow=4.5,SNR=3.3						
TXAR				pP	pP	01 16 04.9	+1.7
	0.1nm,0.3s,baz=318,slow=6.7,SNR=1.2						
NOA	**NORSAR Array B**	**66.64**	**354**	P	**P**	**01 16 03.1**	**+0.5**
	0.5nm,1.0s,mb3.1,baz=350,slow=4.8,SNR=2.8						

*ATH **24** 01:13:10.9,38.68N×23.85E,h29km±8km,MD3.0/8,ML3.2*
*NEIC **24** 01:13:10.9,38.68N×23.85E,h28km,ML3.2(ATH),After ATH.*
*CSEM **24** 01:13:11.2±0.2,38.70N×23.91E,h2km,ML3.4,Error ellipse: s-maj=5.2km s-min=2.1km az=87.0*
*THE **24** 01:13:14.3,38.81N×23.83E,h15km,ML3.4*

ISC 24 01:13:10.8±0.8,38.67N±0.03×23.92E±0.08,h20km±8km, n15,σ1s00/26,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.51**	**357**	*e*Pg	**Pb**	**01 13 21.4**	**+0.6**
MPAR	**Parnis Oros**	**0.53**	**196**	*e*PN	**Pn**	**01 13 21.5**	**-1.5**
MPAR				*e*SN	**Sn**	**01 13 30.0**	**-1.4**
PTL	**Penteli**	**0.62**	**184**	*e*PB	**Pb**	**01 13 22.5**	**-0.2**
PTL				*e*SN	**Sn**	**01 13 33.0**	**-0.5**
ATH	**Athens Observa**	**0.71**	**193**	*e*PN	**Pn**	**01 13 25.0**	**-0.5**
ATH				*e*SN	**Sn**	**01 13 35.8**	**-0.1**
LKR	**Lokris**	**0.72**	**269**	*e*PN	**Pn**	**01 13 23.8**	**-1.9**
NSAL	**Nisos Salamina**	**0.84**	**205**	*e*PB	**Pb**	**01 13 26.5**	**0.0**
NSAL				*e*SN	**Sn**	**01 13 40.0**	**+0.9**
NEO	**Neokhori**	**0.84**	**320**	*e*PN	**Pn**	**01 13 27.2**	**-0.2**
NEO				*e*SN	**Sn**	**01 13 38.0**	**-1.2**
MGER	**Gerania Oros**	**0.85**	**218**	*e*PN	**Pn**	**01 13 27.0**	**-0.6**
MGER				*e*SN	**Sn**	**01 13 40.2**	**+0.7**
MGER	**Gerania Oros**	**0.85**	**218**	*e*Pn	**Pn**	**01 13 27.0**	**-0.6**
MGER				*e*Sn	**Sn**	**01 13 40.5**	**+1.0**
NAIG	**Nisos Aigina**	**0.97**	**201**	*e*PN	**Pn**	**01 13 30.0**	**+0.8**
NAIG				*e*SN	**Sn**	**01 13 44.0**	**+1.6**
PAIG	**Paliouri**	**1.27**	**352**	*e*Pg	**Pn**	**01 13 34.3**	**+0.6**
PAIG				*e*Sg	**Sb**	**01 13 50.1**	**+0.2**
AGG	**Agios Georgios**	**1.29**	**287**	*e*Pg	**Pn**	**01 13 35.2**	**+1.4**
AGG				*e*Sg	**Sb**	**01 13 52.0**	**+1.6**
OUR	**Ouranopolis**	**1.67**	**2**	*e*Pg	**Pn**	**01 13 40.1**	**+0.8**
LIT	**Litokhoron**	**1.81**	**323**	*e*Pb	**Pb**	**01 13 42.5**	**-0.6**
LIT				*e*Sb	**Sb**	**01 14 03.7**	**-1.8**
SRS	**Serrai**	**2.46**	**354**	*e*Pn	**Pn**	**01 13 51.6**	**+0.9**

IDC 24 01:42:33.5±2.5,0.61N×127.40E,mb3.2/3,mb1 3.4/3, mb1mx3.2/16,mbtmp3.2/3,Error ellipse: s-maj=221.0km s-min=27.9km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.53**	**162**	P	P	01 47 23.7	-2.8
	0.9nm,0.7s,baz=340,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**24.94**	**166**	P	P	01 47 59.3	-0.8
	0.3nm,0.7s,baz=354,slow=9.1,SNR=3.6						
MKAR	**Makanchi Array**	**60.49**	**326**	P	P	01 52 45.3	-2.4
	0.2nm,0.5s,baz=127,slow=7.2,SNR=3.7						

*LDG **24** 02:23:17.8±0.1,45.90N×1.41W,h11km,Md2.6/3,Ml2.3/20, Error ellipse: s-maj=1.5km s-min=1.0km az=62.0*

STR 24 02:23:19.3±0.4,45.96N×1.39W,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLEF	**Ile d'Oleron**	**0.03**	**118**	Pg	Pg	02 23 20.6	+0.2
OLEF				Sg	Sg	02 23 22.0	+0.8
LRYF	**La Roche-sur-Y**	**0.63**	**350**	Pg	Pg	02 23 31.1	-0.8
LRYF				Sg	Sg	02 23 39.6	-0.7
CHIF	**Chize**	**0.71**	**75**	Pg	Pg	02 23 32.9	-0.5
CHIF				Sg	Sg	02 23 41.6	-1.2
LCHF	**La Chataignera**	**0.84**	**32**	Pg	Pg	02 23 35.3	-0.8
LCHF				Sg	Sg	02 23 47.4	+0.1
MFF	**Saint Martin d**	**1.08**	**53**	*e*Pg	Pg	02 23 39.2	-1.6
MFF				*e*Sg	Sg	02 23 53.3	-1.8
	9.1nm,0.2s						
LFF	**La Frestale**	**1.81**	**123**	*e*Pn	Pn	02 23 46.9	-4.6
LFF				*e*Pg	Pg	02 23 50.9	-4.6
LFF				*e*Sg	Sg	02 24 14.3	-5.4
	2.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.14**	**107**	*e*Pg	Pg	02 23 57.2	-4.9
RJF				*e*Sn	Sn	02 24 16.5	-6.9
RJF				*e*Sg	Sg	02 24 24.1	-6.5
	3.7nm,0.2s						
QUIF	**Quistinic**	**2.31**	**329**	*e*Pg	Pg	02 24 00.9	-4.4
QUIF				*e*Sn	Sn	02 24 21.3	-6.3
QUIF				*e*Sg	Sg	02 24 30.5	-5.5
	3.1nm,0.2s						
SGMF	**Saint Gilles**	**2.43**	**341**	*e*Pn	Pn	02 23 56.6	-3.7
SGMF				*e*Pg	Pg	02 24 03.7	-4.1
SGMF				*e*Sn	Sn	02 24 24.5	-6.3
SGMF				*e*Sg	Sg	02 24 34.8	-5.4
	1.9nm,0.2s						
GRR	**Gorron**	**2.46**	**8**	*e*Pg	Pg	02 24 03.2	-5.1
GRR				*e*Sg	Sg	02 24 36.6	-4.5
	2.6nm,0.2s						
TCF	**Toulx Ste Croi**	**2.52**	**81**	*e*Pg	Pg	02 24 05.0	-4.7
TCF				*e*Sn	Sn	02 24 27.4	-5.8
TCF				*e*Sg	Sg	02 24 37.6	-5.8
	3.0nm,0.3s						
CAF	**Calviac**	**2.64**	**112**	*e*Pn	Pn	02 23 58.7	-4.6
CAF				*e*Pg	Pg	02 24 06.0	-6.1
CAF				*e*Sn	Sn	02 24 29.0	-7.2
CAF				*e*Sg	Sg	02 24 39.8	-7.5
	2.2nm,0.3s						
ROSF	**Rostrenen**	**2.70**	**332**	*e*Pg	Pg	02 24 08.5	-4.8
ROSF				*e*Sn	Sn	02 24 31.2	-6.5
ROSF				*e*Sg	Sg	02 24 44.6	-4.7
	2.2nm,0.3s						
LDF	**La Druitiere**	**2.77**	**18**	*e*Pn	Pn	02 24 00.6	-4.6
LDF				*e*Pg	Pg	02 24 08.4	-6.3
LDF				*e*Sn	Sn	02 24 33.5	-6.0
LDF				*e*Sg	Sg	02 24 47.0	-4.6
	1.7nm,0.2s						
SJPF	**Ste Jean**	**2.85**	**178**	*e*Pg	Pg	02 24 10.0	-6.2
SJPF				*e*Sg	Sg	02 24 45.3	-8.9
	1.7nm,0.2s						
FLN	**La Foliniere**	**2.87**	**12**	*e*Pn	Pn	02 24 02.9	-3.7
FLN				*e*Sn	Sn	02 24 35.4	-6.6
FLN				*e*Sg	Sg	02 24 49.9	-5.0
	2.5nm,0.3s						
BGF	**Bois d'Agland**	**3.00**	**77**	*e*Pn	Pn	02 24 05.0	-3.4
BGF				*e*Pg	Pg	02 24 14.3	-4.9
BGF				*e*Sn	Sn	02 24 37.8	-7.4
BGF				*e*Sg	Sg	02 24 52.7	-6.5
	9.8nm,0.3s						
HYF	**Humbligny**	**3.07**	**63**	*e*Pg	Pg	02 24 15.4	-5.2
HYF				*e*Sg	Sg	02 24 54.9	-6.6
ETSF	**Etsaut**	**3.12**	**169**	*e*Pg	Pg	02 24 14.8	-6.8
ETSF				*e*Sg	Sg	02 24 53.9	-9.2
	1.3nm,0.2s						
EPF	**Esparros**	**3.18**	**156**	*e*Pg	Pg	02 24 16.2	-6.6
EPF				*e*Sn	Sn	02 24 40.4	-9.4
EPF				*e*Sg	Sg	02 24 56.3	-8.9
	3.4nm,0.4s						
SSF	**Saint Saulge**	**3.56**	**70**	*e*Pn	Pn	02 24 12.0	-4.3
SSF				*e*Pg	Pg	02 24 24.5	-5.8
SSF				*e*Sn	Sn	02 24 50.9	-8.4
SSF				*e*Sg	Sg	02 25 10.1	-7.6
	1.1nm,0.3s						
MTLF	**Montolieu**	**3.67**	**134**	*e*Pn	Pn	02 24 14.0	-4.0
MTLF				*e*Pg	Pg	02 24 25.1	-7.5
MTLF				*e*Sn	Sn	02 24 52.5	-10
MTLF				*e*Sg	Sg	02 25 11.2	-10
	0.6nm,0.3s						
LOR	**Lormes**	**3.85**	**68**	*e*Pg	Pg	02 24 29.6	-6.5
LOR				*e*Sn	Sn	02 24 57.7	-8.9
LOR				*e*Sg	Sg	02 25 18.7	-8.7
	1.7nm,0.3s						
LASF	**Ste Croix**	**4.17**	**115**	*e*Sg	Sg	02 25 28.0	-10
	1.6nm,0.3s						

*NEIC **24** 02:35:21.8,17.36N×94.51W,h146km,MD3.9(MEX),After MEX.*

MEX 24 02:35:22.1±0.7,17.30N×94.50W,h146km±8km,MD3.9,1C, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.42**	**241**	*i* P	P	02 35 41.0	-2.1
CMIG				*i* S	S	02 35 56.3	-2.9
OXX	**Oaxaca**	**2.13**	**265**	*e*P	P	02 35 58.0	-1.0
OXX				*e*S	S	02 36 24.5	-2.7
VHO	**Vista Hermosa**	**2.14**	**264**	⇑*i*P	P	02 35 57.4	-1.7
VHO				*i* S	S	02 36 24.6	-2.9
HUIG	**Huatulco**	**2.16**	**226**	*e*P	P	02 35 57.0	-2.4
HUIG				*e*S	S	02 36 24.4	-1.5

OTT 24 02:41:58.3±1.2,70.73N×62.66W,h18km,ML3.3/4,Baffin Bay. 220km east from Clyde River, Nu Eastern Arctic Background Seismic Zone.,Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINU	**Pond Inlet**	**5.21**	**299**	PN	Pn	02 43 15.5	-1.9
PINU				SN	Sn	02 44 10.8	-6.9
PINU				Trac		02 44 15.1	
	comp=Z,2.0nm,0.1s						
TULEG	**Thule**	**6.09**	**346**	SN	Sn	02 44 30.8	-9.1
FRB	**Frobisher Bay**	**7.37**	**201**	PN	Pn	02 43 54.0	+6.2
FRB				SN	Sn	02 44 58.9	-13
FRB				Trac		02 45 07.1	
	comp=Z,4.9nm,0.7s						
QILN	**Qililugaq Expl**	**9.50**	**256**	PN	P	02 44 12.9	-4.3
QILN				SN	Sn	02 45 53.4	-11
QILN				Trac		02 45 55.8	
	comp=Z,2.2nm,0.3s						
RES	**Resolute Bay**	**10.27**	**307**	SN	S	02 46 13.3	-10
YRTN	**Rankin Inlet**	**13.91**	**250**	PN	P	02 45 12.4	-4.0
YRTN				SN	S	02 47 35.8	-16
YRTN				Trac		02 47 55.6	
	comp=Z,1.0nm,0.3s						

IDC 24 03:24:56.9±1.2,5.09N×126.28E,mb3.7/8,mb1 3.8/8, mb1mx3.6/21,mbtmp3.7/8,Error ellipse: s-maj=114.4km s-min=16.8km az=70.0,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.05**	**182**	P	P	03 30 03.1	-2.0
	3.4nm,0.8s,baz=74,slow=20,SNR=2.5						
WRA	**Warramunga Arr**	**26.10**	**163**	P	P	03 30 33.2	-1.2
	0.2nm,0.3s,baz=340,slow=9.9,SNR=4.7						
ASAR	**Alice Springs**	**29.53**	**166**	P	P	03 31 04.9	-0.7
	0.3nm,1.0s,baz=328,slow=8.5,SNR=3.5						
STKA	**Stephens Creek**	**39.55**	**159**	P	P	03 32 28.8	-2.7
	1.2nm,0.8s,baz=359,slow=5.6,SNR=2.8						
MKAR	**Makanchi Array**	**56.19**	**325**	P	P	03 34 39.0	-2.0
	0.2nm,0.4s,baz=112,slow=8.2,SNR=8.1						
MKAR				PcP	PcP	03 35 35.6	-3.1
	0.4nm,0.5s,baz=122,slow=4.2,SNR=4.5						
BVAR	**Borovoye Array**	**65.94**	**327**	P	P	03 35 45.8	-1.2
	0.2nm,0.3s,baz=52,slow=6.0,SNR=4.1						
ARCES	**ARCESS Array B**	**89.03**	**340**	P	P	03 37 53.3	-1.4
	2.2nm,0.9s,baz=80,slow=7.4,SNR=3.7						
FINES	**FINESS Array B**	**90.43**	**332**	P	P	03 37 59.5	-2.0
	0.4nm,0.5s,baz=45,slow=5.4,SNR=5.9						

IDC 24 03:39:20.8±40.0,17.62S×171.33W,mb4.2/3,mb1 4.4/3, mb1mx3.7/18,mbtmp4.2/3,MS4.0/2,Ms1 4.0/2, ms1mx3.0/37,Error ellipse: s-maj=776.9km s-min=171.1km az=82.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**41.10**	**276**	LR	LR	03 59 41.3	
	comp=Z,259nm,20.9s,baz=35,slow=30						
STKA	**Stephens Creek**	**44.71**	**242**	P	P	03 47 36.4	-1.3
	0.7nm,0.6s,baz=72,slow=9.6,SNR=3.5						
WB2	**Warramunga Arr**	**51.29**	**258**	*e*P	P	03 48 26.7	-2.3
WRA	**Warramunga Arr**	**51.30**	**258**	P	P	03 48 26.4	-2.8
	1.5nm,0.4s,baz=99,slow=6.6,SNR=11						
ASAR	**Alice Springs**	**51.35**	**254**	P	P	03 48 27.6	-1.8
	6.3nm,0.7s,baz=89,slow=8.6,SNR=103						
ASPA	**Alice Springs**	**51.35**	**254**	*e*P	P	03 48 27.8	-1.6
USHA	**Ushuaia**	**82.98**	**145**	LR	LR	04 19 23.1	
	comp=Z,51nm,19.2s,baz=256,slow=29						

*GRAL **24** 03:49:46.7±2.6,34.65N×34.24E,h15km±15km,MD3.2*
*NIC **24** 03:49:47.9±0.3,34.84N×34.25E,h22km,ML3.2,MW3.0*
*NEIC **24** 03:49:47.9,34.84N×34.25E,h22km,ML3.2(NIC),After NIC.*
*CSEM **24** 03:49:47.2±0.1,34.76N×34.15E,h20km,ML3.2,Error ellipse: s-maj=4.2km s-min=1.5km az=38.0*
*GII **24** 03:49:49.5±0.7,34.50N×34.32E,h6km±30km,ML2.1/2*

ISC 24 03:49:46.8±0.6,34.75N±0.07×34.24E±0.05,h27km±8km, n19,σ0s57/29,4C,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.31**	**326**	⇑*i*P	**Pb**	**03 49 53.7**	**-0.5**
PHNC				*i* Sg	**Sb**	**03 49 58.7**	**-0.4**
CSS	**Prodhromos**	**0.78**	**286**	*i* PG	**Pb**	**03 50 01.4**	**-0.3**
CSS				*i* SG	**Sb**	**03 50 12.5**	**+0.6**
CSS	**Prodhromos**	**0.78**	**286**	⇑*i*P	**Pb**	**03 50 01.4**	**-0.3**
	2.8nm,0.2s						
CSS				S	**Sb**	**03 50 12.5**	**+0.6**
MAMC	**Mammari**	**0.94**	**297**	*i* PG	**Pb**	**03 50 04.2**	**-0.2**
SZAC	**Souni-Zanaja**	**1.12**	**271**	⇑*e*P	**Pn**	**03 50 07.2**	**+0.3**
	13nm,0.2s						
SZAC				S	**Sb**	**03 50 22.0**	**+0.4**
ALFC	**Alevga**	**1.41**	**287**	*i* PG	**Pn**	**03 50 11.1**	**0.0**
ALFC				*i* SG	**Sn**	**03 50 28.5**	**-0.4**
ALFC	**Alevga**	**1.41**	**287**	⇑*e*P	**Pn**	**03 50 11.1**	**0.0**
	2.7nm,0.2s						
ALFC				S	**Sn**	**03 50 28.5**	**-0.4**
BHL	**Bhannes**	**1.44**	**125**	*e*SG	**Sn**	**03 50 25.7**	**-3.9**
BHL				SN	**Sn**	**03 50 27.9**	**-1.7**
BHL	**Bhannes**	**1.44**	**125**	Sn	**Sn**	**03 50 27.9**	**-1.7**
HWQ	**Hawqa**	**1.48**	**108**	*e*PN	**Pn**	**03 50 12.5**	**+0.4**
HWQ				SN	**Sn**	**03 50 31.3**	**+0.6**
PPCY	**Paphos**	**1.57**	**276**	*i* PG	**Pn**	**03 50 13.1**	**-0.2**
HNTI	**Hanita**	**1.83**	**155**	Pn	**Pn**	**03 50 17.0**	**-0.1**
HNTI				Sn	**Sn**	**03 50 38.9**	**-0.7**
HAF	**Haifa**	**2.07**	**161**	Pn	**Pn**	**03 50 21.0**	**+0.5**
KSHT	**Keshet**	**2.19**	**143**	Pn	**Pn**	**03 50 23.1**	**+0.9**
OFRI	**'Ofer**	**2.21**	**164**	Pn	**Pn**	**03 50 22.4**	**-0.1**
MMLI	**Mount Malkishu**	**2.50**	**157**	Pn	**Pn**	**03 50 27.5**	**+0.8**
SLTI	**Sal'it**	**2.59**	**165**	Pn	**Pn**	**03 50 28.1**	**+0.2**
SLTI				Sn	**Sn**	**03 50 57.8**	**-1.0**
DRGI	**Dragot**	**3.29**	**163**	Pn	**Pn**	**03 50 38.3**	**+0.4**
PRNI	**Paran**	**4.43**	**171**	Pn	**Pn**	**03 50 54.1**	**0.0**

IDC 24 03:58:40.0±6.1,0.29N×97.79E,mb3.4/3,mb1 3.6/3, mb1mx3.3/18,mbtmp3.4/3,MS3.6/1,Ms1 3.6/1, ms1mx2.8/16,Error ellipse: s-maj=302.3km s-min=30.4km az=55.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.06**	**121**	P	P	04 06 25.1	-2.0
	0.4nm,0.6s,baz=297,slow=8.1,SNR=3.3						
ASAR	**Alice Springs**	**42.38**	**127**	P	P	04 06 36.6	-1.4
	0.5nm,0.7s,baz=299,slow=7.6,SNR=5.1						
MKAR	**Makanchi Array**	**48.26**	**346**	P	P	04 07 22.7	-2.0
	0.3nm,0.6s,baz=154,slow=7.6,SNR=4.9						
MKAR				LR	LR	04 31 30.5	
	comp=Z,59nm,20.1s,baz=264,slow=41						

*NIED **24** 04:00:00,33.30N×140.90E,h5km,Mw4.5 Best double couple: M0:6.54×10^15 NP1:φs304°,δ64°,λ-76°. NP2:φs94°, δ29°,λ-117°.*
*IDC **24** 04:00:09.3±0.5,33.24N×140.70E,mb4.3/20,mb1 4.5/22, mb1mx4.4/27,mbtmp4.3/22,ML3.9/2,MS3.7/10,Ms1 3.7/10, ms1mx3.5/29,Error ellipse: s-maj=13.5km s-min=12.6km az=119.0*
*JMA **24** 04:00:11.5±0.2,33.35N×140.87E,h42km,M4.8*
JMA Felt II J1.
*MOS **24** 04:00:12.9±1.2,33.18N×140.58E,h33km,mb4.9/31,Error ellipse: s-maj=15.4km s-min=6.0km az=114.5*
*NEIC **24** 04:00:12.7±0.3,33.21N×140.63E,mb4.7/27, MW4.5(NIED),Error ellipse: s-maj=8.1km s-min=6.8km az=70.0*
NEIC Recorded [1 JMA] on Hachijo-jima.
*BJI **24** 04:00:13.6,33.20N×140.60E,h20km,mB4.9,mb4.4, Ms4.1,Msz3.9*

ISC 24 04:00:11.5±0.3,33.36N±0.03×140.76E±0.03,h20km, h20km±4km:pP-P,n175,σ1s18/166,mb4.5/54,MS3.8/15, 13C-5D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.82**	**253**	⇓P	**Pb**	**04 00 28.3**	**+1.3**
JHJ2				*e*S	**Sb**	**04 00 39.2**	**+1.6**
JHJ	**Hachijo jima 2**	**0.85**	**254**	Pn	**Pn**	**04 00 28.1**	**-0.2**
	982nm,0.3s,baz=168,slow=4.2,SNR=815						
JHJ				Sn	**Sn**	**04 00 39.6**	**-0.6**
	6μm,0.3s,baz=75,slow=20,SNR=42						
JMY	**Miyakejima3**	**1.26**	**305**	P	**Pn**	**04 00 35.1**	**+0.9**
JMY				*e*S	**Sb**	**04 00 51.1**	**+1.0**
BSO1	**Boso 1**	**1.31**	**8**	⇑P	**Pn**	**04 00 33.9**	**-1.0**
BSO1				*e*S	**Sb**	**04 00 50.4**	**-1.1**
BSO2	**Boso 2**	**1.39**	**360**	*e*S	**Sn**	**04 00 53.3**	**-0.7**
BSO3	**Boso 3**	**1.46**	**352**	⇑P	**Pn**	**04 00 36.4**	**-0.6**
BSO3				*e*S	**Sn**	**04 00 54.7**	**-1.0**
JKO	**Kozu shima**	**1.58**	**302**	P	**Pn**	**04 00 40.0**	**+1.2**
JKO				*e*S	**Sn**	**04 01 00.1**	**+1.2**
NJJJ	**Nii jima 2**	**1.61**	**311**	P	**Pn**	**04 00 39.8**	**+0.6**
BSO4	**Boso 4**	**1.67**	**348**	⇑P	**Pn**	**04 00 39.7**	**-0.3**
BSO4				*e*S	**Sn**	**04 01 01.0**	**0.0**
JIM2	**Oshima 3**	**1.75**	**321**	⇑P	**Pn**	**04 00 41.0**	**-0.2**
JIM2				*e*S	**Sn**	**04 01 01.6**	**-1.5**
JIZS	**Izushimoda**	**2.07**	**312**	⇑P	**Pn**	**04 00 46.4**	**+0.6**
JIZS				*e*S	**Sn**	**04 01 10.4**	**-0.8**
KTJJ	**Kamata 2**	**2.10**	**319**	⇑P	**Pn**	**04 00 46.0**	**-0.3**
KTJJ				*e*S	**Sn**	**04 01 09.8**	**-2.3**
JOD2	**Odawara 2**	**2.35**	**324**	⇑P	**Pn**	**04 00 49.3**	**-0.5**
TK04	**Tokai 4**	**2.61**	**294**	*e*S	**Sn**	**04 01 24.8**	**-0.1**
SHZ3	**Shizuoka 3**	**2.71**	**310**	P	**Pn**	**04 00 56.5**	**+1.5**
JYN	**Shimob**	**2.81**	**320**	P	**Pn**	**04 00 57.1**	**+0.7**
MJAR	**Matsushiro Arr**	**3.80**	**327**	Pn	**Pn**	**04 01 10.8**	**+0.3**
	14nm,0.3s,baz=144,slow=10,SNR=186						
MJAR				Sn	**Sn**	**04 01 54.2**	**-1.0**
	20nm,0.3s,baz=158,slow=22,SNR=4.2						
MJAR	**Matsushiro Arr**	**3.80**	**327**	Pn	**Pn**	**04 01 10.8**	**+0.3**
MJAR				Sn	**Sn**	**04 01 54.2**	**-1.0**
MAJO	**Matsushiro**	**3.81**	**327**	⇑*i*P	**Pn**	**04 01 11.2**	**+0.7**
MAT	**Matsushiro**	**3.81**	**327**	*e*P	**Pn**	**04 01 11.0**	**+0.5**
MAT				*e*S	**Sn**	**04 01 55.0**	**-0.2**
MAT	**Matsushiro**	**3.81**	**327**	P	**Pn**	**04 01 11.3**	**+0.8**
MAT				S	**Sn**	**04 01 54.8**	**-0.4**
CBIJ	**Chichi jima**	**6.36**	**168**	Pn	**Pn**	**04 01 42.1**	**-4.6**
	5.7nm,0.3s,baz=343,slow=15,SNR=4.2						
CBIJ				Sn	**Sn**	**04 02 47.8**	**-12**
	7.8nm,0.3s,baz=286,slow=20,SNR=2.5						
CBIJ				LR	LR	04 04 16.0	
	comp=Z,803nm,18.2s,baz=64,slow=40						
ASAJ	**Asahikawa**	**10.84**	**7**	Pn	**P**	**04 02 45.0**	**-3.7**
	0.9nm,0.3s,baz=184,slow=12,SNR=6.7						
ASAJ				Sn	**S**	**04 04 43.4**	**-7.2**
	0.3nm,0.3s,slow=20,SNR=2.9						
JOW	**Kunigami**	**12.61**	**242**	LR	LR	04 07 29.0	
	comp=Z,243nm,21.2s,baz=5.0,slow=35						
**Y

CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.0
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=E,35nm,11.0s
CLNS smax
comp=Z,29nm,10.7s
CLNS smax
comp=N,43nm,13.0s
CLNS MLR MLR
comp=N,100nm,13.0s,MS3.7
CLNS MLR MLR
comp=Z,100nm,13.0s,MS3.5
CLNS MLR MLR
comp=E,100nm,12.0s,MS3.7
ULN Ulaanbaatar 29.14 310 *eP* **P 04 06 13.6 +0.3**
ULN pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ULN Ulaanbaatar 29.14 310 *eP* **P 04 06 13.6 +0.3**
comp=Z,4.5nm,0.8s,mb4.2
SONM Songino Array 29.55 310 P **P 04 06 17.0 0.0**
comp=Z,2.3nm,0.8s,mb4.0,baz=113,slow=7.7,SNR=17
YAK Yakutsk 29.56 349 *eP* **P 04 06 19.0 +2.1**
BOD Bodaibo 30.43 332 *eP* **P 04 06 23.4 -1.2**
BOD pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
ZAK Zakamensk 32.26 313 *eP* **P 04 06 37.9 -2.9**
ZAK *e* 04 09 27.5
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
ZAK pmax pmax
comp=Z,1.0nm,1.8s,mb3.3
TLY Talaya 32.45 316 *eP* **P 04 06 42.8 +0.3**
TLY pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
TLY MLR MLR
comp=Z,99nm,14.0s,MS3.7
TLY Talaya 32.45 316 *eP* **P 04 06 42.9 +0.4**
comp=Z,7.1nm,1.1s,mb4.4
GTA Gaotai 33.30 292 *eP* **P 04 06 54.1 +4.1**
GTA AP pP 04 07 00.3 +4.5
GTA XP sP 04 07 03.0 +4.7
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.3
GTA AMB AMB
comp=Z,84nm,4.9s
GTA LR LR
comp=N,221nm,18.6s,MS4.0
GTA LR LR
comp=E,157nm,17.1s,MS4.0
GTA LR LR
comp=Z,222nm,15.2s,MS4.0
MOY Mondy 34.02 315 *eP* **P 04 06 55.4 -0.7**
KMI Kunming 34.02 266 P **P 04 06 55.6 -0.8**
KMI AMB AMB
comp=Z,5.0nm,0.8s,mb4.5
KMI Kunming 34.02 266 P **P 04 06 55.6 -0.8**
comp=Z,5.0nm,0.8s,mb4.5
BILL Bilibino 37.70 15 P **P 04 07 19.0 -8.2**
BILL *e* 04 07 33.3
TIXI Tiksi 38.88 354 *eP* **P 04 07 32.2 -4.8**
CMAR Chiang Mai Arr 40.15 259 LR LR 04 26 33.9
comp=Z,51nm,19.8s,MS3.4,baz=195,slow=40
WMQ Urumqi 42.12 300 P **P 04 08 04.4 +0.4**
WMQ AP pP 04 08 10.4 +0.5
WMQ XP sP 04 08 13.4 +1.0
WMQ PP PP 04 09 44.9 +0.2
WMQ PCP PcP 04 09 59.9 +0.8
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.2
WMQ AMB AMB
comp=Z,124nm,5.6s
WMQ LR LR
comp=N,70nm,18.5s,MS3.6
WMQ LR LR
comp=E,38nm,18.5s,MS3.6
WMQ LR LR
comp=Z,70nm,19.7s,MS3.5
KSM Kuching 42.67 228 *eP* **P 04 08 06.8 -2.1**
NVS Novosibirsk 45.06 316 *i P* **P 04 08 26.6 -1.0**
NVS pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
NVS pmax pmax
comp=E,7.0nm,1.2s
MKAR Makanchi Array 45.70 305 P **P 04 08 32.3 -0.5**
comp=E,6.6nm,0.7s,mb4.7,baz=91,slow=9.8,SNR=75
MKAR PcP PcP 04 10 09.8 -1.4
comp=E,1.6nm,0.9s,baz=90,slow=5.8,SNR=3.4
FRU Bishkek 51.70 301 *eP* **P 04 09 16.0 -3.3**
AAK Ala-Archa 51.83 301 *c iP* **P 04 09 18.9 -1.4**
AAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
AAK MLR MLR
comp=Z,100nm,18.0s,MS3.9
AAK Ala-Archa 51.83 301 *eP* **P 04 09 18.5 -1.9**
comp=Z,7.8nm,1.0s,mb4.6
MCK McKinley 52.01 32 *eP* **P 04 09 22.8 +1.4**
MCK pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
MCK McKinley 52.01 32 *eP* **P 04 09 22.8 +1.4**
comp=Z,6.1nm,1.4s,mb4.3
BVAR Borovoye Array 52.70 314 P **P 04 09 25.6 -1.1**
comp=Z,2.9nm,0.8s,mb4.3,baz=90,slow=7.4,SNR=21
ILAR Eielson Array 52.90 31 P **P 04 09 27.4 -0.7**
comp=Z,0.9nm,0.8s,mb3.7,baz=268,slow=6.1,SNR=8.8
WRAB Tennant Creek 53.34 188 *eP* **P 04 09 28.5 -3.4**
WB2 Warramunga Arr 53.35 188 *eP* **P 04 09 29.2 -2.8**
WRA Warramunga Arr 53.35 188 P **P 04 09 29.3 -2.7**
comp=Z,4.2nm,0.3s,mb4.8,baz=6.5,slow=7.7,SNR=78
CTA Charters Tower 53.40 174 LR LR 04 27 11.3
comp=Z,96nm,21.5s,MS3.8,baz=227,slow=30
KKAR Karatay Array 54.56 302 *i P* **P 04 09 39.2 -1.3**
KKAR pmax pmax
comp=Z,12nm,0.9s,mb4.9
DAWY Dawson 56.20 31 *eP* **P 04 09 54.1 +2.0**
ASAR Alice Springs 57.08 187 P **P 04 09 56.0 -3.0**
comp=Z,4.6nm,0.8s,mb4.6,baz=4.7,slow=6.3,SNR=40
ASAR LR LR 04 31 35.0
comp=Z,88nm,21.0s,MS3.8,baz=338,slow=33
ASPA Alice Springs 57.08 187 *eP* **P 04 09 56.5 -2.5**
INK Inuvik 57.91 26 *eP* **P 04 10 04.3 +0.1**
INK *e* pP 04 10 10.6 +0.3
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 57.91 26 P **P 04 10 04.2 0.0**
comp=Z,2.1nm,0.9s,mb4.2,baz=264,slow=7.5,SNR=7.8
INK LR LR 04 35 07.3
comp=Z,104nm,18.6s,MS4.0,baz=241,slow=36
INK Inuvik 57.91 26 *eP* **P 04 10 04.2 0.0**
comp=Z,5.6nm,1.0s,mb4.5
INK *e* pP 04 10 10.6 +0.2
ARU Arti 58.79 320 ⇓*iP* **P 04 10 09.0 -1.5**
ARU *e* 04 12 29.3
ARU *eS* **S 04 18 16.1 +3.2**
ARU *eSS* SS 04 22 08.9 +0.9
ARU pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
DZM Mont Dzumac 60.32 152 LR LR 04 30 41.4
comp=Z,134nm,19.8s,MS4.1,baz=190,slow=30
STKA Stephens Creek 64.89 179 P **P 04 10 49.9 -1.9**
comp=Z,0.8nm,0.4s,mb4.1,baz=333,slow=9.0,SNR=3.0
RES Resolute Bay 66.29 14 *eP* **P 04 11 00.0 -0.1**
RES pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
RES Resolute Bay 66.29 14 *eP* **P 04 11 00.0 -0.1**
comp=Z,7.0nm,1.0s,mb4.7
ARCES ARCESS Array B 67.25 340 P **P 04 11 05.6 -0.6**
comp=Z,2.7nm,1.0s,mb4.2,baz=60,slow=7.3,SNR=5.7
ARCES LR LR 04 43 08.7
comp=Z,54nm,21.5s,MS3.7,baz=255,slow=38
YKA Yellowknife Ar 67.26 29 *i P* **P 04 11 06.2 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 67.26 29 P **P 04 11 05.8 -0.6**
comp=Z,0.8nm,0.9s,mb3.8,baz=293,slow=6.5,SNR=9.6
YKA Yellowknife Ar 67.26 29 P **P 04 11 05.8 -0.6**
JOF Joensuu 68.96 332 *ep* **P 04 11 13.9 -3.1**
comp=Z,7.5nm,0.9s,mb4.6
NWAO Narrogin (SRO) 69.55 201 P **P 04 11 19.3 -1.8**
comp=Z,3.9nm,0.6s,mb4.5,baz=90,slow=7.1,SNR=3.8
OBN Obninsk 70.73 324 *eP* **P 04 11 34.0 +6.1**
OBN pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
KAF Kangasniemi 71.33 333 *ep* **P 04 11 28.8 -2.6**
comp=Z,6.0nm,0.9s,mb4.5,baz=51,slow=5.7
KAF Kangasniemi 71.33 333 *eP* **P 04 11 28.8 -2.6**
KAF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
FINES FINESS Array B 71.82 333 P **P 04 11 33.9 -0.5**
comp=Z,2.9nm,0.9s,mb4.2,baz=72,slow=6.0,SNR=11
KIV Kislovodsk 72.92 312 *eP* **P 04 11 42.0 +0.8**
KIV pmax pmax
comp=Z,14nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,38nm,16.0s,MS3.8
GNI Garni 73.48 307 *eP* **P 04 11 43.4 -1.1**
GNI pmax pmax
comp=Z,8.0nm,1.3s
GNI Garni 73.48 307 P **P 04 11 43.9 -0.6**
comp=Z,3.5nm,0.4s,mb4.6,baz=169,slow=18,SNR=2.7
SUMG Summit 74.35 360 *eP* **P 04 11 50.0 +1.1**
comp=Z,8.4nm,0.9s,mb4.7
AKASG Malin Array Be 76.88 323 *i P* **P 04 12 02.9 -0.8**
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG Malin Array Be 76.88 323 P **P 04 12 02.6 -1.1**
comp=Z,4.6nm,0.8s,mb4.4,baz=47,slow=5.8,SNR=15
HLID Hailey 77.29 46 *eP* **P 04 12 07.5 +1.4**
comp=Z,2.6nm,0.9s,mb4.2
HLID *e* pP 04 12 13.9 +1.6
NB2 NORSAR Subarra 77.36 337 P **P 04 12 05.4 -0.8**
comp=Z,2.1nm,0.8s,mb4.1,baz=42,slow=5.6
NB2 NORSAR Subarra 77.36 337 P **P 04 12 05.4 -0.8**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
NOA NORSAR Array B 77.36 337 P **P 04 12 05.6 -0.6**
comp=Z,1.3nm,0.9s,mb3.9,baz=48,slow=5.1,SNR=14
NOA NORSAR Array B 77.36 337 P **P 04 12 05.6 -0.6**
NVAR Mina Array Bea 77.64 52 P **P 04 12 09.6 +1.4**
comp=Z,1.5nm,0.8s,mb4.0,baz=319,slow=2.5,SNR=9.9
NVAR LR LR 04 42 03.8
comp=Z,29nm,19.4s,MS3.6,slow=32
SUW Suwalki 77.69 328 *eP* **P 04 12 07.5 -0.6**
SUW pmax pmax
comp=Z,23nm,1.1s,mb5.0
SUW Suwalki 77.69 328 *eP* **P 04 12 07.5 -0.6**
comp=Z,23nm,1.1s,mb5.0
BOZ Bozeman (W) 77.74 43 *eP* **P 04 12 09.3 +0.8**
BOZ *e* pP 04 12 16.3 +1.5
BOZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BOZ Bozeman (W) 77.74 43 *eP* **P 04 12 09.3 +0.8**
comp=Z,2.0nm,0.8s,mb4.1
BOZ *e* pP 04 12 16.3 +1.5
MALT Malatya 78.62 308 *eP* **P 04 12 14.2 +0.7**
MALT pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MALT Malatya 78.62 308 *eP* **P 04 12 14.2 +0.7**
comp=Z,3.6nm,0.9s,mb4.3
KWP Kalwaria 80.80 324 *eP* **P 04 12 25.7 +0.7**
KWP pmax pmax
comp=Z,21nm,1.1s,mb5.0
KWP Kalwaria 80.80 324 *eP* **P 04 12 25.7 +0.7**
comp=Z,21nm,1.1s,mb5.0
BRTR Keskin Array B 80.89 312 P **P 04 12 26.3 +0.6**
comp=Z,2.9nm,0.9s,mb4.2,baz=108,slow=3.9,SNR=12
KOLS Kolonicke sedl 81.48 324 *e* pP 04 12 40.1 +5.2
MVU Marysvale 81.55 49 *eP* **P 04 12 30.9 +1.7**
comp=Z,3.4nm,1.2s,mb4.2
OJC Ojcow 81.79 326 *eP* **P 04 12 30.8 +0.6**
CRVS Cervenica-Dubn 81.89 324 *eP* **P 04 12 33.9 +3.2**
SRU San Rafael 82.25 48 *eP* **P 04 12 33.1 +0.3**
OKC Ostrava-Krasne 82.82 327 *eP* **P 04 12 36.3 +0.8**
OKC *epP* pP 04 12 42.7 +0.9
ASF Jabal al Asfar 83.11 304 P **P 04 12 37.0 -0.4**
comp=Z,2.0nm,0.6s,mb4.3,baz=356,slow=3.9,SNR=4.0
MORC Moravsky Berou 83.14 327 *eP* **P 04 12 37.3 +0.1**
MORC pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
MORC Moravsky Berou 83.14 327 *eP* **P 04 12 37.3 +0.1**
comp=Z,8.7nm,1.2s,mb4.7
DPC Dobruska-Polom 83.28 328 *eP* **P 04 12 38.3 +0.4**
DPC *epP* pP 04 12 44.9 +0.7
UPC Upice 83.30 328 *eP* **P 04 12 39.2 +1.2**
UPC *epP* pP 04 12 45.6 +1.3
PSZ Piszkesteto 83.33 324 *eP* **P 04 12 38.0 -0.2**
PSZ *e* pP 04 12 45.2 +0.7
PSZ pmax pmax
comp=Z,14nm,1.0s,mb5.0
PSZ Piszkesteto 83.33 324 *eP* **P 04 12 38.0 -0.2**
comp=Z,14nm,1.0s,mb5.0
PSZ *e* pP 04 12 45.2 +0.7
VYHS Vyhne 83.44 325 *i P* **P 04 12 39.8 +1.1**
VYHS *epP* pP 04 12 46.4 +1.3
PV10 Paradox Valley 83.62 48 *eP* **P 04 12 41.0 +1.1**
PVCC Panska Ves 83.92 329 *eP* **P 04 12 41.8 +0.7**
PVCC *epP* pP 04 12 48.3 +0.9
BRG Berggiesshubel 83.94 329 *eP* **P 04 12 42.7 +1.5**
BRG *e* pP 04 12 48.9 +1.4
BRG pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
BRG Berggiesshubel 83.94 329 *eP* **P 04 12 42.7 +1.5**
comp=Z,9.8nm,1.1s,mb4.8
BRG *e* pP 04 12 48.9 +1.4
CLL Collm 84.01 330 ⇓*iP* **P 04 12 41.5 0.0**
CLL *i* pP 04 12 48.1 +0.3
CLL *i* 04 12 57.6
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
CLL Collm 84.01 330 ⇓*iP* **P 04 12 41.5 0.0**
comp=Z,9.0nm,1.1s,mb4.8
CLL *i* pP 04 12 48.1 +0.3
CLL *i* 04 12 57.6
CLL Collm 84.01 330 ⇓P **P 04 12 41.5 0.0**
comp=Z,logA/T=0.9,mb4.8
CLL *i* *PP pP 04 12 48.1 +0.3
CLL *i* 04 12 57.6
CLL *i* 04 13 08.5
CLL *ePP* PP 04 16 02.0 +4.8
SMOL Smolenice 84.09 326 *eP* **P 04 12 43.4 +1.4**
SMOL *epP* pP 04 12 50.1 +1.8
SRO Srobarova 84.17 325 *eP* **P 04 12 44.0 +1.6**
SRO *e* pP 04 12 49.3 +0.6
SRO1 Iza 84.24 325 *eP* **P 04 12 43.9 +1.1**
PRU Pruhonice 84.33 328 *eP* **P 04 12 43.7 +0.5**
PRU *epP* pP 04 12 49.0 -0.5
ZST Bratislava 84.47 326 *eP* **P 04 12 45.3 +1.4**
ZST *epP* pP 04 12 51.0 +0.8
NKC Novy Kostel 85.05 330 *eP* **P 04 12 47.5 +0.8**
NKC *epP* pP 04 12 53.8 +0.7
MOX Moxa 85.09 330 *eP* **P 04 12 42.6 -4.3**
MOX Moxa 85.09 330 *i P* **P 04 12 42.6 -4.3**
KHC Kasperske Hory 85.39 328 *eP* **P 04 12 49.0 +0.5**
KHC *epP* pP 04 12 54.8 0.0
GERES GERESS Array B 85.54 328 P **P 04 12 49.2 -0.1**
comp=Z,1.8nm,0.8s,mb4.3,baz=45,slow=3.8,SNR=17
GERES LR LR 04 58 22.4
comp=Z,39nm,19.1s,MS3.8,baz=38,slow=41
GRA1 Grafenberg Arr 85.98 330 *eP* **P 04 12 51.9 +0.5**
comp=Z,17nm,1.0s,mb5.2
GRF Grafenberg Arr 85.98 330 *eP* **P 04 12 51.9 +0.5**
GRF pmax pmax
comp=Z,17nm,1.0s,mb5.2
GRF Grafenberg Arr 85.98 330 *eP* **P 04 12 51.9 +0.5**
GRF pmax pmax
comp=Z,17nm,1.0s,mb5.2
GRF Grafenberg Arr 85.98 330 *eP* **P 04 12 51.9 +0.5**
comp=Z,17nm,1.0s,mb5.2
CDF Champ du Feu 88.60 331 *eP* **P 04 13 04.4 +0.3**
comp=Z,11nm,1.1s,mb4.8
CDF Champ du Feu 88.60 331 *eP* **P 04 13 04.4 +0.3**
CDF pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
SSF Saint Saulge 91.19 332 *eP* **P 04 13 16.0 -0.2**
SSF pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
SSF Saint Saulge 91.19 332 *eP* **P 04 13 16.0 -0.2**
comp=Z,10nm,1.4s,mb5.0
SMF Signal de Mont 91.40 332 *eP* **P 04 13 17.1 -0.1**
comp=Z,50nm,1.6s,mb5.3
SMF Signal de Mont 91.40 332 *eP* **P 04 13 17.1 -0.1**
SMF pmax pmax
comp=Z,25nm,1.6s,mb5.3
MBDF Montbardon 91.75 329 *eP* **P 04 13 18.6 -0.3**
comp=Z,8.3nm,0.8s,mb4.8
MBDF Montbardon 91.75 329 *eP* **P 04 13 18.6 -0.3**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
SGMF Saint Gilles 92.38 336 *eP* **P 04 13 20.2 -1.5**
VIVF Saint-Julien-l 92.53 330 *eP* **P 04 13 21.6 -0.8**
TXAR Lajitas Array 92.80 52 P **P 04 13 25.1 +1.0**
comp=Z,1.8nm,0.9s,mb4.5,baz=310,slow=2.1,SNR=13
SNAA Sanae 137.08 196 *e* PKPdf 04 19 23.4 -13
SNAA Sanae 137.08 196 *e* PKPdf 04 19 36.3 -0.2
SNAA Sanae 137.08 196 *e* PKPdf 04 19 38.9 +2.4
SNAA Sanae 137.08 196 *e* PKPdf 04 19 46.1 +10
SNAA Sanae 137.08 196 *e* PKPdf 04 19 48.4 +12
SNAA Sanae 137.08 196⇑*i*PKPdf PKPdf 04 19 21.0 -16
SNAA *e* 04 19 23.4
SNAA *e* 04 19 36.3
SNAA *e* 04 19 38.9
SNAA *e* 04 19 46.1
SNAA *e* 04 19 48.4
VNA2 Neumayer--Watz 138.64 195 *e* PKPdf 04 19 32.0 -7.5
VNA2 Neumayer--Watz 138.64 195 *e* PKPdf 04 19 44.6 +5.1
VNA2 Neumayer--Watz 138.64 195 *e* PKPdf 04 19 46.6 +7.1
VNA2 Neumayer--Watz 138.64 195 *e* PKPdf 04 19 52.0 +13
VNA2 Neumayer--Watz 138.64 195 *e* PKPdf 04 19 53.5 +14
VNA2 Neumayer--Watz 138.64 195⇑*i*PKPdf PKPdf 04 19 29.8 -10
VNA2 *e* 04 19 32.0
VNA2 *e* 04 19 44.6
VNA2 *e* 04 19 46.6
VNA2 *e* 04 19 52.0
VNA2 *e* 04 19 53.5
VNA3 Neumayer Olymp 138.88 194 *e* PKPdf 04 19 33.6 -6.3
VNA3 Neumayer Olymp 138.88 194 *e* PKPdf 04 19 45.4 +5.5
VNA3 Neumayer Olymp 138.88 194 *e* PKPdf 04 19 47.6 +7.7
VNA3 Neumayer Olymp 138.88 194 *e* PKPdf 04 19 53.7 +14
VNA3 Neumayer Olymp 138.88 194 *e* PKPdf 04 19 55.4 +16
VNA3 Neumayer Olymp 138.88 194⇑*i*PKPdf PKPdf 04 19 31.8 -8.1
VNA3 *e* 04 19 33.6
VNA3 *e* 04 19 45.4
VNA3 *e* 04 19 47.6
VNA3 *e* 04 19 53.7
VNA3 *e* 04 19 55.4
VNA1 Neumayer--Stat 139.04 195 *e* PKPdf 04 19 34.4 -5.8
VNA1 Neumayer--Stat 139.04 195 *e* PKPdf 04 19 45.1 +4.9
VNA1 Neumayer--Stat 139.04 195 *e* PKPdf 04 19 47.7 +7.5
VNA1 Neumayer--Stat 139.04 195⇑*i*PKPdf PKPdf 04 19 31.8 -8.4
VNA1 *e* 04 19 34.4
VNA1 *e* 04 19 45.1
VNA1 *e* 04 19 47.7
SAML Samuel 147.18 48 *e*PKPbc PKPdf 04 19 54.5 -1.3
LPAZ La Paz 148.91 64 PKPbc PKPdf 04 20 00.9 +2.4
comp=Z,1.5nm,0.7s,baz=46,slow=6.3,SNR=5.5
LPAZ La Paz 148.91 64 *e*PKPbc PKPdf 04 20 00.8 +2.3

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*IDC **24** 04:02:01.0±1.2, 13.69N×121.05E, mb3.9/5, mb1 4.2/5, mb1mx3.7/21, mbtmp3.9/5, Error ellipse: s-maj=57.0km s-min=18.9km az=61.0*
*MAN **24** 04:02:02.4, 13.49N×120.60E, h1km, mb4.4, ML3.3, MS3.1*
ISC 24 04:02:02.9±0.9, 13.50N±0.03×120.59E±0.04, h14km±7km, n25, σ1°34/32, mb4.0/5, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.41**	**305**	*eP*	**Pg**	**04 02 11.0**	**-0.5**
LUBP				*eS*	**Sg**	**04 02 17.1**	**-0.1**
TGY	**Tagaytay City**	**0.69**	**29**	⇑*iP*	**Pb**	**04 02 16.0**	**-0.2**
TGY				*i S*	**Sb**	**04 02 23.6**	**-1.6**
SJMP	**San Jose**	**1.15**	**153**	*i P*	**Pb**	**04 02 24.9**	**+0.9**
SJMP				*eS*	**Sb**	**04 02 42.1**	**+3.5**
BOAC	**Boac**	**1.22**	**92**	*i P*	**Pb**	**04 02 24.2**	**-1.0**
BOAC				*eS*	**Sb**	**04 02 38.9**	**-1.7**
BUSP	**Coron**	**1.53**	**195**	*i P*	**Pn**	**04 02 30.6**	**+0.5**
POLP	**Polilio Island**	**1.79**	**47**	*eP*	**Pn**	**04 02 26.9**	**-6.8**
OTRP	**Odiongan**	**1.79**	**129**	*eP*	**Pn**	**04 02 34.7**	**+0.9**
OTRP				*eS*	**Sn**	**04 02 58.9**	**+2.5**
GQP	**Guinayangan**	**1.85**	**77**	*eP*	**Pn**	**04 02 34.9**	**+0.4**
AUQP	**San Andres**	**2.03**	**95**	*eP*	**Pn**	**04 02 40.5**	**+3.3**
PCPH	**Palayan**	**2.11**	**13**⇑	*eP*	**Pn**	**04 02 38.0**	**-0.3**
PCPH				*eS*	**Sn**	**04 03 07.0**	**+2.5**
SCZP	**Santa Cruz**	**2.36**	**344**	*eP*	**Pn**	**04 02 43.9**	**+2.0**
BALP	**Baler**	**2.42**	**23**	*eP*	**Pn**	**04 02 44.2**	**+1.4**
ENPP	**El Nido**	**2.55**	**207**	*eP*	**Pn**	**04 02 44.5**	**-0.1**
ENPP				*eS*	**Sn**	**04 03 15.2**	**-0.5**
CUYO	**Cuyo Island**	**2.66**	**171**	*eP*	**Pn**	**04 02 45.2**	**-1.1**
RCP	**Roxas**	**2.85**	**132**	*eP*	**Pn**	**04 02 48.9**	**0.0**
CAUP	**Cauayan**	**3.63**	**19**	*eP*	**Pn**	**04 03 04.5**	**+4.6**
CNP	**Catarman**	**4.09**	**103**	*eP*	**Pn**	**04 03 07.6**	**+1.2**
PPR	**Puerto Princes**	**4.12**	**206**	*eP*	**Pn**	**04 03 08.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**21.38**	**286**	P	**P**	**04 06 54.5**	**+2.0**
2.8nm,0.8s,mb3.6,baz=93,slow=7.7,SNR=9.7							
WRA	**Warramunga Arr**	**35.88**	**158**	P	**P**	**04 09 02.6**	**-2.0**
3.8nm,0.8s,mb4.4,baz=336,slow=9.6,SNR=16							
WB2	**Warramunga Arr**	**35.88**	**158**	*eP*	**P**	**04 09 02.9**	**-1.8**
SONM	**Songino Array**	**36.22**	**344**	P	**P**	**04 09 05.4**	**-1.8**
0.4nm,0.4s,mb3.7,baz=160,slow=11,SNR=3.6							
ASPA	**Alice Springs**	**39.16**	**160**	*eP*	**P**	**04 09 31.7**	**-0.5**
ASAR	**Alice Springs**	**39.16**	**160**	P	**P**	**04 09 31.2**	**-1.0**
2.3nm,0.6s,mb4.1,baz=340,slow=7.3,SNR=45							
BVAR	**Borovoye Array**	**55.88**	**326**	P	**P**	**04 11 40.7**	**-1.7**
1.0nm,0.7s,mb3.9,baz=106,slow=10,SNR=2.7							

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*IDC **24** 04:04:39.2±0.7, 27.73N×139.98E, h485km±10km, mb3.1/6, mb1 3.2/7, mb1mx2.9/23, mbtmp3.9/7, Error ellipse: s-maj=28.7km s-min=14.2km az=84.0*
*JMA **24** 04:04:39.9±0.3, 27.85N×139.51E, h466km, M3.7*
ISC 24 04:04:38.7±0.8, 27.75N±0.07×139.8E±0.3, h490km±13km, n13, σ0°84/17, mb3.4/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.23**	**107**	P	**P**	**04 05 45.0**	**+0.5**
16nm,0.3s,baz=255,slow=18,SNR=10							
CBIJ				S	**S**	**04 06 35.2**	**-1.4**
112nm,0.3s,baz=311,slow=23,SNR=40							
CBIJ	**Chichi jima**	**2.23**	**107**	P	**P**	**04 05 45.2**	**+0.6**
CBIJ				*eS*	**S**	**04 06 36.5**	**-0.2**
JHHJ	**Haha-jima-NKT**	**2.40**	**117**	*eS*	**S**	**04 06 39.1**	**+0.6**
JHU	**Hanno**	**8.09**	**357**	*eS*	**S**	**04 08 09.1**	**-1.7**
JHO	**Hitachi**	**8.86**	**4**	P	**P**	**04 06 45.6**	**+0.5**
JHO				*eS*	**S**	**04 08 24.3**	**-1.2**
JFK	**Kawauchi**	**9.63**	**5**	P	**P**	**04 06 54.4**	**+1.1**
JFK				*eS*	**S**	**04 08 41.0**	**+0.5**
JMK	**Ichinoseki**	**11.23**	**6**	P	**P**	**04 07 11.4**	**+1.1**
WRA	**Warramunga Arr**	**47.71**	**187**	P	**P**	**04 12 31.2**	**-0.6**
2.6nm,0.3s,mb4.0,baz=4.6,slow=7.7,SNR=12							
MKAR	**Makanchi Array**	**48.41**	**309**	P	**P**	**04 12 37.4**	**+0.6**
0.2nm,0.4s,mb2.8,baz=90,slow=8.6,SNR=3.0							
ASAR	**Alice Springs**	**51.43**	**187**	P	**P**	**04 12 58.5**	**-1.0**
0.8nm,0.4s,mb3.4,baz=1.3,slow=5.2,SNR=12							
BVAR	**Borovoye Array**	**56.12**	**317**	P	**P**	**04 13 32.8**	**+0.4**
1.3nm,0.4s,mb3.6,baz=88,slow=6.7,SNR=12							
YKA	**Yellowknife Ar**	**72.57**	**28**	P	**P**	**04 15 16.0**	**-0.2**
0.3nm,0.4s,mb3.2,baz=298,slow=6.0,SNR=12							
FINES	**FINESS Array B**	**76.41**	**333**	P	**P**	**04 15 37.6**	**-0.1**
0.4nm,0.3s,mb3.4,baz=67,slow=5.4,SNR=11							

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*IDC **24** 04:05:37.5±1.0, 1.07N×97.15E, mb4.1/12, mb1 4.2/13, mb1mx4.1/21, mbtmp4.1/13, ML4.5/1, MS3.6/2, Ms1 3.7/2, ms1mx3.1/23, Error ellipse: s-maj=44.5km s-min=16.1km az=55.0*
*BJI **24** 04:05:40.0, 1.26N×97.40E, h12km, mB5.0, mb4.8, Ms4.2, Msz4.1*
*NEIC **24** 04:05:41.9±0.6, 1.03N×97.20E, h30km, mb4.7/6, Error ellipse: s-maj=16.2km s-min=9.9km az=63.0*
ISC 24 04:05:39.9±0.6, 1.03N±0.07×97.21E±0.07, h27km, h27km±4.2km: pP-P, n48, σ0°97/49, mb4.5/29, MS3.8/4, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.20**	**47**	P	**Pn**	**04 06 58.1**	**0.0**
KULM	**Kulim**	**5.45**	**39**⇑	*iP*	**Pn**	**04 07 01.1**	**-0.6**
KULM				*e*		04 07 07.4	
KGM	**Kluang**	**6.19**	**81**	P	**Pn**	**04 07 12.9**	**+0.8**
CM31	**Chiang Mai Arr**	**17.41**	**6**	*eP*	**P**	**04 09 43.6**	**+0.8**
10nm,1.0s							
CMAR	**Chiang Mai Arr**	**17.41**	**6**	P	**P**	**04 09 41.3**	**-1.5**
0.6nm,0.3s,baz=195,slow=13,SNR=13							
CMAR				LR	LR	04 17 19.2	
comp=Z,137nm,20.9s,baz=195,slow=40							
KKM	**Kota Kinabalu**	**19.61**	**75**	*eP*	**P**	**04 10 07.2**	**-2.2**

KKM	**Kota Kinabalu**	**19.61**	**75**	P	**P**	**04 10 08.5**	**-0.9**
TSM	**Tawau**	**20.89**	**81**	P	**P**	**04 10 22.4**	**-0.5**
KMI	**Kunming**	**24.55**	**12**	P	**P**	**04 10 59.5**	**+0.5**
KMI				AP		04 11 09.8	
KMI				S	**S**	**04 15 18.6**	**+3.5**
KMI				AMB	AMB		
	comp=Z,34nm,1.0s,mb4.8						
KMI				LR	LR		
	comp=N,361nm,14.3s,MS4.1						
KMI				LR	LR		
	comp=E,182nm,11.2s,MS4.1						
KMI				LR	LR		
	comp=Z,317nm,13.3s,MS4.0						
KMI	**Kunming**	**24.55**	**12**	P	**P**	**04 10 59.5**	**+0.5**
	comp=Z,34nm,1.0s,mb4.8						
KMI				pP		04 11 09.8	
KMI				sP		04 11 14.2	
KMI				S	**S**	**04 15 18.6**	**+3.5**
KMI				sS		04 15 33.0	
KMI				LR	LR		
	comp=Z,320nm,13.3s,MS4.0						
SHL	**Shillong**	**24.93**	**349**	*e*P	**P**	**04 11 02.8**	**+0.1**
GYA	**Guiyang**	**26.87**	**19**	P	**P**	**04 11 20.1**	**-0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
JIRN	**Jiri**	**28.51**	**339**	*e*P	**P**	**04 11 35.7**	**+0.2**
PKI	**Pulchoki**	**28.72**	**338**	*e*P	**P**	**04 11 36.8**	**-0.6**
	comp=Z,47nm,1.4s,mb5.0						
GUN	**Gumba**	**28.85**	**339**	*e*P	**P**	**04 11 39.1**	**+0.5**
	comp=Z,19nm,0.6s,mb5.0						
KKN	**Kakani**	**28.96**	**338**	*e*P	**P**	**04 11 39.6**	**0.0**
GKN	**Gorkha**	**29.40**	**337**	*e*P	**P**	**04 11 43.7**	**+0.1**
	comp=Z,13nm,0.7s,mb4.8						
KOLN	**Koldanda**	**29.62**	**335**	*e*P	**P**	**04 11 45.8**	**+0.3**
	comp=Z,16nm,0.8s,mb4.8						
XAN	**Xi'an**	**34.63**	**17**	P	**P**	**04 12 27.3**	**-1.9**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
LZH	**Lanzhou**	**35.42**	**9**	*e*P	**P**	**04 12 36.5**	**+0.5**
LZH				AP	pP	04 12 42.0	-1.9
LZH				XP	sP	04 12 48.0	+0.7
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
LZH	**Lanzhou**	**35.42**	**9**	*e*P	**P**	**04 12 36.5**	**+0.5**
	comp=Z,26nm,1.2s,mb5.0						
LZH				pP	pP	04 12 42.0	-1.9
LZH				sP	sP	04 12 48.0	+0.7
NJ2	**Nanjing**	**37.01**	**31**	*e*P	**P**	**04 12 49.9**	**+0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
GTA	**Gaotai**	**38.28**	**3**	*e*P	**P**	**04 12 59.6**	**-0.4**
GTA				AP	pP	04 13 06.1	-1.9
GTA				XP	sP	04 13 10.0	-1.3
GTA				PP	PP	04 14 29.0	-2.1
GTA				S	**S**	**04 18 51.8**	**-0.1**
GTA				XS		04 19 02.8	
GTA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,85nm,7.6s						
GTA				LR	LR		
	comp=N,118nm,13.7s,MS3.9						
GTA				LR	LR		
	comp=E,66nm,16.3s,MS3.9						
GTA				LR	LR		
	comp=Z,138nm,12.5s,MS4.0						
HHC	**Hu-ho-hao-te**	**41.72**	**16**	*e*P	**P**	**04 13 30.4**	**+2.0**
HHC				AP	pP	04 13 40.3	+3.8
HHC				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.4						
HHC				AMB	AMB		
	comp=Z,113nm,6.5s						
WRA	**Warramunga Arr**	**41.94**	**122**	P	**P**	**04 13 30.3**	**-0.2**
	comp=Z,2.5nm,0.7s,mb3.9,baz=300,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	**41.94**	**122**	*e*P	**P**	**04 13 30.6**	**+0.1**
	comp=Z,3.2nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**43.28**	**127**	P	**P**	**04 13 42.0**	**+0.5**
	comp=Z,1.7nm,0.8s,mb3.8,baz=301,slow=7.8,SNR=10						
WMQ	**Urumqi**	**43.45**	**350**	P	**P**	**04 13 43.9**	**+1.4**
WMQ				AP	pP	04 13 53.9	+3.4
WMQ				XP	sP	04 13 57.9	+4.1
WMQ				PP	PP	04 15 27.1	+1.6
WMQ				PCP	PcP	04 15 32.5	+1.5
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,54nm,4.0s						
WMQ				LR	LR		
	comp=N,59nm,22.0s,MS3.5						
WMQ				LR	LR		
	comp=E,21nm,22.0s,MS3.5						
WMQ				LR	LR		
	comp=Z,22nm,17.7s,MS3.1						
KS15	**Wonju Array Si**	**45.96**	**34**	*e*P	**P**	**04 14 02.5**	**-0.2**
SONM	**Songino Array**	**47.30**	**8**	P	**P**	**04 14 12.9**	**-0.3**
	comp=Z,3.7nm,0.5s,mb4.5,baz=188,slow=9.5,SNR=23						
SONM				PcP	PcP	04 15 44.3	0.0
	comp=Z,1.5nm,0.8s,baz=194,slow=4.0,SNR=4.6						
MKAR	**Makanchi Array**	**47.41**	**346**	P	**P**	**04 14 13.9**	**-0.2**
	comp=Z,3.5nm,0.7s,mb4.4,baz=158,slow=7.6,SNR=32						
ULN	**Ulaanbaatar**	**47.43**	**9**	*e*P	**P**	**04 14 16.3**	**+2.1**
	comp=Z,2.8nm,0.5s,mb4.5						
CN2	**Changchun**	**49.45**	**27**	*e*P	**P**	**04 14 32.3**	**+2.4**
CN2				*e*S	**S**	**04 21 36.3**	**+2.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
MJAR	**Matsushiro Arr**	**51.81**	**42**	P	**P**	**04 14 47.0**	**-1.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=219,slow=8.0,SNR=4.1						
MDJ	**Mudanjiang**	**52.01**	**29**	P	**P**	**04 14 49.6**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,91nm,4.7s						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**04 14 59.3**	**+0.6**
	comp=Z,3.5nm,0.7s,mb4.4,baz=299,slow=5.0,SNR=6.6						
STKA	**Stephens Creek**	**53.23**	**132**	*e*P	**P**	**04 14 59.1**	**+0.5**
ZAL	**Zalesovo**	**53.72**	**351**	P	**P**	**04 15 00.7**	**-1.2**
	comp=Z,2.7nm,0.8s,mb4.2,baz=301,slow=6.9						
BVAR	**Borovoye Array**	**56.42**	**341**	P	**P**	**04 15 20.1**	**-1.5**
	comp=Z,1.5nm,0.7s,mb4.2,baz=141,slow=9.5,SNR=9.9						
YAK	**Yakutsk**	**65.58**	**16**	*e*P	**P**	**04 16 21.7**	**-1.8**
	comp=Z,18nm,0.7s,mb5.2						
FINES	**FINESS Array B**	**80.16**	**333**	P	**P**	**04 17 48.7**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=117,slow=3.1,SNR=3.4						
ARCES	**ARCESS Array B**	**82.70**	**340**	P	**P**	**04 18 01.6**	**-0.7**
	comp=Z,3.2nm,0.9s,mb4.3,baz=124,slow=3.3,SNR=4.0						
GERES	**GERESS Array B**	**84.95**	**319**	P	**P**	**04 18 15.2**	**+1.0**
	comp=Z,0.8nm,0.9s,mb3.9,baz=90,slow=5.3,SNR=6.1						
NB2	**NORSAR Subarra**	**87.16**	**331**	P	**P**	**04 18 24.6**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.8,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**87.16**	**331**	P	**P**	**04 18 24.2**	**-0.5**
	comp=Z,0.7nm,0.8s,mb4.0,baz=94,slow=4.9,SNR=5.7						
AFI	**Afiamalu**	**91.23**	**104**	LR	LR	04 59 56.7	
	comp=Z,54nm,20.4s,MS4.0,baz=179,slow=36						
MIAR	**Mount Ida**	**143.20**	**15**	*e*PKPpre		04 25 10.1	
TXAR	**Lajitas Array**	**143.81**	**32**	PKP	PKPdf	04 25 12.7	-5.6
	comp=Z,0.3nm,0.6s,baz=329,slow=0.6,SNR=4.1						

*IDC **24** 04:09:53.1±0.8, 1.59N×128.28E, mb3.9/8, mb1 4.1/9, mb1mx4.0/19, mbtmp4.0/9, ML4.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/23, Error ellipse: s-maj=60.3km s-min=15.3km az=76.0*

*NEIC **24** 04:10:05.6±3.7, 1.50N×128.35E, h107km±36km, mb4.3/3, Error ellipse: s-maj=19.0km s-min=8.8km az=69.0*

ISC 24 04:10:06.2±5.3, 1.48N±0.10×128.2E±0.2, h130km±52km, n21, σ0°84/20, mb3.9/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**17.91**	**270**	*e*P	**P**	**04 14 09.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**19.63**	**187**	*e*P	**P**	**04 14 25.3**	**-1.6**
	4.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.63**	**187**	P	**P**	**04 14 24.8**	**-2.0**
	0.6nm,0.3s,baz=32,slow=8.2,SNR=7.4						
WRAB	**Tennant Creek**	**22.12**	**165**	*e*P	**P**	**04 14 52.1**	**+0.3**
	6.5nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**22.12**	**165**	P	**P**	**04 14 52.2**	**+0.3**
	4.6nm,0.6s,mb4.1,baz=343,slow=10,SNR=16						
WB2	**Warramunga Arr**	**22.13**	**165**	*e*P	**P**	**04 14 52.2**	**+0.3**
ASAR	**Alice Springs**	**25.60**	**168**	P	**P**	**04 15 26.4**	**+1.2**
	1.1nm,0.5s,mb3.7,baz=353,slow=8.2,SNR=14						
ASPA	**Alice Springs**	**25.60**	**168**	*e*P	**P**	**04 15 26.4**	**+1.2**
FORT	**Forrest**	**32.08**	**180**	*e*P	**P**	**04 16 22.6**	**-0.5**
	242nm,0.6s						
KLBR	**Kellerberrin**	**34.36**	**196**	*e*P	**P**	**04 16 41.5**	**-1.1**
	410nm,1.5s						
MUN	**Mundaring**	**35.17**	**198**	*e*P	**P**	**04 16 48.7**	**-0.8**
	40nm,1.1s,mb5.0						
STKA	**Stephens Creek**	**35.52**	**160**	P	**P**	**04 16 52.3**	**-0.1**
	2.1nm,0.5s,mb4.1,baz=323,slow=6.4,SNR=7.7						
STKA	**Stephens Creek**	**35.52**	**160**	*e*P	**P**	**04 16 52.3**	**-0.1**
MJAR	**Matsushiro Arr**	**36.09**	**14**	P	**P**	**04 16 55.9**	**-1.3**
	1.1nm,0.7s,mb3.6,baz=182,slow=9.0,SNR=4.5						
ASAJ	**Asahikawa**	**44.33**	**15**	LR	LR	04 35 02.3	
	comp=Z,38nm,19.0s,baz=48,slow=34						
ULN	**Ulaanbaatar**	**49.70**	**341**	*e*P	**P**	**04 18 47.6**	**+0.8**
SONM	**Songino Array**	**49.89**	**341**	P	**P**	**04 18 47.8**	**-0.5**
	0.6nm,0.5s,mb3.5,baz=152,slow=6.8,SNR=5.4						
MKAR	**Makanchi Array**	**60.24**	**325**	P	**P**	**04 20 03.5**	**+0.5**
	0.9nm,0.3s,mb4.1,baz=112,slow=7.6,SNR=22						
BVAR	**Borovoye Array**	**70.00**	**327**	P	**P**	**04 21 05.8**	**+0.2**
	0.4nm,0.7s,mb3.3,baz=143,slow=7.2,SNR=3.1						
VNDA	**Vanda**	**81.03**	**173**	P	**P**	**04 22 08.2**	**+0.7**
	0.6nm,0.8s,mb3.3,baz=318,slow=6.5,SNR=4.2						
VNDA	**Vanda**	**81.03**	**173**	P	**P**	**04 22 07.8**	**+0.3**
	0.5nm,0.6s,mb3.3						

*IDC **24** 04:11:03.5±0.5, 6.27N×72.96W, h194km±4km, mb3.2/7, mb1 3.4/9, mb1mx3.2/23, mbtmp3.7/9, Error ellipse: s-maj=14.0km s-min=8.0km az=126.0*

*NEIC **24** 04:11:03.4±0.4, 6.22N×72.97W, mb3.9/7, Error ellipse: s-maj=10.5km s-min=8.0km az=112.0*

ISC 24 04:11:03.3±0.5, 6.25N±0.06×72.98W±0.06, h207km±6km, n25, σ0°97/27, mb3.5/10, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.93**	**224**	P	**P**	**04 11 42.1**	**+0.2**
	20nm,0.3s,baz=79,slow=5.2,SNR=239						
ROSC				S	**S**	**04 12 11.4**	**-0.3**
	12nm,0.3s,baz=277,slow=23,SNR=3.6						
SDV	**Santo Domingo**	**3.51**	**41**	P	**P**	**04 11 59.8**	**0.0**
	45nm,0.3s,baz=219,slow=8.1,SNR=281						
SDV				S	**S**	**04 12 41.7**	**-1.9**
	20nm,0.3s,baz=69,slow=18,SNR=20						
SDV	**Santo Domingo**	**3.51**	**41**	⇓*e*P	**P**	**04 11 59.9**	**0.0**
SDV				S	**S**	**04 12 41.7**	**-1.9**
SDV				*e*S	**S**	**04 12 41.8**	**-1.8**
OTAV	**Otavalo**	**8.09**	**223**	*e*P	**P**	**04 12 59.4**	**+0.9**
	2.5nm,0.6s						
OTAV				*e*S	**S**	**04 14 28.2**	**-0.3**
PCRV	**Puerto La Cruz**	**9.14**	**64**	P	**P**	**04 13 12.8**	**+0.7**
	0.3nm,0.3s,baz=212,slow=9.5,SNR=2.3						
PCRV				S	**S**	**04 14 54.5**	**+1.7**
	0.2nm,0.3s,baz=332,slow=22,SNR=2.3						
JTS	**JuntasAbangare**	**12.51**	**290**	*e*P	**P**	**04 13 59.5**	**+4.2**
	4.6nm,0.7s						
SJG	**San Juan**	**13.55**	**29**	P	**P**	**04 14 09.0**	**+0.5**
SAML	**Samuel**	**17.98**	**147**	*e*P	**P**	**04 14 59.6**	**-1.4**
	6.0nm,0.7s						
LPAZ	**La Paz**	**22.90**	**168**	P	**P**	**04 15 52.1**	**+1.9**
	2.1nm,0.6s,mb3.8,baz=322,slow=10,SNR=13						
LPAZ				pP		04 16 27.9	
	3.3nm,1.1s,baz=335,slow=14,SNR=3.3						
LPAZ	**La Paz**	**22.90**	**168**	*e*P	**P**	**04 15 51.5**	**+1.3**
	1.9nm,0.5s,mb3.9						
LPAZ				pP		04 16 27.9	
SIV	**San Ignacio**	**25.04**	**152**	P	**P**	**04 16 09.7**	**-0.7**
	0.4nm,0.4s,mb3.4,baz=338,slow=9.8,SNR=5.6						
CCM	**Cathedral Cave**	**35.74**	**335**	P	**P**	**04 17 44.5**	**+0.3**
	1.7nm,0.6s,mb3.8						
TXAR	**Lajitas Array**	**36.95**	**312**	P	**P**	**04 17 55.1**	**+0.8**
	0.3nm,0.6s,mb3.0,baz=118,slow=9.0,SNR=4.9						
TXAR				PcP	PcP	04 20 12.6	+1.2
	0.4nm,0.5s,baz=141,slow=4.5,SNR=5.8						
MNTX	**Cornudas Mount**	**39.47**	**314**	*e*P	**P**	**04 18 16.1**	**+0.9**
	0.8nm,0.6s,mb3.4						
SCHQ	**Schefferville**	**48.70**	**5**	P	**P**	**04 19 28.5**	**+0.1**
	1.9nm,0.4s,mb3.7,baz=202,slow=7.2,SNR=16						
SCHQ	**Schefferville**	**48.70**	**5**	*e*P	**P**	**04 19 28.7**	**+0.3**
	3.1nm,0.5s,mb3.9						
YKA	**Yellowknife Ar**	**63.85**	**340**	P	**P**	**04 21 15.2**	**-0.3**
	0.4nm,0.7s,mb3.2,baz=132,slow=6.4,SNR=18						
YKA				pP	pP	04 21 59.2	-4.4
	0.4nm,0.7s,baz=129,slow=7.0,SNR=4.8						
YKA	**Yellowknife Ar**	**63.85**	**340**	P	**P**	**04 21 15.2**	**-0.3**
YKA				pP	pP	04 21 59.2	-4.4
DBIC	**Dimbokro**	**67.64**	**85**	P	**P**	**04 21 39.9**	**-0.6**
	5.6nm,0.9s,mb4.2,baz=273,slow=11,SNR=5.3						
INK	**Inuvik**	**73.61**	**340**	P	**P**	**04 22 14.4**	**-0.9**
	0.4nm,0.6s,mb3.2,baz=162,slow=6.4,SNR=2.8						
ILAR	**Eielson Array**	**77.54**	**335**	P	**P**	**04 22 35.8**	**-1.7**
	0.2nm,0.8s,mb2.8,baz=122,slow=4.6,SNR=4.3						
MKAR	**Makanchi Array**	**122.81**	**20**	PKP	PKPdf	04 29 36.1	+1.3
	0.2nm,0.4s,baz=287,slow=2.8,SNR=4.2						
ASAR	**Alice Springs**	**148.88**	**233**	PKPbc	PKPdf	04 30 28.4	+5.4
	1.4nm,0.6s,baz=118,slow=3.4,SNR=20						
ASAR				pPKPbc		04 31 19.4	
	0.6nm,0.8s,baz=114,slow=3.5,SNR=2.6						
WRA	**Warramunga Arr**	**150.18**	**240**	PKPbc	PKPdf	04 30 31.6	+6.5
	1.0nm,0.5s,baz=108,slow=2.4,SNR=8.2						
WRA				PKPab	PKPab	04 30 38.1	-1.4
	0.4nm,0.5s,baz=101,slow=4.0,SNR=9.3						
WRA				pPKPbc		04 31 20.9	
	0.3nm,0.5s,baz=107,slow=2.8,SNR=1.7						
WRA	**Warramunga Arr**	**150.18**	**240**	PKPbc	PKPdf	04 30 31.6	+6.5
WRA				PKPab	PKPab	04 30 38.1	-1.4
WRA				pPKPbc		04 31 20.9	

*NEIC **24** 04:18:21.3, 27.79N×15.01W, h38km, MN2.6(MDD), After MDD.*

*CSEM **24** 04:18:21.3±0.3, 27.79N×15.01W, h38km±5km, mb4.2/9, Error ellipse: s-maj=6.0km s-min=0.9km az=174.0, After MDD*

MDD 24 04:18:21.5±0.3, 27.82N×15.01W, h42km±4km, mb4.0/11, 4C-4D, Error ellipse: s-maj=5.9km s-min=0.8km az=174.0, PRXIMO TT_MODEL: CANARY, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOSO	**Osorio**	**0.54**	**298**	⇓P	P	04 18 31.8	-1.0
EOSO				S	S	04 18 39.1	-1.8
EOSO	**Osorio**	**0.54**	**298**	⇓P	P	04 18 31.8	-1.0
	189nm,0.2s,SNR=18						
EOSO				S	S	04 18 39.1	-1.8
	276nm,0.2s,SNR=7.9						
EOSO	**Osorio**	**0.54**	**298**	P	P	04 18 31.8	-1.0
	189nm,0.2s,SNR=18						
EOSO				S	S	04 18 39.1	-1.8
	276nm,0.2s,SNR=7.9						
GGC	**Guia Canaria**	**0.63**	**298**	⇑P	P	04 18 33.1	-0.9
	SNR=18						
GGC				S	S	04 18 41.6	-1.4
	SNR=7.9						
CFTV	**Fuerteventura**	**1.01**	**54**	⇑P	P	04 18 37.5	-1.9
CFTV				S	S	04 18 49.9	-2.7
CFTV	**Fuerteventura**	**1.01**	**54**	⇑P	P	04 18 37.5	-1.9
	1.1nm,0.1s,SNR=18						
CFTV				S	S	04 18 49.5	-3.0
	41nm,0.1s,SNR=7.9						
CFTV	**Fuerteventura**	**1.01**	**54**	P	P	04 18 37.5	-1.8
	1.1nm,0.1s,SNR=18						
CFTV				S	S	04 18 49.9	-2.7
	41nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**1.25**	**49**	⇑P	P	04 18 41.0	-1.8
	39nm,0.1s,SNR=18						
CFUE				S	S	04 18 55.9	-3.0
	256nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**1.25**	**49**	P	P	04 18 41.0	-1.8
	39nm,0.1s,SNR=18						
CFUE				S	S	04 18 56.9	-1.9
	256nm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**1.38**	**302**	⇓P	P	04 18 43.4	-1.3
	5.5nm,0.1s,SNR=18						
EBAJ				S	S	04 18 59.1	-2.8
	9.9nm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**1.38**	**302**	P	P	04 18 43.4	-1.3
	5.5nm,0.1s,SNR=18						
EBAJ				S	S	04 18 59.1	-2.8
	9.9nm,0.1s,SNR=7.9						
CCAN	**Las Canadas**	**1.47**	**286**	⇓P	P	04 18 44.1	-1.8
	4.4nm,0.2s,SNR=18						
CCAN				S	S	04 19 00.5	-3.6
	15nm,0.2s,SNR=18						
CRAJ	**Montana Rajada**	**1.47**	**288**	P	P	04 18 44.6	-1.4
	0.5nm,0.0s,SNR=7.9						
CRAJ				S	S	04 19 01.6	-2.6
	30nm,0.1s,SNR=7.9						
CRAJ	**Montana Rajada**	**1.47**	**288**	P	P	04 18 44.6	-1.4
	0.5nm,0.0s,SNR=7.9						
CRAJ				S	S	04 19 01.6	-2.6
	30nm,0.1s,SNR=7.9						
CICO	**Icod de los Vi**	**1.60**	**290**	P	P	04 18 46.4	-1.4
	1.1nm,0.3s,SNR=4.0						
CICO				S	S	04 19 03.9	-3.6
	1.3nm,0.2s,SNR=5.9						
CICO	**Icod de los Vi**	**1.60**	**290**	P	P	04 18 46.4	-1.4
	1.1nm,0.3s,SNR=4.0						
CICO				S	S	04 19 05.8	-1.7
	1.3nm,0.2s,SNR=5.9						
CHIO	**Chio**	**1.65**	**285**	P	P	04 18 47.1	-1.4
	1.5nm,0.1s,SNR=7.9						
CHIO				S	S	04 19 04.8	-3.9
	19nm,0.1s,SNR=7.9						
CHIO	**Chio**	**1.65**	**285**	P	P	04 18 47.2	-1.3
	1.5nm,0.1s,SNR=7.9						
CHIO				S	S	04 19 04.8	-3.9
	19nm,0.1s,SNR=7.9						
EFAM	**Famara**	**1.84**	**45**	P	P	04 18 49.9	-1.4
EFAM				S	S	04 19 11.2	-2.2
EFAM	**Famara**	**1.84**	**45**	P	P	04 18 49.7	-1.5
	4.1nm,0.1s,SNR=7.9						
EFAM				S	S	04 19 10.3	-3.1
	2.1nm,0.1s,SNR=5.0						
EFAM	**Famara**	**1.84**	**45**	P	P	04 18 49.9	-1.3
	4.1nm,0.1s,SNR=7.9						
EFAM				S	S	04 19 11.2	-2.2
	2.1nm,0.1s,SNR=5.0						
EGOM	**La Gomera**	**1.97**	**280**	P	P	04 18 50.9	-2.2
EGOM				S	S	04 19 11.2	-5.5
EGOM	**La Gomera**	**1.97**	**280**	P	P	04 18 50.9	-2.2
	1.2nm,0.1s,SNR=14						
EGOM				S	S	04 19 12.6	-4.2
	26nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**1.97**	**280**	P	P	04 18 50.9	-2.2
	1.2nm,0.1s,SNR=14						
EGOM				S	S	04 19 11.2	-5.5
	26nm,0.1s,SNR=7.9						
CHIE	**El Hierro**	**2.62**	**269**	P	P	04 19 00.3	-2.0
	1.3nm,0.1s,SNR=4.0						
CHIE				S	S	04 19 28.4	-4.7
	12nm,0.2s,SNR=7.9						

*IDC **24** 04:36:58.6±3.6, 33.08N×140.29E, mb3.6/3, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, ML3.1/1, MS2.7/1, Ms1 2.7/1, ms1mx2.0/27, Error ellipse: s-maj=141.4km s-min=24.4km az=70.0*

*JMA **24** 04:36:59.3±0.6, 33.33N×140.89E, h35km, M3.0*

ISC 24 04:36:59.4±2.1, 33.3N±0.1×140.9E±0.2, h33km±25km, n9, σ0°51/12, mb3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.34**	**5**	P	**P**	**04 37 22.1**	**+0.2**
BSO1				*e*S	**S**	**04 37 37.9**	**-0.9**
BSO2	**Boso 2**	**1.43**	**357**	*e*S	**S**	**04 37 42.0**	**+0.8**
BSO3	**Boso 3**	**1.51**	**349**	P	**P**	**04 37 24.5**	**+0.1**
BSO3				*e*S	**S**	**04 37 43.0**	**0.0**
MJAR	**Matsushiro Arr**	**3.88**	**327**	Pn	**P**	**04 37 58.0**	**-0.2**
	1.3nm,0.3s,baz=156,slow=11,SNR=13						
MJAR				Sn	**S**	**04 38 42.8**	**-0.4**
	0.5nm,0.3s,baz=124,slow=26,SNR=3.1						
MAT	**Matsushiro**	**3.88**	**327**	P	**P**	**04 37 58.8**	**+0.6**
MAT				S	**S**	**04 38 43.0**	**-0.3**
JOW	**Kunigami**	**12.66**	**243**	LR	LR	04 43 31.1	
	comp=Z,32nm,19.6s,baz=155,slow=32						
MKAR	**Makanchi Array**	**45.79**	**305**	P	**P**	**04 45 20.3**	**+0.8**
	0.3nm,0.6s,mb3.4,baz=84,slow=7.0,SNR=3.3						
WRA	**Warramunga Arr**	**53.32**	**188**	P	**P**	**04 46 17.0**	**-0.7**
	0.7nm,0.3s,mb4.0,baz=4.8,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**57.05**	**188**	P	**P**	**04 46 44.7**	**0.0**
	0.3nm,0.5s,mb3.6,baz=1.6,slow=6.3,SNR=9.4						

IDC 24 04:44:56.5±4.2, 1.34N×98.35E, mb3.7/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.7/3, Error ellipse: s-maj=159.3km s-min=29.8km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.14**	**123**	P	P	04 52 42.6	-1.7
	0.4nm,0.6s,baz=303,slow=8.9,SNR=5.4						
SONM	**Songino Array**	**46.84**	**7**	P	P	04 53 28.9	-1.2
	0.9nm,0.6s,baz=192,slow=8.7,SNR=6.7						
MKAR	**Makanchi Array**	**47.39**	**345**	P	P	04 53 32.1	-2.4
	1.2nm,0.7s,baz=148,slow=8.5,SNR=13						

*NEIC **24** 04:51:59.1, 19.29N×64.35W, h25km, MD3.7(RSPR), After RSPR.*

RSPR 24 04:51:59.1, 19.29N×64.35W, h25km±47km, MD3.7/17, MD3.7/17, 11C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**1.09**	**212**	⇓*e*P	Pn	04 52 17.1	-2.0
STVI				*e*S	Sb	04 52 31.1	-2.0
CDVI	**St. Croix**	**1.58**	**195**	⇑*e*P	Pn	04 52 26.8	+0.8
CDVI				*e*S	Sn	04 52 45.6	-0.1
MTP	**Monte Pirata**	**1.65**	**224**	⇓*e*P

ZAL Zalesovo 57.59 323 P P 05 11 25.6 -1.3
0.7nm,0.3s,baz=33,slow=4.0,SNR=4.4
MKAR Makanchi Array 57.73 314 P P 05 11 24.8 -3.1
0.6nm,0.8s,baz=98,slow=8.6,SNR=5.7
BVAR Borovoye Array 65.96 321 P P 05 12 20.7 -2.4
1.6nm,0.9s,baz=101,slow=7.6,SNR=7.5

*INMG **24** 05:18:28.1±0.6, 36.01N×8.74W, h31km, ML1.7, Error ellipse: s-maj=5.3km s-min=3.4km az=50.0*
MDD 24 05:18:28.8±2.3, 36.17N×8.57W, h75km±32km, mb2.7/5, Error ellipse: s-maj=18.1km s-min=10.2km az=15.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.38**	**355**	*e*P	P	05 18 51.8	-1.1
PTEO				*e*S	S	05 19 09.9	-0.8
	3.6nm,0.2s						
PTEO	**Sao Teotonio**	**1.38**	**355**	P	P	05 18 51.8	-1.1
PTEO				S	S	05 19 09.9	-0.8
	1.8nm,0.2s						
PALC	**Alcoutim**	**1.56**	**34**	*e*P	P	05 18 55.4	+0.1
PALC				*e*S	S	05 19 15.5	+0.7
	3.4nm,0.1s						
PALC	**Alcoutim**	**1.56**	**34**	P	P	05 18 55.4	+0.1
PALC				S	S	05 19 15.5	+0.7
	1.7nm,0.1s						
EGRO	**El Granado**	**1.62**	**32**	P	P	05 18 56.1	+0.1
	1.3nm,0.1s,SNR=16						
EGRO				S	S	05 19 15.9	-0.2
	3.8nm,0.1s,SNR=11						
PBEJ	**Beja**	**1.94**	**17**	*e*Pn	P	05 19 00.1	-0.2
PBEJ				*e*Sn	S	05 19 24.0	+0.5
	2.9nm,0.1s						
PBEJ	**Beja**	**1.94**	**17**	P	P	05 19 00.1	-0.2
PBEJ				S	S	05 19 24.0	+0.5
	1.4nm,0.1s						
EMIN	**Mina Concepcio**	**2.20**	**43**	P	P	05 19 03.3	-0.7
	0.3nm,0.1s,SNR=9.0						
EMIN				S	S	05 19 29.6	-0.5
	1.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.29**	**71**	P	P	05 19 04.8	-0.5
	1.9nm,0.2s,SNR=6.7						
ESPR				S	S	05 19 32.2	-0.2
	1.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.87**	**25**	P	P	05 19 12.9	-0.4
	0.3nm,0.1s,SNR=7.9						
EBAD				S	S	05 19 46.9	+0.1
	2.0nm,0.1s,SNR=9.4						
EADA	**Adamuz**	**3.76**	**57**	P	P	05 19 25.1	-0.7
	0.7nm,0.1s,SNR=7.6						
EADA				S	S	05 20 08.0	-1.1
	0.7nm,0.2s,SNR=69						

*IDC **24** 05:19:57.7±1.0, 8.65S×130.52E, mb3.9/5, mb1 4.2/8, mb1mx4.1/15, mbtmp4.0/8, ML3.9/3, MS3.4/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=55.6km s-min=18.6km az=77.0*
*NEIC **24** 05:20:02.8±0.7, 8.73S×130.42E, h35km, Error ellipse: s-maj=32.1km s-min=9.9km az=75.0*
ISC 24 05:20:00.1±0.7, **8.88S**±0.05×**130.4E**±0.1, **h33**km, **n18**, σ1§**12**/22, **mb3.8/5, MS3.4/1, 1D, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**4.33**	**152**	⇓*i*P	P	05 21 09.5	+4.2
	35nm,0.6s						
FITZ	**Fitzroy Crossi**	**10.25**	**206**	*e*P	P	05 22 29.9	+1.8
	15nm,0.7s						
FITZ				*e*S	S	05 24 22.1	-0.8
FITZ	**Fitzroy Crossi**	**10.25**	**206**	Pn	P	05 22 29.3	+1.2
	2.1nm,0.3s,baz=24,slow=10.0,SNR=38						
FITZ				Sn	S	05 24 21.2	-1.7
	2.6nm,0.3s,baz=248,slow=19,SNR=5.5						
WRAB	**Tennant Creek**	**11.65**	**161**	*e*P	P	05 22 47.3	+0.2
	38nm,1.2s						
WRA	**Warramunga Arr**	**11.66**	**161**	Pn	P	05 22 46.9	-0.3
	0.7nm,0.3s,baz=338,slow=13,SNR=21						
WRA				Sn	S	05 24 56.3	-1.0
	1.4nm,0.3s,baz=331,slow=24,SNR=9.8						
WB2	**Warramunga Arr**	**11.66**	**161**	*e*P	P	05 22 47.9	+0.6
WB2				*e*S	S	05 24 56.9	-0.4
ASAR	**Alice Springs**	**15.10**	**167**	Pn	P	05 23 33.5	+0.7
	0.6nm,0.3s,baz=5.0,slow=14,SNR=29						
ASAR				Sn	S	05 26 19.8	+0.3
	0.3nm,0.3s,baz=355,slow=23,SNR=4.6						
ASPA	**Alice Springs**	**15.10**	**167**	*e*P	P	05 23 35.1	+2.3
ASPA				*e*S	S	05 26 18.2	-1.3
CTA	**Charters Tower**	**18.99**	**128**	LR	LR	05 32 01.9	
	comp=Z,85nm,20.3s,baz=46,slow=38						
STKA	**Stephens Creek**	**25.16**	**157**	*e*P	P	05 25 28.4	+4.3
	4.7nm,1.4s,mb3.8						
STKA	**Stephens Creek**	**25.16**	**157**	P	P	05 25 26.8	+2.7
	3.9nm,0.7s,mb4.1,baz=327,slow=8.4,SNR=14						
NWAO	**Narrogin (SRO)**	**26.83**	**205**	LR	LR	05 37 18.5	
	comp=Z,115nm,20.1s,MS3.4,baz=20,slow=38						
MJAR	**Matsushiro Arr**	**45.78**	**9**	P	P	05 28 18.3	-2.3
	1.2nm,0.7s,mb3.9,baz=185,slow=8.3,SNR=4.6						
ULN	**Ulaanbaatar**	**60.14**	**342**	*e*P	P	05 30 06.5	-0.3
SONM	**Songino Array**	**60.32**	**342**	P	P	05 30 07.7	-0.4
	0.4nm,0.5s,mb3.7,baz=162,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**69.98**	**327**	P	P	05 31 11.0	+0.7
	0.8nm,0.5s,mb3.9,baz=124,slow=7.4,SNR=15						
MKAR	**Makanchi Array**	**69.98**	**327**	P	P	05 31 11.0	+0.7
BVAR	**Borovoye Array**	**79.83**	**328**	P	P	05 32 06.7	-0.1
	0.9nm,1.0s,mb3.6,baz=153,slow=6.6,SNR=4.0						

*IDC **24** 05:23:50.0±4.6, 28.67N×130.39E, mb3.5/6, mb1 3.6/6, mb1mx3.5/21, mbtmp3.5/6, Error ellipse: s-maj=129.1km s-min=51.8km az=2.0*
*JMA **24** 05:24:11.8, 33.01N×130.16E, h12km±1km, M1.4*
ISC 24 05:24:11.9±1.0, **33.0N**±0.1×**130.15E**±0.08, **h6**km±7km, **n9**, σ0§**39**/11, **mb3.4/6, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUR	**Ureshino**	**0.21**	**305**	P	**Pg**	05 24 16.2	+0.1
JUR				S	**Sg**	05 24 19.0	0.0
JTA	**Tamana**	**0.32**	**92**	P	**Pg**	05 24 18.2	-0.2
JTA				S	**Sg**	05 24 22.8	+0.1
JIU2	**Izumi 2**	**0.70**	**127**	S	**Sg**	05 24 35.4	0.0
SONM	**Songino Array**	**23.27**	**317**	P	P	05 29 31.5	+11
	0.3nm,0.4s,mb3.0,baz=139,slow=9.3,SNR=2.7						
FINES	**FINESS Array B**	**67.86**	**330**	P	P	05 35 13.2	+0.6
	0.4nm,0.4s,mb3.8,baz=70,slow=5.8,SNR=11						
AKASG	**Malin Array Be**	**71.54**	**319**	P	P	05 35 31.0	-4.3
	0.3nm,0.3s,mb3.7,baz=58,slow=6.1,SNR=4.9						
YKA	**Yellowknife Ar**	**71.74**	**26**	P	P	05 35 36.4	0.0
	0.2nm,0.9s,mb3.0,baz=305,slow=5.1,SNR=5.7						
NOA	**NORSAR Array B**	**74.02**	**334**	P	P	05 35 49.3	-0.4
	0.4nm,0.9s,mb3.4,baz=72,slow=4.7,SNR=3.6						
BRTR	**Keskin Array B**	**74.26**	**307**	P	P	05 35 47.2	-4.3
	0.6nm,0.7s,mb3.6,baz=79,slow=6.3,SNR=4.0						

*IDC **24** 05:49:33.4±2.9, 1.96S×99.51E, mb3.6/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, MS3.0/1, Ms1 3.2/1, ms1mx2.6/25, Error ellipse: s-maj=120.2km s-min=21.0km az=58.0*
*NEIC **24** 05:49:38.6±1.1, 1.89S×99.69E, h30km, mb4.2/2, Error ellipse: s-maj=49.1km s-min=11.3km az=58.0*
ISC 24 05:49:36.9±1.9, **1.9S**±0.3×**99.6E**±0.4, **h33**km, **n15**, σ0§**65**/10, **mb4.0/8, MS2.8/1, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.20**	**358**	P	P	05 54 12.8	+1.0
	0.6nm,0.5s,baz=185,slow=9.2,SNR=5.5						
CMAR				LR	LR	06 03 45.6	
	comp=Z,37nm,18.5s,MS2.8,baz=165,slow=42						
POO	**Poona**	**32.47**	**310**	*e*	Px	05 56 03.0	
WRA	**Warramunga Arr**	**38.38**	**120**	P	P	05 56 56.6	-0.4
	0.5nm,0.5s,mb3.5,baz=304,slow=9.1,SNR=4.8						
WRAB	**Tennant Creek**	**38.38**	**120**	*e*P	P	05 56 56.5	-0.5
	1.8nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**39.63**	**126**	P	P	05 57 08.4	+1.1
	0.7nm,0.8s,mb3.4,baz=309,slow=9.0,SNR=4.7						
SONM	**Songino Array**	**49.85**	**6**	P	P	05 58 28.2	-0.7
	0.4nm,0.8s,mb3.5,baz=187,slow=12,SNR=3.2						
ULN	**Ulaanbaatar**	**49.95**	**7**	P	P	05 58 29.7	0.0
	1.4nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**50.80**	**345**	P	P	05 58 36.2	0.0
	0.8nm,0.6s,mb3.8,baz=157,slow=8.4,SNR=10						
MKAR	**Makanchi Array**	**50.80**	**345**	P	P	05 58 36.2	0.0
ZAL	**Zalesovo**	**56.96**	**350**	P	P	05 59 20.6	-0.8
	1.3nm,0.3s,mb4.5,baz=347,slow=3.5,SNR=3.4						
ARU	**Arti**	**66.94**	**337**	*e*P	P	06 00 28.4	+0.3
	19nm,0.6s,mb5.3						
TXAR	**Lajitas Array**	**144.81**	**37**	PKP	PKPdf	06 09 12.8	+1.6
	0.3nm,0.6s,baz=295,slow=0.9,SNR=5.6						
TXAR	**Lajitas Array**	**144.81**	**37**	PKP	PKPdf	06 09 12.8	+1.6
MIAR	**Mount Ida**	**145.23**	**19**	*e*PKP	PKPdf	06 09 13.7	+1.9
JCT	**Junction City**	**146.10**	**31**	*e*PKP	PKPdf	06 09 16.6	+3.2

IDC 24 06:05:36.5±8.1, 1.81N×125.01E, mb3.9/3, mb1 4.1/3, mb1mx3.6/19, mbtmp3.9/3, Error ellipse: s-maj=190.9km s-min=127.0km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.47**	**157**	P	P	06 10 47.6	-1.3
	2.0nm,0.4s,baz=336,slow=10,SNR=20						
WB2	**Warramunga Arr**	**23.48**	**157**	*e*P	P	06 10 47.1	-1.8
ASAR	**Alice Springs**	**26.76**	**162**	P	P	06 11 18.6	-1.4
	0.6nm,0.4s,baz=342,slow=8.3,SNR=15						
ASPA	**Alice Springs**	**26.76**	**162**	*e*P	P	06 11 19.1	-1.0
STKA	**Stephens Creek**	**37.01**	**156**	P	P	06 12 48.0	-1.9
	1.8nm,0.9s,baz=329,slow=10,SNR=6.1						

*IDC **24** 06:29:19.4±4.5, 7.51S×128.23E, h84km±39km, mb3.7/6, mb1 3.9/9, mb1mx3.8/17, mbtmp4.1/9, Error ellipse: s-maj=79.6km s-min=16.2km az=66.0*
*NEIC **24** 06:29:21.1±2.2, 7.57S×128.32E, h102km±20km, mb3.6/1, Error ellipse: s-maj=24.7km s-min=16.4km az=58.0*
ISC 24 06:29:21.0±1.7, **7.60S**±0.08×**128.4E**±0.1, **h120**km±17km, **n19**, σ1§**20**/23, **mb3.8/6, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.43**	**142**	*e*P	P	06 30 56.5	+2.0
	25nm,0.6s						
KAKA				*e*S	S	06 32 05.8	-1.2
FITZ	**Fitzroy Crossi**	**10.79**	**194**	*e*P	P	06 31 51.9	-1.2
	7.5nm,0.2s						
FITZ				*e*S	S	06 33 46.0	-6.0
FITZ	**Fitzroy Crossi**	**10.79**	**194**	P	P	06 31 52.0	-1.1
	6.2nm,0.3s,baz=19,slow=9.6,SNR=85						
FITZ				S	S	06 33 44.0	-8.0
	5.3nm,0.3s,baz=31,slow=22,SNR=7.1						
WRAB	**Tennant Creek**	**13.54**	**156**	*e*P	P	06 32 28.2	-1.0
WRA	**Warramunga Arr**	**13.54**	**156**	P	P	06 32 28.5	-0.7
	1.0nm,0.3s,baz=339,slow=13,SNR=21						
WRA				S	S	06 34 50.3	-6.8
	2.3nm,0.3s,baz=326,slow=22,SNR=13						
WB2	**Warramunga Arr**	**13.54**	**156**	*e*P	P	06 32 28.7	-0.6
WB2				*e*S	S	06 34 50.4	-6.8
MBWA	**Marble Bar**	**15.89**	**211**	*e*P	P	06 32 59.7	+0.6
	1.7nm,0.4s						
ASAR	**Alice Springs**	**16.81**	**162**	P	P	06 33 11.4	+0.9
	0.5nm,0.3s,baz=335,slow=9.8,SNR=23						
ASAR				S	S	06 36 10.3	-2.0
	0.7nm,0.3s,baz=324,slow=14,SNR=9.2						
ASPA	**Alice Springs**	**16.81**	**162**	*e*P	P	06 33 12.6	+2.0
ASPA				*e*S	S	06 36 12.8	+0.6
STKA	**Stephens Creek**	**27.09**	**155**	*e*P	P	06 34 56.2	+1.7
	0.8nm,0.6s,mb3.4						
STKA	**Stephens Creek**	**27.09**	**155**	P	P	06 34 56.1	+1.5
	0.7nm,0.4s,mb3.5,baz=322,slow=7.5,SNR=4.4						
SONM	**Songino Array**	**58.53**	**343**	P	P	06 39 07.4	+0.2
	0.9nm,0.8s,mb3.9,baz=166,slow=6.4,SNR=5.3						
MKAR	**Makanchi Array**	**67.89**	**328**	P	P	06 40 08.1	-0.6
	0.9nm,0.4s,mb3.9,baz=122,slow=8.1,SNR=30						
ZAL	**Zalesovo**	**71.44**	**335**	P	P	06 40 28.7	-1.4
	1.1nm,0.4s,mb4.1,baz=321,slow=2.6,SNR=3.4						
VNDA	**Vanda**	**72.05**	**173**	P	P	06 40 34.9	+1.5
	1.1nm,1.1s,mb3.6,baz=227,slow=17,SNR=8.1						
BVAR	**Borovoye Array**	**77.75**	**328**	P	P	06 41 05.7	-0.5
	0.6nm,0.4s,mb3.6,baz=126,slow=8.6,SNR=9.5						
CPUP	**Villa Florida**	**145.81**	**171**	PKPbc	PKPbc	06 48 49.0	+1.9
	0.7nm,0.6s,baz=144,slow=8.7,SNR=3.1						
LPAZ	**La Paz**	**151.15**	**145**	PKPbc	PKPdf	06 49 04.8	+10
	0.3nm,0.3s,baz=270,slow=7.1,SNR=7.8						
LPAZ				PKPab	PKPab	06 49 13.4	+1.9
	0.8nm,0.5s,baz=200,slow=16,SNR=8.7						
LPAZ	**La Paz**	**151.15**	**145**	*e*PKPbc	PKPdf	06 49 04.2	+9.3
LPAZ				*e*PKPab	PKPab	06 49 13.8	+2.3

IDC 24 06:35:21.4±3.5, 10.86N×91.53E, mb3.8/5, mb1 4.0/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=136.4km s-min=22.7km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.66**	**349**	P	P	06 42 29.9	-1.7
	0.6nm,0.6s,baz=167,slow=8.6,SNR=7.3						
SONM	**Songino Array**	**38.92**	**16**	P	P	06 42 48.4	-2.1
	0.5nm,0.6s,baz=212,slow=7.6,SNR=5.4						
FITZ	**Fitzroy Crossi**	**44.29**	**130**	P	P	06 43 33.5	-1.6
	3.9nm,0.6s,slow=5.1,SNR=4.7						
WRA	**Warramunga Arr**	**52.09**	**126**	P	P	06 44 33.0	-2.6
	0.4nm,0.3s,baz=301,slow=10.0,SNR=6.4						
ASAR	**Alice Springs**	**53.80**	**130**	P	P	06 44 46.6	-1.7
	0.5nm,0.7s,baz=301,slow=7.3,SNR=4.4						

IDC 24 06:35:27.6±3.1, 2.54N×97.13E, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, Error ellipse: s-maj=127.5km s-min=27.8km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.81**	**123**	P	P	06 43 27.5	-1.7
	0.5nm,0.4s,baz=301,slow=9.1,SNR=5.2						
SONM	**Songino Array**	**45.82**	**9**	P	P	06 43 51.0	-2.0
	0.3nm,0.3s,baz=193,slow=9.3,SNR=4.9						
MKAR	**Makanchi Array**	**45.93**	**346**	P	P	06 43 52.6	-1.4
	0.6nm,0.5s,baz=151,slow=8.6,SNR=6.6						
ZAL	**Zalesovo**	**52.22**	**351**	P	P	06 44 40.5	-1.9
	1.6nm,0.5s,baz=323,slow=6.1,SNR=6.4						
BVAR	**Borovoye Array**	**54.97**	**341**	P	P	06 44 59.8	-3.0
	0.2nm,0.3s,baz=129,slow=9.2,SNR=2.9						

*IDC **24** 06:40:39.0±0.6, 59.38S×149.41E, mb4.7/11, mb1 4.7/12, mb1mx4.6/17, mbtmp4.6/12, ML3.5/1, MS4.9/19, Ms1 4.9/19, ms1mx4.9/23, Error ellipse: s-maj=27.1km s-min=17.0km az=91.0*
*BJI **24** 06:40:40.7, 59.40S×149.30E, h10km, mB5.8, mb5.3, Ms5.4, Msz5.0*
*HRVD **24** 06:40:40.8±0.2, 59.26S×149.08E, h12km, MW5.5/70, Centroid moment Tensor Solution. LP body waves: s65,c111;Mantle waves: s70,c146; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.03±.03; $M_{\theta\theta}$1.01±.03; $M_{\phi\phi}$-1.04±.03; $M_{r\theta}$-0.22±.08; $M_{\theta\phi}$-1.69±.03; $M_{\phi r}$0.12±.08; Best double couple: $M_0$1.992×10^{17} NP1:ϕ_s345°, δ85°, λ5°. NP2:ϕ_s254°, δ85°, λ175°. Principal axes: T 1.993, Plg7°, Azm209°; N -.001, Plg83°, Azm31°; P -1.992, Plg0°, Azm299°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **24** 06:40:40.8±0.3, 59.38S×149.34E, h10km, mb4.8/15, MS5.1/6 Error ellipse: s-maj=11.9km s-min=6.5km az=82.0*
*MOS **24** 06:40:47.9±1.2, 58.37S×148.15E, h10km, mb5.3/7, MS5.0/5, Error ellipse: s-maj=61.9km s-min=13.7km az=102.1*
ISC 24 06:40:38.8±0.4, **59.40S**±0.05×**149.4E**±0.2, **h10**km, **n107**, σ0§**97**/48, **mb4.8**/20, **MS4.9**/25, **2C-4D, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRV	**Dumont d'Urvil**	**8.43**	**206**	P	P	06 42 45.0	+1.1
DRV				R		06 44 00.0	
TAU	**Tasmania Unive**	**16.56**	**355**	*e*P	P	06 44 36.0	+3.6
	98nm,1.0s						
VNDA	**Vanda**	**18.68**	**172**	P	P	06 44 57.0	-1.7
	0.1nm,0.3s,baz=336,slow=10,SNR=27						
VNDA				LR	LR	06 51 33.8	
	comp=Z,8μm,18.8s,baz=342,slow=35						
VNDA	**Vanda**	**18.68**	**172**	*e*P	P	06 44 57.9	-0.8
	28nm,1.2s						
CASY	**Casey**	**18.74**	**232**	*e*P	P	06 44 59.8	+0.4
SBA	**Scott Base**	**19.41**	**169**	*e*P	P	06 45 06.4	-0.9
	28nm,1.1s						
RPZ	**Rata Peaks**	**20.55**	**50**	LR	LR	06 51 51.8	
	comp=Z,8μm,18.9s,MS5.1,baz=200,slow=33						
TOO	**Toolangi**	**21.99**	**352**	*e*P	P	06 45 34.9	+0.4
	22nm,0.9s,mb4.6						
CNB	**Canberra Magne**	**24.10**	**360**	*e*P	P	06 45 57.1	+2.0
	2μm,1.8s						
URZ	**Urewera**	**27.59**	**52**	P	P	06 46 27.4	-0.3
	30nm,1.2s,mb4.8,baz=135,slow=5.7,SNR=2.3						
URZ				LR	LR	06 56 39.6	
	comp=Z,4μm,19.0s,MS5.0,baz=209,slow=35						
STKA	**Stephens Creek**	**28.02**	**346**	*e*P	P	06 46 32.2	+0.5
	8.1nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**28.02**	**346**	P	P	06 46 31.8	+0.1
	6.2nm,0.9s,mb4.2,baz=167,slow=10,SNR=8.9						
STKA				LR	LR	06 55 25.5	
	comp=Z,2μm,18.5s,MS4.7,baz=175,slow=32						
QSPA	**South Pole Qui**	**30.70**	**180**	*e*P	P	06 46 55.4	+0.2
	11nm,0.9s,mb4.7						
FORT	**Forrest**	**32.04**	**324**	*e*P	P	06 47 06.9	-0.5
	804nm,0.7s						
NWAO	**Narrogin (SRO)**	**33.98**	**307**	P	P	06 47 24.2	-0.1
	6.1nm,0.9s,mb4.5,baz=152,slow=6.2,SNR=3.8						
NWAO				LR	LR	06 57 47.4	
	comp=Z,4μm,20.3s,MS5.2,baz=142,slow=30						
NWAO	**Narrogin (SRO)**	**33.98**	**307**	*e*P	P	06 47 24.3	-0.1
NWAO				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
MUN	**Mundaring**	**35.23**	**306**	*e*P	P	06 47 36.0	+0.9
	comp=Z,21nm,0.5s,mb5.3						
MUN	**Mundaring**	**35.23**	**306**	*e*P	P	06 47 36.0	+0.9
MUN				pmax	pmax		
	comp=Z,21nm,0.5s,mb5.3						
MAW	**Mawson**	**36.33**	**220**	LR	LR	07 01 35.4	
	comp=Z,2μm,21.6s,MS4.8,baz=112,slow=35						
ASAR	**Alice Springs**	**37.34**	**336**	P	P	06 47 52.3	-0.6
	comp=Z,15nm,0.8s,mb4.8,baz=167,slow=9.1,SNR=86						
ASAR				PcP	PcP	06 50 11.6	-1.0
	comp=Z,1.9nm,0.9s,baz=156,slow=2.7,SNR=4.3						
ASAR				LR	LR	07 00 42.2	
	comp=Z,1μm,19.2s,MS4.8,baz=165,slow=32						
ASPA	**Alice Springs**	**37.34**	**336**	⇑*i*P	P	06 47 52.5	-0.4
DZM	**Mont Dzumac**	**39.23**	**26**	P	P	06 48 09.1	+0.3
	comp=Z,12nm,0.9s,mb4.6,baz=183,slow=17,SNR=2.9						
CTA	**Charters Tower**	**39.33**	**355**	*e*P	P	06 48 10.3	+0.6
	comp=Z,11nm,0.8s,mb4.7						
CTA	**Charters Tower**	**39.33**	**355**	*e*P	P	06 48 10.3	+0.6
CTA				pmax	pmax		
	comp=Z,11nm,0.8s						
CTA	**Charters Tower**	**39.33**	**355**	P	P	06 48 10.2	+0.6
	comp=Z,13nm,0.8s,mb4.7,baz=191,slow=7.4,SNR=8.1						
CTA				LR	LR	07 02 41.4	
	comp=Z,3μm,18.6s,MS5.2,baz=182,slow=34						
CTAO	**Charters Tower**	**39.33**	**355**	*e*P	P	06 48 10.1	+0.4
CTAO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
CTAO				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.2						
CTAO	**Charters Tower**	**39.33**	**355**	*e*P	P	06 48 10.1	+0.4
	comp=Z,13nm,0.8s,mb4.7						
CTAO				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
WB2	**Warramunga Arr**	**40.87**	**338**	⇑*i*P	P	06 48 21.5	-0.8
WRA	**Warramunga Arr**	**40.88**	**338**	P	P	06 48 21.6	-0.8
	comp=Z,22nm,0.9s,mb4.8,baz=166,slow=7.1,SNR=92						
WRAB	**Tennant Creek**	**40.88**	**338**	*e*P	P	06 48 21.5	-0.9
WRAB				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.1						
WRAB				MLR	MLR		
	comp=Z,799nm,20.0s,MS4.6						
WRAB	**Tennant Creek**	**40.88**	**338**	*e*P	P	06 48 21.5	-0.9
	comp=Z,38nm,0.8s,mb5.1						
WRAB				LR	LR		
	comp=Z,799nm,20.0s,MS4.6						
SYO	**Syowa Base**	**42.34**	**210**	⇓P	P	06 48 32.8	-0.9
MBWA	**Marble Bar**	**43.67**	**318**	*e*P	P	06 48 44.3	-0.8
	comp=Z,17nm,1.1s,mb4.7						
MBWA				LR	LR		
	comp=Z,4μm,20.0s,MS5.3						
FITZ	**Fitzroy Crossi**	**44.70**	**327**	*e*P	P	06 48 53.0	-0.6
	comp=Z,12nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**44.70**	**327**	LR	LR	07 05 37.1	
	comp=Z,3μm,18.7s,MS5.2,baz=149,slow=34						
KAKA	**Kakadu**	**48.28**	**338**	*e*P	P	06 49 21.8	-0.1
	comp=Z,27nm,0.7s,mb5.4						
PMG	**Port Moresby**	**49.91**	**357**	*e*P	P	06 49 35.0	+0.5
PMG				pmax	pmax		
	comp=Z,18nm,0.8s						
PMG				MLR	MLR		
	comp=Z,2μm,20.0s						
PMG	**Port Moresby**	**49.91**	**357**	P	P	06 49 34.3	-0.1
	comp=Z,18nm,0.8s,mb5.2,baz=208,slow=5.9,SNR=4.5						
PMG				LR	LR	07 07 13.4	
	comp=Z,2μm,20.6s,MS5.0,baz=188,slow=32						
PMG	**Port Moresby**	**49.91**	**357**	*e*P	P	06 49 35.0	+0.5
	comp=Z,18nm,0.8s,mb5.2						
PMG				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
HNR	**Honiara**	**50.50**	**14**	LR	LR	07 06 39.0	
	comp=Z,2μm,20.1s,MS5.2,baz=12,slow=31						
TBI	**Tubuai**	**55.58**	**77**	*e*LQ		07 03 35.2	
TBI				*e*LR	LR	07 05 55.9	
	comp=Z,1μm,28.0s,baz=204						
PPT	**Papeete**	**60.40**	**74**	*e*LQ		07 05 41.0	
PPT				*e*LR	LR	07 08 09.4	
	comp=Z,1μm,26.2s,baz=210						
RKT	**Rikitea**	**63.12**	**90**

KMI				MLR	MLR		
	comp=Z,760nm,26.3s,MS5.0						
KMI	**Kunming**	**92.54**	**319**	P	**P**	**06 53 53.6**	**+2.5**
	comp=Z,9.0nm,0.6s,mb5.4						
KMI				pP	pP	06 53 56.2	+1.9
KMI				PP	PP	06 57 38.4	+3.2
KMI				SKS	SKS	07 04 27.7	-0.3
KMI				S	S	07 04 56.4	+3.9
KMI				sS		07 05 02.8	
KMI				SS	SS	07 11 09.9	+1.8
KMI				LR	LR		
	comp=Z,760nm,26.3s,MS5.0						
NJ2	**Nanjing**	**94.56**	**334**	*e*P	**P**	**06 54 00.4**	**+0.2**
NJ2				AP	pP	06 54 05.3	+1.8
NJ2				XP	sP	06 54 07.4	+2.9
NJ2				PP	PP	06 57 50.4	-0.2
NJ2				S	S	07 05 09.0	-0.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,2μm,6.3s						
NJ2				LR	LR		
	comp=N,2μm,24.7s,MS5.5						
NJ2				LR	LR		
	comp=E,1μm,22.2s,MS5.5						
NJ2				LR	LR		
	comp=Z,3μm,23.7s,MS5.7						
MJAR	**Matsushiro Arr**	**96.04**	**351**	LR	LR	07 32 06.6	
	comp=Z,213nm,21.8s,MS4.6,baz=155,slow=32						
LPAZ	**La Paz**	**98.64**	**144**	LR	LR	07 29 17.1	
	comp=Z,432nm,21.9s,MS4.9,baz=164,slow=30						
WMQ	**Urumqi**	**114.65**	**315**	PKP	PKPdf	06 59 20.9	-0.6
WMQ				XPKP		06 59 27.9	
WMQ				PP	PP	07 00 23.4	+2.4
WMQ				PKS	PKS	07 02 56.4	+2.2
WMQ				SKS	SKS	07 06 29.9	+19
WMQ				PP	PP		
	comp=Z,40nm,4.6s						
WMQ				LR	LR		
	comp=N,175nm,19.4s,MS5.0						
WMQ				LR	LR		
	comp=E,280nm,18.2s,MS5.0						
WMQ				LR	LR		
	comp=Z,323nm,26.6s						
MKAR	**Makanchi Array**	**119.17**	**314**	PKP	PKPdf	06 59 28.4	-1.9
	comp=Z,0.5nm,0.8s,baz=76,slow=5.0,SNR=5.0						
TXAR	**Lajitas Array**	**123.31**	**88**	PKP	PKPdf	06 59 36.9	-1.8
	comp=Z,0.4nm,0.9s,baz=252,slow=2.9,SNR=3.8						
SRU	**San Rafael**	**127.57**	**75**	*e*PKPdf	PKPdf	06 59 46.2	-0.4
BVAR	**Borovoye Array**	**128.73**	**311**	PKP	PKPdf	06 59 47.5	-0.9
	comp=Z,0.4nm,0.5s,baz=124,slow=5.2,SNR=4.5						
ILAR	**Eielson Array**	**132.79**	**32**	PKhKP		06 59 48.4	
	comp=Z,0.3nm,0.9s,baz=213,slow=6.8,SNR=3.2						
ILAR				PKP	PKPdf	06 59 53.2	-2.7
	comp=Z,0.8nm,1.0s,baz=270,slow=4.5,SNR=8.5						
INK	**Inuvik**	**139.04**	**34**	PKhKP		06 59 58.3	
	baz=214,slow=7.3						
INK				PKP	PKPdf	07 00 06.8	-0.5
	comp=Z,0.9nm,0.8s,baz=169,slow=1.5,SNR=4.1						
INK	**Inuvik**	**139.04**	**34**	PKP		06 59 58.3	
INK				*e*PKPdf	PKPdf	07 00 07.0	-0.2
YKA	**Yellowknife Ar**	**141.81**	**48**	PKhKP		07 00 05.6	
	comp=Z,0.7nm,0.9s,baz=225,slow=3.0,SNR=13						
YKA				PKP	PKPdf	07 00 11.4	-0.7
	comp=Z,0.5nm,0.8s,baz=243,slow=2.0						
YKA	**Yellowknife Ar**	**141.81**	**48**	PKP		07 00 05.6	
YKA				PKP	PKPdf	07 00 11.4	-0.7
OBN	**Obninsk**	**144.80**	**293**	κ *i*PKHKP		07 00 15.6	
OBN				*i*		07 00 20.6	
OBN				pmax	pmax		
	comp=Z,43nm,1.3s						
OBN	**Obninsk**	**144.80**	**293**	*e*PKPdf	PKPdf	07 00 15.7	-1.8
OBN				LR	LR		
	comp=Z,71nm,20.0s,MS4.4						
AKASG	**Malin Array Be**	**145.74**	**282**	PKPbc	PKPbc	07 00 17.8	+0.8
	comp=Z,4.9nm,0.8s,baz=108,slow=2.3,SNR=16						
AKASG	**Malin Array Be**	**145.74**	**282**	PKPbc	PKPbc	07 00 17.8	+0.8
DIVS	**Divcibare**	**146.07**	**266**	⇓ *i*(P)	PKPbc	07 00 19.2	+1.2
KOLS	**Kolonicke sedl**	**148.15**	**275**	*e*PKP	PKPdf	07 00 26.3	+3.0
KOLS				*e*		07 00 47.9	
FCC	**Fort Churchill**	**148.48**	**63**	*e*PKHKP		07 00 24.5	
MNK	**Minsk**	**148.65**	**287**	*e*PKHKP		07 00 24.0	
PSZ	**Piszkesteto**	**148.71**	**271**	*e*PKHKP		07 00 27.7	
VYHS	**Vyhne**	**149.62**	**271**	*e*PKP	PKPdf	07 00 30.1	+4.4
VYHS				*e*		07 00 50.4	
VYHS				*e*		07 01 04.3	
OJC	**Ojcow**	**150.21**	**275**	*e*PKP	PKPdf	07 00 31.0	+4.5
SUW	**Suwalki**	**150.68**	**283**	*e*PKIKP	PKPdf	07 00 31.6	+4.5
OKC	**Ostrava-Krasne**	**150.82**	**273**	*e*PKPbc	PKPdf	07 00 34.0	+6.6
JOF	**Joensuu**	**150.94**	**304**	*e*p	PKPdf	07 00 27.5	+0.3
	comp=Z,5.2nm,0.9s						
MORC	**Moravsky Berou**	**151.09**	**272**	*e*PKIKP	PKPdf	07 00 31.4	+3.6
DPC	**Dobruska-Polom**	**152.06**	**272**	*e*PKPbc	PKPdf	07 00 35.4	+6.1
DPC				*e*x	x	07 23 52.9	
UPC	**Upice**	**152.32**	**272**	*e*PKPab	PKPab	07 00 46.8	+1.0
GERES	**GERESS Array B**	**152.47**	**267**	PKPbc	PKPdf	07 00 35.5	+5.5
	comp=Z,1.7nm,0.8s,baz=135,slow=1.9,SNR=10.0						
GERES				PKPab	PKPab	07 00 47.2	+0.7
	comp=Z,2.2nm,0.8s,baz=153,slow=3.0,SNR=6.2						
RES	**Resolute Bay**	**152.54**	**31**	*e*PKIKP	PKPdf	07 00 34.7	+5.4
FINES	**FINESS Array B**	**152.68**	**299**	PKPbc	PKPdf	07 00 35.5	+5.7
	comp=Z,5.2nm,0.8s,baz=72,slow=6.0,SNR=17						
FINES				PKPab	PKPab	07 00 46.8	-0.2
	comp=Z,4.5nm,0.7s,baz=90,slow=3.8,SNR=6.7						
KHC	**Kasperske Hory**	**152.72**	**268**	*e*PKIKP	PKPdf	07 00 26.0	-4.2
KHC				*e*		07 00 41.2	
KHC				*e*		07 00 52.5	
KHC				*e*S	SS	07 23 58.1	+8.4
KHC	**Kasperske Hory**	**152.72**	**268**	*e*PKPdf	PKPdf	07 00 26.0	-4.2
KHC				PKPbc	PKPdf	07 00 41.2	+11
KHC				PKPab	PKPab	07 00 52.5	+5.0
KHC				*e*SS	SS	07 23 58.1	+8.4
PRU	**Pruhonice**	**152.75**	**270**	*e*SS	SS	07 23 56.6	+6.6
KAF	**Kangasniemi**	**152.82**	**300**	*e*p	PKPdf	07 00 35.4	+5.4
	comp=Z,3.4nm,0.8s						
KAF	**Kangasniemi**	**152.82**	**300**	*e*PKIKP	PKPdf	07 00 35.4	+5.4
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PVCC	**Panska Ves**	**153.07**	**271**	*e*SS	SS	07 24 04.6	+11
NKC	**Novy Kostel**	**153.97**	**269**	*e*SS	SS	07 24 13.3	+10
ESDC	**Sonseca Array**	**154.05**	**232**	PKPbc	PKPdf	07 00 42.2	+10
	comp=Z,0.2nm,0.4s,baz=144,slow=1.2,SNR=4.8						
ESDC				PKPab	PKPab	07 00 52.3	-1.1
	baz=162,slow=3.7						
KEV	**Kevo**	**154.26**	**317**	*e*p	PKPdf	07 00 38.8	+7.0
	comp=Z,15nm,1.1s						
KEV	**Kevo**	**154.26**	**317**	*e*PKIKP	PKPdf	07 00 38.8	+7.0
KEV				pmax	pmax		
	comp=Z,15nm,1.1s						
CLL	**Collm**	**154.33**	**271**	*e*PKIKP	PKPdf	07 00 33.0	+0.6
CLL				*e*PKP2	PKPab	07 00 55.0	+0.8
CLL				*e*		07 01 18.0	
CLL				*e*		07 01 31.0	
MOX	**Moxa**	**154.65**	**269**	PKP2	PKPab	07 00 58.0	+2.4
MOX	**Moxa**	**154.65**	**269**	PP2		07 00 18.0	
MOX				L		07 28 05.0	
ARCES	**ARCESS Array B**	**154.77**	**317**	PKPbc	PKPdf	07 00 38.5	+6.1
	baz=67,slow=3.7						
ARCES				PKPab	PKPab	07 00 53.4	-2.1
	comp=Z,3.6nm,0.9s,baz=76,slow=7.4,SNR=4.3						
ARCES	**ARCESS Array B**	**154.77**	**317**	PKPbc	PKPdf	07 00 38.5	+6.1
ARCES				PKPab	PKPab	07 00 53.4	-2.1
NOA	**NORSAR Array B**	**159.40**	**293**	PKPab	PKPab	07 01 16.4	+0.7
	comp=Z,0.1nm,0.5s,baz=104,slow=3.0,SNR=2.9						

MEX 24 06:42:27.4±1.4, 18.20N×95.26W, h68km±22km, MD3.7, Veracruz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVV	**El Vigia**	**0.27**	**341**	*e*P	P	06 42 36.0	-2.2
EVV				*e*S	S	06 42 45.0	-1.2
CMIG	**Matias Romero**	**1.16**	**162**	*i* P	P	06 42 46.8	-1.4
CMIG				*i* S	S	06 43 00.8	-2.9
VHO	**Vista Hermosa**	**1.80**	**232**	*e*P	P	06 42 56.2	-0.7
VHO				*i* S	S	06 43 16.2	-2.4

*IDC **24** 07:11:25.4±0.5, 20.68S×174.04W, mb4.6/20, mb1 4.8/21, mb1mx4.8/25, mbtmp4.6/21, ML4.7/1, MS4.2/13, Ms1 4.3/13, ms1mx4.0/34, Error ellipse: s-maj=22.1km s-min=12.9km az=135.0*

*MOS **24** 07:11:29.5±1.3, 20.74S×174.09W, h33km, mb5.3/17, MS4.9/10, Error ellipse: s-maj=13.9km s-min=9.7km az=50.3*

*BJI **24** 07:11:30.1, 20.54S×174.06W, h32km, mB5.4, mb4.8, Ms5.2, Msz4.9*

*HRVD **24** 07:11:30.5±0.5, 21.01S×173.40W, h19km±1km, MW4.9/43, Centroid moment Tensor Solution. LP body waves: s9,c11; Mantle waves: s43,c58; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr2.60±.29; Mθθ-0.29±.18; Mφφ-2.30±.19; Mrθ1.36±.53; Mθφ-0.52±.14; Mφr0.33±.41; Best double couple: M0 2.83×1016 NP1:φs176°, δ41°, λ59°. NP2:φs35°, δ56°, λ114°. Principal axes: T 3.141, Plg69°, Azm357°; N -.617, Plg20°, Azm201°; P -2.518, Plg8°, Azm108°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 07:11:30.5±0.2, 20.74S×174.05W, mb5.2/33, MS5.0/2 Error ellipse: s-maj=8.4km s-min=4.5km az=137.0*

ISC 24 07:11:28.8±0.2, 20.78S±0.06×174.10W±0.06, h33km, h33km±.6km: pP-P, n268, σ0 92/136, mb4.9/57, MS4.7/25, 29C-2D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.18**	**18**	*e*P	**Pn**	**07 13 06.5**	**-7.8**
AFI				pmax	pmax		
	comp=Z,188nm,1.0s						
AFI	**Afiamalu**	**7.18**	**18**	Pn	**Pn**	**07 13 07.2**	**-7.1**
	comp=Z,11nm,0.3s,baz=31,slow=12,SNR=17						
AFI				Sn	**Sn**	**07 14 22.4**	**-13**
	comp=Z,14nm,0.3s,baz=94,slow=21,SNR=3.1						
AFI	**Afiamalu**	**7.18**	**18**	*e*Pn	**Pn**	**07 13 06.5**	**-7.9**
	comp=Z,188nm,1.0s						
RAO	**Raoul Island**	**9.12**	**202**	Pn	**P**	**07 13 37.1**	**-4.1**
	comp=Z,224nm,0.3s,baz=102,slow=22,SNR=7.8						
RAO				Sn	**Sn**	**07 15 15.9**	**-7.8**
	comp=Z,82nm,0.3s,baz=283,slow=23,SNR=4.0						
RAO				LR	LR	07 16 44.7	
	comp=Z,629nm,18.5s,baz=35,slow=35						
RAO	**Raoul Island**	**9.12**	**202**	*e*P	**P**	**07 13 39.3**	**-1.9**
RAR	**Rarotonga**	**13.39**	**94**	LR	LR	07 18 52.5	
	comp=Z,2μm,18.2s,baz=286,slow=34						
RAR	**Rarotonga**	**13.39**	**94**	*e*P	**P**	**07 14 24.1**	**-15**
DZM	**Mont Dzumac**	**18.16**	**262**	P	**P**	**07 15 43.5**	**+3.1**
	comp=Z,0.9nm,0.3s,baz=71,slow=20,SNR=9.6						
DZM				LR	LR	07 21 24.1	
	comp=Z,698nm,21.5s,baz=184,slow=33						
URZ	**Urewera**	**19.01**	**202**	P	**P**	**07 15 50.5**	**0.0**
	comp=Z,2.3nm,0.3s,baz=3.9,slow=7.6,SNR=24						
TBI	**Tubuai**	**22.97**	**101**	*e*LR	LR	07 21 13.5	
	comp=Z,1μm,30.5s,baz=274						
PPT	**Papeete**	**23.38**	**86**	*e*LQ		07 20 35.0	
PPT				*e*LR	LR	07 21 21.5	
	comp=Z,1μm,26.2s,baz=244						
RPZ	**Rata Peaks**	**26.01**	**205**	P	**P**	**07 17 00.0**	**-0.5**
	comp=Z,22nm,0.7s,mb4.8,baz=274,slow=4.1,SNR=7.0						
HNR	**Honiara**	**27.43**	**290**	LR	LR	07 26 27.7	
	comp=Z,295nm,20.9s,MS3.8,baz=39,slow=33						
TAOE	**Nuku Hiva Isla**	**34.81**	**75**	*e*LR	LR	07 27 07.1	
RKT	**Rikitea**	**36.29**	**101**	*e*LR	LR	07 27 23.4	
	comp=Z,867nm,30.2s,baz=267						
CTA	**Charters Tower**	**37.10**	**264**	P	**P**	**07 18 37.6**	**-0.5**
	comp=Z,4.4nm,0.5s,mb4.5,baz=85,slow=13,SNR=5.1						
CTAO	**Charters Tower**	**37.10**	**264**	*e*P	**P**	**07 18 37.5**	**-0.6**
CTAO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
CTAO	**Charters Tower**	**37.10**	**264**	*e*P	**P**	**07 18 37.5**	**-0.7**
	comp=Z,5.5nm,0.5s,mb4.6						
PMG	**Port Moresby**	**38.97**	**281**	LR	LR	07 33 04.5	
	comp=Z,538nm,18.3s,MS4.4,baz=55,slow=33						
STKA	**Stephens Creek**	**40.97**	**245**	P	**P**	**07 19 09.1**	**-1.2**
	comp=Z,3.5nm,0.4s,mb4.3,baz=97,slow=9.3,SNR=8.1						
STKA				LR	LR	07 34 30.8	
	comp=Z,478nm,19.0s,MS4.4,baz=29,slow=34						
STKA	**Stephens Creek**	**40.97**	**245**	*e*P	**P**	**07 19 10.1**	**-0.1**
ASAR	**Alice Springs**	**48.01**	**256**	P	**P**	**07 20 06.2**	**-0.8**
	comp=Z,8.2nm,0.8s,mb4.8,baz=93,slow=8.1,SNR=66						
ASAR				PcP	PcP	07 21 36.3	+1.3
	comp=Z,3.8nm,0.9s,baz=97,slow=5.7,SNR=4.7						
ASAR				LR	LR	07 39 23.3	
	comp=Z,273nm,18.0s,MS4.3,baz=100,slow=35						
ASPA	**Alice Springs**	**48.01**	**256**	*e*P	**P**	**07 20 06.3**	**-0.7**
WB2	**Warramunga Arr**	**48.16**	**261**	*e*P	**P**	**07 20 07.0**	**-1.2**
WRAB	**Tennant Creek**	**48.17**	**261**	*i* P	**P**	**07 20 07.5**	**-0.7**
WRAB	**Tennant Creek**	**48.17**	**261**	*e*P	**P**	**07 20 06.4**	**-1.9**
	comp=Z,69nm,1.6s,mb5.4						
WRA	**Warramunga Arr**	**48.18**	**261**	P	**P**	**07 20 07.0**	**-1.3**
	comp=Z,5.3nm,0.9s,mb4.6,baz=96,slow=5.9,SNR=19						
WRA				PcP	PcP	07 21 36.7	+1.1
	comp=Z,1.3nm,0.8s,baz=97,slow=3.7,SNR=5.0						
KAKA	**Kakau**	**51.63**	**270**	*e*P	**P**	**07 20 33.8**	**-1.0**
	comp=Z,14nm,0.7s,mb5.0						
FORT	**Forrest**	**52.54**	**247**	*e*P	**P**	**07 20 40.4**	**-1.0**
	comp=Z,497nm,0.7s						
FITZ	**Fitzroy Crossi**	**56.61**	**262**	*e*P	**P**	**07 21 10.7**	**-0.5**
	comp=Z,20nm,1.4s,mb4.9						
FITZ	**Fitzroy Crossi**	**56.61**	**262**	P	**P**	**07 21 10.8**	**-0.4**
	comp=Z,7.7nm,0.6s,mb4.9,baz=156,slow=4.2,SNR=10						
SBA	**Scott Base**	**57.86**	**185**	*e*P	**P**	**07 21 20.9**	**+1.5**
SBA				pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1						
SBA	**Scott Base**	**57.86**	**185**	*e*P	**P**	**07 21 20.9**	**+1.5**
	comp=Z,22nm,1.1s,mb5.1						
VNDA	**Vanda**	**57.99**	**186**	*e*P	**P**	**07 21 20.8**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,34nm,1.8s						
VNDA	**Vanda**	**57.99**	**186**	P	**P**	**07 21 20.7**	**+0.5**
	comp=Z,5.4nm,1.0s,mb4.5,baz=12,slow=7.1,SNR=19						
VNDA				LR	LR	07 43 54.2	
	comp=Z,238nm,18.1s,MS4.3,baz=134,slow=34						
VNDA	**Vanda**	**57.99**	**186**	*e*P	**P**	**07 21 20.8**	**+0.6**
	comp=Z,34nm,1.8s,mb5.1						
KLBR	**Kellerberrin**	**61.24**	**245**	*e*P	**P**	**07 21 43.0**	**-0.2**
	comp=Z,4μm,1.7s						
MBWA	**Marble Bar**	**61.35**	**257**	*e*P	**P**	**07 21 43.0**	**-1.1**
	comp=Z,16nm,0.8s,mb5.2						
NWAO	**Narrogin (SRO)**	**61.50**	**243**	*e*P	**P**	**07 21 44.7**	**-0.3**
NWAO				pmax	pmax		
	comp=Z,35nm,1.4s						
NWAO	**Narrogin (SRO)**	**61.50**	**243**	*e*P	**P**	**07 21 44.7**	**-0.3**
	comp=Z,35nm,1.4s,mb5.3						
MUN	**Mundaring**	**62.49**	**244**	*e*P	**P**	**07 21 52.1**	**+0.5**
	comp=Z,127nm,1.1s,mb6.0						
MUN	**Mundaring**	**62.49**	**244**	*e*P	**P**	**07 21 52.1**	**+0.5**
MUN				pmax	pmax		
	comp=Z,127nm,1.1s,mb6.0						
CASY	**Casey**	**65.28**	**206**	*e*P	**P**	**07 22 10.3**	**+1.0**
QSPA	**South Pole Qui**	**69.29**	**180**	*e*P	**P**	**07 22 35.0**	**+0.6**
	comp=Z,42nm,1.2s,mb5.2						
MIR	**Mirnyy**	**72.28**	**205**	*e*P	**P**	**07 22 52.0**	**-0.6**
MIR				pmax	pmax		
	comp=Z,51nm,1.6s,mb5.2						
MJAR	**Matsushiro Arr**	**72.65**	**321**	P	**P**	**07 22 54.7**	**-0.6**
	comp=Z,4.9nm,0.8s,mb4.5,baz=159,slow=5.9,SNR=13						
MJAR				LR	LR	07 50 26.0	
	comp=Z,132nm,18.4s,MS4.2,baz=105,slow=32						
MAT	**Matsushiro**	**72.65**	**321**	*e*P	**P**	**07 22 55.0**	**-0.4**
MAT				*e*S	S	07 32 06.0	-11
MAT	**Matsushiro**	**72.65**	**321**	P	**P**	**07 22 55.0**	**-0.4**
ASAJ	**Asahikawa**	**75.77**	**329**	P	**P**	**07 23 11.8**	**-1.4**
	comp=Z,4.2nm,0.6s,mb4.5,baz=188,slow=14,SNR=3.0						
LRV	**Little Rabbit**	**75.83**	**42**	*e*P	**P**	**07 23 13.7**	**0.0**
KSM	**Kuching**	**77.07**	**277**	*e*P	**P**	**07 23 21.8**	**+0.7**
CMB	**Columbia Colle**	**77.24**	**41**	*e*P	**P**	**07 23 20.8**	**-0.7**
CMB				*e*	pP	07 23 31.8	-0.1
CMB				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
CMB	**Columbia Colle**	**77.24**	**41**	*e*P	**P**	**07 23 20.8**	**-0.8**
	comp=Z,24nm,1.2s,mb5.0						
CMB				*e*	pP	07 23 31.8	-0.1
YSS	**Yuzh-Sakhalins**	**77.83**	**331**	*e*P	**P**	**07 23 25.2**	**+0.6**
YSS				*e*	pP	07 23 35.6	+0.6
YSS				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.1						
YSS	**Yuzh-Sakhalins**	**77.83**	**331**	*e*P	**P**	**07 23 25.2**	**+0.6**
	comp=Z,31nm,1.3s,mb5.1						
YSS				*e*	pP	07 23 35.6	+0.6
OMM	**Old Mammoth Mi**	**77.84**	**42**	*e*P	**P**	**07 23 24.7**	**-0.1**
MTUM	**Tungsten Hills**	**77.94**	**42**	*e*P	**P**	**07 23 25.3**	**-0.1**
MTUM				*e*	pP	07 23 35.9	+0.1
YBH	**Yreka Blue Hor**	**78.28**	**37**	P	**P**	**07 23 26.4**	**-0.7**
	comp=Z,6.5nm,1.1s,mb4.5,baz=190,slow=6.1,SNR=6.8						
WCN	**Washoe City**	**78.42**	**40**	*e*P	**P**	**07 23 27.5**	**-0.5**
WCN				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.2						
WCN	**Washoe City**	**78.42**	**40**	*e*P	**P**	**07 23 27.5**	**-0.5**
	comp=Z,42nm,1.3s,mb5.2						
HUMO	**Hull Mountain**	**78.72**	**36**	*e*P	**P**	**07 23 29.8**	**+0.2**
	comp=Z,11nm,1.3s,mb4.6						
NVAR	**Mina Array Bea**	**78.76**	**41**	P	**P**	**07 23 29.8**	**-0.1**
	comp=Z,18nm,1.0s,mb5.0,baz=206,slow=6.5,SNR=67						
MNV	**Mina**	**78.86**	**42**	*e*P	**P**	**07 23 29.7**	**-0.7**
MNV				*e*	pP	07 23 40.5	-0.3
MNV				pmax	pmax		
	comp=Z,52nm,1.3s,mb5.3						
MNV	**Mina**	**78.86**	**42**	*e*P	**P**	**07 23 29.6**	**-0.8**
	comp=Z,52nm,1.3s,mb5.3						
MNV				*e*	pP	07 23 40.5	-0.4
TPH	**Tonopah**	**79.22**	**42**	*e*P	**P**	**07 23 32.1**	**-0.3**
TPH				pmax	pmax		
	comp=Z,150nm,2.0s,mb5.6						
TPH	**Tonopah**	**79.22**	**42**	*e*P	**P**	**07 23 32.1**	**-0.3**
	comp=Z,150nm,2.0s,mb5.6						
NEN	**Nelson**	**79.34**	**45**	*e*P	**P**	**07 23 32.6**	**-0.5**
MOD	**Modoc**	**79.75**	**38**	*e*P	**P**	**07 23 34.3**	**-0.8**
	comp=Z,19nm,1.3s,mb4.9						
MOD				*e*	pP	07 23 45.0	-0.6
BMN	**Battle Mountai**	**80.65**	**40**	*e*P	**P**	**07 23 40.0**	**0.0**
	comp=Z,45nm,1.8s,mb5.1						
SSE	**Sheshan**	**80.70**	**308**	*e*P	**P**	**07 23 40.0**	**-0.5**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,47nm,3.5s						
SSE	**Sheshan**	**80.70**	**308**	*e*P	**P**	**07 23 40.0**	**-0.5**
	comp=Z,28nm,0.7s,mb5.3						
WVOR	**Wild Horse Val**	**81.05**	**38**	*e*P	**P**	**07 23 41.2**	**-0.8**
WVOR				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
WVOR	**Wild Horse Val**	**81.05**	**38**	*e*P	**P**	**07 23 41.2**	**-0.8**
	comp=Z,16nm,1.2s,mb4.8						
ARUT	**Antelope Range**	**81.48**	**44**	*e*P	**P**	**07 23 44.5**	**+0.1**
ELK	**Elko**	**82.05**	**41**	*e*P	**P**	**07 23 46.5**	**-0.8**
ELK				*e*	pP	07 23 56.5	-1.2
ELK				pmax	pmax		
	comp=Z,33nm,1.7s						
ELK	**Elko**	**82.05**	**41**	*e*P	**P**	**07 23 46.5**	**-0.8**
	comp=Z,34nm,1.7s,mb5.0						
ELK				*e*	pP	07 23 56.5	-1.2
MAW	**Mawson**	**82.51**	**199**	P	**P**	**07 23 50.5**	**+1.4**
	comp=Z,11nm,0.9s,mb4.9,baz=98,slow=6.5,SNR=9.9						
MVU	**Marysvale**	**82.69**	**44**	*e*P	**P**	**07 23 51.0**	**+0.4**
	comp=Z,28nm,1.4s,mb5.1						
MSU	**Marysvale**	**82.71**	**44**	*e*P	**P**	**07 23 51.4**	**+0.6**
MSU				*e*	pP	07 24 02.5	+1.2
MDJ	**Mudanjiang**	**82.89**	**323**	P	**P**	**07 23 52.4**	**+0.9**
MDJ				AP	pP	07 24 02.0	0.0
MDJ				XP	sP	07 24 05.8	+0.3
MDJ				S	S	07 34 09.9	+3.5
MDJ				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,157nm,5.4s						
MDJ				LR	LR		
	comp=N,180nm,12.9s,MS4.7						
MDJ				LR	LR		
	comp=E,160nm,17.4s,MS4.7						
MDJ				LR	LR		
	comp=Z,309nm,14.2s,MS4.8						
NJ2	**Nanjing**	**82.90**	**308**	*e*P	**P**	**07 23 52.3**	**+0.4**
NJ2				AP	pP	07 24 02.8	+0.4
NJ2				XP	sP	07 24 06.8	+1.0
NJ2				PP	PP	07 27 05.1	+0.8
NJ2				S	S	07 34 08.0	+1.2
NJ2				XS		07 34 25.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,480nm,4.9s						
NJ2				LR	LR		
	comp=N,870nm,21.0s,MS5.2						
NJ2				LR	LR		
	comp=E,674nm,20.4s,MS5.2						
NJ2				LR	LR		
	comp=Z,1μm,24.4s,MS5.1						
HAWA	**Hanford**	**83.05**	**35**	*e*P	**P**	**07 23 52.5**	**+0.1**
	comp=Z,4.0nm,1.8s,mb4.2						
HAWA				*e*	pP	07 24 03.1	+0.3
DUG	**Dugway**	**83.24**	**43**	*e*P	**P**	**07 23 53.4**	**-0.1**
DUG				*e*		07 24 00.8	
DUG				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
DUG	**Dugway**	**83.24**	**43**	*e*P	**P**	**07 23 53.4**	**-0.1**
	comp=Z,7.2nm,1.3s,mb4.5						
DUG				*e*		07 24 00.8	
BMO	**Blue Mountains**	**83.30**	**37**	*e*P	**P**	**07 23 53.2**	**-0.5**
	comp=Z,40nm,1.8s,mb5.1						
BMO				*e*	pP	07 24 03.3	-0.9
TMUT	**Trail M

IMA	Indian Mountai	87.95	8	eP	P	07 24 16.7	+0.5
	comp=Z,84nm,1.6s,mb5.7						
VNA2	Neumayer--Watz	88.07	176	e	P	07 24 18.9	+2.2
VNA2	Neumayer--Watz	88.07	176	e	P	07 24 20.8	+4.1
VNA2	Neumayer--Watz	88.07	176	e	P	07 24 23.9	+7.2
VNA2	Neumayer--Watz	88.07	176	P	P	07 24 16.7	0.0
VNA2				e		07 24 18.9	
VNA2				e		07 24 20.8	
VNA2				e		07 24 23.9	
VNA1	Neumayer--Stat	88.28	175	e	P	07 24 19.9	+2.3
VNA1	Neumayer--Stat	88.28	175	e	P	07 24 21.8	+4.2
VNA1	Neumayer--Stat	88.28	175	e	P	07 24 25.9	+8.3
VNA1	Neumayer--Stat	88.28	175	⇑iP	P	07 24 18.5	+0.9
VNA1				e		07 24 19.9	
VNA1				e		07 24 21.8	
VNA1				e		07 24 25.9	
BJI	Beijing	88.69	314	eP	P	07 24 22.5	+2.2
BJI				AMB	AMB		
	comp=Z,11nm,1.7s,mb4.9						
BJI				LR	LR		
	comp=N,473nm,19.2s,MS5.0						
BJI				LR	LR		
	comp=E,248nm,17.7s,MS5.0						
BJI				LR	LR		
	comp=Z,455nm,20.6s,MS4.9						
BJI	Beijing	88.69	314	eP	P	07 24 22.5	+2.2
	comp=Z,11nm,1.7s,mb4.9						
BJI				LR	LR		
	comp=Z,460nm,20.6s,MS4.9						
DAWY	Dawson	88.77	15	eP	P	07 24 20.5	+0.4
BILL	Bilibino	89.73	353	eP	P	07 24 24.9	+0.3
BILL				e	pP	07 24 36.3	+1.2
BILL						07 34 44.0	
BILL				SS	SS	07 41 13.0	+0.7
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.9						
BILL				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.6						
BILL	Bilibino	89.73	353	eP	P	07 24 25.4	+0.8
	comp=Z,13nm,1.6s,mb5.0						
GYA	Guiyang	89.98	298	⇑iP	P	07 24 29.0	+2.2
GYA				AP	pP	07 24 33.3	-4.0
GYA				PP	PP	07 28 04.0	+1.8
GYA				S	S	07 35 19.3	+4.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,4.0s						
GYA				LR	LR		
	comp=N,480nm,19.8s,MS5.0						
GYA				LR	LR		
	comp=E,390nm,18.6s,MS5.0						
GYA				LR	LR		
	comp=Z,570nm,20.0s,MS5.0						
EDM	Edmonton	90.39	32	eP	P	07 24 27.6	-0.4
EDM				e	pP	07 24 38.0	-0.5
XAN	Xi'an	91.23	306	P	P	07 24 30.3	-2.0
XAN				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.5						
HHC	Hu-ho-hao-te	92.19	313	eP	P	07 24 37.6	+1.0
HHC				AP	pP	07 24 47.3	+0.2
HHC				XP	sP	07 24 53.4	+2.9
HHC				PP	PP	07 28 22.1	+2.6
HHC				SKS	SKS	07 35 06.5	-7.9
HHC				S	S	07 35 33.9	-0.2
HHC				XS		07 35 51.8	
HHC				PS	PS	07 36 51.3	-2.7
HHC				SS	SS	07 41 44.4	-3.4
HHC				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.4						
HHC				AMB	AMB		
	comp=Z,89nm,5.6s						
HHC				LR	LR		
	comp=N,286nm,19.0s,MS4.8						
HHC				LR	LR		
	comp=E,220nm,20.6s,MS4.8						
HHC				LR	LR		
	comp=Z,182nm,20.0s,MS4.5						
JTS	JuntasAbangare	92.80	80	iP	P	07 24 39.5	-0.5
INK	Inuvik	93.62	14	P	P	07 24 42.6	+0.1
	comp=Z,2.9nm,0.9s,mb4.7,baz=205,slow=5.9,SNR=11						
CMAR	Chiang Mai Arr	93.66	288	P	P	07 24 46.1	+2.3
	comp=Z,0.8nm,0.4s,mb4.5,baz=117,slow=6.4,SNR=8.6						
CMAR				LR	LR	08 04 26.4	
	comp=Z,51nm,18.3s,MS4.0,baz=160,slow=34						
LVC	Limon Verde	95.26	116	LR	LR	07 58 08.2	
	comp=Z,181nm,18.6s,MS4.6,baz=305,slow=29						
YKA	Yellowknife Ar	95.27	24	P	P	07 24 49.6	-0.5
	comp=Z,1.3nm,0.8s,mb4.4,baz=235,slow=4.1,SNR=26						
ULN	Ulaanbaatar	97.98	318	iP	P	07 25 03.7	+0.9
SONM	Songino Array	98.38	318	P	P	07 25 06.2	+1.6
	comp=Z,0.3nm,0.6s,mb4.0,baz=90,slow=2.5,SNR=5.2						
LPAZ	La Paz	98.56	111	LR	LR	08 00 55.5	
	comp=Z,152nm,19.4s,MS4.5,baz=55,slow=30						
MKAR	Makanchi Array	114.05	313	PKiKP		07 30 06.7	
	comp=Z,1.7nm,0.8s,baz=67,slow=2.8,SNR=17						
AAK	Ala-Archa	119.34	308	iPKIKP	PKPdf	07 30 15.6	-4.8
SVE	Sverdlovsk	126.27	326	ePKIKP	PKPdf	07 30 30.9	-2.4
SVE				e		07 30 40.6	
ARU	Arti	127.48	326	iPKIKP	PKPdf	07 30 32.0	-3.7
ARU				e		07 32 33.7	
ARU				e		07 37 40.2	
ARU				eSS	SS	07 49 39.0	-1.4
ARCES	ARCESS Array B	129.81	351	PKP	PKPdf	07 30 37.0	-2.8
	comp=Z,1.9nm,0.7s,baz=288,slow=2.9,SNR=5.3						
FINES	FINESS Array B	137.00	346	PKP	PKPdf	07 30 49.1	-4.2
	comp=Z,2.0nm,0.9s,baz=18,slow=6.0,SNR=6.7						
OBN	Obninsk	138.69	334	ePKIKP	PKPdf	07 30 55.9	-0.8
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NB2	NORSAR Subarra	139.60	356	PKPabc	PKPdf	07 30 54.3	-3.9
	comp=Z,3.1nm,1.1s,baz=11,slow=3.8						
NB2	NORSAR Subarra	139.60	356	⇑PKPab	PKPdf	07 30 54.3	-3.9
NOA	NORSAR Array B	139.60	356	PKP	PKPdf	07 30 55.0	-3.2
	comp=Z,0.7nm,0.9s,baz=312,slow=2.8,SNR=3.3						
NOA	NORSAR Array B	139.60	356	PKP	PKPdf	07 30 55.0	-3.2
GNI	Garni	141.74	309	iPKIKP	PKPdf	07 30 59.8	-2.8
KMBO	Kilima Mbogo	142.38	238	PKP	PKPdf	07 30 58.8	-5.7
	comp=Z,0.7nm,0.5s,baz=233,slow=13,SNR=3.5						
CLDR	Caldiran	142.66	308	eP	PKPdf	07 30 58.4	-5.8
SOC	Sochi	143.83	317	iPKIKP	PKPdf	07 31 04.2	-1.8
SOC				e		07 34 23.4	
SOC				e		07 38 02.5	
SOC				eSS	SS	07 52 51.7	-4.2
SOC				eSSS	SSS	07 58 16.7	-3.8
SOC				pmax	pmax		
	comp=N,17nm,0.8s						
SOC				pmax	pmax		
	comp=Z,18nm,0.8s						
SOC				pmax	pmax		
	comp=E,27nm,0.9s						
MSL	Mosul	144.11	304	ePKP	PKPdf	07 31 05.0	-1.8
ERZM	Erzurum	144.25	310	iP	PKPbc	07 31 03.2	+2.3
EZM	Erzurum	144.26	310	P	PKPbc	07 31 03.9	+2.9
MUD	Monsted U'grnd	144.29	357	⇑iP	PKPbc	07 31 01.8	+1.3
	comp=E,27nm,1.1s						
	comp=Z,250nm,21.0s						
SUW	Suwalki	144.30	343	ePKP	PKPdf	07 31 01.5	-5.0
ANN	Anapa	144.64	320	iPKIKP	PKPdf	07 31 01.7	-5.7
ANN				e		07 31 12.2	
ANN				pmax	pmax		
	comp=Z,83nm,1.5s						
AKASG	Malin Array Be	144.95	334	PKP	PKPdf	07 31 02.4	-5.4
	comp=Z,8.5nm,0.6s,baz=33,slow=3.4,SNR=60						
BEST	Besiri	145.03	307	iP	PKPbc	07 31 05.2	+2.1
BINT	Bingol	145.26	309	eP	PKPbc	07 31 08.4	+4.6
GUMT	Gumushane	145.37	312	P	PKPbc	07 31 07.2	+3.2
KELT	Kelkit	145.65	312	iP	PKPbc	07 31 10.0	+5.4
PTK	Pertek	146.05	310	P	PKPbc	07 31 09.4	+3.7
ELZG	Elazig	146.50	309	iP	PKPbc	07 31 10.0	+3.3
BSEG	Bad Segeberg	146.73	355	ePKP2	PKPab	07 31 08.8	-1.5
MYA	Malataya	146.97	309	eP	PKPbc	07 31 12.6	+4.7
MALT	Malatya	146.97	309	eP	PKPbc	07 31 11.7	+3.8
URFA	Urfa	147.00	307	eP	PKPdf	07 31 11.9	+0.1
LVV	L'vov	147.64	338	ePKP2	PKPab	07 31 11.8	-2.2
MBAR	Mbarara	147.72	232	ePKP2	PKPab	07 31 13.3	-2.2
KIS	Kishinev	147.89	330	ePKIKP	PKPdf	07 31 09.0	-3.8
KIS				i		07 31 21.0	
KIS				pmax	pmax		
	comp=Z,200nm,1.0s						
KIS				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.9						
KIS				MLR	MLR		
	comp=Z,200nm,20.0s						
GZT	Gaziantep	147.97	308	iP	PKPdf	07 31 13.2	0.0
BOYT	Boyabat	147.99	317	iP	PKPdf	07 31 13.3	+0.1
KWP	Kalwaria	148.26	339	ePKP	PKPdf	07 31 13.5	+0.2
CTKT	Corum	148.47	315	iP	PKPdf	07 31 14.8	+0.9
BNN	Bunyan	148.59	312	eP	PKPdf	07 31 15.9	+1.7
OJC	Ojcow	148.63	343	ePKP	PKPdf	07 31 11.1	-2.8
CORM	Corum	148.80	315	eP	PKPdf	07 31 16.2	+1.7
BALT	Daday	148.89	318	iP	PKPdf	07 31 10.1	-4.6
KSP	Ksiaz	148.90	347	ePKP	PKPdf	07 31 15.2	+0.9
KSP				e		07 31 25.3	
KSP	Ksiaz	148.90	347	ePKP	PKPdf	07 31 15.9	+1.6
BURAR	Bucovina Array	149.00	334	P	PKPdf	07 31 17.4	+2.9
KOLS	Kolonicke sedl	149.00	339	ePKP	PKPdf	07 31 15.9	+1.4
CLL	Collm	149.03	351	ePKIKP	PKPdf	07 31 10.0	-4.5
CLL				iPKP1	PKPdf	07 31 15.2	+0.7
CLL				i*PPKP		07 31 26.4	
CLL				i		07 31 51.9	
NIE	Niedzica	149.20	341	ePKP	PKPdf	07 31 16.8	+1.9
CANT	Cankiri	149.24	316	eP	PKPdf	07 31 17.4	+2.2
COBT	Iskenderun	149.25	307	iP	PKPdf	07 31 15.6	+0.2
UPC	Upice	149.28	347	ePKP2	PKPab	07 31 16.8	-3.8
UPC	Upice	149.28	347	⇑ePKPB		07 31 16.8	
UPC				epPKP		07 31 28.0	
CRVS	Cervenica-Dubn	149.30	340	ePKP	PKPdf	07 31 20.1	+5.1
CRVS				e		07 31 46.4	
BRG	Berggiesshubel	149.31	350	ePKHKP		07 31 12.1	
BRG				e		07 31 16.5	
BRG				MLR	MLR		
	comp=Z,310nm,19.9s,MS5.1						
BRG	Berggiesshubel	149.31	350	ePKP	PKPdf	07 31 12.1	-2.9
BRG				e		07 31 16.5	
BRG				epPKP		07 31 27.8	
BRG				LR	LR		
	comp=Z,310nm,19.9s,MS5.1						
AVNT	Avonos	149.31	312	iP	PKPdf	07 31 16.5	+1.1
DPC	Dobruska-Polom	149.36	347	ePKHKP		07 31 12.4	
DPC				e		07 31 17.4	
DPC				MLR	MLR		
	comp=Z,300nm,19.4s,MS5.1						
DPC	Dobruska-Polom	149.36	347	ePKPDF	PKPdf	07 31 12.4	-2.7
DPC				⇑ePKPB		07 31 17.4	
DPC				epPKP		07 31 27.9	
DPC				AMS	AMS	08 17 10.0	
	comp=Z,300nm,19.4s						
OKC	Ostrava-Krasne	149.41	344	ePKP2	PKPab	07 31 17.3	-3.9
OKC				MLR	MLR		
	comp=Z,400nm,27.3s,MS5.1						
OKC	Ostrava-Krasne	149.41	344	⇑ePKPB		07 31 17.3	
OKC				AMS	AMS	08 16 40.0	
	comp=Z,400nm,27.3s						
ELDT	Eldivan	149.43	316	iP	PKPdf	07 31 16.8	+1.3
SAFT	Safranbolu	149.49	318	eP	PKPdf	07 31 17.5	+1.9
PVCC	Panska Ves	149.53	349	ePKP2	PKPab	07 31 17.7	-4.0
PVCC				MLR	MLR		
	comp=Z,300nm,17.0s,MS5.2						
PVCC	Panska Ves	149.53	349	⇑ePKPB		07 31 17.7	
PVCC				epPKP		07 31 28.3	
PVCC				AMS	AMS	08 25 40.0	
	comp=Z,300nm,17.0s						
CFR	Carcaliu	149.54	328	PKP2	PKPab	07 31 18.0	-3.9
MORC	Moravsky Berou	149.62	345	ePKHKP		07 31 12.9	
MORC				e		07 31 17.9	
MORC	Moravsky Berou	149.62	345	ePKPdf	PKPdf	07 31 12.9	-2.6
MORC				ePKPbc	PKPdf	07 31 17.5	+2.0
MORC				P		07 31 17.9	
BRTR	Keskin Array B	149.68	315	PKP	PKPdf	07 31 13.4	-2.5
	comp=Z,3.2nm,0.9s,baz=125,slow=4.6,SNR=4.8						
BRTR				PKPbc	PKPdf	07 31 18.1	+2.1
	comp=Z,8.7nm,0.9s,baz=133,slow=2.8,SNR=36						
BRTR				PKPab	PKPab	07 31 24.4	+1.7
	comp=Z,9.1nm,0.9s,baz=90,slow=2.5,SNR=10.0						
KAMT	Kaman	149.81	314	eP	PKPdf	07 31 18.2	+2.1
MOX	Moxa	149.86	353	ePKP2	PKPab	07 31 17.1	-5.9
TIRR	Tirgusor	149.91	327	PKP2	PKPab	07 31 18.6	-4.8
HARR	Harsova	149.99	328	PKP2	PKPab	07 31 18.9	-4.8
PRU	Pruhonice	150.06	349	ePKIKP	PKPdf	07 31 18.4	+2.2
PRU				e		07 31 29.7	
PRU				MLR	MLR		
	comp=Z,300nm,25.1s,MS5.0						
PRU	Pruhonice	150.06	349	⇑ePKPB		07 31 18.4	
PRU				epPKP		07 31 29.7	
PRU				AMS	AMS	08 15 00.0	
	comp=Z,300nm,25.1s						
ASF	Jabal al Asfar	150.13	299	PKPbc	PKPdf	07 31 20.1	+3.2
	comp=Z,12nm,0.9s,baz=52,slow=0.5,SNR=9.3						
NKC	Novy Kostel	150.15	352	ePKIKP	PKPdf	07 31 19.1	+2.8
NKC				e		07 31 29.6	
NKC				MLR	MLR		
	comp=Z,300nm,17.0s,MS5.2						
NKC	Novy Kostel	150.15	352	⇑ePKPB		07 31 19.1	
NKC				epPKP		07 31 29.6	
NKC				AMS	AMS	08 16 50.0	
	comp=Z,300nm,17.0s						
ANTO	Ankara	150.17	316	eP	PKPdf	07 31 19.5	+2.8
SGKT	Sivrigoynuk	150.26	317	iP	PKPdf	07 31 18.0	+1.2
VRAC	Vranov	150.28	346	PKIKP	PKPdf	07 31 19.0	+2.4
MLR	Muntele Rosu	150.35	331	PKIKP	PKPdf	07 31 19.2	+2.4
VYHS	Vyhne	150.46	342	iPKP	PKPdf	07 31 18.8	+1.9
VYHS				e		07 31 28.0	
SNX	Sinaia	150.65	331	P	PKPdf	07 31 20.5	+3.3
DRGR		150.66	336	P	PKPdf	07 31 19.8	+2.6
PSZ	Piszkesteto	150.66	341	ePKPbc	PKPdf	07 31 20.0	+2.8
GIVF	Givet	150.73	1	⇑iPKP1	PKPdf	07 31 19.9	+2.7
	comp=Z,57nm,1.2s						
BAIF	Baives	150.75	2	⇑iPKP1	PKPdf	07 31 20.1	+2.9
	comp=Z,82nm,1.3s						
MEST	Erdemli	150.78	309	iP	PKPdf	07 31 19.8	+2.1
SMOL	Smolenice	150.82	344	ePKP	PKPdf	07 31 21.0	+3.6
SMOL				e		07 31 31.9	
GRF	Grafenberg Arr	150.84	353	ePKP	PKPdf	07 31 20.2	+2.8
GRF				e		07 31 30.6	
HENT	Hendek	150.84	319	iP	PKPdf	07 31 20.0	+2.3
MDU	Mudurnu	150.85	318	eP	PKPdf	07 31 20.2	+2.5
KHC	Kasperske Hory	151.05	350	ePKIKP	PKPdf	07 31 14.7	-3.0
KHC				e		07 31 21.0	
KHC				MLR	MLR		
	comp=Z,300nm,19.3s,MS5.1						
KHC	Kasperske Hory	151.05	350	ePKPDF	PKPdf	07 31 14.7	-3.0
KHC				⇑ePKPB		07 31 21.0	
KHC				epPKP		07 31 32.1	
KHC				AMS	AMS	08 31 20.0	
	comp=Z,300nm,19.3s						
WLF	Walferdange	151.18	360	ePKPbc	PKPdf	07 31 20.3	+2.4
WLF				e		07 31 31.4	
ZST	Bratislava	151.20	344	ePKP	PKPdf	07 31 21.5	+3.5
ZST				e		07 31 30.7	
KIZT	Kizilcal	151.29	315	P	PKPdf	07 31 22.6	+4.2
GERES	GERESS Array B	151.31	349	PKP	PKPdf	07 31 15.6	-2.5
	comp=Z,0.1nm,0.2s,baz=45,slow=1.9,SNR=5.2						
GERES				PKPbc	PKPdf	07 31 20.4	+2.3
	comp=Z,6.0nm,0.9s,baz=45,slow=1.9,SNR=40						
ROSF	Rostrenen	151.53	13	ePKP1	PKPdf	07 31 20.9	+2.4
	comp=Z,85nm,1.6s						
FLN	La Foiniere	151.62	9	⇑iPKP1	PKPdf	07 31 21.3	+2.7
	comp=Z,97nm,1.3s						
ESKT	Eskisehir	151.62	317	iP	PKPdf	07 31 17.8	-1.1
SGMF	Saint Gilles	151.75	12	⇑iPKP1	PKPdf	07 31 21.5	+2.7
	comp=Z,130nm,1.4s						
LDF	La Druitiere	151.83	8	⇑iPKP1	PKPdf	07 31 21.9	+3.0
	comp=Z,64nm,1.2s						
GRR	Gorron	151.92	10	⇑iPKP1	PKPdf	07 31 22.1	+3.1
	comp=Z,81nm,1.4s						
QUIF	Quistinic	151.95	13	⇑iPKP1	PKPdf	07 31 21.8	+2.7
	comp=Z,131nm,1.5s						
BZS	Buzias	152.06	336	P	PKPdf	07 31 23.4	+4.0
MEZF	Maizieres J'vi	152.33	1	⇑iPKP1	PKPdf	07 31 23.7	+4.1
	comp=Z,39nm,1.0s						
CDF	Champ du Feu	152.41	358	⇑iPKP1	PKPdf	07 31 23.8	+4.1
	comp=Z,30nm,1.2s						
HAU	Haudompre	152.84	359	⇑iPKP1	PKPdf	07 31 24.6	+4.3
	comp=Z,26nm,1.2s						
HINF	Hinteralfeld	153.02	359	⇑iPKP1	PKPdf	07 31 24.7	+4.1
	comp=Z,17nm,1.2s						
PERS	Pernice	153.13	346	ePKPbc	PKPdf	07 31 25.1	+4.3
DAVA	Damuels	153.36	354	⇑iP	PKPdf	07 31 18.4	-2.7
DAVA				i		07 31 27.3	
LOR	Lormes	153.52	3	⇑iPKP1	PKPdf	07 31 26.2	+4.9
	comp=Z,16nm,1.1s						
SSF	Saint Saulge	153.71	4	⇑iPKP1	PKPdf	07 31 26.5	+4.9
	comp=Z,52nm,1.4s						
MFF	Saint Martin d	153.77	9	ePKP1	PKPdf	07 31 26.5	+4.8
LJU	Ljubljana	153.83	346	ePKPbc	PKPdf	07 31 27.5	+5.7
BOJS	Bojanci	154.17	345	ePKPbc	PKPdf	07 31 28.0	+5.7
CABF	La Chapelle	154.23	360	⇑iPKP1	PKPdf	07 31 28.4	+6.1
	comp=Z,25nm,1.3s						
CAF	Calviac	155.71	7	ePKP1	PKPdf	07 31 33.0	+8.7
	comp=Z,17nm,1.1s						
MBDF	Montbardon	156.11	358	ePKP1	PKPdf	07 31 33.6	+8.8
	comp=Z,18nm,1.1s						
SJPF	Ste Jean	156.94	13	ePKP1	PKPdf	07 31 36.0	+10
	comp=Z,31nm,1.3s						
ETSF	Etsaut	157.29	12	ePKP1	PKPdf	07 31 36.9	+10
ESDC	Sonseca Array	159.36	22	PKPab	PKPab	07 32 02.7	-1.0
	comp=Z,0.1nm,0.2s,baz=322,slow=3.5,SNR=5.9						

FUNV ***24*** *07:39:14.0, 6.60N×73.21W, h164km, MW3.2*
IDC ***24*** *07:39:15.2±0.6, 6.72N×72.94W, h157km±6km, mb3.5/10, mb1 3.7/14, mb1mx3.5/24, mbtmp4.0/14, MS3.2/1, Ms1 3.2/1, ms1mx2.8/16, Error ellipse: s-maj=17.0km s-min=7.0km az=131.0*
NEIC ***24*** *07:39:16.6±0.6, 6.77N×72.93W, h170km±6km, mb4.2/3, Error ellipse: s-maj=8.5km s-min=8.0km az=208.0*

ISC 24 07:39:16.1±0.6, 6.87N±0.05×72.89W±0.05, h177km±5km, n42, σ0§88/55, mb3.7/11, 3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.14	30	⇓iP	P	07 39 45.2	+0.4
CAPV				eS	S	07 40 06.9	-0.2
ROSC	El Rosal	2.46	216	P	P	07 39 56.8	-1.8
	63nm,0.3s,baz=351,slow=2.8,SNR=332						
ROSC				S	S	07 40 25.4	-6.0
	64nm,0.3s,baz=107,slow=16,SNR=15						
ROSC	El Rosal	2.46	216	P	P	07 39 56.8	-1.8
ROSC				S	S	07 40 25.4	-6.0
VIGV	El Vigia	2.48	38	eP	P	07 39 59.7	+0.9
VIGV				eS	S	07 40 32.7	+1.0
SDV	Santo Domingo	3.00	48	P	P	07 40 06.6	+1.4
	40nm,0.3s,baz=231,slow=2.9,SNR=67						
SDV				S	S	07 40 43.1	+0.1
	34nm,0.3s,baz=286,slow=20,SNR=26						
SDV				LR	LR	07 40 48.3	
	comp=Z,383nm,21.9s,baz=266,slow=30						
SDV	Santo Domingo	3.00	48	eP	P	07 40 06.8	+1.6
SDV				S	S	07 40 43.1	+0.1
SDV				eS	S	07 40 43.9	+0.9
SDV				LR	LR	07 40 48.3	
VIRV	Villa del Rosa	3.64	8	eP	P	07 40 12.1	-1.2
VIRV				eS	S	07 40 56.3	-1.1
QARV	Quebrada Arrib	4.06	35	⇓iP	P	07 40 19.6	+1.0
QARV				eS	S	07 41 06.7	-0.1
SANV	Sanarito	4.23	52	eP	P	07 40 21.4	+0.7
SANV				eS	S	07 41 10.9	+0.3
CURV	Curarigua	4.26	43	⇓iP	P	07 40 21.8	+0.7
DABV	Dabajuro	4.60	29	eP	P	07 40 26.1	+0.5
DABV				eS	S	07 41 19.1	-0.2
TEPV	Terepaima	4.78	50	eP	P	07 40 28.8	+0.9
TEPV				eS	S	07 41 24.0	+0.6
SIQV	Siquisique	4.84	39	eP	P	07 40 29.0	+0.4
SIQV				eS	S	07 41 25.2	+0.5
IMOV	Isla Los Monje	5.80	20	eP	P	07 40 41.0	-0.2
IMOV				eS	S	07 41 45.3	-1.9
MONV	Montecano	5.82	29	eP	P	07 40 41.4	0.0
MONV				eS	S	07 41 46.7	-1.0
TURV	Turiamo	6.13	54	eP	P	07 40 45.6	+0.1
TURV				eS	S	07 41 54.4	-0.8
CAOV	Caicara del Or	6.53	86	eP	P	07 40 50.2	-0.6
CAOV				eP		07 40 50.5	
BIRV	Birongo	7.46	61	eP	P	07 41 02.9	-0.3
BIRV				eS	S	07 42 24.2	-2.5
PCRV	Puerto La Cruz	8.80	67	P	P	07 41 20.5	-0.3
	0.6nm,0.3s,baz=225,slow=7.1,SNR=4.7						
JTS	JuntasAbangare	12.40	287	P	P	07 42 08.5	+0.9
	0.5nm,0.3s,baz=287,slow=17,SNR=3.6						
JTS	JuntasAbangare	12.40	287	eP	P	07 42 08.4	+0.8
SAML	Samuel	18.45	148	eP	P	07 43 19.5	-1.4
	1.2nm,0.4s						
TEIG	Tepich	19.98	313	eP	P	07 43 36.7	+0.2
LPAZ	La Paz	23.48	168	P	P	07 44 11.5	+0.4
	0.4nm,0.4s,mb3.2,baz=331,slow=13,SNR=2.8						
CCM	Cathedral Cave	35.23	334	eP	P	07 45 55.3	-0.1
	5.6nm,0.8s,mb4.2						
TXAR	Lajitas Array	36.60	311	P	P	07 46 07.1	+0.1
	0.1nm,0.3s,mb2.9,baz=130,slow=9.5,SNR=4.3						
TXAR				PcP	PcP	07 48 28.0	+1.3
	0.2nm,0.6s,baz=139,slow=5.1,SNR=4.1						
ULM	Lac du Bonnet	47.32	340	P	P	07 47 32.1	-1.5
	1.8nm,0.3s,mb4.1,baz=170,slow=8.4,SNR=2.7						
SCHQ	Schefferville	48.08	5	P	P	07 47 40.4	+1.0
	4.1nm,0.5s,mb4.3,baz=195,slow=5.6,SNR=16						
SCHQ	Schefferville	48.08	5	eP	P	07 47 40.1	+0.7
	4.3nm,0.5s,mb4.3						
PDAR	Pinedale Array	48.17	324	P	P	07 47 40.4	+0.1
	0.4nm,0.6s,mb3.2,baz=135,slow=6.3,SNR=3.7						
PDAR				PcP	PcP	07 49 07.8	+2.6
	0.1nm,0.4s,baz=239,slow=5.3,SNR=4.0						
PDAR	Pinedale Array	48.17	324	P	P	07 47 40.4	+0.1
PDAR				PcP	PcP	07 49 07.8	+2.6
YKA	Yellowknife Ar	63.30	340	P	P	07 49 27.3	-0.7
	1.7nm,0.6s,mb4.1,baz=133,slow=6.6,SNR=111						
DBIC	Dimbokro	67.50	86	P	P	07 49 55.1	-0.5
	3.2nm,0.7s,mb4.2,baz=197,sl

CALA				*e*S	Sg	07 53 40.3	-0.7
HOR	**Horta**	**0.34**	**118**	*e*rx		07 53 41.9	
PICO	**Pico**	**0.49**	**112**	*i* P	Pg	07 53 40.9	-1.1
PICO				*e*S	Sg	07 53 47.5	-1.1

*IDC **24** 07:55:43.6±7.0, 8.20N×93.59E, mb3.7/6, mb1 3.9/7, mb1mx3.6/21, mbtmp3.7/7, ML4.1/1, Error ellipse: s-maj=166.9km s-min=50.7km az=141.0*
*NEIC **24** 07:55:46.3±0.9, 7.97N×93.82E, h30km, Error ellipse: s-maj=21.1km s-min=12.5km az=218.0*
ISC 24 07:55:44.6±1.4, 8.0N±0.2×93.9E±0.2, h30km, n9, σ0§40/9, mb3.5/6, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.21**	**112**	P	**Pn**	**07 57 30.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**11.47**	**25**	Pn	**P**	**07 58 29.7**	**+0.1**
	0.4nm,0.3s,baz=214,slow=14,SNR=6.5						
MKAR	**Makanchi Array**	**39.90**	**348**	P	**P**	**08 03 16.8**	**-0.8**
	0.2nm,0.5s,mb3.1,baz=166,slow=5.9,SNR=3.6						
SONM	**Songino Array**	**41.07**	**13**	P	**P**	**08 03 27.6**	**+0.3**
	0.2nm,0.4s,mb3.1,baz=199,slow=9.2,SNR=2.6						
ZAL	**Zalesovo**	**46.38**	**353**	P	**P**	**08 04 10.1**	**0.0**
	1.1nm,0.4s,mb4.2,baz=331,slow=3.4,SNR=3.7						
FINES	**FINESS Array B**	**72.49**	**332**	P	**P**	**08 07 10.2**	**0.0**
	0.4nm,0.6s,mb3.6,baz=79,slow=9.7,SNR=5.9						
ARCES	**ARCESS Array B**	**75.06**	**340**	P	**P**	**08 07 25.5**	**+0.4**
	2.4nm,0.9s,mb4.1,baz=48,slow=15,SNR=3.5						
NB2	**NORSAR Subarra**	**79.50**	**331**	P	**P**	**08 07 49.5**	**-0.3**
	0.1nm,0.6s,mb2.9,baz=89,slow=6.5						
NOA	**NORSAR Array B**	**79.50**	**331**	P	**P**	**08 07 50.5**	**+0.7**
	0.3nm,0.6s,mb3.4,baz=92,slow=5.6,SNR=4.8						

*IDC **24** 08:14:26.9±1.5, 20.58S×169.32E, mb4.1/9, mb1 4.4/9, mb1mx4.2/15, mbtmp4.2/9, ML3.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/25, Error ellipse: s-maj=55.0km s-min=20.2km az=146.0*
*LDG **24** 08:14:28.1±0.4, 20.38S×169.24E, h10km, Mb4.5/1, Error ellipse: s-maj=39.9km s-min=5.6km az=137.0*
*NEIC **24** 08:14:28.2±0.5, 20.57S×169.29E, h10km, mb4.5/5, Error ellipse: s-maj=16.1km s-min=10.2km az=152.0*
ISC 24 08:14:28.7±4.5, 20.6S±0.1×169.2E±0.1, h20km±31km, n66, σ0§87/34, mb4.2/13, 4C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.94**	**239**	*e*P	**Pn**	**08 15 15.5**	**0.0**
DZM				*e*S	**Sn**	**08 15 49.6**	**-0.9**
DZM	**Mont Dzumac**	**2.94**	**239**	Pn	**Pn**	**08 15 15.4**	**-0.1**
	2.0nm,0.3s,baz=55,slow=20,SNR=54						
DZM				Sn	**Sn**	**08 15 50.3**	**-0.3**
	20nm,0.3s,baz=140,slow=20,SNR=11						
DZM	**Mont Dzumac**	**2.94**	**239**	*e*P	**Pn**	**08 15 15.5**	**0.0**
DZM				*e*S	**Sn**	**08 15 49.6**	**-1.0**
NOUC	**Port Laguerre**	**3.07**	**240**	*e*P	**Pn**	**08 15 17.2**	**0.0**
NOUC				*e*S	**Sn**	**08 15 54.0**	**+0.2**
NOUC	**Port Laguerre**	**3.07**	**240**	*e*P	**Pn**	**08 15 17.2**	**0.0**
NOUC				*e*S	**Sn**	**08 15 54.0**	**+0.2**
HNR	**Honiara**	**14.20**	**320**	LR	LR	08 22 04.4	
	comp=Z,87nm,21.0s,baz=104,slow=32						
RAO	**Raoul Island**	**14.55**	**129**	LR	LR	08 22 21.8	
	comp=Z,204nm,20.5s,baz=312,slow=33						
CTA	**Charters Tower**	**21.49**	**267**	P	**P**	**08 19 19.9**	**+1.5**
	9.1nm,0.9s,mb4.1,baz=103,slow=12,SNR=5.1						
CTA	**Charters Tower**	**21.49**	**267**	P	**P**	**08 19 19.9**	**+1.5**
CTAO	**Charters Tower**	**21.49**	**267**	*e*P	**P**	**08 19 20.2**	**+1.8**
	10nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**27.10**	**240**	P	**P**	**08 20 13.5**	**+1.2**
	2.7nm,0.6s,mb3.9,baz=72,slow=12,SNR=11						
STKA	**Stephens Creek**	**27.10**	**240**	*e*P	**P**	**08 20 13.1**	**+0.8**
WB2	**Warramunga Arr**	**32.63**	**265**	*e*P	**P**	**08 21 00.4**	**-1.2**
WRAB	**Tennant Creek**	**32.63**	**265**	*e*P	**P**	**08 21 00.9**	**-0.8**
	2.1nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**32.64**	**265**	P	**P**	**08 21 00.9**	**-0.8**
	1.1nm,0.5s,mb4.1,baz=88,slow=5.5,SNR=5.5						
ASAR	**Alice Springs**	**32.76**	**258**	P	**P**	**08 21 02.2**	**-0.5**
	5.4nm,0.8s,mb4.5,baz=84,slow=9.3,SNR=63						
ASPA	**Alice Springs**	**32.76**	**258**	*e*P	**P**	**08 21 02.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**41.06**	**266**	*e*P	**P**	**08 22 13.7**	**+0.9**
	9.3nm,0.8s,mb4.5						
SBA	**Scott Base**	**57.34**	**181**	*e*P	**P**	**08 24 17.4**	**0.0**
	5.2nm,1.0s,mb4.5						
MJAR	**Matsushiro Arr**	**63.90**	**333**	P	**P**	**08 25 01.4**	**-1.2**
	2.5nm,0.9s,mb4.2,baz=151,slow=5.7,SNR=5.0						
MJAR	**Matsushiro Arr**	**63.90**	**333**	P	**P**	**08 25 01.4**	**-1.2**
QSPA	**South Pole Qui**	**69.49**	**180**	⇑*i*P	**P**	**08 25 37.4**	**0.0**
	7.9nm,1.0s,mb4.6						
CMAR	**Chiang Mai Arr**	**78.99**	**295**	P	**P**	**08 26 35.3**	**+2.0**
	0.7nm,0.4s,mb4.0,baz=124,slow=4.3,SNR=4.5						
SONM	**Songino Array**	**88.24**	**323**	P	**P**	**08 27 20.7**	**+0.9**
	1.1nm,0.8s,mb4.1,baz=146,slow=3.8,SNR=8.3						
VNA3	**Neumayer Olymp**	**88.42**	**180**	*e*	**P**	**08 27 27.8**	**+7.6**
VNA3	**Neumayer Olymp**	**88.42**	**180**	⇑*i*P	**P**	**08 27 20.0**	**-0.2**
VNA3				*e*	pP	08 27 27.8	+1.2
VNA2	**Neumayer--Watz**	**88.72**	**181**	*e*	**P**	**08 27 29.0**	**+7.4**
VNA2	**Neumayer--Watz**	**88.72**	**181**	⇑*i*P	**P**	**08 27 21.6**	**0.0**
VNA2				*e*	pP	08 27 29.0	+1.0
NVAR	**Mina Array Bea**	**89.73**	**49**	P	**P**	**08 27 27.4**	**+0.2**
	0.4nm,0.6s,mb4.0,baz=229,slow=9.6,SNR=3.2						
NVAR	**Mina Array Bea**	**89.73**	**49**	P	**P**	**08 27 27.4**	**+0.2**
ILAR	**Eielson Array**	**91.52**	**17**	P	**P**	**08 27 33.5**	**-1.3**
	0.4nm,0.7s,mb3.9,baz=225,slow=5.1,SNR=5.5						
ARCES	**ARCESS Array B**	**126.33**	**345**	PKP	PKPdf	08 33 29.9	-3.9
	3.8nm,1.1s,slow=1.2,SNR=5.3						
NOA	**NORSAR Array B**	**136.71**	**345**	PKP	PKPdf	08 33 50.9	-2.6
	0.2nm,0.6s,baz=6.3,slow=10,SNR=2.9						
DPC	**Dobruska-Polom**	**143.35**	**331**	*e*PKP	PKPdf	08 33 59.1	-6.6
BRG	**Berggiesshubel**	**144.03**	**333**	*e*P	PKPbc	08 34 02.2	+0.2
CLL	**Collm**	**144.09**	**334**	⇑*i*PKIKP	PKPdf	08 34 01.9	-5.0
	logA/T=0.9						
PRU	**Pruhonice**	**144.42**	**332**	*e*PKP	PKPdf	08 34 02.9	-4.7
NKC	**Novy Kostel**	**145.14**	**334**	*e*PKP	PKPdf	08 34 05.8	-3.0
MOX	**Moxa**	**145.16**	**335**	*e*PKPbc	PKPbc	08 34 05.7	+0.6
MOX	**Moxa**	**145.16**	**335**	*i* P	PKPbc	08 34 04.7	-0.4
	logA/T=1.0						
KHC	**Kasperske Hory**	**145.47**	**331**	*e*PKP	PKPdf	08 34 06.7	-2.7
GERES	**GERESS Array B**	**145.62**	**331**	PKPbc	PKPbc	08 34 07.5	+1.1
	3.1nm,0.6s,baz=37,slow=2.6,SNR=34						
GRF	**Grafenberg Arr**	**146.06**	**334**	*e*PKP	PKPdf	08 34 08.8	-1.6
GIVF	**Givet**	**148.02**	**341**	*e*PKP1	PKPdf	08 34 13.5	-0.1
BAIF	**Baives**	**148.25**	**341**	*e*PKP1	PKPdf	08 34 13.6	-0.4
CDF	**Champ du Feu**	**148.63**	**337**	*e*PKP1	PKPdf	08 34 15.4	+0.7
	11nm,0.7s						
HINF	**Hinteralfeld**	**149.29**	**336**	*e*PKP1	PKPdf	08 34 17.1	+1.3
HAU	**Haudompre**	**149.32**	**337**	*e*PKP1	PKPdf	08 34 16.9	+1.1
MEZF	**Maizieres J'vi**	**149.35**	**339**	*e*PKP1	PKPdf	08 34 17.6	+1.8
CABF	**La Chapelle**	**150.58**	**336**	*e*PKP1	PKPdf	08 34 20.6	+2.8
	4.1nm,0.6s						
FLN	**La Foliniere**	**150.67**	**346**	*e*PKP1	PKPdf	08 34 19.2	+1.3
LDF	**La Druitiere**	**150.75**	**345**	*e*PKP1	PKPdf	08 34 19.8	+1.8
	5.3nm,0.7s						
LOR	**Lormes**	**150.82**	**339**	*e*PKP1	PKPdf	08 34 20.5	+2.4
	4.7nm,0.7s						
GRR	**Gorron**	**151.11**	**346**	*e*PKP1	PKPdf	08 34 20.3	+1.8
	6.2nm,0.6s						
SSF	**Saint Saulge**	**151.11**	**339**	*e*PKP1	PKPdf	08 34 21.3	+2.7
	5.4nm,0.8s						
LPL	**La Plagne**	**151.22**	**334**	*e*PKP1	PKPdf	08 34 21.9	+3.1
LPG	**La Plagne**	**151.23**	**334**	*e*PKP1	PKPdf	08 34 21.6	+2.8
SGMF	**Saint Gilles**	**151.59**	**348**	*e*PKP1	PKPdf	08 34 21.1	+1.8
	3.4nm,0.5s						
ROSF	**Rostrenen**	**151.64**	**349**	*e*PKP1	PKPdf	08 34 21.3	+2.0
BGF	**Bois d'Agland**	**151.77**	**340**	*e*PKP1	PKPdf	08 34 21.8	+2.2
QUIF	**Quistinic**	**152.03**	**349**	*e*PKP1	PKPdf	08 34 22.2	+2.3
ORIF	**Oris-en-Rattie**	**152.06**	**334**	*e*PKP1	PKPdf	08 34 24.3	+4.2
	17nm,1.1s						
VIVF	**Saint-Julien-l**	**152.59**	**336**	*e*PKP1	PKPdf	08 34 23.9	+3.1
MFF	**Saint Martin d**	**152.61**	**344**	*e*PKP1	PKPdf	08 34 24.3	+3.5
	24nm,1.3s						
FRF	**La Foret Royal**	**152.82**	**331**	*e*PKP1	PKPdf	08 34 24.5	+3.3
SMRF	**Simiane la Rot**	**152.95**	**333**	*e*PKP1	PKPdf	08 34 24.5	+3.1

*MOS **24** 08:32:30.8±1.2, 50.07N×88.03E, h15km, mb3.6/1, Error ellipse: s-maj=27.5km s-min=20.2km az=100.3*
*IDC **24** 08:32:31.0±1.1, 50.09N×88.04E, mb3.5/4, mb1 3.8/8, mb1mx3.5/25, mbtmp3.6/8, ML3.7/4, Error ellipse: s-maj=13.2km s-min=10.2km az=100.0*
*NEIC **24** 08:32:32.3±5.2, 50.09N×88.16E, h11km±35km, mb3.8/2, Error ellipse: s-maj=15.9km s-min=13.2km az=181.0*

*NNC **24** 08:32:36.0±3.0, 49.45N×88.32E, mpv3.8, Error ellipse: s-maj=62.3km s-min=21.4km az=148.0*
ISC 24 08:32:30.0±0.8, 50.05N±0.05×88.2E±0.1, h10km, n15, σ1§13/21, mb3.5/4, 3C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**4.42**	**333**	Pn	**Pn**	**08 33 39.5**	**+0.7**
	7.4nm,0.3s,baz=324,slow=10.0,SNR=60						
ZAL				Sn	**Sn**	**08 34 31.3**	**+0.3**
	5.9nm,0.3s,baz=224,slow=19,SNR=9.4						
ZAL				Lg		08 34 47.2	
	3.9nm,0.3s,baz=157,slow=3.6,SNR=7.5						
MK31	**Makanchi Array**	**5.10**	**233**	⇑Pn	**Pn**	**08 33 50.2**	**+1.8**
	12nm,0.6s,baz=59,slow=12,SNR=315						
MK31				⇓Pg	**Pg**	**08 34 03.5**	**-8.3**
	4.6nm,0.3s,baz=50,slow=17,SNR=4.5						
MK31				⇑Sn	**Sn**	**08 34 47.8**	**-0.2**
	8.9nm,0.5s,baz=59,slow=31,SNR=2.9						
MK31				⇑Lg		08 35 09.7	
	19nm,0.5s,baz=51,slow=32,SNR=3.6						
MKAR	**Makanchi Array**	**5.10**	**233**	Pn	**Pn**	**08 33 50.0**	**+1.7**
	6.8nm,0.3s,baz=50,slow=13,SNR=146						
MKAR				Sn	**Sn**	**08 34 47.0**	**-1.0**
	6.9nm,0.3s,baz=51,slow=18,SNR=11						
MKAR				Lg		08 35 08.7	
	8.6nm,0.3s,baz=48,slow=31,SNR=7.5						
BVAR	**Borovoye Array**	**11.48**	**292**	Pn	**P**	**08 35 13.1**	**-3.8**
	1.5nm,0.3s,baz=103,slow=14,SNR=16						
BVAR				Sn	**S**	**08 37 16.1**	**-10**
	0.3nm,0.3s,baz=102,slow=21,SNR=5.8						
BVAR				Lg		08 38 32.1	
	baz=90,slow=23,SNR=3.3						
BVAR	**Borovoye Array**	**11.48**	**292**	Pn	**P**	**08 35 13.1**	**-3.8**
BVAR				Sn	**S**	**08 37 16.1**	**-10**
BVAR				Lg		08 38 32.1	
AAK	**Ala-Archa**	**12.01**	**237**	P	**P**	**08 35 23.3**	**-0.8**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**12.01**	**237**	P	**P**	**08 35 23.2**	**-0.9**
	comp=Z,1.4nm,0.5s						
SONM	**Songino Array**	**12.18**	**93**	Pn	**P**	**08 35 25.2**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=290,slow=14,SNR=2.7						
SONM				Lg		08 38 59.9	
	comp=Z,0.1nm,0.3s,baz=279,slow=36,SNR=3.7						
ARU	**Arti**	**18.75**	**301**	*e*P	**P**	**08 36 49.8**	**-1.1**
ARU				pmax	pmax		
	comp=Z,17nm,0.6s						
ARU	**Arti**	**18.75**	**301**	*e*P	**P**	**08 36 49.8**	**-1.1**
	comp=Z,17nm,0.6s						
BRTR	**Keskin Array B**	**39.20**	**276**	P	**P**	**08 39 59.9**	**+0.2**
	comp=Z,1.0nm,0.6s,mb3.7,baz=90,slow=9.9,SNR=4.4						
NB2	**NORSAR Subarra**	**42.40**	**315**	P	**P**	**08 40 24.9**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.1,baz=64,slow=7.9						
NOA	**NORSAR Array B**	**42.40**	**315**	P	**P**	**08 40 24.8**	**-0.8**
	comp=Z,0.2nm,0.6s,mb2.9,baz=64,slow=7.8,SNR=4.2						
ASAR	**Alice Springs**	**83.82**	**139**	P	**P**	**08 45 01.7**	**+0.9**
	comp=Z,0.3nm,0.7s,mb3.5,baz=334,slow=4.7,SNR=4.0						
PDAR	**Pinedale Array**	**86.28**	**13**	P	**P**	**08 45 16.4**	**+3.7**
	comp=Z,0.2nm,0.5s,mb3.6,baz=22,slow=4.9,SNR=4.0						

*CSEM **24** 08:33:26.3±0.7, 38.09N×26.49W, ML2.8, Error ellipse: s-maj=45.3km s-min=3.3km az=33.0, After PDA*
*PDA **24** 08:33:26.3±1.1, 38.09N×26.49W, MD2.6, ML2.8, Error ellipse: s-maj=10.9km s-min=2.0km az=39.0*
SVSA 24 08:33:26.3±1.1, 38.09N×26.49W, MD2.6, ML2.8, Error ellipse: s-maj=10.9km s-min=2.0km az=39.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.59**	**111**	*e*P	Pg	08 33 38.7	+0.7
SET2	**Ginetes**	**0.59**	**114**	*e*P	Pg	08 33 39.1	+0.9
PFAV	**Pico das Favas**	**0.78**	**323**	*i* P	Pg	08 33 40.7	-1.1
PFAV				*i* S	Sg	08 33 50.9	-1.2
	120nm,0.2s						
PSCM	**Serra do Cume**	**0.78**	**321**	*i* P	Pg	08 33 39.2	-2.7
PSCM				*e*S	Sg	08 33 49.4	-3.0
	323nm,0.2s						
RIB2	**Ribeirinha**	**0.79**	**318**	*e*P	Pg	08 33 39.5	-2.6
RIB2				*i* S	Sg	08 33 49.8	-2.8
	173nm,0.2s						
ADH	**Angra Heroismo**	**0.81**	**314**	*i* P	Pg	08 33 40.0	-2.5
ADH				*e*S	Sg	08 33 50.3	-3.0
CML	**Cha da Macela**	**0.81**	**113**	*e*P	Pg	08 33 40.7	-1.8
PVNV	**Vila Nova**	**0.85**	**322**	*i* P	Pg	08 33 40.4	-2.9
PVNV				*i* S	Sg	08 33 51.2	-3.4
	92nm,0.1s						
PMAT	**Coroa da Mata**	**0.85**	**108**	*e*S	Sg	08 33 51.3	-3.4
	31nm,0.3s						
LFA	**Lagoa do Fogo**	**0.86**	**111**	*e*P	Pg	08 33 41.0	-2.4
PPAD	**Pico dos Padre**	**0.87**	**315**	*e*P	Pg	08 33 40.8	-2.9
PPAD				*i* S	Sg	08 33 51.9	-3.5
	64nm,0.2s						
PRCH	**Ribeira Ch**	**0.88**	**114**	*e*rx		08 33 53.3	
MESC	**Monte Escuro**	**0.88**	**109**	*e*P	Pg	08 33 41.3	-2.5
MESC				*e*S	Sg	08 33 51.8	-3.8
PBIS	**Biscoitos**	**0.90**	**319**	*i* S	Sg	08 33 52.6	-3.6
	37nm,0.1s						
VIF	**Vila Franca**	**0.90**	**112**	*e*S	Sg	08 33 52.7	-3.6
ASBA	**Santa Barbara**	**0.91**	**314**	*e*P	Pg	08 33 41.5	-2.9
ASBA				*i* S	Sg	08 33 53.3	-3.2
	85nm,0.1s						
PSBA	**Serra de Santa**	**0.94**	**316**	*i* P	Pg	08 33 41.8	-3.3
PSBA				*e*S	Sg	08 33 53.6	-4.0
	175nm,0.3s						
PMAN	**Manadas**	**1.37**	**294**	*e*rx		08 34 03.2	
STGR	**Santa Cruz**	**1.54**	**310**	*e*S	Sb	08 34 10.0	-5.5
	9.3nm,0.1s						
PICO	**Pico**	**1.58**	**286**	*e*S	Sb	08 34 09.1	-7.3
HOR	**Horta**	**1.74**	**285**	*e*rx		08 34 10.9	
CALA	**Caldeira**	**1.81**	**286**	*e*S	Sn	08 34 11.4	-11
PCED	**Cedros**	**1.82**	**288**	*e*rx		08 34 13.4	

*IDC **24** 08:36:05.8±6.7, 38.62N×71.77E, mb3.5/3, mb1 3.8/4, mb1mx3.4/22, mbtmp3.6/4, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/22, Error ellipse: s-maj=131.2km s-min=63.3km az=171.0*
*NNC **24** 08:36:13.8±16.0, 39.20N×71.75E, mpv3.7, Error ellipse: s-maj=138.5km s-min=94.3km az=9.0*
ISC 24 08:36:12.3±2.4, 38.9N±0.1×71.7E±0.2, h43km±19km, n16, σ0§51/17, mb3.4/3, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.56**	**25**	P	**P**	**08 37 07.2**	**+0.8**
	SNR=48						
UCH	**Uchtor**	**3.95**	**33**	P	**P**	**08 37 12.2**	**+0.2**
	SNR=20						
EKS2	**Erkin-Say**	**4.06**	**23**	P	**P**	**08 37 14.5**	**+0.9**
	SNR=5.5						
KZA	**Kyzart**	**4.17**	**40**	P	**P**	**08 37 15.1**	**-0.1**
	SNR=20						
KK31	**Karatay Array**	**4.26**	**349**	⇑P	**P**	**08 37 15.4**	**-0.9**
	3.3nm,0.2s,baz=157,slow=11						
KK31				⇑S	**S**	**08 38 05.5**	**+0.1**
	7.2nm,0.5s,baz=145,slow=23,SNR=5.2						
AAK	**Ala-Archa**	**4.28**	**29**	P	**P**	**08 37 17.8**	**+1.0**
	SNR=9.2						
AAK	**Ala-Archa**	**4.28**	**29**	⇑P	**P**	**08 37 17.4**	**+0.7**
	9.0nm,0.5s,baz=145,slow=23						
AAK				⇑S	**S**	**08 38 05.9**	**-0.2**
	29nm,1.1s,baz=145,slow=23						
CHMS	**Chumysh**	**4.69**	**29**	P	**P**	**08 37 22.3**	**-0.3**
	SNR=19						
ULHL	**Ulahol**	**4.81**	**45**	P	**P**	**08 37 23.6**	**-0.7**
	SNR=9.3						
USP	**Ospenovka**	**4.84**	**26**	P	**P**	**08 37 24.4**	**-0.1**
	SNR=7.8						
TKM2	**Tokmak 2**	**4.98**	**36**	P	**P**	**08 37 26.1**	**-0.5**
	SNR=5.6						
MKAR	**Makanchi Array**	**11.07**	**41**	LR	LR	08 43 51.7	
	comp=Z,69nm,21.3s,baz=326,slow=41						
ZAL	**Zalesovo**	**17.49**	**27**	P	**P**	**08 40 13.9**	**-0.4**
	0.7nm,0.3s,baz=267,slow=5.0,SNR=4.4						
FINES	**FINESS Array B**	**35.79**	**324**	P	**P**	**08 43 08.9**	**-0.1**
	0.1nm,0.4s,mb3.1,baz=117,slow=8.5,SNR=3.9						
ARCES	**ARCESS Array B**	**39.11**	**336**	P	**P**	**08 43 36.9**	**+0.2**
	1.9nm,0.8s,mb3.9,baz=107,slow=9.4,SNR=3.5						
YKA	**Yellowknife Ar**	**78.80**	**3**	P	**P**	**08 48 11.7**	**+0.2**
	0.2nm,0.8s,mb3.1,baz=350,slow=5.5,SNR=4.3						

*BJI **24** 08:42:00.0, 10.38S×112.20E, h20km, mB5.3, mb5.0*
*IDC **24** 08:42:04.6±0.9, 9.56S×111.93E, mb4.1/10, mb1 4.2/11, mb1mx4.1/19, mbtmp4.1/11, ML3.4/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/20, Error ellipse: s-maj=42.8km s-min=15.0km az=54.0*
*NEIC **24** 08:42:07.8±0.6, 9.58S×111.97E, h20km, mb4.6/5, Error ellipse: s-maj=26.0km s-min=7.6km az=52.0*
ISC 24 08:42:07.8±0.7, 9.5S±0.1×111.9E±0.2, h33km, n22, σ0§85/22, mb4.3/15, MS3.2/1, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**13.78**	**148**	*e*P	**P**	**08 45 15.5**	**-7.8**
FITZ	**Fitzroy Crossi**	**15.79**	**124**	Pn	**P**	**08 45 46.5**	**-3.0**
	0.1nm,0.3s,baz=270,slow=20,SNR=3.0						
FITZ				Sn	**S**	**08 48 31.7**	**-12**
	0.3nm,0.3s,baz=86,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**23.98**	**118**	P	**P**	**08 47 20.8**	**+0.4**
	2.7nm,0.6s,mb3.9,baz=291,slow=11,SNR=37						
WRAB	**Tennant Creek**	**23.99**	**118**	*e*P	**P**	**08 47 21.6**	**+1.0**
	15nm,1.1s,mb4.3						
WB2	**Warramunga Arr**	**23.99**	**118**	*e*P	**P**	**08 47 20.8**	**+0.2**
ASPA	**Alice Springs**	**25.26**	**127**	*e*P	**P**	**08 47 33.0**	**+0.2**
ASAR	**Alice Springs**	**25.26**	**126**	P	**P**	**08 47 32.9**	**+0.1**
	1.7nm,0.6s,mb3.8,baz=302,slow=8.7,SNR=33						
ASAR				LR	LR	08 56 07.6	
	comp=Z,81nm,19.3s,MS3.2,baz=68,slow=33						
CMAR	**Chiang Mai Arr**	**30.62**	**335**	P	**P**	**08 48 22.6**	**+1.2**
	1.0nm,0.4s,mb4.0,baz=168,slow=8.6,SNR=8.4						
STKA	**Stephens Creek**	**35.34**	**133**	P	**P**	**08 49 02.5**	**+0.3**
	4.9nm,0.8s,mb4.5,baz=308,slow=10,SNR=13						
LZH	**Lanzhou**	**46.01**	**351**	*e*P	**P**	**08 50 31.5**	**+1.3**
LZH				AP	pP	08 50 35.0	-5.0
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.1						
LZH	**Lanzhou**	**46.01**	**351**	*e*P	**P**	**08 50 31.5**	**+1.3**
	comp=Z,26nm,1.0s,mb5.1						
LZH				pP	pP	08 50 35.0	-5.0
LZH				sP	sP	08 50 37.0	-7.2
BJI	**Beijing**	**49.48**	**4**	*e*P	**P**	**08 50 57.6**	**+0.5**
BJI				AMB	AMB		
	comp=Z,12nm,0.7s,mb5.0						
BJI	**Beijing**	**49.48**	**4**	*e*P	**P**	**08 50 57.6**	**+0.5**
	comp=Z,12nm,0.7s,mb5.0						
MJAR	**Matsushiro Arr**	**52.07**	**27**	P	**P**	**08 51 15.6**	**-1.1**
	comp=Z,2.9nm,0.8s,mb4.3,baz=194,slow=7.5,SNR=8.4						
ULN	**Ulaanbaatar**	**57.31**	**356**	*e*P	**P**	**08 51 54.3**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.4						
SONM	**Songino Array**	**57.32**	**356**	P	**P**	**08 51 55.2**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.4,baz=175,slow=7.8,SNR=23						
MKAR	**Makanchi Array**	**62.00**	**337**	P	**P**	**08 52 26.6**	**-0.5**
	comp=Z,1.9nm,0.5s,mb4.5,baz=150,slow=7.3,SNR=24						
AAK	**Ala-Archa**	**62.16**	**330**	*e*P	**P**	**08 52 27.4**	**-0.9**
	comp=Z,2.3nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**71.65**	**335**	P	**P**	**08 53 27.1**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.8,baz=135,slow=10,SNR=4.0						
VNDA	**Vanda**	**72.62**	**170**	P	**P**	**08 53 33.3**	**0.0**
	comp=Z,1.5nm,1.2s,mb3.8,baz=317,slow=8.9,SNR=3.3						
BRTR	**Keskin Array B**	**87.16**	**311**	P	**P**	**08 54 52.1**	**+0.1**
	comp=Z,0.8nm,0.7s,mb4.0,baz=112,slow=6.7,SNR=5.8						
YKA	**Yellowknife Ar**	**117.44**	**22**	PKP	PKPdf	09 00 52.1	+2.2
	comp=Z,0.2nm,0.7s,baz=326,slow=1.8,SNR=6.5						

*JMA **24** 08:51:05.3±0.2, 33.17N×141.90E, h72km, M3.4*
*IDC **24** 08:51:07.9±5.0, 33.19N×141.84E, h36km±40km, mb3.5/8, mb1 3.7/9, mb1mx3.5/22, mbtmp3.7/9, ML3.6/1, Error ellipse: s-maj=32.1km s-min=18.6km az=85.0*
*NEIC **24** 08:51:07.9±2.0, 33.19N×141.88E, h38km±16km, Error ellipse: s-maj=

Best double couple: M_0=1.998×10^{16} NP1:ϕ_s=321°,δ71°, λ166°. NP2:ϕ_s=55°,δ76°,λ19°. Principal axes: T 1.998, Plg23°, Azm279°; N .001, Plg67°, Azm90°; P -1.999, Plg3°, Azm187°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **24** 09:19:38.1±0.2, 1.825S×99.91E, mb4.9/19 Error ellipse: s-maj=7.4km s-min=4.0km az=223.0*

NEIC Felt [III] at Padang, Sumatra.

ISC 24 09:19:36.2±0.3, 1.84S±0.04×99.91E±0.04, h30km, h30km±.6km:pP-P, n170, σ1s14/117, mb4.8/56, MS4.2/13, 9C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.45**	**19**	*eP*		**Pn**	**09 19 59.0**	**-1.9**
PPI				*eS*		**Sn**	**09 20 20.0**	**+0.9**
KGM	**Kluang**	**5.12**	**42**	P		**Pn**	**09 20 55.8**	**+2.8**
PENI	**Pendagan**	**6.42**	**125**	⇓*iP*		**Pn**	**09 21 11.0**	**-0.4**
PENI				pmax		pmax		
	comp=Z,242nm,0.5s							
PENI	**Pendagan**	**6.42**	**125**	⇓*iP*		**Pn**	**09 21 11.0**	**-0.4**
	comp=Z,224nm,0.6s							
IPM	**Ipoh**	**6.47**	**10**	P		**Pn**	**09 21 12.4**	**+0.3**
KULM	**Kulim**	**7.12**	**6**	⇑*eP*		**Pn**	**09 21 20.6**	**-0.6**
KULM				*eS*		rx	09 23 19.5	
PASI	**Pasiripis**	**7.43**	**131**	⇑*iP*		**Pn**	**09 21 25.5**	**-0.1**
PASI				*eS*		**Sn**	**09 22 43.4**	**-6.4**
PULI	**Pulasari**	**7.52**	**127**	⇑*iP*		**Pn**	**09 21 25.9**	**-0.9**
	comp=Z,110nm,0.2s							
SNG	**Songkhla**	**8.98**	**4**	P		**P**	**09 21 48.0**	**+0.9**
	comp=Z,328nm,0.9s							
KSM	**Kuching**	**10.90**	**73**	P		**P**	**09 22 12.9**	**-0.7**
SRDI	**Scrawed**	**15.62**	**115**	⇓*iP*		**P**	**09 23 15.1**	**-1.2**
SRDI				pmax		pmax		
	comp=Z,65nm,0.2s							
SRDI	**Scrawed**	**15.62**	**115**	⇓*iP*		**P**	**09 23 15.1**	**-1.2**
	comp=Z,130nm,0.2s							
KELI	**Kelakatan**	**15.84**	**114**	⇓*iP*		**P**	**09 23 20.2**	**+1.1**
RATI	**Rata**	**16.98**	**114**	⇓*iP*		**P**	**09 23 33.7**	**+0.2**
KEDI	**Kedomdong**	**17.43**	**113**	⇓*iP*		**P**	**09 23 40.4**	**+1.3**
	comp=Z,45nm,0.2s							
KKM	**Kota Kinabalu**	**18.06**	**64**	*eP*		**P**	**09 23 46.8**	**-0.3**
KKM	**Kota Kinabalu**	**18.06**	**64**	P		**P**	**09 23 49.7**	**+2.6**
TANI	**Tanete Lipujan**	**19.51**	**95**	⇑*iP*		**P**	**09 24 03.9**	**-0.4**
NINI	**Niniconang**	**19.98**	**98**	*eP*		**P**	**09 24 12.4**	**+3.0**
CM31	**Chiang Mai Arr**	**20.19**	**357**	*eP*		**P**	**09 24 09.6**	**-2.0**
CM31				*e*			09 24 18.7	
CMAR	**Chiang Mai Arr**	**20.19**	**357**	P		**P**	**09 24 08.8**	**-2.8**
	comp=Z,4.2nm,0.8s,baz=186,slow=9.8,SNR=19							
CMAR				sP			09 24 18.9	
	comp=Z,8.5nm,0.8s,baz=184,slow=9.2,SNR=8.3							
NANT	**Nan**	**20.52**	**2**	⇑P		**P**	**09 24 12.5**	**-2.5**
	comp=Z,112nm,0.7s							
CHG	**Chiang Mai**	**20.54**	**357**	P		**P**	**09 24 26.5**	**+11**
	comp=Z,11nm,0.9s							
PALK	**Pallekele**	**21.20**	**295**	*eP*		**P**	**09 24 22.7**	**+0.7**
	comp=Z,24nm,1.0s,mb4.5							
QIZ	**Qiongzhong**	**22.92**	**25**	P		**P**	**09 24 38.8**	**-0.4**
QIZ				LR		LR		
	comp=N,328nm,11.5s,MS4.3							
QIZ				LR		LR		
	comp=E,595nm,13.7s,MS4.3							
QIZ				LR		LR		
	comp=Z,450nm,14.1s,MS4.1							
VIS	**Vishakhapatnam**	**25.39**	**321**	*eP*		**P**	**09 25 12.6**	**+10**
KMI	**Kunming**	**26.94**	**6**	P		**P**	**09 25 19.5**	**+2.2**
KMI				AP		pP	09 25 28.1	+2.2
KMI				S		**S**	**09 29 57.4**	**+6.8**
KMI				AMB		AMB		
	comp=Z,12nm,0.5s,mb4.7							
KMI				AMB		AMB		
	comp=Z,95nm,4.2s							
KMI				LR		LR		
	comp=N,287nm,14.4s,MS4.3							
KMI				LR		LR		
	comp=E,469nm,12.9s,MS4.3							
KMI				LR		LR		
	comp=Z,386nm,16.8s,MS4.0							
KMI	**Kunming**	**26.94**	**6**	P		**P**	**09 25 19.5**	**+2.2**
	comp=Z,12nm,0.5s,mb4.7							
KMI				pP		pP	09 25 28.1	+2.2
KMI				S		**S**	**09 29 57.4**	**+6.8**
KMI				sS			09 30 11.0	
KMI				SS		SS	09 31 09.5	+4.8
KMI				LR		LR		
	comp=Z,390nm,16.8s,MS4.0							
MBWA	**Marble Bar**	**27.24**	**136**	P		**P**	**09 25 20.3**	**+0.3**
	comp=Z,16nm,1.1s,mb4.5							
SHL	**Shillong**	**28.33**	**345**	*eP*		**P**	**09 25 30.0**	**+0.2**
SHL				*eS*		**S**	**09 30 29.5**	**+17**
GYA	**Guiyang**	**28.88**	**13**	P		**P**	**09 25 41.1**	**+6.4**
GYA				AP		pP	09 25 50.3	+6.9
GYA				XP		sP	09 25 54.4	+7.1
GYA				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.9							
GYA				LR		LR		
	comp=N,610nm,14.1s,MS4.4							
GYA				LR		LR		
	comp=E,420nm,14.5s,MS4.4							
GYA				LR		LR		
	comp=Z,580nm,14.8s,MS4.3							
FITZ	**Fitzroy Crossi**	**29.97**	**124**	*eP*		**P**	**09 25 44.2**	**-0.5**
	comp=Z,14nm,0.9s,mb4.7							
FITZ				*e*		pP	09 25 52.8	-0.6
FITZ	**Fitzroy Crossi**	**29.97**	**124**	P		**P**	**09 25 44.3**	**-0.4**
	comp=Z,21nm,0.9s,mb4.8,baz=286,slow=4.8,SNR=11							
FITZ				pP		pP	09 25 52.9	-0.5
	comp=Z,68nm,0.9s,baz=281,slow=5.2,SNR=18							
JIRN	**Jiri**	**32.16**	**337**	*eP*		**P**	**09 26 05.5**	**+1.7**
	comp=Z,8.4nm,0.3s,mb5.1							
PKI	**Pulchoki**	**32.40**	**335**	*eP*		**P**	**09 26 07.8**	**+1.9**
	comp=Z,27nm,0.8s,mb5.1							
GUN	**Gumba**	**32.51**	**336**	*eP*		**P**	**09 26 07.3**	**+0.5**
	comp=Z,81nm,0.5s							
DMN	**Daman**	**32.56**	**335**	*eP*		**P**	**09 26 08.1**	**+0.8**
KKN	**Kakani**	**32.65**	**335**	*eP*		**P**	**09 26 08.0**	**0.0**
	comp=Z,51nm,0.9s,mb5.5							
GKN	**Gorkha**	**33.10**	**335**	*eP*		**P**	**09 26 11.3**	**-0.7**
	comp=Z,37nm,0.7s,mb5.4							
KOLN	**Koldanda**	**33.36**	**333**	*eP*		**P**	**09 26 14.3**	**+0.1**
	comp=Z,43nm,0.8s,mb5.4							
MUN	**Mundaring**	**33.69**	**155**	*eP*		pP	09 26 28.8	+3.0
	comp=Z,152nm,1.1s							
KLBR	**Kellerberrin**	**34.05**	**152**	*eP*		pP	09 26 31.7	+2.7
	comp=Z,496nm,1.0s							
NWAO	**Narrogin (SRO)**	**34.94**	**154**	sP		pP	09 26 39.1	+2.5
	comp=Z,32nm,1.1s,baz=334,slow=8.3,SNR=8.6							
NWAO	**Narrogin (SRO)**	**34.94**	**154**	*eP*		pP	09 26 39.0	+2.3
XAN	**Xi'an**	**36.68**	**13**	P		**P**	**09 26 40.0**	**-2.5**
XAN				AP		pP	09 26 49.0	-2.3
XAN				AMB		AMB		
	comp=Z,8.0nm,0.6s,mb4.7							
XAN				LR		LR		
	comp=N,223nm,11.2s,MS4.3							
XAN				LR		LR		
	comp=E,295nm,14.8s,MS4.3							
XAN				LR		LR		
	comp=Z,347nm,11.8s,MS4.4							
WRA	**Warramunga Arr**	**38.15**	**121**	P		**P**	**09 26 54.2**	**-0.8**
	comp=Z,3.0nm,0.4s,mb4.4,baz=308,slow=9.2,SNR=61							
WRA				pP		pP	09 27 03.3	-0.6
	comp=Z,8.5nm,0.4s,baz=304,slow=9.0,SNR=19							
WRA				S		**S**	**09 32 41.6**	**-4.3**
	comp=Z,0.8nm,0.9s,baz=298,slow=14,SNR=2.8							
WRAB	**Tennant Creek**	**38.15**	**121**	*eP*		**P**	**09 26 54.7**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,55nm,1.1s,mb5.2							
WRAB	**Tennant Creek**	**38.15**	**121**	*eP*		**P**	**09 26 54.7**	**-0.4**
	comp=Z,55nm,1.1s,mb5.2							
WB2	**Warramunga Arr**	**38.16**	**121**	⇓*iP*		**P**	**09 26 54.9**	**-0.2**
WB2				*e*		pP	09 27 04.5	+0.6
NJ2	**Nanjing**	**38.19**	**26**	*eP*		**P**	**09 26 59.9**	**+4.7**
NJ2				AP		pP	09 27 09.6	+5.5
NJ2				XP		sP	09 27 13.8	+6.0
NJ2				AMB		AMB		
	comp=Z,20nm,0.9s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,600nm,4.8s							
NJ2				LR		LR		
	comp=N,620nm,21.5s,MS4.7							
NJ2				LR		LR		
	comp=E,960nm,20.0s,MS4.7							
SSE	**Sheshan**	**38.50**	**30**	*eP*		**P**	**09 27 03.0**	**+5.2**
SSE				AP		pP	09 27 12.8	+6.1
SSE				XP		sP	09 27 16.9	+6.5
SSE				AMB		AMB		
	comp=Z,24nm,0.7s,mb5.0							
SSE				AMB		AMB		
	comp=Z,35nm,3.5s							
SSE				LR		LR		
	comp=N,177nm,23.5s,MS4.1							
SSE				LR		LR		
	comp=E,268nm,23.5s,MS4.1							
SSE				LR		LR		
	comp=Z,254nm,11.9s							
FORT	**Forrest**	**39.22**	**140**	*eP*		pP	09 27 15.5	+2.8
	comp=Z,740nm,0.9s							
ASPA	**Alice Springs**	**39.41**	**126**	*eP*		**P**	**09 27 06.1**	**+0.6**
ASPA				*e*		pP	09 27 14.7	+0.3
ASPA				*e*S		**S**	**09 33 03.4**	**-1.6**
ASAR	**Alice Springs**	**39.42**	**126**	P		**P**	**09 27 06.2**	**+0.6**
ASAR				*PP		pP	09 27 14.6	+0.2
ASAR				S		**S**	**09 33 04.6**	**-0.4**
ASAR	**Alice Springs**	**39.42**	**126**	P		**P**	**09 27 06.2**	**+0.6**
	comp=Z,5.8nm,0.6s,mb4.5,baz=301,slow=7.9,SNR=98							
ASAR				pP		pP	09 27 14.6	+0.1
	comp=Z,38nm,1.1s,baz=300,slow=7.5,SNR=19							
ASAR				pPcP			09 29 24.8	
	comp=Z,2.9nm,0.6s,baz=307,slow=3.4,SNR=4.9							
ASAR				S		**S**	**09 33 04.5**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=296,slow=14,SNR=8.1							
GTA	**Gaotai**	**41.05**	**360**	*eP*		**P**	**09 27 17.9**	**-0.9**
GTA				PP		PP	09 28 56.0	-0.4
GTA				PPP		PPP	09 29 25.6	-0.8
GTA				S		**S**	**09 33 29.3**	**+0.1**
GTA				XS			09 33 44.6	
GTA				AMB		AMB		
	comp=Z,4.0nm,1.2s,mb3.9							
GTA				AMB		AMB		
	comp=Z,43nm,6.1s							
GTA				LR		LR		
	comp=N,136nm,18.6s,MS4.2							
GTA				LR		LR		
	comp=E,333nm,19.8s,MS4.2							
GTA				LR		LR		
	comp=Z,231nm,17.9s,MS4.1							
WMQ	**Urumqi**	**46.76**	**348**	P		**P**	**09 28 06.0**	**+1.2**
WMQ				AP		pP	09 28 16.0	+2.2
WMQ				XP		sP	09 28 20.0	+2.6
CTA	**Charters Tower**	**48.74**	**115**	*eP*		pP	09 28 28.8	-0.9
	comp=Z,12nm,1.0s							
CTA	**Charters Tower**	**48.74**	**115**	pP		pP	09 28 29.0	-0.7
	comp=Z,16nm,1.1s,baz=275,slow=12,SNR=4.1							
STKA	**Stephens Creek**	**49.32**	**132**	*eP*		**P**	**09 28 26.0**	**+1.0**
	comp=Z,6.4nm,0.8s,mb4.7							
STKA				*e*		pP	09 28 35.8	+1.8
STKA	**Stephens Creek**	**49.32**	**132**	P		**P**	**09 28 26.1**	**+1.1**
	comp=Z,2.6nm,0.4s,mb4.6,baz=311,slow=6.5,SNR=6.9							
STKA				pP		pP	09 28 33.5	-0.5
	comp=Z,39nm,0.8s,baz=305,slow=7.3,SNR=24							
STKA				sP		sP	09 28 35.9	-1.7
	comp=Z,36nm,0.7s,baz=310,slow=8.3,SNR=24							
SONM	**Songino Array**	**49.79**	**6**	P		**P**	**09 28 28.2**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.6,baz=186,slow=9.7,SNR=27							
SONM				pP		pP	09 28 36.6	-0.8
	comp=Z,10nm,0.8s,baz=188,slow=10.0,SNR=22							
SONM				pPcP			09 29 58.9	
	comp=Z,5.5nm,0.8s,baz=180,slow=4.9,SNR=6.6							
AAK	**Ala-Archa**	**49.86**	**336**	*eP*		**P**	**09 28 28.6**	**-0.4**
AAK				*e*		pP	09 28 37.4	-0.6
AAK				pmax		pmax		
	comp=Z,23nm,1.4s,mb5.0							
AAK	**Ala-Archa**	**49.86**	**336**	*eP*		**P**	**09 28 28.6**	**-0.3**
	comp=Z,23nm,1.4s,mb5.0							
AAK				*e*		pP	09 28 37.4	-0.7
ULN	**Ulaanbaatar**	**49.89**	**6**	*eP*		**P**	**09 28 28.6**	**-0.5**
ULN				*e*		pP	09 28 37.2	-1.0
ULN				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
ULN	**Ulaanbaatar**	**49.89**	**6**	*eP*		**P**	**09 28 28.6**	**-0.6**
	comp=Z,5.2nm,0.8s,mb4.6							
ULN				*e*		pP	09 28 37.2	-1.0
FRU	**Bishkek**	**49.97**	**336**	*eP*		pP	09 28 39.5	+0.6
FRU				pmax		pmax		
	comp=Z,44nm,1.8s,mb5.2							
MKAR	**Makanchi Array**	**50.85**	**344**	P		**P**	**09 28 36.5**	**0.0**
	comp=Z,5.6nm,0.4s,mb4.8,baz=152,slow=7.6,SNR=79							
MKAR				pP		pP	09 28 44.9	-0.6
	comp=Z,12nm,0.6s,baz=159,slow=8.2,SNR=20							
MKAR	**Makanchi Array**	**50.85**	**344**	P		**P**	**09 28 36.5**	**0.0**
MKAR				pP		pP	09 28 44.9	-0.6
CN2	**Changchun**	**50.87**	**24**	*eP*		pP	09 28 44.3	-1.4
CN2				*e*AP		pP	09 28 52.5	+6.8
CN2				*e*S		**S**	**09 35 52.1**	**+2.5**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.9							
CN2				LR		LR		
	comp=Z,260nm,13.0s,MS4.4							
KKAR	**Karatay Array**	**51.97**	**333**	*iP*		**P**	**09 28 44.1**	**-0.9**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
ZAK	**Zakamensk**	**52.10**	**3**	*eP*		pP	09 28 51.2	-3.7
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.2s,mb3.6							
MJAR	**Matsushiro Arr**	**52.20**	**39**	P		**P**	**09 28 46.1**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.8,baz=211,slow=9.9,SNR=3.5							
MJAR				pP		pP	09 28 54.3	-1.6
	comp=Z,1.4nm,0.7s,baz=231,slow=7.0,SNR=4.3							
MDJ	**Mudanjiang**	**53.28**	**26**	P		**P**	**09 28 55.0**	**+0.2**
MDJ				AP		pP	09 29 04.1	+0.3
MDJ				XP		sP	09 29 07.8	+0.5
MDJ				PP		PP	09 30 56.9	+0.5
MDJ				S		**S**	**09 36 26.0**	**+3.5**
MDJ				AMB		AMB		
	comp=Z,8.0nm,2.0s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,99nm,4.1s							
MDJ				LR		LR		
	comp=N,272nm,22.9s,MS4.4							
MDJ				LR		LR		
	comp=E,244nm,23.8s,MS4.4							
MDJ				LR		LR		
	comp=Z,281nm,14.1s							
MOY	**Mondy**	**53.31**	**1**	*eP*		**P**	**09 29 00.5**	**+5.6**
TLY	**Talaya**	**53.41**	**3**	*iP*		**P**	**09 28 58.0**	**+2.4**
ZAL	**Zalesovo**	**56.99**	**349**	*iP*		**P**	**09 29 20.5**	**-1.0**
ZAL				pmax		pmax		
	comp=Z,7.0nm,0.4s							
ZAL	**Zalesovo**	**56.99**	**349**	P		**P**	**09 29 19.9**	**-1.6**
	comp=Z,6.5nm,0.4s,mb5.0,baz=329,slow=5.5,SNR=22							
KLR	**Kul'dur**	**57.82**	**24**	*eP*		**P**	**09 29 27.2**	**-0.2**
ASAJ	**Asahikawa**	**59.53**	**35**	LR		LR	09 56 54.3	
	comp=Z,56nm,19.4s,MS3.7,baz=184,slow=38							
BVAR	**Borovoye Array**	**60.00**	**340**	P		**P**	**09 29 41.1**	**-1.4**
	comp=Z,3.4nm,0.4s,mb4.7,baz=142,slow=9.3,SNR=19							
BOD	**Bodaibo**	**60.53**	**9**	*eP*		**P**	**09 29 44.2**	**-1.9**
BOD				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.8							
YSS	**Yuzh-Sakhalins**	**61.39**	**32**	*eP*		**P**	**09 29 51.4**	**-0.6**
YSS				*e*		pP	09 29 59.7	-1.6
YSS				pmax		pmax		
	comp=Z,21nm,1.0s,mb5.2							
YSS	**Yuzh-Sakhalins**	**61.39**	**32**	*eP*		**P**	**09 29 51.4**	**-0.6**
	comp=Z,21nm,1.0s,mb5.2							
YSS				*e*		pP	09 29 59.7	-1.6
KMBO	**Kilima Mbogo**	**62.64**	**270**	P		**P**	**09 30 00.2**	**-0.7**
KMBO				*e*		pP	09 30 11.3	+1.2
KMBO				pmax		pmax		
	comp=Z,6.0nm,1.2s							
KMBO	**Kilima Mbogo**	**62.64**	**270**	P		**P**	**09 30 02.0**	**+1.2**
	comp=Z,1.7nm,1.0s,mb4.2,baz=68,slow=12,SNR=4.8							
KMBO				sP		sP	09 30 11.7	-1.7
	comp=Z,1.2nm,0.6s,baz=48,slow=12,SNR=3.7							
KMBO	**Kilima Mbogo**	**62.64**	**270**	P		**P**	**09 30 00.2**	**-0.7**
	comp=Z,5.6nm,1.2s,mb4.6							
KMBO				*e*		pP	09 30 11.2	+1.1
GNI	**Garni**	**65.35**	**316**	*iP*		pP	09 30 25.0	-2.5
SVE	**Sverdlovsk**	**66.50**	**338**	*eP*		**P**	**09 30 32.0**	**+6.7**
SVE				pmax		pmax		
	comp=Z,80nm,1.9s,mb5.4							
ARU	**Arti**	**67.02**	**337**	*eP*		pP	09 30 33.6	-4.3
YAK	**Yakutsk**	**67.61**	**15**	*iP*		pP	09 30 40.1	-1.4
KIV	**Kislovodsk**	**68.36**	**319**	*eP*		**P**	**09 30 34.5**	**-2.8**
KIV				pmax		pmax		
	comp=N,7.0nm,1.2s							
KIV				pmax		pmax		
	comp=Z,12nm,1.2s,mb4.8							
KIV				MLR		MLR		
	comp=N,12nm,19.0s,MS3.7							
KIV				MLR		MLR		
	comp=E,42nm,19.0s,MS3.7							
KIV				MLR		MLR		
	comp=Z,44nm,19.0s,MS3.7							
GOF	**Gofitskoye**	**68.62**	**320**	⇑*iP*		pP	09 30 48.0	-0.1
GOF				pmax		pmax		
	comp=Z,30nm,1.3s,mb5.1							
MALT	**Malatya**	**69.17**	**312**	*eP*		**P**	**09 30 41.8**	**-0.5**
MALT				*e*		pP	09 30 49.6	-2.0
MALT				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3							
MALT	**Malatya**	**69.17**	**312**	*eP*		**P**	**09 30 41.8**	**-0.5**
	comp=Z,4.2nm,0.9s,mb4.4							
MALT				*e*		pP	09 30 49.6	-2.0
SOKR	**Solikamsk**	**69.88**	**338**	⇑*iP*		**P**	**09 30 52.6**	**+6.3**
SOKR				pmax		pmax		
	comp=Z,30nm,0.9s,mb5.2							
SOC	**Sochi**	**70.18**	**318**	*eP*		**P**	**09 30 52.8**	**+4.4**
SOC				*e*			09 33 25.1	
SOC				*e*			09 40 38.6	
SOC				pmax		pmax		
	comp=Z,42nm,0.8s,mb5.4							
SOC				pmax		pmax		
	comp=N,18nm,0.7s							
SOC				pmax		pmax		
	comp=E,22nm,1.0s							
MATP	**Matopo**	**71.95**	**249**	P		**P**	**09 31 00.5**	**+1.0**
	comp=E,0.6nm,0.3s,mb4.0,baz=63,slow=1.1,SNR=4.7							
MATP				sP		sP	09 31 11.3	-0.7
	comp=E,4.9nm,0.9s,baz=84,slow=6.4,SNR=6.2							
BRTR	**Keskin Array B**	**73.15**	**312**	P		**P**	**09 31 05.0**	**-1.2**
	comp=E,1.6nm,0.8s,mb4.0,baz=135,slow=7.0,SNR=6.1							
BRTR				pP		pP	09 31 14.9	-0.7
	comp=E,2.7nm,0.9s,baz=135,slow=5.2,SNR=6.4							
VOR	**Voronezh**	**73.79**	**326**	*eP*		**P**	**09 31 16.5**	**+6.8**
VOR				pmax		pmax		
	comp=Z,50nm,1.2s,mb5.3							
SIM	**Simferopol'**	**74.42**	**318**	*eP*		pP	09 31 23.1	+0.2
SIM				pmax		pmax		
	comp=Z,15nm,0.7s,mb5.0							
BOSA	**Boshof**	**75.66**	**241**	P		**P**	**09 31 20.2**	**-0.8**
	comp=Z,2.1nm,0.9s,mb4.1,baz=79,slow=17,SNR=2.7							
BOSA				sP		sP	09 31 32.8	-0.8
	comp=Z,1.7nm,0.8s,baz=112,slow=5.0,SNR=2.3							
TIXI	**Tiksi**	**75.71**	**9**	*iP*		**P**	**09 31 20.0**	**-0.4**
MOS	**Moscow**	**76.31**	**329**	*eP*		pP	09 31 33.5	0.0
MOS				pmax		pmax		
	comp=Z,75nm,1.0s,mb5.6							
OBN	**Obninsk**	**76.61**	**328**α	*iP*		pP	09 31 33.7	-1.4
OBN							09 34 24.0	
OBN				pmax		pmax		
	comp=Z,86nm,1.7s,mb5.4							
OBN	**Obninsk**	**76.61**	**328**	*eP*		**P**	**09 31 25.2**	**-0.6**
	comp=Z,82nm,1.4s,mb5.5							
OBN				*e*		pP	09 31 34.8	-0.4
AKASG	**Malin Array Be**	**79.30**	**322**	P		**P**	**09 31 39.6**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=93,slow=4.2,SNR=4.7							
AKASG				pP		pP	09 31 49.4	-0.7
	comp=Z,3.5nm,0.8s,baz=86,slow=4.7,SNR=9.9							
VRI	**Vrincioaia**	**79.67**	**317**	P		pP	09 31 52.2	0.0
MLR	**Muntele Rosu**	**80.12**	**317**	P		pP	09 31 54.0	-0.6
JOF	**Joensuu**	**82.03**	**335**	*ep*		pP	09 32 02.9	-1.4
	comp=Z,18nm,0.8s							
VNDA	**Vanda**	**82.34**	**169**	P		**P**	**09 31 57.2**	**+1.0**
	comp=Z,1.3nm,1.1s,mb3.8,slow=8.1,SNR=1.9							
VNDA				pP		pP	09 32 06.7	+1.1
	comp=Z,0.6nm,0.4s,baz=315,slow=3.4,SNR=4.2							
VNDA	**Vanda**	**82.34**	**169**	P		**P**	**09 31 57.2**	**+1.0**
VNDA				pP		pP	09 32 06.7	+1.1
LVZ	**Lovozero**	**82.60**	**340**	⇓*eP*		pP	09 32 03.9	-3.3
LVZ				pmax		pmax		
	comp=Z,18nm,0.8s,mb5.2							
LVZ				pmax		pmax		
	comp=N,9.0nm,1.5s							
LVZ				pmax		pmax		
	comp=E,2.0nm,0.7s							
APA	**Apatity**	**82.91**	**339**	⇓*iP*		pP	09 32 07.5	-1.3
APA				pmax		pmax		
	comp=Z,29nm,1.2s,mb5.2							
BILL	**Bilibino**	**83.03**	**20**	*eP*		pP	09 32 09.9	+0.5
BILL				pmax		pmax		
	comp=Z,7.0nm,1.5s,mb4.5							
BILL				MLR		MLR		
	comp=Z,100nm,16.0s,MS4.3							
KOLS	**Kolonicke sedl**	**83.27**	**320**	*eP*		**P**	**09 32 03.4**	**+1.9**
KOLS				*ep*P		pP	09 32 12.7	+1.7
CRVS	**Cervenica-Dubn**	**83.79**	**319**	*eP*		pP	09 32 16.6	+2.9
CRVS	**Cervenica-Dubn**	**83.79**	**319**	*ep*P		pP	09 32 16.6	+2.9
FINES	**FINESS Array B**	**83.93**	**332**	P		**P**	**09 32 05.1**	**+0.5**
FINES				*SP		sP	09 32 15.7	-1.4
FINES	**FINESS Array B**	**83.93**	**332**	P		**P**	**09 32 05.1**	**+0.5**
	comp=Z,1.2nm,0.4s,mb4.4,baz=107,slow=5.3,SNR=25							
FINES				pP		pP	09 32 13.7	-0.4
	comp=Z,9.6nm,0.7s,baz=96,slow=5.5,SNR=26							
FINES				sP		sP	09 32 15.7	-1.4
	comp=Z,8.6nm,0.6s,baz=94,slow=6.0,SNR=23							
FINES				LR		LR	10 14 29.3	
	comp=Z,56nm,20.1s,MS3.9,baz=272,slow=39							
KAF	**Kangasniemi**	**84.00**	**333**	*ep*		pP	09 32 13.7	-0.7
	comp=Z,26nm,0.7s,baz=100

RKT	Rikitea	121.12	118	*e*LR	LR	10 15 40.8		
	comp=Z,118nm,31.2s							
NVAR	Mina Array Bea	129.53	39	pPKP		09 38 52.8		
	comp=Z,0.5nm,0.6s,baz=118,slow=0.4,SNR=4.2							
PDAR	Pinedale Array	131.48	29	pPKP		09 38 57.4		
	comp=Z,0.4nm,0.5s,baz=63,slow=3.3,SNR=2.6							
CPUP	Villa Florida	144.40	217	PKP	PKPdf	09 39 11.6	-3.9	
	comp=Z,2.4nm,0.7s,baz=147,slow=4.2,SNR=2.8							
CPUP	Villa Florida	144.40	217	PKPdf	PKPdf	09 39 11.7	-3.8	
TXAR	Lajitas Array	144.63	37	PKP	PKPdf	09 39 12.4	-3.5	
	comp=Z,0.7nm,0.6s,baz=223,slow=1.4,SNR=19							
MIAR	Mount Ida	145.11	20	*e*PKPdf	PKPdf	09 39 12.2	-4.4	
WVT	Waverly	145.13	11	*e*PKP	PKPdf	09 39 13.5	-3.0	
TZTN	Tazewell	145.32	5	*e*PKP	PKPdf	09 39 12.9	-3.9	
JCT	Junction City	145.93	31	*e*PKP	PKPdf	09 39 15.3	-2.8	
PLAL	Pickwick Lake	146.19	12	PKP	PKPdf	09 39 14.6	-3.8	
CPCT	Cooper Cave	146.30	7	*e*PKP	PKPdf	09 39 15.6	-2.9	

IDC 24 09:23:47.3±3.1, 1.21N×97.24E, mb3.8/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, MS4.2/3, Ms1 4.2/3, ms1mx3.6/27, Error ellipse: s-maj=123.0km s-min=28.5km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.01	122	P	P	09 31 40.6	-1.7
	0.8nm,0.6s,baz=300,slow=9.1,SNR=4.8						
SONM	Songino Array	47.11	8	P	P	09 32 21.6	-1.5
	1.1nm,0.9s,baz=188,slow=6.9,SNR=4.6						
MKAR	Makanchi Array	47.24	346	P	P	09 32 22.9	-1.2
	0.8nm,0.6s,baz=148,slow=8.1,SNR=5.8						
ZAL	Zalesovo	53.54	351	P	P	09 33 09.0	-3.0
	1.1nm,0.7s,baz=301,slow=5.2,SNR=3.7						
BVAR	Borovoye Array	56.25	341	P	P	09 33 28.9	-2.9
	0.6nm,0.6s,baz=150,slow=12,SNR=4.3						
DZM	Mont Dzumac	71.25	114	LR	LR	10 06 36.5	
	comp=Z,399nm,18.7s,baz=225,slow=36						
RAO	Raoul Island	86.08	119	LR	LR	10 12 33.5	
	comp=Z,217nm,20.9s,baz=315,slow=34						
AFI	Afiamalu	91.24	104	LR	LR	10 18 43.8	
	comp=Z,18nm,18.4s,baz=180,slow=36						

ATH ***24*** *09:26:18.4, 41.40N×22.71E, h21km, MD3.4/3*
THE ***24*** *09:26:18.5, 41.39N×22.68E, h10km, ML3.6*
NEIC ***24*** *09:26:18.5, 41.39N×22.72E, h19km, MD3.4(ATH), After ATH.*
CSEM ***24*** *09:26:18.2±0.1, 41.42N×22.65E, h2km, ML3.6, Error ellipse: s-maj=1.7km s-min=1.4km az=148.0*
ISC 24 09:26:18.1±0.4, 41.40N±0.02×22.70E±0.03, h7km±4km, n31, σ0.88/43, 6C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	Valandovo	0.13	229	⇑*i*Pg	Pg	09 26 21.0	+0.1
VAY				⇑*i*Sg	Sg	09 26 22.9	+0.1
KNT	Kendrikon	0.28	148	*e*Pg	Pg	09 26 24.1	+0.1
GRG	Griva	0.50	207	*e*Pg	Pg	09 26 27.8	-0.4
KKB	Krupnik	0.55	32	*i* Pg	Pg	09 26 29.0	-0.1
SRS	Serrai	0.73	113	*e*Pg	Pg	09 26 32.6	-0.2
SRS				*e*Sg	Sg	09 26 43.1	+0.5
SOH	Sokhos	0.76	139	*e*Pg	Pg	09 26 32.9	-0.6
SOH				*e*Sg	Sg	09 26 44.1	+0.5
MMB	Musomiste	0.80	76	*i* P	Pb	09 26 34.0	+0.1
THE	Thessaloniki	0.80	165	*e*Sg	Sg	09 26 45.2	+0.5
NVR	Nevrokopi	0.88	93	⇑*i*PN	Pn	09 26 35.1	-1.6
NVR				*e*SN	Sn	09 26 47.3	-2.6
SKO	Skopje	1.10	302	⇑*i*Pg	Pg	09 26 40.5	+0.4
	comp=Z,0.1nm,0.5s						
SKO				*i* Sg	Sg	09 26 55.9	+1.1
PLG	Polygyros	1.17	151	*e*PN	Pn	09 26 39.8	-1.2
PLG				*e*SN	Sn	09 26 56.0	-1.4
FNA	Florina	1.18	239	*e*Pg	Pg	09 26 40.2	-1.4
VTS	Vitosha	1.25	18	*i* P	Pb	09 26 43.0	+1.4
KZN	Kozani	1.30	213	*e*PN	Pn	09 26 43.2	+0.4
KZN				*e*SN	Sn	09 27 01.4	+0.8
LIT	Litokhoron	1.31	187	*e*Pb	Pb	09 26 42.4	-0.4
OUR	Ouranopolis	1.45	137	*e*Pb	Pb	09 26 45.7	+0.7
RZN	Rozhen	1.54	79	*i* P	Pn	09 26 47.5	+1.3
PGB	Panagyurishte	1.58	43	*i* P	Pn	09 26 48.0	+1.1
PAIG	Paliouri	1.65	153	*e*Pb	Pb	09 26 48.0	-0.6
PAIG				*e*Sb	Sb	09 27 11.6	+2.1
PLD	Plovdiv	1.66	64	*i* Pg	Pg	09 26 51.0	-0.2
ZAPS	Zavoj/Pirot	1.89	358	⇓*i*Pn	Pn	09 26 51.8	+0.5
ZAPS				Sg	Sg	09 27 15.8	-5.4
KDZ	Kurdzhali	2.06	82	*i* P	Pn	09 26 53.2	-0.4
NEO	Neokhori	2.13	169	*e*PN	Pn	09 26 54.8	+0.1
RDO	Rodhopi	2.16	96	*e*PN	Pn	09 26 55.5	+0.5
AGG	Agios Georgios	2.40	187	*e*Pn	Pn	09 26 58.2	-0.2
BOLS	Boljevac	2.49	348	⇑*i*Pn	Pn	09 27 04.4	+4.6
BOLS				Sn	Sn	09 27 35.3	+4.6
EVR	Evrytania	2.58	196	*e*PN	Pn	09 27 01.1	+0.1
EVR	Evrytania	2.58	196	*e*Pb	Pb	09 27 04.1	-0.3
ALN	Alexandroupoli	2.58	100	*e*Pn	Pn	09 27 01.3	+0.2
GRUS	Gruza	2.88	330	⇓*i*Pn	Pn	09 27 06.0	+0.6
GRUS				Sn	Sn	09 27 40.9	+0.1
DIVS	Divcibare	3.35	324	⇑*i*Pn	Pn	09 27 11.5	-0.5
DIVS				Sg	Sg	09 28 07.4	-2.3

IDC ***24*** *09:32:15.9±0.4, 9.50S×111.95E, mb4.9/23, mb1 4.9/23, mb1mx4.9/25, mbtmp4.9/23, MS4.1/13, Ms1 4.1/13, ms1mx3.9/29, Error ellipse: s-maj=17.3km s-min=11.9km az=58.0*
BJI ***24*** *09:32:16.6, 9.60S×111.90E, h19km, mB5.2, mb5.4, Ms4.9, Msz4.5*
DJA ***24*** *09:32:18.1±0.6, 10.00S×111.75E, h39km±14km, mb5.5/1, Error ellipse: s-maj=23.5km s-min=4.7km az=179.0*
MOS ***24*** *09:32:19.4±1.2, 9.49S×111.90E, h33km, mb5.4/35, Error ellipse: s-maj=9.1km s-min=6.4km az=128.7*
HRVD ***24*** *09:32:21.7±0.4, 9.82S×111.97E, h16km±1km, MW4.8/51, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s51,c65; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.31±.18; $M_{\theta\theta}$0.31±.09; $M_{\phi\phi}$2.00±.14; $M_{r\theta}$-0.52±.32; $M_{\theta\phi}$0.20±.09; $M_{\phi r}$0.35±.39; Best double couple: $M_0$2.242×10^{16} NP1:ϕ_s17°, δ42°, λ-73°. NP2:ϕ_s175°, δ50°, λ-105°. Principal axes: T 2.043, Plg4°, Azm275°; N .402, Plg11°, Azm184°; P -2.442, Plg78°, Azm24°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***24*** *09:32:21.7±0.7, 9.58S×111.89E, h39km±6km, mb5.1/33 Error ellipse: s-maj=7.4km s-min=5.0km az=217.0*
ISC 24 09:32:20.7±0.6, 9.54S±0.04×111.85E±0.03, h50km±5km, h45km±7.1km: pP-P, n236, σ1§12/206, mb5.2/90, MS4.2/30, 27C-17D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	2.50	65	⇑*i*P	P	09 33 01.4	+1.6
SRDI				⇑*i*S	S	09 33 35.0	+5.8
KELI	Kelakatan	2.92	63	⇑*i*P	P	09 33 08.2	+2.3
KELI				⇑*i*S	S	09 33 46.6	+6.6
RATI	Rata	3.72	78	⇑*i*P	P	09 33 17.7	+0.5
RATI				⇑*i*S	S	09 34 03.3	+3.0
KEDI	Kedomdong	4.34	76	⇑*i*P	P	09 33 25.9	0.0
KEDI				⇑*i*S	S	09 34 16.3	+0.6
PULI	Pulasari	6.63	298	⇑*i*P	P	09 33 57.8	-0.2
PASI	Pasiripis	6.82	294	*e*P	P	09 34 01.2	+0.6
PASI				*e*S	S	09 35 17.1	-0.6
PENI	Pendagan	7.71	300	⇑*i*P	P	09 34 11.2	-1.8
PENI				pmax	pmax		
	comp=Z,175nm,0.5s						
PENI	Pendagan	7.71	300	⇑*i*P	P	09 34 11.2	-1.8
	comp=Z,158nm,0.6s						
NINI	Niniconang	9.35	58	*e*P	P	09 34 38.7	+3.1
KSM	Kuching	11.05	352	*e*P	P	09 34 58.4	-0.6
MBWA	Marble Bar	13.82	148	*e*P	P	09 35 26.8	-9.0
	comp=Z,18nm,0.7s						
FITZ	Fitzroy Crossi	15.85	124	*e*P	P	09 35 59.6	-2.6
	comp=Z,30nm,1.2s						
FITZ				*e*S	S	09 38 41.6	-15
FITZ	Fitzroy Crossi	15.85	124	Pn	P	09 35 57.4	-4.8
	comp=Z,0.7nm,0.3s,baz=321,slow=13,SNR=9.4						
FITZ				Sn	S	09 38 42.7	-14
	comp=Z,1.1nm,0.3s,baz=135,slow=20,SNR=4.0						
FITZ				LR	LR	09 42 06.5	
	comp=Z,468nm,18.2s,baz=311,slow=37						
KKM	Kota Kinabalu	16.08	16	P	P	09 36 02.6	-2.5
KULM	Kulim	18.49	322	*e*P	P	09 36 32.2	-3.0
KAKA	Kakadu	20.44	101	*e*P	P	09 36 56.2	-0.5
	comp=Z,24nm,0.6s						
KLBR	Kellerberrin	22.61	167	*e*P	P	09 37 18.0	-0.4
	comp=Z,644nm,1.1s,mb6.0						
MUN	Mundaring	22.69	170	*e*P	P	09 37 19.5	+0.4
	comp=Z,93nm,1.2s,mb5.1						
MUN	Mundaring	22.69	170	*e*P	P	09 37 19.5	+0.4
MUN				pmax	pmax		
	comp=Z,93nm,1.2s,mb5.1						
NWAO	Narrogin (SRO)	23.80	169	*e*P	P	09 37 24.8	-5.1
NWAO				pmax	pmax		
	comp=Z,44nm,1.2s						
NWAO	Narrogin (SRO)	23.80	169	P	P	09 37 29.2	-0.7
	comp=Z,19nm,0.9s,mb4.5,baz=343,slow=10,SNR=7.9						
NWAO	Narrogin (SRO)	23.80	169	*e*P	P	09 37 24.8	-5.1
	comp=Z,44nm,1.2s,mb4.8						
WRA	Warramunga Arr	24.05	118	P	P	09 37 31.7	-0.7
	comp=Z,22nm,0.6s,mb4.7,baz=293,slow=11,SNR=111						
WRAB	Tennant Creek	24.05	118	⇓*i*P	P	09 37 31.6	-0.9
WRAB	Tennant Creek	24.05	118	*e*P	P	09 37 31.5	-1.0
	comp=Z,48nm,0.8s,mb5.0						
WRAB				LR	LR		
	comp=Z,287nm,22.0s,MS3.7						
WB2	Warramunga Arr	24.06	118	*e*P	P	09 37 31.7	-0.8
ASPA	Alice Springs	25.31	126	*e*P	P	09 37 43.6	-1.0
ASAR	Alice Springs	25.32	126	P	P	09 37 43.6	-1.0
ASAR						09 41 17.8	
ASAR	Alice Springs	25.32	126	P	P	09 37 43.5	-1.1
	comp=Z,30nm,1.1s,mb4.7,baz=300,slow=7.9,SNR=80						
ASAR				PP	PP	09 38 12.9	-11
	comp=Z,9.5nm,0.7s,baz=301,slow=9.2,SNR=5.8						
ASAR				PcP	PcP	09 41 17.8	+0.5
	comp=Z,2.2nm,1.0s,baz=306,slow=1.8,SNR=4.0						
ASAR				S	S	09 42 20.0	+15
	comp=Z,0.7nm,0.9s,baz=310,slow=21,SNR=2.2						
ASAR				LR	LR	09 46 58.1	
	comp=Z,347nm,21.8s,MS3.8,baz=298,slow=35						
FORT	Forrest	25.97	147	*e*P	P	09 37 49.7	-1.0
	comp=Z,705nm,0.8s,mb6.2						
QIZ	Qiongzhong	28.46	356	*e*P	P	09 38 16.0	+2.5
CM31	Chiang Mai Arr	30.60	335	*e*P	P	09 38 33.8	+1.3
	comp=Z,4.5nm,0.4s,mb4.7						
CMAR	Chiang Mai Arr	30.60	335	*i* P	P	09 38 32.6	+0.1
CMAR				pmax	pmax		
	comp=Z,11nm,0.6s						
CMAR	Chiang Mai Arr	30.60	335	P	P	09 38 32.0	-0.5
	comp=Z,11nm,0.6s,mb4.9,baz=170,slow=8.0,SNR=46						
CMAR				PcP	PcP	09 41 31.9	+1.7
	comp=Z,3.0nm,1.0s,baz=214,slow=2.6,SNR=5.4						
CMAR				LR	LR	09 52 14.0	
	comp=Z,548nm,18.6s,MS4.2,baz=170,slow=39						
CTA	Charters Tower	34.80	111	P	P	09 39 09.6	+0.6
	comp=Z,8.6nm,0.9s,mb4.7,baz=282,slow=14,SNR=4.2						
CTA				LR	LR	09 51 55.5	
	comp=Z,216nm,20.1s,MS3.9,baz=54,slow=34						
CTAO	Charters Tower	34.80	111	*e*P	P	09 39 08.8	-0.2
CTAO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
CTAO				MLR	MLR		
	comp=Z,344nm,19.7s,MS4.1						
CTAO	Charters Tower	34.80	111	*e*P	P	09 39 08.8	-0.2
	comp=Z,14nm,0.9s,mb4.9						
CTAO				LR	LR		
	comp=Z,344nm,19.7s,MS4.1						
NACB	Ninganchiao	34.84	16	*e*P	P	09 39 11.8	+2.6
PALK	Pallekele	35.24	297	⇓*e*P	P	09 39 12.9	+0.1
	comp=Z,18nm,0.9s,mb5.0						
PALK				LR	LR		
	comp=Z,61nm,19.0s,MS3.4						
STKA	Stephens Creek	35.40	133	P	P	09 39 13.5	-0.5
	comp=Z,36nm,0.9s,mb5.3,baz=307,slow=8.2,SNR=57						
STKA				LR	LR	09 55 56.0	
	comp=Z,644nm,18.1s,MS4.4,baz=98,slow=40						
STKA	Stephens Creek	35.40	133	*e*P	P	09 39 12.8	-1.1
KMI	Kunming	35.58	346	P	P	09 39 18.9	+3.3
KMI				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
KMI				LR	LR		
	comp=N,619nm,14.0s,MS4.6						
KMI				LR	LR		
	comp=E,407nm,12.5s,MS4.6						
KMI				LR	LR		
	comp=Z,701nm,14.6s,MS4.6						
KMI	Kunming	35.58	346	P	P	09 39 18.9	+3.3
	comp=Z,23nm,1.0s,mb5.1						
GYA	Guiyang	36.14	352	⇑*i*P	P	09 39 21.8	+1.5
GYA				PP	PP	09 40 44.8	+1.0
GYA				S	S	09 45 03.3	+7.5
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
GYA				AMB	AMB		
	comp=Z,180nm,4.2s						
GYA				LR	LR		
	comp=N,480nm,16.8s,MS4.6						
GYA				LR	LR		
	comp=E,640nm,17.0s,MS4.6						
GYA				LR	LR		
	comp=Z,590nm,17.2s,MS4.4						
TRD	Trivandrum	39.10	296	*e*P	P	09 39 45.7	+0.5
TRD				*e*		09 39 48.4	
	comp=Z,36nm,0.8s						
JOW	Kunigami	39.52	23	LR	LR	09 56 52.3	
	comp=Z,160nm,18.9s,MS3.9,baz=124,slow=37						
WHN	Wuhan	39.93	3	*e*P	P	09 39 53.0	+1.1
SHL	Shillong	39.95	331	*e*P	P	09 39 52.5	+0.4
SHL				*e*S	S	09 45 55.5	+1.9
CD2	Chengdu	40.96	349	P	P	09 40 01.6	+1.2
CD2				S	S	09 46 09.3	+0.7
CD2				AMB	AMB		
	comp=Z,160nm,0.6s,mb5.8						
CD2				LR	LR		
	comp=E,530nm,14.2s						
CD2				LR	LR		
	comp=Z,350nm,12.6s,MS4.4						
SSE	Sheshan	41.39	12	*e*P	P	09 40 01.8	-2.1
SSE				AP	pP	09 40 10.8	-6.3
SSE				XP	sP	09 40 15.1	-8.0
SSE				S	S	09 46 14.3	-0.6
SSE				XS		09 46 30.3	
SSE				SS	SS	09 49 18.1	+2.7
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,45nm,3.8s						
SSE				LR	LR		
	comp=Z,106nm,22.8s,MS3.6						
SSE	Sheshan	41.39	12	*e*P	P	09 40 01.8	-2.1
	comp=Z,35nm,0.7s,mb5.1						
SSE				pP	pP	09 40 10.7	-6.4
SSE				sP	sP	09 40 15.1	-8.0
SSE				S	S	09 46 14.2	-0.7
SSE				sS		09 46 30.2	
SSE				SS	SS	09 49 18.1	+2.7
SSE				LR	LR		
	comp=Z,110nm,22.8s,MS3.7						
NJ2	Nanjing	41.90	9	*e*P	P	09 40 05.8	-2.3
NJ2				AP	pP	09 40 15.6	-5.8
NJ2				XP	sP	09 40 19.6	-7.8
NJ2				PP	PP	09 41 45.8	-2.8
NJ2				S	S	09 46 20.0	-2.5
NJ2				XS		09 46 36.0	
NJ2				AMB	AMB		
	comp=Z,150nm,1.0s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,480nm,5.8s						
NJ2				LR	LR		
	comp=N,2μm,18.0s,MS5.1						
NJ2				LR	LR		
	comp=E,1μm,17.4s,MS5.1						
NJ2				LR	LR		
	comp=Z,5μm,20.0s,MS5.4						
HYB	Hyderabad	42.43	309	*e*P	P	09 40 12.5	-0.2
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.1						
HYB	Hyderabad	42.43	309	*e*P	P	09 40 12.5	-0.2
	comp=Z,50nm,1.0s,mb5.1						
HYB	Hyderabad	42.43	309	*i* P	P	09 40 12.5	-0.2
	comp=Z,50nm,1.0s,mb5.1						
BLSP	Bilaspur	42.90	318	*e*P	P	09 40 16.4	-0.1
BLSP				*e*		09 40 17.8	
	comp=Z,51nm,0.7s						
XAN	Xi'an	43.43	356	P	P	09 40 20.6	-0.1
XAN				AMB	AMB		
	comp=Z,48nm,1.2s,mb5.1						
LSA	Lhasa	43.82	334	P	P	09 40 26.0	+2.1
JIRN	Jiri	44.56	327	*e*P	P	09 40 30.6	+0.8
	comp=Z,11nm,0.3s,mb5.1						
PKI	Pulchoki	44.92	326	*e*P	P	09 40 32.3	-0.4
	comp=Z,55nm,0.9s,mb5.4						
GUN	Gumba	44.92	327	*e*P	P	09 40 33.0	+0.2
	comp=Z,164nm,0.8s,mb5.9						
DMN	Daman	45.11	326	*e*P	P	09 40 34.4	+0.1
	comp=Z,186nm,0.9s,mb5.9						
KKN	Kakani	45.16	326	*e*P	P	09 40 34.5	-0.1
	comp=Z,88nm,0.9s,mb5.6						
GKN	Gorkha	45.68	326	*e*P	P	09 40 38.5	-0.3
	comp=Z,154nm,0.9s,mb6.0						
KAD	Karad	45.80	305	*e*P	P	09 40 40.5	+0.7
KAD				*e*		09 40 41.4	
	comp=Z,47nm,0.7s						
LZH	Lanzhou	46.01	351	⇓P	P	09 40 42.8	+1.5
LZH				AMB	AMB		
	comp=Z,340nm,1.2s,mb6.2						
LZH				AMB	AMB		
	comp=Z,963nm,4.5s						
LZH				LR	LR		
	comp=N,600nm,12.0s						
LZH				LR	LR		
	comp=Z,720nm,16.0s,MS4.7						
LZH	Lanzhou	46.01	351	⇓P	P	09 40 42.7	+1.4
LZH				pmax	pmax		
	comp=Z,340nm,1.2s,mb6.2						
LZH	Lanzhou	46.01	351	⇓P	P	09 40 42.7	+1.4
	comp=Z,340nm,1.2s,mb6.2						
LZH				pP	pP	09 41 02.3	+7.7
LZH				sP	sP	09 41 11.3	+11
KOLN	Koldanda	46.09	324	*e*P	P	09 40 41.8	-0.2
	comp=Z,122nm,0.6s,mb6.0						
POO	Poona	46.73	307	⇑*i*P	P	09 40 46.0	-1.2
BHPL	Bhopal	46.87	315	*e*P	P	09 40 47.6	-0.6
INCN	Inchon	48.79	16	*e*P	P	09 41 02.8	-0.1
	comp=Z,23nm,0.6s,mb5.4						
DL2	Dalian	49.05	10	P	P	09 41 04.3	-0.7
DL2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.4						
KS15	Wonju Array Si	49.09	17	*e*P	P	09 41 05.9	+0.6
LGTI	Lohaghat	49.30	323	*e*P	P	09 41 06.5	-0.5
BJI	Beijing	49.49	4	*e*P	P	09 41 08.0	-0.4
BJI				AMB	AMB		
	comp=Z,71nm,0.8s,mb5.8						
BJI				LR	LR		
	comp=N,210nm,22.1s,MS4.3						
BJI				LR	LR		
	comp=E,231nm,21.3s,MS4.3						
BJI				LR	LR		
	comp=Z,218nm,19.6s,MS4.2						
BJI	Beijing	49.49	4	*e*P	P	09 41 08.0	-0.4
	comp=Z,71nm,0.8s,mb5.8						
BTO	Baotou	49.92	358	*e*P	P	09 41 11.5	-0.2
GTA	Gaotai	49.97	348	*e*P	P	09 41 13.3	+1.2
GTA				PCP	PcP	09 42 33.0	+1.2
GTA				PP	PP	09 43 10.6	+2.5
GTA				PPP	PPP	09 44 08.8	+4.2
GTA				S	S	09 48 28.4	+11
GTA				XS		09 48 35.3	
GTA				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.4						
GTA				AMB	AMB		
	comp=Z,158nm,6.1s						
GTA				LR	LR		
	comp=N,179nm,20.1s,MS4.2						
GTA				LR	LR		
	comp=E,168nm,19.0s,MS4.2						
GTA				LR	LR		
	comp=Z,147nm,16.3s,MS4.1						
HHC	Hu-ho-hao-te	50.14	360	⇓P	P	09 41 13.3	0.0
HHC				AP	pP	09 41 26.1	-0.7
HHC				PCP	PcP	09 42 33.3	+0.9
HHC				S	S	09 48 21.6	+1.6
HHC				SCS	ScS	09 50 59.3	+2.4
HHC				AMB	AMB		
	comp=Z,37nm,1.1s,mb5.3						
HHC				AMB	AMB		
	comp=Z,144nm,5.5s						
HHC				LR	LR		
	comp=N,244nm,13.3s,MS4.5						
HHC				LR	LR		
	comp=E,203nm,14.9s,MS4.5						
HHC				LR	LR		
	comp=Z,219nm,14.4s,MS4.3						
SONA	Sohna	50.41	319	*e*P	P	09 41 14.6	-1.0
SONA				*e*		09 41 15.6	
	comp=Z,81nm,0.7s						
AYAN	Aya Nagar	50.54	319	*e*P	P	09 41 15.2	-1.4
NDI	New Delhi	50.62	320	*e*P	P	09 41 14.0	-3.2
KHET	Khetri	51.13	318	*e*P	P	09 41 20.3	-0.7
KHET				*e*		09 41 21.2	
	comp=Z,43nm,0.6s						
KLP	Kalpa	51.99	323	*e*P	P	09 41 26.7	-0.8
KLP				*e*		09 41 27.9	
	comp=Z,32nm,0.5s						
MAJO	Matsushiro	52.11	27	*e*P	P	09 41 26.4	-1.9
MAJO				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.2						
MAJO				MLR	MLR		
	comp=Z,178nm,20.0s,MS4.1						
MAJO	Matsushiro	52.11	27	*e*P	P	09 41 26.4	-1.9
	comp=Z,23nm,0.7s,mb5.2						
MAJO				LR	LR		
	comp=Z,178nm,20.0s,MS4.1						
MAT	Matsushiro	52.11	27	*e*P	P	09 41 26.0	-2.3
MAT				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
MAT	Matsushiro	52.11	27	*e*P	P	09 41 26.0	-2.3
	comp=Z,17nm,0.8s,mb5.0						
MAT	Matsushiro	52.11	27	P	P	09 41 26.3	-2.0
MJAR	Matsushiro Arr	52.11	27	P	P	09 41 26.4	-1.8
	comp=Z,20nm,0.6s,mb5.3,baz=201,slow=7.8,SNR=70						
SNY	Shenyang	52.24	11	⇓P	P	09 41 27.8	-1.4
SNY				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.6						
SMLA	Simla	52.35	322	⇑*i*	P	09 41 24.9	-5.3
	comp=Z,16nm,0.3s,mb5.4						
SMLA				*i*		09 48 45.2	
SDNR	Sundarnagar	52.73	322	*e*P	P	09 41 31.0	-2.0
THN	Thein Dam	54.15	322	*e*P	P	09 41 41.1	-2.3
CN2	Changchun	54.51	12	⇑P	P	09 41 43.8	-2.1
CN2				*e*XP	sP	09 41 51.8	-13
CN2				PCP	PcP	09 42 49.8	+1.1
CN2				*e*S	S	09 49 19.9	+0.3
CN2				AMB	AMB		
	comp=Z,60nm,0.9s,mb5.6						
CN2				AMB	AMB		
	comp=Z,170nm,4.0s						
CN2				LR	LR		
	comp=N,410nm,11.0s,MS4.9						
CN2

WMQ PP PP 09 44 16.6 +0.1
WMQ S **S** **09 49 59.5 +0.6**
WMQ PS PS 09 50 18.3 -0.7
WMQ XS 09 50 20.8
WMQ AMB AMB
comp=Z,39nm,1.2s,mb5.3
WMQ LR LR
comp=N,171nm,18.1s,MS4.4
WMQ LR LR
comp=E,221nm,18.0s,MS4.4
WMQ LR LR
comp=Z,92nm,17.2s,MS4.0
KSH Kashi 59.08 328 *e*P **P** **09 42 16.1 -2.4**
KSH PCP PcP 09 43 05.0 -1.5
KSH *e*PP PP 09 44 27.0 -4.1
KSH *e*PPP PPP 09 45 51.0 -4.9
KSH *e*SCP 09 47 03.1
KSH *e*PCS 09 47 05.1
KSH *e*S **S** **09 50 19.0 -1.0**
KSH *e*SCS ScS 09 52 01.0 +0.7
KSH *e*SS SS 09 54 14.1 -2.2
KSH AMB AMB
comp=Z,200nm,1.9s,mb5.8
KSH LR LR
comp=N,290nm,5.2s
KSH LR LR
comp=E,450nm,4.9s
ZAK Zakamensk 60.14 354⇓*i*P **P** **09 42 25.2 -0.4**
ZAK *e* 09 43 11.4
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
ASAJ Asahikawa 60.24 25 P **P** **09 42 24.9 -1.5**
comp=Z,8.4nm,0.6s,mb4.9,baz=220,slow=11,SNR=13
WBK Wadi Bani Khal 60.85 302 ⇓P **P** **09 42 31.0 +0.2**
KLR Kul'dur 61.08 15 *e*P **P** **09 42 27.8 -4.2**
KLR pmax pmax
comp=Z,24nm,1.4s,mb5.1
KZA Kyzart 61.35 330 P **P** **09 42 34.2 +0.3**
SNR=36
TLY Talaya 61.38 354⇓*i*P **P** **09 42 33.7 -0.3**
TLY pmax pmax
comp=Z,18nm,1.3s,mb5.0
TLY Talaya 61.38 354 *e*P **P** **09 42 34.1 +0.1**
comp=Z,22nm,1.4s,mb5.1
JMDO Jabal Madar 61.48 302 ⇑P **P** **09 42 35.0 -0.1**
SNR=11
MOY Mondy 61.68 352 *e*P **P** **09 42 36.0 0.0**
MOY pmax pmax
comp=Z,39nm,1.6s,mb5.3
TKM2 Tokmak 2 61.80 330 P **P** **09 42 36.8 -0.2**
SNR=48
SMDO Samad 61.81 303 ⇑P **P** **09 42 36.9 -0.3**
SNR=12
UCH Uchtor 61.83 329 P **P** **09 42 37.0 -0.1**
SNR=8.7
KBK Karagaybulak 61.92 330 P **P** **09 42 38.1 +0.3**
SNR=34
BIDO Bidbid 61.95 303 ⇑P **P** **09 42 38.1 0.0**
SNR=9.3
MKAR Makanchi Array 61.98 337 P **P** **09 42 37.5 -0.6**
comp=Z,13nm,0.4s,mb5.4,baz=150,slow=7.2,SNR=201
MKAR LR LR 10 13 32.8
comp=Z,165nm,18.9s,MS4.2,baz=168,slow=40
MKAR Makanchi Array 61.98 337 P **P** **09 42 37.5 -0.6**
AAK Ala-Archa 62.13 330 P **P** **09 42 39.3 +0.2**
SNR=14
AAK Ala-Archa 62.13 330 P **P** **09 42 39.1 0.0**
AAK pmax pmax
comp=Z,43nm,1.3s,mb5.4
AAK Ala-Archa 62.13 330 *e*P **P** **09 42 38.0 -1.2**
comp=Z,26nm,1.0s,mb5.3
AML Almayashu 62.17 329 P **P** **09 42 39.1 -0.3**
SNR=29
FRU Bishkek 62.22 330 *e*P **P** **09 42 39.5 -0.2**
FRU pmax pmax
comp=Z,44nm,1.8s,mb5.3
BSY Bisya 62.39 302 ⇑P **P** **09 42 41.2 +0.1**
SNR=9.0
EKS2 Erkin-Say 62.52 329 P **P** **09 42 41.8 +0.1**
SNR=31
USP Ospenovka 62.60 330 P **P** **09 42 41.7 -0.6**
SNR=23
YSS Yuzh-Sakhalins 62.63 23 *e*P **P** **09 42 41.0 -1.4**
YSS *e* pP 09 42 59.3 +3.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.4
YSS Yuzh-Sakhalins 62.63 23 *e*P **P** **09 42 41.4 -1.0**
comp=Z,21nm,0.5s,mb5.5
HOQ Hoqain 62.65 303 ⇑P **P** **09 42 42.8 -0.1**
SNR=6.5
OPO Ambohidratompo 63.10 254 P **P** **09 42 46.7 +0.8**
comp=Z,3.3nm,0.9s,mb4.5,baz=104,slow=10.0,SNR=3.5
WHFO Wadi Hawf 63.51 295 ⇑P **P** **09 42 47.8 -0.9**
SNR=12
ABTO Aybut 63.73 295 ⇑P **P** **09 42 49.8 -0.4**
SNR=16
ASHO Ashiyiah 64.15 303 ⇓P **P** **09 42 52.6 -0.2**
SNR=11
BANOM Banah 64.48 305 ⇓P **P** **09 42 56.6 +1.7**
KKAR Karatay Array 64.52 328 *i*P **P** **09 42 53.6 -1.3**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
MAW Mawson 66.41 198 LR LR 10 06 59.8
comp=Z,168nm,18.9s,MS4.3,baz=243,slow=31
CLNS Chul'man 67.01 8 *e*P **P** **09 43 06.1 -4.4**
CLNS *e* 09 43 36.3
CLNS *e*S S 09 51 53.8 -5.1
CLNS pmax pmax
comp=Z,37nm,1.2s,mb5.3
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS pmax pmax
comp=E,2.0nm,1.0s
CLNS smax
comp=N,2.0nm,1.0s
CLNS smax
comp=Z,1.0nm,0.8s
CLNS pmax pmax
comp=N,80nm,12.1s
CLNS pmax pmax
comp=Z,40nm,12.9s
CLNS pmax pmax
comp=E,40nm,11.7s
CLNS MLR MLR
comp=Z,100nm,12.0s,MS4.2
CLNS MLR MLR
comp=N,100nm,14.0s,MS4.3
CLNS MLR MLR
comp=E,100nm,14.0s,MS4.3
BOD Bodaibo 67.15 1 *e*P **P** **09 43 10.1 -1.3**
BOD pmax pmax
comp=Z,17nm,1.7s,mb4.8
ZAL Zalesovo 67.26 343 P **P** **09 43 11.0 -1.2**
comp=Z,10nm,0.4s,mb5.2,baz=334,slow=5.5,SNR=34
ZAL LR LR 10 16 08.6
comp=Z,143nm,18.3s,MS4.2,baz=117,slow=39
BVAR Borovoye Array 71.63 335 P **P** **09 43 38.9 0.0**
comp=Z,3.4nm,0.6s,mb4.5,baz=142,slow=8.8,SNR=8.5
VNDA Vanda 72.62 170 P **P** **09 43 44.1 -0.2**
comp=Z,2.9nm,0.9s,mb4.2,baz=289,slow=4.9,SNR=11
VNDA LR LR 10 13 17.1
comp=Z,126nm,18.4s,MS4.2,baz=312,slow=34
YAK Yakutsk 72.70 9 *e*P **P** **09 43 44.9 -0.1**
YAK pmax pmax
comp=Z,66nm,0.7s,mb5.7
YAK Yakutsk 72.70 9 *e*P **P** **09 43 44.9 -0.2**
comp=Z,66nm,0.7s,mb5.7
PET Petropavlovsk 73.94 27⇑*i*P **P** **09 43 52.7 +0.2**
PET pmax pmax
comp=Z,19nm,0.7s,mb5.1
PET pmax pmax
comp=Z,100nm,10.3s
KMBO Kilima Mbogo 74.63 271 *e*P **P** **09 43 58.8 +1.5**
KMBO pmax pmax
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 74.63 271 P **P** **09 43 58.9 +1.6**
comp=Z,8.6nm,0.9s,mb4.7,baz=63,slow=8.0,SNR=26
KMBO LR LR 10 14 02.3
comp=Z,144nm,18.6s,MS4.3,baz=95,slow=34
KMBO Kilima Mbogo 74.63 271 *e*P **P** **09 43 58.8 +1.4**
comp=Z,12nm,1.0s,mb4.8
SYO Syowa Base 74.81 201 ⇓pP pP 09 44 09.4 -2.1
SVE Sverdlovsk 78.34 334 *e*P **P** **09 44 17.8 +0.5**
SVE pmax pmax
comp=Z,80nm,1.8s,mb5.3
SEY Seymchan 78.67 18 *e*P **P** **09 44 19.5 +0.5**
SEY *e* 09 44 26.2
SEY 09 47 20.9
SEY *e*S S 09 54 12.7 +1.8
SEY *e*PS PS 09 55 05.2 +5.0
SEY *e*SS SS 09 59 15.5 -3.0
SEY pmax pmax
comp=Z,40nm,0.5s,mb5.6
SEY pmax pmax
comp=E,9.0nm,0.6s
SEY smax
comp=N,290nm,25.5s
SEY smax
comp=E,210nm,28.1s
SEY MLR MLR
comp=Z,110nm,16.0s,MS4.3
SEY MLR MLR
comp=N,330nm,28.0s
SEY MLR MLR
comp=E,50nm,17.0s
ARU Arti 79.01 333 *i*P **P** **09 44 21.3 +0.3**
GNI Garni 79.15 314 *e*P **P** **09 44 23.6 +1.5**
GNI pmax pmax
comp=Z,23nm,1.1s
GNI Garni 79.15 314 P **P** **09 44 23.8 +1.8**
comp=Z,2.7nm,0.3s,mb4.6,baz=350,slow=17,SNR=6.5
GNI Garni 79.15 314 *e*P **P** **09 44 23.6 +1.5**
comp=Z,23nm,1.1s,mb5.0
TI2 Plekhanov 79.75 316⇑*i*P **P** **09 44 27.6 +2.3**
QSPA South Pole Qui 80.46 180⇓*i*P **P** **09 44 38.7 +10**
comp=Z,19nm,1.3s,mb4.9
MATP Matopo 80.55 251 P **P** **09 44 31.4 +1.4**
comp=Z,15nm,0.9s,mb4.9,baz=105,slow=4.9,SNR=31
MBAR Mbarara 81.14 271 *e*P **P** **09 44 33.6 +0.3**
MBAR pmax pmax
comp=Z,33nm,1.2s,mb5.1
MBAR Mbarara 81.14 271 *e*P **P** **09 44 33.6 +0.3**
comp=Z,33nm,1.2s,mb5.1
LSZ Lusaka 81.48 256 *e*P **P** **09 44 35.9 +1.0**
LSZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LSZ Lusaka 81.48 256 *e*P **P** **09 44 35.9 +1.0**
comp=Z,10.0nm,0.8s,mb4.8
SOKR Solikamsk 81.62 335⇑*i*P **P** **09 44 33.1 -1.7**
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.1
TIXI Tiksi 81.81 5 *i*P **P** **09 44 35.6 0.0**
KIV Kislovodsk 81.99 317 *e*P **P** **09 44 38.3 +1.3**
KIV pmax pmax
comp=N,15nm,1.1s
KIV pmax pmax
comp=Z,28nm,1.1s,mb5.1
KIV pmax pmax
comp=E,12nm,0.8s
GOF Gofitskoye 82.16 318⇑*i*P **P** **09 44 38.9 +1.0**
GOF pmax pmax
comp=Z,45nm,1.3s,mb5.2
BOSA Boshof 82.53 242 P **P** **09 44 41.4 +1.2**
comp=Z,11nm,0.9s,mb4.9,baz=114,slow=5.3,SNR=13
BOSA LR LR 10 16 45.9
comp=Z,224nm,18.5s,MS4.6,baz=143,slow=32
ASF Jabal al Asfar 82.54 304 P **P** **09 44 42.0 +1.9**
comp=Z,8.5nm,0.9s,mb4.8,baz=138,slow=1.3,SNR=8.7
MALT Malatya 83.13 311 *e*P **P** **09 44 44.9 +1.9**
MALT pmax pmax
comp=Z,21nm,1.3s,mb5.0
MALT Malatya 83.13 311 *e*P **P** **09 44 44.9 +1.9**
comp=Z,21nm,1.3s,mb5.0
SOC Sochi 83.87 316 *e*P **P** **09 44 45.6 -1.1**
SOC *e* 09 47 58.2
SOC *e*PPP PPP 09 49 57.4 +0.2
SOC *e*S S 09 55 03.3 -1.6
SOC *e*SS SS 10 00 30.9 -5.2
SOC *e*SSS SSS 10 04 00.5 -2.6
SOC pmax pmax
comp=Z,38nm,0.8s,mb5.6
SOC pmax pmax
comp=N,26nm,0.9s
SOC pmax pmax
comp=E,15nm,0.7s
ANN Anapa 85.82 317 *e*P **P** **09 45 00.1 +3.8**
ANN pmax pmax
comp=Z,31nm,0.9s,mb5.5
CSS Prodhromos 86.14 306 *e*P **P** **09 45 00.1 +2.0**
comp=Z,38nm,1.2s,mb5.5
BILL Bilibino 86.37 18 *e*P **P** **09 44 59.2 +0.7**
BILL *e* pP 09 45 16.9 +3.9
BILL 09 48 21.0
BILL pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
BILL Bilibino 86.37 18 *i*P **P** **09 44 59.3 +0.8**
VOR Voronezh 86.91 324 *e*P **P** **09 45 02.7 +1.2**
VOR pmax pmax
comp=Z,60nm,2.0s,mb5.5
BRTR Keskin Array B 87.10 311 P **P** **09 45 04.0 +1.3**
comp=Z,13nm,0.9s,mb5.1,baz=127,slow=6.2,SNR=49
BRTR PP PP 09 48 27.3 -1.8
comp=Z,1.7nm,1.0s,baz=121,slow=7.0,SNR=4.8
SIM Simferopol' **88.12 316** *e*P **P** **09 45 09.3 +1.8**
SIM pmax pmax
comp=Z,14nm,0.9s,mb5.2
MOS Moscow 89.10 327 *e*P **P** **09 45 11.9 +0.1**
MOS pmax pmax
comp=Z,57nm,0.9s,mb5.9
OBN Obninsk 89.48 326*d*i P **P** **09 45 14.8 +1.2**
OBN 09 48 45.0
OBN pmax pmax
comp=Z,74nm,1.5s,mb5.8
OBN Obninsk 89.48 326 *e*P **P** **09 45 15.1 +1.4**
comp=Z,18nm,0.6s,mb5.6
AKASG Malin Array Be 92.67 321 P **P** **09 45 28.6 -0.1**
comp=Z,5.9nm,1.0s,mb5.0,baz=84,slow=4.6,SNR=23
AKASG PP PP 09 49 03.5 -10
comp=Z,0.2nm,0.3s,baz=83,slow=6.7,SNR=3.0
JOF Joensuu 94.14 333 *e*p **P** **09 45 35.5 +0.5**
comp=Z,10nm,0.8s,mb5.3
PPT Papeete 95.21 109 LR LR 10 27 11.8
comp=Z,39nm,18.5s,MS3.9,baz=232,slow=35
KAF Kangasniemi 96.28 332 *e*p **P** **09 45 45.3 +0.6**
comp=Z,5.8nm,0.8s,mb5.1,baz=91,slow=4.1
KAF Kangasniemi 96.28 332 *e*P **P** **09 45 45.3 +0.6**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
FINES FINESS Array B 96.29 331 P **P** **09 45 46.0 +1.2**
comp=Z,2.9nm,0.9s,mb4.7,baz=90,slow=7.6,SNR=11
FINES PP PP 09 49 36.8 -4.3
comp=Z,0.5nm,0.6s,baz=120,slow=11,SNR=1.9
KEV Kevo 97.10 340 *e*p **P** **09 45 49.7 +1.4**
comp=Z,16nm,1.0s,mb5.4
KEV Kevo 97.10 340 *e*P **P** **09 45 49.7 +1.4**
KEV pmax pmax
comp=Z,16nm,1.0s,mb5.4
ARCES ARCESS Array B 97.59 339 P **P** **09 45 50.9 +0.4**
comp=Z,2.3nm,0.9s,mb4.7,baz=37,slow=6.1,SNR=4.1
ARCES ARCESS Array B 97.59 339 P **P** **09 45 50.9 +0.4**
GERES GERESS Array B 102.48 318 PP PP 09 50 22.7 -6.1
comp=Z,0.8nm,0.7s,baz=90,slow=8.8,SNR=4.5
ILAR Eielson Array 103.38 26 PP PP 09 50 29.8 -5.5
comp=Z,0.5nm,0.9s,baz=270,slow=9.0,SNR=4.6
NB2 NORSAR Subarra103.44 331 P Pdif 09 46 16.9 -0.1
comp=Z,2.5nm,1.1s,baz=87,slow=4.5
NB2 NORSAR Subarra103.44 331 P Pdif 09 46 16.9 -0.1
NB2 pmax pmax
comp=Z,3.0nm,1.1s
NB2 NORSAR Subarra103.44 331 P Pdif 09 46 16.9 -0.1
baz=87,slow=4.6
NOA NORSAR Array B103.44 331 Pdiff Pdif 09 46 17.5 +0.5
comp=Z,1.4nm,1.0s,baz=88,slow=4.4,SNR=5.0
NOA PP PP 09 50 33.3 -2.6
comp=Z,0.9nm,0.9s,baz=86,slow=7.4,SNR=5.6
DBIC Dimbokro 117.35 273 PKP PKPdf 09 51 04.3 +2.5
comp=Z,4.1nm,0.8s,baz=153,slow=18,SNR=4.3
YKA Yellowknife Ar 117.47 22 PKP PKPdf 09 51 02.8 +2.0
comp=Z,1.4nm,0.6s,baz=315,slow=1.8,SNR=42
YKA PP PP 09 52 14.4 -3.6
comp=Z,0.3nm,0.9s,baz=312,slow=6.8,SNR=6.4
EDM Edmonton 123.33 31 *e*PKIKP PKPdf 09 51 15.0 +2.6
MSO Missoula 126.30 38 *e*PKPdf PKPdf 09 51 20.9 +2.6
NVAR Mina Array Bea 126.75 49 PKP PKPdf 09 51 23.5 +4.1
comp=Z,2.0nm,0.9s,baz=51,slow=1.0,SNR=12
NVAR PP PP 09 53 15.9 -5.0
comp=Z,0.2nm,0.3s,baz=292,slow=4.9,SNR=3.2
NVAR Mina Array Bea 126.75 49 PKP PKPdf 09 51 23.5 +4.1
NVAR PP PP 09 53 15.9 -5.0
HLID Hailey 127.50 41 *e*PKPdf PKPdf 09 51 24.8 +4.0
BOZ Bozeman (W) 128.27 38 *e*PKIKP PKPdf 09 51 24.8 +2.6
NEN Nelson 130.28 51 *e*PKPdf PKPdf 09 51 30.6 +4.4
PDAR Pinedale Array 131.01 40 PKP PKPdf 09 51 31.2 +3.8
comp=Z,0.6nm,0.8s,SNR=5.4
PDAR PP PP 09 53 41.8 -7.5
comp=Z,0.4nm,0.6s,slow=2.7,SNR=2.5
SRU San Rafael 132.09 45 *e*PKIKP PKPdf 09 51 33.9 +4.3
RSSD Black Hills 133.61 36 *e*PKIKP PKPdf 09 51 34.7 +2.3
SCHQ Schefferville 134.82 359 PKP PKPdf 09 51 37.5 +3.3
comp=Z,2.7nm,0.9s,baz=352,slow=7.1,SNR=4.1
TXAR Lajitas Array 141.38 54 PKhKP 09 51 43.8
comp=Z,0.6nm,0.5s,baz=249,slow=2.1,SNR=16
TXAR PKP PKPdf 09 51 47.4 +0.5
comp=Z,0.9nm,0.7s,baz=270,slow=1.8,SNR=16
CPUP Villa Florida 142.82 196 PKhKP 09 51 48.3
comp=Z,3.7nm,1.1s,baz=153,slow=4.5,SNR=3.0
CPUP PKP PKPdf 09 51 51.4 +1.9
comp=Z,2.2nm,0.8s,baz=120,slow=2.2,SNR=4.9
JCT Junction City 143.90 50 *e*PKIKP PKPdf 09 51 50.4 -0.8
CCM Cathedral Cave 144.82 33 *e*PKIKP PKPdf 09 51 53.4 +0.8
SLM Saint Louis 144.91 31 *e*PKIKP PKPdf 09 51 54.0 +1.2
NCB Newcomb 145.30 8 *e*PKP PKPdf 09 51 55.8 +2.5
FVM French Village 145.30 32 *e*PKIKP PKPdf 09 51 55.4 +1.9
GENY Geneseo 145.84 13 *e*PKPdf PKPdf 09 51 57.4 +3.2
MIAR Mount Ida 145.92 39 *e*PKP2 PKPab 09 51 58.2 +0.2
BLO Bloomington 146.23 26 *e*PKP2 PKPab 09 51 58.6 -0.4
UALR University of 146.53 38 *e*PKPbc PKPbc 09 51 60.0 +3.0
ACSO Alum Creek Sta 146.71 21 *e*PKPbc PKPbc 09 52 00.1 +2.9
WCI Wyandotte Cave 147.10 27 *e*PKP2 PKPab 09 52 01.4 -1.1
SSPA Standing Stone 147.85 14 *e*PKPbc PKPdf 09 52 03.4 +5.7
BAO Brasilia Array 148.00 219 PKPdf PKPdf 09 52 06.0 +7.5
BDFB Brasilia 148.00 219 PKPbc PKPdf 09 52 04.9 +6.3
comp=Z,9.1nm,0.9s,baz=198,slow=0.5,SNR=14
WVT Waverly 148.05 31 *e*PKP2 PKPab 09 52 03.9 -2.3
MCWV Mont Chateau 148.25 17 *e*PKPbc PKPdf 09 52 04.5 +6.2
OXF Oxford 148.43 35 *e*PKP2 PKPab 09 52 05.0 -2.8
MVL Millersville 148.80 12 *e*PKPbc PKPdf 09 52 04.9 +5.7
PLAL Pickwick Lake 148.81 33 *e*PKPbc PKPdf 09 52 05.3 +5.9
ELN Prospectdale 150.17 21 *e*PKPbc PKPdf 09 52 09.1 +7.6
CPCT Cooper Cave 150.20 28 *e*PKPbc PKPdf 09 52 09.5 +8.0
LRAL Lakeview Retre 150.86 34 *e*PKPbc PKPdf 09 52 10.8 +8.2
LRAL *e*PKPab PKPab 09 52 17.4 -0.6
GOGA Godfrey 152.37 28 *e*PKIKP PKPdf 09 52 14.4 +10
LPAZ La Paz 154.34 180 PKP PKPdf 09 52 12.7 +4.8
comp=Z,1.7nm,1.0s,baz=99,slow=2.7,SNR=5.0
LPAZ PKPbc PKPdf 09 52 20.6 +13
comp=Z,1.0nm,1.0s,baz=230,slow=7.9,SNR=3.6

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*IDC **24** 09:38:26.3±0.8, 9.46S×111.95E, mb4.0/9, mb1 4.1/9, mb1mx3.9/19, mbtmp4.0/9, Error ellipse: s-maj=34.4km s-min=18.1km az=50.0*

ISC 24 09:38:29.9±0.8, 9.4S±0.2×112.0E±0.2, h33km, n9, σ0§44/9, mb3.9/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.96**	**118**	P	**P**	**P**	**09 43 42.6**	**+0.2**
	3.8nm,0.7s,mb4.0,baz=291,slow=12,SNR=9.7							
ASAR	**Alice Springs**	**25.27**	**127**	P	**P**	**P**	**09 43 55.2**	**+0.2**
	1.3nm,0.7s,mb3.6,baz=305,slow=8.5,SNR=4.7							
STKA	**Stephens Creek**	**35.37**	**134**	P	**P**	**P**	**09 45 24.4**	**-0.3**
	3.7nm,0.8s,mb4.4,baz=303,slow=9.2,SNR=6.3							
MJAR	**Matsushiro Arr**	**51.90**	**27**	P	**P**	**P**	**09 47 37.0**	**-0.6**
	1.7nm,0.7s,mb4.1,baz=201,slow=8.0,SNR=6.3							
SONM	**Songino Array**	**57.19**	**355**	P	**P**	**P**	**09 48 16.7**	**+0.5**
	0.8nm,0.7s,mb3.8,baz=180,slow=7.4,SNR=5.1							
SONM				PcP	PcP	PcP	09 49 08.0	-2.3
	0.6nm,0.7s,baz=166,slow=5.9,SNR=3.7							
MKAR	**Makanchi Array**	**61.91**	**337**	P	**P**	**P**	**09 48 48.2**	**-0.4**
	0.7nm,0.4s,mb4.2,baz=149,slow=7.3,SNR=17							
BVAR	**Borovoye Array**	**71.56**	**335**	P	**P**	**P**	**09 49 49.7**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=146,slow=10,SNR=3.0							
MATP	**Matopo**	**80.77**	**251**	P	**P**	**P**	**09 50 41.8**	**-0.5**
	0.8nm,0.5s,mb3.9,baz=124,slow=3.6,SNR=2.5							
BRTR	**Keskin Array B**	**87.14**	**311**	P	**P**	**P**	**09 51 14.8**	**+0.7**
	0.5nm,0.7s,mb3.8,baz=127,slow=6.2,SNR=3.8							

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*JMA **24** 09:57:13.7±0.1, 41.93N×141.35E, h128km±2km, M3.0*
*IDC **24** 09:57:20.1±2.1, 42.69N×141.16E, h149km±19km, mb3.0/7, mb1 3.2/7, mb1mx3.1/23, mbtmp3.5/7, Error ellipse: s-maj=25.8km s-min=20.3km az=166.0*

ISC 24 09:57:12.6±0.5, 41.90N±0.05×141.36E±0.06, h134km±4km, n23, σ0§75/33, mb3.2/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JKB	**Kayabe**	**0.25**	**267**	P	**P**	**P**	**09 57 31.5**	**+0.4**
JOT	**Ohata**	**0.57**	**204**	P	**P**	**P**	**09 57 33.3**	**+0.7**
JOT				*e*S	**S**	**S**	**09 57 48.1**	**+0.2**
JNB	**Noboribetsu**	**0.61**	**337**	P	**P**	**P**	**09 57 32.9**	**0.0**
JYM2	**Yakumo 2**	**0.77**	**286**	P	**P**	**P**	**09 57 34.5**	**+0.5**
JSR	**Shiriuchi**	**0.80**	**243**	P	**P**	**P**	**09 57 34.9**	**+0.7**
JSR				*e*S	**S**	**S**	**09 57 50.8**	**0.0**
JEW	**Eniwo**	**0.94**	**4**	P	**P**	**P**	**09 57 35.8**	**+0.4**
JEW				*e*S	**S**	**S**	**09 57 52.1**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.10**	**70**	P	**P**	**P**	**09 57 37.9**	**+0.9**
JNBK				*e*S	**S**	**S**	**09 57 56.5**	**+0.9**
JOSM	**Okushiri--Mats**	**1.42**	**278**	P	**P**	**P**	**09 57 40.1**	**-0.3**
JOSM				*e*S	**S**	**S**	**09 58 00.0**	**-1.8**
JANG	**Nango**	**1.53**	**176**	P	**P**	**P**	**09 57 41.9**	**+0.2**
JANG				*e*S	**S**	**S**	**09 58 02.4**	**-1.6**
JFR	**Furan**	**1.55**	**35**	P	**P**	**P**	**09 57 42.2**	**+0.3**
JSK	**Shakotan**	**1.59**	**336**	P	**P**	**P**	**09 57 42.6**	**+0.3**
JCH	**Churui**	**1.65**	**64**	P	**P**	**P**	**09 57 43.7**	**+0.7**
JCH				*e*S	**S**	**S**	**09 58 05.4**	**-0.8**
JHR	**Hokuryu**	**1.86**	**8**	P	**P**	**P**	**09 57 46.5**	**+1.1**
JHR				*e*S	**S**	**S**	**09 58 11.3**	**+0.8**
JKK2	**Kamakawa 2**	**2.22**	**27**	P	**P**	**P**	**09 57 50.5**	**+0.6**
JAR	**Ashorobuto**	**2.26**	**51**	P	**P**	**P**	**09 57 50.3**	**-0.1**
JAR				*e*S	**S**	**S**	**09 58 17.5**	**-1.8**
ASAJ	**Asahikawa**	**2.39**	**22**	P	**P**	**P**	**09 57 52.5**	**+0.3**
	0.6nm,0.3s,baz=276,slow=18,SNR=5.3							
ASAJ				S		**S**	**09 58 21.2**	**-1.1**
	1.5nm,0.3s,baz=218,slow=31,SNR=4.4							
SONM	**Songino Array**	**25.33**	**296**	P	**P**	**P**	**10 02 28.4**	**+0.2**
	0.2nm,0.5s,mb3.0,baz=90,slow=10,SNR=3.1							
MKAR	**Makanchi Array**	**41.66**	**298**	P	**P**	**P**	**10 04 49.1**	**+0.2**
	0.2nm,0.6s,mb2.9,baz=81,slow=7.3,SNR=3.0							
ILAR	**Eielson Array**	**45.47**	**35**	P	**P**	**P**	**10 05 19.1**	**-0.2**
	0.4nm,0.5s,mb3.3,baz=274,slow=5.1,SNR=7.9							
BVAR	**Borovoye Array**	**47.37**	**309**	P	**P**	**P**	**10 05 34.7**	**+0.3**
	0.8nm,0.3s,mb3.8,baz=76,slow=8.6,SNR=3.5							
YKA	**Yellowknife Ar**	**59.65**	**31**	P	**P**	**P**	**10 07 03.9**	**-0.5**
	0.1nm,0.4s,mb3.0,baz=302,slow=6.5,SNR=7.3							
WRA	**Warramunga Arr**	**61.87**	**187**	P	**P**	**P**	**10 07 28.6**	**+8.7**
	0.2nm,0.6s,mb3.1,baz=6.6,slow=7.0,SNR=4.6							
FINES	**FINESS Array B**	**64.51**	**331**	P	**P**	**P**	**10 07 35.7**	**-0.9**
	0.4nm,0.7s,mb3.4,baz=11,slow=14,SNR=3.1							

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*IDC **24** 10:03:08.4±0.6, 3.06N×96.42E, mb4.2/15, mb1 4.3/16, mb1mx4.2/21, mbtmp4.2/16, ML4.7/1, MS3.8/2, Ms1 3.9/2, ms1mx3.2/25, Error ellipse: s-maj=22.0km s-min=15.9km az=59.0*
*BJI **24** 10:03:11.3, 2.54N×96.56E, h58km, mB5.0, mb4.7, Ms4.0, Msz4.1*
*NEIC **24** 10:03:13.0±0.3, 3.05N×96.39E, h30km, mb4.5/10, Error ellipse: s-maj=9.2km s-min=7.5km az=43.0*

ISC 24 10:03:11.7±0.4, 3.06N±0.06×96.46E±0.07, h33km, n52, σ0§79/51, mb4.4/31, MS4.0/3, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.73**	**62**⇑	*i*P	**P**	**P**	**10 04 26.5**	**+4.0**
CMAR	**Chiang Mai Arr**	**15.50**	**9**	Pn	**P**	**P**	**10 06 47.6**	**-2.0**
	1.1nm,0.3s,baz=208,slow=13,SNR=4.6							
CMAR				LR	LR	LR	10 13 39.7	
	comp=Z,302nm,18.5s,baz=195,slow=41							
PALK	**Pallekele**	**16.24**	**286**	P	**P**	**P**	**10 06 59.1**	**0.0**
	31nm,1.0s							
GYA	**Guiyang**	**25.24**	**22**	P	**P**	**P**	**10 08 37.3**	**+0.8**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.4							
JIRN	**Jiri**	**26.36**	**339**	*e*P	**P**	**P**	**10 08 47.7**	**+0.8**
JIRN	**Jiri**	**26.36**	**339**	*e*P	**P**	**P**	**10 08 47.8**	**+0.9**
	comp=Z,4.5nm,0.2s,mb4.6							

PKI	**Pulchoki**	**26.57**	**338**	*eP*	**P**		**10 08 50.8**	**+2.0**
	comp=Z,11nm,0.7s,mb4.5							
PKI	**Pulchoki**	**26.57**	**338**	*eP*	**P**		**10 08 49.6**	**+0.8**
	comp=Z,8.9nm,0.6s,mb4.5							
GUN	**Gumba**	**26.70**	**339**	*eP*	**P**		**10 08 49.8**	**-0.2**
	comp=Z,33nm,0.7s,mb5.0							
GUN	**Gumba**	**26.70**	**339**	*eP*	**P**		**10 08 49.9**	**-0.1**
	comp=Z,33nm,0.7s,mb5.0							
KKN	**Kakani**	**26.82**	**338**	*eP*	**P**		**10 08 50.9**	**-0.2**
KKN	**Kakani**	**26.82**	**338**	*eP*	**P**		**10 08 50.7**	**-0.4**
KOLN	**Koldanda**	**27.48**	**335**	*eP*	**P**		**10 08 57.5**	**+0.4**
	comp=Z,22nm,0.7s,mb4.8							
KOLN	**Koldanda**	**27.48**	**335**	*eP*	**P**		**10 08 57.5**	**+0.4**
	comp=Z,22nm,0.7s,mb4.8							
NJ2	**Nanjing**	**35.71**	**34**	*eP*	**P**		**10 10 08.8**	**-0.4**
NJ2				PP	PP		10 11 28.4	-2.0
NJ2				S	**S**		**10 15 38.0**	**-5.0**
NJ2				AMB	AMB			
	comp=Z,20nm,0.6s,mb5.2							
NJ2				AMB	AMB			
	comp=Z,464nm,4.6s							
NJ2				LR	LR			
	comp=N,424nm,18.4s,MS4.4							
NJ2				LR	LR			
	comp=E,340nm,16.4s,MS4.4							
NJ2				LR	LR			
	comp=Z,1μm,17.4s,MS4.7							
GTA	**Gaotai**	**36.31**	**4**	*eP*	**P**		**10 10 14.9**	**+0.6**
GTA				AMB	AMB			
	comp=Z,8.0nm,0.7s,mb4.8							
SSE	**Sheshan**	**36.36**	**37**	*eP*	**P**		**10 10 12.9**	**-1.8**
SSE				PP	PP		10 11 34.9	-3.7
SSE				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.1							
SSE				AMB	AMB			
	comp=Z,93nm,6.2s							
SSE				LR	LR			
	comp=N,26nm,23.5s,MS3.4							
SSE				LR	LR			
	comp=E,78nm,23.5s,MS3.4							
SSE				LR	LR			
	comp=Z,110nm,21.8s,MS3.6							
SSE	**Sheshan**	**36.36**	**37**	*eP*	**P**		**10 10 12.9**	**-1.8**
	comp=Z,20nm,0.8s,mb5.1							
SSE				pP	pP		10 10 22.8	-1.7
SSE				sP	sP		10 10 25.6	-3.1
SSE				PP	PP		10 11 34.9	-3.7
SSE				S	**S**		**10 15 49.6**	**-3.5**
SSE				sS			10 16 04.6	
SSE				SS	SS		10 18 29.7	+11
SSE				ScS	ScS		10 20 27.7	+1.1
SSE				LR	LR			
	comp=Z,110nm,21.8s,MS3.6							
BJI	**Beijing**	**40.92**	**23**	*eP*	**P**		**10 10 54.0**	**+1.3**
BJI				AMB	AMB			
	comp=Z,14nm,0.6s,mb4.8							
BJI	**Beijing**	**40.92**	**23**	*eP*	**P**		**10 10 54.0**	**+1.3**
	comp=Z,14nm,0.6s,mb4.8							
WRA	**Warramunga Arr**	**43.65**	**123**	P	**P**		**10 11 15.4**	**+0.1**
	comp=Z,1.6nm,0.4s,mb4.1,baz=301,slow=9.1,SNR=5.3							
WRAB	**Tennant Creek**	**43.65**	**123**	*eP*	**P**		**10 11 15.5**	**+0.1**
	comp=Z,3.9nm,0.4s,mb4.5							
AAK	**Ala-Archa**	**44.02**	**337**	*eP*	**P**		**10 11 18.2**	**+0.3**
	comp=Z,2.8nm,0.6s,mb4.2							
ASAR	**Alice Springs**	**45.10**	**128**	P	**P**		**10 11 27.0**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.7,baz=298,slow=7.9,SNR=17							
FORT	**Forrest**	**45.16**	**141**	*eP*	**P**		**10 11 28.2**	**+0.9**
	comp=Z,1μm,0.7s							
MKAR	**Makanchi Array**	**45.27**	**346**	P	**P**		**10 11 27.7**	**-0.3**
	comp=Z,5.8nm,0.3s,mb4.8,baz=162,slow=8.1,SNR=133							
SONM	**Songino Array**	**45.42**	**9**	P	**P**		**10 11 29.8**	**+0.6**
	comp=Z,3.3nm,0.5s,mb4.4,baz=189,slow=9.5,SNR=38							
SONM				PcP	PcP		10 13 09.1	+0.7
	comp=Z,1.5nm,0.7s,baz=196,slow=4.6,SNR=5.7							
ULN	**Ulaanbaatar**	**45.56**	**10**	*eP*	**P**		**10 11 30.6**	**+0.3**
TLY	**Talaya**	**48.83**	**6**	*eP*	**P**		**10 11 56.6**	**+0.8**
	comp=Z,3.7nm,0.6s,mb4.6							
MJAR	**Matsushiro Arr**	**50.84**	**44**	LR	LR		10 37 03.3	
	comp=Z,108nm,18.6s,MS3.9,baz=230,slow=40							
ZAL	**Zalesovo**	**51.61**	**351**	P	**P**		**10 12 16.5**	**-0.5**
	comp=Z,2.3nm,0.3s,mb4.6,baz=316,slow=5.1,SNR=9.3							
OPO	**Ambohidratompo**	**53.04**	**244**	P	**P**		**10 12 28.2**	**0.0**
	comp=Z,2.1nm,0.5s,mb4.3,baz=32,slow=7.3,SNR=5.8							
STKA	**Stephens Creek**	**55.14**	**133**	P	**P**		**10 12 42.2**	**-1.2**
	comp=Z,2.0nm,0.8s,mb4.2,baz=303,slow=9.2,SNR=4.4							
STKA	**Stephens Creek**	**55.14**	**133**	*eP*	**P**		**10 12 42.7**	**-0.8**
KMBO	**Kilima Mbogo**	**59.34**	**267**	P	**P**		**10 13 13.4**	**+0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=62,slow=11,SNR=8.7							
KMBO	**Kilima Mbogo**	**59.34**	**267**	*eP*	**P**		**10 13 13.6**	**+0.2**
MALT	**Malatya**	**63.35**	**312**	*eP*	**P**		**10 13 39.8**	**-0.3**
	comp=Z,3.4nm,0.8s,mb4.5							
BRTR	**Keskin Array B**	**67.33**	**312**	P	**P**		**10 14 04.4**	**-1.2**
	comp=Z,1.7nm,0.8s,mb4.1,baz=130,slow=7.4,SNR=11							
LSZ	**Lusaka**	**69.95**	**253**	*eP*	**P**		**10 14 21.9**	**-0.3**
AKASG	**Malin Array Be**	**73.35**	**322**	P	**P**		**10 14 41.2**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.1,baz=92,slow=4.5,SNR=12							
AKASG	**Malin Array Be**	**73.35**	**322**	P	**P**		**10 14 41.2**	**-0.8**
BOSA	**Boshof**	**75.07**	**239**	P	**P**		**10 14 52.3**	**-0.2**
	comp=Z,2.9nm,0.8s,mb4.2,baz=70,slow=3.3,SNR=4.5							
JOF	**Joensuu**	**76.16**	**335**	*ep*	**P**		**10 14 57.9**	**-0.1**
	comp=Z,2.9nm,0.9s,mb4.2							
FINES	**FINESS Array B**	**78.02**	**332**	P	**P**		**10 15 08.2**	**-0.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=104,slow=7.9,SNR=13							
KAF	**Kangasniemi**	**78.11**	**333**	*ep*	**P**		**10 15 08.3**	**-0.5**
	comp=Z,1.8nm,0.7s,mb4.1,baz=103,slow=5.2							
KEV	**Kevo**	**80.12**	**341**	*ep*	**P**		**10 15 18.8**	**-0.8**
	comp=Z,17nm,1.4s,mb4.8							
ARCES	**ARCESS Array B**	**80.55**	**340**	P	**P**		**10 15 22.3**	**+0.4**
	comp=Z,1.6nm,0.6s,mb4.1,baz=98,slow=4.9,SNR=12							
GERES	**GERESS Array B**	**82.94**	**319**	P	**P**		**10 15 35.9**	**+1.2**
	comp=Z,0.8nm,0.7s,mb3.9,baz=90,slow=4.0,SNR=8.8							
NB2	**NORSAR Subarra**	**85.04**	**331**	P	**P**		**10 15 45.2**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.7,baz=94,slow=4.8							
NOA	**NORSAR Array B**	**85.04**	**331**	P	**P**		**10 15 45.7**	**+0.7**
	comp=Z,0.9nm,0.8s,mb3.9,baz=95,slow=5.4,SNR=4.3							
TXAR	**Lajitas Array**	**142.46**	**30**	PKP	PKPdf		10 22 42.3	+0.4
	comp=Z,0.4nm,0.9s,baz=216,slow=1.4,SNR=6.2							
CPUP	**Villa Florida**	**145.83**	**225**	PKPbc	PKPbc		10 22 49.6	+0.9
	comp=Z,3.7nm,0.7s,baz=121,slow=4.6,SNR=12							

*IDC **24** 10:06:06.9±0.5,9.56S×111.91E,mb4.7/16,mb1 4.8/16, mb1mx4.8/19,mbtmp4.7/16,MS4.1/10,Ms1 4.1/10, ms1mx3.8/22,Error ellipse: s-maj=22.8km s-min=12.9km az=57.0*

*MOS **24** 10:06:10.3±1.1,9.50S×111.86E,h33km,mb5.1/25,Error ellipse: s-maj=8.6km s-min=7.1km az=132.8*

*DJA **24** 10:06:10.0±0.7,9.77S×111.76E,h33km,mb5.8/2,Error ellipse: s-maj=34.2km s-min=4.6km az=1.0*

*BJI **24** 10:06:12.6,9.60S×111.90E,h40km,mB5.3,mb5.1,Ms4.7, Msz4.3*

*HRVD **24** 10:06:12.7±0.6,9.84S×111.87E,h20km±2km,MW4.8/40, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s40,c51; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.95±.27; Mθθ0.15±.12; Mφφ1.80±.18; Mrθ-0.09±.23; Mrφ-0.01±.08; Mθφ1.28±.27; Best double couple: M=2.272×10^16 NP1:φs1°,δ28°,λ-87°. NP2:φs178°, δ62°,λ-92°. Principal axes: T 2.196, Plg17°, Azm269°; N .152, Plg1°, Azm178°; P -2.348, Plg73°, Azm84°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **24** 10:06:12.7±0.7,9.59S×111.86E,h41km±6km,mb5.0/23 Error ellipse: s-maj=8.5km s-min=5.7km az=208.0*

ISC 24 10:06:11.6±0.7,9.60S±0.04×111.82E±0.04,h50km±6km, h39km±4.7km:pP-P,n156,σ1ŝ16/146,mb5.0/61,MS4.2/17, 15C-5D,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**2.55**	**64**	⇑*iP*	**P**	**10 06 52.0**	**+0.5**
KELI	**Kelakatan**	**2.98**	**63**	⇑*iP*	**P**	**10 06 59.1**	**+1.5**
KELI				*i* pP		10 07 01.2	
KELI				*i* S	**S**	**10 07 43.4**	**+11**
KELI	**Kelakatan**	**2.98**	**63**	⇑*i*pP		10 07 01.2	
KELI	**Kelakatan**	**2.98**	**63**	⇑*iP*	**P**	**10 06 59.1**	**+1.5**
KELI				⇑*i*S	**S**	**10 07 43.4**	**+11**
RATI	**Rata**	**3.77**	**77**	⇑*iP*	**P**	**10 07 08.5**	**-0.3**
RATI				⇑*i*S	**S**	**10 07 55.8**	**+3.5**
KEDI	**Kedomdong**	**4.39**	**76**	⇑*iP*	**P**	**10 07 16.7**	**-0.7**
KEDI				⇑*i*S	**S**	**10 08 09.6**	**+1.8**
PULI	**Pulasari**	**6.62**	**299**	⇑*iP*	**P**	**10 07 49.1**	**+0.3**
	486nm,0.2s						
PASI	**Pasiripis**	**6.81**	**295**	*eP*	**P**	**10 07 50.9**	**-0.4**
PENI	**Pendagan**	**7.71**	**301**	⇑*iP*	**P**	**10 08 01.8**	**-2.0**
PENI				pmax	pmax		
	comp=Z,54nm,0.4s						
PENI	**Pendagan**	**7.71**	**301**	⇑*iP*	**P**	**10 08 01.8**	**-2.0**
	comp=Z,107nm,0.4s						
NINI	**Niniconang**	**9.41**	**57**	*eP*	**P**	**10 08 26.6**	**-0.6**
TANI	**Tanete Lipujan**	**9.69**	**51**	*eP*	**P**	**10 08 33.0**	**+1.7**
KSM	**Kuching**	**11.10**	**352**	*eP*	**P**	**10 08 46.9**	**-3.6**
MBWA	**Marble Bar**	**13.79**	**147**	*eP*	**P**	**10 09 18.4**	**-7.9**
	comp=Z,20nm,0.6s						
MBWA				*e*		10 09 24.4	
MBWA				*e*S	S	10 11 36.8	-22
FITZ	**Fitzroy Crossi**	**15.85**	**124**	*eP*	**P**	**10 09 48.5**	**-4.5**
	comp=Z,31nm,0.7s						
FITZ				*e*S	**S**	**10 12 31.8**	**-15**
FITZ	**Fitzroy Crossi**	**15.85**	**124**	Pn	**P**	**10 09 46.9**	**-6.1**
	comp=Z,1.4nm,0.3s,baz=299,slow=7.7,SNR=10						
FITZ				Sn	**S**	**10 12 36.1**	**-11**
	comp=Z,2.6nm,0.3s,baz=133,slow=10,SNR=3.7						
FITZ				LR	LR	10 15 42.7	
	comp=Z,378nm,19.8s,baz=307,slow=36						
KULM	**Kulim**	**18.51**	**323**	P	**P**	**10 10 25.6**	**-0.7**
KAKA	**Kakadu**	**20.47**	**101**	*eP*	**P**	**10 10 45.8**	**-1.9**
	comp=Z,39nm,0.6s						
KLBR	**Kellerberrin**	**22.57**	**167**	*eP*	**P**	**10 11 07.8**	**-1.0**
	comp=Z,653nm,1.2s,mb5.9						
KLBR				*e*S	**S**	**10 15 06.7**	**-1.3**
NWAO	**Narrogin (SRO)**	**23.75**	**169**	*eP*	**P**	**10 11 20.3**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,25nm,1.0s						
NWAO	**Narrogin (SRO)**	**23.75**	**169**	P	**P**	**10 11 20.7**	**+0.5**
	comp=Z,24nm,0.9s,mb4.6,baz=341,slow=11,SNR=9.0						
NWAO	**Narrogin (SRO)**	**23.75**	**169**	*eP*	**P**	**10 11 20.3**	**+0.1**
	comp=Z,25nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**24.05**	**118**	P	**P**	**10 11 22.8**	**-0.5**
	comp=Z,52nm,0.8s,mb5.0,baz=290,slow=12,SNR=152						
WRA	**Warramunga Arr**	**24.05**	**118**	P	**P**	**10 11 22.8**	**-0.5**
WRAB	**Tennant Creek**	**24.06**	**118**	*i* P	**P**	**10 11 23.4**	**+0.1**
WRAB	**Tennant Creek**	**24.06**	**118**	*eP*	**P**	**10 11 22.8**	**-0.6**
	comp=Z,75nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**24.06**	**118**	*eP*	**P**	**10 11 15.6**	**-7.8**
WB2				*e*S	**S**	**10 15 40.4**	**+6.1**
ASPA	**Alice Springs**	**25.31**	**126**	*eP*	**P**	**10 11 27.2**	**-8.2**
ASAR	**Alice Springs**	**25.32**	**126**	P	**P**	**10 11 35.0**	**-0.4**
ASAR						10 15 08.5	
ASAR	**Alice Springs**	**25.32**	**126**	P	**P**	**10 11 35.0**	**-0.4**
	comp=Z,31nm,1.0s,mb4.8,baz=300,slow=8.4,SNR=106						
ASAR				PcP	PcP	10 15 08.4	+0.4
	comp=Z,1.8nm,1.0s,baz=305,slow=2.8,SNR=4.1						
ASAR				LR	LR	10 20 09.5	
	comp=Z,201nm,19.7s,MS3.6,baz=298,slow=33						
ASAR	**Alice Springs**	**25.32**	**126**	P	**P**	**10 11 35.0**	**-0.4**
ASAR				PcP	PcP	10 15 08.4	+0.4
ASAR				LR	LR	10 20 09.5	
CMAR	**Chiang Mai Arr**	**30.64**	**335**	P	**P**	**10 12 24.9**	**+1.3**
	comp=Z,4.1nm,0.9s,mb4.2,baz=168,slow=7.7,SNR=13						
CMAR				PcP	PcP	10 15 22.9	+1.9
	comp=Z,1.7nm,0.6s,baz=197,slow=2.4,SNR=4.9						
CMAR				LR	LR	10 26 04.1	
	comp=Z,479nm,18.5s,MS4.2,baz=165,slow=39						
CTA	**Charters Tower**	**34.81**	**111**	*eP*	**P**	**10 13 00.2**	**+0.3**
	comp=Z,13nm,0.9s,mb4.8						
CTA	**Charters Tower**	**34.81**	**111**	*eP*	**P**	**10 13 00.2**	**+0.3**
CTA				pmax	pmax		
	comp=Z,13nm,0.9s						
CTA	**Charters Tower**	**34.81**	**111**	P	**P**	**10 13 00.4**	**+0.6**
	comp=Z,15nm,0.8s,mb5.0,baz=282,slow=8.9,SNR=7.0						
CTAO	**Charters Tower**	**34.81**	**111**	*eP*	**P**	**10 13 00.4**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.1						
CTAO	**Charters Tower**	**34.81**	**111**	*eP*	**P**	**10 13 00.4**	**+0.6**
	comp=Z,28nm,1.1s,mb5.1						
STKA	**Stephens Creek**	**35.38**	**133**	*eP*	**P**	**10 13 04.7**	**+0.1**
	comp=Z,33nm,0.8s,mb5.3						
STKA	**Stephens Creek**	**35.38**	**133**	P	**P**	**10 13 04.1**	**-0.5**
	comp=Z,40nm,0.8s,mb5.4,baz=305,slow=10,SNR=65						
STKA				LR	LR	10 28 47.3	
	comp=Z,523nm,20.0s,MS4.3,baz=156,slow=38						
KMI	**Kunming**	**35.63**	**346**	P	**P**	**10 13 09.8**	**+3.0**
KMI				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.0						
KMI				LR	LR		
	comp=N,469nm,15.0s,MS4.5						
KMI				LR	LR		
	comp=E,431nm,17.1s,MS4.5						
KMI				LR	LR		
	comp=Z,602nm,14.5s,MS4.5						
KMI	**Kunming**	**35.63**	**346**	P	**P**	**10 13 09.8**	**+3.0**
	comp=Z,13nm,0.7s,mb5.0						
KMI				pP	pP	10 13 12.2	-7.8
KMI				sP	sP	10 13 14.0	-12
KMI				LR	LR		
	comp=Z,600nm,14.5s,MS4.5						
GYA	**Guiyang**	**36.19**	**352**	⇑*iP*	**P**	**10 13 12.8**	**+1.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
WHN	**Wuhan**	**39.98**	**3**	P	**P**	**10 13 44.5**	**+1.4**
CD2	**Chengdu**	**41.01**	**349**	P	**P**	**10 13 52.0**	**+0.4**
SSE	**Sheshan**	**41.45**	**12**	*eP*	**P**	**10 13 54.1**	**-1.1**
SSE				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.1						
SSE	**Sheshan**	**41.45**	**12**	*eP*	**P**	**10 13 54.1**	**-1.1**
	comp=Z,36nm,0.7s,mb5.1						
HYB	**Hyderabad**	**42.44**	**309**	*eP*	**P**	**10 14 03.5**	**0.0**
HYB	**Hyderabad**	**42.44**	**309**	*i* P	**P**	**10 14 03.5**	**0.0**
BLSP	**Bilaspur**	**42.91**	**318**	*eP*	**P**	**10 14 08.8**	**+1.4**
BLSP				*e*		10 14 08.9	
	comp=Z,9.7nm,0.7s						
BLSP				*e*		10 21 37.0	
XAN	**Xi'an**	**43.48**	**357**	P	**P**	**10 14 12.0**	**+0.1**
XAN				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.8						
LSA	**Lhasa**	**43.85**	**334**	P	**P**	**10 14 17.0**	**+2.1**
JIRN	**Jiri**	**44.58**	**327**	*eP*	**P**	**10 14 21.8**	**+1.0**
	comp=Z,8.2nm,0.3s,mb5.1						
PKI	**Pulchoki**	**44.94**	**326**	*eP*	**P**	**10 14 23.3**	**-0.4**
	comp=Z,26nm,0.9s,mb5.0						
GUN	**Gumba**	**44.95**	**327**	*eP*	**P**	**10 14 23.9**	**+0.2**
	comp=Z,52nm,0.9s,mb5.4						
DMN	**Daman**	**45.14**	**326**	*eP*	**P**	**10 14 25.5**	**+0.3**
	comp=Z,74nm,0.9s,mb5.5						
KKN	**Kakani**	**45.18**	**326**	*eP*	**P**	**10 14 25.4**	**-0.2**
	comp=Z,32nm,0.9s,mb5.2						
GKN	**Gorkha**	**45.70**	**326**	*eP*	**P**	**10 14 29.3**	**-0.5**
	comp=Z,56nm,0.9s,mb5.5						
LZH	**Lanzhou**	**46.05**	**351**	*eP*	**P**	**10 14 33.9**	**+1.5**
LZH				AP	pP	10 14 43.6	-2.3
LZH				XP	sP	10 14 47.6	-4.3
LZH				AMB	AMB		
	comp=Z,160nm,1.3s,mb5.8						
LZH				AMB	AMB		
	comp=Z,580nm,4.0s						
LZH				LR	LR		
	comp=N,590nm,14.5s						
LZH				LR	LR		
	comp=Z,700nm,15.8s,MS4.7						
LZH	**Lanzhou**	**46.05**	**351**	*eP*	**P**	**10 14 33.9**	**+1.5**
	comp=Z,160nm,1.3s,mb5.8						
LZH				pP	pP	10 14 43.6	-2.3
LZH				sP	sP	10 14 47.6	-4.3
LZH				LR	LR		
	comp=Z,700nm,15.8s,MS4.7						
KOLN	**Koldanda**	**46.11**	**324**	*eP*	**P**	**10 14 32.8**	**-0.2**
	comp=Z,45nm,0.8s,mb5.5						
POO	**Poona**	**46.74**	**307**	*eP*	**P**	**10 14 36.5**	**-1.5**
BHPL	**Bhopal**	**46.88**	**315**	*eP*	**P**	**10 14 36.4**	**-2.6**
BHPL				*e*		10 14 40.0	
	comp=Z,39nm,0.7s						
KS15	**Wonju Array Si**	**49.16**	**17**	*eP*	**P**	**10 14 57.0**	**+0.4**
BJI	**Beijing**	**49.55**	**4**	*eP*	**P**	**10 14 59.3**	**-0.3**
BJI				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
BJI				LR	LR		
	comp=N,163nm,21.3s,MS4.2						
BJI				LR	LR		
	comp=E,196nm,19.2s,MS4.2						
BJI				LR	LR		
	comp=Z,163nm,21.3s,MS4.0						
BJI	**Beijing**	**49.55**	**4**	*eP*	**P**	**10 14 59.2**	**-0.4**
BJI				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
BJI				MLR	MLR		
	comp=Z,160nm,21.3s,MS4.0						
BJI	**Beijing**	**49.55**	**4**	*eP*	**P**	**10 14 59.2**	**-0.4**
	comp=Z,30nm,0.9s,mb5.3						
BJI				LR	LR		
	comp=Z,160nm,21.3s,MS4.0						
BTO	**Baotou**	**49.98**	**358**	*eP*	**P**	**10 15 02.3**	**-0.6**
GTA	**Gaotai**	**50.02**	**348**	P	**P**	**10 15 04.3**	**+1.1**
GTA				AP	pP	10 15 15.1	-1.7
GTA				XP	sP	10 15 20.3	-2.4
GTA				PP	PP	10 17 01.8	+2.5
GTA				S	**S**	**10 22 16.6**	**+7.6**
GTA				AMB	AMB		
	comp=Z,15nm,1.7s,mb4.8						
GTA				AMB	AMB		
	comp=Z,129nm,5.3s						
GTA				LR	LR		
	comp=N,106nm,23.6s,MS4.2						
GTA				LR	LR		
	comp=E,285nm,22.8s,MS4.2						
GTA				LR	LR		
	comp=Z,74nm,14.1s						
HHC	**Hu-ho-hao-te**	**50.19**	**360**	*eP*	**P**	**10 15 04.3**	**-0.2**
HHC				AP	pP	10 15 13.6	-4.5
HHC				XP	sP	10 15 21.9	-2.1
HHC				PCP	PcP	10 16 21.6	-1.8
HHC				SCP		10 20 12.6	
HHC				PCS		10 20 22.0	
HHC				S	**S**	**10 22 12.0**	**+0.6**
HHC				PS	PS	10 22 27.6	+0.1
HHC				XS		10 22 34.5	
HHC				SCS	ScS	10 24 49.6	+1.6
HHC				SS	SS	10 25 49.5	+7.4
HHC				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.1						
HHC				LR	LR		
	comp=N,115nm,18.6s,MS4.3						
HHC				LR	LR		
	comp=E,291nm,18.6s,MS4.3						
HHC				LR	LR		
	comp=Z,130nm,16.7s,MS4.0						
NDI	**New Delhi**	**50.64**	**320**	*eP*	**P**	**10 15 05.5**	**-2.6**
MAJO	**Matsushiro**	**52.18**	**27**	*eP*	**P**	**10 15 17.6**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
MAJO	**Matsushiro**	**52.18**	**27**	*eP*	**P**	**10 15 17.6**	**-1.9**
	comp=Z,15nm,0.7s,mb5.0						
MAT	**Matsushiro**	**52.18**	**27**	*eP*	**P**	**10 15 18.0**	**-1.5**
MAT				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.2						
MAT	**Matsushiro**	**52.18**	**27**	*eP*	**P**	**10 15 18.0**	**-1.5**
	comp=Z,46nm,1.3s,mb5.2						
MAT	**Matsushiro**	**52.18**	**27**	P	**P**	**10 15 17.5**	**-2.0**
MJAR	**Matsushiro Arr**	**52.18**	**27**	P	**P**	**10 15 17.5**	**-2.0**
	comp=Z,17nm,0.8s,mb5.0,baz=204,slow=7.8,SNR=62						
MJAR	**Matsushiro Arr**	**52.18**	**27**	P	**P**	**10 15 17.5**	**-2.0**
SNY	**Shenyang**	**52.30**	**11**	⇑P	**P**	**10 15 17.8**	**-2.6**
SNY				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
SMLA	**Simla**	**52.37**	**322**	⇓*iP*	**P**	**10 15 18.4**	**-2.7**
	comp=Z,64nm,0.3s,mb6.0						
SMLA				*i*		10 20 03.4	
CN2	**Changchun**	**54.57**	**12**	*eP*	**P**	**10 15 35.5**	**-1.6**
CN2				PCP	PcP	10 16 41.1	+1.4
CN2				*e*S	**S**	**10 23 11.0**	**-0.1**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
CN2				LR	LR		
	comp=N,320nm,15.0s,MS4.6						
CN2				LR	LR		
	comp=E,190nm,15.0s,MS4.6						
CN2				LR	LR		
	comp=Z,210nm,16.0s,MS4.3						
ULN	**Ulaanbaatar**	**57.36**	**356**	*eP*	**P**	**10 15 56.7**	**-0.5**
ULN				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**57.36**	**356**	*eP*	**P**	**10 15 56.7**	**-0.4**
	comp=Z,12nm,0.9s,mb4.9						
SONM	**Songino Array**	**57.38**	**356**	P	**P**	**10 15 56.9**	**-0.4**
	comp=Z,9.2nm,0.9s,mb4.8,baz=170,slow=7.5,SNR=49						
SONM				PcP	PcP	10 16 51.3	+0.7
	comp=Z,1.7nm,0.8s,baz=178,slow=5.2,SNR=3.9						
WMQ	**Urumqi**	**57.51**	**339**	⇑P	**P**	**10 15 58.8**	**+0.6**
WMQ				AP	pP	10 16 11.4	-0.7
WMQ				XP	sP	10 16 16.8	-1.2
WMQ				PCP	PcP	10 16 51.8	+0.7
WMQ				PP	PP	10 18 07.8	+0.1
WMQ				S	**S**	**10 23 50.8**	**+0.7**
WMQ				PS	PS	10 24 09.8	-0.6
WMQ				XS		10 24 11.8	
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
WMQ				LR	LR		
	comp=N,107nm,20.3s						
WMQ				LR	LR		
	comp=E,278nm,28.4s						
WMQ				LR	LR		
	comp=Z,69nm,22.2s,MS3.7						
KSH	**Kashi**	**59.11**	**328**	*eP*	**P**	**10 16 08.0**	**-1.4**
KSH				*e*PCP	PcP	10 16 57.0	-0.4
KSH				*e*PP	PP	10 18 19.4	-2.7
KSH				*e*PPP	PPP	10 19 43.0	-4.0
KSH				*e*SCP		10 20 55.0	
KSH				*e*PCS		10 20 57.4	
KSH				S	**S**	**10 24 11.1**	**0.0**
KSH				*e*SCS	ScS	10 25 53.1	+1.9
KSH				*e*SS	SS	10 28 06.0	-1.4
KSH				AMB	AMB		
	comp=Z,150nm,2.4s,mb5.6						
KSH				LR	LR		
	comp=N,

comp=Z,9.0nm,1.6s,mb4.5
ZAL Zalesovo 67.30 343 P **P 10 17 02.1 -1.0**
comp=Z,3.0nm,0.5s,mb4.5,baz=336,slow=6.0,SNR=9.5
ZAL LR LR 10 49 34.7
comp=Z,151nm,18.1s,MS4.2,baz=129,slow=39
VNDA Vanda 72.57 170 P **P 10 17 35.3 +0.4**
comp=Z,2.2nm,0.9s,mb4.1,baz=324,slow=5.6,SNR=9.9
VNDA LR LR 10 48 15.8
comp=Z,113nm,18.6s,MS4.2,baz=320,slow=35
YAK Yakutsk 72.76 9 *eP* **P 10 17 35.1 -1.1**
YAK pmax pmax
comp=Z,24nm,0.9s,mb5.1
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK Yakutsk 72.76 9 *eP* **P 10 17 34.4 -1.8**
comp=E,47nm,0.8s,mb5.5
KMBO Kilima Mbogo 74.59 271 *eP* **P 10 17 50.4 +2.5**
KMBO pmax pmax
comp=Z,8.0nm,1.3s
KMBO Kilima Mbogo 74.59 271 P **P 10 17 49.6 +1.8**
comp=Z,2.2nm,0.8s,mb4.1,baz=52,slow=21,SNR=7.0
KMBO Kilima Mbogo 74.59 271 *eP* **P 10 17 50.4 +2.5**
comp=Z,8.4nm,1.3s,mb4.5
SYO Syowa Base 74.75 201 ⇓P **P 10 17 47.2 -0.5**
SVE Sverdlovsk 78.38 334 *eP* **P 10 18 08.9 +0.7**
SVE pmax pmax
comp=Z,40nm,1.8s,mb5.0
SEY Seymchan 78.73 18 *eP* **P 10 18 11.0 +0.9**
SEY *e* 10 27 55.3
SEY pmax pmax
comp=Z,20nm,1.1s,mb5.0
ARU Arti 79.04 333 ⇓*iP* **P 10 18 11.8 -0.1**
ARU *e* 10 21 13.1
ARU *e*PPP PPP 10 23 00.5 -2.8
ARU *e*S S 10 28 13.1 +7.4
ARU *e*SS SS 10 33 20.4 +5.5
ARU pmax pmax
comp=Z,18nm,1.4s,mb4.8
GNI Garni 79.16 314 *iP* **P 10 18 13.5 +0.6**
GNI pmax pmax
comp=Z,12nm,1.5s
MBAR Mbarara 81.10 271 *eP* **P 10 18 25.6 +1.8**
MBAR pmax pmax
comp=Z,11nm,1.3s,mb4.6
MBAR Mbarara 81.10 271 *eP* **P 10 18 25.6 +1.7**
comp=Z,12nm,1.3s,mb4.7
LSZ Lusaka 81.43 256 *eP* **P 10 18 27.1 +1.6**
LSZ pmax pmax
comp=Z,11nm,1.3s,mb4.6
LSZ Lusaka 81.43 256 *eP* **P 10 18 27.1 +1.7**
comp=Z,11nm,1.3s,mb4.6
TIXI Tiksi 81.86 5*d iP* **P 10 18 26.3 -0.3**
TIXI pmax pmax
comp=Z,20nm,0.7s,mb5.2
KIV Kislovodsk 82.00 317 *eP* **P 10 18 29.3 +1.4**
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
GOF Gofitskoye 82.18 318 *eP* **P 10 18 30.9 +2.1**
GOF pmax pmax
comp=Z,26nm,1.3s,mb5.0
BOSA Boshof 82.47 242 P **P 10 18 32.5 +1.9**
comp=Z,4.8nm,0.9s,mb4.4,baz=108,slow=8.4,SNR=8.1
BOSA LR LR 10 50 45.2
comp=Z,201nm,18.5s,MS4.5,baz=270,slow=32
MALT Malatya 83.14 311 *eP* **P 10 18 35.6 +1.8**
MALT pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MALT Malatya 83.14 311 *eP* **P 10 18 35.6 +1.8**
comp=Z,2.7nm,0.8s,mb4.3
SOC Sochi 83.89 316 *eP* **P 10 18 35.9 -1.6**
SOC *e*PPP PPP 10 23 52.0 +3.9
SOC *e*S S 10 28 55.7 0.0
SOC *e*SS SS 10 34 29.5 +2.5
SOC *e*SSS SSS 10 38 01.7 +7.7
SOC pmax pmax
comp=Z,27nm,0.6s,mb5.5
SOC pmax pmax
comp=N,15nm,0.8s
SOC pmax pmax
comp=E,7.0nm,0.7s
BILL Bilibino 86.44 18 *eP* **P 10 18 50.1 +0.6**
BILL *e* 10 18 57.1
BILL pmax pmax
comp=Z,6.0nm,1.6s,mb4.6
BRTR Keskin Array B 87.11 311 P **P 10 18 55.2 +1.7**
comp=Z,3.8nm,0.8s,mb4.7,baz=135,slow=7.0,SNR=20
OBN Obninsk 89.50 326 *eP* **P 10 19 05.3 +0.8**
OBN pmax pmax
comp=Z,28nm,1.2s,mb5.5
AKASG Malin Array Be 92.69 321 P **P 10 19 19.9 +0.5**
comp=Z,1.1nm,0.7s,mb4.4,baz=88,slow=4.5,SNR=9.5
PPT Papeete 95.23 109 LR LR 10 54 49.3
comp=Z,155nm,19.8s,MS4.5,baz=230,slow=31
FINES FINESS Array B 96.32 331 P **P 10 19 37.1 +1.4**
comp=Z,1.4nm,0.8s,mb4.5,baz=72,slow=6.0,SNR=5.7
FINES LR LR 11 11 55.4
comp=Z,69nm,18.2s,MS4.2,baz=181,slow=41
YKA Yellowknife Ar 117.54 22 PKP PKPdf 10 24 53.9 +2.3
comp=Z,0.9nm,0.7s,baz=316,slow=1.9,SNR=30
YKA Yellowknife Ar 117.54 22 PKP PKPdf 10 24 53.9 +2.3
EDM Edmonton 123.40 31 *e*PKIKP PKPdf 10 25 06.1 +2.8
NVAR Mina Array Bea 126.81 49 PKP PKPdf 10 25 14.7 +4.4
comp=Z,1.9nm,0.9s,baz=108,slow=0.9,SNR=9.6
PDAR Pinedale Array 131.07 40 PKP PKPdf 10 25 21.2 +2.9
comp=Z,0.6nm,0.9s,baz=270,slow=1.5,SNR=5.3
PV01 Paradox Valley 133.97 45 *e*PKPdf PKPdf 10 25 28.5 +4.5
TXAR Lajitas Array 141.44 54 PKhKP 10 25 34.9
comp=Z,0.8nm,0.6s,baz=258,slow=3.7,SNR=11
JCT Junction City 143.96 50 *e*PKIKP PKPdf 10 25 43.1 +1.0
CCM Cathedral Cave 144.88 33 *e*PKIKP PKPdf 10 25 44.7 +1.2
FVM French Village 145.37 32 *e*PKIKP PKPdf 10 25 46.7 +2.4
MIAR Mount Ida 145.99 39 *e*PKP2 PKPab 10 25 49.3 +0.3
UALR University of 146.59 38 *e*PKPbc PKPbc 10 25 50.3 +2.4
ACSO Alum Creek Sta 146.78 21 *e*PKPbc PKPbc 10 25 51.1 +3.0
WCI Wyandotte Cave 147.17 27 *e*PKP2 PKPab 10 25 52.2 -1.3
BAO Brasilia Array 147.93 219 PKPdf PKPdf 10 25 56.5 +7.3
BDFB Brasilia 147.94 219 PKPbc PKPdf 10 25 54.5 +5.3
comp=Z,5.5nm,0.7s,baz=164,slow=2.7,SNR=12
WVT Waverly 148.12 31 *e*PKP2 PKPab 10 25 54.9 -2.4
OXF Oxford 148.49 35 *e*PKP2 PKPab 10 25 56.0 -2.9
PLAL Pickwick Lake 148.87 33 *e*PKPbc PKPdf 10 25 56.2 +6.0
LRAL Lakeview Retre 150.93 34 *e*PKPbc PKPdf 10 26 01.6 +8.1

IDC 24 10:23:12.6±1.5, 27.50N×140.03E, h457km±20km, mb2.7/3, mb1 2.9/3, mb1mx2.5/21, mbtmp3.5/3, Error ellipse: s-maj=62.6km s-min=23.7km az=97.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.96**	**101**	P	P	10 24 15.1	+1.1
	2.7nm,0.3s,baz=270,slow=21,SNR=4.2						
CBIJ				S	S	10 25 02.8	+0.4
	18nm,0.3s,baz=89,slow=23,SNR=9.1						
WRA	**Warramunga Arr**	**47.48**	**187**	P	P	10 31 04.7	-1.8
	0.2nm,0.4s,baz=3.0,slow=7.6,SNR=6.7						
YKA	**Yellowknife Ar**	**72.69**	**28**	P	P	10 33 52.6	-1.2
	0.1nm,0.5s,baz=296,slow=5.8,SNR=5.0						
FINES	**FINESS Array B**	**76.73**	**333**	P	P	10 34 15.4	-1.1
	0.5nm,0.4s,baz=79,slow=7.1,SNR=5.4						

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*NEIC **24** 10:34:28.5±2.7,24.37S×70.61W,h34km±20km,mb4.0/1, Error ellipse: s-maj=18.7km s-min=8.5km az=91.0*
*GUC **24** 10:34:29.5±0.6,24.33S×70.41W,h35km±5km,ML3.9*
*IDC **24** 10:34:30.6±5.6,24.42S×70.56W,h51km±44km,mb3.4/3, mb1 3.8/5,mb1mx3.6/16,mbtmp3.8/5,ML4.6/2,MS2.8/2, Ms1 2.9/2,ms1mx2.7/8,Error ellipse: s-maj=42.0km s-min=35.0km az=2.0*
ISC 24 10:34:27.4±0.8, 24.36S±0.04×70.7W±0.1, h44km±8km, n21, σ1§07/23, mb3.7/3, 3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.39**	**133**	⇓*iP*	P	10 34 37.5	+0.6
CPN1				*i* S	S	10 34 43.8	0.0
CPN1				AMP		10 34 44.9	
	comp=E,12μm,0.3s						
ANCH	**Antofagasta**	**0.73**	**23**	⇓*iP*	P	10 34 41.7	+0.4
ANCH				*i* S	S	10 34 50.8	-0.8
ANCH				AMP		10 34 52.8	
	comp=N,11μm,0.2s						

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LVC	**Limon Verde**	**2.40**	**44**	P	P	**10 35 08.2**	**+3.1**
	comp=N,45nm,0.3s,baz=230,slow=11,SNR=398						
LVC				S	S	**10 35 35.9**	**+2.5**
	comp=N,122nm,0.3s,baz=15,slow=23,SNR=5.5						
LVC	**Limon Verde**	**2.40**	**44**	*eP*	P	**10 35 06.2**	**+1.1**
LVC				*e*S	S	**10 35 35.1**	**+1.6**
LVC	**Limon Verde**	**2.40**	**44**	*eP*	P	**10 35 06.1**	**+1.0**
LVC				*i* S	S	**10 35 33.7**	**+0.3**
LVC				AMP		10 35 40.2	
	comp=N,2μm,0.6s						
CPCH	**Copiapo**	**3.01**	**174**	⇓*iP*	P	**10 35 13.3**	**-0.5**
CPCH				*i* S	S	**10 35 48.9**	**0.0**
ARE	**Arequipa**	**7.89**	**355**	*eP*	P	**10 36 20.0**	**-2.2**
LPAZ	**La Paz**	**8.38**	**17**	P	P	**10 36 29.1**	**0.0**
	comp=N,1.3nm,0.3s,baz=223,slow=7.7,SNR=49						
LPAZ				LR	LR	10 39 59.8	
	comp=N,52nm,21.5s,baz=80,slow=39						
LPAZ	**La Paz**	**8.38**	**17**	*eP*	P	**10 36 28.6**	**-0.5**
LPAZ				LR	LR	10 39 59.8	
CPUP	**Villa Florida**	**12.27**	**102**	LR	LR	10 42 41.1	
	comp=N,64nm,20.0s,baz=164,slow=40						
SIV	**San Ignacio**	**12.29**	**49**	P	P	**10 37 19.2**	**-3.3**
	comp=N,1.9nm,0.3s,baz=250,slow=10,SNR=37						
SIV				S	S	**10 39 38.2**	**-0.8**
	comp=N,0.2nm,0.3s,baz=302,slow=23,SNR=5.4						
TRQA	**Tornquist**	**15.56**	**153**	Pn	P	**10 38 04.9**	**-0.4**
	comp=N,9.2nm,0.8s						
SAML	**Samuel**	**16.93**	**26**	*eP*	P	**10 38 24.3**	**+1.6**
BDFB	**Brasilia**	**23.00**	**72**	P	P	**10 39 28.3**	**-1.1**
	comp=N,2.1nm,0.8s,mb3.6,baz=243,slow=15,SNR=3.8						
TXAR	**Lajitas Array**	**62.07**	**327**	P	P	**10 44 46.8**	**+0.8**
	comp=N,0.3nm,0.6s,mb3.6,baz=155,slow=8.2,SNR=5.4						
YKA	**Yellowknife Ar**	**93.33**	**341**	P	P	**10 47 39.2**	**+0.8**
	comp=N,0.3nm,0.7s,mb3.8,baz=142,slow=4.7,SNR=11						
YKA	**Yellowknife Ar**	**93.33**	**341**	P	P	**10 47 39.2**	**+0.8**
ASAR	**Alice Springs**	**126.62**	**208**	PKP	PKPdf	10 53 28.8	+2.1
	comp=N,0.3nm,0.5s,baz=123,slow=1.7,SNR=7.5						
WRA	**Warramunga Arr**	**129.66**	**211**	PKP	PKPdf	10 53 35.1	+2.5
	comp=N,0.4nm,0.7s,baz=153,slow=1.8,SNR=6.7						
ZAL	**Zalesovo**	**145.24**	**25**	PKPbc	PKPbc	10 54 02.0	+1.7
	comp=N,2.0nm,0.7s,baz=159,slow=2.2,SNR=9.5						
MKAR	**Makanchi Array**	**148.91**	**37**	PKPbc	PKPdf	10 54 12.3	+6.2
	comp=N,1.4nm,0.7s,baz=327,slow=2.7,SNR=12						

IDC 24 10:35:54.1±2.4, 4.92N×94.26E, h57km±9km, mb3.2/4, mb1 3.4/5, mb1mx3.2/21, mbtmp3.5/5, Error ellipse: s-maj=88.1km s-min=18.6km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.21**	**18**	P	P	10 39 14.2	+0.2
	0.2nm,0.3s,baz=210,slow=12,SNR=5.9						
MKAR	**Makanchi Array**	**42.98**	**348**	P	P	10 43 48.0	-1.4
	0.3nm,0.4s,baz=162,slow=8.2,SNR=5.9						
MKAR				pP	pP	10 44 02.6	-1.7
	0.3nm,0.4s,baz=153,slow=8.1,SNR=3.4						
SONM	**Songino Array**	**44.01**	**12**	P	P	10 43 54.6	-3.1
	0.3nm,0.7s,baz=202,slow=9.0,SNR=4.0						
WRA	**Warramunga Arr**	**46.50**	**123**	P	P	10 44 16.5	-1.5
	0.6nm,0.7s,baz=302,slow=9.4,SNR=6.5						
WRA				pP	pP	10 44 30.5	-2.4
	0.9nm,0.6s,baz=303,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**47.98**	**128**	P	P	10 44 27.6	-1.9
	0.2nm,0.5s,baz=297,slow=8.2,SNR=5.4						
ASAR				pP	pP	10 44 42.6	-1.8
	0.4nm,0.6s,baz=298,slow=7.8,SNR=3.7						

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*IDC **24** 10:51:00.9±1.6, 1.41N×96.89E, mb3.8/8, mb1 3.9/9, mb1mx3.7/21, mbtmp3.8/9, Error ellipse: s-maj=70.3km s-min=20.9km az=56.0*
*NEIC **24** 10:51:07.9±6.0, 1.50N×97.06E, h47km±48km, mb4.1/1, Error ellipse: s-maj=56.8km s-min=11.4km az=58.0*
ISC 24 10:51:04.2±1.2, 1.4N±0.2×96.9E±0.3, h33km, n13, σ0§41/13, mb3.8/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.02**	**6**	P	P	**10 55 01.8**	**+0.4**
	baz=198,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**42.38**	**122**	P	P	**10 58 57.2**	**-0.3**
	0.2nm,0.4s,mb3.1,baz=304,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**43.74**	**127**	P	P	**10 59 08.9**	**+0.3**
	0.2nm,0.6s,mb3.1,baz=302,slow=7.5,SNR=4.2						
SONM	**Songino Array**	**46.93**	**9**	P	P	**10 59 33.4**	**-0.2**
	1.9nm,0.8s,mb4.1,baz=188,slow=8.7,SNR=16						
MKAR	**Makanchi Array**	**46.95**	**346**	P	P	**10 59 34.0**	**+0.3**
	1.3nm,0.6s,mb4.1,baz=160,slow=8.2,SNR=19						
MKAR	**Makanchi Array**	**46.95**	**346**	P	P	**10 59 34.0**	**+0.3**
ULN	**Ulaanbaatar**	**47.06**	**9**	*eP*	P	**10 59 34.5**	**-0.1**
	1.0nm,0.5s,mb4.0						
ZAL	**Zalesovo**	**53.27**	**351**	P	P	**11 00 21.5**	**-0.4**
	0.8nm,0.4s,mb4.0,baz=330,slow=9.4,SNR=4.6						
ZAL	**Zalesovo**	**53.27**	**351**	P	P	**11 00 21.5**	**-0.4**
BVAR	**Borovoye Array**	**55.94**	**341**	P	P	**11 00 40.6**	**-0.8**
	0.2nm,0.3s,mb3.6,baz=135,slow=6.3,SNR=4.6						
FINES	**FINESS Array B**	**79.67**	**333**	P	P	**11 03 10.3**	**+0.4**
	0.4nm,0.6s,mb3.5,baz=117,slow=6.2,SNR=3.2						
FINES	**FINESS Array B**	**79.67**	**333**	P	P	**11 03 10.3**	**+0.4**
ARCES	**ARCESS Array B**	**82.22**	**340**	P	P	**11 03 23.7**	**+0.5**
	5.0nm,1.1s,mb4.3,slow=4.9,SNR=3.5						

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*NIED **24** 10:53:00,33.40N×140.90E,h8km,Mw3.6 Best double couple: M0 2.97×10^14 NP1:φ=77°, δ=45°, λ=-85°. NP2:φ=251°, δ=45°, λ=-95°.*
*IDC **24** 10:53:49.2±1.4,33.18N×140.72E,mb3.7/4,mb1 3.9/5, mb1mx3.5/23,mbtmp3.7/5,ML3.4/1,Error ellipse: s-maj=26.1km s-min=18.2km az=42.0*
*JMA **24** 10:53:51.2±0.3,33.37N×140.87E,h35km,M3.5*
ISC 24 10:53:51.2±1.1, 33.33N±0.04×140.86E±0.08, h35km±11km, n18, σ0§71/27, mb3.8/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.90**	**256**	P	P	**10 54 08.0**	**+0.6**
JHJ2				S	S	**10 54 19.1**	**-0.3**
JHJ	**Hachijo jima 2**	**0.92**	**257**	Pn	P	**10 54 07.8**	**0.0**
	79nm,0.3s,baz=205,slow=13,SNR=58						
JHJ				Sn	S	**10 54 19.4**	**-0.6**
	308nm,0.3s,baz=83,slow=21,SNR=29						
BSO1	**Boso 1**	**1.32**	**4**	P	P	**10 54 13.3**	**-0.3**
BSO1				S	S	**10 54 29.6**	**-0.6**
JMY	**Miyakejima3**	**1.34**	**304**	P	P	**10 54 14.4**	**+0.6**
BSO2	**Boso 2**	**1.42**	**357**	S	S	**10 54 32.3**	**-0.3**
BSO3	**Boso 3**	**1.49**	**349**	P	P	**10 54 15.1**	**-0.9**
BSO3				*e*S	S	**10 54 34.0**	**-0.5**
BSO4	**Boso 4**	**1.71**	**346**	P	P	**10 54 19.5**	**+0.4**
BSO4				*e*S	S	**10 54 40.4**	**+0.5**
JIM2	**Oshima 3**	**1.82**	**320**	P	P	**10 54 20.6**	**0.0**
JIZS	**Izushimoda**	**2.15**	**311**	P	P	**10 54 25.7**	**+0.4**
JIZS				S	S	**10 54 50.4**	**-0.6**
KTJJ	**Kamata 2**	**2.17**	**317**	P	P	**10 54 26.4**	**+0.7**
JOD2	**Odawara 2**	**2.42**	**323**	P	P	**10 54 29.4**	**+0.2**
JOD2				S	S	**10 54 56.8**	**-1.1**
MJAR	**Matsushiro Arr**	**3.87**	**327**	Pn	P	**10 54 50.9**	**+1.0**
	2.5nm,0.3s,baz=144,slow=11,SNR=25						
MJAR				Sn	S	**10 55 38.2**	**+3.4**
	2.2nm,0.3s,baz=150,slow=22,SNR=5.7						
MAT	**Matsushiro**	**3.87**	**327**	P	P	**10 54 50.8**	**+0.9**
MAT				S	S	**10 55 34.1**	**-0.7**
MKAR	**Makanchi Array**	**45.78**	**305**	P	P	**11 02 12.1**	**+0.9**
	0.5nm,0.5s,mb3.7,baz=87,slow=9.7,SNR=6.3						
BVAR	**Borovoye Array**	**52.78**	**314**	P	P	**11 03 05.8**	**+1.0**
	0.2nm,0.3s,mb3.5,baz=97,slow=12,SNR=3.1						
WB2	**Warramunga Arr**	**53.34**	**188**	*eP*	P	**11 03 08.5**	**-0.9**
WRA	**Warramunga Arr**	**53.34**	**188**	P	P	**11 03 08.9**	**-0.6**
	1.1nm,0.4s,mb4.1,baz=5.1,slow=7.5,SNR=35						
ASAR	**Alice Springs**	**57.07**	**188**	P	P	**11 03 36.1**	**-0.4**
	0.6nm,0.5s,mb3.9,baz=3.1,slow=6.4,SNR=18						

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*IDC **24** 10:59:02.4±0.6,2.43N×96.35E,mb4.6/18,mb1 4.7/19, mb1mx4.6/23,mbtmp4.6/19,ML4.4/1,MS4.2/15,Ms1 4.2/15, ms1mx4.0/25,Error ellipse: s-maj=26.3km s-min=13.1km az=48.0*
*BJI **24** 10:59:04.3,2.39N×96.44E,h26km,mB4.9,mb5.1,Ms4.6, Msz4.4*
*MOS **24** 10:59:05.4±0.9,2.38N×96.36E,h33km,mb5.2/28,Error ellipse: s-maj=13.3km s-min=7.2km az=100.3*
*HRVD **24** 10:59:06.2±1.4,2.09N×96.22E,h36km±3km,MW4.7/32, Centroid moment Tensor Solution. LP body waves: s13,c18;Mantle waves: s32,c39; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.91±.21; Mθθ-0.73±.13; Mφφ-0.18±.23; Mrθ0.82±.11; Mrφ0.70±.10; Mθφ-0.28±.15; Best double couple: M0 1.372×10^16 NP1:φ=321°, δ28°, λ115°. NP2:φ=112°, δ65°, λ77°. Principal axes: T 1.249, Plg67°, Azm358°; N .248, Plg12°, Azm118°; P -1.496, Plg19°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **24** 10:59:06.2±0.3,2.37N×96.31E,mb4.9/22 Error ellipse: s-maj=9.2km s-min=6.5km az=37.0*
ISC 24 10:59:04.6±0.3, 2.37N±0.04×96.34E±0.04, h29km, h29km±1.8km: pP-P, n147, σ1§10/142, mb4.8/69, MS4.3/34, 12C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.17**	**65**	P	**Pn**	**11 00 22.9**	**+0.8**
KULM	**Kulim**	**5.19**	**56**	⇑*iP*	**Pn**	**11 00 23.3**	**+0.9**
KULM				*e*		11 00 29.1	
SNG	**Songkhla**	**6.40**	**42**	P	**Pn**	**11 00 40.0**	**+0.4**
	420nm,0.8s						
KGM	**Kluang**	**6.98**	**93**	P	**Pn**	**11 00 49.3**	**+1.6**
KSM	**Kuching**	**13.99**	**93**	*eP*	P	**11 02 24.6**	**+1.2**
KKTK	**Khon Kaen**	**15.28**	**24**	P	P	**11 02 45.0**	**+4.7**
	741nm,1.0s						
CM31	**Chiang Mai Arr**	**16.20**	**9**	*eP*	P	**11 02 51.0**	**-1.0**
	27nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.20**	**9**	Pn	P	**11 02 51.2**	**-0.8**
	0.5nm,0.3s,baz=198,slow=10,SNR=47						
CMAR				LR	LR	11 09 50.3	
	comp=Z,921nm,18.4s,baz=195,slow=40						
PALK	**Pallekele**	**16.33**	**288**	*eP*	P	**11 02 51.8**	**-1.9**
	25nm,1.0s						
CHG	**Chiang Mai**	**16.55**	**9**	P	P	**11 02 55.8**	**-0.7**
	12nm,0.8s						
NANT	**Nan**	**16.88**	**14**	⇑P	P	**11 02 59.0**	**-1.7**
	150nm,1.0s						
VIS	**Vishakhapatnam**	**19.90**	**321**	*eP*	P	**11 03 39.6**	**+2.5**
VIS				*e*S	S	**11 07 04.2**	**-10**
KKM	**Kota Kinabalu**	**20.15**	**79**	*eP*	P	**11 03 39.7**	**+0.1**
KKM	**Kota Kinabalu**	**20.15**	**79**	P	P	**11 03 40.0**	**+0.4**
QIZ	**Qiongzhong**	**21.19**	**38**	P	P	**11 03 49.5**	**-0.8**
QIZ				*e*S	S	**11 07 45.8**	**+6.4**
QIZ				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.4						
QIZ				LR	LR		
	comp=N,1μm,13.1s,MS4.5						
QIZ				LR	LR		
	comp=E,672nm,14.3s,MS4.5						
QIZ				LR	LR		
	comp=Z,1μm,13.6s,MS4.5						
HYB	**Hyderabad**	**23.00**	**312**	*eP*	P	**11 04 11.5**	**+3.1**
HYB	**Hyderabad**	**23.00**	**312**	*i P*	P	**11 04 11.5**	**+3.1**
KMI	**Kunming**	**23.45**	**15**	P	P	**11 04 14.6**	**+1.9**
KMI				S	S	**11 08 28.8**	**+8.2**
KMI				AMB	AMB		
	comp=Z,40nm,0.9s,mb4.8						
KMI				LR	LR		
	comp=N,609nm,14.5s,MS4.3						
KMI				LR	LR		
	comp=E,332nm,12.8s,MS4.3						
KMI				LR	LR		
	comp=Z,501nm,16.3s,MS4.1						
KMI	**Kunming**	**23.45**	**15**	P	P	**11 04 14.6**	**+1.9**
KMI				S	S	**11 08 28.7**	**+8.1**
KMI				pmax	pmax		
	comp=Z,40nm,0.9s,mb4.8						
KMI				MLR	MLR		
	comp=Z,500nm,16.3s,MS4.1						
KMI	**Kunming**	**23.45**	**15**	P	P	**11 04 14.6**	**+1.9**
	comp=Z,40nm,0.9s,mb4.8						
KMI				S	S	**11 08 28.7**	**+8.1**
KMI				LR	LR		
	comp=Z,500nm,16.3s,MS4.1						
SHL	**Shillong**	**23.46**	**350**	*eP*	P	**11 04 10.2**	**-2.7**
SHL				*e*S	S	**11 08 23.2**	**+2.4**
GYA	**Guiyang**	**25.93**	**22**	⇑*iP*	P	**11 04 36.0**	**-0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,100nm,6.0s						
GYA				LR	LR		
	comp=N,500nm,16.4s,MS4.2						
GYA				LR	LR		
	comp=E,280nm,15.2s,MS4.2						
GYA				LR	LR		
	comp=Z,830nm,17.0s,MS4.3						
JIRN	**Jiri**	**26.96**	**340**	*eP*	P	**11 04 46.7**	**+0.8**
	comp=Z,146nm,0.8s,mb5.5						
PKI	**Pulchoki**	**27.16**	**338**	*eP*	P	**11 04 48.0**	**+0.3**
	comp=Z,75nm,1.0s,mb5.2						
GUN	**Gumba**	**27.30**	**339**	*eP*	P	**11 04 49.6**	**+0.6**
	comp=Z,119nm,0.8s,mb5.5						
DMN	**Daman**	**27.31**	**338**	*eP*	P	**11 04 49.4**	**+0.3**
	comp=Z,76nm,0.9s,mb5.2						
KKN	**Kakani**	**27.41**	**338**	*eP*	P	**11 04 50.2**	**+0.2**
	comp=Z,94nm,0.8s,mb5.4						
LSA	**Lhasa**	**27.63**	**350**	P	P	**11 04 53.0**	**+1.0**
GKN	**Gorkha**	**27.84**	**337**	*eP*	P	**11 04 54.3**	**+0.4**
	comp=Z,121nm,0.8s,mb5.6						
KOLN	**Koldanda**	**28.05**	**335**	*eP*	P	**11 04 56.0**	**+0.2**
	comp=Z,88nm,0.9s,mb5.4						
MBWA	**Marble Bar**	**32.73**	**137**	*eP*	P	**11 05 37.8**	**+0.5**
	comp=Z,7.7nm,1.0s,mb4.6						
WHN	**Wuhan**	**32.81**	**29**	⇓P	P	**11 05 37.5**	**-0.4**
XAN	**Xi'an**	**33.63**	**19**	P	P	**11 05 43.5**	**-1.5**
XAN				AP	pP	11 05 48.1	-5.5
XAN				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.2						
XAN				LR	LR		
	comp=N,287nm,15.3s,MS4.2						
XAN				LR	LR		
	comp=E,206nm,15.3s,MS4.2						
XAN				LR	LR		
	comp=Z,429nm,19.0s,MS4.2						
LZH	**Lanzhou**	**34.27**	**11**	⇑P	P	**11 05 49.8**	**-0.7**
LZH				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.5						
LZH				AMB	AMB		
	comp=Z,220nm,4.9s						
LZH				LR	LR		
	comp=N,670nm,16.0s						
LZH				LR	LR		
	comp=Z,920nm,17.2s,MS4.6						
FITZ	**Fitzroy Crossi**	**35.30**	**126**	*eP*	P	**11 05 58.8**	**-0.7**
	comp=Z,7.3nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**35.30**	**126**	P	P	**11 05 59.3**	**-0.2**
	comp=Z,7.2nm,0.6s,mb4.8,baz=239,slow=8.1,SNR=7.5						
NJ2	**Nanjing**	**36.35**	**33**	*eP*	P	**11 06 07.3**	**-0.9**
NJ2				AP	pP	11 06 17.1	+0.3
NJ2				XP	sP	11 06 21.3	+0.9
NJ2				PP	PP	11 07 33.1	+1.2
NJ2				S	S	**11 11 46.0**	**-0.8**
NJ2				XS		11 12 02.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				LR	LR		
	comp=N,870nm,19.6s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,20.4s,MS4.7						
SSE	**Sheshan**	**36.98**

comp=Z,540nm,13.9s,MS4.5
GTA Gaotai 37.01 4 P **P** **11 06 13.4 -0.3**
GTA AP pP 11 06 23.4 +1.1
GTA XP sP 11 06 27.3 +1.4
GTA PP PP 11 07 42.8 +2.4
GTA PPP PPP 11 08 04.0 +3.6
GTA S **S** **11 11 59.8 +3.0**
GTA XS 11 12 17.3
GTA AMB AMB
comp=Z,57nm,1.2s,mb5.3
GTA AMB AMB
comp=Z,167nm,7.2s
GTA LR LR
comp=N,230nm,16.4s,MS4.2
GTA LR LR
comp=E,195nm,13.3s,MS4.2
GTA LR LR
comp=Z,308nm,16.3s,MS4.2
KAKA Kakadu 38.84 114 *e*P **P** **11 06 28.5 -0.8**
comp=Z,13nm,0.6s,mb4.8
BTO Baotou 40.03 16 *e*P **P** **11 06 38.3 -0.6**
HHC Hu-ho-hao-te 40.70 18 ⇑P **P** **11 06 45.5 +1.0**
HHC AP pP 11 06 53.9 +0.8
HHC XP sP 11 07 00.4 +3.7
HHC SCS ScS 11 16 40.1 -5.5
HHC AMB AMB
comp=Z,45nm,1.3s,mb4.9
HHC LR LR
comp=N,346nm,13.9s,MS4.5
HHC LR LR
comp=E,403nm,15.3s,MS4.5
HHC LR LR
comp=Z,283nm,16.5s,MS4.2
BJI Beijing 41.60 23 P **P** **11 06 52.6 +0.8**
BJI AP pP 11 06 59.8 -0.7
BJI XP sP 11 07 02.9 -1.2
BJI AMB AMB
comp=Z,74nm,0.9s,mb5.3
BJI AMB AMB
comp=Z,234nm,4.1s
BJI LR LR
comp=N,271nm,14.9s,MS4.3
BJI LR LR
comp=E,178nm,14.9s,MS4.3
BJI LR LR
comp=Z,162nm,16.8s,MS4.0
BJI Beijing 41.60 23 P **P** **11 06 52.6 +0.8**
BJI *SP sP 11 07 02.9 -1.2
BJI 11 08 38.6
BJI SS ScS 11 16 50.1 -0.9
BJI pmax pmax
comp=Z,74nm,0.9s,mb5.3
BJI MLR MLR
comp=Z,160nm,16.8s,MS4.0
BJI Beijing 41.60 23 P **P** **11 06 52.6 +0.8**
comp=Z,74nm,0.9s,mb5.3
BJI pP pP 11 06 59.7 -0.8
BJI sP sP 11 07 02.9 -1.2
BJI PP PP 11 08 38.6 +7.6
BJI S S 11 13 27.4 +21
BJI SS ScS 11 16 50.1 -0.9
BJI LR LR
comp=Z,160nm,16.8s,MS4.0
WMQ Urumqi 41.99 351 P **P** **11 06 54.0 -1.0**
WMQ AP pP 11 07 05.0 +1.4
WMQ XP sP 11 07 10.0 +2.8
WMQ PP PP 11 08 34.9 -0.4
WMQ PCP PcP 11 08 49.5 -1.0
WMQ S **S** **11 13 09.1 -2.5**
WMQ XS 11 13 29.8
WMQ AMB AMB
comp=Z,84nm,2.5s,mb4.9
WMQ LR LR
comp=N,177nm,23.8s,MS4.0
WMQ LR LR
comp=E,217nm,25.0s,MS4.0
WMQ LR LR
comp=Z,189nm,20.6s,MS4.0
WRA Warramunga Arr 43.38 123 P **P** **11 07 06.7 0.0**
comp=Z,4.2nm,0.6s,mb4.3,baz=301,slow=9.1,SNR=37
WRAB Tennant Creek 43.38 122 *e*P **P** **11 07 05.5 -1.2**
WRAB pmax pmax
comp=Z,27nm,1.0s,mb4.9
WRAB Tennant Creek 43.38 122 *e*P **P** **11 07 05.5 -1.2**
comp=Z,27nm,1.0s,mb4.9
WB2 Warramunga Arr 43.39 123 *e*P **P** **11 07 07.1 +0.4**
ULHL Ulaho! 43.60 338 P **P** **11 07 08.8 +0.7**
SNR=7.1
KZA Kyzart 43.83 337 P **P** **11 07 11.5 +1.5**
SNR=8.2
AML Almayashu 44.49 336 P **P** **11 07 16.9 +1.5**
SNR=28
AAK Ala-Archa 44.60 337 P **P** **11 07 16.5 +0.2**
AAK pmax pmax
comp=Z,14nm,1.2s,mb4.7
AAK Ala-Archa 44.60 337 *e*P **P** **11 07 15.5 -0.7**
comp=Z,14nm,1.1s,mb4.7
FRU Bishkek 44.72 337 *e*P pP 11 07 25.5 -0.4
ASAR Alice Springs 44.78 127 P **P** **11 07 18.1 +0.2**
comp=Z,1.9nm,0.6s,mb4.1,baz=299,slow=7.9,SNR=27
ASAR PcP PcP 11 09 00.1 0.0
comp=Z,1.6nm,0.8s,baz=306,slow=4.8,SNR=4.7
USP Ospenovka 45.13 337 P **P** **11 07 21.3 +0.7**
SNR=18
MKAR Makanchi Array 45.91 347 P **P** **11 07 26.6 0.0**
comp=Z,35nm,0.8s,mb5.4,baz=162,slow=7.9,SNR=303
MKAR LR LR 11 29 46.7
comp=Z,108nm,21.4s,MS3.8,baz=174,slow=40
SONM Songino Array 46.12 9 P **P** **11 07 28.3 +0.1**
comp=Z,17nm,0.8s,mb5.0,baz=190,slow=8.1,SNR=129
SONM PcP PcP 11 09 04.8 +0.3
comp=Z,1.9nm,0.6s,baz=192,slow=3.8,SNR=5.3
SONM LR LR 11 29 03.4
comp=Z,515nm,18.9s,MS4.5,baz=26,slow=39
SONM Songino Array 46.12 9 P **P** **11 07 28.3 +0.1**
SONM PcP PcP 11 09 04.8 +0.3
SONM LR LR 11 29 03.4
ULN Ulaanbaatar 46.26 10 *e*P **P** **11 07 28.9 -0.5**
ULN pmax pmax
comp=Z,18nm,1.1s,mb4.9
ULN Ulaanbaatar 46.26 10 *e*P **P** **11 07 28.9 -0.4**
comp=Z,18nm,1.1s,mb4.9
KKAR Karatay Array 46.64 334 *i*P **P** **11 07 32.2 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
ZAK Zakamensk 48.20 6 ⇑*i*P **P** **11 07 44.4 -0.2**
ZAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
CN2 Changchun 48.67 28 *e*P **P** **11 07 50.9 +2.6**
MOY Mondy 49.28 4 *e*P **P** **11 07 54.0 +1.1**
TLY Talaya 49.52 6 *e*P **P** **11 07 55.5 +0.7**
TLY *e*S **S** **11 15 02.6 +3.2**
TLY pmax pmax
comp=Z,22nm,0.9s,mb5.2
TLY MLR MLR
comp=Z,283nm,18.0s,MS4.3
TLY Talaya 49.52 6 *e*P **P** **11 07 55.3 +0.6**
comp=Z,22nm,0.9s,mb5.2
JHJ Hachijo jima 2 50.87 48 LR LR 11 28 36.5
comp=Z,135nm,18.3s,MS4.0,baz=292,slow=35
MDJ Mudanjiang 51.28 30 P **P** **11 08 08.8 +0.5**
MDJ AP pP 11 08 17.9 +0.8
MDJ XP sP 11 08 21.6 +1.1
MDJ PP PP 11 10 06.0 0.0
MDJ PCS 11 13 20.4
MDJ S **S** **11 15 24.3 +0.5**
MDJ XS 11 15 42.0
MDJ AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,65nm,4.1s
MDJ LR LR
comp=N,164nm,15.1s,MS4.5
MDJ LR LR
comp=E,333nm,14.5s,MS4.5
MDJ LR LR
comp=Z,247nm,13.5s,MS4.4
MJAR Matsushiro Arr 51.43 43 P **P** **11 08 09.8 +0.4**
comp=Z,3.8nm,0.9s,mb4.3,baz=212,slow=5.8,SNR=11
MJAR LR LR 11 31 30.5
comp=Z,154nm,18.9s,MS4.0,baz=245,slow=38
ZAL Zalesovo 52.27 351 P **P** **11 08 15.0 -0.6**
comp=Z,13nm,0.5s,mb5.1,baz=288,slow=6.4,SNR=82
ZAL LR LR 11 35 29.2
comp=Z,187nm,19.3s,MS4.1,baz=293,slow=42
ZAL Zalesovo 52.27 351 P **P** **11 08 15.0 -0.6**
ZAL LR LR 11 35 29.2
STKA Stephens Creek 54.77 132 P **P** **11 08 34.9 +0.6**
comp=Z,4.1nm,1.0s,mb4.4,baz=321,slow=5.8,SNR=5.2
STKA LR LR 11 34 23.1
comp=Z,279nm,21.6s,MS4.3,baz=25,slow=39
STKA Stephens Creek 54.77 132 P **P** **11 08 34.9 +0.6**
STKA LR LR 11 34 23.1
BVA0 Borovoye Array 54.88 341 P **P** **11 08 33.7 -1.1**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
BVAR Borovoye Array 54.88 341 P **P** **11 08 33.7 -1.1**
comp=Z,9.0nm,0.7s,mb4.9,baz=149,slow=8.4,SNR=72
KLR Kul'dur 55.61 27 *e*P **P** **11 08 36.8 -3.4**
KLR pmax pmax
comp=Z,20nm,0.9s,mb5.2
KLR MLR MLR
comp=Z,1μm,15.0s,MS5.1
BOD Bodaibo 57.03 11 ⇓*i*P **P** **11 08 49.0 -1.3**
BOD pmax pmax
comp=Z,12nm,1.0s,mb4.9
ASAJ Asahikawa 58.26 38 LR LR 11 33 41.7
comp=Z,136nm,20.3s,MS4.1,baz=341,slow=36
KMBO Kilima Mbogo 59.18 267 *e*P **P** **11 09 07.2 +1.3**
KMBO pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 59.18 267 P **P** **11 09 07.5 +1.6**
comp=Z,2.1nm,0.8s,mb4.2,baz=66,slow=21,SNR=6.3
KMBO Kilima Mbogo 59.18 267 *e*P **P** **11 09 07.2 +1.3**
comp=Z,5.6nm,1.0s,mb4.5
GNI Garni 59.87 316 *i*P **P** **11 09 10.8 +0.5**
GNI pmax pmax
comp=Z,3.0nm,0.6s
YSS Yuzh-Sakhalins 59.88 35 *e*P **P** **11 09 10.0 -0.3**
YSS pmax pmax
comp=Z,40nm,1.2s,mb5.3
SVE Sverdlovsk 61.30 339 ⇑*e*P **P** **11 09 19.0 -0.7**
SVE *e* pP 11 09 29.7 +0.9
SVE pmax pmax
comp=Z,40nm,1.0s,mb5.5
SVE MLR MLR
comp=N,100nm,16.0s,MS4.2
SVE MLR MLR
comp=E,100nm,16.0s,MS4.2
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.4
ARU Arti 61.78 337 ⇓*i*P **P** **11 09 21.7 -1.4**
ARU *e* 11 10 01.5
ARU *e* 11 11 40.6
ARU *e*S **S** **11 17 43.7 +1.2**
ARU *e*SS SS 11 21 41.0 -5.2
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
KIV Kislovodsk 62.87 319 *e*P **P** **11 09 34.1 +3.6**
KIV *e*S **S** **11 18 04.2 +7.8**
KIV pmax pmax
comp=N,8.0nm,1.0s
KIV pmax pmax
comp=Z,15nm,1.0s,mb5.1
KIV MLR MLR
comp=E,36nm,22.0s
KIV MLR MLR
comp=Z,60nm,22.0s,MS3.7
YAK Yakutsk 64.55 17 *e*P **P** **11 09 39.9 -1.3**
YAK *e* 11 09 46.2
YAK pmax pmax
comp=Z,42nm,0.9s,mb5.5
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,11nm,1.2s
YAK pmax pmax
comp=Z,19nm,1.0s,mb5.1
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK Yakutsk 64.55 17 *e*P **P** **11 09 39.8 -1.4**
comp=N,94nm,1.0s,mb5.8
SOC Sochi 64.69 318 *e*P **P** **11 09 39.2 -3.2**
SOC *e* 11 10 12.4
SOC *e* 11 12 00.0
SOC *e*PPP PPP 11 13 34.8 -5.2
SOC *e*S **S** **11 18 19.3 +0.3**
SOC *e* 11 19 33.6
SOC *e*SS SS 11 22 31.7 -0.1
SOC pmax pmax
comp=Z,34nm,1.0s,mb5.3
SOC pmax pmax
comp=N,18nm,0.8s
SOC pmax pmax
comp=E,48nm,1.0s
MBAR Mbarara 65.66 268 *e*P **P** **11 09 49.9 +0.8**
MBAR pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
MBAR Mbarara 65.66 268 *e*P **P** **11 09 49.9 +0.8**
comp=Z,8.0nm,1.1s,mb4.7
ANN Anapa 66.67 318 *e*P **P** **11 09 51.5 -3.6**
ANN pmax pmax
comp=Z,38nm,1.2s,mb5.3
BRTR Keskin Array B 67.70 312 P **P** **11 10 01.1 -0.6**
comp=Z,1.8nm,0.8s,mb4.2,baz=126,slow=7.3,SNR=7.8
OBN Obninsk 71.18 328 *i*P **P** **11 10 22.1 -0.7**
OBN *e* pP 11 10 29.3 -2.5
OBN pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
PET Petropavlovsk 71.75 34 *e*P **P** **11 10 26.1 -0.1**
PET *e*PPP PPP 11 14 49.5 +0.4
PET *e*S S 11 20 11.9 +29
PET pmax pmax
comp=Z,24nm,0.9s,mb5.1
PET MLR MLR
comp=Z,100nm,19.0s,MS4.1
TIXI Tiksi 72.20 10 *c*P **P** **11 10 27.2 -1.4**
TIXI pmax pmax
comp=Z,22nm,1.1s,mb5.0
SEY Seymchan 73.03 23 *e*P **P** **11 10 35.2 +1.6**
SEY 11 10 50.6
SEY *e* 11 20 45.9
SEY pmax pmax
comp=Z,30nm,1.0s,mb5.2
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=E,13nm,0.9s
SEY MLR MLR
comp=Z,1μm,20.0s,MS5.1
SEY MLR MLR
comp=N,1μm,21.0s,MS5.2
SEY MLR MLR
comp=E,320nm,18.0s,MS5.2
MAW Mawson 73.65 193 LR LR 11 35 30.5
comp=E,85nm,19.1s,MS4.0,baz=244,slow=30
AKASG Malin Array Be 73.82 322 P **P** **11 10 37.4 -1.1**
comp=E,3.4nm,0.7s,mb4.4,baz=89,slow=4.7,SNR=17
BOSA Boshof 74.62 240 LR LR 11 40 10.8
comp=E,132nm,18.2s,MS4.3,baz=158,slow=33
MLR Muntele Rosu 74.64 317 P **P** **11 10 44.1 +0.8**
comp=E,2.7nm,0.7s,mb4.3,baz=134,slow=5.2,SNR=7.9
JOF Joensuu 76.73 335 *ep* **P** **11 10 54.0 -0.8**
comp=E,2.2nm,0.7s,mb4.2
APA Apatity 77.74 340 ⇑*i*P pP 11 11 06.4 -3.0
APA *i* 11 11 19.2
APA pmax pmax
comp=Z,25nm,1.2s,mb5.0
SUW Suwalki 78.23 325 *e*P **P** **11 11 02.7 -0.5**
SUW *e* 11 11 08.3
SUW pmax pmax
comp=Z,22nm,0.8s,mb5.1
SUW Suwalki 78.23 325 *e*P **P** **11 11 02.7 -0.6**
comp=Z,22nm,0.8s,mb5.1
SUW *e* 11 11 08.3
FINES FINESS Array B 78.58 333 P **P** **11 11 05.0 0.0**
comp=Z,3.8nm,0.8s,mb4.4,baz=117,slow=8.5,SNR=16
FINES LR LR 11 50 33.4
comp=Z,136nm,20.5s,MS4.3,baz=122,slow=39
KAF Kangasniemi 78.66 333 *ep* **P** **11 11 04.9 -0.5**
comp=Z,4.6nm,0.6s,mb4.6,baz=104,slow=5.1
KAF Kangasniemi 78.66 333 *e*P **P** **11 11 04.9 -0.5**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
OJC Ojcow 79.59 321 *e*P **P** **11 11 11.7 +1.0**
BILL Bilibino 80.39 21 *i*P **P** **11 11 13.7 -0.9**
BILL pmax pmax
comp=Z,9.0nm,1.9s,mb4.4
BILL MLR MLR
comp=Z,300nm,17.0s,MS4.7
KEV Kevo 80.73 341 *ep* **P** **11 11 16.1 -0.3**
comp=Z,18nm,1.2s,mb4.9
KEV Kevo 80.73 341 *e*P **P** **11 11 16.1 -0.3**
KEV pmax pmax
comp=Z,18nm,1.2s,mb4.9
ARCES ARCESS Array B 81.16 340 P **P** **11 11 19.3 +0.6**
comp=Z,2.1nm,0.6s,mb4.2,baz=98,slow=6.2,SNR=16
ARCES LR LR 11 53 16.8
comp=Z,120nm,19.5s,MS4.3,baz=114,slow=40
BRG Berggiesshubel 83.37 321 *e*P pP 11 11 36.9 -2.8
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
BRG Berggiesshubel 83.37 321 *e*P pP 11 11 36.9 -2.8
comp=Z,4.0nm,1.2s
GERES GERESS Array B 83.38 319 P **P** **11 11 31.8 +1.2**
comp=Z,2.4nm,0.8s,mb4.3,baz=104,slow=5.5,SNR=18
KHC Kasperske Hory 83.48 319 *e*P **P** **11 11 32.0 +0.9**
URZ Urewera 84.21 129 LR LR 11 48 19.2
comp=Z,1μm,18.7s,MS5.3,baz=15,slow=35
HFS Hagfors 84.29 330 P **P** **11 11 35.7 +0.7**
comp=Z,4.4nm,1.0s,mb4.6,baz=170,slow=9.0,SNR=8.4
NB2 NORSAR Subarra 85.58 331 P **P** **11 11 41.4 +0.1**
comp=Z,0.2nm,0.8s,mb3.4,baz=94,slow=5.8
NOA NORSAR Array B 85.58 331 P **P** **11 11 42.0 +0.7**
comp=Z,3.1nm,0.9s,mb4.5,baz=93,slow=5.2,SNR=12
NOA LR LR 11 54 22.5
comp=Z,71nm,20.7s,MS4.0,baz=70,slow=39
LPG La Plagne 88.04 315 *e*P **P** **11 11 54.8 +1.1**
comp=Z,15nm,0.9s,mb4.9
LPG La Plagne 88.04 315 *e*P **P** **11 11 54.8 +1.1**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
IMA Indian Mountai 95.84 23 *e*P **P** **11 12 31.0 +1.6**
IMA pmax pmax
comp=Z,11nm,1.1s,mb5.2
IMA Indian Mountai 95.84 23 *e*P **P** **11 12 31.0 +1.6**
comp=Z,11nm,1.1s,mb5.2
VNA2 Neumayer--Watz 96.70 199 ⇑*i*P **P** **11 12 30.3 -2.9**
VNA1 Neumayer--Stat 97.04 199 *e* **P** **11 12 34.2 -0.5**
VNA1 Neumayer--Stat 97.04 199 *e* pP 11 12 42.5 -1.5
VNA1 Neumayer--Stat 97.04 199 *e* sP 11 12 47.8 +0.8
VNA1 Neumayer--Stat 97.04 199 ⇑*i*P **P** **11 12 32.8 -1.9**
VNA1 *e* 11 12 34.2
VNA1 *e* pP 11 12 42.5 -1.5
VNA1 *e* 11 12 47.8
VNA3 Neumayer Olymp 97.35 198 ⇑*i*P **P** **11 12 31.9 -4.2**
VNA3 Neumayer Olymp 97.35 198 *e* **P** **11 12 33.0 -3.1**
VNA3 Neumayer Olymp 97.35 198 *e* pP 11 12 40.4 -5.0
VNA3 Neumayer Olymp 97.35 198 *e* sP 11 12 45.4 -2.9
VNA3 Neumayer Olymp 97.35 198 *e*P **P** **11 12 33.0 -3.1**
VNA3 *e* pP 11 12 40.4 -5.0
VNA3 *e* 11 12 45.4
ILAR Eielson Array 98.97 23 PP PP 11 16 41.5 -6.2
comp=Z,0.9nm,1.0s,baz=297,slow=6.7,SNR=6.8
ILAR LR LR 12 05 29.8
comp=Z,84nm,19.1s,MS4.3,baz=176,slow=40
YKA Yellowknife Ar 111.20 15 PP PP 11 18 06.9 -13
comp=Z,0.4nm,1.1s,baz=323,slow=6.8,SNR=4.2
YKA PKKPab 11 28 41.7
comp=Z,0.4nm,1.1s,baz=140,slow=4.0,SNR=5.1
ULM Lac du Bonnet 126.55 10 PKP PKPdf 11 18 08.1 -2.2
comp=Z,0.9nm,0.3s,baz=181,slow=2.5,SNR=3.0
NVAR Mina Array Bea 128.33 35 PKP PKPdf 11 18 12.8 -1.4
comp=Z,0.9nm,0.9s,baz=21,slow=2.1,SNR=6.4
NVAR Mina Array Bea 128.33 35 PKP PKPdf 11 18 12.8 -1.4
TXAR Lajitas Array 143.11 30 PKP PKPdf 11 18 36.7 -4.9
comp=Z,1.0nm,0.8s,baz=274,slow=0.7,SNR=10
TXAR Lajitas Array 143.11 30 PKP PKPdf 11 18 36.7 -4.9
JCT Junction City 143.89 24 *e*PKIKP PKPdf 11 18 37.6 -5.3

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*NEIC **24** 11:14:35.0±1.2,22.78N×70.18E,h10km, Error ellipse: s-maj=34.0km s-min=13.0km az=222.0*
*IDC **24** 11:14:38.6±9.5,23.51N×70.09E,mb3.5/6,mb1 3.6/6, mb1mx3.4/23,mbtmp3.5/6, Error ellipse: s-maj=198.5km s-min=38.5km az=176.0*
*NDI **24** 11:14:40.1±3.9,23.49N×70.18E,h10km,ML3.5*
ISC 24 11:14:39.0±1.5,23.45N±0.07×70.28E±0.07,h22km±14km, n16,σ1°08/20,mb3.5/6,Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**0.60**	**251**	*e*P	**Pb**	**11 14 50.7**	**-0.2**
BHJ				*e*S	**Sb**	**11 14 58.6**	**-0.3**
BHJ				*e*		11 15 00.2	
	comp=E,4μm,0.2s						
BHJ				*e*		11 15 00.2	
	comp=N,2μm,0.3s						
BHV	**Bhavnagar**	**2.42**	**134**	*i*	**Pn**	**11 15 19.0**	**+0.9**
BHV				*e*P		11 15 20.5	
BHV				*e*S	**Sn**	**11 15 54.0**	**+6.7**
AJM	**Ajmer**	**4.98**	**52**	*e*	**Px**	11 16 28.0	
AJM				*e*S	**Sn**	**11 16 49.6**	**-2.5**
BOM	**Bombay**	**5.11**	**152**	*e*	**Pn**	**11 16 06.5**	**+10**
BOM				*e*S	**Sn**	**11 16 54.4**	**-1.0**
BOM				*e*		11 16 58.5	
	comp=N,118nm,0.3s						
BHPL	**Bhopal**	**6.57**	**90**	*e*P	**Pn**	**11 16 18.0**	**+1.0**
BHPL				*e*		11 17 33.4	
KAD	**Karad**	**7.12**	**148**	*e*S	**Sn**	**11 17 40.4**	**-5.4**
KAD				*e*		11 18 24.2	
	comp=N,26nm,0.7s						
KAD				*e*		11 18 24.4	
	comp=E,31nm,0.8s						
NDI	**New Delhi**	**8.13**	**49**	*e*S	**Sn**	**11 18 05.0**	**-5.9**
NDI				*e*		11 18 57.0	
HYB	**Hyderabad**	**9.81**	**126**	*e*P	**P**	**11 16 52.0**	**-10**
HYB	**Hyderabad**	**9.81**	**126**	*i*P	**P**	**11 16 52.0**	**-10**
HYB				*e*S	**Sn**	**11 18 46.0**	**-6.5**
MKAR	**Makanchi Array**	**25.22**	**20**	P	**P**	**11 20 06.1**	**+1.4**
	comp=E,0.1nm,0.4s,mb2.7,baz=213,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**25.22**	**20**	P	**P**	**11 20 06.1**	**+1.3**
SONM	**Songino Array**	**37.61**	**41**	P	**P**	**11 21 55.5**	**+1.7**
	comp=E,0.2nm,0.6s,mb3.0,baz=233,slow=7.2,SNR=2.6						
FINES	**FINESS Array B**	**48.44**	**333**	P	**P**	**11 23 21.6**	**+0.2**
	comp=E,1.1nm,0.8s,mb4.0,baz=111,slow=12,SNR=3.8						
ARCES	**ARCESS Array B**	**53.15**	**342**	P	**P**	**11 23 56.4**	**-0.7**
	comp=E,1.7nm,0.8s,mb4.0,baz=117,slow=5.4,SNR=4.8						
HFS	**Hagfors**	**53.44**	**329**	P	**P**	**11 23 59.4**	**0.0**
	comp=E,0.7nm,0.6s,mb3.8,baz=90,slow=7.2,SNR=5.0						
NOA	**NORSAR Array B**	**54.87**	**329**	P	**P**	**11 24 09.2**	**-0.6**
	comp=E,0.3nm,0.6s,mb3.5,baz=112,slow=7.2,SNR=4.0						

IDC 24 11:31:35.1±4.8,0.44S×101.06E,mb3.7/4,mb1 3.9/4, mb1mx3.5/18,mbtmp3.7/4,Error ellipse: s-maj=253.9km s-min=23.3km az=54.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.91**	**123**	P	P	11 38 55.1	-1.0
	0.5nm,0.5s,baz=303,slow=9.1,SNR=7.5						
ASAR	**Alice Springs**	**39.35**	**128**	P	P	11 39 05.9	-2.3
	0.3nm,0.5s,baz=298,slow=8.0,SNR=5.7						
MKAR	**Makanchi Array**	**49.83**	**343**	P	P	11 40 29.9	-2.1
	0.8nm,0.6s,baz=146,slow=8.3,SNR=9.8						
ZAL	**Zalesovo**	**55.84**	**348**	P	P	11 41 14.5	-2.1
	0.7nm,0.2s,baz=350,slow=5.2,SNR=3.4						
TXAR	**Lajitas Array**	**142.83**	**37**	PKP	PKPdf	11 51 08.7	-4.4
	0.8nm,0.5s,baz=199,slow=0.7,SNR=27						

IDC 24 11:37:23.4±5.0,0.51S×100.74E,mb3.5/3,mb1 3.7/3, mb1mx3.3/18,mbtmp3.5/3,Error ellipse: s-maj=275.3km s-min=26.8km az=53.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.14**	**123**	P	P	11 44 45.0	-1.3
	0.4nm,0.5s,baz=302,slow=9.1,SNR=6.8						
ASAR	**Alice Springs**	**39.56**	**128**	P	P	11 44 56.1	-2.0
	0.2nm,0.5s,baz=299,slow=7.7,SNR=5.4						
MKAR	**Makanchi Array**	**49.80**	**343**	P	P	11 46 18.1	-1.9
	0.8nm,0.6s,baz=158,slow=7.0,SNR=10						
TXAR	**Lajitas Array**	**143.07**	**37**	PKP	PKPdf	11 56 58.7	-3.1
	0.6nm,0.4s,baz=197,slow=0.8,SNR=21						

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*BJI **24** 11:43:49.9,32.80S×178.60W,h10km,mB5.5,mb5.2, Ms5.2,Msz5.1*
*HRVD **24** 11:43:49.9±1.1,32.71S×178.44W,h12km,MW4.8/35,*

Centroid moment Tensor Solution. LP body waves: s12,c16;Mantle waves: s35,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.07±.17; $M_{\theta\theta}$0.19±.18; $M_{\phi\phi}$0.88±.13; $M_{r\theta}$-1.49±.61; $M_{\theta\phi}$0.19±.14; $M_{r\phi}$-1.51±.50; Best double couple: $M_0$2.333×10^{16} NP1:ϕ₁186°,δ14°, λ-124°. NP2:ϕ₂41°,δ78°,λ-82°. Principal axes: T2.18, Plg33°, Azm124°; N.308, Plg8°, Azm219°; P-2.486, Plg56°, Azm322°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **24** 11:43:49.9±0.4,32.77S×178.59W,h10km,mb4.9/9 Error ellipse: s-maj=13.5km s-min=6.9km az=107.0*

*IDC **24** 11:43:54.5±3.0,32.69S×178.69W,h34km±22km,mb4.5/7, mb1 4.7/8,mb1mx4.3/17,mbtmp4.7/8,ML4.7/1,MS4.2/11, Ms1 4.2/11,ms1mx3.9/25,Error ellipse: s-maj=31.0km s-min=17.4km az=157.0*

ISC 24 11:43:50.9±0.6,32.98S±0.05×178.9W±0.1,h10km, (h9km±1.4km:pP-P),n93,σ1§10/73,mb4.7/12,MS4.3/12, 4C-2D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.81**	**13**	P	**Pn**	**11 44 44.5**	**-6.5**
MXZ	**Matakaoa Point**	**5.10**	**205**	*e*P	**Pn**	**11 45 09.6**	**+0.3**
MXZ				S	**Sn**	**11 46 14.0**	**+5.0**
MXZ	**Matakaoa Point**	**5.10**	**205**	*e*PN	**Pn**	**11 45 09.2**	**-0.1**
MXZ				SN	**Sn**	**11 46 13.8**	**+4.8**
MXZ				T		11 49 54.5	
PUZ	**Puketiti**	**5.58**	**203**	*e*Pn	**Pn**	**11 45 15.9**	**0.0**
PUZ				SN	**Sn**	**11 46 25.6**	**+4.7**
MWZ	**Matawai**	**6.07**	**207**	*e*P	**Pn**	**11 45 23.0**	**+0.1**
MWZ				S	**Sn**	**11 46 36.8**	**+3.5**
MWZ	**Matawai**	**6.07**	**207**	*e*PN	**Pn**	**11 45 21.6**	**-1.3**
MWZ				SN	**Sn**	**11 46 36.7**	**+3.4**
URZ	**Urewera**	**6.18**	**210**	Pn	**Pn**	**11 45 26.4**	**+2.0**
16nm,0.3s,baz=357,slow=0.7,SNR=79							
URZ				Sn	**Sn**	**11 46 40.1**	**+4.2**
34nm,0.3s,baz=101,slow=22,SNR=8.8							
URZ	**Urewera**	**6.18**	**210**	*e*P	**Pn**	**11 45 24.3**	**-0.1**
URZ	**Urewera**	**6.18**	**210**	*e*PN	**Pn**	**11 45 24.2**	**-0.3**
URZ				SN	**Sn**	**11 46 36.3**	**+0.4**
OUZ	**Omahuta**	**6.59**	**248**	*e*PN	**Pn**	**11 45 36.3**	**+6.1**
KNZ	**Kokohu**	**6.63**	**204**	*e*P	**Pn**	**11 45 30.5**	**-0.3**
KNZ				S	**Sn**	**11 46 47.4**	**+0.2**
KNZ	**Kokohu**	**6.63**	**204**	*e*PN	**Pn**	**11 45 30.3**	**-0.5**
KNZ				SN	**Sn**	**11 46 46.9**	**-0.2**
BKZ	**Black Stump Fm**	**7.20**	**210**	P	**Pn**	**11 45 39.0**	**+0.2**
BKZ				S	**Sn**	**11 47 02.9**	**+1.4**
BKZ	**Black Stump Fm**	**7.20**	**210**	*e*PN	**Pn**	**11 45 38.6**	**-0.2**
BKZ				SN	**Sn**	**11 47 00.3**	**-1.2**
FWVZ	**Far West T-bar**	**7.69**	**214**	*e*PN	**Pn**	**11 45 47.2**	**+1.5**
BFZ	**Birch Farm**	**8.60**	**205**	SN	**Sn**	**11 47 33.1**	**-3.4**
PAWZ	**Paruwai Farm**	**9.52**	**207**	SN	**Sn**	**11 47 53.5**	**-5.6**
TCW	**Tory Channel**	**9.84**	**211**	SN	**Sn**	**11 48 00.7**	**-6.5**
TUWZ	**Tuamarina**	**10.17**	**212**	SN	**S**	**11 48 08.9**	**-6.2**
THZ	**Tophouse**	**10.91**	**214**	*e*PN	**P**	**11 46 25.5**	**-4.6**
THZ				SN	**S**	**11 48 26.4**	**-6.8**
KHZ	**Kahutara**	**11.15**	**210**	SN	**S**	**11 48 27.2**	**-12**
LTZ	**Lake Taylor**	**12.00**	**213**	*e*PN	**P**	**11 46 41.2**	**-3.7**
LTZ				SN	**S**	**11 48 49.4**	**-10**
MQZ	**McQueen's Vall**	**12.58**	**209**	SN	**S**	**11 49 02.5**	**-11**
RPZ	**Rata Peaks**	**13.28**	**213**	Pn	**P**	**11 46 56.6**	**-5.4**
0.7nm,0.3s,baz=216,slow=21,SNR=3.5							
RPZ				Sn	**S**	**11 49 21.6**	**-9.2**
2.7nm,0.3s,baz=155,slow=20,SNR=10							
DZM	**Mont Dzumac**	**16.90**	**306**	Pn	**P**	**11 47 54.0**	**+4.9**
0.3nm,0.3s,baz=133,slow=18,SNR=7.8							
DZM				LR	LR	11 53 09.9	
comp=Z,1μm,19.3s,baz=216,slow=33							
AFI	**Afiamalu**	**20.07**	**21**	*e*P	**P**	**11 48 20.9**	**-6.4**
TBI	**Tubuai**	**27.62**	**77**	*e*LQ		11 54 55.7	
TBI				*e*LR	LR	11 56 05.1	
435nm,28.0s							
PPT	**Papeete**	**30.53**	**67**	*e*LQ		11 55 59.2	
PPT				*e*LR	LR	11 57 23.7	
366nm,27.2s							
STKA	**Stephens Creek**	**33.20**	**261**	*e*P	**P**	**11 50 31.0**	**+1.0**
5.4nm,1.8s,mb4.2							
STKA	**Stephens Creek**	**33.20**	**261**	P	**P**	**11 50 31.2**	**+1.2**
2.9nm,0.9s,mb4.2,baz=94,slow=12,SNR=5.2							
STKA				LR	LR	12 03 46.0	
comp=Z,514nm,19.3s,MS4.2,baz=285,slow=36							
CTA	**Charters Tower**	**33.53**	**284**	*e*P	**P**	**11 50 34.1**	**+1.2**
8.4nm,0.5s,mb4.9							
CTA	**Charters Tower**	**33.53**	**284**	P	**P**	**11 50 33.3**	**+0.4**
9.4nm,0.5s,mb5.0,baz=111,slow=11,SNR=17							
CTAO	**Charters Tower**	**33.53**	**284**	*e*P	**P**	**11 50 33.9**	**+1.0**
13nm,0.8s,mb4.9							
PMG	**Port Moresby**	**39.08**	**299**	LR	LR	12 05 09.9	
comp=Z,200nm,20.5s,MS3.9,baz=55,slow=33							
RKT	**Rikitea**	**39.78**	**87**	*e*LR	LR	12 01 46.2	
418nm,28.0s							
ASAR	**Alice Springs**	**42.25**	**270**	P	**P**	**11 51 46.1**	**+0.1**
20nm,0.7s,mb4.8,baz=111,slow=7.5,SNR=138							
ASAR				S	**S**	**11 58 05.8**	**-0.4**
1.0nm,0.8s,baz=118,slow=14,SNR=4.0							
ASAR				LR	LR	12 08 58.3	
comp=Z,104nm,18.4s,MS3.8,baz=122,slow=35							
ASPA	**Alice Springs**	**42.25**	**270**	*e*P	**P**	**11 51 46.0**	**0.0**
WB2	**Warramunga Arr**	**43.46**	**275**	*e*P	**P**	**11 51 55.6**	**-0.3**
WRAB	**Tennant Creek**	**43.47**	**275**	*e*P	**P**	**11 51 55.6**	**-0.4**
24nm,0.8s,mb5.0							
WRA	**Warramunga Arr**	**43.47**	**275**	P	**P**	**11 51 55.6**	**-0.4**
14nm,0.6s,mb4.9,baz=114,slow=7.9,SNR=239							
WRA				ScP		11 57 32.9	
0.9nm,0.8s,baz=125,slow=4.0,SNR=4.9							
SBA	**Scott Base**	**45.42**	**184**	P	**P**	**11 52 10.9**	**-0.1**
5.4nm,1.0s,mb4.3							
VNDA	**Vanda**	**45.46**	**186**	LR	LR	12 07 59.3	
comp=Z,151nm,21.5s,MS3.9,baz=23,slow=32							
KAKA	**Kakadu**	**48.66**	**283**	*e*P	**P**	**11 52 36.1**	**-1.1**
9.1nm,0.7s,mb4.9							
FITZ	**Fitzroy Crossi**	**51.61**	**272**	*e*P	**P**	**11 52 59.2**	**-0.6**
13nm,0.8s,mb4.9							
FITZ	**Fitzroy Crossi**	**51.61**	**272**	P	**P**	**11 52 58.8**	**-1.0**
15nm,0.8s,mb5.0,baz=181,slow=7.2							
FITZ				LR	LR	12 14 03.0	
comp=Z,297nm,18.8s,MS4.3,baz=118,slow=35							
CASY	**Casey**	**52.50**	**209**	*e*P	**P**	**11 53 05.7**	**-0.1**
QSPA	**South Pole Qui**	**57.14**	**180**	*e*P	**P**	**11 53 40.1**	**+0.6**
12nm,0.8s,mb5.0							
MAW	**Mawson**	**69.62**	**201**	P	**P**	**11 55 03.2**	**+1.4**
2.7nm,0.8s,mb4.2,baz=114,slow=9.4,SNR=3.7							
MAW				LR	LR	12 23 09.1	
comp=Z,169nm,19.1s,MS4.3,baz=71,slow=34							
SYO	**Syowa Base**	**74.43**	**193**	⇓P	**P**	**11 55 28.8**	**-1.5**
SYO	**Syowa Base**	**74.43**	**193**	⇓pP	pP	11 55 31.4	-2.0
SNAA	**Sanae**	**75.61**	**179**		**P**	**11 55 38.6**	**+1.6**
VNA3	**Neumayer Olymp**	**75.79**	**176**	*e*	**P**	**11 55 40.6**	**+2.5**
VNA3	**Neumayer Olymp**	**75.79**	**176**	*e*	**P**	**11 55 45.5**	**+7.4**
VNA3	**Neumayer Olymp**	**75.79**	**176**	⇑*i*P	**P**	**11 55 37.2**	**-0.9**
VNA3				*e*	pP	11 55 40.6	-0.6
VNA3				*e*		11 55 45.5	
VNA2	**Neumayer--Watz**	**76.22**	**177**	*e*	**P**	**11 55 42.6**	**+2.1**
VNA2	**Neumayer--Watz**	**76.22**	**177**	*e*	**P**	**11 55 47.2**	**+6.7**
VNA2	**Neumayer--Watz**	**76.22**	**177**	⇑*i*P	**P**	**11 55 39.3**	**-1.2**
VNA2				*e*	pP	11 55 42.6	-1.0
VNA2				*e*		11 55 47.2	
VNA1	**Neumayer--Stat**	**76.45**	**177**	*e*	**P**	**11 55 47.0**	**+5.2**
VNA1	**Neumayer--Stat**	**76.45**	**177**	⇑*i*P	**P**	**11 55 39.8**	**-2.0**
VNA1				*e*		11 55 47.0	
JOW	**Kunigami**	**77.82**	**313**	LR	LR	12 26 40.0	
comp=Z,401nm,18.1s,MS4.8,baz=254,slow=33							
PLCA	**Paso Flores**	**81.33**	**133**	LR	LR	12 25 17.5	
comp=Z,94nm,18.6s,MS4.2,baz=188,slow=30							
NVAR	**Mina Array Bea**	**90.66**	**43**	P	**P**	**11 56 52.9**	**-2.0**
1.6nm,0.9s,mb4.3,baz=228,slow=9.9,SNR=7.9							
NVAR	**Mina Array Bea**	**90.66**	**43**	P	**P**	**11 56 52.9**	**-2.0**
CN2	**Changchun**	**91.72**	**323**	*e*P	**P**	**11 57 00.0**	**+0.4**
KMI	**Kunming**	**94.27**	**297**	P	**P**	**11 57 13.3**	**+1.5**
KMI				AP	pP	11 57 15.5	+0.4
KMI				S	S	12 08 26.6	+6.3
KMI				SS	SS	12 14 49.6	+4.0
KMI				AMB	AMB		
comp=Z,8.0nm,0.6s,mb5.3							
KMI				AMB	AMB		
comp=Z,86nm,4.6s							
KMI				LR	LR		
comp=N,603nm,12.0s,MS5.4							
KMI				LR	LR		
comp=E,551nm,11.2s,MS5.4							
KMI				LR	LR		
comp=Z,505nm,13.6s,MS5.2							
KMI	**Kunming**	**94.27**	**297**	P	**P**	**11 57 13.3**	**+1.5**
comp=Z,8.0nm,0.6s,mb5.3							
KMI				pP	pP	11 57 15.5	+0.4
KMI				S	S	12 08 26.6	+6.3
KMI				SS	SS	12 14 49.6	+4.0
KMI				LR	LR		
comp=Z,510nm,13.6s,MS5.2							
TXAR	**Lajitas Array**	**94.44**	**58**	LR	LR	12 33 19.1	
comp=Z,99nm,20.8s,MS4.3,baz=265,slow=32							
CPUP	**Villa Florida**	**99.00**	**129**	LR	LR	12 33 32.4	
comp=Z,79nm,19.5s,MS4.2,baz=358,slow=30							
WMQ	**Urumqi**	**114.18**	**308**	PKP	PKPdf	12 02 27.9	-5.5
WMQ				XPKP		12 02 34.9	
WMQ				PP	PP	12 03 28.9	-1.5
WMQ				PKS	PKS	12 06 03.4	-2.6
WMQ				SKS	SKS	12 09 35.9	+14
WMQ				PP	PP		
comp=Z,80nm,5.5s							
WMQ				LR	LR		
comp=N,183nm,19.8s,MS4.8							
WMQ				LR	LR		
comp=E,221nm,24.6s,MS4.8							
WMQ				LR	LR		
comp=Z,189nm,19.8s,MS4.7							
MKAR	**Makanchi Array**	**118.80**	**309**	PKP	PKPdf	12 02 37.7	-4.7
comp=Z,0.8nm,0.7s,baz=45,slow=1.7,SNR=9.5							
MKAR	**Makanchi Array**	**118.80**	**309**	PKP	PKPdf	12 02 37.7	-4.7
ZAL	**Zalesovo**	**119.42**	**318**	PKP	PKPdf	12 02 39.3	-3.9
comp=Z,0.7nm,0.4s,baz=66,slow=2.1,SNR=3.7							
BVAR	**Borovoye Array**	**127.66**	**314**	PKP	PKPdf	12 02 55.3	-3.9
comp=Z,1.8nm,0.6s,baz=90,slow=1.5,SNR=15							
ARCES	**ARCESS Array B**	**140.92**	**349**	PKhKP		12 03 13.1	
comp=Z,3.0nm,0.8s,baz=79,slow=1.5,SNR=11							
ARCES				PKP	PKPdf	12 03 16.7	-6.7
comp=Z,3.8nm,0.9s,baz=72,slow=2.9,SNR=11							
JOF	**Joensuu**	**144.49**	**337**	*e*pkp	PKPdf	12 03 26.9	-2.8
KAF	**Kangasniemi**	**146.68**	**339**	*e*pkp	PKPdf	12 03 29.6	-3.8
baz=42,slow=2.8							
FINES	**FINESS Array B**	**147.26**	**338**	PKPbc	PKPdf	12 03 31.8	-2.6
comp=Z,24nm,0.8s,baz=43,slow=4.6,SNR=113							
FINES	**FINESS Array B**	**147.26**	**338**	PKPbc	PKPdf	12 03 31.8	-2.6
NB2	**NORSAR Subarra151.16**	**350**		PKPabc	PKPdf	12 03 42.1	+1.6
comp=Z,2.6nm,0.6s,baz=17,slow=2.6							
NB2	**NORSAR Subarra151.16**	**350**	⇑	PKPab	PKPdf	12 03 42.1	+1.6
NOA	**NORSAR Array B**	**151.16**	**350**	PKPbc	PKPdf	12 03 42.0	+1.5
comp=Z,2.7nm,0.7s,baz=14,slow=4.1,SNR=24							
NOA				PKPab	PKPab	12 03 48.8	-4.7
comp=Z,2.6nm,0.8s,baz=27,slow=2.5,SNR=17							
AKASG	**Malin Array Be**	**152.79**	**319**	PKPbc	PKPdf	12 03 46.4	+3.2
comp=Z,5.6nm,0.8s,baz=54,slow=2.3,SNR=24							
AKASG				PKPab	PKPab	12 03 59.4	-1.3
comp=Z,1.1nm,0.5s,baz=48,slow=2.5,SNR=5.3							
AKASG	**Malin Array Be**	**152.79**	**319**	PKPbc	PKPdf	12 03 46.4	+3.2
AKASG				PKPab	PKPab	12 03 59.4	-1.3
BRTR	**Keskin Array B**	**153.01**	**294**	PKPbc	PKPdf	12 03 47.8	+3.9
comp=Z,1.7nm,0.6s,baz=134,slow=3.5,SNR=11							
BRTR				PKPab	PKPab	12 04 01.9	-0.1
comp=Z,1.0nm,0.6s,baz=124,slow=4.5,SNR=3.5							
GERES	**GERESS Array B**	**161.53**	**333**	PKPab	PKPab	12 04 34.1	-4.2
comp=Z,0.2nm,0.3s,baz=27,slow=3.0,SNR=4.0							
GIVF	**Givet**	**162.66**	**352**	*e*PKP2	PKPab	12 04 38.4	-4.7
BAIF	**Baives**	**162.77**	**353**	*e*PKP2	PKPab	12 04 38.1	-5.5
CDF	**Champ du Feu**	**163.89**	**345**	*e*PKP2	PKPab	12 04 44.2	-4.3
MEZF	**Maizieres J'vi**	**164.20**	**350**	*e*PKP2	PKPab	12 04 45.3	-4.6
LOR	**Lormes**	**165.57**	**352**	*e*PKP2	PKPab	12 04 51.0	-4.8
SSF	**Saint Saulge**	**165.81**	**353**	*e*PKP2	PKPab	12 04 52.1	-4.8
comp=Z,11nm,1.0s							
SMF	**Signal de Mont**	**166.18**	**352**	*e*PKP2	PKPab	12 04 53.6	-4.9
comp=Z,18nm,1.1s							
ORIF	**Oris-en-Rattie**	**167.50**	**344**	*e*PKP2	PKPab	12 04 59.7	-4.6

*IDC **24** 11:44:45.8±3.3,34.25N×91.41E,mb3.7/7,mb1 3.8/9, mb1mx3.6/23,mbtmp3.6/9,ML2.9/2,MS2.8/2,Ms1 2.9/2, ms1mx2.5/28,Error ellipse: s-maj=73.0km s-min=36.2km az=11.0*

*NEIC **24** 11:44:49.0±1.4,34.49N×91.28E,h10km,mb4.0/3,Error ellipse: s-maj=25.7km s-min=13.6km az=178.0*

ISC 24 11:44:51.9±2.0,34.7N±0.3×91.2E±0.2,h33km,n15, σ0§79/14,mb3.8/7,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**13.83**	**334**	Pn	**P**	**11 48 06.6**	**-1.1**
0.1nm,0.3s,baz=150,slow=15,SNR=3.6							
SONM	**Songino Array**	**17.34**	**36**	P	**P**	**11 48 53.3**	**+0.4**
0.0nm,0.3s,baz=225,slow=12,SNR=7.5							
CMAR	**Chiang Mai Arr**	**17.59**	**155**	LR	LR	11 55 35.6	
comp=Z,12nm,18.5s,baz=305,slow=38							
ULN	**Ulaanbaatar**	**17.69**	**37**	*e*P	**P**	**11 48 57.3**	**+0.1**
2.1nm,0.8s							
ZAL	**Zalesovo**	**19.75**	**349**	P	**P**	**11 49 21.6**	**0.0**
0.8nm,0.4s,baz=315,slow=8.6,SNR=4.2							
ZAL				LR	LR	11 58 15.7	
comp=Z,59nm,20.2s,baz=182,slow=40							
BVAR	**Borovoye Array**	**23.53**	**327**	P	**P**	**11 50 02.6**	**+2.9**
0.8nm,0.6s,mb3.4,baz=129,slow=9.5,SNR=4.9							
FINES	**FINESS Array B**	**48.43**	**324**	P	**P**	**11 53 33.1**	**+0.6**
1.0nm,0.9s,mb3.9,baz=117,slow=4.3,SNR=3.7							
NB2	**NORSAR Subarra**	**55.62**	**324**	P	**P**	**11 54 25.8**	**-0.6**
0.4nm,0.6s,mb3.6,baz=80,slow=7.0							
NB2	**NORSAR Subarra**	**55.62**	**324**	P	**P**	**11 54 25.8**	**-0.6**
0.4nm,0.6s,mb3.6							
NOA	**NORSAR Array B**	**55.62**	**324**	P	**P**	**11 54 26.1**	**-0.3**
0.6nm,0.6s,mb3.8,baz=79,slow=7.2,SNR=5.6							
COLA	**College**	**70.63**	**23**	*e*P	**P**	**11 56 05.2**	**-0.2**
3.8nm,0.8s,mb4.4							
ILAR	**Eielson Array**	**71.00**	**23**	P	**P**	**11 56 07.2**	**-0.5**
1.5nm,0.8s,mb4.0,baz=298,slow=5.3,SNR=24							
INK	**Inuvik**	**72.03**	**16**	P	**P**	**11 56 13.6**	**-0.2**
0.8nm,0.7s,mb3.8,baz=342,slow=8.9,SNR=10.0							
INK	**Inuvik**	**72.03**	**16**	*e*P	**P**	**11 56 13.7**	**-0.1**
0.8nm,0.7s,mb3.8							
YKA	**Yellowknife Ar**	**80.93**	**12**	P	**P**	**11 57 03.8**	**-0.1**
0.4nm,0.7s,mb3.4,baz=323,slow=5.1,SNR=7.1							

IDC 24 11:56:39.6±1.9,2.34S×119.31E,mb3.4/4,mb1 3.6/4, mb1mx3.5/18,mbtmp3.4/4,Error ellipse: s-maj=175.4km s-min=22.4km az=61.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.84**	**141**	P	P	12 01 44.8	-1.0
1.6nm,0.8s,baz=320,slow=11,SNR=8.3							
ASAR	**Alice Springs**	**25.48**	**148**	P	P	12 02 09.7	-1.6
0.2nm,0.5s,baz=324,slow=7.7,SNR=5.6							
SONM	**Songino Array**	**51.23**	**349**	P	P	12 05 44.8	-2.2
0.5nm,0.8s,baz=167,slow=8.7,SNR=4.7							
MKAR	**Makanchi Array**	**58.76**	**331**	P	P	12 06 39.6	-2.2
0.4nm,0.6s,baz=135,slow=6.9,SNR=4.2							

*BJI **24** 12:17:37.7,21.91N×119.92E,h15km,mB4.7,mb4.4, ML4.4,Ms4.5,Msz4.3*

*TAP **24** 12:17:38.1,21.71N×120.13E,h69km±1km,ML4.9*

TAP Felt II J at Hengchun, I J at Hengchun, I J, II J at Kaohsiung, I J at Lanyu.

*MOS **24** 12:17:39.5±0.6,21.97N×120.25E,h33km,mb5.1/9,Error ellipse: s-maj=27.4km s-min=11.4km az=105.0*

*MAN **24** 12:17:39.3,21.41N×120.31E,h13km,mb5.0,ML3.9, MS4.0*

*IDC **24** 12:17:39.7±0.6,21.70N×120.19E,h36km±5km,mb4.0/23, mb1 4.2/24,mb1mx4.2/28,mbtmp4.2/24,ML3.6/1,MS4.0/18, Ms1 4.0/18,ms1mx3.8/34,Error ellipse: s-maj=16.8km s-min=9.2km az=69.0*

*NEIC **24** 12:17:40.5±0.3,21.68N×120.21E,mb4.8/21,Error ellipse: s-maj=7.2km s-min=5.8km az=111.0*

*JMA **24** 12:17:41.6±0.2,21.96N×120.35E,h170km,M4.3*

ISC 24 12:17:38.1±0.2,21.67N±0.01×120.16E±0.02,h38km, h38km±1.9km:pP-P,n199,σ1§16/271,mb4.5/45,MS4.1/31, 22C-14D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	**Hengchun**	**0.64**	**58**	⇓*i*P	**P**	**12 17 52.3**	**+1.7**
HEN				S	**S**	**12 18 02.9**	**+3.2**
TWK1	**Hengchun**	**0.66**	**66**	⇓*i*P	**P**	**12 17 52.6**	**+1.6**
TWK1				S	**S**	**12 18 03.4**	**+3.1**
TWP	**Hsiaoliuchiu**	**0.70**	**16**	S	**S**	**12 18 04.1**	**+2.8**
TSEB	**Hengchuen, Pin**	**0.73**	**72**	⇓*i*P	**P**	**12 17 53.2**	**+1.3**
TSEB				S	**S**	**12 18 04.4**	**+2.5**
SCZT	**Fangliau**	**0.82**	**32**	⇑*i*P	**P**	**12 17 54.0**	**+0.8**
SCZT				S	**S**	**12 18 04.8**	**+0.5**
KAU	**Kaohsiung**	**0.90**	**9**	*i*P	**P**	**12 17 55.2**	**+0.9**
KAU				S	**S**	**12 18 07.8**	**+1.4**
EAST	**Anshuo**	**0.96**	**42**	⇑*i*P	**P**	**12 17 56.3**	**+1.1**
TAW	**Tawu**	**0.97**	**45**	*i*P	**P**	**12 17 56.4**	**+1.1**
TAW				S	**S**	**12 18 09.3**	**+1.3**
SGLT	**Jiouru**	**1.09**	**16**	⇑*i*P	**P**	**12 17 58.6**	**+1.5**
SGLT				S	**S**	**12 18 13.4**	**+2.2**
SSD	**Sandimen**	**1.16**	**22**	⇑*i*P	**P**	**12 17 58.4**	**+0.4**
SSD				S	**S**	**12 18 12.6**	**-0.3**
TWM1	**Shoushan**	**1.17**	**12**	*i*P	**P**	**12 17 59.3**	**+1.1**
TWM1				S	**S**	**12 18 16.4**	**+3.1**
ECL	**Taimali**	**1.18**	**39**	⇑*i*P	**P**	**12 17 59.2**	**+0.9**
ECL				S	**S**	**12 18 12.9**	**-0.6**
LAY	**Lan-yu**	**1.35**	**74**	⇓*i*P	**P**	**12 18 00.7**	**-0.1**
LAY				S	**S**	**12 18 18.4**	**+0.7**
TTN	**Taitung**	**1.42**	**40**	*e*P	**P**	**12 18 03.5**	**+1.7**
TTN				S	**S**	**12 18 22.5**	**+3.1**
TWG	**Pinlang**	**1.43**	**36**	⇑P	**P**	**12 18 02.9**	**+1.0**
TWG				S	**S**	**12 18 20.6**	**+1.0**
SGST	**Jiashian**	**1.46**	**16**	⇑*i*P	**P**	**12 18 02.9**	**+0.5**
SGST				S	**S**	**12 18 20.5**	**0.0**
SCLT	**Jiali**	**1.50**	**1**	*e*P	**P**	**12 18 02.9**	**0.0**
SCLT				S	**S**	**12 18 20.7**	**-0.7**
CHN1	**Nanshi**	**1.55**	**13**	⇑P	**P**	**12 18 03.7**	**+0.1**
CHN1				S	**S**	**12 18 21.3**	**-1.4**
STYT	**Tauyuan**	**1.59**	**20**	⇑*i*P	**P**	**12 18 04.4**	**+0.2**
STYT				S	**S**	**12 18 23.1**	**-0.6**
TWK	**Hsinying**	**1.62**	**11**	⇑P	**P**	**12 18 04.6**	**0.0**
TWK				S	**S**	**12 18 24.0**	**-0.4**
WTP	**Ta-pu**	**1.62**	**15**	⇑P	**P**	**12 18 04.6**	**-0.1**
WTP				S	**S**	**12 18 23.7**	**-0.9**
WDGT	**Dungji**	**1.65**	**344**	⇓P	**P**	**12 18 03.3**	**-1.7**
WDGT				S	**S**	**12 18 21.9**	**-3.3**
CHN8	**Yiju**	**1.67**	**2**	*e*P	**P**	**12 18 05.0**	**-0.3**
CHN8				S	**S**	**12 18 25.1**	**-0.6**
ELDTW	**Lidau**	**1.71**	**28**	⇑*i*P	**P**	**12 18 06.6**	**+0.7**
ELDTW				S	**S**	**12 18 26.6**	**-0.1**
CHN4	**Tsaushan**	**1.72**	**13**	⇑*i*P	**P**	**12 18 05.9**	**-0.1**
CHN4				S	**S**	**12 18 26.0**	**-1.0**
CHKT	**Chengkung**	**1.81**	**38**	*e*P	**P**	**12 18 08.5**	**+1.1**
CHKT				S	**S**	**12 18 30.3**	**+1.0**
CHY	**Chiayi**	**1.83**	**8**	*e*P	**P**	**12 18 07.5**	**-0.2**
CHY				S	**S**	**12 18 28.6**	**-1.3**
CHN2	**Minshiung**	**1.88**	**9**	*e*P	**P**	**12 18 08.3**	**0.0**
CHN2				S	**S**	**12 18 30.2**	**-0.7**
ALS	**Alishan**	**1.93**	**18**	*e*P	**P**	**12 18 09.2**	**+0.2**
YUS	**Yu-Shan**	**1.95**	**22**	P	**P**	**12 18 10.1**	**+0.7**
YUS				S	**S**	**12 18 34.0**	**+1.2**
WSF	**Szhu**	**1.96**	**2**	*e*P	**P**	**12 18 08.8**	**-0.6**
WSF				S	**S**	**12 18 31.9**	**-1.1**
PNG	**Penghu**	**1.97**	**344**	*e*P	**P**	**12 18 07.8**	**-1.8**
PNG				S	**S**	**12 18 29.6**	**-3.6**
CHN5	**Tsauling**	**1.98**	**14**	⇑P	**P**	**12 18 09.4**	**-0.3**
CHN5				S	**S**	**12 18 32.7**	**-0.8**
TWF1	**Yuli**	**1.98**	**32**	*e*P	**P**	**12 18 10.6**	**+0.9**
TWF1				S	**S**	**12 18 33.9**	**+0.4**
WGK	**Gukeng**	**2.04**	**11**	*e*P	**P**	**12 18 10.4**	**-0.2**
WGK				S	**S**	**12 18 34.4**	**-0.6**
BBP	**Basco**	**2.08**	**126**	*e*P	**P**	**12 18 10.1**	**-1.2**
BBP				*e*S	**S**	**12 18 34.6**	**-1.6**
EHY	**Hungye**	**2.12**	**30**	⇑P	**P**	**12 18 12.7**	**+0.9**
EHY				S	**S**	**12 18 38.3**	**+1.2**
WTCT	**Ta-ch'eng**	**2.19**	**3**	P	**P**	**12 18 12.3**	**-0.4**
WTCT				S	**S**	**12 18 37.5**	**-1.3**
WNT	**Mingjian**	**2.25**	**12**	*e*P	**P**	**12 18 13.3**	**-0.4**
WNT				S	**S**	**12 18 39.0**	**-1.4**
SMLT	**Sun Moon Lake**	**2.31**	**17**	*e*P	**P**	**12 18 14.5**	**+0.1**

comp=E,1μm,16.6s
GZH LR LR
JKE Kume jima 2 7.63 51 P **P 12 19 27.6 -1.9**
JOW Kunigami 9.01 54 Pn **P 12 19 46.5 -2.2**
comp=Z,1.4nm,0.3s,baz=266,slow=14,SNR=4.2
SSE Sheshan 9.43 5 *e*P **P 12 19 55.1 +0.7**
SSE AMB AMB
comp=Z,17nm,0.7s
SSE AMB AMB
comp=Z,23nm,3.5s
SSE LR LR
comp=N,286nm,13.9s
SSE LR LR
comp=E,721nm,13.9s
SSE LR LR
comp=Z,854nm,11.1s
SSE Sheshan 9.43 5 *e*P **P 12 19 55.1 +0.7**
comp=Z,17nm,0.7s
SSE S **S 12 21 50.0 +10**
QIZ Qiongzhong 10.03 257 P **P 12 19 58.6 -4.1**
QIZ *e*S **S 12 21 54.9 -0.1**
QIZ LR LR
comp=N,2μm,17.0s
QIZ LR LR
comp=Z,2μm,12.4s
WHN Wuhan 10.26 331 *e*P **P 12 19 59.3 -6.6**
WHN S **S 12 21 52.0 -8.7**
WHN LR LR
comp=Z,4μm,12.3s
ENPP El Nido 10.43 184 *e*P **P 12 20 04.6 -3.6**
GYA Guiyang 13.21 294⇑*i*P **P 12 20 43.1 -2.5**
GYA S **S 12 23 01.3 -11**
GYA AMB AMB
comp=Z,10.0nm,1.1s
GYA AMB AMB
comp=Z,110nm,5.0s
GYA LR LR
comp=N,720nm,12.6s
GYA LR LR
comp=E,1μm,12.9s
GYA LR LR
comp=Z,1μm,12.6s
XAN Xi'an 15.81 324 P **P 12 21 17.0 -2.5**
XAN AP 12 21 25.4
XAN AMB AMB
comp=Z,6.0nm,1.0s
XAN LR LR
comp=N,953nm,12.0s
XAN LR LR
comp=E,817nm,11.8s
XAN LR LR
comp=Z,1μm,12.0s
KMI Kunming 16.35 285 P **P 12 21 25.6 -0.8**
KMI XP 12 21 31.8
KMI PP PP 12 21 41.0 +1.0
KMI S **S 12 24 30.1 +4.0**
KMI AMB AMB
comp=Z,10.0nm,1.3s
KMI AMB AMB
comp=Z,168nm,5.7s
KMI LR LR
comp=N,603nm,11.2s
KMI LR LR
comp=E,551nm,11.6s
KMI LR LR
comp=Z,505nm,12.0s
KMI Kunming 16.35 285 P **P 12 21 25.6 -0.8**
comp=Z,10.0nm,1.3s
KMI sP 12 21 31.8
KMI PP PP 12 21 41.0 +1.0
KMI S **S 12 24 30.1 +4.0**
KMI SS SS 12 24 50.3 +4.1
CD2 Chengdu 17.33 305 P **P 12 21 40.6 +1.9**
CD2 AMB AMB
comp=Z,36nm,1.0s
NANT Nan 18.48 265⇓P **P 12 21 52.0 -1.1**
comp=Z,72nm,1.0s
BJI Beijing 18.62 350 *e*P **P 12 21 55.1 +0.4**
BJI AP 12 22 04.3
BJI S **S 12 25 09.1 -8.5**
BJI AMB AMB
comp=Z,23nm,0.7s
BJI AMB AMB
comp=Z,221nm,3.9s
BJI LR LR
comp=N,702nm,12.7s
BJI LR LR
comp=E,610nm,13.1s
BJI LR LR
comp=Z,384nm,16.8s
BJI Beijing 18.62 350 *e*P **P 12 21 55.1 +0.4**
comp=Z,23nm,0.7s
BJI pP 12 22 04.3
BJI sP 12 22 08.5
BJI S **S 12 25 09.1 -8.5**
BJI sS 12 25 34.7
CHG Chiang Mai 20.10 266 P **P 12 22 12.9 +1.5**
CM31 Chiang Mai Arr 20.18 265 *e*P **P 12 22 12.6 +0.5**
comp=Z,15nm,1.0s
CMAR Chiang Mai Arr 20.18 265 P **P 12 22 12.2 0.0**
comp=Z,4.5nm,1.0s,baz=74,slow=10,SNR=17
CMAR LR LR 12 29 44.6
comp=Z,322nm,21.1s,MS3.6,baz=80,slow=36
LZH Lanzhou 20.21 319⇑P **P 12 22 13.8 +1.4**
LZH AMB AMB
comp=Z,50nm,1.0s
LZH AMB AMB
comp=Z,500nm,5.9s
LZH LR LR
comp=N,1μm,13.0s
LZH LR LR
comp=Z,2μm,14.3s,MS4.7
LZH Lanzhou 20.21 319⇑P **P 12 22 13.7 +1.3**
comp=Z,50nm,1.0s
LZH pP 12 22 24.8
LZH sP 12 22 31.0
LZH PP PP 12 22 38.0 +5.1
LZH *e*S **S 12 26 02.0 +10**
LZH sS 12 26 20.0
LZH SS SS 12 26 38.0 +16
LZH LR LR
comp=Z,2μm,14.3s,MS4.7
SNY Shenyang 20.30 7⇑P **P 12 22 10.3 -3.0**
SNY AP 12 22 21.8
SNY AMB AMB
comp=Z,20nm,2.3s
SNY LR LR
comp=N,460nm,10.6s,MS4.2
SNY LR LR
comp=E,320nm,10.0s,MS4.2
SNY LR LR
comp=Z,440nm,15.0s,MS3.9
HHC Hu-ho-hao-te 20.46 341⇓P **P 12 22 15.1 +0.1**
HHC PP PP 12 22 34.9 -1.4
HHC SCP 12 29 59.8
HHC AMB AMB
comp=Z,18nm,1.5s
HHC AMB AMB
comp=Z,126nm,5.5s
HHC LR LR
comp=N,1μm,12.3s,MS4.5
HHC LR LR
comp=E,919nm,14.7s,MS4.5
HHC LR LR
comp=Z,1μm,13.5s,MS4.4
BTO Baotou 20.75 338 *e*P **P 12 22 17.3 -0.6**
JHJ Hachijo jima 2 20.79 53 LR LR 12 29 49.3
comp=Z,155nm,20.6s,MS3.4,baz=239,slow=35
MAJO Matsushiro 21.59 43 *e*P **P 12 22 24.2 -2.2**
comp=Z,11nm,0.8s,mb4.3
MAT Matsushiro 21.59 43 *e*P **P 12 22 27.0 +0.6**
comp=Z,7.6nm,0.9s,mb4.1
MAT *e*S **S 12 26 27.0 +8.7**
MAT LR LR
comp=Z,350nm,20.0s,MS3.8
MAT Matsushiro 21.59 43 S **S 12 26 27.0 +8.7**
MJAR Matsushiro Arr 21.59 43 P **P 12 22 25.8 -0.6**
comp=Z,5.7nm,0.6s,mb4.2,baz=231,slow=7.9,SNR=24
KSM Kuching 22.25 207 *e*P **P 12 22 32.5 -0.6**
KSM *e* 12 22 43.1
CN2 Changchun 22.50 10 *e*P **P 12 22 34.5 -1.0**
CN2 AMB AMB
comp=Z,20nm,1.6s,mb4.3
MDJ Mudanjiang 24.18 17 P **P 12 22 52.5 +0.7**
MDJ AP 12 22 58.8
MDJ XP 12 23 02.5
MDJ S **S 12 27 09.6 +5.1**
MDJ SCP 12 30 13.3
MDJ SCS ScS 12 34 01.4 +8.1
MDJ AMB AMB
comp=Z,18nm,1.3s,mb4.3
MDJ AMB AMB
comp=Z,106nm,6.0s
MDJ LR LR
comp=N,391nm,15.9s,MS4.2
MDJ LR LR
comp=E,527nm,18.5s,MS4.2
MDJ LR LR
comp=Z,291nm,12.5s
GTA Gaotai 24.80 320 *e*P **P 12 22 59.8 +1.9**
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.2
GTA AMB AMB
comp=Z,75nm,6.1s
GTA LR LR
comp=N,505nm,13.3s,MS4.3
GTA LR LR
comp=E,497nm,13.3s,MS4.3
GTA LR LR
comp=Z,601nm,12.9s,MS4.3
ULN Ulaanbaatar 28.18 341 *d i*P **P 12 23 28.9 -0.1**
ULN Ulaanbaatar 28.18 341 *e*P **P 12 23 28.6 -0.5**
comp=Z,7.7nm,1.4s,mb4.1
SONM Songino Array 28.36 340 P **P 12 23 30.3 -0.3**
comp=Z,2.0nm,0.9s,mb3.8,baz=157,slow=9.4,SNR=14
SONM LR LR 12 35 27.3
comp=Z,293nm,21.9s,MS3.8,baz=154,slow=38
ASAJ Asahikawa 29.08 34 P **P 12 23 36.2 -0.9**
comp=Z,3.1nm,0.4s,mb4.4,baz=254,slow=20,SNR=4.1
YSS Yuzh-Sakhalins 31.16 31 *e*P **P 12 23 55.0 -0.5**
ZAK Zakamensk 31.58 339 *e*P **P 12 23 58.4 -0.8**
ZAK pmax pmax
comp=Z,1.0nm,1.9s
TLY Talaya 32.59 341 *e*P **P 12 24 06.8 -1.2**
TLY *e* 12 25 19.4
TLY *e*S **S 12 29 14.4 -5.5**
TLY *e*SSS SSS 12 31 21.2 -21
TLY pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
TLY MLR MLR
comp=Z,386nm,16.0s,MS4.2
MOY Mondy 33.44 338 *e*P **P 12 24 15.8 +0.4**
WMQ Urumqi 34.77 317⇑P **P 12 24 28.8 +1.9**
WMQ AP pP 12 24 32.8 -4.9
WMQ XP sP 12 24 35.8 -6.8
WMQ PP PP 12 25 46.3 +1.5
WMQ *e*S **S 12 29 58.1 +4.3**
WMQ XS 12 30 05.1
WMQ AMB AMB
comp=Z,37nm,4.6s
WMQ LR LR
comp=Z,58nm,13.2s,MS3.5
MKAR Makanchi Array 39.53 319 P **P 12 25 07.3 +0.5**
comp=Z,3.9nm,0.7s,mb4.2,baz=115,slow=9.4,SNR=32
MKAR PcP PcP 12 27 14.6 +0.1
comp=Z,1.2nm,0.6s,baz=90,slow=4.9,SNR=5.7
MKAR LR LR 12 40 58.2
comp=Z,69nm,20.3s,MS3.5,baz=138,slow=35
MKAR Makanchi Array 39.53 319 P **P 12 25 07.3 +0.5**
MKAR PcP PcP 12 27 14.6 +0.1
MKAR LR LR 12 40 58.2
FITZ Fitzroy Crossi 39.89 172 *e*P **P 12 25 17.5 +7.4**
comp=Z,7.0nm,0.9s,mb4.4
FITZ Fitzroy Crossi 39.89 172 P **P 12 25 10.6 +0.6**
comp=Z,5.1nm,1.1s,mb4.2,baz=270,slow=20,SNR=3.0
PMG Port Moresby 40.70 137 LR LR 12 41 08.9
comp=Z,133nm,18.0s,MS3.8,baz=307,slow=35
YAK Yakutsk 40.87 7 *i*P **P 12 25 18.3 +0.6**
YAK pmax pmax
comp=Z,19nm,0.7s,mb4.8
YAK MLR MLR
comp=Z,200nm,17.0s,MS4.0
ZAL Zalesovo 41.87 329 P **P 12 25 25.1 -0.9**
comp=Z,1.4nm,0.8s,mb3.6,baz=354,slow=8.0,SNR=8.6
ZAL LR LR 12 47 04.3
comp=Z,197nm,18.4s,MS4.0,baz=339,slow=42
AAK Ala-Archa 43.32 310 *i*P **P 12 25 34.0 -4.1**
AAK pmax pmax
comp=Z,4.0nm,2.3s,mb3.7
WRAB Tennant Creek 43.62 160 *i*P **P 12 25 44.5 +3.8**
WRAB Tennant Creek 43.62 160 *e*P **P 12 25 41.3 +0.6**
comp=Z,44nm,1.4s,mb5.0
WRA Warramunga Arr 43.62 160 P **P 12 25 39.7 -1.1**
comp=Z,1.9nm,0.4s,mb4.1,baz=343,slow=8.9,SNR=28
WRA PcP PcP 12 27 27.7 -0.5
comp=Z,3.2nm,0.7s,baz=341,slow=3.6,SNR=9.1
WRA pPcP 12 27 39.0
comp=Z,3.3nm,0.8s,baz=341,slow=3.6,SNR=7.3
WRA S **S 12 32 08.9 +1.7**
comp=Z,0.5nm,1.0s,baz=337,slow=6.4,SNR=3.5
WB2 Warramunga Arr 43.62 160 *e*P **P 12 25 41.2 +0.4**
ASAR Alice Springs 47.01 163 P **P 12 26 07.5 -0.1**
comp=Z,5.5nm,0.3s,mb4.9,baz=345,slow=6.8,SNR=12
ASAR PcP PcP 12 27 39.6 -0.3
comp=Z,2.7nm,0.7s,baz=343,slow=3.2,SNR=7.3
ASAR pPcP 12 27 50.6
comp=Z,3.6nm,0.8s,baz=344,slow=2.7,SNR=6.9
ASPA Alice Springs 47.01 163 *e*P **P 12 26 15.4 +7.7**
CTA Charters Tower 48.72 147 LR LR 12 44 40.6
comp=Z,146nm,21.1s,MS3.9,baz=218,slow=33
BVAR Borovoye Array 49.04 322 P **P 12 26 22.2 -0.9**
comp=Z,1.0nm,0.5s,mb4.1,baz=109,slow=8.3,SNR=12
BVAR pP pP 12 26 33.5 -0.6
comp=Z,1.2nm,0.8s,baz=98,slow=10,SNR=5.2
BVAR PcP PcP 12 27 46.7 -0.2
comp=Z,3.0nm,0.6s,baz=114,slow=4.3,SNR=15
TIXI Tiksi 50.25 4⇓*i*P **P 12 26 31.2 -1.0**
TIXI pmax pmax
comp=Z,12nm,1.4s,mb4.7
BILL Bilibino 54.36 19κ *i*P **P 12 27 02.7 -0.2**
BILL *e* 12 27 20.6
BILL S **S 12 34 42.0 +5.3**
BILL SS SS 12 38 22.0 +3.4
BILL pmax pmax
comp=Z,32nm,1.6s,mb5.0
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.2
BILL Bilibino 54.36 19 *e*P **P 12 27 02.5 -0.4**
comp=Z,31nm,1.4s,mb5.0
SVE Sverdlovsk 55.52 325 *e*P **P 12 27 12.0 +0.5**
SVE *e* pP 12 27 23.0 +0.2
SVE *e* 12 28 11.0
SVE *e*S **S 12 35 10.0 +18**
SVE MLR MLR
comp=N,100nm,14.0s,MS4.4
SVE MLR MLR
comp=E,200nm,14.0s,MS4.4
SVE MLR MLR
comp=Z,400nm,14.0s,MS4.7
STKA Stephens Creek 57.07 158 P **P 12 27 22.4 -0.5**
comp=Z,5.0nm,0.8s,mb4.6,baz=355,slow=9.4,SNR=11
STKA pP pP 12 27 32.8 -1.4
comp=Z,7.1nm,0.7s,baz=334,slow=6.8,SNR=9.2
STKA Stephens Creek 57.07 158 *e*P **P 12 27 22.7 -0.3**
DZM Mont Dzumac 62.67 131 P **P 12 28 00.0 -1.5**
comp=Z,6.2nm,0.8s,mb4.8,baz=168,slow=20,SNR=3.0
GNI Garni 65.46 305 LR LR 13 02 13.6
comp=Z,64nm,21.3s,MS3.8,baz=15,slow=41
KIV Kislovodsk 66.44 310 *e*P **P 12 28 26.6 +1.0**
KIV *e* 12 28 55.7
KIV *e* 12 30 54.1
KIV *e*S S 12 37 20.6 +9.0
KIV pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KIV pmax pmax
comp=N,3.0nm,0.8s
KIV MLR MLR
comp=Z,83nm,19.0s,MS4.0
KIV MLR MLR
comp=N,34nm,15.0s,MS3.9
KIV MLR MLR
comp=E,52nm,15.0s,MS3.9
SOC Sochi 68.62 310 *e*P **P 12 28 32.8 -6.5**
SOC *e*S S 12 37 34.0 -3.8
SOC *e* 12 38 32.1
SOC *i*SS SS 12 42 03.8 -0.4
SOC pmax pmax
comp=Z,16nm,0.6s,mb5.1
SOC pmax pmax
comp=N,14nm,0.7s
SOC pmax pmax
comp=E,16nm,0.8s
IMA Indian Mountai 68.86 26 *e*P **P 12 28 41.9 +1.5**
comp=E,112nm,1.6s,mb5.5
OBN Obninsk 68.89 322 P **P 12 28 41.0 +0.3**
OBN MLR MLR
comp=Z,100nm,15.0s,MS4.2
MCK McKinley 71.20 28 *e*P **P 12 28 55.2 +0.5**
comp=Z,17nm,1.3s,mb4.8
COLA College 71.45 27 *i*P **P 12 28 55.5 -0.6**
COLA College 71.45 27 *e*P **P 12 28 56.8 +0.7**
comp=Z,12nm,0.7s,mb4.9
ARCES ARCESS Array B 71.51 338 P **P 12 28 56.6 +0.2**
comp=Z,2.5nm,0.7s,mb4.2,baz=56,slow=4.4,SNR=3.5
ARCES LR LR 13 01 54.9
comp=Z,144nm,19.8s,MS4.2,baz=174,slow=37
SML Sawmill 71.85 30 *e*P **P 12 28 59.5 +0.9**
ILAR Eielson Array 71.87 27 P **P 12 28 58.0 -0.6**
comp=Z,3.0nm,0.6s,mb4.4,baz=267,slow=5.2,SNR=71
THY Trims Highway 72.66 28 *e*P **P 12 29 04.5 +1.3**
FINES FINESS Array B 73.13 330 *i*P **P 12 29 06.7 +0.6**
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 73.13 330 P **P 12 29 06.0 -0.1**
comp=Z,1.4nm,0.7s,mb4.0,baz=63,slow=8.5,SNR=8.4
FINES LR LR 13 04 02.1
comp=Z,162nm,18.2s,MS4.3,baz=345,slow=38
ASF Jabal al Asfar 73.31 298 LR LR 13 08 14.4
comp=Z,65nm,18.1s,MS4.0,baz=136,slow=41
BRTR Keskin Array B 73.90 307 P **P 12 29 10.7 -0.4**
comp=Z,0.5nm,0.5s,mb3.7,baz=143,slow=6.2,SNR=5.0
AKASG Malin Array Be 74.11 319 P **P 12 29 12.8 +0.8**
comp=Z,0.2nm,0.2s,mb3.6,baz=60,slow=5.7,SNR=9.2
AKASG Malin Array Be 74.11 319 P **P 12 29 12.8 +0.8**
INK Inuvik 75.90 22 P **P 12 29 22.5 +0.5**
comp=Z,7.4nm,0.9s,mb4.6,baz=292,slow=6.4,SNR=36
INK Inuvik 75.90 22 *e*P **P 12 29 22.7 +0.7**
comp=Z,25nm,1.4s,mb5.0
HFS Hagfors 79.29 331 LR LR 13 06 43.1
comp=Z,88nm,19.1s,MS4.1,baz=63,slow=37
OJC Ojcow 79.98 320 *e*P **P 12 29 46.4 +1.5**
NB2 NORSAR Subarra 79.99 332 P **P 12 29 44.2 -0.5**
comp=Z,21nm,1.7s,mb4.8,baz=62,slow=5.3
NOA NORSAR Array B 79.99 332 P **P 12 29 43.5 -1.1**
comp=Z,2.2nm,0.7s,mb4.2,baz=64,slow=5.2,SNR=18
NOA pP pP 12 29 56.5 +0.2
comp=Z,0.4nm,0.5s,baz=62,slow=5.0,SNR=3.4
NOA LR LR 13 08 11.3
comp=Z,146nm,19.0s,MS4.3,baz=280,slow=38
VYHS Vyhne 81.22 319 *e*P **P 12 29 53.0 +1.6**
RES Resolute Bay 81.28 9 *e*P **P 12 29 52.0 +0.7**
comp=Z,8.8nm,1.0s,mb4.6
DLBC Dease Lake 81.58 30 P **P 12 29 55.1 +2.0**
comp=Z,2.7nm,0.8s,mb4.2,baz=343,slow=5.0,SNR=7.5
BRG Berggiesshubel 83.14 322 *e*P **P 12 30 03.3 +2.1**
BRG *e* pP 12 30 13.8 +0.8
BRG pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
BRG Berggiesshubel 83.14 322 *e*P **P 12 30 03.3 +2.1**
comp=Z,8.3nm,1.4s,mb4.6
BRG *e* pP 12 30 13.8 +0.8
PRU Pruhonice 83.18 321 *e*P **P 12 30 03.5 +2.0**
CLL Collm 83.48 323⇓*i*P **P 12 30 03.8 +0.8**
CLL *e* pP 12 30 16.0 +1.3
CLL pmax pmax
comp=Z,23nm,1.7s,mb4.9
CLL Collm 83.48 323⇓*i*P **P 12 30 03.8 +0.8**
comp=Z,23nm,1.7s,mb4.9
CLL *e* pP 12 30 16.0 +1.3
CLL Collm 83.48 323 ⇓P **P 12 30 03.8 +0.8**
comp=Z,logA/T=1.1,mb4.9
CLL *e**PP pP 12 30 16.0 +1.3
KMBO Kilima Mbogo 83.82 266 P **P 12 30 07.0 +1.5**
comp=Z,0.8nm,0.8s,mb3.9,baz=27,slow=19,SNR=4.4
KMBO LR LR 13 07 45.2
comp=Z,49nm,18.4s,MS3.9,baz=94,slow=36
KHC Kasperske Hory 84.12 321 *e*P **P 12 30 07.5 +1.2**
GERES GERESS Array B 84.17 320 P **P 12 30 07.2 +0.7**
comp=Z,1.4nm,0.6s,mb4.2,baz=72,slow=4.2,SNR=17
GERES pP pP 12 30 19.5 +1.2
comp=Z,1.5nm,0.8s,baz=72,slow=4.2,SNR=7.2
GERES LR LR 13 13 34.1
comp=Z,88nm,18.5s,MS4.2,baz=262,slow=40
MOX Moxa 84.56 323 *e*P **P 12 30 10.0 +1.6**
comp=Z,16nm,1.6s,mb4.9
MOX Moxa 84.56 323 *i*P **P 12 30 10.0 +1.6**
comp=Z,logA/T=1.0,mb4.9
GRA1 Grafenberg Arr 85.23 322 *e*P **P 12 30 13.5 +1.7**
comp=Z,20nm,1.2s,mb5.1
GRF Grafenberg Arr 85.23 322 *e*P **P 12 30 13.5 +1.7**
GRF pmax pmax
comp=Z,20nm,1.2s,mb5.1
GRF Grafenberg Arr 85.23 322 *e*P **P 12 30 13.5 +1.7**
comp=Z,20nm,1.2s,mb5.1
YKW3 Yellowknife Ar 85.60 22 *e*P **P 12 30 14.6 +1.3**
YKA Yellowknife Ar 85.64 22 *i*P **P 12 30 14.6 +1.1**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 85.64 22 P **P 12 30 14.6 +1.1**
comp=Z,2.7nm,0.7s,mb4.6,baz=312,slow=4.9,SNR=82
YKA LR LR 13 15 01.8
comp=Z,67nm,18.3s,MS4.1,baz=340,slow=40
EDM Edmonton 92.25 29 *e*P **P 12 30 47.1 +2.0**
FRB Frobisher Bay 94.59 4 LR LR 13 19 37.5
comp=Z,100nm,19.0s,MS4.3,baz=335,slow=39
PPT Papeete 96.56 106 *e*LR LR 13 02 06.7
comp=Z,157nm,28.0s
PPT Papeete 96.56 106 LR LR 13 09 28.4
comp=Z,236nm,18.5s,MS4.7,baz=282,slow=32
HLID Hailey 98.04 37 *e*P **P 12 31 13.7 +2.1**
comp=Z,1.1nm,0.9s,mb4.4
TBI Tubuai 98.65 112 *e*LR LR 13 03 05.7
comp=Z,115nm,33.8s
SDV Santo Domingo 147.84 20 *e*PKPdf PKPdf 12 37 18.4 +1.5
SDV *e*PKPbc PKPdf 12 37 22.0 +5.1

KNET ***24*** *12:36:48.7±0.6,41.43N×72.92E,h7km±2km,ml2.1, Error ellipse: s-maj=4.5km s-min=3.2km az=130.0*
NNC ***24*** *12:36:49.3±9.8,41.39N×72.67E,h13km±69km,mpv2.8, Error ellipse: s-maj=63.3km s-min=37.3km az=154.0*
ISC 24 12:36:48.6±1.5,41.4N±0.1×72.69E±0.09,h10km,n9,
σ1§13/16,11C-5D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.04**	**46**	⇑P	**Pb**	**12 37 06.2**	**-2.1**
AML	7.1nm,0.2s,SNR=11						
				⇓S	**Sb**	**12 37 20.6**	**-1.3**
	26nm,0.3s						
EKS2	**Erkin-Say**	**1.49**	**32**	⇓P	**Pn**	**12 37 14.6**	**-1.1**
EKS2	2.1nm,0.1s,SNR=6.2						
				⇑S	**Sb**	**12 37 35.1**	**+0.1**
	8.1nm,0.3s						
UCH	**Uchtor**	**1.59**	**58**	⇑P	**Pn**	**12 37 16.2**	**-0.9**
UCH	6.9nm,0.2s,SNR=12						
				⇑S	**Sb**	**12 37 37.4**	**-0.3**
	16nm,0.3s						
AAK	**Ala-Archa**	**1.82**	**47**	⇑P	**Pn**	**12 37 19.8**	**-0.6**
AAK	4.0nm,0.2s,SNR=6.2						
				⇑S	**Sn**	**12 37 44.5**	**+0.9**
	10nm,0.3s						
AAK	**Ala-Archa**	**1.82**	**47**	⇑P	**Pn**	**12 37 20.8**	**+0.5**
AAK	5.0nm,0.6s						
				⇑S	**Sn**	**12 37 44.4**	**+0.8**
	6.3nm,0.5s						
KZA	**Kyzart**	**2.03**	**70**	⇓P	**Pn**	**12 37 22.8**	**-0.5**
KZA	4.2nm,0.2s,SNR=10						
				⇓S	**Sn**	**12 37 50.3**	**+1.4**
	14nm,0.3s						
USP	**Ospenovka**	**2.29**	**35**	⇓P	**Pn**	**12 37 28.6**	**+1.5**
USP	2.4nm,0.2s,SNR=12						
				⇑S	**Sn**	**12 37 59.1**	**+3.5**
	31nm,0.3s						
KK31	**Karatay Array**	**2.35**	**317**	⇑Pn	**Pn**	**12 37 28.2**	**+0.3**
KK31	2.8nm,0.5s,baz=134,slow=15,SNR=41						
				Lg		12 38 03.0	
	8.8nm,0.5s,baz=138,slow=27,SNR=19						
TKM2	**Tokmak 2**	**2.64**	**54**	⇑P	**Pn**	**12 37 33.1**	**+1.1**
	4.9nm,0.3s,SNR=7.5						

IDC ***24*** *12:41:33.6±4.1,51.14N×178.90E,h43km±38km,mb3.5/12, mb1 3.7/12,mb1mx3.6/26,mbtmp3.7/12,ML4.0/1,Error ellipse: s-maj=28.4km s-min=14.8km az=168.0*
NEIC ***24*** *12:41:35.2±0.8,51.11N×178.99E,h58km±7km,mb4.1/2,*

ML3.8(AEIC), Error ellipse: s-maj=16.1km s-min=6.2km az=182.0

ISC 24 12:41:33.7±1.1,**51.1N**±0.1×**178.90E**±0.08,**h60**km±9km, **n23**,σ0§**96**/26,**mb3.7**/13,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.50**	**74**	P	**P**	**12 42 12.7**	**-0.3**
KIMD				S	**S**	**12 42 43.9**	**+1.4**
KIKV	**Kanaga Island**	**2.57**	**71**	P	**P**	**12 42 13.9**	**-0.1**
KIWB	**Kanaga Island**	**2.58**	**72**	P	**P**	**12 42 13.8**	**-0.3**
GSTD	**Great Sitkin T**	**3.23**	**71**	P	**P**	**12 42 22.4**	**-0.9**
GSTD				S	**S**	**12 43 02.2**	**+1.4**
GSMY	**Great Sitkin M**	**3.28**	**72**	P	**P**	**12 42 23.3**	**-0.7**
SMY	**Shemya**	**3.38**	**300**	P	**P**	**12 42 27.1**	**+1.7**
FX1	**Attu Island--F**	**3.96**	**299**	P	**P**	**12 42 31.9**	**-1.5**
FX1				S	**S**	**12 43 26.6**	**+7.6**
FX1	**Attu Island--F**	**3.96**	**299**	P	**P**	**12 42 33.9**	**+0.4**
ATKA	**Atka Island**	**4.44**	**73**	P	**P**	**12 42 38.6**	**-1.6**
IMA	**Indian Mountai**	**20.44**	**33**	*eP*	**P**	**12 46 08.8**	**+0.7**
ILAR	**Eielson Array**	**22.36**	**39**	P	**P**	**12 46 25.8**	**-1.5**
INK	**Inuvik**	**28.51**	**35**	P	**P**	**12 47 24.1**	**-0.8**
YKA	**Yellowknife Ar**	**36.46**	**46**	P	**P**	**12 48 33.1**	**-1.0**
HLID	**Hailey**	**44.40**	**73**	*eP*	**P**	**12 49 40.5**	**+0.8**
NVAR	**Mina Array Bea**	**45.02**	**81**	P	**P**	**12 49 45.8**	**+1.1**
SONM	**Songino Array**	**45.46**	**296**	P	**P**	**12 49 49.0**	**+0.9**
PDAR	**Pinedale Array**	**47.77**	**71**	P	**P**	**12 50 06.7**	**+0.3**
MKAR	**Makanchi Array**	**59.05**	**307**	P	**P**	**12 51 28.3**	**-1.1**
TXAR	**Lajitas Array**	**60.12**	**79**	P	**P**	**12 51 36.8**	**-0.3**
BVAR	**Borovoye Array**	**60.14**	**319**	P	**P**	**12 51 36.8**	**0.0**
WRA	**Warramunga Arr**	**80.83**	**222**	P	**P**	**12 53 41.7**	**-0.8**
ASAR	**Alice Springs**	**84.33**	**221**	P	**P**	**12 54 01.4**	**+1.1**
BRTR	**Keskin Array B**	**84.56**	**334**	P	**P**	**12 54 01.6**	**+0.6**

ISC 24 12:45:44.6±0.6,**37.08N**±0.04×**32.43E**±0.05,**h10**km,**n7**, σ1§**21**/13,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.86**	**356**	*i* PG	**Pg**	**12 46 00.7**	**-1.2**
KONT				*i* SG	**Sg**	**12 46 13.3**	**-0.2**
MEST	**Erdemli**	**1.46**	**109**	*i* P	**Pn**	**12 46 11.2**	**0.0**
MEST				*i* S	**Sb**	**12 46 33.5**	**+3.4**
KIZT	**Kizilcal**	**1.84**	**347**	PG	**Pn**	**12 46 16.3**	**-0.4**
CSS	**Prodhromos**	**2.24**	**161**	*i* P	**Pn**	**12 46 20.6**	**-1.7**
CSS				*i* S	**Sn**	**12 46 48.1**	**-2.2**
GOLH	**Golhisar**	**2.30**	**275**	*i* P	**Pn**	**12 46 23.3**	**+0.2**
GOLH				*i* S	**Sn**	**12 46 52.8**	**+1.1**
AKAS	**Kas**	**2.42**	**250**	*i* P	**Pn**	**12 46 25.1**	**+0.1**
AKAS				*i* S	**Sn**	**12 46 55.5**	**+0.5**
COBT	**Iskenderun**	**3.12**	**99**	*i* P	**Pn**	**12 46 36.2**	**+1.3**
COBT				*i* S	**Sn**	**12 47 21.0**	**+8.4**

*IDC **24** 12:46:54.4±1.2, 3.16N×96.32E, mb4.1/9, mb1 4.2/10, mb1mx3.9/22, mbtmp4.0/10, ML4.2/1, MS3.2/1, Ms1 3.4/1, ms1mx2.9/28, Error ellipse: s-maj=56.4km s-min=16.1km az=57.0*

*NEIC **24** 12:46:59.0±0.5, 3.11N×96.30E, h30km, mb4.1/2, Error ellipse: s-maj=13.1km s-min=7.8km az=47.0*

ISC 24 12:46:56.7±0.7,**3.06N**±0.08×**96.17E**±0.08,**h30**km,**n21**, σ0§**90**/21,**mb4.1**/10,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.99**	**63**	*eP*	**Pn**	**12 48 11.6**	**0.0**
IPM	**Ipoh**	**5.07**	**72**	P	**Pn**	**12 48 14.1**	**+1.3**
SNG	**Songkhla**	**6.03**	**47**	P	**Pn**	**12 48 27.0**	**+0.7**
KGM	**Kluang**	**7.21**	**98**	P	**Pn**	**12 48 43.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**15.54**	**10**	Pn	**P**	**12 50 35.0**	**-0.7**
CMAR				LR	LR	12 57 29.0	
PALK	**Pallekele**	**15.96**	**286**	P	**P**	**12 50 44.4**	**+3.2**
KKM	**Kota Kinabalu**	**20.20**	**81**	P	**P**	**12 51 31.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**35.85**	**127**	*eP*	**P**	**12 53 55.3**	**-0.8**
WRA	**Warramunga Arr**	**43.89**	**123**	P	**P**	**12 55 02.6**	**-0.1**
WRAB	**Tennant Creek**	**43.90**	**123**	*eP*	**P**	**12 55 02.7**	**-0.1**
WB2	**Warramunga Arr**	**43.90**	**123**	*eP*	**P**	**12 55 02.7**	**-0.1**
MKAR	**Makanchi Array**	**45.21**	**347**	P	**P**	**12 55 12.9**	**-0.1**
ASPA	**Alice Springs**	**45.33**	**128**	*eP*	**P**	**12 55 14.4**	**+0.1**
ASAR	**Alice Springs**	**45.33**	**128**	P	**P**	**12 55 13.9**	**-0.3**
SONM	**Songino Array**	**45.47**	**10**	P	**P**	**12 55 14.2**	**-0.8**
ZAL	**Zalesovo**	**51.57**	**351**	P	**P**	**12 56 01.5**	**-0.7**
ZAL	**Zalesovo**	**51.57**	**351**	P	**P**	**12 56 01.5**	**-0.7**
BVAR	**Borovoye Array**	**54.17**	**341**	P	**P**	**12 56 20.3**	**-1.2**
STKA	**Stephens Creek**	**55.36**	**133**	P	**P**	**12 56 30.1**	**-0.4**
GERES	**GERESS Array B**	**82.75**	**319**	P	**P**	**12 59 21.6**	**+2.4**
HFS	**Hagfors**	**83.61**	**330**	P	**P**	**12 59 23.7**	**+0.3**

*IDC **24** 12:53:11.8±1.8, 0.13S×97.09E, mb3.8/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, ML2.5/1, Error ellipse: s-maj=79.9km s-min=21.8km az=56.0*

*NEIC **24** 12:53:16.7±1.0, 0.02N×97.28E, h30km, Error ellipse: s-maj=26.6km s-min=15.6km az=69.0*

ISC 24 12:53:15.7±1.2,**0.1N**±0.1×**97.3E**±0.2,**h33**km,**n8**,σ0§**59**/7, **mb3.8**/5,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.14**	**33**	*eP*	**P**	**12 54 46.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**18.32**	**5**	P	**P**	**12 57 28.6**	**-0.8**
WRA	**Warramunga Arr**	**41.34**	**121**	P	**P**	**13 01 00.2**	**-0.2**
ASAR	**Alice Springs**	**42.63**	**126**	P	**P**	**13 01 11.2**	**+0.2**
MKAR	**Makanchi Array**	**48.35**	**346**	P	**P**	**13 01 57.2**	**+1.0**
ZAL	**Zalesovo**	**54.66**	**351**	P	**P**	**13 02 44.1**	**+0.4**
GERES	**GERESS Array B**	**85.73**	**319**	P	**P**	**13 05 52.1**	**-0.7**
TXAR	**Lajitas Array**	**144.53**	**33**	PKP	PKPdf	13 12 50.8	+1.2

*IDC **24** 12:54:16.3±0.8, 78.56N×5.67E, mb3.6/7, mb1 3.7/11, mb1mx3.6/26, mbtmp3.6/11, ML3.5/4, Error ellipse: s-maj=27.7km s-min=13.3km az=48.0*

*NEIC **24** 12:54:16.5±0.6, 78.55N×5.90E, h10km, mb3.7/1, Error ellipse: s-maj=11.6km s-min=8.1km az=27.0*

*CSEM **24** 12:54:16.9±0.1, 78.53N×5.75E, h30km, ML3.6, Error ellipse: s-maj=2.3km s-min=1.8km az=13.0*

*BER **24** 12:54:19.8±2.6, 78.41N×7.51E, h0km±20km, MD2.9, ML3.6, ML3.2(NAO)*

*NAO **24** 12:54:22.5±6.9, 78.44N×8.67E, h8km±55km, ML3.2*

ISC 24 12:54:14.1±0.5,**78.46N**±0.05×**6.2E**±0.2,**h10**km,**n38**, σ1§**47**/48,**mb3.5**/7,**3C**,**Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.23**	**65**	⇑*iP*	**Pb**	**12 54 37.1**	**+0.2**
KBS				*eS*	**Sb**	**12 54 50.3**	**-2.3**
KBS	**Kingsbay**	**1.23**	**65**	⇑*iP*	**Pb**	**12 54 37.2**	**+0.3**
KBS				*eS*	**Sb**	**12 54 50.3**	**-2.3**
SPA0	**Spitsbergen Ar**	**2.09**	**93**	Pn	**Pn**	**12 54 50.9**	**+1.2**
SPA0				Sn	**Sn**	**12 55 14.7**	**-1.3**
HSP	**Hornsund**	**2.48**	**122**	*eP*	**Pn**	**12 54 55.6**	**+0.4**
HSP				*eS*	**Sn**	**12 55 22.5**	**-3.2**
HOPEN	**Hopen**	**4.52**	**106**	*eP*	**Pn**	**12 55 23.2**	**-1.1**
HOPEN				*eS*	**Sn**	**12 56 11.8**	**-5.8**
HOPEN				AML	AML	12 56 14.4	
DAG	**Danmarks Havn**	**5.58**	**265**	⇑*iP*	**Pn**	**12 55 37.8**	**-1.4**
JNW	**Jan Mayen West**	**8.36**	**215**	*eP*	**P**	**12 56 19.1**	**+0.8**
JNW				*eS*	**Sn**	**12 57 49.6**	**-4.2**
JNW				AML	AML	12 57 54.4	
JNE	**Jan Mayen East**	**8.39**	**214**	*eP*	**P**	**12 56 19.4**	**+0.8**
JMIC	**Jan Mayen**	**8.41**	**215**	Pn	**P**	**12 56 18.5**	**-0.4**
JMIC				Sn	**Sn**	**12 57 47.9**	**-7.1**
JMI	**Jan Mayen**	**8.49**	**215**	*eP*	**P**	**12 56 20.9**	**+0.8**
JMI				*eS*	**Sn**	**12 57 52.4**	**-4.6**
JMI				AML	AML	12 57 57.3	
ARA0	**ARCESS Array S**	**10.34**	**140**	Pn	**P**	**12 56 44.0**	**-1.3**
ARA0				Sn	**S**	**12 58 31.1**	**-11**
ARCES	**ARCESS Array B**	**10.34**	**140**	Pn	**P**	**12 56 45.1**	**-0.2**
ARCES				Sn	**S**	**12 58 31.0**	**-11**
ARE0	**ARCESS Array S**	**10.34**	**140**	*eP*	**P**	**12 56 46.4**	**+1.0**
ARE0	**ARCESS Array S**	**10.34**	**140**	*eP*	**P**	**12 56 46.4**	**+1.1**
SCO	**Scoresbysund**	**10.82**	**238**	*i P*	**P**	**12 56 51.1**	**-0.9**
SCO				*e*		12 58 45.2	
SUMG	**Summit**	**12.27**	**265**	*eP*	**P**	**12 57 08.4**	**-3.2**
SUMG	**Summit**	**12.27**	**265**	*eP*	**P**	**12 57 08.4**	**-3.1**
NB2	**NORSAR Subarra**	**17.58**	**172**	P	**P**	**12 58 27.8**	**+7.4**
NOA	**NORSAR Array B**	**17.58**	**172**	P	**P**	**12 58 23.4**	**+3.0**
FIA0	**FINESS Array S**	**18.20**	**148**	P	**P**	**12 58 29.8**	**+1.7**
FINES	**FINESS Array B**	**18.20**	**148**	P	**P**	**12 58 30.4**	**+2.4**
FINES	**FINESS Array B**	**18.20**	**148**	P	**P**	**12 58 30.4**	**+2.4**
HFS	**Hagfors**	**18.58**	**168**	P	**P**	**12 58 36.1**	**+3.4**
HFS	**Hagfors**	**18.58**	**168**	P	**P**	**12 58 35.2**	**+2.5**
HFS	**Hagfors**	**18.58**	**168**	Pn	**P**	**12 58 36.1**	**+3.4**
SFJD	**Kangerlussuaq**	**19.27**	**266**	*eP*	**P**	**12 58 38.9**	**-2.0**
RES	**Resolute Bay**	**20.93**	**313**	*eP*	**P**	**12 58 59.1**	**+0.3**
RES	**Resolute Bay**	**20.93**	**313**	*eP*	**P**	**12 58 59.1**	**+0.3**
AKASG	**Malin Array Be**	**29.10**	**149**	P	**P**	**13 00 18.0**	**+1.6**
AKASG	**Malin Array Be**	**29.10**	**149**	P	**P**	**13 00 18.0**	**+1.6**
INK	**Inuvik**	**31.55**	**333**	P	**P**	**13 00 37.5**	**-0.4**
INK	**Inuvik**	**31.55**	**333**	*eP*	**P**	**13 00 37.7**	**-0.2**
BVAR	**Borovoye Array**	**33.53**	**100**	P	**P**	**13 00 58.9**	**+3.5**
YKA	**Yellowknife Ar**	**34.95**	**316**	P	**P**	**13 01 08.5**	**+1.0**
YKA				PcP	PcP	13 03 40.9	+0.7
BRTR	**Keskin Array B**	**40.42**	**147**	P	**P**	**13 01 58.2**	**+4.6**
MKAR	**Makanchi Array**	**41.85**	**91**	P	**P**	**13 02 07.0**	**+2.0**
TXAR	**Lajitas Array**	**65.31**	**295**	P	**P**	**13 04 59.1**	**+1.2**

IDC 24 13:00:26.5±1.5,**1.80S**×**120.47E**,**mb3.6**/5,**mb1 3.8**/5, **mb1mx3.6**/18,**mbtmp3.6**/5,**Error ellipse: s-maj=187.9km s-min=20.7km az=62.0**,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.56**	**144**	P	P	13 05 27.0	-2.9
ASAR	**Alice Springs**	**25.33**	**150**	P	P	13 05 56.7	-0.1
SONM	**Songino Array**	**50.94**	**348**	P	P	13 09 30.5	-1.2
MKAR	**Makanchi Array**	**58.86**	**330**	P	P	13 10 26.6	-2.8
ZAL	**Zalesovo**	**62.94**	**337**	P	P	13 10 54.3	-2.7

*ATH **24** 13:15:25.5, 39.79N×20.69E, h18km±2km, MD3.2/6*

*THE **24** 13:15:26.0, 39.77N×20.72E, h10km, ML3.4*

*NEIC **24** 13:15:25.5, 39.79N×20.69E, h18km, MD3.3(ATH), After ATH.*

*CSEM **24** 13:15:26.0±0.2, 39.80N×20.68E, h10km, MD3.3, Error ellipse: s-maj=4.1km s-min=3.5km az=168.0*

ISC 24 13:15:26.0±0.5,**39.78N**±0.03×**20.66E**±0.04,**h12**km±5km, **n22**,σ1§**24**/34,**4C-1D**,**Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.19**	**131**	⇑*iPB*	**Pb**	**13 15 30.2**	**-0.7**
JAN				*eSB*	**Sb**	**13 15 33.4**	**-0.8**
IGT	**Igoumenitsa**	**0.36**	**226**	*ePg*	**Pg**	**13 15 33.2**	**-0.2**
IGT				*eSg*	**Sg**	**13 15 39.4**	**+1.0**
LSK	**Leskovik**	**0.37**	**352**	*ePg*	**Pg**	**13 15 33.5**	**-0.1**
LSK				*i Sg*	**Sg**	**13 15 41.1**	**+2.3**
SRN	**Sarande**	**0.52**	**281**	*ePg*	**Pg**	**13 15 36.3**	**-0.3**
SRN				*i Sg*	**Sg**	**13 15 43.3**	**-0.3**
KEK	**Kerkira**	**0.67**	**264**	⇓*iPB*	**Pb**	**13 15 38.2**	**-0.9**
KEK				*eSN*	**Sn**	**13 15 49.6**	**-1.8**
KZN	**Kozani**	**1.00**	**58**	*ePB*	**Pb**	**13 15 43.7**	**-1.0**
KZN				*eSN*	**Sn**	**13 15 58.5**	**-1.2**
FNA	**Florina**	**1.14**	**28**	*ePg*	**Pg**	**13 15 47.1**	**-1.7**
FNA				*eSg*	**Sg**	**13 16 04.5**	**+0.4**
EVR	**Evrytania**	**1.24**	**134**	⇑*iPN*	**Pn**	**13 15 48.5**	**-0.6**
OHR	**Ohrid**	**1.33**	**4**	*i Pn*	**Pn**	**13 15 51.2**	**+0.7**
OHR				*i*		13 15 52.7	
OHR				*i Sn*	**Sn**	**13 16 09.5**	**+1.3**
OHR	**Ohrid**	**1.33**	**4**	*i Pn*	**Pn**	**13 15 51.2**	**+0.7**
OHR				*i Sn*	**Sn**	**13 16 09.5**	**+1.3**
LIT	**Litokhoron**	**1.44**	**77**	*ePb*	**Pb**	**13 15 52.4**	**+0.2**
LIT				*eSb*	**Sb**	**13 16 12.8**	**+2.4**
AGG	**Agios Georgios**	**1.50**	**120**	*ePb*	**Pb**	**13 15 52.7**	**-0.5**
VLS	**Valsamata**	**1.60**	**182**	⇑*iPN*	**Pn**	**13 15 54.8**	**+0.4**
VLS				*eSN*	**Sn**	**13 16 17.6**	**+2.5**
TIR	**Tirane**	**1.68**	**339**	*ePg*	**Pg**	**13 16 03.8**	**+4.3**
GRG	**Griva**	**1.77**	**48**	*ePb*	**Pb**	**13 15 56.6**	**-1.3**
QSH	**Qafa e Shtames**	**1.83**	**342**	*i Pg*	**Pg**	**13 16 07.5**	**+4.9**
RLS	**Riolos of Patr**	**1.83**	**160**	*ePN*	**Pn**	**13 15 59.5**	**+1.9**
NEO	**Neokhori**	**2.04**	**103**	⇑*iPN*	**Pn**	**13 16 01.4**	**+0.9**
NEO				*eSN*	**Sn**	**13 16 27.5**	**+1.4**
KNT	**Kendrikon**	**2.19**	**50**	*ePn*	**Pn**	**13 16 01.9**	**-0.9**
PLG	**Polygyros**	**2.21**	**74**	*ePB*	**Pb**	**13 16 03.0**	**-2.5**
SKO	**Skopje**	**2.27**	**15**	*ePn*	**Pn**	**13 16 05.3**	**+1.5**
PAIG	**Paliouri**	**2.33**	**85**	*ePn*	**Pn**	**13 16 03.6**	**-1.1**

*IDC **24** 13:22:07.6±1.1, 5.88N×94.78E, mb3.7/9, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, ML4.8/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/22, Error ellipse: s-maj=45.2km s-min=19.1km az=53.0*

*NEIC **24** 13:22:12.3±0.8, 5.92N×94.94E, h30km, mb4.5/1, Error ellipse: s-maj=19.7km s-min=11.8km az=54.0*

ISC 24 13:22:10.7±0.8,**6.0N**±0.1×**95.0E**±0.1,**h30**km,**n14**, σ1§**04**/13,**mb3.8**/10,**MS3.6**/1,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.65**	**97**	*eP*	**Pn**	**13 23 33.4**	**-1.5**
CM31	**Chiang Mai Arr**	**12.98**	**17**	*eP*	**P**	**13 25 16.0**	**0.0**
CMAR	**Chiang Mai Arr**	**12.98**	**17**	Pn	**P**	**13 25 17.1**	**+1.1**
CMAR	comp=Z,66nm,19.5s,baz=210,slow=41			LR	LR	13 31 08.2	
FITZ	**Fitzroy Crossi**	**38.54**	**129**	LR	LR	13 48 00.2	
MKAR	**Makanchi Array**	**42.12**	**347**	P	**P**	**13 30 00.9**	**-1.0**
SONM	**Songino Array**	**42.83**	**11**	P	**P**	**13 30 07.3**	**-0.5**
WRA	**Warramunga Arr**	**46.47**	**125**	P	**P**	**13 30 37.3**	**0.0**
WRAB	**Tennant Creek**	**46.47**	**125**	P	**P**	**13 30 38.2**	**+0.9**
ASAR	**Alice Springs**	**48.04**	**129**	P	**P**	**13 30 50.4**	**+0.8**
ZAL	**Zalesovo**	**48.53**	**352**	P	**P**	**13 30 54.0**	**+1.0**
BRTR	**Keskin Array B**	**64.32**	**311**	P	**P**	**13 32 43.5**	**-2.6**
FINES	**FINESS Array B**	**74.78**	**332**	P	**P**	**13 33 48.9**	**-0.8**
ARCES	**ARCESS Array B**	**77.33**	**340**	P	**P**	**13 34 04.7**	**+0.7**
GERES	**GERESS Array B**	**79.81**	**318**	P	**P**	**13 34 18.8**	**+0.9**

*CSEM **24** 13:24:28.7±0.8, 29.12N×16.02W, h36km±13km, mb4.3/5, Error ellipse: s-maj=10.7km s-min=3.1km az=174.0, After MDD*

MDD 24 13:24:28.5±0.9,**29.15N**×**16.01W**,**h31**km±17km, **mbLg2.0**/7,**Error ellipse: s-maj=10.4km s-min=3.0km az=174.0**,**PRXIMO TT_MODEL: CANARY**,**Canary Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBAJ	**Bajamar**	**0.67**	**206**	P	Pb	13 24 40.6	-1.0
EBAJ	4.9nm,0.1s,SNR=7.9			S	Sb	13 24 48.4	-2.3
EBAJ	**Bajamar**	**0.67**	**206**	P	Pb	13 24 41.1	-0.5
EBAJ	4.9nm,0.1s,SNR=7.9			S	Sb	13 24 48.4	-2.3
CICO	**Icod de los Vi**	**1.01**	**218**	S	Sn	13 24 56.6	-3.2
CCAN	**Las Canadas**	**1.06**	**210**	P	Pn	13 24 45.8	-1.5
CCAN	0.5nm,0.1s,SNR=6.5			S	Sn	13 24 57.4	-3.7
CCAN	**Las Canadas**	**1.06**	**210**	P	Pn	13 24 45.8	-1.5
CCAN	0.5nm,0.1s,SNR=6.5			S	Sn	13 24 56.7	-4.4
EOSO	**Osorio**	**1.14**	**159**	P	Pn	13 24 47.3	-1.3
EOSO	6.0nm,0.1s,SNR=7.9			S	Sn	13 25 00.4	-2.9
EOSO	**Osorio**	**1.14**	**159**	P	Pn	13 24 47.7	-0.9
EOSO	6.0nm,0.1s,SNR=7.9			S	Sn	13 25 00.4	-2.9
CHIO	**Chio**	**1.15**	**218**	P	Pn	13 24 47.1	-1.5
CHIO	12nm,0.1s,SNR=5.7			S	Sn	13 25 00.3	-3.0
CHIO	**Chio**	**1.15**	**218**	P	Pn	13 24 47.1	-1.5
CHIO	12nm,0.1s,SNR=5.7			S	Sn	13 25 00.6	-2.7
EGOM	**La Gomera**	**1.44**	**227**	P	Pn	13 24 50.2	-2.6
EGOM	3.0nm,0.1s,SNR=7.8			S	Sn	13 25 06.2	-4.5
EGOM	**La Gomera**	**1.44**	**227**	P	Pn	13 24 50.2	-2.6
EGOM	3.0nm,0.1s,SNR=7.8			S	Sn	13 25 05.8	-5.0
CFTV	**Fuerteventura**	**1.84**	**113**	S	Sn	13 25 16.4	-4.7
CFUE	**Fuerteventura**	**1.89**	**105**	S	Sn	13 25 17.0	-5.2

*IDC **24** 13:28:26.6±3.2, 10.23S×161.54E, h67km±22km, mb3.8/5, mb1 4.0/6, mb1mx3.6/18, mbtmp4.1/6, Error ellipse: s-maj=33.1km s-min=20.1km az=57.0*

*NEIC **24** 13:28:27.2±1.5, 10.31S×161.41E, h60km±13km, mb3.8/1, Error ellipse: s-maj=28.6km s-min=12.6km az=53.0*

ISC 24 13:28:26.0±2.0,**10.3S**±0.1×**161.5E**±0.2,**h78**km±14km,**n9**, σ0§**80**/11,**mb3.8**/6,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.76**	**298**	P	**P**	**13 28 54.6**	**-0.6**
HNR	100nm,0.3s,baz=160,slow=4.8,SNR=63			S	**S**	**13 29 16.7**	**0.0**
HNR	**Honiara**	**1.76**	**298**	*eP*	**P**	**13 28 54.4**	**-0.8**
HNR	758nm,0.3s,baz=175,slow=20,SNR=17			*eS*	**S**	**13 29 17.7**	**+1.0**
DZM	**Mont Dzumac**	**12.64**	**159**	P	**P**	**13 31 24.6**	**+0.3**
WRAB	**Tennant Creek**	**27.89**	**247**	*eP*	**P**	**13 34 10.7**	**-0.2**
WRA	**Warramunga Arr**	**27.90**	**247**	P	**P**	**13 34 11.5**	**+0.6**
ASAR	**Alice Springs**	**29.50**	**240**	P	**P**	**13 34 24.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**35.59**	**253**	P	**P**	**13 35 18.2**	**+0.1**
SONM	**Songino Array**	**75.63**	**325**	P	**P**	**13 40 05.8**	**+1.5**
ZAL	**Zalesovo**	**90.53**	**325**	P	**P**	**13 41 19.1**	**-1.4**

*IDC **24** 13:32:08.6±1.3, 2.72N×96.28E, mb4.0/7, mb1 4.1/8, mb1mx3.8/20, mbtmp3.9/8, ML3.5/1, MS2.8/1, Ms1 3.0/1, ms1mx2.7/18, Error ellipse: s-maj=59.7km s-min=19.6km az=54.0*

*NEIC **24** 13:32:13.2±0.7, 2.75N×96.35E, h30km, mb4.5/2, Error ellipse: s-maj=17.3km s-min=10.6km az=56.0*

ISC 24 13:32:11.5±0.9,**2.8N**±0.1×**96.4E**±0.1,**h30**km,**n13**, σ0§**74**/13,**mb4.0**/9,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.96**	**59**	*eP*	**Pn**	**13 33 25.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**15.81**	**9**	Pn	**P**	**13 35 55.1**	**+1.3**
CMAR	0.1nm,0.3s,baz=200,slow=12,SNR=5.5			LR	LR	13 41 32.2	
WRA	**Warramunga Arr**	**43.58**	**123**	P	**P**	**13 40 15.2**	**+0.2**
WRAB	**Tennant Creek**	**43.58**	**123**	*eP*	**P**	**13 40 15.3**	**+0.4**
ASAR	**Alice Springs**	**45.01**	**128**	P	**P**	**13 40 26.5**	**+0.1**
MKAR	**Makanchi Array**	**45.54**	**346**	P	**P**	**13 40 30.5**	**+0.2**
MKAR	**Makanchi Array**	**45.54**	**346**	P	**P**	**13 40 30.5**	**+0.2**
SONM	**Songino Array**	**45.73**	**9**	P	**P**	**13 40 31.4**	**-0.4**
SONM	0.9nm,0.4s,mb4.0,baz=191,slow=9.3,SNR=14			PcP	PcP	13 42 09.9	+0.1
YAK	**Yakutsk**	**64.17**	**17**	*eP*	**P**	**13 42 43.3**	**-2.1**
AKASG	**Malin Array Be**	**73.52**	**322**	P	**P**	**13 43 43.5**	**+0.1**
AKASG	**Malin Array Be**	**73.52**	**322**	P	**P**	**13 43 43.5**	**+0.1**
FINES	**FINESS Array B**	**78.24**	**332**	P	**P**	**13 44 09.9**	**+0.1**
ARCES	**ARCESS Array B**	**80.79**	**340**	P	**P**	**13 44 23.4**	**0.0**

IDC 24 13:33:56.2±4.5,**16.09S**×**175.82E**,**mb3.9**/3,**mb1 4.1**/3, **mb1mx3.7**/15,**mbtmp3.9**/3,**MS3.3**/2,**Ms1 3.3**/2, **ms1mx2.9**/22,**Error ellipse: s-maj=159.1km s-min=72.6km az=143.0**,**Fiji Islands region**

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

DZM	Mont Dzumac	10.67	235	LR	LR	13 39 27.4	
	comp=Z,89nm,18.1s,baz=161,slow=31						
PPT	Papeete	33.13	98	eLR	LR	13 48 39.9	
	82nm,26.5s						
TBI	Tubuai	33.41	108	eLR	LR	13 48 44.6	
	103nm,32.2s						
STKA	Stephens Creek	34.82	237	P	P	13 40 48.7	-2.2
	2.8nm,0.9s,baz=95,slow=11,SNR=4.6						
STKA				LR	LR	13 52 48.0	
	comp=Z,91nm,20.9s,baz=178,slow=32						
WRA	Warramunga Arr	39.56	258	P	P	13 41 28.6	-2.4
	1.0nm,0.8s,baz=91,slow=8.9,SNR=3.1						
ASAR	Alice Springs	40.02	252	P	P	13 41 33.8	-1.0
	1.9nm,0.8s,baz=82,slow=8.7,SNR=10						
GERES	GERESS Array B	144.21	340	PKP	PKPdf	13 53 33.6	-2.2
	0.3nm,0.6s,baz=34,slow=3.5,SNR=4.0						

WEL 24 14:16:21.5±0.2, 37.16S×177.22E, h154km±2km, ML3.6/10, 1D, Error ellipse: s-maj=2.9km s-min=2.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	Matakaoa Point	0.96	115	PN	P	14 16 46.1	-0.4
MXZ				SN	S	14 17 05.4	-0.3
URZ	Urewera	1.11	184	⇓PN	P	14 16 47.7	-0.1
URZ				SN	S	14 17 07.4	-0.6
MWZ	Matawai	1.20	168	PN	P	14 16 48.3	-0.4
MWZ				SN	S	14 17 09.0	-0.6
MWZ				SN	S	14 17 09.3	-0.3
PUZ	Puketiti	1.23	138	PN	P	14 16 48.7	-0.3
PUZ				SN	S	14 17 09.2	-1.0
KNZ	Kokohu	1.90	169	PN	P	14 16 55.5	-0.5
BKZ	Black Stump Fm	2.09	196	PN	P	14 16 57.5	-0.8
BKZ				SN	S	14 17 24.9	-1.6
WNVZ	Wahianoa	2.52	210	ePN	P	14 17 02.6	-1.0
MOVZ	Moawhango	2.53	207	ePN	P	14 17 01.9	-1.8
PWZ	Pawanui	2.88	185	PN	P	14 17 06.2	-2.0
TSZ	Takapari Road	3.06	198	PN	P	14 17 07.7	-2.8
TSZ				SN	S	14 17 45.2	-2.8
MRZ	Mangatainoka R	3.73	200	PN	P	14 17 15.4	-3.7
MRZ				SN	S	14 17 59.1	-4.3
MRZ				SN	S	14 17 59.2	-4.2
MTW	Mount Morrison	4.21	198	PN	P	14 17 20.9	-4.5
CAW	Cannon Point	4.29	202	PN	P	14 17 22.0	-4.5
CAW				SN	S	14 18 11.2	-5.2
TCW	Tory Channel	4.65	209	ePN	P	14 17 26.3	-4.9
TUWZ	Tuamarina	4.97	210	ePN	P	14 17 29.6	-5.8
TUWZ				SN	S	14 18 25.8	-6.7
NNZ	Nelson	5.04	215	ePN	P	14 17 31.4	-4.9
NNZ				SN	S	14 18 28.6	-5.5
QRZ	Quartz Range	5.17	223	ePN	P	14 17 33.4	-4.8
QRZ				SN	S	14 18 33.0	-4.4
THZ	Tophouse	5.68	215	ePN	P	14 17 39.7	-5.1
THZ				SN	S	14 18 43.1	-6.5
KHZ	Kahutara	5.97	207	PN	P	14 17 44.0	-4.7
LTZ	Lake Taylor	6.78	213	ePN	P	14 17 53.8	-5.8
MQZ	McQueen's Vall	7.41	207	SN	S	14 19 15.5	-12
ODZ	Otahua Downs	9.31	210	ePN	P	14 18 26.6	-6.5

*IDC **24** 14:40:11.1±1.4, 10.41S×123.86E, mb3.6/3, mb1 3.7/6, mb1mx3.6/16, mbtmp3.6/6, ML3.5/3, Error ellipse: s-maj=105.0km s-min=21.6km az=63.0*

ISC 24 14:40:15.8±2.5, 10.6S±0.1×124.0E±0.2, h54km±27km, n9, σ1°27/15, mb3.5/3, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	7.63	168	eP	P	14 42 07.2	+0.3
	8.7nm,0.6s						
FITZ				eS	S	14 43 31.3	-1.5
FITZ	Fitzroy Crossi	7.63	168	Pn	P	14 42 06.4	-0.5
	1.5nm,0.3s,baz=3.2,slow=8.8,SNR=30						
FITZ				Sn	S	14 43 31.3	-1.5
	2.3nm,0.3s,baz=186,slow=8.8,SNR=7.7						
WRA	Warramunga Arr	13.63	134	Pn	P	14 43 27.7	-0.5
	0.2nm,0.3s,baz=302,slow=14,SNR=14						
WRA				Sn	S	14 45 57.9	-0.7
	0.3nm,0.3s,baz=315,slow=23,SNR=6.4						
WB2	Warramunga Arr	13.63	134	eP	P	14 43 28.4	+0.1
WB2				eS	S	14 45 56.8	-2.1
ASPA	Alice Springs	16.07	145	eP	P	14 44 01.7	+2.0
ASPA				eS	S	14 46 57.3	+1.5
ASAR	Alice Springs	16.07	145	Pn	P	14 44 01.0	+1.3
	0.2nm,0.3s,baz=318,slow=12,SNR=27						
ASAR				Sn	S	14 46 55.9	0.0
	0.1nm,0.3s,baz=312,slow=21,SNR=8.1						
STKA	Stephens Creek	26.71	145	P	P	14 45 54.8	+2.7
	1.2nm,0.8s,mb3.5,baz=322,slow=11,SNR=2.5						
SONM	Songino Array	60.23	346	P	P	14 50 20.0	-0.8
	0.2nm,0.5s,mb3.5,baz=156,slow=4.7,SNR=2.8						
MKAR	Makanchi Array	68.19	330	P	P	14 51 11.6	-0.9
	0.4nm,0.6s,mb3.6,baz=134,slow=6.9,SNR=6.3						

MAN 24 14:41:14.8, 11.09N×125.94E, h48km, mb3.6, ML2.3, MS1.8, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	Borongan	0.71	316	eP	P	14 41 29.9	+1.4
BESP				eS	S	14 41 40.9	+2.2
SCPH	Surigao	1.37	199	⇓eP	P	14 41 38.2	+0.1
MSLP	Maasin	1.43	228	eP	P	14 41 39.5	+0.7
MSLP				eS	S	14 41 57.7	+1.1
CNP	Cataman	1.88	319	eP	P	14 42 09.9	+25
CNP				eS	S	14 42 09.9	+2.1

IDC 24 14:54:49.1±9.3, 6.33S×151.86E, h86km±65km, mb3.0/3, mb1 3.2/4, mb1mx3.0/15, mbtmp3.4/4, ML2.6/1, Error ellipse: s-maj=107.8km s-min=65.1km az=157.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.57	236	P	P	14 56 10.0	-1.0
	1.1nm,0.3s,baz=45,slow=11,SNR=5.1						
PMG				S	S	14 57 12.1	-2.2
	2.3nm,0.3s,slow=20,SNR=4.3						
WRA	Warramunga Arr	21.74	230	P	P	14 59 35.4	+0.5
	0.2nm,0.4s,baz=53,slow=11,SNR=4.3						
ASAR	Alice Springs	24.40	223	P	P	14 59 59.9	-0.9
	0.2nm,0.6s,baz=56,slow=9.9,SNR=4.0						
STKA	Stephens Creek	27.17	199	P	P	15 00 23.1	-3.5
	0.4nm,0.3s,baz=144,slow=10.0,SNR=3.7						

*IDC **24** 15:06:23.0±8.6, 36.37N×71.06E, h173km±74km, mb3.1/6, mb1 3.3/9, mb1mx3.1/23, mbtmp3.7/9, Error ellipse: s-maj=55.5km s-min=19.8km az=37.0*
*NEIC **24** 15:06:24.1±3.5, 36.42N×71.07E, h183km±28km, mb3.9/1, Error ellipse: s-maj=33.5km s-min=14.8km az=221.0*
*NNC **24** 15:06:29.5±8.9, 37.12N×70.52E, mpv3.5, Error ellipse: s-maj=71.9km s-min=59.2km az=171.0*

ISC 24 15:06:25.6±1.5, 36.57N±0.07×71.0E±0.2, h205km±14km, n27, σ0°91/29, mb3.2/6, 2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	Thein Dam	5.67	135	eS	S	15 08 53.7	-0.8
DLH	Dalhousie	5.74	133	e	S	15 08 57.0	+1.0
KK31	Karatay Array	6.54	357	P	P	15 08 00.6	0.0
	1.4nm,0.3s,baz=180,slow=13,SNR=45						
KK31				S	S	15 09 09.9	-4.8
	13nm,0.5s,baz=183,slow=23,SNR=27						
AAK	Ala-Archa	6.63	23	⇓P	P	15 08 02.8	+1.0
	1.8nm,0.4s						
AAK				⇓S	S	15 09 17.2	+0.4
	11nm,1.1s						
AAK	Ala-Archa	6.63	23	eP	P	15 08 01.3	-0.5
	3.0nm,0.4s						
SDNR	Sundarnagar	7.08	134	e	S	15 09 22.0	-5.2
SMLA	Simla	7.46	135	i	P	15 08 09.4	-3.2
SMLA				i		15 09 29.6	
MKAR	Makanchi Array	13.24	36	P	P	15 09 25.5	-1.1
	0.1nm,0.3s,baz=207,slow=13,SNR=6.0						
MKAR	Makanchi Array	13.24	36	P	P	15 09 25.5	-1.1
KOLN	Koldanda	13.80	126	eP	P	15 09 36.6	+2.9
	4.7nm,0.3s						
GKN	Gorkha	14.34	123	eP	P	15 09 39.7	-0.7
DMN	Daman	14.91	123	eP	P	15 09 48.2	+0.7
	11nm,0.3s						
KKN	Kakani	14.91	122	eP	P	15 09 47.7	+0.2
	21nm,0.6s						
PKI	Pulchoki	15.14	122	eP	P	15 09 50.4	+0.1
	13nm,0.6s						
GUN	Gumba	15.25	120	eP	P	15 09 51.5	-0.2
	14nm,0.4s						
JIRN	Jiri	15.62	120	eP	P	15 09 56.9	+0.7
	15nm,0.4s						
BVAR	Borovoye Array	16.46	359	P	P	15 10 05.2	-1.0
	0.6nm,0.3s,baz=165,slow=9.6,SNR=7.0						
ZAL	Zalesovo	19.84	25	P	P	15 10 42.2	+0.1
	0.7nm,0.3s,baz=253,slow=7.0,SNR=5.2						
ZAL	Zalesovo	19.84	25	P	P	15 10 42.2	+0.1
FINES	FINESS Array B	37.43	326	P	P	15 13 20.9	+0.7
	0.8nm,0.4s,mb3.6,baz=118,slow=9.9,SNR=18						
ARCES	ARCESS Array B	41.08	338	P	P	15 13 51.3	+1.0
	0.9nm,0.5s,mb3.5,baz=118,slow=9.0,SNR=10						
NB2	NORSAR Subarra	44.33	323	P	P	15 14 16.1	-0.3
	1.0nm,0.5s,mb3.4,baz=98,slow=7.4						
NOA	NORSAR Array B	44.33	323	P	P	15 14 16.1	-0.3
	0.9nm,0.5s,mb3.4,baz=96,slow=7.7,SNR=10						
YKA	Yellowknife Ar	81.18	3	P	P	15 18 19.7	+0.7
	0.1nm,0.4s,mb2.8,baz=351,slow=5.3,SNR=11						
YKA	Yellowknife Ar	81.18	3	P	P	15 18 19.7	+0.7
WRA	Warramunga Arr	82.02	122	P	P	15 18 23.1	-1.1
	0.2nm,0.7s,mb2.9,baz=323,slow=5.0,SNR=5.5						
ASAR	Alice Springs	84.29	125	P	P	15 18 35.1	-0.6
	0.2nm,0.5s,mb3.1,baz=318,slow=5.1,SNR=6.2						

MAN 24 15:15:03.9, 16.47N×120.67E, h9km, mb3.7, ML2.4, MS1.9, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCPH	Baguio City Da	0.12	227	⇑iP	Pg	15 15 07.1	+0.2
BCPH				i S	Sg	15 15 09.5	+0.7
PCPH	Palayan	0.99	156	⇑iP	Pb	15 15 22.0	-0.7
PCPH				i S	Sb	15 15 36.7	+1.1
BALP	Baler	1.13	130	eP	Pb	15 15 25.2	0.0
BALP				eS	Sb	15 15 41.5	+1.8
ABRA	Dolores	1.18	2	eP	Pb	15 15 24.3	-1.7
ABRA				eS	Sb	15 15 40.4	-0.9
CAUP	Cauayan	1.20	66	eP	Pb	15 15 27.5	+1.1
APYP	Conner	1.49	21	eP	Pn	15 15 31.0	0.0
APYP				eS	Sb	15 15 49.5	-0.8

*IDC **24** 15:37:18.3±1.3, 2.79S×141.79E, mb3.8/6, mb1 4.1/7, mb1mx3.8/17, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=53.7km s-min=21.1km az=108.0*
*NEIC **24** 15:37:22.9±0.7, 2.79S×141.80E, h30km, mb3.7/1, Error ellipse: s-maj=28.9km s-min=9.2km az=109.0*

ISC 24 15:37:21.9±0.9, 2.8S±0.1×141.7E±0.3, h33km, n11, σ0°51/11, mb3.9/6, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	13.47	223	eP	P	15 40 32.7	-0.5
	7.3nm,0.5s						
WRAB	Tennant Creek	18.49	202	eP	P	15 41 37.9	+0.5
	3.7nm,0.6s						
WB2	Warramunga Arr	18.50	202	eP	P	15 41 37.9	+0.4
WRA	Warramunga Arr	18.50	202	P	P	15 41 36.8	-0.8
	0.3nm,0.3s,baz=18,slow=13,SNR=21						
FITZ	Fitzroy Crossi	21.91	225	P	P	15 42 13.7	-0.4
	11nm,0.9s,mb4.3,baz=64,slow=14,SNR=5.2						
ASAR	Alice Springs	22.08	199	P	P	15 42 16.0	+0.3
	1.0nm,0.6s,mb3.4,baz=28,slow=10,SNR=16						
ASPA	Alice Springs	22.08	199	eP	P	15 42 16.3	+0.5
MKAR	Makanchi Array	71.74	321	P	P	15 48 43.0	+0.3
	0.7nm,0.8s,mb3.6,baz=112,slow=6.5,SNR=7.6						
BVAR	Borovoye Array	81.14	325	P	P	15 49 36.1	+0.6
	0.4nm,0.5s,mb3.6,baz=120,slow=8.2,SNR=5.8						
ILAR	Eielson Array	84.68	24	P	P	15 49 52.5	-0.8
	0.4nm,0.6s,mb3.7,baz=263,slow=4.9,SNR=9.1						
INK	Inuvik	90.64	22	P	P	15 50 22.0	0.0
	2.5nm,1.2s,mb4.4,baz=237,slow=6.2,SNR=3.9						

DJA 24 16:03:12.2±0.8, 9.69S×117.28E, h33km, MD4.6/2, ML4.3/3, 3C-1D, Error ellipse: s-maj=27.8km s-min=17.1km az=29.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEDI	Kedomdong	1.66	316	⇑ePn	Pn	16 03 38.9	-0.6
	186nm,0.2s						
KEDI				eSn	Sn	16 03 57.3	-2.6
RATI	Rata	1.98	299	⇑ePn	Pn	16 03 42.8	-1.2
	273nm,0.2s						
RATI	Rata	1.98	299	eP	P	16 03 43.2	-0.7
RATI				eSn	Sn	16 04 05.2	-2.7
KELI	Kelakatan	3.12	298	⇑ePn	Pn	16 03 59.2	-1.2
KELI				eSn	Sn	16 04 33.6	-3.3
SRDI	Scrawed	3.33	291	⇓ePn	Pn	16 04 02.0	-1.3
	93nm,0.2s						
SRDI				eSn	Sn	16 04 37.9	-4.2

*NEIC **24** 16:33:13.8, 57.73N×153.98W, h43km, ML3.6(PMR), ML3.4(AEIC), After AEIC.*
*IDC **24** 16:33:25.6±5.2, 59.09N×154.63W, h106km±42km, mb3.3/6, mb1 3.3/8, mb1mx3.2/22, mbtmp3.5/8, Error ellipse: s-maj=43.0km s-min=25.3km az=31.0*

ISC 24 16:33:11.2±1.0, 57.70N±0.08×153.89W±0.09, h74km±5km, n51, σ0°93/52, mb3.6/5, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	Kodiak Island	0.71	83	P	P	16 33 27.1	+0.5
KDAK				S	S	16 33 38.3	+0.2
CAHL	Cahill	0.83	296	P	P	16 33 27.3	-0.8
KAHG	Katmai Hook Gl	0.87	337	P	P	16 33 28.4	0.0
KAPH	Katmai Pasha	0.93	345	P	P	16 33 29.1	-0.2
KAPH				S	S	16 33 41.6	-1.1
KAHC	Katmai Hardscr	1.12	329	P	P	16 33 31.3	-0.3
SYI	Shuyak Island	1.21	41	P	P	16 33 34.0	+1.1
MCNL	McNeil River	1.51	351	P	P	16 33 36.9	0.0
AUI	Augustine Isla	1.66	8	P	P	16 33 39.7	+0.8
AGU	Augustine-Summ	1.68	8	P	P	16 33 40.4	+1.1
AUE	Augustine Isla	1.69	9	P	P	16 33 40.4	+1.2
AUW	Augustine West	1.69	7	P	P	16 33 40.3	+1.0
OPT	Oil Point	1.99	10	P	P	16 33 44.4	+1.1
ILW	Iliamna West	2.40	9	P	P	16 33 49.7	+0.6
INE	Iliamna NE	2.41	10	P	P	16 33 49.7	+0.4
BRLK	Bradley Lake	2.60	36	P	P	16 33 51.8	-0.1
NCT	North Crescent	2.91	9	P	P	16 33 56.9	+0.5
DFR	Drift River	2.96	12	P	P	16 33 57.8	+0.7
SLKM	Skilak Lake	3.39	32	eP	P	16 34 04.8	+1.7
SVW2	Sparrevohn	3.51	347	P	P	16 34 04.4	-0.4
CKL	Chakachamna La	3.59	12	P	P	16 34 06.2	+0.3
PMR	Palmer	4.59	30	eP	P	16 34 21.2	+1.5
HIN	Hinchinbrook I	4.68	52	P	P	16 34 20.4	-0.5
SML	Sawmill	4.99	32	eP	P	16 34 25.2	0.0
EYAK	Cordova Ski Ar	5.08	52	P	P	16 34 25.5	-0.9
VLZ	Valdez	5.17	45	P	P	16 34 26.9	-0.9
SCM	Sheep Creek Mo	5.31	36	P	P	16 34 29.3	-0.3
TT01	Tatalina	5.33	349	P	P	16 34 29.6	-0.3
TTA	Tatalina	5.35	350	eP	P	16 34 29.9	-0.3
TRF	Thorofare Moun	6.04	16	P	P	16 34 39.2	-0.4
KTH	Kantishna Hill	6.05	13	P	P	16 34 39.5	-0.3
GLB	Gilahina Butte	6.35	50	P	P	16 34 43.4	-0.7
MCK	McKinley	6.52	20	P	P	16 34 46.0	-0.5
BALM	Baldy	6.78	56	P	P	16 34 49.7	-0.4
CTGM	Chitina Glacie	7.21	58	P	P	16 34 55.7	-0.3
MENT	Mentasta	7.28	40	eP	P	16 34 58.7	+1.7
PCA	Pinnacle	7.46	66	P	P	16 34 58.8	-0.7
COLA	College	7.76	19	P	P	16 35 02.3	-1.3
PNL	Peninsula	7.81	69	P	P	16 35 02.9	-1.4
ILAR	Eielson Array	7.85	23	P	P	16 35 02.9	-2.0
	0.2nm,0.3s,baz=216,slow=14,SNR=18						
ILAR				S	S	16 36 27.4	-5.5
	0.5nm,0.3s,baz=208,slow=21,SNR=5.7						
IL1	Eielson Array	7.85	23	P	P	16 35 03.3	-1.6
IM3	Indian Mountai	8.31	0	P	P	16 35 09.9	-1.3
TNA	Tin City	10.30	326	P	P	16 35 38.1	0.0
INK	Inuvik	14.00	32	P	P	16 36 29.9	+3.0
	0.2nm,0.3s,baz=249,slow=17,SNR=8.8						
YKA	Yellowknife Ar	19.93	60	P	P	16 37 43.4	+4.3
	0.1nm,0.3s,baz=269,slow=11,SNR=7.7						
NVAR	Mina Array Bea	30.10	114	P	pP	16 39 33.9	+0.8
	0.4nm,0.7s,baz=282,slow=8.2,SNR=3.6						
NVAR	Mina Array Bea	30.10	114	P	pP	16 39 33.9	+0.8
SONM	Songino Array	55.78	307	P	P	16 42 42.6	+0.3
	0.6nm,0.4s,mb4.0,baz=42,slow=5.6,SNR=14						
NOA	NORSAR Array B	61.02	8	P	P	16 43 17.6	-1.1
	0.3nm,0.7s,mb3.4,baz=351,slow=6.7,SNR=3.4						
FINES	FINESS Array B	61.19	0	P	P	16 43 19.8	0.0
	0.3nm,0.5s,mb3.6,baz=11,slow=9.7,SNR=4.5						
AKASG	Malin Array Be	71.93	358	P	P	16 44 28.3	+0.6
	0.7nm,0.4s,mb3.8,baz=4.8,slow=5.7,SNR=7.5						
GERES	GERESS Array B	73.33	9	P	P	16 44 38.2	+2.4
	0.3nm,0.7s,mb3.2,slow=4.0,SNR=3.5						

KRSC 24 16:52:05.3±0.8, 53.09N×160.06E, h37km±2km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	Mys Shipunski	0.02	290	i P	P	16 52 11.5	+0.3
SPN				eS	S	16 52 16.1	+0.6
NLC	Nalytchevo	0.44	281	i P	P	16 52 15.6	+0.5
NLC				eS	S	16 52 23.1	+1.1
UGLR	Uglovaya	0.75	280	i P	P	16 52 20.3	+0.8
UGLR				eS	S	16 52 31.5	+1.6
AVH	Avacha	0.81	283	i P	P	16 52 21.4	+1.1
AVH				eS	S	16 52 32.5	+1.1
PET	Petropavlovsk	0.85	266	i P	P	16 52 20.8	-0.1
PET				eS	S	16 52 32.0	-0.3
KOK	Koryaka	0.88	284	i P	P	16 52 22.2	+0.9
KOK				eS	S	16 52 34.7	+1.7
KII	Karymskiy	1.02	339	i P	P	16 52 24.1	+0.9
KII				eS	S	16 52 38.0	+1.5
RUS	Russkaya	1.15	236	i P	P	16 52 24.1	-1.0
RUS				eS	S	16 52 38.4	-1.4
KRMR	Karymshinskiy	1.20	258	i P	P	16 52 25.7	-0.1
KRMR				eS	S	16 52 41.4	+0.3
GRL	Gorelyy	1.32	247	i P	P	16 52 27.8	+0.2
GRL				eS	S	16 52 44.2	-0.1
GNL	Ganaly	1.41	296	i P	P	16 52 30.1	+1.3
GNL				eS	S	16 52 48.2	+1.8
APC	Apacha	1.76	266	i P	P	16 52 35.2	+1.3
APC				eS	S	16 52 56.7	+1.4
APC				Smax			
	110nm,0.8s						
MKZ	Mys Kozlova	1.77	33	eP	P	16 52 34.1	+0.1
MKZ				eS	S	16 52 53.2	-2.4
TUMR	Tumrok	2.20	1	i P	P	16 52 41.2	+1.1
TUMR				eS	S	16 53 07.8	+1.5
PAU	Pauzhetka	2.57	232	eP	P	16 52 46.7	+1.2
PAU				eS	S	16 53 16.3	+0.4
PAU				Smax			
	140nm,0.6s						
PAU	Pauzhetka	2.57	232	eP	P	16 52 46.6	+1.1
PAU				eS	S	16 53 17.2	+1.3
PAU				Smax			
	100nm,0.4s						
KMNR	Kamenistaya	2.67	2	eP	P	16 52 48.3	+1.4
KMNR				eS	S	16 53 20.2	+1.8
ESO	Esso	2.95	345	eP	P	16 52 49.9	-1.0
ESO				eS	S	16 53 22.7	-2.7
ESO				Smax			
	10.0nm,0.8s						
KOZ	Kozyrevsk	2.98	358	eP	P	16 52 52.1	+0.8
KOZ				eS	S	16 53 26.2	+0.1
SRDR	Sredinnyy	3.24	357	eP	P	16 52 54.8	-0.2
SRDR				eS	S	16 53 30.5	-2.3
KLY	Klyuchi	3.25	6	eP	P	16 52 56.1	+1.0
KLY				eS	S	16 53 33.0	0.0
KBTR	Krutoberegovo	3.51	26	eP	P	16 52 59.3	+0.5
KBTR				eS	S	16 53 39.0	-0.7
BKI	Bering	4.07	56	eS	S	16 53 47.1	-6.8

MAN 24 16:53:38.8, 13.37N×124.59E, h27km, mb4.2, ML3.0, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	Virac	0.48	298	eP	Pb	16 53 49.7	+0.8
PVCP				eS	Sb	16 53 56.6	+1.0
CNP	Cataman	0.85	175	eP	Pb	16 53 55.6	+0.6
CNP				eS	Sb	16 54 07.5	+1.5
MMPH	Masbate	1.38	223	eP	Pn	16 54 02.0	-0.6
MMPH				i S	Sn	16 54 11.2	-8.9
AUQP	San Andres	1.86	269	eP	Pn	16 54 08.1	-1.5
AUQP				eS	Sn	16 54 32.9	+0.4
GQP	Guinayangan	2.15	285	eP	Pn	16 54 13.9	+0.2
GQP				i S	Sn	16 55 09.6	+30
BOAC	Boac	2.67	272	eP	Pn	16 54 21.7	+0.5
POLP	Polilio Island	2.91	298	eP	Pn	16 54 28.6	+4.1
SJMP	San Jose	3.50	255	eP	Pn	16 54 32.0	-1.0
CUYO	Cuyo Island	4.30	235	eP	Pn	16 54 39.7	-4.5

*MDD **24** 17:04:48.9±0.8, 35.05N×4.07W, h10km±4km, mbLg1.7/14, Error ellipse: s-maj=5.8km s-min=3.8km az=53.0, PRXIMO*
*CSEM **24** 17:04:48.6±0.4, 35.06N×4.01W, h10km, MD2.9, Error ellipse: s-maj=8.2km s-min=5.1km az=27.0*
*CNRM **24** 17:04:48.0, 35.02N×4.11W, h10km, MD2.9*
*NEIC **24** 17:04:51.2, 35.15N×4.03W, MG3.1(MDD), After MDD.*

ISC 24 17:04:48.7±0.7, 35.07N±0.04×4.07W±0.04, h10km, n39, σ0°79/74, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPAL	Palemas	0.19	33	P	Pg	17 04 53.0	+0.2
MPAL				S	Sg	17 04 56.0	+0.4
MPAL	Palemas	0.19	33	i P	Pg	17 04 53.0	+0.2
TOU	Touzarine	0.28	112	P	Pg	17 04 54.0	-0.5
TOU				S	Sg	17 04 58.0	-0.4
TOU	Touzarine	0.28	112	i P	Pg	17 04 54.0	-0.5
ZAI	Zaio	1.09	95	eP	Pb	17 05 07.5	-1.6
ZAI				eS	Sb	17 05 23.5	+0.3
EALB	Alboran	1.21	44	P	Pb	17 05 12.0	+0.8
	4.5nm,0.1s,SNR=7.9						
EALB				S	Sb	17 05 27.2	+0.4
	29nm,0.2s,SNR=7.9						
EALB	Alboran	1.21	44	P	Pb	17 05 12.0	+0.8
	4.5nm,0.1s,SNR=7.9						
EALB				S	Sb	17 05 27.2	+0.4
	29nm,0.2s,SNR=7.9						
EMIJ	Mijas	1.60	339	P	Pn	17 05 17.9

13nm,0.8s,SNR=7.9
ELUQ Luque 2.49 356 P **Pn 17 05 30.0 0.0**
0.2nm,0.9s,SNR=7.9
ELUQ S **Sn 17 05 59.9 -0.8**
1.4nm,1.0s,SNR=7.9
EQES Quesada 2.84 16 P **Pn 17 05 35.7 +0.7**
EQES S **Sn 17 06 10.2 +0.5**
EQES Quesada 2.84 16 P **Pn 17 05 35.4 +0.4**
0.8nm,0.2s,SNR=7.9
EQES S **Sn 17 06 10.2 +0.5**
5.6nm,0.4s,SNR=7.9
EQES Quesada 2.84 16 P **Pn 17 05 35.7 +0.7**
0.8nm,0.2s,SNR=7.9
EQES S **Sn 17 06 10.2 +0.5**
5.6nm,0.4s,SNR=7.9
EADA Adamuz 3.12 353 P **Pn 17 05 39.4 +0.5**
EADA S **Sn 17 06 15.6 -1.1**
EADA Adamuz 3.12 353 P **Pn 17 05 39.4 +0.5**
1.2nm,0.5s,SNR=7.9
EADA S **Sn 17 06 16.1 -0.5**
2.0nm,0.6s,SNR=7.9
EADA Adamuz 3.12 353 P **Pn 17 05 39.4 +0.5**
1.2nm,0.5s,SNR=7.9
EADA S **Sn 17 06 15.6 -1.1**
2.0nm,0.6s,SNR=7.9
EMIN Mina Concepcio 3.42 323 P **Pn 17 05 44.8 +1.7**
EMIN S **Sn 17 06 23.7 -0.4**
EMIN Mina Concepcio 3.42 323 P **Pn 17 05 43.2 +0.1**
0.5nm,0.2s,SNR=7.9
EMIN S **Sn 17 06 23.7 -0.4**
2.0nm,0.5s,SNR=7.9
EMIN Mina Concepcio 3.42 323 P **Pn 17 05 44.8 +1.7**
0.5nm,0.2s,SNR=7.9
EMIN S **Sn 17 06 23.7 -0.4**
2.0nm,0.5s,SNR=7.9
EMUR La Murta 3.59 39 S **Sn 17 06 27.6 -0.8**
5.5nm,1.0s,SNR=7.9
EGRO El Granado 3.70 313 P **Pn 17 05 46.9 -0.2**
EGRO S **Sn 17 06 29.8 -1.5**
EGRO El Granado 3.70 313 P **Pn 17 05 46.9 -0.2**
1.8nm,0.5s,SNR=7.9
EGRO S **Sn 17 06 30.6 -0.6**
8.6nm,1.3s,SNR=7.9
EGRO El Granado 3.70 313 P **Pn 17 05 46.9 -0.2**
1.8nm,0.5s,SNR=7.9
EGRO S **Sn 17 06 29.8 -1.4**
0.8nm,0.2s,SNR=7.9
ETOB Tobarra 4.10 29 P **Pn 17 05 52.9 0.0**
ETOB S **Sn 17 06 37.6 -3.9**
ETOB Tobarra 4.10 29 P **Pn 17 05 52.9 0.0**
1.2nm,0.4s,SNR=7.9
ETOB Tobarra 4.10 29 P **Pn 17 05 52.9 0.0**
1.2nm,0.4s,SNR=7.9
ETOB S **Sn 17 06 37.7 -3.8**
5.9nm,0.9s,SNR=7.9
EBAD Badajoz 4.37 328 P **Pn 17 05 57.5 +0.8**
EBAD S **Sn 17 06 45.4 -3.0**
EBAD Badajoz 4.37 328 P **Pn 17 05 57.0 +0.3**
0.3nm,0.1s,SNR=7.9
EBAD S **Sn 17 06 47.4 -1.0**
2.0nm,1.1s,SNR=7.9
EBAD Badajoz 4.37 328 P **Pn 17 05 57.5 +0.8**
0.3nm,0.1s,SNR=7.9
EBAD S **Sn 17 06 45.4 -2.9**
SNR=7.9

MAN 24 17:13:26.6, 17.89N×120.28E, h36km, mb4.4, ML3.2, MS3.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.47**	**120**	*eP*	P	17 13 38.9	+2.0
ABRA				*eS*	S	17 13 46.7	+2.6
APYP	**Conner**	**0.92**	**92**	*eP*	P	17 13 43.6	+0.5
APYP				*eS*	S	17 13 55.0	-0.3
CVP	**Callao Caves**	**1.48**	**97**	⇓*iP*	P	17 13 50.2	-1.0
CVP				*eS*	S	17 14 08.8	-0.7
BOLP	**Bolinao**	**1.54**	**193**	*eP*	P	17 13 52.5	+0.3
BOLP				*eS*	S	17 14 15.1	+3.9
CAUP	**Cauayan**	**1.75**	**122**	*eP*	P	17 13 55.8	+0.8
CAUP				*eS*	S	17 14 16.9	+0.7
SCZP	**Santa Cruz**	**2.13**	**190**	*eP*	P	17 13 60.0	-0.6
SCZP				*eS*	S	17 14 29.1	+3.1
BALP	**Baler**	**2.47**	**150**	*eP*	P	17 14 03.7	-1.7

IDC 24 17:18:34.0±7.7, 49.23N×154.67E, mb3.6/5, mb1 3.7/5, mb1mx3.4/23, mbtmp3.6/5, Error ellipse: s-maj=195.5km s-min=35.6km az=166.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**33.98**	**41**	P	P	17 25 18.7	-2.2
	0.2nm,0.8s,baz=258,slow=8.3,SNR=3.0						
MKAR	**Makanchi Array**	**46.77**	**296**	P	P	17 27 04.7	-1.8
	0.7nm,0.6s,baz=71,slow=9.1,SNR=10						
FINES	**FINESS Array B**	**62.24**	**335**	P	P	17 28 56.3	-3.1
	0.8nm,0.8s,baz=34,slow=6.9,SNR=4.7						
HFS	**Hagfors**	**66.50**	**340**	P	P	17 29 25.5	-1.4
	0.4nm,0.4s,baz=63,slow=6.4,SNR=3.7						
BRTR	**Keskin Array B**	**77.29**	**317**	P	P	17 30 30.5	-1.1
	0.4nm,0.6s,baz=63,slow=3.2,SNR=4.3						

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*SSS **24** 17:45:22.3, 13.27N×90.27W, h30km, MD3.2*
*GCG **24** 17:45:23.1, 13.51N×90.13W, h70km, MD3.8, ML3.4*
CASC 24 17:45:22.5±1.8, 13.30N×90.30W, h27km±6km, MD3.5, ML3.4, 5C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.85**	**51**	⇓*eP*	Pb	17 45 38.5	0.0
SBLS				*eS*	Sb	17 45 51.6	+2.1
RTR	**El Retiro**	**0.87**	**47**	⇓*eP*	Pb	17 45 38.9	+0.1
RTR				*eS*	Sb	17 45 52.5	+2.3
IXG	**Ixpaco**	**0.88**	**350**	⇑*eP*	Pb	17 45 38.4	-0.6
IXG				*eS*	Sb	17 45 50.4	0.0
IXG				AML	AML	17 45 56.4	
	comp=N,4μm,0.5s						
SNJE	**San Jose**	**0.88**	**50**	⇓*eP*	Pb	17 45 39.0	0.0
SNJE				*eS*	Sb	17 45 52.0	+1.6
RBDL	**Robledal**	**1.00**	**36**	⇑*eP*	Pn	17 45 41.1	+0.3
BOQS	**Boqueron**	**1.08**	**67**	*eP*	Pn	17 45 41.6	-0.4
LFU	**La Fuente**	**1.23**	**69**	*eP*	Pn	17 45 44.3	+0.1
LFRS	**El Faro**	**1.25**	**75**	⇑*eP*	Pn	17 45 43.4	-0.9
LBRS	**Las Brisas**	**1.30**	**70**	*eP*	Pn	17 45 45.1	0.0
MTO2	**Montecristo 2**	**1.42**	**40**	⇑*eP*	Pn	17 45 47.4	+0.5
MTO2				*eS*	Sn	17 46 05.6	+0.8
SNVI	**San Vicente**	**1.45**	**78**	*eP*	Pn	17 45 46.5	-0.9
SNVI				*eS*	Sn	17 46 06.0	+0.3
TP2	**Tecpan 2**	**1.63**	**335**	⇑*eP*	Pn	17 45 50.0	+0.1
TP2				*eS*	Sn	17 46 11.2	+1.1
TP2				AML	AML	17 46 17.3	
	comp=E,287nm,0.4s						
JAT	**Jato**	**1.64**	**308**	*eS*	Sn	17 46 12.1	+1.6
JAT				AML	AML	17 46 19.1	
	comp=N,546nm,0.3s						
VSM	**San Miguel**	**1.98**	**86**	*eP*	Pn	17 45 54.4	-0.5

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*NEIC **24** 18:07:47.4±0.6, 43.57N×105.27W, ML3.2, Error ellipse: s-maj=9.2km s-min=6.8km az=127.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] SSE of Gillette.
*IDC **24** 18:07:47.7±2.0, 43.62N×105.37W, mb3.9/1, mb1 3.7/4, mb1mx3.3/22, mbtmp3.5/4, ML3.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/34, Error ellipse: s-maj=48.3km s-min=9.7km az=152.0*
ISC 24 18:07:45.9±0.7, 43.57N±0.04×105.20W±0.08, n28, σ1§50/30, mb4.5/1, MS3.4/1, 1C, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**57**	⇑*iP*	**Pb**	**18 08 08.0**	**+2.1**
PHWY	**Pilot Hill**	**2.28**	**185**	*e*Pg	**Pg**	**18 08 30.7**	**-0.6**
PHWY				*e*Sg	**Sg**	**18 09 02.8**	**+1.1**
RWWY	**Rawlins**	**2.40**	**219**	*e*Pg	**Pg**	**18 08 31.8**	**-1.9**
RWWY				*e*Sg	**Sg**	**18 09 03.5**	**-2.2**
LAO	**LASA Array**	**3.20**	**347**	*e*Pn	**Pn**	**18 08 37.1**	**-1.3**
PDAR	**Pinedale Array**	**3.29**	**257**	Pn	**Pn**	**18 08 42.5**	**+2.9**
	1.6nm,0.3s,baz=80,slow=16,SNR=33						
PDAR				Lg		18 09 26.4	
	6.8nm,0.3s,baz=75,slow=35,SNR=7.7						
LKWY	**Lake**	**3.88**	**287**	*e*Pn	**Pn**	**18 08 49.7**	**+1.7**
GCMT	**Greycliff**	**3.88**	**306**	*e*Pn	**Pn**	**18 08 47.9**	**-0.2**
GCMT				*e*Pg	**Pg**	**18 08 59.2**	**-4.2**
LOHW	**Long Hollow**	**3.92**	**272**	*e*P	**Pn**	**18 08 54.2**	**+5.5**
MOOW	**Moose Ponds**	**4.03**	**274**	*e*P	**Pn**	**18 08 51.9**	**+1.7**
SNOW	**Snow King Moun**	**4.04**	**270**	Pn	**Pn**	**18 08 50.3**	**-0.1**
SNOW				*e*Pg	**Pg**	**18 08 60.0**	**-6.6**
REDW	**Red Top Meadow**	**4.12**	**269**	*e*P	**Pn**	**18 08 51.0**	**-0.4**
YFT	**Old Faithful**	**4.16**	**284**	P	**Pn**	**18 08 54.9**	**+2.8**
IMW	**Indian Meadow**	**4.17**	**276**	*e*P	**Pn**	**18 08 55.6**	**+3.4**
TPAW	**Teton Pass**	**4.18**	**271**	*e*P	**Pn**	**18 08 56.1**	**+3.8**
YMR	**Madison River**	**4.29**	**287**	*e*Pn	**Pn**	**18 08 52.0**	**-1.9**
AHID	**Auburn Hatcher**	**4.39**	**261**	*e*P	**Pn**	**18 08 54.5**	**-0.8**
RRI2	**Red Ridge**	**4.46**	**269**	*e*P	**Pn**	**18 08 58.1**	**+1.8**
QLMT	**Earthquake Lak**	**4.65**	**288**	*e*Pg	**Pg**	**18 09 11.3**	**-7.4**
BOZ	**Bozeman (W)**	**5.04**	**297**	*e*P	**Pn**	**18 09 03.4**	**-1.1**
HWUT	**Hardware Ranch**	**5.09**	**249**	P	**Pn**	**18 09 06.0**	**+0.7**
	9.5nm,0.6s						
TCUT	**Toone Canyon**	**5.21**	**244**	*e*P	**Pn**	**18 09 06.7**	**-0.3**
DUG	**Dugway**	**6.61**	**242**	*e*P	**Pn**	**18 09 27.9**	**+1.3**
	3.6nm,0.4s						
ULM	**Lac du Bonnet**	**9.23**	**40**	Pn	**P**	**18 10 00.1**	**-3.2**
	1.4nm,0.3s,baz=231,slow=12,SNR=5.7						
YBH	**Yreka Blue Hor**	**13.02**	**268**	LR	LR	18 16 20.0	
	comp=Z,71nm,20.8s,baz=264,slow=40						
YKA	**Yellowknife Ar**	**19.74**	**347**	P	**P**	**18 12 18.6**	**-1.1**
YKA	**Yellowknife Ar**	**19.74**	**347**	P	**P**	**18 12 18.6**	**-1.1**
	0.0nm,0.3s,baz=157,slow=11,SNR=3.3						
ARCES	**ARCESS Array B**	**61.56**	**18**	P	**P**	**18 18 05.9**	**-0.7**
	3.0nm,1.1s,mb4.5,baz=337,slow=6.9,SNR=6.6						
FINES	**FINESS Array B**	**68.17**	**23**	LR	LR	18 51 38.9	
	comp=Z,22nm,18.4s,MS3.4,baz=331,slow=39						

IDC 24 18:12:49.4±9.6, 1.13S×136.52E, mb3.9/2, mb1 4.0/4, mb1mx3.6/16, mbtmp3.9/4, ML3.7/2, Error ellipse: s-maj=139.8km s-min=73.3km az=179.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.82**	**186**	P	P	18 17 11.5	-1.5
	0.2nm,0.3s,baz=7.5,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**19.97**	**212**	P	P	18 17 23.4	-2.9
	0.2nm,0.3s,baz=20,slow=12,SNR=3.7						
ASAR	**Alice Springs**	**22.55**	**186**	P	P	18 17 51.9	-0.8
	3.1nm,0.7s,baz=12,slow=12,SNR=46						
ASPA	**Alice Springs**	**22.55**	**186**	*e*P	P	18 17 51.9	-0.8
STKA	**Stephens Creek**	**30.96**	**172**	P	P	18 19 07.5	-3.1
	1.7nm,0.9s,baz=345,slow=9.7,SNR=4.1						

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*LDG **24** 18:22:42.3±0.3, 18.48S×169.04E, h10km, Mb4.0/2, Error ellipse: s-maj=38.9km s-min=21.5km az=31.0*
*IDC **24** 18:22:52.3±4.0, 18.60S×168.70E, h88km±35km, mb3.9/11, mb1 4.1/12, mb1mx4.0/18, mbtmp4.2/12, MS3.5/5, Ms1 3.4/5, ms1mx3.2/26, Error ellipse: s-maj=26.9km s-min=19.3km az=12.0*
*HRVD **24** 18:22:54.9±1.0, 18.77S×168.37E, h125km±9km, MW4.8/29, Centroid moment Tensor Solution. LP body waves: s8,c8; Mantle waves: s29,c34; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.46±.17; $M_{\theta\theta}$0.74±.19; $M_{\phi\phi}$-1.21±.19; $M_{r\theta}$-0.22±.13; $M_{\theta\phi}$1.31±.18; $M_{\phi r}$-0.81±.11; Best double couple: $M_0$1.859×10^{16} NP1:φ≈290°, δ60°, λ9°. NP2:φ≈195°, δ82°, λ150°. Principal axes: T 1.687, Plg27°, Azm148°; N .342, Plg59°, Azm1°; P -2.032, Plg15°, Azm246°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **24** 18:22:54.9±1.4, 18.71S×168.68E, h112km±12km, mb5.0/3 Error ellipse: s-maj=13.3km s-min=10.3km az=56.0*
ISC 24 18:22:55.0±1.7, 18.80S±0.08×168.6E±0.1, h120km±13km, n71, σ0§95/33, mb4.3/14, 12C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.81**	**211**	*e*P	**P**	**18 23 52.4**	**-0.6**
DZM				*e*S	**S**	**18 24 37.2**	**-0.1**
DZM	**Mont Dzumac**	**3.81**	**211**	P	**P**	**18 23 53.2**	**+0.2**
	12nm,0.3s,baz=55,slow=18,SNR=409						
DZM				S	**S**	**18 24 38.0**	**+0.7**
	39nm,0.3s,baz=124,slow=21,SNR=16						
DZM				LR	LR	18 25 02.3	
	comp=Z,160nm,21.2s,baz=155,slow=32						
DZM	**Mont Dzumac**	**3.81**	**211**	*e*P	**P**	**18 23 52.4**	**-0.6**
DZM				*e*S	**S**	**18 24 37.2**	**-0.1**
NOUC	**Port Laguerre**	**3.90**	**212**	*e*P	**P**	**18 23 54.5**	**+0.2**
NOUC				*e*S	**S**	**18 24 39.1**	**-0.6**
HNR	**Honiara**	**12.50**	**317**	*e*P	**P**	**18 25 51.0**	**+1.3**
	204nm,0.6s						
URZ	**Urewera**	**20.77**	**161**	P	**P**	**18 27 28.1**	**+0.1**
	13nm,0.8s,baz=301,slow=13,SNR=4.2						
CTA	**Charters Tower**	**21.07**	**263**	P	**P**	**18 27 32.4**	**+1.3**
	4.3nm,0.6s,mb3.9,baz=115,slow=13,SNR=8.0						
CTA				LR	LR	18 33 55.7	
	comp=Z,112nm,19.5s,baz=263,slow=31						
CTAO	**Charters Tower**	**21.07**	**263**	P	**P**	**18 27 32.8**	**+1.7**
RPZ	**Rata Peaks**	**24.93**	**176**	LR	LR	18 37 00.6	
	comp=Z,187nm,20.5s,baz=294,slow=34						
STKA	**Stephens Creek**	**27.54**	**237**	*e*P	**P**	**18 28 33.7**	**+1.1**
	6.6nm,1.6s,mb3.9						
STKA	**Stephens Creek**	**27.54**	**237**	P	**P**	**18 28 33.1**	**+0.5**
	3.0nm,0.6s,mb4.0,baz=53,slow=7.7,SNR=11						
STKA				LR	LR	18 38 10.2	
	comp=Z,95nm,21.7s,baz=24,slow=33						
WB2	**Warramunga Arr**	**32.26**	**262**	*e*P	**P**	**18 29 13.3**	**-1.1**
WRAB	**Tennant Creek**	**32.26**	**262**	*e*P	**P**	**18 29 13.0**	**-1.4**
	11nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**32.27**	**262**	P	**P**	**18 29 13.0**	**-1.6**
	3.1nm,0.8s,mb4.1,baz=100,slow=8.2,SNR=19						
ASAR	**Alice Springs**	**32.61**	**255**	P	**P**	**18 29 17.1**	**-0.4**
	21nm,0.8s,mb5.0,baz=85,slow=9.0,SNR=191						
ASPA	**Alice Springs**	**32.61**	**255**	⇓*iP*	**P**	**18 29 17.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**40.64**	**264**	⇓*iP*	**P**	**18 30 25.8**	**+0.9**
	44nm,0.7s,mb5.4						
FITZ	**Fitzroy Crossi**	**40.64**	**264**	P	**P**	**18 30 26.0**	**+1.1**
	72nm,0.8s,mb5.5,baz=129,slow=4.9,SNR=58						
FITZ				LR	LR	18 46 32.4	
	comp=Z,107nm,20.3s,baz=89,slow=35						
KLBR	**Kellerberrin**	**47.32**	**244**	*e*P	**P**	**18 31 18.3**	**-0.2**
	149nm,0.7s						
VNDA	**Vanda**	**58.85**	**182**	P	**P**	**18 32 43.1**	**+0.2**
	1.9nm,0.9s,mb4.1,baz=357,slow=6.5,SNR=7.7						
SBA	**Scott Base**	**59.09**	**180**	*e*P	**P**	**18 32 45.3**	**+0.7**
	23nm,1.3s,mb5.0						
QSPA	**South Pole Qui**	**71.25**	**180**	*e*P	**P**	**18 34 03.0**	**+0.5**
	32nm,0.8s,mb5.2						
CMAR	**Chiang Mai Arr**	**77.73**	**294**	P	**P**	**18 34 40.9**	**+0.2**
	0.7nm,0.4s,mb3.7,baz=119,slow=3.7,SNR=5.0						
SONM	**Songino Array**	**86.48**	**323**	P	**P**	**18 35 25.8**	**+0.5**
	0.8nm,0.8s,mb3.7,baz=149,slow=5.8,SNR=8.6						
YBH	**Yreka Blue Hor**	**87.44**	**44**	P	**P**	**18 35 30.2**	**+0.1**
	0.8nm,0.7s,mb3.8,baz=31,slow=5.9,SNR=3.6						
SNAA	**Sanae**	**89.57**	**183**	⇑*i*	**P**	**18 35 38.7**	**-0.8**
ILAR	**Eielson Array**	**90.01**	**18**	P	**P**	**18 35 38.7**	**-3.0**
	0.3nm,0.6s,mb3.6,baz=227,slow=6.2,SNR=6.8						
VNA3	**Neumayer Olymp**	**90.18**	**181**	⇑*i*	**P**	**18 35 44.1**	**+1.7**
VNA2	**Neumayer--Watz**	**90.47**	**181**		**P**	**18 35 44.5**	**+0.8**
TXAR	**Lajitas Array**	**97.13**	**62**	P	**P**	**18 36 13.7**	**-1.5**
	0.4nm,0.9s,mb3.9,baz=211,slow=7.3,SNR=3.7						
YKA	**Yellowknife Ar**	**100.58**	**27**	P	P	18 36 28.3	-1.7
	0.4nm,0.7s,baz=255,slow=4.7,SNR=7.5						
YKA	**Yellowknife Ar**	**100.58**	**27**	P	P	18 36 28.3	-1.7
ARCES	**ARCESS Array B**	**124.48**	**345**	PKP	PKPdf	18 41 39.1	-0.5
	1.8nm,0.5s,slow=2.4,SNR=14						
FINES	**FINESS Array B**	**129.94**	**338**	PKP	PKPdf	18 41 50.4	+0.2
	1.3nm,0.8s,baz=198,slow=6.0,SNR=3.8						
FINES	**FINESS Array B**	**129.94**	**338**	PKP	PKPdf	18 41 50.4	+0.2
NOA	**NORSAR Array B**	**134.85**	**345**	PKP	PKPdf	18 42 00.0	+0.5
	0.4nm,0.6s,baz=29,slow=2.0,SNR=3.3						
CLL	**Collm**	**142.25**	**335**	*e*PKIKP	PKPdf	18 42 17.2	+4.2
GERES	**GERESS Array B**	**143.80**	**332**	PKP	PKPdf	18 42 15.7	-0.1
	1.1nm,0.8s,baz=27,slow=3.0,SNR=4.7						
WLF	**Walferdange**	**146.12**	**339**	*e*PKPab	PKPab	18 42 22.6	-1.4
GIVF	**Givet**	**146.17**	**341**	*e*PKP1	PKPbc	18 42 22.0	+1.0
BAIF	**Baives**	**146.39**	**342**	*e*PKP1	PKPbc	18 42 22.8	+1.2
	5.8nm,0.6s						
CDF	**Champ du Feu**	**146.79**	**337**	⇑*i*PKP1	PKPbc	18 42 24.0	+1.5
	15nm,0.8s						
HINF	**Hinterlalfeld**	**147.44**	**337**	*e*PKP1	PKPdf	18 42 25.5	+3.5
	4.3nm,0.6s						
HAU	**Haudompre**	**147.47**	**338**	*e*PKP1	PKPdf	18 42 25.8	+3.8
	7.6nm,0.7s						
MEZF	**Maizieres J'vi**	**147.49**	**339**	*e*PKP1	PKPdf	18 42 26.3	+4.2
	9.7nm,0.7s						
CABF	**La Chapelle**	**148.74**	**336**	⇑*i*PKP1	PKPdf	18 42 29.8	+5.7
	14nm,0.6s						
FLN	**La Foliniere**	**148.82**	**346**	⇑*i*PKP1	PKPdf	18 42 29.0	+4.8
	15nm,0.7s						
LDF	**La Druitiere**	**148.90**	**345**	⇑*i*PKP1	PKPdf	18 42 29.2	+4.9
	8.0nm,0.6s						
LOR	**Lormes**	**148.96**	**340**	⇑*i*PKP1	PKPdf	18 42 29.8	+5.3
	16nm,0.7s						
GRR	**Gorron**	**149.26**	**346**	⇑*i*PKP1	PKPdf	18 42 30.2	+5.3
	14nm,0.7s						
SSF	**Saint Saulge**	**149.26**	**340**	⇑*i*PKP1	PKPdf	18 42 30.6	+5.6
	22nm,0.8s						
LPL	**La Plagne**	**149.38**	**334**	*e*PKP1	PKPdf	18 42 31.5	+6.3
	5.8nm,0.6s						
LPG	**La Plagne**	**149.39**	**334**	*e*PKP1	PKPdf	18 42 31.6	+6.4
	8.5nm,0.6s						
SMF	**Signal de Mont**	**149.51**	**339**	*e*PKP1	PKPdf	18 42 30.8	+5.4
SGMF	**Saint Gilles**	**149.75**	**348**	*e*PKP1	PKPdf	18 42 31.2	+5.5
ROSF	**Rostrenen**	**149.80**	**349**	*e*PKP1	PKPdf	18 42 31.3	+5.6
BGF	**Bois d'Agland**	**149.92**	**340**	⇑*i*PKP1	PKPdf	18 42 32.1	+6.1
	10nm,0.6s						
MBDF	**Montbardon**	**150.01**	**334**	*e*PKP1	PKPdf	18 42 32.4	+6.2
	15nm,0.9s						
QUIF	**Quistinic**	**150.19**	**349**	*e*PKP1	PKPdf	18 42 32.0	+5.7
ORIF	**Oris-en-Rattie**	**150.22**	**335**	*e*PKP1	PKPdf	18 42 33.1	+6.6
	22nm,0.8s						
TCF	**Toulx Ste Croi**	**150.36**	**341**	⇑*i*PKP1	PKPdf	18 42 33.2	+6.5
	7.8nm,0.7s						
PGF	**Pioggiola**	**150.66**	**328**	*e*PKP1	PKPdf	18 42 34.1	+6.9
	66nm,1.0s						
VIVF	**Saint-Julien-l**	**150.75**	**336**	*e*PKP1	PKPdf	18 42 34.3	+7.0
	17nm,0.9s						
MFF	**Saint Martin d**	**150.75**	**344**	⇑*i*PKP1	PKPdf	18 42 33.9	+6.7
	8.3nm,0.6s						
FRF	**La Foret Royal**	**151.00**	**332**	*e*PKP1	PKPdf	18 42 34.6	+6.9
SMRF	**Simiane la Rot**	**151.12**	**334**	*e*PKP1	PKPdf	18 42 35.5	+7.6
	23nm,0.8s						
LMR	**La Mourre**	**151.24**	**332**	*e*PKP1	PKPdf	18 42 35.1	+7.0
	11nm,0.7s						
RJF	**Les Rejaudoux**	**151.46**	**341**	*e*PKP1	PKPdf	18 42 35.7	+7.4
CAF	**Calviac**	**151.62**	**340**	*e*PKP1	PKPdf	18 42 36.2	+7.6
LASF	**Ste Croix**	**151.72**	**336**	*e*PKP1	PKPdf	18 42 36.6	+7.8
	12nm,0.7s						
LFF	**La Frestale**	**152.03**	**341**	*e*PKP1	PKPdf	18 42 37.6	+8.4

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*NEIC **24** 18:23:30.0, 63.03N×150.33W, h103km, MG3.3(AEIC), After AEIC.*
*IDC **24** 18:23:31.8±6.0, 63.26N×150.07W, h127km±51km, mb3.1/2, mb1 3.2/5, mb1mx3.0/22, mbtmp3.5/5, Error ellipse: s-maj=69.8km s-min=37.4km az=29.0*
ISC 24 18:23:28.4±0.3, 63.03N±0.02×150.31W±0.06, h116km±3km, n78, σ0§52/91, mb3.5/2, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.31**	**100**	P	**P**	**18 23 45.3**	**+0.3**
HUR				S	**S**	**18 23 57.1**	**-0.4**
TRF	**Thorofare Moun**	**0.42**	**1**	P	**P**	**18 23 45.8**	**+0.3**
TRF				S	**S**	**18 23 58.2**	**-0.2**
KTH	**Kantishna Hill**	**0.59**	**332**	P	**P**	**18 23 46.8**	**+0.1**
KTH				S	**S**	**18 23 59.3**	**-1.2**
CUT	**Chulitna**	**0.63**	**178**	P	**P**	**18 23 47.1**	**+0.3**
RND	**Reindeer**	**0.76**	**60**	P	**P**	**18 23 48.7**	**+0.7**
RND				S	**S**	**18 24 02.6**	**-0.1**
MCK	**McKinley**	**0.94**	**41**	P	**P**	**18 23 50.3**	**+0.5**
MCK				S	**S**	**18 24 05.2**	**-0.5**
PWA	**Palmer West**	**1.40**	**172**	P	**P**	**18 23 55.1**	**+0.2**
PWA				S	**S**	**18 24 15.3**	**+0.5**
GHO	**Glory Hole Cre**	**1.42**	**152**	P	**P**	**18 23 55.7**	**+0.6**
GHO				S	**S**	**18 24 15.6**	**+0.4**
SML	**Sawmill**	**1.54**	**142**	P	**P**	**18 23 56.7**	**+0.2**
SML				S	**S**	**18 24 17.4**	**-0.2**
PMR	**Palmer**	**1.55**	**159**	P	**P**	**18 23 56.5**	**-0.1**
PMR				S	**S**	**18 24 17.3**	**-0.6**
NEA	**Nenana**	**1.65**	**19**	P	**P**	**18 23 58.0**	**+0.3**
STLK	**Strandline Lak**	**1.70**	**206**	P	**P**	**18 23 58.2**	**-0.2**
STLK				S	**S**	**18 24 21.2**	**+0.3**
SCM	**Sheep Creek Mo**	**1.84**	**130**	P	**P**	**18 24 00.5**	**+0.4**
CCB	**Clear Creek Bu**	**1.96**	**33**	P	**P**	**18 24 02.1**	**+0.5**
RC01	**Rabbit Creek A**	**1.97**	**172**	P	**P**	**18 24 02.0**	**+0.2**
RC01				S	**S**	**18 24 26.0**	**-0.8**
MLY	**Manley**	**2.02**	**355**	P	**P**	**18 24 02.8**	**+0.5**
CKN	**Chakachatna No**	**2.02**	**207**	P	**P**	**18 24 03.2**	**+0.9**
BGL	**Barrier Glacie**	**2.03**	**210**	P	**P**	**18 24 03.0**	**+0.6**
HDA	**Harding Lake**	**2.03**	**46**	P	**P**	**18 24 03.2**	**+0.6**
HDA				S	**S**	**18 24 27.9**	**-0.3**
CKT	**Bend**	**2.04**	**207**	P	**P**	**18 24 03.3**	**+0.6**
CKL	**Chakachamna La**	**2.08**	**208**	P	**P**	**18 24 03.2**	**+0.1**
THY	**Trims Highway**	**2.10**	**77**	*e*P	**P**	**18 24 04.0**	**+0.6**
MDM	**Murphy Dome**	**2.14**	**24**	P	**P**	**18 24 04.6**	**+0.6**
COLA	**College**	**2.14**	**29**	P	**P**	**18 24 04.6**	**+0.6**
PAX	**Paxson**	**2.21**	**89**	P	**P**	**18 24 06

ellipse: s-maj=3.2km s-min=2.7km az=115.0
ROM ***24*** *18:33:59.3±0.4, 45.54N×14.26E, h6km±2km, Md2.9/7, Ml4.1/18, Error ellipse: s-maj=5.0km s-min=2.9km az=14.0*
PDG ***24*** *18:34:00.6±0.5, 45.54N×14.22E, h7km*
LJU ***24*** *18:34:00.2, 45.56N×14.27E, h16km, ML3.8*
CSEM ***24*** *18:34:00.6±0.0, 45.59N×14.25E, h12km, mb3.7/1, ML4.5/26, Error ellipse: s-maj=0.8km s-min=0.6km az=11.0*
IDC ***24*** *18:34:01.8±1.0, 45.62N×14.39E, mb3.7/6, mb1 3.9/16, mb1mx3.8/30, mbtmp3.7/16, ML3.8/9, MS3.3/8, Ms1 3.3/8, ms1mx3.0/40, Error ellipse: s-maj=12.0km s-min=10.4km az=49.0*
NEIC ***24*** *18:34:01.8±0.1, 45.57N×14.25E, h10km, mb3.8/3, MD4.5(PDG), ML4.4(VIE), ML4.2(STR), ML3.8(LJU), ML3.8(BRG), ML4.2(ROM), ML4.3(LDG), Error ellipse: s-maj=1.8km s-min=1.7km az=11.0*
NEIC Felt in central and southern Slovenia. Also felt at Rijeka, Croatia and Trieste, Italy.
ZUR_RM ***24*** *18:34:01, 45.57N×14.25E, h9km, Mw4.1/33, Moment Tensor Solution. s33 Moment tensor: Scale 10^15^Nm; M_{rr}=0.23; $M_{\theta\theta}$=1.03; $M_{\phi\phi}$=1.26; $M_{r\theta}$=0.11; $M_{\theta\phi}$=0.92; $M_{r\phi}$=0.21; Best double couple: M_0=1.48×1015 NP1:φ=64°, δ=86°, λ=6°. NP2:φ=334°, δ=84°, λ=176°. Principal axes: T 1.611, Plg7°, Azm289°; N -.256, Plg83°, Azm95°; P -1.355, Plg2°, Azm199°.*
IPEC ***24*** *18:34:01.0±0.1, 45.54N×14.31E, h3km, ML3.6/1 Error ellipse: s-maj=1.1km s-min=0.7km az=171.0*
LDG ***24*** *18:34:03.8±0.1, 45.53N×14.26E, h10km, Ml4.3/33, ms2.7/5, Error ellipse: s-maj=2.6km s-min=1.9km az=60.0*
STR ***24*** *18:34:09.7±0.8, 45.71N×13.40E, h10km±1km, Ml4.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 24 18:34:00.2±0.2, 45.582N±0.008×14.261E±0.010, h12km±1km, n478, σ1°20/688, mb3.9/8, MS3.4/6, 47C-47D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEY	**Cerknica**	**0.20**	**37**	⇓*i*Pg	**Pg**	**18 34 05.3**	**+0.6**
CEY				*i* Sg	**Sg**	**18 34 08.7**	**+1.0**
	comp=Z,22μm,0.2s						
CEY	**Cerknica**	**0.20**	**37**	*e*Pg	**Pg**	**18 34 05.2**	**+0.5**
CEY				*e*Sg	**Sg**	**18 34 08.3**	**+0.6**
JAVS	**Javornik**	**0.34**	**336**	⇓*i*Pg	**Pg**	**18 34 08.0**	**+0.6**
JAVS				*i* Sg	**Sg**	**18 34 13.7**	**+1.5**
	comp=Z,3μm,0.1s						
JAVS	**Javornik**	**0.34**	**336**	⇓*i*Pg	**Pg**	**18 34 08.0**	**+0.6**
JAVS				*i* Sg	**Sg**	**18 34 13.7**	**+1.5**
	comp=Z,3μm,0.1s						
TRI	**Trieste**	**0.37**	**290**	Pg	**Pg**	**18 34 08.3**	**+0.3**
TRI				Sg	**Sg**	**18 34 14.4**	**+1.3**
	comp=Z,9μm,0.3s						
TRI	**Trieste**	**0.37**	**290**	Pg	**Pg**	**18 34 08.3**	**+0.3**
TRI				*e*Sg	**Sg**	**18 34 14.2**	**+1.1**
VISS	**Visnje**	**0.46**	**61**	⇓*i*Pg	**Pg**	**18 34 10.2**	**+0.5**
VISS				*i* Sg	**Sg**	**18 34 16.8**	**+0.8**
	comp=Z,6μm,0.3s						
VISS	**Visnje**	**0.46**	**61**	⇓*i*Pg	**Pg**	**18 34 10.2**	**+0.5**
VISS				*i* Sg	**Sg**	**18 34 16.8**	**+0.7**
	comp=Z,6μm,0.3s						
LJU	**Ljubljana**	**0.50**	**22**	⇓*e*Pg	**Pg**	**18 34 10.9**	**+0.5**
LJU				*i*		18 34 11.3	
LJU				*i* Sg	**Sg**	**18 34 18.8**	**+1.6**
	comp=Z,1μm,0.1s						
LJU	**Ljubljana**	**0.50**	**22**	⇓*e*Pg	**Pg**	**18 34 10.9**	**+0.5**
	comp=Z,1μm,0.1s						
LJU				*e*Sg	**Sg**	**18 34 18.8**	**+1.6**
VOJS	**Vojsko**	**0.52**	**330**	⇑*i*Pg	**Pg**	**18 34 11.2**	**+0.3**
VOJS				*i* Sg	**Sg**	**18 34 19.6**	**+1.6**
BOJS	**Bojanci**	**0.70**	**96**	⇑*i*Pg	**Pg**	**18 34 14.1**	**-0.3**
BOJS				*i* Sg	**Sg**	**18 34 23.6**	**-0.3**
	comp=Z,1μm,0.2s						
BOJS	**Bojanci**	**0.70**	**96**	⇑*i*Pg	**Pg**	**18 34 14.1**	**-0.3**
BOJS				*i* Sg	**Sg**	**18 34 23.6**	**-0.3**
	comp=Z,1μm,0.2s						
PDKS	**Podkum**	**0.70**	**47**	⇓*i*Pg	**Pg**	**18 34 14.6**	**+0.1**
PDKS				*i*		18 34 15.0	
DRE	**Drenchia**	**0.73**	**324**	⇑*i*Pg	**Pg**	**18 34 14.6**	**-0.5**
DRE				*i* Sg	**Sg**	**18 34 26.1**	**+1.2**
DRE	**Drenchia**	**0.73**	**324**	⇑*i*P	**Pb**	**18 34 14.5**	**+0.1**
CADS	**Cadrg**	**0.74**	**331**	⇑*i*Pg	**Pg**	**18 34 14.8**	**-0.5**
GORS	**Gorjuse**	**0.76**	**346**	⇓*i*Pg	**Pg**	**18 34 15.0**	**-0.6**
GORS				*i*		18 34 15.6	
GORS				*e*Sg	**Sg**	**18 34 27.2**	**+1.4**
	comp=Z,2μm,0.3s						
GORS	**Gorjuse**	**0.76**	**346**	⇓*i*Pg	**Pg**	**18 34 15.0**	**-0.5**
GORS				*e*Sg	**Sg**	**18 34 27.2**	**+1.5**
	comp=Z,2μm,0.3s						
LEGS	**Legarje**	**0.83**	**63**	⇓*i*Pg	**Pg**	**18 34 16.7**	**-0.2**
LEGS				*i*		18 34 16.9	
LEGS				Sg	**Sg**	**18 34 29.9**	**+1.9**
	comp=Z,5μm,0.3s						
LEGS	**Legarje**	**0.83**	**63**	⇓*i*Pg	**Pg**	**18 34 16.7**	**-0.2**
	comp=Z,5μm,0.3s						
ROBS	**Robic**	**0.84**	**322**	⇑*i*Pg	**Pg**	**18 34 16.4**	**-0.9**
ROBS				*i*		18 34 16.8	
ROBS				*e*Sg	**Sg**	**18 34 29.5**	**+0.9**
ROBS	**Robic**	**0.84**	**322**	⇑*i*Pg	**Pg**	**18 34 16.4**	**-0.9**
ROBS				*e*Sg	**Sg**	**18 34 29.5**	**+0.9**
CRES	**Cresnjev**	**0.87**	**73**	⇑*e*Pg	**Pg**	**18 34 17.4**	**-0.4**
CRES				*i*		18 34 17.7	
CRES				*i* Sg	**Sg**	**18 34 29.3**	**-0.3**
	comp=Z,5μm,0.4s						
CRES	**Cresnjev**	**0.87**	**73**	*e*Pg	**Pg**	**18 34 17.6**	**-0.2**
CRES				*i* Sg	**Sg**	**18 34 29.3**	**-0.2**
	comp=Z,5μm,0.4s						
TLI	**Talmassons**	**0.88**	**293**	⇓*i*Pg	**Pg**	**18 34 17.3**	**-0.6**
TLI	**Talmassons**	**0.88**	**293**	⇓*i*P	**Pb**	**18 34 17.0**	**+0.1**
OBKA	**Obir**	**0.95**	**12**	⇑*i*PG	**Pg**	**18 34 19.2**	**-0.1**
OBKA				*i* SG	**Sg**	**18 34 31.4**	**-0.6**
	comp=Z,2μm,0.4s						
BAD	**Bernadia**	**0.97**	**313**	⇑*i*Pg	**Pg**	**18 34 18.5**	**-1.2**
BAD				*i* Sg	**Sg**	**18 34 34.3**	**+1.7**
BAD	**Bernadia**	**0.97**	**313**	⇑*i*P	**Pb**	**18 34 18.6**	**+0.2**
GMNA	**Gemona**	**0.99**	**314**	Pg	**Pg**	**18 34 20.2**	**0.0**
GMNA				Sg	**Sg**	**18 34 37.3**	**+3.7**
GCIS	**Gornji Cirnik**	**1.00**	**73**	⇑*i*Pg	**Pg**	**18 34 19.8**	**-0.5**
GCIS				*i*		18 34 20.3	
GCIS				*e*Sg	**Sg**	**18 34 33.1**	**-0.6**
BUA	**Buia**	**1.02**	**309**	⇓*i*Pg	**Pg**	**18 34 19.9**	**-0.8**
BUA				*i* Sg	**Sg**	**18 34 36.6**	**+2.3**
BUA	**Buia**	**1.02**	**309**	⇓*i*P	**Pb**	**18 34 20.6**	**+1.3**
DOBS	**Dobrina**	**1.02**	**56**	⇓*e*Pg	**Pg**	**18 34 19.9**	**-0.8**
DOBS				*e*Sg	**Sg**	**18 34 35.7**	**+1.3**
LSR	**Lussari**	**1.03**	**331**	⇑*i*Pg	**Pg**	**18 34 20.2**	**-0.8**
LSR				*i* Sg	**Sg**	**18 34 36.6**	**+1.9**
LSR	**Lussari**	**1.03**	**331**	⇓*e*P	**Pb**	**18 34 19.0**	**-0.5**
LSR	**Lussari**	**1.03**	**331**	*i* Pg	**Pg**	**18 34 20.2**	**-0.7**
LSR				*i* Sg	**Sg**	**18 34 36.6**	**+1.9**
PTCC	**Patocco-Chiusa**	**1.04**	**323**	P	**Pb**	**18 34 19.6**	**0.0**
PTCC	**Patocco-Chiusa**	**1.04**	**323**	Pg	**Pg**	**18 34 19.8**	**-1.3**
PTCC				Sg	**Sg**	**18 34 37.3**	**+2.3**
GOLS	**Golise**	**1.05**	**65**	*i* Pg	**Pg**	**18 34 20.7**	**-0.5**
GOLS				*e*Sg	**Sg**	**18 34 36.6**	**+1.4**
	comp=Z,7μm,0.3s						
GOLS	**Golise**	**1.05**	**65**	*i* Pg	**Pg**	**18 34 20.7**	**-0.5**
GOLS				*e*Sg	**Sg**	**18 34 36.6**	**+1.3**
	comp=Z,7μm,0.3s						
BOO	**Bordano**	**1.09**	**313**	⇓*i*Pg	**Pg**	**18 34 20.6**	**-1.6**
MPRI	**Monte Prat**	**1.11**	**307**	⇓*e*Pg	**Pg**	**18 34 21.4**	**-1.1**
MPRI				*e*Sg	**Sg**	**18 34 39.2**	**+2.0**
MPRI	**Monte Prat**	**1.11**	**307**	⇓*i*P	**Pb**	**18 34 21.0**	**+0.2**
NVLJ	**Novalja**	**1.11**	**157**	*i* Pg	**Pg**	**18 34 21.3**	**-1.2**
NVLJ				*i* Sg	**Sg**	**18 34 37.6**	**+0.4**
NVLJ	**Novalja**	**1.11**	**157**	*i* Pg	**Pg**	**18 34 21.2**	**-1.3**
NVLJ				*i* Sg	**Sg**	**18 34 37.6**	**+0.3**
IESO	**Jesolo**	**1.20**	**268**	⇑*i*Pg	**Pg**	**18 34 24.9**	**+0.5**
IESO				*i* Sg	**Sg**	**18 34 42.5**	**+2.0**
PERS	**Pernice**	**1.21**	**29**	⇓*i*Pg	**Pg**	**18 34 23.8**	**-0.7**
	comp=Z,1μm,0.2s						
PERS	**Pernice**	**1.21**	**29**	⇓*i*Pg	**Pg**	**18 34 23.8**	**-0.7**
	comp=Z,1μm,0.2s						
BISS	**Bistriski jare**	**1.22**	**29**	⇓*i*Pg	**Pg**	**18 34 24.0**	**-0.8**
BISS				*i*		18 34 24.5	
	comp=Z,882nm,0.1s						
BISS	**Bistriski jare**	**1.22**	**29**	⇓*i*Pg	**Pg**	**18 34 24.0**	**-0.8**
	comp=Z,882nm,0.1s						
GROS	**Grobnik**	**1.23**	**44**	⇓*i*Pg	**Pg**	**18 34 24.1**	**-0.9**
GROS				*i*		18 34 24.5	
GROS				*e*Sg	**Sg**	**18 34 42.0**	**+0.5**
	comp=Z,9μm,0.6s						
GROS	**Grobnik**	**1.23**	**44**	⇓*i*Pg	**Pg**	**18 34 24.1**	**-0.9**
GROS				*e*Sg	**Sg**	**18 34 42.0**	**+0.5**
	comp=Z,9μm,0.6s						
PLRO	**Paularo**	**1.24**	**322**	⇓*e*Pg	**Pg**	**18 34 23.9**	**-1.2**
PLRO	**Paularo**	**1.24**	**322**	⇓*i*P	**Pb**	**18 34 23.0**	**-0.1**
MLNI	**Malnisio**	**1.28**	**297**	*e*Pg	**Pg**	**18 34 24.7**	**-1.3**
MLNI				*e*Sg	**Sg**	**18 34 44.5**	**+1.3**
MLNI	**Malnisio**	**1.28**	**297**	⇓*i*P	**Pb**	**18 34 24.0**	**+0.1**
ZOU	**Zoufplan**	**1.32**	**318**	⇑*e*Pg	**Pg**	**18 34 25.2**	**-1.6**
ZOU				*e*Sg	**Sg**	**18 34 45.2**	**+0.7**
ZOU	**Zoufplan**	**1.32**	**318**	⇑*i*P	**Pb**	**18 34 25.5**	**+1.0**
CAE	**Caneva**	**1.34**	**289**	⇑*i*Pg	**Pg**	**18 34 26.9**	**-0.3**
CAE				*i* Sg	**Sg**	**18 34 46.4**	**+1.3**
CAE	**Caneva**	**1.34**	**289**	⇓*i*P	**Pb**	**18 34 25.0**	**+0.1**
CAE	**Caneva**	**1.34**	**289**	*i* Pg	**Pg**	**18 34 26.9**	**-0.3**
CAE				*i* Sg	**Sg**	**18 34 46.4**	**+1.2**
SISC	**Sisak**	**1.49**	**94**	*i* Pn	**Pn**	**18 34 28.2**	**+1.3**
SISC				*i* Sg	**Sg**	**18 34 48.9**	**-1.1**
SISC	**Sisak**	**1.49**	**94**	*i* Pn	**Pn**	**18 34 28.2**	**+1.3**
SISC				*i* Sg	**Sg**	**18 34 48.8**	**-1.1**
KBA	**Koelnbreinsper**	**1.62**	**337**	⇓*i*PG	**Pg**	**18 34 31.7**	**-1.1**
KBA				*i* SG	**Sg**	**18 34 54.0**	**-0.5**
	comp=Z,2μm,0.5s						
KBA	**Koelnbreinsper**	**1.62**	**337**	*e*Pn	**Pn**	**18 34 31.6**	**+2.7**
KBA				*i* Sg	**Sg**	**18 34 54.0**	**-0.5**
	comp=Z,2μm,0.5s						
KOGS	**Kog**	**1.64**	**57**	*e*Pg	**Pg**	**18 34 30.1**	**-2.9**
KOGS				*i*		18 34 30.4	
KOGS				*i*		18 34 32.2	
CGRP	**Cima Grappa**	**1.75**	**281**	⇑*i*Pg	**Pg**	**18 34 32.3**	**-3.0**
CGRP				*i* Sg	**Sg**	**18 34 57.5**	**-1.1**
TEOL	**Teolo**	**1.84**	**264**	⇑*i*Pg	**Pg**	**18 34 32.8**	**-4.2**
SEST	**Monte Rota**	**1.84**	**310**	Pn	**Pn**	**18 34 35.0**	**+3.0**
SEST				Sn	**Sn**	**18 35 01.7**	**+6.4**
	comp=Z,4μm,0.7s						
SEST	**Monte Rota**	**1.84**	**310**	P	**Pn**	**18 34 34.9**	**+2.9**
ARSA	**Arzberg**	**1.88**	**27**	⇑*i*PG	**Pg**	**18 34 34.3**	**-3.6**
ARSA				*i* SG	**Sg**	**18 35 00.9**	**-2.2**
	comp=Z,1μm,0.7s						
ARSA	**Arzberg**	**1.88**	**27**	*e*Pn	**Pn**	**18 34 34.2**	**+1.6**
ARSA				*e*Sg	**Sg**	**18 35 00.8**	**-2.3**
CTI	**Castel Tesino**	**1.88**	**285**	Pg	**Pg**	**18 34 34.2**	**-3.7**
CTI				Sg	**Sg**	**18 35 00.5**	**-2.6**
PESA	**Pesaro**	**1.93**	**212**	Pg	**Pg**	**18 34 34.5**	**-4.3**
	comp=Z,3μm,0.5s						
BRSN	**Barisano**	**2.02**	**231**	P	**Pn**	**18 34 36.2**	**+1.6**
BRSN	**Barisano**	**2.02**	**231**	Pn	**Pn**	**18 34 36.1**	**+1.5**
	comp=Z,1μm,0.5s						
BRES	**Bressanone**	**2.08**	**303**	Pn	**Pn**	**18 34 38.1**	**+2.7**
	comp=Z,2μm,0.5s						
BRES	**Bressanone**	**2.08**	**303**	P	**Pn**	**18 34 38.0**	**+2.6**
AOI	**Ancona**	**2.09**	**193**	Pn	**Pn**	**18 34 36.8**	**+1.3**
	comp=Z,1μm,0.6s						
FSSB	**Fossombrone**	**2.17**	**210**	Pn	**Pn**	**18 34 37.5**	**+0.9**
	comp=Z,340nm,0.4s						
FIU	**Minerbio Fiu**	**2.17**	**245**	Pn	**Pn**	**18 34 37.9**	**+1.1**
BLY	**Banja Luka**	**2.23**	**111**	Sg	**Sg**	**18 35 12.2**	**-2.4**
BGLD	**Berchtesgaden**	**2.24**	**338**	*e*Pn	**Pn**	**18 34 40.3**	**+2.6**
MOA	**Molln**	**2.27**	**0**	⇑*i*PG	**Pg**	**18 34 40.3**	**-5.3**
MOA				*i* SG	**Sg**	**18 35 11.7**	**-4.1**
	comp=Z,282nm,0.6s						
MOA	**Molln**	**2.27**	**0**	*e*Pn	**Pn**	**18 34 40.7**	**+2.6**
MOA				*i* Sg	**Sg**	**18 35 11.7**	**-4.1**
	comp=Z,282nm,0.6s						
ARV	**Arcevia**	**2.29**	**205**	Pn	**Pn**	**18 34 39.2**	**+0.8**
SCE	**Schlegeis**	**2.29**	**310**	⇑*i*Pn	**Pn**	**18 34 41.2**	**+2.8**
APPI	**Appiano**	**2.29**	**294**	Pn	**Pn**	**18 34 40.2**	**+1.7**
	comp=Z,2μm,0.7s						
APPI	**Appiano**	**2.29**	**294**	P	**Pn**	**18 34 39.8**	**+1.3**
APPI	**Appiano**	**2.29**	**294**	Pn	**Pn**	**18 34 40.2**	**+1.7**
	comp=Z,2μm,0.7s						
CING	**Cingoli**	**2.33**	**199**	P	**Pn**	**18 34 39.9**	**+0.8**
CING	**Cingoli**	**2.33**	**199**	Pn	**Pn**	**18 34 39.8**	**+0.7**
	comp=Z,616nm,0.5s						
RAVA	**Ravarino**	**2.37**	**251**	P	**Pn**	**18 34 42.9**	**+3.3**
RMOA	**Moar Alm**	**2.38**	**337**	*e*P	**Pn**	**18 34 43.3**	**+3.6**
SFI	**Santa Sofia**	**2.40**	**227**	Pn	**Pn**	**18 34 40.3**	**+0.3**
	comp=Z,188nm,0.3s						
WTTA	**Wattenberg**	**2.47**	**314**	⇑*i*PN	**Pn**	**18 34 44.0**	**+2.9**
WTTA				*i* SN	**Sn**	**18 35 12.5**	**+1.1**
WTTA				*i* SG	**Sg**	**18 35 21.1**	**-1.6**
	comp=Z,615nm,0.5s						
WTTA	**Wattenberg**	**2.47**	**314**	*e*Pn	**Pn**	**18 34 43.9**	**+2.8**
WTTA				*i* Sn	**Sn**	**18 35 12.5**	**+1.1**
WTTA				*i* Sg	**Sg**	**18 35 21.1**	**-1.6**
	comp=Z,615nm,0.5s						
PGD	**Poggio Sodo**	**2.49**	**228**	P	**Pn**	**18 34 41.7**	**+0.5**
PGD	**Poggio Sodo**	**2.49**	**228**	Pn	**Pn**	**18 34 41.9**	**+0.7**
SNTG	**Esanatoglia**	**2.51**	**203**	P	**Pn**	**18 34 42.2**	**+0.6**
SNTG	**Esanatoglia**	**2.51**	**203**	Pn	**Pn**	**18 34 42.3**	**+0.7**
VMG	**Vicchio**	**2.52**	**231**	P	**Pn**	**18 34 42.1**	**+0.3**
VMG	**Vicchio**	**2.52**	**231**	Pn	**Pn**	**18 34 42.0**	**+0.2**
	comp=Z,5μm,1.1s						
WATA	**Walderalm**	**2.55**	**314**	⇑*i*PN	**Pn**	**18 34 45.2**	**+3.0**
WATA				*i* SN	**Sn**	**18 35 14.0**	**+0.6**
WATA				*i* SG	**Sg**	**18 35 24.0**	**-1.3**
	comp=Z,485nm,0.6s						
CRE	**Caprese Michel**	**2.56**	**221**	Pn	**Pn**	**18 34 43.4**	**+1.1**
	comp=Z,66nm,0.3s						
SEI	**Scarperia**	**2.57**	**235**	P	**Pn**	**18 34 42.8**	**+0.4**
SEI	**Scarperia**	**2.57**	**235**	Pn	**Pn**	**18 34 43.0**	**+0.6**
	comp=Z,1μm,0.4s						
SAL	**Salo**	**2.62**	**272**	Pn	**Pn**	**18 34 46.0**	**+2.8**
	comp=Z,1μm,0.5s						
SAL	**Salo**	**2.62**	**272**	P	**Pn**	**18 34 44.4**	**+1.2**
MURB	**Monte Urbino**	**2.63**	**209**	Pn	**Pn**	**18 34 45.0**	**+1.7**
	comp=Z,2μm,0.4s						
MURB	**Monte Urbino**	**2.63**	**209**	P	**Pn**	**18 34 44.5**	**+1.2**
MURB	**Monte Urbino**	**2.63**	**209**	Pn	**Pn**	**18 34 45.0**	**+1.7**
	comp=Z,2μm,0.4s						
SOP	**Sopron**	**2.63**	**36**	⇑*i*Pn	**Pn**	**18 34 44.7**	**+1.4**
SOP				*e*Sg	**Sg**	**18 35 26.8**	**-1.1**
ZCCA	**Zocca**	**2.64**	**243**	P	**Pn**	**18 34 44.8**	**+1.4**
FNVD	**Fontana Vidola**	**2.64**	**239**	Pn	**Pn**	**18 34 44.6**	**+1.2**
	comp=Z,1μm,0.9s						
FNVD	**Fontana Vidola**	**2.64**	**239**	P	**Pn**	**18 34 45.3**	**+1.9**
MABI	**Malga Bissina**	**2.66**	**282**	Pn	**Pn**	**18 34 45.7**	**+2.0**
SQTA	**Sankt Quirin**	**2.67**	**309**	⇓*i*PN	**Pn**	**18 34 46.7**	**+2.8**
SQTA				*i* SN	**Sn**	**18 35 17.5**	**+1.0**
SQTA				*i* SG	**Sg**	**18 35 26.7**	**-2.6**
	comp=Z,754nm,0.5s						
RHK1	**Bakonya**	**2.71**	**78**	⇑*i*P	**Pn**	**18 34 44.2**	**-0.3**
RHK1				*e*S	**Sn**	**18 35 15.4**	**-2.1**
ASS	**Assisi**	**2.77**	**205**	Pn	**Pn**	**18 34 45.6**	**+0.3**
MOTA	**Moosalm**	**2.81**	**310**	⇑*i*PN	**Pn**	**18 34 48.9**	**+3.1**
MOTA				*i* SN	**Sn**	**18 35 20.8**	**+1.0**
RHK3	**Tenkes**	**2.81**	**82**	⇑*e*P	**Pn**	**18 34 45.5**	**-0.4**
BRMO	**Bormio**	**2.85**	**290**	Pn	**Pn**	**18 34 50.6**	**+4.2**
	comp=Z,240nm,0.4s						
BRMO	**Bormio**	**2.85**	**290**	P	**Pn**	**18 34 49.4**	**+3.0**
NRCA	**Norcia**	**2.87**	**197**	P	**Pn**	**18 34 46.9**	**+0.2**
NRCA	**Norcia**	**2.87**	**197**	Pn	**Pn**	**18 34 46.8**	**+0.1**
GSCL	**Gusciola**	**2.88**	**246**	P	**Pn**	**18 34 47.7**	**+0.8**
GSCL	**Gusciola**	**2.88**	**246**	Pn	**Pn**	**18 34 47.1**	**+0.2**
	comp=Z,847nm,1.1s						
ERBM	**Eremo**	**2.97**	**248**	P	**Pn**	**18 34 49.5**	**+1.4**
ERBM	**Eremo**	**2.97**	**248**	Pn	**Pn**	**18 34 49.6**	**+1.5**
	comp=Z,501nm,0.6s						
PKS9	**Tamasi**	**2.97**	**69**	⇓*e*P	**Pn**	**18 34 47.8**	**-0.3**
TERO	**Teramo**	**3.00**	**189**	P	**Pn**	**18 34 48.7**	**+0.2**
TERO	**Teramo**	**3.00**	**189**	Pn	**Pn**	**18 34 48.5**	**0.0**
	comp=Z,610nm,0.7s						
VKA	**Vienna**	**3.03**	**27**	⇓*i*PN	**Pn**	**18 34 50.3**	**+1.3**
VKA				*i* (SN)	**Sn**	**18 35 25.1**	**-0.4**
VKA	**Vienna**	**3.03**	**27**	⇓*i*Pn	**Pn**	**18 34 50.3**	**+1.3**
VKA				S	**Sn**	**18 35 25.1**	**-0.4**
SARO	**Sassorosso**	**3.08**	**244**	P	**Pn**	**18 34 50.1**	**+0.4**
SARO				S	**Sn**	**18 35 26.0**	**-0.7**
SARO	**Sassorosso**	**3.08**	**244**	P	**Pn**	**18 34 50.1**	**+0.4**
SARO	**Sassorosso**	**3.08**	**244**	P	**Pn**	**18 34 50.1**	**+0.4**
SARO				S	**Sn**	**18 35 26.0**	**-0.7**
VLC	**Villacollemand**	**3.10**	**244**	Pn	**Pn**	**18 34 51.0**	**+1.0**
VLC	**Villacollemand**	**3.10**	**244**	Pn	**Pn**	**18 34 51.0**	**+1.0**
VALM		**3.10**	**248**	P	**Pn**	**18 34 50.6**	**+0.6**
VALM				S	**Sn**	**18 35 25.9**	**-1.5**
VALM		**3.10**	**248**	P	**Pn**	**18 34 50.6**	**+0.6**
VALM				S	**Sn**	**18 35 25.9**	**-1.5**
CAMP	**Campotosto**	**3.11**	**192**	Pn	**Pn**	**18 34 50.2**	**+0.1**
PKSM	**Moragy**	**3.12**	**77**	P	**Pn**	**18 34 49.9**	**-0.4**
PKSM				*e*S	**Sn**	**18 35 25.9**	**-2.0**
GRAM		**3.17**	**251**	P	**Pn**	**18 34 51.9**	**+1.0**
GRAM				S	**Sn**	**18 35 28.1**	**-0.8**
GRAM		**3.17**	**251**	P	**Pn**	**18 34 51.9**	**+1.0**
GRAM				S	**Sn**	**18 35 28.1**	**-0.9**
MDI	**Monti di Nese**	**3.19**	**275**	Pn	**Pn**	**18 34 52.6**	**+1.3**
	comp=Z,1μm,1.0s						
VCEL	**Villa Celiera**	**3.20**	**186**	Pn	**Pn**	**18 34 51.8**	**+0.4**
SACS	**San Casciano d**	**3.21**	**213**	Pn	**Pn**	**18 34 51.3**	**-0.3**
	comp=Z,361nm,0.5s						
BACM		**3.25**	**248**	P	**Pn**	**18 34 52.5**	**+0.4**
BACM		**3.25**	**248**	P	**Pn**	**18 34 52.5**	**+0.4**
PII	**Pisa**	**3.25**	**236**	P	**Pn**	**18 34 52.1**	**0.0**
PII	**Pisa**	**3.25**	**236**	Pn	**Pn**	**18 34 51.9**	**-0.2**
	comp=Z,260nm,0.3s						
VINC	**Vinca**	**3.26**	**245**	P	**Pn**	**18 34 52.9**	**+0.7**
VINC				S	**Sn**	**18 35 30.4**	**-0.9**
VINC	**Vinca**	**3.26**	**245**	P	**Pn**	**18 34 52.9**	**+0.7**
VINC	**Vinca**	**3.26**	**245**	P	**Pn**	**18 34 52.9**	**+0.7**
VINC				S	**Sn**	**18 35 30.4**	**-0.9**
ZST	**Bratislava**	**3.26**	**36**	*i* PN	**Pn**	**18 34 53.2**	**+0.9**
ZST				*e*SN	**Sn**	**18 35 30.6**	**-0.7**
ZST				*e*SG	**Sg**	**18 35 47.2**	**-1.7**
DAVOX	**Davos**	**3.27**	**293**	Pn	**Pn**	**18 34 55.2**	**+2.8**
	comp=Z,16nm,0.3s,baz=111,slow=13,SNR=94						
DAVOX				Pg	**Pg**	**18 35 03.2**	**-2.4**
	comp=Z,38nm,0.3s,baz=108,slow=19,SNR=32						
DAVOX				Sn	**Sn**	**18 35 36.0**	**+4.4**
	comp=Z,23nm,0.3s,baz=21,slow=23,SNR=6.7						
DAVOX				Lg		18 35 47.0	
	comp=Z,43nm,0.3s,baz=333,slow=22,SNR=3.9						
DAVOX				LR	LR	18 36 22.0	
	comp=Z,272nm,19.8s,baz=347,slow=42						
DAVOX	**Davos**	**3.27**	**293**	Pn	**Pn**	**18 34 55.2**	**+2.8**
DAVOX				Pg	**Pg**	**18 35 03.2**	**-2.4**
DAVOX				Sn	**Sn**	**18 35 36.0**	**+4.4**
DAVOX				Lg		18 35 47.0	
DAVOX				LR	LR	18 36 22.0	
DAVOX	**Davos**	**3.27**	**293**	Pg	**Pg**	**18 35 03.2**	**-2.4**
GEC2	**GERESS Array S**	**3.29**	**354**	*e*P	**Pn**	**18 34 53.7**	**+1.1**
GEC2				*e*S	**Sn**	**18 35 33.7**	**+1.7**
GERES	**GERESS Array B**	**3.29**	**354**	P	**Pn**	**18 34 53.7**	**+1.1**
GERES						18 35 33.9	
GERES	**GERESS Array B**	**3.29**	**354**	Pn	**Pn**	**18 34 53.7**	**+1.1**
	comp=Z,4.6nm,0.3s,baz=170,slow=14,SNR=165						
GERES				Pg	**Pg**	**18 35 01.7**	**-4.2**
	comp=Z,46nm,0.3s,baz=167,slow=17,SNR=91						
GERES				Sn	**Sn**	**18 35 33.9**	**+1.9**
	comp=Z,29nm,0.3s,baz=170,slow=23,SNR=10						
GERES				Lg		18 35 45.2	
	comp=Z,28nm,0.3s,baz=170,slow=29,SNR=6.2						
GERES				LR	LR

PCP S Sn 18 35 51.2 -3.5
SISB Singen-Sch Ber 4.21 302 P Pn 18 35 06.9 +1.1
BNALP Bannalp 4.25 290 *e*Pn Pn 18 35 08.7 +2.4
VYHS Vyhne 4.27 45 *e*PN Pn 18 35 06.4 -0.3
VYHS *e*SN Sn 18 35 54.4 -2.6
PLE Pljevlja 4.31 120⇑*i*Pn Pn 18 35 08.4 +1.3
PLE *e*Sn Sn 18 35 59.5 +1.6
ZUR Zurich 4.31 297⇓P Pn 18 35 08.4 +1.2
GUT Gutenstein 4.32 307 P Pn 18 35 08.0 +0.7
DIVS Divcibare 4.34 108⇓*i*Pn Pn 18 35 08.2 +0.6
DIVS Sn Sn 18 35 54.6 -4.0
PSB1 Pescosannita 4.38 175 P Pn 18 35 09.2 +1.1
HCY Herceg Novi 4.38 134⇑*i*Pn Pn 18 35 08.6 +0.4
HCY *e*Sn Sn 18 36 01.0 +1.4
NKY Niksic 4.39 127⇑*i*Pn Pn 18 35 09.6 +1.3
NKY *e*Sn Sn 18 36 01.4 +1.5
MCGN Macugnaga 4.41 277 P Pn 18 35 09.3 +0.8
NVSS Nova Varos 2 4.41 116⇑*i*Pn Pn 18 35 11.7 +3.1
ORX Oropa 4.41 273 P Pn 18 35 06.8 -1.7
ORX S Sn 18 35 53.7 -6.7
ROTZ Rotzenmuhle 4.41 342⇓*i*Pn Pn 18 35 08.6 0.0
PRU Pruhonice 4.41 2 *e*P Pn 18 35 08.6 0.0
PRU *e* 18 36 01.6
PRU smax
comp=N,239nm,0.8s
PRU MLR MLR
comp=Z,500nm,9.1s
PRU Pruhonice 4.41 2 *e*PN Pn 18 35 08.6 0.0
PRU *e*PG Pg 18 35 21.9 -6.5
PRU *e*SN Sn 18 36 01.6 +1.1
PRU *e*SG Sg 18 36 21.7 -5.5
comp=Z,239nm,0.8s
PRU AMS AMS 18 36 40.0
comp=Z,500nm,9.1s
PRU Pruhonice 4.41 2 *e*Pg Pg 18 35 21.9 -6.5
PRU *e*S Sn 18 36 01.6 +1.1
comp=Z,500nm,9.1s
BUCH Bad Urach 4.42 312 P Pn 18 35 09.4 +0.7
MMK Mattmark 4.43 278⇑P Pn 18 35 09.3 +0.5
BEO Belgrade 4.44 98⇓*i*Pn Pg 18 35 23.3 -5.7
BEO Sg Sg 18 36 20.4 -7.8
PRA Prague 4.49 1 SG Sg 18 36 25.0 -4.9
FIN Finale Ligure 4.51 254 P Pn 18 35 09.5 -0.6
FIN S Sn 18 35 56.5 -6.6
FIN Finale Ligure 4.51 254 Pn Pn 18 35 11.2 +1.1
comp=Z,75nm,0.3s
FIN Finale Ligure 4.51 254 Pn Pn 18 35 11.2 +1.1
comp=Z,75nm,0.3s
PSZ Piszkesteto 4.52 57 *e*Pn Pn 18 35 10.9 +0.7
PSZ *e*Sn Sn 18 36 01.7 -1.6
PSZ Piszkesteto 4.52 57 *e*Pn Pn 18 35 09.5 -0.7
PSZ *e*S Sn 18 36 01.7 -1.6
SPAK Spaichingen 4.52 306 P Pn 18 35 10.8 +0.6
SLE Schleitheim 4.53 301⇑P Pn 18 35 10.6 +0.3
TRAV 4.58 271 P Pn 18 35 09.8 -1.2
TRAV 4.58 271 P Pn 18 35 09.8 -1.1
GRA1 Grafenberg Arr 4.60 335 *e*Pn Pn 18 35 11.6 +0.4
GRA1 *e*Sg Sg 18 36 30.8 -2.5
GRF Grafenberg Arr 4.60 335 *e*Pn Pn 18 35 11.6 +0.4
GRF *e*Sg Sg 18 36 30.8 -2.5
SULZ Sulz-Cheisache 4.66 297⇑P Pn 18 35 12.7 +0.5
BUM Brajici-Budva 4.69 133⇑*i*Pn Pn 18 35 13.3 +0.8
BUM *e*Sn Sn 18 36 08.2 +0.7
LKBD Leukerbad 4.69 282⇑P Pn 18 35 13.4 +0.8
STU Stuttgart 4.70 315 *e*P Pn 18 35 13.4 +0.7
ROB Roburent 4.72 256 P Pn 18 35 12.6 -0.3
ROB S Sn 18 36 02.3 -5.9
MORC Moravsky Berou 4.75 27 *e*Pn Pn 18 35 13.5 +0.2
MORC *e*Pg Pg 18 35 30.6 -4.4
MORC Moravsky Berou 4.75 27 *e*P Pn 18 35 13.5 +0.2
MORC Moravsky Berou 4.75 27 *e*Pg Pg 18 35 30.6 -4.4
CSSN Cassano Irpino 4.75 173 Pn Pn 18 35 12.6 -0.8
comp=Z,37nm,0.5s
CSSN Cassano Irpino 4.75 173 P Pn 18 35 14.0 +0.6
TTG Podgorica 4.79 129 *e*Pn Pn 18 35 14.8 +0.8
TTG *e*Sn Sn 18 36 10.8 +0.8
NKC Novy Kostel 4.81 346 P Pn 18 35 15.9 +1.6
NKC Novy Kostel 4.81 346 P Pn 18 35 15.9 +1.6
NKC Novy Kostel 4.81 346 *e*PN Pn 18 35 15.2 +0.9
NKC *e*SN Sn 18 36 11.0 +0.4
NKC *e*SG Sg 18 36 36.0 -4.4
comp=Z,584nm,1.4s
NKC AMS AMS 18 37 00.0
comp=Z,200nm,15.0s
NKC Novy Kostel 4.81 346 *e*P Pn 18 35 15.2 +0.9
NKC *e*S Sn 18 36 11.0 +0.4
comp=Z,200nm,15.0s
DIX Grande Dixence 4.81 278⇑P Pn 18 35 14.7 +0.4
IMI Imperia 4.84 252 P Pn 18 35 13.5 -1.1
IMI S Sn 18 36 05.0 -6.2
IMI Imperia 4.84 252 Pn Pn 18 35 13.5 -1.1
comp=Z,52nm,0.3s
LBG Lerchenberg 4.84 312 P Pn 18 35 15.3 +0.6
PGF Pioggiola 4.86 233 *e*Pn Pn 18 35 13.7 -1.2
PGF *e*Sn Sn 18 36 07.3 -4.4
comp=Z,150nm,0.7s
MONE Monesi 4.87 254 P Pn 18 35 14.3 -0.7
MONE S Sn 18 36 06.9 -5.0
MONE Monesi 4.87 254 P Pn 18 35 14.3 -0.7
IVA Berane 4.87 122⇑*i*Pn Pn 18 35 16.1 +0.9
IVA *e*Sn Sn 18 36 12.3 +0.1
FELD Feldberg 4.88 300 P Pn 18 35 15.2 0.0
GRUS Gruza 4.90 108⇓*i*Pn Pn 18 35 16.4 +0.9
GRUS Sn Sn 18 36 12.2 -0.6
GRUS Gruza 4.90 108 Pn Pn 18 35 16.5 +1.0
GRUS Sn Sn 18 36 12.2 -0.6
BFO Black Forest 4.90 306 *e*P Pn 18 35 15.7 +0.1
BFO *e*S Sn 18 36 11.7 -1.2
MRLC Muro Lucano 4.91 169 P Pn 18 35 14.1 -1.5
SIND Sindeldorf 4.92 322 P Pn 18 35 16.0 +0.3
PVCC Panska Ves 4.95 2 *e*PN Pn 18 35 17.9 +1.6
PVCC AMS AMS 18 37 00.0
comp=Z,500nm,7.1s
PVCC Panska Ves 4.95 2 *e*P Pn 18 35 17.9 +1.6
comp=Z,500nm,7.1s
RSP Reno Superiore 4.95 268 P Pn 18 35 13.5 -2.8
KIZ Kirchzarten 4.96 301 P Pn 18 35 16.5 +0.1
DPC Dobruska-Polom 4.97 15 *e*P Pn 18 35 16.9 +0.4
DPC *e* 18 36 12.6
DPC smax
comp=N,105nm,0.6s
DPC MLR MLR
comp=Z,600nm,7.2s
DPC Dobruska-Polom 4.97 15 *e*PN Pn 18 35 16.9 +0.4
DPC *e*PG Pg 18 35 30.8 -8.6
DPC *e*SN Sn 18 36 12.6 -1.9
DPC *e*SG Sg 18 36 39.6 -6.1
comp=Z,105nm,0.6s
DPC AMS AMS 18 37 10.0
comp=Z,600nm,7.2s
DPC Dobruska-Polom 4.97 15 *e*P Pn 18 35 16.9 +0.4
DPC *e*S Sn 18 36 12.6 -1.9
comp=Z,600nm,7.2s
NEGI Negi 4.98 252 P Pn 18 35 15.6 -1.1
NEGI S Sn 18 36 10.5 -4.5
LSD Ceresole Reale 5.00 271 P Pn 18 35 16.6 -0.3
BHB Bricherasio 5.00 264 P Pn 18 35 14.7 -2.2
BHB Bricherasio 5.00 264 P Pn 18 35 14.7 -2.2
OKC Ostrava-Krasne 5.00 30 *e*PN Pn 18 35 17.0 +0.1
OKC *e*SN Sn 18 36 13.4 -1.9
OKC AMS AMS 18 37 40.0
comp=Z,300nm,8.8s
OKC Ostrava-Krasne 5.00 30 *e*P Pn 18 35 17.0 +0.1
comp=Z,300nm,8.8s
OKC *e*S Sn 18 36 13.4 -1.9
BBS Basel-Blauen 5.03 294 P Pn 18 35 17.0 -0.3
SAOF Saorge 5.03 254 P Pn 18 35 17.6 +0.2
ENR Entracque 5.04 257 P Pn 18 35 16.8 -0.8
SG1 Sgolgore (BA) 5.06 159 *e*Pn Pn 18 35 16.2 -1.6
UPC Upice 5.07 13 *e*PN Pn 18 35 18.0 +0.1
SGO Sicignano 5.08 171 P Pn 18 35 18.1 +0.1
SGO Sicignano 5.08 171 Pn Pn 18 35 17.9 -0.1
comp=Z,15nm,0.4s
PVY Plav 5.08 124 *e*Pn Pn 18 35 18.9 +0.8
PVY *e*Sn Sn 18 36 18.0 +0.6
DOI San Damiano 5.09 260 P Pn 18 35 18.5 +0.3
DOI San Damiano 5.09 260 Pn Pn 18 35 18.4 +0.2
comp=Z,62nm,0.4s
STV2 Anna di Valdie 5.10 257 P Pn 18 35 17.7 -0.7
STV2 S Sn 18 36 11.8 -6.1
STV Sta Anna Valdi 5.11 257 P Pn 18 35 17.8 -0.6
SVIS Svilajnac 5.11 102⇑*i*Pn Pn 18 35 19.4 +1.0

SVIS Sn Sn 18 36 15.5 -2.5
FENE Fenestrelle 5.11 266 P Pn 18 35 18.3 -0.2
FENE Fenestrelle 5.11 266 P Pn 18 35 18.3 -0.2
ULC Ulcinj 5.11 133⇑*i*Pn Pn 18 35 18.9 +0.3
ULC *e*Sn Sn 18 36 18.4 +0.3
AUTN L'Aution 5.12 254 P Pn 18 35 18.8 +0.2
SBF Sospel 5.16 253 *e*Pn Pn 18 35 17.3 -1.9
SBF *e*Sn Sn 18 36 13.3 -6.0
comp=Z,257nm,0.5s
EMV Vieux Emosson 5.17 278⇓P Pn 18 35 20.8 +1.5
EMV Vieux Emosson 5.17 278 Pn Pn 18 35 20.9 +1.6
BRT Bari-Castellan 5.17 154 P Pn 18 35 18.2 -1.1
PZZ Prazzo 5.19 261 P Pn 18 35 17.9 -1.7
OG22 Abries 5.22 264 P Pn 18 35 17.7 -2.4
TOUF Mont Tournerai 5.23 255 P Pn 18 35 19.7 -0.5
LPG La Plagne 5.28 272 *e*Pn Pn 18 35 20.3 -0.5
LPG *e*Sn Sn 18 36 17.5 -4.8
comp=Z,368nm,0.7s
LPL La Plagne 5.29 272 *e*Pn Pn 18 35 20.6 -0.4
LPL *e*Sn Sn 18 36 17.2 -5.4
comp=Z,165nm,0.5s
BRG Berggiesshubel 5.30 358 *i* Pn Pn 18 35 20.2 -1.0
BRG *i* Pb Pb 18 35 27.8 -4.7
BRG *i* Sn Sn 18 36 23.0 +0.2
BRG *i* Sb Sb 18 36 35.0 -1.7
BRG *i* Sg Sg 18 36 48.3 -8.4
BRG Berggiesshubel 5.30 358 *i* Pn Pn 18 35 20.2 -1.0
BRG *i* S Sn 18 36 23.0 +0.2
BRG *i* Sg Sg 18 36 48.3 -8.4
PE1 Pezze di Greco 5.30 153 *e*Pn Pn 18 35 19.8 -1.4
LTRZ Laterza 5.32 158 Pn Pn 18 35 19.9 -1.5
comp=Z,96nm,0.4s
RRL Cesana Torines 5.32 266 P Pn 18 35 22.1 +0.6
RSL Roselend 5.36 274 P Pn 18 35 23.5 +1.5
MBDF Montbardon 5.37 263 *e*Pn Pn 18 35 20.4 -1.7
MBDF *e*Sn Sn 18 36 18.5 -6.0
comp=Z,174nm,0.5s
MOX Moxa 5.37 342 *i* P Pn 18 35 21.6 -0.5
MOX S Sn 18 36 22.0 -2.5
MOX Sg Sg 18 36 54.0 -4.9
MOX L 18 37 11.0
MOX Moxa 5.37 342 *e*P Pn 18 35 21.8 -0.3
MOX *e*S Sn 18 36 22.9 -1.6
BNI Bardonecchia 5.37 267 *e*Pn Pn 18 35 21.5 -0.7
SURF Saint Ours 5.39 261 P Pn 18 35 20.7 -1.8
MOF Molkenrain 5.40 297 P Pn 18 35 22.4 -0.2
SWS Schriesheim 5.42 318 P Pn 18 35 23.1 +0.2
LOMF Lomont 5.43 292 P Pn 18 35 23.0 0.0
KSP Ksiaz 5.44 14 *e*P Pn 18 35 23.5 +0.4
KSP *e* 18 36 26.2
KSP Ksiaz 5.44 14 *e*Pn Pn 18 35 23.5 +0.4
KSP *e*Pg Pg 18 35 41.7 -7.1
KSP *e*Sn Sn 18 36 26.2 -0.1
KSP *e*Sg Sg 18 36 54.4 -6.9
KSP Ksiaz 5.44 14 *e*Pn Pn 18 35 29.3 +6.2
KSP *e*Sn Sg 18 36 55.2 -6.1
KSP *e*Sg Sg 18 37 01.6 +0.4
KSP Ksiaz 5.44 14 *e*Pg Pg 18 35 41.7 -7.1
KSP *e*S Sn 18 36 26.2 -0.1
KSP *e*Sg Sg 18 36 54.4 -6.9
TOD Tromm 5.46 319 P Pn 18 35 22.7 -0.7
WLS Welschbruch 5.51 303 P Pn 18 35 23.6 -0.5
MGR Morigerati 5.52 170 Pn Pn 18 35 24.3 0.0
comp=Z,20nm,0.8s
MGR Morigerati 5.52 170 P Pn 18 35 24.5 +0.2
ECH Echery 5.53 301 P Pn 18 35 24.0 -0.5
ECH S Sn 18 36 24.3 -4.4
CDF Champ du Feu 5.55 303 *e*Pn Pn 18 35 24.4 -0.3
LANF Langenberg 5.55 310 P Pn 18 35 24.7 0.0
HINF Hinteralfeld 5.56 296 *e*Pn Pn 18 35 24.3 -0.6
HINF *e*Sn Sn 18 36 23.8 -5.7
comp=Z,178nm,0.5s
NIE Niedzica 5.62 45 *e*P Pn 18 35 25.5 -0.1
KKS Kukesi 5.66 126 *e*Pn Pn 18 35 22.6 -3.7
ORI Oriolo Calabro 5.75 163 P Pn 18 35 27.6 +0.2
GDM Grand'Maison 5.75 269 P Pn 18 35 28.2 +0.7
BOLS Boljevac 5.76 105⇓*i*Pn Pn 18 35 28.1 +0.4
BOLS Sn Sn 18 36 31.1 -3.3
QSH Qafa e Shtames 5.77 133 *e*Pn Pn 18 35 27.4 -0.4
QSH *i* Sn Sn 18 36 37.4 +2.8
CABF La Chapelle 5.78 283 *e*Pn Pn 18 35 27.9 0.0
CABF *e*Sn Sn 18 36 29.0 -5.8
comp=Z,126nm,0.9s
CLL Collm 5.79 352 P Pn 18 35 29.3 +1.2
CLL *e*Sn Sn 18 36 34.0 -1.2
CLL *i* Sg Sg 18 37 03.9 -9.2
CLL Collm 5.79 352 *e*PN Pn 18 35 24.0 -4.1
CLL *i* 18 35 28.8
CLL *e* 18 36 34.0
CLL *i* 18 36 41.7
CLL *i* SG Sg 18 37 03.9 -9.2
CLL Collm 5.79 352 P Pn 18 35 29.3 +1.2
CLL *e*S Sn 18 36 34.0 -1.2
FRF La Foret Royal 5.80 252 *e*Pn Pn 18 35 26.8 -1.4
FRF *e*Sn Sn 18 36 28.7 -6.8
comp=Z,91nm,0.5s
TIR Tirane 5.88 134 *e*p Pn 18 35 29.0 -0.3
TIR Tirane 5.88 134 P Pn 18 35 29.4 +0.1
CRVS Cervenica-Dubn 5.92 53 *e*PN Pn 18 35 30.3 +0.4
OJC Ojcow 5.95 37 *e*P Pn 18 35 30.2 -0.1
OJC *e* 18 36 35.3
OJC Ojcow 5.95 37 *e*Pn Pn 18 35 30.2 -0.1
OJC *e*Pg Pg 18 35 59.5 +0.5
OJC *e*Sn Sn 18 36 35.3 -3.8
OJC *e*Sg Sg 18 37 16.6 -1.7
HAU Haudompre 5.95 297 *e*Pn Pn 18 35 29.7 -0.6
HAU *e*Sn Sn 18 36 32.8 -6.3
comp=Z,126nm,0.6s
HAU *e*R
comp=Z,203nm,24.2s
ORIF Oris-en-Rattie 5.95 267 *e*Pn Pn 18 35 30.6 +0.2
ORIF *e*Sn Sn 18 36 32.7 -6.6
comp=Z,118nm,0.4s
ORIF *e*R
comp=Z,196nm,19.8s
LCI Lecce 5.96 150 P Pn 18 35 29.5 -0.9
LMR La Mourre 5.99 251 *e*Pn Pn 18 35 28.5 -2.3
LMR *e*Sn Sn 18 36 33.0 -7.1
comp=Z,66nm,0.4s
TNS Taunus Mts 6.07 322 *e*P Pn 18 35 32.9 +0.9
OG05 Jujurieux 6.17 277 P Pn 18 35 33.4 0.0
OG05 S Sn 18 36 41.4 -3.3
ABH Alteburg 6.24 316 P Pn 18 35 34.0 -0.5
THEF They Montfort 6.25 298 P Pn 18 35 34.1 -0.6
SKO Skopje 6.33 122 *i* Pn Pn 18 35 36.5 +0.9
RUP Ruppelstein 6.37 313 P Pn 18 35 37.1 +0.8
SMRF Simiane la Rot 6.39 259 *e*Pn Pn 18 35 35.6 -0.9
SMRF *e*Sn Sn 18 36 43.6 -6.5
comp=Z,71nm,0.8s
ZAPS Zavoj/Pirot 6.40 108⇑*i*Pn Pn 18 35 36.8 0.0
OCF Saint Nazaire 6.42 264 P Pn 18 35 35.9 -1.1
OG26 St.-Nazaire-De 6.42 264 P Pn 18 35 35.9 -1.1
RFYF Reffroy 6.73 300 *e*Pn Pn 18 35 41.9 +0.6
VIVF Saint-Julien-I 6.81 267 *e*Pn Pn 18 35 40.1 -2.4
VIVF *e*Sn Sn 18 36 53.0 -7.7
comp=Z,50nm,0.5s
WLF Walferdange 6.83 310 *e*Pn Pn 18 35 39.3 -3.5
WLF Walferdange 6.83 310 P Pn 18 35 41.7 -1.1
SFTF Sexfontaines 6.84 296 *e*Pn Pn 18 35 42.4 -0.5
MEZF Maizieres J'vi 6.94 298 *e*Pn Pn 18 35 44.8 +0.6
MEZF *e*Sn Sn 18 36 59.9 -3.9
comp=Z,44nm,0.6s
KWP Kalwaria 7.00 52 *e*Pn Pn 18 35 46.5 +1.4
FNA Florina 7.07 130 *e*P Pn 18 35 45.6 -0.6
VTS Vitosha 7.10 112 P Pn 18 35 46.0 -0.6
KEK Kerkira 7.14 143 *e*P Pn 18 35 45.5 -1.7
KEK Kerkira 7.14 143 *e*Pn Pn 18 35 45.4 -1.8
SMF Signal de Mont 7.32 282 *e*Pn Pn 18 35 48.6 -1.0
SMF *e*Sn Sn 18 37 05.5 -7.9
comp=Z,147nm,0.6s
LOR Lormes 7.38 287 *e*Pn Pn 18 35 50.0 -0.5
baz=109
LOR *e*Sn Sn 18 37 06.5 -8.5
comp=Z,60nm,0.5s,baz=99
KKB Krupnik 7.39 117 P Pn 18 35 51.5 +0.9
COLF Collangettes 7.42 273 P Pn 18 35 48.6 -2.4
PLDF La Plantade 7.45 277 P Pn 18 35 49.8 -1.6
MEM Membach 7.47 315 P Pn 18 35 52.5 +0.8
IGT Igoumenitsa 7.52 141 *e*P Pn 18 35 50.7 -1.8
GRG Griva 7.53 125 *e*P Pn 18 35 52.2 -0.3
LASF Ste Croix 7.55 262 *e*Pn Pn 18 35 50.3 -2.5

LASF *e*Sn Sn 18 37 11.1 -8.0
comp=Z,64nm,0.5s
SSF Saint Saulge 7.59 285 *e*Pn Pn 18 35 52.7 -0.7
SSF *e*Sn Sn 18 37 12.7 -7.5
comp=Z,39nm,0.7s
HGN Heimansgroeve 7.61 316 *e*P Pn 18 35 54.3 +0.7
comp=Z,18nm,1.4s
HGN *e*S Sn 18 37 20.1 -0.4
HGN Heimansgroeve 7.61 316 *e*P Pn 18 35 54.3 +0.7
comp=Z,18nm,1.4s
HGN *e*S Sn 18 37 20.1 -0.4
KZN Kozani 7.62 131 *e*P Pn 18 35 54.0 +0.1
JAN Janina 7.66 138 *e*P Pn 18 35 51.0 -3.4
LBL Lubilhac 7.76 271 P Pn 18 35 54.0 -1.8
AGO Saint Agoulin 7.79 277 P Pn 18 35 54.8 -1.4
GIVF Givet 7.79 309 *e*Pn Pn 18 35 57.0 +0.8
GIVF *e*Sn Sn 18 37 17.0 -8.2
GIVF *e*Sg Sg 18 38 05.5 -14
comp=Z,120nm,1.1s
GIVF Givet 7.79 309 *e*P Pn 18 35 57.0 +0.8
GIVF *e*Sg Sg 18 38 05.5 -14
comp=Z,60nm,1.1s
PYM Petit Puy Mans 7.89 275 P Pn 18 35 56.1 -1.4
DOU Dourbes 7.92 308 P Pn 18 35 58.2 +0.3
MMB Musomiste 7.95 117 P Pn 18 35 58.0 -0.4
BGF Bois d'Agland 8.00 281 *e*Pn Pn 18 35 57.7 -1.4
BGF *e*Sn Sn 18 37 21.5 -8.9
comp=Z,69nm,0.4s
WTSB Winterswijk 8.06 325 *e*P P 18 36 08.5 +8.4
comp=Z,8.9nm,1.1s
WTSB *e*S Sn 18 37 41.4 +9.4
BAIF Baives 8.11 307 *e*Pn P 18 36 01.0 +0.3
SRS Serrai 8.13 120 *e*P P 18 36 01.0 +0.1
NVR Nevrokopi 8.16 118 *e*P P 18 36 00.5 -0.9
HYF Humbligny 8.21 286 *e*Pn P 18 35 59.4 -2.6
HYF *e*Sn Sn 18 37 27.0 -8.5
MLR Muntele Rosu 8.21 86 Pn P 18 36 02.0 0.0
comp=Z,0.3nm,0.3s,baz=328,slow=19,SNR=2.5
MLR LR LR 18 39 10.9
comp=Z,148nm,18.5s,baz=282,slow=38
VERF Verneugheol 8.25 275 P P 18 36 01.8 -0.8
SNF Seneffe 8.30 310 P P 18 36 04.5 +1.2
TCF Toulx Ste Croi 8.43 279 *e*Pn P 18 36 04.2 -0.9
TCF *e*Sn Sn 18 37 32.9 -8.3
comp=Z,39nm,0.5s
PLG Polygyros 8.51 124 *e*P P 18 36 06.5 +0.3
RZN Rozhen 8.52 113 P P 18 36 07.0 +0.6
CAF Calviac 8.63 270 *e*Pn P 18 36 06.8 -1.1
CAF *e*Sn Sn 18 37 37.1 -9.0
comp=Z,32nm,0.7s
EVR Evrytania 8.70 137 *e*P P 18 36 08.5 -0.3
VLS Valsamata 8.77 145 *e*P P 18 36 07.0 -2.9
AGG Agios Georgios 8.87 135 *e*P P 18 36 09.1 -2.1
MTLF Montolieu 8.90 260 *e*Pn P 18 36 09.2 -2.4
MTLF *e*Sn Sn 18 37 42.6 -10
comp=Z,17nm,0.6s
RJF Les Rejaudoux 8.97 273 *e*Pn P 18 36 12.7 +0.2
RJF *e*Sn Sn 18 37 45.0 -9.5
comp=Z,24nm,0.7s
RJF *e*R
comp=Z,121nm,23.5s
RLS Riolos of Patr 9.24 142 *e*P P 18 36 15.5 -0.8
RDO Rodhopi 9.33 114 P P 18 36 18.4 +0.8
LFF La Frestale 9.56 271 *e*Pn P 18 36 20.7 0.0
LFF *e*Sn Sn 18 37 58.9 -10
comp=Z,35nm,0.7s
MFF Saint Martin d 10.06 281 *e*Pn P 18 36 25.4 -2.2
MFF *e*Sn S 18 38 10.1 -11
comp=Z,26nm,0.7s
LDF La Druitiere 10.26 292 *e*Pn P 18 36 28.6 -1.7
EPF Esparros 10.30 261 *e*Pn P 18 36 27.7 -3.1
EPF *e*Sn S 18 38 17.1 -10
comp=Z,8.3nm,0.7s
FLN La Foliniere 10.53 293 *e*Pn P 18 36 32.2 -1.8
FLN *e*R
comp=Z,165nm,19.2s
GRR Gorron 10.71 291 *e*Pn P 18 36 34.8 -1.6
ETSF Etsaut 10.97 261 *e*Sn S 18 38 32.5 -11
comp=Z,18nm,0.8s
SJPF Ste Jean 11.36 263 *e*Pn P 18 36 43.4 -2.0
SGMF Saint Gilles 11.81 289 *e*Pn P 18 36 50.8 -0.6
SGMF *e*Sn S 18 38 53.5 -11
comp=Z,15nm,0.8s
QUIF Quistinic 12.18 287 *e*Pn P 18 36 55.7 -0.7
QUIF *e*Sn S 18 39 01.9 -11
comp=Z,13nm,0.7s
ROSF Rostrenen 12.29 289 *e*Pn P 18 36 56.1 -1.8
ROSF *e*Sn S 18 39 04.5 -11
comp=Z,45nm,1.1s
IDI Anoyia 13.07 138 Pn P 18 37 08.6 +0.2
comp=Z,0.6nm,0.3s,baz=356,slow=17,SNR=5.5
IDI Sn S 18 39 24.6 -10
comp=Z,0.5nm,0.3s,baz=311,slow=20,SNR=4.6
HFS Hagfors 14.58 359 Pn P 18 37 28.2 +0.2
comp=Z,0.0nm,0.3s,baz=164,slow=10,SNR=3.9
HFS LR LR 18 42 31.7
comp=Z,45nm,21.6s,baz=179,slow=35
EKA Eskdalemuir Ar 14.73 318 Pn P 18 37 31.8 +1.7
comp=Z,0.3nm,0.3s,baz=132,slow=14,SNR=5.6
BRTR Keskin Array B 15.40 105 Pn P 18 37 40.3 +1.5
comp=Z,0.1nm,0.3s,baz=294,slow=12,SNR=3.8
NAO01 NORSAR Array S 15.42 354 Pn P 18 37 38.1 -0.9
comp=Z,9.6nm,0.8s
NAO01 *i* 18 37 44.4
NB2 NORSAR Subarra 15.59 354 P P 18 37 46.1 +4.9
comp=Z,4.3nm,0.7s,baz=171,slow=12
NB2 NORSAR Subarra 15.59 354 P P 18 37 46.1 +4.9
NB2 pmax pmax
comp=Z,4.0nm,0.7s
NOA NORSAR Array B 15.59 354 Pn P 18 37 41.0 -0.1
comp=Z,0.2nm,0.3s,baz=172,slow=12,SNR=6.3
OBN Obninsk 17.07 48 *e*P P 18 38 02.0 +2.0
OBN pmax pmax
comp=Z,3.0nm,0.6s
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 17.07 48 *e*P P 18 38 02.0 +2.0
comp=Z,100nm,16.0s
FINES FINESS Array B 17.32 19 P P 18 38 03.4 +0.2
comp=Z,0.5nm,0.3s,baz=200,slow=9.4,SNR=15
KAF Kangasniemi 17.97 19 *e*p P 18 38 09.8 -1.4
comp=Z,1.7nm,0.7s
KAF Kangasniemi 17.97 19 *e*P P 18 38 09.8 -1.4
KAF pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 19.91 23 *e*p P 18 38 34.4 +0.2
comp=Z,2.6nm,0.6s
KIV Kislovodsk 20.21 84 *e*P P 18 38 35.1 -2.4
KIV pmax pmax
comp=N,5.0nm,1.2s
KIV pmax pmax
comp=Z,8.0nm,1.2s
KIV MLR MLR
comp=N,27nm,19.0s,MS2.8
KIV MLR MLR
comp=E,30nm,19.0s,MS2.8
KIV MLR MLR
comp=Z,49nm,19.0s,MS2.9
ZEI Tsey 21.39 87 *e*P P 18 38 50.5 +0.8
ZEI *e*S S 18 42 45.1 +3.3
ZEI pmax pmax
comp=Z,3.0nm,0.9s,mb3.6
ZEI Tsey 21.39 87 *e*P P 18 38 50.5 +0.8
comp=Z,3.0nm,0.9s,mb3.6
ZEI *e*S S 18 42 45.1 +3.3
ARCES ARCESS Array B 24.68 9 LR LR 18 48 32.1
comp=Z,42nm,18.6s,MS3.0,baz=224,slow=35
BVAR Borovoye Array 36.51 57 P P 18 41 07.8 +0.9
comp=Z,0.8nm,0.9s,mb3.5,baz=207,slow=6.6,SNR=4.4
MKAR Makanchi Array 45.75 63 P P 18 42 23.5 +0.6
comp=Z,0.9nm,0.8s,mb3.8,baz=286,slow=6.9,SNR=8.3
SCHQ Schefferville 49.94 312 P P 18 42 57.0 +1.6
comp=Z,2.6nm,0.9s,mb4.3,baz=190,slow=4.7,SNR=5.3
WMQ Urumqi 50.50 64 P P 18 42 59.9 +0.1
WMQ AP pP 18 43 04.3 +0.7
WMQ XP sP 18 43 06.9 +1.8
WMQ PP PP 18 44 56.4 -0.2
WMQ AMB AMB
comp=Z,138nm,4.6s
WMQ LR LR
comp=N,32nm,18.4s,MS3.7
WMQ LR LR
comp=E,60nm,17.4s,MS3.7
WMQ LR LR
comp=Z,30nm,18.6s,MS3.3

SONM Songino Array 59.44 51 P **P 18 44 06.4 +1.6**
comp=Z,1.1nm,0.7s,mb4.0,baz=290,slow=8.8,SNR=15
SONM LR 19 11 42.0
comp=Z,34nm,18.0s,MS3.5,baz=130,slow=38
YKA Yellowknife Ar 64.79 336 P **P 18 44 40.6 +0.3**
comp=Z,0.3nm,0.6s,mb3.5,baz=38,slow=5.8,SNR=8.0
CN2 Changchun 72.11 45 *e*P **P 18 45 25.3 -0.7**
DLBC Dease Lake 72.21 341 LR LR 19 17 12.9
comp=Z,96nm,18.0s,MS4.1,baz=260,slow=36
MDJ Mudanjiang 73.52 42 P **P 18 45 31.8 -2.4**
MDJ AMB AMB
comp=Z,8.0nm,2.2s,mb4.3
NJ2 Nanjing 76.96 58 *e*P **P 18 45 53.6 -0.5**
ASAJ Asahikawa 79.63 35 LR LR 19 27 24.2
comp=Z,24nm,18.4s,MS3.6,baz=122,slow=40
TXAR Lajitas Array 86.57 309 P **P 18 46 48.2 +3.8**
comp=Z,0.3nm,0.5s,mb3.8,baz=68,slow=4.0,SNR=10.0

IDC 24 18:41:49.6±4.6, 2.81N×96.05E, mb3.4/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=171.0km s-min=31.4km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.86**	**123**	P	P	18 49 57.9	-1.8
0.2nm,0.3s,baz=302,slow=9.1,SNR=4.9							
MKAR	**Makanchi Array**	**45.42**	**347**	P	P	18 50 09.8	-2.1
0.6nm,0.7s,baz=162,slow=7.7,SNR=7.2							
SONM	**Songino Array**	**45.74**	**10**	P	P	18 50 12.9	-1.4
0.3nm,0.7s,baz=195,slow=9.0,SNR=4.1							

*JMA **24** 18:45:09.9±0.1, 36.21N×137.47E, h256km±2km, M2.9*
*IDC **24** 18:45:10.8±0.6, 35.86N×138.45E, h247km±7km, mb3.3/4, mb1 3.6/5, mb1mx3.0/25, mbtmp4.1/5, Error ellipse: s-maj=62.9km s-min=14.5km az=103.0*
ISC 24 18:45:08.9±0.5, 36.23N±0.06×137.46E±0.09, h261km±3km, n24, σ0966/34, mb3.4/4, 1C, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.12**	**268**	P	**P**	**18 45 42.8**	**+0.2**
JGN				S	**S**	**18 46 09.0**	**+0.3**
MAT	**Matsushiro**	**0.68**	**62**	P	**P**	**18 45 44.2**	**+0.4**
MAT				S	**S**	**18 46 10.4**	**-0.7**
MAT	**Matsushiro**	**0.68**	**62**	P	**P**	**18 45 44.2**	**+0.4**
MAT				S	**S**	**18 46 10.3**	**-0.8**
MJAR	**Matsushiro Arr**	**0.68**	**62**	P	**P**	**18 45 43.7**	**-0.2**
18nm,0.3s,baz=241,slow=4.9,SNR=256							
MJAR				S	**S**	**18 46 11.0**	**-0.1**
0.9nm,0.3s,baz=9.1,slow=32,SNR=10							
JGM	**Miyama**	**0.80**	**229**	P	**P**	**18 45 44.3**	**0.0**
JGM				S	**S**	**18 46 10.6**	**-1.4**
JKG	**Kaga**	**0.91**	**273**	P	**P**	**18 45 45.7**	**+0.9**
JKG				S	**S**	**18 46 12.4**	**-0.4**
JYN	**Shimob**	**1.14**	**129**	P	**P**	**18 45 46.5**	**+0.4**
JRY	**Ryogami san**	**1.19**	**100**	P	**P**	**18 45 47.0**	**+0.6**
JRY				S	**S**	**18 46 15.3**	**-0.3**
JSZ	**Suzu**	**1.22**	**356**	P	**P**	**18 45 46.8**	**+0.2**
JAG	**Ashikaga**	**1.62**	**82**	P	**P**	**18 45 49.4**	**0.0**
JOD2	**Odawara 2**	**1.64**	**126**	P	**P**	**18 45 50.0**	**+0.4**
JHG	**Hegura jima**	**1.67**	**345**	P	**P**	**18 45 50.5**	**+0.7**
JSD	**Sado**	**1.92**	**19**	P	**P**	**18 45 52.3**	**+0.5**
JSD				S	**S**	**18 46 24.7**	**-0.4**
JWT	**Wachi**	**1.92**	**241**	P	**P**	**18 45 51.9**	**0.0**
JWT				S	**S**	**18 46 24.9**	**-0.3**
JIE	**Ise**	**1.93**	**199**	P	**P**	**18 45 52.6**	**+0.7**
JIE				S	**S**	**18 46 25.7**	**+0.3**
JWY	**Kouya**	**2.52**	**218**	P	**P**	**18 45 58.0**	**+0.5**
JWZ	**Kozaga**	**3.05**	**209**	P	**P**	**18 46 03.0**	**0.0**
ASAJ	**Asahikawa**	**8.80**	**25**	P	**P**	**18 47 10.8**	**-2.2**
0.6nm,0.3s,baz=187,slow=25,SNR=5.5							
CBIJ	**Chichi jima**	**9.95**	**155**	P	**P**	**18 47 20.4**	**-7.2**
2.8nm,0.3s,baz=268,slow=21,SNR=10							
ILAR	**Eielson Array**	**51.87**	**32**	P	**P**	**18 53 53.0**	**+0.9**
0.3nm,0.6s,mb2.8,baz=267,slow=5.2,SNR=9.8							
WB2	**Warramunga Arr**	**55.94**	**184**	⇑*i*P	**P**	**18 54 21.3**	**-0.8**
WRA	**Warramunga Arr**	**55.94**	**184**	P	**P**	**18 54 21.4**	**-0.7**
3.1nm,0.4s,mb4.1,baz=360,slow=7.6,SNR=128							
INK	**Inuvik**	**56.54**	**26**	P	**P**	**18 54 26.6**	**+0.9**
0.6nm,0.5s,mb3.3,baz=250,slow=3.5,SNR=4.3							
ASAR	**Alice Springs**	**59.65**	**184**	P	**P**	**18 54 47.2**	**-0.7**
0.5nm,0.3s,mb3.5,baz=2.1,slow=6.5,SNR=50							

MAN 24 19:14:16.4, 8.57N×123.41E, h16km, mb3.5, ML2.2, MS1.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.05**	**286**	⇑*i*P	Pb	19 14 20.1	+0.6
DCPH				*i*S	Sb	19 14 22.7	+1.2
PAGZ	**Pagadian**	**0.72**	**182**	*e*P	Pb	19 14 30.0	-0.1
PAGZ				*e*S	Sb	19 14 40.4	+1.0
IPIL	**Ipil**	**1.13**	**227**	*e*P	Pb	19 14 37.6	+0.4
IPIL				*e*S	Sb	19 14 53.5	+2.1

IDC 24 19:32:10.4±1.6, 12.16N×142.70E, mb3.5/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.5/4, Error ellipse: s-maj=247.3km s-min=23.1km az=109.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.94**	**195**	P	P	19 38 46.3	-2.7
0.8nm,0.8s,baz=17,slow=9.7,SNR=6.1							
ASAR	**Alice Springs**	**36.63**	**194**	P	P	19 39 19.1	-1.5
0.3nm,0.5s,baz=23,slow=11,SNR=7.0							
ILAR	**Eielson Array**	**70.76**	**25**	P	P	19 43 27.9	-2.2
0.5nm,0.6s,baz=254,slow=6.3,SNR=14							
YKA	**Yellowknife Ar**	**85.09**	**27**	P	P	19 44 48.5	-0.5
0.2nm,0.6s,baz=288,slow=5.0,SNR=5.9							

IDC 24 19:35:48.7±4.8, 29.87S×177.72W, mb3.2/2, mb1 3.4/2, mb1mx3.4/14, mbtmp3.2/2, Error ellipse: s-maj=279.0km s-min=68.4km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRZ	**Mangatainoka R**	**12.08**	**205**	SN	S	19 40 52.9	-8.9
TCW	**Tory Channel**	**13.05**	**208**	SN	S	19 41 14.6	-11
TUWZ	**Tuamarina**	**13.37**	**208**	SN	S	19 41 23.4	-10
NNZ	**Nelson**	**13.44**	**210**	SN	S	19 41 24.2	-10
NNZ				SN	S	19 41 24.5	-10
KHZ	**Kahutara**	**14.37**	**207**	SN	S	19 41 46.0	-11
LTZ	**Lake Taylor**	**15.19**	**209**	SN	S	19 42 02.1	-14
MQZ	**McQueen's Vall**	**15.80**	**206**	SN	S	19 42 15.7	-15
ASAR	**Alice Springs**	**43.38**	**266**	P	P	19 43 53.1	-1.7
0.2nm,0.6s,baz=106,slow=7.4,SNR=6.4							
WRA	**Warramunga Arr**	**44.32**	**271**	P	P	19 44 00.7	-1.8
0.2nm,0.4s,baz=110,slow=8.0,SNR=11							
FINES	**FINESS Array B**	**144.73**	**340**	PKP	PKPdf	19 55 26.2	-2.3
1.3nm,0.5s,baz=58,slow=3.8,SNR=23							

ECX 24 19:41:46.9±0.3, 30.36N×114.41W, h7km, ML3.5, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.14**	**307**	⇑*e*P	Pb	19 42 06.4	-2.1
SPX				*e*S	Sb	19 42 22.3	-0.9
ECBX	**El Chinero**	**1.24**	**334**	*e*S	Sb	19 42 24.7	-1.5
RDX	**Rancho Dowling**	**2.05**	**320**	*e*PN	Pn	19 42 22.0	-0.2
RDX				*e*S	Sn	19 42 49.0	+0.8
CPBX	**Cerro Prieto**	**2.19**	**340**	*e*PN	Pn	19 42 23.6	-0.7
CPBX				⇓*e*		19 43 27.2	
comp=N,878nm,0.5s							
CPBX				⇓*e*		19 43 30.5	
comp=E,877nm,0.6s							
ECNX	**Esteban Cantu**	**2.28**	**305**	*e*P	Pn	19 42 24.8	-0.7
ECNX				*e*S	Sn	19 42 54.4	+0.3
ENX	**Ensenada**	**2.46**	**309**	*e*P	Pn	19 42 27.0	-1.0
ENX				*e*S	Sn	19 42 58.4	-0.3
CBX	**Cerro Bola**	**2.74**	**316**	*e*PN	Pn	19 42 31.4	-0.7

IDC 24 19:55:05.3±1.7, 6.28N×92.21E, mb3.5/4, mb1 3.8/5, mb1mx3.5/21, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=55.5km s-min=26.0km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.77**	**28**	Pn	P	19 58 23.4	-1.0
0.1nm,0.3s,baz=225,slow=14,SNR=14							
SONM	**Songino Array**	**43.14**	**14**	P	P	20 03 07.1	-2.1
0.3nm,0.6s,baz=195,slow=9.1,SNR=3.2							
WRA	**Warramunga Arr**	**48.95**	**123**	P	P	20 03 54.3	-1.3
0.3nm,0.3s,baz=304,slow=8.7,SNR=3.2							
ASAR	**Alice Springs**	**50.42**	**128**	P	P	20 04 04.2	-2.7
0.6nm,0.8s,baz=303,slow=7.8,SNR=7.4							
GERES	**GERESS Array B**	**77.74**	**319**	P	P	20 07 04.6	-1.2
0.2nm,0.4s,baz=80,slow=6.0,SNR=3.8							

*IDC **24** 19:57:03.0±0.8, 12.87N×92.98E, mb3.7/11, mb1 4.0/12, mb1mx3.8/23, mbtmp3.8/12, ML4.3/1, MS2.7/1, Ms1 2.9/1, ms1mx2.6/20, Error ellipse: s-maj=36.8km s-min=14.8km az=53.0*
*NEIC **24** 19:57:07.7±0.4, 12.90N×93.06E, h30km, mb4.3/1, Error ellipse: s-maj=10.6km s-min=7.5km az=56.0*
ISC 24 19:57:03.5±3.9, 12.8N±0.1×93.03E±0.08, h15km±27km, n25, σ0965/27, mb3.7/12, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**7.98**	**45**	*e*P	**Pn**	**19 59 00.7**	**-1.0**
9.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**7.98**	**45**	Pn	**Pn**	**19 59 00.6**	**-1.1**
1.0nm,0.3s,baz=235,slow=15,SNR=26							
CMAR				Sn	**Sn**	**20 00 25.5**	**-6.9**
0.2nm,0.3s,baz=238,slow=28,SNR=2.7							
CMAR				LR	LR	20 02 32.8	
comp=Z,48nm,19.0s,baz=225,slow=41							
CHG	**Chiang Mai**	**8.22**	**43**	P	**P**	**19 59 06.5**	**+1.4**
14nm,0.8s							
NANT	**Nan**	**9.46**	**50**	P	**P**	**19 59 22.5**	**+0.2**
VIS	**Vishakhapatnam**	**10.54**	**299**	*e*P	**P**	**19 59 36.5**	**-0.7**
VIS				*e*S	**S**	**20 01 25.0**	**-11**
JIRN	**Jiri**	**16.07**	**338**	*e*P	**P**	**20 00 50.7**	**+0.1**
9.9nm,0.3s							
PKI	**Pulchoki**	**16.30**	**335**	*e*P	**P**	**20 00 53.3**	**-0.2**
9.1nm,0.3s							
GUN	**Gumba**	**16.42**	**337**	*e*P	**P**	**20 00 54.9**	**-0.1**
DMN	**Daman**	**16.46**	**334**	*e*P	**P**	**20 00 55.8**	**+0.3**
13nm,0.4s							
KKN	**Kakani**	**16.55**	**335**	*e*P	**P**	**20 00 56.5**	**-0.1**
3.4nm,0.2s							
GKN	**Gorkha**	**17.00**	**334**	*e*P	**P**	**20 01 02.6**	**+0.2**
20nm,0.2s							
KOLN	**Koldanda**	**17.27**	**331**	*e*P	**P**	**20 01 07.5**	**+1.7**
5.9nm,0.2s							
MKAR	**Makanchi Array**	**35.03**	**347**	P	**P**	**20 03 57.4**	**-0.2**
0.2nm,0.3s,mb3.5,baz=180,slow=7.2,SNR=2.7							
SONM	**Songino Array**	**36.63**	**15**	P	**P**	**20 04 11.6**	**+0.5**
0.5nm,0.9s,mb3.3,baz=196,slow=9.0,SNR=3.7							
BVAR	**Borovoye Array**	**43.97**	**340**	P	**P**	**20 05 11.4**	**-0.3**
0.4nm,0.5s,mb3.4,baz=150,slow=9.9,SNR=3.7							
FITZ	**Fitzroy Crossi**	**44.50**	**133**	P	**P**	**20 05 16.6**	**+0.2**
1.7nm,0.4s,mb4.3,baz=347,slow=9.8,SNR=8.9							
WRA	**Warramunga Arr**	**52.09**	**128**	P	**P**	**20 06 15.5**	**+0.1**
0.9nm,0.5s,mb4.0,baz=307,slow=8.2,SNR=7.7							
WRA				PcP	PcP	20 07 27.2	-0.2
0.4nm,0.5s,baz=321,slow=3.3,SNR=5.3							
WRAB	**Tennant Creek**	**52.10**	**128**	*e*P	**P**	**20 06 15.4**	**-0.1**
1.6nm,0.4s,mb4.3							
WB2	**Warramunga Arr**	**52.10**	**128**	⇓*i*P	**P**	**20 06 15.5**	**0.0**
ASAR	**Alice Springs**	**53.98**	**132**	P	**P**	**20 06 29.5**	**+0.2**
0.8nm,0.5s,mb3.9,baz=308,slow=7.1,SNR=29							
ASAR				PcP	PcP	20 07 35.3	+0.8
0.4nm,0.7s,baz=328,slow=3.6,SNR=4.0							
BRTR	**Keskin Array B**	**58.43**	**309**	P	**P**	**20 07 00.9**	**-0.1**
0.2nm,0.4s,mb3.5,baz=112,slow=7.8,SNR=2.7							
FINES	**FINESS Array B**	**67.84**	**331**	P	**P**	**20 08 01.9**	**-1.1**
0.4nm,0.3s,mb3.9,baz=118,slow=7.6,SNR=8.8							
ARCES	**ARCESS Array B**	**70.25**	**340**	P	**P**	**20 08 17.1**	**-0.6**
3.6nm,0.9s,mb4.3,baz=310,slow=9.5,SNR=3.6							
GERES	**GERESS Array B**	**73.44**	**317**	P	**P**	**20 08 38.0**	**+1.1**
0.1nm,0.4s,mb3.1,baz=90,slow=4.0,SNR=4.1							
NOA	**NORSAR Array B**	**74.90**	**330**	P	**P**	**20 08 45.1**	**-0.1**
0.1nm,0.3s,mb3.2,baz=91,slow=2.6,SNR=2.5							

*NEIC **24** 20:04:55.5, 16.34N×94.77W, h77km, MD3.6(MEX), After MEX.*
MEX 24 20:04:56.1±0.9, 16.35N×94.80W, h74km±16km, MD3.7, 1C-1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.74**	**354**	⇓*i*P	P	20 05 10.4	-1.6
CMIG				*i*S	S	20 05 21.6	-2.1
HUIG	**Huatulco**	**1.38**	**245**	⇑*i*P	P	20 05 17.6	-2.6
HUIG				*i*S	S	20 05 36.1	-1.9
OXX	**Oaxaca**	**1.98**	**292**	*i*P	P	20 05 27.2	-1.0
OXX				*i*S	S	20 05 49.5	-2.3
VHO	**Vista Hermosa**	**1.98**	**291**	*e*P	P	20 05 26.7	-1.5
VHO				*i*S	S	20 05 49.7	-2.3
CCIG	**Comitan**	**2.56**	**91**	*i*P	P	20 05 35.5	-0.9
CCIG				*i*S	S	20 06 02.9	-3.5
TEIG	**Tepich**	**7.30**	**57**	*e*P	P	20 06 36.2	-5.9
TEIG				*e*S	S	20 07 54.2	-10

IDC 24 20:09:18.5±2.9, 16.18S×174.12W, h134km±26km, mb3.6/4, mb1 3.8/5, mb1mx3.4/17, mbtmp4.0/5, Error ellipse: s-maj=141.4km s-min=20.1km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.20**	**45**	P	P	20 10 08.0	-0.8
31nm,0.3s,baz=77,slow=3.4,SNR=29							
AFI				S	S	20 10 42.3	-4.7
112nm,0.3s,baz=32,slow=23,SNR=17							
STKA	**Stephens Creek**	**43.05**	**240**	P	P	20 17 05.4	-1.3
2.1nm,0.8s,baz=84,slow=8.6,SNR=5.7							
WRA	**Warramunga Arr**	**48.99**	**257**	P	P	20 17 51.6	-2.1
0.9nm,0.5s,baz=97,slow=6.7,SNR=18							
WRA				PcP	PcP	20 19 13.0	-2.9
0.6nm,0.4s,baz=92,slow=3.7,SNR=21							
ASAR	**Alice Springs**	**49.21**	**253**	P	P	20 17 53.5	-1.8
1.8nm,0.4s,baz=89,slow=7.6,SNR=98							
ILAR	**Eielson Array**	**83.34**	**11**	P	P	20 21 29.8	-1.6
0.2nm,0.4s,baz=209,slow=5.5,SNR=9.8							
BRTR	**Keskin Array B**	**146.31**	**320**	PKPbc	PKPbc	20 28 43.6	+0.1
1.4nm,0.7s,baz=108,slow=2.2,SNR=11							
GERES	**GERESS Array B**	**146.80**	**351**	PKPbc	PKPbc	20 28 44.7	+0.4
0.5nm,0.6s,slow=2.7,SNR=7.0							

IDC 24 20:21:01.0±9.1, 4.22N×97.09E, mb3.4/2, mb1 3.6/3, mb1mx3.2/20, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=255.9km s-min=45.3km az=76.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.27**	**7**	Pn	P	20 24 23.9	-2.8
0.1nm,0.3s,baz=193,slow=12,SNR=3.5							
WRA	**Warramunga Arr**	**43.77**	**125**	P	P	20 29 10.4	-0.1
0.4nm,0.6s,baz=301,slow=9.3,SNR=3.1							
ASAR	**Alice Springs**	**45.34**	**129**	P	P	20 29 19.6	-3.4
0.1nm,0.5s,baz=300,slow=7.7,SNR=4.1							

*GCG **24** 20:30:15.1, 13.86N×91.13W, h68km, MD3.9, ML4.2*
*SSS **24** 20:30:16.4, 13.57N×91.01W, h16km, MD3.6, ML3.7*
CASC 24 20:30:16.0±1.9, 13.77N×91.13W, h25km±9km, MD3.7, ML4.0, 9C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.74**	**318**	⇑*e*P	Pb	20 30 29.0	-1.1
JAT				*e*S	Sb	20 30 41.2	+1.5
JAT				AML	AML	20 30 41.5	
comp=N,7μm,0.2s							
IXG	**Ixpaco**	**0.77**	**58**	⇑*e*P	Pb	20 30 30.7	0.0
IXG				*e*S	Sb	20 30 43.3	+2.6
IXG				AML	AML	20 30 44.6	
comp=N,12μm,0.4s							
TP2	**Tecpan 2**	**1.01**	**6**	⇑*e*P	Pn	20 30 34.3	-0.5
TP2				*e*S	Sb	20 30 48.6	+0.9
TP2				AML	AML	20 30 51.2	
comp=N,3μm,0.5s							
RBDL	**Robledal**	**1.44**	**76**	⇑*e*P	Pn	20 30 41.1	+0.3
RBDL				*e*S	Sn	20 31 01.3	+2.2
RTR	**El Retiro**	**1.45**	**85**	⇑*e*P	Pn	20 30 41.0	0.0
RTR				*e*S	Sn	20 31 00.3	+1.1
SBLS	**San Blas**	**1.47**	**87**	⇑*e*P	Pn	20 30 41.0	-0.2
SBLS				*e*S	Sn	20 31 00.6	+0.9
SNJE	**San Jose**	**1.48**	**86**	⇑*e*P	Pn	20 30 41.3	-0.2
SNJE				*e*S	Sn	20 31 01.0	+0.8
BOQS	**Boqueron**	**1.80**	**91**	*e*P	Pn	20 30 45.4	-0.6
MTO2	**Montecristo 2**	**1.83**	**70**	*e*P	Pn	20 30 47.1	+0.7
SNET	**Serv Nac Est T**	**1.85**	**92**	*e*S	Sn	20 31 09.0	-0.4
SNET				*i*		20 31 14.1	
comp=Z,795nm,0.8s							
LFU	**La Fuente**	**1.96**	**90**	*e*P	Pn	20 30 48.1	-0.2
LFRS	**El Faro**	**2.01**	**94**	⇑*e*P	Pn	20 30 48.8	-0.3
LFRS				*e*S	Sn	20 31 12.7	-1.0
LBRS	**Las Brisas**	**2.03**	**91**	⇓*e*P	Pn	20 30 49.2	-0.1
LCBS	**La Ceiba**	**2.09**	**93**	⇑*e*P	Pn	20 30 50.0	-0.2
SNVI	**San Vicente**	**2.23**	**94**	*e*P	Pn	20 30 51.7	-0.5
SNVI				*e*S	Sn	20 31 18.7	-0.5

IDC 24 20:34:49.8±14.0, 16.88S×179.36W, h549km±153km, mb2.7/3, mb1 3.1/3, mb1mx2.8/16, mbtmp3.6/3, Error ellipse: s-maj=361.8km s-min=46.1km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.94**	**259**	P	P	20 42 08.2	-1.7
0.3nm,0.9s,baz=85,slow=7.6,SNR=5.1							
ASAR	**Alice Springs**	**44.21**	**253**	P	P	20 42 10.8	-1.2
1.0nm,0.4s,baz=88,slow=7.9,SNR=40							
ASAR				PcP	PcP	20 43 43.1	-1.9
0.5nm,1.0s,baz=104,slow=3.8,SNR=4.0							
TXAR	**Lajitas Array**	**86.22**	**58**	P	P	20 46 33.7	-0.8
0.2nm,0.7s,baz=207,slow=5.6,SNR=3.5							

IDC 24 21:01:01.1±3.4, 1.60N×96.77E, mb3.5/4, mb1 3.6/5, mb1mx3.4/20, mbtmp3.4/5, ML3.5/1, Error ellipse: s-maj=122.1km s-min=23.9km az=62.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.88**	**7**	Pn	P	21 04 58.4	-2.3
0.1nm,0.3s,baz=200,slow=11,SNR=5.3							
WRA	**Warramunga Arr**	**42.62**	**122**	P	P	21 08 59.1	-2.0
0.5nm,0.5s,baz=301,slow=9.2,SNR=5.9							
ASAR	**Alice Springs**	**43.98**	**127**	P	P	21 09 10.7	-1.6
0.2nm,0.4s,baz=302,slow=7.9,SNR=4.4							
MKAR	**Makanchi Array**	**46.75**	**346**	P	P	21 09 31.6	-2.3
0.4nm,0.3s,baz=158,slow=8.3,SNR=6.5							
SONM	**Songino Array**	**46.80**	**9**	P	P	21 09 33.2	-1.1
0.3nm,0.5s,baz=192,slow=9.2,SNR=5.5							

*NEIC **24** 21:18:49.9±0.7, 36.77N×3.40E, h10km, MG4.1(MDD), Error ellipse: s-maj=9.4km s-min=3.4km az=158.0*
*CSEM **24** 21:18:49.1±0.1, 36.85N×3.43E, h10km, ML3.5/27, Error ellipse: s-maj=1.8km s-min=1.3km az=138.0*
*CRAAG **24** 21:18:50.5, 36.78N×3.35E, Ml4.0*
*IDC **24** 21:18:50.6±2.5, 37.10N×3.39E, mb3.7/7, mb1 3.8/11, mb1mx3.6/28, mbtmp3.6/11, ML3.8/4, Error ellipse: s-maj=50.5km s-min=23.4km az=0.0*
*MDD **24** 21:18:50.2±0.7, 36.91N×3.35E, h9km±10km, mbLg3.0/5, Error ellipse: s-maj=8.8km s-min=6.2km az=1.0, PRXIMO*
*LDG **24** 21:18:52.2±0.1, 36.78N×3.39E, h10km, Ml3.6/17, Error ellipse: s-maj=3.4km s-min=2.8km az=133.0*
ISC 24 21:18:50.0±0.2, 37.02N±0.02×3.30E±0.02, h10km, n212, σ1933/278, mb3.5/7, 1D, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.30**	**152**	P	**Pg**	**21 18 53.3**	**-3.0**
ABA	**Alger-Bouzarea**	**0.31**	**225**	P	**Pg**	**21 18 56.0**	**-0.4**
EMHD	**Djebel Mahouad**	**0.87**	**199**	P	**Pb**	**21 19 04.3**	**-2.3**
ADJB	**Djebel Djouab**	**0.87**	**173**	P	**Pb**	**21 19 03.5**	**-3.2**
AKET	**Djebel Ketaf**	**1.08**	**154**	P	**Pb**	**21 19 08.1**	**-2.2**
AKF	**Akfadou**	**1.08**	**111**	P	**Pb**	**21 19 10.1**	**-0.3**
ATAF	**Djebel Tarf**	**1.39**	**145**	P	**Pn**	**21 19 14.5**	**-1.0**
EBNR	**Beni Rached**	**1.60**	**243**	P	**Pn**	**21 19 21.0**	**+2.4**
ECHA	**Ech Chlef**	**1.79**	**241**	P	**Pn**	**21 19 22.4**	**+1.2**
ECHF	**Ech Chlef**	**1.80**	**242**	P	**Pn**	**21 19 22.4**	**+1.0**
SET	**Setif**	**1.88**	**115**	P	**Pn**	**21 19 22.0**	**-0.5**
CKHR	**Kef el Ahmar**	**2.04**	**119**	P	**Pn**	**21 19 27.0**	**+2.1**
EANR	**'Ain N'Sour**	**2.07**	**240**	P	**Pn**	**21 19 27.0**	**+1.7**
DFRA	**Djebel Bou Aff**	**2.12**	**102**	P	**Pn**	**21 19 25.0**	**-1.0**
ETRT	**Tiaret**	**2.30**	**225**	P	**Pn**	**21 19 28.0**	**-0.5**
CMER	**Merouana**	**2.52**	**123**	P	Px	21 19 49.0	
OJGS	**Djebel Guires**	**2.56**	**235**	P	**Pn**	**21 19 33.0**	**+0.7**
CASM	**Ain Smara**	**2.67**	**106**	P	**Pn**	**21 19 34.0**	**+0.1**
CTEI	**Djebel Teioual**	**2.67**	**110**	P	**Pn**	**21 19 36.0**	**+2.1**
ETOS	**Mallorca**	**2.77**	**352**	P	**Pn**	**21 19 37.1**	**+1.9**
ETOS				S	**Sn**	**21 20 10.9**	**+1.8**
ETOS	**Mallorca**	**2.77**	**352**	⇓P	**Pn**	**21 19 37.2**	**+1.9**
6.6nm,0.2s,SNR=18							
ETOS				S	**Sn**	**21 20 11.7**	**+2.6**
21nm,0.2s,SNR=5.4							
ETOS	**Mallorca**	**2.77**	**352**	Pn	**Pn**	**21 19 37.2**	**+1.9**
6.6nm,0.2s,SNR=70							
ETOS				Sn	**Sn**	**21 20 10.7**	**+1.6**
21nm,0.2s,SNR=5.4							
OJBR	**Djebel Berber**	**2.79**	**240**	P	**Pn**	**21 19 35.0**	**-0.5**
CKFL	**Kef-Lekhel**	**2.81**	**102**	P	**Pn**	**21 19 36.5**	**+0.6**
CAEH	**'Ain El Ouahch**	**2.85**	**94**	P	**Pn**	**21 19 35.0**	**-1.5**
EBEN

2.3nm,0.2s,SNR=8.6
ERTA Horta de San J 4.56 330 Pn Pn 21 20 02.3 +1.6
2.3nm,0.2s,SNR=8.6
ERTA Sn **Sn** 21 20 52.7 -1.7
11nm,0.4s,SNR=5.8
EPOB Poblet 4.66 339 P **Pn** 21 20 03.6 +1.5
EPOB S **Sn** 21 20 56.5 -0.4
EPOB Poblet 4.66 339 P **Pn** 21 20 03.6 +1.5
1.0nm,0.1s,SNR=19
EPOB S **Sn** 21 20 59.0 +2.1
4.4nm,0.3s,SNR=7.9
EPOB Poblet 4.66 339 Pn **Pn** 21 20 03.6 +1.5
1.0nm,0.1s,SNR=19
EPOB Sn **Sn** 21 20 56.0 -0.9
4.4nm,0.3s,SNR=7.9
EVIA Vianos 4.87 291 P **Pn** 21 20 05.5 +0.4
EVIA S **Sn** 21 21 03.1 +0.8
EVIA Vianos 4.87 291 P **Pn** 21 20 05.5 +0.4
5.3nm,0.4s,SNR=4.7
EVIA S **Sn** 21 21 03.0 +0.7
11nm,0.4s,SNR=7.9
EVIA Vianos 4.87 291 Pn **Pn** 21 20 05.5 +0.4
5.3nm,0.4s,SNR=4.7
EVIA Sn **Sn** 21 21 02.8 +0.5
11nm,0.4s,SNR=7.9
EBER Berja 4.96 270 P **Pn** 21 20 04.3 -2.1
EBER S **Sn** 21 21 01.0 -3.6
EBER Berja 4.96 270 Pn **Pn** 21 20 04.3 -2.1
0.8nm,0.2s,SNR=9.1
EBER Sn **Sn** 21 21 00.4 -4.2
6.4nm,0.4s,SNR=7.9
EBER S **Sn** 21 21 01.0 -3.6
EQES Quesada 5.13 281 P **Pn** 21 20 09.8 +1.0
EQES S **Sn** 21 21 08.5 -0.4
EQES Quesada 5.13 281 P **Pn** 21 20 09.8 +1.0
7.3nm,0.2s,SNR=46
EQES S **Sn** 21 21 09.2 +0.3
24nm,0.4s,SNR=9.6
EQES Quesada 5.13 281 Pn **Pn** 21 20 09.8 +1.0
7.3nm,0.2s,SNR=46
EQES Sn **Sn** 21 21 07.9 -1.0
24nm,0.4s,SNR=9.6
EQES S **Sn** 21 21 08.5 -0.4
EJON La Jonquera 5.43 357 P **Pn** 21 20 14.9 +1.9
EJON S **Sn** 21 21 13.1 -3.3
EJON La Jonquera 5.43 357 P **Pn** 21 20 14.9 +1.9
8.4nm,0.1s,SNR=24
EJON La Jonquera 5.43 357 Pn **Pn** 21 20 14.9 +1.9
8.4nm,0.1s,SNR=24
EJON Sn **Sn** 21 21 13.2 -3.1
8.4nm,0.4s,SNR=7.9
ECOG Cogollos-Vega 5.49 275 P **Pn** 21 20 14.5 +0.6
ECOG S **Sn** 21 21 21.0 +3.1
ECOG Cogollos-Vega 5.49 275 P **Pn** 21 20 14.5 +0.6
3.2nm,0.4s,SNR=4.0
ESAC San Caprasio 5.53 329 P **Pn** 21 20 16.4 +2.0
ESAC S **Sn** 21 21 18.2 -0.6
ESAC San Caprasio 5.53 329 P **Pn** 21 20 15.9 +1.5
6.2nm,0.3s,SNR=5.7
ESAC San Caprasio 5.53 329 Pn **Pn** 21 20 16.4 +2.0
6.2nm,0.3s,SNR=5.7
ESAC Sn **Sn** 21 21 18.2 -0.6
33nm,0.3s,SNR=7.9
ERON Agron 5.69 272 P **Pn** 21 20 16.4 -0.3
1.3nm,0.2s,SNR=7.9
EBAN Banos Encina 5.75 284 P **Pn** 21 20 17.7 +0.3
0.6nm,0.2s,SNR=7.9
EBAN Banos Encina 5.75 284 Sn **Sn** 21 21 21.5 -2.7
5.1nm,0.4s,SNR=4.0
ELOJ Sierra Loja 5.96 273 P **Pn** 21 20 21.9 +1.4
ELOJ Sierra Loja 5.96 273 P **Pn** 21 20 20.9 +0.4
0.7nm,0.2s,SNR=4.0
ELOJ Sierra Loja 5.96 273 P **Pn** 21 20 21.9 +1.4
ELUQ Luque 6.06 277 P **Pn** 21 20 21.6 -0.3
1.6nm,0.2s,SNR=7.3
EBIE Bielsa 6.16 338 P **Pn** 21 20 25.9 +2.6
EBIE S **Sn** 21 21 33.3 -1.3
EBIE Bielsa 6.16 338 P **Pn** 21 20 25.4 +2.1
1.2nm,0.2s,SNR=6.3
EBIE Bielsa 6.16 338 Pn **Pn** 21 20 25.9 +2.6
1.2nm,0.2s,SNR=6.3
EBIE Sn **Sn** 21 21 33.5 -1.1
2.6nm,0.4s,SNR=7.9
ESDC Sonseca Array 6.30 297 Pn **Pn** 21 20 25.2 0.0
1.9nm,0.3s,baz=112,slow=13,SNR=18
ESDC Sn **Sn** 21 21 39.9 +1.9
0.9nm,0.3s,baz=108,slow=24,SNR=3.0
ESDC Sonseca Array 6.30 297 P **Pn** 21 20 25.7 +0.5
1.1nm,0.1s,baz=113,slow=13,SNR=21
ESDC Sonseca Array 6.30 297 Pn **Pn** 21 20 25.2 0.0
1.1nm,0.1s,SNR=21
ESDC Sn **Sn** 21 21 33.1 -4.9
0.5nm,0.1s,SNR=4.0
ESLA Sonseca Array 6.30 297 *e*P **Pn** 21 20 25.0 -0.2
ESLA Sonseca Array 6.30 297 *e*P **Pn** 21 20 25.0 -0.2
EADA Adamuz 6.36 283 P **Pn** 21 20 24.3 -1.9
EADA Adamuz 6.36 283 Pn **Pn** 21 20 24.3 -1.9
0.8nm,0.2s,SNR=7.9
EADA Sn **Sn** 21 21 35.2 -4.5
1.6nm,0.5s,SNR=7.9
MTLF Montolieu 6.37 353 *e*Pn **Pn** 21 20 28.5 +2.3
MTLF *e*Sn **Sn** 21 21 38.4 -1.4
3.0nm,0.3s
EPF Esparros 6.42 340 *e*Pn **Pn** 21 20 29.1 +2.1
EPF *e*Sn **Sn** 21 21 36.9 -4.2
8.4nm,0.3s
EMIJ Mijas 6.50 268 P **Pn** 21 20 25.5 -2.6
EMIJ Mijas 6.50 268 Pn **Pn** 21 20 25.5 -2.6
1.9nm,0.4s,SNR=4.0
ETSF Etsaut 6.58 334 *e*Pn **Pn** 21 20 29.7 +0.5
ETSF *e*Sn **Sn** 21 21 42.2 -2.8
6.0nm,0.3s
LMR La Mourre 6.77 20 *e*Pn **Pn** 21 20 31.8 0.0
LMR *e*Sn **Sn** 21 21 45.1 -4.6
9.1nm,0.3s
GUD Guadarrama 6.85 304 P **Pn** 21 20 33.6 +0.5
1.1nm,0.4s,SNR=6.0
GUD Guadarrama 6.85 304 Pn **Pn** 21 20 34.4 +1.3
1.1nm,0.4s,SNR=6.0
SJPF Ste Jean 7.00 332 *e*Pn **Pn** 21 20 36.1 +0.9
SJPF *e*Sn **Sn** 21 21 52.9 -2.8
8.9nm,0.4s
FRF La Foret Royal 7.01 20 *e*Pn **Pn** 21 20 34.9 -0.4
FRF *e*Sn **Sn** 21 21 51.3 -4.6
7.2nm,0.3s
PGF Pioggiola 7.05 37 *e*Pn **Pn** 21 20 35.5 -0.3
PGF *e*Sn **Sn** 21 21 51.0 -5.8
5.5nm,0.2s
LASF Ste Croix 7.06 3 *e*Pn **Pn** 21 20 36.5 +0.5
LASF *e*Sn **Sn** 21 21 52.3 -4.8
16nm,0.3s
ECRI Cripan 7.15 323 P **Pn** 21 20 39.5 +2.3
ECRI Cripan 7.15 323 P **Pn** 21 20 37.9 +0.7
1.8nm,0.3s,SNR=5.4
ECRI Cripan 7.15 323 Pn **Pn** 21 20 39.5 +2.2
1.8nm,0.3s,SNR=5.4
SMRF Simiane la Rot 7.16 13 *e*Pn **Pn** 21 20 38.8 +1.4
SMRF *e*Sn **Sn** 21 21 57.5 -2.1
4.6nm,0.5s
ELIZ Elizondo 7.17 330 P **Pn** 21 20 38.8 +1.3
ELIZ S **Sn** 21 21 57.7 -2.0
ELIZ Elizondo 7.17 330 P **Pn** 21 20 38.2 +0.8
0.6nm,0.2s,SNR=8.4
ELIZ Elizondo 7.17 330 Pn **Pn** 21 20 38.8 +1.3
0.6nm,0.2s,SNR=8.4
ELIZ Sn **Sn** 21 21 57.4 -2.4
1.8nm,0.3s,SNR=7.9
EALK Alkurruntz 7.20 331 P **Pn** 21 20 40.0 +2.0
EALK S **Sn** 21 21 57.5 -3.2
EALK Alkurruntz 7.20 331 P **Pn** 21 20 38.8 +0.8
0.8nm,0.1s,SNR=12
EALK Alkurruntz 7.20 331 Pn **Pn** 21 20 40.0 +2.0
0.8nm,0.1s,SNR=12
EALK Sn **Sn** 21 21 58.0 -2.7
5.2nm,0.3s,SNR=7.9
SBF Sospel 7.52 23 *e*Pn **Pn** 21 20 42.4 -0.1
SBF *e*Sn **Sn** 21 22 04.3 -4.4
7.3nm,0.3s
NEGI Negi 7.60 25 P **Pn** 21 20 42.0 -1.6
IMI Imperia 7.72 25 P **Pn** 21 20 44.1 -1.1
IMI Imperia 7.72 25 P **Pn** 21 20 44.1 -1.1
MONE Monesi 7.82 24 P **Pn** 21 20 46.3 -0.3
STV Sta Anna Valdi 7.83 22 P **Pn** 21 20 46.6 -0.2
STV Sta Anna Valdi 7.83 22 P **Pn** 21 20 46.6 -0.2
STV2 Anna di Valdie 7.84 22 P **Pn** 21 20 46.7 -0.1
STV2 Anna di Valdie 7.84 22 P **Pn** 21 20 46.7 -0.1

ENR Entracque 7.85 22 P **Pn** 21 20 47.1 +0.1
ENR Entracque 7.85 22 P **Pn** 21 20 47.1 +0.1
VIVF Saint-Julien-I 7.90 7 *e*Pn **Pn** 21 20 48.2 +0.5
VIVF *e*Sn **Sn** 21 22 13.2 -4.8
10nm,0.5s
CAF Calviac 7.95 354 *e*Pn **Pn** 21 20 48.3 -0.2
EMIN Mina Concepcio 7.98 278 P **Pn** 21 20 46.5 -2.3
EMIN Mina Concepcio 7.98 278 Pn **Pn** 21 20 46.5 -2.3
0.4nm,0.3s,SNR=7.2
EMIN Sn **Sn** 21 22 14.0 -6.0
0.6nm,0.5s,SNR=7.9
PZZ Prazzo 8.01 20 P **Pn** 21 20 50.1 +0.8
PZZ Prazzo 8.01 20 P **Pn** 21 20 50.1 +0.8
ROB Roburent 8.05 24 P **P** 21 20 49.0 -0.8
ROB Roburent 8.05 24 P **P** 21 20 49.0 -0.8
ELAN Lanestosa 8.07 322 P **P** 21 20 51.7 +1.6
ELAN Lanestosa 8.07 322 P **P** 21 20 50.8 +0.8
0.9nm,0.2s,SNR=6.9
ELAN Lanestosa 8.07 322 Pn **P** 21 20 51.7 +1.6
0.9nm,0.2s,SNR=6.9
ELAN Sn **Sn** 21 22 21.1 -1.2
1.4nm,0.3s,SNR=7.9
FIN Finale Ligure 8.09 26 P **P** 21 20 49.5 -0.9
FIN Finale Ligure 8.09 26 P **P** 21 20 49.5 -0.9
ORIF Oris-en-Rattie 8.13 13 *e*Pn **P** 21 20 52.8 +1.9
ORIF *e*Sn **Sn** 21 22 19.6 -4.2
0.9nm,0.3s
MBDF Montbardon 8.13 18 *e*Pn **P** 21 20 52.1 +1.1
MBDF *e*Sn **Sn** 21 22 19.4 -4.5
6.0nm,0.6s
LFF La Frestale 8.14 347 *e*Pn **P** 21 20 50.0 -1.1
LBL Lubilhac 8.20 360 P **P** 21 20 53.3 +1.3
RRL Cesana Torines 8.32 17 P **P** 21 20 54.7 +1.1
RRL Cesana Torines 8.32 17 P **P** 21 20 54.7 +1.1
EBAD Badajoz 8.34 285 P **P** 21 20 52.4 -1.5
EBAD Badajoz 8.34 285 P **P** 21 20 53.7 -0.1
0.5nm,0.3s,SNR=7.9
EBAD Badajoz 8.34 285 P **P** 21 20 52.4 -1.5
BHB Bricherasio 8.37 20 P **P** 21 20 55.0 +0.8
BHB Bricherasio 8.37 20 P **P** 21 20 55.0 +0.8
FENE Fenestrelle 8.49 18 P **P** 21 20 57.3 +1.4
FENE Fenestrelle 8.49 18 P **P** 21 20 57.3 +1.4
PCP Pian Castagno 8.50 26 P **P** 21 20 55.5 -0.6
PCP Pian Castagno 8.50 26 P **P** 21 20 55.5 -0.6
EGRO El Granado 8.62 277 P **P** 21 20 55.3 -2.4
EGRO El Granado 8.62 277 P **P** 21 20 55.3 -2.4
RSP Reno Superiore 8.65 19 P **P** 21 20 00.1 +2.0
RSP Reno Superiore 8.65 19 P **P** 21 20 00.2 +2.0
PYM Petit Puy Mans 8.72 359 P **P** 21 21 01.0 +1.8
VINC Vinca 8.81 34 P **P** 21 20 59.5 -0.9
VINC Vinca 8.81 34 P **P** 21 20 59.5 -0.9
VINC Vinca 8.81 34 P **P** 21 20 59.5 -0.9
LPG La Plagne 8.86 16 *e*Pn **P** 21 21 02.5 +1.5
LPG *e*Sn **Sn** 21 22 37.1 -4.8
4.1nm,0.6s
LPL La Plagne 8.87 16 *e*Pn **P** 21 21 02.5 +1.3
LPL *e*Sn **Sn** 21 22 37.1 -5.2
1.8nm,0.5s
CODM 8.88 32 P **P** 21 21 00.5 -0.9
CODM 8.88 32 P **P** 21 21 00.5 -0.8
BACM 8.89 33 P **P** 21 21 01.3 -0.1
BACM 8.89 33 P **P** 21 21 01.3 -0.1
LSD Ceresole Reale 8.91 18 P **P** 21 21 03.5 +1.7
LSD Ceresole Reale 8.91 18 P **P** 21 21 03.5 +1.7
PLDF La Plantade 8.95 1 P **P** 21 21 03.1 +0.9
SARO Sassorosso 8.96 35 P **P** 21 21 01.8 -0.7
SARO Sassorosso 8.96 35 P **P** 21 21 01.8 -0.7
SARO Sassorosso 8.96 35 P **P** 21 21 01.8 -0.7
VALM 9.02 34 P **P** 21 21 02.8 -0.5
VALM 9.02 34 P **P** 21 21 02.8 -0.5
AGO Saint Agoulin 9.03 359 P **P** 21 21 04.8 +1.4
EARI Arriondas 9.04 317 P **P** 21 21 05.2 +1.6
EARI Arriondas 9.04 317 P **P** 21 21 03.7 +0.1
3.6nm,0.6s,SNR=14
EARI Arriondas 9.04 317 P **P** 21 21 05.2 +1.6
GRAM 9.05 32 P **P** 21 21 03.7 -0.1
GRAM 9.05 32 P **P** 21 21 03.7 0.0
TRAV 9.12 20 P **P** 21 21 07.3 +2.7
TRAV 9.12 20 P **P** 21 21 07.3 +2.7
ECAL Calabor 9.19 305 P **P** 21 21 05.4 -0.1
ECAL Calabor 9.19 305 P **P** 21 21 04.6 -0.9
4.2nm,0.2s,SNR=7.6
ECAL Calabor 9.19 305 P **P** 21 21 05.4 -0.2
ORX Oropa 9.29 21 P **P** 21 21 08.1 +1.1
ORX Oropa 9.29 21 P **P** 21 21 08.1 +1.0
TCF Toulx Ste Croi 9.30 355 *e*Pn **P** 21 21 06.7 -0.4
BGF Bois d'Agland 9.54 358 *e*Pn **P** 21 21 11.1 +0.7
SMF Signal de Mont 9.62 2 *e*Pn **P** 21 21 11.4 -0.2
SMF *e*Sn **Sn** 21 22 53.1 -7.8
3.4nm,0.5s
ERUA La Rua 9.67 307 P **P** 21 21 12.5 +0.3
0.7nm,0.3s,SNR=7.9
CABF La Chapelle 9.80 11 *e*Pn **P** 21 21 13.6 -0.5
MFF Saint Martin d 9.91 346 *e*Pn **P** 21 21 13.7 -1.9
ELOB Lobios 10.03 302 P **P** 21 21 17.8 +0.6
1.5nm,0.3s
ELOB Lobios 10.03 302 P **P** 21 21 17.8 +0.6
1.5nm,0.3s
SSF Saint Saulge 10.04 1 *e*Pn **P** 21 21 17.3 +0.1
SSF *e*Sn **S** 21 23 04.3 -6.7
1.7nm,0.6s
EPON Pontenova 10.18 311 P **P** 21 21 19.6 +0.4
1.3nm,0.2s
EPON Pontenova 10.18 311 P **P** 21 21 19.6 +0.4
1.3nm,0.2s
LOR Lormes 10.25 2 *e*Pn **P** 21 21 19.8 -0.4
DAVOX Davos 10.91 25 Pn **P** 21 21 27.6 -1.6
0.1nm,0.3s,baz=139,slow=20,SNR=2.4
HINF Hinteralfeld 11.10 13 *e*Pn **P** 21 21 30.7 -1.1
HAU Haudompre 11.20 11 *e*Pn **P** 21 21 32.4 -0.8
MEZF Maizieres J'vi 11.55 6 *e*Pn **P** 21 21 35.7 -2.2
CDF Champ du Feu 11.75 13 *e*Pn **P** 21 21 38.7 -2.0
QUIF Quistinic 11.88 338 *e*Pn **P** 21 21 41.4 -1.1
SGMF Saint Gilles 12.02 341 *e*Pn **P** 21 21 43.3 -1.0
ROSF Rostrenen 12.29 339 *e*Pn **P** 21 21 47.2 -0.8
BAIF Baives 13.05 3 *e*Pn **P** 21 21 59.7 +1.6
GIVF Givet 13.12 4 *e*Pn **P** 21 21 57.7 -1.3
GERES GERESS Array B 14.04 29 Pn **P** 21 22 09.5 -1.6
0.1nm,0.3s,baz=228,slow=12,SNR=2.7
MLR Muntele Rosu 18.96 56 P **P** 21 23 13.9 +0.2
0.1nm,0.3s,baz=281,slow=20,SNR=5.2
AKASG Malin Array Be 23.01 45 P **P** 21 23 54.8 -1.0
1.1nm,0.4s,mb3.6,baz=244,slow=9.8,SNR=6.2
HFS Hagfors 24.07 13 P **P** 21 24 05.6 -0.5
0.5nm,0.5s,mb3.2,baz=180,slow=5.8,SNR=5.1
NB2 NORSAR Subarra 24.56 9 P **P** 21 24 11.8 +1.0
0.6nm,0.6s,mb3.3,baz=196,slow=10
NOA NORSAR Array B 24.56 9 P **P** 21 24 12.1 +1.3
0.6nm,0.6s,mb3.3,baz=196,slow=9.9,SNR=4.3
FINES FINESS Array B 28.31 23 P **P** 21 24 43.2 -2.3
0.9nm,0.7s,mb3.5,baz=233,slow=9.5,SNR=3.6
MKAR Makanchi Array 57.27 53 P **P** 21 28 38.9 -1.0
0.8nm,0.5s,mb4.0,baz=286,slow=5.9,SNR=12
MKAR Makanchi Array 57.27 53 P **P** 21 28 38.9 -1.0
YKA Yellowknife Ar 69.08 334 P **P** 21 29 57.7 +0.1
0.2nm,0.4s,mb3.4,baz=51,slow=6.2,SNR=16
YKA Yellowknife Ar 69.08 334 P **P** 21 29 57.7 +0.1
SONM Songino Array 71.28 44 P **P** 21 30 11.6 +0.3
0.5nm,0.6s,mb3.7,baz=292,slow=6.7,SNR=7.2

MOS ***24*** *21:28:50.9±1.0,36.79N×71.21E,h100km,mb4.5/30,Error ellipse: s-maj=8.2km s-min=5.5km az=116.0*
BJI ***24*** *21:28:50.3,36.99N×71.11E,h93km,mB4.9,mb4.6*
NEIC ***24*** *21:28:51.5±0.3,36.80N×71.20E,mb4.5/25,Error ellipse: s-maj=7.4km s-min=5.2km az=19.0*
IDC ***24*** *21:28:52.7±4.2,36.77N×71.21E,h103km±38km,mb3.9/21, mb1 4.1/23,mb1mx4.0/29,mbtmp4.3/23,MS3.2/9, Ms1 3.3/9,ms1mx3.2/25,Error ellipse: s-maj=18.1km s-min=11.6km az=17.0*
NNC ***24*** *21:28:53.5±7.0,37.03N×70.76E,h149km±96km,mpv4.8, Error ellipse: s-maj=63.5km s-min=53.0km az=10.0*
ISC 24 21:28:49.4±0.4,36.68N±0.02×71.26E±0.03,h91km±4km, h91km±6.1km:pP-P,n170,σ1§20/196,mb4.3/56,13C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.90**	**169**	⇓P	**P**		**21 29 36.6**	**+2.1**
CHCP	**Chirah Chowk**	**3.43**	**151**	⇑P	**P**		**21 29 44.3**	**+2.4**
THW	**Thamme Wali**	**3.89**	**174**	⇑P	**P**		**21 29 49.1**	**+0.8**
SBDP	**Sheikh Budin**	**4.38**	**185**	P	**P**		**21 29 54.6**	**-0.4**

KSH Kashi 4.67 51 P **P** 21 30 02.8 +3.8
KSH S **S** 21 30 59.8 +7.4
SARP Sargodha 4.88 166 P **P** 21 30 01.6 -0.3
SARP S **S** 21 30 57.0 -0.6
JMU Jammu 4.96 142 *i* **S** 21 31 02.0 +2.5
DRP Derazinda 5.00 190 P **P** 21 30 03.6 +0.1
THN Thein Dam 5.61 138 *e* **P** 21 30 12.2 +0.5
THN *e* 21 31 36.6
DLH Dalhousie 5.66 135 *e* **P** 21 30 14.0 +1.5
DLH *e*S **S** 21 31 17.0 +0.2
AML Almayashu 5.76 18 P **P** 21 30 14.4 +0.5
SNR=782
UCH Uchtor 6.09 23 P **P** 21 30 18.9 +0.6
SNR=139
PONG Pong 6.10 139 *e* **P** 21 30 19.0 +0.4
PONG *e* 21 31 31.0
KZA Kyzart 6.22 29 P **P** 21 30 21.1 +1.0
SNR=37
EKS2 Erkin-Say 6.28 17 P **P** 21 30 21.4 +0.3
SNR=82
KK31 Karatay Array 6.45 355 P **P** 21 30 21.7 -1.7
14nm,0.3s,baz=186,slow=12,SNR=504
KK31 ⇑S **S** 21 31 29.6 -6.4
110nm,0.6s,baz=191,slow=23,SNR=3.2
AAK Ala-Archa 6.45 22 P **P** 21 30 24.2 +0.7
SNR=180
AAK Ala-Archa 6.45 22 ⇑P **P** 21 30 24.0 +0.6
94nm,0.5s
AAK ⇑S **S** 21 31 36.0 -0.2
230nm,0.9s
AAK Ala-Archa 6.45 22⇑*i*PN **P** 21 30 22.9 -0.5
AAK pmax pmax
comp=Z,23nm,1.0s
AAK Ala-Archa 6.45 22⇑*i*P **P** 21 30 22.9 -0.5
comp=Z,23nm,1.0s
KBK Karagaybulak 6.61 24 P **P** 21 30 26.4 +0.7
SNR=101
FRU Bishkek 6.67 22⇑*i*PN **P** 21 30 27.0 +0.5
FRU *i* 21 31 45.5
FRU pmax pmax
comp=Z,245nm,1.5s
FRU smax
comp=E,1μm,1.8s
ULHL Ulahol 6.76 33 P **P** 21 30 28.8 +1.0
SNR=25
BHK Bhakra 6.77 139 *e* **P** 21 30 30.4 +2.5
BHK *e*SN **S** 21 31 43.0 -1.0
CHMS Chumysh 6.86 22 P **P** 21 30 29.3 +0.2
SNR=216
SDNR Sundarnagar 7.00 136 *e*P **P** 21 30 30.0 -1.1
SDNR *e* 21 31 43.0
USP Ospenovka 7.04 20 P **P** 21 30 31.5 -0.1
SNR=34
TKM2 Tokmak 2 7.07 27 P **P** 21 30 32.5 +0.5
SNR=314
SMLA Simla 7.40 137⇓*i*P **P** 21 30 32.4 -4.0
SMLA *i*S **S** 21 31 58.2 -1.2
DDI Dehra Dun 8.50 136 *e* **P** 21 30 51.0 -0.5
NDI New Delhi 9.42 146 *e*P **P** 21 31 01.0 -2.8
NDI *e*S **S** 21 32 44.0 -4.7
LGTI Lohaghat 10.42 131⇓*i* **P** 21 31 16.0 -1.4
LGTI *e*S **S** 21 33 06.0 -7.0
AJM Ajmer 10.57 163 *e*P **P** 21 31 17.0 -2.4
MK31 Makanchi Array 13.03 36 ⇑P **P** 21 31 50.7 -1.3
comp=E,24nm,0.7s,baz=222,slow=13,SNR=195
MKAR Makanchi Array 13.03 36 P **P** 21 31 51.5 -0.4
comp=E,1.7nm,0.3s,baz=223,slow=14,SNR=161
KOLN Koldanda 13.70 127 *e*P **P** 21 31 58.1 -2.6
comp=E,63nm,0.6s
KOLN *e*S **S** 21 34 25.3 -5.7
GKN Gorkha 14.22 124 *e*P **P** 21 32 04.3 -3.3
comp=E,192nm,0.7s
BHPL Bhopal 14.41 157 *e*P **P** 21 32 07.1 -2.9
BHPL *e* 21 32 09.7
comp=Z,26nm,0.3s
WMQ Urumqi 14.42 55 P **P** 21 32 10.3 +0.2
WMQ AP 21 32 22.4
WMQ PP PP 21 32 23.9 +1.4
WMQ XP 21 32 35.3
WMQ S **S** 21 34 49.3 +1.3
WMQ XS 21 35 06.8
WMQ SS SS 21 35 08.5 +0.8
WMQ AMB AMB
comp=Z,32nm,1.1s
WMQ AMB AMB
comp=Z,106nm,4.9s
WMQ LR LR
comp=N,137nm,20.9s
WMQ LR LR
comp=E,72nm,14.5s
WMQ LR LR
comp=Z,40nm,15.1s
DMN Daman 14.79 124 *e*P **P** 21 32 12.3 -2.6
comp=Z,125nm,0.8s
KKN Kakani 14.79 123 *e*P **P** 21 32 11.5 -3.4
comp=Z,80nm,0.6s
KKN *e*S **S** 21 34 49.9 -6.9
PKI Pulchoki 15.02 123 *e*P **P** 21 32 15.1 -2.8
comp=Z,73nm,0.6s
JIRN Jiri 15.50 121 *e*P **P** 21 32 21.0 -2.9
comp=Z,57nm,0.4s
JIRN *e*S **S** 21 35 05.9 -7.1
BVA0 Borovoye Array 16.36 358⇓P **P** 21 32 31.7 -2.8
comp=Z,5.3nm,1.2s
BVAR Borovoye Array 16.36 358 P **P** 21 32 31.4 -3.1
comp=Z,0.8nm,0.3s,baz=174,slow=13,SNR=18
BVAR S **S** 21 35 28.6 -3.9
comp=Z,0.6nm,0.3s,baz=162,slow=23,SNR=4.3
BANOM Banah 16.66 234⇓P **P** 21 32 40.3 +1.9
ASHO Ashiyiah 17.69 232⇓P **P** 21 32 52.9 +1.7
SNR=7.3
LSA Lhasa 18.03 107 P **P** 21 32 56.0 +0.8
POO Poona 18.22 172⇓*i*P **P** 21 32 57.0 -0.6
comp=Z,30nm,1.0s
POO *e* 21 37 10.0
LATR Latur 18.78 164 *e* **S** 21 36 42.0 +15
KAD Karad 19.47 172 *e*P **P** 21 33 10.6 -0.7
KAD *e* 21 33 14.8
comp=Z,35nm,2.4s
ZAL Zalesovo 19.65 24 *i*P **P** 21 33 11.6 -1.5
ZAL pmax pmax
comp=Z,22nm,0.6s
ZAL Zalesovo 19.65 24 P **P** 21 33 11.2 -1.8
comp=Z,6.1nm,0.3s,baz=256,slow=8.5,SNR=108
ZAL LR LR 21 42 14.5
comp=Z,75nm,20.7s,baz=275,slow=41
NVS Novosibirsk 19.94 21⇑*i*P **P** 21 33 14.4 -1.7
NVS *e*S **S** 21 36 48.4 -2.0
NVS pmax pmax
comp=Z,29nm,1.1s
NVS pmax pmax
comp=N,34nm,1.2s
NVS pmax pmax
comp=E,8.0nm,1.0s
NVS smax
comp=N,35nm,1.8s
HYB Hyderabad 20.24 159 *i*P **P** 21 33 20.0 +0.5
SHL Shillong 20.80 116 *e* **P** 21 33 27.0 +1.9
GNI Garni 21.04 288 *i*P **P** 21 33 28.5 +1.0
GNI pmax pmax
comp=Z,31nm,1.5s
GNI Garni 21.04 288 P **P** 21 33 28.3 +0.8
comp=Z,9.5nm,0.7s,mb4.2,baz=7.7,slow=1.9,SNR=10.0
GNI LR LR 21 43 13.6
comp=Z,36nm,21.8s,baz=338,slow=41
GNI Garni 21.04 288 *e*P **P** 21 33 27.9 +0.5
comp=Z,27nm,1.0s,mb4.5
TI2 Plekhanov 21.12 292 *e*P **P** 21 33 28.4 +0.2
SVE Sverdlovsk 21.38 344 *e*P **P** 21 33 28.9 -1.9
SVE *e* 21 34 04.0
SVE *e* 21 37 16.3
SVE pmax pmax
comp=Z,40nm,1.3s,mb4.6
SVE MLR MLR
comp=N,100nm,12.0s
SVE MLR MLR
comp=E,100nm,12.0s
SVE MLR MLR
comp=Z,200nm,12.0s
ARU Arti 21.54 341⇑*i*P **P** 21 33 31.4 -0.9
ARU *e*S **S** 21 37 23.9 +3.6
ARU *e*SS SS 21 38 06.6 +4.0
ARU pmax pmax
comp=Z,21nm,0.9s,mb4.5
ARU Arti 21.54 341 *e*P **P** 21 33 30.7 -1.6

comp=Z,18nm,0.8s,mb4.5
ZEI Tsey 21.86 295 *e*P **P 21 33 35.9 +0.4**
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb3.9
GTA Gaotai 22.61 74 P **P 21 33 46.3 +3.4**
GTA AMB AMB
comp=Z,32nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,110nm,6.8s
GOF Gofitskoye 22.84 300 *e*P **P 21 33 46.2 +1.1**
GOF *e*S **S 21 37 45.0 +1.4**
GOF smax
comp=E,160nm,2.5s
KIV Kislovodsk 22.89 297 *e*P **P 21 33 44.4 -1.2**
KIV *e**SP 21 34 15.6
KIV *e*S **S 21 37 49.8 +5.3**
KIV pmax pmax
comp=N,4.0nm,1.0s
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
KIV MLR MLR
comp=N,10.0nm,18.0s
KIV MLR MLR
comp=E,43nm,18.0s
KIV MLR MLR
comp=Z,57nm,18.0s
WHFO Wadi Hawf 24.23 224 ⇓P **P 21 33 58.7 0.0**
SNR=8.3
KRAR Krasnoyarsk 24.24 30 *e*P **P 21 33 57.6 -0.9**
ABTO Aybut 24.95 224 ⇓P **P 21 34 05.0 -0.7**
SNR=7.1
SOC Sochi 24.98 296 *e*P **P 21 34 07.4 +1.6**
SOC *e*S **S 21 38 18.1 -2.0**
SOC pmax pmax
comp=Z,21nm,1.3s,mb4.4
SOC pmax pmax
comp=N,18nm,1.5s
SOC pmax pmax
comp=E,13nm,1.1s
MOY Mondy 25.83 45 *e*P **P 21 34 15.5 +1.9**
MOY pmax pmax
comp=Z,20nm,1.8s,mb4.2
MALT Malatya 26.03 284 *e*P **P 21 34 16.5 +0.9**
MALT pmax pmax
comp=Z,3.0nm,1.0s,mb3.7
MALT Malatya 26.03 284 *e*P **P 21 34 16.5 +0.9**
comp=Z,3.4nm,1.0s,mb3.7
LZH Lanzhou 26.18 81 *e*P **P 21 34 21.8 +4.9**
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.5
LZH AMB AMB
comp=Z,86nm,4.5s
LZH LR LR
comp=E,220nm,6.4s
LZH LR LR
comp=Z,370nm,9.6s
LZH Lanzhou 26.18 81 *e*P **P 21 34 21.7 +4.8**
LZH pmax pmax
comp=Z,20nm,1.0s,mb4.5
LZH Lanzhou 26.18 81 *e*P **P 21 34 21.7 +4.8**
comp=Z,20nm,1.0s,mb4.5
LZH pP pP 21 34 27.3 -10
LZH sP sP 21 34 29.9 -18
ZAK Zakamensk 26.72 49⇑ *i*P **P 21 34 23.1 +1.3**
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
ANN Anapa 26.74 298 *e*P **P 21 34 22.5 +0.5**
ANN *e*S **S 21 38 51.6 +2.6**
ANN pmax pmax
comp=Z,18nm,1.0s,mb4.6
TLY Talaya 27.37 47 *e*P **P 21 34 28.9 +1.2**
TLY pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
TLY Talaya 27.37 47 *e*P **P 21 34 28.9 +1.2**
comp=Z,3.1nm,0.6s,mb4.0
TLY *e* 21 34 33.7
SONM Songino Array 28.06 56 P **P 21 34 35.3 +1.2**
comp=Z,4.3nm,0.7s,mb4.1,baz=266,slow=9.7,SNR=64
SONM LR LR 21 46 56.9
comp=Z,80nm,19.9s,baz=149,slow=39
ULN Ulaanbaatar 28.50 56 *e*P **P 21 34 38.7 +0.7**
ULN pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
ULN Ulaanbaatar 28.50 56 *e*P **P 21 34 38.7 +0.7**
comp=Z,4.4nm,0.7s,mb4.2
KMI Kunming 29.24 104 P **P 21 34 47.3 +2.6**
KMI AP pP 21 35 06.4 +0.9
KMI S **S 21 39 28.1 -1.3**
KMI SS SS 21 41 09.8 +3.1
KMI AMB AMB
comp=Z,4.0nm,0.7s,mb4.2
KMI LR LR
comp=N,102nm,15.6s
KMI LR LR
comp=Z,43nm,19.5s
KMI Kunming 29.24 104 P **P 21 34 47.2 +2.5**
KMI *PP pP 21 35 06.4 +0.9
KMI S **S 21 39 28.1 -1.3**
KMI SS SS 21 41 09.7 +3.0
KMI pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
KMI MLR MLR
comp=Z,40nm,19.5s
KMI Kunming 29.24 104 P **P 21 34 47.2 +2.5**
comp=Z,4.0nm,0.7s,mb4.2
KMI pP pP 21 35 06.4 +0.9
KMI S **S 21 39 28.1 -1.3**
KMI SS SS 21 41 09.7 +3.0
KMI LR LR
comp=Z,40nm,19.5s
BRTR Keskin Array B 29.58 288 P **P 21 34 47.5 -0.2**
comp=Z,1.0nm,0.6s,mb3.6,baz=102,slow=8.4,SNR=10
OBN Obninsk 29.94 319*c* *i*P **P 21 34 49.8 -0.9**
OBN *e*S **S 21 39 43.0 +2.8**
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
CM31 Chiang Mai Arr 30.36 119 P **P 21 34 56.0 +1.2**
comp=Z,2.2nm,0.7s,mb3.9
CMAR Chiang Mai Arr 30.36 119 P **P 21 34 57.0 +2.3**
comp=Z,1.0nm,0.7s,mb3.5,baz=304,slow=9.3,SNR=7.5
CMAR LR LR 21 49 14.7
comp=Z,45nm,20.1s,baz=310,slow=40
XAN Xi'an 30.70 84 P **P 21 34 58.3 +0.7**
XAN AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
AKASG Malin Array Be 33.00 309 P **P 21 35 16.2 -1.2**
comp=Z,4.4nm,0.7s,mb4.4,baz=84,slow=7.3,SNR=17
MLR Muntele Rosu 34.88 299 P **P 21 35 34.1 +0.5**
comp=Z,5.0nm,0.9s,mb4.3,baz=76,slow=2.2,SNR=12
BOD Bodaibo 35.08 39 *e*P **P 21 35 34.8 -0.4**
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
JOF Joensuu 35.82 330 *e*p **P 21 35 40.3 -1.2**
comp=Z,10nm,0.8s,mb4.8
WHN Wuhan 36.17 87 *e*P **P 21 35 47.0 +2.2**
FINES FINESS Array B 37.45 326 P **P 21 35 54.8 -0.4**
comp=Z,2.3nm,0.8s,mb4.2,baz=104,slow=7.9,SNR=11
KAF Kangasniemi 37.59 327 *e*p **P 21 35 55.4 -0.9**
comp=Z,2.7nm,0.6s,mb4.2,baz=110,slow=8.3
KAF Kangasniemi 37.59 327 *e*P **P 21 35 55.4 -0.9**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
NIE Niedzica 38.63 306 *e*P **P 21 36 05.6 +0.5**
OJC Ojcow 38.97 307 *e*P **P 21 36 07.8 0.0**
KEV Kevo 40.72 338 *e*p **P 21 36 21.8 -0.3**
comp=Z,9.2nm,0.8s,mb4.7
KEV Kevo 40.72 338 *e*P **P 21 36 21.8 -0.3**
KEV pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
ARCES ARCESS Array B 41.06 337 P **P 21 36 25.4 +0.4**
comp=Z,13nm,0.8s,mb4.8,baz=113,slow=9.1,SNR=25
ARCES LR LR 21 54 08.0
comp=Z,79nm,19.3s,baz=226,slow=37
ARE0 ARCESS Array S 41.06 337 *e*P **P 21 36 25.2 +0.3**
VRAC Vranov 41.07 306 P **P 21 36 26.3 +1.1**
comp=Z,5.6nm,1.1s,mb4.3,baz=85,slow=8.5,SNR=4.9
DPC Dobruska-Polom 41.19 307 *e*P **P 21 36 27.1 +0.9**
DPC *e*x 21 36 34.7
CN2 Changchun 41.34 63 *e*P **P 21 36 27.5 0.0**
UPC Upice 41.38 307 *e*P **P 21 36 29.1 +1.3**
SSE Sheshan 41.44 83 *e*P **P 21 36 27.8 -0.6**
SSE AP pP 21 36 51.0 +0.8
SSE S **S 21 42 35.8 -0.7**
SSE XS 21 43 16.8
SSE AMB AMB
comp=Z,26nm,0.6s,mb5.2
SSE AMB AMB
comp=Z,79nm,4.3s
SSE LR LR
comp=N,36nm,23.6s
SSE LR LR
comp=E,14nm,23.5s
SSE LR LR
comp=Z,22nm,18.7s
SSE Sheshan 41.44 83 *e*P **P 21 36 27.8 -0.6**
comp=Z,26nm,0.6s,mb5.2
SSE pP pP 21 36 51.0 +0.8
SSE S **S 21 42 35.8 -0.7**
SSE sS 21 43 16.7
SSE SS SS 21 45 19.9 -19
SSE ScS ScS 21 46 33.5 +13
SSE LR LR
comp=Z,20nm,18.7s
PRU Pruhonice 42.35 307 *e*P **P 21 36 36.6 +0.9**
PRU *e*x x 21 36 44.5
BRG Berggiesshubel 42.68 308 *i*P **P 21 36 37.0 -1.3**
BRG pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
BRG Berggiesshubel 42.68 308 *i*P **P 21 36 37.0 -1.3**
comp=Z,7.4nm,1.1s,mb4.3
BRG *e* 21 36 39.1
BRG *e* 21 36 46.0
GERES GERESS Array B 43.00 305 P **P 21 36 41.4 +0.4**
comp=Z,0.6nm,0.8s,mb3.4,baz=90,slow=6.7,SNR=5.1
GERES LR LR 21 58 38.4
comp=Z,18nm,18.5s,baz=57,slow=42
KHC Kasperske Hory 43.05 306 *e*P **P 21 36 41.8 +0.4**
KHC *e* pP 21 37 03.5 +0.3
KHC Kasperske Hory 43.05 306 *e*P **P 21 36 41.8 +0.4**
KHC pP pP 21 37 03.5 +0.3
HFS Hagfors 43.06 322 P **P 21 36 40.8 -0.5**
comp=Z,8.4nm,0.7s,mb4.6,baz=108,slow=9.4,SNR=34
HFS Hagfors 43.06 322 P **P 21 36 40.8 -0.5**
CLL Collm 43.24 309 P **P 21 36 43.0 +0.1**
YAK Yakutsk 43.70 36 *e*P **P 21 36 46.6 +0.1**
YAK pmax pmax
comp=Z,15nm,0.7s,mb4.8
YAK Yakutsk 43.70 36 *e*P **P 21 36 46.6 +0.1**
comp=Z,15nm,0.7s,mb4.8
NB2 NORSAR Subarra 44.37 323 P **P 21 36 51.0 -0.8**
comp=Z,5.1nm,0.6s,mb4.4,baz=95,slow=7.9
NB2 NORSAR Subarra 44.37 323 P **P 21 36 51.0 -0.8**
NB2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
NOA NORSAR Array B 44.37 323 P **P 21 36 51.0 -0.9**
comp=Z,5.2nm,0.7s,mb4.3,baz=96,slow=7.9,SNR=48
NOA LR LR 21 57 18.3
comp=Z,14nm,20.9s,baz=50,slow=38
NOA NORSAR Array B 44.37 323 P **P 21 36 51.0 -0.9**
NOA LR LR 21 57 18.3
TIXI Tiksi 45.53 22 *i*P **P 21 37 01.0 0.0**
TIXI pmax pmax
comp=Z,19nm,1.6s,mb4.6
DAVOX Davos 45.84 303 P **P 21 37 02.0 -1.7**
comp=Z,1.8nm,0.6s,mb4.0,baz=43,slow=12,SNR=5.1
LPG La Plagne 48.23 302 *e*P **P 21 37 22.5 0.0**
LPL La Plagne 48.24 302 *e*P **P 21 37 22.0 -0.6**
comp=Z,5.8nm,0.8s,mb4.2
LPL La Plagne 48.24 302 *e*P **P 21 37 22.0 -0.6**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
MBDF Montbardon 48.40 301 *e*P **P 21 37 22.9 -0.9**
comp=Z,24nm,1.2s,mb4.6
MBDF Montbardon 48.40 301 *e*P **P 21 37 22.9 -0.9**
MBDF pmax pmax
comp=Z,12nm,1.2s,mb4.6
SMF Signal de Mont 49.93 304 *e*P **P 21 37 35.0 -0.6**
comp=Z,7.8nm,0.8s,mb4.4
SMF Signal de Mont 49.93 304 *e*P **P 21 37 35.0 -0.6**
SMF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LASF Ste Croix 50.59 301 *e*P **P 21 37 40.6 0.0**
BGF Bois d'Agland 50.62 304 *e*P **P 21 37 39.8 -1.0**
TCF Toulx Ste Croi 51.11 304 *e*P **P 21 37 44.2 -0.4**
comp=Z,12nm,1.0s,mb4.6
TCF Toulx Ste Croi 51.11 304 *e*P **P 21 37 44.2 -0.4**
TCF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MTLF Montolieu 51.94 300 *e*P **P 21 37 49.9 -0.9**
comp=Z,14nm,1.1s,mb4.6
MTLF Montolieu 51.94 300 *e*P **P 21 37 49.9 -0.9**
MTLF pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
LDF La Druitiere 52.04 307 *e*P **P 21 37 51.6 +0.1**
comp=Z,3.9nm,0.5s,mb4.4
LDF La Druitiere 52.04 307 *e*P **P 21 37 51.6 +0.1**
LDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
FLN La Foliniere 52.23 307 *e*P **P 21 37 52.4 -0.5**
FLN *e*R
comp=Z,58nm,19.2s
EKA Eskdalemuir Ar 52.31 316 P **P 21 37 50.8 -2.6**
comp=Z,3.6nm,0.9s,mb4.4,baz=84,slow=7.6,SNR=7.8
GRR Gorron 52.57 307 *e*P **P 21 37 54.5 -0.9**
comp=Z,8.7nm,0.8s,mb4.5
GRR Gorron 52.57 307 *e*P **P 21 37 54.5 -0.9**
GRR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MJAR Matsushiro Arr 52.69 69 LR LR 22 03 32.9
comp=Z,34nm,20.9s,baz=300,slow=39
ETSF Etsaut 54.01 300 *e*P **P 21 38 05.8 -0.3**
DAG Danmarks Havn 54.62 344 *e*P **P 21 38 10.0 -0.2**
DAG Danmarks Havn 54.62 344 *i*P **P 21 38 10.0 -0.2**
ESDC Sonseca Array 57.56 298 P **P 21 38 30.8 -0.9**
comp=Z,3.7nm,1.0s,mb4.4,baz=51,slow=7.6,SNR=6.1
BILL Bilibino 58.36 26 P **P 21 38 37.0 +0.2**
BILL *e* 21 39 06.0
BILL *e*S **S 21 46 38.3 +7.9**
SUMG Summit 60.96 341 *e*P **P 21 38 55.2 +0.5**
comp=Z,5.1nm,0.8s,mb4.6
INK Inuvik 73.70 9 *e*P **P 21 40 15.2 +1.0**
INK pmax pmax
comp=Z,11nm,1.3s
INK Inuvik 73.70 9 P **P 21 40 15.2 +1.0**
comp=Z,6.0nm,0.9s,mb4.3,baz=347,slow=6.5,SNR=15
INK Inuvik 73.70 9 *e*P **P 21 40 15.2 +1.0**
comp=Z,11nm,1.3s,mb4.4
COLA College 74.25 16 *i*P **P 21 40 17.7 +0.2**
ILAR Eielson Array 74.55 16 P **P 21 40 19.4 +0.2**
comp=Z,1.2nm,0.8s,mb3.7,baz=329,slow=5.3,SNR=3.3
BOSA Boshof 78.02 220 P **P 21 40 41.3 +1.9**
comp=Z,2.4nm,0.9s,mb3.9,baz=50,slow=18,SNR=3.4
YKA Yellowknife Ar 81.06 3 P **P 21 40 56.0 +0.8**
comp=Z,6.0nm,0.7s,mb4.5,baz=349,slow=5.5,SNR=139
YKA LR LR 22 17 25.7
comp=Z,37nm,20.2s,baz=260,slow=36
YKA Yellowknife Ar 81.06 3 P **P 21 40 56.0 +0.8**
YKA LR LR 22 17 25.7
WRA Warramunga Arr 81.91 122 P **P 21 40 59.9 -0.5**
comp=Z,0.3nm,0.5s,mb3.4,baz=323,slow=5.0,SNR=8.9
WRAB Tennant Creek 81.91 122 P **P 21 41 00.8 +0.4**
FCC Fort Churchill 84.13 352 *e*P **P 21 41 12.2 +1.4**
FCC pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
FCC Fort Churchill 84.13 352 *e*P **P 21 41 12.2 +1.4**
comp=Z,8.9nm,0.9s,mb4.6
ASAR Alice Springs 84.18 125 P **P 21 41 11.9 0.0**
comp=Z,0.7nm,0.7s,mb3.6,baz=310,slow=5.1,SNR=19
FFC Flin Flon 88.78 356 *e*P **P 21 41 34.9 +1.4**
FFC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FFC Flin Flon 88.78 356 *e*P **P 21 41 34.9 +1.4**
comp=Z,9.5nm,0.9s,mb4.8

IDC 24 21:33:07.4±62.0, 19.11S×178.09W, mb3.7/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=1136.0km s-min=159.9km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.33**	**243**	P	P	P	21 40 30.2	-1.6
	1.4nm,0.9s,baz=79,slow=11,SNR=4.9							
WRA	**Warramunga Arr**	**44.72**	**261**	P	P	P	21 41 22.3	-2.2
	0.2nm,0.3s,baz=97,slow=7.6,SNR=16							
ASAR	**Alice Springs**	**44.77**	**255**	P	P	P	21 41 23.4	-1.5
	0.6nm,0.5s,baz=98,slow=7.3,SNR=11							

*IDC **24** 21:44:17.5±3.6, 32.69N×118.23W, mb3.2/2, mb1 3.5/3, mb1mx3.3/20, mbtmp3.1/3, ML2.8/1, Error ellipse: s-maj=137.6km s-min=32.4km az=95.0*
*NEIC **24** 21:44:28.4, 33.80N×118.63W, h10km, ML3.6(PAS), After PAS.*
NEIC Felt [III] at Los Angeles, Malibu, Manhattan Beach, Playa del Rey, Santa Monica and Venice; [II] at Culver City, Hermosa Beach, Lawndale and Marina del Rey.

ISC 24 21:44:25.5±1.2, 33.69N±0.10×118.66W±0.09, h10km, n23, σ0:89/24, mb3.2/2, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MWC	**Mount Wilson**	**0.73**	**43**	*e*P		**Pb**	**21 44 39.7**	**-0.2**
PFO	**Pinyon Flat Ob**	**1.84**	**92**	*e*P		**Pn**	**21 44 57.9**	**+0.4**
BAR	**Barrett**	**1.95**	**121**	*e*P		**Pn**	**21 44 58.7**	**-0.3**
DAC	**Darwin (Calif)**	**2.73**	**18**	*e*P		**Pn**	**21 45 10.7**	**+0.4**
LDFC	**Landfair**	**3.25**	**64**	Pn		**Pn**	**21 45 16.9**	**-0.7**
LRV	**Little Rabbit**	**3.34**	**325**	*e*P		**Pn**	**21 45 18.6**	**-0.4**
MTUM	**Tungsten Hills**	**3.66**	**1**	*e*Pn		**Pn**	**21 45 24.2**	**+0.8**
NEN	**Nelson**	**3.71**	**57**	*e*P		**Pn**	**21 45 23.8**	**-0.3**
SAO	**San Andreas Ge**	**3.82**	**324**	*e*Pn		**Pn**	**21 45 25.1**	**-0.7**
OMM	**Old Mammoth Mi**	**3.93**	**356**	*e*Pn		**Pn**	**21 45 28.5**	**+1.1**
TPH	**Tonopah**	**4.53**	**15**	*e*Pn		**Pn**	**21 45 33.5**	**-2.3**
CMB	**Columbia Colle**	**4.56**	**343**	*e*Pn		**Pn**	**21 45 35.4**	**-0.9**
NVAR	**Mina Array Bea**	**4.74**	**3**	Pn		**Pn**	**21 45 43.1**	**+4.2**
	0.3nm,0.3s,baz=184,slow=14,SNR=3.7							
NVAR				Sn		**Sn**	**21 46 50.9**	**+16**
	2.2nm,0.3s,baz=211,slow=21,SNR=5.3							
MNV	**Mina**	**4.75**	**5**	*e*Pn		**Pn**	**21 45 37.4**	**-1.6**
TRCR	**Troy Canyon**	**5.28**	**27**	Pn		**Pn**	**21 45 47.0**	**+0.6**
WCN	**Washoe City**	**5.67**	**351**	Pn		**Pn**	**21 45 55.7**	**+3.8**
ARUT	**Antelope Range**	**5.90**	**45**	Pn		**Pn**	**21 45 55.6**	**+0.4**
MVU	**Marysvale**	**7.09**	**46**	*e*Pn		**Pn**	**21 46 12.8**	**+0.7**
MSU	**Marysvale**	**7.12**	**46**	Pn		**Pn**	**21 46 11.6**	**-0.8**
PV01	**Paradox Valley**	**9.31**	**59**	Pn		**P**	**21 46 42.9**	**+0.1**
HLID	**Hailey**	**10.40**	**17**	Pn		**P**	**21 46 58.5**	**+0.6**
YKA	**Yellowknife Ar**	**28.94**	**4**	P		**P**	**21 50 27.5**	**+0.8**
	0.2nm,0.7s,mb3.0,baz=188,slow=8.3,SNR=5.3							
ILAR	**Eielson Array**	**35.55**	**340**	P		**P**	**21 51 25.4**	**+0.9**
	0.3nm,0.6s,mb3.4,baz=157,slow=8.3,SNR=6.3							

IDC 24 21:50:20.3±3.3, 1.70S×99.93E, mb3.5/6, mb1 3.7/6, mb1mx3.5/18, mbtmp3.5/6, Error ellipse: s-maj=135.1km s-min=20.1km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.05**	**357**	P		P	21 54 55.6	-2.5
	0.2nm,0.4s,baz=185,slow=10.0,SNR=3.3							
WRA	**Warramunga Arr**	**38.20**	**121**	P		P	21 57 41.7	-2.1
	0.5nm,0.5s,baz=303,slow=9.1,SNR=8.6							
ASAR	**Alice Springs**	**39.48**	**126**	P		P	21 57 53.2	-1.2
	0.3nm,0.5s,baz=302,slow=7.9,SNR=6.7							
SONM	**Songino Array**	**49.65**	**6**	P		P	21 59 13.8	-1.9
	0.6nm,0.7s,baz=180,slow=8.6,SNR=6.6							
MKAR	**Makanchi Array**	**50.72**	**344**	P		P	21 59 22.3	-1.6
	0.6nm,0.4s,baz=160,slow=8.6,SNR=21							
ZAL	**Zalesovo**	**56.85**	**349**	P		P	22 00 05.7	-3.3
	1.2nm,0.5s,baz=295,slow=7.7,SNR=7.2							

IDC 24 21:52:42.8±6.6, 1.94S×99.03E, mb3.7/3, mb1 3.9/3, mb1mx3.4/18, mbtmp3.7/3, MS3.9/1, Ms1 3.9/1, ms1mx2.9/24, Error ellipse: s-maj=299.5km s-min=30.3km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.86**	**120**	P		P	22 00 09.6	-2.2
	0.3nm,0.5s,baz=295,slow=8.2,SNR=4.6							
CBIJ	**Chichi jima**	**50.60**	**52**	LR		LR	22 18 56.6	
	comp=Z,135nm,21.5s,baz=91,slow=31							
MKAR	**Makanchi Array**	**50.72**	**345**	P		P	22 01 44.8	-1.6
	0.4nm,0.6s,baz=139,slow=8.9,SNR=5.1							
ZAL	**Zalesovo**	**56.93**	**350**	P		P	22 02 28.7	-3.4
	0.7nm,0.3s,baz=180,slow=13,SNR=2.9							
TXAR	**Lajitas Array**	**145.24**	**36**	PKPbc		PKPbc	22 12 23.3	-0.2
	0.4nm,0.5s,baz=210,slow=1.0,SNR=5.3							

IDC 24 22:09:29.1±1.3, 8.77S×130.31E, mb3.5/3, mb1 3.6/6, mb1mx3.5/15, mbtmp3.5/6, ML3.2/3, MS3.8/1, Ms1 3.8/1, ms1mx2.9/16, Error ellipse: s-maj=70.1km s-min=21.3km az=74.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.32**	**206**	Pn		P	22 11 59.4	-2.3
	0.7nm,0.3s,baz=56,slow=11,SNR=10							
FITZ				Sn		S	22 13 52.3	-7.1
	0.8nm,0.3s,baz=238,slow=19,SNR=4.3							
WRA	**Warramunga Arr**	**11.77**	**161**	Pn		P	22 12 17.4	-4.1
	0.1nm,0.3s,baz=334,slow=13,SNR=9.5							
WRA				Sn		S	22 14 25.4	-9.4
	0.2nm,0.3s,baz=332,slow=22,SNR=5.8							
ASAR	**Alice Springs**	**15.21**	**167**	Pn		P	22 13 04.5	-2.5
	0.1nm,0.3s,baz=347,slow=14,SNR=4.8							
ASAR				Sn		S	22 15 47.9	-9.2
	0.0nm,0.3s,baz=331,slow=17,SNR=3.0							
STKA	**Stephens Creek**	**25.27**	**157**	P		P	22 14 57.6	-1.1
	0.7nm,0.4s,baz=324,slow=10,SNR=4.3							
DZM	**Mont Dzumac**	**37.15**	**115**	LR		LR	22 30 16.4	
	comp=Z,134nm,18.7s,baz=192,slow=34							
SONM	**Songino Array**	**60.21**	**342**	P		P	22 19 39.0	-2.4
	0.1nm,0.6s,baz=158,slow=7.8,SNR=2.4							
MKAR	**Makanchi Array**	**69.87**	**327**	P		P	22 20 41.9	-1.9
	0.3nm,0.6s,baz=122,slow=7.8,SNR=5.3							

IDC 24 22:10:40.3±2.4, 16.72S×177.59W, h389km±90km, mb3.0/3, mb1 3.3/4, mb1mx3.0/17, mbtmp3.8/4, Error ellipse: s-maj=298.5km s-min=22.4km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.26**	**64**	P		P	22 12 14.9	-1.1
	2.7nm,0.3s,baz=292,slow=19,SNR=4.4							
AFI				S		S	22 13 34.1	+2.8
	0.9nm,0.3s,baz=144,slow=19,SNR=1.7							
WRA	**Warramunga Arr**	**45.63**	**258**	P		P	22 18 23.3	-2.3
	0.4nm,0.8s,baz=96,slow=7.6,SNR=6.1							
ASAR	**Alice Springs**	**45.88**	**253**	P		P	22 18 26.3	-1.2
	1.0nm,0.4s,baz=88,slow=8.1,SNR=20							
ILAR	**Eielson Array**	**84.56**	**13**	P		P	22 22 30.3	-1.1
	0.4nm,0.4s,baz=222,slow=5.6,SNR=12							

IDC 24 22:15:51.7±14.0, 18.17S×177.57W, h534km±122km, mb3.2/4, mb1 3.5/4, mb1mx3.1/17, mbtmp4.1/4, Error ellipse: s-maj=182.7km s-min=32.6km az=134.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.37**	**260**	P		P	22 23 22.3	-1.7
	0.6nm,0.4s,baz=95,slow=7.1,SNR=21							
WRA				PcP		PcP	22 24 50.3	-2.2
	0.3nm,0.9s,baz=90,slow=3.9,SNR=6.5							
ASAR	**Alice Springs**	**45.49**	**254**	P		P	22 23 23.7	-1.2
	1.1nm,0.4s,baz=91,slow=8.1,SNR=25							
ASAR				PcP		PcP	22 24 50.9	-2.0
	0.6nm,0.5s,baz=106,slow=3.8,SNR=7.5							
ILAR	**Eielson Array**	**85.96**	**13**	P		P	22 27 35.5	-0.2
	0.4nm,0.4s,baz=220,slow=4.8,SNR=15							
INK	**Inuvik**	**91.92**	**15**	P		P	22 28 00.9	-2.4
	1.0nm,0.3s,baz=290,slow=2.4,SNR=4.9							
BRTR	**Keskin Array B**	**145.53**	**315**	PKPbc		PKPbc	22 34 29.9	-0.2
	0.9nm,0.8s,baz=62,slow=1.4,SNR=5.5							
GERES	**GERESS Array B**	**148.06**	**346**	PKPbc		PKPdf	22 34 37.4	+4.7
	0.6nm,0.5s,baz=25,slow=3.4,SNR=8.2							

*IDC **24** 22:36:40.2±1.9, 2.04N×96.27E, mb3.9/5, mb1 4.1/6, mb1mx3.7/20, mbtmp3.9/6, ML3.7/1, MS3.3/1, Ms1 3.5/1, ms1mx2.8/20, Error ellipse: s-maj=73.8km s-min=25.8km az=56.0*
*NEIC **24** 22:36:44.6±0.9, 2.00N×96.29E, h30km, mb3.8/1, Error ellipse: s-maj=17.1km s-min=14.2km az=50.0*

ISC 24 22:36:42.5±1.2, 2.0N±0.1×96.3E±0.1, h30km, n11, σ0:72/11, mb4.1/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.46**	**53**	*eP*	**Pn**	**22 38 03.3**	**-0.7**
CM31	**Chiang Mai Arr**	**16.57**	**9**	*eP*	**P**	**22 40 35.6**	**+1.1**
	6.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.57**	**9**	Pn	**P**	**22 40 35.0**	**+0.5**
	0.1nm,0.3s,baz=197,slow=11,SNR=21						
CMAR				LR	LR	22 48 01.8	
	comp=Z,91nm,18.7s,baz=185,slow=41						
WRA	**Warramunga Arr**	**43.24**	**122**	P	**P**	**22 44 43.9**	**+0.5**
	0.6nm,0.9s,mb3.3,baz=301,slow=9.2,SNR=3.8						
MKAR	**Makanchi Array**	**46.25**	**347**	P	**P**	**22 45 07.1**	**+0.1**
	3.1nm,0.7s,mb4.3,baz=162,slow=8.0,SNR=37						
SONM	**Songino Array**	**46.49**	**9**	P	**P**	**22 45 08.6**	**-0.3**
	1.1nm,0.9s,mb3.8,baz=187,slow=8.9,SNR=6.7						
ZAL	**Zalesovo**	**52.62**	**351**	P	**P**	**22 45 55.2**	**-0.8**
	2.9nm,0.6s,mb4.4,baz=299,slow=6.1,SNR=14						
ZAL	**Zalesovo**	**52.62**	**351**	P	**P**	**22 45 55.2**	**-0.8**
BVAR	**Borovoye Array**	**55.20**	**341**	P	**P**	**22 46 14.3**	**-0.6**
	baz=142,slow=8.7						
ARU	**Arti**	**62.09**	**337**	*eP*	**P**	**22 47 02.1**	**-0.8**
	8.7nm,0.6s,mb5.1						
FINES	**FINESS Array B**	**78.86**	**333**	P	**P**	**22 48 45.3**	**+1.0**
	1.0nm,1.1s,mb3.7,baz=135,slow=9.8,SNR=3.1						

IDC 24 22:43:33.5±1.6, 9.11N×92.72E, mb3.6/5, mb1 3.8/6, mb1mx3.6/22, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=58.6km s-min=19.8km az=65.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.09**	**32**	Pn	P	22 46 15.2	-1.3
	0.2nm,0.3s,baz=226,slow=15,SNR=11						
MKAR	**Makanchi Array**	**38.59**	**349**	P	P	22 50 58.2	-1.8
	0.5nm,0.6s,baz=173,slow=9.8,SNR=7.4						
SONM	**Songino Array**	**40.30**	**14**	P	P	22 51 11.4	-2.6
	0.4nm,0.3s,baz=202,slow=8.6,SNR=9.5						
BVAR	**Borovoye Array**	**47.38**	**342**	P	P	22 52 09.6	-1.6
	0.3nm,0.4s,baz=135,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**50.12**	**125**	P	P	22 52 30.4	-2.4
	0.8nm,0.4s,baz=305,slow=8.5,SNR=14						
ASAR	**Alice Springs**	**51.78**	**130**	P	P	22 52 42.8	-2.6
	0.3nm,0.4s,baz=304,slow=7.0,SNR=9.2						
ASAR				PcP	PcP	22 53 58.0	-0.8
	0.5nm,0.6s,baz=308,slow=3.3,SNR=4.9						

IDC 24 22:55:42.3±3.0, 49.57S×116.28E, mb3.8/3, mb1 4.0/3, mb1mx3.7/12, mbtmp3.8/3, Error ellipse: s-maj=79.9km s-min=50.5km az=176.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**25.89**	**56**	P	P	23 01 15.7	-1.7
	1.2nm,0.7s,baz=185,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**32.89**	**32**	P	P	23 02 17.9	-2.2
	0.9nm,0.8s,baz=206,slow=8.7,SNR=3.9						
CMAR	**Chiang Mai Arr**	**69.45**	**342**	P	P	23 06 52.5	-1.8
	0.8nm,0.7s,baz=191,slow=5.9,SNR=5.7						
YKA	**Yellowknife Ar**	**149.65**	**45**	PKPbc	PKPdf	23 15 31.8	+2.2
	0.6nm,0.8s,baz=277,slow=2.4,SNR=11						

*ATH **24** 23:40:39.3, 37.44N×20.58E, h15km±2km, MD3.6/16, ML3.6*
*NEIC **24** 23:40:39.3, 37.44N×20.58E, h15km, ML3.6(ATH), After ATH.*
*CSEM **24** 23:40:43.6±0.1, 37.60N×20.62E, h40km, ML3.6, Error ellipse: s-maj=4.2km s-min=2.3km az=46.0*
ISC 24 23:40:39.9±1.1, 37.49N±0.05×20.64E±0.06, h9km±7km, n30, σ1§46/39, 1D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.69**	**357**	*eP*N	**Pg**	**23 40 53.2**	**-0.6**
VLS				*e*SN	**Sg**	**23 41 04.1**	**+1.1**
RLS	**Riolos of Patr**	**0.87**	**49**	*e*PB	**Pb**	**23 40 56.5**	**-0.2**
RLS				*e*SN	**Sn**	**23 41 11.1**	**+0.2**
ITM	**Ithomi**	**1.07**	**106**	⇓*i*PN	**Pn**	**23 41 00.0**	**-1.0**
EVR	**Evrytania**	**1.70**	**33**	*e*PN	**Pn**	**23 41 11.9**	**+2.0**
VLI	**Veliai**	**1.99**	**112**	*e*PN	**Pn**	**23 41 15.7**	**+1.6**
AGG	**Agios Georgios**	**2.03**	**40**	*e*P	**Pn**	**23 41 16.2**	**+1.6**
AGG	**Agios Georgios**	**2.03**	**40**	*e*P	**Pn**	**23 41 16.2**	**+1.5**
MGER	**Gerania Oros**	**2.14**	**76**	*e*PB	**Pb**	**23 41 16.5**	**-1.9**
JAN	**Janina**	**2.17**	**4**	*e*Pn	**Pn**	**23 41 19.2**	**+2.5**
JAN				*e*Sn	**Sn**	**23 41 46.1**	**+2.1**
JAN	**Janina**	**2.17**	**4**	*e*PN	**Pn**	**23 41 19.0**	**+2.3**
LKR	**Lokris**	**2.20**	**57**	*e*PB	**Pb**	**23 41 17.2**	**-2.2**
LKR				*e*SN	**Sn**	**23 41 46.6**	**+2.0**
KYTH	**Kithira**	**2.27**	**121**	*e*PN	**Pn**	**23 41 19.5**	**+1.4**
NAIG	**Nisos Aigina**	**2.28**	**82**	*e*PN	**Pn**	**23 41 20.0**	**+1.8**
NSAL	**Nisos Salamina**	**2.28**	**79**	*e*PB	**Pb**	**23 41 19.0**	**-1.8**
KEK	**Kerkira**	**2.32**	**344**	*e*PN	**Pn**	**23 41 19.9**	**+1.1**
KEK				*e*SN	**Sn**	**23 41 49.0**	**+1.4**
SRN	**Sarande**	**2.44**	**348**	*e*Pn	**Pn**	**23 41 21.0**	**+0.5**
SRN				*i* Sn	**Sn**	**23 41 48.6**	**-2.2**
ATH	**Athens Observa**	**2.49**	**78**	*e*PB	**Pb**	**23 41 22.4**	**-2.0**
PTL	**Penteli**	**2.62**	**77**	*e*PN	**Pn**	**23 41 23.8**	**+0.7**
NEO	**Neokhori**	**2.73**	**47**	*e*PN	**Pn**	**23 41 24.7**	**+0.1**
NEO	**Neokhori**	**2.73**	**47**	*e*Pn	**Pn**	**23 41 24.4**	**-0.2**
KZN	**Kozani**	**2.95**	**17**	*e*PN	**Pn**	**23 41 28.8**	**+1.0**
LIT	**Litokhoron**	**2.98**	**28**	*e*P	**Pn**	**23 41 28.3**	**0.0**
FNA	**Florina**	**3.34**	**10**	*e*P	**Pn**	**23 41 33.4**	**0.0**
PLG	**Polygyros**	**3.62**	**36**	*e*PN	**Pn**	**23 41 38.1**	**+0.8**
OUR	**Ouranopolis**	**3.86**	**42**	*e*P	**Pn**	**23 41 39.8**	**-0.9**
SOH	**Sokhos**	**3.94**	**32**	*e*P	**Pn**	**23 41 41.9**	**0.0**
SOH				*e*S	**Sn**	**23 42 26.8**	**-2.1**
PE1	**Pezze di Greco**	**4.15**	**324**	*e*Pn	**Pn**	**23 41 42.9**	**-2.0**
SRS	**Serrai**	**4.29**	**31**	*e*P	**Pn**	**23 41 46.0**	**-0.8**
SRS				*e*S	**Sn**	**23 42 34.5**	**-3.1**
SG1	**Sgolgore (BA)**	**4.55**	**319**	*e*Pn	**Pn**	**23 41 48.2**	**-2.3**
STON	**Ston**	**5.83**	**338**	*i* Pn	**Pn**	**23 42 04.2**	**-4.4**
STON				*i* Sn	**Sn**	**23 43 06.1**	**-10**

*CASC **24** 23:46:44.0±2.5, 8.00N×82.85W, h6km±22km, MD4.2, mb4.0(NEIC)*
*NEIC **24** 23:46:44.0, 8.00N×82.85W, h6km, mb4.0/2, MD4.2(CASC), After CASC.*
*IDC **24** 23:46:48.7±2.0, 9.23N×82.48W, mb3.5/3, mb1 3.9/6, mb1mx3.6/22, mbtmp3.7/6, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/20, Error ellipse: s-maj=67.5km s-min=16.8km az=20.0*
ISC 24 23:46:42.6±1.0, 7.9N±0.1×82.8W±0.1, h6km, n26, σ1§23/28, mb3.6/4, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.78**	**335**	⇑*e*P	**Pb**	**23 46 56.8**	**-1.4**
BUS	**Buena Vista**	**1.85**	**330**	*e*P	**Pn**	**23 47 14.7**	**-0.5**
BUS				*e*S	**Sn**	**23 47 39.4**	**+0.3**
QCR	**Quepos**	**1.98**	**318**	*e*P	**Pn**	**23 47 16.2**	**-0.8**
LCR2	**La Lucha 2**	**2.13**	**327**	*e*P	**Pn**	**23 47 19.2**	**0.0**
LAJ	**Bijagual**	**2.30**	**327**	*e*P	**Pn**	**23 47 22.5**	**+0.9**
SJS	**Escuela Geolog**	**2.33**	**329**	*e*P	**Pn**	**23 47 20.8**	**-1.1**
SJS				*e*S	**Sn**	**23 47 51.3**	**+0.2**
PRS1	**Puriscal**	**2.50**	**324**	*e*P	**Pn**	**23 47 23.3**	**-1.2**
CGA2	**Cerro Gallo 2**	**2.62**	**322**	*e*P	**Pn**	**23 47 25.9**	**-0.3**
CGA2				*e*S	**Sn**	**23 47 59.3**	**+0.7**
VPS2	**Volcan Poas 2**	**2.63**	**328**	*e*P	**Pn**	**23 47 27.6**	**+1.2**
VPS2				*e*S	**Sn**	**23 48 00.4**	**+1.5**
TRTC	**Tortuguero**	**2.76**	**342**	*e*P	**Pn**	**23 47 28.9**	**+0.6**
JCR	**Jicaral**	**2.94**	**310**	*e*P	**Pn**	**23 47 29.9**	**-0.9**
FORC	**Fortuna**	**3.10**	**324**	*e*P	**Pn**	**23 47 34.9**	**+1.9**
JTS	**JuntasAbangare**	**3.14**	**318**	Pn	**Pn**	**23 47 32.6**	**-1.0**
	72nm,0.3s,baz=106,slow=15,SNR=93						
JTS				Sn	**Sn**	**23 48 05.8**	**-6.0**
	40nm,0.3s,baz=315,slow=20,SNR=6.0						
JTS				Lg		23 48 13.3	
	30nm,0.3s,baz=296,slow=22,SNR=8.8						
JTS	**JuntasAbangare**	**3.14**	**318**	*e*P	**Pn**	**23 47 31.2**	**-2.3**
ROSC	**El Rosal**	**8.99**	**109**	Pn	**P**	**23 49 03.4**	**+7.5**
	0.4nm,0.3s,baz=307,slow=22,SNR=4.6						
SDV	**Santo Domingo**	**12.11**	**85**	Pn	**P**	**23 49 37.4**	**-1.4**
	0.2nm,0.3s,baz=248,slow=6.3,SNR=1.8						
SDV	**Santo Domingo**	**12.11**	**85**	P	**P**	**23 49 40.2**	**+1.4**
	4.0nm,0.7s						
SJG	**San Juan**	**19.13**	**56**	LR	LR	23 58 08.0	
	comp=Z,61nm,19.0s,baz=275,slow=37						
SJG	**San Juan**	**19.13**	**56**	P	**P**	**23 51 06.4**	**-2.7**
	9.8nm,0.8s						
SAML	**Samuel**	**25.78**	**130**	*e*P	**P**	**23 52 18.9**	**+2.6**
	2.6nm,1.0s,mb3.7						
NVAR	**Mina Array Bea**	**44.07**	**319**	P	**P**	**23 54 54.1**	**+0.8**
	0.3nm,0.3s,mb3.5,baz=126,slow=7.8,SNR=3.1						
YKA	**Yellowknife Ar**	**59.17**	**343**	P	**P**	**23 56 43.0**	**-3.5**
	0.4nm,0.8s,mb3.5,baz=136,slow=7.2,SNR=8.9						
YKA	**Yellowknife Ar**	**59.17**	**343**	P	**P**	**23 56 43.0**	**-3.5**
ILAR	**Eielson Array**	**71.96**	**336**	P	**P**	**23 58 07.2**	**-1.5**
	0.4nm,0.6s,mb3.5,baz=107,slow=4.8,SNR=6.6						
ASAR	**Alice Springs**	**141.50**	**242**	PKhKP		00 06 19.1	
	0.6nm,0.8s,baz=126,slow=2.2,SNR=4.4						
ASAR				PKP	PKPdf	00 06 23.3	+5.1
	0.4nm,0.8s,baz=112,slow=2.7,SNR=2.9						
WRA	**Warramunga Arr**	**142.09**	**248**	PKP	PKPdf	00 06 24.2	+4.9
	0.8nm,0.9s,baz=96,slow=2.7,SNR=5.4						

IDC 24 23:58:50.3±4.0, 2.38S×140.97E, mb3.2/2, mb1 3.5/3, mb1mx3.3/14, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=138.4km s-min=33.3km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.61**	**200**	P	P	00 03 08.5	-3.0
	0.1nm,0.3s,baz=23,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**22.23**	**197**	P	P	00 03 48.9	-1.4
	0.6nm,0.7s,baz=25,slow=11,SNR=4.2						
MKAR	**Makanchi Array**	**70.92**	**322**	P	P	00 10 09.9	-1.6
	0.2nm,0.5s,baz=112,slow=7.8,SNR=2.6						

*NEIC **25** 00:23:33.3, 40.11N×19.58E, h6km, MD3.0(ATH), After ATH.*
*ATH **25** 00:23:34.7, 40.05N×19.71E, h17km±3km, MD3.0/3*
*THE **25** 00:23:37.4, 39.94N×19.67E, h4km*
*CSEM **25** 00:23:38.3±0.3, 39.89N×19.83E, h2km, MD3.0, Error ellipse: s-maj=6.0km s-min=3.6km az=127.0*
ISC 25 00:23:35.6±1.8, 39.95N±0.05×19.6E±0.1, h10km, n11, σ1§27/17, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.29**	**144**	*e*PB	**Pb**	**00 23 42.0**	**-0.3**
KEK				*e*SB	**Sb**	**00 23 47.0**	**+0.2**
SRN	**Sarande**	**0.33**	**102**	*e*Pn	**Pn**	**00 23 40.5**	**-5.4**
SRN				*i* Sn	**Sn**	**00 23 44.0**	**-8.7**
IGT	**Igoumenitsa**	**0.71**	**125**	*e*Pg	**Pg**	**00 23 48.3**	**-1.6**
IGT				*e*Sg	**Sg**	**00 23 59.0**	**-0.4**
JAN	**Janina**	**1.02**	**106**	*e*PN	**Pn**	**00 23 53.0**	**-2.8**
JAN	**Janina**	**1.02**	**106**	*e*Pn	**Pn**	**00 23 54.5**	**-1.3**
MEV	**Metsovon**	**1.28**	**97**	*e*Pb	**Pb**	**00 24 00.6**	**+1.3**
MEV				*e*Sb	**Sb**	**00 24 19.2**	**+3.6**
FNA	**Florina**	**1.60**	**58**	*e*Pb	**Pb**	**00 24 05.1**	**+0.2**
FNA				*e*Sb	**Sb**	**00 24 25.3**	**+0.2**
KZN	**Kozani**	**1.72**	**77**	*e*PN	**Pn**	**00 24 04.2**	**-1.6**
VLS	**Valsamata**	**1.93**	**156**	*e*PN	**Pn**	**00 24 10.4**	**+1.5**
EVR	**Evrytania**	**2.01**	**120**	*e*Pg	**Pg**	**00 24 11.9**	**-3.8**
AGG	**Agios Georgios**	**2.32**	**113**	*e*Pn	**Pn**	**00 24 16.2**	**+1.8**
AGG				*e*Sn	**Sn**	**00 24 43.6**	**+0.4**

*NEIC **25** 00:33:47.9, 57.04N×153.91W, h3km, ML3.1(AEIC), After AEIC.*
*IDC **25** 00:33:55.1±9.3, 57.57N×154.03W, h84km±76km, mb2.8/3, mb1 3.0/5, mb1mx2.9/23, mbtmp3.1/5, ML3.0/2, Error ellipse: s-maj=69.5km s-min=40.6km az=10.0*
ISC 25 00:33:45.8±1.7, 56.9N±0.1×153.8W±0.1, h58km±13km, n30, σ0§81/34, mb3.5/2, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**1.14**	**34**	P	**P**	**00 34 06.7**	**+0.8**
KDAK				S	**S**	**00 34 22.1**	**+1.3**
KJL	**Kejulik**	**1.55**	**322**	P	**P**	**00 34 11.5**	**-0.2**
ACHA	**Angle Creek He**	**1.60**	**329**	P	**P**	**00 34 12.7**	**+0.3**
ACHA				S	**S**	**00 34 30.8**	**-1.2**
KAWH	**Katmai**	**1.64**	**341**	P	**P**	**00 34 12.6**	**-0.3**
ANCK	**Angle Creek**	**1.64**	**326**	P	**P**	**00 34 12.9**	**-0.1**
KAPH	**Katmai Pasha**	**1.78**	**350**	P	**P**	**00 34 15.4**	**+0.6**
KAPH				S	**S**	**00 34 36.9**	**+0.6**
KAHC	**Katmai Hardscr**	**1.92**	**340**	P	**P**	**00 34 16.9**	**+0.1**
MCNL	**McNeil River**	**2.36**	**353**	P	**P**	**00 34 23.3**	**+0.3**
AUL	**Augustine Lava**	**2.55**	**4**	P	**P**	**00 34 27.0**	**+1.3**
CNPM	**China Poot**	**3.00**	**25**	P	**P**	**00 34 32.6**	**+0.5**
IVS	**Iliamna South**	**3.19**	**6**	P	**P**	**00 34 35.4**	**+0.7**
ILW	**Iliamna West**	**3.24**	**6**	P	**P**	**00 34 35.4**	**-0.1**
BRLK	**Bradley Lake**	**3.30**	**26**	P	**P**	**00 34 36.3**	**+0.1**
NCT	**North Crescent**	**3.75**	**6**	P	**P**	**00 34 42.8**	**+0.2**
CKL	**Chakachamna La**	**4.42**	**9**	P	**P**	**00 34 51.3**	**-0.8**
BGL	**Barrier Glacie**	**4.49**	**9**	P	**P**	**00 34 52.9**	**-0.1**
STLK	**Strandline Lak**	**4.77**	**11**	P	**P**	**00 34 56.4**	**-0.5**
HIN	**Hinchinbrook I**	**5.20**	**44**	P	**P**	**00 35 02.4**	**-0.5**
CVA	**Cordova**	**5.59**	**45**	P	**P**	**00 35 07.8**	**-0.5**
EYAK	**Cordova Ski Ar**	**5.59**	**45**	P	**P**	**00 35 07.3**	**-0.9**
TRF	**Thorofare Moun**	**6.85**	**13**	P	**P**	**00 35 26.4**	**+0.5**
KTH	**Kantishna Hill**	**6.87**	**11**	P	**P**	**00 35 26.2**	**-0.1**
BALM	**Baldy**	**7.25**	**50**	P	**P**	**00 35 30.5**	**-1.0**
PNL	**Peninsula**	**8.09**	**64**	P	**P**	**00 35 42.0**	**-1.0**
ILAR	**Eielson Array**	**8.62**	**20**	P	**P**	**00 35 48.3**	**-2.1**
	0.1nm,0.3s,baz=211,slow=14,SNR=3.1						
ILAR				S	**S**	**00 37 18.0**	**-9.2**
	0.0nm,0.3s,baz=194,slow=15,SNR=2.6						
IM02	**Indian Mountai**	**9.19**	**360**	P	**P**	**00 35 56.7**	**-1.4**
INK	**Inuvik**	**14.70**	**30**	P	**P**	**00 37 11.5**	**+0.2**
	0.1nm,0.3s,baz=207,slow=4.5,SNR=2.2						
YKA	**Yellowknife Ar**	**20.31**	**58**	P	**P**	**00 38 21.2**	**+2.1**
	0.1nm,0.7s,baz=273,slow=9.9,SNR=3.1						
SONM	**Songino Array**	**56.34**	**307**	P	**P**	**00 43 23.4**	**+0.8**
	0.8nm,0.8s,mb3.8,baz=48,slow=8.0,SNR=7.5						
MKAR	**Makanchi Array**	**66.65**	**322**	P	**P**	**00 44 32.0**	**+0.3**
	0.1nm,0.4s,mb3.2,baz=45,slow=4.1,SNR=3.2						

KRSC 25 01:06:35.0±0.4, 53.78N×160.96E, h40km±13km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.88**	**220**	*e*P	P	01 06 49.6	-1.5
SPN				*i* S	S	01 07 01.0	-1.9
MKZ	**Mys Kozlova**	**0.90**	**30**	*i* P	P	01 06 50.0	-1.3
MKZ				*e*S	S	01 07 01.5	-1.8
KII	**Karymskiy**	**0.93**	**287**	*i* P	P	01 06 51.2	-0.5
KII				*i* S	S	01 07 02.9	-1.2
NLC	**Nalytchevo**	**1.14**	**238**	*e*P	P	01 06 53.8	-0.9
NLC				*e*S	S	01 07 08.0	-1.4
UGLR	**Uglovaya**	**1.40**	**247**	*i* P	P	01 06 58.1	-0.4
UGLR				*e*S	S	01 07 14.8	-1.1
AVH	**Avacha**	**1.42**	**250**	*i* P	P	01 06 58.6	-0.2
AVH				*e*S	S	01 07 15.5	-1.1
KOK	**Koryaka**	**1.47**	**252**	*i* P	P	01 06 59.1	-0.4
KOK				*e*S	S	01 07 16.3	-1.4
PET	**Petropavlovsk**	**1.57**	**242**	*e*P	P	01 06 59.3	-1.7
PET				*e*S	S	01 07 18.1	-2.2
TUMR	**Tumrok**	**1.58**	**343**	*i* P	P	01 07 01.0	0.0
TUMR				*e*S	S	01 07 19.8	-0.6
GNL	**Ganaly**	**1.79**	**268**	*e*P	P	01 07 04.1	0.0
GNL				*e*S	S	01 07 25.0	-0.8
KRMR	**Karymshinskiy**	**1.95**	**242**	P	P	01 07 06.9	+0.7
KRMR				*e*S	S	01 07 29.8	+0.2
RUS	**Russkaya**	**2.00**	**229**	*e*P	P	01 07 05.9	-1.1
RUS				*e*S	S	01 07 28.4	-2.5
KMNR	**Kamenistaya**	**2.02**	**348**	*e*P	P	01 07 07.8	+0.5
KMNR				*e*S	S	01 07 31.4	-0.2
GRL	**Gorelyy**	**2.13**	**236**	*e*P	P	01 07 08.6	-0.2
GRL				*e*S	S	01 07 32.9	-1.3
KPT	**Kopyto**	**2.23**	**349**	*e*P	P	01 07 10.7	+0.4
KPT				*e*S	S	01 07 36.5	-0.4
ZLN	**Zelenaya**	**2.24**	**358**	P	P	01 07 11.6	+1.1
APC	**Apacha**	**2.43**	**251**	*e*P	P	01 07 13.8	+0.6
APC				*e*S	S	01 07 41.6	-0.4
APC				Smax			
	30nm,0.7s						
ESO	**Esso**	**2.52**	**330**	*i* P	P	01 07 13.9	-0.5
ESO				*e*S	S	01 07 41.9	-2.2
ESO				Smax			
	40nm,0.6s						
KLY	**Klyuchi**	**2.54**	**356**	S	S	01 07 43.7	-1.1
SRDR	**Sredinnyy**	**2.64**	**345**	*i* P	P	01 07 15.5	-0.7
SRDR				*e*S	S	01 07 44.8	-2.5
KBTR	**Krutoberegovo**	**2.66**	**23**	*e*P	P	01 07 15.8	-0.6
KBTR				*e*S	S	01 07 45.5	-2.2
BKI	**Bering**	**3.25**	**62**	*e*S	S	01 07 57.2	-5.6
BKI				Smax			
	40nm,0.3s						

*NIED **25** 01:19:00, 35.70N×140.60E, h59km, Mw4.1 Best double couple: M0:1.74×10^15 NP1:φs8°, δ80°, λ91°. NP2:φs185°, δ10°, λ87°.*
*JMA **25** 01:19:41.2±0.1, 35.71N×140.63E, h51km±1km, M3.7 Broadband fault plane solution: P waves. NP1:φs234°, δ18°, λ133°. NP2:φs9°, δ77°, λ78°. Principal axes: T Plg56°, Azm263°; N Plg12°, Azm12°; P Plg31°, Azm109°;*
JMA Felt II J1.
*IDC **25** 01:19:42.0±2.7, 35.68N×140.71E, h54km±23km, mb3.7/9, mb1 3.9/12, mb1mx3.8/25, mbtmp4.1/12, ML4.2/3, MS2.8/2, Ms1 2.8/2, ms1mx2.5/30 Error ellipse: s-maj=32.2km s-min=12.4km az=78.0*
*NEIC **25** 01:19:43.9±1.6, 35.60N×140.46E, h67km±13km, mb3.9/1, Error ellipse: s-maj=19.6km s-min=10.3km az=87.0*
NEIC Recorded [2 JMA] in Chiba and Ibaraki Prefectures.
ISC 25 01:19:40.2±0.7, 35.67N±0.04×140.76E±0.09, h57km±5km, n32, σ1§03/35, mb3.9/10, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**65**	⇑P	**P**	**01 19 49.5**	**+0.8**
JCN	**Nagara**	**0.52**	**242**	⇓P	**P**	**01 19 52.6**	**+0.4**
JYT	**Yasato**	**0.73**	**321**	⇓P	**P**	**01 19 54.2**	**-0.4**
JYT				*e*S	**S**	**01 20 03.5**	**-1.9**
BSO3	**Boso 3**	**0.89**	**194**	P	**P**	**01 19 57.6**	**+0.9**
BSO1	**Boso 1**	**1.02**	**170**	P	**P**	**01 19 59.9**	**+1.2**
JAG	**Ashikaga**	**1.30**	**306**	⇓P	**P**	**01 20 01.7**	**-1.0**
JOD2	**Odawara 2**	**1.43**	**254**	⇓P	**P**	**01 20 03.8**	**-0.5**
JIM2	**Oshima 3**	**1.44**	**229**	P	**P**	**01 20 03.4**	**-1.2**
JRY	**Ryogami san**	**1.55**	**284**	P	**P**	**01 20 06.0**	**-0.1**
MJAR	**Matsushiro Arr**	**2.25**	**294**	P	**P**	**01 20 16.3**	**+0.5**
	28nm,0.3s,baz=97,slow=9.4,SNR=89						
MJAR				S	**S**	**01 20 47.3**	**+5.0**
	22nm,0.3s,baz=127,slow=14,SNR=5.3						
MAJO	**Matsushiro**	**2.25**	**294**	⇓*i*P	**P**	**01 20 16.4**	**+0.6**
MAT	**Matsushiro**	**2.25**	**294**	*e*P	**P**	**01 20 16.0**	**+0.2**
MAT				S	**S**	**01 20 45.0**	**+2.7**
MAT	**Matsushiro**	**2.25**	**294**	P	**P**	**01 20 16.3**	**+0.5**
MAT				*e*S	**S**	**01 20 45.1**	**+2.8**
JHJ	**Hachijo jima 2**	**2.67**	**198**	P	**P**	**01 20 20.8**	**-0.9**
	112nm,0.3s,baz=276,slow=21,SNR=18						
JHJ				S	**S**	**01 20 54.5**	**+1.5**
	147nm,0.3s,baz=266,slow=23,SNR=9.9						
ASAJ	**Asahikawa**	**8.56**	**9**	LR	LR	01 25 36.5	
	comp=Z,35nm,18.4s,baz=292,slow=41						
CBIJ	**Chichi jima**	**8.63**	**172**	P	**P**	**01 21 42.5**	**-2.3**
	16nm,0.3s,baz=241,slow=12,SNR=8.7						
JOW	**Kunigami**	**13.83**	**234**	LR	LR	01 27 46.0	
	comp=Z,67nm,18.7s,baz=348,slow=35						
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**01 25 27.9**	**-1.0**
	0.9nm,0.6s,mb3.6,baz=105,slow=9.7,SNR=9.7						
MKAR	**Makanchi Array**	**44.41**	**303**	P	**P**	**01 27 46.8**	**-0.1**
	2.2nm,0.7s,mb4.0,baz=86,slow=10,SNR=20						
FITZ	**Fitzroy Crossi**	**55.36**	**198**	P	**P**	**01 29 09.8**	**-1.1**
	3.7nm,0.6s,mb4.6,baz=102,slow=23,SNR=6.2						
WRAB	**Tennant Creek**	**55.63**	**187**	P	**P**	**01 29 11.7**	**-1.0**
WRA	**Warramunga Arr**	**55.64**	**187**	P	**P**	**01 29 11.8**	**-1.0**
	1.1nm,0.5s,mb4.2,baz=2.9,slow=7.5,SNR=6.1						
ASAR	**Alice Springs**	**59.36**	**187**	P	**P**	**01 29 39.1**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=16,slow=9.6,SNR=9.8						
RES	**Resolute Bay**	**64.05**	**14**	*e*P	**P**	**01 30 10.4**	**+0.8**
	0.7nm,0.4s,mb4.0						
YKA	**Yellowknife Ar**	**65.25**	**30**	P	**P**	**01 30 18.4**	**+0.9**
	0.1nm,0.6s,mb3.0,baz=304,slow=6.7,SNR=5.5						
YKA	**Yellowknife Ar**	**65.25**	**30**	P	**P**	**01 30 18.4**	**+0.9**
FINES	**FINESS Array B**	**69.78**	**332**	P	**P**	**01 30 45.9**	**+0.1**
	1.4nm,0.9s,mb3.9,baz=44,slow=8.6,SNR=11						
NB2	**NORSAR Subarra**	**75.24**	**337**	P	**P**	**01 31

QIZ AMB AMB
comp=Z,91nm,1.6s,mb5.0
QIZ LR LR
comp=N,2μm,15.0s,MS5.0
QIZ LR LR
comp=E,4μm,15.0s,MS5.0
QIZ LR LR
comp=Z,3μm,12.8s,MS4.9
TANI Tanete Lipujan 22.57 102 *e*P **P 01 34 52.6 -0.5**
CAL Calcutta 23.00 338 *e*P **P 01 35 00.5 +3.3**
CAL *e*S **S 01 39 08.9 +7.0**
NINI Niniconang 23.14 104 *e*P **P 01 34 59.2 +0.5**
AGT Agartala 23.37 346⇑*i*P **P 01 35 00.0 -0.8**
AGT *e* 01 35 35.0
BUNI Buntu Taipa 23.53 102 *e*P **P 01 35 04.2 +1.7**
KMI Kunming 24.45 12⇑P **P 01 35 12.9 +1.6**
KMI AP 01 35 19.6
KMI XP 01 35 22.8
KMI PP PP 01 35 49.6 +2.5
KMI S **S 01 39 31.6 +4.7**
KMI XS 01 39 44.3
KMI AMB AMB
comp=Z,257nm,1.2s,mb5.5
KMI LR LR
comp=N,7μm,14.2s,MS5.3
KMI LR LR
comp=E,3μm,13.3s,MS5.3
KMI LR LR
comp=Z,7μm,15.0s,MS5.3
KMI Kunming 24.45 12⇑P **P 01 35 12.9 +1.6**
KMI *SP 01 35 22.8
KMI 01 35 49.6
KMI S **S 01 39 31.6 +4.7**
KMI *SS 01 39 44.2
KMI SS SS 01 40 29.7 +7.7
KMI pmax pmax
comp=Z,257nm,1.2s,mb5.5
KMI MLR MLR
comp=Z,7μm,15.0s,MS5.3
KMI Kunming 24.45 12⇑P **P 01 35 12.9 +1.6**
comp=Z,257nm,1.2s,mb5.5
KMI pP 01 35 19.6
KMI sP 01 35 22.8
KMI PP PP 01 35 49.6 +2.5
KMI S **S 01 39 31.6 +4.7**
KMI sS 01 39 44.2
KMI SS SS 01 40 29.7 +7.7
KMI LR LR
comp=Z,7μm,15.0s,MS5.3
HYB Hyderabad 24.52 312 *e*P **P 01 35 14.0 +2.0**
HYB *e*S **S 01 39 32.0 +3.9**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.0
HYB Hyderabad 24.52 312 *e*P **P 01 35 14.0 +2.0**
comp=Z,50nm,1.0s,mb5.0
HYB *e*S **S 01 39 32.0 +3.9**
HYB Hyderabad 24.52 312 *i*P **P 01 35 14.0 +2.0**
comp=Z,50nm,1.0s,mb5.0
HYB *e*S **S 01 39 32.0 +3.9**
SHL Shillong 24.86 348 *e*P **P 01 35 15.8 +0.6**
SHL *e* 01 39 35.0
LKP Lekhapani 26.09 358 *e* **P 01 35 16.0 -11**
GYA Guiyang 26.77 19⇑*i*P **P 01 35 32.4 -0.6**
GYA AP pP 01 35 39.6 -0.5
GYA XP sP 01 35 42.8 -0.5
GYA AMB AMB
comp=Z,80nm,1.1s,mb5.2
GYA AMB AMB
comp=Z,290nm,5.7s
GYA LR LR
comp=N,4μm,14.4s,MS5.2
GYA LR LR
comp=E,2μm,13.8s,MS5.2
GYA LR LR
comp=Z,4μm,13.5s,MS5.2
GZH Guangzhou 26.85 34 P **P 01 35 37.0 +3.2**
GZH LR LR
comp=N,3μm,13.4s,MS5.1
GZH LR LR
comp=E,2μm,14.3s,MS5.1
GZH LR LR
comp=Z,6μm,14.6s,MS5.3
KAD Karad 27.83 307 *e* **P 01 35 49.0 +6.3**
JIRN Jiri 28.45 339 *e*P **P 01 35 48.8 +0.6**
comp=Z,252nm,1.3s,mb5.7
PKI Pulchoki 28.66 338 *e*P **P 01 35 50.1 0.0**
comp=Z,204nm,1.4s,mb5.7
GUN Gumba 28.79 339 *e*P **P 01 35 51.7 +0.4**
comp=Z,754nm,1.7s,mb6.2
DMN Daman 28.81 337 *e*P **P 01 35 51.8 +0.3**
comp=Z,249nm,1.5s,mb5.7
KKN Kakani 28.90 338 *e*P **P 01 35 52.5 +0.2**
comp=Z,262nm,1.3s,mb5.8
LSA Lhasa 29.02 349 P **P 01 35 50.0 -3.3**
LSA AMB AMB
comp=Z,30nm,1.1s,mb4.9
GKN Gorkha 29.34 337 *e*P **P 01 35 56.3 0.0**
comp=Z,123nm,1.1s,mb5.5
KOLN Koldanda 29.56 335 *e*P **P 01 35 58.5 +0.2**
comp=Z,115nm,1.1s,mb5.5
CD2 Chengdu 30.27 11 P **P 01 36 03.6 -0.9**
CD2 AP pP 01 36 10.3 -1.3
CD2 PP PP 01 37 01.5 -2.2
CD2 S **S 01 40 57.5 -4.1**
CD2 SS SS 01 42 36.4 -4.5
CD2 AMB AMB
comp=Z,50nm,1.3s,mb5.1
CD2 AMB AMB
comp=Z,380nm,4.2s
CD2 LR LR
comp=N,5μm,13.2s
CD2 LR LR
comp=Z,6μm,13.8s,MS5.4
MBWA Marble Bar 31.19 136 P **P 01 36 13.5 +0.8**
comp=Z,37nm,1.1s,mb5.1
QZH Quanzhou 31.40 39⇑*i*P **P 01 36 14.5 0.0**
QZH S **S 01 41 10.0 -9.4**
QZH AMB AMB
comp=Z,170nm,1.2s,mb5.8
QZH AMB AMB
comp=Z,730nm,4.1s
QZH LR LR
comp=N,6μm,14.2s,MS5.4
QZH LR LR
comp=E,3μm,16.1s,MS5.4
QZH LR LR
comp=Z,7μm,14.3s,MS5.5
NDI New Delhi 33.44 327 *e*P **P 01 36 30.0 -2.3**
NDI *e* 01 41 47.0
WHN Wuhan 33.46 27⇑P **P 01 36 32.0 -0.4**
WHN AP pP 01 36 38.4 -1.2
WHN S **S 01 41 57.0 +5.5**
WHN AMB AMB
comp=Z,630nm,5.5s
WHN LR LR
comp=Z,5μm,13.8s,MS5.4
FITZ Fitzroy Crossi 33.83 126⇑*i*P **P 01 36 34.6 -1.1**
comp=Z,22nm,0.8s,mb5.1
FITZ Fitzroy Crossi 33.83 126 P **P 01 36 34.7 -1.1**
comp=Z,23nm,0.8s,mb5.2,baz=325,slow=4.8,SNR=21
XAN Xi'an 34.52 17 P **P 01 36 40.0 -1.6**
XAN AP pP 01 36 46.9 -1.9
XAN PP PP 01 37 59.5 +1.5
XAN S **S 01 41 59.8 -8.1**
XAN AMB AMB
comp=Z,38nm,1.2s,mb5.2
XAN LR LR
comp=N,2μm,13.1s,MS5.2
XAN LR LR
comp=E,3μm,16.1s,MS5.2
XAN LR LR
comp=Z,3μm,11.9s,MS5.3
LZH Lanzhou 35.33 9⇑P **P 01 36 48.3 -0.2**
LZH AP pP 01 36 55.4 -0.2
LZH XP sP 01 36 57.5 -1.2
LZH PP PP 01 38 12.0 +3.9
LZH S **S 01 42 19.3 -1.1**
LZH XS 01 42 34.3
LZH SS SS 01 44 36.5 -1.7
LZH AMB AMB
comp=Z,130nm,1.3s,mb5.7
LZH AMB AMB
comp=Z,720nm,4.1s
LZH LR LR
comp=E,6μm,16.6s
LZH LR LR
comp=Z,6μm,18.1s,MS5.4
LZH Lanzhou 35.33 9⇑P **P 01 36 48.3 -0.2**
LZH *SP sP 01 36 57.5 -1.2
LZH 01 38 12.0
LZH S **S 01 42 19.3 -1.1**
LZH *SS 01 42 34.3
LZH SS SS 01 44 36.5 -1.7
LZH pmax pmax
comp=Z,130nm,1.3s,mb5.7
LZH MLR MLR
comp=Z,6μm,18.1s,MS5.4
LZH Lanzhou 35.33 9⇑P **P 01 36 48.3 -0.2**
comp=Z,130nm,1.3s,mb5.7
LZH pP pP 01 36 55.4 -0.2
LZH sP sP 01 36 57.5 -1.2
LZH PP PP 01 38 12.0 +3.9
LZH S **S 01 42 19.3 -1.1**
LZH sS 01 42 34.3
LZH SS SS 01 44 36.5 -1.7
LZH LR LR
comp=Z,6μm,18.1s,MS5.4
NJ2 Nanjing 36.90 31 *e*P **P 01 37 02.4 +0.6**
NJ2 AP pP 01 37 09.8 +0.8
NJ2 XP sP 01 37 13.1 +1.1
NJ2 PP PP 01 38 28.6 +0.7
NJ2 S **S 01 42 50.0 +5.4**
NJ2 XS 01 43 02.0
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,1μm,5.2s
NJ2 LR LR
comp=N,5μm,14.3s,MS5.5
NJ2 LR LR
comp=E,4μm,14.4s,MS5.5
NJ2 LR LR
comp=Z,3μm,13.6s,MS5.2
SSE Sheshan 37.45 35 P **P 01 37 05.3 -1.0**
SSE AP pP 01 37 13.9 +0.4
SSE XP sP 01 37 18.0 +1.4
SSE PP PP 01 38 32.4 -2.2
SSE S **S 01 42 54.1 +1.2**
SSE XS 01 43 08.9
SSE AMB AMB
comp=Z,48nm,1.0s,mb5.3
SSE AMB AMB
comp=Z,209nm,4.5s
SSE LR LR
comp=N,744nm,15.5s,MS4.8
SSE LR LR
comp=E,759nm,15.6s,MS4.8
SSE LR LR
comp=Z,1μm,15.9s,MS4.7
SSE Sheshan 37.45 35 P **P 01 37 05.3 -1.0**
comp=Z,48nm,1.0s,mb5.3
SSE pP pP 01 37 13.9 +0.4
SSE sP sP 01 37 18.0 +1.4
SSE PP PP 01 38 32.4 -2.2
SSE S **S 01 42 54.1 +1.2**
SSE sS 01 43 08.9
SSE SS SS 01 45 39.2 +13
SSE LR LR
comp=Z,1μm,15.9s,MS4.7
KAKA Kakadu 37.51 113 *e*P **P 01 37 05.3 -1.7**
comp=Z,52nm,1.0s,mb5.2
GTA Gaotai 38.19 3⇑*i*P **P 01 37 12.3 -0.2**
GTA AP pP 01 37 19.3 -0.4
GTA XP sP 01 37 22.8 +0.1
GTA PP PP 01 38 40.8 -2.5
GTA PPP PPP 01 39 03.3 -2.2
GTA PCP PcP 01 39 28.3 +1.0
GTA S **S 01 42 58.9 -5.2**
GTA SCS ScS 01 47 20.3 -0.2
GTA AMB AMB
comp=Z,57nm,1.2s,mb5.2
GTA AMB AMB
comp=Z,391nm,6.5s
GTA LR LR
comp=N,2μm,19.4s,MS4.9
GTA LR LR
comp=E,1μm,17.5s,MS4.9
GTA LR LR
comp=Z,2μm,18.6s,MS4.8
NWAO Narrogin (SRO) 38.75 153 P **P 01 37 15.4 -1.9**
NWAO pmax pmax
comp=Z,37nm,1.2s
NWAO Narrogin (SRO) 38.75 153 P **P 01 37 16.0 -1.3**
comp=Z,5.6nm,0.8s,mb4.3,baz=317,slow=15,SNR=2.2
NWAO Narrogin (SRO) 38.75 153 P **P 01 37 15.4 -1.9**
comp=Z,37nm,1.2s,mb5.0
JOW Kunigami 39.25 47 P **P 01 37 21.3 -0.2**
comp=Z,35nm,1.0s,mb5.0,baz=240,slow=8.1,SNR=6.8
TIA Tai'an 39.48 26 P **P 01 37 22.8 -0.5**
TIA LR LR
comp=N,1μm,14.1s,MS4.9
TIA LR LR
comp=E,770nm,14.7s,MS4.9
BTO Baotou 40.98 15 *e*P **P 01 37 34.9 -0.7**
HHC Hu-ho-hao-te 41.62 16 *e*P **P 01 37 41.8 +0.9**
HHC AP pP 01 37 49.4 +1.3
HHC XP sP 01 37 51.5 +0.4
HHC PCP PcP 01 39 37.9 -0.5
HHC SCP 01 43 26.1
HHC PCS 01 43 27.5
HHC S **S 01 43 59.1 +3.5**
HHC XS 01 44 10.3
HHC SS SS 01 47 00.3 +4.3
HHC AMB AMB
comp=Z,28nm,1.4s,mb4.7
HHC AMB AMB
comp=Z,418nm,5.9s
HHC LR LR
comp=N,2μm,16.7s,MS5.3
HHC LR LR
comp=E,2μm,15.7s,MS5.3
HHC LR LR
comp=Z,2μm,17.5s,MS5.1
WRA Warramunga Arr 41.94 122 P **P 01 37 43.3 -0.5**
comp=Z,22nm,0.8s,mb4.9,baz=300,slow=9.2,SNR=62
WRAB Tennant Creek 41.94 122 *e*P **P 01 37 43.4 -0.4**
WRAB pmax pmax
comp=Z,37nm,0.8s,mb5.1
WRAB Tennant Creek 41.94 122 *e*P **P 01 37 43.4 -0.4**
comp=Z,37nm,0.8s,mb5.1
WB2 Warramunga Arr 41.95 122⇑*i*P **P 01 37 43.5 -0.3**
BJI Beijing 42.39 22 P **P 01 37 48.0 +0.7**
BJI AP pP 01 37 54.6 +0.1
BJI XP sP 01 37 57.9 +0.4
BJI PP PP 01 39 27.4 -1.0
BJI S **S 01 44 10.8 +3.8**
BJI XS 01 44 22.4
BJI AMB AMB
comp=Z,51nm,1.0s,mb5.1
BJI AMB AMB
comp=Z,712nm,4.1s
BJI LR LR
comp=N,1μm,14.5s,MS5.1
BJI LR LR
comp=E,2μm,17.3s,MS5.1
BJI LR LR
comp=Z,757nm,21.9s,MS4.5
BJI Beijing 42.39 22 P **P 01 37 48.0 +0.7**
BJI *SP sP 01 37 57.9 +0.4
BJI 01 39 27.4
BJI S **S 01 44 10.7 +3.7**
BJI *SS 01 44 22.4
BJI pmax pmax
comp=Z,51nm,1.0s,mb5.1
BJI MLR MLR
comp=Z,760nm,21.9s,MS4.5
BJI Beijing 42.39 22 P **P 01 37 48.0 +0.7**
comp=Z,51nm,1.0s,mb5.1
BJI pP pP 01 37 54.6 +0.1
BJI sP sP 01 37 57.9 +0.4
BJI PP PP 01 39 27.4 -1.0
BJI S **S 01 44 10.7 +3.7**
BJI sS 01 44 22.4
BJI SS SS 01 47 25.2 +15
BJI LR LR
comp=Z,760nm,21.9s,MS4.5
KSH Kashi 42.87 336 *e*P **P 01 37 50.0 -1.2**
KSH *e*AP pP 01 37 57.3 -1.1
KSH *e*XP sP 01 38 00.1 -1.3
KSH *e*PP PP 01 39 31.0 -2.2
KSH *e*PCP PcP 01 39 43.0 +0.5
KSH *e*SCP 01 43 31.5
KSH *e*S **S 01 44 11.1 -2.9**
KSH *e*SS SS 01 47 17.1 -2.4
KSH *e*SCS ScS 01 47 47.1 -1.2
KSH LR LR
comp=N,600nm,8.7s
KSH LR LR
comp=E,920nm,12.9s
FORT Forrest 43.17 140 *e*P **P 01 37 56.1 +2.4**
comp=E,1μm,0.7s
ASPA Alice Springs 43.29 127⇑*i*P **P 01 37 55.2 +0.4**
ASPA *e*S **S 01 44 18.2 -2.1**
ASAR Alice Springs 43.29 127 P **P 01 37 55.0 +0.2**
comp=E,24nm,1.0s,mb4.9,baz=302,slow=7.4,SNR=110
ASAR PcP PcP 01 39 44.7 +0.6
comp=E,7.8nm,1.1s,baz=293,slow=6.9,SNR=4.1
ASAR ScP 01 43 33.6
comp=E,1.8nm,0.9s,baz=305,slow=3.8,SNR=4.9
ASAR LR LR 01 59 20.1
comp=E,606nm,19.2s,MS4.5,baz=297,slow=41
WMQ Urumqi 43.37 350⇑P **P 01 37 56.1 +1.0**
WMQ AP pP 01 38 03.6 +1.2
WMQ XP sP 01 38 07.1 +1.7
WMQ PP PP 01 39 39.3 +1.2
WMQ PCP PcP 01 39 44.6 +0.5
WMQ PPP PPP 01 40 15.1 +1.2
WMQ S **S 01 44 22.5 +1.4**
WMQ XS 01 44 34.6
WMQ AMB AMB
comp=Z,58nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,37nm,4.3s
WMQ LR LR
comp=N,557nm,17.1s,MS4.8
WMQ LR LR
comp=E,907nm,20.6s,MS4.8
WMQ LR LR
comp=Z,567nm,20.5s,MS4.5
YOMI Yo Moklole 43.45 95⇑*i*P **P 01 37 52.1 -4.1**
comp=Z,45nm,0.9s,mb4.9
DL2 Dalian 43.72 28 P **P 01 37 58.4 +0.3**
DL2 AP pP 01 38 04.6 -0.7
DL2 XP sP 01 38 07.9 -0.4
DL2 S **S 01 44 26.6 +0.3**
DL2 XS 01 44 37.5
DL2 AMB AMB
comp=Z,50nm,1.1s,mb5.2
DL2 AMB AMB
comp=Z,210nm,3.7s
DL2 LR LR
comp=N,290nm,14.1s,MS4.6
DL2 LR LR
comp=E,530nm,15.1s,MS4.6
DL2 LR LR
comp=Z,640nm,13.8s,MS4.7
ULHL Ulahol 45.10 338 P **P 01 38 09.9 +0.8**
SNR=9.7
KZA Kyzart 45.33 337 P **P 01 38 12.3 +1.3**
SNR=11
UCH Uchtor 45.75 336 P **P 01 38 15.7 +1.4**
SNR=22
KS15 Wonju Array Si 45.85 34 *e*P **P 01 38 15.6 +0.4**
KS15 *e* pP 01 38 21.9 -0.5
TKM2 Tokmak 2 45.92 338 P **P 01 38 16.0 +0.4**
SNR=29
KBK Karagaybulak 45.94 337 P **P 01 38 17.7 +1.8**
SNR=22
AML Almayashu 46.01 336 P **P 01 38 17.2 +0.9**
SNR=28
AAK Ala-Archa 46.10 337 P **P 01 38 17.7 +0.6**
AAK pmax pmax
comp=Z,82nm,1.9s,mb5.3
AAK Ala-Archa 46.10 337 *e*P **P 01 38 16.8 -0.3**
comp=Z,31nm,1.3s,mb5.1
FRU Bishkek 46.22 337 *e*P **P 01 38 19.0 +1.0**
FRU *e* pP 01 38 25.0 -0.3
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.2
FRU MLR MLR
comp=Z,1μm,18.0s,MS4.8
CHMS Chumysh 46.31 337 P **P 01 38 19.2 +0.5**
SNR=8.0
EKS2 Erkin-Say 46.41 336 P **P 01 38 20.8 +1.3**
SNR=12
USP Ospenovka 46.63 337 P **P 01 38 22.2 +0.9**
SNR=19
SNY Shenyang 46.95 27⇑P **P 01 38 23.3 -0.5**
SNY AP pP 01 38 30.0 -1.1
SNY PP PP 01 40 12.5 -1.4
SNY S **S 01 45 18.0 +5.3**
SNY AMB AMB
comp=Z,60nm,1.2s,mb5.4
SNY AMB AMB
comp=Z,270nm,11.8s
SNY LR LR
comp=N,2μm,16.1s,MS5.2
SNY LR LR
comp=E,1μm,14.9s,MS5.2
SNY LR LR
comp=Z,2μm,15.5s,MS5.2
SONM Songino Array 47.20 8 P **P 01 38 25.6 -0.1**
comp=Z,11nm,0.6s,mb5.0,baz=196,slow=9.0,SNR=79
SONM PcP PcP 01 39 57.0 -0.3
comp=Z,7.4nm,0.9s,baz=186,slow=3.7,SNR=4.8
SONM ScP 01 43 48.6
comp=Z,2.1nm,1.2s,baz=162,slow=4.6,SNR=4.7
SONM LR LR 02 01 01.4
comp=Z,3μm,18.5s,MS5.3,baz=84,slow=40
ULN Ulaanbaatar 47.33 9 *e*P **P 01 38 26.6 -0.2**
ULN pmax pmax
comp=Z,31nm,1.2s,mb5.1
ULN Ulaanbaatar 47.33 9 *e*P **P 01 38 26.6 -0.1**
comp=Z,31nm,1.2s,mb5.1
MKAR Makanchi Array 47.34 346 P **P 01 38 26.9 +0.1**
comp=Z,8.6nm,0.5s,mb4.9,baz=162,slow=7.7,SNR=97
MKAR LR LR 02 02 28.6
comp=Z,518nm,20.9s,MS4.5,baz=170,slow=41
KKAR Karatay Array 48.16 334 *i*P **P 01 38 32.8 -0.5**
KKAR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
CN2 Changchun 49.35 27 *e*P **P 01 38 41.8 -0.6**
CN2 *e*AP pP 01 38 49.3 -0.5
CN2 *e*XP sP 01 38 51.3 -1.4
CN2 PP PP 01 40 37.4 +0.5
CN2 *e*S **S 01 45 46.3 -0.1**
CN2 SS SS 01 49 15.5 +1.4
CN2 AMB AMB
comp=Z,60nm,1.1s,mb5.5
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,14.0s,MS5.3
CN2 LR LR
comp=E,1μm,14.0s,MS5.3
CN2 LR LR
comp=Z,2μm,14.0s,MS5.3
ZAK Zakamensk 49.35 5⇑*i*P **P 01 38 40.9 -1.4**
ZAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.6
MOY Mondy 50.47 3 *e*P **P 01 38 50.9 0.0**
MOY pmax pmax
comp=Z,38nm,2.4s,mb5.0
TLY Talaya 50.67 5 *e*P **P 01 38 52.8 +0.4**
TLY *e* 01 40 52.4
TLY *e*S **S 01 46 07.5 +2.9**
TLY *e*PS PS 01 46 18.2 +2.1
TLY *e* 01 48 37.8
TLY pmax pmax
comp=Z,25nm,1.7s,mb4.9
TLY MLR MLR
comp=Z,2μm,19.0s,MS5.1
TLY Talaya 50.67 5⇑*e*P **P 01 38 52.6 +0.2**
PMG Port Moresby 50.77 103 P **P 01 38 53.9 +0.2**
comp=Z,18nm,0.8s,mb5.1,baz=242,slow=6.8,SNR=5.0
MJAR Matsushiro Arr 51.71 42 P **P 01 38 59.3 -1.2**
comp=Z,2.3nm,0.5s,mb4.4,baz=225,slow=6.3,SNR=12
MJAR LR LR 02 00 34.3
comp=Z,489nm,21.5s,MS4.5,baz=240,slow=36
MDJ Mudanjiang 51.91 29 P **P 01 39 02.1 +0.2**
MDJ XP sP 01 39 11.8 -0.3
MDJ PCP PcP 01 40 14.4 -0.1
MDJ PP PP 01 41 01.8 +1.2
MDJ SCP 01 44 06.1

MDJ PCS 01 44 12.3
MDJ S **S** **01 46 20.6 -1.2**
MDJ SCS ScS 01 48 50.1 +2.8
MDJ AMB AMB
comp=Z,27nm,1.3s,mb5.0
MDJ AMB AMB
comp=Z,307nm,5.1s
MDJ LR LR
comp=E,912nm,17.9s,MS5.1
MDJ LR LR
comp=N,1μm,17.9s,MS5.1
MDJ LR LR
comp=Z,2μm,16.1s,MS5.2
CTA Charters Tower 52.41 116 *e*P **P** **01 39 06.0 0.0**
comp=Z,12nm,1.0s,mb4.8
CTA *e* pP 01 39 12.8 -0.6
CTA Charters Tower 52.41 116 *e*P **P** **01 39 06.0 0.0**
CTA *e* pP 01 39 12.8 -0.6
CTA pmax pmax
comp=Z,12nm,1.0s
CTA Charters Tower 52.41 116 P **P** **01 39 05.7 -0.3**
comp=Z,16nm,1.0s,mb4.9,baz=285,slow=6.4,SNR=6.3
CTA LR LR 02 03 35.3
comp=Z,946nm,21.5s,MS4.8,baz=130,slow=38
CTAO Charters Tower 52.41 116 *e*P **P** **01 39 06.0 0.0**
CTAO *e* pP 01 39 12.6 -0.8
CTAO pmax pmax
comp=Z,33nm,1.1s,mb5.2
CTAO Charters Tower 52.41 116 *e*P **P** **01 39 06.0 0.0**
comp=Z,33nm,1.1s,mb5.2
CTAO *e* pP 01 39 12.6 -0.8
OPO Ambohidratompo 52.95 246 P **P** **01 39 08.8 -1.2**
comp=Z,16nm,1.0s,mb4.9,baz=71,slow=9.0,SNR=13
STKA Stephens Creek 53.25 132⇑ *i*P **P** **01 39 12.5 +0.4**
comp=Z,20nm,0.8s,mb5.1
STKA *e* pP 01 39 19.2 -0.3
STKA Stephens Creek 53.25 132 P **P** **01 39 12.5 +0.4**
comp=Z,24nm,0.8s,mb5.2,baz=305,slow=7.2,SNR=48
NVS Novosibirsk 54.77 350⇑ *i*P **P** **01 39 20.0 -2.9**
NVS *i* 01 40 29.8
NVS *e*S **S** **01 46 55.7 -4.7**
NVS pmax pmax
comp=Z,35nm,1.1s,mb5.3
NVS pmax pmax
comp=N,27nm,1.2s
NVS pmax pmax
comp=E,19nm,1.2s
NVS pmax pmax
comp=Z,18nm,1.6s,mb4.8
NVS smax
comp=N,40nm,1.8s
KLR Kul'dur 56.30 26⇓ *i*P **P** **01 39 31.0 -3.1**
KLR *e*S **S** **01 47 23.0 +2.1**
KLR pmax pmax
comp=N,28nm,1.2s
KLR pmax pmax
comp=E,43nm,1.2s
KLR pmax pmax
comp=Z,50nm,1.2s,mb5.4
KLR MLR MLR
comp=N,3μm,12.0s,MS5.6
KLR MLR MLR
comp=E,1μm,12.0s,MS5.6
KLR MLR MLR
comp=Z,3μm,12.0s,MS5.6
BVA0 Borovoye Array 56.35 341 P **P** **01 39 32.5 -1.9**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BVAR Borovoye Array 56.35 341 P **P** **01 39 32.9 -1.5**
comp=Z,7.3nm,0.6s,mb4.9,baz=149,slow=8.6,SNR=45
BOD Bodaibo 58.08 10 *e*P **P** **01 39 46.3 -0.2**
BOD pmax pmax
comp=Z,39nm,1.2s,mb5.3
CLNS Chul'man 59.80 17 *e*P **P** **01 39 57.9 -0.6**
CLNS *e* 01 40 48.5
CLNS *e*S **S** **01 47 59.9 -6.7**
CLNS pmax pmax
comp=Z,31nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,20nm,1.1s
CLNS pmax pmax
comp=E,11nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
CLNS pmax pmax
comp=N,3.0nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS smax
comp=N,212nm,15.2s
CLNS smax
comp=Z,118nm,13.5s
CLNS smax
comp=E,70nm,13.4s
CLNS MLR MLR
comp=N,1μm,16.0s,MS5.1
CLNS MLR MLR
comp=Z,2μm,16.0s,MS5.3
CLNS MLR MLR
comp=E,400nm,14.0s,MS5.1
KMBO Kilima Mbogo 60.05 268 *e*P **P** **01 40 00.9 +0.1**
KMBO pmax pmax
comp=Z,42nm,2.0s
KMBO Kilima Mbogo 60.05 268 P **P** **01 40 00.8 0.0**
comp=Z,2.6nm,0.9s,mb4.2,baz=50,slow=8.7,SNR=7.9
KMBO LR LR 02 04 37.1
comp=Z,575nm,18.2s,MS4.8,baz=276,slow=35
KMBO Kilima Mbogo 60.05 268 *e*P **P** **01 40 00.9 +0.1**
comp=Z,42nm,2.0s,mb5.1
YSS Yuzh-Sakhalins 60.38 34⇑ *e*P **P** **01 40 02.0 -0.6**
YSS *e* pP 01 40 08.8 -1.3
YSS *e**SP sP 01 40 17.3 +4.5
YSS *e* 01 40 49.9
YSS S **S** **01 48 29.0 +15**
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS MLR MLR
comp=Z,1μm,15.0s,MS5.1
YSS MLR MLR
comp=N,500nm,14.0s,MS5.1
YSS MLR MLR
comp=E,900nm,15.0s,MS5.1
YSS Yuzh-Sakhalins 60.38 34 *e*P **P** **01 40 02.2 -0.4**
comp=E,83nm,1.3s,mb5.6
GNI Garni 61.40 316 *e*P **P** **01 40 09.1 -0.5**
GNI pmax pmax
comp=Z,21nm,0.9s
GNI Garni 61.40 316 *e*P **P** **01 40 09.1 -0.5**
comp=Z,21nm,0.9s,mb5.3
DGRG David-gareji 61.54 318 P **P** **01 40 10.3 -0.2**
TI2 Plekhanov 62.08 318 *e*P **P** **01 40 11.0 -3.2**
SVE Sverdlovsk 62.79 338⇑ *i*P **P** **01 40 17.5 -1.2**
SVE *e* 01 40 58.0
SVE *e* 01 48 48.0
SVE *e*PS ScS 01 50 06.0 +0.1
SVE *e* 01 55 28.0
SVE pmax pmax
comp=Z,60nm,2.0s,mb5.4
SVE MLR MLR
comp=N,300nm,14.0s,MS4.8
SVE MLR MLR
comp=E,400nm,14.0s,MS4.8
SVE MLR MLR
comp=Z,600nm,14.0s,MS4.9
ARU Arti 63.29 337⇑ *i*P **P** **01 40 20.0 -1.9**
ARU *e* 01 40 53.2
ARU *e* 01 42 37.5
ARU *e*S **S** **01 48 48.6 -2.2**
ARU *e*SS SS 01 52 54.8 -4.5
ARU pmax pmax
comp=Z,18nm,1.1s,mb5.1
ARU MLR MLR
comp=N,300nm,19.0s,MS4.6
ARU MLR MLR
comp=Z,500nm,19.0s,MS4.7
ARU MLR MLR
comp=E,300nm,18.5s,MS4.6
ARU Arti 63.29 337 *e*P **P** **01 40 20.1 -1.9**
comp=E,38nm,1.3s,mb5.4
ARU *e* pP 01 40 27.3 -2.2
KIV Kislovodsk 64.41 319 *e*P **P** **01 40 27.7 -1.9**
KIV *e* 01 41 02.1
KIV *e* 01 42 49.4
KIV *i* S **S** **01 49 03.5 -1.5**
KIV *e*SS SS 01 53 16.2 -0.6
KIV pmax pmax
comp=N,16nm,1.1s
KIV pmax pmax
comp=E,16nm,1.1s
KIV pmax pmax
comp=Z,29nm,1.1s,mb5.2
KIV smax
comp=N,149nm,4.1s
KIV smax
comp=E,112nm,4.1s
GOF Gofitskoye 64.67 320 *e*P **P** **01 40 27.0 -4.2**
MALT Malatya 65.23 312 *e*P **P** **01 40 35.0 0.0**
MALT *e* pP 01 40 42.5 0.0
MALT pmax pmax
comp=Z,12nm,1.1s,mb4.8
MALT Malatya 65.23 312 *e*P **P** **01 40 35.0 0.0**
comp=Z,12nm,1.1s,mb4.8
MALT *e* pP 01 40 42.5 0.0
YAK Yakutsk 65.48 16 *e*P **P** **01 40 35.1 -1.0**
YAK pmax pmax
comp=Z,102nm,1.0s,mb5.8
YAK Yakutsk 65.48 16 *e*P **P** **01 40 35.1 -1.1**
comp=Z,102nm,1.0s,mb5.8
EIL Elat 65.55 302 *e*P **P** **01 40 36.9 -0.3**
comp=Z,35nm,1.4s,mb5.2
SOKR Solikamsk 66.18 339⇓ *i*P **P** **01 40 37.8 -2.8**
SOKR *e* pP 01 40 45.9 -2.3
SOKR pmax pmax
comp=Z,20nm,1.0s,mb5.1
SOKR MLR MLR
comp=Z,530nm,19.0s,MS4.8
SOC Sochi 66.22 318 *e*P **P** **01 40 39.0 -2.2**
SOC *e* 01 43 15.9
SOC *e*S S 01 49 18.4 -8.9
SOC *e* 01 50 06.4
SOC pmax pmax
comp=Z,23nm,1.0s,mb5.2
SOC pmax pmax
comp=N,7.0nm,0.8s
SOC pmax pmax
comp=E,18nm,1.3s
SOC MLR MLR
comp=N,166nm,24.0s,MS4.3
SOC MLR MLR
comp=E,175nm,24.0s,MS4.3
SOC MLR MLR
comp=Z,219nm,24.0s,MS4.3
MBAR Mbarara 66.54 269 *e*P **P** **01 40 43.7 0.0**
MBAR *e* pP 01 40 50.5 -0.8
MBAR pmax pmax
comp=Z,14nm,1.1s,mb4.9
MBAR Mbarara 66.54 269 *e*P **P** **01 40 43.7 -0.1**
comp=Z,14nm,1.1s,mb4.9
MBAR *e* pP 01 40 50.5 -0.7
ANN Anapa 68.20 318 *e*P **P** **01 40 47.0 -6.7**
ANN *e*S S 01 49 43.9 -7.1
ANN pmax pmax
comp=Z,28nm,1.1s,mb5.2
ANN MLR MLR
comp=N,424nm,19.0s,MS4.7
ANN MLR MLR
comp=E,135nm,19.0s,MS4.7
ANN MLR MLR
comp=Z,284nm,19.0s,MS4.5
BRTR Keskin Array B 69.22 312 P **P** **01 40 58.2 -1.8**
comp=Z,2.8nm,0.9s,mb4.2,baz=121,slow=7.2,SNR=18
LSZ Lusaka 70.15 253 *e*P **P** **01 41 05.9 -0.2**
LSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LSZ Lusaka 70.15 253 *e*P **P** **01 41 05.9 -0.2**
comp=Z,6.5nm,1.0s,mb4.5
SIM Simferopol' 70.47 318 *e*P **P** **01 41 06.1 -1.5**
SIM *i* S S 01 50 16.1 -1.7
SIM pmax pmax
comp=Z,14nm,1.1s,mb4.8
MATP Matopo 70.55 248 LR LR 02 08 28.1
comp=Z,486nm,18.3s,MS4.8,baz=90,slow=33
PET Petropavlovsk 72.27 34 *e*P **P** **01 41 21.4 +3.2**
PET *e* 01 51 28.5
PET pmax pmax
comp=Z,100nm,18.0s
PET MLR MLR
comp=N,200nm,17.0s,MS5.0
PET MLR MLR
comp=E,600nm,17.0s,MS5.0
PET MLR MLR
comp=Z,500nm,17.0s,MS4.8
MOS Moscow 72.44 329 *e*P **P** **01 41 10.4 -8.8**
MOS *e* 01 41 29.4
MOS pmax pmax
comp=Z,51nm,1.5s,mb5.2
MAW Mawson 72.64 193 LR LR 02 08 38.2
comp=Z,496nm,18.4s,MS4.8,baz=51,slow=32
OBN Obninsk 72.72 328 *e*P **P** **01 41 19.0 -1.9**
comp=Z,51nm,1.5s,mb5.2
TIXI Tiksi 73.26 10⇑ *i*P **P** **01 41 22.5 -1.2**
SEY Seymchan 73.81 23 *e*P **P** **01 41 27.4 +0.3**
SEY 01 41 42.6
SEY 01 44 13.3
SEY PPP PPP 01 46 04.5 +6.3
SEY *e*S S 01 50 59.0 +3.4
SEY *e*SSS SSS 01 58 53.5 -0.2
SEY pmax pmax
comp=Z,80nm,1.1s,mb5.6
SEY pmax pmax
comp=N,30nm,1.3s
SEY pmax pmax
comp=E,40nm,1.3s
SEY smax
comp=N,870nm,21.9s
SEY smax
comp=E,490nm,21.9s
SEY MLR MLR
comp=Z,2μm,23.0s,MS5.3
SEY MLR MLR
comp=N,590nm,15.0s
SEY MLR MLR
comp=E,1μm,27.0s
LBTB Lobatse 73.91 244 *e*P **P** **01 41 28.2 -0.2**
LBTB *e* pP 01 41 34.9 -1.1
LBTB pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LBTB Lobatse 73.91 244 P **P** **01 41 28.2 -0.2**
comp=Z,11nm,0.9s,mb4.8,baz=168,slow=4.6,SNR=11
LBTB LR LR 02 09 05.1
comp=Z,452nm,20.7s,MS4.7,baz=90,slow=32
LBTB Lobatse 73.91 244 *e*P **P** **01 41 28.2 -0.2**
comp=Z,10nm,0.9s,mb4.8
LBTB *e* pP 01 41 34.9 -1.1
BOSA Boshof 74.79 240 P **P** **01 41 32.6 -0.8**
comp=Z,6.9nm,0.9s,mb4.6,baz=90,slow=8.3,SNR=7.1
BOSA LR LR 02 12 32.8
comp=Z,489nm,18.1s,MS4.8,baz=69,slow=34
AKASG Malin Array Be 75.36 322 P **P** **01 41 33.9 -2.3**
comp=Z,2.0nm,0.5s,mb4.3,baz=88,slow=4.6,SNR=24
JOF Joensuu 78.25 335 *e*p **P** **01 41 51.1 -1.0**
comp=Z,5.6nm,0.8s,mb4.5
LVV L'vov 78.37 321 *e*P **P** **01 41 56.5 +3.5**
LVZ Lovozero 78.93 340 *e*P **P** **01 41 54.8 -1.0**
LVZ *e*S S 01 51 46.5 -4.9
LVZ pmax pmax
comp=Z,36nm,1.6s,mb5.0
LVZ pmax pmax
comp=N,24nm,2.1s
LVZ pmax pmax
comp=E,8.0nm,1.2s
LVZ smax
comp=Z,263nm,2.8s
LVZ smax
comp=N,276nm,4.8s
LVZ smax
comp=E,130nm,2.6s
LVZ MLR MLR
comp=Z,613nm,17.0s,MS5.0
LVZ MLR MLR
comp=N,311nm,23.0s
LVZ MLR MLR
comp=E,475nm,20.0s
SUR Sutherland 79.17 237 P **P** **01 41 57.0 -0.8**
comp=E,20nm,1.0s,mb5.0,baz=143,slow=2.5,SNR=7.4
SUR LR LR 02 12 55.8
comp=E,521nm,18.8s,MS4.9,baz=90,slow=33
KWP Kalwaria 79.18 320 *e*P **P** **01 41 57.2 -0.3**
KWP *e*pP pP 01 42 06.3 +1.2
KWP *e*S S 01 51 52.8 -1.6
KWP *e*SKS SKS 01 52 07.8 -6.4
KWP MLR MLR 02 22 13.1
comp=E,200nm,23.5s,MS4.4
APA Apatity 79.23 339⇑ *i*P **P** **01 41 57.3 -0.1**
APA *i* 01 42 08.0
APA *e*S S 01 51 51.0 -3.6
APA *e* 01 52 56.0
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8
APA MLR MLR
comp=Z,900nm,18.0s,MS5.2
KOLS Kolonicke sedl 79.32 320 *i* P **P** **01 41 58.6 +0.3**
KOLS *e*pP pP 01 42 06.8 +0.9
SUW Suwalki 79.78 325 *e*P **P** **01 41 59.7 -0.9**
SUW *e*PcP PcP 01 42 06.8 -1.9
SUW *e*pP pP 01 42 08.4 +0.1
SUW *e*S S 01 51 58.2 -2.4
SUW *e*SKS SKS 01 52 12.2 -6.3
SUW MLR MLR 02 23 01.9
comp=Z,300nm,20.9s,MS4.6
SYO Syowa Base 79.94 198⇓⇓ *i*P Px 01 42 20.5
SYO Syowa Base 79.94 198⇑⇑ *e*pP pP 01 42 11.6 +2.7
FINES FINESS Array B 80.10 333 P **P** **01 42 01.7 -0.5**
comp=Z,2.0nm,0.5s,mb4.3,baz=99,slow=5.7,SNR=29
FINES LR LR 02 24 24.0
comp=Z,199nm,19.4s,MS4.5,baz=294,slow=41
KAF Kangasniemi 80.19 333 *e*p **P** **01 42 01.8 -0.8**
comp=Z,5.2nm,0.6s,mb4.6,baz=105,slow=5.0
KAF Kangasniemi 80.19 333 *e*P **P** **01 42 01.8 -0.8**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
TSUM Tsumeb 80.62 250 *e*P **P** **01 42 06.9 +1.1**
comp=Z,16nm,1.5s,mb4.7
TSUM *e* pP 01 42 14.4 +0.9
NIE Niedzica 80.67 320 *e*P **P** **01 42 05.6 +0.1**
PSZ Piszkesteto 80.71 318 *e*P **P** **01 42 05.9 +0.2**
PSZ *e* pP 01 42 13.7 +0.3
PSZ pmax pmax
comp=Z,15nm,1.1s,mb4.8
PSZ Piszkesteto 80.71 318 *e*P **P** **01 42 05.9 +0.2**
comp=Z,15nm,1.1s,mb4.8
PSZ *e* pP 01 42 13.7 +0.3
PSZ Piszkesteto 80.71 318 *e*P **P** **01 42 06.0 +0.3**
OJC Ojcow 81.13 321 *e*P **P** **01 42 07.6 -0.2**
BILL Bilibino 81.22 21 *i* P **P** **01 42 07.6 -0.4**
VYHS Vyhne 81.50 319 *e*P **P** **01 42 10.2 +0.4**
VYHS *e* pP 01 42 16.8 -0.7
SRO Srobarova 81.75 318 *e*P **P** **01 42 12.2 +1.1**
SRO *e* pP 01 42 18.8 0.0
SRO1 Iza 81.80 318 *e*P pP 01 42 20.5 +1.4
SRO1 Iza 81.80 318 *e*pP pP 01 42 20.5 +1.4
OKC Ostrava-Krasne 82.13 320 *e*P **P** **01 42 13.6 +0.6**
OKC *e*pP pP 01 42 22.1 +1.4
OKC *e*S S 01 52 25.6 +0.6
OKC AMS AMS 02 25 00.0
comp=Z,200nm,20.3s
KEV Kevo 82.20 341 *e*p **P** **01 42 13.1 +0.1**
comp=Z,22nm,1.3s,mb4.9
KEV Kevo 82.20 341 *e*P **P** **01 42 13.1 +0.1**
KEV pmax pmax
comp=Z,22nm,1.3s,mb4.9
SMOL Smolenice 82.43 319 *e*P pP 01 42 23.6 +1.3
SMOL Smolenice 82.43 319 *e*pP pP 01 42 23.6 +1.3
MORC Moravsky Berou 82.51 320 *e*P **P** **01 42 14.8 -0.2**
MORC *e* pP 01 42 23.5 +0.8
MORC pmax pmax
comp=Z,15nm,1.3s,mb4.9
MORC Moravsky Berou 82.51 320 *e*P **P** **01 42 14.8 -0.2**
comp=Z,15nm,1.3s,mb4.9
MORC *e* pP 01 42 23.5 +0.8
ZST Bratislava 82.61 318 *e*P **P** **01 42 16.2 +0.6**
ZST *e* pP 01 42 24.2 +0.9
ZST *e*S S 01 52 29.4 -0.5
ARCES ARCESS Array B 82.64 340 P **P** **01 42 15.5 +0.2**
comp=Z,2.4nm,0.4s,mb4.6,baz=98,slow=4.9,SNR=29
ARCES LR LR 02 23 23.9
comp=Z,495nm,19.4s,MS4.9,baz=209,slow=39
ARE0 ARCESS Array S 82.64 340 *e*P **P** **01 42 15.6 +0.3**
GKP Gorka Klasztor 83.14 323 *e*P **P** **01 42 17.6 -0.6**
GKP *e**PP pP 01 42 26.3 +0.4
GKP *e*S S 01 52 38.2 +3.0
GKP MLR MLR
comp=Z,200nm,21.9s,MS4.5
GKP Gorka Klasztor 83.14 323 *e*P **P** **01 42 17.6 -0.6**
GKP *e*PcP PcP 01 42 22.6 -0.6
GKP *e*pP pP 01 42 26.3 +0.4
GKP *e*S S 01 52 38.2 +3.0
GKP LR LR
comp=Z,200nm,21.9s,MS4.5
GKP Gorka Klasztor 83.14 323 *e*P **P** **01 42 17.6 -0.6**
GKP *e*PcP PcP 01 42 22.6 -0.7
GKP *e*pP pP 01 42 26.3 +0.4
GKP *e*S S 01 52 38.2 +3.0
GKP MLR MLR 02 25 30.0
comp=Z,200nm,21.9s,MS4.5
DPC Dobruska-Polom 83.36 320 *e*P **P** **01 42 20.4 +1.0**
DPC *e* pP 01 42 28.6 +1.5
DPC *e*S S 01 52 38.5 +1.1
DPC MLR MLR
comp=E,200nm,19.9s
KSP Ksiaz 83.43 321 *e*P **P** **01 42 19.9 +0.2**
KSP *e**PP pP 01 42 28.4 +0.9
KSP *e*S S 01 52 39.0 +0.9
KSP Ksiaz 83.43 321 *e*P **P** **01 42 20.7 +1.0**
KSP *e*pP pP 01 42 27.4 -0.1
KSP *e*S S 01 52 40.4 +2.2
KSP MLR MLR 02 25 36.0
comp=E,400nm,22.0s,MS4.8
UPC Upice 83.57 321 *e*P **P** **01 42 21.1 +0.6**
UPC *e*pP pP 01 42 29.5 +1.3
PERS Pernice 83.79 317 *i* P pP 01 42 30.1 +0.7
VISS Visnje 83.92 316 *e*P pP 01 42 30.6 +0.5
PRU Pruhonice 84.46 320 *e*P **P** **01 42 25.6 +0.6**
PRU *e*pP pP 01 42 33.8 +1.1
PRU *e*S S 01 52 49.4 +1.0
PRU AMS AMS 02 26 00.0
comp=E,300nm,25.6s
PVCC Panska Ves 84.49 321 *e*P **P** **01 42 25.9 +0.8**
PVCC *e*pP pP 01 42 34.3 +1.4
PVCC *e*S S 01 52 53.1 +4.4
PVCC AMS AMS 02 26 00.0
comp=E,200nm,17.8s
BRG Berggiesshubel 84.92 321 *e*P **P** **01 42 27.9 +0.7**
BRG *e* pP 01 42 36.5 +1.5
BRG *i* S S 01 52 55.0 +2.1
BRG pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
BRG MLR MLR
comp=Z,210nm,20.1s,MS4.5
BRG Berggiesshubel 84.92 321 *e*P **P** **01 42 27.9 +0.7**
comp=Z,10.0nm,1.2s,mb4.8
BRG *e* pP 01 42 36.5 +1.5
BRG *i* S S 01 52 55.0 +2.1
BRG LR LR
comp=Z,210nm,20.1s,MS4.5
GEC2 GERESS Array S 84.92 319 *e*P **P** **01 42 27.9 +0.6**
GEC2 pmax pmax
comp=Z,12nm,1.1s,mb4.9
GEC2 GERESS Array S 84.92 319 *e*P **P** **01 42 27.9 +0.6**
comp=Z,12nm,1.1s,mb4.9
GERES GERESS Array B 84.92 319 P **P** **01 42 27.4 +0.1**
comp=Z,6.2nm,1.0s,mb4.7,baz=104,slow=5.5,SNR=35
KHC Kasperske Hory 85.02 319 *e*P **P** **01 42 28.2 +0.4**
KHC *e* 01 42 43.0
KHC *e*S S 01 52 56.0 +2.0
KHC MLR MLR
comp=N,100nm,19.6s
KHC Kasperske Hory 85.02 319 *e*P **P** **01 42 28.2 +0.4**
KHC *x* x 01 42 43.0
KHC *e*S S 01 52 56.0 +2.0
KHC AMS AMS 02 25 40.0
CLL Collm 85.54 321 *i* P **P** **01 42 30.9 +0.6**
CLL *i* pP 01 42 38.6 +0.5
CLL pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
CLL Collm 85.54 321 *i* P **P** **01 42 30.9 +0.6**
comp=Z,6.0nm,1.0s,mb4.8
CLL *i* pP 01 42 38.6 +0.5
CLL Collm 85.54 321 P **P** **01 42 30.9 +0.6**
comp=Z,logA/T=0.8,mb4.8
CLL *i* *PP pP 01 42 38.6 +0.5
VNDA Vanda 85.73 169 P **P** **01 42 31.1 +0.3**
comp=Z,1.2nm,0.9s,mb4.1,baz=312,slow=9.9,SNR=4.2
VNDA LR LR 02 18 26.0
comp=Z,433nm,18.4s,MS4.9,baz=305,slow=34

NKC Novy Kostel 85.82 320 *e*P **P 01 42 32.5 +0.7**
NKC *e*pP pP 01 42 40.2 +0.7
NKC *e*x x 01 53 11.1
MOX Moxa 86.38 320 *e*P **P 01 42 34.9 +0.4**
MOX pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
MOX Moxa 86.38 320 *e*P **P 01 42 34.9 +0.4**
comp=Z,8.0nm,1.2s,mb4.8
MOX Moxa 86.38 320 *i* P **P 01 42 35.0 +0.5**
comp=Z,logA/T=1.0,mb5.0
MOX L 02 29 43.0
GRA1 Grafenberg Arr 86.59 320 *e*P **P 01 42 36.3 +0.7**
comp=Z,13nm,1.0s,mb5.1
GRA1 *e*pP pP 01 42 44.6 +1.3
GRF Grafenberg Arr 86.59 320 *e*P **P 01 42 36.3 +0.7**
GRF *e**PP pP 01 42 44.6 +1.3
GRF pmax pmax
comp=Z,13nm,1.0s,mb5.1
GRF Grafenberg Arr 86.59 320 *e*P **P 01 42 36.3 +0.7**
GRF *e**PP pP 01 42 44.6 +1.3
GRF pmax pmax
comp=Z,13nm,1.0s,mb5.1
GRF Grafenberg Arr 86.59 320 *e*P **P 01 42 36.3 +0.7**
comp=Z,13nm,1.0s,mb5.1
GRF *e*pP pP 01 42 44.6 +1.3
NB2 NORSAR Subarra 87.11 331 P **P 01 42 37.6 -0.2**
comp=Z,7.3nm,0.9s,mb4.9,baz=93,slow=5.0
NB2 NORSAR Subarra 87.11 331 P **P 01 42 37.6 -0.2**
NB2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
NOA NORSAR Array B 87.11 331 P **P 01 42 37.6 -0.2**
comp=Z,4.5nm,0.9s,mb4.7,baz=94,slow=4.9,SNR=20
NOA LR LR 02 27 29.4
comp=Z,281nm,20.5s,MS4.7,baz=35,slow=40
NOA NORSAR Array B 87.11 331 P **P 01 42 37.6 -0.2**
NOA LR LR 02 27 29.4
CLZ Clausthal 87.20 322 *e*P **P 01 42 39.1 +0.6**
comp=Z,13nm,1.4s,mb5.0
NAO01 NORSAR Array S 87.26 331 *e*P **P 01 42 38.0 -0.5**
comp=Z,6.8nm,1.0s,mb4.8
BSEG Bad Segeberg 87.30 324 *e*P **P 01 42 39.7 +0.8**
KONO Kongsberg 87.86 329 *e*P **P 01 42 41.5 0.0**
KONO pmax pmax
comp=Z,16nm,1.3s,mb5.1
KONO Kongsberg 87.86 329 *e*P **P 01 42 41.5 0.0**
comp=Z,16nm,1.3s,mb5.1
PGF Pioggiola 87.97 312 *e*P **P 01 42 43.9 +1.5**
comp=Z,97nm,1.4s,mb5.5
PGF Pioggiola 87.97 312 *e*P **P 01 42 43.9 +1.5**
PGF pmax pmax
comp=Z,49nm,1.4s,mb5.5
TNS Taunus Mts 88.39 320 *e*P **P 01 42 45.0 +0.8**
TNS pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
TNS Taunus Mts 88.39 320 *e*P **P 01 42 45.0 +0.8**
comp=Z,9.0nm,1.3s,mb4.8
SBF Sospel 89.11 314 *e*P **P 01 42 48.3 +0.5**
CDF Champ du Feu 89.17 318 *e*P **P 01 42 48.0 0.0**
HINF Hinteralfeld 89.46 318 *e*P **P 01 42 49.8 +0.4**
FRF La Foret Royal 89.69 313 *e*P **P 01 42 50.7 +0.1**
LMR La Mourre 89.79 313 *e*P **P 01 42 51.6 +0.5**
HAU Haudompre 89.80 318 *e*P **P 01 42 51.0 +0.1**
comp=Z,34nm,1.2s,mb5.2
HAU *e*R
comp=Z,242nm,22.0s
HAU Haudompre 89.80 318 *e*P **P 01 42 51.0 +0.1**
HAU pmax pmax
comp=Z,17nm,1.2s,mb5.2
HAU MLR MLR
comp=Z,240nm,22.0s,MS4.6
CABF La Chapelle 90.01 316 *e*P **P 01 42 52.7 +0.7**
comp=Z,32nm,1.1s,mb5.2
CABF La Chapelle 90.01 316 *e*P **P 01 42 52.7 +0.7**
CABF pmax pmax
comp=Z,16nm,1.1s,mb5.3
ORIF Oris-en-Rattie 90.20 315 *e*P **P 01 42 53.5 +0.6**
comp=Z,51nm,1.4s,mb5.3
ORIF *e*R
comp=Z,377nm,20.8s
MEZF Maizieres J'vi 90.64 318 *e*P **P 01 42 55.3 +0.4**
comp=Z,19nm,1.0s,mb5.1
GIVF Givet 90.72 320 *e*P **P 01 42 55.8 +0.6**
comp=Z,20nm,1.1s,mb5.1
GIVF Givet 90.72 320 *e*P **P 01 42 55.8 +0.6**
GIVF pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
VIVF Saint-Julien-l 91.06 315 *e*P **P 01 42 57.3 +0.4**
BAIF Baives 91.12 320 *e*P **P 01 42 57.9 +0.9**
comp=Z,56nm,1.1s,mb5.5
BAIF Baives 91.12 320 *e*P **P 01 42 57.9 +0.9**
BAIF pmax pmax
comp=Z,28nm,1.1s,mb5.5
LOR Lormes 91.51 317 *e*P **P 01 42 59.3 +0.5**
comp=Z,53nm,1.2s,mb5.5
LOR *e*R
comp=Z,305nm,20.5s
LOR Lormes 91.51 317 *e*P **P 01 42 59.3 +0.5**
LOR pmax pmax
comp=Z,27nm,1.2s,mb5.5
LOR MLR MLR
comp=Z,300nm,20.5s,MS4.7
SMF Signal de Mont 91.55 317 *e*P **P 01 42 59.4 +0.3**
comp=Z,34nm,1.1s,mb5.3
SMF Signal de Mont 91.55 317 *e*P **P 01 42 59.4 +0.3**
SMF pmax pmax
comp=Z,17nm,1.1s,mb5.3
LASF Ste Croix 91.69 314 *e*P **P 01 43 00.6 +0.8**
comp=Z,77nm,1.5s,mb5.5
SSF Saint Saulge 91.76 317 *e*P **P 01 43 00.7 +0.7**
SSF pmax pmax
comp=Z,30nm,1.5s,mb5.4
SSF Saint Saulge 91.76 317 *e*P **P 01 43 00.7 +0.7**
comp=Z,30nm,1.5s,mb5.4
BGF Bois d'Agland 92.24 316 *e*P **P 01 43 03.1 +0.8**
comp=Z,56nm,1.2s,mb5.5
BGF Bois d'Agland 92.24 316 *e*P **P 01 43 03.1 +0.8**
BGF pmax pmax
comp=Z,28nm,1.2s,mb5.5
HYF Humbligny 92.33 317 *e*P **P 01 43 03.7 +1.0**
TCF Toulx Ste Croi 92.70 316 *e*P **P 01 43 05.2 +0.8**
CAF Calviac 92.91 315 *e*P **P 01 43 06.0 +0.6**
MTLF Montolieu 92.92 313 *e*P **P 01 43 06.3 +0.8**
comp=Z,54nm,1.4s,mb5.5
MTLF Montolieu 92.92 313 *e*P **P 01 43 06.3 +0.8**
MTLF pmax pmax
comp=Z,27nm,1.4s,mb5.5
LDF La Druitiere 94.06 319 *e*P **P 01 43 10.9 +0.3**
comp=Z,41nm,1.5s,mb5.3
LDF La Druitiere 94.06 319 *e*P **P 01 43 10.9 +0.3**
LDF pmax pmax
comp=Z,20nm,1.5s,mb5.3
FLN La Foliniere 94.28 319 *e*P **P 01 43 11.1 -0.5**
FLN *e*R
comp=Z,335nm,21.0s
GRR Gorron 94.58 319 *e*P **P 01 43 13.3 +0.4**
IMA Indian Mountai 96.63 23 *e*P **P 01 43 23.0 +1.1**
IMA *e* pP 01 43 29.6 -0.1
IMA pmax pmax
comp=Z,72nm,1.3s,mb5.9
IMA Indian Mountai 96.63 23 *e*P **P 01 43 23.0 +1.1**
comp=Z,72nm,1.3s,mb6.0
IMA *e* pP 01 43 29.6 -0.1
ILAR Eielson Array 99.75 23 LR LR 02 38 09.4
comp=Z,284nm,19.1s,MS4.8,baz=184,slow=41
TBI Tubuai 111.76 115 *e*LR LR 02 21 46.5
comp=Z,364nm,24.2s
YKA Yellowknife Ar 112.16 15 PP PP 01 49 09.3 -6.0
comp=Z,2.2nm,1.1s,baz=327,slow=6.6,SNR=8.6
PPT Papeete 112.39 108 *e*LR LR 02 22 04.7
comp=Z,350nm,24.8s
RKT Rikitea 124.84 118 *e*LR LR 02 27 49.7
comp=Z,292nm,24.2s
WVOR Wild Horse Val 125.91 32 *e*PKIKP PKPdf 01 48 55.8 -2.1
MCMT McKenzie Canyo 127.00 27 *e*PKPdf PKPdf 01 48 58.2 -1.7
LAO LASA Array 128.12 20 *e*PKPdf PKPdf 01 49 00.4 -1.7
LAO *e* 01 49 06.2
LKWY Lake 128.28 25 *e*PKIKP PKPdf 01 49 01.0 -1.5
LKWY *e* 01 49 08.9
PDAR Pinedale Array 130.09 26 PKP PKPdf 01 49 01.3 -4.7
comp=Z,0.9nm,0.9s,baz=333,slow=3.3,SNR=6.6
MSU Marysvale 132.15 31 *e*PKIKP PKPdf 01 49 07.9 -2.1
NEN Nelson 132.73 36 *e*PKPdf PKPdf 01 49 08.5 -2.7
PV10 Paradox Valley 133.83 29 *e*PKPdf PKPdf 01 49 11.7 -1.4
ANMO Albuquerque 137.81 29 PKP PKPdf 01 49 15.9 -4.6
comp=Z,0.8nm,0.8s,baz=339,slow=5.7,SNR=3.7

MNTX Cornudas Mount 140.94 31 PKPdf PKPdf 01 49 24.1 -2.2
BAO Brasilia Array 142.82 245 PKPdf PKPdf 01 49 32.0 +2.0
BDFB Brasilia 142.84 245 PKP PKPdf 01 49 26.1 -3.9
comp=Z,3.0nm,0.8s,baz=208,slow=5.1,SNR=3.0
MIAR Mount Ida 143.10 15 *e*PKIKP PKPdf 01 49 23.3 -6.7
LTX Lajitas 143.71 32 *e*PKIKP PKPdf 01 49 26.5 -4.6
TXAR Lajitas Array 143.71 32 PKP PKPdf 01 49 26.4 -4.7
comp=Z,2.5nm,0.8s,baz=270,slow=2.5,SNR=21
PLAL Pickwick Lake 143.75 7 *e*PKPpre 01 49 24.7
OXF Oxford 144.01 9 *e*PKIKP PKPdf 01 49 26.4 -5.1
JCT Junction City 144.62 26 *e*PKIKP PKPdf 01 49 28.7 -4.1
CPUP Villa Florida 144.99 222 *e*PKIKP PKPdf 01 49 30.3 -3.2
NATX Nacogdoches 145.41 18 *e*PKP PKPdf 01 49 31.3 -2.7
NATX *e* 01 49 37.6
GOGA Godfrey 145.65 1 *e*PKP PKPdf 01 49 31.4 -3.1
GOGA *e* 01 49 39.1
LRAL Lakeview Retre 145.80 6 *e*PKP PKPdf 01 49 31.6 -3.1
LRAL *e* 01 49 39.0
SIV San Ignacio 154.03 234 PKP PKPdf 01 49 43.6 -4.2
comp=Z,0.6nm,0.8s,baz=49,slow=19,SNR=3.3
SIV PKPbc PKPdf 01 49 52.4 +4.6
comp=Z,0.9nm,0.6s,baz=262,slow=1.3,SNR=5.3
LVC Limon Verde 154.75 211 PKPbc PKPdf 01 49 56.1 +7.4
comp=Z,1.9nm,0.9s,baz=127,slow=5.1,SNR=3.0
SAML Samuel 159.04 248 *e*PKPab PKPab 01 50 27.0 -1.8

IDC ***25*** *02:12:48.5±15.0, 14.02N×145.05E, h152km±149km, mb3.6/11, mb1 3.8/11, mb1mx3.6/23, mbtmp4.0/11, Error ellipse: s-maj=35.8km s-min=20.5km az=71.0*
NEIC ***25*** *02:12:48.4±0.8, 14.00N×145.04E, h152km±7km, mb4.0/2, Error ellipse: s-maj=20.2km s-min=10.2km az=98.0*
ISC 25 02:12:47.1±0.7, 13.99N±0.09×145.0E±0.2, h152km±6km, n18, σ0=83/16, mb3.8/13, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.41**	**191**	⇓*e*P		**P**	**02 13 09.7**	**+1.1**
GUMO				*e*S		**S**	**02 13 24.4**	**-0.8**
WRAB	**Tennant Creek**	**35.28**	**197**	*e*P		**P**	**02 19 28.8**	**-0.6**
	4.4nm,0.8s,mb4.1							
WRA	**Warramunga Arr**	**35.30**	**197**	P		**P**	**02 19 29.5**	**0.0**
	2.3nm,0.8s,mb3.9,baz=24,slow=9.9,SNR=13							
FITZ	**Fitzroy Crossi**	**37.14**	**211**	P		**P**	**02 19 45.2**	**+0.2**
	5.8nm,0.9s,mb4.2,baz=30,slow=8.1,SNR=3.7							
ASAR	**Alice Springs**	**38.95**	**196**	P		**P**	**02 20 00.7**	**+0.7**
	0.4nm,0.5s,mb3.3,baz=20,slow=8.3,SNR=5.7							
STKA	**Stephens Creek**	**45.72**	**184**	P		**P**	**02 20 54.2**	**-0.6**
	0.8nm,0.4s,mb3.7,baz=5.7,slow=10,SNR=5.5							
ULN	**Ulaanbaatar**	**46.10**	**325**	*e*P		**P**	**02 20 57.9**	**+0.3**
	1.9nm,0.8s,mb3.8							
SONM	**Songino Array**	**46.45**	**325**	P		**P**	**02 21 00.4**	**+0.1**
	0.2nm,0.3s,mb3.2,baz=143,slow=7.2,SNR=3.4							
MKAR	**Makanchi Array**	**61.26**	**316**	P		**P**	**02 22 48.7**	**+0.3**
	0.7nm,0.5s,mb3.8,baz=93,slow=8.4,SNR=11							
ILAR	**Eielson Array**	**68.18**	**25**	P		**P**	**02 23 30.4**	**-2.3**
	0.4nm,0.5s,mb3.4,baz=252,slow=6.3,SNR=10							
YKA	**Yellowknife Ar**	**82.47**	**27**	P		**P**	**02 24 53.2**	**-0.4**
	0.3nm,0.4s,mb3.3,baz=285,slow=5.1,SNR=16							
YKA	**Yellowknife Ar**	**82.47**	**27**	P		**P**	**02 24 53.2**	**-0.4**
YBH	**Yreka Blue Hor**	**82.55**	**49**	P		**P**	**02 24 55.4**	**+1.0**
	2.2nm,0.7s,mb4.0,baz=305,slow=3.2							
NVAR	**Mina Array Bea**	**86.61**	**51**	P		**P**	**02 25 15.9**	**+1.2**
	1.0nm,0.5s,mb4.0,baz=271,slow=4.4,SNR=8.8							
ARCES	**ARCESS Array B**	**86.73**	**342**	P		**P**	**02 25 13.9**	**-0.6**
	5.2nm,0.9s,mb4.3,baz=45,slow=3.8,SNR=3.9							
DBIC	**Dimbokro**	**143.67**	**302**	PKP		PKPdf	02 32 04.0	-0.9
	2.1nm,0.5s,baz=53,slow=3.6,SNR=10							
DBIC	**Dimbokro**	**143.67**	**302**	*e*PKPpre			02 32 03.7	
LPAZ	**La Paz**	**148.01**	**98**	*e*PKPdf		PKPdf	02 32 13.9	+1.8

IDC ***25*** *02:32:40.5±0.4, 27.00S×176.43W, mb5.0/21, mb1 5.2/21, mb1mx5.2/21, mbtmp5.0/21, MS5.2/17, Ms1 5.2/17, ms1mx5.1/25, Error ellipse: s-maj=16.8km s-min=12.7km az=159.0*
BJI ***25*** *02:32:43.9, 26.62S×176.04W, h26km, mB5.8, mb5.5, Ms5.4, Msz5.1*
MOS ***25*** *02:32:45.0±1.0, 26.98S×176.62W, h33km, mb5.7/36, MS5.2/56, Error ellipse: s-maj=9.6km s-min=7.6km az=49.0*
HRVD ***25*** *02:32:45.3±0.2, 27.01S×175.99W, h16km, MW5.6/72, Centroid moment Tensor Solution. LP body waves: s68,c125;Mantle waves: s72,c150; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.74±.04; $M_{\theta\theta}$0.15±.04; $M_{\phi\phi}$-1.89±.03; $M_{r\theta}$0.36±.11; $M_{\theta\phi}$-0.56±.03; $M_{r\phi}$2.43±.10; Best double couple: $M_0$3.099×10^{17} NP1:φ=201°, δ19°, λ101°. NP2:φ=9°, δ71°, λ86°. Principal axes: T:2.96, Plg64°, Azm273°; N:.278, Plg4°, Azm11°; P:-3.238, Plg26°, Azm102°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***25*** *02:32:45.3±0.1, 27.09S×176.53W, mb5.5/58, MS5.3/134 Error ellipse: s-maj=6.2km s-min=3.5km az=146.0*
ISC 25 02:32:43.5±0.2, 27.58S±0.04×176.38W±0.04, h37km, h37km±1.4km: pP-P, n545, σ1=13/260, mb5.4/85, MS5.3/164, 46C-12D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.15**	**219**	⇑*e*P		**P**	**02 33 25.1**	**+7.4**
RAO				*e*S		**S**	**02 33 55.8**	**+12**
PUZ	**Puketiti**	**11.39**	**202**	SN		**S**	**02 37 33.1**	**-0.8**
MWZ	**Matawai**	**11.88**	**204**	PN		**P**	**02 35 31.2**	**-2.2**
MWZ				SN		**S**	**02 37 43.9**	**-1.8**
URZ	**Urewera**	**11.97**	**206**	Pn		P	02 35 11.5	-23
	1.2nm,0.3s,baz=298,slow=1.4,SNR=3.2							
URZ				Sn		**S**	**02 37 48.7**	**+0.8**
	21nm,0.3s,baz=176,slow=16,SNR=12							
URZ	**Urewera**	**11.97**	**206**	*e*PN		**P**	**02 35 37.4**	**+2.8**
URZ				SN		**S**	**02 37 47.2**	**-0.7**
AFI	**Afiamalu**	**14.26**	**18**	Pn		**P**	**02 35 51.1**	**-14**
	20nm,0.3s,baz=8.0,slow=3.1,SNR=33							
AFI				Sn		S	02 38 12.3	-31
	6.1nm,0.3s,baz=38,slow=19,SNR=3.7							
AFI	**Afiamalu**	**14.26**	**18**	*e*P		**P**	**02 35 50.0**	**-15**
	515nm,1.0s							
AFI				*e*S		S	02 38 19.0	-24
BFZ	**Birch Farm**	**14.42**	**203**	SN		**S**	**02 38 43.5**	**-3.0**
MRZ	**Mangatainoka R**	**14.64**	**205**	SN		**S**	**02 38 45.5**	**-6.3**
CAW	**Cannon Point**	**15.22**	**205**	SN		**S**	**02 39 00.3**	**-5.1**
TUWZ	**Tuamarina**	**15.94**	**207**	SN		**S**	**02 39 15.9**	**-6.1**
NNZ	**Nelson**	**16.00**	**209**	SN		**S**	**02 39 18.6**	**-4.8**
RAR	**Rarotonga**	**16.39**	**71**	Pn		**P**	**02 36 21.3**	**-11**
	19nm,0.3s,baz=238,slow=8.2,SNR=16							
RAR				Sn		S	02 39 04.0	-29
	2.9nm,0.3s,baz=330,slow=7.7,SNR=3.1							
RAR				LR		LR	02 41 37.2	
	comp=Z,5μm,18.9s,baz=282,slow=33							
RAR	**Rarotonga**	**16.39**	**71**	*e*P		**P**	**02 36 20.1**	**-12**
DZM	**Mont Dzumac**	**16.53**	**286**	⇑*e*P		**P**	**02 36 38.0**	**+3.8**
DZM	**Mont Dzumac**	**16.53**	**286**	Pn		**P**	**02 36 37.2**	**+3.0**
	1.3nm,0.3s,baz=94,slow=16,SNR=28							
DZM				LR		LR	02 41 38.1	
	comp=Z,15μm,19.8s,baz=161,slow=33							
NOUC	**Port Laguerre**	**16.64**	**285**	*e*P		**P**	**02 36 39.4**	**+3.8**
THZ	**Tophouse**	**16.65**	**209**	*e*P		**P**	**02 36 33.5**	**-2.1**
THZ	**Tophouse**	**16.65**	**209**	*e*PN		**P**	**02 36 35.6**	**-0.1**
THZ				SN		**S**	**02 39 34.4**	**-4.1**
KHZ	**Kahutara**	**16.93**	**206**	*e*P		**P**	**02 36 34.7**	**-4.5**
KHZ	**Kahutara**	**16.93**	**206**	*e*PN		**P**	**02 36 34.8**	**-4.3**
KHZ				SN		**S**	**02 39 38.1**	**-6.9**
LTZ	**Lake Taylor**	**17.76**	**208**	*e*P		**P**	**02 36 49.5**	**0.0**
LTZ				S		**S**	**02 39 58.5**	**-5.1**
LTZ	**Lake Taylor**	**17.76**	**208**	*e*PN		**P**	**02 36 49.5**	**0.0**
LTZ				SN		**S**	**02 39 58.5**	**-5.2**
RPZ	**Rata Peaks**	**19.03**	**209**	P		**P**	**02 37 06.2**	**+1.1**
	4.3nm,0.3s,baz=36,slow=3.4,SNR=15							
RPZ				S		**S**	**02 40 28.5**	**-3.9**
	3.2nm,0.3s,baz=222,slow=22,SNR=5.6							
RPZ	**Rata Peaks**	**19.03**	**209**	SN		**S**	**02 40 26.6**	**-5.8**
ODZ	**Otahua Downs**	**20.28**	**207**	*e*P		**P**	**02 37 20.0**	**+1.3**
ODZ	**Otahua Downs**	**20.28**	**207**	*e*PN		**P**	**02 37 20.0**	**+1.3**
JCZ	**Jackson Bay**	**20.35**	**212**	*e*P		**P**	**02 37 18.1**	**-1.3**
JCZ	**Jackson Bay**	**20.35**	**212**	*e*PN		**P**	**02 37 18.1**	**-1.2**
MSZ	**Milford Sound**	**21.19**	**212**	*e*PN		**P**	**02 37 30.3**	**+2.3**
TBI	**Tubuai**	**24.64**	**86**	*e*LQ			02 42 40.3	
TBI				*e*LR		LR	02 43 38.3	
	8μm,28.8s,baz=255							
PAE	**Paea**	**26.58**	**74**	*e*P		**P**	**02 38 19.6**	**-0.7**
	210nm,1.5s,mb5.5							
PPT	**Papeete**	**26.62**	**74**	*e*P		**P**	**02 38 20.4**	**-0.3**
	83nm,1.3s,mb5.1							
PPT	**Papeete**	**26.62**	**74**	*e*LQ			02 43 25.8	
PPT				*e*LR		LR	02 44 28.2	
	7μm,24.5s,baz=248							
PPT	**Papeete**	**26.62**	**74**	P		**P**	**02 38 20.5**	**-0.2**
	19nm,0.8s,mb4.7,baz=189,slow=6.3,SNR=4.8							
PPT				LR		LR	02 45 49.8	
	comp=Z,4μm,19.9s,MS5.0,baz=250,slow=30							
TIAR	**Tiarei**	**26.82**	**74**	*e*P		**P**	**02 38 22.3**	**-0.3**
HNR	**Honiara**	**28.71**	**304**	LR		LR	02 48 39.3	
	comp=Z,6μm,18.4s,MS5.2,baz=140,slow=34							
HNR	**Honiara**	**28.71**	**304**	PFAKE			02 38 50.0	+10
HNR				LR		LR		
	comp=Z,5μm,20.0s,MS5.1							
CNB	**Canberra Magne**	**30.12**	**247**	*e*P		**P**	**02 38 54.9**	**+2.9**
	comp=Z,4μm,2.0s							
TAU	**Tasmania Unive**	**33.07**	**233**	*e*P		**P**	**02 39 19.9**	**+2.0**
TAU				pmax		pmax		
	comp=Z,55nm,0.8s,mb5.5							
TAU				MLR		MLR		
	comp=Z,1μm,20.0s,MS4.6							
TAU	**Tasmania Unive**	**33.07**	**233**	*e*P		**P**	**02 39 19.9**	**+2.1**
	comp=Z,56nm,0.8s,mb5.5							
TAU				LR		LR		
	comp=Z,1μm,20.0s,MS4.6							
TOO	**Toolangi**	**33.45**	**243**	*e*P		**P**	**02 39 23.3**	**+2.1**
	comp=Z,29nm,0.9s,mb5.2							
TOO	**Toolangi**	**33.45**	**243**	*e*P		**P**	**02 39 23.3**	**+2.1**
TOO				pmax		pmax		
	comp=Z,29nm,0.9s,mb5.2							
CTA	**Charters Tower**	**34.89**	**274**	*e*P		**P**	**02 39 34.0**	**+0.3**
	comp=Z,63nm,0.5s,mb5.8							
CTA	**Charters Tower**	**34.89**	**274**	*e*P		**P**	**02 39 34.0**	**+0.3**
CTA				pmax		pmax		
	comp=Z,63nm,0.5s							
CTA	**Charters Tower**	**34.89**	**274**	P		**P**	**02 39 34.7**	**+1.0**
	comp=Z,56nm,0.4s,mb5.8,baz=101,slow=11,SNR=84							
CTA				LR		LR	02 52 28.1	
	comp=Z,10μm,18.9s,MS5.6,baz=115,slow=34							
CTAO	**Charters Tower**	**34.89**	**274**	*e*P		**P**	**02 39 34.5**	**+0.8**
CTAO				pmax		pmax		
	comp=Z,105nm,0.8s,mb5.8							
CTAO				MLR		MLR		
	comp=Z,10μm,19.0s,MS5.6							
CTAO	**Charters Tower**	**34.89**	**274**	*e*P		**P**	**02 39 34.5**	**+0.8**
	comp=Z,105nm,0.8s,mb5.8							
CTAO				LR		LR		
	comp=Z,10μm,19.0s,MS5.6							
STKA	**Stephens Creek**	**36.59**	**253**	⇑*i*P		**P**	**02 39 49.4**	**+1.4**
	comp=Z,15nm,0.6s,mb5.0							
STKA				*e*SCS		ScS	02 50 06.2	+7.4
STKA	**Stephens Creek**	**36.59**	**253**	P		**P**	**02 39 49.5**	**+1.5**
	comp=Z,24nm,0.8s,mb5.0,baz=86,slow=8.4,SNR=41							
STKA				PcP		PcP	02 42 13.2	+2.0
	comp=Z,10nm,0.9s,baz=109,slow=4.3,SNR=3.4							
STKA				LR		LR	02 53 57.5	
	comp=Z,9μm,18.2s,MS5.6,baz=88,slow=35							
RKT	**Rikitea**	**37.55**	**93**	*e*S		**S**	**02 45 40.7**	**-1.8**
RKT				*e*LQ			02 48 27.2	
RKT				*e*LR		LR	02 49 38.2	
	comp=Z,5μm,29.8s,baz=255							
PMG	**Port Moresby**	**38.81**	**291**	*e*P		**P**	**02 40 05.1**	**-1.7**
PMG				pmax		pmax		
	comp=Z,97nm,1.4s							
PMG				MLR		MLR		
	comp=Z,6μm,20.0s							
PMG	**Port Moresby**	**38.81**	**291**	P		**P**	**02 40 05.8**	**-0.9**
	comp=Z,38nm,0.9s,mb5.1,baz=155,slow=3.9,SNR=8.4							
PMG	**Port Moresby**	**38.81**	**291**	*e*P		**P**	**02 40 05.1**	**-1.7**
	comp=Z,97nm,1.4s,mb5.3							
PMG				LR		LR		
	comp=Z,6μm,20.0s,MS5.5							
TAOE	**Nuku Hiva Isla**	**38.92**	**68**	*e*S		**S**	**02 46 04.4**	**+1.2**
TAOE				*e*LR		LR	02 50 08.1	
	baz=243							
PTCN	**Pitcairn Islan**	**41.37**	**97**	PFAKE			02 40 40.0	+12
PTCN				LR		LR		
	comp=Z,4μm,20.0s,MS5.3							
ASAR	**Alice Springs**	**44.77**	**263**	P		**P**	**02 40 55.5**	**+0.1**
	comp=Z,15nm,0.6s,mb5.0,baz=94,slow=6.6,SNR=153							
ASAR				PcP		PcP	02 42 38.1	+0.4
	comp=Z,9.4nm,0.8s,baz=98,slow=4.7,SNR=4.1							
ASAR				S		**S**	**02 47 29.2**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=115,slow=13,SNR=2.9							
ASAR				LR		LR	02 58 37.3	
	comp=Z,3μm,19.1s,MS5.2,baz=109,slow=35							
ASPA	**Alice Springs**	**44.77**	**263**	⇑*i*P		**P**	**02 40 55.6**	**+0.1**
ASPA				*e*PCS			02 46 30.3	
ASPA				*e*S		**S**	**02 47 28.0**	**-1.4**
ASPA	**Alice Springs**	**44.77**	**263**	⇑*i*P		**P**	**02 40 55.6**	**+0.1**
ASPA				*e*S		**S**	**02 47 28.0**	**-1.4**
WB2	**Warramunga Arr**	**45.49**	**269**	⇑*i*P		**P**	**02 41 00.9**	**-0.5**
WB2				*e*PCS			02 46 33.3	
WB2				*e*S		**S**	**02 47 42.6**	**+2.7**
WRAB	**Tennant Creek**	**45.50**	**269**	⇑*i*P		**P**	**02 41 00.8**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,80nm,0.8s,mb5.6							
WRAB				MLR		MLR		
	comp=Z,1μm,21.0s,MS4.9							
WRAB	**Tennant Creek**	**45.50**	**269**	⇑*i*P		**P**	**02 41 00.8**	**-0.6**
	comp=Z,80nm,0.8s,mb5.6							
WRAB				LR		LR		
	comp=Z,1μm,21.0s,MS4.9							
WRA	**Warramunga Arr**	**45.51**	**269**	P		**P**	**02 41 00.9**	**-0.6**
	comp=Z,53nm,0.7s,mb5.6,baz=106,slow=7.7,SNR=90							
WRA				PcP		PcP	02 42 41.1	+0.8
	comp=Z,11nm,0.8s,baz=100,slow=4.0,SNR=4.8							
WRA				S		**S**	**02 47 40.0**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=93,slow=14,SNR=3.8							
DRV	**Dumont d'Urvil**	**47.28**	**202**	P		**P**	**02 41 15.0**	**+0.2**
YOMI	**Yo Mokiole**	**48.02**	**293**	⇓*e*P		**P**	**02 41 14.9**	**-6.4**
	comp=Z,49nm,0.7s,mb5.7							
FORT	**Forrest**	**48.20**	**252**	⇑*i*P		**P**	**02 41 22.0**	**-0.6**
	comp=Z,1μm,0.6s							
MENI	**Mendum Tagoi**	**48.21**	**293**	⇑*i*P		**P**	**02 41 20.0**	**-2.8**
WAKE	**Wake Island**	**49.40**	**339**	PFAKE			02 41 40.0	+8.1
WAKE				LR		LR		
	comp=Z,3μm,21.0s,MS5.3							
KAKA	**Kakadu**	**49.94**	**277**	⇓*i*P		**P**	**02 41 34.5**	**-1.6**
	comp=Z,25nm,0.3s,mb5.7							
SBA	**Scott Base**	**50.95**	**185**	⇑*e*P		**P**	**02 41 49.7**	**+6.7**
SBA				pmax		pmax		
	comp=Z,122nm,1.3s,mb5.7							
SBA				MLR		MLR		
	comp=Z,2μm,20.0s,MS5.2							
SBA	**Scott Base**	**50.95**	**185**	⇑*e*P		**P**	**02 41 49.6**	**+6.6**
	comp=Z,122nm,1.3s,mb5.7							
SBA				LR		LR

comp=Z,32nm,0.8s,mb5.4
MBWA LR LR
comp=Z,7μm,20.0s,MS5.8
CASY Casey 58.29 207⇑ iP P 02 42 39.7 +3.1
QSPA South Pole Qui 62.52 180 eP P 02 43 10.1 +4.8
comp=Z,50nm,0.8s,mb5.7
QSPA LR LR
comp=Z,4μm,19.0s,MS5.5
NINI Niniconang 64.84 279 eP P 02 43 20.3 -1.2
MIR Mirnyy 65.28 206c iP P 02 43 26.0 +2.6
MIR i pP 02 43 37.0 +2.5
MIR i 02 43 53.0
MIR pmax pmax
comp=Z,1μm,4.8s
TANI Tanete Lipujan 65.64 279 eP P 02 43 24.7 -1.9
KEDI Kedomdong 66.21 273⇓ eP P 02 43 29.3 -0.9
KEDI pmax pmax
comp=Z,92nm,0.8s,mb5.9
KEDI Kedomdong 66.21 273⇓ eP P 02 43 29.3 -0.9
comp=Z,92nm,0.8s,mb5.9
RATI Rata 66.62 272⇑ iP P 02 43 31.8 -1.0
SRDI Scrawed 67.96 272⇓ eP P 02 43 40.1 -1.1
SRDI pmax pmax
comp=Z,49nm,0.9s,mb5.5
SRDI Scrawed 67.96 272⇓ eP P 02 43 40.1 -1.1
comp=Z,49nm,0.9s,mb5.5
KKM Kota Kinabalu 73.08 286 eP P 02 44 11.8 -0.6
KKM Kota Kinabalu 73.08 286 P P 02 44 11.3 -1.1
MAW Mawson 75.44 200⇑ iP P 02 44 29.5 +4.6
comp=Z,34nm,0.8s,mb5.3
MAW Mawson 75.44 200⇑ iP P 02 44 29.5 +4.6
MAW pmax pmax
comp=Z,34nm,0.8s
MAW Mawson 75.44 200 P P 02 44 29.5 +4.6
comp=Z,20nm,0.7s,mb5.2,baz=119,slow=6.9,SNR=16
MAW LR LR 03 18 26.2
comp=Z,2μm,18.1s,MS5.5,baz=117,slow=36
KSM Kuching 75.94 279 eP P 02 44 28.7 -0.1
PASI Pasiripis 76.34 270 eP P 02 44 30.5 -0.6
MJAR Matsushiro Arr 76.77 324 P P 02 44 31.2 -1.9
comp=Z,45nm,0.9s,mb5.4,baz=160,slow=5.3,SNR=80
MJAR LR LR 03 13 15.2
comp=Z,557nm,21.1s,MS4.8,baz=135,slow=32
MAJO Matsushiro 76.77 324⇑ iP P 02 44 31.4 -1.7
MAJO pmax pmax
comp=Z,261nm,1.5s,mb5.9
MAJO MLR MLR
comp=Z,844nm,22.0s,MS5.0
MAJO Matsushiro 76.77 324⇑ iP P 02 44 31.4 -1.8
comp=Z,262nm,1.5s,mb5.9
MAJO LR LR
comp=Z,844nm,22.0s,MS5.0
MAT Matsushiro 76.77 324 eP P 02 44 31.0 -2.1
MAT pmax pmax
comp=Z,111nm,1.1s,mb5.7
MAT MLR MLR
comp=Z,1μm,20.0s,MS5.2
MAT Matsushiro 76.77 324 eP P 02 44 31.0 -2.1
comp=Z,111nm,1.1s,mb5.7
MAT eS S 02 53 57.0 -19
MAT LR LR
comp=Z,1μm,20.0s,MS5.2
MAT Matsushiro 76.77 324 P P 02 44 31.4 -1.7
MAT S S 02 53 57.0 -19
PENI Pendagan 77.22 270⇓ eP P 02 44 33.3 -2.8
PENI pmax pmax
comp=Z,158nm,0.7s,mb6.0
PENI Pendagan 77.22 270⇓ eP P 02 44 33.3 -2.8
comp=Z,158nm,0.7s,mb6.0
YHNB Yeheng 79.34 305 eP P 02 44 47.3 -0.2
TATO Taipei 79.45 305 PFAKE 02 45 00.0 +12
TATO LR LR
comp=Z,2μm,22.0s,MS5.4
SYO Syowa Base 80.17 192 ⇓P **P 02 44 53.7 +2.6**
SMY Shemya 80.39 354 PFAKE 02 45 00.0 +7.4
SMY LR LR
comp=Z,4μm,20.0s,MS5.8
SNAA Sanae 80.92 178 e **P 02 45 04.4 +9.4**
SNAA Sanae 80.92 178 e pP 02 45 10.6 +4.3
SNAA Sanae 80.92 178 e sP 02 45 15.3 +4.9
SNAA Sanae 80.92 178 P **P 02 44 58.1 +3.1**
comp=Z,6.4nm,0.8s,mb4.6,baz=186,slow=6.2,SNR=27
SNAA Sanae 80.92 178⇑ iP P 02 44 58.4 +3.4
SNAA e 02 45 04.4
SNAA e pP 02 45 10.6 +4.3
SNAA e 02 45 15.3
VNA3 Neumayer Olymp 81.01 176 e **P 02 45 03.2 +7.7**
VNA3 Neumayer Olymp 81.01 176 e **P 02 45 04.4 +8.9**
VNA3 Neumayer Olymp 81.01 176 e pP 02 45 10.4 +3.6
VNA3 Neumayer Olymp 81.01 176 e sP 02 45 14.9 +4.1
VNA3 Neumayer Olymp 81.01 176⇑ iP P 02 44 58.7 +3.2
VNA3 e 02 45 03.2
VNA3 e 02 45 04.4
VNA3 e pP 02 45 10.4 +3.6
VNA3 e 02 45 14.9
VNA3 e 02 48 05.5
VNA2 Neumayer--Watz 81.46 176 e **P 02 45 06.1 +8.3**
VNA2 Neumayer--Watz 81.46 176 e **P 02 45 07.3 +9.5**
VNA2 Neumayer--Watz 81.46 176 e pP 02 45 12.5 +3.3
VNA2 Neumayer--Watz 81.46 176 e sP 02 45 17.1 +3.9
VNA2 Neumayer--Watz 81.46 176⇑ iP P 02 45 01.6 +3.8
VNA2 e 02 45 06.1
VNA2 e 02 45 07.3
VNA2 e pP 02 45 12.5 +3.3
VNA2 e 02 45 17.1
VNA2 e 02 48 09.6
VNA1 Neumayer--Stat 81.69 176 e **P 02 45 07.3 +8.3**
VNA1 Neumayer--Stat 81.69 176 e **P 02 45 09.0 +10**
VNA1 Neumayer--Stat 81.69 176 e pP 02 45 15.2 +4.8
VNA1 Neumayer--Stat 81.69 176 e sP 02 45 20.7 +6.3
VNA1 Neumayer--Stat 81.69 176⇑ iP P 02 45 03.0 +4.0
VNA1 e 02 45 07.3
VNA1 e 02 45 09.0
VNA1 e pP 02 45 15.2 +4.8
VNA1 e 02 45 20.7
VNA1 e 02 48 06.7
SAO San Andreas Ge 82.23 42 P **P 02 45 02.5 0.0**
SAO pmax pmax
comp=Z,20nm,1.0s,mb5.0
SAO MLR MLR
comp=Z,2μm,20.0s,MS5.5
SAO San Andreas Ge 82.23 42 P **P 02 45 02.5 0.0**
comp=Z,20nm,1.0s,mb5.0
SAO LR LR
comp=Z,2μm,20.0s,MS5.5
LRV Little Rabbit 82.26 42 P **P 02 45 02.3 -0.3**
KGM Kluang 82.34 276 P **P 02 45 04.9 +1.4**
HOPS Hopland 82.83 39 PFAKE 02 45 20.0 +14
HOPS LR LR
comp=Z,2μm,19.0s,MS5.4
YSS Yuzh-Sakhalins 82.86 333⇑ eP **P 02 45 05.6 +0.2**
YSS e*PP pP 02 45 17.0 +0.2
YSS eS S 02 55 22.0 +2.2
YSS ePS PS 02 55 59.0 -17
YSS ePPS PPS 02 56 29.0 -9.3
YSS pmax pmax
comp=Z,70nm,1.1s,mb5.6
YSS pmax pmax
comp=N,50nm,1.2s
YSS pmax pmax
comp=E,40nm,1.1s
YSS pmax pmax
comp=N,50nm,1.2s
YSS pmax pmax
comp=Z,130nm,1.2s,mb5.8
YSS pmax pmax
comp=E,70nm,1.0s
YSS MLR MLR
comp=N,600nm,18.0s,MS5.1
YSS MLR MLR
comp=Z,700nm,18.0s,MS5.1
YSS MLR MLR
comp=E,500nm,19.0s,MS5.1
YSS Yuzh-Sakhalins 82.86 333 eP **P 02 45 05.3 -0.2**
comp=E,74nm,0.9s,mb5.7
YSS LR LR
comp=Z,835nm,19.0s,MS5.1
PET Petropavlovsk 83.16 345 eP **P 02 45 09.2 +2.3**
PET e 02 48 21.2
PET eSP SP 02 56 19.1 +4.3
PET pmax pmax
comp=Z,300nm,14.4s
PET pmax pmax
comp=Z,400nm,13.1s

PET Petropavlovsk 83.16 345 PFAKE 02 45 20.0 +13
PET LR LR
comp=Z,1μm,19.0s,MS5.3
KS15 Wonju Array Si 83.17 319 eP **P 02 45 07.3 +0.1**
PFO Pinyon Flat Ob 83.25 47 eP **P 02 45 09.4 +1.7**
PFO pmax pmax
comp=Z,148nm,2.3s,mb5.6
PFO MLR MLR
comp=Z,503nm,19.0s,MS4.9
PFO Pinyon Flat Ob 83.25 47 eP **P 02 45 09.4 +1.7**
comp=Z,148nm,2.3s,mb5.6
PFO LR LR
comp=Z,503nm,19.0s,MS4.9
SSE Sheshan 83.36 310 P **P 02 45 08.3 0.0**
SSE AP pP 02 45 17.9 -1.8
SSE XP sP 02 45 21.6 -2.1
SSE S S 02 55 26.3 +1.2
SSE XS 02 55 41.4
SSE SS SS 03 00 47.8 -6.2
SSE AMB AMB
comp=Z,61nm,0.8s,mb5.7
SSE AMB AMB
comp=Z,366nm,9.1s
SSE LR LR
comp=N,317nm,20.0s,MS4.8
SSE LR LR
comp=E,320nm,20.0s,MS4.8
SSE LR LR
comp=Z,595nm,20.0s,MS5.0
SSE Sheshan 83.36 310 P **P 02 45 08.2 -0.1**
comp=Z,61nm,0.8s,mb5.7
SSE pP pP 02 45 17.9 -1.8
SSE sP sP 02 45 21.6 -2.1
SSE S S 02 55 26.3 +1.2
SSE sS 02 55 41.4
SSE SS SS 03 00 47.8 -6.2
SSE LR LR
comp=Z,600nm,20.0s,MS5.0
PLCA Paso Flores 83.38 133 P **P 02 45 11.6 +3.3**
comp=Z,4.1nm,0.6s,mb4.6,baz=225,slow=6.4,SNR=23
PLCA LR LR 03 16 34.6
comp=Z,870nm,18.7s,MS5.2,baz=246,slow=31
CMB Columbia Colle 83.71 41 eP **P 02 45 09.6 -0.4**
CMB MLR MLR
comp=Z,2μm,20.0s,MS5.4
KHMM Horse Mountain 83.79 37 eP **P 02 45 10.7 +0.3**
WDC Whiskeytown Da 84.23 38 eP **P 02 45 11.7 -0.9**
WDC MLR MLR
comp=Z,1μm,21.0s,MS5.2
DAC Darwin (Calif) 84.23 44 PFAKE 02 45 20.0 +7.3
DAC LR LR
comp=Z,1μm,20.0s,MS5.3
OMM Old Mammoth Mi 84.26 42 eP **P 02 45 11.9 -0.9**
MTUM Tungsten Hills 84.34 43 eP **P 02 45 13.1 -0.2**
WCN Washoe City 84.93 41 eP **P 02 45 15.8 -0.3**
WCN pmax pmax
comp=Z,21nm,1.0s,mb5.2
WCN Washoe City 84.93 41 eP **P 02 45 15.8 -0.3**
comp=Z,21nm,1.0s,mb5.2
YBH Yreka Blue Hor 84.94 37 eP **P 02 45 15.9 -0.2**
YBH MLR MLR
comp=Z,651nm,19.0s
YBH Yreka Blue Hor 84.94 37 P **P 02 45 16.1 0.0**
comp=Z,12nm,0.9s,mb5.0,baz=193,slow=5.7,SNR=10
LDFC Landfair 85.03 46 eP **P 02 45 17.2 +0.5**
QIZ Qiongzhong 85.11 294 P **P 02 45 18.6 +1.2**
QIZ S S 02 55 50.3 +7.5
QIZ AMB AMB
comp=Z,347nm,9.5s
QIZ LR LR
comp=N,278nm,21.0s
QIZ LR LR
comp=Z,444nm,37.0s
NVAR Mina Array Bea 85.20 42 P **P 02 45 17.4 0.0**
comp=Z,13nm,0.9s,mb5.0,baz=212,slow=6.6,SNR=13
NVAR PKPPKP 03 11 46.2
comp=Z,0.6nm,0.8s,baz=124,slow=3.3,SNR=3.8
NVAR LR LR 03 16 05.4
comp=Z,2μm,19.4s,MS5.4,baz=245,slow=31
MNV Mina 85.29 42 eP **P 02 45 17.7 -0.2**
MNV MLR MLR
comp=Z,2μm,19.0s,MS5.4
HUMO Hull Mountain 85.41 36 eP **P 02 45 18.5 +0.1**
comp=Z,28nm,1.1s,mb5.3
HUMO LR LR
comp=Z,546nm,20.0s,MS4.9
NJ2 Nanjing 85.52 310 eP **P 02 45 20.3 +1.1**
NJ2 AP pP 02 45 30.8 +0.2
NJ2 XP sP 02 45 34.6 +0.1
NJ2 PP PP 02 48 42.0 +2.5
NJ2 S S 02 55 45.0 -1.5
NJ2 XS 02 56 02.0
NJ2 AMB AMB
comp=Z,1μm,11.2s
NJ2 LR LR
comp=N,1μm,22.0s,MS5.6
NJ2 LR LR
comp=E,2μm,21.0s,MS5.6
NJ2 LR LR
comp=Z,2μm,21.8s,MS5.4
IPM Ipoh 85.56 277 P **P 02 45 20.9 +1.1**
NEN Nelson 85.56 46 eP **P 02 45 19.0 -0.3**
TPH Tonopah 85.62 43 eP **P 02 45 19.1 -0.4**
TPH pmax pmax
comp=Z,25nm,1.1s,mb5.4
TPH MLR MLR
comp=Z,1μm,19.0s,MS5.2
TPH Tonopah 85.62 43 eP **P 02 45 19.1 -0.4**
comp=Z,25nm,1.1s,mb5.3
TPH LR LR
comp=Z,1μm,19.0s,MS5.2
KULM Kulim 86.22 278 eP **P 02 45 23.7 +0.7**
PAYG Puerto Ayora 86.22 89 PFAKE 02 45 40.0 +17
PAYG LR LR
comp=Z,1μm,21.0s,MS5.3
TUC Tucson 86.23 51 eP **P 02 45 23.0 +0.3**
TUC pmax pmax
comp=Z,26nm,1.3s,mb5.3
TUC MLR MLR
comp=Z,947nm,19.0s,MS5.2
TUC Tucson 86.23 51 eP **P 02 45 23.0 +0.3**
comp=Z,26nm,1.3s,mb5.3
TUC LR LR
comp=Z,947nm,19.0s,MS5.2
MOD Modoc 86.36 38 PFAKE 02 45 30.0 +6.9
MOD LR LR
comp=Z,822nm,20.0s,MS5.1
COR Corvallis 86.62 35 PFAKE 02 45 40.0 +16
COR LR LR
comp=Z,1μm,20.0s,MS5.3
MDJ Mudanjiang 87.13 325 P **P 02 45 27.3 +0.5**
MDJ XP sP 02 45 44.4 +2.3
MDJ PP PP 02 48 54.8 +1.7
MDJ S S 02 56 01.5 -0.2
MDJ AMB AMB
comp=Z,22nm,1.2s,mb5.3
MDJ AMB AMB
comp=Z,456nm,5.3s
MDJ LR LR
comp=N,469nm,24.6s,MS4.9
MDJ LR LR
comp=E,337nm,20.6s,MS4.9
MDJ LR LR
comp=Z,833nm,21.4s,MS5.1
BMN Battle Mountai 87.14 41 PFAKE 02 45 40.0 +13
BMN LR LR
comp=Z,1μm,20.0s,MS5.4
UBT Ubonrachathani 87.19 289 P **P 02 45 30.0 +2.3**
KDAK Kodiak Island 87.35 12 eP **P 02 45 27.6 +0.1**
comp=Z,56nm,1.4s,mb5.6
KDAK LR LR
comp=Z,398nm,20.0s,MS4.8
WVOR Wild Horse Val 87.64 39 eP **P 02 45 29.6 +0.4**
WVOR pmax pmax
comp=Z,22nm,1.3s,mb5.2
WVOR MLR MLR
comp=Z,2μm,19.0s,MS5.5
WVOR Wild Horse Val 87.64 39 eP **P 02 45 29.6 +0.3**
comp=Z,22nm,1.3s,mb5.2
WVOR LR LR
comp=Z,2μm,19.0s,MS5.5
WUAZ Wupatki 87.72 48 eP **P 02 45 30.5 +0.6**
comp=Z,22nm,1.0s,mb5.3
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.4
WHN Wuhan 87.81 306 ⇑P **P 02 45 31.5 +1.1**

WHN S S 02 56 06.0 -2.5
WHN LR LR
comp=Z,3μm,25.6s,MS5.6
DL2 Dalian 87.87 316 P **P 02 45 31.0 +0.6**
DL2 AP pP 02 45 42.8 +0.8
DL2 XP sP 02 45 46.6 +0.8
DL2 PP PP 02 48 53.9 -5.3
DL2 S S 02 56 06.3 -2.5
DL2 XS 02 56 23.8
DL2 AMB AMB
comp=Z,30nm,1.4s,mb5.3
DL2 AMB AMB
comp=Z,240nm,6.6s
DL2 LR LR
comp=N,190nm,14.1s,MS4.9
DL2 LR LR
comp=E,280nm,15.4s,MS4.9
DL2 LR LR
comp=Z,390nm,17.1s,MS4.9
SNY Shenyang 88.55 320 ⇑P **P 02 45 33.6 0.0**
SNY AMB AMB
comp=Z,40nm,2.1s,mb5.4
CN2 Changchun 88.78 322 eP **P 02 45 34.8 +0.1**
CN2 eS S 02 56 15.8 -1.3
CN2 SS SS 03 02 10.0 -2.7
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.5
CN2 AMB AMB
comp=Z,600nm,4.0s
CN2 LR LR
comp=N,870nm,19.0s,MS5.3
CN2 LR LR
comp=E,800nm,19.0s,MS5.3
CN2 LR LR
comp=Z,810nm,21.0s,MS5.1
MVU Marysvale 88.97 45 eP **P 02 45 36.8 +1.1**
comp=Z,19nm,1.4s,mb5.2
MVU LR LR
comp=Z,1μm,19.0s,MS5.3
MSU Marysvale 88.99 45 eP **P 02 45 36.4 +0.6**
FMW Mount Fremont 89.07 34 P **P 02 45 35.9 -0.1**
TIA Tai'an 89.12 312 ⇑P **P 02 45 37.3 +0.8**
TIA AMB AMB
comp=Z,136nm,1.7s,mb6.0
KLR Kul'dur 89.34 329 eP **P 02 45 35.2 -2.0**
KLR eS S 02 56 24.5 +2.3
KLR pmax pmax
comp=Z,150nm,2.8s,mb5.8
PGC Sidney 89.41 32 eP **P 02 45 37.1 -0.5**
comp=Z,45nm,0.9s,mb5.8
KKTK Khon Kaen 89.57 289 P **P 02 45 41.1 +2.1**
comp=Z,679nm,0.9s
DUG Dugway 89.62 43 PFAKE 02 45 50.0 +11
DUG LR LR
comp=Z,2μm,20.0s,MS5.5
TXAR Lajitas Array 89.66 56 P **P 02 45 39.4 +0.2**
comp=Z,2.4nm,0.9s,mb4.5,baz=211,slow=7.3,SNR=22
TXAR PKKPbc 03 03 26.8
comp=Z,0.4nm,0.6s,baz=63,slow=2.0,SNR=4.6
TXAR LR LR 03 17 43.6
comp=Z,896nm,20.1s,MS5.2,baz=145,slow=30
LTX Lajitas 89.66 56 eP **P 02 45 39.8 +0.6**
LTX pmax pmax
comp=Z,55nm,1.6s,mb5.6
LTX MLR MLR
comp=Z,1μm,21.0s,MS5.3
LTX Lajitas 89.66 56 eP **P 02 45 39.8 +0.6**
comp=Z,55nm,1.6s,mb5.6
LTX LR LR
comp=Z,1μm,21.0s,MS5.3
MNTX Cornudas Mount 89.68 54 eP **P 02 45 38.9 -0.3**
comp=Z,50nm,1.8s,mb5.5
MNTX LR LR
comp=Z,948nm,19.0s,MS5.2
TBM Table Mountain 89.77 34 P **P 02 45 39.5 +0.2**
HAWA Hanford 89.79 35 eP **P 02 45 38.6 -0.8**
comp=Z,3.4nm,1.4s,mb4.5
HAWA LR LR
comp=Z,67nm,19.0s
JCW Jim Creek 89.82 33 P **P 02 45 40.5 +1.1**
BGU Big Grassy Mou 89.93 43 eP **P 02 45 41.0 +0.8**
BMO Blue Mountains 89.95 38 PFAKE 02 45 50.0 +10
BMO LR LR
comp=Z,581nm,19.0s,MS5.0
SVW2 Sparrevohn 89.96 10 eP **P 02 45 38.9 -0.9**
GBL Gable Mountain 89.96 35 P **P 02 45 40.4 +0.2**
LOCW Locke Island 90.06 35 P **P 02 45 41.0 +0.4**
ETW Entiat 90.20 34 P **P 02 45 41.5 +0.2**
MPU Maple Canyon 90.23 44 eP **P 02 45 42.2 +0.6**
SLKM Skilak Lake 90.34 13 eP **P 02 45 40.2 -1.4**
TRQA Tornquist 90.39 134 P **P 02 45 45.6 +3.2**
TRQA LR LR
comp=Z,1μm,19.0s,MS5.4
SRU San Rafael 90.39 45 eP **P 02 45 41.8 -0.6**
CTU Camp Tracy 90.56 43 eP **P 02 45 43.7 +0.6**
HVU Hansel Valley 90.60 42 eP **P 02 45 43.4 +0.1**
JLU Jordanelle 90.69 44 eP **P 02 45 44.8 +1.0**
ANMO Albuquerque 90.70 50 P **P 02 45 44.2 +0.2**
comp=Z,3.0nm,0.8s,mb4.7,baz=215,slow=5.7,SNR=12
ANMO Albuquerque 90.70 50 P **P 02 45 44.2 +0.2**
ANMO LR LR
comp=Z,1μm,20.0s,MS5.3
DAU Daniels Canyon 90.70 44 eP **P 02 45 44.4 +0.6**
HLID Hailey 90.74 40 eP **P 02 45 43.6 -0.3**
comp=Z,19nm,1.3s,mb5.3
HLID LR LR
comp=Z,966nm,19.0s,MS5.3
FIB Fire Island 90.95 12 PFAKE 02 45 50.0 +5.5
FIB LR LR
comp=Z,2μm,20.0s,MS5.5
TCUT Toone Canyon 91.02 43 eP **P 02 45 45.9 +0.6**
PV01 Paradox Valley 91.07 47 eP **P 02 45 45.3 -0.3**
HWUT Hardware Ranch 91.22 43 eP **P 02 45 46.3 +0.1**
comp=Z,27nm,1.5s,mb5.3
HWUT LR LR
comp=Z,2μm,19.0s,MS5.5
EYAK Cordova Ski Ar 91.31 15 eP **P 02 45 45.5 -0.7**
GYA Guiyang 91.41 299⇑ iP **P 02 45 48.0 +0.6**
GYA AP pP 02 46 01.5 +2.5
GYA XP sP 02 46 06.8 +4.0
GYA PP PP 02 49 27.8 +0.1
GYA SKS SKS 02 56 15.3 +0.3
GYA S S 02 56 39.4 -1.9
GYA AMB AMB
comp=Z,40nm,1.2s,mb5.6
GYA AMB AMB
comp=Z,360nm,6.9s
GYA LR LR
comp=N,1μm,20.0s,MS5.5
GYA LR LR
comp=E,1μm,19.8s,MS5.5
GYA LR LR
comp=Z,560nm,19.8s,MS5.0
NST Nakhon Sawan 91.53 287 P **P 02 45 50.0 +1.8**
PMR Palmer 91.55 13 eP **P 02 45 46.2 -1.0**
PMR MLR MLR
comp=Z,600nm,17.0s,MS5.1
TTA Tatalina 91.65 9 eP **P 02 45 47.4 -0.2**
DIV Divide 91.82 14 eP **P 02 45 47.7 -0.8**
comp=Z,67nm,0.9s,mb6.0
DIV LR LR
comp=Z,2μm,20.0s,MS5.5
BJI Beijing 91.93 315 P **P 02 45 49.8 +0.3**
BJI S S 02 56 43.9 -1.7
BJI AMB AMB
comp=Z,33nm,1.5s,mb5.4
BJI AMB AMB
comp=Z,598nm,3.6s
BJI LR LR
comp=N,604nm,16.8s,MS5.2
BJI LR LR
comp=E,306nm,16.8s,MS5.2
BJI LR LR
comp=Z,578nm,18.9s,MS5.0
BJI Beijing 91.93 315 P **P 02 45 49.7 +0.2**
BJI S S 02 56 43.9 -1.7
BJI SP SP 02 58 20.9 +21
BJI pmax pmax
comp=Z,33nm,1.5s,mb5.4
BJI MLR MLR
comp=Z,580nm,18.9s,MS5.0
BJI Beijing 91.93 315 P **P 02 45 49.7 +0.2**
comp=Z,33nm,1.5s,mb5.4
BJI PP PP 02 49 45.5 +14
BJI SKS SKS 02 56 26.8 +9.1

BJI				S	S	02 56 43.9	-1.7
BJI				SP	SP	02 58 20.9	+21
BJI				SS	SS	03 03 09.4	+11
BJI				LR	LR		
	comp=Z,580nm,18.9s,MS5.0						
AHID	**Auburn Hatcher**	**92.19**	**42**	*e*P	**P**	**02 45 51.0**	**+0.3**
	comp=Z,41nm,1.3s,mb5.6						
AHID				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
NEW	**Newport**	**92.26**	**35**	PFAKE		02 46 00.0	+9.2
NEW				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
RRI2	**Red Ridge**	**92.40**	**41**	*e*P	**P**	**02 45 51.4**	**-0.2**
	comp=Z,16nm,1.1s,mb5.3						
MCMT	**McKenzie Canyo**	**92.40**	**40**	*e*P	**P**	**02 45 51.2**	**-0.4**
NANT	**Nan**	**92.52**	**290**	⇑P	**P**	**02 45 53.0**	**+0.3**
	comp=Z,125nm,0.8s,mb6.4						
NNA	**Nana**	**92.80**	**105**	PFAKE		02 46 10.0	+16
NNA				LR	LR		
	comp=Z,157nm,19.0s,MS4.5						
SNOW	**Snow King Moun**	**92.80**	**42**	*e*P	**P**	**02 45 53.3**	**-0.1**
	comp=Z,26nm,1.0s,mb5.6						
SDCO	**Great Sand Dun**	**92.88**	**49**	*e*P	**P**	**02 45 54.1**	**+0.2**
	comp=Z,5.7nm,1.0s,mb5.0						
SDCO				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
IMW	**Indian Meadow**	**92.95**	**41**	*e*P	**P**	**02 45 54.5**	**+0.4**
	comp=Z,27nm,1.1s,mb5.6						
MOOW	**Moose Ponds**	**92.97**	**41**	*e*P	**P**	**02 45 54.0**	**-0.3**
	comp=Z,34nm,1.7s,mb5.5						
LOHW	**Long Hollow**	**92.98**	**42**	*e*P	**P**	**02 45 54.0**	**-0.2**
	comp=Z,99nm,1.8s,mb5.9						
MSO	**Missoula**	**93.02**	**38**	*e*P	**P**	**02 45 53.1**	**-1.2**
	comp=Z,7.9nm,1.4s,mb5.0						
MSO				LR	LR		
	comp=Z,416nm,20.0s,MS4.9						
TNA	**Tin City**	**93.06**	**4**	*e*P	**P**	**02 45 52.8**	**-1.3**
	comp=Z,9.8nm,0.9s,mb5.2						
TNA				LR	LR		
	comp=Z,469nm,20.0s,MS4.9						
BW06	**Boulder Array**	**93.11**	**43**	PFAKE		02 46 10.0	+15
BW06				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
PDAR	**Pinedale Array**	**93.11**	**43**	P	**P**	**02 45 54.1**	**-0.7**
	comp=Z,2.6nm,0.9s,mb4.7,baz=191,slow=2.6,SNR=17						
PDAR				PP	PP	02 49 34.8	-6.2
	comp=Z,0.4nm,0.7s,baz=225,slow=3.8,SNR=2.8						
PDAR				PKKP	PKKP	03 03 15.9	+22
	comp=Z,0.6nm,0.7s,baz=104,slow=3.7,SNR=4.5						
PDAR				LR	LR	03 22 01.1	
	comp=Z,1μm,19.3s,MS5.3,baz=249,slow=32						
JCT	**Junction City**	**93.12**	**57**	*e*P	**P**	**02 45 55.0**	**-0.2**
JCT				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.6						
JCT				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.4						
JCT	**Junction City**	**93.12**	**57**	*e*P	**P**	**02 45 55.0**	**-0.2**
	comp=Z,37nm,1.6s,mb5.6						
JCT				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
QLMT	**Earthquake Lak**	**93.21**	**40**	*e*P	**P**	**02 45 56.2**	**+0.9**
CHMT	**Chamberlain Mo**	**93.45**	**38**	*e*P	**P**	**02 45 55.4**	**-0.8**
MCK	**McKinley**	**93.55**	**12**	*e*P	**P**	**02 45 54.7**	**-1.6**
MCK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.1						
MCK				MLR	MLR		
	comp=Z,585nm,20.0s,MS5.0						
MCK	**McKinley**	**93.55**	**12**	*e*P	**P**	**02 45 54.7**	**-1.6**
	comp=Z,7.5nm,1.0s,mb5.1						
MCK				LR	LR		
	comp=Z,585nm,20.0s,MS5.0						
XAN	**Xi'an**	**93.56**	**307**	P	**P**	**02 45 57.9**	**+0.8**
XAN				AP	pP	02 46 09.3	+0.6
XAN				PP	PP	02 49 41.4	-3.4
XAN				AMB	AMB		
	comp=Z,22nm,1.2s,mb5.5						
XAN				LR	LR		
	comp=N,451nm,24.1s,MS5.1						
XAN				LR	LR		
	comp=E,604nm,20.5s,MS5.1						
XAN				LR	LR		
	comp=Z,1μm,22.3s,MS5.2						
SEY	**Seymchan**	**93.57**	**346**	*e*P	**P**	**02 45 58.2**	**+1.8**
SEY						02 49 49.0	
SEY				*e*PPP	PPP	02 51 50.0	+3.2
SEY				*e*		02 56 26.1	
SEY				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.8						
SEY				smax			
	comp=N,1μm,17.8s						
SEY				smax			
	comp=E,2μm,19.2s						
SEY				MLR	MLR		
	comp=N,2μm,19.0s,MS5.6						
SEY				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.8						
SEY				MLR	MLR		
	comp=E,400nm,18.0s,MS5.6						
BOZ	**Bozeman (W)**	**93.58**	**39**	*e*P	**P**	**02 45 56.6**	**-0.3**
BOZ				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.6						
BOZ				MLR	MLR		
	comp=Z,804nm,20.0s,MS5.2						
BOZ	**Bozeman (W)**	**93.58**	**39**	*e*P	**P**	**02 45 56.5**	**-0.4**
	comp=Z,35nm,1.4s,mb5.6						
BOZ				LR	LR		
	comp=Z,804nm,20.0s,MS5.2						
LKWY	**Lake**	**93.65**	**41**	*e*P	**P**	**02 45 58.7**	**+1.4**
LKWY				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.3						
LKWY				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.5						
LKWY	**Lake**	**93.65**	**41**	*e*P	**P**	**02 45 58.7**	**+1.5**
	comp=Z,6.8nm,0.6s,mb5.2						
LKWY				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
CM31	**Chiang Mai Arr**	**93.83**	**289**	PFAKE		02 46 10.0	+11
CM31				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
CMAR	**Chiang Mai Arr**	**93.83**	**289**	P	**P**	**02 46 00.3**	**+1.7**
	comp=Z,13nm,0.9s,mb5.3,baz=142,slow=3.7,SNR=47						
KMI	**Kunming**	**93.84**	**296**	P	**P**	**02 46 00.3**	**+1.7**
KMI				AP	pP	02 46 11.1	+1.0
KMI				PP	PP	02 49 51.0	+3.8
KMI				PPP	PPP	02 51 54.5	+4.4
KMI				SKS	SKS	02 56 34.3	+5.6
KMI				S	S	02 57 07.0	+4.5
KMI				PS	PS	02 58 31.6	+4.7
KMI				SS	SS	03 03 31.5	+5.5
KMI				AMB	AMB		
	comp=Z,47nm,1.5s,mb5.7						
KMI				AMB	AMB		
	comp=Z,355nm,6.9s						
KMI				LR	LR		
	comp=N,543nm,16.1s,MS5.4						
KMI				LR	LR		
	comp=E,977nm,18.6s,MS5.4						
KMI				LR	LR		
	comp=Z,832nm,17.4s,MS5.2						
KMI	**Kunming**	**93.84**	**296**	P	**P**	**02 46 00.3**	**+1.7**
KMI				*PP	pP	02 46 11.1	+1.0
KMI						02 49 51.0	
KMI				PPP	PPP	02 51 54.5	+4.4
KMI						02 56 34.3	
KMI				S	S	02 57 07.0	+4.5
KMI				SS	SS	03 03 31.5	+5.5
KMI				pmax	pmax		
	comp=Z,47nm,1.5s,mb5.7						
KMI				MLR	MLR		
	comp=Z,830nm,17.4s,MS5.2						
KMI	**Kunming**	**93.84**	**296**	P	**P**	**02 46 00.3**	**+1.7**
	comp=Z,47nm,1.5s,mb5.7						
KMI				pP	pP	02 46 11.1	+1.0
KMI				PP	PP	02 49 51.0	+3.8
KMI				PPP	PPP	02 51 54.5	+4.4
KMI				SKS	SKS	02 56 34.3	+5.6
KMI				S	S	02 57 07.0	+4.5
KMI				PS	PS	02 58 31.6	+4.7
KMI				SS	SS	03 03 31.5	+5.5
KMI				LR	LR		
	comp=Z,830nm,17.4s,MS5.2						
THY	**Trims Highway**	**93.88**	**13**	*e*P	**P**	**02 45 57.3**	**-0.5**
AMTX	**Amarillo**	**93.99**	**53**	PFAKE		02 46 10.0	+11
AMTX				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
CHG	**Chiang Mai**	**93.99**	**289**	⇑P	**P**	**02 46 01.5**	**+2.1**
	comp=Z,36nm,0.9s,mb5.8						
LVC	**Limon Verde**	**94.02**	**118**	PFAKE		02 46 10.0	+11
LVC				LR	LR		
	comp=Z,1μm,21.0s,MS5.3						
HRY	**Holter Researc**	**94.11**	**39**	*e*P	**P**	**02 45 59.4**	**+0.2**
COLA	**College**	**94.78**	**12**	*i* P	**P**	**02 46 00.5**	**-1.4**
COLA				MLR	MLR		
	comp=Z,1μm,19.0s,MS5.4						
ILAR	**Eielson Array**	**94.87**	**12**	P	**P**	**02 46 00.9**	**-1.4**
	comp=Z,3.4nm,0.9s,mb4.8,baz=225,slow=5.3,SNR=29						
IMA	**Indian Mountai**	**94.95**	**9**	*e*P	**P**	**02 46 00.3**	**-2.4**
IMA				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.7						
IMA	**Indian Mountai**	**94.95**	**9**	*e*P	**P**	**02 46 00.3**	**-2.4**
	comp=Z,40nm,1.3s,mb5.7						
HHC	**Hu-ho-hao-te**	**95.31**	**314**	*e*P	**P**	**02 46 05.3**	**+0.4**
HHC				PP	PP	02 49 59.5	+1.8
HHC				SKS	SKS	02 56 40.3	+3.9
HHC				S	S	02 57 14.9	+0.2
HHC				AMB	AMB		
	comp=Z,19nm,1.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,259nm,7.6s						
HHC				LR	LR		
	comp=N,428nm,19.1s,MS5.0						
HHC				LR	LR		
	comp=E,325nm,19.6s,MS5.0						
HHC				LR	LR		
	comp=Z,480nm,19.4s,MS5.0						
CD2	**Chengdu**	**95.81**	**302**	⇓*i*P	**P**	**02 46 09.8**	**+2.4**
CD2				PP	PP	02 50 03.8	+2.0
CD2				SKS	SKS	02 56 44.5	+5.2
CD2				S	S	02 57 19.3	+0.2
CD2				XS		02 57 40.9	
CD2				PS	PS	02 58 47.4	-0.8
CD2				AMB	AMB		
	comp=Z,270nm,6.0s						
CD2				LR	LR		
	comp=N,600nm,14.2s						
CD2				LR	LR		
	comp=Z,510nm,21.0s						
DAWY	**Dawson**	**95.84**	**15**	*e*P	**P**	**02 46 06.5**	**-0.2**
JTS	**JuntasAbangare**	**95.94**	**82**	PFAKE		02 46 20.0	+12
JTS				LR	LR		
	comp=Z,288nm,20.0s,MS4.8						
BILL	**Bilibino**	**96.20**	**354**	*e*P	**P**	**02 46 06.9**	**-1.4**
BILL				pmax	pmax		
	comp=Z,36nm,1.4s,mb5.6						
BILL				MLR	MLR		
	comp=Z,968nm,19.0s,MS5.3						
BILL	**Bilibino**	**96.20**	**354**	*e*P	**P**	**02 46 06.9**	**-1.4**
	comp=Z,36nm,1.4s,mb5.6						
BILL				LR	LR		
	comp=Z,968nm,19.0s,MS5.3						
OTAV	**Otavalo**	**97.14**	**93**	PFAKE		02 46 30.0	+16
OTAV				LR	LR		
	comp=Z,401nm,20.0s,MS4.9						
RSSD	**Black Hills**	**97.21**	**44**	*e*P	**P**	**02 46 12.6**	**-0.9**
RSSD				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.3						
RSSD				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.7						
RSSD	**Black Hills**	**97.21**	**44**	*e*P	**P**	**02 46 12.6**	**-0.9**
	comp=Z,11nm,0.8s,mb5.3						
RSSD				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
LAO	**LASA Array**	**97.27**	**41**	PFAKE		02 46 20.0	+6.3
LAO				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
CBKS	**Cedar Bluff**	**97.31**	**50**	PFAKE		02 46 30.0	+16
CBKS				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
TEIG	**Tepich**	**97.50**	**71**	PFAKE		02 46 30.0	+15
TEIG				LR	LR		
	comp=Z,194nm,21.0s,MS4.6						
NATX	**Nacogdoches**	**97.60**	**58**	PFAKE		02 46 30.0	+14
NATX				LR	LR		
	comp=Z,954nm,19.0s,MS5.3						
LPAZ	**La Paz**	**97.96**	**113**	P	**P**	**02 46 22.2**	**+4.7**
	comp=Z,0.7nm,0.7s,baz=230,slow=9.9,SNR=3.4						
LPAZ				LR	LR	03 22 19.2	
	comp=Z,432nm,20.4s,MS4.9,baz=49,slow=30						
LPAZ	**La Paz**	**97.96**	**113**	P	**P**	**02 46 22.2**	**+4.7**
LPAZ				LR	LR	03 22 19.2	
LZH	**Lanzhou**	**98.19**	**306**	*e*P	**P**	**02 46 22.8**	**+4.7**
LZH				SKS	SKS	02 56 55.0	+3.3
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.6						
LZH				AMB	AMB		
	comp=Z,150nm,5.5s						
LZH				LR	LR		
	comp=E,2μm,19.0s						
LZH				LR	LR		
	comp=Z,2μm,20.5s,MS5.6						
YAK	**Yakutsk**	**99.19**	**337**	P	**P**	**02 46 19.8**	**-2.2**
YAK				MLR	MLR		
	comp=Z,729nm,20.0s,MS5.2						
CPUP	**Villa Florida**	**100.58**	**127**	PFAKE		02 46 40.0	+11
CPUP				LR	LR		
	comp=Z,807nm,19.0s,MS5.2						
INK	**Inuvik**	**100.69**	**15**	P	P	02 46 27.4	-1.3
	comp=Z,1.2nm,0.8s,baz=261,slow=3.2,SNR=6.9						
ULN	**Ulaanbaatar**	**101.63**	**318**	*e*P	P	02 46 31.6	-1.8
ULN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ULN				MLR	MLR		
	comp=Z,454nm,21.0s,MS5.0						
ULN	**Ulaanbaatar**	**101.63**	**318**	*e*Pdif	P	02 46 31.6	-1.7
	comp=Z,7.5nm,0.9s						
ULN				LR	LR		
	comp=Z,454nm,21.0s,MS5.0						
SONM	**Songino Array**	**102.01**	**318**	P	Pdif	02 46 35.2	+0.1
	comp=Z,0.4nm,0.6s,baz=146,slow=5.2,SNR=4.0						
SONM				PP	PP	02 50 39.3	-10
	comp=Z,0.7nm,0.8s,baz=124,slow=5.2,SNR=2.3						
SONM				PKKPbc		03 02 42.1	
	comp=Z,0.6nm,0.6s,baz=280,slow=3.6,SNR=5.0						
SONM				PKKP	PKKP	03 02 54.3	+16
	comp=Z,0.5nm,0.8s,baz=299,slow=3.1,SNR=3.8						
YKA	**Yellowknife Ar**	**102.29**	**25**	P	Pdif	02 46 35.5	-0.5
	comp=Z,0.6nm,0.9s,baz=235,slow=4.2,SNR=9.4						
YKA				PKIKP		02 50 57.8	
	comp=Z,0.7nm,0.9s,baz=219,slow=2.3,SNR=5.4						
YKA				PKKPbc		03 02 40.5	
	comp=Z,0.1nm,0.5s,baz=32,slow=2.7,SNR=5.3						
YKA				PKKP	PKKP	03 02 54.2	+17
	comp=Z,0.7nm,0.7s,baz=43,slow=2.8,SNR=12						
YKA	**Yellowknife Ar**	**102.29**	**25**	P	Pdif	02 46 35.5	-0.5
GTA	**Gaotai**	**102.53**	**308**	*e*P	Pdif	02 46 38.8	+1.2
GTA				AP		02 46 47.1	
GTA				XP		02 46 51.5	
GTA				PP	PP	02 50 50.4	-3.1
GTA				PPP	tx	02 52 00.0	
GTA				SKS	SKS	02 57 16.8	+3.9
GTA				S	S	02 58 11.1	-4.3
GTA				XS		02 58 28.8	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.3s						
GTA				AMB	AMB		
	comp=Z,99nm,8.7s						
GTA				LR	LR		
	comp=N,301nm,20.5s,MS4.9						
GTA				LR	LR		
	comp=E,273nm,20.5s,MS4.9						
GTA				LR	LR		
	comp=Z,545nm,23.9s,MS5.0						
OXF	**Oxford**	**102.76**	**58**	PFAKE		02 46 50.0	+11
OXF				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
CCM	**Cathedral Cave**	**102.90**	**54**	PFAKE		02 46 50.0	+11
CCM				LR	LR		
	comp=Z,941nm,20.0s,MS5.3						
FFC	**Flin Flon**	**103.69**	**35**	PFAKE		02 46 50.0	+7.7
FFC				LR	LR		
	comp=Z,215nm,20.0s,MS4.7						
PLAL	**Pickwick Lake**	**103.96**	**58**	PFAKE		02 47 00.0	+16
PLAL				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
LRAL	**Lakeview Retre**	**103.99**	**60**	PFAKE		02 47 00.0	+16
LRAL				LR	LR		
	comp=Z,899nm,22.0s,MS5.3						
WVT	**Waverly**	**104.60**	**57**	PFAKE		02 47 00.0	+13
WVT				LR	LR		
	comp=Z,872nm,20.0s,MS5.3						
PALK	**Pallekele**	**104.76**	**271**	PFAKE		02 47 00.0	+12
PALK				LR	LR		
	comp=Z,290nm,20.0s,MS4.8						
ZAK	**Zakamensk**	**104.98**	**319**	*e*P	Pdif	02 46 49.9	+1.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
DGAR	**Diego Garcia**	**105.01**	**253**	PFAKE		02 51 20.0	
DGAR				LR	LR		
	comp=Z,499nm,19.0s,MS5.1						
ULM	**Lac du Bonnet**	**105.01**	**41**	PFAKE		02 47 00.0	+12
ULM				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
TLY	**Talaya**	**105.32**	**321**	PFAKE		02 47 00.0	+10
TLY				LR	LR		
	comp=Z,121nm,19.0s,MS4.5						
SAML	**Samuel**	**105.92**	**109**	PFAKE		02 51 20.0	
SAML				LR	LR		
	comp=Z,1μm,22.0s,MS5.4						
TIXI	**Tiksi**	**105.93**	**344**	*i* P	Pdif	02 47 04.8	+13
TIXI	**Tiksi**	**105.93**	**344**	PFAKE		02 51 20.0	
TIXI				LR	LR		
	comp=Z,486nm,20.0s,MS5.0						
DWPF	**Disney**	**106.46**	**67**	PFAKE		02 51 20.0	
DWPF				LR	LR		
	comp=Z,335nm,20.0s,MS4.9						
WCI	**Wyandotte Cave**	**106.55**	**55**	PFAKE		02 51 20.0	
WCI				LR	LR		
	comp=Z,1μm,21.0s,MS5.4						
EYMN	**Ely**	**106.72**	**44**	PFAKE		02 51 20.0	
EYMN				LR	LR		
	comp=Z,827nm,20.0s,MS5.3						
GOGA	**Godfrey**	**106.86**	**61**	PFAKE		02 51 20.0	
GOGA				LR	LR		
	comp=Z,946nm,20.0s,MS5.3						
SDV	**Santo Domingo**	**107.98**	**89**	PFAKE		02 51 20.0	
SDV				LR	LR		
	comp=Z,448nm,19.0s,MS5.0						
NHSC	**New Hope**	**109.31**	**62**	PFAKE		02 51 20.0	
NHSC				LR	LR		
	comp=Z,1μm,19.0s,MS5.5						
ACSO	**Alum Creek Sta**	**109.66**	**54**	PFAKE		02 51 20.0	
ACSO				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
BLA	**Blacksburg**	**110.54**	**58**	PFAKE		02 51 30.0	+18
BLA				LR	LR		
	comp=Z,580nm,20.0s,MS5.2						
MCWV	**Mont Chateau**	**111.75**	**56**	PFAKE		02 51 30.0	+16
MCWV				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
ERPA	**Erie**	**112.41**	**53**	PFAKE		02 51 30.0	+14
ERPA				LR	LR		
	comp=Z,1μm,19.0s,MS5.4						
WMQ	**Urumqi**	**112.59**	**309**	PKP	PKPdf	02 51 18.1	+2.2
WMQ				PP	PP	02 52 07.6	-0.2
WMQ				PKS	PKS	02 54 53.6	+1.8
WMQ				SKS	SKS	02 58 23.5	+27
WMQ				PP	PP		
	comp=Z,135nm,4.9s						
WMQ				LR	LR		
	comp=N,294nm,16.8s,MS5.1						
WMQ				LR	LR		
	comp=E,300nm,19.6s,MS5.1						
WMQ				LR	LR		
	comp=Z,429nm,23.8s,MS5.0						
CBN	**Corbin**	**113.14**	**58**	PFAKE		02 51 30.0	+13
CBN				LR	LR		
	comp=Z,892nm,19.0s,MS5.4						
SSPA	**Standing Stone**	**113.48**	**55**	PFAKE		02 51 30.0	+12
SSPA				LR	LR		
	comp=Z,1μm,19.0s,MS5.5						
BDFB	**Brasilia**	**114.04**	**124**	PKKPab		03 02 10.0	
	comp=Z,3.6nm,0.9s,baz=77,slow=3.4,SNR=6.5						
SJG	**San Juan**	**115.73**	**82**	PFAKE		02 51 40.0	+17
SJG				LR	LR		
	comp=Z,528nm,21.0s,MS5.1						
ZAL	**Zalesovo**	**116.87**	**319**	PKP	PKPdf	02 51 24.4	+0.4
	comp=Z,2.3nm,0.4s,baz=338,slow=3.5,SNR=15						
NCB	**Newcomb**	**116.97**	**52**	PFAKE		02 51 40.0	+16
NCB				LR	LR		
	comp=Z,980nm,19.0s,MS5.5						
MKAR	**Makanchi Array**	**117.03**	**311**	PKP	PKPdf	02 51 25.0	+0.5
	comp=Z,5.6nm,0.8s,baz=69,slow=2.5,SNR=38						
MKAR				PKKPbc		03 01 51.8	
	comp=Z,0.4nm,0.6s,baz=270,slow=1.4,SNR=5.2						
OPO	**Ambohidratompo**	**117.67**	**228**	PKP	PKPdf	02 51 29.8	+3.5
	comp=Z,3.0nm,0.8s,baz=219,slow=2.1,SNR=6.5						
NVS	**Novosibirsk**	**117.92**	**320**	⇑*i*PKIKP	PKPdf	02 51 25.8	-0.2
NVS				*i*		02 58 21.2	
NVS				pmax	pmax		
	comp=Z,15nm,1.3s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.2s						
SUR	**Sutherland**	**118.17**	**196**	PKP	PKPdf	02 51 30.4	+3.4
	comp=E,5.3nm,1.0s,baz=187,slow=8.1,SNR=2.9						
SUR	**Sutherland**	**118.17**	**196**	PKP	PKPdf	02 51 30.4	+3.4
SUR				LR	LR		
	comp=Z,424nm,20.0s,MS5.1						
HRV	**Harvard--Oak R**	**118.55**	**54**	PFAKE		02 51 40.0	+12
HRV				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
WES	**Weston**	**118.69**	**55**	PFAKE		02 51 40.0	+12
WES				LR	LR		
	comp=Z,3μm,22.0s,MS5.8						
WVL	**Waterville**	**120.30**	**52**	PFAKE		02 51 40.0	+9.0
WVL				LR	LR		
	comp=Z,7μm,19.0s,MS6.3						
BOSA	**Boshof**	**120.41**	**202**	PKP	PKPdf	02 51 35.6	+4.1
	comp=Z,2.1nm,0.8s,baz=154,slow=2.4,SNR=3.5						
BOSA	**Boshof**	**120.41**	**202**	PKP	PKPdf	02 51 35.6	+4.1
BOSA				LR	LR		
	comp=Z,704nm,19.0s,MS5.3						
MSEY	**Mahe Island**	**120.61**	**246**	PFAKE		02 51 50.0	+18
MSEY				LR	LR		
	comp=Z,385nm,19.0s,MS5.1						
TKM2	**Tokmak 2**	**120.95**	**305**	P	PKPdf	02 51 33.5	+1.3
	SNR=6.5						
BBSR	**BB Station**	**121.52**	**67**	PFAKE		02 51 50.0	+16
BBSR				LR	LR		
	comp=Z,444nm,20.0s,MS5.1						
CHMS	**Chumysh**	**121.57**	**305**	P	PKPdf	02 51 35.0	+1.6
	SNR=5.2						
UCH	**Uchtor**	**121.61**	**305**	P	PKPdf	02 51 35.9	+2.4
	SNR=8.8						
AAK	**Ala-Archa**	**121.70**	**305**	*i* PKIKP	PKPdf	02 51 34.6	+0.9
AAK	**Ala-Archa**	**121.70**	**305**	*e*PKPdf	PKPdf	02 51 33.9	+0.2
AAK				LR	LR		
	comp=Z,185nm,20.0s,MS4.7						
PQI	**Presque Isle**	**121.77**	**50**	PFAKE		02 51 50.0	+16
PQI				LR	LR		
	comp=Z,5μm,20.0s,MS6.1						
EMMW	**East Machias**	**121.88**	**53**	PFAKE		02 51 50.0	+16
EMMW				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
AML	**Almayashu**	**122.20**	**304**	P	PKPdf	02 51 36.9	+2.2
	SNR=12						
EKS2	**Erkin-Say**	**122.22**	**305**	P	PKPdf	02 51 36.2	+1.5
	SNR=5.5						
SCHQ	**Schefferville**	**123.19**	**41**	PFAKE		02 51 50.0	+14
SCHQ				LR	LR		
	comp=Z,1μm,21.0s,MS5.5						
LBTB	**Lobatse**	**123.59**	**204**	PKP	PKPdf	02 51 42.2	+4.4
	comp=Z,1.4nm,0.7s,baz=194,slow=4.2,SNR=2.4						
LBTB	**Lobatse**	**123.59**	**204**	PKP	PKPdf	02 51 42.2	+4.4
LBTB				LR	LR		
	comp=Z,806nm,20.0s,MS5.4						
MATP	**Matopo**	**126.55**	**209**	PKP	PKPdf	02 51 47.1	+3.5
	comp=Z,2.2nm,0.7s,baz=187,slow=2.9,SNR=5.1						
KBS	**Kingsbay**	**128.43**	**358**	PFAKE		02 52 00.0	+14
KBS				LR	LR		
	comp=Z,406nm,19.0s,MS5.1						
RCBR	**Riachuelo**	**129.40**

LSZ Lusaka 131.19 212 *e*PKIKP PKPdf 02 51 56.1 +3.5
LSZ MLR MLR
comp=Z,1μm,19.0s,MS5.6
TSUM Tsumeb 131.57 198 PFAKE 02 52 10.0 +17
TSUM LR LR
comp=Z,2μm,19.0s,MS5.9
ARU Arti 131.77 322 *i* PKIKP PKPdf 02 51 54.6 +2.0
ARU *e* 02 54 12.0
ARU Arti 131.77 322 *e*PKPdf PKPdf 02 51 53.7 +1.1
ARU LR LR
comp=Z,151nm,20.0s,MS4.7
SCO Scoresbysund 134.65 12 *i* P PKPdf 02 52 30.6 +33
comp=Z,7.0nm,0.5s
LVZ Lovozero 135.57 344 *i* PKIKP PKPdf 02 52 02.9 +3.5
LVZ *e*SS SS 03 12 31.9 -0.5
LVZ pmax pmax
comp=Z,36nm,1.5s
KEV Kevo 135.67 349 *ep* PKPdf 02 51 49.4 -10
comp=Z,20nm,1.0s
KEV Kevo 135.67 349 *e*P PKPdf 02 51 49.4 -10
KEV LR LR
comp=Z,793nm,21.0s,MS5.4
ARCES ARCESS Array B 136.12 349 PKP PKPdf 02 52 01.6 +1.2
comp=Z,6.6nm,0.6s,baz=34,slow=0.6,SNR=12
KMBO Kilima Mbogo 136.88 234 PKP PKPdf 02 52 05.8 +2.5
comp=Z,1.6nm,0.8s,baz=87,slow=4.2,SNR=4.7
KMBO Kilima Mbogo 136.88 234 PKP PKPdf 02 52 05.8 +2.5
KMBO LR LR
comp=Z,742nm,21.0s,MS5.4
BORG Borgarnes 139.57 16 PFAKE 02 52 20.0 +13
BORG LR LR
comp=Z,133nm,21.0s,MS4.7
JOF Joensuu 140.28 341 *ep* PKPdf 02 52 02.2 -5.9
comp=Z,5.0nm,0.7s
MBAR Mbarara 141.75 227 PFAKE 02 52 30.0 +18
MBAR LR LR
comp=Z,201nm,20.0s,MS4.9
KAF Kangasniemi 142.33 343 *ep* PKPdf 02 52 07.1 -4.5
comp=Z,6.2nm,0.7s
FINES FINESS Array B 142.94 342 PKhKP 02 52 09.9
comp=Z,3.0nm,0.7s,baz=53,slow=3.8,SNR=15
PUL Pulkovo 142.99 338 *i* PKHKP 02 51 58.8
PUL *e*SS SS 03 14 01.1 +2.0
PUL pmax pmax
comp=Z,89nm,0.4s
DGRG David-gareji 143.28 303 P PKPbc 02 52 12.4 +0.3
OBN Obninsk 143.60 328 *i* P PKPbc 02 52 12.8 +0.2
OBN LR LR
comp=Z,500nm,18.0s,MS5.3
TI2 Plekhanov 143.69 304 *i* PKHKP 02 52 11.2
GNI Garni 143.93 301 *e*P PKPbc 02 52 14.4 +0.3
GNI Garni 143.93 301 *e*PKPpre 02 52 15.2
GNI LR LR
comp=Z,483nm,22.0s,MS5.2
VOR Voronezh 144.06 322 PKHKP 02 52 12.0
VOR *e* 02 55 27.5
VOR pmax pmax
comp=Z,70nm,1.6s
VOR pmax pmax
comp=Z,70nm,2.0s
ZEI Tsey 144.12 306 *e*PKIKP PKPdf 02 52 14.8 -0.5
ZEI *i* 02 55 31.7
GOF Gofitskoye 144.19 310 *e*PKIKP PKPdf 02 52 14.8 -0.5
ONI Oni 144.48 305 P PKPbc 02 52 15.6 0.0
BHD Baghdad 144.56 289 *i* PKP PKPdf 02 52 10.0 -6.4
CLDR Caldiran 144.69 300 *e*P PKPbc 02 52 17.0 +0.7
KIV Kislovodsk 144.72 308 *c* PKIKP PKPdf 02 52 16.7 +0.4
KIV pmax pmax
comp=Z,19nm,1.1s
HKR Hakkari 144.98 297 *e*P PKPdf 02 52 19.1 +2.1
KARS Kars 145.11 302 *e*P PKPdf 02 52 19.6 +2.6
TVAN Van 145.16 299 *i* P PKPdf 02 52 19.5 +2.2
VANB Van 145.16 299 *e*P PKPdf 02 52 18.5 +1.2
DOMB Dombas 145.35 355 *e*P PKPdf 02 52 17.2 +0.4
DOMB AMb AMB 02 52 32.1
comp=Z,100nm,1.4s
MSL Mosul 145.59 295 *i* PKP PKPdf 02 52 24.5 +6.5
BCA Borcka 146.05 304 *e*P PKPdf 02 52 22.3 +3.7
NB2 NORSAR Subarra 146.15 353 PKPabc PKPdf 02 52 19.9 +1.7
comp=Z,113nm,1.2s,baz=11,slow=3.7
NB2 NORSAR Subarra 146.15 353 ⇑PKPab PKPab 02 52 19.9 -2.1
NB2 NORSAR Subarra 146.15 353 PKPa 02 52 19.9
baz=11,slow=3.7
NOA NORSAR Array B 146.15 353 PKPbc PKPbc 02 52 19.8 +0.4
comp=Z,24nm,0.9s,baz=10,slow=2.5,SNR=96
NAO01 NORSAR Array S 146.38 354 *e*PKPdf PKPdf 02 52 20.4 +1.8
NAO01 *e* 02 52 28.0
ERZM Erzurum 146.53 301 *i* P PKPdf 02 52 23.6 +4.0
EZM Erzurum 146.53 301 *e*P PKPdf 02 52 24.1 +4.6
BTMT Batman 146.69 298 *e*P PKPdf 02 52 24.8 +4.9
HFS Hagfors 146.73 351 PKPbc PKPbc 02 52 19.9 -0.8
comp=Z,43nm,0.8s,baz=45,slow=2.1,SNR=99
SOC Sochi 146.89 308 *i* PKIKP PKPdf 02 52 19.8 -0.2
SOC *e*PPP PPP 02 59 01.6 -6.6
SOC *e*SS SS 03 14 42.3 -2.1
SOC *e*SSS SSS 03 20 09.3 -7.9
SOC pmax pmax
comp=N,19nm,0.9s
SOC pmax pmax
comp=Z,40nm,0.9s
SOC pmax pmax
comp=E,11nm,0.8s
BEST Besiri 146.90 298 *i* P PKPdf 02 52 24.8 +4.5
RUND Rundenannen 147.15 358 *e*P PKPdf 02 52 23.6 +3.7
RUND AMb AMB 02 52 33.3
comp=Z,69nm,1.5s
OSL Oslo 147.28 353 *e*P PKPdf 02 52 24.4 +4.3
BINT Bingol 147.37 300 *e*P PKPdf 02 52 25.6 +4.6
IZAR Zarasai 147.47 336 *i* P PKPdf 02 52 24.3 +3.7
IZAR AMPb AMB 02 52 44.0
comp=Z,86nm,1.1s
IDID Didziasalis 147.62 335 *i* P PKPdf 02 52 24.6 +3.8
IDID AMPb AMB 02 52 43.8
comp=Z,46nm,1.3s
ISAL Salakas 147.65 336 *i* P PKPdf 02 52 24.8 +3.9
ISAL AMPb AMB 02 52 44.1
comp=Z,49nm,1.5s
KONO Kongsberg 147.68 354 *e*PKPbc PKPdf 02 52 24.2 +3.4
KONO LR LR
comp=Z,432nm,20.0s,MS5.2
KONO Kongsberg 147.68 354 *e*P PKPdf 02 52 23.4 +2.6
DIY Diyarbakir 147.72 298 *e*P PKPdf 02 52 24.9 +3.4
IIGN Ignalina 147.78 336 *i* P PKPdf 02 52 25.2 +4.1
IIGN AMPb AMB 02 52 44.4
comp=Z,39nm,1.2s
MNK Minsk 147.81 333 *e*PKIKP PKPdf 02 52 22.0 +0.9
GUMT Gumushane 147.84 303 *e*P PKPdf 02 52 27.6 +5.9
ANN Anapa 148.05 312 *i* PKHKP 02 52 10.3
ANN *e**PP 02 52 26.0
ANN *e* 02 59 20.7
ANN pmax pmax
comp=Z,57nm,1.5s
KELT Kelkit 148.08 302 *i* P PKPdf 02 52 29.0 +7.0
PTK Pertek 148.21 300 *e*P PKPdf 02 52 26.6 +4.3
ELZG Elazig 148.59 299 *i* P PKPdf 02 52 29.9 +7.0
URFA Urfa 148.88 297 *e*P PKPdf 02 52 28.9 +5.4
MALT Malatya 149.06 299 *e*PKIKP PKPdf 02 52 25.7 +2.0
MALT *e* 02 52 30.5
AKASG Malin Array Be 149.82 327 PKPbc PKPdf 02 52 29.3 +4.8
comp=Z,26nm,0.9s,baz=37,slow=3.0,SNR=14
SVST Sivas 149.89 302 *i* P PKPdf 02 52 32.9 +7.9
GZT Gaziantep 149.89 298 *i* P PKPdf 02 52 31.9 +6.9
SUW Suwalki 149.93 337 *e*PKP2 PKPab 02 52 30.9 -6.4
SUW *e* 02 56 01.9
SUW Suwalki 149.93 337 *e*PKP PKPdf 02 52 30.9 +6.4
SUW *ep*PKP 02 52 36.0
SUW *e*PP PP 02 56 01.9 -5.3
SUW Suwalki 149.93 337 *e*PKP PKPdf 02 52 30.9 +6.3
SUW *ep*PKP 02 52 36.0
SUW *e*PP PP 02 56 01.9 -5.3
TOKT Tokat 150.06 304 *e*P PKPdf 02 52 35.5 +10
SIM Simferopol' 150.16 314 *c* *i* PKP2 PKPab 02 52 32.5 -6.0
SIM *e* 02 56 12.0
SIM pmax pmax
comp=Z,200nm,17.1s
GAZ Gaziantep 150.19 297 *e*P PKPdf 02 52 33.7 +8.2
ASF Jabal al Asfar 150.86 287 PKPbc PKPdf 02 52 35.6 +8.9
comp=Z,19nm,0.9s,baz=6.7,slow=1.5,SNR=24
MUD Monsted U'grnd 150.87 354 ⇑*i*P PKPdf 02 52 33.1 +7.2
comp=Z,176nm,1.5s
MUD *i* 03 15 39.0
comp=Z,340nm,17.0s
BOYT Boyabat 150.93 307 *i* P PKPdf 02 52 34.9 +8.4
COBT Iskenderun 151.05 296 *i* P PKPdf 02 52 35.5 +8.6

COP Copenhagen 151.20 350 *i* PKIKP PKPdf 02 52 34.5 +8.1
COP MLR MLR
comp=Z,270nm,18.0s,MS5.1
COP Copenhagen 151.20 350 *i* P PKPdf 02 52 34.5 +8.1
comp=Z,44nm,0.8s
COP *i* 03 15 41.0
comp=Z,270nm,18.0s
CTKT Corum 151.26 305 *i* P PKPdf 02 52 35.6 +8.6
AVNT Avonos 151.70 301 *i* P PKPdf 02 52 36.2 +8.4
BHL Bhannes 151.83 291 *e*P PKPdf 02 52 37.1 +9.1
EKA Eskdalemuir Ar 151.83 8 PKPbc PKPdf 02 52 35.6 +8.3
comp=Z,5.3nm,0.8s,baz=304,slow=1.1,SNR=10
ESK Eskdalemuir 151.84 8 PFAKE 02 52 40.0 +13
ESK LR LR
comp=Z,139nm,20.0s,MS4.8
CDAG Cicekdag 151.85 303 *i* P PKPdf 02 52 28.6 +0.6
WAR Warsaw 152.13 337 *e*PKP PKPdf 02 52 31.2 +3.3
WAR *e*PKIKP PKPdf 02 52 36.3 +8.4
ELDT Eldivan 152.29 305 *i* P PKPdf 02 52 36.2 +7.7
KIS Kishinev 152.31 321 *e*PKIKP PKPdf 02 52 33.0 +4.7
KIS *e* 02 52 42.0
KIS *e* 02 56 26.0
KIS *e* 02 59 40.0
BR131 Keskin Array S 152.36 304 PFAKE 02 52 40.0 +11
BR131 LR LR
comp=Z,477nm,20.0s,MS5.3
BRTR Keskin Array B 152.36 304 PKP PKPdf 02 52 30.4 +1.7
comp=Z,0.6nm,0.5s,baz=135,slow=3.5,SNR=8.0
BRTR PKPbc PKPdf 02 52 37.4 +8.7
comp=Z,6.2nm,0.7s,baz=118,slow=2.3,SNR=33
BRTR PP PP 02 56 16.8 -4.5
comp=Z,2.3nm,1.1s,baz=104,slow=4.5,SNR=6.4
GKP Gorka Klasztor 152.42 342 *e*PKP PKPdf 02 52 30.6 +2.3
GKP *e*PKIKP PKPdf 02 52 37.2 +8.9
GKP *e*PP PP 02 56 17.5 -3.7
EIL Elat 152.46 282 *e*PKPbc PKPdf 02 52 38.7 +10
MEST Erdemli 152.72 297 *i* P PKPdf 02 52 38.0 +8.8
LVV L'vov 152.84 330 *i* PKIKP PKPdf 02 52 29.9 +0.9
LVV *e* 02 52 37.9
LVV *e* 02 59 28.3
BSEG Bad Segeberg 153.21 351 *e*PKIKP PKPdf 02 52 39.2 +10
SGKT Sivrigoynuk 153.25 306 *i* P PKPdf 02 52 31.4 +1.6
KWP Kalwaria 153.55 331 *e*PKP PKPdf 02 52 31.2 +1.2
KWP *ep*PKP 02 52 39.6
KWP *e*PP PP 02 56 22.2 -5.9
CSS Prodhromos 153.63 294 *e*PKPbc PKPdf 02 52 39.9 +9.4
CSS *e*PKPab PKPab 02 52 53.6 +0.2
OJC Ojcow 154.23 336 *e*PKIKP PKPdf 02 52 32.8 +1.9
OJC *i* 02 52 41.2
OJC Ojcow 154.23 336 *e*PKP PKPdf 02 52 32.8 +1.9
OJC *e* 02 52 41.2
KOLS Kolonicke sedl 154.26 331 *e*PKP PKPdf 02 52 31.8 +0.8
KOLS *e* 02 53 01.9
CRVS Cervenica-Dubn 154.63 332 *e*PKP PKPdf 02 52 35.1 +3.6
CRVS *e* 02 52 52.8
CRVS *e* 02 53 11.6
CRVS *e* 02 53 24.7
CRVS Cervenica-Dubn 154.63 332 *e* PKPdf 02 52 35.1 +3.6
CRVS Cervenica-Dubn 154.63 332 *e*PKP PKPab 02 52 52.8 -4.4
CRVS *e* 02 53 11.6
CRVS *e* 02 53 24.7
NIE Niedzica 154.69 334 *e*PKP PKPdf 02 52 34.1 +2.6
MLR Muntele Rosu 154.81 321 PKPbc PKPdf 02 52 41.2 +9.4
comp=Z,5.3nm,1.0s,baz=350,slow=2.0,SNR=10
KSP Ksiaz 154.85 341 *e*PKIKP PKPdf 02 52 33.4 +1.7
KSP *e* 02 52 42.4
KSP *e* 02 52 56.3
KSP *e* 02 56 27.0
KSP *e*SS SS 03 16 12.0 +0.2
KSP MLR MLR
comp=Z,1μm,21.1s,MS5.7
KSP Ksiaz 154.85 341 *e*PKPdf PKPdf 02 52 33.4 +1.7
KSP *e*PKPdf PKPdf 02 52 42.4 +11
KSP *e*PKPab PKPab 02 52 56.3 -1.8
KSP *ep*PKPab 02 53 08.4
KSP *e*PP PP 02 56 27.0 -8.0
KSP *e*SS SS 03 16 12.0 +0.2
KSP LR LR
comp=Z,1μm,21.1s,MS5.7
KSP Ksiaz 154.85 341 *e*PKP PKPdf 02 52 33.7 +2.0
KSP *e*PKIKP PKPdf 02 52 43.0 +11
KSP *e*PP PP 02 56 29.9 -5.1
OKC Ostrava-Krasne 155.14 337 *e*PKIKP PKPdf 02 52 34.3 +2.2
OKC *e* 02 52 43.5
OKC *e* 02 56 38.3
OKC MLR MLR
comp=Z,500nm,18.8s,MS5.4
OKC Ostrava-Krasne 155.14 337 *e*PKPDF PKPdf 02 52 34.3 +2.2
OKC ⇑*e*PKPB PKPdf 02 52 43.5 +11
OKC *ep*PKP 02 53 07.6
OKC *e*PP PP 02 56 38.3 +1.7
OKC *e*x x 03 16 23.1
OKC AMS AMS 04 09 00.0
comp=Z,500nm,18.8s
UPC Upice 155.23 341 *e*PKIKP PKPdf 02 52 33.9 +1.7
UPC *e* 02 52 43.7
UPC *e* 02 56 32.3
UPC Upice 155.23 341 *e*PKPDF PKPdf 02 52 33.9 +1.7
UPC ⇑*e*PKPB PKPdf 02 52 43.7 +12
UPC *e*x x 02 53 04.5
UPC *e*PP PP 02 56 32.3 -4.9
CLZ Clausthal 155.24 350 *e*PKPdf PKPdf 02 52 34.2 +2.1
CLZ *e*PKPbc PKPdf 02 52 43.4 +11
ISP Isparta 155.25 301 *e*PKP2 PKPab 02 52 59.0 -1.2
CLL Collm 155.26 346 *e*PKIKP PKPdf 02 52 34.0 +1.8
CLL *i* 02 52 42.7
CLL *i* 02 52 50.4
CLL *i* PKP2 PKPab 02 52 57.3 -2.5
CLL *i* *PPKP2 02 53 02.4
CLL *i* 02 53 07.8
CLL *e* 02 56 25.0
CLL *i* PP PP 02 56 42.4 +5.1
CLL *e*PPP PPP 02 59 56.0 -16
CLL *e*PPS PPS 03 09 35.0 -9.2
CLL *e*SS SS 03 16 15.0 -1.3
DPC Dobruska-Polom 155.28 340 *e*PKIKP PKPdf 02 52 34.9 +2.7
DPC *e* 02 52 43.0
DPC *e* 02 56 40.2
DPC *e*SS SS 03 16 13.8 -2.8
DPC MLR MLR
comp=Z,500nm,21.6s,MS5.3
DPC Dobruska-Polom 155.28 340 *e*PKPDF PKPdf 02 52 34.9 +2.7
DPC ⇑*e*PKPB PKPdf 02 52 43.0 +11
DPC *e*PKPAB PKPab 02 53 02.7 +2.8
DPC *e*PP PP 02 56 40.2 +2.8
DPC *e*SKKS 03 07 10.3
DPC *e*SS SS 03 16 13.8 -2.8
DPC AMS AMS 04 02 10.0
comp=Z,500nm,21.6s
KECS Kecovo 155.37 332 *e*PKP PKPab 02 52 59.7 -0.6
KECS *e* 02 53 07.4
MORC Moravsky Berou 155.39 338 *e*PKIKP PKPdf 02 52 34.3 +1.9
MORC *e* 02 52 43.7
BRG Berggiesshubel 155.45 344 *e*PKIKP PKPdf 02 52 34.4 +2.0
BRG *i* 02 52 44.5
BRG *i* SS SS 03 16 07.0 -11
BRG MLR MLR
comp=Z,550nm,21.4s,MS5.3
BRG Berggiesshubel 155.45 344 *e*PKP PKPdf 02 52 34.4 +2.0
BRG *i* 02 52 44.5
BRG *i* 02 53 05.2
BRG *i* 02 53 11.1
BRG *e*PP PP 02 56 29.0 -9.5
BRG *e* 02 56 55.5
BRG *i* 03 06 56.0
BRG *i* SS SS 03 16 07.0 -11
BRG LR LR
comp=Z,550nm,21.4s,MS5.3
ULDT Uludag 155.48 307 *i* P PKPdf 02 52 43.7 +11
PVCC Panska Ves 155.61 343 *e*PKIKP PKPdf 02 52 34.6 +1.9
PVCC *e* 02 52 44.4
PVCC *e* 02 56 43.7
PVCC *e*SS SS 03 16 16.8 -3.4
PVCC MLR MLR
comp=Z,600nm,19.2s,MS5.4
PVCC Panska Ves 155.61 343 *e*PKPDF PKPdf 02 52 34.6 +1.9
PVCC ⇑*e*PKPB PKPdf 02 52 44.4 +12
PVCC *e*PKPAB PKPab 02 53 01.6 +0.3
PVCC *e*PP PP 02 56 43.7 +4.3
PVCC *e*SS SS 03 16 16.8 -3.4
PVCC AMS AMS 04 08 10.0
comp=Z,600nm,19.2s
VYHS Vyhne 156.01 335 *e*PKP PKPdf 02 52 35.2 +1.9
VYHS *e* 02 53 01.5
VYHS *e* 02 53 10.9
PSZ Piszkesteto 156.05 332 *e*PKIKP PKPdf 02 52 35.8 +2.5
PRU Pruhonice 156.11 342 *e*PKIKP PKPdf 02 52 36.6 +3.3
PRU *e* 02 52 45.2
PRU *e* 02 56 37.2
PRU *e*SS SS 03 16 19.6 -6.0
PRU MLR MLR
comp=Z,500nm,17.7s,MS5.4
PRU Pruhonice 156.11 342 *e*PKPDF PKPdf 02 52 36.6 +3.3
PRU *ex* x 02 52 45.2
PRU *e*PKPAB PKPab 02 53 07.1 +3.6
PRU *e*PP PP 02 56 37.2 -5.1
PRU *e*SKKS 03 07 05.9
PRU *e*SS SS 03 16 19.6 -6.0
PRU AMS AMS 04 13 50.0
comp=Z,500nm,17.7s
MOX Moxa 156.17 347 *e*PKIKP PKPdf 02 52 35.4 +2.0
MOX *e*SS SS 03 16 23.9 -2.3
NKC Novy Kostel 156.39 346 *e*PKIKP PKPdf 02 52 35.5 +1.8
NKC *e* 02 53 03.2
NKC *e* 02 56 40.5
NKC *e*SS SS 03 16 27.9 -0.5
NKC MLR MLR
comp=Z,600nm,17.9s,MS5.5
NKC Novy Kostel 156.39 346 *e*PKPDF PKPdf 02 52 35.5 +1.8
NKC *e*PKPAB PKPab 02 53 03.2 -1.5
NKC *e*PP PP 02 56 40.5 -3.2
NKC *ex* x 03 07 18.5
NKC *e*SS SS 03 16 27.9 -0.5
NKC AMS AMS 04 13 30.0
comp=Z,600nm,17.9s
BTOK Tokmak 156.41 307 *i* P PKPab 02 53 03.2 -1.9
SMOL Smolenice 156.51 337 *e*PKP PKPdf 02 52 36.1 +2.2
SMOL *e* 02 53 04.8
SMOL *e* 02 53 13.6
SRO Srobarova 156.77 334 *e*PKP PKPab 02 53 03.9 -2.5
SRO *e* 02 53 18.3
ZST Bratislava 156.90 337 *e*PKP PKPdf 02 52 36.3 +1.8
ZST *e* 02 53 06.4
ZST *e* 02 53 18.4
TNS Taunus Mts 157.09 352 *e*PKIKP PKPdf 02 52 36.6 +1.9
KHC Kasperske Hory 157.15 343 *e*PKIKP PKPdf 02 52 36.7 +1.9
KHC *e* 02 52 45.2
KHC *e* 02 56 42.4
KHC *e*SS SS 03 16 32.4 -3.8
KHC MLR MLR
comp=Z,700nm,19.4s,MS5.5
KHC Kasperske Hory 157.15 343 *e*PKPDF PKPdf 02 52 36.7 +1.9
KHC *ex* x 02 52 45.2
KHC *e*PKPAB PKPab 02 53 07.1 -0.9
KHC x x 02 53 12.0
KHC *e*PP PP 02 56 42.4 -5.3
KHC *e*SKKS 03 07 13.1
KHC *e*SS SS 03 16 32.4 -3.8
KHC AMS AMS 04 10 50.0
comp=Z,700nm,19.4s
GRA1 Grafenberg Arr 157.16 347 *e*PKPdf PKPdf 02 52 37.5 +2.7
GRA1 *e*PKPab PKPab 02 53 06.2 -1.8
GRA1 *e*PP PP 02 56 42.3 -5.5
GRA1 *e*SS SS 03 16 34.6 -1.7
GRA1 LR LR
comp=Z,700nm,20.7s,MS5.5
GRF Grafenberg Arr 157.16 347 *e*PKIKP PKPdf 02 52 37.5 +2.7
GRF *e* 02 56 42.3
GRF *e*SS SS 03 16 34.6 -1.7
GRF MLR MLR
comp=Z,700nm,20.7s,MS5.5
GRF Grafenberg Arr 157.16 347 *e*PKIKP PKPdf 02 52 37.5 +2.7
GRF *e* 02 56 42.3
GRF *e*SS SS 03 16 34.6 -1.7
GRF MLR MLR
comp=Z,700nm,20.7s,MS5.5
GRF Grafenberg Arr 157.16 347 *e*PKP PKPdf 02 52 37.5 +2.7
GRF *e*PKP PKPab 02 53 06.2 -1.8
GRF *e*PP PP 02 56 42.3 -5.5
GRF *e*SS SS 03 16 34.6 -1.7
GRF LR LR
comp=Z,700nm,20.7s,MS5.5
GEC2 GERESS Array S 157.38 343 *e*PKIKP PKPdf 02 52 36.8 +1.7
GEC2 *e*SS SS 03 16 39.2 +0.5
GEC2 GERESS Array S 157.38 343 *e*PKPdf PKPdf 02 52 36.8 +1.7
GEC2 *e*PKPab PKPab 02 53 06.7 -2.3
GEC2 *e*SS SS 03 16 39.2 +0.5
GERES GERESS Array B 157.38 343 PKP PKPdf 02 52 36.9 +1.8
comp=Z,0.7nm,0.7s,baz=180,slow=2.7,SNR=6.5
GERES PKPab PKPab 02 53 06.5 -2.5
comp=Z,3.1nm,0.9s,baz=45,slow=3.8,SNR=9.6
GERES GERESS Array B 157.38 343 PKP PKPdf 02 52 36.9 +1.8
GERES PKPab PKPab 02 53 06.5 -2.5
GIVF Givet 157.49 358 *e*PKIKP PKPdf 02 52 37.1 +1.9
BAIF Baives 157.54 359 *e*PKIKP PKPdf 02 52 37.2 +1.9
comp=Z,35nm,1.5s
DBIC Dimbokro 157.70 157 PKP PKPdf 02 52 39.5 +2.9
comp=Z,4.5nm,1.0s,baz=155,slow=5.3,SNR=4.2
DBIC PKPab PKPab 02 53 13.7 +2.2
comp=Z,4.2nm,0.6s,baz=182,slow=4.2,SNR=8.5
DBIC Dimbokro 157.70 157 *e*PKPdf PKPdf 02 52 39.9 +3.3
DBIC LR LR
comp=Z,678nm,20.0s,MS5.5
MOA Molln 158.12 341 ⇑*i*P PKPdf 02 52 37.4 +1.3
MOA *i* 02 53 12.1
ARSA Arzberg 158.25 338 ⇑*i*P PKPdf 02 52 37.2 +0.9
ARSA *i* 02 53 08.0
ROSF Rostrenen 158.59 13 *e*PKIKP PKPdf 02 52 38.0 +1.3
comp=Z,50nm,1.4s
FUR Furstenfeldbru 158.60 346 *e*PKIKP PKPdf 02 52 38.8 +2.1
FLN La Foliniere 158.61 7 *e*PKIKP PKPdf 02 52 38.1 +1.4
comp=Z,84nm,1.7s
FLN *e*R
comp=Z,731nm,19.8s
SGMF Saint Gilles 158.80 11 *e*PKIKP PKPdf 02 52 38.3 +1.4
comp=Z,64nm,1.5s
LDF La Druitiere 158.82 7 *e*PKIKP PKPdf 02 52 38.5 +1.6
BFO Black Forest 158.96 351 *e*PKIKP PKPdf 02 52 39.0 +1.9
CDF Champ du Feu 159.00 353 *e*PKIKP PKPdf 02 52 38.8 +1.7
QUIF Quistinic 159.01 13 *e*PKIKP PKPdf 02 52 38.6 +1.4
comp=Z,53nm,1.5s
MEZF Maizieres J'vi 159.08 357 *e*PKIKP PKPdf 02 52 39.3 +2.1
comp=Z,96nm,1.6s
VAY Valandovo 159.27 316 ⇑*i*PKP PKPab 02 53 16.4 -1.0
WTTA Wattenberg 159.37 344 ⇑*i*P PKPdf 02 52 39.2 +1.6
WTTA *i* 02 53 17.1
HAU Haudompre 159.50 355 *e*PKIKP PKPdf 02 52 39.3 +1.6
comp=Z,63nm,1.9s
HAU *e*R
comp=Z,840nm,22.2s
SQTA Sankt Quirin 159.51 345 ⇓*i*P PKPdf 02 52 39.2 +1.5
SQTA *i* 02 53 16.1
SKO Skopje 159.56 319 *i* PKP PKPab 02 53 18.5 -0.1
SKO ⇓*i* 02 53 31.3
comp=Z,0.1nm,0.9s
HINF Hinteralfeld 159.64 354 *e*PKIKP PKPdf 02 52 39.3 +1.4
comp=Z,28nm,1.4s
DAVA Damuels 159.72 348 ⇑*i*P PKPdf 02 52 39.5 +1.5
DAVA *i* 02 53 15.4
VISS Visnje 159.75 337 *i* PKPab PKPab 02 53 17.9 -1.3
CEY Cerknica 159.94 337 *e*PKPab PKPab 02 53 18.1 -2.1
LOR Lormes 160.34 360 *e*PKIKP PKPdf 02 52 40.7 +2.1
comp=Z,57nm,1.5s
LOR *e*R
comp=Z,692nm,22.0s
SSF Saint Saulge 160.55 0 *e*PKIKP PKPdf 02 52 40.7 +1.9
comp=Z,24nm,1.4s
MFF Saint Martin d 160.78 8 *e*PKIKP PKPdf 02 52 41.1 +2.0
comp=Z,19nm,1.0s
CABF La Chapelle 160.90 355 *e*PKIKP PKPdf 02 52 41.7 +2.5
comp=Z,55nm,1.5s
SMF Signal de Mont 160.97 360 *e*PKIKP PKPdf 02 52 40.9 +1.6
comp=Z,32nm,1.3s
BGF Bois d'Agland 161.04 2 *e*PKIKP PKPdf 02 52 41.2 +1.9
TCF Toulx Ste Croi 161.29 3 *e*PKIKP PKPdf 02 52 41.4 +1.8
comp=Z,28nm,1.2s
LPL La Plagne 161.93 353 *e*PKIKP PKPdf 02 52 42.6 +2.3
LPG La Plagne 161.94 353 *e*PKIKP PKPdf 02 52 43.1 +2.8
comp=Z,25nm,1.4s
RJF Les Rejaudoux 162.23 5 *e*PKIKP PKPdf 02 52 42.6 +2.0
RJF *e*R
comp=Z,714nm,20.0s
LFF La Frestale 162.52 7 *e*PKIKP PKPdf 02 52 43.1 +2.2
MBDF Montbardon 162.70 352 *e*PKIKP PKPdf 02 52 43.4 +2.3

VIVF	Saint-Julien-I	162.74	357	*e*PKIKP	PKPdf	02 52 43.5	+2.4
MTLF	Montolieu	164.23	4	*e*PKIKP	PKPdf	02 52 44.2	+1.6
EVO	Evora	165.37	39	*e*PKIKP	PKPdf	02 52 45.3	+1.4
	comp=Z,69nm,1.8s						
EVO				*e*R			
	comp=Z,831nm,17.5s						
ESDC	Sonseca Array	166.39	26	PKP	PKPdf	02 52 48.1	+3.4
	comp=Z,0.8nm,0.7s,baz=360,slow=2.2,SNR=5.9						
ESDC				PKPab	PKPab	02 53 46.5	-1.9
	comp=Z,2.0nm,0.7s,baz=318,slow=4.2,SNR=10						
ESLA	Sonseca Array	166.39	26	PFAKE		02 53 00.0	+15
ESLA				LR	LR		
	comp=Z,3μm,20.0s						

*ATH **25** 02:41:38.8, 39.49N×20.82E, h16km±11km, MD3.1/4*
*NEIC **25** 02:41:38.4, 39.53N×20.84E, h22km, MD3.1(ATH), After ATH.*
*CSEM **25** 02:41:38.8±0.2, 39.47N×20.83E, h3km±1km, MD3.1, Error ellipse: s-maj=4.3km s-min=3.7km az=34.0*
*THE **25** 02:41:39.1, 39.40N×20.78E, h10km, ML3.4*

ISC 25 02:41:39.2±0.6, 39.50N±0.04×20.73E±0.04, h10km, n14, σ1§47/24, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.18	31	*e*PB	Pb	02 41 42.0	-2.2
JAN				*e*SB	Sb	02 41 46.4	-1.0
JAN	Janina	0.18	31	*e*Pb	Pb	02 41 41.8	-2.4
JAN				*e*Sb	Sb	02 41 46.4	-1.0
IGT	Igoumenitsa	0.31	276	*e*Pg	Pg	02 41 46.0	+0.3
IGT				*e*Sg	Sg	02 41 52.1	+2.1
MEV	Metsovon	0.48	54	*e*Pg	Pg	02 41 47.1	-1.9
MEV				*e*Sg	Sg	02 41 56.6	+1.2
LSK	Leskovik	0.66	351	*e*Pg	Pg	02 41 52.0	-0.4
LSK				*i* Sg	Sg	02 42 05.4	+4.2
SRN	Sarande	0.68	304	*i* Pg	Pg	02 41 52.8	-0.1
SRN				*i* Sg	Sg	02 42 07.9	+5.9
SRN	Sarande	0.68	304	*e*Pg	Pg	02 41 52.8	-0.1
SRN				*i* Sg	Sg	02 42 07.9	+5.9
KEK	Kerkira	0.75	287	*e*PN	Pn	02 41 54.5	-1.2
EVR	Evrytania	1.02	125	*e*PN	Pn	02 41 57.0	-2.5
VLS	Valsamata	1.33	185	*e*PN	Pn	02 42 04.0	+0.1
AGG	Agios Georgios	1.33	111	*e*Pb	Pb	02 42 02.1	-1.8
AGG				*e*Sb	Sb	02 42 22.6	+1.9
FNA	Florina	1.37	21	*e*Pb	Pb	02 42 04.7	+0.2
FNA				*e*Sb	Sb	02 42 28.1	+6.1
LIT	Litokhoron	1.48	66	*e*Pb	Pb	02 42 07.4	+1.0
LIT				*e*Sb	Sb	02 42 27.8	+2.7
RLS	Riolos of Patr	1.55	158	*e*PN	Pn	02 42 07.8	+0.7

*NEIC **25** 02:44:10.3, 39.61S×174.27E, h154km, MG3.7(WEL), After WEL.*

WEL 25 02:44:12.3±0.2, 39.67S×174.31E, h133km±2km, ML3.7/5, 4C-1D, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAEZ	Rainy Point	0.39	9	P	P	02 44 31.1	-0.1
RAEZ	Rainy Point	0.39	9	PN	P	02 44 30.9	-0.3
NEZ	North Egmont	0.43	337	P	P	02 44 31.6	+0.1
NEZ				S	S	02 44 47.9	+1.9
NEZ	North Egmont	0.43	337	PN	P	02 44 31.3	-0.2
NEZ				SN	S	02 44 47.1	+1.0
NRZ	Ngariki Road	0.45	319	P	P	02 44 31.3	-0.2
NRZ	Ngariki Road	0.45	319	PN	P	02 44 31.3	-0.2
WAZ	Wanganui	0.52	99	PN	P	02 44 32.3	+0.4
WAZ				SN	S	02 44 47.5	+0.6
WAZ				SN	S	02 44 48.2	+1.3
NWEZ	Newall Road	0.53	319	P	P	02 44 31.7	-0.2
NWEZ	Newall Road	0.53	319	PN	P	02 44 31.6	-0.3
PKE	Pukeiti	0.54	332	P	P	02 44 31.7	-0.3
PKE	Pukeiti	0.54	332	PN	P	02 44 31.5	-0.5
PKE				SN	S	02 44 47.1	0.0
VRZ	Vera Road	0.65	32	P	P	02 44 32.1	-0.6
VRZ	Vera Road	0.65	32	PN	P	02 44 32.1	-0.7
VRZ				SN	S	02 44 47.1	-1.2
PKVZ	Pokaka	0.89	65	PN	P	02 44 34.2	-0.3
MTVZ	Mangateitei	0.94	73	PN	P	02 44 34.7	-0.3
MTVZ				SN	S	02 44 52.4	0.0
FWVZ	Far West T-bar	1.04	67	PN	P	02 44 35.8	-0.3
FWVZ				SN	S	02 44 53.7	-0.5
DRZ	Dome Shelter	1.05	68	P	P	02 44 36.7	+0.6
DRZ	Dome Shelter	1.05	68	*e*PN	P	02 44 36.6	+0.5
WNVZ	Wahianoa	1.05	71	P	P	02 44 35.9	-0.2
WNVZ	Wahianoa	1.05	71	PN	P	02 44 35.8	-0.3
WNVZ				SN	S	02 44 53.6	-0.7
TWVZ	Taurewa	1.06	56	P	P	02 44 35.6	-0.6
TWVZ	Taurewa	1.06	56	PN	P	02 44 35.6	-0.7
WPVZ	Whakapapa	1.06	64	P	P	02 44 36.0	-0.3
WPVZ	Whakapapa	1.06	64	PN	P	02 44 36.0	-0.3
CNZ	Chateau	1.07	64	P	P	02 44 36.0	-0.3
CNZ	Chateau	1.07	64	PN	P	02 44 35.8	-0.5
NGZ	Ngauruhoe	1.11	64	P	P	02 44 36.5	-0.3
NGZ	Ngauruhoe	1.11	64	*e*PN	P	02 44 36.5	-0.3
TUVZ	Tukino	1.11	69	P	P	02 44 36.9	+0.1
TUVZ	Tukino	1.11	69	PN	P	02 44 36.7	-0.1
WTVZ	West Tongariro	1.13	61	P	P	02 44 36.6	-0.4
WTVZ	West Tongariro	1.13	61	PN	P	02 44 36.5	-0.5
MOVZ	Moawhango	1.14	77	P	P	02 44 36.6	-0.5
MOVZ	Moawhango	1.14	77	PN	P	02 44 36.4	-0.7
MOVZ				SN	S	02 44 54.2	-1.7
MGZ	Maungaku	1.16	55	P	P	02 44 36.9	-0.4
MGZ	Maungaku	1.16	55	PN	P	02 44 36.8	-0.4
DUWZ	D'Urville Isla	1.17	195	⇑PN	P	02 44 37.3	0.0
DUWZ				SN	S	02 44 55.0	-1.3
HIZ	Hauiti	1.23	20	P	P	02 44 37.0	-1.0
HIZ	Hauiti	1.23	20	⇓PN	P	02 44 36.9	-1.1
KIW	Kapiti Island	1.27	159	P	P	02 44 38.3	-0.1
KIW	Kapiti Island	1.27	159	PN	P	02 44 38.2	-0.2
KIW				SN	S	02 44 55.9	-2.4
KATZ	Kakaramea	1.28	57	P	P	02 44 38.3	-0.2
KATZ	Kakaramea	1.28	57	PN	P	02 44 38.2	-0.3
TSZ	Takapari Road	1.32	107	*e*P	P	02 44 38.9	-0.1
TSZ	Takapari Road	1.32	107	PN	P	02 44 38.8	-0.2
MRZ	Mangatainoka R	1.38	136	P	P	02 44 39.5	-0.2
MRZ	Mangatainoka R	1.38	136	PN	P	02 44 39.3	-0.4
MRZ				SN	S	02 44 58.1	-2.6
TCW	Tory Channel	1.54	181	P	P	02 44 41.3	-0.1
TCW	Tory Channel	1.54	181	PN	P	02 44 41.1	-0.3
TCW				SN	S	02 45 01.3	-2.4
CAW	Cannon Point	1.54	158	P	P	02 44 41.4	-0.1
CAW	Cannon Point	1.54	158	PN	P	02 44 41.3	-0.1
NNZ	Nelson	1.70	205	⇑P	P	02 44 42.7	-0.5
NNZ	Nelson	1.70	205	⇑PN	P	02 44 42.7	-0.6
NNZ				SN	S	02 45 05.2	-1.7
MTW	Mount Morrison	1.74	149	P	P	02 44 43.2	-0.5
MTW	Mount Morrison	1.74	149	PN	P	02 44 43.2	-0.5
BKZ	Black Stump Fm	1.76	74	*e*P	P	02 44 42.9	-1.0
BKZ	Black Stump Fm	1.76	74	PN	P	02 44 42.9	-1.0
TUWZ	Tuamarina	1.78	189	PN	P	02 44 43.5	-0.6
QRZ	Quartz Range	1.79	229	⇑PN	P	02 44 43.2	-1.0
QRZ				SN	S	02 45 05.8	-2.9
BFZ	Birch Farm	1.79	125	P	P	02 44 43.8	-0.5
BFZ	Birch Farm	1.79	125	PN	P	02 44 43.8	-0.5
MSWZ	Moikau Station	1.88	158	P	P	02 44 44.9	-0.4
MSWZ	Moikau Station	1.88	158	PN	P	02 44 44.9	-0.4
PAWZ	Paruwai Farm	1.91	154	PN	P	02 44 45.2	-0.4
PAWZ				SN	S	02 45 08.0	-3.1
PWZ	Pawanui	1.99	101	P	P	02 44 46.3	-0.4
PWZ	Pawanui	1.99	101	PN	P	02 44 46.1	-0.6
THZ	Tophouse	2.35	207	*e*P	P	02 44 50.2	-1.1
THZ	Tophouse	2.35	207	PN	P	02 44 50.0	-1.3
THZ				SN	S	02 45 19.8	-1.2
KHZ	Kahutara	2.80	192	P	P	02 44 55.8	-1.4
KHZ	Kahutara	2.80	192	PN	P	02 44 55.8	-1.4
DSZ	Denniston Nort	2.82	222	*e*P	P	02 44 55.7	-1.7
DSZ	Denniston Nort	2.82	222	PN	P	02 44 55.6	-1.8
DSZ				SN	S	02 45 28.1	-3.6
MWZ	Matawai	2.84	63	*e*P	P	02 44 55.7	-2.0
MWZ	Matawai	2.84	63	PN	P	02 44 55.5	-2.2
LTZ	Lake Taylor	3.47	206	*e*P	P	02 45 03.3	-2.7
LTZ	Lake Taylor	3.47	206	PN	P	02 45 03.1	-2.9
CRLZ	Canterbury Las	4.10	197	SN	S	02 45 54.6	-7.5
MQZ	McQueen's Vall	4.22	197	*e*P	P	02 45 11.7	-4.3
MQZ	McQueen's Vall	4.22	197	PN	P	02 45 11.4	-4.6
MQZ				SN	S	02 45 57.1	-7.8
FOZ	Fox Glacier	5.21	220	*e*PN	P	02 45 24.8	-4.4
ODZ	Otahua Downs	6.02	206	SN	S	02 46 40.3	-7.9
JCZ	Jackson Bay	6.04	222	*e*PN	P	02 45 36.8	-3.6

*IDC **25** 03:10:18.6±0.8, 0.24N×97.12E, h30km±5km, mb3.9/14, mb1 4.0/15, mb1mx3.9/20, mbtmp4.0/15, ML4.3/1, Error ellipse: s-maj=29.1km s-min=13.8km az=54.0*
*NEIC **25** 03:10:18.6±0.4, 0.34N×97.25E, mb4.4/4, Error ellipse: s-maj=12.4km s-min=9.2km az=61.0*

ISC 25 03:10:17.7±0.6, 0.40N±0.09×97.3E±0.1, h33km, (h29km±1.5km:pP-P), n27, σ0§91/21, mb4.1/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.92	35	*e*P	P	03 11 44.1	-1.3
CMAR	Chiang Mai Arr	18.02	5	P	P	03 14 28.0	+0.6
	0.3nm,0.3s,baz=195,slow=10,SNR=11						
FITZ	Fitzroy Crossi	33.43	125	pP	pP	03 17 03.2	-2.4
	12nm,0.9s,baz=297,slow=6.8,SNR=3.7						
WRA	Warramunga Arr	41.58	121	P	P	03 18 03.9	-0.5
	1.0nm,0.5s,mb3.7,baz=301,slow=8.9,SNR=3.8						
WRA				pP	pP	03 18 12.1	-2.2
	3.1nm,0.7s,baz=298,slow=9.2,SNR=9.1						
WRAB	Tennant Creek	41.58	121	P	P	03 18 06.7	+2.2
	7.9nm,0.9s,mb4.3						
ASAR	Alice Springs	42.88	126	P	P	03 18 14.7	-0.4
	0.8nm,0.9s,mb3.5,baz=291,slow=7.7,SNR=3.3						
ASAR				pP	pP	03 18 24.3	-0.7
	1.6nm,0.6s,baz=303,slow=8.2,SNR=8.1						
AAK	Ala-Archa	46.74	337	*e*P	P	03 18 45.5	-0.2
	0.9nm,0.4s,mb4.0						
SONM	Songino Array	47.91	8	P	P	03 18 56.1	+1.3
	1.3nm,1.0s,mb3.9,baz=189,slow=10,SNR=7.6						
SONM				pP	pP	03 19 05.3	+0.7
	1.9nm,0.8s,baz=192,slow=8.0,SNR=9.2						
MKAR	Makanchi Array	48.02	346	P	P	03 18 56.1	+0.4
	2.0nm,0.7s,mb4.2,baz=159,slow=7.9,SNR=14						
STKA	Stephens Creek	52.79	132	*e*P	P	03 19 31.5	-0.7
	2.7nm,0.6s,mb4.3						
STKA	Stephens Creek	52.79	132	P	P	03 19 31.5	-0.7
	2.6nm,0.8s,mb4.2,baz=95,slow=3.4,SNR=4.5						
STKA				pP	pP	03 19 40.5	-1.7
	3.3nm,0.7s,baz=294,slow=6.8,SNR=4.5						
ZAL	Zalesovo	54.34	351	P	P	03 19 43.1	-0.2
	1.5nm,0.4s,mb4.2,baz=300,slow=5.3,SNR=7.5						
BVAR	Borovoye Array	57.01	341	P	P	03 20 01.5	-1.2
	1.4nm,0.7s,mb4.1,baz=153,slow=9.9,SNR=7.2						
KMBO	Kilima Mbogo	60.01	268	P	P	03 20 23.5	-0.6
	1.7nm,0.9s,mb4.1,baz=54,slow=10,SNR=4.4						
MALT	Malatya	65.70	312	*e*P	P	03 21 02.1	+0.7
	4.6nm,1.4s,mb4.3						
BRTR	Keskin Array B	69.68	313	P	P	03 21 25.4	-0.9
	1.2nm,0.8s,mb3.9,baz=135,slow=8.7,SNR=11						
AKASG	Malin Array Be	75.92	323	P	P	03 22 01.6	-1.2
	1.5nm,0.6s,mb4.1,baz=92,slow=4.5,SNR=11						
FINES	FINESS Array B	80.72	333	P	P	03 22 29.2	+0.2
	1.6nm,0.7s,mb4.0,baz=90,slow=5.7,SNR=7.2						
ARCES	ARCESS Array B	83.30	340	P	P	03 22 43.0	+0.9
	3.7nm,1.0s,mb4.4,baz=90,slow=3.6,SNR=4.0						
GERES	GERESS Array B	85.44	319	P	P	03 22 54.4	+1.1
	1.3nm,0.9s,mb4.0,baz=104,slow=5.5,SNR=8.4						
NB2	NORSAR Subarra	87.72	331	P	P	03 22 58.8	-5.3
	0.4nm,0.7s,mb3.8,baz=93,slow=4.6						
NOA	NORSAR Array B	87.72	331	P	P	03 23 04.8	+0.6
	0.7nm,0.8s,mb3.9,baz=93,slow=4.8,SNR=3.9						
MIAR	Mount Ida	143.78	15	PKPpre		03 29 50.5	
TXAR	Lajitas Array	144.31	32	PKP	PKPdf	03 29 51.9	+0.8
	0.4nm,0.5s,baz=196,slow=0.7,SNR=11						
TXAR	Lajitas Array	144.31	32	PKP	PKPdf	03 29 51.9	+0.8
CPUP	Villa Florida	144.45	221	PKP	PKPdf	03 29 51.6	+0.2
	6.4nm,0.8s,baz=113,slow=3.1,SNR=13						
CPUP				pPKP		03 30 00.6	
	2.3nm,0.7s,baz=126,slow=6.1,SNR=3.1						
JCT	Junction City	145.26	26	*e*PKP	PKPdf	03 29 54.3	+1.6
JCT				*e*		03 29 59.8	

*IDC **25** 03:11:03.1±1.6, 5.07S×150.74E, h237km±13km, mb3.8/12, mb1 4.0/14, mb1mx3.9/21, mbtmp4.5/14, Error ellipse: s-maj=16.3km s-min=10.9km az=138.0*
*NEIC **25** 03:11:04.2±1.7, 5.07S×150.71E, h249km±15km, mb4.5/8, Error ellipse: s-maj=12.9km s-min=12.0km az=133.0*

ISC 25 03:11:00.3±1.4, 4.99S±0.10×150.89E±0.08, h225km±11km, n30, σ1§20/35, mb4.1/14, 3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.74	220	P	P	03 12 27.0	+1.8
	10nm,0.3s,baz=35,slow=6.2,SNR=22						
PMG				S	S	03 13 31.7	+0.3
	baz=18,slow=19,SNR=1.6						
PMG	Port Moresby	5.74	220	*e*P	P	03 12 26.5	+1.2
PMG				*e*S	S	03 13 31.5	+0.1
PMG				S	S	03 13 31.7	+0.3
CTA	Charters Tower	15.67	196	*e*P	P	03 14 31.7	+0.9
	11nm,0.6s						
CTA	Charters Tower	15.67	196	P	P	03 14 31.7	+0.9
	0.8nm,0.3s,baz=21,slow=13,SNR=17						
CTAO	Charters Tower	15.67	196	*e*P	P	03 14 31.4	+0.5
	14nm,0.7s						
KAKA	Kakadu	19.76	246	⇓*i*P	P	03 15 14.2	-0.7
	14nm,0.4s						
KAKA				*e*S	S	03 18 41.7	+1.5
WRAB	Tennant Creek	21.90	226	*e*P	P	03 15 36.0	+0.2
	35nm,0.6s,mb5.1						
WB2	Warramunga Arr	21.91	226	⇓*i*P	P	03 15 36.1	+0.2
WB2				*e*S	S	03 19 19.7	+1.3
WRA	Warramunga Arr	21.91	226	P	P	03 15 36.2	+0.2
	19nm,0.5s,mb4.9,baz=51,slow=10,SNR=118						
WRA				S	S	03 19 20.8	+2.2
	1.6nm,0.9s,baz=45,slow=18,SNR=3.6						
DZM	Mont Dzumac	22.69	140	P	P	03 15 45.2	+1.5
	6.8nm,0.6s,mb4.4,baz=248,slow=24,SNR=7.8						
ASAR	Alice Springs	24.75	220	P	P	03 16 02.3	-0.7
	4.2nm,0.4s,mb4.4,baz=52,slow=9.5,SNR=7.4						
ASAR				S	S	03 20 07.3	+1.0
	0.5nm,0.6s,baz=53,slow=14,SNR=2.7						
ASPA	Alice Springs	24.75	220	⇓*i*P	P	03 16 02.1	-0.9
FITZ	Fitzroy Crossi	27.90	240	*e*P	P	03 16 30.0	-1.8
	6.8nm,1.0s,mb4.2						
FITZ	Fitzroy Crossi	27.90	240	P	P	03 16 30.1	-1.7
	5.6nm,0.6s,mb4.4,baz=261,slow=19,SNR=17						
STKA	Stephens Creek	28.13	197	*e*P	P	03 16 31.6	-2.0
	4.3nm,0.6s,mb4.3						
STKA	Stephens Creek	28.13	197	P	P	03 16 31.8	-1.9
	5.6nm,0.6s,mb4.4,baz=4.3,slow=9.6,SNR=19						
FORT	Forrest	33.46	217	*e*P	P	03 17 18.0	-2.1
	341nm,0.6s						
KLBR	Kellerberrin	40.80	226	*e*P	P	03 18 19.1	-2.3
	369nm,1.6s						
URZ	Urewera	40.81	148	P	P	03 18 21.5	+0.1
	4.1nm,0.6s,mb4.0,baz=238,slow=9.5,SNR=4.3						
NWAO	Narrogin (SRO)	41.91	224	P	P	03 18 27.6	-2.8
	4.2nm,0.7s,mb4.0,baz=74,slow=7.4,SNR=3.7						
RPZ	Rata Peaks	42.47	158	P	P	03 18 35.1	+0.3
	9.9nm,0.8s,mb4.3,baz=345,slow=2.0,SNR=3.1						
SONM	Songino Array	65.49	329	P	P	03 21 22.7	+1.5
	0.5nm,0.5s,mb3.4,baz=149,slow=5.0,SNR=4.0						
VNDA	Vanda	72.71	178	P	P	03 22 05.2	+0.3
	1.8nm,0.8s,mb3.8,baz=13,slow=5.8,SNR=7.0						
VNDA	Vanda	72.71	178	*e*P	P	03 22 04.8	-0.1
	2.3nm,0.9s,mb3.8						
MCK	McKinley	81.78	23	*e*P	P	03 22 55.0	+0.1
	0.9nm,0.6s,mb3.6						
ILAR	Eielson Array	83.06	22	P	P	03 23 01.4	-0.1
	1.4nm,0.8s,mb3.7,baz=251,slow=5.2,SNR=22						
YKA	Yellowknife Ar	96.48	28	P	P	03 24 05.7	+1.0
	0.2nm,0.6s,mb3.5,baz=269,slow=4.7,SNR=11						
YKA	Yellowknife Ar	96.48	28	P	P	03 24 05.7	+1.0
SAML	Samuel	143.32	112	*e*PKP	PKPdf	03 30 11.4	+2.8
BDFB	Brasilia	152.24	138	PKPbc	PKPdf	03 30 31.7	+8.8
	0.7nm,0.5s,baz=17,slow=2.4,SNR=3.7						

*BJI **25** 03:18:27.5, 3.08N×94.22E, h15km, mB5.2, mb4.9, Ms4.8, Msz4.6*
*MOS **25** 03:18:30.7±0.8, 3.10N×94.15E, h33km, mb5.2/42, Error ellipse: s-maj=10.3km s-min=5.6km az=117.6*
*IDC **25** 03:18:31.3±0.5, 3.03N×94.06E, h25km±3km, mb4.7/28, mb1 4.7/29, mb1mx4.7/31, mbtmp4.8/29, ML5.0/1, MS3.6/2, Ms1 3.6/2, ms1mx3.5/34, Error ellipse: s-maj=13.2km s-min=9.3km az=45.0*
*HRVD **25** 03:18:31.1±1.1, 3.08N×93.87E, h21km±2km, MW4.8/36, Centroid moment Tensor Solution. LP body waves: s13,c13;Mantle waves: s36,c45; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr2.11±.32; Mθθ-0.65±.17; Mφφ-1.46±.25; Mrθ-0.15±.42; Mφφ0.58±.12; Mφr-1.02±.43; Best double couple: M0:2.176×1016 NP1:φs323°, s34°, λ70°. NP2:φs166°, δ58°, λ103°. Principal axes: T 2.409, Plg73°, Azm110°; N -.469, Plg11°, Azm340°; P -1.943, Plg12°, Azm247°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 03:18:31.1±0.2, 3.03N×94.07E, mb5.0/42 Error ellipse: s-maj=5.7km s-min=4.1km az=216.0*

ISC 25 03:18:29.5±0.2, 3.00N±0.04×94.10E±0.03, h25km, h25km±.5km:pP-P, n237, σ0§98/236, mb5.0/96, MS4.5/13, 25C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.92	71	*e*P	Pn	03 20 11.2	-0.8
KULM				*e*		03 20 18.3	
IPM	Ipoh	7.08	77	P	Pn	03 20 14.0	-0.3
SNG	Songkhla	7.70	57	P	Pn	03 20 22.0	-0.9
	334nm,1.0s						
KGM	Kluang	9.26	96	P	P	03 20 44.2	-0.4
NST	Nakhon Sawan	13.92	25	P	P	03 21 54.0	+6.3
	50nm,0.9s						
PALK	Pallekele	14.00	288	*e*P	P	03 21 46.5	-2.3
	35nm,0.9s						
CM31	Chiang Mai Arr	16.08	17	*e*P	P	03 22 15.0	-0.7
	90nm,0.8s						
CMAR	Chiang Mai Arr	16.08	17	Pn	P	03 22 13.8	-1.9
	2.3nm,0.3s,baz=206,slow=12,SNR=56						
KSM	Kuching	16.27	95	*e*P	P	03 22 23.0	+4.9
CHG	Chiang Mai	16.41	16	⇑P	P	03 22 21.0	+1.0
	96nm,1.0s						
NANT	Nan	16.98	22	⇑P	P	03 22 25.0	-2.1
	265nm,0.8s						
VIS	Vishakhapatnam	18.05	325	*e*P	P	03 22 39.0	-1.5
HYB	Hyderabad	20.93	314	*e*P	P	03 23 12.5	-0.4
HYB	Hyderabad	20.93	314	*i* P	P	03 23 12.5	-0.4
HYB				*e*S	rx	03 24 15.0	
BOK	Bokaro	22.15	340	*e*P	P	03 23 25.8	+0.7
BOK				*e*		03 23 28.3	
	comp=Z,181nm,1.5s						
BOK				*e*S	S	03 27 24.3	+1.6
QIZ	Qiongzhong	22.16	43	⇓P	P	03 23 26.6	+1.3
QIZ				*e*S	S	03 27 29.8	+6.9
QIZ				AMB	AMB		
	comp=Z,34nm,1.0s,mb4.7						
QIZ				LR	LR		
	comp=E,985nm,16.1s						
QIZ				LR	LR		
	comp=Z,915nm,13.4s,MS4.4						
KKM	Kota Kinabalu	22.25	81	*e*P	P	03 23 27.1	+0.9
KKM	Kota Kinabalu	22.25	81	P	P	03 23 28.1	+1.8
BLSP	Bilaspur	22.29	330	*e*P	P	03 23 27.2	+0.7
BLSP				*e*		03 23 32.8	
	comp=Z,111nm,1.2s						
BLSP				*e*S	S	03 27 26.8	+1.5
SHL	Shillong	22.54	355	*e*P	P	03 23 27.5	-1.6
SHL				*e*S	S	03 27 35.0	+5.1
KMI	Kunming	23.52	20	P	P	03 23 40.4	+1.8
KMI				AMB	AMB		
	comp=Z,60nm,1.3s,mb4.9						
KMI	Kunming	23.52	20	P	P	03 23 40.4	+1.8
	comp=Z,60nm,1.3s,mb4.9						
TSM	Tawau	23.76	86	P	P	03 23 42.7	+1.6
KAD	Karad	24.17	307	*e*P	P	03 23 47.3	+2.2
KAD				*e*		03 23 58.2	
	comp=Z,64nm,1.5s						
KAD				*e*S	S	03 28 03.8	+5.2
POO	Poona	25.13	309	*e*P	P	03 23 54.0	-0.3
POO				*i*		03 28 41.0	
JIRN	Jiri	25.66	344	*e*P	P	03 23 59.9	+0.7
	comp=Z,118nm,0.9s,mb5.4						
BHPL	Bhopal	25.80	323	*e*P	P	03 24 02.0	+1.5
BHPL				*e*		03 24 05.7	
	comp=Z,39nm,1.2s						
PKI	Pulchoki	25.81	342	*e*P	P	03 24 00.5	-0.1
	comp=Z,79nm,0.9s,mb5.2						
DMN	Daman	25.94	342	*e*P	P	03 24 01.8	0.0
	comp=Z,60nm,0.8s,mb5.2						
GUN	Gumba	25.98	343	*e*P	P	03 24 02.7	+0.5
	comp=Z,175nm,0.9s,mb5.6						
KKN	Kakani	26.05	342	*e*P	P	03 24 02.8	0.0
	comp=Z,92nm,0.9s,mb5.3						
TANI	Tanete Lipujan	26.07	104	*e*P	P	03 24 03.5	+0.4
GYA	Guiyang	26.25	26	⇑*i*P	P	03 24 04.5	-0.2
GYA				AP	pP	03 24 13.8	+1.7
GYA				XP	sP	03 24 17.6	+2.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				LR	LR		
	comp=N,910nm,16.8s,MS4.8						
GYA				LR	LR		
	comp=E,2μm,12.6s,MS4.8						
GYA				LR	LR		
	comp=Z,1μm,14.1s,MS4.5						
GKN	Gorkha	26.45	341	*e*P	P	03 24 06.6	+0.1
	comp=Z,105nm,0.9

NJ2 AP pP 03 25 50.1 +2.7
NJ2 PP PP 03 27 09.6 +2.8
NJ2 S **S** **03 31 26.0 +2.0**
NJ2 AMB AMB
comp=Z,70nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,1µm,6.8s
NJ2 LR LR
comp=N,1µm,12.0s
NJ2 LR LR
comp=E,2µm,19.1s
NJ2 LR LR
comp=Z,730nm,14.2s,MS4.6
FITZ Fitzroy Crossi 37.49 125 *e*P **P** **03 25 42.4 -0.8**
comp=Z,15nm,0.7s,mb4.9
FITZ Fitzroy Crossi 37.49 125 P **P** **03 25 42.6 -0.6**
comp=Z,18nm,0.7s,mb5.0,baz=294,slow=4.9,SNR=22
FITZ PcP PcP 03 28 02.1 +0.3
comp=Z,10nm,0.8s,baz=291,slow=8.6,SNR=5.0
SSE Sheshan 37.87 40 P **P** **03 25 46.3 0.0**
SSE XP sP 03 25 58.9 +1.8
SSE PP PP 03 27 14.6 -1.4
SSE S **S** **03 31 40.8 +5.2**
SSE AMB AMB
comp=Z,50nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,94nm,7.9s
SSE LR LR
comp=N,238nm,17.4s,MS4.2
SSE LR LR
comp=E,200nm,17.4s,MS4.2
SSE LR LR
comp=Z,457nm,13.6s,MS4.5
SSE Sheshan 37.87 40 P **P** **03 25 46.3 0.0**
comp=Z,50nm,0.7s,mb5.3
SSE sP sP 03 25 58.9 +1.8
SSE PP PP 03 27 14.6 -1.4
SSE S **S** **03 31 40.8 +5.2**
SSE sS 03 31 57.1
SSE LR LR
comp=Z,460nm,13.6s,MS4.5
JOW Kunigami 40.39 51 P **P** **03 26 08.3 +1.0**
comp=Z,31nm,0.7s,mb5.2,baz=271,slow=8.0,SNR=12
JOW pP pP 03 26 16.1 +1.2
comp=Z,39nm,0.7s,baz=290,slow=23,SNR=4.6
HHC Hu-ho-hao-te 40.84 20 *e*P **P** **03 26 12.3 +1.4**
HHC AP pP 03 26 21.6 +3.1
HHC PCP PcP 03 28 16.4 +4.3
HHC SCP 03 32 00.9
HHC S **S** **03 32 24.3 +4.1**
HHC AMB AMB
comp=Z,37nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,356nm,8.8s
HHC LR LR
comp=N,538nm,15.2s,MS4.7
HHC LR LR
comp=E,454nm,14.2s,MS4.7
HHC LR LR
comp=Z,684nm,15.1s,MS4.6
WMQ Urumqi 41.04 353 P **P** **03 26 13.3 +0.8**
WMQ AP pP 03 26 20.8 +0.7
WMQ XP sP 03 26 24.3 +1.0
WMQ PP PP 03 27 51.5 +1.3
WMQ PCP PcP 03 28 13.8 +1.1
WMQ PPP PPP 03 28 20.8 +0.7
WMQ S **S** **03 32 24.1 +0.9**
WMQ XS 03 32 36.3
WMQ AMB AMB
comp=Z,185nm,1.0s,mb5.7
WMQ LR LR
comp=N,355nm,18.9s,MS4.4
WMQ LR LR
comp=E,298nm,18.9s,MS4.4
WMQ LR LR
comp=Z,265nm,19.5s,MS4.1
KAKA Kakadu 41.15 113 *e*P **P** **03 26 12.8 -0.9**
comp=Z,21nm,0.9s,mb4.8
NWAO Narrogin (SRO) 41.91 150 P **P** **03 26 20.2 +0.5**
comp=Z,8.2nm,0.7s,mb4.5,baz=326,slow=5.7,SNR=8.1
BJI Beijing 41.94 26 *e*P **P** **03 26 21.4 +1.4**
BJI AMB AMB
comp=Z,41nm,0.9s,mb5.1
BJI LR LR
comp=N,480nm,13.1s,MS4.6
BJI LR LR
comp=E,325nm,13.7s,MS4.6
BJI LR LR
comp=Z,217nm,14.2s,MS4.2
BJI Beijing 41.94 26 *e*P **P** **03 26 21.4 +1.4**
comp=Z,41nm,0.9s,mb5.1
BJI LR LR
comp=Z,220nm,14.2s,MS4.2
ULHL Ulahol 42.22 340 P **P** **03 26 22.8 +0.6**
SNR=24
KZA Kyzart 42.41 339 P **P** **03 26 24.9 +1.1**
SNR=16
UCH Uchtor 42.81 339 P **P** **03 26 28.3 +1.2**
SNR=22
KBK Karagaybulak 43.03 339 P **P** **03 26 30.1 +1.3**
SNR=16
AML Almayashu 43.03 338 P **P** **03 26 30.0 +1.2**
SNR=45
TKM2 Tokmak 2 43.03 340 P **P** **03 26 29.7 +0.9**
SNR=15
AAK Ala-Archa 43.17 339 P **P** **03 26 31.1 +1.1**
SNR=8.4
AAK Ala-Archa 43.17 339 *e*P **P** **03 26 29.5 -0.5**
AAK pmax pmax
comp=Z,21nm,1.3s,mb4.7
AAK Ala-Archa 43.17 339 *e*P **P** **03 26 29.5 -0.5**
comp=Z,21nm,1.3s,mb4.7
FRU Bishkek 43.30 339 *e*P **P** **03 26 31.0 0.0**
FRU pmax pmax
comp=Z,40nm,1.4s,mb5.0
EKS2 Erkin-Say 43.46 338 P **P** **03 26 32.8 +0.5**
SNR=17
USP Ospenovka 43.72 339 P **P** **03 26 34.9 +0.5**
SNR=16
MKAR Makanchi Array 44.81 348 P **P** **03 26 43.5 +0.3**
comp=Z,29nm,0.8s,mb5.2,baz=164,slow=8.8,SNR=104
WRA Warramunga Arr 45.61 122 P **P** **03 26 49.8 0.0**
comp=Z,35nm,0.8s,mb5.3,baz=300,slow=8.9,SNR=131
WRA pP pP 03 26 57.7 +0.1
comp=Z,18nm,0.8s,baz=300,slow=8.8,SNR=12
WRAB Tennant Creek 45.61 122 *e*P **P** **03 26 49.8 -0.1**
WRAB pmax pmax
comp=Z,64nm,0.9s,mb5.5
WRAB Tennant Creek 45.61 122 *e*P **P** **03 26 49.8 -0.1**
comp=Z,64nm,0.9s,mb5.5
WB2 Warramunga Arr 45.62 122⇑*i*P **P** **03 26 49.9 0.0**
SONM Songino Array 45.91 12 P **P** **03 26 52.1 +0.3**
comp=Z,31nm,0.8s,mb5.3,baz=191,slow=8.5,SNR=120
SONM pP pP 03 27 00.3 +0.8
comp=Z,24nm,0.7s,baz=196,slow=8.6,SNR=17
SONM PcP PcP 03 28 29.4 +0.3
comp=Z,3.4nm,0.8s,baz=185,slow=4.2,SNR=3.1
ULN Ulaanbaatar 46.07 12 *e*P **P** **03 26 53.1 0.0**
ULN *e* pP 03 27 00.4 -0.4
ULN pmax pmax
comp=Z,17nm,0.8s,mb5.0
ULN Ulaanbaatar 46.07 12 *e*P **P** **03 26 53.1 0.0**
comp=Z,17nm,0.8s,mb5.0
ULN *e* pP 03 27 00.4 -0.4
MENI Mendum Tagoi 46.62 96⇑*e*P **P** **03 26 55.2 -2.8**
comp=Z,17nm,0.9s,mb4.7
FORT Forrest 46.65 139 *e*P **P** **03 26 58.4 +0.4**
comp=Z,798nm,0.7s
YOMI Yo Moklole 46.78 96⇑*e*P **P** **03 26 55.8 -3.4**
comp=Z,44nm,1.1s,mb5.0
SNY Shenyang 46.82 30 ⇑P **P** **03 27 01.6 +2.4**
SNY AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
ASPA Alice Springs 46.94 127⇑*i*P **P** **03 27 00.4 0.0**
ASAR Alice Springs 46.95 127 P **P** **03 27 00.0 -0.4**
comp=Z,26nm,0.8s,mb5.2,baz=296,slow=7.8,SNR=216
ASAR PcP PcP 03 28 33.0 -0.1
comp=Z,6.6nm,0.7s,baz=301,slow=3.4,SNR=9.0
ASAR Alice Springs 46.95 127 P **P** **03 27 00.0 -0.4**
ASAR PcP PcP 03 28 33.0 -0.1
ZAK Zakamensk 47.85 8⇓*i*P **P** **03 27 06.7 -0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
TLY Talaya 49.17 8 *i* P **P** **03 27 18.2 +0.9**
TLY Talaya 49.17 8 *i* Pr 03 27 18.2
CN2 Changchun 49.20 30 *e*P **P** **03 27 17.6 -0.1**
CN2 *e*AP pP 03 27 25.0 -0.4
CN2 *e*S **S** **03 34 19.3 -1.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
OPO Ambohidratompo 50.90 243 P **P** **03 27 32.2 +1.2**
comp=Z,4.4nm,1.1s,mb4.3,baz=350,slow=0.6,SNR=4.2
OPO PcP PcP 03 28 48.0 +0.6
comp=Z,1.3nm,0.3s,baz=72,slow=3.2,SNR=9.2
ZAL Zalesovo 51.34 353 P **P** **03 27 33.4 -0.5**
comp=Z,13nm,0.8s,mb4.9,baz=278,slow=7.5,SNR=47
MDJ Mudanjiang 51.90 32 P **P** **03 27 38.4 +0.2**
MDJ AP pP 03 27 44.8 -1.2
MDJ XP sP 03 27 47.3 -1.7
MDJ PCP PcP 03 28 50.9 +0.1
MDJ SCP 03 32 42.5
MDJ PCS 03 32 46.1
MDJ S **S** **03 34 59.1 +1.2**
MDJ SCS ScS 03 37 25.5 +2.1
MDJ AMB AMB
comp=Z,14nm,1.2s,mb4.8
MDJ LR LR
comp=N,211nm,17.4s,MS4.4
MDJ LR LR
comp=E,255nm,16.6s,MS4.4
MDJ LR LR
comp=Z,303nm,15.8s,MS4.4
NVS Novosibirsk 52.43 352⇑*i*P **P** **03 27 40.6 -1.5**
NVS *e*S **S** **03 35 09.9 +4.9**
NVS pmax pmax
comp=Z,37nm,1.0s,mb5.3
NVS pmax pmax
comp=N,31nm,1.3s
NVS pmax pmax
comp=E,12nm,1.1s
NVS smax
comp=E,22nm,1.9s
MAJO Matsushiro 52.53 45 P **P** **03 27 42.0 -1.1**
MAJO pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MAJO Matsushiro 52.53 45 P **P** **03 27 42.0 -1.1**
comp=Z,5.5nm,0.7s,mb4.6
MJAR Matsushiro Arr 52.53 45 P **P** **03 27 42.9 -0.2**
comp=Z,2.8nm,0.7s,mb4.3,baz=236,slow=8.1,SNR=9.1
MJAR pP pP 03 27 50.7 -0.2
comp=Z,4.0nm,0.8s,baz=240,slow=7.3,SNR=6.8
MJAR LR LR 03 52 32.2
comp=Z,256nm,18.2s,MS4.3,baz=260,slow=39
BVAR Borovoye Array 53.58 342 P **P** **03 27 49.6 -1.0**
comp=Z,17nm,0.7s,mb5.1,baz=149,slow=8.6,SNR=58
PMG Port Moresby 54.28 104 P **P** **03 27 56.3 +0.1**
comp=Z,15nm,0.9s,mb4.9,baz=297,slow=6.8,SNR=3.6
CTA Charters Tower 56.07 117 P **P** **03 28 09.1 -0.1**
comp=Z,6.5nm,1.0s,mb4.6,baz=272,slow=9.6,SNR=4.2
CTA Charters Tower 56.07 117 P **P** **03 28 09.1 -0.1**
KLR Kul'dur 56.11 29 *e*P **P** **03 28 06.2 -2.9**
KLR pmax pmax
comp=Z,32nm,1.0s,mb5.3
STKA Stephens Creek 56.86 131⇑*i*P **P** **03 28 14.1 -0.6**
comp=Z,16nm,0.8s,mb5.1
STKA Stephens Creek 56.86 131 P **P** **03 28 14.2 -0.5**
comp=Z,18nm,0.7s,mb5.2,baz=305,slow=7.2,SNR=46
BOD Bodaibo 56.88 13 *e*P **P** **03 28 13.3 -1.2**
BOD pmax pmax
comp=Z,24nm,1.0s,mb5.2
KMBO Kilima Mbogo 56.98 267 *e*P **P** **03 28 15.6 -0.2**
KMBO *e* pP 03 28 23.8 +0.1
KMBO pmax pmax
comp=Z,8.0nm,1.0s
KMBO Kilima Mbogo 56.98 267 P **P** **03 28 16.3 +0.5**
comp=Z,4.5nm,0.9s,mb4.5,baz=56,slow=8.8,SNR=14
KMBO pP pP 03 28 24.0 +0.3
comp=Z,4.2nm,0.9s,baz=64,slow=13,SNR=6.5
KMBO Kilima Mbogo 56.98 267 *e*P **P** **03 28 15.6 -0.2**
comp=Z,8.1nm,1.0s,mb4.7
KMBO *e* pP 03 28 23.8 +0.2
GNI Garni 57.86 317 *e*P **P** **03 28 21.3 -0.3**
GNI pmax pmax
comp=Z,17nm,0.9s
GNI Garni 57.86 317 *e*P **P** **03 28 21.3 -0.4**
comp=Z,17nm,0.9s,mb5.1
CLNS Chul'man 59.01 19 *e*P **P** **03 28 28.9 -0.5**
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=Z,26nm,0.8s,mb5.3
CLNS pmax pmax
comp=E,13nm,1.0s
SVE Sverdlovsk 59.91 339⇑*e*P **P** **03 28 34.2 -1.4**
SVE *e* 03 28 47.0
SVE *e* 03 29 20.0
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.4
ARU Arti 60.35 338 *e*P **P** **03 28 36.8 -1.9**
ARU *e* pP 03 28 44.6 -2.0
ARU pmax pmax
comp=Z,20nm,0.9s,mb5.2
ARU Arti 60.35 338 *e*P **P** **03 28 36.8 -1.9**
comp=Z,20nm,0.9s,mb5.2
ARU *e* pP 03 28 44.6 -2.0
YSS Yuzh-Sakhalins 60.67 36⇓*e*P **P** **03 28 41.0 0.0**
YSS *e* pP 03 28 48.6 -0.3
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 60.67 36 *e*P **P** **03 28 41.5 +0.5**
comp=Z,26nm,0.9s,mb5.4
YSS *e* pP 03 28 48.8 -0.1
KIV Kislovodsk 60.94 320*c i*P **P** **03 28 41.8 -1.0**
KIV pmax pmax
comp=Z,23nm,1.1s,mb5.2
KIV pmax pmax
comp=N,13nm,0.9s
GOF Gofitskoye 61.22 321 *e*P **P** **03 28 50.6 +5.9**
MALT Malatya 61.63 312 *e*P **P** **03 28 47.6 0.0**
MALT pmax pmax
comp=Z,25nm,1.0s,mb5.3
MALT Malatya 61.63 312 *e*P **P** **03 28 47.6 0.0**
comp=Z,25nm,1.0s,mb5.3
SOC Sochi 62.72 318*c i*P **P** **03 28 49.4 -5.4**
SOC *e* 03 29 25.2
SOC *e* 03 31 08.3
SOC *e*S **S** **03 37 15.3 -4.9**
SOC *e* 03 38 39.4
SOC *e*SS SS 03 41 29.0 +2.0
SOC *e*SSS SSS 03 44 15.5 +4.6
SOC pmax pmax
comp=Z,18nm,0.7s,mb5.3
SOC pmax pmax
comp=N,16nm,0.8s
SOC pmax pmax
comp=E,5.0nm,0.7s
SOC MLR MLR
comp=N,237nm,18.0s,MS4.5
SOC MLR MLR
comp=Z,360nm,18.0s,MS4.6
SOC MLR MLR
comp=E,181nm,19.0s,MS4.5
SOKR Solikamsk 63.31 340⇓*i*P **P** **03 28 55.5 -3.0**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.3
ARMA Armidale 64.09 126 *e*P **P** **03 29 05.2 +1.1**
YAK Yakutsk 64.61 18 *i* P **P** **03 29 06.0 -0.9**
YAK pmax pmax
comp=Z,71nm,1.0s,mb5.7
YAK Yakutsk 64.61 18 *e*P **P** **03 29 05.3 -1.6**
comp=Z,40nm,0.9s,mb5.4
ANN Anapa 64.71 319 *e*P **P** **03 29 05.6 -2.3**
ANN *e* pP 03 29 14.6 -1.2
ANN pmax pmax
comp=Z,39nm,1.0s,mb5.4
BRTR Keskin Array B 65.62 313 P **P** **03 29 12.4 -1.3**
comp=Z,6.3nm,0.8s,mb4.7,baz=130,slow=7.3,SNR=56
BRTR pP pP 03 29 20.8 -0.9
comp=Z,3.7nm,0.8s,baz=127,slow=6.7,SNR=9.4
BRTR Keskin Array B 65.62 313 P **P** **03 29 12.4 -1.3**
BRTR pP pP 03 29 20.8 -0.9
SIM Simferopol' 66.96 318*d i*P **P** **03 29 21.6 -0.7**
SIM pmax pmax
comp=Z,26nm,0.8s,mb5.3
MOS Moscow 69.22 330 *e*P **P** **03 29 29.6 -6.5**
MOS *e* 03 29 54.4
OBN Obninsk 69.48 329 *i* P **P** **03 29 35.7 -2.0**
LBTB Lobatse 71.93 243 *e*P **P** **03 29 52.9 -0.2**
LBTB *e* pP 03 30 00.4 -0.7
LBTB pmax pmax
comp=Z,28nm,1.4s,mb5.0
LBTB Lobatse 71.93 243 *e*P **P** **03 29 52.9 -0.2**
comp=Z,28nm,1.4s,mb5.0
LBTB *e* pP 03 30 00.4 -0.7
AKASG Malin Array Be 71.96 323 P **P** **03 29 50.4 -2.4**
comp=Z,7.1nm,0.8s,mb4.6,baz=92,slow=4.4,SNR=32
TIXI Tiksi 71.99 11⇑*i*P **P** **03 29 51.9 -0.8**
BOSA Boshof 73.02 239 P **P** **03 29 59.0 -0.5**
comp=Z,4.7nm,0.8s,mb4.5,baz=149,slow=9.3,SNR=8.1
DZM Mont Dzumac 74.84 114 P **P** **03 30 11.0 +0.8**
comp=Z,19nm,1.1s,mb4.9,baz=300,slow=16,SNR=3.1
LVV L'vov 74.92 321 *e*P **P** **03 30 08.3 -1.9**
JOF Joensuu 75.21 335 *e*p **P** **03 30 10.6 -0.9**
comp=Z,16nm,0.9s,mb4.9
KWP Kalwaria 75.72 321 *e*P **P** **03 30 14.6 -0.1**
KOLS Kolonicke sedl 75.85 320 *e*P **P** **03 30 14.9 -0.6**
LVZ Lovozero 76.10 340 *e*P **P** **03 30 15.7 -0.8**
LVZ pmax pmax
comp=Z,44nm,2.1s,mb5.0
CRVS Cervenica-Dubn 76.37 320 *e*P **P** **03 30 19.7 +1.3**
SUW Suwalki 76.43 325 *e*P **P** **03 30 17.7 -0.9**
SUW *e* pP 03 30 25.6 -1.0
KECS Kecovo 76.92 319 *e*P **P** **03 30 21.4 -0.1**
FINES FINESS Array B 76.99 333 P **P** **03 30 20.5 -1.0**
comp=Z,7.1nm,0.7s,mb4.7,baz=104,slow=7.9,SNR=35
KAF Kangasniemi 77.09 333 *e*p **P** **03 30 21.3 -0.8**
comp=Z,20nm,1.0s,mb5.0,baz=105,slow=5.0
KAF Kangasniemi 77.09 333 *e*P **P** **03 30 21.3 -0.8**
KAF pmax pmax
comp=Z,20nm,1.0s,mb5.0
NIE Niedzica 77.20 320 *e*P **P** **03 30 23.4 +0.4**
PSZ Piszkesteto 77.21 318 *e*P **P** **03 30 23.0 -0.1**
PSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
PSZ Piszkesteto 77.21 318 *e*P **P** **03 30 23.0 -0.1**
comp=Z,7.8nm,1.0s,mb4.6
OJC Ojcow 77.68 321 *e*P **P** **03 30 25.8 +0.2**
VYHS Vyhne 78.01 319 *e*P **P** **03 30 27.6 +0.2**
SRO Srobarova 78.25 318 *e*P **P** **03 30 29.6 +0.8**
OKC Ostrava-Krasne 78.66 320 *e*P **P** **03 30 31.2 +0.2**
SMOL Smolenice 78.94 319 *e*P **P** **03 30 32.9 +0.4**
MORC Moravsky Berou 79.04 320 *e*P **P** **03 30 33.3 +0.2**
MORC pmax pmax
comp=Z,19nm,1.4s,mb4.8
MORC Moravsky Berou 79.04 320 *e*P **P** **03 30 33.3 +0.2**
comp=Z,19nm,1.4s,mb4.8
ZST Bratislava 79.11 318 *e*P **P** **03 30 34.2 +0.7**
KEV Kevo 79.39 341 *e*p **P** **03 30 32.4 -2.2**
comp=Z,16nm,0.9s,mb4.9
KEV Kevo 79.39 341 *e*P **P** **03 30 32.4 -2.2**
KEV pmax pmax
comp=Z,16nm,0.9s,mb5.0
GKP Gorka Klasztor 79.75 324 *e*P **P** **03 30 36.7 -0.1**
ARCES ARCESS Array B 79.81 341 P **P** **03 30 37.2 +0.3**
comp=Z,13nm,0.9s,mb4.9,baz=101,slow=6.2,SNR=13
ARCES ARCESS Array B 79.81 341 P **P** **03 30 37.2 +0.3**
DPC Dobruska-Polom 79.90 321 *e*P **P** **03 30 38.5 +0.8**
DPC *e*pP pP 03 30 45.9 +0.1
KSP Ksiaz 79.98 321 *e*P **P** **03 30 38.8 +0.6**
KSP *e**PP pP 03 30 45.6 -0.6
KSP Ksiaz 79.98 321 *e*P **P** **03 30 39.1 +0.9**
KSP *e* pP 03 30 46.3 +0.1
ARSA Arzberg 80.05 317⇓*i*P **P** **03 30 39.0 +0.4**
comp=Z,57nm,1.6s,mb5.2
BOJS Bojanci 80.05 316 *e*P **P** **03 30 39.1 +0.4**
UPC Upice 80.12 321 *e*P **P** **03 30 39.9 +1.0**
UPC *e*pP pP 03 30 48.6 +1.6
PERS Pernice 80.26 317 *e*P **P** **03 30 40.1 +0.4**
BILL Bilibino 80.61 21 *i* P **P** **03 30 40.3 -0.8**
LJU Ljubljana 80.61 316 *e*P **P** **03 30 42.0 +0.5**
MOA Molln 80.96 318⇑*i*P **P** **03 30 43.3 -0.1**
comp=Z,12nm,1.2s,mb4.7
PRU Pruhonice 81.00 320 *e*P **P** **03 30 44.2 +0.7**
PRU *e*pP pP 03 30 51.8 +0.2
FX1 Attu Island--F 81.02 37 LR LR 04 08 46.5
comp=Z,9.0nm,21.5s,baz=80,slow=37
PVCC Panska Ves 81.03 321 *e*P **P** **03 30 44.3 +0.6**
PVCC *e*pP pP 03 30 51.8 0.0
GEC2 GERESS Array S 81.43 319 *e*P **P** **03 30 46.3 +0.5**
GEC2 pmax pmax
comp=Z,24nm,1.0s,mb5.1
GEC2 GERESS Array S 81.43 319 *e*P **P** **03 30 46.3 +0.5**
comp=Z,24nm,1.0s,mb5.1
GERES GERESS Array B 81.43 319 P **P** **03 30 46.3 +0.5**
comp=Z,11nm,0.8s,mb4.9,baz=104,slow=5.5,SNR=110
BRG Berggiesshubel 81.47 321 *e*P **P** **03 30 46.5 +0.5**
BRG *e* pP 03 30 55.5 +1.4
BRG pmax pmax
comp=Z,14nm,1.4s,mb4.7
BRG Berggiesshubel 81.47 321 *e*P **P** **03 30 46.5 +0.5**
comp=Z,14nm,1.4s,mb4.7
BRG *e* pP 03 30 55.5 +1.4
KHC Kasperske Hory 81.53 319 *e*P **P** **03 30 46.4 0.0**
KHC *e*pP pP 03 30 54.3 -0.2
CLL Collm 82.10 321 *i* P **P** **03 30 49.2 0.0**
CLL *i* pP 03 30 56.3 -1.1
CLL pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
CLL Collm 82.10 321 *i* P **P** **03 30 49.2 0.0**
comp=Z,9.0nm,1.1s,mb4.6
CLL *i* pP 03 30 56.3 -1.1
CLL Collm 82.10 321 P **P** **03 30 49.2 0.0**
comp=Z,logA/T=0.9,mb4.6
CLL *i* *PP pP 03 30 56.3 -1.1
NKC Novy Kostel 82.36 320 *e*P **P** **03 30 51.5 +0.9**
NKC *e*pP pP 03 30 59.6 +0.9
RPZ Rata Peaks 82.67 135 P **P** **03 30 53.2 +0.9**
comp=Z,19nm,0.7s,mb5.2,baz=208,slow=3.6,SNR=8.5
WTTA Wattenberg 82.69 317⇑*i*P **P** **03 30 52.2 -0.2**
comp=Z,12nm,1.0s,mb4.9
WTTA Wattenberg 82.69 317⇑*i*P **P** **03 30 52.2 -0.2**
WTTA pmax pmax
comp=Z,12nm,1.0s,mb4.9
WATA Walderalm 82.73 317⇑*i*P **P** **03 30 52.1 -0.5**
comp=Z,5.9nm,0.9s,mb4.6
WATA Walderalm 82.73 317⇑*i*P **P** **03 30 52.1 -0.5**
WATA pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
MOX Moxa 82.92 321 *e*P **P** **03 30 53.8 +0.3**
MOX pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MOX Moxa 82.92 321 *e*P **P** **03 30 53.8 +0.3**
comp=Z,6.0nm,0.8s,mb4.7
MOX Moxa 82.92 321 *i* P **P** **03 30 53.7 +0.2**
comp=Z,logA/T=1.1,mb4.9
SQTA Sankt Quirin 82.98 317⇑*i*P **P** **03 30 53.7 -0.2**
comp=Z,7.2nm,0.8s,mb4.8
SQTA Sankt Quirin 82.98 317⇑*i*P **P** **03 30 53.7 -0.2**
SQTA pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MOTA Moosalm 83.06 317⇑*i*P **P** **03 30 53.0 -1.3**
GRA1 Grafenberg Arr 83.11 320 *e*P **P** **03 30 55.2 +0.7**
comp=Z,14nm,1.1s,mb4.9
GRA1 *e*pP pP 03 31 03.0 +0.3
GRF Grafenberg Arr 83.11 320 *e*P **P** **03 30 55.2 +0.7**
GRF *e**PP pP 03 31 03.0 +0.3
GRF pmax pmax
comp=Z,14nm,1.1s,mb4.9
GRF Grafenberg Arr 83.11 320 *e*P **P** **03 30 55.2 +0.7**
GRF *e**PP pP 03 31 03.0 +0.3
GRF pmax pmax
comp=Z,14nm,1.1s,mb4.9
GRF Grafenberg Arr 83.11 320 *e*P **P** **03 30 55.2 +0.7**
comp=Z,14nm,1.1s,mb4.9
GRF *e*pP pP 03 31 03.0 +0.3
CLZ Clausthal 83.77 322 *e*P **P** **03 30 58.1 +0.2**
comp=Z,11nm,1.0s,mb4.9
DAVA Damuels 83.88 317⇑*i*P **P** **03 30 58.9 +0.4**
comp=Z,17nm,1.1s,mb5.1
BSEG Bad Segeberg 83.92 324 *e*P **P** **03 30 58.8 +0.2**
NB2 NORSAR Subarra 83.94 331 P **P** **03 30 58.0 -0.5**
comp=Z,9.9nm,0.9s,mb4.9,baz=97,slow=5.3
NB2 NORSAR Subarra 83.94 331 P **P** **03 30 58.0 -0.5**
NB2 pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
NOA NORSAR Array B 83.94 331 P **P** **03 30 58.0 -0.5**
comp=Z,5.5nm,0.8s,mb4.7,baz=95,slow=5.5,SNR=30
NOA pP pP 03 31 06.0 -0.7
comp=Z,2.0nm,0.8s,baz=96,slow=5.3,SNR=5.2
NOA PP PP 03 34 16.6 +2.7
comp=Z,0.7nm,0.8s,baz=87,slow=7.2,SNR=3.3
NOA NORSAR Array B 83.94 331 P **P** **03 30 58.0 -0.5**
NOA pP pP 03 31 06.0 -0.7
NOA PP PP 03 34 16.6 +2.7
NAO01 NORSAR Array S 84.08 331 *e*P **P** **03 30 58.6 -0.6**
comp=Z,4.5nm,0.8s,mb4.7

KONO Kongsberg 84.64 329 *eP* **P 03 31 01.9 -0.1**
KONO pmax pmax
comp=Z,17nm,1.1s,mb5.1
KONO Kongsberg 84.64 329 *eP* **P 03 31 01.9 -0.2**
comp=Z,17nm,1.1s,mb5.1
TNS Taunus Mts 84.92 320 *eP* **P 03 31 04.2 +0.5**
BFO Black Forest 84.96 318 *eP* **P 03 31 03.8 -0.1**
BFO pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
BFO Black Forest 84.96 318 *eP* **P 03 31 03.8 -0.1**
comp=Z,7.0nm,0.9s,mb4.8
LPG La Plagne 86.02 315⇑*iP* **P 03 31 09.8 +0.5**
comp=Z,17nm,0.9s,mb5.0
LPG La Plagne 86.02 315⇑*iP* **P 03 31 09.8 +0.5**
LPG pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
URZ Urewera 86.35 128 P **P 03 31 10.7 -0.4**
comp=Z,14nm,0.9s,mb5.2,baz=66,slow=6.9,SNR=4.2
VNDA Vanda 88.19 168 P **P 03 31 20.0 +0.9**
comp=Z,14nm,0.9s,mb4.2,baz=281,slow=5.3,SNR=6.9
ESDC Sonseca Array 94.31 310 P **P 03 31 50.1 +1.8**
comp=Z,0.8nm,0.7s,mb4.3,baz=64,slow=4.9,SNR=6.1
ILAR Eielson Array 99.24 22 P **P 03 32 10.3 +0.2**
comp=Z,0.4nm,0.9s,mb4.0,baz=280,slow=5.5,SNR=4.3
ILAR PP PP 03 36 08.0 -7.3
comp=Z,0.9nm,1.0s,baz=288,slow=8.2,SNR=4.9
RES Resolute Bay 102.24 2 *eP* Pdif 03 32 24.3 +0.9
RES pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 102.24 2 *e*Pdif Pdif 03 32 24.3 +0.8
comp=Z,3.3nm,0.8s
YKA Yellowknife Ar 111.14 14 PP PP 03 37 35.7 -8.7
comp=Z,0.4nm,0.7s,baz=333,slow=7.2,SNR=6.5
NVAR Mina Array Bea 129.05 33 PKP PKPdf 03 37 38.5 -2.1
comp=Z,1.6nm,0.8s,baz=316,slow=0.8,SNR=11
MNV Mina 129.13 33 *e*PKIKP PKPdf 03 37 38.9 -1.9
PDAR Pinedale Array 129.68 23 PKP PKPdf 03 37 39.2 -2.4
comp=Z,1.5nm,0.9s,slow=1.5,SNR=12
PDAR PP PP 03 39 48.5 -3.5
comp=Z,0.4nm,0.8s,baz=247,slow=6.9,SNR=3.2
MSU Marysvale 132.09 28 *e*PKIKP PKPdf 03 37 45.0 -1.4
PV10 Paradox Valley 133.60 25 *e*PKPdf PKPdf 03 37 46.3 -2.9
PLCA Paso Flores 139.96 198 PKhKP 03 37 52.6
comp=Z,1.8nm,1.0s,baz=186,slow=9.6,SNR=3.0
BDFB Brasilia 140.65 249 PKP PKPdf 03 38 00.4 -2.4
comp=Z,1.3nm,0.6s,baz=202,slow=5.4,SNR=3.3
TXAR Lajitas Array 143.62 27 PKP PKPdf 03 38 03.0 -4.5
comp=Z,1.4nm,0.7s,baz=241,slow=1.6,SNR=19
CPUP Villa Florida 144.10 227 PKP PKPdf 03 38 03.4 -5.0
comp=Z,7.4nm,0.8s,baz=122,slow=3.7,SNR=16
CPUP pPKP 03 38 10.9
comp=Z,7.6nm,0.9s,baz=124,slow=4.6,SNR=7.1
CPUP Villa Florida 144.10 227 *e*PKP PKPdf 03 38 03.2 -5.2
CPUP *e* 03 38 10.2
JCT Junction City 144.16 21 *e*PKIKP PKPdf 03 38 03.6 -4.8
SAML Samuel 156.66 254 *e*PKPab PKPab 03 38 54.4 -0.5
SAML *e* 03 39 01.7
LPAZ La Paz 158.10 232 PKP PKPdf 03 38 26.8 -2.9
comp=Z,0.9nm,0.7s,baz=128,slow=2.6,SNR=5.0
LPAZ pPKP 03 38 35.6
comp=Z,1.0nm,0.7s,baz=273,slow=4.9,SNR=3.8
LPAZ PKPab PKPab 03 39 00.3 -0.7
comp=Z,2.2nm,0.8s,baz=130,slow=4.0,SNR=7.9
LPAZ La Paz 158.10 232 *e*PKP PKPdf 03 38 26.9 -2.7
LPAZ *e* 03 38 34.4
ROSC El Rosal 166.05 304 PKP PKPdf 03 38 35.6 -2.3
comp=Z,1.2nm,0.3s,baz=106,slow=19,SNR=4.4

*NNC **25** 03:20:31.4±26.0, 47.41N×89.39E, h4km±90km, mpv2.9, Error ellipse: s-maj=200.6km s-min=163.1km az=85.0*
BJI 25 03:20:29.4, 47.71N×89.59E, h25km, ML3.2, 3C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**4.11**	**200**		PG	Pn	03 21 43.4	+11
WMQ					SG	Sn	03 22 33.0	+13
WMQ					Smax			
	comp=N,26nm,0.8s							
WMQ					Smax			
	comp=E,32nm,0.8s							
MK31	**Makanchi Array**	**5.05**	**262**	⇑Pn		Pn	03 21 48.4	+2.7
	comp=E,0.7nm,0.3s,baz=87,slow=15							
MK31				⇑Pg		Pn	03 22 00.5	+15
	baz=83,slow=20							
MK31				⇑Lg			03 23 04.7	
	comp=E,19nm,0.7s,baz=77,slow=32							

*IDC **25** 03:24:58.0±0.5, 0.28N×97.24E, mb4.2/20, mb1 4.3/21, mb1mx4.3/23, mbtmp4.2/21, ML4.6/1, MS4.3/5, Ms1 4.3/5, ms1mx4.0/33, Error ellipse: s-maj=17.8km s-min=13.2km az=55.0*
*BJI **25** 03:25:00.3, 0.30N×97.30E, h16km, mB5.2, mb4.8, Ms5.2, Msz4.9*
*NEIC **25** 03:25:00.4±5.8, 0.29N×97.27E, h16km±35km, mb4.6/4, Error ellipse: s-maj=13.0km s-min=7.4km az=56.0*
ISC 25 03:24:58.8±3.2, **0.34N**±0.07×**97.30E**±0.08, **h16**km±22km, **n40**, σ0°**78**/34, **mb4.2**/24, **MS4.5**/5, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.95**	**34**	*eP*		**Pn**	**03 26 28.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**18.08**	**5**	P		**P**	**03 29 10.4**	**-0.8**
	0.7nm,0.3s,baz=196,slow=12,SNR=15							
CMAR					LR	LR	03 35 32.8	
	comp=Z,645nm,19.1s,baz=180,slow=35							
KKM	**Kota Kinabalu**	**19.71**	**73**	*eP*		**P**	**03 29 30.6**	**0.0**
SHL	**Shillong**	**25.62**	**349**	*eP*		**P**	**03 30 30.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**33.35**	**125**	*eP*		**P**	**03 31 37.4**	**-1.2**
	6.4nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**33.35**	**125**	P		**P**	**03 31 38.0**	**-0.6**
	4.6nm,0.7s,mb4.5,baz=273,slow=3.9,SNR=5.0							
FITZ					LR	LR	03 46 22.7	
	comp=Z,641nm,19.0s,MS4.4,baz=336,slow=38							
JOW	**Kunigami**	**39.76**	**46**	P		**P**	**03 32 32.8**	**+0.1**
	4.8nm,0.5s,mb4.5,baz=263,slow=17,SNR=2.9							
WRA	**Warramunga Arr**	**41.50**	**121**	P		**P**	**03 32 47.2**	**+0.2**
	2.1nm,0.6s,mb3.9,baz=300,slow=9.8,SNR=17							
WRAB	**Tennant Creek**	**41.50**	**121**	*eP*		**P**	**03 32 47.0**	**-0.3**
	9.6nm,0.8s,mb4.5							
WB2	**Warramunga Arr**	**41.51**	**121**	*eP*		**P**	**03 32 47.3**	**0.0**
HHC	**Hu-ho-hao-te**	**42.35**	**16**	*eP*		**P**	**03 32 53.3**	**-0.6**
HHC					AP	pP	03 33 03.9	+5.2
HHC					XP	sP	03 33 07.3	+6.6
HHC					PP	PP	03 34 37.0	+1.9
HHC					PCP	PcP	03 34 51.3	+3.3
HHC					SCP		03 38 33.5	
HHC					PCS		03 38 38.3	
HHC					S	**S**	**03 39 13.0**	**-1.1**
HHC					XS		03 39 27.5	
HHC					AMB	AMB		
	comp=Z,13nm,1.2s,mb4.4							
HHC					LR	LR		
	comp=N,538nm,15.2s,MS4.7							
HHC					LR	LR		
	comp=E,454nm,13.7s,MS4.7							
HHC					LR	LR		
	comp=Z,684nm,14.6s,MS4.7							
ASAR	**Alice Springs**	**42.80**	**126**	P		**P**	**03 32 58.1**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.0,baz=298,slow=7.4,SNR=14							
WMQ	**Urumqi**	**44.13**	**350**	P		**P**	**03 33 07.3**	**-1.1**
WMQ					AP	pP	03 33 17.3	+4.1
WMQ					XP	sP	03 33 21.3	+6.1
WMQ					PP	PP	03 34 51.3	-1.6
WMQ					AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.8							
SONM	**Songino Array**	**47.96**	**8**	P		**P**	**03 33 39.8**	**+1.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=191,slow=8.6,SNR=7.4							
ULN	**Ulaanbaatar**	**48.09**	**9**	*eP*		**P**	**03 33 40.4**	**+0.7**
	comp=Z,3.1nm,0.9s,mb4.3							
MKAR	**Makanchi Array**	**48.10**	**346**	P		**P**	**03 33 40.7**	**+0.9**
	comp=Z,3.6nm,0.6s,mb4.6,baz=155,slow=7.6,SNR=27							
MKAR	**Makanchi Array**	**48.10**	**346**	P		**P**	**03 33 40.7**	**+0.9**
MJAR	**Matsushiro Arr**	**52.26**	**42**	P		**P**	**03 34 12.6**	**+0.9**
	comp=Z,0.6nm,0.4s,mb3.9,baz=237,slow=9.6,SNR=3.1							
STKA	**Stephens Creek**	**52.71**	**132**	*eP*		**P**	**03 34 14.5**	**-0.6**
	comp=Z,4.9nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**52.71**	**132**	P		**P**	**03 34 14.7**	**-0.4**
	comp=Z,6.7nm,0.6s,mb4.7,baz=315,slow=7.6,SNR=13							
STKA					LR	LR	03 56 08.6	
	comp=Z,370nm,19.3s,MS4.4,baz=111,slow=36							
ZAL	**Zalesovo**	**54.41**	**351**	P		**P**	**03 34 27.6**	**+0.3**
	comp=Z,1.6nm,0.5s,mb4.2,baz=333,slow=6.1,SNR=7.2							
BVAR	**Borovoye Array**	**57.09**	**341**	P		**P**	**03 34 46.2**	**-0.6**
	comp=Z,1.2nm,0.7s,mb4.1,baz=127,slow=7.2,SNR=5.6							
KMBO	**Kilima Mbogo**	**60.06**	**269**	P		**P**	**03 35 07.2**	**-0.7**
	comp=Z,1.3nm,0.9s,mb4.0,baz=60,slow=9.2,SNR=4.7							
BRTR	**Keskin Array B**	**69.77**	**313**	P		**P**	**03 36 09.9**	**-0.6**
	comp=Z,1.3nm,0.8s,mb3.9,baz=134,slow=7.9,SNR=7.0							
MATP	**Matopo**	**70.30**	**248**	P		**P**	**03 36 14.2**	**+0.2**
	comp=Z,4.1nm,0.7s,mb4.5,baz=74,slow=7.7,SNR=9.6							
DZM	**Mont Dzumac**	**70.85**	**113**	LR		LR	04 11 21.2	
	comp=Z,192nm,18.4s,MS4.4,baz=226,slow=39							
LBTB	**Lobatse**	**73.60**	**244**	LR		LR	04 01 58.4	
	comp=Z,203nm,21.7s,MS4.4,baz=107,slow=30							
BOSA	**Boshof**	**74.44**	**240**	P		**P**	**03 36 38.3**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.3,baz=90,slow=5.3,SNR=6.5							
AKASG	**Malin Array Be**	**76.00**	**323**	P		**P**	**03 36 45.2**	**-1.7**
	comp=Z,1.7nm,0.6s,mb4.2,baz=86,slow=4.5,SNR=10							
FINES	**FINESS Array B**	**80.81**	**333**	P		**P**	**03 37 13.6**	**+0.6**
	comp=Z,1.1nm,0.6s,mb4.0,baz=90,slow=5.7,SNR=9.4							
ARCES	**ARCESS Array B**	**83.38**	**340**	P		**P**	**03 37 27.2**	**+0.9**
	comp=Z,5.4nm,1.0s,mb4.5,baz=90,slow=2.4,SNR=5.4							
VNDA	**Vanda**	**84.97**	**169**	P		**P**	**03 37 34.8**	**+0.7**
	comp=Z,0.6nm,0.7s,mb3.9,baz=297,slow=7.8,SNR=3.1							
GERES	**GERESS Array B**	**85.53**	**319**	P		**P**	**03 37 39.0**	**+1.6**
	comp=Z,1.5nm,1.1s,mb4.2,baz=100,slow=8.1,SNR=6.6							
NB2	**NORSAR Subarra**	**87.80**	**331**	P		**P**	**03 37 46.1**	**-2.2**
	comp=Z,4.8nm,1.7s,mb4.5,baz=97,slow=4.6							
NOA	**NORSAR Array B**	**87.80**	**331**	P		**P**	**03 37 48.8**	**+0.5**
	comp=Z,0.4nm,0.9s,mb3.7,baz=43,slow=24,SNR=2.9							
TXAR	**Lajitas Array**	**144.34**	**32**	PKP		PKPdf	03 44 35.8	-2.8
	comp=Z,0.7nm,0.5s,baz=230,slow=0.5,SNR=19							
CPCT	**Cooper Cave**	**144.36**	**3**	*e*PKP		PKPdf	03 44 34.3	-4.2
CPUP	**Villa Florida**	**144.44**	**221**	PKP		PKPdf	03 44 35.8	-3.1
	comp=Z,7.9nm,0.7s,baz=147,slow=5.6,SNR=23							
JCT	**Junction City**	**145.30**	**26**	*e*PKP		PKPdf	03 44 38.0	-2.3
LVC	**Limon Verde**	**154.11**	**210**	PKPab		PKPab	03 45 14.1	-0.6
	comp=Z,0.7nm,0.6s,baz=158,slow=3.4,SNR=3.6							

MAN 25 03:37:22.9, 12.97N×122.89E, h28km, mb4.0, ML2.8, MS2.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.41**	**329**	*eP*		Pb	03 37 32.5	+0.8
AUQP				*eS*		Sb	03 37 45.0	+7.2
MMPH	**Masbate**	**0.94**	**130**	*eP*		Pn	03 37 45.0	+4.7
GQP	**Guinayangan**	**1.03**	**335**⇓	*eP*		Pn	03 37 42.2	+0.7
GQP				*eS*		Sb	03 37 54.7	-0.4
OTRP	**Odiongan**	**1.04**	**235**	*eP*		Pn	03 37 40.6	-1.1
BOAC	**Boac**	**1.13**	**296**	*eP*		Pn	03 37 43.1	+0.1
PVCP	**Virac**	**1.38**	**63**	*eP*		Pn	03 37 45.5	-1.1
CNP	**Cataraman**	**1.79**	**105**	*eP*		Pn	03 37 52.7	+0.3

*IDC **25** 03:37:55.9±0.7, 0.27N×97.26E, h34km±5km, mb3.8/14, mb1 4.0/15, mb1mx3.9/21, mbtmp4.1/15, ML4.2/1, Error ellipse: s-maj=24.7km s-min=12.2km az=58.0*
*NEIC **25** 03:37:55.6±0.3, 0.31N×97.30E, mb4.3/3, Error ellipse: s-maj=9.0km s-min=6.6km az=67.0*
ISC 25 03:37:53.9±0.5, **0.34N**±0.07×**97.34E**±0.09, **h32**km, **h32**km±.6km:**pP-P, n26**, σ0°**53**/23, **mb4.0**/16, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.92**	**34**	*eP*		**Pn**	**03 39 21.2**	**-0.6**
KULM				*e*			03 39 30.6	
CM31	**Chiang Mai Arr**	**18.07**	**5**	*eP*		**P**	**03 42 05.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**18.07**	**5**	P		**P**	**03 42 04.3**	**-0.3**
	0.3nm,0.3s,baz=194,slow=10.0,SNR=20							
KKM	**Kota Kinabalu**	**19.67**	**73**	*eP*		**P**	**03 42 23.1**	**-0.3**
SHL	**Shillong**	**25.62**	**349**	*eP*		**P**	**03 43 23.0**	**+0.5**
WRA	**Warramunga Arr**	**41.47**	**121**	P		**P**	**03 45 39.6**	**-0.2**
	0.9nm,0.6s,mb3.6,baz=302,slow=8.9,SNR=6.5							
WRA					pP	pP	03 45 48.7	-0.7
	3.1nm,0.8s,baz=301,slow=9.0,SNR=10							
WRAB	**Tennant Creek**	**41.47**	**121**	*eP*		**P**	**03 45 39.9**	**+0.1**
	8.5nm,1.0s,mb4.3							
WB2	**Warramunga Arr**	**41.48**	**121**	*eP*		**P**	**03 45 39.8**	**0.0**
ASAR	**Alice Springs**	**42.77**	**126**	P		**P**	**03 45 51.1**	**+0.5**
	0.7nm,0.7s,mb3.5,baz=295,slow=7.8,SNR=6.6							
ASAR					pP	pP	03 46 01.2	+1.0
	1.6nm,0.8s,baz=309,slow=8.0,SNR=9.5							
SONM	**Songino Array**	**47.95**	**8**	P		**P**	**03 46 32.5**	**+1.0**
	1.1nm,0.7s,mb4.0,baz=188,slow=8.7,SNR=10.0							
SONM					pP	pP	03 46 41.8	+0.5
	2.2nm,0.9s,baz=190,slow=8.5,SNR=8.8							
ULN	**Ulaanbaatar**	**48.08**	**9**	*eP*		**P**	**03 46 31.6**	**-1.0**
	1.6nm,0.5s,mb4.3							
MKAR	**Makanchi Array**	**48.10**	**346**	P		**P**	**03 46 33.3**	**+0.6**
	1.9nm,0.6s,mb4.3,baz=157,slow=7.8,SNR=24							
MKAR					pP	pP	03 46 43.2	+0.8
	2.4nm,0.5s,baz=160,slow=7.8,SNR=11							
STKA	**Stephens Creek**	**52.68**	**132**	*eP*		**P**	**03 47 07.8**	**0.0**
	2.3nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**52.68**	**132**	P		**P**	**03 47 07.9**	**+0.1**
	1.5nm,0.7s,mb4.0,baz=298,slow=5.3,SNR=8.0							
STKA					pP	pP	03 47 18.0	+0.3
	1.9nm,0.7s,baz=314,slow=7.3,SNR=2.7							
ZAL	**Zalesovo**	**54.41**	**351**	P		**P**	**03 47 20.1**	**-0.1**
	1.5nm,0.4s,mb4.3,baz=341,slow=3.8,SNR=4.3							
BRTR	**Keskin Array B**	**69.79**	**313**	P		**P**	**03 49 02.3**	**-1.2**
	0.6nm,0.6s,mb3.7,baz=132,slow=6.4,SNR=3.3							
MATP	**Matopo**	**70.34**	**248**	P		**P**	**03 49 07.0**	**0.0**
	1.4nm,0.8s,mb4.0,baz=60,slow=3.0,SNR=4.5							
BOSA	**Boshof**	**74.48**	**240**	P		**P**	**03 49 31.2**	**-0.3**
	1.1nm,0.6s,mb4.0,baz=112,slow=11,SNR=2.9							
AKASG	**Malin Array Be**	**76.02**	**323**	P		**P**	**03 49 39.3**	**-0.5**
	0.2nm,0.3s,mb3.5,baz=90,slow=1.9,SNR=6.0							
RPZ	**Rata Peaks**	**78.50**	**135**	P		**P**	**03 49 53.8**	**+0.1**
	2.9nm,0.3s,mb4.7,baz=284,slow=4.2,SNR=4.7							
FINES	**FINESS Array B**	**80.82**	**333**	P		**P**	**03 50 06.0**	**+0.1**
	0.8nm,0.8s,mb3.7,baz=117,slow=8.5,SNR=7.0							
ARCES	**ARCESS Array B**	**83.39**	**340**	P		**P**	**03 50 20.0**	**+0.9**
	2.8nm,0.9s,mb4.3,baz=90,slow=5.4,SNR=3.5							
GERES	**GERESS Array B**	**85.55**	**319**	P		**P**	**03 50 30.5**	**+0.2**
	0.4nm,0.7s,mb3.8,baz=153,slow=2.2,SNR=5.8							
TXAR	**Lajitas Array**	**144.31**	**32**	PKP		PKPdf	03 57 28.8	-4.0
	0.3nm,0.5s,baz=216,slow=0.9,SNR=8.7							
CPUP	**Villa Florida**	**144.47**	**221**	PKP		PKPdf	03 57 28.3	-4.8
	3.4nm,0.7s,baz=122,slow=5.5,SNR=10.0							
JCT	**Junction City**	**145.28**	**27**	*e*PKP		PKPdf	03 57 31.2	-3.3

*CASC **25** 03:41:52.3±1.1, 13.36N×91.99W, h34km±891km, MD4.3, mb3.6(NEIC)*
*IDC **25** 03:41:55.6±4.5, 13.48N×92.25W, h67km±47km, mb3.3/4, mb1 3.6/6, mb1mx3.4/21, mbtmp3.6/6, ML3.3/1, Error ellipse: s-maj=49.7km s-min=28.3km az=65.0*
*NEIC **25** 03:41:58.6±2.5, 14.06N×91.80W, h75km±26km, mb3.6/1, Error ellipse: s-maj=39.3km s-min=15.1km az=57.0*
*MEX **25** 03:41:59.5±0.4, 13.67N×93.07W, h20km±58km, MD4.3*
ISC 25 03:41:49.8±1.3, **13.42N**±0.09×**92.13W**±0.05, **h40**km±14km, **n25**, σ0°**95**/36, **mb3.9**/6, **3C-2D, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**2.46**	**79**⇑	*eP*		**P**	**03 42 29.0**	**+0.7**
RTR				*eS*		**S**	**03 42 57.7**	**+0.3**
RBDL	**Robledal**	**2.47**	**74**⇓	*eP*		**P**	**03 42 29.0**	**+0.5**
RBDL				*eS*		**S**	**03 42 58.0**	**+0.3**
SBLS	**San Blas**	**2.47**	**80**	*eP*		**P**	**03 42 28.8**	**+0.3**
SBLS				*eS*		**S**	**03 42 57.8**	**+0.2**
SNJE	**San Jose**	**2.49**	**79**	*eP*		**P**	**03 42 29.3**	**+0.5**
SNJE				*eS*		**S**	**03 42 57.9**	**-0.4**
BOQS	**Boqueron**	**2.79**	**83**⇑	*eP*		**P**	**03 42 33.9**	**+0.8**
BOQS				*eS*		**S**	**03 43 06.4**	**+0.7**
CCIG	**Comitan**	**2.84**	**360**⇓	*iP*		**P**	**03 42 40.4**	**+6.6**
CCIG				*i* S		**S**	**03 43 12.1**	**+4.9**
LFRS	**El Faro**	**2.99**	**86**	*eP*		**P**	**03 42 36.3**	**+0.4**
LFRS				*eS*		**S**	**03 43 10.2**	**-0.6**
LCBS	**La Ceiba**	**3.07**	**85**⇑	*eP*		**P**	**03 42 37.6**	**+0.6**
LCBS				*eS*		**S**	**03 43 11.9**	**-1.0**
SNVI	**San Vicente**	**3.20**	**86**	*eP*		**P**	**03 42 38.4**	**-0.6**
SNVI				*eS*		**S**	**03 43 14.7**	**-1.6**
SCX	**San Cristobal**	**3.33**	**352**	*iP*		**P**	**03 42 44.5**	**+3.8**
SCX				*i* S		**S**	**03 43 20.0**	**+0.5**
CMIG	**Matias Romero**	**4.51**	**324**	*iP*		**P**	**03 42 55.0**	**-2.5**
CMIG				*i* S		**S**	**03 43 39.9**	**-10**
OXX	**Oaxaca**	**5.74**	**310**	*eP*		**P**	**03 43 10.5**	**-4.1**
OXX				*i* S		**S**	**03 44 05.0**	**-15**
JTS	**JuntasAbangare**	**7.68**	**113**	P		**P**	**03 43 46.8**	**+4.9**
	0.4nm,0.3s,baz=300,slow=14,SNR=3.2							
JTS	**JuntasAbangare**	**7.68**	**113**	*eP*		**P**	**03 43 47.7**	**+5.9**
	10nm,0.8s							
TEIG	**Tepich**	**7.71**	**28**	*eP*		**P**	**03 43 38.4**	**-3.8**
	8.4nm,0.6s							
TXAR	**Lajitas Array**	**19.11**	**328**	P		**P**	**03 46 12.8**	**+0.7**
	baz=159,slow=11,SNR=6.3							
MNTX	**Cornudas Mount**	**21.89**	**328**	*eP*		**P**	**03 46 40.9**	**-0.2**
	2.1nm,0.8s,mb3.6							
ANMO	**Albuquerque**	**25.05**	**331**	P		**P**	**03 47 14.1**	**+2.1**
	1.2nm,0.7s,mb3.5,baz=152,slow=13,SNR=6.6							
ANMO	**Albuquerque**	**25.05**	**331**	*eP*		**P**	**03 47 13.7**	**+1.7**
NVAR	**Mina Array Bea**	**34.04**	**322**	P		**P**	**03 48 32.4**	**+0.1**
	0.8nm,0.8s,mb3.7,baz=135,slow=8.9,SNR=3.7							
YKA	**Yellowknife Ar**	**51.56**	**347**	P		**P**	**03 50 52.2**	**-1.5**
	0.3nm,0.6s,mb3.4,baz=150,slow=7.4,SNR=16							
YKA	**Yellowknife Ar**	**51.56**	**347**	P		**P**	**03 50 52.2**	**-1.5**
ILAR	**Eielson Array**	**63.32**	**337**	P		**P**	**03 52 17.1**	**+0.3**
	0.9nm,1.0s,mb3.9,baz=122,slow=3.3,SNR=8.2							
RAR	**Rarotonga**	**74.79**	**243**	P		**P**	**03 53 28.1**	**-0.1**
	49nm,1.1s,mb5.3,baz=53,slow=8.2,SNR=3.3							
CMAR	**Chiang Mai Arr**	**146.50**	**341**	PKPbc		PKPbc	04 01 30.9	+3.3
	0.8nm,0.4s,baz=332,slow=4.0,SNR=5.0							

*NEIC **25** 03:50:37.7±0.4, 6.72S×156.20E, mb4.3/11, Error ellipse: s-maj=12.3km s-min=8.2km az=116.0*
*IDC **25** 03:50:38.4±0.8, 6.76S×156.22E, h169km±6km, mb4.0/14, mb1 4.1/16, mb1mx4.0/20, mbtmp4.4/16, Error ellipse: s-maj=17.8km s-min=11.7km az=95.0*
ISC 25 03:50:36.3±0.4, **6.79S**±0.07×**156.18E**±0.09, **h164**km, **h164**km±2.2km:**pP-P, n46**, σ0°**71**/43, **mb4.3**/28, **3D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.30**	**253**	P		**P**	**03 52 53.2**	**+5.6**
PMG				S		**S**	**03 54 42.1**	**+12**
CTA	**Charters Tower**	**16.36**	**215**	*eP*		**P**	**03 54 21.1**	**+3.1**
	3.9nm,0.5s							
CTA	**Charters Tower**	**16.36**	**215**	P		**P**	**03 54 19.6**	**+1.5**
	0.5nm,0.3s,baz=41,slow=11,SNR=5.1							
CTAO	**Charters Tower**	**16.36**	**215**	*eP*		**P**	**03 54 21.1**	**+3.1**
	4.0nm,0.5s							
DZM	**Mont Dzumac**	**18.14**	**148**	P		**P**	**03 54 39.0**	**+0.2**
	1.1nm,0.3s,slow=10,SNR=8.1							
KAKA	**Kakadu**	**24.11**	**254**	*eP*		**P**	**03 55 39.3**	**+0.9**
	9.7nm,0.5s,mb4.6							
WRAB	**Tennant Creek**	**24.89**	**236**	*eP*		**P**	**03 55 45.8**	**+0.2**
	11nm,0.5s,mb4.6							
WB2	**Warramunga Arr**	**24.89**	**236**⇓	*iP*		**P**	**03 55 45.8**	**+0.1**
WRA	**Warramunga Arr**	**24.90**	**236**	P		**P**	**03 55 46.1**	**+0.3**
	7.5nm,0.4s,mb4.5,baz=60,slow=8.9,SNR=22							
WRA					pP		03 56 22.1	
	4.5nm,0.8s,baz=63,slow=9.6,SNR=4.0							
ASAR	**Alice Springs**	**27.19**	**230**	P		**P**	**03 56 06.0**	**-0.8**
	5.0nm,0.4s,mb4.5,baz=60,slow=9.4,SNR=94							
ASAR					PcP	PcP	03 59 22.1	-0.8
	0.5nm,0.6s,baz=66,slow=2.6,SNR=4.0							
ASPA	**Alice Springs**	**27.20**	**230**⇓	*iP*		**P**	**03 56 05.9**	**-0.9**
STKA	**Stephens Creek**	**28.43**	**207**	*eP*		**P**	**03 56 16.8**	**-1.1**
	1.5nm,0.5s,mb4.0							
STKA	**Stephens Creek**	**28.43**	**207**	P		**P**	**03 56 17.1**	**-0.8**
	1.5nm,0.5s,mb4.0,baz=38,slow=13,SNR=6.4							
STKA					PcP	PcP	03 59 25.2	-0.8
	1.0nm,0.5s,baz=317,slow=1.8,SNR=5.3							
FITZ	**Fitzroy Crossi**	**31.81**	**246**	*eP*		**P**	**03 56 46.8**	**-1.0**
	22nm,0.6s,mb5.0							
FORT	**Forrest**	**35.55**	**224**	*eP*		**P**	**03 57 19.2**	**-0.3**
	435nm,0.5s							
MBWA	**Marble Bar**	**38.02**	**244**	*eP*		**P**	**03 57 39.9**	**-0.5**
	16nm,0.9s,mb4.7							
RPZ	**Rata Peaks**	**39.03**	**163**	P		**P**	**03 57 48.8**	**+0.2**
	5.8nm,0.6s,mb4.4,baz=282,slow=9.3,SNR=5.1							
KLBR	**Kellerberrin**	**43.52**	**230**	*eP*		**P**	**03 58 24.4**	**-0.9**
	343nm,

s-maj=141.9km s-min=13.3km az=298.0

ISC 25 03:56:51.5±2.9, 13.35N±0.05×51.13E±0.06, h7km±19km, n47, σ1º32/44, mb4.3/22, MS4.3/4, 4C-4D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**4.50**	**27**	⇑P	**Pn**	**03 58 01.2**	**-0.5**
	SNR=19						
ABTO				⇓S	**Sn**	**03 58 52.3**	**-2.6**
RBK	**Rabkut**	**5.09**	**35**	⇓P	**Pn**	**03 58 10.3**	**+0.3**
	SNR=9.6						
RBK				⇑S	**Sn**	**03 59 08.9**	**-0.9**
WHFO	**Wadi Hawf**	**5.21**	**29**	⇑P	**Pn**	**03 58 11.4**	**-0.4**
	SNR=48						
BDHA	**Al Bayda'**	**5.44**	**277**	⇓*i*P	**Pn**	**03 58 12.8**	**-2.2**
BDHA				AMb	AMB	03 58 13.2	
	comp=Z,14nm,0.4s						
BDHA				*e*		03 58 13.9	
	baz=112,slow=16						
BDHA				*i* S	rx	04 00 40.7	
LBOS		**5.74**	**276**	⇓*i*P	**Pn**	**03 58 16.9**	**-2.4**
LBOS				AMb	AMB	03 58 17.4	
	comp=Z,12nm,0.4s						
LBOS				*i* S	rx	04 00 44.6	
MSEY	**Mahe Island**	**18.42**	**166**	*e*P	**P**	**04 01 09.5**	**+0.2**
	comp=Z,18nm,1.1s						
MSEY	**Mahe Island**	**18.42**	**166**	*e*P	**P**	**04 01 09.5**	**+0.3**
	comp=Z,18nm,1.1s						
KMBO	**Kilima Mbogo**	**19.90**	**225**	P	**P**	**04 01 24.5**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=43,slow=19,SNR=2.6						
KMBO				LR	LR	04 08 18.2	
	comp=Z,614nm,18.6s,baz=96,slow=35						
KMBO	**Kilima Mbogo**	**19.90**	**225**	P	**P**	**04 01 26.1**	**-0.6**
	comp=Z,4.1nm,1.1s						
KMBO	**Kilima Mbogo**	**19.90**	**225**	P	**P**	**04 01 26.0**	**-0.7**
	comp=Z,4.1nm,1.1s						
EIL	**Elat**	**22.10**	**320**	*e*P	**P**	**04 01 49.0**	**-0.1**
EIL	**Elat**	**22.10**	**320**	*e*P	**P**	**04 01 49.0**	**-0.1**
ASF	**Jabal al Asfar**	**22.83**	**327**	P	**P**	**04 01 59.1**	**+2.7**
	comp=Z,1.0nm,0.3s,mb3.7,baz=142,slow=12,SNR=2.4						
GNI	**Garni**	**27.28**	**349**	P	**P**	**04 02 40.4**	**+1.9**
	comp=Z,3.6nm,0.5s,mb4.2,baz=177,slow=18,SNR=3.2						
GNI				LR	LR	04 15 28.8	
	comp=Z,429nm,21.3s,MS4.0,baz=160,slow=41						
MALT	**Malatya**	**27.31**	**338**	P	**P**	**04 02 39.2**	**+0.4**
	comp=Z,6.6nm,1.2s,mb4.0						
MALT	**Malatya**	**27.31**	**338**	P	**P**	**04 02 39.2**	**+0.4**
	comp=Z,6.6nm,1.2s,mb4.0						
BRTR	**Keskin Array B**	**30.46**	**333**	P	**P**	**04 03 09.2**	**+2.2**
	comp=Z,1.0nm,0.7s,mb3.6,baz=162,slow=12,SNR=8.5						
BRTR	**Keskin Array B**	**30.46**	**333**	P	**P**	**04 03 09.2**	**+2.1**
KOLN	**Koldanda**	**33.49**	**60**	*e*P	**P**	**04 03 36.3**	**+2.5**
	comp=Z,22nm,1.2s,mb4.9						
GKN	**Gorkha**	**34.44**	**60**	*e*P	**P**	**04 03 38.3**	**-3.6**
KKN	**Kakani**	**34.91**	**60**	*e*P	**P**	**04 03 40.5**	**-5.5**
GUN	**Gumba**	**35.46**	**60**	*e*P	**P**	**04 03 41.4**	**-9.3**
	comp=Z,12nm,0.6s,mb5.0						
JIRN	**Jiri**	**35.65**	**61**	*e*P	**P**	**04 03 42.9**	**-9.4**
	comp=Z,12nm,0.7s,mb4.9						
MATP	**Matopo**	**40.27**	**214**	P	**P**	**04 04 31.2**	**+0.2**
	comp=Z,2.4nm,0.8s,mb4.0,baz=329,slow=5.9,SNR=2.7						
AKASG	**Malin Array Be**	**41.30**	**339**	P	**P**	**04 04 40.2**	**+1.1**
	comp=Z,1.3nm,0.7s,mb3.7,baz=147,slow=7.2,SNR=11						
AKASG	**Malin Array Be**	**41.30**	**339**	P	**P**	**04 04 40.2**	**+1.1**
MKAR	**Makanchi Array**	**42.36**	**32**	P	**P**	**04 04 49.5**	**+1.6**
	comp=Z,1.1nm,0.4s,mb3.8,baz=222,slow=8.9,SNR=13						
BVAR	**Borovoye Array**	**42.45**	**17**	P	**P**	**04 04 50.1**	**+1.5**
	comp=Z,1.1nm,0.7s,mb3.6,baz=193,slow=6.5,SNR=6.5						
WMQ	**Urumqi**	**43.60**	**39**	⇑P	**P**	**04 04 56.5**	**-1.6**
WMQ				AP	pP	04 05 01.0	+0.7
WMQ				XP	sP	04 05 03.5	+2.3
WMQ				PP	PP	04 06 39.5	-2.1
WMQ				PCP	PcP	04 06 45.9	-0.3
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,148nm,4.3s						
CMAR	**Chiang Mai Arr**	**46.16**	**77**	P	**P**	**04 05 19.6**	**+0.7**
	comp=Z,6.6nm,0.9s,mb4.6,baz=276,slow=8.8,SNR=28						
BOSA	**Boshof**	**48.65**	**211**	LR	LR	04 28 06.6	
	comp=Z,184nm,18.3s,MS4.1,baz=358,slow=39						
FINES	**FINESS Array B**	**51.33**	**345**	P	**P**	**04 05 58.9**	**+0.6**
	comp=Z,1.0nm,0.7s,mb3.8,baz=135,slow=9.8,SNR=4.8						
LZH	**Lanzhou**	**52.26**	**55**	*e*P	**P**	**04 06 04.1**	**-1.6**
LZH				AP	pP	04 06 09.0	+1.0
LZH				XP	sP	04 06 11.3	+2.5
LZH				PP	PP	04 08 03.5	-1.7
LZH	**Lanzhou**	**52.26**	**55**	*e*P	**P**	**04 06 04.1**	**-1.6**
	comp=Z,25nm,1.6s,mb4.9						
LZH				pP	pP	04 06 09.0	+1.0
LZH				sP	sP	04 06 11.2	+2.4
LZH				PP	PP	04 08 03.5	-1.7
LZH	**Lanzhou**	**52.26**	**55**	pP	pP	04 06 09.0	+1.0
ESDC	**Sonseca Array**	**54.85**	**309**	P	**P**	**04 06 24.4**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.2,baz=99,slow=6.8,SNR=10						
DBIC	**Dimbokro**	**55.44**	**269**	P	**P**	**04 06 28.2**	**-1.2**
	comp=Z,4.3nm,1.1s,mb4.4,baz=90,slow=3.0,SNR=2.9						
NOA	**NORSAR Array B**	**55.69**	**338**	P	**P**	**04 06 31.5**	**+0.9**
	comp=Z,0.1nm,0.5s,baz=107,slow=7.6,SNR=2.8						
SONM	**Songino Array**	**57.10**	**41**	P	**P**	**04 06 42.5**	**+1.5**
	comp=Z,1.9nm,0.9s,mb4.1,baz=238,slow=7.3,SNR=13						
CN2	**Changchun**	**69.59**	**48**	*e*P	**P**	**04 08 02.4**	**-1.0**
MDJ	**Mudanjiang**	**72.57**	**47**	P	**P**	**04 08 20.1**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.5s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,114nm,5.9s						
FITZ	**Fitzroy Crossi**	**79.84**	**111**	P	**P**	**04 09 02.6**	**-0.2**
	comp=Z,10.0nm,0.8s,mb4.8,baz=277,slow=2.2,SNR=6.2						
MAW	**Mawson**	**81.18**	**175**	LR	LR	04 39 58.9	
	comp=Z,115nm,18.3s,MS4.3,baz=63,slow=32						
WRA	**Warramunga Arr**	**88.25**	**111**	P	**P**	**04 09 45.7**	**+0.2**
	comp=Z,3.6nm,0.9s,mb4.6,baz=297,slow=4.1,SNR=16						
ASAR	**Alice Springs**	**88.81**	**115**	P	**P**	**04 09 48.1**	**+0.1**
	comp=Z,2.9nm,0.9s,mb4.6,baz=293,slow=4.8,SNR=14						
INK	**Inuvik**	**98.50**	**2**	LR	LR	05 00 51.0	
	comp=Z,221nm,19.5s,MS4.7,baz=142,slow=39						
TXAR	**Lajitas Array**	**131.09**	**330**	PKP	PKPdf	04 16 07.4	-0.2
	comp=Z,0.2nm,0.8s,baz=135,slow=3.5,SNR=3.6						

IDC 25 03:57:16.2±4.8, 13.03S×165.81E, mb3.9/3, mb1 4.2/3, mb1mx3.8/16, mbtmp3.9/3, Error ellipse: s-maj=285.4km s-min=34.3km az=141.0

ISC 25 03:57:28.1±5.7, 15.2S±0.3×167.1E±0.3, h162km±60km, n11, σ0º28/5, mb3.7/3, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.87**	**185**	*e*P	**P**	**03 59 07.3**	**0.0**
DZM				*e*S	**S**	**04 00 24.5**	**0.0**
ASAR	**Alice Springs**	**32.36**	**250**	P	**P**	**04 03 44.5**	**0.0**
	1.4nm,0.7s,mb3.8,baz=72,slow=9.5,SNR=7.7						
ILAR	**Eielson Array**	**87.02**	**18**	P	**P**	**04 09 55.6**	**-0.2**
	0.8nm,0.7s,mb3.6,baz=236,slow=5.5,SNR=9.7						
YKA	**Yellowknife Ar**	**98.03**	**27**	P	**P**	**04 10 46.9**	**+0.2**
	0.2nm,0.8s,mb3.6,baz=260,slow=4.8,SNR=4.7						
SSF	**Saint Saulge**	**145.42**	**340**	⇑*i*PKP1	PKPbc	04 16 50.3	+2.9
	4.8nm,0.6s						
LPL	**La Plagne**	**145.55**	**335**	*e*PKP1	PKPbc	04 16 51.2	+3.5
	8.1nm,0.8s						
LPG	**La Plagne**	**145.56**	**335**	⇑*i*PKP1	PKPbc	04 16 51.3	+3.5
	3.7nm,0.6s						
SMF	**Signal de Mont**	**145.67**	**339**	*e*PKP1	PKPbc	04 16 50.8	+2.8
ORIF	**Oris-en-Rattie**	**146.39**	**336**	⇑*i*PKP1	PKPbc	04 16 53.5	+3.7
	7.5nm,0.6s						
TCF	**Toulx Ste Croi**	**146.52**	**341**	*e*PKP1	PKPbc	04 16 53.5	+3.5
SMRF	**Simiane la Rot**	**147.29**	**335**	*e*PKP1	PKPdf	04 16 56.1	+6.2

IDC 25 05:00:07.5±28.0, 21.68S×173.35W, mb4.1/4, mb1 4.2/4, mb1mx3.9/18, mbtmp4.1/4, Error ellipse: s-maj=522.3km s-min=163.8km az=77.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.71**	**265**	P	P	05 07 25.8	-1.0
	3.2nm,0.5s,baz=104,slow=13,SNR=4.7						
STKA	**Stephens Creek**	**41.24**	**246**	P	P	05 07 53.2	-2.7
	2.5nm,1.1s,baz=88,slow=4.9,SNR=3.1						
ASAR	**Alice Springs**	**48.49**	**257**	P	P	05 08 52.1	-2.1
	0.5nm,0.3s,baz=96,slow=7.1,SNR=10						
WRA	**Warramunga Arr**	**48.74**	**262**	P	P	05 08 54.7	-1.6
	1.3nm,0.3s,baz=96,slow=8.3,SNR=45						

IDC 25 05:02:08.2±3.0, 2.50S×98.67E, mb3.6/6, mb1 3.7/6, mb1mx3.6/18, mbtmp3.6/6, Error ellipse: s-maj=138.1km s-min=21.3km az=56.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.90**	**119**	P	P	05 09 35.3	-2.2
	0.4nm,0.5s,baz=303,slow=9.2,SNR=3.4						
ASAR	**Alice Springs**	**40.05**	**125**	P	P	05 09 44.4	-2.5
	0.4nm,0.7s,baz=301,slow=8.3,SNR=4.3						
STKA	**Stephens Creek**	**49.82**	**131**	P	P	05 11 03.9	-1.2
	0.5nm,0.4s,baz=333,slow=9.0,SNR=2.1						
SONM	**Songino Array**	**50.58**	**7**	P	P	05 11 08.9	-1.8
	0.8nm,0.8s,baz=190,slow=7.5,SNR=5.0						
MKAR	**Makanchi Array**	**51.16**	**346**	P	P	05 11 12.4	-2.7
	1.0nm,0.6s,baz=157,slow=8.1,SNR=12						
BVAR	**Borovoye Array**	**60.20**	**341**	P	P	05 12 17.6	-2.7
	0.5nm,0.6s,baz=140,slow=11,SNR=2.9						
TXAR	**Lajitas Array**	**145.89**	**36**	PKPbc	PKPbc	05 21 51.3	+0.8
	0.2nm,0.6s,baz=191,slow=1.4,SNR=3.1						

IDC 25 05:02:45.0±1.7, 30.53N×56.76E, mb3.8/10, mb1 4.0/10, mb1mx3.8/23, mbtmp3.8/10, Error ellipse: s-maj=39.9km s-min=25.1km az=12.0

NEIC 25 05:02:47.2, 30.72N×56.68E, h14km, mb3.4/1, ML3.6(THR), MN3.6(TEH), After THR.

THR 25 05:02:47.2±0.6, 30.72N×56.68E, h14km±5km, ML3.6

CSEM 25 05:02:47.1±0.1, 30.71N×56.72E, h18km, ML3.6, Error ellipse: s-maj=2.7km s-min=2.0km az=61.0

TEH 25 05:02:50.0, 30.67N×56.57E, h10km, Mn3.6

ISC 25 05:02:46.7±1.6, 30.73N±0.05×56.75E±0.06, h13km±12km, n40, σ0º96/44, mb3.8/9, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.74**	**179**	*e*Pg	**Pg**	**05 03 01.0**	**-0.7**
KRBR	**Kerman**	**0.74**	**179**	*e*PG	**Pg**	**05 03 01.5**	**-0.2**
IBAF	**Bafgh**	**1.33**	**311**	Pn	**Pn**	**05 03 10.5**	**-0.6**
IMEH	**Mehriz**	**1.95**	**290**	Pn	**Pn**	**05 03 21.4**	**+1.4**
ICHK	**Chekchek**	**2.51**	**308**	Pn	**Pn**	**05 03 28.6**	**+0.6**
IPAR	**Pars**	**3.32**	**256**	Pn	**Pn**	**05 03 41.6**	**+2.1**
BNDS	**Bandar-Abbas**	**3.35**	**189**	*e*PN	**Pn**	**05 03 41.0**	**+1.1**
BNDS				AML	AML	05 04 52.5	
	comp=N,144nm,0.5s						
IMOK	**Mook**	**3.88**	**245**	Pn	**Pn**	**05 03 46.9**	**-0.6**
NASN	**Na'in**	**3.94**	**303**	*e*PN	**Pn**	**05 03 49.0**	**+0.7**
NASN				*e*SG	**Sg**	**05 04 48.1**	**-10**
NASN				AML	AML	05 04 57.9	
	comp=N,108nm,0.7s						
NASN	**Na'in**	**3.94**	**303**	*e*Pn	**Pn**	**05 03 49.0**	**+0.7**
	SNR=52						
NASN				*e*Sg	**Sg**	**05 04 48.0**	**-10**
GHIR	**Ghir-Karzin**	**4.08**	**234**	*e*PN	**Pn**	**05 03 51.0**	**+0.6**
GHIR				AML	AML	05 05 14.2	
	comp=N,59nm,0.6s						
GHIR	**Ghir-Karzin**	**4.08**	**234**	*e*Pn	**Pn**	**05 03 50.0**	**-0.4**
IGAR	**Garneh**	**4.17**	**292**	Pn	**Pn**	**05 03 48.7**	**-2.9**
IZEF	**Zefreh**	**4.34**	**301**	Pn	**Pn**	**05 03 55.0**	**+1.0**
IKLH	**Kalahroud**	**5.10**	**302**	Pn	**Pn**	**05 04 02.5**	**-2.2**
IANJ	**Anjiloo**	**5.29**	**334**	Pn	**Pn**	**05 04 08.1**	**+0.6**
ILAS	**Lasjerd**	**5.63**	**327**	Pn	**Pn**	**05 04 16.8**	**+4.6**
ISHM	**Shahmirzad**	**5.83**	**331**	Pn	**Pn**	**05 04 17.1**	**+2.0**
IFIR	**Firoozkooh**	**5.94**	**327**	Pn	**Pn**	**05 04 16.5**	**0.0**
IFIR				Lg		05 05 53.8	
IDMV	**Damavand**	**6.25**	**322**	Pn	**Pn**	**05 04 20.6**	**-0.4**
IQOM	**Qom**	**6.30**	**312**	Pn	**Pn**	**05 04 20.9**	**-0.8**
IQOM				Sn	**Sn**	**05 05 28.5**	**-5.8**
DAMV	**Damavand**	**6.32**	**322**	*e*PN	**Pn**	**05 04 22.1**	**+0.1**
DAMV	**Damavand**	**6.32**	**322**	*e*Pn	**Pn**	**05 04 22.0**	**0.0**
IRAZ	**Razeghan**	**7.38**	**311**	Pn	**Pn**	**05 04 35.6**	**-1.3**
IRAZ				Sn	**Sn**	**05 05 54.1**	**-7.3**
KBD	**Kabd**	**8.01**	**261**	*e*P	**P**	**05 04 45.3**	**-0.3**
RDF	**Al-Radifah**	**8.19**	**260**	*e*P	**P**	**05 04 48.1**	**-0.1**
AAK	**Ala-Archa**	**18.50**	**45**	P	**P**	**05 07 04.5**	**0.0**
	comp=N,2.7nm,0.9s						
AAK	**Ala-Archa**	**18.50**	**45**	P	**P**	**05 07 04.4**	**0.0**
	comp=N,2.7nm,0.9s						
BRTR	**Keskin Array B**	**20.86**	**302**	P	**P**	**05 07 30.2**	**-0.6**
	comp=N,1.0nm,0.8s,baz=119,slow=13,SNR=5.7						
BRTR	**Keskin Array B**	**20.86**	**302**	P	**P**	**05 07 30.2**	**-0.6**
BVAR	**Borovoye Array**	**24.40**	**20**	P	**P**	**05 08 06.6**	**+0.9**
	comp=N,2.4nm,0.5s,mb3.9,baz=196,slow=8.1,SNR=24						
MKAR	**Makanchi Array**	**25.41**	**44**	P	**P**	**05 08 15.8**	**+0.3**
	comp=N,2.2nm,0.5s,mb3.9,baz=228,slow=8.6,SNR=34						
ZAL	**Zalesovo**	**30.75**	**33**	P	**P**	**05 09 03.0**	**-0.8**
	comp=N,2.5nm,0.5s,mb4.3,baz=224,slow=8.7,SNR=10.0						
FINES	**FINESS Array B**	**36.70**	**336**	P	**P**	**05 09 55.1**	**+0.1**
	comp=N,1.0nm,0.7s,mb3.8,baz=129,slow=20,SNR=4.4						
SONM	**Songino Array**	**41.29**	**51**	P	**P**	**05 10 33.7**	**+0.3**
	comp=N,0.4nm,0.5s,mb3.3,baz=236,slow=8.9,SNR=5.0						
NOA	**NORSAR Array B**	**42.47**	**329**	P	**P**	**05 10 43.2**	**+0.4**
	comp=N,0.5nm,0.9s,mb3.1,baz=117,slow=8.4,SNR=2.8						
NOA	**NORSAR Array B**	**42.47**	**329**	P	**P**	**05 10 43.2**	**+0.4**
ILAR	**Eielson Array**	**83.04**	**10**	P	**P**	**05 15 11.9**	**-0.8**
	comp=N,0.5nm,0.6s,mb3.7,baz=321,slow=4.3,SNR=12						
YKA	**Yellowknife Ar**	**86.85**	**356**	P	**P**	**05 15 31.9**	**+0.2**
	comp=N,0.3nm,0.5s,mb3.8,baz=1.3,slow=5.1,SNR=19						
ASAR	**Alice Springs**	**91.57**	**117**	P	**P**	**05 15 53.8**	**-1.1**
	comp=N,0.6nm,0.7s,mb4.0,baz=311,slow=4.5,SNR=7.9						

SSS 25 05:26:18.9, 11.92N×88.54W, h24km, MD3.8, ML3.6

INET 25 05:26:19.9, 11.96N×88.45W, h5km, MD3.6, ML3.6

CASC 25 05:26:19.4±1.0, 11.90N×88.53W, h28km±9km, MD3.8, ML3.5, 16C-9D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.53**	**26**	⇑*e*P	Pn	05 26 44.6	-0.7
CNCH				*e*S	Sn	05 27 05.0	+0.5
BLLM	**Bellamira**	**1.56**	**111**	⇑*e*P	Pn	05 26 45.1	-0.6
BLLM				*e*S	Sn	05 27 06.2	+0.9
CRIN	**San Cristobal**	**1.66**	**61**	⇓*e*P	Pn	05 26 46.8	-0.3
CRIN				*e*S	Sn	05 27 08.2	+0.6
LEON	**Leon**	**1.69**	**72**	⇑*e*P	Pn	05 26 46.8	-0.6
LEON				*e*S	Sn	05 27 08.3	0.0
SNVI	**San Vicente**	**1.73**	**350**	⇑*e*P	Pn	05 26 48.0	-0.1
SNVI				*e*S	Sn	05 27 10.2	+0.7
TEL3	**Telica 3**	**1.78**	**68**	⇓*e*P	Pn	05 26 48.4	-0.5
TEL3				*e*S	Sn	05 27 11.1	+0.3
LFRS	**El Faro**	**1.79**	**343**	⇑*e*P	Pn	05 26 48.1	-0.9
LFRS				*e*S	Sn	05 27 11.0	-0.1
LCBS	**La Ceiba**	**1.80**	**346**	⇑*e*P	Pn	05 26 48.3	-0.9
LCBS				*e*S	Sn	05 27 11.0	-0.3
TELN	**Telica**	**1.81**	**67**	⇑*e*P	Pn	05 26 48.7	-0.5
CAHU	**Cacacuatique**	**1.89**	**10**	⇓*e*P	Pn	05 26 50.5	+0.1
CNGN	**Cerro Negro**	**1.89**	**71**	⇓*e*P	Pn	05 26 50.1	-0.3
LBRS	**Las Brisas**	**1.90**	**345**	⇑*e*P	Pn	05 26 50.4	-0.2
SNET	**Serv Nac Est T**	**1.91**	**339**	*e*P	Pn	05 26 49.9	-0.7
SNET				*e*S	Sn	05 27 13.2	-0.7
SNET				*i*		05 27 17.5	
	comp=Z,485nm,0.3s						
LFU	**La Fuente**	**1.93**	**343**	⇓*e*P	Pn	05 26 50.5	-0.5
BOQS	**Boqueron**	**1.97**	**338**	⇑*e*P	Pn	05 26 51.0	-0.5
BOQS				*e*S	Sn	05 27 16.1	+0.5
MOMJ	**Momotombo**	**2.02**	**75**	⇑*e*P	Pn	05 26 51.7	-0.5
APYN	**Apoyeque**	**2.16**	**81**	⇑*e*P	Pn	05 26 53.7	-0.6
XAVN	**Gruta Xavier**	**2.17**	**83**	⇓*e*P	Pn	05 26 53.9	-0.6
CRUN	**El Crucero**	**2.19**	**87**	*e*P	Pn	05 26 54.8	+0.1
SBLS	**San Blas**	**2.21**	**331**	⇑*e*P	Pn	05 26 54.5	-0.5
SBLS				*e*S	Sn	05 27 22.2	+0.6
SNJE	**San Jose**	**2.22**	**332**	⇑*e*P	Pn	05 26 54.6	-0.6
SNJE				*e*S	Sn	05 27 22.6	+0.6
MGAN	**Managua**	**2.25**	**83**	⇑*e*P	Pn	05 26 54.6	-1.0
MGAN				*e*S	Sn	05 27 21.9	-0.8
	comp=N,315nm,0.3s						
TICN	**Ticuantepe**	**2.26**	**86**	⇓*e*P	Pn	05 26 55.2	-0.4
RTR	**El Retiro**	**2.27**	**332**	⇑*e*P	Pn	05 26 55.5	-0.3
RTR				*e*S	Sn	05 27 24.0	+0.9
WILN	**Americas 2**	**2.31**	**83**	⇑*e*P	Pn	05 26 55.8	-0.7
WILN				*e*S	Sn	05 27 23.4	-0.8
	comp=E,483nm,0.3s						
APON	**Apoyo**	**2.41**	**89**	*e*P	Pn	05 26 56.7	-1.2
RBDL	**Robledal**	**2.48**	**333**	⇓*e*P	Pn	05 26 58.7	0.0
RBDL				*e*S	Sn	05 27 29.2	+0.8
MTO2	**Montecristo 2**	**2.62**	**342**	⇓*e*P	Pn	05 27 00.3	-0.5

IDC 25 05:56:11.2±0.8, 0.84N×97.30E, mb4.3/15, mb1 4.4/16, mb1mx4.3/22, mbtmp4.3/16, ML4.4/1, MS3.8/5, Ms1 3.8/5, ms1mx3.5/21, Error ellipse: s-maj=37.6km s-min=13.8km az=51.0

BJI 25 05:56:14.1, 0.59N×97.53E, h47km, mB4.8, mb4.8, Ms4.5, Ms24.1

NEIC 25 05:56:15.8±0.4, 0.89N×97.35E, h30km, mb4.4/6, Error ellipse: s-maj=12.4km s-min=7.1km az=58.0

ISC 25 05:56:15.4±2.0, 0.93N±0.08×97.4E±0.1, h39km±15km, n58, σ0º79/56, mb4.5/31, MS3.8/6, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.10**	**45**	P	**P**	**05 57 32.2**	**+0.7**
KULM	**Kulim**	**5.39**	**36**	⇑*i*P	**P**	**05 57 35.3**	**-0.2**
KGM	**Kluang**	**5.98**	**80**	P	**P**	**05 57 44.7**	**+0.9**
SNG	**Songkhla**	**6.97**	**27**	P	**P**	**05 57 57.0**	**-0.7**
CM31	**Chiang Mai Arr**	**17.48**	**5**	*e*P	**P**	**06 00 16.3**	**-1.8**
CMAR	**Chiang Mai Arr**	**17.48**	**5**	P	**P**	**06 00 17.2**	**-0.9**
	0.5nm,0.3s,baz=194,slow=12,SNR=19						
CMAR				LR	LR	06 07 58.0	
	comp=Z,202nm,18.8s,baz=200,slow=40						
CHG	**Chiang Mai**	**17.84**	**5**	P	**P**	**06 00 22.5**	**0.0**
NANT	**Nan**	**18.05**	**10**	P	**P**	**06 00 21.1**	**-4.0**
	54nm,0.8s						
KKM	**Kota Kinabalu**	**19.42**	**74**	*e*P	**P**	**06 00 42.5**	**+1.0**
KKM	**Kota Kinabalu**	**19.42**	**74**	P	**P**	**06 00 42.9**	**+1.5**
KMI	**Kunming**	**24.59**	**12**	P	**P**	**06 01 34.5**	**+1.0**
KMI				AP		06 01 43.8	
KMI				XP		06 01 47.8	
KMI				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.3						
KMI				AMB	AMB		
	comp=Z,50nm,3.5s						
KMI				LR	LR		
	comp=N,255nm,16.9s						
KMI				LR	LR		
	comp=E,203nm,10.4s						
KMI				LR	LR		
	comp=Z,307nm,13.0s,MS4.0						
KMI	**Kunming**	**24.59**	**12**	P	**P**	**06 01 34.5**	**+1.0**
	comp=Z,14nm,1.4s,mb4.3						
KMI				pP		06 01 43.8	
KMI				sP		06 01 47.8	
KMI				S	**S**	**06 06 09.5**	**+20**
KMI				sS		06 06 25.8	
KMI				SS	SS	06 07 20.3	+34
KMI				LR	LR		
	comp=Z,310nm,13.0s,MS4.0						
SHL	**Shillong**	**25.07**	**348**	*e*P	**P**	**06 01 38.0**	**-0.1**
GYA	**Guiyang**	**26.89**	**19**	⇑*i*P	**P**	**06 01 54.0**	**-1.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
JIRN	**Jiri**	**28.68**	**339**	*e*P	**P**	**06 02 11.8**	**+0.7**
	comp=Z,25nm,0.9s,mb4.9						
PKI	**Pulchoki**	**28.89**	**337**	*e*P	**P**	**06 02 13.9**	**+0.9**
GUN	**Gumba**	**29.02**	**339**	*e*P	**P**	**06 02 15.0**	**+0.8**
	comp=Z,16nm,0.5s,mb5.0						
DMN	**Daman**	**29.04**	**337**	*e*P	**P**	**06 02 14.9**	**+0.6**
	comp=Z,7.6nm,0.5s,mb4.7						
KKN	**Kakani**	**29.14**	**337**	*e*P	**P**	**06 02 15.2**	**0.0**
	comp=Z,14nm,0.7s,mb4.8						
GKN	**Gorkha**	**29.58**	**337**	*e*P	**P**	**06 02 18.9**	**-0.2**
KOLN	**Koldanda**	**29.80**	**335**	*e*P	**P**	**06 02 21.7**	**+0.6**
	comp=Z,15nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.58**	**126**	*e*P	**P**	**06 02 53.0**	**-1.3**
	comp=Z,3.0nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.58**	**126**	P	**P**	**06 02 53.0**	**-1.3**
	comp=Z,4.6nm,0.7s,mb4.5,baz=351,slow=10,SNR=7.8						
XAN	**Xi'an**	**34.65**	**17**	P	**P**	**06 03 02.3**	**-1.1**
XAN				AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0						
GTA	**Gaotai**	**38.36**	**3**	*e*P	**P**	**06 03 35.0**	**+0.

Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.33**	**318**	*i* P	P	05 57 54.6	-2.1
CMIG				*i* S	S	05 58 12.4	-2.0
CMIG	**Matias Romero**	**1.33**	**318**	*i* P	P	05 57 54.6	-2.1
CMIG				*i* S	S	05 58 12.4	-2.0
SCX	**San Cristobal**	**1.41**	**63**	*eP*	P	05 57 56.8	-0.8
CCIG	**Comitan**	**1.75**	**84**	*i* P	P	05 58 00.6	-1.4
CCIG				*i* S	S	05 58 21.6	-1.9
HUIG	**Huatulco**	**2.11**	**261**	*i* P	P	05 58 04.2	-2.7
HUIG				*i* S	S	05 58 29.5	-2.6
HUIG	**Huatulco**	**2.11**	**261**	⇑*i* P	P	05 58 04.2	-2.7
HUIG				*i* S	S	05 58 30.7	-1.4
OXX	**Oaxaca**	**2.84**	**290**	*i* P	P	05 58 16.3	-0.8
OXX				*i* S	S	05 58 48.3	-2.0

IDC 25 06:26:56.3±4.3, 28.07S×175.89W, mb4.0/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/21, Error ellipse: s-maj=212.1km s-min=42.0km az=159.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.08**	**287**	LR	LR	06 36 15.9	
	comp=Z,101nm,18.3s,baz=282,slow=33						
CTA	**Charters Tower**	**35.36**	**275**	P	P	06 33 54.9	-0.7
	3.9nm,0.5s,baz=101,slow=9.8,SNR=7.3						
CTA				LR	LR	06 45 44.5	
	comp=Z,96nm,18.3s,baz=224,slow=32						
ASAR	**Alice Springs**	**45.14**	**264**	P	P	06 35 14.4	-2.1
	0.4nm,0.5s,baz=94,slow=6.9,SNR=13						
WRA	**Warramunga Arr**	**45.93**	**269**	P	P	06 35 19.8	-3.0
	0.8nm,0.6s,baz=108,slow=6.2,SNR=10						
NOA	**NORSAR Array B**	**146.69**	**354**	PKPbc	PKPbc	06 46 38.9	-0.1
	0.9nm,0.9s,baz=7.7,slow=2.4,SNR=3.7						
AKASG	**Malin Array Be**	**150.47**	**327**	PKPbc	PKPdf	06 46 49.5	+3.7
	0.6nm,0.5s,baz=39,slow=3.5,SNR=5.2						

IDC 25 06:40:16.8±1.9, 2.11S×127.76E, mb3.6/2, mb1 3.9/4, mb1mx3.7/19, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=107.3km s-min=24.0km az=70.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.03**	**187**	Pn	P	06 44 03.8	-1.7
	0.2nm,0.3s,baz=4.2,slow=14,SNR=3.5						
WRA	**Warramunga Arr**	**18.86**	**161**	P	P	06 44 39.3	-1.5
	0.2nm,0.3s,baz=339,slow=12,SNR=13						
ASAR	**Alice Springs**	**22.24**	**165**	P	P	06 45 14.8	-2.1
	0.6nm,0.5s,baz=346,slow=12,SNR=13						
MKAR	**Makanchi Array**	**62.94**	**327**	P	P	06 50 45.2	-2.2
	0.8nm,0.7s,baz=122,slow=9.5,SNR=11						

*IDC **25** 07:13:36.2±1.4, 17.84N×61.20W, mb3.5/5, mb1 3.8/7, mb1mx3.6/25, mbtmp3.7/7, Error ellipse: s-maj=44.3km s-min=14.1km az=75.0*

*NEIC **25** 07:13:40.4±3.0, 17.84N×61.48W, h20km±19km, mb3.6/1, MD3.6(TRN), Error ellipse: s-maj=20.8km s-min=8.2km az=49.0*

*TRN **25** 07:13:41.4, 17.66N×61.58W, h33km, MD3.6, M3.8(FDF), Md4.5(FDF)*

ISC 25 07:13:41.5±0.9, 17.79N±0.06×61.53W±0.05, h43km±7km, n29, σ1°13/44, mb3.6/6, 4C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPB	**Codrington**	**0.32**	**242**	⇑*i* P	P	07 13 49.3	-0.9
CPB				*eS*	S	07 13 55.4	-0.9
BPA	**Boggy Peak**	**0.80**	**203**	⇓*i* P	P	07 13 54.9	-1.5
BPA				*eS*	S	07 14 02.9	-4.6
NVRH	**Round Hill, Ne**	**1.19**	**240**	⇓*i* P	P	07 14 02.2	+0.3
NVRH				*eS*	S	07 14 17.0	-0.1
SKTB	**Turtle Beach**	**1.19**	**241**	⇓*i* P	P	07 14 02.2	+0.3
SKTB				*eS*	S	07 14 17.0	-0.1
NVBH	**Bath Hotel, Ne**	**1.24**	**237**	⇓*i* P	P	07 14 02.8	+0.3
NVBH				*eS*	S	07 14 18.2	-0.2
SKI	**Saint Kitts**	**1.24**	**249**	⇑*i* P	P	07 14 03.1	+0.5
SKI				*eS*	S	07 14 19.3	+0.8
SKDB	**Saint Kitts 2**	**1.28**	**252**	⇓*i* P	P	07 14 03.9	+0.6
SKDB				*eS*	S	07 14 18.4	-1.2
BSK	**Brimstone Hill**	**1.33**	**251**	*eP*	P	07 14 04.6	+0.6
BSK				*eS*	S	07 14 19.5	-1.3
STAT	**Sint Eustatius**	**1.42**	**258**	⇑*i* P	P	07 14 05.7	+0.5
STAT				*eS*	S	07 14 20.6	-2.2
STMA	**St. Maarten, A**	**1.53**	**280**	⇑*i* P	P	07 14 07.1	+0.3
STMA				*eS*	S	07 14 25.8	+0.2
SABS	**Saba**	**1.64**	**264**	*eP*	P	07 14 09.3	+0.9
SABS				*eS*	S	07 14 30.1	+1.6
SABT	**Saba**	**1.64**	**264**	*eP*	P	07 14 09.3	+0.9
SABT				*eS*	S	07 14 30.1	+1.6
BBL	**Barber's Block**	**2.25**	**179**	*eP*	P	07 14 17.5	+0.4
BBL				*eS*	S	07 14 46.6	+2.9
MDN	**Morne-Daniel**	**2.46**	**177**	*eP*	P	07 14 21.7	+1.6
DBCT	**Belle View Cho**	**2.51**	**176**	*eP*	P	07 14 23.1	+2.3
SLB	**Belfond**	**3.97**	**173**	*eP*	P	07 14 41.2	-0.2
SJG	**San Juan**	**4.41**	**275**	Pn	P	07 14 47.3	-0.5
	14nm,0.3s,baz=104,slow=14,SNR=28						
SJG				Sn	S	07 15 37.3	-1.2
	8.0nm,0.3s,baz=306,slow=18,SNR=8.1						
SJG	**San Juan**	**4.41**	**275**	*eP*	P	07 14 46.6	-1.2
SJG				*eS*	S	07 15 37.4	-1.1
SVV	**Soufriere Volc**	**4.46**	**176**	*eP*	P	07 14 47.0	-1.3
PCRV	**Puerto La Cruz**	**8.15**	**202**	Pn	P	07 15 37.7	-2.2
	1.1nm,0.3s,baz=278,slow=5.4,SNR=8.3						
SDV	**Santo Domingo**	**12.52**	**226**	P	P	07 16 40.9	+1.2
OTAV	**Otavalo**	**24.11**	**225**	*eP*	P	07 18 54.4	0.0
	1.1nm,0.6s,mb3.5						
SAML	**Samuel**	**26.62**	**184**	P	P	07 19 17.6	-0.5
SIV	**San Ignacio**	**33.57**	**179**	P	P	07 20 17.9	-1.9
	1.0nm,0.5s,mb4.0,baz=20,slow=9.6						
TXAR	**Lajitas Array**	**40.10**	**295**	P	P	07 21 17.2	+2.5
	0.2nm,0.6s,mb3.0,baz=98,slow=6.4,SNR=3.1						
PDAR	**Pinedale Array**	**47.57**	**312**	P	P	07 22 15.2	+0.3
	0.5nm,0.6s,mb3.7,baz=120,slow=7.1,SNR=5.5						
YKA	**Yellowknife Ar**	**57.68**	**334**	P	P	07 23 28.4	-1.3
	0.4nm,0.5s,mb3.7,baz=107,slow=7.4,SNR=14						
YKA	**Yellowknife Ar**	**57.68**	**334**	P	P	07 23 28.4	-1.3
INK	**Inuvik**	**66.96**	**337**	P	P	07 24 30.9	-0.5
	0.3nm,0.6s,mb3.5,baz=100,slow=4.4,SNR=3.8						

*IDC **25** 07:21:04.0±0.8, 52.95N×166.81W, mb4.0/19, mb1 4.2/20, mb1mx4.1/26, mbtmp4.0/20, ML3.7/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/28, Error ellipse: s-maj=21.7km s-min=14.3km az=169.0*

*NEIC **25** 07:21:10.1±0.7, 52.96N×166.78W, h42km±5km, mb4.1/8, ML3.8(AEIC), Error ellipse: s-maj=10.2km s-min=4.3km az=158.0*

ISC 25 07:21:08.8±0.8, 52.92N±0.07×166.77W±0.06, h47km±6km, n69, σ1°03/70, mb4.1/31, MS3.0/2, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.84**	**306**	P	P	07 21 24.0	-0.5
OKFG				S	S	07 21 36.1	+0.1
UNV	**Unalaska Valle**	**0.94**	**10**	P	P	07 21 25.2	-0.6
UNV				S	S	07 21 40.5	+2.0
MNAT	**Makushin Natee**	**0.97**	**3**	P	P	07 21 26.2	0.0
MSW	**Makushin Switc**	**1.00**	**360**	P	P	07 21 26.8	+0.1
NIKO	**Nikolski**	**1.26**	**273**	P	P	07 21 30.2	-0.2
NIKO				S	S	07 21 47.2	+0.8
AKUT	**Akutan**	**1.36**	**26**	P	P	07 21 31.2	-0.6
AKA	**Akutan**	**1.36**	**26**	P	P	07 21 31.4	-0.4
WESS	**West Dahl Sout**	**1.98**	**37**	P	P	07 21 40.8	+0.2
WFAR	**Faris Peak**	**2.01**	**35**	P	P	07 21 41.1	+0.2
WESN	**West Dahl Nort**	**2.10**	**37**	P	P	07 21 42.6	+0.3
SSLN	**Shishaldin Nor**	**2.51**	**40**	P	P	07 21 49.8	+1.7
FALS	**False Pass**	**2.78**	**44**	P	P	07 21 51.4	-0.5
ATKA	**Atka Island**	**4.59**	**264**	P	P	07 22 17.0	-0.5
GSTR	**Great Sitkin T**	**5.73**	**265**	P	P	07 22 33.4	-0.1
GSMY	**Great Sitkin M**	**5.74**	**265**	P	P	07 22 33.1	-0.5
GSTD	**Great Sitkin T**	**5.79**	**265**	P	P	07 22 33.7	-0.6
KAHC	**Katmai Hardscr**	**8.76**	**44**	P	P	07 23 12.3	-3.4
SVW2	**Sparrevohn**	**10.21**	**32**	*eP*	P	07 23 34.3	-1.1
PWA	**Palmer West**	**12.61**	**39**	*eP*	P	07 24 10.5	+2.6
TNA	**Tin City**	**12.70**	**358**	*eP*	P	07 24 09.1	+0.1
DIV	**Divide**	**14.03**	**46**	*eP*	P	07 24 27.3	+1.0
IMA	**Indian Mountai**	**14.72**	**21**	*eP*	P	07 24 37.6	+2.3
	32nm,0.9s						
THY	**Trims Highway**	**15.20**	**38**	*eP*	P	07 24 40.4	-1.1
ILAR	**Eielson Array**	**15.62**	**33**	Pn	P	07 24 45.5	-1.5
	0.1nm,0.3s,baz=219,slow=11,SNR=16						
ILAR				LR	LR	07 31 21.6	
	comp=Z,192nm,18.1s,baz=104,slow=40						
MENT	**Mentasta**	**15.73**	**41**	*eP*	P	07 24 48.1	-0.3
DAWY	**Dawson**	**17.98**	**41**	*eP*	P	07 25 15.6	-0.9
DLBC	**Dease Lake**	**21.24**	**60**	P	P	07 25 54.2	+1.5
	1.1nm,0.6s,mb3.4,baz=281,slow=17,SNR=6.5						
DLBC	**Dease Lake**	**21.24**	**60**	P	P	07 25 54.2	+1.5
INK	**Inuvik**	**22.02**	**33**	P	P	07 25 57.9	-2.4
	3.2nm,0.6s,mb3.9,baz=255,slow=10.0,SNR=14						
INK	**Inuvik**	**22.02**	**33**	*eP*	P	07 25 57.2	-3.1
	12nm,1.0s,mb4.3						
YKA	**Yellowknife Ar**	**28.68**	**50**	P	P	07 27 03.2	+0.2
	0.3nm,0.4s,mb3.4,baz=275,slow=7.9,SNR=22						
YKA				LR	LR	07 39 34.4	
	comp=Z,33nm,20.7s,MS2.9,baz=260,slow=39						
YKA	**Yellowknife Ar**	**28.68**	**50**	P	P	07 27 03.2	+0.2
YKA				LR	LR	07 39 34.4	
YBH	**Yreka Blue Hor**	**31.41**	**93**	LR	LR	07 38 13.3	
	comp=Z,43nm,21.1s,MS3.1,baz=64,slow=33						
EDM	**Edmonton**	**31.48**	**68**	*eP*	P	07 27 27.4	-0.5
RES	**Resolute Bay**	**35.19**	**26**	*eP*	P	07 27 57.4	-2.3
	1.0nm,0.6s,mb3.9						
HLID	**Hailey**	**35.38**	**84**	*eP*	P	07 28 02.0	+0.3
	1.1nm,0.9s,mb3.8						
NVAR	**Mina Array Bea**	**36.11**	**94**	P	P	07 28 08.6	+0.7
	1.0nm,0.7s,mb3.9,baz=302,slow=8.5,SNR=11						
IMW	**Indian Meadow**	**37.28**	**81**	*eP*	P	07 28 16.7	-0.9
	4.7nm,0.3s,mb4.8						
BW06	**Boulder Array**	**38.75**	**82**	*eP*	P	07 28 30.0	+0.1
	1.2nm,0.8s,mb3.7						
PDAR	**Pinedale Array**	**38.75**	**82**	P	P	07 28 30.0	0.0
	1.2nm,0.9s,mb3.6,baz=307,slow=7.4,SNR=7.0						
FCC	**Fort Churchill**	**39.37**	**52**	*eP*	P	07 28 34.8	-0.1
	4.3nm,0.8s,mb4.2						
MJAR	**Matsushiro Arr**	**41.29**	**269**	P	P	07 28 51.5	+0.4
	1.2nm,0.3s,mb4.0,baz=55,slow=6.0,SNR=4.5						
SDCO	**Great Sand Dun**	**44.29**	**85**	*eP*	P	07 29 16.3	+0.9
	1.5nm,0.9s,mb3.7						
SUMG	**Summit**	**49.78**	**18**	*eP*	P	07 29 57.4	-0.7
	4.4nm,0.5s,mb4.7						
LTX	**Lajitas**	**51.17**	**91**	P	P	07 30 12.1	+2.9
TXAR	**Lajitas Array**	**51.17**	**91**	P	P	07 30 08.2	-0.9
	0.5nm,0.6s,mb3.6,baz=309,slow=6.4,SNR=9.1						
SONM	**Songino Array**	**52.37**	**302**	P	P	07 30 17.2	-0.7
	0.3nm,0.2s,mb3.8,baz=51,slow=5.6,SNR=5.3						
SCHQ	**Schefferville**	**53.94**	**45**	P	P	07 30 28.2	-1.3
	2.0nm,0.9s,mb4.0,baz=252,slow=11,SNR=3.3						
SCHQ	**Schefferville**	**53.94**	**45**	P	P	07 30 28.2	-1.3
ARCES	**ARCESS Array B**	**57.53**	**355**	P	P	07 30 53.3	-1.8
	2.5nm,0.9s,mb4.3,baz=16,slow=7.0,SNR=7.5						
BVAR	**Borovoye Array**	**64.16**	**326**	P	P	07 31 39.8	-0.3
	1.1nm,0.5s,mb4.2,baz=56,slow=7.5,SNR=11						
MKAR	**Makanchi Array**	**64.56**	**315**	P	P	07 31 42.1	-0.7
	0.4nm,0.6s,mb3.6,baz=51,slow=5.7,SNR=6.1						
FINES	**FINESS Array B**	**65.53**	**353**	P	P	07 31 47.9	-1.0
	1.4nm,0.5s,mb4.3,baz=19,slow=6.6,SNR=13						
NB2	**NORSAR Subarra**	**66.38**	**1**	P	P	07 31 53.5	-0.7
	0.8nm,0.6s,mb3.9,slow=5.8						
NOA	**NORSAR Array B**	**66.38**	**1**	P	P	07 31 53.6	-0.6
	1.1nm,0.7s,mb4.0,baz=0.6,slow=6.3,SNR=6.9						
AKASG	**Malin Array Be**	**75.88**	**350**	P	P	07 32 50.8	-0.5
	3.2nm,0.5s,mb4.5,baz=12,slow=5.7,SNR=12						
GRF	**Grafenberg Arr**	**77.75**	**1**	*eP*	P	07 33 03.6	+1.7
GUN	**Gumba**	**77.83**	**300**	*eP*	P	07 33 03.6	+0.8
	9.9nm,0.6s,mb4.9						
JIRN	**Jiri**	**77.87**	**300**	*eP*	P	07 33 04.1	+1.1
	6.6nm,0.5s,mb4.8						
CMAR	**Chiang Mai Arr**	**78.02**	**285**	P	P	07 33 05.5	+1.5
	0.5nm,0.3s,mb3.9,baz=14,slow=3.7,SNR=3.1						
KKN	**Kakani**	**78.24**	**301**	*eP*	P	07 33 05.4	+0.4
PKI	**Pulchoki**	**78.35**	**300**	*eP*	P	07 33 05.1	-0.5
GKN	**Gorkha**	**78.41**	**301**	*eP*	P	07 33 06.1	+0.2
	5.7nm,0.3s,mb4.9						
GERES	**GERESS Array B**	**78.61**	**360**	P	P	07 33 07.8	+1.2
	0.4nm,0.4s,mb3.7,slow=4.0,SNR=5.1						
KOLN	**Koldanda**	**79.13**	**302**	*eP*	P	07 33 10.1	+0.2
	3.6nm,0.5s,mb4.5						
BRTR	**Keskin Array B**	**86.05**	**344**	P	P	07 33 47.4	+2.3
	1.6nm,0.6s,mb4.4,baz=27,slow=2.8,SNR=8.3						
WRA	**Warramunga Arr**	**88.59**	**234**	P	P	07 33 57.7	-0.1
	0.4nm,0.8s,mb3.8,baz=37,slow=5.7,SNR=3.9						
ASAR	**Alice Springs**	**91.97**	**232**	P	P	07 34 13.8	+0.3
	0.5nm,0.8s,mb3.9,baz=25,slow=3.7,SNR=4.3						
MATP	**Matopo**	**145.48**	**334**	PKPbc	PKPbc	07 40 44.1	+2.0
	2.8nm,0.8s,baz=49,slow=8.2,SNR=4.9						

*NEIC **25** 07:30:08.9±0.7, 18.69S×69.46W, h114km±11km, mb3.9/1, Error ellipse: s-maj=11.8km s-min=8.9km az=84.0*

NEIC Felt [II] at Arica.

*IDC **25** 07:30:11.4±1.8, 18.82S×69.30W, h135km±18km, mb3.3/3, mb1 3.5/7, mb1mx3.3/20, mbtmp3.8/7, Error ellipse: s-maj=26.7km s-min=12.7km az=109.0*

ISC 25 07:30:07.9±0.7, 18.67S±0.05×69.41W±0.07, h115km±11km, n12, σ0°66/16, mb3.5/2, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.66**	**28**	P	P	07 30 56.6	+6.1
	2.6nm,0.3s,baz=215,slow=5.9,SNR=102						
LPAZ	**La Paz**	**2.66**	**28**	‖*eP*	P	07 30 56.4	+5.9
ARE	**Arequipa**	**2.96**	**318**	⇑*i* P	P	07 30 54.8	+0.4
ARE				*eS*	S	07 31 29.0	-0.5
LVC	**Limon Verde**	**3.96**	**173**	P	P	07 31 07.7	-0.1
	2.5nm,0.3s,baz=332,slow=8.8,SNR=77						
LVC				S	S	07 31 53.6	0.0
	19nm,0.3s,baz=258,slow=21,SNR=13						
LVC	**Limon Verde**	**3.96**	**173**	*eP*	P	07 31 07.5	-0.3
LVC				S	S	07 31 53.6	0.0
SIV	**San Ignacio**	**8.40**	**73**	P	P	07 32 09.1	+0.9
	2.5nm,0.3s,baz=260,slow=12,SNR=48						
SIV				S	S	07 33 41.0	-0.9
	0.2nm,0.3s,baz=145,slow=23,SNR=3.4						
SAML	**Samuel**	**11.39**	**33**	*eP*	P	07 32 48.1	-0.1
	1.4nm,0.6s						
CPUP	**Villa Florida**	**13.52**	**127**	P	P	07 33 17.3	+1.3
	0.2nm,0.3s,baz=304,slow=15,SNR=5.0						
TRQA	**Tornquist**	**20.38**	**163**	*eP*	P	07 34 36.4	-1.0
BDFB	**Brasilia**	**20.67**	**85**	P	P	07 34 40.1	-0.4
	2.2nm,0.5s,baz=264,slow=11,SNR=7.2						
PLCA	**Paso Flores**	**22.01**	**182**	P	P	07 34 53.5	-0.1
	1.0nm,0.6s,mb3.4,baz=115,slow=23,SNR=4.3						
YKA	**Yellowknife Ar**	**88.37**	**341**	P	P	07 42 48.1	+0.6
	0.4nm,0.5s,mb3.7,baz=135,slow=4.7,SNR=26						

*DJA **25** 08:07:53.2±1.3, 11.72S×114.91E, h24km±4km, MD4.8/2, Error ellipse: s-maj=28.8km s-min=7.8km az=169.0*

*BJI **25** 08:07:55.9, 11.42S×115.51E, h26km, mB5.2, mb5.0, Ms4.6, Msz4.4*

*IDC **25** 08:08:00.7±0.5, 10.55S×115.25E, mb4.5/19, mb1 4.6/19, mb1mx4.6/23, mbtmp4.5/19, MS4.1/10, Ms1 4.2/10, ms1mx3.9/29, Error ellipse: s-maj=21.2km s-min=12.6km az=66.0*

*MOS **25** 08:08:04.0±1.0, 10.50S×115.21E, h33km, mb5.2/16, Error ellipse: s-maj=23.4km s-min=10.1km az=114.4*

*NEIC **25** 08:08:05.0±0.3, 10.54S×115.21E, mb5.0/18, MS4.0/6, Error ellipse: s-maj=14.1km s-min=8.1km az=58.0*

ISC 25 08:08:02.1±0.2, 10.68S±0.04×115.10E±0.06, h27km, h27km±.8km: pP-P, n180, σ1°17/166, mb5.0/66, MS4.3/33, 27C-6D, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.99**	**12**	‖*ePn*	Pn	08 08 38.1	+3.4
SRDI	**Scrawed**	**2.38**	**337**	‖*ePn*	Pn	08 08 42.3	+2.0
KEDI	**Kedomdong**	**2.40**	**25**	‖*ePn*	Pn	08 08 44.2	+3.6
KELI	**Kelakatan**	**2.52**	**346**	‖*ePn*	Pn	08 08 45.7	+3.4
KELI				⇑*eSn*	Sn	08 09 23.4	+11
NINI	**Niniconang**	**7.75**	**37**	*eP*	Pn	08 10 00.6	+4.5
BUNI	**Buntu Taipa**	**8.69**	**37**	*eP*	P	08 10 13.7	+4.5
PULI	**Pulasari**	**9.99**	**295**	‖*eP*	P	08 10 23.7	-3.6
PENI	**Pendagan**	**11.06**	**297**	⇑‖*eP*	P	08 10 37.0	-4.9
MBWA	**Marble Bar**	**11.33**	**157**	*eP*	P	08 10 36.4	-9.2
MBWA				*eS*	S	08 12 31.5	-21
FITZ	**Fitzroy Crossi**	**12.59**	**127**	*eP*	P	08 10 58.2	-4.3
	29nm,0.8s						
FITZ				*eS*	S	08 13 07.4	-16
FITZ	**Fitzroy Crossi**	**12.59**	**127**	Pn	P	08 10 56.3	-6.2
	1.3nm,0.3s,baz=307,slow=3.8,SNR=17						
FITZ				Sn	S	08 13 09.3	-14
	2.2nm,0.3s,baz=173,slow=15,SNR=5.1						
KSM	**Kuching**	**12.98**	**338**	P	P	08 11 05.2	-2.5
KKM	**Kota Kinabalu**	**16.65**	**4**	P	P	08 11 56.0	+0.4
KAKA	**Kakadu**	**17.10**	**98**	*eP*	P	08 12 12.7	+11
	22nm,0.9s						
IPM	**Ipoh**	**20.64**	**317**	P	P	08 12 42.3	-0.3
WRA	**Warramunga Arr**	**20.70**	**119**	*i* P	P	08 12 43.4	+0.4
WRA				pmax	pmax		
	comp=Z,24nm,1.0s						
WRA	**Warramunga Arr**	**20.70**	**119**	P	P	08 12 42.5	-0.6
	comp=Z,24nm,1.0s,baz=300,slow=11,SNR=40						
WRA				S	S	08 16 20.8	-7.1
	comp=Z,3.3nm,0.9s,baz=296,slow=24,SNR=5.4						
WRAB	**Tennant Creek**	**20.70**	**119**	⇑*eP*	P	08 12 43.5	+0.4
WRAB	**Tennant Creek**	**20.70**	**119**	*eP*	P	08 12 42.4	-0.7
	comp=Z,44nm,0.9s						
WRAB				LR	LR		
	comp=Z,422nm,20.0s,MS3.8						
WB2	**Warramunga Arr**	**20.71**	**119**	⇑*i* P	P	08 12 43.2	+0.1
WB2				*eS*	S	08 16 17.5	-11
KLBR	**Kellerberrin**	**20.95**	**174**	*eP*	P	08 12 43.3	-2.3
	comp=Z,623nm,1.0s						
KULM	**Kulim**	**21.42**	**317**	*eP*	P	08 12 49.4	-0.9
ASPA	**Alice Springs**	**22.09**	**128**	⇓*i* P	P	08 12 57.5	+0.5
ASPA				*eS*	S	08 16 53.1	-1.0
ASAR	**Alice Springs**	**22.09**	**128**	P	P	08 12 57.6	+0.6
	comp=Z,9.6nm,0.9s,mb4.2,baz=303,slow=9.0,SNR=53						
ASAR				S	S	08 16 54.4	+0.3
	comp=Z,4.3nm,1.0s,baz=298,slow=28,SNR=4.2						
NWAO	**Narrogin (SRO)**	**22.23**	**175**	P	P	08 12 58.4	0.0
	comp=Z,12nm,1.1s,mb4.2,baz=345,slow=14,SNR=3.7						
NWAO				LR	LR	08 21 10.8	
	comp=Z,372nm,19.4s,MS3.8,baz=348,slow=35						
NWAO	**Narrogin (SRO)**	**22.23**	**175**	*eP*	P	08 12 56.6	-1.8
	comp=Z,16nm,0.9s,mb4.5						
NWAO				LR	LR		
	comp=Z,506nm,21.0s,MS3.9						
SNG	**Songkhla**	**22.86**	**320**	P	P	08 13 03.0	-1.8
	comp=Z,196nm,0.7s,mb5.7						
FORT	**Forrest**	**23.34**	**151**	*eP*	P	08 13 09.5	+0.1
	comp=Z,2μm,0.9s						
FORT				*eS*	S	08 17 20.5	+3.9
KKTK	**Khon Kaen**	**29.46**	**335**	P	P	08 14 07.0	+0.6
	comp=Z,432nm,0.8s						
QIZ	**Qiongzhong**	**29.97**	**350**	P	P	08 14 10.5	-0.4
QIZ				S	S	08 19 06.5	+0.8
QIZ				LR	LR		
	comp=N,375nm,17.9s,MS4.2						
QIZ				LR	LR		
	comp=E,314nm,17.9s,MS4.2						
QIZ				LR	LR		
	comp=Z,448nm,17.4s,MS4.2						
STKA	**Stephens Creek**	**32.31**	**135**	*eP*	P	08 14 31.5	+0.2
	comp=Z,16nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**32.31**	**135**	P	P	08 14 30.6	-0.7
	comp=Z,20nm,0.9s,mb4.9,baz=304,slow=8.5,SNR=27						
NANT	**Nan**	**32.55**	**334**	⇑P	P	08 14 32.5	-1.0
	comp=Z,175nm,1.0s,mb5.9						
CM31	**Chiang Mai Arr**	**33.05**	**331**	*eP*	P	08 14 37.6	-0.2
	comp=Z,43nm,1.1s,mb5.3						
CMAR	**Chiang Mai Arr**	**33.05**	**331**	*i* P	P	08 14 38.5	+0.6
CMAR				pmax	pmax		
	comp=Z,11nm,0.9s						
CMAR	**Chiang Mai Arr**	**33.05**	**331**	P	P	08 14 38.5	+0.6
	comp=Z,11nm,0.9s,mb4.8,baz=162,slow=8.0,SNR=53						
CMAR				LR	LR	08 30 15.4	
	comp=Z,561nm,18.6s,MS4.3,baz=165,slow=40						
CHG	**Chiang Mai**	**33.36**	**331**	⇑P	P	08 14 40.9	+0.4
	comp=Z,18nm,0.8s,mb5.0						
KMI	**Kunming**	**37.57**	**341**	P	P	08 15 19.0	+2.7
KMI				AP	pP	08 15 26.8	+2.5
KMI				XP	sP	08 15 30.0	+2.4
KMI				S	S	08 21 00.8	-2.8
KMI				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.9						
KMI				AMB	AMB		
	comp=Z,125nm,4.3s						
KMI				LR	LR		
	comp=N,568nm,13.4s,MS4.6						
KMI				LR	LR		
	comp=E,630nm,18.3s,MS4.6						
KMI				LR	LR		
	comp=Z,505nm,17.3s,MS4.4

XAN LR LR
comp=Z,401nm,19.5s,MS4.4
HYB Hyderabad 45.64 307 *eP* **P 08 16 21.5 -1.1**
HYB Hyderabad 45.64 307 *i* P **P 08 16 21.5 -1.1**
LSA Lhasa 46.31 331 P **P 08 16 29.3 +1.6**
JIRN Jiri 47.30 324 *eP* **P 08 16 35.8 +0.2**
comp=Z,105nm,0.8s,mb5.8
GUN Gumba 47.67 324 *eP* **P 08 16 38.5 0.0**
comp=Z,109nm,0.7s,mb6.0
PKI Pulchoki 47.68 324 *eP* **P 08 16 37.0 -1.7**
comp=Z,51nm,1.0s,mb5.5
LZH Lanzhou 47.71 348 ⇑P **P 08 16 39.0 +0.2**
LZH AP pP 08 16 47.0 +0.2
LZH XP sP 08 16 51.0 +1.0
LZH PP PP 08 18 30.0 +0.3
LZH *e*S **S 08 23 34.0 +1.9**
LZH *e*SS SS 08 26 58.0 +3.3
LZH AMB AMB
comp=Z,58nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,186nm,5.0s
LZH Lanzhou 47.71 348 ⇑P **P 08 16 39.0 +0.2**
comp=Z,58nm,1.5s,mb5.4
LZH pP pP 08 16 47.0 +0.2
LZH sP sP 08 16 51.0 +1.0
LZH PP PP 08 18 30.0 +0.3
LZH *e*S **S 08 23 34.0 +1.9**
LZH sS 08 23 46.2
LZH *e*SS SS 08 26 58.1 +3.4
LZH LR LR
comp=Z,2μm,16.0s,MS5.2
DMN Daman 47.89 323 *eP* **P 08 16 40.0 -0.3**
comp=Z,120nm,0.9s,mb5.9
KKN Kakani 47.92 324 *eP* **P 08 16 40.0 -0.5**
comp=Z,50nm,0.8s,mb5.6
GKN Gorkha 48.46 323 *eP* **P 08 16 43.6 -1.0**
comp=Z,78nm,0.9s,mb5.7
KOLN Koldanda 48.91 322 *eP* **P 08 16 47.6 -0.5**
comp=Z,33nm,0.8s,mb5.4
POO Poona 49.98 305⇑*iP* **P 08 16 53.0 -3.5**
comp=Z,68nm,1.2s,mb5.5
BJI Beijing 50.47 1 *eP* **P 08 16 59.0 -0.9**
BJI AP pP 08 17 07.0 -1.1
BJI XP sP 08 17 11.0 -0.2
BJI S **S 08 24 10.0 -0.6**
BJI XS 08 24 29.8
BJI SS SS 08 27 43.5 +1.6
BJI AMB AMB
comp=Z,17nm,0.9s,mb5.1
BJI LR LR
comp=N,281nm,15.7s,MS4.4
BJI LR LR
comp=E,128nm,15.2s,MS4.4
BJI LR LR
comp=Z,159nm,18.0s,MS4.1
BJI Beijing 50.47 1 *eP* **P 08 16 59.0 -0.9**
comp=Z,17nm,0.9s,mb5.1
BJI pP pP 08 17 06.9 -1.2
BJI sP sP 08 17 11.0 -0.2
BJI S **S 08 24 10.0 -0.6**
BJI sS 08 24 29.8
BJI SS SS 08 27 43.6 +1.7
BJI LR LR
comp=Z,160nm,18.0s,MS4.1
BTO Baotou 51.24 355 *eP* **P 08 17 04.5 -1.3**
HHC Hu-ho-hao-te 51.37 357 *eP* **P 08 17 06.3 -0.5**
HHC AP pP 08 17 17.0 +2.1
HHC XP sP 08 17 21.8 +3.8
HHC PCP PcP 08 18 15.0 -6.4
HHC PP PP 08 19 04.0 -0.6
HHC SCP 08 22 09.0
HHC PCS 08 22 18.5
HHC S **S 08 24 30.5 +7.4**
HHC SCS ScS 08 26 55.0 +2.9
HHC AMB AMB
comp=Z,19nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,174nm,5.7s
HHC LR LR
comp=N,212nm,23.0s
HHC LR LR
comp=E,365nm,16.7s
HHC LR LR
comp=Z,257nm,20.2s,MS4.2
MAJO Matsushiro 51.77 24 *eP* **P 08 17 08.3 -1.5**
comp=Z,54nm,1.3s,mb5.3
MAJO *e*pP pP 08 17 16.1 -1.8
MAT Matsushiro 51.77 24 *eP* **P 08 17 08.0 -1.8**
comp=Z,12nm,0.8s,mb4.9
MAT Matsushiro 51.77 24 P **P 08 17 07.8 -2.0**
MJAR Matsushiro Arr 51.77 24 P **P 08 17 07.9 -1.9**
comp=Z,16nm,0.8s,mb5.0,baz=197,slow=7.4,SNR=39
MJAR LR LR 08 39 53.9
comp=Z,100nm,18.3s,MS3.9,baz=220,slow=37
GTA Gaotai 51.82 345 *eP* **P 08 17 10.8 +0.6**
GTA AP pP 08 17 17.5 -0.8
GTA XP sP 08 17 21.0 -0.5
GTA PP PP 08 19 08.5 -0.2
GTA PPP PPP 08 20 09.0 -2.8
GTA S **S 08 24 29.5 +0.2**
GTA AMB AMB
comp=Z,12nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,228nm,6.1s
GTA LR LR
comp=N,283nm,16.7s,MS4.5
GTA LR LR
comp=E,284nm,17.5s,MS4.5
GTA LR LR
comp=Z,311nm,16.7s,MS4.4
SNY Shenyang 52.83 8 ⇑P **P 08 17 15.8 -1.9**
SNY AMB AMB
comp=Z,20nm,0.8s,mb5.1
DDI Dehra Dun 54.13 320 *e* **P 08 17 24.2 -3.2**
CN2 Changchun 55.03 9 *eP* **P 08 17 37.0 +3.1**
CN2 *e*AP pP 08 17 44.8 +2.8
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,21.0s,MS4.5
CN2 LR LR
comp=E,240nm,21.0s,MS4.5
CN2 LR LR
comp=Z,330nm,22.0s,MS4.4
MDJ Mudanjiang 56.58 12 P **P 08 17 43.5 -1.5**
MDJ AMB AMB
comp=Z,36nm,0.9s,mb5.4
MDJ AMB AMB
comp=Z,84nm,4.4s
MDJ LR LR
comp=N,51nm,18.8s,MS3.8
MDJ LR LR
comp=E,57nm,20.1s,MS3.8
MDJ LR LR
comp=Z,73nm,17.6s,MS3.8
THN Thein Dam 57.03 320 *eP* **P 08 17 50.0 +1.6**
RPZ Rata Peaks 58.28 135 P **P 08 17 57.6 +0.7**
comp=Z,20nm,1.0s,mb5.1,baz=263,slow=3.5,SNR=4.3
ULN Ulaanbaatar 58.72 354*c iP* **P 08 17 59.5 -0.5**
ULN Ulaanbaatar 58.72 354 *eP* **P 08 17 59.3 -0.7**
comp=Z,12nm,0.9s,mb4.9
ULN LR LR
comp=Z,192nm,21.0s,MS4.2
SONM Songino Array 58.77 353 P **P 08 17 59.8 -0.5**
comp=Z,13nm,0.9s,mb4.9,baz=170,slow=7.5,SNR=64
SONM LR LR 08 47 50.8
comp=Z,194nm,18.1s,MS4.3,baz=67,slow=41
WMQ Urumqi 59.70 337 P **P 08 18 07.8 +1.0**
WMQ AP pP 08 18 16.8 +1.7
WMQ XP sP 08 18 21.3 +3.2
WMQ PCP PcP 08 18 54.8 +1.4
WMQ AMB AMB
comp=Z,9.0nm,0.6s,mb5.0
WMQ AMB AMB
comp=Z,153nm,5.6s
WMQ LR LR
comp=N,310nm,22.6s,MS4.5
WMQ LR LR
comp=E,172nm,20.8s,MS4.5
WMQ LR LR
comp=Z,152nm,20.8s,MS4.1
KIW Kapiti Island 60.34 131 P pP 08 18 23.5 +4.0
ZAK Zakamensk 61.67 351⇑*iP* **P 08 18 19.4 -0.8**

ZAK *e* 08 19 02.0
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
ZAK pmax pmax
comp=Z,5.0nm,1.6s,mb4.4
KSH Kashi 61.76 326 *eP* **P 08 18 19.0 -1.9**
KSH *e*AP pP 08 18 26.3 -2.9
KSH *e*XP sP 08 18 30.5 -1.7
KSH *e*PCP PcP 08 19 01.0 -0.7
KSH *e*PP PP 08 20 36.5 -2.6
KSH *e*SCP 08 22 59.0
KSH *e*PCS 08 23 02.3
KSH *e*SCS ScS 08 28 04.0 -3.0
KSH AMB AMB
comp=Z,330nm,5.0s
YSS Yuzh-Sakhalins 62.47 21⇑*eP* **P 08 18 25.1 -0.4**
YSS *e* 08 18 37.3
TLY Talaya 62.89 352 *eP* **P 08 18 28.0 -0.2**
TLY *e*S **S 08 27 00.9 +6.4**
TLY pmax pmax
comp=Z,13nm,1.0s,mb5.0
TLY MLR MLR
comp=Z,181nm,17.0s,MS4.3
TLY Talaya 62.89 352 *eP* **P 08 18 28.1 -0.2**
comp=Z,4.8nm,0.8s,mb4.7
TLY *e*pP pP 08 18 36.5 -0.1
MOY Mondy 63.28 350 *eP* **P 08 18 31.1 +0.3**
ULHL Ulahol 63.58 329 P **P 08 18 33.5 +0.5**
SNR=7.2
KZA Kyzart 63.97 328 P **P 08 18 36.4 +0.9**
SNR=32
MKAR Makanchi Array 64.29 336 *i* P **P 08 18 37.1 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 64.29 336 P **P 08 18 37.0 -0.5**
comp=Z,3.6nm,0.6s,mb4.5,baz=146,slow=7.1,SNR=36
TKM2 Tokmak 2 64.39 329 P **P 08 18 38.5 +0.2**
SNR=25
UCH Uchtor 64.46 328 P **P 08 18 39.5 +0.7**
SNR=11
KBK Karagaybulak 64.54 328 P **P 08 18 39.8 +0.6**
SNR=14
AAK Ala-Archa 64.76 328 P **P 08 18 41.3 +0.6**
SNR=14
AAK Ala-Archa 64.76 328 P **P 08 18 41.1 +0.5**
AAK pmax pmax
comp=Z,34nm,1.1s,mb5.3
AAK Ala-Archa 64.76 328 *eP* **P 08 18 39.9 -0.7**
comp=Z,25nm,1.0s,mb5.2
AML Almayashu 64.83 327 P **P 08 18 41.8 +0.7**
SNR=27
FRU Bishkek 64.83 328 *eP* **P 08 18 41.0 -0.1**
FRU pmax pmax
comp=Z,60nm,1.8s,mb5.3
EKS2 Erkin-Say 65.15 328 P **P 08 18 43.6 +0.4**
SNR=29
USP Ospenovka 65.20 328 P **P 08 18 43.7 +0.2**
SNR=11
OPO Ambohidratompo 65.86 254 P **P 08 18 51.5 +3.3**
comp=Z,1.6nm,0.8s,mb4.1,baz=76,slow=7.8,SNR=3.5
MAW Mawson 66.37 199 P **P 08 18 50.6 0.0**
comp=Z,12nm,1.2s,mb4.8,baz=310,slow=21,SNR=5.7
MAW LR LR 08 41 43.6
comp=Z,145nm,20.8s,MS4.2,baz=253,slow=30
KKAR Karatay Array 67.21 326 *i* P **P 08 18 55.8 -0.5**
BOD Bodaibo 68.26 359 *eP* **P 08 19 02.0 -0.7**
BOD pmax pmax
comp=Z,17nm,1.4s,mb4.9
ZAL Zalesovo 69.31 341 *i* P **P 08 19 08.5 -0.7**
ZAL pmax pmax
comp=Z,4.0nm,0.6s
ZAL Zalesovo 69.31 341 P **P 08 19 08.1 -1.1**
comp=Z,4.1nm,0.6s,mb4.6,baz=325,slow=5.0,SNR=25
ZAL Zalesovo 69.31 341 P **P 08 19 08.1 -1.1**
NVS Novosibirsk 70.57 341⇑*iP* **P 08 19 14.9 -1.9**
NVS pmax pmax
comp=Z,19nm,1.7s,mb4.8
NVS pmax pmax
comp=N,23nm,1.8s
NVS pmax pmax
comp=E,11nm,1.5s
VNDA Vanda 70.96 170 P **P 08 19 19.2 +0.3**
comp=E,3.6nm,0.9s,mb4.3,baz=307,slow=7.0,SNR=14
VNDA LR LR 08 46 26.0
comp=E,185nm,18.7s,MS4.4,baz=319,slow=32
YAK Yakutsk 73.38 7⇑*eP* **P 08 19 33.1 -0.3**
YAK pmax pmax
comp=Z,34nm,1.2s,mb5.2
YAK MLR MLR
comp=Z,100nm,16.0s,MS4.2
YAK Yakutsk 73.38 7 *eP* **P 08 19 33.1 -0.2**
BVA0 Borovoye Array 74.03 334 *i* P **P 08 19 37.5 +0.2**
BVA0 pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
CHKZ Chkalovo 74.38 334 P **P 08 19 39.7 +0.3**
CHKZ pmax pmax
comp=Z,31nm,1.0s,mb5.2
SYO Syowa Base 74.90 201⇑P **P 08 19 41.6 -0.5**
KMBO Kilima Mbogo 77.85 271 P **P 08 19 58.9 -0.9**
comp=Z,2.1nm,0.5s,mb4.3
KMBO LR LR
comp=Z,154nm,21.0s,MS4.3
SEY Seymchan 78.81 16 *eP* **P 08 20 04.7 +0.7**
SEY pmax pmax
comp=Z,40nm,1.0s,mb5.3
SVE Sverdlovsk 80.78 333 *eP* **P 08 20 15.5 +0.8**
SVE pmax pmax
comp=Z,64nm,1.9s,mb5.2
SVE MLR MLR
comp=N,200nm,16.0s,MS4.7
SVE MLR MLR
comp=E,200nm,16.0s,MS4.7
SVE MLR MLR
comp=Z,400nm,16.0s,MS4.9
GNI Garni 82.24 313⇑*eP* **P 08 20 25.4 +2.7**
GNI pmax pmax
comp=Z,14nm,1.3s
GNI MLR MLR
comp=Z,100nm,23.0s
TIXI Tiksi 82.66 4*c iP* **P 08 20 24.2 0.0**
TIXI pmax pmax
comp=Z,28nm,1.0s,mb5.2
TIXI MLR MLR
comp=Z,100nm,14.0s,MS4.3
TI2 Plekhanov 82.80 315 *i* P **P 08 20 24.8 -0.7**
MATP Matopo 83.19 251 P **P 08 20 32.4 +4.5**
comp=Z,3.7nm,0.9s,mb4.4,baz=82,slow=5.4,SNR=6.0
MATP Matopo 83.19 251 P **P 08 20 32.4 +4.5**
LSZ Lusaka 84.30 256 *eP* **P 08 20 37.1 +3.4**
comp=Z,4.1nm,1.0s,mb4.5
BOSA Boshof 84.83 242 P **P 08 20 38.0 +1.9**
comp=Z,5.3nm,0.9s,mb4.7,baz=119,slow=7.6,SNR=6.3
KIV Kislovodsk 85.00 316 *i* P **P 08 20 41.0 +4.4**
GOF Gofitskoye 85.14 317⇑*iP* **P 08 20 38.4 +1.1**
GOF *i* 08 20 57.1
GOF pmax pmax
comp=Z,50nm,1.7s,mb5.4
ASF Jabal al Asfar 85.82 304 P **P 08 20 42.9 +1.9**
comp=Z,1.5nm,0.5s,mb4.5,baz=327,slow=4.6,SNR=4.1
ASF LR LR 09 03 06.9
comp=Z,124nm,18.7s,MS4.3,baz=329,slow=38
MALT Malatya 86.30 310 *eP* **P 08 20 45.1 +1.9**
comp=Z,17nm,1.3s,mb5.1
BILL Bilibino 86.49 17⇑*eP* **P 08 20 45.3 +1.8**
BILL pmax pmax
comp=Z,8.0nm,1.6s,mb4.7
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.3
EIL Elat 86.81 301 LR LR 09 00 34.8
comp=Z,112nm,18.0s,MS4.3,baz=94,slow=36
SOC Sochi 86.92 315 *eP* **P 08 20 45.7 -0.4**
SOC *e*PPP PPP 08 26 07.4 -1.2
SOC *e*S S 08 31 08.9 -12
SOC *e*SS SS 08 37 00.1 -6.6
SOC *e*SSS SSS 08 40 36.9 -0.7
SOC pmax pmax
comp=N,16nm,1.0s
SOC pmax pmax
comp=Z,23nm,1.0s,mb5.4
SOC pmax pmax
comp=E,12nm,0.7s
SOC MLR MLR
comp=N,257nm,22.0s,MS4.7
SOC MLR MLR
comp=Z,304nm,22.0s,MS4.7
SOC MLR MLR
comp=E,167nm,21.0s,MS4.7
SNAA Sanae 88.34 196 *e* **P 08 20 55.8 +3.5**
SNAA Sanae 88.34 196 *e* pP 08 21 02.9 +2.1
SNAA Sanae 88.34 196 *e* sP 08 21 05.4 +1.8
SNAA Sanae 88.34 196||*eP* **P 08 20 55.3 +3.0**
SNAA Sanae 88.34 196 P **P 08 20 54.3 +2.0**
comp=E,4.1nm,1.1s,mb4.6,baz=91,slow=4.5,SNR=6.4
SNAA Sanae 88.34 196⇑*iP* **P 08 20 53.9 +1.6**
SNAA *e* 08 20 55.8
SNAA *e* pP 08 21 02.9 +2.1
SNAA *e* 08 21 05.4
VNA2 Neumayer--Watz 89.98 196 *e* **P 08 21 05.0 +4.9**
VNA2 Neumayer--Watz 89.98 196 *e* pP 08 21 11.0 +2.4
VNA2 Neumayer--Watz 89.98 196 *e* sP 08 21 14.0 +2.6
VNA2 Neumayer--Watz 89.98 196⇑*iP* **P 08 21 03.8 +3.7**
VNA2 *e* 08 21 05.0
VNA2 *e* pP 08 21 11.0 +2.4
VNA2 *e* pP 08 21 14.0 +5.4
BRTR Keskin Array B 90.27 310 P **P 08 21 03.2 +1.0**
comp=E,1.1nm,0.8s,mb4.2,baz=127,slow=6.2,SNR=6.4
VNA1 Neumayer--Stat 90.38 196 *e* **P 08 21 08.5 +6.6**
VNA1 Neumayer--Stat 90.38 196 *e* pP 08 21 15.7 +5.2
VNA1 Neumayer--Stat 90.38 196 *e* sP 08 21 19.1 +5.9
VNA1 Neumayer--Stat 90.38 196⇑*iP* **P 08 21 07.0 +5.1**
VNA1 *e* 08 21 08.5
VNA1 *e* pP 08 21 15.7 +5.2
VNA1 *e* 08 21 19.1
VNA3 Neumayer Olymp 90.41 195 *e* **P 08 21 07.0 +4.9**
VNA3 Neumayer Olymp 90.41 195 *e* pP 08 21 14.0 +3.4
VNA3 Neumayer Olymp 90.41 195 *e* sP 08 21 16.6 +3.3
VNA3 Neumayer Olymp 90.41 195⇑*iP* **P 08 21 05.5 +3.4**
VNA3 *e* 08 21 07.0
VNA3 *e* pP 08 21 14.0 +3.4
VNA3 *e* 08 21 16.6
TBI Tubuai 90.75 114 *e*LR LR 08 50 12.0
comp=E,177nm,23.2s
PPT Papeete 91.82 108 *e*LR LR 08 50 41.5
comp=E,186nm,22.8s
AKASG Malin Array Be 95.57 320 P **P 08 21 26.6 +0.3**
comp=E,0.2nm,0.3s,mb4.0,baz=75,slow=6.0,SNR=4.3
IDI Anoyia 96.25 305 LR LR 09 07 12.7
comp=E,36nm,18.8s,MS3.9,baz=272,slow=37
ARCES ARCESS Array B 99.78 339 LR LR 09 13 11.0
comp=E,136nm,21.0s,MS4.4,baz=286,slow=39
RKT Rikitea 103.68 117 *e*LR LR 08 56 11.6
comp=E,134nm,24.2s
YKA Yellowknife Ar 117.28 23 PKP PKPdf 08 26 48.0 -1.7
comp=E,0.5nm,0.8s,baz=313,slow=2.1,SNR=13
YKA Yellowknife Ar 117.28 23 PKP PKPdf 08 26 48.0 -1.7
EDM Edmonton 122.63 32 PKP PKPdf 08 26 57.5 -2.7
NVAR Mina Array Bea 125.05 50 PKP PKPdf 08 27 04.7 -0.8
comp=E,0.5nm,0.7s,baz=286,slow=1.3,SNR=5.4
PDAR Pinedale Array 129.75 42 PKP PKPdf 08 27 13.7 -0.6
comp=E,0.3nm,0.8s,baz=248,slow=8.0,SNR=3.7
PV10 Paradox Valley 131.94 47 *e*PKP PKPdf 08 27 18.1 -0.5
TXAR Lajitas Array 139.37 57 PKhKP 08 27 21.5
comp=E,0.4nm,0.8s,baz=270,slow=3.8,SNR=5.6
TXAR PKP PKPdf 08 27 31.6 -0.9
comp=E,0.5nm,0.8s,baz=270,slow=3.8,SNR=5.4
CCM Cathedral Cave 143.94 37 *e*PKP PKPdf 08 27 36.4 -3.9
FVM French Village 144.46 36 *e*PKP PKPdf 08 27 37.4 -3.8
FVM *e* 08 27 45.9
MIAR Mount Ida 144.67 43 *e*PKPdf PKPdf 08 27 38.9 -2.8
MIAR *e* 08 27 47.4
MSNY Massena 144.75 12 *e*PKPdf PKPdf 08 27 38.9 -2.6
MSNY *e* 08 27 47.3
UALR University of 145.35 42 *e*PKP PKPdf 08 27 40.5 -2.4
NCB Newcomb 145.87 12 *e*PKP PKPdf 08 27 42.4 -1.1
ACSO Alum Creek Sta 146.49 25 *e*PKP PKPdf 08 27 44.0 -0.6
ACSO *e* 08 27 51.9
WCI Wyandotte Cave 146.54 31 *e*PKP PKPdf 08 27 44.0 -0.8
WCI *e* 08 27 52.7
WVT Waverly 147.24 36 *e*PKPbc PKPdf 08 27 45.5 -0.6
OXF Oxford 147.40 39 *e*PKPbc PKPdf 08 27 47.1 +0.8
PLAL Pickwick Lake 147.90 37 *e*PKPbc PKPdf 08 27 46.9 -0.3
PLAL *e* 08 27 56.3
BDFB Brasilia 148.96 213 PKPbc PKPdf 08 27 53.9 +4.6
comp=E,17nm,1.2s,baz=169,slow=1.8,SNR=7.6
CPCT Cooper Cave 149.57 33 *e*PKPbc PKPdf 08 27 51.9 +2.1
LRAL Lakeview Retre 149.88 39 *e*PKPbc PKPdf 08 27 52.6 +2.3
LPAZ La Paz 153.01 173 PKPbc PKPdf 08 28 04.2 +8.8
comp=E,3.3nm,1.1s,baz=190,slow=3.1,SNR=10
LPAZ La Paz 153.01 173 PKPbc PKPdf 08 28 04.2 +8.8

BJI ***25*** *08:11:16.3,2.02S×100.64E,h35km,mB5.0,mb5.3*
NEIC ***25*** *08:11:18.5±0.3,1.87S×100.43E,h30km,mb4.9/8,Error ellipse: s-maj=12.1km s-min=5.5km az=56.0*
IDC ***25*** *08:11:22.9±0.7,1.79S×100.50E,h64km±5km,mb4.3/16, mb1 4.5/16,mb1mx4.3/20,mbtmp4.6/16,MS4.0/2, Ms1 3.9/2,ms1mx3.3/37,Error ellipse: s-maj=24.3km s-min=10.8km az=55.0*
ISC 25 08:11:21.2±0.4,1.78S±0.08×100.59E±0.10,h63km, h63km±3.8km:pP-P,n61,σ0=79/46,mb4.8/23,1C-1D,
Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	**Kluang**	**4.65**	**36**	P	**P**	**08 12 33.4**	**+2.7**
CM31	**Chiang Mai Arr** 18nm,0.9s	**20.18**	**355**	*eP*	**P**	**08 15 52.4**	**-0.8**
CMAR	**Chiang Mai Arr** 6.8nm,0.4s,baz=186,slow=10,SNR=8.1	**20.18**	**355**	P	**P**	**08 15 52.0**	**-1.1**
FITZ	**Fitzroy Crossi** 11nm,0.9s,mb4.6	**29.45**	**125**||*iP*	**P**	**08 17 21.1**	**-0.4**
FITZ	**Fitzroy Crossi** 14nm,0.5s,mb4.9,baz=284,slow=1.7,SNR=7.5	**29.45**	**125**	P	**P**	**08 17 21.1**	**-0.3**
XAN	**Xi'an**	**36.48**	**12**	P	**P**	**08 18 21.3**	**-0.9**
XAN	comp=Z,27nm,0.5s,mb5.4			AMB	AMB		
LGTI	**Lohaghat**	**36.65**	**329**	*eP*	**P**	**08 18 23.5**	**-0.2**
WRA	**Warramunga Arr**	**37.60**	**121**	P	**P**	**08 18 30.8**	**-0.9**
	comp=Z,6.2nm,0.3s,mb4.8,baz=302,slow=9.7,SNR=68						
WRA	comp=Z,1.7nm,0.4s,baz=305,slow=9.0,SNR=2.3			pP	pP	08 18 48.6	+1.1
WRA	comp=Z,2.3nm,0.6s,baz=313,slow=2.5,SNR=6.8			PcP	PcP	08 20 49.2	+0.3
WRAB	**Tennant Creek**	**37.60**	**121**	*eP*	**P**	**08 18 31.3**	**-0.4**
	comp=Z,19nm,0.3s,mb5.3						
WB2	**Warramunga Arr**	**37.61**	**121**	*eP*	**P**	**08 18 31.3**	**-0.5**
ASPA	**Alice Springs**	**38.91**	**127**	*eP*	**P**	**08 18 42.9**	**+0.4**
ASAR	**Alice Springs**	**38.91**	**127**	P	**P**	**08 18 43.2**	**+0.7**
	comp=Z,14nm,0.6s,mb4.9,baz=304,slow=7.7,SNR=41						
ASAR	comp=Z,5.5nm,0.7s,baz=304,slow=7.9,SNR=4.9			pP	pP	08 18 58.3	-0.1
ASAR	comp=Z,3.2nm,0.5s,baz=309,slow=2.7,SNR=7.1			PcP	PcP	08 20 53.4	+0.5
WMQ	**Urumqi**	**46.85**	**347**	P	**P**	**08 19 48.0**	**+1.2**
WMQ				AP	pP	08 19 58.0	-4.9
WMQ				XP	sP	08 20 02.0	-8.2
CTAO	**Charters Tower**	**48.16**	**116**	*eP*	**P**	**08 19 57.2**	**-0.2**
	comp=Z,12nm,1.0s,mb4.9						
STKA	**Stephens Creek**	**48.86**	**132**⇑*iP*		**P**	**08 20 03.2**	**+0.6**
	comp=Z,3.7nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**48.86**	**132**	P	**P**	**08 20 03.1**	**+0.5**
	comp=Z,5.6nm,0.6s,mb4.8,baz=310,slow=6.7,SNR=18						
ULHL	**Ulahol**	**49.04**	**336**	P	**P**	**08 20 04.3**	**+0.4**
	SNR=7.8						
SONM	**Songino Array**	**49.67**	**5**	P	**P**	**08 20 08.8**	**+0.1**
	comp=Z,8.5nm,0.6s,mb5.0,baz=190,slow=9.7,SNR=25						
SONM	comp=Z,8.2nm,0.7s,baz=185,slow=9.6,SNR=8.1			pP	pP	08 20 25.2	+0.3
SONM	comp=Z,2.7nm,0.5s,baz=188,slow=3.9,SNR=10			PcP	PcP	08 21 29.1	-0.3
UCH	**Uchtor**	**49.75**	**335**	P	**P**	**08 20 10.2**	**+0.9**
	SNR=6.1						
ULN	**Ulaanbaatar**	**49.76**	**6**	*eP*	**P**	**08 20 09.5**	**+0.2**
ULN				*e*	pP	08 20 22.4	-3.2
TKM2	**Tokmak 2**	**49.87**	**336**	P	**P**	**08 20 10.8**	**+0.5**
	SNR=23						
KBK	**Karagaybulak**	**49.92**	**335**	P	**P**	**08 20 11.6**	**+1.0**
	SNR=6.0						
AML	**Almayashu**	**50.02**	**334**	P	**P**	**08 20 12.3**	**+0.8**
	SNR=7.7						
AAK	**Ala-Archa**	**50.09**	**335**	*eP*	**P**	**08 20 11.6**	**-0.4**
CHMS	**Chumysh**	**50.28**	**335**	P	**P**	**08 20 13.3**	**-0.1**
	SNR=7.5						
EKS2	**Erkin-Say**	**50.42**	**334**	P	**P**	**08 20 15.2**	**+0.8**
	SNR=15						
CN2	**Changchun**	**50.55**	**23**	*eP*	**P**	**08 20 14.8**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
USP	**Ospenovka**	**50.61**	**335**	P	**P**	**08 20 15.9**	**0.0**
	SNR=12						

MKAR	Makanchi Array	50.98	344	P	P	08 20 18.2	-0.5
	comp=Z,23nm,0.6s,mb5.3,baz=157,slow=9.0,SNR=45						
MJAR	Matsushiro Arr	51.73	39	P	P	08 20 24.6	+0.1
	comp=Z,0.9nm,0.4s,mb4.1,baz=232,slow=7.0,SNR=4.8						
TLY	Talaya	53.32	2	*e*P	P	08 20 36.3	+0.1
ZAL	Zalesovo	57.06	349	P	P	08 21 01.5	-1.7
	comp=Z,21nm,0.4s,mb5.6,baz=308,slow=5.6,SNR=24						
ZAL				pP	pP	08 21 18.1	-1.6
	comp=Z,5.3nm,0.6s,baz=302,slow=5.6,SNR=3.7						
ASAJ	Asahikawa	59.10	34	LR	LR	08 45 59.6	
	comp=Z,89nm,19.9s,baz=322,slow=35						
YAK	Yakutsk	67.38	14	*e*P	P	08 22 10.7	-1.1
	comp=Z,20nm,0.4s,mb5.5						
MATP	Matopo	72.60	249	P	P	08 22 42.7	-1.6
	comp=Z,0.9nm,0.4s,mb4.1,baz=116,slow=12,SNR=4.1						
MATP	Matopo	72.60	249	P	P	08 22 42.7	-1.6
BRTR	Keskin Array B	73.61	312	P	P	08 22 48.3	-1.5
	comp=Z,2.5nm,0.7s,mb4.2,baz=131,slow=7.9,SNR=6.6						
BRTR				pP	pP	08 23 07.6	+0.5
	comp=Z,2.3nm,0.7s,baz=131,slow=6.9,SNR=4.5						
BOSA	Boshof	76.28	241	LR	LR	08 50 25.4	
	comp=Z,125nm,21.6s,baz=284,slow=31						
VNDA	Vanda	82.26	169	P	P	08 23 38.1	+1.4
	comp=Z,0.7nm,0.6s,mb3.8,baz=316,slow=3.7,SNR=6.6						
JOF	Joensuu	82.27	334	*e*p	P	08 23 37.1	+0.1
	comp=Z,3.0nm,0.6s,mb4.4						
FINES	FINESS Array B	84.19	332	P	P	08 23 47.1	+0.4
	comp=Z,4.0nm,0.6s,mb4.7,baz=108,slow=6.2,SNR=25						
KAF	Kangasniemi	84.26	333	*e*p	P	08 23 47.5	+0.5
	comp=Z,5.4nm,0.5s,mb4.9,baz=99,slow=4.6						
KEV	Kevo	86.02	340	*e*p	P	08 23 55.4	-0.2
	comp=Z,11nm,0.9s,mb5.1						
ARCES	ARCESS Array B	86.47	340	P	P	08 23 58.4	+0.6
	comp=Z,2.7nm,0.5s,mb4.7,baz=102,slow=4.2,SNR=22						
GERES	GERESS Array B	89.27	319	P	P	08 24 12.5	+0.8
	comp=Z,0.4nm,0.2s,mb4.3,baz=63,slow=6.0,SNR=5.2						
NB2	NORSAR Subarra	91.24	331	P	P	08 24 20.6	0.0
	comp=Z,0.9nm,0.6s,mb4.3,baz=94,slow=4.6						
NB2	NORSAR Subarra	91.24	331	P	P	08 24 20.6	0.0
	comp=Z,0.9nm,0.6s,mb4.3						
NOA	NORSAR Array B	91.24	331	P	P	08 24 20.9	+0.2
	comp=Z,1.0nm,0.6s,mb4.3,baz=94,slow=4.7,SNR=5.8						
YKA	Yellowknife Ar	113.99	17	PKiKP		08 29 53.7	
	comp=Z,0.1nm,0.4s,baz=284,slow=2.9,SNR=8.3						
YKA	Yellowknife Ar	113.99	17	PKPdf	PKPdf	08 29 53.7	+0.8
LTX	Lajitas	144.17	38	*e*PKPdf	PKPdf	08 30 51.3	+0.8
LTX				epPKPdf		08 31 11.2	
TXAR	Lajitas Array	144.17	38	PKP	PKPdf	08 30 51.7	+1.2
	comp=Z,9.3nm,0.6s,baz=209,slow=1.1,SNR=172						
TXAR				pPKP		08 31 11.2	
	comp=Z,6.5nm,0.7s,baz=296,slow=2.3,SNR=8.5						
BDFB	Brasilia	144.46	240	PKP	PKPdf	08 30 52.3	+1.0
	comp=Z,2.0nm,0.4s,baz=95,slow=5.0,SNR=6.8						
MIAR	Mount Ida	144.82	21	*e*PKP	PKPdf	08 30 52.4	+0.9
CPUP	Villa Florida	144.85	216	*e*PKP	PKPdf	08 30 53.1	+1.2
WVT	Waverly	144.94	12	*e*PKP	PKPdf	08 30 52.3	+0.6
UALR	University of	145.03	19	*e*PKP	PKPdf	08 30 52.3	+0.4
TZTN	Tazewell	145.20	6	*e*PKP	PKPdf	08 30 52.9	+0.8
JCT	Junction City	145.53	32	*e*PKP	PKPdf	08 30 55.1	+2.4
PLAL	Pickwick Lake	146.00	13	*e*PKP	PKPdf	08 30 55.0	+1.4
OXF	Oxford	146.12	15	*e*PKP	PKPdf	08 30 55.7	+2.0

INET ***25*** *08:15:51.2, 10.89N×86.32W, h15km, MD3.3, ML2.6*
CASC 25 08:15:50.7±1.8, 10.86N×86.40W, h28km±11km, MD3.5, ML2.7, 2C-8D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	Concepcion	1.04	47	⇑*e*P	Pn	08 16 09.3	-0.2
APON	Apoyo	1.10	17	⇓*e*P	Pn	08 16 10.1	-0.4
CRUN	El Crucero	1.12	5	*e*P	Pn	08 16 11.0	+0.2
TICN	Ticuantepe	1.18	8	⇓*e*P	Pn	08 16 11.3	-0.2
XAVN	Gruta Xavier	1.29	3	⇓*e*P	Pn	08 16 12.8	-0.3
MGAN	Managua	1.29	7	⇓*e*P	Pn	08 16 12.4	-0.7
MGAN				*e*S	Sn	08 16 29.6	0.0
	comp=N,105nm,0.2s						
WILN	Americas 2	1.31	9	⇓*e*P	Pn	08 16 13.1	-0.4
APYN	Apoyeque	1.37	2	⇓*e*P	Pn	08 16 13.9	-0.3
APYN				*e*S	Sn	08 16 31.8	+0.2
MOMJ	Momotombo	1.55	355	*e*P	Pn	08 16 16.2	-0.6
LEON	Leon	1.62	343	⇓*e*P	Pn	08 16 16.5	-1.3
LEON				*e*S	Sn	08 16 38.6	+0.6
CNGN	Cerro Negro	1.66	350	⇓*e*P	Pn	08 16 20.5	+2.1
TEL3	Telica 3	1.76	346	⇑*e*P	Pn	08 16 19.5	-0.3

BJI ***25*** *08:19:15.3, 46.19S×166.88E, h98km, mB5.0, mb5.0*
NEIC ***25*** *08:19:16.9, 45.94S×166.98E, h92km, mb4.7/6, After WEL.*
NEIC Felt in the southern part of the South Island.
WEL ***25*** *08:19:16.4±0.3, 45.88S×166.87E, h87km±2km, ML5.3/15, Error ellipse: s-maj=3.0km s-min=2.0km az=90.0*
WEL Felt from Otago to Southland, maximum reported intensity MM 5.
IDC ***25*** *08:19:20.1±4.7, 45.46S×167.22E, h124km±34km, mb4.3/5, mb1 4.6/7, mb1mx4.2/14, mbtmp4.8/7, Error ellipse: s-maj=66.5km s-min=17.5km az=2.0*
ISC 25 08:19:16.2±0.5, 45.69S±0.06×167.14E±0.05, h100km, n128, σ1$23/130, mb4.7/11, 10C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.21	2	⇑PN	P	08 19 30.2	-0.3
DCZ				SN	S	08 19 40.7	-0.6
WHZ	Wether Hill Ro	0.60	110	P	P	08 19 33.1	+0.1
WHZ				S	S	08 19 45.3	-0.2
WHZ	Wether Hill Ro	0.60	110	⇓PN	P	08 19 33.1	+0.1
WHZ				SN	S	08 19 45.2	-0.2
MLZ	Mavora Lakes	0.80	65	P	P	08 19 36.4	+1.6
MLZ				S	S	08 19 51.2	+2.6
MLZ	Mavora Lakes	0.80	65	⇑PN	P	08 19 36.3	+1.5
MLZ				⇑PN	P	08 19 36.4	+1.5
MLZ				SN	S	08 19 50.4	+1.8
MLZ				SN	S	08 19 50.9	+2.3
MSZ	Milford Sound	1.16	29	⇑PN	P	08 19 40.5	+1.7
MSZ				SN	S	08 19 59.2	+3.5
WKZ	Wanaka	1.58	58	P	P	08 19 46.8	+2.9
WKZ	Wanaka	1.58	58	⇑PN	P	08 19 46.8	+2.9
EAZ	Earnscleugh	1.59	74	P	P	08 19 46.1	+2.1
EAZ	Earnscleugh	1.59	74	⇑PN	P	08 19 46.1	+2.0
EAZ				SN	S	08 20 06.9	+2.2
TUZ	Tuapeka	1.76	100	P	P	08 19 47.1	+0.9
TUZ	Tuapeka	1.76	100	⇓PN	P	08 19 47.1	+0.9
JCZ	Jackson Bay	1.98	36	P	P	08 19 51.7	+2.7
JCZ	Jackson Bay	1.98	36	⇑PN	P	08 19 51.6	+2.6
LBZ	Lake Benmore	2.52	60	P	P	08 19 57.4	+1.0
LBZ	Lake Benmore	2.52	60	⇑PN	P	08 19 57.4	+1.0
ODZ	Otahua Downs	2.55	77	P	P	08 19 57.3	+0.5
ODZ	Otahua Downs	2.55	77	⇑PN	P	08 19 57.3	+0.4
FOZ	Fox Glacier	2.80	41	P	P	08 20 02.2	+2.0
FOZ	Fox Glacier	2.80	41	PN	P	08 20 02.2	+2.0
RPZ	Rata Peaks	3.42	56	P	P	08 20 08.7	0.0
	245nm,0.3s,baz=225,slow=5.3,SNR=3125						
RPZ				S	S	08 20 49.3	+0.9
	350nm,0.3s,baz=30,slow=5.0,SNR=7.4						
RPZ	Rata Peaks	3.42	56	⇑PN	P	08 20 08.7	0.0
WVZ	Waitaha Valley	3.67	46	*e*P	P	08 20 12.2	+0.1
MQZ	McQueen's Vall	4.40	65	P	P	08 20 21.6	-0.5
MQZ	McQueen's Vall	4.40	65	PN	P	08 20 21.5	-0.7
CRLZ	Canterbury Las	4.44	64	P	P	08 20 22.1	-0.6
CRLZ	Canterbury Las	4.44	64	PN	P	08 20 21.8	-0.9
LTZ	Lake Taylor	4.69	54	P	P	08 20 25.4	-0.7
LTZ	Lake Taylor	4.69	54	PN	P	08 20 25.4	-0.8
DSZ	Denniston Nort	5.19	42	P	P	08 20 32.5	-0.4
DSZ	Denniston Nort	5.19	42	PN	P	08 20 32.4	-0.4
KHZ	Kahutara	5.65	57	*e*P	P	08 20 38.5	-0.6
KHZ	Kahutara	5.65	57	PN	P	08 20 38.5	-0.7
THZ	Tophouse	5.73	49	P	P	08 20 39.3	-0.9
THZ	Tophouse	5.73	49	PN	P	08 20 39.2	-1.0
QRZ	Quartz Range	6.25	41	P	P	08 20 46.9	-0.5
QRZ	Quartz Range	6.25	41	PN	P	08 20 46.9	-0.5
NNZ	Nelson	6.37	48	PN	P	08 20 47.8	-1.2
CMWZ	Cape Campbell	6.46	55	P	P	08 20 52.1	+1.8
CMWZ	Cape Campbell	6.46	55	*e*PN	P	08 20 50.9	+0.6
TUWZ	Tuamarina	6.52	52	*e*PN	P	08 20 49.5	-1.7
TCW	Tory Channel	6.85	52	*e*PN	P	08 20 55.4	-0.3
DUWZ	D'Urville Isla	6.95	48	PN	P	08 20 57.0	-0.1
WEL	Wellington	7.08	54	P	P	08 20 58.4	-0.4
WEL	Wellington	7.08	54	PN	P	08 20 58.4	-0.5
MSWZ	Moikau Station	7.27	57	P	P	08 21 00.8	-0.7
MSWZ	Moikau Station	7.27	57	*e*PN	P	08 21 00.6	-0.9
CAW	Cannon Point	7.37	54	P	P	08 21 00.7	-2.0
CAW	Cannon Point	7.37	54	*e*PN	P	08 21 00.1	-2.6
PAWZ	Paruwai Farm	7.40	57	*e*PN	P	08 21 01.1	-2.1
KIW	Kapiti Island	7.44	52	*e*PN	P	08 21 02.2	-1.5
MTW	Mount Morrison	7.58	56	P	P	08 21 04.5	-1.2
MTW	Mount Morrison	7.58	56	*e*PN	P	08 21 03.3	-2.4
MRZ	Mangatainoka R	7.95	54	P	P	08 21 08.1	-2.6
MRZ	Mangatainoka R	7.95	54	*e*PN	P	08 21 06.9	-3.8
NRZ	Ngariki Road	8.09	41	P	P	08 21 13.1	+0.6
NRZ	Ngariki Road	8.09	41	*e*PN	P	08 21 13.0	+0.5
NWEZ	Newall Road	8.11	40	P	P	08 21 13.3	+0.5
NWEZ	Newall Road	8.11	40	*e*PN	P	08 21 13.0	+0.2
NEZ	North Egmont	8.21	41	P	P	08 21 15.0	+0.7
NEZ	North Egmont	8.21	41	*e*PN	P	08 21 14.7	+0.5
PKE	Pukeiti	8.23	40	P	P	08 21 14.7	+0.3
PKE	Pukeiti	8.23	40	*e*PN	P	08 21 14.4	0.0
WAZ	Wanganui	8.27	47	*e*P	P	08 21 15.4	+0.4
WAZ	Wanganui	8.27	47	*e*PN	P	08 21 14.9	-0.2
BFZ	Birch Farm	8.32	56	*e*P	P	08 21 14.4	-1.3
BFZ	Birch Farm	8.32	56	*e*PN	P	08 21 14.5	-1.2
RAEZ	Rainy Point	8.34	42	P	P	08 21 16.2	+0.2
RAEZ	Rainy Point	8.34	42	*e*PN	P	08 21 16.1	+0.1
TSZ	Takapari Road	8.57	52	*e*P	P	08 21 17.1	-2.0
TSZ	Takapari Road	8.57	52	*e*PN	P	08 21 16.1	-3.0
VRZ	Vera Road	8.64	43	PN	P	08 21 19.6	-0.4
WNVZ	Wahianoa	8.91	47	P	P	08 21 23.3	-0.3
WNVZ	Wahianoa	8.91	47	*e*PN	P	08 21 22.8	-0.8
DRZ	Dome Shelter	8.93	47	P	P	08 21 25.9	+2.0
MOVZ	Moawhango	8.93	48	P	P	08 21 22.9	-1.0
TUVZ	Tukino	8.98	47	P	P	08 21 24.6	0.0
TUVZ	Tukino	8.98	47	PN	P	08 21 24.5	-0.1
NGZ	Ngauruhoe	9.02	47	P	P	08 21 25.5	+0.4
NGZ	Ngauruhoe	9.02	47	PN	P	08 21 25.3	+0.2
HIZ	Hauiti	9.18	41	P	P	08 21 26.2	-1.0
HIZ	Hauiti	9.18	41	PN	P	08 21 26.2	-1.0
KATZ	Kakaramea	9.22	46	P	P	08 21 28.1	+0.3
KATZ	Kakaramea	9.22	46	*e*PN	P	08 21 28.0	+0.1
BKZ	Black Stump Fm	9.50	50	P	P	08 21 29.5	-2.0
BKZ	Black Stump Fm	9.50	50	*e*PN	P	08 21 28.8	-2.8
WTAZ	Waiatarua	10.38	35	P	P	08 21 44.3	+1.0
MKAZ	Moumakai	10.47	38	P	P	08 21 45.1	+0.5
MKAZ	Moumakai	10.47	38	PN	P	08 21 44.9	+0.3
URZ	Urewera	10.49	48	P	P	08 21 44.0	-0.8
	12nm,0.3s,baz=240,slow=7.4,SNR=57						
URZ				S	S	08 23 35.3	-5.7
	2.2nm,0.3s,baz=96,slow=16,SNR=5.8						
URZ	Urewera	10.49	48	*e*P	P	08 21 43.5	-1.3
OTAZ	Otara	10.50	37	P	P	08 21 43.9	-1.1
OTAZ	Otara	10.50	37	*e*PN	P	08 21 45.2	+0.1
KAAZ	Kauri Point	10.52	35	P	P	08 21 45.7	+0.4
KAAZ	Kauri Point	10.52	35	PN	P	08 21 45.2	0.0
MTAZ	Motutapu	10.64	36	P	P	08 21 47.1	+0.3
MWZ	Matawai	10.66	50	*e*P	P	08 21 45.7	-1.4
MWZ	Matawai	10.66	50	*e*PN	P	08 21 45.0	-2.0
OUZ	Omahuta	11.55	27	P	P	08 22 01.3	+2.3
OUZ	Omahuta	11.55	27	*e*PN	P	08 22 01.2	+2.2
TOO	Toolangi	18.07	289	*e*P	P	08 23 22.0	+0.1
	6.1nm,0.8s						
ARMA	Armidale	19.48	316	*e*P	P	08 23 39.5	+2.0
STKA	Stephens Creek	24.10	296	*e*P	P	08 24 24.5	+1.2
	17nm,0.9s,mb4.4						
STKA	Stephens Creek	24.10	296	P	P	08 24 24.6	+1.4
	26nm,1.0s,mb4.5,baz=117,slow=11,SNR=15						
ASAR	Alice Springs	34.69	298	P	P	08 25 57.0	-1.2
	8.0nm,0.8s,mb4.6,baz=134,slow=8.8,SNR=56						
ASAR				PcP	PcP	08 28 28.7	-1.5
	0.9nm,0.8s,baz=140,slow=4.3,SNR=4.4						
ASPA	Alice Springs	34.69	298	⇓*i*P	P	08 25 56.9	-1.3
WB2	Warramunga Arr	37.23	303	*e*P	P	08 26 18.1	-1.5
WRA	Warramunga Arr	37.24	303	P	P	08 26 18.4	-1.3
	7.6nm,0.8s,mb4.7,baz=138,slow=7.8,SNR=43						
WRAB	Tennant Creek	37.24	303	*e*P	P	08 26 18.3	-1.4
	13nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	43.98	295	P	P	08 27 14.2	-1.0
	8.2nm,0.6s,mb4.6,baz=168,slow=11,SNR=9.9						
QSPA	South Pole Qui	44.44	180	*e*P	P	08 27 17.9	-0.1
	4.7nm,1.0s,mb4.2						
CMAR	Chiang Mai Arr	88.70	298	P	P	08 32 00.6	+1.0
	2.3nm,0.7s,mb4.3,baz=155,slow=3.7,SNR=12						
NJ2	Nanjing	88.89	321	*e*P	P	08 32 00.8	+0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
KMI	Kunming	91.53	305	P	P	08 32 14.0	+1.3
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb5.1						
KMI	Kunming	91.53	305	P	P	08 32 14.1	+1.4
	comp=Z,6.0nm,0.5s,mb5.1						
MDJ	Mudanjiang	95.87	334	P	P	08 32 34.3	+2.3
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.5s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,89nm,4.4s						
CN2	Changchun	96.48	331	*e*P	P	08 32 38.0	+3.2
LZH	Lanzhou	99.39	313	*e*P	P	08 32 49.0	+0.7
LZH				AP	pP	08 33 15.0	-0.1
LZH				XP	sP	08 33 26.3	+0.7
LZH				PP	PP	08 36 56.5	+1.9
LZH				AMB	AMB		
	comp=Z,26nm,1.6s,mb5.5						
LZH	Lanzhou	99.39	313	*e*P	P	08 32 49.0	+0.7
	comp=Z,26nm,1.6s,mb5.5						
LZH				pP	pP	08 33 15.0	-0.1
LZH				sP	sP	08 33 26.2	+0.6
LZH				PP	PP	08 36 56.5	+1.9
WMQ	Urumqi	113.53	309	PKP	PKPdf	08 37 43.3	+1.3
WMQ				XPKP		08 38 20.0	
WMQ				PP	PP	08 38 41.3	+1.3
WMQ				PKS	PKS	08 41 18.8	+0.9
WMQ				SKS	SKS	08 44 44.5	+26
WMQ				PP	PP		
	comp=Z,22nm,3.9s						
WMQ				LR	LR		
	comp=N,97nm,24.5s						
WMQ				LR	LR		
	comp=Z,18nm,19.2s						
ZAL	Zalesovo	121.33	317	PKP	PKPdf	08 37 55.3	-1.7
	comp=Z,1.8nm,0.4s,baz=188,slow=16,SNR=3.8						
YKA	Yellowknife Ar	124.43	33	PKP	PKPdf	08 38 02.6	-0.2
	comp=Z,0.2nm,0.5s,baz=247,slow=1.7,SNR=6.4						
BRTR	Keskin Array B	145.70	277	PKPbc	PKPbc	08 38 44.0	+0.8
	comp=Z,1.9nm,0.7s,baz=134,slow=4.3,SNR=10						
ARCES	ARCESS Array B	149.42	335	PKPbc	PKPdf	08 38 52.6	+5.2
	comp=Z,2.5nm,0.6s,baz=64,slow=2.7,SNR=16						
JOF	Joensuu	149.80	321	*e*pkp	PKPab	08 38 59.0	-2.0
AKASG	Malin Array Be	151.79	296	PKPbc	PKPdf	08 38 57.0	+5.4
	comp=Z,1.1nm,0.5s,baz=66,slow=2.3,SNR=6.6						
AKASG				PKPab	PKPab	08 39 08.2	-1.6
	comp=Z,0.3nm,0.3s,baz=92,slow=3.1,SNR=4.6						
KAF	Kangasniemi	152.25	320	*e*pkp	PKPdf	08 38 59.2	+7.3
	baz=62,slow=2.1						
FINES	FINESS Array B	152.56	319	PKPbc	PKPdf	08 39 01.0	+8.6
	comp=Z,1.8nm,0.5s,baz=100,slow=5.0,SNR=21						
FINES				PKPab	PKPab	08 39 11.7	-0.9
	comp=Z,0.9nm,0.5s,baz=90,slow=3.8,SNR=5.1						

NEIC ***25*** *08:27:06.0, 16.82N×94.68W, h118km, MD3.8(MEX), After MEX.*
MEX 25 08:27:06.8±0.9, 16.80N×94.74W, h115km±10km, MD3.8, 1C-2D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.32	335	*i*P	P	08 27 21.9	-1.4
CMIG				*i*S	S	08 27 33.5	-2.2
CMIG	Matias Romero	0.32	335	⇓*i*P	P	08 27 21.9	-1.4
CMIG				*i*S	S	08 27 33.5	-2.2
HUIG	Huatulco	1.67	232	*i*P	P	08 27 33.9	-2.4
HUIG				*i*S	S	08 27 57.9	-0.6
HUIG	Huatulco	1.67	232	⇑*i*P	P	08 27 34.0	-2.4
HUIG				*i*S	S	08 27 57.0	-1.6
OXX	Oaxaca	1.92	279	*i*P	P	08 27 38.8	-0.6
OXX				*i*S	S	08 28 03.3	-0.6
VHO	Vista Hermosa	1.93	278	*i*P	P	08 27 38.7	-0.8
VHO				*i*S	S	08 28 02.6	-1.5
VHO	Vista Hermosa	1.93	278	⇓*i*P	P	08 27 38.6	-0.8
VHO				*i*S	S	08 28 02.3	-1.8
CCIG	Comitan	2.55	101	*i*P	P	08 27 46.7	-1.1
CCIG				*i*S	S	08 28 17.4	-1.3
IISM	Ciudad Serdan	3.32	311	*e*P	P	08 27 56.5	-1.7
IISM				*i*S	S	08 28 32.0	-5.2

MOS ***25*** *08:28:42.5±1.3, 17.04S×179.31W, h487km, mb4.8/4, Error ellipse: s-maj=28.4km s-min=19.7km az=99.6*
BGS ***25*** *08:28:43.2±2.4, 17.60S×178.90W, h511km*
IDC ***25*** *08:28:43.6±0.9, 17.67S×178.85W, h519km±10km, mb4.2/24, mb1 4.3/27, mb1mx4.3/30, mbtmp5.0/27, Error ellipse: s-maj=11.8km s-min=7.9km az=144.0*
NEIC ***25*** *08:28:43.0±0.7, 17.60S×178.90W, h511km±7km, mb4.7/55, Error ellipse: s-maj=7.4km s-min=3.9km az=150.0*
BJI ***25*** *08:28:46.7, 16.95S×179.57W, h511km, mB4.7, mb4.5*
ISC 25 08:28:41.7±1.0, 17.64S±0.06×178.92W±0.05, h506km±12km, h509km±10.4km: pP-P, n335, σ0$84/169, mb4.7/81, 49C-19D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.81	63	P	P	08 30 37.7	+0.4
	43nm,0.3s,baz=33,slow=5.7,SNR=18						
AFI	Afiamalu	7.81	63	⇓*e*P	P	08 30 37.0	-0.3
	500nm,0.7s						
DZM	Mont Dzumac	14.46	250	*e*P	P	08 31 47.0	+0.4
DZM	Mont Dzumac	14.46	250	P	P	08 31 49.1	+2.5
	4.3nm,0.3s,baz=65,slow=21,SNR=26						
DZM	Mont Dzumac	14.46	250	*e*P	P	08 31 47.0	+0.4
RAR	Rarotonga	18.40	104	P	P	08 32 26.6	+1.0
	2.4nm,0.3s,baz=269,slow=8.7,SNR=4.2						
URZ	Urewera	20.84	189	P	P	08 32 46.6	-1.9
	8.5nm,0.3s,baz=312,slow=3.2,SNR=15						
QRZ	Quartz Range	24.26	196	PN	P	08 33 19.1	-0.5
THZ	Tophouse	25.05	195	PN	P	08 33 25.1	-1.5
LTZ	Lake Taylor	26.16	195	PN	P	08 33 34.3	-2.2
RPZ	Rata Peaks	27.34	196	P	P	08 33 46.0	-0.9
	9.4nm,0.4s,mb4.5,baz=28,slow=3.3,SNR=19						
PAE	Paea	27.95	95	*e*P	P	08 33 52.2	-0.2
	43nm,0.7s,mb5.0						
PPT	Papeete	27.96	94	*e*P	P	08 33 52.0	-0.5
	32nm,0.9s,mb4.8						
PPT	Papeete	27.96	94	P	P	08 33 52.5	-0.1
	30nm,0.5s,mb5.0,baz=212,slow=5.7,SNR=5.8						
TIAR	Tiarei	28.18	94	*e*P	P	08 33 54.3	-0.2
	99nm,0.9s,mb5.2						
MSZ	Milford Sound	29.13	199	PN	P	08 34 02.5	+0.1
ARMA	Armidale	29.66	239	⇓*i*P	P	08 34 08.7	+1.5
RIV	Riverview	31.26	233	*e*P	P	08 34 22.3	+1.5
CTA	Charters Tower	33.01	260	⇓*i*P	P	08 34 36.5	+0.7
	42nm,0.9s,mb4.9						
CTA	Charters Tower	33.01	260	P	P	08 34 36.5	+0.7
	41nm,0.7s,mb5.0,baz=90,slow=10,SNR=41						
CTAO	Charters Tower	33.01	260	⇓*e*P	P	08 34 36.3	+0.5
	32nm,0.8s,mb4.8						
CNB	Canberra Magne	33.21	232	⇓*i*P	P	08 34 38.7	+1.4
	1μm,0.5s						
PMG	Port Moresby	33.94	279	P	P	08 34 45.4	+1.8
	16nm,0.6s,mb4.6,baz=75,slow=5.7,SNR=4.3						
TOO	Toolangi	36.97	230	⇓*i*P	P	08 35 09.8	+1.3
	83nm,0.9s,mb5.2						
STKA	Stephens Creek	38.34	241	⇓*i*P	P	08 35 21.2	+1.5
	40nm,0.5s,mb5.1						
STKA	Stephens Creek	38.34	241	P	P	08 35 21.2	+1.5
	37nm,0.4s,mb5.2,baz=90,slow=9.4,SNR=240						
MAUI	Maui	44.17	31	*i*P	P	08 36 07.3	+0.7
WB2	Warramunga Arr	44.19	259	⇓*i*P	P	08 36 06.2	-0.6
WB2				*e*SCS	ScS	08 45 07.6	+0.3
WRAB	Tennant Creek	44.20	259	*d*P	P	08 36 06.4	-0.4
WRAB	Tennant Creek	44.20	259	⇓*e*P	P	08 36 06.1	-0.7
	19nm,0.6s,mb4.7						
WRA	Warramunga Arr	44.20	259	P	P	08 36 06.2	-0.6
	16nm,0.6s,mb4.7,baz=92,slow=7.1,SNR=115						
WRA				ScP		08 40 41.5	
	2.0nm,0.8s,baz=90,slow=4.2,SNR=6.0						
ASAR	Alice Springs	44.40	254	P	P	08 36 08.6	+0.2
	145nm,0.5s,mb5.7,baz=89,slow=8.1,SNR=2264					

TUC Tucson 81.92 53⇑ *i*P P 08 40 10.1 +1.0
comp=Z,21nm,1.1s,mb4.6
TTA Tatalina 82.29 10 *e*P **P 08 40 10.2 -0.1**
PWA Palmer West 82.34 14 *e*P **P 08 40 09.3 -1.2**
PMR Palmer 82.45 14 *e*P **P 08 40 10.1 -1.0**
ARUT Antelope Range 82.54 47 *e*P **P 08 40 12.2 +0.1**
DIV Divide 82.87 16 *e*P **P 08 40 12.6 -0.6**
comp=Z,88nm,0.7s,mb5.4
WUAZ Wupatki 82.94 49 *e*P **P 08 40 14.8 +0.7**
comp=Z,32nm,1.0s,mb4.8
HAWA Hanford 83.18 37 *e*P **P 08 40 15.1 0.0**
comp=Z,2.0nm,0.9s
BJI Beijing 83.25 316 *e*P **P 08 40 16.5 +0.9**
BJI XP sP 08 42 58.5 +0.3
BJI S S 08 49 54.3 +1.0
BJI AMB AMB
comp=Z,13nm,1.2s,mb4.3
BJI Beijing 83.25 316 *e*P **P 08 40 16.6 +1.0**
comp=Z,13nm,1.2s,mb4.3
BJI sP sP 08 42 58.6 +0.4
BJI S S 08 49 54.3 +1.0
BJI sS 08 53 43.2
TNA Tin City 83.36 5 *e*P **P 08 40 15.5 -0.1**
comp=Z,42nm,1.4s,mb4.8
SEY Seymchan 83.41 347 *e*P **P 08 40 15.7 -0.2**
SEY pmax pmax
comp=Z,20nm,0.6s,mb4.8
BMO Blue Mountains 83.64 39 *e*P **P 08 40 17.2 -0.2**
comp=Z,7.4nm,0.9s,mb4.2
EPH Ephrata 83.69 36 P **P 08 40 17.5 -0.1**
MVU Marysvale 83.73 46 *e*P **P 08 40 18.9 +0.9**
comp=Z,15nm,1.1s,mb4.4
MSU Marysvale 83.76 46 *e*P **P 08 40 18.9 +0.7**
OD2 Odessa Site #2 84.20 36 P **P 08 40 20.2 +0.1**
MCK McKinley 84.39 13 *e*P **P 08 40 19.4 -1.2**
comp=Z,9µm,1.2s
GYA Guiyang 84.48 300⇑ *i*P **P 08 40 23.0 +1.0**
GYA AP pP 08 42 15.5 +1.5
GYA XP sP 08 43 06.3 +1.5
GYA PP PP 08 43 49.8 +3.0
GYA S S 08 50 08.0 +2.5
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
HLID Hailey 84.75 41 *e*P **P 08 40 23.4 +0.5**
comp=Z,13nm,0.8s,mb4.6
PNT Penticton 84.79 34 P **P 08 40 23.0 0.0**
THY Trims Highway 84.83 14 *e*P **P 08 40 22.2 -0.6**
HVU Hansel Valley 84.92 43 *e*P **P 08 40 24.0 +0.2**
SRU San Rafael 85.18 47 *e*P **P 08 40 25.1 -0.1**
DAU Daniels Canyon 85.28 45 *e*P **P 08 40 26.4 +0.8**
TCUT Toone Canyon 85.51 44 *e*P **P 08 40 26.9 +0.2**
NEW Newport 85.58 36 P **P 08 40 26.4 -0.4**
comp=Z,7.3nm,0.6s,mb4.5,baz=224,slow=3.9,SNR=20
NEW Newport 85.58 36 *e*P **P 08 40 26.2 -0.6**
comp=Z,3.9nm,0.6s,mb4.2
IMA Indian Mountai 85.59 10 *e*P **P 08 40 25.5 -0.9**
COLA College 85.62 13*c i*P **P 08 40 25.3 -1.3**
COLA College 85.62 13 *e*P **P 08 40 25.1 -1.5**
HWUT Hardware Ranch 85.63 44 *e*P **P 08 40 26.8 -0.5**
comp=Z,4.3nm,0.8s,mb4.1
XAN Xi'an 85.71 308 P **P 08 40 29.0 +1.2**
XAN AMB AMB
comp=Z,21nm,1.1s,mb4.7
ILAR Eielson Array 85.73 13 P **P 08 40 25.8 -1.4**
comp=Z,7.0nm,0.4s,mb4.6,baz=229,slow=5.2,SNR=194
ILAR PP PP 08 43 58.6 +2.8
comp=Z,2.2nm,1.0s,baz=222,slow=7.8,SNR=5.2
DLBC Dease Lake 85.78 23 *e*P **P 08 40 27.6 +0.1**
MNTX Cornudas Mount 85.82 55 *e*P **P 08 40 28.0 -0.3**
comp=Z,8.5nm,1.0s,mb4.3
PV10 Paradox Valley 85.89 48 *e*P **P 08 40 28.3 -0.3**
BILL Bilibino 86.12 354*c i*P **P 08 40 28.7 -0.2**
BILL pmax pmax
comp=Z,15nm,0.6s,mb4.8
BILL Bilibino 86.12 354 *e*P **P 08 40 28.9 0.0**
comp=Z,19nm,0.8s,mb4.8
PV01 Paradox Valley 86.12 48 *e*P **P 08 40 29.6 -0.1**
LTX Lajitas 86.26 58 *e*P **P 08 40 31.2 +0.6**
comp=Z,41nm,1.3s,mb4.9
TXAR Lajitas Array 86.26 58 P **P 08 40 31.5 +1.0**
comp=Z,12nm,0.8s,mb4.6,baz=219,slow=6.1,SNR=143
TXAR Lajitas Array 86.26 58 P **P 08 40 31.5 +1.0**
ANMO Albuquerque 86.31 52 P **P 08 40 30.9 +0.3**
comp=Z,8.6nm,1.1s,mb4.3,baz=224,slow=5.6,SNR=22
ANMO Albuquerque 86.31 52 *e*P **P 08 40 30.8 +0.2**
comp=Z,11nm,1.1s,mb4.4
MCMT McKenzie Canyo 86.35 41 *e*P **P 08 40 31.2 +0.6**
AHID Auburn Hatcher 86.48 43 *e*P **P 08 40 31.4 +0.1**
comp=Z,17nm,1.2s,mb4.5
RRI2 Red Ridge 86.61 43 *e*P **P 08 40 32.2 +0.4**
comp=Z,35nm,0.8s,mb5.1
MSO Missoula 86.67 39 *e*P **P 08 40 31.1 -1.0**
comp=Z,2.1nm,0.6s,mb4.0
HHC Hu-ho-hao-te 86.74 315 ⇑P **P 08 40 34.0 +1.5**
HHC XP sP 08 43 15.3 -0.4
HHC PP PP 08 44 02.5 -2.6
HHC SKS SKS 08 50 11.0 +1.3
HHC S S 08 50 20.5 -5.8
HHC XS 08 53 39.8
HHC SS SS 08 56 15.8 -10
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,165nm,5.3s
TPAW Teton Pass 86.91 43 *e*P **P 08 40 33.8 +0.5**
comp=Z,21nm,1.3s,mb4.7
REDW Red Top Meadow 86.92 43 *e*P **P 08 40 33.7 +0.3**
comp=Z,29nm,1.1s,mb4.9
DAWY Dawson 86.96 16 *e*P **P 08 40 32.3 -0.8**
SNOW Snow King Moun 87.03 43 *e*P **P 08 40 34.0 +0.2**
comp=Z,26nm,0.9s,mb5.0
WUWY Wally Ulrich 87.07 43 *e*P **P 08 40 34.4 +0.4**
IMW Indian Meadow 87.11 42 *e*P **P 08 40 35.0 +0.8**
comp=Z,42nm,1.2s,mb5.0
CHMT Chamberlain Mo 87.13 39 *e*P **P 08 40 33.6 -0.6**
MOOW Moose Ponds 87.17 42 *e*P **P 08 40 34.6 +0.1**
comp=Z,6.9nm,0.9s,mb4.4
LOHW Long Hollow 87.19 43 *e*P **P 08 40 34.8 +0.2**
comp=Z,11nm,0.7s,mb4.7
QLMT Earthquake Lak 87.24 41 *e*P **P 08 40 35.8 +1.1**
KMI Kunming 87.28 297 P **P 08 40 37.0 +1.6**
KMI AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
KMI Kunming 87.28 297 P **P 08 40 36.9 +1.5**
comp=Z,10.0nm,1.2s,mb4.4
YFT Old Faithful 87.43 42 *e*P **P 08 40 37.6 +1.9**
LCCM Lewis and Clar 87.44 40 P **P 08 40 36.0 +0.3**
YMR Madison River 87.45 41 *e*P **P 08 40 37.0 +1.2**
PDAR Pinedale Array 87.49 44 P **P 08 40 36.0 -0.1**
comp=Z,8.8nm,0.7s,mb4.6,baz=215,slow=3.2,SNR=83
PDAR PP PP 08 44 10.3 -0.9
comp=Z,0.6nm,1.0s,baz=252,slow=4.7,SNR=4.8
BOZ Bozeman (W) 87.50 40 *e*P **P 08 40 35.8 -0.2**
comp=Z,19nm,1.4s,mb4.6
LKWY Lake 87.76 42 *e*P **P 08 40 38.5 +1.3**
comp=Z,27nm,1.4s,mb4.8
WALA Waterton Lakes 87.81 37 *e*P **P 08 40 37.1 -0.2**
comp=Z,33nm,1.6s,mb4.8
HRY Holter Researc 87.88 39 *e*P **P 08 40 37.9 +0.1**
CMAR Chiang Mai Arr 88.34 290 *i* P **P 08 40 42.2 +1.7**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 88.34 290 P **P 08 40 42.1 +1.6**
comp=Z,1.4nm,0.6s,mb3.9,baz=104,slow=3.1,SNR=11
SYO Syowa Base 89.31 193 ⇑PP PP 08 44 22.6 -2.4
JCT Junction City 89.80 58 *e*P **P 08 40 46.3 -0.8**
comp=Z,6.1nm,0.7s,mb4.5
EDM Edmonton 90.20 33 *e*P **P 08 40 47.4 -0.9**
LZH Lanzhou 90.34 308 *e*P **P 08 40 50.5 +1.0**
LZH AP pP 08 42 47.5 +4.6
LZH XP sP 08 43 36.0 +2.7
LZH PP PP 08 44 36.2 +2.3
LZH AMB AMB
comp=Z,30nm,1.5s,mb4.9
LZH Lanzhou 90.34 308 *e*P **P 08 40 50.5 +1.0**
comp=Z,30nm,1.5s,mb4.9
LZH pP pP 08 42 47.5 +4.6
LZH sP sP 08 43 36.0 +2.7
LZH PP PP 08 44 36.2 +2.3
SNAA Sanae 90.88 179 P **P 08 40 50.5 -0.6**
comp=Z,1.2nm,1.0s,mb3.8,baz=327,slow=16,SNR=10.0
VNA3 Neumayer Olymp 91.04 177 *e* **P 08 40 53.4 +1.6**
VNA3 Neumayer Olymp 91.04 177⇓ *i*P **P 08 40 51.6 -0.2**
VNA3 *e* 08 40 53.4
LAO LASA Array 91.33 41 *e*P **P 08 40 54.3 +0.6**
comp=Z,11nm,0.7s,mb4.9
VNA2 Neumayer--Watz 91.47 177 *e* **P 08 40 54.9 +1.1**
VNA2 Neumayer--Watz 91.47 177⇓ *i*P **P 08 40 53.5 -0.3**
VNA2 *e* 08 40 54.9
RSSD Black Hills 91.71 44 *e*P **P 08 40 54.9 -0.6**
comp=Z,7.3nm,0.9s,mb4.6
INK Inuvik 91.75 15 P **P 08 40 54.0 -1.1**
comp=Z,13nm,0.9s,mb4.8,baz=223,slow=4.7,SNR=38
INK Inuvik 91.75 15 *e*P **P 08 40 53.7 -1.5**
comp=Z,20nm,1.1s,mb5.0
ULN Ulaanbaatar 92.64 320*d i*P **P 08 41 00.3 +0.6**
ULN Ulaanbaatar 92.64 320 *e*P **P 08 40 59.5 -0.2**
comp=Z,1.9nm,0.6s,mb4.3
SONM Songino Array 93.03 319 P **P 08 41 01.9 +0.4**
comp=Z,0.8nm,0.4s,mb4.1,baz=124,slow=4.5,SNR=10.0
YKA Yellowknife Ar 94.29 25 P **P 08 41 06.0 -0.9**
comp=Z,3.9nm,0.8s,mb4.5,baz=244,slow=4.5,SNR=66
YKA PKiKP 08 45 45.8
comp=Z,0.1nm,0.4s,baz=247,slow=1.3,SNR=5.9
KSU1 Kansas State U 95.15 51 *e*P **P 08 41 11.8 +0.3**
TIXI Tiksi 95.77 345⇑ *e*P **P 08 41 12.0 -1.5**
TIXI pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
ZAL Zalesovo 107.73 322 PKiKP 08 46 10.1
comp=Z,0.9nm,0.4s,baz=203,slow=13,SNR=3.1
MKAR Makanchi Array 108.60 314 PKiKP 08 46 11.8
comp=Z,1.4nm,0.5s,baz=171,slow=0.7,SNR=29
BVAR Borovoye Array 116.33 321 PKP PKPdf 08 46 26.5 -0.5
comp=Z,3.4nm,0.4s,baz=118,slow=2.6,SNR=27
ARCES ARCESS Array B 125.96 350 PKP PKPdf 08 46 45.0 -0.2
comp=Z,1.6nm,0.3s,baz=105,slow=1.6,SNR=26
ARCES ARCESS Array B 125.96 350 PKP PKPdf 08 46 45.0 -0.2
FINES FINESS Array B 132.80 344 *i* PKIKP PKPdf 08 46 57.7 -0.6
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 132.80 344 PKP PKPdf 08 46 58.5 +0.2
comp=Z,1.7nm,0.6s,baz=55,slow=2.8,SNR=7.7
FINES SKPbc 08 49 37.1
comp=Z,2.5nm,0.7s,baz=90,slow=3.8,SNR=11
MATP Matopo 133.59 217 SKPbc 08 49 41.5
comp=Z,4.5nm,1.0s,baz=228,slow=3.0,SNR=6.0
OBN Obninsk 133.84 332 *e*PKIKP PKPdf 08 47 01.9 +1.5
NB2 NORSAR Subarra136.05 353 PKPabc PKPdf 08 46 53.0 -11
comp=Z,0.6nm,0.5s,baz=17,slow=2.6
NB2 NORSAR Subarra136.05 353 ⇑PKPab PKPdf 08 46 53.0 -11
NOA NORSAR Array B 136.05 353 PKhKP 08 46 53.8
comp=Z,0.7nm,0.7s,baz=34,slow=2.0,SNR=3.9
NOA PKP PKPdf 08 47 04.6 +0.2
comp=Z,1.1nm,0.7s,baz=14,slow=3.7,SNR=6.3
NOA SKPab 08 49 53.8
comp=Z,1.0nm,0.8s,baz=15,slow=3.1,SNR=4.0
HFS Hagfors 136.59 351 PKhKP 08 46 54.8
comp=Z,1.7nm,0.3s,baz=28,slow=5.1,SNR=12
HFS PKP PKPdf 08 47 05.9 +0.6
comp=Z,0.7nm,0.4s,baz=90,slow=4.4,SNR=3.7
HFS SKPbc 08 49 49.2
comp=Z,1.8nm,0.9s,baz=225,slow=2.1,SNR=3.7
SOC Sochi 138.43 317 *i* PKIKP PKPdf 08 47 10.7 +1.5
SOC *e* 08 50 07.8
SOC *e*PPP PPP 08 53 13.4 -2.8
SOC *e* 08 53 28.6
SOC *e*SS SS 09 07 33.5 -7.3
SOC *e*SSS SSS 09 12 52.0 -7.6
SOC pmax pmax
comp=N,6.0nm,0.7s
SOC pmax pmax
comp=Z,8.0nm,0.7s
SOC pmax pmax
comp=E,4.0nm,0.5s
ANN Anapa 139.31 320 *i* PKHKP 08 47 05.4
ANN pmax pmax
comp=Z,20nm,1.1s
AKASG Malin Array Be 140.10 332 PKhKP 08 47 03.1
comp=Z,1.3nm,0.4s,baz=44,slow=3.9,SNR=10
AKASG PKP PKPdf 08 47 13.1 +1.1
comp=Z,2.3nm,0.3s,baz=37,slow=3.3,SNR=9.2
AKASG SKPbc 08 49 59.2
comp=Z,0.2nm,0.3s,baz=33,slow=3.2,SNR=4.0
MALT Malatya 141.47 310 PKPpre 08 47 14.2
EKA Eskdalemuir Ar 142.24 4 PKhKP 08 47 12.2
comp=Z,3.9nm,0.8s,baz=348,slow=2.7,SNR=11
LVV L'vov 142.96 335 *e*PKHKP 08 47 15.7
BSEG Bad Segeberg 143.07 351 *e*PKHKP 08 47 15.6
KWP Kalwaria 143.63 336 *e*PKP PKPdf 08 47 18.0 0.0
WCB1 Church Bay 144.06 6⇑ *e*P PKPbc 08 47 18.1 -0.5
WCB1 AMb AMB 08 47 18.9
comp=Z,51nm,1.0s
YRC Rhoscolyn 144.19 6⇑ *e*P PKPbc 08 47 18.4 -0.4
YRC AMb AMB 08 47 19.3
comp=Z,80nm,0.8s
OJC Ojcow 144.19 339 *e*PKP PKPdf 08 47 19.6 +0.6
WPM1 Penmaenmawr 144.24 5⇑ *e*P PKPdf 08 47 18.9 -0.1
WPM1 AMb AMB 08 47 20.2
comp=Z,105nm,1.6s
BRTR Keskin Array B 144.25 315 PKP PKPdf 08 47 20.1 +0.6
comp=Z,8.5nm,0.6s,baz=117,slow=2.8,SNR=39
YLL Llanberis 144.33 5⇑ *e*P PKPdf 08 47 19.1 -0.1
KOLS Kolonicke sedl 144.36 336 *e*PKP PKPdf 08 47 20.6 +1.2
CFR Carcaliu 144.44 326 PKIKP PKPdf 08 47 21.2 +1.6
YRE Yr Eifl 144.47 6⇑ *e*P PKPdf 08 47 19.4 0.0
ASF Jabal al Asfar 144.62 301 PKP PKPdf 08 47 21.7 +1.4
comp=Z,8.1nm,0.8s,baz=20,slow=1.5,SNR=12
SBD1 Bryn Du 144.64 5⇑ *e*P PKPdf 08 47 20.4 +0.6
SBD1 AMb AMB 08 47 21.3
comp=Z,59nm,1.1s
NIE Niedzica 144.69 338⇑ *e*PKP PKPdf 08 47 20.8 +0.9
CRVS Cervenica-Dubn 144.70 337 *e*PKP PKPdf 08 47 21.6 +1.6
KSP Ksiaz 144.71 343⇑ *i*PKIKP PKPdf 08 47 21.7 +1.8
KSP Ksiaz 144.71 343 *e*PKP PKPdf 08 47 21.6 +1.7
HARR Harsova 144.88 326 PKIKP PKPdf 08 47 22.4 +2.0
HLM1 Long Mynd 145.06 4⇑ *e*P PKPdf 08 47 21.6 +1.1
HLM1 AMb AMB 08 47 23.7
comp=Z,57nm,1.6s
OKC Ostrava-Krasne 145.06 341 *e*PKP PKPdf 08 47 22.4 +1.8
CLL Collm 145.09 347 *i* PKIKP PKPdf 08 47 22.2 +1.6
CLL pmax pmax
comp=Z,48nm,0.6s
CLL Collm 145.09 347⇑ *i*PKP1 PKPbc 08 47 22.2 +0.8
CLL *i* PKP2 PKPab 08 47 23.1 -1.8
UPC Upice 145.09 343 *e*PKP PKPdf 08 47 22.7 +2.1
SSP1 Stoney Pound 145.14 4⇑ *e*P PKPdf 08 47 22.0 +1.4
SSP1 AMb AMB 08 47 23.2
comp=Z,74nm,1.9s
DPC Dobruska-Polom 145.15 343 *e*PKP PKPdf 08 47 23.2 +2.5
DPC *ex* x 08 47 24.6
BRG Berggiesshubel 145.29 346 *i* PKIKP PKPdf 08 47 23.0 +2.1
BRG pmax pmax
comp=Z,23nm,0.8s
MORC Moravsky Berou 145.30 341 *e*PKP PKPdf 08 47 22.6 +1.6
ISR Istrita 145.31 328 PKIKP PKPdf 08 47 23.1 +1.9
MLR Muntele Rosu 145.35 329 PKPbc PKPbc 08 47 22.9 +0.6
comp=Z,7.2nm,0.5s,baz=335,slow=7.7,SNR=19
MLR Muntele Rosu 145.35 329 P PKPdf 08 47 23.4 +2.2
KECS Kecovo 145.41 337 *e*PKP PKPdf 08 47 23.6 +2.4
PVCC Panska Ves 145.45 345 *e*PKP PKPdf 08 47 23.9 +2.7
HTR Trewern Hill 145.46 5⇑ *e*P PKPdf 08 47 21.9 +0.7
HTR AMb AMB 08 47 23.4
comp=Z,41nm,1.4s
HAE Alders End 145.56 4 *e*P PKPdf 08 47 23.0 +1.6
HAE AMb AMB 08 47 24.4
comp=Z,74nm,1.1s
MCH1 Michaelchurch 145.56 4⇑ *e*P PKPdf 08 47 22.7 +1.4
DRGR 145.88 333 P PKPdf 08 47 25.0 +2.9
HGH Gray Hill 145.94 4⇑ *e*P PKPdf 08 47 23.6 +1.6
HGH AMb AMB 08 47 26.1
comp=Z,72nm,0.9s
PRU Pruhonice 145.96 344 *e*PKP PKPdf 08 47 25.0 +2.9
PRU *ex* x 08 47 27.1
VYHS Vyhne 145.99 339 *e*PKP PKPdf 08 47 24.7 +2.5
VRAC Vranov 146.00 342 PKPbc PKPbc 08 47 25.2 +1.4
comp=Z,8.2nm,0.8s,baz=38,slow=5.7,SNR=8.5
VRAC Vranov 146.00 342 P PKPdf 08 47 25.6 +3.4
MOX Moxa 146.01 348 *e*PKIKP PKPdf 08 47 24.9 +2.7
PSZ Piszkesteto 146.10 337 PKIKP PKPdf 08 47 25.6 +3.2
PSZ Piszkesteto 146.10 337 *e*PKP PKPdf 08 47 24.8 +2.4
ZST Bratislava 146.83 340 *e*PKP PKPdf 08 47 27.8 +4.3
TNS Taunus Mts 146.96 351 *e*PKIKP PKPdf 08 47 27.7 +4.0
KHC Kasperske Hory 146.99 345 *e*PKHKP 08 47 24.8
KHC *e* 08 47 28.1
KHC *e* 08 47 29.7
KHC Kasperske Hory 146.99 345*c i*PKIKP PKPdf 08 47 27.9 +4.1
KHC Kasperske Hory 146.99 345 *e*PKP PKPdf 08 47 24.8 +1.0
KHC *ex* x 08 47 28.1
KHC *ex* x 08 47 31.5
GRF Grafenberg Arr 146.99 348 *e*PKP2 PKPab 08 47 31.1 -1.1
GRF Grafenberg Arr 146.99 348 *e*PKP PKPdf 08 47 28.1 +4.3
GRF *e*PKP PKPdf 08 47 31.1 +7.3
GEC2 GERESS Array S 147.22 345 *e*PKIKP PKPdf 08 47 28.5 +4.3
GERES GERESS Array B 147.22 345 PKPbc PKPdf 08 47 28.1 +4.0
comp=Z,12nm,0.6s,baz=270,slow=2.7,SNR=13
BZS Buzias 147.27 333 PKIKP PKPdf 08 47 28.4 +4.1
ABH Alteburg 147.42 352 *e*P PKPdf 08 47 28.5 +4.1
GIVF Givet 147.47 356⇑ *i*PKP1 PKPdf 08 47 29.0 +4.5
comp=Z,40nm,0.7s
TOD Tromm 147.51 351 *e*P PKPdf 08 47 28.9 +4.3
BAIF Baives 147.56 356⇑ *i*PKP1 PKPdf 08 47 29.3 +4.6
comp=Z,42nm,0.8s
RUP Ruppelstein 147.65 353 *e*P PKPdf 08 47 29.6 +4.8
WLF Walferdange 147.79 354 *e*PKPbc PKPdf 08 47 30.1 +5.0
KTD Kalmit 147.89 351 *e*P PKPdf 08 47 32.4 +7.2
ARSA Arzberg 148.16 341⇑ *i*P PKPdf 08 47 30.7 +5.0
LANF Langenberg 148.26 352 *e*P PKPdf 08 47 27.9 +2.1
BFO Black Forest 148.82 351 *e*PKHKP 08 47 32.3
BFO Black Forest 148.82 351 *e*PKP2 PKPab 08 47 38.1 -1.5
PERS Pernice 148.84 341 *i* PKPbc PKPdf 08 47 31.8 +5.0
WLS Welschbruch 148.88 352 PKP PKPdf 08 47 32.6 +5.8
WLS Welschbruch 148.88 352 *e*P PKPdf 08 47 32.6 +5.8
CDF Champ du Feu 148.89 352 *e*PKP1 PKPdf 08 47 32.7 +5.8
comp=Z,23nm,0.4s
FLN La Foliniere 148.93 2⇑ *i*PKP1 PKPdf 08 47 32.3 +5.4
comp=Z,25nm,0.4s
KBA Koelnbreinsper 148.95 344⇑ *i*P PKPdf 08 47 32.1 +5.1
GRUS Gruza 149.03 332⇓ *i*PKP PKPdf 08 47 32.9 +5.6
MEZF Maizieres J'vi 149.05 355 *e*PKP1 PKPdf 08 47 33.1 +6.0
ECH Echery 149.10 352 PKP PKPdf 08 47 31.9 +4.7
ECH Echery 149.10 352 *e*P PKPdf 08 47 31.9 +4.7
LDF La Druitiere 149.11 2⇑ *i*PKP1 PKPdf 08 47 32.6 +5.4
comp=Z,29nm,0.4s
WATA Walderalm 149.15 346⇑ *i*P PKPdf 08 47 33.0 +5.7
ROSF Rostrenen 149.18 6 *e*PKP1 PKPdf 08 47 32.6 +5.3
DIVS Divcibare 149.18 333⇓ *i*PKP PKPdf 08 47 33.3 +5.9
WTTA Wattenberg 149.20 346⇑ *i*P PKPdf 08 47 33.6 +6.2
THEF They Montfort 149.23 354 PKP PKPdf 08 47 32.3 +4.9
THEF They Montfort 149.23 354 *e*P PKPdf 08 47 32.3 +4.9
FELD Feldberg 149.31 351 *e*P PKPdf 08 47 33.3 +5.7
SGMF Saint Gilles 149.32 5⇑ *i*PKP1 PKPdf 08 47 33.1 +5.5
comp=Z,33nm,0.6s
SQTA Sankt Quirin 149.34 346⇑ *i*P PKPdf 08 47 33.6 +6.0
HAU Haudompre 149.41 353⇑ *i*PKP1 PKPdf 08 47 33.7 +6.0
comp=Z,25nm,0.5s
MOF Molkenrain 149.46 352 PKP PKPdf 08 47 33.6 +5.8
MOF Molkenrain 149.46 352 *e*P PKPdf 08 47 31.6 +3.8
HINF Hinteralfeld 149.53 352⇑ *i*PKP1 PKPdf 08 47 33.8 +5.9
comp=Z,9.2nm,0.5s
LJU Ljubljana 149.55 341 *i* PKPbc PKPdf 08 47 34.0 +6.0
DAVA Damuels 149.56 348⇑ *i*P PKPdf 08 47 34.3 +6.3
QUIF Quisinic 149.60 6 *e*PKP1 PKPdf 08 47 33.5 +5.5
BBLS Bajina Basta - 149.62 333⇑ *i*PKP PKPdf 08 47 34.6 +6.4
BOJS Bojanci 149.80 340 *i* PKPbc PKPdf 08 47 35.0 +6.6
LOMF Lomont 149.99 352 PKP PKPdf 08 47 29.1 +0.5
LOMF Lomont 149.99 352 *e*P PKPdf 08 47 27.9 -0.8
DAVOX Davos 150.04 348 PKPbc PKPdf 08 47 35.5 +6.8
comp=Z,35nm,0.4s,baz=255,slow=2.3,SNR=43
LOR Lormes 150.36 356⇑ *i*PKP1 PKPdf 08 47 36.1 +6.9
comp=Z,49nm,0.4s
HYF Humbligny 150.42 358⇑ *i*PKP1 PKPdf 08 47 36.6 +7.3
comp=Z,95nm,0.3s
SSF Saint Saulge 150.59 357⇑ *i*PKP1 PKPdf 08 47 36.7 +7.1
comp=Z,39nm,0.4s
CABF La Chapelle 150.81 353⇑ *i*PKP1 PKPdf 08 47 37.6 +7.7
comp=Z,21nm,0.6s
AVF Avril sur Loir 150.87 357⇑ *i*PKP1 PKPdf 08 47 36.8 +6.8
comp=Z,12nm,0.5s
SMF Signal de Mont 150.98 356 *e*PKP1 PKPdf 08 47 37.3 +7.1
MFF Saint Martin d 151.10 2⇑ *i*PKP1 PKPdf 08 47 37.5 +7.2
comp=Z,35nm,0.5s
BGF Bois d'Agland 151.12 357⇑ *i*PKP1 PKPdf 08 47 37.8 +7.4
comp=Z,28nm,0.5s
TCF Toulx Ste Croi 151.42 358⇑ *i*PKP1 PKPdf 08 47 38.2 +7.4
comp=Z,24nm,0.8s
ORX Oropa 151.50 350 P PKPdf 08 47 38.0 +7.0
TRAV 151.66 350 P PKPdf 08 47 38.8 +7.7
LSD Ceresole Reale 151.80 351 P PKPdf 08 47 39.9 +8.6
LPL La Plagne 151.81 352 *e*PKP1 PKPdf 08 47 40.1 +8.7
comp=Z,12nm,0.7s
LPG La Plagne 151.82 352 *e*PKP1 PKPdf 08 47 40.4 +9.0
comp=Z,12nm,0.7s
RSP Reno Superiore 152.09 351 P PKPdf 08 47 38.9 +7.1
GRAM 152.18 346 P PKPdf 08 47 39.3 +7.4
FENE Fenestrelle 152.23 351 P PKPdf 08 47 40.5 +8.5
BNI Bardonecchia 152.27 351 *e*PKPbc PKPdf 08 47 40.8 +8.8
VALM 152.28 346 P PKPdf 08 47 40.7 +8.7
CODM 152.33 346 P PKPdf 08 47 39.7 +7.6
RRL Cesana Torines 152.38 351 P PKPdf 08 47 41.1 +9.0
BACM 152.38 346 P PKPdf 08 47 39.4 +7.2
BHB Bricherasio 152.39 350 P PKPdf 08 47 39.0 +6.8
SARO Sassorosso 152.39 345 P PKPdf 08 47 40.3 +8.1
RJF Les Rejaudoux 152.41 359⇑ *i*PKP1 PKPdf 08 47 40.4 +8.2
comp=Z,8.4nm,0.5s
PCP Pian Castagno 152.45 348 P PKPdf 08 47 41.1 +8.8
IDI Anoyia 152.49 314 PKPbc PKPdf 08 47 40.3 +7.7
comp=Z,3.8nm,0.4s,baz=137,slow=19,SNR=6.1
ORIF Oris-en-Rattie 152.50 353 *e*PKP1 PKPdf 08 47 41.1 +8.8
comp=Z,7.8nm,0.5s
MBDF Montbardon 152.57 351 *e*PKP1 PKPdf 08 47 41.4 +8.9
comp=Z,23nm,0.7s
PZZ Prazzo 152.74 351 P PKPdf 08 47 40.6 +7.9
LFF La Frestale 152.78 1 *e*PKP1 PKPdf 08 47 42.6 +10
CAF Calviac 152.78 358⇑ *i*PKP1 PKPdf 08 47 41.5 +8.8
comp=Z,10nm,0.5s
ROB Roburent 152.82 349 P PKPdf 08 47 40.5 +7.7
FIN Finale Ligure 152.84 349 P PKPdf 08 47 41.0 +8.1
STV2 Anna di Valdie 152.96 350 P PKPdf 08 47 40.2 +7.2
STV Sta Anna Valdi 152.96 350 P PKPdf 08 47 40.2 +7.2
ENR Entracque 152.96 350 P PKPdf 08 47 40.5 +7.5
MONE Monesi 153.05 349 P PKPdf 08 47 42.7 +10
IMI Imperia 153.19 349 P PKPdf 08 47 41.3 +7.9
NEGI Negi 153.28 349 P PKPdf 08 47 42.9 +9.5
LASF Ste Croix 153.54 356 *e*PKP1 PKPdf 08 47 43.1 +9.3
MTLF Montolieu 154.36 358 *e*PKP1 PKPdf 08 47 44.3 +9.4
PBRG Braganca 155.00 14 *e*PKPab PKPab 08 48 03.6 -2.0
PVRL Vila Real 155.26 16 *e*PKPab PKPab 08 48 05.9 -0.8
PVIS Viseu 155.73 17 *e*PKPab PKPab 08 48 07.8 -1.0
MTE Manteigas 156.12 16 *e*PKPab PKPab 08 48 09.5 -1.0
PTOM Tomar 156.60 19 *e*PKPab PKPab 08 48 11.3 -1.3
PCBR Castelo Branco 156.66 17 *e*PKPab PKPab 08 48 11.5 -1.3
VAE Valguarnera 157.02 332 PKPab PKPab 08 48 11.3 -3.2
comp=Z,5.2nm,0.5s,baz=228,slow=13,SNR=3.5
ESDC Sonseca Array 157.61 10 PKPab PKPab 08 48 16.0 -0.9
comp=Z,1.1nm,0.4s,baz=349,slow=4.9,SNR=7.5

IDC 25 08:31:58.3±7.7, 12.41N±92.60E, mb3.5/2, mb1 3.7/3, mb1mx3.4/21, mbtmp3.5/3, ML4.2/1, Error ellipse: s-maj=126.4km s-min=56.2km az=10.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.57**	**45**	Pn	P	08 34 03.6	-2.9
	0.7nm,0.3s,baz=235,slow=15,SNR=10						
MKAR	**Makanchi Array**	**35.36**	**348**	P	P	08 38 55.4	-2.2
	0.6nm,0.8s,baz=157,slow=9.2,SNR=5.9						
SONM	**Songino Array**	**37.15**	**15**	P	P	08 39 11.1	-1.6
	0.3nm,0.5s,baz=198,slow=7.4,SNR=3.5						

IDC 25 08:43:10.8±4.6, 1.26N±97.53E, mb3.5/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=172.3km s-min=30.9km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.78**	**122**	P	P	08 51 02.2	-1.8
	0.4nm,0.6s,baz=302,slow=9.0,SNR=5.2						
SONM	**Songino Array**	**47.02**	**8**	P	P	08 51 44.3	-1.4
	0.5nm,0.5s,baz=193,slow=9.2,SNR=5.8						
MKAR	**Makanchi Array**	**47.26**	**346**	P	P	08 51 45.4	-2.3
	0.6nm,0.7s,baz=162,slow=7.6,SNR=6.5						

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*IDC **25** 08:53:48.9±1.3, 1.75S×99.72E, h27km±4km, mb3.7/9, mb1 3.9/9, mb1mx3.7/18, mbtmp3.9/9, MS3.2/1, Ms1 3.2/1, ms1mx2.6/32, Error ellipse: s-maj=68.6km s-min=14.1km az=57.0*

*NEIC **25** 08:53:48.9±0.7, 1.79S×99.76E, mb4.2/1, Error ellipse:*

s-maj=35.7km s-min=8.6km az=57.0

ISC 25 08:53:47.1±1.4, 1.7S±0.2×99.8E±0.4, h28km, h28km±1.5km:pP-P, n20, σ0°60/14, mb3.9/9, MS3.2/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.05**	**358**	P	**P**	**08 58 20.9**	**-0.2**
	0.8nm,0.4s,baz=190,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**38.28**	**121**	P	**P**	**09 01 07.2**	**0.0**
	1.1nm,0.4s,mb4.0,baz=303,slow=9.1,SNR=22						
WRA				PcP	PcP	09 03 21.6	+0.2
	0.2nm,0.5s,baz=315,slow=2.5,SNR=4.8						
WRA	**Warramunga Arr**	**38.28**	**121**	P	**P**	**09 01 07.2**	**0.0**
WRA				PcP	PcP	09 03 21.6	+0.1
WRAB	**Tennant Creek**	**38.29**	**121**	*e*P	**P**	**09 01 07.5**	**+0.2**
	1.5nm,0.4s,mb4.1						
JOW	**Kunigami**	**39.45**	**42**	LR	LR	09 16 02.4	
	comp=Z,33nm,19.0s,MS3.2,baz=297,slow=34						
ASAR	**Alice Springs**	**39.56**	**126**	P	**P**	**09 01 18.0**	**+0.2**
	0.3nm,0.5s,mb3.3,baz=294,slow=7.8,SNR=7.8						
ASAR				pP	pP	09 01 27.6	+1.5
	1.5nm,0.8s,baz=300,slow=7.7,SNR=10						
ASAR				PcP	PcP	09 03 26.1	+0.7
	0.7nm,0.7s,baz=308,slow=3.0,SNR=5.2						
ASAR				pPcP		09 03 34.9	
	0.8nm,0.8s,baz=268,slow=2.2,SNR=6.0						
STKA	**Stephens Creek**	**49.47**	**132**	P	**P**	**09 02 36.6**	**-0.6**
	0.9nm,0.7s,mb3.9,baz=144,slow=18,SNR=2.9						
STKA	**Stephens Creek**	**49.47**	**132**	*e*P	**P**	**09 02 36.5**	**-0.7**
SONM	**Songino Array**	**49.66**	**6**	P	**P**	**09 02 39.1**	**+0.6**
	0.3nm,0.3s,mb3.8,baz=180,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**50.70**	**344**	P	**P**	**09 02 46.3**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=160,slow=7.3,SNR=8.7						
MKAR				pP	pP	09 02 54.2	-0.7
	1.8nm,0.6s,baz=153,slow=8.4,SNR=13						
MKAR	**Makanchi Array**	**50.70**	**344**	P	**P**	**09 02 46.3**	**-0.1**
MKAR				pP	pP	09 02 54.2	-0.7
ZAL	**Zalesovo**	**56.84**	**349**	P	**P**	**09 03 30.3**	**-1.2**
	1.4nm,0.3s,mb4.4,baz=216,slow=3.2,SNR=3.4						
ZAL				pP	pP	09 03 39.1	-1.1
	2.0nm,0.5s,baz=317,slow=6.6,SNR=4.7						
FINES	**FINESS Array B**	**83.77**	**332**	P	**P**	**09 06 14.8**	**-0.1**
	0.4nm,0.4s,mb3.9,baz=108,slow=12,SNR=4.4						
FINES	**FINESS Array B**	**83.77**	**332**	P	**P**	**09 06 14.8**	**-0.1**
ARCES	**ARCESS Array B**	**86.14**	**340**	P	**P**	**09 06 27.7**	**+1.1**
	2.5nm,0.9s,mb4.4,baz=117,slow=6.0,SNR=2.2						
ARCES				pP	pP	09 06 36.0	+0.4
	5.1nm,0.9s,baz=108,slow=3.8,SNR=2.5						
TXAR	**Lajitas Array**	**144.56**	**37**	PKP	PKPdf	09 13 23.4	-3.2
	0.4nm,0.4s,baz=225,slow=0.4,SNR=13						
TXAR				pPKP		09 13 32.1	
	0.8nm,0.5s,baz=245,slow=1.2,SNR=10						
MIAR	**Mount Ida**	**145.01**	**20**	*e*PKP	PKPdf	09 13 23.8	-3.5
MIAR				*e*		09 13 31.8	
TZTN	**Tazewell**	**145.19**	**5**	*e*P	PKPbc	09 13 24.0	+1.0
TZTN				*e*		09 13 32.0	
JCT	**Junction City**	**145.85**	**31**	*e*PKP	PKPdf	09 13 27.1	-1.8
JCT				*e*		09 13 35.1	
CPCT	**Cooper Cave**	**146.18**	**6**	*e*PKP	PKPdf	09 13 26.7	-2.6

*NEIC **25** 09:07:41.0, 60.08N×153.06W, h133km, MG3.1(AEIC), After AEIC.*
*IDC **25** 09:07:42.9±5.0, 60.48N×152.97W, h141km±32km, mb3.5/4, mb1 3.4/6, mb1mx3.2/23, mbtmp3.7/6, Error ellipse: s-maj=51.0km s-min=25.4km az=178.0*

ISC 25 09:07:39.0±0.3, 60.09N±0.03×153.01W±0.06, h141km±3km, n74, σ0°85/89, mb3.7/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIM	**Iliamna**	**0.03**	**105**	P	**P**	**09 07 58.4**	**+0.3**
ILIM				S	**S**	**09 08 12.2**	**-0.4**
INE	**Iliamna NE**	**0.04**	**223**	P	**P**	**09 07 58.5**	**+0.4**
ILW	**Iliamna West**	**0.07**	**246**	P	**P**	**09 07 58.4**	**+0.2**
ILS	**Iliamna Low So**	**0.13**	**192**	P	**P**	**09 07 58.3**	**0.0**
RSO	**Redoubt South**	**0.40**	**19**	P	**P**	**09 07 59.5**	**+0.2**
REF	**Redoubt East F**	**0.43**	**21**	P	**P**	**09 07 59.5**	**+0.1**
RDN	**Redoubt North**	**0.45**	**16**	P	**P**	**09 07 59.7**	**+0.2**
OPT	**Oil Point**	**0.45**	**194**	P	**P**	**09 07 59.5**	**0.0**
OPT				S	**S**	**09 08 13.7**	**-1.6**
NCT	**North Crescent**	**0.48**	**5**	P	**P**	**09 07 59.8**	**+0.1**
DFR	**Drift River**	**0.53**	**18**	P	**P**	**09 07 59.9**	**0.0**
RDT	**Redoubt**	**0.57**	**31**	P	**P**	**09 08 00.2**	**+0.1**
AUL	**Augustine Lava**	**0.74**	**197**	P	**P**	**09 08 01.3**	**+0.1**
AUL				S	**S**	**09 08 17.3**	**-0.9**
AUE	**Augustine Isla**	**0.75**	**194**	P	**P**	**09 08 01.3**	**+0.1**
AUW	**Augustine West**	**0.76**	**198**	P	**P**	**09 08 01.6**	**+0.3**
AUI	**Augustine Isla**	**0.78**	**196**	P	**P**	**09 08 01.6**	**+0.1**
AUI				S	**S**	**09 08 17.5**	**-1.2**
HOM	**Homer**	**0.81**	**121**	P	**P**	**09 08 02.5**	**+0.9**
HOM				S	**S**	**09 08 19.4**	**+0.4**
CNPM	**China Poot**	**1.06**	**121**	P	**P**	**09 08 04.5**	**+0.8**
CNPM				S	**S**	**09 08 22.2**	**-0.3**
NKA	**Nikishka**	**1.10**	**52**	P	**P**	**09 08 06.4**	**+2.4**
BRLK	**Bradley Lake**	**1.12**	**106**	P	**P**	**09 08 05.1**	**+0.9**
BRLK				S	**S**	**09 08 23.3**	**-0.4**
MCNL	**McNeil River**	**1.13**	**217**	P	**P**	**09 08 04.3**	**0.0**
CKL	**Chakachamna La**	**1.16**	**16**	P	**P**	**09 08 05.4**	**+0.8**
CKN	**Chakachatna No**	**1.21**	**19**	P	**P**	**09 08 05.8**	**+0.6**
BGL	**Barrier Glacie**	**1.22**	**14**	P	**P**	**09 08 06.2**	**+1.0**
CRP	**Crater Peak**	**1.26**	**19**	P	**P**	**09 08 06.5**	**+0.8**
CRP				S	**S**	**09 08 26.4**	**+0.2**
SLKM	**Skilak Lake**	**1.45**	**72**	P	**P**	**09 08 08.2**	**+0.5**
SLKM				S	**S**	**09 08 28.8**	**-0.9**
SYI	**Shuyak Island**	**1.52**	**168**	P	**P**	**09 08 08.5**	**+0.1**
STLK	**Strandline Lak**	**1.53**	**22**	P	**P**	**09 08 09.1**	**+0.6**
VOGL	**Vogel Lake**	**1.57**	**53**	P	**P**	**09 08 10.6**	**+1.6**
VOGL				S	**S**	**09 08 34.0**	**+2.0**
SVW2	**Sparrevohn**	**1.62**	**310**	P	**P**	**09 08 09.1**	**-0.5**
KAPH	**Katmai Pasha**	**1.64**	**205**	P	**P**	**09 08 10.1**	**+0.3**
FIB	**Fire Island**	**1.77**	**51**	P	**P**	**09 08 12.4**	**+1.2**
FIB				S	**S**	**09 08 37.4**	**+1.5**
KAHC	**Katmai Hardscr**	**1.77**	**216**	P	**P**	**09 08 11.1**	**-0.1**
SEW	**Seward**	**1.79**	**88**	P	**P**	**09 08 11.8**	**+0.4**
RC01	**Rabbit Creek A**	**1.90**	**57**	P	**P**	**09 08 12.8**	**0.0**
RC01				S	**S**	**09 08 38.1**	**-0.6**
PWA	**Palmer West**	**2.19**	**43**	P	**P**	**09 08 16.3**	**-0.1**
KDAK	**Kodiak Island**	**2.32**	**174**	P	**P**	**09 08 16.9**	**-1.0**
KDAK				S	**S**	**09 08 45.6**	**-2.2**
PMR	**Palmer**	**2.43**	**50**	P	**P**	**09 08 18.3**	**-1.0**
PMR				S	**S**	**09 08 47.6**	**-2.5**
CUT	**Chulitna**	**2.68**	**29**	P	**P**	**09 08 22.0**	**-0.6**
SML	**Sawmill**	**2.86**	**51**	P	**P**	**09 08 22.8**	**-2.2**
TT01	**Tatalina**	**3.17**	**334**	P	**P**	**09 08 28.6**	**-0.4**
TTA	**Tatalina**	**3.19**	**335**	*e*P	**P**	**09 08 28.9**	**-0.4**
HIN	**Hinchinbrook I**	**3.26**	**82**	P	**P**	**09 08 30.1**	**0.0**
SCM	**Sheep Creek Mo**	**3.28**	**55**	P	**P**	**09 08 29.7**	**-0.7**
VLZ	**Valdez**	**3.46**	**69**	P	**P**	**09 08 32.0**	**-0.7**
TRF	**Thorofare Moun**	**3.62**	**20**	P	**P**	**09 08 34.5**	**-0.3**
KTH	**Kantishna Hill**	**3.62**	**15**	P	**P**	**09 08 34.4**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.64**	**80**	P	**P**	**09 08 35.2**	**+0.1**
DIV	**Divide**	**3.72**	**71**	P	**P**	**09 08 35.6**	**-0.6**
MCK	**McKinley**	**4.13**	**26**	P	**P**	**09 08 41.5**	**-0.1**
PAX	**Paxson**	**4.62**	**48**	P	**P**	**09 08 48.1**	**-0.1**
GLB	**Gilahina Butte**	**4.71**	**69**	P	**P**	**09 08 49.0**	**-0.3**
THY	**Trims Highway**	**4.80**	**43**	P	**P**	**09 08 51.2**	**+0.6**
CCB	**Clear Creek Bu**	**5.18**	**26**	P	**P**	**09 08 54.7**	**-0.8**
MENT	**Mentasta**	**5.29**	**53**	*e*P	**P**	**09 08 56.7**	**-0.3**
BALM	**Baldy**	**5.35**	**75**	P	**P**	**09 08 58.4**	**+0.6**
COLA	**College**	**5.37**	**24**	P	**P**	**09 08 57.4**	**-0.6**
MDM	**Murphy Dome**	**5.37**	**22**	P	**P**	**09 08 56.8**	**-1.2**
IL1	**Eielson Array**	**5.49**	**29**	P	**P**	**09 08 59.0**	**-0.7**
ILAR	**Eielson Array**	**5.49**	**29**	P	**P**	**09 08 58.8**	**-0.9**
	2.6nm,0.3s,baz=216,slow=14,SNR=271						
ILAR				S	**S**	**09 09 55.8**	**-6.6**
	0.6nm,0.3s,baz=216,slow=15,SNR=4.8						
CTGM	**Chitina Glacie**	**5.83**	**76**	P	**P**	**09 09 05.5**	**+1.2**
IM3	**Indian Mountai**	**5.93**	**357**	P	**P**	**09 09 05.8**	**+0.2**
BCA3	**Beaver Creek A**	**6.14**	**56**	P	**P**	**09 09 08.3**	**0.0**
PNL	**Peninsula**	**6.87**	**88**	P	**P**	**09 09 20.0**	**+1.7**
DAWY	**Dawson**	**7.53**	**52**	P	**P**	**09 09 27.2**	**0.0**
BM3	**Burnt Mountain**	**8.24**	**23**	P	**P**	**09 09 35.6**	**-1.1**
UNV	**Unalaska Valle**	**9.65**	**236**	P	**P**	**09 09 56.0**	**+0.8**
MNAT	**Makushin Natee**	**9.70**	**236**	P	**P**	**09 09 56.8**	**+0.9**
MSW	**Makushin Switc**	**9.72**	**237**	P	**P**	**09 09 58.9**	**+2.8**
YKA	**Yellowknife Ar**	**18.42**	**66**	P	**P**	**09 11 45.9**	**+0.4**
	0.0nm,0.3s,baz=276,slow=10.0,SNR=12						
YKA				ScP		09 19 31.8	
	0.0nm,0.3s,baz=276,slow=2.4,SNR=5.6						
YKA	**Yellowknife Ar**	**18.42**	**66**	P	**P**	**09 11 45.9**	**+0.4**
YKA				ScP		09 19 31.8	
SONM	**Songino Array**	**54.73**	**306**	P	**P**	**09 16 56.3**	**+0.9**
	0.8nm,0.7s,mb3.6,baz=39,slow=7.9,SNR=6.4						
ZAL	**Zalesovo**	**57.32**	**324**	P	**P**	**09 17 13.1**	**-0.6**
	1.0nm,0.3s,mb4.1,baz=83,slow=8.6,SNR=3.3						
BVAR	**Borovoye Array**	**61.99**	**332**	P	**P**	**09 17 45.0**	**-0.7**
	1.1nm,0.5s,mb4.0,baz=28,slow=6.1,SNR=7.9						
MKAR	**Makanchi Array**	**64.36**	**321**	P	**P**	**09 18 00.4**	**-0.8**
	0.2nm,0.5s,mb3.2,baz=41,slow=6.7,SNR=5.2						

*IDC **25** 09:10:43.3±5.8, 7.71S×121.27E, h24km±39km, mb3.8/3, mb1 3.9/6, mb1mx3.7/19, mbtmp3.9/6, ML4.0/2, Error ellipse: s-maj=87.5km s-min=13.3km az=57.0*
*DJA **25** 09:10:44.2±1.7, 8.14S×120.59E, h30km±5km, mb5.1/2, ML4.4/1, Error ellipse: s-maj=54.6km s-min=9.5km az=134.0*
*NEIC **25** 09:10:47.6±2.5, 8.37S×120.24E, h80km±23km, Error ellipse: s-maj=31.6km s-min=16.9km az=58.0*

ISC 25 09:10:43.3±1.0, 8.19S±0.06×120.59E±0.06, h59km±13km, n18, σ1°29/22, mb4.3/4, 1C-3D, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang**	**3.83**	**347**	*e*Pn	**P**	**09 11 40.5**	**-0.7**
KEDI	**Kedomdong**	**4.44**	**266**	⇓*e*Pn	**P**	**09 11 50.1**	**+0.3**
	62nm,0.2s						
KEDI				⇓*e*Sn	**S**	**09 12 38.7**	**-2.0**
BUNI	**Buntu Taipa**	**4.51**	**357**	*e*Pn	**P**	**09 11 49.9**	**-0.8**
RATI	**Rata**	**5.03**	**264**	⇓*e*P	**P**	**09 12 00.6**	**+2.6**
	233nm,0.2s						
SRDI	**Scrawed**	**6.38**	**267**	⇓*e*P	**P**	**09 12 18.1**	**+1.2**
	47nm,0.2s						
FITZ	**Fitzroy Crossi**	**11.01**	**154**	*e*P	**P**	**09 13 22.2**	**+1.6**
	4.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.01**	**154**	Pn	**P**	**09 13 20.9**	**+0.3**
	1.4nm,0.3s,slow=8.1,SNR=12						
FITZ				Sn	**S**	**09 15 21.7**	**-1.3**
	0.7nm,0.3s,baz=195,slow=9.3,SNR=5.1						
MBWA	**Marble Bar**	**12.92**	**184**	*e*P	**P**	**09 13 45.6**	**-0.6**
WRA	**Warramunga Arr**	**17.72**	**133**	P	**P**	**09 14 46.7**	**-0.9**
	0.3nm,0.3s,baz=306,slow=13,SNR=18						
WRA				S	**S**	**09 17 59.5**	**-0.9**
	0.1nm,0.3s,baz=309,slow=24,SNR=3.4						
WRAB	**Tennant Creek**	**17.72**	**133**	*e*P	**P**	**09 14 46.3**	**-1.4**
WB2	**Warramunga Arr**	**17.73**	**133**	*e*P	**P**	**09 14 49.5**	**+1.8**
ASPA	**Alice Springs**	**19.99**	**142**	*e*P	**P**	**09 15 15.4**	**+1.7**
ASAR	**Alice Springs**	**20.00**	**142**	P	**P**	**09 15 14.9**	**+1.2**
	0.3nm,0.3s,baz=325,slow=9.9,SNR=23						
ASAR				S	**S**	**09 18 59.3**	**+9.0**
	baz=312,slow=22,SNR=4.6						
STKA	**Stephens Creek**	**30.62**	**143**	P	**P**	**09 16 56.4**	**+2.2**
	0.9nm,0.4s,mb3.9,baz=306,slow=7.9,SNR=4.4						
SONM	**Songino Array**	**57.17**	**349**	P	**P**	**09 20 26.1**	**-0.5**
	0.5nm,0.7s,mb3.7,baz=174,slow=6.5,SNR=5.2						
MKAR	**Makanchi Array**	**64.47**	**332**	P	**P**	**09 21 16.8**	**+0.8**
	1.1nm,0.6s,mb4.1,baz=139,slow=7.5,SNR=18						
VNDA	**Vanda**	**72.55**	**171**	*e*P	**P**	**09 22 04.4**	**-1.0**
	26nm,0.6s,mb5.3						
VNDA				*e*		09 22 33.7	
SBA	**Scott Base**	**73.53**	**171**	*e*P	**P**	**09 22 09.8**	**-1.4**

*NIED **25** 09:13:00, 35.70N×137.10E, h5km, Mw3.3 Best double couple: M0 8.57×10^13 NP1:φs143°, δ80°, λ-41°. NP2: φs242°, δ50°, λ-167°.*
*JMA **25** 09:13:24.3, 35.68N×137.09E, h5km, M3.2 Broadband fault plane solution: P waves. NP1:φs339°, δ79°, λ2°. NP2:φs248°, δ88°, λ169°. Principal axes: T Plg9°, Azm203°; N Plg79°, Azm57°; P Plg6°, Azm294°;*
JMA Felt II J1.

ISC 25 09:13:24.1±1.0, 35.69N±0.06×137.08E±0.05, h6km±10km, n6, σ0°14/10, 2C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGF	**Kuroka**	**0.24**	**111**	⇓P	**Pg**	**09 13 29.0**	**0.0**
JGF				S	**Sg**	**09 13 32.2**	**-0.1**
JGM	**Miyama**	**0.30**	**272**	⇓P	**Pg**	**09 13 30.4**	**+0.2**
JGN	**Niukaw**	**0.57**	**19**	⇑P	**Pg**	**09 13 35.3**	**-0.2**
JGN				S	**Sg**	**09 13 43.1**	**+0.1**
JKG	**Kaga**	**0.85**	**314**	P	**Pb**	**09 13 40.6**	**-0.2**
JKG				S	**Sb**	**09 13 52.2**	**0.0**
JTT	**Ttatey**	**0.94**	**12**	⇑P	**Pb**	**09 13 42.3**	**-0.1**
MAT	**Matsushiro**	**1.25**	**47**	P	**Pb**	**09 13 47.9**	**+0.2**
MAT				S	**Sb**	**09 14 03.9**	**+0.1**

IDC 25 09:20:30.8±2.1, 0.58N×126.67E, mb3.3/3, mb1 3.5/3, mb1mx3.4/17, mbtmp3.3/3, Error ellipse: s-maj=164.3km s-min=26.9km az=66.0, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.73**	**160**	P	P	09 25 24.4	-1.4
	0.5nm,0.5s,baz=340,slow=10.0,SNR=8.5						
ASAR	**Alice Springs**	**25.10**	**164**	P	P	09 25 57.1	-1.7
	0.4nm,0.5s,baz=351,slow=15,SNR=10						
MKAR	**Makanchi Array**	**60.11**	**326**	P	P	09 30 40.0	-2.3
	0.2nm,0.4s,baz=125,slow=5.9,SNR=4.2						

*IDC **25** 09:32:09.1±3.4, 13.44N×144.02E, mb3.9/5, mb1 4.0/5, mb1mx3.7/22, mbtmp3.9/5, Error ellipse: s-maj=114.6km s-min=29.7km az=78.0*
*NEIC **25** 09:32:24.2±0.8, 13.38N×144.41E, h144km±18km, mb4.1/3, Error ellipse: s-maj=59.8km s-min=16.2km az=81.0*

ISC 25 09:32:22.9±1.2, 13.4N±0.2×144.4E±0.6, h151km±27km, n12, σ0°21/12, mb3.7/7, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.48**	**69**	⇑*i*P	**P**	**09 32 44.8**	**0.0**
WRAB	**Tennant Creek**	**34.59**	**197**	*e*P	**P**	**09 38 59.5**	**+0.1**
	1.4nm,0.4s,mb3.9						
WB2	**Warramunga Arr**	**34.59**	**197**	*e*P	**P**	**09 38 59.5**	**+0.1**
WRA	**Warramunga Arr**	**34.60**	**197**	P	**P**	**09 38 59.1**	**-0.4**
	1.2nm,0.7s,mb3.6,baz=15,slow=9.1,SNR=16						
FITZ	**Fitzroy Crossi**	**36.38**	**211**	*e*P	**P**	**09 39 14.9**	**+0.4**
	5.4nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**36.38**	**211**	P	**P**	**09 39 14.6**	**+0.1**
	3.1nm,0.4s,mb4.3,baz=324,slow=10,SNR=12						
ASAR	**Alice Springs**	**38.26**	**196**	P	**P**	**09 39 30.4**	**+0.2**
	0.2nm,0.4s,mb3.1,baz=16,slow=6.4,SNR=10						
ASPA	**Alice Springs**	**38.26**	**196**	*e*P	**P**	**09 39 29.9**	**-0.3**
MBWA	**Marble Bar**	**42.05**	**216**	*e*P	**P**	**09 40 01.5**	**0.0**
	2.5nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**45.12**	**183**	P	**P**	**09 40 26.2**	**+0.3**
	1.1nm,0.5s,mb3.8,baz=342,slow=10,SNR=4.9						
STKA	**Stephens Creek**	**45.12**	**183**	*e*P	**P**	**09 40 26.1**	**+0.1**
MKAR	**Makanchi Array**	**61.30**	**316**	P	**P**	**09 42 24.6**	**0.0**
	0.3nm,0.5s,mb3.4,baz=90,slow=8.6,SNR=3.9						

*IDC **25** 09:46:31.6±2.1, 6.19S×129.34E, mb3.6/1, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, ML4.0/2, Error ellipse: s-maj=114.0km s-min=31.0km az=68.0*

ISC 25 09:46:43.9±1.3, 6.58S±0.09×130.0E±0.1, h150km, n8, σ1°14/15, mb3.4/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.55**	**159**	*e*P	**P**	**09 48 19.3**	**+0.5**
	25nm,0.2s						
KAKA				*e*S	**S**	**09 49 33.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**12.22**	**200**	*e*P	**P**	**09 49 35.6**	**+1.7**
	3.4nm,0.2s						
FITZ				*e*S	**S**	**09 51 46.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**12.22**	**200**	Pn	**P**	**09 49 35.3**	**+1.4**
	1.7nm,0.3s,baz=40,slow=10.0,SNR=20						
FITZ				Sn	**S**	**09 51 46.7**	**-0.8**
	3.2nm,0.3s,baz=54,slow=16,SNR=10						
WRA	**Warramunga Arr**	**13.93**	**163**	Pn	**P**	**09 49 56.5**	**+0.5**
	1.2nm,0.3s,baz=339,slow=14,SNR=33						
WRA				Sn	**S**	**09 52 24.7**	**-2.5**
	1.1nm,0.3s,baz=342,slow=22,SNR=8.6						
WB2	**Warramunga Arr**	**13.94**	**163**	*e*P	**P**	**09 49 55.4**	**-0.6**
WB2				*e*S	**S**	**09 52 23.3**	**-4.0**
ASAR	**Alice Springs**	**17.40**	**168**	P	**P**	**09 50 43.7**	**+4.8**
	0.6nm,0.3s,baz=352,slow=10.0,SNR=26						
ASAR				S	**S**	**09 53 51.9**	**+6.4**
	0.3nm,0.3s,baz=357,slow=29,SNR=5.5						
ASPA	**Alice Springs**	**17.40**	**168**	*e*P	**P**	**09 50 43.7**	**+4.8**
ASPA				*e*S	**S**	**09 53 49.6**	**+4.0**
MKAR	**Makanchi Array**	**67.88**	**327**	P	**P**	**09 57 27.6**	**-0.7**
	0.4nm,0.5s,mb3.4,baz=112,slow=7.0,SNR=6.1						

*ATH **25** 09:47:34.8, 36.47N×22.90E, h5km±2km, MD3.5/11, ML3.2*
*IDC **25** 09:47:34.2±1.9, 36.62N×23.16E, mb3.6/5, mb1 3.7/6, mb1mx3.5/25, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=58.7km s-min=18.0km az=47.0*
*NEIC **25** 09:47:35.0, 36.47N×22.88E, h5km, ML3.2(ATH), After ATH.*
*CSEM **25** 09:47:35.0±0.1, 36.47N×22.88E, h5km, ML3.2, Error ellipse: s-maj=3.2km s-min=1.8km az=63.0, After ATH*

ISC 25 09:47:34.1±0.7, 36.45N±0.05×22.84E±0.08, h5km, n33, σ1°64/34, mb3.5/5, 3C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.23**	**137**	⇑*i*PG	**Pg**	**09 47 39.0**	**+0.1**
VLI	**Veliai**	**0.28**	**16**	⇑*i*Pg	**Pg**	**09 47 41.0**	**+1.3**
VLI	**Veliai**	**0.28**	**16**	⇑*i*PG	**Pg**	**09 47 40.5**	**+0.8**
ITM	**Ithomi**	**1.03**	**315**	*e*PB	**Pb**	**09 47 55.0**	**+0.9**
NAIG	**Nisos Aigina**	**1.40**	**22**	*e*PB	**Pb**	**09 48 00.5**	**0.0**
VAM	**Vamos**	**1.52**	**133**	*e*PB	**Pb**	**09 48 03.9**	**+1.5**
NSAL	**Nisos Salamina**	**1.53**	**19**	*e*PG	**Pg**	**09 48 02.5**	**-2.3**
MGER	**Gerania Oros**	**1.57**	**12**	*e*PB	**Pb**	**09 48 04.2**	**+0.9**
ATH	**Athens Observa**	**1.67**	**25**	*e*Pb	**Pb**	**09 48 07.6**	**+2.6**
ATH	**Athens Observa**	**1.67**	**25**	*e*PB	**Pb**	**09 48 06.0**	**+1.0**
PTL	**Penteli**	**1.79**	**27**	*e*Pb	**Pb**	**09 48 06.4**	**-0.7**
PTL	**Penteli**	**1.79**	**27**	*e*PG	**Pg**	**09 48 06.8**	**-3.1**
GVD	**Gavdhos**	**1.90**	**147**	*e*Pn	**Pn**	**09 48 12.1**	**+4.5**
GVD	**Gavdhos**	**1.90**	**147**	*e*PN	**Pn**	**09 48 11.0**	**+3.4**
IDI	**Anoyia**	**2.03**	**124**	Pn	**Pn**	**09 48 08.9**	**-0.6**
	8.1nm,0.3s,baz=329,slow=17,SNR=22						
IDI				Sn	**Sn**	**09 48 33.9**	**-1.6**
	11nm,0.3s,baz=307,slow=18,SNR=8.6						
LKR	**Lokris**	**2.20**	**3**	*e*PG	**Pg**	**09 48 15.2**	**-2.8**
APE	**Apeiranthos**	**2.25**	**73**	*e*Pg	**Pg**	**09 48 17.6**	**-1.4**
APE	**Apeiranthos**	**2.25**	**73**	*e*PN	**Pn**	**09 48 15.0**	**+2.5**
NPS	**Neapolis**	**2.55**	**117**	*e*Pn	**Pn**	**09 48 20.3**	**+3.5**
NPS	**Neapolis**	**2.55**	**117**	*e*PN	**Pn**	**09 48 19.0**	**+2.2**
EVR	**Evrytania**	**2.59**	**342**	*e*PN	**Pn**	**09 48 19.8**	**+2.3**
XRY	**Khrisi**	**2.81**	**123**	*e*PB	**Pb**	**09 48 22.0**	**-2.5**
NEO	**Neokhori**	**2.87**	**6**	*e*PN	**Pn**	**09 48 23.5**	**+2.1**
KARP	**Karpathos**	**3.62**	**103**	*e*PN	**Pn**	**09 48 34.0**	**+1.9**
KARP	**Karpathos**	**3.62**	**103**	*e*Pn	**Pn**	**09 48 33.0**	**+0.9**
BRTR	**Keskin Array B**	**9.12**	**66**	Pn	**P**	**09 49 51.8**	**+2.4**
	0.1nm,0.3s,baz=248,slow=13,SNR=8.4						
GERES	**GERESS Array B**	**14.08**	**334**	Pn	**P**	**09 50 56.3**	**0.0**
	0.2nm,0.3s,baz=140,slow=29,SNR=2.7						
HFS	**Hagfors**	**24.42**	**349**	P	**P**	**09 52 52.6**	**-1.7**
	1.0nm,0.4s,mb3.6,baz=153,slow=13,SNR=12						
NOA	**NORSAR Array B**	**25.69**	**347**	P	**P**	**09 53 05.0**	**-1.5**
	0.5nm,0.6s,mb3.2,baz=153,slow=9.1,SNR=4.1						
EKA	**Eskdalemuir Ar**	**25.90**	**325**	P	**P**	**09 53 07.6**	**-0.8**
	0.9nm,0.5s,mb3.5,baz=132,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**44.65**	**57**	P	**P**	**09 55 46.0**	**-3.3**
	0.6nm,0.3s,mb3.8,baz=273,slow=6.8,SNR=18						
YKA	**Yellowknife Ar**	**75.63**	**341**	P	**P**	**09 59 20.2**	**-1.1**
	0.2nm,0.6s,mb3.2,baz=28,slow=5.0,SNR=5.4						
YKA	**Yellowknife Ar**	**75.63**	**341**	P	**P**	**09 59 20.2**	**-1.1**

*MOS **25** 10:07:13.5±0.6, 36.26N×70.69E, h191km, mb4.0/1, Error ellipse: s-maj=39.5km s-min=15.5km

TEL3	Telica 3	1.40	56⇑	eP	Pn	10 38 22.4	-0.2
TELN	Telica	1.43	55⇑	eP	Pn	10 38 22.6	-0.4
CNGN	Cerro Negro	1.49	61⇑	eP	Pn	10 38 24.3	+0.5
CNCH	Conchagua	1.50	8⇑	eP	Pn	10 38 24.0	0.0
CNCH				eS	Sn	10 38 42.6	-0.3
MOMJ	Momotombo	1.59	67⇑	eP	Pn	10 38 24.7	-0.6
BLLM	Bellamira	1.66	353⇑	eP	Pn	10 38 25.9	-0.3
BLLM				eS	Sn	10 38 47.0	-0.1
APYN	Apoyeque	1.71	75⇓	eP	Pn	10 38 26.9	-0.1
CRUN	El Crucero	1.71	83	eP	Pn	10 38 27.9	+0.8
XAVN	Gruta Xavier	1.71	78⇓	eP	Pn	10 38 27.1	+0.1
XAVN				eS	Sn	10 38 48.1	-0.4
TICN	Ticuantepe	1.78	82⇓	eP	Pn	10 38 28.4	+0.4
TICN				eS	Sn	10 38 52.5	+2.3
MGAN	Managua	1.79	78⇑	eP	Pn	10 38 28.0	-0.1
MGAN				eS	Sn	10 38 50.5	+0.1
WILN	Americas 2	1.85	78⇓	eP	Pn	10 38 28.1	-0.8
APON	Apoyo	1.93	86⇓	eP	Pn	10 38 30.0	-0.2
APON				eS	Sn	10 38 54.9	+0.8
PYTN	Playitas	2.07	69	eP	Pn	10 38 30.8	-1.4
LCBS	La Ceiba	2.07	334⇑	eP	Pn	10 38 31.8	-0.4
LCBS				eS	Sn	10 38 57.4	-0.3
LFRS	El Faro	2.08	331⇑	eP	Pn	10 38 31.9	-0.5
LFRS				eS	Sn	10 38 58.4	+0.5
LBRS	Las Brisas	2.18	333	eP	Pn	10 38 33.7	0.0
LFU	La Fuente	2.22	332	eP	Pn	10 38 34.4	+0.1
BOQS	Boqueron	2.29	328⇓	eP	Pn	10 38 34.8	-0.5
BOQS				eS	Sn	10 39 03.6	+0.5
CONN	Concepcion	2.37	95	eP	Pn	10 38 35.8	-0.7
SBLS	San Blas	2.56	323⇓	eP	Pn	10 38 39.4	+0.2
SBLS				eS	Sn	10 39 10.4	+0.3
SNJE	San Jose	2.58	324	eP	Pn	10 38 39.5	+0.1
RTR	El Retiro	2.62	323	eP	Pn	10 38 39.7	-0.4
RBDL	Robledal	2.82	325⇑	eP	Pn	10 38 43.2	+0.3
MTO2	Montecristo 2	2.90	334	eP	Pn	10 38 45.4	+1.4
JTS	JuntasAbangare	3.37	116	Pn	Pn	10 38 51.4	+0.7
	3.6nm,0.3s,baz=321,slow=18,SNR=18						
JTS				Sn	Sn	10 39 27.4	-3.2
	3.7nm,0.3s,baz=246,slow=23,SNR=5.0						
JTS				Lg		10 39 43.1	
	6.0nm,0.3s,baz=254,slow=19,SNR=4.1						
SDV	Santo Domingo	17.36	98	Pn	P	10 41 56.7	-4.2
	0.3nm,0.3s,baz=304,slow=18,SNR=2.3						
JCT	Junction City	21.57	331	eP	P	10 42 47.1	-1.2
	9.2nm,0.9s,mb4.2						
LTX	Lajitas	22.74	322	eP	P	10 43 00.8	+0.8
	2.8nm,0.7s,mb3.8						
TXAR	Lajitas Array	22.74	322	P	P	10 43 00.5	+0.4
	2.6nm,0.6s,mb3.8,baz=138,slow=9.7,SNR=48						
MIAR	Mount Ida	23.21	348	eP	P	10 43 04.2	-0.5
	14nm,0.8s,mb4.4						
MNTX	Cornudas Mount	25.47	324	eP	P	10 43 27.3	+0.9
	6.8nm,1.6s,mb3.9						
AMTX	Amarillo	26.13	334	eP	P	10 43 31.7	-0.8
	4.2nm,0.6s,mb4.2						
TUC	Tucson	29.24	318	P	P	10 44 01.6	+0.7
	0.5nm,0.4s,mb3.6						
SDCO	Great Sand Dun	30.21	332	P	P	10 44 07.8	-1.6
	1.6nm,0.8s,mb3.8						
SAML	Samuel	32.17	129	eP	P	10 44 26.4	-0.4
	1.1nm,0.4s,mb4.0						
SADO	Sadowa	33.74	11	LR	LR	10 58 46.1	
	comp=Z,49nm,18.7s,MS3.3,baz=353,slow=38						
LPAZ	La Paz	34.14	144	eP	P	10 44 46.7	+2.7
	0.7nm,0.6s,mb3.8						
PDAR	Pinedale Array	36.09	333	P	P	10 44 59.9	-0.4
	0.6nm,0.8s,mb3.6,baz=42,slow=42,SNR=2.3						
SNOW	Snow King Moun	37.18	332	eP	P	10 45 08.8	-0.7
	7.5nm,0.8s,mb4.6						
LOHW	Long Hollow	37.23	333	eP	P	10 45 10.7	+0.8
	2.8nm,0.9s,mb4.1						
RRI2	Red Ridge	37.35	332	eP	P	10 45 10.6	-0.3
	1.6nm,0.6s,mb4.0						
MOOW	Moose Ponds	37.40	333	eP	P	10 45 12.6	+1.3
	2.4nm,0.8s,mb4.1						
NVAR	Mina Array Bea	37.83	320	P	P	10 45 16.6	+1.6
	0.2nm,0.7s,mb3.0,baz=113,slow=6.9,SNR=2.8						
MCMT	McKenzie Canyo	39.19	332	eP	P	10 45 26.7	+0.4
SCHQ	Schefferville	46.08	17	P	P	10 46 18.0	-4.2
	5.5nm,1.1s,mb4.4,baz=218,slow=12,SNR=4.2						
SCHQ	Schefferville	46.08	17	P	P	10 46 18.0	-4.2
YKA	Yellowknife Ar	54.10	345	P	P	10 47 19.8	-3.6
	0.6nm,1.0s,mb3.5,baz=142,slow=7.3,SNR=11						
YKA				LR	LR	11 11 09.7	
	comp=Z,45nm,18.5s,MS3.6,baz=180,slow=37						
ILAR	Eielson Array	66.39	336	P	P	10 48 45.5	-1.9
	0.5nm,1.0s,mb3.5,baz=135,slow=5.1,SNR=4.1						
GERES	GERESS Array B	88.81	40	LR	LR	11 27 41.9	
	comp=Z,22nm,21.1s,MS3.6,baz=53,slow=34						
CMAR	Chiang Mai Arr	149.17	347	PKPbc	PKPdf	10 57 47.6	+1.8
	0.9nm,0.7s,baz=340,slow=3.8,SNR=6.7						

IDC 25 10:58:56.4±6.0, 19.28N×96.26E, mb3.9/3, mb1 4.0/3, mb1mx3.5/20, mbtmp3.9/3, ML2.7/1, Error ellipse: s-maj=139.5km s-min=32.2km az=38.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	2.67	107	Pn	Pn	10 59 40.7	-0.7
	0.3nm,0.3s,baz=260,slow=16,SNR=4.3						
SONM	Songino Array	29.66	14	P	P	11 05 03.8	-2.1
	0.7nm,0.5s,baz=192,slow=8.8,SNR=8.0						
MKAR	Makanchi Array	29.75	340	P	P	11 05 04.3	-2.4
	0.5nm,0.5s,baz=158,slow=8.1,SNR=8.6						
ZAL	Zalesovo	35.71	348	P	P	11 05 56.8	-1.7
	1.4nm,0.5s,baz=188,slow=1.9,SNR=4.2						

*NEIC **25** 11:53:39.6±1.2, 5.83S×128.73E, h309km±13km, mb4.2/7, Error ellipse: s-maj=12.5km s-min=7.1km az=53.0*
*IDC **25** 11:53:43.1±3.0, 5.90S×128.78E, h350km±33km, mb3.6/8, mb1 3.9/12, mb1mx3.7/19, mbtmp4.6/12, Error ellipse: s-maj=25.3km s-min=9.4km az=66.0*

ISC 25 11:53:37.5±1.5, 5.81S±0.08×128.8E±0.1, h302km±16km, n29, σ0°79/33, mb4.1/15, 3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	7.77	152	eP	P	11 55 29.5	+0.6
	28nm,0.2s						
KAKA				eS	S	11 56 50.9	-5.6
FITZ	Fitzroy Crossi	12.59	194	P	P	11 56 29.0	+0.6
	3.7nm,0.3s,baz=27,slow=11,SNR=43						
FITZ				S	S	11 58 50.8	+7.3
	2.9nm,0.3s,baz=84,slow=16,SNR=3.9						
WRAB	Tennant Creek	15.06	159	eP	P	11 56 56.7	-1.0
	65nm,0.4s						
WRA	Warramunga Arr	15.06	159	P	P	11 56 56.4	-1.3
	11nm,0.3s,baz=341,slow=12,SNR=375						
WRA				S	S	11 59 36.3	-1.0
	0.7nm,0.3s,baz=336,slow=21,SNR=8.8						
WB2	Warramunga Arr	15.07	159	i,iP	P	11 56 56.9	-0.9
ASPA	Alice Springs	18.43	165	i,iP	P	11 57 33.8	+0.5
ASAR	Alice Springs	18.44	165	P	P	11 57 33.9	+0.6
	12nm,0.3s,baz=345,slow=12,SNR=630						
ASAR				S	S	12 00 45.6	+2.1
	0.5nm,0.3s,baz=347,slow=21,SNR=9.9						
PMG	Port Moresby	18.59	102	P	P	11 57 35.6	+0.7
	1.9nm,0.3s,baz=266,slow=8.2,SNR=7.1						
CTA	Charters Tower	22.16	131	P	P	11 58 10.5	+0.7
	8.5nm,0.7s,mb4.2,baz=304,slow=9.8,SNR=7.3						
CTAO	Charters Tower	22.16	131	eP	P	11 58 10.5	+0.7
	10nm,0.8s,mb4.2						
FORT	Forrest	24.85	181	eP	P	11 58 35.4	+0.7
	247nm,0.5s						
STKA	Stephens Creek	28.59	157	i,iP	P	11 59 08.0	-0.4
	7.2nm,0.8s,mb4.2						
STKA	Stephens Creek	28.59	157	P	P	11 59 07.9	-0.6
	8.8nm,0.7s,mb4.3,baz=331,slow=8.1,SNR=24						
KULM	Kulim	30.14	291	eP	P	11 59 21.1	-1.2
CMAR	Chiang Mai Arr	38.02	310	P	P	12 00 29.8	+0.9
	3.3nm,0.7s,mb3.9,baz=137,slow=7.6,SNR=19						
CHG	Chiang Mai	38.23	310	P	P	12 00 31.5	+0.9
JIRN	Jiri	52.87	311	eP	P	12 02 25.3	+0.4
	14nm,0.6s,mb4.5						
GUN	Gumba	53.23	311	eP	P	12 02 27.7	+0.2
	40nm,0.7s,mb4.9						
KKN	Kakani	53.62	311	eP	P	12 02 30.5	+0.2
GKN	Gorkha	54.22	311	eP	P	12 02 34.6	0.0
	21nm,0.5s,mb4.8						
KOLN	Koldanda	54.89	310	eP	P	12 02 39.6	+0.2
	12nm,0.6s,mb4.5						
ULN	Ulaanbaatar	56.76	343	eP	P	12 02 52.6	+0.3
	1.7nm,0.5s,mb3.7						
SONM	Songino Array	56.93	342	P	P	12 02 53.6	+0.1
	1.3nm,0.6s,mb3.5,baz=156,slow=5.9,SNR=9.4						
MKAR	Makanchi Array	66.55	327	P	P	12 03 57.5	+0.3
	3.2nm,0.4s,mb4.4,baz=120,slow=8.4,SNR=52						
MKAR				PcP	PcP	12 04 23.2	-1.2
	0.6nm,0.6s,baz=139,slow=4.4,SNR=4.2						
AAK	Ala-Archa	68.83	320	eP	P	12 04 11.1	-0.2
	1.3nm,0.4s,mb4.0						
ZAL	Zalesovo	69.97	334	P	P	12 04 17.4	-0.7
	2.1nm,0.6s,mb4.0,baz=353,slow=18,SNR=3.7						
VNDA	Vanda	73.77	173	P	P	12 04 38.8	-1.4
	0.8nm,0.5s,mb3.6,baz=313,slow=8.1,SNR=4.3						
BVAR	Borovoye Array	76.40	328	P	P	12 04 54.6	-0.8
	2.0nm,0.9s,mb3.8,baz=146,slow=5.3,SNR=9.7						
CHKZ	Chkalovo	76.60	329	eP	P	12 04 55.9	-0.6
	2.8nm,0.9s,mb4.0						

*IDC **25** 12:04:42.1±9.5, 21.59S×176.00W, h232km±87km, mb3.5/7, mb1 3.8/8, mb1mx3.6/18, mbtmp4.1/8, Error ellipse: s-maj=84.6km s-min=26.3km az=154.0*
*NEIC **25** 12:04:45.1±5.5, 21.70S×176.00W, h262km±48km, mb4.2/2, Error ellipse: s-maj=66.8km s-min=18.8km az=152.0*

ISC 25 12:04:42.7±1.4, 21.6S±0.5×176.1W±0.3, h250km, n15, σ0°65/13, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	16.23	265	P	P	12 08 18.9	+0.3
	0.5nm,0.3s,baz=81,slow=15,SNR=5.2						
CTA	Charters Tower	35.17	265	P	P	12 11 16.1	+1.2
	6.4nm,0.7s,mb4.3,baz=119,slow=12,SNR=7.1						
CTAO	Charters Tower	35.17	265	eP	P	12 11 15.9	+1.0
	7.6nm,0.8s,mb4.3						
STKA	Stephens Creek	38.95	246	P	P	12 11 46.8	+0.5
	4.3nm,0.6s,mb4.1,baz=100,slow=10,SNR=17						
ASAR	Alice Springs	46.02	257	P	P	12 12 43.0	-0.3
	5.9nm,0.9s,mb3.9,baz=100,slow=8.0,SNR=73						
ASPA	Alice Springs	46.02	257	eP	P	12 12 43.7	+0.4
WB2	Warramunga Arr	46.21	263	eP	P	12 12 44.5	-0.4
WRA	Warramunga Arr	46.22	263	P	P	12 12 43.5	-1.4
	3.2nm,0.7s,mb3.7,baz=96,slow=8.0,SNR=60						
MBWA	Marble Bar	59.36	258	eP	P	12 14 20.7	-0.4
	4.0nm,0.6s,mb4.2						
NVAR	Mina Array Bea	80.58	42	P	P	12 16 28.3	-0.5
	0.3nm,0.7s,mb3.0,baz=233,slow=9.0,SNR=2.6						
TXAR	Lajitas Array	86.14	57	P	P	12 16 57.6	+0.4
	0.2nm,0.9s,mb2.9,baz=191,slow=4.6,SNR=2.6						
YKA	Yellowknife Ar	96.73	24	P	P	12 17 45.7	+0.3
	0.2nm,0.8s,mb3.4,baz=245,slow=4.1,SNR=3.7						
YKA	Yellowknife Ar	96.73	24	P	P	12 17 45.7	+0.3
AKASG	Malin Array Be	144.79	332	PKP	PKPdf	12 23 50.6	+1.3
	1.1nm,0.5s,baz=41,slow=4.4,SNR=11						
BRTR	Keskin Array B	148.86	312	PKPbc	PKPdf	12 24 03.6	+7.1
	0.9nm,0.7s,baz=117,slow=3.2,SNR=5.3						

*NIED **25** 12:14:00, 42.30N×143.00E, h56km, Mw3.9 Best double couple: M0 7.86×10^14 NP1:φs29°, δ71°, λ92°. NP2:φs204°, δ19°, λ85°.*
*MOS **25** 12:14:17.7±1.1, 42.28N×142.96E, h68km, mb4.1/4, Error ellipse: s-maj=18.5km s-min=9.6km az=81.3*
*JMA **25** 12:14:19.6±0.1, 42.30N×143.02E, h50km±1km, M3.8*
JMA Felt I J1.
*IDC **25** 12:14:20.2±2.1, 42.23N×143.00E, h75km±16km, mb3.5/11, mb1 3.6/12, mb1mx3.5/24, mbtmp3.7/12, Error ellipse: s-maj=21.0km s-min=14.9km az=109.0*
*NEIC **25** 12:14:20.2±0.8, 42.27N×142.99E, h75km±8km, mb4.1/3, Error ellipse: s-maj=11.1km s-min=7.1km az=113.0*

ISC 25 12:14:17.6±0.5, 42.25N±0.05×143.02E±0.06, h67km±3km, n38, σ0°81/46, mb3.7/15, 3C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.20	278	⇓P	P	12 14 27.7	-0.2
JNBK				eS	S	12 14 34.3	-1.2
JEM	Erimo	0.26	156	⇑P	P	12 14 28.8	+0.5
JCH	Churui	0.44	35	⇑P	P	12 14 29.7	0.0
JCH				eS	S	12 14 37.7	-1.0
JBT2	Biratori 2	0.71	318	⇓P	P	12 14 33.1	+0.5
JBT2				eS	S	12 14 42.9	-0.9
JOB	Onbets	0.89	43	⇑P	P	12 14 35.9	+1.1
JOB				eS	S	12 14 48.6	+1.1
JFR	Furan	0.96	341	⇓P	P	12 14 35.3	-0.5
JAR	Ashorobuto	1.18	28	P	P	12 14 38.8	+0.2
JAR				eS	S	12 14 53.5	-0.8
JEW	Eniwo	1.30	297	⇓P	P	12 14 41.3	+1.0
JAB	Ashibetsu	1.38	335	P	P	12 14 42.6	+1.1
ASAJ	Asahikawa	1.89	351	PN	P	12 14 49.4	+1.1
ASAJ				S	S	12 15 14.5	+3.5
ASAJ				pmax	pmax		
	comp=Z,65nm,0.3s						
ASAJ	Asahikawa	1.89	351	P	P	12 14 49.4	+1.1
	comp=Z,65nm,0.3s,baz=217,slow=8.5,SNR=119						
ASAJ				S	S	12 15 14.5	+3.5
	comp=Z,19nm,0.3s,baz=359,slow=32,SNR=8.4						
YUK	Yuzh-Kuril'sk	2.74	48	PN	P	12 15 00.5	+0.2
YUK				eS	S	12 15 31.5	-0.8
YUK				pmax	pmax		
	comp=Z,230nm,0.3s						
YUK				smax			
	comp=N,2μm,0.8s						
YUK				smax			
	comp=E,1μm,0.6s						
YUK				smax			
	comp=N,720nm,0.5s						
YUK				smax			
	comp=E,470nm,0.5s						
YSS	Yuzh-Sakhalins	4.71	358	ePN	P	12 15 28.0	+0.2
YSS	Yuzh-Sakhalins	4.71	358	ePn	P	12 15 28.4	+0.6
MAJO	Matsushiro	6.81	215	PN	P	12 15 57.3	+0.2
MJAR	Matsushiro Arr	6.81	215	P	P	12 15 57.6	+0.5
	comp=E,0.5nm,0.3s,baz=41,slow=11,SNR=5.0						
ULN	Ulaanbaatar	25.86	295	eP	P	12 19 44.4	0.0
ULN				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
ULN	Ulaanbaatar	25.86	295	eP	P	12 19 44.4	0.0
	comp=Z,0.8nm,0.3s,mb3.6						
SONM	Songino Array	26.30	295	P	P	12 19 48.8	+0.4
	comp=Z,1.1nm,0.6s,mb3.5,baz=84,slow=8.8,SNR=10.0						
ZAK	Zakamensk	28.34	300	eP	P	12 20 06.6	-0.4
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
ZAL	Zalesovo	39.52	308	P	P	12 21 43.3	+0.3
	comp=Z,2.0nm,0.4s,mb4.3,baz=38,slow=6.9,SNR=9.4						
MKAR	Makanchi Array	42.59	298	P	P	12 22 09.0	+0.7
	comp=Z,1.7nm,0.7s,mb3.9,baz=83,slow=9.5,SNR=16						
MKAR	Makanchi Array	42.59	298	P	P	12 22 09.0	+0.7
ILAR	Eielson Array	44.47	35	P	P	12 22 23.6	+0.3
	comp=Z,0.4nm,0.6s,mb3.4,baz=257,slow=5.8,SNR=7.7						
CHKZ	Chkalovo	47.78	310	eP	P	12 22 49.0	-0.6
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
CHKZ	Chkalovo	47.78	310	eP	P	12 22 49.0	-0.7
	comp=Z,1.3nm,0.3s,mb4.2						
INK	Inuvik	49.21	29	P	P	12 23 00.3	-0.1
	comp=Z,0.3nm,0.3s,mb3.7,baz=289,slow=5.3,SNR=6.0						
RES	Resolute Bay	57.25	16	eP	P	12 23 58.3	-1.5
RES				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
RES	Resolute Bay	57.25	16	eP	P	12 23 58.3	-1.6
	comp=Z,0.8nm,0.4s,mb4.1						
YKA	Yellowknife Ar	58.71	32	P	P	12 24 09.7	-0.4
	comp=Z,0.1nm,0.4s,mb3.2,baz=305,slow=6.8,SNR=5.5						
YKA	Yellowknife Ar	58.71	32	P	P	12 24 09.7	-0.4
ARCES	ARCESS Array B	59.57	339	P	P	12 24 15.4	-0.6
	comp=Z,3.6nm,0.9s,mb4.4,baz=45,slow=8.6,SNR=4.8						
WRA	Warramunga Arr	62.40	189	P	P	12 24 34.8	-1.0
	comp=Z,0.3nm,0.7s,mb3.4,baz=6.0,slow=7.0,SNR=6.3						
FINES	FINESS Array B	64.80	332	P	P	12 24 49.9	-0.9
	comp=Z,1.0nm,0.3s,mb4.1,baz=53,slow=6.9,SNR=19						
NB2	NORSAR Subarra	69.86	337	P	P	12 25 21.8	-0.8
	comp=Z,0.5nm,0.5s,mb3.6,baz=34,slow=6.2						
NOA	NORSAR Array B	69.86	337	P	P	12 25 22.3	-0.3
	comp=Z,0.6nm,0.5s,mb3.7,baz=35,slow=6.2,SNR=4.7						
NOA	NORSAR Array B	69.86	337	P	P	12 25 22.3	-0.3
TXAR	Lajitas Array	85.99	54	P	P	12 26 53.5	+1.8
	comp=Z,0.2nm,0.5s,mb3.3,baz=320,slow=4.0,SNR=3.5						

*NIED **25** 12:43:00, 45.30N×151.00E, h98km, Mw4.2 Best double couple: M0 2.58×10^15 NP1:φs226°, δ79°, λ-108°. NP2: φs105°, δ21°, λ-33°.*
*SKHL **25** 12:43:39.7±1.3, 45.94N×151.44E, h95km±23km, mb4.9/4, msh5.9/2*
*MOS **25** 12:43:41.2±1.0, 46.34N×150.94E, h94km, mb4.7/32, Error ellipse: s-maj=10.5km s-min=5.8km az=105.5*
*BJI **25** 12:43:43.4, 46.13N×151.08E, h129km, mB4.6, mb4.7*
*IDC **25** 12:43:44.2±2.9, 46.14N×151.04E, h118km±26km, mb4.1/30, mb1 4.2/31, mb1mx4.1/36, mbtmp4.4/31, MS3.2/1, Ms1 3.3/1, ms1mx2.4/29, Error ellipse: s-maj=15.0km s-min=10.9km az=147.0*
*NEIC **25** 12:43:45.7±1.1, 46.16N×151.06E, h131km±9km, mb4.6/38, Error ellipse: s-maj=9.3km s-min=5.4km az=151.0*
*JMA **25** 12:43:46.0±0.6, 45.26N×151.04E, h122km, M4.0*

ISC 25 12:43:41.3±0.6, 45.99N±0.04×151.05E±0.06, h109km±5km, n224, σ1°16/243, mb4.5/83, 13C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.36	252	i,iPN	P	12 44 19.0	-0.6
KUR				i S	S	12 44 49.5	+1.3
KUR				pmax	pmax		
	comp=Z,340nm,0.6s						
KUR				smax			
	comp=N,770nm,0.7s						
KUR				smax			
	comp=E,1μm,0.7s						
KUR				smax			
	comp=N,10μm,2.0s						
KUR				smax			
	comp=E,10μm,2.0s						
KUR	Kuril'sk	2.36	252	⇓i,iP	P	12 44 19.0	-0.6
KUR				AMB	AMB	12 44 20.0	
	comp=E,340nm,0.6s						
KUR				i S	S	12 44 49.5	+1.3
KUR				A		12 44 50.5	
	comp=E,10μm,2.0s						
KUR				A		12 44 50.5	
	comp=E,10μm,2.0s						
KUR				A		12 44 50.5	
	comp=E,770nm,0.7s						
KUR				A		12 44 50.5	
	comp=E,1μm,0.7s						
YUK	Yuzh-Kuril'sk	4.17	244	⇑i,iPN	P	12 44 44.6	+0.5
YUK				i S	S	12 45 32.3	+0.2
YUK				pmax	pmax		
	comp=Z,280nm,0.4s						
YUK				smax			
	comp=N,2μm,0.7s						
YUK				smax			
	comp=N,840nm,0.5s						
YUK				smax			
	comp=E,390nm,0.5s						
YUK	Yuzh-Kuril'sk	4.17	244	⇑i,iP	P	12 44 44.6	+0.5
YUK				AMB	AMB	12 44 44.9	
	comp=E,280nm,0.4s						
YUK				i S	S	12 45 32.3	+0.2
YUK				A		12 45 37.5	
	comp=E,2μm,0.7s						
YUK				A		12 45 38.7	
	comp=E,840nm,0.5s						
YUK				A		12 45 38.7	
	comp=E,390nm,0.5s						
NEM2	Nemuro 2	4.61	237	P	P	12 44 49.3	-0.8
NEM2				eS	S	12 45 39.3	-3.5
JRA	Rausu	4.68	246	P	P	12 44 52.3	+1.2
JNK	Nakash	5.11	244	P	P	12 44 57.8	+1.0
JAK	Akkeshi	5.44	239	P	P	12 45 01.0	-0.3
JAK				eS	S	12 45 58.7	-4.5
JTKR	Abashiri--Toko	5.45	251	P	P	12 45 03.2	+1.7
JMP	Maruseppu	5.80	253	P	P	12 45 08.1	+1.9
YSS	Yuzh-Sakhalins	5.81	282	ePN	P	12 45 09.9	+3.6
YSS				e		12 46 02.9	
YSS				pmax	pmax		
	comp=E,20nm,0.5s						
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				smax			
	comp=N,70nm,1.1s						
YSS				smax			
	comp=E,110nm,1.1s						
YSS	Yuzh-Sakhalins	5.81	282	ePn	P	12 45 09.5	+3.1
	comp=E,35nm,0.6s						
YSS	Yuzh-Sakhalins	5.81	282	eP	P	12 45 09.9	+3.6
YSS				AMB	AMB	12 45 11.4	
	comp=E,20nm,0.5s						
YSS				AMB	AMB	12 45 11.4	
	comp=E,20nm,0.5s						
YSS				eS	S	12 46 14.9	+2.7
YSS				A		12 46 20.4	
	comp=E,70nm,1.1s						
YSS				A		12 46 20.4	
	comp=E,110nm,1.1s						
JAR	Ashorobuto	5.85	245	P	P	12 45 08.2	+1.3
JOB	Onbets	6.01	242	P	P	12 45 10.0	+0.8
JOB				eS	S	12 46 14.3	-3.0
JSE	Soyaes	6.04	263	P	P	12 45 12.5	+3.0
JKK2	Kamakawa 2	6.26	253	P	P	12 45 14.5	+1.9
ASAJ	Asahikawa	6.27	256	PN	P	12 45 15.3	+2.6
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ	Asahikawa	6.27	256	P	P	12 45 15.3	+2.6
	comp=Z,2.5nm,0.3s,baz=101,slow=15,SNR=24						
ASAJ	Asahikawa	6.27	256	P	P	12 45 15.2	+2.5
JCH	Churui	6.46	241	P	P	12 45 15.0	-0.4
JCH				eS	S	12 46 24.0	-4.3
JFR	Furan	6.67	248	P	P	12 45 19.5	+1.3
JAB	Ashibetsu	6.76	252	P	P	12 45 21.9	+2.5
JEM	Erimo	6.94	238	P	P	12 45 22.5	+0.6
JBT2	Biratori 2	7.00	246	P	P	12 45 22.5	-0.3
JBT2				eS	S	12 46 39.3	-2.0
JNBK	Urakawa-nobuka	7.03	241	P	P	12 45 21.8	-1.3
JNBK				eS	S	12 46 35.5	-6.5
TYV	Tymovskoe	7.41	314	eP	P	12 45 27.8	-0.5
TYV				AMB	AMB	12 45

comp=Z,18nm,1.0s
ZEA AMB AMB 12 47 33.7
comp=Z,29nm,1.0s
CN2 Changchun 18.25 272 *e*P **P 12 47 46.0 -2.4**
CN2 AMB AMB
comp=Z,10.0nm,1.1s
KS15 Wonju Array Si 19.23 252 *e*P **P 12 48 00.6 +1.3**
SNY Shenyang 20.18 268 ⇑P **P 12 48 09.5 +0.4**
SNY AMB AMB
comp=Z,20nm,0.8s
YAK Yakutsk 20.23 330⇑ *e*P **P 12 48 07.5 -1.9**
YAK pmax pmax
comp=Z,21nm,0.4s
YAK Yakutsk 20.23 330 *e*P **P 12 48 07.3 -2.2**
comp=Z,43nm,0.6s
BILL Bilibino 23.47 14 *i* P **P 12 48 40.8 -0.3**
BILL pmax pmax
comp=Z,2.0nm,0.4s,mb3.8
BILL Bilibino 23.47 14 *e*P **P 12 48 42.1 +1.0**
comp=Z,2.9nm,0.4s,mb4.0
BOD Bodaibo 25.39 311 *e*P **P 12 48 57.2 -2.4**
BOD pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
BJI Beijing 26.04 269 *e*P **P 12 49 08.8 +3.0**
BJI AMB AMB
comp=Z,19nm,0.8s,mb4.6
BJI Beijing 26.04 269 *e*P **P 12 49 08.8 +3.0**
comp=Z,19nm,0.8s,mb4.6
JOW Kunigami 26.33 231 P **P 12 49 09.6 +0.9**
comp=Z,17nm,0.9s,mb4.5,baz=350,slow=6.6,SNR=6.3
SSE Sheshan 27.49 248 P **P 12 49 21.3 +2.0**
SSE S **S 12 53 50.8 +0.5**
SSE PCS 12 56 18.5
SSE AMB AMB
comp=Z,27nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,79nm,5.7s
SSE LR LR
comp=N,13nm,18.5s
SSE LR LR
comp=E,11nm,18.6s
SSE LR LR
comp=Z,22nm,16.8s
SSE Sheshan 27.49 248 P **P 12 49 21.3 +2.0**
comp=Z,27nm,0.7s,mb4.9
SSE sP sP 12 50 10.1 +14
SSE S **S 12 53 50.8 +0.5**
SSE sS 12 54 45.3
SSE PcS 12 56 18.5
SSE LR LR
comp=Z,20nm,16.8s
TIXI Tiksi 27.81 345⇑ *e*P **P 12 49 18.4 -3.4**
TIXI pmax pmax
comp=Z,3.0nm,0.4s,mb4.2
NJ2 Nanjing 28.41 252 *e*P **P 12 49 29.0 +1.5**
NJ2 S **S 12 54 03.0 -2.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
NJ2 LR LR
comp=N,810nm,22.0s
NJ2 LR LR
comp=E,210nm,23.8s
NJ2 LR LR
comp=Z,110nm,17.8s
ULN Ulaanbaatar 29.80 290 *e*P **P 12 49 41.3 +1.6**
ULN pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
ULN Ulaanbaatar 29.80 290 *e*P **P 12 49 41.3 +1.6**
comp=Z,2.1nm,0.7s,mb3.9
SONM Songino Array 30.24 290 P **P 12 49 42.7 -0.9**
comp=Z,1.3nm,0.6s,mb3.7,baz=78,slow=8.0,SNR=12
SONM PcP PcP 12 52 40.9 -0.9
comp=Z,0.8nm,0.6s,baz=140,slow=2.5,SNR=5.1
ZAK Zakamensk 31.71 296 *e*P **P 12 49 54.8 -1.6**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
WHN Wuhan 32.35 254 P **P 12 50 02.8 +0.5**
XAN Xi'an 34.02 265 P **P 12 50 16.5 -0.1**
XAN AMB AMB
comp=Z,10.0nm,1.1s,mb4.6
IMA Indian Mountai 35.26 36 *e*P **P 12 50 26.6 -0.2**
IMA pmax pmax
comp=Z,11nm,0.9s,mb4.7
IMA Indian Mountai 35.26 36 *e*P **P 12 50 26.6 -0.2**
comp=Z,11nm,0.9s,mb4.7
LZH Lanzhou 36.48 271⇑ *i*P **P 12 50 39.3 +1.9**
LZH AMB AMB
comp=Z,89nm,1.0s,mb5.7
LZH Lanzhou 36.48 271⇑ *i*P **P 12 50 39.2 +1.8**
LZH *SP sP 12 51 02.5 -13
LZH pmax pmax
comp=Z,89nm,1.0s,mb5.7
LZH Lanzhou 36.48 271⇑ *i*P **P 12 50 39.2 +1.8**
comp=Z,89nm,1.0s,mb5.7
LZH pP pP 12 50 57.5 -4.8
LZH sP sP 12 51 02.5 -13
MCK McKinley 37.15 40 *e*P **P 12 50 41.4 -1.3**
MCK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
MCK McKinley 37.15 40 *e*P **P 12 50 41.4 -1.3**
comp=Z,1.9nm,1.1s,mb3.9
COLA College 37.62 38 *i* P **P 12 50 46.4 -0.2**
GTA Gaotai 37.67 279 *e*P **P 12 50 49.0 +1.7**
GTA PCP PcP 12 53 03.8 +0.8
GTA AMB AMB
comp=Z,23nm,0.9s,mb5.0
ILAR Eielson Array 38.03 38 P **P 12 50 49.4 -0.7**
comp=Z,0.7nm,0.5s,mb3.7,baz=260,slow=6.9,SNR=21
ILAR PcP PcP 12 53 01.2 -2.6
comp=Z,0.3nm,0.6s,baz=281,slow=3.0,SNR=4.5
GYA Guiyang 40.15 257⇑ *i*P **P 12 51 09.0 +1.0**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
DAWY Dawson 41.33 39 *e*P **P 12 51 17.2 -0.1**
ZAL Zalesovo 41.91 306 P **P 12 51 20.3 -1.8**
comp=Z,1.2nm,0.4s,mb4.0,baz=80,slow=2.6,SNR=3.9
ZAL PcP PcP 12 53 15.9 -0.4
comp=Z,3.3nm,0.3s,baz=204,slow=6.2,SNR=11
ZAL Zalesovo 41.91 306 P **P 12 51 20.3 -1.8**
ZAL PcP PcP 12 53 15.9 -0.4
INK Inuvik 43.05 32 *e*P **P 12 51 31.3 +0.1**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 43.05 32 P **P 12 51 31.4 +0.2**
comp=Z,5.1nm,0.7s,mb4.3,baz=292,slow=6.8,SNR=38
INK Inuvik 43.05 32 *e*P **P 12 51 31.3 +0.1**
comp=Z,6.8nm,0.9s,mb4.4
MKAR Makanchi Array 46.02 297 P **P 12 51 54.2 -0.9**
comp=Z,5.5nm,0.6s,mb4.5,baz=69,slow=7.7,SNR=71
MKAR PcP PcP 12 53 30.1 -0.3
comp=Z,1.6nm,0.6s,baz=61,slow=3.3,SNR=6.0
DLBC Dease Lake 47.14 45 P **P 12 52 04.9 +1.0**
comp=Z,1.7nm,1.0s,mb3.7,baz=292,slow=9.3,SNR=3.5
CHKZ Chkalovo 49.82 310 *e*P **P 12 52 22.4 -2.2**
CHKZ *e* 12 53 42.4
CHKZ pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CHKZ Chkalovo 49.82 310 *e*P **P 12 52 22.4 -2.3**
comp=Z,9.5nm,0.6s,mb4.9
CHKZ *e*PcP PcP 12 53 42.4 -1.5
BVA0 Borovoye Array 50.23 309 *i* P **P 12 52 26.3 -1.5**
BVAR Borovoye Array 50.23 309 P **P 12 52 26.6 -1.2**
comp=Z,2.8nm,0.6s,mb4.3,baz=58,slow=8.6,SNR=24
BVAR PcP PcP 12 53 44.9 -0.6
comp=Z,1.0nm,0.4s,baz=76,slow=3.8,SNR=6.1
CMAR Chiang Mai Arr 50.80 255 P **P 12 52 33.7 +1.2**
comp=Z,3.7nm,0.7s,mb4.5,baz=38,slow=7.3,SNR=21
ULHL Ulahol 51.98 295 P **P 12 52 41.8 +0.7**
SNR=13
RES Resolute Bay 52.00 18 *e*P **P 12 52 39.7 -1.2**
RES pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
RES Resolute Bay 52.00 18 *e*P **P 12 52 39.7 -1.2**
comp=Z,6.6nm,0.8s,mb4.7
TKM2 Tokmak 2 52.04 296 P **P 12 52 41.9 +0.3**
SNR=7.8
YKA Yellowknife Ar 52.38 36 P **P 12 52 42.8 -1.0**
comp=Z,1.5nm,0.7s,mb4.2,baz=298,slow=6.9,SNR=25
YKA Yellowknife Ar 52.38 36 P **P 12 52 42.8 -1.0**
USP Ospenovka 52.55 297 P **P 12 52 45.3 0.0**
SNR=13
KBK Karagaybulak 52.59 296 P **P 12 52 46.0 +0.4**
SNR=5.1
KZA Kyzart 52.70 295 P **P 12 52 48.1 +1.6**
SNR=17
AAK Ala-Archa 52.88 296 *e*P **P 12 52 46.5 -1.4**
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
AAK Ala-Archa 52.88 296 *e*P **P 12 52 46.5 -1.4**
comp=Z,5.4nm,0.7s,mb4.7
EKS2 Erkin-Say 53.32 296 P **P 12 52 51.2 +0.1**
SNR=11
JIRN Jiri 53.57 274 *e*P **P 12 52 54.2 +1.0**
comp=Z,34nm,0.5s,mb5.6
GUN Gumba 53.63 274 *e*P **P 12 52 54.3 +0.7**
comp=Z,25nm,0.4s,mb5.6
AML Almayashu 53.65 296 P **P 12 52 54.2 +0.7**
SNR=7.3
KKN Kakani 54.13 274 *e*P **P 12 52 57.9 +0.7**
comp=Z,25nm,0.7s,mb5.4
PKI Pulchoki 54.17 274 *e*P **P 12 52 57.9 +0.4**
comp=Z,13nm,0.6s,mb5.2
DMN Daman 54.36 274 *e*P **P 12 52 59.8 +0.9**
comp=Z,33nm,0.8s,mb5.4
GKN Gorkha 54.44 275 *e*P **P 12 53 00.2 +0.7**
comp=Z,25nm,0.5s,mb5.5
ARU Arti 54.60 317⇑ *i*P **P 12 52 57.8 -2.4**
ARU *e* 12 54 00.5
ARU *e* 12 54 59.3
ARU *e*S **S 13 00 23.3 -6.1**
ARU *e*SS SS 13 04 08.6 -4.8
ARU pmax pmax
comp=Z,13nm,1.2s,mb4.8
ARU Arti 54.60 317 *e*P **P 12 52 57.5 -2.7**
comp=Z,9.7nm,0.9s,mb4.8
KKAR Karatay Array 55.10 298 *i* P **P 12 53 03.0 -1.1**
KOLN Koldanda 55.30 276 *e*P **P 12 53 06.4 +0.6**
comp=Z,32nm,0.8s,mb5.4
KEV Kevo 57.57 340 *e*p **P 12 53 18.9 -2.4**
comp=Z,16nm,1.0s,mb5.0
KEV Kevo 57.57 340 *e*P **P 12 53 18.9 -2.4**
KEV pmax pmax
comp=Z,16nm,1.0s,mb5.0
ARCES ARCESS Array B 58.09 340 P **P 12 53 23.2 -1.7**
comp=Z,1.9nm,0.5s,mb4.3,baz=40,slow=6.5,SNR=17
ARCES LR LR 13 20 31.4
comp=Z,23nm,21.0s,baz=43,slow=38
ARCES ARCESS Array B 58.09 340 P **P 12 53 23.2 -1.7**
ARCES LR LR 13 20 31.4
KULM Kulim 59.46 243 *e*P **P 12 53 35.0 0.0**
JOF Joensuu 61.37 333 *e*p **P 12 53 44.1 -3.3**
comp=Z,1.3nm,0.3s,mb4.4
SUMG Summit 61.55 3 *e*P **P 12 53 48.2 -0.3**
comp=Z,25nm,0.9s,mb5.2
KAF Kangasniemi 63.52 334 *e*p **P 12 53 59.1 -2.5**
comp=Z,3.5nm,0.6s,mb4.4,baz=38,slow=6.3
KAF Kangasniemi 63.52 334 *e*P **P 12 53 59.1 -2.5**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
FINES FINESS Array B 64.10 334 P **P 12 54 03.2 -2.2**
comp=Z,7.0nm,0.8s,mb4.5,baz=45,slow=8.1,SNR=20
FINES PcP PcP 12 54 38.1 -1.3
comp=Z,1.7nm,0.6s,baz=56,slow=6.9,SNR=4.5
FINES FINESS Array B 64.10 334 P **P 12 54 03.2 -2.2**
FINES PcP PcP 12 54 38.1 -1.3
RRI2 Red Ridge 64.99 53 *e*P **P 12 54 11.4 0.0**
comp=Z,1.9nm,0.6s,mb4.1
PDAR Pinedale Array 66.35 52 P **P 12 54 19.1 -1.0**
comp=Z,0.8nm,0.8s,mb3.6,baz=298,slow=2.3,SNR=7.8
WRA Warramunga Arr 67.35 197 P **P 12 54 25.8 -1.0**
comp=Z,0.5nm,0.7s,mb3.5,baz=16,slow=6.8,SNR=5.6
NB2 NORSAR Subarra 68.47 340 P **P 12 54 31.6 -1.4**
comp=Z,6.9nm,0.6s,mb4.7,baz=28,slow=6.2
NB2 NORSAR Subarra 68.47 340 P **P 12 54 31.6 -1.4**
NB2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
NOA NORSAR Array B 68.47 340 P **P 12 54 31.8 -1.2**
comp=Z,6.3nm,0.6s,mb4.6,baz=28,slow=6.4,SNR=45
HFS Hagfors 68.65 339 P **P 12 54 32.5 -1.7**
comp=Z,15nm,0.6s,mb5.0,baz=45,slow=4.2,SNR=66
GOF Gofitskoye 69.33 314⇓ *i*P **P 12 54 38.7 +0.1**
GOF pmax pmax
comp=Z,20nm,1.3s,mb4.8
KIV Kislovodsk 70.29 313 *e*P **P 12 54 44.0 -0.4**
KIV pmax pmax
comp=N,10.0nm,0.8s
KIV pmax pmax
comp=E,7.0nm,0.8s
KIV pmax pmax
comp=Z,12nm,0.8s,mb4.8
ASAR Alice Springs 71.06 197 P **P 12 54 50.4 +1.0**
comp=Z,0.5nm,0.6s,mb3.5,baz=9.8,slow=5.8,SNR=10
AKASG Malin Array Be 71.37 325 P **P 12 54 49.3 -1.5**
comp=Z,3.1nm,0.4s,mb4.5,baz=34,slow=6.2,SNR=26
GNI Garni 71.92 309 P **P 12 54 55.2 +1.0**
comp=Z,2.8nm,0.4s,mb4.5,baz=341,slow=18,SNR=4.2
SOC Sochi 72.05 315 *e*P **P 12 54 53.2 -1.8**
SOC *e* 12 55 10.0
SOC *e* 12 57 30.4
SOC *e*PPP PPP 12 59 17.1 -3.2
SOC *e*S S 13 03 58.1 -8.3
SOC *e* 13 04 43.8
SOC *e*SSS SSS 13 11 49.7 -7.9
SOC pmax pmax
comp=N,5.0nm,0.6s
SOC pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
SOC pmax pmax
comp=E,2.0nm,0.4s
ANN Anapa 72.26 317 *e*P **P 12 54 55.0 -1.2**
ANN *i* 12 55 14.5
ANN *i* *PP pP 12 55 30.5 +6.6
ANN *i* 12 57 37.2
ANN *e*S S 13 04 04.2 -4.6
ANN pmax pmax
comp=Z,15nm,0.7s,mb4.9
SCHQ Schefferville 74.55 22 P **P 12 55 08.5 -0.7**
comp=Z,1.4nm,0.5s,mb4.0,baz=28,slow=13,SNR=7.0
KWP Kalwaria 74.72 328 *e*P **P 12 55 11.2 +0.9**
OJC Ojcow 75.28 330 *e*P **P 12 55 13.3 -0.1**
KOLS Kolonicke sedl 75.46 328 *e*P **P 12 55 14.8 +0.3**
KOLS *e* 12 55 22.6
NIE Niedzica 75.77 329 *e*P **P 12 55 16.6 +0.4**
CRVS Cervenica-Dubn 75.79 328 *e*P **P 12 55 15.3 -1.0**
KSP Ksiaz 75.92 332 *e*P **P 12 55 17.3 +0.2**
OKC Ostrava-Krasne 76.17 331 *e*P **P 12 55 19.2 +0.7**
UPC Upice 76.30 332 *e*P **P 12 55 19.8 +0.6**
DPC Dobruska-Polom 76.34 332 *e*P **P 12 55 20.2 +0.8**
CLL Collm 76.55 334⇓ *i*P **P 12 55 20.6 0.0**
CLL pmax pmax
comp=Z,18nm,0.7s,mb4.9
CLL Collm 76.55 334⇓ *i*P **P 12 55 20.6 0.0**
comp=Z,18nm,0.7s,mb4.9
CLL Collm 76.55 334 ⇓P **P 12 55 20.6 0.0**
comp=Z,logA/T=1.4,mb4.9
BRG Berggiesshubel 76.64 334 *e*P **P 12 55 21.4 +0.3**
BRG pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
BRG Berggiesshubel 76.64 334 *e*P **P 12 55 21.4 +0.3**
comp=Z,2.9nm,0.6s,mb4.2
EKA Eskdalemuir Ar 76.72 345 P **P 12 55 21.4 -0.1**
comp=Z,2.5nm,0.5s,mb4.2,baz=19,slow=4.7,SNR=17
PVCC Panska Ves 76.75 333 *e*P **P 12 55 22.2 +0.5**
MLR Muntele Rosu 76.85 324 P **P 12 55 23.4 +1.0**
comp=Z,7.8nm,0.6s,mb4.6,baz=164,slow=3.1,SNR=16
VYHS Vyhne 77.07 330 *e*P **P 12 55 24.0 +0.4**
VYHS *e* 12 55 28.1
VRAC Vranov 77.15 331 P **P 12 55 24.9 +0.9**
comp=Z,13nm,0.8s,mb4.7,baz=22,slow=7.6,SNR=11
PRU Pruhonice 77.22 333 *e*P **P 12 55 24.9 +0.5**
ZST Bratislava 77.93 330 *e*P **P 12 55 29.5 +1.2**
BRTR Keskin Array B 77.94 316 P **P 12 55 29.2 +0.7**
comp=Z,4.7nm,0.9s,mb4.2,baz=72,slow=3.9,SNR=26
KHC Kasperske Hory 78.28 333 *e*P **P 12 55 30.5 +0.3**
GERES GERESS Array B 78.49 333 P **P 12 55 31.7 +0.4**
comp=Z,4.6nm,0.7s,mb4.3,baz=34,slow=4.8,SNR=27
TXAR Lajitas Array 79.11 59 P **P 12 55 35.4 +0.3**
comp=Z,1.2nm,0.5s,mb4.0,baz=302,slow=4.3,SNR=15
TXAR Lajitas Array 79.11 59 P **P 12 55 35.4 +0.3**
GIVF Givet 79.90 339 *e*P **P 12 55 38.7 -0.3**
BAIF Baives 80.10 339 *e*P **P 12 55 39.6 -0.4**
CDF Champ du Feu 80.80 336 *e*P **P 12 55 43.6 -0.2**
comp=Z,11nm,0.7s,mb4.5
CDF Champ du Feu 80.80 336 *e*P **P 12 55 43.6 -0.2**
CDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MEZF Maizieres J'vi 81.32 338 *e*P **P 12 55 46.7 +0.2**
HAU Haudompre 81.42 337 *e*P **P 12 55 46.9 -0.2**
comp=Z,7.9nm,0.7s,mb4.4
HAU Haudompre 81.42 337 *e*P **P 12 55 46.9 -0.2**
HAU pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
HINF Hinteralfeld 81.46 336 *e*P **P 12 55 46.6 -0.7**
DAVOX Davos 81.51 334 P **P 12 55 48.1 +0.5**
comp=Z,3.3nm,0.5s,mb4.4,baz=284,slow=9.9,SNR=4.4
ASF Jabal al Asfar 82.07 309 P **P 12 55 51.8 +1.0**
comp=Z,1.0nm,0.3s,mb4.1,baz=98,slow=4.8,SNR=4.9
FLN La Foliniere 82.41 341 *e*P **P 12 55 51.7 -0.5**
comp=Z,8.9nm,0.4s,mb4.6
FLN La Foliniere 82.41 341 *e*P **P 12 55 51.7 -0.5**
FLN pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
LDF La Druitiere 82.49 341 *e*P **P 12 55 51.9 -0.7**
comp=Z,7.6nm,0.5s,mb4.5
LDF La Druitiere 82.49 341 *e*P **P 12 55 51.9 -0.7**
LDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
LOR Lormes 82.77 338 *e*P **P 12 55 54.0 0.0**
comp=Z,21nm,0.8s,mb4.7
LOR Lormes 82.77 338 *e*P **P 12 55 54.0 0.0**
LOR pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
SSF Saint Saulge 83.05 338 *e*P **P 12 55 55.6 +0.2**
SSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
SSF Saint Saulge 83.05 338 *e*P **P 12 55 55.6 +0.2**
comp=Z,4.3nm,0.7s,mb4.4
AVF Avril sur Loir 83.34 338 *e*P **P 12 55 57.2 +0.3**
comp=Z,14nm,0.7s,mb4.6
AVF Avril sur Loir 83.34 338 *e*P **P 12 55 57.2 +0.3**
AVF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
SMF Signal de Mont 83.35 338 *e*P **P 12 55 57.3 +0.4**
comp=Z,27nm,0.8s,mb4.8
SMF Signal de Mont 83.35 338 *e*P **P 12 55 57.3 +0.4**
SMF pmax pmax
comp=Z,14nm,0.8s,mb4.8
ROSF Rostrenen 83.41 343 *e*P **P 12 55 57.2 0.0**
comp=Z,40nm,1.0s,mb4.9
ROSF Rostrenen 83.41 343 *e*P **P 12 55 57.2 0.0**
ROSF pmax pmax
comp=Z,20nm,1.0s,mb4.9
LPL La Plagne 83.59 336 *e*P **P 12 55 58.7 +0.6**
comp=Z,5.6nm,0.5s,mb4.3
LPL La Plagne 83.59 336 *e*P **P 12 55 58.7 +0.6**
LPL pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
LPG La Plagne 83.60 336 *e*P **P 12 55 58.9 +0.7**
comp=Z,3.9nm,0.5s,mb4.2
LPG La Plagne 83.60 336 *e*P **P 12 55 58.9 +0.7**
LPG pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
QUIF Quistinic 83.79 343 *e*P **P 12 55 59.7 +0.7**
TCF Toulx Ste Croi 84.10 339 *e*P **P 12 56 00.9 +0.3**
MBDF Montbardon 84.30 335 *e*P **P 12 56 02.1 +0.4**
comp=Z,5.2nm,0.7s,mb4.2
MBDF Montbardon 84.30 335 *e*P **P 12 56 02.1 +0.4**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MFF Saint Martin d 84.37 340 *e*P **P 12 56 02.2 +0.2**
comp=Z,13nm,0.7s,mb4.5
MFF Saint Martin d 84.37 340 *e*P **P 12 56 02.2 +0.2**
MFF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
ORIF Oris-en-Rattie 84.38 336 *e*P **P 12 56 02.7 +0.6**
VIVF Saint-Julien-l 84.78 337 *e*P **P 12 56 04.0 0.0**
SBF Sospel 84.89 334 *e*P **P 12 56 05.6 +1.0**
EIL Elat 85.06 308 P **P 12 56 07.3 +1.5**
comp=Z,8.7nm,0.6s,mb4.9,baz=6.5,slow=4.1,SNR=7.5
RJF Les Rejaudoux 85.19 339 *e*P **P 12 56 07.2 +1.1**
FRF La Foret Royal 85.40 335 *e*P **P 12 56 07.4 +0.2**
CAF Calviac 85.40 338 *e*P **P 12 56 08.0 +0.8**
comp=Z,15nm,0.8s,mb4.7
CAF Calviac 85.40 338 *e*P **P 12 56 08.0 +0.8**
CAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LMR La Mourre 85.65 335 *e*P **P 12 56 08.9 +0.5**
comp=Z,15nm,0.8s,mb4.7
LMR La Mourre 85.65 335 *e*P **P 12 56 08.9 +0.5**
LMR pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
IDI Anoyia 85.65 319 P **P 12 56 07.6 -1.1**
comp=Z,5.3nm,0.8s,mb4.5,baz=30,slow=12,SNR=5.0
LASF Ste Croix 85.72 337 *e*P **P 12 56 08.9 +0.2**
comp=Z,10nm,0.9s,mb4.5
LFF La Frestale 85.72 339 *e*P **P 12 56 09.3 +0.6**
MTLF Montolieu 86.84 338 *e*P **P 12 56 14.5 +0.3**
EPF Esparros 87.61 339 *e*P **P 12 56 18.5 +0.6**
SJPF Ste Jean 87.92 340 *e*P **P 12 56 19.9 +0.5**
ETSF Etsaut 87.96 340 *e*P **P 12 56 20.6 +1.0**
comp=Z,8.7nm,0.7s,mb4.6
ETSF Etsaut 87.96 340 *e*P **P 12 56 20.6 +1.0**
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BDFB Brasília 145.78 34 PKPbc PKPbc 13 03 08.3 +0.2
comp=Z,1.4nm,0.4s,baz=334,slow=4.6,SNR=3.2
SNAA Sanae 151.42 197 P PKPdf 13 03 20.5 +6.1
VNA2 Neumayer--Watz 152.90 195⇑ *i*P PKPdf 13 03 25.8 +9.2
VNA3 Neumayer Olymp 153.03 194⇑ *i*P PKPdf 13 03 16.8 0.0

IDC 25 12:52:33.7±4.3, 1.82N×97.03E, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=164.3km s-min=27.9km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.51**	**122**	P	P	13 00 31.2	-1.7
0.3nm,0.9s,baz=300,slow=9.3,SNR=2.9							
SONM	**Songino Array**	**46.54**	**9**	P	P	13 01 03.2	-1.8
0.2nm,0.5s,baz=187,slow=12,SNR=3.4							
MKAR	**Makanchi Array**	**46.60**	**346**	P	P	13 01 03.1	-2.2
0.5nm,0.9s,baz=170,slow=7.4,SNR=4.0							
ZAL	**Zalesovo**	**52.91**	**351**	P	P	13 01 51.7	-2.1
1.8nm,0.6s,baz=323,slow=4.7,SNR=5.8							

KRSC 25 12:55:01.5±0.6, 54.81N×162.26E, h21km±4km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.40**	**231**	*e*P	Pb	12 55 10.1	+0.3
MKZ				*e*S	Sb	12 55 16.8	+1.3
TUMR	**Tumrok**	**1.31**	**292**	*i* P	Pn	12 55 25.2	+0.4
TUMR				*e*S	Sb	12 55 42.6	+1.0
KBTR	**Krutoberegovo**	**1.44**	**13**	*e*P	Pn	12 55 26.7	+0.1
KBTR				*e*S	Sn	12 55 44.7	-0.3
ZLN	**Zelenaya**	**1.47**	**326**	*i* P	Pn	12 55 27.4	+0.3
ZLN				*e*S	Sn	12 55 46.5	+0.7
KMNR	**Kamenistaya**	**1.50**	**310**	*e*P	Pn	12 55 28.0	+0.5
KMNR				*e*S	Sn	12 55 47.4	+0.9
KPT	**Kopyto**	**1.64**	**316**	*i* P	Pn	12 55 30.2	+0.6
KPT				*e*S	Sn	12 55 50.6	+0.4
KRSR	**Krestovskiy**	**1.71**	**326**	*i* P	Pn	12 55 30.6	+0.1
KRSR				*e*S	Sn	12 55 51.5	-0.4
KLY	**Klyuchi**	**1.76**	**329**	*e*P	Pn	12 55 30.3	-1.0
KLY				*e*S	Sn	12 55 51.4	-1.9
KII	**Karymskiy**	**1.82**	**246**	*e*P	Pn	12 55 32.4	+0.3
KII				*e*S	Sn	12 55 55.0	+0.3
KOZ	**Kozyrevsk**	**1.85**	**314**	*e*P	Pn	12 55 33.3	+0.8
KOZ				*e*S	Sn	12 55 56.3	+0.8
SRDR	**Sredinnyy**	**2.09**	**317**	*e*P	Pn	12 55 36.3	+0.3
SRDR				*e*S	Sn	12 56 01.7	+0.1
SPN	**Mys Shipunski**	**2.17**	**219**	*e*P	Pn	12 55 36.7	-0.4
SPN				*e*S	Sn	12 56 02.0	-1.6
BKI	**Bering**	**2.17**	**78**	*e*S	Sn	12 55 59.4	-4.4
ESO	**Esso**	**2.32**	**300**	*e*P	Pn	12 55 39.1	-0.2
ESO				*e*S	Sn	12 56 07.7	+0.3
ESO				Smax			
40nm,0.6s							
NLC	**Nalytchevo**	**2.38**	**228**	*e*P	Pn	12 55 39.9	-0.2
NLC				*e*S	Sn	12 56 08.0	-1.0
UGLR	**Uglovaya**	**2.59**	**233**	*i* P	Pn	12 55 43.1	0.0
UGLR				*e*S	Sn	12 56 13.1	-1.1
AVH	**Avacha**	**2.59**	**235**	*e*P	Pn	12 55 43.6	+0.4
AVH				*e*S	Sn	12 56 14.6	+0.3
KOK	**Koryaka**	**2.62**	**236**	*e*P	Pn	12 55 44.1	+0.5
KOK				*e*S	Sn	12 56 14.3	-0.8
GNL	**Ganaly**	**2.77**	**248**	*e*P	Pn	12 55 45.8	+0.1
GNL				*e*S	Sn	12 56 18.4	-0.5
PET	**Petropavlovsk**	**2.78**	**231**	*e*P	Pn	12 55 46.6	+0.7
PET				*e*S	Sn	12 56 19.4	+0.1
KRMR	**Karymshinskiy**	**3.15**	**233**	P	Pn	12 55 52.3	+1.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRMR				*e*S	Sn	12 56 28.8	+0.3
RUS	**Russkaya**	**3.26**	**225**	*e*S	Sn	12 56 30.7	-0.7
GRL	**Gorelyy**	**3.36**	**229**	*e*P	Pn	12 55 55.0	+0.9
GRL				*e*S	Sn	12 56 34.4	+0.5
APC	**Apacha**	**3.56**	**240**	P	Pn	12 55 56.5	-0.5
APC				*e*S	Sn	12 56 36.6	-2.3
APC				Smax			
	10.0nm,0.7s						

IDC ***25*** *13:12:32.6±6.0, 8.95S×127.11E, h41km±59km, mb3.5/2, mb1 3.9/5, mb1mx3.6/16, mbtmp3.9/5, ML4.1/3, Error ellipse: s-maj=56.5km s-min=32.0km az=60.0*
NEIC ***25*** *13:12:34.6±2.9, 8.98S×127.28E, h60km±28km, Error ellipse: s-maj=29.6km s-min=26.3km az=222.0*
ISC 25 13:12:38.6±2.2, 9.4S±0.1×127.5E±0.1, h70km±30km, n10, σ0.95/16, mb3.4/2, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.87**	**125**	*e*P	**P**	**13 14 05.8**	**+1.0**
	9.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**8.87**	**192**	*e*P	**P**	**13 14 45.7**	**-0.5**
	7.6nm,0.4s						
FITZ				*e*S	**S**	**13 16 26.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**8.87**	**192**	P	**P**	**13 14 43.7**	**-2.5**
	4.0nm,0.3s,baz=19,slow=11,SNR=56						
FITZ				S	**S**	**13 16 26.8**	**+1.2**
	4.4nm,0.3s,baz=170,slow=22,SNR=4.2						
WRAB	**Tennant Creek**	**12.41**	**149**	*e*Pn	**P**	**13 15 33.8**	**-0.4**
	4.4nm,0.4s						
WRAB				*e*Sn	**S**	**13 17 52.8**	**+1.5**
WRA	**Warramunga Arr**	**12.41**	**149**	P	**P**	**13 15 33.5**	**-0.7**
	1.1nm,0.3s,baz=317,slow=14,SNR=62						
WRA				S	**S**	**13 17 50.2**	**-1.1**
	0.8nm,0.3s,baz=323,slow=24,SNR=8.3						
WB2	**Warramunga Arr**	**12.42**	**149**	*e*P	**P**	**13 15 34.1**	**-0.2**
WB2				*e*S	**S**	**13 17 50.7**	**-0.8**
ASAR	**Alice Springs**	**15.48**	**158**	P	**P**	**13 16 13.8**	**-0.4**
	0.4nm,0.3s,baz=331,slow=8.9,SNR=46						
ASAR				S	**S**	**13 19 08.8**	**+5.1**
	0.3nm,0.3s,baz=320,slow=18,SNR=6.4						
ASPA	**Alice Springs**	**15.48**	**158**	*e*P	**P**	**13 16 15.3**	**+1.2**
STKA	**Stephens Creek**	**25.93**	**152**	P	**P**	**13 18 06.5**	**+0.3**
	1.3nm,0.8s,mb3.4,baz=342,slow=15,SNR=1.7						
MKAR	**Makanchi Array**	**68.89**	**328**	P	**P**	**13 23 29.6**	**-8.4**
	0.4nm,0.7s,mb3.4,baz=127,slow=7.1,SNR=4.5						

IDC ***25*** *13:32:46.2±1.2, 9.72S×125.00E, mb3.6/3, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, ML4.1/3, Error ellipse: s-maj=88.7km s-min=20.8km az=65.0*
NEIC ***25*** *13:32:47.5±0.8, 9.70S×125.27E, h10km, Error ellipse: s-maj=20.1km s-min=11.1km az=62.0*
ISC 25 13:32:55.9±1.6, 10.17S±0.07×125.24E±0.07, h121km±18km, n13, σ1.9±15/20, mb3.5/3, 1C, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.50**	**110**	*e*P	**P**	**13 34 44.4**	**+0.5**
	4.6nm,0.4s						
KAKA				*e*S	**S**	**13 36 08.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**7.89**	**177**	⇑*i*P	**P**	**13 34 49.2**	**-0.1**
	7.8nm,0.2s						
FITZ				*e*S	**S**	**13 36 16.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**7.89**	**177**	Pn	**P**	**13 34 49.5**	**+0.2**
	5.5nm,0.3s,baz=360,slow=9.5,SNR=145						
FITZ				Sn	**S**	**13 36 16.3**	**-1.2**
	8.1nm,0.3s,baz=150,slow=5.8,SNR=8.3						
MBWA	**Marble Bar**	**12.14**	**205**	*e*Pn	**P**	**13 35 46.1**	**+0.2**
WRA	**Warramunga Arr**	**13.09**	**139**	Pn	**P**	**13 35 58.3**	**0.0**
	0.9nm,0.3s,baz=310,slow=14,SNR=45						
WRA				Sn	**S**	**13 38 20.4**	**-1.1**
	2.4nm,0.3s,baz=302,slow=24,SNR=11						
WRAB	**Tennant Creek**	**13.10**	**139**	*e*Pn	**P**	**13 35 57.1**	**-1.3**
WRAB				*e*Sn	Sx	13 38 18.6	
WB2	**Warramunga Arr**	**13.10**	**139**	*e*P	**P**	**13 35 58.1**	**-0.3**
WB2				*e*S	**S**	**13 38 19.2**	**-2.5**
ASPA	**Alice Springs**	**15.76**	**149**	*e*P	**P**	**13 36 35.0**	**+2.6**
ASPA				*e*S	**S**	**13 39 24.4**	**+1.1**
ASAR	**Alice Springs**	**15.77**	**149**	Pn	**P**	**13 36 34.4**	**+2.0**
	0.5nm,0.3s,baz=318,slow=11,SNR=84						
ASAR				Sn	**S**	**13 39 24.3**	**+1.0**
	0.6nm,0.3s,baz=318,slow=21,SNR=14						
STKA	**Stephens Creek**	**26.38**	**147**	P	**P**	**13 38 29.9**	**+7.0**
	0.9nm,0.6s,mb3.4,baz=340,slow=14,SNR=4.2						
SONM	**Songino Array**	**60.12**	**345**	P	**P**	**13 42 51.7**	**-1.2**
	0.4nm,0.7s,mb3.6,baz=166,slow=8.0,SNR=5.0						
MKAR	**Makanchi Array**	**68.43**	**330**	P	**P**	**13 43 47.0**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=135,slow=7.6,SNR=7.4						
MKAR	**Makanchi Array**	**68.43**	**330**	P	**P**	**13 43 47.0**	**+0.1**

IDC 25 13:40:39.7±44.0, 47.48N×151.86E, mb3.6/3, mb1 3.7/3, mb1mx3.3/22, mbtmp3.6/3, Error ellipse: s-maj=1005.0km s-min=79.0km az=152.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**45.85**	**296**	P	P	13 49 03.2	-1.7
	0.2nm,0.4s,baz=62,slow=7.7,SNR=8.1						
FINES	**FINESS Array B**	**63.01**	**334**	P	P	13 51 07.8	-2.3
	0.3nm,0.3s,baz=37,slow=9.5,SNR=4.5						
NB2	**NORSAR Subarra**	**67.25**	**340**	P	P	13 51 36.0	-1.5
	0.4nm,0.4s,baz=26,slow=6.2						
NOA	**NORSAR Array B**	**67.25**	**340**	P	P	13 51 35.6	-1.8
	0.4nm,0.4s,baz=28,slow=6.3,SNR=3.6						

JMA 25 13:41:00.6±0.1, 44.09N×141.74E, h10km±2km, M3.3, 3C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	**Shosan**	**0.32**	**15**	⇑P	Pg	13 41 07.4	+0.2
JSS				S	Sg	13 41 13.1	+1.4
JHR	**Hokuryu**	**0.35**	**182**	⇑P	Pg	13 41 07.8	0.0
JHR				S	Sg	13 41 14.0	+1.5
JYG	**Yagishiri**	**0.41**	**326**	⇓P	Pg	13 41 08.3	-0.6
JYG				S	Sg	13 41 14.6	+0.2
ASAJ	**Asahikawa**	**0.62**	**87**	⇓P	Pb	13 41 11.9	-1.1
JAB	**Ashibetsu**	**0.68**	**149**	⇑P	Pb	13 41 13.7	-0.4
JKK2	**Kamakawa 2**	**0.76**	**106**	⇓P	Pb	13 41 14.6	-0.8
JSE	**Soyaes**	**1.06**	**35**	P	Pb	13 41 19.9	-0.6

CSEM ***25*** *13:55:25.5, 12.38N×45.73E, h22km, ML3.5, After DHMR*
DHMR 25 13:55:28.3±0.3, 12.56N×45.59E, h9km±7km, ML3.4, 4C-1D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBOS		**1.35**	**346**	⇑*i*P	Pb	13 55 53.2	0.0
LBOS				*i*S	Sb	13 56 12.7	+2.2
BDHA	**Al Bayda'**	**1.41**	**359**	⇑*i*P	Pn	13 55 54.4	+0.1
BDHA				*i*S	Sb	13 56 14.8	+2.5
BDHA				AML	AML	13 56 16.2	
	comp=E,938nm,0.5s						
BDHA	**Al Bayda'**	**1.41**	**359**	⇓*i*P	Pn	13 55 53.5	-0.7
BDHA				*i*S	Sb	13 56 15.4	+3.1
	comp=E,469nm,0.5s						
TRBA	**At Turbah**	**1.58**	**295**	⇑*i*P	Pn	13 55 57.1	+0.4
TRBA				*i*S	Sb	13 56 19.6	+2.3
TRBA				AML	AML	13 56 21.7	
	comp=N,348nm,0.4s						
DHBB	**Dhamar BB**	**2.32**	**330**	⇑*i*P	Pn	13 56 08.8	+1.6
DHBB				*i*S	Sn	13 56 40.4	+4.3

BJI ***25*** *13:58:22.5, 1.45N×97.16E, h30km, mB4.7, mb4.7, Ms4.4, Msz4.4*
IDC ***25*** *13:58:26.9±0.8, 2.27N×96.99E, mb4.4/18, mb1 4.4/19, mb1mx4.3/26, mbtmp4.4/19, ML3.9/1, MS3.9/10, Ms1 3.9/10, ms1mx3.6/25, Error ellipse: s-maj=30.0km s-min=12.5km az=52.0*
MOS ***25*** *13:58:29.5±0.9, 2.32N×97.10E, h28km, mb4.8/10, Error ellipse: s-maj=15.9km s-min=8.7km az=109.5*
HRVD ***25*** *13:58:31.7±1.4, 2.27N×96.80E, h31km±2km, MW4.7/24, Centroid moment Tensor Solution. LP body waves: s10,c12;Mantle waves: s24,c31; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.89±.18; $M_{\theta\theta}$-0.76±.12; $M_{\phi\phi}$-0.12±.17; $M_{r\theta}$0.42±.14; $M_{\theta\phi}$0.76±.11; $M_{\phi r}$-0.86±.26;*

Best double couple: M_0=1.468×10^{16} NP1:φ=277°, δ32°, λ45°, NP2:φ=146°, δ68°, λ114°. Principal axes: T 1.377, Plg60°, Azm91°; N .182, Plg22°, Azm317°; P -1.559, Plg19°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
NEIC ***25*** *13:58:31.7±0.4, 2.29N×97.02E, h30km, mb4.9/10 Error ellipse: s-maj=10.8km s-min=6.2km az=48.0*
ISC 25 13:58:29.7±0.4, 2.34N±0.06×97.12E±0.06, h27km, h27km±1.7km: pP-P, n85, σ0.96/85, mb4.6/42, MS4.0/13, 4C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.59**	**50**	*e*Pn	**Pn**	**13 59 41.8**	**+2.6**
KSM	**Kuching**	**13.21**	**93**	*e*Pn	**P**	**14 01 41.1**	**+2.8**
CMAR	**Chiang Mai Arr**	**16.12**	**6**	Pn	**P**	**14 02 17.1**	**+0.8**
	0.1nm,0.3s,baz=192,slow=12,SNR=8.9						
CMAR				LR	LR	14 08 54.0	
	comp=Z,676nm,18.9s,baz=190,slow=39						
KKM	**Kota Kinabalu**	**19.40**	**78**	*e*P	**P**	**14 02 56.8**	**0.0**
KMI	**Kunming**	**23.29**	**13**	P	**P**	**14 03 37.5**	**+1.0**
KMI				AP		14 03 45.8	
KMI				XP		14 03 49.3	
KMI				S	**S**	**14 07 53.5**	**+10**
KMI				XS		14 08 10.3	
KMI				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.3						
KMI				AMB	AMB		
	comp=Z,67nm,4.4s						
KMI				LR	LR		
	comp=N,674nm,17.8s,MS4.1						
KMI				LR	LR		
	comp=E,287nm,22.0s,MS4.1						
KMI				LR	LR		
	comp=Z,804nm,17.8s,MS4.2						
KMI	**Kunming**	**23.29**	**13**	P	**P**	**14 03 37.6**	**+1.1**
KMI				*PP		14 03 45.7	
KMI				*SP		14 03 49.2	
KMI				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3						
KMI				MLR	MLR		
	comp=Z,800nm,17.8s,MS4.2						
KMI	**Kunming**	**23.29**	**13**	P	**P**	**14 03 37.6**	**+1.1**
	comp=Z,13nm,1.0s,mb4.3						
KMI				pP		14 03 45.7	
KMI				sP		14 03 49.2	
KMI				S	**S**	**14 07 53.6**	**+10**
KMI				sS		14 08 10.3	
KMI				SS	SS	14 08 58.6	+29
KMI				LR	LR		
	comp=Z,800nm,17.8s,MS4.2						
HYB	**Hyderabad**	**23.60**	**311**	*e*P	**P**	**14 03 42.5**	**+3.0**
HYB	**Hyderabad**	**23.60**	**311**	*i*P	**P**	**14 03 42.5**	**+3.0**
HYB				*e*		14 04 08.0	
SHL	**Shillong**	**23.64**	**348**	*e*P	**P**	**14 03 39.0**	**-0.8**
GYA	**Guiyang**	**25.68**	**20**	⇑*i*P	**P**	**14 04 00.5**	**+1.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
JIRN	**Jiri**	**27.26**	**338**	*e*P	**P**	**14 04 13.8**	**-0.1**
	comp=Z,20nm,0.7s,mb4.7						
PKI	**Pulchoki**	**27.48**	**337**	*e*P	**P**	**14 04 15.6**	**-0.3**
GUN	**Gumba**	**27.60**	**338**	*e*P	**P**	**14 04 17.1**	**+0.1**
	comp=Z,20nm,0.7s,mb4.9						
DMN	**Daman**	**27.63**	**337**	*e*P	**P**	**14 04 17.0**	**-0.3**
KKN	**Kakani**	**27.72**	**337**	*e*P	**P**	**14 04 17.5**	**-0.6**
	comp=Z,14nm,0.9s,mb4.6						
KOLN	**Koldanda**	**28.40**	**334**	*e*P	**P**	**14 04 24.2**	**0.0**
	comp=Z,17nm,0.9s,mb4.7						
XAN	**Xi'an**	**33.41**	**18**	P	**P**	**14 05 07.0**	**-1.4**
XAN				AP	pP	14 05 13.8	-2.7
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**34.67**	**127**	P	**P**	**14 05 18.1**	**-1.2**
	comp=Z,6.3nm,0.8s,mb4.6,baz=73,slow=9.3,SNR=9.1						
FITZ				LR	LR	14 19 11.9	
	comp=Z,172nm,21.8s,MS3.8,baz=286,slow=36						
NJ2	**Nanjing**	**35.95**	**32**	*e*P	**P**	**14 05 30.3**	**+0.1**
NJ2				AP	pP	14 05 40.0	+1.7
NJ2				XP	sP	14 05 44.0	+2.2
NJ2				PP	PP	14 06 49.0	-3.0
NJ2				S	**S**	**14 11 05.0**	**-1.1**
NJ2				XS		14 11 24.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				LR	LR		
	comp=N,1μm,16.4s,MS4.8						
NJ2				LR	LR		
	comp=E,650nm,19.7s,MS4.8						
NJ2				LR	LR		
	comp=Z,500nm,15.6s,MS4.4						
SSE	**Sheshan**	**36.54**	**36**	P	**P**	**14 05 33.5**	**-1.7**
SSE				AP	pP	14 05 42.3	-1.0
SSE				XP	sP	14 05 46.3	-0.5
SSE				S	**S**	**14 11 13.5**	**-1.7**
SSE				XS		14 11 28.5	
SSE				PCS		14 11 43.8	
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,60nm,4.4s						
SSE				LR	LR		
	comp=N,398nm,17.6s,MS4.3						
SSE				LR	LR		
	comp=E,257nm,17.3s,MS4.3						
SSE				LR	LR		
	comp=Z,572nm,16.8s,MS4.4						
SSE	**Sheshan**	**36.54**	**36**	P	**P**	**14 05 33.5**	**-1.7**
	comp=Z,44nm,0.7s,mb5.4						
SSE				pP	pP	14 05 42.3	-1.0
SSE				sP	sP	14 05 46.2	-0.6
SSE				S	**S**	**14 11 13.5**	**-1.7**
SSE				sS		14 11 28.6	
SSE				PcS		14 11 43.7	
SSE				LR	LR		
	comp=Z,570nm,16.8s,MS4.4						
GTA	**Gaotai**	**36.98**	**3**	*e*P	**P**	**14 05 38.5**	**-0.3**
GTA				AP	pP	14 05 45.8	-1.1
GTA				XP	sP	14 05 50.3	-0.1
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
JOW	**Kunigami**	**38.54**	**48**	P	**P**	**14 05 52.7**	**+0.7**
	comp=Z,7.0nm,0.6s,mb4.6,baz=190,slow=9.3,SNR=6.1						
WRA	**Warramunga Arr**	**42.71**	**123**	P	**P**	**14 06 25.9**	**-0.7**
	comp=Z,6.5nm,0.7s,mb4.5,baz=301,slow=9.2,SNR=48						
WRAB	**Tennant Creek**	**42.72**	**123**	*e*P	**P**	**14 06 26.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**42.72**	**123**	*e*P	**P**	**14 06 26.4**	**-0.2**
	comp=Z,13nm,0.7s,mb4.8						
WB2	**Warramunga Arr**	**42.72**	**123**	*e*P	**P**	**14 06 26.0**	**-0.6**
ULHL	**Ulahol**	**43.92**	**338**	P	**P**	**14 06 36.5**	**+0.5**
	SNR=6.4						
ASPA	**Alice Springs**	**44.15**	**128**	*e*P	**P**	**14 06 37.9**	**-0.3**
ASAR	**Alice Springs**	**44.15**	**128**	P	**P**	**14 06 38.1**	**-0.1**
	comp=Z,3.2nm,0.8s,mb4.1,baz=304,slow=7.8,SNR=28						
ASAR				PcP	PcP	14 08 23.4	0.0
	comp=Z,0.8nm,0.8s,baz=324,slow=4.9,SNR=4.2						
FORT	**Forrest**	**44.20**	**141**	*e*P	**P**	**14 06 39.8**	**+1.3**
	comp=Z,423nm,0.8s						
UCH	**Uchtor**	**44.58**	**336**	P	**P**	**14 06 42.7**	**+1.3**
	SNR=5.1						
TKM2	**Tokmak 2**	**44.74**	**337**	P	**P**	**14 06 43.2**	**+0.5**
	SNR=6.2						
KBK	**Karagaybulak**	**44.77**	**337**	P	**P**	**14 06 44.2**	**+1.3**
	SNR=9.2						
AAK	**Ala-Archa**	**44.93**	**336**	*e*P	**P**	**14 06 44.4**	**+0.2**
AAK				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.6						
AAK	**Ala-Archa**	**44.93**	**336**	*e*P	**P**	**14 06 44.4**	**+0.1**
	comp=Z,16nm,1.5s,mb4.6						
EKS2	**Erkin-Say**	**45.24**	**336**	P	**P**	**14 06 47.4**	**+0.7**
	SNR=5.6						
USP	**Ospenovka**	**45.46**	**337**	P	**P**	**14 06 48.6**	**+0.2**
	SNR=10						
SONM	**Songino Array**	**46.03**	**9**	P	**P**	**14 06 52.8**	**0.0**
	comp=Z,1.3nm,0.4s,mb4.2,baz=189,slow=10.0,SNR=16						
SONM				PcP	PcP	14 08 29.3	-0.2
	comp=Z,1.4nm,0.6s,baz=190,slow=3.7,SNR=5.7						
MKAR	**Makanchi Array**	**46.12**	**346**	P	**P**	**14 06 53.0**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.3,baz=158,slow=6.5,SNR=26						
MKAR				LR	LR	14 28 40.9	
	comp=Z,60nm,21.5s,MS3.5,baz=166,slow=39						
ULN	**Ulaanbaatar**	**46.16**	**9**	⇑*e*P	**P**	**14 06 54.8**	**+1.0**
ZAK	**Zakamensk**	**48.16**	**5**	*e*P	**P**	**14 07 09.2**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.9						
MJAR	**Matsushiro Arr**	**50.92**	**43**	P	**P**	**14 07 30.6**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=225,slow=6.5,SNR=5.9						
MJAR				LR	LR	14 30 40.3	
	comp=Z,75nm,18.3s,MS3.7,baz=260,slow=38						
PMG	**Port Moresby**	**51.20**	**104**	P	**P**	**14 07 33.5**	**+0.2**
	comp=Z,1.1nm,0.8s,mb4.8,baz=294,slow=12,SNR=3.5						
ZAL	**Zalesovo**	**52.42**	**351**	P	**P**	**14 07 41.5**	**-0.5**
	comp=Z,3.3nm,0.3s,mb4.7,baz=323,slow=2.4,SNR=14						
ZAL				LR	LR	14 35 37.7	
	comp=Z,73nm,18.4s,MS3.8,baz=297,slow=42						
CTA	**Charters Towr**	**53.09**	**117**	P	**P**	**14 07 47.5**	**0.0**
	comp=Z,13nm,1.0s,mb4.8,baz=307,slow=12,SNR=4.3						
CTA				LR	LR	14 31 21.5	
	comp=Z,148nm,20.4s,MS4.0,baz=270,slow=37						
NVS	**Novosibirsk**	**53.55**	**350**	*i*P	**P**	**14 07 48.7**	**-1.6**
STKA	**Stephens Creek**	**54.18**	**133**	*e*P	**P**	**14 07 55.2**	**-0.1**
	comp=Z,5.4nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**54.18**	**133**	P	**P**	**14 07 55.4**	**+0.1**
	comp=Z,5.8nm,0.9s,mb4.5,baz=299,slow=7.6,SNR=10						
BVAR	**Borovoye Array**	**55.15**	**341**	P	**P**	**14 08 00.8**	**-1.3**
	comp=Z,4.4nm,0.7s,mb4.6,baz=141,slow=8.6,SNR=23						
CHKZ	**Chkalovo**	**55.63**	**341**	*e*P	**P**	**14 08 04.3**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.4						
CHKZ	**Chkalovo**	**55.63**	**341**	*e*P	**P**	**14 08 04.3**	**-1.3**
	comp=Z,23nm,0.6s,mb5.4						
BOD	**Bodaibo**	**56.91**	**11**	*e*P	**P**	**14 08 13.7**	**-1.0**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
ASAJ	**Asahikawa**	**57.81**	**37**	P	**P**	**14 08 21.5**	**+0.3**
	comp=Z,7.7nm,1.0s,mb4.7,baz=207,slow=8.4,SNR=4.9						
YSS	**Yuzh-Sakhalins**	**59.46**	**35**	*e*P	**P**	**14 08 32.4**	**-0.3**
YSS				*e*	pP	14 08 41.0	-0.2
YSS	**Yuzh-Sakhalins**	**59.46**	**35**	*e*P	**P**	**14 08 32.6**	**-0.1**
	comp=Z,9.7nm,0.8s,mb4.9						
SVE	**Sverdlovsk**	**61.61**	**338**	*e*P	**P**	**14 08 46.3**	**-0.8**
SVE				*e*		14 09 24.0	
ARU	**Arti**	**62.11**	**337**	⇑*i*P	**P**	**14 08 51.4**	**+0.8**
ARU				*e*		14 11 10.4	
ARU				*e*S	**S**	**14 17 17.8**	**+5.7**
ARU				*e*SS	SS	14 21 16.0	-0.8
ARU				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.1						
KIV	**Kislovodsk**	**63.40**	**319**	*e*P	**P**	**14 08 59.9**	**+0.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
KIV				pmax	pmax		
	comp=N,2.0nm,0.6s						
KIV				pmax	pmax		
	comp=E,6.0nm,0.7s						
YAK	**Yakutsk**	**64.36**	**16**	*e*P	**P**	**14 09 04.5**	**-0.7**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
YAK	**Yakutsk**	**64.36**	**16**	*e*P	**P**	**14 09 04.5**	**-0.7**
	comp=Z,13nm,0.8s,mb5.0						
SOC	**Sochi**	**65.22**	**318**	*e*P	**P**	**14 09 09.1**	**-2.1**
SOC				*e*		14 09 37.0	
SOC				*e*		14 11 33.5	
SOC				*e*PPP	PPP	14 13 05.5	-5.5
SOC				*e*S	S	14 17 49.1	-2.0
SOC				*e*		14 19 01.4	
SOC				*e*SS	SS	14 22 02.6	-3.1
SOC				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
SOC				pmax	pmax		
	comp=N,2.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.5s						
ANN	**Anapa**	**67.20**	**318**	*e*P	**P**	**14 09 25.6**	**+1.8**
ANN				*e*S	S	14 18 20.7	+5.7
ANN				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.4						
TIXI	**Tiksi**	**72.09**	**10**	⇓*e*P	**P**	**14 09 52.1**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.0						
AKASG	**Malin Array Be**	**74.31**	**322**	P	**P**	**14 10 05.2**	**-1.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=90,slow=4.6,SNR=8.7						
AKASG	**Malin Array Be**	**74.31**	**322**	P	**P**	**14 10 05.2**	**-1.3**
BOSA	**Boshof**	**75.27**	**240**	LR	LR	14 42 31.4	
	comp=Z,129nm,18.1s,MS4.3,baz=172,slow=35						
FINES	**FINESS Array B**	**78.96**	**332**	P	**P**	**14 10 32.3**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.2,baz=108,slow=6.0,SNR=9.2						
BILL	**Bilibino**	**80.14**	**21**	⇑*e*P	**P**	**14 10 43.3**	**+4.7**
ARCES	**ARCESS Array B**	**81.44**	**340**	P	**P**	**14 10 45.9**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.3,baz=90,slow=4.9,SNR=11						
ARCES				LR	LR	14 49 48.1	
	comp=Z,98nm,20.8s,MS4.1,baz=274,slow=38						
ARCES	**ARCESS Array B**	**81.44**	**340**	P	**P**	**14 10 45.9**	**+0.5**
ARCES				LR	LR	14 49 48.1	
MORC	**Moravsky Berou**	**81.48**	**320**	*e*P	**P**	**14 10 46.5**	**+0.4**
MORC				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
MORC	**Moravsky Berou**	**81.48**	**320**	*e*P	**P**	**14 10 46.5**	**+0.5**
	comp=Z,1.1nm,0.5s,mb4.0						
GERES	**GERESS Array B**	**83.91**	**319**	P	**P**	**14 10 59.6**	**+1.0**
	comp=Z,0.8nm,0.6s,mb4.0,baz=90,slow=6.7,SNR=7.0						
NB2	**NORSAR Subarra**	**85.98**	**331**	P	**P**	**14 11 08.7**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=94,slow=5.6						
NOA	**NORSAR Array B**	**85.98**	**331**	P	**P**	**14 11 09.1**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.3,baz=94,slow=5.0,SNR=7.1						
NOA				LR	LR	14 52 60.0	
	comp=Z,37nm,20.6s,MS3.8,baz=295,slow=38						
NOA	**NORSAR Array B**	**85.98**	**331**	P	**P**	**14 11 09.1**	**+0.4**
NOA				LR	LR	14 53 00.0	
VNDA	**Vanda**	**86.95**	**169**	LR	LR	14 44 54.4	
	comp=Z,134nm,19.9s,MS4.3,baz=36,slow=32						
IMA	**Indian Mountai**	**95.57**	**23**	*e*P	**P**	**14 11 54.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.72**	**293**	*i* P	P	14 13 48.5	-1.4
PNIG				*i* S	S	14 13 57.6	-2.3
PNIG	**Pinotepa**	**0.72**	**293**	⇑*i* P	P	14 13 48.5	-1.4
PNIG				*i* S	S	14 13 57.2	-2.7
VHO	**Vista Hermosa**	**1.17**	**35**	⇑*i* P	P	14 13 54.5	-1.8
VHO				*i* S	S	14 14 08.7	-2.6
OXX	**Oaxaca**	**1.18**	**35**	*i* P	P	14 13 54.7	-1.7
OXX				*i* S	S	14 14 09.3	-2.3
HUIG	**Huatulco**	**1.32**	**105**	*i* P	P	14 13 57.0	-1.5
HUIG				*i* S	S	14 14 12.1	-3.1
HUIG	**Huatulco**	**1.32**	**105**	⇑*i* P	P	14 13 57.1	-1.4
HUIG				*i* S	S	14 14 11.9	-3.3
ACX	**Acapulco**	**2.50**	**288**	*i* P	P	14 14 12.7	-2.6
CAIG	**El Cayaco**	**2.87**	**289**	*i* P	P	14 14 18.9	-1.8
CAIG				*i* S	S	14 14 48.0	-6.4

*IDC **25** 14:29:30.8±3.2, 1.03N×97.74E, mb3.6/4, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=120.1km s-min=22.2km az=61.0*
*NEIC **25** 14:29:34.0±1.1, 0.90N×97.47E, h30km, mb4.0/1, Error ellipse: s-maj=26.7km s-min=13.4km az=69.0*
ISC 25 14:29:31.9±1.4, 0.9N±0.1×97.4E±0.2, h30km, n7, σ0§46/7, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.42**	**36**	*e*Pn	**Pn**	**14 30 53.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**17.51**	**5**	P	**P**	**14 33 35.0**	**-0.6**
0.1nm,0.3s,baz=196,slow=12,SNR=4.7							
WRA	**Warramunga Arr**	**41.69**	**122**	P	**P**	**14 37 19.6**	**-0.3**
0.6nm,0.7s,mb3.3,baz=304,slow=9.1,SNR=8.7							
ASAR	**Alice Springs**	**43.04**	**127**	P	**P**	**14 37 31.1**	**+0.2**
0.4nm,0.7s,mb3.3,baz=297,slow=7.8,SNR=7.9							
SONM	**Songino Array**	**47.39**	**8**	P	**P**	**14 38 06.1**	**+0.7**
0.2nm,0.3s,mb3.5,baz=188,slow=8.7,SNR=5.2							
MKAR	**Makanchi Array**	**47.58**	**346**	P	**P**	**14 38 07.4**	**+0.5**
0.8nm,0.5s,mb4.0,baz=162,slow=9.5,SNR=11							
CHKZ	**Chkalovo**	**57.08**	**341**	P	**P**	**14 39 17.3**	**-0.5**
0.7nm,0.5s,mb4.0							

*MOS **25** 14:31:55.4±0.9, 36.25N×70.93E, h107km, mb3.9/1, Error ellipse: s-maj=27.4km s-min=12.4km az=90.0*
*NEIC **25** 14:31:56.0±3.0, 36.26N×71.05E, h96km±24km, mb3.8/1, Error ellipse: s-maj=26.8km s-min=12.1km az=213.0*
*IDC **25** 14:31:56.1±8.7, 36.26N×71.09E, h97km±75km, mb3.4/8, mb1 3.5/10, mb1mx3.3/23, mbtmp3.7/10, ML3.2/2, Error ellipse: s-maj=52.7km s-min=21.1km az=32.0*
*NNC **25** 14:32:02.4±3.7, 37.17N×70.53E, mpv3.9, Error ellipse: s-maj=42.0km s-min=32.0km az=98.0*
ISC 25 14:31:56.3±1.6, 36.28N±0.08×71.0E±0.2, h113km±15km, n32, σ0§87/35, mb3.6/7, 1C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.21**	**19**	P	**P**	**14 33 26.5**	**-0.2**
SNR=79							
UCH	**Uchtor**	**6.53**	**24**	P	**P**	**14 33 31.2**	**-0.1**
SNR=8.2							
KZA	**Kyzart**	**6.66**	**28**	P	**P**	**14 33 34.6**	**+1.5**
SNR=6.5							
EKS2	**Erkin-Say**	**6.72**	**18**	P	**P**	**14 33 35.7**	**+1.8**
SNR=27							
KK31	**Karatay Array**	**6.82**	**357**	⇓Pn	**P**	**14 33 34.3**	**-0.9**
6.6nm,0.3s,baz=187,slow=10.0,SNR=121							
KK31				Sn	**S**	**14 34 46.4**	**-5.4**
4.4nm,0.6s,baz=188,slow=25,SNR=4.8							
KKAR	**Karatay Array**	**6.82**	**357**	*e*PN	**P**	**14 33 34.0**	**-1.2**
KKAR				pmax	pmax		
comp=Z,3.0nm,0.3s							
AAK	**Ala-Archa**	**6.90**	**22**	P	**P**	**14 33 37.5**	**+1.3**
SNR=8.0							
AAK	**Ala-Archa**	**6.90**	**22**	⇑Pn	**P**	**14 33 35.4**	**-0.9**
comp=Z,3.4nm,0.4s							
AAK				⇓Sn	**S**	**14 34 49.6**	**-4.1**
comp=Z,10nm,1.0s							
AAK	**Ala-Archa**	**6.90**	**22**	PN	**P**	**14 33 36.8**	**+0.6**
AAK				pmax	pmax		
comp=Z,1.0nm,0.4s							
AAK	**Ala-Archa**	**6.90**	**22**	*e*Pn	**P**	**14 33 34.6**	**-1.6**
comp=Z,6.0nm,0.4s							
SMLA	**Simla**	**7.27**	**133**	⇓*i* P	**P**	**14 33 40.9**	**-0.5**
comp=Z,167nm,0.3s							
SMLA				*i* S	**S**	**14 34 57.2**	**-5.7**
CHMS	**Chumysh**	**7.31**	**22**	P	**P**	**14 33 42.4**	**+0.6**
SNR=5.1							
TKM2	**Tokmak 2**	**7.52**	**27**	P	**P**	**14 33 47.9**	**+3.2**
SNR=7.7							
MKAR	**Makanchi Array**	**13.47**	**35**	P	**P**	**14 35 03.0**	**-0.7**
comp=Z,0.1nm,0.3s,baz=222,slow=14,SNR=8.9							
KOLN	**Koldanda**	**13.64**	**125**	*e*P	**P**	**14 35 06.9**	**+0.9**
comp=Z,4.4nm,0.4s							
GKN	**Gorkha**	**14.20**	**122**	*e*P	**P**	**14 35 13.5**	**+0.4**
comp=Z,20nm,0.6s							
KKN	**Kakani**	**14.77**	**121**	*e*P	**P**	**14 35 20.9**	**+0.4**
comp=Z,8.2nm,0.5s							
PKI	**Pulchoki**	**15.00**	**121**	*e*P	**P**	**14 35 23.1**	**-0.3**
comp=Z,9.9nm,0.6s							
GUN	**Gumba**	**15.12**	**119**	*e*P	**P**	**14 35 24.5**	**-0.4**
comp=Z,6.9nm,0.4s							
JIRN	**Jiri**	**15.49**	**119**	*e*P	**P**	**14 35 28.4**	**-1.1**
comp=Z,20nm,0.6s							
BVAR	**Borovoye Array**	**16.75**	**359**	P	**P**	**14 35 44.2**	**-0.8**
comp=Z,0.1nm,0.3s,baz=164,slow=11,SNR=6.6							
ZAL	**Zalesovo**	**20.10**	**24**	P	**P**	**14 36 21.9**	**-1.0**
comp=Z,3.4nm,0.3s,baz=257,slow=5.2,SNR=7.5							
AKASG	**Malin Array Be**	**33.08**	**309**	P	**P**	**14 38 23.4**	**+0.4**
comp=Z,1.0nm,0.5s,mb3.9,baz=80,slow=7.0,SNR=6.6							
FINES	**FINESS Array B**	**37.66**	**326**	P	**P**	**14 39 01.8**	**+0.2**
comp=Z,0.5nm,0.4s,mb3.7,baz=117,slow=8.5,SNR=6.7							
ARCES	**ARCESS Array B**	**41.34**	**338**	P	**P**	**14 39 32.5**	**+0.6**
comp=Z,1.7nm,0.8s,mb3.9,baz=90,slow=9.7,SNR=4.1							
NB2	**NORSAR Subarra**	**44.55**	**323**	P	**P**	**14 39 57.9**	**-0.1**
comp=Z,0.8nm,0.5s,mb3.7,baz=96,slow=7.9							
NB2	**NORSAR Subarra**	**44.55**	**323**	P	**P**	**14 39 57.9**	**-0.1**
NB2				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.8							
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**14 39 57.8**	**-0.2**
comp=Z,1.3nm,0.7s,mb3.8,baz=96,slow=7.8,SNR=8.5							
YKA	**Yellowknife Ar**	**81.46**	**3**	P	**P**	**14 44 02.2**	**+0.6**
comp=Z,0.2nm,0.4s,mb3.3,baz=352,slow=5.6,SNR=6.8							
YKA	**Yellowknife Ar**	**81.46**	**3**	P	**P**	**14 44 02.2**	**+0.6**
WRA	**Warramunga Arr**	**81.88**	**122**	P	**P**	**14 44 04.3**	**-0.4**
comp=Z,0.2nm,0.5s,mb3.2,baz=324,slow=4.9,SNR=8.3							
ASAR	**Alice Springs**	**84.14**	**125**	P	**P**	**14 44 16.3**	**+0.2**
comp=Z,0.3nm,0.8s,mb3.2,baz=314,slow=5.1,SNR=5.3							

*IDC **25** 14:57:52.8±2.1, 10.65N×91.56E, mb4.0/4, mb1 4.1/5, mb1mx3.7/21, mbtmp3.8/5, ML3.3/1, Error ellipse: s-maj=70.6km s-min=23.3km az=66.0*
*NEIC **25** 14:57:57.6±0.6, 10.70N×91.69E, h30km, mb4.5/4, Error ellipse: s-maj=14.7km s-min=10.4km az=68.0*
ISC 25 14:57:55.6±0.8, 10.7N±0.1×91.7E±0.1, h30km, n10, σ0§21/10, mb4.2/7, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.36**	**41**	Pn	**P**	**15 00 25.3**	**-0.2**
0.1nm,0.3s,baz=226,slow=14,SNR=4.1							
MKAR	**Makanchi Array**	**36.82**	**349**	P	**P**	**15 05 02.8**	**0.0**
0.8nm,0.6s,mb3.7,baz=169,slow=8.0,SNR=13							
FITZ	**Fitzroy Crossi**	**44.06**	**130**	*e*P	**P**	**15 06 03.2**	**+0.2**
4.7nm,0.8s,mb4.3							
FITZ	**Fitzroy Crossi**	**44.06**	**130**	P	**P**	**15 06 03.1**	**+0.2**
6.5nm,0.7s,mb4.5,baz=344,slow=7.3,SNR=6.5							
CHKZ	**Chkalovo**	**46.04**	**343**	*e*P	**P**	**15 06 18.6**	**+0.3**
3.0nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**51.84**	**126**	P	**P**	**15 07 03.6**	**0.0**
1.4nm,0.5s,mb4.2,baz=301,slow=10.0,SNR=50							
WRAB	**Tennant Creek**	**51.85**	**126**	*e*P	**P**	**15 07 03.4**	**-0.3**
2.8nm,0.4s,mb4.5							
WB2	**Warramunga Arr**	**51.85**	**126**	⇓*i* P	**P**	**15 07 03.7**	**0.0**
ASAR	**Alice Springs**	**53.56**	**130**	P	**P**	**15 07 16.6**	**+0.3**
0.4nm,0.5s,mb3.6,baz=304,slow=6.7,SNR=16							
LSZ	**Lusaka**	**68.04**	**249**	*e*P	**P**	**15 08 54.7**	**-0.3**
5.4nm,0.8s,mb4.6							

*ATH **25** 14:59:09.6, 34.73N×23.56E, h32km±2km, MD3.8/15*
*NEIC **25** 14:59:09.6, 34.75N×23.56E, h32km, MD3.8(ATH), After*

ATH.
*CSEM **25** 14:59:10.0±0.1, 34.64N×23.73E, h60km, mb3.6/1, Error ellipse: s-maj=4.5km s-min=1.7km az=65.0*
*HLW **25** 14:59:11.8, 34.87N×23.97E, h23km, Mb3.9*
*IDC **25** 14:59:14.8±2.8, 34.97N×23.66E, h68km±18km, mb3.5/9, mb1 3.5/11, mb1mx3.4/25, mbtmp3.8/11, MS2.9/2, Ms1 2.9/2, ms1mx2.5/25, Error ellipse: s-maj=35.8km s-min=21.5km az=30.0*
ISC 25 14:59:09.9±0.6, 34.66N±0.03×23.62E±0.06, h62km±6km, n72, σ1§11/73, mb3.8/9, 5C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.42**	**66**	*e*PB	**P**	**14 59 19.8**	**-1.5**
VAM	**Vamos**	**0.88**	**33**	⇓*i* PN	**P**	**14 59 26.2**	**-0.4**
VAM				*e*SN	**S**	**14 59 39.0**	**-0.1**
IDI	**Anoyia**	**1.22**	**59**	P	**P**	**14 59 32.7**	**+1.5**
29nm,0.3s,baz=243,slow=16,SNR=13							
IDI				S	**S**	**14 59 48.8**	**+1.8**
72nm,0.3s,baz=314,slow=21,SNR=12							
KYTH	**Kithira**	**1.68**	**344**	*e*PN	**P**	**14 59 38.5**	**+0.9**
XRY	**Khrisi**	**1.72**	**82**	*e*PB	**P**	**14 59 40.1**	**+1.9**
NPS	**Neapolis**	**1.75**	**69**	*e*Pb	**P**	**14 59 41.0**	**+2.5**
NPS	**Neapolis**	**1.75**	**69**	*e*PB	**P**	**14 59 40.0**	**+1.5**
VLI	**Veliai**	**2.12**	**345**	*e*PN	**P**	**14 59 44.0**	**+0.2**
VLI	**Veliai**	**2.12**	**345**	*e*Pb	**P**	**14 59 45.4**	**+1.6**
THR5	**Thira Island,**	**2.25**	**38**	*e*P	**P**	**14 59 45.5**	**0.0**
THR5	**Thira Island,**	**2.25**	**38**	*e*P	**P**	**14 59 45.5**	**-0.1**
THR3	**Thira Island,**	**2.27**	**39**	*e*P	**P**	**14 59 45.9**	**0.0**
THR3	**Thira Island,**	**2.27**	**39**	*e*P	**P**	**14 59 45.8**	**-0.1**
THR1	**Thera Island**	**2.27**	**41**	*e*P	**P**	**14 59 45.5**	**-0.3**
THR1	**Thera Island**	**2.27**	**41**	*e*P	**P**	**14 59 45.5**	**-0.4**
SANT	**Santorini**	**2.27**	**41**	*e*Pn	**P**	**14 59 45.9**	**0.0**
SANT	**Santorini**	**2.27**	**41**	*e*Pn	**P**	**14 59 45.8**	**-0.1**
THR4	**Thira Island,**	**2.31**	**39**	*e*P	**P**	**14 59 46.6**	**+0.2**
APE	**Apeiranthos**	**2.86**	**32**	*e*PN	**P**	**14 59 56.0**	**+1.8**
APE	**Apeiranthos**	**2.86**	**32**	*e*Pn	**P**	**14 59 53.5**	**-0.7**
ITM	**Ithomi**	**2.86**	**332**	*e*PN	**P**	**14 59 54.5**	**+0.3**
ITM	**Ithomi**	**2.86**	**332**	*e*Pb	**P**	**14 59 55.5**	**+1.3**
KARP	**Karpathos**	**3.04**	**72**	*e*PN	**P**	**14 59 57.8**	**+1.1**
NAIG	**Nisos Aigina**	**3.09**	**358**	*e*PN	**P**	**14 59 57.3**	**-0.2**
NAIG	**Nisos Aigina**	**3.09**	**358**	*e*Pn	**P**	**14 59 56.8**	**-0.7**
NSAL	**Nisos Salamina**	**3.24**	**358**	*e*PN	**P**	**14 59 59.0**	**-0.5**
NSAL	**Nisos Salamina**	**3.24**	**358**	*e*Pn	**P**	**14 59 57.8**	**-1.7**
MGER	**Gerania Oros**	**3.33**	**355**	*e*PN	**P**	**15 00 01.1**	**+0.3**
PTL	**Penteli**	**3.38**	**3**	*e*PN	**P**	**15 00 01.0**	**-0.6**
PTL	**Penteli**	**3.38**	**3**	*e*Pn	**P**	**15 00 00.0**	**-1.6**
SLUM		**3.44**	**157**	⇑P	**P**	**15 00 04.2**	**+1.9**
SLUM				S	**S**	**15 00 42.5**	**+0.5**
SLUM		**3.44**	**157**	P	**P**	**15 00 04.2**	**+1.9**
SLUM				S	**S**	**15 00 42.5**	**+0.4**
ARG	**Arkhangelos**	**3.99**	**66**	*e*PN	**P**	**15 00 11.0**	**+0.9**
ARG	**Arkhangelos**	**3.99**	**66**	*e*Pn	**P**	**15 00 10.2**	**+0.1**
VLS	**Valsamata**	**4.27**	**326**	*e*PN	**P**	**15 00 14.0**	**0.0**
VLS	**Valsamata**	**4.27**	**326**	*e*Pn	**P**	**15 00 12.5**	**-1.5**
AGG	**Agios Georgios**	**4.47**	**347**	*e*P	**P**	**15 00 16.2**	**-0.6**
EVR	**Evrytania**	**4.49**	**342**	*e*PN	**P**	**15 00 17.0**	**0.0**
NEO	**Neokhori**	**4.64**	**356**	*e*Pn	**P**	**15 00 18.6**	**-0.7**
DABA	**Dabaa**	**5.36**	**132**	⇑P	**P**	**15 00 28.8**	**-0.3**
PLG	**Polygyros**	**5.70**	**359**	*e*Pn	**P**	**15 00 32.0**	**-1.9**
HBRG	**Burj al 'Arab**	**6.65**	**126**	⇓P	**P**	**15 00 46.2**	**-1.0**
HNAT	**Natroun**	**7.77**	**128**	⇑P	**P**	**15 01 02.0**	**-0.7**
HSAF	**As Saff**	**8.40**	**125**	P	**P**	**15 01 10.4**	**-0.9**
HFRF	**Wahat Farafira**	**8.51**	**150**	P	**P**	**15 01 14.1**	**+1.3**
GLL	**Jalalah**	**8.53**	**124**	P	**P**	**15 01 12.2**	**-0.9**
AMAG	**Maghara**	**9.03**	**114**	P	**P**	**15 01 18.3**	**-1.6**
SUZ		**9.16**	**119**	⇑P	**P**	**15 01 20.6**	**-1.2**
BRTR	**Keskin Array B**	**9.46**	**55**	P	**P**	**15 01 25.0**	**-0.8**
0.1nm,0.3s,baz=236,slow=13,SNR=5.7							
ZNM		**9.46**	**121**	P	**P**	**15 01 24.9**	**-0.9**
HDK1	**Dakhla**	**10.38**	**150**	⇑P	**P**	**15 01 39.9**	**+1.5**
HKAT	**Jabal Katrina**	**10.76**	**122**	⇓P	**P**	**15 01 42.9**	**-0.6**
EIL	**Elat**	**10.82**	**114**	P	**P**	**15 01 42.1**	**-2.2**
0.5nm,0.3s,baz=328,slow=15,SNR=7.0							
EIL				S	**S**	**15 03 36.1**	**-8.5**
1.6nm,0.3s,baz=95,slow=19,SNR=6.3							
MLR	**Muntele Rosu**	**10.96**		9 LR	LR	15 06 12.5	
comp=Z,75nm,21.9s,baz=300,slow=39							
OKC	**Ostrava-Krasne**	**15.69**	**347**	*e*P	**P**	**15 02 52.1**	**+3.9**
GERES	**GERESS Array B**	**15.96**	**336**	P	**P**	**15 02 56.0**	**+4.3**
0.1nm,0.3s,baz=153,slow=12,SNR=9.3							
KHC	**Kasperske Hory**	**16.25**	**336**	*e*P	**P**	**15 02 59.5**	**+4.2**
AKASG	**Malin Array Be**	**16.54**	**13**	P	**P**	**15 02 58.4**	**-0.6**
0.7nm,0.3s,baz=198,slow=11,SNR=5.8							
DPC	**Dobruska-Polom**	**16.56**	**343**	*e*P	**P**	**15 03 02.8**	**+3.6**
HFS	**Hagfors**	**26.29**	**349**	P	**P**	**15 04 40.9**	**-0.2**
1.0nm,0.2s,mb3.9,baz=157,slow=9.8,SNR=20							
FINES	**FINESS Array B**	**26.84**	**3**	P	**P**	**15 04 45.5**	**-0.6**
0.3nm,0.3s,mb3.2,baz=174,slow=7.7,SNR=5.0							
FINES				LR	LR	15 15 44.6	
comp=Z,28nm,20.8s,baz=168,slow=37							
NB2	**NORSAR Subarra**	**27.57**	**347**	P	**P**	**15 04 52.1**	**-0.8**
0.9nm,0.7s,mb3.5,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**27.57**	**347**	P	**P**	**15 04 52.3**	**-0.6**
1.0nm,0.8s,mb3.5,baz=156,slow=8.7,SNR=4.8							
ARCES	**ARCESS Array B**	**34.94**	**1**	P	**P**	**15 05 56.3**	**-1.1**
2.0nm,0.9s,mb4.0,baz=195,slow=9.9,SNR=7.3							
BVAR	**Borovoye Array**	**37.61**	**46**	P	**P**	**15 06 20.8**	**+0.7**
0.9nm,0.6s,mb3.7,baz=260,slow=9.0,SNR=6.8							
MKAR	**Makanchi Array**	**45.10**	**56**	P	**P**	**15 07 22.6**	**+1.1**
1.6nm,0.5s,mb4.1,baz=273,slow=7.2,SNR=20							
SONM	**Songino Array**	**60.78**	**50**	P	**P**	**15 09 17.6**	**+0.1**
0.5nm,0.6s,mb3.8,baz=280,slow=7.5,SNR=4.2							
SCHQ	**Schefferville**	**62.74**	**319**	P	**P**	**15 09 32.0**	**+1.4**
0.9nm,0.3s,mb4.3,baz=72,slow=9.6							
YKA	**Yellowknife Ar**	**77.52**	**342**	P	**P**	**15 11 01.9**	**+1.9**
0.5nm,1.0s,mb3.4,baz=40,slow=3.7,SNR=4.8							
KAKA	**Kakadu**	**112.54**	**90**	*e*P	PKPdf	15 17 55.9	+16
5.7nm,0.4s							
WRA	**Warramunga Arr**	**117.80**	**96**	PKP	PKPdf	15 17 53.4	+3.9
0.4nm,0.9s,baz=324,slow=1.2,SNR=7.3							
ASAR	**Alice Springs**	**119.21**	**100**	PKP	PKPdf	15 17 56.1	+3.8
0.3nm,0.6s,baz=296,slow=1.4,SNR=7.6							

*IDC **25** 15:32:05.7±0.9, 10.68N×125.95E, mb3.9/7, mb1 4.1/7, mb1mx3.8/21, mbtmp3.9/7, MS3.0/2, Ms1 3.1/2, ms1mx2.7/30, Error ellipse: s-maj=53.5km s-min=18.2km az=72.0*
*MAN **25** 15:32:13.4, 10.68N×125.94E, h34km, mb4.7, ML3.6, MS3.6*
*NEIC **25** 15:32:15.6±0.6, 10.56N×125.82E, h80km, mb4.2/1, Error ellipse: s-maj=38.2km s-min=11.3km az=73.0*
ISC 25 15:32:12.5±1.0, 10.64N±0.05×126.00E±0.09, h67km±10km, n21, σ0§81/24, mb3.9/8, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.99**	**211**	⇓*e*P	**P**	**15 32 31.1**	**+0.2**
BESP	**Borongan**	**1.11**	**330**	*e*P	**P**	**15 32 31.8**	**-0.6**
BESP				*e*S	**S**	**15 32 46.8**	**-0.4**
MSLP	**Maasin**	**1.23**	**246**	*e*P	**P**	**15 32 34.5**	**+0.4**
MSLP				*e*S	**S**	**15 32 49.5**	**-0.7**
LLP	**Lapu-Lapu**	**2.03**	**261**	⇑*e*P	**P**	**15 32 45.4**	**+0.3**
LLP				*e*S	**S**	**15 33 08.4**	**-0.8**
TBP	**Tagbilaran**	**2.31**	**246**	*e*P	**P**	**15 32 49.7**	**+0.7**
TBP				*i* S	**S**	**15 33 16.8**	**+0.6**
SNPH	**Sibulan**	**3.01**	**245**	*e*P	**P**	**15 32 59.6**	**+0.6**
DCPH	**Dipolog City**	**3.32**	**232**	⇓*i* P	**P**	**15 33 03.1**	**-0.1**
DCPH				*i* S	**S**	**15 33 37.4**	**-4.2**
RCP	**Roxas**	**3.33**	**286**	*e*P	**P**	**15 33 03.6**	**+0.3**
GUIM	**Jordan**	**3.36**	**270**	*e*P	**P**	**15 33 03.6**	**-0.2**
CUYO	**Cuyo Island**	**4.90**	**273**	*e*P	**P**	**15 33 25.0**	**-0.4**
SJMP	**San Jose**	**5.12**	**291**	*e*P	**P**	**15 33 31.0**	**+2.7**
CMAR	**Chiang Mai Arr**	**27.30**	**290**	LR	LR	15 49 04.3	
comp=Z,18nm,19.8s,baz=24,slow=37							
WRAB	**Tennant Creek**	**31.47**	**165**	*e*P	**P**	**15 38 29.4**	**-0.8**
2.3nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**31.48**	**165**	P	**P**	**15 38 29.0**	**-1.2**
1.4nm,0.5s,mb3.9,baz=347,slow=9.2,SNR=5.4							
ASAR	**Alice Springs**	**34.96**	**167**	P	**P**	**15 38 60.0**	**-0.3**
1.1nm,0.4s,mb4.1,baz=347,slow=7.1,SNR=8.8							
STKA	**Stephens Creek**	**44.83**	**161**	P	**P**	**15 40 22.6**	**+0.7**
2.2nm,0.4s,mb4.2,baz=333,slow=7.5,SNR=10							
MKAR	**Makanchi Array**	**51.58**	**323**	P	**P**	**15 41 13.2**	**-0.8**
1.0nm,0.6s,mb4.0,baz=118,slow=8.1,SNR=13							
ZAL	**Zalesovo**	**54.18**	**331**	LR	LR	16 08 50.8	
comp=Z,27nm,20.4s,baz=90,slow=41							
BVAR	**Borovoye Array**	**61.22**	**325**	P	**P**	**15 42 21.9**	**-0.8**
0.3nm,0.6s,mb3.5,baz=117,slow=6.4,SNR=3.3							
ILAR	**Eielson Array**	**79.23**	**26**	P	**P**	**15 44 12.3**	**+0.6**
0.5nm,0.6s,mb3.5,baz=231,slow=5.5,SNR=9.1							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**93.53**	**24**	P	**P**	**15 45 23.4**	**+1.5**
0.3nm,0.7s,mb3.8,baz=302,slow=5.1,SNR=5.6							

IDC 25 15:36:25.6±18.0, 23.19S×174.47W, mb4.3/5, mb1 4.4/5, mb1mx4.0/18, mbtmp4.3/5, Error ellipse: s-maj=333.1km s-min=146.9km az=83.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.57**	**267**	P	P	15 43 34.4	-0.8
4.4nm,0.2s,baz=94,slow=11,SNR=5.9							
STKA	**Stephens Creek**	**39.69**	**248**	P	P	15 43 58.1	-3.2
1.8nm,1.1s,baz=72,slow=14,SNR=4.1							
ASAR	**Alice Springs**	**47.15**	**259**	P	P	15 44 59.2	-2.6
1.5nm,0.9s,baz=93,slow=7.1,SNR=31							
ASPA	**Alice Springs**	**47.16**	**259**	*e*P	P	15 44 59.4	-2.5
WB2	**Warramunga Arr**	**47.51**	**264**	*e*P	P	15 45 02.7	-2.1
WRA	**Warramunga Arr**	**47.52**	**264**	P	P	15 45 02.8	-2.1
1.5nm,0.3s,baz=99,slow=6.9,SNR=76							
FITZ	**Fitzroy Crossi**	**55.95**	**263**	P	P	15 46 07.4	-0.8
4.0nm,0.7s,baz=102,slow=3.7,SNR=6.5							

WEL 25 16:02:41.1±0.3, 38.59S×175.93E, h149km±2km, ML3.7/13, 4D, Error ellipse: s-maj=2.6km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGZ	**Ngauruhoe**	**0.64**	**203**	PN	P	16 03 03.5	0.0
CNZ	**Chateau**	**0.68**	**206**	PN	P	16 03 03.6	-0.1
WPVZ	**Whakapapa**	**0.69**	**206**	PN	P	16 03 03.7	-0.1
TUVZ	**Tukino**	**0.71**	**197**	PN	P	16 03 03.9	0.0
TUVZ				SN	S	16 03 20.9	-0.6
BKZ	**Black Stump Fm**	**0.73**	**143**	⇓PN	P	16 03 04.1	0.0
BKZ				SN	S	16 03 21.0	-0.7
FWVZ	**Far West T-bar**	**0.73**	**203**	PN	P	16 03 04.0	0.0
WNVZ	**Wahianoa**	**0.78**	**199**	PN	P	16 03 04.3	0.0
MOVZ	**Moawhango**	**0.83**	**189**	PN	P	16 03 04.3	-0.4
MOVZ				SN	S	16 03 21.1	-1.7
PKVZ	**Pokaka**	**0.84**	**213**	PN	P	16 03 04.4	-0.3
MTVZ	**Mangateitei**	**0.87**	**204**	PN	P	16 03 04.7	-0.3
URZ	**Urewera**	**0.99**	**71**	PN	P	16 03 05.5	-0.3
URZ				SN	S	16 03 23.9	-0.9
VRZ	**Vera Road**	**1.06**	**239**	PN	P	16 03 06.0	-0.4
VRZ				SN	S	16 03 26.3	+0.3
MWZ	**Matawai**	**1.28**	**79**	PN	P	16 03 08.4	-0.2
MWZ				SN	S	16 03 28.7	-1.2
WAZ	**Wanganui**	**1.38**	**212**	PN	P	16 03 08.7	-0.9
KNZ	**Kokohu**	**1.43**	**108**	PN	P	16 03 10.3	+0.1
TSZ	**Takapari Road**	**1.47**	**179**	⇓PN	P	16 03 09.9	-0.7
PWZ	**Pawanui**	**1.61**	**154**	PN	P	16 03 11.6	-0.5
MRZ	**Mangatainoka R**	**2.09**	**187**	⇓PN	P	16 03 15.6	-1.9
BFZ	**Birch Farm**	**2.11**	**173**	PN	P	16 03 16.1	-1.6
MXZ	**Matakaoa Point**	**2.14**	**62**	PN	P	16 03 17.4	-0.8
KIW	**Kapiti Island**	**2.40**	**199**	⇓PN	P	16 03 18.8	-2.7
KIW				SN	S	16 03 47.5	-4.9
MTW	**M

PPT	Papeete	43.96	293	LR	LR	16 26 56.2	
	comp=Z,391nm,19.0s,MS4.3,baz=123,slow=28						
QSPA	South Pole Qui	46.57	180	⇓iP	P	16 14 48.7	+1.9
	13nm,1.0s,mb4.8						
SIV	San Ignacio	47.92	70	P	P	16 14 57.6	-0.7
	1.6nm,0.5s,mb4.3,baz=247,slow=9.3,SNR=8.1						
VNDA	Vanda	47.99	197	P	P	16 14 55.8	-2.2
	1.9nm,1.0s,mb4.1,baz=118,slow=6.5,SNR=5.3						
OTAV	Otavalo	50.79	39	eP	P	16 15 19.8	-0.5
	9.6nm,1.3s,mb4.6						
SAML	Samuel	51.68	61	eP	P	16 15 25.9	-1.2
	3.9nm,0.7s,mb4.5						
VNA3	Neumayer Olymp	51.76	156	⇑i	P	16 15 28.3	+1.4
VNA3	Neumayer Olymp	51.76	156	⇑i	P	16 15 33.7	+6.8
VNA2	Neumayer--Watz	52.56	156	⇑i	P	16 15 33.8	+0.8
VNA2	Neumayer--Watz	52.56	156	⇑i	P	16 15 39.1	+6.1
VNA2	Neumayer--Watz	52.56	156	⇑i	P	16 15 43.1	+10
BDFB	Brasilia	57.31	80	LR	LR	16 39 08.7	
	comp=Z,92nm,18.8s,MS3.9,baz=292,slow=34						
JTS	JuntasAbangare	57.45	27	eP	P	16 16 08.8	-0.5
	14nm,1.1s,mb4.9						
SDV	Santo Domingo	62.04	42	P	P	16 16 38.3	-2.5
	1.9nm,0.3s,mb4.7						
LTX	Lajitas	72.70	3	eP	P	16 17 47.6	-0.1
	1.8nm,0.6s,mb4.2						
TXAR	Lajitas Array	72.70	3	P	P	16 17 48.6	+0.9
	4.2nm,0.8s,mb4.4,baz=180,slow=10.0,SNR=33						
JCT	Junction City	74.09	7	eP	P	16 17 55.3	-0.4
	30nm,1.1s,mb5.1						
MNTX	Cornudas Mount	75.00	2	eP	P	16 17 60.0	-1.0
	2.0nm,0.8s,mb4.1						
TUC	Tucson	75.65	357	eP	P	16 18 04.5	-0.1
	5.0nm,1.2s,mb4.3						
ANMO	Albuquerque	78.23	1	eP	P	16 18 19.9	+0.9
	1.8nm,1.0s,mb4.0						
SDCO	Great Sand Dun	81.03	2	eP	P	16 18 34.2	+0.3
	2.2nm,1.0s,mb4.0						
WVT	Waverly	81.38	16	P	P	16 18 35.2	-0.6
	2.7nm,0.7s,mb4.3						
PV10	Paradox Valley	81.65	359	eP	P	16 18 37.5	+0.3
STKA	Stephens Creek	81.93	233	P	P	16 18 38.3	-0.5
	2.5nm,1.0s,mb4.1,baz=84,slow=7.4,SNR=3.9						
NVAR	Mina Array Bea	82.28	351	P	P	16 18 41.8	+1.3
	1.6nm,0.8s,mb4.0,baz=163,slow=6.4,SNR=9.6						
SRU	San Rafael	82.42	358	eP	P	16 18 41.2	0.0
CCM	Cathedral Cave	82.64	13	eP	P	16 18 42.8	+0.5
	14nm,1.3s,mb4.8						
DUG	Dugway	83.60	356	eP	P	16 18 47.4	+0.2
	5.5nm,1.1s,mb4.6						
DAU	Daniels Canyon	83.74	357	eP	P	16 18 48.8	+0.9
PDAR	Pinedale Array	86.05	358	P	P	16 18 59.9	+0.5
	4.1nm,0.9s,mb4.7,baz=165,slow=4.5,SNR=29						
ASAR	Alice Springs	92.56	234	P	P	16 19 28.0	-2.6
	1.0nm,1.0s,mb4.2,baz=175,slow=7.2,SNR=5.5						
GERES	GERESS Array B	139.84	61	PKP	PKPdf	16 25 48.4	-0.2
	0.3nm,0.6s,baz=243,slow=3.0,SNR=4.3						
ARCES	ARCESS Array B	144.86	27	PKPbc	PKPbc	16 25 53.8	+0.1
	6.8nm,0.8s,baz=270,slow=2.4,SNR=10						
KEV	Kevo	145.25	26	ep	PKPbc	16 25 53.9	-0.8
	13nm,0.9s						
CMAR	Chiang Mai Arr	146.49	230	PKPbc	PKPbc	16 26 01.4	+2.1
	4.7nm,0.9s,baz=170,slow=3.3,SNR=28						
KAF	Kangasniemi	147.46	39	ep	PKPdf	16 26 00.0	-1.2
	1.9nm,0.6s						
FINES	FINESS Array B	147.49	40	PKPbc	PKPdf	16 26 01.7	+0.4
	4.3nm,0.9s,SNR=12						
FINES	FINESS Array B	147.49	40	PKPbc	PKPdf	16 26 01.7	+0.4
JOF	Joensuu	149.46	36	ep	PKPdf	16 26 06.0	+1.6
	2.8nm,0.6s						
AKASG	Malin Array Be	150.06	61	PKPbc	PKPdf	16 26 07.7	+1.9
	1.5nm,0.5s,baz=268,slow=3.4,SNR=22						
XAN	Xi'an	150.31	264	PKP	PKPdf	16 26 10.3	+3.6
BRTR	Keskin Array B	150.85	84	PKP	PKPdf	16 26 06.2	-1.1
	0.8nm,0.5s,baz=180,slow=3.7,SNR=8.6						
BRTR				PKPbc	PKPdf	16 26 11.2	+3.9
	5.9nm,0.8s,baz=198,slow=3.9,SNR=25						
HHC	Hu-ho-hao-te	151.18	278	ePKP	PKPdf	16 26 05.0	-2.7
HHC				APKP		16 26 12.5	
HHC				PP	PP		
	comp=Z,86nm,7.3s						
JIRN	Jiri	160.63	219	eP	PKPab	16 27 00.5	-1.0
	comp=Z,8.8nm,0.9s						
PKI	Pulchoki	160.90	217	eP	PKPab	16 27 01.3	-1.3
	comp=Z,11nm,0.8s						
GUN	Gumba	160.98	219	eP	PKPab	16 27 01.7	-1.3
DMN	Daman	161.06	216	eP	PKPab	16 27 02.1	-1.3
	comp=Z,17nm,1.1s						
KKN	Kakani	161.15	217	eP	PKPab	16 27 02.5	-1.2
	comp=Z,17nm,1.0s						
GKN	Gorkha	161.61	216	eP	PKPab	16 27 03.9	-1.8
	comp=Z,12nm,1.0s						
KOLN	Koldanda	161.83	213	eP	PKPab	16 27 04.8	-1.9
	comp=Z,11nm,1.0s						
ZAL	Zalesovo	166.94	326	PKP	PKPdf	16 26 21.6	-3.9
	comp=Z,0.6nm,0.3s,baz=173,slow=7.3,SNR=3.5						
MKAR	Makanchi Array	172.45	298	PKP	PKPdf	16 26 25.5	-3.5
	comp=Z,0.9nm,0.9s,slow=1.2,SNR=6.2						

*NEIC **25** 16:34:00.4±4.1, 37.61N×72.14E, h191km±31km, mb4.2/1, Error ellipse: s-maj=46.2km s-min=24.7km az=219.0*
*NNC **25** 16:34:03.3±3.6, 38.12N×71.64E, mpv3.5, Error ellipse: s-maj=43.2km s-min=27.4km az=43.0*
*MOS **25** 16:34:04.8±2.4, 37.98N×71.73E, h223km, mb3.9/1, Error ellipse: s-maj=41.1km s-min=16.0km az=85.0*
*IDC **25** 16:34:10.0±7.9, 37.92N×72.21E, h275km±68km, mb3.2/5, mb1 3.2/8, mb1mx2.9/24, mbtmp3.7/8, Error ellipse: s-maj=61.9km s-min=26.7km az=27.0*

ISC 25 16:33:58.5±0.4, 37.46N±0.03×72.27E±0.09, h200km±7km, n37, σ0°77/44, mb3.4/5, 2-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	3.64	185	P	P	16 34 56.4	0.0
CEP				S	S	16 35 40.0	-1.2
CHCP	Chirah Chowk	3.88	168	P	P	16 35 00.2	+0.8
THW	Thamme Wali	4.68	185	⇑P	P	16 35 09.7	+0.3
AML	Almayashu	4.79	13	P	P	16 35 11.1	+0.2
	SNR=125						
UCH	Uchtor	5.06	19	P	P	16 35 14.6	+0.2
	SNR=16						
KZA	Kyzart	5.15	26	P	P	16 35 15.4	-0.1
	SNR=14						
EKS2	Erkin-Say	5.32	12	P	P	16 35 17.9	+0.2
	SNR=9.6						
AAK	Ala-Archa	5.44	18	P	P	16 35 19.9	+0.7
	SNR=10						
AAK	Ala-Archa	5.44	18	⇓Pn	P	16 35 19.7	+0.4
	6.1nm,0.7s						
AAK				⇑Sn	S	16 36 20.6	-1.3
	16nm,0.8s						
AAK	Ala-Archa	5.44	18	PN	P	16 35 19.6	+0.4
AAK				S	S	16 36 20.6	-1.4
AAK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AAK	Ala-Archa	5.44	18	ePn	P	16 35 18.3	-1.0
	comp=Z,6.9nm,0.4s						
AAK				eSn	S	16 36 18.2	-3.8
SARP	Sargodha	5.54	176	P	P	16 35 20.3	-0.2
KBK	Karagaybulak	5.58	21	P	P	16 35 22.4	+1.4
	SNR=8.1						
ULHL	Ulahol	5.67	31	P	P	16 35 22.1	-0.1
	SNR=6.0						
DLH	Dalhousie	5.77	147	eP	S	16 36 29.0	-0.5
KK31	Karatay Array	5.79	347	Pn	P	16 35 23.1	-0.7
	comp=Z,1.0nm,0.2s,baz=186,slow=14,SNR=34						
KK31				Sn	S	16 36 25.8	-4.4
	comp=Z,5.5nm,0.3s,baz=181,slow=25,SNR=13						
KKAR	Karatay Array	5.79	347	PN	P	16 35 23.1	-0.7
KKAR				S	S	16 36 25.8	-4.4
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.2s						
CHMS	Chumysh	5.85	18	P	P	16 35 25.0	+0.5
	SNR=7.0						
DRP	Derazinda	5.95	197	P	P	16 35 27.2	+1.4
TKM2	Tokmak 2	6.02	24	P	P	16 35 27.2	+0.5
	SNR=7.5						
SMLA	Simla	7.50	146	⇓iP	P	16 35 41.4	-4.6
	comp=Z,238nm,0.4s						
SMLA				iS	S	16 37 01.9	-8.1
MKAR	Makanchi Array	11.92	35	P	P	16 36 48.6	+5.6
	comp=Z,0.1nm,0.3s,baz=208,slow=9.2,SNR=6.9						
KOLN	Koldanda	13.57	132	eP	P	16 37 04.3	+0.3
	comp=Z,3.7nm,0.3s						
GKN	Gorkha	14.03	129	eP	P	16 37 10.6	+0.9
	comp=Z,21nm,0.3s						
KKN	Kakani	14.58	128	eP	P	16 37 16.8	+0.2
	comp=Z,4.3nm,0.4s						
PKI	Pulchoki	14.82	128	eP	P	16 37 18.6	-0.9
	comp=Z,6.3nm,0.5s						
GUN	Gumba	14.88	126	eP	P	16 37 19.7	-0.6
	comp=Z,3.4nm,0.3s						
JIRN	Jiri	15.25	126	eP	P	16 37 24.1	-0.8
	comp=Z,3.4nm,0.3s						
BVAR	Borovoye Array	15.62	356	P	P	16 37 30.1	+0.8
	comp=Z,0.3nm,0.3s,baz=160,slow=11,SNR=7.5						
ZAL	Zalesovo	18.61	24	P	P	16 38 02.0	-0.8
	comp=Z,1.9nm,0.3s,baz=250,slow=8.4,SNR=14						
FINES	FINESS Array B	37.27	325	P	P	16 40 51.9	-0.4
	comp=Z,0.3nm,0.4s,mb3.2,baz=221,slow=35,SNR=3.2						
ARCES	ARCESS Array B	40.66	337	P	P	16 41 20.2	0.0
	comp=Z,0.7nm,0.5s,mb3.4,baz=117,slow=5.4,SNR=6.9						
NOA	NORSAR Array B	44.24	322	P	P	16 41 48.3	-0.8
	comp=Z,0.5nm,0.9s,mb2.9,baz=97,slow=8.4,SNR=2.6						
YKA	Yellowknife Ar	80.24	3	P	P	16 45 47.5	0.0
	comp=Z,0.3nm,0.4s,mb3.2,baz=350,slow=5.4,SNR=6.2						
YKA	Yellowknife Ar	80.24	3	P	P	16 45 47.5	0.0
STKA	Stephens Creek	94.54	127	P	P	16 47 00.5	+3.3
	comp=Z,1.0nm,0.6s,mb4.1,slow=3.0,SNR=4.1						
STKA	Stephens Creek	94.54	127	P	P	16 47 00.5	+3.3

*IDC **25** 16:48:35.3±5.0, 6.35S×147.09E, h128km±40km, mb3.4/3, mb1 3.6/7, mb1mx3.3/18, mbtmp4.0/7, Error ellipse: s-maj=49.3km s-min=31.1km az=155.0*
*NEIC **25** 16:48:37.7±3.5, 6.62S×147.11E, h132km±28km, mb3.8/2, Error ellipse: s-maj=45.6km s-min=17.7km az=161.0*

ISC 25 16:48:35.7±3.7, 6.4S±0.3×147.1E±0.2, h141km±31km, n9, σ1°18/10, mb3.7/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.94	178	P	P	16 49 20.8	-2.0
	9.6nm,0.3s,baz=354,slow=5.3,SNR=98						
PMG				S	S	16 49 59.8	+1.1
	6.4nm,0.3s,baz=242,slow=22,SNR=12						
HNR	Honiara	13.11	104	P	P	16 51 38.3	+0.7
	5.5nm,0.3s,baz=316,slow=20,SNR=6.6						
CTA	Charters Tower	13.59	183	P	P	16 51 43.1	-0.6
	0.2nm,0.3s,baz=352,slow=7.1,SNR=1.9						
WRAB	Tennant Creek	18.22	221	P	P	16 52 41.9	+1.3
	2.9nm,0.7s						
WRA	Warramunga Arr	18.23	221	P	P	16 52 40.0	-0.8
	0.2nm,0.3s,baz=43,slow=12,SNR=14						
ASAR	Alice Springs	21.29	215	P	P	16 53 13.4	+1.3
	0.4nm,0.5s,mb3.0,baz=52,slow=8.9,SNR=15						
FITZ	Fitzroy Crossi	23.88	239	P	P	16 53 38.6	+1.1
	7.8nm,0.6s,mb4.4,baz=80,slow=4.5,SNR=15						
STKA	Stephens Creek	25.81	191	P	P	16 53 54.0	-1.5
	1.0nm,0.6s,mb3.6,baz=9.5,slow=12,SNR=3.5						
MBWA	Marble Bar	30.22	238	P	P	16 54 34.5	-0.9
	2.3nm,0.9s,mb3.9						

*BJI **25** 17:05:23.4, 1.10N×126.13E, h10km, mB5.2, mb5.6, Ms4.6, Msz4.3*
*IDC **25** 17:05:23.2±0.3, 0.95N×126.30E, mb5.3/30, mb1 5.3/31, mb1mx5.3/32, mbtmp5.3/31, ML5.4/1, MS4.3/9, Ms1 4.3/9, ms1mx4.0/24, Error ellipse: s-maj=15.8km s-min=7.7km az=69.0*
*DJA **25** 17:05:24.2±0.4, 1.26N×125.97E, h76km±5km, mb5.0/3, MD5.2/3, Error ellipse: s-maj=28.2km s-min=5.7km az=176.0*
*HRVD **25** 17:05:25.5±0.2, 1.15N×126.41E, h31km, MW5.3/52, Centroid moment Tensor Solution. LP body waves: s48,c88;Mantle waves: s52,c97; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.85±.04; $M_{\theta\theta}$-0.50±.02; $M_{\phi\phi}$-0.34±.03; $M_{r\theta}$-0.24±.04; $M_{\theta\phi}$-0.69±.02; $M_{\phi r}$0.37±.05; Best double couple: $M_0$1.098×10^{17} NP1: ϕ_s254°, δ50°, λ128°. NP2:ϕ_s23°, δ53°, λ54°. Principal axes: T 1.079, Plg62°, Azm232°; N .038, Plg28°, Azm47°; P -1.117, Plg2°, Azm138°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 17:05:25.5±0.1, 1.09N×126.27E, mb5.4/50, MS4.2/8 Error ellipse: s-maj=5.4km s-min=3.4km az=69.0*
NEIC Felt [I] on Ternate, Indonesia.
*CSEM **25** 17:05:26.3, 1.05N×126.27E, h33km, mb5.5*
*MOS **25** 17:05:27.1±1.3, 1.12N×126.31E, h33km, mb5.8/40, MS4.4/21, Error ellipse: s-maj=10.1km s-min=5.3km az=111.1*

ISC 25 17:05:24.4±0.2, 1.02N±0.02×126.24E±0.03, h18km, h18km±1.9km: pP-P, n366, σ1°10/327, mb5.5/110, MS4.4/49, 23C-29D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	Ternate	1.02	100	ePn	Pn	17 05 47.5	+3.7
MNI	Manado	1.46	287	ePn	Pn	17 05 44.6	-5.6
DAV	Davao City (W)	6.05	354	eP	Pn	17 06 56.8	+1.5
KCP	Kidapawan	6.06	349	⇑eP	Pn	17 06 57.9	+2.3
BUNI	Buntu Taipa	7.52	232	eP	Pn	17 07 18.1	+2.1
NINI	Niniconang	8.43	230	eP	P	17 07 32.4	+3.6
SCPH	Surigao	8.74	355	⇑eP	P	17 07 35.1	+2.1
	258μm,1.0s						
TSM	Tawau	8.97	291	P	P	17 07 36.9	+0.8
TSM	Tawau	8.97	291	P	P	17 07 36.9	+0.8
MSLP	Maasin	9.16	351	eP	P	17 07 40.6	+1.8
LLP	Lapu-Lapu	9.51	346	⇑eP	P	17 07 46.1	+2.3
GUIM	Jordan	10.21	339	eP	P	17 07 54.8	+1.4
RCP	Roxas	11.03	342	⇑eP	P	17 08 07.1	+2.4
CUYO	Cuyo Island	11.06	332	eP	P	17 08 05.4	+0.4
KKM	Kota Kinabalu	11.18	297	ePn	P	17 08 08.9	+2.3
KKM	Kota Kinabalu	11.18	297	P	P	17 08 08.2	+1.6
PPR	Puerto Princes	11.46	320	eP	P	17 08 11.2	+0.7
CNP	Catarman	11.52	352	eP	P	17 08 16.0	+4.7
BUSP	Coron	12.45	331	eP	P	17 08 25.3	+1.5
SJMP	San Jose	12.45	336	eP	P	17 08 24.9	+1.1
KEDI	Kedomdong	13.82	227	⇓eP	P	17 08 32.3	-10
	412nm,0.2s						
RATI	Rata	14.40	228	⇑ePg	P	17 08 39.1	-11
RATI	Rata	14.40	228	eP	P	17 08 38.9	-11
	418nm,0.3s						
MENI	Mendum Tagoi	14.60	104	eP	P	17 08 59.4	+7.0
MENI	Mendum Tagoi	14.60	104	⇓eP	P	17 08 52.6	+0.2
YOMI	Yo Moklole	14.77	104	eP	P	17 08 53.9	-0.7
KELI	Kelakatan	14.88	232	⇑eP	P	17 08 51.5	-4.4
	59nm,0.2s						
KAKA	Kakadu	14.96	156	eP	P	17 08 54.9	-2.2
	331nm,0.8s						
SRDI	Scrawed	15.31	232	eP	P	17 08 55.6	-6.0
BALP	Baler	15.34	343	eP	P	17 09 05.1	+3.2
KSM	Kuching	15.93	272	ePn	P	17 09 12.3	+2.7
SCZP	Santa Cruz	15.94	337	eP	P	17 09 11.7	+2.0
PALP	Palanan	16.38	347	eP	P	17 09 19.7	+4.4
CAUP	Cauayan	16.41	345	eP	P	17 09 17.6	+1.9
BOLP	Bolinao	16.49	338	eP	P	17 09 19.5	+2.8
CVP	Callao Caves	17.14	346	⇑eP	P	17 09 26.0	+1.1
ABRA	Dolores	17.40	342	eP	P	17 09 28.0	-0.1
APYP	Conner	17.44	344	eP	P	17 09 28.4	-0.3
FITZ	Fitzroy Crossi	19.01	182	⇓iP	P	17 09 47.3	-0.7
	161nm,0.7s						
FITZ	Fitzroy Crossi	19.01	182	P	P	17 09 47.4	-0.6
	8.7nm,0.3s,baz=9.0,slow=8.6,SNR=140						
WRAB	Tennant Creek	22.29	160	eP	P	17 10 22.3	-0.2
WRAB				pmax	pmax		
	comp=Z,455nm,0.9s,mb5.9						
WRAB	Tennant Creek	22.29	160	eP	P	17 10 22.3	-0.2
	comp=Z,455nm,0.9s,mb5.9						
WRA	Warramunga Arr	22.29	160	P	P	17 10 23.0	+0.5
	comp=Z,120nm,0.5s,mb5.5,baz=340,slow=11,SNR=254						
WRA				S	S	17 14 23.8	+1.8
	comp=Z,31nm,1.2s,baz=335,slow=19,SNR=10.0						
WB2	Warramunga Arr	22.30	160	⇓iP	P	17 10 22.3	-0.3
WB2				eS	S	17 14 22.8	+0.7
WB2				eSCS	ScS	17 21 36.4	-1.8
KGM	Kluang	22.93	273	P	P	17 10 30.8	+1.7
MBWA	Marble Bar	22.94	196	eP	P	17 10 29.2	+0.2
	comp=Z,59nm,0.7s,mb5.1						
PMG	Port Moresby	23.27	117	eP	P	17 10 32.2	-0.1
PMG	Port Moresby	23.27	117	P	P	17 10 33.2	+0.9
	comp=Z,46nm,0.9s,mb4.9,baz=334,slow=11,SNR=5.3						
NACB	Ninganchiao	23.45	349	eP	P	17 10 32.8	-1.2
YHNB	Yeheng	23.98	349	eP	P	17 10 36.8	-2.3
QIZ	Qiongzhong	24.06	319	eP	P	17 10 39.5	-0.4
QIZ				PP	PP	17 11 06.5	-7.9
QIZ				S	S	17 14 45.5	-7.7
QIZ				AMB	AMB		
	comp=Z,94nm,1.0s,mb5.2						
QIZ				LR	LR		
	comp=N,899nm,17.2s,MS4.4						
QIZ				LR	LR		
	comp=E,726nm,18.5s,MS4.4						
QIZ				LR	LR		
	comp=Z,1μm,22.3s,MS4.3						
TATO	Taipei	24.25	349	eP	P	17 10 40.0	-1.8
	comp=Z,57nm,0.8s,mb5.0						
QZH	Quanzhou	24.91	343	iPR		17 10 46.8	
QZH				S	S	17 15 10.0	+2.4
QZH				AMB	AMB		
	comp=Z,260nm,0.9s,mb5.8						
QZH				LR	LR		
	comp=Z,2μm,26.0s,MS4.5						
IPM	Ipoh	25.43	278	P	P	17 10 53.7	+0.6
ASAR	Alice Springs	25.64	164	P	P	17 10 55.0	0.0
	comp=Z,43nm,0.8s,mb5.0,baz=349,slow=6.9,SNR=440						
ASAR				PcP	PcP	17 14 25.1	-1.2
	comp=Z,6.5nm,0.8s,baz=349,slow=2.4,SNR=6.2						
ASAR				S	S	17 15 21.4	+1.5
	comp=Z,6.4nm,1.0s,baz=349,slow=18,SNR=3.1						
ASAR				ScP		17 18 03.7	
	comp=Z,3.2nm,0.9s,baz=329,slow=2.3,SNR=4.8						
ASPA	Alice Springs	25.64	164	⇓iP	P	17 10 55.0	0.0
ASPA				eS	S	17 15 20.8	+0.9
ASPA				eSCS	ScS	17 21 47.5	-3.9
JOW	Kunigami	25.74	4	P	P	17 10 57.0	+1.1
	comp=Z,255nm,0.8s,mb5.8,baz=191,slow=7.3,SNR=80						
KULM	Kulim	25.89	280	eP	P	17 10 57.3	-0.2
SNG	Songkhla	26.26	284	P	P	17 11 02.0	+1.1
KKTK	Khon Kaen	27.64	305	⇑P	P	17 11 13.0	-0.4
	comp=Z,1μm,0.9s,mb6.5						
CTA	Charters Tower	28.72	138	eP	P	17 11 22.7	-0.5
	comp=Z,24nm,1.0s,mb4.9						
CTA	Charters Tower	28.72	138	eP	P	17 11 22.7	-0.5
CTA				pmax	pmax		
	comp=Z,24nm,1.0s						
CTA	Charters Tower	28.72	138	P	P	17 11 23.3	+0.1
	comp=Z,25nm,0.9s,mb5.0,baz=326,slow=10.0,SNR=8.6						
CTAO	Charters Tower	28.72	138	eP	P	17 11 22.1	-1.1
CTAO				pmax	pmax		
	comp=Z,84nm,1.2s,mb5.3						
CTAO				MLR	MLR		
	comp=Z,483nm,19.0s,MS4.1						
CTAO	Charters Tower	28.72	138	eP	P	17 11 22.1	-1.1
	comp=Z,84nm,1.2s,mb5.3						
CTAO				LR	LR		
	comp=Z,483nm,19.0s,MS4.1						
NST	Nakhon Sawan	29.58	301	P	P	17 11 30.0	-1.0
	comp=Z,50nm,0.5s,mb5.5						
CBIJ	Chichi jima	30.11	29	P	P	17 11 35.1	-0.4
	comp=Z,84nm,0.6s,mb5.6,baz=280,slow=9.7,SNR=5.3						
SSE	Sheshan	30.29	351	P	P	17 11 36.0	-1.1
SSE				AP	pP	17 11 44.8	+2.5
SSE				XP	sP	17 11 48.5	+3.9
SSE				S	S	17 16 35.3	+0.3
SSE				XS		17 16 49.5	
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,42nm,4.2s						
SSE				LR	LR		
	comp=N,421nm,29.5s,MS4.0						
SSE				LR	LR		
	comp=E,228nm,29.5s,MS4.0						
SSE				LR	LR		
	comp=Z,574nm,27.2s,MS4.1						
SSE	Sheshan	30.29	351	P	P	17 11 36.0	-1.1
	comp=Z,37nm,0.7s,mb5.2						
SSE				pP	pP	17 11 44.7	+2.4
SSE				sP	sP	17 11 48.6	+4.0
SSE				S	S	17 16 35.2	+0.2
SSE				sS		17 16 49.5	
SSE				LR	LR		
	comp=Z,570nm,27.2s,MS4.1						
NANT	Nan	30.65	307	⇑P	P	17 11 37.0	-3.4
	comp=Z,772nm,0.9s,mb6.5						
GYA	Guiyang	31.53	325	⇓iP	P	17 11 47.3	-0.8
GYA				AP	pP	17 11 51.5	-1.8
GYA				XP	sP	17 11 54.8	-0.7
GYA				PP	PP	17 12 51.8	-0.7
GYA				S	S	17 16 49.8	-4.7
GYA				SCP		17 18 24.3	
GYA				AMB	AMB		
	comp=Z,130nm,0.9s,mb5.8						
GYA				AMB	AMB		
	comp=Z,190nm,4.5s						
GYA				LR	LR		
	comp=N,510nm,17.7s,MS4.4						
GYA				LR	LR		
	comp=E,490nm,16.2s,MS4.4						
GYA				LR	LR		
	comp=Z,750nm,17.9s,MS4.4						
NJ2	Nanjing	31.64	348	eP	P	17 11 48.5	-0.5
NJ2				AP	pP	17 11 53.0	-1.2
NJ2				XP	sP	17 11 55.5	-1.0
NJ2				PP	PP	17 12 53.0	-0.9
NJ2				S	S	17 16 55.0	-1.2
NJ2				XS		17 17 03.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1μm,4.6s						
NJ2				LR	LR		
	comp=N,710nm,21.2s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,19.0s,MS4.7						
NJ2				LR	LR		
	comp=Z,440nm,17.0s,MS4.2						
FORT	Forrest	31.67	177	⇓iP	P	17 11 49.0	-0.2
	comp=Z,7μm,0.6s						
CM31	Chiang Mai Arr	31.90	305	eP	P	17 11 50.7	-0.7
	comp=Z,19nm,0.8s,mb5.0						
CMAR	Chiang Mai Arr	31.90	305	P	P	17 11 51.1	-0.3
	comp=

NWAO	**Narrogin (SRO)**	**34.81**	**193**	*e*P	**P**	**17 12 16.6**	**+0.1**
NWAO				pmax	pmax		
comp=Z,44nm,0.6s							
NWAO	**Narrogin (SRO)**	**34.81**	**193**	P	**P**	**17 12 17.1**	**+0.6**
comp=Z,50nm,0.6s,mb5.7,baz=22,slow=9.4,SNR=80							
NWAO				PcP	PcP	17 14 47.6	-2.3
comp=Z,6.1nm,0.6s,baz=346,slow=11,SNR=3.1							
NWAO	**Narrogin (SRO)**	**34.81**	**193**	*e*P	**P**	**17 12 16.6**	**+0.1**
comp=Z,44nm,0.6s,mb5.6							
HNR	**Honiara**	**35.14**	**108**	*e*P	**P**	**17 12 17.4**	**-2.1**
HNR				pmax	pmax		
comp=Z,99nm,0.8s,mb5.8							
HNR	**Honiara**	**35.14**	**108**	P	**P**	**17 12 18.3**	**-1.2**
comp=Z,144nm,0.8s,mb6.0,baz=222,slow=7.3,SNR=13							
HNR	**Honiara**	**35.14**	**108**	*e*P	**P**	**17 12 17.4**	**-2.1**
comp=Z,99nm,0.8s,mb5.8							
STKA	**Stephens Creek**	**35.81**	**157**	⇓*i*P	**P**	**17 12 24.7**	**-0.3**
comp=Z,76nm,0.8s,mb5.7							
STKA				*e*PP	PP	17 13 49.1	+2.9
STKA				*e*S	**S**	**17 17 57.3**	**-3.5**
STKA				*e*SCS	ScS	17 22 36.9	-3.7
STKA	**Stephens Creek**	**35.81**	**157**	P	**P**	**17 12 24.8**	**-0.2**
comp=Z,91nm,0.7s,mb5.8,baz=329,slow=8.6,SNR=214							
TIA	**Tai'an**	**36.02**	**347**	⇑P	**P**	**17 12 25.5**	**-1.3**
KS15	**Wonju Array Si**	**36.28**	**2**	*e*P	**P**	**17 12 28.1**	**-0.7**
CD2	**Chengdu**	**36.57**	**327**	⇓*i*P	**P**	**17 12 30.3**	**-1.1**
CD2				S	**S**	**17 18 14.5**	**+1.9**
CD2				XS		17 18 23.0	
CD2				AMB	AMB		
comp=Z,200nm,1.1s,mb5.9							
CD2				LR	LR		
comp=N,590nm,13.8s							
CD2				LR	LR		
comp=Z,730nm,22.2s							
XAN	**Xi'an**	**36.63**	**336**	P	**P**	**17 12 30.0**	**-1.9**
XAN				PP	PP	17 13 50.5	-6.2
XAN				S	**S**	**17 18 05.8**	**-7.7**
XAN				AMB	AMB		
comp=Z,113nm,1.0s,mb5.7							
XAN				LR	LR		
comp=N,182nm,18.5s,MS4.3							
XAN				LR	LR		
comp=E,474nm,17.9s,MS4.3							
XAN				LR	LR		
comp=Z,508nm,21.4s,MS4.3							
MJAR	**Matsushiro Arr**	**37.05**	**16**	P	**P**	**17 12 34.5**	**-0.9**
comp=Z,48nm,0.9s,mb5.3,baz=184,slow=9.3,SNR=90							
MJAR	**Matsushiro Arr**	**37.05**	**16**	P	**P**	**17 12 34.5**	**-0.9**
MAJO	**Matsushiro**	**37.05**	**16**	*e*P	**P**	**17 12 33.8**	**-1.5**
MAJO				pmax	pmax		
comp=Z,57nm,0.8s,mb5.5							
MAJO	**Matsushiro**	**37.05**	**16**	*e*P	**P**	**17 12 33.8**	**-1.5**
comp=Z,57nm,0.8s,mb5.5							
MAT	**Matsushiro**	**37.05**	**16**	*e*P	**P**	**17 12 34.0**	**-1.3**
MAT				S	**S**	**17 18 25.0**	**+5.2**
MAT				pmax	pmax		
comp=Z,49nm,0.7s,mb5.5							
MAT	**Matsushiro**	**37.05**	**16**	*e*P	**P**	**17 12 34.0**	**-1.3**
comp=Z,49nm,0.7s,mb5.4							
MAT				S	**S**	**17 18 25.0**	**+5.2**
MAT	**Matsushiro**	**37.05**	**16**	P	**P**	**17 12 34.2**	**-1.1**
MAT				*e*S	**S**	**17 18 24.0**	**+4.2**
ADE	**Adelaide**	**37.65**	**163**	*e*P	**P**	**17 12 41.2**	**+0.7**
DL2	**Dalian**	**37.94**	**354**	P	**P**	**17 12 43.3**	**+0.5**
DL2				S	**S**	**17 18 35.5**	**+2.1**
DL2				AMB	AMB		
comp=Z,170nm,0.8s,mb5.8							
DL2				AMB	AMB		
comp=Z,210nm,5.1s							
DL2				LR	LR		
comp=N,180nm,21.4s,MS4.0							
DL2				LR	LR		
comp=E,140nm,18.2s,MS4.0							
DL2				LR	LR		
comp=Z,380nm,15.7s,MS4.3							
BJI	**Beijing**	**39.91**	**348**	*e*P	**P**	**17 12 58.5**	**-0.7**
BJI				AP	pP	17 13 01.8	-2.7
BJI				XP	sP	17 13 03.0	-3.7
BJI				S	**S**	**17 18 57.5**	**-5.6**
BJI				SS	SS	17 21 54.5	+1.2
BJI				AMB	AMB		
comp=Z,230nm,2.5s,mb5.5							
BJI				LR	LR		
comp=N,272nm,15.4s,MS4.3							
BJI				LR	LR		
comp=E,257nm,15.9s,MS4.3							
BJI				LR	LR		
comp=Z,468nm,27.6s							
BJI	**Beijing**	**39.91**	**348**	*e*P	**P**	**17 12 58.6**	**-0.6**
BJI				S	**S**	**17 18 57.5**	**-5.6**
BJI				SS	SS	17 21 54.5	+1.2
BJI				pmax	pmax		
comp=Z,53nm,1.1s,mb5.2							
BJI				MLR	MLR		
comp=Z,470nm,27.6s,MS4.2							
BJI	**Beijing**	**39.91**	**348**	*e*P	**P**	**17 12 58.6**	**-0.6**
comp=Z,53nm,1.1s,mb5.2							
BJI				pP	pP	17 13 01.7	-2.8
BJI				sP	sP	17 13 03.0	-3.7
BJI				PP	PP	17 14 26.7	-8.2
BJI				S	**S**	**17 18 57.5**	**-5.6**
BJI				SS	SS	17 21 54.5	+1.2
BJI				LR	LR		
comp=Z,470nm,27.6s,MS4.2							
LZH	**Lanzhou**	**40.61**	**332**	⇓P	**P**	**17 13 05.3**	**+0.3**
LZH				AP	pP	17 13 10.3	0.0
LZH				XP	sP	17 13 15.8	+3.3
LZH				PP	PP	17 14 43.0	+1.0
LZH				*e*S	**S**	**17 19 09.3**	**-4.3**
LZH				AMB	AMB		
comp=Z,410nm,1.5s,mb5.8							
LZH				AMB	AMB		
comp=Z,940nm,4.0s							
LZH				LR	LR		
comp=E,2μm,14.8s							
LZH				LR	LR		
comp=Z,2μm,16.2s,MS5.2							
LZH	**Lanzhou**	**40.61**	**332**	⇓P	**P**	**17 13 05.3**	**+0.3**
LZH				*SP	sP	17 13 15.7	+3.2
LZH						17 14 43.0	
LZH				*e*S	**S**	**17 19 09.2**	**-4.4**
LZH				pmax	pmax		
comp=Z,410nm,1.5s,mb5.8							
LZH				MLR	MLR		
comp=Z,2μm,16.2s,MS5.2							
LZH	**Lanzhou**	**40.61**	**332**	⇓P	**P**	**17 13 05.3**	**+0.3**
comp=Z,410nm,1.5s,mb5.8							
LZH				pP	pP	17 13 10.3	0.0
LZH				sP	sP	17 13 15.7	+3.2
LZH				PP	PP	17 14 43.0	+1.0
LZH				*e*S	**S**	**17 19 09.2**	**-4.4**
LZH				sS		17 19 16.2	
LZH				SS	SS	17 21 58.0	-11
LZH				LR	LR		
comp=Z,2μm,16.2s,MS5.2							
SNY	**Shenyang**	**40.70**	**357**	⇓P	**P**	**17 13 06.3**	**+0.6**
SNY				AP	pP	17 13 13.3	+2.4
SNY				XP	sP	17 13 16.5	+3.4
SNY				S	**S**	**17 19 11.3**	**-3.5**
SNY				XS		17 19 24.8	
SNY				AMB	AMB		
comp=Z,170nm,0.8s,mb5.7							
SNY				LR	LR		
comp=N,320nm,21.8s,MS4.3							
SNY				LR	LR		
comp=E,340nm,23.9s,MS4.3							
SNY				LR	LR		
comp=Z,490nm,20.6s,MS4.3							
SHL	**Shillong**	**41.14**	**309**	*e*P	**P**	**17 13 10.0**	**+0.5**
HHC	**Hu-ho-hao-te**	**41.82**	**343**	*e*P	**P**	**17 13 12.5**	**-2.5**
HHC				AP	pP	17 13 17.5	-2.7
HHC				XP	sP	17 13 20.0	-2.4
HHC				PP	PP	17 14 51.3	-3.7
HHC				PCP	PcP	17 15 09.0	-2.6
HHC				SCP		17 18 58.3	
HHC				PCS		17 18 59.5	
HHC				S	**S**	**17 19 30.5**	**-1.0**
HHC				XS		17 19 39.3	
HHC				SS	SS	17 22 29.0	-3.6
HHC				SCS	ScS	17 23 17.0	+1.8
HHC				AMB	AMB		
comp=Z,22nm,1.4s,mb4.6							
HHC				AMB	AMB		
comp=Z,173nm,4.5s							
HHC				LR	LR		
comp=N,308nm,22.0s							
HHC				LR	LR		
comp=E,232nm,15.3s							
HHC				LR	LR		
comp=Z,521nm,24.5s,MS4.3							
CNB	**Canberra Magne**	**42.11**	**151**	⇓*i*P	**P**	**17 13 18.2**	**+0.7**
comp=Z,3μm,1.9s							
TOO	**Toolangi**	**42.33**	**157**	*e*P	**P**	**17 13 20.6**	**+1.4**
comp=Z,9.3nm,0.7s,mb4.5							
TOO				*e*PP	PP	17 14 58.3	-2.0
TOO	**Toolangi**	**42.33**	**157**	*e*P	**P**	**17 13 20.6**	**+1.4**
TOO				*e*		17 14 58.3	
TOO				pmax	pmax		
comp=Z,9.0nm,0.7s,mb4.5							
CN2	**Changchun**	**42.60**	**359**	*e*P	**P**	**17 13 21.5**	**+0.1**
CN2				*e*AP	pP	17 13 24.5	-2.1
CN2				*e*XP	sP	17 13 28.8	0.0
CN2				PCP	PcP	17 15 17.5	+3.4
CN2				*e*S	**S**	**17 19 45.0**	**+2.0**
CN2				SS	SS	17 22 49.0	+1.7
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.7							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,250nm,22.0s,MS4.2							
CN2				LR	LR		
comp=E,190nm,22.0s,MS4.2							
CN2				LR	LR		
comp=Z,300nm,25.0s,MS4.1							
MDJ	**Mudanjiang**	**43.51**	**3**	P	**P**	**17 13 29.0**	**+0.3**
MDJ				AP	pP	17 13 31.3	-2.7
MDJ				PCP	PcP	17 15 15.3	-1.9
MDJ				SCP		17 19 06.0	
MDJ				PCS		17 19 08.0	
MDJ				S	**S**	**17 19 56.5**	**+0.2**
MDJ				SS	SS	17 23 07.3	+3.4
MDJ				AMB	AMB		
comp=Z,108nm,0.9s,mb5.6							
MDJ				AMB	AMB		
comp=Z,85nm,5.5s							
MDJ				LR	LR		
comp=N,262nm,23.0s							
MDJ				LR	LR		
comp=E,88nm,28.1s							
MDJ				LR	LR		
comp=Z,319nm,22.3s,MS4.2							
LSA	**Lhasa**	**43.90**	**314**	P	**P**	**17 13 33.0**	**+0.9**
BWNR	**Bhubaneshwar**	**43.91**	**299**	*e*	**P**	**17 13 35.6**	**+3.4**
BWNR				*e*		17 13 37.5	
comp=Z,49nm,0.7s							
GTA	**Gaotai**	**45.18**	**331**	P	**P**	**17 13 41.5**	**-0.8**
GTA				AP	pP	17 13 46.5	-1.1
GTA				XP	sP	17 13 49.0	-0.7
GTA				PCP	PcP	17 15 23.5	+0.5
GTA				PP	PP	17 15 27.8	-1.0
GTA				PPP	PPP	17 16 09.5	-0.4
GTA				SCP		17 19 11.3	
GTA				PCS		17 19 14.0	
GTA				S	**S**	**17 20 22.0**	**+1.5**
GTA				XS		17 20 31.5	
GTA				SCS	ScS	17 23 35.3	-0.8
GTA				AMB	AMB		
comp=Z,71nm,1.0s,mb5.5							
GTA				AMB	AMB		
comp=Z,163nm,6.1s							
GTA				LR	LR		
comp=N,427nm,26.6s							
GTA				LR	LR		
comp=E,391nm,19.4s							
GTA				LR	LR		
comp=Z,653nm,23.6s,MS4.5							
VIS	**Vishakhapatnam**	**45.30**	**294**	*e*P	**P**	**17 13 43.2**	**-0.3**
VIS				*e*		17 13 46.0	
comp=Z,56nm,1.0s							
ASAJ	**Asahikawa**	**45.31**	**17**	P	**P**	**17 13 44.2**	**+1.0**
comp=Z,47nm,0.8s,mb5.4,baz=234,slow=11,SNR=32							
DZM	**Mont Dzumac**	**45.44**	**123**	P	**P**	**17 13 44.8**	**+0.3**
comp=Z,15nm,0.8s,mb4.9,baz=138,slow=21,SNR=4.9							
PALK	**Pallekele**	**45.81**	**279**	*e*P	**P**	**17 13 47.0**	**-0.6**
comp=Z,26nm,1.2s,mb5.0							
JIRN	**Jiri**	**46.60**	**308**	*e*P	**P**	**17 13 53.1**	**-0.6**
comp=Z,193nm,0.9s,mb6.0							
GUN	**Gumba**	**46.96**	**308**	*e*P	**P**	**17 13 55.9**	**-0.6**
comp=Z,281nm,0.8s,mb6.3							
PKI	**Pulchoki**	**47.18**	**308**	*e*P	**P**	**17 13 57.2**	**-1.0**
comp=Z,84nm,0.8s,mb5.7							
KKN	**Kakani**	**47.38**	**308**	*e*P	**P**	**17 13 58.8**	**-1.0**
comp=Z,148nm,0.9s,mb5.9							
DMN	**Daman**	**47.43**	**308**	*e*P	**P**	**17 13 59.5**	**-0.8**
comp=Z,192nm,1.0s,mb6.0							
BLSP	**Bilaspur**	**47.76**	**299**	*e*	**P**	**17 13 58.4**	**-4.4**
BLSP				*e*	pP	17 14 04.7	-3.5
comp=Z,54nm,0.8s							
YSS	**Yuzh-Sakhalins**	**47.97**	**15**	*e*P	**P**	**17 14 03.9**	**-0.3**
YSS				*e*	pP	17 14 09.9	+0.4
YSS				*e*		17 14 17.9	
YSS				pmax	pmax		
comp=N,30nm,1.0s							
YSS				pmax	pmax		
comp=Z,40nm,1.0s,mb5.4							
YSS	**Yuzh-Sakhalins**	**47.97**	**15**	*e*P	**P**	**17 14 03.2**	**-1.0**
comp=Z,22nm,0.6s,mb5.4							
YSS				LR	LR		
comp=Z,186nm,20.0s,MS4.1							
GKN	**Gorkha**	**47.98**	**308**	*e*P	**P**	**17 14 03.5**	**-1.1**
comp=Z,229nm,1.0s,mb6.2							
KLR	**Kul'dur**	**48.26**	**5**	⇓*i*P	**P**	**17 14 03.6**	**-2.8**
KLR				*e*S	**S**	**17 20 55.0**	**-9.1**
KLR				*e*SS	SS	17 24 24.5	-4.2
KLR				pmax	pmax		
comp=Z,38nm,1.4s,mb5.2							
KOLN	**Koldanda**	**48.70**	**307**	*e*P	**P**	**17 14 09.5**	**-0.6**
comp=Z,395nm,0.8s,mb6.5							
ULN	**Ulaanbaatar**	**49.54**	**343**	*e*P	**P**	**17 14 16.1**	**-0.2**
ULN				MLR	MLR		
comp=Z,161nm,20.0s,MS4.0							
HYB	**Hyderabad**	**49.62**	**292**	*e*P	**P**	**17 14 16.0**	**-1.3**
HYB				pmax	pmax		
comp=Z,160nm,1.0s,mb6.0							
HYB	**Hyderabad**	**49.62**	**292**	*e*P	**P**	**17 14 16.0**	**-1.3**
comp=Z,160nm,1.0s,mb6.0							
HYB	**Hyderabad**	**49.62**	**292**	*i* P	**P**	**17 14 16.0**	**-1.3**
comp=Z,160nm,1.0s,mb6.0							
TRD	**Trivandrum**	**49.62**	**280**	*e*P	**P**	**17 14 15.7**	**-1.7**
TRD				*e*		17 14 18.5	
comp=Z,74nm,1.1s							
SONM	**Songino Array**	**49.71**	**343**	P	**P**	**17 14 17.2**	**-0.4**
comp=Z,38nm,0.9s,mb5.4,baz=154,slow=7.6,SNR=56							
SONM				ScP		17 19 33.2	
comp=Z,0.9nm,0.7s,baz=135,slow=4.1,SNR=2.5							
SONM				LR	LR	17 36 57.9	
comp=Z,310nm,20.2s,MS4.3,baz=223,slow=38							
LATR	**Latur**	**51.70**	**293**	*e*P	**P**	**17 14 32.0**	**-1.1**
LGTI	**Lohaghat**	**52.08**	**307**	*e*P	**P**	**17 14 35.8**	**-0.1**
BHPL	**Bhopal**	**52.23**	**299**	*e*P	**P**	**17 14 35.3**	**-1.7**
BHPL				*e*		17 14 38.7	
comp=Z,71nm,0.8s							
ZAK	**Zakamensk**	**52.92**	**342**	*e*P	**P**	**17 14 40.9**	**-0.9**
ZAK				*e*		17 15 51.1	
ZAK				pmax	pmax		
comp=Z,11nm,1.1s,mb4.7							
ZAK				pmax	pmax		
comp=Z,12nm,1.2s,mb4.7							
KAD	**Karad**	**53.66**	**291**	*e*P	**P**	**17 14 45.6**	**-2.1**
KAD				*e*		17 14 47.3	
comp=Z,36nm,0.8s							
TLY	**Talaya**	**53.95**	**343**	*e*P	**P**	**17 14 49.1**	**-0.2**
TLY				pmax	pmax		
comp=Z,37nm,0.8s,mb5.4							
TLY	**Talaya**	**53.95**	**343**	*e*P	**P**	**17 14 49.1**	**-0.2**
comp=Z,37nm,0.8s,mb5.4							
DDI	**Dehra Dun**	**54.17**	**307**	*e*	**P**	**17 14 49.8**	**-1.5**
NDI	**New Delhi**	**54.23**	**305**	*e*P	**P**	**17 14 48.5**	**-3.2**
POO	**Poona**	**54.23**	**292**	*e*P	**P**	**17 14 49.1**	**-2.7**
POO				*e*		17 14 52.0	
comp=Z,54nm,0.5s							
IRK	**Irkutsk**	**54.26**	**344**	*e*P	**P**	**17 14 51.6**	**0.0**
IRK				pmax	pmax		
comp=Z,507nm,2.1s,mb6.1							
WMQ	**Urumqi**	**54.67**	**326**	⇑*i*P	**P**	**17 14 54.3**	**-0.5**
WMQ				AP	pP	17 14 58.8	-1.4
WMQ				XP	sP	17 15 01.3	-1.0
WMQ				PCP	PcP	17 15 57.3	-0.2
WMQ				PP	PP	17 16 58.3	-0.7
WMQ				PPP	PPP	17 18 09.3	-1.2
WMQ				S	**S**	**17 22 31.8**	**-0.5**
WMQ				XS		17 22 39.5	
WMQ				PS	PS	17 22 44.3	-1.1
WMQ				AMB	AMB		
comp=Z,142nm,0.8s,mb6.0							
WMQ				AMB	AMB		
comp=Z,202nm,4.6s							
WMQ				LR	LR		
comp=N,381nm,18.8s,MS4.6							
WMQ				LR	LR		
comp=E,455nm,23.4s,MS4.6							
WMQ				LR	LR		
comp=Z,484nm,22.0s,MS4.5							
MOY	**Mondy**	**54.76**	**341**	*e*P	**P**	**17 14 55.3**	**0.0**
MOY				pmax	pmax		
comp=Z,64nm,1.3s,mb5.5							
SMLA	**Simla**	**55.19**	**308**	⇓*i*P	**P**	**17 14 53.9**	**-4.9**
SMLA				*i* S	**S**	**17 22 33.3**	**-6.2**
SDNR	**Sundarnagar**	**55.49**	**308**	*e*P	**P**	**17 14 59.4**	**-1.6**
CLNS	**Chul'man**	**55.66**	**359**	*e*P	**P**	**17 15 01.5**	**-0.3**
CLNS				pmax	pmax		
comp=N,44nm,0.7s							
CLNS				pmax	pmax		
comp=E,20nm,0.7s							
CLNS				pmax	pmax		
comp=Z,79nm,0.7s,mb5.8							
BHK	**Bhakra**	**55.90**	**308**	*e*	**P**	**17 15 04.3**	**+0.4**
BOD	**Bodaibo**	**57.46**	**352**	⇓*i*P	**P**	**17 15 14.5**	**-0.2**
BOD				pmax	pmax		
comp=Z,52nm,0.8s,mb5.6							
PET	**Petropavlovsk**	**58.40**	**22**	*e*P	**P**	**17 15 28.2**	**+6.9**
PET				*e*		17 23 41.1	
PET				MLR	MLR		
comp=Z,100nm,19.0s,MS4.0							
QRZ	**Quartz Range**	**59.15**	**140**	PN	**P**	**17 15 27.6**	**+0.9**
DSZ	**Denniston Nort**	**59.20**	**142**	PN	**P**	**17 15 27.5**	**+0.5**
MKAR	**Makanchi Array**	**59.51**	**326**	P	**P**	**17 15 28.4**	**-0.6**
comp=Z,80nm,0.8s,mb5.8,baz=124,slow=8.5,SNR=580							
MKAR				LR	LR	17 41 29.8	
comp=Z,591nm,21.1s,MS4.7,baz=160,slow=36							
KSH	**Kashi**	**59.63**	**316**	*e*P	**P**	**17 15 30.0**	**0.0**
KSH				*e*AP	pP	17 15 34.0	-1.5
KSH				*e*XP	sP	17 15 37.0	-0.5
KSH				*e*PCP	PcP	17 16 15.0	-1.9
KSH				*e*PP	PP	17 17 42.0	-1.6
KSH				*e*PPP	PPP	17 19 08.0	-1.0
KSH				*e*SCP		17 20 14.0	
KSH				*e*PCS		17 20 16.0	
KSH				*e*S	**S**	**17 23 38.0**	**+0.3**
KSH				*e*XS		17 23 44.0	
KSH				*e*PS	PS	17 23 53.5	-1.3
KSH				*e*SCS	ScS	17 25 15.0	-0.9
KSH				*e*SS	SS	17 27 33.0	-1.8
KSH				AMB	AMB		
comp=Z,380nm,1.4s,mb6.2							
KSH				LR	LR		
comp=N,230nm,4.3s							
KSH				LR	LR		
comp=E,380nm,6.0s							
RPZ	**Rata Peaks**	**59.86**	**144**	P	**P**	**17 15 30.6**	**-0.9**
comp=E,26nm,0.9s,mb5.2,baz=287,slow=1.0,SNR=7.5							
ULHL	**Ulahol**	**60.72**	**319**	P	**P**	**17 15 37.6**	**+0.1**
SNR=7.6							
YAK	**Yakutsk**	**60.92**	**2**	*c i*P	**P**	**17 15 38.2**	**-0.3**
YAK				*e*		17 16 17.8	
YAK				*e*		17 17 54.5	
YAK				*e*PPP	PPP	17 19 22.0	-0.7
YAK				*e*S	**S**	**17 23 54.9**	**+1.0**
YAK				*e*		17 25 20.2	
YAK				*e*SS	SS	17 27 58.4	+3.7
YAK				pmax	pmax		
comp=Z,94nm,0.8s,mb6.0							
YAK				pmax	pmax		
comp=N,20nm,0.9s							
YAK				pmax	pmax		
comp=E,3.0nm,0.9s							
YAK				pmax	pmax		
comp=Z,15nm,1.1s,mb5.0							
YAK				pmax	pmax		
comp=N,11nm,1.0s							
YAK				pmax	pmax		
comp=E,2.0nm,0.8s							
YAK				smax			
comp=E,52nm,2.3s							
YAK				smax			
comp=N,62nm,1.8s							
YAK	**Yakutsk**	**60.92**	**2**	*e*P	**P**	**17 15 37.5**	**-1.0**
comp=N,182nm,0.8s,mb6.3							
KZA	**Kyzart**	**61.29**	**319**	P	**P**	**17 15 41.3**	**0.0**
SNR=152							
TKM2	**Tokmak 2**	**61.46**	**320**	P	**P**	**17 15 41.5**	**-0.9**
SNR=144							
KBK	**Karagaybulak**	**61.76**	**319**	P	**P**	**17 15 44.2**	**-0.2**
SNR=61							
UCH	**Uchtor**	**61.85**	**319**	P	**P**	**17 15 45.3**	**+0.2**
SNR=107							
AAK	**Ala-Archa**	**62.04**	**319**	P	**P**	**17 15 46.1**	**-0.3**
SNR=43							
AAK	**Ala-Archa**	**62.04**	**319**	*e*P	**P**	**17 15 44.5**	**-1.9**
AAK				pmax	pmax		
comp=Z,52nm,0.9s,mb5.7							
AAK				MLR	MLR		
comp=Z,99nm,21.0s,MS4.0							
AAK	**Ala-Archa**	**62.04**	**319**	*e*P	**P**	**17 15 44.5**	**-2.0**
comp=Z,52nm,0.9s,mb5.7							
AAK				LR	LR		
comp=Z,99nm,21.0s,MS4.0							
CHMS	**Chumysh**	**62.05**	**319**	P	**P**	**17 15 45.4**	**-1.1**
SNR=23							
FRU	**Bishkek**	**62.06**	**319**	*e*P	**P**	**17 15 46.0**	**-0.5**
USP	**Ospenovka**	**62.33**	**320**	P	**P**	**17 15 47.0**	**-1.4**
SNR=175							
AML	**Almayashu**	**62.35**	**318**	P	**P**	**17 15 48.1**	**-0.3**
SNR=196							
EKS2	**Erkin-Say**	**62.53**	**319**	P	**P**	**17 15 49.1**	**-0.5**
SNR=112							
NVS	**Novosibirsk**	**64.06**	**334**	*i* P	**P**	**17 15 57.2**	**-2.3**
NVS				*i*		17 16 28.5	
NVS				*i* S	**S**	**17 24 26.4**	**-7.2**
NVS				pmax	pmax		
comp=Z,64nm,1.2s,mb5.5							
NVS				pmax	pmax		
comp=N,36nm,1.0s							
NVS				pmax	pmax		
comp=E,23nm,0.8s							
NVS				smax			
comp=N,23nm,2.1s							
NVS				smax			
comp=E,25nm,2.1s							
FX1	**Attu Island--F**	**64.67**	**29**	*e*P	**P**	**17 16 02.9**	**-0.6**
SEY	**Seymchan**	**64.77**	**13**	*e*P	**P**	**17 16 07.0**	**+3.0**
SEY						17 16 42.5	
SEY				*e*		17 18 34.4	
SEY				*e*S	**S**	**17 24 44.4**	**+2.3**
SEY				*e*SSS	SSS	17 31 44.9	-1.0
SEY				pmax	pmax		
comp=Z,30nm,0.9s,mb5.3							
SEY				smax			
comp=N,400nm,19.0s							
SEY				smax			
comp=E,400nm,19.0s							
CASY	**Casey**	**68.08**	**187**	*e*P	**P**	**17 16 25.3**	**+0.3**
KIWB	**Kanaga Island**	**69.20**	**34**	P	**P**	**17 16 32.4**	**+0.2**
BVA0	**Borovoye Array**	**69.32**	**328**	*i* P	**P**	**17 16 31.8**	**-1.1**
BVA0				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.5							
BVAR	**Borovoye Array**	**69.32**	**328**	P	**P**	**17 16 32.1**	**-0.8**
comp=Z,29nm,0.6s,mb5.3,baz=134,slow=8.0,SNR=68							
JMDO	**Jabal Madar**	**69.43**	**293**	⇑P	**P**	**17 16 33.3**	**-0.8**
SNR=9.5							
CHKZ	**Chkalovo**	**69.51**	**328**	*e*P	**P**	**17 16 32.9**	**-1.1**
CHKZ				pmax	pmax		
comp=Z,47nm,0.8s,mb5.5							
CHKZ	**Chkalovo**	**69.51**	**328**	*e*P	**P**	**17 16 32.9**	**-1.2**
comp=Z,47nm,0.8s,mb5.5							
BIDO	**Bidbid**	**69.56**	**295**	⇓P	**P**	**17 16 34.6**	**-0.3**
SNR=6.3							
**SMD

SNR=7.6
BILL Bilibino 72.28 15 *e*P **P 17 16 50.2 -0.4**
BILL pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BILL Bilibino 72.28 15 *e*P **P 17 16 50.2 -0.4**
comp=Z,5.0nm,0.6s,mb4.6
WHFO Wadi Hawf 73.01 288 ⇓P **P 17 16 54.5 -1.3**
SNR=17
ABTO Aybut 73.42 288 ⇑P **P 17 16 58.4 +0.2**
SNR=11
SVE Sverdlovsk 76.01 329⇓*e*P **P 17 17 12.0 -0.3**
SVE *e* 17 17 22.0
SVE *e* 17 17 26.8
SVE *e* 17 17 30.9
SVE *e*S S 17 26 48.0 -5.2
SVE pmax pmax
comp=Z,160nm,0.8s,mb6.0
SVE MLR MLR
comp=N,100nm,16.0s
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.5
ARU Arti 76.96 328⇓*i*P **P 17 17 16.9 -0.7**
ARU *i* 17 17 27.6
ARU *e* 17 20 09.5
ARU *e*PPP PPP 17 21 57.0 -3.3
ARU *e*S S 17 27 01.8 -1.7
ARU *e* 17 27 30.5
ARU *e*SS SS 17 31 55.9 -7.6
ARU pmax pmax
comp=Z,108nm,0.8s,mb5.8
ARU Arti 76.96 328 *e*P **P 17 17 16.8 -0.8**
comp=Z,115nm,0.8s,mb5.9
SOKR Solikamsk 78.82 331⇓*i*P **P 17 17 26.9 -0.9**
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.3
SOKR MLR MLR
comp=Z,280nm,22.0s,MS4.5
OPO Ambohidratompo 79.94 251 P **P 17 17 35.7 +1.0**
comp=Z,8.0nm,0.8s,mb4.7,baz=76,slow=5.1,SNR=13
VNDA Vanda 80.82 173 *e*P **P 17 17 38.6 +0.4**
VNDA pmax pmax
comp=Z,7.0nm,0.6s
VNDA MLR MLR
comp=Z,320nm,21.0s
VNDA Vanda 80.82 173 P **P 17 17 38.9 +0.7**
comp=Z,7.3nm,0.7s,mb4.7,baz=315,slow=6.0,SNR=45
VNDA LR LR 17 50 28.2
comp=Z,159nm,21.7s,MS4.3,baz=324,slow=34
VNDA Vanda 80.82 173 *e*P **P 17 17 38.5 +0.3**
comp=Z,7.2nm,0.6s,mb4.8
VNDA LR LR
comp=Z,320nm,21.0s,MS4.7
MAW Mawson 81.06 200⇑*i*P **P 17 17 40.7 +1.1**
comp=Z,12nm,0.9s,mb4.8
MAW Mawson 81.06 200⇑*i*P **P 17 17 40.7 +1.1**
MAW pmax pmax
comp=Z,12nm,0.9s
MAW Mawson 81.06 200 P **P 17 17 40.9 +1.3**
comp=Z,18nm,0.9s,mb5.0,baz=89,slow=5.4,SNR=14
MAW LR LR 17 51 23.9
comp=Z,136nm,19.6s,MS4.3,baz=64,slow=34
SBA Scott Base 81.73 172 *e*P **P 17 17 44.4 +1.4**
SBA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SBA Scott Base 81.73 172 *e*P **P 17 17 44.4 +1.4**
comp=Z,10.0nm,0.9s,mb4.8
GNI Garni 82.84 310 *e*P **P 17 17 50.6 +1.2**
GNI pmax pmax
comp=Z,63nm,0.8s
GNI MLR MLR
comp=Z,137nm,20.0s
GNI Garni 82.84 310 P **P 17 17 50.7 +1.3**
comp=Z,25nm,0.8s,mb5.3,baz=343,slow=11,SNR=3.6
GNI Garni 82.84 310 *e*P **P 17 17 50.6 +1.2**
comp=Z,63nm,0.8s,mb5.7
GNI LR LR
comp=Z,137nm,20.0s,MS4.3
ZEI Tsey 83.68 313 *e*P **P 17 17 49.4 -4.3**
ZEI *i* *PP pP 17 17 57.7 -1.7
ZEI *i* 17 21 01.2
ZEI pmax pmax
comp=Z,58nm,0.8s,mb5.8
TVAN Van 83.75 308 *i* P **P 17 17 54.7 +0.5**
KDAK Kodiak Island 84.43 32 *e*P **P 17 17 58.0 +0.9**
comp=Z,35nm,0.9s,mb5.5
GOF Gofitskoye 84.47 315⇑*i*P **P 17 17 57.4 -0.3**
GOF pmax pmax
comp=Z,60nm,1.7s,mb5.5
KIV Kislovodsk 84.65 314 *e*P **P 17 17 59.4 +0.8**
KIV *e* 17 21 13.2
KIV *e*PPP PPP 17 23 06.7 -5.1
KIV *e* 17 28 20.8
KIV pmax pmax
comp=N,19nm,0.7s
KIV pmax pmax
comp=Z,37nm,0.7s,mb5.6
KIV pmax pmax
comp=E,22nm,0.8s
KIV MLR MLR
comp=Z,84nm,15.0s,MS4.2
PPT Papeete 84.76 108 *e*LR LR 17 44 47.7
comp=Z,238nm,27.5s
IMA Indian Mountai 85.05 24 *e*P **P 17 18 01.7 +1.7**
IMA pmax pmax
comp=Z,23nm,0.5s,mb5.6
IMA Indian Mountai 85.05 24 *e*P **P 17 18 01.7 +1.6**
comp=Z,23nm,0.5s,mb5.6
TBI Tubuai 85.17 113 *e*LR LR 17 44 58.7
comp=Z,182nm,29.8s
BEST Besiri 85.40 308 *i* P **P 17 18 03.7 +1.2**
ERZM Erzurum 85.41 310 *i* P **P 17 18 04.0 +1.5**
SOC Sochi 86.78 313*c* *i*P **P 17 18 08.5 -0.6**
SOC *e* 17 21 29.3
SOC *e*PPP PPP 17 23 26.1 -4.9
SOC *e*S S 17 28 32.1 -12
SOC *e*SS SS 17 34 23.8 -5.5
SOC *e*SSS SSS 17 37 57.6 -2.3
SOC pmax pmax
comp=Z,40nm,0.9s,mb5.7
SOC pmax pmax
comp=N,6.0nm,0.7s
SOC pmax pmax
comp=E,4.0nm,0.6s
MCK McKinley 86.80 26 *e*P **P 17 18 08.4 -0.3**
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
MCK McKinley 86.80 26 *e*P **P 17 18 08.4 -0.3**
comp=Z,5.2nm,0.9s,mb4.8
KELT Kelkit 87.04 310 *i* P **P 17 18 12.5 +2.0**
VOR Voronezh 87.37 322 P **P 17 18 12.0 +0.2**
VOR pmax pmax
comp=N,30nm,0.7s
VOR pmax pmax
comp=Z,120nm,0.7s,mb6.2
VOR pmax pmax
comp=E,50nm,1.1s
MALT Malatya 87.65 308 *e*P **P 17 18 14.8 +1.3**
MALT pmax pmax
comp=Z,80nm,1.4s,mb5.8
MALT Malatya 87.65 308 *e*P **P 17 18 14.8 +1.2**
comp=Z,80nm,1.4s,mb5.8
ILAR Eielson Array 87.75 25 P **P 17 18 12.2 -1.2**
comp=Z,2.0nm,0.5s,mb4.6,baz=247,slow=4.7,SNR=45
GZT Gaziantep 88.33 307 *i* P **P 17 18 17.1 +0.3**
MOS Moscow 88.38 326 *e*P **P 17 18 18.5 +2.0**
MOS *e* 17 21 47.9
MOS *e* 17 23 38.7
MOS pmax pmax
comp=Z,212nm,0.7s,mb6.5
MOS pmax pmax
comp=Z,226nm,0.8s,mb6.5
ANN Anapa 88.44 315 *e*P **P 17 18 15.8 -1.3**
ANN *e**PP pP 17 18 25.5 +2.8
ANN *e* 17 21 43.9
ANN *e* 17 28 41.7
ANN pmax pmax
comp=Z,95nm,0.8s,mb6.1
ANN MLR MLR
comp=Z,304nm,23.0s,MS4.7
ANN MLR MLR
comp=N,203nm,23.0s,MS4.6
ANN MLR MLR
comp=E,192nm,23.0s,MS4.6
ASF Jabal al Asfar 88.90 302 P **P 17 18 21.5 +1.9**
comp=E,67nm,0.8s,mb6.0,baz=336,slow=9.1,SNR=36
OBN Obninsk 88.98 325 *e*P **P 17 18 19.1 -0.4**
comp=E,93nm,0.8s,mb6.2
KMBO Kilima Mbogo 89.00 269 *e*P **P 17 18 21.6 +1.0**
KMBO pmax pmax
comp=Z,13nm,1.0s
KMBO MLR MLR
comp=Z,224nm,22.0s
KMBO Kilima Mbogo 89.00 269 P **P 17 18 22.4 +1.8**
comp=Z,9.3nm,0.9s,mb5.1,baz=52,slow=8.6,SNR=23
KMBO LR LR 17 53 34.4
comp=Z,193nm,21.9s,MS4.5,baz=90,slow=32
KMBO Kilima Mbogo 89.00 269 *e*P **P 17 18 21.6 +1.0**
comp=Z,13nm,1.0s,mb5.2
KMBO LR LR
comp=Z,224nm,22.0s,MS4.5
COBT Iskenderun 89.39 306 *i* P **P 17 18 21.1 -0.8**
LVZ Lovozero 89.66 338 *e*P **P 17 18 19.0 -3.4**
LVZ *e*S S 17 28 54.6 -16
LVZ pmax pmax
comp=N,23nm,1.4s
LVZ pmax pmax
comp=Z,46nm,1.4s,mb5.6
LVZ pmax pmax
comp=E,16nm,3.0s
LVZ smax
comp=E,22nm,1.5s
LVZ MLR MLR
comp=Z,347nm,16.0s,MS4.9
SYO Syowa Base 89.73 201 ⇑P **P 17 18 23.2 +0.5**
SYO Syowa Base 89.73 201 ⇑pP pP 17 18 27.9 -0.4
APA Apatity 90.15 337⇓*i*P **P 17 18 23.5 -1.2**
APA *i* pP 17 18 29.7 -0.6
APA pmax pmax
comp=Z,16nm,1.0s,mb5.3
APA MLR MLR
comp=Z,600nm,15.0s,MS5.2
BOYT Boyabat 90.34 311 *i* P **P 17 18 26.4 +0.3**
CTKT Corum 90.45 310 *i* P **P 17 18 27.3 +0.7**
AVNT Avonos 90.45 309 *i* P **P 17 18 26.8 0.0**
EIL Elat 90.62 300 P **P 17 18 27.9 +0.1**
comp=Z,11nm,0.8s,mb5.2
EIL Elat 90.62 300 *e*P **P 17 18 28.7 +0.9**
comp=Z,14nm,0.9s,mb5.3
SIM Simferopol' 90.79 315 *e*P **P 17 18 28.5 +0.4**
SIM *e*S S 17 29 19.0 -2.3
SIM pmax pmax
comp=Z,54nm,0.7s,mb6.0
SIM MLR MLR
comp=Z,240nm,22.6s,MS4.6
QSPA South Pole Qui 90.94 180⇓*i*P **P 17 18 29.8 +1.7**
comp=Z,8.0nm,0.8s,mb5.1
DAWY Dawson 91.01 26 *e*P **P 17 18 29.5 +0.9**
MEST Erdemli 91.08 306 *i* P **P 17 18 29.1 -0.6**
BRTR Keskin Array B 91.36 310 P **P 17 18 30.9 0.0**
comp=Z,9.8nm,0.8s,mb5.2,baz=126,slow=5.7,SNR=55
BALT Daday 91.47 311 *i* P **P 17 18 31.5 +0.2**
ELDT Eldivan 91.49 310 *i* P **P 17 18 31.5 0.0**
CSS Prodhromos 91.81 305 *e*P **P 17 18 33.1 +0.1**
comp=Z,34nm,0.8s,mb5.7
PUL Pulkovo 92.12 330 *i* P **P 17 18 34.0 +0.1**
KEV Kevo 92.25 340 *e*p **P 17 18 32.5 -1.8**
comp=Z,15nm,1.0s,mb5.3
KEV Kevo 92.25 340 *e*P **P 17 18 32.5 -1.8**
KEV pmax pmax
comp=Z,15nm,1.0s,mb5.3
SGKT Sivrigoynuk 92.53 310 *i* P **P 17 18 35.8 -0.4**
ARCES ARCESS Array B 92.81 340 P **P 17 18 36.9 +0.1**
comp=Z,13nm,0.8s,mb5.4,baz=78,slow=5.5,SNR=25
ARCES LR LR 18 03 58.9
comp=Z,137nm,19.9s,MS4.4,baz=69,slow=38
INK Inuvik 92.85 21 *e*P **P 17 18 37.7 +0.7**
INK pmax pmax
comp=Z,10.0nm,1.2s
INK Inuvik 92.85 21 *e*P **P 17 18 37.7 +0.6**
comp=Z,10nm,1.2s,mb5.1
HENT Hendek 93.39 311 *i* P **P 17 18 39.7 -0.4**
ESKT Eskisehir 93.52 310 *i* P **P 17 18 40.0 -0.8**
AKASG Malin Array Be 93.67 321 P **P 17 18 40.4 -0.8**
comp=Z,12nm,0.8s,mb5.4,baz=67,slow=4.8,SNR=21
KAF Kangasniemi 93.76 332 *e*p **P 17 18 40.9 -0.4**
comp=Z,28nm,0.6s,mb5.9,baz=78,slow=4.3
KAF Kangasniemi 93.76 332 *e*P **P 17 18 40.9 -0.4**
KAF pmax pmax
comp=Z,28nm,0.6s,mb5.9
ISP Isparta 93.91 308 *i* P **P 17 18 45.0 +2.3**
FINES FINESS Array B 93.97 332 P **P 17 18 42.0 -0.3**
comp=Z,19nm,0.6s,mb5.7,baz=90,slow=5.7,SNR=20
FINES LR LR 18 04 25.0
comp=Z,206nm,20.8s,MS4.6,baz=199,slow=38
MNK Minsk 94.07 325 *e*P **P 17 18 41.0 -1.9**
ULDT Uludag 94.78 310 *i* P **P 17 18 46.4 -0.3**
MBAR Mbarara 95.51 269 P **P 17 18 51.8 +1.2**
MLR Muntele Rosu 96.50 316 P **P 17 18 54.7 +0.4**
comp=Z,15nm,0.8s,mb5.5,baz=88,slow=1.6,SNR=17
MLR Muntele Rosu 96.50 316 P **P 17 18 54.7 +0.4**
SUW Suwalki 96.84 325 *e*P **P 17 18 55.6 0.0**
SUW *e*pP pP 17 19 00.2 -1.1
SUW Suwalki 96.84 325 *e*P **P 17 18 55.6 0.0**
SUW *e*pP pP 17 19 00.2 -1.1
SUW MLR MLR 18 03 32.8
comp=Z,200nm,22.2s,MS4.5
KWP Kalwaria 97.97 320 *e*P **P 17 19 01.3 +0.5**
KWP *e* 17 22 58.8
KWP Kalwaria 97.97 320 *e*P **P 17 19 01.3 +0.5**
KWP *e*pP pP 17 19 05.6 -0.9
KWP *e*PP PP 17 22 58.8 -3.9
KWP Kalwaria 97.97 320 *e*P **P 17 19 01.3 +0.4**
KWP *e*pP pP 17 19 05.6 -0.9
KWP *e*PP PP 17 22 58.8 -3.9
KWP MLR MLR 18 08 23.8
comp=Z,200nm,22.8s,MS4.5
LSZ Lusaka 98.03 255 *e*P **P 17 19 02.0 +0.1**
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb5.1
LSZ Lusaka 98.03 255 *e*P **P 17 19 02.0 +0.1**
comp=Z,5.0nm,0.8s,mb5.1
KOLS Kolonicke sedl 98.39 320 *e*P **P 17 19 04.7 +2.0**
IDI Anoyia 98.67 306 LR LR 18 09 08.3
comp=Z,50nm,21.3s,MS4.0,baz=274,slow=39
CRVS Cervenica-Dubn 98.92 320 *e*P **P 17 19 07.2 +2.1**
KECS Kecovo 99.64 319 *e*P **P 17 19 09.4 +1.0**
OJC Ojcow 99.69 321 *e*P **P 17 19 13.1 +4.5**
DAG Danmarks Havn 99.86 352⇓*i*P **P 17 19 09.3 +0.5**
DAG pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
DAG Danmarks Havn 99.86 352⇓*i*P **P 17 19 09.3 +0.5**
comp=Z,6.0nm,1.0s,mb5.0
BOSA Boshof 100.13 241 P P 17 19 12.3 +1.2
comp=Z,4.2nm,0.9s,baz=125,slow=8.6,SNR=4.1
RES Resolute Bay 100.55 10 *e*P P 17 19 12.3 +0.3
RES pmax pmax
comp=Z,3.0nm,0.8s
RES Resolute Bay 100.55 10 *e*Pdif P 17 19 12.2 +0.2
comp=Z,2.7nm,0.8s
OKC Ostrava-Krasne 100.81 321 *i* P P 17 19 14.7 +1.0
OKC MLR MLR
comp=Z,100nm,21.9s,MS4.3
OKC Ostrava-Krasne 100.81 321 *e*PDIF P 17 19 14.7 +1.0
OKC *e*pP 17 19 19.1
OKC AMS AMS 18 05 20.0
comp=Z,100nm,21.9s
NB2 NORSAR Subarra100.98 333 P P 17 19 13.1 -1.1
comp=Z,5.3nm,0.7s,baz=70,slow=4.5
NB2 NORSAR Subarra100.98 333 P P 17 19 13.1 -1.1
NB2 pmax pmax
comp=Z,5.0nm,0.7s
NB2 NORSAR Subarra100.98 333 P P 17 19 13.1 -1.1
baz=70,slow=4.6
NOA NORSAR Array B 100.98 333 P P 17 19 13.3 -0.9
comp=Z,7.1nm,0.7s,baz=70,slow=4.5,SNR=20
NAO01 NORSAR Array S 101.20 333 *e*Pdif P 17 19 15.0 -0.2
comp=Z,6.9nm,0.7s
MORC Moravsky Berou 101.20 321 *e*P P 17 19 14.9 -0.6
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC Moravsky Berou 101.20 321 *e*Pdif P 17 19 14.9 -0.6
comp=Z,6.9nm,0.9s
KSP Ksiaz 101.69 323 *e*P P 17 19 22.4 +4.8
KSP MLR MLR 18 09 37.8
comp=Z,400nm,21.0s,MS4.9
DPC Dobruska-Polom 101.81 322 *i* P P 17 19 22.9 +4.7
DPC MLR MLR
comp=Z,200nm,21.1s,MS4.6
DPC Dobruska-Polom 101.81 322 *e*PDIF P 17 19 22.9 +4.7
DPC AMS AMS 18 06 50.0
comp=Z,200nm,21.1s
UPC Upice 101.95 322 *i* P P 17 19 23.8 +5.0
UPC Upice 101.95 322 *e*PDIF P 17 19 23.8 +5.0
YKA Yellowknife Ar 102.16 25 P Pdif 17 19 19.9 +0.5
comp=Z,0.7nm,0.5s,baz=296,slow=4.3,SNR=14
YKA PKiKP 17 23 41.8
comp=Z,0.5nm,0.6s,baz=296,slow=2.3,SNR=6.1
YKA PKKPbc 17 35 22.3
comp=Z,0.6nm,0.8s,baz=113,slow=2.4,SNR=9.9
YKA Yellowknife Ar 102.16 25 P Pdif 17 19 19.9 +0.5
PVCC Panska Ves 102.83 323 *i* P Pdif 17 19 27.5 +4.8
PVCC MLR MLR
comp=Z,200nm,15.8s,MS4.7
PVCC Panska Ves 102.83 323 *e*PDIF Pdif 17 19 27.5 +4.8
PVCC AMS AMS 18 07 40.0
comp=Z,200nm,15.8s
PRU Pruhonice 103.01 322 *i* P Pdif 17 19 26.9 +3.4
PRU MLR MLR
comp=Z,200nm,17.6s,MS4.7
PRU Pruhonice 103.01 322 *e*PDIF Pdif 17 19 26.9 +3.4
PRU AMS AMS 18 07 20.0
comp=Z,200nm,17.6s
BRG Berggiesshubel 103.10 323 *e*P Pdif 17 19 24.0 +0.1
BRG *e* 17 23 42.0
BRG pmax pmax
comp=Z,11nm,0.9s
BRG MLR MLR
comp=Z,270nm,23.9s,MS4.7
BRG Berggiesshubel 103.10 323 *e*P Pdif 17 19 24.0 +0.1
comp=Z,11nm,0.9s
BRG *e* 17 19 28.7
BRG *e* 17 23 42.0
BRG LR LR
comp=Z,270nm,23.9s,MS4.7
CLL Collm 103.52 324 *e*P Pdif 17 19 29.0 +3.2
CLL *e*PP PP 17 23 42.0 -2.5
CLL Collm 103.52 324 P Pdif 17 19 29.0 +3.2
CLL *e*PP PP 17 23 42.0 -2.5
CLL *i* *PPP 17 23 45.0
KHC Kasperske Hory 103.87 321 *i* P Pdif 17 19 28.5 +1.1
KHC MLR MLR
comp=Z,200nm,23.0s,MS4.6
KHC Kasperske Hory 103.87 321 *e*PDIF Pdif 17 19 28.5 +1.1
KHC *e*pP 17 19 31.8
KHC AMS AMS 18 07 50.0
comp=Z,200nm,23.0s
GERES GERESS Array B 103.88 321 Pdiff Pdif 17 19 29.4 +2.0
comp=Z,2.5nm,0.8s,baz=90,slow=4.9,SNR=15
GERES PKiKP 17 23 47.1
comp=Z,1.6nm,0.9s,baz=79,slow=6.8,SNR=6.5
MOX Moxa 104.57 323 *e*P Pdif 17 19 35.6 +5.2
MOX pmax pmax
comp=Z,8.0nm,1.1s
MOX MLR MLR
comp=Z,100nm,22.0s,MS4.3
MOX Moxa 104.57 323 *e*P Pdif 17 19 35.6 +5.2
comp=Z,8.0nm,1.1s
MOX LR LR
comp=Z,100nm,22.0s,MS4.3
MOX Moxa 104.57 323 *i* P Pdif 17 19 35.6 +5.2
comp=Z,logA/T=0.9
MOX L 18 09 18.0
GRF Grafenberg Arr 105.14 322 *e*P Pdif 17 19 38.5 +5.6
GRF *e* 17 23 57.6
GRF MLR MLR
comp=Z,200nm,21.2s,MS4.6
NVAR Mina Array Bea 109.07 49 PKKPab 17 35 15.9
comp=Z,1.6nm,0.8s,baz=113,slow=7.7,SNR=8.1
LPG La Plagne 109.49 320 *e*PP PP 17 24 23.8 -5.6
comp=Z,28nm,0.9s
LPL La Plagne 109.49 320 *e*PP PP 17 24 23.9 -5.5
comp=Z,42nm,1.1s
ORIF Oris-en-Rattie 110.28 319 *e*PP PP 17 24 29.5 -5.5
comp=Z,24nm,1.0s
ELK Elko 110.57 45 *e*PKIKP PKPdf 17 23 58.6 -1.4
SMF Signal de Mont 110.87 321 *e*PP PP 17 24 33.8 -5.3
comp=Z,39nm,1.3s
SSF Saint Saulge 110.90 322 *e*PP PP 17 24 35.9 -3.3
AVF Avril sur Loir 111.11 322 *e*PP PP 17 24 35.2 -5.5
comp=Z,45nm,1.3s
FFC Flin Flon 111.85 28 *e*PKIKP PKPdf 17 23 59.9 -2.2
LASF Ste Croix 111.94 319 *e*PP PP 17 24 41.5 -5.1
comp=Z,41nm,1.3s
TCF Toulx Ste Croi 112.04 322 *e*PP PP 17 24 44.1 -3.2
comp=Z,47nm,1.3s
PDAR Pinedale Array 113.70 42 PKiKP 17 24 04.5
comp=Z,0.7nm,0.7s,baz=207,slow=3.3,SNR=6.4
PDAR PKKPbc 17 34 47.4
comp=Z,0.7nm,0.6s,baz=91,slow=4.0,SNR=8.3
PDAR PKKPab 17 34 54.0
comp=Z,0.8nm,0.6s,baz=104,slow=5.6,SNR=6.3
SDCO Great Sand Dun 118.69 45 *e*PKPdf PKPdf 17 24 13.7 -2.3
ANMO Albuquerque 119.19 48 *e*PKIKP PKPdf 17 24 15.1 -1.9
MNTX Cornudas Mount 121.33 51 *e*PKPdf PKPdf 17 24 19.2 -2.0
SCHQ Schefferville 123.31 9 PKP PKPdf 17 24 21.6 -2.8
comp=Z,5.2nm,0.8s,baz=285,slow=3.2,SNR=8.4
SCHQ Schefferville 123.31 *e*PKPdf PKPdf 17 24 21.8 -2.6
comp=Z,5.9nm,0.8s,baz=2.7,slow=3.6,SNR=8.4
WVT Waverly 131.31 37 *e*PKIKP PKPdf 17 24 38.2 -2.2
LRAL Lakeview Retre 133.86 40 *e*PKPdf PKPdf 17 24 43.4 -1.8
GOGA Godfrey 135.79 36 *e*P Pdif 17 21 48.8 +0.5
PLCA Paso Flores 137.64 161 PKIKP PKPdf 17 24 51.0 -0.9
PLCA Paso Flores 137.64 161 PKP PKPdf 17 24 51.5 -0.4
comp=Z,5.0nm,1.0s,baz=200,slow=4.9,SNR=4.7
MDZ Mendoza 145.27 157 *e*P PKPbc 17 25 05.9 +3.6
MDZ *e* 17 34 01.0
JTS JuntasAbangare 146.99 69 *e*PKP2 PKPab 17 25 07.0 -3.9
LVC Limon Verde 153.97 147 *e*PKPdf PKPdf 17 25 18.6 -0.8
LVC *e*PKPbc PKPdf 17 25 26.5 +7.1
CPUP Villa Florida 154.60 173 PKP PKPdf 17 25 18.8 -1.4
comp=Z,2.0nm,0.8s,baz=350,slow=6.1,SNR=3.1
NNA Nana 154.64 116 *e*PKPdf PKPdf 17 25 18.7 -1.8
ROSC El Rosal 158.64 74 PKP PKPdf 17 25 25.6 -0.3
comp=Z,7.1nm,0.5s,baz=277,slow=23,SNR=3.1
LPAZ La Paz 159.25 138 PKP PKPdf 17 25 26.6 +0.2
comp=Z,2.1nm,0.7s,baz=217,slow=10,SNR=6.4
LPAZ La Paz 159.25 138 *e*PKPdf PKPdf 17 25 26.1 -0.3
SDV Santo Domingo 160.52 59 *e*PKPdf PKPdf 17 25 26.2 -1.7
BDFB Brasilia 164.40 201 PKP PKPdf 17 25 30.2 -1.4
comp=Z,1.5nm,0.4s,baz=126,slow=6.1,SNR=3.2
SAML Samuel 167.75 130 *e*PKPdf PKPdf 17 25 32.4 -2.0
SAML *e*PKPab PKPab 17 26 38.8 -0.5

TEH ***25*** *17:15:44.7, 40.87N×51.85E, h10km, Mn4.1*
IDC ***25*** *17:15:47.8±4.7, 40.34N×51.51E, mb3.6/4, mb1 3.9/6, mb1mx3.6/21, mbtmp3.8/6, ML4.5/2, Error ellipse: s-maj=100.6km s-min=26.6km az=1.0*
NEIC ***25*** *17:15:53.3±0.5, 40.29N×51.59E, h50km, mb3.7/1, Error ellipse: s-maj=8.9km s-min=5.9km az=78.0*
ISC 25 17:15:51.1±2.0, 40.3N±0.1×51.56E±0.09, h41km±30km, n26, σ0=98/26, mb3.5/5, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRB	**Sarab**	**3.93**	**232**	Pn	**P**	**17 16 50.8**	**+0.3**
IHRS	**Heris**	**4.04**	**242**	Pn	**P**	**17 16 52.7**	**+0.6**
IPRN	**Paran-Amol**	**4.12**	**172**	Pn	**P**	**17 16 52.1**	**-1.1**
IGLO	**Galoogah**	**4.30**	**159**	Pn	**P**	**17 16 53.6**	**-2.1**
IKIA	**Kiasar**	**4.45**	**157**	Pn	**P**	**17 16 57.5**	**-0.3**
IBST	**Bostanabad**	**4.49**	**236**	Pn	**P**	**17 16 58.4**	**0.0**
IDMV	**Damavand**	**4.76**	**175**	Pn	**P**	**17 17 02.9**	**+0.6**
IFIR	**Firoozkooh**	**4.78**	**168**	Pn	**P**	**17 17 02.6**	**+0.1**
ILAS	**Lasjerd**	**5.07**	**167**	Pn	**P**	**17 17 07.7**	**+1.1**
IRAZ	**Razeghan**	**5.09**	**195**	Pn	**P**	**17 17 06.2**	**-0.6**
IANJ	**Anjiloo**	**5.20**	**158**	Pn	**P**	**17 17 07.7**	**-0.8**
IVRN	**Varamin**	**5.33**	**179**	Pn	**P**	**17 17 10.5**	**+0.3**
IQOM	**Qom**	**5.50**	**184**	Pn	**P**	**17 17 12.2**	**-0.3**
ILIN	**Laeen**	**6.52**	**215**	Pn	**P**	**17 17 37.4**	**+10**
IVIS	**Veys**	**6.90**	**214**	Pn	**P**	**17 17 37.4**	**+5.1**
IKOM	**Komasi**	**6.94**	**209**	Pn	**P**	**17 17 34.3**	**+1.5**
IGHG	**Ghaleghazi**	**7.19**	**215**	Pn	**P**	**17 17 39.4**	**+3.1**
ELZG	**Elazig**	**9.90**	**263**	*i* P	**P**	**17 18 12.8**	**-1.0**
BVAR	**Borovoye Array**	**18.04**	**39**	P	**P**	**17 20 01.0**	**+0.9**
	1.0nm,0.3s,baz=234,slow=12,SNR=8.6						
AKASG	**Malin Array Be**	**18.70**	**311**	P	**P**	**17 20 07.9**	**-0.3**

2.7nm,0.3s,baz=111,slow=13,SNR=7.6
MKAR Makanchi Array 23.09 64 P **P 17 20 55.0 +1.3**
0.9nm,0.5s,mb3.4,baz=255,slow=10.0,SNR=4.9
FINES FINESS Array B 26.23 332 P **P 17 21 24.0 +0.3**
1.2nm,0.5s,mb3.7,baz=130,slow=9.2,SNR=13
FINES FINESS Array B 26.23 332 P **P 17 21 24.0 +0.3**
KAF Kangasniemi 26.61 333 *ep* **P 17 21 25.8 -1.3**
1.0nm,0.5s,mb3.6
GERES GERESS Array B 28.03 300 P **P 17 21 40.8 +0.5**
0.4nm,0.4s,mb3.4,baz=90,slow=8.0,SNR=6.4
NOA NORSAR Array B 32.14 324 P **P 17 22 15.4 -1.1**
0.3nm,0.5s,mb3.4,baz=72,slow=9.2,SNR=3.4

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*TAP **25** 17:39:05.6,24.74N×122.56E,h116km±1km,ML2.9*
JMA 25 17:39:05.8±0.2,24.88N×122.53E,h110km,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.60**	**133**	P	P	17 39 23.5	0.0
YOJ				S	S	17 39 37.1	+0.2
IRIF	**Iriomote-Funau**	**1.22**	**116**	P	P	17 39 29.5	-0.3
IRIF				S	S	17 39 47.0	-0.8
HATJ	**Hateruma jima**	**1.42**	**125**	*e*S	S	17 39 51.9	0.0
JKRS	**Kuro-shima**	**1.49**	**115**	P	P	17 39 33.0	0.0
JKRS				S	S	17 39 53.4	+0.1
JIJ	**Ishigaki jima**	**1.56**	**109**	P	P	17 39 33.6	-0.1
JIJ				S	S	17 39 53.6	-1.1
JTJ	**Tarama**	**1.99**	**96**	P	P	17 39 39.4	+0.3
JTJ				*e*S	S	17 40 03.6	-0.4

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*NEIC **25** 17:56:30.7, 19.21N×69.16W, h25km, MD3.5(RSPR), After RSPR.*
RSPR 25 17:56:30.7,19.21N×69.16W,h25km±67km,MD3.5/4, MD3.5/4,6C,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.07**	**110**	*e*S	Sn	17 57 25.6	-4.3
LSP	**Las Mesas**	**2.21**	**117⇑**	*e*P	Pn	17 57 04.0	-2.6
LSP				*e*S	Sn	17 57 28.1	-5.4
CRPR	**Cabo Rojo, PR**	**2.28**	**121⇑**	*e*P	Pn	17 57 03.4	-4.2
CRPR				*e*S	Sn	17 57 32.4	-2.7
MGP	**Maguayo**	**2.30**	**121⇑**	*e*P	Pn	17 57 05.7	-2.0
MGP				*e*S	Sn	17 57 32.1	-3.5
LRS	**Lares**	**2.37**	**112⇑**	*e*P	Pn	17 57 06.4	-2.5
LRS				*e*S	Sn	17 57 34.4	-3.1
AOPR	**Arecibo Observ**	**2.44**	**110⇑**	*e*P	Pn	17 57 07.5	-2.3
AOPR				*e*S	Sn	17 57 35.2	-3.9
PORP	**Portuguez**	**2.65**	**115**	*e*S	Sn	17 57 43.9	-0.7
CELP	**Cerrillos**	**2.69**	**114⇑**	*e*P	Pn	17 57 11.0	-2.4
CELP				*e*S	Sn	17 57 43.0	-2.6

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*BER **25** 18:00:08.9±3.8, 57.40N×9.76E, h15km±36km, MD2.5, ML1.7*
*IDC **25** 18:00:12.4±2.2, 57.87N×9.93E, mb1 3.3/4, mb1mx3.1/24, mbtmp3.2/4, ML2.9/4, Error ellipse: s-maj=19.5km s-min=15.7km az=81.0*
ISC 25 18:00:07.3±0.6,57.73N±0.04×10.12E±0.09,h10km,n12, σ1°38/22,Denmark

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUD	**Monsted U'grnd**	**1.38**	**202**	*i* P	**Pn**	**18 00 32.4**	**-0.4**
MUD	13nm,0.2s			*i* S	**Sb**	**18 00 50.6**	**+0.2**
MUD				*i* S	**Sb**	**18 00 51.4**	**+1.0**
SNART	**Snartemo**	**1.66**	**293**	*e*P	**Pn**	**18 00 36.9**	**+0.1**
SNART				*e*Sg	**Sg**	**18 00 58.3**	**-4.4**
KONO	**Kongsberg**	**1.94**	**352**	*e*P	**Pn**	**18 00 41.7**	**+1.0**
KONO				*e*S	**Sn**	**18 01 11.4**	**+6.0**
BLS5	**Blasjo**	**2.56**	**313**	*e*P	**Pn**	**18 00 50.8**	**+1.2**
BLS5				*e*Sg	**Sg**	**18 01 26.8**	**-5.8**
BLS5				AML	AML	18 01 30.0	
	comp=Z,9.0nm,0.4s						
ODD1	**Odda**	**2.84**	**322**	*e*P	**Pn**	**18 00 52.8**	**-0.8**
ODD1				*e*S	**Sn**	**18 01 29.1**	**+0.9**
ODD1				AML	AML	18 01 39.8	
	comp=Z,4.4nm,0.3s						
KMY	**Karmoy**	**2.96**	**302**	*e*P	**Pn**	**18 00 54.5**	**-0.8**
HFS	**Hagfors**	**3.04**	**36**	Pn	**Pn**	**18 00 58.9**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=221,slow=14,SNR=26						
HFS				Pg	**Pg**	**18 01 05.7**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=225,slow=16,SNR=25						
HFS				Sn	**Sn**	**18 01 34.7**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=223,slow=28,SNR=2.8						
HFS				Lg		18 01 45.5	
	comp=Z,0.3nm,0.3s,baz=209,slow=33,SNR=6.3						
NOA	**NORSAR Array B**	**3.36**	**9**	Pn	**Pn**	**18 01 02.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=193,slow=14,SNR=5.4						
NOA				Pg	**Pg**	**18 01 11.1**	**-3.4**
	comp=Z,0.5nm,0.3s,baz=194,slow=15,SNR=3.9						
NOA				Sn	**Sn**	**18 01 41.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=290,slow=22,SNR=3.0						
NOA				Lg		18 01 54.4	
	comp=Z,0.6nm,0.3s,baz=143,slow=6.7,SNR=4.4						
FINES	**FINESS Array B**	**8.90**	**59**	Pn	**P**	**18 02 19.5**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=252,slow=12,SNR=26						
KAF	**Kangasniemi**	**9.23**	**55**	*ep*	**P**	**18 02 23.0**	**-0.5**
	comp=Z,0.6nm,0.3s						
JOF	**Joensuu**	**11.69**	**55**	*ep*	**P**	**18 02 55.0**	**-2.0**
	comp=Z,0.5nm,0.4s						
ARCES	**ARCESS Array B**	**13.61**	**23**	Pn	**P**	**18 03 19.4**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=215,slow=14,SNR=3.9						

IDC 25 18:00:45.0±2.2,1.44N×126.30E,mb3.1/3,mb1 3.4/3, mb1mx3.2/17,mbtmp3.2/3,Error ellipse: s-maj=187.1km s-min=27.0km az=65.0,Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.67**	**160**	P	P	18 05 47.3	-2.2
	0.3nm,0.4s,baz=338,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**26.03**	**164**	P	P	18 06 20.8	-1.0
	0.2nm,0.7s,baz=346,slow=7.4,SNR=4.0						
MKAR	**Makanchi Array**	**59.19**	**326**	P	P	18 10 48.0	-2.3
	0.2nm,0.7s,baz=112,slow=8.3,SNR=4.4						

DJA 25 18:43:20.4±0.8,9.58S×114.99E,h33km,ML4.1/4,3C-5D, Error ellipse: s-maj=21.1km s-min=7.4km az=10.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.01**	**32**	*e*Pn	Pn	18 43 37.2	-1.2
	2μm,0.2s						
RATI				⇑*e*Sn	Sn	18 43 48.6	-2.9
SRDI	**Scrawed**	**1.37**	**323⇓**	*e*Pn	Pn	18 43 42.1	-1.5
	189nm,0.2s						
SRDI				⇓*e*Sn	Sn	18 43 57.9	-2.9
KELI	**Kelakatan**	**1.44**	**340⇓**	*e*Pn	Pn	18 43 43.4	-1.2
	116nm,0.2s						
KELI	**Kelakatan**	**1.44**	**340⇓**	*e*P	P	18 43 44.2	-0.2
KELI				⇑*e*Sn	Sn	18 44 00.6	-1.9
KEDI	**Kedomdong**	**1.56**	**46⇑**	*e*Pn	Pn	18 43 44.5	-1.7
	63nm,0.2s						
KEDI	**Kedomdong**	**1.56**	**46⇓**	*e*P	P	18 43 46.1	+0.1

IDC 25 18:49:53.6±1.8,0.24S×125.43E,mb3.1/3,mb1 3.4/3, mb1mx3.2/18,mbtmp3.2/3,Error ellipse: s-maj=184.1km s-min=25.3km az=64.0,Southern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.43**	**156**	P	P	18 54 43.0	-2.6
	0.7nm,1.0s,baz=335,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**24.69**	**161**	P	P	18 55 17.0	-0.8
	0.2nm,0.5s,baz=342,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**60.11**	**327**	P	P	19 00 02.9	-2.4
	0.3nm,0.6s,baz=136,slow=6.8,SNR=4.1						

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*IDC **25** 18:49:56.0±1.8, 1.69N×96.21E, mb3.7/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=74.9km s-min=20.1km az=58.0*
*NEIC **25** 18:50:01.9±0.8, 1.92N×96.64E, h30km, mb4.0/3, Error ellipse: s-maj=20.5km s-min=11.0km az=65.0*
ISC 25 18:49:60.0±1.0,1.9N±0.1×96.6E±0.2,h30km,n11, σ0°82/11,mb3.8/8,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.24**	**50**	*e*Pn	**Pn**	**18 51 16.9**	**-1.5**
CM31	**Chiang Mai Arr**	**16.59**	**8**	*e*P	**P**	**18 53 52.9**	**+0.6**
	4.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.59**	**8**	Pn	**P**	**18 53 53.8**	**+1.5**
	0.1nm,0.3s,baz=198,slow=11,SNR=24						
WRA	**Warramunga Arr**	**42.91**	**122**	P	**P**	**18 57 58.5**	**+0.4**
	0.8nm,0.6s,mb3.6,baz=300,slow=9.3,SNR=9.6						
WRAB	**Tennant Creek**	**42.92**	**122**	P	**P**	**18 57 58.5**	**+0.4**
	1.7nm,0.4s,mb4.1						
ASAR	**Alice Springs**	**44.29**	**127**	P	**P**	**18 58 09.4**	**+0.2**
	0.7nm,1.0s,mb3.3,baz=302,slow=8.5,SNR=3.9						
MKAR	**Makanchi Array**	**46.41**	**346**	P	**P**	**18 58 25.9**	**+0.2**
	1.8nm,0.7s,mb4.1,baz=164,slow=7.2,SNR=26						
SONM	**Songino Array**	**46.51**	**9**	P	**P**	**18 58 27.0**	**+0.5**
	0.9nm,0.8s,mb3.8,baz=194,slow=8.4,SNR=9.5						
ZAL	**Zalesovo**	**52.75**	**351**	P	**P**	**18 59 13.9**	**-0.5**
	1.1nm,0.8s,mb3.8,baz=261,slow=8.0,SNR=6.1						
CHKZ	**Chkalovo**	**55.86**	**342**	*e*P	**P**	**18 59 36.5**	**-0.6**
	2.5nm,1.0s,mb4.2						
FINES	**FINESS Array B**	**79.09**	**333**	P	**P**	**19 02 01.8**	**-1.2**
	1.0nm,0.8s,mb3.8,baz=297,slow=3.1,SNR=3.2						

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*CSEM **25** 19:00:07.6±0.6, 41.93N×23.11E, h2km, ML2.8, Error ellipse: s-maj=10.2km s-min=5.3km az=160.0*
*THE **25** 19:00:10.4, 41.80N×23.13E, h2km, ML2.8*
*ATH **25** 19:00:19.2, 41.27N×23.90E, h10km, MD3.1/3*
ISC 25 19:00:06.7±1.5,41.94N±0.07×23.14E±0.07,h10km,n10, σ0°89/16,Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.75**	**215**	*e*Pn	**Pn**	**19 00 22.3**	**-0.8**
VAY				*i*		19 00 23.9	
VAY				*i* Sg	**Sg**	**19 00 32.8**	**+0.9**
VAY				*i*		19 00 35.0	
VAY	**Valandovo**	**0.75**	**215**	*e*Pn	**Pn**	**19 00 22.3**	**-0.8**
VAY				*i* Sg	**Sg**	**19 00 32.8**	**+0.9**
NVR	**Nevrokopi**	**0.80**	**137**	*e*PG	**Pg**	**19 00 21.7**	**-1.0**
SRS	**Serrai**	**0.89**	**157**	*e*Pg	**Pg**	**19 00 23.7**	**-0.7**
SRS				*e*Sg	**Sg**	**19 00 36.4**	**+0.1**
SOH	**Sokhos**	**1.12**	**172**	*e*Pg	**Pg**	**19 00 28.1**	**-1.1**
SOH				*e*Sg	**Sg**	**19 00 43.6**	**-0.7**
GRG	**Griva**	**1.13**	**210**	*e*Pg	**Pg**	**19 00 28.8**	**-0.5**
GRG				*e*Sg	**Sg**	**19 00 44.3**	**0.0**
PLG	**Polygyros**	**1.58**	**172**	*e*PB	**Pb**	**19 00 37.0**	**+1.4**
OUR	**Ouranopolis**	**1.72**	**158**	*e*Pb	**Pb**	**19 00 39.2**	**+1.1**
	comp=Z,2.3nm,0.2s						
OUR				*e*Sb	**Sb**	**19 01 00.0**	**+0.4**
RDO	**Rodhopi**	**1.96**	**113**	*e*PB	**Pb**	**19 00 42.6**	**+0.4**
ALN	**Alexandroupoli**	**2.42**	**114**	*e*Pn	**Pn**	**19 00 50.7**	**+3.7**

IDC 25 19:07:17.7±5.1,9.98N×93.00E,mb3.5/2,mb1 3.8/3, mb1mx3.3/21,mbtmp3.5/3,ML3.6/1,Error ellipse: s-maj=114.5km s-min=43.3km az=91.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.21**	**34**	Pn	P	19 09 45.6	-3.0
	0.1nm,0.3s,baz=225,slow=15,SNR=7.8						
WRA	**Warramunga Arr**	**50.40**	**126**	P	P	19 16 17.1	-2.1
	0.3nm,0.4s,baz=306,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**52.13**	**130**	P	P	19 16 30.2	-2.1
	0.5nm,0.7s,baz=305,slow=6.8,SNR=9.5						

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*MOS **25** 19:10:31.6±0.9, 36.47N×70.86E, h199km, mb3.9/1, Error ellipse: s-maj=43.6km s-min=16.3km az=82.4*
*NEIC **25** 19:10:31.6±5.8, 36.40N×70.94E, h184km±34km, mb3.9/2, Error ellipse: s-maj=59.8km s-min=20.3km az=190.0*
*IDC **25** 19:10:36.7±14.0, 36.75N×71.01E, h215km±99km, mb3.2/5, mb1 3.4/8, mb1mx3.1/23, mbtmp3.9/8, Error ellipse: s-maj=115.6km s-min=24.5km az=8.0*
ISC 25 19:10:34.2±1.4,36.57N±0.07×71.0E±0.2,h219km±13km, n32,σ0°68/34,mb3.4/5,1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.75**	**133**	*e*P	**P**	**19 12 01.0**	**+1.8**
DLH				*e*S	**S**	**19 13 05.0**	**-0.4**
AML	**Almayashu**	**5.94**	**20**	P	**P**	**19 12 01.6**	**0.0**
	SNR=138						
UCH	**Uchtor**	**6.28**	**25**	P	**P**	**19 12 06.6**	**+0.6**
	SNR=21						
KZA	**Kyzart**	**6.42**	**30**	P	**P**	**19 12 08.2**	**+0.4**
	SNR=16						
EKS2	**Erkin-Say**	**6.45**	**19**	P	**P**	**19 12 08.2**	**0.0**
	SNR=18						
AAK	**Ala-Archa**	**6.63**	**23**	P	**P**	**19 12 10.8**	**+0.2**
	SNR=23						
AAK	**Ala-Archa**	**6.63**	**23**	*e*PN	**P**	**19 12 09.3**	**-1.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.5s						
AAK	**Ala-Archa**	**6.63**	**23**	*e*Pn	**P**	**19 12 09.3**	**-1.2**
	comp=Z,8.2nm,0.5s						
KBK	**Karagaybulak**	**6.80**	**26**	P	**P**	**19 12 13.1**	**+0.4**
	SNR=15						
ULHL	**Ulahol**	**6.98**	**34**	P	**P**	**19 12 15.5**	**+0.5**
	SNR=6.8						
CHMS	**Chumysh**	**7.04**	**23**	P	**P**	**19 12 16.1**	**+0.3**
	SNR=10						
SDNR	**Sundarnagar**	**7.09**	**134**	*e*P	**P**	**19 12 15.6**	**-0.8**
SDNR				*e*		19 13 32.0	
	comp=Z,8.0nm,0.4s						
USP	**Ospenovka**	**7.21**	**21**	P	**P**	**19 12 17.8**	**-0.2**
	SNR=12						
TKM2	**Tokmak 2**	**7.27**	**28**	P	**P**	**19 12 18.9**	**+0.2**
	SNR=8.3						
SMLA	**Simla**	**7.48**	**135⇓**	*i*P	**P**	**19 12 18.0**	**-3.4**
SMLA				*i* S	**S**	**19 13 38.7**	**-6.5**
	comp=Z,343nm,0.4s						
MKAR	**Makanchi Array**	**13.24**	**36**	P	**P**	**19 13 33.6**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=218,slow=11,SNR=19						
KOLN	**Koldanda**	**13.82**	**126**	*e*P	**P**	**19 13 42.3**	**+0.2**
	comp=Z,7.7nm,0.3s						
GKN	**Gorkha**	**14.35**	**123**	*e*P	**P**	**19 13 48.9**	**+0.2**
	comp=Z,16nm,0.3s						
DMN	**Daman**	**14.92**	**123**	*e*P	**P**	**19 13 55.8**	**0.0**
	comp=Z,14nm,0.5s						
KKN	**Kakani**	**14.93**	**122**	*e*P	**P**	**19 13 55.7**	**-0.1**
	comp=Z,21nm,0.6s						
PKI	**Pulchoki**	**15.15**	**122**	*e*P	**P**	**19 13 58.6**	**0.0**
	comp=Z,7.4nm,0.2s						
JIRN	**Jiri**	**15.63**	**120**	*e*P	**P**	**19 14 04.8**	**+0.3**
	comp=Z,18nm,0.4s						
BVAR	**Borovoye Array**	**16.46**	**359**	P	**P**	**19 14 13.3**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=164,slow=12,SNR=9.5						
CHKZ	**Chkalovo**	**17.11**	**359**	P	**P**	**19 14 21.2**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	**Chkalovo**	**17.11**	**359**	P	**P**	**19 14 21.2**	**-0.3**
	comp=Z,0.8nm,0.4s						
ZAL	**Zalesovo**	**19.84**	**25**	P	**P**	**19 14 49.0**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=260,slow=8.4,SNR=11						
SONM	**Songino Array**	**28.31**	**55**	P	**P**	**19 16 10.0**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.3,baz=265,slow=9.8,SNR=5.5						
FINES	**FINESS Array B**	**37.42**	**326**	P	**P**	**19 17 27.7**	**+0.2**
	comp=Z,0.6nm,0.4s,mb3.5,baz=120,slow=10,SNR=17						
ARCES	**ARCESS Array B**	**41.07**	**338**	P	**P**	**19 17 58.0**	**+0.5**
	comp=Z,1.4nm,0.5s,mb3.6,baz=117,slow=8.1,SNR=11						
NB2	**NORSAR Subarra**	**44.32**	**323**	P	**P**	**19 18 23.3**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.1,baz=95,slow=7.4						
NOA	**NORSAR Array B**	**44.32**	**323**	P	**P**	**19 18 23.3**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.1,baz=96,slow=7.7,SNR=5.0						
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**19 22 26.5**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.3,baz=351,slow=5.3,SNR=9.6						

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*NEIC **25** 19:12:34.6±1.0, 5.38S×150.40E, h60km, mb4.0/1, Error ellipse: s-maj=53.5km s-min=15.1km az=126.0*
*IDC **25** 19:12:35.8±5.9, 5.51S×150.47E, h70km±52km, mb3.7/4, mb1 3.9/5, mb1mx3.5/15, mbtmp4.0/5, ML2.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.9/20, Error ellipse: s-maj=79.7km s-min=31.4km az=117.0*
ISC 25 19:12:35.1±4.0,5.5S±0.3×150.4E±0.4,h76km±31km,n9, σ0°32/9,mb3.8/5,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.04**	**219**	P	**P**	**19 13 50.0**	**+0.2**
	0.6nm,0.3s,baz=65,slow=9.7,SNR=2.7						
PMG				S	**S**	**19 14 47.1**	**-0.2**
	2.0nm,0.3s,baz=307,slow=21,SNR=4.5						
CTA	**Charters Tower**	**15.06**	**195**	LR	LR	19 20 49.1	
	comp=Z,118nm,20.3s,baz=52,slow=33						
WRAB	**Tennant Creek**	**21.20**	**226**	*e*P	**P**	**19 17 16.2**	**-0.3**
	3.6nm,0.5s,mb4.0						
WB2	**Warramunga Arr**	**21.21**	**226**	*e*P	**P**	**19 17 16.3**	**-0.2**
WRA	**Warramunga Arr**	**21.22**	**226**	P	**P**	**19 17 16.4**	**-0.2**
	3.9nm,0.8s,mb3.8,baz=53,slow=11,SNR=26						
ASAR	**Alice Springs**	**24.06**	**220**	P	**P**	**19 17 44.8**	**+0.4**
	4.4nm,0.7s,mb3.9,baz=55,slow=9.0,SNR=50						
ASPA	**Alice Springs**	**24.06**	**220⇑**	*i*P	**P**	**19 17 45.1**	**+0.7**
STKA	**Stephens Creek**	**27.52**	**196**	P	**P**	**19 18 16.5**	**-0.3**
	3.4nm,0.9s,mb3.9,baz=359,slow=9.7,SNR=6.1						
ILAR	**Eielson Array**	**83.70**	**23**	P	**P**	**19 24 56.5**	**-0.1**
	0.6nm,0.6s,mb3.6,baz=243,slow=6.0,SNR=7.4						

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*IDC **25** 19:24:41.2±2.3, 1.10N×96.97E, mb3.8/6, mb1 4.0/7, mb1mx3.7/21, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=93.5km s-min=20.5km az=58.0*
*NEIC **25** 19:24:46.3±0.7, 1.21N×97.16E, h30km, mb4.1/3, Error ellipse: s-maj=18.8km s-min=9.2km az=64.0*
ISC 25 19:24:44.2±1.1,1.2N±0.1×97.1E±0.2,h30km,n11, σ0°68/11,mb3.8/9,MS3.6/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**41**	*e*Pn	**Pn**	**19 26 03.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**17.24**	**6**	P	**P**	**19 28 45.4**	**+0.7**
	0.1nm,0.3s,baz=198,slow=11,SNR=7.7						
KMI	**Kunming**	**24.40**	**12**	P	**P**	**19 30 02.7**	**+1.3**
	7.0nm,1.3s,mb3.9						
KMI				pP		19 30 08.7	
KMI				LR	LR		
	comp=Z,140nm,15.6s,MS3.6						
WRA	**Warramunga Arr**	**42.11**	**122**	P	**P**	**19 32 35.7**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.2,baz=300,slow=9.1,SNR=7.6						
WRAB	**Tennant Creek**	**42.12**	**122**	P	**P**	**19 32 35.7**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**43.47**	**127**	P	**P**	**19 32 47.2**	**+0.4**
	comp=Z,0.5nm,1.0s,mb3.2,baz=299,slow=9.3,SNR=4.2						
SONM	**Songino Array**	**47.14**	**9**	P	**P**	**19 33 16.1**	**+0.4**
	comp=Z,1.0nm,0.7s,mb3.9,baz=191,slow=9.1,SNR=13						
MKAR	**Makanchi Array**	**47.22**	**346**	P	**P**	**19 33 16.7**	**+0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=157,slow=9.1,SNR=17						
ZAL	**Zalesovo**	**53.53**	**351**	P	**P**	**19 34 04.0**	**-0.3**
	comp=Z,1.5nm,0.5s,mb4.2,baz=299,slow=7.1,SNR=6.9						
BVAR	**Borovoye Array**	**56.22**	**341**	P	**P**	**19 34 23.0**	**-0.9**
	comp=Z,1.1nm,0.7s,mb4.0,baz=138,slow=9.3,SNR=9.2						
CHKZ	**Chkalovo**	**56.70**	**341**	*e*P	**P**	**19 34 26.6**	**-0.8**
	comp=Z,1.9nm,0.8s,mb4.2						

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*IDC **25** 19:46:28.9±2.7, 1.25N×97.33E, mb3.9/6, mb1 4.1/7, mb1mx3.8/20, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=111.4km s-min=18.4km az=61.0*
*NEIC **25** 19:46:32.9±0.8, 1.20N×97.23E, h30km, mb4.2/4, Error ellipse: s-maj=18.1km s-min=8.5km az=66.0*
ISC 25 19:46:33.2±4.9,1.3N±0.2×97.3E±0.2,h46km±40km,n19, σ0°61/19,mb4.2/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.20**	**39**	*e*Pn	**P**	**19 47 50.4**	**0.0**
CM31	**Chiang Mai Arr**	**17.17**	**5**	P	**P**	**19 50 32.2**	**+0.7**
	4.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.17**	**5**	Pn	**P**	**19 50 30.6**	**-0.9**
	0.2nm,0.3s,baz=194,slow=11,SNR=11						
KKM	**Kota Kinabalu**	**19.43**	**75**	*e*P	**P**	**19 50 58.5**	**-0.2**
KMI	**Kunming**	**24.30**	**12**	P	**P**	**19 51 48.3**	**+0.6**
	10.0nm,1.3s,mb4.1						
JIRN	**Jiri**	**28.35**	**339**	*e*P	**P**	**19 52 25.6**	**+0.4**
	9.2nm,0.7s,mb4.5						
PKI	**Pulchoki**	**28.56**	**337**	*e*P	**P**	**19 52 28.0**	**+0.9**
DMN	**Daman**	**28.71**	**337**	*e*P	**P**	**19 52 29.1**	**+0.7**
KKN	**Kakani**	**28.80**	**337**	*e*P	**P**	**19 52 29.3**	**0.0**
	9.3nm,0.9s,mb4.5						
GKN	**Gorkha**	**29.24**	**337**	*e*P	**P**	**19 52 32.6**	**-0.6**
	13nm,1.1s,mb4.6						
KOLN	**Koldanda**	**29.47**	**335**	*e*P	**P**	**19 52 34.9**	**-0.3**
	6.9nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**19 54 21.2**	**-0.4**
	1.1nm,0.6s,mb3.7,baz=301,slow=9.1,SNR=18						
WRAB	**Tennant Creek**	**41.95**	**122**	*e*P	**P**	**19 54 21.6**	**0.0**
	3.1nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**43.32**	**127**	P	**P**	**19 54 32.7**	**-0.1**
	0.5nm,0.5s,mb3.5,baz=297,slow=7.4,SNR=8.3						
SONM	**Songino Array**	**47.06**	**8**	P	**P**	**19 55 02.9**	**+0.7**
	0.5nm,0.4s,mb3.8,baz=187,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**47.22**	**346**	P	**P**	**19 55 03.6**	**+0.1**
	1.0nm,0.5s,mb4.0,baz=158,slow=8.2,SNR=16						
STKA	**Stephens Creek**	**53.29**	**132**	P	**P**	**19 55 50.8**	**+0.7**
	1.2nm,0.6s,mb4.0,baz=321,slow=15,SNR=3.6						
ZAL	**Zalesovo**	**53.52**	**351**	P	**P**	**19 55 50.6**	**-0.8**
	1.9nm,0.4s,mb4.4,baz=271,slow=6.4,SNR=8.0						
CHKZ	**Chkalovo**	**56.72**	**341**	*e*P	**P**	**19 56 13.3**	**-1.3**
	2.8nm,0.9s,mb4.3						

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*IDC **25** 19:51:53.7±1.0, 1.14N×96.98E, mb3.9/10, mb1 4.1/11, mb1mx4.0/20, mbtmp3.9/11, ML3.8/1, MS3.7/1, Ms1 3.9/1, ms1mx3.1/26, Error ellipse: s-maj=46.1km

comp=Z,34nm,1.1s,mb5.0
GKN Gorkha 29.21 337 *e*P **P 19 57 58.5 -0.1**
comp=Z,33nm,1.0s,mb5.0
KOLN Koldanda 29.43 335 *e*P **P 19 58 00.7 +0.1**
comp=Z,18nm,0.9s,mb4.8
XAN Xi'an 34.41 17 P **P 19 58 42.5 -1.5**
XAN AP pP 19 58 49.0 -5.6
XAN AMB AMB
comp=Z,12nm,1.1s,mb4.7
GTA Gaotai 38.06 3 *e*P **P 19 59 14.8 0.0**
GTA AP pP 19 59 22.5 -3.0
GTA XP sP 19 59 25.5 -4.7
GTA PP PP 20 00 44.5 -1.0
GTA S **S 20 05 03.5 -1.0**
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.4
GTA AMB AMB
comp=Z,54nm,5.7s
GTA LR LR
comp=N,201nm,16.7s,MS4.1
GTA LR LR
comp=E,144nm,13.3s,MS4.1
GTA LR LR
comp=Z,193nm,14.1s,MS4.1
HHC Hu-ho-hao-te 41.50 16 *e*P **P 19 59 37.5 -5.9**
HHC AP pP 19 59 44.5 -10
HHC XP sP 19 59 50.3 -8.5
HHC AMB AMB
comp=Z,14nm,1.2s,mb4.5
HHC AMB AMB
comp=Z,64nm,5.1s
WRA Warramunga Arr 42.02 122 P **P 19 59 48.1 +0.1**
comp=Z,0.8nm,0.6s,mb3.6,baz=302,slow=9.0,SNR=12
WRAB Tennant Creek 42.03 122 *e*P **P 19 59 47.9 -0.1**
comp=Z,25nm,1.4s,mb4.7
BJI Beijing 42.28 22 *e*P **P 19 59 50.5 +0.7**
BJI AMB AMB
comp=Z,11nm,0.8s,mb4.5
BJI LR LR
comp=Z,65nm,15.7s,MS3.6
BJI Beijing 42.28 22 *e*P **P 19 59 50.5 +0.7**
comp=Z,11nm,0.8s,mb4.5
BJI S S 20 06 33.1 +25
BJI LR LR
comp=Z,70nm,15.7s,MS3.6
ASAR Alice Springs 43.39 127 P **P 19 59 59.4 +0.3**
comp=Z,1.3nm,0.9s,mb3.7,baz=294,slow=7.9,SNR=7.6
ULHL Ulahol 44.97 338 P **P 20 00 11.9 +0.4**
SNR=5.8
UCH Uchtor 45.62 336 P **P 20 00 17.7 +0.9**
SNR=5.4
TKM2 Tokmak 2 45.79 338 P **P 20 00 18.9 +0.8**
SNR=5.5
KBK Karagaybulak 45.81 337 P **P 20 00 19.5 +1.2**
SNR=6.2
AAK Ala-Archa 45.97 337 *e*P **P 20 00 19.3 -0.2**
comp=Z,5.3nm,1.1s,mb4.4
EKS2 Erkin-Say 46.28 336 P **P 20 00 23.1 +1.1**
SNR=5.7
SONM Songino Array 47.08 8 P **P 20 00 28.6 +0.5**
comp=Z,4.4nm,0.8s,mb4.5,baz=187,slow=8.7,SNR=46
MKAR Makanchi Array 47.21 346 P **P 20 00 28.9 -0.3**
comp=Z,2.9nm,0.7s,mb4.3,baz=158,slow=7.7,SNR=41
ULN Ulaanbaatar 47.21 9 *e*P **P 20 00 29.0 -0.1**
comp=Z,4.0nm,0.9s,mb4.3
ULN *e* 20 00 36.3
CN2 Changchun 49.25 27 *e*P **P 20 00 44.5 -0.5**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
STKA Stephens Creek 53.36 132 P **P 20 01 16.8 +0.6**
comp=Z,2.5nm,0.9s,mb4.1,baz=320,slow=13,SNR=4.5
ZAL Zalesovo 53.51 351 P **P 20 01 16.5 -0.6**
comp=Z,3.2nm,0.7s,mb4.4,baz=290,slow=6.0,SNR=21
CHKZ Chkalovo 56.70 341 *e*P **P 20 01 38.7 -1.5**
comp=Z,6.4nm,0.8s,mb4.7
BRTR Keskin Array B 69.11 312 P **P 20 03 01.6 -1.0**
comp=Z,0.3nm,0.5s,mb3.4,baz=35,slow=46,SNR=3.5
AKASG Malin Array Be 75.25 322 P **P 20 03 37.5 -1.4**
comp=Z,0.1nm,0.3s,mb3.2,baz=103,slow=3.9,SNR=4.4
FINES FINESS Array B 79.98 332 P **P 20 04 04.3 -0.6**
comp=Z,0.3nm,0.4s,mb3.6,baz=117,slow=6.2,SNR=4.2
GERES GERESS Array B 84.81 319 P **P 20 04 29.9 -0.1**
comp=Z,0.2nm,0.5s,mb3.5,baz=288,slow=4.2,SNR=4.1

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*IDC **25** 19:56:10.7±9.6,26.41S×179.22W,h492km±99km,mb3.6/5, mb1 3.7/6,mb1mx3.3/17,mbtmp4.5/6,Error ellipse: s-maj=152.5km s-min=58.7km az=77.0*
NEIC 25 19:56:10.7±7.7,26.45S×179.16W,h500km,mb4.3/3, Error ellipse: s-maj=156.0km s-min=18.8km az=62.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.19**	**194**	P	P	19 58 51.2	-1.0
	3.4nm,0.3s,baz=261,slow=3.3,SNR=14						
URZ				S	S	20 01 04.3	+2.3
	0.7nm,0.3s,baz=163,slow=19,SNR=5.8						
CTA	**Charters Tower**	**32.33**	**274**	P	P	20 01 58.9	-0.4
	12nm,0.4s,baz=99,slow=11,SNR=28						
CTA	**Charters Tower**	**32.33**	**274**	P	P	20 01 58.9	-0.4
CTAO	**Charters Tower**	**32.33**	**274**	*e*P	P	20 01 58.4	-0.9
	8.9nm,0.4s						
STKA	**Stephens Creek**	**34.56**	**252**	*e*P	P	20 02 17.0	-1.0
	1.4nm,0.4s						
STKA	**Stephens Creek**	**34.56**	**252**	P	P	20 02 16.7	-1.3
	1.7nm,0.4s,baz=97,slow=14,SNR=12						
ASAR	**Alice Springs**	**42.43**	**263**	P	P	20 03 20.9	-1.3
	2.0nm,0.4s,baz=96,slow=7.6,SNR=55						
ASPA	**Alice Springs**	**42.43**	**263**	*e*P	P	20 03 21.4	-0.8
WB2	**Warramunga Arr**	**43.04**	**269**	*e*P	P	20 03 25.4	-1.7
WRAB	**Tennant Creek**	**43.04**	**269**	*e*P	P	20 03 25.5	-1.6
	4.6nm,0.4s						
WRA	**Warramunga Arr**	**43.05**	**269**	P	P	20 03 25.7	-1.4
	3.3nm,0.3s,baz=104,slow=8.7,SNR=155						
FITZ	**Fitzroy Crossi**	**51.43**	**267**	P	P	20 04 29.7	-1.1
	2.0nm,0.4s,baz=141,slow=4.4,SNR=6.1						

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*IDC **25** 20:14:03.3±3.2,2.25N×92.42E,mb3.5/3,mb1 3.7/4, mb1mx3.4/20,mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=98.1km s-min=29.6km az=63.0*
*NEIC **25** 20:14:08.0±1.1,2.29N×92.58E,h30km,mb4.3/1,Error ellipse: s-maj=22.5km s-min=13.9km az=55.0*
ISC 25 20:14:06.1±1.5,2.3N±0.2×92.6E±0.2,h30km,n7,σ0$78/7, mb3.7/4,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.54**	**69**	*e*P	**P**	**20 16 09.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**17.20**	**21**	P	**P**	**20 18 07.0**	**+1.0**
	0.1nm,0.3s,baz=214,slow=13,SNR=6.6						
MKAR	**Makanchi Array**	**45.21**	**350**	P	**P**	**20 22 22.0**	**-0.4**
	0.6nm,0.7s,mb3.5,baz=164,slow=8.8,SNR=9.6						
WRA	**Warramunga Arr**	**46.52**	**120**	P	**P**	**20 22 33.8**	**+0.6**
	0.7nm,0.6s,mb3.8,baz=299,slow=8.7,SNR=7.5						
WRAB	**Tennant Creek**	**46.53**	**120**	P	**P**	**20 22 33.2**	**0.0**
	3.6nm,0.9s,mb4.3						
SONM	**Songino Array**	**46.88**	**13**	P	**P**	**20 22 36.5**	**+0.9**
	0.1nm,0.4s,mb3.1,baz=180,slow=2.9,SNR=3.0						
CHKZ	**Chkalovo**	**54.31**	**344**	P	**P**	**20 23 31.0**	**-1.0**

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*IDC **25** 20:18:15.3±0.4,0.37N×97.28E,mb5.0/27,mb1 5.1/28, mb1mx5.1/29,mbtmp5.0/28,ML5.1/1,MS5.0/19,Ms1 5.0/19, ms1mx4.8/33,Error ellipse: s-maj=13.2km s-min=10.5km az=56.0*
*DJA **25** 20:18:16.1±1.1,0.02S×97.25E,h15km,mb5.6/2,Error ellipse: s-maj=35.1km s-min=6.3km az=75.0*
*MOS **25** 20:18:18.8±0.9,0.40N×97.29E,h33km,mb5.6/78, MS5.1/27,Error ellipse: s-maj=8.7km s-min=4.1km az=123.5*
*BJI **25** 20:18:18.8,0.19N×97.21E,h49km,mB5.7,mb5.1,Ms5.8, Msz5.7*
*HRVD **25** 20:18:20.6±0.3,0.48N×97.11E,h12km,MW5.2/62, Centroid moment Tensor Solution. LP body waves: s36,c62;Mantle waves: s62,c128; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.62±.02; $M_{\theta\theta}$0.37±.01; $M_{\phi\phi}$0.25±.02; $M_{r\theta}$0.53±.04; $M_{\theta\phi}$-0.39±.01; $M_{r\phi}$0.00±.05; Best double couple: M_o.847×10^{17} NP1: ϕ_s152°,δ33°,λ-51°. NP2:ϕ_s288°,δ65°,λ-112°. Principal axes: T .824, Plg17°, Azm34°; N .048, Plg20°, Azm298°; P -.871, Plg63°, Azm161°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 20:18:20.6±0.1,0.36N×97.28E,mb5.4/92,MS5.1/9, MW5.6 Error ellipse: s-maj=3.9km s-min=3.0km az=215.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^{17} Nm; M_{rr}0.22; $M_{\theta\theta}$-1.14; $M_{\phi\phi}$0.92; $M_{r\theta}$1.47; $M_{\theta\phi}$0.48; $M_{r\phi}$-2.66; Best double couple: M_o3.2×10^{17} NP1:ϕ_s243°, δ21°,λ4°. NP2:ϕ_s149°,δ89°,λ111°. Principal axes: T 3.34, Plg43°, Azm78°; N -.2, Plg21°, Azm328°; P -3.14, Plg40°, Azm220°;*
ISC 25 20:18:18.9±0.1,0.34N±0.03×97.31E±0.02,h36km, h36km±.9km:pP-P,n568,σ0$98/557,mb5.3/150,MS5.3/70, 65C-31D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.85**	**35**	*e*Pn	**P**	**20 19 03.2**	**+0.2**
PPI	**Padang Panjang**	**3.19**	**104**	*e*Pn	**P**	**20 19 04.0**	**-3.8**
TSI	**Tuntungan**	**3.39**	**22**	*e*Pn	**P**	**20 19 11.5**	**+0.9**
IPM	**Ipoh**	**5.62**	**41**	P	**P**	**20 19 41.6**	**-0.6**
KULM	**Kulim**	**5.95**	**34**	*e*Pn	**P**	**20 19 45.6**	**-1.2**
KGM	**Kluang**	**6.24**	**74**	P	**P**	**20 19 50.0**	**-0.9**
SNG	**Songkhla**	**7.56**	**26**	P	**P**	**20 20 06.0**	**-3.3**
	412nm,0.1s						
PENI	**Pendagan**	**9.80**	**127**	*e*P	**P**	**20 20 35.4**	**-5.1**
	1μm,0.4s						
PENI	**Pendagan**	**9.80**	**127**	*e*Pn	**P**	**20 20 36.9**	**-3.6**
PULI	**Pulasari**	**10.90**	**128**	*e*P	**P**	**20 20 50.7**	**-4.9**
KSM	**Kuching**	**13.05**	**85**	*e*Pn	**P**	**20 21 23.8**	**-0.7**
NST	**Nakhon Sawan**	**15.49**	**10**	P	**P**	**20 21 53.0**	**-3.5**
	50nm,0.1s						
UBT	**Ubonrachathani**	**16.66**	**27**	⇑P	**P**	**20 22 13.1**	**+1.8**
KKTK	**Khon Kaen**	**16.80**	**19**	P	**P**	**20 22 13.5**	**+0.3**
	741nm,0.8s						
PALK	**Pallekele**	**17.93**	**293**	*e*P	**P**	**20 22 27.3**	**-0.1**
	50nm,0.9s						
CM31	**Chiang Mai Arr**	**18.08**	**5**	*e*P	**P**	**20 22 27.4**	**-1.7**
	124nm,0.9s						
CMAR	**Chiang Mai Arr**	**18.08**	**5**	P	**P**	**20 22 27.5**	**-1.6**
	2.5nm,0.3s,baz=191,slow=9.9,SNR=95						
CMAR				LR	LR	20 29 16.5	
	comp=Z,3μm,21.8s,baz=185,slow=37						
CHG	**Chiang Mai**	**18.43**	**5**	⇑P	**P**	**20 22 32.0**	**-1.6**
	99nm,0.8s						
NANT	**Nan**	**18.65**	**10**	⇑P	**P**	**20 22 34.0**	**-2.2**
	826nm,0.8s						
SRDI	**Scrawed**	**18.92**	**118**	*e*P	**P**	**20 22 37.3**	**-2.2**
	61nm,0.3s						
KELI	**Kelakatan**	**19.12**	**117**	*e*P	**P**	**20 22 41.6**	**-0.1**
KKM	**Kota Kinabalu**	**19.70**	**73**	*e*P	**P**	**20 22 47.8**	**-0.4**
KKM	**Kota Kinabalu**	**19.70**	**73**	P	**P**	**20 22 47.7**	**-0.5**
KEDI	**Kedomdong**	**20.69**	**115**	*e*P	**P**	**20 22 56.2**	**-2.3**
TSM	**Tawau**	**20.92**	**79**	P	**P**	**20 22 59.6**	**-1.3**
TRD	**Trivandrum**	**21.84**	**292**	⇓*e*P	**P**	**20 23 10.7**	**+0.6**
TRD				*e*S	**S**	**20 27 06.7**	**+2.4**
BATP	**Bataraza**	**22.07**	**67**	*e*P	**P**	**20 23 11.7**	**-0.8**
VIS	**Vishakhapatnam**	**22.08**	**322**	*e*P	**P**	**20 23 13.8**	**+1.3**
VIS				*e*		20 23 28.5	
	comp=Z,246nm,1.1s						
VIS				*i*		20 31 17.3	
QIZ	**Qiongzhong**	**22.28**	**33**	P	**P**	**20 23 14.8**	**+0.3**
QIZ				PP	PP	20 23 48.0	+6.1
QIZ				AMB	AMB		
	comp=Z,56nm,1.3s,mb4.8						
QIZ				LR	LR		
	comp=N,8μm,13.2s,MS5.5						
QIZ				LR	LR		
	comp=E,7μm,13.4s,MS5.5						
QIZ				LR	LR		
	comp=Z,18μm,12.0s,MS5.7						
TANI	**Tanete Lipujan**	**22.38**	**100**	*e*P	**P**	**20 23 15.0**	**-0.5**
BWNR	**Bhubaneshwar**	**22.81**	**331**	*e*P	**P**	**20 23 23.3**	**+3.5**
BWNR				*e*		20 23 53.7	
	comp=Z,277nm,1.9s						
NINI	**Niniconang**	**22.92**	**102**	*e*P	**P**	**20 23 22.8**	**+1.8**
PPR	**Puerto Princes**	**23.29**	**66**	⇑*e*P	**P**	**20 23 24.2**	**-0.4**
BUNI	**Buntu Taipa**	**23.34**	**100**	*e*P	**P**	**20 23 26.9**	**+1.8**
CAL	**Calcutta**	**23.74**	**339**	*e*P	**P**	**20 23 30.9**	**+2.1**
CAL				*e*		20 27 46.8	
	comp=Z,966nm,0.4s						
AGT	**Agartala**	**24.13**	**346**	⇓*i*P	**P**	**20 23 34.0**	**+1.3**
AGT				*i*		20 24 25.0	
ENPP	**El Nido**	**24.48**	**63**	*e*P	**P**	**20 23 35.7**	**-0.4**
HYB	**Hyderabad**	**25.08**	**314**	⇑*e*P	**P**	**20 23 43.0**	**+1.2**
HYB				*e*S	**S**	**20 28 06.0**	**+4.8**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.1						
HYB	**Hyderabad**	**25.08**	**314**	⇑*e*P	**P**	**20 23 43.0**	**+1.2**
	comp=Z,60nm,1.0s,mb5.1						
HYB				*e*S	**S**	**20 28 06.0**	**+4.8**
HYB	**Hyderabad**	**25.08**	**314**	⇑*i*P	**P**	**20 23 43.0**	**+1.2**
	comp=Z,60nm,1.0s,mb5.1						
HYB				*e*S	**S**	**20 28 06.0**	**+4.8**
KMI	**Kunming**	**25.20**	**12**	⇑P	**P**	**20 23 44.5**	**+1.6**
KMI				AP	pP	20 23 50.8	-2.1
KMI				PP	PP	20 24 28.0	+6.4
KMI				AMB	AMB		
	comp=Z,46nm,2.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,1μm,4.7s						
KMI				LR	LR		
	comp=N,15μm,11.9s,MS5.9						
KMI				LR	LR		
	comp=E,14μm,11.9s,MS5.9						
KMI				LR	LR		
	comp=Z,19μm,12.4s,MS5.8						
KMI	**Kunming**	**25.20**	**12**	⇑P	**P**	**20 23 44.5**	**+1.6**
KMI				*SP	sP	20 23 54.8	-2.3
KMI						20 24 28.0	
KMI				S	**S**	**20 28 10.4**	**+7.3**
KMI				*SS		20 28 21.3	
KMI				pmax	pmax		
	comp=Z,46nm,2.0s,mb4.7						
KMI				MLR	MLR		
	comp=Z,19μm,12.4s,MS5.8						
KMI	**Kunming**	**25.20**	**12**	⇑P	**P**	**20 23 44.5**	**+1.6**
	comp=Z,46nm,2.0s,mb4.7						
KMI				pP	pP	20 23 50.8	-2.1
KMI				sP	sP	20 23 54.8	-2.3
KMI				PP	PP	20 24 28.0	+6.4
KMI				S	**S**	**20 28 10.4**	**+7.3**
KMI				PS		20 28 18.5	
KMI				sS		20 28 21.3	
KMI				LR	LR		
	comp=Z,19μm,12.4s,MS5.8						
BUSP	**Coron**	**25.50**	**62**	*e*P	**P**	**20 23 47.7**	**+1.8**
SHL	**Shillong**	**25.62**	**349**	⇑*e*P	**P**	**20 23 48.0**	**+1.1**
SHL				*i* S	**S**	**20 28 14.0**	**+3.8**
CUYO	**Cuyo Island**	**25.78**	**65**	*e*P	**P**	**20 23 47.9**	**-0.5**
BOK	**Bokaro**	**25.82**	**335**	⇑*i*P	**P**	**20 23 49.7**	**+0.9**
BOK				*i* S	**S**	**20 28 18.7**	**+5.2**
BLSP	**Bilaspur**	**26.23**	**327**	*e*P	**P**	**20 23 52.6**	**+0.1**
BLSP				*e*		20 24 07.4	
	comp=Z,132nm,1.0s						
BLSP				*i*		20 32 19.2	
SJMP	**San Jose**	**26.51**	**62**	*e*P	**P**	**20 23 55.2**	**-0.1**
LKP	**Lekhapani**	**26.87**	**358**	*e*	**P**	**20 24 02.0**	**+3.6**
GUIM	**Jordan**	**27.13**	**67**	*e*P	**P**	**20 24 02.4**	**+1.5**
LATR	**Latur**	**27.17**	**313**	*e*P	**P**	**20 24 01.6**	**+0.3**
HKC	**Hong Kong**	**27.32**	**36**	P	**P**	**20 24 04.0**	**+1.4**
HKC				S	**S**	**20 28 40.0**	**+2.0**
GZH	**Guangzhou**	**27.47**	**33**	P	**P**	**20 24 07.0**	**+3.1**
GZH				S	**S**	**20 28 48.0**	**+7.7**
GZH				LR	LR		
	comp=N,4μm,12.8s,MS5.6						
GZH				LR	LR		
	comp=E,10μm,12.4s,MS5.6						
GZH				LR	LR		
	comp=Z,12μm,13.4s,MS5.7						
GYA	**Guiyang**	**27.49**	**18**	⇑*i*P	**P**	**20 24 04.0**	**-0.1**
GYA				AP	pP	20 24 13.8	-0.4
GYA				XP	sP	20 24 18.5	-0.3
GYA				PP	PP	20 24 54.5	+2.1
GYA				S	**S**	**20 28 45.3**	**+4.6**
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,890nm,9.3s						
GYA				LR	LR		
	comp=N,10μm,12.6s,MS5.7						
GYA				LR	LR		
	comp=E,10μm,13.2s,MS5.7						
GYA				LR	LR		
	comp=Z,13μm,12.0s,MS5.7						
TBP	**Tagbilaran**	**28.01**	**70**	*e*P	**P**	**20 24 05.9**	**-3.0**
LLP	**Lapu-Lapu**	**28.30**	**69**	*e*P	**P**	**20 24 11.9**	**+0.3**
KAD	**Karad**	**28.33**	**308**	*e*P	**P**	**20 24 12.0**	**+0.3**
JIRN	**Jiri**	**29.19**	**339**	*e*P	**P**	**20 24 19.0**	**-0.3**
	comp=Z,127nm,0.9s,mb5.6						
POO	**Poona**	**29.28**	**309**	⇑*i*P	**P**	**20 24 19.0**	**-1.2**
	comp=Z,40nm,1.0s,mb5.1						
POO				*i*		20 29 12.0	
PKI	**Pulchoki**	**29.39**	**338**	*e*P	**P**	**20 24 20.9**	**-0.2**
	comp=Z,284nm,1.4s,mb5.8						
DMN	**Daman**	**29.54**	**338**	*e*P	**P**	**20 24 22.2**	**-0.2**
	comp=Z,64nm,0.8s,mb5.4						
KKN	**Kakani**	**29.64**	**338**	*e*P	**P**	**20 24 23.5**	**+0.2**
	comp=Z,341nm,1.4s,mb5.9						
CVP	**Callao Caves**	**29.65**	**53**	*e*P	**P**	**20 24 22.0**	**-1.5**
LSA	**Lhasa**	**29.79**	**349**	P	**P**	**20 24 25.8**	**+1.2**
LSA				S	**S**	**20 29 22.3**	**+5.0**
LSA				LR	LR		
	comp=N,2μm,27.4s,MS4.9						
LSA				LR	LR		
	comp=E,3μm,25.0s,MS4.9						
LSA				LR	LR		
	comp=Z,2μm,27.4s,MS4.7						
BHPL	**Bhopal**	**29.86**	**321**	*e*P	**P**	**20 24 24.8**	**-0.5**
BHPL				*e*		20 25 05.2	
	comp=Z,45nm,1.6s						
BHPL				*i*		20 33 57.2	
GKN	**Gorkha**	**30.07**	**337**	*e*P	**P**	**20 24 27.5**	**+0.3**
	comp=Z,130nm,1.0s,mb5.6						
KOLN	**Koldanda**	**30.28**	**335**	*e*P	**P**	**20 24 29.5**	**+0.5**
	comp=Z,126nm,0.8s,mb5.7						
CD2	**Chengdu**	**31.02**	**11**	P	**P**	**20 24 34.8**	**-0.7**
CD2				PP	PP	20 25 37.0	-1.2
CD2				S	**S**	**20 29 36.3**	**-0.4**
CD2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.5						
CD2				LR	LR		
	comp=N,11μm,13.2s						
CD2				LR	LR		
	comp=Z,18μm,13.8s,MS5.9						
QZH	**Quanzhou**	**31.97**	**38**	P	**P**	**20 24 43.8**	**-0.2**
QZH				S	**S**	**20 29 57.0**	**+5.2**
QZH				AMB	AMB		
	comp=Z,130nm,0.8s,mb5.8						
QZH				LR	LR		
	comp=Z,22μm,12.9s,MS6.0						
LGTI	**Lohaghat**	**33.21**	**332**	*e*P	**P**	**20 24 55.5**	**+0.8**
PTH	**Pithoragarh**	**33.31**	**332**	*e*P	**P**	**20 24 58.0**	**+2.4**
PTH				*e*		20 28 50.0	
FITZ	**Fitzroy Crossi**	**33.34**	**125**	*e*P	**P**	**20 24 54.9**	**-1.1**
	comp=Z,51nm,1.0s,mb5.4						
FITZ				*i*		20 25 28.6	
FITZ	**Fitzroy Crossi**	**33.34**	**125**	P	**P**	**20 24 54.9**	**-1.0**
	comp=Z,41nm,0.9s,mb5.3,baz=324,slow=3.7,SNR=17						
NACB	**Ninganchiao**	**33.40**	**43**	*e*P	**P**	**20 24 56.8**	**+0.4**
YHNB	**Yeheng**	**33.58**	**42**	*e*P	**P**	**20 24 58.0**	**0.0**
SONA	**Sohna**	**33.84**	**327**	*e*P	**P**	**20 24 59.5**	**-0.7**
SONA				*e*		20 25 15.0	
	comp=Z,33nm,1.1s						
TATO	**Taipei**	**33.86**	**42**	*e*P	**P**	**20 24 59.8**	**-0.5**
	comp=Z,125nm,1.1s,mb5.8						
AJM	**Ajmer**	**33.94**	**322**	⇓*i*P	**P**	**20 25 01.0**	**0.0**
AYAN	**Aya Nagar**	**34.00**	**327**	*e*P	**P**	**20 24 58.6**	**-2.9**
NDI	**New Delhi**	**34.11**	**327**	*e*P	**P**	**20 25 00.5**	**-2.0**
NDI				*e*S	**S**	**20 30 25.0**	**0.0**
WHN	**Wuhan**	**34.13**	**27**	⇑P	**P**	**20 25 02.8**	**+0.2**
WHN				AP	pP	20 25 13.0	0.0
WHN				S	**S**	**20 30 30.0**	**+4.8**
WHN				AMB	AMB		
	comp=Z,1μm,6.1s						
WHN				LR	LR		
	comp=Z,17μm,12.0s,MS6.0						
KHET	**Khetri**	**34.42**	**325**	*e*P	**P**	**20 25 03.9**	**-1.2**
RTK	**Rohtak**	**34.82**	**327**	*e*P	**P**	**20 25 07.3**	**-1.2**
DDI	**Dehra Dun**	**34.99**	**330**	*e*	pP	20 25 20.2	-0.2
XAN	**Xi'an**	**35.25**	**17**	P	**P**	**20 25 11.5**	**-0.7**
XAN				AP	pP	20 25 21.5	-1.1
XAN				PP	PP	20 26 32.0	+0.1
XAN				S	**S**	**20 30 38.5**	**-4.1**
XAN				AMB	AMB		
	comp=Z,37nm,1.2s,mb5.2						
XAN				LR	LR		
	comp=N,4μm,12.7s,MS5.4						
XAN				LR	LR		
	comp=E,3μm,13.1s,MS5.4						
XAN				LR	LR		
	comp=Z,6μm,12.3s,MS5.6						
KLP	**Kalpa**	**35.89**	**332**	*e*P	**P**	**20 25 17.4**	**-0.3**
LZH	**Lanzhou**	**36.09**	**9**	⇑P	**P**	**20 25 19.5**	**+0.3**
LZH				AP	pP	20 25 29.0	-0.6
LZH				XP	sP	20 25 34.5	+0.2
LZH				PP	PP	20 26 47.0	+5.0
LZH				S	**S**	**20 30 56.0**	**+0.6**
LZH				XS		20 31 16.5	
LZH				SS	SS	20 33 21.0	+1.4
LZH				AMB	AMB		
	comp=Z,270nm,1.5s,mb6.0						
LZH				AMB	AMB		
	comp=Z,940nm,4.0s						
LZH				LR	LR		
	comp=N,10μm,12.0s						
LZH				LR	LR		
	comp=Z,10μm,13.3s,MS5.8						
LZH	**Lanzhou**	**36.09**	**9**	⇑P	**P**	**20 25 19.6**	**+0.4**
LZH				*PP	pP	20 25 29.0	-0.6
LZH				*SP	sP	20 25 34.5	+0.2
LZH						20 26 47.0	
LZH				S	**S**	**20 30 56.0**	**+0.6**
LZH				*SS		20 31 16.4	
LZH				SS	SS	20 33 21.0	+1.4
LZH				pmax	pmax		
	comp=Z,270nm,1.5s,mb6.0						
LZH				MLR	MLR		
	comp=Z,10μm,13.3s,MS5.8						
LZH	**Lanzhou**	**36.09**	**9**	⇑P	**P**	**20 25 19.6**	**+0.4**
	comp=Z,270nm,1.5s,mb6.0						
LZH				pP	pP	20 25 29.0	-0.6
LZH				sP	sP	20 25 34.5	+0.2
LZH				PP	PP	20 26 47.0	+5.0
LZH				S	**S**	**20 30 56.0**	**+0.6**
LZH				sS		20 31 16.4	
LZH				SS	SS	20 33 21.0	+1.4
LZH				LR	LR		
	comp=Z,10μm,13.3s,MS5.8						
SMLA	**Simla**	**36.09**	**330**	⇑*i*	**P**	**20 25 14.9**	**-4.4**
SDNR	**Sundarnagar**	**36.49**	**330**	*e*P	**P**	**20 25 22.2**	**-0.5**
JASL	**Jaisalmer**	**36.65**	**318**	*e*P	**P**	**20 25 24.9**	**+0.8**
MUN	**Mundaring**	**36.78**	**153**	⇑*i*P	**P**	**20 25 26.5**	**+1.4**
	comp=Z,121nm,1.1s,mb5.6						
MUN				*i*		20 25 49.8	
MUN	**Mundaring**	**36.78**	**153**	⇑*i*P	**P**	**20 25 26.5**	**+1.4**
MUN				pmax	pmax		
	comp=Z,121nm,1.1s,mb5.6						
KLBR	**Kellerberrin**	**37.20**	**150**	*e*P	**P**	**20 25 28.8**	**+0.2**
	comp=Z,1000nm,1.4s						
NJ2	**Nanjing**	**37.54**	**31**	*e*P	**P**	**20 25 33.5**	**+2.0**
NJ2				AP	pP	20 25 43.3	+1.3
NJ2				XP	sP	20 25 47.3	+0.7
NJ2				PP	PP	20 27 02.5	+2.2
NJ2				S	**S**	**20 31 19.0**	**+1.2**
NJ2				XS		20 31 36.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,540nm,12.0s						
NJ2				LR	LR		
	comp=Z,10μm,12.6s,MS5.8						
NWAO	**

comp=Z,5μm,12.6s
SSE Sheshan 38.06 34 P P 20 25 36.9 +1.0
comp=Z,66nm,0.7s,mb5.5
SSE pP pP 20 25 47.8 +1.5
SSE sP sP 20 25 51.4 +0.5
SSE PP PP 20 27 03.7 -2.8
SSE S **S 20 31 27.8 +2.2**
SSE LR LR
comp=Z,5μm,12.6s,MS5.5
GTA Gaotai 38.96 3 *e*P **P 20 25 43.5 +0.3**
GTA AP pP 20 25 53.5 -0.2
GTA XP sP 20 25 57.5 -0.8
GTA PP PP 20 27 17.5 +0.8
GTA PPP PPP 20 27 40.8 +0.5
GTA PCP PcP 20 27 54.5 +0.6
GTA S **S 20 31 39.0 -0.1**
GTA SS SS 20 34 22.0 -1.7
GTA SCS ScS 20 35 49.0 +1.3
GTA AMB AMB
comp=Z,15nm,2.0s,mb4.4
GTA AMB AMB
comp=Z,391nm,7.6s
GTA LR LR
comp=N,6μm,11.8s,MS5.7
GTA LR LR
comp=E,5μm,12.9s,MS5.7
GTA LR LR
comp=Z,7μm,12.6s,MS5.7
JOW Kunigami 39.76 46 P **P 20 25 50.9 +0.9**
comp=Z,19nm,0.7s,mb4.9,baz=260,slow=7.9,SNR=10
JOW LR LR 20 41 36.3
comp=Z,2μm,21.3s,MS5.0,baz=264,slow=35
TIA Tai'an 40.16 25 ⇑P **P 20 25 52.5 -0.8**
TIA S **S 20 31 55.5 -1.7**
TIA LR LR
comp=N,2μm,14.1s,MS5.4
TIA LR LR
comp=E,3μm,12.2s,MS5.4
WRA Warramunga Arr 41.49 121 P **P 20 26 04.0 -0.4**
comp=E,19nm,0.9s,mb4.7,baz=301,slow=9.7,SNR=80
WRAB Tennant Creek 41.50 121 *i* P **P 20 26 04.3 -0.1**
WRAB Tennant Creek 41.50 121 *e*P **P 20 26 03.5 -0.9**
comp=E,88nm,1.0s,mb5.3
WB2 Warramunga Arr 41.50 121 ⇑*i*P **P 20 26 04.0 -0.6**
WB2 *e* pP 20 26 14.0 -1.1
BTO Baotou 41.72 15 *e*P **P 20 26 06.5 +0.4**
BTO AMB AMB
comp=Z,36nm,2.1s,mb4.6
BTO LR LR
comp=N,7μm,12.6s,MS5.8
BTO LR LR
comp=E,7μm,14.5s,MS5.8
MSEY Mahe Island 42.08 263 *e*P **P 20 26 09.3 -0.1**
comp=E,35nm,1.4s,mb4.8
HHC Hu-ho-hao-te 42.35 16 ⇑P **P 20 26 13.0 +1.7**
HHC AP pP 20 26 25.3 +3.4
HHC XP sP 20 26 29.5 +3.1
HHC PP PP 20 27 57.0 +4.7
HHC SCP 20 31 51.5
HHC PCS 20 31 53.3
HHC S **S 20 32 35.3 +5.6**
HHC SCS ScS 20 36 07.0 -0.9
HHC AMB AMB
comp=Z,35nm,1.9s,mb4.7
HHC AMB AMB
comp=Z,811nm,11.2s
HHC LR LR
comp=N,6μm,13.2s,MS5.7
HHC LR LR
comp=E,2μm,14.7s,MS5.7
HHC LR LR
comp=Z,6μm,14.1s,MS5.6
FORT Forrest 42.55 139 *e*P **P 20 26 14.1 +1.0**
comp=Z,1μm,0.8s
ASPA Alice Springs 42.79 126 *e*P **P 20 26 14.3 -0.8**
ASAR Alice Springs 42.80 126 P **P 20 26 14.9 -0.3**
comp=Z,32nm,1.1s,mb5.0,baz=303,slow=7.3,SNR=98
ASAR PKPPKP 20 58 14.9
comp=Z,1.2nm,1.1s,baz=135,slow=3.8,SNR=4.2
BJI Beijing 43.10 21 P **P 20 26 18.8 +1.4**
BJI AP pP 20 26 29.0 +1.0
BJI XP sP 20 26 34.3 +1.8
BJI PP PP 20 28 01.8 +2.0
BJI AMB AMB
comp=Z,11nm,0.8s,mb4.6
BJI AMB AMB
comp=Z,1μm,4.2s
BJI LR LR
comp=N,5μm,12.7s,MS5.7
BJI LR LR
comp=E,4μm,13.4s,MS5.7
BJI LR LR
comp=Z,3μm,15.0s,MS5.3
BJI Beijing 43.10 21 P **P 20 26 18.8 +1.4**
BJI *PP pP 20 26 29.0 +1.0
BJI *SP sP 20 26 34.3 +1.8
BJI 20 28 01.7
BJI S **S 20 32 45.5 +4.9**
BJI SS SS 20 36 06.7 +20
BJI pmax pmax
comp=Z,11nm,0.8s,mb4.6
BJI MLR MLR
comp=Z,3μm,15.0s,MS5.3
BJI Beijing 43.10 21 P **P 20 26 18.8 +1.4**
comp=Z,11nm,0.8s,mb4.6
BJI pP pP 20 26 29.0 +1.0
BJI sP sP 20 26 34.3 +1.8
BJI PP PP 20 28 01.7 +1.9
BJI S **S 20 32 45.5 +4.9**
BJI sS 20 33 08.8
BJI SS SS 20 36 06.7 +20
BJI LR LR
comp=Z,3μm,15.0s,MS5.3
WBK Wadi Bani Khal 43.36 303 ⇑P **P 20 26 21.0 +1.2**
KSH Kashi 43.60 336 *e*P **P 20 26 20.0 -1.5**
KSH *e*AP pP 20 26 29.0 -3.0
KSH *e*PP PP 20 28 03.0 -1.8
KSH *e*PCP PcP 20 28 08.3 -0.8
KSH *e*SCP 20 31 56.0
KSH *e*PCS 20 32 00.0
KSH *e*S **S 20 32 43.5 -4.4**
KSH SS SS 20 35 55.0 -0.9
KSH *e*SCS ScS 20 36 14.0 -1.6
KSH LR LR
comp=N,6μm,14.2s,MS5.7
KSH LR LR
comp=E,2μm,10.6s,MS5.7
JMDO Jabal Madar 43.99 303 ⇑P **P 20 26 25.5 +0.6**
WMQ Urumqi 44.14 350 ⇑*i*P **P 20 26 27.0 +1.2**
WMQ AP pP 20 26 37.5 +1.2
WMQ XP sP 20 26 42.0 +1.2
WMQ PP PP 20 28 11.5 +1.4
WMQ PPP PPP 20 28 49.5 +0.9
WMQ S **S 20 32 57.0 +1.3**
WMQ XS 20 33 13.3
WMQ AMB AMB
comp=Z,37nm,1.3s,mb5.0
WMQ AMB AMB
comp=Z,730nm,6.0s
WMQ LR LR
comp=N,2μm,15.0s,MS5.2
WMQ LR LR
comp=E,1μm,16.8s,MS5.2
WMQ LR LR
comp=Z,1μm,19.0s,MS4.9
SMDO Samad 44.32 303 ⇑P **P 20 26 28.7 +1.1**
SNR=7.8
DL2 Dalian 44.39 27 ⇑P **P 20 26 28.5 +0.6**
DL2 AP pP 20 26 39.3 +0.9
DL2 XP sP 20 26 46.5 +3.6
DL2 S **S 20 33 04.0 +4.6**
DL2 AMB AMB
comp=Z,50nm,0.7s,mb5.3
DL2 AMB AMB
comp=Z,380nm,4.7s
DL2 LR LR
comp=N,3μm,12.9s,MS5.4
DL2 LR LR
comp=E,2μm,12.6s,MS5.4
DL2 LR LR
comp=Z,4μm,12.9s,MS5.5
BIDO Bidbid 44.45 304 ⇑P **P 20 26 29.7 +1.1**
SNR=13
SHAO Shalim 44.57 296 ⇓P **P 20 26 30.5 +0.9**
BSY Bisya 44.90 303 ⇑P **P 20 26 34.0 +1.8**

RBK Rabkut 45.70 294 ⇑P **P 20 26 39.4 +0.8**
SNR=12
ARQ Araqi 45.72 303 ⇓P **P 20 26 40.1 +1.4**
ULHL Ulahol 45.83 338 P **P 20 26 40.0 +0.7**
SNR=29
KZA Kyzart 46.06 337 P **P 20 26 42.2 +1.1**
SNR=15
WHFO Wadi Hawf 46.21 295 ⇑P **P 20 26 43.1 +0.5**
SNR=29
KS15 Wonju Array Si 46.47 34 *e*P **P 20 26 44.3 -0.1**
AAA Alma-Ata 46.47 339 *e*P **P 20 26 44.0 -0.3**
AAA *e*S **S 20 33 34.0 +4.9**
AAA pmax pmax
comp=Z,1μm,4.0s
AAA smax
comp=N,1μm,6.0s
AAA smax
comp=E,2μm,6.0s
UCH Uchtor 46.48 337 P **P 20 26 45.7 +1.3**
SNR=26
ABTO Aybut 46.48 294 ⇑P **P 20 26 45.4 +0.7**
SNR=13
TKM2 Tokmak 2 46.65 338 P **P 20 26 46.6 +0.9**
SNR=40
ASHO Ashiyiah 46.66 304 ⇑P **P 20 26 47.2 +1.1**
SNR=10.0
KBK Karagaybulak 46.67 337 P **P 20 26 47.6 +1.7**
SNR=41
AML Almayashu 46.73 336 P **P 20 26 47.6 +1.3**
SNR=38
AAK Ala-Archa 46.83 337 P **P 20 26 48.5 +1.3**
SNR=7.8
AAK Ala-Archa 46.83 337 *i* Pr **P 20 26 47.3 +0.1**
FRU Bishkek 46.95 337 *e*P **P 20 26 49.0 +0.9**
FRU *e* 20 33 40.0
FRU pmax pmax
comp=Z,90nm,2.0s,mb5.3
BANOM Banah 46.99 306 ⇑P **P 20 26 49.8 +1.1**
CHMS Chumysh 47.04 337 P **P 20 26 49.3 +0.5**
SNR=11
EKS2 Erkin-Say 47.14 336 P **P 20 26 50.6 +1.0**
SNR=35
USP Ospenovka 47.37 337 P **P 20 26 51.9 +0.5**
SNR=54
SNY Shenyang 47.62 27 ⇑P **P 20 26 53.0 -0.4**
SNY AP pP 20 27 01.5 -2.5
SNY PP PP 20 28 44.0 -0.3
SNY S **S 20 33 48.3 +2.8**
SNY LR LR
comp=E,4μm,13.1s
SNY LR LR
comp=Z,6μm,13.1s,MS5.8
SONM Songino Array 47.97 8 P **P 20 26 56.7 +0.6**
comp=Z,5.1nm,0.7s,mb4.7,baz=191,slow=9.5,SNR=52
SONM LR LR 20 49 52.6
comp=Z,4μm,20.1s,MS5.4,baz=189,slow=40
ULN Ulaanbaatar 48.09 9 *e*P **P 20 26 57.2 +0.2**
ULN pmax pmax
comp=Z,114nm,1.4s,mb5.7
ULN Ulaanbaatar 48.09 9 *e*P **P 20 26 57.2 +0.2**
comp=Z,114nm,1.4s,mb5.7
MKAR Makanchi Array 48.10 346 P **P 20 26 57.2 +0.1**
comp=Z,17nm,0.7s,mb5.2,baz=159,slow=8.0,SNR=165
MKAR LR LR 20 51 27.1
comp=Z,1μm,19.3s,MS4.9,baz=168,slow=41
MKAR Makanchi Array 48.10 346 P **P 20 26 57.2 +0.1**
MKAR LR LR 20 51 27.1
CN2 Changchun 50.02 26 *e*P **P 20 27 11.8 -0.1**
CN2 *e*AP pP 20 27 22.0 -0.6
CN2 *e*XP sP 20 27 26.0 -1.0
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,400nm,5.0s
CN2 LR LR
comp=Z,7μm,13.0s,MS5.9
ZAK Zakamensk 50.12 5 *e*P **P 20 27 13.1 +0.5**
ZAK pmax pmax
comp=Z,14nm,1.5s,mb4.8
ZAK pmax pmax
comp=Z,22nm,1.6s,mb4.9
PMG Port Moresby 50.56 102 *e*P **P 20 27 16.3 -0.1**
PMG pmax pmax
comp=Z,85nm,0.8s
PMG Port Moresby 50.56 102 P **P 20 27 16.6 +0.2**
comp=Z,15nm,0.7s,mb5.0,baz=256,slow=6.6,SNR=5.8
PMG Port Moresby 50.56 102 *e*P **P 20 27 16.3 -0.1**
comp=Z,85nm,0.8s,mb5.7
MOY Mondy 51.24 3 *e*P **P 20 27 21.4 +0.3**
MOY pmax pmax
comp=Z,88nm,3.3s
TLY Talaya 51.44 5*c* *i*P **P 20 27 23.5 +0.9**
TLY MLR MLR
comp=Z,5μm,14.0s,MS5.7
TLY Talaya 51.44 5 *e*P **P 20 27 23.2 +0.6**
comp=Z,36nm,1.0s,mb5.3
JHJ Hachijo jima 2 51.53 46 LR LR 20 47 31.5
comp=Z,1μm,20.7s,MS4.9,baz=279,slow=34
CTA Charters Tower 52.03 116 P **P 20 27 27.1 -0.2**
comp=Z,10.0nm,1.0s,mb4.7,baz=321,slow=14,SNR=3.0
CTAO Charters Tower 52.03 116 *e*P **P 20 27 27.2 -0.2**
CTAO MLR MLR
comp=Z,3μm,19.0s,MS5.3
IRK Irkutsk 52.05 5 *e*P **P 20 27 26.8 -0.3**
IRK pmax pmax
comp=Z,218nm,4.5s
HASS Wahat al Ahsa' 52.18 302 P **P 20 27 28.2 -0.2**
ADE Adelaide 52.21 137 *e*P **P 20 27 29.9 +1.3**
MAJO Matsushiro 52.26 42 *e*P **P 20 27 27.4 -1.5**
MAJO pmax pmax
comp=Z,95nm,1.4s,mb5.5
MAJO MLR MLR
comp=Z,2μm,20.0s,MS5.2
MAJO Matsushiro 52.26 42 *e*P **P 20 27 27.4 -1.5**
comp=Z,95nm,1.4s,mb5.5
MAJO LR LR
comp=Z,2μm,20.0s,MS5.2
MAT Matsushiro 52.26 42 *e*P **P 20 27 27.0 -1.9**
MAT *e*S **S 20 34 53.0 +3.1**
MAT pmax pmax
comp=Z,31nm,1.2s,mb5.1
MAT MLR MLR
comp=Z,2μm,20.0s,MS5.2
MAT Matsushiro 52.26 42 *e*P **P 20 27 27.0 -1.9**
comp=Z,31nm,1.2s,mb5.1
MAT *e*S **S 20 34 53.0 +3.1**
MAT LR LR
comp=Z,2μm,20.0s,MS5.2
MAT Matsushiro 52.26 42 P **P 20 27 27.1 -1.8**
MAT S **S 20 34 52.0 +2.1**
MJAR Matsushiro Arr 52.26 42 P **P 20 27 27.9 -1.0**
comp=Z,4.6nm,0.6s,mb4.6,baz=231,slow=6.0,SNR=15
MJAR LR LR 20 50 47.3
comp=Z,2μm,20.0s,MS5.1,baz=245,slow=37
MDJ Mudanjiang 52.57 29 P **P 20 27 31.0 -0.1**
MDJ AP pP 20 27 40.8 -1.0
MDJ XP sP 20 27 44.8 -1.4
MDJ PCP PcP 20 28 41.5 +0.4
MDJ PP PP 20 29 31.8 +0.4
MDJ SCP 20 32 34.0
MDJ PCS 20 32 37.0
MDJ S **S 20 34 59.0 +5.0**
MDJ SCS ScS 20 37 17.0 +2.4
MDJ AMB AMB
comp=Z,7.0nm,1.4s,mb4.4
MDJ AMB AMB
comp=Z,551nm,6.1s
MDJ LR LR
comp=N,1μm,16.9s,MS5.3
MDJ LR LR
comp=E,2μm,17.9s,MS5.3
MDJ LR LR
comp=Z,3μm,17.9s,MS5.4
OPO Ambohidratompo 52.67 246 P **P 20 27 32.4 +0.2**
comp=Z,13nm,1.0s,mb4.8,baz=70,slow=8.3,SNR=13
STKA Stephens Creek 52.70 132 ⇓*i*P **P 20 27 32.2 -0.1**
comp=Z,53nm,0.9s,mb5.5
STKA *i* 20 27 56.1
STKA Stephens Creek 52.70 132 P **P 20 27 32.5 +0.2**
comp=Z,76nm,1.0s,mb5.6,baz=310,slow=7.3,SNR=97
STKA LR LR 20 52 07.8
comp=Z,5μm,21.0s,MS5.5,baz=296,slow=38
ZAL Zalesovo 54.41 351 P **P 20 27 44.5 -0.2**
comp=Z,16nm,0.9s,mb5.0,baz=293,slow=6.1,SNR=92
ZAL LR LR 20 55 51.8
comp=Z,994nm,19.9s,MS4.9,baz=303,slow=42

ZAL Zalesovo 54.41 351 P **P 20 27 44.5 -0.2**
ZAL LR LR 20 55 51.8
KAMS Al Khamasin 55.22 295 P **P 20 27 50.0 -0.9**
NVS Novosibirsk 55.54 350 *i* P **P 20 27 51.3 -1.5**
NVS *i* S **S 20 35 30.2 -3.8**
NVS *i* 20 35 58.1
NVS pmax pmax
comp=N,82nm,1.4s
NVS pmax pmax
comp=Z,73nm,1.4s,mb5.5
NVS pmax pmax
comp=E,35nm,1.3s
NVS smax
comp=N,51nm,1.9s
NVS smax
comp=E,89nm,1.9s
KLR Kul'dur 56.98 26 *e*P **P 20 28 00.0 -3.2**
KLR *e*S **S 20 35 51.5 -1.6**
BVAR Borovoye Array 57.10 341 P **P 20 28 02.6 -1.4**
comp=E,19nm,0.8s,mb5.2,baz=149,slow=8.6,SNR=78
CHKZ Chkalovo 57.58 342 *e*P **P 20 28 06.2 -1.2**
CHKZ pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
CHKZ Chkalovo 57.58 342 *e*P **P 20 28 06.2 -1.1**
comp=Z,9.8nm,0.6s,mb5.0
TOO Toolangi 58.25 136 *e*P **P 20 28 13.8 +1.5**
comp=Z,18nm,1.0s,mb5.0
TOO *i* 20 28 37.4
TOO Toolangi 58.25 136 *e*P **P 20 28 13.8 +1.5**
TOO pmax pmax
comp=Z,18nm,1.0s,mb5.1
BOD Bodaibo 58.84 10 *e*P **P 20 28 15.5 -0.6**
BOD *e* pP 20 28 27.2 +0.3
BOD pmax pmax
comp=Z,23nm,2.0s,mb4.9
BOD pmax pmax
comp=Z,54nm,1.0s,mb5.5
BOD pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
ASAJ Asahikawa 59.29 37 P **P 20 28 19.8 +0.3**
comp=Z,8.3nm,0.6s,mb5.0,baz=256,slow=14,SNR=9.3
BHD Baghdad 59.46 309 *e*P **P 20 28 11.0 -10**
BHD *e*S **S 20 36 26.0 +0.3**
ARMA Armidale 59.94 126 *e*P **P 20 28 25.4 +1.3**
CNB Canberra Magne 60.03 132 *e*P **P 20 28 24.0 -0.7**
comp=Z,600nm,1.2s
CNB *e* 20 28 48.7
KMBO Kilima Mbogo 60.07 269 *e*P **P 20 28 24.7 -0.5**
KMBO pmax pmax
comp=Z,15nm,0.9s
KMBO Kilima Mbogo 60.07 269 P **P 20 28 25.8 +0.6**
comp=Z,12nm,0.8s,mb5.0,baz=60,slow=9.3,SNR=47
KMBO LR LR 20 51 40.7
comp=Z,804nm,18.5s,MS4.9,baz=275,slow=33
KMBO Kilima Mbogo 60.07 269 *e*P **P 20 28 24.7 -0.5**
comp=Z,15nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 61.00 34α*e*P **P 20 28 31.0 -0.1**
YSS *e**PP pP 20 28 42.0 0.0
YSS *e**SP sP 20 28 48.5 +2.3
YSS *e* 20 30 47.0
YSS *e*PPP PPP 20 32 20.0 +4.3
YSS *e*S **S 20 36 47.0 +1.7**
YSS *e*PS PS 20 36 54.0 -12
YSS *e*PPS PPS 20 37 10.0 -4.9
YSS *e*SS SS 20 40 49.0 +2.6
YSS *e*SSS SSS 20 43 20.0 -4.5
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
YSS MLR MLR
comp=Z,2μm,13.0s,MS5.5
YSS MLR MLR
comp=N,1μm,15.0s,MS5.4
YSS MLR MLR
comp=E,2μm,14.0s,MS5.4
YSS Yuzh-Sakhalins 61.00 34 *e*P **P 20 28 30.7 -0.4**
comp=E,115nm,1.0s,mb6.0
YUK Yuzh-Kuril'sk 61.22 38 P **P 20 28 32.0 -0.6**
YUK *e*SP pP 20 28 41.0 -2.5
YUK S S 20 37 10.0 +22
YUK *e* 20 38 22.0
YUK MLR MLR
comp=E,3μm,13.0s
YUK MLR MLR
comp=Z,3μm,13.0s,MS5.6
MAK Makhachkala 61.46 320 *e*P **P 20 28 33.0 -1.3**
MAK *e* 20 29 14.0
MAK *e*S **S 20 36 54.0 +2.7**
MAK *e* 20 38 26.0
MAK pmax pmax
comp=Z,600nm,10.0s
MAK MLR MLR
comp=Z,2μm,13.0s,MS5.3
GNI Garni 61.99 316 *e*P **P 20 28 37.5 -0.3**
GNI pmax pmax
comp=Z,47nm,1.0s
GNI Garni 61.99 316 *e*P **P 20 28 37.5 -0.3**
comp=Z,47nm,1.0s,mb5.6
YNBS Yanbu' al Bahr 62.10 297 P **P 20 28 30.6 -8.3**
DGRG David-gareji 62.14 318 P **P 20 28 38.7 -0.1**
DGRG S **S 20 37 05.2 +5.3**
TI2 Plekhanov 62.68 318 *i* P **P 20 28 39.4 -3.1**
TI2 *i* 20 29 23.6
TI2 *e*S **S 20 37 04.2 -2.5**
TI2 pmax pmax
comp=Z,60nm,0.8s,mb5.8
TBLG Delisi 62.69 318 P **P 20 28 42.2 -0.3**
UMJS Umm Lajj 62.91 298 P **P 20 28 36.8 -7.4**
SVE Sverdlovsk 63.53 338⇓*e*P **P 20 28 46.8 -1.0**
SVE *e* pP 20 28 56.6 -2.2
SVE *e* 20 31 04.0
SVE *e*S **S 20 37 15.0 -1.9**
SVE *e* 20 38 40.0
SVE *e*SS SS 20 41 29.0 +2.9
SVE pmax pmax
comp=Z,80nm,1.9s,mb5.4
SVE MLR MLR
comp=N,1μm,16.0s,MS5.1
SVE MLR MLR
comp=E,500nm,16.0s,MS5.1
SVE MLR MLR
comp=Z,1μm,16.0s,MS5.1
BEST Besiri 63.54 313 *i* P **P 20 28 47.6 -0.7**
ZEI Tsey 63.71 319 *e*P **P 20 28 48.5 -0.8**
ZEI *i* *PP pP 20 28 57.0 -3.2
ZEI *i* 20 31 08.9
ZEI pmax pmax
comp=Z,12nm,1.0s,mb4.9
ONI Oni 63.93 318 P **P 20 28 50.0 -0.6**
ARU Arti 64.02 337 *e*P **P 20 28 49.5 -1.5**
ARU pmax pmax
comp=Z,104nm,1.5s,mb5.6
ARU Arti 64.02 337 *e*P **P 20 28 49.5 -1.4**
comp=Z,104nm,1.5s,mb5.6
ERZM Erzurum 64.25 315 *i* P **P 20 28 53.1 +0.4**
TBKS Tabuk 64.29 301 P **P 20 28 48.8 -4.4**
JMQS Jabal Moqyreh 65.03 302 P **P 20 28 55.4 -2.6**
KIV Kislovodsk 65.03 319 *e*P **P 20 28 56.1 -1.7**
KIV *e*PPP PPP 20 32 52.1 -5.0
KIV *i* S S 20 37 36.2 +0.4
KIV *e*SS SS 20 41 42.8 -7.1
KIV pmax pmax
comp=Z,28nm,1.0s,mb5.2
KIV smax
comp=N,92nm,2.5s
KIV smax
comp=E,37nm,2.5s
ASF Jabal al Asfar 65.05 306 P **P 20 28 58.2 +0.1**
comp=E,20nm,0.8s,mb5.2,baz=339,slow=3.0,SNR=6.6
AYUS 'Aynunah 65.38 301 P **P 20 28 58.2 -2.1**
ELZG Elazig 65.44 313 *i* P **P 20 29 00.6 0.0**
BDAS Al Bad' 65.58 301 P **P 20 29 00.1 -1.5**
JMOS Jabal al Moall 65.75 302 P **P 20 29 02.1 -0.6**
MALT Malatya 65.79 312 ⇓P **P 20 29 02.9 +0.2**
MALT Malatya 65.79 312 *e*P **P 20 29 02.4 -0.4**
comp=E,43nm,1.0s,mb5.4
ALWS Ilw as Safayha 65.82 302 P **P 20 29 02.9 -0.2**
KELT Kelkit 65.84 315 *i* P **P 20 29 03.3 +0.2**
HAQS Haql 65.87 302 P **P 20 29 03.1 -0.4**
EIL Elat 66.00 302 *e*P **P 20 29 03.9 -0.4**
comp=E,88nm,1.3s,mb5.6
GZT Gaziantep 66.11 311 *i* P **P 20 29 04.7 -0.1**
YAK Yakutsk 66.22 16*c* *i*P **P 20 29 04.4 -0.6**
YAK *e**PP pP 20 29 14.6 -1.5
YAK *e* 20 29 34.9

YAK e 20 31 29.3
YAK eS S 20 37 49.3 -0.6
YAK e*SS 20 38 07.3
YAK e 20 38 57.6
YAK eSS SS 20 42 06.0 -1.6
YAK pmax pmax
comp=Z,97nm,1.0s,mb5.8
YAK pmax pmax
comp=N,24nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
YAK smax
comp=N,3.0nm,1.1s
YAK MLR MLR
comp=Z,3µm,12.0s,MS5.8
YAK MLR MLR
comp=N,2µm,12.0s,MS5.7
YAK MLR MLR
comp=E,2µm,12.0s,MS5.7
YAK Yakutsk 66.22 16 eP **P 20 29 04.2 -0.8**
comp=E,164nm,0.9s,mb6.1
MBAR Mbarara 66.58 269 eP **P 20 29 07.4 -0.7**
MBAR pmax pmax
comp=Z,64nm,1.6s,mb5.4
MBAR Mbarara 66.58 269 eP **P 20 29 07.3 -0.8**
comp=Z,64nm,1.6s,mb5.4
SOC Sochi 66.83 318 d iP **P 20 29 07.2 -2.0**
SOC e 20 29 35.7
SOC e 20 31 33.3
SOC ePPP PPP 20 33 07.9 -7.2
SOC eS S 20 37 56.8 -0.9
SOC e 20 39 00.5
SOC eSS SS 20 42 16.2 -1.6
SOC pmax pmax
comp=N,11nm,1.0s
SOC pmax pmax
comp=E,14nm,1.0s
SOC pmax pmax
comp=Z,28nm,1.0s,mb5.2
SOC MLR MLR
comp=Z,373nm,18.0s,MS4.7
SOC MLR MLR
comp=N,149nm,18.0s,MS4.8
SOC MLR MLR
comp=E,554nm,18.0s,MS4.8
SOC Sochi 66.83 318 ⇓iP **P 20 29 07.6 -1.6**
COBT Iskenderun 66.84 310 i P **P 20 29 09.2 -0.2**
SOKR Solikamsk 66.92 339 ⇓iP **P 20 29 06.5 -3.0**
SOKR pmax pmax
comp=Z,30nm,0.9s,mb5.3
SOKR MLR MLR
comp=Z,770nm,19.0s,MS4.9
MEST Erdemli 68.48 309 i P **P 20 29 18.8 -0.9**
AVNT Avonos 68.59 312 i P **P 20 29 19.6 -0.8**
CSS Prodhromos 68.67 308 eP **P 20 29 20.0 -0.9**
comp=Z,26nm,0.9s,mb5.2
ANN Anapa 68.81 319 eP **P 20 29 22.8 +1.2**
ANN e*PP pP 20 29 33.3 +0.6
ANN i 20 29 42.9
ANN eS S 20 38 27.0 +5.6
ANN pmax pmax
comp=Z,30nm,1.3s,mb5.1
CDAG Cicekdag 69.20 313 i P **P 20 29 23.2 -0.9**
CTKT Corum 69.20 314 i P **P 20 29 23.7 -0.4**
BOYT Boyabat 69.38 315 i P **P 20 29 24.4 -0.7**
BRTR Keskin Array B 69.77 313 P **P 20 29 26.4 -1.2**
comp=Z,14nm,0.8s,mb5.0,baz=130,slow=7.1,SNR=90
LSZ Lusaka 69.97 254 eP **P 20 29 28.6 -0.6**
LSZ pmax pmax
comp=Z,19nm,1.4s,mb4.8
LSZ Lusaka 69.97 254 eP **P 20 29 28.6 -0.6**
comp=Z,19nm,1.4s,mb4.8
ELDT Eldivan 70.15 313 i P **P 20 29 29.0 -0.9**
PECR Pechory 70.22 332 i P **P 20 29 28.7 -1.3**
PECR e pP 20 29 41.4 +0.3
PECR e 20 38 37.6
PECR e 20 39 27.6
PECR pmax pmax
comp=Z,150nm,2.0s,mb5.6
PECR MLR MLR
comp=Z,1µm,15.0s,MS5.2
MATP Matopo 70.30 248 P **P 20 29 31.1 -0.1**
comp=Z,40nm,0.8s,mb5.4,baz=83,slow=6.2,SNR=75
BALT Daday 70.50 314 i P **P 20 29 31.9 0.0**
VOR Voronezh 70.54 326 eP **P 20 29 30.5 -1.5**
VOR e*SP sP 20 29 43.0 -4.1
VOR pmax pmax
comp=Z,70nm,1.5s,mb5.4
VOR pmax pmax
comp=E,70nm,1.4s
SIM Simferopol' 71.07 318 i P **P 20 29 34.6 -0.8**
SIM e pP 20 29 48.0 +1.5
SIM i S S 20 38 46.8 -1.0
SIM pmax pmax
comp=Z,48nm,0.8s,mb5.5
SIM MLR MLR
comp=Z,540nm,20.9s,MS4.8
SGKT Sivrigoynuk 71.18 313 i P **P 20 29 35.2 -0.8**
ISP Isparta 71.61 310 i P **P 20 29 39.4 +0.7**
ESKT Eskisehir 71.78 312 i P **P 20 29 39.1 -0.5**
MAW Mawson 71.90 193 eP **P 20 29 39.9 0.0**
comp=Z,12nm,0.8s,mb4.9
MAW Mawson 71.90 193 eP **P 20 29 39.9 0.0**
MAW pmax pmax
comp=Z,12nm,0.8s
MAW Mawson 71.90 193 P **P 20 29 40.6 +0.7**
comp=Z,14nm,0.8s,mb5.0,baz=16,slow=7.2,SNR=21
MAW LR LR 20 57 54.1
comp=Z,1µm,18.8s,MS5.2,baz=43,slow=33
HENT Hendek 72.09 313 i P **P 20 29 40.4 -1.0**
GOLH Golhisar 72.20 309 i P **P 20 29 41.1 -1.1**
PET Petropavlovsk 72.89 34 ceP **P 20 29 46.2 +0.2**
PET eS S 20 39 14.6 +6.1
PET ePS PS 20 39 46.7 +1.5
PET pmax pmax
comp=Z,46nm,0.9s,mb5.4
PET pmax pmax
comp=Z,300nm,15.1s
PET pmax pmax
comp=Z,88nm,0.9s,mb5.7
PET pmax pmax
comp=Z,400nm,14.9s
PET pmax pmax
comp=Z,300nm,16.0s
PET smax
comp=E,300nm,15.0s
PET smax
comp=N,300nm,15.6s
PET MLR MLR
comp=N,700nm,14.0s,MS5.5
PET MLR MLR
comp=Z,2µm,14.0s,MS5.4
PET MLR MLR
comp=E,2µm,13.0s,MS5.5
PET Petropavlovsk 72.89 34 P **P 20 29 46.1 +0.1**
comp=E,58nm,1.0s,mb5.5
MOS Moscow 73.12 329 eP **P 20 29 46.0 -1.4**
MOS e 20 30 04.7
MOS e 20 32 25.2
MOS ePPP PPP 20 34 09.0 -6.8
MOS eS S 20 39 08.1 -3.1
MOS pmax pmax
comp=Z,76nm,0.8s,mb5.7
MOS pmax pmax
comp=Z,100nm,1.0s,mb5.7
MOS smax
comp=N,600nm,3.4s
ULDT Uludag 73.22 312 i P **P 20 29 47.9 -0.4**
MANT Manisa 73.26 310 i P **P 20 29 47.9 -0.7**
DRV Dumont d'Urvil 73.30 164 P **P 20 29 56.0 +7.8**
DRV SP SP 20 39 36.0 -10
DRV SS SS 20 43 44.0 -13
OBN Obninsk 73.41 328 eP **P 20 29 48.1 -1.0**
comp=N,85nm,1.0s,mb5.6
LBTB Lobatse 73.60 244 eP **P 20 29 50.6 -0.2**
LBTB pmax pmax
comp=Z,20nm,0.8s,mb5.1
LBTB Lobatse 73.60 244 eP **P 20 29 50.6 -0.2**
comp=Z,20nm,0.8s,mb5.1

KARP Karpathos 73.72 307 eP **P 20 29 50.8 -0.5**
BTOK Tokmak 73.95 311 i P **P 20 29 51.9 -0.6**
TIXI Tiksi 74.01 10 ⇑iP **P 20 29 51.8 -0.5**
BOSA Boshof 74.44 240 eP **P 20 29 55.3 -0.3**
BOSA pmax pmax
comp=Z,14nm,0.8s,mb4.9
BOSA Boshof 74.44 240 P **P 20 29 55.5 -0.2**
comp=Z,13nm,0.7s,mb5.0,baz=94,slow=3.8,SNR=28
BOSA LR LR 20 57 58.5
comp=Z,682nm,18.9s,MS5.0,baz=72,slow=32
BOSA Boshof 74.44 240 eP **P 20 29 55.3 -0.4**
comp=Z,14nm,0.8s,mb5.0
SEY Seymchan 74.51 23 eP **P 20 29 57.7 +2.4**
SEY 20 30 12.2
SEY 20 32 44.0
SEY eS S 20 39 29.3 +2.8
SEY 20 40 06.7
SEY SS SS 20 44 16.4 +0.6
SEY pmax pmax
comp=Z,40nm,0.8s,mb5.4
SEY smax
comp=N,900nm,16.2s
SEY smax
comp=E,400nm,14.1s
SEY MLR MLR
comp=Z,10µm,25.0s,MS6.0
SEY MLR MLR
comp=N,2µm,15.0s
SEY MLR MLR
comp=E,6µm,22.0s
XRY Khrisi 74.77 306 eP **P 20 29 56.5 -0.9**
TIRR Tirgusor 74.82 316 ⇑P **P 20 29 57.0 -0.4**
NPS Neapolis 74.91 306 eP **P 20 29 58.6 +0.4**
PRK Paraskevi 75.17 311 eP **P 20 29 59.1 -0.5**
CFR Carcaliu 75.19 317 ⇓P **P 20 29 59.5 -0.1**
HARR Harsova 75.21 316 ⇑P **P 20 30 00.1 +0.4**
KIS Kishinev 75.21 319 ci iP **P 20 29 55.0 -4.7**
KIS e pP 20 30 09.0 -1.8
KIS eS S 20 39 30.0 -4.7
KIS eSS SS 20 44 25.0 -1.9
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.0
KIS MLR MLR
comp=Z,600nm,17.0s,MS5.0
KIS MLR MLR
comp=Z,700nm,16.0s
PRD Provadia 75.22 315 eP **P 20 30 09.0 +9.2**
SANT Santorini 75.23 308 eP **P 20 29 58.5 -1.5**
comp=Z,49nm,1.1s,mb5.3
JMB Yambol 75.63 314 eP **P 20 30 02.0 -0.2**
ALN Alexandroupoli 75.68 312 eP **P 20 30 01.6 -0.8**
AKASG Malin Array Be 76.00 323 P **P 20 30 03.1 -1.0**
comp=Z,29nm,0.7s,mb5.3,baz=90,slow=4.6,SNR=123
GVD Gavdhos 76.07 306 eP **P 20 30 03.8 -1.0**
comp=Z,84nm,1.1s,mb5.6
RDO Rodhopi 76.11 312 eP **P 20 30 04.4 -0.5**
DIM Dimitrograd 76.30 313 eP **P 20 30 06.0 0.0**
VRI Vrincioaia 76.32 317 P **P 20 30 06.5 +0.5**
MLR Muntele Rosu 76.77 317 ⇑P **P 20 30 08.9 +0.4**
MLR Muntele Rosu 76.77 317 LR LR 21 11 35.5
comp=Z,620nm,18.4s,MS5.0,baz=328,slow=42
MLR Muntele Rosu 76.77 317 P **P 20 30 08.8 +0.3**
RZN Rozhen 76.82 313 eP **P 20 30 09.0 0.0**
NAIG Nisos Aigina 77.03 309 eP **P 20 30 07.8 -2.4**
NSAL Nisos Salamina 77.08 309 eP **P 20 30 08.0 -2.5**
KYTH Kithira 77.15 307 eP **P 20 30 09.9 -1.0**
MGER Gerania Oros 77.25 309 eP **P 20 30 09.8 -1.6**
PAIG Paliouri 77.26 311 eP **P 20 30 10.2 -1.3**
VLI Veliai 77.30 308 eP **P 20 30 10.6 -1.1**
MTUR Matau 77.31 316 P **P 20 30 11.5 -0.1**
PGB Panagyurishte 77.39 314 eP **P 20 30 11.5 -0.6**
PLG Polygyros 77.52 311 eP **P 20 30 12.0 -0.9**
MMB Musomiste 77.53 313 eP **P 20 30 12.0 -0.9**
SRS Serrai 77.55 312 eP **P 20 30 11.4 -1.6**
BURAR Bucovina Array 77.74 319 P **P 20 30 15.2 +1.3**
MNK Minsk 77.92 326 eP **P 20 30 12.0 -2.8**
KKB Krupnik 78.06 313 eP **P 20 30 15.0 -0.8**
VTS Vitosha 78.10 313 eP **P 20 30 15.5 -0.5**
AGG Agios Georgios 78.14 310 eP **P 20 30 13.7 -2.6**
ITM Ithomi 78.17 308 eP **P 20 30 15.6 -0.9**
LIT Litokhoron 78.19 311 eP **P 20 30 15.1 -1.5**
PUL Pulkovo 78.30 332 eP **P 20 30 17.4 +0.7**
PUL i S S 20 40 04.6 -3.3
PUL pmax pmax
comp=Z,66nm,0.6s,mb5.7
PUL smax
comp=N,85nm,0.6s
PUL smax
comp=E,86nm,0.6s
PUL Pulkovo 78.30 332 i P **P 20 30 17.7 +1.0**
EVR Evrytania 78.52 310 eP **P 20 30 17.0 -1.4**
RPZ Rata Peaks 78.53 135 LR LR 21 05 32.4
comp=E,3µm,21.3s,MS5.5,baz=280,slow=36
ZAPS Zavoj/Pirot 78.65 314 ⇑iP **P 20 30 17.9 -1.1**
SUR Sutherland 78.78 237 eP **P 20 30 21.4 +1.4**
comp=E,18nm,0.8s,mb5.0
JOF Joensuu 78.97 335 ep **P 20 30 18.3 -2.0**
comp=E,17nm,0.8s,mb5.0
LVV L'vov 79.00 321 eP **P 20 30 19.1 -1.7**
LVV e pP 20 30 32.3 +0.4
LVV e 20 33 14.3
LVV eS S 20 40 13.9 -1.7
LVV e 20 40 26.1
LVV MLR MLR
comp=N,360nm,22.5s,MS4.9
LVV MLR MLR
comp=Z,570nm,22.5s,MS4.8
LVV MLR MLR
comp=E,550nm,22.2s,MS4.9
BOLS Boljevac 79.22 315 eP **P 20 30 20.2 -1.9**
SYO Syowa Base 79.22 198 ⇓P **P 20 30 22.0 +0.4**
DRGR 79.24 318 P **P 20 30 22.7 +0.6**
SKO Skopje 79.28 313 i P **P 20 30 21.0 -1.5**
VLS Valsamata 79.36 309 eP **P 20 30 22.0 -1.0**
LVZ Lovozero 79.68 340 eP **P 20 30 23.0 -1.1**
LVZ eS S 20 40 21.0 -1.3
LVZ pmax pmax
comp=N,18nm,1.5s
LVZ pmax pmax
comp=Z,66nm,1.5s,mb5.3
LVZ pmax pmax
comp=E,20nm,1.3s
LVZ smax
comp=N,313nm,2.5s
BZS Buzias 79.77 316 ⇑P **P 20 30 25.2 +0.2**
BZS Buzias 79.77 316 P **P 20 30 25.1 +0.1**
KWP Kalwaria 79.80 320 eP **P 20 30 25.4 +0.3**
KWP Kalwaria 79.80 320 eP **P 20 30 25.4 +0.3**
SVIS Svilajnac 79.82 315 ⇑iP **P 20 30 24.6 -0.8**
KOLS Kolonicke sedl 79.94 320 eP **P 20 30 27.0 +1.1**
KOLS e 20 31 02.3
APA Apatity 79.97 340 ⇓iP **P 20 30 26.0 +0.3**
APA i S S 20 40 29.0 +3.6
APA i SS SS 20 45 40.0 +1.5
APA pmax pmax
comp=Z,29nm,1.0s,mb5.2
APA MLR MLR
comp=Z,2µm,14.0s,MS5.5
TSUM Tsumeb 80.40 251 eP **P 20 30 29.3 +0.3**
comp=Z,11nm,0.9s,mb4.8
SUW Suwalki 80.44 325 eP **P 20 30 28.2 -0.2**
BEO Belgrade 80.45 315 ⇑i pP 20 30 40.6 +0.7
CRVS Cervenica-Dubn 80.46 320 eP **P 20 30 29.9 +1.2**
CRVS eS S 20 40 33.0 +2.1
DIVS Divcibare 80.66 315 ⇑iP **P 20 30 29.5 -0.3**
FINES FINESS Array B 80.81 333 P **P 20 30 30.1 -0.2**
comp=Z,14nm,0.7s,mb5.0,baz=100,slow=5.7,SNR=94
FINES LR LR 21 11 37.0
comp=Z,792nm,21.2s,MS5.0,baz=276,slow=40
KAF Kangasniemi 80.90 333 ep **P 20 30 29.6 -1.1**
comp=Z,20nm,0.6s,mb5.2,baz=104,slow=4.9
KAF Kangasniemi 80.90 333 eP **P 20 30 29.6 -1.1**
KAF pmax pmax
comp=Z,20nm,0.6s,mb5.2
KECS Kecovo 81.02 319 eP **P 20 30 31.5 -0.1**
KECS e 20 31 04.5
BBLS Bajina Basta - **81.05 314** ⇑iP **P 20 30 29.6 -2.2**
NIE Niedzica 81.29 320 ⇑eP **P 20 30 33.0 0.0**
PSZ Piszkesteto 81.32 318 P **P 20 30 33.8 +0.6**
PSZ Piszkesteto 81.32 318 eP **P 20 30 33.1 -0.1**
comp=Z,36nm,0.9s,mb5.3
PSZ Piszkesteto 81.32 318 ⇓eP **P 20 30 33.3 +0.1**
OJC Ojcow 81.76 321 eP **P 20 30 35.4 0.0**

PKSM Moragy 81.91 317 ⇓P **P 20 30 36.2 -0.1**
BILL Bilibino 81.93 21 ⇑eP **P 20 30 36.9 +0.9**
VYHS Vyhne 82.11 319 eP **P 20 30 37.1 -0.2**
VYHS e pP 20 30 49.4 +0.9
VYHS eS S 20 40 48.7 +0.8
VYHS Vyhne 82.11 319 eP **P 20 30 37.1 -0.2**
VYHS epP pP 20 30 49.4 +0.9
VYHS e 20 31 12.2
VYHS eS S 20 40 48.7 +0.8
OKC Ostrava-Krasne 82.75 320 eP **P 20 30 41.0 +0.5**
OKC e*PP pP 20 30 51.8 0.0
OKC eS S 20 40 55.4 +1.0
OKC MLR MLR
comp=Z,300nm,19.6s,MS4.7
OKC Ostrava-Krasne 82.75 320 eP **P 20 30 41.0 +0.5**
OKC epP pP 20 30 51.8 0.0
OKC ex x 20 31 15.6
OKC eS S 20 40 55.4 +1.0
OKC AMS AMS 21 15 20.0
comp=Z,300nm,19.6s
RAC Raciborz 82.75 320 eP **P 20 30 41.8 +1.3**
KEV Kevo 82.95 341 ep **P 20 30 41.2 +0.1**
comp=Z,24nm,1.0s,mb5.2
KEV Kevo 82.95 341 eP **P 20 30 41.2 +0.1**
KEV pmax pmax
comp=Z,24nm,1.0s,mb5.2
SMOL Smolenice 83.04 319 eP **P 20 30 42.6 +0.6**
SMOL e 20 31 17.6
MORC Moravsky Berou 83.13 320 P **P 20 30 43.2 +0.8**
MORC Moravsky Berou 83.13 320 eP **P 20 30 42.2 -0.2**
comp=Z,44nm,1.2s,mb5.4
ZST Bratislava 83.22 318 eP **P 20 30 43.4 +0.5**
ZST e pP 20 30 55.6 +1.4
ZST eS S 20 40 59.2 +0.1
ZST Bratislava 83.22 318 eP **P 20 30 43.4 +0.5**
ZST epP pP 20 30 55.6 +1.4
ZST e 20 31 18.5
ZST eS S 20 40 59.2 +0.1
ARCES ARCESS Array B 83.38 340 P **P 20 30 44.2 +0.9**
comp=Z,18nm,0.8s,mb5.1,baz=105,slow=4.4,SNR=67
ARCES LR LR 21 15 22.0
comp=Z,878nm,19.6s,MS5.1,baz=108,slow=41
ARE0 ARCESS Array S 83.38 340 eP **P 20 30 43.8 +0.4**
GKP Gorka Klasztor 83.79 323 eP **P 20 30 46.0 +0.3**
DPC Dobruska-Polom 83.98 320 eP **P 20 30 47.7 +0.9**
DPC e*PP pP 20 30 59.3 +1.2
DPC eS S 20 41 09.6 +2.9
DPC MLR MLR
comp=Z,600nm,20.2s,MS5.0
DPC Dobruska-Polom 83.98 320 eP **P 20 30 47.7 +0.9**
DPC epP pP 20 30 59.3 +1.2
DPC ex x 20 31 21.9
DPC eS S 20 41 09.6 +2.9
DPC ex x 20 53 18.7
DPC AMS AMS 21 15 20.0
comp=Z,600nm,20.2s
KSP Ksiaz 84.06 321 ⇓eP **P 20 30 48.0 +0.8**
KSP e*PP pP 20 30 59.1 +0.7
KSP eS S 20 41 09.0 +1.6
KSP MLR MLR
comp=Z,2µm,22.9s,MS5.3
KSP Ksiaz 84.06 321 ⇓eP **P 20 30 48.0 +0.8**
KSP epP pP 20 30 59.1 +0.7
KSP e 20 31 22.1
KSP eS S 20 41 09.0 +1.6
KSP LR LR
comp=Z,2µm,22.9s,MS5.3
KSP Ksiaz 84.06 321 eP **P 20 30 48.3 +1.2**
ARSA Arzberg 84.17 317 ⇓iP **P 20 30 48.4 +0.6**
comp=Z,104nm,3.0s
BOJS Bojanci 84.18 316 eP **P 20 30 48.3 +0.3**
UPC Upice 84.20 321 eP **P 20 30 48.7 +0.8**
UPC epP pP 20 31 01.0 +1.9
UPC ex x 20 31 23.6
PERS Pernice 84.39 317 eP **P 20 30 49.0 +0.1**
LJU Ljubljana 84.74 316 eP **P 20 30 51.8 +1.1**
VNDA Vanda 84.96 169 P **P 20 30 52.1 +1.0**
comp=Z,9.0nm,1.1s,mb4.8,baz=302,slow=5.6,SNR=19
VNDA LR LR 21 05 11.8
comp=Z,745nm,18.8s,MS5.1,baz=311,slow=33
MOA Molln 85.07 318 ⇓iP **P 20 30 52.0 -0.3**
comp=Z,130nm,4.0s
PRU Pruhonice 85.08 320 eP **P 20 30 52.6 +0.3**
PRU e*PP pP 20 31 04.8 +1.2
PRU eS S 20 41 20.5 +2.9
PRU MLR MLR
comp=Z,600nm,21.1s,MS5.0
PRU Pruhonice 85.08 320 eP **P 20 30 52.6 +0.3**
PRU epP pP 20 31 04.8 +1.2
PRU ex x 20 31 27.2
PRU eS S 20 41 20.5 +2.9
PRU ex x 20 53 31.5
PRU AMS AMS 21 16 00.0
comp=Z,600nm,21.1s
PVCC Panska Ves 85.12 321 eP **P 20 30 53.3 +0.9**
PVCC e*PP pP 20 31 04.4 +0.7
PVCC eS S 20 41 19.7 +1.8
PVCC MLR MLR
comp=Z,700nm,21.5s,MS5.0
PVCC Panska Ves 85.12 321 eP **P 20 30 53.3 +0.9**
PVCC epP pP 20 31 04.4 +0.7
PVCC ex x 20 31 27.5
PVCC eS S 20 41 19.7 +1.8
PVCC ex x 20 53 26.4
PVCC AMS AMS 21 15 50.0
comp=Z,700nm,21.5s
VOY Vojsko 85.18 316 eP **P 20 30 53.1 +0.2**
VOY e pP 20 31 04.9 +0.7
VOY e 20 31 28.4
AQU L'Aquila 85.26 312 eP **P 20 30 52.5 -0.9**
AQU pmax pmax
comp=Z,123nm,1.3s,mb5.9
AQU L'Aquila 85.26 312 eP **P 20 30 52.5 -0.9**
comp=Z,123nm,1.3s,mb5.9
GEC2 GERESS Array S 85.53 319 eP **P 20 30 55.3 +0.8**
GEC2 pmax pmax
comp=Z,31nm,1.2s,mb5.4
GEC2 GERESS Array S 85.53 319 eP **P 20 30 55.3 +0.8**
comp=Z,31nm,1.2s,mb5.4
GERES GERESS Array B 85.53 319 P **P 20 30 55.5 +1.0**
comp=Z,12nm,0.9s,mb5.1,baz=104,slow=5.5,SNR=74
GERES LR LR 21 12 05.5
comp=Z,350nm,21.6s,MS4.7,baz=267,slow=38
BRG Berggiesshubel 85.54 321 i P **P 20 30 55.6 +1.1**
BRG i 20 41 13.0
BRG i S S 20 41 25.0 +2.9
BRG pmax pmax
comp=Z,25nm,1.2s,mb5.3
BRG MLR MLR
comp=Z,810nm,27.6s,MS5.0
BRG Berggiesshubel 85.54 321 i P **P 20 30 55.6 +1.1**
comp=Z,25nm,1.2s,mb5.3
BRG e 20 31 29.9
BRG e 20 35 00.6
BRG i 20 41 13.0
BRG i S S 20 41 25.0 +2.9
BRG i SS SS 20 46 50.0 -11
BRG LR LR
comp=Z,810nm,27.6s,MS5.0
KBA Koelnbreinsper 85.63 317 ⇓iP **P 20 30 54.8 -0.3**
comp=Z,115nm,3.3s
KBA Koelnbreinsper 85.63 317 ⇓iP **P 20 30 54.8 -0.3**
KBA pmax pmax
comp=Z,115nm,3.3s
KHC Kasperske Hory 85.63 319 eP **P 20 30 55.2 +0.2**
KHC e*PP pP 20 31 06.9 +0.6
KHC eS S 20 41 25.7 +2.7
KHC MLR MLR
comp=Z,400nm,16.6s,MS4.9
KHC Kasperske Hory 85.63 319 ⇓eP **P 20 30 55.5 +0.5**
KHC Kasperske Hory 85.63 319 eP **P 20 30 55.2 +0.2**
KHC epP pP 20 31 06.9 +0.6
KHC ex x 20 31 30.8
KHC eS S 20 41 25.7 +2.7
KHC ex x 20 53 49.0
KHC AMS AMS 21 18 30.0
comp=Z,400nm,16.6s
RUE Ruedersdorf 85.78 322 eP **P 20 30 56.2 +0.5**
comp=Z,19nm,0.5s,mb5.6
RUE epP pP 20 31 07.7 +0.7
WET Wettzell 86.09 319 eP **P 20 30 57.9 +0.6**
WET pmax pmax
comp=Z,20nm,1.0s,mb5.3

WET Wettzell 86.09 319 *e*P **P 20 30 57.9 +0.6**
comp=Z,20nm,1.0s,mb5.3
CLL Collm 86.17 321 ⇓*i*P **P 20 30 57.5 -0.1**
CLL *i* pP 20 31 09.4 +0.5
CLL *e*S S 20 41 24.0 -4.1
CLL Collm 86.17 321 ⇓*i*P **P 20 30 57.5 -0.1**
CLL *i* pP 20 31 09.4 +0.5
CLL *e* 20 31 20.0
CLL *e*S S 20 41 24.0 -4.1
CLL Collm 86.17 321 ⇓P **P 20 30 57.5 -0.1**
comp=Z,logA/T=1.2,mb5.2
CLL *i* *PP pP 20 31 09.4 +0.5
CLL *e*PP PP 20 34 18.0 -2.1
CLL *e*S S 20 41 30.0 +1.9
CLL *e*PS PS 20 42 39.0 +6.2
CLL *e*SPP SPP 20 42 48.0 -4.6
CLL *e* 20 43 53.0
CLL *e* 20 53 46.0
CLL *e*L 20 56 37.0
WTTA Wattenberg 86.81 317 ⇓*i*P **P 20 31 00.8 0.0**
comp=Z,82nm,2.1s,mb5.6
WTTA Wattenberg 86.81 317 ⇓*i*P **P 20 31 00.8 0.0**
WTTA pmax pmax
comp=Z,82nm,2.1s,mb5.6
COP Copenhagen 86.83 326 *e*P pP 20 31 12.6 +0.6
COP *i* S S 20 41 37.3 +3.0
COP MLR MLR
comp=Z,430μm,21.0s
COP Copenhagen 86.83 326 *i* P pP 20 31 12.6 +0.6
comp=Z,54nm,0.9s
COP Copenhagen 86.83 326 *i* S S 20 41 37.3 +3.0
comp=Z,430μm,21.0s
WATA Walderalm 86.85 317⇑*i*P **P 20 31 00.8 -0.2**
comp=Z,14nm,1.4s,mb5.0
WATA Walderalm 86.85 317⇑*i*P **P 20 31 00.8 -0.2**
WATA pmax pmax
comp=Z,14nm,1.4s,mb5.0
MOX Moxa 87.00 321 *e*P **P 20 31 02.3 +0.6**
MOX pmax pmax
comp=Z,13nm,1.1s,mb5.1
MOX Moxa 87.00 321 *e*P **P 20 31 02.3 +0.6**
comp=Z,13nm,1.1s,mb5.1
MOX Moxa 87.00 321 *i* P **P 20 31 02.5 +0.8**
comp=Z,logA/T=1.3,mb5.3
MOX pP Px 20 31 38.0
MOX S S 20 41 41.0 +4.9
MOX L 21 18 29.0
SQTA Sankt Quirin 87.10 317⇑*i*P **P 20 31 02.3 +0.1**
comp=Z,8.1nm,1.0s,mb4.9
SQTA Sankt Quirin 87.10 317⇑*i*P **P 20 31 02.3 +0.1**
SQTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
MOTA Moosalm 87.17 317⇑*i*P **P 20 31 02.9 +0.3**
GRA1 Grafenberg Arr 87.21 320 *e*P **P 20 31 03.7 +1.0**
comp=Z,25nm,1.0s,mb5.4
GRA1 *e*pP pP 20 31 15.3 +1.3
GRA1 *e*S S 20 41 48.2 +10
GRA1 LR LR
comp=Z,800nm,20.4s,MS5.1
GRF Grafenberg Arr 87.21 320 *e*P **P 20 31 03.7 +1.0**
GRF *e*PP pP 20 31 15.3 +1.3
GRF *e*S S 20 41 48.2 +10
GRF pmax pmax
comp=Z,25nm,1.0s,mb5.4
GRF MLR MLR
comp=Z,800nm,20.4s,MS5.1
GRF Grafenberg Arr 87.21 320 *e*P **P 20 31 03.7 +1.0**
comp=Z,25nm,1.0s,mb5.4
GRF *e*pP pP 20 31 15.3 +1.3
GRF *e*S S 20 41 48.2 +10
GRF LR LR
comp=Z,800nm,20.4s,MS5.1
NB2 NORSAR Subarra 87.81 331 P **P 20 31 05.6 +0.3**
comp=Z,16nm,0.9s,mb5.2,baz=97,slow=4.6
NB2 NORSAR Subarra 87.81 331 P **P 20 31 05.6 +0.3**
NB2 pmax pmax
comp=Z,16nm,0.9s,mb5.2
NB2 NORSAR Subarra 87.81 331 P **P 20 31 05.6 +0.3**
baz=97,slow=4.6
NOA NORSAR Array B 87.81 331 P **P 20 31 05.9 +0.6**
comp=Z,8.5nm,0.8s,mb5.0,baz=95,slow=4.8,SNR=42
NOA LR LR 21 14 40.5
comp=Z,775nm,21.1s,MS5.1,baz=75,slow=39
CLZ Clausthal 87.84 322 *e*P **P 20 31 06.5 +0.8**
comp=Z,55nm,1.7s,mb5.5
BSEG Bad Segeberg 87.95 324 *e*P **P 20 31 07.1 +0.9**
NAO01 NORSAR Array S 87.96 331 *e*P **P 20 31 06.4 +0.3**
comp=Z,4.1nm,0.8s,mb4.7
NAO01 *e*pP pP 20 31 16.5 -0.9
DAVA Damuels 88.00 317⇑*i*P **P 20 31 07.0 +0.4**
comp=Z,113nm,2.6s,mb5.6
PGF Pioggiola 88.53 312 *e*P **P 20 31 08.2 -1.0**
KONO Kongsberg 88.55 329 *e*P **P 20 31 08.8 -0.1**
KONO *e*PP pP 20 31 20.0 -0.3
KONO pmax pmax
comp=Z,29nm,1.1s,mb5.5
KONO Kongsberg 88.55 329 *e*P **P 20 31 08.8 -0.1**
comp=Z,29nm,1.1s,mb5.5
KONO *e*pP pP 20 31 20.0 -0.3
MUD Monsted U'grnd 88.69 326 ⇓*i*P **P 20 31 10.7 +1.1**
MUD *i* S S 20 41 51.8 +0.1
MUD pmax pmax
comp=Z,72nm,1.6s,mb5.8
MUD Monsted U'grnd 88.69 326 ⇓*i*P **P 20 31 10.7 +1.1**
comp=Z,72nm,1.6s,mb5.8
MUD *i* 20 31 49.9
MUD *i* S S 20 41 51.8 +0.1
MUD Monsted U'grnd 88.69 326 *i* S S 20 41 51.8 +0.1
comp=Z,730nm,21.0s
SPAK Spaichingen 88.76 318 *e*P **P 20 31 10.4 +0.2**
MAIT Maitri 88.85 199 *e*P **P 20 31 12.9 +2.8**
TNS Taunus Mts 89.01 320 *e*P **P 20 31 12.3 +1.0**
TNS pmax pmax
comp=Z,26nm,1.2s,mb5.4
TNS Taunus Mts 89.01 320 *e*P **P 20 31 12.3 +1.0**
comp=Z,26nm,1.2s,mb5.4
BFO Black Forest 89.07 318 *e*P **P 20 31 11.8 +0.1**
BFO pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
BFO Black Forest 89.07 318 *e*P **P 20 31 11.8 +0.1**
comp=Z,10.0nm,1.0s,mb5.1
FELD Feldberg 89.28 318 *e*P **P 20 31 13.2 +0.5**
LANF Langenberg 89.42 319 *e*P **P 20 31 14.4 +1.1**
LIBD Limburg 89.56 318 *e*P **P 20 31 15.1 +1.1**
ABH Alteburg 89.59 320 *e*P **P 20 31 15.3 +1.2**
SBF Sospel 89.68 314 *e*P **P 20 31 14.6 0.0**
comp=Z,52nm,0.8s,mb5.6
SBF Sospel 89.68 314 *e*P **P 20 31 14.6 0.0**
SBF pmax pmax
comp=Z,26nm,0.8s,mb5.6
WLS Welschbruch 89.72 318 *e*P **P 20 31 15.4 +0.7**
CDF Champ du Feu 89.77 318 *e*P **P 20 31 14.8 -0.2**
comp=Z,18nm,1.0s,mb5.0
CDF Champ du Feu 89.77 318 *e*P **P 20 31 14.8 -0.2**
CDF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
ECH Echery 89.85 318 *e*P **P 20 31 15.8 +0.5**
MOF Molkenrain 89.87 318 *e*P **P 20 31 14.7 -0.7**
RUP Ruppelstein 89.91 320 *e*P **P 20 31 16.7 +1.1**
HINF Hinteralfeld 90.06 318 *e*P **P 20 31 15.8 -0.5**
LOMF Lomont 90.08 317 *e*P **P 20 31 17.0 +0.6**
MBDF Montbardon 90.15 315 *e*P **P 20 31 16.3 -0.5**
comp=Z,18nm,0.9s,mb5.1
MBDF Montbardon 90.15 315 *e*P **P 20 31 16.3 -0.5**
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LPG La Plagne 90.15 315 *e*P **P 20 31 17.2 +0.4**
comp=Z,42nm,0.9s,mb5.5
LPG La Plagne 90.15 315 *e*P **P 20 31 17.2 +0.4**
LPG pmax pmax
comp=Z,21nm,0.9s,mb5.5
LPL La Plagne 90.17 315 *e*P **P 20 31 17.1 +0.2**
comp=Z,50nm,0.9s,mb5.6
LPL La Plagne 90.17 315 *e*P **P 20 31 17.1 +0.2**
LPL pmax pmax
comp=Z,25nm,0.9s,mb5.5
BNI Bardonecchia 90.21 315 *e*P **P 20 31 17.1 0.0**
BNI pmax pmax
comp=Z,19nm,0.9s,mb5.4
BNI Bardonecchia 90.21 315 *e*P **P 20 31 17.1 0.0**
comp=Z,19nm,0.9s,mb5.4
RSL Roselend 90.24 315 *e*P **P 20 31 18.0 +0.8**
FRF La Foret Royal 90.25 313 *e*P **P 20 31 17.6 +0.3**
comp=Z,32nm,0.8s,mb5.4
FRF La Foret Royal 90.25 313 *e*P **P 20 31 17.6 +0.3**
FRF pmax pmax
comp=Z,16nm,0.8s,mb5.4
QSPA South Pole Qui 90.28 180⇑*i*P **P 20 31 17.4 +0.7**
comp=Z,13nm,0.9s,mb5.3
LMR La Mourre 90.36 313 *e*P **P 20 31 17.9 +0.1**
comp=Z,50nm,1.3s,mb5.4
LMR La Mourre 90.36 313 *e*P **P 20 31 17.9 +0.1**
LMR pmax pmax
comp=Z,25nm,1.3s,mb5.4
HAU Haudompre 90.40 318 *e*P **P 20 31 17.7 -0.2**
comp=Z,37nm,0.8s,mb5.5
HAU *e*R
comp=Z,456nm,19.5s
HAU Haudompre 90.40 318 *e*P **P 20 31 17.7 -0.2**
HAU pmax pmax
comp=Z,18nm,0.8s,mb5.5
HAU MLR MLR
comp=Z,460nm,19.5s,MS4.9
WLF Walferdange 90.50 319 *e*P **P 20 31 18.5 +0.2**
WLF *e*PP pP 20 31 30.5 +0.8
WLF pmax pmax
comp=Z,51nm,1.5s,mb5.6
WLF Walferdange 90.50 319 *e*P **P 20 31 18.5 +0.2**
comp=Z,51nm,1.5s,mb5.6
WLF *e*pP pP 20 31 30.5 +0.7
CABF La Chapelle 90.60 316 *e*P **P 20 31 19.3 +0.4**
comp=Z,35nm,0.8s,mb5.4
CABF La Chapelle 90.60 316 *e*P **P 20 31 19.3 +0.4**
CABF pmax pmax
comp=Z,18nm,0.8s,mb5.5
THEF They Montfort 90.64 318 *e*P **P 20 31 18.4 -0.6**
TAVF Tavernes 90.68 313 *e*P **P 20 31 19.6 +0.3**
STOF St-Etienne Org 90.78 314 *e*P **P 20 31 21.7 +1.9**
ORIF Oris-en-Rattie 90.78 315 *e*P **P 20 31 20.2 +0.4**
comp=Z,35nm,0.9s,mb5.4
ORIF *e*R
comp=Z,648nm,22.2s
VILF Villemus 90.92 314 *e*P **P 20 31 22.2 +1.7**
SMRF Simiane la Rot 91.02 314 *e*P **P 20 31 21.7 +0.8**
comp=Z,16nm,0.8s,mb5.1
TREF Trevaresse 91.17 313 *e*P **P 20 31 23.1 +1.5**
MEZF Maizieres J'vi 91.25 318 *e*P **P 20 31 22.0 +0.1**
comp=Z,33nm,0.8s,mb5.4
PRAF Pradon 91.32 314 *e*P **P 20 31 24.1 +1.8**
GIVF Givet 91.34 320 *e*P **P 20 31 22.6 +0.3**
comp=Z,42nm,1.0s,mb5.4
GIVF Givet 91.34 320 *e*P **P 20 31 22.6 +0.3**
GIVF pmax pmax
comp=Z,21nm,1.0s,mb5.4
VIVF Saint-Julien-l 91.64 315 *e*P **P 20 31 23.9 +0.1**
comp=Z,16nm,0.8s,mb5.1
VIVF Saint-Julien-l 91.64 315 *e*P **P 20 31 23.9 +0.1**
VIVF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
BAIF Baives 91.74 320 *e*P **P 20 31 24.7 +0.6**
comp=Z,64nm,1.0s,mb5.6
BAIF Baives 91.74 320 *e*P **P 20 31 24.7 +0.6**
BAIF pmax pmax
comp=Z,32nm,1.0s,mb5.6
LOR Lormes 92.10 317 *e*P **P 20 31 25.9 +0.1**
comp=Z,44nm,0.9s,mb5.5
LOR *e*R
comp=Z,292nm,19.5s
LOR Lormes 92.10 317 *e*P **P 20 31 25.9 +0.1**
LOR pmax pmax
comp=Z,22nm,0.9s,mb5.5
LOR MLR MLR
comp=Z,290nm,19.5s,MS4.7
SMF Signal de Mont 92.15 317 *e*P **P 20 31 26.0 0.0**
comp=Z,43nm,0.9s,mb5.5
SMF Signal de Mont 92.15 317 *e*P **P 20 31 26.0 0.0**
SMF pmax pmax
comp=Z,21nm,0.9s,mb5.5
LASF Ste Croix 92.25 314 *e*P **P 20 31 27.0 +0.4**
comp=Z,30nm,1.1s,mb5.2
PLDF La Plantade 92.33 316 *e*P **P 20 31 27.8 +0.9**
SSF Saint Saulge 92.36 317 *e*P **P 20 31 27.2 +0.2**
SSF pmax pmax
comp=Z,13nm,1.1s,mb5.2
SSF Saint Saulge 92.36 317 *e*P **P 20 31 27.2 +0.2**
comp=Z,13nm,1.1s,mb5.2
AVF Avril sur Loir 92.47 317 *e*P **P 20 31 27.6 +0.1**
comp=Z,24nm,0.9s,mb5.2
AVF Avril sur Loir 92.47 317 *e*P **P 20 31 27.6 +0.1**
AVF pmax pmax
comp=Z,12nm,0.9s,mb5.2
LBL Lubilhac 92.63 315 *e*P **P 20 31 28.8 +0.5**
AGO Saint Agoulin 92.67 316 *e*P **P 20 31 29.5 +1.0**
PYM Petit Puy Mans 92.77 316 *e*P **P 20 31 29.7 +0.8**
HYF Humbligny 92.93 317 *e*P **P 20 31 30.3 +0.7**
TCF Toulx Ste Croi 93.29 316 *e*P **P 20 31 31.7 +0.4**
MTLF Montolieu 93.48 313 *e*P **P 20 31 32.6 +0.4**
comp=Z,23nm,1.1s,mb5.2
MTLF Montolieu 93.48 313 *e*P **P 20 31 32.6 +0.4**
MTLF pmax pmax
comp=Z,12nm,1.1s,mb5.2
CAF Calviac 93.49 315 *e*P **P 20 31 32.7 +0.5**
RJF Les Rejaudoux 93.85 315 *e*P **P 20 31 34.5 +0.7**
RJF *e*R
comp=Z,297nm,20.5s
LFF La Frestale 94.42 315 *e*P **P 20 31 36.2 -0.3**
LDF La Druitiere 94.67 319 *e*P **P 20 31 37.5 0.0**
JMIC Jan Mayen 94.81 342 LR LR 21 18 14.5
comp=Z,535nm,21.2s,MS5.0,baz=315,slow=38
MFF Saint Martin d 94.89 317 *e*P **P 20 31 38.7 +0.1**
comp=Z,15nm,1.0s,mb5.1
MFF Saint Martin d 94.89 317 *e*P **P 20 31 38.7 +0.1**
MFF pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
FLN La Foliniere 94.89 319 *e*P **P 20 31 38.5 0.0**
comp=Z,7.4nm,0.7s,mb5.0
FLN *e*R
comp=Z,658nm,20.2s
FLN La Foliniere 94.89 319 *e*P **P 20 31 38.5 0.0**
FLN pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
FLN MLR MLR
comp=Z,660nm,20.3s,MS5.1
DAG Danmarks Havn 95.46 348⇑*e*P **P 20 31 40.0 -0.5**
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
DAG Danmarks Havn 95.46 348⇑*e*P **P 20 31 40.0 -0.5**
comp=Z,2.5nm,0.9s,mb4.6
DAG Danmarks Havn 95.46 348⇑*i*P **P 20 31 40.0 -0.5**
comp=Z,2.5nm,0.9s,mb4.6
ETSF Etsaut 95.55 313 *e*P **P 20 31 42.2 +0.6**
comp=Z,15nm,1.0s,mb5.1
ETSF Etsaut 95.55 313 *e*P **P 20 31 42.2 +0.6**
ETSF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
SJPF Ste Jean 96.01 313 *e*P **P 20 31 44.4 +0.7**
comp=Z,41nm,1.3s,mb5.4
SJPF Ste Jean 96.01 313 *e*P **P 20 31 44.4 +0.7**
SJPF pmax pmax
comp=Z,21nm,1.3s,mb5.4
ROSF Rostrenen 96.79 319 *e*P **P 20 31 46.9 -0.2**
IMA Indian Mountai 97.33 23 *e*P **P 20 31 49.9 +0.7**
IMA pmax pmax
comp=Z,71nm,1.1s,mb6.0
IMA Indian Mountai 97.33 23 *e*P **P 20 31 49.9 +0.7**
comp=Z,71nm,1.1s,mb6.0
ILAR Eielson Array 100.45 23 PP PP 20 36 01.8 -11
comp=Z,1.5nm,0.9s,baz=286,slow=7.9,SNR=5.2
ILAR PKKPbc 20 48 18.9
comp=Z,1.4nm,0.9s,baz=149,slow=2.0,SNR=13
TBI Tubuai 111.40 115 *e*PP PP 20 37 17.4 -18
TBI *e*PS PS 20 47 21.1 +19
TBI *e*SS SS 20 53 13.3 +10
TBI *e*LR LR 21 10 06.6
comp=Z,1μm,23.2s
PPT Papeete 112.10 109 *e*PP PP 20 37 38.1 -2.1
PPT *e*PS PS 20 47 06.1 -2.3
PPT *e*LR LR 21 10 26.6
comp=Z,1μm,24.5s
YKA Yellowknife Ar 112.89 15 PKiKP 20 36 52.9
comp=Z,0.8nm,0.9s,baz=325,slow=2.4,SNR=9.9
YKA PKKPbc 20 47 40.8
comp=Z,1.1nm,0.8s,baz=145,slow=3.3,SNR=17
YKA PKKPab 20 47 48.0
comp=Z,1.3nm,0.8s,baz=140,slow=4.4,SNR=14
YKA Yellowknife Ar 112.89 15 PKPdf PKPdf 20 36 52.9 +1.2
YKA PKKPbc 20 47 40.9
YKA PKKPab 20 47 48.0
SCHQ Schefferville 123.49 349 PKP PKPdf 20 37 14.0 +1.4
comp=Z,1.6nm,0.5s,baz=342,slow=9.9,SNR=7.8
HUMO Hull Mountain 124.02 35 *e*PKP PKPdf 20 37 15.9 +2.1
MSO Missoula 125.65 26 *e*PKP PKPdf 20 37 18.0 +1.1
CHMT Chamberlain Mo 125.88 25 *e*PKP PKPdf 20 37 18.4 +1.1
MOD Modoc 125.98 34 *e*PKP PKPdf 20 37 19.8 +2.2
WVOR Wild Horse Val 126.54 33 *e*PKIKP PKPdf 20 37 21.3 +2.5
BOZ Bozeman (W) 127.57 25 *e*PKIKP PKPdf 20 37 22.3 +1.6
MCMT McKenzie Canyo 127.68 27 *e*PKP PKPdf 20 37 23.3 +2.4
HLID Hailey 127.91 29 *e*PKP PKPdf 20 37 23.4 +2.0
ULM Lac du Bonnet 128.36 11 PKP PKPdf 20 37 24.4 +2.3
comp=Z,4.4nm,0.8s,baz=33,slow=1.9,SNR=4.0
NVAR Mina Array Bea 129.41 36 PKP PKPdf 20 37 27.0 +2.6
comp=Z,4.3nm,0.8s,baz=251,slow=0.4,SNR=15
NVAR Mina Array Bea 129.41 36 PKP PKPdf 20 37 27.0 +2.6
MNV Mina 129.50 36 *e*PKIKP PKPdf 20 37 26.9 +2.3
REDW Red Top Meadow 129.72 27 PKP PKPdf 20 37 26.9 +2.1
BGU Big Grassy Mou 130.56 30 *e*PKP PKPdf 20 37 29.2 +2.7
PDAR Pinedale Array 130.77 26 PKP PKPdf 20 37 28.8 +1.9
comp=Z,2.1nm,0.7s,baz=231,slow=1.3,SNR=9.0
TRCR Troy Canyon 131.04 34 *e*PKP PKPdf 20 37 30.3 +2.8
NLU North Lily Min 131.76 30 *e*PKP PKPdf 20 37 31.1 +2.3
MSU Marysvale 132.79 32 *e*PKIKP PKPdf 20 37 33.8 +3.0
SRU San Rafael 133.19 30 *e*PKIKP PKPdf 20 37 34.1 +2.5
PV10 Paradox Valley 134.49 29 *e*PKP PKPdf 20 37 36.6 +2.6
PLCA Paso Flores 138.31 194 PKP PKPdf 20 37 43.5 +2.6
comp=Z,2.1nm,0.7s,baz=148,slow=4.3,SNR=3.3
PLCA Paso Flores 138.31 194 PKP PKPdf 20 37 43.5 +2.6
MNTX Cornudas Mount 141.57 32 *e*PKP PKPdf 20 37 48.8 +1.8
BAO Brasilia Array 142.53 244 PKPdf PKPdf 20 37 47.0 -2.1
BDFB Brasilia 142.54 244 PKhKP 20 37 47.1
comp=Z,9.4nm,0.9s,baz=140,slow=6.3,SNR=6.0
LTX Lajitas 144.34 32 *e*PKIKP PKPdf 20 37 52.3 +0.4
TXAR Lajitas Array 144.34 32 PKP PKPdf 20 37 52.7 +0.8
comp=Z,6.2nm,0.6s,baz=270,slow=2.5,SNR=39
CPUP Villa Florida 144.44 221 PKPdf PKPdf 20 37 52.3 +0.1
CPUP sPKiKP 20 38 16.7
CPUP SKPbc 20 41 45.2
CPUP Villa Florida 144.44 221 *e*PKP PKPdf 20 37 51.8 -0.3
MDZ Mendoza 145.10 201 *e*PKIKP PKPdf 20 37 56.0 +2.9
MDZ *e* 20 38 00.8
JCT Junction City 145.30 26 *e*PKIKP PKPdf 20 37 54.8 +1.3
JSC Jenkinsville 145.54 358 *e*PKIKP PKPdf 20 37 55.1 +1.3
CFAA Coronel Fontan 146.02 202 PKPbc PKPbc 20 37 52.7 +1.5
comp=Z,8.3nm,0.8s,baz=170,slow=2.1,SNR=95
NATX Nacogdoches 146.13 18 *e*PKP PKPdf 20 37 57.7 +2.8
GOGA Godfrey 146.43 1 *e*PKP2 PKPab 20 37 57.6 -2.1
LRAL Lakeview Retre 146.56 7 *e*PKP PKPdf 20 37 57.7 +2.0
TLL Tololo Astrono 148.25 200⇓*i*P PKPdf 20 38 03.5 +5.1
LVC Limon Verde 154.11 210 PKPbc PKPdf 20 38 18.1 +11
comp=Z,10nm,0.8s,baz=20,slow=0.9,SNR=14
LVC PKPab PKPab 20 38 33.0 +1.4
comp=Z,19nm,0.8s,baz=201,slow=1.7,SNR=16
LVC Limon Verde 154.11 210 *e*PKPbc PKPdf 20 38 18.2 +11
LVC *e*PKPab PKPab 20 38 31.7 0.0
SAML Samuel 158.77 246 *e*PKPab PKPab 20 38 50.8 -1.0

IDC ***25*** *20:22:08.1±0.4, 0.29N×97.29E, mb4.6/23, mb1 4.7/24, mb1mx4.7/25, mbtmp4.6/24, ML5.2/1, MS5.3/1, Ms1 5.3/1, ms1mx4.3/30, Error ellipse: s-maj=16.3km s-min=12.1km az=61.0*

MOS ***25*** *20:22:11.2±0.8, 0.29N×97.31E, h33km, mb5.1/8, Error ellipse: s-maj=15.2km s-min=9.3km az=108.0*

BJI ***25*** *20:22:12.3, 0.16S×97.58E, h57km, mB5.8, mb5.1*

HRVD ***25*** *20:22:12.5±1.8, 0.47N×97.45E, h31km±.3km, MW4.8/27, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s27,c37; Half duration: 0 Moment tensor: Scale 1016Nm; Mrr-1.12±.51; Mθθ 1.77±.28; Mφφ-0.65±.37; Mrθ 0.91±.30; Mθφ-1.45±.17; Mφr-0.34±.47; Best double couple: M0 2.063×1016 NP1:φs 154°, δ45°, λ-30°. NP2: φs 266°, δ69°, λ-131°. Principal axes: T 2.693, Plg14°, Azm25°; N -1.27, Plg38°, Azm283°; P -1.433, Plg48°, Azm131°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *20:22:12.5±0.2, 0.31N×97.31E, h30km, mb5.0/9 Error ellipse: s-maj=7.4km s-min=5.1km az=66.0*

ISC 25 20:22:11.7±0.3, 0.33N±0.05×97.34E±0.07, h37km, h37km±5.5km: pP-P, n66, σ0=81/60, mb4.7/32, MS5.4/1, 4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.93**	**34**	*e*P	**P**	**20 23 38.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**18.08**	**5**	P	**P**	**20 26 21.4**	**-0.5**
3.3nm,0.3s,baz=193,slow=11,SNR=29							
CMAR				PcP	PcP	20 30 56.5	+0.9
0.1nm,0.3s,baz=216,slow=2.2,SNR=4.9							
QIZ	**Qiongzhong**	**22.27**	**33**	P	**P**	**20 27 08.3**	**+1.2**
KMI	**Kunming**	**25.20**	**12**	P	**P**	**20 27 37.3**	**+1.6**
KMI				AP	pP	20 27 49.8	+4.0
KMI				XP	sP	20 27 54.0	+3.9
KMI				AMB	AMB		
comp=Z,26nm,1.3s,mb4.6							
KMI	**Kunming**	**25.20**	**12**	P	**P**	**20 27 37.3**	**+1.6**
KMI				*PP	pP	20 27 49.8	+4.0
KMI				pmax	pmax		
comp=Z,26nm,1.3s,mb4.6							
KMI	**Kunming**	**25.20**	**12**	P	**P**	**20 27 37.3**	**+1.6**
comp=Z,26nm,1.3s,mb4.6							
KMI				pP	pP	20 27 49.8	+4.0
KMI				sP	sP	20 27 54.1	+4.0
SHL	**Shillong**	**25.64**	**349**	*e*P	**P**	**20 27 47.0**	**+7.2**
FITZ	**Fitzroy Crossi**	**33.31**	**125**⇓*i*P		**P**	**20 28 47.1**	**-1.4**
comp=Z,22nm,0.7s,mb5.2							
FITZ				*i*	pP	20 28 57.2	-1.8
FITZ	**Fitzroy Crossi**	**33.31**	**125**	P	**P**	**20 28 47.4**	**-1.1**
comp=Z,27nm,0.7s,mb5.3,baz=212,slow=3.3,SNR=7.9							
NWAO	**Narrogin (SRO)**	**38.03**	**152**	P	**P**	**20 29 28.1**	**-0.2**
comp=Z,10nm,0.8s,mb4.6,baz=317,slow=14,SNR=5.2							
JOW	**Kunigami**	**39.74**	**46**	P	**P**	**20 29 44.0**	**+1.4**
comp=Z,8.2nm,0.6s,mb4.6,baz=246,slow=12,SNR=4.0							
WRA	**Warramunga Arr**	**41.46**	**121**	P	**P**	**20 29 56.2**	**-0.8**
comp=Z,12nm,0.7s,mb4.7,baz=300,slow=9.9,SNR=14							
WRAB	**Tennant Creek**	**41.47**	**121**	*e*P	**P**	**20 29 56.3**	**-0.7**
WB2	**Warramunga Arr**	**41.47**	**121**	*e*P	**P**	**20 29 56.6**	**-0.4**
FORT	**Forrest**	**42.53**	**139**⇓*i*P		**P**	**20 30 06.6**	**+0.9**
comp=Z,774nm,0.6s							
ASPA	**Alice Springs**	**42.76**	**126**	*e*P	**P**	**20 30 07.7**	**0.0**
ASAR	**Alice Springs**	**42.77**	**126**	P	**P**	**20 30 07.6**	**-0.1**
comp=Z,8.4nm,0.8s,mb4.5,baz=298,slow=6.8,SNR=10							
BJI	**Beijing**	**43.09**	**21**	*e*P	**P**	**20 30 11.5**	**+1.4**
BJI				AP	pP	20 30 22.3	+1.4
BJI				XP	sP	20 30 28.8	+3.4
BJI				AMB	AMB		
comp=Z,42nm,0.8s,mb5.2							
BJI	**Beijing**	**43.09**	**21**	*e*P	**P**	**20 30 11.6**	**+1.4**
BJI				*PP	pP	20 30 22.3	+1.4
BJI				*SP	sP	20 30 28.7	+3.3
BJI				pmax	pmax		
comp=Z,42nm,0.8s,mb5.2							
BJI	**Beijing**	**43.09**	**21**	*e*P	**P**	**20 30 11.6**	**+1.4**
comp=Z,42nm,0.8s,mb5.2							
BJI				pP	pP	20 30 22.3	+1.4
BJI				sP	sP	20 30 28.7	+3.3
KS15	**Wonju Array Si**	**46.45**	**34**	*e*P	**P**	**20 30 37.1**	**0.0**
SONM	**Songino Array**	**47.97**	**8**	P	**P**	**20 30 49.7**	**+0.8**
comp=Z,9.6nm,0.8s,mb4.9,baz=190,slow=9.1,SNR=8.9							
ULN	**Ulaanbaatar**	**48.09**	**9**	*e*P	**P**	**20 30 49.4**	**-0.4**
ULN				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6							
ULN	**Ulaanbaatar**	**48.09**	**9**	*e*P	**P**	**20 30 49.4**	**-0.4**
comp=Z,5.2nm,0.8s,mb4.6							
MKAR	**Makanchi Array**	**48.11**	**346**	P	**P**	**20 30 50.5**	**+0.5**
comp=Z,12nm,0.8s,mb5.0,baz=160,slow=8.4,SNR=9.3							
MKAR	**Makanchi Array**	**48.11**	**346**	P	**P**	**20 30 50.5**	**+0.5**
CN2	**Changchun**	**50.02**	**26**	*e*P	**P**	**20 31 04.0**	**-0.7**
CN2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.8							
PMG	**Port Moresby**	**50.53**	**102**	P	**P**	**20 31 09.1**	**+0.1**
comp=Z,11nm,0.6s,mb5.0,baz=343,slow=9.0,SNR=5.2							
CTA	**Charters Tower**	**52.00**	**116**	LR	LR	20 55 21.0	
comp=Z,3μm,18.7s,MS5.4,baz=331,slow=38							
MJAR	**Matsushiro Arr**	**52.24**	**42**	P	**P**	**20 31 21.1**	**-0.4**
comp=Z,2.7nm,0.9s,mb4.2,baz=230,slow=6.1,SNR=4.7							
STKA	**Stephens Creek**	**52.67**	**132**⇓*i*P		**P**	**20 31 25.0**	**+0.1**
comp=Z,24nm,0.6s,mb5.3							

STKA Stephens Creek 52.67 132 P **P 20 31 25.1 +0.2**
comp=Z,36nm,0.8s,mb5.4,baz=307,slow=6.5,SNR=18
ZAL Zalesovo 54.43 351 P **P 20 31 37.4 -0.1**
comp=Z,10.0nm,0.4s,mb5.1,baz=308,slow=4.5,SNR=10
BVAR Borovoye Array 57.11 341 P **P 20 31 55.7 -1.2**
comp=Z,2.5nm,0.5s,mb4.5,baz=136,slow=9.4,SNR=4.4
CHKZ Chkalovo 57.59 342 *eP* **P 20 31 58.8 -1.4**
CHKZ pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
CHKZ Chkalovo 57.59 342 *eP* **P 20 31 58.8 -1.4**
comp=Z,10nm,0.6s,mb5.0
BOD Bodaibo 58.84 10 *eP* **P 20 32 07.9 -1.0**
BOD pmax pmax
comp=Z,23nm,1.2s,mb5.1
ARMA Armidale 59.91 126 ⇓*iP* **P 20 32 18.1 +1.4**
KMBO Kilima Mbogo 60.10 269 P **P 20 32 17.4 -0.8**
comp=Z,1.4nm,0.6s,mb4.2,baz=57,slow=11,SNR=3.7
YAK Yakutsk 66.21 16 *eP* **P 20 32 56.7 -1.1**
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.2
YAK Yakutsk 66.21 16 *eP* **P 20 32 56.7 -1.1**
comp=Z,22nm,0.9s,mb5.2
BRTR Keskin Array B 69.80 313 P **P 20 33 19.8 -0.7**
comp=Z,1.5nm,0.8s,mb4.0,baz=125,slow=6.2,SNR=3.4
MATP Matopo 70.33 248 P **P 20 33 24.4 +0.4**
comp=Z,8.1nm,0.7s,mb4.8,baz=74,slow=5.5,SNR=10.0
MATP Matopo 70.33 248 P **P 20 33 24.4 +0.4**
MAW Mawson 71.90 193 P **P 20 33 32.3 -0.3**
comp=Z,3.0nm,0.7s,mb4.4,baz=50,slow=7.9,SNR=2.8
BOSA Boshof 74.47 240 P **P 20 33 48.6 +0.1**
comp=Z,4.5nm,0.6s,mb4.6,baz=153,slow=3.8,SNR=13
AKASG Malin Array Be 76.03 323 P **P 20 33 56.3 -0.7**
comp=Z,2.5nm,0.5s,mb4.4,baz=86,slow=4.6,SNR=5.3
JOF Joensuu 78.99 335 *ep* **P 20 34 13.5 +0.3**
comp=Z,6.3nm,0.9s,mb4.5
SUW Suwalki 80.46 325 *eP* **P 20 34 20.7 -0.6**
FINES FINESS Array B 80.83 333 P **P 20 34 23.5 +0.4**
comp=Z,2.3nm,0.6s,mb4.3,baz=109,slow=6.3,SNR=4.9
KAF Kangasniemi 80.92 333 *ep* **P 20 34 23.3 -0.3**
comp=Z,4.5nm,0.6s,mb4.6
KAF Kangasniemi 80.92 333 *eP* **P 20 34 23.3 -0.3**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MORC Moravsky Berou 83.15 320 *eP* **P 20 34 35.7 +0.4**
ARCES ARCESS Array B 83.40 340 P **P 20 34 37.4 +1.2**
comp=Z,2.2nm,0.7s,mb4.3,baz=117,slow=2.7,SNR=4.4
VNDA Vanda 84.95 169 P **P 20 34 44.4 +0.6**
comp=Z,1.3nm,0.8s,mb4.1,baz=296,slow=7.0,SNR=6.1
VNDA Vanda 84.95 169 P **P 20 34 44.4 +0.6**
GERES GERESS Array B 85.56 319 P **P 20 34 48.4 +1.0**
comp=Z,0.7nm,0.7s,mb4.0,baz=76,slow=4.0,SNR=2.7
CLL Collm 86.19 321 P **P 20 34 51.0 +0.5**
CLL *e**PP pP 20 35 01.0 -1.0
CLL *e* 20 35 14.0
NB2 NORSAR Subarra 87.83 331 P **P 20 34 58.7 +0.5**
comp=Z,3.8nm,0.9s,mb4.6,baz=95,slow=4.6
NB2 NORSAR Subarra 87.83 331 P **P 20 34 58.7 +0.5**
NB2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
NOA NORSAR Array B 87.83 331 P **P 20 34 59.1 +0.9**
comp=Z,1.7nm,1.1s,mb4.2,baz=96,slow=5.3,SNR=3.6
TXAR Lajitas Array 144.33 32 PKP PKPdf 20 41 46.0 +1.4
comp=Z,2.4nm,0.7s,baz=350,slow=1.0,SNR=4.7
CPUP Villa Florida 144.45 221 PKP PKPdf 20 41 45.4 +0.5
comp=Z,26nm,0.8s,baz=152,slow=4.4,SNR=27
CPUP Villa Florida 144.45 221 PKP PKPdf 20 41 45.4 +0.5
CFAA Coronel Fontan 146.03 202 PKPbc PKPbc 20 41 50.1 +1.6
comp=Z,1.3nm,0.5s,baz=156,slow=3.1,SNR=11
LVC Limon Verde 154.12 210 PKPbc PKPdf 20 42 11.6 +11
comp=Z,4.2nm,0.7s,baz=144,slow=1.8,SNR=4.3
LVC PKPab PKPab 20 42 25.2 +0.7
comp=Z,2.5nm,0.4s,baz=105,slow=23,SNR=7.3

*IDC **25** 20:26:28.4±0.5,2.73S×75.07W,mb4.3/11,mb1 4.5/15, mb1mx4.3/25,mbtmp4.3/15,ML4.3/3,MS3.6/5,Ms1 3.7/5, ms1mx3.3/31,Error ellipse: s-maj=24.8km s-min=12.4km az=76.0*
*NEIC **25** 20:26:33.4±2.3,2.76S×75.04W,h35km±17km,mb4.6/7, Error ellipse: s-maj=13.1km s-min=6.6km az=75.0*
*BJI **25** 20:26:36.4,2.80S×75.00W,h35km*
ISC 25 20:26:29.8±2.4,2.75S±0.05×75.04W±0.09,h21km±18km, h23km±.5km:pP-P,n58,σ1º28/33,mb4.3/17,MS3.6/2,6C-3D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**4.52**	**311**	*eP*	**Pn**	**20 27 39.7**	**+0.8**
ROSC	**El Rosal**	**7.59**	**5**	Pn	**Pn**	**20 28 24.6**	**+2.5**
	3.5nm,0.3s,baz=103,slow=6.1,SNR=6.8						
ROSC				Lg		20 30 30.1	
	20nm,0.3s,baz=87,slow=22,SNR=5.7						
NNA	**Nana**	**9.35**	**191**	*eP*	**P**	**20 28 44.7**	**-1.8**
	28nm,0.6s						
SDV	**Santo Domingo**	**12.37**	**21**	Pn	**P**	**20 29 27.4**	**-0.3**
	5.3nm,0.3s,baz=185,slow=3.0,SNR=7.8						
SDV				Lg		20 33 01.4	
	4.4nm,0.3s,baz=31,slow=18,SNR=3.7						
SDV				LR	LR	20 34 56.5	
	comp=Z,232nm,18.5s,baz=204,slow=41						
SAML	**Samuel**	**13.30**	**118**	*eP*	**P**	**20 29 38.1**	**-2.1**
	0.7nm,1.0s						
LPAZ	**La Paz**	**15.07**	**154**	Pn	**P**	**20 30 03.0**	**-0.5**
	0.3nm,0.3s,baz=340,slow=10,SNR=9.7						
LPAZ				Lg		20 34 25.8	
	0.6nm,0.3s,baz=147,slow=15,SNR=3.8						
LPAZ				LR	LR	20 36 41.0	
	comp=Z,222nm,18.0s,baz=223,slow=41						
LPAZ	**La Paz**	**15.07**	**154**	Pn	**P**	**20 30 03.0**	**-0.5**
LPAZ				Lg		20 34 25.8	
LPAZ				LR	LR	20 36 41.0	
JTS	**JuntasAbangare**	**16.29**	**323**	LR	LR	20 36 35.4	
	comp=Z,156nm,18.2s,baz=229,slow=37						
PCRV	**Puerto La Cruz**	**16.50**	**39**	Pn	**P**	**20 30 22.9**	**+1.0**
	0.6nm,0.3s,baz=74,slow=6.0,SNR=2.3						
PCRV				Lg		20 35 06.2	
	1.3nm,0.3s,baz=280,slow=10.0,SNR=3.3						
SIV	**San Ignacio**	**19.03**	**135**	P	**P**	**20 30 53.7**	**+0.4**
	0.7nm,0.3s,baz=319,slow=14,SNR=11						
LVC	**Limon Verde**	**20.62**	**164**	P	**P**	**20 31 10.6**	**0.0**
	5.4nm,0.4s,baz=350,slow=7.2,SNR=5.8						
LVC				LR	LR	20 39 59.1	
	comp=Z,167nm,18.7s,MS3.4,baz=115,slow=39						
SJG	**San Juan**	**22.50**	**23**	P	**P**	**20 31 31.6**	**+1.8**
	11nm,0.4s,mb4.6,baz=1.2,slow=18,SNR=6.8						
CPUP	**Villa Florida**	**28.96**	**146**	PcP	PcP	20 35 38.6	-0.4
	1.5nm,0.7s,baz=257,slow=17,SNR=3.3						
CFAA	**Coronel Fontan**	**29.41**	**168**	P	**P**	**20 32 35.1**	**+0.9**
	0.2nm,0.4s,mb3.2,baz=344,slow=8.9,SNR=7.5						
BDFB	**Brasilia**	**29.54**	**117**	LR	LR	20 44 54.4	
	comp=Z,222nm,19.7s,MS3.8,baz=293,slow=37						
PLCA	**Paso Flores**	**38.03**	**174**	P	**P**	**20 33 49.1**	**+0.7**
	2.6nm,0.8s,mb4.0,baz=344,slow=7.8,SNR=5.7						
TXAR	**Lajitas Array**	**42.07**	**321**	P	**P**	**20 34 22.8**	**+0.8**
	0.5nm,0.5s,mb3.4,baz=135,slow=7.5,SNR=4.2						
TXAR				PcP	PcP	20 36 17.6	+0.2
	1.4nm,0.7s,baz=158,slow=6.7,SNR=7.5						
EYMN	**Ely**	**52.50**	**346**	*eP*	**P**	**20 35 40.3**	**-3.3**
	9.6nm,1.3s,mb4.6						
PDAR	**Pinedale Array**	**54.98**	**329**	P	**P**	**20 36 01.3**	**-0.7**
	0.5nm,0.6s,mb3.7,baz=141,slow=9.5,SNR=6.5						
PDAR				PcP	PcP	20 37 02.5	-1.0
	0.6nm,0.5s,baz=125,slow=5.6,SNR=4.2						
MNV	**Mina**	**57.10**	**320**	*eP*	**P**	**20 36 17.1**	**-0.2**
	4.1nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**57.19**	**320**	P	**P**	**20 36 18.5**	**+0.5**
	4.9nm,0.7s,mb4.7,baz=120,slow=7.2,SNR=36						
SCHQ	**Schefferville**	**57.78**	**6**	*eP*	**P**	**20 36 19.9**	**-1.9**
BOZ	**Bozeman (W)**	**58.09**	**330**	*eP*	**P**	**20 36 23.0**	**-1.1**
	6.2nm,1.1s,mb4.5						
MCMT	**McKenzie Canyo**	**58.12**	**329**	*eP*	**P**	**20 36 24.0**	**-0.4**
WVOR	**Wild Horse Val**	**59.77**	**324**	*eP*	**P**	**20 36 35.2**	**-0.6**
	5.7nm,1.4s,mb4.4						
FFC	**Flin Flon**	**61.46**	**343**	*eP*	**P**	**20 36 44.8**	**-2.3**
	8.4nm,1.1s,mb4.8						
FFC				*e*	pP	20 36 52.2	-1.6
DBIC	**Dimbokro**	**70.68**	**82**	P	**P**	**20 37 45.6**	**-1.1**
	3.7nm,0.7s,mb4.4,baz=262,slow=5.1,SNR=3.8						
YKA	**Yellowknife Ar**	**71.62**	**342**	P	**P**	**20 37 50.2**	**-1.4**
	1.9nm,0.4s,mb4.3,baz=140,slow=6.2,SNR=56						
YKA	**Yellowknife Ar**	**71.62**	**342**	P	**P**	**20 37 50.2**	**-1.4**
VNA3	**Neumayer Olymp**	**79.64**	**163**		pP	20 38 46.3	+2.6
VNA3	**Neumayer Olymp**	**79.64**	**163**	⇓*iP*	**P**	**20 38 38.8**	**+1.9**
VNA3				P	pP	20 38 46.3	+2.6
VNA2	**Neumayer--Watz**	**80.22**	**162**	⇑*i*	pP	20 38 48.9	+2.1
VNA2	**Neumayer--Watz**	**80.22**	**162**	⇓*iP*	**P**	**20 38 41.9**	**+1.9**
VNA2				⇑*iP*	pP	20 38 48.9	+2.1
SNAA Sanae	**81.85**	**162**	⇑*i*	pP	20 38 56.4	+1.1
SNAA Sanae	**81.85**	**162**	P	**P**	**20 38 49.4**	**+0.9**
	1.5nm,0.6s,mb4.1,baz=289,slow=9.3,SNR=29						
SNAA Sanae	**81.85**	**162**	⇓*iP*	**P**	**20 38 46.7**	**-1.8**
SNAA				⇑*iP*		20 38 56.4	
ILAR Eielson Array	**84.82**	**336**	P	**P**	**20 39 04.0**	**+0.3**
	1.9nm,0.7s,mb4.3,baz=108,slow=4.2,SNR=18						
QSPA South Pole Qui	**87.32**	**180**	*eP*	**P**	**20 39 16.9**	**+1.1**
	10nm,0.8s,mb5.1						
VNDA Vanda	**94.14**	**191**	P	**P**	**20 39 49.1**	**+1.4**
	0.9nm,0.7s,mb4.3,baz=116,slow=2.7,SNR=5.3						
ZAL Zalesovo	**126.36**	**15**	PKP	PKPdf	20 45 32.2	-3.3
	2.2nm,0.9s,baz=206,slow=1.9,SNR=11						
ZAL Zalesovo	**126.36**	**15**	PKP	PKPdf	20 45 32.2	-3.3
MKAR Makanchi Array	**131.91**	**21**	PKP	PKPdf	20 45 43.1	-3.3
	0.6nm,0.4s,baz=295,slow=2.8,SNR=13						
SONM Songino Array	**135.07**	**359**	PKP	PKPdf	20 45 49.3	-2.9
	0.5nm,0.6s,baz=314,slow=1.7,SNR=5.8						
ASAR Alice Springs	**141.48**	**225**	PKP	PKPdf	20 46 01.4	-3.2
	1.4nm,0.7s,baz=127,slow=3.9,SNR=4.2						
WRA Warramunga Arr	**143.39**	**231**	PKhKP		20 46 02.0	
	1.3nm,0.5s,baz=129,slow=2.6,SNR=4.8						
LZH Lanzhou	**146.81**	**2**	⇑PKP	PKPdf	20 46 12.5	-0.9
LZH				APKP		20 46 20.0	
LZH				XPKP		20 46 24.5	
KOLN Koldanda	**147.82**	**37**	*eP*	PKPdf	20 46 15.0	-0.3
	37nm,0.8s						
GKN Gorkha	**148.27**	**36**	*eP*	PKPdf	20 46 16.2	+0.2
	24nm,0.5s						
XAN Xi'an	**148.65**	**354**	PKP	PKPdf	20 46 17.5	+1.0
KKN Kakani	**148.80**	**35**	*eP*	PKPdf	20 46 18.1	+1.2
	51nm,0.7s						
DMN Daman	**148.84**	**36**	*eP*	PKPdf	20 46 18.1	+1.2
	46nm,1.0s						
PKI Pulchoki	**149.04**	**35**	*eP*	PKPdf	20 46 18.4	+1.1
	30nm,0.7s						
JIRN Jiri	**149.41**	**34**	*eP*	PKPdf	20 46 19.8	+1.9
	25nm,0.7s						
HYB Hyderabad	**150.26**	**59**	*eP*	PKPdf	20 46 21.0	+1.6
HYB Hyderabad	**150.26**	**59**	*i PKP*	PKPdf	20 46 21.0	+1.6
FITZ Fitzroy Crossi	**150.94**	**224**	⇑*iP*	PKPdf	20 46 22.8	+2.4
	13nm,0.8s						
FITZ			*i*		20 46 30.8	
FITZ Fitzroy Crossi	**150.94**	**224**	PKPbc	PKPdf	20 46 23.2	+2.7
	19nm,0.8s,baz=172,slow=3.1,SNR=9.2						
FITZ				PKPab	PKPab	20 46 30.8	-0.8
	23nm,0.7s,baz=168,slow=3.9,SNR=11						
CMAR Chiang Mai Arr	**163.31**	**20**	PKP	PKPdf	20 46 33.5	-2.3
	0.7nm,0.8s,baz=198,slow=2.5,SNR=4.9						

IDC 25 20:29:41.7±2.5,12.28N×90.69E,mb3.4/3,mb1 3.6/4, mb1mx3.4/21,mbtmp3.4/4,ML3.4/1,Error ellipse: s-maj=67.4km s-min=29.8km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.05**	**51**	Pn	P	20 32 08.0	-2.6
	0.1nm,0.3s,baz=243,slow=14,SNR=4.1						
MKAR	**Makanchi Array**	**35.13**	**350**	P	P	20 36 37.3	-1.7
	0.7nm,0.8s,baz=166,slow=7.6,SNR=4.6						
SONM	**Songino Array**	**37.81**	**17**	P	P	20 36 59.4	-2.2
	0.1nm,0.4s,baz=197,slow=9.4,SNR=4.4						
WRA	**Warramunga Arr**	**53.58**	**126**	P	P	20 39 04.8	-2.3
	0.4nm,0.7s,baz=310,slow=6.5,SNR=7.1						

IDC 25 20:37:58.1±10.0,7.53S×127.87E,h132km±106km, mb3.2/2,mb1 3.6/5,mb1mx3.3/16,mbtmp3.9/5,ML3.8/2, Error ellipse: s-maj=123.5km s-min=33.4km az=52.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.73**	**191**	P	P	20 40 28.3	-0.8
	baz=20,slow=12						
FITZ				S	S	20 42 21.4	-5.9
	2.0nm,0.3s,baz=6.2,slow=19,SNR=6.4						
WRA	**Warramunga Arr**	**13.85**	**154**	P	P	20 41 07.8	-2.0
	0.4nm,0.3s,baz=325,slow=13,SNR=25						
WRA				S	S	20 43 32.0	-8.6
	1.3nm,0.3s,baz=332,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.06**	**161**	P	P	20 41 50.0	-0.1
	0.9nm,0.3s,baz=344,slow=12,SNR=92						
ASAR				S	S	20 44 52.9	-1.0
	0.3nm,0.3s,baz=322,slow=16,SNR=6.6						
STKA	**Stephens Creek**	**27.40**	**154**	P	P	20 43 31.0	-2.4
	0.4nm,0.3s,baz=309,slow=13,SNR=3.1						
MKAR	**Makanchi Array**	**67.52**	**328**	P	P	20 48 40.1	-2.1
	0.2nm,0.5s,baz=125,slow=6.9,SNR=5.6						

*IDC **25** 20:47:16.1±2.0,1.51N×97.71E,mb3.9/7,mb1 4.0/7, mb1mx3.7/20,mbtmp3.9/7,Error ellipse: s-maj=94.8km s-min=19.7km az=55.0*
*NEIC **25** 20:47:20.5±0.7,1.51N×97.72E,h30km,mb4.1/1,Error ellipse: s-maj=19.3km s-min=10.0km az=59.0*
ISC 25 20:47:18.5±0.9,1.5N±0.1×97.7E±0.2,h30km,n11, σ0º38/11,mb3.9/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.77**	**38**	*eP*	**Pn**	**20 48 30.6**	**+0.3**
WRA	**Warramunga Arr**	**41.80**	**123**	P	**P**	**20 55 07.4**	**-0.1**
	1.0nm,0.6s,mb3.7,baz=301,slow=9.1,SNR=9.5						
WRAB	**Tennant Creek**	**41.80**	**123**	P	**P**	**20 55 07.5**	**-0.1**
ASAR	**Alice Springs**	**43.21**	**128**	P	**P**	**20 55 19.1**	**+0.2**
	0.3nm,0.5s,mb3.3,baz=301,slow=8.1,SNR=7.1						
SONM	**Songino Array**	**46.74**	**8**	P	**P**	**20 55 46.9**	**0.0**
	0.5nm,0.3s,mb3.9,baz=187,slow=9.5,SNR=10						
ULN	**Ulaanbaatar**	**46.87**	**9**	*eP*	**P**	**20 55 47.1**	**-0.8**
MKAR	**Makanchi Array**	**47.05**	**346**	P	**P**	**20 55 50.1**	**+0.7**
	1.6nm,0.4s,mb4.3,baz=158,slow=8.7,SNR=32						
ZAL	**Zalesovo**	**53.31**	**351**	P	**P**	**20 56 36.9**	**-0.2**
	2.0nm,0.4s,mb4.4,baz=318,slow=7.6,SNR=7.6						
BVAR	**Borovoye Array**	**56.10**	**341**	P	**P**	**20 56 57.3**	**-0.1**
	0.6nm,0.5s,mb3.9,baz=149,slow=8.6,SNR=6.5						
CHKZ	**Chkalovo**	**56.58**	**341**	*eP*	**P**	**20 57 00.5**	**-0.3**
	2.2nm,1.0s,mb4.1						
FINES	**FINESS Array B**	**79.94**	**332**	P	**P**	**20 59 26.5**	**+0.4**
	0.4nm,0.7s,mb3.5,baz=80,slow=33,SNR=4.5						

*IDC **25** 21:00:30.7±1.4,19.05S×177.70W,h566km±17km, mb3.2/10,mb1 3.4/11,mb1mx3.3/20,mbtmp4.2/11,Error ellipse: s-maj=21.5km s-min=11.7km az=153.0*
*NEIC **25** 21:00:30.4±1.0,19.11S×177.63W,h566km±12km,mb4.1/2, Error ellipse: s-maj=14.8km s-min=10.6km az=147.0*
ISC 25 21:00:28.6±1.2,19.2S±0.2×177.7W±0.1,h550km±20km, n29,σ0º67/26,mb3.7/12,6D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.72**	**48**	P	**P**	**21 02 24.6**	**+0.3**
	7.3nm,0.3s,baz=256,slow=12,SNR=6.6						
AFI				S	**S**	**21 03 56.0**	**-0.6**
	3.3nm,0.3s,baz=217,slow=20,SNR=5.0						
CTA	**Charters Tower**	**33.96**	**262**	P	**P**	**21 06 28.8**	**+0.9**
	4.0nm,0.4s,mb4.3,baz=104,slow=13,SNR=6.0						
CTA	**Charters Tower**	**33.96**	**262**	P	**P**	**21 06 28.8**	**+0.9**
STKA	**Stephens Creek**	**38.65**	**243**	P	**P**	**21 07 07.3**	**+1.0**
	1.3nm,0.5s,mb3.7,baz=75,slow=7.1,SNR=6.0						
STKA	**Stephens Creek**	**38.65**	**243**	P	**P**	**21 07 07.3**	**+1.0**
WRAB	**Tennant Creek**	**45.10**	**261**	*eP*	**P**	**21 07 57.2**	**-0.4**
WRA	**Warramunga Arr**	**45.11**	**261**	P	**P**	**21 07 57.2**	**-0.5**
	1.0nm,0.3s,mb3.8,baz=97,slow=7.6,SNR=62						
WRA				PcP	PcP	21 09 25.3	-1.5
	0.4nm,0.4s,baz=91,slow=3.9,SNR=6.1						
ASAR	**Alice Springs**	**45.14**	**255**	P	**P**	**21 07 58.1**	**+0.3**
	1.4nm,0.5s,mb3.7,baz=88,slow=8.2,SNR=24						
ASAR				PcP	PcP	21 09 25.6	-1.3
	1.0nm,0.6s,baz=102,slow=4.0,SNR=7.2						
ASAR				S	**S**	**21 13 54.0**	**-3.7**
	1.0nm,0.8s,baz=91,slow=15,SNR=9.6						
FITZ	**Fitzroy Crossi**	**53.53**	**261**	P	**P**	**21 08 59.3**	**-0.8**
	4.1nm,1.0s,mb3.7,baz=13,slow=1.7,SNR=5.7						
SBA	**Scott Base**	**59.17**	**184**	*eP*	**P**	**21 09 38.7**	**+0.6**
	2.7nm,0.5s,mb3.7						
VNDA	**Vanda**	**59.22**	**185**	P	**P**	**21 09 38.8**	**+0.4**
	1.0nm,0.5s,mb3.3,baz=354,slow=5.8,SNR=11						
CASY	**Casey**	**65.26**	**205**	*eP*	**P**	**21 10 16.1**	**-1.3**
QSPA	**South Pole Qui**	**70.85**	**180**	*eP*	**P**	**21 10 50.9**	**-0.1**
	15nm,1.2s,mb4.4						
NVAR	**Mina Array Bea**	**79.87**	**43**	P	**P**	**21 11 41.5**	**+0.1**
	0.4nm,0.5s,mb3.0,baz=224,slow=9.9,SNR=4.1						
NVAR	**Mina Array Bea**	**79.87**	**43**	P	**P**	**21 11 41.5**	**+0.1**
MAW	**Mawson**	**82.88**	**200**	P	**P**	**21 11 55.7**	**-0.4**
	1.2nm,0.5s,mb3.7,baz=146,slow=13,SNR=6.5						
TXAR	**Lajitas Array**	**86.09**	**57**	P	**P**	**21 12 13.4**	**+0.8**
	1.1nm,0.7s,mb3.6,baz=217,slow=6.7,SNR=8.7						
SNAA Sanae	**89.28**	**178**	⇓*i*	**P**	**21 12 41.6**	**+15**	
SNAA Sanae	**89.28**	**178**	P	**P**	**21 12 26.2**	**-0.4**	
	0.8nm,0.6s,mb3.7,baz=208,slow=5.5,SNR=6.5						
SNAA Sanae	**89.28**	**178**	P	**P**	**21 12 25.5**	**-1.1**	
SNAA				⇓*iP*		21 12 41.6	
VNA3 Neumayer Olymp	**89.40**	**176**	⇓*i*	**P**	**21 12 39.2**	**+12**	
VNA3 Neumayer Olymp	**89.40**	**176**	P	**P**	**21 12 27.1**	**0.0**	
VNA3				⇓*iP*		21 12 39.2	
VNA2 Neumayer--Watz	**89.85**	**177**	⇓*i*	**P**	**21 12 40.2**	**+11**	
VNA2 Neumayer--Watz	**89.85**	**177**	P	**P**	**21 12 29.3**	**+0.1**	
VNA2				⇓*iP*		21 12 40.2	
MKAR Makanchi Array	**110.54**	**314**	PKiKP			21 17 57.9	
	0.3nm,0.4s,baz=167,slow=0.7,SNR=5.9						
BVAR Borovoye Array	**118.30**	**320**	PKP	PKPdf	21 18 12.6	-0.5	
	0.8nm,0.3s,baz=112,slow=2.8,SNR=15						
ARCES ARCESS Array B	**127.71**	**350**	PKP	PKPdf	21 18 30.8	-0.1	
	0.5nm,0.4s,baz=19,slow=1.8,SNR=10.0						
BRTR Keskin Array B	**146.19**	**314**	PKPbc	PKPbc	21 19 08.2	+1.3	
	1.0nm,0.7s,baz=117,slow=2.8,SNR=5.8						
GERES GERESS Array B	**149.04**	**345**	PKPbc	PKPdf	21 19 15.2	+5.8	
	0.9nm,0.5s,baz=45,slow=1.9,SNR=11						

*IDC **25** 21:02:47.8±0.8,0.11N×97.12E,h34km±4km,mb3.8/12, mb1 3.9/12,mb1mx3.8/17,mbtmp4.0/12,Error ellipse: s-maj=35.3km s-min=15.1km az=50.0*
*NEIC **25** 21:02:48.3±0.5,0.33N×97.34E,mb4.3/3,Error ellipse: s-maj=14.8km s-min=9.0km az=63.0*
ISC 25 21:02:46.6±0.6,0.37N±0.09×97.4E±0.1,h34km, h34km±.8km:pP-P,n30,σ0º79/23,mb4.0/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.89**	**34**	*eP*	**P**	**21 04 13.4**	**-0.3**
CM31	**Chiang Mai Arr**	**18.04**	**5**	*eP*	**P**	**21 06 55.0**	**-1.5**
	6.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.04**	**5**	P	**P**	**21 06 56.1**	**-0.4**
	0.2nm,0.3s,baz=194,slow=11,SNR=20						
WRA	**Warramunga Arr**	**41.46**	**121**	P	**P**	**21 10 31.8**	**-0.3**
	0.5nm,0.4s,mb3.5,baz=302,slow=9.0,SNR=8.6						
WRAB	**Tennant Creek**	**41.47**	**121**	*eP*	**P**	**21 10 32.0**	**-0.1**
ASAR	**Alice Springs**	**42.77**	**126**	P	**P**	**21 10 42.8**	**-0.1**
	0.3nm,0.4s,mb3.4,baz=295,slow=7.2,SNR=5.5						
AAK	**Ala-Archa**	**46.82**	**337**	P	**P**	**21 11 15.9**	**+0.9**
SONM	**Songino Array**	**47.92**	**8**	P	**P**	**21 11 25.6**	**+2.0**
	0.7nm,0.7s,mb3.8,baz=189,slow=9.3,SNR=8.5						
SONM				pP	pP	21 11 35.2	+1.3
	1.4nm,0.7s,baz=188,slow=9.5,SNR=11						
SONM				PcP	PcP	21 12 52.4	+0.3
	0.4nm,0.7s,baz=197,slow=2.3,SNR=3.1						
SONM				pPcP		21 13 03.0	
	0.5nm,0.7s,baz=190,slow=3.1,SNR=3.6						
ULN	**Ulaanbaatar**	**48.05**	**9**	*eP*	**P**	**21 11 26.0**	**+1.3**
MKAR	**Makanchi Array**	**48.08**	**346**	P	**P**	**21 11 25.9**	**+0.9**
	0.9nm,0.6s,mb4.0,baz=154,slow=8.0,SNR=17						
MKAR				pP	pP	21 11 36.2	+1.1
	3.8nm,1.0s,baz=162,slow=7.7,SNR=10						
MKAR	**Makanchi Array**	**48.08**	**346**	P	**P**	**21 11 25.9**	**+0.9**
MKAR				pP	pP	21 11 36.2	+1.1
MJAR	**Matsushiro Arr**	**52.19**	**42**	pP	pP	21 12 08.3	+1.7
	1.4nm,0.7s,baz=227,slow=6.2,SNR=3.6						
STKA	**Stephens Creek**	**52.68**	**132**	*eP*	**P**	**21 12 00.5**	**+0.4**
	3.5nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**52.68**	**132**	P	**P**	**21 11 59.9**	**-0.2**
	4.4nm,0.9s,mb4.4,baz=304,slow=5.5,SNR=8.5						
ZAL	**Zalesovo**	**54.39**	**351**	P	**P**	**21 12 12.6**	**+0.2**
	1.5nm,0.4s,mb4.2,baz=308,slow=3.2,SNR=8.1						
ZAL				pP	pP	21 12 23.4	+0.6
	1.5nm,0.8s,baz=335,slow=9.4,SNR=4.0						
BVAR	**Borovoye Array**	**57.08**	**341**	P	**P**	**21 12 31.1**	**-0.8**
	1.0nm,0.6s,mb4.0,baz=143,slow=10.0,SNR=11						
CHKZ	**Chkalovo**	**57.56**	**342**	*eP*	**P**	**21 12

RCDM AMP 21 09 20.1
comp=E,439nm,0.2s
TACH Talagante 3.69 228⇑iP P 21 08 40.2 -0.6
TACH *i* S **S 21 09 23.1 -0.5**
CHCH Chadas Angostu 3.71 222 *i* P **P 21 08 40.8 -0.3**
CHCH *i* S **S 21 09 24.1 0.0**
CICH Cipreses 3.87 216⇑iP P 21 08 43.9 +0.6
CICH *i* S **S 21 09 28.4 +0.3**
LNV Longovilo 4.18 228 *i* S **S 21 09 34.2 -1.5**
SFDO San Fernando 4.41 219 *i* S **S 21 09 40.3 -0.9**
TRQA Tornquist 8.27 147 *eP* **P 21 09 42.2 -0.9**
LVC Limon Verde 8.64 352 P **P 21 09 46.9 -1.2**
comp=E,9.0nm,0.3s,baz=176,slow=8.7,SNR=72
LVC Limon Verde 8.64 352 *eP* **P 21 09 46.1 -2.0**
PLCA Paso Flores 9.78 193 P **P 21 10 01.8 -1.5**
comp=E,0.6nm,0.3s,baz=8.8,slow=12,SNR=10
PLCA LR LR 21 13 55.7
comp=E,94nm,18.8s,baz=342,slow=38
PLCA Paso Flores 9.78 193 P **P 21 10 01.8 -1.5**
PLCA LR LR 21 13 55.7
CPUP Villa Florida 10.28 64 P **P 21 10 10.3 +0.2**
comp=E,0.6nm,0.3s,baz=231,slow=17,SNR=8.4
CPUP Villa Florida 10.28 64 P **P 21 10 10.3 +0.1**
LPAZ La Paz 14.87 358 P **P 21 11 10.9 +0.8**
comp=E,0.6nm,0.3s,baz=128,slow=9.3,SNR=10
LPAZ La Paz 14.87 358 *eP* **P 21 11 09.6 -0.5**
comp=E,3.9nm,0.6s
ARE Arequipa 15.10 346 *eP* **P 21 11 15.0 +1.9**
SIV San Ignacio 16.31 23 P **P 21 11 27.1 -1.1**
comp=E,0.8nm,0.3s,baz=206,slow=11,SNR=14
SAML Samuel 22.55 12 *eP* **P 21 12 38.1 +2.1**
comp=E,3.7nm,0.7s,mb3.8
VNA3 Neumayer Olymp 50.58 159 P 21 16 39.4 +6.0
VNA2 Neumayer--Watz 51.19 159⇑*i* **P 21 16 44.3 +6.3**
VNA2 Neumayer--Watz 51.19 159⇑*i* pP 21 17 05.4 +1.0
SNAA Sanae 52.80 159⇑*i* **P 21 16 55.1 +5.1**
SNAA Sanae 52.80 159⇑*i* pP 21 17 16.3 -0.3
SNAA Sanae 52.80 159 P **P 21 16 50.4 +0.4**
comp=E,0.9nm,0.4s,mb4.2,baz=238,slow=15,SNR=4.6
SNAA Sanae 52.80 159 P **P 21 16 50.4 +0.4**
SNAA ⇑*iP* 21 16 55.1
QSPA South Pole Qui 59.01 180 *eP* **P 21 17 34.2 -0.1**
comp=E,1.4nm,0.5s,mb4.2
TXAR Lajitas Array 69.28 327 P **P 21 18 41.0 -0.8**
comp=E,0.4nm,0.6s,mb3.4,baz=141,slow=12,SNR=4.3
DBIC Dimbokro 70.76 69 P **P 21 18 50.9 -0.1**
comp=E,2.5nm,0.4s,mb4.4,baz=356,slow=11,SNR=7.9
MAW Mawson 74.75 162 P **P 21 19 13.8 +0.4**
comp=E,0.9nm,0.3s,mb3.9,baz=38,slow=20,SNR=9.8
PDAR Pinedale Array 83.07 330 P **P 21 19 58.8 -0.1**
comp=E,0.5nm,0.8s,mb3.4,baz=126,slow=6.6,SNR=4.8
ASAR Alice Springs 121.65 203 PKP PKPdf 21 26 26.2 +0.6
comp=E,0.3nm,0.5s,baz=104,slow=1.5,SNR=7.1
WRA Warramunga Arr 124.92 205 PKP PKPdf 21 26 32.9 +0.8
comp=E,1.1nm,0.5s,baz=162,slow=1.8,SNR=33
WRA pPKP 21 27 03.0
comp=E,0.2nm,0.3s,baz=156,slow=1.8,SNR=2.4
ZAL Zalesovo 149.89 33 PKPbc PKPdf 21 27 21.8 +5.8
comp=E,2.0nm,0.5s,baz=175,slow=1.7,SNR=10.0
ZAL pPKPbc 21 27 52.6
comp=E,1.0nm,0.5s,baz=139,slow=3.5,SNR=3.0
MKAR Makanchi Array 152.16 47 PKPbc PKPdf 21 27 27.3 +7.7
comp=E,2.3nm,0.6s,baz=284,slow=2.1,SNR=28
MKAR pPKPbc 21 27 57.2
comp=E,1.6nm,0.6s,baz=290,slow=2.0,SNR=9.6
SONM Songino Array 162.79 14 PKPab PKPab 21 28 24.6 +0.2
comp=E,0.3nm,0.7s,baz=315,slow=5.2,SNR=3.7

*IDC **25** 21:28:22.6±2.6, 35.77N×140.91E, mb3.4/3, mb1 3.5/5, mb1mx3.4/24, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=59.3km s-min=23.1km az=60.0*
*JMA **25** 21:28:28.7±0.1, 35.77N×140.68E, h48km±1km, M3.1*
ISC 25 21:28:28.0±0.7, 35.73N±0.05×140.76E±0.08, h55km±5km, n15, σ0°82/21, mb3.3/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.09**	**106**	P	**P**	**21 28 36.4**	**+0.1**
CHOJ				S	**S**	**21 28 42.2**	**-0.2**
JCN	**Nagara**	**0.55**	**236**	P	**P**	**21 28 40.7**	**+0.6**
JCN				S	**S**	**21 28 49.8**	**+0.8**
JYT	**Yasato**	**0.68**	**318**	P	**P**	**21 28 41.2**	**-0.5**
JYT				S	**S**	**21 28 50.0**	**-1.9**
BSO4	**Boso 4**	**0.81**	**205**	P	**P**	**21 28 44.2**	**+0.8**
JHO	**Hitachi**	**0.90**	**350**	P	**P**	**21 28 44.9**	**+0.3**
BSO3	**Boso 3**	**0.94**	**192**	P	**P**	**21 28 45.9**	**+0.6**
BSO1	**Boso 1**	**1.09**	**170**	P	**P**	**21 28 48.2**	**+0.9**
JAG	**Ashikaga**	**1.27**	**304**	P	**P**	**21 28 49.1**	**-0.7**
JOD2	**Odawara 2**	**1.44**	**252**	P	**P**	**21 28 51.9**	**-0.3**
MJAR	**Matsushiro Arr**	**2.22**	**292**	Pn	**P**	**21 29 03.5**	**+0.3**
	8.7nm,0.3s,baz=96,slow=14,SNR=43						
MJAR				Sn	**S**	**21 29 29.5**	**+0.1**
	4.2nm,0.3s,baz=135,slow=16,SNR=5.7						
MAT	**Matsushiro**	**2.22**	**292**	P	**P**	**21 29 03.9**	**+0.7**
MAT				*eS*	**S**	**21 29 30.0**	**+0.6**
JHJ	**Hachijo jima 2**	**2.72**	**197**	Pn	**P**	**21 29 09.1**	**-1.2**
	9.7nm,0.3s,baz=248,slow=19,SNR=3.8						
JHJ				Sn	**S**	**21 29 39.9**	**-2.3**
	31nm,0.3s,baz=112,slow=23,SNR=6.6						
SONM	**Songino Array**	**28.10**	**306**	P	**P**	**21 34 17.1**	**+0.6**
	0.3nm,0.8s,mb3.0,baz=106,slow=8.3,SNR=3.4						
MKAR	**Makanchi Array**	**44.38**	**303**	P	**P**	**21 36 34.5**	**-0.1**
	0.4nm,0.6s,mb3.3,baz=84,slow=9.3,SNR=7.0						
WRA	**Warramunga Arr**	**55.70**	**187**	P	**P**	**21 38 00.9**	**-0.4**
	0.2nm,0.3s,mb3.6,baz=0.8,slow=7.5,SNR=5.2						

IDC 25 21:34:12.5±3.6, 4.13S×144.38E, mb3.4/3, mb1 3.8/4, mb1mx3.5/15, mbtmp3.6/4, Error ellipse: s-maj=98.0km s-min=31.0km az=101.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.51**	**211**	P	P	**21 38 30.7**	**-1.7**
	0.4nm,0.3s,baz=33,slow=12,SNR=18						
ASAR	**Alice Springs**	**21.90**	**207**	P	P	**21 39 07.2**	**-2.0**
	0.8nm,0.7s,baz=33,slow=10,SNR=6.6						
FITZ	**Fitzroy Crossi**	**23.00**	**231**	P	P	**21 39 19.2**	**-1.1**
	1.1nm,0.2s,baz=61,slow=4.2,SNR=2.6						
MKAR	**Makanchi Array**	**74.41**	**321**	P	P	**21 45 52.5**	**-1.7**
	0.1nm,0.4s,baz=108,slow=7.6,SNR=4.1						

*BJI **25** 21:38:19.0, 1.08N×97.30E, h26km, mB5.2, mb4.7, Ms4.4, Msz4.4*
*IDC **25** 21:38:20.1±0.7, 1.16N×97.06E, h20km±4km, mb4.0/13, mb1 4.1/14, mb1mx4.0/22, mbtmp4.1/14, ML4.4/1, Error ellipse: s-maj=30.3km s-min=12.9km az=52.0*
*NEIC **25** 21:38:20.2±0.4, 1.17N×97.07E, mb4.6/5, Error ellipse: s-maj=10.3km s-min=7.8km az=213.0*
ISC 25 21:38:20.1±5.6, 1.2N±0.1×97.2E±0.1, h30km±39km, h23km±1.8km: pP-P, n52, σ1§01/52, mb4.4/29, MS4.3/1, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.36**	**40**	*eP*	**Pn**	**21 39 39.0**	**-1.1**
KSM	**Kuching**	**13.10**	**88**	*eP*	**P**	**21 41 27.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**17.28**	**6**	P	**P**	**21 42 19.6**	**-1.5**
	0.5nm,0.3s,baz=198,slow=11,SNR=19						
NANT	**Nan**	**17.87**	**11**	P	**P**	**21 42 28.0**	**-0.3**
	125nm,0.8s						
KKM	**Kota Kinabalu**	**19.57**	**75**	*eP*	**P**	**21 42 48.4**	**-0.3**
KMI	**Kunming**	**24.42**	**12**	P	**P**	**21 43 39.0**	**+1.5**
KMI				AP		21 43 45.5	
KMI				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.6						
KMI	**Kunming**	**24.42**	**12**	P	**P**	**21 43 38.9**	**+1.4**
	comp=Z,30nm,1.3s,mb4.6						
KMI				pP		21 43 45.5	
SHL	**Shillong**	**24.81**	**348**	⇑*iP*	**P**	**21 43 42.0**	**+0.8**
LUBP	**Lubang**	**26.00**	**60**	*eP*	**P**	**21 43 57.7**	**+5.3**
JIRN	**Jiri**	**28.40**	**339**	*eP*	**P**	**21 44 14.4**	**+0.2**
	comp=Z,42nm,1.1s,mb5.0						
PKI	**Pulchoki**	**28.60**	**338**	*eP*	**P**	**21 44 16.0**	**0.0**
	comp=Z,24nm,1.1s,mb4.8						
DMN	**Daman**	**28.75**	**337**	*eP*	**P**	**21 44 18.1**	**+0.7**
	comp=Z,12nm,0.9s,mb4.6						
KKN	**Kakani**	**28.85**	**338**	*eP*	**P**	**21 44 18.2**	**0.0**
	comp=Z,29nm,1.0s,mb5.0						
GKN	**Gorkha**	**29.29**	**337**	*eP*	**P**	**21 44 22.2**	**0.0**
	comp=Z,27nm,1.0s,mb4.9						
KOLN	**Koldanda**	**29.51**	**335**	*eP*	**P**	**21 44 24.6**	**+0.4**
	comp=Z,24nm,0.9s,mb4.9						
XAN	**Xi'an**	**34.51**	**17**	P	**P**	**21 45 06.0**	**-1.8**
XAN				AP	pP	21 45 12.5	-4.3
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
XAN				LR	LR		
	comp=N,235nm,14.2s,MS4.3						
XAN				LR	LR		
	comp=E,237nm,11.6s,MS4.3						
XAN				LR	LR		
	comp=Z,388nm,12.0s,MS4.4						
GTA	**Gaotai**	**38.15**	**3**	*eP*	**P**	**21 45 38.8**	**+0.2**
GTA				AP	pP	21 45 48.5	+0.9
GTA				XP	sP	21 45 52.8	+1.4
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
HHC	**Hu-ho-hao-te**	**41.60**	**16**	*eP*	**P**	**21 46 09.3**	**+2.2**
HHC				AP	pP	21 46 17.5	+1.3
HHC				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.2						
HHC				AMB	AMB		
	comp=Z,134nm,10.5s						
WRA	**Warramunga Arr**	**42.00**	**122**	P	**P**	**21 46 10.3**	**-0.3**
	comp=Z,1.9nm,0.7s,mb3.9,baz=300,slow=9.1,SNR=23						
BJI	**Beijing**	**42.38**	**22**	*eP*	**P**	**21 46 14.5**	**+1.0**
BJI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.5						
BJI	**Beijing**	**42.38**	**22**	*eP*	**P**	**21 46 14.5**	**+1.0**
	comp=Z,12nm,0.9s,mb4.5						
WMQ	**Urumqi**	**43.32**	**350**	*eP*	**P**	**21 46 22.0**	**+0.9**
ASAR	**Alice Springs**	**43.35**	**127**	P	**P**	**21 46 22.2**	**+0.5**
	comp=Z,2.0nm,0.9s,mb3.8,baz=298,slow=7.1,SNR=13						
ASAR				pP	pP	21 46 29.0	-1.8
	comp=Z,2.1nm,0.8s,baz=296,slow=7.8,SNR=10						
ULHL	**Ulahol**	**45.04**	**338**	P	**P**	**21 46 35.6**	**+0.5**
	SNR=7.9						
UCH	**Uchtor**	**45.70**	**336**	P	**P**	**21 46 41.8**	**+1.5**
	SNR=6.8						
TKM2	**Tokmak 2**	**45.87**	**338**	P	**P**	**21 46 42.7**	**+1.1**
	SNR=6.9						
KBK	**Karagaybulak**	**45.89**	**337**	P	**P**	**21 46 43.2**	**+1.5**
	SNR=7.2						
AML	**Almayashu**	**45.95**	**336**	P	**P**	**21 46 43.3**	**+1.1**
	SNR=5.8						
AAK	**Ala-Archa**	**46.05**	**337**	*eP*	**P**	**21 46 41.5**	**-1.5**
	comp=Z,2.8nm,0.9s,mb4.2						
EKS2	**Erkin-Say**	**46.36**	**336**	P	**P**	**21 46 46.9**	**+1.5**
	SNR=9.4						
USP	**Ospenovka**	**46.58**	**337**	P	**P**	**21 46 48.1**	**+0.9**
	SNR=12						
SNY	**Shenyang**	**46.94**	**27**	⇑P	**P**	**21 46 49.5**	**-0.6**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
SONM	**Songino Array**	**47.18**	**8**	P	**P**	**21 46 52.2**	**+0.4**
	comp=Z,3.7nm,0.9s,mb4.3,baz=189,slow=9.6,SNR=29						
MKAR	**Makanchi Array**	**47.29**	**346**	P	**P**	**21 46 52.4**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.4,baz=160,slow=8.3,SNR=53						
ULN	**Ulaanbaatar**	**47.31**	**9**	*eP*	**P**	**21 46 52.5**	**-0.4**
	comp=Z,3.5nm,0.9s,mb4.3						
CN2	**Changchun**	**49.34**	**27**	*eP*	**P**	**21 47 07.5**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**53.31**	**132**	P	**P**	**21 47 39.2**	**+0.3**
	comp=Z,1.6nm,0.4s,mb4.3,baz=5.2,slow=18,SNR=4.7						
STKA				pP	pP	21 47 45.8	-2.4
	comp=Z,2.5nm,0.5s,baz=187,slow=18,SNR=3.5						
STKA	**Stephens Creek**	**53.31**	**132**	P	**P**	**21 47 39.2**	**+0.3**
STKA				pP	pP	21 47 45.8	-2.4
ZAL	**Zalesovo**	**53.60**	**351**	P	**P**	**21 47 39.9**	**-0.7**
	comp=Z,4.8nm,0.8s,mb4.5,baz=289,slow=6.5,SNR=35						
ZAL	**Zalesovo**	**53.60**	**351**	P	**P**	**21 47 39.9**	**-0.8**
BVAR	**Borovoye Array**	**56.30**	**341**	P	**P**	**21 47 59.2**	**-1.1**
	comp=Z,3.3nm,0.8s,mb4.4,baz=138,slow=8.3,SNR=26						
BVAR				pP	pP	21 48 05.0	-4.6
	comp=Z,2.9nm,0.8s,baz=141,slow=9.5,SNR=9.7						
CHKZ	**Chkalovo**	**56.78**	**341**	*eP*	**P**	**21 48 02.4**	**-1.3**
	comp=Z,7.4nm,0.8s,mb4.8						
MALT	**Malatya**	**65.17**	**312**	P	**P**	**21 48 57.9**	**-2.9**
BRTR	**Keskin Array B**	**69.15**	**312**	P	**P**	**21 49 24.8**	**-1.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=112,slow=6.7,SNR=4.0						
BRTR				pP	pP	21 49 30.8	-4.6
	comp=Z,0.9nm,0.7s,baz=126,slow=6.8,SNR=4.5						
MATP	**Matopo**	**70.52**	**248**	P	**P**	**21 49 34.3**	**-0.3**
	comp=Z,1.8nm,0.8s,mb4.0,baz=304,slow=15,SNR=3.9						
AKASG	**Malin Array Be**	**75.30**	**322**	P	**P**	**21 50 00.8**	**-1.5**
	comp=Z,0.3nm,0.4s,mb3.6,baz=76,slow=5.1,SNR=5.4						
FINES	**FINESS Array B**	**80.05**	**333**	P	**P**	**21 50 27.2**	**-1.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=108,slow=12,SNR=5.2						
FINES	**FINESS Array B**	**80.05**	**333**	P	**P**	**21 50 27.2**	**-1.0**
GERES	**GERESS Array B**	**84.86**	**319**	P	**P**	**21 50 53.5**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.7,baz=90,slow=1.3,SNR=5.2						
NB2	**NORSAR Subarra**	**87.06**	**331**	P	**P**	**21 51 03.7**	**-0.1**
	comp=Z,0.4nm,0.7s,mb3.8,baz=95,slow=4.6						
NOA	**NORSAR Array B**	**87.06**	**331**	P	**P**	**21 51 03.7**	**-0.1**
	comp=Z,0.8nm,0.8s,mb4.0,baz=94,slow=4.9,SNR=4.6						
NOA	**NORSAR Array B**	**87.06**	**331**	P	**P**	**21 51 03.7**	**-0.1**

*IDC **25** 21:40:12.1±0.4, 0.39N×97.25E, mb4.7/29, mb1 4.7/30, mb1mx4.7/31, mbtmp4.7/30, ML4.6/1, MS4.7/4, Ms1 4.7/4, ms1mx4.2/16, Error ellipse: s-maj=13.8km s-min=10.3km az=52.0*
*MOS **25** 21:40:15.6±1.0, 0.43N×97.28E, h33km, mb5.3/45, MS4.9/27, Error ellipse: s-maj=11.0km s-min=5.4km az=117.7*
*BJI **25** 21:40:16.1, 0.27N×97.47E, h41km, mB5.5, mb4.9, Ms5.4, Msz5.3*
*HRVD **25** 21:40:17.4±0.3, 0.43N×97.28E, h13km, MW5.2/58, Centroid moment Tensor Solution. LP body waves: s43,c70; Mantle waves: s58,c113; Half duration: 1§0 Moment tensor: Scale 10^16 Nm; M_{rr}-4.87±.21; $M_{\theta\theta}$2.06±.13; $M_{\phi\phi}$2.82±.15; $M_{r\theta}$3.83±.43; $M_{\phi\theta}$-2.29±.09; $M_{\phi r}$-4.53±.47; Best double couple: $M_0$7.641×10^16 NP1: ϕ_s140°, δ20°, λ-90°. NP2: ϕ_s320°, δ70°, λ-90°. Principal axes: T 7.586, Plg25°, Azm50°; N .119, Plg0°, Azm140°; P -7.695, Plg65°, Azm230°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **25** 21:40:17.4±0.2, 0.40N×97.29E, mb5.0/38, MS5.0/103 Error ellipse: s-maj=5.6km s-min=4.3km az=45.0*
ISC 25 21:40:14.9±0.2, 0.32N±0.03×97.28E±0.03, h31km, h31km±1.3km: pP-P, n359, σ1§15/276, mb4.9/89, MS5.1/138, 18C-11D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.64**	**41**	P	**Pn**	**21 41 38.4**	**-0.5**
KULM	**Kulim**	**5.97**	**34**	*eP*	**Pn**	**21 41 42.1**	**-1.5**
KGM	**Kluang**	**6.27**	**74**	P	**Pn**	**21 41 47.3**	**-0.4**
SNG	**Songkhla**	**7.58**	**26**	P	**Pn**	**21 42 03.0**	**-3.1**
	604nm,1.0s						
KSM	**Kuching**	**13.08**	**85**	*eP*	**P**	**21 43 19.6**	**-1.7**
NST	**Nakhon Sawan**	**15.51**	**10**	P	**P**	**21 43 55.0**	**+1.7**
UBT	**Ubonrachathani**	**16.68**	**27**	⇓P	**P**	**21 44 11.0**	**+2.7**
	417nm,0.8s						
KKTK	**Khon Kaen**	**16.82**	**19**	P	**P**	**21 44 28.4**	**+18**
	1μm,1.0s						
PALK	**Pallekele**	**17.91**	**293**	*eP*	**P**	**21 44 24.0**	**+0.3**
	37nm,1.0s						
CM31	**Chiang Mai Arr**	**18.09**	**5**	*eP*	**P**	**21 44 25.1**	**-0.8**
	46nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.09**	**5**	P	**P**	**21 44 23.9**	**-2.1**
	0.8nm,0.3s,baz=188,slow=9.1,SNR=40						
NANT	**Nan**	**18.66**	**10**	⇑P	**P**	**21 44 30.0**	**-2.9**
	288nm,0.7s						
KKM	**Kota Kinabalu**	**19.73**	**73**	*eP*	**P**	**21 44 43.5**	**-1.8**
KKM	**Kota Kinabalu**	**19.73**	**73**	P	**P**	**21 44 44.2**	**-1.1**
TSM	**Tawau**	**20.95**	**79**	P	**P**	**21 44 56.7**	**-1.2**
VIS	**Vishakhapatnam**	**22.07**	**322**	*eP*	**P**	**21 45 10.4**	**+1.2**
VIS				*e*		21 45 13.2	
	comp=N,91nm,2.0s						
VIS				*e*		21 45 14.3	
	comp=E,78nm,1.6s						
VIS				*e*		21 49 08.6	
QIZ	**Qiongzhong**	**22.30**	**33**	P	**P**	**21 45 14.0**	**+2.5**
QIZ				XP		21 45 27.5	
QIZ				S	**S**	**21 49 17.5**	**+7.5**
QIZ				LR	LR		
	comp=N,3μm,17.1s,MS5.0						
QIZ				LR	LR		
	comp=E,3μm,14.7s,MS5.0						
QIZ				LR	LR		
	comp=Z,5μm,12.0s,MS5.2						
CAL	**Calcutta**	**23.74**	**339**	*eP*	**P**	**21 45 24.1**	**-1.5**
CAL				*eS*	**S**	**21 49 38.6**	**+3.2**
	comp=Z,962nm,0.4s						
AGT	**Agartala**	**24.14**	**346**	⇑*iP*	**P**	**21 45 33.0**	**+3.5**
AGT				*i*		21 46 17.0	
HYB	**Hyderabad**	**25.06**	**314**	*iP*	**P**	**21 45 39.5**	**+1.1**
HYB				*eS*	**S**	**21 50 16.0**	**+18**
KMI	**Kunming**	**25.21**	**12**	P	**P**	**21 45 39.8**	**+0.1**
KMI				AP	pP	21 45 48.3	-0.5
KMI				XP	sP	21 45 51.5	-1.4
KMI				PP	PP	21 46 18.5	+0.3
KMI				AMB	AMB		
	comp=Z,40nm,2.0s,mb4.6						
KMI				AMB	AMB		
	comp=Z,776nm,5.0s						
KMI				LR	LR		
	comp=N,6μm,12.6s,MS5.4						
KMI				LR	LR		
	comp=E,4μm,13.0s,MS5.4						
KMI				LR	LR		
	comp=Z,7μm,11.3s,MS5.4						
KMI	**Kunming**	**25.21**	**12**	P	**P**	**21 45 39.8**	**+0.1**
KMI				*PP	pP	21 45 48.2	-0.6
KMI				*SP	sP	21 45 51.5	-1.4
KMI						21 46 18.5	
KMI				S	**S**	**21 50 05.9**	**+5.5**
KMI				*SS		21 50 19.2	
KMI				SS	SS	21 51 13.2	+12
KMI				pmax	pmax		
	comp=Z,40nm,2.0s,mb4.6						
KMI				MLR	MLR		
	comp=Z,7μm,11.3s,MS5.4						
KMI	**Kunming**	**25.21**	**12**	P	**P**	**21 45 39.8**	**+0.1**
	comp=Z,40nm,2.0s,mb4.6						
KMI				pP	pP	21 45 48.2	-0.6
KMI				sP	sP	21 45 51.5	-1.4
KMI				PP	PP	21 46 18.5	+0.3
KMI				S	**S**	**21 50 05.9**	**+5.5**
KMI				sS		21 50 19.2	
KMI				SS	SS	21 51 13.2	+12
KMI				LR	LR		
	comp=Z,7μm,11.3s,MS5.4						
SHL	**Shillong**	**25.63**	**349**	*eP*	**P**	**21 45 45.0**	**+1.3**
SHL				*e*		21 50 19.0	
DGAR	**Diego Garcia**	**25.93**	**252**	PFAKE		21 46 00.0	+13
DGAR				LR	LR		
	comp=Z,341nm,20.0s						
BLSP	**Bilaspur**	**26.22**	**327**	*e*	**P**	**21 45 50.1**	**+1.0**
	comp=E,4.6nm,0.2s						
BLSP				*e*		21 45 50.3	
	comp=N,6.9nm,0.2s						
BLSP				*e*		21 50 14.4	
BLSP				*eS*	**S**	**21 50 31.2**	**+14**
BLSP				*eS*	S	21 50 38.4	+21
GZH	**Guangzhou**	**27.49**	**34**	P	**P**	**21 46 00.5**	**-0.3**
GZH				LR	LR		
	comp=N,4μm,16.2s,MS5.2						
GZH				LR	LR		
	comp=E,4μm,14.6s,MS5.2						
GZH				LR	LR		
	comp=Z,3μm,12.1s,MS5.1						
GYA	**Guiyang**	**27.51**	**18**	⇑*iP*	**P**	**21 46 00.3**	**-0.6**
GYA				AP	pP	21 46 09.8	-0.2
GYA				XP	sP	21 46 13.5	-0.6
GYA				PP	PP	21 46 51.0	+1.9
GYA				S	**S**	**21 50 41.3**	**+3.2**
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,3.8s						
GYA				LR	LR		
	comp=N,5μm,12.9s,MS5.3						
GYA				LR	LR		
	comp=E,3μm,15.3s,MS5.3						
GYA				LR	LR		
	comp=Z,6μm,12.3s,MS5.4						
JIRN	**Jiri**	**29.19**	**340**	*eP*	**P**	**21 46 17.2**	**+1.1**
	comp=Z,187nm,1.2s,mb5.7						
POO	**Poona**	**29.27**	**309**	⇑*iP*	**P**	**21 46 16.0**	**-0.9**
	comp=Z,68nm,1.2s,mb5.2						
PKI	**Pulchoki**	**29.39**	**338**	*eP*	**P**	**21 46 18.8**	**+0.9**
	comp=Z,144nm,1.3s,mb5.5						
DMN	**Daman**	**29.54**	**338**	*eP*	**P**	**21 46 19.4**	**+0.2**
KKN	**Kakani**	**29.64**	**338**	*eP*	**P**	**21 46 20.5**	**+0.4**
LSA	**Lhasa**	**29.79**	**349**	P	**P**	**21 46 23.0**	**+1.6**
BHPL	**Bhopal**	**29.85**	**321**	*eP*	**P**	**21 46 22.6**	**+0.5**
BHPL				*e*		21 46 23.4	
	comp=N,2.2nm,0.5s						
BHPL				*e*		21 46 24.0	
	comp=E,3.4nm,0.3s						
GKN	**Gorkha**	**30.07**	**337**	*eP*	**P**	**21 46 24.5**	**+0.6**
	comp=E,51nm,0.7s,mb5.4						
KOLN	**Koldanda**	**30.28**	**335**	*eP*	**P**	**21 46 26.3**	**+0.5**
	comp=E,72nm,0.8s,mb5.4						
MBWA	**Marble Bar**	**30.61**	**136**	PFAKE		21 46 40.0	+11
MBWA				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
CD2	**Chengdu**	**31.03**	**11**	P	**P**	**21 46 36.0**	**+3.6**
CD2				S	**S**	**21 51 34.5**	**+0.3**
CD2				XS		21 51 49.3	
CD2				AMB	AMB		
	comp=Z,480nm,10.2s						
CD2				LR	LR		
	comp=N,6μm,10.2s						
CD2				LR	LR		
	comp=Z,6μm,12.0s,MS5.5						
QZH	**Quanzhou**	**32.00**	**39**	⇑*iP*	**P**	**21 46 40.5**	**-0.4**
QZH				S	**S**	**21 51 49.0**	**-0.3**
QZH				LR	LR		
	comp=N,4μm,12.4s,MS5.5						
QZH				LR	LR		
	comp=E,6μm,12.7s,MS5.5						
QZH				LR	LR		
	comp=Z,8μm,12.9s,MS5.6						
PTH	**Pithoragarh**	**33.31**	**332**	*eP*	**P**	**21 46 55.0**	**+2.7**
FITZ	**Fitzroy Crossi**	**33.36**	**125**	*eP*	**P**	**21 46 51.7**	**-1.1**
	comp=Z,42nm,0.9s,mb5.4						
FITZ	**Fitzroy Crossi**	**33.36**	**125**	P	**P**	**21 46 52.3**	**-0.5**
	comp=Z,29nm,1.0s,mb5.2,baz=344,slow=5.6,SNR=22						
TATO	**Taipei**	**33.89**	**42**	PFAKE		21 47 10.0	+13
TATO				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
NDI	**New Delhi**	**34.11**	**327**	*eP*	**P**	**21 47 02.0**	**

LZH	**Lanzhou**	**36.10**	**9**	*e*P	**P**	**21 47 16.5**	**+0.4**
	comp=Z,40nm,1.2s,mb5.2						
LZH				pP	pP	21 47 23.0	-2.3
LZH				sP	sP	21 47 26.1	-3.2
LZH				PP	PP	21 48 39.0	+0.3
LZH				S	**S**	**21 52 49.0**	**-3.8**
LZH				sS		21 53 02.0	
LZH				SS	SS	21 55 17.0	+0.3
LZH				LR	LR		
	comp=Z,4μm,12.8s,MS5.4						
MUN	**Mundaring**	**36.78**	**153**	*e*P	**P**	**21 47 23.6**	**+1.7**
	comp=Z,56nm,1.0s,mb5.3						
MUN	**Mundaring**	**36.78**	**153**	*e*P	**P**	**21 47 23.6**	**+1.7**
MUN				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.3						
NJ2	**Nanjing**	**37.57**	**31**	*e*P	**P**	**21 47 30.3**	**+1.8**
NJ2				AP	pP	21 47 40.0	+2.3
NJ2				XP	sP	21 47 44.0	+2.4
NJ2				PP	PP	21 48 59.3	+2.1
NJ2				S	**S**	**21 53 17.0**	**+1.7**
NJ2				XS		21 53 33.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,2μm,10.0s						
NJ2				LR	LR		
	comp=N,5μm,15.2s,MS5.7						
NJ2				LR	LR		
	comp=E,7μm,11.9s,MS5.7						
NJ2				LR	LR		
	comp=Z,4μm,12.8s,MS5.4						
NWAO	**Narrogin (SRO)**	**38.05**	**152**	P	**P**	**21 47 33.9**	**+1.4**
	comp=Z,20nm,0.8s,mb4.9,baz=322,slow=10.0,SNR=11						
NWAO	**Narrogin (SRO)**	**38.05**	**152**	P	**P**	**21 47 33.9**	**+1.4**
NWAO				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
SSE	**Sheshan**	**38.08**	**34**	P	**P**	**21 47 33.3**	**+0.5**
SSE				AP	pP	21 47 42.0	-0.1
SSE				XP	sP	21 47 46.0	0.0
SSE				S	**S**	**21 53 24.0**	**+0.9**
SSE				XS		21 53 40.3	
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,366nm,7.0s						
SSE				LR	LR		
	comp=N,3μm,12.2s,MS5.5						
SSE				LR	LR		
	comp=E,3μm,12.2s,MS5.5						
SSE				LR	LR		
	comp=Z,6μm,12.8s,MS5.6						
SSE	**Sheshan**	**38.08**	**34**	P	**P**	**21 47 33.2**	**+0.4**
	comp=Z,45nm,0.7s,mb5.3						
SSE				pP	pP	21 47 42.1	0.0
SSE				sP	sP	21 47 46.0	0.0
SSE				S	**S**	**21 53 24.0**	**+0.9**
SSE				sS		21 53 40.3	
SSE				LR	LR		
	comp=Z,6μm,12.8s,MS5.6						
GTA	**Gaotai**	**38.97**	**3**	*e*P	**P**	**21 47 40.3**	**+0.1**
GTA				AP	pP	21 47 50.8	+1.4
GTA				XP	sP	21 47 54.8	+1.5
GTA				PP	PP	21 49 12.8	-0.7
GTA				PPP	PPP	21 49 35.8	-1.1
GTA				PCP	PcP	21 49 55.0	+4.3
GTA				AMB	AMB		
	comp=Z,6.0nm,2.4s,mb3.9						
GTA				AMB	AMB		
	comp=Z,190nm,8.0s						
GTA				LR	LR		
	comp=N,2μm,12.2s,MS5.2						
GTA				LR	LR		
	comp=E,1μm,11.8s,MS5.2						
GTA				LR	LR		
	comp=Z,3μm,12.9s,MS5.2						
JOW	**Kunigami**	**39.78**	**46**	P	**P**	**21 47 47.5**	**+0.4**
	comp=Z,6.5nm,0.5s,mb4.7,baz=256,slow=8.9,SNR=5.9						
TIA	**Tai'an**	**40.18**	**25**	*e*P	**P**	**21 47 49.0**	**-1.2**
TIA				*e*S	**S**	**21 54 00.0**	**+5.3**
TIA				LR	LR		
	comp=N,1μm,11.6s,MS5.2						
TIA				LR	LR		
	comp=E,1μm,13.3s,MS5.2						
WRA	**Warramunga Arr**	**41.51**	**121**	P	**P**	**21 48 01.0**	**-0.4**
	comp=E,15nm,0.9s,mb4.6,baz=304,slow=9.3,SNR=41						
WRAB	**Tennant Creek**	**41.52**	**121⇓**	*e*P	**P**	**21 48 01.2**	**-0.2**
WRAB	**Tennant Creek**	**41.52**	**121**	*e*P	**P**	**21 47 59.6**	**-1.8**
	comp=E,41nm,1.0s,mb5.0						
WRAB				LR	LR		
	comp=Z,557nm,22.0s,MS4.4						
WB2	**Warramunga Arr**	**41.52**	**121⇑**	*i*P	**P**	**21 48 00.7**	**-0.8**
BTO	**Baotou**	**41.73**	**15**	*e*P	**P**	**21 48 01.0**	**-1.9**
BTO				LR	LR		
	comp=N,2μm,12.8s,MS5.4						
BTO				LR	LR		
	comp=E,3μm,16.1s,MS5.4						
MSEY	**Mahe Island**	**42.05**	**263**	PFAKE		21 48 20.0	+14
MSEY				LR	LR		
	comp=Z,248nm,19.0s,MS4.1						
HHC	**Hu-ho-hao-te**	**42.37**	**16**	*e*P	**P**	**21 48 09.3**	**+1.1**
HHC				AP	pP	21 48 15.5	-2.0
HHC				SCP		21 53 47.0	
HHC				PCS		21 53 51.5	
HHC				S	**S**	**21 54 32.0**	**+4.9**
HHC				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,502nm,4.8s						
HHC				LR	LR		
	comp=N,2μm,12.5s,MS5.2						
HHC				LR	LR		
	comp=E,944nm,14.3s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,12.7s,MS5.2						
FORT	**Forrest**	**42.56**	**139**	*e*P	**P**	**21 48 11.5**	**+1.6**
	comp=Z,930nm,0.7s						
ASPA	**Alice Springs**	**42.81**	**126⇓**	*i*P	**P**	**21 48 12.7**	**+0.7**
ASAR	**Alice Springs**	**42.81**	**126**	P	**P**	**21 48 12.0**	**0.0**
	comp=Z,12nm,0.8s,mb4.7,baz=303,slow=7.6,SNR=46						
BJI	**Beijing**	**43.12**	**21**	P	**P**	**21 48 15.3**	**+1.0**
BJI				AP	pP	21 48 25.8	+2.2
BJI				XP	sP	21 48 29.5	+2.1
BJI				PP	PP	21 49 56.5	-0.1
BJI				S	**S**	**21 54 39.8**	**+1.7**
BJI				XS		21 54 58.5	
BJI				AMB	AMB		
	comp=Z,33nm,1.4s,mb4.9						
BJI				AMB	AMB		
	comp=Z,677nm,4.4s						
BJI				LR	LR		
	comp=N,2μm,11.2s,MS5.4						
BJI				LR	LR		
	comp=E,2μm,11.9s,MS5.4						
BJI				LR	LR		
	comp=Z,801nm,15.7s,MS4.7						
BJI	**Beijing**	**43.12**	**21**	P	**P**	**21 48 15.3**	**+1.0**
BJI				*PP	pP	21 48 25.8	+2.2
BJI				*SP	sP	21 48 29.6	+2.2
BJI						21 49 56.5	
BJI				S	**S**	**21 54 39.8**	**+1.7**
BJI				*SS		21 54 58.5	
BJI				SS	SS	21 58 01.8	+17
BJI				pmax	pmax		
	comp=Z,33nm,1.4s,mb4.9						
BJI				MLR	MLR		
	comp=Z,800nm,15.7s,MS4.7						
BJI	**Beijing**	**43.12**	**21**	P	**P**	**21 48 15.3**	**+1.0**
	comp=Z,33nm,1.4s,mb4.9						
BJI				pP	pP	21 48 25.8	+2.2
BJI				sP	sP	21 48 29.6	+2.2
BJI				PP	PP	21 49 56.5	-0.1
BJI				S	**S**	**21 54 39.8**	**+1.7**
BJI				sS		21 54 58.5	
BJI				SS	SS	21 58 01.8	+17
BJI				LR	LR		
	comp=Z,800nm,15.7s,MS4.7						
KSH	**Kashi**	**43.60**	**336**	*e*P	**P**	**21 48 18.0**	**-0.2**
KSH				*e*AP	pP	21 48 27.0	-0.5
KSH				*e*XP	sP	21 48 32.0	+0.7
KSH				*e*PP	PP	21 50 01.0	-0.4
KSH				*e*PCP	PcP	21 50 06.0	+0.1
KSH				*e*PPP	PPP	21 50 37.0	-1.1
KSH				*e*SCP		21 53 54.3	
KSH				*e*PCS		21 53 58.0	
KSH				*e*S	**S**	**21 54 43.0**	**-2.0**
KSH				LR	LR		
	comp=N,2μm,13.2s						
KSH				LR	LR		
	comp=E,690nm,9.3s						
WMQ	**Urumqi**	**44.14**	**350**	⇑P	**P**	**21 48 23.5**	**+0.9**
WMQ				PP	PP	21 50 08.0	+1.2
WMQ				S	**S**	**21 54 55.5**	**+2.6**
WMQ				AMB	AMB		
	comp=Z,35nm,1.4s,mb4.9						
WMQ				LR	LR		
	comp=N,498nm,22.1s,MS4.5						
WMQ				LR	LR		
	comp=E,569nm,24.3s,MS4.5						
WMQ				LR	LR		
	comp=Z,449nm,19.1s						
DL2	**Dalian**	**44.41**	**27**	P	**P**	**21 48 25.5**	**+0.7**
DL2				AP	pP	21 48 35.3	+1.2
DL2				XP	sP	21 48 43.5	+5.6
DL2				S	**S**	**21 55 00.8**	**+4.0**
DL2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
DL2				AMB	AMB		
	comp=Z,340nm,4.7s						
DL2				LR	LR		
	comp=N,600nm,11.6s,MS5.0						
DL2				LR	LR		
	comp=E,930nm,13.1s,MS5.0						
DL2				LR	LR		
	comp=Z,930nm,12.5s,MS4.9						
KS15	**Wonju Array Si**	**46.49**	**34**	*e*P	**P**	**21 48 39.5**	**-1.8**
TKM2	**Tokmak 2**	**46.65**	**338**	P	**P**	**21 48 43.9**	**+1.3**
	SNR=7.6						
KBK	**Karagaybulak**	**46.67**	**337**	P	**P**	**21 48 44.4**	**+1.7**
	SNR=8.4						
AML	**Almayashu**	**46.73**	**336**	P	**P**	**21 48 44.8**	**+1.6**
	SNR=11						
AAK	**Ala-Archa**	**46.83**	**337**	*e*P	**P**	**21 48 44.2**	**+0.3**
AAK				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.1						
AAK				MLR	MLR		
	comp=Z,333nm,19.0s,MS4.3						
AAK	**Ala-Archa**	**46.83**	**337**	*e*P	**P**	**21 48 44.2**	**+0.3**
	comp=Z,34nm,1.3s,mb5.1						
AAK				LR	LR		
	comp=Z,333nm,19.0s,MS4.3						
FRU	**Bishkek**	**46.95**	**337**	*e*P	**P**	**21 48 46.0**	**+1.1**
FRU				*e*		21 48 53.0	
FRU				pmax	pmax		
	comp=Z,90nm,2.0s,mb5.3						
FRU				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.0						
EKS2	**Erkin-Say**	**47.14**	**336**	P	**P**	**21 48 47.9**	**+1.5**
	SNR=7.1						
USP	**Ospenovka**	**47.37**	**337**	P	**P**	**21 48 48.6**	**+0.4**
	SNR=8.3						
SNY	**Shenyang**	**47.64**	**27**	⇑P	**P**	**21 48 49.5**	**-0.9**
SNY				AP	pP	21 48 57.0	-2.8
SNY				S	**S**	**21 55 45.5**	**+2.6**
SNY				AMB	AMB		
	comp=Z,240nm,10.8s						
SNY				LR	LR		
	comp=N,1μm,13.2s,MS5.3						
SNY				LR	LR		
	comp=E,2μm,13.8s,MS5.3						
SNY				LR	LR		
	comp=Z,2μm,13.3s,MS5.2						
SONM	**Songino Array**	**47.98**	**8**	P	**P**	**21 48 53.1**	**+0.2**
	comp=Z,3.1nm,0.4s,mb4.7,baz=189,slow=8.2,SNR=13						
MKAR	**Makanchi Array**	**48.10**	**346**	P	**P**	**21 48 54.1**	**+0.2**
	comp=Z,6.3nm,0.4s,mb5.0,baz=162,slow=8.7,SNR=55						
ULN	**Ulaanbaatar**	**48.11**	**9**	*e*P	**P**	**21 48 54.1**	**+0.2**
ULN				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.3						
ULN				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.0						
ULN	**Ulaanbaatar**	**48.11**	**9**	*e*P	**P**	**21 48 54.1**	**+0.2**
	comp=Z,50nm,1.5s,mb5.3						
ULN				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
GUMO	**Guam**	**48.92**	**72**	PFAKE		21 49 10.0	+9.4
GUMO				LR	LR		
	comp=Z,1μm,21.0s,MS4.8						
CN2	**Changchun**	**50.05**	**26**	*e*P	**P**	**21 49 08.0**	**-0.9**
CN2				*e*XP	sP	21 49 22.0	0.0
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
CN2				AMB	AMB		
	comp=Z,130nm,5.0s						
CN2				LR	LR		
	comp=N,810nm,12.0s,MS5.0						
CN2				LR	LR		
	comp=E,630nm,12.0s,MS5.0						
CN2				LR	LR		
	comp=Z,710nm,13.0s,MS4.9						
ZAK	**Zakamensk**	**50.13**	**5**	*e*P	**P**	**21 49 08.8**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.5						
PMG	**Port Moresby**	**50.59**	**102**	P	**P**	**21 49 13.5**	**+0.2**
	comp=Z,6.1nm,0.5s,mb4.8,baz=96,slow=19,SNR=2.8						
PMG	**Port Moresby**	**50.59**	**102**	P	**P**	**21 49 13.6**	**+0.2**
PMG				LR	LR		
	comp=Z,765nm,19.0s,MS4.7						
MOY	**Mondy**	**51.25**	**3**	*e*P	**P**	**21 49 18.4**	**+0.5**
MOY				pmax	pmax		
	comp=Z,48nm,3.1s						
TLY	**Talaya**	**51.45**	**5**	*e*P	**P**	**21 49 18.8**	**-0.6**
TLY				*e*S	**S**	**21 56 39.7**	**+3.9**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
TLY				MLR	MLR		
	comp=Z,2μm,14.0s,MS5.3						
TLY	**Talaya**	**51.45**	**5**	*e*P	**P**	**21 49 19.2**	**-0.2**
TLY				LR	LR		
	comp=Z,386nm,20.0s,MS4.4						
CTA	**Charters Tower**	**52.05**	**116**	P	**P**	**21 49 23.6**	**-0.8**
	comp=Z,6.0nm,0.8s,mb4.6,baz=248,slow=11,SNR=3.1						
CTAO	**Charters Tower**	**52.05**	**116**	PFAKE		21 49 40.0	+16
CTAO				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
IRK	**Irkutsk**	**52.07**	**5**	*e*P	**P**	**21 49 24.6**	**+0.5**
IRK				*e*		21 51 15.2	
IRK				pmax	pmax		
	comp=Z,74nm,1.7s,mb5.3						
MAJO	**Matsushiro**	**52.28**	**42**	PFAKE		21 49 40.0	+14
MAJO				LR	LR		
	comp=Z,804nm,19.0s,MS4.8						
MAT	**Matsushiro**	**52.28**	**42**	*e*P	**P**	**21 49 24.0**	**-1.9**
MAT	**Matsushiro**	**52.28**	**42**	P	**P**	**21 49 24.4**	**-1.5**
MJAR	**Matsushiro Arr**	**52.28**	**42**	P	**P**	**21 49 24.7**	**-1.2**
	comp=Z,2.1nm,0.6s,mb4.3,baz=221,slow=8.3,SNR=10						
MJAR				LR	LR	22 12 09.0	
	comp=Z,572nm,19.4s,MS4.6,baz=235,slow=37						
MDJ	**Mudanjiang**	**52.59**	**29**	P	**P**	**21 49 29.0**	**+0.9**
MDJ				AP	pP	21 49 38.0	+0.4
MDJ				XP	sP	21 49 41.8	+0.5
MDJ				PCP	PcP	21 50 38.0	0.0
MDJ				SCP		21 54 31.5	
MDJ				PCS		21 54 36.3	
MDJ				S	**S**	**21 56 53.8**	**+2.3**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,226nm,4.9s						
MDJ				LR	LR		
	comp=N,685nm,17.3s,MS5.1						
MDJ				LR	LR		
	comp=E,1μm,15.7s,MS5.1						
MDJ				LR	LR		
	comp=Z,1μm,16.7s,MS5.0						
OPO	**Ambohidratompo**	**52.64**	**246**	P	**P**	**21 49 28.6**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.3,baz=49,slow=6.6,SNR=5.6						
STKA	**Stephens Creek**	**52.72**	**132⇑**	*i*P	**P**	**21 49 29.8**	**+0.6**
	comp=Z,28nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**52.72**	**132**	P	**P**	**21 49 29.9**	**+0.6**
	comp=Z,35nm,0.8s,mb5.3,baz=311,slow=7.3,SNR=53						
STKA				LR	LR	22 13 31.4	
	comp=Z,1μm,19.2s,MS5.0,baz=287,slow=38						
ZAL	**Zalesovo**	**54.42**	**351**	*i* P	**P**	**21 49 41.3**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.4s						
ZAL	**Zalesovo**	**54.42**	**351**	P	**P**	**21 49 40.6**	**-0.8**
	comp=Z,9.2nm,0.4s,mb5.0,baz=303,slow=3.8,SNR=24						
NVS	**Novosibirsk**	**55.55**	**350**	*e*P	**P**	**21 49 48.4**	**-1.3**
NVS				*e*S	**S**	**21 57 25.8**	**-5.4**
NVS				pmax	pmax		
	comp=Z,39nm,1.6s,mb5.2						
NVS				pmax	pmax		
	comp=N,34nm,1.9s						
NVS				pmax	pmax		
	comp=E,27nm,1.3s						
NVS				smax			
	comp=N,11nm,1.6s						
NVS				smax			
	comp=E,53nm,1.9s						
KLR	**Kul'dur**	**57.00**	**26**	*e*P	**P**	**21 49 56.5**	**-3.7**
KLR				*e*S	**S**	**21 57 53.0**	**+2.5**
KLR				MLR	MLR		
	comp=E,1μm,13.0s						
KLR				MLR	MLR		
	comp=Z,7μm,13.0s,MS5.9						
BVAR	**Borovoye Array**	**57.10**	**341**	P	**P**	**21 49 59.5**	**-1.3**
	comp=Z,2.5nm,0.4s,mb4.5,baz=141,slow=9.1,SNR=24						
CHKZ	**Chkalovo**	**57.58**	**342**	*e*P	**P**	**21 50 02.2**	**-1.9**
BOD	**Bodaibo**	**58.85**	**10**	*e*P	**P**	**21 50 12.6**	**-0.4**
BOD				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.2						
ARMA	**Armidale**	**59.96**	**126⇓**	*i*P	**P**	**21 50 23.1**	**+2.1**
KMBO	**Kilima Mbogo**	**60.04**	**269**	*i* P	**P**	**21 50 22.2**	**+0.4**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KMBO	**Kilima Mbogo**	**60.04**	**269**	P	**P**	**21 50 21.8**	**0.0**
	comp=Z,3.4nm,0.7s,mb4.5,baz=63,slow=9.5,SNR=20						
KMBO	**Kilima Mbogo**	**60.04**	**269**	*e*P	**P**	**21 50 20.9**	**-0.9**
	comp=Z,33nm,1.6s,mb5.1						
KMBO				LR	LR		
	comp=Z,425nm,19.0s,MS4.6						
CLNS	**Chul'man**	**60.55**	**17**	*e*P	**P**	**21 50 34.2**	**+10**
CLNS				*e*		21 52 37.4	
CLNS				*e*S	**S**	**21 58 31.3**	**-5.3**
CLNS				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.7s						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.4						
CLNS				pmax	pmax		
	comp=E,1.0nm,0.8s						
CLNS				smax			
	comp=N,181nm,12.4s						
CLNS				smax			
	comp=Z,274nm,12.5s						
CLNS				smax			
	comp=E,62nm,13.5s						
CLNS				MLR	MLR		
	comp=Z,2μm,12.0s,MS5.4						
CLNS				MLR	MLR		
	comp=N,1μm,13.0s,MS5.3						
CLNS				MLR	MLR		
	comp=E,300nm,13.0s,MS5.3						
YSS	**Yuzh-Sakhalins**	**61.02**	**34**	P	**P**	**21 50 33.0**	**+5.0**
YSS				*e*	pP	21 50 41.0	+3.3
YSS				*e*SP	sP	21 50 46.5	+5.3
YSS				*e*		21 51 11.3	
YSS				*e*S	**S**	**21 58 48.0**	**+5.2**
YSS				*e*SS	SS	22 02 40.0	-3.9
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.4						
YSS	**Yuzh-Sakhalins**	**61.02**	**34**	*e*P	**P**	**21 50 27.5**	**-0.6**
	comp=Z,38nm,1.0s,mb5.5						
YSS				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
GNI	**Garni**	**61.98**	**316⇑**	*e*P	**P**	**21 50 40.3**	**+5.7**
GNI	**Garni**	**61.98**	**316**	PFAKE		21 50 50.0	+15
GNI				LR	LR		
	comp=Z,286nm,20.0s,MS4.4						
DGRG	**David-gareji**	**62.13**	**318**	P	**P**	**21 50 35.1**	**-0.5**
TI2	**Plekhanov**	**62.67**	**318**	*e*P	**P**	**21 50 37.4**	**-1.8**
SVE	**Sverdlovsk**	**63.53**	**338**	*e*P	**P**	**21 50 43.0**	**-1.6**
SVE				pmax	pmax		
	comp=Z,44nm,1.8s,mb5.2						
SVE				MLR	MLR		
	comp=N,500nm,17.0s,MS4.9						
SVE				MLR	MLR		
	comp=E,400nm,17.0s,MS4.9						
SVE				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.8						
ARU	**Arti**	**64.02**	**337**	*e*P	**P**	**21 50 46.3**	**-1.5**
ARU				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.2						
ARU				MLR	MLR		
	comp=Z,216nm,19.0s,MS4.3						
ARU	**Arti**	**64.02**	**337**	*e*P	**P**	**21 50 46.3**	**-1.5**
	comp=Z,30nm,1.2s,mb5.2						
ARU				LR	LR		
	comp=Z,216nm,19.0s,MS4.3						
ERZM	**Erzurum**	**64.23**	**315**	*i* P	**P**	**21 50 49.6**	**+0.1**
KIV	**Kislovodsk**	**65.02**	**320**	*e*P	**P**	**21 50 53.5**	**-1.0**
KIV				*e*S	S	21 59 29.6	-3.3
KIV				*e*SS	SS	22 03 44.8	-2.1
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
ASF	**Jabal al Asfar**	**65.03**	**306**	P	**P**	**21 50 54.7**	**-0.1**
	comp=Z,2.5nm,0.5s,mb4.5,baz=3.2,slow=1.8,SNR=10						
ASF				LR	LR	22 21 59.8	
	comp=Z,391nm,18.1s,MS4.6,baz=180,slow=39						
GOF	**Gofitskoye**	**65.28**	**321⇑**	*i*P	**P**	**21 50 53.8**	**-2.4**
GOF				pmax	pmax		
	comp=Z,40nm,1.7s,mb5.2						
ELZG	**Elazig**	**65.43**	**313**	*i* P	**P**	**21 50 57.0**	**-0.2**
MALT	**Malatya**	**65.77**	**312**	*e*P	**P**	**21 50 58.8**	**-0.7**
MALT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
MALT	**Malatya**	**65.77**	**312**	*e*P	**P**	**21 50 58.8**	**-0.7**
	comp=Z,9.7nm,1.0s,mb4.8						
KELT	**Kelkit**	**65.83**	**315**	*i* P	**P**	**21 50 59.6**	**-0.1**
GZT	**Gaziantep**	**66.09**	**311**	*i* P	**P**	**21 51 01.1**	**-0.4**
YAK	**Yakutsk**	**66.23**	**16**	*e*P	**P**	**21 51 00.3**	**-1.7**
YAK				*e*PP	pP	21 51 26.1	+14
YAK				*e*		21 53 29.2	
YAK				*e*PPP	PPP	21 55 04.7	-0.7
YAK				*e*S	S	21 59 43.0	-4.4
YAK				*e*SS		22 00 27.4	
YAK				*e*		22 00 48.2	
YAK				*e*SS	SS	22 04 03.3	-1.7
YAK				pmax	pmax		
	comp=Z,56nm,0.8s,mb5.7						
YAK				pmax	pmax		
	comp=N,16nm,1.1s						
YAK				pmax	pmax		
	comp=E,14nm,1.2s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
YAK				smax			
	comp=N,106nm,3.5s						
YAK				smax			
	comp=E,16nm,1.4s						
YAK	**Yakutsk**	**66.23**	**16**	*e*P	**P**	**21 51 00.4**	**-1.6**
	comp=E,76nm,0.9s,mb5.7						
YAK				LR	LR		
	comp=Z,1μm,21.0s,MS5.1						
MBAR	**Mbarara**	**66.55**	**269**	*e*P	**P**	**21 51 02.9**	**-1.9**
MBAR				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
MBAR				MLR	MLR		
	comp=Z,83nm,20.0s						
MBAR	**Mbarara**	**66.55**	**269**	*e*P	**P**	**21 51 02.9**	**-1.9**
	comp=Z,11nm,1.2s,mb4.8						
MBAR				LR	LR		
	comp=Z,83nm,20.0s						
SOC	**Sochi**	**66.82**	**318**	*d i*P	**P**	**21 51 03.5**	**-2.6**
SOC				*e*		21 53 29.3	
SOC				*e*PPP	PPP	21 55 06.5	-5.1
SOC				*i* S	S	21 59 53.8	-1.0
SOC				*e*		22 00 58.3	
SOC				*e*SS	SS	22 04 13.9	-0.8
SOC				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
SOC				pmax	pmax		
	comp=N,17nm,1.1s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.6s						
SOC				MLR	MLR		
	comp=N,76nm,15.0s,MS4.3						

SOC				MLR	MLR		
	comp=E,120nm,15.0s,MS4.3						
SOC				MLR	MLR		
	comp=Z,161nm,15.0s,MS4.4						
SOKR	**Solikamsk**	**66.92**	**339**	⇓eP	**P**	**21 51 03.0**	**-3.4**
SOKR				pmax	pmax		
	comp=Z,60nm,3.1s						
SOKR				MLR	MLR		
	comp=Z,630nm,19.0s,MS4.8						
CASY	**Casey**	**67.13**	**174**	PFAKE		21 51 20.0	+12
CASY				LR	LR		
	comp=Z,394nm,20.0s,MS4.6						
AVNT	**Avonos**	**68.57**	**312**	iP	**P**	**21 51 16.7**	**-0.5**
CSS	**Prodhromos**	**68.66**	**308**	eP	**P**	**21 51 16.2**	**-1.5**
	comp=Z,11nm,0.9s,mb4.8						
ANN	**Anapa**	**68.80**	**319**	eP	**P**	**21 51 22.9**	**+4.4**
ANN				i*PP	pP	21 51 32.3	+4.2
ANN				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.7						
CDAG	**Cicekdag**	**69.19**	**313**	iP	**P**	**21 51 19.9**	**-1.0**
CTKT	**Corum**	**69.19**	**314**	iP	**P**	**21 51 14.2**	**-6.7**
BOYT	**Boyabat**	**69.36**	**315**	iP	**P**	**21 51 21.5**	**-0.4**
BRTR	**Keskin Array B**	**69.76**	**313**	P	**P**	**21 51 23.4**	**-1.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=131,slow=6.5,SNR=12						
LSZ	**Lusaka**	**69.94**	**254**	PFAKE		21 51 40.0	+14
LSZ				LR	LR		
	comp=Z,503nm,19.0s,MS4.8						
ELDT	**Eldivan**	**70.14**	**313**	iP	**P**	**21 51 24.3**	**-2.4**
PECR	**Pechory**	**70.22**	**332**	eP	**P**	**21 51 26.0**	**-0.9**
PECR				e		21 51 38.0	
PECR				pmax	pmax		
	comp=Z,400nm,1.6s						
MATP	**Matopo**	**70.28**	**248**	P	**P**	**21 51 27.8**	**0.0**
	comp=Z,12nm,0.7s,mb4.9,baz=87,slow=6.0,SNR=29						
BALT	**Daday**	**70.48**	**314**	iP	**P**	**21 51 28.1**	**-0.7**
VOR	**Voronezh**	**70.53**	**326**	P	**P**	**21 51 27.5**	**-1.4**
VOR				e*SP	sP	21 51 39.5	-2.5
VOR				pmax	pmax		
	comp=Z,50nm,1.8s,mb5.1						
SIM	**Simferopol'**	**71.06**	**318c**	iP	**P**	**21 51 31.7**	**-0.5**
SIM				e	pP	21 51 43.0	+1.1
SIM				iS	S	22 00 45.6	+0.5
SIM				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
SGKT	**Sivrigoynuk**	**71.16**	**313**	iP	**P**	**21 51 27.8**	**-5.2**
ISP	**Isparta**	**71.60**	**310**	⇑eP	**P**	**21 51 34.9**	**-0.7**
ESKT	**Eskisehir**	**71.77**	**312**	iP	**P**	**21 51 35.4**	**-1.1**
MAW	**Mawson**	**71.88**	**193**	eP	**P**	**21 51 37.1**	**+0.3**
	comp=Z,5.8nm,0.6s,mb4.7						
MAW	**Mawson**	**71.88**	**193**	eP	**P**	**21 51 37.1**	**+0.3**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MAW	**Mawson**	**71.88**	**193**	P	**P**	**21 51 37.1**	**+0.4**
	comp=Z,7.0nm,0.7s,mb4.7,baz=23,slow=6.4,SNR=17						
PET	**Petropavlovsk**	**72.91**	**34**	eP	**P**	**21 51 49.7**	**+6.6**
PET				e		21 54 27.3	
PET				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
PET				pmax	pmax		
	comp=Z,300nm,14.6s						
PET				pmax	pmax		
	comp=Z,100nm,12.2s						
PET				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.3						
PET	**Petropavlovsk**	**72.91**	**34**	PFAKE		21 51 50.0	+6.9
PET				LR	LR		
	comp=Z,2μm,22.0s,MS5.3						
MOS	**Moscow**	**73.12**	**329**	eP	**P**	**21 51 42.5**	**-1.7**
MOS				e	pP	21 51 52.2	-1.8
MOS				e		21 52 00.9	
MOS				e		21 54 25.0	
MOS				eS	S	22 01 05.5	-2.9
MOS				pmax	pmax		
	comp=Z,63nm,1.6s,mb5.3						
MOS				smax			
	comp=N,600nm,4.2s						
MOS				MLR	MLR		
	comp=Z,1μm,25.0s,MS5.1						
ULDT	**Uludag**	**73.20**	**312**	iP	**P**	**21 51 43.5**	**-1.5**
OBN	**Obninsk**	**73.40**	**328**	eP	**P**	**21 51 44.9**	**-1.0**
	comp=Z,6.0nm,0.5s,mb4.8						
OBN				e	pP	21 51 56.5	+0.9
OBN				LR	LR		
	comp=Z,120nm,19.0s,MS4.2						
LBTB	**Lobatse**	**73.57**	**244**	PFAKE		21 52 00.0	+12
LBTB				LR	LR		
	comp=Z,410nm,22.0s,MS4.7						
BTOK	**Tokmak**	**73.94**	**311**	iP	**P**	**21 51 47.1**	**-2.2**
TIXI	**Tiksi**	**74.03**	**10**	PFAKE		21 52 00.0	+11
TIXI				LR	LR		
	comp=Z,638nm,19.0s,MS4.9						
BOSA	**Boshof**	**74.42**	**240**	eP	**P**	**21 51 51.3**	**-1.0**
BOSA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
BOSA				MLR	MLR		
	comp=Z,366nm,22.0s,MS4.6						
BOSA	**Boshof**	**74.42**	**240**	P	**P**	**21 51 52.6**	**+0.3**
	comp=Z,6.1nm,0.6s,mb4.7,baz=84,slow=6.6,SNR=22						
BOSA	**Boshof**	**74.42**	**240**	eP	**P**	**21 51 51.3**	**-1.0**
	comp=Z,7.9nm,0.8s,mb4.7						
BOSA				LR	LR		
	comp=Z,366nm,22.0s,MS4.6						
SEY	**Seymchan**	**74.53**	**23**	eP	**P**	**21 51 52.8**	**+0.5**
SEY				e		21 54 38.4	
SEY				eS	S	22 01 26.0	+2.0
SEY				e		22 02 02.8	
SEY				eSS	SS	22 06 10.9	-2.3
SEY				eSSS	SSS	22 09 26.8	+0.5
SEY				pmax	pmax		
	comp=N,10.0nm,0.8s						
SEY				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
SEY				smax			
	comp=N,800nm,16.2s						
SEY				smax			
	comp=E,200nm,14.2s						
AKASG	**Malin Array Be**	**76.00**	**323**	P	**P**	**21 51 59.6**	**-1.3**
	comp=E,4.0nm,0.5s,mb4.6,baz=87,slow=4.6,SNR=28						
VRI	**Vrincioaia**	**76.31**	**317**	⇓P	**P**	**21 52 02.5**	**-0.3**
MLR	**Muntele Rosu**	**76.75**	**317**	⇑P	**P**	**21 52 05.5**	**+0.2**
BURAR	**Bucovina Array**	**77.73**	**319**	⇓P	**P**	**21 52 11.6**	**+1.0**
BURAR	**Bucovina Array**	**77.73**	**319**	⇓P	**P**	**21 52 11.6**	**+1.0**
RPZ	**Rata Peaks**	**78.54**	**135**	P	**P**	**21 52 16.6**	**+1.5**
	comp=E,13nm,1.0s,mb4.8,baz=112,slow=21,SNR=4.2						
SUR	**Sutherland**	**78.76**	**237**	P	**P**	**21 52 17.6**	**+1.1**
	comp=E,8.3nm,0.9s,mb4.7,baz=78,slow=6.4,SNR=6.3						
SUR	**Sutherland**	**78.76**	**237**	P	**P**	**21 52 17.6**	**+1.1**
SUR				LR	LR		
	comp=Z,154nm,20.0s,MS4.3						
JOF	**Joensuu**	**78.97**	**335**	ep	**P**	**21 52 15.6**	**-1.5**
	comp=Z,7.6nm,0.9s,mb4.6						
LVV	**L'vov**	**78.99**	**321**	eP	**P**	**21 52 17.1**	**-0.4**
LVV				eS	S	22 02 12.9	+0.1
SYO	**Syowa Base**	**79.20**	**198**	⇓P	**P**	**21 52 19.0**	**+0.8**
SYO	**Syowa Base**	**79.20**	**198**	⇑pP	pP	21 52 24.4	-3.7
SYO	**Syowa Base**	**79.20**	**198**	⇑PP	PP	21 55 17.8	-1.8
KWP	**Kalwaria**	**79.79**	**320**	eP	**P**	**21 52 22.6**	**+0.8**
KOLS	**Kolonicke sedl**	**79.93**	**320**	eP	**P**	**21 52 23.6**	**+1.0**
KOLS				e		21 52 28.5	
APA	**Apatity**	**79.97**	**340**	⇑iP	**P**	**21 52 23.0**	**+0.6**
APA				i		21 52 35.4	
APA				MLR	MLR		
	comp=Z,700nm,16.0s,MS5.1						
TSUM	**Tsumeb**	**80.38**	**251**	PFAKE		21 52 40.0	+14
TSUM				LR	LR		
	comp=Z,299nm,19.0s,MS4.7						
SUW	**Suwalki**	**80.43**	**325**	eP	**P**	**21 52 25.1**	**0.0**
CRVS	**Cervenica-Dubn**	**80.45**	**320**	eP	**P**	**21 52 32.0**	**+6.7**
CRVS	**Cervenica-Dubn**	**80.45**	**320**	e	**P**	**21 52 32.0**	**+6.7**
FINES	**FINESS Array B**	**80.81**	**333**	P	**P**	**21 52 26.2**	**-0.7**
	comp=Z,3.4nm,0.4s,mb4.6,baz=100,slow=5.8,SNR=62						
KAF	**Kangasniemi**	**80.89**	**333**	ep	**P**	**21 52 26.9**	**-0.5**
	comp=Z,6.3nm,0.6s,mb4.7,baz=103,slow=5.0						
KAF	**Kangasniemi**	**80.89**	**333**	eP	**P**	**21 52 26.9**	**-0.5**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
PSZ	**Piszkesteto**	**81.31**	**318**	eP	**P**	**21 52 30.0**	**+0.1**
PSZ				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
PSZ	**Piszkesteto**	**81.31**	**318**	eP	**P**	**21 52 30.0**	**+0.2**
	comp=Z,10nm,0.9s,mb4.8						
OJC	**Ojcow**	**81.75**	**321**	eP	**P**	**21 52 32.6**	**+0.5**
SMY	**Shemya**	**81.77**	**37**	PFAKE		21 52 40.0	+7.9
SMY				LR	LR		
	comp=Z,5μm,19.0s,MS5.9						
PKSM	**Moragy**	**81.90**	**317**	⇑P	**P**	**21 52 32.9**	**-0.1**
BILL	**Bilibino**	**81.95**	**21**	iP	**P**	**21 52 36.9**	**+4.1**
BILL	**Bilibino**	**81.95**	**21**	PFAKE		21 52 40.0	+7.2
BILL				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
VYHS	**Vyhne**	**82.10**	**319**	eP	**P**	**21 52 34.5**	**+0.6**
VYHS				epP	pP	21 52 45.9	+2.1
OKC	**Ostrava-Krasne**	**82.74**	**320**	eP	**P**	**21 52 37.3**	**+0.1**
OKC				eS	S	22 02 53.6	+2.0
OKC				AMS	AMS	22 35 40.0	
	comp=Z,200nm,14.9s						
KEV	**Kevo**	**82.95**	**341**	eP	**P**	**21 52 41.3**	**+3.4**
KEV				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
KEV				MLR	MLR		
	comp=Z,882nm,20.0s,MS5.1						
KEV	**Kevo**	**82.95**	**341**	eP	**P**	**21 52 41.3**	**+3.4**
	comp=Z,13nm,0.8s,mb5.0						
KEV				LR	LR		
	comp=Z,882nm,20.0s,MS5.1						
MORC	**Moravsky Berou**	**83.12**	**320**	⇑P	**P**	**21 52 39.7**	**+0.5**
MORC	**Moravsky Berou**	**83.12**	**320**	eP	**P**	**21 52 39.3**	**+0.1**
	comp=Z,23nm,1.5s,mb5.0						
ZST	**Bratislava**	**83.20**	**318**	eP	**P**	**21 52 40.0**	**+0.3**
ZST				e		21 52 45.0	
ARCES	**ARCESS Array B**	**83.38**	**340**	P	**P**	**21 52 41.1**	**+0.9**
	comp=Z,3.5nm,0.4s,mb4.7,baz=107,slow=4.4,SNR=71						
ARE0	**ARCESS Array S**	**83.38**	**340**	eP	**P**	**21 52 40.9**	**+0.7**
DPC	**Dobruska-Polom**	**83.97**	**320**	eP	**P**	**21 52 44.2**	**+0.6**
DPC				eS	S	22 03 06.5	+2.6
DPC				AMS	AMS	22 37 20.0	
	comp=Z,400nm,19.9s						
KSP	**Ksiaz**	**84.05**	**321**	eP	**P**	**21 52 43.8**	**-0.1**
KSP				e*PP	pP	21 52 56.5	+2.6
KSP				eS	S	22 03 05.5	+0.8
KSP	**Ksiaz**	**84.05**	**321**	eP	**P**	**21 52 44.8**	**+0.8**
UPC	**Upice**	**84.19**	**321**	eP	**P**	**21 52 45.5**	**+0.9**
VNDA	**Vanda**	**84.96**	**169**	P	**P**	**21 52 49.0**	**+1.0**
	comp=Z,2.0nm,0.8s,mb4.3,baz=306,slow=4.3,SNR=12						
VNDA	**Vanda**	**84.96**	**169**	P	**P**	**21 52 49.0**	**+1.0**
VNDA				LR	LR		
	comp=Z,393nm,19.0s,MS4.8						
PRU	**Pruhonice**	**85.07**	**320**	eP	**P**	**21 52 49.3**	**+0.2**
PRU				eS	S	22 03 20.4	+5.6
PRU				AMS	AMS	22 37 50.0	
	comp=Z,300nm,19.1s						
PVCC	**Panska Ves**	**85.11**	**321**	eP	**P**	**21 52 50.0**	**+0.8**
PVCC				eS	S	22 03 22.5	+7.4
PVCC				AMS	AMS	22 37 50.0	
	comp=Z,300nm,20.3s						
AQU	**L'Aquila**	**85.25**	**312**	P	**P**	**21 52 48.8**	**-1.3**
GEC2	**GERESS Array S**	**85.52**	**319**	eP	**P**	**21 52 51.8**	**+0.5**
GEC2				e*PP	pP	21 53 03.9	+2.6
GEC2				pmax	pmax		
	comp=Z,52nm,1.9s,mb5.4						
GEC2	**GERESS Array S**	**85.52**	**319**	eP	**P**	**21 52 51.8**	**+0.5**
	comp=Z,52nm,1.9s,mb5.4						
GEC2				epP	pP	21 53 03.9	+2.6
GERES	**GERESS Array B**	**85.52**	**319**	P	**P**	**21 52 52.1**	**+0.7**
	comp=Z,1.8nm,0.8s,mb4.4,baz=90,slow=4.0,SNR=15						
BRG	**Berggiesshubel**	**85.53**	**321**	eP	**P**	**21 52 52.2**	**+0.9**
BRG				pmax	pmax		
	comp=Z,24nm,1.8s,mb5.1						
BRG	**Berggiesshubel**	**85.53**	**321**	eP	**P**	**21 52 52.2**	**+0.9**
	comp=Z,24nm,1.8s,mb5.1						
KHC	**Kasperske Hory**	**85.62**	**319**	eP	**P**	**21 52 52.4**	**+0.6**
KHC				eS	S	22 03 22.3	+2.1
KHC				AMS	AMS	22 41 50.0	
	comp=Z,300nm,13.0s						
WET	**Wettzell**	**86.08**	**319**	eP	**P**	**21 52 54.7**	**+0.6**
WET				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.9						
WET	**Wettzell**	**86.08**	**319**	eP	**P**	**21 52 54.7**	**+0.6**
	comp=Z,10.0nm,1.2s,mb4.9						
CLL	**Collm**	**86.16**	**321**	eP	**P**	**21 52 53.0**	**-1.4**
CLL				i		21 53 00.8	
CLL				eS	S	22 03 26.0	+0.7
CLL	**Collm**	**86.16**	**321**	P	**P**	**21 52 55.0**	**+0.6**
CLL				i*PP	pP	21 53 00.8	-3.6
CLL				e		21 53 09.0	
CLL				eS	S	22 03 26.0	+0.7
CLL				e		22 15 46.0	
MOX	**Moxa**	**86.99**	**321**	eP	**P**	**21 52 59.9**	**+1.4**
MOX				pmax	pmax		
	comp=Z,21nm,1.6s,mb5.1						
MOX	**Moxa**	**86.99**	**321**	eP	**P**	**21 52 59.9**	**+1.4**
	comp=Z,21nm,1.6s,mb5.1						
MOX	**Moxa**	**86.99**	**321**	iP	**P**	**21 53 00.1**	**+1.6**
	comp=Z,logA/T=1.2,mb5.2						
MOX				pP	pP	21 53 10.0	+1.5
MOX				L		22 39 33.0	
GRA1	**Grafenberg Arr**	**87.20**	**320**	eP	**P**	**21 53 00.3**	**+0.8**
	comp=Z,10.0nm,1.0s,mb5.0						
GRF	**Grafenberg Arr**	**87.20**	**320**	eP	**P**	**21 53 00.3**	**+0.8**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0						
GRF	**Grafenberg Arr**	**87.20**	**320**	eP	**P**	**21 53 00.3**	**+0.8**
GRF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0						
GRF	**Grafenberg Arr**	**87.20**	**320**	eP	**P**	**21 53 00.3**	**+0.8**
	comp=Z,10.0nm,1.0s,mb5.0						
NB2	**NORSAR Subarra**	**87.80**	**331**	P	**P**	**21 53 02.1**	**-0.1**
	comp=Z,52nm,2.0s,mb5.4,baz=93,slow=5.0						
NB2	**NORSAR Subarra**	**87.80**	**331**	P	**P**	**21 53 02.1**	**-0.1**
NB2				pmax	pmax		
	comp=Z,52nm,2.0s,mb5.4						
NB2	**NORSAR Subarra**	**87.80**	**331**	P	**P**	**21 53 02.1**	**-0.1**
	baz=93,slow=5.3						
NOA	**NORSAR Array B**	**87.80**	**331**	P	**P**	**21 53 02.1**	**-0.1**
	comp=Z,1.6nm,0.7s,mb4.3,baz=95,slow=4.8,SNR=12						
NOA				LR	LR	22 36 45.4	
	comp=Z,349nm,20.6s,MS4.8,baz=295,slow=39						
CLZ	**Clausthal**	**87.83**	**322**	eP	**P**	**21 53 03.2**	**+0.7**
	comp=Z,8.0nm,1.1s,mb4.9						
BSEG	**Bad Segeberg**	**87.94**	**324**	eP	**P**	**21 53 04.3**	**+1.3**
KONO	**Kongsberg**	**88.55**	**329**	iP	**P**	**21 53 05.5**	**-0.3**
KONO	**Kongsberg**	**88.55**	**329**	PFAKE		21 53 20.0	+14
KONO				LR	LR		
	comp=Z,378nm,19.0s,MS4.8						
KBS	**Kingsbay**	**88.78**	**349**	PFAKE		21 53 20.0	+13
KBS				LR	LR		
	comp=Z,801nm,20.0s,MS5.1						
TNS	**Taunus Mts**	**89.00**	**320**	eP	**P**	**21 53 09.4**	**+1.2**
TNS				pmax	pmax		
	comp=Z,12nm,1.3s,mb5.1						
TNS	**Taunus Mts**	**89.00**	**320**	eP	**P**	**21 53 09.4**	**+1.2**
	comp=Z,12nm,1.3s,mb5.1						
LPG	**La Plagne**	**90.14**	**315**	eP	**P**	**21 53 14.1**	**+0.5**
	comp=Z,19nm,1.0s,mb5.1						
LPG	**La Plagne**	**90.14**	**315**	eP	**P**	**21 53 14.1**	**+0.5**
LPG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.1						
BNI	**Bardonecchia**	**90.20**	**315**	eP	**P**	**21 53 12.6**	**-1.3**
BNI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
BNI	**Bardonecchia**	**90.20**	**315**	eP	**P**	**21 53 12.6**	**-1.3**
	comp=Z,8.2nm,0.9s,mb5.1						
QSPA	**South Pole Qui**	**90.27**	**180**	PFAKE		21 53 30.0	+16
QSPA				LR	LR		
	comp=Z,494nm,20.0s,MS4.9						
WLF	**Walferdange**	**90.49**	**319**	eP	**P**	**21 53 15.2**	**+0.1**
WLF				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.1						
WLF	**Walferdange**	**90.49**	**319**	eP	**P**	**21 53 15.2**	**+0.1**
	comp=Z,11nm,1.1s,mb5.1						
TNA	**Tin City**	**91.70**	**25**	PFAKE		21 53 30.0	+10
TNA				LR	LR		
	comp=Z,337nm,21.0s,MS4.8						
UNV	**Unalaska Valle**	**93.42**	**36**	PFAKE		21 53 40.0	+12
UNV				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
SNAA	**Sanae**	**93.49**	**198**	P	**P**	**21 53 29.9**	**+1.5**
	comp=Z,1.1nm,0.8s,mb4.3,baz=146,slow=7.2,SNR=3.6						
DAG	**Danmarks Havn**	**95.47**	**348**	eP	**P**	**21 53 37.0**	**-0.5**
DAG	**Danmarks Havn**	**95.47**	**348**	iP	**P**	**21 53 37.0**	**-0.5**
ESK	**Eskdalemuir**	**95.70**	**326**	PFAKE		21 53 50.0	+11
ESK				LR	LR		
	comp=Z,99nm,19.0s,MS4.3						
ESLA	**Sonseca Array**	**98.45**	**310**	PFAKE		21 54 00.0	+8.3
ESLA				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
MCK	**McKinley**	**100.05**	**24**	PFAKE		21 54 10.0	+12
MCK				LR	LR		
	comp=Z,227nm,20.0s,MS4.7						
COLA	**College**	**100.05**	**23**	PFAKE		21 54 10.0	+12
COLA				LR	LR		
	comp=Z,511nm,19.0s,MS5.0						
KDAK	**Kodiak Island**	**100.35**	**31**	PFAKE		21 54 10.0	+10
KDAK				LR	LR		
	comp=Z,176nm,20.0s,MS4.6						
FIB	**Fire Island**	**100.42**	**27**	PFAKE		21 54 10.0	+10
FIB				LR	LR		
	comp=Z,769nm,19.0s,MS5.2						
ILAR	**Eielson Array**	**100.47**	**23**	PP	PP	21 58 07.8	-2.0
	comp=Z,0.5nm,0.8s,baz=320,slow=7.0,SNR=3.0						
BORG	**Borgarnes**	**101.56**	**337**	PFAKE		21 54 20.0	+15
BORG				LR	LR		
	comp=Z,251nm,19.0s,MS4.8						
DBIC	**Dimbokro**	**102.02**	**277**	PFAKE		21 54 20.0	+12
DBIC				LR	LR		
	comp=Z,274nm,19.0s,MS4.8						
DIV	**Divide**	**102.42**	**26**	PFAKE		21 54 20.0	+11
DIV				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
SIT	**Sitka**	**109.09**	**27**	PFAKE		21 58 50.0	
SIT				LR	LR		
	comp=Z,894nm,20.0s,MS5.3						
TBI	**Tubuai**	**111.42**	**115**	ePS	PS	22 09 03.6	+4.9
TBI				eLR	LR	22 32 00.9	
	comp=Z,593nm,27.5s						
PPT	**Papeete**	**112.12**	**109**	eLR	LR	22 32 19.5	
	comp=Z,474nm,24.2s						
YKA	**Yellowknife Ar**	**112.91**	**15**	PKiKP		21 58 49.3	
	comp=Z,0.1nm,0.7s,baz=333,slow=1.4,SNR=3.9						
YKA				PP	PP	21 59 34.2	-8.1
	comp=Z,0.4nm,1.0s,baz=329,slow=7.1,SNR=3.5						
YKA				PKKPbc		22 09 36.1	
	comp=Z,0.4nm,0.8s,baz=146,slow=3.3,SNR=9.0						
YKA	**Yellowknife Ar**	**112.91**	**15**	PKPdf	PKPdf	21 58 49.3	-4.5
YKA				PP	PP	21 59 34.2	-8.1
YKA				PKKPbc		22 09 36.1	
FFC	**Flin Flon**	**122.89**	**13**	PFAKE		21 59 20.0	+6.7
FFC				LR	LR		
	comp=Z,98nm,19.0s,MS4.5						
NEW	**Newport**	**123.17**	**27**	PFAKE		21 59 20.0	+5.9
NEW				LR	LR		
	comp=Z,339nm,20.0s,MS5.0						
HAWA	**Hanford**	**123.37**	**30**	PFAKE		21 59 20.0	+5.5
HAWA				LR	LR		
	comp=Z,25nm,20.0s						
SCHQ	**Schefferville**	**123.50**	**349**	PFAKE		21 59 20.0	+5.5
SCHQ				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
HUMO	**Hull Mountain**	**124.04**	**35**	ePKP	PKPdf	21 59 12.5	-3.5
HUMO				LR	LR		
	comp=Z,202nm,20.0s,MS4.8						
YBH	**Yreka Blue Hor**	**124.73**	**36**	PFAKE		21 59 30.0	+13
YBH				LR	LR		
	comp=Z,326nm,21.0s,MS5.0						
WDC	**Whiskeytown Da**	**125.55**	**37**	PFAKE		21 59 30.0	+11
WDC				LR	LR		
	comp=Z,293nm,20.0s,MS5.0						
BMO	**Blue Mountains**	**125.57**	**30**	PFAKE		21 59 30.0	+11
BMO				LR	LR		
	comp=Z,308nm,20.0s,MS5.0						
MSO	**Missoula**	**125.67**	**26**	PFAKE		21 59 30.0	+11
MSO				LR	LR		
	comp=Z,244nm,20.0s,MS4.9						
MOD	**Modoc**	**126.00**	**34**	PFAKE		21 59 30.0	+10
MOD				LR	LR		
	comp=Z,360nm,20.0s,MS5.0						
WVOR	**Wild Horse Val**	**126.57**	**33**	ePKIKP	PKPdf	21 59 17.9	-2.9
WVOR				MLR	MLR		
	comp=Z,364nm,19.0s,MS5.1						
BOZ	**Bozeman (W)**	**127.59**	**25**	ePKIKP	PKPdf	21 59 19.3	-3.4
BOZ				MLR	MLR		
	comp=Z,371nm,19.0s,MS5.1						
HLID	**Hailey**	**127.93**	**29**	PFAKE		21 59 30.0	+6.6
HLID				LR	LR		
	comp=Z,455nm,19.0s,MS5.2						
ULM	**Lac du Bonnet**	**128.38**	**11**	PFAKE		21 59 30.0	+5.9
ULM				LR	LR		
	comp=Z,622nm,19.0s,MS5.3						
CMB	**Columbia Colle**	**128.43**	**38**	PFAKE		21 59 30.0	+5.4
CMB				LR	LR		
	comp=Z,336nm,19.0s,MS5.0						
BMN	**Battle Mountai**	**128.71**	**34**	PFAKE		21 59 30.0	+5.0
BMN				LR	LR		
	comp=Z,312nm,19.0s,MS5.0						
LAO	**LASA Array**	**128.84**	**21**	PFAKE		21 59 30.0	+4.9
LAO				LR	LR		
	comp=Z,602nm,19.0s,MS5.3						
LKWY	**Lake**	**128.98**	**25**	PFAKE		21 59 30.0	+4.6
LKWY				LR	LR		
	comp=Z,583nm,20.0s,MS5.3						
NVAR	**Mina Array Bea**	**129.44**	**36**	PKP	PKPdf	21 59 24.6	-1.9
	comp=Z,1.7nm,0.8s,baz=3.8,slow=1.3,SNR=9.8						
MNV	**Mina**	**129.53**	**36**	PFAKE		21 59 30.0	+3.4
MNV				LR	LR		
	comp=Z,335nm,20.0s,MS5.0						
ELK	**Elko**	**129.57**	**32**	PFAKE		21 59 30.0	+3.4
ELK				LR	LR		
	comp=Z,333nm,20.0s,MS5.0						
AHID	**Auburn Hatcher**	**130.10**	**27**	PFAKE		21 59 40.0	+12
AHID				LR	LR		
	comp=Z,371nm,19.0s,MS5.1						
TPH	**Tonopah**	**130.31**	**36**	PFAKE		21 59 40.0	+12
TPH				LR	LR		
	comp=Z,276nm,19.0s,MS5.0						
HWUT	**Hardware Ranch**	**130.78**	**29**	PFAKE		21 59 40.0	+11
HWUT				LR	LR		
	comp=Z,435nm,20.0s,MS5.2						
BW06	**Boulder Array**	**130.79**	**26**	PFAKE		21 59 40.0	+11
BW06				LR	LR		
	comp=Z,340nm,20.0s,MS5.0						
PDAR	**Pinedale Array**	**130.79**	**26**	PKP	PKPdf	21 59 26.1	-2.8
	comp=Z,0.6nm,0.7s,baz=193,slow=2.4,SNR=5.4						
DUG	**Dugway**	**131.23**	**31**	PFAKE		21 59 40.0	+10
DUG				LR	LR		
	comp=Z,478nm,21.0s,MS5.2						
DAC	**Darwin (Calif)**	**131.27**	**38**	PFAKE		21 59 40.0	+10
DAC				LR	LR		
	comp=Z,252nm,20.0s,MS4.9						
EYMN	**Ely**	**131.32**	**8**	PFAKE		21 59 40.0	+10
EYMN				LR	LR		
	comp=Z,394nm,19.0s,MS5.1						
PQI	**Presque Isle**	**131.45**	**347**	PFAKE		21 59 40.0	+10
PQI				LR	LR		
	comp=Z,6μm,22.0s						
MVU	**Marysvale**	**132.80**	**32**	PFAKE		21 59 40.0	+7.1
MVU				LR	LR		
	comp=Z,358nm,19.0s,MS5.1						
EMMW	**East Machias**	**133.15**	**345**	PFAKE		21 59 40.0	+6.7
EMMW				LR	LR		
	comp=Z,6μm,19.0s						
PFO	**Pinyon Flat Ob**	**133.70**	**40**	PFAKE		21 59 40.0	+5.4
PFO				LR	LR		
	comp=Z,82nm,19.0s,MS4.5						
WVL	**Waterville**	**133.82**	**347**	PFAKE		21 59 40.0	+5.5
WVL				LR	LR		
	comp=Z,4μm,22.0s,MS6.1						
PV10	**Paradox Valley**	**134.51**	**29**	ePKPdf	PKPdf	21 59 34.1	-1.9
NCB	**Newcomb**	**135.25**	**351**	PFAKE		21 59 50.0	+13
NCB				LR	LR		
	comp=Z,959nm,20.0s,MS5.5						
HRV	**Harvard--Oak R**	**136.19**	**348**	PFAKE		21 59 50.0	+11
HRV				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
WES	**Weston**	**136.26**	**348**	PFAKE		21 59 50.0	+11
WES				LR	LR		
	comp=Z,4μm,22.0s,MS6.1						
SDCO	**Great Sand Dun**	**136.67**	**27**	PFAKE		21 59 50.0	+10
SDCO				LR	LR		
	comp=Z,377nm,19.0s,MS5.1						
ERPA	**Erie**	**137.68**	**357**	PFAKE		21 59 50.0	+8.3
ERPA				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
CBKS	**Cedar Bluff**	**138.03**	**20**	PFAKE		21 59 50.0	+7.5
CBKS				LR	LR		
	comp=Z,408nm,20.0s,MS5.2						
TUC	**Tucson**	**138.09**	**37**	PFAKE		21 59 50.0	+7.2
TUC				LR	LR		
	comp=Z,251nm,19.0s,MS5.0						
ANMO	**Albuquerque**	**138.48**	**30**	PFAKE		21 59 50.0	+6.6
ANMO				LR	LR		
	comp=Z,206nm,20.0s,MS4.9						
SSPA	**Standing Stone**	**139.00**	**354**	PFAKE		21 59 50.0	+5.8
SSPA				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
ACSO	**Alum Creek Sta**	**139.64**	**0**	PFAKE		21 59 50.0	+4.7

ACSO LR LR
comp=Z,921nm,19.0s,MS5.5
MCWV Mont Chateau 140.12 357 PFAKE 21 59 50.0 +3.8
MCWV LR LR
comp=Z,2μm,19.0s,MS5.8
AMTX Amarillo 140.74 25 PFAKE 22 00 00.0 +12
AMTX LR LR
comp=Z,332nm,20.0s,MS5.1
CCM Cathedral Cave 141.01 11 PFAKE 22 00 00.0 +12
CCM LR LR
comp=Z,381nm,19.0s,MS5.2
CBN Corbin 141.34 353 PFAKE 22 00 00.0 +12
CBN LR LR
comp=Z,630nm,19.0s,MS5.4
WCI Wyandotte Cave 141.50 5 PFAKE 22 00 00.0 +11
WCI LR LR
comp=Z,380nm,19.0s,MS5.2
MNTX Cornudas Mount 141.59 32 PKP PKPdf 21 59 45.8 -3.4
MNTX LR LR
comp=Z,290nm,21.0s,MS5.0
BLA Blacksburg 142.59 357 PFAKE 22 00 00.0 +9.4
BLA LR LR
comp=Z,422nm,19.0s,MS5.2
WVT Waverly 143.42 7 PFAKE 22 00 00.0 +15
WVT LR LR
comp=Z,332nm,20.0s,MS5.1
LTX Lajitas 144.36 32 *e*PKIKP PKPdf 21 59 49.7 -4.2
LTX MLR MLR
comp=Z,342nm,20.0s,MS5.1
TXAR Lajitas Array 144.36 32 PKP PKPdf 21 59 49.6 -4.3
comp=Z,2.6nm,0.5s,baz=295,slow=2.0,SNR=15
CPCT Cooper Cave 144.37 3 *e*PKP PKPdf 21 59 48.0 -5.7
CPUP Villa Florida 144.41 221 PKP PKPdf 21 59 49.1 -5.0
comp=Z,25nm,0.7s,baz=134,slow=3.9,SNR=61
CPUP Villa Florida 144.41 221 *e*PKP PKPdf 21 59 49.0 -5.1
PLAL Pickwick Lake 144.52 8 *e*PKP PKPdf 21 59 48.3 -5.8
PLAL LR LR
comp=Z,382nm,22.0s,MS5.1
OXF Oxford 144.78 10 PFAKE 22 00 00.0 +11
OXF LR LR
comp=Z,509nm,21.0s,MS5.3
MDZ Mendoza 145.08 201 *e*PKIKP PKPdf 21 59 52.9 -2.2
JCT Junction City 145.32 26 *e*PKIKP PKPdf 21 59 51.9 -3.7
JCT MLR MLR
comp=Z,450nm,20.0s,MS5.2
JSC Jenkinsville 145.55 358 *e*PKIKP PKPdf 21 59 51.9 -4.0
NATX Nacogdoches 146.15 18 PFAKE 22 00 10.0 +17
NATX LR LR
comp=Z,344nm,20.0s,MS5.1
GOGA Godfrey 146.44 1 *e*PKP2 PKPab 21 59 54.9 -1.6
GOGA MLR MLR
comp=Z,509nm,19.0s,MS5.3
LRAL Lakeview Retre 146.57 7 PFAKE 22 00 10.0 +16
LRAL LR LR
comp=Z,349nm,19.0s,MS5.2
NHSC New Hope 146.66 356 PFAKE 22 00 10.0 +16
NHSC LR LR
comp=Z,609nm,20.0s,MS5.4
DWPF Disney 151.70 358 PFAKE 22 00 10.0 +4.1
DWPF LR LR
comp=Z,470nm,19.0s,MS5.3
LVC Limon Verde 154.09 210 *e*PKPbc PKPdf 22 00 14.9 +5.6
LVC *e*PKPab PKPab 22 00 29.2 +0.9
SJG San Juan 155.48 319 PFAKE 22 00 20.0 +8.7
SJG LR LR
comp=Z,478nm,20.0s,MS5.3
LPAZ La Paz 158.59 221 PKP PKPdf 22 00 13.2 -2.1
comp=Z,0.6nm,0.4s,baz=57,slow=7.0,SNR=4.3
LPAZ La Paz 158.59 221 PKP PKPdf 22 00 13.2 -2.1
LPAZ LR LR
comp=Z,199nm,19.0s,MS5.0
SAML Samuel 158.74 246 *e*PKPab PKPab 22 00 48.2 -0.3
SAML LR LR
comp=Z,398nm,19.0s,MS5.3
TEIG Tepich 158.86 15 PFAKE 22 00 20.0 +4.4
TEIG LR LR
comp=Z,205nm,21.0s,MS4.9
SDV Santo Domingo 164.88 308 PFAKE 22 00 30.0 +8.0
SDV LR LR
comp=Z,340nm,21.0s
NNA Nana 167.03 207 PFAKE 22 00 30.0 +6.3
NNA LR LR
comp=Z,58nm,20.0s
OTAV Otavalo 175.69 277 PFAKE 22 00 40.0 +12
OTAV LR LR
comp=Z,274nm,20.0s

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*IDC **25** 21:41:08.0±0.9, 0.42N×97.20E, mb4.6/11, mb1 4.6/12, mb1mx4.4/22, mbtmp4.5/12, MS4.7/2, Ms1 4.7/2, ms1mx4.0/16, Error ellipse: s-maj=28.6km s-min=23.5km az=79.0*
*NEIC **25** 21:41:12.2±0.6, 0.46N×97.30E, h30km, mb4.9/1, Error ellipse: s-maj=17.0km s-min=12.1km az=119.0*
ISC 25 21:41:11.2±0.8, 0.5N±0.1×97.3E±0.1, h33km, n19, σ0.86/15, mb4.6/12, MS4.7/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.81**	**35**	P	**P**	**21 42 36.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**17.90**	**5**	P	**P**	**21 45 19.9**	**+0.5**
baz=191,slow=9.2,SNR=2.3							
WRA	**Warramunga Arr**	**41.61**	**121**	P	**P**	**21 48 58.6**	**+0.3**
5.6nm,0.8s,mb4.2,baz=300,slow=9.0,SNR=2.2							
MKAR	**Makanchi Array**	**47.91**	**346**	P	**P**	**21 49 49.5**	**+1.2**
5.8nm,0.6s,mb4.8,baz=160,slow=7.9,SNR=2.3							
PMG	**Port Moresby**	**50.62**	**103**	LR	LR	22 16 08.6	
comp=Z,704nm,19.1s,MS4.7,baz=21,slow=41							
ZAL	**Zalesovo**	**54.23**	**351**	LR	LR	22 19 38.6	
comp=Z,743nm,18.9s,MS4.8,baz=308,slow=42							
BVAR	**Borovoye Array**	**56.91**	**341**	P	**P**	**21 50 54.6**	**-0.8**
7.0nm,0.7s,mb4.8,baz=145,slow=8.4,SNR=5.1							
CHKZ	**Chkalovo**	**57.39**	**342**	P	**P**	**21 50 56.9**	**-1.9**
9.0nm,0.7s,mb4.9							
KMBO	**Kilima Mbogo**	**60.05**	**268**	P	**P**	**21 51 18.1**	**+0.2**
2.6nm,0.8s,mb4.3,baz=46,slow=8.0,SNR=4.2							
ASF	**Jabal al Asfar**	**64.92**	**306**	P	**P**	**21 51 50.1**	**0.0**
4.2nm,0.8s,mb4.5,baz=67,slow=4.0,SNR=3.7							
MATP	**Matopo**	**70.35**	**248**	P	**P**	**21 52 23.9**	**-0.3**
12nm,0.8s,mb4.9,baz=102,slow=5.4,SNR=6.6							
BOSA	**Boshof**	**74.52**	**240**	P	**P**	**21 52 48.0**	**-0.8**
3.6nm,0.8s,mb4.4,baz=110,slow=9.9,SNR=3.9							
AKASG	**Malin Array Be**	**75.84**	**323**	P	**P**	**21 52 55.4**	**-0.6**
7.4nm,0.7s,mb4.7,baz=88,slow=4.7,SNR=6.7							
FINES	**FINESS Array B**	**80.64**	**333**	P	**P**	**21 53 22.5**	**+0.5**
3.3nm,0.6s,mb4.4,baz=108,slow=6.0,SNR=5.5							
FINES	**FINESS Array B**	**80.64**	**333**	P	**P**	**21 53 22.5**	**+0.4**
ARCES	**ARCESS Array B**	**83.20**	**340**	P	**P**	**21 53 36.6**	**+1.5**
2.7nm,0.5s,mb4.5,baz=110,slow=5.8,SNR=5.8							
CLL	**Collm**	**86.01**	**321**	*e*PP	pP	21 53 55.9	-4.2
NOA	**NORSAR Array B**	**87.64**	**331**	P	**P**	**21 53 58.1**	**+0.8**
2.2nm,0.8s,mb4.4,baz=95,slow=4.8,SNR=3.5							
CPUP	**Villa Florida**	**144.56**	**222**	PKP	PKPdf	22 00 45.0	-0.1
16nm,0.8s,baz=151,slow=5.8,SNR=4.4							

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*IDC **25** 21:43:57.0±3.2, 1.31N×99.31E, mb4.1/4, mb1 4.3/5, mb1mx3.8/20, mbtmp4.1/5, Error ellipse: s-maj=149.4km s-min=21.4km az=58.0*
*NEIC **25** 21:44:00.3±1.8, 1.23N×99.15E, h30km, mb4.2/2, Error ellipse: s-maj=76.0km s-min=14.3km az=60.0*
ISC 25 21:43:57.8±1.9, 1.2N±0.3×99.0E±0.5, h30km, n7, σ1.00/7, mb4.1/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.18**	**360**	P	**P**	**21 47 57.1**	**-0.4**
baz=185,slow=10.0,SNR=6.0							
WRA	**Warramunga Arr**	**40.52**	**123**	P	**P**	**21 51 37.5**	**+1.4**
2.9nm,1.0s,mb3.9,baz=299,slow=8.9,SNR=3.6							
WRAB	**Tennant Creek**	**40.52**	**123**	P	**P**	**21 51 35.3**	**-0.9**
2.1nm,0.6s,mb3.9							
ASAR	**Alice Springs**	**41.97**	**128**	P	**P**	**21 51 47.6**	**-0.5**
2.1nm,0.9s,mb3.8,baz=310,slow=7.0,SNR=2.9							
MKAR	**Makanchi Array**	**47.72**	**345**	P	**P**	**21 52 35.0**	**+1.0**
2.2nm,0.6s,mb4.4,baz=160,slow=7.8,SNR=7.2							
ZAL	**Zalesovo**	**53.88**	**350**	P	**P**	**21 53 21.4**	**+0.9**
1.8nm,0.6s,mb4.2,baz=298,slow=9.5,SNR=4.2							
CHKZ	**Chkalovo**	**57.34**	**340**	*e*P	**P**	**21 53 44.0**	**-1.5**
1.9nm,0.7s,mb4.2							

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*BJI **25** 21:44:19.4, 0.18N×97.08E, h30km, mB5.2, mb4.9*
*IDC **25** 21:44:22.7±3.3, 0.94N×97.10E, mb4.3/5, mb1 4.5/5, mb1mx3.9/20, mbtmp4.3/5, Error ellipse: s-maj=131.5km s-min=26.8km az=55.0*
*NEIC **25** 21:44:27.3±0.8, 0.98N×97.20E, h30km, mb4.5/1, Error ellipse: s-maj=18.9km s-min=10.6km az=223.0*
ISC 25 21:44:25.3±1.1, 1.0N±0.1×97.2E±0.1, h30km, n15, σ0.88/15, mb4.4/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.51**	**39**	*e*P	**Pn**	**21 45 46.5**	**-0.9**
KSM	**Kuching**	**13.12**	**88**	P	**P**	**21 47 32.1**	**-0.3**
KMI	**Kunming**	**24.61**	**12**	P	**P**	**21 49 47.0**	**+2.5**
KMI				AP		21 49 53.3	
KMI				XP		21 49 57.5	
KMI				AMB	AMB		
comp=Z,23nm,1.2s,mb4.6							
KMI	**Kunming**	**24.61**	**12**	P	**P**	**21 49 46.9**	**+2.4**
KMI				pP		21 49 53.2	
KMI				sP		21 49 57.5	
GTA	**Gaotai**	**38.34**	**3**	*e*P	**P**	**21 51 46.3**	**+0.9**
GTA				AP	pP	21 51 52.5	-1.8
GTA				XP	sP	21 51 55.3	-2.8
GTA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**41.91**	**122**	P	**P**	**21 52 15.8**	**+0.6**
comp=Z,1.9nm,0.7s,mb3.8,baz=300,slow=9.0,SNR=4.5							
WRAB	**Tennant Creek**	**41.92**	**122**	P	**P**	**21 52 15.0**	**-0.2**
SONM	**Songino Array**	**47.36**	**8**	P	**P**	**21 52 59.3**	**+0.7**
comp=Z,3.4nm,0.9s,mb4.3,baz=191,slow=9.3,SNR=6.8							
MKAR	**Makanchi Array**	**47.47**	**346**	P	**P**	**21 52 59.6**	**+0.2**
comp=Z,3.7nm,0.7s,mb4.4,baz=155,slow=7.9,SNR=4.6							
ULN	**Ulaanbaatar**	**47.49**	**9**	P	**P**	**21 52 59.9**	**+0.3**
CN2	**Changchun**	**49.51**	**27**	*e*P	**P**	**21 53 15.0**	**-0.3**
CN2				AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.8							
ZAL	**Zalesovo**	**53.78**	**351**	P	**P**	**21 53 46.2**	**-1.0**
comp=Z,3.2nm,0.6s,mb4.4,baz=282,slow=5.1,SNR=3.9							
ZAL	**Zalesovo**	**53.78**	**351**	P	**P**	**21 53 46.2**	**-1.0**
BVAR	**Borovoye Array**	**56.47**	**341**	P	**P**	**21 54 06.0**	**-0.8**
comp=Z,2.1nm,0.7s,mb4.2,baz=149,slow=8.6,SNR=4.1							
CHKZ	**Chkalovo**	**56.95**	**341**	*e*P	**P**	**21 54 09.2**	**-1.1**
comp=Z,3.2nm,0.6s,mb4.5							

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*IDC **25** 21:47:51.2±1.3, 0.32N×97.18E, mb3.9/10, mb1 4.0/11, mb1mx3.8/20, mbtmp3.8/11, ML3.8/1, Error ellipse: s-maj=60.8km s-min=18.0km az=56.0*
*NEIC **25** 21:47:56.1±0.6, 0.42N×97.34E, h30km, mb4.1/1, Error ellipse: s-maj=17.2km s-min=9.5km az=63.0*
ISC 25 21:47:54.9±0.8, 0.5N±0.1×97.4E±0.1, h33km, n16, σ0.75/15, mb3.9/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.80**	**34**	*e*P	**P**	**21 49 20.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.95**	**5**	P	**P**	**21 52 03.7**	**0.0**
0.1nm,0.3s,baz=199,slow=11,SNR=5.3							
WRA	**Warramunga Arr**	**41.50**	**121**	P	**P**	**21 55 40.3**	**-0.7**
0.4nm,0.5s,mb3.3,baz=304,slow=9.0,SNR=4.5							
ASAR	**Alice Springs**	**42.81**	**127**	P	**P**	**21 55 51.9**	**+0.2**
0.5nm,0.5s,mb3.5,baz=298,slow=7.8,SNR=5.1							
AAK	**Ala-Archa**	**46.74**	**337**	P	**P**	**21 56 22.7**	**-0.1**
SONM	**Songino Array**	**47.83**	**8**	P	**P**	**21 56 32.8**	**+1.4**
0.3nm,0.5s,mb3.6,baz=180,slow=7.2,SNR=3.8							
ULN	**Ulaanbaatar**	**47.96**	**9**	P	**P**	**21 56 33.8**	**+1.4**
MKAR	**Makanchi Array**	**47.99**	**346**	P	**P**	**21 56 32.9**	**+0.2**
1.3nm,0.5s,mb4.2,baz=161,slow=9.2,SNR=15							
STKA	**Stephens Creek**	**52.74**	**132**	P	**P**	**21 57 09.2**	**+0.2**
1.4nm,0.3s,mb4.3,baz=319,slow=6.1,SNR=3.7							
ZAL	**Zalesovo**	**54.30**	**351**	P	**P**	**21 57 19.4**	**-0.9**
1.3nm,0.4s,mb4.2,baz=285,slow=6.4,SNR=4.7							
BVAR	**Borovoye Array**	**57.00**	**341**	P	**P**	**21 57 38.7**	**-1.1**
0.6nm,0.6s,mb3.8,baz=142,slow=11,SNR=4.2							
CHKZ	**Chkalovo**	**57.48**	**341**	*e*P	**P**	**21 57 42.0**	**-1.1**
1.0nm,0.5s,mb4.1							
FINES	**FINESS Array B**	**80.73**	**333**	P	**P**	**22 00 06.2**	**0.0**
0.7nm,0.5s,mb3.9,baz=90,slow=5.7,SNR=8.1							
ARCES	**ARCESS Array B**	**83.28**	**340**	P	**P**	**22 00 19.9**	**+0.6**
2.5nm,1.0s,mb4.2,baz=90,slow=4.9,SNR=8.1							
GERES	**GERESS Array B**	**85.48**	**319**	P	**P**	**22 00 31.4**	**+0.6**
0.4nm,0.7s,mb3.6,baz=135,slow=3.8,SNR=3.4							
TXAR	**Lajitas Array**	**144.20**	**32**	PKP	PKPdf	22 07 29.1	+1.0
0.4nm,0.4s,baz=173,slow=1.4,SNR=4.4							

IDC 25 21:57:32.4±2.8, 1.30S×134.00E, mb3.2/2, mb1 3.6/4, mb1mx3.4/17, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=107.2km s-min=27.9km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.53**	**179**	P	P	22 01 50.2	-2.2
0.1nm,0.3s,baz=358,slow=12,SNR=4.8							
FITZ	**Fitzroy Crossi**	**18.61**	**206**	P	P	22 01 51.9	-1.5
0.3nm,0.3s,baz=18,slow=10,SNR=7.2							
ASAR	**Alice Springs**	**22.23**	**180**	P	P	22 02 30.9	-1.5
0.2nm,0.4s,baz=1.5,slow=11,SNR=5.6							
MKAR	**Makanchi Array**	**65.84**	**324**	P	P	22 08 19.8	-2.2
0.3nm,0.5s,baz=127,slow=7.2,SNR=3.8							

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*IDC **25** 22:01:08.1±0.6, 0.31N×97.27E, mb4.0/17, mb1 4.1/18, mb1mx4.0/23, mbtmp4.0/18, ML4.0/1, Error ellipse: s-maj=26.2km s-min=14.2km az=49.0*
*NEIC **25** 22:01:12.6±0.4, 0.34N×97.32E, h30km, mb4.3/2, Error ellipse: s-maj=11.2km s-min=7.8km az=64.0*
ISC 25 22:01:11.4±0.5, 0.37N±0.07×97.35E±0.09, h33km, n30, σ0.79/29, mb3.9/18, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.90**	**34**	*e*P	**P**	**22 02 38.6**	**0.0**
CM31	**Chiang Mai Arr**	**18.04**	**5**	*e*P	**P**	**22 05 21.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**18.04**	**5**	P	**P**	**22 05 20.8**	**-0.6**
0.2nm,0.3s,baz=196,slow=9.7,SNR=16							
FITZ	**Fitzroy Crossi**	**33.33**	**125**	P	**P**	**22 07 47.0**	**-1.7**
2.8nm,0.9s,mb4.2,baz=295,slow=19,SNR=3.2							
WRA	**Warramunga Arr**	**41.48**	**121**	P	**P**	**22 08 56.4**	**-0.8**
0.5nm,0.5s,mb3.5,baz=299,slow=8.9,SNR=7.0							
WRAB	**Tennant Creek**	**41.48**	**121**	P	**P**	**22 08 56.9**	**-0.3**
ASAR	**Alice Springs**	**42.78**	**126**	P	**P**	**22 09 09.1**	**+1.1**
0.7nm,0.6s,mb3.6,baz=297,slow=7.9,SNR=9.0							
AAK	**Ala-Archa**	**46.81**	**337**	P	**P**	**22 09 38.9**	**-1.0**
SONM	**Songino Array**	**47.93**	**8**	P	**P**	**22 09 49.1**	**+0.5**
0.6nm,0.6s,mb3.8,baz=196,slow=7.6,SNR=6.5							
ULN	**Ulaanbaatar**	**48.05**	**9**	P	**P**	**22 09 50.0**	**+0.4**
MKAR	**Makanchi Array**	**48.08**	**346**	P	**P**	**22 09 50.4**	**+0.6**
1.2nm,0.7s,mb4.0,baz=152,slow=7.9,SNR=14							
MKAR	**Makanchi Array**	**48.08**	**346**	P	**P**	**22 09 50.4**	**+0.6**
STKA	**Stephens Creek**	**52.70**	**132**	⇑*i*P	**P**	**22 10 26.4**	**+1.3**
2.7nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**52.70**	**132**	P	**P**	**22 10 25.9**	**+0.8**
2.4nm,0.8s,mb4.2,baz=296,slow=8.7,SNR=7.0							
ZAL	**Zalesovo**	**54.39**	**351**	P	**P**	**22 10 36.8**	**-0.6**
0.9nm,0.7s,mb3.8,baz=328,slow=11,SNR=5.3							
BVAR	**Borovoye Array**	**57.08**	**341**	P	**P**	**22 10 56.1**	**-0.7**
0.6nm,0.5s,mb3.9,baz=119,slow=15,SNR=4.0							
CHKZ	**Chkalovo**	**57.55**	**342**	*e*P	**P**	**22 10 59.6**	**-0.5**
2.6nm,1.0s,mb4.2							
KMBO	**Kilima Mbogo**	**60.11**	**268**	P	**P**	**22 11 18.5**	**+0.1**
0.2nm,0.3s,mb3.6,baz=41,slow=22,SNR=4.1							
YAK	**Yakutsk**	**66.17**	**16**	P	**P**	**22 11 58.4**	**+0.7**
BRTR	**Keskin Array B**	**69.78**	**313**	P	**P**	**22 12 20.1**	**-0.4**
0.2nm,0.4s,mb3.4,baz=129,slow=7.9,SNR=3.8							
MATP	**Matopo**	**70.35**	**248**	P	**P**	**22 12 23.7**	**-0.6**
2.0nm,0.9s,mb4.0,baz=95,slow=0.6,SNR=5.6							
IDI	**Anoyia**	**75.51**	**306**	P	**P**	**22 12 54.3**	**-0.2**
2.3nm,0.5s,mb4.3,baz=75,slow=11,SNR=6.4							
AKASG	**Malin Array Be**	**76.00**	**323**	P	**P**	**22 12 56.2**	**-0.8**
1.6nm,0.6s,mb4.2,baz=86,slow=4.8,SNR=7.0							
AKASG	**Malin Array Be**	**76.00**	**323**	P	**P**	**22 12 56.2**	**-0.8**
FINES	**FINESS Array B**	**80.80**	**333**	P	**P**	**22 13 23.3**	**+0.2**
0.7nm,0.5s,mb3.8,baz=90,slow=5.7,SNR=8.1							
ARCES	**ARCESS Array B**	**83.36**	**340**	P	**P**	**22 13 37.2**	**+1.1**
0.7nm,0.5s,mb4.0,baz=104,slow=5.0,SNR=6.1							
ARCES	**ARCESS Array B**	**83.36**	**340**	P	**P**	**22 13 37.2**	**+1.1**
GERES	**GERESS Array B**	**85.53**	**319**	P	**P**	**22 13 48.3**	**+0.8**
0.9nm,0.9s,mb4.0,baz=72,slow=4.2,SNR=4.4							
NOA	**NORSAR Array B**	**87.80**	**331**	P	**P**	**22 14 00.0**	**+1.8**
0.6nm,0.8s,mb3.9,baz=96,slow=5.1,SNR=2.5							
CPUP	**Villa Florida**	**144.49**	**221**	PKP	PKPdf	22 20 45.5	+0.3
4.1nm,0.7s,baz=60,slow=8.1,SNR=8.1							

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*IDC **25** 22:02:00.3±1.4, 32.89S×178.42W, mb4.7/4, mb1 4.8/6, mb1mx4.3/18, mbtmp4.7/6, ML4.1/2, MS3.9/1, Ms1 3.9/1, ms1mx3.4/22, Error ellipse: s-maj=39.8km s-min=28.2km az=142.0*
*NEIC **25** 22:02:05.8±2.0, 32.98S×178.50W, h35km±15km, mb4.7/2, Error ellipse: s-maj=21.7km s-min=9.7km az=56.0*
ISC 25 22:02:02.2±1.0, 32.98S±0.05×178.3W±0.1, h33km, (h33km±1.3km: pP-P), n54, σ1.15/51, mb4.7/5, 10C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.35**	**210**	*e*P	**P**	**22 03 22.3**	**+0.5**
MXZ				S	**S**	**22 04 25.8**	**+2.6**
MXZ	**Matakaoa Point**	**5.35**	**210**	*e*PN	**Pn**	**22 03 21.9**	**-0.1**
MXZ				SN	**Sn**	**22 04 25.6**	**+2.4**
PUZ	**Puketiti**	**5.81**	**208**	*e*P	**P**	**22 03 28.6**	**+0.4**
PUZ	**Puketiti**	**5.81**	**208**	*e*PN	**Pn**	**22 03 28.5**	**+0.1**
PUZ				SN	**Sn**	**22 04 35.8**	**+1.2**
MWZ	**Matawai**	**6.33**	**211**	P	**P**	**22 03 35.9**	**+0.3**
MWZ				S	**S**	**22 04 49.4**	**+1.7**
MWZ	**Matawai**	**6.33**	**211**	*e*PN	**Pn**	**22 03 34.9**	**-0.9**
MWZ				SN	**Sn**	**22 04 47.5**	**-0.3**
MWZ				SN	**Sn**	**22 04 48.7**	**+0.9**
URZ	**Urewera**	**6.46**	**214**	Pn	**Pn**	**22 03 36.8**	**-0.9**
12nm,0.3s,baz=264,slow=3.4,SNR=62							
URZ				Sn	**Sn**	**22 04 51.0**	**0.0**
14nm,0.3s,baz=165,slow=18,SNR=9.0							
URZ	**Urewera**	**6.46**	**214**	*e*P	**P**	**22 03 36.9**	**-0.6**
URZ	**Urewera**	**6.46**	**214**	*e*PN	**Pn**	**22 03 36.9**	**-0.8**
URZ				SN	**Sn**	**22 04 51.0**	**0.0**
KNZ	**Kokohu**	**6.86**	**207**	*e*PN	**Pn**	**22 03 42.3**	**-0.9**
OUZ	**Omahuta**	**7.09**	**249**	*e*P	**P**	**22 03 49.9**	**+3.6**
OUZ	**Omahuta**	**7.09**	**249**	*e*PN	**Pn**	**22 03 48.8**	**+2.3**
BKZ	**Black Stump Fm**	**7.48**	**213**	*e*P	**P**	**22 03 51.0**	**-0.7**
BKZ				S	**S**	**22 05 15.2**	**-1.0**
BKZ	**Black Stump Fm**	**7.48**	**213**	*e*PN	**Pn**	**22 03 50.7**	**-1.2**
BKZ				SN	**Sn**	**22 05 14.9**	**-1.5**
TSZ	**Takapari Road**	**8.44**	**212**	P	**P**	**22 04 02.2**	**-2.9**
TSZ	**Takapari Road**	**8.44**	**212**	*e*PN	**P**	**22 04 02.1**	**-2.9**
MRZ	**Mangatainoka R**	**9.10**	**211**	*e*P	**P**	**22 04 10.9**	**-3.3**
MRZ				S	**S**	**22 05 50.2**	**-6.5**
MRZ	**Mangatainoka R**	**9.10**	**211**	*e*PN	**P**	**22 04 11.0**	**-3.2**
MRZ				SN	**Sn**	**22 05 50.0**	**-6.8**
MTW	**Mount Morrison**	**9.55**	**210**	P	**P**	**22 04 16.8**	**-3.6**
MTW	**Mount Morrison**	**9.55**	**210**	*e*PN	**P**	**22 04 16.7**	**-3.7**
TCW	**Tory Channel**	**10.13**	**214**	SN	**S**	**22 06 13.6**	**-8.4**
THZ	**Tophouse**	**11.22**	**216**	*e*PN	**P**	**22 04 34.9**	**-8.3**
KHZ	**Kahutara**	**11.42**	**212**	SN	**S**	**22 06 43.1**	**-10**
MQZ	**McQueen's Vall**	**12.84**	**211**	SN	**S**	**22 07 14.7**	**-13**
DZM	**Mont Dzumac**	**17.34**	**305**	P	**P**	**22 06 03.2**	**-0.1**
0.2nm,0.3s,baz=172,slow=17,SNR=2.2							
DZM				LR	LR	22 11 23.0	
comp=Z,442nm,19.9s,baz=208,slow=33							
CTA	**Charters Tower**	**34.06**	**283**	P	**P**	**22 08 46.4**	**+0.8**
4.9nm,0.5s,mb4.7,baz=106,slow=12,SNR=6.8							
CTA	**Charters Tower**	**34.06**	**283**	P	**P**	**22 08 46.4**	**+0.8**
ASAR	**Alice Springs**	**42.79**	**270**	P	**P**	**22 09 58.3**	**-0.3**
8.9nm,0.8s,mb4.6,baz=111,slow=7.5,SNR=68							
ASPA	**Alice Springs**	**42.80**	**270**	*e*P	**P**	**22 09 58.9**	**+0.3**
WB2	**Warramunga Arr**	**44.00**	**275**	*e*P	**P**	**22 10 08.2**	**-0.2**
WRAB	**Tennant Creek**	**44.01**	**275**	*e*P	**P**	**22 10 08.2**	**-0.3**
9.3nm,0.6s,mb4.7							
WRA	**Warramunga Arr**	**44.02**	**275**	P	**P**	**22 10 08.2**	**-0.3**
7.5nm,0.6s,mb4.6,baz=114,slow=7.8,SNR=89							
SBA	**Scott Base**	**45.45**	**184**	P	**P**	**22 10 20.9**	**+1.6**
FITZ	**Fitzroy Crossi**	**52.16**	**272**	*e*P	**P**	**22 11 12.1**	**+0.3**
6.0nm,0.7s,mb4.6							
FITZ	**Fitzroy Crossi**	**52.16**	**272**	P	**P**	**22 11 12.0**	**+0.2**
7.7nm,0.6s,mb4.8,baz=108,slow=16,SNR=11							
QSPA	**South Pole Qui**	**57.13**	**180**	⇑*i*P	**P**	**22 11 52.9**	**+5.5**
SNAA	**Sanae**	**75.59**	**179**		pP	22 13 55.8	+0.8
SNAA	**Sanae**	**75.59**	**179**	⇑*i*	sP	22 14 01.5	+2.8
SNAA	**Sanae**	**75.59**	**179**	P	**P**	**22 13 45.9**	**+1.2**
SNAA				P	pP	22 13 55.8	+0.8
SNAA				⇑*i*P		22 14 01.5	
VNA3	**Neumayer Olymp**	**75.75**	**176**	⇑*i*	pP	22 13 59.2	+3.3
VNA3	**Neumayer Olymp**	**75.75**	**176**	⇑*i*	sP	22 14 04.3	+4.7
VNA3	**Neumayer Olymp**	**75.75**	**176**	P	**P**	**22 13 53.3**	**+7.7**
VNA3				⇑*i*P		22 13 59.2	
VNA3				⇑*i*P	pP	22 14 04.3	+8.4
VNA2	**Neumayer--Watz**	**76.18**	**177**	⇑*i*	pP	22 14 01.6	+3.2
VNA2	**Neumayer--Watz**	**76.18**	**177**		sP	22 14 06.1	+4.0
VNA2	**Neumayer--Watz**	**76.18**	**177**	P	**P**	**22 13 56.2**	**+8.1**
VNA2				⇑*i*P		22 14 01.6	
VNA2				P	pP	22 14 06.1	+7.7
ARCES	**ARCESS Array B**	**141.05**	**347**	PKhKP		22 21 26.3	
2.3nm,0.8s,baz=49,slow=1.9,SNR=7.5							
ARCES	**ARCESS Array B**	**141.05**	**347**	PKP	PKPdf	22 21 26.3	-1.9
KAF	**Kangasniemi**	**146.88**	**339**	*e*pkp	PKPdf	22 21 42.4	+4.0
4.1nm,0.5s,baz=41,slow

BW06	Boulder Array	40.51	79	*eP*		P	22 13 44.1	-3.5
	1.3nm,0.5s,mb3.8							
JHJ	Hachijo jima 2	40.93	263	P		P	22 13 52.6	+1.4
	224nm,0.7s,baz=30,slow=17,SNR=4.0							
SONM	Songino Array	51.40	301	P		P	22 15 14.7	+1.0
	0.4nm,0.6s,mb3.5,baz=63,slow=5.5,SNR=5.1							
TXAR	Lajitas Array	52.81	89	P		P	22 15 24.6	+0.1
	0.2nm,0.4s,mb3.4,baz=315,slow=8.9,SNR=3.6							
SADO	Sadowa	56.64	59	P		P	22 15 52.6	+0.4
	2.3nm,0.6s,mb4.4,baz=349,slow=10,SNR=2.4							
KEV	Kevo	57.88	353	*ep*		P	22 15 58.5	-2.1
	17nm,1.1s,mb5.0							
ARCES	ARCESS Array B	58.20	354	P		P	22 16 02.3	-0.6
	3.1nm,0.9s,mb4.3,baz=349,slow=6.2,SNR=4.0							
CHKZ	Chkalovo	63.30	325	*eP*		P	22 16 37.2	-0.5
	0.6nm,0.4s,mb4.1							
BVAR	Borovoye Array	63.91	324	P		P	22 16 41.4	-0.1
	1.6nm,0.6s,mb4.2,baz=56,slow=5.3,SNR=8.0							
MKAR	Makanchi Array	63.96	313	P		P	22 16 41.6	-0.4
	0.3nm,0.4s,mb3.6,baz=58,slow=6.5,SNR=6.7							
JOF	Joensuu	64.18	350	*ep*		P	22 16 42.7	-0.4
	1.5nm,0.6s,mb4.2							
KAF	Kangasniemi	65.47	352	*ep*		P	22 16 51.0	-0.4
	1.6nm,0.5s,mb4.3,baz=7.0,slow=6.1							
FINES	FINESS Array B	66.15	352	P		P	22 16 56.0	+0.2
	1.5nm,0.6s,mb4.2,baz=18,slow=9.5,SNR=18							
FINES	FINESS Array B	66.15	352	P		P	22 16 56.0	+0.2
NB2	NORSAR Subarra	67.23	360	P		P	22 17 02.7	+0.1
	0.6nm,0.6s,mb3.8,baz=1.0,slow=6.2							
NOA	NORSAR Array B	67.23	360	P		P	22 17 02.6	+0.1
	0.6nm,0.6s,mb3.8,baz=0.2,slow=6.3,SNR=5.7							
AAK	Ala-Archa	70.67	315	*eP*		P	22 17 24.3	+0.2
	1.4nm,0.6s,mb4.1							
CMAR	Chiang Mai Arr	76.63	283	P		P	22 18 01.8	+2.5
	0.4nm,0.6s,mb3.5,baz=22,slow=4.9,SNR=4.0							
CLL	Collm	76.97	358	P		P	22 18 04.0	+3.5
WRA	Warramunga Arr	86.78	232	P		P	22 18 52.2	+0.1
	0.3nm,0.5s,mb3.8,baz=34,slow=5.6,SNR=6.8							
ASAR	Alice Springs	90.17	230	P		P	22 19 09.4	+1.2
	0.6nm,0.6s,mb4.1,baz=30,slow=5.4,SNR=6.5							
MATP	Matopo	145.44	329	PKPbc		PKPbc	22 25 47.4	+2.3
	1.4nm,0.5s,baz=344,slow=1.1,SNR=9.3							
MATP	Matopo	145.44	329	PKPbc		PKPbc	22 25 47.4	+2.3
LBTB	Lobatse	150.64	331	PKPbc		PKPdf	22 26 01.7	+8.9
	1.9nm,0.7s,baz=252,slow=7.4,SNR=5.9							

IDC ***25*** *22:06:51.1±0.5,52.18N×169.55W,mb4.8/33,mb1 4.9/34, mb1mx4.9/37,mbtmp4.8/34,ML4.5/1,MS4.7/5,Ms1 4.7/5, ms1mx4.2/23,Error ellipse: s-maj=16.0km s-min=10.4km az=167.0*

MOS ***25*** *22:06:55.0±1.1,52.13N×169.60W,h33km,mb5.3/98, MS4.8/19,Error ellipse: s-maj=8.7km s-min=4.2km az=89.4*

HRVD ***25*** *22:06:56.5±0.2,51.96N×169.39W,h16km,MW5.3/64, Centroid moment Tensor Solution. LP body waves: s47,c90;Mantle waves: s64,c126; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.57±.02; $M_{\theta\theta}$-0.41±.01; $M_{\phi\phi}$-0.15±.01; $M_{r\theta}$0.76±.06; $M_{\theta\phi}$-0.28±.01; $M_{\phi r}$0.02±.04; Best double couple: M_0.951×10^{17} NP1: ϕ_s219°,δ23°,λ51°. NP2:ϕ_s81°,δ72°,λ105°. Principal axes: T .993, Plg60°, Azm12°; N -.084, Plg14°, Azm256°; P -.91, Plg26°, Azm159°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***25*** *22:06:56.5±0.2,52.15N×169.42W,mb5.0/147,MS4.9/5, ML4.5(AEIC) Error ellipse: s-maj=4.8km s-min=2.7km az=177.0*

BJI ***25*** *22:06:57.0,52.62N×170.07W,h34km,mB5.4,mb5.1, Ms5.1,Msz4.8*

ISC 25 22:06:54.9±0.2,52.05N±0.03×169.45W±0.03,h36km, h36km±1.5km:pP-P,n550,σ1s11/558,mb5.0/204,MS4.8/31, 35C-5D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	1.00	21	P	P	22 07 11.8	-0.7
NIKO				S	S	22 07 26.9	+1.3
OKFG	Magazine Ridge	1.66	34	P	P	22 07 21.6	-0.4
OKFG				S	S	22 07 43.5	+1.3
MNAT	Makushin Natee	2.49	41	P	P	22 07 33.0	-0.9
UNV	Unalaska Valle	2.54	44	P	P	22 07 33.0	-1.6
UNV				S	S	22 08 04.1	-0.5
AKUT	Akutan	3.05	45	P	P	22 07 41.6	-0.3
AKUT				S	S	22 08 17.9	+0.3
AKA	Akutan	3.05	45	P	P	22 07 41.8	-0.1
AKA				S	S	22 08 18.0	+0.3
WPOG	Pogromni	3.81	46	P	P	22 07 51.0	-1.6
GSMY	Great Sitkin M	4.08	273	P	P	22 07 56.7	+0.3
GSTR	Great Sitkin T	4.08	273	P	P	22 07 56.6	+0.1
GSTD	Great Sitkin T	4.13	273	P	P	22 07 57.5	+0.2
ADAG	Mount Adagdak	4.42	272	P	P	22 08 01.8	+0.4
FALS	False Pass	4.58	50	P	P	22 08 05.5	+2.0
KIWB	Kanaga Island	4.76	271	*eP*	P	22 08 06.3	+0.1
KIMD	Kanaga Island	4.83	270	P	P	22 08 06.9	-0.2
FX1	Attu Island--F	10.64	281	P	P	22 09 27.9	+0.1
KDAK	Kodiak Island	11.26	53	*eP*	P	22 09 33.1	-3.2
TNA	Tin City	13.57	3	*eP*	P	22 10 03.1	-3.9
	15nm,0.8s						
SLKM	Skilak Lake	13.59	44	*eP*	P	22 10 02.9	-4.3
SML	Sawmill	15.04	41	*eP*	P	22 10 23.0	-3.2
EYAK	Cordova Ski Ar	15.59	48	*eP*	P	22 10 29.1	-4.2
DIV	Divide	15.81	46	*eP*	P	22 10 31.8	-4.3
	127nm,0.7s						
MCK	McKinley	15.90	35	P	P	22 10 38.1	+0.8
MCK				pmax	pmax		
	comp=Z,17nm,1.0s						
MCK	McKinley	15.90	35	*eP*	P	22 10 35.9	-1.4
	comp=Z,16nm,1.0s						
IMA	Indian Mountai	16.15	24	P	P	22 10 41.9	+1.5
IMA				pmax	pmax		
	comp=Z,120nm,1.0s						
IMA	Indian Mountai	16.15	24	P	P	22 10 40.3	-0.1
	comp=Z,119nm,1.0s						
THY	Trims Highway	16.90	38	*eP*	P	22 10 48.3	-1.5
COLA	College	16.98	33	*eP*	P	22 10 49.7	-1.2
ILAR	Eielson Array	17.25	34	P	P	22 10 50.7	-3.5
	comp=Z,0.7nm,0.3s,baz=218,slow=11,SNR=20						
ILAR				PcP	PcP	22 15 35.6	-1.5
	comp=Z,0.0nm,0.3s,baz=182,slow=1.9,SNR=2.4						
MENT	Mentasta	17.47	41	*eP*	P	22 10 55.6	-1.4
PET	Petropavlovsk	19.34	286	*eP*	P	22 11 21.8	+2.0
PET				*eS*	S	22 14 55.5	+4.8
PET				pmax	pmax		
	comp=Z,50nm,0.7s						
PET				MLR	MLR		
	comp=Z,2μm,22.0s						
PET	Petropavlovsk	19.34	286	*eP*	P	22 11 18.1	-1.7
	comp=Z,28nm,0.6s						
DAWY	Dawson	19.71	41	*eP*	P	22 11 20.0	-3.7
BILL	Bilibino	19.86	333	*eP*	P	22 11 24.3	-1.0
BILL				pmax	pmax		
	comp=Z,57nm,1.1s						
BILL	Bilibino	19.86	333	*eP*	P	22 11 24.3	-1.1
	comp=Z,57nm,1.1s						
SIT	Sitka	20.27	62	*eP*	P	22 11 29.7	-0.1
SIT				pmax	pmax		
	comp=Z,51nm,1.0s						
SIT	Sitka	20.27	62	*eP*	P	22 11 28.6	-1.2
	comp=Z,51nm,0.9s						
SEY	Seymchan	22.85	313	*eP*	P	22 11 55.0	-0.5
SEY				*e*		22 12 27.5	
SEY				pmax	pmax		
	comp=N,30nm,0.8s						
SEY				pmax	pmax		
	comp=E,40nm,0.8s						
SEY				pmax	pmax		
	comp=Z,40nm,0.8s,mb4.9						
DLBC	Dease Lake	23.10	58	P	P	22 11 58.5	+0.5
	comp=Z,11nm,1.0s,mb4.2,baz=269,slow=9.9,SNR=12						
DLBC				LR	LR	22 20 11.8	
	comp=Z,1μm,21.0s,MS4.2,baz=290,slow=35						
DLBC	Dease Lake	23.10	58	*eP*	P	22 11 58.0	0.0
INK	Inuvik	23.64	33	*eP*	P	22 12 01.7	-1.5
INK				pmax	pmax		
	comp=Z,15nm,0.5s						
INK	Inuvik	23.64	33	P	P	22 12 01.5	-1.7
	comp=Z,15nm,0.5s,mb4.7,baz=247,slow=8.2,SNR=31						
INK	Inuvik	23.64	33	*eP*	P	22 12 01.5	-1.6
	comp=Z,15nm,0.5s,mb4.7						
YKW3	Yellowknife Ar	30.48	48	*eP*	P	22 13 05.0	-1.1
YKA	Yellowknife Ar	30.49	48	P	P	22 13 05.4	-0.8
	comp=Z,13nm,0.8s,mb4.7,baz=275,slow=9.9,SNR=56						
YKA				PcP	PcP	22 16 04.4	-0.6
	comp=Z,1.0nm,0.7s,baz=284,slow=3.1,SNR=4.7						
YKA				ScP		22 19 45.2	
	comp=Z,0.9nm,0.9s,baz=272,slow=3.2,SNR=5.3						
YKA				LR	LR	22 27 26.5	
	comp=Z,2μm,18.6s,MS4.7,baz=265,slow=41						
YKA	Yellowknife Ar	30.49	48	P	P	22 13 05.5	-0.8
YKA				PcP	PcP	22 16 04.4	-0.6
YKA				ScP		22 19 45.2	
YKA				LR	LR	22 27 26.5	
LVP	Lakeview Peak	30.96	82	P	P	22 13 26.6	+16
YSS	Yuzh-Sakhalins	31.00	280	⇓*eP*	P	22 13 11.8	+0.9
COR	Corvallis	31.14	85	P	P	22 13 15.8	+3.6
COR				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.1						
COR	Corvallis	31.14	85	P	P	22 13 15.8	+3.6
	comp=Z,23nm,0.8s,mb5.1						
KBO	Bosley Butte	31.83	90	*eP*	P	22 13 18.6	+0.3
GL2	New Goldendale	31.98	81	P	P	22 13 32.1	+13
HUMO	Hull Mountain	32.40	88	*eP*	P	22 13 22.6	-0.7
	comp=Z,12nm,1.4s,mb4.5						
ASAJ	Asahikawa	32.48	275	P	P	22 13 23.6	-0.3
	comp=Z,62nm,1.1s,mb5.4,baz=43,slow=4.3,SNR=14						
HAWA	Hanford	32.55	80	*eP*	P	22 13 24.9	+0.4
	comp=Z,2.1nm,1.0s,mb4.0						
KHMM	Horse Mountain	32.90	91	*eP*	P	22 13 27.1	-0.5
YBH	Yreka Blue Hor	33.04	89	P	P	22 13 32.4	+3.6
YBH				pmax	pmax		
	comp=Z,13nm,1.0s						
YBH	Yreka Blue Hor	33.04	89	P	P	22 13 29.7	+0.9
	comp=Z,1.2nm,0.6s,mb4.0,baz=40,slow=4.7,SNR=4.3						
YBH	Yreka Blue Hor	33.04	89	*eP*	P	22 13 28.2	-0.6
	comp=Z,13nm,1.0s,mb4.8						
NEW	Newport	33.14	75	P	P	22 13 29.8	+0.2
NEW				pmax	pmax		
	comp=Z,18nm,0.9s						
NEW	Newport	33.14	75	P	P	22 13 30.2	+0.6
	comp=Z,10nm,0.9s,mb4.7,baz=282,slow=5.9,SNR=8.5						
NEW	Newport	33.14	75	*eP*	P	22 13 28.8	-0.8
	comp=Z,18nm,0.9s,mb5.0						
EDM	Edmonton	33.33	65	P	P	22 13 31.3	+0.1
EDM	Edmonton	33.33	65	*eP*	P	22 13 30.3	-0.9
YAK	Yakutsk	33.34	311	⇑*eP*	P	22 13 29.9	-1.3
LTIM	Timbered Crate	34.11	89	P	P	22 13 46.9	+8.9
LBCM	Butte Creek Ri	34.39	90	P	P	22 13 49.0	+8.6
HOPS	Hopland	34.42	94	*eP*	P	22 13 42.1	+1.3
	comp=Z,26nm,1.2s,mb5.0						
MOD	Modoc	34.43	87	*eP*	P	22 13 42.2	+1.4
	comp=Z,26nm,1.1s,mb5.1						
BMO	Blue Mountains	34.68	81	*eP*	P	22 13 43.3	+0.4
	comp=Z,12nm,1.2s,mb4.7						
WALA	Waterton Lakes	34.69	72	*eP*	P	22 13 41.4	-1.6
	comp=Z,18nm,1.1s,mb4.9						
WVOR	Wild Horse Val	35.16	85	*eP*	P	22 13 46.6	-0.4
WVOR				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
WVOR	Wild Horse Val	35.16	85	*eP*	P	22 13 46.6	-0.4
	comp=Z,22nm,1.0s,mb5.0						
MSO	Missoula	35.72	76	*eP*	P	22 13 50.8	-0.9
	comp=Z,16nm,1.2s,mb4.8						
CHMT	Chamberlain Mo	36.09	75	*eP*	P	22 13 54.3	-0.5
KLR	Kul'dur	36.52	290	*eP*	P	22 13 52.8	-5.6
CMB	Columbia Colle	36.67	93	P	P	22 14 07.7	+7.8
CMB				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
CMB	Columbia Colle	36.67	93	*eP*	P	22 13 58.4	-1.5
	comp=Z,9.0nm,0.9s,mb4.6						
RES	Resolute Bay	36.68	25	P	P	22 13 58.3	-1.3
RES				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
RES	Resolute Bay	36.68	25	*eP*	P	22 13 56.9	-2.7
	comp=Z,5.0nm,0.7s,mb4.5						
HLID	Hailey	37.12	81	*eP*	P	22 14 04.9	+1.3
	comp=Z,8.0nm,0.5s,mb4.8						
MCMT	McKenzie Canyo	37.39	78	*eP*	P	22 14 06.4	+0.6
BOZ	Bozeman (W)	37.70	76	P	P	22 14 09.4	+1.0
BOZ				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
BOZ	Bozeman (W)	37.70	76	*eP*	P	22 14 07.2	-1.2
	comp=Z,14nm,1.0s,mb4.6						
OMM	Old Mammoth Mi	37.79	92	*eP*	P	22 14 10.7	+1.4
MNV	Mina	37.80	90	*eP*	P	22 14 08.5	-0.9
MNV				pmax	pmax		
	comp=Z,152nm,1.1s,mb5.6						
MNV	Mina	37.80	90	*eP*	P	22 14 08.5	-0.9
	comp=Z,152nm,1.1s,mb5.6						
ELK	Elko	38.21	85	P	P	22 14 12.2	-0.5
ELK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ELK	Elko	38.21	85	P	P	22 14 12.2	-0.5
	comp=Z,3.2nm,0.7s,mb4.2						
MTUM	Tungsten Hills	38.22	92	*eP*	P	22 14 13.4	+0.6
QLMT	Earthquake Lak	38.25	77	*eP*	P	22 14 14.0	+1.0
YMR	Madison River	38.62	77	*eP*	P	22 14 16.1	+0.1
YNR	Norris Junctio	38.76	77	*eP*	P	22 14 16.9	-0.4
GCMT	Greycliff	38.80	75	P	P	22 14 18.4	+0.9
LKWY	Lake	39.01	77	P	P	22 14 22.1	+2.8
LKWY				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
LKWY	Lake	39.01	77	*eP*	P	22 14 19.4	+0.1
	comp=Z,20nm,0.8s,mb4.9						
IMW	Indian Meadow	39.05	78	*eP*	P	22 14 19.2	-0.5
	comp=Z,7.6nm,0.8s,mb4.5						
HVU	Hansel Valley	39.12	82	*eP*	P	22 14 22.0	+1.7
RRI2	Red Ridge	39.12	79	*eP*	P	22 14 20.4	+0.1
	comp=Z,22nm,0.9s,mb4.9						
MOOW	Moose Ponds	39.25	78	*eP*	P	22 14 22.5	+1.2
	comp=Z,3.5nm,0.3s,mb4.6						
TPAW	Teton Pass	39.27	79	*eP*	P	22 14 21.3	-0.1
	comp=Z,10.0nm,0.8s,mb4.6						
REDW	Red Top Meadow	39.40	79	P	P	22 14 23.0	+0.4
	comp=Z,22nm,1.3s,mb4.7						
BGU	Big Grassy Mou	39.46	83	*eP*	P	22 14 21.6	-1.5
MAJO	Matsushiro	39.63	268	P	P	22 14 24.9	+0.3
MAJO				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
MAJO	Matsushiro	39.63	268	*eP*	P	22 14 23.9	-0.7
	comp=Z,15nm,0.8s,mb4.8						
MAT	Matsushiro	39.63	268	*eP*	P	22 14 24.0	-0.6
MAT				*eS*	S	22 20 28.0	+2.9
MAT				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
MAT	Matsushiro	39.63	268	*eP*	P	22 14 24.0	-0.6
	comp=Z,12nm,1.0s,mb4.6						
MAT				*eS*	S	22 20 28.0	+2.9
MAT	Matsushiro	39.63	268	P	P	22 14 24.1	-0.5
MAT				S	S	22 20 28.0	+2.9
MJAR	Matsushiro Arr	39.63	268	P	P	22 14 23.6	-1.0
	comp=Z,3.3nm,0.9s,mb4.1,baz=47,slow=7.7,SNR=9.6						
MJAR				PcP	PcP	22 16 31.6	-0.2
	comp=Z,3.7nm,1.0s,baz=143,slow=1.5,SNR=4.9						
MJAR				LR	LR	22 29 57.1	
	comp=Z,925nm,20.2s,MS4.6,baz=65,slow=35						
DUG	Dugway	40.03	84	*eP*	P	22 14 27.2	-0.6
DUG				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.9						
DUG	Dugway	40.03	84	*eP*	P	22 14 27.2	-0.6
	comp=Z,23nm,1.0s,mb4.9						
MDJ	Mudanjiang	40.12	284	P	P	22 14 27.3	-1.3
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
MDJ				LR	LR		
	comp=N,363nm,23.6s,MS4.3						
MDJ				LR	LR		
	comp=E,471nm,24.5s,MS4.3						
MDJ				LR	LR		
	comp=Z,845nm,22.7s,MS4.5						
BW06	Boulder Array	40.52	79	*eP*	P	22 14 31.7	-0.2
	comp=Z,16nm,0.9s,mb4.7						
PDAR	Pinedale Array	40.52	79	P	P	22 14 31.5	-0.4
	comp=Z,4.2nm,0.8s,mb4.1,baz=326,slow=5.3,SNR=8.9						
NLU	North Lily Min	40.62	84	P	P	22 14 34.9	+2.1
DAU	Daniels Canyon	40.85	83	*eP*	P	22 14 35.3	+0.6
ARUT	Antelope Range	41.11	88	*eP*	P	22 14 39.0	+2.2
FCC	Fort Churchill	41.19	50	P	P	22 14 36.9	-0.3
FCC				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.1						
FCC	Fort Churchill	41.19	50	*eP*	P	22 14 36.4	-0.8
	comp=Z,43nm,0.8s,mb5.1						
MSU	Marysvale	41.44	86	*eP*	P	22 14 40.7	+1.2
NEN	Nelson	41.61	91	*eP*	P	22 14 41.5	+0.6
LDFC	Landfair	41.82	92	P	P	22 14 43.3	+0.7
SRU	San Rafael	42.09	84	P	P	22 14 44.3	-0.5
BOD	Bodaibo	42.16	309	*eP*	P	22 14 43.8	-1.2
BOD				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.8						
RWWY	Rawlins	42.56	79	*eP*	P	22 14 47.2	-1.4
	comp=Z,9.1nm,0.7s,mb4.6						
CN2	Changchun	43.05	286	*eP*	P	22 14 51.0	-1.5
CN2				*e*XP	sP	22 15 02.3	-5.2
CN2				*eS*	S	22 21 17.5	+2.1
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,660nm,20.0s,MS4.8						
CN2				LR	LR		
	comp=E,1μm,20.0s,MS4.8						
CN2				LR	LR		
	comp=Z,2μm,17.0s,MS5.0						
PV10	Paradox Valley	43.45	84	*eP*	P	22 14 56.8	+0.8
CBIJ	Chichi jima	43.77	254	LR	LR	22 30 19.7	
	comp=Z,714nm,19.9s,MS4.6,baz=100,slow=32						
PV01	Paradox Valley	43.90	84	*eP*	P	22 14 59.5	+0.1
ULM	Lac du Bonnet	44.35	62	P	P	22 15 01.7	-1.2
	comp=Z,6.2nm,0.7s,mb4.4,baz=305,slow=7.4,SNR=4.9						
ULM	Lac du Bonnet	44.35	62	*eP*	P	22 15 01.7	-1.3
	comp=Z,23nm,0.9s,mb4.9						
SNY	Shenyang	45.32	285	⇑P	P	22 15 10.8	-0.1
SNY				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.8						
SNY				LR	LR		
	comp=N,830nm,17.5s,MS4.8						
SNY				LR	LR		
	comp=E,740nm,18.2s,MS4.8						
SNY				LR	LR		
	comp=Z,970nm,16.5s,MS4.8						
KS15	Wonju Array Si	45.42	277	*eP*	P	22 15 11.2	-0.6
SDCO	Great Sand Dun	46.02	82	*eP*	P	22 15 16.3	-0.2
	comp=Z,8.5nm,0.9s,mb4.7						
TUC	Tucson	46.35	91	P	P	22 15 20.0	+0.9
TUC				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
TUC	Tucson	46.35	91	*eP*	P	22 15 19.4	+0.2
	comp=Z,12nm,1.0s,mb4.8						
ANMO	Albuquerque	47.24	85	*eP*	P	22 15 27.1	+1.0
ANMO				pmax	pmax		
	comp=Z,12nm,1.2s						
ANMO	Albuquerque	47.24	85	P	P	22 15 25.6	-0.5
	comp=Z,0.6nm,0.4s,baz=299,slow=9.0,SNR=2.7						
ANMO	Albuquerque	47.24	85	*eP*	P	22 15 27.1	+0.9
	comp=Z,12nm,1.2s,mb4.7						
EYMN	Ely	48.02	62	*eP*	P	22 15 30.1	-1.9
	comp=Z,23nm,0.9s,mb5.2						
KBS	Kingsbay	49.28	360	P	P	22 15 40.5	-0.9
KBS				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
KBS	Kingsbay	49.28	360	*eP*	P	22 15 39.8	-1.6
	comp=Z,22nm,1.0s,mb5.1						
MNTX	Cornudas Mount	50.10	88	*eP*	P	22 15 48.0	-0.2
	comp=Z,14nm,0.8s,mb5.0						
DAG	Danmarks Havn	50.12	8	⇓*eP*	P	22 15 46.0	-1.8
DAG				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
DAG				MLR	MLR		
	comp=Z,950nm,17.0s,MS4.9						
DAG	Danmarks Havn	50.12	8	⇓*eP*	P	22 15 46.0	-1.8
	comp=Z,25nm,0.8s,mb5.3						
DAG				LR	LR		
	comp=Z,950nm,17.0s,MS4.9						
DAG	Danmarks Havn	50.12	8	⇓*iP*	P	22 15 46.0	-1.8
	comp=Z,25nm,0.8s,mb5.3						
	comp=Z,950nm,17.0s						
TLY	Talaya	50.49	306	⇑*iP*	P	22 15 50.2	-0.7
TLY				*e*	pP	22 16 02.4	+0.9
TLY				*e*		22 26 34.6	
TLY				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
TLY				MLR	MLR		
	comp=Z,713nm,18.0s,MS4.7						
TLY	Talaya	50.49	306	P	P	22 15 50.7	-0.2
TLY				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.4						
TLY	Talaya	50.49	306	*eP*	P	22 15 50.1	-0.8
	comp=Z,36nm,1.0s,mb5.4						
KSU1	Kansas State U	50.52	74	*eP*	P	22 15 50.2	-1.2
BJI	Beijing	50.82	287	*eP*	P	22 15 53.3	-0.4
BJI				AP	pP	22 16 01.8	-2.4
BJI				XP	sP	22 16 05.3	-3.3
BJI				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
BJI				LR	LR		
	comp=N,1μm,17.6s,MS5.1						
BJI				LR	LR		
	comp=E,922nm,14.9s,MS5.1						
BJI				LR	LR		
	comp=Z,822nm,17.1s,MS4.8						
BJI	Beijing	50.82	287	*eP*	P	22 15 53.3	-0.4
BJI				*PP	pP	22 16 01.7	-2.5
BJI				*SP	sP	22 16 05.3	-3.3
BJI				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
BJI				MLR	MLR		
	comp=Z,820nm,17.1s,MS4.8						
BJI	Beijing	50.82	287	*eP*	P	22 15 53.3	-0.4
	comp=Z,10.0nm,1.3s,mb4.6						
BJI				pP	pP	22 16 01.7	-2.5
BJI				sP	sP	22 16 05.3	-3.3
BJI				S	S	22 23 30.4	+25
BJI				SS	tx	22 28 31.8	
BJI				LR	LR		
	comp=Z,820nm,17.1s,MS4.8						
ULN	Ulaanbaatar	51.05	301	P	P	22 15 54.7	-0.6
ULN				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
ULN	Ulaanbaatar	51.05	301	*eP*	P	22 15

SSE				AP	pP	22 16 24.5	-2.0
SSE				S	**S**	**22 23 43.0**	**-3.2**
SSE				XS		22 24 03.3	
SSE				SCS	ScS	22 25 59.8	+0.9
SSE				AMB	AMB		
	comp=Z,41nm,1.0s,mb5.3						
SSE				AMB	AMB		
	comp=Z,464nm,10.5s						
SSE				LR	LR		
	comp=N,396nm,16.7s,MS4.6						
SSE				LR	LR		
	comp=E,220nm,16.6s,MS4.6						
SSE				LR	LR		
	comp=Z,441nm,15.5s,MS4.6						
SSE	**Sheshan**	**53.77**	**276**	P	**P**	**22 16 13.0**	**-2.9**
	comp=Z,41nm,1.0s,mb5.3						
SSE				pP	pP	22 16 24.4	-2.1
SSE				S	**S**	**22 23 42.9**	**-3.3**
SSE				sS		22 24 03.3	
SSE				ScS	ScS	22 25 59.7	+0.8
SSE				LR	LR		
	comp=Z,440nm,15.5s,MS4.6						
BTO	**Baotou**	**54.03**	**292**	*e*P	**P**	**22 16 16.8**	**-0.8**
BTO				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.0						
CCM	**Cathedral Cave**	**54.38**	**72**	P	**P**	**22 16 24.2**	**+4.0**
CCM				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
CCM	**Cathedral Cave**	**54.38**	**72**	*e*P	**P**	**22 16 17.5**	**-2.7**
	comp=Z,8.7nm,0.9s,mb4.7						
JCT	**Junction City**	**54.38**	**85**	P	**P**	**22 16 25.7**	**+5.3**
JCT				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
JCT	**Junction City**	**54.38**	**85**	*e*P	**P**	**22 16 18.3**	**-2.0**
	comp=Z,19nm,1.0s,mb5.0						
NJ2	**Nanjing**	**54.54**	**278**	*e*P	**P**	**22 16 22.3**	**+0.8**
NJ2				AP	pP	22 16 32.5	+0.3
NJ2				XP	sP	22 16 36.3	-0.1
NJ2				PP	PP	22 18 26.0	+0.7
NJ2				S	**S**	**22 23 55.0**	**-1.5**
NJ2				XS		22 24 11.0	
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,1μm,11.2s						
NJ2				LR	LR		
	comp=N,11μm,21.2s,MS5.9						
NJ2				LR	LR		
	comp=E,2μm,23.8s,MS5.9						
NJ2				LR	LR		
	comp=Z,770nm,23.4s,MS4.7						
SLM	**Saint Louis**	**54.58**	**71**	*e*P	**P**	**22 16 19.6**	**-2.1**
FVM	**French Village**	**54.91**	**71**	P	**P**	**22 16 26.3**	**+2.2**
FVM				pmax	pmax		
	comp=Z,28nm,0.4s,mb5.7						
FVM	**French Village**	**54.91**	**71**	*e*P	**P**	**22 16 21.8**	**-2.3**
	comp=Z,28nm,0.3s,mb5.8						
SCO	**Scoresbysund**	**55.55**	**13**	*i* P	**P**	**22 16 27.1**	**-1.1**
SCO				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
SCO	**Scoresbysund**	**55.55**	**13**	*i* P	**P**	**22 16 27.1**	**-1.1**
	comp=Z,20nm,0.7s,mb5.2						
SCHQ	**Schefferville**	**55.70**	**43**	P	**P**	**22 16 28.6**	**-0.9**
	comp=Z,12nm,1.0s,mb4.9,baz=309,slow=10,SNR=7.0						
SCHQ	**Schefferville**	**55.70**	**43**	*e*P	**P**	**22 16 28.2**	**-1.4**
	comp=Z,24nm,0.9s,mb5.2						
NATX	**Nacogdoches**	**56.63**	**80**	*e*P	**P**	**22 16 36.2**	**-0.4**
	comp=Z,101nm,0.4s						
SADO	**Sadowa**	**56.66**	**59**	P	**P**	**22 16 35.0**	**-1.5**
	comp=Z,9.2nm,0.8s,mb4.8,baz=317,slow=7.0,SNR=4.6						
NVS	**Novosibirsk**	**57.64**	**319**	*i* P	**P**	**22 16 40.2**	**-3.2**
NVS				pmax	pmax		
	comp=N,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,11nm,1.0s						
NVS				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
ZAL	**Zalesovo**	**57.64**	**318**	P	**P**	**22 16 40.9**	**-2.6**
	comp=Z,3.0nm,0.9s,mb4.3,baz=82,slow=7.1,SNR=15						
ZAL				PcP	PcP	22 17 35.4	-0.6
	comp=Z,3.9nm,0.9s,baz=42,slow=5.5,SNR=5.0						
ZAL	**Zalesovo**	**57.64**	**318**	P	**P**	**22 16 40.9**	**-2.6**
ZAL				PcP	PcP	22 17 35.4	-0.6
ACSO	**Alum Creek Sta**	**57.65**	**65**	P	**P**	**22 16 44.3**	**+0.6**
WVT	**Waverly**	**57.69**	**71**	P	**P**	**22 16 42.7**	**-1.3**
WVT				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
WVT	**Waverly**	**57.69**	**71**	*e*P	**P**	**22 16 41.9**	**-2.1**
	comp=Z,22nm,1.2s,mb5.1						
KEV	**Kevo**	**57.91**	**353**	*e*p	**P**	**22 16 42.1**	**-3.0**
	comp=Z,13nm,0.8s,mb5.0						
KEV	**Kevo**	**57.91**	**353**	*e*P	**P**	**22 16 42.1**	**-3.0**
KEV				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.0						
ARCES	**ARCESS Array B**	**58.23**	**354**	P	**P**	**22 16 45.5**	**-1.8**
	comp=Z,18nm,0.9s,mb5.1,baz=11,slow=6.2,SNR=15						
ARE0	**ARCESS Array S**	**58.23**	**354**	P	**P**	**22 16 44.7**	**-2.6**
ALLY	**Alegheny Colle**	**58.24**	**62**	*e*P	**P**	**22 16 45.7**	**-2.1**
PLAL	**Pickwick Lake**	**58.34**	**73**	*e*P	**P**	**22 16 45.8**	**-2.7**
	comp=Z,31nm,3.8s						
WHN	**Wuhan**	**58.34**	**280**	P	**P**	**22 16 47.5**	**-1.1**
WHN				S	**S**	**22 24 38.5**	**-8.4**
WHN				LR	LR		
	comp=Z,870nm,15.4s,MS5.0						
MSNY	**Massena**	**58.72**	**56**	*e*P	**P**	**22 16 49.2**	**-1.9**
LVZ	**Lovozero**	**59.02**	**350**	*e*P	**P**	**22 16 51.1**	**-1.8**
LVZ				*e*S	**S**	**22 24 54.0**	**-1.2**
LVZ				pmax	pmax		
	comp=Z,65nm,1.0s,mb5.6						
LVZ				pmax	pmax		
	comp=N,13nm,0.8s						
LVZ				pmax	pmax		
	comp=E,25nm,1.6s						
LVZ				smax			
	comp=N,249nm,4.0s						
XAN	**Xi'an**	**59.14**	**287**	P	**P**	**22 16 53.3**	**-0.8**
XAN				AP	pP	22 16 58.8	-6.1
XAN				AMB	AMB		
	comp=Z,38nm,1.1s,mb5.3						
APA	**Apatity**	**59.48**	**350**	⇑*i*P	**P**	**22 16 58.5**	**+2.5**
APA				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
APA				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.1						
MCWV	**Mont Chateau**	**59.79**	**63**	*e*P	**P**	**22 16 56.3**	**-2.2**
	comp=Z,21nm,1.0s,mb5.1						
SSPA	**Standing Stone**	**60.17**	**61**	*e*P	**P**	**22 16 58.7**	**-2.4**
	comp=Z,9.0nm,0.8s,mb4.8						
LRAL	**Lakeview Retre**	**60.34**	**73**	*e*P	**P**	**22 17 00.2**	**-2.2**
	comp=Z,8.5nm,0.9s,mb4.8						
GTA	**Gaotai**	**60.58**	**297**	*e*P	**P**	**22 17 02.8**	**-1.1**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.7						
GTA				AMB	AMB		
	comp=Z,266nm,7.2s						
GTA				LR	LR		
	comp=N,744nm,19.4s,MS5.1						
GTA				LR	LR		
	comp=E,1μm,19.8s,MS5.1						
GTA				LR	LR		
	comp=Z,1μm,18.3s,MS5.1						
LZH	**Lanzhou**	**60.66**	**292**	⇑P	**P**	**22 17 04.3**	**-0.2**
LZH				AP	pP	22 17 13.5	-1.8
LZH				XP	sP	22 17 15.5	-4.0
LZH				PP	PP	22 19 19.5	-0.8
LZH				*e*S	**S**	**22 25 16.3**	**-0.4**
LZH				XS		22 25 28.5	
LZH				*e*SS	SS	22 29 15.3	-1.4
LZH				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.7						
LZH				AMB	AMB		
	comp=Z,550nm,5.0s						
LZH				LR	LR		
	comp=E,2μm,16.0s						
LZH				LR	LR		
	comp=Z,3μm,17.2s,MS5.4						
LZH	**Lanzhou**	**60.66**	**292**	⇑P	**P**	**22 17 04.3**	**-0.2**
LZH				*PP	pP	22 17 13.4	-1.9
LZH				*SP	sP	22 17 15.6	-3.9
LZH						22 19 19.5	
LZH				*e*S	**S**	**22 25 16.2**	**-0.5**
LZH				*SS		22 25 28.5	
LZH				*e*SS	SS	22 29 15.2	-1.5
LZH				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.7						
LZH				MLR	MLR		
	comp=Z,3μm,17.2s,MS5.4						
LZH	**Lanzhou**	**60.66**	**292**	⇑P	**P**	**22 17 04.3**	**-0.2**
	comp=Z,70nm,1.1s,mb5.7						
LZH				pP	pP	22 17 13.4	-1.9
LZH				sP	sP	22 17 15.6	-3.9
LZH				PP	PP	22 19 19.5	-0.8
LZH				*e*S	**S**	**22 25 16.2**	**-0.5**
LZH				sS		22 25 28.5	
LZH				*e*SS	SS	22 29 15.2	-1.5
LZH				LR	LR		
	comp=Z,3μm,17.2s,MS5.4						
FWV	**Forest Hill**	**60.71**	**66**	*e*P	**P**	**22 17 02.8**	**-2.1**
BORG	**Borgarnes**	**60.95**	**15**	P	**P**	**22 17 05.6**	**-0.5**
	comp=Z,12nm,0.8s,mb5.1,baz=324,slow=5.6,SNR=4.3						
ELN	**Prospectdale**	**60.99**	**66**	*e*P	**P**	**22 17 05.1**	**-1.6**
BLA	**Blacksburg**	**61.19**	**66**	P	**P**	**22 17 07.0**	**-1.1**
BLA				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.4						
BLA	**Blacksburg**	**61.19**	**66**	*e*P	**P**	**22 17 06.2**	**-1.9**
	comp=Z,30nm,0.8s,mb5.5						
MOR8	**Moi Rana**	**62.07**	**358**	*e*P	**P**	**22 17 09.9**	**-3.7**
MOR8				AMb	AMB	22 17 12.6	
	comp=Z,22nm,0.8s,mb5.3						
MOR8				*e*pP	pP	22 17 22.3	-2.1
SOKR	**Solikamsk**	**62.64**	**336**	⇑*i*P	**P**	**22 17 14.4**	**-3.1**
SOKR				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.3						
JSC	**Jenkinsville**	**62.80**	**69**	P	**P**	**22 17 18.8**	**-0.1**
JSC	**Jenkinsville**	**62.80**	**69**	*e*P	**P**	**22 17 16.9**	**-2.0**
CHKZ	**Chkalovo**	**63.33**	**325**	*e*P	**P**	**22 17 19.1**	**-3.0**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**63.33**	**325**	*e*P	**P**	**22 17 19.1**	**-3.0**
	comp=Z,7.5nm,0.8s,mb4.9						
WMQ	**Urumqi**	**63.69**	**308**	P	**P**	**22 17 24.0**	**-0.5**
WMQ				AP	pP	22 17 34.0	-1.4
WMQ				XP	sP	22 17 38.0	-1.5
WMQ				PCP	PcP	22 18 00.0	-0.3
WMQ				PP	PP	22 19 45.5	-0.9
WMQ				PPP	PPP	22 21 18.0	-0.1
WMQ				S	**S**	**22 25 54.0**	**-0.7**
WMQ				XS		22 26 09.5	
WMQ				PS	PS	22 26 16.0	-2.6
WMQ				AMB	AMB		
	comp=Z,21nm,0.9s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,438nm,6.6s						
WMQ				LR	LR		
	comp=N,381nm,18.8s,MS4.9						
WMQ				LR	LR		
	comp=E,729nm,21.8s,MS4.9						
WMQ				LR	LR		
	comp=Z,640nm,20.6s,MS4.8						
BVAR	**Borovoye Array**	**63.93**	**324**	P	**P**	**22 17 24.9**	**-1.0**
	comp=Z,16nm,0.7s,mb5.2,baz=45,slow=6.3,SNR=44						
SVE	**Sverdlovsk**	**63.95**	**332**	*e*P	**P**	**22 17 25.0**	**-1.0**
SVE				*e*	pP	22 17 36.6	-0.3
SVE				pmax	pmax		
	comp=Z,40nm,2.1s,mb5.1						
SVE				MLR	MLR		
	comp=N,200nm,16.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,100nm,16.0s,MS4.4						
MKAR	**Makanchi Array**	**63.99**	**313**	P	**P**	**22 17 24.4**	**-2.0**
	comp=E,13nm,1.1s,mb4.8,baz=53,slow=6.1,SNR=25						
JOF	**Joensuu**	**64.21**	**350**	*e*p	**P**	**22 17 24.6**	**-3.0**
	comp=E,21nm,0.8s,mb5.2						
NHSC	**New Hope**	**64.27**	**69**	P	**P**	**22 17 28.4**	**-0.1**
CD2	**Chengdu**	**64.42**	**288**	P	**P**	**22 17 29.5**	**0.0**
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
ARU	**Arti**	**64.88**	**333**	⇑*i*P	**P**	**22 17 30.6**	**-1.4**
ARU				*e*		22 18 02.5	
ARU				*e*		22 19 50.0	
ARU				*e*S	**S**	**22 26 07.9**	**-1.3**
ARU				*e*		22 27 20.4	
ARU				*e*SS	SS	22 30 22.0	-0.8
ARU				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.3						
ARU				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.8						
ARU				MLR	MLR		
	comp=N,200nm,17.0s,MS4.8						
ARU				MLR	MLR		
	comp=E,500nm,18.0s,MS4.8						
ARU	**Arti**	**64.88**	**333**	*e*P	**P**	**22 17 30.1**	**-1.9**
	comp=E,29nm,1.0s,mb5.3						
KAF	**Kangasniemi**	**65.50**	**352**	*e*p	**P**	**22 17 33.3**	**-2.6**
	comp=E,15nm,0.5s,mb5.3,baz=7.0,slow=6.1						
KAF	**Kangasniemi**	**65.50**	**352**	*e*P	**P**	**22 17 33.3**	**-2.6**
KAF				pmax	pmax		
	comp=Z,15nm,0.5s,mb5.3						
MOL	**Molde**	**65.70**	**2**	*e*P	**P**	**22 17 41.7**	**+4.5**
MOL				AMb	AMB	22 17 43.7	
	comp=Z,32nm,1.1s,mb5.3						
GYA	**Guiyang**	**65.95**	**283**	⇑*i*P	**P**	**22 17 39.0**	**-0.4**
GYA				AP	pP	22 17 46.3	-4.1
GYA				XP	sP	22 17 49.8	-4.6
GYA				PP	PP	22 20 01.5	-5.5
GYA				S	S	22 26 12.0	-11
GYA				PS	PS	22 26 34.8	-15
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,670nm,7.5s						
GYA				LR	LR		
	comp=N,410nm,16.7s,MS4.9						
GYA				LR	LR		
	comp=E,450nm,17.3s,MS4.9						
GYA				LR	LR		
	comp=Z,830nm,17.6s,MS5.0						
FINES	**FINESS Array B**	**66.18**	**352**	P	**P**	**22 17 38.5**	**-1.8**
	comp=Z,16nm,0.7s,mb5.2,baz=27,slow=8.5,SNR=40						
FINES	**FINESS Array B**	**66.18**	**352**	P	**P**	**22 17 38.5**	**-1.8**
NB2	**NORSAR Subarra**	**67.26**	**360**	P	**P**	**22 17 46.0**	**-1.1**
	comp=Z,20nm,0.9s,mb5.2,baz=1.0,slow=6.2						
NB2	**NORSAR Subarra**	**67.26**	**360**	P	**P**	**22 17 46.0**	**-1.1**
NB2				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
NB2	**NORSAR Subarra**	**67.26**	**360**	P	**P**	**22 17 46.0**	**-1.1**
	comp=Z,20nm,0.9s,mb5.2						
NB2	**NORSAR Subarra**	**67.26**	**360**	P	**P**	**22 17 46.0**	**-1.1**
	baz=1.2,slow=6.5						
NOA	**NORSAR Array B**	**67.26**	**360**	P	**P**	**22 17 45.7**	**-1.4**
	comp=Z,16nm,0.8s,mb5.1,baz=1.3,slow=6.3,SNR=44						
NOA	**NORSAR Array B**	**67.26**	**360**	P	**P**	**22 17 45.7**	**-1.4**
PUL	**Pulkovo**	**67.40**	**349**	*i* P	**P**	**22 17 48.2**	**+0.2**
PECR	**Pechory**	**68.51**	**341**	*e*P	**P**	**22 17 54.0**	**-1.0**
PECR				*e*	pP	22 18 05.0	-1.0
PECR				pmax	pmax		
	comp=Z,400nm,1.4s						
KONO	**Kongsberg**	**68.66**	**1**	P	**P**	**22 17 55.4**	**-0.4**
KONO				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.2						
KONO	**Kongsberg**	**68.66**	**1**	*e*P	**P**	**22 17 54.8**	**-1.0**
	comp=Z,26nm,0.9s,mb5.2						
KONO	**Kongsberg**	**68.66**	**1**	*e*P	**P**	**22 17 55.1**	**-0.7**
KONO				AMb	AMB	22 17 57.1	
	comp=Z,30nm,1.6s,mb5.0						
KONO				*e*pP	pP	22 18 07.5	+0.7
KMI	**Kunming**	**69.30**	**284**	P	**P**	**22 18 00.5**	**+0.1**
KMI				AP	pP	22 18 10.0	-1.4
KMI				XP	sP	22 18 12.8	-2.6
KMI				S	S	22 27 03.3	+0.4
KMI				XS		22 27 18.8	
KMI				SS	SS	22 31 31.0	-0.7
KMI				AMB	AMB		
	comp=Z,25nm,1.2s,mb5.0						
KMI				AMB	AMB		
	comp=Z,238nm,7.1s						
KMI				LR	LR		
	comp=N,417nm,17.9s,MS4.8						
KMI				LR	LR		
	comp=E,309nm,20.1s,MS4.8						
KMI				LR	LR		
	comp=Z,402nm,16.8s,MS4.7						
KMI	**Kunming**	**69.30**	**284**	P	**P**	**22 18 00.6**	**+0.2**
KMI				*PP	pP	22 18 10.0	-1.4
KMI				*SP	sP	22 18 12.8	-2.6
KMI				S	S	22 27 03.2	+0.3
KMI				SS	SS	22 31 31.0	-0.7
KMI				pmax	pmax		
	comp=Z,25nm,1.2s,mb5.0						
KMI				MLR	MLR		
	comp=Z,400nm,16.8s,MS4.7						
KMI	**Kunming**	**69.30**	**284**	P	**P**	**22 18 00.6**	**+0.2**
	comp=Z,25nm,1.2s,mb5.0						
KMI				pP	pP	22 18 10.0	-1.4
KMI				sP	sP	22 18 12.8	-2.6
KMI				S	S	22 27 03.2	+0.3
KMI				sS		22 27 18.8	
KMI				SS	SS	22 31 31.0	-0.7
KMI				LR	LR		
	comp=Z,400nm,16.8s,MS4.7						
TKM2	**Tokmak 2**	**69.98**	**315**	P	**P**	**22 18 04.2**	**-0.1**
	SNR=28						
USP	**Ospenovka**	**70.18**	**316**	P	**P**	**22 18 05.4**	**-0.1**
	SNR=45						
ULHL	**Ulahol**	**70.24**	**314**	P	**P**	**22 18 05.8**	**0.0**
	SNR=29						
MOS	**Moscow**	**70.27**	**344**	*e*P	**P**	**22 18 03.4**	**-2.3**
CHMS	**Chumysh**	**70.29**	**315**	P	**P**	**22 18 06.0**	**-0.2**
	SNR=11						
KBK	**Karagaybulak**	**70.48**	**315**	P	**P**	**22 18 06.9**	**-0.4**
	SNR=33						
FRU	**Bishkek**	**70.48**	**315**	*e*P	**P**	**22 18 07.0**	**-0.3**
FRU				*e*	pP	22 18 19.0	+0.7
FRU				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.4						
AAK	**Ala-Archa**	**70.69**	**315**	P	**P**	**22 18 08.7**	**+0.1**
	SNR=22						
AAK	**Ala-Archa**	**70.69**	**315**	⇑*e*P	**P**	**22 18 07.5**	**-1.1**
AAK				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.2						
AAK	**Ala-Archa**	**70.69**	**315**	⇑*e*P	**P**	**22 18 07.5**	**-1.1**
	comp=Z,32nm,0.9s,mb5.2						
KZA	**Kyzart**	**70.81**	**315**	P	**P**	**22 18 09.8**	**+0.5**
	SNR=19						
EKS2	**Erkin-Say**	**70.98**	**316**	P	**P**	**22 18 10.4**	**+0.1**
	SNR=40						
UCH	**Uchtor**	**71.01**	**315**	P	**P**	**22 18 10.8**	**+0.3**
	SNR=11						
OBN	**Obninsk**	**71.04**	**345**	*e*P	**P**	**22 18 08.8**	**-1.7**
	comp=Z,18nm,0.7s,mb5.1						
AML	**Almayashu**	**71.45**	**316**	P	**P**	**22 18 13.8**	**+0.6**
	SNR=31						
LSA	**Lhasa**	**72.54**	**296**	P	**P**	**22 18 22.5**	**+2.7**
KSH	**Kashi**	**72.55**	**312**	*e*P	**P**	**22 18 18.5**	**-1.1**
KSH				*e*AP	pP	22 18 26.0	-4.6
KSH				*e*XP	sP	22 18 29.3	-5.3
KSH				*e*PCP	PcP	22 18 37.3	-0.1
KSH				*e*PP	PP	22 20 59.0	-4.2
KSH				*e*PPP	PPP	22 22 41.0	-4.7
KSH				*e*S	S	22 27 36.0	-4.4
KSH				*e*SKS	SKS	22 28 16.0	-1.1
KSH				*e*SCS	ScS	22 28 18.5	-1.8
KSH				*e*SS	SS	22 32 14.0	-7.8
KSH				AMB	AMB		
	comp=Z,390nm,4.8s						
KSH				LR	LR		
	comp=N,830nm,12.8s,MS5.5						
KSH				LR	LR		
	comp=E,1μm,13.8s,MS5.5						
MNK	**Minsk**	**72.85**	**350**	*e*P	**P**	**22 18 19.0**	**-2.1**
SUW	**Suwalki**	**73.78**	**352**	P	**P**	**22 18 25.8**	**-0.8**
SUW				pmax	pmax		
	comp=Z,68nm,1.0s,mb5.5						
SUW	**Suwalki**	**73.78**	**352**	*e*P	**P**	**22 18 25.5**	**-1.1**
SUW	**Suwalki**	**73.78**	**352**	*e*P	**P**	**22 18 25.5**	**-1.1**
DCN	**Croghan**	**73.92**	**11**	*e*P	**P**	**22 18 26.0**	**-1.4**
DLF	**Lyons Farm**	**74.06**	**11**	*e*P	**P**	**22 18 26.0**	**-2.2**
BSEG	**Bad Segeberg**	**74.39**	**0**	*e*P	**P**	**22 18 30.3**	**+0.2**
GKP	**Gorka Klasztor**	**74.90**	**356**	*e*P	**P**	**22 18 33.0**	**0.0**
SHL	**Shillong**	**75.31**	**293**	*e*P	**P**	**22 18 37.0**	**+1.0**
NANT	**Nan**	**75.31**	**282**	⇑P	**P**	**22 18 31.0**	**-5.1**
	comp=Z,106nm,0.8s,mb5.8						
CHG	**Chiang Mai**	**76.36**	**283**	⇑P	**P**	**22 18 41.8**	**-0.3**
	comp=Z,16nm,1.0s,mb4.9						
AKASG	**Malin Array Be**	**76.41**	**348**	P	**P**	**22 18 39.9**	**-1.8**
	comp=Z,11nm,0.9s,mb4.8,baz=13,slow=5.5,SNR=31						
AKASG	**Malin Array Be**	**76.41**	**348**	P	**P**	**22 18 39.9**	**-1.8**
CLZ	**Clausthal**	**76.48**	**0**	*e*P	**P**	**22 18 42.6**	**+0.5**
	comp=Z,21nm,1.0s,mb5.0						
CM31	**Chiang Mai Arr**	**76.64**	**283**	*e*P	**P**	**22 18 43.5**	**-0.2**
	comp=Z,21nm,0.8s,mb5.1						
CMAR	**Chiang Mai Arr**	**76.64**	**283**	P	**P**	**22 18 43.9**	**+0.2**
	comp=Z,12nm,0.9s,mb4.8,baz=27,slow=5.9,SNR=40						
JIRN	**Jiri**	**76.86**	**298**	*e*P	**P**	**22 18 45.1**	**+0.3**
	comp=Z,116nm,1.1s,mb5.7						
JIRN	**Jiri**	**76.86**	**298**	*e*P	**P**	**22 18 45.1**	**+0.3**
	comp=Z,116nm,1.1s,mb5.7						
CLL	**Collm**	**77.00**	**358**	⇑*i*P	**P**	**22 18 44.4**	**-0.6**
CLL				*i*		22 18 49.5	
CLL				*i*	pP	22 18 57.9	+1.8
CLL	**Collm**	**77.00**	**358**	⇑P	**P**	**22 18 44.4**	**-0.6**
	comp=Z,logA/T=1.0,mb4.7						
CLL				*i* *PP	pP	22 18 49.5	-6.6
CLL				*i*	pP	22 18 57.9	+1.8
KKN	**Kakani**	**77.25**	**299**	*e*P	**P**	**22 18 46.9**	**-0.1**
	comp=Z,39nm,1.0s,mb5.3						
KKN	**Kakani**	**77.25**	**299**	*e*P	**P**	**22 18 46.8**	**-0.2**
	comp=Z,26nm,0.8s,mb5.2						
PKI	**Pulchoki**	**77.35**	**299**	*e*P	**P**	**22 18 47.4**	**-0.1**
	comp=Z,69nm,1.1s,mb5.5						
PKI	**Pulchoki**	**77.35**	**299**	*e*P	**P**	**22 18 47.5**	**0.0**
	comp=Z,69nm,1.1s,mb5.5						
KSP	**Ksiaz**	**77.37**	**356**	*e*P	**P**	**22 18 46.6**	**-0.5**
KSP				*e*	pP	22 18 56.7	-1.5
KSP	**Ksiaz**	**77.37**	**356**	*e*P	**P**	**22 18 47.3**	**+0.2**
BRG	**Berggiesshubel**	**77.41**	**358**	*e*P	**P**	**22 18 47.5**	**+0.1**
BRG				*e*	pP	22 18 58.8	+0.4
BRG				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
BRG	**Berggiesshubel**	**77.41**	**358**	*e*P	**P**	**22 18 47.5**	**+0.1**
	comp=Z,17nm,1.3s,mb4.8						
BRG				*e*	pP	22 18 58.8	+0.4
GKN	**Gorkha**	**77.43**	**299**	*e*P	**P**	**22 18 47.7**	**-0.2**
	comp=Z,95nm,1.2s,mb5.6						
GKN	**Gorkha**	**77.43**	**299**	*e*P	**P**	**22 18 47.4**	**-0.5**
	comp=Z,95nm,1.2s,mb5.6						
DMN	**Daman**	**77.49**	**299**	*e*P	**P**	**22 18 48.2**	**-0.1**
	comp=Z,75nm,1.3s,mb5.5						
DMN	**Daman**	**77.49**	**299**	*e*P	**P**	**22 18 48.1**	**-0.2**
	comp=Z,75nm,1.3s,mb5.5						
MOX	**Moxa**	**77.68**	**359**	*e*P	**P**	**22 18 49.0**	**+0.2**
MOX				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
MOX	**Moxa**	**77.68**	**359**	*e*P	**P**	**22 18 49.0**	**+0.2**
	comp=Z,18nm,1.3s,mb4.8						
MOX	**Moxa**	**77.68**	**359**	*i* P	**P**	**22 18 49.2**	**+0.4**
	comp=Z,logA/T=0.8,mb4.5						
UPC	**Up

PRU	Pruhonice	78.28	357	eP	P	22 18 52.6 +0.5
PRU				epP	pP	22 19 04.5 +1.3
PRU				eS	S	22 28 53.0 +10
PRU				AMS	AMS	22 53 00.0
	comp=Z,400nm,16.2s					
OKC	Ostrava-Krasne	78.28	355	eP	P	22 18 52.9 +0.7
OKC				epP	pP	22 19 04.7 +1.5
OKC				AMS	AMS	23 05 20.0
	comp=Z,300nm,18.4s					
MORC	Moravsky Berou	78.38	355	eP	P	22 18 53.0 +0.3
MORC				pmax	pmax	
	comp=Z,15nm,1.1s,mb4.8					
MORC	Moravsky Berou	78.38	355	eP	P	22 18 52.5 -0.1
	comp=Z,15nm,1.1s,mb4.8					
ABH	Alteburg	78.41	2	eP	P	22 18 52.9 0.0
NIE	Niedzica	78.57	354	eP	P	22 18 54.0 +0.3
WLF	Walferdange	78.59	3	P	P	22 18 57.0 +3.1
WLF				pmax	pmax	
	comp=Z,13nm,1.2s,mb4.7					
WLF	Walferdange	78.59	3	eP	P	22 18 53.5 -0.4
	comp=Z,13nm,1.2s,mb4.8					
GRA1	Grafenberg Arr	78.64	360	eP	P	22 18 54.9 +0.8
	comp=Z,18nm,0.8s,mb5.0					
GRA1				epP	pP	22 19 06.8 +1.6
GRF	Grafenberg Arr	78.64	360	eP	P	22 18 54.9 +0.8
GRF				e*PP	pP	22 19 06.8 +1.6
GRF				pmax	pmax	
	comp=Z,18nm,0.8s,mb5.0					
GRF	Grafenberg Arr	78.64	360	eP	P	22 18 54.9 +0.8
GRF				e*PP	pP	22 19 06.8 +1.6
GRF				pmax	pmax	
	comp=Z,18nm,0.8s,mb5.0					
GRF	Grafenberg Arr	78.64	360	eP	P	22 18 54.9 +0.8
	comp=Z,18nm,0.8s,mb5.0					
GRF				epP	pP	22 19 06.8 +1.6
SMLA	Simla	78.79	307⇑	iP	P	22 18 51.3 -4.0
KOLS	Kolonicke sedl	78.90	352	eP	P	22 18 56.5 +0.9
CRVS	Cervenica-Dubn	79.00	353	eP	P	22 19 03.9 +7.8
FLN	La Foliniere	79.13	7	eP	P	22 18 56.3 -0.5
	comp=Z,48nm,1.3s,mb5.0					
FLN				eR		
	comp=Z,650nm,18.5s					
FLN	La Foliniere	79.13	7	eP	P	22 18 56.3 -0.5
FLN				pmax	pmax	
	comp=Z,24nm,1.3s,mb5.0					
FLN				MLR	MLR	
	comp=Z,650nm,18.5s,MS5.0					
KHC	Kasperske Hory	79.17	358⇑	iP	P	22 18 57.6 +0.6
KHC	Kasperske Hory	79.17	358	eP	P	22 18 57.7 +0.7
KHC				epP	pP	22 19 09.6 +1.5
KHC				eS	S	22 28 53.0 +0.3
KHC				AMS	AMS	23 03 20.0
	comp=Z,300nm,16.4s					
WET	Wettzell	79.17	358	eP	P	22 18 57.7 +0.7
WET				pmax	pmax	
	comp=Z,11nm,1.2s,mb4.7					
WET	Wettzell	79.17	358	eP	P	22 18 57.7 +0.7
	comp=Z,11nm,1.2s,mb4.7					
ROSF	Rostrenen	79.30	9	eP	P	22 18 57.6 -0.2
	comp=Z,44nm,1.4s,mb4.9					
ROSF	Rostrenen	79.30	9	eP	P	22 18 57.6 -0.2
ROSF				pmax	pmax	
	comp=Z,22nm,1.4s,mb4.9					
GOF	Gofitskoye	79.30	337⇓	iP	P	22 18 57.4 -0.4
GOF				i	pP	22 19 08.5 -0.4
GOF				pmax	pmax	
	comp=Z,130nm,1.3s,mb5.7					
LANF	Langenberg	79.32	2	eP	P	22 18 58.2 +0.3
LDF	La Druitiere	79.32	7	eP	P	22 18 57.3 -0.6
	comp=Z,55nm,1.2s,mb5.1					
LDF	La Druitiere	79.32	7	eP	P	22 18 57.3 -0.6
LDF				pmax	pmax	
	comp=Z,28nm,1.2s,mb5.1					
GEC2	GERESS Array S	79.45	358	eP	P	22 18 59.0 +0.4
GEC2				pmax	pmax	
	comp=Z,11nm,1.1s,mb4.7					
GEC2	GERESS Array S	79.45	358	eP	P	22 18 59.0 +0.4
	comp=Z,11nm,1.1s,mb4.7					
GERES	GERESS Array B	79.45	358	P	P	22 18 58.4 -0.1
	comp=Z,4.7nm,0.9s,mb4.4,baz=27,slow=3.0,SNR=26					
SGMF	Saint Gilles	79.45	9	eP	P	22 18 58.4 -0.2
KECS	Kecovo	79.49	353	eP	P	22 18 58.5 -0.3
KECS				esP	sP	22 19 11.1 -2.7
VYHS	Vyhne	79.58	354	eP	P	22 18 59.7 +0.4
SMOL	Smolenice	79.64	355	eP	P	22 19 00.4 +0.8
MEZF	Maizieres J'vi	79.72	4	eP	P	22 19 00.1 +0.1
	comp=Z,14nm,0.8s,mb4.6					
CDF	Champ du Feu	79.88	2	eP	P	22 19 01.0 +0.1
	comp=Z,37nm,1.2s,mb4.9					
CDF	Champ du Feu	79.88	2	eP	P	22 19 01.0 +0.1
CDF				pmax	pmax	
	comp=Z,18nm,1.2s,mb4.9					
WLS	Welschbruch	79.88	2	eP	P	22 19 00.8 -0.1
ZST	Bratislava	79.98	356	eP	P	22 19 02.4 +1.0
ZST				e	pP	22 19 14.5 +2.0
BFO	Black Forest	79.98	2	eP	P	22 19 01.8 +0.4
BFO				pmax	pmax	
	comp=Z,17nm,1.2s,mb4.8					
BFO	Black Forest	79.98	2	eP	P	22 19 01.8 +0.4
	comp=Z,17nm,1.2s,mb4.8					
THEF	They Montfort	80.03	3	eP	P	22 19 02.2 +0.5
ECH	Echery	80.07	2	eP	P	22 19 02.4 +0.5
PSZ	Piszkesteto	80.09	354	eP	P	22 19 03.2 +1.2
FUR	Furstenfeldbru	80.16	360	eP	P	22 19 03.3 +0.9
SPAK	Spaichingen	80.22	1	eP	P	22 19 03.2 +0.5
HAU	Haudompre	80.26	3	eP	P	22 19 03.0 +0.1
	comp=Z,34nm,1.1s,mb4.9					
HAU				eR		
	comp=Z,311nm,20.5s					
HAU	Haudompre	80.26	3	eP	P	22 19 03.0 +0.1
HAU				pmax	pmax	
	comp=Z,17nm,1.1s,mb4.9					
HAU				MLR	MLR	
	comp=Z,310nm,20.5s,MS4.6					
SRO	Srobarova	80.30	355	eP	P	22 19 04.2 +1.1
SRO1	Iza	80.35	355	eP	P	22 19 03.9 +0.5
KIV	Kislovodsk	80.42	337c	iP	P	22 19 04.1 +0.2
KIV				pmax	pmax	
	comp=Z,40nm,0.9s,mb5.3					
KIV				pmax	pmax	
	comp=N,30nm,1.1s					
KIV				pmax	pmax	
	comp=E,13nm,0.9s					
KIV				MLR	MLR	
	comp=Z,373nm,20.0s,MS4.7					
FELD	Feldberg	80.43	2	eP	P	22 19 04.1 +0.3
MOA	Molln	80.43	357⇑	iP	P	22 19 04.7 +0.9
	comp=Z,2.9nm,1.0s,mb4.2					
HINF	Hinteralfeld	80.46	3	eP	P	22 19 04.0 0.0
	comp=Z,28nm,1.0s,mb4.8					
HINF	Hinteralfeld	80.46	3	eP	P	22 19 04.0 0.0
HINF				pmax	pmax	
	comp=Z,14nm,1.0s,mb4.8					
NDI	New Delhi	80.75	305	eP	P	22 19 04.5 -1.5
ANN	Anapa	80.78	341	eP	P	22 18 57.2 -8.6
ANN				pmax	pmax	
	comp=Z,50nm,1.5s,mb5.2					
ANN				MLR	MLR	
	comp=Z,492nm,21.0s,MS4.8					
HYF	Humbligny	80.83	5	eP	P	22 19 06.4 +0.4
BBS	Basel-Blauen	80.83	2	eP	P	22 19 06.5 +0.5
LOR	Lormes	80.90	5	eP	P	22 19 06.5 +0.2
	comp=Z,46nm,1.2s,mb5.0					
LOR				eR		
	comp=Z,454nm,18.8s					
LOR	Lormes	80.90	5	eP	P	22 19 06.5 +0.2
LOR				pmax	pmax	
	comp=Z,23nm,1.2s,mb5.0					
LOR				MLR	MLR	
	comp=Z,450nm,18.8s,MS4.8					
MOTA	Moosalm	80.98	360⇑	iP	P	22 19 07.4 +0.6
ARSA	Arzberg	80.99	357⇑	iP	P	22 19 07.7 +0.9
	comp=Z,21nm,1.4s,mb4.9					
WATA	Walderalm	80.99	359⇑	iP	P	22 19 07.5 +0.7
	comp=Z,18nm,1.1s,mb4.9					
WATA	Walderalm	80.99	359⇑	iP	P	22 19 07.5 +0.7
WATA				pmax	pmax	
	comp=Z,18nm,1.1s,mb4.9					
DAVA	Damuels	81.04	0⇑	iP	P	22 19 08.2 +1.1
	comp=Z,21nm,1.6s,mb4.8					
WTTA	Wattenberg	81.06	359⇑	iP	P	22 19 08.2 +1.0
	comp=Z,53nm,1.5s,mb5.2					
WTTA	Wattenberg	81.06	359⇑	iP	P	22 19 08.2 +1.0
WTTA				pmax	pmax	
	comp=Z,53nm,1.5s,mb5.2					
SSF	Saint Saulge	81.08	5	eP	P	22 19 07.5 +0.2
SSF				pmax	pmax	
	comp=Z,23nm,1.1s,mb5.0					
SSF	Saint Saulge	81.08	5	eP	P	22 19 07.5 +0.2
	comp=Z,23nm,1.1s,mb5.0					
SQTA	Sankt Quirin	81.11	360⇑	iP	P	22 19 08.3 +0.9
	comp=Z,23nm,1.1s,mb5.0					
SQTA	Sankt Quirin	81.11	360⇑	iP	P	22 19 08.3 +0.9
SQTA				pmax	pmax	
	comp=Z,23nm,1.1s,mb5.0					
KBA	Koelnbreinsper	81.22	358⇑	iP	P	22 19 09.4 +1.4
	comp=Z,85nm,1.4s,mb5.5					
KBA	Koelnbreinsper	81.22	358⇑	iP	P	22 19 09.4 +1.4
KBA				pmax	pmax	
	comp=Z,85nm,1.4s,mb5.5					
SIM	Simferopol'	81.27	343	iP	P	22 19 08.9 +0.6
SIM				pmax	pmax	
	comp=Z,1.0nm,17.2s					
MFF	Saint Martin d	81.30	7	eP	P	22 19 08.8 +0.4
	comp=Z,72nm,1.1s,mb5.2					
MFF	Saint Martin d	81.30	7	eP	P	22 19 08.8 +0.4
MFF				pmax	pmax	
	comp=Z,36nm,1.1s,mb5.2					
AVF	Avril sur Loir	81.35	5	eP	P	22 19 08.7 0.0
	comp=Z,43nm,1.0s,mb5.0					
AVF	Avril sur Loir	81.35	5	eP	P	22 19 08.7 0.0
AVF				pmax	pmax	
	comp=Z,21nm,1.0s,mb5.0					
SOC	Sochi	81.46	339c	iP	P	22 19 09.4 0.0
SOC				e	pP	22 19 18.2 -2.3
SOC				e		22 22 16.9
SOC				ePPP	PPP	22 24 07.1 -2.2
SOC				eS	S	22 29 17.7 +1.0
SOC				eSS	SS	22 34 33.5 -3.3
SOC				eSSS	SSS	22 38 01.2 +1.9
SOC				pmax	pmax	
	comp=Z,19nm,0.7s,mb5.1					
SOC				pmax	pmax	
	comp=N,14nm,0.9s					
SOC				pmax	pmax	
	comp=E,5.0nm,0.7s					
SOC				MLR	MLR	
	comp=N,468nm,22.0s,MS4.9					
SOC				MLR	MLR	
	comp=E,388nm,22.0s,MS4.9					
SOC				MLR	MLR	
	comp=Z,660nm,22.0s,MS5.0					
SMF	Signal de Mont	81.52	5	eP	P	22 19 09.6 0.0
	comp=Z,68nm,1.1s,mb5.2					
SMF	Signal de Mont	81.52	5	eP	P	22 19 09.6 0.0
SMF				pmax	pmax	
	comp=Z,34nm,1.1s,mb5.2					
CTA	Charters Tower	81.55	222	P	P	22 19 10.6 +0.3
	comp=Z,11nm,0.9s,mb4.8,baz=66,slow=5.1,SNR=4.9					
CTA	Charters Tower	81.55	222	P	P	22 19 10.6 +0.3
CTAO	Charters Tower	81.55	222	eP	P	22 19 10.0 -0.3
CTAO				pmax	pmax	
	comp=Z,22nm,1.0s,mb5.0					
CTAO	Charters Tower	81.55	222	eP	P	22 19 10.0 -0.2
	comp=Z,22nm,1.0s,mb5.0					
PERS	Pernice	81.62	357	eP	P	22 19 11.0 +0.9
CABF	La Chapelle	81.64	3	eP	P	22 19 10.9 +0.7
	comp=Z,54nm,1.1s,mb5.1					
CABF	La Chapelle	81.64	3	eP	P	22 19 10.9 +0.7
CABF				pmax	pmax	
	comp=Z,27nm,1.1s,mb5.1					
GROS	Grobnik	81.78	357	eP	P	22 19 11.4 +0.5
TCF	Toulx Ste Croi	81.78	6	eP	P	22 19 11.1 +0.2
	comp=Z,30nm,1.1s,mb4.8					
TCF	Toulx Ste Croi	81.78	6	eP	P	22 19 11.1 +0.2
TCF				pmax	pmax	
	comp=Z,15nm,1.1s,mb4.8					
TI2	Plekhanov	81.99	335	eP	P	22 19 10.8 -1.3
AGO	Saint Agoulin	82.07	5	eP	P	22 19 13.3 +0.9
PLDF	La Plantade	82.18	5	eP	P	22 19 14.0 +1.0
PYM	Petit Puy Mans	82.36	5	eP	P	22 19 14.2 +0.2
RSL	Roselend	82.58	3	eP	P	22 19 16.3 +1.2
RJF	Les Rejaudoux	82.72	6	eP	P	22 19 15.8 0.0
RJF				eR		
	comp=Z,754nm,18.0s					
LPL	La Plagne	82.76	3	eP	P	22 19 16.6 +0.6
	comp=Z,24nm,1.1s,mb4.8					
LPL	La Plagne	82.76	3	eP	P	22 19 16.6 +0.6
LPL				pmax	pmax	
	comp=Z,12nm,1.1s,mb4.8					
LPG	La Plagne	82.78	3	eP	P	22 19 16.8 +0.7
	comp=Z,34nm,1.2s,mb5.0					
LPG	La Plagne	82.78	3	eP	P	22 19 16.8 +0.7
LPG				pmax	pmax	
	comp=Z,17nm,1.2s,mb5.0					
KSM	Kuching	82.83	263	eP	P	22 19 16.6 -0.4
LBL	Lubilhac	82.89	5	eP	P	22 19 18.0 +1.3
LFF	La Frestale	83.02	7	eP	P	22 19 17.8 +0.5
CAF	Calviac	83.13	6	eP	P	22 19 18.5 +0.6
	comp=Z,34nm,1.0s,mb5.0					
CAF	Calviac	83.13	6	eP	P	22 19 18.5 +0.6
CAF				pmax	pmax	
	comp=Z,17nm,1.0s,mb5.0					
BNI	Bardonecchia	83.22	3	P	P	22 19 20.5 +2.2
BNI				pmax	pmax	
	comp=Z,32nm,1.0s,mb5.3					
BNI	Bardonecchia	83.22	3	eP	P	22 19 19.6 +1.3
	comp=Z,32nm,1.0s,mb5.3					
ORIF	Oris-en-Rattie	83.33	3	eP	P	22 19 20.1 +1.2
	comp=Z,42nm,1.1s,mb5.1					
ORIF				eR		
	comp=Z,365nm,18.8s					
VIVF	Saint-Julien-l	83.34	4	eP	P	22 19 19.8 +0.9
	comp=Z,27nm,1.1s,mb4.9					
VIVF	Saint-Julien-l	83.34	4	eP	P	22 19 19.8 +0.9
VIVF				pmax	pmax	
	comp=Z,14nm,1.1s,mb4.9					
BLSP	Bilaspur	83.47	298	eP	P	22 19 19.5 -0.5
GNI	Garni	83.48	334	P	P	22 19 21.9 +2.2
GNI				pmax	pmax	
	comp=Z,18nm,0.9s					
GNI	Garni	83.48	334	P	P	22 19 20.4 +0.7
	comp=Z,6.3nm,0.7s,mb4.8,baz=262,slow=7.0,SNR=5.8					
GNI	Garni	83.48	334	eP	P	22 19 21.2 +1.5
	comp=Z,18nm,0.9s,mb5.1					
MBDF	Montbardon	83.55	3	eP	P	22 19 21.7 +1.8
	comp=Z,54nm,1.0s,mb5.3					
MBDF	Montbardon	83.55	3	eP	P	22 19 21.7 +1.8
MBDF				pmax	pmax	
	comp=Z,27nm,1.0s,mb5.3					
EARI	Arriondas	84.05	11	P	P	22 19 23.2 +0.7
	comp=Z,14nm,0.8s,mb5.2					
LASF	Ste Croix	84.08	5	eP	P	22 19 23.8 +1.2
	comp=Z,31nm,1.1s,mb5.0					
STOF	St-Etienne Org	84.25	3	eP	P	22 19 25.3 +1.8
SMRF	Simiane la Rot	84.26	4	eP	P	22 19 25.2 +1.7
	comp=Z,47nm,1.1s,mb5.2					
TOUF	Mont Tournerai	84.28	2	eP	P	22 19 24.1 +0.5
AUTN	L'Aution	84.30	2	eP	P	22 19 25.5 +1.8
ELAN	Lanestosa	84.33	10	P	P	22 19 24.9 +1.0
	comp=Z,74nm,1.1s,mb5.7					
VILF	Villemus	84.39	4	eP	P	22 19 26.0 +1.8
MVIF	Mont Vial	84.39	2	eP	P	22 19 24.1 -0.1
EINC	Incio	84.40	13	P	P	22 19 26.4 +2.1
	comp=Z,12nm,0.8s,mb5.1					
PRAF	Pradon	84.41	4	eP	P	22 19 26.2 +1.9
SBF	Sospel	84.43	2	eP	P	22 19 26.1 +1.7
	comp=Z,122nm,1.0s,mb5.7					
SBF	Sospel	84.43	2	eP	P	22 19 26.1 +1.7
SBF				pmax	pmax	
	comp=Z,61nm,1.0s,mb5.7					
BOYT	Boyabat	84.53	342	iP	P	22 19 26.1 +1.2
EALK	Alkurruntz	84.54	9	P	P	22 19 27.0 +2.0
	comp=Z,8.9nm,1.2s,mb4.8					
ERZM	Erzurum	84.57	337	iP	P	22 19 26.8 +1.6
TAVF	Tavernes	84.63	3	eP	P	22 19 24.1 -1.3
SJPF	Ste Jean	84.67	9	eP	P	22 19 26.1 +0.5
ERUA	La Rua	84.69	13	P	P	22 19 27.6 +1.9
ERUA				pmax	pmax	
	comp=Z,5.0nm,0.7s,mb4.8					
ERUA	La Rua	84.69	13	P	P	22 19 27.6 +1.9
	comp=Z,5.1nm,0.7s,mb4.8					
BALT	Daday	84.71	343	iP	P	22 19 27.4 +1.5
FRF	La Foret Royal	84.71	3	eP	P	22 19 26.5 +0.7
	comp=Z,91nm,1.1s,mb5.5					
FRF	La Foret Royal	84.71	3	eP	P	22 19 26.5 +0.7
FRF				pmax	pmax	
	comp=Z,46nm,1.1s,mb5.5					
MTLF	Montolieu	84.72	6	eP	P	22 19 26.8 +1.0
	comp=Z,62nm,1.1s,mb5.3					
MTLF	Montolieu	84.72	6	eP	P	22 19 26.8 +1.0
MTLF				pmax	pmax	
	comp=Z,31nm,1.1s,mb5.3					
LARF	Larrau	84.77	8	eP	P	22 19 27.6 +1.5
KELT	Kelkit	84.84	338	iP	P	22 19 28.6 +2.1
GELF	Grande-Etoile	84.84	4	eP	P	22 19 25.3 -1.2
EPF	Esparros	84.89	7	eP	P	22 19 26.9 +0.2
	comp=Z,53nm,1.2s,mb5.2					
EPF	Esparros	84.89	7	eP	P	22 19 26.9 +0.2
EPF				pmax	pmax	
	comp=Z,27nm,1.2s,mb5.2					
LMR	La Mourre	84.93	3	eP	P	22 19 27.8 +0.9
	comp=Z,67nm,1.1s,mb5.4					
LMR	La Mourre	84.93	3	eP	P	22 19 27.8 +0.9
LMR				pmax	pmax	
	comp=Z,34nm,1.1s,mb5.4					
ETSF	Etsaut	84.94	8	eP	P	22 19 28.2 +1.2
	comp=Z,75nm,1.1s,mb5.5					
ETSF	Etsaut	84.94	8	eP	P	22 19 28.2 +1.2
ETSF				pmax	pmax	
	comp=Z,37nm,1.1s,mb5.4					
MLS	Moulis	85.02	7	eP	P	22 19 28.4 +1.1
ECRI	Cripan	85.04	10	P	P	22 19 28.9 +1.4
ECRI				pmax	pmax	
	comp=Z,27nm,1.2s,mb5.2					
ECRI	Cripan	85.04	10	P	P	22 19 28.9 +1.4
	comp=Z,26nm,1.2s,mb5.2					
BHPL	Bhopal	85.09	302	eP	P	22 19 27.8 -0.4
RESF	Ens	85.11	8	eP	P	22 19 29.4 +1.6
LRDF	Laroque-de-Fa	85.14	6	eP	P	22 19 29.2 +1.3
ECAL	Calabor	85.19	13	P	P	22 19 26.4 -1.8
	comp=Z,11nm,1.0s,mb5.0					
EBIE	Bielsa	85.21	8	P	P	22 19 30.4 +2.0
	comp=Z,19nm,0.9s,mb5.2					
EBIE				PcP	PcP	22 19 41.2 +9.3
CTKT	Corum	85.33	342	iP	P	22 19 31.3 +2.4
ELDT	Eldivan	85.71	343	iP	P	22 19 32.2 +1.4
PGF	Pioggiola	85.77	1	eP	P	22 19 31.2 +0.1
	comp=Z,137nm,1.1s,mb5.8					
PGF	Pioggiola	85.77	1	eP	P	22 19 31.2 +0.1
PGF				pmax	pmax	
	comp=Z,68nm,1.1s,mb5.8					
KULM	Kulim	85.81	273	eP	P	22 19 31.5 -0.4
HENT	Hendek	85.83	345	iP	P	22 19 32.1 +0.7
SGKT	Sivrigoynuk	85.88	344	iP	P	22 19 33.3 +1.7
SKO	Skopje	85.88	352	iP	P	22 19 33.0 +1.4
AQU	L'Aquila	85.94	358	P	P	22 19 34.8 +2.9
AQU				pmax	pmax	
	comp=Z,49nm,1.0s,mb5.7					
AQU	L'Aquila	85.94	358	eP	P	22 19 33.0 +1.1
	comp=Z,49nm,1.0s,mb5.7					
ESAC	San Caprasio	86.12	8	P	P	22 19 34.7 +1.9
	comp=Z,58nm,1.3s,mb5.7					
ESAC				PcP	PcP	22 19 46.2 +10
VIS	Vishakhapatnam	86.35	294	eP	P	22 19 33.8 -0.6
BRTR	Keskin Array B	86.41	342	P	P	22 19 34.9 +0.6
	comp=Z,3.2nm,0.8s,mb4.6,baz=19,slow=2.2,SNR=16					
ALN	Alexandroupoli	86.45	348	eP	P	22 19 35.1 +0.7
BEST	Besiri	86.50	336	iP	P	22 19 38.5 +3.7
SART	Tekirdag	86.51	347	iP	P	22 19 36.5 +1.7
SRS	Serrai	86.52	350	eP	P	22 19 35.5 +0.8
EPOB	Poblet	86.61	7	P	P	22 19 38.6 +3.4
	comp=Z,11nm,1.0s,mb5.1					
EPOB				PcP	PcP	22 19 49.1 +11
WRAB	Tennant Creek	86.75	232	iP	P	22 19 36.6 +0.2
WRAB	Tennant Creek	86.75	232	eP	P	22 19 35.5 -0.9
	comp=Z,21nm,1.1s,mb5.3					
WB2	Warramunga Arr	86.76	232⇑	iP	P	22 19 35.2 -1.2
WRA	Warramunga Arr	86.76	232	P	P	22 19 35.7 -0.7
	comp=Z,6.8nm,0.9s,mb4.9,baz=39,slow=5.6,SNR=26					
ULDT	Uludag	86.77	346	iP	P	22 19 37.0 +1.0
MALT	Malatya	86.78	338	P	P	22 19 38.1 +2.0
MALT				pmax	pmax	
	comp=Z,11nm,1.1s,mb5.0					
MALT	Malatya	86.78	338	eP	P	22 19 37.1 +1.0
	comp=Z,11nm,1.1s,mb5.0					
GRG	Griva	86.80	351	eP	P	22 19 36.9 +0.8
GUD	Guadarrama	86.80	11	P	P	22 19 37.2 +1.0
GUD				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.5					
GUD	Guadarrama	86.80	11	P	P	22 19 37.2 +1.0
	comp=Z,2.2nm,0.6s,mb4.6					
FNA	Florina	87.07	352	eP	P	22 19 37.7 +0.3
OUR	Ouranopolis	87.25	350	eP	P	22 19 38.8 +0.5
BTOK	Tokmak	87.31	347	iP	P	22 19 39.2 +0.6
PAIG	Paliouri	87.69	350	eP	P	22 19 40.4 -0.1
ESDC	Sonseca Array	87.78	11	P	P	22 19 40.8 -0.1
	comp=Z,7.0nm,0.9s,mb4.9,baz=351,slow=4.5,SNR=20					
ESDC	Sonseca Array	87.78	11	P	P	22 19 41.3 +0.4
	comp=Z,8.0nm,0.9s,mb5.0					
ESDC				PcP	PcP	22 19 49.4 +6.3
ESLA	Sonseca Array	87.78	11	eP	P	22 19 40.9 0.0
	comp=Z,3.4nm,0.9s,mb4.6					
GZT	Gaziantep	87.89	339	iP	P	22 19 42.1 +0.6
ECHE	Chera	88.19	9	P	P	22 19 45.3 +2.5
ECHE				pmax	pmax	
	comp=Z,7.0nm,0.8s,mb4.9					
ECHE	Chera	88.19	9	P	P	22 19 45.3 +2.4
	comp=Z,6.7nm,0.8s,mb4.9					
IGT	Igoumenitsa	88.40	352	eP	P	22 19 44.2 +0.3
SDV	Santo Domingo	88.45	78	eP	P	22 19 44.7 0.0
MANT	Manisa	88.47	346	iP	P	22 19 44.8 +0.6
KDAG	Bornova	88.75	347	iP	P	22 19 46.0 +0.5
ISP	Isparta	88.80	344⇑	eP	P	22 19 46.4 +0.6
EVIA	Vianos	88.97	10	P	P	22 19 48.4 +1.8
EVIA					pP	22 20 00.8 +2.9
EVIA				pmax	pmax	
	comp=Z,7.0nm,0.8s,mb5.0					
EVIA	Vianos	88.97	10	P	P	22 19 48.4 +1.7
	comp=Z,7.1nm,0.8s,mb5.0					
EVIA				PcP	PcP	22 20 00.8 +12
ETOB	Tobarra	89.07	9	P	P	22 19 47.0 -0.1
	comp=Z,8.3nm,1.1s,mb5.0					
EADA	Adamuz	89.19	12	P	P	22 19 48.5 +0.8
	comp=Z,6.2nm,0.9s,mb4.9					
HYB	Hyderabad	89.24	298	eP	P	22 19 48.0 -0.4
HYB	Hyderabad	89.24	298	iP	P	22 19 48.0 -0.4
EMIN	Mina Concepcio	89.30	14	P	P	22 19 48.9 +0.7
	comp=Z,7.0nm,0.9s,mb5.0					
EMIN				PcP	PcP	22 19 57.5 +7.6
FITZ	Fitzroy Crossi	89.64	239	eP	P	22 19 49.8 -0.4
	comp=Z,11nm,1.2s,mb5.0					
FITZ	Fitzroy Crossi	89.64	239	P	P	22 19 49.7 -0.6
	comp=Z,7.8nm,0.8s,mb5.1,baz=93,slow=5.5,SNR=7.9					
EQES	Quesada	89.73	11	P	P	22 19 52.4 +2.2
	comp=Z,5.8nm,1.4s,mb4.7					
ASAR	Alice Springs	90.15	230	P	P	22 19 52.5 0.0
	comp=Z,17nm,1.0s,mb5.3,baz=37,slow=4.4,SNR=44					
ASPA	Alice Springs	90.15	230	eP	P	22 19 52.4 -0.1
ELOJ	Sierra Loja	90.25	12	P	P	22 19

BOSA Boshof 154.14 329 PKPbc PKPdf 22 26 53.1 +11
comp=Z,4.0nm,0.8s,baz=0.4,slow=1.7,SNR=5.2

IDC 25 22:20:21.8±2.0, 1.08N×126.99E, mb3.5/3, mb1 3.8/3, mb1mx3.4/17, mbtmp3.6/3, Error ellipse: s-maj=153.1km s-min=25.4km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.10**	**161**	P	P	22 25 17.9	-2.5
	1.1nm,0.6s,baz=340,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.50**	**165**	P	P	22 25 52.7	-0.9
	1.3nm,0.7s,baz=353,slow=16,SNR=11						
MKAR	**Makanchi Array**	**59.88**	**326**	P	P	22 30 29.4	-2.4
	0.3nm,0.5s,baz=131,slow=7.1,SNR=6.0						

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*IDC **25** 22:57:59.6±0.8, 2.19N×96.17E, mb4.3/15, mb1 4.4/16, mb1mx4.2/23, mbtmp4.3/16, ML4.5/1, MS3.7/4, Ms1 3.8/4, ms1mx3.5/25, Error ellipse: s-maj=32.7km s-min=13.9km az=51.0*
*MOS **25** 22:58:02.6±1.0, 2.30N×96.28E, h33km, mb4.8/8, Error ellipse: s-maj=33.2km s-min=13.7km az=87.9*
*BJI **25** 22:58:03.0, 2.18N×96.34E, h35km, mB5.2, mb4.9, Ms4.3, Msz4.0*
*NEIC **25** 22:58:04.4±0.3, 2.26N×96.23E, h30km, mb4.5/10, Error ellipse: s-maj=8.7km s-min=5.6km az=46.0*

ISC 25 22:58:03.0±0.6, 2.24N±0.07×96.28E±0.07, h33km, (h31km±5.8km:pP-P), n63, σ0§86/61, mb4.5/35, MS3.8/6, 3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.31**	**55**	⇑*iP*	**P**	**22 59 22.6**	**+0.5**
KSM	**Kuching**	**14.05**	**93**	P	**P**	**23 01 21.9**	**-0.1**
CM31	**Chiang Mai Arr**	**16.33**	**9**	*eP*	**P**	**23 01 50.9**	**-0.6**
	7.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**16.33**	**9**	Pn	**P**	**23 01 50.9**	**-0.7**
	0.6nm,0.3s,baz=192,slow=11,SNR=21						
CMAR				LR	LR	23 08 52.2	
	comp=Z,220nm,18.9s,baz=205,slow=40						
KKM	**Kota Kinabalu**	**20.24**	**79**	*eP*	**P**	**23 02 37.8**	**-0.5**
SHL	**Shillong**	**23.58**	**350**	*eP*	**P**	**23 03 11.0**	**-0.7**
KMI	**Kunming**	**23.59**	**15**	P	**P**	**23 03 13.0**	**+1.2**
KMI				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.3						
KMI				LR	LR		
	comp=Z,120nm,20.8s,MS3.3						
KMI	**Kunming**	**23.59**	**15**	P	**P**	**23 03 12.9**	**+1.1**
KMI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
KMI				MLR	MLR		
	comp=Z,120nm,20.8s,MS3.3						
KMI	**Kunming**	**23.59**	**15**	P	**P**	**23 03 12.9**	**+1.1**
	comp=Z,12nm,1.0s,mb4.3						
KMI				LR	LR		
	comp=Z,120nm,20.8s,MS3.3						
GYA	**Guiyang**	**26.07**	**22**	⇓*iP*	**P**	**23 03 37.0**	**+1.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
JIRN	**Jiri**	**27.06**	**340**	*eP*	**P**	**23 03 45.5**	**+0.9**
	comp=Z,49nm,0.8s,mb5.1						
PKI	**Pulchoki**	**27.25**	**339**	*eP*	**P**	**23 03 46.8**	**+0.4**
	comp=Z,24nm,0.8s,mb4.8						
DMN	**Daman**	**27.40**	**338**	*eP*	**P**	**23 03 48.5**	**+0.8**
	comp=Z,16nm,0.7s,mb4.7						
KKN	**Kakani**	**27.50**	**339**	*eP*	**P**	**23 03 49.0**	**+0.4**
	comp=Z,25nm,0.8s,mb4.8						
LSA	**Lhasa**	**27.74**	**350**	P	**P**	**23 03 52.0**	**+1.2**
GKN	**Gorkha**	**27.93**	**338**	*eP*	**P**	**23 03 53.1**	**+0.5**
	comp=Z,26nm,0.5s,mb5.1						
KOLN	**Koldanda**	**29.14**	**336**	*eP*	**P**	**23 03 55.1**	**+0.7**
	comp=Z,22nm,0.8s,mb4.8						
XAN	**Xi'an**	**33.77**	**19**	P	**P**	**23 04 42.8**	**-1.2**
XAN				AMB	AMB		
	comp=Z,27nm,0.9s,mb5.2						
LZH	**Lanzhou**	**34.40**	**11**	⇑P	**P**	**23 04 48.8**	**-0.6**
LZH				AP	pP	23 04 59.0	-0.1
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH	**Lanzhou**	**34.40**	**11**	⇑P	**P**	**23 04 48.8**	**-0.6**
	comp=Z,23nm,1.0s,mb5.1						
LZH				pP	pP	23 04 59.1	0.0
FITZ	**Fitzroy Crossi**	**35.28**	**126**	⇓*iP*	**P**	**23 04 56.8**	**-0.2**
	comp=Z,5.5nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**35.28**	**126**	P	**P**	**23 04 56.5**	**-0.6**
	comp=Z,8.2nm,0.8s,mb4.7,baz=224,slow=2.1,SNR=7.4						
GTA	**Gaotai**	**37.14**	**5**	*eP*	**P**	**23 05 12.8**	**+0.3**
GTA				AP	pP	23 05 19.5	-2.8
GTA				XP	sP	23 05 23.3	-3.2
GTA				PP	PP	23 06 42.0	+2.2
GTA				PPP	PPP	23 07 03.3	+3.2
GTA				S	**S**	**23 11 01.3**	**+5.0**
GTA				XS		23 11 10.8	
GTA				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,185nm,5.3s						
GTA				LR	LR		
	comp=N,104nm,14.8s,MS4.0						
GTA				LR	LR		
	comp=E,154nm,14.4s,MS4.0						
GTA				LR	LR		
	comp=Z,176nm,16.3s,MS3.9						
JOW	**Kunigami**	**39.23**	**48**	P	**P**	**23 05 31.2**	**+1.2**
	comp=Z,4.0nm,0.5s,mb4.4,baz=133,slow=11,SNR=3.5						
JOW				LR	LR	23 23 54.1	
	comp=Z,71nm,18.4s,MS3.5,baz=52,slow=40						
HHC	**Hu-ho-hao-te**	**40.85**	**18**	*eP*	**P**	**23 05 44.5**	**+1.1**
HHC				AP	pP	23 05 55.5	+2.3
HHC				XP	sP	23 05 58.5	+1.1
HHC				PCP	PcP	23 07 44.3	-0.1
HHC				SCP		23 11 24.8	
HHC				PCS		23 11 36.3	
HHC				SCS	ScS	23 15 40.8	-2.8
HHC				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,133nm,5.8s						
HHC				LR	LR		
	comp=N,180nm,16.2s,MS4.1						
HHC				LR	LR		
	comp=E,144nm,15.7s,MS4.1						
HHC				LR	LR		
	comp=Z,179nm,16.9s,MS4.0						
BJI	**Beijing**	**41.74**	**23**	*eP*	**P**	**23 05 51.5**	**+0.7**
BJI				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.0						
BJI	**Beijing**	**41.74**	**23**	*eP*	**P**	**23 05 51.6**	**+0.8**
BJI				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.0						
BJI	**Beijing**	**41.74**	**23**	*eP*	**P**	**23 05 51.6**	**+0.8**
	comp=Z,35nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**43.37**	**122**	P	**P**	**23 06 05.0**	**+0.6**
	comp=Z,1.8nm,0.6s,mb4.0,baz=301,slow=9.2,SNR=13						
WRAB	**Tennant Creek**	**43.37**	**122**	*eP*	**P**	**23 06 04.5**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
WRAB	**Tennant Creek**	**43.37**	**122**	*eP*	**P**	**23 06 04.5**	**+0.1**
	comp=Z,3.5nm,0.6s,mb4.3						
ASAR	**Alice Springs**	**44.75**	**127**	P	**P**	**23 06 15.4**	**0.0**
	comp=Z,1.3nm,0.6s,mb3.9,baz=299,slow=7.9,SNR=13						
ASAR				LR	LR	23 27 35.2	
	comp=Z,83nm,20.3s,MS3.6,baz=281,slow=40						
MKAR	**Makanchi Array**	**46.02**	**347**	P	**P**	**23 06 25.0**	**-0.3**
	comp=Z,4.7nm,0.5s,mb4.7,baz=158,slow=8.6,SNR=18						
MKAR	**Makanchi Array**	**46.02**	**347**	P	**P**	**23 06 25.0**	**-0.3**
SONM	**Songino Array**	**46.26**	**9**	P	**P**	**23 06 27.0**	**-0.1**
	comp=Z,2.7nm,0.4s,mb4.6,baz=190,slow=8.5,SNR=38						
SONM				PcP	PcP	23 08 02.9	+0.3
	comp=Z,1.9nm,0.6s,baz=194,slow=3.6,SNR=7.6						
ZAK	**Zakamensk**	**48.34**	**6**	*eP*	**P**	**23 06 42.7**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MJAR	**Matsushiro Arr**	**51.56**	**43**	P	**P**	**23 07 08.2**	**0.0**
	comp=Z,1.1nm,0.3s,mb4.2,baz=185,slow=4.2,SNR=4.1						
ZAL	**Zalesovo**	**52.39**	**351**	P	**P**	**23 07 13.6**	**-0.6**
	comp=Z,7.6nm,0.4s,mb5.0,baz=312,slow=5.3,SNR=29						
ZAL	**Zalesovo**	**52.39**	**351**	P	**P**	**23 07 13.6**	**-0.6**
NVS	**Novosibirsk**	**53.51**	**351**	*eP*	**P**	**23 07 20.7**	**-1.7**
CTA	**Charters Tower**	**53.79**	**117**	LR	LR	23 31 50.3	
	comp=Z,134nm,21.5s,MS4.0,baz=50,slow=38						
STKA	**Stephens Creek**	**54.73**	**132**	*eP*	**P**	**23 07 32.5**	**+0.7**
	comp=Z,2.1nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**54.73**	**132**	P	**P**	**23 07 31.0**	**-0.8**
	comp=Z,2.0nm,0.7s,mb4.2,baz=312,slow=5.1,SNR=5.5						
BVAR	**Borovoye Array**	**54.98**	**341**	P	**P**	**23 07 32.2**	**-1.0**
	comp=Z,3.4nm,0.5s,mb4.6,baz=141,slow=9.2,SNR=35						
CHKZ	**Chkalovo**	**55.46**	**342**	*eP*	**P**	**23 07 35.8**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
CHKZ	**Chkalovo**	**55.46**	**342**	*eP*	**P**	**23 07 35.8**	**-0.9**
	comp=Z,4.8nm,0.6s,mb4.7						
KLR	**Kul'dur**	**55.76**	**27**	*eP*	**P**	**23 07 36.0**	**-2.9**
BOD	**Bodaibo**	**57.17**	**11**	*eP*	**P**	**23 07 48.6**	**-0.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
YAK	**Yakutsk**	**64.69**	**17**	*eP*	**P**	**23 08 38.2**	**-1.6**
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
BRTR	**Keskin Array B**	**67.73**	**312**	P	**P**	**23 08 58.6**	**-0.8**
	comp=Z,0.6nm,0.6s,mb3.8,baz=142,slow=7.1,SNR=5.2						
AKASG	**Malin Array Be**	**73.88**	**322**	P	**P**	**23 09 35.7**	**-0.7**
	comp=Z,1.1nm,0.5s,mb4.0,baz=88,slow=5.0,SNR=7.3						
AKASG	**Malin Array Be**	**73.88**	**322**	P	**P**	**23 09 35.7**	**-0.7**
JOF	**Joensuu**	**76.82**	**335**	*ep*	**P**	**23 09 53.9**	**+0.9**
FINES	**FINESS Array B**	**78.66**	**333**	P	**P**	**23 10 03.1**	**0.0**
	comp=Z,1.3nm,0.5s,mb4.1,baz=94,slow=5.9,SNR=25						
KAF	**Kangasniemi**	**78.75**	**333**	*ep*	**P**	**23 10 03.2**	**-0.4**
	comp=Z,1.5nm,0.5s,mb4.2,baz=102,slow=5.0						
KAF	**Kangasniemi**	**78.75**	**333**	*eP*	**P**	**23 10 03.2**	**-0.4**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
KEV	**Kevo**	**80.82**	**341**	*ep*	**P**	**23 10 14.4**	**-0.3**
	comp=Z,18nm,1.2s,mb4.9						
KEV	**Kevo**	**80.82**	**341**	*eP*	**P**	**23 10 14.4**	**-0.3**
KEV				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
ARCES	**ARCESS Array B**	**81.25**	**340**	P	**P**	**23 10 17.9**	**+1.0**
	comp=Z,1.4nm,0.4s,mb4.3,baz=96,slow=5.6,SNR=34						
ARCES	**ARCESS Array B**	**81.25**	**340**	P	**P**	**23 10 17.9**	**+1.0**
GERES	**GERESS Array B**	**83.43**	**319**	P	**P**	**23 10 30.2**	**+1.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=117,slow=6.0,SNR=5.2						
NVAR	**Mina Array Bea**	**128.47**	**35**	PKP	PKPdf	23 17 09.4	+2.2
	comp=Z,0.1nm,0.3s,baz=300,slow=3.3,SNR=3.6						
TXAR	**Lajitas Array**	**143.26**	**30**	PKP	PKPdf	23 17 35.4	+0.9
	comp=Z,0.7nm,0.8s,baz=333,slow=2.8,SNR=5.2						

ECX 25 22:59:39.6±0.2, 30.06N×114.46W, h8km, ML3.5, 1C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.31**	**319**	*e*PN	Pn	23 00 04.1	-0.1
SPX				*e*S	Sb	23 00 20.2	-0.7
CPBX	**Cerro Prieto**	**2.46**	**343**	*e*PN	Pn	23 00 19.8	-0.9
CPBX				*e*S	Sn	23 00 51.2	0.0
CPBX				⇑*e*		23 01 10.8	
	comp=N,802nm,0.6s						
CPBX				*e*		23 01 31.0	
	comp=E,611nm,0.6s						
CBX	**Cerro Bola**	**2.94**	**321**	*e*PN	Pn	23 00 26.6	-0.9
CBX				*e*S	Sn	23 01 03.2	-0.1

IDC 25 23:29:08.1±6.0, 0.75N×99.19E, mb3.4/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=320.1km s-min=26.8km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.12**	**123**	P	P	23 36 46.5	-1.0
	0.4nm,0.6s,baz=302,slow=9.2,SNR=6.3						
ASAR	**Alice Springs**	**41.55**	**128**	P	P	23 36 57.1	-2.3
	0.2nm,0.5s,baz=297,slow=8.1,SNR=3.1						
MKAR	**Makanchi Array**	**48.18**	**344**	P	P	23 37 50.2	-2.0
	0.5nm,0.5s,baz=163,slow=8.4,SNR=11						

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*IDC **25** 23:39:21.4±2.3, 0.15N×97.23E, h31km±6km, mb3.6/6, mb1 3.8/7, mb1mx3.5/20, mbtmp3.8/7, ML4.2/1, Error ellipse: s-maj=95.6km s-min=16.5km az=57.0*
*NEIC **25** 23:39:22.1±0.8, 0.28N×97.42E, mb4.1/1, Error ellipse: s-maj=23.2km s-min=10.2km az=66.0*

ISC 25 23:39:19.9±1.0, 0.3N±0.1×97.4E±0.2, h31km, h31km±2.1km:pP-P, n14, σ0§77/14, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.95**	**33**	*eP*	**Pn**	**23 40 47.7**	**-0.6**
CM31	**Chiang Mai Arr**	**18.12**	**5**	P	**P**	**23 43 31.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**18.12**	**5**	Pn	**P**	**23 43 30.7**	**-0.5**
	0.3nm,0.3s,baz=200,slow=13,SNR=6.9						
WRA	**Warramunga Arr**	**41.42**	**121**	P	**P**	**23 47 04.7**	**-0.8**
	0.2nm,0.4s,mb3.1,baz=300,slow=9.7,SNR=4.9						
WRA				pP	pP	23 47 15.5	+0.6
	0.6nm,0.6s,baz=302,slow=9.0,SNR=4.0						
WRAB	**Tennant Creek**	**41.42**	**121**	P	**P**	**23 47 05.7**	**+0.2**
ASAR	**Alice Springs**	**42.72**	**126**	P	**P**	**23 47 16.7**	**+0.5**
	0.2nm,0.5s,mb3.1,baz=297,slow=8.0,SNR=3.0						
ASAR				pP	pP	23 47 24.9	-0.7
	0.4nm,0.5s,baz=300,slow=8.0,SNR=3.3						
SONM	**Songino Array**	**48.00**	**8**	P	**P**	**23 47 59.3**	**+1.3**
	1.0nm,0.5s,mb4.1,baz=193,slow=9.6,SNR=12						
ULN	**Ulaanbaatar**	**48.13**	**9**	P	**P**	**23 47 59.9**	**+0.9**
MKAR	**Makanchi Array**	**48.16**	**346**	P	**P**	**23 48 00.2**	**+1.0**
	1.1nm,0.5s,mb4.2,baz=168,slow=8.6,SNR=24						
MKAR	**Makanchi Array**	**48.16**	**346**	P	**P**	**23 48 00.2**	**+1.0**
ZAL	**Zalesovo**	**54.47**	**351**	P	**P**	**23 48 46.5**	**-0.2**
	1.7nm,0.3s,mb4.4,baz=322,slow=6.0,SNR=5.7						
ZAL				pP	pP	23 48 56.0	-0.4
	2.7nm,0.4s,baz=268,slow=4.6,SNR=5.4						
ZAL	**Zalesovo**	**54.47**	**351**	P	**P**	**23 48 46.5**	**-0.2**
ZAL				pP	pP	23 48 56.0	-0.4
BVAR	**Borovoye Array**	**57.16**	**341**	P	**P**	**23 49 05.0**	**-1.2**
	0.7nm,0.5s,mb3.9,baz=157,slow=8.7,SNR=2.5						
CHKZ	**Chkalovo**	**57.64**	**342**	*eP*	**P**	**23 49 08.6**	**-0.9**
	0.9nm,0.5s,mb4.1						

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*IDC **25** 23:44:40.5±4.2, 37.64N×71.98E, mb3.5/2, mb1 3.5/4, mb1mx3.2/23, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=73.8km s-min=41.3km az=159.0*

ISC 25 23:44:52.0±3.2, 38.9N±0.4×71.6E±0.3, h33km, n14, σ0§59/14, mb3.5/2, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.63**	**25**	P	**P**	**23 45 47.5**	**+0.3**
	SNR=50						
UCH	**Uchtor**	**4.02**	**33**	P	**P**	**23 45 53.1**	**+0.3**
	SNR=31						
EKS2	**Erkin-Say**	**4.13**	**23**	P	**P**	**23 45 54.0**	**-0.4**
	SNR=21						
KZA	**Kyzart**	**4.25**	**40**	P	**P**	**23 45 55.9**	**-0.1**
	SNR=22						
AAK	**Ala-Archa**	**4.36**	**29**	P	**P**	**23 45 58.3**	**+0.7**
	SNR=22						
KBK	**Karagaybulak**	**4.56**	**33**	P	**P**	**23 46 01.0**	**+0.6**
	SNR=12						
CHMS	**Chumysh**	**4.77**	**29**	P	**P**	**23 46 03.2**	**-0.1**
	SNR=22						
ULHL	**Ulahol**	**4.89**	**45**	P	**P**	**23 46 01.1**	**-3.9**
	SNR=14						
USP	**Ospenovka**	**4.91**	**26**	P	**P**	**23 46 04.5**	**-0.9**
	SNR=8.7						
TKM2	**Tokmak 2**	**5.06**	**36**	P	**P**	**23 46 07.8**	**+0.3**
	SNR=14						
MKAR	**Makanchi Array**	**11.14**	**41**	Pn	**P**	**23 47 31.3**	**-0.7**
	0.1nm,0.3s,baz=225,slow=14,SNR=6.0						
BVAR	**Borovoye Array**	**14.18**	**357**	Pn	**P**	**23 48 17.6**	**+5.2**
	0.3nm,0.3s,baz=169,slow=9.8,SNR=4.8						
FINES	**FINESS Array B**	**35.82**	**324**	P	**P**	**23 51 49.6**	**-0.3**
	0.8nm,0.8s,mb3.7,baz=127,slow=6.9,SNR=2.8						
YKA	**Yellowknife Ar**	**78.86**	**3**	P	**P**	**23 56 53.1**	**+0.4**
	0.1nm,0.3s,mb3.2,baz=351,slow=5.5,SNR=4.7						

IDC 25 23:46:17.9±4.1, 47.40N×153.55E, mb3.5/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, MS3.9/2, Ms1 4.0/2, ms1mx3.1/35, Error ellipse: s-maj=124.3km s-min=40.4km az=11.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**46.91**	**297**	P	P	23 54 49.8	-1.7
	0.1nm,0.3s,baz=63,slow=6.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**52.81**	**256**	LR	LR	00 21 36.4	
	comp=Z,57nm,18.3s,baz=33,slow=40						
FINES	**FINESS Array B**	**63.58**	**335**	P	P	23 56 49.6	-2.3
	0.4nm,0.3s,baz=36,slow=7.6,SNR=14						
NOA	**NORSAR Array B**	**67.70**	**341**	P	P	23 57 16.7	-1.8
	0.2nm,0.5s,baz=42,slow=6.7,SNR=2.8						
FITZ	**Fitzroy Crossi**	**69.86**	**208**	LR	LR	00 25 52.0	
	comp=Z,158nm,20.5s,baz=273,slow=34						
TXAR	**Lajitas Array**	**76.91**	**61**	P	P	23 58 12.2	-1.4
	0.2nm,0.4s,baz=288,slow=2.9,SNR=4.2						

CASC 25 23:54:36.3±1.9, 13.22N×89.69W, h41km±41km, MD3.8, ML3.7, 5C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.62**	**6**	⇓*eP*	P	23 54 48.9	+0.2
SBLS				*e*S	S	23 54 58.5	+0.7
SNJE	**San Jose**	**0.65**	**8**	⇓*eP*	P	23 54 49.3	+0.1
SNJE				*e*S	S	23 55 02.3	+3.8
BOQS	**Boqueron**	**0.65**	**38**	⇓*eP*	P	23 54 49.3	+0.2
BOQS				*e*S	S	23 54 59.2	+0.6
RTR	**El Retiro**	**0.68**	**4**	⇓*eP*	P	23 54 49.8	+0.3
LFRS	**El Faro**	**0.74**	**57**	⇓*eP*	P	23 54 50.1	-0.2
LFRS				*e*S	S	23 55 00.6	+0.1
LFU	**La Fuente**	**0.77**	**47**	⇓*eP*	P	23 54 51.0	+0.2
LBRS	**Las Brisas**	**0.82**	**51**	⇑*eP*	P	23 54 51.9	+0.4
LBRS				*e*S	S	23 55 03.6	+1.1
LCBS	**La Ceiba**	**0.82**	**58**	⇓*eP*	S	23 54 51.4	-0.1
LCBS				*e*S	S	23 55 03.3	+0.6
RBDL	**Robledal**	**0.89**	**0**	⇑*eP*	P	23 54 52.8	+0.3
RBDL				*e*S	S	23 55 05.6	+1.2
SNVI	**San Vicente**	**0.92**	**65**	⇑*eP*	P	23 54 53.3	+0.4
SNVI				*e*S	S	23 55 05.8	+0.7
IXG	**Ixpaco**	**1.21**	**322**	⇓*eP*	P	23 54 56.1	-0.8
IXG				*e*S	S	23 55 12.4	+0.1
IXG				AML	AML	23 55 19.4	
	comp=E,3μm,0.4s						
MTO2	**Montecristo 2**	**1.22**	**15**	⇑*eP*	P	23 54 57.2	+0.1
MTO2				*e*S	S	23 55 13.3	+0.5
VSM	**San Miguel**	**1.40**	**81**	⇓*eP*	P	23 55 00.2	+0.5
VSM				*e*S	S	23 55 18.3	+1.1
BLLM	**Bellamira**	**1.44**	**81**	⇑*eP*	P	23 55 00.8	+0.4
BLLM				*e*S	S	23 55 18.2	0.0
TP2	**Tecpan 2**	**2.02**	**321**	⇓*eP*	P	23 55 09.4	+0.8
TP2				*e*S	S	23 55 34.8	+2.1
TP2				AML	AML	23 55 42.8	
	comp=E,174nm,0.5s						

MAN 26 00:02:57.7, 10.72N×125.47E, h29km, mb3.9, ML2.6, MS2.2, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.66**	**313**	*eP*	Pb	00 03 11.7	+1.2
PLP				*e*S	Sb	00 03 23.6	+4.2
MSLP	**Maasin**	**0.84**	**226**	*eP*	Pn	00 03 13.2	-0.3
MSLP				*e*S	Sb	00 03 26.1	+1.7
BESP	**Borongan**	**0.88**	**358**	*eP*	Pn	00 03 14.5	+0.4
BESP				*e*S	Sb	00 03 30.3	+4.6
SCPH	**Surigao**	**0.93**	**179**	⇓*eP*	Pn	00 03 13.8	-1.1
SCPH				*e*S	Sb	00 03 28.1	+1.0
TBP	**Tagbilaran**	**1.88**	**237**	*eP*	Pn	00 03 26.9	-1.6
TBP				*e*S	Sn	00 03 51.0	-0.5
CNP	**Catarman**	**1.95**	**336**	*eP*	Pn	00 03 28.3	-1.1
CNP				*e*S	Sn	00 03 53.1	-0.1

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*BJI **26** 00:04:14.2, 52.63N×169.31W, h12km, mB5.0, mb4.9, Ms4.6, Msz4.3*
*IDC **26** 00:04:17.8±3.7, 52.14N×169.46W, h22km±23km, mb4.3/24, mb1 4.4/26, mb1mx4.4/30, mbtmp4.4/26, ML4.0/2, MS4.1/16, Ms1 4.1/16, ms1mx3.8/35, Error ellipse: s-maj=19.3km s-min=10.6km az=173.0*
*HRVD **26** 00:04:18.0±0.8, 51.97N×169.46W, h19km±1km, MW4.8/46, Centroid moment Tensor Solution. LP body waves: s21,c31;Mantle waves: s46,c77; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.08±.17; $M_{\theta\theta}$-1.59±.12; $M_{\phi\phi}$-0.49±.10; $M_{r\theta}$1.00±.25; $M_{\theta\phi}$-0.84±.06; $M_{\phi r}$0.22±.23; Best double couple: $M_0$2.302×10^{16} NP1:ϕ_s235°, δ33°, λ79°. NP2:ϕ_s68°, δ58°, λ97°. Principal axes: T 2.335, Plg76°, Azm359°; N -.066, Plg6°, Azm245°; P -2.269, Plg13°, Azm153°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 00:04:18.0±0.2, 52.06N×169.42W, mb4.9/59, MS4.2/3 Error ellipse: s-maj=5.9km s-min=3.1km az=169.0*
*MOS **26** 00:04:19.3±1.1, 52.33N×169.76W, h33km, mb5.1/22, Error ellipse: s-maj=24.1km s-min=7.5km az=101.0*

ISC 26 00:04:17.0±0.9, 52.03N±0.04×169.43W±0.04, h28km±5km, h30km±1.9km:pP-P, n250, σ1§01/255, mb4.7/110, MS4.2/31, 16C-7D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.01**	**20**	P	**Pn**	**00 04 35.2**	**-0.3**
NIKO				S	**Sb**	**00 04 49.6**	**+0.9**
OKFG	**Magazine Ridge**	**1.66**	**33**	P	**Pn**	**00 04 45.3**	**+0.4**
OKFG				S	**Sn**	**00 05 06.9**	**+1.4**
MNAT	**Makushin Natee**	**2.49**	**41**	P	**Pn**	**00 04 57.3**	**+0.6**
UNV	**Unalaska Valle**	**2.54**	**43**	P	**Pn**	**00 04 57.5**	**+0.1**
UNV				S	**Sn**	**00 05 27.9**	**+0.1**
ATKA	**Atka Island**	**2.94**	**275**	P	**Pn**	**00 05 03.5**	**+0.5

comp=Z,2.8nm,0.7s,mb4.1,baz=273,slow=8.0,SNR=46
YKA ScP 00 17 08.1
comp=Z,0.2nm,0.8s,baz=265,slow=3.0,SNR=5.6
YSS Yuzh-Sakhalins 31.01 280 *i* P **P 00 10 35.5 +1.4**
YSS pmax pmax
comp=Z,11nm,0.9s,mb4.7
YSS MLR MLR
comp=Z,300nm,21.0s,MS3.9
ASAJ Asahikawa 32.50 275 LR LR 00 22 59.9
comp=Z,265nm,19.9s,MS3.9,baz=56,slow=35
TIXI Tiksi 33.01 329⇓ *e*P **P 00 10 49.9 -1.4**
TIXI pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
YBH Yreka Blue Hor 33.02 89 P **P 00 10 53.1 +1.3**
comp=Z,0.4nm,0.3s,mb3.8,baz=10,slow=17,SNR=2.4
YBH LR LR 00 23 07.9
comp=Z,258nm,18.3s,MS4.0,baz=314,slow=34
NEW Newport 33.13 75 LR LR 00 23 13.7
comp=Z,232nm,19.7s,MS3.9,baz=299,slow=34
NEW Newport 33.13 75 *e*P **P 00 10 52.8 +0.2**
comp=Z,9.3nm,0.8s,mb4.8
EDM Edmonton 33.32 65 *e*P **P 00 10 53.8 -0.5**
YAK Yakutsk 33.37 312 *i* P **P 00 10 52.7 -1.9**
YAK MLR MLR
comp=Z,300nm,17.0s,MS4.1
MOD Modoc 34.41 87 *e*P **P 00 11 04.0 +0.2**
comp=Z,13nm,1.2s,mb4.7
WALA Waterton Lakes 34.68 72 *e*P **P 00 11 06.7 +0.7**
comp=Z,6.3nm,1.0s,mb4.5
MSO Missoula 35.71 76 *e*P **P 00 11 14.6 -0.2**
comp=Z,2.9nm,1.0s,mb4.2
CHMT Chamberlain Mo 36.08 75 *e*P **P 00 11 17.1 -0.8**
KLR Kul'dur 36.54 290 *e*P **P 00 11 16.7 -5.0**
KLR MLR MLR
comp=Z,500nm,15.0s,MS4.4
HRY Holter Researc 37.03 75 P **P 00 11 26.4 +0.6**
HLID Hailey 37.11 81 P **P 00 11 27.8 +1.2**
comp=Z,6.2nm,1.1s,mb4.3
BOZ Bozeman (W) 37.69 76 P **P 00 11 31.9 +0.4**
comp=Z,4.1nm,0.9s,mb4.2
NVAR Mina Array Bea 37.70 90 P **P 00 11 32.0 +0.4**
comp=Z,0.3nm,0.6s,baz=307,slow=4.5,SNR=3.5
NVAR LR LR 00 26 31.4
comp=Z,90nm,18.1s,MS3.6,slow=35
QLMT Earthquake Lak 38.24 77 P **P 00 11 35.6 -0.5**
RRI2 Red Ridge 39.11 79 *e*P **P 00 11 43.9 +0.4**
comp=Z,9.5nm,1.0s,mb4.5
SPUT South Promonto 39.58 82 P **P 00 11 48.0 +0.7**
MJAR Matsushiro Arr 39.65 268 P **P 00 11 47.3 -0.6**
comp=Z,0.8nm,0.3s,mb3.9,baz=90,slow=3.6,SNR=3.6
DUG Dugway 40.02 84 *e*P **P 00 11 50.5 -0.4**
comp=Z,6.3nm,1.0s,mb4.3
MDJ Mudanjiang 40.14 284 P **P 00 11 50.5 -1.4**
MDJ AP pP 00 12 01.0 +0.7
MDJ PP PP 00 13 23.0 -4.9
MDJ S **S 00 17 54.0 -2.4**
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.3
MDJ AMB AMB
comp=Z,90nm,4.3s
MDJ LR LR
comp=E,144nm,18.3s
MDJ LR LR
comp=Z,277nm,16.8s,MS4.2
BW06 Boulder Array 40.51 79 *e*P **P 00 11 54.6 -0.3**
comp=Z,4.5nm,0.9s,mb4.1
PDAR Pinedale Array 40.51 79 P **P 00 11 55.2 +0.3**
comp=Z,1.5nm,0.7s,mb3.7,baz=316,slow=6.2,SNR=9.7
DAU Daniels Canyon 40.84 83 *e*P **P 00 11 56.8 -0.9**
FCC Fort Churchill 41.19 50 *e*P **P 00 11 58.6 -1.8**
comp=Z,72nm,1.4s,mb5.1
NEN Nelson 41.60 91 *e*P **P 00 12 01.9 -2.0**
LDFC Landfair 41.81 92 P **P 00 12 04.9 -0.7**
SRU San Rafael 42.08 84 *e*P **P 00 12 08.8 +1.0**
BOD Bodaibo 42.18 309 *e*P **P 00 12 06.2 -2.1**
BOD pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
CN2 Changchun 43.07 286 *e*P **P 00 12 18.0 +2.2**
CN2 *e*S **S 00 18 40.8 +1.3**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,16.0s,MS4.7
CN2 LR LR
comp=E,400nm,16.0s,MS4.7
CN2 LR LR
comp=Z,400nm,17.0s,MS4.4
PV10 Paradox Valley 43.44 84 *e*P **P 00 12 19.0 +0.1**
WUAZ Wupatki 43.83 89 *e*P **P 00 12 20.5 -1.6**
comp=Z,10nm,1.0s,mb4.5
PV01 Paradox Valley 43.88 84 *e*P **P 00 12 22.9 +0.5**
ULM Lac du Bonnet 44.34 62 LR LR 00 32 07.2
comp=Z,229nm,18.6s,MS4.1,baz=333,slow=38
ANMO Albuquerque 47.23 85 *i* P **P 00 13 00.6 +11**
ANMO Albuquerque 47.23 85 LR LR 00 30 51.5
comp=Z,154nm,18.9s,MS4.0,slow=34
ANMO Albuquerque 47.23 85 *e*P **P 00 12 47.9 -1.3**
comp=Z,6.7nm,1.4s,mb4.4
EYMN Ely 48.02 62 *e*P **P 00 12 53.9 -1.3**
comp=Z,12nm,1.0s,mb4.9
MNTX Cornudas Mount 50.09 88 *e*P **P 00 13 10.7 -0.6**
comp=Z,4.7nm,0.8s,mb4.6
DAG Danmarks Havn 50.13 8⇓ *e*P **P 00 13 09.8 -1.3**
comp=Z,13nm,1.0s,mb4.9
DAG Danmarks Havn 50.13 8⇓ *i*P **P 00 13 09.8 -1.3**
comp=Z,13nm,1.0s,mb4.9
TLY Talaya 50.51 306*c i*P **P 00 13 13.4 -0.9**
TLY pmax pmax
comp=Z,16nm,1.0s,mb4.9
TLY MLR MLR
comp=Z,200nm,25.0s,MS4.0
BJI Beijing 50.84 288 *e*P **P 00 13 17.0 0.0**
BJI PP PP 00 15 13.8 -0.2
BJI S **S 00 20 36.8 +7.0**
BJI AMB AMB
comp=Z,7.0nm,1.3s,mb4.4
BJI LR LR
comp=N,354nm,17.1s,MS4.5
BJI LR LR
comp=E,197nm,17.1s,MS4.5
BJI LR LR
comp=Z,239nm,17.1s,MS4.3
ULN Ulaanbaatar 51.08 301*d i*P **P 00 13 18.2 -0.4**
ULN Ulaanbaatar 51.08 301 *e*P **P 00 13 16.7 -1.9**
comp=Z,8.1nm,1.0s,mb4.6
SUMG Summit 51.12 17 *e*P **P 00 13 18.4 -0.3**
comp=Z,27nm,1.0s,mb5.1
SONM Songino Array 51.44 301 P **P 00 13 21.0 -0.4**
comp=Z,7.1nm,1.0s,mb4.5,baz=51,slow=7.9,SNR=36
SONM PcP PcP 00 14 35.4 -0.4
comp=Z,2.2nm,1.0s,baz=56,slow=4.5,SNR=4.1
SONM LR LR 00 37 15.8
comp=Z,282nm,18.1s,MS4.3,baz=58,slow=38
MOY Mondy 51.83 308 *e*P **P 00 13 23.9 -0.4**
TXAR Lajitas Array 52.79 89 P **P 00 13 31.3 -0.6**
comp=Z,1.7nm,0.6s,mb4.2,baz=297,slow=5.4,SNR=26
TXAR LR LR 00 37 09.1
comp=Z,150nm,18.1s,MS4.1,baz=300,slow=37
TXAR Lajitas Array 52.79 89 P **P 00 13 31.3 -0.6**
TXAR LR LR 00 37 09.1
HHC Hu-ho-hao-te 53.01 291 *e*P **P 00 13 32.8 -0.5**
HHC AP pP 00 13 40.8 -1.0
HHC PCP PcP 00 14 42.8 +1.2
HHC PP PP 00 15 31.3 -3.2
HHC SCP 00 18 36.8
HHC PCS 00 18 40.0
HHC S **S 00 20 59.5 0.0**
HHC XS 00 21 15.8
HHC SCS ScS 00 23 15.5 -2.0
HHC SS SS 00 24 41.3 +3.3
HHC AMB AMB
comp=Z,11nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,135nm,5.6s
HHC LR LR
comp=N,196nm,16.5s,MS4.4
HHC LR LR
comp=E,230nm,17.6s,MS4.4
HHC LR LR
comp=Z,190nm,17.8s,MS4.2
BTO Baotou 54.05 292 *e*P **P 00 13 39.8 -1.1**
NJ2 Nanjing 54.56 278 *e*P **P 00 13 47.5 +2.7**
NJ2 PP PP 00 15 51.5 +2.9
NJ2 S **S 00 21 24.0 +3.4**
NJ2 XS 00 21 38.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,140nm,8.0s
NJ2 LR LR
comp=N,270nm,16.8s
NJ2 LR LR
comp=E,320nm,22.0s
NJ2 LR LR
comp=Z,200nm,18.1s,MS4.2
SCHQ Schefferville 55.71 43 P **P 00 13 50.2 -2.6**
comp=Z,4.9nm,0.9s,mb4.5,baz=315,slow=2.9,SNR=3.3
SCHQ LR LR 00 38 20.8
comp=Z,170nm,19.6s,MS4.1,baz=333,slow=37
NVS Novosibirsk 57.66 319 *e*P **P 00 14 04.1 -2.6**
ZAL Zalesovo 57.67 318 *i* P **P 00 14 04.3 -2.5**
ZAL pmax pmax
comp=Z,1.0nm,0.3s
ZAL Zalesovo 57.67 318 P **P 00 14 04.3 -2.5**
comp=Z,1.2nm,0.3s,mb4.4,baz=209,slow=22,SNR=9.2
ZAL PcP PcP 00 14 58.7 -0.7
comp=Z,1.6nm,0.6s,baz=78,slow=6.8,SNR=5.8
ZAL LR LR 00 40 38.3
comp=Z,139nm,18.6s,MS4.1,baz=344,slow=38
ZAL Zalesovo 57.67 318 P **P 00 14 04.3 -2.5**
ZAL PcP PcP 00 14 58.7 -0.7
ZAL LR LR 00 40 38.3
KEV Kevo 57.94 353 *e*p **P 00 14 05.7 -2.7**
ARCES ARCESS Array B 58.26 354 P **P 00 14 08.9 -1.8**
comp=Z,7.1nm,0.9s,mb4.7,baz=2.6,slow=5.8,SNR=12
ARCES LR LR 00 38 40.7
comp=Z,140nm,19.8s,MS4.1,baz=4.3,slow=36
LVZ Lovozero 59.05 350⇑ *e*P **P 00 14 14.3 -1.9**
LVZ pmax pmax
comp=Z,39nm,1.7s,mb5.2
XAN Xi'an 59.16 287 P **P 00 14 16.3 -1.2**
XAN AMB AMB
comp=Z,21nm,1.3s,mb5.0
APA Apatity 59.50 350⇑ *i*P **P 00 14 23.6 +4.3**
APA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
GTA Gaotai 60.60 297 *e*P **P 00 14 26.0 -1.3**
GTA AP pP 00 14 35.8 -0.2
GTA XP sP 00 14 40.0 +0.9
GTA PP PP 00 16 45.0 +2.1
GTA S **S 00 22 45.0 +5.2**
GTA AMB AMB
comp=Z,5.0nm,1.3s,mb4.5
GTA AMB AMB
comp=Z,84nm,3.8s
GTA LR LR
comp=N,214nm,18.6s,MS4.6
GTA LR LR
comp=E,273nm,16.3s,MS4.6
GTA LR LR
comp=Z,299nm,17.9s,MS4.5
LZH Lanzhou 60.68 292 *e*P **P 00 14 27.5 -0.3**
LZH AP pP 00 14 38.5 +2.0
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.3
WMQ Urumqi 63.71 308 ⇑P **P 00 14 46.5 -1.4**
WMQ AP pP 00 14 56.5 -0.1
WMQ XP sP 00 15 00.5 +0.8
WMQ PCP PcP 00 15 22.8 -0.9
WMQ PP PP 00 17 08.3 -1.4
WMQ *e*S **S 00 23 17.3 -1.6**
WMQ AMB AMB
comp=Z,14nm,0.5s,mb5.2
WMQ AMB AMB
comp=Z,86nm,5.2s
WMQ LR LR
comp=N,314nm,16.2s,MS4.6
WMQ LR LR
comp=E,191nm,18.1s,MS4.6
WMQ LR LR
comp=Z,150nm,18.0s,MS4.2
BVAR Borovoye Array 63.96 324 P **P 00 14 48.3 -1.0**
comp=Z,9.9nm,0.8s,mb4.9,baz=53,slow=7.7,SNR=56
SVE Sverdlovsk 63.97 332 *e*P **P 00 14 48.0 -1.4**
SVE *e* 00 15 18.5
SVE pmax pmax
comp=Z,24nm,1.1s,mb5.1
MKAR Makanchi Array 64.01 313 P **P 00 14 47.8 -2.0**
comp=Z,1.0nm,0.3s,mb4.3,baz=52,slow=7.0,SNR=38
MKAR LR LR 00 43 29.4
comp=Z,144nm,19.8s,MS4.2,baz=19,slow=37
JOF Joensuu 64.24 350 *e*p **P 00 14 48.3 -2.7**
CD2 Chengdu 64.44 288 P **P 00 14 52.8 -0.1**
CD2 AMB AMB
comp=Z,31nm,1.2s,mb5.2
ARU Arti 64.91 333⇑ *i*P **P 00 14 54.1 -1.3**
ARU *e* 00 15 26.4
ARU *e* 00 17 11.9
ARU *e*S **S 00 23 33.8 +0.4**
ARU *e*SS SS 00 27 43.7 -3.3
ARU pmax pmax
comp=Z,18nm,1.1s,mb5.0
ARU Arti 64.91 333 *e*P **P 00 14 53.7 -1.8**
comp=Z,26nm,1.3s,mb5.1
KAF Kangasniemi 65.52 352 *e*p **P 00 14 56.1 -3.2**
comp=Z,9.7nm,0.7s,mb4.9,baz=7.2,slow=6.0
KAF Kangasniemi 65.52 352 *e*P **P 00 14 56.1 -3.2**
KAF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
GYA Guiyang 65.97 283⇑ *i*P **P 00 15 02.3 -0.5**
GYA PP PP 00 17 29.0 -1.3
GYA S S 00 23 43.5 -3.5
GYA PS PS 00 24 09.3 -3.0
GYA AMB AMB
comp=Z,20nm,1.1s,mb5.1
GYA AMB AMB
comp=Z,160nm,4.8s
GYA LR LR
comp=N,120nm,17.4s,MS4.4
GYA LR LR
comp=E,170nm,16.8s,MS4.4
GYA LR LR
comp=Z,330nm,16.4s,MS4.6
FINES FINESS Array B 66.20 352 *i* P **P 00 15 02.4 -1.3**
FINES pmax pmax
comp=Z,9.0nm,0.9s
FINES FINESS Array B 66.20 352 P **P 00 15 02.1 -1.5**
comp=Z,8.9nm,0.9s,mb4.8,baz=12,slow=7.5,SNR=36
FINES LR LR 00 43 21.9
comp=Z,94nm,21.1s,MS4.0,baz=344,slow=36
FINES FINESS Array B 66.20 352 P **P 00 15 02.1 -1.5**
FINES LR LR 00 43 21.9
DOMB Dombas 66.27 1 *e*P **P 00 15 03.4 -0.7**
DOMB AMb AMB 00 15 11.6
comp=Z,17nm,1.6s,mb4.8
NB2 NORSAR Subarra 67.28 360 P **P 00 15 09.1 -1.4**
comp=Z,9.1nm,0.9s,mb4.8,baz=1.0,slow=6.2
NB2 NORSAR Subarra 67.28 360 P **P 00 15 09.1 -1.4**
baz=1.2,slow=6.5
NOA NORSAR Array B 67.28 360 P **P 00 15 09.4 -1.1**
comp=Z,5.0nm,0.8s,mb4.6,baz=0.6,slow=6.3,SNR=27
KONO Kongsberg 68.67 1 *i* P **P 00 15 19.1 -0.2**
KONO Kongsberg 68.67 1 *e*P **P 00 15 19.1 -0.2**
KMI Kunming 69.32 284 P **P 00 15 24.0 +0.2**
KMI AP pP 00 15 34.5 +2.0
KMI S S 00 24 25.3 -1.8
KMI AMB AMB
comp=Z,12nm,1.3s,mb4.7
KMI AMB AMB
comp=Z,103nm,4.5s
KMI LR LR
comp=N,142nm,17.0s,MS4.3
KMI LR LR
comp=E,99nm,21.3s,MS4.3
KMI LR LR
comp=Z,171nm,16.3s,MS4.4
TKM2 Tokmak 2 70.01 315 P **P 00 15 27.6 -0.1**
SNR=16
USP Ospenovka 70.20 316 P **P 00 15 28.7 -0.2**
SNR=15
ULHL Ulahol 70.26 314 P **P 00 15 29.6 +0.3**
SNR=14
CHMS Chumysh 70.31 315 P **P 00 15 29.5 -0.1**
SNR=6.5
KBK Karagaybulak 70.50 315 P **P 00 15 30.8 0.0**
SNR=12
FRU Bishkek 70.50 315 *e*P **P 00 15 30.0 -0.7**
FRU *e* pP 00 15 40.0 +0.6
AAK Ala-Archa 70.72 315 P **P 00 15 32.4 +0.3**
SNR=12
AAK Ala-Archa 70.72 315*c i*P **P 00 15 31.0 -1.0**
AAK pmax pmax
comp=Z,22nm,1.2s,mb5.0
AAK MLR MLR
comp=Z,100nm,15.0s,MS4.2
AAK Ala-Archa 70.72 315⇑ *e*P **P 00 15 30.8 -1.2**
comp=Z,14nm,0.9s,mb4.9
KZA Kyzart 70.84 315 P **P 00 15 33.2 +0.4**
SNR=12
EKS2 Erkin-Say 71.00 316 P **P 00 15 33.9 +0.1**
SNR=20
UCH Uchtor 71.04 315 P **P 00 15 34.9 +0.9**
SNR=6.5
OBN Obninsk 71.06 345⇑ *e*P **P 00 15 32.9 -1.0**
OBN *e* 00 18 16.1
OBN *e*S S 00 24 50.5 +3.5
OBN pmax pmax
comp=Z,12nm,0.6s,mb5.0
PPT Papeete 71.43 160 LR LR 00 38 53.7
comp=Z,224nm,21.1s,MS4.4,baz=326,slow=29
AML Almayashu 71.47 316 P **P 00 15 37.1 +0.5**
SNR=18
SUW Suwalki 73.81 352 *e*P **P 00 15 48.8 -1.2**
SUW *e*pP pP 00 15 56.6 -2.2
SUW *e*PcP PcP 00 16 00.2 -5.5
GKP Gorka Klasztor 74.92 356 *e*P **P 00 15 56.9 +0.5**
AKASG Malin Array Be 76.43 348 *i* P **P 00 16 04.2 -0.9**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 76.43 348 P **P 00 16 03.8 -1.3**
comp=Z,6.4nm,0.8s,mb4.6,baz=12,slow=5.5,SNR=21
CMAR Chiang Mai Arr 76.66 283 *i* P **P 00 16 07.6 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 76.66 283 P **P 00 16 07.1 +0.1**
comp=Z,2.0nm,0.6s,mb4.2,baz=15,slow=5.9,SNR=16
CMAR LR LR 00 54 57.8
comp=Z,142nm,18.3s,MS4.3,baz=15,slow=40
GUN Gumba 76.85 298 *e*P **P 00 16 07.9 0.0**
JIRN Jiri 76.88 298 *e*P **P 00 16 08.5 +0.4**
comp=Z,88nm,1.2s,mb5.6
CLL Collm 77.02 358⇑ *i*P **P 00 16 08.2 -0.1**
CLL *i* pP 00 16 15.1 -2.1
CLL *e* 00 16 20.0
CLL pmax pmax
comp=Z,11nm,1.4s,mb4.6
CLL Collm 77.02 358 ⇑P **P 00 16 08.2 -0.1**
comp=Z,logA/T=0.9,mb4.6
CLL *i* *PP pP 00 16 15.1 -2.1
CLL *e*SP sP 00 16 20.0 -0.2
KKN Kakani 77.27 299 *e*P **P 00 16 10.8 +0.6**
comp=Z,56nm,1.5s,mb5.3
PKI Pulchoki 77.37 299 *e*P **P 00 16 11.0 +0.2**
comp=Z,72nm,1.3s,mb5.5
KSP Ksiaz 77.39 356 *e*P **P 00 16 10.7 +0.3**
KSP *e*pP pP 00 16 16.5 -2.7
BRG Berggiesshubel 77.44 358 *e*P **P 00 16 11.3 +0.7**
BRG *e* 00 16 22.7
BRG pmax pmax
comp=Z,14nm,1.4s,mb4.7
BRG Berggiesshubel 77.44 358 *e*P **P 00 16 11.3 +0.7**
comp=Z,14nm,1.4s,mb4.7
BRG *e* 00 16 22.7
GKN Gorkha 77.45 299 *e*P **P 00 16 11.2 0.0**
comp=Z,80nm,1.4s,mb5.5
DMN Daman 77.51 299 *e*P **P 00 16 11.8 +0.2**
comp=Z,6.2nm,0.3s,mb5.1
MOX Moxa 77.70 359 *e*P **P 00 16 12.6 +0.5**
MOX Moxa 77.70 359 *i* P **P 00 16 12.6 +0.5**
UPC Upice 77.74 356 *e*P **P 00 16 13.0 +0.7**
PVCC Panska Ves 77.76 357 *e*P **P 00 16 13.0 +0.5**
PVCC AMS AMS 01 00 00.0
comp=Z,100nm,18.5s
OJC Ojcow 77.83 354 *e*P **P 00 16 13.9 +1.1**
DPC Dobruska-Polom 77.88 356 *e*P **P 00 16 13.8 +0.7**
DPC AMS AMS 01 03 00.0
comp=Z,100nm,16.8s
LVV L'vov 77.89 351 *e*P **P 00 16 12.7 -0.4**
GIVF Givet 78.13 4 *e*P **P 00 16 14.5 0.0**
BAIF Baives 78.15 4 *e*P **P 00 16 14.7 +0.1**
comp=Z,38nm,1.3s,mb4.9
KOLN Koldanda 78.19 300 *e*P **P 00 16 15.5 +0.2**
comp=Z,46nm,1.2s,mb5.3
KWP Kalwaria 78.19 352 *e*P **P 00 16 15.4 +0.5**
KWP *e*pP pP 00 16 22.4 -1.3
PRU Pruhonice 78.30 357 *e*P **P 00 16 15.8 +0.4**
PRU AMS AMS 00 56 50.0
comp=Z,100nm,21.4s
OKC Ostrava-Krasne 78.31 355 *e*P **P 00 16 16.3 +0.8**
OKC AMS AMS 00 59 00.0
comp=Z,100nm,19.1s
MORC Moravsky Berou 78.40 355 *e*P **P 00 16 16.0 0.0**
comp=Z,8.9nm,1.1s,mb4.6
NIE Niedzica 78.59 354 *e*P **P 00 16 17.5 +0.5**
GRA1 Grafenberg Arr 78.66 360 *e*P **P 00 16 18.4 +1.0**
GRA1 *e*PcP PcP 00 16 25.4 -1.3
GRA1 *e*pP pP 00 16 30.1 +3.9
GRF Grafenberg Arr 78.66 360 *e*P **P 00 16 18.4 +1.0**
GRF *e* pP 00 16 25.4 -0.8
GRF *e*PP pP 00 16 30.1 +3.9
GRF pmax pmax
comp=Z,22nm,1.3s,mb4.9
GRF Grafenberg Arr 78.66 360 *e*P **P 00 16 18.4 +1.0**
comp=Z,22nm,1.3s,mb4.9
GRF *e*PcP PcP 00 16 25.4 -1.3
GRF *e*pP pP 00 16 30.1 +3.9
KOLS Kolonicke sedl 78.92 352 *e*P **P 00 16 15.8 -3.1**
KOLS *e* 00 16 39.7
FLN La Foliniere 79.15 7 *e*P **P 00 16 19.8 -0.3**
FLN *e*R
comp=Z,142nm,18.2s
KHC Kasperske Hory 79.19 358 *e*P **P 00 16 21.5 +1.2**
KHC AMS AMS 00 57 00.0
comp=Z,100nm,16.0s
GOF Gofitskoye 79.33 337⇓ *i*P **P 00 16 20.4 -0.7**
GOF pmax pmax
comp=Z,80nm,1.3s,mb5.5
LDF La Druitiere 79.34 7 *e*P **P 00 16 20.9 -0.2**
SGMF Saint Gilles 79.47 9 *e*P **P 00 16 22.0 +0.2**
comp=Z,38nm,1.3s,mb4.9
GERES GERESS Array B 79.47 358 P **P 00 16 22.3 +0.5**
comp=Z,2.9nm,1.0s,mb4.2,baz=27,slow=3.0,SNR=17
GERES LR LR 00 53 55.8
comp=Z,68nm,20.7s,MS4.0,baz=190,slow=38
VYHS Vyhne 79.61 354 *e*P **P 00 16 22.7 +0.1**
SMOL Smolenice 79.67 355 *e*P **P 00 16 24.7 +1.8**
MEZF Maizieres J'vi 79.74 4 *e*P **P 00 16 23.7 +0.4**
comp=Z,24nm,1.1s,mb4.7
QUIF Quistinic 79.74 9 *e*P **P 00 16 23.3 0.0**
comp=Z,144nm,1.9s,mb5.3
CDF Champ du Feu 79.90 2 *e*P **P 00 16 24.5 +0.4**
comp=Z,28nm,1.3s,mb4.7
ZST Bratislava 80.00 356 *e*P **P 00 16 26.0 +1.3**
ZST *e*sP sP 00 16 36.5 0.0
PSZ Piszkesteto 80.11 354 *e*P **P 00 16 25.7 +0.4**
comp=Z,11nm,1.3s,mb4.6
HAU Haudompre 80.28 3 *e*P **P 00 16 26.5 +0.3**
comp=Z,6.6nm,0.7s,mb4.4
HAU *e*R
comp=Z,81nm,19.0s
KIV Kislovodsk 80.45 337 *e*P **P 00 16 27.9 +0.7**
KIV pmax pmax
comp=Z,15nm,0.9s,mb4.9
KIV pmax pmax
comp=N,12nm,1.1s
HINF Hinteralfeld 80.48 3 *e*P **P 00 16 27.4 +0.1**
LOR Lormes 80.92 5 *e*P **P 00 16 29.8 +0.2**
comp=N,60nm,1.6s,mb5.0
LOR *e*R
comp=N,110nm,18.0s
MOTA Moosalm 81.00 360⇑ *i*P **P 00 16 30.8 +0.8**
ARSA Arzberg 81.01 357⇓ *i*P **P 00 16 30.7 +0.6**
comp=N,13nm,1.4s,mb4.7
WTTA Wattenberg 81.08 359⇑ *i*P **P 00 16 31.6 +1.2**
comp=N,24nm,1.5s,mb4.9
SSF Saint Saulge 81.10 5 *e*P **P 00 16 30.9 +0.3**
comp=N,46nm,1.3s,mb4.9
SQTA Sankt Quirin 81.13 360⇑ *i*P **P 00 16 31.8 +1.1**
comp=N,21nm,1.3s,mb4.9
KBA Koelnbreinsper 81.24 358⇑ *i*P **P 00 16 32.9 +1.6**
comp=N,80nm,1.7s,mb5.4
ZEI Tsey 81.26 336 *e*P **P 00 16 30.7 -0.8**
ZEI pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
SIM Simferopol' 81.29 343 *e*P **P 00 16 33.0 +1.4**

SIM pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MFF Saint Martin d 81.32 7 *eP* **P 00 16 32.0 +0.3**
comp=Z,81nm,1.4s,mb5.2
AVF Avril sur Loir 81.37 5 *eP* **P 00 16 32.1 +0.2**
comp=Z,20nm,1.0s,mb4.7
SOC Sochi 81.49 339 *eP* **P 00 16 31.7 -0.9**
SOC *e* 00 19 37.2
SOC *e*PPP PPP 00 21 26.8 -5.8
SOC *e*S S 00 26 36.3 -4.6
SOC *e*SS SS 00 31 58.1 -2.9
SOC pmax pmax
comp=N,6.0nm,0.8s
SOC pmax pmax
comp=Z,11nm,0.8s,mb4.8
SOC pmax pmax
comp=E,2.0nm,0.4s
SOC MLR MLR
comp=N,92nm,21.0s,MS4.4
SOC MLR MLR
comp=E,140nm,21.0s,MS4.4
SOC MLR MLR
comp=Z,116nm,21.0s,MS4.2
SMF Signal de Mont 81.54 5 *eP* **P 00 16 33.1 +0.3**
comp=Z,36nm,1.1s,mb4.9
CTAO Charters Tower 81.55 222 P **P 00 16 32.6 -0.8**
CABF La Chapelle 81.67 3 *eP* **P 00 16 34.4 +0.9**
comp=Z,34nm,1.1s,mb4.9
TCF Toulx Ste Croi 81.80 6 *eP* **P 00 16 34.6 +0.4**
comp=Z,34nm,1.3s,mb4.8
RJF Les Rejaudoux 82.73 6 *eP* **P 00 16 39.1 0.0**
RJF *e*R
comp=Z,148nm,17.5s
LPL La Plagne 82.78 3 *eP* **P 00 16 39.9 +0.6**
comp=Z,7.9nm,1.0s,mb4.4
LPG La Plagne 82.80 3 *eP* **P 00 16 40.1 +0.7**
LFF La Frestale 83.04 7 *eP* **P 00 16 41.3 +0.6**
CAF Calviac 83.15 6 *eP* **P 00 16 41.8 +0.6**
comp=Z,36nm,1.3s,mb4.9
BNI Bardonecchia 83.24 3 *eP* **P 00 16 41.0 -0.7**
comp=Z,16nm,1.1s,mb5.0
ORIF Oris-en-Rattie 83.35 3 *eP* **P 00 16 43.6 +1.4**
ORIF *e*R
comp=Z,97nm,21.0s
VIVF Saint-Julien-l 83.36 4 *eP* **P 00 16 43.3 +1.0**
GNI Garni 83.50 334*c iP* **P 00 16 44.8 +1.8**
GNI pmax pmax
comp=Z,22nm,2.1s
GNI MLR MLR
comp=Z,100nm,19.0s
GNI Garni 83.50 334 P **P 00 16 44.0 +1.0**
comp=Z,1.7nm,0.6s,mb4.4,baz=258,slow=5.9,SNR=4.9
MBDF Montbardon 83.57 3 *eP* **P 00 16 45.2 +1.9**
comp=Z,36nm,1.2s,mb5.1
LASF Ste Croix 84.10 5 *eP* **P 00 16 47.2 +1.2**
SMRF Simiane la Rot 84.28 4 *eP* **P 00 16 48.6 +1.7**
comp=Z,39nm,1.1s,mb5.1
SBF Sospel 84.45 2 *eP* **P 00 16 49.6 +1.9**
comp=Z,101nm,1.1s,mb5.5
BOYT Boyabat 84.56 342 *i* P **P 00 16 49.2 +0.8**
BALT Daday 84.73 343 *i* P **P 00 16 51.0 +1.8**
FRF La Foret Royal 84.73 3 *eP* **P 00 16 50.0 +0.9**
comp=Z,36nm,1.2s,mb5.1
MTLF Montolieu 84.73 6 *eP* **P 00 16 50.3 +1.1**
comp=Z,20nm,1.0s,mb4.9
KELT Kelkit 84.86 338 *i* P **P 00 16 51.6 +1.8**
EPF Esparros 84.91 8 *eP* **P 00 16 50.3 +0.3**
comp=Z,11nm,0.9s,mb4.7
LMR La Mourre 84.95 3 *eP* **P 00 16 50.8 +0.6**
ETSF Etsaut 84.96 8 *eP* **P 00 16 51.5 +1.2**
ELDT Eldivan 85.73 343 *i* P **P 00 16 56.1 +1.9**
PGF Pioggiola 85.79 1 *eP* **P 00 16 53.8 -0.7**
comp=Z,84nm,1.2s,mb5.5
HENT Hendek 85.85 345 *i* P **P 00 16 55.8 +1.0**
SGKT Sivrigoynuk 85.90 344 *i* P **P 00 16 52.5 -2.5**
BRTR Keskin Array B 86.44 342 P **P 00 16 57.9 +0.2**
comp=Z,1.0nm,0.8s,mb4.1,baz=45,slow=1.7,SNR=7.8
WRAB Tennant Creek 86.75 232 *i* P **P 00 16 56.1 -3.6**
WRAB Tennant Creek 86.75 232 P **P 00 16 58.8 -0.9**
WRA Warramunga Arr 86.76 232 *i* P **P 00 16 59.1 -0.6**
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 86.76 232 P **P 00 16 58.6 -1.1**
comp=Z,2.8nm,0.9s,mb4.5,baz=39,slow=5.8,SNR=12
ULDT Uludag 86.79 346 *i* P **P 00 17 00.4 +1.0**
MALT Malatya 86.80 338 *eP* **P 00 17 01.2 +1.7**
comp=Z,7.9nm,1.3s,mb4.8
ESKT Eskisehir 87.13 344 *i* P **P 00 16 56.5 -4.6**
BTOK Tokmak 87.33 347 *i* P **P 00 17 02.7 +0.6**
ESDC Sonseca Array 87.80 11 P **P 00 17 04.2 -0.1**
comp=Z,2.2nm,0.9s,mb4.4,baz=351,slow=4.9,SNR=8.2
HYB Hyderabad 89.27 298 *eP* **P 00 17 11.5 -0.3**
HYB Hyderabad 89.27 298 *i* P **P 00 17 11.5 -0.3**
FITZ Fitzroy Crossi 89.65 239 P **P 00 17 14.0 +0.4**
comp=Z,5.3nm,0.9s,mb4.9,baz=349,slow=12,SNR=3.9
ASAR Alice Springs 90.14 230 P **P 00 17 14.9 -0.9**
comp=Z,5.7nm,0.9s,mb4.9,baz=34,slow=4.2,SNR=31
LBTB Lobatse 150.70 331 PKPbc PKPdf 00 24 08.5 +3.0
comp=Z,15nm,0.9s,baz=65,slow=1.3,SNR=17
LBTB Lobatse 150.70 331 *e*PKPbc PKPdf 00 24 08.4 +2.9

MAN 26 00:28:37.8, 8.27N×122.65E, h17km, mb5.3, ML4.2, MS4.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.48**	**189**	*e*P	Pb	00 28 48.3	+0.9
IPIL				*e*S	Sb	00 28 58.9	+4.9
DCPH	**Dipolog City**	**0.76**	**66**	⇑*i*P	Pb	00 28 51.7	-0.5
DCPH				*i* S	Sb	00 29 05.5	+3.5
PAGZ	**Pagadian**	**0.84**	**120**	*e*P	Pb	00 28 55.6	+2.2
PAGZ				*e*S	Sb	00 29 12.2	+8.1
CNP	**Catarman**	**4.66**	**25**	*e*P	Pn	00 29 49.1	-0.1
CNP				*e*S	Px	00 30 01.5	

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*NEIC **26** 00:33:58.8, 37.33S×177.52E, h96km, MG3.9(WEL), After WEL.*
WEL 26 00:33:58.8±0.3, 37.34S×177.52E, h96km±3km, ML3.9/4, 1D, Error ellipse: s-maj=1.6km s-min=1.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.33**	**234**	P	P	00 34 12.5	-0.6
WIZ	**White Island**	**0.33**	**234**	P*	P	00 34 12.3	-0.8
MXZ	**Matakaoa Point**	**0.67**	**110**	P	P	00 34 15.4	-0.4
MXZ				S	S	00 34 28.4	-0.1
MXZ	**Matakaoa Point**	**0.67**	**110**	P*	P	00 34 15.4	-0.4
MXZ				S*	S	00 34 28.4	0.0
MARZ	**Manawahe**	**0.93**	**226**	P	P	00 34 18.1	-0.4
MARZ	**Manawahe**	**0.93**	**226**	P*	P	00 34 18.1	-0.4
PUZ	**Puketiti**	**0.94**	**142**	P	P	00 34 18.3	-0.2
PUZ	**Puketiti**	**0.94**	**142**	PN	P	00 34 18.3	-0.2
PUZ				SN	S	00 34 33.1	-0.2
URZ	**Urewera**	**0.98**	**199**	P	P	00 34 18.6	-0.4
URZ	**Urewera**	**0.98**	**199**	⇓P*	P	00 34 18.6	-0.4
URZ				S*	S	00 34 33.6	-0.5
EDRZ	**Edgecumbe**	**0.99**	**219**	P	P	00 34 18.9	-0.2
EDRZ	**Edgecumbe**	**0.99**	**219**	P*	P	00 34 18.9	-0.1
MWZ	**Matawai**	**1.00**	**180**	P*	P	00 34 19.2	0.0
MWZ				S*	S	00 34 34.3	-0.2
MYRZ	**Mayor Island**	**1.02**	**273**	P*	P	00 34 19.4	0.0
TGRZ	**Tauranga**	**1.08**	**248**	P	P	00 34 19.9	-0.2
TGRZ	**Tauranga**	**1.08**	**248**	P*	P	00 34 19.9	-0.2
LIRZ	**Lichensteins R**	**1.12**	**233**	P	P	00 34 20.4	-0.3
LIRZ	**Lichensteins R**	**1.12**	**233**	P*	P	00 34 20.4	-0.3
KNZ	**Kokohu**	**1.69**	**176**	PN	P	00 34 26.7	-0.9
KNZ				SN	S	00 34 47.7	-1.2
NGZ	**Ngauruhoe**	**2.38**	**219**	P	P	00 34 37.7	+0.8
NGZ	**Ngauruhoe**	**2.38**	**219**	PN	P	00 34 37.7	+0.8
CNZ	**Chateau**	**2.42**	**219**	PN	P	00 34 38.4	+0.8
TUVZ	**Tukino**	**2.43**	**217**	P	P	00 34 38.2	+0.6
FWVZ	**Far West T-bar**	**2.46**	**218**	PN	P	00 34 38.5	+0.4
MOVZ	**Moawhango**	**2.49**	**213**	PN	P	00 34 38.0	-0.5
TSZ	**Takapari Road**	**2.98**	**204**	PN	P	00 34 42.3	-2.9
KIW	**Kapiti Island**	**4.07**	**209**	P	P	00 34 56.4	-3.7
KIW	**Kapiti Island**	**4.07**	**209**	PN	P	00 34 56.4	-3.7

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*ATH **26** 00:45:53.7, 39.82N×22.13E, h31km±4km, MD2.8/5*
*NEIC **26** 00:45:53.6, 39.81N×22.15E, h28km, MD2.8(ATH), After ATH.*
*THE **26** 00:45:54.8, 39.80N×22.21E, h5km, ML2.8*
*CSEM **26** 00:45:54.3±0.1, 39.79N×22.15E, h2km, ML2.8, Error ellipse: s-maj=2.0km s-min=1.7km az=46.0*
ISC 26 00:45:54.2±0.5, 39.83N±0.03×22.12E±0.05, h27km±6km, n18, σ0§98/28, 2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	**Litokhoron**	**0.40**	**46**	*e*Pg	Pb	00 46 02.0	-0.8
LIT				*e*Sg	Sb	00 46 09.0	+0.4
KZN	**Kozani**	**0.55**	**331**	*e*PN	Pn	00 46 05.3	-0.8
KZN				*e*SN	Sn	00 46 14.6	+0.2
AGG	**Agios Georgios**	**0.82**	**168**	*e*Pg	Pb	00 46 08.5	-1.2
AGG	comp=Z,16nm,0.2s			*e*Sg	Sb	00 46 21.5	+1.1
EVR	**Evrytania**	**0.94**	**195**	⇓*i*PB	Pb	00 46 11.0	-0.7
EVR	**Evrytania**	**0.94**	**195**	⇓*i*Pn	Pn	00 46 10.2	-1.6
JAN	**Janina**	**0.99**	**260**	*e*PN	Pn	00 46 13.0	+0.5
JAN	**Janina**	**0.99**	**260**	*e*Pn	Pn	00 46 14.4	+1.9
NEO	**Neokhori**	**1.00**	**121**	*e*PN	Pn	00 46 12.9	+0.3
NEO				*e*SN	Sn	00 46 26.4	+0.5
FNA	**Florina**	**1.11**	**330**	*e*Pg	Pn	00 46 15.6	+1.4
FNA				*e*Sg	Sn	00 46 34.4	+5.7
PLG	**Polygyros**	**1.16**	**61**	*e*PN	Pn	00 46 14.6	-0.3
PAIG	**Paliouri**	**1.21**	**85**	*e*Pg	Pn	00 46 14.9	-0.7
SOH	**Sokhos**	**1.37**	**43**	*e*Pb	Pb	00 46 18.8	-0.2
SOH				*e*Sb	Sb	00 46 37.9	+1.7
IGT	**Igoumenitsa**	**1.41**	**258**	*e*Pb	Pb	00 46 20.6	+0.9
IGT				*e*Sb	Sb	00 46 42.4	+5.1
AOS	**Alonnisos**	**1.51**	**115**	*e*Pb	Pb	00 46 21.7	+0.2
AOS				*e*Sb	Sb	00 46 41.6	+1.3
OUR	**Ouranopolis**	**1.52**	**70**	*e*Pb	Pb	00 46 20.2	-1.3
OUR	**Ouranopolis**	**1.52**	**70**	*e*Pb	Pb	00 46 20.2	-1.3
SRS	**Serrai**	**1.71**	**41**	*e*Pb	Pb	00 46 23.2	-1.6
SRS				*e*Sb	Sb	00 46 46.0	0.0
SRS	**Serrai**	**1.71**	**41**	*e*Pb	Pb	00 46 23.2	-1.6
SRS				*e*Sb	Sb	00 46 46.0	0.0

KRSC 26 00:47:13.6±0.4, 55.39N×162.39E, h25km±5km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.85**	**16**	*i* P	Pb	00 47 29.4	-0.3
KBTR				*e*S	Sb	00 47 41.2	+0.5
MKZ	**Mys Kozlova**	**0.92**	**205**	*e*P	Pb	00 47 29.8	-1.0
MKZ				*e*S	Sb	00 47 41.7	-0.9
ZLN	**Zelenaya**	**1.10**	**306**	*i* P	Pn	00 47 33.5	0.0
ZLN				*e*S	Sb	00 47 47.5	-0.2
CIRR	**Tsirk**	**1.18**	**309**	*i* P	Pn	00 47 35.2	+0.5
CIRR				*e*S	Sn	00 47 50.9	+0.8
LGNR	**Loginova**	**1.19**	**307**	*e*P	Pn	00 47 35.1	+0.3
LGNR				*e*S	Sn	00 47 51.0	+0.8
KMNR	**Kamenistaya**	**1.28**	**288**	*i* P	Pn	00 47 36.5	+0.4
KMNR				*i* S	Sn	00 47 53.6	+1.1
TUMR	**Tumrok**	**1.29**	**266**	*e*P	Pn	00 47 36.5	+0.2
TUMR				*e*S	Sn	00 47 53.0	+0.2
KRSR	**Krestovskiy**	**1.32**	**310**	*i* P	Pn	00 47 36.3	-0.5
KRSR				*e*S	Sn	00 47 52.9	-0.8
KLY	**Klyuchi**	**1.35**	**314**	*e*P	Pn	00 47 35.7	-1.4
KLY				*e*S	Sn	00 47 52.1	-2.3
KPT	**Kopyto**	**1.36**	**296**	*i* P	Pn	00 47 38.0	+0.7
KPT				*e*S	Sn	00 47 55.9	+1.3
KOZ	**Kozyrevsk**	**1.57**	**296**	*e*S	Sn	00 48 01.4	+1.3
SRDR	**Sredinnyy**	**1.77**	**303**	*e*P	Pn	00 47 43.8	+0.6
SRDR				*e*S	Sn	00 48 05.7	+0.6
BKI	**Bering**	**2.06**	**94**	*e*P	Pn	00 47 46.5	-0.8
BKI				*e*S	Sn	00 48 10.3	-2.1
BKI				Smax			
	150nm,0.6s						
ESO	**Esso**	**2.16**	**286**	*e*P	Pn	00 47 49.3	+0.6
ESO				*e*S	Sn	00 48 15.1	+0.1
ESO				Smax			
	100nm,1.2s						
SPN	**Mys Shipunski**	**2.68**	**212**	*i* P	Pn	00 47 56.0	-0.2
SPN				*e*S	Sn	00 48 26.4	-1.9
NLC	**Nalytchevo**	**2.85**	**220**	*i* P	Pn	00 47 58.5	-0.1
NLC				*e*S	Sn	00 48 31.1	-1.4
AVH	**Avacha**	**3.02**	**227**	*e*P	Pn	00 48 01.9	+0.9
AVH				*e*S	Sn	00 48 36.7	0.0
UGLR	**Uglovaya**	**3.02**	**225**	*e*P	Pn	00 48 00.9	-0.2
UGLR				*e*S	Sn	00 48 35.6	-1.3
KOK	**Koryaka**	**3.04**	**228**	*e*P	Pn	00 48 02.0	+0.7
KOK				*e*S	Sn	00 48 37.6	+0.3
GNL	**Ganaly**	**3.10**	**239**	*e*P	Pn	00 48 01.9	-0.2
GNL				*e*S	Sn	00 48 36.8	-2.0
KRMR	**Karymshinskiy**	**3.59**	**226**	S	Sn	00 48 53.0	+1.9
RUS	**Russkaya**	**3.75**	**219**	*e*P	Pn	00 48 12.1	+0.8
RUS				*e*S	Sn	00 48 54.7	-0.5
GRL	**Gorelyy**	**3.82**	**224**	*e*P	Pn	00 48 13.9	+1.5
GRL				*e*S	Sn	00 48 57.7	+0.7
APC	**Apacha**	**3.94**	**233**	P	Pn	00 48 15.8	+1.7
APC				*e*S	Sn	00 49 00.9	+0.7
APC				Smax			
	10.0nm,0.7s						

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*BJI **26** 00:53:40.8, 9.20N×70.10W, h5km, mB5.3, Ms5.2, Msz5.0*
*IDC **26** 00:53:40.2±0.5, 9.20N×70.10W, mb4.2/17, mb1 4.4/19, mb1mx4.2/27, mbtmp4.2/19, ML4.2/2, MS3.6/9, Ms1 3.6/9, ms1mx3.4/27, Error ellipse: s-maj=13.3km s-min=7.4km az=141.0*
*NEIC **26** 00:53:40.8, 9.19N×70.11W, h0km, mb4.6/24, MW5.2(CAR), After CAR.*
*FUNV **26** 00:53:40.8, 9.19N×70.11W, h0km, MW4.3*
ISC 26 00:53:40.6±0.9, 9.16N±0.03×70.09W±0.03, h11km±6km, n81, σ1§21/84, mb4.4/35, MS3.9/9, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	**Santo Domingo**	**0.60**	**243**	Pg	Pg	00 53 52.4	-0.3
SDV	579nm,0.3s,baz=76,slow=11,SNR=2750			Lg		00 54 00.4	
	2μm,0.3s,baz=13,slow=19,SNR=114						
SDV	**Santo Domingo**	**0.60**	**243**	*e*Pg	Pg	00 53 52.0	-0.7
SDV				*e*Sg	Sg	00 54 00.0	-0.8
SANV	**Sanarito**	**0.65**	**58**	*e*P	Pb	00 53 53.2	-0.2
CURV	**Curarigua**	**0.86**	**9**	*e*P	Pb	00 53 56.7	-0.3
CURV				*e*S	Sb	00 54 08.5	+0.1
QARV	**Quebrada Arrib**	**1.12**	**338**	*e*P	Pb	00 54 01.5	-0.1
QARV				*e*S	Sb	00 54 17.0	+0.9
SOCV	**Socops**	**1.15**	**221**	*e*P	Pb	00 54 02.5	+0.4
SOCV				*e*S	Sb	00 54 18.9	+2.1
TEPV	**Terepaima**	**1.20**	**48**	*e*P	Pb	00 54 03.5	+0.7
TEPV				*e*S	Sb	00 54 19.9	+1.7
VIGV	**El Vigia**	**1.30**	**256**	*e*P	Pb	00 54 05.9	+1.4
VIGV				*e*S	Sb	00 54 22.4	+1.3
SIQV	**Siquisique**	**1.51**	**11**	*e*P	Pn	00 54 08.3	+0.6
SIQV				*e*S	Sb	00 54 29.3	+2.1
BAUV	**El Baul**	**2.04**	**96**	*e*P	Pn	00 54 15.4	+0.1
BAUV				*e*S	Sn	00 54 41.9	+0.9
TURV	**Turiamo**	**2.56**	**60**	*e*S	Sn	00 54 54.8	+0.5
MONV	**Montecano**	**2.78**	**2**	*e*S	Sn	00 54 57.8	-2.1
PCRV	**Puerto La Cruz**	**5.47**	**79**	Pn	Pn	00 55 04.0	-0.1
	18nm,0.3s,baz=244,slow=4.7,SNR=64			Sn	Sn	00 56 06.7	-1.2
PCRV	102nm,0.3s,baz=94,slow=18,SNR=17						
				Lg		00 56 40.1	
PCRV	23nm,0.3s,baz=121,slow=19,SNR=3.7						
ROSC	**El Rosal**	**6.00**	**225**	Pn	Pn	00 55 13.4	+1.9
ROSC	14nm,0.3s,baz=77,slow=8.1,SNR=52			Sn	Sn	00 56 22.1	+1.1
	8.9nm,0.3s,baz=99,slow=19,SNR=2.3						
ROSC	2.5nm,0.3s,baz=105,slow=19,SNR=2.3			Lg		00 56 55.5	
SJG	**San Juan**	**9.69**	**23**	Pn	P	00 55 60.0	-3.2
SJG	32nm,0.3s,baz=202,slow=12,SNR=60			Sn	Sn	00 57 39.5	-14
	6.7nm,0.3s,baz=19,slow=18,SNR=4.3						
SJG	comp=Z,310nm,20.5s,baz=14,slow=39			LR	LR	00 59 54.7	
SJG	**San Juan**	**9.69**	**23**	*e*Pn	P	00 55 59.4	-3.7
SJG				*e*S	Sn	00 57 37.3	-16
OTAV	**Otavalo**	**12.16**	**224**	*e*P	P	00 56 35.1	-1.7
JTS	**JuntasAbangare**	**14.69**	**276**	Pn	P	00 57 09.3	-1.1
JTS	0.3nm,0.3s,baz=167,slow=14,SNR=3.3			Sn	S	00 59 52.4	-1.8
	0.5nm,0.3s,baz=303,slow=16,SNR=2.8						

JTS LR LR 01 03 03.5
comp=Z,167nm,20.3s,baz=106,slow=38
SAML Samuel 19.26 159 *eP* **P 00 58 06.2 -1.8**
23nm,1.3s
TEIG Tepich 20.72 304 *eP* **P 00 58 23.9 +0.1**
10nm,0.5s
NNA Nana 22.05 198 P **P 00 58 34.6 -2.7**
13nm,0.7s,mb4.5
LPAZ La Paz 25.36 176 P **P 00 59 11.1 +1.5**
7.5nm,0.8s,mb4.3,baz=351,slow=8.7,SNR=22
LPAZ La Paz 25.36 176 *eP* **P 00 59 11.0 +1.5**
9.6nm,0.8s,mb4.4
SIV San Ignacio 26.54 160 P **P 00 59 22.0 +1.5**
3.1nm,0.9s,mb3.9,baz=355,slow=11,SNR=12
PLAL Pickwick Lake 30.52 330 P **P 00 59 55.1 -1.1**
14nm,1.1s,mb4.7
WVT Waverly 31.33 332 P **P 00 59 59.1 -4.2**
13nm,1.1s,mb4.7
LVC Limon Verde 31.59 178 P **P 01 00 04.2 -1.6**
3.8nm,0.6s,mb4.4,baz=356,slow=6.1,SNR=9.4
ACSO Alum Creek Sta 33.00 342 *eP* **P 01 00 17.2 -0.7**
16nm,1.0s,mb4.9
FVM French Village 34.05 331 *eP* **P 01 00 26.9 -0.2**
41nm,1.2s,mb5.2
CCM Cathedral Cave 34.51 330 *eP* **P 01 00 30.2 -0.8**
19nm,1.2s,mb4.9
TXAR Lajitas Array 37.30 307 P **P 01 00 55.4 +0.6**
1.4nm,0.5s,mb4.0,baz=129,slow=8.0,SNR=8.9
TXAR PcP PcP 01 03 14.5 -0.1
0.7nm,0.6s,baz=128,slow=7.0,SNR=4.4
MNTX Cornudas Mount 39.67 310 *eP* **P 01 01 14.8 +0.2**
14nm,1.0s,mb4.7
ANMO Albuquerque 41.99 313 P **P 01 01 33.4 -0.2**
1.2nm,0.8s,mb3.6,baz=96,slow=9.2,SNR=2.4
ANMO LR LR 01 18 29.4
comp=Z,64nm,20.6s,MS3.5,slow=36
ANMO Albuquerque 41.99 313 *eP* **P 01 01 34.6 +1.0**
2.3nm,0.8s,mb3.9
SDCO Great Sand Dun 42.75 317 *eP* **P 01 01 40.8 +1.0**
5.5nm,1.0s,mb4.2
RW3 Ridgway 44.48 317 P **P 01 01 55.5 +1.6**
PV01 Paradox Valley 45.02 316 *eP* **P 01 02 00.2 +2.0**
SCHQ Schefferville 45.62 3 P **P 01 02 02.3 -0.5**
5.9nm,0.8s,mb4.6,baz=182,slow=4.2,SNR=11
SCHQ LR LR 01 19 51.9
comp=Z,77nm,18.3s,MS3.7,baz=282,slow=34
ULM Lac du Bonnet 46.21 337 P **P 01 02 05.7 -1.7**
2.5nm,0.4s,mb4.5,baz=134,slow=4.1,SNR=3.3
SRU San Rafael 46.84 316 *eP* **P 01 02 13.5 +1.0**
MSU Marysvale 47.70 315 *eP* **P 01 02 20.7 +1.3**
MVU Marysvale 47.73 315 *eP* **P 01 02 21.2 +1.6**
7.1nm,1.0s,mb4.7
DAU Daniels Canyon 47.96 317 *eP* **P 01 02 21.6 +0.2**
PDAR Pinedale Array 48.06 321 P **P 01 02 22.2 +0.1**
1.0nm,0.5s,mb4.1,baz=117,slow=9.3,SNR=14
BW06 Boulder Array 48.06 321 *eP* **P 01 02 22.1 0.0**
3μm,1.0s
NEN Nelson 48.48 310 *eP* **P 01 02 25.0 -0.5**
DUG Dugway 48.90 316 *eP* **P 01 02 29.8 +1.2**
3.0nm,0.8s,mb4.4
RRI2 Red Ridge 49.47 321 *eP* **P 01 02 32.1 -0.8**
5.3nm,0.9s,mb4.6
PLCA Paso Flores 49.64 180 P **P 01 02 32.7 -1.7**
3.6nm,0.7s,mb4.5,baz=353,slow=10,SNR=4.6
PLCA LR LR 01 21 57.4
comp=Z,59nm,18.6s,MS3.6,baz=11,slow=34
PLCA Paso Flores 49.64 180 P **P 01 02 32.7 -1.7**
QLMT Earthquake Lak 50.31 322 *eP* **P 01 02 39.6 +0.2**
BOZ Bozeman (W) 50.86 323 P **P 01 02 43.0 -0.6**
9.4nm,1.6s,mb4.5
NVAR Mina Array Bea 52.07 312 P **P 01 02 52.9 0.0**
0.9nm,0.6s,mb3.9,baz=116,slow=8.0,SNR=6.9
NVAR LR LR 01 27 57.1
comp=Z,32nm,19.7s,MS3.4,baz=165,slow=40
FCC Fort Churchill 52.77 345 *eP* **P 01 02 54.6 -3.2**
3.9nm,0.7s,mb4.5
WCN Washoe City 53.44 313 P **P 01 03 04.3 +1.3**
8.6nm,1.1s,mb4.6
YBH Yreka Blue Hor 56.39 314 P **P 01 03 21.8 -2.7**
0.7nm,0.4s,mb4.1,baz=10.0,slow=6.5,SNR=3.4
YKA Yellowknife Ar 62.16 338 P **P 01 04 02.2 -2.0**
2.3nm,0.7s,mb4.4,baz=124,slow=7.0,SNR=30
YKA LR LR 01 30 30.2
comp=Z,63nm,18.8s,MS3.8,baz=180,slow=36
YKW3 Yellowknife Ar 62.21 338 *eP* **P 01 04 01.4 -3.1**
SUMG Summit 66.17 10 *eP* **P 01 04 29.8 -0.3**
8.2nm,0.8s,mb4.8
INK Inuvik 71.88 340 *eP* **P 01 05 04.4 -1.0**
6.4nm,1.3s,mb4.4
ILAR Eielson Array 76.14 335 P **P 01 05 29.5 -0.6**
0.5nm,0.8s,mb3.5,baz=109,slow=4.5,SNR=5.6
ILAR PP PP 01 08 22.6 -0.3
1.0nm,1.2s,baz=98,slow=5.6,SNR=4.7
GRA1 Grafenberg Arr 77.46 41 *eP* **P 01 05 39.0 +1.2**
6.0nm,1.5s,mb4.3
GRF Grafenberg Arr 77.46 41 *eP* **P 01 05 39.0 +1.2**
6.0nm,1.5s,mb4.3
NB2 NORSAR Subarra 77.83 29 P **P 01 05 40.2 +0.6**
0.5nm,0.6s,mb3.6,baz=265,slow=5.6
NOA NORSAR Array B 77.83 29 P **P 01 05 40.3 +0.7**
2.1nm,1.0s,mb4.0,baz=266,slow=5.7,SNR=5.6
NOA LR LR 01 35 21.6
comp=Z,26nm,19.2s,MS3.6,baz=270,slow=32
KHC Kasperske Hory 79.00 42 *eP* **P 01 05 49.4 +3.2**
IMA Indian Mountai 79.08 336 *eP* **P 01 05 44.7 -1.7**
GERES GERESS Array B 79.09 42 P **P 01 05 46.5 -0.2**
1.2nm,0.7s,mb3.9,baz=270,slow=4.0,SNR=7.9
ARCES ARCESS Array B 83.44 21 P **P 01 06 08.2 -1.0**
1.8nm,0.9s,mb4.1,baz=280,slow=5.5,SNR=5.9
FINES FINESS Array B 84.97 29 P **P 01 06 17.2 +0.2**
1.6nm,0.8s,mb4.2,baz=249,slow=2.0,SNR=8.4
FINES LR LR 01 38 49.5
comp=Z,44nm,18.0s,MS3.9,baz=207,slow=32
BILL Bilibino 93.39 342 P **P 01 06 57.6 +0.8**
5.1nm,0.5s,mb5.2
MKAR Makanchi Array 119.09 21 PKP PKPdf 01 12 32.0 -1.0
0.4nm,1.0s,baz=296,slow=2.2,SNR=4.3
WMQ Urumqi 123.54 19 PKP PKPdf 01 12 35.5 -6.2
WMQ PP PP 01 14 21.8 -3.2
WMQ PP PP
comp=Z,56nm,4.8s
WMQ LR LR
comp=N,325nm,22.7s,MS4.9
WMQ LR LR
comp=E,33nm,24.3s,MS4.9
WMQ LR LR
comp=Z,336nm,19.5s,MS5.0
CN2 Changchun 125.43 346 *e*PKP PKPdf 01 12 43.8 -1.6
BJI Beijing 130.71 354 PKP PKPdf 01 12 55.3 -0.3
LZH Lanzhou 134.64 7 *e*PKP PKPdf 01 12 55.8 -7.3
LZH XPKP 01 13 00.8
GYA Guiyang 144.46 5⇑*i*PKP PKPdf 01 13 18.8 -2.1
KMI Kunming 145.22 11 PKP PKPdf 01 13 20.8 -1.5
KMI LR LR
comp=N,273nm,15.2s,MS5.2
KMI LR LR
comp=E,167nm,15.9s,MS5.2
KMI LR LR
comp=Z,178nm,15.2s,MS5.0
CMAR Chiang Mai Arr 150.50 22 PKP PKPdf 01 13 28.5 -2.6
comp=Z,1.0nm,0.3s,SNR=3.0
CMAR PKPbc PKPdf 01 13 34.3 +3.2
comp=Z,2.6nm,0.8s,baz=315,slow=3.4,SNR=16
ASAR Alice Springs 152.90 235 PKPbc PKPdf 01 13 39.9 +5.4
comp=Z,1.7nm,0.7s,baz=113,slow=2.7,SNR=13
WRA Warramunga Arr 154.07 243 PKPbc PKPdf 01 13 41.6 +5.4
comp=Z,0.8nm,0.5s,baz=104,slow=2.5,SNR=8.7

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*ATH **26** 00:54:55.8, 39.81N×22.13E, h36km±4km, MD3.1/6*
*NEIC **26** 00:54:55.5, 39.78N×22.14E, h28km, MD3.1(ATH), After ATH.*
*CSEM **26** 00:54:55.7±0.1, 39.74N×22.15E, h8km, ML2.7, Error ellipse: s-maj=1.8km s-min=1.6km az=75.0*
*THE **26** 00:54:57.3, 39.81N×22.20E, h10km, ML2.7*
ISC 26 00:54:56.0±0.6, 39.81N±0.02×22.15E±0.03, h13km±4km, n20, σ1§21/32, Greece

| Code | Station

EVR	Evrytania	0.93	197	ePB	Pb	00 55 13.0	-0.5
EVR	Evrytania	0.93	197	ePb	Pb	00 55 12.2	-1.3
NEO	Neokhori	0.97	121	ePN	Pn	00 55 14.4	-0.8
NEO				eSN	Sn	00 55 28.8	0.0
JAN	Janina	1.01	262	ePN	Pn	00 55 14.9	-0.9
JAN	Janina	1.01	262	ePn	Pn	00 55 15.8	0.0
THE	Thessaloniki	1.03	37	ePg	Pg	00 55 16.1	-0.6
FNA	Florina	1.14	329	ePg	Pg	00 55 17.7	-1.0
FNA				eSg	Sg	00 55 34.5	+0.5
PLG	Polygyros	1.14	60	ePN	Pn	00 55 16.9	-0.7
GRG	Griva	1.16	9	ePg	Pg	00 55 18.6	-0.6
GRG				eSg	Sg	00 55 36.4	+1.7
PAIG	Paliouri	1.18	84	ePg	Pg	00 55 17.2	-2.5
LKR	Lokris	1.33	150	ePN	Pn	00 55 19.7	-0.7
SOH	Sokhos	1.36	42	ePb	Pb	00 55 21.0	+0.1
SOH				eSb	Sb	00 55 39.6	+1.5
IGT	Igoumenitsa	1.43	259	ePb	Pb	00 55 22.7	+0.7
IGT				eSb	Sb	00 55 44.0	+4.1
AOS	Alonnisos	1.48	115	ePb	Pb	00 55 24.2	+1.3
AOS				eSb	Sb	00 55 43.5	+2.0
OUR	Ouranopolis comp=Z,2.0nm,0.2s	1.50	69	ePb	Pb	00 55 22.6	-0.5
OUR				eSb	Sb	00 55 42.0	+0.1
SRN	Sarande	1.66	273	i Pn	Pn	00 55 26.9	+1.9
SRN				i Sn	Sn	00 55 47.9	+1.7
SRS	Serrai	1.71	40	ePb	Pb	00 55 25.6	-1.1
SRS				eSb	Sb	00 55 47.1	-0.8

*ATH **26** 00:58:41.3, 39.76N×21.99E, h28km, MD2.9/4*
*NEIC **26** 00:58:41.3, 39.76N×21.99E, h28km, MD2.9(ATH), After ATH.*
*CSEM **26** 00:58:41.8±0.1, 39.78N×22.16E, h8km, ML2.7, Error ellipse: s-maj=4.3km s-min=2.6km az=67.0*
*THE **26** 00:58:43.0, 39.77N×22.25E, h14km, ML2.7*
ISC 26 00:58:41.9±0.6, 39.75N±0.04×22.23E±0.06, h14km, n16, σ1§31/19, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	Litokhoron	0.41	30	ePg	Pg	00 58 49.9	-0.5
LIT				eSg	Sg	00 58 57.2	+1.1
KZN	Kozani	0.66	328	ePN	Pn	00 58 53.1	-3.4
AGG	Agios Georgios comp=Z,12nm,0.2s	0.73	174	ePg	Pg	00 58 56.2	-0.3
AGG				eSg	Sg	00 59 09.4	+2.9
AGG	Agios Georgios 12nm,0.2s	0.73	174	ePg	Pg	00 58 56.2	-0.4
NEO	Neokhori	0.89	119	ePN	Pn	00 59 01.3	+1.5
EVR	Evrytania	0.89	201	ePN	Pn	00 58 58.1	-1.7
PLG	Polygyros	1.13	56	ePN	Pn	00 59 05.0	+1.8
PAIG	Paliouri	1.13	80	ePg	Pg	00 59 03.0	-1.6
GRG	Griva	1.22	6	ePb	Pb	00 59 04.2	+0.1
FNA	Florina	1.22	328	ePb	Pb	00 59 03.9	-0.3
FNA				eSb	Sb	00 59 22.4	+2.6
SOH	Sokhos	1.38	38	ePb	Pb	00 59 06.9	0.0
AOS	Alonnisos	1.40	114	ePb	Pb	00 59 07.3	-0.1
OUR	Ouranopolis	1.47	66	ePb	Pb	00 59 08.1	-0.4
IGT	Igoumenitsa	1.48	262	ePb	Pb	00 59 08.6	-0.1
SRS	Serrai	1.72	37	ePb	Pb	00 59 11.2	-1.6
SRS	Serrai	1.72	37	ePb	Pb	00 59 11.1	-1.7

*IDC **26** 01:20:10.1±1.1, 0.93N×97.10E, mb3.9/9, mb1 4.1/10, mb1mx3.9/20, mbtmp3.9/10, ML4.3/1, MS3.6/1, Ms1 3.8/1, ms1mx2.9/32, Error ellipse: s-maj=51.0km s-min=18.5km az=55.0*
*NEIC **26** 01:20:14.9±0.5, 1.03N×97.22E, h30km, mb4.3/2, Error ellipse: s-maj=15.7km s-min=9.7km az=65.0*
ISC 26 01:20:13.5±0.8, 1.0N±0.1×97.3E±0.1, h33km, n15, σ0§49/13, mb3.9/11, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.42	39	⇑eP	P	01 21 34.3	+0.2
CMAR	Chiang Mai Arr 0.4nm,0.3s,baz=196,slow=12,SNR=8.5	17.39	5	P	P	01 24 14.2	-1.1
CMAR				LR	LR	01 32 11.5	
WRA	comp=Z,182nm,18.1s,baz=196,slow=41 Warramunga Arr	41.91	122	P	P	01 28 02.9	0.0
ASAR	0.5nm,0.5s,mb3.5,baz=303,slow=9.0,SNR=4.5 Alice Springs	43.26	127	P	P	01 28 14.3	+0.3
SONM	0.4nm,0.6s,mb3.3,baz=302,slow=7.0,SNR=4.1 Songino Array	47.28	8	P	P	01 28 46.0	+0.3
MKAR	1.4nm,0.5s,mb4.1,baz=186,slow=10,SNR=11 Makanchi Array	47.40	346	P	P	01 28 47.2	+0.6
ULN	2.5nm,0.8s,mb4.2,baz=157,slow=7.9,SNR=22 Ulaanbaatar	47.41	9	eP	P	01 28 46.9	+0.3
STKA	1.6nm,0.8s,mb4.0 Stephens Creek	53.22	132	P	P	01 29 30.5	-0.7
ZAL	0.9nm,0.4s,mb4.0,baz=312,slow=9.6,SNR=3.6 Zalesovo	53.71	351	P	P	01 29 34.6	+0.1
CHKZ	2.4nm,0.4s,mb4.5,baz=263,slow=4.5,SNR=12 Chkalovo	56.89	341	eP	P	01 29 57.1	-0.4
BRTR	3.8nm,0.8s,mb4.5 Keskin Array B	69.25	312	P	P	01 31 19.1	-0.4
GERES	0.5nm,0.8s,mb3.5,baz=63,slow=2.8,SNR=3.8 GERESS Array B	84.96	319	P	P	01 32 46.7	-0.1
NOA	0.6nm,0.8s,mb3.8,baz=108,slow=4.2,SNR=4.0 NORSAR Array B	87.16	331	P	P	01 32 58.0	+0.7
TXAR	0.6nm,0.8s,mb3.9,baz=94,slow=5.0,SNR=3.9 Lajitas Array	143.78	32	PKP	PKPdf	01 39 47.4	+1.4
LRAL	0.3nm,0.7s,baz=90,slow=1.3,SNR=3.8 Lakeview Retre	145.87	6	PKP	PKPdf	01 39 52.4	+2.9

IDC 26 01:28:05.9±63.0, 20.80S×178.10W, mb3.9/3, mb1 4.1/3, mb1mx3.8/15, mbtmp3.9/3, Error ellipse: s-maj=1156.0km s-min=159.6km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 0.7nm,0.5s,baz=90,slow=6.1,SNR=7.2	37.58	244	P	P	01 35 21.7	-2.2
ASAR	Alice Springs 1.3nm,0.7s,baz=94,slow=8.0,SNR=12	44.36	257	P	P	01 36 18.2	-1.7
WRA	Warramunga Arr 0.5nm,0.3s,baz=96,slow=8.3,SNR=8.8	44.47	262	P	P	01 36 19.4	-1.5

*ATH **26** 01:30:22.7, 39.79N×22.17E, h22km±4km, MD3.1/7*
*NEIC **26** 01:30:22.6, 39.80N×22.17E, h27km, MD3.1(ATH), After ATH.*
*CSEM **26** 01:30:23.0±0.1, 39.74N×22.18E, h12km, ML2.7, Error ellipse: s-maj=3.0km s-min=2.5km az=112.0*
*THE **26** 01:30:24.3, 39.76N×22.27E, h15km, ML2.7*
ISC 26 01:30:23.7±0.4, 39.78N±0.03×22.24E±0.04, h23km±7km, n22, σ1§21/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	Litokhoron	0.37	31	ePg	Pb	01 30 31.2	-0.5
LIT				eSg	Sb	01 30 38.4	+1.2
KZN	Kozani	0.64	326	ePN	Pn	01 30 34.4	-2.8
KZN				eSN	Sn	01 30 43.8	-2.9
AGG	Agios Georgios	0.76	175	ePg	Pb	01 30 37.3	-0.8
AGG				eSg	Sb	01 30 50.4	+2.3
NEO	Neokhori	0.90	122	ePN	Pn	01 30 41.2	+0.3
NEO				eSN	Sn	01 30 54.8	+1.6
EVR	Evrytania	0.92	201	ePN	Pn	01 30 40.0	-1.3
EVR	Evrytania	0.92	201	ePb	Pb	01 30 39.4	-1.6
THE	Thessaloniki	1.02	33	ePg	Pb	01 30 43.0	+0.5
THE				eSg	Sb	01 30 58.5	+3.1
THE	Thessaloniki	1.02	33	ePg	Pb	01 30 43.1	+0.6
THE				eSg	Sb	01 30 58.5	+3.0
JAN	Janina	1.08	264	ePN	Pn	01 30 42.5	-1.0
JAN	Janina	1.08	264	ePn	Pn	01 30 43.1	-0.4
PLG	Polygyros	1.10	57	ePN	Pn	01 30 43.8	0.0
PAIG	Paliouri	1.12	82	ePg	Pb	01 30 44.2	0.0
PAIG				eSg	Sb	01 30 59.3	+0.9
GRG	Griva	1.18	6	ePb	Pb	01 30 45.5	+0.2
FNA	Florina	1.20	327	ePb	Pb	01 30 44.8	-0.9
FNA				eSb	Sb	01 31 03.6	+2.8
LKR	Lokris	1.27	152	ePB	Pb	01 30 46.5	-0.4
SOH	Sokhos	1.34	39	ePb	Pb	01 30 48.0	-0.1
AOS	Alonnisos	1.41	115	ePb	Pb	01 30 48.4	-0.7
OUR	Ouranopolis comp=Z,2.2nm,0.2s	1.45	67	ePb	Pb	01 30 49.5	-0.3
IGT	Igoumenitsa	1.49	261	ePb	Pb	01 30 49.9	-0.7
IGT				eSb	Sb	01 31 10.7	+1.5
SRS	Serrai	1.69	37	ePb	Pb	01 30 52.0	-1.9
SRS				eSb	Sb	01 31 13.3	-1.5
SRN	Sarande	1.73	274	ePn	Pn	01 30 53.6	+0.8
SRN				i Sn	Sn	01 31 14.9	+0.6
VLS	Valsamata	2.05	219	ePN	Pn	01 30 58.4	+0.9

*IDC **26** 01:33:26.4±0.4, 1.74S×99.71E, mb4.4/24, mb1 4.5/24, mb1mx4.5/25, mbtmp4.4/24, MS3.6/3, Ms1 3.7/3, ms1mx3.3/25, Error ellipse: s-maj=20.9km s-min=12.2km az=60.0*
*BJI **26** 01:33:30.9, 1.70S×99.80E, h30km, mB4.8, mb4.7, Ms4.5, Msz4.2*
*NEIC **26** 01:33:30.9±0.2, 1.74S×99.76E, h30km, mb4.6/13, Error ellipse: s-maj=11.1km s-min=6.3km az=53.0*
ISC 26 01:33:29.6±0.3, 1.75S±0.06×99.76E±0.07, h33km, n67, σ0§96/52, mb4.5/38, MS3.5/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGM	Kluang	5.16	44	P	P	01 34 48.5	+1.9
IPM	Ipoh	6.42	11	P	P	01 35 04.8	+0.5
KULM	Kulim	7.05	7	eP	P	01 35 10.8	-2.3
CMAR	Chiang Mai Arr 3.2nm,0.7s,baz=184,slow=9.5,SNR=8.8	20.10	358	P	P	01 38 02.2	-1.2
CMAR				LR	LR	01 46 02.5	
PALK	comp=Z,143nm,18.9s,MS3.3,baz=200,slow=38 Pallekele 10nm,0.8s,mb4.2	21.03	295	eP	P	01 38 09.8	-3.3
FITZ	Fitzroy Crossi 17nm,0.9s,mb4.8	30.14	124	eP	P	01 39 38.2	-0.8
JIRN	Jiri 27nm,0.7s,mb5.2	32.03	337	eP	P	01 39 56.4	+0.8
PKI	Pulchoki 6.2nm,0.4s,mb4.8	32.26	336	eP	P	01 39 56.4	-1.2
KKN	Kakani 16nm,0.6s,mb5.1	32.51	336	eP	P	01 39 59.8	0.0
GKN	Gorkha 13nm,0.5s,mb5.2	32.97	335	eP	P	01 40 03.9	+0.2
KOLN	Koldanda 28nm,0.7s,mb5.3	33.22	333	eP	P	01 40 06.3	+0.4
WRA	Warramunga Arr 3.4nm,0.5s,mb4.4,baz=303,slow=9.1,SNR=31	38.32	121	P	P	01 40 48.9	-0.4
WRAB	Tennant Creek 6.9nm,0.5s,mb4.6	38.33	121	eP	P	01 40 48.9	-0.4
WB2	Warramunga Arr	38.33	121	eP	P	01 40 48.7	-0.6
ASPA	Alice Springs	39.59	126	eP	P	01 40 58.9	-0.8
ASAR	Alice Springs 2.6nm,0.7s,mb4.0,baz=302,slow=7.8,SNR=23	39.59	126	P	P	01 40 59.9	+0.2
ASAR				PcP	PcP	01 43 08.1	+0.8
ASAR	2.6nm,0.8s,baz=304,slow=2.9,SNR=8.6			LR	LR	01 58 39.4	
WMQ	comp=Z,58nm,19.6s,MS3.4,baz=20,slow=38 Urumqi	46.64	348	eP	P	01 41 58.0	+1.2
STKA	Stephens Creek 5.6nm,0.9s,mb4.6	49.49	132	eP	P	01 42 19.1	0.0
STKA	Stephens Creek 2.2nm,0.8s,mb4.3,baz=304,slow=3.3,SNR=7.7	49.49	132	P	P	01 42 19.4	+0.3
AAK	Ala-Archa 3.2nm,0.8s,mb4.4	49.72	336	eP	P	01 42 20.5	-0.3
SONM	Songino Array 2.4nm,0.7s,mb4.3,baz=190,slow=9.6,SNR=12	49.72	6	P	P	01 42 21.4	+0.7
SONM				PcP	PcP	01 43 41.9	+0.2
ULN	1.9nm,0.6s,baz=190,slow=5.4,SNR=4.4 Ulaanbaatar	49.82	6	eP	P	01 42 21.7	+0.2
MKAR	3.7nm,0.8s,mb4.5 Makanchi Array	50.73	345	P	P	01 42 28.8	+0.4
ZAL	6.1nm,0.6s,mb4.7,baz=149,slow=8.0,SNR=65 Zalesovo	56.88	349	P	P	01 43 12.9	-0.6
BVAR	8.6nm,0.4s,mb5.1,baz=315,slow=4.1,SNR=23 Borovoye Array	59.87	340	P	P	01 43 33.2	-1.3
CHKZ	4.0nm,0.7s,mb4.6,baz=147,slow=8.8,SNR=27 Chkalovo	60.34	341	eP	P	01 43 35.2	-2.4
KMBO	5.0nm,0.7s,mb4.7 Kilima Mbogo	62.49	270	P	P	01 43 53.4	+0.7
KMBO	3.0nm,0.8s,mb4.5,baz=69,slow=10,SNR=14			LR	LR	02 07 44.3	
KMBO	comp=Z,69nm,18.1s,MS3.9,baz=221,slow=33 Kilima Mbogo	62.49	270	P	P	01 43 53.4	+0.7
ASF	Jabal al Asfar 3.3nm,0.8s,mb4.4,baz=323,slow=1.7,SNR=6.0	68.25	306	P	P	01 44 28.9	-0.6
MALT	Malatya 3.1nm,0.8s,mb4.3	69.00	312	eP	P	01 44 33.1	-0.9
EIL	Elat 3.4nm,0.7s,mb4.4,baz=158,slow=5.4,SNR=3.5	69.19	303	P	P	01 44 35.0	-0.4
MAW	Mawson 5.8nm,1.0s,mb4.5,baz=17,slow=9.3,SNR=6.9	70.46	194	P	P	01 44 43.7	+1.2
BRTR	Keskin Array B 1.9nm,0.7s,mb4.2,baz=125,slow=7.7,SNR=12	72.98	312	P	P	01 44 56.5	-1.5
BOSA	Boshof 2.2nm,0.9s,mb4.1,baz=83,slow=22,SNR=4.2	75.57	241	P	P	01 45 12.9	-0.3
IDI	Anoyia 4.3nm,0.7s,mb4.5,baz=83,slow=7.3,SNR=9.2	78.70	306	P	P	01 45 30.9	+0.3
AKASG	Malin Array Be 0.7nm,0.5s,mb3.9,baz=99,slow=4.5,SNR=7.9	79.15	322	P	P	01 45 31.4	-1.3
AKASG	Malin Array Be	79.15	322	P	P	01 45 31.4	-1.3
MLR	Muntele Rosu 7.0nm,0.8s,mb4.6,baz=158,slow=1.6,SNR=14	79.96	317	P	P	01 45 37.5	+0.3
JOF	Joensuu	81.89	335	ep	P	01 45 46.7	-0.3
VNDA	Vanda 1.5nm,0.9s,mb3.9,baz=303,slow=11,SNR=6.6	82.45	169	P	P	01 45 49.6	0.0
FINES	FINESS Array B 3.4nm,0.5s,mb4.7,baz=106,slow=5.6,SNR=61	83.78	332	P	P	01 45 57.3	+0.6
KAF	Kangasniemi 5.0nm,0.6s,mb4.8,baz=100,slow=4.7	83.86	333	ep	P	01 45 56.7	-0.3
ARCES	ARCESS Array B 3.6nm,0.8s,mb4.7,baz=80,slow=7.4,SNR=9.3	86.16	340	P	P	01 46 09.4	+1.1
BRG	Berggiesshubel 4.4nm,0.9s,mb4.8	88.70	321	eP	P	01 46 22.6	+1.6
GERES	GERESS Array B 1.1nm,0.6s,mb4.3,baz=92,slow=3.3,SNR=12	88.71	319	P	P	01 46 21.9	+0.8
CLL	Collm	89.33	321	P	P	01 46 24.0	0.0
HFS	Hagfors 1.2nm,0.4s,mb4.6,baz=124,slow=5.3,SNR=18	89.54	330	P	P	01 46 26.2	+1.4
GRA1	Grafenberg Arr 4.0nm,1.1s,mb4.7	90.38	320	eP	P	01 46 30.3	+1.4
GRF	Grafenberg Arr 4.0nm,1.1s,mb4.7	90.38	320	eP	P	01 46 30.3	+1.4
NB2	NORSAR Subarra 0.9nm,0.8s,mb4.2,baz=92,slow=4.8	90.82	331	P	P	01 46 30.7	0.0
NOA	NORSAR Array B 0.6nm,0.7s,mb4.0,baz=86,slow=5.8,SNR=5.0	90.82	331	P	P	01 46 31.4	+0.7
DAVOX	Davos 4.1nm,0.6s,mb4.9,baz=99,slow=5.5,SNR=9.4	91.19	317	P	P	01 46 34.1	+1.3
YKA	Yellowknife Ar 0.2nm,0.1s,baz=357,slow=2.7,SNR=4.6	114.20	17	PKP	PKPdf	01 52 06.5	+1.0
LRV	Little Rabbit	128.93	43	eP	PKPdf	01 52 35.3	+0.6
MSU	Marysvale	133.18	35	ePKPdf	PKPdf	01 52 47.1	+4.4
CPUP	Villa Florida 13nm,0.8s,baz=148,slow=4.7,SNR=24	144.38	217	PKP	PKPdf	01 53 04.0	+0.8
TXAR	Lajitas Array 4.3nm,0.7s,baz=268,slow=1.1,SNR=61	144.65	37	PKP	PKPdf	01 53 05.3	+1.7
TXAR	Lajitas Array	144.65	37	PKP	PKPdf	01 53 05.3	+1.7
MIAR	Mount Ida	145.08	19	ePKP	PKPdf	01 53 05.8	+1.5
TZTN	Tazewell	145.25	5	ePKP	PKPdf	01 53 05.7	+1.3
JCT	Junction City	145.94	31	ePKPdf	PKPdf	01 53 09.1	+3.3
PLAL	Pickwick Lake	146.14	12	ePKPdf	PKPdf	01 53 07.5	+1.5
CPCT	Cooper Cave	146.24	6	ePKPdf	PKPdf	01 53 08.5	+2.3
SWET	Sewanee	146.29	8	ePKPdf	PKPdf	01 53 08.4	+2.2
LVC	Limon Verde 2.0nm,0.7s,baz=314,slow=1.8,SNR=4.4	153.38	204	PKPbc	PKPdf	01 53 28.5	+11
LVC				PKPab	PKPab	01 53 39.9	+0.1
SIV	3.7nm,0.9s,baz=318,slow=1.6,SNR=4.7 San Ignacio 1.7nm,0.7s,baz=94,slow=7.2,SNR=8.8	154.12	226	PKPbc	PKPdf	01 53 29.1	+10
LPAZ	La Paz 0.3nm,0.4s,baz=182,slow=7.7,SNR=4.0	158.45	213	PKP	PKPdf	01 53 27.6	+3.1
LPAZ				PKPab	PKPab	01 54 01.8	+0.3
	0.7nm,0.4s,baz=44,slow=8.4,SNR=3.7						

IDC 26 01:40:25.3±0.8, 6.81N×72.97W, h161km±13km, mb3.2/1, mb1 3.4/3, mb1mx3.0/22, mbtmp3.7/3, Error ellipse: s-maj=53.4km s-min=7.7km az=131.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal 9.7nm,0.3s,baz=268,slow=19,SNR=68	2.37	215	P	P	01 41 06.2	+0.3
ROSC				S	S	01 41 37.5	+0.5
SDV	22nm,0.3s,baz=51,slow=19,SNR=17 Santo Domingo 10.0nm,0.3s,baz=220,slow=4.8,SNR=33	3.10	48	P	P	01 41 15.9	+0.9
SDV				S	S	01 41 52.7	-0.5
	4.7nm,0.3s,baz=254,slow=22,SNR=11						
YKA	Yellowknife Ar 0.4nm,0.5s,baz=134,slow=6.7,SNR=23	63.33	340	P	P	01 50 36.8	-2.3
ASAR	Alice Springs 0.3nm,0.6s,baz=108,slow=3.3,SNR=3.9	149.23	234	PKPbc	PKPdf	01 59 55.2	+4.2
WRA	Warramunga Arr 0.3nm,0.4s,baz=114,slow=2.5,SNR=5.7	150.47	241	PKPbc	PKPdf	01 59 58.4	+5.4

*GUC **26** 01:53:36.4±0.8, 24.30S×67.47W, h193km±14km, ML3.4*
*NEIC **26** 01:53:36.6±0.9, 24.21S×67.18W, h190km±11km, mb3.8/1, Error ellipse: s-maj=28.2km s-min=13.0km az=79.0*
*IDC **26** 01:53:37.9±4.5, 24.06S×67.19W, h191km±35km, mb3.3/1, mb1 3.4/3, mb1mx3.1/15, mbtmp3.5/3, Error ellipse: s-maj=71.4km s-min=35.0km az=109.0*
ISC 26 01:53:36.3±1.0, 24.26S±0.06×67.4W±0.1, h203km±11km, n11, σ0§72/16, mb3.4/1, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.54	331	⇑iP	P	01 54 11.3	+0.3
SPCH				i S	S	01 54 38.2	+0.4
SPCH				AMP		01 54 39.7	
	comp=N,127nm,0.5s						
LVC	Limon Verde comp=N,22nm,0.3s,baz=137,slow=5.6,SNR=479	2.16	319	P	P	01 54 17.5	+0.4
LVC				S	S	01 54 48.7	+0.2
	comp=N,18nm,0.3s,baz=308,slow=20,SNR=21						
LVC	Limon Verde	2.16	319	⇑iP	P	01 54 17.5	+0.4
LVC				i S	S	01 54 48.7	+0.1
LVC				AMP		01 54 51.4	
	comp=E,125nm,0.5s						
CPN1	Cerro Paranal	2.78	262	i P	P	01 54 24.8	+0.7
CPN1				i S	S	01 55 00.8	-0.2
CPN1				AMP		01 55 07.5	
	comp=E,217nm,0.6s						
ANCH	Antofagasta	2.83	281	i P	P	01 54 25.5	+0.8
ANCH				i S	S	01 55 02.0	0.0
CRCH	Chaqaral	3.59	234	i S	S	01 55 17.0	-1.3
LPAZ	La Paz comp=E,0.3nm,0.3s,baz=175,slow=10,SNR=8.5	7.96	355	P	P	01 55 29.1	-0.8
LPAZ				S	S	01 56 57.5	-1.2
	comp=E,0.1nm,0.3s,baz=83,slow=19,SNR=2.6						
TRQA	Tornquist comp=E,2.5nm,0.6s	14.50	163	eP	P	01 56 53.0	-0.3
YKA	Yellowknife Ar comp=E,0.2nm,0.5s,mb3.4,baz=131,slow=4.7,SNR=8.0	94.25	340	P	P	02 06 34.0	+1.1
YKA	Yellowknife Ar	94.25	340	P	P	02 06 34.0	+1.1
MKAR	Makanchi Array comp=E,0.5nm,0.5s,baz=310,slow=1.7,SNR=6.5	146.94	40	PKPbc	PKPbc	02 12 56.3	+2.1

IDC 26 01:57:36.9±3.4, 2.70S×141.00E, mb3.5/3, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, ML3.8/1, MS3.4/2, Ms1 3.5/2, ms1mx2.9/24, Error ellipse: s-maj=97.9km s-min=30.4km az=93.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.05	138	LR	LR	02 03 28.6	
	comp=Z,151nm,19.3s,baz=82,slow=39						
WRA	Warramunga Arr 0.3nm,0.3s,baz=22,slow=11,SNR=6.1	18.33	200	P	P	02 01 52.0	-2.5
FITZ	Fitzroy Crossi 4.7nm,0.8s,baz=34,slow=11,SNR=4.3	21.47	223	P	P	02 02 26.9	-2.5
ASAR	Alice Springs 0.7nm,0.6s,baz=29,slow=9.7,SNR=6.0	21.95	198	P	P	02 02 32.1	-2.0
CMAR	Chiang Mai Arr comp=Z,64nm,19.1s,baz=118,slow=37	46.42	299	LR	LR	02 25 57.4	
MKAR	Makanchi Array 0.5nm,0.8s,baz=100,slow=7.4,SNR=3.8	71.18	322	P	P	02 08 58.3	-1.3

*WAR **26** 01:58:49.0, 50.07N×18.42E, h0km, ML2.5, Mining Induced*
*PRU **26** 01:58:49.9, 50.12N×18.32E*
ISC 26 01:58:48.0±0.5, 50.08N±0.03×18.39E±0.04, n16, σ1§22/32, 3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.13	271	⇓iPG	Pg	01 58 52.8	+2.3
RAC				⇓eSG	Sg	01 58 56.8	+4.6
RAC	Raciborz	0.13	271	⇓iPg	Pg	01 58 52.8	+2.3
RAC				eSg	Sg	01 58 55.7	+3.5
OKC	Ostrava-Krasne	0.29	213	ePG	Pg	01 58 55.1	+1.4
OKC				eSG	Sg	01 58 59.7	+2.1
	126nm,0.6s						
OJC	Ojcow	0.92	81	ePG	Pg	01 59 06.0	-0.2
OJC				eSG	Sg	01 59 19.0	+0.5
LIKS	Likavka	1.13	155	eSN	Sn	01 59 27.3	-0.1
DPC	Dobruska-Polom	1.36	282	ePG	Pg	01 59 14.6	-0.4
DPC				eSG	Sg	01 59 32.5	-0.6
	58nm,0.5s						
NIE	Niedzica	1.41	117	ePG	Pg	01 59 16.0	-0.1
NIE				eSG	Sg	01 59 35.0	0.0
KOLL	Kolacno	1.50	180	eSN	Sn	01 59 36.7	-0.1
KSP	Ksiaz	1.54	300	ePn	Pn	01 59 16.8	0.0
KSP				ePg	Pg	01 59 19.1	+0.4
KSP				eSn	Sn	01 59 38.4	+0.5
KSP				eSg	Sg	01 59 41.2	+1.9
VYHS	Vyhne	1.61	169	ePN	Pn	01 59 17.9	+0.1
VYHS				eSN	Sn	01 59 39.0	-0.7
SMOL	Smolenice	1.69	202	ePN	Pn	01 59 19.5	+0.6
SMOL				eSN	Sn	01 59 41.0	-0.6
CRVS	Cervenica-Dubn	2.32	119	ePN	Pn	01 59 32.1	+4.1
CRVS				eSN	Sn	02 00 02.8	+5.1
PRU	Pruhonice	2.48	269	ePN	Pn	01 59 29.2	-1.1
PRU				ePG	Pg	01 59 33.9	-3.6
PRU				eSG	Sg	02 00 06.7	-3.9
	4.5nm,0.2s						
PVCC	Panska Ves	2.49	282	ePG	Pg	01 59 35.2	-2.5
KHC	Kasperske Hory	3.27	255	ePN	Pn	01 59 39.0	-2.5
KHC				ePG	Pg	01 59 49.0	-4.3
KHC				eSG	Sg	02 00 33.1	-3.8
	8.2nm,0.4s						
MOA	Molln	3.52	232	i	Pn	01 59 49.7	+4.7

*IDC **26** 02:00:51.7±0.9, 7.12S×149.28E, mb4.2/11, mb1 4.5/13, mb1mx4.4/17, mbtmp4.3/13, ML4.2/2, MS3.2/1, Ms1 3.2/1, ms1mx2

JIRN	Jiri	70.12	303	eP	P	02 12 05.6	-0.3
	5.4nm,0.5s,mb4.7						
GUN	Gumba	70.47	303	eP	P	02 12 08.5	+0.6
	11nm,0.7s,mb4.9						
VNDA	Vanda	70.60	177	P	P	02 12 08.4	+0.4
	0.8nm,0.7s,mb3.8,baz=304,slow=4.0,SNR=6.4						
PKI	Pulchoki	70.75	302	eP	P	02 12 06.1	-3.6
GKN	Gorkha	71.53	303	eP	P	02 12 14.6	+0.2
	8.4nm,0.5s,mb4.9						
KOLN	Koldanda	72.33	302	eP	P	02 12 19.4	+0.3
	5.7nm,0.7s,mb4.6						
PTCN	Pitcairn Islan	78.46	114	eP	P	02 12 49.1	-5.2
	135nm,0.6s						
MKAR	Makanchi Array	79.90	320	P	P	02 13 02.1	+0.5
	0.9nm,0.8s,mb3.8,baz=104,slow=5.0,SNR=7.8						
MKAR	Makanchi Array	79.90	320	P	P	02 13 02.1	+0.5
ZAL	Zalesovo	81.27	327	P	P	02 13 08.1	-0.7
	1.0nm,0.3s,mb4.2,baz=24,slow=8.6,SNR=3.1						
ZAL	Zalesovo	81.27	327	P	P	02 13 08.1	-0.7
AAK	Ala-Archa	83.83	314	eP	P	02 13 22.1	-0.1
	1.7nm,0.8s,mb4.2						
ILAR	Eielson Array	85.67	23	P	P	02 13 32.0	+1.2
	1.0nm,0.6s,mb4.2,baz=252,slow=5.3,SNR=18						
BVAR	Borovoye Array	89.10	324	P	P	02 13 47.4	-0.2
	1.2nm,0.7s,mb4.3,baz=101,slow=7.6,SNR=4.8						
CHKZ	Chkalovo	89.12	324	eP	P	02 13 48.1	+0.4
	0.9nm,0.6s,mb4.3						
WVOR	Wild Horse Val	96.29	48	eP	P	02 14 21.3	+0.4
	1.1nm,0.4s,mb4.6						
GERES	GERESS Array B	124.20	326	PKP	PKPdf	02 19 52.8	+2.7
	0.4nm,0.6s,baz=45,slow=1.9,SNR=5.4						
SCHQ	Schefferville	124.39	24	PKP	PKPdf	02 19 52.9	+2.6
	2.5nm,0.8s,baz=267,slow=3.1,SNR=3.5						

*CSEM **26** 02:01:44.8±0.1, 42.64N×20.30E, h5km, ML2.7, Error ellipse: s-maj=2.0km s-min=1.7km az=103.0*
*PDG **26** 02:01:45.2±0.2, 42.66N×20.30E, h4km±6km*
*BEO **26** 02:01:46.0±0.3, 42.67N×20.22E, h8km*
*NEIC **26** 02:01:45.2, 42.66N×20.30E, h4km, ML2.7(PDG), After PDG.*

ISC 26 02:01:45.3±0.6, 42.67N±0.02×20.28E±0.04, h8km, n21, σ1§38/39, 6C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	Plav	0.24	252	⇑iPg	Pg	02 01 49.7	-0.6
PVY				eSg	Sg	02 01 53.5	0.0
BCI	Bajram Curri	0.34	207	ePg	Pg	02 01 53.0	+0.7
BCI				i Sg	Sg	02 01 56.3	-0.6
IVA	Berane	0.34	306	⇑iPg	Pg	02 01 52.1	-0.3
IVA				eSg	Sg	02 01 57.6	+0.5
TTG	Podgorica	0.79	253	iPg	Pg	02 01 59.0	-2.2
TTG				eSg	Sg	02 02 12.3	+0.6
PLE	Pljevlja	0.93	316	ePg	Pg	02 02 03.1	-0.8
PLE				eSg	Sg	02 02 16.9	+0.6
NVSS	Nova Varos 2	0.94	333	⇑iPg	Pg	02 02 01.3	-2.9
NVSS				Sg	Sg	02 02 14.2	-2.6
NVSS	Nova Varos 2	0.94	333	Pg	Pg	02 02 01.3	-2.9
NVSS				Sg	Sg	02 02 14.1	-2.6
NKY	Niksic	0.95	279	⇓iPg	Pg	02 02 03.0	-1.4
NKY				eSg	Sg	02 02 18.7	+1.5
NKY	Niksic	0.95	279	⇓iPg	Pg	02 02 03.0	-1.4
ULC	Ulcinj	1.04	228	ePg	Pg	02 02 04.5	-1.6
ULC				eSg	Sg	02 02 20.9	+0.9
BUM	Brajici-Budva	1.08	251	ePg	Pg	02 02 05.4	-1.7
BUM				eSg	Sg	02 02 22.7	+1.1
SKO	Skopje	1.11	129	ePn	Pn	02 02 08.0	+0.9
QSH	Qafa e Shtames	1.18	194	i Pg	Pg	02 02 10.8	+1.9
QSH				i Sg	Sg	02 02 25.4	+0.7
QSH	Qafa e Shtames	1.18	194	ePg	Pg	02 02 10.8	+1.9
QSH				i Sg	Sg	02 02 25.4	+0.7
GRUS	Gruza	1.26	15	⇓iPg	Pg	02 02 09.4	-1.1
GRUS				Sg	Sg	02 02 29.1	+1.8
BRY	Bratogost	1.30	281	⇓iPg	Pg	02 02 09.1	-2.2
BRY				eSg	Sg	02 02 30.0	+1.4
HCY	Herceg Novi	1.33	261	ePg	Pg	02 02 09.9	-2.1
HCY				eSg	Sg	02 02 31.4	+1.5
BBLS	Bajina Basta -	1.36	332	⇑iPg	Pg	02 02 10.4	-2.0
BBLS				Sg	Sg	02 02 31.8	+1.3
DIVS	Divcibare	1.44	352	⇑iPn	Pn	02 02 12.6	+0.7
DIVS				Sg	Sg	02 02 34.5	+1.0
SVIS	Svilajnac	1.77	23	ePn	Pn	02 02 18.5	+2.0
SVIS				Sn	Sn	02 02 43.1	+3.8
GROS	Grobnik	5.10	320	⇓iP	Pn	02 03 03.3	-0.6

*CSEM **26** 02:14:16.1±0.5, 39.10N×28.59W, ML2.4, Error ellipse: s-maj=16.8km s-min=6.5km az=142.0, After PDA*
*PDA **26** 02:14:16.1±1.3, 39.10N×28.59W, MD3.0, ML2.4, Error ellipse: s-maj=16.9km s-min=3.6km az=136.0*

SVSA 26 02:14:16.1±1.3, 39.10N×28.59W, MD3.0, ML2.4, Error ellipse: s-maj=16.9km s-min=3.6km az=136.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	Santa Cruz	0.46	92	eP	Pg	02 14 24.3	-0.9
STGR				i S	Sg	02 14 31.0	-0.3
	122nm,0.1s						
PCED	Cedros	0.48	191	i P	Pg	02 14 24.8	-0.8
PCED				eS	Sg	02 14 31.7	-0.3
	404nm,0.4s						
CALA	Caldeira	0.52	190	eP	Pg	02 14 25.9	-0.7
HOR	Horta	0.57	183	eP	Pg	02 14 26.2	-1.3
HOR				eS	Sg	02 14 34.0	-1.2
PMAN	Manadas	0.61	140	eP	Pg	02 14 26.4	-1.8
PMAN				eS	Sg	02 14 34.6	-1.7
	139nm,0.2s						
PICO	Pico	0.61	168	i P	Pg	02 14 27.1	-1.2
PSBA	Serra de Santa	1.04	108	eS	Sb	02 14 45.3	-5.4
	51nm,0.4s						
ASBA	Santa Barbara	1.05	111	eS	Sb	02 14 46.1	-5.0
	13nm,0.1s						
PPAD	Pico dos Padre	1.09	111	eS	Sb	02 14 47.1	-5.0
PBIS	Biscoitos	1.09	108	eS	Sb	02 14 47.4	-4.9
PVNV	Vila Nova	1.17	106	eS	Sb	02 14 49.2	-5.2
	11nm,0.3s						
RIB2	Ribeirinha	1.18	111	erx		02 14 48.6	

*IDC **26** 02:14:20.8±3.2, 5.29S×155.02E, h102km±32km, mb3.9/11, mb1 4.1/13, mb1mx4.0/20, mbtmp4.3/13, MS3.4/3, Ms1 3.4/3, ms1mx2.9/22, Error ellipse: s-maj=28.2km s-min=14.4km az=168.0*
*NEIC **26** 02:14:20.9±1.6, 5.33S×155.01E, h106km±17km, mb4.4/4, Error ellipse: s-maj=20.0km s-min=10.9km az=155.0*

ISC 26 02:14:20.3±2.3, 5.3S±0.1×155.04E±0.06, h117km±23km, n22, σ0§93/21, mb4.1/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.34	130	P	P	02 15 52.2	-0.5
	35nm,0.3s,baz=198,slow=1.9,SNR=7.2						
HNR				S	S	02 17 04.6	+0.4
	110nm,0.3s,baz=142,slow=22,SNR=1.8						
PMG	Port Moresby	8.80	242	P	P	02 16 25.4	-0.5
	10.0nm,0.3s,baz=66,slow=7.9,SNR=21						
PMG				S	S	02 18 05.4	+1.5
	4.3nm,0.3s,baz=156,slow=19,SNR=4.5						
CTA	Charters Tower	16.97	209	LR	LR	02 23 24.1	
	comp=Z,112nm,21.9s,baz=48,slow=32						
WRAB	Tennant Creek	24.81	232	eP	P	02 19 31.2	-2.0
	9.7nm,0.7s,mb4.3						
WB2	Warramunga Arr	24.82	232	eP	P	02 19 33.9	+0.6
WRA	Warramunga Arr	24.83	232	P	P	02 19 34.4	+1.1
	4.4nm,0.5s,mb4.2,baz=55,slow=9.8,SNR=47						
ASAR	Alice Springs	27.32	226	P	P	02 19 56.0	-0.4
	0.5nm,0.4s,mb3.4,baz=55,slow=9.2,SNR=7.1						
ASAR				LR	LR	02 30 30.9	
	comp=Z,81nm,20.2s,baz=91,slow=36						
STKA	Stephens Creek	29.25	204	LR	LR	02 31 15.8	
	comp=Z,111nm,21.9s,baz=292,slow=35						
FITZ	Fitzroy Crossi	31.39	244	eP	P	02 20 31.3	-1.4
	6.4nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	31.39	244	P	P	02 20 30.6	-2.1
	4.7nm,0.6s,mb4.4,baz=96,slow=2.7,SNR=6.5						
NWAO	Narrogin (SRO)	44.63	227	P	P	02 22 18.5	-4.5
CMAR	Chiang Mai Arr	60.13	295	P	P	02 24 18.4	+0.2
	1.7nm,0.6s,mb4.2,baz=114,slow=5.0,SNR=7.0						
SONM	Songino Array	67.98	327	P	P	02 25 08.7	-0.3
	0.7nm,0.6s,mb3.6,baz=166,slow=5.9,SNR=4.1						
BILL	Bilibino	73.63	4	eP	P	02 25 41.9	-0.5
	7.7nm,0.9s,mb4.4						
ILAR	Eielson Array	81.82	22	P	P	02 26 27.5	-0.1
	1.9nm,0.9s,mb3.9,baz=250,slow=5.1,SNR=15						
MKAR	Makanchi Array	82.20	319	P	P	02 26 30.4	+0.5
	1.1nm,0.5s,mb4.0,baz=90,slow=6.9,SNR=19						
ZAL	Zalesovo	82.85	326	P	P	02 26 32.9	-0.2
	0.7nm,0.5s,mb3.7,baz=298,slow=11,SNR=3.9						
INK	Inuvik	88.16	21	P	P	02 26 60.0	+1.1
	1.2nm,0.5s,mb4.2,baz=264,slow=4.8,SNR=9.9						
CHKZ	Chkalovo	90.96	324	eP	P	02 27 11.4	-0.9
	1.6nm,0.7s,mb4.3						
BVAR	Borovoye Array	91.01	323	P	P	02 27 12.4	-0.1
	2.0nm,0.8s,mb4.3,baz=127,slow=7.4,SNR=11						
YKA	Yellowknife Ar	94.86	28	P	P	02 27 31.7	+1.8
	1.5nm,0.8s,mb4.5,baz=266,slow=4.6,SNR=29						
GERES	GERESS Array B	125.66	329	PKP	PKPdf	02 33 11.6	+3.3
	0.9nm,0.7s,baz=135,slow=1.9,SNR=7.1						

IDC 26 03:04:41.5±3.5, 0.85N×97.21E, mb3.7/3, mb1 3.9/4, mb1mx3.5/18, mbtmp3.7/4, Error ellipse: s-maj=137.2km s-min=25.4km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.58	5	P	P	03 08 48.9	-0.8
	baz=191,slow=11,SNR=4.7						
WRA	Warramunga Arr	41.84	122	P	P	03 12 32.7	-2.5
	1.0nm,0.8s,baz=298,slow=7.9,SNR=3.6						
ASAR	Alice Springs	43.18	127	P	P	03 12 45.4	-0.7
	0.5nm,0.6s,baz=300,slow=8.2,SNR=5.6						
MKAR	Makanchi Array	47.58	346	P	P	03 13 18.6	-2.3
	0.7nm,0.7s,baz=161,slow=7.6,SNR=7.1						

*NEIC **26** 03:13:32.3, 9.15N×70.08W, h3km, MW3.6(CAR), After CAR.*

FUNV 26 03:13:32.3, 9.15N×70.08W, h3km, MW3.0, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	0.60	244	eP	Pg	03 13 43.9	-0.4
SDV				i S	Sg	03 13 51.3	-1.1
SANV	Sanarito	0.64	57	eP	Pg	03 13 45.0	-0.2
SANV				eS	Sg	03 13 53.4	-0.4
CURV	Curarigua	0.86	8	eP	Pg	03 13 48.2	-1.3
CURV				eS	Sg	03 14 00.5	-0.6
QARV	Quebrada Arrib	1.14	338	eP	Pb	03 13 52.7	-1.5
QARV				eS	Sb	03 14 09.6	+0.4
QARV	Quebrada Arrib	1.14	338	eP	Pb	03 13 53.7	-0.5
QARV				eS	Sb	03 14 09.6	+0.4
SOCV	Socops	1.15	222	eP	Pb	03 13 54.1	-0.4
SOCV				eS	Sb	03 14 09.3	-0.4
TEPV	Terepaima	1.19	47	eP	Pb	03 13 54.5	-0.7
TEPV				eS	Sb	03 14 11.9	+1.0
VIGV	El Vigia	1.30	256	eP	Pb	03 13 57.1	0.0
VIGV				eS	Sb	03 14 13.5	-0.5
SIQV	Siquisique	1.51	10	eP	Pn	03 14 00.2	-0.2
SIQV				eS	Sb	03 14 20.4	+0.2
DABV	Dabajuro	1.84	343	eS	Sn	03 14 28.5	-0.7
BAUV	El Baul	2.03	96	eP	Pn	03 14 07.0	-0.8
BAUV				eS	Sn	03 14 32.8	-1.2
ELOV	Elorza	2.22	164	eP	Pn	03 14 09.5	-1.0
ELOV				eS	Sn	03 14 37.1	-1.6
JACV	Jacura	2.29	33	eP	Pn	03 14 10.5	-1.0
JACV				eS	Sn	03 14 38.2	-2.3
TURV	Turiamo	2.56	60	eP	Pn	03 14 13.3	-2.1
TURV				eS	Sn	03 14 44.0	-3.5
VIRV	Villa del Rosa	2.65	301	eP	Pn	03 14 15.1	-1.7
VIRV				eS	Sn	03 14 46.9	-2.9
MONV	Montecano	2.79	2	eP	Pn	03 14 17.6	-1.0
MONV				eS	Sn	03 14 50.2	-3.1
BIRV	Birongo	3.98	70	eP	Pn	03 14 32.4	-3.2
CAOV	Caicara del Or	4.14	116	eP	Pn	03 14 35.3	-2.6
CUPV	Cœpira	4.33	78	eP	Pn	03 14 38.2	-2.3

IDC 26 03:15:41.1±11.0, 0.40N×98.43E, mb3.4/3, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=618.8km s-min=28.5km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.57	122	P	P	03 23 22.7	-1.5
	0.3nm,0.5s,baz=302,slow=9.0,SNR=6.1						
ASAR	Alice Springs	41.93	127	P	P	03 23 33.6	-1.8
	0.3nm,0.7s,baz=300,slow=7.3,SNR=2.7						
MKAR	Makanchi Array	48.32	345	P	P	03 24 24.2	-2.0
	0.4nm,0.5s,baz=156,slow=8.9,SNR=8.3						

*CSEM **26** 03:17:01.3±0.6, 39.04N×28.54W, h33km, ML2.7, Error ellipse: s-maj=17.9km s-min=6.5km az=143.0*
*PDA **26** 03:17:03.2±1.2, 39.10N×28.58W, MD3.3, ML2.7, Error ellipse: s-maj=9.0km s-min=3.2km az=143.0*

SVSA 26 03:17:03.2±1.2, 39.10N×28.58W, MD3.3, ML2.7, Error ellipse: s-maj=9.0km s-min=3.2km az=143.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	Santa Cruz	0.45	92	eP	Pg	03 17 11.4	-0.8
STGR				i S	Sg	03 17 18.2	-0.1
	225nm,0.3s						
STGR	Santa Cruz	0.45	92	eP	Pg	03 17 11.4	-0.8
STGR				i S	Sg	03 17 18.2	-0.1
	225nm,0.3s						
PCED	Cedros	0.48	191	i P	Pg	03 17 12.0	-0.8
PCED				eS	Sg	03 17 18.7	-0.5
	651nm,0.2s						
PCED	Cedros	0.48	191	eS	Sg	03 17 18.7	-0.5
	651nm,0.2s						
CALA	Caldeira	0.53	190	eP	Pg	03 17 12.9	-0.8
HOR	Horta	0.57	184	eP	Pg	03 17 13.3	-1.4
HOR				eS	Sg	03 17 21.5	-0.8
PMAN	Manadas	0.61	140	i P	Pg	03 17 13.6	-1.7
PMAN				eS	Sg	03 17 21.6	-1.8
	293nm,0.1s						
PMAN	Manadas	0.61	140	eS	Sg	03 17 21.6	-1.8
	293nm,0.1s						
PICO	Pico	0.61	168	i P	Pg	03 17 14.1	-1.3
PSBA	Serra de Santa	1.04	108	erx		03 17 31.1	
ASBA	Santa Barbara	1.05	111	eS	Sb	03 17 33.1	-5.1
	24nm,0.2s						
PPAD	Pico dos Padre	1.09	111	eS	Sb	03 17 33.8	-5.4
PBIS	Biscoitos	1.09	108	eS	Sb	03 17 34.6	-4.7
	23nm,0.2s						
PVNV	Vila Nova	1.16	106	eS	Sb	03 17 36.1	-5.3
RIB2	Ribeirinha	1.18	111	eS	Sb	03 17 35.8	-6.1
PFAV	Pico das Favas	1.23	108	eS	Sb	03 17 37.7	-5.7

WEL 26 03:33:11.2±0.2, 39.50S×174.86E, h149km±2km, ML3.7/5, 2C, Error ellipse: s-maj=1.7km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.28	159	⇑PN	P	03 33 32.0	0.0
WAZ				SN	S	03 33 47.8	0.0
VRZ	Vera Road	0.38	348	PN	P	03 33 31.4	-0.9
VRZ				SN	S	03 33 46.9	-1.7
RAEZ	Rainy Point	0.41	300	PN	P	03 33 31.7	-0.8
MTVZ	Mangateitei	0.49	77	PN	P	03 33 32.3	-0.5
MTVZ				SN	S	03 33 48.2	-1.2
FWVZ	Far West T-bar	0.59	66	PN	P	03 33 33.0	-0.4
FWVZ				SN	S	03 33 48.7	-1.6
WNVZ	Wahianoa	0.60	74	PN	P	03 33 33.0	-0.4
WNVZ				SN	S	03 33 49.2	-1.2
WPVZ	Whakapapa	0.61	62	PN	P	03 33 32.9	-0.5
WPVZ				SN	S	03 33 49.1	-1.4
CNZ	Chateau	0.61	61	PN	P	03 33 32.9	-0.5
TWVZ	Taurewa	0.62	47	PN	P	03 33 32.6	-0.9
TWVZ				SN	S	03 33 48.6	-2.0
NEZ	North Egmont	0.63	291	PN	P	03 33 33.0	-0.6
TUVZ	Tukino	0.66	70	PN	P	03 33 33.5	-0.2
TUVZ				SN	S	03 33 49.5	-1.5
NGZ	Ngauruhoe	0.66	61	PN	P	03 33 33.2	-0.6
WTVZ	West Tongariro	0.68	57	PN	P	03 33 33.2	-0.6
WTVZ				SN	S	03 33 49.7	-1.5
MOVZ	Moawhango	0.70	83	PN	P	03 33 33.2	-0.8
MOVZ				SN	S	03 33 48.9	-2.5
OTVZ	Oturere	0.71	63	ePN	P	03 33 33.7	-0.4
MGZ	Maungaku	0.72	47	PN	P	03 33 33.5	-0.6
PKE	Pukeiti	0.74	294	PN	P	03 33 33.5	-0.7
NWEZ	Newall Road	0.80	286	PN	P	03 33 34.0	-0.6
TSZ	Takapari Road	1.02	124	⇑PN	P	03 33 36.3	+0.1
TSZ				SN	S	03 33 54.8	-0.7
MRZ	Mangatainoka R	1.29	155	PN	P	03 33 38.5	-0.3
MRZ				SN	S	03 33 58.5	-1.6
BKZ	Black Stump Fm	1.31	76	PN	P	03 33 38.2	-0.9
BKZ				SN	S	03 33 57.5	-3.0
KIW	Kapiti Island	1.37	178	PN	P	03 33 39.2	-0.4
DUWZ	D'Urville Isla	1.49	208	PN	P	03 33 40.2	-0.7
CAW	Cannon Point	1.62	174	PN	P	03 33 41.9	-0.4
MTW	Mount Morrison	1.73	164	PN	P	03 33 42.8	-0.8
TCW	Tory Channel	1.77	194	PN	P	03 33 43.4	-0.6
BHW	Baring Head	1.91	180	PN	P	03 33 44.7	-0.8
PAWZ	Paruwai Farm	1.94	167	PN	P	03 33 45.1	-0.7
MSWZ	Moikau Station	1.94	171	PN	P	03 33 45.1	-0.8
TUWZ	Tuamarina	2.06	199	PN	P	03 33 46.1	-1.2
NNZ	Nelson	2.06	213	PN	P	03 33 46.0	-1.3
URZ	Urewera	2.15	56	PN	P	03 33 45.7	-2.7
KNZ	Kokohu	2.24	79	ePN	P	03 33 47.9	-1.7
BSWZ	Blackbirch Sta	2.34	198	ePN	P	03 33 49.8	-1.0
MWZ	Matawai	2.38	62	PN	P	03 33 48.7	-2.7

*CSEM **26** 03:35:50.8±0.6, 37.57N×25.28W, ML3.0, Error ellipse: s-maj=10.4km s-min=9.1km az=160.0, After PDA*
*PDA **26** 03:35:50.8±1.7, 37.57N×25.28W, MD2.9, ML3.0, Error ellipse: s-maj=16.1km s-min=6.8km az=91.0*

SVSA 26 03:35:50.8±1.7, 37.57N×25.28W, MD2.9, ML3.0, Error ellipse: s-maj=16.1km s-min=6.8km az=91.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRA1	Furnas	0.18	339	i P	Pg	03 35 55.6	+1.2
MIRA	Miradouro	0.21	359	i P	Pg	03 35 56.5	+1.4
MIRA				i S	Sg	03 35 58.9	+1.0
VIF	Vila Franca	0.22	323	i P	Pg	03 35 55.3	+0.2
VIF				i S	Sg	03 35 58.5	+0.5
	4μm,0.2s						
PCNG	Congro	0.22	334	i P	Pg	03 35 56.1	+1.0
PCNG				i S	Sg	03 35 59.1	+1.1
	2μm,0.1s						
PRCH	Ribeira Ch	0.23	314	i P	Pg	03 35 55.3	0.0
PRCH				i S	Sg	03 35 58.3	0.0
	5μm,0.3s						
MESC	Monte Escuro	0.26	329	eP	Pg	03 35 56.0	0.0
MESC				i S	Sg	03 35 59.7	+0.3
LFA	Lagoa do Fogo	0.26	321	i P	Pg	03 35 56.1	+0.1
PFAD	Fenais da Ajud	0.27	352	i P	Pg	03 35 57.3	+1.1
PFAD				i S	Sg	03 36 00.6	+0.8
PMAT	Coroa da Mata	0.29	328	eP	Pg	03 35 56.4	-0.2
PMAT				i S	Sg	03 36 00.2	-0.2
	688nm,0.2s						
CML	Cha da Macela	0.29	313	i P	Pg	03 35 56.1	-0.5
CML				i S	Sg	03 36 00.1	-0.4
PVER	Pico Vermelho	0.29	320	i P	Pg	03 35 56.1	-0.6
PDA	Ponta Delgada	0.35	300	i P	Pg	03 35 57.0	-0.9
PDA				i S	Sg	03 36 01.7	-0.9
FAC	Faja de Cima	0.36	304	i P	Pg	03 35 57.6	-0.4
FAC				i S	Sg	03 36 02.5	-0.3
PSAN	Santo Antonio	0.45	308	i P	Pg	03 35 59.1	-0.8
PFET	Feteiras	0.47	301	i P	Pg	03 35 59.4	-0.9
SET2	Ginetes	0.50	303	i P	Pg	03 35 59.8	-1.0
SET4	Mosteiros	0.51	306	eP	Pg	03 35 59.8	-1.3
PSMN	Pico do Norte,	0.59	164	i S	Sg	03 36 12.8	+2.3
PFAV	Pico das Favas	1.82	309	eS	Sn	03 36 40.1	-7.7
RIB2	Ribeirinha	1.86	307	eS	Sn	03 36 40.8	-7.8
	32nm,0.3s						
ADH	Angra Heroismo	1.89	306	eS	Sn	03 36 42.0	-7.4
PVNV	Vila Nova	1.90	309	eS	Sn	03 36 41.6	-8.2
	15nm,0.2s						
PPAD	Pico dos Padre	1.95	306	eS	Sn	03 36 43.1	-7.8
	16nm,0.3s						
ASBA	Santa Barbara	1.98	306	eS	Sn	03 36 43.2	-8.6
	15nm,0.2s						
PICO	Pico	2.66	291	i P	Pn	03 36 31.1	-4.5
PICO				eS	Sn	03 36 59.5	-9.4
CALA	Caldeira	2.89	291	eP	Pn	03 36 32.5	-6.4
CALA				eS	Sn	03 37 03.0	-12

IDC 26 03:39:06.0±4.3, 0.61N×98.15E, mb3.7/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=173.1km s-min=25.7km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.92	122	P	P	03 46 50.2	-1.8
	0.8nm,0.5s,baz=302,slow=9.0,SNR=4.8						
ASAR	Alice Springs	42.28	127	P	P	03 47 01.8	-1.6
	0.8nm,0.6s,baz=300,slow=8.2,SNR=6.6						
SONM	Songino Array	47.58	8	P	P	03 47 44.3	-1.2
	0.5nm,0.4s,baz=188,slow=8.7,SNR=3.6						
MKAR	Makanchi Array	48.04	345	P	P	03 47 46.5	-2.6
	0.6nm,0.7s,baz=154,slow=9.0,SNR=4.6						

IDC 26 03:42:13.3±2.3, 6.59S×129.86E, mb3.5/1, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=89.9km s-min=29.1km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.16	199	Pn	P	03 45 07.8	-3.1
	0.5nm,0.3s,baz=75,slow=18,SNR=11						
FITZ				Sn	S	03 47 05.8	-23
	1.0nm,0.3s,baz=264,slow=19,SNR=5.4						
WRA	Warramunga Arr	13.97	162	Pn	P	03 45 32.4	-2.6
	0.5nm,0.3s,baz=345,slow=13,SNR=11						
WRA				Sn	S	03 47 54.9	-17
	0.4nm,0.3s,baz=333,slow=22,SNR=5.7						
ASAR	Alice Springs	17.42	168	P	P	03 46 18.3	-1.2
	0.1nm,0.3s,baz=343,slow=9.0,SNR=4.0						
ASAR				S	S	03 49 18.4	-14
	0.1nm,0.3s,baz=332,slow=21,SNR=3.7						
MKAR	Makanchi Array	67

OUR	**Ouranopolis**	**2.13**	**44**	*e*Pn	**Pn**	**03 47 45.8**	**-0.2**
VLI	**Veliai**	**2.21**	**161**	*e*PB	**Pb**	**03 47 47.4**	**-2.1**

IDC 26 03:47:25.6±7.3,49.27S×127.83E,mb3.9/3,mb1 4.1/3, mb1mx3.8/12,mbtmp3.9/3,MS3.7/2,Ms1 3.8/2, ms1mx3.1/26,Error ellipse: s-maj=535.9km s-min=25.0km az=90.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**26.00**	**13**	P	P	03 53 00.3	-1.4
	1.5nm,0.5s,baz=187,slow=9.1,SNR=25						
WRA	**Warramunga Arr**	**29.72**	**12**	P	P	03 53 33.1	-2.5
	0.5nm,0.8s,baz=190,slow=10,SNR=3.6						
VNDA	**Vanda**	**31.17**	**166**	P	P	03 53 45.7	-2.1
	1.1nm,0.7s,baz=320,slow=8.3,SNR=10						
VNDA				LR	LR	04 04 58.5	
	comp=Z,86nm,18.2s,baz=320,slow=34						
CMAR	**Chiang Mai Arr**	**72.15**	**331**	LR	LR	04 29 48.5	
	comp=Z,56nm,19.5s,baz=353,slow=35						
YKA	**Yellowknife Ar**	**144.09**	**45**	PKP	PKPdf	04 07 00.9	-2.7
	0.2nm,0.9s,baz=270,slow=1.9,SNR=2.9						

*ATH **26** 03:50:29.6, 39.79N×22.09E, h30km± 19km, MD2.9/3*
*CSEM **26** 03:50:30.1±0.3, 39.75N×22.14E, h5km, ML2.6, Error ellipse: s-maj=7.2km s-min=3.3km az=40.0*
*THE **26** 03:50:32.3, 39.83N×22.25E, h18km, ML2.6*
ISC 26 03:50:31.0±0.7,39.82N±0.04×22.21E±0.05,h30km±7km, n8,σ1§35/15,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	**Litokhoron**	**0.35**	**37**	*e*Pg	**Pb**	**03 50 38.3**	**-1.0**
LIT				*e*Sg	**Sb**	**03 50 45.4**	**+0.5**
KZN	**Kozani**	**0.59**	**325**	*e*PN	**Pn**	**03 50 41.6**	**-1.7**
KZN				*e*SN	**Sn**	**03 50 50.7**	**-1.3**
NEO	**Neokhori**	**0.93**	**123**	*e*PN	**Pn**	**03 50 49.0**	**+0.8**
NEO				*e*SN	**Sn**	**03 51 02.6**	**+2.0**
EVR	**Evrytania**	**0.95**	**199**	*e*PN	**Pn**	**03 50 47.0**	**-1.5**
EVR				*e*SN	**Sn**	**03 51 00.0**	**-1.1**
EVR	**Evrytania**	**0.95**	**199**	*e*Pn	**Pn**	**03 50 45.4**	**-3.1**
FNA	**Florina**	**1.16**	**327**	*e*Pg	**Pn**	**03 50 52.4**	**+1.0**
FNA				*e*Sg	**Sn**	**03 51 08.7**	**+2.4**
OUR	**Ouranopolis**	**1.45**	**69**	*e*Pb	**Pb**	**03 50 56.1**	**-1.2**
OUR				*e*Sb	**Sb**	**03 51 15.6**	**+0.1**
IGT	**Igoumenitsa**	**1.48**	**259**	*e*Pb	**Pb**	**03 50 57.7**	**-0.1**
IGT				*e*Sb	**Sb**	**03 51 18.3**	**+2.1**

*MOS **26** 04:05:45.8±1.0, 19.72N×109.27W, h10km, mb5.3/33, Error ellipse: s-maj=8.9km s-min=4.3km az=95.3*
*IDC **26** 04:05:45.8±0.6, 19.81N×109.35W, mb4.7/23, mb1 4.9/24, mb1mx4.8/27, mbtmp4.7/24, ML4.6/1, MS4.7/24, Ms1 4.7/24, ms1mx4.6/32, Error ellipse: s-maj=22.7km s-min=10.5km az=59.0*
*BJI **26** 04:05:47.3, 19.70N×109.30W, h10km, mB5.7, mb5.0, Msz5.0*
*HRVD **26** 04:05:47.3±0.2, 19.88N×109.21W, h12km, MW5.4/69, Centroid moment Tensor Solution. LP body waves: s63,c117;Mantle waves: s69,c137; Half duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.46±.03; $M_{\theta\theta}$-1.19±.02; $M_{\phi\phi}$1.66±.03; $M_{r\theta}$0.01±.06; $M_{\theta\phi}$-0.85±.02; $M_{\phi r}$0.29±.07; Best double couple: $M_0$1.679×10^{17} NP1: ϕ_s299°,δ81°,λ179°. NP2:ϕ_s30°,δ89°,λ9°. Principal axes: T 1.926, Plg7°, Azm255°; N -.488, Plg81°, Azm36°; P -1.431, Plg5°, Azm164°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 04:05:47.3±0.3, 19.69N×109.28W, h10km, mb5.2/78, MS4.6/91, MW5.6 Error ellipse: s-maj=6.0km s-min=3.3km az=224.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.21; $M_{\theta\theta}$-2.28; $M_{\phi\phi}$2.49; $M_{r\theta}$0.13; $M_{\theta\phi}$-1.74; $M_{\phi r}$-0.68; Best double couple: $M_0$3×10^{17} NP1: ϕ_s116°,δ81°,λ173°. NP2:ϕ_s207°,δ83°,λ9°. Principal axes: T 3.19, Plg11°, Azm72°; N -.35, Plg78°, Azm242°; P -2.85, Plg2°, Azm342°:*
*MEX **26** 04:05:49.6±3.3, 19.76N×109.12W, h16km±53km, MD5.1*
ISC 26 04:05:46.0±0.3,19.74N±0.04×109.22W±0.04,h10km, n345,σ1§07/276,mb5.0/86,MS4.7/113,20C-81D,Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**3.94**	**93**	*i* P	**Pn**	**04 06 44.6**	**-3.3**
CJM				*i* S	**Sn**	**04 07 29.6**	**-5.2**
CJM	**Chamela**	**3.94**	**93**	⇑*i*P	**Pn**	**04 06 44.9**	**-3.0**
CJM				*i* S	**Sn**	**04 07 29.6**	**-5.2**
LPIG	**La Paz**	**4.46**	**347**	*i* P	**Pn**	**04 06 52.0**	**-3.3**
LPIG				*i* S	**Sn**	**04 07 45.9**	**-2.0**
LPIG	**La Paz**	**4.46**	**347**	⇓*i*P	**Pn**	**04 06 52.8**	**-2.5**
LPIG				*i* S	**Sn**	**04 07 45.0**	**-2.9**
COLM	**Colima**	**5.24**	**95**	*i* P	**Pn**	**04 07 04.3**	**-2.1**
COLM				*i* S	**Sn**	**04 08 00.9**	**-6.8**
COLM	**Colima**	**5.24**	**95**	⇑*i*P	**Pn**	**04 07 04.4**	**-2.0**
COLM				*i* S	**Sn**	**04 08 00.9**	**-6.8**
SFJM	**Santa Fe**	**5.85**	**82**	*i* P	**Pn**	**04 07 16.0**	**+1.0**
SFJM	**Santa Fe**	**5.85**	**82**	*i* P	**Pn**	**04 07 13.5**	**-1.4**
ZIIG	**Zihuatanejo**	**7.65**	**105**	*i* P	**Pn**	**04 07 40.6**	**+0.4**
ZIIG	**Zihuatanejo**	**7.65**	**105**	*e*P	**Pn**	**04 07 38.1**	**-2.1**
ZIIG				*i* S	**Sn**	**04 09 01.4**	**-6.4**
ACX	**Acapulco**	**9.28**	**106**	*i* P	**P**	**04 08 04.6**	**+1.7**
ACX	**Acapulco**	**9.28**	**106**	*i* P	**P**	**04 08 04.1**	**+1.2**
PPM	**Popocatepetl**	**10.02**	**92**	*i* P	**P**	**04 08 14.2**	**+1.0**
PPM				*i* S	**S**	**04 10 11.6**	**+4.9**
PPM	**Popocatepetl**	**10.02**	**92**	*e*P	**P**	**04 08 11.2**	**-2.0**
PPM				*i* P		04 08 13.0	
PPM				*i* S	**S**	**04 10 01.6**	**-5.1**
LTX	**Lajitas**	**10.80**	**27**	⇑*e*P	**P**	**04 08 25.7**	**+1.8**
LTX				pmax	pmax		
	comp=Z,156nm,1.5s						
LTX	**Lajitas**	**10.80**	**27**	⇑*e*P	**P**	**04 08 25.7**	**+1.8**
	comp=Z,156nm,1.5s						
TXAR	**Lajitas Array**	**10.80**	**27**	Pn	**P**	**04 08 23.8**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=209,slow=14,SNR=161						
TXAR				Sn	**S**	**04 10 33.9**	**+7.9**
	baz=217,slow=33,SNR=2.5						
TXAR				LR	LR	04 13 09.2	
	comp=Z,716nm,18.1s,baz=65,slow=41						
TXAR	**Lajitas Array**	**10.80**	**27**	Pn	**P**	**04 08 23.8**	**-0.1**
TXAR				Sn	**S**	**04 10 33.9**	**+7.9**
TXAR				LR	LR	04 13 09.2	
IISM	**Ciudad Serdan**	**11.20**	**92**	*i* P	**P**	**04 08 30.8**	**+1.5**
IISM	**Ciudad Serdan**	**11.20**	**92**	*i* P	**P**	**04 08 29.6**	**+0.2**
OXX	**Oaxaca**	**12.15**	**101**	*i* P	**P**	**04 08 44.7**	**+2.5**
OXX	**Oaxaca**	**12.15**	**101**	*i* P	**P**	**04 08 41.8**	**-0.4**
MNTX	**Cornudas Mount**	**12.40**	**15**	⇓*e*P	**P**	**04 08 46.3**	**+0.8**
	comp=Z,102nm,1.5s						
TUC	**Tucson**	**12.60**	**354**	⇓*e*P	**P**	**04 08 49.4**	**+1.2**
TUC				pmax	pmax		
	comp=Z,243nm,1.3s						
TUC	**Tucson**	**12.60**	**354**	⇓*e*P	**P**	**04 08 49.4**	**+1.2**
	comp=Z,243nm,1.3s						
JCT	**Junction City**	**13.67**	**37**	⇑*i*P	**P**	**04 09 04.3**	**+1.9**
JCT				pmax	pmax		
	comp=Z,113nm,1.2s						
JCT	**Junction City**	**13.67**	**37**	⇑*i*P	**P**	**04 09 04.3**	**+1.9**
	comp=Z,113nm,1.2s						
CMIG	**Matias Romero**	**13.86**	**99**	*i* P	**P**	**04 09 04.1**	**-0.8**
BAR	**Barrett**	**14.52**	**334**	⇓*e*P	**P**	**04 09 13.0**	**-0.5**
PFO	**Pinyon Flat Ob**	**15.25**	**336**	⇓*e*P	**P**	**04 09 23.4**	**+0.3**
PFO				pmax	pmax		
	comp=Z,68nm,1.0s						
PFO	**Pinyon Flat Ob**	**15.25**	**336**	⇓*e*P	**P**	**04 09 23.4**	**+0.3**
	comp=Z,68nm,1.0s						
ANMO	**Albuquerque**	**15.35**	**9**	Pn	**P**	**04 09 26.4**	**+2.0**
ANMO				SnSn		04 12 25.9	
ANMO	**Albuquerque**	**15.35**	**9**	P	**P**	**04 09 26.5**	**+2.1**
ANMO				pmax	pmax		
	comp=Z,230nm,1.8s						
ANMO	**Albuquerque**	**15.35**	**9**	Pn	**P**	**04 09 26.1**	**+1.7**
	baz=192,slow=12,SNR=37						
ANMO				LR	LR	04 15 06.6	
	comp=Z,5μm,20.3s,baz=93,slow=37						
ANMO	**Albuquerque**	**15.35**	**9**	⇓*e*P	**P**	**04 09 26.2**	**+1.8**
	comp=Z,230nm,1.8s						
WUAZ	**Wupatki**	**15.84**	**354**	⇓*i*P	**P**	**04 09 32.8**	**+2.1**
	comp=Z,166nm,1.0s						
LDFC	**Landfair**	**16.15**	**342**	⇓*i*P	**P**	**04 09 36.9**	**+2.2**
MWC	**Mount Wilson**	**16.43**	**333**	⇓*e*P	**P**	**04 09 38.8**	**+0.5**
AMTX	**Amarillo**	**16.50**	**22**	⇓*e*P	**P**	**04 09 39.6**	**+0.4**
	comp=Z,46nm,1.0s						
NEN	**Nelson**	**16.61**	**344**	⇓*e*P	**P**	**04 09 41.8**	**+1.3**
NATX	**Nacogdoches**	**17.73**	**45**	⇓*e*P	**P**	**04 09 54.2**	**-0.5**
	comp=Z,2μm,2.1s						
DAC	**Darwin (Calif)**	**18.05**	**338**	⇓*e*P	**P**	**04 09 59.5**	**+0.9**
DAC				pmax	pmax		
	comp=Z,63nm,1.1s						
DAC	**Darwin (Calif)**	**18.05**	**338**	⇓*e*P	**P**	**04 09 59.5**	**+0.9**
	comp=Z,63nm,1.1s						
SDCO	**Great Sand Dun**	**18.23**	**9**	⇓*e*P	**P**	**04 10 02.3**	**+1.4**
	comp=Z,240nm,1.5s						
PV01	**Paradox Valley**	**18.34**	**2**	*e*P	**P**	**04 10 03.0**	**+0.8**
ARUT	**Antelope Range**	**18.36**	**349**	*e*P	**P**	**04 10 04.1**	**+1.6**
PV10	**Paradox Valley**	**18.57**	**0**	*e*P	**P**	**04 10 04.7**	**-0.4**
MVU	**Marysvale**	**18.88**	**353**	⇓*e*P	**P**	**04 10 09.5**	**+0.7**
	comp=Z,92nm,1.2s						
MSU	**Marysvale**	**18.89**	**353**	⇓*e*P	**P**	**04 10 09.7**	**+0.8**
SRU	**San Rafael**	**19.34**	**357**	*e*P	**P**	**04 10 13.7**	**-0.5**
TRCR	**Troy Canyon**	**19.35**	**345**	⇓*i*P	**P**	**04 10 14.6**	**+0.2**
MTUM	**Tungsten Hills**	**19.36**	**337**	*e*P	**P**	**04 10 14.8**	**+0.3**
TPH	**Tonopah**	**19.55**	**341**	⇓*e*P	**P**	**04 10 16.8**	**+0.1**
TPH				pmax	pmax		
	comp=Z,190nm,1.4s						
TPH	**Tonopah**	**19.55**	**341**	⇓*e*P	**P**	**04 10 16.8**	**+0.1**
	comp=Z,190nm,1.4s						
TMUT	**Trail Mountain**	**19.57**	**355**	*e*P	**P**	**04 10 16.7**	**-0.1**
LRV	**Little Rabbit**	**19.59**	**331**	*e*P	**P**	**04 10 17.1**	**0.0**
TEIG	**Tepich**	**19.69**	**85**	*e*P	**P**	**04 10 17.7**	**-0.6**
	comp=Z,132nm,1.8s						
OMM	**Old Mammoth Mi**	**19.75**	**336**	⇓*e*P	**P**	**04 10 18.9**	**0.0**
SAO	**San Andreas Ge**	**20.06**	**330**	⇓*e*P	**P**	**04 10 21.3**	**-1.0**
SAO				pmax	pmax		
	comp=Z,98nm,1.2s						
SAO				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.6						
SAO	**San Andreas Ge**	**20.06**	**330**	⇓*e*P	**P**	**04 10 21.3**	**-1.0**
	comp=Z,98nm,1.2s						
SAO				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
MNV	**Mina**	**20.18**	**339**	⇓*e*P	**P**	**04 10 23.5**	**0.0**
MNV				pmax	pmax		
	comp=Z,220nm,1.4s						
MNV				MLR	MLR		
	comp=Z,4μm,22.0s,MS4.7						
MNV	**Mina**	**20.18**	**339**	⇓*e*P	**P**	**04 10 23.5**	**0.0**
	comp=Z,220nm,1.4s						
MNV				LR	LR		
	comp=Z,4μm,22.0s,MS4.7						
NVAR	**Mina Array Bea**	**20.23**	**339**	P	**P**	**04 10 23.3**	**-0.7**
	comp=Z,95nm,1.0s,baz=151,slow=12,SNR=110						
NVAR				LR	LR	04 17 24.8	
	comp=Z,4μm,21.6s,MS4.7,baz=155,slow=35						
NVAR	**Mina Array Bea**	**20.23**	**339**	P	**P**	**04 10 23.3**	**-0.7**
NVAR				LR	LR	04 17 24.8	
MIAR	**Mount Ida**	**20.24**	**40**	*e*P	**P**	**04 10 22.6**	**-1.6**
MIAR				pmax	pmax		
	comp=Z,103nm,1.8s						
MIAR				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.5						
MIAR	**Mount Ida**	**20.24**	**40**	*e*P	**P**	**04 10 22.6**	**-1.6**
	comp=Z,103nm,1.8s						
MIAR				LR	LR		
	comp=Z,2μm,19.0s,MS4.5						
NLU	**North Lily Min**	**20.30**	**354**	*e*P	**P**	**04 10 25.1**	**+0.3**
MPU	**Maple Canyon**	**20.32**	**355**	⇓*e*P	**P**	**04 10 24.4**	**-0.5**
DUG	**Dugway**	**20.62**	**352**	⇓*e*P	**P**	**04 10 28.4**	**+0.3**
DUG				pmax	pmax		
	comp=Z,298nm,1.3s						
DUG	**Dugway**	**20.62**	**352**	⇓*e*P	**P**	**04 10 28.4**	**+0.3**
	comp=Z,298nm,1.3s						
CMB	**Columbia Colle**	**20.66**	**334**	P	**P**	**04 10 27.7**	**-0.8**
CMB				sS		04 14 27.5	
CMB	**Columbia Colle**	**20.66**	**334**	P	**P**	**04 10 27.5**	**-1.0**
CMB				pmax	pmax		
	comp=Z,91nm,1.2s						
CMB	**Columbia Colle**	**20.66**	**334**	⇓*e*P	**P**	**04 10 27.3**	**-1.2**
	comp=Z,69nm,1.2s						
CMB				LR	LR		
	comp=Z,2μm,22.0s,MS4.4						
DAU	**Daniels Canyon**	**20.68**	**356**	P	**P**	**04 10 29.0**	**+0.3**
DAU	**Daniels Canyon**	**20.68**	**356**	⇓*e*P	**P**	**04 10 28.8**	**+0.1**
CBKS	**Cedar Bluff**	**20.71**	**21**	*e*P	**P**	**04 10 28.3**	**-0.7**
CBKS				pmax	pmax		
	comp=Z,460nm,1.9s						
CBKS	**Cedar Bluff**	**20.71**	**21**	⇓*e*P	**P**	**04 10 27.7**	**-1.3**
	comp=Z,456nm,1.9s						
JLU	**Jordanelle**	**20.89**	**355**	*e*P	**P**	**04 10 31.1**	**+0.3**
NOQ	**North Oquirrh**	**21.00**	**354**	⇓*e*P	**P**	**04 10 31.9**	**-0.1**
CTU	**Camp Tracy**	**21.00**	**355**	⇓*e*P	**P**	**04 10 32.0**	**0.0**
UALR	**University of**	**21.15**	**41**	⇑*e*P	**P**	**04 10 33.0**	**-0.6**
	comp=Z,205nm,1.6s,mb5.2						
SAC	**San Andreas**	**21.18**	**330**	P	**P**	**04 10 34.3**	**+0.5**
SAC	**San Andreas**	**21.18**	**330**	*e*P	**P**	**04 10 33.0**	**-0.9**
BGU	**Big Grassy Mou**	**21.37**	**352**	⇓*e*P	**P**	**04 10 35.8**	**+0.1**
TCUT	**Toone Canyon**	**21.39**	**355**	*e*P	**P**	**04 10 36.4**	**+0.4**
WCN	**Washoe City**	**21.52**	**337**	P	**P**	**04 10 38.4**	**+1.2**
WCN				pmax	pmax		
	comp=Z,150nm,1.0s,mb5.4						
WCN	**Washoe City**	**21.52**	**337**	⇓*e*P	**P**	**04 10 38.2**	**+1.0**
	comp=Z,145nm,1.0s,mb5.4						
ELK	**Elko**	**21.56**	**347**	⇓*e*P	**P**	**04 10 38.0**	**+0.3**
ELK				pmax	pmax		
	comp=Z,100nm,1.3s						
ELK				MLR	MLR		
	comp=Z,2μm,19.0s						
ELK	**Elko**	**21.56**	**347**	⇓*e*P	**P**	**04 10 38.0**	**+0.3**
	comp=Z,100nm,1.3s,mb5.1						
ELK				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
SPUT	**South Promonto**	**21.68**	**353**	⇓*e*P	**P**	**04 10 39.1**	**+0.2**
PHWY	**Pilot Hill**	**21.73**	**8**	*e*P	**P**	**04 10 39.7**	**+0.3**
BMN	**Battle Mountai**	**21.74**	**343**	⇓*e*P	**P**	**04 10 39.6**	**+0.1**
BMN				pmax	pmax		
	comp=Z,171nm,1.5s,mb5.3						
BMN	**Battle Mountai**	**21.74**	**343**	⇓*e*P	**P**	**04 10 39.6**	**+0.2**
	comp=Z,171nm,1.5s,mb5.3						
PAHR	**Pah Rah Range**	**21.74**	**338**	⇓*e*P	**P**	**04 10 40.2**	**+0.7**
	comp=Z,41nm,1.2s,mb4.7						
HWUT	**Hardware Ranch**	**21.89**	**355**	⇓*e*P	**P**	**04 10 41.2**	**+0.2**
	comp=Z,121nm,1.3s,mb5.2						
HWUT				LR	LR		
	comp=Z,3μm,22.0s,MS4.6						
RWWY	**Rawlins**	**21.95**	**4**	*e*P	**P**	**04 10 41.4**	**-0.2**
	comp=Z,322nm,1.8s,mb5.5						
NSHM	**Saint Helena R**	**22.02**	**331**	*e*P	**P**	**04 10 42.9**	**+0.6**
KSU1	**Kansas State U**	**22.16**	**27**	*e*P	**P**	**04 10 43.0**	**-0.7**
HVU	**Hansel Valley**	**22.18**	**353**	P	**P**	**04 10 44.6**	**+0.7**
HVU	**Hansel Valley**	**22.18**	**353**	⇓*e*P	**P**	**04 10 44.5**	**+0.6**
HOPS	**Hopland**	**22.62**	**331**	⇓*e*P	**P**	**04 10 49.0**	**+0.8**
	comp=Z,134nm,1.4s,mb5.2						
HOPS				LR	LR		
	comp=Z,2μm,20.0s,MS4.5						
HBAR	**Harrisburg**	**22.71**	**42**	*e*P	**P**	**04 10 50.5**	**+1.2**
OXF	**Oxford**	**22.90**	**46**	*e*P	**P**	**04 10 51.0**	**-0.1**
OXF				pmax	pmax		
	comp=Z,67nm,1.1s,mb5.0						
OXF				MLR	MLR		
	comp=Z,2μm,21.0s,MS4.5						
OXF	**Oxford**	**22.90**	**46**	*e*P	**P**	**04 10 51.0**	**-0.1**
	comp=Z,67nm,1.1s,mb5.0						
OXF				LR	LR		
	comp=Z,2μm,21.0s,MS4.5						
BW06	**Boulder Array**	**22.96**	**359**	PFAKE		04 11 00.0	+8.4
BW06				LR	LR		
	comp=Z,1μm,20.0s,MS4.4						
PDAR	**Pinedale Array**	**22.96**	**359**	P	**P**	**04 10 51.6**	**0.0**
	comp=Z,17nm,1.1s,mb4.4,baz=164,slow=11,SNR=68						
PDAR				LR	LR	04 19 48.8	
	comp=Z,2μm,18.0s,MS4.5,baz=188,slow=37						
AHID	**Auburn Hatcher**	**23.01**	**356**	*e*P	**P**	**04 10 52.2**	**+0.1**
	comp=Z,94nm,1.5s,mb5.0						
AHID				LR	LR		
	comp=Z,2μm,22.0s,MS4.4						
GNAR	**Gosnell**	**23.37**	**42**	P	**P**	**04 10 56.2**	**+0.5**
REDW	**Red Top Meadow**	**23.59**	**357**	⇓*i*P	**P**	**04 10 58.5**	**+0.8**
	comp=Z,674nm,2.1s,mb5.7						
RRI2	**Red Ridge**	**23.61**	**356**	⇓*e*P	**P**	**04 10 59.0**	**+1.2**
	comp=Z,564nm,1.8s,mb5.7						
SNOW	**Snow King Moun**	**23.69**	**357**	⇓*e*P	**P**	**04 10 59.8**	**+1.1**
	comp=Z,552nm,1.9s,mb5.7						
TPAW	**Teton Pass**	**23.73**	**357**	⇓*i*P	**P**	**04 11 00.2**	**+1.1**
	comp=Z,413nm,1.9s,mb5.5						
WUWY	**Wally Ulrich**	**23.77**	**357**	⇓*i*P	**P**	**04 11 00.2**	**+0.8**
LOHW	**Long Hollow**	**23.83**	**358**	⇓*i*P	**P**	**04 11 00.8**	**+0.8**
	comp=Z,92nm,1.3s,mb5.0						
LRAL	**Lakeview Retre**	**23.84**	**52**	⇑*e*P	**P**	**04 11 01.0**	**+0.8**
	comp=Z,848nm,2.7s,mb5.7						
LRAL				LR	LR		
	comp=Z,2μm,22.0s,MS4.5						
MOOW	**Moose Ponds**	**23.98**	**357**	*e*P	**P**	**04 11 01.8**	**+0.3**
	comp=Z,52nm,1.2s,mb4.8						
PARMO	**Parma**	**23.98**	**41**	*e*P	**P**	**04 11 02.3**	**+0.8**
WVOR	**Wild Horse Val**	**23.99**	**343**	P	**P**	**04 11 02.5**	**+0.9**
WVOR				pmax	pmax		
	comp=Z,140nm,1.2s,mb5.3						
WVOR	**Wild Horse Val**	**23.99**	**343**	⇓*e*P	**P**	**04 11 02.3**	**+0.7**
	comp=Z,140nm,1.3s,mb5.2						
WVOR				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
MOD	**Modoc**	**24.02**	**339**	PFAKE		04 11 10.0	+8.2
MOD				LR	LR		
	comp=Z,3μm,20.0s,MS4.8						
CCM	**Cathedral Cave**	**24.02**	**37**	P	**P**	**04 11 02.3**	**+0.4**
CCM				pmax	pmax		
	comp=Z,75nm,1.4s,mb4.9						
CCM	**Cathedral Cave**	**24.02**	**37**	*e*P	**P**	**04 11 02.0**	**+0.1**
	comp=Z,75nm,1.4s,mb4.9						
CCM				LR	LR		
	comp=Z,619nm,20.0s,MS4.1						
PLAL	**Pickwick Lake**	**24.07**	**47**	⇑*e*P	**P**	**04 11 02.7**	**+0.2**
	comp=Z,170nm,1.7s,mb5.2						
PLAL				LR	LR		
	comp=Z,2μm,20.0s,MS4.6						
IMW	**Indian Meadow**	**24.13**	**357**	*e*P	**P**	**04 11 03.2**	**+0.2**
	comp=Z,49nm,1.1s,mb4.8						
HLID	**Hailey**	**24.15**	**351**	⇓*i*P	**P**	**04 11 04.5**	**+1.3**
	comp=Z,82nm,1.3s,mb5.0						
HLID				LR	LR		
	comp=Z,1μm,19.0s,MS4.4						
FVM	**French Village**	**24.44**	**38**	P	**P**	**04 11 06.4**	**+0.4**
FVM				pmax	pmax		
	comp=Z,110nm,1.6s,mb5.0						
FVM	**French Village**	**24.44**	**38**	⇑*e*P	**P**	**04 11 06.2**	**+0.2**
	comp=Z,109nm,1.6s,mb5.0						
KHMM	**Horse Mountain**	**24.45**	**333**	*e*P	**P**	**04 11 06.7**	**+0.7**
YFT	**Old Faithful**	**24.68**	**357**	⇓*e*P	**P**	**04 11 09.9**	**+1.6**
RSSD	**Black Hills**	**24.70**	**9**	P	**P**	**04 11 08.6**	**+0.2**
RSSD				pmax	pmax		
	comp=Z,67nm,1.5s,mb5.0						
RSSD	**Black Hills**	**24.70**	**9**	*e*P	**P**	**04 11 08.2**	**-0.3**
	comp=Z,67nm,1.5s,mb5.0						
RSSD				LR	LR		
	comp=Z,1μm,21.0s,MS4.4						
YBH	**Yreka Blue Hor**	**24.74**	**335**	P	**P**	**04 11 08.2**	**-0.7**
YBH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YBH	**Yreka Blue Hor**	**24.74**	**335**	P	**P**	**04 11 07.8**	**-1.1**
	comp=Z,11nm,1.2s,mb4.3,baz=167,slow=4.0,SNR=13						
YBH				LR	LR	04 20 15.0	
	comp=Z,2μm,21.4s,MS4.6,baz=159,slow=35						
YBH	**Yreka Blue Hor**	**24.74**	**335**	*e*P	**P**	**04 11 07.6**	**-1.3**
	comp=Z,9.8nm,1.1s,mb4.2						
YBH				LR	LR		
	comp=Z,2μm,21.0s,MS4.5						
LKWY	**Lake**	**24.78**	**358**	P	**P**	**04 11 10.9**	**+1.7**
LKWY				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.1						
LKWY	**Lake**	**24.78**	**358**	⇓*e*P	**P**	**04 11 10.7**	**+1.5**
	comp=Z,70nm,1.2s,mb5.1						
LKWY				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
WVT	**Waverly**	**24.89**	**45**	P	**P**	**04 11 10.3**	**-0.1**
WVT				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
WVT	**Waverly**	**24.89**	**45**	*e*P	**P**	**04 11 09.8**	**-0.6**
	comp=Z,30nm,1.0s,mb4.8						
WVT				LR	LR		
	comp=Z,2μm,20.0s,MS4.6						
YMR	**Madison River**	**24.90**	**357**	⇓*e*P	**P**	**04 11 11.3**	**+0.9**
YNR	**Norris Junctio**	**24.94**	**358**	*e*P	**P**	**04 11 11.8**	**+1.1**
SLM	**Saint Louis**	**25.00**	**37**	P	**P**	**04 11 07.6**	**-3.8**
QLMT	**Earthquake Lak**	**25.09**	**356**	*e*P	**P**	**04 11 13.2**	**+1.0**
MCMT	**McKenzie Canyo**	**25.20**	**354**	*e*P	**P**	**04 11 12.3**	**-1.0**
JTS	**JuntasAbangare**	**25.22**	**108**	*e*P	**P**	**04 11 16.3**	**+2.6**
JTS				pmax	pmax		
	comp=Z,190nm,1.8s						
JTS	**JuntasAbangare**	**25.22**	**108**	P	**P**	**04 11 15.9**	**+2.2**
	comp=Z,21nm,1.2s,mb4.5,baz=307,slow=7.1,SNR=12						
JTS				LR	LR	04 21 03.5	
	comp=Z,422nm,18.3s,MS4.0,baz=133,slow=36						
JTS	**JuntasAbangare**	**25.22**	**108

comp=Z,2μm,21.0s,MS4.7
EYMN Ely 31.60 23 *e*P **P 04 12 08.6 -2.4**
comp=Z,16nm,0.9s,mb4.8
EYMN LR LR
comp=Z,685nm,21.0s,MS4.3
MCWV Mont Chateau 32.10 45 *e*P **P 04 12 13.7 -1.9**
comp=Z,31nm,1.0s,mb5.1
MCWV LR LR
comp=Z,1μm,20.0s,MS4.6
ULM Lac du Bonnet 32.24 16 P **P 04 12 15.2 -1.4**
comp=Z,11nm,0.7s,mb4.8,baz=214,slow=8.0,SNR=13
ULM LR LR 04 24 48.8
comp=Z,2μm,18.1s,MS4.8,baz=16,slow=36
ULM Lac du Bonnet 32.24 16⇓*e*P **P 04 12 14.5 -2.2**
comp=Z,46nm,1.3s,mb5.2
ULM LR LR
comp=Z,570nm,20.0s,MS4.3
CBN Corbin 33.16 49 *e*P **P 04 12 24.8 0.0**
comp=Z,48nm,0.9s,mb5.4
CBN LR LR
comp=Z,2μm,21.0s,MS4.7
ERPA Erie 33.29 41 PFAKE 04 12 40.0 +14
ERPA LR LR
comp=Z,2μm,21.0s,MS4.7
EDM Edmonton 33.58 356 P **P 04 12 27.7 -0.5**
EDM Edmonton 33.58 356 *e*P **P 04 12 26.8 -1.4**
SSPA Standing Stone 33.89 45 PFAKE 04 12 40.0 +8.9
SSPA LR LR
comp=Z,390nm,20.0s,MS4.1
MVL Millersville 34.64 47 *e*P **P 04 12 37.7 +0.1**
OTAV Otavalo 35.83 119⇑*e*P **P 04 12 50.6 +2.6**
comp=Z,138nm,1.5s,mb5.7
OTAV LR LR
comp=Z,788nm,22.0s,MS4.4
ROSC El Rosal 37.04 109 P **P 04 13 01.9 +3.8**
comp=Z,2.0nm,0.5s,mb4.2,baz=283,slow=8.5,SNR=9.8
NCB Newcomb 37.87 42 PFAKE 04 13 20.0 +15
NCB LR LR
comp=Z,2μm,19.0s,MS4.8
MSNY Massena 37.97 41 P **P 04 13 05.5 -0.1**
SDV Santo Domingo 38.82 101 P **P 04 13 14.7 +1.6**
comp=Z,22nm,0.8s,mb4.9,baz=305,slow=3.6,SNR=36
SDV Santo Domingo 38.82 101⇑*e*P **P 04 13 14.4 +1.4**
comp=Z,75nm,1.3s,mb5.3
SDV LR LR
comp=Z,588nm,22.0s,MS4.4
HRV Harvard--Oak R 38.98 46 PFAKE 04 13 30.0 +16
HRV LR LR
comp=Z,1μm,22.0s,MS4.7
CRAG Craig 39.97 339 *e*P **P 04 13 23.3 +1.1**
comp=Z,65nm,1.2s,mb5.2
FCC Fort Churchill 40.50 12⇓*e*P **P 04 13 24.7 -1.8**
FCC pmax pmax
comp=Z,24nm,0.8s,mb4.9
FCC Fort Churchill 40.50 12⇓*e*P **P 04 13 24.7 -1.8**
comp=Z,24nm,0.8s,mb4.9
SJG San Juan 40.69 85⇑*e*P **P 04 13 28.1 -0.4**
SJG pmax pmax
comp=Z,118nm,1.6s
SJG MLR MLR
comp=Z,595nm,21.0s
SJG San Juan 40.69 85 P **P 04 13 29.2 +0.7**
comp=Z,15nm,0.6s,mb4.8,baz=291,slow=6.4,SNR=14
SJG LR LR 04 31 12.5
comp=Z,599nm,20.6s,MS4.4,baz=274,slow=37
SJG San Juan 40.69 85⇑*e*P **P 04 13 28.1 -0.4**
comp=Z,118nm,1.6s,mb5.3
SJG LR LR
comp=Z,595nm,21.0s,MS4.4
WVL Waterville 41.07 44 PFAKE 04 13 40.0 +8.6
WVL LR LR
comp=Z,7μm,21.0s,MS5.5
DLBC Dease Lake 41.53 344 P **P 04 13 36.1 +1.2**
comp=Z,21nm,1.0s,mb4.7,baz=158,slow=8.2,SNR=35
DLBC Dease Lake 41.53 344⇓*i*P **P 04 13 35.6 +0.7**
BBSR BB Station 41.65 63 PFAKE 04 13 50.0 +14
BBSR LR LR
comp=Z,889nm,22.0s,MS4.6
TAOE Nuku Hiva Isla 41.65 230 *e*S **S 04 19 45.0 -7.8**
TAOE *e*LQ 04 23 12.1
TAOE *e*LR LR 04 24 46.2
baz=50
SIT Sitka 41.99 339 PFAKE 04 13 50.0 +11
SIT LR LR
comp=Z,914nm,22.0s,MS4.6
EMMW East Machias 42.58 45 PFAKE 04 14 00.0 +16
EMMW LR LR
comp=Z,7μm,22.0s,MS5.5
YKA Yellowknife Ar 42.88 356 P **P 04 13 44.4 -1.5**
comp=Z,12nm,0.8s,mb4.7,baz=171,slow=8.0,SNR=235
YKA PcP PcP 04 15 34.8 -2.7
comp=Z,0.7nm,0.8s,baz=161,slow=2.6,SNR=3.9
YKA LR LR 04 32 10.6
comp=Z,2μm,18.2s,MS5.0,baz=210,slow=37
YKA Yellowknife Ar 42.88 356 P **P 04 13 44.4 -1.5**
YKA PcP PcP 04 15 34.8 -2.7
YKA LR LR 04 32 10.6
YKW3 Yellowknife Ar 42.95 356⇓*i*P **P 04 13 44.8 -1.8**
PQI Presque Isle 42.99 42 PFAKE 04 14 00.0 +13
PQI LR LR
comp=Z,6μm,22.0s,MS5.4
POHA Pohakuloa 43.48 278 PFAKE 04 14 00.0 +8.6
POHA LR LR
comp=Z,21μm,19.0s
PCRV Puerto La Cruz 43.99 96 P **P 04 13 56.7 +1.1**
comp=Z,6.5nm,0.8s,mb4.4,baz=332,slow=9.9,SNR=2.7
NNA Nana 44.83 132 *e*P **P 04 14 02.2 -0.2**
comp=Z,21nm,1.0s,mb4.9
NNA LR LR
comp=Z,183nm,19.0s,MS4.0
SCHQ Schefferville 47.44 32 P **P 04 14 21.0 -1.5**
comp=Z,8.4nm,0.9s,mb4.7,baz=238,slow=8.8,SNR=5.9
SCHQ LR LR 04 35 31.2
comp=Z,606nm,20.2s,MS4.6,baz=64,slow=38
SCHQ Schefferville 47.44 32 *e*P **P 04 14 21.4 -1.2**
comp=Z,29nm,1.4s,mb5.0
EYAK Cordova Ski Ar 48.25 337⇓*i*P **P 04 14 29.4 +0.7**
DIV Divide 48.64 337⇓*e*P **P 04 14 32.2 +0.4**
comp=Z,44nm,1.0s,mb5.5
DIV LR LR
comp=Z,1μm,22.0s,MS4.8
DAWY Dawson 48.73 343 *e*P **P 04 14 32.3 -0.1**
KDAK Kodiak Island 49.44 331 *e*P **P 04 14 38.4 +0.5**
SLKM Skilak Lake 49.95 335 *e*P **P 04 14 42.0 +0.1**
SML Sawmill 50.02 337⇓*e*P **P 04 14 41.9 -0.5**
THY Trims Highway 50.18 340⇓*i*P **P 04 14 43.5 -0.1**
FIB Fire Island 50.32 336 PFAKE 04 15 00.0 +15
FIB LR LR
comp=Z,2μm,21.0s,MS5.0
PWA Palmer West 50.50 336 *e*P **P 04 14 45.5 -0.6**
PWA pmax pmax
comp=Z,44nm,1.0s,mb5.3
PWA Palmer West 50.50 336 *e*P **P 04 14 45.5 -0.6**
comp=Z,44nm,1.0s,mb5.3
INK Inuvik 50.89 349 P **P 04 14 48.0 -0.9**
INK pmax pmax
comp=Z,87nm,1.0s
INK Inuvik 50.89 349 P **P 04 14 48.1 -0.8**
comp=Z,60nm,1.0s,mb5.5,baz=152,slow=9.0,SNR=197
INK Inuvik 50.89 349⇓*i*P **P 04 14 47.9 -1.1**
comp=Z,87nm,1.0s,mb5.6
MCK McKinley 51.46 339⇓*i*P **P 04 14 52.6 -0.7**
MCK pmax pmax
comp=Z,25nm,1.0s,mb5.1
MCK McKinley 51.46 339⇓*i*P **P 04 14 52.6 -0.7**
comp=Z,25nm,1.0s,mb5.1
ILAR Eielson Array 51.48 340 P **P 04 14 52.5 -0.9**
comp=Z,26nm,0.9s,mb5.2,baz=152,slow=6.4,SNR=255
ILAR LR LR 04 35 05.1
comp=Z,442nm,21.4s,MS4.5,baz=348,slow=34
COLA College 51.85 340 *e*P **P 04 14 55.1 -1.1**
COLA pmax pmax
comp=Z,17nm,0.9s,mb5.0
COLA College 51.85 340 *e*P **P 04 14 55.1 -1.1**
comp=Z,17nm,0.9s,mb5.0
SVW2 Sparrevohn 52.47 334 *e*P **P 04 14 59.5 -1.4**
SAML Samuel 53.54 118 *e*P **P 04 15 07.6 -1.9**
comp=Z,67nm,1.9s,mb5.2
SAML LR LR
comp=Z,554nm,19.0s,MS4.6
TTA Tatalina 53.59 336 *e*P **P 04 15 07.5 -1.7**
LPAZ La Paz 53.97 129 P **P 04 15 13.5 +1.0**
comp=Z,5.9nm,0.9s,mb4.5,baz=341,slow=9.9,SNR=22
LPAZ LR LR 04 34 58.3
comp=Z,726nm,21.7s,MS4.7,baz=140,slow=32
LPAZ La Paz 53.97 129 P **P 04 15 13.5 +1.0**
LPAZ LR LR 04 34 58.2
PPT Papeete 54.27 230 *e*P **P 04 15 16.7 +1.9**
PPT *e*S **S 04 22 43.6 -7.0**
PPT *e*LQ 04 28 28.1
PPT *e*LR LR 04 30 36.9
comp=Z,3μm,27.5s,baz=41
PPT Papeete 54.27 230 LR LR 04 31 33.4
comp=Z,1μm,21.9s,MS5.0,baz=35,slow=28
IMA Indian Mountai 54.50 339 *e*P **P 04 15 12.9 -2.9**
IMA *e* pP 04 15 14.7 -4.2
IMA Indian Mountai 54.50 339 P **P 04 15 14.5 -1.3**
IMA pmax pmax
comp=Z,180nm,1.3s,mb5.8
RES Resolute Bay 55.52 5 P **P 04 15 21.0 -2.2**
RES pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
RES Resolute Bay 55.52 5 *e*P **P 04 15 19.8 -3.4**
comp=Z,6.9nm,1.3s,mb4.5
LVC Limon Verde 57.62 135 P **P 04 15 41.1 +2.1**
comp=Z,6.3nm,1.0s,mb4.6,baz=308,slow=5.8,SNR=7.4
LVC Limon Verde 57.62 135 *e*P **P 04 15 40.5 +1.6**
comp=Z,50nm,1.8s,mb5.2
LVC LR LR
comp=Z,555nm,20.0s,MS4.7
TBI Tubuai 58.09 224 *e*S **S 04 23 34.5 -6.9**
TBI *e*LQ 04 29 58.8
TBI *e*LR LR 04 32 32.5
comp=Z,2μm,28.5s,baz=45
SIV San Ignacio 59.16 123 P **P 04 15 48.5 -1.2**
comp=Z,11nm,1.0s,mb4.8,baz=307,slow=7.6,SNR=24
TNA Tin City 59.41 336 *e*P **P 04 15 48.9 -1.9**
comp=Z,16nm,1.0s,mb5.0
TNA LR LR
comp=Z,301nm,20.0s,MS4.4
CFAA Coronel Fontan 64.42 142 P **P 04 16 25.8 +0.9**
comp=Z,0.7nm,1.0s,baz=293,slow=5.0,SNR=8.9
FCH Farellones 64.53 144 *e*P **P 04 16 26.9 +1.2**
SUMG Summit 65.57 18⇓*e*P **P 04 16 30.0 -1.6**
comp=Z,43nm,1.6s,mb5.2
SMY Shemya 66.52 320 PFAKE 04 16 50.0 +12
SMY LR LR
comp=Z,3μm,22.0s,MS5.4
FX1 Attu Island--F 67.08 320 LR LR 04 38 34.5
comp=Z,14nm,20.5s,baz=106,slow=29
CPUP Villa Florida 68.06 130 P **P 04 16 48.8 +0.6**
CPUP pmax pmax
comp=Z,50nm,1.6s
CPUP Villa Florida 68.06 130 P **P 04 16 47.8 -0.4**
comp=Z,8.9nm,1.0s,mb4.8,baz=321,slow=6.0,SNR=10
CPUP LR LR 04 44 27.5
comp=Z,316nm,19.6s,MS4.5,baz=167,slow=34
CPUP Villa Florida 68.06 130 *e*P **P 04 16 48.0 -0.2**
comp=Z,50nm,1.6s,mb5.3
BDFB Brasilia 69.68 116 P **P 04 16 58.1 -0.3**
comp=Z,16nm,1.1s,mb4.9,baz=321,slow=9.3,SNR=9.7
BAO Brasilia Array 69.70 116 P **P 04 16 59.0 +0.6**
BAO PcP PcP 04 17 20.0 -1.4
BILL Bilibino 69.82 336⇓*e*P **P 04 16 57.5 -0.9**
BILL pmax pmax
comp=Z,56nm,1.5s,mb5.3
BILL MLR MLR
comp=Z,399nm,19.0s,MS4.7
BILL Bilibino 69.82 336⇓*e*P **P 04 16 57.5 -0.9**
comp=Z,56nm,1.5s,mb5.3
BILL LR LR
comp=Z,399nm,19.0s,MS4.7
AFI Afiamalu 70.04 246 LR LR 04 39 46.9
comp=Z,963nm,18.1s,MS5.1,baz=93,slow=29
PLCA Paso Flores 70.08 150 P **P 04 17 01.6 +1.3**
comp=Z,7.7nm,1.2s,mb4.5,baz=336,slow=7.8,SNR=4.5
PLCA LR LR 04 41 14.5
comp=Z,855nm,18.5s,MS5.0,baz=326,slow=30
DAG Danmarks Havn 71.06 14⇓*e*P **P 04 17 04.7 -1.1**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
DAG Danmarks Havn 71.06 14⇓*e*P **P 04 17 04.7 -1.1**
comp=Z,3.4nm,0.7s,mb4.4
DAG Danmarks Havn 71.06 14⇓*i*P **P 04 17 04.7 -1.1**
comp=Z,3.4nm,0.7s,mb4.4
BORG Borgarnes 71.45 27 PFAKE 04 17 20.0 +12
BORG LR LR
comp=Z,435nm,19.0s,MS4.7
TRQA Tornquist 72.61 143 PFAKE 04 17 30.0 +14
TRQA LR LR
comp=Z,813nm,21.0s,MS5.0
PET Petropavlovsk 75.74 321 *e*P **P 04 17 35.2 +1.7**
PET *e*S S 04 27 17.1 +3.3
PET pmax pmax
comp=Z,100nm,10.6s
PET pmax pmax
comp=Z,35nm,0.7s,mb5.4
PET Petropavlovsk 75.74 321 PFAKE 04 17 40.0 +6.5
PET LR LR
comp=Z,430nm,20.0s,MS4.8
SEY Seymchan 76.38 332 *e*P **P 04 17 39.5 +2.6**
SEY *e* 04 17 46.8
SEY pmax pmax
comp=E,10.0nm,1.0s
SEY pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SEY pmax pmax
comp=N,10.0nm,0.9s
RCBR Riachuelo 76.40 101 PFAKE 04 17 50.0 +12
RCBR LR LR
comp=Z,644nm,22.0s,MS4.9
KBS Kingsbay 76.40 10 PFAKE 04 17 50.0 +13
KBS LR LR
comp=Z,644nm,20.0s,MS4.9
CAUB Caruaru 77.17 104*c i*P **P 04 17 44.0 +1.7**
CAUB *e* 04 17 51.9
WAKE Wake Island 78.39 286 PFAKE 04 18 00.0 +11
WAKE LR LR
comp=Z,5μm,19.0s,MS5.8
KWAJ Kwajalein Atol 80.69 276 PFAKE 04 18 10.0 +8.6
KWAJ LR LR
comp=Z,376nm,20.0s,MS4.7
TIXI Tiksi 80.75 344*d i*P **P 04 17 59.6 -1.0**
TIXI pmax pmax
comp=Z,24nm,1.1s,mb5.0
TIXI MLR MLR
comp=Z,200nm,20.0s,MS4.5
TIXI Tiksi 80.75 344 PFAKE 04 18 10.0 +9.4
TIXI LR LR
comp=Z,271nm,20.0s,MS4.6
DCN Croghan 81.27 36 *e*P **P 04 18 05.0 +1.4**
DMUB Kingscourt 81.27 36 *e*P **P 04 18 05.9 +2.3**
DLF Lyons Farm 81.70 36 *e*P **P 04 18 05.0 -0.9**
ESK Eskdalemuir 82.71 34 PFAKE 04 18 20.0 +8.9
ESK LR LR
comp=Z,47nm,20.0s,MS3.9
ARCES ARCESS Array B 85.35 15 P **P 04 18 23.5 -0.6**
comp=Z,5.5nm,0.6s,mb4.8,baz=315,slow=3.4,SNR=22
ARCES LR LR 04 56 00.9
comp=Z,614nm,20.7s,MS5.0,baz=322,slow=35
KEV Kevo 85.53 14 PFAKE 04 18 40.0 +15
KEV LR LR
comp=Z,977nm,22.0s,MS5.2
YAK Yakutsk 86.18 336 *e*P **P 04 18 28.0 -0.4**
YAK pmax pmax
comp=Z,12nm,0.9s,mb5.1
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK Yakutsk 86.18 336 PFAKE 04 18 40.0 +12
YAK LR LR
comp=Z,253nm,21.0s,MS4.6
EVO Evora 86.29 50 *e*P **P 04 18 28.8 -0.7**
comp=Z,20nm,0.9s,mb5.0
NOA NORSAR Array B 86.50 25 P **P 04 18 29.4 -0.6**
comp=Z,1.9nm,1.1s,mb4.2,baz=306,slow=5.0,SNR=3.6
KONO Kongsberg 86.64 26 PFAKE 04 18 40.0 +9.3
KONO LR LR
comp=Z,646nm,19.0s,MS5.0
YSS Yuzh-Sakhalins 87.43 319 *i*P **P 04 18 34.9 +0.1**
YSS Yuzh-Sakhalins 87.43 319 PFAKE 04 18 50.0 +15
YSS LR LR
comp=Z,182nm,20.0s,MS4.5
FINES FINESS Array B 91.56 20 P **P 04 18 53.6 -0.3**
comp=Z,0.9nm,0.9s,mb4.1,baz=350,slow=8.5,SNR=3.2
FINES LR LR 05 00 26.2
comp=Z,452nm,18.1s,MS5.0,baz=144,slow=36
DZM Mont Dzumac 92.25 247 P **P 04 18 55.2 -2.8**
comp=Z,13nm,0.9s,mb5.3,baz=164,slow=0.9,SNR=3.5
HNR Honiara 93.91 261 LR LR 04 52 02.5
comp=Z,683nm,20.2s,MS5.1,baz=97,slow=30
HNR Honiara 93.91 261 PFAKE 04 19 20.0 +14
HNR LR LR
comp=Z,1μm,22.0s,MS5.2
PVCC Panska Ves 94.35 32 *e*SS SS 04 36 37.7 -3.7
PVCC AMS AMS 05 04 10.0
comp=Z,500nm,16.4s
PRU Pruhonice 94.67 33 *e*SS SS 04 36 46.1 +0.1
PRU AMS AMS 05 01 10.0
comp=Z,500nm,18.5s
KHC Kasperske Hory 94.70 34 *e*SS SS 04 36 51.9 +5.5
KHC AMS AMS 04 59 30.0
comp=Z,500nm,20.3s
BOD Bodaibo 94.81 338 *e*P **P 04 19 06.8 -2.1**
BOD pmax pmax
comp=Z,5.0nm,1.5s,mb4.7
GERES GERESS Array B 94.94 34 LR LR 05 00 19.3
comp=Z,490nm,19.5s,MS5.0,baz=307,slow=34
MJAR Matsushiro Arr 95.29 312 P **P 04 19 11.0 -0.7**
comp=Z,0.7nm,0.3s,mb4.5,baz=14,slow=5.2,SNR=4.5
MJAR LR LR 04 55 02.6
comp=Z,291nm,21.0s,MS4.7,baz=85,slow=31
MAJO Matsushiro 95.29 312 PFAKE 04 19 20.0 +8.3
MAJO LR LR
comp=Z,412nm,20.0s,MS4.9
DPC Dobruska-Polom 95.34 32 *e*SS SS 04 36 35.9 -19
DPC AMS AMS 05 02 30.0
comp=Z,500nm,18.5s
JHJ Hachijo jima 2 95.78 308 LR LR 04 58 46.6
comp=Z,309nm,18.4s,MS4.8,baz=135,slow=33
OKC Ostrava-Krasne 96.56 31 *e*SS SS 04 37 41.4 +29
OKC AMS AMS 05 05 30.0
comp=Z,500nm,14.6s
CBIJ Chichi jima 96.65 302 LR LR 04 53 26.6
comp=Z,381nm,20.7s,MS4.9,baz=117,slow=30
CN2 Changchun 99.38 323 *e*P **P 04 19 29.0 -1.0**
CN2 *e*S S 04 30 56.5 -1.9
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.5
CN2 LR LR
comp=Z,1μm,23.0s,MS5.3
GUMO Guam 99.95 288 PFAKE 04 19 40.0 +6.8
GUMO LR LR
comp=Z,967nm,21.0s,MS5.3
OBN Obninsk 99.95 19 *e*P **P 04 19 31.5 -0.8**
OBN *e* 04 23 36.7
OBN *i*PS PS 04 32 38.9 +2.1
OBN pmax pmax
comp=Z,5.0nm,0.4s,mb5.3
OBN Obninsk 99.95 19 PFAKE 04 19 40.0 +7.7
OBN LR LR
comp=Z,167nm,20.0s,MS4.5
TLY Talaya 103.30 340 PFAKE 04 20 00.0 +13
TLY LR LR
comp=Z,78nm,21.0s,MS4.2
ARU Arti 103.43 7 PFAKE 04 20 00.0 +12
ARU LR LR
comp=Z,210nm,19.0s,MS4.7
ULN Ulaanbaatar 105.26 336 PFAKE 04 24 20.0
ULN LR LR
comp=Z,268nm,19.0s,MS4.8
SONM Songino Array 105.54 336 PP PP 04 24 20.8 -1.4
comp=Z,1.8nm,1.1s,baz=37,slow=6.2,SNR=6.0
PMG Port Moresby 105.87 266 PFAKE 04 24 20.0
PMG LR LR
comp=Z,961nm,20.0s,MS5.3
BJI Beijing 107.02 325 PDIF Pdif 04 20 07.0 +2.9
BJI PP PP 04 24 33.3 -0.5
BJI LR LR
comp=Z,230nm,22.6s,MS4.7
BVAR Borovoye Array 107.55 0 PP PP 04 24 33.7 -3.5
comp=Z,0.2nm,0.4s,baz=14,slow=5.9,SNR=4.0
QSPA South Pole Qui 109.63 180 PFAKE 04 24 30.0
QSPA LR LR
comp=Z,592nm,19.0s,MS5.2
CTAO Charters Tower 109.68 255 PFAKE 04 24 30.0
CTAO LR LR
comp=Z,528nm,19.0s,MS5.1
SOC Sochi 110.84 24 *i*PKIKP PKPdf 04 24 19.6 -2.7
SOC *e* 04 24 59.6
SOC *e*PPP PPP 04 27 23.6 +1.3
SOC *e*SSS SSS 04 44 41.5 +3.2
SOC pmax pmax
comp=N,2.0nm,0.5s
SOC pmax pmax
comp=Z,3.0nm,0.5s
SOC pmax pmax
comp=E,2.0nm,0.4s
SOC MLR MLR
comp=N,696nm,16.0s,MS5.4
SOC MLR MLR
comp=Z,823nm,16.0s,MS5.4
SOC MLR MLR
comp=E,194nm,15.0s,MS5.4
NJ2 Nanjing 110.93 317 *e*PDIF Pdif 04 20 18.5 -3.0
NJ2 PP PP 04 25 00.0 -2.4
NJ2 SKS SKS 04 31 25.0 +21
NJ2 SS SS 04 40 27.0 -3.1
NJ2 PP PP
comp=Z,150nm,6.4s
NJ2 LR LR
comp=Z,830nm,39.6s,MS5.0
VNA3 Neumayer Olymp 111.60 160 *e* PKPdf 04 24 27.9 +4.9
VNA3 Neumayer Olymp 111.60 160⇑*i*PKPdf PKPdf 04 24 25.3 +2.3
VNA3 *e* 04 24 27.9
VNA2 Neumayer--Watz 112.36 160 *e* PKPdf 04 24 24.2 -0.4
VNA2 Neumayer--Watz 112.36 160⇑*i*PKPdf PKPdf 04 24 21.3 -3.3
VNA2 *e* 04 24 24.2
GNI Garni 115.67 22 PFAKE 04 24 40.0 +8.2
GNI LR LR
comp=Z,449nm,21.0s,MS5.0
STKA Stephens Creek 116.09 243 PKP PKPdf 04 24 31.0 -1.9
comp=Z,1.6nm,0.7s,baz=125,slow=9.3,SNR=4.7
STKA Stephens Creek 116.09 243 PKP PKPdf 04 24 31.0 -1.9
AAK Ala-Archa 117.85 357 PFAKE 04 24 50.0 +14
AAK LR LR
comp=Z,110nm,19.0s,MS4.5
WRAB Tennant Creek 120.55 258 PFAKE 04 24 50.0 +8.3
WRAB LR LR
comp=Z,202nm,19.0s,MS4.8
WB2 Warramunga Arr 120.55 258 *e*P PKPdf 04 24 39.3 -2.4
WRA Warramunga Arr 120.56 258 PKP PKPdf 04 24 39.2 -2.6
comp=Z,2.0nm,0.7s,baz=75,slow=1.9,SNR=11
ASAR Alice Springs 121.63 254 PKP PKPdf 04 24 40.9 -2.9
comp=Z,1.7nm,0.7s,baz=82,slow=1.9,SNR=12
KMI Kunming 125.64 324 PKP PKPdf 04 24 45.0 -6.6
CASY Casey 126.87 199 PFAKE 04 25 00.0 +7.3
CASY LR LR
comp=Z,385nm,19.0s,MS5.1
TSUM Tsumeb 130.02 99 PFAKE 04 25 10.0 +10
TSUM LR LR
comp=Z,224nm,20.0s,MS4.9
CMAR Chiang Mai Arr 133.05 322 PKP PKPdf 04 25 04.5 -1.4
comp=Z,0.7nm,0.4s,slow=1.8,SNR=3.5
MBWA Marble Bar 134.26 259 PFAKE 04 25 20.0 +12
MBWA LR LR
comp=Z,385nm,20.0s,MS5.1
MBAR Mbarara 136.43 69 PFAKE 04 25 20.0 +7.8
MBAR LR LR
comp=Z,78nm,20.0s,MS4.4
NWAO Narrogin (SRO) 136.67 243 PFAKE 04 25 20.0 +7.9
NWAO LR LR
comp=Z,520nm,19.0s,MS5.3
LSZ Lusaka 139.21 91 PFAKE 04 25 30.0 +13
LSZ LR LR
comp=Z,183nm,21.0s,MS4.8
KMBO Kilima Mbogo 142.34 65 PFAKE 04 25 30.0 +7.1
KMBO LR LR
comp=Z,270nm,21.0s,MS5.0
PALK Pallekele 151.44 339 PKP PKPdf 04 25 37.8 -0.1
PALK LR LR
comp=Z,83nm,21.0s,MS4.5
MSEY Mahe Island 158.87 47 PFAKE 04 26 00.0 +12
MSEY LR LR
comp=Z,60nm,20.0s,MS4.4

NEIC ***26*** *04:06:58.0±2.4,21.57S×179.33W,h590km±28km,mb3.7/2, Error ellipse: s-maj=29.1km s-min=17.8km az=144.0*
IDC ***26*** *04:07:00.4±6.1,21.40S×179.45W,h613km±74km,mb2.9/8, mb1 3.3/9,mb1mx3.1/17,mbtmp4.0/9,Error ellipse: s-maj=86.0km s-min=30.9km az=152.0*
ISC 26 04:06:59.7±4.1,21.6S±0.2×179.5W±0.3,h625km±53km, n13,σ0=51/11,mb3.5/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.11**	**265**	P	**P**	**04 09 48.8**	**-0.3**
	0.6nm,0.3s,baz=86,slow=16,SNR=4.9						
CTA	**Charters Tower**	**32.05**	**266**	P	**P**	**04 12 39.8**	**+0.7**
	3.3nm,0.5s,mb4.2,baz=91,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**36.09**	**245**	P	**P**	**04 13 12.8**	**+0.4**
	0.8nm,0.4s,mb3.6,baz=64,slow=8.4,SNR=4.8						
ASAR	**Alice Springs**	**42.95**	**258**	P	**P**	**04 14 08.1**	**+0.5**
	2.3nm,0.8s,mb3.8,baz=94,slow=8.2,SNR=20						
WRAB	**Tennant Creek**	**43.11**	**264**	*e*P	**P**	**04 14 07.8**	**-0.9**
	1.1nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**43.12**	**264**	P	**P**	**04 14 08.8**	**-0.1**
	0.7nm,0.3s,mb3.6,baz=93,slow=7.8,SNR=14						
QSPA	**South Pole Qui**	**68.47**	**180**	P	**P**	**04 17 01.7**	**-0.4**
	2.6nm,0.8s,mb3.7						
NVAR	**Mina Array Bea**	**82.75**	**44**	P	**P**	**04 18 21.2**	**+0.3**
	0.2nm,0.4s,mb3.0,baz=225,slow=8.9,SNR=4.0						
TXAR	**Lajitas Array**	**88.79**	**58**	P	**P**	**04 18 50.5**	**+0.5**
	0.2nm,0.7s,mb3.1,baz=180,slow=4.5,SNR=3.8						
ILAR	**Eielson Array**	**89.69**	**13**	P	**P**	**04 18 52.6**	**-0.7**
	0.3nm,0.5s,mb3.4,baz=216,slow=5.4,SNR=4.9						
PDAR	**Pinedale Array**	**90.69**	**44**	P	**P**	**04 18 58.4**	**0.0**
	0.2nm,0.7s,mb3.2,baz=259,slow=4.6,SNR=2.5						
MKAR	**Makanchi Array**	**110.96**	**313**	PKiKP		04 24 23.6	
	0.2nm,0.5s,baz=21,slow=0.6,SNR=3.6						
ARCES	**ARCESS Array B**	**129.75**	**349**	PKP	PKPdf	04 24 59.6	+0.9
	0.9nm,0.7s,baz=333,slow=2.7,SNR=5.1						

*IDC **26** 04:23:47.0±0.9, 48.58S×106.83E, mb4.2/6, mb1 4.4/6, mb1mx4.1/14, mbtmp4.2/6, MS4.0/6, Ms1 4.0/6, ms1mx3.8/21, Error ellipse: s-maj=36.9km s-min=20.1km az=112.0*

*NEIC **26** 04:23:48.5±0.5, 48.59S×106.84E, h10km, mb4.7/4, Error ellipse: s-maj=20.8km s-min=9.0km az=115.0*

ISC 26 04:23:46.5±0.8, 48.6S±0.1×106.9E±0.3, h10km, (h10km±2.1km·pP-P), n39, σ0s58/17, mb4.4/9, MS4.1/5, 5C-1D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.47**	**30**	LR	LR	04 33 15.0	
	comp=Z,97nm,18.4s,baz=210,slow=32						
MAW	**Mawson**	**29.12**	**213**	LR	LR	04 38 35.4	
	comp=Z,176nm,19.0s,MS3.7,baz=247,slow=30						
STKA	**Stephens Creek**	**30.99**	**70**	P	**P**	**04 30 05.5**	**-0.6**
	0.7nm,0.5s,mb3.8,baz=233,slow=5.1,SNR=2.7						
STKA				LR	LR	04 40 17.8	
	comp=Z,516nm,21.5s,MS4.2,baz=195,slow=32						
STKA	**Stephens Creek**	**30.99**	**70**	P	**P**	**04 30 05.5**	**-0.6**
STKA				P		04 30 11.3	
ASPA	**Alice Springs**	**32.77**	**50**	*e*P	**P**	**04 30 21.8**	**0.0**
ASAR	**Alice Springs**	**32.78**	**50**	P	**P**	**04 30 21.7**	**-0.1**
	2.8nm,0.7s,mb4.3,baz=210,slow=8.2,SNR=22						
ASAR				PcP	PcP	04 33 07.4	+0.2
	0.8nm,0.7s,baz=182,slow=2.9,SNR=5.6						
ASAR				LR	LR	04 42 01.1	
	comp=Z,250nm,18.6s,MS4.0,baz=201,slow=33						
VNDA	**Vanda**	**35.65**	**162**	P	**P**	**04 30 45.5**	**-0.5**
	3.6nm,0.9s,mb4.3,baz=294,slow=8.8,SNR=22						
VNDA				LR	LR	04 44 01.6	
	comp=Z,483nm,19.3s,MS4.3,baz=274,slow=34						
WRA	**Warramunga Arr**	**36.12**	**47**	P	**P**	**04 30 50.8**	**+0.3**
	5.0nm,0.7s,mb4.6,baz=210,slow=8.2,SNR=19						
WB2	**Warramunga Arr**	**36.12**	**47**	*e*P	**P**	**04 30 50.8**	**+0.2**
WRAB	**Tennant Creek**	**36.13**	**47**	*e*P	**P**	**04 30 51.3**	**+0.6**
	14nm,0.8s,mb5.0						
SBA	**Scott Base**	**36.75**	**162**	*e*P	**P**	**04 30 56.0**	**+0.7**
	9.9nm,1.2s,mb4.5						
QSPA	**South Pole Qui**	**41.56**	**180**	*e*P	**P**	**04 31 34.2**	**-0.9**
	8.0nm,0.9s,mb4.3						
QSPA				⇓*i*P	pP	04 31 36.8	-1.3
SNAA	**Sanae**	**50.33**	**203**		**P**	**04 32 45.3**	**+0.5**
SNAA	**Sanae**	**50.33**	**203**	*e*	pP	04 32 50.0	+2.2
SNAA	**Sanae**	**50.33**	**203**	*e*	sP	04 32 52.1	+3.1
SNAA	**Sanae**	**50.33**	**203**	P	**P**	**04 32 44.5**	**-0.3**
	4.0nm,0.8s,mb4.5,baz=151,slow=9.5,SNR=7.4						
SNAA	**Sanae**	**50.33**	**203**	*e*P	**P**	**04 32 44.1**	**-0.6**
	21nm,1.0s,mb5.1						
SNAA				P	pP	04 32 45.3	-2.5
SNAA				*e*		04 32 50.0	
SNAA				*e*		04 32 52.1	
VNA2	**Neumayer--Watz**	**51.95**	**202**	*e*	pP	04 33 06.3	+6.2
VNA2	**Neumayer--Watz**	**51.95**	**202**	*e*	sP	04 33 08.7	+7.4
VNA2	**Neumayer--Watz**	**51.95**	**202**	⇑*i*P	**P**	**04 33 02.3**	**+5.2**
VNA2				*e*	pP	04 33 06.3	+6.2
VNA2				*e*		04 33 08.7	
VNA3	**Neumayer Olymp**	**52.31**	**201**	*e*	pP	04 33 13.0	+10
VNA3	**Neumayer Olymp**	**52.31**	**201**	*e*	sP	04 33 14.9	+11
VNA3	**Neumayer Olymp**	**52.31**	**201**	⇑*i*P	**P**	**04 33 07.4**	**+7.6**
VNA3				*e*		04 33 13.0	
VNA3				*e*		04 33 14.9	
VNA1	**Neumayer--Stat**	**52.35**	**202**	*e*	pP	04 33 05.3	+2.2
VNA1	**Neumayer--Stat**	**52.35**	**202**	*e*	sP	04 33 07.8	+3.5
VNA1	**Neumayer--Stat**	**52.35**	**202**	⇑*i*P	**P**	**04 33 01.1**	**+1.0**
VNA1				*e*	pP	04 33 05.3	+2.2
VNA1				*e*		04 33 07.8	
CMAR	**Chiang Mai Arr**	**67.10**	**352**	P	**P**	**04 34 41.7**	**-0.6**
	1.2nm,0.6s,mb4.1,baz=188,slow=5.6,SNR=7.2						
AFI	**Afiamalu**	**74.01**	**93**	LR	LR	04 59 31.5	
	comp=Z,216nm,20.3s,MS4.4,baz=202,slow=29						
ILAR	**Eielson Array**	**139.03**	**39**	PKP	PKPdf	04 43 13.9	-1.5
	0.4nm,0.7s,baz=286,slow=2.8,SNR=4.2						
INK	**Inuvik**	**144.69**	**34**	PKP	PKPdf	04 43 23.2	-1.8
	2.5nm,0.8s,baz=247,slow=3.5,SNR=11						
DAG	**Danmarks Havn**	**144.72**	**341**	⇑*e*P	PKPbc	04 43 23.2	+1.4
DAG	**Danmarks Havn**	**144.72**	**341**	⇑*i*P	PKPbc	04 43 23.2	+1.4
	3.0nm,0.8s						
YBH	**Yreka Blue Hor**	**144.90**	**82**	PKP	PKPdf	04 43 24.6	-1.5
	2.3nm,0.8s,baz=168,slow=2.3,SNR=6.2						
HUMO	**Hull Mountain**	**145.15**	**81**	*e*PKPdf	PKPdf	04 43 26.8	+0.2
NVAR	**Mina Array Bea**	**146.15**	**90**	PKPbc	PKPbc	04 43 29.8	+3.2
	1.8nm,0.8s,baz=232,slow=7.1,SNR=12						
WVOR	**Wild Horse Val**	**147.91**	**84**	*e*PKPbc	PKPdf	04 43 34.9	+3.7
TXAR	**Lajitas Array**	**149.75**	**118**	PKPbc	PKPdf	04 43 38.9	+4.3
	2.1nm,0.8s,baz=195,slow=6.5,SNR=11						
YKA	**Yellowknife Ar**	**153.28**	**43**	PKPbc	PKPdf	04 43 45.6	+6.9
	1.0nm,0.7s,baz=290,slow=2.1,SNR=16						
PDAR	**Pinedale Array**	**154.07**	**89**	PKPbc	PKPdf	04 43 48.0	+7.6
	0.2nm,0.8s,baz=153,slow=2.0,SNR=2.4						

IDC 26 04:23:49.6±2.1, 1.53N×127.54E, mb3.5/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=118.0km s-min=24.7km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.60**	**185**	P	P	04 28 20.5	-1.9
	0.2nm,0.3s,baz=93,slow=18,SNR=3.8						
WRA	**Warramunga Arr**	**22.36**	**163**	P	P	04 28 50.2	-0.8
	1.3nm,0.4s,baz=341,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**25.80**	**166**	P	P	04 29 21.4	-2.9
	0.2nm,0.3s,baz=337,slow=7.2,SNR=4.7						
MKAR	**Makanchi Array**	**59.81**	**326**	P	P	04 33 57.0	-2.2
	0.4nm,0.4s,baz=121,slow=8.5,SNR=5.9						

IDC 26 04:25:50.3±3.6, 0.33N×97.33E, mb3.5/3, mb1 3.8/4, mb1mx3.5/19, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=134.5km s-min=27.5km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.09**	**5**	P	P	04 30 02.9	-1.9
	0.1nm,0.3s,baz=197,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**41.47**	**121**	P	P	04 33 39.0	-1.8
	0.6nm,0.8s,baz=297,slow=8.6,SNR=2.6						
ASAR	**Alice Springs**	**42.77**	**126**	P	P	04 33 50.1	-1.5
	0.6nm,0.8s,baz=305,slow=8.0,SNR=2.7						
MKAR	**Makanchi Array**	**48.11**	**346**	P	P	04 34 31.9	-2.0
	0.5nm,0.7s,baz=153,slow=8.6,SNR=4.6						

*CSEM **26** 04:36:04.4±0.3, 35.01N×3.73W, h7km±3km, MD2.8, Error ellipse: s-maj=10.6km s-min=7.8km az=99.0*

*MDD **26** 04:36:06.0±0.5, 35.04N×3.81W, mbLg1.6/9, Error ellipse: s-maj=8.4km s-min=3.1km az=66.0, PRXIMO*

*CNRM **26** 04:36:06.2, 35.04N×3.75W, h2km, MD2.8*

*NEIC **26** 04:36:10.3, 35.40N×3.85W, MG2.7(MDD), After MDD.*

ISC 26 04:36:05.1±0.6, 35.07N±0.03×3.81W±0.04, h13km±4km, n24, σ1s20/43, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**157**	P	**Pg**	**04 36 07.0**	**-1.4**
TOU				S	**Sg**	**04 36 09.5**	**-1.1**
TOU	**Touzarine**	**0.12**	**157**	*i* P	**Pg**	**04 36 07.0**	**-1.4**
MPAL	**Palemas**	**0.19**	**325**	*i* P	**Pg**	**04 36 10.0**	**+0.5**
ZAI	**Zaio**	**0.88**	**96**	*i* P	**Pb**	**04 36 21.5**	**-0.2**
ZAI				*e*S	**Sb**	**04 36 33.0**	**-0.1**
TZK	**Tazeka**	**1.03**	**198**	*i* P	**Pb**	**04 36 25.5**	**+1.2**
TZK				*i* S	**Sb**	**04 36 38.0**	**+0.6**
EALB	**Alboran**	**1.07**	**36**	P	**Pb**	**04 36 25.8**	**+0.8**
EALB				S	**Sb**	**04 36 37.4**	**-1.4**
EALB	**Alboran**	**1.07**	**36**	P	**Pb**	**04 36 25.8**	**+0.8**
	3.5nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**04 36 40.7**	**+1.9**
	7.1nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.07**	**36**	P	**Pb**	**04 36 25.8**	**+0.8**
	3.5nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**04 36 37.3**	**-1.5**
	7.1nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.68**	**333**	P	**Pn**	**04 36 35.5**	**+1.0**
EMIJ				S	**Sn**	**04 36 54.7**	**-1.4**
EMIJ	**Mijas**	**1.68**	**333**	P	**Pn**	**04 36 35.5**	**+1.0**
	0.5nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**04 36 58.5**	**+2.5**
	1.1nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.68**	**333**	P	**Pn**	**04 36 35.5**	**+1.0**
	0.5nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**04 36 54.7**	**-1.4**
	1.1nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.97**	**22**	P	**Pn**	**04 36 40.2**	**+1.6**
EBER				S	**Sn**	**04 37 01.5**	**-1.9**
EBER	**Berja**	**1.97**	**22**	P	**Pn**	**04 36 40.2**	**+1.6**
	0.5nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**04 37 04.7**	**+1.4**
	1.0nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.97**	**22**	P	**Pn**	**04 36 40.2**	**+1.6**
	0.5nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**04 37 01.5**	**-1.8**
	1.0nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.21**	**5**	S	**Sn**	**04 37 10.2**	**+0.8**
	0.6nm,0.6s,SNR=7.9						
EQES	**Quesada**	**2.79**	**12**	P	**Pn**	**04 36 51.8**	**+1.5**
	0.4nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**04 37 24.6**	**+0.4**
	0.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.79**	**12**	P	**Pn**	**04 36 51.8**	**+1.4**
	0.4nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**04 37 24.6**	**+0.4**
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.54**	**320**	P	**Pn**	**04 37 00.4**	**-0.6**
EMIN				S	**Sn**	**04 37 39.3**	**-4.0**
EMIN	**Mina Concepcio**	**3.54**	**320**	P	**Pn**	**04 37 01.4**	**+0.3**
	0.6nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**04 37 41.6**	**-1.7**
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.54**	**320**	P	**Pn**	**04 37 00.4**	**-0.7**
	0.6nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**3.85**	**311**	P	**Pn**	**04 37 05.8**	**+0.3**
	1.1nm,0.5s,SNR=7.9						
EGRO				S	**Sn**	**04 37 49.0**	**-2.1**
	14nm,1.7s,SNR=7.9						
ETOB	**Tobarra**	**4.00**	**26**	P	**Pn**	**04 37 08.9**	**+1.3**
	1.3nm,0.4s,SNR=7.9						
ETOB				S	**Sn**	**04 37 54.6**	**-0.2**
	5.8nm,1.4s,SNR=7.9						
EBAD	**Badajoz**	**4.49**	**326**	P	**Pn**	**04 37 15.3**	**+0.9**
	1.5nm,0.6s,SNR=7.9						
EBAD				S	**Sn**	**04 38 05.5**	**-1.6**
	6.6nm,1.0s,SNR=7.9						
SRN	**Sarande**	**19.48**	**69**	*i* Sg	**S**	**04 44 05.9**	**-2.0**

*IDC **26** 04:36:44.0±8.0, 9.19S×130.12E, h103km±90km, mb3.5/1, mb1 3.6/4, mb1mx3.4/15, mbtmp3.8/4, ML3.5/3, Error ellipse: s-maj=57.1km s-min=39.6km az=12.0*

ISC 26 04:36:41.2±2.2, 9.13S±0.09×130.1E±0.1, h87km±25km, n5, σ1s21/9, mb3.7/1, Timor Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**4.25**	**147**	*e*P	**P**	**04 37 45.1**	**0.0**
	66nm,1.5s						
KAKA				*e*S	**S**	**04 38 40.2**	**+6.4**
FITZ	**Fitzroy Crossi**	**9.91**	**205**	P	**P**	**04 39 03.3**	**+0.8**
	1.2nm,0.3s,baz=34,slow=13,SNR=15						
FITZ				S	**S**	**04 40 52.0**	**-0.8**
	0.6nm,0.3s,baz=66,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**11.52**	**159**	P	**P**	**04 39 23.0**	**-1.1**
	0.2nm,0.3s,baz=338,slow=13,SNR=5.6						
WRA				S	**S**	**04 41 29.7**	**-1.8**
	0.4nm,0.3s,baz=340,slow=21,SNR=5.6						
ASAR	**Alice Springs**	**14.92**	**166**	P	**P**	**04 40 10.6**	**+1.9**
	0.2nm,0.3s,baz=338,slow=9.9,SNR=8.9						
ASAR				S	**S**	**04 42 53.7**	**+1.7**
	0.1nm,0.3s,baz=343,slow=27,SNR=3.9						
MKAR	**Makanchi Array**	**70.04**	**327**	P	**P**	**04 47 45.2**	**-0.5**
	0.8nm,0.6s,mb3.7,baz=126,slow=8.1,SNR=9.2						

DJA 26 04:38:15.4±1.0, 8.98S×112.57E, h144km±13km, ML3.9/3, 2C-5D, Error ellipse: s-maj=53.9km s-min=25.1km az=2.0, Jawa

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.63**	**72**	*e*Pn	P	04 38 46.0	-0.3
	72nm,0.2s						
SRDI				⇑*e*Sn	S	04 39 08.2	-1.8
KELI	**Kelakatan**	**2.04**	**68**	⇓*e*Pn	P	04 38 50.8	-0.3
	90nm,0.2s						
KELI	**Kelakatan**	**2.04**	**68**	⇓*e*P	P	04 38 51.5	+0.4
KELI				⇓*e*Sn	S	04 39 16.9	-1.5
RATI	**Rata**	**2.93**	**85**	⇓*e*Pn	P	04 39 02.5	+0.1
KEDI	**Kedomdong**	**3.53**	**82**	⇓*e*Pn	P	04 39 09.2	-1.0
	29nm,0.2s						
KEDI				⇓*e*Sn	S	04 39 49.5	-2.8

*ATH **26** 04:43:31.8, 39.22N×20.95E, h17km±1km, MD3.3/11*

*NEIC **26** 04:43:31.8, 39.22N×20.94E, h18km, MD3.3(ATH), After ATH.*

*CSEM **26** 04:43:31.9±0.1, 39.19N×20.87E, h2km, MD3.3, Error ellipse: s-maj=2.2km s-min=1.5km az=46.0*

*THE **26** 04:43:33.0, 39.24N×20.91E, h3km, ML3.1*

ISC 26 04:43:31.5±0.6, 39.20N±0.03×20.89E±0.04, h10km±5km, n20, σ1s08/31, 2C-6D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JAN	**Janina**	**0.46**	**356**	⇑*i*PB	**Pb**	**04 43 47.4**	**-0.9**
JAN				*e*SB	**Sb**	**04 43 47.3**	**-0.6**
LKD	**Levkas**	**0.52**	**201**	*e*Pg	**Pg**	**04 43 42.7**	**+0.6**
LKD				*e*Sg	**Sg**	**04 43 53.2**	**+4.1**
IGT	**Igoumenitsa**	**0.55**	**308**	*e*Pg	**Pg**	**04 43 41.9**	**-0.7**
IGT				*e*Sg	**Sg**	**04 43 51.3**	**+1.4**
MEV	**Metsovon**	**0.64**	**24**	*e*Pg	**Pg**	**04 43 43.5**	**-1.0**
MEV				*e*Sg	**Sg**	**04 43 53.8**	**+0.6**
EVR	**Evrytania**	**0.77**	**111**	⇓*i*Pn	**Pn**	**04 43 46.4**	**-1.8**
EVR				*e*Sn	**Sn**	**04 43 57.4**	**-2.5**
EVR	**Evrytania**	**0.77**	**111**	⇓*i*PN	**Pn**	**04 43 46.4**	**-1.8**
EVR				*e*SN	**Sn**	**04 43 56.5**	**-3.4**
SRN	**Sarande**	**0.97**	**315**	*i* Pg	**Pg**	**04 43 50.1**	**-0.8**
KEK	**Kerkira**	**0.99**	**302**	⇑*i*PN	**Pn**	**04 43 51.1**	**-0.3**
KEK				*e*SN	**Sn**	**04 44 05.3**	**-0.2**
VLS	**Valsamata**	**1.04**	**193**	⇓*i*PN	**Pn**	**04 43 52.5**	**+0.3**
VLS				*e*SN	**Sn**	**04 44 07.9**	**+1.0**
RLS	**Riolos of Patr**	**1.22**	**158**	*e*PB	**Pb**	**04 43 54.3**	**0.0**
KZN	**Kozani**	**1.30**	**31**	⇓*i*PN	**Pn**	**04 43 55.5**	**-0.3**
KZN				*e*SN	**Sn**	**04 44 13.0**	**-0.4**
LIT	**Litokhoron**	**1.53**	**53**	*e*Pb	**Pb**	**04 43 59.7**	**+0.1**
	comp=Z,4.2nm,0.4s						
LIT				*e*Sb	**Sb**	**04 44 20.8**	**+1.9**
FNA	**Florina**	**1.63**	**13**	*e*Pb	**Pb**	**04 44 01.3**	**0.0**
LKR	**Lokris**	**1.73**	**108**	⇓*i*PN	**Pn**	**04 44 03.2**	**+1.2**
NEO	**Neokhori**	**1.82**	**86**	⇓*i*PN	**Pn**	**04 44 03.9**	**+0.7**
MGER	**Gerania Oros**	**2.22**	**122**	*e*PN	**Pn**	**04 44 09.7**	**+0.8**
AOS	**Alonnisos**	**2.33**	**90**	*e*Pn	**Pn**	**04 44 11.4**	**+0.9**
NSAL	**Nisos Salamina**	**2.39**	**122**	*e*PB	**Pb**	**04 44 11.8**	**-2.6**
OUR	**Ouranopolis**	**2.64**	**64**	*e*Pn	**Pn**	**04 44 15.5**	**+0.5**
OUR				*e*Sn	**Sn**	**04 44 48.4**	**+0.9**
VLI	**Veliai**	**2.96**	**146**	*e*PB	**Pb**	**04 44 21.4**	**-2.6**

*NEIC **26** 04:46:22.8, 31.63S×69.67W, h149km, MD3.5(GUC), After GUC.*

GUC 26 04:46:22.8±0.9, 31.63S×69.67W, h149km±9km, MD3.5, ML3.5, 10C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ILCH	**Illapel**	**1.28**	**269**	⇑*i*P	P	04 46 50.8	+0.4
ILCH				*i* S	S	04 47 11.3	-0.3
ILCH				AMP		04 47 12.4	
	comp=N,2μm,0.2s						
JACH	**Jahuel**	**1.31**	**216**	⇑*i*P	P	04 46 50.7	+0.1
JACH				*i* S	S	04 47 12.6	+0.5
MDZ	**Mendoza**	**1.43**	**151**	*e*P	P	04 46 50.1	-1.8
MDZ				*e*		04 47 08.8	
CHNG	**Los Chungos**	**1.58**	**260**	*i* P	P	04 46 53.8	+0.4
CHNG				*i* S	S	04 47 16.7	-0.4
CHNG				AMP		04 47 22.8	
	comp=N,338nm,0.6s						
PEL	**Peldehue**	**1.73**	**209**	*e*P	P	04 46 55.3	+0.1
PEL				*i* S	S	04 47 19.5	-0.6
PACH	**Papudo**	**1.75**	**238**	⇑*i*P	P	04 46 55.4	+0.1
PACH				*i* S	S	04 47 19.9	-0.5
ROCH	**El Roble**	**1.75**	**220**	⇑*i*P	P	04 46 55.6	+0.2
ROCH				*i* S	S	04 47 21.2	+0.7
TLL	**Tololo Astrono**	**1.75**	**326**	⇑*i*P	P	04 46 55.8	+0.4
TLL				*i* S	S	04 47 20.2	-0.3
FCH	**Farellones**	**1.77**	**197**	⇓*i*P	P	04 46 56.2	+0.7
FCH				*i* S	S	04 47 21.6	+0.7
FCH				AMP		04 47 23.5	
	comp=E,233nm,0.4s						
CLCH	**Cerro Calan**	**1.90**	**202**	⇓*i*P	P	04 46 57.4	+0.3
CLCH				*i* S	S	04 47 23.9	+0.4
CLCH				AMP		04 47 25.6	
	comp=E,504nm,0.4s						
DSCH	**Colegio Aleman**	**1.92**	**203**	⇑*i*P	P	04 46 57.6	+0.4
DSCH				*i* S	S	04 47 23.9	+0.2
DSCH				AMP		04 47 25.3	
	comp=N,663nm,0.6s						
FSR	**Penalolen**	**1.98**	**201**	⇑*i*P	P	04 46 58.2	+0.3
FSR				*i* S	S	04 47 25.5	+0.5
FSR				AMP		04 47 26.9	
	comp=N,302nm,0.4s						
RCDM	**Rinconada Maip**	**2.08**	**207**	⇓*i*P	P	04 46 59.4	+0.1
RCDM				*i* S	S	04 47 27.0	-0.2
RCDM				AMP		04 47 29.8	
	comp=E,240nm,0.2s						
ANTU	**Antumapu**	**2.10**	**203**	*e*P	P	04 46 59.8	+0.5
ANTU				*i* S	S	04 47 27.4	-0.1
ANTU				AMP		04 47 29.2	
	comp=N,338nm,0.5s						
PCH	**Pirque**	**2.11**	**199**	⇓*i*P	P	04 47 00.2	+0.7
PCH				*i* S	S	04 47 28.0	+0.3
LMEL	**Las Melosas**	**2.25**	**191**	⇓*i*P	P	04 47 01.5	+0.2
LMEL				*i* S	S	04 47 31.0	+0.1
LMEL				AMP		04 47 38.4	
	comp=N,125nm,0.3s						
TACH	**Talagante**	**2.28**	**208**	⇑*i*P	P	04 47 01.6	-0.1
LCCH	**Las Cruces**	**2.44**	**221**	⇓*i*P	P	04 47 03.8	+0.1
CHCH	**Chadas Angostu**	**2.44**	**200**	⇓*i*P	P	04 47 03.8	+0.1
CHCH				*i* S	S	04 47 35.2	+0.2
CACH	**El Canelo**	**2.60**	**197**	⇑*i*P	P	04 47 06.1	+0.4
CACH				*i* S	S	04 47 37.9	-0.6
CICH	**Cipreses**	**2.75**	**193**	⇑*i*P	P	04 47 08.2	+0.5
SFDO	**San Fernando**	**3.18**	**200**	⇓*i*P	P	04 47 12.9	-0.3
SFDO				*i* S	S	04 47 50.8	-1.0

*NEIC **26** 04:48:44.1±1.5, 4.62S×144.54E, h89km±13km, mb4.6/3, Error ellipse: s-maj=12.8km s-min=9.2km az=167.0*

*IDC **26** 04:48:45.7±0.8, 4.74S×144.59E, h101km±7km, mb3.8/8, mb1 4.0/10, mb1mx3.8/18, mbtmp4.2/10, Error ellipse: s-maj=16.2km s-min=10.2km az=106.0*

ISC 26 04:48:43.8±0.7, 4.74S±0.08×144.61E±0.08, h100km, n26, σ0s82/22, mb3.9/9, 3C, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**152**	P	**P**	**04 50 03.1**	**+1.5**
	12nm,0.3s,baz=8.6,slow=4.6,SNR=22						
PMG				S	**S**	**04 51 00.6**	**-1.2**
	11nm,0.3s,baz=318,slow=22,SNR=12						
PMG	**Port Moresby**	**5.28**	**152**	*e*P	**P**	**04 50 02.9**	**+1.3**
PMG				Sn	**S**	**04 51 00.4**	**-1.3**
KAKA	**Kakadu**	**14.40**	**236**	⇑*i*P	**P**	**04 52 04.1**	**+0.1**
	26nm,0.6s						
WRAB	**Tennant Creek**	**18.11**	**213**	*e*P	**P**	**04 52 49.8**	**-0.4**
	27nm,0.9s						
WB2	**Warramunga Arr**	**18.12**	**213**

WB2 Warramunga Arr 41.55 121 *eP* **P 05 24 18.6 -0.9**
ASAR Alice Springs 42.84 126 P **P 05 24 30.5 +0.4**
1.4nm,0.7s,mb3.8,baz=303,slow=6.7,SNR=12
SONM Songino Array 47.92 8 P **P 05 25 11.3 +1.0**
0.5nm,0.5s,mb3.8,baz=214,slow=5.2,SNR=3.0
MKAR Makanchi Array 48.05 346 P **P 05 25 12.2 +0.9**
0.8nm,0.4s,mb4.1,baz=159,slow=8.7,SNR=17
STKA Stephens Creek 52.75 132 *eP* **P 05 25 47.5 +0.1**
2.1nm,0.6s,mb4.2
STKA Stephens Creek 52.75 132 P **P 05 25 47.9 +0.5**
2.8nm,0.8s,mb4.2,baz=299,slow=10,SNR=5.8
BVAR Borovoye Array 57.04 341 P **P 05 26 17.4 -0.8**
1.1nm,0.6s,mb4.1,baz=141,slow=9.5,SNR=6.8
CHKZ Chkalovo 57.52 342 *eP* **P 05 26 20.3 -1.3**
1.9nm,0.6s,mb4.3
KMBO Kilima Mbogo 60.05 268 P **P 05 26 40.3 +0.6**
2.9nm,0.2s,mb5.0,baz=59,slow=19,SNR=3.4
BRTR Keskin Array B 69.72 313 P **P 05 27 41.2 -0.8**
1.0nm,0.7s,mb3.9,baz=129,slow=7.9,SNR=6.6
MAW Mawson 71.94 193 P **P 05 27 55.1 +0.1**
1.2nm,0.8s,mb3.9,baz=39,slow=10,SNR=4.1
BOSA Boshof 74.45 240 P **P 05 28 10.4 0.0**
3.6nm,1.1s,mb4.2,baz=74,slow=11,SNR=4.2
AKASG Malin Array Be 75.95 323 P **P 05 28 17.6 -0.9**
1.9nm,0.5s,mb4.2,baz=89,slow=4.5,SNR=7.9
FINES FINESS Array B 80.75 333 P **P 05 28 44.9 +0.3**
1.1nm,0.5s,mb4.1,baz=95,slow=5.6,SNR=13
KAF Kangasniemi 80.84 333 ep **P 05 28 43.4 -1.6**
ARCES ARCESS Array B 83.33 340 P **P 05 28 59.0 +1.2**
1.3nm,0.5s,mb4.3,baz=104,slow=4.1,SNR=18
GERES GERESS Array B 85.48 319 P **P 05 29 09.5 +0.5**
0.4nm,0.2s,mb4.2,baz=104,slow=8.1,SNR=6.0
NOA NORSAR Array B 87.75 331 P **P 05 29 20.5 +0.7**
0.4nm,0.6s,mb3.8,baz=99,slow=5.4,SNR=2.5
TXAR Lajitas Array 144.31 32 PKP PKPdf 05 36 07.7 -3.6
0.3nm,0.4s,baz=200,slow=0.4,SNR=15
CPUP Villa Florida 144.46 221 PKP PKPdf 05 36 07.4 -4.2
6.6nm,0.8s,baz=150,slow=5.7,SNR=13

IDC 26 05:18:32.4±9.5, 12.59S×167.14E, h217km±100km, mb3.7/3, mb1 3.8/4, mb1mx3.4/16, mbtmp4.1/4, Error ellipse: s-maj=97.3km s-min=61.2km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.45**	**184**	P	P	05 20 45.0	-0.1
0.3nm,0.3s,baz=343,slow=20,SNR=3.6							
DZM				S	S	05 22 29.9	+0.9
0.5nm,0.3s,baz=139,slow=19,SNR=5.0							
ASAR	**Alice Springs**	**33.37**	**246**	pP	pP	05 25 26.9	-10
0.8nm,0.7s,baz=72,slow=10.0,SNR=4.7							
ILAR	**Eielson Array**	**84.54**	**18**	P	P	05 30 40.5	-1.3
1.3nm,0.6s,baz=243,slow=5.6,SNR=24							
MKAR	**Makanchi Array**	**95.58**	**317**	P	P	05 31 32.6	-1.3
0.6nm,0.5s,baz=94,slow=5.8,SNR=5.1							
YKA	**Yellowknife Ar**	**95.71**	**27**	P	P	05 31 32.8	-1.3
0.1nm,0.4s,baz=258,slow=5.0,SNR=4.9							
ARCES	**ARCESS Array B**	**118.16**	**346**	PKP	PKPdf	05 36 53.0	+0.1
0.5nm,0.3s,baz=68,slow=2.5,SNR=17							

PRU 26 05:34:58.3, 51.54N×16.08E
WAR 26 05:34:59.0, 51.56N×16.01E, h1km, ML2.8, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**166**	*e*PG	Pg	05 35 13.0	-0.8
KSP				*i* SG	Sg	05 35 22.4	-1.3
UPC	**Upice**	**1.06**	**180**	*e*PG	Pg	05 35 18.7	-1.4
DPC	**Dobruska-Polom**	**1.23**	**171**	*e*PG	Pg	05 35 20.6	-3.0
DPC				*e*SG	Sg	05 35 37.1	-2.8
33nm,0.3s							
PVCC	**Panska Ves**	**1.38**	**222**	*e*PG	Pg	05 35 24.6	-1.9
PRU	**Pruhonice**	**1.83**	**211**	*e*PG	Pg	05 35 32.2	-3.3
PRU				*e*SG	Sg	05 35 55.9	-4.0
11nm,0.2s							
CLL	**Collm**	**1.90**	**263**	*e*PN	Pn	05 35 31.0	-1.8
CLL				*i* PG	Pg	05 35 33.9	-3.0
CLL				*i*		05 35 37.7	
CLL				*e*SG	Sg	05 35 59.0	-3.2
OKC	**Ostrava-Krasne**	**2.20**	**141**	*e*SG	Sg	05 36 07.5	-4.7
13nm,0.3s							
OJC	**Ojcow**	**2.75**	**118**	*e*PG	Pg	05 35 50.0	-3.9
OJC				*e*SG	Sg	05 36 26.0	-4.6
KHC	**Kasperske Hory**	**2.89**	**214**	*e*PG	Pg	05 35 51.2	-5.5
KHC				*e*x	x	05 36 01.5	
KHC				*e*SN	Sn	05 36 19.5	-3.4
KHC				*e*SG	Sg	05 36 29.3	-5.9
9.8nm,0.7s							
MOA	**Molln**	**3.88**	**198**	⇑*i*PN	Pn	05 35 59.7	-1.4
MOA				*i* SG	Sg	05 37 04.0	-4.3
6.7nm,0.6s							

IDC 26 06:03:43.2±1.3, 0.27N×97.10E, mb3.8/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, ML4.5/1, Error ellipse: s-maj=72.2km s-min=22.9km az=50.0
NEIC 26 06:03:47.5±0.6, 0.38N×97.21E, h30km, mb4.7/2, Error ellipse: s-maj=16.3km s-min=10.9km az=67.0
ISC 26 06:03:46.6±0.8, 0.41N±0.10×97.3E±0.1, h33km, n14, σ0§98/12, mb4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.89**	**35**	*e*P	P	06 05 13.1	-0.7
CMAR	**Chiang Mai Arr**	**18.00**	**5**	P	P	06 07 56.6	+0.5
0.6nm,0.3s,baz=190,slow=11,SNR=7.3							
KKM	**Kota Kinabalu**	**19.69**	**73**	*e*P	P	06 08 16.1	0.0
NWAO	**Narrogin (SRO)**	**38.12**	**152**	*e*P	P	06 11 03.0	-1.4
32nm,1.5s,mb4.8							
WRA	**Warramunga Arr**	**41.55**	**121**	P	P	06 11 33.2	+0.2
0.5nm,0.5s,mb3.4,baz=302,slow=8.9,SNR=4.8							
WRAB	**Tennant Creek**	**41.55**	**121**	P	P	06 11 33.8	+0.7
ASAR	**Alice Springs**	**42.85**	**126**	P	P	06 11 44.2	+0.5
0.6nm,0.8s,mb3.4,baz=315,slow=7.9,SNR=6.9							
CHKZ	**Chkalovo**	**57.50**	**342**	*e*P	P	06 13 32.1	-2.8
2.8nm,0.7s,mb4.4							
AKASG	**Malin Array Be**	**75.94**	**323**	P	P	06 15 31.6	-0.2
0.3nm,0.3s,mb3.8,baz=91,slow=4.2,SNR=4.6							
FINES	**FINESS Array B**	**80.73**	**333**	P	P	06 15 58.4	+0.4
0.6nm,0.5s,mb3.8,baz=135,slow=2.7,SNR=4.8							
ARCES	**ARCESS Array B**	**83.30**	**340**	P	P	06 16 12.6	+1.5
2.0nm,0.8s,mb4.2,baz=104,slow=5.0,SNR=9.4							
ARCES	**ARCESS Array B**	**83.30**	**340**	P	P	06 16 12.6	+1.5
TXAR	**Lajitas Array**	**144.28**	**32**	PKP	PKPdf	06 23 21.2	+1.3
0.3nm,0.5s,baz=198,slow=1.3,SNR=7.7							
CPUP	**Villa Florida**	**144.49**	**221**	PKP	PKPdf	06 23 21.1	+0.7
1.7nm,0.6s,baz=115,slow=4.1,SNR=8.3							

IDC 26 06:15:33.5±6.9, 5.26N×127.33E, h115km±64km, mb3.8/12, mb1 4.0/12, mb1mx3.8/22, mbtmp4.2/12, Error ellipse: s-maj=30.5km s-min=14.1km az=83.0
NEIC 26 06:15:33.6±4.8, 5.24N×127.28E, h116km±44km, mb4.2/2, Error ellipse: s-maj=20.7km s-min=8.0km az=63.0
ISC 26 06:15:32.1±1.3, 5.24N±0.07×127.2E±0.1, h116km±13km, n24, σ0§56/24, mb4.0/15, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.95**	**330**	*e*P	P	06 16 05.6	+0.4
BUKP	**Musuan**	**3.39**	**321**	*e*P	P	06 16 24.2	-0.3
BUTP	**Butuan**	**4.03**	**337**	*e*P	P	06 16 42.7	+10
KSM	**Kuching**	**17.30**	**258**	*e*P	P	06 19 28.2	+0.2
FITZ	**Fitzroy Crossi**	**23.25**	**184**	P	P	06 20 31.2	+1.2
5.3nm,0.8s,mb3.9,baz=10,slow=11,SNR=8.6							
WRAB	**Tennant Creek**	**25.98**	**165**	*e*P	P	06 20 55.4	-0.6
11nm,0.9s,mb4.3							
WRA	**Warramunga Arr**	**25.98**	**165**	P	P	06 20 55.8	-0.2
4.2nm,0.6s,mb4.1,baz=341,slow=10,SNR=10							
CBIJ	**Chichi jima**	**25.99**	**32**	P	P	06 20 55.6	-0.4
59nm,0.8s,mb5.1,baz=269,slow=18,SNR=4.7							
ASAR	**Alice Springs**	**29.46**	**167**	P	P	06 21 26.6	-0.9
0.3nm,0.3s,mb3.4,baz=351,slow=7.8,SNR=5.3							
ASAR				PcP	PcP	06 24 30.9	+0.5
0.4nm,0.4s,baz=353,slow=2.5,SNR=6.8							
NWAO	**Narrogin (SRO)**	**39.13**	**193**	P	P	06 22 49.8	-0.1
5.7nm,0.8s,mb4.5,baz=350,slow=6.1,SNR=3.6							
NWAO	**Narrogin (SRO)**	**39.13**	**193**	P	P	06 22 49.8	-0.1
NWAO				*e*P		06 22 50.1	
STKA	**Stephens Creek**	**39.37**	**161**	P	P	06 22 51.5	-0.4
1.3nm,0.4s,mb4.1,baz=2.5,slow=6.8,SNR=5.3							

MKAR	**Makanchi Array**	**56.62**	**324**	P	P	06 25 05.3	0.0
1.0nm,0.4s,mb4.2,baz=116,slow=7.3,SNR=21							
BVAR	**Borovoye Array**	**66.34**	**326**	P	P	06 26 10.0	-0.5
2.1nm,0.5s,mb4.2,baz=132,slow=7.7,SNR=17							
CHKZ	**Chkalovo**	**66.49**	**327**	*e*P	P	06 26 10.7	-0.7
0.7nm,0.3s,mb4.0							
IMA	**Indian Mountai**	**80.81**	**24**	*e*P	P	06 27 34.8	+0.7
ILAR	**Eielson Array**	**83.53**	**25**	P	P	06 27 47.6	-0.4
1.0nm,0.6s,mb3.9,baz=248,slow=5.4,SNR=15							
DIV	**Divide**	**83.99**	**29**	*e*P	P	06 27 51.4	+1.0
VNDA	**Vanda**	**84.85**	**173**	P	P	06 27 54.8	+0.3
0.9nm,1.0s,mb3.6,baz=318,slow=3.0,SNR=3.9							
SBA	**Scott Base**	**85.75**	**172**	*e*P	P	06 27 59.8	+0.9
INK	**Inuvik**	**88.58**	**22**	P	P	06 28 12.7	0.0
0.2nm,0.4s,mb3.5,baz=280,slow=7.7,SNR=4.4							
ARCES	**ARCESS Array B**	**89.21**	**340**	P	P	06 28 15.3	-0.2
2.2nm,0.8s,mb4.2,baz=79,slow=6.2,SNR=7.1							
YKA	**Yellowknife Ar**	**97.92**	**24**	P	P	06 28 56.2	+0.5
0.2nm,0.5s,mb3.9,baz=299,slow=4.5,SNR=5.9							
YKA	**Yellowknife Ar**	**97.92**	**24**	P	P	06 28 56.2	+0.5

MAN 26 06:40:15.6, 9.26N×125.68E, h7km, mb4.0, ML2.7, MS2.4, Mindanao

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IDC 26 07:11:17.5±1.0, 25.20S×175.71W, mb3.8/6, mb1 4.1/6, mb1mx4.0/14, mbtmp3.8/6, MS3.5/1, Ms1 3.5/1, ms1mx2.8/23, Error ellipse: s-maj=42.6km s-min=24.4km az=152.0
NEIC 26 07:11:21.8±0.5, 25.27S×175.71W, h30km, mb4.5/2, Error ellipse: s-maj=21.1km s-min=14.7km az=154.0
ISC 26 07:11:20.7±0.8, 25.3S±0.2×175.7W±0.2, h33km, n19, σ0§64/9, mb4.0/9, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.65**	**278**	LR	LR	07 20 21.7	
comp=Z,149nm,18.4s,baz=204,slow=33							
TBI	**Tubuai**	**24.00**	**91**	*e*LR	LR	07 21 46.4	
128nm,29.2s							
PPT	**Papeete**	**25.50**	**78**	*e*LR	LR	07 22 11.2	
126nm,26.2s							
STKA	**Stephens Creek**	**37.85**	**250**	P	P	07 18 37.2	+1.1
0.7nm,0.4s,mb3.7,baz=92,slow=13,SNR=5.1							
ASAR	**Alice Springs**	**45.65**	**261**	P	P	07 19 39.6	-0.5
0.8nm,0.4s,mb4.0,baz=91,slow=7.6,SNR=22							
WRAB	**Tennant Creek**	**46.18**	**266**	P	P	07 19 44.6	+0.1
4.1nm,0.8s,mb4.4							
WRA	**Warramunga Arr**	**46.19**	**266**	P	P	07 19 43.8	-0.7
0.9nm,0.6s,mb3.9,baz=104,slow=7.8,SNR=5.3							
VNDA	**Vanda**	**53.32**	**186**	P	P	07 20 38.9	+0.5
0.8nm,0.8s,mb3.7,baz=19,slow=4.0,SNR=4.8							
QSPA	**South Pole Qui**	**64.76**	**180**	*e*P	P	07 21 56.7	-0.7
3.9nm,0.7s,mb4.5							
NVAR	**Mina Array Bea**	**83.15**	**42**	P	P	07 23 45.3	+0.5
0.7nm,0.8s,mb3.8,baz=222,slow=9.9,SNR=5.3							
TXAR	**Lajitas Array**	**87.94**	**56**	P	P	07 24 08.3	-0.3
0.4nm,0.9s,mb3.7,baz=185,slow=14,SNR=4.5							
CMAR	**Chiang Mai Arr**	**93.67**	**289**	P	P	07 24 40.4	+4.8
0.6nm,0.3s,mb4.5,baz=146,slow=3.4,SNR=6.5							
ARCES	**ARCESS Array B**	**134.03**	**350**	PKP	PKPdf	07 30 35.9	+1.6
2.2nm,0.9s,baz=27,slow=2.7,SNR=4.7							
ARCES	**ARCESS Array B**	**134.03**	**350**	PKP	PKPdf	07 30 35.9	+1.6
NB2	**NORSAR Subarra**	**143.99**	**354**	PKPabc	PKPdf	07 30 52.0	-0.1
0.6nm,0.8s,baz=3.0,slow=3.3							
NOA	**NORSAR Array B**	**143.99**	**354**	PKhKP		07 30 49.8	
1.7nm,1.0s,baz=4.7,slow=2.3,SNR=4.0							
AKASG	**Malin Array Be**	**148.23**	**329**	PKPbc	PKPdf	07 31 04.3	+4.6
0.4nm,0.3s,baz=36,slow=3.6,SNR=4.8							
BRTR	**Keskin Array B**	**151.54**	**307**	PKPbc	PKPdf	07 31 13.6	+8.4
0.9nm,0.6s,baz=90,slow=2.5,SNR=4.9							
BRTR				PKPab	PKPab	07 31 22.8	+0.6
0.8nm,0.6s,baz=45,slow=1.7,SNR=5.0							
CLL	**Collm**	**153.22**	**348**	*e*PKP1	PKPdf	07 31 17.0	+10

UPP 26 07:17:05.0, 57.70N×9.37E, ML3.2, Suspected Mining explosion.
CSEM 26 07:17:08.3±0.1, 57.79N×9.97E, h2km, MD2.7, Error ellipse: s-maj=1.9km s-min=1.5km az=5.0, Suspected Mining explosion.
IDC 26 07:17:10.6±1.8, 57.89N×9.74E, mb1 3.4/5, mb1mx3.2/24, mbtmp3.3/5, ML3.3/4, Error ellipse: s-maj=19.6km s-min=14.5km az=133.0
NEIC 26 07:17:10.2±0.6, 57.81N×9.93E, h10km, MD2.7(BER), Error ellipse: s-maj=9.2km s-min=8.4km az=111.0
BER 26 07:17:11.2±2.3, 57.82N×10.04E, h0km±10km, MD2.6, ML1.8, ML2.2(NAO)
NAO 26 07:17:13.0±6.4, 57.92N×10.12E, h23km±40km, ML2.2
ISC 26 07:17:08.1±0.4, 57.83N±0.03×10.01E±0.06, n39, σ1§13/57, Denmark

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUD	**Monsted U'grnd**	**1.46**	**199**	*i* P	Pn	07 17 35.1	-0.6
MUD				*i*		07 17 36.1	
MUD				*i* S	Sb	07 17 55.1	+0.4
MUD	**Monsted U'grnd**	**1.46**	**199**	*i* P	Pn	07 17 35.1	-0.6
MUD				*i* S	Sb	07 17 55.1	+0.4
SNART	**Snartemo**	**1.57**	**290**	*e*P	Pn	07 17 38.8	+1.4
SNART				*e*S	Sb	07 18 00.5	+2.4
SNART				AML	AML	07 18 04.2	
comp=Z,17nm,0.5s							
KONO	**Kongsberg**	**1.83**	**353**	Pn	Pn	07 17 43.7	+2.6
KONO				*e*S	Sn	07 18 07.0	+1.6
KONO	**Kongsberg**	**1.83**	**353**	Pn	Pn	07 17 43.7	+2.6
KONO				*e*S	Sn	07 18 06.9	+1.6
BLS5	**Blasjo**	**2.45**	**312**	*e*P	Pn	07 17 50.2	+0.3
BLS5				*e*S	Sn	07 18 26.2	+5.2
BLS5	**Blasjo**	**2.45**	**312**	*e*P	Pn	07 17 50.2	+0.3
BLS5				*e*Sg	Sg	07 18 27.6	-2.0
BLS5				AML	AML	07 18 36.6	
comp=Z,12nm,0.4s							
ODD1	**Odda**	**2.73**	**321**	*e*P	Pn	07 17 54.0	+0.2
ODD1				*e*S	Sn	07 18 33.4	+5.3
ODD1	**Odda**	**2.73**	**321**	*e*P	Pn	07 17 54.0	+0.2
ODD1				*e*S	Sn	07 18 26.9	-1.1
ODD1				AML	AML	07 18 38.9	
comp=Z,11nm,0.2s							
ODD1	**Odda**	**2.73**	**321**	*e*P	Pn	07 17 54.0	+0.2
SNR=50							
ODD1				*e*S	Sn	07 18 26.9	-1.1
comp=Z,11nm,0.2s,SNR=50							
ASKU	**Askersund**	**2.75**	**65**	P	Pn	07 17 55.0	+0.8
ASKU				S	Sn	07 18 34.3	+5.6
VXJU	**Vaexsjoe**	**2.82**	**107**	P	Pn	07 17 54.8	-0.4
EKSU	**Eksjoe**	**2.85**	**93**	P	Pn	07 17 56.5	+0.8
KMY	**Karmoy**	**2.85**	**301**	*e*P	Pn	07 17 54.9	-0.8
KMY				*e*S	Sn	07 18 40.7	+9.4
KMY	**Karmoy**	**2.85**	**301**	*e*P	Pn	07 17 55.8	+0.1
KMY				*e*S	Sn	07 18 29.5	-1.7
KMY				AML	AML	07 18 39.8	
comp=Z,4.4nm,0.3s							
KMY	**Karmoy**	**2.85**	**301**	*e*P	Pn	07 17 55.8	+0.1
SNR=50							
KMY				*e*S	Sn	07 18 29.5	-1.8
comp=Z,4.4nm,0.3s,SNR=50							
LNKU	**Linkoeping**	**2.95**	**80**	P	Pn	07 17 57.5	+0.5
HFS	**Hagfors**	**2.99**	**38**	Pn	Pn	07 17 58.2	+0.6
baz=222,slow=14							
HFS				Pg	Pg	07 18 05.8	-2.1
baz=224,slow=16							
HFS				Lg		07 18 42.0	
baz=220,slow=37							
HFS	**Hagfors**	**2.99**	**38**	Pn	Pn	07 17 58.1	+0.5
comp=Z,0.2nm,0.3s,baz=216,slow=14,SNR=34							
HFS				Pg	Pg	07 18 05.2	-2.7
comp=Z,0.7nm,0.3s,baz=214,slow=16,SNR=25							
HFS				Lg		07 18 43.7	
comp=Z,1.1nm,0.3s,baz=219,slow=28,SNR=8.5							
HFS	**Hagfors**	**2.99**	**38**	Pg	Pg	07 18 05.2	-2.6
NAO01	**NORSAR Array S**	**3.05**	**8**	*e*Pn	Pn	07 17 57.9	-0.6
NAO01	**NORSAR Array S**	**3.05**	**8**	*e*Pn	Pn	07 17 57.9	-0.6
NB2	**NORSAR Subarra**	**3.27**	**10**	Pn	Pn	07 18 01.2	-0.4
baz=192,slow=16							
NB2				Lg		07 18 53.9	
baz=191,slow=37							
NOA	**NORSAR Array B**	**3.27**	**10**	Pn	Pn	07 18 01.1	-0.6
comp=Z,1.0nm,0.3s,baz=197,slow=13,SNR=7.6							
NOA				Lg		07 18 54.0	
comp=Z,1.7nm,0.3s,baz=313,slow=29,SNR=4.5							
OSKU	**Oskarshamn**	**3.35**	**98**	P	Pn	07 18 02.9	+0.2

BLEU	**Blekinge**	**3.52**	**113**	P	Pn	07 18 04.1	-1.1
ASPU	**Aespoe**	**3.57**	**94**	P	Pn	07 18 06.2	+0.4
VIKU	**Vikbolandet**	**3.61**	**76**	P	Pn	07 18 06.7	+0.3
ESKU	**Eskilstuna**	**3.63**	**65**	P	Pn	07 18 07.2	+0.5
BYXU	**Byxelkrok**	**3.81**	**95**	P	Pn	07 18 09.3	0.0
BACU	**Backbrunna**	**4.21**	**58**	P	Pn	07 18 15.3	+0.4
EKA	**Eskdalemuir Ar**	**7.69**	**257**	Pn	Pn	07 19 00.4	-3.6
comp=Z,0.2nm,0.3s,baz=68,slow=13,SNR=3.8							
FIA0	**FINESS Array S**	**8.90**	**59**	Pn	P	07 19 18.5	-2.4
baz=250,slow=12							
FIA0				Sn	Sn	07 20 55.8	-7.3
baz=250,slow=22							
FIA0				Lg		07 21 45.4	
baz=258,slow=28							
FINES	**FINESS Array B**	**8.90**	**59**	Pn	P	07 19 18.6	-2.3
comp=Z,0.7nm,0.3s,baz=255,slow=12,SNR=20							
FINES				Sn	Sn	07 20 56.8	-6.2
comp=Z,0.3nm,0.3s,baz=247,slow=22,SNR=5.1							
FINES				Lg		07 21 46.1	
comp=Z,0.4nm,0.3s,baz=253,slow=23,SNR=4.1							
FINES	**FINESS Array B**	**8.90**	**59**	Pn	P	07 19 18.5	-2.4
MORC	**Moravsky Berou**	**9.21**	**148**	P	P	07 19 24.6	-0.7
ARA0	**ARCESS Array S**	**13.54**	**24**	Pn	P	07 20 18.4	-5.0
baz=218,slow=14							
ARCES	**ARCESS Array B**	**13.54**	**24**	Pn	P	07 20 18.4	-5.1
comp=Z,0.1nm,0.3s,baz=212,slow=13,SNR=7.4							
ARCES	**ARCESS Array B**	**13.54**	**24**	Pn	P	07 20 18.4	-5.1

IDC 26 07:36:02.6±1.9, 0.05S×97.09E, mb3.8/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, Error ellipse: s-maj=87.9km s-min=19.8km az=58.0
ISC 26 07:36:04.7±2.5, 0.2S±0.4×96.9E±0.6, h33km, n8, σ1§27/6, mb3.8/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.63**	**120**	P	P	07 43 52.3	+0.5
0.7nm,0.6s,mb3.5,baz=305,slow=8.9,SNR=6.9							
ASAR	**Alice Springs**	**42.87**	**126**	P	P	07 44 03.0	+1.0
0.3nm,0.6s,mb3.2,baz=302,slow=8.5,SNR=4.0							
MKAR	**Makanchi Array**	**48.49**	**347**	P	P	07 44 47.0	+0.8
1.4nm,0.6s,mb4.2,baz=157,slow=7.6,SNR=20							
SONM	**Songino Array**	**48.54**	**9**	P	P	07 44 45.9	-0.7
1.1nm,0.6s,mb4.1,baz=191,slow=9.8,SNR=11							
STKA	**Stephens Creek**	**52.71**	**131**	P	P	07 45 16.9	-1.6
2.3nm,0.9s,mb4.1,baz=311,slow=5.9,SNR=4.6							
BVAR	**Borovoye Array**	**57.43**	**341**	P	P	07 45 52.5	-0.1
0.6nm,0.5s,mb3.9,baz=156,slow=10,SNR=6.3							
CPUP	**Villa Florida**	**143.75**	**221**	PKP	PKPdf	07 55 41.1	+4.0
2.0nm,0.8s,baz=112,slow=5.4,SNR=3.8							
TXAR	**Lajitas Array**	**145.02**	**32**	PKP	PKPdf	07 55 41.8	+2.5
0.2nm,0.6s,slow=0.9,SNR=3.1							

IDC 26 07:48:56.6±1.1, 22.40S×66.01W, h250km±14km, mb3.6/5, mb1 3.8/10, mb1mx3.5/20, mbtmp4.3/10, Error ellipse: s-maj=21.5km s-min=13.3km az=114.0
NEIC 26 07:48:56.5±0.7, 22.46S×66.01W, h250km±10km, mb4.1/3, Error ellipse: s-maj=16.3km s-min=8.5km az=106.0
GUC 26 07:48:57.0±1.0, 22.80S×66.46W, h283km±18km, ML3.7
ISC 26 07:48:55.3±0.7, 22.52S±0.05×66.0W±0.1, h253km±11km, n24, σ1§19/34, mb3.8/6, 4C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**2.04**	**259**	⇑*i*P	P	07 49 42.1	+3.4
LVC	**Limon Verde**	**2.67**	**267**	P	P	07 49 47.0	+2.1
44nm,0.3s,baz=81,slow=6.4,SNR=844							
LVC				S	S	07 50 25.3	+2.0
20nm,0.3s,baz=266,slow=22,SNR=7.0							
LVC	**Limon Verde**	**2.67**	**267**	P	P	07 49 47.0	+2.1
LVC				S	S	07 50 25.3	+2.0
LVC	**Limon Verde**	**2.67**	**267**	⇑*i*P	P	07 49 47.0	+2.1
LVC				*i* S	S	07 50 25.1	+1.8
LVC				AMP		07 50 30.0	
comp=E,117nm,0.5s							
ANCH	**Antofagasta**	**4.20**	**253**	⇑*i*P	P	07 50 02.9	+0.8
ANCH				*i* S	S	07 50 52.4	-1.6
CPN1	**Cerro Paranal**	**4.53**	**242**	⇑*i*P	P	07 50 07.1	+1.1
CPN1				*i* S	S	07 51 00.5	-0.6
CRCH	**Chaqaral**	**5.66**	**227**	⇓*i*P	P	07 50 19.8	0.0
CRCH				*i* S	S	07 51 23.8	-2.2
LPAZ	**La Paz**	**6.50**	**342**	P	P	07 50 31.6	+1.2
comp=E,5.3nm,0.3s,baz=143,slow=7.8,SNR=147							
LPAZ				S	S	07 51 44.2	-0.6
comp=E,0.5nm,0.3s,baz=260,slow=21,SNR=13							
ARE	**Arequipa**	**7.92**	**319**	*e*P	P	07 50 47.0	-1.3
ARE				*e*S	S	07 52 12.0	-5.0
SIV	**San Ignacio**	**8.00**	**37**	P	P	07 50 48.8	-0.5
comp=E,4.2nm,0.3s,baz=230,slow=12,SNR=79							
SIV				S	S	07 52 09.4	-9.3
baz=201,slow=18,SNR=3.2							
CFAA	**Coronel Fontan**	**9.27**	**192**	P	P	07 51 04.0	-1.3
baz=14,slow=16							
CFAA				S	S	07 52 42.2

CDF	**Champ du Feu**	**0.98 159**	*e*Pg	**Pg**	**07 53 21.9**	**+0.1**
CDF			*e*Sg	**Sg**	**07 53 35.4**	**+0.6**
119nm,0.2s						
WLS	**Welschbruch**	**0.99 157**	*e*Pn	**Pg**	**07 53 23.0**	**+0.8**
SNR=14						
WLS			*e*Sg	**Sg**	**07 53 36.2**	**+0.8**
SNR=4.0						
WLS	**Welschbruch**	**0.99 157**	Pg	**Pg**	**07 53 23.1**	**+0.9**
WLS			Sg	**Sg**	**07 53 37.3**	**+1.9**
RFYF	**Reffroy**	**1.10 231**	*e*Pg	**Pg**	**07 53 26.2**	**+2.0**
RFYF			*e*Sg	**Sg**	**07 53 40.1**	**+1.3**
61nm,0.2s						
ECH	**Echery**	**1.14 167**	*e*Pg	**Pg**	**07 53 25.8**	**+0.7**
SNR=23						
ECH			*e*Sg	**Sg**	**07 53 40.9**	**+0.5**
SNR=7.3						
ECH	**Echery**	**1.14 167**	Pg	**Pg**	**07 53 26.0**	**+0.9**
ECH			Sg	**Sg**	**07 53 41.5**	**+1.2**
THEF	**They Montfort**	**1.21 205**	*e*Pg	**Pg**	**07 53 27.1**	**+0.6**
SNR=31						
THEF			*e*Sg	**Sg**	**07 53 43.6**	**+0.9**
SNR=3.5						
STB	**Steinbach**	**1.27 2**	*e*Pg	**Pg**	**07 53 27.6**	**0.0**
STB			*e*Sg	**Sg**	**07 53 43.8**	**-0.8**
25nm,0.4s						
LIBD	**Limburg**	**1.30 154**	*e*Sg	**Sg**	**07 53 46.0**	**+0.3**
SNR=3.4						
LIBD	**Limburg**	**1.30 154**	Pg	**Pg**	**07 53 29.0**	**+0.7**
LIBD			Sg	**Sg**	**07 53 47.2**	**+1.5**
LIBD	**Limburg**	**1.30 154**	Pg	**Pg**	**07 53 29.0**	**+0.7**
LIBD			Sg	**Sg**	**07 53 46.0**	**+0.3**
SNR=3.4						
HAU	**Haudompre**	**1.35 192**	*e*Pn	**Pn**	**07 53 28.7**	**+0.3**
HAU			*e*Pg	**Pg**	**07 53 29.8**	**+0.6**
HAU			*e*Sg	**Sg**	**07 53 47.1**	**-0.1**
51nm,0.3s						
KLL	**Kalltalsperre**	**1.35 348**	*e*Pg	**Pg**	**07 53 28.6**	**-0.7**
KLL			*e*Sg	**Sg**	**07 53 46.1**	**-1.2**
20nm,0.5s						
TOD	**Tromm**	**1.36 77**	*e*Pg	**Pg**	**07 53 28.2**	**-1.3**
SNR=6.8						
TOD			*e*Sg	**Sg**	**07 53 46.6**	**-1.1**
SNR=4.6						
TOD	**Tromm**	**1.36 77**	Pg	**Pg**	**07 53 28.9**	**-0.6**
TOD			Sg	**Sg**	**07 53 47.2**	**-0.5**
MEM	**Membach**	**1.37 340**	S	**Sb**	**07 53 46.7**	**+0.1**
MEZF	**Maizieres J'vi**	**1.40 234**	*e*Pg	**Pg**	**07 53 30.7**	**+0.5**
TNS	**Taunus Mts**	**1.42 50**	*e*Pn	**Pn**	**07 53 28.8**	**-0.5**
SNR=1.8						
TNS			*e*Sg	**Sg**	**07 53 48.7**	**-0.7**
SNR=3.5						
TNS	**Taunus Mts**	**1.42 50**	*e*Pn	**Pn**	**07 53 28.8**	**-0.5**
TNS			*e*Sg	**Sg**	**07 53 48.7**	**-0.7**
BFO	**Black Forest**	**1.44 133**	*e*Pg	**Pg**	**07 53 31.0**	**0.0**
SNR=6.6						
BFO			*e*Sg	**Sg**	**07 53 49.5**	**-0.7**
SNR=6.9						
BFO	**Black Forest**	**1.44 133**	*e*Pg	**Pg**	**07 53 31.0**	**0.0**
BFO			*e*Sg	**Sg**	**07 53 49.5**	**-0.7**
GIVF	**Givet**	**1.48 302**	*e*Pn	**Pn**	**07 53 31.6**	**+1.4**
GIVF			*e*Sg	**Sg**	**07 53 52.5**	**+1.0**
30nm,0.3s						
MOF	**Molkenrain**	**1.50 170**	*e*Pg	**Pg**	**07 53 32.4**	**+0.2**
SNR=20						
MOF			*e*Sg	**Sg**	**07 53 52.2**	**+0.1**
SNR=7.2						
MOF	**Molkenrain**	**1.50 170**	Pg	**Pg**	**07 53 32.3**	**+0.1**
MOF			Sg	**Sg**	**07 53 52.4**	**+0.3**
HINF	**Hinteralfeld**	**1.51 178**	*e*Pg	**Pg**	**07 53 32.3**	**-0.2**
HINF			*e*Sg	**Sg**	**07 53 51.0**	**-1.6**
50nm,0.2s						
HGN	**Heimansgroeve**	**1.54 340**	*e*Pn	**Pn**	**07 53 31.6**	**+0.5**
SNR=2.3						
HGN			*e*Pg	**Pg**	**07 53 33.6**	**+0.6**
SNR=6.0						
HGN			*e*Sg	**Sg**	**07 53 51.5**	**-1.9**
SNR=3.7						
HGN	**Heimansgroeve**	**1.54 340**	*e*Pn	**Pn**	**07 53 32.0**	**+0.9**
HGN			*e*Pg	**Pg**	**07 53 33.4**	**+0.4**
11nm,0.3s						
HGN			*e*Sg	**Sg**	**07 53 51.6**	**-1.9**
HGN	**Heimansgroeve**	**1.54 340**	*e*Pg	**Pg**	**07 53 33.4**	**+0.4**
11nm,0.3s						
HGN			*e*Sg	**Sg**	**07 53 51.6**	**-1.8**
SFTF	**Sexfontaines**	**1.60 226**	*e*Pn	**Pn**	**07 53 33.0**	**+1.0**
SFTF			*e*Sg	**Sg**	**07 53 56.6**	**+1.1**
20nm,0.3s						
FELD	**Feldberg**	**1.67 150**	*e*Sg	**Sg**	**07 53 56.7**	**-1.2**
SNR=3.8						
BAIF	**Baives**	**1.81 295**	*e*Pn	**Pn**	**07 53 36.0**	**+1.0**
BAIF			*e*Sg	**Sg**	**07 54 02.1**	**-0.5**
21nm,0.4s						
LOMF	**Lomont**	**1.98 179**	*e*Pn	**Pn**	**07 53 37.5**	**+0.1**
SNR=1.4						
LOMF			*e*Pg	**Pg**	**07 53 41.6**	**-0.1**
SNR=3.4						
LOMF	**Lomont**	**1.98 179**	Pg	**Pg**	**07 53 41.8**	**0.0**
CABF	**La Chapelle**	**2.75 190**	*e*Pn	**Pn**	**07 53 48.2**	**-0.3**
CABF			*e*Sg	**Sg**	**07 54 31.4**	**-2.6**
31nm,0.8s						
LOR	**Lormes**	**2.83 224**	*e*Pn	**Pn**	**07 53 49.0**	**-0.5**
LOR			*e*Sn	**Sn**	**07 54 23.5**	**-1.3**
12nm,0.3s						
SSF	**Saint Saulge**	**3.14 225**	*e*Pn	**Pn**	**07 53 53.3**	**-0.7**
SSF			*e*Sg	**Sg**	**07 54 45.5**	**-1.4**
4.9nm,0.4s						
SMF	**Signal de Mont**	**3.32 217**	*e*Pn	**Pn**	**07 53 55.5**	**-1.1**
SMF			*e*Sn	**Sn**	**07 54 34.2**	**-3.2**
AVF	**Avril sur Loir**	**3.41 223**	*e*Pn	**Pn**	**07 53 56.6**	**-1.3**
AVF			*e*Sn	**Sn**	**07 54 37.5**	**-2.2**
FLN	**La Foliniere**	**4.80 266**	*e*Pn	**Pn**	**07 54 17.3**	**-0.2**
FLN			*e*Sn	**Sn**	**07 55 10.1**	**-4.6**

*LDG **26** 08:00:42.1±0.2,44.11N×8.69E,h5km,Md2.9/1,Ml3.2/9,*
Error ellipse: s-maj=4.3km s-min=2.8km az=65.0
*ROM **26** 08:00:43.3±0.2,44.10N×8.50E,h7km,Md2.8/9,Ml2.6/3,*
Error ellipse: s-maj=4.2km s-min=2.4km az=169.0
*NEIC **26** 08:00:44.0,44.11N×8.54E,ML3.2(LDG),ML3.0(STR),*
ML2.9(GEN),After GEN.
*STR **26** 08:00:44.9±0.3,44.18N×8.48E,h10km±1km,Ml3.0,Error*
ellipse: s-maj=0.0km s-min=0.0km az=1.0
*CSEM **26** 08:00:44.0±0.1,44.10N×8.56E,h20km,ML3.0/8,Error*
ellipse: s-maj=1.9km s-min=1.0km az=177.0
*GEN **26** 08:00:44.0,44.11N×8.54E,ML2.9*

ISC 26 08:00:43.4±0.3,44.11N±0.02×8.52E±0.02,h6km±3km,n77,
σ1º04/130,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCP	**Pian Castagno**	**0.44**	**2**	P	**Pg**	**08 00 52.6**	**+0.4**
PCP				S	**Sg**	**08 00 58.8**	**+0.8**
PCP	**Pian Castagno**	**0.44**	**2**	P	**Pg**	**08 00 52.6**	**+0.4**
GENL	**Genova Univers**	**0.44**	**47**	P	**Pg**	**08 00 52.7**	**+0.5**
GENL	**Genova Univers**	**0.44**	**47**	P	**Pg**	**08 00 52.7**	**+0.4**
IMI	**Imperia**	**0.50**	**247**	P	**Pg**	**08 00 53.9**	**+0.5**
IMI				S	**Sg**	**08 01 01.1**	**+1.1**
IMI	**Imperia**	**0.50**	**247**	Pg	**Pg**	**08 00 53.9**	**+0.5**
IMI				Sg	**Sg**	**08 01 01.1**	**+1.1**
240nm,0.4s							
ROB	**Roburent**	**0.50**	**292**	P	**Pg**	**08 00 54.0**	**+0.4**
ROB	**Roburent**	**0.50**	**292**	P	**Pg**	**08 00 54.0**	**+0.5**
MONE	**Monesi**	**0.55**	**268**	P	**Pg**	**08 00 54.8**	**+0.3**
MONE				S	**Sg**	**08 01 02.8**	**+0.9**
MONE	**Monesi**	**0.55**	**268**	P	**Pg**	**08 00 54.8**	**+0.3**
MONE				S	**Sg**	**08 01 02.8**	**+0.9**
NEGI	**Negi**	**0.64**	**247**	P	**Pg**	**08 00 56.9**	**+0.6**
NEGI				S	**Sg**	**08 01 06.1**	**+1.2**
NEGI	**Negi**	**0.64**	**247**	P	**Pg**	**08 00 56.9**	**+0.6**
NEGI				S	**Sg**	**08 01 06.1**	**+1.2**
SAOF	**Saorge**	**0.71**	**261**	Pg	**Pg**	**08 00 58.0**	**+0.5**
SAOF				Sg	**Sg**	**08 01 07.9**	**+0.9**
ENR	**Entracque**	**0.80**	**279**	P	**Pb**	**08 00 59.3**	**0.0**
ENR				S	**Sb**	**08 01 10.0**	**-0.1**
ENR	**Entracque**	**0.80**	**279**	P	**Pb**	**08 00 59.3**	**0.0**
ENR				S	**Sb**	**08 01 10.0**	**-0.2**
SBF	**Sospel**	**0.82**	**253**	*e*Pn	**Pn**	**08 01 00.3**	**-0.9**
SBF				*e*Sg	**Sg**	**08 01 12.3**	**+1.5**
868nm,0.5s							
STV2	**Anna di Valdie**	**0.87**	**280**	P	**Pb**	**08 01 01.0**	**+0.5**
STV2				S	**Sb**	**08 01 12.8**	**+0.6**
STV2	**Anna di Valdie**	**0.87**	**280**	P	**Pb**	**08 01 01.0**	**+0.5**
STV2				S	**Sb**	**08 01 12.8**	**+0.6**
STV	**Sta Anna Valdi**	**0.87**	**280**	P	**Pb**	**08 01 01.1**	**+0.6**
STV				S	**Sb**	**08 01 12.6**	**+0.4**
STV	**Sta Anna Valdi**	**0.87**	**280**	P	**Pb**	**08 01 01.1**	**+0.6**
REVF	**Revere**	**0.91**	**247**	Pg	**Pg**	**08 01 02.7**	**+1.1**
REVF				Sg	**Sg**	**08 01 15.5**	**+1.8**
TOUF	**Mont Tournerai**	**0.92**	**265**	Pg	**Pg**	**08 01 02.1**	**+0.3**
BOB	**Bobbio (Coli)**	**0.94**	**45**	Pg	**Pg**	**08 01 02.3**	**+0.2**
BOB				Sg	**Sg**	**08 01 16.1**	**+1.4**
146nm,0.3s							
CODM		**1.00**	**73**	P	**Pb**	**08 01 02.4**	**-0.3**
CODM				S	**Sb**	**08 01 15.3**	**-0.6**
CODM		**1.00**	**73**	P	**Pb**	**08 01 02.3**	**-0.4**
CODM				S	**Sb**	**08 01 15.3**	**-0.5**
DOI	**San Damiano**	**1.00**	**294**	Pg	**Pg**	**08 01 02.8**	**-0.5**
DOI				Sg	**Sg**	**08 01 17.5**	**+0.8**
146nm,0.6s							
MVIF	**Mont Vial**	**1.01**	**259**	Pg	**Pg**	**08 01 03.9**	**+0.3**
MVIF				Sg	**Sg**	**08 01 18.0**	**+1.0**
MONC	**Moncucco Torin**	**1.06**	**337**	Pn	**Pn**	**08 01 05.0**	**+0.4**
219nm,0.6s							
PZZ	**Prazzo**	**1.09**	**292**	P	**Pb**	**08 01 04.4**	**+0.1**
PZZ	**Prazzo**	**1.09**	**292**	P	**Pb**	**08 01 04.4**	**+0.1**
BACM		**1.13**	**81**	P	**Pb**	**08 01 05.0**	**+0.1**
BACM				S	**Sb**	**08 01 19.4**	**-0.3**
BACM		**1.13**	**81**	P	**Pb**	**08 01 05.0**	**+0.1**
BACM				S	**Sb**	**08 01 19.4**	**-0.3**
BHB	**Bricherasio**	**1.16**	**310**	P	**Pb**	**08 01 06.0**	**+0.5**
BHB				S	**Sb**	**08 01 21.3**	**+0.6**
BHB	**Bricherasio**	**1.16**	**310**	P	**Pb**	**08 01 06.0**	**+0.5**
GRAM		**1.18**	**70**	P	**Pb**	**08 01 06.1**	**+0.4**
GRAM				S	**Sb**	**08 01 20.9**	**-0.2**
GRAM		**1.18**	**70**	P	**Pb**	**08 01 06.1**	**+0.4**
GRAM				S	**Sb**	**08 01 20.9**	**-0.1**
VINC	**Vinca**	**1.18**	**88**	P	**Pb**	**08 01 05.6**	**-0.1**
VINC				S	**Sb**	**08 01 20.2**	**-0.8**
VINC	**Vinca**	**1.18**	**88**	P	**Pb**	**08 01 05.6**	**-0.1**
VINC	**Vinca**	**1.18**	**88**	P	**Pb**	**08 01 05.6**	**-0.1**
VINC				S	**Sb**	**08 01 20.2**	**-0.8**
VINC				S	**Sb**	**08 01 20.2**	**-0.8**
CALN	**Calern**	**1.23**	**254**	Pg	**Pg**	**08 01 08.2**	**+0.2**
CALN				Sg	**Sg**	**08 01 24.4**	**0.0**
VALM		**1.27**	**78**	P	**Pb**	**08 01 07.5**	**+0.3**
VALM				S	**Sb**	**08 01 22.8**	**-0.8**
VALM		**1.27**	**78**	P	**Pb**	**08 01 07.6**	**+0.4**
VALM				S	**Sb**	**08 01 22.8**	**-0.8**
SURF	**Saint Ours**	**1.28**	**288**	Pg	**Pg**	**08 01 08.3**	**-0.7**
SURF				Sg	**Sg**	**08 01 25.4**	**-0.7**
SARO	**Sassorosso**	**1.36**	**86**	P	**Pb**	**08 01 08.9**	**+0.1**
SARO				S	**Sb**	**08 01 25.5**	**-0.8**
SARO	**Sassorosso**	**1.36**	**86**	P	**Pb**	**08 01 08.9**	**+0.1**
SARO	**Sassorosso**	**1.36**	**86**	P	**Pb**	**08 01 08.9**	**+0.1**
SARO				S	**Sb**	**08 01 25.5**	**-0.8**
SARO				S	**Sb**	**08 01 25.5**	**-0.8**
RSP	**Reno Superiore**	**1.38**	**320**	P	**Pb**	**08 01 09.5**	**+0.3**
RSP	**Reno Superiore**	**1.38**	**320**	P	**Pb**	**08 01 09.5**	**+0.3**
FENE	**Fenestrelle**	**1.39**	**312**	P	**Pn**	**08 01 09.7**	**+0.2**
FENE				S	**Sb**	**08 01 27.2**	**-0.2**
FENE	**Fenestrelle**	**1.39**	**312**	P	**Pn**	**08 01 09.6**	**+0.2**
ERBM	**Eremo**	**1.40**	**76**	Pn	**Pn**	**08 01 10.7**	**+1.2**
MBDF	**Montbardon**	**1.40**	**297**	*e*Pn	**Pn**	**08 01 08.3**	**-1.2**
MBDF				*e*Pg	**Pg**	**08 01 10.0**	**-1.3**
MBDF				*e*Sn	**Sn**	**08 01 28.1**	**-0.4**
113nm,0.5s							
FRF	**La Foret Royal**	**1.46**	**249**	*e*Pn	**Pn**	**08 01 08.7**	**-1.7**
FRF				*e*Pg	**Pg**	**08 01 12.1**	**-0.5**
FRF				*e*Sg	**Sg**	**08 01 30.7**	**-1.4**
38nm,0.3s							
RRL	**Cesana Torines**	**1.48**	**304**	P	**Pn**	**08 01 11.5**	**+0.7**
RRL				S	**Sb**	**08 01 30.5**	**+0.5**
RRL	**Cesana Torines**	**1.48**	**304**	P	**Pn**	**08 01 11.5**	**+0.7**
RRL				S	**Sb**	**08 01 30.5**	**+0.5**
PII	**Pisa**	**1.50**	**104**	Pn	**Pn**	**08 01 12.5**	**+1.6**
27nm,0.2s							
TRAV		**1.51**	**339**	P	**Pn**	**08 01 12.1**	**+1.0**
TRAV		**1.51**	**339**	P	**Pn**	**08 01 12.1**	**+1.0**
ORX	**Oropa**	**1.57**	**346**	P	**Pn**	**08 01 13.6**	**+1.6**
ORX	**Oropa**	**1.57**	**346**	P	**Pn**	**08 01 13.6**	**+1.6**
PGF	**Pioggiola**	**1.59**	**167**	*e*Pn	**Pn**	**08 01 09.4**	**-2.9**
PGF				*e*Sn	**Sn**	**08 01 29.1**	**-4.3**
16nm,0.3s							
BNI	**Bardonecchia**	**1.62**	**306**	*e*Pn	**Pn**	**08 01 11.8**	**-0.9**
BNI				*e*S	**Sb**	**08 01 34.1**	**+0.1**
BNI	**Bardonecchia**	**1.62**	**306**	*e*Pn	**Pn**	**08 01 11.8**	**-0.9**
BNI				*e*S	**Sb**	**08 01 34.1**	**+0.1**
LMR	**La Mourre**	**1.65**	**243**	*e*Pn	**Pn**	**08 01 10.9**	**-2.2**
LMR				*e*Sg	**Sg**	**08 01 37.5**	**-0.9**
30nm,0.4s							
LSD	**Ceresole Reale**	**1.67**	**325**	P	**Pn**	**08 01 14.5**	**+1.2**
LSD	**Ceresole Reale**	**1.67**	**325**	P	**Pn**	**08 01 14.5**	**+1.2**
ZCCA	**Zocca**	**1.78**	**81**	Pn	**Pn**	**08 01 18.2**	**+3.2**
22nm,0.4s							
TAVF	**Tavernes**	**1.85**	**256**	Pg	**Pg**	**08 01 19.0**	**-1.3**
LPG	**La Plagne**	**1.88**	**318**	*e*Pg	**Pg**	**08 01 18.9**	**-2.0**
LPG				*e*Sg	**Sg**	**08 01 44.5**	**-1.4**
36nm,0.6s							
STOF	**St-Etienne Org**	**1.89**	**268**	Pg	**Pg**	**08 01 21.3**	**+0.2**
STOF				Sg	**Sg**	**08 01 48.2**	**+2.0**
MCGN	**Macugnaga**	**1.89**	**349**	Pn	**Pn**	**08 01 19.4**	**+2.9**
MCGN				Sn	**Sn**	**08 01 44.9**	**+4.0**
19nm,0.4s							
LPL	**La Plagne**	**1.90**	**319**	*e*Pg	**Pg**	**08 01 19.0**	**-2.3**
LPL				*e*Sg	**Sg**	**08 01 45.3**	**-1.4**
15nm,0.3s							
VILF	**Villemus**	**2.04**	**264**	Pg	**Pg**	**08 01 23.3**	**-0.9**
ORIF	**Oris-en-Rattie**	**2.06**	**294**	*e*Pg	**Pg**	**08 01 21.6**	**-2.9**
ORIF				*e*Sg	**Sg**	**08 01 49.8**	**-2.1**
32nm,0.5s							
SMRF	**Simiane la Rot**	**2.13**	**268**	*e*Pg	**Pg**	**08 01 24.4**	**-1.5**
SMRF				*e*Sg	**Sg**	**08 01 53.2**	**-1.1**
52nm,0.4s							
SFI	**Santa Sofia**	**2.41**	**94**	Pn	**Pn**	**08 01 24.3**	**+0.3**
PRAF	**Pradon**	**2.44**	**264**	Pg	**Pg**	**08 01 30.4**	**-1.7**
PRAF				Sg	**Sg**	**08 02 04.6**	**0.0**

*IDC **26** 08:03:01.3±0.7,0.18N×97.17E,mb4.1/14,mb1 4.2/15,*
mb1mx4.1/21,mbtmp4.1/15,ML4.4/1,Error ellipse:
s-maj=32.1km s-min=14.7km az=50.0
*NEIC **26** 08:03:05.9±0.4,0.26N×97.29E,h30km,mb4.3/4,Error*
ellipse: s-maj=10.6km s-min=7.6km az=62.0

ISC 26 08:03:04.7±0.6,0.30N±0.08×97.35E±0.09,h33km,n26,
σ0º81/23,mb4.1/17,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.96**	**34**	*e*P	**P**	**08 04 32.4**	**-0.4**
CM31	**Chiang Mai Arr**	**18.11**	**5**	*e*P	**P**	**08 07 15.6**	**-0.1**
10nm,0.8s							
CMAR	**Chiang Mai Arr**	**18.11**	**5**	P	**P**	**08 07 15.2**	**-0.5**
0.5nm,0.3s,baz=194,slow=11,SNR=22							
KKM	**Kota Kinabalu**	**19.68**	**73**	*e*P	**P**	**08 07 34.0**	**-0.1**
ENH	**Enshi**	**31.97**	**20**	*e*P	**P**	**08 09 29.7**	**-0.4**
3.8nm,0.4s,mb4.6							
FITZ	**Fitzroy Crossi**	**33.29**	**125**	P	**P**	**08 09 41.1**	**-0.6**
5.3nm,0.9s,mb4.5,baz=276,slow=10,SNR=3.6							
WRA	**Warramunga Arr**	**41.44**	**121**	P	**P**	**08 10 50.3**	**+0.1**
1.5nm,0.5s,mb3.9,baz=303,slow=8.9,SNR=16							
WRAB	**Tennant Creek**	**41.45**	**121**	*e*P	**P**	**08 10 50.0**	**-0.2**
5.4nm,0.8s,mb4.2							
ASAR	**Alice Springs**	**42.74**	**126**	P	**P**	**08 11 01.7**	**+0.7**
0.9nm,0.6s,mb3.7,baz=301,slow=8.1,SNR=16							
SONM	**Songino Array**	**48.00**	**8**	P	**P**	**08 11 44.1**	**+1.6**
0.5nm,0.4s,mb3.9,baz=211,slow=7.2,SNR=4.1							
MKAR	**Makanchi Array**	**48.15**	**346**	P	**P**	**08 11 44.4**	**+0.7**
2.0nm,0.8s,mb4.2,baz=158,slow=8.3,SNR=10							
TLY	**Talaya**	**51.47**	**5**	P	**P**	**08 12 18.1**	**+9.0**
2.6nm,0.7s,mb4.3							
STKA	**Stephens Creek**	**52.65**	**132**	P	**P**	**08 12 18.1**	**-0.1**
1.8nm,0.8s,mb4.0,baz=326,slow=3.0,SNR=4.3							
STKA	**Stephens Creek**	**52.65**	**132**	P	**P**	**08 12 18.1**	**-0.1**
STKA				*e*P		08 12 18.7	
BVAR	**Borovoye Array**	**57.15**	**341**	P	**P**	**08 12 49.6**	**-1.0**
1.1nm,0.6s,mb4.1,baz=149,slow=8.6,SNR=8.5							
BRTR	**Keskin Array B**	**69.82**	**313**	P	**P**	**08 14 12.6**	**-1.6**
0.9nm,0.6s,mb3.9,baz=129,slow=7.9,SNR=4.1							
BOSA	**Boshof**	**74.46**	**240**	P	**P**	**08 14 41.6**	**-0.4**
3.0nm,0.8s,mb4.2,baz=54,slow=3.4,SNR=3.9							
BOSA	**Boshof**	**74.46**	**240**	P	**P**	**08 14 41.6**	**-0.4**
BOSA				*e*P		08 14 42.3	
IDI	**Anoyia**	**75.55**	**306**	P	**P**	**08 14 47.9**	**-0.2**
3.9nm,0.5s,mb4.6,baz=79,slow=6.1,SNR=6.9							
AKASG	**Malin Array Be**	**76.06**	**323**	P	**P**	**08 14 49.8**	**-0.8**
0.7nm,0.5s,mb3.9,baz=55,slow=1.9,SNR=5.5							
FINES	**FINESS Array B**	**80.86**	**333**	P	**P**	**08 15 17.5**	**+0.7**
0.6nm,0.6s,mb3.7,baz=104,slow=7.9,SNR=4.5							
ARCES	**ARCESS Array B**	**83.43**	**340**	P	**P**	**08 15 31.4**	**+1.5**
1.1nm,0.7s,mb4.0,baz=102,slow=8.3,SNR=2.9							
GERES	**GERESS Array B**	**85.58**	**319**	P	**P**	**08 15 42.4**	**+1.3**
0.3nm,0.3s,mb4.0,baz=124,slow=7.1,SNR=3.7							
TXAR	**Lajitas Array**	**144.35**	**32**	PKP	PKPdf	08 22 39.7	+1.5
0.2nm,0.4s,baz=331,slow=0.8,SNR=6.3							
TXAR	**Lajitas Array**	**144.35**	**32**	PKP	PKPdf	08 22 39.7	+1.5
CPUP	**Villa Florida**	**144.44**	**221**	PKP	PKPdf	08 22 39.4	+0.9
7.4nm,0.7s,baz=117,slow=3.9,SNR=22							

DJA 26 08:10:47.2±1.0,6.74S×104.58E,h83km±19km,MD3.8/1,
ML4.7/2,4C,Error ellipse: s-maj=39.6km s-min=14.8km
az=61.0,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PASI	**Pasiripis**	**1.01**	**87**	*e*Pn	P	08 11 06.6	-0.1
PASI				*e*Sn	S	08 11 19.7	-1.8
PENI	**Pendagan**	**1.30**	**27**	⇑*e*Pn	P	08 11 09.7	-0.9
1μm,0.2s							
PENI				⇑*e*Sn	S	08 11 27.3	-0.7
PULI	**Pulasari**	**1.44**	**74**	⇑*e*Pn	P	08 11 12.0	-0.4
684nm,0.3s							
PULI				⇑*e*Sn	S	08 11 29.8	-1.2

*NEIC **26** 08:23:56.4,38.02N×20.16E,h4km,MD3.5(ATH),After ATH.*
*CSEM **26** 08:23:56.4,38.02N×20.16E,h4km,MD3.5/11,After ATH*

ATH 26 08:23:56.4,38.02N×20.16E,h5km±4km,MD3.5/10,
Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.37**	**65**	*e*PG	Pg	08 24 03.3	-0.6
RLS	**Riolos of Patr**	**1.03**	**88**	*e*PG	Pg	08 24 15.7	-1.3
RLS				*e*SB	Sb	08 24 30.0	0.0
EVR	**Evrytania**	**1.57**	**55**	*e*PB	Pb	08 24 26.4	+0.8
ITM	**Ithomi**	**1.64**	**120**	*e*PB	Pb	08 24 27.3	+0.6
KEK	**Kerkira**	**1.71**	**351**	*e*PG	Pg	08 24 28.2	-2.4
JAN	**Janina**	**1.72**	**18**	*e*PN	Pn	08 24 28.9	+1.7
LKR	**Lokris**	**2.32**	**73**	*e*PN	Pn	08 24 36.8	+1.0
MGER	**Gerania Oros**	**2.45**	**90**	*e*PN	Pn	08 24 40.0	+2.3
MGER	**Gerania Oros**	**2.45**	**90**	*e*Pg	Pg	08 24 42.0	-3.3
VLI	**Veliai**	**2.57**	**120**	*e*PN	Pn	08 24 41.2	+1.9
NSAL	**Nisos Salamina**	**2.61**	**91**	*e*PN	Pn	08 24 41.5	+1.5
NAIG	**Nisos Aigina**	**2.65**	**95**	*e*Pn	Pn	08 24 43.5	+3.0

*IDC **26** 08:43:31.5±1.7,5.18S×153.63E,h40km±13km,mb4.5/17,*
mb1 4.6/19,mb1mx4.5/22,mbtmp4.7/19,ML4.0/2,MS4.1/17,
Ms1 4.1/17,ms1mx4.0/25,Error ellipse: s-maj=16.1km
s-min=13.2km az=87.0
*BJI **26** 08:43:32.8,5.24S×153.35E,h55km,mB5.1,mb5.0,Ms4.6,*
Msz4.3
*HRVD **26** 08:43:33.8±0.4,5.36S×153.62E,h41km±4km,MW4.9/44,*
Centroid moment Tensor Solution. LP body waves:
s15,c19;Mantle waves: s44,c68; Half duration: 0 Moment
tensor: Scale 10^16Nm; M_{rr}1.22±.24; $M_{\theta\theta}$-0.54±.16;
$M_{\phi\phi}$-0.68±.15; $M_{r\theta}$0.54±.12; $M_{r\phi}$1.29±.11; $M_{\theta r}$-2.39±.23;
Best double couple: $M_0$2.961×10^16 NP1:φs286°,δ25°,λ35°.
NP2:φs164°,δ76°,λ111°. Principal axes: T 2.866, Plg54°,
Azm99°; N .184, Plg20°, Azm338°; P -3.055, Plg28°,
Azm237°; nsta1 refers to body wave waves, cutoff=40s. nsta2
refers to surface waves, cutoff=50s.
*NEIC **26** 08:43:33.8±1.2,5.21S×153.59E,h64km±10km,mb4.9/15*
Error ellipse: s-maj=7.9km s-min=7.1km az=168.0

ISC 26 08:43:32.0±1.3,5.27S±0.06×153.59E±0.05,h57km±12km,
h59km±1.6km:pP-P,n87,σ1º02/84,mb4.9/42,MS4.2/21,
3C-4D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.54**	**124**	P	**P**	**08 45 23.8**	**+2.1**
24nm,0.3s,baz=235,slow=4.2,SNR=6.9							
HNR				S	**S**	**08 46 50.6**	**+4.0**
5.1nm,0.3s,baz=307,slow=20,SNR=2.2							
HNR	**Honiara**	**7.54**	**124**	*e*P	**P**	**08 45 23.

NJ2	**Nanjing**	**49.70**	**321**	*e*P	**P**	**08 52 21.0 +0.4**
NJ2				AP	pP	08 52 36.5 +0.9
NJ2				XP	sP	08 52 43.5 +1.4
NJ2				PP	PP	08 54 16.5 +0.4
NJ2				S	**S**	**08 59 23.0 -0.9**
NJ2				AMB	AMB	
	comp=Z,20nm,1.2s,mb5.0					
NJ2				AMB	AMB	
	comp=Z,170nm,6.0s					
NJ2				LR	LR	
	comp=N,320nm,20.0s,MS4.5					
NJ2				LR	LR	
	comp=E,300nm,19.5s,MS4.5					
NJ2				LR	LR	
	comp=Z,310nm,24.6s					
WHN	**Wuhan**	**51.73**	**316**	*e*P	**P**	**08 52 36.0 0.0**
MDJ	**Mudanjiang**	**54.14**	**339**	P	**P**	**08 52 54.8 +1.2**
MDJ				AMB	AMB	
	comp=Z,4.0nm,0.6s,mb4.5					
ENH	**Enshi**	**55.05**	**313**	*e*P	**P**	**08 52 59.6 -0.9**
	comp=Z,42nm,1.1s,mb5.4					
CN2	**Changchun**	**55.05**	**335**	*e*P	**P**	**08 53 00.5 +0.2**
CN2				*e*XP	sP	08 53 25.5 +3.4
CN2				*e*S	**S**	**09 00 36.5 -0.1**
CN2				AMB	AMB	
	comp=Z,10.0nm,0.5s,mb5.1					
GYA	**Guiyang**	**55.30**	**307**	⇑*i*P	**P**	**08 53 02.8 +0.4**
GYA				AP	pP	08 53 17.0 -0.6
GYA				XP	sP	08 53 26.0 +1.8
GYA				PP	PP	08 55 09.3 +1.5
GYA				S	**S**	**09 00 39.8 -0.4**
GYA				XS		09 01 06.8
GYA				SS	SS	09 04 24.3 -0.7
GYA				AMB	AMB	
	comp=Z,20nm,0.8s,mb5.2					
GYA				AMB	AMB	
	comp=Z,120nm,4.2s					
GYA				LR	LR	
	comp=N,280nm,19.2s,MS4.5					
GYA				LR	LR	
	comp=E,260nm,18.6s,MS4.5					
GYA				LR	LR	
	comp=Z,340nm,17.8s,MS4.5					
PPT	**Papeete**	**56.84**	**107**	*e*LR	LR	09 09 47.5
	comp=Z,173nm,24.5s					
PPT	**Papeete**	**56.84**	**107**	LR	LR	09 12 58.7
	comp=Z,211nm,21.0s,MS4.2,baz=3.5,slow=31					
XAN	**Xi'an**	**57.50**	**316**	P	**P**	**08 53 17.0 -1.0**
XAN				AP	pP	08 53 32.8 -0.5
XAN				AMB	AMB	
	comp=Z,19nm,1.2s,mb5.0					
TBI	**Tubuai**	**57.65**	**114**	*e*LR	LR	09 10 18.1
	comp=Z,432nm,32.5s					
KMI	**Kunming**	**57.90**	**304**	P	**P**	**08 53 22.0 +1.2**
KMI				XP	sP	08 53 45.3 +2.5
KMI				S	**S**	**09 01 17.0 +2.5**
KMI				XS		09 01 41.5
KMI				SS	SS	09 05 09.0 +1.4
KMI				AMB	AMB	
	comp=Z,14nm,0.9s,mb5.0					
KMI				AMB	AMB	
	comp=Z,89nm,4.7s					
KMI				LR	LR	
	comp=N,114nm,16.5s,MS4.2					
KMI				LR	LR	
	comp=E,151nm,20.1s,MS4.2					
KMI				LR	LR	
	comp=Z,223nm,23.8s,MS4.2					
CMAR	**Chiang Mai Arr**	**58.78**	**295**	P	**P**	**08 53 27.4 +0.4**
	comp=Z,14nm,0.9s,mb5.0,baz=123,slow=5.4,SNR=57					
CD2	**Chengdu**	**59.64**	**310**	P	**P**	**08 53 32.8 0.0**
CD2				AMB	AMB	
	comp=Z,27nm,1.2s,mb5.2					
HHC	**Hu-ho-hao-te**	**59.88**	**324**	*e*P	**P**	**08 53 34.5 +0.1**
HHC				AMB	AMB	
	comp=Z,21nm,1.1s,mb5.1					
HHC				AMB	AMB	
	comp=Z,108nm,6.0s					
LZH	**Lanzhou**	**62.11**	**316**	*e*P	**P**	**08 53 50.0 +0.5**
LZH				AP	pP	08 54 06.5 +1.5
LZH				XP	sP	08 54 14.5 +2.9
LZH				PP	PP	08 56 09.5 +0.6
LZH				*e*S	**S**	**09 02 07.5 -1.1**
LZH				XS		09 02 38.0
LZH				SS	SS	09 06 14.3 +0.4
LZH				AMB	AMB	
	comp=Z,48nm,1.2s,mb5.5					
LZH				AMB	AMB	
	comp=Z,192nm,5.5s					
LZH				LR	LR	
	comp=N,555nm,14.2s					
LZH				LR	LR	
	comp=Z,756nm,16.0s,MS5.0					
GTA	**Gaotai**	**66.53**	**317**	*e*P	**P**	**08 54 18.8 +0.6**
GTA				AMB	AMB	
	comp=Z,14nm,1.2s,mb4.9					
ULN	**Ulaanbaatar**	**66.81**	**328**	*e*P	**P**	**08 54 18.4 -1.4**
	comp=Z,5.2nm,1.0s,mb4.5					
SONM	**Songino Array**	**67.14**	**328**	P	**P**	**08 54 21.3 -0.6**
	comp=Z,1.8nm,0.5s,mb4.3,baz=147,slow=6.7,SNR=12					
SONM				LR	LR	09 18 56.1
	comp=Z,94nm,21.9s,MS4.0,baz=221,slow=32					
SHL	**Shillong**	**67.22**	**300**	*e*P	**P**	**08 54 23.0 +0.2**
RKT	**Rikitea**	**70.89**	**113**	*e*LR	LR	09 16 38.4
	comp=Z,284nm,28.8s					
VNDA	**Vanda**	**72.33**	**178**	P	**P**	**08 54 53.6 +0.5**
	comp=Z,2.6nm,0.6s,mb4.4,baz=329,slow=6.4,SNR=35					
VNDA	**Vanda**	**72.33**	**178**	*e*P	**P**	**08 54 53.6 +0.5**
	comp=Z,32nm,1.8s,mb5.0					
JIRN	**Jiri**	**72.70**	**301**	*e*P	**P**	**08 54 56.4 +0.2**
PKI	**Pulchoki**	**73.34**	**301**	*e*P	**P**	**08 54 59.7 -0.3**
	comp=Z,12nm,0.6s,mb5.0					
KKN	**Kakani**	**73.51**	**301**	*e*P	**P**	**08 55 01.0 0.0**
	comp=Z,12nm,0.4s,mb5.2					
DMN	**Daman**	**73.61**	**301**	*e*P	**P**	**08 55 01.9 +0.3**
	comp=Z,37nm,0.9s,mb5.3					
BILL	**Bilibino**	**73.69**	**5**	*e*P	**P**	**08 54 59.9 -1.3**
	comp=Z,7.6nm,0.6s,mb4.8					
PALK	**Pallekele**	**73.78**	**279**	P	**P**	**08 55 02.5 -0.3**
	comp=Z,3.4nm,0.9s,mb4.3					
GKN	**Gorkha**	**74.12**	**301**	*e*P	**P**	**08 55 04.0 -0.5**
	comp=Z,6.8nm,0.2s,mb5.3					
KOLN	**Koldanda**	**74.95**	**300**	*e*P	**P**	**08 55 08.9 -0.4**
	comp=Z,27nm,1.1s,mb5.1					
WMQ	**Urumqi**	**76.62**	**317**	⇑P	**P**	**08 55 19.5 +1.1**
WMQ				PCP	PcP	08 55 31.5 +1.5
WMQ				AP	pP	08 55 36.5 +2.1
WMQ				XP	sP	08 55 44.0 +3.3
WMQ				PP	PP	08 58 14.0 +1.4
WMQ				*e*S	S	09 04 59.3 +0.4
WMQ				AMB	AMB	
	comp=Z,9.0nm,0.6s,mb4.9					
WMQ				AMB	AMB	
	comp=Z,135nm,4.8s					
WMQ				LR	LR	
	comp=N,88nm,24.3s,MS4.1					
WMQ				LR	LR	
	comp=E,62nm,26.5s,MS4.1					
WMQ				LR	LR	
	comp=Z,43nm,24.3s,MS3.7					
HYB	**Hyderabad**	**77.39**	**289**	*e*P	**P**	**08 55 23.0 -0.2**
HYB	**Hyderabad**	**77.39**	**289**	*i* P	**P**	**08 55 23.0 -0.2**
SLKM	**Skilak Lake**	**78.77**	**25**	*e*P	**P**	**08 55 28.6 -1.4**
IMA	**Indian Mountai**	**80.64**	**19**	*e*P	**P**	**08 55 38.0 -2.0**
MKAR	**Makanchi Array**	**81.19**	**319**	P	**P**	**08 55 43.0 -0.2**
	comp=Z,2.5nm,0.5s,mb4.4,baz=98,slow=7.3,SNR=44					
ILAR	**Eielson Array**	**82.30**	**22**	P	**P**	**08 55 46.5 -2.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=249,slow=4.4,SNR=12					
ILAR				LR	LR	09 29 27.7
	comp=Z,96nm,18.9s,MS4.2,baz=184,slow=34					
ULHL	**Ulahol**	**84.21**	**313**	P	**P**	**08 56 00.5 +1.7**
	SNR=14					
QSPA	**South Pole Qui**	**84.69**	**180**	⇑*i*P	**P**	**08 56 01.9 +1.5**
	comp=Z,18nm,0.6s,mb5.4					
TKM2	**Tokmak 2**	**84.82**	**314**	P	**P**	**08 56 02.9 +1.1**
	SNR=17					
KZA	**Kyzart**	**84.90**	**313**	P	**P**	**08 56 04.4 +2.2**
	SNR=25					
MAW	**Mawson**	**85.44**	**203**	P	**P**	**08 56 05.0 +0.7**
	comp=Z,6.9nm,0.6s,mb5.0,baz=92,slow=6.7,SNR=48					
MAW				LR	LR	09 34 09.8
	comp=Z,84nm,19.0s,MS4.2,baz=241,slow=36					
MAW	**Mawson**	**85.44**	**203**	⇓*e*P	**P**	**08 56 04.8 +0.5**
	comp=Z,5.1nm,0.5s,mb4.9					
UCH	**Uchtor**	**85.46**	**313**	P	**P**	**08 56 07.4 +2.4**
	SNR=12					
AAK	**Ala-Archa**	**85.56**	**313**	P	**P**	**08 56 06.6 +1.2**
	SNR=6.7					
AAK	**Ala-Archa**	**85.56**	**313**	*e*P	**P**	**08 56 05.2 -0.3**
	comp=Z,15nm,1.2s,mb5.1					
USP	**Ospenovka**	**85.68**	**314**	P	**P**	**08 56 06.8 +0.8**
	SNR=7.7					
AML	**Almayashu**	**86.04**	**313**	P	**P**	**08 56 09.6 +1.8**
	SNR=13					
BBB	**Bella Bella**	**87.00**	**37**	LR	LR	09 30 55.5
	comp=Z,88nm,20.2s,MS4.2,baz=241,slow=33					
DLBC	**Dease Lake**	**87.38**	**31**	LR	LR	09 28 40.0
	comp=Z,108nm,19.4s,MS4.3,baz=203,slow=31					
INK	**Inuvik**	**88.62**	**21**	LR	LR	09 33 48.1
	comp=Z,108nm,18.0s,MS4.3,baz=114,slow=34					
NVAR	**Mina Array Bea**	**91.76**	**52**	P	**P**	**08 56 35.1 0.0**
	comp=Z,0.6nm,0.6s,mb4.1,baz=239,slow=5.3,SNR=4.2					
NEW	**Newport**	**93.42**	**42**	LR	LR	09 33 11.1
	comp=Z,131nm,18.5s,MS4.4,baz=300,slow=32					
YKA	**Yellowknife Ar**	**95.48**	**28**	P	**P**	**08 56 50.1 -1.3**
	comp=Z,0.3nm,0.6s,mb3.9,baz=266,slow=4.2,SNR=5.5					
YKA				LR	LR	09 33 26.8
	comp=Z,78nm,20.2s,MS4.2,baz=290,slow=31					
PDAR	**Pinedale Array**	**98.59**	**48**	LR	LR	09 36 48.4
	comp=Z,156nm,18.5s,MS4.5,baz=259,slow=32					
BOSA	**Boshof**	**119.97**	**233**	PKP	PKPdf	09 02 18.0 +1.1
	comp=Z,2.2nm,1.0s,baz=101,slow=2.6,SNR=4.7					
LPAZ	**La Paz**	**133.51**	**118**	PKP	PKPdf	09 02 47.4 +4.2
	comp=Z,0.6nm,0.7s,baz=301,slow=4.6,SNR=3.0					
LPAZ				SKPbc		09 06 09.1
	comp=Z,1.8nm,0.8s,baz=288,slow=1.5,SNR=3.6					
BDFB	**Brasilia**	**150.18**	**135**	PKPbc	PKPdf	09 03 19.1 +6.7
	comp=Z,2.0nm,0.5s,slow=2.0,SNR=2.9					

IDC 26 08:53:10.9±1.2, 7.43N×136.91E, mb3.8/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, MS3.7/5, Ms1 3.7/5, ms1mx3.3/32, Error ellipse: s-maj=69.5km s-min=19.1km az=79.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**20.97**	**338**	LR	LR	09 05 45.5	
	comp=Z,53nm,19.4s,baz=118,slow=36						
WRA	**Warramunga Arr**	**27.31**	**185**	P	P	08 58 57.9	-1.6
	0.4nm,0.5s,baz=0.9,slow=10,SNR=6.9						
ASAR	**Alice Springs**	**31.04**	**185**	P	P	08 59 31.3	-1.6
	0.3nm,0.5s,baz=18,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**39.34**	**174**	P	P	09 00 41.1	-2.7
	1.3nm,0.8s,baz=329,slow=12,SNR=2.7						
SONM	**Songino Array**	**47.89**	**333**	P	P	09 01 51.9	-0.9
	1.7nm,0.9s,baz=135,slow=7.0,SNR=8.0						
RPZ	**Rata Peaks**	**59.55**	**152**	LR	LR	09 26 00.7	
	comp=Z,146nm,19.1s,baz=166,slow=33						
MKAR	**Makanchi Array**	**60.80**	**320**	P	P	09 03 24.8	-2.4
	0.8nm,0.8s,baz=113,slow=9.2,SNR=7.3						
BVAR	**Borovoye Array**	**70.06**	**324**	P	P	09 04 24.1	-2.5
	0.5nm,0.4s,baz=135,slow=8.4,SNR=3.6						
ARCES	**ARCESS Array B**	**90.41**	**341**	P	P	09 06 12.8	-2.3
	2.0nm,0.7s,baz=40,slow=9.5,SNR=3.8						
YKA	**Yellowknife Ar**	**91.85**	**26**	P	P	09 06 21.2	-0.7
	0.4nm,0.8s,baz=292,slow=4.8,SNR=5.5						
FINES	**FINESS Array B**	**93.26**	**333**	LR	LR	09 54 41.7	
	comp=Z,32nm,18.4s,baz=150,slow=40						
KMBO	**Kilima Mbogo**	**99.72**	**270**	LR	LR	09 47 22.3	
	comp=Z,55nm,20.0s,baz=99,slow=33						
NOA	**NORSAR Array B**	**99.76**	**336**	LR	LR	09 56 41.4	
	comp=Z,26nm,19.9s,baz=285,slow=38						

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*TIF **26** 08:55:56.6, 42.07N×46.02E, h7km±2km*
*CSEM **26** 08:55:56.2±0.1, 41.96N×45.94E, h10km, mb4.1, Error ellipse: s-maj=3.5km s-min=2.1km az=152.0*
*MOS **26** 08:55:58.3±1.4, 41.94N×46.12E, h17km, mb4.1/1, Error ellipse: s-maj=10.5km s-min=9.3km az=77.3*
ISC 26 08:55:57.9±0.4, 42.05N±0.04×46.05E±0.03, h10km, n22, σ1°37/43, 1C-6D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XNZR	**Khunzakh**	**0.69**	**44**	⇓*i*PG	**Pg**	**08 56 14.6**	**+2.7**
XNZR				*e*S	**Sg**	**08 56 26.6**	**+5.4**
XNZR				pmax	pmax		
	comp=Z,80nm,0.3s						
XNZR	**Khunzakh**	**0.69**	**44**	*i* Pg	**Pg**	**08 56 14.6**	**+2.7**
	comp=Z,80nm,0.3s						
XNZR				*e*Sg	**Sg**	**08 56 26.6**	**+5.4**
DGRG	**David-gareji**	**0.78**	**221**	P	**Pb**	**08 56 13.9**	**+0.8**
DGRG				S	**Sb**	**08 56 26.9**	**+3.3**
KMKR	**Kumukh**	**0.79**	**83**	⇓*i*PG	**Pg**	**08 56 13.0**	**-0.7**
KMKR				*e*S	**Sg**	**08 56 25.0**	**+0.7**
KMKR				pmax	pmax		
	comp=Z,176nm,0.3s						
KMKR	**Kumukh**	**0.79**	**83**	*i* Pg	**Pg**	**08 56 13.0**	**-0.7**
	comp=Z,176nm,0.3s						
KMKR				*e*Sg	**Sg**	**08 56 25.0**	**+0.7**
UNCR	**Uncukul**	**0.87**	**39**	⇓*i*PG	**Pg**	**08 56 14.4**	**-0.9**
UNCR				*e*S	**Sb**	**08 56 25.4**	**-0.6**
UNCR				pmax	pmax		
	comp=Z,107nm,0.2s						
UNCR	**Uncukul**	**0.87**	**39**	*i* Pg	**Pg**	**08 56 14.4**	**-0.9**
	comp=Z,107nm,0.2s						
UNCR				*e*Sg	**Sb**	**08 56 25.4**	**-0.6**
MTA	**Mtatsminda**	**1.00**	**250**	P	**Pb**	**08 56 16.9**	**0.0**
MTA				S	**Sb**	**08 56 30.8**	**+0.9**
KRNR	**Karanay**	**1.01**	**39**	⇓*i*PG	**Pg**	**08 56 17.6**	**-0.5**
KRNR				*i* S	**Sg**	**08 56 32.3**	**+0.8**
KRNR				pmax	pmax		
	comp=Z,50nm,0.2s						
KRNR	**Karanay**	**1.01**	**39**	*i* Pg	**Pg**	**08 56 17.6**	**-0.5**
	comp=Z,50nm,0.2s						
KRNR				*i* Sg	**Sg**	**08 56 32.3**	**+0.8**
TI2	**Plekhanov**	**1.02**	**253**	⇓*i*PG	**Pb**	**08 56 15.0**	**-2.2**
TI2				*i* S	**Sb**	**08 56 28.6**	**-1.9**
TI2				pmax	pmax		
	comp=Z,40nm,0.2s						
TI2				smax			
	comp=N,160nm,0.4s						
TI2	**Plekhanov**	**1.02**	**253**	⇓*i*P	**Pb**	**08 56 15.0**	**-2.2**
	comp=N,40nm,0.2s						
TI2				*i* S	**Sb**	**08 56 28.6**	**-1.9**
	comp=N,160nm,0.4s						
TBLG	**Delisi**	**1.03**	**253**	P	**Pb**	**08 56 17.3**	**-0.1**
TBLG				S	**Sb**	**08 56 31.2**	**+0.5**
BUJR	**Buynaksk**	**1.10**	**45**	⇑*i*PG	**Pg**	**08 56 19.0**	**-1.1**
BUJR				*e*S	**Sg**	**08 56 36.0**	**+1.2**
BUJR				pmax	pmax		
	comp=Z,78nm,0.2s						
BUJR	**Buynaksk**	**1.10**	**45**	*i* Pg	**Pg**	**08 56 19.0**	**-1.1**
	comp=Z,78nm,0.2s						
BUJR				*e*Sg	**Sg**	**08 56 36.0**	**+1.2**
DBC	**Dubki**	**1.13**	**30**	*i* PG	**Pg**	**08 56 18.5**	**-2.1**
DBC				*i* S	**Sg**	**08 56 36.2**	**+0.5**
DBC				pmax	pmax		
	comp=Z,72nm,0.2s						
DBC	**Dubki**	**1.13**	**30**	*i* Pg	**Pg**	**08 56 18.5**	**-2.1**
	comp=Z,72nm,0.2s						
DBC				*i* Sg	**Sg**	**08 56 36.2**	**+0.5**
URKR	**Urkarakh**	**1.19**	**84**	*e*Pg	**Pg**	**08 56 20.0**	**-1.6**
URKR				*e*Sg	**Sg**	**08 56 43.0**	**+5.5**
AKT	**Akhty**	**1.38**	**114**	*i* PG	**Pg**	**08 56 23.0**	**-2.5**
AKT				*i* S	**Sg**	**08 56 46.0**	**+2.1**
AKT				pmax	pmax		
	comp=Z,61nm,0.3s						
AKT	**Akhty**	**1.38**	**114**	*i* Pg	**Pg**	**08 56 23.0**	**-2.5**
	comp=Z,61nm,0.3s						
AKT				*i* Sg	**Sg**	**08 56 46.0**	**+2.1**
ZEI	**Tsey**	**1.75**	**295**	*e*Pn	**Pn**	**08 56 30.1**	**+1.5**
ONI	**Oni**	**2.00**	**286**	P	**Pn**	**08 56 34.2**	**+2.0**
ONI				S	**Sn**	**08 57 02.0**	**+4.5**

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*IDC **26** 08:57:56.6±1.6, 16.66S×178.46W, mb4.0/5, mb1 4.4/5, mb1mx4.0/16, mbtmp4.0/5, MS3.4/2, Ms1 3.4/2, ms1mx3.1/25, Error ellipse: s-maj=138.9km s-min=23.6km az=152.0*
ISC 26 08:58:00.2±1.5, 16.7S±0.9×178.5W±0.5, h33km, n9, σ0°57/7, mb4.0/4, MS3.9/1, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.15**	**247**	LR	LR	09 06 05.1	
	comp=Z,73nm,21.2s,baz=26,slow=32						
STKA	**Stephens Creek**	**39.13**	**240**	*e*P	**P**	**09 05 27.0**	**+0.6**
	1.9nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**39.13**	**240**	P	**P**	**09 05 26.7**	**+0.4**
	1.8nm,0.4s,mb4.2,baz=86,slow=9.2,SNR=11						
WRA	**Warramunga Arr**	**44.75**	**258**	P	**P**	**09 06 12.3**	**-0.3**
	1.0nm,0.5s,mb3.9,baz=91,slow=6.8,SNR=24						
ASAR	**Alice Springs**	**45.02**	**253**	P	**P**	**09 06 14.8**	**+0.1**
	12nm,0.5s,mb5.0,baz=89,slow=8.2,SNR=195						
ASPA	**Alice Springs**	**45.02**	**253**	*e*P	**P**	**09 06 14.5**	**-0.3**
FX1	**Attu Island--F**	**69.64**	**355**	LR	LR	09 31 04.7	
	comp=Z,73nm,21.7s,MS3.9,baz=188,slow=29						
NVAR	**Mina Array Bea**	**78.63**	**44**	P	**P**	**09 10 01.5**	**+0.9**
	0.1nm,0.3s,mb3.2,baz=236,slow=6.5,SNR=3.7						
TXAR	**Lajitas Array**	**85.44**	**58**	P	**P**	**09 10 35.4**	**-0.9**
	0.0nm,0.3s,baz=233,slow=6.3,SNR=4.6						

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*NNC **26** 09:14:13.3±2.9, 37.70N×71.76E, mpv3.5, Error ellipse: s-maj=31.4km s-min=20.1km az=157.0*
ISC 26 09:14:11.5±2.8, 37.6N±0.2×71.7E±0.2, h10km, n7, σ0°68/9, 1C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.76**	**19**	P	**Pn**	**09 15 25.9**	**+0.8**
	SNR=49						
UCH	**Uchtor**	**5.09**	**25**	P	**Pn**	**09 15 29.3**	**-0.4**
	SNR=12						
KZA	**Kyzart**	**5.23**	**31**	P	**Pn**	**09 15 30.4**	**-1.3**
	SNR=5.5						
EKS2	**Erkin-Say**	**5.28**	**17**	P	**Pn**	**09 15 33.2**	**+0.9**
	SNR=9.1						
AAK	**Ala-Archa**	**5.45**	**23**	P	**Pn**	**09 15 34.5**	**-0.2**
	SNR=8.2						
AAK	**Ala-Archa**	**5.45**	**23**	⇑P	**Pn**	**09 15 34.4**	**-0.3**
	5.8nm,0.5s						
AAK				⇓S	**Sn**	**09 16 38.7**	**+0.4**
	8.5nm,0.6s						
KK31	**Karatay Array**	**5.54**	**351**	P	**Pn**	**09 15 36.3**	**+0.3**
	0.8nm,0.2s,baz=162,slow=12,SNR=29						
KK31				⇓S	**Sn**	**09 16 40.0**	**-0.5**
	3.9nm,0.3s,baz=170,slow=20,SNR=14						

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*IDC **26** 09:50:41.9±1.9, 4.51N×125.43E, mb3.7/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=177.4km s-min=24.5km az=64.0*
*MAN **26** 09:51:17.2, 6.80N×125.82E, h1km, mb4.4, ML3.3, MS3.1*
ISC 26 09:50:47.6±0.9, 4.5N±0.2×126.4E±0.5, h33km, n7, σ0°48/7, mb3.6/4, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.44**	**356**	*e*P	**P**	**09 51 26.2**	**+0.3**
KCP	**Kidapawan**	**2.83**	**332**	⇓*e*P	**P**	**09 51 32.1**	**+0.6**
BUKP	**Musuan**	**3.63**	**338**	*e*P	**P**	**09 51 42.0**	**-0.8**
WRA	**Warramunga Arr**	**25.50**	**163**	P	**P**	**09 56 15.0**	**+0.2**
	0.7nm,0.4s,mb3.6,baz=338,slow=10,SNR=14						
ASAR	**Alice Springs**	**28.92**	**166**	P	**P**	**09 56 46.3**	**+0.3**
	0.4nm,0.5s,mb3.4,baz=350,slow=7.5,SNR=12						
STKA	**Stephens Creek**	**38.94**	**159**	P	**P**	**09 58 11.8**	**-0.5**
	1.0nm,0.5s,mb3.8,baz=0.2,slow=6.2,SNR=6.1						
MKAR	**Makanchi Array**	**56.76**	**325**	P	**P**	**10 00 23.6**	**-7.3**
	0.3nm,0.5s,mb3.6,baz=114,slow=7.3,SNR=6.1						

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*NEIC **26** 09:56:07.0±4.0, 0.40N×126.67E, h45km±39km, mb4.3/4, Error ellipse: s-maj=28.0km s-min=10.3km az=68.0*
*IDC **26** 09:56:07.5±3.3, 0.35N×126.55E, h49km±30km, mb4.1/7, mb1 4.2/8, mb1mx3.9/18, mbtmp4.3/8, ML4.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/29, Error ellipse: s-maj=104.6km s-min=15.1km az=68.0*
ISC 26 09:56:03.7±0.7, 0.4N±0.1×126.7E±0.3, h33km, n16, σ0°38/15, mb4.3/10, 2D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.45**	**183**	P	**P**	**10 00 18.2**	**-0.7**
	0.7nm,0.3s,baz=39,slow=16,SNR=7.8						
FITZ				LR	LR	10 07 23.2	
	comp=Z,97nm,20.6s,baz=187,slow=37						
WRAB	**Tennant Creek**	**21.60**	**160**	*e*P	**P**	**10 00 53.1**	**+0.2**
	18nm,0.4s,mb4.8						
WRA	**Warramunga Arr**	**21.60**	**160**	P	**P**	**10 00 52.5**	**-0.5**
	5.9nm,0.3s,mb4.5,baz=340,slow=11,SNR=152						
WB2	**Warramunga Arr**	**21.61**	**160**	⇓*i*P	**P**	**10 00 53.0**	**0.0**
MBWA	**Marble Bar**	**22.51**	**197**	*e*P	**P**	**10 01 02.6**	**+0.5**
	4.0nm,0.6s,mb4.0						
ASPA	**Alice Springs**	**24.97**	**164**	*e*P	**P**	**10 01 26.6**	**+0.6**
ASAR	**Alice Springs**	**24.97**	**164**	P	**P**	**10 01 26.4**	**+0.4**
	8.3nm,0.4s,mb4.7,baz=340,slow=9.0,SNR=155						
ASAR				ScP		10 08 35.4	
	0.4nm,0.8s,baz=339,slow=2.3,SNR=4.9						
STKA	**Stephens Creek**	**35.11**	**158**	⇓*i*P	**P**	**10 02 55.8**	**-0.4**
	1.6nm,0.3s,mb4.4						
STKA	**Stephens Creek**	**35.11**	**158**	P	**P**	**10 02 56.1**	**-0.1**
	1.8nm,0.3s,mb4.5,baz=328,slow=8.2,SNR=40						
ULN	**Ulaanbaatar**	**50.22**	**343**	*e*P	**P**	**10 04 58.7**	**+0.1**
	1.8nm,0.6s,mb4.3						
SONM	**Songino Array**	**50.39**	**342**	P	**P**	**10 05 00.0**	**+0.1**
	1.5nm,0.7s,mb4.1,baz=160,slow=7.5,SNR=6.3						
MKAR	**Makanchi Array**	**60.23**	**326**	P	**P**	**10 06 11.0**	**-0.1**
	2.0nm,0.4s,mb4.5,baz=118,slow=7.4,SNR=60						
BVAR	**Borovoye Array**	**70.04**	**328**	P	**P**	**10 07 14.1**	**-0.1**
	0.9nm,0.5s,mb4.0,baz=124,slow=5.3,SNR=8.0						
VNDA	**Vanda**	**80.19**	**173**	P	**P**	**10 08 11.6**	**-0.4**
	0.6nm,0.7s,mb3.6,baz=303,slow=7.7,SNR=5.9						
VNDA	**Vanda**	**80.19**	**173**	P	**P**	**10 08 11.6**	**-0.4**
CFAA	**Coronel Fontan**	**145.94**	**157**	PKPbc	PKPbc	10 15 41.9	+1.0
	0.2nm,0.4s,baz=186,slow=5.4,SNR=9.2						

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*NEIC **26** 10:04:42.2±2.9, 4.81S×152.25E, h65km±24km, mb4.2/3, Error ellipse: s-maj=33.5km s-min=17.7km az=127.0*
*IDC **26** 10:04:43.4±5.4, 4.75S×152.12E, h75km±48km, mb3.7/6, mb1 3.9/7, mb1mx3.7/16, mbtmp4.0/7, ML2.7/1, MS2.9/2, Ms1 2.9/2, ms1mx2.8/25, Error ellipse: s-maj=66.7km s-min

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**298**	*eP*	**Pb**	**10 06 48.6**	**-0.1**
LUBP				*eS*	**Sb**	**10 06 54.4**	**+0.5**
TGY	**Tagaytay City**	**0.64**	**33**	⇑*iP*	**Pb**	**10 06 53.1**	**-0.3**
TGY				*i* S	**Sb**	**10 07 01.6**	**-0.3**
SJMP	**San Jose**	**1.21**	**154**	*eP*	**Pb**	**10 07 02.3**	**-0.7**
SJMP				*eS*	**Sb**	**10 07 19.2**	**+0.9**
BOAC	**Boac**	**1.24**	**94**	*eP*	**Pn**	**10 07 01.1**	**-2.4**
BOAC				*eS*	**Sb**	**10 07 18.0**	**-1.0**
BUSP	**Coron**	**1.59**	**193**	*eP*	**Pn**	**10 07 08.1**	**-0.5**
BUSP				*eS*	**Sn**	**10 07 30.1**	**+1.4**
POLP	**Polilio Island**	**1.76**	**48**	*eP*	**Pn**	**10 07 10.8**	**-0.1**
POLP				*eS*	**Sn**	**10 07 36.6**	**+3.6**
OTRP	**Odiongan**	**1.84**	**130**	*eP*	**Pn**	**10 07 11.7**	**-0.4**
OTRP				*eS*	**Sn**	**10 07 36.6**	**+1.5**
GQP	**Guinayangan**	**1.85**	**79**	*eP*	**Pn**	**10 07 12.1**	**-0.1**
AUQP	**San Andres**	**2.05**	**96**	*eP*	**Pn**	**10 07 17.1**	**+1.9**
PCPH	**Palayan**	**2.05**	**14**	⇑*eP*	**Pn**	**10 07 14.8**	**-0.4**
PCPH				*i* S	**Sn**	**10 07 41.1**	**+0.6**
SCZP	**Santa Cruz**	**2.30**	**344**	*eP*	**Pn**	**10 07 19.8**	**+1.2**
BALP	**Baler**	**2.38**	**24**	*eP*	**Pn**	**10 07 20.8**	**+1.0**
BALP				*eS*	**Sn**	**10 07 48.6**	**0.0**
ENPP	**El Nido**	**2.59**	**206**	*eP*	**Pn**	**10 07 21.8**	**-1.1**
BOLP	**Bolinao**	**2.88**	**347**	*eP*	**Pn**	**10 07 26.5**	**-0.4**
PVCP	**Virac**	**3.48**	**89**	*eP*	**Pn**	**10 07 38.1**	**+2.7**
CMAR	**Chiang Mai Arr**	**21.35**	**286**	P	**P**	**10 11 31.6**	**+2.0**
	2.4nm,0.9s,mb3.5,baz=97,slow=9.4,SNR=11						
WRAB	**Tennant Creek**	**35.94**	**158**	*eP*	**P**	**10 13 38.8**	**-3.8**
	17nm,1.4s,mb4.8						
WRA	**Warramunga Arr**	**35.94**	**158**	P	**P**	**10 13 39.4**	**-3.3**
	0.8nm,0.4s,mb4.0,baz=332,slow=10,SNR=11						
SONM	**Songino Array**	**36.16**	**344**	P	**P**	**10 13 43.1**	**-1.1**
	0.4nm,0.4s,mb3.7,baz=135,slow=6.1,SNR=2.9						
ASAR	**Alice Springs**	**39.23**	**160**	P	**P**	**10 14 09.0**	**-1.2**
	0.9nm,0.5s,mb3.8,baz=338,slow=7.0,SNR=16						
MKAR	**Makanchi Array**	**46.08**	**324**	P	**P**	**10 15 05.4**	**-0.2**
	0.2nm,0.4s,mb3.4,baz=121,slow=7.1,SNR=3.6						
BVAR	**Borovoye Array**	**55.82**	**326**	P	**P**	**10 16 18.0**	**-1.4**
	0.4nm,0.5s,mb3.7,baz=121,slow=8.4,SNR=3.8						
DZM	**Mont Dzumac**	**57.24**	**128**	LR	LR	10 40 05.3	
	comp=Z,73nm,19.7s,MS3.8,baz=29,slow=35						

*IDC **26** 10:08:35.2±0.4,3.12N×92.35E,mb4.6/25,mb1 4.7/26, mb1mx4.7/29,mbtmp4.6/26,ML4.4/1,MS4.2/22,Ms1 4.2/22, ms1mx4.2/23,Error ellipse: s-maj=18.5km s-min=11.2km az=48.0*

*MOS **26** 10:08:38.8±1.1,3.13N×92.35E,h33km,mb5.2/29,Error ellipse: s-maj=10.8km s-min=6.1km az=118.9*

*BJI **26** 10:08:39.2,2.97N×92.23E,h37km,mB5.0,mb4.9,Ms4.9, Msz4.4*

*NEIC **26** 10:08:40.0±0.2,3.11N×92.32E,h30km,mb4.8/26,Error ellipse: s-maj=8.3km s-min=5.2km az=217.0*

*DJA **26** 10:09:30.0±1.1,2.17N×96.33E,h161km±5km,MD4.8/1, Error ellipse: s-maj=33.8km s-min=14.3km az=77.0*

ISC 26 10:08:38.6±0.2,3.07N±0.04×92.36E±0.03,h33km, h33km±1.2km:pP-P,n207,σ§12/207,mb4.8/77,MS4.5/41, 12C-25D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.56**	**93**	*e*Pn	**Pn**	**10 10 14.7**	**-0.8**
KULM	**Kulim**	**8.56**	**75**	⇑*iP*	**P**	**10 10 41.6**	**-1.7**
PPI	**Padang Panjang**	**8.76**	**113**	*e*Pn	**P**	**10 10 41.0**	**-5.2**
IPM	**Ipoh**	**8.77**	**80**	P	**P**	**10 10 44.6**	**-1.7**
SNG	**Songkhla**	**9.18**	**63**	P	**P**	**10 10 50.0**	**-1.9**
	310nm,0.8s						
KGM	**Kluang**	**11.00**	**95**	P	**P**	**10 11 17.4**	**+0.4**
PALK	**Pallekele**	**12.34**	**290**	*eP*	**P**	**10 11 31.2**	**-3.9**
NST	**Nakhon Sawan**	**14.68**	**31**	P	**P**	**10 12 11.0**	**+4.9**
PENI	**Pendagan**	**15.40**	**124**	⇑*e*Pn	**P**	**10 12 14.5**	**-1.0**
PENI	**Pendagan**	**15.40**	**124**	⇑*eP*	**P**	**10 12 12.6**	**-2.9**
TRD	**Trivandrum**	**16.25**	**290**	⇓*e*	**P**	**10 12 31.7**	**+5.4**
TRD				*e*		10 15 25.7	
PASI	**Pasiripis**	**16.38**	**126**	⇓*e*Pn	**P**	**10 12 31.1**	**+3.1**
PASI	**Pasiripis**	**16.38**	**126**	⇓*eP*	**P**	**10 12 27.2**	**-0.8**
PULI	**Pulasari**	**16.50**	**125**	⇓*e*Pn	**P**	**10 12 30.3**	**+0.8**
PULI	**Pulasari**	**16.50**	**125**	⇓*eP*	**P**	**10 12 28.4**	**-1.1**
CM31	**Chiang Mai Arr**	**16.60**	**22**	⇓*eP*	**P**	**10 12 29.7**	**-1.0**
	43nm,1.0s						
CMAR	**Chiang Mai Arr**	**16.60**	**22**	Pn	**P**	**10 12 28.7**	**-2.0**
	0.5nm,0.3s,baz=217,slow=13,SNR=61						
CMAR				Sn	**S**	**10 15 44.1**	**+11**
	0.2nm,0.3s,baz=230,slow=21,SNR=2.2						
CMAR				LR	LR	10 18 43.0	
	comp=Z,690nm,21.6s,baz=195,slow=37						
CMAR	**Chiang Mai Arr**	**16.60**	**22**	Pn	**P**	**10 12 28.7**	**-2.0**
CMAR				LR	LR	10 18 43.0	
KKTK	**Khon Kaen**	**16.73**	**37**	P	**P**	**10 12 32.0**	**-0.4**
	556nm,1.0s						
VIS	**Vishakhapatnam**	**17.05**	**329**	*eP*	**P**	**10 12 33.5**	**-2.9**
VIS				*e*		10 12 40.2	
	comp=Z,238nm,1.2s						
VIS				*e*		10 15 29.4	
NANT	**Nan**	**17.64**	**27**	P	**P**	**10 12 43.0**	**-0.8**
	comp=Z,112nm,0.9s						
KSM	**Kuching**	**18.00**	**95**	*eP*	**P**	**10 12 49.6**	**+1.2**
HYB	**Hyderabad**	**19.67**	**317**	⇓*eP*	**P**	**10 13 06.5**	**-1.6**
HYB				pmax	pmax		
	comp=Z,100nm,1.0s						
HYB	**Hyderabad**	**19.67**	**317**	⇓*eP*	**P**	**10 13 06.5**	**-1.6**
	comp=Z,100nm,1.0s						
HYB	**Hyderabad**	**19.67**	**317**	⇓*iP*	**P**	**10 13 06.5**	**-1.6**
	comp=Z,100nm,1.0s						
HYB				*e*		10 13 16.0	
HYB				*e*S	**S**	**10 16 41.0**	**-1.4**
MNGI	**Mangalore**	**19.93**	**300**	*e*	**P**	**10 13 10.6**	**-0.3**
MNGI				*e*		10 16 37.5	
AGT	**Agartala**	**20.72**	**357**	⇓*iP*	**P**	**10 13 18.0**	**-1.0**
AGT				*i*		10 13 33.0	
BLSP	**Bilaspur**	**21.39**	**333**	*eP*	**P**	**10 13 24.0**	**-1.9**
BLSP				*e*		10 13 27.2	
	comp=Z,216nm,1.2s						
BLSP				*e*		10 17 16.0	
BOK	**Bokaro**	**21.54**	**344**	*eP*	**P**	**10 13 27.1**	**-0.1**
BOK				*e*		10 17 17.6	
SHL	**Shillong**	**22.38**	**359**	*eP*	**P**	**10 13 33.5**	**-2.1**
SHL				*e*		10 17 43.0	
KAD	**Karad**	**22.77**	**310**	*eP*	**P**	**10 13 39.1**	**-0.7**
KAD				*e*		10 13 42.6	
	comp=Z,139nm,1.3s						
QIZ	**Qiongzhong**	**23.32**	**46**	P	**P**	**10 13 43.8**	**-1.3**
QIZ				S	**S**	**10 17 59.8**	**+8.2**
QIZ				LR	LR		
	comp=N,2μm,17.2s,MS4.8						
QIZ				LR	LR		
	comp=E,1μm,16.7s,MS4.8						
POO	**Poona**	**23.76**	**312**	⇓*iP*	**P**	**10 13 49.0**	**-0.3**
	comp=E,60nm,1.0s,mb5.0						
POO				*i*		10 18 08.0	
KKM	**Kota Kinabalu**	**23.96**	**82**	*eP*	**P**	**10 13 50.5**	**-0.8**
KKM	**Kota Kinabalu**	**23.96**	**82**	P	**P**	**10 13 54.2**	**+3.0**
KMI	**Kunming**	**24.10**	**24**	P	**P**	**10 13 53.8**	**+1.2**
KMI				AP		10 14 01.3	
KMI				PP	PP	10 14 26.3	-1.0
KMI				S	**S**	**10 18 04.5**	**-0.4**
KMI				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.3						
KMI				LR	LR		
	comp=N,1μm,12.0s,MS4.8						
KMI				LR	LR		
	comp=E,2μm,14.7s,MS4.8						
KMI				LR	LR		
	comp=Z,796nm,20.0s						
BHPL	**Bhopal**	**24.73**	**325**	*eP*	**P**	**10 13 59.0**	**+0.4**
BHPL				*e*		10 14 01.2	
	comp=Z,36nm,1.1s						
BHPL				*e*		10 18 22.1	
JIRN	**Jiri**	**25.16**	**347**	*eP*	**P**	**10 14 03.7**	**+1.0**
	comp=Z,514nm,1.2s,mb5.9						
PKI	**Pulchoki**	**25.26**	**345**	*eP*	**P**	**10 14 04.3**	**+0.7**
	comp=Z,266nm,1.4s,mb5.6						
DMN	**Daman**	**25.37**	**345**	*eP*	**P**	**10 14 05.4**	**+0.7**
	comp=Z,65nm,0.8s,mb5.2						
GUN	**Gumba**	**25.47**	**347**	*eP*	**P**	**10 14 06.3**	**+0.7**
	comp=Z,362nm,1.2s,mb5.8						
KKN	**Kakani**	**25.50**	**345**	*eP*	**P**	**10 14 06.4**	**+0.5**
	comp=Z,199nm,1.3s,mb5.5						
GKN	**Gorkha**	**25.87**	**344**	*eP*	**P**	**10 14 09.7**	**+0.3**
	comp=Z,224nm,1.1s,mb5.6						
KOLN	**Koldanda**	**25.95**	**342**	*eP*	**P**	**10 14 10.7**	**+0.6**
	comp=Z,83nm,0.8s,mb5.3						
LSA	**Lhasa**	**26.51**	**358**	P	**P**	**10 14 16.8**	**+1.5**
LSA				XP	sP	10 14 29.5	+0.3
LSA				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.3						
LSA				LR	LR		
	comp=N,250nm,15.3s,MS4.2						
LSA				LR	LR		
	comp=E,530nm,15.3s,MS4.2						
LSA				LR	LR		
	comp=Z,410nm,16.1s,MS4.1						
LSA	**Lhasa**	**26.51**	**358**	⇓*iP*	**P**	**10 14 16.5**	**+1.2**
LSA				pmax	pmax		
	comp=Z,59nm,0.8s,mb5.2						
LSA	**Lhasa**	**26.51**	**358**	⇓*iP*	**P**	**10 14 16.5**	**+1.2**
	comp=Z,59nm,0.8s,mb5.2						
GYA	**Guiyang**	**27.00**	**29**	⇑*iP*	**P**	**10 14 21.3**	**+1.5**
GYA				AP	pP	10 14 30.8	+1.4
GYA				XP	sP	10 14 34.5	+0.8
GYA				PP	PP	10 15 07.5	+1.5
GYA				S	**S**	**10 18 54.8**	**+1.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				LR	LR		
	comp=N,1μm,17.0s,MS4.8						
GYA				LR	LR		
	comp=E,2μm,16.8s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,17.2s,MS4.6						
AGRA	**Agra**	**27.71**	**332**	*eP*	**P**	**10 14 26.1**	**-0.1**
NINI	**Niniconang**	**28.37**	**105**	*eP*	**P**	**10 14 33.2**	**+1.0**
GZH	**Guangzhou**	**28.44**	**44**	P	**P**	**10 14 36.5**	**+3.7**
GZH				S	**S**	**10 19 23.5**	**+7.0**
GZH				LR	LR		
	comp=N,2μm,18.3s,MS4.8						
GZH				LR	LR		
	comp=E,1μm,16.8s,MS4.8						
GZH				LR	LR		
	comp=Z,809nm,22.4s						
SONA	**Sohna**	**28.97**	**331**	*eP*	**P**	**10 14 37.6**	**+0.1**
SONA				*e*		10 14 41.3	
	comp=Z,28nm,1.7s						
AYAN	**Aya Nagar**	**29.15**	**332**	*eP*	**P**	**10 14 38.7**	**-0.5**
AYAN				*e*		10 14 41.5	
	comp=Z,7.3nm,1.2s						
NDI	**New Delhi**	**29.27**	**332**	*eP*	**P**	**10 14 39.5**	**-0.8**
NDI				*e*		10 20 19.0	
KHET	**Khetri**	**29.46**	**329**	*eP*	**P**	**10 14 41.7**	**-0.3**
KHET				*e*		10 14 44.5	
	comp=Z,33nm,1.2s						
CD2	**Chengdu**	**29.71**	**20**	P	**P**	**10 14 43.8**	**-0.4**
CD2				S	**S**	**10 19 37.0**	**+0.3**
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
CD2				LR	LR		
	comp=N,1μm,12.6s						
CD2				LR	LR		
	comp=Z,690nm,13.8s,MS4.4						
DDI	**Dehra Dun**	**30.30**	**335**	*e*	**P**	**10 14 49.0**	**-0.4**
KLP	**Kalpa**	**31.28**	**336**	*eP*	**P**	**10 14 57.4**	**-0.7**
KLP				*e*		10 15 01.9	
	comp=Z,33nm,1.7s						
ENH	**Enshi**	**31.54**	**29**	*eP*	**P**	**10 14 59.9**	**-0.4**
	comp=Z,8.3nm,0.7s,mb4.7						
SDNR	**Sundarnagar**	**31.79**	**335**	*eP*	**P**	**10 15 02.4**	**-0.1**
WHN	**Wuhan**	**34.34**	**35**	P	**P**	**10 15 26.5**	**+1.9**
XAN	**Xi'an**	**34.47**	**25**	P	**P**	**10 15 25.0**	**-0.7**
XAN				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.1						
LZH	**Lanzhou**	**34.53**	**17**	*eP*	**P**	**10 15 26.5**	**+0.3**
LZH				PP	PP	10 16 43.8	+1.1
LZH				*e*S	**S**	**10 20 53.3**	**+1.5**
LZH				SS	SS	10 23 09.0	+5.0
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,198nm,4.6s						
LZH				LR	LR		
	comp=E,3μm,16.6s						
LZH				LR	LR		
	comp=Z,4μm,17.4s,MS5.3						
GTA	**Gaotai**	**36.80**	**10**	*eP*	**P**	**10 15 46.5**	**+1.0**
GTA				AP	pP	10 15 56.0	+0.7
GTA				XP	sP	10 16 00.0	+0.6
GTA				PP	PP	10 17 15.5	+4.2
GTA				PPP	PPP	10 17 36.5	+5.2
GTA				S	**S**	**10 21 32.5**	**+5.7**
GTA				XS		10 21 49.5	
GTA				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.1						
GTA				AMB	AMB		
	comp=Z,103nm,4.9s						
GTA				LR	LR		
	comp=N,241nm,19.0s,MS4.3						
GTA				LR	LR		
	comp=E,343nm,14.1s,MS4.3						
GTA				LR	LR		
	comp=Z,353nm,15.6s,MS4.2						
WBK	**Wadi Bani Khal**	**37.74**	**304**	⇑P	**P**	**10 15 54.9**	**+1.4**
SNR=5.7							
NJ2	**Nanjing**	**38.09**	**38**	*eP*	**P**	**10 15 56.0**	**-0.4**
NJ2				AP	pP	10 16 07.0	+0.8
NJ2				XP	sP	10 16 11.0	+0.7
NJ2				PP	PP	10 17 27.0	0.0
NJ2				S	**S**	**10 21 47.0**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,220nm,5.2s						
NJ2				LR	LR		
	comp=N,2μm,17.7s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,16.4s,MS5.2						
NJ2				LR	LR		
	comp=Z,530nm,15.4s,MS4.5						
JMDO	**Jabal Madar**	**38.36**	**303**	⇓P	**P**	**10 15 59.9**	**+1.1**
SMDO	**Samad**	**38.70**	**304**	⇓P	**P**	**10 16 03.1**	**+1.5**
FITZ	**Fitzroy Crossi**	**38.96**	**124**	*eP*	**P**	**10 16 03.2**	**-0.5**
	comp=Z,12nm,1.1s,mb4.5						
FITZ	**Fitzroy Crossi**	**38.96**	**124**	P	**P**	**10 16 03.2**	**-0.5**
	comp=Z,7.4nm,0.5s,mb4.7,baz=272,slow=22,SNR=10						
FITZ				LR	LR	10 33 55.4	
	comp=Z,184nm,19.9s,MS3.9,baz=107,slow=39						
BSY	**Bisya**	**39.28**	**303**	⇓P	**P**	**10 16 08.3**	**+1.9**
SNR=13							
WHFO	**Wadi Hawf**	**40.59**	**294**	⇑P	**P**	**10 16 18.1**	**+0.9**
SNR=10							
WMQ	**Urumqi**	**40.79**	**355**	⇓P	**P**	**10 16 19.0**	**+0.4**
WMQ				AP	pP	10 16 29.0	+0.5
WMQ				XP	sP	10 16 33.0	+0.4
WMQ				PP	PP	10 17 57.0	+1.3
WMQ				PCP	PcP	10 18 20.8	+0.9
WMQ				*e*S	**S**	**10 22 27.3**	**+0.3**
WMQ				AMB	AMB		
	comp=Z,31nm,1.1s,mb4.8						
WMQ				LR	LR		
	comp=N,396nm,16.1s,MS4.5						
WMQ				LR	LR		
	comp=E,396nm,18.8s,MS4.5						
HHC	**Hu-ho-hao-te**	**41.41**	**22**	*eP*	**P**	**10 16 25.5**	**+1.8**
HHC				AP	pP	10 16 35.0	+1.4
HHC				XP	sP	10 16 38.8	+1.1
HHC				PP	PP	10 18 04.5	+2.2
HHC				PCP	PcP	10 18 24.3	+2.3
HHC				SCP		10 22 07.5	
HHC				S	**S**	**10 22 39.8**	**+3.6**
HHC				XS		10 22 55.3	
HHC				SS	SS	10 25 41.5	+5.5
HHC				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,101nm,4.5s						
HHC				LR	LR		
	comp=N,1μm,15.5s,MS5.0						
HHC				LR	LR		
	comp=E,1μm,13.5s,MS5.0						
HHC				LR	LR		
	comp=Z,759nm,15.8s,MS4.7						
ULHL	**Ulahol**	**41.59**	**342**	P	**P**	**10 16 25.5**	**+0.3**
SNR=16							
JOW	**Kunigami**	**41.71**	**52**	LR	LR	10 36 17.4	
	comp=Z,295nm,18.3s,MS4.2,baz=35,slow=40						
KZA	**Kyzart**	**41.76**	**341**	P	**P**	**10 16 27.3**	**+0.7**
SNR=14							
UCH	**Uchtor**	**42.13**	**340**	P	**P**	**10 16 30.6**	**+0.9**
SNR=16							
AML	**Almayashu**	**42.33**	**339**	P	**P**	**10 16 32.4**	**+1.0**
SNR=50							
KBK	**Karagaybulak**	**42.37**	**341**	P	**P**	**10 16 32.8**	**+1.2**
SNR=8.6							
TKM2	**Tokmak 2**	**42.40**	**342**	P	**P**	**10 16 32.1**	**+0.2**
SNR=18							
AAK	**Ala-Archa**	**42.50**	**340**	P	**P**	**10 16 34.0**	**+1.3**
SNR=5.9							
AAK	**Ala-Archa**	**42.50**	**340**	⇓*eP*	**P**	**10 16 32.1**	**-0.6**
AAK				pmax	pmax		
	comp=Z,28nm,1.4s,mb4.8						
AAK	**Ala-Archa**	**42.50**	**340**	⇓*eP*	**P**	**10 16 32.1**	**-0.6**
	comp=Z,28nm,1.4s,mb4.8						
BJT	**Baijiatuau**	**42.64**	**27**	P	**P**	**10 16 35.9**	**+2.1**
BJT				pmax	pmax		
	comp=Z,35nm,1.1s						
BJT	**Baijiatuau**	**42.64**	**27**	P	**P**	**10 16 35.9**	**+2.1**
	comp=Z,35nm,1.1s,mb5.0						
FRU	**Bishkek**	**42.64**	**341**	*eP*	**P**	**10 16 34.5**	**+0.7**
FRU				*e*		10 18 20.0	
FRU				pmax	pmax		
	comp=Z,50nm,2.0s,mb4.9						
BJI	**Beijing**	**42.66**	**27**	*eP*	**P**	**10 16 36.3**	**+2.3**
BJI				AP	pP	10 16 45.3	+1.4
BJI				XP	sP	10 16 48.5	+0.5
BJI				PP	PP	10 18 16.5	+1.0
BJI				S	**S**	**10 22 56.3**	**+1.7**
BJI				XS		10 23 14.5	
BJI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
BJI				AMB	AMB		
	comp=Z,94nm,3.6s						
BJI				LR	LR		
	comp=N,700nm,19.4s,MS4.7						
BJI				LR	LR		
	comp=E,737nm,17.7s,MS4.7						
BJI				LR	LR		
	comp=Z,516nm,23.0s						
EKS2	**Erkin-Say**	**42.77**	**340**	P	**P**	**10 16 35.7**	**+0.8**
SNR=11							
USP	**Ospenovka**	**43.07**	**341**	P	**P**	**10 16 37.0**	**-0.2**
SNR=20							
KKAR	**Karatay Array**	**44.35**	**337**	*i* P	**P**	**10 16 46.9**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**44.43**	**350**	P	**P**	**10 16 48.1**	**-0.1**
	comp=Z,18nm,0.8s,mb4.9,baz=167,slow=8.8,SNR=158						
MKAR				LR	LR	10 38 50.0	
	comp=Z,249nm,19.0s,MS4.2,baz=171,slow=41						
SONM	**Songino Array**	**46.21**	**13**	P	**P**	**10 17 03.1**	**+0.7**
	comp=Z,7.5nm,0.8s,mb4.7,baz=196,slow=8.7,SNR=23						
SONM				LR	LR	10 38 12.8	
	comp=Z,534nm,18.7s,MS4.5,baz=214,slow=38						
ULN	**Ulaanbaatar**	**46.39**	**14**	*eP*	**P**	**10 17 04.0**	**+0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**46.39**	**14**	*eP*	**P**	**10 17 04.0**	**+0.2**
	comp=Z,4.4nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**47.13**	**121**	P	**P**	**10 17 09.9**	**-0.2**
	comp=Z,5.6nm,0.5s,mb4.8,baz=298,slow=8.9,SNR=47						
WRAB	**Tennant Creek**	**47.13**	**121**	*eP*	**P**	**10 17 09.5**	**-0.6**
WRAB				*e*	pP	10 17 19.8	-0.3
WRAB				pmax	pmax		
	comp=Z,63nm,1.4s,mb5.3						
WRAB	**Tennant Creek**	**47.13**	**121**	*eP*	**P**	**10 17 09.5**	**-0.6**
	comp=Z,64nm,1.4s,mb5.4						
WRAB				*e*	pP	10 17 19.8	-0.3
WB2	**Warramunga Arr**	**47.14**	**121**	⇓*iP*	**P**	**10 17 09.9**	**-0.2**
ZAK	**Zakamensk**	**48.04**	**9**	⇓*iP*	**P**	**10 17 17.6**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
ASPA	**Alice Springs**	**48.39**	**126**	*eP*	**P**	**10 17 19.8**	**0.0**
ASAR	**Alice Springs**	**48.39**	**126**	P	**P**	**10 17 18.8**	**-1.0**
	comp=Z,3.3nm,0.8s,mb4.4,baz=303,slow=7.5,SNR=23						
ASAR				PcP	PcP	10 18 46.8	+0.5
	comp=Z,1.7nm,0.7s,baz=290,slow=3.3,SNR=4.7						
ASAR				LR	LR	10 38 49.3	
	comp=Z,107nm,20.3s,MS3.8,baz=295,slow=38						
TLY	**Talaya**	**49.36**	**9**	*eP*	**P**	**10 17 28.1**	**+1.1**
TLY				*e*S	**S**	**10 24 34.0**	**+3.8**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
OPO	**Ambohidratompo**	**49.39**	**242**	P	**P**	**10 17 28.4**	**+0.8**
	comp=Z,2.3nm,1.0s,mb4.2,baz=337,slow=14,SNR=3.8						
CN2	**Changchun**	**50.02**	**31**	*eP*	**P**	**10 17 34.8**	**+2.6**
CN2				*e*XP	sP	10 17 47.8	+1.7
CN2				*e*S	**S**	**10 24 43.3**	**+3.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,900nm,21.0s,MS4.9						
CN2				LR	LR		
	comp=E,700nm,21.0s,MS4.9						
CN2				LR	LR		
	comp=Z,400nm,21.0s,MS4.4						
HIA	**Hailar**	**51.61**	**23**	*eP*	**P**	**10 17 44.2**	**+0.1**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HIA	**Hailar**	**51.61**	**23**	*eP*	**P**	**10 17 44.1**	**0.0**
	comp=Z,8.1nm,0.7s,mb4.8						
NVS	**Novosibirsk**	**52.15**	**353**	⇓*iP*	**P**	**10 17 46.2**	**-1.9**
NVS				*e*		10 18 01.0	
NVS				*i* S	**S**	**10 25 04.2**	**-4.4**
NVS				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.2						
NVS				pmax	pmax		
	comp=N,31nm,1.4s						
NVS				pmax	pmax		
	comp=E,15nm,1.2s						
NVS				smax			
	comp=N,16nm,2.0s						
NVS				smax			
	comp=E,4.0nm,1.1s						
MDJ	**Mudanjiang**	**52.77**	**33**	P	**P**	**10 17 56.5**	**+3.6**
MDJ				AP	pP	10 18 04.0	+1.0
MDJ				XP	sP	10 18 07.5	+0.6
MDJ				PP	PP	10 19 54.0	+0.5
MDJ				S	**S**	**10 25 19.8**	**+2.6**
MDJ				SS	SS	10 29 01.0	+6.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,58nm,3.1s						
MDJ				LR	LR		
	comp=N,445nm,14.5s,MS4.8						
MDJ				LR	LR		
	comp=E,473nm,15.9s,MS4.8		

KLR MLR MLR
comp=Z,900nm,14.0s,MS5.0
BOD Bodaibo 57.21 14 *eP* **P 10 18 24.9 0.0**
BOD pmax pmax
comp=Z,18nm,1.2s,mb5.0
CTA Charters Tower 57.66 116 P **P 10 18 28.7 +0.1**
comp=Z,12nm,1.1s,mb4.9,baz=319,slow=11,SNR=3.8
CTA LR LR 10 43 32.0
comp=Z,294nm,21.1s,MS4.4,baz=290,slow=36
STKA Stephens Creek 58.21 131 *eP* **P 10 18 32.1 -0.2**
comp=Z,5.3nm,0.9s,mb4.6
STKA Stephens Creek 58.21 131 P **P 10 18 31.7 -0.6**
comp=Z,3.7nm,0.5s,mb4.7,baz=301,slow=4.7,SNR=17
STKA LR LR 10 40 36.8
comp=Z,338nm,21.6s,MS4.4,baz=118,slow=33
SVE Sverdlovsk 59.25 340 *eP* **P 10 18 37.6 -1.6**
SVE *e* pP 10 18 48.5 -0.9
SVE *e* 10 19 28.0
SVE pmax pmax
comp=Z,44nm,1.2s,mb5.4
SVE MLR MLR
comp=E,100nm,15.0s
SVE MLR MLR
comp=Z,200nm,15.0s,MS4.4
ASF Jabal al Asfar 59.45 306 P **P 10 18 40.6 -0.3**
comp=Z,3.4nm,0.4s,mb4.8,baz=0.6,slow=5.3,SNR=5.4
ARU Arti 59.66 339⇑ *iP* **P 10 18 40.2 -1.8**
ARU *e* 10 19 31.7
ARU *e* 10 20 53.1
ARU *eS* **S 10 26 48.6 +0.2**
ARU pmax pmax
comp=Z,17nm,1.0s,mb5.0
ARU Arti 59.66 339 *eP* **P 10 18 40.4 -1.6**
comp=Z,15nm,1.1s,mb4.9
KIV Kislovodsk 59.77 320 *i* P **P 10 18 42.7 -0.3**
KIV pmax pmax
comp=Z,38nm,1.7s,mb5.2
MALT Malatya 60.31 313 *eP* **P 10 18 47.2 +0.4**
MALT pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
MALT Malatya 60.31 313 *eP* **P 10 18 47.2 +0.4**
comp=Z,8.5nm,0.9s,mb4.8
SOC Sochi 61.52 319 *eP* **P 10 18 50.9 -4.0**
SOC *e* 10 19 40.1
SOC *eS* **S 10 27 09.9 -2.6**
SOC *e* 10 28 39.6
SOC pmax pmax
comp=N,6.0nm,0.6s
SOC pmax pmax
comp=Z,14nm,0.6s,mb5.3
SOC pmax pmax
comp=E,5.0nm,0.4s
BRTR Keskin Array B 64.30 313 P **P 10 19 11.2 -2.2**
comp=E,1.6nm,0.6s,mb4.2,baz=131,slow=5.2,SNR=9.3
YAK Yakutsk 65.08 18 *eP* **P 10 19 17.4 -0.7**
YAK pmax pmax
comp=Z,33nm,0.8s,mb5.4
YAK Yakutsk 65.08 18 *eP* **P 10 19 17.4 -0.7**
comp=Z,33nm,0.8s,mb5.4
MOS Moscow 68.29 330 *eP* **P 10 19 36.9 -1.6**
MOS pmax pmax
comp=Z,49nm,1.1s,mb5.5
HNR Honiara 68.47 101 LR LR 10 49 41.6
comp=Z,94nm,19.3s,MS4.0,baz=295,slow=36
OBN Obninsk 68.53 329 *deP* **P 10 19 38.3 -1.7**
OBN *e* 10 22 13.1
OBN *i* S S 10 28 28.4 -10
OBN pmax pmax
comp=Z,53nm,1.7s,mb5.2
OBN MLR MLR
comp=Z,300nm,22.0s,MS4.5
IDI Anoyia 69.91 306 P **P 10 19 47.1 -1.7**
comp=Z,7.6nm,0.6s,mb4.8,baz=112,slow=9.5,SNR=12
AKASG Malin Array Be 70.86 323 P **P 10 19 52.7 -1.6**
comp=Z,2.4nm,0.6s,mb4.3,baz=91,slow=4.6,SNR=15
AKASG Malin Array Be 70.86 323 P **P 10 19 52.7 -1.6**
MLR Muntele Rosu 71.41 317 P **P 10 19 58.1 +0.4**
comp=Z,8.1nm,0.5s,mb4.9,baz=142,slow=3.1,SNR=16
BOSA Boshof 71.56 239 *eP* **P 10 19 57.2 -1.8**
BOSA pmax pmax
comp=Z,17nm,1.3s,mb4.8
BOSA Boshof 71.56 239 P **P 10 19 59.0 +0.1**
comp=Z,2.8nm,0.9s,mb4.2,baz=100,slow=6.5,SNR=3.7
BOSA LR LR 10 46 04.0
comp=Z,191nm,19.9s,MS4.4,baz=46,slow=31
BOSA Boshof 71.56 239 *eP* **P 10 19 57.2 -1.7**
comp=Z,17nm,1.3s,mb4.8
TIXI Tiksi 72.26 11 ↓ *iP* **P 10 20 01.4 -1.0**
TIXI pmax pmax
comp=Z,34nm,1.3s,mb5.1
TIXI MLR MLR
comp=Z,200nm,17.0s,MS4.5
MAW Mawson 73.50 191 P **P 10 20 09.5 -0.2**
comp=Z,1.9nm,0.7s,mb4.2,baz=37,slow=10,SNR=6.0
MAW LR LR 10 45 29.9
comp=Z,102nm,20.9s,MS4.1,baz=244,slow=30
SEY Seymchan 74.01 24 *eP* **P 10 20 13.2 +0.5**
SEY *e* pP 10 20 25.3 +2.3
SEY *e* 10 23 00.0
SEY *e*PPP PPP 10 24 39.6 -5.0
SEY *eS* S 10 29 46.7 +5.3
SEY SS SS 10 34 30.9 +2.3
SEY pmax pmax
comp=Z,11nm,1.1s,mb4.7
SEY smax
comp=N,130nm,22.3s
SEY smax
comp=E,280nm,24.7s
SEY MLR MLR
comp=Z,2μm,21.0s,MS5.3
SEY MLR MLR
comp=N,830nm,22.0s,MS5.1
SEY MLR MLR
comp=E,720nm,18.0s,MS5.1
JOF Joensuu 74.43 335 *ep* **P 10 20 11.8 -3.3**
KOLS Kolonicke sedl 74.68 320 *eP* **P 10 20 17.8 +0.9**
FINES FINESS Array B 76.14 333 P **P 10 20 23.3 -1.6**
comp=E,4.7nm,0.8s,mb4.5,baz=90,slow=9.5,SNR=21
FINES LR LR 10 55 47.9
comp=E,151nm,21.0s,MS4.3,baz=161,slow=37
FINES FINESS Array B 76.14 333 P **P 10 20 23.3 -1.6**
FINES LR LR 10 55 47.9
SUR Sutherland 76.17 236 LR LR 10 47 56.6
comp=E,173nm,20.4s,MS4.3,baz=49,slow=31
KAF Kangasniemi 76.26 334 *ep* **P 10 20 22.4 -3.2**
comp=E,9.0nm,0.9s,mb4.7,baz=107,slow=5.3
KAF Kangasniemi 76.26 334 *eP* **P 10 20 22.4 -3.2**
KAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VYHS Vyhne 76.82 319 *eP* **P 10 20 29.5 +0.5**
OKC Ostrava-Krasne 77.50 320 AMS AMS 10 58 00.0
comp=Z,100nm,12.6s
MORC Moravsky Berou 77.88 320 *eP* **P 10 20 34.8 0.0**
MORC pmax pmax
comp=Z,17nm,1.7s,mb4.7
MORC Moravsky Berou 77.88 320 *eP* **P 10 20 34.8 0.0**
comp=Z,16nm,1.7s,mb4.7
ZST Bratislava 77.91 319 *eP* **P 10 20 35.7 +0.7**
DPC Dobruska-Polom 78.75 321 *eP* **P 10 20 40.6 +1.0**
DPC AMS AMS 11 00 30.0
comp=Z,200nm,14.4s
ARSA Arzberg 78.83 317 ↓ *iP* **P 10 20 40.7 +0.6**
comp=Z,9.1nm,0.8s,mb4.8
KSP Ksiaz 78.84 321 *eP* **P 10 20 40.8 +0.7**
KSP Ksiaz 78.84 321 *eP* **P 10 20 41.1 +1.0**
UPC Upice 78.97 321 *eP* **P 10 20 41.3 +0.5**
ARCES ARCESS Array B 79.18 341 P **P 10 20 40.3 -1.2**
comp=Z,6.0nm,0.9s,mb4.5,baz=101,slow=6.2,SNR=11
ARCES LR LR 10 58 05.2
comp=Z,258nm,21.4s,MS4.5,baz=106,slow=38
ARCES ARCESS Array B 79.18 341 P **P 10 20 40.3 -1.2**
ARCES LR LR 10 58 05.2
PRU Pruhonice 79.83 320 *eP* **P 10 20 46.4 +1.0**
PRU AMS AMS 10 54 30.0
comp=Z,100nm,23.2s
PVCC Panska Ves 79.88 321 *eP* **P 10 20 46.8 +1.1**
PVCC AMS AMS 11 03 20.0
comp=Z,100nm,18.6s
GERES GERESS Array B 80.23 319 P **P 10 20 48.5 +0.8**
comp=Z,8.1nm,0.7s,mb4.8,baz=104,slow=5.5,SNR=63
GERES LR LR 10 58 36.9
comp=Z,95nm,20.5s,MS4.1,baz=88,slow=37
BRG Berggiesshubel 80.32 321 *eP* **P 10 20 48.8 +0.8**
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRG Berggiesshubel 80.32 321 *eP* **P 10 20 48.8 +0.8**
comp=Z,8.3nm,0.9s,mb4.7
KHC Kasperske Hory 80.35 319 *eP* **P 10 20 43.2 -5.0**
KHC AMS AMS 11 01 50.0
comp=Z,100nm,21.2s
CLL Collm 80.96 321 *eP* **P 10 20 52.0 +0.6**
CLL Collm 80.96 321 P **P 10 20 52.0 +0.6**
BILL Bilibino 81.18 21⇑ *eP* **P 10 20 53.1 +0.9**
BILL *e* 10 23 57.1
BILL pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
BILL MLR MLR
comp=Z,300nm,18.0s,MS4.7
WTTA Wattenberg 81.46 317⇑ *iP* **P 10 20 54.2 +0.1**
SQTA Sankt Quirin 81.75 317↓ *iP* **P 10 20 55.7 +0.1**
MOTA Moosalm 81.83 317⇑ *iP* **P 10 20 55.5 -0.5**
FX1 Attu Island--F 82.01 37 LR LR 10 56 03.5
comp=Z,1.6nm,20.2s,baz=25,slow=35
DAVOX Davos 82.62 317 P **P 10 21 00.8 +0.7**
comp=Z,10nm,0.6s,mb5.1,baz=133,slow=5.1,SNR=17
DAVA Damuels 82.65 317↓ *iP* **P 10 21 00.9 +0.6**
comp=Z,21nm,1.0s,mb5.1
NB2 NORSAR Subarra 83.04 331 P **P 10 21 01.5 -0.5**
comp=Z,6.1nm,1.0s,mb4.6,baz=94,slow=5.6
NB2 NORSAR Subarra 83.04 331 P **P 10 21 01.5 -0.5**
NB2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
NOA NORSAR Array B 83.04 331 P **P 10 21 01.6 -0.4**
comp=Z,3.2nm,0.9s,mb4.3,baz=95,slow=5.7,SNR=5.5
NOA LR LR 11 01 18.1
comp=Z,136nm,21.1s,MS4.3,baz=90,slow=38
LPG La Plagne 84.75 315 *eP* **P 10 21 11.3 +0.3**
comp=Z,8.9nm,0.6s,mb4.8
LPG La Plagne 84.75 315 *eP* **P 10 21 11.3 +0.3**
LPG pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
VNDA Vanda 88.61 168 P **P 10 21 30.2 +1.0**
comp=Z,0.6nm,0.4s,mb4.3,baz=314,slow=5.4,SNR=6.3
VNDA LR LR 10 54 45.7
comp=Z,238nm,18.1s,MS4.7,baz=297,slow=31
VNDA Vanda 88.61 168 P **P 10 21 30.2 +1.0**
VNDA LR LR 10 54 45.7
SBA Scott Base 89.72 168 P **P 10 21 37.0 +2.6**
SBA pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
SBA Scott Base 89.72 168 P **P 10 21 37.0 +2.6**
comp=Z,3.0nm,0.8s,mb4.7
DBIC Dimbokro 96.81 277 LR LR 11 00 53.0
comp=Z,91nm,18.2s,MS4.3,baz=71,slow=32
ILAR Eielson Array 99.84 22 PP PP 10 26 18.9 -9.2
comp=Z,0.4nm,0.8s,baz=271,slow=6.0,SNR=5.0
ILAR LR LR 11 09 46.9
comp=Z,111nm,18.8s,MS4.4,baz=155,slow=37
YKA Yellowknife Ar 111.48 13 PP PP 10 27 49.4 -5.4
comp=Z,0.4nm,1.0s,baz=332,slow=7.6,SNR=4.6
TBI Tubuai 117.02 115 *e*LR LR 11 03 01.6
comp=Z,124nm,23.8s
PPT Papeete 117.65 108 *e*LR LR 11 03 19.7
comp=Z,147nm,25.8s
RKT Rikitea 130.08 118 *e*LR LR 11 09 04.1
comp=Z,115nm,25.0s
PDAR Pinedale Array 130.26 21 PKP PKPdf 10 27 45.4 -6.1
comp=Z,0.9nm,0.8s,baz=90,slow=1.5,SNR=8.9
MSU Marysvale 132.82 26 *e*PKIKP PKPdf 10 27 54.8 -1.7
TXAR Lajitas Array 144.31 24 PKP PKPdf 10 28 12.7 -4.8
comp=Z,2.0nm,0.8s,baz=257,slow=2.1,SNR=29
JCT Junction City 144.68 18 *e*PKIKP PKPdf 10 28 13.0 -5.1
NATX Nacogdoches 144.73 10 *e*PKPdf PKPdf 10 28 14.0 -4.1
LPAZ La Paz 156.75 234 PKP PKPdf 10 28 34.1 -2.5
comp=Z,0.6nm,0.5s,baz=131,slow=5.3,SNR=5.2
LPAZ La Paz 156.75 234 PKP PKPdf 10 28 34.9 -1.7

*IDC **26** 11:04:53.4±0.6, 4.63N×94.99E, mb4.4/14, mb1 4.6/14, mb1mx4.4/20, mbtmp4.4/14, MS3.6/7, Ms1 3.6/7, ms1mx3.2/38, Error ellipse: s-maj=29.3km s-min=14.6km az=46.0*
*BJI **26** 11:04:55.4, 4.25N×95.05E, h42km, mB4.8, mb4.8, Ms3.8, Msz3.6*
*MOS **26** 11:04:56.8±1.0, 4.64N×95.02E, h33km, mb4.8/7, Error ellipse: s-maj=20.3km s-min=8.9km az=114.5*
*NEIC **26** 11:04:57.9±0.4, 4.51N×94.89E, h30km, mb4.7/10, Error ellipse: s-maj=12.0km s-min=7.5km az=222.0*
ISC 26 11:04:56.8±0.4, 4.53N±0.07×95.00E±0.07, h33km, n83, σ1§07/77, mb4.6/38, MS3.6/9, 2C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.68**	**82**	*e*Pn	**Pn**	**11 06 22.4**	**+1.2**
CM31	**Chiang Mai Arr** 19nm,0.7s	**14.37**	**15**	*e*P	**P**	**11 08 25.4**	**+5.3**
CMAR	**Chiang Mai Arr** 1.5nm,0.3s,baz=207,slow=11,SNR=70	**14.37**	**15**	Pn	**P**	**11 08 22.9**	**+2.9**
KSM	**Kuching**	**15.59**	**101**	*e*P	**P**	**11 08 42.0**	**+6.0**
SHL	**Shillong**	**21.12**	**352**	*e*P	**P**	**11 09 37.0**	**-4.2**
KKM	**Kota Kinabalu**	**21.18**	**85**	*e*P	**P**	**11 09 42.9**	**+1.0**
KMI	**Kunming**	**21.78**	**19**	P	**P**	**11 09 50.0**	**+2.2**
KMI				AP		11 09 54.0	
KMI				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.5						
KMI				AMB	AMB		
	comp=Z,77nm,3.5s						
KMI				LR	LR		
	comp=N,255nm,15.4s,MS3.8						
KMI				LR	LR		
	comp=E,163nm,17.7s,MS3.8						
KMI				LR	LR		
	comp=Z,212nm,21.3s,MS3.5						
JIRN	**Jiri**	**24.48**	**341**	*e*P	**P**	**11 10 15.1**	**+0.8**
	comp=Z,29nm,0.5s,mb4.9						
GYA	**Guiyang**	**24.49**	**26**⇑	*i*P	**P**	**11 10 14.3**	**-0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
PKI	**Pulchoki**	**24.66**	**339**	*e*P	**P**	**11 10 16.9**	**+0.8**
	comp=Z,12nm,0.6s,mb4.6						
DMN	**Daman**	**24.81**	**339**	*e*P	**P**	**11 10 17.5**	**0.0**
	comp=Z,13nm,0.6s,mb4.7						
KKN	**Kakani**	**24.91**	**339**	*e*P	**P**	**11 10 19.4**	**+0.9**
	comp=Z,23nm,0.7s,mb4.8						
LSA	**Lhasa**	**25.29**	**352**	*e*P	**P**	**11 10 23.3**	**+1.2**
LSA	**Lhasa**	**25.29**	**352**	*e*P	**P**	**11 10 22.8**	**+0.7**
LSA				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
LSA	**Lhasa**	**25.29**	**352**	*e*P	**P**	**11 10 22.8**	**+0.7**
	comp=Z,12nm,0.7s,mb4.5						
GKN	**Gorkha**	**25.34**	**338**	*e*P	**P**	**11 10 22.6**	**+0.1**
	comp=Z,32nm,0.6s,mb5.0						
KOLN	**Koldanda**	**25.53**	**336**	*e*P	**P**	**11 10 24.4**	**+0.1**
	comp=Z,35nm,0.6s,mb5.1						
CD2	**Chengdu**	**27.50**	**16**	P	**P**	**11 10 40.8**	**-1.7**
CD2				AMB	AMB		
	comp=Z,23nm,0.5s,mb5.1						
ENH	**Enshi**	**29.03**	**26**	*e*P	**P**	**11 10 54.4**	**-1.7**
	comp=Z,8.0nm,0.6s,mb4.6						
WHN	**Wuhan**	**31.66**	**33**	*e*P	**P**	**11 11 19.5**	**0.0**
GTA	**Gaotai**	**34.99**	**7**	*e*P	**P**	**11 11 47.3**	**-0.9**
GTA				AP	pP	11 11 59.5	+1.6
GTA				XP	sP	11 12 05.0	+2.8
GTA				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.9						
GTA				AMB	AMB		
	comp=Z,63nm,5.3s						
GTA				LR	LR		
	comp=N,70nm,12.9s,MS3.6						
GTA				LR	LR		
	comp=E,59nm,16.7s,MS3.6						
GTA				LR	LR		
	comp=Z,81nm,15.6s,MS3.6						
FITZ	**Fitzroy Crossi**	**37.67**	**128**	*e*P	**P**	**11 12 11.0**	**-0.1**
	comp=Z,5.3nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**37.67**	**128**	P	**P**	**11 12 09.9**	**-1.1**
	comp=Z,5.1nm,0.6s,mb4.4,baz=26,slow=1.3,SNR=9.1						
FITZ				LR	LR	11 29 15.6	
	comp=Z,121nm,19.4s,MS3.7,baz=275,slow=39						
JOW	**Kunigami**	**38.74**	**52**	LR	LR	11 30 05.9	
	comp=Z,78nm,20.0s,MS3.5,baz=158,slow=39						
BJI	**Beijing**	**40.18**	**25**	*e*P	**P**	**11 12 32.5**	**+0.8**
BJI				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.0						
BJI				LR	LR		
	comp=Z,78nm,23.1s,MS3.5						
ULHL	**Ulahol** SNR=18	**41.10**	**339**	P	**P**	**11 12 40.4**	**+1.0**
KZA	**Kyzart** SNR=11	**41.33**	**338**	P	**P**	**11 12 42.3**	**+1.2**
UCH	**Uchtor** SNR=28	**41.74**	**337**	P	**P**	**11 12 45.6**	**+1.1**
TKM2	**Tokmak 2** SNR=17	**41.92**	**339**	P	**P**	**11 12 47.0**	**+0.9**
KBK	**Karagaybulak** SNR=23	**41.94**	**338**	P	**P**	**11 12 47.7**	**+1.5**
AML	**Almayashu** SNR=48	**41.98**	**336**	P	**P**	**11 12 47.9**	**+1.3**
AAK	**Ala-Archa** SNR=11	**42.09**	**337**	P	**P**	**11 12 49.4**	**+1.9**
AAK	**Ala-Archa**	**42.09**	**337**	*e*P	**P**	**11 12 48.2**	**+0.7**
AAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**42.09**	**337**	*e*P	**P**	**11 12 48.2**	**+0.7**
	comp=Z,14nm,0.8s,mb4.6						
FRU	**Bishkek**	**42.21**	**338**	*e*P	**P**	**11 12 49.5**	**+1.0**
EKS2	**Erkin-Say** SNR=18	**42.39**	**337**	P	**P**	**11 12 51.1**	**+1.2**
USP	**Ospenovka** SNR=32	**42.63**	**338**	P	**P**	**11 12 52.5**	**+0.6**
MKAR	**Makanchi Array**	**43.51**	**347**	P	**P**	**11 12 58.5**	**-0.6**
	comp=Z,19nm,0.7s,mb5.0,baz=168,slow=7.7,SNR=90						
MKAR				LR	LR	11 33 50.6	
	comp=Z,45nm,18.2s,MS3.4,baz=174,slow=40						
KKAR	**Karatay Array**	**44.11**	**334**	*e*P	**P**	**11 13 04.0**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
SONM	**Songino Array**	**44.24**	**11**	P	**P**	**11 13 03.7**	**-1.1**
	comp=Z,1.7nm,0.5s,mb4.0,baz=190,slow=7.4,SNR=7.8						
SONM				PcP	PcP	11 14 49.2	-0.3
	comp=Z,3.0nm,0.5s,baz=191,slow=4.0,SNR=9.2						
WRA	**Warramunga Arr**	**45.68**	**124**	P	**P**	**11 13 17.0**	**+0.2**
	comp=Z,5.0nm,0.5s,mb4.7,baz=301,slow=9.3,SNR=65						
WRAB	**Tennant Creek**	**45.68**	**124**	*e*P	**P**	**11 13 17.2**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
WRAB	**Tennant Creek**	**45.68**	**124**	*e*P	**P**	**11 13 17.2**	**+0.4**
	comp=Z,8.6nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**45.69**	**124**⇑	*i*P	**P**	**11 13 17.0**	**+0.2**
ASPA	**Alice Springs**	**47.16**	**128**	*e*P	**P**	**11 13 28.6**	**+0.2**
ASAR	**Alice Springs**	**47.16**	**128**	P	**P**	**11 13 28.6**	**+0.2**
	comp=Z,3.1nm,0.4s,mb4.6,baz=300,slow=7.9,SNR=102						
ASAR				PcP	PcP	11 15 00.1	0.0
	comp=Z,1.4nm,0.9s,baz=310,slow=4.1,SNR=4.0						
CN2	**Changchun**	**47.44**	**30**	*e*P	**P**	**11 13 28.5**	**-1.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
HIA	**Hailar**	**49.28**	**21**	*e*P	**P**	**11 13 43.8**	**-0.7**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HIA	**Hailar**	**49.28**	**21**	*e*P	**P**	**11 13 43.8**	**-0.7**
	comp=Z,7.0nm,0.6s,mb4.9						
MDJ	**Mudanjiang**	**50.13**	**32**	P	**P**	**11 13 51.0**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,58nm,3.8s						
MJAR	**Matsushiro Arr**	**50.83**	**45**	P	**P**	**11 13 55.7**	**-0.8**
	comp=Z,2.3nm,0.8s,mb4.2,baz=243,slow=7.7,SNR=5.6						
MJAR				LR	LR	11 36 13.9	
	comp=Z,58nm,20.5s,MS3.6,baz=225,slow=37						
MJAR	**Matsushiro Arr**	**50.83**	**45**	P	**P**	**11 13 55.7**	**-0.8**
NVS	**Novosibirsk**	**51.05**	**351**	*e*P	**P**	**11 13 55.1**	**-2.8**
BVA0	**Borovoye Array**	**52.41**	**341**	*i* P	**P**	**11 14 06.6**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
CHKZ	**Chkalovo**	**52.89**	**342**	*e*P	**P**	**11 14 11.1**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,41nm,0.6s,mb5.5						
CHKZ	**Chkalovo**	**52.89**	**342**	*e*P	**P**	**11 14 11.1**	**-0.7**
	comp=Z,41nm,0.6s,mb5.5						
AB31	**Akbulak array**	**53.56**	**332**	P	**P**	**11 14 15.7**	**-1.1**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KLR	**Kul'dur**	**54.34**	**29**	*e*P	**P**	**11 14 17.2**	**-5.4**
BOD	**Bodaibo**	**55.20**	**12**	*e*P	**P**	**11 14 26.7**	**-1.9**
ASAJ	**Asahikawa**	**57.41**	**39**	LR	LR	11 38 19.8	
	comp=Z,56nm,19.4s,MS3.7,baz=200,slow=35						
KMBO	**Kilima Mbogo**	**57.97**	**266**	LR	LR	11 34 15.9	
	comp=Z,82nm,21.9s,MS3.8,baz=87,slow=30						
BRTR	**Keskin Array B**	**65.26**	**312**	P	**P**	**11 15 36.2**	**-1.4**
	comp=Z,2.3nm,0.6s,mb4.4,baz=132,slow=8.3,SNR=13						
OBN	**Obninsk**	**68.64**	**328**	*e*P	**P**	**11 15 57.7**	**-1.0**
IDI	**Anoyia**	**71.17**	**306**	P	**P**	**11 16 14.8**	**+0.2**
	comp=Z,1.8nm,0.4s,mb4.4,baz=70,slow=12,SNR=4.2						
AKASG	**Malin Array Be**	**71.29**	**322**	P	**P**	**11 16 12.9**	**-2.1**
	comp=Z,3.9nm,0.5s,mb4.6,baz=87,slow=5.4,SNR=16						
JOF	**Joensuu**	**74.21**	**335**	*ep*	**P**	**11 16 30.7**	**-1.2**
BOSA	**Boshof**	**74.57**	**239**	P	**P**	**11 16 35.8**	**+1.1**
	comp=Z,2.8nm,0.8s,mb4.2,baz=61,slow=5.3,SNR=3.2						
FINES	**FINESS Array B**	**76.04**	**332**	P	**P**	**11 16 41.9**	**-0.6**
	comp=Z,5.3nm,0.5s,mb4.7,baz=94,slow=6.3,SNR=56						
KAF	**Kangasniemi**	**76.13**	**333**	*ep*	**P**	**11 16 41.9**	**-1.1**
	comp=Z,3.7nm,0.5s,mb4.6						
KAF	**Kangasniemi**	**76.13**	**333**	*e*P	**P**	**11 16 41.9**	**-1.1**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
OJC	**Ojcow**	**77.07**	**320**	*e*P	**P**	**11 16 48.8**	**+0.3**
KEV	**Kevo**	**78.25**	**341**	*ep*	**P**	**11 16 53.1**	**-1.5**
ARCES	**ARCESS Array B**	**78.68**	**340**	P	**P**	**11 16 56.9**	**-0.1**
	comp=Z,2.9nm,0.6s,mb4.4,baz=101,slow=6.5,SNR=28						
FX1	**Attu Island--F**	**79.26**	**37**	*e*P	**P**	**11 17 00.4**	**-0.1**
GERES	**GERESS Array B**	**80.87**	**319**	P	**P**	**11 17 10.4**	**+1.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=101,slow=6.8,SNR=13						
NB2	**NORSAR Subarra**	**83.04**	**331**	P	**P**	**11 17 19.7**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.8,baz=93,slow=5.8						
NB2	**NORSAR Subarra**	**83.04**	**331**	P	**P**	**11 17 19.7**	**-0.4**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**83.04**	**331**	P	**P**	**11 17 19.6**	**-0.5**
	comp=Z,1.1nm,0.8s,mb4.0,baz=94,slow=5.4,SNR=6.0						
IMA	**Indian Mountai**	**94.37**	**22**	*e*P	**P**	**11 18 15.1**	**+1.0**
IMA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb5.2						
IMA	**Indian Mountai**	**94.37**	**22**	*e*P	**P**	**11 18 15.1**	**+1.1**
	comp=Z,6.3nm,0.6s,mb5.2						
NVAR	**Mina Array Bea**	**127.29**	**33**	PKP	PKPdf	11 24 01.2	+2.5
	comp=Z,0.2nm,0.4s,baz=290,slow=2.2,SNR=4.1						
PDAR	**Pinedale Array**	**127.92**	**23**	PKP	PKPdf	11 24 01.6	+1.8
	comp=Z,0.5nm,0.5s,baz=95,slow=2.4,SNR=6.4						
TXAR	**Lajitas Array**	**141.85**	**27**	PKP	PKPdf	11 24 26.0	0.0
	comp=Z,0.5nm,0.6s,baz=26,slow=0.9,SNR=6.3						

IDC 26 11:14:46.1±3.3, 1.03N×97.76E, mb3.7/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML3.4/1, MS3.3/1, Ms1 3.5/1, ms1mx2.8/35, Error ellipse: s-maj=134.6km s-min=24.8km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=194,slow=11,SNR=4.4	**17.36**	**4**	P	P	11 18 51.0	-0.5
CMAR				LR	LR	11 26 56.0	
	comp=Z,90nm,18.2s,baz=195,slow=42						
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=304,slow=8.9,SNR=5.0	**41.47**	**122**	P	P	11 22 35.1	-1.5
ASAR	**Alice Springs** 0.7nm,0.7s,baz=294,slow=7.8,SNR=4.8	**42.84**	**127**	P	P	11 22 46.2	-1.7
MKAR	**Makanchi Array** 1.2nm,0.5s,baz=159,slow=8.4,SNR=17	**47.54**	**346**	P	P	11 23 23.1	-2.2

*IDC **26** 11:18:36.2±1.9, 2.41S×119.06E, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, MS3.4/1, Ms1 3.6/1, ms1mx2.7/32, Error ellipse: s-maj=340.2km s-min=25.6km az=57.0*
*DJA **26** 11:18:38.0±1.5, 2.57S×118.55E, h2km, MD4.3/1, Error ellipse: s-maj=46.6km s-min=40.1km az=56.0*
*NEIC **26** 11:18:40.5±1.0, 1.58S×120.28E, h30km, mb4.1/1, Error ellipse: s-maj=220.0km s-min=10.2km az=59.0*
NEIC Felt [III] at Mamuju.
ISC 26 11:18:36.1±4.0, 2.4S±0.2×118.6E±0.4, h32km±32km, n12, σ0§85/12, mb3.7/5, MS3.2/1, 3C, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANI	**Tanete Lipujan**	**1.30**	**144**⇑	*e*Pn	**Pn**	**11 18 57.9**	**-0.5**
TANI				*e*Sn	**Sn**	**11 19 13.9**	**-0.9**
BUNI	**Buntu Taipa**	**2.12**	**127**⇑	*e*Pn	**Pn**	**11 19 11.5**	**+1.3**
NINI	**Niniconang**	**2.33**	**151**⇑	*e*Pn	**Pn**	**11 19 13.5**	**+0.4**
KKM	**Kota Kinabalu**	**8.71**	**344**	*e*P	**P**	**11 20 42.1**	**-0.9**
WRA

2.0nm,0.7s,mb3.7,baz=312,slow=11,SNR=13
WRAB Tennant Creek 23.25 140 *eP* **P 11 23 41.8 -0.2**
4.5nm,0.6s,mb4.1
WB2 Warramunga Arr 23.26 140 *eP* **P 11 23 41.5 -0.6**
ASAR Alice Springs 25.82 146 P **P 11 24 07.1 +0.5**
0.8nm,0.8s,mb3.3,baz=328,slow=8.4,SNR=6.8
CMAR Chiang Mai Arr 28.35 318 LR LR 11 36 48.5
comp=Z,63nm,18.4s,MS3.2,baz=326,slow=38
STKA Stephens Creek 36.46 146 P **P 11 25 41.1 +0.8**
2.1nm,0.8s,mb4.1,baz=305,slow=12,SNR=4.4
STKA Stephens Creek 36.46 146 *eP* **P 11 25 40.7 +0.4**
STKA P 11 25 41.1
MKAR Makanchi Array 58.46 331 P **P 11 28 35.5 +4.0**
0.2nm,0.5s,mb3.4,baz=153,slow=5.4,SNR=4.0

BJI ***26*** *11:25:45.9, 6.80N×72.90W, h169km*
IDC ***26*** *11:25:45.9±1.0, 6.77N×72.96W, h164km±9km, mb4.1/15, mb1 4.3/20, mb1mx4.1/26, mbtmp4.5/20, Error ellipse: s-maj=11.2km s-min=8.9km az=85.0*
NEIC ***26*** *11:25:46.0±0.2, 6.77N×72.92W, mb4.6/42, Error ellipse: s-maj=4.5km s-min=3.3km az=168.0*
FUNV ***26*** *11:25:45.1, 6.72N×73.13W, h168km, MW4.1*
ISC 26 11:25:44.9±0.4, 6.78N±0.04×72.92W±0.03, h173km±3km, n141, σ0887/142, mb4.5/55, 12C-14D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**29**	⇓*eP*		**P**		**11 26 15.0**	**+0.9**
CAPV				*eS*		**S**		**11 26 36.1**	**-0.5**
ROSC	**El Rosal**	**2.37**	**216**	**P**		**P**		**11 26 26.6**	**+0.4**
566nm,0.3s,baz=295,slow=3.8,SNR=470									
ROSC				S		**S**		**11 26 57.5**	**-0.4**
846nm,0.3s,baz=103,slow=14,SNR=19									
SDV	**Santo Domingo**	**3.08**	**47**	**P**		**P**		**11 26 36.4**	**+1.5**
101nm,0.3s,baz=243,slow=7.4,SNR=447									
SDV				S		**S**		**11 27 14.3**	**+1.0**
219nm,0.3s,baz=74,slow=22,SNR=30									
SDV	**Santo Domingo**	**3.08**	**47**	*e*Pn		**P**		**11 26 36.2**	**+1.4**
SDV				*e*Sn		**S**		**11 27 13.7**	**+0.3**
VIRV	**Villa del Rosa**	**3.73**	**8**	⇑*iP*		**P**		**11 26 41.6**	**-1.5**
VIRV				*eS*		**S**		**11 27 24.4**	**-3.5**
QARV	**Quebrada Arrib**	**4.15**	**35**	⇑*iP*		**P**		**11 26 49.2**	**+0.8**
QARV				*eS*		**S**		**11 27 36.2**	**-1.3**
SANV	**Sanarito**	**4.31**	**51**	⇑*iP*		**P**		**11 26 51.2**	**+0.8**
SANV				*eS*		**S**		**11 27 39.9**	**-1.2**
CURV	**Curarigua**	**4.35**	**42**	⇑*iP*		**P**		**11 26 51.6**	**+0.6**
CURV				*eS*		**S**		**11 27 39.6**	**-2.4**
DABV	**Dabajuro**	**4.69**	**29**	⇑*iP*		**P**		**11 26 55.6**	**+0.1**
TEPV	**Terepaima**	**4.86**	**49**	⇑*iP*		**P**		**11 26 58.3**	**+0.6**
SIQV	**Siquisique**	**4.92**	**38**	⇑*iP*		**P**		**11 26 58.6**	**+0.1**
SIQV				*eS*		**S**		**11 27 52.8**	**-2.6**
BAUV	**El Baul**	**5.29**	**66**	⇓*iP*		**P**		**11 27 02.8**	**-0.5**
JACV	**Jacura**	**5.89**	**43**	*eP*		**P**		**11 27 11.9**	**+0.8**
IMOV	**Isla Los Monje**	**5.89**	**20**	*eP*		**P**		**11 27 09.8**	**-1.3**
MONV	**Montecano**	**5.91**	**29**	⇑*iP*		**P**		**11 27 10.5**	**-0.8**
TURV	**Turiamo**	**6.21**	**54**	⇑*iP*		**P**		**11 27 15.2**	**-0.1**
CAOV	**Caicara del Or**	**6.57**	**85**	⇓*iP*		**P**		**11 27 19.9**	**-0.3**
MERV	**Las Mercedes**	**7.00**	**69**	*eP*		**P**		**11 27 25.7**	**-0.3**
BIRV	**Birongo**	**7.53**	**60**	*eP*		**P**		**11 27 32.6**	**-0.3**
CUPV	**Cœpira**	**7.77**	**65**	*eP*		**P**		**11 27 36.1**	**0.0**
OTAV	**Otavalo**	**8.52**	**221**	*eP*		**P**		**11 27 44.3**	**-1.7**
PCRV	**Puerto La Cruz**	**8.86**	**67**	**P**		**P**		**11 27 51.4**	**+1.0**
2.9nm,0.3s,baz=235,slow=3.2,SNR=10									
PCRV				S		**S**		**11 29 29.7**	**+1.2**
2.6nm,0.3s,baz=289,slow=20,SNR=2.6									
PCJ	**Portland Cotta**	**11.65**	**340**	⇑*eP*		**P**		**11 28 27.6**	**+0.7**
PCJ				*eS*		**S**		**11 30 23.8**	**-10**
GWJ	**Greenwich**	**11.82**	**342**	⇑*eP*		**P**		**11 28 30.5**	**+1.4**
STH	**Stony Hill**	**11.85**	**342**	⇓*eP*		**P**		**11 28 30.3**	**+0.8**
STH				*eS*		**S**		**11 30 29.5**	**-9.2**
BNJ	**Bonny Gate**	**12.12**	**341**	⇓*eP*		**P**		**11 28 34.0**	**+1.1**
BBJ	**Bamboo Saint A**	**12.28**	**340**	⇑*eP*		**P**		**11 28 37.1**	**+2.1**
JTS	**JuntasAbangare**	**12.40**	**287**	P		**P**		**11 28 36.8**	**+0.4**
0.9nm,0.3s,baz=96,slow=24,SNR=3.8									
JTS	**JuntasAbangare**	**12.40**	**287**	*eP*		**P**		**11 28 35.6**	**-0.8**
SJG	**San Juan**	**13.05**	**30**	P		**P**		**11 28 45.3**	**+0.4**
7.3nm,0.3s,baz=205,slow=19,SNR=8.8									
SJG	**San Juan**	**13.05**	**30**	*eP*		**P**		**11 28 43.6**	**-1.2**
RCC	**Rio Carpintero**	**13.41**	**349**	*eP*		**P**		**11 28 51.5**	**+2.2**
RCC				*eS*		**S**		**11 31 03.3**	**-11**
comp=N,802nm,0.5s									
comp=E,513nm,0.4s									
MOAC	**Moa**	**13.94**	**352**	*eP*		**P**		**11 28 59.2**	**+3.1**
HLGC	**Holguin**	**14.35**	**348**	*eP*		**P**		**11 29 05.8**	**+4.5**
CCCC	**Cccc**	**15.08**	**342**	*eP*		**P**		**11 29 12.3**	**+1.8**
MGV	**Managua**	**16.69**	**337**	*eP*		**P**		**11 29 37.6**	**+7.3**
LPAZ	**La Paz**	**23.41**	**168**	P		**P**		**11 30 41.2**	**+1.7**
comp=E,5.8nm,0.7s,mb4.1,baz=349,slow=10,SNR=29									
LPAZ	**La Paz**	**23.41**	**168**	*eP*		**P**		**11 30 39.8**	**+0.3**
comp=E,11nm,1.2s,mb4.2									
LPAZ				*e*				11 31 13.6	
SIV	**San Ignacio**	**25.49**	**153**	P		**P**		**11 30 59.0**	**-0.1**
comp=E,3.6nm,0.8s,mb4.0,baz=328,slow=9.9,SNR=18									
SIV				pP		pP		11 31 32.9	-0.9
comp=E,3.8nm,0.7s,baz=320,slow=10,SNR=5.2									
LRAL	**Lakeview Retre**	**29.21**	**335**	*eP*		**P**		**11 31 32.8**	**+0.1**
comp=E,4.4nm,0.3s,mb4.7									
PLAL	**Pickwick Lake**	**31.34**	**336**	*eP*		**P**		**11 31 51.3**	**-0.1**
comp=E,16nm,0.7s,mb4.8									
WVT	**Waverly**	**32.24**	**337**	*eP*		**P**		**11 31 59.1**	**-0.1**
comp=E,21nm,0.6s,mb5.0									
BDFB	**Brasilia**	**33.24**	**132**	P		**P**		**11 32 09.2**	**+1.3**
comp=E,6.0nm,0.5s,mb4.6,baz=285,slow=12,SNR=7.7									
WCI	**Wyandotte Cave**	**33.57**	**341**	*eP*		**P**		**11 32 10.8**	**+0.3**
comp=E,12nm,0.6s,mb4.8									
FVM	**French Village**	**34.89**	**335**	*eP*		**P**		**11 32 21.5**	**-0.1**
comp=E,12nm,0.4s,mb4.9									
CCM	**Cathedral Cave**	**35.29**	**335**	⇓*eP*		**P**		**11 32 24.6**	**-0.5**
comp=E,58nm,0.6s,mb5.4									
LTX	**Lajitas**	**36.63**	**312**	⇓*eP*		**P**		**11 32 36.2**	**-0.3**
comp=E,13nm,0.7s,mb4.7									
TXAR	**Lajitas Array**	**36.63**	**312**	P		**P**		**11 32 36.4**	**-0.1**
comp=E,8.3nm,0.6s,mb4.5,baz=128,slow=9.2,SNR=141									
TXAR				PcP		PcP		11 34 57.5	+1.4
comp=E,2.6nm,0.7s,baz=134,slow=6.4,SNR=11									
CFAA	**Coronel Fontan**	**38.43**	**174**	P		**P**		**11 32 50.7**	**-0.8**
comp=E,0.1nm,0.3s,baz=22,slow=6.5,SNR=4.7									
AMTX	**Amarillo**	**38.51**	**321**	*eP*		**P**		**11 32 52.1**	**0.0**
comp=E,18nm,0.5s,mb5.0									
KSU1	**Kansas State U**	**38.62**	**330**	*eP*		**P**		**11 32 51.9**	**-1.1**
MNTX	**Cornudas Mount**	**39.14**	**314**	*eP*		**P**		**11 32 57.2**	**-0.1**
comp=E,18nm,0.7s,mb4.8									
ANMO	**Albuquerque**	**41.68**	**317**	*eP*		**P**		**11 33 18.2**	**0.0**
comp=E,2.8nm,0.6s,mb4.1									
SDCO	**Great Sand Dun**	**42.70**	**321**	*eP*		**P**		**11 33 27.4**	**+1.0**
comp=E,13nm,0.7s,mb4.7									
TUC	**Tucson**	**43.42**	**311**	*eP*		**P**		**11 33 32.4**	**0.0**
comp=E,6.4nm,0.8s,mb4.3									
EYMN	**Ely**	**43.97**	**342**	*eP*		**P**		**11 33 36.0**	**-0.4**
comp=E,39nm,0.6s,mb5.2									
PV01	**Paradox Valley**	**44.88**	**319**	*eP*		**P**		**11 33 44.6**	**+0.7**
PV10	**Paradox Valley**	**45.33**	**319**	*eP*		**P**		**11 33 47.0**	**-0.4**
RSSD	**Black Hills**	**46.07**	**329**	*eP*		**P**		**11 33 53.1**	**-0.2**
comp=E,4.8nm,0.5s,mb4.4									
SRU	**San Rafael**	**46.70**	**319**	⇓*eP*		**P**		**11 33 58.6**	**+0.4**
TMUT	**Trail Mountain**	**47.24**	**319**	*eP*		**P**		**11 34 03.1**	**+0.7**
PLCA	**Paso Flores**	**47.33**	**178**	P		**P**		**11 34 02.0**	**-1.0**
comp=E,1.1nm,0.5s,mb3.8,baz=15,slow=18,SNR=5.7									
ULM	**Lac du Bonnet**	**47.39**	**340**	P		**P**		**11 34 02.7**	**-0.7**
comp=E,14nm,0.4s,mb5.0,baz=144,slow=7.4,SNR=18									
ULM	**Lac du Bonnet**	**47.39**	**340**	P		**P**		**11 34 02.7**	**-0.7**
MSU	**Marysvale**	**47.47**	**318**	⇓*iP*		**P**		**11 34 04.8**	**+0.6**
MVU	**Marysvale**	**47.48**	**318**	⇓*iP*		**P**		**11 34 05.1**	**+0.8**
comp=E,18nm,0.8s,mb4.8									
LDFC	**Landfair**	**47.88**	**312**	*eP*		**P**		**11 34 08.3**	**+0.8**
DAU	**Daniels Canyon**	**47.89**	**320**	*eP**		**P**		**11 34 08.2**	**+0.8**
MPU	**Maple Canyon**	**47.91**	**320**	*eP**		**P**		**11 34 07.8**	**+0.1**
ARUT	**Antelope Range**	**47.95**	**316**	*eP**		**P**		**11 34 08.3**	**+0.3**
SCHQ	**Schefferville**	**48.16**	**5**	P		**P**		**11 34 10.2**	**+0.8**
comp=E,15nm,0.7s,mb4.7,baz=194,slow=6.1,SNR=40									
PDAR	**Pinedale Array**	**48.23**	**324**	P		**P**		**11 34 09.9**	**-0.1**
comp=E,5.8nm,0.6s,mb4.4,baz=127,slow=8.9,SNR=50									
PDAR				PcP		PcP		11 35 34.5	-0.3
comp=E,1.1nm,0.6s,baz=136,slow=5.3,SNR=3.9									
CTU	**Camp Tracy**	**48.36**	**320**	*eP*		**P**		**11 34 10.5**	**-0.6**
TCUT	**Toone Canyon**	**48.38**	**321**	*eP*		**P**		**11 34 11.5**	**+0.3**
HWUT	**Hardware Ranch**	**48.75**	**321**	*eP*		**P**		**11 34 13.2**	**-0.8**
comp=E,12nm,0.6s,mb4.7									
DUG	**Dugway**	**48.77**	**319**	*eP*		**P**		**11 34 14.4**	**+0.2**
comp=E,8.8nm,0.7s,mb4.5									
AHID	**Auburn Hatcher**	**49.14**	**323**	*eP*		**P**		**11 34 16.7**	**-0.3**
comp=E,8.2nm,0.6s,mb4.5									
BGU	**Big Grassy Mou**	**49.30**	**320**	*eP*		**P**		**11 34 18.1**	**-0.1**
REDW	**Red Top Meadow**	**49.34**	**324**	P		**P**		**11 34 18.5**	**0.0**
comp=E,24nm,0.8s,mb4.9									
SNOW	**Snow King Moun**	**49.34**	**324**	*eP*		**P**		**11 34 18.6**	**+0.1**
comp=E,12nm,0.6s,mb4.7									
WUWY	**Wally Ulrich**	**49.38**	**324**	*eP*		**P**		**11 34 18.8**	**0.0**
TPAW	**Teton Pass**	**49.48**	**324**	*eP*		**P**		**11 34 19.3**	**-0.3**
comp=E,14nm,0.6s,mb4.8									
MOOW	**Moose Ponds**	**49.51**	**324**	*eP*		**P**		**11 34 19.3**	**-0.5**
comp=E,13nm,0.8s,mb4.6									
HVU	**Hansel Valley**	**49.60**	**321**	*eP*		**P**		**11 34 20.5**	**0.0**
RRI2	**Red Ridge**	**49.61**	**323**	*eP*		**P**		**11 34 20.5**	**0.0**
comp=E,34nm,0.6s,mb5.2									
TRCR	**Troy Canyon**	**49.71**	**316**	*eP*		**P**		**11 34 22.3**	**+0.9**
IMW	**Indian Meadow**	**49.71**	**324**	*eP*		**P**		**11 34 21.2**	**-0.1**
comp=E,11nm,0.6s,mb4.7									
YMR	**Madison River**	**50.19**	**325**	*eP*		**P**		**11 34 25.8**	**+0.9**
ELK	**Elko**	**50.64**	**319**	*eP*		**P**		**11 34 28.1**	**-0.3**
comp=E,2.8nm,0.8s,mb3.9									
BOZ	**Bozeman (W)**	**51.15**	**326**	⇓*eP*		**P**		**11 34 31.8**	**-0.4**
comp=E,9.6nm,0.6s,mb4.6									
HLID	**Hailey**	**51.59**	**322**	*eP*		**P**		**11 34 35.3**	**-0.2**
comp=E,6.6nm,0.7s,mb4.4									
NVAR	**Mina Array Bea**	**51.65**	**315**	P		**P**		**11 34 36.3**	**+0.3**
comp=E,5.1nm,0.7s,mb4.3,baz=131,slow=6.3,SNR=50									
NVAR				PcP		PcP		11 35 48.2	+0.9
comp=E,2.1nm,0.6s,baz=127,slow=5.1,SNR=9.6									
OMM	**Old Mammoth Mi**	**51.80**	**313**	*eP*		**P**		**11 34 37.3**	**+0.2**
WCN	**Washoe City**	**53.05**	**315**	*eP*		**P**		**11 34 46.3**	**-0.1**
comp=E,3.7nm,0.7s,mb4.2									
MSO	**Missoula**	**53.15**	**326**	*eP*		**P**		**11 34 46.7**	**-0.3**
comp=E,3.1nm,0.7s,mb4.2									
WVOR	**Wild Horse Val**	**53.69**	**319**	*eP*		**P**		**11 34 50.6**	**-0.4**
comp=E,10nm,0.6s,mb4.7									
BMO	**Blue Mountains**	**54.03**	**322**	P		**P**		**11 34 50.3**	**-3.2**
comp=E,2.4nm,0.6s,mb4.1									
FCC	**Fort Churchill**	**54.35**	**347**	*eP*		**P**		**11 34 54.4**	**-1.3**
comp=E,13nm,1.1s,mb4.6									
MOD	**Modoc**	**54.55**	**318**	*eP*		**P**		**11 34 56.3**	**-1.0**
comp=E,4.0nm,0.6s,mb4.3									
NEW	**Newport**	**55.74**	**326**	*eP*		**P**		**11 35 04.5**	**-1.2**
comp=E,4.9nm,0.6s,mb4.5									
PINOR	**Pine Mountain**	**55.77**	**319**	P		**P**		**11 35 06.5**	**+0.4**
BUOR	**Burton Butte**	**56.01**	**317**	P		**P**		**11 35 07.5**	**-0.4**
YBH	**Yreka Blue Hor**	**56.10**	**316**	*eP*		**P**		**11 35 06.2**	**-2.2**
comp=E,6.7nm,0.5s,mb4.7									
KHMM	**Horse Mountain**	**56.47**	**315**	*eP*		**P**		**11 35 10.6**	**-0.5**
HUMO	**Hull Mountain**	**56.63**	**317**	*eP*		**P**		**11 35 10.1**	**-2.0**
comp=E,2.2nm,0.7s,mb4.1									
HBO	**Huckleberry Mo**	**56.73**	**319**	P		**P**		**11 35 12.5**	**-0.4**
EDM	**Edmonton**	**56.75**	**332**	*eP*		**P**		**11 35 11.5**	**-1.4**
BROR	**Big Rock Looko**	**57.00**	**319**	P		**P**		**11 35 14.0**	**-0.7**
EBG	**Ellensburg**	**57.04**	**323**	P		**P**		**11 35 15.4**	**+0.4**
SSOR	**Sweet Springs**	**57.26**	**320**	P		**P**		**11 35 16.1**	**-0.4**
KBO	**Bosley Butte**	**57.33**	**316**	*eP*		**P**		**11 35 17.3**	**+0.2**
YKA	**Yellowknife Ar**	**63.37**	**340**	P		**P**		**11 35 57.0**	**-0.7**
comp=E,15nm,0.6s,mb5.0,baz=133,slow=6.6,SNR=589									
YKA	**Yellowknife Ar**	**63.37**	**340**	P		**P**		**11 35 57.0**	**-0.7**
YKW3	**Yellowknife Ar**	**63.42**	**340**	*eP*		**P**		**11 35 57.1**	**-1.0**
DLBC	**Dease Lake**	**67.45**	**331**	*eP*		**P**		**11 36 24.0**	**+0.1**
DBIC	**Dimbokro**	**67.54**	**86**	P		**P**		**11 36 25.0**	**-0.2**
comp=E,4.5nm,0.6s,mb4.3,baz=234,slow=5.5,SNR=10									
DBIC				pP		pP		11 37 05.9	-0.5
comp=E,3.3nm,0.7s,baz=262,slow=12,SNR=5.9									
SUMG	**Summit**	**68.99**	**11**	*eP*		**P**		**11 36 33.7**	**+0.6**
comp=E,20nm,0.8s,mb4.9									
RES	**Resolute Bay**	**69.03**	**354**	*eP*		**P**		**11 36 32.6**	**-0.7**
comp=E,1.0nm,0.4s,mb3.9									
INK	**Inuvik**	**73.13**	**340**	⇓*eP*		**P**		**11 36 57.9**	**0.0**
comp=E,7.6nm,0.6s,mb4.6									
DAWY	**Dawson**	**73.76**	**335**	*eP*		**P**		**11 37 01.3**	**-0.3**
ILAR	**Eielson Array**	**77.08**	**335**	P		**P**		**11 37 20.5**	**+0.2**
comp=E,2.3nm,0.7s,mb3.9,baz=107,slow=4.5,SNR=23									
PMR	**Palmer**	**77.51**	**332**	*eP*		**P**		**11 37 23.3**	**+0.6**
comp=E,5.9nm,0.7s,mb4.3									
SPU	**Mount Spurr**	**78.85**	**331**	*eP*		**P**		**11 37 30.3**	**+0.3**
IMA	**Indian Mountai**	**80.09**	**336**	*eP*		**P**		**11 37 38.0**	**+1.4**
comp=E,4.4nm,1.1s,mb4.0									
SVW2	**Sparrevohn**	**80.55**	**331**	*eP*		**P**		**11 37 39.0**	**-0.1**
NB2	**NORSAR Subarra**	**81.27**	**29**	P		**P**		**11 37 43.8**	**+0.9**
comp=E,0.8nm,0.7s,mb3.5,baz=265,slow=5.3									
NOA	**NORSAR Array B**	**81.27**	**29**	P		**P**		**11 37 43.9**	**+1.0**
comp=E,0.6nm,0.6s,mb3.4,baz=267,slow=5.3,SNR=3.8									
GERES	**GERESS Array B**	**82.72**	**42**	P		**P**		**11 37 52.2**	**+1.6**
comp=E,0.2nm,0.3s,baz=270,slow=4.0,SNR=4.4									
ARCES	**ARCESS Array B**	**86.64**	**20**	P		**P**		**11 38 10.8**	**+1.2**
comp=E,1.3nm,0.6s,mb4.0,baz=264,slow=4.0,SNR=10									
MKAR	**Makanchi Array**	**122.29**	**20**	PKP		PKPdf		11 44 20.2	+0.7
comp=E,1.0nm,0.4s,baz=294,slow=3.7,SNR=17									
SONM	**Songino Array**	**125.62**	**1**	PP		PP		11 46 21.4	-2.6
comp=E,0.3nm,0.3s,slow=7.2,SNR=3.6									
CN2	**Changchun**	**126.98**	**343**	*e*PKP		PKPdf		11 44 29.5	+0.9
LZH	**Lanzhou**	**137.25**	**4**	*e*PKP		PKPdf		11 44 48.5	+0.4
LZH				XPKP				11 45 48.5	
STKA	**Stephens Creek**	**139.27**	**228**	PKP		PKPdf		11 44 53.8	+1.8
comp=E,1.7nm,0.8s,baz=90,slow=4.0,SNR=3.0									
SHL	**Shillong**	**144.62**	**24**	*e*P		PKPbc		11 45 02.0	+0.5
KMI	**Kunming**	**148.01**	**7**	PKP		PKPdf		11 45 06.8	-0.4
ASAR	**Alice Springs**	**149.25**	**234**	PKP		PKPdf		11 45 11.4	+2.2
comp=E,7.1nm,0.7s,baz=114,slow=1.6,SNR=39									
ASAR				PKPbc		PKPdf		11 45 15.1	+5.8
comp=E,6.8nm,0.6s,baz=130,slow=2.8,SNR=11									
ASPA	**Alice Springs**	**149.25**	**234**	⇓*iP*		PKPdf		11 45 14.9	+5.7
WB2	**Warramunga Arr**	**150.48**	**241**	⇓*iP*		PKPdf		11 45 18.2	+7.0
WRA	**Warramunga Arr**	**150.49**	**241**	PKP		PKPdf		11 45 13.6	+2.3
comp=E,5.8nm,0.4s,baz=107,slow=2.6,SNR=9.6									
WRA				PKPbc		PKPdf		11 45 18.1	+6.8
comp=E,6.9nm,0.4s,baz=106,slow=2.9,SNR=69									
CMAR	**Chiang Mai Arr**	**153.67**	**18**	PKP		PKPdf		11 45 19.5	+3.7
comp=E,0.9nm,0.6s,baz=288,slow=1.6,SNR=6.5									
CMAR				PKPbc		PKPdf		11 45 26.7	+11
comp=E,3.1nm,0.6s,baz=324,slow=3.4,SNR=14									

NEIC ***26*** *11:29:44.0, 19.84S×134.00E, h11km, ML2.6(AUST), After AUST.*
AUST 26 11:29:44.4, 19.84S×134.00E, h11km, ML2.6, 1D, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**0.34**	**105**	*eP*		Pg		11 29 51.1	-0.5
WB2	**Warramunga Arr**	**0.34**	**107**	⇓*iP*		Pg		11 29 50.9	-0.7
WB2				*eS*		Sg		11 29 55.4	-1.0
ASPA	**Alice Springs**	**3.81**	**181**	*eP*		Pn		11 30 44.3	0.0
ASPA				*eS*		Sn		11 31 27.7	-1.8
KAKA	**Kakadu**	**7.25**	**348**	*eP*		Pn		11 31 27.6	-5.3
7.8nm,0.5s									
KAKA				*eS*		Sn		11 32 47.1	-8.9
FITZ	**Fitzroy Crossi**	**8.10**	**281**	*eP*		P		11 31 39.6	-5.2
6.3nm,1.1s									
FITZ				*eS*		Sn		11 33 04.2	-13
MBWA	**Marble Bar**	**13.44**	**262**	*eP*		P		11 32 52.2	-5.5

IDC ***26*** *11:33:25.8±0.4, 15.36S×176.29W, mb5.0/27, mb1 5.1/27, mb1mx5.1/29, mbtmp5.0/27, MS5.1/23, Ms1 5.1/23, ms1mx5.1/25, Error ellipse: s-maj=19.6km s-min=11.6km az=138.0*
HRVD ***26*** *11:33:27.5±0.1, 15.19S×176.06W, h12km, MW5.7/80, Centroid moment Tensor Solution. LP body waves: s66,c150;Mantle waves: s80,c185; Half duration: 1§6 Moment tensor: Scale 1017Nm; Mrr-0.42±.04; Mθθ2.27±.04; Mφφ-1.84±.04; Mrθ-0.56±.11; Mrφ2.92±.04; Mθφ-0.33±.11; Best double couple: M03.619×1017 NP1: φs288°, δ84°, λ6°. NP2:φs197°, δ84°, λ174°. Principal axes: T 3.882, Plg9°, Azm153°; N -.519, Plg81°, Azm337°; P -3.356, Plg1°, Azm243°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***26*** *11:33:27.5±0.1, 15.30S×176.35W, h10km, mb5.4/64, MS5.4/121 Error ellipse: s-maj=9.1km s-min=4.3km az=143.0*
MOS ***26*** *11:33:30.1±1.3, 15.24S×176.45W, h33km, mb5.5/49, MS5.4/53, Error ellipse: s-maj=9.8km s-min=7.2km az=54.8*
BJI ***26*** *11:33:30.8, 14.43S×176.67W, h10km, mB5.6, mb5.2, Ms5.5, Msz5.4*
ISC 26 11:33:26.3±0.2, 15.39S±0.05×176.31W±0.04, h13km, h13km±1.4km:pP-P, n500, σ0996/238, mb5.2/105, MS5.3/157, 25C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.62**	**72**	Pn		**Pn**		**11 34 30.0**	**-7.7**
19nm,0.3s,baz=264,slow=23,SNR=20									
AFI				Sn		**Sn**		**11 35 21.5**	**-10**
29nm,0.3s,baz=87,slow=20,SNR=5.2									
AFI				LR		LR		11 36 09.2	
comp=Z,49μm,18.5s,baz=292,slow=36									
AFI	**Afiamalu**	**4.62**	**72**	*e*P		**Pn**		**11 34 29.7**	**-8.0**
RAR	**Rarotonga**	**16.73**	**113**	LR		LR		11 41 42.5	
comp=Z,2μm,20.2s,baz=285,slow=30									
DZM	**Mont Dzumac**	**17.63**	**245**	*e*P		**P**		**11 37 38.3**	**+4.9**
DZM	**Mont Dzumac**	**17.63**	**245**	P		**P**		**11 37 38.3**	**+4.9**
1.8nm,0.3s,baz=77,slow=18,SNR=16									
DZM				LR		LR		11 41 48.2	
comp=Z,1μm,21.5s,baz=99,slow=28									
OUZ	**Omahuta**	**21.73**	**203**	P*		**P**		**11 38 22.9**	**+3.6**
KUZ	**Kuaotunu**	**22.42**	**197**	P*		**P**		**11 38 29.3**	**+3.1**
URZ	**Urewera**	**23.51**	**193**	P		**P**		**11 38 36.8**	**-0.2**
17nm,1.0s,mb4.4,baz=350,slow=20,SNR=3.7									
URZ				LR		LR		11 47 09.1	
comp=Z,9μm,18.9s,MS5.3,baz=28,slow=35									
HNR	**Honiara**	**23.92**	**282**	P		**P**		**11 38 37.6**	**-3.6**
HNR				pmax		pmax			
comp=Z,216nm,1.4s,mb5.4									
HNR				MLR		MLR			
comp=Z,6μm,20.0s,MS5.0									
HNR	**Honiara**	**23.92**	**282**	LR		LR		11 46 30.4	
comp=Z,6μm,18.2s,MS5.1,baz=115,slow=33									
HNR	**Honiara**	**23.92**	**282**	P		**P**		**11 38 37.6**	**-3.6**
comp=Z,216nm,1.4s,mb5.4									
HNR				LR		LR			
comp=Z,6μm,20.0s,MS5.0									
PAE	**Paea**	**25.71**	**99**	*e*P		**P**		**11 38 55.5**	**-2.8**
comp=Z,74nm,0.9s,mb5.2									
PPT	**Papeete**	**25.72**	**99**	*e*LR		LR		11 45 01.3	
comp=Z,6μm,25.5s									
PPT	**Papeete**	**25.72**	**99**	LR		LR		11 46 37.6	
comp=Z,2μm,20.3s,MS4.5,baz=272,slow=31									
TBI	**Tubuai**	**26.50**	**112**	*e*P		**P**

VNDA Vanda 63.12 185 *e*P **P 11 43 55.7 +0.1**
comp=Z,24nm,1.4s,mb5.1
KIWB Kanaga Island 66.96 359 *e*P **P 11 44 19.4 -1.3**
MJAR Matsushiro Arr 67.15 321 P **P 11 44 21.3 -0.9**
comp=Z,17nm,1.2s,mb5.0,baz=155,slow=6.0,SNR=14
MJAR LR LR 12 08 01.0
comp=Z,1μm,21.7s,MS5.0,baz=125,slow=31
MAJO Matsushiro 67.15 321 *e*P **P 11 44 21.1 -1.2**
MAJO pmax pmax
comp=Z,56nm,1.4s,mb5.4
MAJO MLR MLR
comp=Z,2μm,21.0s,MS5.2
MAJO Matsushiro 67.15 321 *e*P **P 11 44 21.1 -1.2**
comp=Z,56nm,1.4s,mb5.4
MAJO LR LR
comp=Z,2μm,21.0s,MS5.2
MAT Matsushiro 67.15 321 *e*P **P 11 44 20.0 -2.3**
MAT *e*S S 11 53 16.0 +1.3
MAT pmax pmax
comp=Z,75nm,1.5s,mb5.5
MAT Matsushiro 67.15 321 *e*P **P 11 44 20.0 -2.3**
comp=Z,75nm,1.5s,mb5.5
MAT *e*S S 11 53 16.0 +1.3
MAT Matsushiro 67.15 321 P **P 11 44 20.2 -2.1**
MAT S S 11 53 15.0 +0.3
SMY Shemya 68.34 354 PFAKE 11 44 40.0 +11
SMY LR LR
comp=Z,4μm,22.0s,MS5.6
CASY Casey 69.25 204 PFAKE 11 44 50.0 +15
CASY LR LR
comp=Z,1μm,21.0s,MS5.1
ASAJ Asahikawa 70.08 330 P **P 11 44 41.1 +0.8**
comp=Z,11nm,1.0s,mb4.7,baz=138,slow=8.1,SNR=4.9
PET Petropavlovsk 71.47 344 *e*P **P 11 44 47.9 -0.6**
PET *e*S S 11 54 02.3 -3.1
PET *e*PS PS 11 54 34.9 -1.5
PET pmax pmax
comp=Z,30nm,1.3s,mb5.1
PET pmax pmax
comp=Z,100nm,14.5s
PET smax
comp=E,300nm,11.9s
PET MLR MLR
comp=Z,1μm,17.0s,MS5.2
PET Petropavlovsk 71.47 344⇑ *i*P **P 11 44 47.4 -1.1**
PET LR LR
comp=Z,3μm,22.0s,MS5.5
YSS Yuzh-Sakhalins 72.12 332⇑ *i*P **P 11 44 52.8 +0.3**
YSS *e**SP sP 11 44 59.0 +1.0
YSS *e* 11 45 16.0
YSS *e*S S 11 54 15.0 +2.1
YSS *e*PPS PPS 11 54 44.0 -15
YSS pmax pmax
comp=Z,50nm,1.1s,mb5.4
YSS pmax pmax
comp=Z,500nm,4.0s
YSS MLR MLR
comp=Z,2μm,18.0s,MS5.3
YSS MLR MLR
comp=N,1μm,19.0s,MS5.3
YSS MLR MLR
comp=E,900nm,19.0s,MS5.3
YSS Yuzh-Sakhalins 72.12 332 *e*P **P 11 44 52.6 +0.1**
comp=E,116nm,1.5s,mb5.6
YSS LR LR
comp=Z,2μm,19.0s,MS5.3
TATO Taipei 72.69 303 PFAKE 11 45 10.0 +14
TATO LR LR
comp=Z,2μm,20.0s,MS5.3
SAO San Andreas Ge 73.22 43 *e*P **P 11 44 58.8 -0.4**
SAO pmax pmax
comp=Z,55nm,1.5s,mb5.3
SAO MLR MLR
comp=Z,1μm,20.0s,MS5.1
SAO San Andreas Ge 73.22 43 *e*P **P 11 44 58.8 -0.4**
comp=Z,55nm,1.5s,mb5.3
SAO LR LR
comp=Z,1μm,20.0s,MS5.1
LRV Little Rabbit 73.31 44 *e*P **P 11 44 60.0 +0.2**
HOPS Hopland 73.46 41 *e*P **P 11 45 00.6 +0.1**
comp=Z,61nm,1.3s,mb5.4
HOPS LR LR
comp=Z,2μm,19.0s,MS5.5
MWC Mount Wilson 74.16 47 *e*P **P 11 45 04.0 -0.7**
KHMM Horse Mountain 74.18 39 *e*P **P 11 45 04.8 +0.1**
KS15 Wonju Array Si 74.23 317 *e*P **P 11 45 04.8 -0.2**
KSM Kuching 74.39 276 *e*P **P 11 45 07.0 +0.6**
CMB Columbia Colle 74.63 43 *e*P **P 11 45 07.0 -0.4**
CMB pmax pmax
comp=Z,37nm,1.1s,mb5.2
CMB MLR MLR
comp=Z,1μm,19.0s,MS5.2
CMB Columbia Colle 74.63 43 *e*P **P 11 45 07.0 -0.4**
comp=Z,37nm,1.1s,mb5.2
CMB LR LR
comp=Z,1μm,19.0s,MS5.2
QSPA South Pole Qui 74.65 180 *e*P **P 11 45 07.9 +1.2**
comp=Z,51nm,1.0s,mb5.4
KBO Bosley Butte 74.70 37 P **P 11 45 08.6 +0.9**
PFO Pinyon Flat Ob 74.99 48 PFAKE 11 45 20.0 +10
PFO LR LR
comp=Z,544nm,20.0s,MS4.8
QZH Quanzhou 75.04 302 P **P 11 45 09.8 -0.2**
QZH S S 11 54 45.0 -1.3
QZH LR LR
comp=Z,4μm,36.0s,MS5.5
YBH Yreka Blue Hor 75.31 39 *e*P **P 11 45 11.1 -0.1**
YBH pmax pmax
comp=Z,20nm,0.9s
YBH MLR MLR
comp=Z,2μm,20.0s
YBH Yreka Blue Hor 75.31 39 P **P 11 45 11.8 +0.6**
comp=Z,19nm,0.8s,mb5.1,baz=211,slow=1.6,SNR=96
YBH LR LR 12 12 31.0
comp=Z,2μm,19.2s,MS5.4,baz=237,slow=31
YBH Yreka Blue Hor 75.31 39 *e*P **P 11 45 11.1 -0.1**
comp=Z,20nm,0.9s,mb5.0
YBH LR LR
comp=Z,2μm,20.0s,MS5.3
OMM Old Mammoth Mi 75.33 44 *e*P **P 11 45 11.1 -0.2**
MTUM Tungsten Hills 75.47 44 *e*P **P 11 45 11.9 -0.3**
KDAK Kodiak Island 75.50 13 *e*P **P 11 45 11.3 -0.6**
comp=Z,50nm,1.1s,mb5.4
KDAK LR LR
comp=Z,297nm,22.0s,MS4.5
DAC Darwin (Calif) 75.56 45 PFAKE 11 45 20.0 +7.3
DAC LR LR
comp=Z,2μm,20.0s,MS5.4
HUMO Hull Mountain 75.69 38 *e*P **P 11 45 13.3 0.0**
comp=Z,30nm,1.1s,mb5.1
HUMO LR LR
comp=Z,2μm,20.0s,MS5.4
LTIM Timbered Crate 75.72 40 P **P 11 45 13.9 +0.3**
SSE Sheshan 75.73 308 P **P 11 45 13.0 -0.8**
SSE AP pP 11 45 22.5 +4.6
SSE S S 11 54 51.8 -2.0
SSE SCS ScS 11 55 23.8 -0.3
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,188nm,7.7s
SSE LR LR
comp=N,939nm,20.0s,MS5.3
SSE LR LR
comp=E,1μm,20.0s,MS5.3
SSE LR LR
comp=Z,2μm,20.0s,MS5.4
WCN Washoe City 75.75 42 *e*P **P 11 45 13.6 -0.2**
WCN pmax pmax
comp=Z,45nm,1.1s,mb5.3
WCN Washoe City 75.75 42 *e*P **P 11 45 13.6 -0.1**
comp=Z,45nm,1.1s,mb5.3
LASM Arnica Sink 75.92 39 P **P 11 45 15.0 +0.4**
PAHR Pah Rah Range 76.21 42 P **P 11 45 14.2 -2.1**
comp=Z,13nm,0.8s,mb4.9
NVAR Mina Array Bea 76.22 43 P **P 11 45 16.7 +0.3**
comp=Z,28nm,1.0s,mb5.2,baz=234,slow=11,SNR=82
NVAR LR LR 12 14 49.1
comp=Z,705nm,18.3s,MS5.0,baz=225,slow=33
MIR Mirnyy 76.28 204 *d i*P **P 11 45 16.5 +0.3**
MIR pmax pmax
comp=Z,34nm,1.6s,mb5.0
MIR MLR MLR
comp=N,300nm,16.0s,MS5.1
MIR MLR MLR
comp=E,690nm,16.0s,MS5.1
MIR MLR MLR
comp=Z,2μm,16.0s,MS5.5
MNV Mina 76.32 43 PFAKE 11 45 30.0 +13
MNV LR LR
comp=Z,925nm,20.0s,MS5.1
LDFC Landfair 76.69 48 *e*P **P 11 45 19.3 +0.1**
COR Corvallis 76.69 36 PFAKE 11 45 30.0 +11
COR LR LR
comp=Z,2μm,20.0s,MS5.3
TPH Tonopah 76.75 44 *e*P **P 11 45 19.6 +0.2**
TPH pmax pmax
comp=Z,48nm,1.2s,mb5.3
TPH MLR MLR
comp=Z,997nm,22.0s,MS5.1
TPH Tonopah 76.75 44 *e*P **P 11 45 19.6 +0.2**
comp=Z,48nm,1.2s,mb5.3
TPH LR LR
comp=Z,997nm,22.0s,MS5.1
HBO Huckleberry Mo 76.80 37 P **P 11 45 19.7 +0.1**
MOD Modoc 76.87 39 *e*P **P 11 45 20.0 0.0**
comp=Z,55nm,1.2s,mb5.4
MOD LR LR
comp=Z,2μm,19.0s,MS5.5
IRO Indian Ridge 76.94 37 P **P 11 45 20.4 +0.1**
NEN Nelson 77.16 47 *e*P **P 11 45 21.8 +0.1**
MDJ Mudanjiang 77.33 324 P **P 11 45 23.3 +0.8**
MDJ AP pP 11 45 26.0 -0.6
MDJ PP PP 11 48 17.0 -1.5
MDJ S S 11 55 14.0 +3.1
MDJ PS PS 11 56 00.0 +7.8
MDJ AMB AMB
comp=Z,16nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,307nm,4.2s
MDJ LR LR
comp=N,1μm,25.9s,MS5.4
MDJ LR LR
comp=E,2μm,25.9s,MS5.4
MDJ LR LR
comp=Z,3μm,27.3s,MS5.5
MDJ Mudanjiang 77.33 324 *e*P **P 11 45 22.7 +0.2**
comp=Z,55nm,1.5s,mb5.3
MDJ LR LR
comp=Z,2μm,21.0s,MS5.5
NJ2 Nanjing 77.94 308 *e*P **P 11 45 26.5 +0.4**
NJ2 AP pP 11 45 31.3 +1.1
NJ2 XP sP 11 45 33.8 +2.2
NJ2 S S 11 55 20.0 +2.3
NJ2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
NJ2 AMB AMB
comp=Z,290nm,6.2s
NJ2 LR LR
comp=N,840nm,22.6s,MS5.1
NJ2 LR LR
comp=E,680nm,24.8s,MS5.1
NJ2 LR LR
comp=Z,300nm,21.8s,MS4.6
TDH Tom, Dick, Har 77.97 36 P **P 11 45 25.8 -0.2**
TRCR Troy Canyon 78.00 45 *e*P **P 11 45 26.3 0.0**
BMN Battle Mountai 78.00 42 *e*P **P 11 45 26.3 +0.1**
BMN pmax pmax
comp=Z,43nm,1.2s,mb5.2
BMN MLR MLR
comp=Z,871nm,19.0s,MS5.1
BMN Battle Mountai 78.00 42 *e*P **P 11 45 26.3 0.0**
comp=Z,43nm,1.2s,mb5.3
BMN LR LR
comp=Z,871nm,19.0s,MS5.1
SVW2 Sparrevohn 78.01 10 *e*P **P 11 45 25.2 -0.6**
WVOR Wild Horse Val 78.19 40 *e*P **P 11 45 27.1 -0.2**
WVOR pmax pmax
comp=Z,80nm,1.5s,mb5.4
WVOR MLR MLR
comp=Z,3μm,19.0s,MS5.7
WVOR Wild Horse Val 78.19 40 *e*P **P 11 45 27.1 -0.2**
comp=Z,80nm,1.5s,mb5.4
WVOR LR LR
comp=Z,3μm,19.0s,MS5.7
CROR Criterion Ridg 78.25 37 P **P 11 45 27.3 -0.2**
SLKM Skilak Lake 78.49 13 *e*P **P 11 45 27.5 -1.0**
TUC Tucson 78.57 52 *e*P **P 11 45 30.2 +0.6**
TUC pmax pmax
comp=Z,25nm,1.2s,mb5.0
TUC MLR MLR
comp=Z,2μm,20.0s,MS5.3
TUC Tucson 78.57 52 *e*P **P 11 45 30.1 +0.6**
comp=Z,25nm,1.2s,mb5.0
TUC LR LR
comp=Z,2μm,20.0s,MS5.3
SPU Mount Spurr 78.73 12 *e*P **P 11 45 28.2 -1.6**
KLR Kul'dur 79.01 328 *e*P **P 11 45 29.0 -2.6**
KLR *e*S S 11 55 35.5 +6.7
PGC Sidney 79.11 33 *e*P **P 11 45 31.6 -0.6**
comp=Z,70nm,1.2s,mb5.5
BBB Bella Bella 79.16 28 P **P 11 45 32.0 -0.3**
comp=Z,14nm,0.9s,mb4.9,baz=271,slow=8.2,SNR=4.3
DL2 Dalian 79.19 315 P **P 11 45 33.0 +0.2**
DL2 S S 11 55 28.0 -2.9
DL2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
DL2 AMB AMB
comp=Z,310nm,4.2s
DL2 LR LR
comp=N,810nm,22.0s,MS5.1
DL2 LR LR
comp=E,560nm,19.6s,MS5.1
DL2 LR LR
comp=Z,840nm,21.6s,MS5.0
ARUT Antelope Range 79.19 46 *e*P **P 11 45 33.5 +0.7**
CN2 Changchun 79.30 321 *e*P **P 11 45 34.0 +0.7**
CN2 *e*XP sP 11 45 41.0 +2.2
CN2 *e*S S 11 55 25.0 -7.0
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,19.0s,MS5.2
CN2 LR LR
comp=E,800nm,19.0s,MS5.2
CN2 LR LR
comp=Z,1μm,21.0s,MS5.2
ELK Elko 79.45 43 *e*P **P 11 45 33.8 -0.4**
ELK pmax pmax
comp=Z,25nm,1.2s
ELK MLR MLR
comp=Z,828nm,19.0s
ELK Elko 79.45 43 *e*P **P 11 45 33.8 -0.4**
comp=Z,24nm,1.2s,mb5.0
ELK LR LR
comp=Z,828nm,19.0s,MS5.1
PWA Palmer West 79.60 12 *e*P **P 11 45 33.8 -0.7**
PWA pmax pmax
comp=Z,23nm,1.0s,mb5.1
PWA Palmer West 79.60 12 *e*P **P 11 45 33.8 -0.7**
comp=Z,22nm,1.0s,mb5.0
TTA Tatalina 79.67 9 *e*P **P 11 45 35.1 +0.2**
HAWA Hanford 79.89 36 *e*P **P 11 45 36.5 0.0**
comp=Z,4.6nm,1.4s,mb4.2
HAWA LR LR
comp=Z,130nm,20.0s,MS4.3
QIZ Qiongzhong 80.31 293 P **P 11 45 41.3 +2.1**
QIZ S S 11 55 44.0 +1.0
QIZ XS 11 55 51.8
QIZ LR LR
comp=E,888nm,20.8s
QIZ LR LR
comp=Z,1μm,20.9s,MS5.3
QIZ Qiongzhong 80.31 293 PFAKE 11 45 50.0 +11
QIZ LR LR
comp=Z,2μm,21.0s,MS5.3
BMO Blue Mountains 80.33 38 *e*P **P 11 45 38.2 -0.6**
comp=Z,75nm,1.8s,mb5.3
BMO LR LR
comp=Z,2μm,20.0s,MS5.5
MVU Marysvale 80.38 46 PFAKE 11 45 50.0 +11
MVU LR LR
comp=Z,1μm,19.0s,MS5.3
MSU Marysvale 80.41 46 *e*P **P 11 45 40.5 +1.2**
EPH Ephrata 80.41 35 P **P 11 45 39.0 -0.2**
DUG Dugway 80.78 44 *e*P **P 11 45 41.1 -0.2**
DUG pmax pmax
comp=Z,19nm,1.0s,mb5.0
DUG MLR MLR
comp=Z,907nm,22.0s,MS5.1
DUG Dugway 80.78 44 *e*P **P 11 45 41.1 -0.2**
comp=Z,19nm,1.0s,mb5.0
DUG LR LR
comp=Z,907nm,22.0s,MS5.1
BGU Big Grassy Mou 80.99 43 *e*P **P 11 45 42.0 -0.3**
HLID Hailey 81.42 40 *e*P **P 11 45 44.8 +0.2**
comp=Z,18nm,1.1s,mb4.9
HLID LR LR
comp=Z,905nm,19.0s,MS5.2
TMUT Trail Mountain 81.44 45 *e*P **P 11 45 45.5 +0.8**
NOQ North Oquirrh 81.47 44 *e*P **P 11 45 44.9 0.0**
MPU Maple Canyon 81.49 45 *e*P **P 11 45 45.0 0.0**
PNT Penticton 81.53 34 P **P 11 45 45.1 +0.1**
SPUT South Promonto 81.56 43 *e*P **P 11 45 45.5 +0.1**
HVU Hansel Valley 81.58 43 *e*P **P 11 45 45.7 +0.3**
CTU Camp Tracy 81.73 44 *e*P **P 11 45 46.3 +0.1**
SEY Seymchan 81.81 346 *e*P **P 11 45 48.4 +2.2**
SEY 11 48 58.6
SEY *e*PPP PPP 11 50 46.6 -0.8
SEY *e*S S 11 56 03.5 +5.9
SEY *e*PS PS 11 57 03.1 +15
SEY pmax pmax
comp=Z,110nm,1.3s,mb5.6
SEY pmax pmax
comp=N,20nm,1.1s
SEY pmax pmax
comp=E,30nm,1.1s
SEY smax
comp=N,850nm,10.7s
SEY smax
comp=E,840nm,6.9s
SEY MLR MLR
comp=Z,2μm,19.0s,MS5.6
SEY MLR MLR
comp=N,1μm,16.0s,MS5.5
SEY MLR MLR
comp=E,2μm,18.0s,MS5.5
SRU San Rafael 81.83 46 *e*P **P 11 45 47.2 +0.4**
DAU Daniels Canyon 81.93 44 *e*P **P 11 45 48.0 +0.7**
MENT Mentasta 82.11 14 *e*P **P 11 45 47.4 -0.3**
TCUT Toone Canyon 82.16 44 *e*P **P 11 45 49.0 +0.5**
HWUT Hardware Ranch 82.29 43 *e*P **P 11 45 48.6 -0.4**
comp=E,30nm,1.5s,mb5.0
HWUT LR LR
comp=Z,941nm,19.0s,MS5.2
NEW Newport 82.30 35 *e*P **P 11 45 48.0 -1.0**
NEW pmax pmax
comp=Z,18nm,1.5s
NEW MLR MLR
comp=Z,1μm,21.0s
NEW Newport 82.30 35 P **P 11 45 48.4 -0.6**
comp=Z,1.6nm,0.4s,mb4.3,baz=222,slow=2.5,SNR=7.2
NEW Newport 82.30 35 *e*P **P 11 45 48.0 -1.0**
comp=Z,18nm,1.5s,mb4.8
NEW LR LR
comp=Z,1μm,21.0s,MS5.2
MNTX Cornudas Mount 82.48 54 *e*P **P 11 45 50.7 +0.4**
comp=Z,95nm,1.5s,mb5.5
MNTX LR LR
comp=Z,2μm,20.0s,MS5.5
PV10 Paradox Valley 82.53 47 *e*P **P 11 45 50.9 +0.4**
DLBC Dease Lake 82.74 23 P **P 11 45 51.3 +0.2**
comp=Z,9.4nm,1.1s,mb4.7,baz=234,slow=5.1,SNR=10.0
DLBC Dease Lake 82.74 23 *e*P **P 11 45 51.1 +0.1**
PV01 Paradox Valley 82.76 47 *e*P **P 11 45 52.1 +0.4**
COLA College 82.90 12 *e*P **P 11 45 51.0 -0.8**
COLA pmax pmax
comp=Z,102nm,1.5s,mb5.6
COLA College 82.90 12 *e*P **P 11 45 51.0 -0.8**
comp=Z,102nm,1.5s,mb5.6
LTX Lajitas 82.95 57 *e*P **P 11 45 53.9 +1.1**
LTX pmax pmax
comp=Z,59nm,1.4s,mb5.4
LTX MLR MLR
comp=Z,3μm,20.0s,MS5.6
LTX Lajitas 82.95 57 *e*P **P 11 45 53.9 +1.1**
comp=Z,59nm,1.4s,mb5.4
LTX LR LR
comp=Z,3μm,20.0s,MS5.6
TXAR Lajitas Array 82.95 57 P **P 11 45 53.8 +1.0**
comp=Z,11nm,0.9s,mb4.9,baz=217,slow=6.3,SNR=73
TXAR LR LR 12 15 35.3
comp=Z,2μm,19.4s,MS5.6,baz=275,slow=30
ANMO Albuquerque 82.96 51 *e*P **P 11 45 53.1 +0.4**
ANMO pmax pmax
comp=Z,25nm,1.2s
ANMO MLR MLR
comp=Z,2μm,20.0s
ANMO Albuquerque 82.96 51 P **P 11 45 53.7 +1.0**
comp=Z,12nm,1.0s,mb4.9,baz=226,slow=5.3,SNR=27
ANMO Albuquerque 82.96 51 *e*P **P 11 45 53.1 +0.4**
comp=Z,25nm,1.2s,mb5.1
ANMO LR LR
comp=Z,2μm,20.0s,MS5.5
IMA Indian Mountai 82.97 9 *e*P **P 11 45 52.6 +0.5**
IMA pmax pmax
comp=Z,29nm,1.2s,mb5.2
IMA Indian Mountai 82.97 9 *e*P **P 11 45 52.6 +0.5**
comp=Z,29nm,1.2s,mb5.2
ILAR Eielson Array 83.00 12 P **P 11 45 51.5 -0.8**
comp=Z,6.0nm,0.9s,mb4.6,baz=256,slow=5.9,SNR=33
ILAR LR LR 12 17 04.7
comp=Z,625nm,19.3s,MS5.0,baz=49,slow=32
MCMT McKenzie Canyo 83.03 40 *e*P **P 11 45 53.5 +0.6**
AHID Auburn Hatcher 83.14 42 *e*P **P 11 45 53.7 +0.2**
comp=Z,18nm,1.0s,mb5.1
AHID LR LR
comp=Z,655nm,20.0s,MS5.0
MSO Missoula 83.37 38 *e*P **P 11 45 54.0 -0.6**
comp=Z,12nm,1.3s,mb4.8
MSO LR LR
comp=Z,1μm,20.0s,MS5.2
BJT Baijiatuau 83.44 314 *e*P **P 11 45 56.2 +1.1**
BJT pmax pmax
comp=Z,45nm,1.1s
BJT MLR MLR
comp=Z,2μm,22.0s
BJT Baijiatuau 83.44 314 *e*P **P 11 45 56.2 +1.1**
comp=Z,45nm,1.1s,mb5.4
BJT LR LR
comp=Z,2μm,22.0s,MS5.4
BJI Beijing 83.44 314 P **P 11 45 56.5 +1.4**
BJI AP pP 11 45 59.8 +0.5
BJI XP sP 11 46 01.3 +0.7
BJI SS SS 12 01 36.8 -6.8
BJI AMB AMB
comp=Z,44nm,1.1s,mb5.4
BJI AMB AMB
comp=Z,386nm,3.8s
BJI LR LR
comp=N,832nm,18.7s,MS5.3
BJI LR LR
comp=E,1μm,23.1s,MS5.3
BJI LR LR
comp=Z,2μm,25.0s,MS5.3
REDW Red Top Meadow 83.58 42 *e*P **P 11 45 55.6 -0.1**
comp=Z,57nm,1.2s,mb5.6
SNOW Snow King Moun 83.69 42 *e*P **P 11 45 56.7 +0.4**
comp=Z,59nm,1.1s,mb5.6
WUWY Wally Ulrich 83.73 42 *e*P **P 11 45 56.9 +0.4**
IMW Indian Meadow 83.78 41 *e*P **P 11 45 57.3 +0.5**
comp=Z,56nm,1.3s,mb5.5
CHMT Chamberlain Mo 83.82 38 *e*P **P 11 45 56.2 -0.7**
MOOW Moose Ponds 83.83 42 *e*P **P 11 45 56.8 -0.2**
comp=Z,30nm,1.4s,mb5.2
QLMT Earthquake Lak 83.91 40 *e*P **P 11 45 58.3 +0.9**
YMR Madison River 84.12 41 *e*P **P 11 45 59.1 +0.7**
BW06 Boulder Array 84.15 43 PFAKE 11 46 10.0 +11
BW06 LR LR
comp=Z,669nm,22.0s,MS5.0
PDAR Pinedale Array 84.15 43 P **P 11 45 58.5 -0.2**
comp=Z,13nm,0.8s,mb5.1,baz=214,slow=2.8,SNR=95
PDAR PKPPKP 12 12 21.4
comp=Z,0.3nm,0.4s,baz=27,slow=3.3,SNR=4.6
PDAR LR LR 12 21 00.3
comp=Z,413nm,18.4s,MS4.8,baz=251,slow=34
BILL Bilibino 84.16 354 *c i*P **P 11 45 57.9 -0.2**
BILL *e* 11 49 09.9
BILL *e*S S 11 56 24.7 +3.5
BILL pmax pmax
comp=Z,38nm,1.4s,mb5.3
BILL Bilibino 84.16 354⇑ *e*P **P 11 45 57.6 -0.5**
comp=Z,20nm,0.9s,mb5.3
BILL LR LR
comp=Z,2μm,21.0s,MS5.5
BOZ Bozeman (W) 84.18 40 *e*P **P 11 45 58.6 -0.1**

BOZ pmax pmax
comp=Z,18nm,1.5s,mb5.0
BOZ MLR MLR
comp=Z,2μm,19.0s,MS5.6
BOZ Bozeman (W) 84.18 40 *eP* **P 11 45 58.6 -0.2**
comp=Z,18nm,1.5s,mb5.0
BOZ LR LR
comp=Z,2μm,19.0s,MS5.6
YNR Norris Junctio 84.33 41 *eP* **P 11 46 02.5 +3.0**
LKWY Lake 84.43 41 *eP* **P 11 46 01.8 +1.8**
LKWY pmax pmax
comp=Z,32nm,1.1s,mb5.4
LKWY MLR MLR
comp=Z,1μm,21.0s,MS5.3
LKWY Lake 84.43 41 *eP* **P 11 46 01.8 +1.8**
comp=Z,32nm,1.1s,mb5.4
LKWY LR LR
comp=Z,1μm,21.0s,MS5.3
WALA Waterton Lakes 84.53 36 *eP* **P 11 45 60.0 -0.4**
comp=Z,16nm,1.0s,mb5.1
ENH Enshi 84.56 303 *eP* **P 11 46 01.8 +0.7**
comp=Z,33nm,1.2s,mb5.3
ENH LR LR
comp=Z,1μm,20.0s,MS5.2
HRY Holter Researc 84.57 39 *eP* **P 11 46 00.7 0.0**
KULM Kulim 84.71 277 *eP* **P 11 46 02.9 +0.8**
SDCO Great Sand Dun 84.80 49 *eP* **P 11 46 02.3 +0.3**
comp=Z,29nm,1.3s,mb5.2
SDCO LR LR
comp=Z,2μm,20.0s,MS5.4
RWWY Rawlins 85.24 45 *eP* **P 11 46 03.9 -0.2**
comp=Z,41nm,1.3s,mb5.4
HIA Hailar 85.51 324 *eP* **P 11 46 06.1 +0.8**
HIA pmax pmax
comp=Z,49nm,1.4s
HIA MLR MLR
comp=Z,5μm,22.0s
HIA Hailar 85.51 324 *eP* **P 11 46 06.1 +0.8**
comp=Z,49nm,1.4s,mb5.5
HIA LR LR
comp=Z,5μm,22.0s,MS5.8
GYA Guiyang 85.57 299⇑ *iP* **P 11 46 07.8 +1.6**
GYA AP pP 11 46 12.0 +1.7
GYA XP sP 11 46 14.8 +3.1
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,280nm,4.8s
GYA LR LR
comp=N,640nm,20.9s,MS5.1
GYA LR LR
comp=E,650nm,23.1s,MS5.1
GYA LR LR
comp=Z,970nm,22.0s,MS5.2
PAYG Puerto Ayora 85.99 90 PFAKE 11 46 20.0 +11
PAYG LR LR
comp=Z,606nm,19.0s,MS5.0
JCT Junction City 86.49 57 *eP* **P 11 46 09.9 -0.7**
JCT pmax pmax
comp=Z,40nm,1.5s,mb5.4
JCT MLR MLR
comp=Z,2μm,21.0s,MS5.5
JCT Junction City 86.49 57 *eP* **P 11 46 09.9 -0.7**
comp=Z,40nm,1.5s,mb5.4
JCT LR LR
comp=Z,2μm,21.0s,MS5.5
AMTX Amarillo 86.56 53 PFAKE 11 46 20.0 +9.2
AMTX LR LR
comp=Z,2μm,20.0s,MS5.5
CLNS Chul'man 86.89 332 *eP* **P 11 46 11.6 -0.3**
CLNS *e**PP pP 11 46 18.6 +2.5
CLNS *eS* S 11 56 37.2 -11
CLNS pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
CLNS pmax pmax
comp=N,2.0nm,0.6s
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS smax
comp=E,28nm,11.7s
CLNS smax
comp=Z,113nm,12.2s
CLNS smax
comp=N,134nm,12.9s
MAW Mawson 86.89 199⇑ *iP* **P 11 46 12.4 +0.7**
comp=N,14nm,1.3s,mb5.0
MAW Mawson 86.89 199⇑ *iP* **P 11 46 12.4 +0.7**
MAW pmax pmax
comp=Z,14nm,1.3s
MAW Mawson 86.89 199 P **P 11 46 12.5 +0.9**
comp=Z,18nm,1.2s,mb5.2,baz=103,slow=6.8,SNR=14
MAW LR LR 12 21 18.3
comp=Z,3μm,21.5s,MS5.6,baz=117,slow=33
EDM Edmonton 86.96 32 *eP* **P 11 46 11.7 -0.6**
HHC Hu-ho-hao-te 86.98 314 *eP* **P 11 46 14.8 +2.1**
HHC AP pP 11 46 19.0 +2.1
HHC XP sP 11 46 23.0 +4.7
HHC PP PP 11 49 38.3 -0.1
HHC S S 11 56 55.0 +5.7
HHC AMB AMB
comp=Z,28nm,1.4s,mb5.3
HHC AMB AMB
comp=Z,535nm,5.0s
HHC LR LR
comp=N,318nm,20.2s,MS4.8
HHC LR LR
comp=E,253nm,21.0s,MS4.8
HHC LR LR
comp=Z,254nm,22.6s,MS4.6
BTO Baotou 87.97 313 *eP* **P 11 46 19.0 +1.5**
LAO LASA Array 88.00 40 *eP* **P 11 46 18.2 +0.7**
comp=Z,76nm,1.5s,mb5.7
LAO LR LR
comp=Z,725nm,19.0s,MS5.1
YAK Yakutsk 88.01 338 *eP* **P 11 46 15.0 -2.2**
YAK *eS* S 11 57 00.3 +1.8
YAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
YAK Yakutsk 88.01 338 *i P* **P 11 46 15.5 -1.7**
YAK LR LR
comp=Z,2μm,22.0s,MS5.4
RSSD Black Hills 88.36 43 PFAKE 11 46 30.0 +11
RSSD LR LR
comp=Z,2μm,19.0s,MS5.5
KMI Kunming 88.50 296 P **P 11 46 22.8 +2.4**
KMI AP pP 11 46 27.5 +2.9
KMI PP PP 11 49 50.5 -0.5
KMI S S 11 57 07.3 +3.4
KMI SS SS 12 02 53.5 -4.3
KMI SSS SSS 12 06 26.8 -4.1
KMI AMB AMB
comp=Z,13nm,1.4s,mb5.1
KMI AMB AMB
comp=Z,329nm,5.6s
KMI LR LR
comp=N,640nm,20.3s,MS5.3
KMI LR LR
comp=E,984nm,23.3s,MS5.3
KMI LR LR
comp=Z,2μm,21.8s,MS5.4
INK Inuvik 88.95 15 *eP* **P 11 46 18.5 -3.0**
INK pmax pmax
comp=Z,8.0nm,1.2s
INK Inuvik 88.95 15 P **P 11 46 20.2 -1.3**
comp=Z,3.5nm,0.9s,mb4.7,baz=222,slow=6.0,SNR=13
INK Inuvik 88.95 15 *eP* **P 11 46 18.5 -3.1**
comp=Z,8.5nm,1.2s,mb5.0
CBKS Cedar Bluff 89.40 49 PFAKE 11 46 40.0 +16
CBKS LR LR
comp=Z,1μm,20.0s,MS5.4
CD2 Chengdu 89.42 302 P **P 11 46 27.8 +3.1**
CD2 LR LR
comp=N,790nm,15.6s
CD2 LR LR
comp=Z,1μm,19.2s,MS5.3
CMAR Chiang Mai Arr 89.95 289 P **P 11 46 29.2 +1.8**
comp=Z,10nm,1.0s,mb5.1,baz=98,slow=2.9,SNR=30
CMAR PP PP 11 50 02.9 +0.1
comp=Z,0.4nm,0.4s,baz=88,slow=6.3,SNR=4.2
CMAR LR LR 12 22 11.1
comp=Z,786nm,19.3s,MS5.2,baz=95,slow=32
LZH Lanzhou 90.97 307 *eP* **P 11 46 34.0 +2.3**
LZH AP pP 11 46 37.3 +1.4
LZH XP sP 11 46 39.0 +1.8
LZH PP PP 11 50 13.0 +2.5
LZH SKS SKS 11 57 04.0 -3.1
LZH *eS* S 11 57 29.0 +2.9
LZH XS 11 57 35.0
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.4
LZH AMB AMB
comp=Z,102nm,4.4s
LZH LR LR
comp=E,3μm,18.7s
LZH LR LR
comp=Z,3μm,19.2s,MS5.7
NATX Nacogdoches 91.08 57 PFAKE 11 46 40.0 +7.7
NATX LR LR
comp=Z,2μm,20.0s,MS5.6
YKA Yellowknife Ar 91.22 24 P **P 11 46 32.0 -0.2**
comp=Z,3.7nm,0.9s,mb4.7,baz=242,slow=4.5,SNR=42
YKA PP PP 11 50 08.7 -3.1
comp=Z,0.6nm,1.2s,baz=257,slow=7.9,SNR=3.9
YKA LR LR 12 19 36.5
comp=Z,934nm,21.0s,MS5.2,baz=235,slow=30
YKA Yellowknife Ar 91.22 24 P **P 11 46 32.0 -0.2**
YKA PP PP 11 50 08.7 -3.1
YKA LR LR 12 19 36.5
PLCA Paso Flores 91.58 133 P **P 11 46 34.9 +0.5**
comp=Z,6.9nm,1.2s,mb4.8,baz=227,slow=9.4,SNR=3.6
SYO Syowa Base 92.04 192⇓ *P* **P 11 46 35.2 -0.6**
SYO Syowa Base 92.04 192⇓ *pP* pP 11 46 39.8 -0.2
BOD Bodaibo 92.50 330 *eP* **P 11 46 37.5 -0.7**
BOD pmax pmax
comp=Z,5.0nm,1.8s,mb4.5
ULN Ulaanbaatar 92.57 319 *eP* **P 11 46 39.2 +0.4**
ULN pmax pmax
comp=Z,28nm,1.5s,mb5.5
ULN MLR MLR
comp=Z,1μm,22.0s,MS5.3
ULN Ulaanbaatar 92.57 319 *eP* **P 11 46 39.2 +0.4**
comp=Z,28nm,1.5s,mb5.5
ULN LR LR
comp=Z,1μm,22.0s,MS5.3
MIAR Mount Ida 92.76 55 PFAKE 11 46 50.0 +10
MIAR LR LR
comp=Z,1μm,22.0s,MS5.4
SONM Songino Array 92.98 319 P **P 11 46 40.9 +0.2**
comp=Z,3.8nm,0.9s,mb4.8,baz=90,slow=3.7,SNR=9.9
SONM PP PP 11 50 29.7 +3.4
comp=Z,2.3nm,1.0s,baz=90,slow=7.4,SNR=4.9
SONM LR LR 12 24 41.8
comp=Z,733nm,20.6s,MS5.1,baz=91,slow=33
SNAA Sanae 93.04 178⇑ *iP* **P 11 46 41.9 +1.5**
SNAA Sanae 93.04 178 P **P 11 46 41.2 +0.8**
comp=Z,2.2nm,0.9s,mb4.6,baz=235,slow=9.1,SNR=4.0
VNA3 Neumayer Olymp 93.10 176⇑ *iP* **P 11 46 34.6 -6.1**
VNA3 Neumayer Olymp 93.10 176 *e* **P 11 46 35.4 -5.3**
VNA3 Neumayer Olymp 93.10 176 *e* **P 11 46 38.3 -2.4**
TEIG Tepich 93.41 70 PFAKE 11 46 50.0 +6.7
TEIG LR LR
comp=Z,387nm,21.0s,MS4.8
VNA2 Neumayer--Watz 93.56 176 *e* **P 11 46 45.9 +3.1**
VNA2 Neumayer--Watz 93.56 176 *e* **P 11 46 47.8 +5.0**
VNA2 Neumayer--Watz 93.56 176⇑ *iP* **P 11 46 44.8 +2.0**
VNA2 *e* 11 46 45.9
VNA2 *e* pP 11 46 47.8 +0.8
NVL N'lazarevskaya 93.88 183⇑ *iP* **P 11 46 59.3 +15**
NVL *e*PS PS 11 59 15.6 +3.6
NVL pmax pmax
comp=Z,11nm,1.0s,mb5.2
NVL MLR MLR
comp=Z,2μm,18.9s,MS5.5
JTS JuntasAbangare 93.97 80 P **P 11 46 45.8 -0.2**
comp=Z,2.4nm,0.5s,mb4.9,baz=264,slow=13,SNR=4.2
JTS JuntasAbangare 93.97 80 P **P 11 46 45.8 -0.2**
JTS LR LR
comp=Z,579nm,20.0s,MS5.0
TIXI Tiksi 94.25 345 *i* P **P 11 46 44.5 -1.5**
TIXI MLR MLR
comp=Z,2μm,20.0s,MS5.6
GTA Gaotai 95.00 309 *eP* **P 11 46 51.5 +1.3**
GTA AP pP 11 46 55.0 +0.7
GTA XP sP 11 46 57.8 +2.1
GTA SKS SKS 11 57 25.5 -4.1
GTA S S 11 58 02.8 +1.8
GTA XS 11 58 09.5
GTA AMB AMB
comp=Z,6.0nm,1.1s,mb4.9
GTA AMB AMB
comp=Z,61nm,6.5s
GTA LR LR
comp=N,488nm,19.4s
GTA LR LR
comp=E,1μm,29.3s
GTA LR LR
comp=Z,2μm,27.4s
CCM Cathedral Cave 95.53 52 *eP* **P 11 46 50.6 -2.0**
CCM pmax pmax
comp=Z,13nm,1.3s,mb5.2
CCM MLR MLR
comp=Z,2μm,20.0s,MS5.5
CCM Cathedral Cave 95.53 52 *eP* **P 11 46 50.6 -2.1**
comp=Z,13nm,1.3s,mb5.2
CCM LR LR
comp=Z,2μm,20.0s,MS5.5
ULM Lac du Bonnet 95.70 40 LR LR 12 24 31.5
comp=Z,1μm,19.9s,MS5.5,baz=64,slow=32
ZAK Zakamensk 95.72 321⇑ *eP* **P 11 46 53.4 +0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.6
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.3
NNA Nana 95.78 104 PFAKE 11 47 10.0 +16
NNA LR LR
comp=Z,115nm,19.0s,MS4.4
TLY Talaya 95.89 322 *eP* **P 11 46 54.1 +0.2**
TLY *e*PPP PPP 11 52 45.2 -8.3
TLY *e*SS SS 12 04 31.5 -11
TLY pmax pmax
comp=Z,5.0nm,1.3s,mb4.8
TLY Talaya 95.89 322 *eP* **P 11 46 53.8 -0.2**
comp=Z,3.9nm,1.0s,mb4.8
TLY LR LR
comp=Z,429nm,20.0s,MS4.9
OXF Oxford 96.06 56 PFAKE 11 47 10.0 +15
OXF LR LR
comp=Z,2μm,20.0s,MS5.7
PLAL Pickwick Lake 97.24 56 PFAKE 11 47 10.0 +10
PLAL LR LR
comp=Z,2μm,20.0s,MS5.6
OTAV Otavalo 97.64 92 PFAKE 11 47 20.0 +17
OTAV LR LR
comp=Z,722nm,20.0s,MS5.2
LRAL Lakeview Retre 97.66 58 PFAKE 11 47 10.0 +7.6
LRAL LR LR
comp=Z,1μm,19.0s,MS5.4
WVT Waverly 97.70 55 PFAKE 11 47 10.0 +7.5
WVT LR LR
comp=Z,2μm,20.0s,MS5.6
EYMN Ely 97.85 43 PFAKE 11 47 10.0 +7.1
EYMN LR LR
comp=Z,1μm,21.0s,MS5.3
TRQA Tornquist 98.73 133 PFAKE 11 47 20.0 +13
TRQA LR LR
comp=Z,1μm,20.0s,MS5.4
WCI Wyandotte Cave 99.36 53 PFAKE 11 47 20.0 +10
WCI LR LR
comp=Z,1μm,22.0s,MS5.3
LVC Limon Verde 99.53 117 PFAKE 11 47 20.0 +8.9
LVC LR LR
comp=Z,1μm,20.0s,MS5.3
LSA Lhasa 99.63 298 PFAKE 11 47 20.0 +8.6
LSA LR LR
comp=Z,750nm,22.0s,MS5.2
GOGA Godfrey 100.63 58 PFAKE 11 47 30.0 +14
GOGA LR LR
comp=Z,2μm,22.0s,MS5.5
DWPF Disney 101.30 64 PFAKE 11 47 30.0 +11
DWPF LR LR
comp=Z,503nm,20.0s,MS5.0
ACSO Alum Creek Sta 102.27 51 PFAKE 11 47 30.0 +6.9
ACSO LR LR
comp=Z,3μm,20.0s,MS5.8
NHSC New Hope 103.29 59 PFAKE 11 47 40.0 +12
NHSC LR LR
comp=Z,2μm,19.0s,MS5.5
BLA Blacksburg 103.76 55 PFAKE 11 47 40.0 +10
BLA LR LR
comp=Z,2μm,20.0s,MS5.7
MCWV Mont Chateau 104.56 52 PFAKE 11 47 40.0 +6.8
MCWV LR LR
comp=Z,2μm,20.0s,MS5.5
ERPA Erie 104.78 50 PFAKE 11 47 50.0 +16
ERPA LR LR
comp=Z,2μm,21.0s,MS5.5
SSPA Standing Stone 106.17 52 PFAKE 11 52 00.0
SSPA LR LR
comp=Z,2μm,19.0s,MS5.6
CBN Corbin 106.29 54 PFAKE 11 52 00.0
CBN LR LR
comp=Z,3μm,20.0s,MS5.8
SDV Santo Domingo 107.34 85 PFAKE 11 52 10.0
SDV LR LR
comp=Z,670nm,20.0s,MS5.2
DGAR Diego Garcia 108.23 257 PFAKE 11 52 10.0
DGAR LR LR
comp=Z,604nm,20.0s,MS5.2
MKAR Makanchi Array 108.82 315 Pdiff Pdif 11 47 52.2 +0.4
comp=Z,0.6nm,0.8s,baz=79,slow=6.2,SNR=4.8
MKAR PKiKP 11 51 56.1
comp=Z,2.4nm,0.9s,baz=63,slow=2.7,SNR=17
NCB Newcomb 109.16 48 PFAKE 11 52 10.0
NCB LR LR
comp=Z,1μm,20.0s,MS5.4
SAML Samuel 109.48 105 PFAKE 11 52 10.0
SAML LR LR
comp=Z,154nm,19.0s,MS4.6
HRV Harvard--Oak R 111.05 50 PFAKE 11 52 10.0 +7.0
HRV LR LR
comp=Z,2μm,21.0s,MS5.6
WES Weston 111.22 50 PFAKE 11 52 10.0 +6.7
WES LR LR
comp=Z,3μm,20.0s,MS5.8
WVL Waterville 112.46 48 PFAKE 11 52 20.0 +14
WVL LR LR
comp=Z,8μm,20.0s,MS6.3
SJG San Juan 113.43 77 PFAKE 11 52 20.0 +12
SJG LR LR
comp=Z,623nm,21.0s,MS5.2
PQI Presque Isle 113.56 46 PFAKE 11 52 20.0 +12
PQI LR LR
comp=Z,10μm,21.0s,MS6.4
EMMW East Machias 114.02 48 PFAKE 11 52 20.0 +11
EMMW LR LR
comp=Z,7μm,20.0s,MS6.3
AAK Ala-Archa 114.33 310 *i* PKIKP PKPdf 11 52 05.7 -3.7
AAK MLR MLR
comp=Z,222nm,20.0s,MS4.8
CHKZ Chkalovo 115.91 323 *e*PKIKP PKPdf 11 52 08.8 -3.4
BVAR Borovoye Array 116.15 322 PKP PKPdf 11 52 09.9 -2.8
comp=Z,5.0nm,0.8s,baz=90,slow=3.0,SNR=24
BBSR BB Station 116.18 61 PFAKE 11 52 20.0 +6.7
BBSR LR LR
comp=Z,581nm,21.0s,MS5.2
KBS Kingsbay 116.32 358 PFAKE 11 52 20.0 +7.4
KBS LR LR
comp=Z,835nm,21.0s,MS5.3
SVE Sverdlovsk 120.63 328 *i* PKIKP PKPdf 11 52 18.8 -2.5
SVE *e* 11 53 43.0
SVE *e* 12 04 52.0
SVE *e*SS SS 12 10 08.0 -8.3
SVE pmax pmax
comp=Z,20nm,1.0s
SVE MLR MLR
comp=N,1μm,18.0s
SVE MLR MLR
comp=Z,2μm,18.0s,MS5.9
ARU Arti 121.85 328 *i* PKIKP PKPdf 11 52 20.0 -3.7
ARU *e* 11 53 52.8
ARU *e* 11 59 28.5
ARU *e*PS PS 12 03 45.9 -2.0
ARU *e*SS SS 12 10 27.2 -4.9
ARU MLR MLR
comp=Z,3μm,21.0s,MS5.9
ARU MLR MLR
comp=N,600nm,20.0s,MS5.8
ARU MLR MLR
comp=E,2μm,20.0s,MS5.8
ARU Arti 121.85 328 *i* PKP PKPdf 11 52 19.7 -4.0
ARU LR LR
comp=Z,692nm,20.0s,MS5.3
KEV Kevo 123.75 350 PFAKE 11 52 40.0 +13
KEV LR LR
comp=Z,1μm,20.0s,MS5.6
ARCES ARCESS Array B 124.18 351 PKP PKPdf 11 52 24.8 -3.1
comp=Z,11nm,0.9s,baz=90,slow=1.2,SNR=19
MSEY Mahe Island 124.99 253 PFAKE 11 52 40.0 +9.1
MSEY LR LR
comp=Z,342nm,21.0s,MS5.0
OPO Ambohidratompo125.47 233 PKP PKPdf 11 52 29.7 -2.0
comp=Z,3.6nm,0.9s,baz=258,slow=1.8,SNR=4.6
JOF Joensuu 128.73 344 *ep* PKPdf 11 52 32.2 -4.6
SUR Sutherland 129.75 199 PFAKE 11 52 50.0 +10
SUR LR LR
comp=Z,231nm,20.0s,MS4.9
KAF Kangasniemi 130.65 346 *ep* PKPdf 11 52 36.2 -4.2
FINES FINESS Array B 131.29 346 PKP PKPdf 11 52 38.8 -2.9
comp=Z,7.8nm,1.0s,baz=72,slow=6.0,SNR=19
BOSA Boshof 131.54 206 PKP PKPdf 11 52 41.4 -1.7
comp=Z,6.3nm,0.5s,baz=340,slow=22,SNR=12
MOS Moscow 132.08 335 *e*PKIKP PKPdf 11 52 40.8 -2.5
MOS MLR MLR
comp=Z,4μm,28.0s,MS5.9
OBN Obninsk 132.95 335 *d i*PKIKP PKPdf 11 52 42.7 -2.3
OBN *e* 11 55 10.0
OBN *e*PS PS 12 05 21.8 -2.0
OBN *i* SSS SSS 12 17 44.4 -2.9
OBN pmax pmax
comp=Z,22nm,1.0s
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.6
OBN Obninsk 132.95 335 *i* PKPr PKPdf 11 52 42.7 -2.3
OBN LR LR
comp=Z,1μm,19.0s,MS5.6
NB2 NORSAR Subarra134.09 355 PKPabc PKPdf 11 52 44.0 -2.8
comp=Z,8.5nm,1.4s,baz=17,slow=2.6
NB2 NORSAR Subarra134.09 355⇑ PKPab PKPdf 11 52 44.0 -2.8
NOA NORSAR Array B 134.09 355 PKP PKPdf 11 52 44.2 -2.6
comp=Z,3.1nm,0.9s,baz=14,slow=4.1,SNR=9.8
NOA NORSAR Array B 134.09 355 PKP PKPdf 11 52 44.2 -2.6
RCBR Riachuelo 135.47 115 PFAKE 11 53 00.0 +9.2
RCBR LR LR
comp=Z,2μm,21.0s,MS5.7
KONO Kongsberg 135.60 356 PFAKE 11 53 00.0 +10
KONO LR LR
comp=Z,819nm,21.0s,MS5.4
GOF Gofitskoye 135.63 320⇑ *i*PKIKP PKPdf 11 52 48.2 -2.0
GOF pmax pmax
comp=Z,20nm,1.3s
ZEI Tsey 136.13 317 *e*PKIKP PKPdf 11 52 47.0 -4.2
KIV Kislovodsk 136.37 319 *i* PKIKP PKPdf 11 52 50.7 -0.8
GNI Garni 136.63 313 *i* PKIKP PKPdf 11 52 49.4 -2.7
GNI MLR MLR
comp=Z,881nm,22.0s
SOC Sochi 138.43 320 *i* PKIKP PKPdf 11 52 53.8 -1.6
SOC *e* 11 55 44.2
SOC *e*PPP PPP 11 58 49.0 +1.0
SOC *e* 12 00 04.3
SOC *e*SS SS 12 13 54.5 -1.3
SOC pmax pmax
comp=N,12nm,0.8s
SOC pmax pmax
comp=Z,11nm,0.8s
SOC pmax pmax
comp=E,9.0nm,0.7s
ANN Anapa 139.14 323 *i* PKIKP PKPdf 11 52 58.9 +2.3
ANN *e*PPP PPP 11 58 51.8 -1.8
ANN *e*SS SS 12 14 30.3 +27
ANN pmax pmax
comp=Z,18nm,1.2s
ANN MLR MLR
comp=N,2μm,25.0s,MS5.8
ANN MLR MLR
comp=E,1μm,25.0s,MS5.8
ANN MLR MLR
comp=Z,1μm,25.0s,MS5.6
AKASG Malin Array Be 139.20 335 PKP PKPdf 11 52 54.0 -2.6
comp=Z,7.4nm,0.9s,baz=32,slow=2.2,SNR=12
AKASG Malin Array Be 139.20 335 PKP PKPdf 11 52 54.0 -2.6

ESK	**Eskdalemuir**	**139.80**	**6**	PFAKE		11 53 10.0	+12
ESK				LR	LR		
comp=Z,235nm,21.0s,MS4.9							
LSZ	**Lusaka**	**141.09**	**220**	*e*PKIKP	PKPdf	11 53 00.3	-0.7
LSZ				MLR	MLR		
comp=Z,751nm,20.0s,MS5.4							
MALT	**Malatya**	**141.85**	**313**	*e*PKIKP	PKPdf	11 52 57.1	-4.6
LVV	**L'vov**	**141.89**	**339**	*e*PKIKP	PKPdf	11 53 01.9	+0.6
KIS	**Kishinev**	**142.19**	**332**	*e*PKHKP		11 52 44.0	
KIS				MLR	MLR		
comp=Z,3μm,20.0s,MS6.0							
KIS				MLR	MLR		
comp=N,1μm,21.0s							
KIS				MLR	MLR		
comp=Z,2μm,20.0s							
KWP	**Kalwaria**	**142.50**	**340**	*e*PKP	PKPdf	11 52 57.3	-5.1
OJC	**Ojcow**	**142.89**	**343**	*e*PKP	PKPdf	11 53 01.4	-1.6
GZT	**Gaziantep**	**142.90**	**313**	*i* P	PKPdf	11 52 57.5	-6.0
KMBO	**Kilima Mbogo**	**142.99**	**247**	*e*PKIKP	PKPdf	11 52 59.8	-4.5
KMBO				MLR	MLR		
comp=Z,839nm,19.0s							
TSUM	**Tsumeb**	**143.01**	**202**	PFAKE		11 53 10.0	+11
TSUM				LR	LR		
comp=Z,1μm,21.0s,MS5.6							
KSP	**Ksiaz**	**143.21**	**347**	*e*PKIKP	PKPdf	11 53 00.1	-3.4
KSP				*e*		11 53 05.3	
KSP				MLR	MLR		
comp=Z,3μm,21.8s,MS6.0							
KSP	**Ksiaz**	**143.21**	**347**	*e*PKP	PKPdf	11 53 00.5	-3.1
KOLS	**Kolonicke sedl**	**143.25**	**339**	*e*PKP	PKPdf	11 53 03.4	-0.3
CLL	**Collm**	**143.40**	**350**	*i* PKHKP		11 52 57.5	
CLL				*i*		11 53 00.4	
CLL				*i*		11 53 09.0	
CLL				MLR	MLR		
comp=Z,1μm,21.0s,MS5.6							
CLL	**Collm**	**143.40**	**350**	*i* PKP	PKPdf	11 52 57.5	-6.4
CLL				*i*		11 53 00.4	
CLL				*i*		11 53 09.0	
CLL				LR	LR		
comp=Z,1μm,21.0s,MS5.6							
CLL	**Collm**	**143.40**	**350**	‖*i*	PKPbc	11 52 57.5	-1.4
CLL				*i* PKIKP	PKPdf	11 53 00.4	-3.5
CLL				*i*		11 53 05.2	
CLL				*i*		11 53 09.0	
CLL				*e*PP	PP	11 56 14.0	-1.7
CLL				*e*		12 02 47.0	
CLL				*e*SS	SS	12 14 53.0	-0.6
CLL				*e*		12 15 24.0	
CLL				*e*SSS	SSS	12 20 18.0	+1.2
CLL				*e*		12 25 48.0	
WTSB	**Winterswijk**	**143.43**	**357**	*e*P	PKPbc	11 53 00.8	+1.8
comp=Z,26nm,2.6s							
UPC	**Upice**	**143.58**	**347**	*e*PKP	PKPdf	11 53 01.0	-3.2
BRG	**Berggiesshubel**	**143.65**	**349**	*e*PKIKP	PKPdf	11 53 01.9	-2.4
BRG				*e*		11 53 06.3	
BRG				MLR	MLR		
comp=Z,1μm,24.6s,MS5.5							
DPC	**Dobruska-Polom**	**143.66**	**346**	*e*PKIKP	PKPdf	11 53 01.0	-3.3
DPC				MLR	MLR		
comp=Z,2μm,22.0s,MS5.8							
DPC	**Dobruska-Polom**	**143.66**	**346**	*e*PKP	PKPdf	11 53 01.0	-3.3
DPC				*e*SS	SS	12 15 00.2	+3.5
DPC				AMS	AMS	12 55 30.0	
comp=Z,2μm,22.0s							
OKC	**Ostrava-Krasne**	**143.69**	**344**	*e*PKIKP	PKPdf	11 53 04.9	+0.5
OKC				MLR	MLR		
comp=Z,1μm,21.8s,MS5.7							
OKC	**Ostrava-Krasne**	**143.69**	**344**	*e*PKP	PKPdf	11 53 04.9	+0.5
OKC				*e*x	x	12 15 12.6	
OKC				AMS	AMS	12 53 40.0	
comp=Z,1μm,21.8s							
PVCC	**Panska Ves**	**143.87**	**348**	*e*PKP	PKPdf	11 53 01.9	-2.8
PVCC				AMS	AMS	12 52 40.0	
comp=Z,1μm,23.3s							
MORC	**Moravsky Berou**	**143.90**	**345**	*e*PKIKP	PKPdf	11 53 00.2	-4.6
ELDT	**Eldivan**	**144.04**	**320**	*i* P	PKPbc	11 52 60.0	-1.2
COBT	**Iskenderun**	**144.21**	**312**	*i* P	PKPbc	11 53 02.7	+0.9
COBT	**Iskenderun**	**144.21**	**312**	*i* P	PKPbc	11 53 02.8	+1.0
KECS	**Kecovo**	**144.22**	**341**	*e*PKP	PKPdf	11 53 02.2	-3.2
MOX	**Moxa**	**144.26**	**351**	*e*PKIKP	PKPdf	11 53 04.3	-1.1
MOX				MLR	MLR		
comp=Z,900nm,22.0s,MS5.5							
MOX	**Moxa**	**144.26**	**351**	*i* P	PKPbc	11 53 04.3	+2.8
MOX				SS	SS	12 15 01.0	-2.6
MOX				L		12 57 09.0	
BRTR	**Keskin Array B**	**144.34**	**319**	PKP	PKPdf	11 53 02.5	-3.4
comp=Z,47nm,0.9s,baz=90,slow=2.5,SNR=148							
PRU	**Pruhonice**	**144.38**	**348**	*e*PKP	PKPdf	11 53 02.2	-3.4
PRU				*e*SS	SS	12 15 08.5	+3.5
PRU				AMS	AMS	12 53 30.0	
comp=Z,1μm,22.3s							
MLR	**Muntele Rosu**	**144.63**	**333**	PKP	PKPdf	11 53 03.5	-2.7
comp=Z,22nm,1.1s,baz=52,slow=2.3,SNR=19							
HGN	**Heimansgroeve**	**144.67**	**358**	*e*P	PKPbc	11 53 02.5	-0.1
comp=Z,24nm,1.7s							
HGN				*e*PP	tx	11 55 33.0	
HGN				*e*PPP	tx	12 00 19.2	
VYHS	**Vyhne**	**144.72**	**342**	*e*PKP	PKPdf	11 53 03.3	-3.0
SGKT	**Sivrigoynuk**	**144.83**	**321**	*i* P	PKPbc	11 53 04.6	+1.2
PSZ	**Piszkesteto**	**144.91**	**341**	*e*PKPdf	PKPdf	11 53 03.8	-2.8
PSZ	**Piszkesteto**	**144.91**	**341**	*e*PKP/p	PKPdf	11 53 01.7	-4.9
GRA1	**Grafenberg Arr**	**145.24**	**351**	*e*PKP	PKPdf	11 53 04.8	-2.4
GRA1				*e*SS	SS	12 15 10.8	-3.7
GRA1				LR	LR		
comp=Z,1μm,20.6s,MS5.7							
GRF	**Grafenberg Arr**	**145.24**	**351**	*e*PKIKP	PKPdf	11 53 04.8	-2.4
GRF				*e*SS	SS	12 15 10.8	-3.7
GRF				MLR	MLR		
comp=Z,1μm,20.6s,MS5.7							
HENT	**Hendek**	**145.37**	**322**	*i* P	PKPbc	11 53 05.5	+0.7
GIVF	**Givet**	**145.37**	**359**	*e*PKP1	PKPbc	11 53 01.8	-2.7
KHC	**Kasperske Hory**	**145.39**	**349**	⇑*i*PKIKP	PKPdf	11 53 05.4	-2.0
KHC	**Kasperske Hory**	**145.39**	**349**	*e*PKP	PKPdf	11 53 05.4	-2.0
KHC				*e*SS	SS	12 15 20.6	+4.4
KHC				AMS	AMS	12 53 40.0	
comp=Z,1μm,23.1s							
BAIF	**Baives**	**145.42**	**359**	*e*PKP1	PKPbc	11 53 02.2	-2.4
comp=Z,84nm,1.1s							
ABH	**Alteburg**	**145.46**	**356**	PKP	PKPdf	11 53 08.3	+0.8
ZST	**Bratislava**	**145.47**	**344**	*e*PKP	PKPdf	11 53 06.5	-1.1
SRO	**Srobarova**	**145.48**	**343**	*e*PKP	PKPdf	11 53 06.4	-1.2
ASF	**Jabal al Asfar**	**145.51**	**305**	PKPbc	PKPbc	11 53 07.0	+1.5
comp=Z,15nm,1.0s,baz=343,slow=0.9,SNR=18							
SRO1	**Iza**	**145.55**	**343**	*e*PKP	PKPdf	11 53 04.0	-3.7
VKA	**Vienna**	**145.60**	**345**	*e*PKP	PKPdf	11 53 05.0	-2.8
TOD	**Tromm**	**145.62**	**354**	PKIKP	PKPdf	11 53 08.7	+0.9
GERES	**GERESS Array B**	**145.64**	**348**	PKPbc	PKPbc	11 53 06.0	+0.8
comp=Z,10.0nm,0.8s,baz=27,slow=3.0,SNR=55							
PRD	**Provadia**	**145.66**	**329**	*i* P	PKPbc	11 53 07.5	+2.0
RUP	**Ruppelstein**	**145.67**	**356**	PKP2	PKPab	11 53 08.5	+1.3
KTD	**Kalmit**	**145.97**	**355**	PKP2	PKPab	11 53 09.2	+0.8
KDHN	**Kadinhani**	**146.00**	**318**	*i* P	PKPbc	11 53 06.5	+0.1
ESKT	**Eskisehir**	**146.20**	**321**	*i* P	PKPbc	11 53 08.0	+1.1
LANF	**Langenberg**	**146.33**	**355**	PKP	PKPdf	11 53 09.3	+0.3
MOA	**Molln**	**146.47**	**347**	⇑*i*P	PKPbc	11 53 08.9	+1.7
FLN	**La Foliniere**	**146.54**	**5**	*e*PKP1	PKPbc	11 53 04.0	-3.4
comp=Z,83nm,1.0s							
FLN				*e*R			
comp=Z,1μm,23.0s							
ROSF	**Rostrenen**	**146.65**	**8**	*e*PKP1	PKPbc	11 53 05.4	-2.2
comp=Z,68nm,1.1s							
LDF	**La Druitiere**	**146.74**	**5**	*e*PKP1	PKPbc	11 53 04.1	-3.7
ARSA	**Arzberg**	**146.75**	**345**	⇑*i*P	PKPbc	11 53 09.7	+1.8
SGMF	**Saint Gilles**	**146.83**	**8**	*e*PKP1	PKPbc	11 53 05.9	-2.1
ULDT	**Uludag**	**146.83**	**323**	*i* P	PKPbc	11 53 10.1	+1.8
WLS	**Welschbruch**	**146.93**	**356**	PKP	PKPdf	11 53 10.2	+0.1
CDF	**Champ du Feu**	**146.94**	**356**	*e*PKP1	PKPbc	11 53 06.8	-1.5
comp=Z,38nm,0.9s							
CSS	**Prodhromos**	**147.04**	**312**	*e*PKPbc	PKPdf	11 53 10.7	0.0
QUIF	**Quistinic**	**147.07**	**8**	*e*PKP1	PKPdf	11 53 06.7	-3.6
comp=Z,67nm,1.1s							
ECH	**Echery**	**147.14**	**356**	PKP	PKPdf	11 53 11.1	+0.7
THEF	**They Montfort**	**147.20**	**357**	PKP	PKPdf	11 53 11.3	+0.8
KBA	**Koelnbreinsper**	**147.40**	**348**	⇑*i*P	PKPdf	11 53 10.8	-0.1
HAU	**Haudompre**	**147.40**	**357**	*e*PKP1	PKPdf	11 53 08.1	-2.7
comp=Z,36nm,0.9s							
HAU				*e*R			
comp=Z,1μm,23.0s							
FELD	**Feldberg**	**147.41**	**355**	PKP	PKPdf	11 53 11.9	+1.0
PERS	**Pernice**	**147.42**	**345**	*e*PKPdf	PKPdf	11 53 10.9	-0.1
ISP	**Isparta**	**147.42**	**318**	*e*PKP2	PKPab	11 53 11.0	-3.4
MOF	**Molkenrain**	**147.51**	**356**	PKP	PKPdf	11 53 11.5	+0.5
MOTA	**Moosalm**	**147.55**	**351**	⇑*i*P	PKPdf	11 53 09.6	-1.5
HINF	**Hinteralfeld**	**147.56**	**356**	*e*PKP1	PKPdf	11 53 08.3	-2.8
SVIS	**Svilajnac**	**147.57**	**336**	*e*PKP	PKPdf	11 53 09.6	-1.7
OBKA	**Obir**	**147.68**	**346**	⇑*i*P	PKPdf	11 53 11.2	-0.1
PGB	**Panagyurishte**	**147.72**	**331**	*i* P	PKPdf	11 53 12.7	+1.2
BTOK	**Tokmak**	**147.72**	**323**	*i* P	PKPdf	11 53 12.3	+0.6
DAVA	**Damuels**	**147.78**	**352**	⇑*i*P	PKPdf	11 53 12.4	+0.9
EIL	**Elat**	**147.94**	**302**	PKPbc	PKPdf	11 53 11.9	-0.4
comp=Z,39nm,1.1s,baz=52,slow=3.9,SNR=12							
EIL	**Elat**	**147.94**	**302**	*e*PKPbc	PKPdf	11 53 14.0	+1.7
LOMF	**Lomont**	**148.03**	**356**	PKP	PKPdf	11 53 12.8	+0.9
GRUS	**Gruza**	**148.11**	**336**	⇑*i*PKP	PKPdf	11 53 09.8	-2.3
LJU	**Ljubljana**	**148.12**	**346**	*e*PKPdf	PKPdf	11 53 10.3	-1.7
RZN	**Rozhen**	**148.12**	**329**	*i* P	PKPdf	11 53 13.5	+1.3
VTS	**Vitosha**	**148.13**	**332**	*i* P	PKPdf	11 53 13.7	+1.5
SISC	**Sisak**	**148.17**	**343**	*i* PKP	PKPdf	11 53 13.9	+1.8
DIVS	**Divcibare**	**148.21**	**337**	‖*i*PKP	PKPdf	11 53 13.5	+1.2
LOR	**Lormes**	**148.22**	**360**	*e*PKP1	PKPdf	11 53 10.3	-1.9
comp=Z,137nm,1.6s							
LOR				*e*R			
comp=Z,1μm,22.5s							
MANT	**Manisa**	**148.24**	**321**	*i* P	PKPdf	11 53 14.0	+1.5
VOY	**Vojsko**	**148.28**	**346**	*e*PKPdf	PKPdf	11 53 09.9	-2.4
VOY				*e*		11 53 12.9	
VOY				*e*		11 53 28.1	
GOLH	**Golhisar**	**148.39**	**318**	*i* P	PKPdf	11 53 12.7	-0.1
SSF	**Saint Saulge**	**148.42**	**0**	*e*PKP1	PKPdf	11 53 11.1	-1.4
comp=Z,154nm,1.5s							
DNZL	**Cakiroluk**	**148.44**	**320**	*i* P	PKPdf	11 53 14.8	+1.9
BOJS	**Bojanci**	**148.44**	**344**	*e*PKPdf	PKPdf	11 53 11.1	-1.5
BOJS				*e*PKPbc	PKPdf	11 53 14.4	+1.8
BBLS	**Bajina Basta -**	**148.62**	**338**	⇑*i*PKP	PKPdf	11 53 15.1	+2.2
MMB	**Musomiste**	**148.67**	**330**	*i* P	PKPdf	11 53 14.5	+1.4
AVF	**Avril sur Loir**	**148.69**	**0**	*e*PKP1	PKPdf	11 53 11.3	-1.6
comp=Z,66nm,1.3s							
MFF	**Saint Martin d**	**148.72**	**5**	*e*PKP1	PKPdf	11 53 09.5	-3.5
comp=Z,128nm,1.4s							
KKB	**Krupnik**	**148.76**	**331**	*i* P	PKPdf	11 53 15.0	+1.8
CABF	**La Chapelle**	**148.81**	**357**	*e*PKP1	PKPdf	11 53 12.5	-0.6
comp=Z,78nm,1.0s							
SMF	**Signal de Mont**	**148.84**	**360**	*e*PKP1	PKPdf	11 53 11.8	-1.4
comp=Z,102nm,1.5s							
MBAR	**Mbarara**	**148.91**	**242**	*e*PKIKP	PKPdf	11 53 12.1	-2.2
MBAR				*e*		11 53 16.5	
MBAR				MLR	MLR		
comp=Z,224nm,20.0s,MS5.0							
KDAG	**Bornova**	**149.07**	**322**	*i* P	PKPdf	11 53 15.5	+1.7
TCF	**Toulx Ste Croi**	**149.17**	**2**	*e*PKP1	PKPdf	11 53 12.6	-1.1
comp=Z,110nm,1.5s							
AYDN	**Tasoluk**	**149.18**	**321**	*i* P	PKPdf	11 53 16.5	+2.4
SKO	**Skopje**	**149.41**	**333**	*i* PKP	PKPdf	11 53 16.7	+2.4
PLDF	**La Plantade**	**149.51**	**0**	PKP	PKPdf	11 53 15.3	+1.0
PYM	**Petit Puy Mans**	**149.73**	**1**	PKP	PKPdf	11 53 15.4	+0.8
SMG	**Samos**	**149.78**	**322**	*e*P	PKPdf	11 53 18.0	+3.0
LPL	**La Plagne**	**149.86**	**356**	*e*PKP1	PKPdf	11 53 14.1	-0.8
comp=Z,114nm,1.5s							
LPG	**La Plagne**	**149.88**	**356**	*e*PKP1	PKPdf	11 53 14.1	-0.8
comp=Z,118nm,1.3s							
RJF	**Les Rejaudoux**	**150.12**	**3**	*e*PKP1	PKPdf	11 53 13.8	-1.5
comp=Z,134nm,1.6s							
RJF				*e*R			
comp=Z,1μm,23.0s							
GRN	**Grenoble**	**150.19**	**357**	PKP	PKPdf	11 53 17.3	+1.9
GDM	**Grand'Maison**	**150.21**	**357**	PKP	PKPdf	11 53 17.1	+1.7
LBL	**Lubilhac**	**150.25**	**1**	PKP	PKPdf	11 53 17.0	+1.5
BNI	**Bardonecchia**	**150.32**	**356**	*e*PKIKP	PKPdf	11 53 14.6	-1.0
BNI				*e*		11 53 20.0	
OHR	**Ohrid**	**150.39**	**333**	⇑*i*PKP	PKPdf	11 53 18.9	+3.1
LFF	**La Frestale**	**150.44**	**4**	*e*PKP1	PKPdf	11 53 14.3	-1.5
comp=Z,94nm,1.2s							
ORIF	**Oris-en-Rattie**	**150.51**	**357**	*e*PKP1	PKPdf	11 53 15.7	-0.2
ORIF				*e*R			
comp=Z,2μm,22.5s							
CAF	**Calviac**	**150.53**	**2**	*e*PKP1	PKPdf	11 53 14.9	-1.0
comp=Z,69nm,1.2s							
VIVF	**Saint-Julien-l**	**150.62**	**359**	*e*PKP1	PKPdf	11 53 16.4	+0.4
comp=Z,123nm,1.4s							
MBDF	**Montbardon**	**150.64**	**356**	*e*PKP1	PKPdf	11 53 14.9	-1.2
comp=Z,118nm,1.3s							
NEO	**Neokhori**	**150.66**	**328**	*e*P	PKPdf	11 53 19.5	+3.2
SURF	**Saint Ours**	**150.88**	**355**	PKP	PKPdf	11 53 18.2	+1.8
KARP	**Karpathos**	**150.95**	**318**	*e*P	PKPdf	11 53 20.5	+3.7
SAOF	**Saorge**	**151.31**	**354**	PKP	PKPdf	11 53 19.2	+2.1
TOUF	**Mont Tournerai**	**151.31**	**355**	PKP	PKPdf	11 53 19.5	+2.4
AUTN	**L'Aution**	**151.31**	**354**	PKP	PKPdf	11 53 19.7	+2.6
LASF	**Ste Croix**	**151.41**	**360**	*e*PKP1	PKPdf	11 53 16.3	-0.9
comp=Z,93nm,1.3s							
STOF	**St-Etienne Org**	**151.42**	**357**	PKP	PKPdf	11 53 19.1	+1.8
MVIF	**Mont Vial**	**151.44**	**355**	PKP	PKPdf	11 53 19.6	+2.3
SMRF	**Simiane la Rot**	**151.46**	**357**	*e*PKP1	PKPdf	11 53 16.6	-0.7
comp=Z,103nm,1.4s							
SANT	**Santorini**	**151.49**	**321**	*e*PKPbc	PKPdf	11 53 20.7	+3.1
JAN	**Janina**	**151.54**	**331**	*e*P	PKPdf	11 53 22.0	+4.4
NSAL	**Nisos Salamina**	**151.57**	**326**	*e*P	PKPdf	11 53 22.0	+4.3
REVF	**Revere**	**151.57**	**354**	PKP	PKPdf	11 53 20.4	+2.9
VILF	**Villemus**	**151.58**	**357**	PKP	PKPdf	11 53 19.7	+2.2
CALN	**Calern**	**151.60**	**355**	PKP	PKPdf	11 53 20.0	+2.5
MGER	**Gerania Oros**	**151.62**	**326**	*e*P	PKPdf	11 53 21.0	+3.2
PRAF	**Pradon**	**151.65**	**358**	PKP	PKPdf	11 53 20.1	+2.5
NAIG	**Nisos Aigina**	**151.66**	**326**	*e*P	PKPdf	11 53 21.5	+3.7
EVR	**Evrytania**	**151.67**	**329**	*e*P	PKPdf	11 53 22.8	+5.0
TAVF	**Tavernes**	**151.79**	**356**	PKP	PKPdf	11 53 20.0	+2.2
FRF	**La Foret Royal**	**151.81**	**355**	*e*PKP1	PKPdf	11 53 16.1	-1.8
comp=Z,163nm,1.6s							
TREF	**Trevaresse**	**151.82**	**357**	PKP	PKPdf	11 53 19.9	+2.0
AQU	**L'Aquila**	**151.86**	**345**	*e*PKIKP	PKPdf	11 53 22.4	+4.4
PUYF	**Puyloubier**	**151.90**	**357**	PKP	PKPdf	11 53 19.4	+1.4
KEK	**Kerkira**	**151.97**	**333**	*e*P	PKPdf	11 53 23.0	+4.8
MTLF	**Montolieu**	**152.12**	**2**	*e*PKP1	PKPdf	11 53 17.2	-1.1
comp=Z,35nm,1.3s							
CII	**Carovilli**	**152.20**	**343**	*e*PKPbc	PKPdf	11 53 23.3	+4.8
EPF	**Esparros**	**152.30**	**5**	*e*PKP1	PKPdf	11 53 17.4	-1.2
XRY	**Khrisi**	**152.31**	**318**	*e*P	PKPdf	11 53 24.5	+5.6
ETSF	**Etsaut**	**152.34**	**7**	*e*PKP1	PKPdf	11 53 17.9	-0.8
comp=Z,71nm,1.3s							
IDI	**Anoyia**	**152.55**	**320**	PKP	PKPdf	11 53 17.6	-1.6
comp=Z,2.9nm,0.2s,baz=275,slow=14,SNR=6.8							
IDI				PKPbc	PKPdf	11 53 24.5	+5.3
comp=Z,20nm,1.0s,baz=38,slow=8.8,SNR=9.4							
VAM	**Vamos**	**152.89**	**321**	*e*P	PKPdf	11 53 26.0	+6.3
TIP	**Timpagrande**	**153.67**	**337**	*e*PKPbc	PKPdf	11 53 26.6	+6.0
EVO	**Evora**	**154.75**	**22**	*e*PKIKP	PKPdf	11 53 16.2	-5.9
comp=Z,37nm,1.4s							
EVO				*e*R			
comp=Z,2μm,21.2s							
ESDC	**Sonseca Array**	**154.90**	**14**	PKPbc	PKPdf	11 53 31.5	+9.2
comp=Z,0.2nm,0.3s,baz=351,slow=4.6,SNR=8.0							

IDC 26 12:12:07.1±3.3, 2.35N×96.36E, mb3.5/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=146.2km s-min=29.3km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.76**	**127**	P	P	12 20 22.7	-1.8
0.2nm,0.6s,baz=302,slow=7.9,SNR=4.7							
MKAR	**Makanchi Array**	**45.93**	**347**	P	P	12 20 32.0	-1.5
1.2nm,0.9s,baz=162,slow=7.7,SNR=9.6							
SONM	**Songino Array**	**46.13**	**9**	P	P	12 20 33.2	-1.8
0.5nm,0.5s,baz=188,slow=9.1,SNR=3.2							
BVAR	**Borovoye Array**	**54.89**	**341**	P	P	12 21 38.9	-2.8
0.5nm,0.6s,baz=124,slow=10,SNR=3.1							

*PRU **26** 12:19:03.7, 50.07N×18.37E*

WAR 26 12:19:01.9, 50.05N×18.47E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.18**	**282**	*e*PG	Pg	12 19 07.0	+1.5
RAC				*e*SG	Sg	12 19 10.0	+2.1
OKC	**Ostrava-Krasne**	**0.29**	**225**	*e*PG	Pg	12 19 08.3	+0.5
OKC				*e*SG	Sg	12 19 13.1	+1.4
OJC	**Ojcow**	**0.87**	**78**	*e*PG	Pg	12 19 19.0	-0.3
OJC				*e*SG	Sg	12 19 30.0	-0.9
NIE	**Niedzica**	**1.35**	**117**	*e*PG	Pg	12 19 27.0	-1.9
NIE				*i* SG	Sg	12 19 47.5	+0.6
DPC	**Dobruska-Polom**	**1.41**	**283**	*e*PG	Pg	12 19 28.3	-1.8
DPC				*e*SG	Sg	12 19 47.8	-1.2
VYHS	**Vyhne**	**1.57**	**171**	*e*PN	Pn	12 19 31.2	+0.1
VYHS				*e*SN	Sn	12 19 52.8	+0.4
KSP	**Ksiaz**	**1.60**	**301**	*e*Pn	Pn	12 19 30.6	-0.9
KSP				*e*Pg	Pg	12 19 33.9	-0.1
KSP				*e*Sg	Sg	12 19 54.4	-0.9
CRVS	**Cervenica-Dubn**	**2.26**	**119**	*e*PN	Pn	12 19 44.4	+3.4
CRVS				*e*SN	Sn	12 20 16.7	+6.7
PRU	**Pruhonice**	**2.54**	**270**	*e*PG	Pg	12 19 48.6	-3.9
PRU				*e*SG	Sg	12 20 21.4	-4.9
PVCC	**Panska Ves**	**2.55**	**282**	*e*PG	Pg	12 19 49.1	-3.7
KOLS	**Kolonicke sedl**	**2.72**	**113**	*e*PG	Pg	12 19 55.3	-0.9
KHC	**Kasperske Hory**	**3.31**	**256**	*e*PN	Pn	12 19 55.9	-0.1
KHC				*e*PG	Pg	12 20 02.5	-5.5
KHC				*e*SG	Sg	12 20 47.0	-5.2
CLL	**Collm**	**3.70**	**292**	*e*SG	Sg	12 21 03.0	-2.1
CLL	**Collm**	**3.70**	**292**	*e*Sg	Sg	12 21 03.0	-2.1

*IDC **26** 12:44:13.5±3.2, 0.45N×97.59E, mb3.5/5, mb1 3.6/5, mb1mx3.5/18, mbtmp3.5/5, Error ellipse: s-maj=140.1km s-min=23.4km az=56.0*

ISC 26 12:44:16.0±1.1, 0.4N±0.2×97.4E±0.3, h33km, n7, σ0°66/6, mb3.5/5, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.41**	**121**	P	P	**12 52 00.9**	**-0.3**
0.3nm,0.4s,mb3.2,baz=303,slow=8.8,SNR=4.5							
ASAR	**Alice Springs**	**42.72**	**127**	P	P	**12 52 12.2**	**+0.2**
0.2nm,0.4s,mb3.2,baz=295,slow=8.0,SNR=4.6							
SONM	**Songino Array**	**47.90**	**8**	P	P	**12 52 53.2**	**+0.2**
0.4nm,0.6s,mb3.7,baz=183,slow=10,SNR=3.6							
MKAR	**Makanchi Array**	**48.09**	**346**	P	P	**12 52 55.1**	**+0.6**
0.5nm,0.5s,mb3.8,baz=158,slow=8.1,SNR=7.9							
BVAR	**Borovoye Array**	**57.09**	**341**	P	P	**12 54 00.6**	**-0.9**
0.3nm,0.4s,mb3.6,baz=143,slow=7.2,SNR=3.4							
VNA2	**Neumayer--Watz**	**95.19**	**199**	⇑*i*	pP	12 57 47.5	0.0
VNA3	**Neumayer Olymp**	**95.82**	**198**	‖*i*	P	**12 57 39.9**	**+0.2**

IDC 26 12:55:45.4±5.2, 12.87S×167.30E, mb4.2/3, mb1 4.3/3, mb1mx3.8/15, mbtmp4.0/3, Error ellipse: s-maj=214.7km s-min=89.3km az=158.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**84.76**	**18**	P	P	13 08 21.4	-1.1
1.7nm,0.6s,baz=246,slow=5.2,SNR=26							
MKAR	**Makanchi Array**	**95.88**	**317**	P	P	13 09 14.0	-1.3
0.3nm,0.5s,baz=92,slow=6.2,SNR=2.6							
YKA	**Yellowknife Ar**	**95.89**	**27**	P	P	13 09 13.3	-1.7
0.2nm,0.6s,baz=259,slow=4.7,SNR=6.0							
ARCES	**ARCESS Array B**	**118.47**	**346**	PKP	PKPdf	13 14 34.4	-2.2
2.7nm,0.9s,baz=63,slow=2.0,SNR=3.7							

*DJA **26** 12:55:42.4±1.3, 8.22S×121.20E, h200km, MD4.7/3, Error ellipse: s-maj=43.0km s-min=8.2km az=120.0*
*NEIC **26** 12:55:46.8±0.6, 8.13S×120.58E, h10km, mb3.9/2, Error ellipse: s-maj=20.6km s-min=8.7km az=57.0*
*IDC **26** 12:55:50.7±4.8, 7.94S×

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.58**	**250**	PN	**P**	**13 03 32.5**	**0.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.58**	**250**	Pn	**P**	**13 03 32.5**	**0.0**
	comp=Z,0.6nm,0.3s,baz=81,slow=14,SNR=8.2						
MKAR	**Makanchi Array**	**47.49**	**297**	P	**P**	**13 09 45.8**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**47.49**	**297**	P	**P**	**13 09 45.8**	**-1.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=66,slow=7.8,SNR=8.8						
YKA	**Yellowknife Ar**	**48.98**	**38**	P	**P**	**13 09 58.8**	**+0.2**
	comp=Z,0.4nm,1.0s,mb3.4,baz=294,slow=6.3,SNR=4.5						
AB31	**Akbulak array**	**58.54**	**310**	⇑Pn	**S**	**13 19 09.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=0.2,slow=16						
AB31				⇓Lg		13 19 40.9	
	comp=Z,0.4nm,0.3s,baz=5.3,slow=23						
NOA	**NORSAR Array B**	**67.31**	**342**	P	**P**	**13 12 05.2**	**-1.7**
	comp=Z,0.1nm,0.3s,mb3.4,baz=58,slow=3.3,SNR=2.7						
HFS	**Hagfors**	**67.58**	**340**	P	**P**	**13 12 08.1**	**-0.5**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**67.58**	**340**	P	**P**	**13 12 08.1**	**-0.5**
	comp=Z,0.6nm,0.3s,mb4.0,baz=56,slow=5.2,SNR=6.1						
TXAR	**Lajitas Array**	**75.63**	**62**	P	**P**	**13 12 57.6**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=270,slow=2.7,SNR=4.6						
BRTR	**Keskin Array B**	**78.26**	**318**	P	**P**	**13 13 12.6**	**+0.9**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRTR	**Keskin Array B**	**78.26**	**318**	P	**P**	**13 13 12.6**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=56,slow=5.2,SNR=4.4						

*KNET **26** 13:10:02.4±0.5, 42.50N×75.86E, ml2.5, Error ellipse: s-maj=3.7km s-min=2.4km az=43.0*
*NNC **26** 13:10:02.2±3.8, 42.57N×75.90E, mpv2.9, Error ellipse: s-maj=69.7km s-min=12.1km az=168.0*

ISC 26 13:10:02.8±0.7, 42.50N±0.04×75.93E±0.07, h10km±9km, n12, σ0§50/21, 10C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.35**	**138**	P	**Pg**	**13 10 10.0**	**0.0**
	189nm,0.1s,SNR=1230						
ULHL				⇑S	**Sg**	**13 10 14.7**	**0.0**
	691nm,0.2s						
TKM2	**Tokmak 2**	**0.48**	**330**	⇓P	**Pg**	**13 10 12.6**	**-0.1**
	28nm,0.1s,SNR=446						
TKM2				⇑S	**Sg**	**13 10 19.5**	**+0.3**
	558nm,0.1s						
KZA	**Kyzart**	**0.66**	**230**	P	**Pb**	**13 10 15.6**	**-0.3**
	27nm,0.1s,SNR=84						
KZA				⇓S	**Sb**	**13 10 24.9**	**+0.1**
	67nm,0.1s						
KBK	**Karagaybulak**	**0.74**	**282**	⇑P	**Pb**	**13 10 17.1**	**-0.2**
	37nm,0.1s,SNR=39						
KBK				⇓S	**Sb**	**13 10 26.8**	**-0.3**
	127nm,0.1s						
CHMS	**Chumysh**	**1.00**	**300**	⇓P	**Pb**	**13 10 21.3**	**-0.4**
	8.0nm,0.1s,SNR=14						
CHMS				⇑S	**Sb**	**13 10 34.5**	**-0.2**
	148nm,0.1s						
AAK	**Ala-Archa**	**1.07**	**277**	⇑P	**Pb**	**13 10 22.6**	**-0.3**
	16nm,0.1s,SNR=36						
AAK				⇑S	**Sb**	**13 10 36.9**	**+0.2**
	113nm,0.4s						
AAK	**Ala-Archa**	**1.07**	**277**	⇑P	**Pb**	**13 10 22.4**	**-0.5**
	4.5nm,0.2s						
AAK				⇓S	**Sb**	**13 10 36.6**	**-0.1**
	98nm,0.6s						
UCH	**Uchtor**	**1.08**	**256**	⇑P	**Pb**	**13 10 22.8**	**-0.4**
	30nm,0.2s,SNR=40						
UCH				⇓S	**Sb**	**13 10 36.8**	**-0.3**
	18nm,0.2s						
USP	**Ospenovka**	**1.30**	**306**	⇓P	**Pb**	**13 10 26.6**	**-0.3**
	9.4nm,0.1s,SNR=26						
USP				⇓S	**Sb**	**13 10 43.6**	**+0.3**
	103nm,0.2s						
EKS2	**Erkin-Say**	**1.60**	**276**	P	**Pn**	**13 10 32.7**	**+1.5**
	SNR=18						
AML	**Almayashu**	**1.70**	**258**	⇑P	**Pn**	**13 10 33.9**	**+1.2**
	15nm,0.2s,SNR=30						
MK31	**Makanchi Array**	**6.24**	**44**	⇑Pn	**Pn**	**13 11 37.0**	**-0.3**
	0.4nm,0.5s,baz=223,slow=14						
MK31				⇓Lg		13 13 18.2	
	1.2nm,0.6s,baz=236,slow=29						

*LJU **26** 13:13:03.6, 46.31N×13.58E, h7km, ML1.7*

ISC 26 13:13:03.5±0.8, 46.30N±0.03×13.58E±0.04, h9km±8km, n13, σ0§49/24, 4C-5D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROBS	**Robic**	**0.07**	**218**	⇓*i*Pg	**Pg**	**13 13 05.7**	**-0.1**
ROBS				*i* Sg	**Sg**	**13 13 07.2**	**0.0**
	comp=Z,177nm,0.1s						
CADS	**Cadrg**	**0.13**	**124**	⇓*i*Pg	**Pg**	**13 13 06.3**	**-0.3**
CADS				*i* Sg	**Sg**	**13 13 08.6**	**-0.2**
	comp=Z,107nm,0.1s						
DRE	**Drenchia**	**0.14**	**160**	⇓*i*Pg	**Pg**	**13 13 06.5**	**-0.2**
DRE				*i* Sg	**Sg**	**13 13 08.6**	**-0.3**
LSR	**Lussari**	**0.18**	**349**	⇓*i*Pg	**Pg**	**13 13 07.2**	**-0.2**
LSR				*i* Sg	**Sg**	**13 13 10.4**	**+0.4**
COLI	**Coloredo**	**0.22**	**219**	⇑*e*Pg	**Pg**	**13 13 08.4**	**+0.2**
COLI				*e*Sg	**Sg**	**13 13 11.0**	**-0.3**
BAD	**Bernadia**	**0.24**	**254**	⇑*e*Pg	**Pg**	**13 13 08.6**	**0.0**
BAD				*e*Sg	**Sg**	**13 13 12.8**	**+0.8**
GORS	**Gorjuse**	**0.29**	**87**	*i* Pg	**Pg**	**13 13 09.2**	**-0.3**
GORS				*i* Sg	**Sg**	**13 13 13.8**	**+0.2**
	comp=Z,26nm,0.1s						
VOJS	**Vojsko**	**0.34**	**142**	*i* Pg	**Pg**	**13 13 10.2**	**-0.4**
VOJS				*i* Sg	**Sg**	**13 13 15.6**	**+0.2**
JAVS	**Javornik**	**0.53**	**140**	⇑*i*Pg	**Pg**	**13 13 13.3**	**-1.0**
JAVS				*i* Sg	**Sg**	**13 13 21.8**	**+0.4**
OBKA	**Obir**	**0.70**	**73**	⇓*i*PG	**Pg**	**13 13 17.4**	**-0.3**
OBKA				*i* SG	**Sg**	**13 13 27.5**	**+0.4**
	comp=Z,2.9nm,0.2s						
KBA	**Koelnbreinsper**	**0.79**	**348**	⇑*i*PG	**Pg**	**13 13 19.3**	**-0.1**
KBA				*i* SG	**Sg**	**13 13 29.9**	**-0.1**
	comp=Z,1.5nm,0.2s						
CEY	**Cerknica**	**0.82**	**133**	*i* Sg	**Sg**	**13 13 32.6**	**+1.7**
BOJS	**Bojanci**	**1.42**	**124**	*i* Sg	**Sg**	**13 13 50.3**	**-0.5**

IDC 26 13:26:43.5±1.8, 7.99S×120.65E, mb3.3/2, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=168.8km s-min=25.0km az=56.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.16**	**155**	Pn	P	13 29 25.4	-2.1
	0.4nm,0.3s,baz=90,slow=20,SNR=6.2						
WRA	**Warramunga Arr**	**17.80**	**133**	P	P	13 30 51.6	-2.9
	0.1nm,0.3s,baz=309,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**20.11**	**142**	P	P	13 31 19.4	-2.5
	0.4nm,0.6s,baz=313,slow=9.6,SNR=7.7						
MKAR	**Makanchi Array**	**64.33**	**332**	P	P	13 37 21.0	-2.3
	0.4nm,0.6s,baz=140,slow=7.6,SNR=6.2						

IDC 26 13:30:59.5±3.1, 4.31N×93.70E, mb3.8/3, mb1 4.0/4, mb1mx3.5/21, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=115.6km s-min=25.5km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.96**	**20**	Pn	P	13 34 33.1	-1.1
	0.2nm,0.3s,baz=211,slow=12,SNR=6.2						
FITZ	**Fitzroy Crossi**	**38.57**	**126**	P	P	13 38 24.9	-1.1
	1.1nm,0.3s,baz=90,slow=20,SNR=11						
MKAR	**Makanchi Array**	**43.46**	**349**	P	P	13 39 04.2	-1.8
	1.1nm,0.7s,baz=163,slow=8.1,SNR=11						
WRA	**Warramunga Arr**	**46.64**	**123**	P	P	13 39 29.0	-2.8
	0.7nm,1.0s,baz=303,slow=9.1,SNR=4.8						

*IDC **26** 13:37:04.1±3.6, 18.84S×174.84W, h56km±34km, mb4.0/7, mb1 4.2/8, mb1mx3.8/21, mbtmp4.3/8, Error ellipse: s-maj=49.2km s-min=19.7km az=135.0*
*NEIC **26** 13:37:04.1±1.7, 18.82S×174.88W, h60km±17km, mb4.6/3, Error ellipse: s-maj=22.1km s-min=12.5km az=129.0*

ISC 26 13:37:01.2±3.0, 18.9S±0.2×174.9W±0.2, h45km±33km, n15, σ0§86/13, mb4.4/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.78**	**32**	P	**P**	**13 38 26.4**	**-0.1**
	7.6nm,0.3s,baz=161,slow=13,SNR=17						
AFI				S	**S**	**13 39 25.2**	**-7.2**
	20nm,0.3s,baz=88,slow=19,SNR=6.8						
URZ	**Urewera**	**20.54**	**198**	P	**P**	**13 41 38.4**	**0.0**
	7.0nm,0.8s,baz=314,slow=9.4,SNR=5.2						
CTA	**Charters Tower**	**36.57**	**262**	P	**P**	**13 44 06.6**	**+1.8**
	4.9nm,0.4s,mb4.7,baz=104,slow=14,SNR=6.5						
STKA	**Stephens Creek**	**41.11**	**243**	P	**P**	**13 44 43.5**	**+1.0**
	0.6nm,0.4s,mb3.6,baz=93,slow=11,SNR=4.8						
WRAB	**Tennant Creek**	**47.71**	**260**	*e*P	**P**	**13 45 35.0**	**-0.7**
	6.0nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**47.72**	**260**	P	**P**	**13 45 35.7**	**-0.1**
	2.7nm,0.5s,mb4.6,baz=97,slow=7.2,SNR=54						
ASAR	**Alice Springs**	**47.73**	**255**	P	**P**	**13 45 35.8**	**-0.1**
	7.2nm,0.6s,mb4.8,baz=89,slow=8.3,SNR=80						
ASPA	**Alice Springs**	**47.73**	**255**	*e*P	**P**	**13 45 35.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**56.14**	**260**	P	**P**	**13 46 38.6**	**-0.2**
	5.1nm,0.5s,mb4.8,baz=276,slow=22,SNR=9.1						
MBWA	**Marble Bar**	**61.05**	**256**	*e*P	**P**	**13 47 10.8**	**-2.3**
	4.3nm,0.7s,mb4.7						
QSPA	**South Pole Qui**	**71.20**	**180**	*e*P	**P**	**13 48 16.8**	**0.0**
	1.1nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**86.11**	**12**	P	**P**	**13 49 38.6**	**+0.5**
	0.3nm,0.5s,mb3.8,baz=230,slow=6.1,SNR=9.7						
ARCES	**ARCESS Array B**	**127.80**	**351**	PKP	PKPdf	13 56 02.9	+1.3
	2.4nm,1.0s,baz=34,slow=3.3,SNR=3.8						
CLL	**Collm**	**147.02**	**351**	*e*PKP1	PKPdf	13 56 41.0	+4.2
GERES	**GERESS Array B**	**149.28**	**349**	PKPbc	PKPdf	13 56 45.3	+4.8
	0.5nm,0.5s,baz=27,slow=3.0,SNR=3.7						

*NEIC **26** 13:46:36.3±0.8, 32.79S×177.88W, h10km, mb5.0/5, Error ellipse: s-maj=18.8km s-min=13.7km az=119.0*
*IDC **26** 13:46:44.5±5.5, 32.86S×178.26W, h55km±46km, mb4.2/6, mb1 4.4/8, mb1mx4.0/18, mbtmp4.5/8, ML3.8/2, MS4.0/1, Ms1 4.0/1, ms1mx3.2/26, Error ellipse: s-maj=35.2km s-min=29.3km az=18.0*

ISC 26 13:46:32.7±2.4, 32.83S±0.06×177.8W±0.2, h2km±17km, n40, σ1§04/33, mb4.6/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.57**	**359**	Pn	**Pn**	**13 47 29.5**	**-0.7**
PUZ	**Puketiti**	**6.12**	**210**	PN	**Pn**	**13 48 06.6**	**+0.2**
PUZ				SN	**Sn**	**13 49 18.6**	**+0.7**
MWZ	**Matawai**	**6.66**	**213**	PN	**Pn**	**13 48 14.6**	**+0.6**
MWZ				SN	**Sn**	**13 49 32.0**	**+0.5**
URZ	**Urewera**	**6.80**	**216**	P	**Pn**	**13 48 17.9**	**+1.9**
	6.8nm,0.3s,baz=340,slow=2.5,SNR=28						
URZ				S	**Sn**	**13 49 33.1**	**-1.8**
	12nm,0.3s,baz=140,slow=23,SNR=10						
URZ	**Urewera**	**6.80**	**216**	PN	**Pn**	**13 48 15.6**	**-0.4**
URZ				SN	**Sn**	**13 49 33.8**	**-1.1**
BKZ	**Black Stump Fm**	**7.81**	**214**	PN	**Pn**	**13 48 30.4**	**+0.3**
MRZ	**Mangatainoka R**	**9.43**	**212**	PN	**P**	**13 48 49.6**	**-2.9**
MRZ				SN	**Sn**	**13 50 32.3**	**-8.1**
NNZ	**Nelson**	**10.92**	**217**	*e*SN	**S**	**13 51 06.8**	**-10**
THZ	**Tophouse**	**11.56**	**217**	PN	**P**	**13 49 22.4**	**+0.7**
THZ				SN	**S**	**13 51 22.2**	**-10**
MQZ	**McQueen's Vall**	**13.17**	**212**	*e*SN	**S**	**13 51 56.0**	**-16**
RPZ	**Rata Peaks**	**13.92**	**215**	P	**P**	**13 49 51.5**	**-1.8**
	1.4nm,0.3s,baz=188,slow=3.7,SNR=6.7						
RPZ				S	**S**	**13 52 14.6**	**-15**
	1.0nm,0.3s,baz=101,slow=21,SNR=4.9						
DZM	**Mont Dzumac**	**17.56**	**304**	P	**P**	**13 50 41.1**	**+0.8**
	0.1nm,0.3s,baz=300,slow=20,SNR=2.2						
DZM				LR	LR	13 56 03.4	
	comp=Z,508nm,19.8s,baz=213,slow=32						
STKA	**Stephens Creek**	**34.13**	**260**	P	**P**	**13 53 22.9**	**+1.8**
	0.9nm,0.5s,mb4.0,baz=95,slow=11,SNR=6.4						
CTA	**Charters Tower**	**34.39**	**283**	P	**P**	**13 53 24.8**	**+1.4**
	11nm,0.6s,mb5.0,baz=121,slow=10,SNR=19						
CTA	**Charters Tower**	**34.39**	**283**	P	**P**	**13 53 24.8**	**+1.4**
CTAO	**Charters Tower**	**34.39**	**283**	*e*P	**P**	**13 53 24.2**	**+0.9**
	11nm,0.5s,mb5.0						
ASAR	**Alice Springs**	**43.17**	**269**	P	**P**	**13 54 36.8**	**+0.2**
	6.0nm,0.7s,mb4.5,baz=111,slow=7.6,SNR=78						
ASPA	**Alice Springs**	**43.17**	**269**	*e*P	**P**	**13 54 36.8**	**+0.2**
WB2	**Warramunga Arr**	**44.36**	**275**	*e*P	**P**	**13 54 45.6**	**-0.7**
WRAB	**Tennant Creek**	**44.37**	**275**	*e*P	**P**	**13 54 46.0**	**-0.3**
	11nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**44.37**	**275**	P	**P**	**13 54 46.5**	**+0.1**
	6.2nm,0.4s,mb4.7,baz=113,slow=8.1,SNR=233						
FITZ	**Fitzroy Crossi**	**52.52**	**272**	P	**P**	**13 55 48.8**	**-0.9**
	6.7nm,0.7s,mb4.7,baz=114,slow=14,SNR=8.0						
MBWA	**Marble Bar**	**56.12**	**265**	*e*P	**P**	**13 56 14.2**	**-1.8**
	11nm,0.9s,mb4.9						
QSPA	**South Pole Qui**	**57.29**	**180**	*e*P	**P**	**13 56 29.2**	**+5.6**
	11nm,0.7s,mb5.0						
QSPA				*e*		13 56 38.8	
NVAR	**Mina Array Bea**	**89.93**	**43**	P	**P**	**13 59 39.9**	**+5.2**
	0.3nm,0.8s,mb3.7,baz=248,slow=4.9,SNR=3.8						
LPAZ	**La Paz**	**97.03**	**114**	P	**P**	**14 00 08.4**	**+0.7**
	3.5nm,0.7s,mb4.9						
MKAR	**Makanchi Array**	**119.42**	**309**	PKP	PKPdf	14 05 27.1	+1.4
	0.5nm,0.7s,baz=270,slow=1.2,SNR=5.7						
BVAR	**Borovoye Array**	**128.21**	**314**	PKP	PKPdf	14 05 44.0	+1.4
	1.1nm,0.7s,baz=117,slow=3.3,SNR=7.4						
ARCES	**ARCESS Array B**	**140.98**	**347**	PKhKP		14 06 03.1	
	1.4nm,0.7s,baz=76,slow=5.0,SNR=4.9						
JOF	**Joensuu**	**144.71**	**337**	*e*pkp	PKPdf	14 06 12.9	+0.6
KAF	**Kangasniemi**	**146.87**	**339**	*e*pkp	PKPdf	14 06 17.8	+1.8
	baz=41,slow=2.8						
FINES	**FINESS Array B**	**147.46**	**339**	PKPbc	PKPdf	14 06 20.8	+3.8
	10nm,0.7s,baz=63,slow=4.3,SNR=54						
FINES	**FINESS Array B**	**147.46**	**339**	PKPbc	PKPdf	14 06 20.8	+3.8
ASF	**Jabal al Asfar**	**150.77**	**278**	PKPbc	PKPdf	14 06 28.3	+5.2
	1.9nm,0.4s,slow=2.0,SNR=3.7						
NB2	**NORSAR Subarra**	**151.16**	**351**	PKPabc	PKPdf	14 06 30.1	+7.3
	1.4nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.16**	**351**	PKPbc	PKPdf	14 06 30.3	+7.5
	1.6nm,0.7s,baz=14,slow=4.1,SNR=11						
NOA	**NORSAR Array B**	**151.16**	**351**	PKPbc	PKPdf	14 06 30.3	+7.5
AKASG	**Malin Array Be**	**153.27**	**320**	PKPbc	PKPdf	14 06 35.1	+8.9
	1.0nm,0.4s,baz=57,slow=2.0,SNR=7.8						
BRTR	**Keskin Array B**	**153.79**	**294**	PKPbc	PKPdf	14 06 37.0	+10
	2.2nm,0.5s,baz=132,slow=3.5,SNR=11						
CLL	**Collm**	**159.90**	**340**	*i* PKP2	PKPab	14 07 14.7	+0.6

CASC 26 13:49:09.8±1.7, 13.35N×90.44W, h20km±7km, MD3.8, ML3.6, 4C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.82**	**359**	⇓*e*P	Pb	13 49 25.6	+0.3
IXG				*e*S	Sb	13 49 37.8	+1.9
IXG				AML	AML	13 49 43.2	
	comp=E,5μm,0.3s						
SBLS	**San Blas**	**0.93**	**58**	*e*P	Pb	13 49 27.1	-0.1
SBLS				*e*S	Sb	13 49 39.4	+0.3
RTR	**El Retiro**	**0.95**	**55**	⇑*e*P	Pb	13 49 26.6	-0.8
RTR				*e*S	Sb	13 49 41.1	+1.6
SNJE	**San Jose**	**0.96**	**57**	*e*P	Pb	13 49 27.5	-0.2
SNJE				*e*S	Sb	13 49 39.9	0.0
RBDL	**Robledal**	**1.06**	**44**	⇑*e*P	Pb	13 49 29.4	+0.2
RBDL				*e*S	Sb	13 49 44.7	+2.0
BOQS	**Boqueron**	**1.19**	**71**	*e*P	Pn	13 49 31.7	+0.1
BOQS				*e*S	Sb	13 49 48.4	+1.8
LFRS	**El Faro**	**1.37**	**78**	⇑*e*P	Pn	13 49 33.2	-0.8
LCBS	**La Ceiba**	**1.46**	**78**	⇑*e*P	Pn	13 49 34.6	-0.7
LCBS				*e*S	Sn	13 49 55.0	+1.1
JAT	**Jato**	**1.51**	**310**	*e*P	Pn	13 49 35.1	-1.0
JAT				*e*S	Sn	13 49 55.8	+0.4
JAT				AML	AML	13 49 56.2	
	comp=N,601nm,0.3s						
TP2	**Tecpan 2**	**1.54**	**339**	⇓*e*P	Pn	13 49 36.4	0.0
TP2				*e*S	Sn	13 49 56.9	+1.0
TP2				AML	AML	13 49 58.7	
	comp=N,523nm,0.4s						
SNVI	**San Vicente**	**1.58**	**80**	*e*P	Pn	13 49 37.5	+0.5
SNVI				*e*S	Sn	13 49 58.2	+1.1

*IDC **26** 13:53:06.0±2.1, 13.08N×51.10E, mb3.7/7, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, MS3.4/1, Ms1 3.4/1, ms1mx2.9/17, Error ellipse: s-maj=56.5km s-min=29.5km az=50.0*
*CSEM **26** 13:53:05.7±0.9, 13.49N×50.92E, h10km, ML3.5, Error ellipse: s-maj=36.9km s-min=7.9km az=151.0*

*OMAN **26** 13:53:10.4±0.8, 13.71N×50.65E, h30km, Error ellipse: s-maj=177.4km s-min=15.5km az=302.0*
*DHMR **26** 13:53:14.5±1.1, 13.34N×50.21E, h2km±928km, ML3.5*

ISC 26 13:53:06.1±0.7, 13.49N±0.08×50.96E±0.05, h10km, n16, σ1§29/19, mb3.7/7, MS3.3/1, 3C-5D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.10**	**298**	⇑*i*P	**Pn**	**13 53 43.4**	**+1.6**
MUKL				*i* S	**Sn**	**13 54 07.2**	**-1.1**
MUKL				AML	AML	13 54 09.4	
	comp=N,585nm,0.5s						
ABTO	**Aybut**	**4.45**	**30**	⇓P	**Pn**	**13 54 15.6**	**+0.3**
	SNR=7.8						
ABTO				⇓S	**Sn**	**13 55 06.1**	**-1.7**
RBK	**Rabkut**	**5.07**	**38**	⇓P	**Pn**	**13 54 24.8**	**+0.8**
	SNR=12						
WHFO	**Wadi Hawf**	**5.17**	**31**	⇑P	**Pn**	**13 54 25.7**	**+0.3**
	SNR=11						
WHFO				⇑S	**Sn**	**13 55 25.0**	**-0.8**
BDHA	**Al Bayda'**	**5.26**	**276**	⇓*i*P	**Pn**	**13 54 27.4**	**+0.7**
BDHA				*i* S	**Sn**	**13 55 23.1**	**-5.0**
LBOS		**5.56**	**275**	⇓*i*P	**Pn**	**13 54 31.4**	**+0.5**
TRBA	**At Turbah**	**6.66**	**269**	*i* P	**Pn**	**13 54 45.1**	**-1.4**
UDYN	**Al 'Udayn**	**6.81**	**275**	*i* P	**Pn**	**13 54 46.8**	**-1.7**
GNI	**Garni**	**27.11**	**350**	LR	LR	14 11 53.2	
	comp=N,77nm,19.5s,MS3.3,baz=292,slow=41						
AKASG	**Malin Array Be**	**41.10**	**339**	P	**P**	**14 00 54.2**	**+2.5**
	comp=N,0.2nm,0.3s,mb3.3,baz=151,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**42.33**	**32**	P	**P**	**14 01 03.6**	**+1.8**
	comp=N,0.4nm,0.6s,mb3.2,baz=225,slow=8.3,SNR=7.6						
CMAR	**Chiang Mai Arr**	**46.30**	**77**	P	**P**	**14 01 33.2**	**-0.9**
	comp=N,1.5nm,0.8s,mb4.0,baz=273,slow=8.4,SNR=9.9						
FINES	**FINESS Array B**	**51.14**	**345**	P	**P**	**14 02 14.4**	**+3.4**
	comp=N,0.4nm,0.5s,mb3.6,baz=162,slow=4.4,SNR=3.4						
SONM	**Songino Array**	**57.10**	**41**	P	**P**	**14 02 56.4**	**+1.3**
	comp=N,0.4nm,0.6s,mb3.6,baz=243,slow=6.4,SNR=4.1						
WRA	**Warramunga Arr**	**88.46**	**111**	P	**P**	**14 05 59.4**	**-1.2**
	comp=N,0.8nm,0.8s,mb4.0,baz=296,slow=4.1,SNR=6.6						
ASAR	**Alice Springs**	**89.03**	**114**	P	**P**	**14 06 02.3**	**-0.9**
	comp=N,1.0nm,1.1s,mb4.1,baz=284,slow=3.7,SNR=3.7						

IDC 26 13:54:52.9±2.2, 8.85S×129.89E, mb3.5/1, mb1 3.7/4, mb1mx3.5/14, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=87.5km s-min=29.3km az=77.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.08**	**204**	Pn	P	13 57 19.7	-2.4
	0.5nm,0.3s,baz=159,slow=19,SNR=8.2						
FITZ				Sn	S	13 59 08.4	-8.7
	0.9nm,0.3s,baz=79,slow=22,SNR=4.3						
WRA	**Warramunga Arr**	**11.84**	**159**	Pn	P	13 57 43.0	-3.1
	0.2nm,0.3s,baz=332,slow=13,SNR=5.2						
WRA				Sn	S	13 59 49.5	-11
	0.1nm,0.3s,baz=329,slow=22,SNR=3.5						
ASAR	**Alice Springs**	**15.22**	**166**	Pn	P	13 58 28.5	-2.5
	0.1nm,0.3s,baz=340,slow=9.8,SNR=4.9						
MKAR	**Makanchi Array**	**69.71**	**327**	P	P	14 06 04.6	-2.0
	0.3nm,0.6s,baz=111,slow=6.5,SNR=5.0						

*BJI **26** 14:01:39.3, 7.70N×93.82E, h32km, mB5.0, mb4.9, Ms4.7, Msz4.4*
*MOS **26** 14:01:40.3±1.1, 7.82N×93.95E, h33km, mb5.2/59, Error ellipse: s-maj=9.4km s-min=4.9km az=119.3*
*HRVD **26** 14:01:40.5±0.3, 7.74N×94.04E, h12km, MW4.9/46, Centroid moment Tensor Solution. LP body waves: s24,c29;Mantle waves: s46,c77; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.13±.10; $M_{\theta\theta}$-0.30±.09; $M_{\phi\phi}$2.44±.09; $M_{r\theta}$0.38±.37; $M_{\theta\phi}$1.00±.08; $M_{\phi r}$-1.20±.27; Best double couple: $M_0$2.788×10^{16} NP1:ϕ_s219°, δ37°, λ-57°. NP2:ϕ_s360°, δ59°, λ-113°. Principal axes: T 2.977, Plg12°, Azm106°; N -.372, Plg19°, Azm11°; P -2.6, Plg67°, Azm225°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 14:01:40.5±0.1, 7.81N×93.98E, mb5.0/62, MS4.5/67 Error ellipse: s-maj=5.9km s-min=3.8km az=222.0*
*IDC **26** 14:01:41.5±1.6, 7.87N×94.06E, h30km±10km, mb4.6/27, mb1 4.6/27, mb1mx4.6/27, mbtmp4.7/27, MS4.0/10, Ms1 4.1/10, ms1mx4.0/16, Error ellipse: s-maj=14.7km s-min=9.8km az=49.0*

**ISC 26 14:01:38.7±0.2, 7.73N±0.03×93.94E±0.03, h24km, h24km±.

comp=Z,127nm,0.8s,mb5.3
KAD Karad 21.49 298 *e*P **P 14 06 29.0 +1.0**
KKN Kakani 21.57 339 *e*P **P 14 06 27.9 -0.9**
comp=Z,173nm,0.7s,mb5.6
GKN Gorkha 22.00 338 *e*P **P 14 06 32.6 -0.5**
comp=Z,116nm,0.4s,mb5.6
LSA Lhasa 22.01 354 P **P 14 06 33.3 +0.1**
LSA AP 14 06 41.0
LSA S **S 14 10 30.3 +0.5**
LSA AMB AMB
comp=Z,20nm,0.8s,mb4.6
LSA AMB AMB
comp=Z,50nm,3.4s
LSA LR LR
comp=N,190nm,19.3s
LSA LR LR
comp=E,240nm,13.8s
LSA LR LR
comp=Z,290nm,17.9s,MS3.7
LSA Lhasa 22.01 354 *e*P **P 14 06 32.5 -0.7**
LSA pmax pmax
comp=Z,105nm,0.8s,mb5.3
LSA MLR MLR
comp=Z,413nm,22.0s,MS3.8
LSA Lhasa 22.01 354 *e*P **P 14 06 32.5 -0.7**
comp=Z,105nm,0.8s,mb5.3
LSA LR LR
comp=Z,413nm,22.0s,MS3.8
BHPL Bhopal 22.12 316 *e*P **P 14 06 35.4 +1.0**
BHPL *e* 14 06 44.8
comp=Z,69nm,1.3s
BHPL *e* 14 10 30.5
KKM Kota Kinabalu 22.18 93 *e*P **P 14 06 37.7 +2.8**
KKM Kota Kinabalu 22.18 93 P **P 14 06 37.8 +2.9**
KOLN Koldanda 22.21 335 *e*P **P 14 06 35.6 +0.4**
comp=Z,232nm,1.0s,mb5.6
GYA Guiyang 22.21 31⇓*i*P **P 14 06 36.5 +1.3**
GYA AP 14 06 43.5
GYA XP 14 06 46.8
GYA PP PP 14 07 03.3 +1.3
GYA S **S 14 10 38.3 +4.8**
GYA AMB AMB
comp=Z,40nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,140nm,3.6s
GYA LR LR
comp=N,710nm,12.5s,MS4.5
GYA LR LR
comp=E,960nm,12.0s,MS4.5
GYA LR LR
comp=Z,780nm,12.2s,MS4.3
POO Poona 22.29 301 *e*P **P 14 06 38.4 +2.4**
POO *e* 14 06 53.4
comp=Z,58nm,1.6s
TSM Tawau 24.04 97 P **P 14 06 55.8 +2.5**
CD2 Chengdu 24.82 20 P **P 14 07 01.8 +1.1**
CD2 PP PP 14 07 42.0 +4.2
CD2 S **S 14 11 24.5 +5.4**
CD2 AMB AMB
comp=Z,20nm,0.5s,mb4.9
CD2 LR LR
comp=N,780nm,10.2s
CD2 LR LR
comp=Z,1μm,10.8s,MS4.6
LGTI Lohaghat 25.16 331 *e*P **P 14 07 05.0 +1.1**
PTH Pithoragarh 25.25 331 *e*P **P 14 07 06.0 +1.2**
NDI New Delhi 26.14 325 *e*P **P 14 07 12.2 -0.9**
ENH Enshi 26.75 31 *e*P **P 14 07 18.2 -0.4**
comp=Z,24nm,1.0s,mb4.7
ENH LR LR
comp=Z,751nm,20.0s,MS4.2
XAN Xi'an 29.61 26 P **P 14 07 43.3 -1.2**
LZH Lanzhou 29.64 16⇑P **P 14 07 44.8 0.0**
LZH AP pP 14 07 52.3 +0.5
LZH XP sP 14 07 55.5 +0.6
LZH PP PP 14 08 41.5 +0.1
LZH *e*S **S 14 12 37.8 +0.3**
LZH SS SS 14 14 13.5 +1.5
LZH AMB AMB
comp=Z,31nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,130nm,4.0s
LZH LR LR
comp=E,750nm,9.5s
LZH LR LR
comp=Z,963nm,11.8s,MS4.7
TATO Taipei 31.40 54 PFAKE 14 08 10.0 +10
TATO LR LR
comp=Z,578nm,20.0s,MS4.2
GTA Gaotai 31.98 9 *e*P **P 14 08 05.0 -0.4**
GTA AP pP 14 08 12.5 +0.1
GTA XP sP 14 08 15.5 0.0
GTA PP PP 14 09 11.5 -0.3
GTA PPP PPP 14 09 25.5 -1.3
GTA PCP PcP 14 10 56.0 +0.8
GTA S **S 14 13 13.5 -0.8**
GTA SCP 14 14 36.0
GTA PCS 14 14 39.8
GTA SS SS 14 15 03.8 -3.3
GTA AMB AMB
comp=Z,11nm,0.9s,mb4.7
GTA AMB AMB
comp=Z,149nm,4.9s
GTA LR LR
comp=N,209nm,14.8s,MS4.2
GTA LR LR
comp=E,255nm,12.2s,MS4.2
GTA LR LR
comp=Z,216nm,15.6s,MS3.9
NJ2 Nanjing 33.51 40 *e*P **P 14 08 20.0 +1.3**
NJ2 AP pP 14 08 27.3 +1.5
NJ2 XP sP 14 08 31.0 +2.1
NJ2 PP PP 14 09 31.5 +0.3
NJ2 S **S 14 13 39.0 +0.9**
NJ2 XS 14 13 52.0
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
NJ2 AMB AMB
comp=Z,130nm,7.4s
NJ2 LR LR
comp=N,1μm,23.6s,MS4.6
NJ2 LR LR
comp=E,990nm,23.4s,MS4.6
NJ2 LR LR
comp=Z,590nm,21.2s,MS4.3
SSE Sheshan 34.47 44 P **P 14 08 24.0 -3.0**
SSE AP pP 14 08 33.0 -1.1
SSE S **S 14 13 52.3 -0.6**
SSE XS 14 14 08.0
SSE AMB AMB
comp=Z,12nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,36nm,5.1s
SSE LR LR
comp=N,273nm,23.7s,MS4.0
SSE LR LR
comp=E,170nm,23.6s,MS4.0
SSE LR LR
comp=Z,206nm,13.4s
WMQ Urumqi 36.37 352⇑P **P 14 08 43.3 +0.3**
WMQ AP pP 14 08 50.8 +0.7
WMQ XP sP 14 08 54.0 +0.9
WMQ PP PP 14 10 06.3 -0.4
WMQ PPP PPP 14 10 26.3 -0.4
WMQ PCP PcP 14 11 08.8 +1.2
WMQ *e*S **S 14 14 21.3 -0.8**
WMQ AMB AMB
comp=Z,38nm,0.6s,mb5.5
WMQ AMB AMB
comp=Z,61nm,4.3s
WMQ LR LR
comp=N,426nm,23.8s,MS4.2
WMQ LR LR
comp=E,216nm,20.5s,MS4.2
WMQ LR LR
comp=Z,186nm,20.5s,MS3.9
HHC Hu-ho-hao-te 36.53 23⇓P **P 14 08 45.0 +0.6**
HHC AP pP 14 08 52.0 +0.5
HHC XP sP 14 08 56.3 +1.8
HHC PP PP 14 10 09.5 +0.7
HHC PCP PcP 14 11 02.0 -6.1
HHC S **S 14 14 27.5 +2.8**
HHC XS 14 14 38.0
HHC SCP 14 14 52.3
HHC SCS ScS 14 18 56.8 -0.2
HHC AMB AMB
comp=Z,26nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,128nm,4.3s
HHC LR LR
comp=N,347nm,13.9s,MS4.5
HHC LR LR
comp=E,490nm,12.7s,MS4.5
HHC LR LR
comp=Z,287nm,14.5s,MS4.2
BJT Baijiatuau 37.81 28 *e*P **P 14 08 57.2 +2.1**
BJT pmax pmax
comp=Z,14nm,0.7s
BJT MLR MLR
comp=Z,411nm,19.0s
BJT Baijiatuau 37.81 28 *e*P **P 14 08 57.2 +2.0**
comp=Z,14nm,0.7s,mb4.8
BJT LR LR
comp=Z,411nm,19.0s,MS4.2
BJI Beijing 37.83 28 *e*P **P 14 08 57.0 +1.7**
BJI AP pP 14 09 04.3 +1.8
BJI XP sP 14 09 08.5 +3.0
BJI S **S 14 14 48.5 +4.0**
BJI AMB AMB
comp=Z,17nm,0.7s,mb4.9
BJI LR LR
comp=N,328nm,14.8s,MS4.4
BJI LR LR
comp=E,391nm,18.1s,MS4.4
BJI LR LR
comp=Z,195nm,14.2s,MS4.1
MBWA Marble Bar 38.28 139 *e*P **P 14 08 58.2 -1.1**
comp=Z,9.9nm,0.6s,mb4.7
UCH Uchtor 38.41 337 P **P 14 09 00.8 +0.7**
SNR=10
TKM2 Tokmak 2 38.59 338 P **P 14 09 01.7 0.0**
SNR=9.9
KBK Karagaybulak 38.60 337 P **P 14 09 02.6 +0.8**
SNR=14
AML Almayashu 38.66 336 P **P 14 09 02.8 +0.5**
SNR=27
AAK Ala-Archa 38.76 337 P **P 14 09 03.9 +0.8**
SNR=5.8
AAK Ala-Archa 38.76 337 *e*P **P 14 09 02.0 -1.1**
AAK pmax pmax
comp=Z,18nm,0.8s,mb4.8
AAK MLR MLR
comp=Z,107nm,20.0s,MS3.7
AAK Ala-Archa 38.76 337 *e*P **P 14 09 02.0 -1.1**
comp=Z,18nm,0.8s,mb4.8
AAK LR LR
comp=Z,107nm,20.0s,MS3.7
FRU Bishkek 38.88 337 *e*P **P 14 09 04.0 -0.1**
EKS2 Erkin-Say 39.07 336 P **P 14 09 06.0 +0.4**
SNR=8.7
USP Ospenovka 39.30 337 P **P 14 09 07.6 0.0**
SNR=12
MKAR Makanchi Array 40.19 348 P **P 14 09 14.2 -0.7**
comp=Z,7.6nm,0.9s,mb4.4,baz=171,slow=7.9,SNR=30
MKAR ScP 14 15 05.9
comp=Z,1.0nm,0.9s,baz=112,slow=6.5,SNR=4.2
MKAR LR LR 14 29 03.3
comp=Z,165nm,19.8s,MS3.9,baz=175,slow=41
MSEY Mahe Island 40.30 253 PFAKE 14 09 30.0 +14
MSEY LR LR
comp=Z,111nm,19.0s,MS3.7
KKAR Karatay Array 40.80 334 *i*P **P 14 09 19.6 -0.4**
KKAR pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
SONM Songino Array 41.35 13 P **P 14 09 23.9 -0.5**
comp=Z,13nm,0.8s,mb4.6,baz=194,slow=7.5,SNR=74
SONM PcP PcP 14 11 23.1 -0.1
comp=Z,2.9nm,0.8s,baz=180,slow=2.9,SNR=5.1
SONM ScP 14 15 10.3
comp=Z,1.3nm,0.8s,baz=202,slow=6.7,SNR=5.6
ULN Ulaanbaatar 41.52 13 *e*P **P 14 09 25.3 -0.6**
ULN pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
ULN MLR MLR
comp=Z,212nm,19.0s,MS4.0
ULN Ulaanbaatar 41.52 13 *e*P **P 14 09 25.3 -0.6**
comp=Z,10nm,0.8s,mb4.5
ULN LR LR
comp=Z,212nm,19.0s,MS4.0
ZAK Zakamensk 43.22 9⇓*i*P **P 14 09 39.4 -0.3**
ZAK *e* 14 11 27.0
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
MOY Mondy 44.19 6 *e*P **P 14 09 47.7 +0.2**
TLY Talaya 44.54 9 *e*P **P 14 09 49.6 -0.8**
TLY *e* 14 11 34.5
TLY *e*S **S 14 16 16.2 -7.7**
TLY pmax pmax
comp=Z,9.0nm,1.3s,mb4.4
TLY MLR MLR
comp=Z,76nm,13.0s,MS3.8
TLY Talaya 44.54 9 *e*P **P 14 09 50.5 0.0**
comp=Z,4.0nm,0.7s,mb4.4
TLY LR LR
comp=Z,22nm,20.0s
MUN Mundaring 44.84 153 *e*P **P 14 09 53.9 +0.8**
comp=Z,103nm,1.0s,mb5.6
MUN Mundaring 44.84 153 *e*P **P 14 09 53.9 +0.8**
MUN pmax pmax
comp=Z,103nm,1.0s,mb5.6
KLBR Kellerberrin 45.24 151 *e*P **P 14 09 56.6 +0.3**
comp=Z,897nm,1.1s
CN2 Changchun 45.26 32 *e*P **P 14 09 57.5 +1.3**
CN2 *e*XP sP 14 10 08.3 +1.9
CN2 *e*S **S 14 16 36.3 +2.0**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,11.0s,MS4.6
CN2 LR LR
comp=E,300nm,11.0s,MS4.6
CN2 LR LR
comp=Z,320nm,13.0s,MS4.4
NWAO Narrogin (SRO) 46.11 153 *e*P **P 14 10 03.1 0.0**
NWAO pmax pmax
comp=Z,13nm,0.6s
NWAO Narrogin (SRO) 46.11 153 P **P 14 10 03.5 +0.4**
comp=Z,15nm,0.5s,mb5.2,baz=319,slow=8.5,SNR=28
NWAO Narrogin (SRO) 46.11 153 *e*P **P 14 10 03.1 0.0**
comp=Z,13nm,0.6s,mb5.0
HIA Hailar 46.73 23⇓*e*P **P 14 10 07.8 0.0**
HIA pmax pmax
comp=Z,31nm,0.9s
HIA MLR MLR
comp=Z,163nm,21.0s
HIA Hailar 46.73 23⇓*e*P **P 14 10 07.8 0.0**
comp=Z,31nm,0.9s,mb5.2
HIA LR LR
comp=Z,163nm,21.0s,MS4.0
NVS Novosibirsk 47.76 352 *e*P **P 14 10 13.7 -2.1**
NVS *e*S **S 14 17 06.2 -3.6**
NVS pmax pmax
comp=N,22nm,0.8s
NVS pmax pmax
comp=Z,29nm,0.8s,mb5.4
NVS pmax pmax
comp=E,14nm,0.7s
NVS smax
comp=N,11nm,1.9s
NVS smax
comp=E,16nm,1.9s
MDJ Mudanjiang 48.04 34 P **P 14 10 18.8 +0.6**
MDJ AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
MDJ AMB AMB
comp=Z,41nm,3.2s
MDJ Mudanjiang 48.04 34 PFAKE 14 10 30.0 +12
MDJ LR LR
comp=Z,256nm,21.0s,MS4.2
WRA Warramunga Arr 48.34 125 P **P 14 10 19.3 -1.5**
comp=Z,13nm,0.5s,mb5.2,baz=305,slow=8.4,SNR=269
WRA PcP PcP 14 11 46.7 -0.9
comp=Z,2.3nm,0.5s,baz=314,slow=2.9,SNR=5.2
WRA ScP 14 15 36.9
comp=Z,1.4nm,0.9s,baz=322,slow=4.4,SNR=5.3
WRAB Tennant Creek 48.34 125 *i*P **P 14 10 19.8 -1.0**
WRAB Tennant Creek 48.34 125 *e*P **P 14 10 19.3 -1.5**
comp=Z,15nm,0.4s,mb5.4
WB2 Warramunga Arr 48.35 125⇓*i*P **P 14 10 19.3 -1.6**
BVA0 Borovoye Array 49.06 341 *i*P **P 14 10 24.8 -1.1**
BVA0 pmax pmax
comp=Z,3.0nm,1.5s,mb4.1
BVAR Borovoye Array 49.06 341 P **P 14 10 24.4 -1.5**
comp=Z,2.6nm,0.6s,mb4.4,baz=149,slow=8.6,SNR=12
BVAR PcP PcP 14 11 49.5 -0.3
comp=Z,4.7nm,0.8s,baz=146,slow=5.3,SNR=7.2
BVAR ScP 14 15 41.8
comp=Z,1.3nm,0.8s,baz=90,slow=3.0,SNR=5.5
MAJO Matsushiro 49.41 48 PFAKE 14 10 40.0 +11
MAJO LR LR
comp=Z,170nm,19.0s,MS4.1
MJAR Matsushiro Arr 49.41 48 P **P 14 10 28.0 -0.8**
comp=Z,1.5nm,0.7s,mb4.1,baz=238,slow=6.8,SNR=5.2
MJAR PcP PcP 14 11 51.1 -0.1
comp=Z,7.4nm,0.9s,baz=250,slow=4.0,SNR=13
MJAR LR LR 14 30 22.8
comp=Z,100nm,20.7s,MS3.8,baz=50,slow=35
CHKZ Chkalovo 49.55 342 *e*P **P 14 10 28.4 -1.3**
CHKZ *e* 14 11 51.1
CHKZ pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
CHKZ Chkalovo 49.55 342 *e*P **P 14 10 28.4 -1.3**
comp=Z,9.8nm,0.6s,mb5.0
CHKZ *e*PcP PcP 14 11 51.1 -0.4
ASPA Alice Springs 49.97 130 *e*P **P 14 10 31.9 -1.4**
ASAR Alice Springs 49.97 130 P **P 14 10 31.8 -1.5**
comp=Z,14nm,0.5s,mb5.2,baz=301,slow=8.0,SNR=185
ASAR PcP PcP 14 11 53.0 -0.5
comp=Z,8.0nm,0.9s,baz=303,slow=4.0,SNR=9.4
AB31 Akbulak array 50.26 332 P **P 14 10 34.3 -0.9**
AB31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
GUMO Guam 50.32 79 PFAKE 14 10 50.0 +14
GUMO LR LR
comp=Z,1μm,19.0s,MS4.9
FORT Forrest 50.35 141 *e*P **P 14 10 36.2 +0.1**
comp=Z,2μm,1.0s
KLR Kul'dur 52.11 31 *e*P **P 14 10 45.0 -4.2**
KLR MLR MLR
comp=Z,600nm,13.0s,MS4.8
BOD Bodaibo 52.34 13 *e*P **P 14 10 49.5 -1.3**
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.8
OPO Ambohidratompo 53.00 240 P **P 14 10 58.0 +1.7**
comp=Z,2.9nm,0.7s,mb4.3,baz=43,slow=7.1,SNR=7.8
GNI Garni 54.40 314 P **P 14 11 06.2 0.0**
comp=Z,3.0nm,0.3s,mb4.7,baz=280,slow=5.9,SNR=3.5
GNI Garni 54.40 314 P **P 14 11 06.2 0.0**
GNI LR LR
comp=Z,121nm,20.0s,MS4.0
CLNS Chul'man 54.64 20 *e*P **P 14 11 07.9 +0.1**
CLNS pmax pmax
comp=Z,38nm,0.8s,mb5.5
CLNS pmax pmax
comp=N,21nm,0.9s
CLNS pmax pmax
comp=E,18nm,0.8s
CLNS MLR MLR
comp=Z,300nm,13.0s,MS4.5
CLNS MLR MLR
comp=N,200nm,11.0s,MS4.5
CLNS MLR MLR
comp=E,100nm,12.0s,MS4.5
TI2 Plekhanov 55.01 316 *e*P **P 14 11 15.8 +5.0**
SVE Sverdlovsk 55.46 339 *e*P **P 14 11 13.9 +0.1**
SVE *e* pP 14 11 21.5 +0.4
SVE *e* 14 12 16.5
SVE *e*PPP PPP 14 14 28.0 -5.3
SVE *e*S **S 14 18 52.0 -3.5**
SVE *e*PS PS 14 19 15.0 +5.0
SVE MLR MLR
comp=N,300nm,17.0s
SVE MLR MLR
comp=Z,300nm,17.0s,MS4.4
PMG Port Moresby 55.68 107 P **P 14 11 16.0 +0.1**
comp=Z,27nm,0.8s,mb5.3,baz=309,slow=5.9,SNR=5.4
ARU Arti 55.95 337 *i*P **P 14 11 16.2 -1.0**
ARU pmax pmax
comp=Z,16nm,1.7s,mb4.8
ARU Arti 55.95 337 *e*P **P 14 11 15.9 -1.4**
comp=Z,13nm,0.8s,mb5.0
ARU LR LR
comp=Z,75nm,21.0s,MS3.8
ZEI Tsey 56.01 317 *e*P **P 14 11 16.7 -1.2**
ZEI *i* *PP pP 14 11 26.4 +1.1
ZEI *i* 14 13 21.5
ZEI pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
YSS Yuzh-Sakhalins 57.02 38⇑*i*P **P 14 11 25.0 -0.1**
YSS *e* pP 14 11 32.7 +0.2
YSS Yuzh-Sakhalins 57.02 38 *e*P **P 14 11 24.8 -0.3**
comp=Z,23nm,0.8s,mb5.2
YSS *e* pP 14 11 32.1 -0.4
YSS LR LR
comp=Z,150nm,22.0s,MS4.0
KMBO Kilima Mbogo 57.21 264 *e*P **P 14 11 28.2 +1.3**
KMBO pmax pmax
comp=Z,14nm,0.9s
KMBO MLR MLR
comp=Z,286nm,21.0s
KMBO Kilima Mbogo 57.21 264 P **P 14 11 28.8 +1.9**
comp=Z,8.8nm,0.9s,mb4.8,baz=53,slow=10,SNR=19
KMBO LR LR 14 33 22.4
comp=Z,234nm,18.2s,MS4.3,baz=277,slow=33
KMBO Kilima Mbogo 57.21 264 *e*P **P 14 11 28.2 +1.3**
comp=Z,14nm,0.9s,mb5.0
KMBO LR LR
comp=Z,286nm,21.0s,MS4.3
KIV Kislovodsk 57.29 318*d i*P **P 14 11 25.7 -1.4**
KIV pmax pmax
comp=Z,17nm,1.0s,mb5.0
ASF Jabal al Asfar 58.13 303 P **P 14 11 32.8 -0.3**
comp=Z,4.6nm,0.7s,mb4.6,baz=18,slow=5.5,SNR=6.7
CTA Charters Tower 58.41 119 P **P 14 11 32.8 -2.4**
comp=Z,5.9nm,0.9s,mb4.6,baz=333,slow=3.8,SNR=3.8
CTAO Charters Tower 58.41 119 PFAKE 14 11 50.0 +15
CTAO LR LR
comp=Z,340nm,20.0s,MS4.5
SOKR Solikamsk 58.86 339⇓*i*P **P 14 11 42.1 +4.3**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.2
SOKR MLR MLR
comp=Z,350nm,21.0s,MS4.5
SOC Sochi 59.15 317 *e*P **P 14 11 36.2 -3.8**
SOC *e* 14 12 23.9
SOC *e* 14 13 44.8
SOC *e*S **S 14 19 42.2 -2.1**
SOC *e* 14 21 23.3
SOC *e*SS SS 14 23 38.2 -2.1
SOC pmax pmax
comp=N,4.0nm,0.4s
SOC pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
SOC pmax pmax
comp=E,8.0nm,0.5s
EIL Elat 59.33 300 P **P 14 11 41.7 +0.3**
comp=E,8.2nm,0.8s,mb4.8,baz=105,slow=18,SNR=5.9
EIL Elat 59.33 300 *e*P **P 14 11 41.7 +0.2**
comp=E,9.9nm,0.6s,mb5.0
ADE Adelaide 59.89 138 P **P 14 11 45.0 -0.3**
STKA Stephens Creek 60.15 134⇓*i*P **P 14 11 45.6 -1.5**
comp=E,9.2nm,0.9s,mb4.8
STKA Stephens Creek 60.15 134 P **P 14 11 45.7 -1.4**
comp=E,10nm,0.8s,mb4.9,baz=312,slow=7.5,SNR=27
YAK Yakutsk 60.20 19 *e*P **P 14 11 45.5 -1.5**
YAK pmax pmax
comp=Z,45nm,0.9s,mb5.5
YAK MLR MLR
comp=Z,47nm,19.0s,MS3.6
YAK Yakutsk 60.20 19 *e*P **P 14 11 45.5 -1.5**
comp=Z,45nm,0.9s,mb5.5
YAK LR LR
comp=Z,47nm,19.0s,MS3.6
BRTR Keskin Array B 62.37 311 P **P 14 12 00.0 -2.0**
comp=Z,5.5nm,0.7s,mb4.8,baz=123,slow=7.5,SNR=32
MBAR Mbarara 63.55 265 *e*P **P 14 12 10.6 +0.3**
MBAR pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MBAR MLR MLR
comp=Z,81nm,20.0s,MS3.9
MBAR Mbarara 63.55 265 *e*P **P 14 12 10.6 +0.3**
comp=Z,8.4nm,1.0s,mb4.7

MBAR LR LR
comp=Z,81nm,20.0s,MS3.9
MOS Moscow 65.10 329 *eP* **P 14 12 22.6 +3.0**
MOS *e* 14 12 58.2
OBN Obninsk 65.40 328 *ceP* **P 14 12 19.9 -1.6**
OBN *eS* S 14 21 20.2 +17
OBN *i* SS SS 14 25 22.5 +4.7
OBN *i* SSS SSS 14 28 15.6 +5.0
OBN pmax pmax
comp=Z,36nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.3
OBN Obninsk 65.40 328 PFAKE 14 12 30.0 +8.5
OBN LR LR
comp=Z,41nm,20.0s,MS3.6
TOO Toolangi 65.89 137 *eP* **P 14 12 25.7 +0.7**
comp=Z,24nm,0.8s,mb5.3
TOO Toolangi 65.89 137 *eP* **P 14 12 25.7 +0.7**
TOO pmax pmax
comp=Z,24nm,0.8s,mb5.3
TIXI Tiksi 67.41 11 *i P* **P 14 12 32.3 -1.8**
TIXI pmax pmax
comp=Z,13nm,0.8s,mb5.0
TIXI MLR MLR
comp=Z,100nm,19.0s,MS4.1
TIXI Tiksi 67.41 11 PFAKE 14 12 50.0 +16
TIXI LR LR
comp=Z,145nm,19.0s,MS4.2
CNB Canberra Magne 67.47 133 *eP* **P 14 12 34.7 -0.4**
comp=Z,302nm,0.8s
HNR Honiara 67.92 103 *eP* **P 14 12 38.3 0.0**
HNR pmax pmax
comp=Z,78nm,0.9s,mb5.7
HNR Honiara 67.92 103 P **P 14 12 37.7 -0.5**
comp=Z,84nm,0.8s,mb5.8,baz=206,slow=2.5,SNR=8.2
HNR Honiara 67.92 103 *eP* **P 14 12 38.3 0.0**
comp=Z,78nm,0.9s,mb5.7
AKASG Malin Array Be 68.14 322 P **P 14 12 36.6 -2.5**
comp=Z,4.4nm,0.8s,mb4.6,baz=88,slow=4.9,SNR=19
PET Petropavlovsk 68.77 36 *i P* **P 14 12 41.8 -1.1**
PET pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
LSZ Lusaka 69.03 250⇓ *eP* **P 14 12 46.1 +1.0**
LSZ pmax pmax
comp=Z,16nm,0.8s,mb5.0
LSZ MLR MLR
comp=Z,256nm,19.0s,MS4.5
LSZ Lusaka 69.03 250⇓ *eP* **P 14 12 46.0 +0.9**
comp=Z,16nm,0.8s,mb5.0
LSZ LR LR
comp=Z,256nm,19.0s,MS4.5
SEY Seymchan 69.14 25 *eP* **P 14 12 46.9 +1.9**
SEY *e* 14 13 10.8
SEY *e* 14 15 21.5
SEY *eS* S 14 21 54.7 +7.0
SEY 14 22 45.2
SEY pmax pmax
comp=N,10.0nm,0.9s
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.0
SEY pmax pmax
comp=N,5.0nm,0.8s
SEY smax
comp=N,100nm,18.2s
SEY smax
comp=E,190nm,18.2s
SEY MLR MLR
comp=Z,400nm,16.0s,MS4.8
SEY MLR MLR
comp=N,170nm,17.0s,MS4.5
SEY MLR MLR
comp=E,150nm,15.0s,MS4.5
JOF Joensuu 70.89 335 *ep* **P 14 12 53.7 -2.0**
comp=E,18nm,0.8s,mb5.1
WAKE Wake Island 71.22 72 PFAKE 14 13 10.0 +12
WAKE LR LR
comp=Z,6μm,19.0s
APA Apatity 71.92 339⇑ *eP* **P 14 13 02.4 +0.7**
APA *i* 14 13 14.0
APA pmax pmax
comp=Z,20nm,0.8s,mb5.1
APA MLR MLR
comp=Z,600nm,20.0s,MS4.9
KOLS Kolonicke sedl 72.18 319 *eP* **P 14 13 03.2 -0.4**
KOLS *epP* pP 14 13 10.5 -0.6
SUW Suwalki 72.51 324 *eP* **P 14 13 04.2 -1.3**
FINES FINESS Array B 72.75 332 P **P 14 13 05.7 -1.1**
comp=Z,17nm,0.7s,mb5.1,baz=104,slow=7.9,SNR=88
FINES LR LR 14 49 45.0
comp=Z,106nm,20.9s,MS4.1,baz=149,slow=40
KAF Kangasniemi 72.83 333 *ep* **P 14 13 05.6 -1.6**
comp=Z,15nm,0.9s,mb4.9,baz=104,slow=5.6
KAF Kangasniemi 72.83 333 *eP* **P 14 13 05.6 -1.6**
KAF pmax pmax
comp=Z,15nm,0.9s,mb4.9
OJC Ojcow 73.96 320 *eP* **P 14 13 13.3 -0.7**
LBTB Lobatse 74.00 241 PFAKE 14 13 30.0 +15
LBTB LR LR
comp=Z,129nm,19.0s,MS4.2
VYHS Vyhne 74.38 318 *eP* **P 14 13 15.9 -0.6**
CASY Casey 74.81 173 PFAKE 14 13 30.0 +11
CASY LR LR
comp=Z,397nm,21.0s,MS4.7
OKC Ostrava-Krasne 74.97 319 *eP* pP 14 13 25.5 -1.9
OKC Ostrava-Krasne 74.97 319 *epP* pP 14 13 25.5 -1.9
ARCES ARCESS Array B 75.33 340 P **P 14 13 20.5 -1.1**
comp=Z,5.1nm,0.8s,mb4.5,baz=103,slow=5.2,SNR=15
ARCES LR LR 14 49 33.4
comp=Z,282nm,20.9s,MS4.5,baz=116,slow=38
ARCES ARCESS Array B 75.33 340 P **P 14 13 20.5 -1.1**
BOSA Boshof 75.34 238 P **P 14 13 23.5 +1.1**
comp=Z,24nm,0.9s,mb5.1,baz=85,slow=5.4,SNR=23
BOSA LR LR 14 45 39.3
comp=Z,104nm,18.6s,MS4.2,baz=250,slow=35
MORC Moravsky Berou 75.36 319 *eP* **P 14 13 21.4 -0.7**
MORC pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MORC Moravsky Berou 75.36 319 *eP* **P 14 13 21.4 -0.7**
comp=Z,8.9nm,0.9s,mb4.7
ZST Bratislava 75.51 318 *eP* **P 14 13 22.8 -0.2**
DPC Dobruska-Polom 76.19 320 *eP* **P 14 13 26.8 0.0**
DPC *epP* pP 14 13 34.2 -0.2
DPC AMS AMS 14 53 00.0
comp=Z,100nm,17.0s
KSP Ksiaz 76.25 320 *eP* **P 14 13 26.8 -0.3**
KSP *e*PP* pP 14 13 34.2 -0.5
KSP Ksiaz 76.25 320 *eP* **P 14 13 27.5 +0.4**
KSP *e* pP 14 13 34.5 -0.2
BILL Bilibino 76.30 22⇑ *i P* **P 14 13 26.8 -0.2**
BILL pmax pmax
comp=Z,17nm,1.7s,mb4.7
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.5
BILL Bilibino 76.30 22 *eP* **P 14 13 26.7 -0.4**
comp=Z,7.5nm,0.8s,mb4.7
BILL LR LR
comp=Z,160nm,20.0s,MS4.3
UPC Upice 76.40 320 *eP* **P 14 13 27.8 -0.2**
UPC *epP* pP 14 13 33.5 -2.0
BOJS Bojanci 76.60 315 *eP* **P 14 13 28.8 -0.5**
BOJS *i* pP 14 13 35.6 -1.2
PERS Pernice 76.75 316 *eP* **P 14 13 29.4 -0.6**
PERS *e* pP 14 13 36.7 -0.9
VISS Visnje 76.91 315 *eP* **P 14 13 30.7 -0.2**
VISS *e* 14 13 36.1
PRU Pruhonice 77.31 319 *eP* **P 14 13 33.0 0.0**
PRU *epP* pP 14 13 40.1 -0.5
PRU AMS AMS 14 53 10.0
comp=Z,100nm,15.4s
PVCC Panska Ves 77.32 320 *eP* pP 14 13 40.8 +0.1
PVCC MLR MLR
comp=Z,100nm,22.7s,MS4.1
PVCC Panska Ves 77.32 320 *epP* pP 14 13 40.8 +0.1
PVCC AMS AMS 14 53 50.0
comp=Z,100nm,22.7s
BRG Berggiesshubel 77.74 320 *eP* **P 14 13 35.6 +0.2**
BRG *e* pP 14 13 42.3 -0.6
BRG *e* 14 13 49.1
BRG pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
BRG Berggiesshubel 77.74 320 *eP* **P 14 13 35.6 +0.2**
comp=Z,6.5nm,0.9s,mb4.6
BRG *e* pP 14 13 42.3 -0.6
BRG *e* 14 13 49.1
GEC2 GERESS Array S 77.80 318 *eP* **P 14 13 35.8 0.0**
GEC2 pmax pmax
comp=Z,11nm,0.9s,mb4.8
GEC2 GERESS Array S 77.80 318 *eP* **P 14 13 35.8 0.0**
comp=Z,11nm,0.9s,mb4.8
GERES GERESS Array B 77.80 318 P **P 14 13 35.7 -0.1**
comp=Z,6.2nm,0.7s,mb4.7,baz=90,slow=5.3,SNR=42
GERES LR LR 14 52 45.2
comp=Z,55nm,19.8s,MS3.9,baz=349,slow=39
KHC Kasperske Hory 77.89 319 *eP* **P 14 13 36.2 -0.1**
KHC *epP* pP 14 13 43.3 -0.5
KHC AMS AMS 14 52 30.0
comp=Z,100nm,22.7s
SMY Shemya 77.93 38 PFAKE 14 13 50.0 +14
SMY LR LR
comp=Z,2μm,20.0s,MS5.5
CLL Collm 78.35 321 *eP* **P 14 13 39.0 +0.3**
CLL *e* pP 14 13 45.0 -1.3
CLL Collm 78.35 321 P **P 14 13 39.0 +0.3**
CLL *e*PP* pP 14 13 45.0 -1.3
MAW Mawson 78.35 192 P **P 14 13 39.9 +1.5**
comp=Z,6.0nm,0.7s,mb4.6,baz=14,slow=4.5,SNR=13
WET Wettzell 78.35 319 *eP* **P 14 13 38.8 0.0**
WET pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WET Wettzell 78.35 319 *eP* **P 14 13 38.8 0.0**
comp=Z,7.0nm,0.9s,mb4.6
MOR8 Moi Rana 78.73 336 *eP* **P 14 13 39.7 -0.8**
MOR8 *epP* pP 14 13 47.4 -0.7
MOR8 AMb AMB 14 13 48.2
comp=Z,25nm,0.8s,mb5.2
MOX Moxa 79.21 320 *eP* **P 14 13 43.2 -0.2**
MOX pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
MOX Moxa 79.21 320 *eP* **P 14 13 43.2 -0.2**
comp=Z,8.0nm,1.3s,mb4.5
MOX Moxa 79.21 320 *i P* **P 14 13 43.2 -0.2**
LOF Lofoten 79.29 338 *eP* **P 14 13 45.6 +2.0**
GRA1 Grafenberg Arr 79.45 319 *eP* **P 14 13 45.1 +0.4**
comp=Z,15nm,0.8s,mb5.0
GRA1 *epP* pP 14 13 52.9 +0.5
GRF Grafenberg Arr 79.45 319 *eP* **P 14 13 45.1 +0.4**
GRF *e*PP* pP 14 13 52.9 +0.5
GRF pmax pmax
comp=Z,15nm,0.8s,mb5.0
GRF Grafenberg Arr 79.45 319 *eP* **P 14 13 45.1 +0.4**
GRF *e*PP* pP 14 13 52.9 +0.5
GRF pmax pmax
comp=Z,15nm,0.8s,mb5.0
GRF Grafenberg Arr 79.45 319 *eP* **P 14 13 45.1 +0.4**
comp=Z,15nm,0.8s,mb5.0
GRF *epP* pP 14 13 52.9 +0.5
NB2 NORSAR Subarra 79.76 331 P **P 14 13 45.2 -1.0**
comp=Z,17nm,0.7s,mb5.1,baz=92,slow=5.6
NB2 NORSAR Subarra 79.76 331 P **P 14 13 45.2 -1.0**
NB2 pmax pmax
comp=Z,17nm,0.7s,mb5.1
NB2 NORSAR Subarra 79.76 331 P **P 14 13 45.2 -1.0**
baz=92,slow=5.9
NOA NORSAR Array B 79.76 331 P **P 14 13 45.4 -0.8**
comp=Z,8.2nm,0.7s,mb4.8,baz=93,slow=5.6,SNR=46
NOA LR LR 14 52 53.4
comp=Z,98nm,21.2s,MS4.1,baz=115,slow=38
NOA NORSAR Array B 79.76 331 P **P 14 13 45.4 -0.8**
TSUM Tsumeb 79.79 249 *eP* **P 14 13 48.6 +1.4**
comp=Z,6.2nm,0.9s,mb4.5
TSUM *e* pP 14 13 56.8 +2.0
TSUM LR LR
comp=Z,316nm,21.0s,MS4.6
CLZ Clausthal 80.00 321 *eP* **P 14 13 47.7 0.0**
comp=Z,12nm,1.0s,mb4.8
BSEG Bad Segeberg 80.05 323 *eP* **P 14 13 48.2 +0.3**
KONO Kongsberg 80.52 329 *eP* **P 14 13 49.1 -1.2**
KONO *e* pP 14 13 57.1 -0.8
KONO pmax pmax
comp=Z,28nm,1.4s,mb5.0
KONO MLR MLR
comp=Z,190nm,21.0s,MS4.4
KONO Kongsberg 80.52 329 *eP* **P 14 13 49.1 -1.2**
comp=Z,28nm,1.4s,mb5.0
KONO *e* pP 14 13 57.1 -0.8
KONO LR LR
comp=Z,190nm,21.0s,MS4.4
PGF Pioggiola 81.11 312 *eP* **P 14 13 53.8 +0.1**
TNS Taunus Mts 81.23 320 *eP* **P 14 13 54.4 +0.2**
TNS pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TNS Taunus Mts 81.23 320 *eP* **P 14 13 54.4 +0.2**
comp=Z,7.0nm,0.7s,mb4.7
BFO Black Forest 81.37 318 *eP* **P 14 13 54.5 -0.5**
BFO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BFO Black Forest 81.37 318 *eP* **P 14 13 54.5 -0.5**
comp=Z,5.0nm,0.8s,mb4.5
MOL Molde 81.53 332 *eP* **P 14 13 56.0 +0.5**
MOL AMb AMB 14 13 58.4
comp=Z,34nm,1.0s,mb5.2
MOL *epP* pP 14 14 03.4 +0.3
CDF Champ du Feu 82.07 318 *eP* **P 14 13 58.4 -0.2**
comp=Z,11nm,0.8s,mb4.6
CDF Champ du Feu 82.07 318 *eP* **P 14 13 58.4 -0.2**
CDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SBF Sospel 82.19 313 *eP* **P 14 13 59.5 +0.2**
comp=Z,64nm,0.7s,mb5.3
SBF Sospel 82.19 313 *eP* **P 14 13 59.5 +0.2**
SBF pmax pmax
comp=Z,32nm,0.7s,mb5.4
LPG La Plagne 82.58 315 *eP* **P 14 14 02.0 +0.7**
comp=Z,36nm,0.6s,mb5.3
LPG La Plagne 82.58 315 *eP* **P 14 14 02.0 +0.7**
LPG pmax pmax
comp=Z,18nm,0.6s,mb5.3
LPL La Plagne 82.59 315 *eP* **P 14 14 02.0 +0.6**
comp=Z,64nm,0.7s,mb5.5
LPL La Plagne 82.59 315 *eP* **P 14 14 02.0 +0.6**
LPL pmax pmax
comp=Z,32nm,0.7s,mb5.5
MBDF Montbardon 82.61 314 *eP* **P 14 14 01.2 -0.3**
comp=Z,16nm,0.6s,mb4.9
MBDF Montbardon 82.61 314 *eP* **P 14 14 01.2 -0.3**
MBDF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
BNI Bardonecchia 82.66 314 *eP* **P 14 14 03.9 +2.2**
BNI pmax pmax
comp=Z,21nm,0.8s,mb5.2
BNI Bardonecchia 82.66 314 *eP* **P 14 14 03.9 +2.1**
comp=Z,21nm,0.8s,mb5.2
HAU Haudompre 82.71 317 *eP* **P 14 14 01.8 -0.1**
comp=Z,45nm,0.9s,mb5.2
HAU *eR*
comp=Z,63nm,21.5s
FRF La Foret Royal 82.78 313 *eP* **P 14 14 02.0 -0.4**
comp=Z,22nm,0.8s,mb5.0
FRF La Foret Royal 82.78 313 *eP* **P 14 14 02.0 -0.4**
FRF pmax pmax
comp=Z,11nm,0.8s,mb4.9
CABF La Chapelle 82.97 316 *eP* **P 14 14 03.1 -0.2**
comp=Z,28nm,1.0s,mb5.0
CABF La Chapelle 82.97 316 *eP* **P 14 14 03.1 -0.2**
CABF pmax pmax
comp=Z,14nm,1.0s,mb5.0
ORIF Oris-en-Rattie 83.23 314 *eP* **P 14 14 04.6 -0.1**
comp=Z,19nm,0.7s,mb4.9
ORIF *eR*
comp=Z,109nm,22.8s
VIVF Saint-Julien-l 84.09 314 *eP* **P 14 14 09.3 +0.2**
comp=Z,20nm,0.8s,mb5.0
VIVF Saint-Julien-l 84.09 314 *eP* **P 14 14 09.3 +0.2**
VIVF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
LOR Lormes 84.44 317 *eP* **P 14 14 10.9 +0.1**
comp=Z,21nm,0.8s,mb5.0
LOR *eR*
comp=Z,49nm,18.2s
SMF Signal de Mont 84.51 316 *eP* **P 14 14 11.2 0.0**
comp=Z,27nm,0.8s,mb5.1
SMF Signal de Mont 84.51 316 *eP* **P 14 14 11.2 0.0**
SMF pmax pmax
comp=Z,14nm,0.8s,mb5.1
SSF Saint Saulge 84.70 317 *eP* **P 14 14 12.8 +0.7**
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
SSF Saint Saulge 84.70 317 *eP* **P 14 14 12.8 +0.7**
comp=Z,5.9nm,0.8s,mb4.8
LASF Ste Croix 84.75 314 *eP* **P 14 14 12.3 -0.1**
comp=Z,23nm,1.1s,mb4.9
AVF Avril sur Loir 84.83 316 *eP* **P 14 14 12.8 0.0**
comp=Z,15nm,0.7s,mb4.9
AVF Avril sur Loir 84.83 316 *eP* **P 14 14 12.8 0.0**
AVF pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
SYO Syowa Base 85.21 197 ⇑P **P 14 14 15.0 +0.9**
SYO Syowa Base 85.21 197 ⇓*pP* pP 14 14 26.0 +4.2
TCF Toulx Ste Croi 85.67 316 *eP* **P 14 14 17.4 +0.4**
CAF Calviac 85.93 315 *eP* **P 14 14 18.9 +0.6**
MTLF Montolieu 86.01 313 *eP* **P 14 14 19.3 +0.6**
comp=Z,17nm,0.8s,mb5.0
MTLF Montolieu 86.01 313 *eP* **P 14 14 19.3 +0.6**
MTLF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
RJF Les Rejaudoux 86.27 315 *eP* **P 14 14 20.8 +0.8**
comp=Z,14nm,0.7s,mb5.0
RJF *eR*
comp=Z,105nm,22.2s
LFF La Frestale 86.86 315 *eP* **P 14 14 23.7 +0.8**
LDF La Druitiere 86.95 318 *eP* **P 14 14 23.5 +0.3**
comp=Z,24nm,0.9s,mb5.1
LDF La Druitiere 86.95 318 *eP* **P 14 14 23.5 +0.3**
LDF pmax pmax
comp=Z,12nm,0.9s,mb5.1
MFF Saint Martin d 87.25 316 *eP* **P 14 14 25.0 +0.3**
comp=Z,24nm,0.9s,mb5.1
MFF Saint Martin d 87.25 316 *eP* **P 14 14 25.0 +0.3**
MFF pmax pmax
comp=Z,12nm,0.9s,mb5.1
ETSF Etsaut 88.08 313 *eP* **P 14 14 29.7 +0.9**
comp=Z,16nm,0.8s,mb5.0
ETSF Etsaut 88.08 313 *eP* **P 14 14 29.7 +0.9**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
SJPF Ste Jean 88.53 313 *eP* **P 14 14 31.2 +0.3**
comp=Z,14nm,0.8s,mb5.0
SJPF Ste Jean 88.53 313 *eP* **P 14 14 31.2 +0.3**
SJPF pmax pmax
comp=Z,7.0nm,0.8s,mb5.0
ESDC Sonseca Array 91.16 310 P **P 14 14 43.9 +0.6**
comp=Z,2.1nm,0.6s,mb4.7,baz=58,slow=4.8,SNR=12
IMA Indian Mountai 91.83 22 *eP* **P 14 14 47.4 +1.7**
IMA pmax pmax
comp=Z,35nm,0.8s,mb5.7
IMA Indian Mountai 91.83 22 *eP* **P 14 14 47.4 +1.7**
comp=Z,36nm,0.8s,mb5.8
VNDA Vanda 92.83 168 P **P 14 14 51.3 +1.2**
comp=Z,2.4nm,0.8s,mb4.7,baz=280,slow=8.1,SNR=16
SPU Mount Spurr 94.50 26 *eP* **P 14 14 58.5 +0.4**
ILAR Eielson Array 94.95 22 P **P 14 14 59.9 -0.3**
comp=Z,1.5nm,0.8s,mb4.5,baz=303,slow=4.2,SNR=19
ILAR PP PP 14 18 48.5 -3.1
comp=Z,0.7nm,0.8s,baz=297,slow=8.7,SNR=7.3
ILAR PKKPbc 14 31 55.2
comp=Z,0.4nm,0.8s,baz=160,slow=1.5,SNR=5.9
SLKM Skilak Lake 95.60 27 *eP* **P 14 15 02.7 -0.5**
INK Inuvik 97.19 16 *eP* **P 14 15 10.1 -0.1**
INK pmax pmax
comp=Z,8.0nm,1.3s
INK Inuvik 97.19 16 *eP* **P 14 15 10.1 -0.1**
comp=Z,7.9nm,1.3s,mb5.0
RES Resolute Bay 97.56 2 *eP* **P 14 15 12.3 +0.5**
RES *e* pP 14 15 20.0 +0.5
RES pmax pmax
comp=Z,6.0nm,0.9s,mb5.1
RES Resolute Bay 97.56 2 *eP* **P 14 15 12.3 +0.5**
comp=Z,5.7nm,0.9s,mb5.1
RES *e* pP 14 15 19.9 +0.5
DBIC Dimbokro 97.77 278 P **P 14 15 14.3 +0.2**
comp=Z,1.7nm,0.7s,mb4.7,baz=2.0,slow=5.1,SNR=3.5
DBIC LR LR 14 59 35.1
comp=Z,205nm,18.3s,MS4.7,baz=65,slow=36
YKA Yellowknife Ar 106.61 13 PP PP 14 20 14.5 -6.2
comp=Z,0.4nm,0.7s,baz=337,slow=7.4,SNR=6.5
YKA PKKPbc 14 31 22.2
comp=Z,0.3nm,0.6s,baz=151,slow=3.2,SNR=7.7
FFC Flin Flon 116.36 10 PFAKE 14 20 30.0 +5.1
FFC LR LR
comp=Z,23nm,20.0s,MS3.8
NEW Newport 117.90 23 PFAKE 14 20 40.0 +12
NEW LR LR
comp=Z,66nm,21.0s,MS4.2
MSO Missoula 120.29 22 PFAKE 14 20 40.0 +7.3
MSO LR LR
comp=Z,48nm,19.0s,MS4.2
BMO Blue Mountains 120.58 25 PFAKE 14 20 40.0 +6.6
BMO LR LR
comp=Z,108nm,21.0s,MS4.5
WDC Whiskeytown Da 121.36 32 PFAKE 14 20 40.0 +5.0
WDC LR LR
comp=Z,84nm,20.0s,MS4.4
MOD Modoc 121.51 30 *e*PKP PKPdf 14 20 33.0 -2.3
ULM Lac du Bonnet 121.64 7 PKP PKPdf 14 20 31.9 -3.3
comp=Z,6.3nm,0.8s,baz=35,slow=4.0,SNR=4.3
WVOR Wild Horse Val 121.90 28 PFAKE 14 20 40.0 +4.0
WVOR LR LR
comp=Z,79nm,19.0s,MS4.4
BOZ Bozeman (W) 122.14 21 PFAKE 14 20 50.0 +14
BOZ LR LR
comp=Z,171nm,19.0s,MS4.7
LAO LASA Array 122.92 16 PKP PKPdf 14 20 35.9 -1.9
LKWY Lake 123.51 21 *e*PKIKP PKPdf 14 20 38.0 -1.0
LKWY MLR MLR
comp=Z,187nm,20.0s,MS4.7
PQI Presque Isle 123.51 345 PFAKE 14 20 50.0 +11
PQI LR LR
comp=Z,3μm,19.0s
MOOW Moose Ponds 124.09 21 *e*PKP PKPdf 14 20 37.6 -2.6
BMN Battle Mountai 124.13 29 PFAKE 14 20 50.0 +10
BMN LR LR
comp=Z,213nm,20.0s,MS4.8
RRI2 Red Ridge 124.23 22 *e*PKP PKPdf 14 20 37.5 -3.0
EYMN Ely 124.36 4 PFAKE 14 20 50.0 +9.4
EYMN LR LR
comp=Z,148nm,19.0s,MS4.7
REDW Red Top Meadow 124.39 22 *e*PKP PKPdf 14 20 37.9 -2.8
REDW *e* 14 20 45.9
ELK Elko 124.79 27 *e*PKIKP PKPdf 14 20 39.6 -2.1
AHID Auburn Hatcher 124.81 22 PFAKE 14 20 50.0 +8.4
AHID LR LR
comp=Z,143nm,20.0s,MS4.6
NVAR Mina Array Bea 125.15 31 PKP PKPdf 14 20 40.3 -2.1
comp=Z,2.7nm,0.9s,baz=261,slow=4.4,SNR=19
EMMW East Machias 125.18 344 PFAKE 14 20 50.0 +7.7
EMMW LR LR
comp=Z,3μm,20.0s
MNV Mina 125.22 31 PFAKE 14 20 50.0 +7.5
MNV LR LR
comp=Z,216nm,21.0s,MS4.8
PDAR Pinedale Array 125.37 21 PKP PKPdf 14 20 39.7 -3.0
comp=Z,3.0nm,0.9s,slow=3.0,SNR=23
HWUT Hardware Ranch 125.62 23 PFAKE 14 20 50.0 +6.8
HWUT LR LR
comp=Z,196nm,22.0s,MS4.7
WVL Waterville 125.89 346 PFAKE 14 20 50.0 +6.4
WVL LR LR
comp=Z,3μm,22.0s
RSSD Black Hills 125.89 16 *e*PKIKP PKPdf 14 20 40.0 -3.6
TPH Tonopah 125.96 30 PFAKE 14 20 50.0 +6.0
TPH LR LR
comp=Z,230nm,21.0s,MS4.8
DUG Dugway 126.30 25 *e*PKIKP PKPdf 14 20 42.1 -2.4
DAC Darwin (Calif) 127.15 32 PFAKE 14 21 00.0 +14
DAC LR LR
comp=Z,163nm,19.0s,MS4.7
NCB Newcomb 127.44 349 PFAKE 14 21 00.0 +13
NCB LR LR
comp=Z,553nm,21.0s,MS5.2
MVU Marysvale 127.96 26 *e*PKP PKPdf 14 20 46.6 -1.3
MVU LR LR
comp=Z,121nm,20.0s,MS4.6
MSU Marysvale 127.97 26 *e*PKIKP PKPdf 14 20 46.5 -1.4
WES Weston 128.34 346 PFAKE 14 21 00.0 +12
WES LR LR
comp=Z,1μm,21.0s,MS5.5
ERPA Erie 130.09 354 PFAKE 14 21 00.0 +8.2
ERPA LR LR
comp=Z,238nm,20.0s,MS4.9
SDCO Great Sand Dun 131.25 21 PFAKE 14 21 00.0 +5.9
SDCO LR LR
comp=Z,218nm,22.0s,MS4.8
CBKS Cedar Bluff 131.98 14 PFAKE 14 21 00.0 +4.5
CBKS LR LR
comp=Z,168nm,20.0s,MS4.7
ACSO Alum Creek Sta 132.20 357 PFAKE 14 21 00.0 +4.1

ACSO LR LR
comp=Z,462nm,20.0s,MS5.2
MCWV Mont Chateau 132.50 353 PFAKE 14 21 00.0 +3.5
MCWV LR LR
comp=Z,281nm,21.0s,MS5.0
ANMO Albuquerque 133.38 23 PKP PKPdf 14 20 56.5 -1.7
comp=Z,2.6nm,0.8s,baz=242,slow=4.3,SNR=3.3
ANMO SKPbc 14 24 21.0
comp=Z,1.9nm,0.6s,baz=349,slow=4.6,SNR=3.8
ANMO Albuquerque 133.38 23 PKP PKPdf 14 20 56.3 -1.9
CBN Corbin 133.59 351 PFAKE 14 21 10.0 +12
CBN LR LR
comp=Z,399nm,19.0s,MS5.2
CCM Cathedral Cave 134.20 6 PFAKE 14 21 10.0 +10
CCM LR LR
comp=Z,84nm,20.0s,MS4.5
WCI Wyandotte Cave 134.28 0 PFAKE 14 21 10.0 +10
WCI LR LR
comp=Z,139nm,20.0s,MS4.7
BLA Blacksburg 134.99 354 PFAKE 14 21 10.0 +8.9
BLA LR LR
comp=Z,143nm,22.0s,MS4.7
AMTX Amarillo 135.12 18 PFAKE 14 21 10.0 +8.6
AMTX LR LR
comp=Z,167nm,19.0s,MS4.8
MNTX Cornudas Mount 136.66 24 *e*PKP PKPdf 14 21 02.3 -2.0
MNTX LR LR
comp=Z,96nm,19.0s,MS4.5
MIAR Mount Ida 137.36 9 PFAKE 14 21 10.0 +4.5
MIAR LR LR
comp=Z,405nm,20.0s,MS5.2
PLAL Pickwick Lake 137.48 2 PFAKE 14 21 10.0 +4.3
PLAL LR LR
comp=Z,153nm,19.0s,MS4.8
OXF Oxford 137.87 4 PFAKE 14 21 20.0 +14
OXF LR LR
comp=Z,141nm,20.0s,MS4.7
GOGA Godfrey 139.02 357 PFAKE 14 21 20.0 +11
GOGA LR LR
comp=Z,172nm,20.0s,MS4.8
LTX Lajitas 139.44 24 PFAKE 14 21 20.0 +11
LTX LR LR
comp=Z,101nm,19.0s,MS4.6
TXAR Lajitas Array 139.44 24 PKP PKPdf 14 21 07.3 -2.2
comp=Z,0.6nm,0.4s,baz=180,slow=1.3,SNR=8.2
TXAR SKPbc 14 24 38.6
comp=Z,0.9nm,0.8s,baz=270,slow=2.5,SNR=6.2
JCT Junction City 139.79 19 *e*PKIKP PKPdf 14 21 07.6 -2.5
JCT MLR MLR
comp=Z,77nm,19.0s,MS4.5
NATX Nacogdoches 139.88 11 PFAKE 14 21 20.0 +10
NATX LR LR
comp=Z,247nm,20.0s,MS5.0
BDFB Brasilia 141.97 255 PKP PKPdf 14 21 12.1 -2.3
comp=Z,5.4nm,0.8s,baz=141,slow=4.9,SNR=5.1
PLCA Paso Flores 144.34 200 PKP PKPdf 14 21 13.9 -3.8
comp=Z,12nm,1.0s,baz=150,slow=4.0,SNR=14
PLCA SKPbc 14 24 50.7
comp=Z,2.3nm,0.8s,baz=203,slow=4.5,SNR=3.1
CPUP Villa Florida 147.02 232 PKPbc PKPdf 14 21 22.0 -0.8
comp=Z,14nm,0.9s,baz=140,slow=4.4,SNR=24
SJG San Juan 147.66 323 PFAKE 14 21 30.0 +6.0
SJG LR LR
comp=Z,86nm,20.0s,MS4.5
TEIG Tepich 152.14 4 PFAKE 14 21 40.0 +9.1
TEIG LR LR
comp=Z,93nm,19.0s,MS4.6
LVC Limon Verde 157.84 226 *e*PKPab PKPab 14 22 10.4 +1.2
LVC LR LR
comp=Z,280nm,22.0s,MS5.0
LPAZ La Paz 160.52 242 PKP PKPdf 14 21 40.3 -1.4
comp=Z,2.7nm,0.8s,baz=50,slow=4.2,SNR=11
LPAZ PKPab PKPab 14 22 21.5 +0.6
comp=Z,4.1nm,0.9s,baz=99,slow=5.1,SNR=8.8
LPAZ La Paz 160.52 242 PKP PKPdf 14 21 40.3 -1.4
LPAZ PKPab PKPab 14 22 21.5 +0.6
LPAZ LR LR
comp=Z,83nm,19.0s
JTS JuntasAbangare 162.07 356 PFAKE 14 21 50.0 +6.7
JTS LR LR
comp=Z,57nm,21.0s
ROSC El Rosal 162.88 317 PKP PKPdf 14 21 42.9 -1.3
comp=Z,3.0nm,0.3s,baz=265,slow=21,SNR=3.9
OTAV Otavalo 169.04 316 PFAKE 14 22 00.0 +11
OTAV LR LR
comp=Z,117nm,19.0s

*NEIC **26** 14:16:51.1, 20.95N×69.48W, h13km, MD4.4(RSPR), After RSPR.*
RSPR 26 14:16:51.1, 20.95N×69.48W, h13km±66km, MD4.4/15, MD4.4/15, 14C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**3.32**	**138⇑**	*e*P	Pn	14 17 39.7	-4.1
AGPR				*e*S	Sn	14 18 19.3	-4.2
LSP	**Las Mesas**	**3.56**	**140⇑**	*e*P	Pn	14 17 42.3	-4.8
LSP				*e*S	Sn	14 18 24.7	-4.8
LRS	**Lares**	**3.62**	**136⇑**	*e*P	Pn	14 17 45.7	-2.4
LRS				*e*S	Sn	14 18 28.1	-2.9
AOPR	**Arecibo Observ**	**3.65**	**135⇑**	*e*P	Pn	14 17 45.0	-3.4
AOPR				*e*S	Sn	14 18 28.2	-3.5
CRPR	**Cabo Rojo, PR**	**3.68**	**142⇑**	*e*P	Pn	14 17 44.3	-4.6
CRPR				*e*S	Sn	14 18 27.2	-5.4
MGP	**Maguayo**	**3.69**	**142⇑**	*e*P	Pn	14 17 44.1	-5.0
MGP				*e*S	Sn	14 18 28.4	-4.4
PORP	**Portuguez**	**3.93**	**137⇑**	*e*P	Pn	14 17 50.3	-2.2
PORP				*e*S	Sn	14 18 33.4	-5.5
CELP	**Cerrillos**	**3.95**	**136⇑**	*e*P	Pn	14 17 49.4	-3.4
CELP				*e*S	Sn	14 18 34.7	-4.8
ICM	**Isla Caja Muer**	**4.12**	**137⇑**	*e*P	Pn	14 17 52.7	-2.5
ICM				*e*S	Sn	14 18 39.7	-4.1
SJG	**San Juan**	**4.22**	**131**	*e*S	Sn	14 18 40.6	-5.5
SJG	**San Juan**	**4.22**	**131⇑**	*e*P	Pn	14 17 54.0	-2.5
SJG				*e*S	Sn	14 18 39.7	-6.5
SJG	**San Juan**	**4.22**	**131⇑**	*e*P	Pn	14 17 51.4	-5.1
SJG				*e*S	Sn	14 18 40.6	-5.5
CBYP	**Canovanas**	**4.33**	**127⇑**	*e*P	Pn	14 17 55.3	-2.8
CBYP				*e*S	Sn	14 18 45.4	-3.6
HUMP	**Col San Antoni**	**4.41**	**129⇑**	*e*P	Pn	14 17 56.2	-3.1
HUMP				*e*S	Sn	14 18 45.5	-5.6
CPD	**Cerro la Pandu**	**4.43**	**130⇑**	*e*P	Pn	14 17 55.7	-3.9
CPD				*e*S	Sn	14 18 45.7	-5.9
MTP	**Monte Pirata**	**4.66**	**127⇓**	*e*P	Pn	14 17 59.4	-3.4
MTP				*e*S	Sn	14 18 51.4	-5.9

MEX 26 14:22:27.8±1.0, 17.12N×101.62W, h7km±91km, MD3.5, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.51**	**17⇓**	*i*P	Pg	14 22 37.4	-0.7
ZIIG				*i*S	Sg	14 22 44.6	-0.3
CAIG	**El Cayaco**	**1.29**	**93**	*i*P	Pb	14 22 47.6	-4.4
CAIG				*i*S	Sb	14 23 03.8	-4.8
ACX	**Acapulco**	**1.65**	**98**	*i*P	Pn	14 22 54.0	-3.3
ACX				*i*S	Sn	14 23 15.0	-3.9
PPM	**Popocatepetl**	**3.44**	**55**	*e*P	Pn	14 23 20.0	-3.0
PPM				*i*S	Sn	14 23 59.0	-5.5

*CSEM **26** 14:59:57.8±0.3, 57.52N×10.44E, h2km, ML2.6, Error ellipse: s-maj=13.6km s-min=3.5km az=22.0, Mining explosion.*
*UPP **26** 15:00:01.1, 57.53N×10.77E, ML2.6, Mining explosion.*
*BER **26** 15:00:02.3±2.8, 57.36N×10.19E, h15km±27km, MD2.3, ML1.5*
ISC 26 14:59:57.2±1.0, 57.6N±0.1×10.4E±0.1, n12, σ0°91/15, Denmark

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNART	**Snartemo**	**1.85**	**296**	*e*P	**Pn**	**15 00 31.3**	**+0.8**
SNART				*e*Sg	**Sg**	**15 00 57.3**	**-1.6**
SNART				AML	AML	15 01 02.2	
comp=Z,11nm,0.3s							
VXJU	**Vaexsjoe**	**2.57**	**102**	P	**Pn**	**15 00 40.7**	**-0.1**
EKSU	**Eksjoe**	**2.66**	**88**	P	**Pn**	**15 00 42.3**	**+0.2**
BLS5	**Blasjo**	**2.77**	**314**	*e*P	**Pn**	**15 00 46.9**	**+3.2**
BLS5				AML	AML	15 01 32.5	
comp=Z,3.6nm,0.3s							
LNKU	**Linkoeping**	**2.83**	**74**	P	**Pn**	**15 00 44.6**	**+0.2**
ODD1	**Odda**	**3.06**	**322**	*e*P	**Pn**	**15 00 48.6**	**+0.9**
ODD1				*e*S	**Sn**	**15 01 25.1**	**-0.4**
OSKU	**Oskarshamn**	**3.13**	**94**	P	**Pn**	**15 00 48.5**	**-0.2**
KMY	**Karmoy**	**3.16**	**304**	*e*P	**Pn**	**15 00 50.8**	**+1.6**
KMY				*e*S	**Sn**	**15 01 27.3**	**-0.9**
BLEU	**Blekinge**	**3.24**	**111**	P	**Pn**	**15 00 49.5**	**-0.9**
VIKU	**Vikbolandet**	**3.50**	**72**	P	**Pn**	**15 00 53.9**	**-0.1**
BYXU	**Byxelkrok**	**3.61**	**91**	P	**Pn**	**15 00 55.3**	**-0.2**
GOTU	**Gotland**	**4.42**	**85**	P	**Pn**	**15 01 06.6**	**-0.4**

*NEIC **26** 15:00:30.8, 36.58N×28.64E, h10km, MD3.3(ATH), After ATH.*
*ATH **26** 15:00:31.0, 36.57N×28.64E, h13km, MD3.3/4*
*ISK **26** 15:00:32.7, 36.52N×28.78E, h21km, MD3.1*
*CSEM **26** 15:00:32.7±0.1, 36.54N×28.79E, h20km, MD3.1, Error ellipse: s-maj=3.1km s-min=1.9km az=168.0*
ISC 26 15:00:32.9±0.6, 36.49N±0.05×28.76E±0.04, h24km±7km, n18, σ0°63/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.29**	**340**	*i*PG	**Pb**	**15 00 39.4**	**-0.4**
FETY	**Fethiye**	**0.29**	**61**	PG	**Pb**	**15 00 39.1**	**-0.7**
FETY				SG	**Sb**	**15 00 44.4**	**0.0**
ARG	**Arkhangelos**	**0.58**	**242**	*e*Pb	**Pb**	**15 00 40.5**	**-3.9**
ARG	**Arkhangelos**	**0.58**	**242**	*e*PB	**Pb**	**15 00 41.0**	**-3.4**
AKAS	**Kas**	**0.73**	**111**	*i*P	**Pb**	**15 00 46.6**	**-0.2**
AKAS				*i*S	**Sb**	**15 01 00.8**	**+4.4**
KSL	**Kastellorizon**	**0.74**	**117**	*e*PB	**Pb**	**15 00 47.5**	**+0.4**
YER	**Yerkesik**	**0.75**	**329**	*e*PG	**Pb**	**15 00 47.8**	**+0.7**
ELL	**Elmali**	**0.96**	**74**	*e*PG	**Pb**	**15 00 51.1**	**+0.4**
GOLH	**Golhisar**	**0.98**	**41**	*i*P	**Pb**	**15 00 50.1**	**-1.1**
GOLH				*i*S	**Sb**	**15 01 04.5**	**+0.9**
MLSB	**Milas**	**1.13**	**316**	*e*PN	**Pn**	**15 00 53.6**	**+0.2**
BDRM	**Kayabasi**	**1.20**	**299**	*i*P	**Pn**	**15 00 54.3**	**-0.2**
BDRM				*i*S	**Sb**	**15 01 10.5**	**+0.4**
DNZL	**Cakiroluk**	**1.22**	**11**	*i*P	**Pn**	**15 00 54.7**	**+0.1**
DNZL				*i*S	**Sb**	**15 01 05.7**	**-4.7**
DENT	**Denizli**	**1.28**	**10**	*e*PN	**Pn**	**15 00 55.5**	**0.0**
BODT	**Bodrum**	**1.30**	**296**	PN	**Pn**	**15 00 56.3**	**+0.5**
AYDN	**Tasoluk**	**1.36**	**329**	*i*P	**Pn**	**15 00 57.6**	**+0.9**
AYDN				*i*S	**Sn**	**15 01 14.0**	**-0.2**
KARP	**Karpathos**	**1.61**	**234**	*e*PB	**Pb**	**15 01 00.9**	**-0.8**
KARP				*e*SB	**Sb**	**15 01 22.5**	**+0.8**
SMG	**Samos**	**1.96**	**309**	*e*PG	**Pn**	**15 01 05.2**	**-0.1**
SMG				*e*SN	**Sn**	**15 01 28.4**	**-1.0**
IZM	**Izmir**	**2.25**	**328**	*e*PN	**Pn**	**15 01 09.1**	**-0.2**

*NEIC **26** 15:02:24.2, 15.30N×95.73W, h15km, MD3.8(MEX), After MEX.*
MEX 26 15:02:23.7±0.6, 15.27N×95.71W, h16km±133km, MD3.8, 1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.63**	**322**	*e*P	Pb	15 02 33.6	-2.2
HUIG				*i*S	Sb	15 02 41.8	-2.2
HUIG	**Huatulco**	**0.63**	**322⇑**	*i*P	Pb	15 02 33.5	-2.3
HUIG				*i*S	Sb	15 02 41.8	-2.2
CMIG	**Matias Romero**	**1.97**	**23**	*i*P	Pn	15 02 54.1	-2.8
CMIG				*i*S	Sn	15 03 16.4	-5.0
CMIG	**Matias Romero**	**1.97**	**23**	*i*P	Pn	15 02 53.6	-3.3
CMIG				*i*S	Sn	15 03 15.9	-5.6
VHO	**Vista Hermosa**	**2.04**	**331**	*i*P	Pn	15 02 54.8	-3.1
VHO				*i*S	Sn	15 03 18.7	-4.6
VHO	**Vista Hermosa**	**2.04**	**331**	*i*P	Pn	15 02 54.8	-3.1
VHO				*i*S	Sn	15 03 18.7	-4.5
OXX	**Oaxaca**	**2.05**	**332**	*i*P	Pn	15 02 56.7	-1.3

*IDC **26** 15:22:29.8±0.9, 1.22N×96.80E, mb4.1/12, mb1 4.3/13, mb1mx4.1/21, mbtmp4.1/13, ML4.1/1, MS3.5/2, Ms1 3.7/2, ms1mx3.2/18, Error ellipse: s-maj=51.4km s-min=14.8km az=51.0*
*MOS **26** 15:22:33.2±1.1, 1.35N×96.94E, h33km, mb5.0/6, Error ellipse: s-maj=23.2km s-min=13.1km az=106.4*
*BJI **26** 15:22:33.4, 1.32N×97.29E, h33km, mB4.9, mb4.8, Ms4.3, Msz4.2*
*NEIC **26** 15:22:34.6±0.6, 1.37N×97.00E, h30km, mb4.8/6, Error ellipse: s-maj=14.5km s-min=9.1km az=54.0*
ISC 26 15:22:31.9±0.6, 1.35N±0.08×97.01E±0.09, h24km, h24km±2.8km: pP-P, n37, σ1°95/37, mb4.4/24, MS3.9/4, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.34**	**43⇑**	*i*P	**Pn**	**15 23 52.1**	**-0.2**
KSM	**Kuching**	**13.30**	**89**	P	**P**	**15 25 52.6**	**+11**
CMAR	**Chiang Mai Arr**	**17.11**	**6**	P	**P**	**15 26 31.1**	**-0.3**
0.2nm,0.3s,baz=196,slow=10,SNR=25							
CMAR				LR	LR	15 33 38.3	
comp=Z,224nm,19.3s,baz=188,slow=39							
KKM	**Kota Kinabalu**	**19.72**	**76**	*e*P	**P**	**15 27 02.3**	**-0.7**
KMI	**Kunming**	**24.28**	**13**	P	**P**	**15 27 50.5**	**+1.8**
KMI				AP		15 28 01.5	
KMI				XP		15 28 06.0	
KMI				AMB	AMB		
comp=Z,22nm,1.3s,mb4.4							
KMI				AMB	AMB		
comp=Z,156nm,4.2s							
KMI				LR	LR		
comp=N,508nm,15.0s,MS4.2							
KMI				LR	LR		
comp=E,390nm,13.4s,MS4.2							
KMI				LR	LR		
comp=Z,645nm,13.9s,MS4.3							
SHL	**Shillong**	**24.58**	**349**	*e*P	**P**	**15 27 52.5**	**+0.9**
GYA	**Guiyang**	**26.64**	**20⇑**	*i*P	**P**	**15 28 10.5**	**-0.4**
GYA				AP	pP	15 28 19.8	+1.9
GYA				XP	sP	15 28 24.0	+2.9
GYA				AMB	AMB		
comp=Z,20nm,0.9s,mb4.7							
GYA				AMB	AMB		
comp=Z,100nm,3.7s							
GYA				LR	LR		
comp=N,520nm,17.8s,MS4.2							
GYA				LR	LR		
comp=E,210nm,13.8s,MS4.2							
GYA				LR	LR		
comp=Z,1μm,13.5s,MS4.5							
ENH	**Enshi**	**31.11**	**21**	*e*P	**P**	**15 28 49.0**	**-2.0**
comp=Z,23nm,1.1s,mb4.9							
ENH				*e*pP	pP	15 28 56.8	-1.3
FITZ	**Fitzroy Crossi**	**34.17**	**126**	P	**P**	**15 29 16.4**	**-1.3**
comp=Z,3.1nm,0.7s,mb4.4,baz=112,slow=19,SNR=3.7							
XAN	**Xi'an**	**34.38**	**18**	P	**P**	**15 29 18.0**	**-1.4**
XAN				AP	pP	15 29 23.8	-2.8
XAN				AMB	AMB		
comp=Z,17nm,1.2s,mb4.8							
LZH	**Lanzhou**	**35.14**	**10**	*e*P	**P**	**15 29 26.3**	**+0.4**
LZH				AP	pP	15 29 32.0	-1.1
LZH				XP	sP	15 29 36.0	-0.2
LZH				AMB	AMB		
comp=Z,25nm,1.0s,mb5.1							
LZH				AMB	AMB		
comp=Z,150nm,4.0s							
LZH				LR	LR		
comp=N,452nm,5.5s							
LZH				LR	LR		
comp=Z,578nm,7.8s							
BJT	**Baijiatuau**	**42.25**	**22**	*e*P	**P**	**15 30 26.2**	**+1.0**
BJT				pmax	pmax		
comp=Z,11nm,0.8s							
BJT	**Baijiatuau**	**42.25**	**22**	*e*P	**P**	**15 30 26.2**	**+1.1**
comp=Z,11nm,0.8s,mb4.5							
BJI	**Beijing**	**42.27**	**22**	*e*P	**P**	**15 30 26.8**	**+1.5**
BJI				AMB	AMB		
comp=Z,13nm,0.8s,mb4.6							
BJI				LR	LR		
comp=Z,62nm,17.6s,MS3.5							
WRA	**Warramunga Arr**	**42.28**	**122**	P	**P**	**15 30 25.8**	**+0.2**
comp=Z,2.5nm,0.7s,mb3.9,baz=301,slow=9.1,SNR=22							
WRAB	**Tennant Creek**	**42.28**	**122**	*e*P	**P**	**15 30 26.0**	**+0.4**
WRAB				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.4							
WRAB	**Tennant Creek**	**42.28**	**122**	*e*P	**P**	**15 30 26.0**	**+0.3**
comp=Z,6.7nm,0.7s,mb4.4							
ASAR	**Alice Springs**	**43.64**	**127**	P	**P**	**15 30 37.1**	**+0.5**
comp=Z,2.8nm,0.9s,mb4.0,baz=302,slow=7.9,SNR=17							
SONM	**Songino Array**	**47.02**	**9**	P	**P**	**15 31 03.8**	**+0.6**
comp=Z,1.8nm,0.8s,mb4.1,baz=177,slow=7.0,SNR=3.9							
MKAR	**Makanchi Array**	**47.05**	**346**	P	**P**	**15 31 05.0**	**+1.4**
comp=Z,6.2nm,0.9s,mb4.5,baz=157,slow=9.4,SNR=7.7							
MKAR				LR	LR	15 53 54.4	
comp=Z,47nm,21.6s,MS3.4,baz=165,slow=40							
MKAR	**Makanchi Array**	**47.05**	**346**	P	**P**	**15 31 05.0**	**+1.4**
STKA	**Stephens Creek**	**53.60**	**132**	P	**P**	**15 31 54.6**	**+1.0**
comp=Z,2.4nm,0.7s,mb4.2,baz=302,slow=9.6,SNR=7.9							
BVAR	**Borovoye Array**	**56.05**	**341**	P	**P**	**15 32 10.9**	**-0.3**
comp=Z,2.3nm,0.7s,mb4.3,baz=153,slow=9.9,SNR=7.3							
CHKZ	**Chkalovo**	**56.53**	**342**	*e*P	**P**	**15 32 13.0**	**-1.7**
CHKZ				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.6							
CHKZ	**Chkalovo**	**56.53**	**342**	*e*P	**P**	**15 32 13.0**	**-1.7**
comp=Z,5.9nm,0.9s,mb4.6							
YSS	**Yuzh-Sakhalins**	**60.34**	**34**	*e*P	**P**	**15 32 40.0**	**-1.3**
YSS				*e*		15 32 52.5	
YSS				pmax	pmax		
comp=Z,30nm,1.0s,mb5.3							
YSS	**Yuzh-Sakhalins**	**60.34**	**34**	*e*P	**P**	**15 32 40.7**	**-0.6**
comp=Z,18nm,1.0s,mb5.0							
SVE	**Sverdlovsk**	**62.48**	**338**	*e*P	**P**	**15 32 48.3**	**-7.4**
ARU	**Arti**	**62.97**	**337**	*e*P	**P**	**15 32 58.3**	**-0.6**
YAK	**Yakutsk**	**65.33**	**16**	*e*P	**P**	**15 33 13.3**	**-0.9**
YAK				pmax	pmax		
comp=Z,12nm,0.9s,mb4.9							
YAK				pmax	pmax		
comp=N,4.0nm,1.2s							
YAK				pmax	pmax		
comp=E,3.0nm,0.9s							
YAK				pmax	pmax		
comp=E,8.0nm,1.2s							
YAK				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.3							
YAK				pmax	pmax		
comp=N,6.0nm,1.2s							
YAK	**Yakutsk**	**65.33**	**16**	P	**P**	**15 33 12.9**	**-1.3**
comp=N,21nm,0.5s,mb5.4							
BRTR	**Keskin Array B**	**68.87**	**312**	P	**P**	**15 33 37.1**	**+0.1**
comp=N,0.4nm,0.5s,mb3.6,baz=135,slow=6.1,SNR=3.0							
SEY	**Seymchan**	**73.70**	**23**	*e*P	**P**	**15 34 07.7**	**+2.2**
SEY				pmax	pmax		
comp=Z,8.0nm,0.9s,mb4.7							
AKASG	**Malin Array Be**	**75.03**	**322**	P	**P**	**15 34 12.1**	**-1.3**
comp=Z,0.2nm,0.3s,mb3.5,baz=91,slow=4.7,SNR=5.8							
FINES	**FINESS Array B**	**79.78**	**333**	P	**P**	**15 34 39.9**	**+0.4**
comp=Z,1.8nm,0.9s,mb4.0,baz=135,slow=8.1,SNR=5.7							
ARCES	**ARCESS Array B**	**82.33**	**340**	P	**P**	**15 34 53.8**	**+1.1**
comp=Z,1.5nm,0.8s,mb4.0,baz=104,slow=5.0,SNR=7.1							
GERES	**GERESS Array B**	**84.58**	**319**	P	**P**	**15 35 03.6**	**-1.0**
comp=Z,0.2nm,0.2s,mb3.8,baz=135,slow=11,SNR=4.5							

MOS 26 15:23:09.3±3.1, 50.96N×98.16E, h15km, mb4.4/1, 2D, Error ellipse: s-maj=13.7km s-min=9.6km az=153.1, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.89**	**32⇓**	*i*PN	Pn	15 23 35.9	-5.5
ORL				pmax	pmax		
comp=Z,385nm,0.2s							
MOY	**Mondy**	**1.91**	**67**	*e*PN	Pn	15 23 42.5	+0.7
MOY				*e*		15 24 06.4	
MOY				pmax	pmax		
comp=Z,406nm,0.4s							
MOY				smax			
comp=E,10μm,1.1s							
ARS	**Arshan**	**2.84**	**69**	*e*PN	Pn	15 23 56.0	+1.0
ARS				*e*		15 24 35.4	
ARS				pmax	pmax		
comp=Z,193nm,0.4s							
ARS				smax			
comp=E,4μm,0.7s							
ZAK	**Zakamensk**	**3.31**	**98**	*e*PN	Pn	15 24 02.6	+0.9
ZAK				*e*		15 24 07.9	
TLY	**Talaya**	**3.52**	**76**	*i*PN	Pn	15 24 04.3	-0.3
TLY				*e*P		15 24 11.6	
TLY				*e*S	Sn	15 24 55.8	+9.5
IRK	**Irkutsk**	**4.02**	**69**	*e*PN	Pn	15 24 19.1	+7.3
IRK				*e*		15 25 09.9	
IRK				pmax	pmax		
comp=Z,158nm,0.7s							
IRK				smax			
comp=N,3μm,1.1s							
LSTR	**Listvyanka**	**4.28**	**75**	*e*PN	Pn	15 24 24.6	+9.2
LSTR				*e*		15 25 17.4	
LSTR				pmax	pmax		
comp=Z,29nm,0.7s							
LSTR				smax			
comp=N,687nm,1.4s							
CERR	**Cheremushki**	**4.59**	**297**	*e*PN	Pn	15 24 21.0	+1.2
CERR				*i*		15 24 32.2	
CERR				*i*S	Sn	15 25 31.6	+18
TRG	**Tyrgan**	**5.38**	**67**	*e*PN	Pn	15 24 45.4	+14
TRG				*e*		15 25 52.3	
TRG				pmax	pmax		
comp=Z,45nm,0.6s							
TRG				smax			
comp=N,899nm,1.3s							
KAB	**Kabansk**	**5.42**	**75**	*e*PN	Pn	15 24 45.1	+14
KAB				*e*		15 25 53.1	
KAB				pmax	pmax		
comp=Z,90nm,1.2s							
KAB				smax			
comp=N,4μm,2.0s							
KRAR	**Krasnoyarsk**	**5.96**	**330**	*e*PN	Pn	15 24 32.8	-6.4
KRAR				*i*		15 26 06.8	
OGRR	**Ongureny**	**6.38**	**61**	*e*PN	Pn	15 25 01.8	+17
OGRR				*e*		15 26 21.9	
OGRR				pmax	pmax		
comp=Z,34nm,1.2s							
OGRR				smax			
comp=N,474nm,1.0s							
ULN	**Ulaanbaatar**	**6.58**	**115**	*d*PN	Pn	15 24 44.5	-3.4
TASR	**Tashtagol**	**6.62**	**290**	*e*PN	Pn	15 24 48.5	0.0
TASR				*e*		15 25 09.2	
AKAR	**Aktash**	**6.74**	**269**	*e*PN	Pn	15 25 10.0	+20
YLYR	**Ulyunkhan**	**8.78**	**58**	*e*P	P	15 25 16.1	-2.6
BOD	**Bodaibo**	**11.49**	**47**	*e*P	P	15 25 51.3	-4.5
BOD				pmax	pmax		
comp=Z,3.0nm,0.8s							
AAK	**Ala-Archa**	**18.16**	**252**	*i*P	P	15 27 18.7	-3.7
AAK				pmax	pmax		
comp=Z,2.0nm,1.2s							
SOC	**Sochi**	**39.41**	**283**	*e*P	P	15 30 33.9	-6.0
SOC				*e*		15 32 45.1	
SOC				*e*S	S	15 36 35.4	-5.2
SOC				*e*SS	SS	15 39 31.8	+4.5

IDC 26 15:42:56.3±4.8, 8.22S×106.34E, mb3.6/2, mb1 3.7/2, mb1mx3.4/16, mbtmp3.6/2, Error ellipse: s-maj=203.6km s-min=30.7km az=49.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.49**	**345**	P	P	15 48 44.7	-1.8
0.5nm,0.5s,baz=179,slow=8.5,SNR=6.2							
WRA	**Warramunga Arr**	**29.50**	**116**	P	P	15 49 02.6	-2.1
0.3nm,0.8s,baz=286,slow=12,SNR=3.6							
MKAR	**Makanchi Array**	**58.81**	**341**	P	P	15 52 56.3	-2.5
0.4nm,0.5s,baz=148,slow=8.7,SNR=5.8							

IDC 26 15:51:30.6±4.2, 16.02S×69.03W, h212km±103km, Error ellipse: s-maj=778.3km s-min=196.3km az=39.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**0.91**	**107**	P	P	15 52 02.0	+0.8
5.8nm,0.3s,baz=286,slow=2.1,SNR=34							
LPAZ				S	S	15 52 26.5	+1.4
3.1nm,0.3s,baz=325,slow=20,SNR=11							
ASAR	**Alice Springs**	**134.63**	**210**	PKP	PKPdf	16 10 23.7	-0.8
0.2nm,0.7s,baz=139,slow=1.4,SNR=3.8							
WRA	**Warramunga Arr**	**137.51**	**214**	PK

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.01**	**337**	Pn	P	15 58 17.0	-4.7
	0.1nm,0.3s,baz=146,slow=10,SNR=2.7						
SONM				Sn	Sn	16 00 02.4	-2.6
	0.0nm,0.3s,baz=159,slow=20,SNR=3.7						
SONM				Lg		16 00 56.2	
	0.1nm,0.3s,baz=156,slow=28,SNR=4.5						
MKAR	**Makanchi Array**	**22.47**	**298**	P	P	16 01 08.1	-1.3
	0.7nm,0.8s,baz=96,slow=12,SNR=7.1						
CMAR	**Chiang Mai Arr**	**23.84**	**211**	P	P	16 01 22.5	-0.5
	0.2nm,0.4s,baz=12,slow=9.9,SNR=5.5						

*NEIC **26** 16:06:06.8, 35.93N×10.03W, MG3.5(MDD), After MDD.*
*CSEM **26** 16:06:08.0±0.5, 35.90N×9.90W, h2km, ML3.0/6, Error ellipse: s-maj=8.8km s-min=7.4km az=104.0*

MDD 26 16:06:06.1±3.0, 35.82N×10.17W, h14km±133km, mbLg2.3/10, Error ellipse: s-maj=151.0km s-min=25.5km az=49.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**2.08**	**34**	*e*Pn	Pn	16 06 39.4	-1.7
PTEO				*e*Sn	Sn	16 07 04.0	-2.9
	5.9nm,0.1s						
PTEO	**Sao Teotonio**	**2.08**	**34**	*e*Pn	Pn	16 06 39.5	-1.6
PTEO				*e*Sn	Sn	16 07 03.3	-3.7
PTEO	**Sao Teotonio**	**2.08**	**34**	P	Pn	16 06 39.4	-1.7
PTEO				S	Sn	16 07 04.0	-2.9
	3.0nm,0.1s						
PTEO	**Sao Teotonio**	**2.08**	**34**	*e*Pn	Pn	16 06 39.5	-1.6
PTEO				*e*Sn	Sn	16 07 03.3	-3.6
PALC	**Alcoutim**	**2.72**	**52**	*e*Pn	Sn	16 07 20.5	-2.7
	8.2nm,0.1s						
PALC	**Alcoutim**	**2.72**	**52**	*e*Pn	Pn	16 06 49.5	-0.7
PALC				*e*Sn	Sn	16 07 20.7	-2.5
PALC	**Alcoutim**	**2.72**	**52**	S	Sn	16 07 20.5	-2.7
	4.1nm,0.1s						
PALC	**Alcoutim**	**2.72**	**52**	*e*Pn	Pn	16 06 49.5	-0.7
PALC				*e*Sn	Sn	16 07 20.5	-2.7
	8.2nm,0.1s						
EGRO	**El Granado**	**2.76**	**51**	P	Pn	16 06 49.2	-1.6
	4.0nm,0.4s,SNR=11						
EGRO				S	Sn	16 07 20.5	-3.6
	5.5nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.76**	**51**	Pn	Pn	16 06 49.2	-1.6
	4.0nm,0.4s,SNR=11						
EGRO				Sn	Sn	16 07 20.5	-3.6
	5.5nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.88**	**39**	*e*Sn	Sn	16 07 24.1	-3.0
	2.0nm,0.1s						
PBEJ	**Beja**	**2.88**	**39**	*e*Sn	Sn	16 07 22.3	-4.8
PBEJ	**Beja**	**2.88**	**39**	S	Sn	16 07 24.1	-3.0
	1.0nm,0.1s						
PBEJ	**Beja**	**2.88**	**39**	*e*Sn	Sn	16 07 22.3	-4.8
MOE	**Montemor**	**3.07**	**28**	*e*Sn	Sn	16 07 26.8	-5.2
EMIN	**Mina Concepcio**	**3.42**	**54**	P	Pn	16 06 57.8	-2.3
	1.4nm,0.3s,SNR=5.6						
EMIN				S	Sn	16 07 35.0	-5.8
	1.7nm,0.3s,SNR=9.9						
EMIN	**Mina Concepcio**	**3.42**	**54**	Pn	Pn	16 06 57.8	-2.3
	1.4nm,0.3s,SNR=5.6						
EMIN				Sn	Sn	16 07 35.0	-5.8
	1.7nm,0.3s,SNR=9.9						
ESPR	**Espera**	**3.64**	**72**	P	Pn	16 07 01.3	-2.0
	3.9nm,0.4s,SNR=7.6						
ESPR				S	Sn	16 07 41.5	-4.9
	18nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.64**	**72**	Pn	Pn	16 07 01.3	-2.0
	3.9nm,0.4s,SNR=7.6						
ESPR				Sn	Sn	16 07 41.5	-4.9
	18nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.87**	**40**	P	Pn	16 07 03.4	-3.1
	0.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	16 07 47.1	-5.0
	3.4nm,0.5s,SNR=6.0						
EBAD	**Badajoz**	**3.87**	**40**	Pn	Pn	16 07 03.4	-3.1
	0.6nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	16 07 47.1	-5.0
	3.4nm,0.5s,SNR=6.0						
ECAB	**El Cabril**	**4.42**	**58**	P	Pn	16 07 12.0	-2.5
	1.7nm,0.7s,SNR=8.1						
ECAB				S	Sn	16 07 59.4	-6.9
	1.5nm,0.3s,SNR=7.6						
ECAB	**El Cabril**	**4.42**	**58**	Pn	Pn	16 07 12.0	-2.4
	1.7nm,0.7s,SNR=8.1						
ECAB				Sn	Sn	16 07 59.4	-6.9
	1.5nm,0.3s,SNR=7.6						
EADA	**Adamuz**	**5.05**	**61**	P	Pn	16 07 20.3	-3.1
	0.6nm,0.2s,SNR=7.9						
EADA				S	Sn	16 08 14.3	-7.9
	2.6nm,0.7s,SNR=8.1						
EADA	**Adamuz**	**5.05**	**61**	Pn	Pn	16 07 20.3	-3.1
	0.6nm,0.2s,SNR=7.9						
EADA				Sn	Sn	16 08 14.3	-7.9
	2.6nm,0.7s,SNR=8.1						
ELOB	**Lobios**	**6.26**	**15**	S	Sn	16 08 43.9	-8.6
	8.2nm,2.5s,SNR=7.9						

IDC 26 16:12:59.2±3.2, 32.67S×178.39W, mb3.6/2, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=74.9km s-min=46.8km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.68**	**212**	Pn	Pn	16 14 38.1	-2.8
	0.5nm,0.3s,baz=107,slow=19,SNR=4.5						
URZ				Sn	Sn	16 15 52.2	-6.5
	1.0nm,0.3s,baz=330,slow=20,SNR=8.9						
ASAR	**Alice Springs**	**42.71**	**270**	P	P	16 20 58.1	-1.5
	0.5nm,0.7s,baz=108,slow=7.6,SNR=6.5						
WRA	**Warramunga Arr**	**43.90**	**275**	P	P	16 21 07.6	-1.7
	0.5nm,0.5s,baz=115,slow=7.7,SNR=6.2						
FINES	**FINESS Array B**	**147.14**	**338**	PKPbc	PKPdf	16 32 42.6	-0.4
	0.5nm,0.6s,baz=45,slow=2.7,SNR=4.7						

*NEIC **26** 16:17:54.2, 16.50N×96.30W, h65km, MD3.9(MEX), After MEX.*

MEX 26 16:17:54.3±0.8, 16.50N×96.30W, h68km±13km, MD4.0, 3C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**0.70**	**324**	*i* P	P	16 18 07.9	-1.3
VHO				*i* S	S	16 18 18.1	-2.3
VHO	**Vista Hermosa**	**0.70**	**324**	⇑*i*P	P	16 18 07.9	-1.3
VHO				*i* S	S	16 18 18.1	-2.3
OXX	**Oaxaca**	**0.70**	**325**	*i* P	P	16 18 08.5	-0.7
OXX				*i* S	S	16 18 19.0	-1.4
HUIG	**Huatulco**	**0.75**	**166**	*i* P	P	16 18 08.3	-1.5
HUIG				*i* S	S	16 18 18.8	-2.6
HUIG	**Huatulco**	**0.75**	**166**	⇑*i*P	P	16 18 08.4	-1.4
HUIG				*i* S	S	16 18 18.8	-2.6
CMIG	**Matias Romero**	**1.48**	**66**	⇑*i*P	P	16 18 17.5	-2.0
CMIG				*i* S	S	16 18 35.0	-3.0
PNIG	**Pinotepa**	**1.76**	**267**	*i* P	P	16 18 21.4	-1.8
PNIG				*i* S	S	16 18 41.7	-2.8
PNIG	**Pinotepa**	**1.76**	**267**	*i* P	P	16 18 21.3	-1.9
PNIG				*i* S	S	16 18 41.3	-3.2
PPM	**Popocatepetl**	**3.38**	**319**	*e*P	P	16 18 41.9	-4.0
PPM				*i* S	S	16 19 24.4	-0.7

IDC 26 16:22:50.8±46.0, 0.17N×114.50E, mb3.8/3, mb1 4.0/3, mb1mx3.4/19, mbtmp3.8/3, Error ellipse: s-maj=784.6km s-min=292.2km az=154.0, Borneo

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.88**	**137**	P	P	16 28 42.6	-2.0
	0.8nm,0.6s,baz=311,slow=10,SNR=14						
ASAR	**Alice Springs**	**30.27**	**143**	P	P	16 29 04.2	-1.9
	0.4nm,0.5s,baz=320,slow=8.3,SNR=17						
STKA	**Stephens Creek**	**40.90**	**144**	P	P	16 30 34.5	-2.1
	0.8nm,0.3s,baz=318,slow=12,SNR=3.7						

*IDC **26** 16:38:10.2±2.9, 4.44N×93.75E, mb3.6/4, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=100.1km s-min=23.5km az=65.0*

*NEIC **26** 16:38:13.6±0.7, 4.43N×93.68E, mb4.2/5, Error ellipse: s-maj=14.6km s-min=10.6km az=55.0*

ISC 26 16:38:11.6±0.8, 4.4N±0.1×93.7E±0.1, h28km, h28km±.9km: pP-P, n11, σ0 73/11, mb4.0/9, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.98**	**83**	⇓*e*P	Pn	16 39 54.3	-0.4
CMAR	**Chiang Mai Arr**	**14.85**	**20**	Pn	P	16 41 41.6	-0.2
	0.1nm,0.3s,baz=212,slow=13,SNR=9.1						
LSA	**Lhasa**	**25.25**	**355**	*e*P	P	16 43 37.8	+0.6
	3.8nm,0.5s,mb4.2						
ENH	**Enshi**	**29.71**	**28**	P	P	16 44 16.4	-1.5
	3.5nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**43.34**	**349**	P	P	16 46 14.1	+0.9
	0.5nm,0.7s,mb3.4,baz=164,slow=8.2,SNR=6.2						
MKAR				pP	pP	16 46 22.3	+0.9
	1.1nm,0.6s,baz=168,slow=8.4,SNR=9.8						
SONM	**Songino Array**	**44.60**	**12**	P	P	16 46 23.8	+0.4
	0.7nm,0.8s,mb3.6,baz=188,slow=8.7,SNR=6.5						
WRA	**Warramunga Arr**	**46.70**	**123**	P	P	16 46 41.1	+0.7
	1.2nm,0.6s,mb4.0,baz=300,slow=9.0,SNR=15						
WRA				pP	pP	16 46 48.9	+0.2
	0.8nm,0.5s,baz=300,slow=9.1,SNR=5.1						
WRAB	**Tennant Creek**	**46.71**	**123**	P	P	16 46 40.7	+0.2
	6.0nm,0.8s,mb4.6						
WRAB				*e*pP	pP	16 46 49.6	+0.8
ASAR	**Alice Springs**	**48.12**	**127**	P	P	16 46 51.6	+0.1
	0.4nm,0.7s,mb3.6,baz=300,slow=8.0,SNR=6.4						
CHKZ	**Chkalovo**	**52.60**	**343**	*e*P	P	16 47 25.5	+0.3
	1.0nm,0.6s,mb3.9						
KMBO	**Kilima Mbogo**	**56.67**	**266**	P	P	16 47 54.3	-1.2
	1.2nm,0.6s,mb4.1						

DJA 26 17:02:21.1±1.3, 5.19S×104.81E, h33km, MD4.1/2, ML4.4/1, 4D, Error ellipse: s-maj=56.2km s-min=28.1km az=33.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**0.52**	**136**	⇓*e*Pn	Pn	17 02 30.0	-2.1
	2μm,0.3s						
PENI				⇓*e*Sn	Sn	17 02 37.9	-2.0
PULI	**Pulasari**	**1.64**	**135**	⇓*e*Pn	Pn	17 02 48.0	-0.1
	306nm,0.3s						
PULI				⇓*e*Sn	Sn	17 03 05.5	-2.6
PASI	**Pasiripis**	**1.68**	**153**	*e*Pn	Pn	17 02 47.3	-1.4

TAP 26 17:14:27.6, 24.87N×122.36E, h11km, ML2.4, Taiwan region

*NIED **26** 17:14:00, 24.10N×122.40E, h32km, Mw3.9 Best double couple: M0 7.23×10^14 NP1: φs 131°, δ71°, λ26°. NP2: φs 31°, δ66°, λ159°.*
*TAP **26** 17:14:41.6, 24.03N×122.44E, h9km±1km, ML4.2*
*JMA **26** 17:14:42.6±0.2, 24.15N×122.44E, h52km±5km, M3.8*
*NEIC **26** 17:14:43.9±1.4, 24.43N×122.47E, h36km±15km, mb3.7/2, Error ellipse: s-maj=17.8km s-min=14.1km az=178.0*
*IDC **26** 17:14:46.5±4.9, 24.54N×122.65E, h59km±48km, mb3.3/5, mb1 3.5/6, mb1mx3.2/21, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=42.3km s-min=20.4km az=65.0*

ISC 26 17:14:44.2±0.6, 24.35N±0.09×122.53E±0.04, h59km±6km, n18, σ1 9 16/25, mb3.6/7, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45**	**76**	P	P	17 14 55.2	-0.4
YOJ				S	S	17 15 04.5	+0.5
NACB	**Ninganchiao**	**0.87**	**258**	⇓*i*Pn	P	17 14 57.6	-3.0
YHNB	**Yeheng**	**1.09**	**287**	*e*Pn	P	17 15 03.5	-0.2
YHNB				*e*S	S	17 15 18.6	+0.5
IRIF	**Iriomote-Funau**	**1.10**	**91**	P	P	17 15 03.1	-0.7
IRIF				*e*S	S	17 15 18.4	+0.2
TATO	**Taipei**	**1.13**	**303**	*e*Pn	P	17 15 05.1	+0.9
TATO				*e*S	S	17 15 20.1	+1.1
HATJ	**Hateruma jima**	**1.20**	**104**	P	P	17 15 04.0	-1.1
JKRS	**Kuro-shima**	**1.36**	**95**	P	P	17 15 06.9	-0.6
JIJ	**Ishigaki jima**	**1.47**	**89**	P	P	17 15 08.1	-0.9
JIJ				*e*S	S	17 15 27.3	-0.1
JTJ	**Tarama**	**2.00**	**81**	P	P	17 15 17.2	+0.9
JTJ				*e*S	S	17 15 42.5	+2.4
JOGS	**Gusukube**	**2.65**	**81**	*e*S	S	17 15 59.1	+2.5
JOW	**Kunigami**	**5.75**	**63**	P	P	17 16 06.9	-1.9
	1.5nm,0.3s,baz=211,slow=11,SNR=13						
JOW				S	S	17 17 13.2	-1.1
	baz=107,slow=19,SNR=1.4						
ULN	**Ulaanbaatar**	**26.48**	**336**	P	P	17 20 22.1	+4.4
	0.9nm,0.6s,mb3.5						
SONM	**Songino Array**	**26.71**	**335**	P	P	17 20 19.3	-0.5
	0.5nm,0.4s,mb3.4,baz=150,slow=9.9,SNR=7.4						
MKAR	**Makanchi Array**	**39.08**	**315**	P	P	17 22 07.4	+0.4
	1.1nm,0.6s,mb3.7,baz=107,slow=7.9,SNR=19						
WRA	**Warramunga Arr**	**45.51**	**164**	P	P	17 23 00.2	+0.4
	0.3nm,0.6s,mb3.4,baz=344,slow=8.6,SNR=4.0						
CHKZ	**Chkalovo**	**48.37**	**321**	*e*P	P	17 23 20.5	-1.3
	1.0nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**48.99**	**166**	P	P	17 23 29.5	+2.5
	0.3nm,0.8s,mb3.4,baz=342,slow=6.4,SNR=4.1						
YKA	**Yellowknife Ar**	**82.34**	**23**	P	P	17 27 00.4	-0.2
	0.5nm,0.7s,mb3.6,baz=312,slow=4.8,SNR=9.3						

*DJA **26** 17:18:13.6±1.6, 1.09N×96.58E, h160km, MD5.0/1, Error ellipse: s-maj=53.3km s-min=13.4km az=81.0*
*BJI **26** 17:18:22.1, 1.23N×97.16E, h32km, mB5.5, mb5.4, Ms5.0, Msz5.0*
*MOS **26** 17:18:23.6±0.9, 1.43N×97.28E, h33km, mb5.4/61, MS4.6/25, Error ellipse: s-maj=9.0km s-min=4.8km az=117.5*
*IDC **26** 17:18:23.6±0.3, 1.36N×97.18E, h22km±2km, mb4.7/32, mb1 4.7/33, mb1mx4.7/34, mbtmp4.8/33, ML5.2/1, MS4.7/14, Ms1 4.7/14, ms1mx4.6/20, Error ellipse: s-maj=11.7km s-min=8.7km az=47.0*
*HRVD **26** 17:18:23.6±0.4, 1.14N×97.01E, h19km, MW5.2/54, Centroid moment Tensor Solution. LP body waves: s39,c58; Mantle waves: s54,c79; Half duration: 1s2 Moment tensor: Scale 10^16 Nm; Mrr 3.44±.20; Mθθ -1.46±.14; Mφφ -1.98±.15; Mrθ 5.84±.36; Mφφ 2.11±.11; Mφr -5.02±.34; Best double couple: M0 8.521×10^16 NP1: φs 327°, δ13°, λ106°. NP2: φs 131°, δ77°, λ86°. Principal axes: T 8.351, Plg57°, Azm37°; N .341, Plg4°, Azm132°; P -8.692, Plg32°, Azm224°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 17:18:23.6±0.1, 1.36N×97.17E, mb5.2/68, MS4.5/14 Error ellipse: s-maj=5.1km s-min=3.7km az=32.0*

ISC 26 17:18:21.9±0.2, 1.32N±0.03×97.21E±0.03, h22km, h22km±.4km: pP-P, n357, σ1 9 04/355, mb5.2/138, MS4.7/55, 56C-13D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.19**	**51**	⇑*e*Pn	Pn	17 18 59.7	+2.1
PPI	**Padang Panjang**	**3.64**	**119**	*e*Pn	Pn	17 19 17.0	-1.4
IPM	**Ipoh**	**5.00**	**50**	P	Pn	17 19 38.8	+1.3
KULM	**Kulim**	**5.22**	**41**	⇑*i*Pn	Pn	17 19 41.5	+0.7
KGM	**Kluang**	**6.14**	**83**	P	Pn	17 19 55.8	+2.0
SNG	**Songkhla**	**6.73**	**30**	P	Pn	17 20 03.0	+0.9
	690nm,1.0s						
PENI	**Pendagan**	**10.49**	**131**	⇑*e*Pn	P	17 20 49.6	-4.7
PENI				⇑*e*Sn	S	17 22 42.5	-10
PULI	**Pulasari**	**11.60**	**131**	⇑*e*Pn	P	17 21 04.0	-5.4
KSM	**Kuching**	**13.09**	**89**	*e*P	P	17 21 30.9	+1.5
NST	**Nakhon Sawan**	**14.55**	**11**	P	P	17 21 46.5	-2.1
	50nm,0.7s						
KKTK	**Khon Kaen**	**15.91**	**20**	P	P	17 22 09.0	+2.6
CMAR	**Chiang Mai Arr**	**17.11**	**6**	P	P	17 22 20.0	-1.6
	3.2nm,0.3s,baz=194,slow=13,SNR=112						
CMAR				PcP	PcP	17 27 07.2	+0.6
	0.1nm,0.3s,baz=208,slow=2.5,SNR=5.2						
CMAR				pPcP		17 27 14.2	
	0.1nm,0.3s,baz=213,slow=2.6,SNR=4.6						
CMAR				LR	LR	17 29 57.0	
	comp=Z,3μm,18.3s,baz=190,slow=41						
CHG	**Chiang Mai**	**17.46**	**5**	⇑P	P	17 22 24.8	-1.2
	57nm,0.8s						
PALK	**Pallekele**	**17.49**	**290**	*e*P	P	17 22 26.3	0.0
	25nm,1.1s						
NANT	**Nan**	**17.70**	**11**	⇑P	P	17 22 30.0	+1.1
	938nm,0.6s						
KKM	**Kota Kinabalu**	**19.53**	**76**	⇑*e*P	P	17 22 50.7	-0.3
KKM	**Kota Kinabalu**	**19.53**	**76**	P	P	17 22 51.1	+0.1
TSM	**Tawau**	**20.84**	**81**	P	P	17 23 04.5	-0.4
VIS	**Vishakhapatnam**	**21.25**	**321**	*e*P	P	17 23 08.1	-0.9
VIS				*e*		17 23 20.8	
	comp=Z,154nm,1.1s						
VIS				*e*S	S	17 26 59.0	-0.2
TRD	**Trivandrum**	**21.39**	**290**	⇓*e*	P	17 23 25.7	+15
TRD				*e*		17 27 09.7	
QIZ	**Qiongzhong**	**21.52**	**34**	P	P	17 23 11.0	-0.7
QIZ				XP		17 23 20.3	
QIZ				S	S	17 27 07.8	+3.7
QIZ				XS		17 27 17.5	
QIZ				SS	SS	17 27 38.5	-1.4
QIZ				AMB	AMB		
	comp=Z,61nm,1.3s,mb4.9						
QIZ	**Qiongzhong**	**21.52**	**34**	*e*P	P	17 23 11.5	-0.1
	comp=Z,45nm,0.8s,mb5.0						
CAL	**Calcutta**	**22.79**	**338**	*e*P	P	17 23 25.8	+1.3
AGT	**Agartala**	**23.16**	**346**	⇓*i*	P	17 23 26.0	-2.0
AGT				*i*		17 24 21.0	
KMI	**Kunming**	**24.26**	**12**	P	P	17 23 40.3	+1.6
KMI				AP		17 23 47.0	
KMI				XP		17 23 50.8	
KMI				PP	PP	17 24 14.8	+1.0
KMI				S	S	17 27 57.5	+4.4
KMI				XS		17 28 07.5	
KMI				AMB	AMB		
	comp=Z,249nm,1.3s,mb5.5						
KMI				AMB	AMB		
	comp=Z,1μm,4.6s						
HYB	**Hyderabad**	**24.34**	**312**	*e*P	P	17 23 41.5	+1.9
HYB				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.0						
HYB	**Hyderabad**	**24.34**	**312**	*i* P	P	17 23 41.5	+1.9
	comp=Z,60nm,1.0s,mb5.0						
HYB				*e*S	S	17 28 00.0	+5.5
SHL	**Shillong**	**24.64**	**348**	*i*	P	17 23 42.0	-0.4
SHL				*e*S	S	17 28 02.2	+2.5
BOK	**Bokaro**	**24.89**	**335**	⇑*i*P	P	17 23 45.6	+0.8
BOK				*i*		17 28 07.6	
MNGI	**Mangalore**	**25.00**	**299**	*e*	P	17 23 53.4	+7.4
MNGI				*e*		17 28 12.6	
BLSP	**Bilaspur**	**25.36**	**326**	*e*P	P	17 23 50.9	+1.6
BLSP				*e*		17 23 52.8	
	comp=Z,94nm,1.4s						
BLSP				*e*S	S	17 28 14.4	+2.7
LKP	**Lekhapani**	**25.89**	**358**	*e*	P	17 23 55.0	+0.9
DGAR	**Diego Garcia**	**26.18**	**250**	PFAKE		17 24 10.0	+13
DGAR				LR	LR		
	comp=Z,469nm,19.0s,MS4.0						
LATR	**Latur**	**26.45**	**311**	*e*	P	17 24 07.0	+7.6
GYA	**Guiyang**	**26.59**	**19**	⇑*i*P	P	17 23 59.8	-0.9
GYA				AP	pP	17 24 06.8	-0.4
GYA				XP	sP	17 24 09.8	-0.4
GYA				PP	PP	17 24 45.5	+0.7
GYA				S	S	17 28 38.0	+5.9
GYA				AMB	AMB		
	comp=Z,90nm,0.9s,mb5.3						
GYA				AMB	AMB		
	comp=Z,390nm,5.1s						
GZH	**Guangzhou**	**26.71**	**35**	P	P	17 24 06.5	+4.8
GZH				LR	LR		
	comp=N,2μm,14.0s,MS5.0						
GZH				LR	LR		
	comp=E,2μm,14.9s,MS5.0						
JIRN	**Jiri**	**28.24**	**339**	*e*P	P	17 24 16.6	+1.0
	comp=E,402nm,0.9s,mb6.0						
PKI	**Pulchoki**	**28.45**	**338**	*e*P	P	17 24 18.2	+0.7
	comp=E,165nm,1.0s,mb5.6						
DMN	**Daman**	**28.60**	**337**	*e*P	P	17 24 19.5	+0.7
	comp=E,109nm,0.8s,mb5.6						
POO	**Poona**	**28.60**	**308**	*e*P	P	17 24 20.6	+1.7
KKN	**Kakani**	**28.69**	**338**	*e*P	P	17 24 20.2	+0.5
	comp=E,136nm,0.8s,mb5.7						
LSA	**Lhasa**	**28.80**	**349**	P	P	17 24 22.0	+1.3
LSA				AP	pP	17 24 27.0	-0.3
LSA				XP	sP	17 24 30.0	-0.2
LSA				S	S	17 29 08.0	+0.2
LSA				XS		17 29 21.8	
LSA				SCS	ScS	17 35 03.5	+2.1
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
LSA				AMB	AMB		
	comp=Z,200nm,4.6s						
LSA				LR	LR		
	comp=N,770nm,17.8s,MS4.7						
LSA				LR	LR		
	comp=E,1μm,16.4s,MS4.7						
LSA				LR	LR		
	comp=Z,1μm,17.8s,MS4.6						
LSA	**Lhasa**	**28.80**	**349**	*e*P	P	17 24 21.4	+0.7
LSA				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.3						
LSA	**Lhasa**	**28.80**	**349**	*e*P	P	17 24 21.4	+0.7
	comp=Z,57nm,0.8s,mb5.3						
BHPL	**Bhopal**	**29.04**	**320**	*e*P	P	17 24 23.8	+0.9
BHPL				*e*	pP	17 24 32.2	+2.7
	comp=Z,20nm,0.8s						
BHPL				*e*S	S	17 29 09.9	-1.7
GKN	**Gorkha**	**29.13**	**337**	*e*P	P	17 24 24.2	+0.5
	comp=Z,300nm,1.0s,mb6.0						
KOLN	**Koldanda**	**29.35**	**335**	*e*P	P	17 24 26.3	+0.6
	comp=Z,168nm,0.8s,mb5.8						
CD2	**Chengdu**	**30.07**	**11**	⇓*i*P	P	17 24 31.0	-1.0
CD2				XP	sP	17 24 40.8	-0.8
CD2				S	S	17 29 25.0	-2.9
CD2				AMB	AMB		
	comp=Z,100nm,0.7s,mb5.7						
CD2				AMB	AMB		
	comp=Z,220nm,5.1s						
ENH	**Enshi**	**31.06**	**21**	⇑*e*P	P	17 24 39.2	-1.5
	comp=Z,164nm,0.7s,mb6.0						
ENH				*e*pP	pP	17 24 46.3	-1.1
QZH	**Quanzhou**	**31.27**	**40**	P	P	17 24 42.8	+0.2
QZH				S	S	17 29 53.0	+6.2
QZH				AMB	AMB		
	comp=Z,140nm,1.2s,mb5.7						
MBWA	**Marble Bar**	**31.37**	**137**	*e*P	P	17 24 44.4	+0.8
	comp=Z,46nm,1.3s,mb5.2						
MBWA				LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
LGTI	**Lohaghat**	**32.30**	**332**	*e*P	P	17 24 52.5	+0.9
PTH	**Pithoragarh**	**32.40**	**332**	*e*P	P	17 24 55.0	+2.5
SONA	**Sohna**	**32.98**	**326**	*e*P	P	17 24 57.4	-0.1
AYAN	**Aya Nagar**	**33.13**	**326**	*e*P	P	17 24 58.9	0.0
TATO	**Taipei**	**33.20**	**43**	*e*P	P	17 24 59.4	-0.1
	comp=Z,75nm,1.1s,mb5.5						

NJ2 S **S** **17 31 15.0 +3.3**
NJ2 XS 17 31 26.0
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,190nm,8.6s
NJ2 LR LR
comp=Z,3μm,24.2s,MS4.9
THN Thein Dam 36.98 329 *e* **P** **17 25 30.5 -1.2**
SSE Sheshan 37.31 35 P **P** **17 25 34.5 +0.1**
SSE AP pP 17 25 43.0 +1.9
SSE XP sP 17 25 47.3 +3.4
SSE S **S** **17 31 18.8 -1.4**
SSE XS 17 31 34.0
SSE AMB AMB
comp=Z,39nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,186nm,5.1s
SSE LR LR
comp=Z,2μm,15.7s,MS5.0
KAKA Kakadu 37.64 113 *e*P **P** **17 25 36.0 -1.3**
comp=Z,41nm,0.9s,mb5.2
MUN Mundaring 37.69 153 *e*P pP 17 25 47.2 +2.8
comp=Z,88nm,1.2s
GTA Gaotai 37.98 3⇑*i*P **P** **17 25 40.5 +0.5**
GTA AP pP 17 25 47.3 +0.6
GTA XP sP 17 25 50.8 +1.3
GTA PP PP 17 27 10.5 +0.4
GTA PPP PPP 17 27 32.5 +0.4
GTA PCP PcP 17 27 56.3 +0.3
GTA S **S** **17 31 29.3 -1.1**
GTA XS 17 31 42.0
GTA SCP 17 31 43.0
GTA SS SS 17 34 04.3 -3.3
GTA SCS ScS 17 35 48.8 0.0
GTA AMB AMB
comp=Z,70nm,0.9s,mb5.4
GTA AMB AMB
comp=Z,413nm,4.2s
GTA LR LR
comp=Z,2μm,13.8s,MS5.0
NWAO Narrogin (SRO) 38.96 153 P **P** **17 25 49.1 +0.8**
comp=Z,6.8nm,0.9s,mb4.4,slow=6.1,SNR=3.5
NWAO LR LR 17 41 18.9
comp=Z,1μm,21.4s,MS4.8,baz=327,slow=35
JOW Kunigami 39.15 47 P **P** **17 25 50.7 +0.8**
comp=Z,134nm,0.6s,mb5.8,baz=241,slow=6.8
JOW LR LR 17 41 59.9
comp=Z,494nm,19.7s,MS4.3,baz=228,slow=36
BTO Baotou 40.79 15 *e*P **P** **17 26 02.0 -1.3**
BTO S **S** **17 32 04.8 -7.9**
HHC Hu-ho-hao-te 41.44 17 *e*P **P** **17 26 10.3 +1.7**
HHC AP pP 17 26 21.0 +5.6
HHC XP sP 17 26 24.5 +6.4
HHC PP PP 17 27 52.8 +5.3
HHC PCP PcP 17 28 04.3 -2.7
HHC SCP 17 31 55.5
HHC PCS 17 32 01.3
HHC S **S** **17 32 25.8 +3.6**
HHC XS 17 32 38.0
HHC SS SS 17 35 26.8 +4.9
HHC SCS ScS 17 36 09.5 +0.5
HHC AMB AMB
comp=Z,58nm,1.5s,mb5.0
HHC AMB AMB
comp=Z,431nm,6.0s
WRA Warramunga Arr 42.09 122 P **P** **17 26 13.9 -0.4**
comp=Z,19nm,0.7s,mb4.9,baz=300,slow=9.1,SNR=163
WRA S **S** **17 32 28.4 -3.8**
comp=Z,4.3nm,1.2s,baz=295,slow=16,SNR=5.0
WRAB Tennant Creek 42.09 122⇑*e*P **P** **17 26 14.0 -0.3**
WRAB *e**PP pP 17 26 20.9 -0.2
WRAB pmax pmax
comp=Z,29nm,0.7s,mb5.0
WRAB MLR MLR
comp=Z,488nm,22.0s,MS4.3
WRAB Tennant Creek 42.09 122⇑*e*P **P** **17 26 14.0 -0.3**
comp=Z,29nm,0.7s,mb5.0
WRAB *e*pP pP 17 26 20.9 -0.1
WRAB LR LR
comp=Z,488nm,22.0s,MS4.3
WB2 Warramunga Arr 42.10 122 *e*P **P** **17 26 13.9 -0.5**
MSEY Mahe Island 42.12 262 PFAKE 17 26 30.0 +15
MSEY LR LR
comp=Z,198nm,20.0s,MS4.0
BJT Baijiatuau 42.20 22⇑*i*P **P** **17 26 16.0 +1.1**
BJT *e**PP pP 17 26 22.8 +1.1
BJT pmax pmax
comp=Z,89nm,0.7s
BJT Baijiatuau 42.20 22⇑*i*P **P** **17 26 16.0 +1.1**
comp=Z,89nm,0.7s,mb5.5
BJT *e*pP pP 17 26 22.8 +1.1
BJI Beijing 42.22 22 *e*P **P** **17 26 16.3 +1.2**
BJI AP pP 17 26 23.3 +1.4
BJI XP sP 17 26 28.0 +3.4
BJI PP PP 17 27 55.5 -0.4
BJI S **S** **17 32 34.5 +0.6**
BJI XS 17 32 48.5
BJI AMB AMB
comp=Z,124nm,0.7s,mb5.7
BJI AMB AMB
comp=Z,634nm,3.9s
BJI LR LR
comp=N,1μm,15.1s,MS5.0
BJI LR LR
comp=E,795nm,15.1s,MS5.0
BJI LR LR
comp=Z,807nm,21.8s
KSH Kashi 42.66 336 *e*P **P** **17 26 17.0 -1.8**
KSH *e*PP PP 17 27 58.0 -2.4
KSH *e*PCP PcP 17 28 10.3 -0.8
KSH *e*PPP PPP 17 28 30.5 -3.6
KSH *e*SCP 17 31 59.0
KSH *e*PCS 17 32 01.8
KSH *e*S **S** **17 32 36.3 -4.1**
KSH *e*SS SS 17 35 40.0 -5.0
KSH *e*SCS ScS 17 36 15.0 -1.5
KSH AMB AMB
comp=Z,250nm,3.8s
WMQ Urumqi 43.16 350⇑*i*P **P** **17 26 23.5 +0.8**
WMQ AP pP 17 26 29.5 +0.1
WMQ XP sP 17 26 32.5 +0.3
WMQ PP PP 17 28 06.3 +1.1
WMQ *e*S **S** **17 32 49.0 +1.5**
WMQ AMB AMB
comp=Z,80nm,1.1s,mb5.4
WMQ AMB AMB
comp=Z,284nm,4.3s
WMQ LR LR
comp=N,396nm,16.1s,MS4.5
WMQ LR LR
comp=E,396nm,18.8s,MS4.5
WMQ LR LR
comp=Z,226nm,24.5s
FORT Forrest 43.36 140 *e*P **P** **17 26 26.6 +2.1**
comp=Z,975nm,0.7s
ASPA Alice Springs 43.45 127⇑*i*P **P** **17 26 25.6 +0.2**
ASPA *e*S **S** **17 32 50.7 -1.4**
ASAR Alice Springs 43.46 127 P **P** **17 26 25.2 -0.2**
ASAR 17 28 13.4
ASAR S **S** **17 32 51.0 -1.1**
ASAR Alice Springs 43.46 127 P **P** **17 26 25.1 -0.3**
comp=Z,16nm,0.9s,mb4.7,baz=300,slow=7.4,SNR=83
ASAR PcP PcP 17 28 13.4 -0.6
comp=Z,4.4nm,0.8s,baz=303,slow=2.8,SNR=6.8
ASAR *p*PcP 17 28 20.2
comp=Z,2.0nm,0.8s,baz=299,slow=2.4,SNR=4.2
ASAR S **S** **17 32 51.0 -1.2**
comp=Z,4.5nm,1.1s,baz=298,slow=14,SNR=7.3
DL2 Dalian 43.56 28 P **P** **17 26 25.3 -0.8**
DL2 *e*S **S** **17 32 54.0 +0.5**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.1
DL2 AMB AMB
comp=Z,545nm,6.0s
ULHL Ulahol 44.89 338 P **P** **17 26 37.6 +0.9**
SNR=14
KZA Kyzart 45.12 337 P **P** **17 26 39.9 +1.2**
SNR=22
UCH Uchtor 45.54 336 P **P** **17 26 43.4 +1.4**
SNR=48
TKM2 Tokmak 2 45.71 338 P **P** **17 26 44.1 +0.9**
SNR=49
KBK Karagaybulak 45.73 337 P **P** **17 26 45.0 +1.6**
SNR=48
AML Almayashu 45.80 336 P **P** **17 26 45.3 +1.4**
SNR=34
AAK Ala-Archa 45.89 337 P **P** **17 26 46.4 +1.7**
SNR=8.3
AAK Ala-Archa 45.89 337⇑*e*P **P** **17 26 44.5 -0.2**
AAK pmax pmax
comp=Z,23nm,0.8s,mb5.2
AAK MLR MLR
comp=Z,218nm,19.0s,MS4.1
AAK Ala-Archa 45.89 337⇑*e*P **P** **17 26 44.5 -0.2**
comp=Z,22nm,0.8s,mb5.2
AAK LR LR
comp=Z,218nm,19.0s,MS4.1
FRU Bishkek 46.01 337⇑*e*P **P** **17 26 46.5 +0.9**
FRU pmax pmax
comp=Z,200nm,2.7s,mb5.6
FRU MLR MLR
comp=Z,900nm,19.0s,MS4.7
CHMS Chumysh 46.10 337 P **P** **17 26 47.0 +0.7**
SNR=9.0
EKS2 Erkin-Say 46.20 336 P **P** **17 26 48.5 +1.4**
SNR=40
USP Ospenovka 46.43 337 P **P** **17 26 49.4 +0.5**
SNR=71
SNY Shenyang 46.79 27 ⇑P **P** **17 26 51.5 -0.3**
SNY PP PP 17 28 40.5 -1.1
SNY S **S** **17 33 44.5 +4.7**
SNY SS SS 17 37 02.0 +2.9
SNY AMB AMB
comp=Z,50nm,1.0s,mb5.4
SNY AMB AMB
comp=Z,210nm,5.9s
SNY LR LR
comp=Z,2μm,15.3s,MS5.2
SONM Songino Array 47.01 8 P **P** **17 26 53.7 +0.3**
comp=Z,44nm,0.7s,mb5.5,baz=190,slow=8.7,SNR=353
SONM pP pP 17 27 00.3 +0.1
comp=Z,41nm,0.8s,baz=192,slow=8.8,SNR=20
SONM PcP PcP 17 28 25.8 -0.1
comp=Z,6.2nm,0.6s,baz=194,slow=3.6,SNR=5.3
SONM *p*PcP 17 28 32.6
comp=Z,4.0nm,0.6s,baz=193,slow=3.8,SNR=5.8
SONM LR LR 17 49 25.5
comp=Z,4μm,18.0s,MS5.4,baz=96,slow=40
MKAR Makanchi Array 47.13 346 P **P** **17 26 54.4 0.0**
comp=Z,38nm,0.8s,mb5.4,baz=158,slow=7.8,SNR=382
MKAR pP pP 17 27 01.4 +0.2
comp=Z,39nm,0.7s,baz=156,slow=7.4,SNR=18
MKAR LR LR 17 50 30.2
comp=Z,600nm,21.2s,MS4.5,baz=171,slow=41
ULN Ulaanbaatar 47.14 9⇑*i*P **P** **17 26 54.8 +0.3**
ULN *e* 17 28 25.9
ULN pmax pmax
comp=Z,34nm,0.8s,mb5.3
ULN MLR MLR
comp=Z,851nm,19.0s,MS4.7
ULN Ulaanbaatar 47.14 9⇑*i*P **P** **17 26 54.8 +0.3**
comp=Z,34nm,0.8s,mb5.3
ULN *e*PcP PcP 17 28 25.9 -0.5
ULN LR LR
comp=Z,851nm,19.0s,MS4.7
KKAR Karatay Array 47.95 334 *i*P **P** **17 27 00.9 0.0**
KKAR pmax pmax
comp=Z,13nm,0.8s,mb5.0
ZAK Zakamensk 49.15 5⇓*e*P **P** **17 27 10.0 -0.1**
ZAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
CN2 Changchun 49.19 27 *e*P **P** **17 27 13.8 +3.3**
CN2 *e*XP sP 17 27 23.8 +3.8
CN2 *e*S **S** **17 34 18.5 +4.9**
CN2 SS SS 17 37 45.8 +5.0
CN2 AMB AMB
comp=Z,80nm,0.7s,mb5.9
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,2μm,17.0s,MS5.1
CBIJ Chichi jima 50.14 55 P **P** **17 27 17.1 -0.9**
comp=Z,94nm,0.7s,mb5.9,baz=278,slow=19,SNR=4.1
MOY Mondy 50.27 3 *e*P **P** **17 27 19.0 +0.4**
MOY pmax pmax
comp=Z,38nm,2.4s,mb5.0
TLY Talaya 50.47 5⇑*i*P **P** **17 27 20.8 +0.6**
TLY *e* 17 29 14.5
TLY *e*S **S** **17 34 27.4 -3.8**
TLY *e* 17 37 05.7
TLY pmax pmax
comp=Z,308nm,0.8s
TLY MLR MLR
comp=Z,2μm,16.0s,MS5.1
TLY Talaya 50.47 5⇑*i*P **P** **17 27 20.7 +0.5**
TLY LR LR
comp=Z,407nm,19.0s,MS4.5
PMG Port Moresby 50.87 103 P **P** **17 27 23.2 -0.5**
comp=Z,24nm,1.0s,mb5.1,baz=276,slow=13,SNR=3.6
IRK Irkutsk 51.09 6 *e*P **P** **17 27 24.6 -0.2**
IRK *e* 17 29 23.7
IRK pmax pmax
comp=Z,53nm,1.5s,mb5.2
HIA Hailar 51.52 19⇑*e*P **P** **17 27 27.8 -0.4**
HIA pmax pmax
comp=Z,50nm,0.9s
HIA Hailar 51.52 19⇑*e*P **P** **17 27 27.8 -0.4**
comp=Z,50nm,0.9s,mb5.5
MAJO Matsushiro 51.59 42 *e*P **P** **17 27 28.0 -0.9**
MAJO pmax pmax
comp=Z,16nm,1.1s,mb4.9
MAJO MLR MLR
comp=Z,688nm,19.0s,MS4.7
MAJO Matsushiro 51.59 42 *e*P **P** **17 27 28.0 -0.9**
comp=Z,16nm,1.1s,mb4.9
MAJO LR LR
comp=Z,688nm,19.0s,MS4.7
MAT Matsushiro 51.59 42 *e*P **P** **17 27 27.0 -1.9**
MAT *e*S **S** **17 34 45.0 -1.9**
MAT pmax pmax
comp=Z,27nm,1.2s,mb5.0
MAT Matsushiro 51.59 42 *e*P **P** **17 27 27.0 -1.9**
comp=Z,27nm,1.2s,mb5.0
MAT *e*S **S** **17 34 45.0 -1.9**
MAT Matsushiro 51.59 42 P **P** **17 27 27.1 -1.8**
MAT S **S** **17 34 48.0 +1.1**
MJAR Matsushiro Arr 51.59 42 P **P** **17 27 27.9 -1.0**
comp=Z,10nm,0.8s,mb4.8,baz=227,slow=6.3,SNR=30
MJAR LR LR 17 49 33.9
comp=Z,558nm,21.5s,MS4.6,baz=245,slow=36
MDJ Mudanjiang 51.75 29 P **P** **17 27 30.3 +0.3**
MDJ AP pP 17 27 37.3 +0.4
MDJ XP sP 17 27 40.8 +1.3
MDJ PP PP 17 29 29.8 +1.4
MDJ S **S** **17 34 54.5 +5.5**
MDJ AMB AMB
comp=Z,42nm,0.7s,mb5.5
MDJ AMB AMB
comp=Z,265nm,4.2s
MDJ LR LR
comp=Z,2μm,13.5s,MS5.2
MDJ Mudanjiang 51.75 29⇑*e*P **P** **17 27 30.2 +0.2**
comp=Z,38nm,0.8s,mb5.4
CTA Charters Tower 52.54 117 P **P** **17 27 36.2 -0.1**
comp=Z,7.7nm,0.8s,mb4.7,baz=273,slow=11,SNR=4.6
CTA pP pP 17 27 43.7 +0.6
comp=Z,11nm,0.9s,baz=298,slow=9.8,SNR=3.7
CTA LR LR 17 54 22.4
comp=Z,978nm,18.1s,MS4.9,baz=283,slow=41
CTA Charters Tower 52.54 117 P **P** **17 27 36.2 -0.1**
CTA pP pP 17 27 43.7 +0.6
CTA LR LR 17 54 22.4
CTAO Charters Tower 52.54 117 P **P** **17 27 36.6 +0.3**
CTAO pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CTAO MLR MLR
comp=Z,1μm,20.0s,MS4.9
CTAO Charters Tower 52.54 117 P **P** **17 27 36.6 +0.3**
comp=Z,8.1nm,0.7s,mb4.8
CTAO LR LR
comp=Z,1μm,20.0s,MS4.9
OPO Ambohidratompo 52.99 246 P **P** **17 27 39.0 -0.6**
comp=Z,6.9nm,1.0s,mb4.5,baz=79,slow=9.7,SNR=7.9
STKA Stephens Creek 53.43 132⇑*i*P **P** **17 27 43.0 +0.3**
comp=Z,13nm,0.8s,mb4.9
STKA Stephens Creek 53.43 132 P **P** **17 27 43.0 +0.4**
comp=Z,18nm,0.8s,mb5.1,baz=299,slow=7.1,SNR=32
NVS Novosibirsk 54.56 350 *e*P **P** **17 27 47.9 -2.7**
NVS *e*PPP PP 17 29 52.4 -2.1
NVS *e*S **S** **17 35 21.9 -5.1**
NVS pmax pmax
comp=N,26nm,0.8s
NVS pmax pmax
comp=E,18nm,0.8s
NVS pmax pmax
comp=Z,36nm,0.8s,mb5.5
NVS smax
comp=N,31nm,1.9s
NVS smax
comp=E,14nm,1.9s
BVA0 Borovoye Array 56.14 341 *i*P **P** **17 28 00.8 -1.3**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BVAR Borovoye Array 56.14 341 P **P** **17 28 00.9 -1.2**
comp=Z,33nm,0.7s,mb5.5,baz=149,slow=8.6,SNR=219
KLR Kul'dur 56.14 27⇓*i*P **P** **17 27 59.0 -3.2**
KLR *e*S **S** **17 35 45.5 -2.7**
KLR *e*SS SS 17 39 37.5 +2.6
KLR MLR MLR
comp=E,700nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s,MS5.3
CHKZ Chkalovo 56.62 341⇑*i*P **P** **17 28 04.3 -1.2**
CHKZ pmax pmax
comp=Z,52nm,0.7s,mb5.7
CHKZ Chkalovo 56.62 341⇑*i*P **P** **17 28 04.3 -1.2**
comp=Z,52nm,0.7s,mb5.7
AB31 Akbulak array 57.41 332 P **P** **17 28 10.2 -1.1**
AB31 pmax pmax
comp=Z,33nm,0.7s,mb5.5
BOD Bodaibo 57.89 11⇑*i*P **P** **17 28 14.3 -0.1**
BOD pmax pmax
comp=Z,54nm,0.9s,mb5.6
ASAJ Asahikawa 58.56 37 P **P** **17 28 19.1 -0.2**
comp=Z,14nm,1.0s,mb5.0,baz=206,slow=5.3,SNR=10.0
ASAJ pP pP 17 28 26.4 +0.1
comp=Z,23nm,0.8s,baz=134,slow=2.3,SNR=8.9
BHD Baghdad 58.77 309 *e*P **P** **17 28 18.0 -3.0**
CLNS Chul'man 59.62 17 *e*P **P** **17 28 26.6 +0.1**
CLNS *e* 17 29 18.5
CLNS *e* 17 30 34.4
CLNS *e*S **S** **17 36 26.2 -7.5**
CLNS *e*SS SS 17 40 22.2 -8.5
CLNS pmax pmax
comp=Z,71nm,0.7s,mb5.8
CLNS pmax pmax
comp=N,29nm,0.8s
CLNS pmax pmax
comp=E,27nm,0.7s
CLNS pmax pmax
comp=Z,12nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS smax
comp=E,10.0nm,0.9s
CLNS smax
comp=Z,7.0nm,0.8s
CLNS smax
comp=N,6.0nm,1.0s
CLNS MLR MLR
comp=Z,2μm,15.0s,MS5.5
CLNS MLR MLR
comp=N,2μm,16.0s,MS5.2
CLNS MLR MLR
comp=E,400nm,15.0s,MS5.2
KMBO Kilima Mbogo 60.01 268 *i*P **P** **17 28 31.8 +2.0**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 60.01 268 P **P** **17 28 29.5 -0.3**
comp=Z,1.5nm,0.8s,mb4.1,baz=52,slow=24,SNR=3.7
KMBO LR LR 17 53 31.3
comp=Z,597nm,18.1s,MS4.8,baz=98,slow=35
KMBO Kilima Mbogo 60.01 268 *e*P **P** **17 28 30.1 +0.4**
comp=Z,5.9nm,0.9s,mb4.6
YSS Yuzh-Sakhalins 60.24 34⇑*i*P **P** **17 28 30.0 -0.9**
YSS *e* 17 28 39.8
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS MLR MLR
comp=Z,1μm,16.0s,MS5.0
YSS MLR MLR
comp=N,500nm,15.0s,MS5.1
YSS MLR MLR
comp=E,900nm,16.0s,MS5.1
YSS Yuzh-Sakhalins 60.24 34⇑*e*P **P** **17 28 30.7 -0.2**
comp=E,92nm,1.0s,mb5.8
MSL Mosul 60.87 311 *e*P **P** **17 28 38.5 +3.2**
GNI Garni 61.22 316 *e*P **P** **17 28 37.0 -0.6**
GNI pmax pmax
comp=Z,42nm,1.0s
GNI Garni 61.22 316 P **P** **17 28 37.2 -0.5**
comp=Z,3.8nm,0.3s,mb5.0,baz=177,slow=21,SNR=6.0
GNI Garni 61.22 316 *e*P **P** **17 28 37.0 -0.7**
comp=Z,42nm,1.0s,mb5.5
DGRG David-gareji 61.35 318 P **P** **17 28 38.3 -0.3**
TI2 Plekhanov 61.89 318⇑*i*P **P** **17 28 49.0 +6.8**
TI2 pmax pmax
comp=Z,40nm,0.8s,mb5.6
SVE Sverdlovsk 62.58 338⇑*i*P **P** **17 28 45.0 -1.6**
SVE *e* 17 28 59.0
SVE *e*S **S** **17 37 11.0 -0.4**
SVE *e* 17 38 36.0
SVE pmax pmax
comp=Z,88nm,1.5s,mb5.7
SVE MLR MLR
comp=N,400nm,15.0s,MS4.9
SVE MLR MLR
comp=E,400nm,15.0s,MS4.9
SVE MLR MLR
comp=Z,600nm,15.0s,MS4.9
ZEI Tsey 62.92 318 *e*P **P** **17 28 42.3 -6.7**
ZEI *i**PP pP 17 28 54.8 -1.2
ZEI pmax pmax
comp=Z,12nm,0.9s,mb5.0
ARU Arti 63.08 337⇑*i*P **P** **17 28 48.3 -1.5**
ARU *e* 17 29 21.2
ARU *e*S **S** **17 37 14.8 -2.8**
ARU *e* 17 38 34.6
ARU *e*SS SS 17 41 16.5 -9.1
ARU *e*SSS SSS 17 44 06.2 -4.4
ARU pmax pmax
comp=Z,31nm,1.0s,mb5.4
ARU MLR MLR
comp=Z,500nm,18.0s,MS4.7
ARU MLR MLR
comp=N,100nm,19.0s,MS4.7
ARU MLR MLR
comp=E,400nm,17.0s,MS4.7
ARU Arti 63.08 337⇑*i*P **P** **17 28 48.2 -1.6**
comp=E,32nm,0.8s,mb5.5
HNR Honiara 63.37 101 P **P** **17 28 51.7 -0.7**
comp=E,98nm,0.8s,mb6.0,baz=245,slow=3.6,SNR=11
KIV Kislovodsk 64.22 319⇑*i*P **P** **17 28 56.8 -0.8**
ASF Jabal al Asfar 64.41 305 P **P** **17 28 58.9 -0.1**
comp=E,4.1nm,0.8s,mb4.5,baz=18,slow=2.5,SNR=6.2
GOF Gofitskoye 64.48 320⇑*i*P **P** **17 28 57.2 -2.0**
GOF pmax pmax
comp=Z,20nm,1.3s,mb5.0
MALT Malatya 65.06 312⇑*e*P **P** **17 29 02.5 -0.6**
MALT *e**PP pP 17 29 10.2 +0.1
MALT pmax pmax
comp=Z,15nm,0.9s,mb5.0
MALT Malatya 65.06 312⇑*e*P **P** **17 29 02.5 -0.6**
comp=Z,15nm,0.9s,mb5.0
MALT *e*pP pP 17 29 10.2 +0.1
YAK Yakutsk 65.30 16*c i*P **P** **17 29 03.3 -0.9**
YAK *e**PP pP 17 29 12.6 +1.4
YAK *e* 17 29 29.4
YAK *e* 17 31 28.6
YAK *e*PPP PPP 17 33 06.7 +2.3
YAK *e*S S 17 37 58.4 +13
YAK *e* 17 38 51.2
YAK pmax pmax
comp=Z,94nm,0.9s,mb5.8
YAK pmax pmax
comp=N,29nm,1.0s
YAK pmax pmax
comp=E,24nm,1.2s
YAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
YAK smax
comp=E,2.0nm,1.2s
YAK MLR MLR
comp=Z,918nm,14.0s,MS5.1

YAK MLR MLR
comp=N,609nm,13.0s,MS5.0
YAK MLR MLR
comp=E,396nm,15.0s,MS5.0
YAK Yakutsk 65.30 16⇑ *i*P **P 17 29 02.8 -1.4**
comp=E,188nm,0.9s,mb6.1
YAK *e*pP pP 17 29 10.3 -0.9
EIL Elat 65.40 302 P **P 17 29 05.5 +0.1**
comp=E,8.9nm,0.8s,mb4.9,baz=99,slow=1.7,SNR=11
EIL Elat 65.40 302 *e*P **P 17 29 05.2 -0.2**
comp=E,19nm,1.0s,mb5.1
EIL *e*pP pP 17 29 11.9 -0.6
SOKR Solikamsk 65.97 339⇓ *i*P **P 17 29 06.8 -1.8**
SOKR pmax pmax
comp=Z,50nm,0.9s,mb5.5
SOKR MLR MLR
comp=Z,510nm,19.0s,MS4.8
SOC Sochi 66.04 318 *e*P **P 17 29 06.2 -3.1**
SOC *e* 17 29 35.3
SOC *e*PPP PPP 17 33 06.0 -6.1
SOC *e*S S 17 37 51.0 -3.4
SOC *e* 17 38 59.8
SOC *e*SS SS 17 42 08.4 -2.9
SOC pmax pmax
comp=Z,38nm,1.1s,mb5.3
SOC pmax pmax
comp=N,7.0nm,0.9s
SOC pmax pmax
comp=E,7.0nm,1.0s
SOC MLR MLR
comp=Z,264nm,21.0s,MS4.4
SOC MLR MLR
comp=N,198nm,21.0s,MS4.3
SOC MLR MLR
comp=E,107nm,21.0s,MS4.3
MBAR Mbarara 66.50 269 *e*P **P 17 29 11.5 -1.2**
MBAR *e**PP pP 17 29 18.3 -1.4
MBAR pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
MBAR Mbarara 66.50 269 *e*P **P 17 29 11.5 -1.2**
comp=Z,6.4nm,1.4s,mb4.5
MBAR *e*pP pP 17 29 18.3 -1.4
MIR Mirnyy 67.79 182 *e*P **P 17 29 21.0 +1.0**
MIR pmax pmax
comp=Z,29nm,1.4s,mb5.1
ANN Anapa 68.02 318 *e*P **P 17 29 22.0 +0.2**
ANN *e*S S 17 38 16.0 -2.2
ANN pmax pmax
comp=Z,32nm,1.3s,mb5.2
ANN MLR MLR
comp=Z,288nm,23.0s,MS4.4
ANN MLR MLR
comp=N,366nm,23.0s,MS4.6
ANN MLR MLR
comp=E,233nm,23.0s,MS4.6
BRTR Keskin Array B 69.04 312 P **P 17 29 26.7 -1.5**
comp=E,4.7nm,0.7s,mb4.5,baz=129,slow=7.1,SNR=23
BRTR pP pP 17 29 34.0 -1.3
comp=E,6.7nm,0.8s,baz=119,slow=6.0,SNR=11
VOR Voronezh 69.68 326 *e*P **P 17 29 31.2 -0.7**
VOR *e**PP pP 17 29 38.0 -0.9
VOR pmax pmax
comp=Z,40nm,1.1s,mb5.3
SIM Simferopol' 70.28 318 *de*P **P 17 29 41.9 +6.2**
SIM *e*S S 17 38 44.0 -1.0
SIM pmax pmax
comp=Z,19nm,1.0s,mb5.0
SIM MLR MLR
comp=Z,200nm,22.0s,MS4.3
MATP Matopo 70.58 248 P **P 17 29 38.1 +0.2**
comp=Z,10nm,1.0s,mb4.7,baz=72,slow=6.2,SNR=13
MATP pP pP 17 29 44.9 -0.1
comp=Z,8.5nm,0.9s,baz=87,slow=5.5,SNR=7.6
PET Petropavlovsk 72.12 34 *e*P **P 17 29 46.4 -0.2**
PET *e* 17 32 20.7
PET *e*S S 17 39 10.3 +4.2
PET *e*PPS PPS 17 39 54.5 +1.6
PET pmax pmax
comp=Z,81nm,0.7s,mb5.8
PET pmax pmax
comp=Z,100nm,13.6s
PET pmax pmax
comp=Z,100nm,23.0s
PET pmax pmax
comp=Z,100nm,14.3s
PET smax
comp=N,100nm,15.3s
PET MLR MLR
comp=Z,500nm,17.0s,MS4.8
PET Petropavlovsk 72.12 34 *e*P **P 17 29 46.3 -0.4**
comp=Z,50nm,0.8s,mb5.5
MOS Moscow 72.23 329 *e*P **P 17 29 45.3 -2.0**
MOS *e* 17 30 08.3
MOS *e* 17 32 24.0
MOS *e*S S 17 39 02.0 -5.3
MOS pmax pmax
comp=Z,100nm,0.8s,mb5.8
MOS pmax pmax
comp=Z,73nm,0.7s,mb5.7
OBN Obninsk 72.52 328 *c i*P **P 17 29 47.9 -1.1**
OBN *e* 17 32 35.3
OBN *i*S S 17 39 11.8 +1.2
OBN pmax pmax
comp=Z,52nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
OBN Obninsk 72.52 328⇑ *e*P **P 17 29 47.5 -1.4**
comp=Z,13nm,0.8s,mb4.9
MAW Mawson 72.83 193 P **P 17 29 51.0 +0.4**
comp=Z,2.7nm,0.7s,mb4.3,baz=327,slow=4.4,SNR=4.4
MAW LR LR 17 58 06.6
comp=Z,388nm,18.3s,MS4.7,baz=188,slow=33
TIXI Tiksi 73.06 10 *i*P **P 17 29 50.9 -1.0**
SEY Seymchan 73.64 23 *e*P **P 17 29 57.8 +2.4**
SEY *e* pP 17 30 06.0 +3.6
SEY 17 32 46.8
SEY PPP PPP 17 34 29.8 +4.0
SEY *e* 17 40 11.8
SEY pmax pmax
comp=E,20nm,0.8s
SEY pmax pmax
comp=Z,90nm,0.8s,mb5.8
SEY pmax pmax
comp=N,30nm,1.2s
SEY MLR MLR
comp=Z,4μm,17.0s,MS5.7
SEY MLR MLR
comp=N,2μm,17.0s,MS5.6
SEY MLR MLR
comp=E,2μm,19.0s,MS5.6
LBTB Lobatse 73.95 244 *e*P **P 17 29 57.8 -0.1**
LBTB pmax pmax
comp=Z,24nm,1.4s,mb4.9
LBTB Lobatse 73.95 244 *e*P **P 17 29 57.8 -0.2**
comp=Z,24nm,1.4s,mb4.9
BOSA Boshof 74.85 240 P **P 17 30 02.5 -0.6**
comp=Z,3.0nm,0.8s,mb4.3,baz=54,slow=7.4,SNR=3.8
BOSA LR LR 18 01 21.1
comp=Z,375nm,18.3s,MS4.7,baz=274,slow=34
AKASG Malin Array Be 75.17 322 P **P 17 30 02.8 -1.7**
comp=Z,6.8nm,0.7s,mb4.7,baz=90,slow=4.6,SNR=43
MLR Muntele Rosu 75.99 317 P **P 17 30 09.6 +0.3**
comp=Z,7.5nm,0.9s,mb4.6,baz=78,slow=3.7,SNR=11
MLR pP pP 17 30 16.4 +0.1
comp=Z,18nm,1.0s,baz=113,slow=5.0,SNR=13
MNK Minsk 77.06 326 *e*P **P 17 30 12.0 -3.0**
JOF Joensuu 78.04 335 *ep* **P 17 30 18.3 -1.9**
comp=Z,8.3nm,0.8s,mb4.7
LVV L'vov 78.18 321 *e*P **P 17 30 20.9 -0.4**
KWP Kalwaria 78.98 320 *e*P **P 17 30 26.1 +0.4**
APA Apatity 79.02 339⇑ *i*P **P 17 30 25.6 +0.1**
APA *i* 17 30 30.0
APA *e*S S 17 40 22.0 +0.2
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
APA MLR MLR
comp=Z,800nm,17.0s,MS5.1
SVIS Svilajnac 79.06 315 *e*P **P 17 30 32.0 +5.8**
KOLS Kolonicke sedl 79.13 320 *e*P **P 17 30 27.6 +1.1**
KOLS *ep*P pP 17 30 34.2 +0.6
RPZ Rata Peaks 79.28 135 P **P 17 30 27.8 +0.4**
comp=Z,7.2nm,0.7s,mb4.7,baz=193,slow=18,SNR=4.8
RPZ pP pP 17 30 34.9 +0.3
comp=Z,9.0nm,0.7s,baz=320,slow=10,SNR=3.3
SUW Suwalki 79.58 325 *e*P **P 17 30 28.6 -0.2**
FINES FINESS Array B 79.90 332 P **P 17 30 29.8 -0.6**
comp=Z,7.8nm,0.8s,mb4.7,baz=104,slow=7.9,SNR=30
FINES pP pP 17 30 36.6 -0.9
comp=Z,5.0nm,0.8s,baz=91,slow=4.9,SNR=8.3
FINES LR LR 18 12 47.7
comp=Z,198nm,18.2s,MS4.5,baz=305,slow=41
DIVS Divcibare 79.91 314 *e*P **P 17 30 30.0 -0.8**
KAF Kangasniemi 79.98 333 *ep* **P 17 30 28.9 -1.9**
comp=Z,9.0nm,0.7s,mb4.8,baz=102,slow=5.0
KAF Kangasniemi 79.98 333 *e*P **P 17 30 28.9 -1.9**
KAF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
SYO Syowa Base 80.12 198 ⇑P **P 17 30 32.5 +1.1**
SYO Syowa Base 80.12 198 ⇓PcP PcP 17 30 39.0 -0.2
KECS Kecovo 80.22 319 *e*P **P 17 30 29.7 -2.7**
NIE Niedzica 80.48 320 *e*P **P 17 30 33.5 -0.2**
PSZ Piszkesteto 80.53 318⇑ *e*P **P 17 30 34.0 0.0**
PSZ *e**PP pP 17 30 41.0 -0.1
PSZ pmax pmax
comp=Z,14nm,1.0s,mb4.8
PSZ Piszkesteto 80.53 318⇑ *e*P **P 17 30 34.0 0.0**
comp=Z,14nm,1.0s,mb4.9
PSZ *ep*P pP 17 30 41.0 -0.2
OJC Ojcow 80.94 321 *e*P **P 17 30 36.5 +0.4**
OJC *e*PcP PcP 17 30 43.4 +0.4
BILL Bilibino 81.05 21 *e*P **P 17 30 35.5 -0.8**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BILL Bilibino 81.05 21 *e*P **P 17 30 35.5 -0.9**
comp=Z,6.5nm,0.8s,mb4.6
VYHS Vyhne 81.31 319 *e*P **P 17 30 38.1 0.0**
VYHS *ep*P pP 17 30 45.4 +0.1
OKC Ostrava-Krasne 81.94 320 *e*P **P 17 30 41.9 +0.6**
OKC *e**PP pP 17 30 48.9 +0.4
OKC *e*S S 17 40 48.8 -3.7
OKC MLR MLR
comp=Z,200nm,17.5s,MS4.5
OKC Ostrava-Krasne 81.94 320 *e*P **P 17 30 41.9 +0.6**
OKC *ep*P pP 17 30 48.9 +0.4
OKC *e*S S 17 40 48.8 -3.7
OKC *ex* x 17 52 41.4
OKC AMS AMS 18 16 50.0
comp=Z,200nm,17.5s
MORC Moravsky Berou 82.32 320⇑ *e*P **P 17 30 43.3 0.0**
MORC *e**PP pP 17 30 49.7 -0.8
MORC pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MORC Moravsky Berou 82.32 320⇑ *e*P **P 17 30 43.2 -0.1**
comp=Z,8.8nm,0.9s,mb4.7
MORC *ep*P pP 17 30 49.7 -0.7
ZST Bratislava 82.42 318 *e*P **P 17 30 44.7 +0.8**
ZST *ep*P pP 17 30 51.1 +0.1
ARCES ARCESS Array B 82.43 340 P **P 17 30 43.5 +0.1**
comp=Z,13nm,1.0s,mb4.8,baz=96,slow=4.4,SNR=19
ARCES LR LR 18 13 34.9
comp=Z,446nm,18.2s,MS4.9,baz=217,slow=40
ARCES ARCESS Array B 82.43 340 P **P 17 30 43.5 +0.1**
ARCES LR LR 18 13 34.9
DPC Dobruska-Polom 83.17 320 *e*P **P 17 30 48.6 +0.9**
DPC *e**PP pP 17 30 55.0 +0.1
DPC *e*S S 17 41 06.0 +1.0
DPC MLR MLR
comp=Z,200nm,21.2s,MS4.5
DPC Dobruska-Polom 83.17 320 *e*P **P 17 30 48.6 +0.9**
DPC *ep*P pP 17 30 55.0 +0.1
DPC *e*S S 17 41 06.0 +1.0
DPC *ex* x 17 52 53.3
DPC AMS AMS 18 13 50.0
comp=Z,200nm,21.2s
UPC Upice 83.38 321 *e*P **P 17 30 49.3 +0.5**
UPC *ep*P pP 17 30 56.2 +0.2
BOJS Bojanci 83.42 315 *i*P **P 17 30 49.0 -0.1**
BOJS *e* pP 17 30 56.5 +0.3
PERS Pernice 83.61 317 *e*P **P 17 30 50.2 +0.2**
PERS *e* pP 17 30 57.3 +0.1
LJU Ljubljana 83.97 316 *e*P **P 17 30 52.4 +0.5**
LJU *e* pP 17 30 59.3 +0.2
PRU Pruhonice 84.27 320 *e*P **P 17 30 53.9 +0.6**
PRU *e**PP pP 17 31 00.3 -0.2
PRU *e*S S 17 41 16.5 +0.5
PRU MLR MLR
comp=Z,200nm,23.3s,MS4.4
PRU Pruhonice 84.27 320 *e*P **P 17 30 53.9 +0.6**
PRU *ep*P pP 17 31 00.3 -0.2
PRU *e*S S 17 41 16.5 +0.5
PRU *ex* x 17 53 26.1
PRU AMS AMS 18 14 30.0
comp=Z,200nm,23.3s
PVCC Panska Ves 84.30 320 *e*P **P 17 30 53.4 0.0**
PVCC *e**PP pP 17 31 01.1 +0.5
PVCC MLR MLR
comp=Z,200nm,16.2s,MS4.6
PVCC Panska Ves 84.30 320 *e*P **P 17 30 53.4 0.0**
PVCC *ep*P pP 17 31 01.1 +0.5
PVCC *e*S S 17 41 00.2 -16
PVCC AMS AMS 18 14 10.0
comp=Z,200nm,16.2s
VOY Vojsko 84.41 316 *e*P **P 17 30 53.9 -0.2**
VOY *e* pP 17 31 01.1 -0.2
AQU L'Aquila 84.53 312 P **P 17 30 54.4 -0.4**
AQU pmax pmax
comp=Z,24nm,1.0s,mb5.3
AQU L'Aquila 84.53 312 P **P 17 30 54.4 -0.4**
comp=Z,24nm,1.0s,mb5.3
ROBS Robic 84.69 316 *e*P **P 17 30 55.2 -0.3**
ROBS *e* pP 17 31 01.5 -1.2
BRG Berggiesshubel 84.72 321 *e*P **P 17 30 56.0 +0.4**
BRG *e* 17 31 10.3
BRG *e*S S 17 41 21.0 +0.6
BRG pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
BRG MLR MLR
comp=Z,280nm,24.4s,MS4.6
BRG Berggiesshubel 84.72 321 *e*P **P 17 30 56.0 +0.4**
comp=Z,9.2nm,1.1s,mb4.8
BRG *e* 17 31 10.3
BRG *e*S S 17 41 21.0 +0.6
BRG LR LR
comp=Z,280nm,24.4s,MS4.6
GEC2 GERESS Array S 84.73 319 *e*P **P 17 30 56.3 +0.7**
GEC2 pmax pmax
comp=Z,21nm,1.1s,mb5.2
GEC2 GERESS Array S 84.73 319 *e*P **P 17 30 56.3 +0.7**
comp=Z,21nm,1.1s,mb5.2
GERES GERESS Array B 84.73 319 P **P 17 30 55.9 +0.3**
comp=Z,5.5nm,0.9s,mb4.7,baz=104,slow=5.5,SNR=43
GERES pP pP 17 31 03.2 +0.4
comp=Z,8.9nm,0.9s,baz=104,slow=5.5,SNR=19
KHC Kasperske Hory 84.83 319 *e*P **P 17 30 56.2 +0.1**
KHC *e**PP pP 17 31 02.0 -1.3
KHC *e*S S 17 41 22.3 +0.7
KHC MLR MLR
comp=Z,200nm,15.9s,MS4.6
KHC Kasperske Hory 84.83 319 *e*P **P 17 30 56.2 +0.1**
KHC *ep*P pP 17 31 02.0 -1.3
KHC *e*S S 17 41 22.3 +0.7
KHC *ex* x 17 53 22.2
KHC AMS AMS 18 19 40.0
comp=Z,200nm,15.9s
WET Wettzell 85.29 319 *e*P **P 17 30 58.7 +0.3**
WET pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
WET Wettzell 85.29 319 *e*P **P 17 30 58.7 +0.3**
comp=Z,10.0nm,0.9s,mb5.0
CLL Collm 85.35 321 *e*P **P 17 30 59.0 +0.4**
CLL *e* pP 17 31 06.0 +0.1
CLL *e*S S 17 41 25.0 -1.5
CLL pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
CLL Collm 85.35 321 *e*P **P 17 30 59.0 +0.4**
comp=Z,6.0nm,1.1s,mb4.6
CLL *e* pP 17 31 06.0 +0.1
CLL *e*S S 17 41 25.0 -1.5
CLL Collm 85.35 321 P **P 17 30 59.0 +0.4**
comp=Z,logA/T=0.7,mb4.6
CLL *e**PP pP 17 31 06.0 +0.1
CLL *e**SP sP 17 31 11.0 +2.8
CLL *e*S S 17 41 25.0 -1.5
CLL *e*PPS PPS 17 42 36.0 -15
CLL *e*L 17 53 39.0
VNDA Vanda 85.94 169 P **P 17 31 02.7 +1.6**
comp=Z,2.9nm,1.2s,mb4.4,baz=336,slow=6.5,SNR=6.6
VNDA pP pP 17 31 08.7 +0.4
comp=Z,12nm,1.2s,baz=301,slow=5.4,SNR=20
VNDA LR LR 18 06 50.9
comp=Z,405nm,18.2s,MS4.9,baz=310,slow=34
VNDA Vanda 85.94 169 P **P 17 31 02.7 +1.6**
VNDA pP pP 17 31 08.7 +0.4
VNDA LR LR 18 06 50.9
MOX Moxa 86.19 320 *e*P **P 17 31 03.3 +0.5**
MOX pmax pmax
comp=Z,9.0nm,1.4s,mb4.8
MOX Moxa 86.19 320 *e*P **P 17 31 03.3 +0.5**
comp=Z,9.0nm,1.4s,mb4.8
MOX Moxa 86.19 320 *i*P **P 17 31 00.7 -2.1**
comp=Z,logA/T=1.8,mb5.8
MOX L 18 25 30.0
GRA1 Grafenberg Arr 86.40 320 *e*P **P 17 31 04.5 +0.6**
comp=Z,16nm,0.9s,mb5.2
GRA1 *ep*P pP 17 31 11.5 +0.4
GRA1 LR LR
comp=Z,200nm,21.9s,MS4.5
GRF Grafenberg Arr 86.40 320 *e*P **P 17 31 04.5 +0.6**
GRF *e**PP pP 17 31 11.5 +0.4
GRF pmax pmax
comp=Z,16nm,0.9s,mb5.2
GRF MLR MLR
comp=Z,200nm,21.9s,MS4.5
GRF Grafenberg Arr 86.40 320 *e*P **P 17 31 04.5 +0.6**
GRF *e**PP pP 17 31 11.5 +0.4
GRF pmax pmax
comp=Z,16nm,0.9s,mb5.2
GRF MLR MLR
comp=Z,200nm,21.9s,MS4.5
GRF Grafenberg Arr 86.40 320 *e*P **P 17 31 04.5 +0.6**
comp=Z,16nm,0.9s,mb5.2
GRF *ep*P pP 17 31 11.5 +0.4
GRF LR LR
comp=Z,200nm,21.9s,MS4.5
NB2 NORSAR Subarra 86.91 331 P **P 17 31 05.7 -0.4**
comp=Z,7.6nm,0.8s,mb5.0,baz=95,slow=4.6
NB2 NORSAR Subarra 86.91 331 P **P 17 31 05.7 -0.4**
NB2 pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
NB2 NORSAR Subarra 86.91 331 P **P 17 31 05.7 -0.4**
baz=95,slow=4.8
NOA NORSAR Array B 86.91 331 P **P 17 31 05.9 -0.2**
comp=Z,5.3nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=25
NOA pP pP 17 31 12.6 -0.7
comp=Z,4.9nm,0.9s,baz=96,slow=5.5,SNR=11
NOA LR LR 18 15 53.5
comp=Z,218nm,20.7s,MS4.5,baz=90,slow=40
NOA NORSAR Array B 86.91 331 P **P 17 31 05.9 -0.2**
NOA pP pP 17 31 12.6 -0.8
NOA LR LR 18 15 53.5
CLZ Clausthal 87.01 322 *e*P **P 17 31 07.5 +0.7**
comp=Z,10.0nm,1.1s,mb5.0
BSEG Bad Segeberg 87.11 324 *e*P **P 17 31 06.6 -0.7**
TNS Taunus Mts 88.20 320 *e*P **P 17 31 13.2 +0.6**
TNS pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
TNS Taunus Mts 88.20 320 *e*P **P 17 31 13.2 +0.6**
comp=Z,8.0nm,0.9s,mb5.0
BFO Black Forest 88.28 318 *e*P **P 17 31 12.9 -0.1**
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
BFO Black Forest 88.28 318 *e*P **P 17 31 12.9 -0.1**
comp=Z,6.0nm,0.9s,mb4.8
SBF Sospel 88.93 314 *e*P **P 17 31 16.1 -0.2**
comp=Z,24nm,0.8s,mb5.3
SBF Sospel 88.93 314 *e*P **P 17 31 16.1 -0.2**
SBF pmax pmax
comp=Z,12nm,0.8s,mb5.3
CDF Champ du Feu 88.98 318 *e*P **P 17 31 16.0 -0.4**
LPG La Plagne 89.39 315 *e*P **P 17 31 18.7 +0.3**
comp=Z,19nm,1.0s,mb5.1
LPG La Plagne 89.39 315 *e*P **P 17 31 18.7 +0.3**
LPG pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
LPL La Plagne 89.41 315 *e*P **P 17 31 18.7 +0.2**
comp=Z,33nm,1.1s,mb5.3
LPL La Plagne 89.41 315 *e*P **P 17 31 18.7 +0.2**
LPL pmax pmax
comp=Z,17nm,1.1s,mb5.3
HAU Haudompre 89.61 318 *e*P **P 17 31 19.0 -0.4**
HAU *e*R
comp=Z,222nm,22.2s
LMR La Mourre 89.62 313 *e*P **P 17 31 18.9 -0.6**
comp=Z,77nm,1.6s,mb5.5
LMR La Mourre 89.62 313 *e*P **P 17 31 18.9 -0.6**
LMR pmax pmax
comp=Z,38nm,1.6s,mb5.5
MAIT Maitri 89.74 199 *e*P **P 17 31 22.3 +2.9**
MAIT *e*PcP PcP 17 31 28.5 +7.5
CABF La Chapelle 89.83 316 *e*P **P 17 31 20.6 +0.2**
comp=Z,26nm,1.2s,mb5.1
CABF La Chapelle 89.83 316 *e*P **P 17 31 20.6 +0.2**
CABF pmax pmax
comp=Z,13nm,1.2s,mb5.1
SMRF Simiane la Rot 90.27 314 *e*P **P 17 31 23.1 +0.5**
comp=Z,21nm,1.0s,mb5.1
MEZF Maizieres J'vi 90.46 318 *e*P **P 17 31 23.3 0.0**
comp=Z,25nm,1.1s,mb5.2
GIVF Givet 90.53 320 *e*P **P 17 31 23.7 +0.1**
TNA Tin City 90.83 24⇑ *e*P **P 17 31 24.6 0.0**
comp=Z,3.6nm,0.8s,mb4.8
TNA *ep*P pP 17 31 31.9 +0.2
VIVF Saint-Julien-l 90.88 315 *e*P **P 17 31 25.5 +0.2**
BAIF Baives 90.93 320 *e*P **P 17 31 25.8 +0.4**
comp=Z,37nm,0.9s,mb5.4
BAIF Baives 90.93 320 *e*P **P 17 31 25.8 +0.4**
BAIF pmax pmax
comp=Z,19nm,0.9s,mb5.4
QSPA South Pole Qui 91.26 180 *e*P **P 17 31 29.0 +2.7**
comp=Z,23nm,1.3s,mb5.3
LOR Lormes 91.32 317 *e*P **P 17 31 27.4 +0.1**
comp=Z,42nm,1.1s,mb5.4
LOR *e*R
comp=Z,241nm,20.5s
LOR Lormes 91.32 317 *e*P **P 17 31 27.4 +0.1**
LOR pmax pmax
comp=Z,21nm,1.1s,mb5.4
LOR MLR MLR
comp=Z,240nm,20.5s,MS4.6
SMF Signal de Mont 91.37 317 *e*P **P 17 31 27.5 0.0**
comp=Z,31nm,1.0s,mb5.3
SMF Signal de Mont 91.37 317 *e*P **P 17 31 27.5 0.0**
SMF pmax pmax
comp=Z,16nm,1.0s,mb5.3
LASF Ste Croix 91.51 314 *e*P **P 17 31 28.6 +0.4**
comp=Z,12nm,0.9s,mb4.9
SSF Saint Saulge 91.57 317 *e*P **P 17 31 28.6 +0.2**
SSF pmax pmax
comp=Z,18nm,1.4s,mb5.2
SSF Saint Saulge 91.57 317 *e*P **P 17 31 28.6 +0.2**
comp=Z,18nm,1.4s,mb5.2
AVF Avril sur Loir 91.70 317 *e*P **P 17 31 29.1 +0.1**
comp=Z,27nm,1.1s,mb5.2
AVF Avril sur Loir 91.70 317 *e*P **P 17 31 29.1 +0.1**
AVF pmax pmax
comp=Z,14nm,1.1s,mb5.2
BGF Bois d'Agland 92.06 316 *e*P **P 17 31 31.3 +0.6**
comp=Z,35nm,1.0s,mb5.4
BGF Bois d'Agland 92.06 316 *e*P **P 17 31 31.3 +0.6**
BGF pmax pmax
comp=Z,18nm,1.0s,mb5.4
TCF Toulx Ste Croi 92.52 316 *e*P **P 17 31 33.2 +0.4**
comp=Z,11nm,0.9s,mb5.0
TCF Toulx Ste Croi 92.52 316 *e*P **P 17 31 33.2 +0.4**
TCF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
CAF Calviac 92.73 315 *e*P **P 17 31 34.3 +0.5**
MTLF Montolieu 92.74 313 *e*P **P 17 31 34.3 +0.4**
comp=Z,24nm,1.1s,mb5.2
MTLF Montolieu 92.74 313 *e*P **P 17 31 34.3 +0.4**
MTLF pmax pmax
comp=Z,12nm,1.1s,mb5.2
RJF Les Rejaudoux 93.08 315 *e*P **P 17 31 36.1 +0.7**
RJF *e*R
comp=Z,163nm,20.8s
LFF La Frestale 93.67 315 *e*P **P 17 31 37.7 -0.4**
LDF La Druitiere 93.88 319 *e*P **P 17 31 39.1 +0.1**
comp=Z,36nm,1.4s,mb5.3
LDF La Druitiere 93.88 319 *e*P **P 17 31 39.1 +0.1**
LDF pmax pmax
comp=Z,18nm,1.4s,mb5.3
MFF Saint Martin d 94.11 317 *e*P **P 17 31 40.3 +0.2**
comp=Z,32nm,1.2s,mb5.3
MFF Saint Martin d 94.11 317 *e*P **P 17 31 40.3 +0.2**
MFF pmax pmax
comp=Z,16nm,1.2s,mb5.3

DAG	Danmarks Havn	94.48	348⇓	eP		P	17 31 40.0	-1.2
DAG				pmax	pmax			
comp=Z,1.0nm,0.8s,mb4.3								
DAG	Danmarks Havn	94.48	348⇓	eP		P	17 31 40.0	-1.2
comp=Z,1.5nm,0.8s,mb4.5								
DAG	Danmarks Havn	94.48	348	i P		P	17 31 40.0	-1.2
comp=Z,1.5nm,0.8s,mb4.5								
IMA	Indian Mountai	96.46	23	eP		P	17 31 51.7	+1.3
IMA				pmax	pmax			
comp=Z,58nm,1.2s,mb5.9								
IMA	Indian Mountai	96.46	23	eP		P	17 31 51.7	+1.3
comp=Z,58nm,1.2s,mb5.9								
COLA	College	99.16	23	i P		P	17 32 02.2	-0.4
ILAR	Eielson Array	99.58	23	P		P	17 32 03.2	-1.3
comp=Z,0.7nm,0.9s,mb4.1,baz=297,slow=4.0,SNR=5.4								
ILAR				PKKPbc			17 48 32.0	
comp=Z,0.8nm,0.9s,baz=185,slow=1.9,SNR=5.3								
INK	Inuvik	102.36	17	P	Pdif		17 32 16.0	-1.0
comp=Z,1.3nm,0.8s,baz=7.3,slow=7.8,SNR=4.0								
TBI	Tubuai	111.89	115	eLR		LR	18 10 20.9	
comp=Z,430nm,24.0s								
YKA	Yellowknife Ar	111.97	15	PKiKP			17 36 56.0	
comp=Z,0.2nm,0.6s,baz=326,slow=2.2,SNR=5.4								
YKA				PP	PP		17 37 34.1	-9.0
comp=Z,1.3nm,0.7s,baz=329,slow=7.4,SNR=7.9								
YKA				PKKPbc			17 47 53.7	
comp=Z,0.4nm,0.9s,baz=132,slow=2.3,SNR=5.9								
YKA	Yellowknife Ar	111.97	15	PKPdf	PKPdf		17 36 56.0	-3.4
YKA				PP	PP		17 37 34.1	-9.0
YKA				PKKPbc			17 47 53.7	
PPT	Papeete	112.50	108	eLR		LR	18 10 37.9	
comp=Z,268nm,23.2s								
NEW	Newport	122.31	26	PKP	PKPdf		17 37 17.2	-2.7
comp=Z,2.1nm,0.4s,baz=84,slow=20,SNR=3.2								
NEW	Newport	122.31	26	PKP	PKPdf		17 37 17.2	-2.7
HUMO	Hull Mountain	123.27	35	ePKPdf	PKPdf		17 37 19.5	-2.4
YBH	Yreka Blue Hor	123.96	35	PKP	PKPdf		17 37 20.6	-2.7
comp=Z,0.6nm,0.4s,baz=162,slow=9.7,SNR=4.0								
MSO	Missoula	124.81	26	ePKP	PKPdf		17 37 21.7	-3.1
RKT	Rikitea	124.98	117	eLR		LR	18 16 24.6	
comp=Z,294nm,25.2s								
CHMT	Chamberlain Mo	125.03	25	ePKPdf	PKPdf		17 37 20.9	-4.4
MOD	Modoc	125.22	34	ePKPdf	PKPdf		17 37 23.3	-2.4
MOD				epPKPdf			17 37 30.8	
WVOR	Wild Horse Val	125.77	32	ePKIKP	PKPdf		17 37 24.3	-2.5
BOZ	Bozeman (W)	126.72	25	ePKIKP	PKPdf		17 37 25.6	-2.9
BOZ				e			17 37 33.4	
ULM	Lac du Bonnet	127.41	11	PKP	PKPdf		17 37 26.5	-3.2
comp=Z,5.5nm,0.8s,baz=160,slow=3.1,SNR=3.4								
QLMT	Earthquake Lak	127.46	25	ePKP	PKPdf		17 37 27.8	-2.1
MOOW	Moose Ponds	128.62	26	PKP	PKPdf		17 37 30.5	-1.8
NVAR	Mina Array Bea	128.68	36	PKP	PKPdf		17 37 30.3	-2.2
comp=Z,3.7nm,0.9s,baz=261,slow=4.0,SNR=20								
RRI2	Red Ridge	128.69	27	ePKPdf	PKPdf		17 37 30.3	-2.1
PDAR	Pinedale Array	129.93	26	PKhKP			17 37 26.6	
comp=Z,0.5nm,0.7s,slow=0.9,SNR=4.5								
PDAR				PKP	PKPdf		17 37 32.3	-2.5
comp=Z,1.6nm,0.7s,baz=135,slow=2.1,SNR=7.7								
PDAR				PP	PP		17 39 42.8	-3.6
comp=Z,1.5nm,1.0s,baz=315,slow=4.2,SNR=4.8								
TMUT	Trail Mountain	131.90	30	ePKPdf	PKPdf		17 37 36.7	-1.9
MVU	Marysvale	131.99	31	ePKPdf	PKPdf		17 37 36.4	-2.4
MVU				eSKPbc			17 41 00.7	
MSU	Marysvale	132.00	31	ePKPdf	PKPdf		17 37 37.3	-1.5
MSU				eSKPbc			17 41 01.1	
MSU				e			17 41 16.6	
NEN	Nelson	132.59	36	ePKP	PKPdf		17 37 38.2	-1.8
PV10	Paradox Valley	133.67	29	ePKPdf	PKPdf		17 37 40.1	-1.8
ANMO	Albuquerque	137.65	29	PKIKP	PKPdf		17 37 45.9	-3.5
MNTX	Cornudas Mount	140.78	31	ePKPpre			17 37 43.9	
MNTX				ePKPdf	PKPdf		17 37 53.0	-2.2
LTX	Lajitas	143.56	32	ePKIKP	PKPdf		17 37 53.9	-6.1
TXAR	Lajitas Array	143.56	32	PKP	PKPdf		17 37 54.8	-5.2
comp=Z,3.8nm,0.8s,baz=320,slow=1.0,SNR=19								
JCT	Junction City	144.46	26	ePKIKP	PKPdf		17 37 56.7	-4.9
CPUP	Villa Florida	145.10	222	PKPbc	PKPbc		17 37 58.4	-0.4
comp=Z,4.1nm,0.7s,baz=85,slow=11,SNR=10								
CPUP				pPKPbc			17 38 06.9	
comp=Z,43nm,1.0s,baz=107,slow=5.4,SNR=33								
NATX	Nacogdoches	145.22	18	ePKPdf	PKPdf		17 37 58.2	-4.6
COW	Cow Castle Cre	145.43	357	ePKPdf	PKPdf		17 38 00.3	-2.9
COW				e			17 38 07.6	
GOGA	Godfrey	145.45	1	ePKIKP	PKPdf		17 38 00.1	-3.1
LRAL	Lakeview Retre	145.60	6	ePKPdf	PKPdf		17 38 00.1	-3.4
LRAL				epPKPdf			17 38 07.3	
LPAZ	La Paz	159.27	223	PKP	PKPdf		17 38 22.4	-1.2
comp=Z,0.5nm,0.3s,baz=54,slow=6.7,SNR=4.6								
OTAV	Otavalo	175.40	290	ePKPdf	PKPdf		17 38 33.2	-2.3
OTAV				ePKPab	PKPab		17 40 10.1	+0.2

*IDC **26** 17:27:54.3±3.9, 5.23S×146.64E, h109km±38km, mb3.7/5, mb1 3.8/7, mb1mx3.7/15, mbtmp4.0/7, Error ellipse: s-maj=30.4km s-min=25.3km az=136.0*
*NEIC **26** 17:27:56.7±2.1, 5.32S×146.61E, h129km±22km, mb4.0/3, Error ellipse: s-maj=22.9km s-min=14.8km az=126.0*
ISC 26 17:27:53.7±3.8, 5.3S±0.2×146.5E±0.2, h110km±41km, n12, σ0§91/12, mb3.8/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.18	171	P		P	17 28 57.7	+1.1
2.8nm,0.3s,baz=86,slow=4.7,SNR=19							
PMG				S		S	17 29 43.7	-1.1
14nm,0.3s,baz=342,slow=11,SNR=17							
CTAO	Charters Tower	14.75	181	P		P	17 31 18.2	+0.2
4.7nm,0.6s							
WRAB	Tennant Creek	18.79	218	eP		P	17 32 06.1	-0.9
4.2nm,0.5s							
WRA	Warramunga Arr	18.80	218	P		P	17 32 07.2	0.0
0.4nm,0.3s,baz=37,slow=11,SNR=25							
ASAR	Alice Springs	21.97	212	P		P	17 32 40.8	+1.2
2.0nm,0.7s,mb3.5,baz=45,slow=7.8,SNR=16							
FITZ	Fitzroy Crossi	24.06	236	P		P	17 33 00.3	+0.4
8.0nm,0.6s,mb4.3,baz=51,slow=5.7,SNR=15							
ULN	Ulaanbaatar	63.22	331	eP		P	17 38 12.8	+0.3
1.9nm,0.7s,mb4.1							
SONM	Songino Array	63.51	331	P		P	17 38 13.9	-0.6
0.6nm,0.7s,mb3.5,baz=117,slow=2.8,SNR=4.8							
MKAR	Makanchi Array	76.61	321	P		P	17 39 32.8	-1.1
0.3nm,0.5s,mb3.3,baz=110,slow=7.6,SNR=4.4							
ILAR	Eielson Array	84.99	23	P		P	17 40 16.6	-1.0
2.3nm,0.6s,mb4.3,baz=254,slow=5.0,SNR=23							
DAWY	Dawson	87.80	25	eP		P	17 40 32.9	+1.6
SIV	San Ignacio	145.50	128	PKPbc	PKPbc		17 47 20.3	-0.2
3.8nm,0.6s,baz=248,slow=3.8,SNR=21							

*NEIC **26** 17:28:32.7, 35.61N×26.09E, h29km, MD3.6(ATH), After ATH.*
*CSEM **26** 17:28:32.7, 35.61N×26.09E, h29km, MD3.6/8, After ATH*
ATH 26 17:28:32.6, 35.61N×26.09E, h29km±2km, MD3.6/8, 3C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPS	Neapolis	0.52	228⇓	iPN		Pn	17 28 43.9	-0.1
NPS				eSN		Sn	17 28 50.5	-1.4
XRY	Khrisi	0.80	204	ePN		Pn	17 28 48.5	+0.5
KARP	Karpathos	0.88	94	ePN		Pn	17 28 50.0	+1.0
KARP				eSN		Sn	17 29 02.0	+1.2
SANT	Santorini	0.92	326	ePn		Pn	17 28 51.2	+1.6
SANT				eSn		Sn	17 29 04.2	+2.3
APE	Apeiranthos	1.52	343	ePN		Pn	17 29 00.4	+2.1
APE				eSN		Sn	17 29 19.4	+2.1
VAM	Vamos	1.56	263	ePB		Pb	17 28 59.7	-0.9
VAM				eSN		Sn	17 29 20.7	+2.6
ARG	Arkhangelos	1.76	69⇑	iPN		Pn	17 29 04.0	+2.3
ARG				eSN		Sn	17 29 25.4	+2.1
ARG	Arkhangelos	1.76	69⇑	iPn		Pn	17 29 04.2	+2.5
ARG				eSn		Sn	17 29 25.4	+2.1
GVD	Gavdhos	1.81	245	ePn		Pn	17 29 06.2	+3.8
GVD				eSn		Sn	17 29 30.8	+6.2
SMG	Samos	2.18	16	ePN		Pn	17 29 09.3	+1.6
KYTH	Kithira	2.57	286	ePN		Pn	17 29 14.5	+1.3
KYTH	Kithira	2.57	286	ePb		Pb	17 29 16.5	-1.3
VLI	Veliai	2.78	294⇑	iPN		Pn	17 29 18.1	+1.8

IDC 26 17:36:38.8±2.6, 6.55N×93.68E, mb3.3/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML3.8/1, Error ellipse: s-maj=93.7km s-min=26.3km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	12.90	23	Pn		P	17 39 43.4	-2.8
0.1nm,0.3s,baz=219,slow=14,SNR=7.2							
MKAR	Makanchi Array	41.27	348	P		P	17 44 25.7	-1.7
0.1nm,0.4s,baz=164,slow=9.2,SNR=3.7							
WRA	Warramunga Arr	47.88	124	P		P	17 45 18.6	-2.3
0.2nm,0.4s,baz=303,slow=9.0,SNR=7.2							
ASAR	Alice Springs	49.44	129	P		P	17 45 31.2	-1.6
0.2nm,0.4s,baz=301,slow=7.9,SNR=5.0							

*MOS **26** 17:50:47.2±3.7, 42.43N×44.41E, h10km, mb3.8/1, Error ellipse: s-maj=9.0km s-min=4.8km az=117.5*
*TIF **26** 17:50:48.6, 42.77N×44.63E, h6km±1km*
ISC 26 17:50:53.9±1.0, 42.59N±0.07×44.5E±0.1, h10km, n9, σ1§51/15, 1C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEI	Tsey	0.48	292	ePG		Pg	17 50 59.9	-3.8
ZEI				e			17 51 08.6	
ZEI				pmax	pmax			
comp=Z,143nm,0.2s								
ZEI				smax				
comp=N,859nm,0.2s								
ONI	Oni	0.78	270	P		Pb	17 51 06.8	-2.3
ONI				S		Sb	17 51 20.8	+1.3
TI2	Plekhanov	0.87	168⇑	iPG		Pg	17 51 08.6	-2.9
TI2				pmax	pmax			
comp=Z,20nm,0.2s								
TBLG	Delisi	0.88	169	P		Pb	17 51 10.8	+0.1
TBLG				S		Sb	17 51 28.4	+6.2
MTA	Mtatsminda	0.92	167	P		Pb	17 51 11.6	+0.1
MTA				S		Sb	17 51 29.4	+5.9
DGRG	David-gareji	1.31	150	P		Pb	17 51 17.3	-0.8
DGRG				S		Sb	17 51 41.3	+6.5
KIV	Kislovodsk	1.91	316	i PN		Pn	17 51 21.2	-5.6
KIV				i S		Sn	17 51 50.3	-0.8
GNI	Garni	2.44	176d	iPN		Pn	17 51 36.8	+2.2
GOF	Gofitskoye	2.69	337	i PN		Pn	17 51 39.5	+1.5
GOF				i S		Sn	17 52 15.5	+4.5
GOF				pmax	pmax			
comp=Z,20nm,0.6s								
GOF				smax				
comp=N,260nm,1.3s								

*IDC **26** 18:05:52.2±2.0, 43.52N×105.30W, mb4.3/1, mb1 3.8/4, mb1mx3.5/22, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=48.0km s-min=9.2km az=153.0*
*NEIC **26** 18:05:54.3±0.6, 43.75N×105.24W, ML3.2, Error ellipse: s-maj=9.4km s-min=5.7km az=140.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 26 18:05:52.9±0.6, 43.79N±0.05×105.23W±0.08, n28, σ1§52/34, mb4.2/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	Black Hills	0.93	68	ePg		Pg	18 06 13.1	+1.7
RWWY	Rawlins	2.55	216	ePn		Pn	18 06 37.3	+1.1
RWWY				eS		Sn	18 07 10.7	+2.3
LAO	LASA Array	2.99	347	ePn		Pn	18 06 44.0	+1.6
PDAR	Pinedale Array	3.32	254	Pn		Pn	18 06 47.4	+0.3
3.1nm,0.3s,baz=72,slow=16,SNR=88							
PDAR				Pg		Pg	18 06 53.2	-5.9
7.2nm,0.3s,baz=78,slow=18,SNR=44							
PDAR				Lg			18 07 32.5	
11nm,0.3s,baz=76,slow=34,SNR=9.1							
LKWY	Lake	3.80	284	Pn		Pn	18 06 55.0	+1.1
MOOW	Moose Ponds	4.00	271	ePn		Pn	18 06 54.9	-1.8
SNOW	Snow King Moun	4.02	267	Pn		Pn	18 07 01.9	+4.8
YFT	Old Faithful	4.09	281	eP		Pn	18 07 09.7	+12
YFT				eS		Sn	18 08 04.6	+17
REDW	Red Top Meadow	4.11	266	ePn		Pn	18 06 58.6	+0.4
REDW				eS		Sn	18 08 09.9	+22
IMW	Indian Meadow	4.13	274	ePn		Pn	18 07 00.9	+2.2
TPAW	Teton Pass	4.16	268	ePn		Pn	18 06 59.3	+0.2
AHID	Auburn Hatcher	4.41	259	Pn		Pn	18 07 02.8	+0.3
RRI2	Red Ridge	4.45	266	ePn		Pn	18 07 03.3	+0.1
QLMT	Earthquake Lak	4.57	285	ePn		Pn	18 07 08.4	+3.5
BOZ	Bozeman (W)	4.93	294	ePn		Pn	18 07 08.2	-1.7
BOZ				eS		Sn	18 08 23.9	+15
HWUT	Hardware Ranch	5.15	247	ePn		Pn	18 07 11.2	-1.8
HWUT				eS		Sn	18 08 33.6	+19
TCUT	Toone Canyon	5.29	242	ePn		Pn	18 07 11.4	-3.7
DAU	Daniels Canyon	5.61	235	Pn		Pn	18 07 18.7	-0.9
SRU	San Rafael	6.13	222	ePn		Pn	18 07 25.6	-1.3
SRU				eS		Sn	18 08 49.8	+11
PV01	Paradox Valley	6.18	205	eP		Pn	18 07 27.5	-0.2
TMUT	Trail Mountain	6.34	227	eP		Pn	18 07 28.4	-1.5
TMUT				eS		Sn	18 09 09.6	+26
CHMT	Chamberlain Mo	6.46	302	ePn		Pn	18 07 31.1	-0.4
DUG	Dugway	6.69	240	ePn		Pn	18 07 33.3	-1.6
3.6nm,0.4s							
ULM	Lac du Bonnet	9.09	41	Pn		P	18 08 05.6	-2.6
1.2nm,0.3s,baz=232,slow=12,SNR=5.2							
YKA	Yellowknife Ar	19.53	347	P		P	18 10 24.3	0.0
YKA	Yellowknife Ar	19.53	347	P		P	18 10 24.3	0.0
0.1nm,0.3s,baz=158,slow=11,SNR=3.4							
JSC	Jenkinsville	20.84	109	P		P	18 10 41.8	+3.3
ARCES	ARCESS Array B	61.36	18	P		P	18 16 10.4	-1.8
1.9nm,0.8s,mb4.2,baz=320,slow=7.0,SNR=4.3							

*IDC **26** 18:15:00.1±1.7, 43.52N×105.29W, mb3.9/3, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, ML3.4/3, MS2.4/1, Ms1 2.4/1, ms1mx2.2/29, Error ellipse: s-maj=46.4km s-min=8.5km az=151.0*
*NEIC **26** 18:15:01.7±0.4, 43.74N×105.23W, ML3.2, Error ellipse: s-maj=6.5km s-min=4.6km az=133.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 26 18:14:59.9±0.5, 43.76N±0.04×105.20W±0.06, n39, σ1§08/40, mb3.9/3, MS2.4/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	Black Hills	0.92	66	ePg		Pg	18 15 20.5	+2.2
PHWY	Pilot Hill	2.46	184	ePn		Pn	18 15 43.3	+1.4
RWWY	Rawlins	2.54	216	ePn		Pn	18 15 44.5	+1.5
RWWY				eS		Sn	18 16 15.6	+0.4
LAO	LASA Array	3.02	347	ePn		Pn	18 15 50.5	+0.6
BW06	Boulder Array	3.33	254	ePn		Pn	18 15 54.1	-0.2
BW06				eS		Sn	18 16 36.3	+1.1
PDAR	Pinedale Array	3.33	254	Pn		Pn	18 15 54.6	+0.3
3.4nm,0.3s,baz=72,slow=15,SNR=70							
PDAR				Lg			18 16 40.1	
11nm,0.3s,baz=83,slow=29,SNR=7.1							
LKWY	Lake	3.83	284	ePn		Pn	18 16 01.9	+0.5
MOOW	Moose Ponds	4.01	272	ePn		Pn	18 16 04.5	+0.5
SNOW	Snow King Moun	4.04	268	ePn		Pn	18 16 05.9	+1.5
YFT	Old Faithful	4.12	282	P		Pn	18 16 17.1	+12
REDW	Red Top Meadow	4.12	266	ePn		Pn	18 16 06.5	+0.9
REDW				eS		Sn	18 17 17.2	+22
IMW	Indian Meadow	4.15	274	ePn		Pn	18 16 06.8	+0.9
TPAW	Teton Pass	4.18	268	ePn		Pn	18 16 06.3	-0.1
AHID	Auburn Hatcher	4.42	259	eP		Pn	18 16 20.6	+11
RRI2	Red Ridge	4.46	267	ePn		Pn	18 16 10.4	0.0
QLMT	Earthquake Lak	4.60	286	Pn		Pn	18 16 16.0	+3.7
BOZ	Bozeman (W)	4.96	295	ePn		Pn	18 16 16.7	-0.7
HWUT	Hardware Ranch	5.16	248	ePn		Pn	18 16 18.9	-1.3
TCUT	Toone Canyon	5.29	242	ePn		Pn	18 16 22.0	-0.1
DAU	Daniels Canyon	5.61	236	ePn		Pn	18 16 26.5	-0.1
RW3	Ridgway	5.81	200	Pn		Pn	18 16 42.9	+13
HVU	Hansel Valley	5.91	253	ePn		Pn	18 16 29.2	-1.6
SDCO	Great Sand Dun	6.01	182	ePn		Pn	18 16 32.2	0.0
PV10	Paradox Valley	6.10	210	Pn		Pn	18 16 34.3	+0.7
SRU	San Rafael	6.12	223	ePn		Pn	18 16 31.8	-2.0
PV01	Paradox Valley	6.17	206	ePn		Pn	18 16 34.7	+0.3
TMUT	Trail Mountain	6.33	227	ePn		Pn	18 16 35.0	-1.8
CHMT	Chamberlain Mo	6.49	302	ePn		Pn	18 16 38.0	-1.0
HLID	Hailey	6.68	272	ePn		Pn	18 16 42.8	+1.0
DUG	Dugway	6.69	240	ePn		Pn	18 16 41.2	-0.7
MSU	Marysvale	7.42	227	Pn		Pn	18 16 51.4	-0.8
ARUT	Antelope Range	8.63	229	ePn		P	18 17 05.4	-3.6
ULM	Lac du Bonnet	9.10	41	Pn		P	18 17 13.7	-1.7
1.4nm,0.3s,baz=232,slow=13,SNR=5.1							
ULM				Lg			18 19 48.4	
0.5nm,0.3s,baz=131,slow=9.9,SNR=2.6							
NVAR	Mina Array Bea	11.22	246	Pn		P	18 17 43.7	-0.8
0.1nm,0.3s,baz=67,slow=12,SNR=2.7							
YKA	Yellowknife Ar	19.56	347	P		P	18 19 32.6	+0.9
0.1nm,0.3s,baz=156,slow=12,SNR=8.6							
FX1	Attu Island--F	52.26	311	LR		LR	18 45 02.1	
comp=Z,3.6nm,20.0s,MS2.4,baz=230,slow=34							
ARCES	ARCESS Array B	61.39	18	P		P	18 25 18.1	-1.4
1.3nm,0.6s,mb4.2,baz=338,slow=6.5,SNR=7.9							
FINES	FINESS Array B	68.00	23	P		P	18 26 01.3	-1.1
0.2nm,0.4s,mb3.7,baz=196,slow=36,SNR=2.7							
MKAR	Makanchi Array	89.59	355	P		P	18 28 00.9	+0.7
0.3nm,0.6s,mb3.7,baz=13,slow=4.5,SNR=3.6							

*IDC **26** 18:20:23.9±1.5, 19.98S×169.14E, mb3.6/3, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=40.1km s-min=34.7km az=135.0*
*NEIC **26** 18:20:25.1±0.8, 19.94S×169.17E, h10km, mb4.2/3, Error ellipse: s-maj=19.4km s-min=14.9km az=143.0*
ISC 26 18:20:28.4±1.2, 20.2S±0.2×169.0E±0.1, h33km, n13, σ1§08/16, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	3.05	231	eP		P	18 21 17.0	+1.5
DZM				eS		S	18 21 50.7	-0.5
DZM	Mont Dzumac	3.05	231	Pn		Pn	18 21 17.0	+1.5
2.9nm,0.3s,baz=55,slow=20,SNR=40							
DZM				Sn		Sn	18 21 51.0	-0.4
7.7nm,0.3s,baz=313,slow=23,SNR=5.0							
DZM	Mont Dzumac	3.05	231	eP		P	18 21 16.9	+1.5
DZM				eS		S	18 21 50.7	-0.5
NOUC	Port Laguerre	3.17	232	eP		P	18 21 19.4	+2.2
NOUC				eS		S	18 21 53.2	-1.1
NOUC	Port Laguerre	3.17	232	eP		P	18 21 19.4	+2.2
NOUC				eS		S	18 21 53.2	-1.1
WRA	Warramunga Arr	32.53	264	P		P	18 26 57.7	-1.0
0.5nm,0.8s,mb3.5,baz=90,slow=8.6,SNR=3.4							
ASAR	Alice Springs	32.70	257	P		P	18 26 59.7	-0.4
0.6nm,0.5s,mb3.8,baz=86,slow=9.0,SNR=25							
VNDA	Vanda	57.50	182	P		P	18 30 15.5	-0.9
0.4nm,0.7s,mb3.6,baz=18,slow=6.8,SNR=4.7							
VNDA	Vanda	57.50	182	P		P	18 30 15.2	-1.2
1.1nm,0.9s,mb3.9							
SBA	Scott Base	57.74	181	P		P	18 30 18.2	+0.2
4.8nm,1.1s,mb4.4							
QSPA	South Pole Qui	69.89	180	eP		P	18 31 37.0	-0.4
1.8nm,0.8s,mb4.0							
ARCES	ARCESS Array B	125.90	345	PKP	PKPdf		18 39 26.4	-0.1
3.8nm,1.0s,baz=71,slow=2.4,SNR=5.0							
GERES	GERESS Array B	145.20	331	PKPbc	PKPbc		18 40 02.8	-0.1
1.1nm,0.6s,baz=27,slow=4.4,SNR=13							

*NEIC **26** 18:22:08.9, 39.05N×26.00E, h10km, MD3.5(ATH), MD3.4(ISK), After CSEM.*
*ATH **26** 18:22:09.2, 39.13N×26.24E, h32km, MD3.6/8*
*ISK **26** 18:22:09.3, 39.05N×25.80E, h32km, MD3.4*
*THE **26** 18:22:10.8, 39.01N×26.17E, h22km, ML3.4*
*CSEM **26** 18:22:10.4±0.1, 39.06N×26.09E, h20km, MD3.5, Error ellipse: s-maj=2.6km s-min=1.9km az=43.0*
*SOF **26** 18:22:11.4, 39.41N×26.05E, h2km, MD2.8*
ISC 26 18:22:10.2±0.5, 39.06N±0.02×26.00E±0.03, h22km±6km, n61, σ1§03/79, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	Paraskevi	0.28	49	ePB		Pb	18 22 15.0	-1.8
BOZC	Bozcaada	0.78	3	i P		Pb	18 22 24.0	-1.0
BOZC				i S		Sb	18 22 36.1	+0.9
EZN	Ezine	0.81	18	i PG		Pb	18 22 24.8	-0.7
EZN				SG		Sb	18 22 37.4	+1.5
EZN	Ezine	0.81	18	Pg		Pb	18 22 24.8	-0.7
EZN				Sg		Sb	18 22 37.8	+1.9
EZN	Ezine	0.81	18	i Pg		Pb	18 22 24.8	-0.6
EZN				Sg		Sb	18 22 37.8	+1.9
BLCB	Balcova	1.06	129	PN		Pn	18 22 29.8	0.0
LOS	Limnos	1.13	321	ePb		Pb	18 22 31.2	+0.3
LOS				eSb		Sb	18 22 47.0	+1.9
IZM	Izmir	1.19	123	ePN		Pn	18 22 31.4	-0.3
KDAG	Bornova	1.19	123	i P		Pn	18 22 31.6	-0.1
KDAG				i S		Sb	18 22 47.6	+0.7
LPK	Lapseki	1.44	24	PN		Pn	18 22 35.6	+0.3
SMG	Samos	1.50	154	ePN		Pn	18 22 36.0	-0.2
SMG	Samos	1.50	154	ePn		Pn	18 22 36.5	+0.3
BALB	Balikesir	1.57	68	ePN		Pn	18 22 38.2	+1.0
AOS	Alonnisos	1.65	275	ePb		Pb	18 22 38.4	-1.5
comp=Z,4.5nm,0.3s		

FCH	**Farellones**	**1.94 217**	⇑ *i* P	Pn	18 39 37.4	+0.6
FCH			*i* S	Sn	18 40 01.8	-0.3
FCH			AMP		18 40 10.2	
comp=E,186nm,0.5s						
ILCH	**Illapel**	**1.95 274**	*i* P	Pn	18 39 37.2	+0.3
ILCH			*i* S	Sn	18 40 02.9	+0.6
ILCH			AMP		18 40 10.0	
comp=N,988nm,0.2s						
PEL	**Peldehue**	**2.04 228**	*e*P	Pn	18 39 38.6	+0.5
PEL			*i* S	Sn	18 40 04.9	+0.4
CLCH	**Cerro Calan**	**2.13 220**	*e*P	Pn	18 39 39.8	+0.4
CLCH			*i* S	Sn	18 40 07.9	+1.1
CLCH			AMP		18 40 17.0	
comp=N,557nm,0.6s						
ROCH	**El Roble**	**2.15 236**	⇑ *i*P	Pn	18 39 40.4	+0.6
CHNG	**Los Chungos**	**2.23 267**	*e*P	Pn	18 39 40.9	+0.1
CHNG			*i* S	Sn	18 40 10.2	+0.9
CHNG			AMP		18 40 14.5	
comp=N,472nm,0.3s						
PCH	**Pirque**	**2.29 216**	*e*P	Pn	18 39 42.2	+0.5
PCH			*i* S	Sn	18 40 12.6	+1.7
PACH	**Papudo**	**2.29 250**	*i* P	Pn	18 39 40.9	-0.9
PACH			*i* S	Sn	18 40 12.2	+1.3
TLL	**Tololo Astrono**	**2.31 314**	⇓ *i*P	Pn	18 39 42.3	+0.4
TLL			*i* S	Sn	18 40 13.9	+2.6
TLL			AMP		18 40 21.3	
comp=N,1μm,0.6s						
LMEL	**Las Melosas**	**2.34 208**	*i* P	Pn	18 39 43.0	+0.6
LMEL			*i* S	Sn	18 40 14.3	+2.2
LMEL			AMP		18 40 19.9	
comp=N,212nm,0.7s						
TACH	**Talagante**	**2.54 222**	⇓ *i*P	Pn	18 39 45.0	-0.3
CHCH	**Chadas Angostu**	**2.61 214**	⇓ *i*P	Pn	18 39 46.5	+0.2
LCCH	**Las Cruces**	**2.82 233**	⇑ *i*P	Pn	18 39 49.3	-0.1
LVC	**Limon Verde**	**9.14 360**	*e*Pn	P	18 41 10.6	-7.7

*BJI **26** 18:56:26.6, 19.43S×176.14W, h18km, mB5.3, mb4.8, Ms5.2, Msz4.8*
*IDC **26** 18:56:27.0±0.6, 19.17S×176.44W, mb4.5/19, mb1 4.6/19, mb1mx4.6/23, mbtmp4.5/19, MS4.8/22, Ms1 4.8/22, ms1mx4.7/28, Error ellipse: s-maj=26.2km s-min=13.7km az=140.0*
*HRVD **26** 18:56:30.5±0.2, 19.42S×176.13W, h18km, MW5.5/72, Centroid moment Tensor Solution. LP body waves: s51,c100;Mantle waves: s72,c147; Half duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.46±.04; $M_{\theta\theta}$-1.99±.04; $M_{\phi\phi}$2.45±.04; $M_{r\theta}$-0.50±.10; $M_{\theta\phi}$-0.01±.03; $M_{\phi r}$0.74±.10; Best double couple: $M_0$2.39×10^{17} NP1:ϕ_s45°, δ68°, λ-3°. NP2:ϕ_s136°, δ87°, λ-158°. Principal axes: T 2.632, Plg14°, Azm268°; N -.481, Plg67°, Azm142°; P -2.148, Plg18°, Azm3°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 18:56:30.4±0.2, 19.11S×176.53W, mb5.1/36, MS4.9/69, MW5.6 Error ellipse: s-maj=14.3km s-min=5.6km az=145.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.29; $M_{\theta\theta}$-2.72; $M_{\phi\phi}$3.02; $M_{r\theta}$0.19; $M_{\theta\phi}$0.35; $M_{\phi r}$0.69; Best double couple: $M_0$3×10^{17} NP1: ϕ_s318°, δ79°, λ174°. NP2:ϕ_s49°, δ85°, λ11°. Principal axes: T 3.18, Plg11°, Azm274°; N -.43, Plg78°, Azm76°; P -2.75, Plg4°, Azm183°;*
*MOS **26** 18:56:32.7±1.8, 18.87S×176.74W, h33km, mb5.3/19, MS5.1/19 Error ellipse: s-maj=16.0km s-min=10.0km az=138.5*
ISC 26 18:56:28.9±0.3, 19.22S±0.08×176.50W±0.06, h20km, h20km±1.2km:pP-P, n256, σ1§11/118, mb4.9/61, MS4.9/96, 2C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**15.82**	**100**		Pn		**P**	**19 00 03.2**	**-9.2**
2.1nm,0.3s,baz=236,slow=10,SNR=4.7									
RAR					LR		LR	19 04 39.5	
comp=Z,5μm,21.1s,baz=266,slow=31									
RAR	**Rarotonga**	**15.82**	**100**		P		**P**	**19 00 04.0**	**-8.4**
126nm,1.1s									
DZM	**Mont Dzumac**	**16.21**	**257**		*e*P		**P**	**19 00 21.8**	**+4.4**
DZM	**Mont Dzumac**	**16.21**	**257**		Pn		**P**	**19 00 23.7**	**+6.3**
0.3nm,0.3s,baz=93,slow=22,SNR=4.7									
DZM					LR		LR	19 04 27.3	
comp=Z,1μm,19.7s,baz=92,slow=30									
NOUC	**Port Laguerre**	**16.35**	**257**		*e*P		**P**	**19 00 22.7**	**+3.6**
NOUC	**Port Laguerre**	**16.35**	**257**		*e*P		**P**	**19 00 22.7**	**+3.6**
URZ	**Urewera**	**19.77**	**195**		LR		LR	19 07 45.0	
comp=Z,6μm,21.1s,baz=23,slow=34									
HNR	**Honiara**	**24.78**	**290**		PFAKE			19 02 00.0	+8.9
HNR					LR		LR		
comp=Z,2μm,22.0s,MS4.5									
TBI	**Tubuai**	**25.51**	**104**		*e*LQ			19 06 43.8	
TBI					*e*LR		LR	19 07 48.0	
comp=Z,10μm,31.5s,baz=274									
PAE	**Paea**	**25.58**	**91**		*e*P		**P**	**19 01 55.7**	**-2.9**
comp=Z,58nm,0.9s,mb5.1									
PPT	**Papeete**	**25.59**	**91**		*e*P		**P**	**19 01 56.1**	**-2.6**
comp=Z,66nm,1.2s,mb5.0									
PPT	**Papeete**	**25.59**	**91**		*e*LQ			19 06 45.0	
PPT					*e*LR		LR	19 07 49.6	
comp=Z,19μm,28.0s,baz=260									
PPT	**Papeete**	**25.59**	**91**		LR		LR	19 09 20.6	
comp=Z,2μm,21.9s,MS4.7,baz=259,slow=30									
TIAR	**Tiarei**	**25.81**	**91**		*e*P		**P**	**19 01 57.6**	**-3.2**
comp=Z,113nm,1.1s,mb5.3									
RPZ	**Rata Peaks**	**26.56**	**200**		P		**P**	**19 02 07.8**	**+0.3**
comp=Z,15nm,0.8s,mb4.6,baz=324,slow=14,SNR=4.9									
KWAJ	**Kwajalein Atol**	**31.95**	**329**		PFAKE			19 03 10.0	+14
KWAJ					LR		LR		
comp=Z,681nm,21.0s,MS4.3									
CNB	**Canberra Magne**	**34.11**	**235**		*e*P		**P**	**19 03 16.6**	**+2.0**
CTA	**Charters Tower**	**35.04**	**262**		P		**P**	**19 03 23.0**	**+0.3**
comp=Z,13nm,0.7s,mb4.9,baz=107,slow=7.8,SNR=5.9									
CTA					LR		LR	19 16 09.3	
comp=Z,6μm,19.7s,MS5.4,baz=98,slow=34									
CTAO	**Charters Tower**	**35.04**	**262**		*e*P		**P**	**19 03 22.7**	**0.0**
CTAO					pmax		pmax		
comp=Z,23nm,0.9s,mb5.1									
CTAO					MLR		MLR		
comp=Z,6μm,20.0s,MS5.3									
CTAO	**Charters Tower**	**35.04**	**262**		*e*P		**P**	**19 03 22.7**	**+0.1**
comp=Z,23nm,0.9s,mb5.1									
CTAO					LR		LR		
comp=Z,6μm,20.0s,MS5.3									
PMG	**Port Moresby**	**36.47**	**280**		LR		LR	19 16 38.4	
comp=Z,4μm,18.7s,MS5.2,baz=98,slow=33									
PMG	**Port Moresby**	**36.47**	**280**		PFAKE			19 03 50.0	+15
PMG					LR		LR		
comp=Z,4μm,19.0s,MS5.2									
TAOE	**Nuku Hiva Isla**	**36.66**	**79**		*e*LR		LR	19 12 51.9	
TOO	**Toolangi**	**37.79**	**233**		*e*P		**P**	**19 03 46.1**	**+0.4**
comp=Z,25nm,0.7s,mb5.0									
TOO	**Toolangi**	**37.79**	**233**		*e*P		**P**	**19 03 46.1**	**+0.4**
TOO					pmax		pmax		
comp=Z,25nm,0.7s,mb5.0									
TAU	**Tasmania Unive**	**38.52**	**224**		PFAKE			19 04 00.0	+8.2
TAU					LR		LR		
comp=Z,321nm,20.0s,MS4.1									
RKT	**Rikitea**	**38.83**	**103**		*e*LQ			19 12 26.7	
RKT					*e*LR		LR	19 13 56.1	
comp=Z,7μm,30.8s,baz=272									
STKA	**Stephens Creek**	**39.62**	**243**		*e*P		**P**	**19 04 03.4**	**+2.4**
comp=Z,14nm,0.6s,mb4.9									
STKA	**Stephens Creek**	**39.62**	**243**		P		**P**	**19 04 01.3**	**+0.2**
comp=Z,14nm,0.9s,mb4.7,baz=83,slow=8.4,SNR=18									
STKA					LR		LR	19 18 53.7	
comp=Z,2μm,18.3s,MS5.0,baz=75,slow=34									
WB2	**Warramunga Arr**	**46.18**	**261**		*e*P		**P**	**19 04 53.0**	**-1.5**
WRAB	**Tennant Creek**	**46.18**	**261**		*e*P		**P**	**19 04 52.1**	**-2.4**
WRAB					pmax		pmax		
comp=Z,33nm,1.3s,mb5.1									
WRAB					MLR		MLR		
comp=Z,2μm,20.0s,MS5.0									
WRAB	**Tennant Creek**	**46.18**	**261**		*e*P		**P**	**19 04 52.1**	**-2.4**
comp=Z,33nm,1.3s,mb5.1									
WRAB					LR		LR		
comp=Z,2μm,20.0s,MS5.0									
WRA	**Warramunga Arr**	**46.19**	**261**		P		**P**	**19 04 53.3**	**-1.3**
comp=Z,5.6nm,0.8s,mb4.5,baz=96,slow=9.1,SNR=14									
ASAR	**Alice Springs**	**46.20**	**255**		P		**P**	**19 04 53.9**	**-0.7**
comp=Z,12nm,0.7s,mb4.9,baz=90,slow=7.3,SNR=94									
ASAR					LR		LR	19 23 00.3	
comp=Z,1μm,19.4s,MS4.9,baz=91,slow=34									
ASPA	**Alice Springs**	**46.20**	**255**		*e*P		**P**	**19 04 54.3**	**-0.3**

MIDW	**Midway**	**47.16**	**359**	PFAKE		19 05 10.0	+7.8
MIDW				LR	LR		
comp=Z,2μm,20.0s,MS5.1							
GUMO	**Guam**	**50.11**	**308**	PFAKE		19 05 40.0	+15
GUMO				LR	LR		
comp=Z,1μm,21.0s,MS4.8							
FORT	**Forrest**	**51.10**	**246**	*e*P	**P**	**19 05 36.8**	**+4.3**
comp=Z,812nm,0.8s							
FITZ	**Fitzroy Crossi**	**54.61**	**261**	P	**P**	**19 05 57.9**	**-0.9**
comp=Z,8.6nm,0.6s,mb4.9,baz=90,slow=1.0,SNR=3.4							
SBA	**Scott Base**	**59.23**	**184**	PFAKE		19 06 40.0	+9.1
SBA				LR	LR		
comp=Z,1μm,19.0s,MS5.1							
VNDA	**Vanda**	**59.30**	**185**	P	**P**	**19 06 30.2**	**-1.2**
comp=Z,2.5nm,0.9s,mb4.2,baz=5.1,slow=6.4,SNR=8.1							
VNDA				LR	LR	19 29 03.7	
comp=Z,731nm,18.4s,MS4.8,baz=17,slow=33							
MBWA	**Marble Bar**	**59.52**	**256**	*e*P	**P**	**19 06 32.3**	**-1.3**
comp=Z,47nm,1.2s,mb5.4							
MBWA				LR	LR		
comp=Z,2μm,19.0s,MS5.3							
KLBR	**Kellerberrin**	**59.88**	**244**	*e*P	**P**	**19 06 35.6**	**-0.3**
comp=Z,1μm,1.4s							
NWAO	**Narrogin (SRO)**	**60.20**	**243**	*e*P	**P**	**19 06 41.9**	**+3.8**
NWAO				pmax	pmax		
comp=Z,21nm,1.0s							
NWAO				MLR	MLR		
comp=Z,772nm,21.0s							
NWAO	**Narrogin (SRO)**	**60.20**	**243**	LR	LR	19 31 47.7	
comp=Z,1μm,18.7s,MS5.1,baz=95,slow=35							
NWAO	**Narrogin (SRO)**	**60.20**	**243**	*e*P	**P**	**19 06 41.9**	**+3.8**
comp=Z,21nm,1.0s,mb5.1							
NWAO				LR	LR		
comp=Z,772nm,21.0s,MS4.8							
CBIJ	**Chichi jima**	**61.02**	**318**	LR	LR	19 29 40.4	
comp=Z,794nm,20.2s,MS4.9,baz=157,slow=33							
MUN	**Mundaring**	**61.15**	**244**	*e*P	**P**	**19 06 44.9**	**+0.3**
comp=Z,81nm,1.4s,mb5.7							
MUN	**Mundaring**	**61.15**	**244**	*e*P	**P**	**19 06 44.9**	**+0.3**
MUN				pmax	pmax		
comp=Z,81nm,1.4s,mb5.7							
CASY	**Casey**	**65.72**	**205**	PFAKE		19 07 30.0	+16
CASY				LR	LR		
comp=Z,621nm,20.0s,MS4.8							
MJAR	**Matsushiro Arr**	**70.04**	**322**	P	**P**	**19 07 41.5**	**-0.2**
comp=Z,0.6nm,0.4s,mb3.9,baz=160,slow=6.7,SNR=4.2							
MAJO	**Matsushiro**	**70.04**	**322**	PFAKE		19 07 50.0	+8.4
MAJO				LR	LR		
comp=Z,507nm,20.0s,MS4.8							
QSPA	**South Pole Qui**	**70.84**	**180**	*e*P	**P**	**19 07 45.1**	**-0.7**
comp=Z,170nm,2.0s,mb5.6							
SMY	**Shemya**	**72.11**	**354**	PFAKE		19 08 00.0	+6.2
SMY				LR	LR		
comp=Z,3μm,20.0s,MS5.5							
FX1	**Attu Island--F**	**72.36**	**353**	LR	LR	19 33 27.5	
comp=Z,48nm,20.6s,baz=150,slow=31							
UNV	**Unalaska Valle**	**73.27**	**6**	PFAKE		19 08 10.0	+9.4
UNV				LR	LR		
comp=Z,2μm,20.0s,MS5.4							
TATO	**Taipei**	**74.63**	**304**	PFAKE		19 08 20.0	+11
TATO				LR	LR		
comp=Z,660nm,19.0s,MS5.0							
KSM	**Kuching**	**74.65**	**277**	*e*P	**P**	**19 08 11.2**	**+1.8**
PET	**Petropavlovsk**	**75.10**	**345**	*e*P	**P**	**19 08 10.6**	**-0.6**
PET				*e*S	S	19 17 41.0	-6.0
PET	**Petropavlovsk**	**75.10**	**345**	PFAKE		19 08 20.0	+8.8
PET				LR	LR		
comp=Z,870nm,20.0s,MS5.0							
YSS	**Yuzh-Sakhalins**	**75.40**	**332**	*e*P	**P**	**19 08 11.0**	**-2.1**
YSS				*e*S	S	19 17 47.0	-3.5
YSS				pmax	pmax		
comp=Z,20nm,1.2s,mb4.9							
YSS	**Yuzh-Sakhalins**	**75.40**	**332**	PFAKE		19 08 20.0	+6.9
YSS				LR	LR		
comp=Z,1μm,22.0s,MS5.1							
SAO	**San Andreas Ge**	**76.13**	**43**	PFAKE		19 08 30.0	+13
SAO				LR	LR		
comp=Z,911nm,19.0s,MS5.1							
HOPS	**Hopland**	**76.49**	**40**	PFAKE		19 08 30.0	+11
HOPS				LR	LR		
comp=Z,774nm,20.0s,MS5.0							
QZH	**Quanzhou**	**76.91**	**302**	P	**P**	**19 08 22.8**	**+0.8**
QZH				S	S	19 18 10.0	+2.6
QZH				LR	LR		
comp=Z,920nm,18.8s,MS5.1							
CMB	**Columbia Colle**	**77.57**	**42**	PFAKE		19 08 40.0	+15
CMB				LR	LR		
comp=Z,462nm,19.0s,MS4.8							
PFO	**Pinyon Flat Ob**	**77.67**	**48**	PFAKE		19 08 40.0	+14
PFO				LR	LR		
comp=Z,191nm,19.0s,MS4.4							
SSE	**Sheshan**	**77.97**	**309**	P	**P**	**19 08 26.5**	**-1.2**
SSE				AP	pP	19 08 33.0	-1.1
SSE				XP	sP	19 08 35.5	-0.7
SSE				S	S	19 18 19.5	+0.7
SSE				XS		19 18 30.8	
SSE				AMB	AMB		
comp=Z,28nm,0.8s,mb5.2							
SSE				AMB	AMB		
comp=Z,50nm,5.3s							
SSE				LR	LR		
comp=N,501nm,20.0s,MS5.0							
SSE				LR	LR		
comp=E,442nm,20.0s,MS5.0							
SSE				LR	LR		
comp=Z,273nm,26.1s							
DAC	**Darwin (Calif)**	**78.37**	**45**	PFAKE		19 08 40.0	+10
DAC				LR	LR		
comp=Z,776nm,21.0s,MS5.0							
YBH	**Yreka Blue Hor**	**78.42**	**38**	*e*P	**P**	**19 08 29.0**	**-1.0**
YBH				pmax	pmax		
comp=Z,10.0nm,0.9s							
YBH				MLR	MLR		
comp=Z,493nm,19.0s							
YBH	**Yreka Blue Hor**	**78.42**	**38**	P	**P**	**19 08 30.6**	**+0.6**
comp=Z,6.3nm,0.9s,mb4.6,baz=151,slow=6.5,SNR=13							
YBH	**Yreka Blue Hor**	**78.42**	**38**	*e*P	**P**	**19 08 29.0**	**-1.0**
comp=Z,10.0nm,0.9s,mb4.8							
YBH				LR	LR		
comp=Z,493nm,19.0s,MS4.9							
HUMO	**Hull Mountain**	**78.83**	**37**	*e*P	**P**	**19 08 32.9**	**+0.7**
comp=Z,19nm,1.5s,mb4.8							
HUMO				LR	LR		
comp=Z,359nm,20.0s,MS4.7							
NVAR	**Mina Array Bea**	**79.13**	**43**	P	**P**	**19 08 33.2**	**-0.7**
comp=Z,2.7nm,0.8s,mb4.2,baz=221,slow=8.3,SNR=14							
NVAR				LR	LR	19 40 23.6	
comp=Z,561nm,18.8s,MS4.9,baz=245,slow=33							
MNV	**Mina**	**79.23**	**43**	*e*P	**P**	**19 08 34.6**	**+0.1**
MNV				pmax	pmax		
comp=Z,18nm,1.1s,mb4.9							
MNV				MLR	MLR		
comp=Z,636nm,19.0s,MS5.0							
MNV	**Mina**	**79.23**	**43**	*e*P	**P**	**19 08 34.6**	**+0.1**
comp=Z,18nm,1.1s,mb4.9							
MNV				LR	LR		
comp=Z,636nm,19.0s,MS5.0							
KDAK	**Kodiak Island**	**79.26**	**13**	*e*P	**P**	**19 08 32.0**	**-2.2**
comp=Z,16nm,0.9s,mb5.0							
KDAK				LR	LR		
comp=Z,211nm,19.0s,MS4.5							
LDFC	**Landfair**	**79.40**	**47**	*e*P	**P**	**19 08 35.9**	**+0.4**
TPH	**Tonopah**	**79.63**	**44**	PFAKE		19 08 50.0	+13
TPH				LR	LR		
comp=Z,519nm,19.0s,MS4.9							
COR	**Corvallis**	**79.89**	**36**	PFAKE		19 08 50.0	+12
COR				LR	LR		
comp=Z,115nm,20.0s,MS4.2							
NEN	**Nelson**	**79.89**	**47**	*e*P	**P**	**19 08 38.5**	**+0.3**
MOD	**Modoc**	**79.94**	**39**	*e*P	**P**	**19 08 38.4**	**+0.2**
comp=Z,6.6nm,0.8s,mb4.6							
MOD				*e*	pP	19 08 43.8	-0.8
MOD				LR	LR		
comp=Z,531nm,20.0s,MS4.9							
NJ2	**Nanjing**	**80.17**	**309**	*e*P	**P**	**19 08 38.5**	**-1.2**
NJ2				AP	pP	19 08 45.0	-1.0
NJ2				XP	sP	19 08 47.5	-0.7
NJ2				PP	PP	19 11 40.8	-2.9
NJ2				S	S	19 18 40.0	-2.0
NJ2				AMB	AMB		
comp=Z,20nm,0.6s,mb5.2							
NJ2				AMB	AMB		
comp=Z,270nm,6.4s							
NJ2				LR	LR		
comp=N,700nm,21.6s,MS5.1							
NJ2				LR	LR		
comp=E,460nm,20.0s,MS5.1							
NJ2				LR	LR		
comp=Z,400nm,23.4s,MS4.7							
MDJ	**Mudanjiang**	**80.30**	**324**	P	**P**	**19 08 40.0**	**-0.1**
MDJ				AP	pP	19 08 49.0	+2.5
MDJ				PP	PP	19 11 41.0	-3.7
MDJ				S	S	19 18 44.0	+0.9
MDJ				SKS	SKS	19 18 50.5	-8.2
MDJ				AMB	AMB		
comp=Z,8.0nm,0.8s,mb4.7							
MDJ				LR	LR		
comp=N,512nm,27.6s,MS4.8							
MDJ				LR	LR		
comp=E,373nm,28.6s,MS4.8							
MDJ				LR	LR		
comp=Z,333nm,20.0s							
BMN	**Battle Mountai**	**80.96**	**42**	PFAKE		19 09 00.0	+16
BMN				LR	LR		
comp=Z,425nm,19.0s,MS4.8							
TUC	**Tucson**	**81.08**	**51**	*e*P	**P**	**19 08 45.4**	**+0.9**
TUC				pmax	pmax		
comp=Z,22nm,1.4s,mb4.9							
TUC				MLR	MLR		
comp=Z,373nm,19.0s,MS4.8							
TUC	**Tucson**	**81.08**	**51**	*e*P	**P**	**19 08 45.4**	**+0.9**
comp=Z,22nm,1.4s,mb4.9							
TUC				LR	LR		
comp=Z,373nm,19.0s,MS4.8							
WVOR	**Wild Horse Val**	**81.25**	**39**	*e*P	**P**	**19 08 45.0**	**-0.1**
WVOR				pmax	pmax		
comp=Z,14nm,1.0s,mb4.8							
WVOR				MLR	MLR		
comp=Z,826nm,19.0s,MS5.1							
WVOR	**Wild Horse Val**	**81.25**	**39**	*e*P	**P**	**19 08 45.0**	**-0.1**
comp=Z,14nm,1.0s,mb4.8							
WVOR				LR	LR		
comp=Z,826nm,19.0s,MS5.1							
CN2	**Changchun**	**82.17**	**322**	*e*P	**P**	**19 08 49.8**	**-0.1**
CN2				*e*XP	sP	19 08 59.0	+0.6
CN2				*e*S	S	19 19 00.0	-2.4
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
CN2				LR	LR		
comp=N,400nm,19.0s,MS5.0							
CN2				LR	LR		
comp=E,400nm,19.0s,MS5.0							
CN2				LR	LR		
comp=Z,400nm,21.0s,MS4.8							
SLKM	**Skilak Lake**	**82.25**	**13**	*e*P	**P**	**19 08 48.7**	**-1.2**
ELK	**Elko**	**82.39**	**42**	*e*P	**P**	**19 08 51.5**	**+0.4**
ELK				pmax	pmax		
comp=Z,9.0nm,0.9s							
ELK	**Elko**	**82.39**	**42**	*e*P	**P**	**19 08 51.5**	**+0.4**
comp=Z,9.5nm,0.9s,mb4.7							
BBB	**Bella Bella**	**82.62**	**28**	P	**P**	**19 08 51.8**	**-0.2**
comp=Z,7.4nm,0.8s,mb4.8,baz=171,slow=4.1,SNR=3.9							
HAWA	**Hanford**	**83.09**	**36**	*e*P	**P**	**19 08 53.5**	**-1.1**
MVU	**Marysvale**	**83.18**	**45**	*e*P	**P**	**19 08 57.0**	**+1.7**
comp=Z,8.5nm,1.0s,mb4.7							
MVU				LR	LR		
comp=Z,538nm,20.0s,MS4.9							
MSU	**Marysvale**	**83.21**	**45**	*e*P	**P**	**19 08 55.8**	**+0.4**
MAW	**Mawson**	**83.23**	**199**	P	**P**	**19 08 55.7**	**+0.8**
comp=Z,5.1nm,0.9s,mb4.5,baz=123,slow=4.2,SNR=4.8							
MAW				LR	LR	19 42 55.5	
comp=Z,1μm,21.4s,MS5.2,baz=115,slow=34							
SIT	**Sitka**	**83.42**	**21**	PFAKE		19 09 10.0	+14
SIT				LR	LR		
comp=Z,2μm,20.0s,MS5.4							
BMO	**Blue Mountains**	**83.44**	**38**	*e*P	**P**	**19 08 56.7**	**+0.3**
comp=Z,19nm,1.5s,mb4.9							
BMO				LR	LR		
comp=Z,392nm,21.0s,MS4.8							
DIV	**Divide**	**83.80**	**14**	*e*P	**P**	**19 08 56.6**	**-1.3**
comp=Z,49nm,1.0s,mb5.6							
TMUT	**Trail Mountain**	**84.26**	**45**	*e*P	**P**	**19 09 02.4**	**+1.6**
HLID	**Hailey**	**84.44**	**40**	*e*P	**P**	**19 09 02.5**	**+1.0**
comp=Z,7.5nm,0.3s,mb5.3							
HLID				LR	LR		
comp=Z,457nm,20.0s,MS4.9							
SPUT	**South Promonto**	**84.47**	**43**	*e*P	**P**	**19 09 02.8**	**+1.0**
HVU	**Hansel Valley**	**84.51**	**42**	*e*P	**P**	**19 09 02.3**	**+0.4**
SRU	**San Rafael**	**84.62**	**46**	*e*P	**P**	**19 09 03.4**	**+0.8**
TNA	**Tin City**	**84.77**	**4**	*e*P	**P**	**19 09 02.1**	**-0.6**
comp=Z,16nm,1.3s,mb5.0							
MNTX	**Cornudas Mount**	**84.86**	**54**	*e*P	**P**	**19 09 03.2**	**-0.8**
comp=Z,59nm,1.4s,mb5.5							
MNTX				*e*	pP	19 09 10.1	-0.3
MNTX				LR	LR		
comp=Z,370nm,19.0s,MS4.8							
KULM	**Kulim**	**85.00**	**277**	*e*P	**P**	**19 09 05.8**	**+0.7**
TCUT	**Toone Canyon**	**85.05**	**43**	*e*P	**P**	**19 09 05.1**	**+0.5**
TCUT				*e*	pP	19 09 10.9	-0.2
LTX	**Lajitas**	**85.18**	**57**	*e*P	**P**	**19 09 07.0**	**+1.4**
LTX				pmax	pmax		
comp=Z,46nm,1.6s,mb5.4							
LTX				MLR	MLR		
comp=Z,479nm,20.0s,MS4.9							
LTX	**Lajitas**	**85.18**	**57**	*e*P	**P**	**19 09 07.0**	**+1.4**
comp=Z,46nm,1.6s,mb5.4							
LTX				LR	LR		
comp=Z,479nm,20.0s,MS4.9							
TXAR	**Lajitas Array**	**85.18**	**57**	P	**P**	**19 09 05.7**	**+0.1**
comp=Z,3.2nm,1.0s,mb4.4,baz=214,slow=4.5,SNR=14							
HWUT	**Hardware Ranch**	**85.20**	**43**	PFAKE		19 09 20.0	+15
HWUT				LR	LR		
comp=Z,665nm,19.0s,MS5.0							
PV10	**Paradox Valley**	**85.28**	**47**	*e*P	**P**	**19 09 06.6**	**+0.8**
MCK	**McKinley**	**85.43**	**12**	*e*P	**P**	**19 09 04.6**	**-1.4**
MCK				*e*	pP	19 09 11.4	-1.0
MCK				pmax	pmax		
comp=Z,14nm,1.0s,mb5.0							
MCK	**McKinley**	**85.43**	**12**	*e*P	**P**	**19 09 04.6**	**-1.4**
comp=Z,14nm,1.0s,mb5.0							
MCK				*e*	pP	19 09 11.4	-1.0

comp=Z,21nm,1.3s,mb5.2
MSO Missoula 86.50 38 PFAKE 19 09 20.0 +8.3
MSO LR LR
comp=Z,213nm,20.0s,MS4.5
REDW Red Top Meadow 86.54 42 P **P 19 09 13.1 +1.1**
comp=Z,4.9nm,0.9s,mb4.7
TPAW Teton Pass 86.55 42 P **P 19 09 13.2 +1.2**
comp=Z,59nm,1.9s,mb5.5
COLA College 86.67 12 *e*P **P 19 09 12.1 0.0**
COLA pmax pmax
comp=Z,27nm,1.3s,mb5.3
COLA College 86.67 12 *e*P **P 19 09 12.1 0.0**
comp=Z,27nm,1.3s,mb5.3
IMW Indian Meadow 86.76 41 *e*P **P 19 09 14.1 +1.1**
IMA Indian Mountai 86.76 9 P **P 19 09 12.3 -0.2**
ILAR Eielson Array 86.77 12 P **P 19 09 10.8 -1.8**
comp=Z,8.7nm,1.2s,mb4.9,baz=226,slow=4.4,SNR=24
ILAR LR LR 19 40 18.7
comp=Z,300nm,21.8s,MS4.7,baz=48,slow=30
QLMT Earthquake Lak 86.93 40 *e*P **P 19 09 13.7 -0.2**
CHMT Chamberlain Mo 86.94 38 *e*P **P 19 09 13.9 +0.1**
BW06 Boulder Array 87.07 43 PFAKE 19 09 30.0 +15
BW06 LR LR
comp=Z,421nm,20.0s,MS4.8
PDAR Pinedale Array 87.07 43 P **P 19 09 13.1 -1.5**
comp=Z,1.0nm,0.7s,mb4.1,baz=207,slow=3.3,SNR=5.2
PDAR LR LR 19 44 29.9
comp=Z,307nm,18.4s,MS4.7,baz=248,slow=33
BOZ Bozeman (W) 87.23 39 *e*P **P 19 09 15.7 +0.4**
BOZ *e* pP 19 09 20.8 -0.9
BOZ pmax pmax
comp=Z,13nm,1.2s,mb5.0
BOZ MLR MLR
comp=Z,467nm,19.0s,MS4.9
BOZ Bozeman (W) 87.23 39 *e*P **P 19 09 15.7 +0.4**
comp=Z,12nm,1.2s,mb5.0
BOZ *e* pP 19 09 20.8 -0.9
BOZ LR LR
comp=Z,467nm,19.0s,MS4.9
LKWY Lake 87.43 41 PFAKE 19 09 30.0 +14
LKWY LR LR
comp=Z,606nm,22.0s,MS5.0
SDCO Great Sand Dun 87.45 49 *e*P **P 19 09 16.8 +0.2**
comp=Z,3.6nm,0.8s,mb4.7
SDCO *e* pP 19 09 22.4 -0.6
SDCO LR LR
comp=Z,412nm,20.0s,MS4.8
WALA Waterton Lakes 87.73 36 *e*P **P 19 09 18.1 +0.5**
comp=Z,11nm,0.9s,mb5.1
WALA *e* pP 19 09 23.3 -0.7
DAWY Dawson 87.85 15 P **P 19 09 16.6 -1.2**
BILL Bilibino 87.92 354 ⇓*i*P **P 19 09 18.1 0.0**
BILL pmax pmax
comp=Z,16nm,1.3s,mb5.1
BILL Bilibino 87.92 354 *e*P **P 19 09 17.8 -0.3**
comp=Z,14nm,1.3s,mb5.0
BILL LR LR
comp=Z,1μm,21.0s,MS5.2
SYO Syowa Base 88.27 192 ⇑PcP PcP 19 09 25.0 +3.2
JCT Junction City 88.71 57 PFAKE 19 09 30.0 +7.3
JCT LR LR
comp=Z,364nm,20.0s,MS4.8
AMTX Amarillo 89.02 53 *e*P **P 19 09 24.6 +0.5**
comp=Z,4.7nm,0.7s,mb4.9
AMTX LR LR
comp=Z,601nm,19.0s,MS5.0
PLCA Paso Flores 89.12 133 LR LR 19 40 05.1
comp=Z,254nm,19.3s,MS4.7,baz=139,slow=29
KMI Kunming 90.04 297 P **P 19 09 28.3 -0.8**
KMI AP pP 19 09 37.5 +2.0
KMI XP sP 19 09 42.5 +4.9
KMI PP PP 19 13 02.0 -2.7
KMI SKS SKS 19 20 00.8 -3.0
KMI S S 19 20 17.3 -1.4
KMI PS PS 19 21 33.5 +3.0
KMI SS SS 19 26 19.5 -1.7
KMI AMB AMB
comp=Z,5.0nm,1.9s,mb4.5
KMI AMB AMB
comp=Z,108nm,3.8s
KMI LR LR
comp=N,382nm,21.0s,MS4.9
KMI LR LR
comp=E,250nm,22.1s,MS4.9
KMI LR LR
comp=Z,484nm,23.1s,MS4.9
EDM Edmonton 90.28 32 *e*P **P 19 09 29.7 +0.2**
LAO LASA Array 91.02 40 PFAKE 19 09 40.0 +6.9
LAO LR LR
comp=Z,347nm,19.0s,MS4.8
CMAR Chiang Mai Arr 91.03 289 P **P 19 09 35.8 +2.0**
comp=Z,0.6nm,1.0s,mb3.9,baz=108,slow=2.9,SNR=3.3
CMAR LR LR 19 48 40.5
comp=Z,259nm,21.3s,MS4.6,baz=329,slow=34
YAK Yakutsk 91.47 338 PFAKE 19 09 50.0 +15
YAK LR LR
comp=Z,402nm,22.0s,MS4.8
CBKS Cedar Bluff 92.02 50 PFAKE 19 09 50.0 +12
CBKS LR LR
comp=Z,393nm,20.0s,MS4.8
INK Inuvik 92.68 15 *e*P **P 19 09 39.8 -0.4**
INK pmax pmax
comp=Z,13nm,1.4s
INK Inuvik 92.68 15 P **P 19 09 39.6 -0.6**
comp=Z,5.3nm,1.2s,mb4.8,baz=215,slow=5.5,SNR=5.2
INK Inuvik 92.68 15 *e*P **P 19 09 39.8 -0.5**
comp=Z,13nm,1.4s,mb5.2
LZH Lanzhou 93.12 307 *e*P **P 19 09 45.0 +1.9**
LZH AP pP 19 09 51.5 +2.0
LZH XP sP 19 09 55.0 +3.5
LZH SKS SKS 19 20 15.8 -5.5
LZH S S 19 20 40.0 -5.7
LZH AMB AMB
comp=Z,16nm,1.4s,mb5.3
LZH AMB AMB
comp=Z,52nm,4.0s
LZH LR LR
comp=E,456nm,16.0s
LZH LR LR
comp=Z,742nm,18.0s,MS5.2
NATX Nacogdoches 93.28 58 PFAKE 19 10 00.0 +16
NATX LR LR
comp=Z,712nm,19.0s,MS5.1
YKA Yellowknife Ar 94.77 24 P **P 19 09 49.7 -0.2**
comp=Z,0.5nm,0.9s,mb3.9,baz=243,slow=4.1,SNR=7.4
YKA LR LR 19 49 43.8
comp=Z,427nm,18.1s,MS5.0,baz=250,slow=34
YKA Yellowknife Ar 94.77 24 P **P 19 09 49.7 -0.2**
YKA LR LR 19 49 43.8
JTS JuntasAbangare 94.77 81 LR LR 19 41 55.1
comp=Z,441nm,20.7s,MS4.9,baz=179,slow=29
MIAR Mount Ida 95.09 55 PFAKE 19 10 00.0 +7.9
MIAR LR LR
comp=Z,567nm,19.0s,MS5.1
SONM Songino Array 95.73 319 LR LR 19 50 52.4
comp=Z,333nm,21.6s,MS4.8,baz=271,slow=34
LVC Limon Verde 97.97 117 LR LR 19 41 38.0
comp=Z,127nm,21.7s,MS4.4,baz=241,slow=28
CCM Cathedral Cave 98.00 53 PFAKE 19 10 20.0 +15
CCM LR LR
comp=Z,112nm,20.0s,MS4.3
OXF Oxford 98.33 56 PFAKE 19 10 20.0 +13
OXF LR LR
comp=Z,595nm,20.0s,MS5.1
ULM Lac du Bonnet 98.75 40 LR LR 19 52 16.8
comp=Z,292nm,18.5s,MS4.8,baz=291,slow=34
PLAL Pickwick Lake 99.52 56 PFAKE 19 10 20.0 +7.8
PLAL LR LR
comp=Z,425nm,20.0s,MS4.9
LRAL Lakeview Retre 99.83 58 PFAKE 19 10 30.0 +16
LRAL LR LR
comp=Z,465nm,20.0s,MS5.0
WVT Waverly 100.04 55 PFAKE 19 10 30.0 +15
WVT LR LR
comp=Z,445nm,21.0s,MS5.0
EYMN Ely 100.77 43 PFAKE 19 10 30.0 +12
EYMN LR LR
comp=Z,466nm,21.0s,MS5.0
WCI Wyandotte Cave 101.79 54 PFAKE 19 10 30.0 +7.6
WCI LR LR
comp=Z,95nm,19.0s,MS4.3
APA Apatity 128.07 346 ⇑*i*PKIKP PKPdf 19 15 43.0 +5.5
APA MLR MLR
comp=Z,1μm,20.0s,MS5.5
FINES FINESS Array B 134.93 345 PKP PKPdf 19 15 49.0 -1.6
comp=Z,1.4nm,1.0s,baz=51,slow=8.9,SNR=4.6
NOA NORSAR Array B 137.87 354 PKP PKPdf 19 15 53.8 -2.2
comp=Z,1.6nm,1.1s,baz=14,slow=4.2,SNR=4.0
AKASG Malin Array Be 142.55 333 PKP PKPdf 19 16 01.6 -3.0
comp=Z,0.2nm,0.2s,baz=36,slow=3.4,SNR=5.3
MALT Malatya 144.24 310 *e*PKIKP PKPdf 19 16 04.0 -3.9
BSEG Bad Segeberg 144.96 353 *e*PKIKP PKPdf 19 16 05.6 -3.0
BSEG *e* 19 19 26.7
GZT Gaziantep 145.24 308 *i* P PKPbc 19 16 08.9 +3.0
LVV L'vov 145.34 336 *e*PKIKP PKPdf 19 16 06.7 -2.7
LVV *e* 19 16 20.1
KIS Kishinev 145.41 329 *e*PKHKP 19 15 50.0
KIS MLR MLR
comp=Z,400nm,20.0s,MS5.2
CTKT Corum 145.78 315 *i* P PKPbc 19 16 09.8 +2.6
KWP Kalwaria 145.98 338 *e*PKP PKPdf 19 16 07.9 -2.6
KWP *e*PKPdf PKPdf 19 16 10.5 0.0
KWP Kalwaria 145.98 338 *e*PKP PKPdf 19 16 07.9 -2.6
KWP *e*PKIKP PKPdf 19 16 10.5 0.0
KWP MLR MLR 20 10 09.7
comp=Z,500nm,35.2s,MS5.0
OJC Ojcow 146.45 341 *e*PKP PKPdf 19 16 10.3 -1.0
CDAG Cicekdag 146.54 314 *i* P PKPbc 19 16 11.5 +2.5
AVNT Avonos 146.60 312 *i* P PKPbc 19 16 10.1 +0.9
KOLS Kolonicke sedl 146.72 337 *e*PKP PKPdf 19 16 11.2 -0.6
ELDT Eldivan 146.75 316 *i* P PKPbc 19 16 11.8 +2.3
KSP Ksiaz 146.86 345 *e*PKP2 PKPab 19 16 11.6 -1.6
KSP MLR MLR
comp=Z,1μm,23.1s,MS5.6
KSP Ksiaz 146.86 345 *e*PKP PKPdf 19 16 12.0 0.0
KSP *e*PKIKP PKPdf 19 16 13.1 +1.2
KSP MLR MLR 20 13 06.0
comp=Z,900nm,27.8s,MS5.4
BRTR Keskin Array B 146.99 315 PKPbc PKPbc 19 16 09.7 -0.4
comp=Z,1.6nm,0.9s,baz=162,slow=3.9,SNR=5.2
CLL Collm 147.12 349 *i* PKP2 PKPab 19 16 12.1 -2.0
CLL MLR MLR
comp=Z,400nm,21.4s,MS5.2
CLL Collm 147.12 349 *i* PKP PKPdf 19 16 12.1 -0.3
CLL *i* 19 16 17.6
CLL LR LR
comp=Z,400nm,21.4s,MS5.2
CLL Collm 147.12 349 *i* PKIKP PKPdf 19 16 10.0 -2.4
CLL *i* PKP1 PKPdf 19 16 12.1 -0.3
CLL *i* *PPKP 19 16 17.6
CLL *i* 19 16 25.3
CLL *e* 19 18 21.0
CLL *e* 19 39 12.0
CLL *e*SSS SSS 19 44 06.0 -3.6
UPC Upice 147.24 345 *e*PKP PKPdf 19 16 10.7 -1.9
OKC Ostrava-Krasne 147.28 342 *e*PKP PKPdf 19 16 12.8 +0.1
OKC AMS AMS 20 19 30.0
comp=Z,700nm,22.8s
DPC Dobruska-Polom 147.31 345 *e*PKP PKPdf 19 16 12.6 -0.1
DPC AMS AMS 20 20 20.0
comp=Z,500nm,23.9s
BRG Berggiesshubel 147.35 348 *e*PKP2 PKPab 19 16 11.7 -3.4
BRG MLR MLR
comp=Z,460nm,22.3s,MS5.2
MORC Moravsky Berou 147.51 343 *e*PKP2 PKPab 19 16 13.7 -2.0
PVCC Panska Ves 147.55 347 *e*PKP PKPdf 19 16 13.6 +0.5
PVCC AMS AMS 20 21 40.0
comp=Z,600nm,21.8s
MOX Moxa 147.99 350 *e*PKP2 PKPab 19 16 14.6 -3.0
PRU Pruhonice 148.06 346 *e*PKP PKPdf 19 16 14.7 +0.8
PRU AMS AMS 20 21 50.0
comp=Z,600nm,21.9s
HENT Hendek 148.19 319 *i* P PKPdf 19 16 09.8 -4.6
VYHS Vyhne 148.27 340 *e*PKP PKPdf 19 16 15.7 +1.4
SMOL Smolenice 148.68 342 *e*PKP PKPdf 19 16 17.2 +2.2
TNS Taunus Mts 148.82 354 *e*PKP2 PKPab 19 16 16.9 -4.1
GRF Grafenberg Arr 148.98 350 *e*PKP2 PKPab 19 16 17.8 -3.9
GRF MLR MLR
comp=Z,400nm,22.0s,MS5.2
SRO Srobarova 149.04 340 *e*PKP PKPdf 19 16 18.4 +2.8
ZST Bratislava 149.06 342 *e*PKP PKPdf 19 16 18.6 +3.0
KHC Kasperske Hory 149.08 347 *e*PKP2 PKPab 19 16 17.3 -4.8
KHC MLR MLR
comp=Z,600nm,19.5s,MS5.4
KHC Kasperske Hory 149.08 347 *e*PKP PKPdf 19 16 17.3 +1.7
KHC pPKP 19 16 27.0
KHC AMS AMS 20 22 50.0
comp=Z,600nm,19.5s
GIVF Givet 149.17 358 *e*PKP1 PKPdf 19 16 17.8 +2.1
WET Wettzell 149.21 348 *e*PKP2 PKPab 19 16 18.3 -4.3
BAIF Baives 149.23 359 *e*PKP1 PKPdf 19 16 18.0 +2.2
comp=Z,39nm,1.1s
ABH Alteburg 149.24 355 PKP PKPdf 19 16 18.2 +2.4
GEC2 GERESS Array S 149.32 347 *e*PKP2 PKPab 19 16 18.1 -5.0
GEC2 *e* 19 19 51.0
GERES GERESS Array B 149.32 347 PKPbc PKPdf 19 16 17.5 +1.5
comp=Z,2.5nm,0.8s,baz=45,slow=1.9,SNR=18
TOD Tromm 149.39 353 PKP PKPdf 19 16 18.2 +2.1
RUP Ruppelstein 149.46 355 PKP PKPdf 19 16 18.9 +2.7
WLF Walferdange 149.56 357 *e*PKP2 PKPab 19 16 19.0 -5.0
KTD Kalmit 149.75 354 PKP PKPdf 19 16 19.1 +2.4
LANF Langenberg 150.11 354 PKP PKPdf 19 16 19.8 +2.6
FLN La Foliniere 150.36 5 *e*PKP1 PKPdf 19 16 20.1 +2.5
comp=Z,102nm,1.1s
FLN *e*R
comp=Z,495nm,21.0s
ARSA Arzberg 150.37 343 ⇓*i*P PKPdf 19 16 20.9 +3.2
ROSF Rostrenen 150.44 9 *e*PKP1 PKPdf 19 16 20.2 +2.4
BFO Black Forest 150.70 353 *e*PKIKP PKPdf 19 16 21.4 +3.2
WLS Welschbruch 150.72 355 PKP PKPdf 19 16 21.5 +3.3
CDF Champ du Feu 150.72 355 *e*PKP1 PKPdf 19 16 21.5 +3.3
comp=Z,30nm,1.3s
MEZF Maizieres J'vi 150.77 358 *e*PKP1 PKPdf 19 16 21.8 +3.5
comp=Z,27nm,1.0s
QUIF Quistinic 150.87 9 *e*PKP1 PKPdf 19 16 21.3 +2.9
comp=Z,140nm,1.5s
ECH Echery 150.93 355 PKP PKPdf 19 16 21.5 +3.0
THEF They Montfort 151.00 357 PKP PKPdf 19 16 21.4 +2.8
PERS Pernice 151.04 343 *i* PKPdf PKPdf 19 16 21.7 +3.0
FELD Feldberg 151.19 354 PKP PKPdf 19 16 22.1 +3.2
HAU Haudompre 151.20 356 *e*PKP1 PKPdf 19 16 22.5 +3.6
HAU *e*R
comp=Z,536nm,20.8s
WTTA Wattenberg 151.25 348 ⇓*i*P PKPdf 19 16 22.4 +3.4
MOF Molkenrain 151.29 355 PKP PKPdf 19 16 21.7 +2.6
HINF Hinteralfeld 151.35 355 *e*PKP1 PKPdf 19 16 22.6 +3.5
comp=Z,12nm,1.0s
LJU Ljubljana 151.75 344 *e*PKPdf PKPdf 19 16 22.7 +2.9
LJU *e*PKPbc PKPdf 19 16 28.4 +8.6
LOMF Lomont 151.81 355 PKP PKPdf 19 16 22.7 +2.8
VOY Vojsko 151.92 345 *e*PKPdf PKPdf 19 16 22.2 +2.1
LOR Lormes 152.03 359 *e*PKP1 PKPdf 19 16 24.5 +4.3
comp=Z,22nm,1.0s
LOR *e*R
comp=Z,718nm,20.8s
BOJS Bojanci 152.04 342 *e*PKPdf PKPdf 19 16 23.8 +3.5
BOJS *e*PKPbc PKPdf 19 16 30.6 +10
SSF Saint Saulge 152.23 360 *e*PKP1 PKPdf 19 16 25.0 +4.5
comp=Z,23nm,1.0s
AVF Avril sur Loir 152.50 0 *e*PKP1 PKPdf 19 16 25.3 +4.4
CABF La Chapelle 152.60 356 *e*PKP1 PKPdf 19 16 26.4 +5.4
comp=Z,11nm,0.9s
SMF Signal de Mont 152.65 359 *e*PKP1 PKPdf 19 16 26.1 +5.0
BGF Bois d'Agland 152.73 1 *e*PKP1 PKPdf 19 16 26.0 +4.8
TCF Toulx Ste Croi 152.99 2 *e*PKP1 PKPdf 19 16 26.4 +4.8
comp=Z,19nm,1.1s
LPL La Plagne 153.64 355 *e*PKP1 PKPdf 19 16 28.8 +6.3
comp=Z,14nm,1.1s

*CSEM **26** 19:08:53.3±0.2, 35.40N×3.92W, h15km, MD2.9, Error ellipse: s-maj=5.3km s-min=3.9km az=55.0*
*NEIC **26** 19:08:54.6, 35.44N×3.97W, MG3.2(MDD), After MDD.*
*CNRM **26** 19:08:54.5, 35.46N×3.81W, h1km, MD2.9*
*MDD **26** 19:08:54.8±0.4, 35.46N×3.94W, mbLg1.9/13, Error ellipse: s-maj=4.8km s-min=3.2km az=84.0, PRXIMO*

ISC 26 19:08:53.8±0.4, 35.45N±0.02×3.98W±0.03, h10km, n31, σ1§03/60, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.22**	**173**	P	**Pg**		**19 08 59.0**	**+0.4**
MPAL				S	**Sg**		**19 09 03.0**	**+1.2**
MPAL	**Palemas**	**0.22**	**173**	*i* P	**Pg**		**19 08 59.0**	**+0.4**
EMEL	**Melilla**	**0.85**	**100**	P	**Pb**		**19 09 10.1**	**0.0**
EMEL	79nm,0.1s,SNR=7.9			S	**Sb**		**19 09 21.0**	**-0.2**
	95nm,0.1s,SNR=7.9							
EMLI	**Melilla**	**0.85**	**100**	P	**Pb**		**19 09 10.1**	**-0.1**
EMLI	79nm,0.1s,SNR=7.9			S	**Sb**		**19 09 21.0**	**-0.4**
	95nm,0.1s,SNR=7.9							
EALB	**Alboran**	**0.91**	**57**	P	**Pb**		**19 09 11.2**	**0.0**
	8.4nm,0.1s,SNR=9.6							
EALB				S	**Sb**		**19 09 23.1**	**0.0**
	25nm,0.1s,SNR=7.9							
EALB	**Alboran**	**0.91**	**57**	P	**Pb**		**19 09 11.2**	**0.0**
	8.4nm,0.1s,SNR=9.6							
EALB				S	**Sb**		**19 09 23.1**	**0.0**
	25nm,0.1s,SNR=7.9							
ZAI	**Zaio**	**1.11**	**115**	*e*P	**Pb**		**19 09 13.0**	**-1.7**
ZAI				*i* S	**Sb**		**19 09 26.5**	**-2.6**
EMIJ	**Mijas**	**1.29**	**330**	P	**Pb**		**19 09 17.8**	**+0.1**
EMIJ				S	**Sb**		**19 09 34.3**	**+0.2**
EMIJ	**Mijas**	**1.29**	**330**	P	**Pb**		**19 09 17.8**	**+0.1**
	1.3nm,0.1s,SNR=6.3							
EMIJ				S	**Sb**		**19 09 35.7**	**+1.6**
	10nm,0.2s,SNR=4.0							
EMIJ	**Mijas**	**1.29**	**330**	P	**Pb**		**19 09 17.8**	**+0.1**
	1.3nm,0.1s,SNR=6.3							
EMIJ				S	**Sb**		**19 09 34.3**	**+0.2**
	10nm,0.2s,SNR=4.0							
ERON	**Agron**	**1.57**	**5**	S	**Sb**		**19 09 43.4**	**+1.0**
	5.1nm,0.4s,SNR=4.0							
EBER	**Berja**	**1.69**	**31**	P	**Pn**		**19 09 24.0**	**+0.3**
	0.6nm,0.1s,SNR=7.9							
EBER				S	**Sn**		**19 09 45.9**	**+0.3**
	7.3nm,0.4s,SNR=7.9							
EBER	**Berja**	**1.69**	**31**	P	**Pn**		**19 09 24.0**	**+0.3**
	0.6nm,0.1s,SNR=7.9							
EBER				S	**Sn**		**19 09 45.9**	**+0.4**
	7.3nm,0.4s,SNR=7.9							
ELOJ	**Sierra Loja**	**1.70**	**355**	P	**Pn**		**19 09 24.6**	**+0.8**
	0.4nm,0.1s,SNR=4.0							
ELOJ				S	**Sn**		**19 09 47.5**	**+1.7**
	2.3nm,0.4s,SNR=4.0							
ELUQ	**Luque**	**2.12**	**354**	P	**Pn**		**19 09 30.3**	**+0.5**
	1.6nm,0.2s,SNR=4.0							
ELUQ				S	**Sn**		**19 09 57.3**	**+0.9**
	2.1nm,0.2s,SNR=4.0							
MIF	**Mishlifen**	**2.28**	**207**	*e*P	**Pn**		**19 09 33.5**	**+1.4**
MIF				*i* S	**Sn**		**19 10 01.0**	**+0.5**
EQES	**Quesada**	**2.46**	**17**	P	**Pn**		**19 09 36.1**	**+1.5**
EQES				S	**Sn**		**19 10 04.9**	**-0.1**
EQES	**Quesada**	**2.46**	**17**	P	**Pn**		**19 09 35.5**	**+0.8**
	0.3nm,0.1s,SNR=8.4							
EQES				S	**Sn**		**19 10 04.9**	**-0.1**
	2.4nm,0.2s,SNR=4.6							
EQES	**Quesada**	**2.46**	**17**	P	**Pn**		**19 09 36.1**	**+1.5**
	1.9nm,0.3s,SNR=8.4							
EQES				S	**Sn**		**19 10 04.9**	**-0.1**
	2.4nm,0.2s,SNR=4.6							
EADA	**Adamuz**	**2.76**	**350**	P	**Pn**		**19 09 35.1**	**-3.8**
EADA				S	**Sn**		**19 10 12.4**	**-0.1**
EADA	**Adamuz**	**2.76**	**350**	P	**Pn**		**19 09 39.5**	**+0.7**
	0.6nm,0.1s,SNR=4.0							
EADA				S	**Sn**		**19 10 12.4**	**-0.1**
	1.4nm,0.3s,SNR=4.0							
EADA	**Adamuz**	**2.76**	**350**	P	**Pn**		**19 09 35.1**	**-3.8**
	0.6nm,0.1s,SNR=4.0							
EADA				S	**Sn**		**19 10 12.4**	**-0.2**
	1.4nm,0.3s,SNR=4.0							
ECAB	**El Cabril**	**2.87**	**337**	P	**Pn**		**19 09 40.6**	**+0.2**
	0.3nm,0.2s,SNR=4.0							
ECAB				S	**Sn**		**19 10 14.7**	**-0.7**
	1.7nm,0.3s,SNR=7.9							
ECAB	**El Cabril**	**2.87**	**337**	P	**Pn**		**19 09 40.6**	**+0.2**
	0.3nm,0.2s,SNR=4.0							
ECAB				S	**Sn**		**19 10 14.7**	**-0.7**
	1.7nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**3.17**	**318**	P	**Pn**		**19 09 44.7**	**-0.1**
EMIN				S	**Sn**		**19 10 21.0**	**-2.1**
EMIN	**Mina Concepcio**	**3.17**	**318**	P	**Pn**		**19 09 44.7**	**-0.1**
	0.3nm,0.1s,SNR=7.9							
EMIN				S	**Sn**		**19 10 21.3**	**-1.8**
	2.9nm,0.8s,SNR=5.7							
EMIN	**Mina Concepcio**	**3.17**	**318**	P	**Pn**		**19 09 44.7**	**-0.1**
	0.3nm,0.1s,SNR=7.9							
EMIN				S	**Sn**		**19 10 21.0**	**-2.1**
	2.9nm,0.8s,SNR=5.7							
EGRO	**El Granado**	**3.51**	**307**	P	**Pn**		**19 09 49.1**	**-0.5**
	5.1nm,0.9s,SNR=5.9							
EGRO				S	**Sn**		**19 10 29.4**	**-2.2**
	1.7nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**3.51**	**307**	P	**Pn**		**19 09 49.1**	**-0.5**
	5.1nm,0.9s,SNR=5.9							
EGRO				S	**Sn**		**19 10 29.0**	**-2.6**
	1.7nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.10**	**325**	P	**Pn**		**19 09 57.4**	**-0.6**
	0.5nm,0.1s,SNR=7.9							
EBAD				S	**Sn**		**19 10 43.6**	**-2.9**
	0.4nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**4.10**	**325**	P	**Pn**		**19 09 57.3**	**-0.6**
	0.5nm,0.1s,SNR=7.9							
EBAD				S	**Sn**		**19 10 43.6**	**-2.9**

IDC 26 19:10:06.3±10.0, 6.90S×129.63E, h92km±100km, mb3.2/2, mb1 3.5/5, mb1mx3.3/15, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=114.2km s-min=35.2km az=52.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.80**	**199**	P		P	19 12 51.4	-1.5
	0.3nm,0.3s,baz=13,slow=14,SNR=13							
FITZ				S		S	19 14 52.6	-10
	1.1nm,0.3s,baz=174,slow=17,SNR=4.0							
WRA	**Warramunga Arr**	**13.75**	**161**	P		P	19 13 17.0	-1.6
	0.3nm,0.3s,baz=343,slow=13,SNR=18							
WRA				S		S	19 15 39.6	-10
	0.6nm,0.3s,baz=331,slow=22,SNR=7.8							
ASAR	**Alice Springs**	**17.18**	**167**	P		P	19 14 01.5	-0.4
	0.3nm,0.3s,baz=346,slow=11,SNR=26							
ASAR				S		S	19 17 04.0	-4.2
	0.1nm,0.3s,baz=3.8,slow=27,SNR=5.0							
STKA	**Stephens Creek**	**27.25**	**157**	P		P	19 15 41.8	-2.2
	0.8nm,0.5s,baz=342,slow=11,SNR=3.1							
MKAR	**Makanchi Array**	**67.94**	**327**	P		P	19 20 55.5	-2.0
	0.1nm,0.3s,baz=111,slow=8.8,SNR=4.1							

IDC 26 19:26:12.5±6.1, 1.60N×98.64E, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=320.2km s-min=29.0km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.04**	**123**	P		P	19 33 58.4	-1.1
	0.3nm,0.5s,baz=301,slow=9.9,SNR=3.7							
ASAR	**Alice Springs**	**42.50**	**128**	P		P	19 34 09.4	-2.1
	0.1nm,0.5s,baz=299,slow=7.6,SNR=5.1							
MKAR	**Makanchi Array**	**47.22**	**345**	P		P	19 34 47.0	-2.0
	0.4nm,0.5s,baz=161,slow=7.6,SNR=6.4							

IDC 26 19:33:55.0±42.0, 3.10S×127.11E, h629km±238km, mb2.3/2, mb1 2.6/4, mb1mx2.4/18, mbtmp3.5/4, Error ellipse: s-maj=553.1km s-min=115.0km az=166.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.98**	**185**	P		P	19 37 01.5	-1.1
	0.2nm,0.3s,baz=357,slow=16,SNR=3.5							
WRA	**Warramunga Arr**	**18.17**	**158**	P		P	19 37 30.6	-1.8
	0.3nm,0.3s,baz=336,slow=11,SNR=20							
ASAR	**Alice Springs**	**21.48**	**163**	P		P	19 38 01.6	-0.9
	0.2nm,0.3s,baz=344,slow=8.7,SNR=7.5							
STKA	**Stephens Creek**	**31.70**	**156**	P		P	19 39 29.4	-1.8
	1.0nm,0.7s,baz=334,slow=12,SNR=4.7							

NNC 26 19:48:40.5±3.0, 42.49N×69.47E, h18km±29km, mpv3.8, 10C-2D, Error ellipse: s-maj=22.3km s-min=14.0km az=153.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.98**	**51**	⇓P		Pb	19 48 59.0	+0.4
	14nm,0.2s,baz=237,slow=17,SNR=1592							
KK31				⇑S		Sb	19 49 12.7	+1.6
	107nm,0.3s,baz=241,slow=27,SNR=29							
AML	**Almayashu**	**3.16**	**95**	P		Pn	19 49 38.3	+7.9
	SNR=58							

EKS2	Erkin-Say	3.19	86	P	Pn	19 49 37.2	+6.4
	SNR=25						
AAK	Ala-Archa	3.72	86	P	Pn	19 49 48.2	+10
	SNR=7.0						
AAK	Ala-Archa	3.72	86	⇑Pg	Pn	19 49 47.0	+8.7
	30nm,0.5s						
AAK				⇑Lg		19 50 39.0	
	25nm,0.5s						
UCH	Uchtor	3.75	92	P	Pn	19 49 48.4	+10
	SNR=24						
USP	Ospenovka	3.78	77	P	Pn	19 49 39.3	+0.1
	SNR=13						
KBK	Karagaybulak	4.05	86	P	Pn	19 49 54.1	+11
	SNR=13						
KZA	Kyzart	4.31	94	P	Pn	19 49 59.4	+13
	SNR=18						
TKM2	Tokmak 2	4.54	83	P	Pn	19 49 50.1	+0.1
	SNR=11						
MK31	Makanchi Array	10.10	60	⇑Pn	P	19 51 06.6	-1.1
	1.0nm,0.6s,baz=245,slow=16						
MK31				⇑Sn	S	19 52 55.8	-5.7
	5.0nm,0.9s,baz=244,slow=24						
MK31				⇓Lg		19 53 46.0	
	6.5nm,0.8s,baz=250,slow=32						
BVA0	Borovoye Array	10.56	3	⇑Pn	P	19 51 12.4	-1.5
	0.3nm,0.8s,baz= 184,slow=9.8,SNR=9.4						
BVA0				⇑Lg		19 54 14.2	
	1.0nm,0.8s						
CHKZ	Chkalovo	11.22	4	⇑Pn	P	19 51 20.5	-2.4
	1.9nm,1.1s						
CHKZ				⇑Sn	S	19 53 15.9	-13
	1.0nm,0.6s						
CHKZ				⇑Lg		19 54 24.8	
	4.7nm,1.1s						

IDC 26 19:53:08.7±52.0, 20.24S×178.19E, mb3.8/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=916.6km s-min=141.9km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.70	243	P	P	19 59 59.1	-3.3
	1.9nm,0.8s,baz=94,slow=11,SNR=4.9						
WRA	Warramunga Arr	41.09	263	P	P	20 00 55.3	-0.7
	0.4nm,0.3s,baz=95,slow=7.9,SNR=25						
ASAR	Alice Springs	41.09	257	P	P	20 00 54.5	-1.5
	1.4nm,0.8s,baz=88,slow=8.7,SNR=16						

*HLW **26** 19:55:13.1, 24.75N×36.51E, h19km, Mb3.1*
*CSEM **26** 19:55:13.5±0.2, 24.73N×36.35E, h25km, ML3.1*
*SNSN **26** 19:55:16.0, 24.70N×36.65E, h4km, Ml1.9*

ISC 26 19:55:11.9±0.6, 24.69N±0.06×36.35E±0.04, h10km, n10, σ0§73/13, 4D, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UMJS	Umm Lajj	1.03	58	P	Pb	19 55 31.5	+0.1
HAGS	Hagol	1.28	256	⇓P	Pb	19 55 36.8	+1.2
EMRS	Mersa Alam	1.41	283	⇓P	Pn	19 55 37.9	+0.3
YNBS	Yanbu' al Bahr	1.54	103	P	Pn	19 55 40.4	+0.9
YNBS				S	Sb	19 55 58.2	-1.3
HADB		1.69	293	⇓P	Pn	19 55 42.0	+0.2
HSHL	Bi'r Shalatayn	1.80	209	P	Pn	19 55 43.7	+0.4
HSHL				S	Sn	19 56 05.9	-0.4
HQSR		2.07	301	P	Pn	19 55 47.0	-0.1
KBRS	Khaybar	2.86	67	P	Pn	19 55 59.0	+0.6
HSFG		2.87	311	P	Pn	19 55 58.1	-0.5
HEDF	Idfu	2.90	279	⇓P	Pn	19 55 59.1	+0.1
HEDF				S	Sn	19 56 32.9	-1.4

IDC 26 19:58:16.3±7.9, 49.69N×151.83E, h276km±81km, mb2.9/2, mb1 3.0/4, mb1mx2.7/23, mbtmp3.6/4, Error ellipse: s-maj=109.3km s-min=61.5km az=114.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	8.43	232	P	P	20 00 15.0	-0.8
	0.6nm,0.3s,baz=69,slow=8.6,SNR=3.8						
MJAR	Matsushiro Arr	16.44	222	P	P	20 01 50.2	-2.6
	0.3nm,0.3s,baz=16,slow=12,SNR=5.7						
MKAR	Makanchi Array	44.89	294	P	P	20 06 03.6	-1.3
	0.3nm,0.8s,baz=63,slow=8.1,SNR=4.2						
FINES	FINESS Array B	61.02	334	P	P	20 08 00.3	-1.9
	0.4nm,0.4s,baz=41,slow=7.9,SNR=11						

IDC 26 20:08:00.4±4.0, 0.16N×97.99E, mb3.6/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=161.1km s-min=23.3km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.82	121	P	P	20 15 43.6	-2.0
	0.5nm,0.6s,baz=304,slow=9.1,SNR=3.9						
ASAR	Alice Springs	42.14	127	P	P	20 15 55.1	-1.4
	0.5nm,0.6s,baz=297,slow=7.9,SNR=8.1						
SONM	Songino Array	48.04	8	P	P	20 16 42.1	-1.4
	0.4nm,0.4s,baz=193,slow=8.8,SNR=6.0						
MKAR	Makanchi Array	48.44	346	P	P	20 16 44.1	-2.4
	1.0nm,0.6s,baz=155,slow=7.8,SNR=17						

*CSEM **26** 20:15:21.7±0.1, 43.03N×13.37E, h20km, ML3.1/7, Error ellipse: s-maj=2.2km s-min=1.2km az=75.0*
*ROM **26** 20:15:22.2±0.1, 43.02N×13.30E, h18km±3km, Md2.9/19, Ml2.8/12, Error ellipse: s-maj=2.6km s-min=1.3km az=109.0*
*NEIC **26** 20:15:22.4±0.4, 43.08N×13.23E, h10km, ML2.9(VIE), ML2.8(LDG), Error ellipse: s-maj=6.6km s-min=5.0km az=86.0*
*LDG **26** 20:15:24.3±0.1, 43.07N×13.24E, h10km, Ml2.8/5, Error ellipse: s-maj=4.5km s-min=2.8km az=76.0*

ISC 26 20:15:22.0±0.3, 43.08N±0.02×13.32E±0.04, h18km, n50, σ1§34/75, 4C-3D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	Norcia	0.29	212	Pg	Pb	20 15 28.8	+0.4
CING	Cingoli	0.31	343	Pg	Pb	20 15 30.5	+1.7
CING				Sg	Sb	20 15 36.8	+3.4
	844nm,0.5s						
SNTG	Esanatoglia	0.33	303	Pg	Pb	20 15 30.3	+1.2
SNTG				Sg	Sb	20 15 36.4	+2.5
ASS	Assisi	0.49	268	Pg	Pb	20 15 32.3	+0.5
ASS				Sg	Sb	20 15 40.5	+2.1
TERO	Teramo	0.50	155	Pg	Pb	20 15 32.1	+0.1
	559nm,0.3s						
ARV	Arcevia	0.50	327	Pg	Pb	20 15 33.4	+1.4
ARV				Sg	Sb	20 15 42.1	+3.3
	114nm,0.2s						
AOI	Ancona	0.52	24	Pg	Pb	20 15 34.5	+2.2
	329nm,0.4s						
CAMP	Campotosto	0.55	173	Pg	Pb	20 15 32.6	-0.2
CAMP				Sg	Sb	20 15 40.6	+0.5
	318nm,0.5s						
MURB	Monte Urbino	0.61	288	Pn	Pn	20 15 34.8	-0.8
	3µm,0.3s						
AQU	L'Aquila	0.73	175	*e*Pg	Pb	20 15 35.3	-0.5
AQU				*e*S	Sb	20 15 48.8	+3.4
AQU	L'Aquila	0.73	175	Pn	Pn	20 15 35.6	-1.7
	69nm,0.2s						
AQU	L'Aquila	0.73	175	*e*Pg	Pb	20 15 35.3	-0.6
AQU	L'Aquila	0.73	175	Pn	Pn	20 15 35.6	-1.7
	69nm,0.2s						
AQU				*e*S	Sb	20 15 48.8	+3.5
FSSB	Fossombrone	0.73	327	Pn	Pn	20 15 37.3	0.0
FSSB				Sn	Sn	20 15 49.6	+1.6
	93nm,0.2s						
VCEL	Villa Celiera	0.78	150	Pn	Pn	20 15 37.0	-1.1
	304nm,0.3s						
FIAM	Fiamignano	0.82	190	Pn	Pn	20 15 37.1	-1.6
	220nm,0.7s						
FAGN	Fagnano	0.83	166	Pn	Pn	20 15 37.8	-1.0
	507nm,0.5s						
MNS	Montasola	0.84	214	Pn	Pn	20 15 37.8	-1.1
	237nm,0.4s						
PTQR	Pietraquaria	1.06	177	Pn	Pn	20 15 44.1	+2.1
	24nm,0.3s						
SACS	San Casciano d	1.06	258	Pn	Pn	20 15 42.5	+0.5
	117nm,1.0s						
RSM	Repubblica di	1.06	324	Pn	Pn	20 15 43.7	+1.7
	61nm,0.6s						
INTR	Introdacqua	1.15	158	Pn	Pn	20 15 43.3	0.0
	339nm,0.9s						
CERT	Cerreto	1.16	193	Pg	Pb	20 15 42.8	-0.4
CERT				Sg	Sb	20 16 01.5	+3.8
	145nm,0.5s						
SFI	Santa Sofia	1.35	308	Pn	Pn	20 15 48.3	+2.1
	35nm,0.5s						
PGD	Poggio Sodo	1.41	305	Pn	Pn	20 15 49.9	+2.9
	32nm,0.7s						
SDI	San Donato	1.42	165	Pn	Pn	20 15 49.2	+2.1
	58nm,0.2s						
CII	Carovilli	1.54	151	*e*Pn	Pn	20 15 51.9	+3.0
VMG	Vicchio	1.56	305	Pn	Pn	20 15 53.3	+4.1
	53nm,0.5s						
GRFL	Gerfalco	1.72	273	Pn	Pn	20 15 51.8	+0.4
	4.0nm,0.4s						
NVLJ	Novalja	1.86	37	*i* Pn	Pn	20 15 54.1	+0.6
NVLJ				*i* Sg	Sn	20 16 18.0	+1.3
NVLJ	Novalja	1.86	37	*i* Pn	Pn	20 15 54.0	+0.5
NVLJ				*i* Sg	Sn	20 16 18.0	+1.3
PII	Pisa	2.13	288	Pn	Pn	20 15 57.3	-0.1
	5.0nm,0.3s						
BOJS	Bojanci	2.79	29	*i* Pn	Pn	20 16 08.4	+1.5
VOY	Vojsko	2.98	8	*e*Pn	Pn	20 16 09.3	-0.2
VOY				*e*Sn	Sn	20 16 45.7	+0.6
PGF	Pioggiola	3.22	262	*e*Pn	Pn	20 16 12.5	-0.4
PGF				*e*Sn	Sn	20 16 51.2	0.0
	1.8nm,0.4s						
OBKA	Obir	3.54	14	⇓*i*PN	Pn	20 16 17.5	+0.1
OBKA				*i* SN	Sn	20 16 58.1	-1.2
OBKA				*i* SG	Sn	20 17 17.2	+18
	4.1nm,0.4s						
OBKA	Obir	3.54	14	⇓*i*Pn	Pn	20 16 17.5	+0.1
OBKA				*i* Sg	Sn	20 17 17.2	+18
	4.1nm,0.4s						
KBA	Koelnbreinsper	4.00	0	⇑*i*PN	Pn	20 16 24.0	0.0
KBA				*i* SN	Sn	20 17 09.6	-1.3
WTTA	Wattenberg	4.35	345	⇑*i*PN	Pn	20 16 28.5	-0.5
WTTA				*i* SN	Sn	20 17 18.2	-1.6
SBF	Sospel	4.35	282	*e*Pn	Pn	20 16 28.0	-1.0
SQTA	Sankt Quirin	4.40	341	⇑*i*PN	Pn	20 16 29.1	-0.6
SQTA				*i* SN	Sn	20 17 19.6	-1.5
WATA	Walderalm	4.43	344	⇓*i*PN	Pn	20 16 29.6	-0.5
WATA				*i* SN	Sn	20 17 20.5	-1.4
MOA	Molln	4.82	8	⇑*i*PN	Pn	20 16 34.9	-0.7
MOA				*i* SN	Sn	20 17 30.3	-1.3
FRF	La Foret Royal	4.89	278	*e*Pn	Pn	20 16 35.4	-1.2
FRF				*e*Sn	Sn	20 17 27.3	-6.2
	3.7nm,0.6s						
LMR	La Mourre	4.98	275	*e*Pn	Pn	20 16 36.4	-1.5
CABF	La Chapelle	6.24	307	*e*Pn	Pn	20 16 54.1	-1.5
HINF	Hinteralfeld	6.57	318	*e*Pn	Pn	20 16 58.5	-1.7
HINF				*e*Sn	Sn	20 18 06.6	-8.8
	2.9nm,0.4s						
CDF	Champ du Feu	6.80	324	*e*Pn	Pn	20 17 01.7	-1.9
CDF				*e*Sn	Sn	20 18 13.3	-8.1
	2.4nm,0.4s						
HAU	Haudompre	6.94	318	*e*Pn	Pn	20 17 03.5	-2.0
HAU				*e*Sn	Sn	20 18 15.6	-9.2
	5.0nm,0.5s						
LASF	Ste Croix	6.94	281	*e*Pn	Pn	20 17 02.3	-3.2

*BJI **26** 20:36:46.5, 56.40N×154.00W, h21km, mB5.1, mb4.6, Ms4.2, Msz3.9*
*NEIC **26** 20:36:50.5, 56.36N×154.02W, h21km, mb4.5/30, ML4.3(AEIC), After AEIC.*
*IDC **26** 20:36:53.5±0.9, 56.81N×154.34W, h27km±4km, mb4.2/13, mb1 4.4/14, mb1mx4.3/19, mbtmp4.4/14, ML3.5/1, MS3.7/9, Ms1 3.7/9, ms1mx3.4/36, Error ellipse: s-maj=27.4km s-min=16.8km az=12.0*

ISC 26 20:36:50.1±0.3, 56.49N±0.03×153.69W±0.06, h28km, h28km±4km: pP-P, n166, σ1§32/166, mb4.5/52, MS3.9/8, 2D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	1.43	24	P	Pn	20 37 16.8	+2.2
KDAK				S	Sn	20 37 35.4	+2.7
ACHA	Angle Creek He	1.94	334	P	Pn	20 37 21.1	-0.8
ACHA				S	Sn	20 37 45.6	0.0
ANCK	Angle Creek	1.98	331	P	Pn	20 37 21.4	-0.9
ANCK				S	Sn	20 37 47.1	+0.6
KAPH	Katmai Pasha	2.15	351	P	Pn	20 37 25.3	+0.5
KAPH				S	Sn	20 37 53.5	+2.7
SYI	Shuyak Island	2.24	18	P	Pn	20 37 27.8	+1.6
KAHC	Katmai Hardscr	2.28	342	P	Pn	20 37 26.3	-0.4
MCNL	McNeil River	2.73	353	P	Pn	20 37 33.3	+0.2
AUI	Augustine Isla	2.86	3	P	Pn	20 37 36.1	+1.1
AUE	Augustine Isla	2.88	3	P	Pn	20 37 36.6	+1.2
AUW	Augustine West	2.89	2	P	Pn	20 37 36.7	+1.2
OPT	Oil Point	3.18	4	P	Pn	20 37 40.4	+0.8
CNPM	China Poot	3.31	22	P	Pn	20 37 42.9	+1.4
ILW	Iliamna West	3.59	4	P	Pn	20 37 45.6	+0.2
INE	Iliamna NE	3.60	5	P	Pn	20 37 45.9	+0.4
BRLK	Bradley Lake	3.61	23	P	Pn	20 37 46.4	+0.8
ILIM	Iliamna	3.62	6	P	Pn	20 37 46.1	+0.2
NNL	Ninilchik	3.78	19	P	Pn	20 37 49.9	+1.8
RDN	Redoubt North	4.07	6	P	Pn	20 37 52.4	+0.2
NCT	North Crescent	4.11	5	P	Pn	20 37 52.8	+0.1
DFR	Drift River	4.15	7	P	Pn	20 37 53.6	+0.3
SEW	Seward	4.26	30	P	Pn	20 37 54.6	-0.3
SLKM	Skilak Lake	4.42	23	P	Pn	20 37 57.4	+0.2
SVW2	Sparrevohn	4.73	349	P	Pn	20 38 00.1	-1.4
CKL	Chakachamna La	4.78	8	P	Pn	20 38 01.8	-0.4
MID	Middleton Isla	4.90	50	P	Pn	20 38 04.1	+0.1
FIB	Fire Island	5.04	20	P	Pn	20 38 06.5	+0.6
RC01	Rabbit Creek A	5.05	22	P	Pn	20 38 05.8	-0.3
STLK	Strandline Lak	5.12	10	P	Pn	20 38 06.8	-0.2
PWL	Port Wells	5.20	30	P	Pn	20 38 07.8	-0.3
HIN	Hinchinbrook I	5.44	41	P	Pn	20 38 11.4	-0.2
PWA	Palmer West	5.54	19	P	Pn	20 38 12.6	-0.4
KNK	Knik Glacier	5.63	27	P	Pn	20 38 13.9	-0.4
PMR	Palmer	5.63	23	*e*P	Pn	20 38 13.3	-1.0
EYAK	Cordova Ski Ar	5.82	42	P	Pn	20 38 16.6	-0.3
GHO	Glory Hole Cre	5.84	23	P	Pn	20 38 16.4	-0.8
KAIM	Kayak Island	5.99	51	P	Pn	20 38 18.8	-0.5
SML	Sawmill	6.00	25	P	Pn	20 38 18.7	-0.9
VLZ	Valdez	6.02	36	P	Pn	20 38 19.5	-0.3
RAGM	Ragged Mountai	6.14	47	P	Pn	20 38 21.1	-0.3
DIV	Divide	6.21	38	P	Pn	20 38 21.8	-0.6
SCM	Sheep Creek Mo	6.28	29	P	Pn	20 38 22.8	-0.6
TT01	Tatalina	6.55	351	P	Pn	20 38 25.2	-2.0
TTA	Tatalina	6.57	351	P	Pn	20 38 25.6	-1.9
GLB	Gilahina Butte	7.12	42	P	Pn	20 38 34.1	-1.1
TRF	Thorofare Moun	7.19	12	P	Pn	20 38 34.5	-1.7
KTH	Kantishna Hill	7.22	10	P	Pn	20 38 35.0	-1.6
MCK	McKinley	7.64	16	P	Pn	20 38 40.7	-1.9
PAX	Paxson	7.71	29	P	Pn	20 38 42.0	-1.5
THY	Trims Highway	8.01	27	*e*P	P	20 38 47.0	-0.5
GCSA	Galena City Sc	8.43	351	P	P	20 38 49.8	-3.8
HDA	Harding Lake	8.61	20	P	P	20 38 53.9	-2.1
CCB	Clear Creek Bu	8.68	17	P	P	20 38 54.2	-2.7
MLY	Manley	8.69	8	P	P	20 38 54.4	-2.7
COLA	College	8.88	16	P	P	20 38 57.0	-2.7
IL1	Eielson Array	8.95	19	P	P	20 38 58.2	-2.5
ILAR	Eielson Array	8.95	19	Pn	P	20 38 57.2	-3.5
	0.7nm,0.3s,baz=210,slow=13,SNR=35						
ILAR				Sn	Sn	20 40 36.3	-5.3
	0.2nm,0.3s,baz=184,slow=26,SNR=2.7						
ILAR				LR	LR	20 42 48.6	
	comp=Z,753nm,18.4s,baz=215,slow=40						
IM3	Indian Mountai	9.53	360	P	P	20 39 05.4	-3.1
IMA	Indian Mountai	9.62	0	*e*P	P	20 39 07.6	-2.1
	4.9nm,0.6s						
TNA	Tin City	11.39	329	*e*P	P	20 39 28.9	-5.0
DLBC	Dease Lake	12.87	71	Sn	S	20 42 16.3	-0.8
	0.4nm,0.3s,baz=163,slow=20,SNR=4.0						
DLBC				LR	LR	20 45 06.5	
	comp=Z,144nm,18.3s,baz=60,slow=38						
DLBC	Dease Lake	12.87	71	P	P	20 39 56.0	+2.2
INK	Inuvik	14.99	30	Pn	P	20 40 21.4	0.0
	0.1nm,0.3s,baz=219,slow=14,SNR=12						
INK				LR	LR	20 46 31.8	
	comp=Z,423nm,18.3s,baz=332,slow=39						
INK	Inuvik	14.99	30	*e*P	P	20 40 20.8	-0.6
	20nm,1.0s						
BBB	Bella Bella	15.49	95	LR	LR	20 45 39.0	
	comp=Z,188nm,18.1s,baz=166,slow=33						
YKW3	Yellowknife Ar	20.47	57	*e*P	P	20 41 29.6	+1.7
YKA	Yellowknife Ar	20.47	57	P	P	20 41 29.9	+1.9
	12nm,0.7s,baz=270,slow=11,SNR=71						
YKA				PcP	PcP	20 45 38.8	-0.3
	0.3nm,0.8s,baz=285,slow=1.8,SNR=3.8						
YKA				LR	LR	20 50 33.8	
	comp=Z,155nm,18.1s,MS3.4,baz=260,slow=40						
BILL	Bilibino	21.46	319	*e*P	P	20 41 34.0	-4.0
	28nm,1.0s,mb4.5						
EDM	Edmonton	23.21	81	P	P	20 41 55.5	+0.2
NEW	Newport	23.55	95	P	P	20 41 57.2	-1.4
YBH	Yreka Blue Hor	24.81	113	LR	LR	20 50 27.2	
	comp=Z,112nm,18.6s,MS3.4,baz=300,slow=32						
HLID	Hailey	27.93	101	P	P	20 42 38.7	-1.0
RES	Resolute Bay	28.54	28	*e*P	P	20 42 44.5	-0.4
	7.0nm,1.0s,mb4.3						
NVAR	Mina Array Bea	29.52	113	P	P	20 42 59.8	+5.7
	0.7nm,0.7s,mb3.5,baz=312,slow=8.6,SNR=4.8						
NVAR				pP	pP	20 43 07.6	+5.3
	1.0nm,0.7s,baz=307,slow=11,SNR=5.0						
FCC	Fort Churchill	31.09	61	*e*P	P	20 43 05.2	-2.6
	2.6nm,0.5s,mb4.3						
BW06	Boulder Array	31.12	97	P	P	20 43 04.4	-3.8
PDAR	Pinedale Array	31.12	97	pP	pP	20 43 21.1	+4.6
	0.4nm,0.4s,baz=270,slow=7.4,SNR=3.0						
MSU	Marysvale	32.67	106	P	P	20 43 18.5	-3.3
SRU	San Rafael	33.12	103	*e*P	P	20 43 23.4	-2.4
ULM	Lac du Bonnet	34.15	75	LR	LR	20 56 17.5	
	comp=Z,76nm,20.6s,MS3.4,baz=350,slow=34						
SDCO	Great Sand Dun	36.84	100	P	P	20 43 55.6	-1.9
EYMN	Ely	37.83	76	*e*P	P	20 44 04.4	-1.2
	4.3nm,0.6s,mb4.4						
ANMO	Albuquerque	38.38	104	P	P	20 44 08.7	-1.7
MNTX	Cornudas Mount	41.45	106	P	P	20 44 33.2	-2.6
	1.2nm,0.7s,mb3.6						
SUMG	Summit	43.77	23	P	P	20 44 52.1	-2.0
	3.7nm,0.4s,mb4.5						
DAG	Danmarks Havn	44.01	14	⇓*e*P	P	20 44 56.1	+0.1
	6.7nm,0.8s,mb4.4						
DAG	Danmarks Havn	44.01	14	⇓*i*P	P	20 44 56.1	+0.1
	6.7nm,0.8s,mb4.4						
TXAR	Lajitas Array	44.22	106	pP	pP	20 45 11.8	+5.1
	1.9nm,0.8s,baz=311,slow=6.4,SNR=7.0						
TXAR				LR	LR	21 03 24.8	
	comp=Z,88nm,19.3s,MS3.7,baz=110,slow=36						
JCT	Junction City	45.40	102	P	P	20 45 07.4	-0.5
	6.2nm,0.7s,mb4.5						
SCHQ	Schefferville	45.88	54	P	P	20 45 13.4	+2.2
	3.2nm,0.7s,mb4.4,baz=296,slow=7.3,SNR=7.7						
CN2	Changchun	50.38	292	*e*P	P	20 45 41.3	-5.1
CN2				*e*S	S	20 52 47.0	-9.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
ARCES	ARCESS Array B	54.28	0	P	P	20 46 13.8	-1.4
	comp=Z,4.5nm,0.7s,mb4.5,baz=9.9,slow=7.4,SNR=19						
ULN	Ulaanbaatar	56.28	307	*e*P	P	20 46 27.0	-3.1
	comp=Z,3.8nm,0.8s,mb4.5						
SONM	Songino Array	56.60	307	P	P	20 46 30.5	-1.8
	comp=Z,10.0nm,0.8s,mb4.9,baz=42,slow=7.2,SNR=94						
SONM				pP	pP	20 46 39.0	-1.9
	comp=Z,2.7nm,0.7s,baz=45,slow=6.5,SNR=7.2						
SONM				PcP	PcP	20 47 28.4	0.0
	comp=Z,2.2nm,0.8s,baz=52,slow=1.9,SNR=4.7						
SONM				LR	LR	21 12 11.8	
	comp=Z,171nm,19.6s,MS4.2,baz=63,slow=38						
JOF	Joensuu	60.87	357	*e*p	P	20 46 59.2	-2.6
	comp=Z,7.6nm,0.7s,mb4.9						
KAF	Kangasniemi	61.74	0	*e*p	P	20 47 05.5	-2.2
	comp=Z,3.6nm,0.6s,mb4.7,baz=357,slow=6.5						
NB2	NORSAR Subarra	62.21	8	P	P	20 47 10.5	-0.4
	comp=Z,6.2nm,0.8s,mb4.8,baz=352,slow=7.0						
NOA	NORSAR Array B	62.21	8	P	P	20 47 10.6	-0.3
	comp=Z,5.0nm,0.8s,mb4.7,baz=352,slow=6.7,SNR=32						
FINES	FINESS Array B	62.41	0	P	P	20 47 11.2	-1.0
	comp=Z,3.1nm,0.6s,mb4.6,baz=11,slow=8.6,SNR=26						
NJ2	Nanjing	62.59	287	*e*P	P	20 47 11.8	-2.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
ARU	Arti	64.45	341	*e*P	P	20 47 23.6	-2.0
	comp=Z,13nm,0.9s,mb5.0						
ARU				*e*	pP	20 47 32.2	-2.1
GTA	Gaotai	66.17	306	*e*P	P	20 47 35.3	-1.5
GTA				PP	PP	20 50 02.5	-2.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,71nm,6.1s						
GTA				LR	LR		
	comp=N,81nm,14.5s,MS4.2						
GTA				LR	LR		
	comp=E,68nm,14.1s,MS4.2						
GTA				LR	LR		
	comp=Z,92nm,15.3s,MS4.1						
MKAR	Makanchi Array	66.96	322	P	P	20 47 40.0	-1.9
	comp=Z,4.7nm,0.8s,mb4.6,baz=45,slow=7.0,SNR=47						
LZH	Lanzhou	66.99	301	*e*P	P	20 47 40.0	-2.2
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.9						
WMQ	Urumqi	67.55	317	P	P	20 47 42.5	-3.1
WMQ				PCP	PcP	20 48 10.0	-2.6
WMQ				PP	PP	20 50 13.3	-3.0
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,85nm,4.0s						
WMQ				LR	LR		
	comp=N,56nm,21.5s,MS3.8						
WMQ				LR	LR		
	comp=E,30nm,18.8s,MS3.8						
WMQ				LR	LR		
	comp=Z,56nm,21.5s,MS3.8						
CLL	Collm	72.01	9	P	P	20 48 13.0	+0.3
BAIF	Baives	72.25	15	*e*P	P	20 48 15.2	+1.1
GIVF	Givet	72.29	14	*e*P	P	20 48 15.1	+0.7
MOX	Moxa	72.54	10	*e*P	P	20 48 16.8	+1.1
MOX	Moxa	72.54	10	*i* P	P	20 48

CABF La Chapelle 75.88 14 *eP* **P 20 48 36.5 +1.4**
comp=Z,6.8nm,0.7s,mb4.4
RJF Les Rejaudoux 76.46 18 *eP* **P 20 48 40.0 +1.6**
LFF La Frestale 76.68 18 *eP* **P 20 48 41.0 +1.4**
comp=Z,9.4nm,0.7s,mb4.5
CAF Calviac 76.92 17 *eP* **P 20 48 42.4 +1.4**
LPL La Plagne 77.05 14 *eP* **P 20 48 44.9 +3.3**
comp=Z,4.7nm,0.9s,mb4.1
LPG La Plagne 77.07 14 *eP* **P 20 48 44.5 +2.8**
comp=Z,4.1nm,0.8s,mb4.1
VIVF Saint-Julien-l 77.40 16 *eP* **P 20 48 45.0 +1.4**
ORIF Oris-en-Rattie 77.52 15 *eP* **P 20 48 45.9 +1.7**
comp=Z,4.0nm,0.6s,mb4.2
MBDF Montbardon 77.83 14 *eP* **P 20 48 48.1 +2.2**
comp=Z,4.5nm,0.7s,mb4.2
LASF Ste Croix 78.04 16 *eP* **P 20 48 48.9 +1.8**
SJPF Ste Jean 78.09 20 *eP* **P 20 48 49.3 +1.9**
LSA Lhasa 78.17 306 *eP* **P 20 48 48.8 +0.6**
SMRF Simiane la Rot 78.39 15 *eP* **P 20 48 51.2 +2.1**
comp=Z,4.7nm,0.7s,mb4.2
ETSF Etsaut 78.42 20 *eP* **P 20 48 51.2 +1.9**
comp=Z,12nm,0.8s,mb4.6
EPF Esparros 78.46 19 *eP* **P 20 48 51.2 +1.7**
MTLF Montolieu 78.49 18 *eP* **P 20 48 51.0 +1.4**
comp=Z,5.2nm,0.8s,mb4.2
SBF Sospel 78.76 14 *eP* **P 20 48 52.2 +1.1**
FRF La Foret Royal 78.95 14 *eP* **P 20 48 53.3 +1.1**
LMR La Mourre 79.16 15 *eP* **P 20 48 54.2 +0.9**
ESDC Sonseca Array 80.83 23 P **P 20 49 04.3 +2.0**
comp=Z,1.9nm,0.6s,mb4.2,baz=350,slow=5.2,SNR=9.6
JIRN Jiri 82.11 309 *eP* **P 20 49 09.0 -0.2**
comp=Z,19nm,0.8s,mb5.1
KKN Kakani 82.38 310 *eP* **P 20 49 10.3 -0.3**
comp=Z,16nm,1.1s,mb4.9
GKN Gorkha 82.47 311 *eP* **P 20 49 10.7 -0.4**
comp=Z,10nm,0.8s,mb4.8
PKI Pulchoki 82.52 310 *eP* **P 20 49 11.1 -0.2**
comp=Z,10nm,0.6s,mb5.0
DMN Daman 82.61 310 *eP* **P 20 49 11.7 -0.1**
comp=Z,11nm,0.8s,mb5.0
KOLN Koldanda 83.11 311 *eP* **P 20 49 14.2 -0.2**
comp=Z,15nm,0.8s,mb5.1
BRTR Keskin Array B 83.95 354 P **P 20 49 19.2 +0.9**
comp=Z,2.5nm,0.8s,mb4.4,baz=27,slow=2.8,SNR=14
CMAR Chiang Mai Arr 83.99 294 P **P 20 49 18.2 -0.8**
comp=Z,2.8nm,0.7s,mb4.5,baz=14,slow=5.5,SNR=21
CMAR pP pP 20 49 27.2 -0.7
comp=Z,2.6nm,0.8s,baz=9.0,slow=5.7,SNR=9.6

JMA ***26*** *20:40:20.7±0.2, 30.12N×139.25E, h442km, M3.4*
IDC ***26*** *20:40:22.2±1.0, 30.10N×139.32E, h437km±33km, mb3.1/3, mb1 3.1/6, mb1mx2.7/23, mbtmp3.8/6, Error ellipse: s-maj=111.8km s-min=12.2km az=73.0*
ISC 26 20:40:21.0±0.6, 30.18N±0.07×139.5E±0.2, h452km±10km, n17, σ0°79/23, mb3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.94**	**5**	P	**P**	**20 41 28.8**	**+0.5**
	14nm,0.3s,baz=75,slow=21,SNR=4.5						
JHJ				S	**S**	**20 42 23.1**	**+1.6**
	9.7nm,0.3s,baz=260,slow=23,SNR=2.8						
CBIJ	**Chichi jima**	**3.89**	**141**	P	**P**	**20 41 36.1**	**+0.1**
	9.5nm,0.3s,baz=301,slow=18,SNR=5.0						
CBIJ				S	**S**	**20 42 35.0**	**-0.2**
	23nm,0.3s,baz=278,slow=22,SNR=9.1						
CBIJ	**Chichi jima**	**3.89**	**141**	P	**P**	**20 41 34.9**	**-1.1**
CBIJ				*eS*	**S**	**20 42 34.6**	**-0.6**
TK02	**Tokai 2**	**4.02**	**339**	P	**P**	**20 41 37.1**	**0.0**
BSO4	**Boso 4**	**4.85**	**8**	P	**P**	**20 41 45.2**	**+0.4**
BSO4				*eS*	**S**	**20 42 51.6**	**+0.7**
HMMJ	**Hamamatsu 2**	**4.89**	**343**	P	**P**	**20 41 45.1**	**-0.1**
JOD2	**Odawara 2**	**5.08**	**357**	P	**P**	**20 41 47.6**	**+0.6**
JNY	**Yasuok**	**5.34**	**346**	P	**P**	**20 41 49.7**	**+0.1**
JRY	**Ryogami san**	**5.84**	**355**	S	**S**	**20 43 07.7**	**-0.8**
JYT	**Yasato**	**6.06**	**6**	eS	**S**	**20 43 11.9**	**-0.7**
JAG	**Ashikaga**	**6.23**	**360**	P	**P**	**20 41 57.4**	**-1.3**
JAG				*eS*	**S**	**20 43 12.4**	**-3.4**
JNG	**Nsakai**	**6.31**	**350**	P	**P**	**20 41 59.0**	**-0.6**
MJAR	**Matsushiro Arr**	**6.43**	**351**	P	**P**	**20 42 00.2**	**-0.6**
	0.6nm,0.3s,baz=167,slow=11,SNR=5.5						
JMM	**Marumori**	**7.74**	**8**	P	**P**	**20 42 16.3**	**+1.4**
JMM				*eS*	**S**	**20 43 45.0**	**-0.1**
WRA	**Warramunga Arr**	**50.08**	**186**	P	**P**	**20 48 34.7**	**-0.1**
	1.5nm,0.5s,mb3.5,baz=0.2,slow=7.7,SNR=36						
ASAR	**Alice Springs**	**53.80**	**186**	P	**P**	**20 49 02.1**	**+0.2**
	0.6nm,0.4s,mb3.2,baz=2.2,slow=6.3,SNR=14						
FINES	**FINESS Array B**	**74.13**	**333**	P	**P**	**20 51 11.3**	**+0.5**
	0.6nm,0.9s,mb3.1,baz=72,slow=8.8,SNR=3.5						

IDC ***26*** *20:50:08.5±0.7, 13.63N×92.92E, h18km±3km, mb3.7/12, mb1 3.9/13, mb1mx3.7/21, mbtmp3.8/13, ML3.9/1, Error ellipse: s-maj=32.1km s-min=13.7km az=52.0*
NEIC ***26*** *20:50:10.1±0.6, 13.72N×93.01E, h30km, mb4.2/4, Error ellipse: s-maj=16.3km s-min=11.0km az=50.0*
BJI ***26*** *20:50:16.2, 14.09N×93.89E, h30km, mB4.6, mb4.1, Ms3.8, Msz3.7*
ISC 26 20:50:06.9±3.0, 13.80N±0.07×93.01E±0.06, h19km±22km, h22km±1.5km: pP-P, n37, σ1°11/39, mb4.0/17, MS3.7/1, 1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NST	**Nakhon Sawan**	**7.14**	**74**	P	**Pn**	**20 51 58.0**	**+4.8**
CMAR	**Chiang Mai Arr**	**7.35**	**50**	Pn	**Pn**	**20 51 56.1**	**+0.1**
	0.5nm,0.3s,baz=241,slow=15,SNR=12						
CMAR				Sn	**Sn**	**20 53 19.0**	**-0.8**
	1.5nm,0.3s,baz=243,slow=24,SNR=6.8						
CHG	**Chiang Mai**	**7.57**	**48**	||P	**Pn**	**20 52 16.3**	**+17**
	20nm,0.7s						
NANT	**Nan**	**8.90**	**55**	P	**P**	**20 52 25.0**	**+7.3**
KULM	**Kulim**	**11.32**	**138**	*eP*	**P**	**20 52 54.7**	**+3.7**
SHL	**Shillong**	**11.76**	**355**	*eP*	**P**	**20 52 56.0**	**-0.9**
SHL				*eS*	**S**	**20 55 00.0**	**-8.7**
JIRN	**Jiri**	**15.19**	**336**	*eP*	**P**	**20 53 41.9**	**-0.5**
	10nm,0.3s						
PKI	**Pulchoki**	**15.43**	**334**	*eP*	**P**	**20 53 45.5**	**0.0**
	18nm,0.7s						
DMN	**Daman**	**15.60**	**333**	*eP*	**P**	**20 53 47.3**	**-0.4**
	23nm,0.7s						
KKN	**Kakani**	**15.68**	**334**	*eP*	**P**	**20 53 48.4**	**-0.3**
	9.7nm,0.5s						
LSA	**Lhasa**	**15.92**	**354**	P	**P**	**20 53 58.0**	**+6.2**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
LSA	**Lhasa**	**15.92**	**354**	*eP*	**P**	**20 53 57.4**	**+5.6**
	comp=Z,7.2nm,0.5s						
GKN	**Gorkha**	**16.14**	**332**	*eP*	**P**	**20 53 54.2**	**-0.5**
	comp=Z,20nm,0.4s						
KOLN	**Koldanda**	**16.44**	**329**	*eP*	**P**	**20 53 58.3**	**-0.1**
	comp=Z,18nm,0.6s						
ENH	**Enshi**	**22.36**	**40**	*eP*	**P**	**20 55 05.0**	**-0.6**
	comp=Z,4.8nm,0.6s,mb4.1						
LZH	**Lanzhou**	**24.24**	**22**	*eP*	**P**	**20 55 27.3**	**+3.4**
LZH				AP		20 55 35.5	
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,90nm,4.0s						
XAN	**Xi'an**	**24.79**	**33**	P	**P**	**20 55 29.5**	**+0.3**
GTA	**Gaotai**	**26.21**	**12**	*eP*	**P**	**20 55 45.5**	**+3.0**
GTA				AP	pP	20 55 53.5	+5.6
GTA				XP	sP	20 55 56.8	+6.4
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb3.7						
GTA				AMB	AMB		
	comp=Z,61nm,5.4s						
GTA				LR	LR		
	comp=N,121nm,16.8s,MS3.7						
GTA				LR	LR		
	comp=E,117nm,15.7s,MS3.7						
GTA				LR	LR		
	comp=Z,185nm,16.1s,MS3.7						
MKAR	**Makanchi Array**	**34.10**	**347**	P	**P**	**20 56 53.4**	**+0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=164,slow=8.8,SNR=15						
SONM	**Songino Array**	**35.72**	**15**	P	**P**	**20 57 07.7**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=196,slow=9.0,SNR=6.5						
BVAR	**Borovoye Array**	**43.07**	**340**	P	**P**	**20 58 08.1**	**+0.7**
	comp=Z,0.4nm,0.5s,mb3.4,baz=149,slow=8.6,SNR=5.9						
BVAR				pP	pP	20 58 14.8	+1.9
	comp=Z,0.3nm,0.4s,baz=141,slow=9.5,SNR=4.9						
CHKZ	**Chkalovo**	**43.54**	**341**	*eP*	**P**	**20 58 12.0**	**+0.8**
	comp=Z,2.0nm,0.5s,mb4.1						

WRA Warramunga Arr 52.70 129 P **P 20 59 22.1 -0.9**
comp=Z,1.7nm,0.8s,mb4.0,baz=302,slow=10.0,SNR=12
WRA PcP PcP 21 00 32.3 -0.4
comp=Z,0.2nm,0.4s,baz=323,slow=3.3,SNR=4.9
WRAB Tennant Creek 52.70 129 *eP* **P 20 59 22.1 -0.9**
comp=Z,7.1nm,0.8s,mb4.7
ASAR Alice Springs 54.64 133 P **P 20 59 35.5 -1.6**
comp=Z,0.6nm,0.4s,mb4.0,baz=309,slow=6.9,SNR=12
BRTR Keskin Array B 57.82 308 P **P 20 59 58.6 -1.1**
comp=Z,0.7nm,0.8s,mb3.7,baz=108,slow=3.9,SNR=3.7
BRTR sP sP 21 00 07.1 -0.5
comp=Z,1.5nm,0.9s,baz=127,slow=6.2,SNR=5.6
STKA Stephens Creek 65.03 135 P **P 21 00 47.7 -0.8**
comp=Z,1.3nm,0.8s,mb4.0,baz=299,slow=10,SNR=2.9
STKA pP pP 21 00 53.7 -0.6
comp=Z,1.5nm,0.7s,baz=311,slow=11,SNR=2.4
JOF Joensuu 65.07 334 *ep* **P 21 00 45.2 -3.1**
FINES FINESS Array B 67.00 331 P **P 21 01 00.6 -0.1**
comp=Z,0.8nm,0.5s,mb4.0,baz=84,slow=5.2,SNR=14
FINES FINESS Array B 67.00 331 P **P 21 01 00.6 -0.1**
ARCES ARCESS Array B 69.36 340 P **P 21 01 15.8 +0.6**
comp=Z,0.9nm,0.4s,mb4.0,baz=88,slow=6.2,SNR=12
ARCES ARCESS Array B 69.36 340 P **P 21 01 15.8 +0.6**
GERES GERESS Array B 72.72 317 P **P 21 01 36.7 +0.9**
comp=Z,0.9nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=9.8
GERES sP sP 21 01 44.7 +1.0
comp=Z,1.6nm,0.8s,baz=90,slow=6.7,SNR=7.9
NB2 NORSAR Subarra 74.07 330 P **P 21 01 43.5 +0.1**
comp=Z,0.8nm,0.6s,mb3.8,baz=90,slow=5.8
NOA NORSAR Array B 74.07 330 P **P 21 01 43.4 0.0**
comp=Z,0.6nm,0.8s,mb3.6,baz=96,slow=5.6,SNR=4.5
NOA pP pP 21 01 49.4 +0.2
comp=Z,0.9nm,0.6s,baz=90,slow=5.7,SNR=5.1
NOA sP sP 21 01 51.4 +0.1
comp=Z,0.8nm,0.6s,baz=90,slow=5.8,SNR=4.3
NOA NORSAR Array B 74.07 330 P **P 21 01 43.4 0.0**
NOA pP pP 21 01 49.4 +0.2
NOA sP sP 21 01 51.4 +0.1
ILAR Eielson Array 89.70 22 P **P 21 03 06.0 +1.1**
comp=Z,0.6nm,1.0s,mb3.9,baz=229,slow=9.6,SNR=3.4
ILAR pP pP 21 03 12.6 +1.7
comp=Z,0.3nm,0.7s,baz=302,slow=3.1,SNR=3.1

NEIC 26 21:13:36.1, 38.78S×175.80E, h137km, MG3.9(WEL), **After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGZ	**Maungaku**	**0.30**	**223**	P	P	21 13 55.1	-0.5
NGZ	**Ngauruhoe**	**0.43**	**201**	P	P	21 13 55.6	-0.6
CNZ	**Chateau**	**0.46**	**205**	P	P	21 13 55.8	-0.5
WPVZ	**Whakapapa**	**0.47**	**205**	P	P	21 13 55.7	-0.7
TUVZ	**Tukino**	**0.50**	**193**	P	P	21 13 56.1	-0.4
FWVZ	**Far West T-bar**	**0.51**	**202**	*eP*	P	21 13 56.1	-0.5
WNVZ	**Wahianoa**	**0.57**	**196**	P	P	21 13 56.5	-0.4
BKZ	**Black Stump Fm**	**0.66**	**126**	*eP*	P	21 13 57.0	-0.5
BKZ				S	S	21 14 12.9	-0.9
TSZ	**Takapari Road**	**1.28**	**174**	*eP*	P	21 14 02.3	-0.5
BFZ	**Birch Farm**	**1.93**	**178**	*eP*	P	21 14 08.9	-1.1
KIW	**Kapiti Island**	**2.19**	**198**	P	P	21 14 11.0	-2.3
MTW	**Mount Morrison**	**2.39**	**185**	P	P	21 14 13.3	-2.5

SKO ***26*** *21:20:52.6, 41.84N×20.97E, h10km, ML3.0*
CSEM ***26*** *21:20:52.7±0.1, 41.82N×20.97E, h12km, ML2.9, Error ellipse: s-maj=2.0km s-min=1.3km az=39.0*
PDG ***26*** *21:20:55.4±0.2, 41.91N×20.85E, h10km±1km*
NEIC ***26*** *21:20:55.4, 41.91N×20.85E, h10km, MD2.6(PDG), ML3.0(SKO), After PDG.*
THE ***26*** *21:20:58.8, 41.68N×21.38E, ML2.9*
TIR ***26*** *21:21:02.2, 42.13N×20.28E, h12km*
ISC 26 21:20:52.8±0.4, 41.82N±0.03×20.98E±0.03, h10km, n26, σ1°51/45, 10C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKO	**Skopje**	**0.38**	**65**	*i* Pg	**Pg**	**21 21 00.7**	**+0.2**
SKO				⇓*i* Sg	**Sg**	**21 21 05.9**	**+0.2**
SKO				Smax		21 21 06.5	
	comp=Z,1.0nm,0.2s						
OHR	**Ohrid**	**0.72**	**191**	⇑*i* Pg	**Pg**	**21 21 06.6**	**-0.6**
OHR				*i* Sg	**Sg**	**21 21 17.9**	**+1.1**
PUK	**Puka**	**0.84**	**286**	*i* Pg	**Pg**	**21 21 08.7**	**-1.0**
PUK				*i* Sg	**Sg**	**21 21 21.6**	**+0.7**
PUK	**Puka**	**0.84**	**286**	*e*Pg	**Pg**	**21 21 08.7**	**-1.0**
PUK				*i* Sg	**Sg**	**21 21 21.6**	**+0.7**
BCI	**Bajram Curri**	**0.87**	**309**	*i* Pg	**Pg**	**21 21 08.4**	**-1.9**
BCI				*i* Sg	**Sg**	**21 21 23.7**	**+1.7**
BCI	**Bajram Curri**	**0.87**	**309**	*e*Pg	**Pg**	**21 21 08.4**	**-1.9**
BCI				*i* Sg	**Sg**	**21 21 23.7**	**+1.7**
FNA	**Florina**	**1.07**	**164**	*e*Pg	**Pg**	**21 21 13.0**	**-1.3**
	comp=Z,5.7nm,0.2s						
FNA				*e*Sg	**Sg**	**21 21 28.8**	**+0.2**
PVY	**Plav**	**1.08**	**317**	*e*Pg	**Pg**	**21 21 12.8**	**-1.6**
PVY				*e*Sg	**Sg**	**21 21 27.5**	**-1.3**
ULC	**Ulcinj**	**1.30**	**277**	⇑*i* Pg	**Pg**	**21 21 17.1**	**-1.7**
ULC				*e*Sg	**Sg**	**21 21 36.2**	**+0.1**
IVA	**Berane**	**1.32**	**323**	⇑*i* Pg	**Pg**	**21 21 17.4**	**-1.9**
IVA				*e*Sg	**Sg**	**21 21 36.2**	**-0.8**
GRG	**Griva**	**1.37**	**128**	*e*Pg	**Pg**	**21 21 18.4**	**-1.8**
TTG	**Podgorica**	**1.42**	**296**	⇑*i* Pg	**Pg**	**21 21 18.9**	**-2.2**
TTG				*e*Sg	**Sg**	**21 21 39.7**	**-0.3**
BUM	**Brajici-Budva**	**1.62**	**288**	⇑*i* Pg	**Pg**	**21 21 23.0**	**-2.2**
BUM				*e*Sg	**Sg**	**21 21 47.2**	**+0.3**
NKY	**Niksic**	**1.77**	**305**	⇑*i* Pn	**Pn**	**21 21 25.6**	**+1.8**
NKY				*e*Sn	**Sn**	**21 21 51.5**	**+4.9**
NKY	**Niksic**	**1.77**	**305**	⇑*i* Pn	**Pn**	**21 21 25.6**	**+1.8**
PLE	**Pljevlja**	**1.91**	**323**	⇑*i* Pn	**Pn**	**21 21 28.3**	**+2.5**
PLE				*e*Sn	**Sn**	**21 21 53.8**	**+3.7**
NVSS	**Nova Varos 2**	**1.94**	**331**	*e*Pn	**Pn**	**21 21 25.3**	**-0.8**
NVSS				Sn	**Sn**	**21 21 51.5**	**+0.9**
HCY	**Herceg Novi**	**1.95**	**290**	⇑*i* Pn	**Pn**	**21 21 29.4**	**+3.1**
HCY				*e*Sn	**Sn**	**21 21 55.8**	**+4.8**
SOH	**Sokhos**	**2.05**	**118**	*e*Pb	**Pb**	**21 21 28.1**	**-1.5**
LIT	**Litokhoron**	**2.06**	**146**	*e*Pb	**Pb**	**21 21 31.6**	**+1.8**
UPM	**Unac-Piva**	**2.06**	**313**	⇑*i* Pn	**Pn**	**21 21 30.5**	**+2.5**
UPM				*e*Sn	**Sn**	**21 21 58.5**	**+4.5**
SRS	**Serrai**	**2.08**	**109**	*e*Pb	**Pb**	**21 21 32.3**	**+2.0**
BRY	**Bratogost**	**2.10**	**302**	*e*Pn	**Pn**	**21 21 31.9**	**+3.4**
BRY				*e*Sn	**Sn**	**21 21 58.7**	**+3.8**
IGT	**Igoumenitsa**	**2.33**	**192**	*e*Pn	**Pn**	**21 21 36.5**	**+4.7**
IGT				*e*Sn	**Sn**	**21 22 08.7**	**+7.9**
OUR	**Ouranopolis**	**2.71**	**122**	*e*Pn	**Pn**	**21 21 36.7**	**-0.5**
VOJS	**Vojsko**	**6.63**	**312**	*i* Pn	**Pn**	**21 22 34.0**	**+1.3**

IDC 26 21:26:25.5±7.4, 9.09S×130.60E, h86km±83km, mb3.4/1, mb1 3.3/4, mb1mx3.1/14, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=56.2km s-min=45.1km az=12.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.18**	**208**	P	P	21 28 49.2	-1.3
	0.7nm,0.3s,baz=16,slow=10,SNR=24						
FITZ				S	S	21 30 42.3	-1.2
	2.4nm,0.3s,baz=179,slow=17,SNR=8.8						
WRA	**Warramunga Arr**	**11.38**	**162**	P	P	21 29 04.1	-2.5
	0.1nm,0.3s,baz=342,slow=12,SNR=16						
WRA				S	S	21 31 10.5	-2.1
	0.2nm,0.3s,baz=335,slow=21,SNR=24						
ASAR	**Alice Springs**	**14.84**	**168**	P	P	21 29 52.0	-0.1
	0.1nm,0.3s,baz=339,slow=8.6,SNR=2.9						
MKAR	**Makanchi Array**	**70.28**	**327**	P	P	21 37 29.7	-1.9
	0.6nm,0.8s,baz=124,slow=8.3,SNR=7.5						

IDC ***26*** *21:40:48.9±6.7, 35.71S×179.36E, h83km±59km, mb3.8/5, mb1 4.0/6, mb1mx3.8/15, mbtmp4.2/6, ML4.5/1, Error ellipse: s-maj=60.3km s-min=45.9km az=162.0*
NEIC ***26*** *21:40:57.7±1.6, 36.82S×179.31E, h173km±9km, mb4.4/1, Error ellipse: s-maj=25.7km s-min=17.9km az=96.0*
WEL 26 21:40:50.9±0.9, 35.98S×179.34E, h151km±9km, ML4.3/11, 2D, Error ellipse: s-maj=7.2km s-min=6.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.78**	**207**	||PN	P	21 41 23.3	-0.6
MXZ				SN	S	21 41 48.9	-0.4
MXZ				SN	S	21 41 49.0	-0.3
PUZ	**Puketiti**	**2.26**	**202**	P	P	21 41 29.8	+0.2
PUZ	**Puketiti**	**2.26**	**202**	||PN	P	21 41 29.8	+0.3
PUZ				SN	S	21 41 58.0	-1.3
WIZ	**White Island**	**2.32**	**228**	PN	P	21 41 29.8	-0.4
MYRZ	**Mayor Island**	**2.81**	**242**	PN	P	21 41 36.3	-0.2
URZ	**Urewera**	**2.89**	**217**	P	P	21 41 36.8	-0.7
	55nm,0.3s,baz=350,slow=3.0,SNR=302						
URZ				S	S	21 42 12.3	-0.9
	23nm,0.3s,baz=179,slow=20,SNR=8.1						
URZ	**Urewera**	**2.89**	**217**	P	P	21 41 36.8	-0.7
URZ	**Urewera**	**2.89**	**217**	PN	P	21 41 36.8	-0.7
URZ				SN	S	21 42 12.4	-0.8
MARZ	**Manawahe**	**2.92**	**226**	P	P	21 41 38.1	+0.1
MARZ	**Manawahe**	**2.92**	**226**	PN	P	21 41 38.1	+0.1
EDRZ	**Edgecumbe**	**2.97**	**224**	P	P	21 41 39.0	+0.4
EDRZ	**Edgecumbe**	**2.97**	**224**	PN	P	21 41 39.0	+0.4
LIRZ	**Lichensteins R**	**3.11**	**229**	PN	P	21 41 40.5	+0.1
TAZ	**Tarawera**	**3.19**	**224**	P	P	21 41 42.1	+0.7
TAZ	**Tarawera**	**3.19**	**224**	PN	P	21 41 42.1	+0.7
KNZ	**Kokohu**	**3.31**	**203**	*eP*	P	21 41 41.9	-1.1
KNZ	**Kokohu**	**3.31**	**203**	PN	P	21 41 41.9	-1.1
KNZ				SN	S	21 42 20.2	-2.7
BKZ	**Black Stump Fm**	**3.90**	**215**	*eP*	P	21 41 49.8	-0.9
BKZ	**Black Stump Fm**	**3.90**	**215**	PN	P	21 41 49.8	-0.9
BKZ				SN	S	21 42 36.6	-0.1
KATZ	**Kakaramea**	**4.16**	**223**	P	P	21 41 54.2	+0.1
KATZ	**Kakaramea**	**4.16**	**223**	PN	P	21 41 54.2	+0.1
MGZ	**Maungaku**	**4.27**	**224**	P	P	21 41 56.2	+0.7
MGZ	**Maungaku**	**4.27**	**224**	PN	P	21 41 55.5	0.0
OTVZ	**Oturere**	**4.31**	**221**	PN	P	21 41 55.5	-0.6
NGZ	**Ngauruhoe**	**4.36**	**222**	P	P	21 41 56.4	-0.3
NGZ	**Ngauruhoe**	**4.36**	**222**	PN	P	21 41 56.4	-0.3
TUVZ	**Tukino**	**4.40**	**221**	P	P	21 41 56.7	-0.5
TUVZ				P		21 41 57.1	
TUVZ	**Tukino**	**4.40**	**221**	PN	P	21 41 56.7	-0.5
CNZ	**Chateau**	**4.40**	**222**	P	P	21 41 57.1	-0.2
CNZ	**Chateau**	**4.40**	**222**	PN	P	21 41 57.0	-0.3
WPVZ	**Whakapapa**	**4.41**	**222**	P	P	21 41 57.0	-0.3
WPVZ	**Whakapapa**	**4.41**	**222**	PN	P	21 41 57.0	-0.3
FWVZ	**Far West T-bar**	**4.44**	**221**	*eP**	P	21 41 57.1	-0.7
FWVZ	**Far West T-bar**	**4.44**	**221**	PN	P	21 41 57.1	-0.7
MOVZ	**Moawhango**	**4.45**	**219**	P	P	21 41 56.4	-1.5
MOVZ	**Moawhango**	**4.45**	**219**	PN	P	21 41 56.4	-1.4
WNVZ	**Wahianoa**	**4.47**	**221**	P	P	21 41 57.0	-1.1
WNVZ	**Wahianoa**	**4.47**	**221**	PN	P	21 41 57.0	-1.1
MTVZ	**Mangateitei**	**4.58**	**221**	PN	P	21 41 58.2	-1.4
TSZ	**Takapari Road**	**4.87**	**212**	PN	P	21 42 01.0	-2.4
WAZ	**Wanganui**	**5.10**	**221**	*eP*	P	21 42 05.9	-0.6
WAZ	**Wanganui**	**5.10**	**221**	PN	P	21 42 05.9	-0.7
BFZ	**Birch Farm**	**5.28**	**206**	*eP*	P	21 42 06.3	-2.6
BFZ	**Birch Farm**	**5.28**	**206**	PN	P	21 42 06.3	-2.6
MRZ	**Mangatainoka R**	**5.53**	**211**	*eP*	P	21 42 09.0	-3.1
MTW	**Mount Morrison**	**5.98**	**209**	P	P	21 42 14.4	-3.7
KIW	**Kapiti Island**	**5.99**	**214**	P	P	21 42 14.8	-3.4
CAW	**Cannon Point**	**6.12**	**212**	P	P	21 42 16.8	-3.2
MSWZ	**Moikau Station**	**6.30**	**209**	P	P	21 42 19.1	-3.3
SNZO	**South Karori**	**6.44**	**213**	P	P	21 42 20.1	-4.2
TCW	**Tory Channel**	**6.56**	**216**	P	P	21 42 22.1	-3.8
THZ	**Tophouse**	**7.65**	**219**	*eP*	P	21 42 36.1	-4.5
KHZ	**Kahutara**	**7.84**	**213**	P	P	21 42 38.7	-4.5
LTZ	**Lake Taylor**	**8.72**	**217**	*eP*	P	21 42 49.5	-5.3
ODZ	**Otahua Downs**	**11.21**	**213**	*eP*	P	21 43 23.3	-4.1
STKA	**Stephens Creek**	**31.45**	**266**	P	P	21 47 04.5	+4.4
	0.8nm,0.5s,baz=100,slow=9.0,SNR=5.9						
ASAR	**Alice Springs**	**40.95**	**275**	P	P	21 48 23.2	+3.2
	1.4nm,0.6s,baz=116,slow=7.1,SNR=12						
WRAB	**Tennant Creek**	**42.45**	**280**	*eP*	P	21 48 34.1	+1.7
	5.2nm,0.4s						
WRA	**Warramunga Arr**	**42.45**	**280**	P	P	21 48 34.6	+2.1
	2.1nm,0.4s,baz=119,slow=7.7,SNR=31						
NWAO	**Narrogin (SRO)**	**50.54**	**254**	P	P	21 49 38.8	+3.1
	3.6nm,0.5s,baz=118,slow=10,SNR=6.8						
CMAR	**Chiang Mai Arr**	**93.19**	**290**	P	P	21 53 55.4	+6.0
	0.5nm,0.6s,baz=154,slow=3.8,SNR=4.2						
JOF	**Joensuu**	**146.61**	**334**	*ep*	PKPdf	22 00 02.0	-10
KAF	**Kangasniemi**	**148.89**	**336**	*ep*	PKPdf	22 00 22.4	+6.9
FINES	**FINESS Array B**	**149.43**	**335**	PKPbc	PKPdf	22 00 26.0	+10
	1.7nm,0.6s,baz=45,slow=2.7,SNR=14						

MOS ***26*** *21:53:59.2±0.8, 49.87N×18.50E, h10km, mb3.8/2, Error ellipse: s-maj=6.7km s-min=5.3km az=102.8*
WAR ***26*** *21:53:59.7, 49.85N×18.47E, h5km*
PRU ***26*** *21:53:59.9, 49.84N×18.51E, Felt In*
IDC ***26*** *21:53:60.0±0.9, 49.68N×18.54E, mb1 3.4/6, mb1mx3.2/22, mbtmp3.3/6, ML3.3/6, Error ellipse: s-maj=15.5km s-min=7.0km az=152.0*
CSEM ***26*** *21:53:59.8±0.

KSP *e*Sg **Sg** **21 55 00.7 +7.3**
KSP Ksiaz 1.68 306 *e*Pg **Pg** **21 54 32.1 +1.1**
KSP *e*Sg **Sg** **21 54 55.3 +1.9**
ZST Bratislava 1.88 208 *e*PN **Pn** **21 54 32.5 +1.2**
ZST *e*SN **Sn** **21 54 57.1 +1.0**
KECS Kecovo 1.94 135 *e*P **Pn** **21 54 32.5 +0.4**
KECS *e* 21 54 57.9
KECS Kecovo 1.94 135 *e*PN **Pn** **21 54 32.5 +0.4**
KECS *e*PG **Pg** **21 54 35.0 -1.3**
KECS *e*SN **Sn** **21 54 57.9 +0.4**
SRO1 Iza 2.11 183 *e*PN **Pn** **21 54 38.9 +4.3**
VKA Vienna 2.12 222 *e*PN **Pn** **21 54 35.0 +0.3**
VKA *i* PG **Pg** **21 54 41.8 +2.0**
VKA *i* 21 55 12.4
PENC Penc 2.15 164⇑*i*P **Pn** **21 54 35.9 +0.7**
PSZ Piszkesteto 2.18 153⇑*e*PN **Pn** **21 54 36.2 +0.6**
PSZ Piszkesteto 2.18 153 ⇓P **Pn** **21 54 35.9 +0.3**
CRVS Cervenica-Dubn 2.21 115 *e*PN **Pn** **21 54 37.2 +1.2**
PKSG 2.48 180⇑*e*P **Pn** **21 54 40.0 +0.2**
SOP Sopron 2.51 210⇑*i*Pn **Pn** **21 54 41.4 +1.1**
PRU Pruhonice 2.51 274 *e*P **Pn** **21 54 41.3 +1.0**
PRU *e* 21 55 21.4
PRU smax
comp=N,104nm,0.8s
PRU Pruhonice 2.51 274 *e*PN **Pn** **21 54 41.3 +1.0**
PRU *e*PG **Pg** **21 54 45.8 -1.9**
PRU *e*SG **Sg** **21 55 21.4 +0.3**
comp=N,104nm,0.8s
PVCC Panska Ves 2.56 286 *e*PN **Pn** **21 54 44.4 +3.4**
PVCC *e*PG **Pg** **21 54 47.0 -1.7**
KOLS Kolonicke sedl 2.69 109 *e*Pn **Pn** **21 54 42.4 -0.4**
KOLS *e* 21 54 52.0
KOLS Kolonicke sedl 2.69 109 *e*PN **Pn** **21 54 42.4 -0.4**
KOLS *e* 21 54 52.0
KWP Kalwaria 2.79 93 *e*P **Pn** **21 54 44.4 +0.1**
KWP *e* 21 55 18.6
KWP Kalwaria 2.79 93 *e*Pn **Pn** **21 54 44.4 +0.1**
KWP *e*Pg **Pg** **21 54 52.4 -0.9**
KWP *e*Sn **Sn** **21 55 18.6 -0.6**
KWP *e*Sg **Sg** **21 55 26.9 -3.6**
KWP Kalwaria 2.79 93 *e*Pn **Pn** **21 54 44.4 +0.1**
KWP *e*Pg **Pg** **21 54 52.5 -0.9**
KWP *e*Sn **Sn** **21 55 18.6 -0.6**
KWP *e*Sg **Sg** **21 55 26.9 -3.6**
KWP Kalwaria 2.79 93 *e*Pg **Pg** **21 54 52.4 -0.9**
KWP *e*S **Sn** **21 55 18.6 -0.6**
KWP *e*Sn **Sn** **21 55 18.6 -0.6**
KWP *e*Sg **Sg** **21 55 26.9 -3.6**
UZH Uzhgorod 2.82 114 *e*P **Pn** **21 54 45.0 +0.2**
WAR Warsaw 2.89 34 *e*Pg **Pg** **21 54 55.9 +0.6**
WAR *e*Sg **Sg** **21 55 38.6 +4.8**
WAR Warsaw 2.89 34 *e*Pg **Pg** **21 54 55.9 +0.6**
WAR *e*Sg **Sg** **21 55 38.6 +4.7**
BRG Berggiesshubel 3.04 291 *e*Pg **Pg** **21 54 55.8 -2.4**
BRG *e*Sg **Sg** **21 55 38.0 -0.7**
BRG Berggiesshubel 3.04 291 *i* Pg **Pg** **21 54 56.2 -2.0**
BRG *i* Sg **Sg** **21 55 38.4 -0.3**
BRG Berggiesshubel 3.04 291 *i* Pg **Pg** **21 54 56.2 -2.0**
BRG Sg **Sg** **21 55 38.0 -0.7**
KHC Kasperske Hory 3.24 259 *e*PN **Pn** **21 54 51.4 +0.7**
KHC *e*PG **Pg** **21 54 59.4 -2.9**
KHC *e*SG **Sg** **21 55 44.4 -1.1**
comp=N,47nm,0.5s
ARSA Arzberg 3.25 217⇑*i*PN **Pn** **21 54 50.9 +0.1**
ARSA *i* SG **Sg** **21 55 44.2 -1.5**
comp=N,15nm,0.6s
GEC2 GERESS Array S 3.25 253 *e*Pn **Pn** **21 54 52.2 +1.4**
GEC2 *e*Sg **Sg** **21 55 45.6 -0.2**
GEC2 GERESS Array S 3.25 253 *e*Pn **Pn** **21 54 52.2 +1.4**
GEC2 *e*Sg **Sg** **21 55 45.6 -0.1**
GERES GERESS Array B 3.25 253 Pn **Pn** **21 54 51.8 +1.0**
comp=N,0.8nm,0.3s,baz=64,slow=14,SNR=17
GERES Pg **Pg** **21 55 00.3 -2.1**
comp=N,8.1nm,0.3s,baz=72,slow=17,SNR=65
GERES Sn **Sn** **21 55 30.8 0.0**
comp=N,3.7nm,0.3s,baz=70,slow=27,SNR=6.5
GERES Lg 21 55 44.9
comp=N,5.0nm,0.3s,baz=69,slow=30,SNR=4.8
GERES GERESS Array B 3.25 253 Pg **Pg** **21 55 00.3 -2.1**
MOA Molln 3.40 235⇑*i*PN **Pn** **21 54 53.6 +0.6**
MOA *i* SG **Sg** **21 55 49.8 -1.1**
comp=N,37nm,0.6s
GKP Gorka Klasztor 3.49 348 *e*Pn **Pn** **21 54 55.9 +1.7**
GKP *e*Pg **Pg** **21 55 12.2 +5.0**
GKP *e*Sg **Sg** **21 56 05.0 +11**
GKP Gorka Klasztor 3.49 348 *e*Pn **Pn** **21 54 55.9 +1.7**
GKP *e*Pg **Pg** **21 55 12.2 +5.0**
GKP *e*Sg **Sg** **21 56 05.0 +11**
LVV L'vov 3.63 89 *e*P **Pn** **21 54 55.4 -0.9**
LVV *e*S **Sn** **21 55 39.2 -1.3**
PKSM Moragy 3.66 178⇑*i*P **Pn** **21 54 56.2 -0.5**
PKSM *e*S **Sn** **21 55 36.9 -4.3**
WET Wettzell 3.68 261 *e*Pn **Pn** **21 54 57.7 +0.7**
WET *e*Sg **Sg** **21 55 57.4 -2.8**
WET Wettzell 3.68 261 *e*Pn **Pn** **21 54 57.7 +0.7**
WET *e*Sg **Sg** **21 55 57.4 -2.8**
KOGS Kog 3.72 204 *e*Pn **Pn** **21 54 57.4 -0.1**
CLL Collm 3.74 295 *e*Pn **Pn** **21 54 59.0 +1.2**
CLL *e*Pg **Pg** **21 55 12.0 -0.3**
CLL *e*Sg **Sg** **21 56 01.0 -1.1**
CLL Collm 3.74 295 *e*PN **Pn** **21 54 59.0 +1.2**
CLL *e* 21 55 09.0
CLL *e*PG **Pg** **21 55 12.0 -0.3**
CLL *e*SN **Sn** **21 55 47.0 +3.8**
CLL *e*SG **Sg** **21 56 01.0 -1.1**
CLL eL 21 56 10.0
CLL Collm 3.74 295 *e*P **Pn** **21 54 59.0 +1.2**
CLL Collm 3.74 295 *e*Pg **Pg** **21 55 12.0 -0.3**
CLL Sg **Sg** **21 55 58.4 -3.7**
RHK1 Bakonya 3.78 184 *e*P **Pn** **21 54 57.9 -0.5**
TANN Tannenbergstha 3.87 280 *e*Pn **Pn** **21 55 01.4 +1.7**
TANN *e*Sg **Sg** **21 56 04.3 -2.2**
PERS Pernice 3.91 216 *i* Pn **Pn** **21 55 01.3 +1.1**
PERS Pernice 3.91 216 *i* Pn **Pn** **21 55 01.3 +1.0**
GUNZ Gunzen 3.95 280 *e*Pn **Pn** **21 55 02.0 +1.2**
GUNZ *e*Sg **Sg** **21 56 07.0 -2.1**
WERD Werda 3.97 281 *e*Pn **Pn** **21 55 03.4 +2.3**
WERD *e*Sg **Sg** **21 56 06.3 -3.6**
NOTT Nottersdorf 4.08 272 *e*Pn **Pn** **21 55 02.8 +0.2**
DRGR 4.20 135⇑P **Pn** **21 55 04.0 -0.4**
DRGR S **Sn** **21 55 51.7 -3.2**
DRGR 4.20 135⇑P **Pn** **21 55 04.0 -0.4**
DRGR S **Sn** **21 55 51.7 -3.2**
OBKA Obir 4.24 219⇑*i*PN **Pn** **21 55 04.8 -0.1**
OBKA *i* SG **Sg** **21 56 14.8 -4.0**
comp=N,13nm,0.8s
GOLS Golise 4.29 207 *e*Pn **Pn** **21 55 06.0 +0.4**
KBA Koelnbreinsper 4.38 232⇑*i*PN **Pn** **21 55 08.2 +1.3**
KBA *i* SG **Sg** **21 56 22.0 -1.4**
comp=N,16nm,0.6s
MOX Moxa 4.43 283 *e*Pn **Pn** **21 55 08.6 +0.9**
MOX *e*Sg **Sg** **21 56 22.8 -2.4**
MOX Moxa 4.43 283 *e*Pn **Pn** **21 55 08.6 +0.9**
MOX *e*Sg **Sg** **21 56 22.8 -2.4**
MOX Moxa 4.43 283 *i* P **Pn** **21 55 08.4 +0.7**
MOX Pg **Pg** **21 55 24.0 -2.1**
MOX Sg **Sg** **21 56 23.0 -2.2**
GRA1 Grafenberg Arr 4.67 271 *e*Pn **Pn** **21 55 11.4 +0.4**
GRA1 *e*Sg **Sg** **21 56 27.5 -5.5**
GRA1 Grafenberg Arr 4.67 271 Pn **Pn** **21 55 11.4 +0.4**
GRA1 Sg **Sg** **21 56 27.5 -5.5**
GRF Grafenberg Arr 4.67 271 *e*Pn **Pn** **21 55 11.4 +0.4**
GRF *e*Sg **Sg** **21 56 27.5 -5.4**
VISS Visnje 4.73 212 *e*Pn **Pn** **21 55 11.8 0.0**
BZS Buzias 4.77 152 ⇓P **Pn** **21 55 11.7 -0.7**
BOJS Bojanci 4.86 207 *e*Pn **Pn** **21 55 13.8 +0.1**
BOJS *e*Sn **Sn** **21 56 09.5 -2.1**
CEY Cerknica 4.93 215 *e*Pn **Pn** **21 55 15.7 +1.0**
BURAR Bucovina Array 5.03 114⇑P **Pn** **21 55 16.2 0.0**
BURAR Bucovina Array 5.03 114⇑P **Pn** **21 55 16.2 +0.1**
SUW Suwalki 5.09 34 *e*P **Pn** **21 55 18.2 +1.2**
SUW *e* 21 56 21.4
SUW Suwalki 5.09 34 *e*Pn **Pn** **21 55 18.2 +1.2**
SUW *e*Pg **Pg** **21 55 38.4 -0.8**
SUW *e*Sn **Sn** **21 56 21.4 +4.0**
SUW *e*Sg **Sg** **21 56 44.7 -2.4**
SUW Suwalki 5.09 34 *e*Pn **Pn** **21 55 18.2 +1.2**
SUW *e*Pg **Pg** **21 55 38.4 -0.8**
SUW *e*Sn **Sn** **21 56 21.4 +4.1**
SUW *e*Sg **Sg** **21 56 44.7 -2.3**

WATA Walderalm 5.20 243⇑*i*Pn **Pn** **21 55 18.4 -0.1**
comp=N,22nm,0.7s
WATA *i* Sg **Sg** **21 56 46.6 -4.0**
comp=N,22nm,0.7s
WTTA Wattenberg 5.20 243⇑*i*PN **Pn** **21 55 17.6 -0.9**
WTTA *i* SG **Sg** **21 56 45.0 -5.7**
comp=N,15nm,0.6s
WTTA Wattenberg 5.20 243⇑*i*Pn **Pn** **21 55 17.6 -0.9**
comp=N,15nm,0.6s
WTTA *i* Sg **Sg** **21 56 45.0 -5.7**
SQTA Sankt Quirin 5.47 244⇑*i*Pn **Pn** **21 55 21.6 -0.7**
comp=N,11nm,0.6s
SQTA *i* Sg **Sg** **21 56 56.3 -3.4**
comp=N,11nm,0.6s
DAVA Damuels 6.23 249⇑*i*PN **Pn** **21 55 33.3 +0.3**
DAVA *i* SG **Sg** **21 57 25.5 +0.6**
comp=N,31nm,0.8s
DAVA Damuels 6.23 249⇑*i*Pn **Pn** **21 55 33.3 +0.3**
comp=N,31nm,0.8s
DAVA *i* Sg **Sg** **21 57 25.5 +0.6**
DAVOX Davos 6.48 245 Pn **Pn** **21 55 36.8 +0.3**
comp=N,0.8nm,0.3s,baz=65,slow=15,SNR=8.7
DAVOX Sn **Sn** **21 56 49.4 -2.7**
comp=N,0.3nm,0.3s,slow=20,SNR=2.6
DAVOX Lg 21 57 26.7
comp=N,0.6nm,0.3s,baz=360,slow=22,SNR=3.9
AKASG Malin Array Be 6.98 79 Pn **Pn** **21 55 39.9 -3.7**
comp=N,1.5nm,0.3s,baz=261,slow=14,SNR=12
AKASG Sn **Sn** **21 57 03.5 -1.2**
comp=N,0.6nm,0.3s,baz=261,slow=23,SNR=4.6
AKASG Lg 21 57 41.9
comp=N,0.9nm,0.3s,baz=272,slow=30,SNR=5.1
AKASG Malin Array Be 6.98 79 Pn **Pn** **21 55 39.8 -3.8**
AKASG S **Sn** **21 57 03.5 -1.1**
CDF Champ du Feu 7.45 263 *e*Pn **Pn** **21 55 48.7 -1.6**
CDF *e*Pg **Pg** **21 56 20.6 -5.8**
CDF *e*Sg **Sg** **21 57 56.8 -8.9**
comp=N,50nm,1.0s
HINF Hinteralfeld 7.90 259 *e*Pn **Pn** **21 55 54.6 -1.9**
HINF *e*Sg **Sg** **21 58 12.8 -7.9**
comp=N,27nm,0.9s
HAU Haudompre 8.16 261 *e*Pn **P** **21 55 59.4 -0.8**
HAU *e*Sg **Sg** **21 58 20.8 -8.6**
comp=N,26nm,1.0s
CABF La Chapelle 8.85 253 *e*Sg **Sg** **21 58 43.3 -8.9**
comp=N,49nm,1.1s
LPL La Plagne 9.00 246 *e*Pn **P** **21 56 11.0 -0.8**
LOR Lormes 10.00 260 *e*Sg Sx 21 59 15.2
comp=N,14nm,1.0s
HFS Hagfors 10.64 347 Pn **P** **21 56 31.5 -2.7**
comp=N,0.0nm,0.3s,baz=146,slow=16,SNR=3.2
NB2 NORSAR Subarra 11.91 343 P **P** **21 56 48.3 -3.2**
comp=N,0.9nm,0.7s,baz=150,slow=10
NOA NORSAR Array B 11.91 343 Pn **P** **21 56 48.7 -2.9**
comp=N,0.2nm,0.3s,baz=154,slow=12,SNR=5.9
NOA NORSAR Array B 11.91 343 Pn **P** **21 56 48.7 -2.9**
OBN Obninsk 12.23 58⇓*e*P **P** **21 56 56.1 +0.2**
OBN *e*S **S** **21 59 12.6 -1.6**
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN Obninsk 12.23 58 *e*P **P** **21 56 56.1 +0.2**
comp=Z,9.0nm,0.8s
FINES FINESS Array B 12.37 17 *i* P **P** **21 56 59.3 +1.6**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 12.37 17 Pn **P** **21 56 53.3 -4.5**
comp=Z,0.4nm,0.3s,baz=185,slow=12,SNR=20
FINES FINESS Array B 12.37 17 *i* P **P** **21 56 59.3 +1.6**
comp=Z,1.0nm,0.4s
KAF Kangasniemi 13.03 17 *e*p **P** **21 57 01.0 -5.5**
JOF Joensuu 14.86 23 *e*p **P** **21 57 23.0 -7.4**
ZEI Tsey 18.92 102 *e*P **P** **21 58 15.1 -6.8**
ARCES ARCESS Array B 20.02 7 P **P** **21 58 33.2 -1.3**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 20.02 7 P **P** **21 58 33.2 -1.3**
comp=Z,2.4nm,0.9s,baz=186,slow=12,SNR=7.9
ARCES ARCESS Array B 20.02 7 P **P** **21 58 33.2 -1.3**
ARU Arti 24.67 59 *i* P **P** **21 59 21.1 +0.3**
ARU pmax pmax
comp=Z,3.0nm,1.7s,mb3.8

*IDC **26** 22:04:25.7±4.0, 21.39S×178.40W, h435km±44km, mb3.5/12, mb1 3.8/13, mb1mx3.6/19, mbtmp4.3/13, Error ellipse: s-maj=26.1km s-min=17.4km az=167.0*
*BJI **26** 22:04:27.2, 21.60S×178.40W, h468km, mB4.9, mb4.5*
*NEIC **26** 22:04:28.3±2.3, 21.57S×178.40W, h469km±26km, mb4.3/6, Error ellipse: s-maj=17.7km s-min=12.5km az=171.0*
ISC 26 22:04:20.0±1.6, 21.3S±0.1×178.4W±0.1, h384km±18km, n38, σ0§85/28, mb4.0/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.73**	**42**	S	**S**	**22 08 23.2**	**-0.2**
3.0nm,0.3s,baz=50,slow=23,SNR=3.8							
URZ	**Urewera**	**17.30**	**192**	P	**P**	**22 08 00.2**	**+1.2**
2.4nm,0.3s,baz=67,slow=4.0,SNR=9.6							
URZ				S	**S**	**22 11 02.5**	**+6.5**
0.6nm,0.3s,baz=358,slow=23,SNR=6.3							
CTA	**Charters Tower**	**33.02**	**266**	P	**P**	**22 10 24.0**	**+1.4**
1.5nm,0.4s,mb3.7,baz=72,slow=9.1,SNR=5.8							
CTAO	**Charters Tower**	**33.02**	**266**	*e*P	**P**	**22 10 24.0**	**+1.4**
5.6nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**	**22 10 57.4**	**+0.9**
3.9nm,0.4s,mb4.0,baz=89,slow=9.5,SNR=14							
STKA	**Stephens Creek**	**37.07**	**245**	P	**P**	**22 10 57.4**	**+0.9**
ASAR	**Alice Springs**	**43.94**	**258**	P	**P**	**22 11 52.6**	**+0.3**
3.1nm,0.7s,mb3.7,baz=91,slow=8.3,SNR=24							
WRAB	**Tennant Creek**	**44.09**	**263**	*e*P	**P**	**22 11 53.4**	**-0.1**
2.4nm,0.5s,mb3.8							
WRA	**Warramunga Arr**	**44.09**	**263**	P	**P**	**22 11 53.2**	**-0.5**
1.9nm,0.7s,mb3.5,baz=91,slow=6.3,SNR=87							
FITZ	**Fitzroy Crossi**	**52.52**	**263**	P	**P**	**22 12 57.8**	**+0.1**
1.9nm,0.3s,mb3.8,baz=266,slow=22,SNR=8.9							
MBWA	**Marble Bar**	**57.28**	**258**	*e*P	**P**	**22 13 29.5**	**-1.9**
7.4nm,0.5s,mb4.3							
KLBR	**Kellerberrin**	**57.34**	**245**	*e*P	**P**	**22 13 30.3**	**-1.3**
608nm,1.0s							
NWAO	**Narrogin (SRO)**	**57.64**	**244**	P	**P**	**22 13 32.2**	**-1.4**
6.7nm,1.0s,mb3.9,baz=128,slow=8.5,SNR=4.7							
NWAO	**Narrogin (SRO)**	**57.64**	**244**	*e*P	**P**	**22 13 32.4**	**-1.2**
12nm,1.0s,mb4.2							
QSPA	**South Pole Qui**	**68.73**	**180**	*e*P	**P**	**22 14 43.6**	**-0.9**
8.1nm,1.0s,mb4.3							
MJAR	**Matsushiro Art**	**70.64**	**324**	P	**P**	**22 14 56.6**	**-0.1**
3.6nm,0.9s,mb3.9,baz=161,slow=6.0,SNR=7.3							
MDJ	**Mudanjiang**	**80.97**	**325**	P	**P**	**22 15 54.0**	**0.0**
MDJ				AMB	AMB		
comp=Z,12nm,0.8s,mb4.7							
NVAR	**Mina Array Bea**	**81.91**	**43**	P	**P**	**22 15 59.7**	**+0.8**
comp=Z,1.0nm,0.6s,mb3.7,baz=213,slow=6.3,SNR=8.3							
NVAR	**Mina Array Bea**	**81.91**	**43**	P	**P**	**22 15 59.7**	**+0.8**
CN2	**Changchun**	**82.72**	**323**	*e*P	**P**	**22 16 02.8**	**-0.1**
CN2				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.5							
SLKM	**Skilak Lake**	**84.71**	**14**	*e*P	**P**	**22 16 12.3**	**-0.1**
ENH	**Enshi**	**86.18**	**304**	*e*P	**P**	**22 16 21.3**	**+1.1**
comp=Z,7.4nm,1.1s,mb4.3							
TXAR	**Lajitas Array**	**87.84**	**57**	P	**P**	**22 16 28.9**	**+0.6**
comp=Z,0.9nm,0.9s,mb3.5,baz=236,slow=4.5,SNR=4.4							
ILAR	**Eielson Array**	**89.22**	**13**	P	**P**	**22 16 32.9**	**-0.9**
comp=Z,1.0nm,0.5s,mb3.8,baz=228,slow=5.8,SNR=12							
PDAR	**Pinedale Array**	**89.84**	**43**	P	**P**	**22 16 37.0**	**-0.2**
comp=Z,1.0nm,0.8s,mb3.7,baz=270,slow=1.5,SNR=7.0							
CMAR	**Chiang Mai Arr**	**90.02**	**290**	P	**P**	**22 16 39.9**	**+1.3**
comp=Z,3.5nm,0.9s,mb4.2,baz=132,slow=3.4,SNR=18							
DAWY	**Dawson**	**90.37**	**16**	*e*P	**P**	**22 16 39.1**	**0.0**
ARCES	**ARCESS Array B**	**129.67**	**349**	PKP	PKPdf	22 22 41.9	-1.7
comp=Z,1.6nm,0.8s,baz=30,slow=3.5,SNR=5.9							
HFS	**Hagfors**	**140.30**	**351**	PKhKP		22 22 56.4	
comp=Z,1.1nm,0.5s,baz=72,slow=4.7,SNR=7.4							
AKASG	**Malin Array Be**	**143.54**	**330**	PKP	PKPdf	22 23 07.0	-2.2
comp=Z,2.0nm,0.4s,baz=40,slow=4.2,SNR=16							
MALT	**Malatya**	**144.11**	**306**	*e*PKPdf	PKPdf	22 23 10.8	+0.3
MBAR	**Mbarara**	**144.12**	**236**	*e*PKPdf	PKPdf	22 23 09.5	-1.8
BRTR	**Keskin Array B**	**147.09**	**311**	PKPbc	PKPdf	22 23 18.1	+2.5
comp=Z,1.4nm,0.8s,baz=152,slow=3.8,SNR=4.1							
BRTR				PKPab	PKPab	22 23 21.9	-1.6
comp=Z,1.2nm,0.7s,baz=45,slow=3.5,SNR=4.7							
MLR	**Muntele Rosu**	**148.70**	**326**	PKPbc	PKPdf	22 23 22.9	+4.9
comp=Z,2.1nm,0.8s,baz=172,slow=1.2,SNR=3.8							
CLL	**Collm**	**148.78**	**346**	*e*PKP1	PKPdf	22 23 22.0	+4.1
PRU	**Pruhonice**	**149.62**	**343**	*e*PKPdf	PKPdf	22 23 19.5	+0.2
KHC	**Kasperske Hory**	**150.66**	**344**	*e*PKPbc	PKPdf	22 23 27.5	+6.6
GERES	**GERESS Array B**	**150.89**	**343**	PKPbc	PKPdf	22 23 27.5	+6.2

comp=Z,1.2nm,0.7s,slow=2.7,SNR=9.9

MEX 26 22:04:33.7±0.7, 16.15N×98.85W, h17km±53km, MD3.7, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.73**	**71**⇑	*i*P	Pb	22 04 45.2	-2.4
PNIG				*i* S	Sb	22 04 54.8	-2.4
ACX	**Acapulco**	**1.24**	**305**	*e*P	Pb	22 04 53.0	-3.3
ACX				*i* S	Sb	22 05 07.0	-4.9
VHO	**Vista Hermosa**	**2.23**	**65**	*e*P	Pn	22 05 07.0	-3.5
VHO				*i* S	Sn	22 05 33.6	-4.3
OXX	**Oaxaca**	**2.24**	**65**	*e*P	Pn	22 05 08.0	-2.7
PLIG	**Platanillo**	**2.31**	**344**	*i* P	Pn	22 05 09.3	-2.4
PLIG				*i* S	Sn	22 05 34.7	-5.3
PPM	**Popocatepetl**	**2.91**	**4**	*e*P	Pn	22 05 17.9	-2.3
PPM				*e*P		22 05 20.0	
PPM				*i* S	Sn	22 05 49.4	-5.6

*IDC **26** 22:18:17.2±1.0, 35.41N×28.82E, mb3.7/6, mb1 3.8/12, mb1mx3.7/25, mbtmp3.8/12, ML3.9/6, Error ellipse: s-maj=22.4km s-min=16.4km az=1.0*
*CSEM **26** 22:18:19.9±0.0, 35.39N×28.90E, h40km, mb3.8/2, Mw3.6, Error ellipse: s-maj=1.7km s-min=0.8km az=45.0*
*HLW **26** 22:18:20.9, 35.48N×28.86E, h27km, Mb4.4*
*ATH **26** 22:18:21.2, 35.50N×28.84E, h40km±38km, MD3.9/10*
*NEIC **26** 22:18:21.5, 35.50N×28.85E, h45km, mb3.8/9, MD3.9(ATH), After ATH.*
*ISK **26** 22:18:21.5, 35.49N×28.76E, h32km, MD3.8*
*NIC **26** 22:18:26.3±0.2, 35.58N×29.15E, h25km, mb4.1, ML3.6, MW3.2*
ISC 26 22:18:20.3±0.2, 35.36N±0.02×28.87E±0.02, h51km±5km, n124, σ1§05/159, mb3.6/9, 7C-4D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.98**	**36**	*e*P	**P**	**22 18 38.5**	**+0.5**
ARG	**Arkhangelos**	**1.05**	**325**	*e*P	**P**	**22 18 38.6**	**-0.3**
ARG				*e*S	**S**	**22 18 52.7**	**0.0**
AKAS	**Kas**	**1.06**	**34**	*i* P	**P**	**22 18 39.1**	**0.0**
AKAS				*i* S	**S**	**22 18 48.0**	**-4.9**
FETY	**Fethiye**	**1.28**	**8**	PN	**P**	**22 18 41.6**	**-0.7**
FETY				SN	**S**	**22 18 56.8**	**-1.9**
KARP	**Karpathos**	**1.41**	**278**	*e*P	**P**	**22 18 45.6**	**+1.5**
KARP				*e*S	**S**	**22 19 03.7**	**+1.9**
DALT	**Dalyan (Mudla)**	**1.42**	**352**	*e*PN	**P**	**22 18 43.8**	**-0.5**
ELL	**Elmali**	**1.62**	**31**	PN	**P**	**22 18 47.9**	**+0.8**
YER	**Yerkesik**	**1.83**	**345**	PN	**P**	**22 18 50.2**	**+0.2**
NISR	**Nisiros**	**1.89**	**312**	*e*P	**P**	**22 18 51.0**	**+0.2**
GOLH	**Golhisar**	**1.95**	**16**	*i* P	**P**	**22 18 53.0**	**+1.2**
GOLH				*i* S	**S**	**22 19 15.6**	**+0.5**
ANTB	**Antalya**	**2.11**	**43**	*e*PN	**P**	**22 18 55.4**	**+1.5**
BODT	**Bodrum**	**2.12**	**324**	PN	**P**	**22 18 53.5**	**-0.5**
MLSB	**Milas**	**2.12**	**336**	*e*PN	**P**	**22 18 54.0**	**-0.1**
DNZL	**Cakiroluk**	**2.33**	**3**	*i* P	**P**	**22 18 56.0**	**-1.0**
DNZL				*i* S	**S**	**22 19 19.7**	**-4.8**
DENT	**Denizli**	**2.39**	**3**	PN	**P**	**22 18 58.2**	**+0.2**
AYDN	**Tasoluk**	**2.43**	**341**	*i* P	**P**	**22 18 58.7**	**+0.2**
AYDN				*i* S	**S**	**22 19 21.3**	**-5.9**
XRY	**Khrisi**	**2.65**	**260**	*e*P	**P**	**22 19 03.5**	**+1.9**
NPS	**Neapolis**	**2.67**	**269**	*e*P	**P**	**22 19 03.7**	**+1.8**
NPS				*e*S	**S**	**22 19 33.2**	**+0.1**
ISP	**Isparta**	**2.81**	**28**	*e*PN	**P**	**22 19 04.3**	**+0.5**
AKMC	**Akamas**	**2.85**	**96**⇑	*e*P	**P**	**22 19 06.4**	**+1.9**
SMG	**Samos**	**2.86**	**326**	*e*P	**P**	**22 19 03.8**	**-0.8**
SMG	**Samos**	**2.86**	**326**	*e*P	**P**	**22 19 03.3**	**-1.3**
PPCY	**Paphos**	**2.89**	**98**⇑	*e*P	**P**	**22 19 06.9**	**+1.9**
ALFC	**Alevga**	**3.06**	**93**⇑	*e*P	**P**	**22 19 09.1**	**+1.7**
9.0nm,0.2s							
ALFC				S	**S**	**22 19 42.1**	**-0.9**
MANT	**Manisa**	**3.13**	**355**	*i* P	**P**	**22 19 07.5**	**-1.0**
MANT				*i* S	**S**	**22 19 39.9**	**-5.1**
APE	**Apeiranthos**	**3.19**	**303**	PN	**P**	**22 19 08.3**	**-1.0**
APE	**Apeiranthos**	**3.19**	**303**	*e*P	**P**	**22 19 09.0**	**-0.4**
APE	**Apeiranthos**	**3.19**	**303**	*e*P	**P**	**22 19 08.9**	**-0.5**
IDI	**Anoyia**	**3.26**	**270**	Pn	**P**	**22 19 11.0**	**+0.8**
4.5nm,0.3s,baz=53,slow=23,SNR=74							
IDI				Sn	**S**	**22 19 46.1**	**-2.0**
22nm,0.3s,baz=123,slow=23,SNR=13							
IDI	**Anoyia**	**3.26**	**270**	Pn	**P**	**22 19 11.0**	**+0.8**
IDI				Sn	**S**	**22 19 46.0**	**-2.1**
IZM	**Izmir**	**3.29**	**337**	*e*PN	**P**	**22 19 09.8**	**-1.0**
LEF	**Lefka**	**3.30**	**93**	*e*PN	**P**	**22 19 13.7**	**+2.8**
SZAC	**Souni-Zanaja**	**3.34**	**99**	P	**P**	**22 19 13.3**	**+1.8**
7.0nm,0.2s							
SZAC				S	**S**	**22 19 50.0**	**-0.3**
BLCB	**Balcova**	**3.36**	**335**	*e*PN	**P**	**22 19 10.7**	**-0.9**
MAMC	**Mammari**	**3.56**	**92**⇑	*e*P	**P**	**22 19 15.8**	**+1.3**
CSS	**Prodhromos**	**3.67**	**95**⇑	*e*P	**P**	**22 19 17.3**	**+1.2**
2.2nm,0.3s							
CSS				S	**S**	**22 19 58.2**	**-0.4**
KONT	**Konya--Tatoy**	**3.81**	**46**	*e*PN	**P**	**22 19 19.1**	**+1.1**
VAM	**Vamos**	**3.82**	**272**	*e*P	**P**	**22 19 19.0**	**+0.9**
VAM	**Vamos**	**3.82**	**272**	*e*P	**P**	**22 19 18.3**	**+0.2**
KDHN	**Kadinhani**	**4.09**	**39**	*i* P	**P**	**22 19 22.2**	**+0.2**
KDHN				*i* S	**S**	**22 20 01.3**	**-7.8**
PHNC	**Paralimni**	**4.24**	**93**	P	**P**	**22 19 26.1**	**+2.0**
2.6nm,0.3s							
PHNC				S	**S**	**22 20 16.7**	**+3.8**
KIZT	**Kizilcal**	**4.26**	**33**	*e*PN	**P**	**22 19 24.4**	**+0.1**
BALB	**Balikesir**	**4.34**	**350**	*e*PN	**P**	**22 19 25.8**	**+0.2**
DABA	**Dabaa**	**4.37**	**187**⇑	P	**P**	**22 19 26.4**	**+0.5**
ESKT	**Eskisehir**	**4.44**	**20**	*e*PN	**P**	**22 19 27.2**	**+0.2**
HBRG	**Burj al 'Arab**	**4.84**	**170**⇑	P	**P**	**22 19 33.7**	**+1.2**
HBRG				S	**S**	**22 20 25.6**	**-2.4**
KCT	**Karacabey**	**4.91**	**355**	*e*PN	**P**	**22 19 32.6**	**-1.0**
SLUM		**4.92**	**219**	⇓P	**P**	**

HRFI	Mount Harif	7.43 134	Pn	P	22 20 07.6	-1.0
HRFI			Sn	S	22 21 26.2	-6.2
MBH	Mount Berech	7.54 136	Pn	P	22 20 09.7	-0.5
EIL	Elat	7.65 136	Pn	P	22 20 10.6	-1.1
	6.0nm,0.3s,baz=339,slow=11,SNR=76					
EIL			Sn	S	22 21 32.8	-5.1
	8.1nm,0.3s,baz=318,slow=32,SNR=12					
EIL	Elat	7.65 136	Pn	P	22 20 10.8	-0.9
EIL			Sn	S	22 21 32.8	-5.1
HKAT	Jabal Katrina	8.09 146	P	P	22 20 18.0	+0.3
HFRF	Wahat Farafira	8.20 184	P	P	22 20 19.4	0.0
SRN	Sarande	8.36 305	*i* Pn	P	22 20 20.9	-0.6
SRN			*i* Sn	S	22 21 48.7	-6.8
HSFG		9.78 152	P	P	22 20 41.3	+0.3
TIP	Timpagrande	10.38 295	*e*Pn	P	22 20 45.1	-4.1
TIP			*e*S	S	22 22 32.2	-13
PE1	Pezze di Greco	10.53 304	*e*Pn	P	22 20 48.3	-3.0
SG1	Sgolgore (BA)	11.05 303	*e*Pn	P	22 20 54.7	-3.7
VAE	Valguarnera	11.84 285	Pn	P	22 21 05.4	-3.6
	0.6nm,0.3s,baz=270,slow=14,SNR=4.3					
VAE			Sn	S	22 23 06.6	-14
	1.0nm,0.3s,baz=264,slow=9.2,SNR=5.1					
BOJS	Bojanci	14.48 319	*e*Pn	P	22 21 44.0	+0.2
CRES	Cresnjev	14.58 320	*e*Pn	P	22 21 44.4	-0.7
VISS	Visnje	14.89 319	*i* Pn	P	22 21 48.6	-0.6
CEY	Cerknica	15.08 318	*e*Pn	P	22 21 50.8	-0.7
ROBS	Robic	15.89 318	*i* Pn	P	22 22 02.2	+0.3
GERES	GERESS Array B	17.51 325	P	P	22 22 22.5	+0.2
	0.1nm,0.3s,baz=139,slow=12,SNR=12					
KHC	Kasperske Hory	17.77 325	*e*P	P	22 22 25.0	-0.5
SBF	Sospel	18.53 304	*e*P	P	22 22 35.3	+0.4
	24nm,1.0s					
FRF	La Foret Royal	18.98 302	*e*P	P	22 22 37.2	-2.9
	4.9nm,0.6s					
MBDF	Montbardon	19.29 306	*e*P	P	22 22 43.6	+0.1
	14nm,0.8s					
LPG	La Plagne	19.59 308	*e*P	P	22 22 47.3	+0.4
	4.4nm,0.6s					
LPL	La Plagne	19.61 308	*e*P	P	22 22 47.2	+0.1
	6.4nm,0.6s					
CLL	Collm	19.61 329	P	P	22 22 45.0	-2.0
ORIF	Oris-en-Rattie	19.95 306	*e*P	P	22 22 50.5	-0.2
	3.3nm,0.6s					
CABF	La Chapelle	20.47 310	*e*P	P	22 22 56.8	+0.7
	10.0nm,0.7s					
HINF	Hinteralfeld	20.56 314	*e*P	P	22 22 58.6	+1.6
CDF	Champ du Feu	20.61 316	*e*P	P	22 22 58.5	+0.9
HAU	Haudompre	20.95 314	*e*P	P	22 23 03.1	+2.1
LASF	Ste Croix	21.06 302	*e*P	P	22 23 00.3	-1.9
	20nm,1.3s,mb4.0					
SMF	Signal de Mont	21.90 309	*e*P	P	22 23 09.5	-1.1
	5.3nm,0.8s,mb3.8					
MEZF	Maizieres J'vi	21.95 314	*e*P	P	22 23 08.4	-2.6
LOR	Lormes	22.13 310	*e*P	P	22 23 13.0	+0.1
AVF	Avril sur Loir	22.27 309	*e*P	P	22 23 14.7	+0.5
SSF	Saint Saulge	22.27 309	*e*P	P	22 23 13.9	-0.4
	3.4nm,0.8s,mb3.9					
FINES	FINESS Array B	26.16 357	P	P	22 23 51.6	+0.2
	1.0nm,0.8s,mb3.4,baz=158,slow=10,SNR=6.3					
ESDC	Sonseca Array	26.31 289	P	P	22 23 54.7	+1.6
	0.3nm,0.4s,mb3.1,baz=82,slow=9.5,SNR=4.3					
HFS	Hagfors	26.67 343	P	P	22 23 57.5	+1.3
	0.6nm,0.5s,mb3.4,baz=160,slow=17,SNR=3.4					
MKAR	Makanchi Array	41.12 57	P	P	22 26 02.2	+1.4
	0.7nm,0.5s,mb3.5,baz=276,slow=7.0,SNR=15					
DBIC	Dimbokro	42.12 235	P	P	22 26 10.5	+1.1
	1.1nm,0.4s,mb3.9,baz=38,slow=11,SNR=9.7					
DBIC	Dimbokro	42.12 235	P	P	22 26 10.5	+1.1
SONM	Songino Array	57.00 52	P	P	22 28 05.0	+2.0
	0.3nm,0.5s,mb3.6,baz=301,slow=8.4,SNR=3.1					

IDC 26 22:31:56.4±6.8, 0.25N×97.15E, mb3.4/3, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, ML3.9/1, Error ellipse: s-maj=147.7km s-min=88.7km az=131.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	18.18	5	P	P	22 36 10.7	-1.4
	0.1nm,0.3s,baz=194,slow=12,SNR=9.9						
SONM	Songino Array	48.07	8	P	P	22 40 37.9	-1.7
	0.4nm,0.6s,baz=199,slow=8.9,SNR=3.8						
MKAR	Makanchi Array	48.15	346	P	P	22 40 38.7	-1.6
	0.4nm,0.6s,baz=158,slow=8.3,SNR=7.1						
BVAR	Borovoye Array	57.13	341	P	P	22 41 44.0	-3.1
	0.5nm,0.9s,baz=135,slow=8.2,SNR=2.1						

IDC 26 22:36:22.0±1.7, 10.48S×123.60E, mb3.5/1, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=116.2km s-min=26.8km az=61.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	7.83 166		Pn	Pn	22 38 18.9	-1.0
	0.5nm,0.3s,baz=360,slow=12,SNR=6.2						
FITZ				Sn	Sn	22 39 42.2	-8.1
	baz=220,slow=7.9						
WRA	Warramunga Arr	13.99 134		Pn	P	22 39 39.4	-4.5
	0.2nm,0.3s,baz=304,slow=15,SNR=11						
WRA				Sn	S	22 42 08.8	-12
	0.4nm,0.3s,baz=272,slow=25,SNR=10						
ASAR	Alice Springs	16.39 144		Pn	P	22 40 13.4	-1.7
	0.2nm,0.3s,baz=316,slow=11,SNR=8.2						
ASAR				Sn	S	22 43 07.4	-10
	0.2nm,0.3s,baz=321,slow=25,SNR=4.7						
MKAR	Makanchi Array	67.89 331		P	P	22 47 22.4	-2.1
	0.3nm,0.7s,baz=127,slow=7.2,SNR=3.5						

*IDC **26** 22:39:14.7±21.0, 36.15N×71.06E, h131km±198km, mb3.6/4, mb1 3.6/6, mb1mx3.2/23, mbtmp4.0/6, ML3.7/2, Error ellipse: s-maj=180.9km s-min=136.1km az=161.0*
*NEIC **26** 22:39:15.8±4.7, 36.29N×70.96E, h133km±28km, mb3.7/4, Error ellipse: s-maj=52.2km s-min=24.2km az=172.0*
*MOS **26** 22:39:19.9±1.1, 36.69N×70.86E, h164km, mb3.8/3, Error ellipse: s-maj=31.3km s-min=13.8km az=87.7*
*NNC **26** 22:39:30.6±5.0, 37.35N×70.82E, h204km±45km, mpv3.9, Error ellipse: s-maj=50.5km s-min=33.4km az=5.0*

ISC 26 22:39:18.1±1.2, 36.42N±0.07×71.1E±0.1, h171km±12km, n38, σ0§94/44, mb3.7/6, 5C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	5.61	132	*e*	S	22 41 47.0	+2.3
AML	Almayashu	6.07	19	P	P	22 40 47.0	+0.3
	SNR=48						
UCH	Uchtor	6.39	24	P	P	22 40 51.4	+0.3
	SNR=8.5						
EKS2	Erkin-Say	6.58	18	P	P	22 40 53.8	+0.2
	SNR=9.4						
KK31	Karatay Array	6.69	357	⇑P	P	22 40 54.5	-0.5
	6.5nm,0.5s,baz=178,slow=12,SNR=231						
KK31				S	S	22 42 03.8	-6.7
	5.2nm,0.3s,baz=188,slow=24,SNR=12						
AAK	Ala-Archa	6.76	22	P	P	22 40 56.2	+0.3
	SNR=6.7						
AAK	Ala-Archa	6.76	22	⇑P	P	22 40 55.5	-0.4
AAK				⇑S	S	22 42 06.5	-5.5
	14nm,0.6s						
AAK	Ala-Archa	6.76	22	*e*PN	P	22 40 54.5	-1.4
AAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
AAK	Ala-Archa	6.76	22	*e*P	P	22 40 54.5	-1.3
	comp=Z,6.3nm,0.6s						
KBK	Karagaybulak	6.92	25	P	P	22 40 59.0	+0.9
	SNR=5.7						
SDNR	Sundarnagar	6.94	133	*e*P	P	22 41 02.8	+4.4
SDNR				*e*S	S	22 42 15.0	-1.4
CHMS	Chumysh	7.17	22	P	P	22 41 01.4	+0.1
	SNR=7.8						
SMLA	Simla	7.33	134	⇓*i*P	P	22 41 01.2	-2.3
SMLA				*i*		22 42 21.4	
TKM2	Tokmak 2	7.38	27	P	P	22 41 04.1	-0.1
	SNR=17						
NDI	New Delhi	9.30	144	*e*S	S	22 43 07.0	-5.2
MK31	Makanchi Array	13.34	35	⇑P	P	22 42 22.2	+0.6
	comp=Z,2.4nm,0.7s						
MKAR	Makanchi Array	13.34	35	P	P	22 42 21.7	+0.1
	comp=Z,0.2nm,0.3s,baz=212,slow=9.8,SNR=8.2						
KOLN	Koldanda	13.68	126	*e*P	P	22 42 27.8	+1.7
	comp=Z,11nm,0.7s						
KOLN				*e*S	S	22 44 54.5	+0.2
GKN	Gorkha	14.22	122	*e*P	P	22 42 33.5	+0.6
	comp=Z,15nm,0.4s						
KKN	Kakani	14.80	122	*e*P	P	22 42 40.4	+0.3
	comp=Z,20nm,0.5s						
KKN				*e*S	S	22 45 17.4	-2.3
AB31	Akbulak array	15.18	331	⇓P	P	22 42 43.5	-1.1
	comp=Z,0.9nm,0.5s						
AB31				⇑S	S	22 45 18.7	-9.3
	comp=Z,0.7nm,0.4s						
JIRN	Jiri	15.51	120	*e*P	P	22 42 49.0	0.0
	comp=Z,24nm,0.4s						
BVA0	Borovoye Array	16.61	359	P	P	22 43 02.4	0.0
	comp=Z,0.2nm,0.4s,baz=161,slow=8.8,SNR=9.9						
BVAR	Borovoye Array	16.61	359	P	P	22 43 02.3	-0.1
	comp=Z,0.5nm,0.3s,baz=160,slow=8.1,SNR=10						
CHKZ	Chkalovo	17.26	359	⇓P	P	22 43 09.2	-0.9
	comp=Z,1.2nm,0.6s						
CHKZ	Chkalovo	17.26	359	*e*P	P	22 43 08.8	-1.2
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHKZ	Chkalovo	17.26	359	*e*P	P	22 43 08.8	-1.3
	comp=Z,1.3nm,0.4s						
NVS	Novosibirsk	20.25	21	*e*P	P	22 43 40.5	-1.0
NVS				pmax	pmax		
	comp=N,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,1.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	FINESS Array B	37.58 326		P	P	22 46 17.4	+0.2
	comp=Z,0.6nm,0.4s,mb3.6,baz=118,slow=8.8,SNR=9.4						
FINES	FINESS Array B	37.58 326		P	P	22 46 17.4	+0.1
MORC	Moravsky Berou	40.45 307		P	P	22 46 40.7	-0.4
MORC				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
MORC	Moravsky Berou	40.45 307		P	P	22 46 40.7	-0.4
	comp=Z,1.2nm,0.7s,mb3.6						
ARCES	ARCESS Array B	41.24 338		P	P	22 46 48.2	+0.8
	comp=Z,0.9nm,0.4s,mb3.8,baz=116,slow=8.3,SNR=16						
HFS	Hagfors	43.16 322		P	P	22 47 03.7	+0.7
	comp=Z,1.4nm,0.4s,mb3.9,baz=108,slow=9.4,SNR=12						
NB2	NORSAR Subarra	44.47 323		P	P	22 47 13.5	0.0
	comp=Z,1.0nm,0.4s,mb3.8,baz=96,slow=7.4						
NOA	NORSAR Array B	44.47 323		P	P	22 47 13.9	+0.4
	comp=Z,1.4nm,0.7s,mb3.7,baz=96,slow=7.7,SNR=8.8						
INK	Inuvik	73.98	9	P	P	22 50 36.6	+0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	73.98	9	P	P	22 50 36.5	+0.7
	comp=Z,0.6nm,0.5s,mb3.6						

*NEIC **26** 22:54:56.6, 37.11S×177.22E, h193km, MG3.9(WEL), After WEL.*

WEL 26 22:54:56.3±0.2, 37.11S×177.23E, h195km±2km, ML3.9/12, 3C-1D, Error ellipse: s-maj=2.9km s-min=2.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.15	185	P	P	22 55 26.6	-0.3
URZ	Urewera	1.15	185	⇑PN	P	22 55 26.6	-0.3
URZ				SN	S	22 55 49.8	-0.9
MWZ	Matawai	1.25	169	P	P	22 55 27.6	-0.1
MWZ				S	S	22 55 51.7	-0.3
MWZ	Matawai	1.25	169	⇑PN	P	22 55 27.6	-0.1
MWZ				SN	S	22 55 51.7	-0.3
PUZ	Puketiti	1.26	140	P	P	22 55 27.4	-0.5
PUZ				S	S	22 55 50.9	-1.3
PUZ	Puketiti	1.26	140	⇑PN	P	22 55 27.4	-0.4
PUZ				SN	S	22 55 50.8	-1.4
KNZ	Kokohu	1.94	170	*e*P	P	22 55 34.1	-0.1
KNZ	Kokohu	1.94	170	PN	P	22 55 33.7	-0.5
KNZ				SN	S	22 56 02.7	-0.6
BKZ	Black Stump Fm	2.13	196	*e*P	P	22 55 35.9	-0.4
BKZ				S	S	22 56 06.5	-0.6
BKZ	Black Stump Fm	2.13	196	⇓PN	P	22 55 35.9	-0.4
BKZ				SN	S	22 56 06.3	-0.8
NGZ	Ngauruhoe	2.43	211	P	P	22 55 40.0	+0.4
NGZ	Ngauruhoe	2.43	211	*e*PN	P	22 55 40.0	+0.5
FWVZ	Far West T-bar	2.52	211	*e*P	P	22 55 40.7	+0.1
FWVZ	Far West T-bar	2.52	211	*e*PN	P	22 55 40.7	+0.1
WNVZ	Wahianoa	2.56	210	P	P	22 55 40.9	-0.1
WNVZ	Wahianoa	2.56	210	*e*PN	P	22 55 40.9	-0.2
PWZ	Pawanui	2.93	185	*e*P	P	22 55 45.0	-0.3
PWZ	Pawanui	2.93	185	PN	P	22 55 45.0	-0.4
TSZ	Takapari Road	3.11	198	*e*P	P	22 55 46.3	-1.2
TSZ	Takapari Road	3.11	198	PN	P	22 55 46.1	-1.4
TSZ				SN	S	22 56 25.5	-1.5
BFZ	Birch Farm	3.65	192	*e*P	P	22 55 52.7	-1.4
BFZ	Birch Farm	3.65	192	PN	P	22 55 52.7	-1.5
BFZ				SN	S	22 56 37.0	-1.9
MRZ	Mangatainoka R	3.77	199	*e*P	P	22 55 53.7	-2.0
MRZ	Mangatainoka R	3.77	199	PN	P	22 55 53.7	-2.0
MRZ				SN	S	22 56 39.1	-2.5
KIW	Kapiti Island	4.16	205	*e*P	P	22 55 58.2	-2.3
KIW	Kapiti Island	4.16	205	*e*PN	P	22 55 58.2	-2.4
KIW				SN	S	22 56 47.2	-3.0
MTW	Mount Morrison	4.26	198	P	P	22 55 59.1	-2.7
MTW	Mount Morrison	4.26	198	PN	P	22 55 58.9	-2.9
CAW	Cannon Point	4.33	202	P	P	22 55 59.8	-2.9
CAW	Cannon Point	4.33	202	*e*PN	P	22 55 59.8	-2.9
MSWZ	Moikau Station	4.56	199	P	P	22 56 02.9	-2.8
TCW	Tory Channel	4.69	208	P	P	22 56 04.7	-2.7
KHZ	Kahutara	6.01	207	*e*P	P	22 56 21.3	-3.1

*NEIC **26** 23:12:20.8±0.9, 18.60S×173.53W, h10km, mb4.5/2, Error ellipse: s-maj=25.8km s-min=10.3km az=121.0*
*IDC **26** 23:12:25.5±5.9, 18.48S×172.87W, h95km±145km, mb4.1/5, mb1 4.1/6, mb1mx3.6/21, mbtmp4.4/6, ML2.1/1, Error ellipse: s-maj=180.0km s-min=28.3km az=88.0*

ISC 26 23:12:24.7±1.6, 18.5S±0.1×172.9W±0.3, h100km, n10, σ0§54/11, mb4.4/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.66	14	P	P	23 13 35.5	+1.3
	5.3nm,0.3s,baz=130,slow=7.9,SNR=3.4						
AFI				S	S	23 14 26.6	-0.9
	24nm,0.3s,baz=52,slow=23,SNR=9.6						
URZ	Urewera	21.55	202	P	P	23 17 06.9	-0.4
	9.7nm,0.5s,mb4.4,baz=328,slow=6.0,SNR=8.2						
CTA	Charters Tower	38.49	261	P	P	23 19 39.1	+0.4
	3.0nm,0.4s,mb4.5,baz=96,slow=12,SNR=8.7						
CTAO	Charters Tower	38.49	261	*e*P	P	23 19 38.6	-0.2
	3.1nm,0.6s,mb4.3						
STKA	Stephens Creek	42.97	243	P	P	23 20 15.1	-0.5
	0.6nm,0.5s,mb3.6,baz=95,slow=9.9,SNR=2.9						
WB2	Warramunga Arr	49.63	259	*e*P	P	23 21 08.2	-0.1
WRAB	Tennant Creek	49.63	259	*e*P	P	23 21 08.3	0.0
	4.7nm,0.5s,mb4.7						
WRA	Warramunga Arr	49.64	259	P	P	23 21 08.5	+0.1
	3.0nm,0.5s,mb4.5,baz=97,slow=7.9,SNR=68						
ASAR	Alice Springs	49.65	254	P	P	23 21 08.6	+0.2
	9.9nm,0.8s,mb4.8,baz=94,slow=7.7,SNR=66						
ASPA	Alice Springs	49.65	254	*e*P	P	23 21 08.6	+0.2

*ATH **26** 23:13:53.9, 39.30N×21.14E, h26km±1km, MD3.5/8*
*THE **26** 23:13:53.7, 39.30N×21.12E, h10km, ML3.3*
*NEIC **26** 23:13:53.9, 39.30N×21.14E, h26km, MD4.1(ATH), After ATH.*
*CSEM **26** 23:13:54.0±0.2, 39.30N×21.10E, h5km, MD4.1, Error ellipse: s-maj=4.0km s-min=3.2km az=41.0*

ISC 26 23:13:53.7±0.4, 39.30N±0.02×21.15E±0.03, h10km, n23, σ1§09/38, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	Janina	0.42	327	*e*PB	Pb	23 14 02.0	-0.8
JAN				*e*SB	Sb	23 14 09.3	+0.4
JAN	Janina	0.42	327	*e*Pb	Pb	23 14 01.6	-1.2
JAN				*e*Sb	Sb	23 14 09.3	+0.4
MEV	Metsovon	0.49	7	*e*Pg	Pg	23 14 02.6	-1.1
MEV				*e*Sg	Sg	23 14 09.8	-0.5
EVR	Evrytania	0.64	126	*e*PN	Pn	23 14 06.6	-1.9
EVR				*e*SN	Sn	23 14 16.8	-2.0
IGT	Igoumenitsa	0.67	291	*e*Pg	Pg	23 14 05.4	-1.8
IGT				*e*Sg	Sg	23 14 16.2	0.0
LSK	Leskovik	0.95	334	*e*Pg	Pg	23 14 11.0	-1.7
LSK				*i* Sg	Sg	23 14 26.0	+0.6
AGG	Agios Georgios	0.96	106	*e*Pg	Pg	23 14 11.3	-1.7
	comp=Z,8.9nm,0.2s						
AGG				*e*Sg	Sg	23 14 27.0	+1.1
SRN	Sarande	1.06	304	*i* Pg	Pg	23 14 14.9	0.0
SRN				*i* Sg	Sg	23 14 30.0	+0.9
KZN	Kozani	1.11	25	*e*PN	Pn	23 14 15.3	0.0
KZN				*e*SN	Sn	23 14 31.1	+0.3
KEK	Kerkira	1.12	292	*e*PN	Pn	23 14 16.1	+0.7
KEK				*e*SN	Sn	23 14 31.5	+0.6
VLS	Valsamata	1.20	201	*e*PB	Pb	23 14 16.0	-0.1
VLS				*e*SN	Sn	23 14 33.9	+0.9
RLS	Riolos of Patr	1.27	168	*e*PN	Pn	23 14 17.9	+0.4
RLS				*e*SN	Sn	23 14 35.0	+0.4
LIT	Litokhoron	1.31	52	*e*Pb	Pb	23 14 18.2	+0.2
LIT				*e*Sb	Sb	23 14 38.0	+3.4
FNA	Florina	1.49	7	*e*Pb	Pb	23 14 21.4	+0.3
	comp=Z,4.8nm,0.4s						
FNA				*e*Sb	Sb	23 14 43.4	+3.4
NEO	Neokhori	1.61	89	*e*PN	Pn	23 14 22.7	+0.3
OHR	Ohrid	1.83	352	*i* Pn	Pn	23 14 35.5	+10
OHR				*i* Sg	Sg	23 14 52.7	-2.0
OHR				*i*		23 14 53.8	
AOS	Alonnisos	2.13	93	*e*Pn	Pn	23 14 30.9	+1.1
SOH	Sokhos	2.28	47	*e*Pn	Pn	23 14 32.5	+0.6
SOH	Sokhos	2.28	47	*e*Pn	Pn	23 14 32.5	+0.6
OUR	Ouranopolis	2.42	64	*e*Pn	Pn	23 14 33.9	0.0
SKO	Skopje	2.68	5	*i* Pn	Pn	23 14 40.5	+2.8
SKO				*i*		23 15 16.5	
NVR	Nevrokopi	2.92	45	*e*PN	Pn	23 14 41.4	+0.3
DIVS	Divcibare	4.87	350	⇓*i*P	Sn	23 16 06.3	+0.3

IDC 26 23:22:51.1±1.4, 10.41S×123.67E, mb3.9/2, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, ML3.5/3, Error ellipse: s-maj=108.1km s-min=24.7km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	7.88	166	Pn	Pn	23 24 48.4	-1.4
	0.7nm,0.3s,baz=4.9,slow=15,SNR=2.7						
FITZ				Sn	Sn	23 26 13.0	-7.7
	3.9nm,0.3s,baz=183,slow=6.4,SNR=6.3						
WRA	Warramunga Arr	13.99	134	Pn	P	23 26 09.0	-4.1
	0.2nm,0.3s,baz=305,slow=15,SNR=4.3						
WRA				Sn	S	23 28 36.4	-14
	0.5nm,0.3s,baz=306,slow=23,SNR=5.4						
ASAR	Alice Springs	16.41	145	Pn	P	23 26 42.8	-1.7
	0.3nm,0.3s,baz=317,slow=12,SNR=5.4						
ASAR				Sn	S	23 29 35.5	-12
	0.1nm,0.3s,baz=327,slow=26,SNR=6.1						
SONM	Songino Array	59.98	347	P	P	23 32 59.7	-2.0
	0.3nm,0.5s,baz=166,slow=5.9,SNR=3.5						
MKAR	Makanchi Array	67.86	331	P	P	23 33 51.1	-2.3
	2.5nm,0.9s,baz=139,slow=7.6,SNR=16						

*IDC **26** 23:38:27.0±3.1, 43.83N×128.15W, mb2.9/3, mb1 3.4/6, mb1mx3.3/24, mbtmp3.2/6, ML3.3/3, MS3.2/5, Ms1 3.2/5, ms1mx2.9/11, Error ellipse: s-maj=72.0km s-min=16.3km az=53.0*
*NEIC **26** 23:38:28.1±1.0, 43.77N×128.19W, h10km, mb3.5/1, Error ellipse: s-maj=11.7km s-min=6.6km az=55.0*

ISC 26 23:38:28.4±4.2, 43.84N±0.09×128.1W±0.2, h21km±31km, n39, σ0§74/37, mb2.8/2, MS3.1/4, 1C, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RNO	Roman Nose	3.16	87	P	Pn	23 39 18.1	-0.1
MPOR	Mary's Peak	3.35	77	P	Pn	23 39 20.5	-0.3
COR	Corvallis	3.54	76	P	Pn	23 39 23.5	-0.1
KMOR	Kings Mountain	3.75	60	P	Pn	23 39 26.1	-0.4
HUMO	Hull Mountain	3.97	106	*e*P	Pn	23 39 27.3	-2.3
NLO	Nicolai Mounta	4.00	54	P	Pn	23 39 29.8	-0.3
BROR	Big Rock Looko	4.10	82	P	Pn	23 39 31.8	+0.3
SSOR	Sweet Springs	4.18	74	⇑P	Pn	23 39 33.2	+0.6
HBO	Huckleberry Mo	4.19	88	P	Pn	23 39 33.0	+0.2
IRO	Indian Ridge	4.24	86	P	Pn	23 39 33.3	-0.1
BMW	Boistfort Moun	4.35	51	P	Pn	23 39 34.4	-0.6
FRIS	Frissel Point	4.35	83	P	Pn	23 39 35.4	+0.2
PGO	Gresham	4.36	66	P	Pn	23 39 36.0	+0.9
GT2	Goat Mountain	4.38	71	P	Pn	23 39 36.0	+0.5
YBH	Yreka Blue Hor	4.50	116	Pn	Pn	23 39 36.1	-1.1
	0.2nm,0.3s,baz=284,slow=8.3,SNR=3.7						
YBH				Sn	Sn	23 40 28.5	-1.1
	0.5nm,0.3s,baz=62,slow=15,SNR=5.6						
VLMM	Larch Mountain	4.65	66	P	Pn	23 39 40.1	+0.8
LCW	Lucas Creek	4.76	52	P	Pn	23 39 40.6	-0.2
ERK	Elk Rock	4.78	57	P	Pn	23 39 40.8	-0.3
SOSW	Source of Smit	4.87	58	P	Pn	23 39 43.0	+0.6
VLL	Laurance Lake	4.87	68	P	Pn	23 39 43.2	+0.8
ASR	Mount Adams--S	5.17	61	P	Pn	23 39 47.2	+0.6
HDW	Hoodsport	5.20	41	P	Pn	23 39 46.9	-0.2
WPW	White Pass	5.45	56	P	Pn	23 39 51.0	+0.4
FMW	Mount Fremont	5.49	53	P	Pn	23 39 51.1	0.0
GSM	Grass Mountain	5.57	51	P	Pn	23 39 52.2	0.0
HAWA	Hanford	6.59	64	*e*P	Pn	23 40 05.7	-0.9
BBB	Bella Bella	8.35	0	Pn	P	23 40 30.6	-0.7
	0.5nm,0.3s,baz=188,slow=14,SNR=5.5						
NVAR	Mina Array Bea	9.16	123	Pn	P	23 40 43.8	+1.2
	0.1nm,0.3s,baz=290,slow=12,SNR=6.9						
CHMT	Chamberlain Mo	10.90	68	*e*P	P	23 41 05.9	-0.4
PDAR	Pinedale Array	13.56	88	Pn	P	23 41 42.4	+0.4
	0.0nm,0.3s,baz=297,slow=6.0,SNR=2.7						
SDCO	Great Sand Dun	18.15	102	P	P	23 42 41.3	+0.4
	4.5nm,1.3s						
ANMO

IRAZ Sn **S** 23 58 13.9 +1.1
ITBZ Tabriz 3.09 358 Pn **P** 23 57 38.3 -0.6
ASAO Ashtian 3.14 100 *e*PN **P** 23 57 41.5 +1.8
ASAO AML AML 23 58 47.2
comp=N,262nm,0.7s
ASAO Ashtian 3.14 100 *e*Pn **P** 23 57 41.0 +1.3
SHGO Shushtar 3.69 144 *e*PN **P** 23 57 50.5 +3.1
SHGR Shooshtar-Gavs 3.69 144 *e*Pn **P** 23 57 50.0 +2.6
SHGR Shooshtar-Gavs 3.69 144 *e*PN **P** 23 57 50.5 +3.1
SHGR AML AML 23 59 10.8
comp=N,133nm,0.6s
THKV Tehran--Karaj 3.84 77 *e*PN **P** 23 57 50.8 +1.3
THKV Tehran--Karaj 3.84 77 *e*Pn **P** 23 57 50.0 +0.5
GRMI Germi 3.89 19 *e*Pn **P** 23 57 49.0 -1.2
GRMI Germi 3.89 19 *e*PN **P** 23 57 49.7 -0.5
IQOM Qom 3.95 93 Pn **P** 23 57 51.4 +0.3
IQOM Sn **S** 23 58 36.3 -0.5
THR Tehran 4.03 78 *e*PN **P** 23 57 53.4 +1.1
THR Tehran 4.03 78 *e*Pn **P** 23 57 53.0 +0.7
TVAN Van 4.09 327 *i* P **P** 23 57 52.5 -0.6
TVAN *i* S Px 23 58 02.5
MAKU Maku 4.39 344 *e*Pn **P** 23 57 57.0 -0.4
MAKU Maku 4.39 344 *e*PN **P** 23 57 57.4 0.0
IVRN Varamin 4.48 90 Pn **P** 23 57 59.8 +1.2
IVRN Sn **S** 23 58 48.6 -1.4
DAMV Damavand 4.68 82 *e*Pn **P** 23 58 01.0 -0.5
DAMV Damavand 4.68 82 *e*PN **P** 23 58 01.9 +0.4
IDMV Damavand 4.73 83 Pn **P** 23 58 01.9 -0.2
IKLH Kalahroud 4.76 111 Pn **P** 23 58 00.2 -2.3
BEST Besiri 4.88 306 *i* P **P** 23 58 00.2 -4.0
BEST *i* S **S** 23 58 59.6 -0.5
GNI Garni 5.14 347 Pn **P** 23 58 11.9 +4.0
comp=N,0.8nm,0.3s,baz=181,slow=14,SNR=4.7
GNI Lg 23 59 32.1
baz=157,slow=23,SNR=3.8
GNI LR LR 23 59 52.7
comp=N,82nm,19.5s,baz=3.9,slow=36
GNI Garni 5.14 347 P **P** 23 58 11.9 +4.0
IFIR Firoozkooh 5.32 83 Pn **P** 23 58 10.1 -0.2
IFIR Sn **S** 23 59 08.6 -2.6
DIY Diyarbakir 5.59 301 Pn **P** 23 58 14.2 0.0
DIY Diyarbakir 5.59 301 Pn **P** 23 58 14.1 -0.1
NAY Al-Naaiem 5.93 172 *e*P **P** 23 58 21.2 +2.3
NAY *e*S **S** 23 59 27.9 +1.4
BINT Bingol 5.94 311 P **P** 23 58 17.7 -1.4
KBD Kabd 6.07 168 *e*P **P** 23 58 23.1 +2.3
KBD *e*S **S** 23 59 32.6 +2.7
EZM Erzurum 6.15 322 Pn **P** 23 58 19.9 -2.1
RDF Al-Radifah 6.29 170 *e*P **P** 23 58 26.0 +2.0
RDF *e*S **S** 23 59 36.0 +0.6
DGRG David-gareji 6.34 354 P **P** 23 58 28.3 +3.6
DGRG S S 00 00 06.7 +30
MALT Malatya 7.05 299 Pn **P** 23 58 34.8 +0.2
MYA Malataya 7.06 299 Pn **P** 23 58 35.2 +0.5
GZT Gaziantep 7.38 290 *i* P **P** 23 58 37.6 -1.6
GZT *i* S **P** 23 58 50.4 +11
GAZ Gaziantep 7.61 288 Pn **P** 23 58 45.1 +2.7
IPAR Pars 7.79 131 Pn **P** 23 58 42.9 -2.0
ASF Jabal al Asfar 8.35 252 Pn **P** 23 58 53.3 +0.5
comp=N,1.6nm,0.3s,baz=293,slow=5.5,SNR=14
ASF Lg 00 01 14.9
comp=N,0.5nm,0.3s,baz=301,slow=22,SNR=7.9
KIV Kislovodsk 9.23 344 *e*P **P** 23 59 08.1 +3.3
KIV pmax pmax
comp=N,7.0nm,1.2s
KIV pmax pmax
comp=Z,8.0nm,1.2s
KIV MLR MLR
comp=N,59nm,16.0s
KIV MLR MLR
comp=E,94nm,16.0s
KIV MLR MLR
comp=Z,70nm,16.0s
EIL Elat 11.01 243 Lg 00 02 37.8
comp=Z,0.2nm,0.3s,baz=149,slow=18,SNR=2.5
BANOM Banah 12.61 134 ⇓P **P** 23 59 48.1 -2.6
ASHO Ashiyiah 13.43 138 ⇓P **P** 23 59 59.1 -2.4
ARQ Araqi 14.77 140 ⇓S **S** 00 02 58.1 -3.9
ARQ Araqi 14.77 140 S **S** 00 02 58.1 -3.9
BIDO Bidbid 15.51 135 ⇓P **P** 00 00 28.2 -0.4
BIDO Bidbid 15.51 135 P **P** 00 00 28.2 -0.4
WHFO Wadi Hawf 18.40 157 P **P** 00 01 02.6 -2.5
SNR=25
WHFO ⇓S **S** 00 04 23.6 -1.9
WHFO Wadi Hawf 18.40 157 P **P** 00 01 02.6 -2.5
SNR=25
WHFO S **S** 00 04 23.6 -1.9
MLR Muntele Rosu 18.58 310 P **P** 00 01 09.5 +2.5
comp=Z,0.1nm,0.3s,baz=173,slow=3.4,SNR=4.8
MLR Muntele Rosu 18.58 310 P **P** 00 01 09.5 +2.5
ABTO Aybut 18.79 159 P **P** 00 01 07.2 -2.5
SNR=11
ABTO Aybut 18.79 159 P **P** 00 01 07.2 -2.5
SNR=11
RBK Rabkut 18.93 156 P **P** 00 01 09.1 -2.3
SNR=21
RBK Rabkut 18.93 156 P **P** 00 01 09.1 -2.3
SNR=21
SHAO Shalim 18.97 152 P **P** 00 01 07.5 -4.3
AKASG Malin Array Be 19.87 327 P **P** 00 01 19.8 -1.7
comp=Z,0.3nm,0.3s,baz=137,slow=10,SNR=18
AKASG Malin Array Be 19.87 327 P **P** 00 01 19.8 -1.6
MOS Moscow 21.44 347 *e*P **P** 00 01 37.0 -0.6
MOS pmax pmax
comp=Z,41nm,1.4s,mb4.6
MOS Moscow 21.44 347 *e*P **P** 00 01 37.0 -0.6
comp=Z,41nm,1.4s,mb4.6
ARU Arti 22.88 18 *e*P **P** 00 01 53.8 +2.0
ARU pmax pmax
comp=Z,27nm,1.3s,mb4.5
ARU Arti 22.88 18 *e*P **P** 00 01 53.8 +2.0
comp=Z,27nm,1.3s,mb4.5
AAK Ala-Archa 23.14 63 *e*P **P** 00 02 01.9 +7.5
AAK pmax pmax
comp=Z,4.0nm,1.0s,mb3.8
AAK Ala-Archa 23.14 63 *e*P **P** 00 02 01.9 +7.5
comp=Z,4.0nm,1.0s,mb3.8
BVAR Borovoye Array 24.70 36 P **P** 00 02 12.2 +2.7
comp=Z,0.2nm,0.5s,mb2.9,baz=249,slow=13,SNR=3.2
BVAR Borovoye Array 24.70 36 P **P** 00 02 12.2 +2.7
OKC Ostrava-Krasne 25.22 314 *e*P **P** 00 02 16.1 +1.6
OKC AMS AMS 00 14 20.0
comp=Z,100nm,13.5s
KOGS Kog 25.23 306 *e*P **P** 00 02 15.9 +1.3
GOLS Golise 25.54 304 *e*P **P** 00 02 19.1 +1.6
MORC Moravsky Berou 25.55 314 *e*P **P** 00 02 18.5 +0.9
MORC pmax pmax
comp=Z,30nm,1.5s,mb4.6
MORC Moravsky Berou 25.55 314 *e*P **P** 00 02 18.5 +0.9
comp=Z,30nm,1.5s,mb4.6
MORC Moravsky Berou 25.55 314 *e*P **P** 00 02 18.5 +0.9
comp=Z,30nm,1.5s,mb4.6
ARSA Arzberg 25.93 307 ⇓*i*P **P** 00 02 23.6 +2.4
comp=Z,13nm,1.3s,mb4.3
VRAC Vranov 25.94 312 P **P** 00 02 24.3 +3.0
comp=Z,5.6nm,1.1s,mb4.0,baz=102,slow=11,SNR=5.6
VRAC Vranov 25.94 312 *e*P **P** 00 02 24.3 +3.1
PDKS Podkum 25.97 304 *e*P **P** 00 02 22.6 +1.0
PDKS Podkum 25.97 304 *e*P **P** 00 02 22.6 +1.0
DPC Dobruska-Polom 26.50 314 *e*P **P** 00 02 28.0 +1.6
DPC AMS AMS 00 13 40.0
comp=Z,100nm,17.0s
UPC Upice 26.75 314 *e*P **P** 00 02 29.7 +1.0
MOA Molln 26.92 308 ⇑*i*P **P** 00 02 32.0 +1.7
comp=Z,5.7nm,1.4s,mb3.9
KBA Koelnbreinsper 27.32 306 ⇑*i*P **P** 00 02 34.5 +0.5
comp=Z,12nm,1.2s,mb4.3
KBA Koelnbreinsper 27.32 306 ⇑*i*P **P** 00 02 34.5 +0.5
KBA pmax pmax
comp=Z,12nm,1.2s,mb4.3
PRU Pruhonice 27.43 313 *e*P **P** 00 02 36.5 +1.6
PRU AMS AMS 00 17 10.0
comp=Z,100nm,6.9s
GERES GERESS Array B 27.57 310 P **P** 00 02 37.3 +1.1
comp=Z,0.4nm,0.4s,mb3.4,baz=113,slow=10,SNR=6.5
GERES GERESS Array B 27.57 310 P **P** 00 02 37.3 +1.1
PVCC Panska Ves 27.61 314 *e*P **P** 00 02 38.0 +1.5
PVCC AMS AMS 00 17 10.0
comp=Z,100nm,10.4s
KHC Kasperske Hory 27.74 310 *e*P **P** 00 02 38.3 +0.6
KHC AMS AMS 00 16 30.0
comp=Z,100nm,14.6s
WTTA Wattenberg 28.50 306 ⇓*i*P **P** 00 02 45.6 +1.0
comp=Z,11nm,1.4s,mb4.4
WTTA Wattenberg 28.50 306 ⇓*i*P **P** 00 02 45.6 +1.0
WTTA pmax pmax
comp=Z,11nm,1.4s,mb4.4
SQTA Sankt Quirin 28.78 306 ⇑*i*P **P** 00 02 47.1 +0.1
comp=Z,5.3nm,1.2s,mb4.2
SQTA Sankt Quirin 28.78 306 ⇑*i*P **P** 00 02 47.1 +0.1
SQTA pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
CLL Collm 28.82 314 *e*P **P** 00 02 49.0 +1.7
CLL Collm 28.82 314 *e*P **P** 00 02 49.0 +1.7
FINES FINESS Array B 29.30 340 P **P** 00 02 51.9 +0.4
comp=Z,0.9nm,0.6s,mb3.6,baz=129,slow=8.9,SNR=7.1
FINES LR LR 00 15 40.0
comp=Z,51nm,20.7s,MS3.1,baz=148,slow=39
FINES FINESS Array B 29.30 340 P **P** 00 02 51.9 +0.4
MKAR Makanchi Array 29.33 56 P **P** 00 02 54.2 +2.3
comp=Z,0.5nm,0.7s,mb3.4,baz=256,slow=5.0,SNR=5.8
MKAR Makanchi Array 29.33 56 P **P** 00 02 54.3 +2.3
MKAR Makanchi Array 29.33 56 P **P** 00 02 54.3 +2.3
DAVOX Davos 29.59 304 P **P** 00 02 55.4 +1.2
comp=Z,4.0nm,1.0s,mb4.1,baz=133,slow=7.4,SNR=3.7
DAVOX LR LR 00 16 40.0
comp=Z,33nm,21.9s,MS2.9,baz=280,slow=40
DAVOX Davos 29.59 304 P **P** 00 02 55.4 +1.2
PGF Pioggiola 29.77 296 *e*P **P** 00 02 54.7 -1.3
PGF Pioggiola 29.77 296 *e*P **P** 00 02 54.7 -1.3
SBF Sospel 30.97 298 *e*P **P** 00 03 05.5 -1.1
comp=Z,34nm,0.9s,mb4.9
SBF Sospel 30.97 298 *e*P **P** 00 03 05.5 -1.1
SBF pmax pmax
comp=Z,17nm,0.9s,mb4.9
MBDF Montbardon 31.50 300 *e*P **P** 00 03 10.2 -1.0
comp=Z,7.3nm,0.8s,mb4.2
MBDF Montbardon 31.50 300 *e*P **P** 00 03 10.2 -1.0
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
FRF La Foret Royal 31.53 298 *e*P **P** 00 03 10.3 -1.2
comp=Z,47nm,1.6s,mb4.8
FRF La Foret Royal 31.53 298 *e*P **P** 00 03 10.3 -1.2
FRF pmax pmax
comp=Z,24nm,1.6s,mb4.8
LPG La Plagne 31.57 301 *e*P **P** 00 03 10.7 -1.2
comp=Z,15nm,1.2s,mb4.4
LPG La Plagne 31.57 301 *e*P **P** 00 03 10.7 -1.2
LPG pmax pmax
comp=Z,8.0nm,1.2s,mb4.4
LPL La Plagne 31.59 301 *e*P **P** 00 03 10.9 -1.1
comp=Z,17nm,1.3s,mb4.4
LPL La Plagne 31.59 301 *e*P **P** 00 03 10.9 -1.1
LPL pmax pmax
comp=Z,9.0nm,1.3s,mb4.4
CABF La Chapelle 32.15 303 *e*P **P** 00 03 15.7 -1.1
comp=Z,15nm,0.8s,mb4.6
CABF La Chapelle 32.15 303 *e*P **P** 00 03 15.7 -1.1
CABF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ORIF Oris-en-Rattie 32.15 300 *e*P **P** 00 03 15.0 -1.9
comp=Z,3.2nm,0.6s,mb4.0
ORIF *e*R
comp=Z,41nm,19.0s
SMRF Simiane la Rot 32.32 298 *e*P **P** 00 03 17.0 -1.4
comp=Z,28nm,1.5s,mb4.6
VIVF Saint-Julien-l 33.00 300 *e*P **P** 00 03 22.9 -1.4
VIVF Saint-Julien-l 33.00 300 *e*P **P** 00 03 22.9 -1.4
LASF Ste Croix 33.56 298 *e*P **P** 00 03 28.4 -0.8
comp=Z,18nm,1.3s,mb4.6
SMF Signal de Mont 33.69 303 *e*P **P** 00 03 29.0 -1.2
comp=Z,21nm,1.1s,mb4.7
SMF Signal de Mont 33.69 303 *e*P **P** 00 03 29.0 -1.2
SMF pmax pmax
comp=Z,11nm,1.1s,mb4.7
LOR Lormes 33.73 304 *e*P **P** 00 03 29.0 -1.6
comp=Z,11nm,1.0s,mb4.4
LOR *e*R
comp=Z,43nm,20.5s
LOR Lormes 33.73 304 *e*P **P** 00 03 29.0 -1.6
LOR pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
LOR MLR MLR
comp=Z,40nm,20.5s,MS3.1
SSF Saint Saulge 33.95 304 *e*P **P** 00 03 31.3 -1.2
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SSF Saint Saulge 33.95 304 *e*P **P** 00 03 31.3 -1.2
comp=Z,2.7nm,0.8s,mb4.2
AVF Avril sur Loir 34.04 303 *e*P **P** 00 03 31.7 -1.5
AVF Avril sur Loir 34.04 303 *e*P **P** 00 03 31.7 -1.5
NOA NORSAR Array B 34.20 330 LR LR 00 18 30.9
comp=Z,40nm,20.2s,MS3.1,baz=270,slow=38
TCF Toulx Ste Croi 34.79 302 *e*P **P** 00 03 38.9 -0.8
comp=Z,21nm,1.2s,mb4.6
TCF Toulx Ste Croi 34.79 302 *e*P **P** 00 03 38.9 -0.8
TCF pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CAF Calviac 34.85 300 *e*P **P** 00 03 39.0 -1.2
comp=Z,7.6nm,0.9s,mb4.3
CAF Calviac 34.85 300 *e*P **P** 00 03 39.0 -1.2
CAF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
RJF Les Rejaudoux 35.25 301 *e*P **P** 00 03 42.6 -1.0
RJF *e*R
comp=Z,43nm,18.0s
RJF Les Rejaudoux 35.25 301 *e*P **P** 00 03 42.6 -1.0
LFF La Frestale 35.80 300 *e*P **P** 00 03 45.9 -2.4
LFF La Frestale 35.80 300 *e*P **P** 00 03 45.9 -2.4
SJPF Ste Jean 37.28 297 *e*P **P** 00 03 59.6 -1.2
SJPF Ste Jean 37.28 297 *e*P **P** 00 03 59.6 -1.2
ROSF Rostrenen 38.59 306 *e*P **P** 00 04 09.7 -1.9
comp=Z,101nm,1.5s,mb5.0
ROSF Rostrenen 38.59 306 *e*P **P** 00 04 09.7 -1.9
ROSF pmax pmax
comp=Z,50nm,1.5s,mb5.0
ESDC Sonseca Array 39.74 292 P **P** 00 04 22.2 +0.9
comp=Z,0.8nm,0.6s,mb3.6,baz=69,slow=8.3,SNR=5.0
ESDC Sonseca Array 39.74 292 P **P** 00 04 22.2 +0.9
EVO Evora 43.05 291 *e*P **P** 00 04 48.4 -0.2
comp=Z,40nm,1.5s,mb4.6
EVO *e*R
comp=Z,45nm,18.2s
ULN Ulaanbaatar 46.13 55 P **P** 00 05 13.6 +0.5
ULN pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
ULN Ulaanbaatar 46.13 55 P **P** 00 05 13.6 +0.5
comp=Z,2.2nm,0.9s,mb4.1
ULN Ulaanbaatar 46.13 55 P **P** 00 05 13.6 +0.5
comp=Z,2.0nm,0.9s,mb4.0
CMAR Chiang Mai Arr 49.30 95 P **P** 00 05 39.8 +1.6
comp=Z,0.8nm,0.3s,mb4.2,baz=297,slow=7.6,SNR=5.4
CMAR LR LR 00 31 21.1
comp=Z,39nm,18.2s,MS3.4,baz=118,slow=42
CMAR Chiang Mai Arr 49.30 95 P **P** 00 05 39.8 +1.6
ILAR Eielson Array 79.88 6 P **P** 00 08 59.2 +2.7
comp=Z,0.4nm,1.0s,mb3.3,baz=344,slow=5.2,SNR=4.6
ILAR Eielson Array 79.88 6 P **P** 00 08 59.2 +2.7
YKA Yellowknife Ar 81.49 351 P **P** 00 09 05.6 +0.6
comp=Z,0.1nm,0.4s,mb3.1,baz=9.2,slow=6.2,SNR=7.9
YKA Yellowknife Ar 81.49 351 P **P** 00 09 05.6 +0.6
YKA Yellowknife Ar 81.49 351 P **P** 00 09 05.6 +0.6

*CSEM **27** 00:03:03.5±0.1,34.98N×25.64E,h80km,MD3.4, Error ellipse: s-maj=4.8km s-min=2.2km az=77.0*
*ATH **27** 00:03:06.0,35.12N×25.51E,h48km±7km, MD3.5/6*
*HLW **27** 00:03:08.3,34.83N×25.96E,h23km,Mb3.2*
ISC 27 00:03:03.6±0.7,34.99N±0.05×25.7E±0.1,h74km±8km,n16,σ1§00/18,3D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.12**	**181**	*e*P	**P**	**00 03 16.0**	**+1.6**
XRY				*e*S	**S**	00 03 21.5	-0.8
NPS	**Neapolis**	**0.28**	**346**	*e*P	**P**	00 03 14.5	-0.7
VAM	**Vamos**	**1.29**	**289**	*e*P	**P**	00 03 26.5	+0.1
KARP	**Karpathos**	**1.32**	**65**	*e*P	**P**	00 03 30.5	+3.6
APE	**Apeiranthos**	**2.08**	**356**	*e*P	**P**	00 03 37.5	+0.4
VLI	**Veliai**	**2.83**	**308**	*e*P	**P**	00 03 47.0	-0.6
VLI	**Veliai**	**2.83**	**308**	*e*P	**P**	00 03 45.0	-2.6
SMG	**Samos**	**2.87**	**18**	*e*P	**P**	00 03 48.5	+0.3
SLUM		**3.51**	**187**	⇓P	**P**	00 03 59.3	+2.1
SLUM				S	**S**	00 04 37.2	-0.5
DABA	**Dabaa**	**4.52**	**151**	⇓P	**P**	00 04 12.0	+0.8
AWBH		**7.19**	**157**	P	**P**	00 04 48.0	-0.1
AWBH		**7.19**	**157**	P	**P**	00 04 48.0	-0.2
HSAF	**As Saff**	**7.30**	**136**	⇓P	**P**	00 04 49.0	-0.6
AMAG	**Maghara**	**7.66**	**122**	P	**P**	00 04 53.8	-0.9
SUZ		**7.92**	**128**	P	**P**	00 04 57.4	-0.8
HFRF	**Wahat Farafira**	**8.13**	**163**	P	**P**	00 05 01.3	+0.2

IDC 27 00:03:36.9±7.0,7.45S×129.63E,h182km±70km,mb3.3/1, mb1 3.3/4,mb1mx3.2/15,mbtmp3.8/4,Error ellipse: s-maj=87.6km s-min=31.7km az=64.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.28**	**200**	P	P	00 06 13.5	-0.4
1.2nm,0.3s,baz=18,slow=11,SNR=19							
FITZ				S	S	00 08 15.2	-1.9
0.9nm,0.3s,baz=166,slow=8.0,SNR=3.9							
WRA	**Warramunga Arr**	**13.23**	**160**	P	P	00 06 36.2	-2.6
0.3nm,0.3s,baz=330,slow=14,SNR=21							
WRA				S	S	00 08 59.7	-2.4
0.7nm,0.3s,baz=351,slow=23,SNR=9.2							
ASAR	**Alice Springs**	**16.64**	**166**	P	P	00 07 21.1	-0.1
0.1nm,0.3s,baz=345,slow=9.4,SNR=8.4							
ASAR				S	S	00 10 23.3	+4.1
0.2nm,0.3s,baz=350,slow=26,SNR=4.3							
MKAR	**Makanchi Array**	**68.40**	**327**	P	P	00 14 18.8	-2.0
0.4nm,0.4s,baz=128,slow=8.1,SNR=10							

*BJI **27** 00:24:09.3,29.62N×114.56W,h18km,mB5.1,mb4.7, Ms4.9,Msz4.7*
*ECX **27** 00:24:09.6±0.3,30.21N×114.16W,h10km,MD4.6,ML4.8*
*IDC **27** 00:24:13.4±0.9,30.49N×114.07W,mb4.2/13,mb1 4.3/18, mb1mx4.2/26,mbtmp4.1/18,ML3.9/4,MS4.2/6,Ms1 4.2/6, ms1mx3.8/33,Error ellipse: s-maj=18.0km s-min=11.1km az=40.0*
*NEIC **27** 00:24:13.8±0.5,30.23N×114.12W,h10km,mb4.4/14, Error ellipse: s-maj=7.0km s-min=4.1km az=214.0*
ISC 27 00:24:11.6±0.5,30.25N±0.05×114.20W±0.04,h10km,n90, σ1§25/91,mb4.3/22,MS4.2/3,3C-1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.34**	**306**	*e*PN	**Pn**	**00 24 35.1**	**-1.4**
SPX				*e*S	**Sb**	00 24 52.7	-0.8
ECBX	**El Chinero**	**1.42**	**329**	*e*S	**Sb**	00 24 54.3	-1.4
EMX	**El Mayor**	**1.95**	**333**	*e*PN	**Pn**	00 24 43.1	-2.0
RDX	**Rancho Dowling**	**2.25**	**319**	*e*PN	**Pn**	00 24 47.5	-1.9
RDX				*e*S	**Sn**	00 25 17.6	+0.3
CPBX	**Cerro Prieto**	**2.35**	**337**	*e*PN	**Pn**	**00 24 49.1**	**-1.8**
CPBX				⇓*e*		00 25 55.6	
comp=E,13μm,0.7s							
CPBX				⇑*e*		00 26 10.4	
comp=N,16μm,0.7s							
ECNX	**Esteban Cantu**	**2.49**	**305**	*e*PN	**Pn**	**00 24 51.0**	**-1.9**
ENX	**Ensenada**	**2.67**	**308**	*e*PN	**Pn**	00 24 53.5	-1.9
BAR	**Barrett**	**3.21**	**320**	*e*Pn	**Pn**	00 25 00.3	-2.8
BAR				*e*S	**Sn**	00 25 45.1	+3.3
TUC	**Tucson**	**3.57**	**54**	*e*Pn	**Pn**	00 25 05.9	-2.3
TUC				*e*S	Sn	00 26 14.1	+23
PFO	**Pinyon Flat Ob**	**3.86**	**331**	*e*Pn	**Pn**	00 25 06.4	-5.9
LDFC	**Landfair**	**4.87**	**351**	*e*Pn	**Pn**	00 25 24.4	-2.3
MWC	**Mount Wilson**	**5.13**	**321**	Pn	**Pn**	00 25 32.4	+2.0
MWC				*e*S	**Sn**	00 26 45.1	+15
NEN	**Nelson**	**5.41**	**354**	*e*Pn	**Pn**	00 25 32.0	-2.2
MNTX	**Cornudas Mount**	**7.71**	**77**	*e*P	**Pn**	00 26 05.0	-1.6
MTUM	**Tungsten Hills**	**7.96**	**334**	P	**Pn**	00 26 14.1	+4.0
ANMO	**Albuquerque**	**8.03**	**52**	Pn	**P**	00 26 07.8	-3.3
baz=233,slow=12,SNR=16							
ANMO				Lg		00 28 18.1	
baz=173,slow=14,SNR=3.4							
ANMO				LR	LR	00 28 54.0	
comp=N,1μm,21.1s,baz=330,slow=36							
ANMO	**Albuquerque**	**8.03**	**52**	*e*P	**P**	**00 26 08.4**	**-2.7**
OMM	**Old Mammoth Mi**	**8.35**	**333**	P	**P**	00 26 16.2	+0.5
MVU	**Marysvale**	**8.39**	**11**	*e*P	**P**	00 26 16.6	+0.4
MNV	**Mina**	**8.79**	**339**	*e*P	**P**	00 26 22.0	+0.3
NVAR	**Mina Array Bea**	**8.83**	**339**	Pn	**P**	00 26 19.2	-3.1
comp=N,0.5nm,0.3s,baz=306,slow=40,SNR=12							
NVAR				Lg		00 28 49.0	
baz=212,slow=39,SNR=2.2							
NVAR				LR	LR	00 30 03.9	
comp=N,1μm,20.1s,baz=225,slow=40							
PV01	**Paradox Valley**	**9.14**	**29**	*e*P	**P**	**00 26 24.9**	**-1.6**
PV10	**Paradox Valley**	**9.16**	**26**	*e*P	**P**	00 26 25.4	-1.3
LTX	**Lajitas**	**9.20**	**93**	P	**P**	00 26 26.4	-0.9
TXAR	**Lajitas Array**	**9.20**	**93**	Pn	**P**	00 26 26.9	-0.4
comp=N,0.4nm,0.3s,baz=264,slow=15,SNR=19							
TXAR				Pg	P	00 26 47.7	+20
comp=N,1.7nm,0.3s,baz=270,slow=14,SNR=12							
TXAR				Lg		00 29 08.8	
comp=N,0.8nm,0.3s,baz=294,slow=22,SNR=3.8							
CMB	**Columbia Colle**	**9.30**	**328**	P	**P**	**00 26 29.3**	**+0.6**
RW3	**Ridgway**	**9.62**	**32**	*e*P	**P**	00 26 32.8	-0.4
SDCO	**Great Sand Dun**	**10.39**	**42**	*e*P	**P**	00 26 42.2	-1.5
ELK	**Elko**	**10.50**	**356**	*e*P	**P**	00 26 43.4	-1.8
AMTX	**Amarillo**	**11.52**	**63**	*e*P	**P**	00 26 59.2	0.0
HWUT	**Hardware Ranch**	**11.53**	**10**	*e*P	**P**	00 26 59.5	+0.2
JCT	**Junction City**	**12.44**	**85**	P	**P**	00 27 10.9	-0.7
MOD	**Modoc**	**12.62**	**339**	P	**P**	00 27 14.6	+0.6
WVOR	**Wild Horse Val**	**12.67**	**345**	*e*P	**P**	00 27 16.0	+1.4
PDAR	**Pinedale Array**	**13.03**	**15**	Pn	**P**	**00 27 20.1**	**+0.6**
comp=N,0.1nm,0.3s,baz=220,slow=12,SNR=13							
PDAR				Sn	**S**	**00 29 40.9**	**-4.6**
baz=174,slow=15,SNR=4.2							
PDAR				Lg		00 30 57.9	
comp=N,0.0nm,0.3s,baz=295,slow=39,SNR=2.3							
RRI2	**Red Ridge**	**13.27**	**9**	P	**P**	**00 27 23.1**	**+0.5**
HLID	**Hailey**	**13.29**	**359**	*e*P	**P**	00 27 23.5	+0.7
REDW	**Red Top Meadow**	**13.35**	**11**	*e*P	**P**	00 27 24.4	+0.7
YBH	**Yreka Blue Hor**	**13.36**	**331**	Pn	**P**	00 27 25.5	+1.8
comp=N,0.1nm,0.3s,baz=183,slow=6.8,SNR=4.0							
YBH				LR	LR	00 32 23.0	
comp=N,1μm,18.1s,baz=151,slow=37							
TPAW	**Teton Pass**	**13.46**	**10**	*e*P	**P**	**00 27 25.5**	**+0.3**
MOOW	**Moose Ponds**	**13.75**	**11**	*e*P	**P**	00 27 29.4	+0.5
IMW	**Indian Meadow**	**13.86**	**10**	*e*P	**P**	00 27 31.8	+1.4
LKWY	**Lake**	**14.60**	**11**	*e*P	**P**	00 27 41.2	+1.2
comp=N,11nm,1.1s							
BMO	**Blue Mountains**	**14.78**	**351**	*e*P	**P**	**00 27 44.0**	**+1.7**
comp=N,6.7nm,1.0s							
BOZ	**Bozeman (W)**	**15.50**	**7**	*e*P	**P**	**00 27 53.5**	**+1.7**
comp=N,75nm,2.2s							
RSSD	**Black Hills**	**16.02**	**27**	*e*P	**P**	**00 27 58.7**	**+0.2**
comp=N,18nm,1.0s							
MSO	**Missoula**	**16.55**	**1**	*e*P	**P**	**00 28 06.0**	**+0.7**
comp=N,13nm,1.3s							
CHMT	**Chamberlain Mo**	**16.65**	**2**	*e*P	**P**	**00 28 07.5**	**+0.9**
NATX	**Nacogdoches**	**16.82**	**80**	P	**P**	**00 28 08.2**	**-0.6**
KSU1	**Kansas State U**	**16.93**	**54**	*e*P	**P**	**00 28 10.6**	**+0.5**
LAO	**LASA Array**	**17.54**	**18**	*e*P	**P**	**00 28 18.5**	**+0.8**
comp=N,178nm,1.7s							
NEW	**Newport**	**18.12**	**354**	*e*P	**P**	**00 28 25.3**	**+0.3**
comp=N,3.4nm,0.6s							
WALA	**Waterton Lakes**	**18.78**	**1**	*e*P	**P**	**00 28 34.0**	**+0.9**
comp=N,54nm,1.8s							
WVT	**Waverly**	**22.80**	**68**	*e*P	**P**	**00 29 15.8**	**+0.2**
comp=N,10nm,1.0s,mb4.2							
EDM	**Edmonton**	**22.96**	**1**	*e*P	**P**	**00 29 17.8**	**+0.8**
BBB	**Bella Bella**	**24.20**	**339**	LR	LR	00 38 29.2	
comp=N,1μm,21.7s,MS4.3,baz=163,slow=36							
ULM	**Lac du Bonnet**	**24.26**	**29**	P	**P**	**00 29 29.8**	**+0.2**
comp=N,5.9nm,1.0s,mb4.0,baz=221,slow=13,SNR=5.0							
DLBC	**Dease Lake**	**30.21**	**343**	P	**P**	**00 30 25.1**	**+0.9**
comp=N,7.9nm,0.9s,mb4.4,baz=174,slow=6.1,SNR=14							
DLBC	**Dease Lake**	**30.21**	**343**	*e*P	**P**	**00 30 24.7**	**+0.5**
YKA	**Yellowknife Ar**	**32.25**	**360**	P	**P**	**00 30 41.0**	**-1.1**
comp=N,0.4nm,0.8s,mb3.3,baz=177,slow=9.5,SNR=12							
YKA				PcP	PcP	00 33 32.1	+1.5
comp=N,0.3nm,0.7s,baz=169,slow=2.7,SNR=5.6							
JTS	**JuntasAbangare**	**33.70**	**120**	LR	LR	00 44 59.0	
comp=N,675nm,21.3s,MS4.3,baz=157,slow=37							
DAWY	**Dawson**	**37.39**	**342**	*e*P	**P**	**00 31 27.1**	**+1.1**
SML	**Sawmill**	**38.62**

comp=N,1.6nm,0.4s,mb4.3,baz=345,slow=2.1,SNR=4.4
SDV Santo Domingo 45.86 108 *e*P **P 00 32 37.2 +1.2**
SUMG Summit 57.17 20 *e*P **P 00 34 00.6 +0.1**
comp=N,14nm,0.8s,mb5.0
BILL Bilibino 58.42 334 *e*P **P 00 34 09.8 +0.5**
comp=N,2.1nm,0.6s,mb4.3
DAG Danmarks Havn 62.06 15⇑ *e*P **P 00 34 33.0 -1.2**
comp=N,3.7nm,0.8s,mb4.6
DAG Danmarks Havn 62.06 15⇑ *i*P **P 00 34 33.0 -1.2**
comp=N,3.7nm,0.8s,mb4.6
SAML Samuel 62.59 120 *e*P **P 00 34 37.9 -0.6**
JMIC Jan Mayen 66.61 20 LR LR 01 02 11.8
comp=N,95nm,21.5s,MS4.0,baz=39,slow=34
ARCES ARCESS Array B 76.28 14 P **P 00 36 01.0 -0.6**
comp=N,4.3nm,0.7s,mb4.5,baz=337,slow=5.5,SNR=7.9
ARCES ARCESS Array B 76.28 14 P **P 00 36 01.0 -0.6**
NB2 NORSAR Subarra 78.82 24 P **P 00 36 16.5 +0.7**
comp=N,4.8nm,1.2s,mb4.3,baz=311,slow=5.3
NOA NORSAR Array B 78.82 24 P **P 00 36 16.4 +0.6**
comp=N,0.9nm,0.7s,mb3.8,baz=312,slow=5.4,SNR=6.3
KAF Kangasniemi 82.62 18 *e*p **P 00 36 35.5 -0.4**
comp=N,4.7nm,0.8s,mb4.6
FINES FINESS Array B 83.12 18 P **P 00 36 40.0 +1.5**
comp=N,2.6nm,0.8s,mb4.3,slow=5.7,SNR=10
ESDC Sonseca Array 84.97 47 P **P 00 36 50.6 +2.3**
comp=N,0.8nm,0.7s,mb4.0,baz=301,slow=5.9,SNR=5.7
MJAR Matsushiro Arr 85.03 310 P **P 00 36 49.8 +1.1**
comp=N,3.6nm,1.0s,mb4.5,baz=37,slow=4.2,SNR=6.8
MDJ Mudanjiang 85.53 320 P **P 00 36 51.5 +0.6**
MDJ AMB AMB
comp=Z,7.0nm,2.5s,mb4.5
MDJ AMB AMB
comp=Z,48nm,4.8s
AKASG Malin Array Be 93.15 22 P **P 00 37 27.2 +0.4**
comp=Z,0.2nm,0.4s,mb3.9,baz=315,slow=4.0,SNR=4.2
BJI Beijing 95.88 324 P **P 00 37 40.0 +0.3**
BJI AMB AMB
comp=Z,6.0nm,0.7s,mb5.1
SSE Sheshan 99.44 314 P **P 00 37 53.3 -2.6**
SSE AMB AMB
comp=Z,58nm,5.0s
CMAR Chiang Mai Arr 122.00 322 PKP PKPdf 00 43 09.7 -0.3
comp=Z,0.8nm,0.3s,baz=1.0,slow=2.1,SNR=6.0

NEIC ***27*** *00:32:40.6, 31.96S×71.47W, h29km, ML2.7(GUC), After GUC.*

GUC 27 00:32:40.6±1.4, 31.96S×71.47W, h29km±3km, MD3.6, ML2.7, 2C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.08**	**344**	⇓*i*P	Pn	00 32 45.8	+0.1
CHNG				*i* S	Sn	00 32 49.7	+1.0
CHNG				AMP		00 32 50.6	
comp=N,918nm,0.5s							
ILCH	**Illapel**	**0.41**	**39⇑**	*i*P	Pb	00 32 49.8	+0.2
ILCH				*i* S	Sb	00 32 56.5	+0.7
ILCH				AMP		00 32 57.3	
comp=N,576nm,0.2s							
PACH	**Papudo**	**0.57**	**177**	⇓*i*P	Pb	00 32 51.8	-0.4
PACH				*i* S	Sb	00 33 00.4	+0.3
JACH	**Jahuel**	**1.04**	**134**	⇓*i*P	Pn	00 33 00.0	+0.7
JACH				*i* S	Sn	00 33 13.9	+1.0
PEL	**Peldehue**	**1.35**	**151**	*i* S	Sn	00 33 21.9	+0.9
PEL				AMP		00 33 23.3	
comp=N,435nm,0.3s							
LCCH	**Las Cruces**	**1.51**	**183**	⇓*i*P	Pn	00 33 06.2	0.0
RCDM	**Rinconada Maip**	**1.62**	**160**	*e*P	Pn	00 33 08.2	+0.4
RCDM				*i* S	Sn	00 33 29.1	+1.2
RCDM				AMP		00 33 38.8	
comp=E,153nm,0.1s							
CLCH	**Cerro Calan**	**1.64**	**151**	⇓*i*P	Pn	00 33 08.9	+1.0
CLCH				*i* S	Sn	00 33 29.6	+1.5
CLCH				AMP		00 33 32.0	
comp=N,155nm,0.5s							
FCH	**Farellones**	**1.69**	**144**	⇓*i*P	Pn	00 33 09.3	+0.7
FCH				*i* S	Sn	00 33 31.3	+1.8
FCH				AMP		00 33 32.6	
comp=E,180nm,0.2s							
TACH	**Talagante**	**1.75**	**165**	*e*S	Sn	00 33 32.5	+1.5
TLL	**Tololo Astrono**	**1.88**	**18**	⇓*i*P	Pn	00 33 12.4	+1.1
TLL				*i* S	Sn	00 33 36.5	+2.2
TLL				AMP		00 33 41.7	
comp=E,115nm,0.5s							
LNV	**Longovilo**	**1.99**	**178**	*i* S	Sn	00 33 38.1	+1.0
CHCH	**Chadas Angostu**	**2.08**	**161**	*i* S	Sn	00 33 41.6	+2.1
LMEL	**Las Melosas**	**2.16**	**151⇑**	*i*P	Pn	00 33 16.8	+1.3
LMEL				*i* S	Sn	00 33 44.6	+3.0
LMEL				AMP		00 33 47.6	
comp=N,159nm,0.1s							

ECX ***27*** *00:32:55.3±0.2, 30.07N×114.41W, h12km, MD4.9, ML5.2*
BJI ***27*** *00:32:57.9, 29.84N×114.41W, h25km, mB5.0, mb4.5, Ms5.1, Msz4.8*
MOS ***27*** *00:32:58.3±0.9, 30.40N×114.07W, h10km, mb5.2/43, MS4.9/6, Error ellipse: s-maj=6.9km s-min=4.3km az=87.5*
IDC ***27*** *00:32:58.4±0.8, 30.45N×114.17W, mb4.5/20, mb1 4.5/25, mb1mx4.5/29, mbtmp4.4/25, ML3.9/4, MS4.5/17, Ms1 4.5/17, ms1mx4.4/27, Error ellipse: s-maj=17.7km s-min=9.6km az=41.0*
HRVD ***27*** *00:32:59.0±0.2, 30.45N×114.27W, h12km, MW5.1/63, Centroid moment Tensor Solution. LP body waves: s29,c40;Mantle waves: s63,c124; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=4.76±.12; Mθθ=0.09±.11; Mφφ=4.85±.11; Mrθ=0.57±.50; Mθφ=1.49±.10; Mφr=-0.01±.36; Best double couple: M0=5.05×10^16^ NP1:φs=8°, δ45°, λ-100°. NP2:φs=203°, δ46°, λ-80°. Principal axes: T 5.267, Plg1°, Azm286°; N -.431, Plg7°, Azm16°; P -4.832, Plg83°, Azm189°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *00:32:59.0±0.3, 30.25N×114.13W, h10km, mb5.0/57, MS5.0/5, MW5.0(SLM) Error ellipse: s-maj=5.4km s-min=3.3km az=46.0*

ISC 27 00:32:57.8±0.3, 30.33N±0.04×114.17W±0.03, h10km, n251, σ1§11/245, mb4.8/80, MS4.7/23, 5C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.32**	**303**	*e*PN	**Pn**	**00 33 19.9**	**-2.5**
SPX				*e*S	**Sb**	**00 33 36.6**	**-2.5**
EMX	**El Mayor**	**1.89**	**331**	*e*PN	**Pn**	**00 33 29.4**	**-1.1**
EMX				*e*S	**Sn**	**00 33 55.8**	**+1.3**
EMX				⇑*e*		00 34 03.9	
comp=N,14μm,1.2s							
EMX				⇓*e*		00 34 17.8	
comp=E,18μm,1.1s							
RDX	**Rancho Dowling**	**2.21**	**317**	*e*PN	**Pn**	**00 33 32.9**	**-2.2**
CPBX	**Cerro Prieto**	**2.29**	**335**	*e*PN	**Pn**	**00 33 35.4**	**-0.9**
CPBX				⇓*e*		00 34 33.0	
comp=N,15μm,1.0s							
CPBX				⇑*e*		00 34 49.4	
comp=E,22μm,1.2s							
ECNX	**Esteban Cantu**	**2.47**	**303**	*e*PN	**Pn**	**00 33 35.2**	**-3.5**
ECNX				*e*S	**Sn**	**00 34 06.3**	**-2.9**
PBX	**Punta Banda**	**2.60**	**303**	*e*PN	**Pn**	**00 33 37.0**	**-3.7**
ENX	**Ensenada**	**2.64**	**307**	*e*PN	**Pn**	**00 33 37.7**	**-3.5**
RMX	**La Rumorosa**	**2.79**	**325**	*e*PN	**Pn**	**00 33 43.4**	**+0.1**
BAR	**Barrett**	**3.17**	**318**	P	**Pn**	**00 33 45.4**	**-3.4**
TUC	**Tucson**	**3.51**	**55**	P	**Pn**	**00 33 50.5**	**-3.0**
PFO	**Pinyon Flat Ob**	**3.80**	**330**	*e*P	**Pn**	**00 33 53.0**	**-4.7**
LDFC	**Landfair**	**4.80**	**351**	*e*Pn	**Pn**	**00 34 09.2**	**-2.8**
MWC	**Mount Wilson**	**5.09**	**321**	P	**Pn**	**00 34 19.2**	**+3.2**
NEN	**Nelson**	**5.33**	**354**	*e*Pn	**Pn**	**00 34 17.6**	**-1.8**
DAC	**Darwin (Calif)**	**6.59**	**335**	P	**Pn**	**00 34 39.1**	**+2.0**
MNTX	**Cornudas Mount**	**7.67**	**78**	*e*Pn	**Pn**	**00 34 50.6**	**-1.7**
MTUM	**Tungsten Hills**	**7.90**	**334**	*e*P	**Pn**	**00 34 54.9**	**-0.6**
ANMO	**Albuquerque**	**7.97**	**53**	Pn	**Pn**	**00 34 54.4**	**-2.1**
baz=228,slow=12,SNR=12							
ANMO				Sn	**Sn**	**00 36 30.2**	**+2.6**
baz=221,slow=8.7,SNR=4.3							
ANMO				Lg		00 37 06.4	
baz=242,slow=14,SNR=3.0							
ANMO				LR	LR	00 37 38.4	
comp=E,2μm,21.7s,slow=36							
ANMO	**Albuquerque**	**7.97**	**53**	*e*P	**Pn**	**00 34 54.4**	**-2.0**
TPH	**Tonopah**	**8.13**	**343**	*e*P	**P**	**00 34 58.9**	**+0.2**
OMM	**Old Mammoth Mi**	**8.30**	**332**	*e*P	**P**	**00 35 00.8**	**-0.3**
MVU	**Marysvale**	**8.31**	**11**	*e*P	**P**	**00 35 00.7**	**-0.6**
LRV	**Little Rabbit**	**8.35**	**319**	Pn	**P**	**00 34 59.9**	**-1.8**
MNV	**Mina**	**8.72**	**339**	*e*P	**P**	**00 35 08.7**	**+1.7**
NVAR	**Mina Array Bea**	**8.77**	**338**	Pn	**P**	**00 35 07.2**	**-0.4**
comp=E,0.2nm,0.3s,baz=151,slow=13,SNR=12							
NVAR				Lg		00 37 37.2	
baz=204,slow=11,SNR=2.6							
NVAR				LR	LR	00 38 47.7	
comp=E,2μm,21.7s,baz=165,slow=40							
NVAR	**Mina Array Bea**	**8.77**	**338**	Pn	**P**	**00 35 07.2**	**-0.4**
NVAR				Lg		00 37 37.2	
NVAR				LR	LR	00 38 47.7	
SAO	**San Andreas Ge**	**8.83**	**319**	*e*P	**P**	**00 35 10.4**	**+1.9**
PV01	**Paradox Valley**	**9.06**	**29**	*e*P	**P**	**00 35 10.5**	**-1.2**
PV10	**Paradox Valley**	**9.08**	**26**	*e*P	**P**	**00 35 10.0**	**-1.8**
LTX	**Lajitas**	**9.18**	**94**	*e*P	**P**	**00 35 11.9**	**-1.4**
TXAR	**Lajitas Array**	**9.18**	**94**	Pn	**P**	**00 35 14.4**	**+1.2**
comp=E,1.7nm,0.3s,baz=259,slow=14,SNR=34							
TXAR				Lg		00 37 50.5	
comp=E,1.2nm,0.3s,baz=253,slow=26,SNR=4.1							
CMB	**Columbia Colle**	**9.25**	**328**	*e*P	**P**	**00 35 15.9**	**+1.7**
TMUT	**Trail Mountain**	**9.27**	**14**	*e*P	**P**	**00 35 13.7**	**-0.8**
RW3	**Ridgway**	**9.55**	**32**	P	**P**	**00 35 17.8**	**-0.6**
MPU	**Maple Canyon**	**9.88**	**11**	*e*P	**P**	**00 35 23.2**	**+0.2**
DUG	**Dugway**	**9.90**	**6**	*e*P	**P**	**00 35 22.1**	**-1.2**
WCN	**Washoe City**	**10.05**	**334**	*e*P	**P**	**00 35 25.4**	**0.0**
SDCO	**Great Sand Dun**	**10.31**	**42**	*e*P	**P**	**00 35 26.8**	**-2.1**
BMN	**Battle Mountai**	**10.38**	**347**	*e*P	**P**	**00 35 28.8**	**-1.0**
ELK	**Elko**	**10.43**	**356**	*e*P	**P**	**00 35 28.4**	**-2.1**
JLU	**Jordanelle**	**10.49**	**11**	*e*P	**P**	**00 35 30.6**	**-0.7**
HWUT	**Hardware Ranch**	**11.45**	**10**	*e*P	**P**	**00 35 44.5**	**+0.1**
AMTX	**Amarillo**	**11.47**	**63**	*e*P	**P**	**00 35 43.0**	**-1.7**
JCT	**Junction City**	**12.41**	**86**	*e*P	**P**	**00 35 55.5**	**-1.9**
WVOR	**Wild Horse Val**	**12.60**	**345**	*e*P	**P**	**00 36 01.0**	**+1.1**
RWWY	**Rawlins**	**12.65**	**24**	*e*P	**P**	**00 36 00.0**	**-0.6**
BW06	**Boulder Array**	**12.95**	**15**	*e*P	**P**	**00 36 04.6**	**+0.1**
PDAR	**Pinedale Array**	**12.95**	**15**	Pn	**P**	**00 36 04.7**	**+0.1**
comp=E,0.1nm,0.3s,baz=202,slow=8.0,SNR=12							
PDAR				Lg		00 39 44.9	
comp=E,0.0nm,0.3s,baz=190,slow=26,SNR=2.6							
PDAR				LR	LR	00 42 03.3	
comp=E,460nm,19.1s,baz=195,slow=42							
PDAR	**Pinedale Array**	**12.95**	**15**	Pn	**P**	**00 36 04.7**	**+0.1**
PDAR				Lg		00 39 44.9	
PDAR				LR	LR	00 42 03.3	
KHMM	**Horse Mountain**	**13.07**	**326**	*e*P	**P**	**00 36 06.4**	**+0.2**
HLID	**Hailey**	**13.21**	**359**	*e*P	**P**	**00 36 09.0**	**+1.0**
YBH	**Yreka Blue Hor**	**13.30**	**331**	Pn	**P**	**00 36 10.7**	**+1.5**
comp=E,0.1nm,0.3s,baz=179,slow=4.5,SNR=7.5							
YBH				Lg		00 40 05.1	
comp=E,0.2nm,0.3s,baz=47,slow=7.4,SNR=3.2							
YBH	**Yreka Blue Hor**	**13.30**	**331**	*e*P	**P**	**00 36 10.1**	**+0.8**
MOOW	**Moose Ponds**	**13.67**	**11**	*e*P	**P**	**00 36 14.1**	**0.0**
IMW	**Indian Meadow**	**13.78**	**10**	*e*P	**P**	**00 36 15.6**	**0.0**
MCMT	**McKenzie Canyo**	**14.51**	**4**	*e*P	**P**	**00 36 26.7**	**+1.6**
LKWY	**Lake**	**14.52**	**11**	*e*P	**P**	**00 36 26.9**	**+1.7**
LKWY				pmax	pmax		
comp=Z,23nm,1.1s							
LKWY	**Lake**	**14.52**	**11**	*e*P	**P**	**00 36 26.9**	**+1.7**
comp=Z,23nm,1.1s							
CBKS	**Cedar Bluff**	**14.58**	**51**	*e*P	**P**	**00 36 25.5**	**-0.6**
CBKS				pmax	pmax		
comp=Z,60nm,1.1s							
CBKS	**Cedar Bluff**	**14.58**	**51**	*e*P	**P**	**00 36 25.5**	**-0.6**
comp=Z,60nm,1.1s							
QLMT	**Earthquake Lak**	**14.64**	**8**	*e*P	**P**	**00 36 27.9**	**+1.2**
BMO	**Blue Mountains**	**14.71**	**351**	*e*P	**P**	**00 36 29.2**	**+1.6**
comp=Z,23nm,1.1s							
IRO	**Indian Ridge**	**15.08**	**337**	P	**P**	**00 36 34.8**	**+2.2**
FRIS	**Frissel Point**	**15.21**	**338**	P	**P**	**00 36 37.1**	**+2.7**
BOZ	**Bozeman (W)**	**15.42**	**7**	*e*P	**P**	**00 36 38.2**	**+1.2**
BOZ				pmax	pmax		
comp=Z,61nm,1.4s							
BOZ	**Bozeman (W)**	**15.42**	**7**	*e*P	**P**	**00 36 38.2**	**+1.2**
comp=Z,61nm,1.4s							
LCCM	**Lewis and Clar**	**15.59**	**6**	P	**P**	**00 36 41.9**	**+2.7**
LNOR	**Lincton Mounta**	**15.85**	**349**	P	**P**	**00 36 44.9**	**+2.4**
RSSD	**Black Hills**	**15.94**	**27**	*e*P	**P**	**00 36 43.2**	**-0.5**
RSSD				pmax	pmax		
comp=Z,103nm,1.2s							
RSSD	**Black Hills**	**15.94**	**27**	*e*P	**P**	**00 36 43.2**	**-0.5**
comp=Z,103nm,1.2s							
VLL	**Laurance Lake**	**16.21**	**341**	P	**P**	**00 36 49.2**	**+2.0**
REDWA	**Red Mountain**	**16.46**	**347**	P	**P**	**00 36 52.6**	**+2.2**
MSO	**Missoula**	**16.48**	**1**	*e*P	**P**	**00 36 51.1**	**+0.6**
comp=Z,37nm,1.4s							
CHMT	**Chamberlain Mo**	**16.57**	**2**	*e*P	**P**	**00 36 52.5**	**+0.7**
KSU1	**Kansas State U**	**16.86**	**54**	*e*P	**P**	**00 36 55.1**	**-0.3**
EBG	**Ellensburg**	**17.28**	**345**	P	**P**	**00 37 02.3**	**+1.6**
LAO	**LASA Array**	**17.46**	**18**	*e*P	**P**	**00 37 02.9**	**0.0**
comp=Z,127nm,1.1s							
MIAR	**Mount Ida**	**17.88**	**71**	*e*P	**P**	**00 37 08.8**	**+0.5**
ETW	**Entiat**	**17.89**	**346**	P	**P**	**00 37 09.4**	**+1.1**
NEW	**Newport**	**18.05**	**354**	*e*P	**P**	**00 37 10.2**	**-0.1**
NEW				pmax	pmax		
comp=Z,26nm,1.2s							
NEW	**Newport**	**18.05**	**354**	*e*P	**P**	**00 37 10.2**	**-0.1**
comp=Z,26nm,1.2s							
WALA	**Waterton Lakes**	**18.71**	**1**	*e*P	**P**	**00 37 18.7**	**+0.3**
comp=Z,210nm,2.1s							
PGC	**Sidney**	**19.62**	**341**	*e*P	**P**	**00 37 28.2**	**-0.9**
comp=Z,100nm,1.4s							
CCM	**Cathedral Cave**	**20.44**	**62**	*e*P	**P**	**00 37 37.2**	**-0.8**
CCM				pmax	pmax		
comp=Z,43nm,1.4s							
CCM	**Cathedral Cave**	**20.44**	**62**	*e*P	**P**	**00 37 37.2**	**-0.8**
comp=Z,43nm,1.4s							
FVM	**French Village**	**21.05**	**62**	*e*P	**P**	**00 37 43.3**	**-0.9**
FVM				pmax	pmax		
comp=Z,39nm,1.4s,mb4.5							
FVM	**French Village**	**21.05**	**62**	*e*P	**P**	**00 37 43.3**	**-0.9**
comp=Z,39nm,1.4s,mb4.5							
PLAL	**Pickwick Lake**	**22.43**	**71**	*e*P	**P**	**00 37 58.7**	**+0.5**
comp=Z,43nm,1.3s,mb4.7							
WVT	**Waverly**	**22.75**	**68**	*e*P	**P**	**00 38 01.9**	**+0.6**
WVT				pmax	pmax		
comp=Z,94nm,1.7s,mb4.9							
WVT	**Waverly**	**22.75**	**68**	*e*P	**P**	**00 38 01.9**	**+0.6**
comp=Z,94nm,1.7s,mb4.9							
EDM	**Edmonton**	**22.88**	**1**	*e*P	**P**	**00 38 01.2**	**-1.2**
BBB	**Bella Bella**	**24.14**	**339**	P	**P**	**00 38 15.8**	**+1.1**
comp=Z,14nm,1.1s,mb4.3,baz=225,slow=8.9,SNR=3.9							
BBB				LR	LR	00 47 12.9	
comp=Z,2μm,21.8s,MS4.5,baz=163,slow=36							
ULM	**Lac du Bonnet**	**24.18**	**29**	P	**P**	**00 38 14.3**	**-0.8**
comp=Z,44nm,1.1s,mb4.8,baz=220,slow=10,SNR=23							
ULM				LR	LR	00 49 06.3	
comp=Z,84nm,18.8s,baz=264,slow=40							
SWET	**Sewanee**	**24.20**	**71**	P	**P**	**00 38 16.9**	**+1.5**
BLO	**Bloomington**	**24.30**	**61**	*e*P	**P**	**00 38 16.8**	**+0.5**
BLO				pmax	pmax		
comp=Z,86nm,1.0s,mb5.1							
BLO	**Bloomington**	**24.30**	**61**	*e*P	**P**	**00 38 16.8**	**+0.4**
comp=Z,86nm,1.0s,mb5.1							
CPCT	**Cooper Cave**	**25.36**	**71**	*e*P	**P**	**00 38 27.1**	**+0.5**
ACSO	**Alum Creek Sta**	**27.19**	**60**	*e*P	**P**	**00 38 42.5**	**-0.9**
comp=Z,28nm,1.0s,mb4.8							
ELN	**Prospectdale**	**28.52**	**67**	*e*P	**P**	**00 38 54.6**	**-0.9**
DLBC	**Dease Lake**	**30.14**	**343**	P	**P**	**00 39 10.4**	**+0.6**
comp=Z,14nm,1.0s,mb4.6,baz=170,slow=7.0,SNR=17							
DLBC				LR	LR	00 52 02.2	
comp=Z,1μm,18.7s,MS4.7,baz=162,slow=38							
DLBC	**Dease Lake**	**30.14**	**343**	*e*P	**P**	**00 39 09.2**	**-0.6**
SADO	**Sadowa**	**31.02**	**52**	P	**P**	**00 39 17.2**	**-0.5**
comp=Z,4.8nm,0.7s,mb4.4,baz=266,slow=9.6,SNR=4.4							
YKA	**Yellowknife Ar**	**32.17**	**360**	P	**P**	**00 39 26.1**	**-1.5**
comp=Z,0.6nm,0.7s,baz=175,slow=9.4,SNR=20							
YKA				LR	LR	00 54 11.4	
comp=Z,1μm,20.9s,MS4.6,baz=200,slow=40							
DIV	**Divide**	**37.18**	**335**	*e*P	**P**	**00 40 11.2**	**+0.6**
comp=Z,65μm,1.2s							
DAWY	**Dawson**	**37.32**	**342**	*e*P	**P**	**00 40 11.6**	**-0.1**
SML	**Sawmill**	**38.56**	**335**	*e*P	**P**	**00 40 22.4**	**+0.3**
PMR	**Palmer**	**38.73**	**334**	*e*P	**P**	**00 40 24.3**	**+0.8**
PMR				pmax	pmax		
comp=Z,37nm,1.3s,mb5.0							
PMR	**Palmer**	**38.73**	**334**	*e*P	**P**	**00 40 24.3**	**+0.8**
comp=Z,37nm,1.3s,mb5.0							
SPU	**Mount Spurr**	**39.63**	**332**	*e*P	**P**	**00 40 31.2**	**+0.2**
INK	**Inuvik**	**39.67**	**349**	*e*P	**P**	**00 40 30.8**	**-0.5**
INK				pmax	pmax		
comp=Z,34nm,1.3s							
INK	**Inuvik**	**39.67**	**349**	P	**P**	**00 40 30.9**	**-0.4**
comp=Z,13nm,1.1s,mb4.6,baz=153,slow=9.9,SNR=3.9							
INK				LR	LR	00 57 20.5	
comp=Z,1μm,18.6s,MS4.8,baz=164,slow=37							
INK	**Inuvik**	**39.67**	**349**	*e*P	**P**	**00 40 30.8**	**-0.5**
comp=Z,34nm,1.3s,mb4.9							
MCK	**McKinley**	**40.00**	**337**	*e*P	**P**	**00 40 34.4**	**+0.3**
MCK				pmax	pmax		
comp=Z,12nm,1.2s,mb4.5							
MCK	**McKinley**	**40.00**	**337**	*e*P	**P**	**00 40 34.4**	**+0.3**
comp=Z,12nm,1.2s,mb4.5							
ILAR	**Eielson Array**	**40.03**	**339**	P	**P**	**00 40 34.4**	**+0.1**
comp=Z,8.4nm,0.9s,mb4.5,baz=150,slow=7.0,SNR=81							
ILAR				LR	LR	00 57 46.1	
comp=Z,238nm,20.0s,MS4.0,baz=151,slow=37							
COLA	**College**	**40.40**	**339**	*e*P	**P**	**00 40 37.9**	**+0.5**
SCHQ	**Schefferville**	**41.51**	**40**	P	**P**	**00 40 46.5**	**0.0**
comp=Z,11nm,1.1s,mb4.4,baz=260,slow=6.9,SNR=8.4							
SCHQ	**Schefferville**	**41.51**	**40**	P	**P**	**00 40 46.5**	**-0.1**
IMA	**Indian Mountai**	**43.04**	**338**	*e*P	**P**	**00 40 59.6**	**+0.7**
IMA				pmax	pmax		
comp=Z,18nm,1.0s,mb4.8							
IMA	**Indian Mountai**	**43.04**	**338**	*e*P	**P**	**00 40 59.6**	**+0.7**
comp=Z,18nm,1.0s,mb4.7							
SJG	**San Juan**	**45.15**	**94**	P	**P**	**00 41 17.0**	**+0.4**
comp=Z,14nm,1.0s,mb4.8,baz=277,slow=21,SNR=3.7							
OTAV	**Otavalo**	**45.25**	**125**	*e*P	**P**	**00 41 18.9**	**+1.5**
comp=Z,36nm,1.8s,mb4.9							
ROSC	**El Rosal**	**45.27**	**116**	P	**P**	**00 41 18.6**	**+1.0**
comp=Z,2.5nm,0.4s,mb4.4,baz=81,slow=19,SNR=6.8							
ROSC				LR	LR	01 01 22.2	
comp=Z,424nm,20.3s,MS4.4,baz=349,slow=38							
SDV	**Santo Domingo**	**45.86**	**108**	P	**P**	**00 41 23.4**	**+1.2**
comp=Z,7.5nm,0.9s,mb4.6,baz=326,slow=4.8,SNR=12							
SDV	**Santo Domingo**	**45.86**	**108**	*e*P	**P**	**00 41 22.6**	**+0.3**
comp=Z,35nm,1.5s,mb5.1							
TAOE	**Nuku Hiva Isla**	**46.27**	**217**	*e*LR	LR	00 54 08.9	
SFJD	**Kangerlussuaq**	**52.17**	**26**	*e*P	**P**	**00 42 10.0**	**-0.3**
SFJD				pmax	pmax		
comp=Z,16nm,0.8s,mb5.0							
SFJD	**Kangerlussuaq**	**52.17**	**26**	*e*P	**P**	**00 42 10.0**	**-0.3**
comp=Z,16nm,0.8s,mb5.0							
SFJD	**Kangerlussuaq**	**52.17**	**26**	*i* P	**P**	**00 42 10.0**	**-0.3**
comp=Z,16nm,0.8s,mb5.0							
SUMG	**Summit**	**57.09**	**20**	*e*P	**P**	**00 42 45.0**	**-1.2**
comp=Z,39nm,1.1s,mb5.3							
BILL	**Bilibino**	**58.37**	**334**	*e*P	**P**	**00 42 54.3**	**-0.9**
BILL				pmax	pmax		
comp=Z,14nm,1.2s,mb4.9							
BILL	**Bilibino**	**58.37**	**334**	*e*P	**P**	**00 42 54.3**	**-0.8**
comp=Z,14nm,1.2s,mb4.9							
PPT	**Papeete**	**58.56**	**220**	*e*P	**P**	**00 42 53.1**	**-4.1**
PPT				eLR	LR	00 59 51.4	
comp=Z,517nm,24.5s,baz=26							
PPT	**Papeete**	**58.56**	**220**	LR	LR	01 03 39.7	
comp=Z,432nm,18.8s,MS4.6,baz=124,slow=31							
DAG	**Danmarks Havn**	**61.98**	**15⇑**	*e*P	**P**	**00 43 17.5**	**-2.4**
DAG				pmax	pmax		
comp=Z,17nm,1.0s,mb5.1							
DAG	**Danmarks Havn**	**61.98**	**15⇑**	*e*P	**P**	**00 43 17.5**	**-2.4**
comp=Z,17nm,1.0s,mb5.1							
DAG	**Danmarks Havn**	**61.98**	**15⇑**	*i* P	**P**	**00 43 17.5**	**-2.4**
comp=Z,17nm,1.0s,mb5.1							
SAML	**Samuel**	**62.61**	**120**	*e*P	**P**	**00 43 22.2**	**-2.7**
comp=Z,33nm,2.1s,mb5.1							
TBI	**Tubuai**	**63.22**	**216**	*e*LR	LR	01 02 07.5	
baz=38							
LPAZ	**La Paz**	**64.13**	**130**	LR	LR	01 10 30.9	
comp=Z,373nm,19.8s,MS4.6,baz=330,slow=35							
SEY	**Seymchan**	**64.97**	**330**	*e*P	**P**	**00 43 39.4**	**-0.2**
SEY				*e**SP	sP	00 44 06.1	+22
SEY				pmax	pmax		
comp=Z,30nm,1.3s,mb5.2							
SEY				pmax	pmax		
comp=N,3.0nm,1.4s							
SEY				pmax	pmax		
comp=E,30nm,1.4s							
KBS	**Kingsbay**	**66.77**	**10**	*e*P	**P**	**00 43 50.2**	**-0.7**
KBS				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.8							
KBS	**Kingsbay**	**66.77**	**10**	*e*P	**P**	**00 43 50.2**	**-0.7**
comp=Z,7.7nm,0.8s,mb4.8							
ARCES	**ARCESS Array B**	**76.20**	**14**	P	**P**	**00 44 46.9**	**-0.5**
comp=Z,11nm,0.9s,mb4.8,baz=315,slow=5.1,SNR=12							
ARCES				LR	LR	01 22 54.7	
comp=Z,306nm,18.1s,MS4.7,baz=330,slow=39							
ARCES	**ARCESS Array B**	**76.20**

HGN	Heimansgroeve	83.53	34	eP		P	00 45 26.9	0.0
	comp=Z,30nm,2.1s,mb5.1							
HYF	Humbligny	84.13	38	eP		P	00 45 30.4	+0.3
TCF	Toulx Ste Croi	84.52	39	eP		P	00 45 32.0	-0.1
	comp=Z,77nm,1.6s,mb5.3							
TCF	Toulx Ste Croi	84.52	39	eP		P	00 45 32.0	-0.1
TCF					pmax	pmax		
	comp=Z,39nm,1.6s,mb5.3							
SJPF	Ste Jean	84.53	43	eP		P	00 45 32.7	+0.5
	comp=Z,40nm,1.5s,mb5.0							
SJPF	Ste Jean	84.53	43	eP		P	00 45 32.7	+0.5
SJPF					pmax	pmax		
	comp=Z,20nm,1.5s,mb5.0							
LFF	La Frestale	84.55	40	eP		P	00 45 32.5	+0.3
	comp=Z,120nm,1.6s,mb5.5							
LFF	La Frestale	84.55	40	eP		P	00 45 32.5	+0.3
LFF					pmax	pmax		
	comp=Z,60nm,1.6s,mb5.5							
MEZF	Maizieres J'vi	84.58	36	eP		P	00 45 32.5	+0.2
SSF	Saint Saulge	84.72	37	eP		P	00 45 33.0	0.0
SSF					pmax	pmax		
	comp=Z,39nm,1.5s,mb5.3							
SSF	Saint Saulge	84.72	37	eP		P	00 45 33.0	0.0
	comp=Z,39nm,1.5s,mb5.3							
RJF	Les Rejaudoux	84.75	40	eP		P	00 45 33.3	0.0
	comp=Z,82nm,1.4s,mb5.4							
RJF				eR				
	comp=Z,684nm,20.5s							
RJF	Les Rejaudoux	84.75	40	eP		P	00 45 33.3	0.0
RJF					pmax	pmax		
	comp=Z,41nm,1.4s,mb5.4							
RJF					MLR	MLR		
	comp=Z,680nm,20.5s,MS5.0							
LOR	Lormes	84.77	37	eP		P	00 45 33.5	+0.2
	comp=Z,111nm,1.6s,mb5.4							
LOR				eR				
	comp=Z,483nm,19.2s							
LOR	Lormes	84.77	37	eP		P	00 45 33.5	+0.2
LOR					pmax	pmax		
	comp=Z,55nm,1.6s,mb5.4							
LOR					MLR	MLR		
	comp=Z,480nm,19.3s,MS4.9							
AVF	Avril sur Loir	84.81	38	eP		P	00 45 33.3	-0.2
	comp=Z,80nm,1.6s,mb5.3							
AVF	Avril sur Loir	84.81	38	eP		P	00 45 33.3	-0.2
AVF					pmax	pmax		
	comp=Z,40nm,1.6s,mb5.3							
ESDC	Sonseca Array	84.89	47	P		P	00 45 35.0	+0.9
	comp=Z,1.9nm,0.9s,mb4.2,baz=298,slow=4.9,SNR=8.4							
MAT	Matsushiro	85.00	310	P		P	00 45 34.0	-0.7
MAT					pmax	pmax		
	comp=Z,13nm,1.2s,mb4.9							
MAT					MLR	MLR		
	comp=Z,710nm,20.0s,MS5.0							
MAT	Matsushiro	85.00	310	P		P	00 45 34.0	-0.7
	comp=Z,12nm,1.2s,mb4.9							
MAT					LR	LR		
	comp=Z,710nm,20.0s,MS5.0							
MAT	Matsushiro	85.00	310	P		P	00 45 34.1	-0.6
MJAR	Matsushiro Arr	85.00	310	P		P	00 45 34.6	-0.2
	comp=Z,3.2nm,0.9s,mb4.4,baz=48,slow=4.8,SNR=8.1							
MJAR					LR	LR	01 16 40.6	
	comp=Z,502nm,20.1s,MS4.9,baz=80,slow=31							
MJAR	Matsushiro Arr	85.00	310	P		P	00 45 34.6	-0.2
MJAR					LR	LR	01 16 40.6	
ETSF	Etsaut	85.05	43	eP		P	00 45 35.6	+0.8
SMF	Signal de Mont	85.16	38	eP		P	00 45 35.0	-0.2
	comp=Z,18nm,1.0s,mb4.8							
SMF	Signal de Mont	85.16	38	eP		P	00 45 35.0	-0.2
SMF					pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8							
CAF	Calviac	85.29	40	eP		P	00 45 36.0	0.0
	comp=Z,15nm,1.1s,mb4.7							
CAF	Calviac	85.29	40	eP		P	00 45 36.0	0.0
CAF					pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7							
MDJ	Mudanjiang	85.49	320	P		P	00 45 36.0	-0.9
MDJ					AMB	AMB		
	comp=Z,7.0nm,2.1s,mb4.4							
MDJ					AMB	AMB		
	comp=Z,95nm,5.0s							
EPF	Esparros	85.49	42	eP		P	00 45 37.3	+0.3
	comp=Z,42nm,1.5s,mb5.0							
EPF	Esparros	85.49	42	eP		P	00 45 37.3	+0.3
EPF					pmax	pmax		
	comp=Z,21nm,1.5s,mb5.0							
HAU	Haudompre	85.56	35	eP		P	00 45 37.2	0.0
	comp=Z,24nm,1.1s,mb5.0							
HAU				eR				
	comp=Z,726nm,18.8s							
HAU	Haudompre	85.56	35	eP		P	00 45 37.2	0.0
HAU					pmax	pmax		
	comp=Z,12nm,1.1s,mb5.0							
HAU					MLR	MLR		
	comp=Z,730nm,18.8s,MS5.1							
CDF	Champ du Feu	85.75	35	eP		P	00 45 38.1	-0.1
	comp=Z,13nm,1.1s,mb4.8							
CDF	Champ du Feu	85.75	35	eP		P	00 45 38.1	-0.1
CDF					pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8							
HINF	Hinteralfeld	85.94	35	eP		P	00 45 38.6	-0.5
MOX	Moxa	86.24	31	eP		P	00 45 40.0	-0.5
MOX				L			01 25 16.0	
CABF	La Chapelle	86.35	37	eP		P	00 45 41.7	+0.5
	comp=Z,23nm,1.3s,mb5.0							
CABF	La Chapelle	86.35	37	eP		P	00 45 41.7	+0.5
CABF					pmax	pmax		
	comp=Z,12nm,1.3s,mb5.0							
MTLF	Montolieu	86.37	41	eP		P	00 45 40.9	-0.5
	comp=Z,17nm,1.2s,mb4.8							
MTLF	Montolieu	86.37	41	eP		P	00 45 40.9	-0.5
MTLF					pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.9							
CLL	Collm	86.38	30	P		P	00 45 42.0	+0.8
GRA1	Grafenberg Arr	86.74	32	eP		P	00 45 43.8	+0.8
GRF	Grafenberg Arr	86.74	32	eP		P	00 45 43.8	+0.8
GRF					pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.9							
GRF	Grafenberg Arr	86.74	32	eP		P	00 45 43.8	+0.8
	comp=Z,10.0nm,1.3s,mb4.9							
VIVF	Saint-Julien-l	86.76	39	eP		P	00 45 43.7	+0.5
	comp=Z,22nm,1.3s,mb4.9							
VIVF	Saint-Julien-l	86.76	39	eP		P	00 45 43.7	+0.5
VIVF					pmax	pmax		
	comp=Z,11nm,1.3s,mb4.9							
LASF	Ste Croix	86.82	40	eP		P	00 45 44.2	+0.6
	comp=Z,20nm,1.2s,mb4.9							
BRG	Berggiesshubel	87.10	30	eP		P	00 45 44.9	+0.2
BRG					pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.4							
BRG					MLR	MLR		
	comp=Z,360nm,16.9s,MS4.8							
BRG	Berggiesshubel	87.10	30	eP		P	00 45 44.9	+0.2
	comp=Z,3.3nm,1.2s,mb4.4							
BRG				e			00 52 55.5	
BRG					LR	LR		
	comp=Z,360nm,16.9s,MS4.8							
ORIF	Oris-en-Rattie	87.37	38	eP		P	00 45 49.1	+2.9
	comp=Z,27nm,1.4s,mb5.0							
ORIF				eR				
	comp=Z,614nm,21.8s							
LPL	La Plagne	87.42	37	eP		P	00 45 46.5	+0.1
	comp=Z,12nm,1.2s,mb4.7							
LPL	La Plagne	87.42	37	eP		P	00 45 46.5	+0.1
LPL					pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.7							
LPG	La Plagne	87.44	37	eP		P	00 45 46.7	+0.2
	comp=Z,22nm,1.3s,mb4.9							
LPG	La Plagne	87.44	37	eP		P	00 45 46.7	+0.2
LPG					pmax	pmax		
	comp=Z,11nm,1.3s,mb4.9							
SMRF	Simiane la Rot	87.83	39	eP		P	00 45 46.7	-1.7
	comp=Z,40nm,1.6s,mb5.1							
MBDF	Montbardon	87.97	38	eP		P	00 45 48.7	-0.3
	comp=Z,19nm,1.4s,mb4.8							
MBDF	Montbardon	87.97	38	eP		P	00 45 48.7	-0.3
MBDF					pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8							
CN2	Changchun	88.28	321	eP		P	00 45 51.0	+0.4
CN2				eS		S	00 56 32.5	-1.0
CN2					AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.0							
CN2					LR	LR		
	comp=N,400nm,19.0s,MS5.0							
CN2					LR	LR		
	comp=E,400nm,19.0s,MS5.0							
CN2					LR	LR		
	comp=Z,300nm,21.0s,MS4.7							
GERES	GERESS Array B	88.48	31	P		P	00 45 50.7	-0.7
	comp=Z,0.8nm,0.9s,mb4.0,baz=288,slow=4.2,SNR=5.9							
GERES					LR	LR	01 30 22.7	
	comp=Z,444nm,18.3s,MS4.9,baz=303,slow=39							
FRF	La Foret Royal	88.68	39	eP		P	00 45 51.5	-1.0
SBF	Sospel	88.90	38	eP		P	00 45 52.5	-1.1
	comp=Z,41nm,1.4s,mb5.3							
SBF	Sospel	88.90	38	eP		P	00 45 52.5	-1.1
SBF					pmax	pmax		
	comp=Z,21nm,1.4s,mb5.3							
MOS	Moscow	90.95	16	eP		P	00 46 03.3	+0.5
OBN	Obninsk	91.27	16	eP		P	00 46 04.2	-0.1
OBN					pmax	pmax		
	comp=Z,37nm,2.4s,mb5.3							
AKASG	Malin Array Be	93.07	22	P		P	00 46 12.1	-0.6
	comp=Z,0.6nm,0.6s,mb4.2,baz=316,slow=4.1,SNR=8.3							
AKASG				PP		PP	00 49 55.1	-3.5
	comp=Z,0.1nm,0.2s,baz=326,slow=6.9,SNR=4.7							
ULN	Ulaanbaatar	93.81	334	i P		P	00 46 14.0	-2.1
BJI	Beijing	95.83	324	P		P	00 46 29.5	+3.8
BJI				S		S	00 57 41.5	+1.3
BJI				LR		LR		
	comp=N,247nm,20.3s							
BJI				LR		LR		
	comp=E,211nm,12.6s							
SSE	Sheshan	99.40	314	eP		P	00 46 41.8	-0.2
SSE					AMB	AMB		
	comp=Z,68nm,4.0s							
NJ2	Nanjing	100.15	316	eP		P	00 46 42.5	-2.9
NJ2					LR	LR		
	comp=E,1μm,17.0s							
NJ2					LR	LR		
	comp=Z,724nm,16.8s,MS5.3							
KMI	Kunming	114.49	323	PKP		PKPdf	00 51 40.0	-1.4
KMI				LR		LR		
	comp=Z,197nm,32.8s,MS4.5							
CMAR	Chiang Mai Arr	121.96	322	PKP		PKPdf	00 51 54.8	-1.3
	comp=Z,0.9nm,0.4s,baz=259,slow=1.2,SNR=5.4							
BOSA	Boshof	144.76	98	PKP		PKPdf	00 52 35.5	-2.8
	comp=Z,3.1nm,0.9s,baz=270,slow=2.0,SNR=4.4							
BOSA	Boshof	144.76	98	PKP		PKPdf	00 52 35.5	-2.8

*IDC **27** 00:41:21.2±0.6, 56.10N×162.21E, mb4.2/21, mb1 4.4/22, mb1mx4.4/27, mbtmp4.2/22, ML4.2/1, Error ellipse: s-maj=16.0km s-min=11.0km az=9.0*
*BJI **27** 00:41:23.4, 55.97N×162.92E, h62km, mB4.7, mb4.8, Ms4.1, Ms2.4.0*
*KRSC **27** 00:41:25.5±1.4, 56.08N×162.75E, h52km±3km, ML5.1*
*MOS **27** 00:41:26.4±1.4, 55.99N×162.63E, h46km, mb4.6/23, Error ellipse: s-maj=12.6km s-min=5.9km az=78.9*
*NEIC **27** 00:41:27.8±1.6, 56.01N×162.44E, h43km±16km, mb4.4/22, MS4.6/1, Error ellipse: s-maj=12.9km s-min=8.1km az=153.0*

ISC 27 00:41:27.2±0.4, 55.96N±0.02×162.66E±0.04, h55km±4km, h68km±5.3km: pP-P, n133, σ1°31/165, mb4.4/48, MS4.2/6, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.27	20	i P	P	00 41 34.1	-2.5
ZLN	Zelenaya	1.04	274	i P	P	00 41 45.6	-0.3
CIRR	Tsirk	1.08	279	i P	P	00 41 45.9	-0.6
LGNR	Loginova	1.11	277	i P	P	00 41 46.6	-0.2
KLY	Klyuchi	1.18	288	i P	P	00 41 45.3	-2.4
KRSR	Krestovskiy	1.20	283	i P	P	00 41 47.1	-0.9
KRSR				eS	S	00 42 03.0	-0.6
KPT	Kopyto	1.37	271	i P	P	00 41 50.3	-0.3
KPT				eS	S	00 42 08.7	+0.8
KMNR	Kamenistaya	1.38	263	i P	P	00 41 50.8	+0.1
MKZ	Mys Kozlova	1.50	201	P	P	00 41 53.1	+0.7
MKZ				S	S	00 42 12.8	+1.8
MKZ	Mys Kozlova	1.50	201	i P	P	00 41 52.5	+0.1
MKZ				eS	S	00 42 12.7	+1.7
KOZR	Kozyr	1.56	275	PN	P	00 41 53.6	+0.5
KOZR				S	S	00 42 14.2	+1.9
KOZ	Kozyrevsk	1.57	275	P	P	00 41 53.6	+0.3
KOZ				S	S	00 42 14.2	+1.6
KOZ	Kozyrevsk	1.57	275	i P	P	00 41 53.7	+0.4
KOZ				eS	S	00 42 14.1	+1.5
TUMR	Tumrok	1.58	246	i P	P	00 41 54.0	+0.6
TUMR				eS	S	00 42 14.5	+1.7
SRDR	Sredinnyy	1.69	283	i P	P	00 41 55.0	+0.1
SRDR				eS	S	00 42 16.6	+1.2
BKI	Bering	2.03	111	i P	P	00 41 58.8	-0.9
BKI				i S	S	00 42 22.7	-1.1
ESO	Esso	2.23	271	i P	P	00 42 01.8	-0.7
ESO				eS	S	00 42 27.8	-1.1
SPN	Mys Shipunski	3.25	209	P	P	00 42 16.6	-0.5
SPN				S	S	00 42 53.1	-1.7
SPN	Mys Shipunski	3.25	209	eP	P	00 42 16.5	-0.6
SPN				eS	S	00 42 53.5	-1.3
OSSR	Ossora	3.31	4	i P	P	00 42 12.6	-5.2
OSSR				eS	S	00 42 49.6	-6.6
OSSR				Smax			
	760nm,0.8s						
NLC	Nalytchevo	3.40	216	P	P	00 42 19.3	+0.2
NLC				S	S	00 42 58.7	+0.3
NLC	Nalytchevo	3.40	216	i P	P	00 42 19.1	0.0
NLC				eS	S	00 42 58.4	0.0
AVH	Avacha	3.53	222	i P	P	00 42 22.0	+1.0
AVH				eS	S	00 43 02.8	+0.9
UGLR	Uglovaya	3.55	221	i P	P	00 42 21.9	+0.7
UGLR				eS	S	00 43 03.2	+1.0
GNL	Ganaly	3.55	232	i P	P	00 42 21.5	+0.3
GNL				eS	S	00 43 02.1	-0.2
KOK	Koryaka	3.55	223	eP	P	00 42 22.2	+1.0
KOK				eS	S	00 43 03.0	+0.7
PET	Petropavlovsk	3.76	220	P	P	00 42 24.8	+0.7
PET				S	S	00 43 07.8	+0.3
PET	Petropavlovsk	3.76	220	i PN	P	00 42 24.7	+0.6
PET				i S	S	00 43 07.5	0.0
PET	Petropavlovsk	3.76	220	eP	P	00 42 24.3	+0.1
RUS	Russkaya	4.29	216	P	P	00 42 31.4	-0.3
RUS				S	S	00 43 19.5	-1.4
RUS	Russkaya	4.29	216	i P	P	00 42 31.5	-0.2
RUS				eS	S	00 43 19.3	-1.6
GRL	Gorelyy	4.35	220	eP	P	00 42 33.7	+1.3
GRL				eS	S	00 43 22.8	+0.5
APC	Apacha	4.42	229	i P	P	00 42 34.2	+0.7
APC				eS	S	00 43 23.5	-0.7
APC				Smax			
	410nm,1.0s						
PAU	Pauzhetka	5.68	220	P	P	00 42 51.3	+0.3
PAU				eS	S	00 43 52.8	-3.0
PAU				Smax			
	340nm,1.3s						
PAU	Pauzhetka	5.68	220	eP	P	00 42 52.3	+1.3
PAU				eS	S	00 43 53.7	-2.1
SKR	Severo-Kuril's	6.58	219	ePN	P	00 43 02.5	-1.1
SKR				pmax	pmax		
	comp=N,130nm,0.9s						
SKR				pmax	pmax		
	comp=Z,190nm,0.9s						
SKR	Severo-Kuril's	6.58	219	eP	P	00 43 02.5	-1.1
SKR				eS	S	00 44 16.5	-1.5
FX1	Attu Island--F	6.86	112	Pn	P	00 43 06.1	-1.5
	comp=Z,16nm,0.3s,baz=17,slow=2.3,SNR=138						
FX1				Sn	S	00 44 19.3	-5.7
	comp=Z,55nm,0.3s,baz=153,slow=20,SNR=13						
BILL	Bilibino	12.24	6	i PN	P	00 44 22.5	+1.7
BILL				pmax	pmax		
	comp=Z,7.0nm,1.4s						
YSS	Yuzh-Sakhalins	15.29	242	eP	P	00 45 02.0	+1.3
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
TNA	Tin City	17.11	44	eP	P	00 45 24.0	+0.4
	comp=Z,21nm,1.4s						
ASAJ	Asahikawa	17.43	236	P	P	00 45 27.6	-0.2
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	Asahikawa	17.43	236	P	P	00 45 27.6	-0.2
	comp=Z,1.6nm,0.3s,baz=39,slow=3.0,SNR=20						
YAK	Yakutsk	17.89	303	eP	P	00 45 31.7	-1.7
YAK				pmax	pmax		
	comp=Z,36nm,0.8s						
YAK	Yakutsk	17.89	303	eP	P	00 45 31.7	-1.7
	comp=Z,36nm,0.8s						
CLNS	Chul'man	20.75	288	eP	P	00 46 08.5	+3.2
CLNS				pmax	pmax		
	comp=N,11nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,17nm,0.8s						
CLNS				pmax	pmax		
	comp=E,17nm,0.9s						
TIXI	Tiksi	21.20	331	i P	P	00 46 08.5	-1.2
TIXI				pmax	pmax		
	comp=Z,37nm,1.0s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,200nm,19.0s,MS3.5						
IMA	Indian Mountai	22.94	46	eP	P	00 46 28.5	+1.7
IMA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
IMA	Indian Mountai	22.94	46	eP	P	00 46 28.5	+1.7
	comp=Z,14nm,0.8s,mb4.5						
COLA	College	25.35	49	i P	P	00 46 50.4	+0.3
SML	Sawmill	25.46	56	eP	P	00 46 50.6	-0.5
MAJO	Matsushiro	25.52	231	eP	P	00 46 50.5	-1.4
MAJO				pmax	pmax		
	comp=Z,33nm,0.8s,mb4.9						
MAJO	Matsushiro	25.52	231	eP	P	00 46 50.5	-1.4
	comp=Z,33nm,0.8s,mb4.9						
MAT	Matsushiro	25.52	231	eP	P	00 46 51.0	-0.9
MAT				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.9						
MAT				MLR	MLR		
	comp=Z,2μm,22.0s,MS4.6						
MAT	Matsushiro	25.52	231	eP	P	00 46 51.0	-0.9
	comp=Z,30nm,0.8s,mb4.9						
MAT				eS	Sx	00 53 21.0	
MAT				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
MAT	Matsushiro	25.52	231	P	P	00 46 50.8	-1.1
MJAR	Matsushiro Arr	25.52	231	P	P	00 46 50.8	-1.1
	comp=Z,21nm,0.7s,mb4.8,baz=30,slow=8.1,SNR=46						
ILAR	Eielson Array	25.77	49	P	P	00 46 53.4	-0.6
	comp=Z,13nm,1.0s,mb4.4,baz=266,slow=7.6,SNR=76						
EYAK	Cordova Ski Ar	26.94	59	eP	P	00 47 04.1	-0.7
INK	Inuvik	30.70	41	eP	P	00 47 37.4	-1.0
INK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
INK	Inuvik	30.70	41	P	P	00 47 37.4	-1.0
	comp=Z,1.4nm,0.7s,mb3.9,baz=288,slow=7.0,SNR=6.7						
INK	Inuvik	30.70	41	eP	P	00 47 37.4	-1.0
	comp=Z,6.4nm,1.1s,mb4.4						
ULN	Ulaanbaatar	34.39	280	i P	P	00 48 09.1	-1.6
SONM	Songino Array	34.77	281	P	P	00 48 11.2	-2.7
	comp=Z,1.3nm,0.7s,mb4.0,baz=73,slow=8.6,SNR=5.2						
DLBC	Dease Lake	35.18	57	P	P	00 48 19.1	+1.8
	comp=Z,9.5nm,0.8s,mb4.8,baz=292,slow=12,SNR=25						
SSE	Sheshan	38.15	247	P	P	00 48 38.5	-4.1
SSE				AP	pP	00 48 55.8	-1.0
SSE				XP	sP	00 49 03.5	0.0
SSE				S	S	00 54 25.3	-6.1
SSE				XS		00 54 55.3	
SSE				SCS	ScS	00 58 44.0	-2.9
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,32nm,4.9s						
SSE				LR	LR		
	comp=N,57nm,21.9s,MS3.7						
SSE				LR	LR		
	comp=E,111nm,21.9s,MS3.7						
NJ2	Nanjing	38.62	250	eP	P	00 48 44.3	-2.1
NJ2				AP	pP	00 49 02.5	+1.8
NJ2				PP	PP	00 50 17.5	-1.6
NJ2				S	S	00 54 33.0	-5.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,240nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,16.2s,MS4.8						
NJ2				LR	LR		
	comp=E,496nm,17.2s,MS4.8						
YKA	Yellowknife Ar	40.06	46	P	P	00 48 58.3	+0.2
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	40.06	46	P	P	00 48 58.3	+0.2
	comp=Z,2.3nm,0.7s,mb4.0,baz=299,slow=8.0,SNR=38						
GTA	Gaotai	43.81	275	eP	P	00 49 28.5	-0.5
GTA				AP	pP	00 49 42.0	-1.4
GTA				XP	sP	00 49 46.5	-3.4
GTA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
GTA				AMB	AMB		
	comp=Z,96nm,5.0s						
GTA				LR	LR		
	comp=N,181nm,16.2s,MS4.2						
GTA				LR	LR		
	comp=E,198nm,18.3s,MS4.2						
GTA				LR	LR		
	comp=Z,168nm,19.9s,MS4.0						
EDM	Edmonton	45.88	56	eP	P	00 49 45.6	+0.2
WMQ	Urumqi	47.46	288	eP	P	00 49 53.0	-4.9
MKAR	Makanchi Array	48.28	295	P	P	00 50 00.2	-4.1
	comp=Z,1.7nm,0.6s,mb4.2,baz=52,slow=7.0,SNR=15						
YBH	Yreka Blue Hor	48.71	74	P	P	00 50 09.2	+1.5
	comp=Z,3.2nm,0.9s,mb4.4,baz=295,slow=2.6,SNR=8.6						
BVAR	Borovoye Array	49.80	308	P	P	00 50 12.9	-3.0
	comp=Z,1.6nm,0.5s,mb4.3,baz=60,slow=7.7,SNR=15						
CHMT	Chamberlain Mo	50.08	63	eP	P	00 50 18.5	+0.4
ARCES	ARCESS Array B	51.02	342	P	P	00 50 22.8	-2.1
	comp=Z,4.7nm,0.8s,mb4.5,baz=30,slow=7.2,SNR=11						
ARU	Arti	52.31	317	i P	P	00 50 32.2	-2.6
ARU				e		00 52 29.7	
ARU				eS	S	00 57 52.0	-2.4
ARU				eSS	SS	01 01 35.5	+4.5
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
NVAR	Mina Array Bea	53.43	74	P	P	00 50 45.2	+1.8
	comp=Z,1.9nm,0.8s,mb4.0,baz=278,slow=11,SNR=12						
PDAR	Pinedale Array	54.87	64	P	P	00 50 54.3	+0.5
	comp=Z,0.8nm,0.4s,mb4.1,baz=332,slow=3.6,SNR=9.8						
AAK	Ala-Archa	55.16	296	eP	P	00 50 52.2	-3.8
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
AAK	Ala-Archa	55.16	296	eP	P	00 50 52.2	-3.8
	comp=Z,2.8nm,0.7s,mb4.4						
JOF	Joensuu	55.59	335	ep	P	00 50 53.0	-5.8
	comp=Z,6.1nm,0.8s,mb4.7						
KAF	Kangasniemi	57.42	337	ep	P	00 51 05.3	-6.6
	comp=Z,3.0nm,0.8s,mb4.4						
KAF	Kangasniemi	57.42	337	eP	P	00 51 05.3	-6.6
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
FINES	FINESS Array B	58.07	337	eP	P	00 51 14.5	-1.9
FINES	FINESS Array B	58.07	337	P	P	00 51 14.8	-1.7
	comp=Z,3.4nm,0.7s,mb4.5,baz=35,slow=8.7,SNR=28						
NB2	NORSAR Subarra	61.19	345	P	P	00 51 35.8	-2.1
	comp=Z,0.3nm,0.7s,mb3.5,baz=21,slow=6.5						
NOA	NORSAR Array B	61.19	345	P	P	00 51 35.1	-2.8
	comp=Z

SOC				MLR	MLR	
	comp=E,175nm,21.0s,MS4.5					
SOC				MLR	MLR	
	comp=Z,240nm,21.0s,MS4.4					
CLL	**Collm**	**70.18**	**340**	P	**P**	**00 52 36.0 +0.6**
MORC	**Moravsky Berou**	**70.70**	**337**	*e*P	**P**	**00 52 38.5 0.0**
MORC				pmax	pmax	
	comp=Z,3.0nm,1.0s,mb4.2					
MORC	**Moravsky Berou**	**70.70**	**337**	*e*P	**P**	**00 52 38.5 -0.1**
	comp=Z,3.0nm,1.0s,mb4.2					
GRA1	**Grafenberg Arr**	**72.06**	**341**	*e*P	**P**	**00 52 45.6 -1.1**
	comp=Z,4.0nm,1.2s,mb4.2					
GRF	**Grafenberg Arr**	**72.06**	**341**	*e*P	**P**	**00 52 45.6 -1.1**
GRF				pmax	pmax	
	comp=Z,4.0nm,1.2s,mb4.2					
GRF	**Grafenberg Arr**	**72.06**	**341**	*e*P	**P**	**00 52 45.6 -1.1**
GRF				pmax	pmax	
	comp=Z,4.0nm,1.2s,mb4.2					
GRF	**Grafenberg Arr**	**72.06**	**341**	*e*P	**P**	**00 52 45.6 -1.1**
	comp=Z,4.0nm,1.2s,mb4.2					
KHC	**Kasperske Hory**	**72.15**	**339**	*e*P	**P**	**00 52 38.5 -8.7**
KHC				*e*		00 53 09.0
KHC	**Kasperske Hory**	**72.15**	**339**	*e*P	**P**	**00 52 38.5 -8.7**
KHC				x	x	00 53 09.0
GERES	**GERESS Array B**	**72.39**	**339**	P	**P**	**00 52 47.5 -1.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=27,slow=6.0,SNR=4.9					
CDF	**Champ du Feu**	**73.98**	**343**	*e*P	**P**	**00 52 59.7 +1.9**
	comp=Z,5.8nm,0.9s,mb4.2					
CDF	**Champ du Feu**	**73.98**	**343**	*e*P	**P**	**00 52 59.7 +1.9**
CDF				pmax	pmax	
	comp=Z,3.0nm,0.9s,mb4.2					
BRTR	**Keskin Array B**	**75.33**	**322**	P	**P**	**00 53 04.5 -1.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=51,slow=5.4,SNR=5.9					
LOR	**Lormes**	**75.62**	**345**	*e*P	**P**	**00 53 09.0 +1.7**
	comp=Z,5.5nm,0.8s,mb4.3					
LOR	**Lormes**	**75.62**	**345**	*e*P	**P**	**00 53 09.0 +1.7**
LOR				pmax	pmax	
	comp=Z,3.0nm,0.8s,mb4.3					
SSF	**Saint Saulge**	**75.87**	**345**	*e*P	**P**	**00 53 10.5 +1.8**
SSF				pmax	pmax	
	comp=Z,2.0nm,0.8s,mb4.1					
SSF	**Saint Saulge**	**75.87**	**345**	*e*P	**P**	**00 53 10.5 +1.8**
	comp=Z,1.9nm,0.8s,mb4.1					
SMF	**Signal de Mont**	**76.23**	**345**	*e*P	**P**	**00 53 12.3 +1.5**
	comp=Z,5.3nm,0.7s,mb4.3					
SMF	**Signal de Mont**	**76.23**	**345**	*e*P	**P**	**00 53 12.3 +1.5**
SMF				pmax	pmax	
	comp=Z,3.0nm,0.7s,mb4.3					
TCF	**Toulx Ste Croi**	**76.81**	**346**	*e*P	**P**	**00 53 15.9 +1.9**
LPL	**La Plagne**	**76.88**	**343**	*e*P	**P**	**00 53 16.6 +2.1**
	comp=Z,7.1nm,1.0s,mb4.3					
LPL	**La Plagne**	**76.88**	**343**	*e*P	**P**	**00 53 16.6 +2.1**
LPL				pmax	pmax	
	comp=Z,4.0nm,1.0s,mb4.3					
LPG	**La Plagne**	**76.90**	**343**	*e*P	**P**	**00 53 16.6 +2.0**
	comp=Z,18nm,1.2s,mb4.6					
LPG	**La Plagne**	**76.90**	**343**	*e*P	**P**	**00 53 16.6 +2.0**
LPG				pmax	pmax	
	comp=Z,9.0nm,1.2s,mb4.6					
ORIF	**Oris-en-Rattie**	**77.60**	**343**	*e*P	**P**	**00 53 20.2 +1.7**
	comp=Z,9.4nm,0.9s,mb4.4					
ORIF	**Oris-en-Rattie**	**77.60**	**343**	*e*P	**P**	**00 53 20.2 +1.7**
ORIF				pmax	pmax	
	comp=Z,5.0nm,0.9s,mb4.4					
MBDF	**Montbardon**	**77.64**	**343**	*e*P	**P**	**00 53 21.1 +2.4**
	comp=Z,12nm,1.0s,mb4.4					
MBDF	**Montbardon**	**77.64**	**343**	*e*P	**P**	**00 53 21.1 +2.4**
MBDF				pmax	pmax	
	comp=Z,6.0nm,1.0s,mb4.5					
LASF	**Ste Croix**	**78.74**	**345**	*e*P	**P**	**00 53 26.2 +1.5**
	comp=Z,11nm,1.1s,mb4.4					
WRAB	**Tennant Creek**	**79.31**	**207**	*i* P	**P**	**00 53 28.9 +0.6**
WRA	**Warramunga Arr**	**79.32**	**207**	P	**P**	**00 53 28.2 -0.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=18,slow=5.6,SNR=4.5					
MTLF	**Montolieu**	**79.70**	**346**	*e*P	**P**	**00 53 32.0 +2.0**
	comp=Z,6.7nm,0.9s,mb4.3					
MTLF	**Montolieu**	**79.70**	**346**	*e*P	**P**	**00 53 32.0 +2.0**
MTLF				pmax	pmax	
	comp=Z,3.0nm,0.9s,mb4.2					
EPF	**Esparros**	**80.25**	**347**	*e*P	**P**	**00 53 34.8 +1.8**
ASAR	**Alice Springs**	**82.99**	**206**	P	**P**	**00 53 48.2 +0.7**
	comp=Z,1.7nm,0.9s,mb4.1,baz=15,slow=5.0,SNR=8.8					
EVO	**Evora**	**85.54**	**353**	*e*P	**P**	**00 54 02.3 +2.4**
	comp=Z,25nm,1.4s,mb5.0					
QSPA	**South Pole Qui**	**145.71**	**180**	*e*P	PKPdf	01 00 59.3 +1.9

*NEIC **27** 01:00:24.7, 32.37S×71.49W, h44km, MD3.5(GUC), After GUC.*

GUC 27 01:00:24.7±0.8, 32.37S×71.49W, h44km±2km, MD3.5, ML2.6, 5C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.17**	**165**	⇑*i*P	P	01 00 32.8	+0.7
PACH				*i* S	S	01 00 38.0	+0.7
CHNG	**Los Chungos**	**0.49**	**359**	⇓*i*P	P	01 00 35.6	+0.2
CHNG				*i* S	S	01 00 43.4	+0.4
CHNG				AMP		01 00 43.7	
	comp=E,963nm,0.2s						
ROCH	**El Roble**	**0.72**	**146**	⇑*i*P	P	01 00 39.2	+0.6
ILCH	**Illapel**	**0.78**	**20**	⇓*i*P	P	01 00 40.0	+0.6
ILCH				*i* S	S	01 00 51.4	+1.2
ILCH				AMP		01 00 51.8	
	comp=E,396nm,0.1s						
JACH	**Jahuel**	**0.82**	**113**	⇑*i*P	P	01 00 40.7	+0.8
JACH				*i* S	S	01 00 53.1	+2.1
PEL	**Peldehue**	**1.03**	**139**	⇑*i*P	P	01 00 43.7	+0.8
PEL				*i* S	S	01 00 57.7	+1.4
PEL				AMP		01 00 58.6	
	comp=N,248nm,0.2s						
LCCH	**Las Cruces**	**1.10**	**184**	⇑*i*P	P	01 00 44.4	+0.5
RCDM	**Rinconada Maip**	**1.25**	**153**	*e*P	P	01 00 46.4	+0.3
RCDM				*i* S	S	01 01 02.8	+0.7
RCDM				AMP		01 01 03.9	
	comp=E,301nm,0.2s						
CLCH	**Cerro Calan**	**1.30**	**142**	⇓*i*P	P	01 00 47.5	+0.8
CLCH				*i* S	S	01 01 04.7	+1.5
CLCH				AMP		01 01 06.3	
	comp=E,111nm,0.3s						
TACH	**Talagante**	**1.36**	**160**	⇓*i*P	P	01 00 48.5	+0.8
TACH				*i* S	S	01 01 05.7	+1.0
FCH	**Farellones**	**1.39**	**134**	⇓*i*P	P	01 00 48.9	+0.8
FCH				*i* S	S	01 01 07.4	+1.9
FCH				AMP		01 01 08.6	
	comp=N,106nm,0.3s						
PCH	**Pirque**	**1.49**	**147**	⇓*i*P	P	01 00 50.2	+0.6
PCH				*e*S	S	01 01 08.7	+0.7
CHCH	**Chadas Angostu**	**1.71**	**156**	*e*P	P	01 00 53.0	+0.4
LMEL	**Las Melosas**	**1.83**	**144**	⇓*i*P	P	01 00 55.3	+1.1
LMEL				*i* S	S	01 01 17.9	+1.6
LMEL				AMP		01 01 20.1	
	comp=N,135nm,0.1s						
TLL	**Tololo Astrono**	**2.27**	**15**	⇓*i*P	P	01 01 01.3	+0.7
TLL				AMP		01 01 43.3	
	comp=N,47nm,0.6s						

IDC 27 01:21:07.8±7.2, 16.72N×147.27E, h187km±68km, mb3.3/8, mb1 3.5/8, mb1mx3.4/20, mbtmp3.8/8, Error ellipse: s-maj=33.3km s-min=16.5km az=96.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**21.32**	**340**	P	P	01 25 40.3	-0.4
	1.6nm,0.5s,baz=164,slow=8.6,SNR=4.9						
WRA	**Warramunga Arr**	**38.59**	**200**	P	P	01 28 13.5	-0.9
	0.7nm,0.5s,baz=22,slow=9.3,SNR=3.3						
ASAR	**Alice Springs**	**42.21**	**198**	P	P	01 28 41.5	-2.7
	0.5nm,0.9s,baz=37,slow=7.1,SNR=4.0						
MKAR	**Makanchi Array**	**60.91**	**315**	P	P	01 31 00.5	-2.5
	1.1nm,0.5s,baz=90,slow=8.2,SNR=19						
ILAR	**Eielson Array**	**64.76**	**26**	P	P	01 31 25.2	-2.8
	0.3nm,0.5s,baz=246,slow=6.2,SNR=8.0						
YKA	**Yellowknife Ar**	**79.02**	**28**	P	P	01 32 51.2	-1.0
	0.8nm,0.8s,baz=284,slow=5.6,SNR=12						
ARCES	**ARCESS Array B**	**84.82**	**343**	P	P	01 33 22.2	+0.3
	3.9nm,0.9s,baz=63,slow=5.4,SNR=13						
FINES	**FINESS Array B**	**89.30**	**336**	P	P	01 33 41.9	-1.7
	0.5nm,0.5s,baz=68,slow=4.8,SNR=9.3						

*JMA **27** 01:26:31.4±0.1, 40.70N×142.56E, h49km±4km, M3.7*
JMA Felt I J1.

*IDC **27** 01:26:33.7±4.6, 40.77N×142.42E, h71km±24km, mb3.3/2, mb1 3.3/4, mb1mx3.0/23, mbtmp3.5/4, Error ellipse: s-maj=105.4km s-min=18.9km az=106.0*

ISC 27 01:26:31.4±0.7, 40.71N±0.04×142.47E±0.08, h68km±9km, n15, σ0°50/24, mb3.5/2, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.80**	**245**	⇓P	P	**01 26 47.6**	**+0.1**
JANG				S	S	**01 26 59.0**	**-0.4**
JTH	**Tanohata**	**0.90**	**211**	P	P	**01 26 48.2**	**-0.5**
JTM	**Tenmabayashi**	**1.07**	**275**	⇓P	P	**01 26 50.9**	**0.0**
JTM				S	S	**01 27 05.1**	**-0.3**
JOT	**Ohata**	**1.27**	**302**	⇑P	P	**01 26 53.5**	**-0.1**
JOT				*e*S	S	**01 27 09.8**	**-0.3**
JEM	**Erimo**	**1.40**	**21**	P	P	**01 26 55.1**	**-0.4**
JEM				*e*S	S	**01 27 12.7**	**-0.7**
JAH	**Hinai**	**1.49**	**250**	⇓P	P	**01 26 57.1**	**+0.3**
JAH				*e*S	S	**01 27 15.9**	**+0.4**
JOM	**Ohasama**	**1.53**	**217**	⇓P	P	**01 26 57.4**	**+0.1**
JOM				*e*S	S	**01 27 16.3**	**0.0**
JNBK	**Urakawa-nobuka**	**1.58**	**8**	*e*S	S	**01 27 19.0**	**+1.5**
JKB	**Kayabe**	**1.60**	**318**	P	P	**01 26 58.0**	**-0.2**
JKB				*e*S	S	**01 27 17.2**	**-0.7**
JSR	**Shiriuchi**	**1.75**	**298**	P	P	**01 27 00.4**	**+0.2**
JSR				*e*S	S	**01 27 22.2**	**+0.7**
JMK	**Ichinoseki**	**2.00**	**209**	⇓P	P	**01 27 03.8**	**+0.1**
ASAJ	**Asahikawa**	**3.40**	**2**	P	P	**01 27 24.1**	**+0.6**
	1.7nm,0.3s,baz=172,slow=15,SNR=2.7						
ASAJ				S	S	**01 28 02.6**	**-0.1**
	1.4nm,0.3s,baz=10,slow=31,SNR=3.1						
MJAR	**Matsushiro Arr**	**5.33**	**220**	P	P	**01 27 50.8**	**+0.5**
	0.8nm,0.3s,baz=36,slow=13,SNR=4.7						
MKAR	**Makanchi Array**	**42.96**	**299**	P	P	**01 34 25.1**	**0.0**
	0.5nm,0.6s,mb3.4,baz=84,slow=9.6,SNR=6.2						
FINES	**FINESS Array B**	**65.96**	**332**	P	P	**01 37 11.3**	**-0.7**
	0.6nm,0.6s,mb3.6,baz=45,slow=5.9,SNR=3.9						

*MOS **27** 01:57:24.0±1.9, 46.46N×153.45E, h33km, mb4.5/6, Error ellipse: s-maj=20.1km s-min=14.2km az=59.0*
*IDC **27** 01:57:27.9±5.0, 46.91N×153.15E, h33km±39km, mb3.8/11, mb1 4.0/13, mb1mx3.8/25, mbtmp4.0/13, ML3.5/2, Error ellipse: s-maj=27.5km s-min=18.0km az=162.0*

ISC 27 01:57:26.9±1.8, 46.9N±0.1×153.2E±0.1, h44km±17km, n26, σ0°96/28, mb4.0/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.28**	**26**	*e*PN	P	**01 58 36.9**	**+5.6**
YUK	**Yuzh-Kuril'sk**	**5.89**	**244**	PN	P	**01 58 54.7**	**+0.8**
YUK				*e*S	S	**01 59 59.7**	**-1.5**
YUK				smax			
	comp=N,170nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.17**	**275**	*e*PN	P	**01 59 14.0**	**+2.2**
ASAJ	**Asahikawa**	**7.95**	**254**	PN	P	**01 59 19.3**	**-3.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.95**	**254**	Pn	P	**01 59 19.2**	**-3.4**
	comp=Z,1.0nm,0.3s,baz=308,slow=26,SNR=4.7						
FX1	**Attu Island--F**	**14.18**	**58**	Pn	P	**02 00 45.8**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=270,slow=14,SNR=7.7						
FX1				Sn	S	**02 03 10.2**	**-13**
	comp=Z,0.3nm,0.3s,baz=72,slow=20,SNR=3.5						
INK	**Inuvik**	**41.52**	**32**	P	P	**02 05 10.8**	**-0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**41.52**	**32**	P	P	**02 05 10.8**	**-0.1**
	comp=Z,1.6nm,0.8s,mb3.7,baz=311,slow=7.4,SNR=12						
MKAR	**Makanchi Array**	**46.95**	**297**	P	P	**02 05 54.0**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**46.95**	**297**	P	P	**02 05 54.0**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.1,baz=69,slow=7.4,SNR=18						
YKA	**Yellowknife Ar**	**50.80**	**37**	P	P	**02 06 24.7**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.80**	**37**	P	P	**02 06 24.7**	**+0.3**
	comp=Z,0.7nm,0.8s,mb3.6,baz=295,slow=7.3,SNR=8.2						
BVAR	**Borovoye Array**	**50.84**	**309**	P	P	**02 06 24.2**	**-0.7**
	comp=Z,0.7nm,0.4s,mb3.9,baz=55,slow=7.9,SNR=5.9						
ARCES	**ARCESS Array B**	**57.77**	**341**	P	P	**02 07 15.4**	**0.0**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES	**ARCESS Array B**	**57.77**	**341**	P	P	**02 07 15.4**	**0.0**
	comp=Z,5.1nm,1.0s,mb4.5,baz=14,slow=10.0,SNR=3.5						
FINES	**FINESS Array B**	**63.97**	**335**	P	P	**02 07 57.5**	**+0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**63.97**	**335**	P	P	**02 07 57.5**	**+0.2**
	comp=Z,1.6nm,0.5s,mb4.3,baz=27,slow=7.8,SNR=26						
NB2	**NORSAR Subarra**	**68.15**	**341**	P	P	**02 08 24.4**	**+0.5**
	comp=Z,2.8nm,0.7s,mb4.4,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**68.15**	**341**	P	P	**02 08 23.6**	**-0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**68.15**	**341**	P	P	**02 08 23.6**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.2,baz=28,slow=6.3,SNR=14						
AKASG	**Malin Array Be**	**71.50**	**326**	P	P	**02 08 44.4**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	**Malin Array Be**	**71.50**	**326**	P	P	**02 08 44.4**	**0.0**
	comp=Z,3.9nm,0.6s,mb4.5,baz=33,slow=6.3,SNR=22						
ASAR	**Alice Springs**	**72.33**	**199**	P	P	**02 08 51.2**	**+1.3**
	comp=Z,0.2nm,0.6s,mb3.3,baz=11,slow=5.3,SNR=4.9						
TXAR	**Lajitas Array**	**77.38**	**61**	P	P	**02 09 18.4**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.6,baz=300,slow=3.6,SNR=9.5						
KHC	**Kasperske Hory**	**78.17**	**334**	*e*P	P	**02 09 17.0**	**-5.8**
GERES	**GERESS Array B**	**78.39**	**334**	P	P	**02 09 24.7**	**+0.8**
	comp=Z,0.3nm,0.4s,mb3.6,baz=45,slow=7.5,SNR=6.2						

*MOS **27** 02:15:33.6±1.1, 8.75N×92.28E, h33km, mb4.8/10, Error ellipse: s-maj=14.8km s-min=8.9km az=100.9*
*BJI **27** 02:15:33.8, 8.39N×92.49E, h58km, mB4.8, mb4.7, Ms4.4, Msz4.1*
*IDC **27** 02:15:35.3±0.4, 8.73N×92.41E, h39km±3km, mb4.0/22, mb1 4.2/23, mb1mx4.1/25, mbtmp4.2/23, ML4.7/1, MS4.1/18, Ms1 4.1/18, ms1mx3.9/27, Error ellipse: s-maj=14.3km s-min=10.0km az=54.0*
*NEIC **27** 02:15:35.3±0.3, 8.70N×92.35E, mb4.5/6, Error ellipse: s-maj=9.5km s-min=7.5km az=218.0*

ISC 27 02:15:33.7±0.3, 8.67N±0.04×92.34E±0.04, h38km, h38km±1.2km; pP-P, n103, σ1°14/99, mb4.4/38, MS4.2/26, 1C-7D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.99**	**8**	*e*P	P	**02 16 20.3**	**+0.5**
PBA				*e*S	S	**02 16 54.1**	**-0.8**
SNG	**Songkhla**	**8.34**	**100**	P	P	**02 17 37.0**	**+2.1**
	328nm,0.8s						
NST	**Nakhon Sawan**	**10.32**	**47**	P	P	**02 18 04.5**	**+2.2**
PALK	**Pallekele**	**11.61**	**264**	*e*P	P	**02 18 17.6**	**-2.3**
	21nm,0.6s						
CMAR	**Chiang Mai Arr**	**11.65**	**33**	Pn	P	**02 18 19.6**	**-0.9**
	1.6nm,0.3s,baz=223,slow=14,SNR=40						
CMAR				LR	LR	02 24 05.2	
	comp=Z,1μm,18.1s,baz=215,slow=44						
CHG	**Chiang Mai**	**11.95**	**32**	⇑P	P	**02 18 23.5**	**-0.9**
	17nm,0.9s						
VIS	**Vishakhapatnam**	**12.56**	**317**	*e*P	P	**02 18 30.6**	**-2.0**
VIS				*e*S	S	**02 20 36.8**	**-15**
NANT	**Nan**	**12.93**	**38**	P	P	**02 18 36.0**	**-1.6**
	162nm,0.9s						
HYB	**Hyderabad**	**15.99**	**304**	*e*P	P	**02 19 17.0**	**-0.5**
HYB				*e*S	S	**02 21 58.0**	**-15**
HYB	**Hyderabad**	**15.99**	**304**	*i* P	P	**02 19 17.0**	**-0.5**
HYB				*e*		02 19 32.0	
HYB				*e*S	S	**02 21 58.0**	**-15**
BOK	**Bokaro**	**16.26**	**338**	*e*P	P	**02 19 20.5**	**-0.4**
BOK				*e*		02 22 03.7	
BLSP	**Bilaspur**	**16.59**	**325**	*e*P	P	**02 19 24.3**	**-0.9**
BLSP				*i* P		02 19 24.8	
BLSP				*e*		02 22 11.8	
SHL	**Shillong**	**16.81**	**359**	*e*P	P	**02 19 26.0**	**-1.8**
SHL				*e*		02 22 18.0	
LATR	**Latur**	**18.13**	**304**	*e*P	P	**02 19 45.2**	**+0.8**
AKL	**Akola**	**19.02**	**311**	⇓*i*P	P	**02 19 57.0**	**+1.8**
KMI	**Kunming**	**19.13**	**30**	P	P	**02 19 58.0**	**+1.6**
KMI				AP		02 20 04.3	
KMI				PP	PP	02 20 13.5	0.0
KMI				AMB	AMB		
	comp=Z,30nm,1.4s						
KMI				AMB	AMB		
	comp=Z,140nm,6.5s						
KMI				LR	LR		
	comp=N,715nm,23.7s						
KMI				LR	LR		
	comp=E,583nm,21.7s						
KMI				LR	LR		
	comp=Z,855nm,21.6s						
GOA	**Goa**	**19.32**	**292**	*e*P	P	**02 20 00.0**	**+1.4**
GOA				*i*		02 23 22.0	
KAD	**Karad**	**19.65**	**298**	*e*	S	**02 23 23.9**	**-12**
JIRN	**Jiri**	**19.76**	**344**	*e*P	P	**02 20 04.8**	**+1.5**
	comp=Z,197nm,0.4s						
QIZ	**Qiongzhong**	**19.85**	**57**	P	P	**02 20 03.5**	**-0.9**
QIZ				AMB	AMB		
	comp=Z,39nm,1.4s						
QIZ				AMB	AMB		
	comp=Z,227nm,10.8s						
QIZ				LR	LR		
	comp=N,670nm,16.9s						
QIZ				LR	LR		
	comp=E,592nm,16.2s						
QIZ				LR	LR		
	comp=Z,736nm,17.6s						
QIZ	**Qiongzhong**	**19.85**	**57**	*e*P	P	**02 20 01.8**	**-2.6**
	comp=Z,98nm,1.4s						
PKI	**Pulchoki**	**19.91**	**342**	*e*P	P	**02 20 05.1**	**+0.2**
	comp=Z,324nm,0.7s						
DMN	**Daman**	**20.04**	**341**	*e*P	P	**02 20 06.6**	**+0.3**
	comp=Z,153nm,0.3s						
KKN	**Kakani**	**20.15**	**342**	*e*P	P	**02 20 07.9**	**+0.4**
	comp=Z,143nm,0.6s						
BHPL	**Bhopal**	**20.35**	**317**	*e*P	P	**02 20 11.9**	**+2.3**
BHPL				*e*		02 20 14.7	
BHPL				AMb	AMB	02 20 25.4	
	comp=Z,82nm,1.1s						
BHPL				*e*		02 23 40.0	
POO	**Poona**	**20.45**	**301**	*e*	P	**02 20 16.7**	**+6.0**
POO				*e*		02 20 20.4	
	comp=Z,24nm,0.5s						
POO				*e*		02 23 42.6	
GKN	**Gorkha**	**20.56**	**340**	*e*P	P	**02 20 12.0**	**+0.3**
	comp=Z,434nm,0.5s						
KOLN	**Koldanda**	**20.71**	**338**	*e*P	P	**02 20 13.9**	**+0.6**
	comp=Z,154nm,0.4s						
LSA	**Lhasa**	**20.95**	**357**	P	P	**02 20 17.5**	**+1.7**
LSA				S	S	**02 24 01.5**	**-0.6**
LSA				LR	LR		
	comp=N,340nm,25.1s,MS4.0						
LSA				LR	LR		
	comp=E,760nm,26.0s,MS4.0						
LSA				LR	LR		
	comp=Z,750nm,26.0s,MS4.0						
LSA	**Lhasa**	**20.95**	**357**	*e*P	P	**02 20 16.0**	**+0.2**
LSA				pmax	pmax		
	comp=Z,32nm,0.4s						
LSA	**Lhasa**	**20.95**	**357**	*e*P	P	**02 20 16.0**	**+0.3**
	comp=Z,32nm,0.4s						
BOM	**Bombay**	**21.49**	**300**	*e*	P	**02 20 33.3**	**+12**
BOM				*e*		02 24 07.3	
GYA	**Guiyang**	**22.31**	**36**	⇓*i*P	P	**02 20 29.8**	**+0.4**
GYA				AP		02 20 38.5	
GYA				PP	PP	02 20 58.0	+1.0
GYA				S	S	**02 24 30.3**	**+2.9**
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,160nm,5.4s						
GYA				LR	LR		
	comp=N,470nm,16.2s,MS4.1						
GYA				LR	LR		
	comp=E,440nm,17.1s,MS4.1						
GYA				LR	LR		
	comp=Z,470nm,16.2s,MS4.0						
KKM	**Kota Kinabalu**	**23.82**	**95**	*e*P	P	**02 20 46.5**	**+2.2**
NDI	**New Delhi**	**24.47**	**326**	*e*	P	**02 20 50.5**	**0.0**
NDI				*e*		02 20 57.0	
NDI				*e*		02 25 24.0	
CD2	**Chengdu**	**24.56**	**24**	⇓*i*P	P	**02 20 51.5**	**+0.1**
CD2				S	S	**02 25 08.0**	**+1.1**
CD2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.2						
CD2				LR	LR		
	comp=N,500nm,15.0s						
CD2				LR	LR		
	comp=Z,540nm,19.8s,MS4.0						
SDNR	**Sundarnagar**	**26.84**	**330**	*e*	P	**02 21 26.8**	**+14**
SDNR				*e*		02 26 19.4	
LZH	**Lanzhou**	**29.24**	**19**	⇓P	P	**02 21 34.0**	**-0.3**
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,160nm,4.5s						
LZH				LR	LR		
	comp=N,1μm,11.8s						
LZH				LR	LR		
	comp=Z,2μm,13.0s,MS4.9						
WHN	**Wuhan**	**29.94**	**40**	P	P	**02 21 40.5**	**-0.1**
GTA	**Gaotai**	**31.33**	**11**	*e*P	P	**02 21 53.5**	**+0.7**
GTA				PP	PP	02 22 57.0	+0.2
GTA				S	S	**02 26 56.0**	**0.0**
GTA				SS	SS	02 28 43.3	-1.0
GTA				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.9						
GTA				AMB	AMB		
	comp=Z,108nm,5.0s						
GTA				LR	LR		
	comp=N,546nm,17.2s,MS4.3						
GTA				LR	LR		
	comp=E,363nm,19.1s,MS4.3						
GTA				LR	LR		
	comp=Z,387nm,18.3s,MS4.1						
AAK	**Ala-Archa**	**37.28**	**338**	*d i*P	P	**02 22 44.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.4						
FRU	**Bishkek**	**37.41**	**338**	*e*P	P	**02 22 46.0**	**+1.1**
FRU				*e*	pP	02 22 55.0	-0.8
BJI	**Beijing**	**37.79**	**30**	P	P	**02 22 48.0**	**-0.1**
BJI				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
BJI				AMB	AMB		
	comp=Z,109nm,4.3s						
BJI				LR	LR		
	comp=N,443nm,23.4s,MS4.3						
BJI				LR	LR		
	comp=E,352nm,25.7s,MS4.3						
BJI				LR	LR		
	comp=

comp=Z,300nm,16.0s,MS4.3
NVS Novosibirsk 46.61 353 *e*P pP 02 24 08.7 -2.2
KLBR Kellerberrin 46.84 150 *e*P **P** **02 24 03.2 +1.2**
comp=Z,1μm,1.6s
BVAR Borovoye Array 47.68 342 P **P** **02 24 07.7 -0.6**
comp=Z,0.6nm,0.5s,mb3.9,baz=143,slow=7.4,SNR=6.2
BVAR pP pP 02 24 18.8 -0.5
comp=Z,0.7nm,0.4s,baz=162,slow=9.1,SNR=5.3
NWAO Narrogin (SRO) 47.68 151 P **P** **02 24 09.8 +1.2**
comp=Z,3.6nm,0.4s,mb4.8,baz=324,slow=8.9,SNR=8.0
NWAO LR LR 02 44 46.1
comp=Z,221nm,20.0s,MS4.1,baz=323,slow=37
NWAO Narrogin (SRO) 47.68 151 P **P** **02 24 09.8 +1.2**
NWAO LR LR 02 44 46.1
MJAR Matsushiro Arr 49.97 49 P **P** **02 24 26.3 0.0**
comp=Z,3.7nm,0.6s,mb4.6,baz=251,slow=7.8,SNR=9.7
MJAR LR LR 02 48 28.8
comp=Z,182nm,19.3s,MS4.1,baz=190,slow=40
JHJ Hachijo jima 2 50.01 54 LR LR 02 45 45.1
comp=Z,215nm,18.3s,MS4.2,baz=292,slow=36
WRA Warramunga Arr 50.18 125 P **P** **02 24 26.4 -1.7**
comp=Z,3.8nm,0.4s,mb4.8,baz=302,slow=9.1,SNR=36
WRA pP pP 02 24 37.5 -1.5
comp=Z,3.5nm,0.6s,baz=306,slow=8.8,SNR=7.0
WB2 Warramunga Arr 50.19 125 ⇓*i*P **P** **02 24 26.4 -1.7**
ASPA Alice Springs 51.79 129 *e*P **P** **02 24 38.5 -1.7**
ASAR Alice Springs 51.80 129 P **P** **02 24 38.3 -1.9**
comp=Z,1.2nm,0.4s,mb4.2,baz=302,slow=8.0,SNR=20
ASAR pP pP 02 24 51.0 -0.3
comp=Z,2.9nm,0.8s,baz=306,slow=7.1,SNR=8.6
ASAR pPcP 02 26 05.1
comp=Z,1.0nm,0.7s,baz=297,slow=3.4,SNR=4.9
ASAR LR LR 02 50 46.8
comp=Z,151nm,19.2s,MS4.0,baz=33,slow=41
ASAR Alice Springs 51.80 129 P **P** **02 24 38.3 -1.9**
ASAR pP pP 02 24 51.0 -0.3
ASAR pPcP 02 26 05.1
ASAR LR LR 02 50 46.8
BOD Bodaibo 51.81 15 *e*P **P** **02 24 38.4 -1.4**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SVE Sverdlovsk 54.02 339 *e*P **P** **02 24 57.0 +0.7**
SVE *e* pP 02 25 07.0 -0.5
SVE MLR MLR
comp=N,100nm,14.0s,MS4.2
SVE MLR MLR
comp=E,100nm,14.0s,MS4.2
SVE MLR MLR
comp=Z,200nm,14.0s,MS4.3
ARU Arti 54.47 338 ⇓*i*P **P** **02 24 58.9 -0.7**
ARU pmax pmax
comp=Z,21nm,1.6s,mb4.8
ARU MLR MLR
comp=Z,300nm,18.0s,MS4.4
ARU MLR MLR
comp=N,100nm,23.0s,MS4.2
ARU MLR MLR
comp=E,200nm,22.0s,MS4.2
KMBO Kilima Mbogo 55.74 263 P **P** **02 25 11.4 +2.0**
comp=E,1.3nm,0.7s,mb4.1,baz=53,slow=22,SNR=4.1
KMBO pP pP 02 25 21.6 +0.9
comp=E,1.5nm,0.6s,baz=67,slow=11,SNR=4.2
KMBO LR LR 02 47 32.5
comp=E,287nm,18.2s,MS4.4,baz=272,slow=34
ASAJ Asahikawa 56.00 42 LR LR 02 50 24.8
comp=E,158nm,19.6s,MS4.1,baz=189,slow=37
YAK Yakutsk 59.82 19 *i*P pP 02 25 45.5 -3.2
YAK pmax pmax
comp=Z,14nm,0.6s,mb5.2
BRTR Keskin Array B 60.56 311 P **P** **02 25 41.4 -1.4**
comp=Z,1.1nm,0.8s,mb4.0,baz=112,slow=6.7,SNR=5.8
BRTR pP pP 02 25 53.5 -0.7
comp=Z,1.2nm,0.7s,baz=120,slow=6.6,SNR=5.0
STKA Stephens Creek 61.95 133 P **P** **02 25 51.4 -0.9**
comp=Z,3.8nm,0.7s,mb4.6,baz=273,slow=2.7,SNR=7.6
STKA LR LR 02 56 15.3
comp=Z,214nm,18.3s,MS4.3,baz=112,slow=39
MOS Moscow 63.48 329 *e*P pP 02 26 11.7 -1.8
MOS *e* sP 02 26 21.2 +3.3
OBN Obninsk 63.76 328 *i*P pP 02 26 15.7 +0.4
OBN pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
AKASG Malin Array Be 66.43 322 P **P** **02 26 19.2 -2.0**
comp=Z,0.3nm,0.4s,mb3.6,baz=82,slow=5.7,SNR=5.3
AKASG Malin Array Be 66.43 322 P **P** **02 26 19.2 -2.0**
JOF Joensuu 69.37 335 *e*p **P** **02 26 37.5 -1.8**
comp=Z,3.1nm,0.8s,mb4.3
FINES FINESS Array B 71.18 332 P **P** **02 26 48.7 -1.6**
comp=Z,1.6nm,0.8s,mb4.0,baz=101,slow=9.7,SNR=8.9
FINES pP pP 02 27 00.6 -1.2
comp=Z,1.9nm,0.8s,baz=100,slow=5.8,SNR=3.0
FINES LR LR 03 05 28.6
comp=Z,126nm,18.1s,MS4.2,baz=120,slow=42
LBTB Lobatse 73.07 241 P **P** **02 27 02.9 +0.6**
comp=Z,3.0nm,0.9s,mb4.2,baz=234,slow=17,SNR=3.7
ARCES ARCESS Array B 73.92 340 P **P** **02 27 06.3 0.0**
comp=Z,2.2nm,0.6s,mb4.3,baz=104,slow=7.1,SNR=15
ARCES pP pP 02 27 18.3 +0.5
comp=Z,1.8nm,0.7s,baz=95,slow=4.9,SNR=2.0
ARCES LR LR 03 03 04.5
comp=Z,109nm,21.5s,MS4.1,baz=113,slow=39
ARCES ARCESS Array B 73.92 340 P **P** **02 27 06.3 0.0**
ARCES pP pP 02 27 18.3 +0.5
ARCES LR LR 03 03 04.5
BOSA Boshof 74.50 237 P **P** **02 27 12.0 +1.5**
comp=Z,5.9nm,1.0s,mb4.5,baz=125,slow=7.5,SNR=4.2
BOSA pP pP 02 27 23.5 +1.4
comp=Z,1.8nm,0.7s,baz=58,slow=13,SNR=2.4
BOSA LR LR 02 54 58.9
comp=Z,164nm,20.1s,MS4.3,baz=258,slow=32
BOSA Boshof 74.50 237 P **P** **02 27 12.0 +1.5**
BOSA pP pP 02 27 23.5 +1.4
BOSA LR LR 02 54 58.9
GERES GERESS Array B 76.05 318 P **P** **02 27 18.6 -0.4**
comp=Z,1.9nm,0.9s,mb4.0,baz=90,slow=5.3,SNR=14
GERES pP pP 02 27 31.5 +1.0
comp=Z,2.3nm,0.8s,baz=90,slow=4.0,SNR=9.8
GERES LR LR 03 02 26.3
comp=Z,67nm,19.5s,MS4.0,baz=260,slow=37
CLL Collm 76.62 321 P **P** **02 27 22.0 -0.1**
GRA1 Grafenberg Arr 77.70 319 *e*P **P** **02 27 28.5 +0.3**
comp=Z,5.0nm,1.1s,mb4.4
GRF Grafenberg Arr 77.70 319 *e*P **P** **02 27 28.5 +0.3**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GRF Grafenberg Arr 77.70 319 *e*P **P** **02 27 28.5 +0.3**
GRF pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
GRF Grafenberg Arr 77.70 319 *e*P **P** **02 27 28.5 +0.3**
comp=Z,5.0nm,1.1s,mb4.4
NB2 NORSAR Subarra 78.16 331 P **P** **02 27 29.6 -0.9**
comp=Z,1.0nm,0.7s,mb3.9,baz=96,slow=5.3
NB2 NORSAR Subarra 78.16 331 P **P** **02 27 29.6 -0.9**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NOA NORSAR Array B 78.16 331 P **P** **02 27 29.9 -0.6**
comp=Z,1.2nm,0.7s,mb4.0,baz=94,slow=5.7,SNR=7.0
NOA pP pP 02 27 41.5 -0.6
comp=Z,0.7nm,0.6s,baz=94,slow=5.7,SNR=3.6
NOA LR LR 03 09 39.3
comp=Z,69nm,18.7s,MS4.0,baz=55,slow=42
LPG La Plagne 80.79 315 *e*P **P** **02 27 45.4 +0.3**
comp=Z,7.5nm,0.8s,mb4.4
ESDC Sonseca Array 89.34 310 P **P** **02 28 28.5 +0.8**
comp=Z,0.2nm,0.4s,mb3.8,baz=108,slow=28,SNR=3.3
ESDC pP pP 02 28 39.5 -0.1
comp=Z,0.4nm,0.6s,baz=67,slow=3.8,SNR=3.4
VNDA Vanda 94.07 168 P **P** **02 28 49.5 +0.8**
comp=Z,0.5nm,0.8s,mb4.0,baz=262,slow=6.7,SNR=3.6
VNDA Vanda 94.07 168 P **P** **02 28 49.5 +0.8**
ILAR Eielson Array 94.67 22 P **P** **02 28 51.0 -0.7**
comp=Z,0.4nm,0.7s,mb4.0,baz=305,slow=5.3,SNR=6.2
ILAR LR LR 03 14 06.8
comp=Z,76nm,20.8s,MS4.2,baz=157,slow=37
PDAR Pinedale Array 125.05 20 PKP PKPdf 02 34 29.3 -1.1
comp=Z,0.5nm,0.5s,baz=317,slow=32,SNR=4.7
PDAR pPKP 02 34 44.2
comp=Z,0.4nm,0.6s,slow=3.0,SNR=3.4
NVAR Mina Array Bea 125.13 29 pPKP 02 34 45.4
comp=Z,0.3nm,0.5s,baz=270,slow=2.7,SNR=2.9
TXAR Lajitas Array 139.19 22 PKP PKPdf 02 35 00.5 +3.2
comp=Z,0.2nm,0.4s,baz=346,slow=0.2,SNR=10
BDFB Brasilia 140.68 256 PKP PKPdf 02 35 02.1 +1.7
comp=Z,2.9nm,0.8s,baz=43,slow=11,SNR=3.3
PLCA Paso Flores 144.63 203 PKP PKPdf 02 35 07.5 +0.9
comp=Z,3.5nm,1.0s,baz=149,slow=3.1,SNR=5.5
LPAZ La Paz 159.50 246 PKP PKPdf 02 35 32.3 +3.4
comp=Z,0.7nm,0.9s,baz=58,slow=2.1,SNR=4.4
LPAZ PKPab PKPab 02 36 10.0 +0.6
comp=Z,1.0nm,0.7s,baz=119,slow=3.6,SNR=6.4

IDC 27 02:25:57.4±2.2,28.24S×176.00W,mb3.8/2,mb1 4.1/3, mb1mx3.8/16,mbtmp3.9/3,ML3.5/1,MS3.3/2,Ms1 3.3/2, ms1mx3.0/25,Error ellipse: s-maj=73.9km s-min=37.9km az=132.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**11.53**	**208**	Pn	P	02 28 42.5	-3.8
	0.3nm,0.3s,baz=325,slow=17,SNR=2.7						
URZ				Sn	S	02 31 08.8	+12
	1.1nm,0.3s,baz=235,slow=19,SNR=8.6						
RAR	**Rarotonga**	**16.31**	**68**	LR	LR	02 34 29.0	
	comp=Z,193nm,20.3s,baz=272,slow=31						
DZM	**Mont Dzumac**	**17.04**	**287**	LR	LR	02 34 13.5	
	comp=Z,71nm,18.9s,baz=203,slow=29						
ASAR	**Alice Springs**	**45.03**	**264**	P	P	02 34 15.0	-1.7
	0.5nm,0.4s,baz=100,slow=7.3,SNR=7.5						
WRA	**Warramunga Arr**	**45.83**	**269**	P	P	02 34 21.5	-1.5
	1.3nm,0.7s,baz=108,slow=7.6,SNR=3.8						
NB2	**NORSAR Subarra**	**146.85**	**354**	PKPabc	PKPdf	02 45 40.5	-0.4
	0.6nm,0.8s,baz=8.0,slow=4.1						
NOA	**NORSAR Array B**	**146.85**	**354**	PKPbc	PKPbc	02 45 41.0	+0.5
	1.0nm,0.8s,baz=7.2,slow=2.7,SNR=4.3						
AKASG	**Malin Array Be**	**150.56**	**327**	PKPbc	PKPdf	02 45 50.5	+3.5
	0.2nm,0.3s,baz=43,slow=3.0,SNR=5.4						
AKASG				PKPab	PKPab	02 45 56.0	-3.6
	0.2nm,0.3s,baz=45,slow=4.3,SNR=4.7						

*BJI **27** 02:26:51.7,35.59N×115.35E,h10km,mB4.6,mb4.6, ML4.5,Ms4.2,Msz4.0*
*IDC **27** 02:26:51.5±0.6,35.64N×115.23E,mb3.9/14,mb1 4.2/15, mb1mx4.1/21,mbtmp3.9/15,ML2.9/1,Error ellipse: s-maj=21.6km s-min=15.9km az=58.0*
*NEIC **27** 02:26:52.9±0.5,35.69N×115.37E,h10km,mb4.3/5,Error ellipse: s-maj=10.9km s-min=8.0km az=140.0*
*MOS **27** 02:26:54.1±1.3,35.62N×115.36E,h33km,mb4.4/4,Error ellipse: s-maj=15.9km s-min=11.7km az=107.7*
ISC 27 02:26:50.6±0.4,35.68N±0.05×115.41E±0.05,h10km,n48, σ1°38/62,mb4.0/18,2C,Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**1.49**	**68**	PG	**Pg**	**02 27 19.0**	**-1.4**
TIA				SG	**Sg**	**02 27 39.3**	**-0.9**
BJT	**Baijiatuau**	**4.38**	**8**	*e*P	**Pn**	**02 27 56.8**	**-1.9**
BJI	**Beijing**	**4.40**	**8**	P	**Pn**	**02 27 59.8**	**+0.8**
BJI				PG	**Pg**	**02 28 11.3**	**-7.1**
BJI				SG	**Sg**	**02 29 04.0**	**-13**
BJI				Smax			
	comp=N,734nm,1.1s						
BJI				Smax			
	comp=E,727nm,0.9s						
NJ2	**Nanjing**	**4.61**	**141**	*e*P	**Pn**	**02 27 58.8**	**-3.3**
NJ2				PG	**Pg**	**02 28 16.3**	**-6.4**
NJ2				SG	**Sg**	**02 29 14.0**	**-10**
NJ2				Smax			
	comp=N,1μm,0.9s						
NJ2				Smax			
	comp=E,510nm,0.5s						
NJ2				LR	LR		
	comp=N,3μm,9.4s						
NJ2				LR	LR		
	comp=E,3μm,11.3s						
NJ2				LR	LR		
	comp=Z,7μm,8.8s						
WHN	**Wuhan**	**5.20**	**190**	P	**Pn**	**02 28 10.8**	**+0.5**
WHN				SG	**Sg**	**02 29 30.5**	**-13**
WHN				Smax			
	comp=N,440nm,0.7s						
WHN				Smax			
	comp=E,773nm,1.0s						
XAN	**Xi'an**	**5.58**	**255**	P	**Pn**	**02 28 13.0**	**-2.8**
XAN				SG	**Sg**	**02 29 49.3**	**-7.1**
XAN				Smax			
	comp=N,199nm,0.9s						
XAN				Smax			
	comp=E,170nm,0.8s						
DL2	**Dalian**	**5.91**	**55**	PG	**Pg**	**02 28 39.0**	**-10**
DL2				S	**Sn**	**02 29 40.0**	**+11**
DL2				SG	**Sg**	**02 29 56.3**	**-11**
DL2				Smax			
	comp=N,80nm,0.9s						
DL2				Smax			
	comp=E,110nm,0.7s						
HHC	**Hu-ho-hao-te**	**5.99**	**331**	*e*PG	**Pg**	**02 28 39.8**	**-10**
HHC				SG	**Sg**	**02 30 01.3**	**-8.6**
BTO	**Baotou**	**6.50**	**321**	*e*PG	**Pg**	**02 28 49.5**	**-11**
BTO				Smax			
	comp=N,135nm,1.0s						
BTO				Smax			
	comp=E,206nm,1.1s						
ENH	**Enshi**	**7.33**	**224**	P	**Pn**	**02 28 42.8**	**+2.4**
	comp=E,27nm,0.6s						
LZH	**Lanzhou**	**9.40**	**276**	*e*P	**P**	**02 29 06.5**	**-2.6**
LZH				AP		02 29 13.0	
LZH				XP		02 29 17.3	
LZH				*e*S	**Sn**	**02 30 50.0**	**-6.0**
LZH				XS		02 31 01.0	
LZH				AMB	AMB		
	comp=Z,15nm,1.0s						
LZH				AMB	AMB		
	comp=Z,80nm,4.2s						
LZH				LR	LR		
	comp=N,625nm,5.6s						
LZH				LR	LR		
	comp=Z,774nm,9.1s						
LZH	**Lanzhou**	**9.40**	**276**	*e*P	**P**	**02 29 06.5**	**-2.6**
	comp=Z,15nm,1.0s						
LZH				pP		02 29 13.0	
LZH				sP		02 29 17.3	
LZH				*e*S	**Sn**	**02 30 50.0**	**-6.0**
LZH				sS		02 31 01.0	
CD2	**Chengdu**	**10.85**	**247**	*e*P	**P**	**02 29 30.0**	**+1.0**
GYA	**Guiyang**	**11.85**	**222**	⇑*i*P	**P**	**02 29 42.0**	**-0.8**
GYA				AP		02 29 47.3	
GYA				XP		02 29 51.5	
GYA				S	**S**	**02 31 45.8**	**-10**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s						
GYA				LR	LR		
	comp=N,700nm,10.5s						
GYA				LR	LR		
	comp=E,680nm,11.4s						
GYA				LR	LR		
	comp=Z,730nm,11.1s						
GYA	**Guiyang**	**11.85**	**222**	⇑*i*P	**P**	**02 29 42.0**	**-0.8**
	comp=Z,20nm,0.6s						
GYA				pP		02 29 47.3	
GYA				sP		02 29 51.5	
GYA				S	**S**	**02 31 45.8**	**-10**
ZAK	**Zakamensk**	**17.13**	**333**	*e*P	**P**	**02 30 53.1**	**+1.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ZAK	**Zakamensk**	**17.13**	**333**	*e*P	**P**	**02 30 53.1**	**+1.5**
	comp=Z,4.0nm,1.0s						
KLR	**Kul'dur**	**18.08**	**36**	*e*P	**P**	**02 31 03.3**	**-0.1**
MJAR	**Matsushiro Arr**	**18.44**	**81**	P	**P**	**02 31 08.8**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=281,slow=9.7,SNR=4.9						
LSA	**Lhasa**	**21.25**	**261**	P	**P**	**02 31 39.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**22.51**	**225**	P	**P**	**02 31 50.4**	**-1.4**
	comp=Z,0.9nm,0.3s,mb3.6,baz=27,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**27.08**	**304**	P	**P**	**02 32 36.3**	**+1.1**
	comp=Z,0.2nm,0.4s,mb3.0,baz=94,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**27.08**	**304**	P	**P**	**02 32 36.3**	**+1.2**
CHKZ	**Chkalovo**	**35.87**	**314**	*e*P	**P**	**02 33 51.1**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**35.87**	**313**	P	**P**	**02 33 50.1**	**-2.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=108,slow=4.6,SNR=2.9						
BVAR				PcP	PcP	02 36 20.5	+0.6
	comp=Z,1.2nm,0.5s,baz=131,slow=2.7,SNR=8.0						
WRA	**Warramunga Arr**	**58.15**	**159**	P	**P**	**02 36 46.7**	**-0.4**
	comp=Z,1.7nm,0.9s,mb4.1,baz=354,slow=7.3,SNR=5.7						
FINES	**FINESS Array B**	**59.09**	**326**	P	**P**	**02 36 53.0**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=72,slow=6.0,SNR=9.2						
COLA	**College**	**61.04**	**29**	*e*P	**P**	**02 37 08.7**	**+2.4**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
COLA	**College**	**61.04**	**29**	*e*P	**P**	**02 37 08.7**	**+2.3**
	comp=Z,10nm,0.8s,mb5.0						
AKASG	**Malin Array Be**	**61.15**	**314**	P	**P**	**02 37 07.2**	**-0.1**
	comp=Z,0.7nm,0.6s,mb4.0,baz=51,slow=6.1,SNR=4.7						
ILAR	**Eielson Array**	**61.46**	**29**	P	**P**	**02 37 09.7**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.3,baz=288,slow=5.6,SNR=23						
ASAR	**Alice Springs**	**61.56**	**161**	P	**P**	**02 37 10.8**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.2,baz=342,slow=6.0,SNR=9.4						
BRTR	**Keskin Array B**	**62.65**	**301**	P	**P**	**02 37 16.9**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.3,baz=93,slow=6.1,SNR=11						
NB2	**NORSAR Subarra**	**65.80**	**329**	P	**P**	**02 37 37.9**	**+0.3**
	comp=Z,2.3nm,0.8s,mb4.3,baz=57,slow=6.2						
NB2	**NORSAR Subarra**	**65.80**	**329**	P	**P**	**02 37 37.9**	**+0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
NOA	**NORSAR Array B**	**65.80**	**329**	P	**P**	**02 37 38.0**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.2,baz=58,slow=6.1,SNR=11						
NOA	**NORSAR Array B**	**65.80**	**329**	P	**P**	**02 37 38.0**	**+0.3**
STKA	**Stephens Creek**	**71.55**	**157**	P	**P**	**02 38 14.7**	**+0.8**
	comp=Z,1.8nm,0.7s,mb4.1,baz=327,slow=9.2,SNR=5.0						
YKA	**Yellowknife Ar**	**74.26**	**22**	P	**P**	**02 38 30.1**	**+1.1**
	comp=Z,1.5nm,0.8s,mb4.0,baz=322,slow=5.6,SNR=24						
CDF	**Champ du Feu**	**74.69**	**319**	*e*P	**P**	**02 38 32.0**	**+0.1**
	comp=Z,3.6nm,0.6s,mb4.2						
CDF	**Champ du Feu**	**74.69**	**319**	*e*P	**P**	**02 38 32.0**	**+0.1**
CDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
HINF	**Hinteralfeld**	**75.27**	**319**	*e*P	**P**	**02 38 35.2**	**-0.1**
	comp=Z,3.2nm,0.6s,mb4.2						
HINF	**Hinteralfeld**	**75.27**	**319**	*e*P	**P**	**02 38 35.2**	**-0.1**
HINF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
LPL	**La Plagne**	**76.73**	**317**	*e*P	**P**	**02 38 46.3**	**+2.7**
LPG	**La Plagne**	**76.73**	**317**	*e*P	**P**	**02 38 46.6**	**+3.0**
MCMT	**McKenzie Canyo**	**88.73**	**32**	*e*P	**P**	**02 39 48.8**	**+3.4**
NVAR	**Mina Array Bea**	**91.09**	**39**	P	**P**	**02 40 00.6**	**+4.0**
	comp=Z,0.3nm,0.6s,mb3.8,baz=270,slow=0.7,SNR=4.5						
PDAR	**Pinedale Array**	**91.80**	**31**	P	**P**	**02 40 02.5**	**+2.8**
	comp=Z,0.8nm,0.9s,mb4.1,baz=27,slow=3.3,SNR=5.3						

NEIC 27 02:28:56.0,51.81N×174.09W,h39km,ML3.8(AEIC), After AEIC.,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.40**	**351**	P	P	02 29 04.3	-1.1
ATKA				S	S	02 29 12.2	+0.2
GSIG	**Igitkin Island**	**1.15**	**280**	P	P	02 29 14.1	-1.7
GSIG				S	S	02 29 29.6	-1.0
GSMY	**Great Sitkin M**	**1.24**	**282**	P	P	02 29 15.6	-1.5
GSTR	**Great Sitkin T**	**1.25**	**284**	P	P	02 29 16.1	-1.1
GSTR				S	S	02 29 32.5	-0.7
GSTD	**Great Sitkin T**	**1.30**	**282**	P	P	02 29 16.4	-1.5
GSTD				S	S	02 29 33.2	-1.2
GSSP	**Great Sitkin S**	**1.32**	**283**	P	P	02 29 17.0	-1.3
GSSP				S	S	02 29 34.1	-0.8
ADAG	**Mount Adagdak**	**1.56**	**277**	P	P	02 29 20.8	-1.1
KIWB	**Kanaga Island**	**1.90**	**273**	P	P	02 29 25.7	-0.8
KIMD	**Kanaga Island**	**1.95**	**270**	P	P	02 29 26.1	-1.3
NIKO	**Nikolski**	**3.42**	**68**	P	P	02 29 46.5	-1.6
OKFG	**Magazine Ridge**	**4.09**	**64**	P	P	02 29 56.8	-1.0

NEIC 27 02:35:01.2,66.24N×165.25W,h19km,ML2.9(AEIC), After AEIC.,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**1.29**	**239**	P	Pn	02 35 23.4	-1.0
TNA				S	Sb	02 35 41.0	+0.2
GCSA	**Galena City Sc**	**3.80**	**109**	P	Pn	02 35 59.2	-0.9
GCSA				S	Sn	02 36 43.5	-1.3
IM3	**Indian Mountai**	**4.69**	**88**	P	Pn	02 36 11.1	-1.7
TT01	**Tatalina**	**5.19**	**126**	P	Pn	02 36 18.4	-1.5
KTH	**Kantishna Hill**	**6.66**	**107**	P	Pn	02 36 38.7	-1.9
TRF	**Thorofare Moun**	**6.96**	**107**	P	Pn	02 36 43.0	-1.8
IL1	**Eielson Array**	**7.77**	**92**	P	Pn	02 36 53.1	-3.0
BM3	**Burnt Mountain**	**8.22**	**72**	P	P	02 36 59.8	-2.6
EYAK	**Cordova Ski Ar**	**10.41**	**114**	*e*P	P	02 37 26.0	-6.4

*NIED **27** 02:52:00,33.80N×137.10E,h360km,Mw4.1 Best double couple: M0:1.66×10^15 NP1:φs140°,δ80°,λ101°. NP2: φs271°,δ15°,λ41°.*
*MOS **27** 02:52:04.4±0.8,33.76N×136.95E,h363km,mb4.1/4,Error ellipse: s-maj=26.0km s-min=10.6km az=80.2*
*IDC **27** 02:52:05.2±0.6,33.74N×137.02E,h354km±6km,mb3.5/14, mb1 3.7/18,mb1mx3.6/26,mbtmp4.2/18,Error ellipse: s-maj=13.4km s-min=9.1km az=93.0*
*NEIC **27** 02:52:05.6±0.4,33.74N×136.95E,h358km±4km,mb4.3/9, Error ellipse: s-maj=9.8km s-min=5.9km az=121.0*
*JMA **27** 02:52:05.2±0.2,33.79N×137.06E,h370km±2km,M3.9*
ISC 27 02:52:05.1±0.3,33.77N±0.05×137.06E±0.06,h366km±2km, n60,σ0°96/73,mb3.9/21,9C-7D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.44**	**90**	*e*S	**S**	**02 53 28.7**	**+1.2**
TK02	**Tokai 2**	**0.61**	**73**	P	**P**	**02 52 52.5**	**+0.9**
TK02				*e*S	**S**	**02 53 30.0**	**+1.9**
JIE	**Ise**	**0.69**	**335**	⇑P	**P**	**02 52 52.4**	**+0.6**
JIE				S	**S**	**02 53 28.4**	**-0.1**
TK03	**Tokai 3**	**0.85**	**62**	*e*S	**S**	**02 53 32.3**	**+3.0**
JWZ	**Kozaga**	**1.14**	**259**	⇑P	**P**	**02 52 53.3**	**-0.1**
JWZ				*e*S	**S**	**02 53 30.9**	**-0.4**
JWY	**Kouya**	**1.30**	**291**	⇑P	**P**	**02 52 54.7**	**+0.5**
JWY				S	**S**	**02 53 32.3**	**-0.3**
JGM	**Miyama**	**1.95**	**352**	⇓P	**P**	**02 52 58.4**	**+0.5**
JGM				*e*S	**S**	**02 53 39.9**	**+0.6**
JWT	**Wachi**	**2.04**	**318**	⇑P	**P**	**02 52 58.8**	**+0.3**
JWT				S	**S**	**02 53 39.6**	**-0.8**
JYN	**Shimob**	**2.12**	**35**	⇓P	**P**	**02 52 59.1**	**0.0**
JAI	**Aioi**	**2.17**	**271**	⇑P	**P**	**02 52 59.6**	**+0.1**
JIM2	**Oshima 3**	**2.18**	**64**	⇓P	**P**	**02 52 59.5**	**-0.1**
JOD2	**Odawara 2**	**2.25**	**48**	⇓P	**P**	**02 53 00.0**	**0.0**
JHJ	**Hachijo jima 2**	**2.37**	**105**	P	**P**	**02 53 01.2**	**+0.3**
	28nm,0.3s,baz=96,slow=23,SNR=5.5						
JHJ				S	**S**	**02 53 44.0**	**-0.7**
	18nm,0.3s,baz=236,slow=23,SNR=2.6						
JHJ2	**Mitsune**	**2.40**	**105**	P	**P**	**02 53 01.4**	**+0.3**
JKG	**Kaga**	**2.58**	**347**	P	**P**	**02 53 02.8**	**+0.3**
JMN	**Monobe**	**2.65**	**270**	⇑P	**P**	**02 53 03.6**	**+0.5**
JRY	**Ryogami san**	**2.71**	**33**	⇓P	**P**	**02 53 03.8**	**+0.2**
JRY				*e*S	**S**	**02 53 50.0**	**+0.5**
MJAR	**Matsushiro Arr**	**2.93**	**18**	P	**P**	**02 53 05.3**	**-0.1**
	21nm,0.3s,baz=194,slow=9.8,SNR=170						
MJAR				S	**S**	**02 53 51.9**	**-0.8**
	baz=188,slow=17,SNR=2.6						
MAJO	**Matsushiro**	**2.93**	**18**	*e*P	**P**	**02 53 05.0**	**-0.4**
MAT	**Matsushiro**	**2.93**	**18**	*e*P	**P**	**02 53 05.0**	**-0.4**
MAT				*e*S	**S**	**02 53 52.0**	**-0.8**
MAT	**Matsushiro**	**2.93**	**18**	P	**P**	**02 53 05.3**	**-0.1**
MAT				S	**S**	**02 53 51.8**	**-1.0**
MAT	**Matsushiro**	**2.93**	**18**	P	**P**	**02 53 05.3**	**-0.1**
MAT				*e*S	**S**	**02 53 52.3**	**-0.5**
JAG	**Ashikaga**	**3.30**	**36**	⇓P	**P**	**02 53 07.5**	**-1.3**
JAG				*e*S	**S

BILL Bilibino 38.18 17 *eP* **P 02 58 52.9 +1.2**
comp=Z,21nm,0.8s,mb4.4
MKAR Makanchi Array 42.93 305 P **P 02 59 30.4 -0.1**
comp=Z,0.5nm,0.5s,mb2.9,baz=86,slow=9.7,SNR=6.3
MKAR ScP 03 04 27.8
comp=Z,0.2nm,0.4s,baz=76,slow=5.0,SNR=3.6
WB2 Warramunga Arr 53.47 183 ⇓*iP* **P 03 00 49.5 -1.5**
WRA Warramunga Arr 53.47 183 P **P 03 00 49.6 -1.4**
comp=Z,5.2nm,0.3s,mb4.3,baz=359,slow=7.7,SNR=50
ILAR Eielson Array 54.14 31 P **P 03 00 54.5 -0.6**
comp=Z,1.2nm,0.8s,mb3.3,baz=283,slow=6.4,SNR=13
DIV Divide 55.01 35 P **P 03 01 02.1 +0.7**
comp=Z,15nm,0.5s,mb4.6
ASAR Alice Springs 57.19 183 P **P 03 01 16.1 -1.1**
comp=Z,1.9nm,0.6s,mb3.6,baz=16,slow=10,SNR=24
INK Inuvik 58.89 26 *eP* **P 03 01 27.9 -0.3**
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 58.89 26 *eP* **P 03 01 27.9 -0.3**
comp=Z,1.5nm,0.5s,mb3.7
STKA Stephens Creek 65.43 176 P **P 03 02 10.7 -0.7**
comp=Z,1.5nm,0.7s,mb3.7,baz=317,slow=15,SNR=5.3
ARCES ARCESS Array B 65.78 339 P **P 03 02 12.9 0.0**
comp=Z,3.9nm,0.8s,mb4.2,baz=55,slow=6.7,SNR=10
YKA Yellowknife Ar 68.39 28 P **P 03 02 29.5 +0.4**
comp=Z,0.5nm,0.4s,mb3.6,baz=295,slow=6.0,SNR=14
KAF Kangasniemi 69.55 332 *ep* **P 03 02 35.2 -1.0**
comp=Z,2.5nm,0.4s,mb4.3,baz=53,slow=5.7
KAF Kangasniemi 69.55 332 *eP* **P 03 02 35.2 -1.0**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
FINES FINESS Array B 70.01 331 P **P 03 02 38.8 -0.3**
comp=Z,2.6nm,0.4s,mb4.3,baz=53,slow=6.6,SNR=70
NB2 NORSAR Subarra 75.77 336 P **P 03 03 11.6 -0.8**
comp=Z,1.3nm,0.8s,mb3.7,baz=43,slow=5.6
NB2 NORSAR Subarra 75.77 336 P **P 03 03 11.6 -0.8**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
NOA NORSAR Array B 75.77 336 P **P 03 03 12.2 -0.2**
comp=Z,1.6nm,0.7s,mb3.9,baz=45,slow=5.6,SNR=10
FCC Fort Churchill 78.48 24 *eP* **P 03 03 27.6 +0.5**
NVAR Mina Array Bea 79.80 51 P **P 03 03 36.4 +1.7**
comp=Z,2.4nm,0.8s,mb4.0,baz=307,slow=3.8,SNR=14
IMW Indian Meadow 80.99 43 *eP* **P 03 03 43.2 +2.5**
comp=Z,3.3nm,0.8s,mb4.1
MOOW Moose Ponds 81.19 43 *eP* **P 03 03 43.7 +1.9**
comp=Z,0.8nm,0.6s,mb3.6
PDAR Pinedale Array 82.48 43 P **P 03 03 49.7 +1.3**
comp=Z,2.5nm,0.8s,mb4.1,baz=321,slow=2.6,SNR=18
GERES GERESS Array B 83.53 326 P **P 03 03 53.4 0.0**
comp=Z,0.5nm,0.6s,mb3.5,baz=27,slow=3.0,SNR=4.9
TXAR Lajitas Array 94.94 50 P **P 03 04 49.1 +1.4**
comp=Z,0.7nm,0.7s,mb3.8,baz=274,slow=2.4,SNR=11
LPAZ La Paz 151.42 59 PKPbc PKPdf 03 11 18.8 +9.2
comp=Z,0.7nm,0.4s,baz=23,slow=6.5,SNR=5.6

IGQ 27 03:01:53.6,4.49S×81.13W,h12km±24km,mb4.4,1C-2D,
Error ellipse: s-maj=24.2km s-min=5.4km az=113.2,
Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**2.29**	**4**	P	Pn	03 02 33.3	+1.5
HOJA	**Cerro de Hojas**	**3.46**	**10**	⇑P	Pn	03 02 49.1	+0.6
HOJA				S	Sn	03 03 28.4	-1.4
IGUA	**Igualata**	**3.88**	**40**	P	Pn	03 02 54.7	+0.3
IGUA				S	Sn	03 03 40.9	+0.5
ARRY	**Arrayan**	**3.99**	**42**	P	Pn	03 02 56.4	+0.4
ARRY				S	Sn	03 03 41.9	-1.2
JAMA	**Jama**	**4.30**	**12**	P	Pn	03 03 01.3	+0.9
NAS1	**Nasa**	**4.66**	**35**	P	Pn	03 03 06.8	+1.4
TAMB	**Tambo**	**4.67**	**36**	P	Pn	03 03 07.8	+2.2
VC1	**Cotopaxi 1**	**4.69**	**36**	P	Pn	03 03 07.1	+1.1
JUA2	**San Juan 2**	**4.94**	**31**	P	Pn	03 03 10.1	+0.6
TERV	**Terraza Guagua**	**4.97**	**31**	P	Pn	03 03 11.1	+1.2
TERV				S	Sn	03 04 09.3	+1.3
GGP	**Refugio Guagua**	**4.98**	**31**	P	Pn	03 03 10.5	+0.6
GGP				S	Sn	03 04 08.5	+0.4
PINO	**Pino**	**4.98**	**30**	⇓P	Pn	03 03 11.6	+1.5
PINO				S	Sn	03 04 11.6	+3.2
JOR1	**San Jorge 1**	**5.11**	**29**	P	Pn	03 03 10.2	-1.6
JOR1				S	Sn	03 04 05.9	-5.5
CAYR	**Refugio Cayambe**	**5.45**	**35**	P	Pn	03 03 18.6	+1.9
COTA	**Cotacachi**	**5.54**	**30**	P	Pn	03 03 19.1	+1.1
ECEN	**Cerro Negro**	**6.15**	**31**	⇓P	Pn	03 03 30.5	+4.0

*IDC **27** 03:03:29.2±1.6, 1.11N×96.93E, mb4.1/7, mb1 4.2/8, mb1mx3.9/20, mbtmp4.1/8, ML4.3/1, MS3.9/1, Ms1 3.9/1, ms1mx3.0/20, Error ellipse: s-maj=75.0km s-min=20.3km az=56.0*
*NEIC **27** 03:03:34.0±0.7, 1.22N×97.12E, h30km, mb4.6/2, Error ellipse: s-maj=17.6km s-min=11.5km az=66.0*
ISC 27 03:03:32.7±0.9, 1.3N±0.1×97.1E±0.1, h33km, n18,
σ0 99/17, mb4.4/13, MS3.9/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.35**	**42**	*eP*	**P**	**03 04 52.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**17.18**	**6**	P	**P**	**03 07 33.2**	**+1.3**
0.3nm,0.3s,baz=203,slow=11,SNR=8.5							
PKI	**Pulchoki**	**28.45**	**338**	*eP*	**P**	**03 09 25.5**	**-1.4**
DMN	**Daman**	**28.60**	**337**	*eP*	**P**	**03 09 26.3**	**-2.0**
9.6nm,0.7s,mb4.6							
KKN	**Kakani**	**28.70**	**338**	*eP*	**P**	**03 09 28.4**	**-0.7**
9.8nm,0.6s,mb4.7							
GKN	**Gorkha**	**29.14**	**337**	*eP*	**P**	**03 09 33.7**	**+0.7**
5.0nm,0.3s,mb4.8							
KOLN	**Koldanda**	**29.35**	**335**	*eP*	**P**	**03 09 36.1**	**+1.2**
16nm,0.8s,mb4.8							
ENH	**Enshi**	**31.16**	**21**	*eP*	**P**	**03 09 49.8**	**-1.2**
5.6nm,0.4s,mb4.8							
ENH				*ep*P	pP	03 09 56.5	-4.1
WRA	**Warramunga Arr**	**42.16**	**122**	P	**P**	**03 11 23.6**	**-0.6**
1.7nm,0.6s,mb3.8,baz=302,slow=9.0,SNR=6.1							
ASAR	**Alice Springs**	**43.52**	**127**	P	**P**	**03 11 35.7**	**+0.4**
1.0nm,0.8s,mb3.6,baz=298,slow=8.1,SNR=7.3							
SONM	**Songino Array**	**47.08**	**9**	P	**P**	**03 12 04.1**	**+0.8**
3.2nm,0.8s,mb4.3,baz=190,slow=7.5,SNR=4.2							
SONM				LR	LR	03 34 26.1	
comp=Z,120nm,20.3s,MS3.9,baz=282,slow=39							
MKAR	**Makanchi Array**	**47.15**	**346**	P	**P**	**03 12 04.5**	**+0.6**
2.1nm,0.6s,mb4.2,baz=159,slow=8.4,SNR=28							
MKAR	**Makanchi Array**	**47.15**	**346**	P	**P**	**03 12 04.5**	**+0.6**
BVAR	**Borovoye Array**	**56.15**	**341**	P	**P**	**03 13 10.6**	**-0.8**
2.6nm,0.7s,mb4.4,baz=143,slow=7.4,SNR=13							
CHKZ	**Chkalovo**	**56.63**	**341**	*eP*	**P**	**03 13 14.3**	**-0.6**
5.0nm,0.8s,mb4.6							
ARCES	**ARCESS Array B**	**82.44**	**340**	P	**P**	**03 15 53.9**	**+1.1**
3.2nm,1.0s,mb4.2,baz=90,slow=3.6,SNR=4.8							
NOA	**NORSAR Array B**	**86.90**	**331**	P	**P**	**03 16 16.1**	**+1.0**
0.6nm,0.9s,mb3.8,baz=93,slow=4.7,SNR=3.7							
TXAR	**Lajitas Array**	**143.67**	**31**	PKP	PKPdf	03 23 06.2	+1.3
0.4nm,0.8s,baz=154,slow=1.8,SNR=4.6							

*IDC **27** 03:28:13.3±1.5, 11.87N×86.78W, mb3.7/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=67.2km s-min=17.4km az=49.0*
*CASC **27** 03:28:15.3±1.3, 11.29N×87.29W, h37km±993km, MD4.3, ML3.5*
ISC 27 03:28:14.8±1.1, 11.29N±0.09×87.29W±0.07, h44km±11km,
n14, σ0 93/19, mb3.7/6, 1C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGAN	**Managua**	**1.33**	**50**	*i*	**S**	**03 29 01.8**	**+7.5**
comp=N,835nm,0.4s							
WILN	**Americas 2**	**1.39**	**51**	⇑*eP*	**P**	**03 28 37.6**	**-0.6**
WILN				*eS*	**S**	**03 28 56.5**	**+0.9**
CNCH	**Conchagua**	**2.04**	**345**	*eP*	**P**	**03 28 48.1**	**+0.6**
JTS	**JuntasAbangare**	**2.51**	**113**	Pn	**P**	**03 28 53.6**	**-0.5**
comp=N,3.8nm,0.3s,baz=316,slow=20,SNR=25							
JTS				Sn	**S**	**03 29 23.3**	**-0.3**
comp=N,24nm,0.3s,baz=312,slow=21,SNR=11							
LCBS	**La Ceiba**	**2.87**	**325**	⇓*eP*	**P**	**03 28 59.7**	**+0.4**
LCBS				*eS*	**S**	**03 29 32.8**	**-0.1**
LFRS	**El Faro**	**2.89**	**324**	*eP*	**P**	**03 29 00.3**	**+0.7**
LFRS				*eS*	**S**	**03 29 33.0**	**-0.4**
BOQS	**Boqueron**	**3.11**	**322**	*eP*	**P**	**03 29 01.2**	**-1.5**
SBLS	**San Blas**	**3.40**	**318**	*eP*	**P**	**03 29 07.0**	**+0.1**
SBLS				*eS*	**S**	**03 29 46.4**	**+0.1**
TXAR	**Lajitas Array**	**23.57**	**322**	P	**P**	**03 33 24.2**	**+1.9**
comp=N,1.0nm,0.7s,mb3.4,baz=134,slow=10,SNR=16							
TXAR				PcP	PcP	03 37 12.9	+4.6
comp=N,0.1nm,0.3s,baz=162,slow=4.0,SNR=3.4							
PDAR	**Pinedale Array**	**36.86**	**332**	P	**P**	**03 35 21.1**	**+0.2**
comp=N,0.5nm,0.8s,mb3.4,baz=122,slow=9.7,SNR=3.9							
SCHQ	**Schefferville**	**46.34**	**16**	P	**P**	**03 36 36.2**	**-2.1**
comp=N,1.5nm,0.6s,mb4.1,baz=228,slow=12,SNR=5.7							
BDFB	**Brasilia**	**47.20**	**124**	P	**P**	**03 36 47.0**	**+1.5**
comp=N,3.1nm,0.6s,mb4.4,baz=287,slow=10,SNR=5.4							
YKA	**Yellowknife Ar**	**54.76**	**345**	P	**P**	**03 37 40.9**	**-1.3**
comp=N,0.4nm,0.7s,mb3.6,baz=139,slow=7.6,SNR=16							
ILAR	**Eielson Array**	**67.14**	**336**	P	**P**	**03 39 05.9**	**0.0**
comp=N,0.3nm,0.7s,mb3.5,baz=161,slow=5.1,SNR=4.7							

*IDC **27** 03:43:54.2±0.5, 4.31N×93.26E, mb4.4/17, mb1 4.6/18, mb1mx4.6/19, mbtmp4.4/18, ML4.0/1, Error ellipse: s-maj=22.8km s-min=12.7km az=49.0*
*MOS **27** 03:43:57.5±0.9, 4.34N×93.35E, h33km, mb4.9/17, Error ellipse: s-maj=12.5km s-min=6.8km az=112.9*
*BJI **27** 03:43:57.2, 3.76N×93.24E, h56km, mB5.1, mb5.0, Ms5.3, Msz5.2*
*NEIC **27** 03:43:58.1±0.3, 4.31N×93.24E, mb4.8/15, Error ellipse: s-maj=9.0km s-min=5.8km az=207.0*
ISC 27 03:43:56.1±0.3, 4.23N±0.05×93.28E±0.04, h24km,
h24km±.3km:pP-P, n135, σ1 9 02/122, mb4.7/57, MS5.0/4,
2C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.42**	**82**	*eP*	**Pn**	**03 45 45.2**	**-0.6**
SNG	**Songkhla**	**7.87**	**68**	P	**Pn**	**03 45 52.0**	**-0.1**
480nm,0.9s							
PALK	**Pallekele**	**12.87**	**284**	*eP*	**P**	**03 46 56.5**	**-4.0**
28nm,0.6s							
CMAR	**Chiang Mai Arr**	**15.18**	**21**	Pn	**P**	**03 47 30.1**	**-1.0**
0.2nm,0.3s,baz=218,slow=13,SNR=29							
KKTK	**Khon Kaen**	**15.25**	**37**	P	**P**	**03 47 38.0**	**+6.1**
802nm,0.6s							
CHG	**Chiang Mai**	**15.51**	**20**	P	**P**	**03 47 34.5**	**-0.8**
12nm,0.9s							
NANT	**Nan**	**16.19**	**26**	P	**P**	**03 47 45.5**	**+1.5**
375nm,0.9s							
KSM	**Kuching**	**17.23**	**99**	*eP*	**P**	**03 47 58.8**	**+1.6**
HYB	**Hyderabad**	**19.49**	**313**	*eP*	**P**	**03 48 23.5**	**-1.1**
HYB	**Hyderabad**	**19.49**	**313**	*i P*	**P**	**03 48 23.5**	**-1.1**
QIZ	**Qiongzhong**	**21.86**	**46**	P	**P**	**03 48 50.5**	**+1.3**
KMI	**Kunming**	**22.68**	**23**	⇑P	**P**	**03 49 00.3**	**+3.0**
KMI				AP		03 49 07.8	
KMI				AMB	AMB		
comp=Z,26nm,1.2s,mb4.5							
KMI				AMB	AMB		
comp=Z,138nm,4.0s							
KKM	**Kota Kinabalu**	**22.92**	**85**	*eP*	**P**	**03 49 02.5**	**+2.7**
PKI	**Pulchoki**	**24.39**	**343**	*eP*	**P**	**03 49 15.6**	**+1.6**
comp=Z,184nm,1.1s,mb5.4							
DMN	**Daman**	**24.52**	**342**	*eP*	**P**	**03 49 16.9**	**+1.7**
GUN	**Gumba**	**24.58**	**344**	*eP*	**P**	**03 49 16.9**	**+1.1**
comp=Z,142nm,1.2s,mb5.4							
KKN	**Kakani**	**24.63**	**343**	*eP*	**P**	**03 49 16.7**	**+0.3**
comp=Z,106nm,1.2s,mb5.2							
GKN	**Gorkha**	**25.03**	**342**	*eP*	**P**	**03 49 20.8**	**+0.7**
comp=Z,222nm,1.2s,mb5.6							
KOLN	**Koldanda**	**25.16**	**339**	*eP*	**P**	**03 49 21.8**	**+0.5**
comp=Z,147nm,1.3s,mb5.3							
LSA	**Lhasa**	**25.41**	**356**	*eP*	**P**	**03 49 25.8**	**+2.1**
GYA	**Guiyang**	**25.55**	**29**	⇑*iP*	**P**	**03 49 25.5**	**+0.5**
GYA				AMB	AMB		
comp=Z,20nm,0.8s,mb4.7							
CD2	**Chengdu**	**28.31**	**19**	P	**P**	**03 49 50.0**	**-0.3**
CD2				AMB	AMB		
comp=Z,10.0nm,1.2s,mb4.3							
ENH	**Enshi**	**30.09**	**29**	*eP*	**P**	**03 50 03.6**	**-2.6**
comp=Z,8.1nm,0.7s,mb4.6							
WHN	**Wuhan**	**32.87**	**35**	⇓P	**P**	**03 50 31.5**	**+0.9**
XAN	**Xi'an**	**33.03**	**24**	P	**P**	**03 50 30.5**	**-1.5**
XAN				AMB	AMB		
comp=Z,19nm,0.8s,mb5.1							
LZH	**Lanzhou**	**33.16**	**16**	*eP*	**P**	**03 50 33.5**	**+0.4**
LZH				AMB	AMB		
comp=Z,45nm,1.7s,mb5.1							
LZH				AMB	AMB		
comp=Z,196nm,4.0s							
GTA	**Gaotai**	**35.51**	**9**	*eP*	**P**	**03 50 53.8**	**+0.5**
GTA				AMB	AMB		
comp=Z,8.0nm,1.8s,mb4.3							
NJ2	**Nanjing**	**36.62**	**38**	*eP*	**P**	**03 51 02.0**	**-0.7**
NJ2				PP	PP	03 52 27.0	-0.5
NJ2				AMB	AMB		
comp=Z,40nm,1.0s,mb5.2							
NJ2				AMB	AMB		
comp=Z,1μm,4.6s							
NJ2				LR	LR		
comp=N,1μm,18.4s,MS5.0							
NJ2				LR	LR		
comp=E,2μm,17.4s,MS5.0							
NJ2				LR	LR		
comp=Z,4μm,20.4s,MS5.2							
FITZ	**Fitzroy Crossi**	**38.87**	**126**	P	**P**	**03 51 20.8**	**-0.9**
comp=Z,13nm,0.8s,mb4.7,baz=211,slow=5.3,SNR=7.9							
WMQ	**Urumqi**	**39.73**	**354**	*eP*	**P**	**03 51 29.0**	**+0.4**
ULHL	**Ulahol**	**40.78**	**341**	P	**P**	**03 51 38.3**	**+1.0**
SNR=7.3							
BJT	**Baijiatuau**	**41.19**	**27**	P	**P**	**03 51 41.5**	**+0.9**
BJT				pmax	pmax		
comp=Z,18nm,0.3s							
BJT	**Baijiatuau**	**41.19**	**27**	P	**P**	**03 51 41.5**	**+0.9**
comp=Z,18nm,0.3s,mb5.2							
BJI	**Beijing**	**41.21**	**27**	P	**P**	**03 51 41.5**	**+0.7**
BJI				AMB	AMB		
comp=Z,18nm,0.9s,mb4.7							
UCH	**Uchtor**	**41.37**	**339**	P	**P**	**03 51 43.3**	**+1.2**
SNR=5.8							
AML	**Almayashu**	**41.59**	**338**	P	**P**	**03 51 45.1**	**+1.2**
SNR=12							
TKM2	**Tokmak 2**	**41.60**	**340**	P	**P**	**03 51 44.8**	**+0.8**
SNR=7.2							
AAK	**Ala-Archa**	**41.73**	**339**	*i P*	**P**	**03 51 44.7**	**-0.4**
AAK				pmax	pmax		
comp=Z,7.0nm,1.3s,mb4.1							
AAK	**Ala-Archa**	**41.73**	**339**	*eP*	**P**	**03 51 44.4**	**-0.7**
comp=Z,15nm,1.4s,mb4.4							
FRU	**Bishkek**	**41.86**	**339**	*eP*	**P**	**03 51 47.0**	**+0.9**
USP	**Ospovka**	**42.28**	**340**	P	**P**	**03 51 49.9**	**+0.3**
SNR=6.6							
MKAR	**Makanchi Array**	**43.45**	**349**	P	**P**	**03 51 58.8**	**-0.2**
comp=Z,5.3nm,0.6s,mb4.4,baz=168,slow=8.5,SNR=78							
ULN	**Ulaanbaatar**	**45.05**	**13**	*i P*	**P**	**03 52 11.4**	**-0.6**
ZAK	**Zakamensk**	**46.76**	**9**	*eP*	**P**	**03 52 26.0**	**+0.6**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.8s,mb3.8							
WRA	**Warramunga Arr**	**46.96**	**122**	P	**P**	**03 52 27.3**	**-0.1**
comp=Z,11nm,0.9s,mb4.8,baz=301,slow=8.9,SNR=33							
WRAB	**Tennant Creek**	**46.96**	**122**	*i P*	**P**	**03 52 27.5**	**+0.1**
WRAB	**Tennant Creek**	**46.96**	**122**	*eP*	**P**	**03 52 27.1**	**-0.4**
comp=Z,14nm,0.7s,mb5.0							
TLY	**Talaya**	**48.07**	**9**	*i P*	**P**	**03 52 35.2**	**-0.6**
TLY				pmax	pmax		
comp=Z,1.0nm,0.6s,mb4.0							
ASAR	**Alice Springs**	**48.34**	**127**	P	**P**	**03 52 38.1**	**0.0**
comp=Z,3.4nm,0.9s,mb4.4,baz=310,slow=7.7,SNR=19							
ASAR				PcP	PcP	03 54 04.8	-0.2
comp=Z,3.1nm,0.8s,baz=303,slow=3.9,SNR=7.8							
HIA	**Hailar**	**50.19**	**22**	*eP*	**P**	**03 52 49.9**	**-2.2**
NVS	**Novosibirsk**	**51.11**	**353**	*eP*	**P**	**03 52 57.1**	**-1.8**
NVS				pmax	pmax		
comp=Z,25nm,1.2s,mb5.0							
NVS				pmax	pmax		
comp=N,34nm,1.6s							
NVS				pmax	pmax		
comp=E,7.0nm,0.7s							
MDJ	**Mudanjiang**	**51.30**	**33**	*eP*	**P**	**03 52 59.9**	**-0.6**
BVAR	**Borovoye Array**	**52.16**	**343**	P	**P**	**03 53 05.9**	**-1.1**
comp=E,5.5nm,0.7s,mb4.6,baz=149,slow=8.6,SNR=43							
MJAR	**Matsushiro Arr**	**52.26**	**46**	PcP	PcP	03 54 19.8	+0.5
comp=E,1.9nm,0.8s,baz=252,slow=2.8,SNR=5.1							
CHKZ	**Chkalovo**	**52.66**	**343**	*eP*	**P**	**03 53 10.3**	**-0.4**
CHKZ				pmax	pmax		
comp=Z,75nm,1.4s,mb5.4							
CHKZ	**Chkalovo**	**52.66**	**343**	*eP*	**P**	**03 53 10.3**	**-0.5**
comp=Z,75nm,1.4s,mb5.4							
KLR	**Kul'dur**	**55.44**	**30**	*eP*	**P**	**03 53 28.8**	**-2.4**
BOD	**Bodaibo**	**55.87**	**13**	*eP*	**P**	**03 53 32.9**	**-1.2**
BOD				pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.7							
KMBO	**Kilima Mbogo**	**56.23**	**266**	P	**P**	**03 53 37.9**	**+0.6**
KMBO				pmax	pmax		
comp=Z,1.0nm,2.0s							
KMBO	**Kilima Mbogo**	**56.23**	**266**	P	**P**	**03 53 37.9**	**+0.5**
comp=Z,2.4nm,0.8s,mb4.3,baz=61,slow=9.3,SNR=6.8							
GNI	**Garni**	**56.41**	**316**	*i P*	**P**	**03 53 37.7**	**-0.5**
GNI				pmax	pmax		
comp=Z,7.0nm,1.3s							
CTA	**Charters Tower**	**57.36**	**117**	P	**P**	**03 53 45.2**	**-0.1**
comp=Z,3.2nm,0.8s,mb4.4,baz=306,slow=9.0,SNR=3.7							
CTA				ScP		03 58 40.7	
comp=Z,6.2nm,1.0s,baz=343,slow=5.5,SNR=3.4							
STKA	**Stephens Creek**	**58.29**	**132**	P	**P**	**03 53 51.3**	**-0.3**
comp=Z,1.9nm,0.7s,mb4.2,baz=328,slow=11,SNR=4.2							
SVE	**Sverdlovsk**	**58.47**	**340**	*eP*	**P**	**03 53 51.0**	**-1.5**
SVE				pmax	pmax		
comp=Z,40nm,1.2s,mb5.3							
ARU	**Arti**	**58.91**	**338**	⇓*iP*	**P**	**03 53 53.7**	**-1.9**
ARU				*e*		03 54 42.4	
ARU				*e*PPP	PPP	03 57 25.8	-6.1
ARU				*e*S	**S**	**04 01 59.2**	**+0.8**
ARU				*e*SS	SS	04 05 56.2	+2.4
ARU				pmax	pmax		
comp=Z,12nm,1.0s,mb4.9							
ARU	**Arti**	**58.91**	**338**	*eP*	**P**	**03 53 54.2**	**-1.4**
comp=Z,8.0nm,0.3s,mb5.2							
ARU				*ep*P	pP	03 54 01.6	-1.4
KIV	**Kislovodsk**	**59.47**	**320**	*eP*	**P**	**03 53 58.7**	**-1.0**
KIV				pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.7							
YSS	**Yuzh-Sakhalins**	**60.18**	**37**	*i P*	**P**	**03 54 04.3**	**-0.2**
YSS				pmax	pmax		
comp=Z,13nm,1.0s,mb4.9							
MALT	**Malatya**	**60.20**	**312**	*eP*	**P**	**03 54 04.7**	**-0.1**
MALT				pmax	pmax		
comp=Z,9.0nm,1.1s,mb4.7							
MALT	**Malatya**	**60.20**	**312**	*eP*	**P**	**03 54 04.7**	**0.0**
comp=Z,9.4nm,1.1s,mb4.7							
EIL	**Elat**	**60.53**	**302**	*eP*	**P**	**03 54 06.6**	**-0.6**
comp=Z,12nm,1.1s,mb4.9							
ANN	**Anapa**	**63.25**	**319**	*eP*	**P**	**03 54 25.0**	**-0.1**
YAK	**Yakutsk**	**63.70**	**18**	*eP*	**P**	**03 54 26.2**	**-1.6**
YAK				pmax	pmax		
comp=Z,13nm,0.9s,mb5.0							
YAK				pmax	pmax		
comp=N,6.0nm,1.1s							
YAK				pmax	pmax		
comp=E,4.0nm,1.1s							
BRTR	**Keskin Array B**	**64.18**	**312**	P	**P**	**03 54 30.0**	**-1.4**
comp=E,4.1nm,0.8s,mb4.5,baz=130,slow=7.3,SNR=24							
OBN	**Obninsk**	**68.00**	**329**	*i P*	**P**	**03 54 54.3**	**-1.2**
OBN				*e*		03 55 25.3	
OBN				*e*		03 57 24.9	
OBN				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.7							
OBN				MLR	MLR		
comp=Z,800nm,21.0s,MS4.9							
AKASG	**Malin Array Be**	**70.48**	**323**	P	**P**	**03 55 09.4**	**-1.4**
comp=Z,0.7nm,0.4s,mb4.0,baz=92,slow=4.5,SNR=9.3							
TIXI	**Tiksi**	**70.95**	**11**	*i P*	**P**	**03 55 12.6**	**-0.7**
TIXI				pmax	pmax		
comp=Z,16nm,1.0s,mb4.9							
TIXI				MLR	MLR		
comp=Z,1μm,24.0s,MS5.0							
BOSA	**Boshof**	**72.95**	**239**	P	**P**	**03 55 25.8**	**-0.3**
comp=Z,5.9nm,1.2s,mb4.4,baz=91,slow=3.3,SNR=3.5							
BOSA	**Boshof**	**72.95**	**239**	P	**P**	**03 55 25.8**	**-0.3**
JOF	**Joensuu**	**73.75**	**335**	*ep*	**P**	**03 55 27.7**	**-2.3**
comp=Z,4.2nm,0.9s,mb4.4							
KWP	**Kalwaria**	**74.25**	**320**	*eP*	**P**	**03 55 33.1**	**0.0**
KWP				pmax	pmax		
comp=Z,1.0nm,1.8s,mb3.4							
KWP	**Kalwaria**	**74.25**	**320**	*eP*	**P**	**03 55 33.1**	**0.0**
comp=Z,1.3nm,1.8s,mb3.6							
KOLS	**Kolonicke sedl**	**74.38**	**320**	*eP*	**P**	**03 55 34.0**	**+0.1**
KOLS				*ep*P	pP	03 55 42.3	+0.9
LVZ	**Lovozero**	**74.67**	**340**	*dep*	**P**	**03 55 25.4**	**-10**
LVZ				*e*		03 58 25.0	
LVZ				pmax	pmax		
comp=Z,83nm,3.2s							
LVZ				pmax	pmax		
comp=N,46nm,3.0s							
LVZ				pmax	pmax		
comp=E,34nm,3.9s							
LVZ				MLR	MLR		
comp=Z,1μm,16.0s,MS5.3							
LVZ				MLR	MLR		
comp=N,379nm,12.0s,MS5.0							
LVZ				MLR	MLR		
comp=E,422nm,16.0s,MS5.0							
MAW	**Mawson**	**74.82**	**192**	P	**P**	**03 55 37.6**	**+1.5**
comp=E,2.3nm,0.8s,mb4.2,baz=208,slow=2.9,SNR=3.6							
CRVS	**Cervenica-Dubn**	**74.90**	**320**	*eP*	**P**	**03 55 39.1**	**+2.2**
CRVS	**Cervenica-Dubn**	**74.90**	**320**	*e*	**P**	**03 55 39.1**	**+2.2**
SUW	**Suwalki**	**74.95**	**325**	*eP*	**P**	**03 55 36.0**	**-1.1**
FINES	**FINESS Array B**	**75.52**	**333**	P	**P**	**03 55 39.6**	**-0.6**
comp=E,2.9nm,0.8s,mb4.3,baz=101,slow=9.7,SNR=14							
KAF	**Kangasniemi**	**75.63**

comp=Z,9.7nm,0.8s,mb4.7
VNDA Vanda 89.56 168 P P 03 56 56.9 +4.4
comp=Z,0.8nm,0.9s,mb4.1,baz=317,slow=5.5,SNR=4.3
TNA Tin City 89.82 24 *e*P **P 03 56 54.6 +0.7**
comp=Z,3.1nm,0.9s,mb4.6
ESDC Sonseca Array 92.89 310 P **P 03 57 08.6 -0.1**
comp=Z,0.6nm,0.7s,mb4.1,baz=90,slow=4.4,SNR=4.1
ILAR Eielson Array 98.42 22 PP PP 04 01 39.0 +2.7
comp=Z,0.9nm,1.1s,baz=286,slow=7.1,SNR=4.2
YKA Yellowknife Ar 110.14 13 PP PP 04 02 55.8 -8.5
comp=Z,0.4nm,0.9s,baz=333,slow=7.4,SNR=4.3
NVAR Mina Array Bea 128.46 32 PKP PKPdf 04 03 05.2 -1.1
comp=Z,0.9nm,0.6s,baz=264,slow=1.2,SNR=7.0
PDAR Pinedale Array 128.85 22 PKP PKPdf 04 03 04.8 -2.0
comp=Z,0.9nm,0.8s,slow=1.5,SNR=9.4
MVU Marysvale 131.37 27 *e*PKPdf PKPdf 04 03 09.3 -2.5
TXAR Lajitas Array 142.87 25 PKP PKPdf 04 03 28.1 -4.9
comp=Z,0.8nm,0.8s,baz=335,slow=0.6,SNR=11
JCT Junction City 143.29 19 *e*PKIKP PKPdf 04 03 27.1 -6.6
CFAA Coronel Fontan 147.70 210 PKPbc PKPdf 04 03 41.7 +0.5
comp=Z,0.9nm,0.7s,baz=164,slow=2.7,SNR=14
SIV San Ignacio 152.22 243 PKPbc PKPdf 04 03 52.3 +3.8
comp=Z,1.5nm,0.7s,baz=91,slow=4.4,SNR=9.6
SIV PKPab PKPab 04 04 00.9 -2.0
comp=Z,1.0nm,0.7s,baz=110,slow=3.1,SNR=5.3
LPAZ La Paz 158.16 235 PKP PKPdf 04 03 55.5 -1.0
comp=Z,1.4nm,0.8s,baz=166,slow=1.6,SNR=7.0
LPAZ PKPab PKPab 04 04 28.7 +0.5
comp=Z,1.3nm,0.9s,baz=120,slow=2.9,SNR=4.6
LPAZ La Paz 158.16 235 PKP PKPdf 04 03 55.5 -1.0
LPAZ PKPab PKPab 04 04 28.7 +0.5

IDC ***27*** *03:45:30.1±0.4,4.40N×93.23E,mb4.8/25,mb1 4.9/26, mb1mx4.9/27,mbtmp4.8/26,ML4.4/1,MS4.7/6,Ms1 4.7/6, ms1mx4.4/13,Error ellipse: s-maj=14.9km s-min=11.5km az=44.0*
BJI ***27*** *03:45:31.0,3.98N×93.26E,h30km,mB5.4,mb5.2,Ms5.6, Msz5.3*
HRVD ***27*** *03:45:32.3±0.2,4.22N×93.14E,h12km,MW5.3/73, Centroid moment Tensor Solution. LP body waves: s58,c104;Mantle waves: s73,c150; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.15±.02; $M_{\theta\theta}$-0.10±.02; $M_{\phi\phi}$-1.05±.02; $M_{r\theta}$-0.29±.05; $M_{\theta\phi}$0.51±.02; $M_{\phi r}$-0.22±.05; Best double couple: $M_0$1.268×10^{17} NP1: ϕ_s320°,δ46°,λ66°. NP2:ϕ_s173°,δ49°,λ113°. Principal axes: T 1.262, Plg73°, Azm150°; N .012, Plg17°, Azm338°; P -1.274, Plg2°, Azm247°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *03:45:32.3±0.1,4.29N×93.17E,mb5.2/84,MS5.1/112 Error ellipse: s-maj=6.3km s-min=3.6km az=215.0*
MOS ***27*** *03:45:33.6±1.1,4.38N×93.27E,h33km,mb5.4/62, MS4.9/33,Error ellipse: s-maj=8.7km s-min=4.1km az=125.4*
CSEM ***27*** *03:45:34.4,4.44N×93.39E,h33km,mb5.6*
ISC 27 03:45:32.4±0.2,4.25N±0.03×93.22E±0.03,h27km, **h27**km±1.9km**:pP-P,n508,σ1§12/**413**,mb5.1**/136**,MS5.1**/145, **50C-20D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**7.38**	**356**	*e*P	**Pn**	**03 47 18.3**	**-2.9**
KULM	**Kulim**	**7.48**	**82**	*e*P	**Pn**	**03 47 19.2**	**-3.4**
IPM	**Ipoh**	**7.79**	**87**	P	**Pn**	**03 47 26.2**	**-0.9**
KGM	**Kluang**	**10.33**	**102**	P	**P**	**03 48 00.9**	**-1.2**
NST	**Nakhon Sawan**	**13.23**	**30**	P	**P**	**03 48 40.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**15.19**	**21**	Pn	**P**	**03 49 03.5**	**-3.7**
	0.6nm,0.3s,baz=218,slow=13,SNR=8.9						
CMAR				LR	LR	03 55 07.2	
	comp=Z,3μm,18.9s,baz=210,slow=38						
PENI	**Pendagan**	**15.41**	**129**	⇓*i*P	**P**	**03 49 12.8**	**+2.7**
PENI				pmax	pmax		
	comp=Z,221nm,0.8s						
PENI	**Pendagan**	**15.41**	**129**	⇓*i*P	**P**	**03 49 12.8**	**+2.7**
	comp=Z,221nm,0.8s						
PENI	**Pendagan**	**15.41**	**129**	⇓*i*P	**P**	**03 49 12.9**	**+2.8**
	comp=Z,442nm,0.8s						
MDRS	**Chennai**	**15.52**	**305**	*e*P	**P**	**03 49 10.0**	**-1.5**
MDRS				*e*		03 51 32.0	
MDRS				*e*		03 53 02.0	
UBT	**Ubonrachathani**	**15.95**	**46**	P	**P**	**03 49 18.0**	**+1.1**
PASI	**Pasiripis**	**16.45**	**131**	*e*P	**P**	**03 49 25.4**	**+2.1**
PASI	**Pasiripis**	**16.45**	**131**	*e*P	**P**	**03 49 25.5**	**+2.2**
PULI	**Pulasari**	**16.52**	**129**	⇓*i*P	**P**	**03 49 21.5**	**-2.7**
	comp=Z,476nm,1.2s						
PULI	**Pulasari**	**16.52**	**129**	⇓*i*pP		03 49 25.6	
PULI	**Pulasari**	**16.52**	**129**	⇑*i*P	**P**	**03 49 22.2**	**-2.0**
	comp=Z,476nm,1.2s						
VIS	**Vishakhapatnam**	**16.53**	**325**	*e*P	**P**	**03 49 23.2**	**-1.0**
VIS				*e*		03 52 12.8	
TRD	**Trivandrum**	**16.70**	**285**	⇓*e*P	**P**	**03 49 22.7**	**-3.8**
TRD				*e*		03 52 16.7	
KSM	**Kuching**	**17.29**	**99**	*e*P	**P**	**03 49 35.1**	**+1.3**
CAL	**Calcutta**	**18.79**	**346**	*e*	**S**	**03 53 35.7**	**+18**
HYB	**Hyderabad**	**19.44**	**313**	*e*P	**P**	**03 49 59.0**	**-1.0**
HYB				pmax	pmax		
	comp=Z,80nm,1.0s						
HYB	**Hyderabad**	**19.44**	**313**	*e*P	**P**	**03 49 59.0**	**-1.0**
	comp=Z,80nm,1.0s						
HYB				*e*S	**S**	**03 53 44.0**	**+12**
HYB	**Hyderabad**	**19.44**	**313**	*i* P	**P**	**03 49 59.0**	**-1.0**
	comp=Z,80nm,1.0s						
HYB				*e*S	**S**	**03 53 31.0**	**-1.2**
HYB				LR	LR		
	comp=Z,5.5nm,18.0s						
AGT	**Agartala**	**19.61**	**355**	*i*	**P**	**03 50 01.0**	**-0.9**
BLSP	**Bilaspur**	**20.77**	**330**	*e*P	**P**	**03 50 14.4**	**+0.3**
BLSP				*e*		03 50 26.4	
	comp=Z,284nm,1.3s						
BLSP				*e*		03 53 54.1	
SHL	**Shillong**	**21.24**	**357**	*e*P	**P**	**03 50 17.5**	**-1.3**
SHL				*e*		03 54 18.0	
LATR	**Latur**	**21.53**	**312**	*e*P	**P**	**03 50 22.2**	**+0.4**
QIZ	**Qiongzhong**	**21.90**	**47**	P	**P**	**03 50 26.0**	**+0.5**
QIZ				XP		03 50 37.5	
QIZ				S	**S**	**03 54 21.5**	**+0.7**
QIZ				AMB	AMB		
	comp=Z,59nm,1.4s,mb4.8						
QIZ				LR	LR		
	comp=N,13μm,16.5s,MS5.5						
QIZ				LR	LR		
	comp=E,5μm,16.5s,MS5.5						
QIZ				LR	LR		
	comp=Z,12μm,10.1s						
QIZ	**Qiongzhong**	**21.90**	**47**	⇑*e*P	**P**	**03 50 26.1**	**+0.6**
	comp=Z,85nm,1.1s,mb5.1						
KMI	**Kunming**	**22.68**	**23**	⇑P	**P**	**03 50 35.5**	**+2.1**
KMI				AP		03 50 46.3	
KMI				XP		03 50 48.0	
KMI				PP	PP	03 51 06.0	+3.9
KMI				S	**S**	**03 54 40.0**	**+4.7**
KMI				XS		03 54 54.8	
KMI				SS	SS	03 55 25.8	+7.5
KMI				AMB	AMB		
	comp=Z,38nm,1.7s,mb4.5						
KMI				AMB	AMB		
	comp=Z,464nm,4.6s						
KMI				LR	LR		
	comp=N,2μm,15.9s,MS5.0						
KMI				LR	LR		
	comp=E,4μm,19.0s,MS5.0						
KMI				LR	LR		
	comp=Z,2μm,17.4s,MS4.6						
AKL	**Akola**	**22.71**	**317**	*e*P	**P**	**03 50 34.0**	**+0.3**
KAD	**Karad**	**22.73**	**306**	*e*P	**P**	**03 50 34.9**	**+1.0**
KAD				*e*		03 50 44.9	
	comp=Z,213nm,1.3s						
KKM	**Kota Kinabalu**	**22.97**	**85**	*e*P	**P**	**03 50 38.2**	**+2.0**
KKM	**Kota Kinabalu**	**22.97**	**85**	P	**P**	**03 50 37.7**	**+1.5**
POO	**Poona**	**23.66**	**308**	⇓*i*P	**P**	**03 50 44.0**	**+1.1**
	comp=Z,156nm,1.1s,mb5.3						
POO				*i*		03 55 24.0	
DGAR	**Diego Garcia**	**23.74**	**241**	PFAKE		03 50 50.0	+6.3
DGAR				LR	LR		
	comp=Z,2μm,20.0s,MS4.5						
BHPL	**Bhopal**	**24.28**	**322**	*e*P	**P**	**03 50 51.3**	**+2.4**
BHPL				*e*		03 51 00.5	
	comp=Z,73nm,1.4s						
BHPL				*e*		03 55 01.8	
TSM	**Tawau**	**24.59**	**89**	P	**P**	**03 50 52.7**	**+0.7**
BOM	**Bombay**	**24.68**	**308**	*e*	**P**	**03 50 56.2**	**+3.3**
BOM				*e*		03 50 59.2	
BOM				*e*		03 55 34.7	
LSA	**Lhasa**	**25.39**	**356**	P	**P**	**03 51 01.5**	**+2.0**
LSA				AP	pP	03 51 10.3	+3.0
LSA				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
LSA				AMB	AMB		
	comp=Z,520nm,6.3s						
LSA				LR	LR		
	comp=N,1μm,16.0s,MS5.0						
LSA				LR	LR		
	comp=E,3μm,14.5s,MS5.0						
LSA				LR	LR		
	comp=Z,2μm,12.6s,MS4.9						
GYA	**Guiyang**	**25.56**	**29**	⇑*i*P	**P**	**03 51 00.0**	**-1.1**
GYA				PP	PP	03 51 38.8	-2.0
GYA				S	**S**	**03 55 20.5**	**-4.1**
GYA				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,770nm,7.7s						
GYA				LR	LR		
	comp=N,5μm,12.0s,MS5.4						
GYA				LR	LR		
	comp=E,4μm,12.6s,MS5.4						
GYA				LR	LR		
	comp=Z,5μm,12.4s,MS5.2						
HKC	**Hong Kong**	**27.09**	**47**	P	**P**	**03 51 14.0**	**-1.2**
CD2	**Chengdu**	**28.32**	**19**	P	**P**	**03 51 24.3**	**-2.0**
CD2				PPP	PPP	03 52 30.0	+0.1
CD2				S	**S**	**03 56 11.3**	**+1.7**
CD2				SS	SS	03 57 37.5	+3.3
CD2				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.2						
CD2				AMB	AMB		
	comp=Z,640nm,9.6s						
CD2				LR	LR		
	comp=N,7μm,10.8s						
CD2				LR	LR		
	comp=Z,6μm,10.8s,MS5.4						
NDI	**New Delhi**	**28.67**	**330**	*e*P	**P**	**03 51 28.5**	**-0.9**
NDI				*e*		03 56 04.0	
BHJ	**Bhuj**	**29.59**	**312**	⇑*e*	**P**	**03 51 55.6**	**+18**
BHJ				*e*		03 56 36.4	
ENH	**Enshi**	**30.10**	**29**	*e*P	**P**	**03 51 41.5**	**-0.7**
	comp=Z,33nm,0.2s,mb5.7						
SDNR	**Sundarnagar**	**31.12**	**332**	*e*	**P**	**03 51 48.2**	**-3.0**
QZH	**Quanzhou**	**31.91**	**47**	⇑*i*P	**P**	**03 51 57.5**	**-0.7**
QZH				S	**S**	**03 57 12.5**	**+6.1**
QZH				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.4						
QZH				LR	LR		
	comp=N,8μm,11.6s,MS5.9						
QZH				LR	LR		
	comp=E,12μm,12.5s,MS5.9						
QZH				LR	LR		
	comp=Z,15μm,12.3s,MS5.9						
WHN	**Wuhan**	**32.89**	**35**	⇓P	**P**	**03 52 07.5**	**+0.8**
WHN				AMB	AMB		
	comp=Z,52nm,1.0s,mb5.4						
WHN				LR	LR		
	comp=N,8μm,12.0s						
WHN				LR	LR		
	comp=Z,15μm,11.3s,MS6.0						
XAN	**Xi'an**	**33.05**	**24**	P	**P**	**03 52 06.0**	**-2.0**
XAN				AMB	AMB		
	comp=Z,45nm,0.9s,mb5.4						
LZH	**Lanzhou**	**33.16**	**16**	⇑P	**P**	**03 52 09.0**	**0.0**
LZH				AP	pP	03 52 18.0	+1.0
LZH				XP	sP	03 52 21.0	+0.6
LZH				PP	PP	03 53 21.0	+0.6
LZH				*e*S	**S**	**03 57 26.0**	**+0.2**
LZH				AMB	AMB		
	comp=Z,86nm,1.6s,mb5.4						
LZH				AMB	AMB		
	comp=Z,205nm,4.0s						
LZH				LR	LR		
	comp=E,6μm,13.6s						
LZH				LR	LR		
	comp=Z,7μm,14.7s,MS5.5						
TATO	**Taipei**	**34.10**	**50**	PFAKE		03 52 30.0	+13
TATO				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
GTA	**Gaotai**	**35.51**	**9**	*e*P	**P**	**03 52 30.0**	**+0.8**
GTA				AP	pP	03 52 35.8	-1.4
GTA				PP	PP	03 53 50.5	+1.0
GTA				PPP	PPP	03 54 11.3	+2.8
GTA				PCP	PcP	03 54 57.3	-1.1
GTA				S	**S**	**03 58 06.0**	**+3.9**
GTA				SS	SS	04 00 27.3	+5.8
GTA				AMB	AMB		
	comp=Z,20nm,1.6s,mb4.8						
GTA				AMB	AMB		
	comp=Z,384nm,4.8s						
GTA				LR	LR		
	comp=N,1μm,19.0s,MS5.0						
GTA				LR	LR		
	comp=E,2μm,14.8s,MS5.0						
GTA				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
MBWA	**Marble Bar**	**36.24**	**135**	*e*P	**P**	**03 52 33.7**	**-1.8**
	comp=Z,50nm,1.3s,mb5.3						
MBWA				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
NJ2	**Nanjing**	**36.64**	**38**	*e*P	**P**	**03 52 37.5**	**-1.3**
NJ2				AP	pP	03 52 47.5	+0.7
NJ2				XP	sP	03 52 51.3	+1.1
NJ2				PP	PP	03 54 01.3	-2.5
NJ2				S	**S**	**03 58 16.0**	**-3.6**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,482nm,4.2s						
NJ2				LR	LR		
	comp=N,8μm,16.8s,MS5.6						
NJ2				LR	LR		
	comp=E,4μm,17.8s,MS5.6						
NJ2				LR	LR		
	comp=Z,21μm,20.4s,MS5.9						
SSE	**Sheshan**	**37.50**	**41**	P	**P**	**03 52 47.0**	**+1.0**
SSE				AP	pP	03 52 56.0	+2.0
SSE				XP	sP	03 52 59.5	+2.1
SSE				PP	PP	03 54 11.3	-3.1
SSE				S	**S**	**03 58 33.0**	**+0.3**
SSE				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,152nm,6.7s						
SSE				LR	LR		
	comp=N,5μm,17.9s,MS5.4						
SSE				LR	LR		
	comp=E,3μm,17.8s,MS5.4						
SSE				LR	LR		
	comp=Z,4μm,11.9s						
MSEY	**Mahe Island**	**38.73**	**257**	PFAKE		03 53 10.0	+14
MSEY				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
FITZ	**Fitzroy Crossi**	**38.92**	**126**	*e*P	**P**	**03 52 55.6**	**-2.5**
	comp=Z,17nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**38.92**	**126**	P	**P**	**03 52 56.8**	**-1.2**
	comp=Z,33nm,0.8s,mb5.1,baz=290,slow=4.7,SNR=9.6						
BTO	**Baotou**	**39.23**	**20**	*e*P	**P**	**03 53 01.0**	**+0.6**
BTO				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.1						
WMQ	**Urumqi**	**39.71**	**354**	⇑*i*P	**P**	**03 53 05.0**	**+0.6**
WMQ				AP	pP	03 53 15.0	+2.6
WMQ				XP	sP	03 53 19.0	+3.2
WMQ				PP	PP	03 54 41.3	+1.9
WMQ				PPP	PPP	03 55 06.0	+1.4
WMQ				PCP	PcP	03 55 11.5	+0.3
WMQ				S	**S**	**03 59 07.0**	**+0.9**
WMQ				XS		03 59 23.0	
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,603nm,3.3s						
WMQ				LR	LR		
	comp=N,396nm,17.0s,MS4.7						
WMQ				LR	LR		
	comp=E,809nm,16.5s,MS4.7						
WMQ				LR	LR		
	comp=Z,934nm,26.2s						
HHC	**Hu-ho-hao-te**	**40.00**	**22**	⇑P	**P**	**03 53 08.3**	**+1.5**
HHC				AP	pP	03 53 18.3	+3.5
HHC				XP	sP	03 53 21.0	+2.8
HHC				PCP	PcP	03 55 13.5	+1.3
HHC				SCP		03 58 54.5	
HHC				PCS		03 58 59.0	
HHC				S	**S**	**03 59 13.0**	**+2.6**
HHC				XS		03 59 29.0	
HHC				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.6						
HHC				AMB	AMB		
	comp=Z,562nm,8.8s						
HHC				LR	LR		
	comp=N,3μm,14.7s,MS5.4						
HHC				LR	LR		
	comp=E,2μm,13.3s,MS5.4						
HHC				LR	LR		
	comp=Z,3μm,15.0s,MS5.3						
JOW	**Kunigami**	**40.31**	**52**	P	**P**	**03 53 09.1**	**-0.4**
	comp=Z,7.9nm,0.6s,mb4.7,baz=212,slow=9.5,SNR=3.8						
ULHL	**Ulahol**	**40.76**	**341**	P	**P**	**03 53 14.5**	**+1.5**
	SNR=9.8						
KZA	**Kyzart**	**40.94**	**339**	P	**P**	**03 53 15.5**	**+1.0**
	SNR=6.1						
BJT	**Baijiatuau**	**41.20**	**27**	⇑*e*P	**P**	**03 53 18.0**	**+1.4**
BJT				pmax	pmax		
	comp=Z,32nm,1.1s						
BJT	**Baijiatuau**	**41.20**	**27**	⇑*e*P	**P**	**03 53 18.0**	**+1.3**
	comp=Z,32nm,1.1s,mb4.9						
BJI	**Beijing**	**41.22**	**27**	P	**P**	**03 53 17.8**	**+1.0**
BJI				AP	pP	03 53 26.5	+1.6
BJI				XP	sP	03 53 30.5	+2.3
BJI				PP	PP	03 54 52.0	-3.0
BJI				S	**S**	**03 59 23.8**	**-4.8**
BJI				SS	SS	04 02 29.5	+1.9
BJI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.7						
BJI				AMB	AMB		
	comp=Z,328nm,3.1s						
BJI				LR	LR		
	comp=N,2μm,28.0s						
BJI				LR	LR		
	comp=E,771nm,20.4s						
BJI				LR	LR		
	comp=Z,1μm,26.1s,MS4.7						
UCH	**Uchtor**	**41.34**	**339**	P	**P**	**03 53 19.8**	**+2.1**
	SNR=9.0						
AML	**Almayashu**	**41.55**	**338**	P	**P**	**03 53 21.7**	**+2.2**
	SNR=8.6						
KBK	**Karagaybulak**	**41.56**	**340**	P	**P**	**03 53 21.2**	**+1.6**
	SNR=6.5						
TKM2	**Tokmak 2**	**41.57**	**340**	P	**P**	**03 53 20.7**	**+1.0**
	SNR=8.5						
AAK	**Ala-Archa**	**41.70**	**339**	P	**P**	**03 53 22.2**	**+1.5**
	SNR=8.5						
AAK	**Ala-Archa**	**41.70**	**339**	*e*P	**P**	**03 53 20.9**	**+0.2**
AAK				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.0						
AAK				MLR	MLR		
	comp=Z,315nm,19.0s,MS4.2						
AAK	**Ala-Archa**	**41.70**	**339**	*e*P	**P**	**03 53 20.9**	**+0.2**
	comp=Z,53nm,1.4s,mb5.0						
AAK				LR	LR		
	comp=Z,315nm,19.0s,MS4.2						
FRU	**Bishkek**	**41.83**	**339**	*e*P	**P**	**03 53 23.0**	**+1.2**
FRU				*e*		03 55 07.0	
FRU				*e*		03 55 28.0	
FRU				*e*		03 59 41.0	
FRU				*e*		03 59 55.0	
EKS2	**Erkin-Say**	**41.98**	**338**	P	**P**	**03 53 24.7**	**+1.6**
	SNR=6.7						
USP	**Ospenovka**	**42.25**	**340**	P	**P**	**03 53 26.6**	**+1.3**
	SNR=10						
DL2	**Dalian**	**43.08**	**33**	P	**P**	**03 53 33.5**	**+1.4**
DL2				AP	pP	03 53 40.0	-0.1
DL2				PP	PP	03 55 12.8	-1.6
DL2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.2						
DL2				AMB	AMB		
	comp=Z,150nm,5.8s						
DL2				LR	LR		
	comp=N,1μm,11.2s,MS5.1						
DL2				LR	LR		
	comp=E,740nm,11.2s,MS5.1						
DL2				LR	LR		
	comp=Z,1μm,11.4s,MS5.0						
MKAR	**Makanchi Array**	**43.43**	**349**	P	**P**	**03 53 34.2**	**-0.6**
	comp=Z,13nm,0.7s,mb4.8,baz=166,slow=7.6,SNR=16						
MKAR				PP	PP	03 55 15.7	-2.1
	comp=Z,2.9nm,0.8s,baz=164,slow=8.8,SNR=1.7						
MKAR	**Makanchi Array**	**43.43**	**349**	P	**P**	**03 53 34.2**	**-0.6**
MKAR				PP	PP	03 55 15.7	-2.1
KKAR	**Karatay Array**	**43.62**	**336**	*i* P	**P**	**03 53 35.5**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**45.05**	**13**	*e*P	**P**	**03 53 48.2**	**+0.3**
ULN				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
ULN				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.0						
ULN	**Ulaanbaatar**	**45.05**	**13**	*e*P	**P**	**03 53 48.1**	**+0.2**
	comp=Z,12nm,0.9s,mb4.7						
ULN				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
SNY	**Shenyang**	**46.21**	**32**	⇑P	**P**	**03 53 57.3**	**+0.2**
SNY				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
SNY				LR	LR		
	comp=N,2μm,17.1s						
SNY				LR	LR		
	comp=Z,2μm,17.7s,MS5.1						
ZAK	**Zakamensk**	**46.75**	**9**	*e*P	**P**	**03 53 58.9**	**-2.4**
WRA	**Warramunga Arr**	**47.01**	**122**	P	**P**	**03 54 02.7**	**-1.1**
	comp=Z,45nm,1.1s,mb5.3,baz=300,slow=8.7,SNR=21						
WRAB	**Tennant Creek**	**47.02**	**122**	*e*P	**P**	**03 54 02.8**	**-1.0**
WRAB				MLR	MLR		
	comp=Z,393nm,20.0s,MS4.4						
WB2	**Warramunga Arr**	**47.02**	**122**	*e*P	**P**	**03 54 02.4**	**-1.4**
MENI	**Mendum Tagoi**	**47.64**	**97**	⇑*i*P	**P**	**03 54 05.5**	**-3.3**
	comp=Z,21nm,1.0s,mb4.8						
MOY	**Mondy**	**47.70**	**7**	*e*P	**P**	**03 54 10.5**	**+1.7**
MOY				pmax	pmax		
	comp=Z,43nm,2.3s,mb5.1						
YOMI	**Yo Moklole**	**47.80**	**97**	⇑*i*P	**P**	**03 54 05.4**	**-4.7**
	comp=Z,37nm,1.0s,mb5.4						
YOMI	**Yo Moklole**	**47.80**	**97**	⇑*i*P	**P**	**03 54 06.6**	**-3.5**
	comp=Z,74nm,1.0s,mb5.4						
TLY	**Talaya**	**48.07**	**9**	*d*i*P*	**P**	**03 54 13.2**	**+1.6**
TLY				*e*		03 55 38.1	
TLY				*e*S	**S**	**04 01 17.0**	**+10**
TLY				*e*SSS	SSS	04 05 50.6	+2.4
TLY				pmax	pmax		
	comp=Z,20nm,1.8s,mb4.8						
TLY				MLR	MLR		
	comp=Z,628nm,12.0s,MS4.8						
TLY	**Talaya**	**48.07**	**9**	*e*P	**P**	**03 54 11.7**	**+0.1**
TLY				LR	LR		
	comp=Z,321nm,19.0s,MS4.3						
FORT	**Forrest**	**48.16**	**139**	*e*P	**P**	**03 54 11.8**	**-0.9**
	comp=Z,698nm,0.7s						
ASPA	**Alice Springs**	**48.39**	**127**	*e*P	**P**	**03 54 13.7**	**-0.8**
ASAR	**Alice Springs**	**48.39**	**127**	P	**P**	**03 54 13.3**	**-1.2**
	comp=Z,15nm,1.1s,mb4.9,baz=305,slow=7.1,SNR=8.4						
ASAR				PcP	PcP	03 55 41.2	+0.2
	comp=Z,11nm,1.1s,baz=305,slow=3.6,SNR=6.3						
ASAR				LR	LR	04 18 33.1	
	comp=Z,703nm,18.3s,MS4.7,baz=309,slow=41						
CN2	**Changchun**	**48.58**	**31**	⇑P	**P**	**03 54 15.8**	**+0.1**
CN2				*e*AP	pP	03 54 24.8	+0.9
CN2				*e*S	**S**	**04 01 13.5**	**-1.1**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.2						
CN2				AMB	AMB		
	comp=Z,400nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,16.0s,MS5.3						
CN2				LR	LR		
	comp=E,2μm,16.0s,MS5.3						
CN2				LR	LR		
	comp=Z,2μm,16.0s,MS5.2						
HIA	**Hailar**	**50.20**	**22**	⇑*e*P	**P**	**03 54 28.6**	**+0.5**
HIA				pmax	pmax		
	comp=Z,27nm,1.0s						
HIA	**Hailar**	**50.20**	**22**	⇑*e*P	**P**	**03 54 28.6**	**+0.5**
	comp=Z,27nm,1.0s,mb5.2						
OPO	**Ambohidratompo**	**50.69**	**242**	P	**P**

comp=Z,78nm,1.2s,mb5.5
NVS pmax pmax
comp=N,43nm,1.4s
NVS pmax pmax
comp=E,55nm,1.2s
NVS smax
comp=N,19nm,1.8s
NVS smax
comp=E,57nm,2.5s
MDJ Mudanjiang 51.32 33 P **P** **03 54 37.0 +0.4**
MDJ AP pP 03 54 46.0 +1.2
MDJ XP sP 03 54 49.8 +1.8
MDJ PCP PcP 03 55 50.3 -1.2
MDJ PP PP 03 56 34.0 -0.4
MDJ SCP 03 59 45.0
MDJ PCS 03 59 48.5
MDJ S **S** **04 01 54.8 +2.2**
MDJ XS 04 02 10.3
MDJ SCS ScS 04 04 24.3 +2.3
MDJ AMB AMB
comp=Z,36nm,1.4s,mb5.1
MDJ AMB AMB
comp=Z,227nm,5.1s
MDJ LR LR
comp=N,3μm,14.2s,MS5.5
MDJ LR LR
comp=E,2μm,13.5s,MS5.5
MDJ LR LR
comp=Z,3μm,13.5s,MS5.5
MDJ Mudanjiang 51.32 33 *e*P **P** **03 54 37.1 +0.5**
comp=Z,54nm,1.3s,mb5.3
GUMO Guam 51.77 76 PFAKE 03 54 50.0 +10
GUMO LR LR
comp=Z,2μm,20.0s,MS5.1
BVA0 Borovoye Array 52.13 343 *i* P **P** **03 54 41.1 -1.6**
BVA0 pmax pmax
comp=Z,18nm,1.6s,mb4.8
BVAR Borovoye Array 52.13 343 P **P** **03 54 40.6 -2.0**
comp=Z,14nm,0.8s,mb5.0,baz=143,slow=7.4,SNR=18
MAJO Matsushiro 52.29 46 PFAKE 03 55 00.0 +16
MAJO LR LR
comp=Z,3μm,19.0s,MS5.3
MAT Matsushiro 52.29 46 P **P** **03 54 44.0 -0.1**
MAT S **S** **04 02 18.0 +12**
MAT pmax pmax
comp=Z,11nm,0.9s,mb4.8
MAT MLR MLR
comp=Z,3μm,19.0s,MS5.3
MAT Matsushiro 52.29 46 P **P** **03 54 44.0 -0.1**
comp=Z,11nm,0.9s,mb4.8
MAT S **S** **04 02 18.0 +12**
MAT LR LR
comp=Z,3μm,19.0s,MS5.3
MAT Matsushiro 52.29 46 P **P** **03 54 44.0 -0.1**
MAT *e*S **S** **04 02 08.0 +1.9**
MJAR Matsushiro Arr 52.29 46 P **P** **03 54 43.3 -0.8**
comp=Z,2.4nm,0.6s,mb4.3,baz=228,slow=6.5,SNR=6.6
MJAR PcP PcP 03 55 55.4 +0.2
comp=Z,4.9nm,0.9s,baz=240,slow=3.8,SNR=5.3
MJAR Matsushiro Arr 52.29 46 P **P** **03 54 43.3 -0.8**
MJAR PcP PcP 03 55 55.4 +0.2
CHKZ Chkalovo 52.64 343 *e*P **P** **03 54 45.1 -1.3**
CHKZ pmax pmax
comp=Z,120nm,1.3s,mb5.7
CHKZ Chkalovo 52.64 343 *e*P **P** **03 54 45.1 -1.3**
comp=Z,120nm,1.3s,mb5.7
AB31 Akbulak array 53.00 333 P **P** **03 54 47.1 -2.1**
AB31 pmax pmax
comp=Z,244nm,1.9s,mb5.8
BHD Baghdad 53.84 309 *e*P **P** **03 54 54.0 -1.5**
BHD *e*S **S** **04 02 26.5 -0.6**
PMG Port Moresby 55.44 104 P **P** **03 55 08.3 +0.7**
comp=Z,21nm,0.8s,mb5.2,baz=289,slow=13,SNR=3.7
PMG Port Moresby 55.44 104 P **P** **03 55 08.3 +0.7**
PMG LR LR
comp=Z,985nm,19.0s,MS4.9
KLR Kul'dur 55.46 30 *e*P **P** **03 55 03.9 -3.3**
KLR *e* 03 57 09.5
KLR *e*S **S** **04 02 43.0 -5.6**
KLR *e*SS SS 04 06 29.5 -3.9
KLR pmax pmax
comp=N,54nm,2.0s
KLR pmax pmax
comp=E,90nm,2.0s
KLR pmax pmax
comp=Z,110nm,2.0s,mb5.5
KLR pmax pmax
comp=Z,800nm,8.5s
KLR MLR MLR
comp=E,2μm,12.0s
KLR MLR MLR
comp=Z,4μm,12.0s,MS5.7
MAK Makhachkala 55.87 321 *e*P **P** **03 55 14.0 +3.8**
BOD Bodaibo 55.87 13 *e*P **P** **03 55 10.0 0.0**
BOD pmax pmax
comp=Z,35nm,1.1s,mb5.3
MSL Mosul 55.95 312 *e*P **P** **03 55 15.0 +4.1**
KMBO Kilima Mbogo 56.18 266 *e*P **P** **03 55 12.8 0.0**
KMBO pmax pmax
comp=Z,110nm,2.0s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 56.18 266 P **P** **03 55 13.8 +1.0**
comp=Z,3.2nm,0.8s,mb4.4,baz=62,slow=8.5,SNR=7.8
KMBO Kilima Mbogo 56.18 266 *e*P **P** **03 55 12.8 -0.1**
comp=Z,110nm,2.0s,mb5.5
KMBO LR LR
comp=Z,2μm,20.0s,MS5.1
GNI Garni 56.36 316⇑ *e*P **P** **03 55 14.1 +0.3**
GNI pmax pmax
comp=Z,88nm,1.5s
GNI MLR MLR
comp=Z,557nm,22.0s
GNI Garni 56.36 316 LR LR 04 19 21.0
comp=Z,430nm,21.0s,MS4.5,baz=97,slow=36
GNI Garni 56.36 316⇑ *e*P **P** **03 55 14.1 +0.3**
comp=Z,88nm,1.5s,mb5.6
GNI LR LR
comp=Z,557nm,22.0s,MS4.6
TI2 Plekhanov 57.06 318 *e*P **P** **03 55 16.2 -2.6**
CTA Charters Tower 57.42 117 P **P** **03 55 21.6 +0.1**
comp=Z,25nm,1.0s,mb5.2,baz=304,slow=7.8,SNR=9.4
CTAO Charters Tower 57.42 117 *e*P **P** **03 55 20.9 -0.7**
CTAO pmax pmax
comp=Z,93nm,1.4s,mb5.6
CTAO MLR MLR
comp=Z,1μm,19.0s,MS5.0
CTAO Charters Tower 57.42 117 *e*P **P** **03 55 20.9 -0.7**
comp=Z,94nm,1.4s,mb5.6
CTAO LR LR
comp=Z,1μm,19.0s,MS5.0
ZEI Tsey 58.10 319 *e*P **P** **03 55 21.8 -4.2**
ZEI *i* *PP pP 03 55 32.8 -1.6
ZEI pmax pmax
comp=Z,11nm,1.1s,mb4.8
CLNS Chul'man 58.13 20 *e*P **P** **03 55 26.4 +0.3**
CLNS *e* 03 56 18.9
CLNS *e*S **S** **04 03 26.9 +3.0**
CLNS *e*SS SS 04 07 14.0 -3.1
CLNS pmax pmax
comp=Z,25nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,23nm,1.1s
CLNS pmax pmax
comp=E,18nm,1.1s
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS smax
comp=N,8.0nm,0.7s
CLNS smax
comp=Z,7.0nm,0.9s
CLNS smax
comp=E,6.0nm,0.7s
CLNS MLR MLR
comp=N,1μm,13.0s,MS5.3
CLNS MLR MLR
comp=Z,2μm,13.0s,MS5.4
CLNS MLR MLR
comp=E,900nm,14.0s,MS5.3
STKA Stephens Creek 58.34 132 *e*P **P** **03 55 27.3 -0.6**
comp=E,11nm,1.2s,mb4.8
STKA Stephens Creek 58.34 132 P **P** **03 55 27.7 -0.1**
comp=E,11nm,1.0s,mb4.9,baz=297,slow=5.3,SNR=11
SVE Sverdlovsk 58.44 340⇑ *i*P **P** **03 55 28.2 0.0**
SVE *e* 03 57 45.9
SVE *e*S **S** **04 03 32.0 +4.2**
SVE pmax pmax
comp=Z,100nm,1.4s,mb5.7
SVE MLR MLR
comp=N,500nm,16.0s,MS5.0
SVE MLR MLR
comp=E,800nm,16.0s,MS5.0
SVE MLR MLR
comp=Z,2μm,16.0s,MS5.2
ERZM Erzurum 58.61 315 *i* P **P** **03 55 28.6 -1.0**
ASAJ Asahikawa 58.76 40 P **P** **03 55 30.1 -0.5**
comp=Z,15nm,0.7s,mb5.1,baz=240,slow=8.1,SNR=5.8
ARU Arti 58.88 338⇓ *i*P **P** **03 55 30.1 -1.2**
ARU *e* 03 57 42.3
ARU *e*PPP PPP 03 59 04.1 -3.3
ARU *e*S **S** **04 03 36.4 +2.8**
ARU *e*SS SS 04 07 26.9 -2.0
ARU pmax pmax
comp=Z,50nm,1.5s,mb5.3
ARU MLR MLR
comp=Z,900nm,18.5s,MS4.9
ARU MLR MLR
comp=N,500nm,20.0s,MS4.9
ARU MLR MLR
comp=E,600nm,17.0s,MS4.9
ARU Arti 58.88 338 *e*P **P** **03 55 29.1 -2.2**
comp=E,72nm,1.4s,mb5.5
ARU LR LR
comp=Z,247nm,19.0s,MS4.3
KIV Kislovodsk 59.42 320 *e*P **P** **03 55 34.8 -0.5**
KIV pmax pmax
comp=Z,25nm,1.2s,mb5.1
GOF Gofitskoye 59.70 321⇓ *i*P **P** **03 55 34.4 -2.8**
GOF pmax pmax
comp=Z,30nm,1.4s,mb5.1
ELZG Elazig 59.80 313 *i* P **P** **03 55 37.1 -0.9**
MALT Malatya 60.15 312 ⇓P **P** **03 55 41.4 +1.1**
MALT Malatya 60.15 312 *e*P **P** **03 55 41.2 +0.9**
comp=Z,66nm,1.6s,mb5.4
YSS Yuzh-Sakhalins 60.20 37⇑ *i*P **P** **03 55 39.8 -0.8**
YSS *e* 03 55 51.0
YSS *e* 03 56 32.0
YSS *e* 04 04 00.0
YSS *e* 04 10 25.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS MLR MLR
comp=Z,1μm,17.0s,MS5.0
YSS MLR MLR
comp=N,1μm,18.0s,MS5.2
YSS MLR MLR
comp=E,900nm,18.0s,MS5.2
YSS Yuzh-Sakhalins 60.20 37 *e*P **P** **03 55 40.4 -0.1**
comp=E,116nm,1.3s,mb5.8
YSS LR LR
comp=Z,1μm,19.0s,MS5.0
GZT Gaziantep 60.48 311 *i* P **P** **03 55 42.4 -0.2**
EIL Elat 60.48 302 *e*P **P** **03 55 42.7 0.0**
comp=Z,11nm,0.8s,mb4.9
SOC Sochi 61.21 318 *d*P **P** **03 55 45.9 -1.6**
SOC *e* 03 56 30.4
SOC *e* 03 58 03.7
SOC *e*S **S** **04 03 57.1 -6.6**
SOC *e* 04 05 34.7
SOC *e*SS SS 04 07 59.9 -5.6
SOC *e*SSS SSS 04 10 49.0 +4.9
SOC pmax pmax
comp=Z,26nm,1.5s,mb5.1
SOC pmax pmax
comp=N,10.0nm,1.1s
SOC pmax pmax
comp=E,13nm,1.2s
COBT Iskenderun 61.21 310 *i* P **P** **03 55 46.2 -1.3**
SOKR Solikamsk 61.85 340⇑ *i*P **P** **03 55 49.4 -2.2**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.4
SOKR MLR MLR
comp=Z,1μm,20.0s,MS5.1
MBAR Mbarara 62.61 267 *e*P **P** **03 55 57.9 +0.6**
MBAR pmax pmax
comp=Z,27nm,1.4s,mb5.2
MBAR MLR MLR
comp=Z,635nm,22.0s,MS4.7
MBAR Mbarara 62.61 267 *e*P **P** **03 55 57.9 +0.6**
comp=Z,28nm,1.4s,mb5.2
MBAR LR LR
comp=Z,635nm,22.0s,MS4.7
AVNT Avonos 62.95 312 *i* P **P** **03 55 58.4 -0.8**
CDAG Cicekdag 63.56 312 *i* P **P** **03 55 59.5 -3.8**
CTKT Corum 63.57 314 *i* P **P** **03 56 03.2 -0.1**
YAK Yakutsk 63.70 18⇑ *e*P **P** **03 56 02.9 -0.9**
YAK pmax pmax
comp=Z,105nm,1.1s,mb5.8
YAK MLR MLR
comp=Z,751nm,20.0s,MS4.9
YAK Yakutsk 63.70 18⇑ *e*P **P** **03 56 02.9 -0.8**
comp=Z,105nm,1.1s,mb5.8
YAK LR LR
comp=Z,751nm,20.0s,MS4.9
BOYT Boyabat 63.74 314 *i* P **P** **03 56 02.7 -1.7**
TOO Toolangi 63.88 136 *e*P **P** **03 56 06.7 +1.3**
comp=Z,13nm,1.1s,mb4.9
TOO Toolangi 63.88 136 *e*P **P** **03 56 06.7 +1.3**
comp=Z,13nm,1.1s,mb4.9
TOO pmax pmax
BRTR Keskin Array B 64.13 312 P **P** **03 56 05.5 -1.5**
comp=Z,7.5nm,0.8s,mb4.8,baz=128,slow=7.5,SNR=16
ELDT Eldivan 64.52 313 *i* P **P** **03 56 06.9 -2.5**
BALT Daday 64.86 314 *i* P **P** **03 56 10.9 -0.7**
KDHN Kadinhani 64.93 311 *i* P **P** **03 56 10.6 -1.6**
SIM Simferopol' 65.45 318⇓ *e*P **P** **03 56 15.7 +0.3**
SIM *e*PPP PPP 04 00 16.0 -0.1
SIM *e*S S 04 05 00.0 +3.3
SIM pmax pmax
comp=Z,25nm,0.8s,mb5.3
ARMA Armidale 65.53 126 *e*P **P** **03 56 17.4 +1.2**
CNB Canberra Magne 65.67 132 *e*P **P** **03 56 17.0 0.0**
comp=Z,818nm,1.2s
ESKT Eskisehir 66.15 311 *i* P **P** **03 56 20.2 +0.2**
AKAS Kas 66.32 308 *i* P **P** **03 56 26.6 +5.5**
GOLH Golhisar 66.58 309 *i* P **P** **03 56 19.2 -3.5**
LSZ Lusaka 67.23 252 *e*P **P** **03 56 26.4 -0.8**
LSZ pmax pmax
comp=Z,24nm,1.4s,mb5.0
LSZ MLR MLR
comp=Z,3μm,20.0s,MS5.5
LSZ Lusaka 67.23 252 *e*P **P** **03 56 26.4 -0.9**
comp=Z,24nm,1.4s,mb5.0
LSZ LR LR
comp=Z,3μm,20.0s,MS5.5
ULDT Uludag 67.58 312 *i* P **P** **03 56 26.6 -2.5**
MANT Manisa 67.63 310 *i* P **P** **03 56 28.0 -1.4**
MOS Moscow 67.70 330 *e*P **P** **03 56 28.9 -0.6**
MOS *e* 03 56 56.7
MOS pmax pmax
comp=Z,61nm,1.2s,mb5.5
MOS MLR MLR
comp=Z,2μm,21.0s,MS5.2
HNR Honiara 67.86 102 P **P** **03 56 32.4 +1.2**
comp=Z,99nm,0.8s,mb5.9,baz=202,slow=11,SNR=5.2
HNR Honiara 67.86 102 P **P** **03 56 32.4 +1.2**
HNR LR LR
comp=Z,325nm,21.0s,MS4.5
OBN Obninsk 67.96 329 *e*P **P** **03 56 28.7 -2.5**
OBN *e* 03 57 01.9
OBN *i* S S 04 05 28.7 +1.8
OBN pmax pmax
comp=Z,23nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,700nm,20.0s,MS4.9
OBN Obninsk 67.96 329 *e*P **P** **03 56 29.8 -1.4**
comp=Z,86nm,1.5s,mb5.6
OBN LR LR
comp=Z,228nm,20.0s,MS4.4
BTOK Tokmak 68.32 311 *i* P **P** **03 56 27.8 -5.8**
KDAG Bornova 68.60 310 *i* P **P** **03 56 35.8 +0.3**
TIRR Tirgusor 69.18 316 ⇓P **P** **03 56 39.1 +0.2**
TIRR Tirgusor 69.18 316 ⇓P **P** **03 56 39.0 +0.1**
CFR Carcaliu 69.56 317 ⇑P **P** **03 56 41.7 +0.5**
AKASG Malin Array Be 70.44 323 P **P** **03 56 45.2 -1.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=92,slow=4.5,SNR=12
VRI Vrincioaia 70.69 317 ⇓P **P** **03 56 47.9 -0.2**
TIXI Tiksi 70.94 11 PFAKE 03 57 00.0 +11
TIXI LR LR
comp=Z,1μm,22.0s,MS5.1
MLR Muntele Rosu 71.14 317 ⇑P **P** **03 56 50.5 -0.3**
RZN Rozhen 71.19 313 *e*P **P** **03 56 51.0 -0.2**
CASY Casey 71.46 173 PFAKE 03 57 00.0 +7.6
CASY LR LR
comp=Z,1μm,19.0s,MS5.1
LBTB Lobatse 71.73 242⇑ *e*P **P** **03 56 55.3 +0.6**
LBTB pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LBTB Lobatse 71.73 242⇑ *e*P **P** **03 56 55.3 +0.6**
comp=Z,6.2nm,0.8s,mb4.6
MMB Musomiste 71.90 312 *e*P **P** **03 56 54.0 -1.4**
PET Petropavlovsk 72.00 35 *e*P **P** **03 56 59.8 +4.0**
PET *e*S S 04 06 19.2 +5.1
PET pmax pmax
comp=Z,200nm,11.8s
PET smax
comp=N,200nm,10.6s
PET MLR MLR
comp=Z,1μm,20.0s,MS5.1
PET Petropavlovsk 72.00 35 *e*P **P** **03 56 54.7 -1.1**
comp=Z,84nm,1.6s,mb5.4
PET LR LR
comp=Z,1μm,21.0s,MS5.1
BURAR Bucovina Array 72.13 319 ⇑P **P** **03 56 57.1 +0.4**
BURAR Bucovina Array 72.13 319 ⇑P **P** **03 56 57.1 +0.4**
KKB Krupnik 72.42 313 *e*P **P** **03 56 57.0 -1.5**
MNK Minsk 72.42 326 *e*P **P** **03 56 55.0 -3.3**
VTS Vitosha 72.46 313 *e*P **P** **03 56 58.0 -0.7**
SEY Seymchan 72.59 24 *e*P **P** **03 56 58.7 -0.4**
SEY pmax pmax
comp=Z,40nm,1.0s,mb5.3
BOSA Boshof 72.91 239 P **P** **03 57 01.9 +0.2**
BOSA pmax pmax
comp=Z,13nm,1.7s,mb4.6
BOSA Boshof 72.91 239 P **P** **03 57 01.9 +0.2**
comp=Z,5.9nm,1.0s,mb4.5,baz=88,slow=5.9,SNR=4.4
LVV L'vov 73.41 321 *e*P **P** **03 57 02.2 -1.9**
LVV *e* 03 57 14.4
LVV *i* S S 04 06 29.8 -0.4
BOLS Boljevac 73.58 314 *e*P **P** **03 57 04.5 -0.8**
JOF Joensuu 73.72 335 *e*p **P** **03 57 03.7 -2.0**
comp=Z,8.4nm,0.9s,mb4.7
BZS Buzias 74.14 316 ⇑P **P** **03 57 07.8 -0.7**
SVIS Svilajnac 74.19 315⇑ *i*P **P** **03 57 08.0 -0.8**
KWP Kalwaria 74.20 320 *e*P **P** **03 57 07.8 -1.0**
KWP Kalwaria 74.20 320 *e*P **P** **03 57 09.4 +0.6**
UZH Uzhgorod 74.26 319 *e*P **P** **03 57 10.0 +0.9**
UZH *e*S S 04 06 40.0 +0.2
KOLS Kolonicke sedl 74.33 320 *e*P **P** **03 57 09.9 +0.4**
MAW Mawson 74.82 192 *e*P **P** **03 57 12.3 +0.3**
comp=Z,9.1nm,1.2s,mb4.6
MAW Mawson 74.82 192 *e*P **P** **03 57 12.3 +0.3**
MAW pmax pmax
comp=Z,9.0nm,1.2s
MAW Mawson 74.82 192 P **P** **03 57 12.9 +0.9**
comp=Z,9.1nm,1.0s,mb4.7,baz=25,slow=9.8,SNR=6.8
MAW LR LR 04 24 22.3
comp=Z,350nm,19.0s,MS4.7,baz=33,slow=31
CRVS Cervenica-Dubn 74.85 320 *e*P **P** **03 57 16.1 +3.6**
APA Apatity 74.91 340⇑ *e*P **P** **03 57 12.4 -0.1**
APA *e*S S 04 06 50.0 +3.3
APA MLR MLR
comp=Z,2μm,18.0s,MS5.4
SUW Suwalki 74.91 325 *e*P **P** **03 57 11.9 -0.9**
DIVS Divcibare 75.03 314⇑ *i*P **P** **03 57 12.8 -0.9**
KECS Kecovo 75.41 319 *e*P **P** **03 57 16.7 +0.9**
KECS *e*S S 04 06 53.0 +0.4
FINES FINESS Array B 75.48 333 P **P** **03 57 14.6 -1.3**
comp=Z,6.3nm,0.8s,mb4.6,baz=104,slow=7.9,SNR=11
FINES LR LR 04 33 25.4
comp=Z,568nm,21.0s,MS4.8,baz=303,slow=38
KAF Kangasniemi 75.59 333 *e*p **P** **03 57 15.5 -1.0**
comp=Z,10nm,0.9s,mb4.8,baz=105,slow=5.3
KAF Kangasniemi 75.59 333 *e*P **P** **03 57 15.5 -1.0**
KAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
NIE Niedzica 75.69 320 *e*P **P** **03 57 17.5 +0.2**
PSZ Piszkesteto 75.70 318⇑ *e*P **P** **03 57 17.4 0.0**
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
PSZ Piszkesteto 75.70 318⇑ *e*P **P** **03 57 17.4 -0.1**
comp=Z,5.9nm,0.8s,mb4.6
OJC Ojcow 76.16 321 *e*P **P** **03 57 19.3 -0.7**
PKSM Moragy 76.28 316 ⇓P **P** **03 57 20.6 -0.1**
VYHS Vyhne 76.50 319 *e*P **P** **03 57 22.5 +0.6**
SRO2 Moca 76.68 318 *e* pP 03 57 31.9 +0.5
SRO Srobarova 76.74 318 *e*P **P** **03 57 24.7 +1.5**
OKC Ostrava-Krasne 77.15 320 *e*P **P** **03 57 24.6 -0.9**
OKC *e*S S 04 07 14.4 +2.9
OKC MLR MLR
comp=Z,300nm,18.2s,MS4.7
OKC Ostrava-Krasne 77.15 320 *e*P **P** **03 57 24.6 -0.9**
OKC *e*S S 04 07 14.4 +2.9
OKC *e*x x 04 16 06.4
OKC AMS AMS 04 36 20.0
comp=Z,300nm,18.2s
SMOL Smolenice 77.42 319 *e*P **P** **03 57 28.6 +1.6**
MORC Moravsky Berou 77.53 320 *e*P **P** **03 57 27.4 -0.2**
MORC pmax pmax
comp=Z,59nm,1.6s,mb5.3
MORC Moravsky Berou 77.53 320 *e*P **P** **03 57 27.4 -0.1**
comp=Z,59nm,1.6s,mb5.3
SUR Sutherland 77.53 236 PFAKE 03 57 40.0 +12
SUR LR LR
comp=Z,371nm,21.0s,MS4.7
ZST Bratislava 77.60 318 *e*P **P** **03 57 28.9 +0.9**
TSUM Tsumeb 77.89 249 PFAKE 03 57 40.0 +10
TSUM LR LR
comp=Z,976nm,19.0s,MS5.2
KEV Kevo 77.94 341 PFAKE 03 57 40.0 +11
KEV LR LR
comp=Z,945nm,20.0s,MS5.1
KOGS Kog 77.96 316 *e*P **P** **03 57 29.2 -0.8**
KOGS *i* 03 58 45.0
VKA Vienna 78.13 318 *e*(P) **P** **03 57 30.0 -0.9**
comp=Z,280nm,2.5s,mb5.8
VKA Vienna 78.13 318 P **P** **03 57 30.0 -0.9**
VKA pmax pmax
comp=Z,280nm,2.5s,mb5.8
DRV Dumont d'Urvil 78.20 163 P pP 03 57 40.0 +0.6
ARCES ARCESS Array B 78.35 341 P **P** **03 57 30.6 -1.1**
comp=Z,8.3nm,0.8s,mb4.7,baz=117,slow=5.4,SNR=8.8
DPC Dobruska-Polom 78.39 320 *e*P **P** **03 57 32.6 +0.3**
DPC *e*S S 04 07 29.2 +4.4
DPC MLR MLR
comp=Z,400nm,18.3s,MS4.8
DPC Dobruska-Polom 78.39 320 *e*P **P** **03 57 32.6 +0.3**
DPC *e*S S 04 07 29.2 +4.4
DPC *e*PKKP PKKP 04 16 19.1 +9.3
DPC AMS AMS 04 38 00.0
comp=Z,400nm,18.3s
KSP Ksiaz 78.47 321 *e*P **P** **03 57 33.1 +0.4**
KSP *e*S S 04 07 27.0 +1.3
KSP Ksiaz 78.47 321 *e*P **P** **03 57 33.8 +1.1**
ARSA Arzberg 78.54 317⇓ *i*P **P** **03 57 34.4 +1.2**
comp=Z,290nm,3.2s
BOJS Bojanci 78.55 315 *e*P **P** **03 57 32.3 -1.0**
UPC Upice 78.60 321 *e*P **P** **03 57 34.8 +1.4**
LJU Ljubljana 79.11 316 *e*P **P** **03 57 37.0 +0.6**
OBKA Obir 79.13 316⇑ *i*P **P** **03 57 37.3 +0.9**
comp=Z,143nm,2.0s,mb5.5
MOA Molln 79.45 318⇑ *i*P **P** **03 57 38.7 +0.6**
comp=Z,93nm,2.3s,mb5.3
PRU Pruhonice 79.48 320 *e*P **P** **03 57 37.8 -0.4**
PRU *e*S S 04 07 42.0 +5.6
PRU MLR MLR
comp=Z,400nm,17.3s,MS4.8
PRU Pruhonice 79.48 320 *e*P **P** **03 57 37.8 -0.4**
PRU *e*S S 04 07 42.0 +5.6
PRU *e*x x 04 16 45.7
PRU AMS AMS 04 38 40.0
comp=Z,400nm,17.3s
PVCC Panska Ves 79.52 320 *e*P **P** **03 57 39.6 +1.2**
PVCC *e*S S 04 07 42.1 +5.3
PVCC MLR MLR
comp=Z,400nm,15.7s,MS4.9
PVCC Panska Ves 79.52 320 *e*P **P** **03 57 39.6 +1.2**
PVCC *e*S S 04 07 42.1 +5.3
PVCC *e*x x 04 16 30.0
PVCC AMS AMS 04 38 50.0
comp=Z,400nm,15.7s

VOY	**Vojsko**	79.55	316	*e*P	P	03 57 37.7	-1.0
VOY				*e*		03 58 00.5	
AQU	**L'Aquila**	79.63	312	*e*P	P	03 57 39.3	+0.1
AQU				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
AQU	**L'Aquila**	79.63	312	*e*P	P	03 57 39.2	0.0
	comp=Z,16nm,0.9s,mb5.0						
BILL	**Bilibino**	79.78	21	*e*P	P	03 57 38.5	-1.0
BILL				*e*S	S	04 07 31.8	-7.4
BILL				*e*SS	SS	04 12 47.9	-3.4
BILL				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
BILL	**Bilibino**	79.78	21	*e*P	P	03 57 39.7	+0.2
	comp=Z,12nm,0.9s,mb4.8						
BILL				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
GEC2	**GERESS Array S**	79.92	319	*e*P	P	03 57 41.3	+0.7
GEC2				pmax	pmax		
	comp=Z,105nm,1.9s,mb5.4						
GEC2	**GERESS Array S**	79.92	319	*e*P	P	03 57 41.3	+0.7
	comp=Z,105nm,1.9s,mb5.4						
GERES	**GERESS Array B**	79.92	319	P	P	03 57 40.3	-0.3
	comp=Z,9.7nm,0.8s,mb4.8,baz=104,slow=5.5,SNR=19						
BRG	**Berggiesshubel**	79.95	321	*i* P	P	03 57 41.8	+1.0
BRG				*i*		03 57 46.4	
BRG				*e*		03 59 13.5	
BRG				*i* SKS	tx	04 04 44.0	
BRG				*i* SS	SS	04 12 52.0	-2.3
BRG				LR	LR		
	comp=Z,500nm,17.6s,MS4.9						
BRG	**Berggiesshubel**	79.95	321	*i* P	P	03 57 41.8	+1.0
	comp=Z,34nm,0.2s,mb5.9						
BRG				*i*		03 57 46.4	
BRG				*e*		03 59 13.5	
BRG				*i* SKS	tx	04 04 44.0	
BRG				*i* SS	SS	04 12 52.0	-2.3
BRG				LR	LR		
	comp=Z,500nm,17.6s,MS4.9						
KBA	**Koelnbreinsper**	80.01	317⇑	*i*P	P	03 57 41.6	+0.5
	comp=Z,154nm,3.2s						
KBA	**Koelnbreinsper**	80.01	317⇑	*i*P	P	03 57 41.6	+0.5
KBA				pmax	pmax		
	comp=Z,154nm,3.2s						
KHC	**Kasperske Hory**	80.02	319	*e*P	P	03 57 41.9	+0.7
KHC				*e*	pP	03 57 48.5	-1.2
KHC				*e*S	S	04 07 46.1	+4.0
KHC				MLR	MLR		
	comp=Z,300nm,14.4s,MS4.8						
KHC	**Kasperske Hory**	80.02	319	*e*P	P	03 57 41.9	+0.7
KHC				pP	pP	03 57 48.5	-1.2
KHC				*e*S	S	04 07 46.1	+4.0
KHC				*e*x	x	04 16 49.7	
KHC				AMS	AMS	04 41 10.0	
	comp=Z,300nm,14.4s						
WET	**Wettzell**	80.48	319	*e*P	P	03 57 44.3	+0.7
WET				pmax	pmax		
	comp=Z,55nm,1.9s,mb5.2						
WET	**Wettzell**	80.48	319	*e*P	P	03 57 44.3	+0.7
	comp=Z,55nm,1.9s,mb5.2						
FX1	**Attu Island--F**	80.56	37	P	P	03 57 44.9	+1.0
	comp=Z,12nm,0.5s,mb5.1,baz=343,slow=14,SNR=5.9						
CLL	**Collm**	80.58	321	*e*P	P	03 57 43.0	-1.1
CLL				*e*S	S	04 07 54.0	+6.1
CLL				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.9						
CLL	**Collm**	80.58	321	*e*P	P	03 57 43.0	-1.1
	comp=Z,26nm,1.5s,mb4.9						
CLL				*e*S	S	04 07 54.0	+6.1
CLL	**Collm**	80.58	321	P	P	03 57 43.0	-1.1
	comp=Z,logA/T=1.2,mb4.9						
CLL				*e**PP	pP	03 57 48.0	-4.7
CLL				*e**SP	sP	03 57 52.0	-3.5
CLL				*e*S	S	04 07 54.0	+6.1
CLL				*e*PS	PS	04 08 49.0	+11
CLL				*e*SS	SS	04 13 18.0	+14
CLL				*e*SSS	SSS	04 16 48.0	+23
SMY	**Shemya**	81.11	37	PFAKE		03 58 00.0	+13
SMY				LR	LR		
	comp=Z,1µm,22.0s,MS5.2						
WTTA	**Wattenberg**	81.18	317⇑	*i*P	P	03 57 47.7	+0.4
	comp=Z,139nm,2.0s,mb5.5						
WTTA	**Wattenberg**	81.18	317⇑	*i*P	P	03 57 47.7	+0.4
WTTA				pmax	pmax		
	comp=Z,139nm,2.0s,mb5.5						
WATA	**Walderalm**	81.23	317⇑	*i*P	P	03 57 47.9	+0.3
	comp=Z,65nm,1.8s,mb5.3						
WATA	**Walderalm**	81.23	317⇑	*i*P	P	03 57 47.9	+0.3
WATA				pmax	pmax		
	comp=Z,65nm,1.8s,mb5.3						
MOX	**Moxa**	81.41	320	*e*P	P	03 57 48.9	+0.5
MOX	**Moxa**	81.41	320	*i* P	P	03 57 49.3	+0.9
	comp=Z,logA/T=1.4,mb5.1						
MOX				S	S	04 08 01.0	+4.6
MOX				L		04 42 43.0	
SQTA	**Sankt Quirin**	81.47	317⇑	*i*P	P	03 57 49.4	+0.6
	comp=Z,59nm,1.7s,mb5.2						
SQTA	**Sankt Quirin**	81.47	317⇑	*i*P	P	03 57 49.4	+0.6
SQTA				pmax	pmax		
	comp=Z,59nm,1.7s,mb5.2						
MOTA	**Moosalm**	81.55	317⇑	*i*P	P	03 57 49.2	0.0
GRA1	**Grafenberg Arr**	81.60	319	*e*P	P	03 57 50.4	+0.9
	comp=Z,22nm,1.0s,mb5.0						
GRA1				*e*pP	pP	03 57 54.5	-3.5
GRA1				*e*	pP	03 57 57.7	-0.3
GRA1				*e*S	S	04 08 01.1	+2.7
GRA1				*e*SS	SS	04 13 29.2	+10
GRA1				LR	LR		
	comp=Z,300nm,21.7s,MS4.6						
GRF	**Grafenberg Arr**	81.60	319	*e*P	P	03 57 50.4	+0.9
GRF				*e*	pP	03 57 57.7	-0.3
GRF				*e*S	S	04 08 01.1	+2.7
GRF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
GRF				MLR	MLR		
	comp=Z,300nm,21.7s,MS4.6						
GRF	**Grafenberg Arr**	81.60	319	*e*P	P	03 57 50.4	+0.9
GRF				*e*	pP	03 57 57.7	-0.3
GRF				*e*S	S	04 08 01.1	+2.7
GRF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
GRF				MLR	MLR		
	comp=Z,300nm,21.7s,MS4.6						
GRF	**Grafenberg Arr**	81.60	319	*e*P	P	03 57 50.4	+0.9
	comp=Z,22nm,1.0s,mb5.0						
GRF				*e*pP	pP	03 57 54.5	-3.5
GRF				*e*	pP	03 57 57.7	-0.3
GRF				*e*S	S	04 08 01.1	+2.7
GRF				*e*SS	SS	04 13 29.2	+10
GRF				LR	LR		
	comp=Z,300nm,21.7s,MS4.6						
GRFO	**Grafenberg**	81.60	319	*e*P	P	03 57 50.5	+1.0
CLZ	**Clausthal**	82.26	322	*e*P	P	03 57 53.3	+0.5
	comp=Z,16nm,1.1s,mb4.9						
DAVA	**Damuels**	82.38	317⇓	*i*P	P	03 57 54.7	+1.2
	comp=Z,117nm,2.5s,mb5.4						
BSEG	**Bad Segeberg**	82.40	324	*e*P	P	03 57 54.1	+0.6
NB2	**NORSAR Subarra**	82.43	331	P	P	03 57 52.1	-1.4
	comp=Z,46nm,2.0s,mb5.1,baz=94,slow=5.6						
NB2	**NORSAR Subarra**	82.43	331	P	P	03 57 52.1	-1.4
NB2				pmax	pmax		
	comp=Z,46nm,2.0s,mb5.1						
NB2	**NORSAR Subarra**	82.43	331	P	P	03 57 52.1	-1.4
	baz=94,slow=5.9						
NOA	**NORSAR Array B**	82.43	331	P	P	03 57 51.8	-1.7
	comp=Z,2.3nm,0.8s,mb4.2,baz=95,slow=5.4,SNR=8.9						
PGF	**Pioggiola**	82.89	312	*e*P	P	03 57 55.9	-0.4
	comp=Z,215nm,1.8s,mb5.6						
PGF	**Pioggiola**	82.89	312	*e*P	P	03 57 55.9	-0.4
PGF				pmax	pmax		
	comp=Z,108nm,1.8s,mb5.6						
KONO	**Kongsberg**	83.13	329	PFAKE		03 58 10.0	+13
KONO				LR	LR		
	comp=Z,680nm,21.0s,MS5.0						
TOD	**Tromm**	83.17	319	*e*P	P	03 57 58.5	+0.9
TNS	**Taunus Mts**	83.41	320	*e*P	P	03 57 59.4	+0.6
BFO	**Black Forest**	83.45	318	*e*P	P	03 57 59.0	-0.1
BFO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
BFO	**Black Forest**	83.45	318	*e*P	P	03 57 59.0	-0.1
	comp=Z,9.0nm,1.0s,mb4.8						
KTD	**Kalmit**	83.63	319	*e*P	P	03 58 00.4	+0.4
FELD	**Feldberg**	83.66	318	*e*P	P	03 58 00.5	+0.3
LANF	**Langenberg**	83.81	319	*e*P	P	03 58 01.5	+0.6
ABH	**Alteburg**	83.98	320	*e*P	P	03 58 02.5	+0.7
SBF	**Sospel**	84.04	314	*e*P	P	03 58 01.8	-0.4
	comp=Z,39nm,0.7s,mb5.3						
SBF	**Sospel**	84.04	314	*e*P	P	03 58 01.8	-0.4
SBF				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.4						
AUTN	**L'Aution**	84.05	314	*e*P	P	03 58 04.8	+2.6
REVF	**Revere**	84.09	313	*e*P	P	03 58 04.6	+2.2
WLS	**Welschbruch**	84.10	318	*e*P	P	03 58 02.6	+0.2
CDF	**Champ du Feu**	84.15	318	*e*P	P	03 58 02.3	-0.3
TOUF	**Mont Tournerai**	84.17	314	*e*P	P	03 58 04.0	+1.1
KBS	**Kingsbay**	84.18	349	PFAKE		03 58 10.0	+7.8
KBS				LR	LR		
	comp=Z,714nm,21.0s,MS5.0						
ECH	**Echery**	84.23	318	*e*P	P	03 58 03.4	+0.4
MVIF	**Mont Vial**	84.24	314	*e*P	P	03 58 04.3	+1.1
MOF	**Molkenrain**	84.25	318	*e*P	P	03 58 02.6	-0.5
CALN	**Calern**	84.44	313	*e*P	P	03 58 04.4	+0.2
LOMF	**Lomont**	84.45	317	*e*P	P	03 58 04.3	+0.1
MBDF	**Montbardon**	84.51	314	*e*P	P	03 58 05.0	+0.5
	comp=Z,13nm,0.8s,mb4.8						
MBDF	**Montbardon**	84.51	314	*e*P	P	03 58 05.0	+0.5
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
LPG	**La Plagne**	84.52	315	*e*P	P	03 58 04.4	-0.2
	comp=Z,51nm,1.1s,mb5.3						
LPG	**La Plagne**	84.52	315	*e*P	P	03 58 04.4	-0.2
LPG				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.3						
LPL	**La Plagne**	84.53	315	*e*P	P	03 58 04.4	-0.2
	comp=Z,38nm,0.9s,mb5.2						
LPL	**La Plagne**	84.53	315	*e*P	P	03 58 04.4	-0.2
LPL				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.2						
BNI	**Bardonecchia**	84.58	315	*e*P	P	03 58 08.4	+3.6
BNI				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
BNI	**Bardonecchia**	84.58	315	*e*P	P	03 58 08.4	+3.5
	comp=Z,11nm,0.9s,mb5.0						
FRF	**La Foret Royal**	84.61	313	*e*P	P	03 58 04.8	-0.3
	comp=Z,27nm,0.8s,mb5.1						
FRF	**La Foret Royal**	84.61	313	*e*P	P	03 58 04.8	-0.3
FRF				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.1						
LMR	**La Mourre**	84.72	313	*e*P	P	03 58 05.2	-0.4
HAU	**Haudompre**	84.78	318	*e*P	P	03 58 04.8	-1.0
	comp=Z,20nm,1.0s,mb4.9						
HAU				*e*R			
	comp=Z,364nm,22.8s						
HAU	**Haudompre**	84.78	318	*e*P	P	03 58 04.8	-1.0
HAU				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
HAU				MLR	MLR		
	comp=Z,360nm,22.8s,MS4.7						
WLF	**Walferdange**	84.89	319	*e*P	P	03 58 07.8	+1.5
WLF				pmax	pmax		
	comp=Z,61nm,1.6s,mb5.5						
WLF	**Walferdange**	84.89	319	*e*P	P	03 58 07.8	+1.6
	comp=Z,61nm,1.6s,mb5.5						
CABF	**La Chapelle**	84.97	316	*e*P	P	03 58 06.6	-0.2
THEF	**They Montfort**	85.02	318	*e*P	P	03 58 06.2	-0.7
TAVF	**Tavernes**	85.04	313	*e*P	P	03 58 07.1	-0.1
STOF	**St-Etienne Org**	85.14	314	*e*P	P	03 58 08.8	+1.1
ORIF	**Oris-en-Rattie**	85.14	315	*e*P	P	03 58 07.6	-0.1
	comp=Z,23nm,0.9s,mb5.0						
ORIF				*e*R			
	comp=Z,405nm,19.8s						
VILF	**Villemus**	85.28	314	*e*P	P	03 58 09.0	+0.6
PUYF	**Puyloubier**	85.30	313	*e*P	P	03 58 09.5	+1.0
BERF	**Bertagne**	85.31	313	*e*P	P	03 58 09.9	+1.3
SMRF	**Simiane la Rot**	85.38	314	*e*P	P	03 58 09.2	+0.3
	comp=Z,110nm,1.7s,mb5.4						
GELF	**Grande-Etoile**	85.50	313	*e*P	P	03 58 09.7	+0.2
TREF	**Trevaresse**	85.53	313	*e*P	P	03 58 09.0	-0.6
MEZF	**Maizieres J'vi**	85.63	318	*e*P	P	03 58 09.5	-0.5
GIVF	**Givet**	85.74	320	*e*P	P	03 58 10.0	-0.5
VIVF	**Saint-Julien-I**	86.00	315	*e*P	P	03 58 11.6	-0.4
	comp=Z,44nm,1.2s,mb5.3						
VIVF	**Saint-Julien-I**	86.00	315	*e*P	P	03 58 11.6	-0.4
VIVF				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.3						
BAIF	**Baives**	86.14	320	*e*P	P	03 58 12.2	-0.3
SNZO	**South Karori**	86.40	132	PFAKE		03 58 30.0	+16
SNZO				LR	LR		
	comp=Z,3µm,19.0s,MS5.7						
LOR	**Lormes**	86.48	317	*e*P	P	03 58 13.5	-0.7
	comp=Z,38nm,1.2s,mb5.2						
LOR				*e*R			
	comp=Z,286nm,21.0s						
LOR	**Lormes**	86.48	317	*e*P	P	03 58 13.5	-0.7
LOR				pmax	pmax		
	comp=Z,19nm,1.2s,mb5.2						
LOR				MLR	MLR		
	comp=Z,290nm,21.0s,MS4.7						
SMF	**Signal de Mont**	86.52	316	*e*P	P	03 58 13.7	-0.7
	comp=Z,27nm,0.9s,mb5.2						
SMF	**Signal de Mont**	86.52	316	*e*P	P	03 58 13.7	-0.7
SMF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.2						
LASF	**Ste Croix**	86.62	314	*e*P	P	03 58 14.9	-0.1
PLDF	**La Plantade**	86.70	316	*e*P	P	03 58 16.6	+1.2
SSF	**Saint Saulge**	86.73	317	*e*P	P	03 58 15.3	-0.2
AVF	**Avril sur Loir**	86.84	317	*e*P	P	03 58 15.4	-0.6
	comp=Z,19nm,1.0s,mb5.0						
AVF	**Avril sur Loir**	86.84	317	*e*P	P	03 58 15.4	-0.6
AVF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0						
LBL	**Lubilhac**	87.00	315	*e*P	P	03 58 18.0	+1.2
AGO	**Saint Agoulin**	87.03	316	*e*P	P	03 58 17.7	+0.7
PYM	**Petit Puy Mans**	87.14	315	*e*P	P	03 58 18.2	+0.7
HYF	**Humbligny**	87.31	317	*e*P	P	03 58 18.3	0.0
TCF	**Toulx Ste Croi**	87.66	316	*e*P	P	03 58 19.7	-0.3
MTLF	**Montolieu**	87.84	313	*e*P	P	03 58 20.8	-0.1
	comp=Z,17nm,1.0s,mb4.9						
MTLF	**Montolieu**	87.84	313	*e*P	P	03 58 20.8	-0.1
MTLF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
CAF	**Calviac**	87.85	315	*e*P	P	03 58 20.9	0.0
RJF	**Les Rejaudoux**	88.21	315	*e*P	P	03 58 22.8	+0.1
RJF				*e*R			
	comp=Z,349nm,21.0s						
EMIR	**Miracle**	88.45	312	P	P	03 58 25.4	+1.5
	comp=Z,11nm,0.9s,mb5.1						
EPOB	**Poblet**	88.83	311	P	P	03 58 25.6	-0.2
	comp=Z,3.4nm,0.5s,mb4.9						
MFF	**Saint Martin d**	89.26	316	*e*P	P	03 58 27.1	-0.5
EBIE	**Bielsa**	89.41	313	P	P	03 58 29.8	+1.3
	comp=Z,2.1nm,0.5s,mb4.7						
ERTA	**Horta de San J**	89.43	311	P	P	03 58 29.1	+0.5
	comp=Z,5.3nm,0.7s,mb5.0						
VNDA	**Vanda**	89.58	168	P	P	03 58 29.8	+1.3
	comp=Z,3.7nm,1.1s,mb4.6,baz=311,slow=4.2,SNR=4.9						
VNDA				LR	LR	04 33 15.7	
	comp=Z,397nm,20.3s,MS4.8,baz=304,slow=32						
VNDA	**Vanda**	89.58	168	P	P	03 58 29.8	+1.3
	comp=Z,5.4nm,1.6s,mb4.6						
VNDA				LR	LR	04 33 15.7	
TNA	**Tin City**	89.83	24	*e*P	P	03 58 26.8	-3.1
	comp=Z,15nm,1.1s,mb5.2						
TNA				LR	LR		
	comp=Z,683nm,20.0s,MS5.1						
ETSF	**Etsaut**	89.91	313	*e*P	P	03 58 31.1	+0.3
	comp=Z,15nm,1.0s,mb5.0						
ETSF	**Etsaut**	89.91	313	*e*P	P	03 58 31.1	+0.3
ETSF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.0						
ESAC	**San Caprasio**	89.96	312	P	P	03 58 32.0	+1.0
	comp=Z,12nm,0.7s,mb5.3						
EMOS	**Mosqueruela**	90.09	310	P	P	03 58 33.9	+2.2
	comp=Z,11nm,0.8s,mb5.2						
ESK	**Eskdalemuir**	90.20	325	PFAKE		03 58 40.0	+8.2
ESK				LR	LR		
	comp=Z,135nm,19.0s,MS4.4						
SJPF	**Ste Jean**	90.37	313	*e*P	P	03 58 33.4	+0.5
	comp=Z,8.4nm,0.7s,mb4.8						
SJPF	**Ste Jean**	90.37	313	*e*P	P	03 58 33.4	+0.5
SJPF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.9						
SBA	**Scott Base**	90.69	168	*e*P	P	03 58 35.4	+1.8
SBA				pmax	pmax		
	comp=Z,38nm,1.7s,mb5.5						
SBA	**Scott Base**	90.69	168	*e*P	P	03 58 35.4	+1.8
	comp=Z,38nm,1.7s,mb5.5						
DAG	**Danmarks Havn**	90.80	348⇑	*e*P	P	03 58 34.0	-0.1
DAG				pmax	pmax		
	comp=Z,12nm,1.3s,mb5.1						
DAG	**Danmarks Havn**	90.80	348⇑	*e*P	P	03 58 34.0	-0.1
	comp=Z,12nm,1.3s,mb5.0						
DAG	**Danmarks Havn**	90.80	348⇑	*i*P	P	03 58 34.0	-0.1
	comp=Z,12nm,1.3s,mb5.0						
ESDC	**Sonseca Array**	92.83	310	P	P	03 58 44.5	+0.2
	comp=Z,2.2nm,0.8s,mb4.7,baz=55,slow=4.6,SNR=7.7						
QSPA	**South Pole Qui**	94.17	180	PFAKE		03 59 00.0	+10
QSPA				LR	LR		
	comp=Z,834nm,19.0s,MS5.2						
IMA	**Indian Mountai**	95.31	22	*e*P	P	03 58 56.7	+1.7
IMA				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.7						
IMA	**Indian Mountai**	95.31	22	*e*P	P	03 58 56.7	+1.6
	comp=Z,39nm,1.2s,mb5.7						
EVO	**Evora**	96.13	309	*e*P	P	03 59 01.0	+1.5
	comp=Z,17nm,1.1s,mb5.1						
EVO				*e*R			
	comp=Z,403nm,20.0s						
COLA	**College**	98.02	22	PFAKE		03 59 20.0	+13
COLA				LR	LR		
	comp=Z,629nm,20.0s,MS5.1						
MCK	**McKinley**	98.13	23	PFAKE		03 59 20.0	+12
MCK				LR	LR		
	comp=Z,378nm,19.0s,MS4.9						
ILAR	**Eielson Array**	98.43	22	P	P	03 59 08.4	-0.7
	comp=Z,0.8nm,0.8s,mb4.3,baz=310,slow=3.9,SNR=8.7						
ILAR				PP	PP	04 03 09.1	-3.1
	comp=Z,0.9nm,1.0s,baz=294,slow=6.3,SNR=4.2						
FIB	**Fire Island**	98.75	26	PFAKE		03 59 20.0	+9.3
FIB				LR	LR		
	comp=Z,1µm,19.0s,MS5.3						
KDAK	**Kodiak Island**	99.03	30	PFAKE		03 59 20.0	+8.0
KDAK				LR	LR		
	comp=Z,208nm,21.0s,MS4.6						
DIV	**Divide**	100.66	25	PFAKE		03 59 30.0	+11
DIV				LR	LR		
	comp=Z,2µm,21.0s,MS5.5						
INK	**Inuvik**	100.71	16	P	P	03 59 19.2	-0.2
	comp=Z,1.7nm,1.1s,baz=308,slow=1.9,SNR=4.3						
RES	**Resolute Bay**	101.04	2	*e*P	P	03 59 23.3	+2.5
RES				pmax	pmax		
	comp=Z,8.0nm,1.2s						
RES	**Resolute Bay**	101.04	2	*e*Pdif	P	03 59 23.3	+2.5
	comp=Z,8.0nm,1.2s						
SIT	**Sitka**	107.41	25	PFAKE		04 04 10.0	
SIT				LR	LR		
	comp=Z,934nm,19.0s,MS5.4						
YKA	**Yellowknife Ar**	110.14	13	PP	PP	04 04 32.7	-7.5
	comp=Z,1.2nm,1.0s,baz=330,slow=7.5,SNR=7.0						
NEW	**Newport**	121.36	23	PFAKE		04 04 40.0	+12
NEW				LR	LR		
	comp=Z,428nm,19.0s,MS5.1						
COR	**Corvallis**	121.42	30	PFAKE		04 04 40.0	+11
COR				LR	LR		
	comp=Z,122nm,20.0s,MS4.5						
HAWA	**Hanford**	121.83	26	PFAKE		04 04 40.0	+11
HAWA				LR	LR		
	comp=Z,48nm,21.0s,MS4.1						
HUMO	**Hull Mountain**	123.01	31	PFAKE		04 04 40.0	+8.4
HUMO				LR	LR		
	comp=Z,279nm,19.0s,MS4.9						
YBH	**Yreka Blue Hor**	123.76	32	PFAKE		04 04 40.0	+6.8
YBH				LR	LR		
	comp=Z,291nm,20.0s,MS4.9						
MSO	**Missoula**	123.77	22	*e*PKPdf	PKPdf	04 04 30.0	-3.0
MSO				LR	LR		
	comp=Z,340nm,20.0s,MS5.0						
CHMT	**Chamberlain Mo**	123.95	22	*e*PKPdf	PKPdf	04 04 34.0	+0.6
BMO	**Blue Mountains**	124.01	26	PFAKE		04 04 40.0	+6.4
BMO				LR	LR		
	comp=Z,434nm,22.0s,MS5.1						
WDC	**Whiskeytown Da**	124.66	33	PFAKE		04 04 40.0	+5.0
WDC				LR	LR		
	comp=Z,418nm,21.0s,MS5.1						
MOD	**Modoc**	124.87	30	PFAKE		04 04 40.0	+4.6
MOD				LR	LR		
	comp=Z,379nm,22.0s,MS5.0						
WVOR	**Wild Horse Val**	125.29	29	PFAKE		04 04 40.0	+3.9
WVOR				LR	LR		
	comp=Z,516nm,19.0s,MS5.2						
HOPS	**Hopland**	125.47	34	PFAKE		04 04 50.0	+13
HOPS				LR	LR		
	comp=Z,409nm,20.0s,MS5.1						
BOZ	**Bozeman (W)**	125.62	21	PFAKE		04 04 50.0	+13
BOZ				LR	LR		
	comp=Z,498nm,20.0s,MS5.2						
MCMT	**McKenzie Canyo**	125.86	23	*e*PKPdf	PKPdf	04 04 35.0	-2.2
HLID	**Hailey**	126.28	25	PFAKE		04 04 50.0	+12
HLID				LR	LR		
	comp=Z,498nm,20.0s,MS5.2						
QLMT	**Earthquake Lak**	126.39	22	*e*PKPdf	PKPdf	04 04 37.0	-1.2
LAO	**LASA Array**	126.44	17	*e*PKPdf	PKPdf	04 04 36.7	-1.5
LAO				LR	LR		
	comp=Z,658nm,20.0s,MS5.3						
PQI	**Presque Isle**	126.65	344	PFAKE		04 04 50.0	+11
PQI				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
LKWY	**Lake**	126.99	21	PFAKE		04 04 50.0	+11
LKWY				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
BMN	**Battle Mountai**	127.50	29	PFAKE		04 04 50.0	+10
BMN				LR	LR		
	comp=Z,353nm,19.0s,MS5.1						
MOOW	**Moose Ponds**	127.57	22	*e*PKPdf	PKPdf	04 04 38.1	-2.4
CMB	**Columbia Colle**	127.64	34	PFAKE		04 04 50.0	+9.2
CMB				LR	LR		
	comp=Z,492nm,19.0s,MS5.2						
TPAW	**Teton Pass**	127.72	22	*e*PKPdf	PKPdf	04 04 36.9	-3.9
SNOW	**Snow King Moun**	127.81	22	*e*PKPdf	PKPdf	04 04 39.0	-2.0
EYMN	**Ely**	127.86	4	*e*PKPdf	PKPdf	04 04 36.6	-4.3
EYMN				LR	LR		
	comp=Z,454nm,20.0s,MS5.2						
REDW	**Red Top Meadow**	127.86	22	*e*PKPdf	PKPdf

NEN	**Nelson**	**132.38**	**31**	*e*PKPdf	PKPdf	04 04 48.2	-1.8
BINY	**Binghamton**	**132.74**	**349**	PFAKE		04 05 00.0	+10
BINY				LR	LR		
comp=Z,706nm,21.0s,MS5.3							
PFO	**Pinyon Flat Ob**	**133.05**	**34**	PFAKE		04 05 00.0	+8.8
PFO				LR	LR		
comp=Z,142nm,22.0s,MS4.6							
ERPA	**Erie**	**133.44**	**353**	PFAKE		04 05 00.0	+8.3
ERPA				LR	LR		
comp=Z,440nm,19.0s,MS5.2							
SSPA	**Standing Stone**	**134.60**	**350**	PFAKE		04 05 00.0	+6.1
SSPA				LR	LR		
comp=Z,109nm,20.0s,MS4.6							
SDCO	**Great Sand Dun**	**134.74**	**21**	PFAKE		04 05 00.0	+5.8
SDCO				LR	LR		
comp=Z,515nm,21.0s,MS5.2							
CBKS	**Cedar Bluff**	**135.51**	**14**	PFAKE		04 05 00.0	+4.4
CBKS				LR	LR		
comp=Z,439nm,20.0s,MS5.2							
ACSO	**Alum Creek Sta**	**135.60**	**356**	PFAKE		04 05 00.0	+4.3
ACSO				LR	LR		
comp=Z,544nm,20.0s,MS5.3							
MCWV	**Mont Chateau**	**135.85**	**352**	PFAKE		04 05 00.0	+3.8
MCWV				LR	LR		
comp=Z,665nm,20.0s,MS5.4							
ANMO	**Albuquerque**	**136.84**	**24**	PKP	PKPdf	04 04 56.4	-1.7
comp=Z,4.1nm,1.1s,baz=257,slow=3.6,SNR=4.2							
ANMO	**Albuquerque**	**136.84**	**24**	PKP	PKPdf	04 04 56.4	-1.7
ANMO				LR	LR		
comp=Z,465nm,19.0s,MS5.2							
CBN	**Corbin**	**136.87**	**349**	PFAKE		04 05 10.0	+12
CBN				LR	LR		
comp=Z,634nm,22.0s,MS5.3							
TUC	**Tucson**	**137.08**	**30**	PFAKE		04 05 10.0	+11
TUC				LR	LR		
comp=Z,375nm,22.0s,MS5.1							
CCM	**Cathedral Cave**	**137.71**	**5**	PFAKE		04 05 10.0	+10
CCM				LR	LR		
comp=Z,112nm,20.0s,MS4.6							
WCI	**Wyandotte Cave**	**137.74**	**359**	PFAKE		04 05 10.0	+10
WCI				LR	LR		
comp=Z,106nm,20.0s,MS4.6							
BLA	**Blacksburg**	**138.33**	**352**	PFAKE		04 05 10.0	+9.2
BLA				LR	LR		
comp=Z,532nm,22.0s,MS5.2							
AMTX	**Amarillo**	**138.63**	**19**	PFAKE		04 05 10.0	+8.6
AMTX				LR	LR		
comp=Z,487nm,19.0s,MS5.3							
TRQA	**Tornquist**	**139.45**	**211**	PFAKE		04 05 10.0	+7.2
TRQA				LR	LR		
comp=Z,754nm,20.0s,MS5.4							
WVT	**Waverly**	**139.82**	**1**	*e*PKIKP	PKPdf	04 05 01.6	-2.0
WVT				MLR	MLR		
comp=Z,412nm,19.0s,MS5.2							
MNTX	**Cornudas Mount**	**140.11**	**25**	PFAKE		04 05 10.0	+5.8
MNTX				LR	LR		
comp=Z,432nm,19.0s,MS5.2							
PLCA	**Paso Flores**	**140.85**	**200**	PKP	PKPdf	04 05 01.9	-3.4
comp=Z,4.4nm,1.1s,baz=147,slow=1.1,SNR=4.6							
MIAR	**Mount Ida**	**140.89**	**9**	PFAKE		04 05 10.0	+4.4
MIAR				LR	LR		
comp=Z,298nm,19.0s,MS5.1							
PLAL	**Pickwick Lake**	**140.96**	**2**	PFAKE		04 05 10.0	+4.3
PLAL				LR	LR		
comp=Z,541nm,20.0s,MS5.3							
OXF	**Oxford**	**141.37**	**3**	PFAKE		04 05 20.0	+14
OXF				LR	LR		
comp=Z,683nm,22.0s,MS5.4							
NHSC	**New Hope**	**142.33**	**351**	PFAKE		04 05 20.0	+12
NHSC				LR	LR		
comp=Z,481nm,20.0s,MS5.3							
GOGA	**Godfrey**	**142.42**	**355**	PFAKE		04 05 20.0	+12
GOGA				LR	LR		
comp=Z,685nm,22.0s,MS5.4							
LTX	**Lajitas**	**142.88**	**25**	PFAKE		04 05 20.0	+11
LTX				LR	LR		
comp=Z,475nm,19.0s,MS5.3							
TXAR	**Lajitas Array**	**142.88**	**25**	PKhKP		04 05 02.2	
comp=Z,2.1nm,0.8s,SNR=9.8							
TXAR				PKP	PKPdf	04 05 07.2	-2.0
comp=Z,1.5nm,0.6s,baz=188,slow=0.2,SNR=11							
TXAR	**Lajitas Array**	**142.88**	**25**	PKP		04 05 02.2	
TXAR				PKP	PKPdf	04 05 07.2	-2.0
LRAL	**Lakeview Retre**	**142.92**	**0**	PFAKE		04 05 20.0	+11
LRAL				LR	LR		
comp=Z,715nm,21.0s,MS5.4							
JCT	**Junction City**	**143.29**	**19**	*e*PKIKP	PKPdf	04 05 03.4	-6.4
JCT				*e*		04 05 08.2	
JCT				MLR	MLR		
comp=Z,452nm,21.0s,MS5.2							
NATX	**Nacogdoches**	**143.42**	**11**	*e*PKPpre		04 05 04.4	
NATX				LR	LR		
comp=Z,591nm,20.0s,MS5.3							
DWPF	**Disney**	**147.42**	**351**	PFAKE		04 05 30.0	+13
DWPF				LR	LR		
comp=Z,114nm,19.0s,MS4.7							
CFAA	**Coronel Fontan**	**147.69**	**211**	PKPbc	PKPdf	04 05 16.5	-0.8
comp=Z,1.4nm,0.6s,baz=145,slow=4.0,SNR=9.6							
SJG	**San Juan**	**149.88**	**318**	PFAKE		04 05 30.0	+8.9
SJG				LR	LR		
comp=Z,520nm,22.0s,MS5.3							
SIV	**San Ignacio**	**152.17**	**243**	PKP	PKPdf	04 05 21.8	-2.8
comp=Z,1.3nm,0.8s,baz=158,slow=5.4,SNR=3.0							
SIV				PKPbc	PKPdf	04 05 28.1	+3.5
comp=Z,4.7nm,0.8s,baz=126,slow=5.8,SNR=9.7							
LVC	**Limon Verde**	**154.85**	**222**	PKPbc	PKPdf	04 05 34.9	+6.7
comp=Z,2.3nm,0.7s,slow=2.0,SNR=2.7							
LVC				PKPab	PKPab	04 05 51.9	+2.2
comp=Z,5.3nm,0.8s,baz=94,slow=3.6,SNR=5.5							
LVC	**Limon Verde**	**154.85**	**222**	PKPbc	PKPdf	04 05 34.9	+6.7
LVC				PKPab	PKPab	04 05 51.9	+2.2
LVC				LR	LR		
comp=Z,445nm,21.0s,MS5.3							
TEIG	**Tepich**	**155.64**	**3**	PFAKE		04 05 40.0	+11
TEIG				LR	LR		
comp=Z,246nm,20.0s,MS5.0							
LPAZ	**La Paz**	**158.12**	**236**	PKP	PKPdf	04 05 31.4	-1.2
comp=Z,5.6nm,1.2s,baz=13,slow=3.2,SNR=5.5							
LPAZ				PKPab	PKPab	04 06 06.0	+2.1
comp=Z,5.8nm,1.2s,baz=75,slow=4.3,SNR=4.9							
SDV	**Santo Domingo**	**159.28**	**309**	PKP	PKPdf	04 05 32.1	-2.0
comp=Z,1.7nm,0.6s,baz=281,slow=6.8,SNR=4.6							
SDV	**Santo Domingo**	**159.28**	**309**	PKP	PKPdf	04 05 32.1	-2.0
SDV				LR	LR		
comp=Z,462nm,21.0s,MS5.3							
JTS	**JuntasAbangare**	**165.44**	**353**	PFAKE		04 05 50.0	+10
JTS				LR	LR		
comp=Z,126nm,20.0s							
NNA	**Nana**	**167.52**	**231**	PFAKE		04 05 50.0	+8.3
NNA				LR	LR		
comp=Z,161nm,21.0s							
OTAV	**Otavalo**	**170.56**	**298**	*e*PKPdf	PKPdf	04 05 40.0	-3.7
OTAV				LR	LR		
comp=Z,554nm,20.0s							
PAYG	**Puerto Ayora**	**175.02**	**45**	PFAKE		04 05 50.0	+4.4
PAYG				LR	LR		
comp=Z,275nm,20.0s							

IDC 27 04:03:54.2±11.0, 5.22N×91.45E, mb3.7/3, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=269.0km s-min=68.4km az=137.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.06**	**28**	Pn	P	04 07 28.4	-1.7
baz=233,slow=15,SNR=8.8							
LATR	**Latur**	**19.58**	**313**	*e*P	P	04 08 10.2	-17
MKAR	**Makanchi Array**	**42.17**	**351**	P	P	04 11 48.5	-1.7
0.8nm,0.7s,baz=153,slow=8.1,SNR=10							
BVAR	**Borovoye Array**	**50.70**	**344**	P	P	04 12 55.2	-2.3
0.3nm,0.5s,baz=158,slow=8.0,SNR=4.3							
GERES	**GERESS Array B**	**78.03**	**319**	P	P	04 15 54.9	-1.3
0.2nm,0.3s,baz=90,slow=5.3,SNR=3.5							

IDC 27 04:10:47.9±3.5, 1.38S×99.66E, mb3.8/2, mb1 4.0/3, mb1mx3.5/16, mbtmp3.8/3, ML4.4/1, Error ellipse: s-maj=146.0km s-min=27.6km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.72**	**358**	P	P	04 15 19.8	-2.3
0.4nm,0.3s,baz=180,slow=9.9,SNR=3.7							
WRA	**Warramunga Arr**	**38.60**	**121**	P	P	04 18 13.4	-1.4
0.5nm,0.4s,baz=302,slow=9.1,SNR=4.5							
MKAR	**Makanchi Array**	**50.34**	**345**	P	P	04 19 46.6	-2.0
0.9nm,0.5s,baz=153,slow=7.1,SNR=15							
TXAR	**Lajitas Array**	**144.41**	**36**	PKP	PKPdf	04 30 24.8	-3.9
0.3nm,0.4s,baz=270,slow=0.9,SNR=5.6							

NEIC ***27*** *04:12:15.6±3.6, 50.43N×18.67E, h5km, ML2.6(VIE), Error ellipse: s-maj=49.1km s-min=9.8km az=170.0*
PRU ***27*** *04:12:16.9, 50.27N×18.70E*
WAR 27 04:12:15.9, 50.24N×18.83E, h0km, ML2.5, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.44**	**249**	*e*Pg	Pg	04 12 24.8	+0.2
RAC				*e*Sg	Sg	04 12 30.9	+0.4
OKC	**Ostrava-Krasne**	**0.60**	**228**	*e*PG	Pg	04 12 27.2	-0.6
OKC				*e*SG	Sg	04 12 35.4	-0.4
33nm,0.4s							
OJC	**Ojcow**	**0.62**	**92**	*e*Pg	Pg	04 12 28.7	+0.4
OJC				*e*Sg	Sg	04 12 37.6	+1.0
MORC	**Moravsky Berou**	**0.95**	**241**	*e*P	Pg	04 12 33.1	-1.8
LIKS	**Likavka**	**1.21**	**171**	*e*SN	Sn	04 12 58.2	+1.1
NIE	**Niedzica**	**1.26**	**130**	*e*PG	Pg	04 12 40.0	-1.1
NIE				*e*SG	Sg	04 12 57.0	-1.0
DPC	**Dobruska-Polom**	**1.61**	**275**	*e*PG	Pg	04 12 45.4	-2.7
DPC				*e*SG	Sg	04 13 06.8	-2.8
9.5nm,0.3s							
KSP	**Ksiaz**	**1.73**	**291**	*e*PG	Pg	04 12 48.0	-2.4
KSP				*e*SG	Sg	04 13 11.0	-2.4
VYHS	**Vyhne**	**1.75**	**180**	*e*PN	Pn	04 12 48.0	+0.4
VYHS				*e*SN	Sn	04 13 10.0	-0.9
KECS	**Kecovo**	**2.06**	**148**	*e*SN	Sn	04 13 21.8	+2.8
KECS	**Kecovo**	**2.06**	**148**	*e*Sn	Sn	04 13 21.8	+2.8
CRVS	**Cervenica-Dubn**	**2.17**	**127**	*e*PN	Pn	04 12 56.6	+2.9
CRVS				*e*SN	Sn	04 13 25.6	+3.9
PSZ	**Piszkesteto**	**2.43**	**163**	*e*P	Pn	04 12 59.8	+2.4
PVCC	**Panska Ves**	**2.74**	**278**	*e*PG	Pg	04 13 05.9	-4.8
PRU	**Pruhonice**	**2.77**	**266**	*e*PG	Pg	04 13 05.8	-5.4
PRU				*e*SG	Sg	04 13 43.7	-4.5
3.1nm,0.3s							
KHC	**Kasperske Hory**	**3.59**	**254**	*e*PN	Pn	04 13 11.0	-2.9
KHC				*e*PG	Pg	04 13 20.3	-7.2
KHC				*e*SG	Sg	04 14 08.5	-6.8
12nm,0.7s							
MOA	**Molln**	**3.84**	**233**	⇑*i*PN	Pn	04 13 16.6	-0.9
MOA				*i* SG	Sg	04 14 15.4	-8.3
2.2nm,0.3s							

IDC ***27*** *04:16:34.3±1.8, 24.32S×116.00W, mb3.9/6, mb1 4.2/6, mb1mx3.9/19, mbtmp3.9/6, Error ellipse: s-maj=70.2km s-min=26.1km az=40.0*
ISC 27 04:16:34.0±2.8, 24.3S±0.4×116.0W±0.5, h10km, n9, σ0°92/6, mb3.9/6, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**41.18**	**125**	P	P	**04 24 20.6**	**+0.3**
3.1nm,0.9s,mb3.9,baz=279,slow=5.8,SNR=5.6							
LPAZ	**La Paz**	**45.41**	**89**	P	P	**04 24 56.0**	**+1.1**
2.1nm,0.7s,mb4.1,baz=289,slow=6.1,SNR=10							
SIV	**San Ignacio**	**51.95**	**92**	P	P	**04 25 45.1**	**-0.5**
1.5nm,0.9s,mb3.9,baz=266,slow=12,SNR=6.1							
BDFB	**Brasilia**	**63.94**	**96**	P	P	**04 27 09.0**	**-1.0**
3.0nm,1.1s,mb4.3,baz=259,slow=10,SNR=3.6							
PDAR	**Pinedale Array**	**67.01**	**5**	P	P	**04 27 29.1**	**-0.2**
0.4nm,0.8s,mb3.5,baz=180,slow=4.4,SNR=4.4							
YKA	**Yellowknife Ar**	**86.51**	**1**	P	P	**04 29 18.2**	**+0.3**
0.4nm,0.8s,mb3.7,baz=177,slow=5.3,SNR=10							
BRTR	**Keskin Array B**	**150.19**	**52**	PKPbc	PKPdf	04 36 29.1	+5.9
0.2nm,0.4s,baz=315,slow=4.1,SNR=2.9							
BVAR	**Borovoye Array**	**150.93**	**352**	PKPbc	PKPdf	04 36 28.3	+4.5
0.2nm,0.3s,baz=90,slow=1.5,SNR=3.6							
MKAR	**Makanchi Array**	**153.21**	**331**	PKPbc	PKPdf	04 36 33.1	+5.7
0.2nm,0.6s,baz=27,slow=2.7,SNR=3.6							

IDC ***27*** *04:33:20.9±0.6, 32.67S×178.31W, mb4.4/10, mb1 4.6/12, mb1mx4.5/19, mbtmp4.5/12, ML4.2/1, MS4.4/12, Ms1 4.4/12, ms1mx4.1/28, Error ellipse: s-maj=22.9km s-min=16.4km az=157.0*
HRVD ***27*** *04:33:22.6±0.8, 32.50S×177.85W, h29km±2km, MW4.9/38, Centroid moment Tensor Solution. LP body waves: s15,c17;Mantle waves: s38,c47; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.48±.29; Mθθ-0.94±.24; Mφφ-1.54±.20; Mrθ0.58±.36; Mθφ-0.93±.14; Mφr1.62±.28; Best double couple: M0 2.908×10^16 NP1:φs223°, δ28°, λ104°. NP2:φs27°, δ63°, λ83°. Principal axes: T 3.066, Plg71°, Azm281°; N -.321, Plg7°, Azm30°; P -2.749, Plg18°, Azm123°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***27*** *04:33:22.6±5.0, 32.61S×178.36W, h12km±30km, mb5.0/6 Error ellipse: s-maj=13.7km s-min=10.0km az=155.0*
MOS ***27*** *04:33:24.6±1.7, 32.43S×178.31W, h33km, mb5.2/3, Error ellipse: s-maj=15.9km s-min=14.2km az=63.7*
ISC 27 04:33:24.6±0.6, 32.76S±0.05×178.5W±0.1, h33km, n73, σ1°29/39, mb4.8/11, MS4.3/11, 3C-3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.53**	**8**	*e*P	P	**04 34 11.1**	**-7.3**
PUZ	**Puketiti**	**5.93**	**206**	SN	Sn	**04 36 01.1**	**+1.0**
MWZ	**Matawai**	**6.44**	**209**	PN	Pn	**04 34 57.1**	**-2.5**
MWZ				SN	Sn	**04 36 13.6**	**+0.9**
URZ	**Urewera**	**6.56**	**212**	Pn	Pn	**04 35 01.2**	**-0.1**
4.8nm,0.3s,baz=47,slow=6.9,SNR=38							
URZ				Sn	Sn	**04 36 16.8**	**+1.1**
18nm,0.3s,baz=166,slow=21,SNR=6.5							
URZ	**Urewera**	**6.56**	**212**	PN	Pn	**04 34 59.4**	**-1.9**
URZ				SN	Sn	**04 36 16.6**	**+1.0**
BKZ	**Black Stump Fm**	**7.58**	**211**	PN	Pn	**04 35 12.3**	**-3.3**
BKZ				SN	Sn	**04 36 40.2**	**-1.0**
MRZ	**Mangatainoka R**	**9.21**	**209**	PN	P	**04 35 32.5**	**-5.6**
MRZ				SN	Sn	**04 37 15.3**	**-6.5**
RPZ	**Rata Peaks**	**13.67**	**214**	Pn	P	**04 36 35.0**	**-3.3**
1.5nm,0.3s,baz=12,slow=9.5,SNR=6.9							
RPZ				Sn	S	**04 39 00.4**	**-9.5**
1.2nm,0.3s,baz=329,slow=22,SNR=6.1							
DZM	**Mont Dzumac**	**17.07**	**305**	P	P	**04 37 25.6**	**+3.3**
0.4nm,0.3s,baz=101,slow=17,SNR=3.7							
DZM				LR	LR	04 42 36.8	
comp=Z,2μm,21.6s,baz=196,slow=32							
AFI	**Afiamalu**	**19.74**	**20**	P	P	**04 37 51.2**	**-3.2**
baz=254,slow=22,SNR=2.0							
RAR	**Rarotonga**	**20.23**	**60**	P	P	**04 37 54.0**	**-5.6**
47nm,1.0s,baz=157,slow=3.6,SNR=3.7							
TBI	**Tubuai**	**27.21**	**77**	*e*LR	LR	04 45 47.4	
658nm,23.8s							
PPT	**Papeete**	**30.10**	**67**	*e*LR	LR	04 47 11.0	
492nm,22.8s							
HNR	**Honiara**	**30.59**	**315**	LR	LR	04 48 58.1	
comp=Z,299nm,18.2s,MS4.0,baz=311,slow=31							
STKA	**Stephens Creek**	**33.61**	**260**	*e*P	P	**04 40 07.6**	**+3.7**
3.9nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**33.61**	**260**	P	P	**04 40 05.5**	**+1.5**
2.7nm,0.6s,mb4.3,baz=104,slow=12,SNR=8.1							
STKA				LR	LR	04 53 36.1	
comp=Z,1μm,18.5s,MS4.6,baz=291,slow=36							
CTA	**Charters Tower**	**33.84**	**283**	P	P	**04 40 07.9**	**+1.8**
13nm,0.5s,mb5.1,baz=123,slow=11,SNR=15							
CTA				LR	LR	04 52 39.2	
comp=Z,512nm,18.2s,MS4.3,baz=50,slow=34							
CTAO	**Charters Tower**	**33.84**	**283**	*e*P	P	**04 40 07.7**	**+1.6**
CTAO				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.8							
CTAO	**Charters Tower**	**33.84**	**283**	*e*P	P	**04 40 07.7**	**+1.6**
comp=Z,10nm,0.7s,mb4.9							
RKT	**Rikitea**	**39.40**	**87**	*e*LR	LR	04 51 17.9	
comp=Z,630nm,27.8s							
ASAR	**Alice Springs**	**42.62**	**270**	P	P	**04 41 20.0**	**+0.5**
comp=Z,10nm,0.6s,mb4.7,baz=112,slow=7.7,SNR=54							
ASAR				LR	LR	04 59 56.2	
comp=Z,181nm,19.7s,MS4.0,baz=274,slow=37							
ASPA	**Alice Springs**	**42.62**	**270**	⇓*i*P	P	**04 41 20.1**	**+0.5**
WB2	**Warramunga Arr**	**43.81**	**275**	*e*P	P	**04 41 29.2**	**-0.1**
WRAB	**Tennant Creek**	**43.82**	**275**	*e*P	P	**04 41 27.8**	**-1.5**
WRAB				pmax	pmax		
comp=Z,23nm,0.9s,mb4.9							
WRAB	**Tennant Creek**	**43.82**	**275**	*e*P	P	**04 41 27.8**	**-1.6**
comp=Z,23nm,0.9s,mb4.9							
WRA	**Warramunga Arr**	**43.82**	**275**	P	P	**04 41 29.3**	**0.0**
comp=Z,5.8nm,0.3s,mb4.8,baz=112,slow=8.0,SNR=69							
FORT	**Forrest**	**45.08**	**258**	*e*P	P	**04 41 39.0**	**-0.3**
comp=Z,477nm,0.5s							
VNDA	**Vanda**	**45.71**	**186**	P	P	**04 41 44.1**	**+0.3**
comp=Z,0.5nm,0.8s,baz=84,slow=10,SNR=1.7							
VNDA				LR	LR	04 57 12.7	
comp=Z,356nm,18.7s,MS4.3,baz=5.3,slow=31							
KAKA	**Kakadu**	**48.97**	**282**	*e*P	P	**04 42 09.0**	**-1.0**
comp=Z,12nm,0.6s,mb5.1							
FITZ	**Fitzroy Crossi**	**51.98**	**272**	*e*P	P	**04 42 32.3**	**-0.5**
comp=Z,9.5nm,0.4s,mb5.1							
FITZ	**Fitzroy Crossi**	**51.98**	**272**	P	P	**04 42 32.4**	**-0.4**
comp=Z,16nm,0.9s,mb5.0,baz=144,slow=4.8,SNR=9.2							
FITZ				LR	LR	05 05 24.8	
comp=Z,742nm,18.1s,MS4.8,baz=25,slow=37							
NWAO	**Narrogin (SRO)**	**53.21**	**251**	LR	LR	05 01 34.3	
comp=Z,254nm,20.0s,MS4.3,baz=190,slow=32							
QSPA	**South Pole Qui**	**57.36**	**180**	⇓*i*P	P	**04 43 13.0**	**+1.7**
comp=Z,14nm,0.5s,mb5.2							
MAW	**Mawson**	**69.96**	**201**	LR	LR	05 14 01.9	
comp=Z,358nm,18.5s,MS4.7,baz=320,slow=35							
CBIJ	**Chichi jima**	**70.30**	**323**	LR	LR	05 11 22.0	
comp=Z,257nm,19.1s,MS4.5,baz=136,slow=32							
JHJ	**Hachijo jima 2**	**76.42**	**325**	LR	LR	05 12 23.1	
comp=Z,146nm,19.7s,MS4.3,baz=99,slow=31							
JOW	**Kunigami**	**77.94**	**313**	LR	LR	05 15 21.8	
comp=Z,109nm,21.4s,MS4.2,baz=183,slow=32							
PLCA	**Paso Flores**	**81.21**	**133**	P	P	**04 45 38.8**	**+0.3**
comp=Z,5.1nm,1.1s,mb4.4,baz=234,slow=11,SNR=7.0							
YSS	**Yuzh-Sakhalins**	**86.69**	**335**	*e*P	P	**04 46 06.0**	**+0.1**
YSS				pmax	pmax		
comp=Z,20nm,1.0s,mb5.3							
LDFC	**Landfair**	**89.91**	**47**	*e*P	P	**04 46 20.7**	**-0.9**
NVAR	**Mina Array Bea**	**90.25**	**43**	P	P	**04 46 24.1**	**+1.0**
comp=Z,1.0nm,0.8s,mb4.2,baz=215,slow=5.0,SNR=4.7							
TXAR	**Lajitas Array**	**94.01**	**58**	P	P	**04 46 41.5**	**+0.9**
comp=Z,0.1nm,0.8s,baz=231,slow=5.8,SNR=2.3							
MKAR	**Makanchi Array**	**118.95**	**309**	PKP	PKPdf	04 52 10.4	+0.8
comp=Z,1.2nm,0.8s,baz=91,slow=1.7,SNR=10							
AAK	**Ala-Archa**	**123.05**	**303**	⇑*i*PKIKP	PKPdf	04 52 16.4	-1.3
CHKZ	**Chkalovo**	**127.71**	**315**	*e*PKIKP	PKPdf	04 52 25.8	-0.5
ARU	**Arti**	**134.62**	**319**	*i* PKIKP	PKPdf	04 52 39.0	-0.3
ARCES	**ARCESS Array B**	**140.79**	**347**	PKhKP		04 52 47.5	
comp=Z,4.0nm,0.8s,baz=5.3,slow=2.5,SNR=5.7							
BHD	**Baghdad**	**144.23**	**283**	*e*PKP	PKPdf	04 53 13.0	+16
JOF	**Joensuu**	**144.44**	**337**	*e*p	PKPbc	04 52 54.2	-2.0
comp=Z,4.1nm,0.8s							
GNI	**Garni**	**144.73**	**295**	*i* PKIKP	PKPdf	04 52 58.8	+1.0
ZEI	**Tsey**	**145.35**	**299**	*e*PKIKP	PKPdf	04 52 59.8	+1.0
ONI	**Oni**	**145.69**	**299**	P	PKPdf	04 52 59.9	+0.6
MSL	**Mosul**	**145.75**	**288**	*e*PKP	PKPdf	04 53 05.0	+5.3
MOS	**Moscow**	**146.01**	**323**	*e*PKP2	PKPab	04 53 00.4	-2.5
MOS				pmax	pmax		
comp=Z,70nm,0.7s							
KIV	**Kislovodsk**	**146.15**	**301**	*d i*PKP2	PKPab	04 53 02.4	-1.5
KAF	**Kangasniemi**	**146.61**	**339**	*e*p	PKPdf	04 53 01.1	+0.8
comp=Z,7.5nm,0.8s							
OBN	**Obninsk**	**146.83**	**323**	⇑*i*PKP2	PKPab	04 53 03.6	-2.5
OBN				pmax	pmax		
comp=Z,26nm,1.9s							
FINES	**FINESS Array B**	**147.19**	**338**	PKPbc	PKPdf	04 53 04.0	+2.7
comp=Z,19nm,0.9s,baz=63,slow=4.3,SNR=54							
ANN	**Anapa**	**149.76**	**304**	*i* PKP2	PKPab	04 53 26.1	+7.8
ANN				pmax	pmax		
comp=Z,44nm,1.1s							
NB2	**NORSAR Subarra**	**151.01**	**350**	PKPabc	PKPdf	04 53 13.4	+6.1
comp=Z,13nm,0.9s,baz=21,slow=2.9							
NB2	**NORSAR Subarra**	**151.01**	**350**	⇑PKPab	PKPab	04 53 13.4	-10
NOA	**NORSAR Array B**	**151.01**	**350**	PKPbc	PKPdf	04 53 14.6	+7.3
comp=Z,1.1nm,0.8s,baz=27,slow=2.5,SNR=12							
EIL	**Elat**	**151.30**	**273**	*e*PKPdf	PKPdf	04 53 11.2	+2.5
EIL				*e*PKPbc	PKPdf	04 53 16.2	+7.5
MNK	**Minsk**	**151.40**	**327**	*e*PKIKP	PKPdf	04 53 12.0	+3.9
AKASG	**Malin Array Be**	**152.87**	**320**	PKPbc	PKPdf	04 53 18.4	+8.1
comp=Z,4.8nm,0.9s,baz=58,slow=2.1,SNR=15							
AKASG	**Malin Array Be**	**152.87**	**320**	PKPbc	PKPdf	04 53 18.4	+8.1
BRTR	**Keskin Array B**	**153.27**	**294**	PKPbc	PKPdf	04 53 20.1	+8.8
comp=Z,3.5nm,0.8s,baz=117,slow=2.8,SNR=17							
DBIC	**Dimbokro**	**153.37**	**166**	PKPbc	PKPdf	04 53 21.9	+10
comp=Z,6.7nm,1.1s,baz=160,slow=8.1,SNR=4.6							
CLL	**Collm**	**159.64**	**339**	*e*PKP2	PKPab	04 53 58.0	-2.0
CLL				*e*		04 54 10.0	
MOX	**Moxa**	**160.63**	**340**	*e*P	PKPab	04 54 02.0	-2.3
KHC	**Kasperske Hory**	**161.32**	**335**	*i* PKP2	PKPab	04 54 03.2	-4.1
KHC	**Kasperske Hory**	**161.32**	**335**	*e*P	PKPab	04 54 06.0	-1.3
GRF	**Grafen

EAST	Anshuo	0.93	241	*eP*		Pb	04 47 31.2	-1.2
STYT	Tauyuan	0.95	290	⇑*iP*		Pb	04 47 31.9	-0.9
YUS	Yu-Shan	0.96	312	⇑*iP*		Pb	04 47 32.7	-0.3
ESL	Shilin	1.00	344	*eP*		Pb	04 47 33.9	+0.2
SSD	Sandimen	1.02	265	⇑*iP*		Pb	04 47 32.6	-1.3
ALS	Alishan	1.08	308	⇑P		Pb	04 47 35.0	0.0
SGST	Jiashian	1.08	283	⇑P		Pb	04 47 34.7	-0.3
SGST				S		Sb	04 47 49.5	+0.1
WTP	Ta-pu	1.10	292	⇑P		Pb	04 47 35.1	-0.3
WTP				S		Sb	04 47 50.3	+0.3
SCZT	Fangliau	1.13	246	*eP*		Pb	04 47 34.6	-1.1
HWA	Hwalien	1.14	354	*eP*		Pb	04 47 35.0	-0.9
SGLT	Jiouru	1.15	264	*eP*		Pb	04 47 37.1	+0.9
CHN1	Nanshi	1.16	287	⇑P		Pb	04 47 36.3	0.0
CHN1				S		Sb	04 47 51.4	-0.2
CHN4	Tsaushan	1.16	296	⇑*iP*		Pb	04 47 36.3	-0.1
CHN4				S		Sb	04 47 52.7	+1.0
TWM1	Shoushan	1.20	269	*eP*		Pb	04 47 37.7	+0.5
TSEB	Hengchuen, Pin	1.21	219	*eP*		Pb	04 47 38.4	+1.1
TWK	Hsinying	1.22	291	⇑P		Pb	04 47 37.2	-0.2
TWK				S		Sb	04 47 54.0	+0.7
CHN5	Tsauling	1.22	308	P		Pb	04 47 37.8	+0.3
CHN5				S		Sb	04 47 54.0	+0.5
TWK1	Hengchun	1.24	224	*eP*		Pb	04 47 37.2	-0.5
HEN	Hengchun	1.24	228	*eP*		Pb	04 47 38.6	+0.9
TWD	Chiawan	1.24	354	*eP*		Pb	04 47 37.1	-0.6
TWD				S		Sb	04 47 52.4	-1.5
SMLT	Sun Moon Lake	1.28	324	*eP*		Pb	04 47 38.6	+0.1
SMLT				S		Sb	04 47 55.3	+0.1
TYC	Yuchr	1.33	323	*eP*		Pb	04 47 39.7	+0.5
KAU	Kaohsiung	1.34	259	*eP*		Pb	04 47 41.1	+1.6
CHN2	Minshiung	1.34	301	*eP*		Pb	04 47 37.8	-1.6
CHN2				S		Sb	04 47 57.4	+0.4
TWP	Hsiaoliuchiu	1.35	249	*eP*		Pb	04 47 41.6	+1.9
WGK	Gukeng	1.36	308	*eP*		Pb	04 47 40.8	+1.0
WHF	Hehuan Shan	1.36	342	*eP*		Pb	04 47 39.3	-0.6
WHF				S		Sb	04 47 54.9	-2.7
WNT	Mingjian	1.41	317	*eP*		Pb	04 47 41.1	+0.5
WNT				S		Sb	04 47 58.8	-0.1
SCLT	Jiali	1.45	283	*eP*		Pn	04 47 41.1	-0.1
SCLT				S		Sb	04 48 00.0	-0.1
CHN8	Yiju	1.48	290	*eP*		Pn	04 47 42.0	+0.3
CHN8				S		Sb	04 48 00.7	-0.3
TWT	Tachien	1.49	340	*eP*		Pn	04 47 41.9	+0.1
TCU	Taichung	1.62	324	*eP*		Pn	04 47 45.0	+1.3
NNS	Nan Shan	1.62	349	*eP*		Pn	04 47 43.8	+0.1
WTCT	Ta-ch'eng	1.67	308	*eP*		Pn	04 47 42.0	-2.5
TWQ1	Liyutan	1.74	330	*eP*		Pn	04 47 46.8	+1.4
TWQ1				S		Sn	04 48 08.1	-0.1
TWC	Suao	1.76	4	*eP*		Pn	04 47 46.1	+0.4
ENTT	Nioudou	1.80	355	*eP*		Pn	04 47 45.3	-0.9
NSY	Sanyi	1.80	331	*eP*		Pn	04 47 47.7	+1.4
NSY				S		Sn	04 48 10.7	+0.8
NSK	Sanguang	1.86	350	*eP*		Pn	04 47 47.5	+0.5
TWE	Neicheng	1.87	358	*eP*		Pn	04 47 47.0	-0.2
NSTT	Nanjuang	1.90	340	*eP*		Pn	04 47 50.1	+2.4
WDGT	Dungji	1.95	283	*eP*		Pn	04 47 47.1	-1.2
WDGT				S		Sn	04 48 09.2	-4.5
YOJ	Yonaguni jima	2.00	36	P		Pn	04 47 49.3	+0.3
YOJ				*eS*		Sn	04 48 14.3	-0.5
PNG	Penghu	2.12	290	*eP*		Pn	04 47 49.6	-1.3
TWA	Mucha	2.13	356	*eP*		Pn	04 47 55.2	+4.3
TWB1	Santiao Chiao	2.17	6	*eP*		Pn	04 47 52.4	+0.9
NWF	Wu-fen Shan	2.22	1	*eP*		Pn	04 47 53.2	+0.9
HATJ	Hateruma jima	2.26	57	P		Pn	04 47 53.6	+0.8
HATJ				*eS*		Sn	04 48 20.8	-0.7
TWS1	Kuangyinshan	2.27	353	*eP*		Pn	04 47 53.8	+0.9
IRIF	Iriomote-Funau	2.36	51	*eS*		Sn	04 48 23.9	-0.2
JKRS	Kuro-shima	2.51	56	*eS*		Sn	04 48 27.1	-0.8
JIJ	Ishigaki jima	2.68	55	P		Pn	04 47 59.9	+1.0
JIJ				*eS*		Sn	04 48 31.2	-1.1
JTJ	Tarama	3.26	56	P		Pn	04 48 08.4	+1.3
JTJ				*eS*		Sn	04 48 45.8	-1.1
KNM	Kinmen	3.40	298	*eP*		Pn	04 48 07.9	-1.3

*SOF **27** 04:47:54.5, 40.82N×22.87E, h11km, MD2.8*
*NEIC **27** 04:47:55.9, 40.81N×22.95E, h30km, MD3.1(ATH), After ATH.*
*ATH **27** 04:47:56.4, 40.82N×22.93E, h10km, MD3.1/3*
*CSEM **27** 04:47:56.4±0.1, 40.82N×22.91E, h15km, ML2.8, Error ellipse: s-maj=1.7km s-min=1.5km az=25.0*
*THE **27** 04:47:56.7, 40.82N×22.91E, h10km, ML2.8*

ISC 27 04:47:56.0±0.4, 40.82N±0.02×22.91E±0.03, h7km±6km, n20, σ0°78/29, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.20**	**168**	*eP*g	**Pg**	**04 48 00.5**	**+0.5**
THE				*eS*g	**Sg**	**04 48 03.5**	**+0.7**
THE	**Thessaloniki**	**0.20**	**168**	*eP*g	**Pg**	**04 48 00.2**	**+0.1**
THE	**Thessaloniki**	**0.20**	**168**	*eP*g	**Pg**	**04 48 00.2**	**+0.1**
SOH	**Sokhos**	**0.34**	**90**	*eP*g	**Pg**	**04 48 03.4**	**+0.6**
SOH				*eS*g	**Sg**	**04 48 08.2**	**+0.8**
KNT	**Kendrikon**	**0.34**	**358**	*eP*g	**Pg**	**04 48 03.3**	**+0.4**
GRG	**Griva**	**0.41**	**289**	*eP*g	**Pg**	**04 48 04.3**	**+0.1**
GRG				*eS*g	**Sg**	**04 48 10.2**	**+0.5**
VAY	**Valandovo**	**0.56**	**333**	⇑*iP*g	**Pg**	**04 48 07.3**	**+0.1**
VAY				*i* Sg	**Sg**	**04 48 15.3**	**+0.6**
SRS	**Serrai**	**0.59**	**60**	*eP*g	**Pg**	**04 48 07.6**	**-0.3**
SRS				*eS*g	**Sg**	**04 48 15.9**	**+0.1**
PLG	**Polygyros**	**0.61**	**138**	*eP*B	**Pb**	**04 48 07.4**	**-1.1**
LIT	**Litokhoron**	**0.79**	**204**	*eP*g	**Pg**	**04 48 11.3**	**-0.5**
	comp=Z,9.5nm,0.1s						
LIT				*eS*g	**Sg**	**04 48 22.3**	**-0.1**
NVR	**Nevrokopi**	**0.89**	**54**	*eP*B	**Pb**	**04 48 13.1**	**-0.3**
OUR	**Ouranopolis**	**0.95**	**121**	*eP*g	**Pg**	**04 48 14.6**	**-0.5**
OUR				*eS*g	**Sg**	**04 48 28.3**	**+0.6**
MMB	**Musomiste**	**0.98**	**39**	*i Pg*	**Pg**	**04 48 14.2**	**-1.4**
KZN	**Kozani**	**1.01**	**240**	*eP*B	**Pb**	**04 48 15.8**	**+0.3**
KKB	**Krupnik**	**1.05**	**7**	*i Pg*	**Pg**	**04 48 15.2**	**-1.8**
PAIG	**Paliouri**	**1.07**	**146**	*eP*g	**Pg**	**04 48 16.3**	**-1.2**
PAIG				*eS*g	**Sg**	**04 48 31.7**	**0.0**
FNA	**Florina**	**1.17**	**269**	*eP*g	**Pg**	**04 48 18.4**	**-0.9**
FNA				*eS*g	**Sg**	**04 48 35.4**	**+0.6**
VTS	**Vitosha**	**1.78**	**7**	*i P*	**Pn**	**04 48 27.8**	**+0.3**
KDZ	**Kurdzhali**	**2.06**	**66**	*i P*	**Pn**	**04 48 34.0**	**+2.4**
ALN	**Alexandroupoli**	**2.38**	**87**	*ePn*	**Pn**	**04 48 36.4**	**+0.3**

*IDC **27** 04:58:28.8±0.7, 3.96S×129.68E, mb4.1/7, mb1 4.3/8, mb1mx4.2/17, mbtmp4.2/8, ML4.3/1, Error ellipse: s-maj=43.3km s-min=17.1km az=61.0*
*NEIC **27** 04:58:33.1±0.5, 4.02S×129.75E, h30km, mb4.3/2, Error ellipse: s-maj=19.5km s-min=9.5km az=72.0*

ISC 27 04:58:30.9±0.6, 4.05S±0.07×129.7E±0.1, h33km, n27, σ1°26/25, mb4.0/7, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.01**	**163**	*eP*	**P**	**05 00 41.9**	**+0.3**
	19nm,0.5s						
FITZ	**Fitzroy Crossi**	**14.53**	**196**	*eP*	**P**	**05 01 57.8**	**+1.7**
	8.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**14.53**	**196**	Pn	**P**	**05 01 58.4**	**+2.3**
	1.0nm,0.3s,baz=42,slow=9.3,SNR=7.7						
WRAB	**Tennant Creek**	**16.42**	**164**	*eP*	**P**	**05 02 18.9**	**-1.5**
WRA	**Warramunga Arr**	**16.42**	**164**	Pn	**P**	**05 02 18.1**	**-2.4**
	0.4nm,0.3s,baz=347,slow=13,SNR=9.8						
WRA				Sn	**S**	**05 05 19.6**	**-1.5**
	0.3nm,0.3s,baz=332,slow=22,SNR=4.2						
WB2	**Warramunga Arr**	**16.43**	**164**	*eP*	**P**	**05 02 17.6**	**-3.0**
MBWA	**Marble Bar**	**19.58**	**209**	*eP*	**P**	**05 02 59.0**	**-0.1**
	30nm,1.3s						
ASAR	**Alice Springs**	**19.91**	**169**	P	**P**	**05 03 04.0**	**+1.3**
	13nm,0.6s,baz=351,slow=11,SNR=100						
ASAR				S	**S**	**05 06 43.0**	**+3.2**
	0.6nm,0.7s,baz=352,slow=20,SNR=3.1						
ASAR				PcP	PcP	05 07 18.7	+0.2
	0.6nm,0.3s,baz=2.4,slow=1.6,SNR=5.4						
ASPA	**Alice Springs**	**19.91**	**169**	⇓*iP*	**P**	**05 03 03.7**	**+1.1**
CTA	**Charters Tower**	**22.66**	**136**	P	**P**	**05 03 33.5**	**+2.8**
	6.5nm,0.8s,mb4.1,baz=323,slow=14,SNR=6.3						
CTAO	**Charters Tower**	**22.66**	**136**	*eP*	**P**	**05 03 29.9**	**-0.8**
STKA	**Stephens Creek**	**29.84**	**159**	P	**P**	**05 04 37.4**	**0.0**
	1.4nm,0.5s,mb4.0,baz=330,slow=9.3,SNR=5.4						
STKA	**Stephens Creek**	**29.84**	**159**	P	**P**	**05 04 37.4**	**0.0**
CMAR	**Chiang Mai Arr**	**37.69**	**307**	P	**P**	**05 05 46.1**	**+0.9**
	1.9nm,0.8s,mb3.9,baz=143,slow=8.3,SNR=7.8						
GUN	**Gumba**	**52.84**	**310**	*eP*	**P**	**05 07 45.1**	**-0.7**

KKN	**Kakani**	**53.25**	**309**	*eP*		**P**	**05 07 47.8**	**-1.0**
DMN	**Daman**	**53.29**	**309**	*eP*		**P**	**05 07 49.3**	**+0.2**
GKN	**Gorkha**	**53.85**	**309**	*eP*		**P**	**05 07 52.5**	**-0.7**
KOLN	**Koldanda**	**54.54**	**308**	*eP*		**P**	**05 07 57.6**	**-0.7**
MKAR	**Makanchi Array**	**65.63**	**326**	P		**P**	**05 09 13.9**	**-0.1**
	2.2nm,0.6s,mb4.4,baz=120,slow=8.2,SNR=19							
BVAR	**Borovoye Array**	**75.44**	**328**	P		**P**	**05 10 13.6**	**+0.4**
	1.6nm,0.8s,mb4.0,baz=121,slow=8.6,SNR=9.9							
CHKZ	**Chkalovo**	**75.62**	**328**	*eP*		**P**	**05 10 13.8**	**-0.5**
	1.7nm,0.8s,mb4.0							
ILAR	**Eielson Array**	**90.81**	**25**	P		**P**	**05 11 33.8**	**+1.9**
	0.1nm,0.4s,mb3.5,baz=262,slow=5.0,SNR=4.2							
TXAR	**Lajitas Array**	**123.62**	**57**	PKP		PKPdf	05 17 28.8	+3.0
	0.3nm,0.7s,baz=225,slow=1.8,SNR=4.9							
JTS	**JuntasAbangare**	**145.06**	**78**	PKPbc		PKPbc	05 18 09.1	+2.9
	2.0nm,0.5s,baz=240,slow=2.4,SNR=4.8							
CPUP	**Villa Florida**	**149.03**	**168**	PKPbc		PKPdf	05 18 19.4	+7.2
	1.1nm,0.5s,baz=217,slow=5.1,SNR=7.8							
LPAZ	**La Paz**	**153.16**	**139**	PKPbc		PKPdf	05 18 30.4	+12
	0.7nm,0.4s,baz=321,slow=2.4,SNR=8.5							

*IDC **27** 05:02:02.1±0.8, 1.37N×97.49E, mb4.1/12, mb1 4.2/13, mb1mx4.1/21, mbtmp4.1/13, ML4.5/1, Error ellipse: s-maj=37.7km s-min=16.5km az=52.0*
*BJI **27** 05:02:04.8, 0.92N×97.30E, h45km, mb4.8*
*NEIC **27** 05:02:05.7±0.6, 1.17N×97.25E, h30km, mb4.4/3, Error ellipse: s-maj=18.7km s-min=10.3km az=57.0*

ISC 27 05:02:05.1±3.9, 1.1N±0.1×97.2E±0.2, h39km±31km, n28, σ0°88/27, mb4.3/19, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.13**	**48**	P	**P**	**05 03 21.5**	**0.0**
KULM	**Kulim**	**5.38**	**40**	*eP*	**P**	**05 03 24.7**	**-0.3**
KGM	**Kluang**	**6.17**	**82**	P	**P**	**05 03 36.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**17.31**	**6**	Pn	**P**	**05 06 02.0**	**-3.6**
	0.7nm,0.3s,baz=190,slow=11,SNR=5.9						
KMI	**Kunming**	**24.45**	**12**	P	**P**	**05 07 24.0**	**+2.2**
KMI				AP		05 07 29.5	
KMI				AMB	AMB		
	comp=Z,31nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,44nm,3.1s						
SHL	**Shillong**	**24.84**	**348**	*eP*	**P**	**05 07 25.5**	**0.0**
ENH	**Enshi**	**31.25**	**21**	*eP*	**P**	**05 08 22.1**	**-1.4**
	comp=Z,17nm,1.0s,mb4.8						
XAN	**Xi'an**	**34.54**	**17**	P	**P**	**05 08 50.8**	**-1.2**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
GTA	**Gaotai**	**38.18**	**3**	*eP*	**P**	**05 09 23.3**	**+0.5**
GTA				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**41.98**	**122**	P	**P**	**05 09 54.0**	**-0.4**
	comp=Z,2.6nm,0.7s,mb4.0,baz=301,slow=9.1,SNR=9.7						
WRAB	**Tennant Creek**	**41.99**	**122**	*eP*	**P**	**05 09 53.8**	**-0.7**
	comp=Z,4.3nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**41.99**	**122**	*eP*	**P**	**05 09 54.5**	**0.0**
BJI	**Beijing**	**42.41**	**22**	P	**P**	**05 09 58.8**	**+1.1**
BJI				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.8						
ASAR	**Alice Springs**	**43.34**	**127**	P	**P**	**05 10 05.5**	**0.0**
	comp=Z,1.7nm,0.9s,mb3.8,baz=304,slow=7.9,SNR=7.4						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**05 10 37.4**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.3,baz=159,slow=7.6,SNR=12						
STKA	**Stephens Creek**	**53.29**	**132**	*eP*	**P**	**05 11 23.1**	**+0.4**
	comp=Z,2.0nm,0.8s,mb4.1						
STKA				*i*		05 11 29.9	
STKA	**Stephens Creek**	**53.29**	**132**	P	**P**	**05 11 23.1**	**+0.4**
	comp=Z,2.2nm,0.7s,mb4.2,baz=317,slow=4.1,SNR=5.9						
ZAL	**Zalesovo**	**53.63**	**351**	P	**P**	**05 11 25.0**	**+0.2**
	comp=Z,3.1nm,0.6s,mb4.4,baz=293,slow=8.2,SNR=14						
BVAR	**Borovoye Array**	**56.33**	**341**	P	**P**	**05 11 43.5**	**-0.9**
	comp=Z,1.7nm,0.7s,mb4.2,baz=137,slow=9.4,SNR=7.9						
CHKZ	**Chkalovo**	**56.81**	**341**	*eP*	**P**	**05 11 47.0**	**-0.9**
	comp=Z,80nm,1.3s,mb5.6						
BRTR	**Keskin Array B**	**69.17**	**312**	P	**P**	**05 13 09.7**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.5,baz=121,slow=8.4,SNR=2.5						
MATP	**Matopo**	**70.51**	**248**	P	**P**	**05 13 23.2**	**+4.9**
	comp=Z,2.0nm,0.8s,mb4.1,baz=68,slow=6.8,SNR=3.6						
MATP	**Matopo**	**70.51**	**248**	P	**P**	**05 13 23.2**	**+4.9**
AKASG	**Malin Array Be**	**75.33**	**322**	P	**P**	**05 13 45.5**	**-0.6**
	comp=Z,0.2nm,0.2s,mb3.7,baz=98,slow=4.4,SNR=4.0						
FINES	**FINESS Array B**	**80.08**	**333**	P	**P**	**05 14 12.1**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=108,slow=4.4,SNR=3.2						
ARCES	**ARCESS Array B**	**82.62**	**340**	P	**P**	**05 14 26.1**	**+0.7**
	comp=Z,3.4nm,0.8s,mb4.4,baz=45,slow=5.1,SNR=4.3						
GERES	**GERESS Array B**	**84.88**	**319**	P	**P**	**05 14 38.9**	**+1.7**
	comp=Z,0.3nm,0.2s,mb4.0,baz=90,slow=6.9,SNR=4.1						
TXAR	**Lajitas Array**	**143.73**	**32**	PKP	PKPdf	05 21 37.1	+0.5
	comp=Z,0.3nm,0.7s,baz=166,slow=1.2,SNR=5.8						

*CSEM **27** 05:29:01.5±0.1, 13.29N×51.26E, h2km, mb4.1/6, Error ellipse: s-maj=7.2km s-min=4.7km az=123.0*
*MOS **27** 05:29:02.4±1.0, 13.25N×51.30E, h10km, mb4.6/5, Error ellipse: s-maj=16.8km s-min=9.6km az=79.5*
*IDC **27** 05:29:02.6±0.6, 13.20N×51.38E, mb4.2/18, mb1 4.3/19, mb1mx4.3/24, mbtmp4.2/19, ML3.5/1, MS4.1/10, Ms1 4.1/10, ms1mx3.8/24, Error ellipse: s-maj=18.6km s-min=14.0km az=99.0*
*NEIC **27** 05:29:04.2±0.4, 13.21N×51.36E, h10km, mb4.4/2, Error ellipse: s-maj=12.0km s-min=8.4km az=101.0*
*DHMR **27** 05:29:04.9±0.4, 13.55N×51.05E, h8km±49km, ML4.2*

ISC 27 05:29:02.5±0.4, 13.28N±0.06×51.26E±0.04, h10km, n61, σ0°95/57, mb4.3/28, MS4.1/10, 2C-2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.46**	**299**	⇑*iP*	**Pn**	**05 29 42.7**	**-0.7**
MUKL				*i* S	**Sn**	**05 30 12.2**	**-1.6**
MUKL				AML	AML	05 30 12.9	
	comp=N,2μm,0.9s						
ABTO	**Aybut**	**4.51**	**26**	P	**Pn**	**05 30 11.8**	**-0.6**
	SNR=16						
RBK	**Rabkut**	**5.07**	**34**	P	**Pn**	**05 30 19.5**	**-0.9**
	SNR=24						
WHFO	**Wadi Hawf**	**5.21**	**27**	P	**Pn**	**05 30 21.1**	**-1.4**
	SNR=12						
BDHA	**Al Bayda'**	**5.57**	**278**	⇓*iP*	**Pn**	**05 30 27.1**	**-0.4**
BDHA	**Al Bayda'**	**5.57**	**278**	⇑*iP*	**Pn**	**05 30 26.7**	**-0.8**
LBOS		**5.87**	**276**	⇓*iP*	**Pn**	**05 30 31.4**	**-0.3**
TRBA	**At Turbah**	**6.95**	**270**	*i P*	**Pn**	**05 30 46.0**	**-0.9**
KMBO	**Kilima Mbogo**	**19.94**	**225**	P	**P**	**05 33 38.2**	**+0.5**
	comp=N,0.1nm,0.3s,baz=40,slow=18,SNR=7.5						
KMBO	**Kilima Mbogo**	**19.94**	**225**	P	**P**	**05 33 38.2**	**+0.5**
EIL	**Elat**	**22.23**	**320**	LR	LR	05 42 09.6	
	comp=N,424nm,18.9s,MS3.9,baz=136,slow=35						
ASF	**Jabal al Asfar**	**22.95**	**327**	P	**P**	**05 34 10.4**	**+2.2**
	comp=N,4.6nm,0.9s,mb3.9,baz=110,slow=5.6,SNR=5.3						
ASF				LR	LR	05 42 55.2	
	comp=N,218nm,19.1s,MS3.6,baz=20,slow=36						
GNI	**Garni**	**27.37**	**349**	P	**P**	**05 34 52.6**	**+2.7**
	comp=N,2.4nm,0.3s,mb4.2,baz=336,slow=4.9,SNR=4.8						
GNI				LR	LR	05 47 52.7	
	comp=N,805nm,21.1s,MS4.3,baz=349,slow=41						
MALT	**Malatya**	**27.42**	**338**	*eP*	**P**	**05 34 51.7**	**+1.4**
BRTR	**Keskin Array B**	**30.58**	**333**	P	**P**	**05 35 20.6**	**+1.9**
	comp=N,0.9nm,0.9s,mb3.6,baz=146,slow=8.9,SNR=5.2						
BRTR	**Keskin Array B**	**30.58**	**333**	P	**P**	**05 35 20.5**	**+1.8**
KOLN	**Koldanda**	**33.42**	**59**	*eP*	**P**	**05 35 43.8**	**+0.1**
	comp=N,21nm,1.0s,mb5.0						
GKN	**Gorkha**	**34.37**	**60**	*eP*	**P**	**05 35 51.3**	**-0.6**
	comp=N,32nm,1.2s,mb5.1						
KKN	**Kakani**	**34.84**	**60**	*eP*	**P**	**05 35 55.4**	**-0.6**
	comp=N,18nm,0.7s,mb5.1						
PKI	**Pulchoki**	**34.89**	**61**	*eP*	**P**	**05 35 56.0**	**-0.3**
	comp=N,36nm,1.5s,mb5.1						
GUN	**Gumba**	**35.38**	**60**	*eP*	**P**	**05 36 00.6**	**0.0**
	comp=N,49nm,1.2s,mb5.3						
AAK	**Ala-Archa**	**35.49**	**30**	*eP*	**P**	**05 36 02.6**	**+1.3**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.4						
AAK	**Ala-Archa**	**35.49**	**30**	*eP*	**P**	**05 36 02.6**	**+1.2**
	comp=Z,8.1nm,1.5s,mb4.4						
AAK	**Ala-Archa**	**35.49**	**30**	*eP*	**P**	**05 36 02.6**	**+1.3**
	comp=Z,8.1nm,1.5s,mb4.4						
FRU	**Bishkek**	**35.70**	**30**	*eP*	**P**	**05 36 05.0**	**+1.9**
FRU				*e*		05 36 13.0	
MATP	**Matopo**	**40.28**	**214**	P	**P**	**05 36 41.5**	**-0.1**
	comp=Z,1.9nm,0.8s,mb3.9,baz=47,slow=12,SNR=4.5						
MATP	**Matopo**	**40.28**	**214**	P	**P**	**05 36 41.5**	**-0.1**
AKASG	**Malin Array Be**	**41.41**	**339**	P	**P**	**05 36 51.3**	**+0.7**

	comp=Z,1.2nm,0.6s,mb3.7,baz=147,slow=7.2,SNR=12							
MKAR	**Makanchi Array**	**42.35**	**32**	*i* P		**P**	**05 36 58.8**	**+0.4**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MKAR	**Makanchi Array**	**42.35**	**32**	P		**P**	**05 36 59.0**	**+0.6**
	comp=Z,3.5nm,0.5s,mb4.2,baz=222,slow=7.9,SNR=67							
MKAR				LR	LR		05 55 55.2	
	comp=Z,104nm,20.6s,MS3.7,baz=195,slow=38							
BVA0	**Borovoye Array**	**42.48**	**17**	*i P*		**P**	**05 37 00.0**	**+0.6**
BVA0				pmax	pmax			
	comp=Z,1.0nm,1.2s,mb3.3							
BVA0	**Borovoye Array**	**42.48**	**17**	*i P*		**P**	**05 37 00.0**	**+0.6**
	comp=Z,1.0nm,1.2s,mb3.3							
BVAR	**Borovoye Array**	**42.48**	**17**	P		**P**	**05 37 00.0**	**+0.7**
	comp=Z,2.0nm,0.6s,mb4.0,baz=195,slow=7.8,SNR=14							
CHKZ	**Chkalovo**	**43.12**	**17**	P		**P**	**05 37 04.8**	**+0.2**
CHKZ				pmax	pmax			
	comp=Z,21nm,2.6s,mb4.4							
CHKZ	**Chkalovo**	**43.12**	**17**	P		**P**	**05 37 04.8**	**+0.2**
	comp=Z,21nm,2.6s,mb4.4							
LBTB	**Lobatse**	**45.55**	**213**	P		**P**	**05 37 25.2**	**+0.6**
	comp=Z,3.6nm,0.9s,mb4.3,baz=62,slow=6.2,SNR=5.1							
LBTB	**Lobatse**	**45.55**	**213**	P		**P**	**05 37 25.2**	**+0.6**
MORC	**Moravsky Berou**	**45.67**	**330**	*eP*		**P**	**05 37 25.1**	**0.0**
CMAR	**Chiang Mai Arr**	**46.06**	**77**	P		**P**	**05 37 28.1**	**-0.5**
	comp=Z,5.6nm,0.6s,mb4.7,baz=278,slow=8.8,SNR=24							
GERES	**GERESS Array B**	**47.06**	**327**	P		**P**	**05 37 36.9**	**+0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=141,slow=8.5,SNR=8.2							
NVS	**Novosibirsk**	**48.41**	**24**	*eP*		**P**	**05 37 45.3**	**-1.3**
NVS				pmax	pmax			
	comp=N,10.0nm,1.3s							
NVS				pmax	pmax			
	comp=Z,13nm,1.3s,mb4.8							
ZAL	**Zalesovo**	**48.41**	**26**	P		**P**	**05 37 46.4**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.5,baz=237,slow=7.8,SNR=12							
BOSA	**Boshof**	**48.65**	**211**	P		**P**	**05 37 48.9**	**0.0**
	comp=Z,4.3nm,1.1s,mb4.4,baz=56,slow=8.5,SNR=3.5							
BOSA				LR	LR		05 57 17.9	
	comp=Z,171nm,20.6s,MS4.0,baz=5.4,slow=35							
BOSA	**Boshof**	**48.65**	**211**	P		**P**	**05 37 48.8**	**0.0**
MOX	**Moxa**	**49.21**	**328**	*eP*		**P**	**05 37 54.0**	**+1.2**
FINES	**FINESS Array B**	**51.43**	**345**	P		**P**	**05 38 09.3**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=135,slow=8.1,SNR=11							
FINES				LR	LR		06 02 37.1	
	comp=Z,114nm,18.6s,MS3.9,baz=331,slow=39							
FINES	**FINESS Array B**	**51.43**	**345**	P		**P**	**05 38 09.3**	**-0.3**
FINES				LR	LR		06 02 37.1	
ESDC	**Sonseca Array**	**54.99**	**309**	P		**P**	**05 38 36.8**	**+0.4**
	comp=Z,3.9nm,0.7s,mb4.5,baz=88,slow=6.8,SNR=16							
NB2	**NORSAR Subarra**	**55.80**	**338**	P

comp=Z,20nm,0.5s
COLA College 19.47 37 *e*P **P 06 14 43.1 +0.4**
COLA pmax pmax
comp=Z,16nm,0.9s
COLA College 19.47 37 *e*P **P 06 14 43.1 +0.4**
comp=Z,16nm,0.9s
THY Trims Highway 19.67 42 *e*P **P 06 14 44.9 +0.1**
ILAR Eielson Array 19.79 38 P **P 06 14 43.9 -2.1**
comp=Z,0.8nm,0.3s,baz=237,slow=9.4,SNR=60
ILAR PcP PcP 06 19 00.7 -1.0
comp=Z,0.1nm,0.3s,baz=279,slow=3.4,SNR=5.1
ILAR LR LR 06 22 19.2
comp=Z,30nm,21.1s,baz=187,slow=36
ILAR ScP 06 22 32.5
comp=Z,0.1nm,0.3s,baz=258,slow=3.1,SNR=5.7
SEY Seymchan 20.16 316 *e*P **P 06 14 52.5 +2.5**
SEY *e* 06 15 05.2
SEY pmax pmax
comp=E,20nm,0.9s
SEY pmax pmax
comp=Z,30nm,0.9s
MENT Mentasta 20.37 44 *e*P **P 06 14 53.9 +1.7**
DAWY Dawson 22.56 43 *e*P **P 06 15 14.0 +0.1**
INK Inuvik 26.07 35 P **P 06 15 47.2 -0.3**
INK 06 19 13.9
INK pmax pmax
comp=Z,3.0nm,0.4s
INK pmax pmax
comp=Z,6.0nm,0.5s
INK pmax pmax
comp=N,1.0nm,0.6s
INK Inuvik 26.07 35 P **P 06 15 47.1 -0.4**
comp=N,2.6nm,0.3s,mb4.1,baz=239,slow=6.5,SNR=69
INK PcP PcP 06 19 13.9 -0.4
comp=N,6.3nm,0.5s,baz=296,slow=2.7,SNR=23
INK ScP 06 22 48.8
comp=N,0.7nm,0.6s,baz=207,slow=4.1,SNR=4.2
INK Inuvik 26.07 35 *e*P **P 06 15 46.8 -0.7**
comp=N,3.0nm,0.4s,mb4.1
YSS Yuzh-Sakhalins 27.07 276 *e*P **P 06 15 57.5 +0.6**
ASAJ Asahikawa 28.50 271 P **P 06 16 10.9 +1.0**
ASAJ pmax pmax
comp=Z,14nm,0.7s
ASAJ Asahikawa 28.50 271 P **P 06 16 10.9 +1.0**
comp=Z,14nm,0.7s,mb4.7,baz=85,slow=8.2,SNR=8.7
BBB Bella Bella 29.02 70 P **P 06 16 14.7 +0.4**
comp=Z,4.0nm,0.6s,mb4.2,baz=314,slow=11,SNR=4.0
YKW3 Yellowknife Ar 33.60 47 *e*P **P 06 16 53.0 -1.5**
YKA Yellowknife Ar 33.62 47 P **P 06 16 54.0 -0.6**
comp=Z,3.0nm,0.6s,mb4.3,baz=285,slow=8.2,SNR=51
YKA PcP PcP 06 19 33.7 +0.1
comp=Z,7.9nm,0.6s,baz=287,slow=3.0,SNR=71
YKA ScP 06 23 13.0
comp=Z,0.3nm,0.7s,baz=285,slow=3.3,SNR=4.4
YKA LR LR 06 32 03.4
comp=Z,113nm,18.1s,baz=300,slow=39
YKA Yellowknife Ar 33.62 47 P **P 06 16 54.0 -0.6**
YKA PcP PcP 06 19 33.7 +0.1
YKA ScP 06 23 13.1
YKA LR LR 06 32 03.4
MJAR Matsushiro Arr 35.63 263 P **P 06 17 12.4 +0.4**
comp=Z,3.0nm,0.6s,mb4.4,baz=46,slow=7.6,SNR=8.8
MJAR LR LR 06 30 15.9
comp=Z,57nm,20.0s,baz=135,slow=34
MAT Matsushiro 35.63 263 P **P 06 17 13.0 +1.0**
MAT pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MAT Matsushiro 35.63 263 P **P 06 17 13.0 +1.0**
comp=Z,9.0nm,1.0s,mb4.7
MAT Matsushiro 35.63 263 P **P 06 17 12.8 +0.8**
MDJ Mudanjiang 36.27 281 P **P 06 17 15.0 -2.4**
MDJ AP pP 06 17 26.3 -7.6
MDJ XP sP 06 17 31.3 -11
MDJ PP PP 06 18 37.5 -4.5
MDJ PCP PcP 06 19 39.3 -2.2
MDJ S **S 06 22 52.0 -0.4**
MDJ XS 06 23 11.3
MDJ SCP 06 23 23.0
MDJ PCS 06 23 27.0
MDJ AMB AMB
comp=Z,9.0nm,1.7s,mb4.4
MDJ AMB AMB
comp=Z,81nm,3.6s
MDJ LR LR
comp=N,85nm,55.0s
MDJ LR LR
comp=E,111nm,35.1s
HAWA Hanford 36.51 76 *e*P **P 06 17 19.9 +0.5**
comp=E,0.9nm,0.7s,mb3.8
EDM Edmonton 37.02 62 *e*P **P 06 17 23.1 -0.5**
NEW Newport 37.04 72 *e*P **P 06 17 24.1 +0.3**
NEW pmax pmax
comp=Z,6.0nm,0.5s
NEW Newport 37.04 72 *e*P **P 06 17 24.1 +0.2**
comp=Z,6.0nm,0.5s,mb4.8
YBH Yreka Blue Hor 37.04 84 P **P 06 17 26.3 +2.4**
comp=Z,0.8nm,0.5s,mb3.9,baz=353,slow=7.7,SNR=3.1
MOD Modoc 38.43 82 *e*P **P 06 17 34.7 -0.7**
comp=Z,4.5nm,0.6s,mb4.5
WALA Waterton Lakes 38.54 69 *e*P **P 06 17 36.8 +0.5**
comp=Z,7.8nm,0.7s,mb4.7
BMO Blue Mountains 38.64 76 *e*P **P 06 17 37.8 +0.6**
comp=Z,2.2nm,0.7s,mb4.1
WVOR Wild Horse Val 39.15 81 *e*P **P 06 17 42.3 +0.9**
WVOR pmax pmax
comp=Z,11nm,0.8s,mb4.7
WVOR Wild Horse Val 39.15 81 *e*P **P 06 17 42.3 +0.9**
comp=Z,11nm,0.8s,mb4.7
CN2 Changchun 39.23 282 *e*P **P 06 17 41.8 -0.2**
CN2 *e*AP pP 06 17 53.5 -5.2
CN2 *e*S **S 06 23 37.8 +0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CN2 LR LR
comp=Z,200nm,19.0s
MSO Missoula 39.62 72 *e*P **P 06 17 45.5 +0.2**
comp=Z,3.4nm,0.6s,mb4.3
HIA Hailar 39.79 293 *e*P **P 06 17 45.8 -0.8**
HIA pmax pmax
comp=Z,9.0nm,0.6s
HIA Hailar 39.79 293 *e*P **P 06 17 45.8 -0.9**
comp=Z,9.1nm,0.6s,mb4.8
CHMT Chamberlain Mo 39.99 71 *e*P **P 06 17 48.8 +0.5**
WCN Washoe City 40.29 85 P **P 06 17 51.3 +0.4**
WCN pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
WCN Washoe City 40.29 85 P **P 06 17 51.3 +0.4**
comp=Z,4.0nm,0.9s,mb4.2
HRY Holter Researc 40.93 71 *e*P **P 06 17 56.7 +0.6**
HLID Hailey 41.09 76 *e*P **P 06 17 58.4 +1.0**
comp=Z,2.4nm,0.6s,mb4.2
MCMT McKenzie Canyo 41.33 74 *e*P **P 06 17 59.9 +0.5**
BOZ Bozeman (W) 41.61 72 *e*P **P 06 18 02.2 +0.6**
BOZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
BOZ Bozeman (W) 41.61 72 *e*P **P 06 18 02.2 +0.6**
comp=Z,2.9nm,0.6s,mb4.2
NVAR Mina Array Bea 41.72 85 P **P 06 18 03.9 +1.3**
comp=Z,0.9nm,0.8s,mb3.6,baz=296,slow=6.8,SNR=9.1
NVAR PcP PcP 06 19 59.5 +0.8
comp=Z,1.6nm,0.8s,baz=268,slow=1.8,SNR=4.4
NVAR ScP 06 23 44.2
comp=Z,0.8nm,1.0s,baz=288,slow=2.9,SNR=3.5
NVAR Mina Array Bea 41.72 85 P **P 06 18 03.9 +1.3**
NVAR PcP PcP 06 19 59.5 +0.8
NVAR ScP 06 23 44.2
OMM Old Mammoth Mi 41.79 87 *e*P **P 06 18 05.3 +2.1**
QLMT Earthquake Lak 42.17 73 *e*P **P 06 18 07.0 +0.7**
ELK Elko 42.21 80 *e*P **P 06 18 07.4 +0.8**
ELK pmax pmax
comp=Z,7.0nm,0.8s
ELK Elko 42.21 80 *e*P **P 06 18 07.4 +0.9**
comp=Z,6.8nm,0.8s,mb4.4
MTUM Tungsten Hills 42.23 87 *e*P **P 06 18 08.1 +1.4**
LKWY Lake 42.93 73 *e*P **P 06 18 13.8 +1.3**
LKWY pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
LKWY Lake 42.93 73 *e*P **P 06 18 13.8 +1.3**
comp=Z,4.9nm,0.7s,mb4.3
RRI2 Red Ridge 43.07 75 *e*P **P 06 18 15.0 +1.4**
comp=Z,4.7nm,0.6s,mb4.4
DUG Dugway 44.02 79 *e*P **P 06 18 21.8 +0.5**
DUG *e* 06 18 33.5
DUG pmax pmax
comp=Z,16nm,1.0s,mb4.7
DUG Dugway 44.02 79 *e*P **P 06 18 21.8 +0.4**
comp=Z,16nm,1.0s,mb4.7
DUG *e* 06 18 33.5
LAO LASA Array 44.20 68 *e*P **P 06 18 23.1 +0.5**
comp=Z,7.5nm,0.6s,mb4.6
FCC Fort Churchill 44.35 48 *e*P **P 06 18 22.4 -1.3**
FCC pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
FCC Fort Churchill 44.35 48 *e*P **P 06 18 22.4 -1.3**
comp=Z,2.9nm,0.6s,mb4.2
BW06 Boulder Array 44.46 74 *e*P **P 06 18 25.1 +0.3**
comp=Z,7.4nm,0.7s,mb4.5
PDAR Pinedale Array 44.46 74 P **P 06 18 25.6 +0.7**
comp=Z,4.1nm,0.6s,mb4.3,baz=306,slow=4.6,SNR=43
MVU Marysvale 45.42 81 *e*P **P 06 18 33.2 +0.7**
comp=Z,6.3nm,1.0s,mb4.3
MVU *e* pP 06 18 45.5 -3.9
RSSD Black Hills 46.93 70 *e*P **P 06 18 43.5 -0.9**
RSSD pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
RSSD Black Hills 46.93 70 *e*P **P 06 18 43.5 -0.9**
comp=Z,3.1nm,0.6s,mb4.2
BJI Beijing 47.03 284 P **P 06 18 46.3 +1.1**
BJI AMB AMB
comp=Z,4.0nm,0.7s,mb4.3
BJI LR LR
comp=N,111nm,19.8s
BJI LR LR
comp=E,116nm,19.9s
BJI LR LR
comp=Z,103nm,25.0s
PV10 Paradox Valley 47.44 79 *e*P **P 06 18 49.2 +0.7**
ULN Ulaanbaatar 47.67 297 P **P 06 18 49.3 -0.8**
PV01 Paradox Valley 47.88 79 *e*P **P 06 18 51.9 -0.1**
ZAK Zakamensk 48.26 302 *e*P **P 06 18 54.3 -0.4**
ZAK *e* 06 20 20.8
ZAK pmax pmax
comp=Z,1.0nm,1.4s,mb3.5
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
SSE Sheshan 49.80 271 P **P 06 19 04.8 -2.0**
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,40nm,7.4s
SDCO Great Sand Dun 49.99 77 *e*P **P 06 19 08.4 +0.1**
comp=Z,10nm,1.0s,mb4.7
SDCO *e*pP pP 06 19 20.6 -4.6
MNTX Cornudas Mount 54.11 83 *e*P **P 06 19 38.0 -1.1**
comp=Z,5.1nm,1.0s,mb4.5
MNTX *e*pP pP 06 19 51.5 -4.9
WHN Wuhan 54.41 276 *e*P **P 06 19 41.0 -0.3**
ZAL Zalesovo 55.04 315 LR LR 06 45 54.1
comp=Z,108nm,19.5s,baz=230,slow=39
TXAR Lajitas Array 56.81 84 P **P 06 19 58.0 -0.6**
comp=Z,2.3nm,0.8s,mb4.3,baz=300,slow=5.3,SNR=28
LZH Lanzhou 56.98 288 *e*P **P 06 20 00.3 +0.6**
LZH AP pP 06 20 11.5 -5.7
LZH XP sP 06 20 16.5 -8.2
LZH AMB AMB
comp=Z,21nm,1.2s,mb5.0
ENH Enshi 57.60 279 *e*P **P 06 20 03.1 -1.0**
comp=Z,19nm,0.8s,mb5.2
ARCES ARCESS Array B 57.95 351 P **P 06 20 05.1 -1.0**
comp=Z,4.5nm,0.9s,mb4.5,baz=15,slow=6.3,SNR=5.2
ARCES LR LR 06 45 25.8
comp=Z,31nm,20.5s,baz=97,slow=36
CCM Cathedral Cave 58.21 68 *e*P **P 06 20 06.0 -2.3**
SCHQ Schefferville 58.53 40 P **P 06 20 09.8 -0.5**
comp=Z,1.4nm,0.6s,mb4.2,baz=304,slow=7.3,SNR=8.4
SCHQ LR LR 06 46 47.7
comp=Z,56nm,18.2s,baz=338,slow=37
SCHQ Schefferville 58.53 40 P **P 06 20 09.8 -0.5**
SCHQ LR LR 06 46 47.7
FVM French Village 58.73 67 *e*P **P 06 20 10.0 -1.9**
comp=Z,11nm,0.6s,mb5.0
MIAR Mount Ida 59.28 72 *e*P **P 06 20 15.2 -0.6**
BLO Bloomington 60.11 64 *e*P **P 06 20 19.9 -1.6**
BLO pmax pmax
comp=Z,9.0nm,0.4s,mb5.2
BLO Bloomington 60.11 64 *e*P **P 06 20 19.9 -1.5**
comp=Z,9.5nm,0.4s,mb5.2
WMQ Urumqi 60.60 304 P **P 06 20 24.5 -0.2**
WMQ AP pP 06 20 37.0 -5.3
WMQ XP sP 06 20 42.5 -7.4
WMQ PCP PcP 06 21 08.0 -0.2
WMQ PP PP 06 22 40.5 -0.4
WMQ PPP PPP 06 24 08.8 +0.2
WMQ AMB AMB
comp=Z,11nm,0.5s,mb5.1
WMQ AMB AMB
comp=Z,53nm,3.5s
WMQ LR LR
comp=N,57nm,23.8s
WMQ LR LR
comp=E,53nm,25.4s
WMQ LR LR
comp=Z,48nm,22.1s
CHKZ Chkalovo 61.12 321 *e*P **P 06 20 27.3 -0.8**
MKAR Makanchi Array 61.16 310 P **P 06 20 27.1 -1.3**
comp=Z,2.4nm,0.5s,mb4.5,baz=49,slow=6.0,SNR=27
BVA0 Borovoye Array 61.70 321 *i* P **P 06 20 32.5 +0.5**
OXF Oxford 61.75 69 *e*P **P 06 20 31.3 -1.3**
OXF pmax pmax
comp=Z,16nm,0.6s,mb5.2
OXF Oxford 61.75 69 *e*P **P 06 20 31.3 -1.2**
comp=Z,16nm,0.6s,mb5.2
GYA Guiyang 62.05 278⇑ *i*P **P 06 20 34.5 -0.2**
GYA AP pP 06 20 47.5 -4.9
GYA XP sP 06 20 52.8 -7.1
GYA PP PP 06 22 53.8 -0.3
GYA SCP 06 25 10.5
GYA S **S 06 28 53.5 +0.9**
GYA AMB AMB
comp=Z,30nm,0.6s,mb5.5
GYA AMB AMB
comp=Z,90nm,3.8s
GYA LR LR
comp=N,280nm,17.2s
GYA LR LR
comp=E,390nm,18.0s
GYA LR LR
comp=Z,250nm,17.8s
PLAL Pickwick Lake 62.18 68 *e*P **P 06 20 33.8 -1.7**
comp=Z,5.7nm,0.6s,mb4.8
PLAL *e*pP pP 06 20 46.1 -7.1
MCWV Mont Chateau 63.41 59 *e*P **P 06 20 42.9 -0.7**
SSPA Standing Stone 63.73 57 *e*P **P 06 20 44.5 -1.0**
comp=Z,5.0nm,0.7s,mb4.5
FWV Forest Hill 64.39 61 *e*P **P 06 20 49.4 -0.5**
ELN Prospectdale 64.68 62 *e*P **P 06 20 51.0 -0.8**
BLA Blacksburg 64.87 61 *e*P **P 06 20 52.1 -0.9**
BLA pmax pmax
comp=Z,34nm,1.3s,mb5.0
BLA Blacksburg 64.87 61 *e*P **P 06 20 52.1 -1.0**
comp=Z,34nm,1.3s,mb5.0
KMI Kunming 65.44 280 P **P 06 20 56.8 -0.1**
KMI S S 06 29 38.5 +3.9
KMI AMB AMB
comp=Z,19nm,1.1s,mb4.8
KMI LR LR
comp=Z,28nm,18.0s
FINES FINESS Array B 65.74 349 LR LR 06 49 35.1
comp=Z,27nm,21.7s,baz=12,slow=36
NOA NORSAR Array B 67.36 356 P **P 06 21 09.2 +0.8**
comp=Z,0.3nm,0.6s,baz=5.3,slow=6.1,SNR=2.6
NOA LR LR 06 47 15.3
comp=Z,30nm,21.0s,baz=245,slow=33
AAK Ala-Archa 67.95 311 P **P 06 21 12.5 +0.1**
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
AAK Ala-Archa 67.95 311 *e*P **P 06 21 11.2 -1.2**
comp=Z,5.6nm,0.5s,mb4.7
KKAR Karatay Array 69.39 314 *e*P **P 06 21 20.6 -0.7**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
NANT Nan 71.41 277 P **P 06 21 34.0 +0.2**
comp=Z,100nm,0.6s
CHG Chiang Mai 72.48 278 P **P 06 21 40.3 +0.1**
CMAR Chiang Mai Arr 72.75 278 P **P 06 21 42.5 +0.7**
comp=Z,9.3nm,0.7s,mb4.7,baz=26,slow=7.4,SNR=32
GUN Gumba 73.34 294 *e*P **P 06 21 46.0 +0.9**
comp=Z,58nm,0.3s
JIRN Jiri 73.36 294 *e*P **P 06 21 46.5 +1.3**
KKN Kakani 73.78 294 *e*P **P 06 21 47.3 -0.4**
comp=Z,19nm,0.5s,mb5.1
PKI Pulchoki 73.87 294 *e*P **P 06 21 48.3 +0.1**
comp=Z,7.4nm,0.5s,mb4.7
GKN Gorkha 73.98 295 *e*P **P 06 21 48.8 0.0**
comp=Z,18nm,0.4s,mb5.1
KOLN Koldanda 74.74 295 *e*P **P 06 21 53.0 -0.2**
comp=Z,5.1nm,0.4s,mb4.7
AKASG Malin Array Be 75.66 344 P **P 06 21 56.7 -1.3**
comp=Z,0.3nm,0.3s,mb3.5,baz=19,slow=6.1,SNR=3.8
CTA Charters Tower 78.86 216 P **P 06 22 16.6 +0.1**
comp=Z,4.2nm,0.6s,mb4.5,baz=58,slow=8.6,SNR=5.7
CTAO Charters Tower 78.86 216 P **P 06 22 16.1 -0.3**
GNI Garni 81.81 330 LR LR 07 01 31.9
comp=Z,50nm,18.3s,baz=198,slow=38
WRAB Tennant Creek 83.58 226 *e*P **P 06 22 40.3 -0.8**
WRAB pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
WRAB Tennant Creek 83.58 226 *e*P **P 06 22 40.3 -0.8**
comp=Z,2.8nm,0.5s,mb4.3
WB2 Warramunga Arr 83.59 226 *e*P **P 06 22 40.9 -0.2**
WRA Warramunga Arr 83.59 226 P **P 06 22 41.0 -0.2**
comp=Z,2.9nm,0.6s,mb4.3,baz=35,slow=5.8,SNR=13
ASAR Alice Springs 87.04 225 P **P 06 22 58.8 +0.6**
comp=Z,3.7nm,0.8s,mb4.4,baz=32,slow=3.9,SNR=30
ASPA Alice Springs 87.04 225 *e*P **P 06 22 58.2 0.0**
STKA Stephens Creek 91.29 215 P **P 06 23 19.1 +1.0**
comp=Z,3.1nm,0.5s,mb4.7,baz=353,slow=5.7,SNR=9.2
MBWA Marble Bar 91.75 237 *e*P **P 06 23 20.1 -0.3**
DBIC Dimbokro 121.25 10 PKP PKPdf 06 29 06.2 +1.6
comp=Z,2.0nm,0.3s,baz=354,slow=2.1,SNR=11
KMBO Kilima Mbogo 122.34 320 PKP PKPdf 06 29 09.4 +2.8
comp=Z,1.5nm,0.3s,baz=65,slow=23,SNR=3.9
BDFB Brasilia 125.27 69 PKP PKPdf 06 29 14.2 +1.9
comp=Z,2.9nm,0.9s,baz=112,slow=27,SNR=4.0
PLCA Paso Flores 129.39 109 PKP PKPdf 06 29 21.2 +1.7
comp=Z,1.8nm,0.8s,baz=267,slow=1.5,SNR=4.4
QSPA South Pole Qui 141.57 180 *e*PKP PKPdf 06 29 37.0 -3.7
MAW Mawson 147.93 218 PKPbc PKPdf 06 29 57.1 +5.2
comp=Z,3.6nm,0.5s,baz=192,slow=4.8,SNR=7.2
BOSA Boshof 151.94 318 PKPbc PKPdf 06 30 08.0 +8.7
comp=Z,12nm,0.5s,baz=16,slow=2.2,SNR=38
BOSA Boshof 151.94 318 PKPbc PKPdf 06 30 08.0 +8.7

DJA 27 06:29:01.7, 7.09S, 105.31E, h9km, ML4.3/2, 2D, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PASI	**Pasiripis**	**0.48**	**35**	*e*Pn	Pn	Pn	06 29 11.0	-3.4
PULI	**Pulasari**	**0.99**	**42**	⇓*e*Pn	Pn	Pn	06 29 19.1	-2.6
	734nm,0.2s							
PULI				*e*Sn	Sn	Sn	06 29 31.8	-4.1
PENI	**Pendagan**	**1.52**	**355**	⇓*e*Pn	Pn	Pn	06 29 26.4	-2.8
	156nm,0.3s							

NNC ***27*** *06:35:12.3s 2.4, 44.22N×83.78E, mpv3.6, Error ellipse: s-maj=24.9km s-min=11.3km az=112.0*
IDC ***27*** *06:35:12.8s 1.0, 44.26N×83.79E, mb3.6/6, mb1 3.8/9, mb1mx3.7/25, mbtmp3.6/9, ML3.2/3, Error ellipse: s-maj=28.2km s-min=10.0km az=60.0*
BJI ***27*** *06:35:16.4, 44.36N×83.60E, h21km, ML4.1*
MOS ***27*** *06:35:17.0s 3.1, 44.53N×84.20E, h33km, mb4.7/2, Error ellipse: s-maj=22.8km s-min=18.2km az=129.4*
NEIC ***27*** *06:35:18.5s 1.5, 44.30N×83.84E, h36km± 13km, mb4.4/2, Error ellipse: s-maj=16.0km s-min=11.8km az=130.0*

ISC 27 06:35:11.9s 1.1, 44.36N±0.07×83.82E±0.07, h4km± 7km, n25, σ0.9 91/34, mb3.8/8, 14C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.66**	**337**	⇑Pn	**Pn**	**Pn**	**06 35 59.8**	**+3.6**
	0.7nm,0.3s,baz=150,slow=13,SNR=1480							
MK31				⇑Pg	**Pg**	**Pg**	**06 36 05.4**	**+0.4**
	40nm,0.3s							
MK31				⇑Lg			06 36 39.6	
	331nm,0.6s,baz=163,slow=26,SNR=14							
MKAR	**Makanchi Array**	**2.66**	**337**	PN	**Pn**	**Pn**	**06 35 59.9**	**+3.7**
MKAR							06 36 05.7	
MKAR							06 36 38.8	
MKAR	**Makanchi Array**	**2.66**	**337**	Pn	**Pn**	**Pn**	**06 35 59.9**	**+3.7**
	1.6nm,0.3s,baz=151,slow=15,SNR=236							
MKAR				Pg	**Pg**	**Pg**	**06 36 05.7**	**+0.7**
	40nm,0.3s,baz=155,slow=17,SNR=534							
MKAR				Sn	**Sn**	**Sn**	**06 36 34.5**	**+5.2**
	25nm,0.3s,baz=157,slow=25,SNR=6.6							
MKAR				Lg			06 36 38.8	
	116nm,0.3s,baz=155,slow=29,SNR=20							
WMQ	**Urumqi**	**2.84**	**100**	P	**Pg**	**Pg**	**06 36 07.5**	**-1.2**
WMQ				S	**Sg**	**Sg**	**06 36 47.0**	**+0.4**
WMQ				Smax				
	comp=N,308nm,0.8s							
WMQ				Smax				
	comp=E,321nm,0.6s							
FRU	**Bishkek**	**6.85**	**260**	*e*PN	**Pn**	**Pn**	**06 37 09.0**	**+13**
FRU				*e*			06 37 26.5	
FRU				pmax	pmax			
	comp=N,160nm,1.6s							
AAK	**Ala-Archa**	**7.00**	**259**	⇑Pn	**Pn**	**Pn**	**06 36 57.2**	**-0.5**
	comp=N,3.0nm,0.8s							
AAK				⇑Pg	**Pg**	**Pg**	**06 37 21.8**	**-10**
	comp=N,19nm,0.8s							
AAK				⇓Lg			06 38 52.7	
	comp=N,32nm,0.7s							
AAK	**Ala-Archa**	**7.00**	**259**	P	**Pn**	**Pn**	**06 36 59.5**	**+1.9**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AAK				pmax	pmax			
	comp=Z,14nm,0.8s							
AAK	**Ala-Archa**	**7.00**	**259**	*e*P	**Pn**	**Pn**	**06 36 58.8**	**+1.1**
	comp=Z,20nm,0.8s							
ZAL	**Zalesovo**	**9.61**	**3**	Pn	**P**	**P**	**06 37 34.4**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=276,slow=12,SNR=7.4							
ZAL				Sn	**Sn**	**Sn**	**06 39 16.6**	**-6.8**
	comp=Z,1.1nm,0.3s,baz=243,slow=8.3,SNR=3.2							
ZAL				Lg			06 40 22.9	
	comp=Z,0.7nm,0.3s,baz=33,slow=17,SNR=2.7							
KK31	**Karatay Array**	**9.72**	**267**	⇑Pn	**P**	**P**	**06 37 35.1**	**-0.3**
	comp=Z,0.2nm,0.2s,baz=84,slow=14,SNR=5.8							
KK31				⇓Lg			06 40 15.2	
	comp=Z,8.1nm,0.7s,baz=84,slow=23,SNR=3.5							
BVA0	**Borovoye Array**	**12.39**	**319**	⇑Sn	**S**	**S**	**06 40 30.9**	**-0.5**
	comp=Z,1.0nm,0.8s							
BVA0				⇑Lg			06 41 48.4	
	comp=Z,6.7nm,1.4s							
BVAR	**Borovoye Array**	**12.39**	**319**	Pn	**P**	**P**	**06 38 10.7**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=117,slow=13,SNR=3.3							
BVAR				Sn	**S**	**S**	**06 40 24.7**	**-6.7**
	comp=Z,0.3nm,0.3s,baz=99,slow=24,SNR=3.5							
BVAR				Lg			06 41 47.2	
	comp=Z,0.3nm,0.3s,baz=115,slow=24,SNR=4.6							
CHKZ	**Chkalovo**	**12.71**	**322**	⇑Pn	**P**	**P**	**06 38 14.6**	**-1.5**
	comp=Z,1.1nm,0.7s							
CHKZ				⇑Sn	**S**	**S**	**06 40 38.2**	**-0.9**
	comp=Z,2.5nm,0.8s							
CHKZ				⇑Lg			06 41 55.8	
	comp=Z,12nm,0.9s							
CHKZ	**Chkalovo**	**12.71**	**322**	P	**P**	**P**	**06 38 14.5**	**-1.6**
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.7s							
AB31	**Akbulak array**	**17.03**	**295**	⇓P	**P**	**P**	**06 39 11.0**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=96,slow=10,SNR=10							
AB31				⇑S	**S**	**S**	**06 42 22.1**	**+1.1**
	comp=Z,14nm,1.5s							
AKASG	**Malin Array Be**	**36.68**	**300**	P	**P**	**P**	**06 42 20.8**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.7,baz=63,slow=8.7,SNR=5.8							
LPG	**La Plagne**	**52.54**	**300**	⇑*i*P	**P**	**P**	**06 44 29.1**	**+0.9**
	comp=Z,6.4nm,0.7s,mb4.4							
LPG	**La Plagne**	**52.54**	**300**	⇑*i*P	**P**	**P**	**06 44 29.1**	**+0.9**
LPG				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
LPL	**La Plagne**	**52.54**	**300**	*e*P	**P**	**P**	**06 44 29.0**	**+0.8**
	comp=Z,4.0nm,0.4s,mb4.4							
LPL	**La Plagne**	**52.54**	**300**	*e*P	**P**	**P**	**06 44 29.0**	**+0.8**
LPL				pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.4							
ILAR	**Eielson Array**	**64.23**	**22**	P	**P**	**P**	**06 45 49.5**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.5,baz=307,slow=4.5,SNR=4.3							
INK	**Inuvik**	**64.23**	**15**	P	**P**	**P**	**06 45 49.8**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.6,baz=334,slow=3.0,SNR=4.0							
YKA	**Yellowknife Ar**	**72.47**	**9**	P	**P**	**P**	**06 46 41.6**	**+0.7**
	comp=Z,0.3nm,0.7s,mb3.3,baz=342,slow=5.8,SNR=3.7							
WRA	**Warramunga Arr**	**78.88**	**132**	P	**P**	**P**	**06 47 17.4**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=333,slow=5.0,SNR=5.7							
ASAR	**Alice Springs**	**81.73**	**135**	P	**P**	**P**	**06 47 33.2**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=333,slow=5.4,SNR=9.7							

IDC 27 06:45:39.3±2.0, 12.82N×93.13E, mb3.4/3, mb1 3.6/4, mb1mx3.5/20, mbtmp3.4/4, ML4.1/1, Error ellipse: s-maj=48.0km s-min=26.9km az=75.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.92**	**44**	Pn	Pn	06 47 36.8	-1.7
	0.6nm,0.3s,baz=236,slow=15,SNR=12						
CMAR				Sn	Sn	06 49 05.1	-4.8
	0.2nm,0.3s,baz=236,slow=28,SNR=6.1						
MKAR	**Makanchi Array**	**35.07**	**347**	P	P	06 52 34.2	-1.9
	0.3nm,0.7s,baz=180,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**52.00**	**128**	P	P	06 54 50.3	-2.7
	0.1nm,0.4s,baz=312,slow=8.2,SNR=3.9						
ASAR	**Alice Springs**	**53.89**	**132**	P	P	06 55 05.1	-1.9
	0.2nm,0.4s,baz=306,slow=6.7,SNR=5.5						

*IDC **27** 06:58:42.3±2.1, 1.05N×97.26E, mb4.1/6, mb1 4.2/7, mb1mx4.0/19, mbtmp4.1/7, ML4.3/1, MS3.5/2, Ms1 3.6/2, ms1mx3.2/20, Error ellipse: s-maj=105.2km s-min=18.8km az=58.0*

*BJI **27** 06:58:46.4, 1.10N×97.20E, h30km, mb4.5*

*NEIC **27** 06:58:46.5±0.8, 1.07N×97.24E, h30km, mb4.6/3, Error ellipse: s-maj=24.0km s-min=11.1km az=71.0*

ISC 27 06:58:45.6±1.0, 1.10N±0.10×97.3E±0.2, h33km, n18, σ0983/16, mb4.2/11, MS3.6/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**38**	*e*P	**P**	**07 00 05.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**17.32**	**5**	P	**P**	**07 02 45.6**	**-1.0**
	0.4nm,0.3s,baz=196,slow=12,SNR=13						
CMAR				LR	LR	07 09 25.2	
	comp=Z,93nm,18.4s,baz=185,slow=37						
KMI	**Kunming**	**24.45**	**12**	P	**P**	**07 04 05.5**	**+2.7**
KMI				AMB	AMB		
	comp=Z,24nm,1.4s,mb4.4						
SHL	**Shillong**	**24.89**	**348**	*e*P	**P**	**07 04 07.5**	**+0.5**
ENH	**Enshi**	**31.23**	**21**	*e*P	**P**	**07 05 03.4**	**-1.1**
	comp=Z,11nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.77**	**126**	LR	LR	07 20 01.3	
	comp=Z,110nm,18.6s,MS3.6,baz=178,slow=38						
XAN	**Xi'an**	**34.52**	**17**	P	**P**	**07 05 31.5**	**-1.5**
GTA	**Gaotai**	**38.20**	**3**	P	**P**	**07 06 04.5**	**+0.5**
GTA				AP	pP	07 06 11.3	-2.5
GTA				XP	sP	07 06 14.8	-3.2
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**41.87**	**122**	P	**P**	**07 06 34.7**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=301,slow=9.0,SNR=5.8						
WRAB	**Tennant Creek**	**41.88**	**122**	*e*P	**P**	**07 06 34.9**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.0						
ASAR	**Alice Springs**	**43.23**	**127**	P	**P**	**07 06 45.8**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.7,baz=306,slow=8.1,SNR=8.7						
MKAR	**Makanchi Array**	**47.37**	**346**	P	**P**	**07 07 18.4**	**-0.1**
	comp=Z,3.3nm,0.7s,mb4.4,baz=157,slow=7.9,SNR=42						
HIA	**Hailar**	**51.69**	**19**	P	**P**	**07 07 51.3**	**-0.3**
	comp=Z,4.1nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**53.20**	**132**	P	**P**	**07 08 03.1**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=331,slow=9.4,SNR=4.6						
ZAL	**Zalesovo**	**53.67**	**351**	P	**P**	**07 08 06.5**	**+0.2**
	comp=Z,2.1nm,0.5s,mb4.3,baz=319,slow=7.1,SNR=11						
ARCES	**ARCESS Array B**	**82.67**	**340**	P	**P**	**07 11 07.2**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.1,baz=76,slow=5.0,SNR=6.2						
ARCES	**ARCESS Array B**	**82.67**	**340**	P	**P**	**07 11 07.2**	**+0.3**
TXAR	**Lajitas Array**	**143.69**	**32**	PKP	PKPdf	07 18 17.6	-0.3
	comp=Z,0.3nm,0.8s,baz=55,slow=0.3,SNR=4.8						

IDC 27 07:07:21.9±4.0, 22.24S×148.28E, mb3.6/1, mb1 3.7/5, mb1mx3.6/12, mbtmp3.5/5, ML3.5/4, Error ellipse: s-maj=41.6km s-min=20.3km az=79.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.85**	**318**	Pn	Pn	07 08 10.6	+1.1
	5.9nm,0.3s,baz=139,slow=16,SNR=108						
CTA				Sn	Sn	07 08 45.6	+0.6
	15nm,0.3s,baz=113,slow=17,SNR=8.6						
CTA				Lg		07 08 52.0	
	50nm,0.3s,baz=229,slow=22,SNR=23						
STKA	**Stephens Creek**	**11.29**	**210**	Pn	P	07 10 03.1	-4.6
	0.3nm,0.3s,baz=24,slow=14,SNR=5.3						
STKA				Lg		07 13 22.8	
	0.3nm,0.3s,baz=291,slow=17,SNR=3.6						
WB2	**Warramunga Arr**	**13.20**	**277**	*e*P	P	07 10 30.2	-3.1
WB2				*e*S	rx	07 14 19.4	
WRA	**Warramunga Arr**	**13.21**	**277**	Pn	P	07 10 30.0	-3.5
	0.3nm,0.3s,baz=100,slow=14,SNR=8.0						
WRA				Lg		07 14 22.5	
	0.3nm,0.3s,baz=111,slow=28,SNR=7.3						
ASAR	**Alice Springs**	**13.32**	**261**	Pn	P	07 10 31.2	-3.6
	0.1nm,0.3s,baz=83,slow=12,SNR=4.9						
ASAR				Sn	S	07 12 57.8	-7.1
	0.1nm,0.3s,baz=66,slow=27,SNR=3.1						
ASAR				Lg		07 14 25.0	
	0.1nm,0.3s,baz=84,slow=25,SNR=3.2						
FITZ	**Fitzroy Crossi**	**21.64**	**277**	P	P	07 12 13.8	-2.1
	2.0nm,0.7s,baz=27,slow=14,SNR=3.7						

ECX 27 07:29:57.9±0.5, 30.54N×114.31W, h8km, ML3.7, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.11**	**297**	*e*P	Pb	07 30 16.9	-2.1
SPX				*e*S	Sb	07 30 32.7	-0.8
ECBX	**El Chinero**	**1.13**	**326**	*e*S	Sb	07 30 32.5	-1.3
EMX	**El Mayor**	**1.65**	**331**	*e*S	Sn	07 30 47.8	-1.1
RDX	**Rancho Dowling**	**1.97**	**315**	*e*P	Pn	07 30 32.0	0.0
RDX				*e*S	Sn	07 30 57.6	+0.5
CPBX	**Cerro Prieto**	**2.06**	**336**	*e*P	Pn	07 30 32.4	-0.8
CPBX				⇑*e*		07 31 24.1	
	comp=E,2μm,0.7s						
CPBX				⇑*e*		07 31 33.8	
	comp=N,1μm,0.6s						
ECNX	**Esteban Cantu**	**2.25**	**300**	*e*P	Pn	07 30 35.3	-0.7
PBX	**Punta Banda**	**2.39**	**301**	*e*P	Pn	07 30 37.5	-0.6
ENX	**Ensenada**	**2.42**	**304**	*e*P	Pn	07 30 37.6	-0.8

KRSC 27 07:32:00.9±2.0, 53.55N×157.58E, h284km±4km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.26**	**56**	*e*P	P	07 32 36.9	-0.6
GNL				*e*S	S	07 33 04.0	-2.0
APC	**Apacha**	**0.68**	**202**	*i* P	P	07 32 37.7	-0.7
KOK	**Koryaka**	**0.68**	**112**	*i* P	P	07 32 38.8	+0.3
AVH	**Avacha**	**0.75**	**112**	*e*P	P	07 32 39.1	+0.4
SMAR	**Somma**	**0.79**	**111**	*i* P	P	07 32 39.4	+0.6
UGLR	**Uglovaya**	**0.82**	**114**	*i* P	P	07 32 39.4	+0.4
SDLR	**Sedlovina**	**0.83**	**109**	*i* P	P	07 32 39.2	+0.2
PET	**Petropavlovsk**	**0.83**	**129**	*i* P	P	07 32 39.0	0.0
GRL	**Gorelyy**	**1.04**	**163**	*e*P	P	07 32 40.3	+0.3
NLC	**Nalytchevo**	**1.12**	**109**	*e*P	P	07 32 40.6	+0.2
NLC				*e*S	S	07 33 10.7	-0.6
RUS	**Russkaya**	**1.25**	**153**	*e*P	P	07 32 40.5	-0.7
RUS				*e*S	S	07 33 09.7	-3.0
SPN	**Mys Shipunski**	**1.53**	**106**	*e*P	P	07 32 42.5	-0.5
SPN				*e*S	S	07 33 13.1	-2.7
MKZ	**Mys Kozlova**	**2.65**	**66**	*e*S	S	07 33 28.5	-4.1
KBTR	**Krutoberegovo**	**4.03**	**47**	*e*P	P	07 33 08.0	+0.9
KBTR				*e*S	S	07 33 54.5	-4.3

*IDC **27** 07:35:05.6±2.6, 29.94N×114.18W, mb3.5/1, mb1 3.6/4, mb1mx3.4/21, mbtmp3.3/4, ML4.2/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/19, Error ellipse: s-maj=43.2km s-min=15.0km az=26.0*

*ECX **27** 07:35:07.9±0.3, 30.16N×114.54W, h10km, ML4.3*

*NEIC **27** 07:35:07.5±1.9, 30.09N×114.18W, h10km, mb3.9/1, Error ellipse: s-maj=26.8km s-min=10.9km az=204.0*

ISC 27 07:35:04.3±2.0, 30.1N±0.1×114.33W±0.07, h7km±19km, n31, σ1919/33, mb3.6/2, MS3.0/1, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.36**	**314**	*e*P	**Pb**	**07 35 28.7**	**-1.0**
SPX				*e*S	**Sb**	**07 35 44.8**	**-2.4**
ECBX	**El Chinero**	**1.50**	**336**	*i* S	**Sb**	**07 35 47.5**	**-3.9**
EMX	**El Mayor**	**2.04**	**338**	*e*PN	**Pn**	**07 35 40.2**	**+0.6**
EMX				*e*S	**Sn**	**07 36 05.3**	**-0.2**
RDX	**Rancho Dowling**	**2.30**	**323**	*e*PN	**Pn**	**07 35 43.8**	**+0.6**
RDX				*e*S	**Sn**	**07 36 11.8**	**-0.3**
CPBX	**Cerro Prieto**	**2.46**	**340**	*e*PN	**Pn**	**07 35 46.6**	**+1.1**
CPBX				*e*S	**Sn**	**07 36 16.1**	**-0.1**
CPBX				⇑*e*		07 36 36.5	
	comp=E,5μm,0.6s						
CPBX				⇓*e*		07 36 58.6	
	comp=N,4μm,0.6s						
ECNX	**Esteban Cantu**	**2.49**	**309**	*e*PN	**Pn**	**07 35 45.8**	**-0.2**
PBX	**Punta Banda**	**2.63**	**309**	*e*PN	**Pn**	**07 35 47.8**	**-0.2**
ENX	**Ensenada**	**2.68**	**312**	*e*PN	**Pn**	**07 35 48.4**	**-0.3**
BAR	**Barrett**	**3.26**	**323**	*e*P	**Pn**	**07 35 59.2**	**+2.2**
TUC	**Tucson**	**3.75**	**53**	*e*P	**Pn**	**07 36 00.4**	**-3.5**
PFO	**Pinyon Flat Ob**	**3.94**	**333**	P	**Pn**	**07 36 03.3**	**-3.3**
LDFC	**Landfair**	**5.01**	**353**	P	**Pn**	**07 36 22.0**	**+0.2**
MWC	**Mount Wilson**	**5.19**	**323**	*e*P	**Pn**	**07 36 28.6**	**+4.3**
NEN	**Nelson**	**5.55**	**356**	*e*P	**Pn**	**07 36 24.3**	**-5.2**
WUAZ	**Wupatki**	**5.95**	**24**	*e*P	**Pn**	**07 36 31.1**	**-3.9**
MNTX	**Cornudas Mount**	**7.85**	**76**	*e*P	**Pn**	**07 36 58.3**	**-3.5**
ANMO	**Albuquerque**	**8.22**	**52**	Pn	**P**	**07 37 07.2**	**+0.3**
	baz=228,slow=15,SNR=3.5						
ANMO				Lg		07 39 24.5	
	baz=183,slow=18,SNR=5.0						
ANMO	**Albuquerque**	**8.22**	**52**	Pn	**P**	**07 37 07.2**	**+0.3**
ANMO				Lg		07 39 24.5	
MVU	**Marysvale**	**8.57**	**11**	P	**P**	**07 37 10.2**	**-1.5**
NVAR	**Mina Array Bea**	**8.94**	**339**	Pn	**P**	**07 37 20.7**	**+3.9**
	comp=N,0.0nm,0.3s,baz=172,slow=14,SNR=3.9						
TXAR	**Lajitas Array**	**9.30**	**92**	Pn	**P**	**07 37 20.4**	**-1.5**
	comp=N,0.5nm,0.3s,baz=260,slow=15,SNR=9.8						
TXAR				Lg		07 39 55.7	
	baz=279,slow=28,SNR=3.1						
PV01	**Paradox Valley**	**9.33**	**29**	P	**P**	**07 37 30.1**	**+7.8**
SDCO	**Great Sand Dun**	**10.58**	**42**	*e*P	**P**	**07 37 39.0**	**-0.5**
BW06	**Boulder Array**	**13.21**	**16**	P	**P**	**07 38 15.9**	**+0.9**
HLID	**Hailey**	**13.44**	**360**	P	**P**	**07 38 19.2**	**+1.2**
YBH	**Yreka Blue Hor**	**13.44**	**332**	LR	LR	07 42 52.9	
	comp=N,131nm,18.9s,baz=147,slow=34						
MCMT	**McKenzie Canyo**	**14.75**	**4**	P	**P**	**07 38 36.5**	**+1.3**
CHMT	**Chamberlain Mo**	**16.81**	**3**	P	**P**	**07 39 01.8**	**0.0**
ULM	**Lac du Bonnet**	**24.45**	**29**	LR	LR	07 49 58.1	
	comp=N,49nm,21.8s,MS3.0,baz=17,slow=36						
FCC	**Fort Churchill**	**31.83**	**20**	P	**P**	**07 41 32.6**	**+0.9**
	comp=N,1.2nm,0.8s,mb3.8						
ILAR	**Eielson Array**	**40.20**	**339**	P	**P**	**07 42 43.6**	**+0.9**
	comp=N,0.6nm,0.8s,mb3.4,baz=149,slow=7.9,SNR=8.4						

*NNC **27** 07:36:07.8±3.5, 52.75N×97.33E, Error ellipse: s-maj=46.0km s-min=14.7km az=31.0*

*LDG **27** 07:36:10.6±0.2, 51.27N×97.98E, h10km, Mb5.0/22, Ms4.7/8, Error ellipse: s-maj=9.2km s-min=4.2km az=107.0*

*IDC **27** 07:36:10.7±0.5, 51.14N×98.42E, mb4.4/23, mb1 4.6/25, mb1mx4.6/25, mbtmp4.4/25, ML4.1/2, MS4.7/30, Ms1 4.8/30, ms1mx4.6/39, Error ellipse: s-maj=15.6km s-min=11.4km az=38.0*

*MOS **27** 07:36:11.2±1.1, 51.15N×98.23E, h14km, mb5.1/72, MS4.9/37, Error ellipse: s-maj=5.6km s-min=4.1km az=132.0*

MOS Felt (III) at Zakamensk; (II-III) at Irkutsk.

*BJI **27** 07:36:11.1, 51.11N×98.25E, h10km, mB5.2, mb4.8, Ms5.3, Msz5.3*

*HRVD **27** 07:36:12.0±0.1, 51.09N×98.33E, h12km, MW5.3/70, Centroid moment Tensor Solution. LP body waves: s58,c105;Mantle waves: s70,c158; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}~0.09±.02; $M_{\theta\theta}$~0.67±.02; $M_{\phi\phi}$0.75±.02; $M_{r\theta}$0.33±.05; $M_{\theta\phi}$1.01±.02; $M_{\phi r}$~0.06±.05; Best double couple: $M_0$1.282×10^{17} NP1: ϕ_s343°,δ77°,λ-172°. NP2:ϕ_s251°,δ82°,λ-14°. Principal axes: T 1.285, Plg4°, Azm298°; N -.008, Plg74°, Azm42°; P -1.278, Plg15°, Azm207°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 07:36:12.0±0.2, 51.10N×98.31E, h10km, mb4.9/94, MS4.9/8 Error ellipse: s-maj=5.6km s-min=3.5km az=193.0*

NEIC Felt [III] at Irkutsk and Zakamensk, Russia.

ISC 27 07:36:12.0±0.1, 51.19N±0.02×98.25E±0.03, h17km, h17km±1.2km: pP-P, n455, σ1920/484, mb4.8/140, MS4.9/76, 28C-16D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.66**	**35**	*e*PN	**Pn**	**07 36 41.7**	**+1.1**
ORL				*e*		07 37 04.8	
ORL				pmax	pmax		
	comp=Z,7μm,0.4s						
ORL				smax			
	comp=N,7μm,0.6s						
MOY	**Mondy**	**1.78**	**73**	*e*PN	**Pn**	**07 36 43.5**	**+1.1**
MOY				*e*		07 37 07.4	
MOY				pmax	pmax		
	comp=Z,15μm,0.9s						
MOY				smax			
	comp=N,153μm,1.8s						
ARS	**Arshan**	**2.71**	**73**	*e*PN	**Pn**	**07 36 56.7**	**+1.1**
ARS				*e*		07 37 01.9	
ARS				*e*		07 37 36.3	
ARS				pmax	pmax		
	comp=Z,8μm,0.6s						
ARS				smax			
	comp=N,60μm,0.8s						
ZAK	**Zakamensk**	**3.29**	**102**	*e*PN	**Pn**	**07 37 03.4**	**-0.5**
ZAK				*e*		07 37 49.6	
ZAK				pmax	pmax		
	comp=Z,5μm,1.3s						
ZAK				smax			
	comp=N,3μm,1.4s						
TLY	**Talaya**	**3.41**	**80**	*e*PN	**Pn**	**07 37 06.3**	**+0.7**
TLY				*e*		07 37 13.6	
TLY				*e*		07 37 55.6	
TLY				pmax	pmax		
	comp=Z,2μm,0.9s						
TLY				smax			
	comp=N,27μm,1.6s						
TLY	**Talaya**	**3.41**	**80**	*e*P	**Pn**	**07 37 06.0**	**+0.4**
IRK	**Irkutsk**	**3.89**	**72**	*e*PN	**Pn**	**07 37 22.3**	**+10**
IRK				*e*		07 38 11.4	
IRK				pmax	pmax		
	comp=Z,13μm,0.7s						
IRK				smax			
	comp=N,117μm,0.9s						
LSTR	**Listvyanka**	**4.17**	**78**	*e*PN	**Pn**	**07 37 27.9**	**+12**
LSTR				*e*		07 38 18.9	
LSTR				pmax	pmax		
	comp=Z,2μm,0.6s						
LSTR				smax			
	comp=N,9μm,1.7s						
CERR	**Cheremushki**	**4.54**	**294**	*e*PN	**Pn**	**07 37 32.9**	**+11**
CERR				*e*S	**Sn**	**07 38 32.0**	**+17**
TRG	**Tyrgan**	**5.25**	**69**	*e*PN	**Pn**	**07 37 46.8**	**+15**
TRG				*e*		07 38 53.4	
TRG				pmax	pmax		
	comp=Z,3μm,0.8s						
TRG				smax			
	comp=N,2μm,2.0s						
KAB	**Kabansk**	**5.31**	**77**	*e*PN	**Pn**	**07 37 47.4**	**+15**
KAB				*e*		07 38 55.3	
KAB				pmax	pmax		
	comp=Z,3μm,0.3s						
KAB				smax			
	comp=N,182μm,2.2s						
KRAR	**Krasnoyarsk**	**5.79**	**329**	*e*PN	**Pn**	**07 37 37.8**	**-1.5**
KRAR				*i*		07 37 54.8	
KRAR				*i*		07 39 12.0	
KRAR				pmax	pmax		
	comp=Z,630nm,0.8s						
OGRR	**Ongureny**	**6.22**	**63**	*e*PN	**Pn**	**07 37 44.3**	**-1.1**
OGRR				*e*		07 38 03.2	
OGRR				*e*		07 39 22.0	
OGRR				pmax	pmax		
	comp=Z,2μm,1.4s						
OGRR				smax			
	comp=N,18μm,2.1s						
TASR	**Tashtagol**	**6.60**	**288**	*e*PN	Px	07 38 11.1	
ULN	**Ulaanbaatar**	**6.62**	**117**	*e*PN	**Pn**	**07 37 50.1**	**-0.9**
ULN	**Ulaanbaatar**	**6.62**	**117**	*e*P	**Pn**	**07 37 48.7**	**-2.3**
	comp=N,587nm,0.6s						
AKAR	**Aktash**	**6.80**	**267**	*e*PN	**Pn**	**07 37 53.0**	**-0.5**
AKAR				*i*		07 38 14.2	
AKAR				*e*		07 39 12.3	
ARTR	**Artybash**	**6.88**	**279**	*e*PN	**Pn**	**07 37 55.1**	**+0.5**
ARTR				*e*		07 38 16.2	
ARTR				*e*		07 39 11.3	
ELDR	**Elanda**	**7.64**	**275**	*i* P	**Pn**	**07 38 04.7**	**-0.6**
ELT	**Yel'tsovka**	**7.67**	**290**	*e*P	**Pn**	**07 38 05.3**	**-0.3**
ELT				*e*		07 39 29.0	
NIZ	**Nizh Angarsk**	**8.15**	**51**	*e*P	**P**	**07 38 11.4**	**-1.0**
NIZ				*e*S	**Sn**	**07 39 50.2**	**+5.2**
NIZ				pmax	pmax		
	comp=Z,556nm,0.6s						
NIZ				smax			
	comp=N,9μm,1.3s						
KTNR	**Kaitanak**	**8.19**	**268**	*e*P	**P**	**07 38 12.9**	**-0.1**
UKR	**Ust'-Kan**	**8.50**	**274**	*e*P	**P**	**07 38 16.7**	**-0.5**
YLYR	**Ulyunkhan**	**8.61**	**60**	*e*P	**P**	**07 38 18.5**	**-0.3**
YLYR				*e*S	**Sn**	**07 39 48.9**	**-7.6**
ZAL	**Zalesovo**	**8.65**	**294**	Pn	**P**	**07 38 19.6**	**+0.3**
	comp=N,3.7nm,0.3s,baz=14,slow=12,SNR=12						
ZAL				Lg		07 40 39.1	
	comp=N,26nm,0.3s,baz=88,slow=20,SNR=3.0						
KMO	**Kumora**	**9.03**	**54**	*e*P	**P**	**07 38 23.0**	**-1.6**
KMO				*e*S	**Sn**	**07 40 01.4**	**-5.4**
KMO				pmax	pmax		
	comp=Z,498nm,1.1s						
KMO				smax			
	comp=N,280nm,1.8s						
KPC	**Khapcheranga**	**9.14**	**94**	*e*P	**P**	**07 38 23.4**	**-2.7**
KPC				pmax	pmax		
	comp=Z,173nm,1.0s						
NVS	**Novosibirsk**	**9.76**	**298**	*e*P	**P**	**07 38 33.1**	**-1.4**
WMQ	**Urumqi**	**10.26**	**228**	⇑*i*P	**P**	**07 38 42.0**	**+0.6**
WMQ				AP		07 38 47.5	
WMQ				PP	PP	07 38 50.5	+1.2
WMQ				S	**S**	**07 40 31.5**	**-5.5**
WMQ				XS		07 40 43.0	
WMQ				SS	SS	07 40 48.0	-2.6
WMQ				AMB	AMB		
	comp=Z,42nm,1.3s						
WMQ				AMB	AMB		
	comp=Z,533nm,4.3s						
WMQ				LR	LR		
	comp=N,16μm,18.4s						
WMQ				LR	LR		
	comp=E,13μm,21.3s						
WMQ				LR	LR		
	comp=Z,5μm,17.6s						
MK31	**Makanchi Array**	**11.37**	**253**	⇑Pn	**P**	**07 38 54.0**	**-2.6**
	comp=Z,15nm,0.9s						
MK31				⇑Pg	P	07 39 34.6	+38
	comp=Z,14nm,0.6s,baz=68,slow=12,SNR=4.1						
MK31				Lg		07 42 07.7	
	comp=Z,1μm,1.3s,baz=66,slow=28,SNR=10						
MKAR	**Makanchi Array**	**11.37**	**253**	P	**P**	**07 38 53.9**	**-2.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GTA	**Gaotai**	**11.83**	**174**	*e*P	**P**	**07 39 01.3**	**-1.6**
GTA				AP		07 39 05.0	
GTA				XP		07 39 07.5	
GTA				PP	PP	07 39 09.3	-2.9
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s						
GTA				AMB	AMB		
	comp=Z,127nm,5.3s						
GTA				LR	LR		
	comp=Z,9μm,10.3s						
BTO	**Baotou**	**13.37**	**138**	*e*P	**P**	**07 39 23.3**	**-0.1**
BTO				AMB	AMB		
	comp=Z,180nm,1.3s						
HHC	**Hu-ho-hao-te**	**13.85**	**133**	*e*P	**P**	**07 39 25.8**	**-3.9**
HHC				AP		07 39 31.5	
HHC				XP		07 39 35.5	
HHC				PP	PP	07 39 40.3	-0.3
HHC				S	**S**	**07 41 57.3**	**-6.6**
HHC				XS		07 42 06.8	
HHC				AMB	AMB		
	comp=Z,15nm,1.2s						
HHC				AMB	AMB		
	comp=Z,239nm,4.2s						
HHC				LR	LR		
	comp=Z,12μm,10.0s						
HIA	**Hailar**	**13.89**	**90**	*e*P	**P**	**07 39 29.8**	**-0.3**
HIA				pmax	pmax		
	comp=Z,92nm,1.2s						
HIA	**Hailar**	**13.89**	**90**	*e*P	**P**	**07 39 29.8**	**-0.3**
	comp=Z,92nm,1.2s						
LZH	**Lanzhou**	**15.62**	**163**	*e*P	**P**	**07 39 53.0**	**+0.2**
LZH				AP		07 39 59.3	
LZH				XP		07 40 02.5	
LZH				PP	PP	07 40 05.5	+0.1
LZH				S	**S**	**07 42 43.5**	**-2.3**
LZH				XS		07 42 52.5	
LZH				SS	SS	07 43 01.3	-3.2
LZH				AMB	AMB		
	comp=Z,78nm,1.2s						
LZH				LR	LR		
	comp=Z,15μm,11.8s						
AAA	**Alma-Ata**	**16.45**	**250**	*e*P	**P**	**07 40 03.0**	**-0.4**
AAA				*e*S	**S**	**07 43 08.0**	**+2.9**
AAA				MLR	MLR		
	comp=N,25μm,12.0s						
CLNS	**Chul'man**	**16.58**	**60**	*e*P	**P**	**07 40 06.7**	**+1.7**
CLNS				*e*S	**S**	**07 43 08.4**	**+0.4**
CLNS				pmax	pmax		
	comp=N,87nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,162nm,1.1s						
CLNS				pmax	pmax		
	comp=E,181nm,1.2s						
CLNS				pmax	pmax		
	comp=Z,165nm,0.9s						
CLNS				pmax	pmax		
	comp=N,84nm,1.0s						
CLNS				pmax	pmax		
	comp=E,257nm,1.3s						
CLNS				smax			
	comp=N,40nm,0.9s						
CLNS				smax			
	comp=Z,17nm,0.8s						
CLNS				smax			
	comp=E,33nm,1.1s						
CLNS				MLR	MLR		
	comp=N,9μm,11.0s						
CLNS				MLR	MLR		
	comp=E,4μm,12.0s						
CLNS				MLR	MLR		
	comp=Z,6μm,12.0s						
BJI	**Beijing**	**16.73**	**125**	P	**P**	**07 40 07.5**	**+0.6**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.1s						
BJI				LR	LR		
	comp=Z,3μm,25.8s						
BJT	**Baijiatuau**	**16.74**	**125**	*e*P	**P**	**07 40 07.2**	**+0.1**
BJT				pmax	pmax		
	comp=Z,104nm,1.3s						
BJT	**Baijiatuau**	**16.74**	**125**	*e*P	**P**	**07 40 07.2**	**+0.1**
	comp=Z,104nm,1.3s						
CHKZ	**Chkalovo**	**16.99**	**289**	⇓Lg		07 44 36.0	
	comp=Z,363nm,1.9s						
CHKZ	**Chkalovo**	**16.99**	**289**	P	**P**	**07 40 06.5**	**-3.6**
CHKZ				pmax	pmax		
	comp=Z,401nm,1.6s						
BVA0	**Borovoye Array**	**17.17**	**287**	⇓Lg		07 44 43.1	
	comp=Z,76nm,2.2s						
BVA0	**Borovoye Array**	**

comp=Z,250nm,2.2s
FRU smax
comp=E,2μm,7.0s
FRU MLR MLR
comp=E,31μm,14.0s
FRU MLR MLR
comp=Z,42μm,14.0s
KZA Kyzart 18.17 249 P P 07 40 25.9 +0.9
SNR=21
AAK Ala-Archa 18.29 251 P P 07 40 26.2 -0.2
SNR=12
AAK Ala-Archa 18.29 251 ⇑Pn P 07 40 25.9 -0.5
comp=Z,58nm,1.1s
AAK ⇓Lg 07 45 49.1
comp=Z,792nm,2.0s
AAK Ala-Archa 18.29 251 eP P 07 40 24.6 -1.8
comp=Z,39nm,0.9s
UCH Uchtor 18.52 250 P P 07 40 29.9 +0.7
SNR=28
EKS2 Erkin-Say 18.70 252 P P 07 40 31.4 0.0
SNR=23
XAN Xi'an 18.82 152 P P 07 40 30.0 -2.9
XAN S **S 07 43 54.8 -4.1**
XAN AMB AMB
comp=Z,297nm,7.9s
XAN LR LR
comp=Z,6μm,13.2s
AML Almayashu 19.06 251 P P 07 40 35.7 -0.1
SNR=24
KSH Kashi 19.44 242 *i* PR 07 40 41.0
KSH AP 07 40 47.3
KSH XP 07 40 51.5
KSH PP PP 07 40 59.3 +1.4
KSH PPP PPP 07 41 08.3 +1.4
KSH S **S 07 44 12.8 -0.2**
KSH XS 07 44 24.3
KSH SS SS 07 44 42.3 +2.6
KSH AMB AMB
comp=Z,790nm,4.1s
SNY Shenyang 19.70 108 ⇑P P 07 40 40.0 -3.1
SNY S **S 07 44 26.0 +7.4**
SNY LR LR
comp=N,7μm,8.4s
SNY LR LR
comp=Z,8μm,10.0s
CN2 Changchun 19.73 101 *e*P **P 07 40 43.8 +0.4**
CN2 XP 07 40 52.8
CN2 *e*S **S 07 44 19.0 -0.2**
CN2 AMB AMB
comp=Z,50nm,1.1s
CN2 AMB AMB
comp=Z,730nm,4.0s
CN2 LR LR
comp=Z,20μm,11.0s
TIA Tai'an 20.17 131 P P 07 40 48.0 -0.2
TIA S **S 07 44 32.5 +4.0**
TIA LR LR
comp=N,7μm,13.0s,MS5.4
TIA LR LR
comp=E,9μm,13.0s,MS5.4
YAK Yakutsk 20.20 45 *e*P **P 07 40 47.5 -0.8**
YAK *e**PP 07 41 06.7
YAK *e*S **S 07 44 37.6 +8.7**
YAK pmax pmax
comp=Z,137nm,0.9s
YAK pmax pmax
comp=N,39nm,1.1s
YAK pmax pmax
comp=E,86nm,1.2s
YAK smax
comp=N,270nm,15.3s
YAK smax
comp=Z,183nm,12.8s
YAK smax
comp=E,162nm,15.7s
YAK Yakutsk 20.20 45 *e*P **P 07 40 49.1 +0.8**
comp=E,244nm,0.8s
KK31 Karatay Array 20.43 258 ⇑Pn P 07 40 48.2 -2.7
comp=E,151nm,1.2s,baz=54,slow=12,SNR=234
KK31 ⇓Lg 07 46 44.2
comp=E,1μm,2.8s
KKAR Karatay Array 20.43 258 *i* P **P 07 40 48.2 -2.7**
KKAR pmax pmax
comp=Z,57nm,0.8s
DL2 Dalian 20.48 118 P P 07 40 53.5 +2.1
DL2 PP PP 07 41 16.0 +3.6
DL2 S **S 07 44 41.0 +6.2**
DL2 AMB AMB
comp=Z,20nm,0.9s
DL2 AMB AMB
comp=Z,190nm,9.9s
DL2 LR LR
comp=N,3μm,10.2s,MS5.0
DL2 LR LR
comp=E,2μm,10.4s,MS5.0
DL2 LR LR
comp=Z,4μm,10.2s,MS5.1
CD2 Chengdu 20.67 166 P P 07 40 53.8 +0.4
CD2 AP 07 41 01.5
CD2 S **S 07 44 43.3 +4.6**
CD2 AMB AMB
comp=Z,150nm,0.9s
CD2 LR LR
comp=Z,9μm,10.8s,MS5.4
KLR Kul'dur 21.43 82 *e*P **P 07 40 57.8 -3.2**
KLR *e* 07 44 52.0
KLR MLR MLR
comp=E,3μm,13.0s
KLR MLR MLR
comp=Z,8μm,13.0s,MS5.3
MDJ Mudanjiang 21.90 95 P P 07 41 04.5 -1.3
MDJ AP 07 41 10.0
MDJ XP 07 41 12.8
MDJ PCP PcP 07 45 03.3 -2.3
MDJ S **S 07 45 06.0 +4.1**
MDJ SCP 07 48 38.3
MDJ PCS 07 48 42.0
MDJ AMB AMB
comp=Z,74nm,4.8s
MDJ LR LR
comp=Z,7μm,11.4s,MS5.3
MDJ Mudanjiang 21.90 95 *e*P **P 07 41 03.7 -2.1**
comp=Z,32nm,1.1s,mb4.7
LSA Lhasa 22.11 197 P P 07 41 09.8 +1.8
LSA AMB AMB
comp=Z,20nm,1.0s,mb4.5
TAS Tashkent 22.19 255⇑ *e*P **P 07 41 06.0 -2.7**
ENH Enshi 22.51 154 *e*P **P 07 41 11.2 -0.7**
comp=Z,200nm,1.5s,mb5.3
SVE Sverdlovsk 22.60 299⇓ *i*P **P 07 41 13.2 +0.7**
SVE *e*SS SS 07 45 52.0 -4.7
SVE pmax pmax
comp=Z,120nm,1.7s,mb5.0
SVE MLR MLR
comp=N,1μm,13.0s,MS4.9
SVE MLR MLR
comp=E,3μm,13.0s,MS4.9
SVE MLR MLR
comp=Z,4μm,13.0s,MS5.0
ARU Arti 23.76 298⇓ *i*P **P 07 41 25.5 +1.7**
ARU *e* 07 41 53.5
ARU *i* S **S 07 45 42.5 +7.5**
ARU *e*SS SS 07 46 23.8 -0.9
ARU pmax pmax
comp=Z,35nm,0.8s,mb4.8
ARU MLR MLR
comp=N,600nm,16.0s,MS4.6
ARU MLR MLR
comp=E,2μm,18.0s,MS4.6
ARU MLR MLR
comp=Z,2μm,18.0s,MS4.7
ARU Arti 23.76 298 *e*P **P 07 41 21.0 -2.8**
comp=Z,36nm,0.8s,mb4.9
WHN Wuhan 23.85 144 ⇓P P 07 41 30.0 +5.0
WHN S **S 07 45 38.0 +1.2**
WHN AMB AMB
comp=Z,106nm,1.5s,mb5.0
WHN LR LR
comp=Z,6μm,13.2s,MS5.2
AB31 Akbulak array 24.41 281 Pn **P 07 41 28.6 -1.6**
comp=Z,30nm,0.9s,mb4.7,baz=75,slow=9.3,SNR=143
AB31 ⇓Sn **S 07 45 56.2 +10**
comp=Z,20nm,1.6s
AB31 ⇑Lg 07 48 38.4
comp=Z,252nm,2.1s
AB31 Akbulak array 24.41 281 *i* P **P 07 41 29.5 -0.7**
AB31 07 45 56.1
AB31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
NJ2 Nanjing 24.41 134 *e*P **P 07 41 30.8 +0.4**
NJ2 AP 07 41 35.0
NJ2 XP 07 41 38.0
NJ2 PP PP 07 42 04.3 -1.7
NJ2 S **S 07 45 47.0 +0.7**
NJ2 XS 07 46 01.0
NJ2 AMB AMB
comp=Z,80nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,330nm,10.0s
SOKR Solikamsk 24.63 306*c i*P **P 07 41 32.0 -0.3**
SOKR S **S 07 45 48.0 -1.8**
SOKR pmax pmax
comp=Z,40nm,0.9s,mb5.0
SOKR MLR MLR
comp=Z,1μm,18.0s,MS4.5
TIXI Tiksi 24.68 23*d i*P **P 07 41 32.5 -0.1**
TIXI pmax pmax
comp=Z,54nm,1.0s,mb5.0
TIXI MLR MLR
comp=Z,2μm,18.0s,MS4.7
GUN Gumba 25.06 207 *e*P **P 07 41 36.9 +0.2**
comp=Z,194nm,0.9s,mb5.6
SDNR Sundarnagar 25.18 227 *e* **P 07 41 28.4 -9.4**
JIRN Jiri 25.21 206 *e*P **P 07 41 38.9 +0.8**
PONG Pong 25.28 229 *e* **P 07 41 44.0 +5.3**
GKN Gorkha 25.34 209 *e*P **P 07 41 39.0 -0.3**
comp=Z,290nm,1.1s,mb5.7
KKN Kakani 25.35 208 *e*P **P 07 41 38.9 -0.5**
comp=Z,180nm,0.8s,mb5.7
SMLA Simla 25.40 226⇑ *i*P **P 07 41 36.7 -3.2**
comp=Z,20nm,0.5s,mb4.9
SMLA *i* 07 46 25.4
BHK Bhakra 25.50 228 *e* **P 07 41 59.6 +19**
BHK *e* 07 46 14.4
PKI Pulchoki 25.51 207 *e*P **P 07 41 40.6 -0.4**
comp=Z,431nm,1.0s,mb5.9
GYA Guiyang 25.52 162⇑ *i*P **P 07 41 43.3 +2.3**
GYA AP pP 07 41 51.5 +5.4
GYA XP sP 07 41 53.8 +5.4
GYA PP PP 07 42 23.8 +3.3
GYA S **S 07 46 09.0 +4.0**
GYA SS SS 07 47 11.3 +3.2
GYA SCP 07 48 50.5
GYA AMB AMB
comp=Z,60nm,0.9s,mb5.1
GYA AMB AMB
comp=Z,870nm,4.0s
GYA LR LR
comp=Z,5μm,11.1s,MS5.3
LGTI Lohaghat 25.56 219 *e*P **P 07 41 46.0 +4.6**
DMN Daman 25.57 208 *e*P **P 07 41 41.4 -0.1**
comp=Z,137nm,0.9s,mb5.5
DDI Dehra Dun 25.70 224 *e* **P 07 41 43.9 +1.2**
KOLN Koldanda 25.88 211 *e*P **P 07 41 42.8 -1.6**
comp=Z,326nm,1.0s,mb5.8
SHL Shillong 26.05 193 *e* **P 07 41 46.0 +0.1**
SHL *e* 07 50 12.0
KMI Kunming 26.25 171 P P 07 41 49.3 +1.4
KMI AP pP 07 41 56.0 +3.1
KMI XP sP 07 41 58.8 +3.6
KMI PP PP 07 42 31.5 +1.2
KMI S **S 07 46 18.5 +1.2**
KMI XS 07 46 26.5
KMI SS SS 07 47 22.3 -3.5
KMI AMB AMB
comp=Z,23nm,1.1s,mb4.6
KMI LR LR
comp=Z,4μm,17.8s,MS5.0
SSE Sheshan 26.29 131 P P 07 41 46.8 -1.4
SSE AP pP 07 41 55.3 +2.1
SSE XP sP 07 42 00.3 +4.8
SSE S **S 07 46 17.5 -0.3**
SSE XS 07 46 31.8
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,98nm,4.7s
SSE LR LR
comp=N,3μm,19.2s,MS5.1
SSE LR LR
comp=E,4μm,19.1s,MS5.1
SSE LR LR
comp=Z,2μm,9.7s
NDI New Delhi 27.48 223 *e*P **P 07 42 01.0 +1.9**
NDI *e* 07 46 45.0
BOK Bokaro 28.97 204 *e*P **P 07 42 14.9 +2.3**
YSS Yuzh-Sakhalins 29.12 81 *e*P **P 07 42 16.0 +2.3**
YSS *e* 07 47 05.0
YSS MLR MLR
comp=Z,6μm,15.0s,MS5.3
YSS MLR MLR
comp=N,10μm,14.0s,MS5.6
YSS MLR MLR
comp=E,5μm,16.0s,MS5.6
ASAJ Asahikawa 30.32 86 LR LR 07 56 22.4
comp=E,353nm,20.8s,MS4.0,baz=267,slow=40
GZH Guangzhou 30.40 152 P P 07 42 20.5 -4.8
GZH S **S 07 47 16.3 -7.6**
GZH LR LR
comp=Z,4μm,12.7s,MS5.2
QZH Quanzhou 30.50 142 *e*P **P 07 42 27.0 +0.8**
QZH S **S 07 47 25.0 -0.6**
QZH LR LR
comp=Z,6μm,11.0s,MS5.5
SEY Seymchan 30.71 47 *e*P **P 07 42 28.8 +1.1**
SEY *e* 07 43 42.2
SEY *e*S **S 07 47 33.7 +5.2**
SEY pmax pmax
comp=E,20nm,0.9s
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.0
SEY MLR MLR
comp=Z,1μm,14.0s,MS4.7
SEY MLR MLR
comp=N,900nm,10.0s,MS4.9
SEY MLR MLR
comp=E,1μm,13.0s,MS4.9
BLSP Bilaspur 31.61 209 *e*P **P 07 42 36.0 0.0**
BLSP *e* pP 07 42 40.8 -0.3
comp=Z,25nm,0.7s
PECR Pechory 31.72 301 *e*P **P 07 42 38.0 +1.4**
PECR MLR MLR
comp=Z,4μm,11.0s,MS5.3
PECR MLR MLR
comp=N,2μm,6.0s
MAT Matsushiro 31.88 102 P P 07 42 42.0 +3.8
MAT *e*S **S 07 47 54.0 +7.1**
MAT LR LR
comp=Z,1μm,20.0s,MS4.7
MAT Matsushiro 31.88 102 P P 07 42 41.1 +2.9
MAT S **S 07 47 53.0 +6.1**
MJAR Matsushiro Arr 31.88 102 P P 07 42 40.4 +2.2
comp=Z,1.6nm,0.6s,mb4.0,baz=304,slow=11,SNR=4.8
MJAR LR LR 07 55 58.5
comp=Z,1μm,18.5s,MS4.5,baz=320,slow=37
BHPL Bhopal 32.23 218 *e*P **P 07 42 43.0 +1.6**
BHPL AMb AMB 07 42 43.7
comp=Z,35nm,1.0s,mb5.1
CMAR Chiang Mai Arr 32.66 179 P P 07 42 44.4 -0.8
comp=Z,6.2nm,0.7s,mb4.7,baz=355,slow=9.1,SNR=22
CMAR LR LR 07 55 29.6
comp=Z,2μm,20.5s,MS4.9,baz=355,slow=36
JOW Kunigami 33.30 125 LR LR 07 57 34.6
comp=Z,2μm,18.6s,MS4.7,baz=332,slow=39
QIZ Qiongzhong 33.38 160 *e*P **P 07 42 53.5 +2.1**
QIZ S **S 07 48 12.5 +2.0**
QIZ XS 07 48 24.5
LVZ Lovozero 34.39 323⇓ *e*P **P 07 43 03.9 +4.2**
LVZ *e* 07 45 30.9
LVZ *e*S **S 07 48 30.1 +4.5**
LVZ pmax pmax
comp=Z,42nm,1.2s,mb5.2
APA Apatity 34.88 323⇓ *i*P **P 07 43 13.7 +10**
APA *e*SS SS 07 51 17.0 +29
APA pmax pmax
comp=Z,29nm,1.2s,mb5.1
APA MLR MLR
comp=Z,3μm,17.0s,MS5.1
JHJ Hachijo jima 2 35.12 105 LR LR 07 57 07.5
comp=Z,950nm,18.7s,MS4.6,baz=304,slow=36
MOS Moscow 35.36 302 *e*P **P 07 43 04.6 -3.5**
MOS *e* 07 44 23.6
MOS pmax pmax
comp=Z,40nm,0.7s,mb5.5
MOS MLR MLR
comp=Z,1μm,12.3s,MS4.9
MOS MLR MLR
comp=E,2μm,12.6s
BHJ Bhuj 35.58 229 *e* **P 07 43 15.4 +5.1**
VOR Voronezh 35.92 295 *e*P **P 07 43 11.0 -1.9**
VOR pmax pmax
comp=Z,140nm,3.0s
BILL Bilibino 36.03 36 *i* P **P 07 43 15.0 +1.3**
BILL pmax pmax
comp=Z,13nm,1.7s,mb4.6
BILL MLR MLR
comp=Z,1μm,18.0s,MS4.7
OBN Obninsk 36.14 301⇑ *i*P **P 07 43 13.9 -0.8**
OBN *e* 07 44 37.0
OBN *e*S **S 07 48 55.0 +2.1**
OBN pmax pmax
comp=Z,30nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,2μm,21.0s,MS4.8
JOF Joensuu 36.51 315 *e*p **P 07 43 17.3 -0.4**
comp=Z,17nm,0.7s,mb5.0
KEV Kevo 36.97 327 *e*p **P 07 43 22.4 +0.9**
comp=Z,24nm,0.8s,mb5.1
KEV Kevo 36.97 327 *e*P **P 07 43 22.4 +0.9**
KEV pmax pmax
comp=Z,24nm,0.8s,mb5.1
HYB Hyderabad 37.17 212 *e*P **P 07 43 28.0 +4.3**
HYB Hyderabad 37.17 212 *i* P **P 07 43 28.0 +4.3**
HYB *e*S **S 07 49 10.0 +1.0**
ZEI Tsey 37.26 279 *e*P **P 07 43 25.9 +1.6**
ZEI *i* 07 44 44.1
ZEI pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
TI2 Plekhanov 37.29 277 *i* P **P 07 43 31.4 +6.8**
TI2 *i* 07 43 31.8
KIV Kislovodsk 37.39 281 *e*P **P 07 43 25.8 +0.5**
KIV *e* 07 44 51.4
KIV *e*S **S 07 49 13.7 +1.6**
KIV pmax pmax
comp=N,18nm,1.1s
KIV pmax pmax
comp=Z,32nm,1.1s,mb5.1
KIV MLR MLR
comp=E,695nm,17.0s
KIV MLR MLR
comp=Z,964nm,17.0s,MS4.7
ARCES ARCESS Array B 37.52 327 P **P 07 43 26.9 +0.7**
comp=Z,5.9nm,0.6s,mb4.5,baz=66,slow=7.6,SNR=12
PUL Pulkovo 37.82 310*c e*P **P 07 43 33.4 +4.6**
PUL pmax pmax
comp=Z,63nm,4.9s
PUL MLR MLR
comp=Z,3μm,13.0s,MS5.3
GNI Garni 38.19 275 *i* P **P 07 43 33.8 +1.7**
GNI pmax pmax
comp=Z,13nm,0.9s
GNI MLR MLR
comp=Z,900nm,12.0s
GNI Garni 38.19 275 *e*P **P 07 43 29.5 -2.6**
comp=Z,38nm,1.3s,mb5.0
KAF Kangasniemi 38.96 315 *e*p **P 07 43 37.3 -1.0**
comp=Z,9.4nm,0.6s,mb4.7
KAF Kangasniemi 38.96 315 *e*P **P 07 43 37.3 -1.0**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
FINES FINESS Array B 39.27 314 P **P 07 43 41.6 +0.7**
comp=Z,12nm,0.6s,mb4.8,baz=77,slow=8.6,SNR=24
FINES LR LR 08 01 50.1
comp=Z,2μm,19.0s,MS4.9,baz=77,slow=39
SOC Sochi 39.41 283 *e*P **P 07 43 45.6 +3.3**
SOC *e* 07 45 43.6
SOC *e*S **S 07 49 41.8 -1.0**
SOC *e* 07 53 51.8
SOC pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
SOC pmax pmax
comp=N,3.0nm,0.5s
SOC pmax pmax
comp=E,8.0nm,0.5s
SOC MLR MLR
comp=N,1μm,13.0s,MS5.1
SOC MLR MLR
comp=E,1μm,13.0s,MS5.1
SOC MLR MLR
comp=Z,1μm,13.0s,MS5.0
KBS Kingsbay 39.62 342 P **P 07 43 44.1 +0.4**
KBS pmax pmax
comp=Z,15nm,1.0s,mb4.7
KBS Kingsbay 39.62 342 P **P 07 43 44.1 +0.5**
comp=Z,15nm,1.0s,mb4.7
KBS Kingsbay 39.62 342 *e*P **P 07 43 49.3 +5.6**
KBS AMS AMS 08 05 48.6
comp=Z,538nm,15.6s,MS4.5
TRO Tromso 39.76 327 *e*SS SS 07 52 50.7 +14
TRO AMS AMS 08 00 53.4
comp=Z,992nm,17.4s,MS4.7
ANN Anapa 40.16 285 *e*P **P 07 43 48.3 -0.2**
ANN *e**PP pP 07 43 53.1 -0.6
ANN *e*S **S 07 49 56.9 +2.8**
ANN pmax pmax
comp=Z,16nm,0.8s,mb4.8
ANN MLR MLR
comp=N,1μm,15.0s,MS5.0
ANN MLR MLR
comp=E,1μm,15.0s,MS5.0
ANN MLR MLR
comp=Z,1μm,15.0s,MS4.9
BANOM Banah 40.59 248 ⇑P P 07 43 55.3 +3.1
MDRS Chennai 40.73 207 *e* PP 07 45 39.0 +8.4
MDRS *e* 07 50 22.0
MSL Mosul 41.55 271 *e*P **P 07 44 09.0 +9.1**
ASHO Ashiyiah 41.68 247 ⇓P P 07 44 04.1 +3.0
AKASG Malin Array Be 42.01 297 P **P 07 44 02.8 -0.6**
comp=Z,3.2nm,0.6s,mb4.1,baz=53,slow=8.7,SNR=14
AKASG PP PP 07 45 46.0 +2.1
comp=Z,7.9nm,0.9s,baz=56,slow=10,SNR=4.4
LOF Lofoten 42.07 326 *e*P **P 07 44 09.8 +6.0**
LOF AMb AMB 07 44 18.9
comp=Z,75nm,1.4s,mb5.1
ARQ Araqi 42.46 245 P **P 07 44 08.3 +0.8**
SNR=9.1
MOR8 Moi Rana 42.47 323 *e*P **P 07 44 06.9 -0.1**
MOR8 AMb AMB 07 44 19.4
comp=Z,41nm,2.0s,mb4.7
STOK Stokkvaagen 42.94 324 *e* **P 07 44 15.4 +4.5**
MALT Malatya 43.23 277 *e*P **P 07 44 13.0 -0.6**
MALT pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
MALT Malatya 43.23 277 *e*P **P 07 44 13.0 -0.5**
comp=Z,9.7nm,0.9s,mb4.5
SUW Suwalki 43.69 304 *e*P **P 07 44 21.9 +4.8**
NSS Namsos 44.08 322 *e*P **P 07 44 21.7 +1.6**
NSS *e*SS SS 07 54 11.8 +11
NSS AMS AMS 08 04 56.9
comp=Z,1μm,16.6s,MS4.9
KIS Kishinev 44.12 293 *e*P **P 07 44 19.0 -1.7**
KIS *e* pP 07 44 23.0 -2.9
KIS MLR MLR
comp=N,1μm,10.0s
KIS MLR MLR
comp=Z,1μm,10.0s,MS5.1
FX1 Attu Island--F 44.16 57 LR LR 08 02 40.2
comp=Z,46nm,18.2s,baz=316,slow=36
LVV L'vov 45.34 299 *e*P **P 07 44 30.6 +0.2**
LVV *e* 07 46 11.2
LVV *e*S **S 07 51 08.4 -1.2**
LVV *e* 07 51 15.8
LVV MLR MLR
comp=Z,700nm,13.0s,MS4.8
LVV MLR MLR
comp=N,1μm,12.0s,MS5.2
LVV MLR MLR
comp=E,1μm,14.0s,MS5.2
BRTR Keskin Array B 45.35 282 P **P 07 44 31.2 +0.6**
comp=E,4.7nm,0.9s,mb4.3,baz=75,slow=6.0,SNR=11
NB2 NORSAR Subarra 45.99 317 P **P 07 44 35.4 -0.1**
comp=E,26nm,0.8s,mb5.2,baz=60,slow=7.9
NB2 NORSAR Subarra 45.99 317 P **P 07 44 35.4 -0.1**
NB2 pmax pmax
comp=Z,26nm,0.8s,mb5.2
NB2 NORSAR Subarra 45.99 317 P **P 07 44 35.4 -0.1**
baz=60,slow=7.9

NOA NORSAR Array B 45.99 317 P **P** **07 44 35.9 +0.5**
comp=Z,19nm,0.8s,mb5.1,baz=61,slow=7.8,SNR=22
NOA LR LR 08 05 24.5
comp=Z,1µm,18.5s,MS4.9,baz=60,slow=38
NOA NORSAR Array B 45.99 317 P **P** **07 44 35.9 +0.5**
NOA LR LR 08 05 24.6
PALK Pallekele 46.13 205 P **P** **07 44 35.2 -2.0**
comp=Z,37nm,1.3s,mb5.2
KWP Kalwaria 46.16 299 P **P** **07 44 36.7 -0.3**
KWP pmax pmax
comp=Z,44nm,0.6s,mb5.6
KWP Kalwaria 46.16 299 P **P** **07 44 36.7 -0.2**
comp=Z,44nm,0.6s,mb5.6
DAG Danmarks Havn 46.32 344⇑ *e*P **P** **07 44 42.0 +4.2**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
DAG Danmarks Havn 46.32 344⇑ *e*P **P** **07 44 42.0 +4.2**
comp=Z,5.2nm,0.8s,mb4.5
DAG Danmarks Havn 46.32 344⇑ *i*P **P** **07 44 42.0 +4.2**
comp=Z,5.2nm,0.8s,mb4.5
TNA Tin City 46.43 35 *e*P **P** **07 44 39.2 +0.3**
comp=Z,9.6nm,1.0s,mb4.7
KOLS Kolonicke sedl 46.78 299 *e*P **P** **07 44 43.3 +1.5**
KOLS *es*P sP 07 44 47.5 -1.7
UZH Uzhgorod 46.94 298 *e*P **P** **07 44 33.0 -10**
UZH MLR MLR
comp=Z,1µm,13.0s,MS5.0
GKP Gorka Klasztor 47.13 306 *e*P **P** **07 44 50.8 +6.3**
CRVS Cervenica-Dubn 47.25 299 *e*P **P** **07 44 47.2 +1.7**
CRVS *e* 07 44 57.4
OJC Ojcow 47.43 301 *e*P **P** **07 44 48.5 +1.5**
JMIC Jan Mayen 47.57 335 AMb AMB 08 06 22.9
comp=Z,1µm,22.3s
NIE Niedzica 47.59 300 *e*P **P** **07 44 48.5 +0.3**
KECS Kecovo 48.02 299 *e*P **P** **07 44 53.2 +1.6**
KECS *ep*P pP 07 44 58.0 +1.1
WHFO Wadi Hawf 48.31 243 ⇑P **P** **07 44 53.5 -0.7**
SNR=8.7
RBK Rabkut 48.40 243 ⇑P **P** **07 44 56.7 +1.8**
SNR=7.3
ISP Isparta 48.43 282 *e*P **P** **07 44 55.1 +0.2**
OKC Ostrava-Krasne 48.53 302 *e*P **P** **07 44 57.7 +2.2**
OKC *e*S **S** **07 52 00.2 +5.3**
OKC *e*SS SS 07 55 28.4 +8.1
OKC AMS AMS 08 05 50.0
comp=Z,2µm,11.9s
PSZ Piszkesteto 48.66 299 *e*P **P** **07 44 56.3 -0.3**
PSZ pmax pmax
comp=Z,17nm,1.4s,mb4.9
PSZ Piszkesteto 48.66 299 *e*P **P** **07 44 56.3 -0.2**
comp=Z,17nm,1.4s,mb4.9
BER Bergen 48.81 319 AMS AMS 08 07 45.0
comp=Z,2µm,16.9s,MS5.2
MORC Moravsky Berou 48.88 302 *e*P **P** **07 44 58.0 -0.2**
MORC pmax pmax
comp=Z,13nm,0.8s,mb5.0
MORC Moravsky Berou 48.88 302 *e*P **P** **07 44 58.0 -0.2**
comp=Z,13nm,0.8s,mb5.0
VYHS Vyhne 48.92 300 *e*P **P** **07 44 59.1 +0.6**
VYHS *es*P sP 07 45 04.2 -1.7
KSP Ksiaz 48.94 304 *e*P **P** **07 45 00.0 +1.3**
KSP *e*S **S** **07 52 03.0 +2.2**
KSP *e*SS SS 07 55 33.0 +5.7
KSP MLR MLR
comp=Z,3µm,14.3s,MS5.5
ABTO Aybut 49.03 243 ⇑P **P** **07 44 59.7 0.0**
SNR=9.8
DPC Dobruska-Polom 49.21 303 *e*P **P** **07 45 01.9 +1.2**
DPC *e**PP pP 07 45 05.9 -0.1
DPC *e*S **S** **07 52 04.5 0.0**
DPC MLR MLR
comp=Z,2µm,14.9s,MS5.2
DPC Dobruska-Polom 49.21 303 *e*P **P** **07 45 01.9 +1.2**
DPC *ep*P pP 07 45 05.9 -0.1
DPC *ex* x 07 45 14.3
DPC *e*S **S** **07 52 04.5 0.0**
DPC *e*SS SS 07 55 39.7 +7.9
DPC AMS AMS 08 07 20.0
comp=Z,2µm,14.9s
UPC Upice 49.28 303 *e*P **P** **07 45 02.9 +1.6**
UPC *ep*P pP 07 45 07.4 +0.8
UPC *es*P sP 07 45 12.8 +4.1
RUE Ruedersdorf 49.31 307 *e*P **P** **07 45 01.3 -0.2**
BOLS Boljevac 49.89 293 ⇓*i*P **P** **07 45 05.8 -0.3**
PVCC Panska Ves 50.02 304 *e*P **P** **07 45 08.5 +1.5**
PVCC *e*S **S** **07 52 21.2 +5.4**
PVCC *e*SS SS 07 55 53.2 +7.5
PVCC AMS AMS 08 08 50.0
comp=Z,1µm,16.7s
BRG Berggiesshubel 50.15 305 *e*P **P** **07 45 09.1 +1.1**
BRG *e* pP 07 45 13.5 +0.2
BRG *e* 07 45 19.5
BRG *e* 07 47 04.0
BRG *i* S **S** **07 52 20.0 +2.5**
BRG *i* SS SS 07 55 51.0 +3.2
BRG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
BRG MLR MLR
comp=Z,3µm,14.6s,MS5.4
BRG Berggiesshubel 50.15 305 *e*P **P** **07 45 09.1 +1.1**
comp=Z,9.0nm,0.8s,mb4.8
BRG *e* pP 07 45 13.5 +0.2
BRG *e* 07 45 19.5
BRG *e*PP PP 07 47 04.0 -0.2
BRG *i* S **S** **07 52 20.0 +2.5**
BRG *i* SS SS 07 55 51.0 +3.2
BRG LR LR
comp=Z,3µm,14.6s,MS5.4
BSEG Bad Segeberg 50.20 310 *e*P **P** **07 45 09.3 +1.0**
PRU Pruhonice 50.35 304 *e*P **P** **07 45 09.9 +0.4**
PRU *e**PP pP 07 45 14.9 +0.1
PRU *e*S **S** **07 52 22.4 +2.1**
PRU *e*SS SS 07 55 57.7 +6.4
PRU MLR MLR
comp=Z,1µm,14.2s,MS5.1
PRU Pruhonice 50.35 304 *e*P **P** **07 45 09.9 +0.4**
PRU *ep*P pP 07 45 14.9 +0.1
PRU *es*P sP 07 45 21.5 +4.6
PRU *e*S **S** **07 52 22.4 +2.1**
PRU *e*SS SS 07 55 57.7 +6.4
PRU AMS AMS 08 09 10.0
comp=Z,1µm,14.2s
CLL Collm 50.38 306 *i* P **P** **07 45 09.3 -0.4**
CLL *i* pP 07 45 15.1 +0.1
CLL *e*S **S** **07 52 24.0 +3.3**
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CLL Collm 50.38 306 *i* P **P** **07 45 09.3 -0.4**
comp=Z,7.0nm,1.0s,mb4.7
CLL *i* pP 07 45 15.1 +0.1
CLL *e*S **S** **07 52 24.0 +3.3**
CLL Collm 50.38 306 P **P** **07 45 09.3 -0.4**
comp=Z,logA/T=0.8,mb4.6
CLL *i* *PP pP 07 45 15.1 +0.1
CLL *e* 07 45 22.0
CLL *i* 07 47 46.3
CLL *e*PPP PPP 07 48 03.0 -0.3
CLL *e* 07 48 14.0
CLL *e*S **S** **07 52 24.0 +3.3**
CLL *e*SS SS 07 55 55.0 +3.3
KSM Kuching 50.57 164 *e*P **P** **07 45 10.1 -1.6**
IMA Indian Mountai 50.96 30 *e*P **P** **07 45 14.3 +0.4**
IMA pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
IMA Indian Mountai 50.96 30 *e*P **P** **07 45 14.3 +0.4**
comp=Z,4.2nm,0.8s,mb4.4
SKO Skopje 51.33 292 *e*P **P** **07 45 22.0 +5.0**
BBLS Bajina Basta - 51.34 295 ⇑*i*P **P** **07 45 16.1 -1.0**
KHC Kasperske Hory 51.37 303 *e*P **P** **07 45 17.7 +0.5**
KHC *e**PP pP 07 45 23.0 +0.5
KHC *e*S **S** **07 52 39.6 +5.3**
KHC *e*SS SS 07 56 12.1 +4.0
KHC MLR MLR
comp=Z,2µm,12.5s,MS5.2
KHC Kasperske Hory 51.37 303 *e*P **P** **07 45 17.7 +0.5**
KHC *ep*P pP 07 45 23.0 +0.5
KHC *es*P sP 07 45 29.4 +4.8
KHC *e*S **S** **07 52 39.6 +5.3**
KHC *e*SS SS 07 56 12.1 +4.0
KHC AMS AMS 08 08 00.0
comp=Z,2µm,12.5s
CLZ Clausthal 51.40 307 *e*P **P** **07 45 18.3 +0.9**
comp=Z,17nm,1.0s,mb4.9

ARSA Arzberg 51.45 300⇑*i*P **P** **07 45 19.0 +1.1**
comp=Z,15nm,1.2s,mb4.8
GEC2 GERESS Array S 51.47 303 *e*P **P** **07 45 18.5 +0.5**
GEC2 pmax pmax
comp=Z,31nm,2.2s,mb4.8
GEC2 GERESS Array S 51.47 303 *e*P **P** **07 45 18.5 +0.5**
comp=Z,31nm,2.2s,mb4.8
GERES GERESS Array B 51.47 303 P **P** **07 45 18.2 +0.2**
comp=Z,2.8nm,0.8s,mb4.2,baz=53,slow=6.7,SNR=9.8
GERES LR LR 08 09 44.7
comp=Z,692nm,19.4s,MS4.7,baz=204,slow=39
MOX Moxa 51.48 306 *e*P **P** **07 45 18.8 +0.7**
MOX pmax pmax
comp=Z,20nm,1.0s,mb5.0
MOX Moxa 51.48 306 *e*P **P** **07 45 18.8 +0.7**
comp=Z,20nm,1.0s,mb5.0
MOX Moxa 51.48 306 *i* P **P** **07 45 19.9 +1.8**
comp=Z,logA/T=1.4,mb5.1
MOX S **S** **07 52 46.0 +10**
MOX SS SS 07 56 10.0 0.0
MOX QM 08 06 45.0
MOX RM 08 09 55.0
WET Wettzell 51.73 304 *e*P **P** **07 45 20.7 +0.8**
WET pmax pmax
comp=Z,16nm,1.0s,mb4.9
WET Wettzell 51.73 304 *e*P **P** **07 45 20.7 +0.8**
comp=Z,16nm,1.0s,mb4.9
MOA Molln 51.77 301⇑*i*P **P** **07 45 21.2 +0.9**
comp=Z,13nm,0.8s,mb4.9
PERS Pernice 52.05 300 *e*P **P** **07 45 21.8 -0.6**
GRA1 Grafenberg Arr 52.26 305 *e*P **P** **07 45 25.0 +1.0**
comp=Z,27nm,0.9s,mb5.2
GRA1 *ep*P pP 07 45 29.6 +0.3
GRA1 *e*S **S** **07 52 55.7 +9.1**
GRA1 *e*SS SS 07 56 28.7 +6.1
GRA1 LR LR
comp=Z,1µm,19.9s,MS4.8
GRF Grafenberg Arr 52.26 305 *e*P **P** **07 45 25.0 +1.0**
GRF *e**PP pP 07 45 29.6 +0.3
GRF *e*S **S** **07 52 55.7 +9.1**
GRF *e*SS SS 07 56 28.7 +6.1
GRF pmax pmax
comp=Z,27nm,0.9s,mb5.2
GRF MLR MLR
comp=Z,1µm,19.9s,MS4.8
GRF Grafenberg Arr 52.26 305 *e*P **P** **07 45 25.0 +1.0**
GRF *e**PP pP 07 45 29.6 +0.3
GRF *e*S **S** **07 52 55.7 +9.1**
GRF *e*SS SS 07 56 28.7 +6.1
GRF pmax pmax
comp=Z,27nm,0.9s,mb5.2
GRF *ep*P pP 07 45 29.6 +0.3
GRF *e*S **S** **07 52 55.7 +9.1**
GRF *e*SS SS 07 56 28.7 +6.1
GRF LR LR
comp=Z,1µm,19.9s,MS4.8
LEGS Legarje 52.36 299 *e*P **P** **07 45 22.6 -2.2**
OBKA Obir 52.43 300⇑*i*P **P** **07 45 25.9 +0.6**
comp=Z,15nm,0.8s,mb5.0
KBA Koelnbreinsper 52.73 301⇑*i*P **P** **07 45 28.6 +1.0**
comp=Z,34nm,0.9s,mb5.3
KBA Koelnbreinsper 52.73 301⇑*i*P **P** **07 45 28.6 +1.0**
KBA pmax pmax
comp=Z,34nm,0.9s,mb5.3
SUMG Summit 52.91 345 *e*P **P** **07 45 28.9 +0.3**
comp=Z,14nm,1.1s,mb4.8
CEY Cerknica 52.98 299 *e*P **P** **07 45 29.6 +0.2**
TNS Taunus Mts 53.34 307 *e*P **P** **07 45 32.7 +0.7**
TNS pmax pmax
comp=Z,20nm,0.9s,mb5.0
TNS Taunus Mts 53.34 307 *e*P **P** **07 45 32.7 +0.7**
comp=Z,20nm,0.9s,mb5.0
WTTA Wattenberg 53.53 302⇓*i*P **P** **07 45 34.8 +1.3**
comp=Z,16nm,1.5s,mb4.7
WTTA Wattenberg 53.53 302⇓*i*P **P** **07 45 34.8 +1.3**
WTTA pmax pmax
comp=Z,16nm,1.5s,mb4.7
COLA College 53.57 29 *e*P **P** **07 45 32.6 -0.9**
COLA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
COLA College 53.57 29 *e*P **P** **07 45 32.6 -0.9**
comp=Z,7.6nm,0.9s,mb4.6
SQTA Sankt Quirin 53.79 302⇑*i*P **P** **07 45 36.4 +1.1**
comp=Z,16nm,1.3s,mb4.8
SQTA Sankt Quirin 53.79 302⇑*i*P **P** **07 45 36.4 +1.1**
SQTA pmax pmax
comp=Z,16nm,1.3s,mb4.8
STU Stuttgart 53.87 305 P **P** **07 45 35.9 0.0**
ILAR Eielson Array 53.93 29 P **P** **07 45 35.4 -0.8**
comp=Z,3.4nm,0.8s,mb4.3,baz=316,slow=4.2,SNR=33
ILAR LR LR 08 10 35.0
comp=Z,985nm,19.4s,MS4.9,baz=326,slow=38
ABH Alteburg 54.01 307 *e*P **P** **07 45 38.6 +1.7**
RES Resolute Bay 54.10 4 *e*P **P** **07 45 36.8 -0.5**
RES pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
RES Resolute Bay 54.10 4 *e*P **P** **07 45 36.8 -0.5**
comp=Z,5.0nm,0.8s,mb4.5
RUP Ruppelstein 54.37 307 *e*P **P** **07 45 40.2 +0.7**
DAVA Damuels 54.45 303⇑*i*P **P** **07 45 40.8 +0.6**
comp=Z,26nm,1.1s,mb5.1
BFO Black Forest 54.59 305 *e*P **P** **07 45 41.2 0.0**
BFO pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BFO Black Forest 54.59 305 *e*P **P** **07 45 41.2 0.0**
comp=Z,8.0nm,0.8s,mb4.8
SPU Mount Spurr 54.76 34 *e*P **P** **07 45 42.6 +0.4**
INK Inuvik 54.78 21 *e*P **P** **07 45 41.7 -0.7**
INK pmax pmax
comp=Z,8.0nm,0.8s
INK Inuvik 54.78 21 P **P** **07 45 41.6 -0.8**
comp=Z,3.4nm,1.0s,mb4.3,baz=337,slow=7.8,SNR=18
INK LR LR 08 11 11.9
comp=Z,943nm,18.3s,MS4.9,baz=321,slow=38
INK Inuvik 54.78 21 *e*P **P** **07 45 41.7 -0.6**
comp=Z,7.6nm,0.8s,mb4.8
WLS Welschbruch 55.04 306 *e*P **P** **07 45 44.6 +0.1**
CDF Champ du Feu 55.08 306 *e*P **P** **07 45 44.2 -0.6**
comp=Z,21nm,0.8s,mb4.9
CDF Champ du Feu 55.08 306 *e*P **P** **07 45 44.2 -0.6**
CDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
PWA Palmer West 55.18 33 *e*P **P** **07 45 44.6 -0.8**
PWA pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
PWA Palmer West 55.18 33 *e*P **P** **07 45 44.6 -0.8**
comp=Z,9.6nm,0.7s,mb4.9
GIVF Givet 55.23 309 *e*P **P** **07 45 44.5 -1.4**
THY Trims Highway 55.25 29 *e*P **P** **07 45 44.5 -1.4**
ECH Echery 55.27 306 *e*P **P** **07 45 46.1 -0.1**
BAIF Baives 55.56 309 *e*P **P** **07 45 47.6 -0.6**
SML Sawmill 55.59 32 *e*P **P** **07 45 47.2 -1.1**
HINF Hinteralfeld 55.68 305 *e*P **P** **07 45 48.2 -1.0**
comp=Z,13nm,0.7s,mb4.8
HINF Hinteralfeld 55.68 305 *e*P **P** **07 45 48.2 -1.0**
HINF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
HAU Haudompre 55.82 306 *e*P **P** **07 45 49.5 -0.6**
comp=Z,18nm,0.6s,mb5.0
HAU *e*R
comp=Z,829nm,18.5s
HAU Haudompre 55.82 306 *e*P **P** **07 45 49.5 -0.6**
HAU pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
HAU MLR MLR
comp=Z,830nm,18.5s,MS4.8
TIP Timpagrande 55.85 292 *e*P **P** **07 45 48.5 -2.0**
THEF They Montfort 55.86 306 *e*P **P** **07 45 50.8 +0.4**
SLKM Skilak Lake 55.87 34 *e*P **P** **07 45 50.2 -0.1**
GRAM 56.15 301 P **P** **07 45 52.7 +0.1**
MEZF Maizieres J'vi 56.15 307 *e*P **P** **07 45 52.3 -0.2**
SARO Sassorosso 56.17 300 P **P** **07 45 51.9 -0.8**
VLC Villacollemand 56.19 300 *e*P **P** **07 45 52.4 -0.5**
BACM 56.29 300 P **P** **07 45 54.0 +0.5**
CODM 56.33 301 P **P** **07 45 54.3 +0.4**
ORX Oropa 56.52 303 P **P** **07 45 58.9 +3.7**
DAWY Dawson 56.64 26 *e*P **P** **07 45 53.7 -2.2**
TRAV 56.72 303 P **P** **07 45 56.1 -0.5**
CABF La Chapelle 56.87 305 *e*P **P** **07 45 56.7 -1.0**
PCP Pian Castagno 56.94 301 P **P** **07 45 58.0 -0.2**
LSD Ceresole Reale 57.07 303 P **P** **07 45 59.4 +0.2**

RSP Reno Superiore 57.22 303 P **P** **07 45 59.0 -1.2**
LPL La Plagne 57.26 303 *e*P **P** **07 46 01.2 +0.7**
comp=Z,19nm,0.7s,mb4.9
LPL La Plagne 57.26 303 *e*P **P** **07 46 01.2 +0.7**
LPL pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
LPG La Plagne 57.26 303 *e*P **P** **07 46 01.3 +0.8**
comp=Z,17nm,0.7s,mb4.9
LPG La Plagne 57.26 303 *e*P **P** **07 46 01.3 +0.8**
LPG pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
EYAK Cordova Ski Ar 57.37 32 *e*P **P** **07 46 00.6 -0.4**
FENE Fenestrelle 57.40 303 P **P** **07 46 00.1 -1.4**
BHB Bricherasio 57.42 302 P **P** **07 46 01.7 0.0**
ROB Roburent 57.46 302 P **P** **07 46 00.4 -1.5**
LOR Lormes 57.57 306 *e*P **P** **07 46 01.2 -1.5**
comp=Z,15nm,0.9s,mb4.7
LOR *e*R
comp=Z,1µm,17.0s
LOR Lormes 57.57 306 *e*P **P** **07 46 01.2 -1.5**
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LOR MLR MLR
comp=Z,1µm,17.0s,MS5.0
BNI Bardonecchia 57.59 303 *e*P **P** **07 46 01.8 -1.0**
BNI pmax pmax
comp=Z,26nm,0.9s,mb5.3
BNI Bardonecchia 57.59 303 *e*P **P** **07 46 01.8 -1.0**
comp=Z,26nm,0.9s,mb5.3
RRL Cesana Torines 57.62 303 P **P** **07 46 02.6 -0.5**
MONE Monesi 57.67 301 P **P** **07 46 01.0 -2.4**
IMI Imperia 57.71 301 P **P** **07 46 01.7 -2.0**
PZZ Prazzo 57.73 302 P **P** **07 46 03.5 -0.3**
ENR Entracque 57.75 302 P **P** **07 46 02.5 -1.4**
MBDF Montbardon 57.76 303 *e*P **P** **07 46 04.7 +0.7**
comp=Z,69nm,0.8s,mb5.5
MBDF Montbardon 57.76 303 *e*P **P** **07 46 04.7 +0.7**
MBDF pmax pmax
comp=Z,34nm,0.8s,mb5.4
STV2 Anna di Valdie 57.79 302 P **P** **07 46 01.6 -2.6**
STV Sta Anna Valdi 57.79 302 P **P** **07 46 02.2 -2.0**
SAOF Saorge 57.84 302 *e*P **P** **07 46 00.5 -4.1**
SSF Saint Saulge 57.89 306 *e*P **P** **07 46 03.6 -1.3**
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
SSF Saint Saulge 57.89 306 *e*P **P** **07 46 03.6 -1.3**
comp=Z,5.6nm,0.8s,mb4.7
AUTN L'Aution 57.90 302 *e*P **P** **07 46 01.1 -3.9**
TOUF Mont Tournerai 57.98 302 *e*P **P** **07 46 01.4 -4.2**
SBF Sospel 57.98 301 *e*P **P** **07 46 05.4 -0.2**
comp=Z,75nm,1.1s,mb5.3
SBF Sospel 57.98 301 *e*P **P** **07 46 05.4 -0.2**
SBF pmax pmax
comp=Z,37nm,1.1s,mb5.3
SMF Signal de Mont 58.00 306 *e*P **P** **07 46 04.4 -1.2**
comp=Z,18nm,0.8s,mb4.8
SMF Signal de Mont 58.00 306 *e*P **P** **07 46 04.4 -1.2**
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
PGF Pioggiola 58.02 299 *e*P **P** **07 46 05.2 -0.6**
comp=Z,46nm,1.0s,mb5.2
PGF Pioggiola 58.02 299 *e*P **P** **07 46 05.2 -0.6**
PGF pmax pmax
comp=Z,23nm,1.0s,mb5.2
ORIF Oris-en-Rattie 58.10 303 *e*P **P** **07 46 05.6 -0.8**
comp=Z,25nm,0.7s,mb5.1
ORIF *e*R
comp=Z,1µm,20.2s
MVIF Mont Vial 58.11 302 *e*P **P** **07 46 02.3 -4.2**
AVF Avril sur Loir 58.15 306 *e*P **P** **07 46 05.5 -1.2**
comp=Z,15nm,0.8s,mb4.8
AVF Avril sur Loir 58.15 306 *e*P **P** **07 46 05.5 -1.2**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
HYF Humbligny 58.19 307 *e*P **P** **07 46 06.4 -0.5**
BGF Bois d'Ágland 58.56 306 *e*P **P** **07 46 08.5 -1.1**
FRF La Foret Royal 58.61 302 *e*P **P** **07 46 08.6 -1.4**
LDF La Druitiere 58.65 310 *e*P **P** **07 46 08.7 -1.4**
FLN La Foliniere 58.70 310 *e*P **P** **07 46 09.1 -1.4**
comp=Z,36nm,0.8s,mb5.1
FLN *e*R
comp=Z,805nm,17.8s
FLN La Foliniere 58.70 310 *e*P **P** **07 46 09.1 -1.4**
FLN pmax pmax
comp=Z,18nm,0.8s,mb5.2
FLN MLR MLR
comp=Z,810nm,17.8s,MS4.9
STOF St-Etienne Org 58.71 302 *e*P **P** **07 46 07.3 -3.3**
AGO Saint Agoulin 58.76 306 *e*P **P** **07 46 10.2 -0.8**
VIVF Saint-Julien-l 58.78 304 *e*P **P** **07 46 10.0 -1.1**
comp=Z,24nm,1.1s,mb4.8
VIVF Saint-Julien-l 58.78 304 *e*P **P** **07 46 10.0 -1.1**
VIVF pmax pmax
comp=Z,12nm,1.1s,mb4.8
LMR La Mourre 58.84 302 *e*P **P** **07 46 10.1 -1.5**
TAVF Tavernes 58.89 302 *e*P **P** **07 46 07.1 -4.8**
SMRF Simiane la Rot 58.90 303 *e*P **P** **07 46 11.1 -0.9**
PYM Petit Puy Mans 59.03 306 *e*P **P** **07 46 12.3 -0.6**
TCF Toulx Ste Croi 59.07 306 *e*P **P** **07 46 12.3 -0.8**
comp=Z,16nm,0.7s,mb4.9
TCF Toulx Ste Croi 59.07 306 *e*P **P** **07 46 12.3 -0.8**
TCF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
PUYF Puyloubier 59.14 302 *e*P **P** **07 46 09.5 -4.1**
PRAF Pradon 59.23 303 *e*P **P** **07 46 10.2 -4.1**
BERF Bertagne 59.29 302 *e*P **P** **07 46 10.6 -4.1**
LASF Ste Croix 59.74 304 *e*P **P** **07 46 17.2 -0.6**
MFF Saint Martin d 60.03 308 *e*P **P** **07 46 19.0 -0.8**
comp=Z,52nm,1.1s,mb5.2
MFF Saint Martin d 60.03 308 *e*P **P** **07 46 19.0 -0.8**
MFF pmax pmax
comp=Z,26nm,1.1s,mb5.2
SGMF Saint Gilles 60.05 311 *e*P **P** **07 46 18.8 -1.1**
QUIF Quistinic 60.58 311 *e*P **P** **07 46 22.3 -1.2**
MTLF Montolieu 61.10 304 *e*P **P** **07 46 26.4 -0.7**
EBIE Bielsa 62.64 305 P **P** **07 46 36.9 -0.5**
comp=Z,6.4nm,0.7s,mb4.9
ETSF Etsaut 62.85 305 *e*P **P** **07 46 37.5 -1.3**
EPOB Poblet 63.11 303 P **P** **07 46 39.6 -0.9**
comp=Z,7.7nm,0.9s,mb4.8
YKW3 Yellowknife Ar 63.65 16 *e*P **P** **07 46 42.3 -1.4**
YKA Yellowknife Ar 63.71 16 *i* P **P** **07 46 44.4 +0.3**
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 63.71 16 P **P** **07 46 43.0 -1.0**
comp=Z,3.4nm,0.9s,mb4.4,baz=337,slow=6.9,SNR=14
YKA LR LR 08 14 36.4
comp=Z,660nm,19.1s,MS4.8,baz=340,slow=36
YKA Yellowknife Ar 63.71 16 P **P** **07 46 43.0 -1.0**
YKA LR LR 08 14 36.4
DLBC Dease Lake 63.85 26 LR LR 08 17 48.6
comp=Z,607nm,19.8s,MS4.8,baz=324,slow=39
ELAN Lanestosa 64.07 307 P **P** **07 46 50.4 +3.6**
EIBI Ibiza 64.63 301 P **P** **07 46 53.9 +3.4**
comp=Z,0.4nm,0.1s,mb4.4
EARI Arriondas 64.90 308 P **P** **07 46 52.7 +0.6**
comp=Z,13nm,0.8s,mb5.0
GUD Guadarrama 66.34 306 P **P** **07 47 04.5 +3.1**
GUD pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
GUD Guadarrama 66.34 306 P **P** **07 47 04.5 +3.1**
comp=Z,5.5nm,0.7s,mb4.7
EINC Incio 66.43 309 P **P** **07 47 04.7 +2.8**
comp=Z,3.0nm,0.6s,mb4.5
ETOB Tobarra 66.46 303 P **P** **07 47 05.2 +3.0**
comp=Z,11nm,0.9s,mb4.9
ESDC Sonseca Array 66.96 305 P **P** **07 47 05.9 +0.5**
comp=Z,1.2nm,0.5s,mb4.2,baz=42,slow=7.2,SNR=8.6
ESDC Sonseca Array 66.96 305 P **P** **07 47 08.1 +2.7**
EVIA Vianos 66.96 303 P **P** **07 47 07.4 +2.0**
EVIA pmax pmax
comp=Z,16nm,0.8s,mb5.1
EVIA Vianos 66.96 303 P **P** **07 47 07.4 +2.0**
comp=Z,16nm,0.8s,mb5.1
ELOB Lobios 67.37 309 P **P** **07 47 09.6 +1.6**
EQES Quesada 67.88 303 P **P** **07 47 16.5 +5.3**
comp=Z,10nm,0.8s,mb4.9
EBAN Banos Encina 67.99 304 P **P** **07 47 15.9 +4.0**
EBAN pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
EBAN Banos Encina 67.99 304 P **P** **07 47 15.9 +4.0**
comp=Z,3.7nm,0.4s,mb4.8
EADA Adamuz 68.40 304 P **P** **07 47 18.3 +3.9**
comp=Z,9.0nm,0.9s,mb4.8
ECAB El Cabril 68.91 305 P **P** **07 47 22.6 +5.0**

comp=Z,2.8nm,0.6s,mb4.4
EBAD Badajoz 69.21 306 P **P 07 47 26.0 +6.6**
comp=Z,6.8nm,0.7s,mb4.7
EALB Alboran 69.26 302 P **P 07 47 26.1 +6.3**
comp=Z,2.0nm,0.4s,mb4.4
EMIN Mina Concepcio 69.79 305 P **P 07 47 29.1 +6.1**
BBB Bella Bella 69.82 28 LR LR 08 21 52.9
comp=Z,495nm,19.0s,MS4.8,baz=150,slow=39
FCC Fort Churchill 69.95 7 *eP* **P 07 47 24.1 +0.5**
FCC pmax pmax
comp=Z,24nm,1.4s,mb4.9
FCC Fort Churchill 69.95 7 *eP* **P 07 47 24.1 +0.6**
comp=Z,24nm,1.4s,mb4.9
ESPR Espera 70.05 304 P **P 07 47 31.3 +6.8**
comp=Z,15nm,0.8s,mb5.0
EGRO El Granado 70.38 306 P **P 07 47 30.9 +4.3**
EDM Edmonton 72.62 19 *eP* **P 07 47 38.9 -0.7**
FITZ Fitzroy Crossi 73.05 153 *eP* **P 07 47 41.0 -1.8**
comp=Z,15nm,0.6s,mb5.1
FITZ Fitzroy Crossi 73.05 153 P **P 07 47 41.0 -1.8**
comp=Z,9.7nm,0.9s,mb4.7,baz=349,slow=5.2,SNR=3.8
FITZ LR LR 08 26 12.8
comp=Z,221nm,19.2s,MS4.5,baz=59,slow=41
KMBO Kilima Mbogo 73.15 246 P **P 07 47 43.7 +0.2**
comp=Z,0.9nm,0.4s,mb4.0,baz=65,slow=22,SNR=1.5
KMBO LR LR 08 20 16.1
comp=Z,856nm,18.5s,MS5.1,baz=341,slow=36
SCHQ Schefferville 73.62 351 P **P 07 47 44.4 -1.0**
comp=Z,2.4nm,1.0s,mb4.1,baz=320,slow=11,SNR=4.2
SCHQ LR LR 08 21 42.0
comp=Z,974nm,20.1s,MS5.1,baz=15,slow=37
PMG Port Moresby 73.62 129 LR LR 08 18 53.6
comp=Z,374nm,20.0s,MS4.7,baz=220,slow=35
MBWA Marble Bar 74.47 159 P **P 07 47 49.2 -1.8**
comp=Z,61nm,1.4s,mb5.3
NEW Newport 76.39 23 LR LR 08 24 01.6
comp=Z,713nm,18.1s,MS5.0,baz=9.3,slow=38
WRAB Tennant Creek 77.58 145 *i P* **P 07 48 07.5 -1.1**
WRAB Tennant Creek 77.58 145 *eP* **P 07 48 06.1 -2.5**
comp=Z,59nm,1.0s,mb5.5
WRAB *e* pP 07 48 12.4 -1.7
WRA Warramunga Arr 77.59 145 P **P 07 48 07.5 -1.2**
comp=Z,4.1nm,0.8s,mb4.4,baz=345,slow=6.4,SNR=20
WB2 Warramunga Arr 77.59 145 *eP* **P 07 48 07.5 -1.2**
ULM Lac du Bonnet 78.23 9 P **P 07 48 12.6 +1.0**
comp=Z,2.7nm,0.4s,mb4.5,baz=340,slow=6.0,SNR=3.5
ULM LR LR 08 24 05.0
comp=Z,490nm,18.1s,MS4.9,baz=19,slow=37
CHMT Chamberlain Mo 78.58 21 *eP* **P 07 48 13.5 -0.1**
BMO Blue Mountains 79.51 25 *eP* **P 07 48 19.1 +0.4**
comp=Z,3.4nm,0.9s,mb4.3
BOZ Bozeman (W) 80.15 21 *eP* **P 07 48 21.9 -0.2**
BOZ pmax pmax
comp=Z,88nm,2.6s,mb5.2
BOZ Bozeman (W) 80.15 21 *eP* **P 07 48 21.9 -0.1**
comp=Z,88nm,2.6s,mb5.2
HNR Honiara 80.33 118 LR LR 08 20 59.0
comp=Z,214nm,18.5s,MS4.5,baz=79,slow=34
MCMT McKenzie Canyo 80.64 22 *eP* **P 07 48 25.5 +0.8**
ASPA Alice Springs 80.87 147 *eP* **P 07 48 24.1 -2.2**
ASAR Alice Springs 80.87 147 P **P 07 48 26.2 -0.1**
comp=Z,16nm,0.8s,mb5.0,baz=340,slow=3.8,SNR=21
EYMN Ely 80.89 7 *eP* **P 07 48 25.6 -0.4**
comp=Z,6.5nm,0.8s,mb4.6
WVOR Wild Horse Val 81.38 27 *eP* **P 07 48 28.4 -0.2**
WVOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
WVOR Wild Horse Val 81.38 27 *eP* **P 07 48 28.4 -0.3**
comp=Z,5.1nm,1.0s,mb4.4
MOD Modoc 81.39 28 *eP* **P 07 48 28.3 -0.4**
comp=Z,4.4nm,0.9s,mb4.4
LKWY Lake 81.45 20 P **P 07 48 30.3 +1.4**
LKWY pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LKWY Lake 81.45 20 P **P 07 48 30.3 +1.4**
comp=Z,10.0nm,1.0s,mb4.7
HLID Hailey 81.46 23 *eP* **P 07 48 30.0 +1.0**
IMW Indian Meadow 81.97 21 *eP* **P 07 48 32.5 +0.8**
comp=Z,9.0nm,0.9s,mb4.7
MOOW Moose Ponds 82.15 21 *eP* **P 07 48 33.9 +1.3**
comp=Z,9.4nm,1.3s,mb4.6
TPAW Teton Pass 82.35 21 *eP* **P 07 48 34.1 +0.5**
comp=Z,12nm,1.4s,mb4.6
CTA Charters Tower 82.51 135 P **P 07 48 37.9 +3.0**
comp=Z,6.6nm,0.8s,mb4.7,baz=338,slow=16
CTA LR LR 08 23 35.9
comp=Z,186nm,19.9s,MS4.5,baz=328,slow=34
RSSD Black Hills 83.12 16 *eP* **P 07 48 38.1 +0.5**
RSSD pmax pmax
comp=Z,20nm,1.4s,mb5.0
RSSD MLR MLR
comp=Z,1μm,20.0s,MS5.2
RSSD Black Hills 83.12 16 *eP* **P 07 48 38.1 +0.5**
comp=Z,20nm,1.4s,mb5.0
RSSD LR LR
comp=Z,1μm,20.0s,MS5.2
PDAR Pinedale Array 83.35 20 P **P 07 48 40.0 +1.2**
comp=Z,0.3nm,0.6s,slow=3.0,SNR=3.4
PDAR LR LR 08 29 49.7
comp=Z,622nm,18.2s,MS5.0,baz=351,slow=39
HWUT Hardware Ranch 84.00 22 *eP* **P 07 48 42.5 +0.5**
comp=Z,12nm,1.3s,mb4.8
SADO Sadowa 84.40 358 LR LR 08 26 46.2
comp=Z,578nm,18.1s,MS5.0,baz=140,slow=36
DUG Dugway 85.03 23 P **P 07 48 47.6 +0.4**
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
DUG MLR MLR
comp=Z,452nm,19.0s,MS4.9
DUG Dugway 85.03 23 P **P 07 48 47.6 +0.3**
comp=Z,6.3nm,1.0s,mb4.7
DUG LR LR
comp=Z,452nm,19.0s,MS4.9
NVAR Mina Array Bea 85.18 28 P **P 07 48 49.9 +1.8**
comp=Z,0.4nm,0.5s,mb3.8,baz=0.9,slow=2.1,SNR=4.2
NVAR LR LR 08 26 37.4
comp=Z,447nm,20.4s,MS4.8,baz=335,slow=36
NWAO Narrogin (SRO) 85.41 164 LR LR 08 25 26.4
comp=Z,524nm,21.7s,MS4.9,baz=211,slow=35
ACCN Adirondack Com 85.55 354 *eP* **P 07 48 49.7 -0.1**
PHWY Pilot Hill 85.59 18 P **P 07 48 50.1 +0.1**
FORT Forrest 85.74 155 *eP* **P 07 48 55.5 +4.5**
comp=Z,521nm,0.7s
LRV Little Rabbit 86.19 31 *eP* **P 07 48 54.1 +1.0**
GENY Geneseo 86.36 357 P **P 07 48 54.2 +0.4**
BINY Binghamton 86.86 356 P **P 07 48 56.0 -0.3**
comp=Z,28nm,1.3s,mb5.3
PV10 Paradox Valley 87.66 21 *eP* **P 07 49 00.5 +0.3**
PV01 Paradox Valley 87.99 21 *eP* **P 07 49 01.9 0.0**
CBKS Cedar Bluff 89.00 14 *eP* **P 07 49 06.6 0.0**
CBKS pmax pmax
comp=Z,15nm,1.1s,mb5.2
CBKS Cedar Bluff 89.00 14 *eP* **P 07 49 06.6 0.0**
comp=Z,15nm,1.1s,mb5.2
SDCO Great Sand Dun 89.02 19 *eP* **P 07 49 07.1 +0.4**
comp=Z,4.0nm,0.8s,mb4.8
SDCO LR LR
comp=Z,604nm,21.0s,MS5.0
STKA Stephens Creek 91.09 144 P **P 07 49 16.3 -0.2**
comp=Z,2.5nm,0.8s,mb4.6,baz=323,slow=5.1,SNR=2.5
ANMO Albuquerque 91.52 20 *eP* **P 07 49 19.8 +1.4**
ANMO pmax pmax
comp=Z,9.0nm,1.4s
ANMO MLR MLR
comp=Z,488nm,22.0s
ANMO Albuquerque 91.52 20 P **P 07 49 19.4 +1.0**
comp=Z,0.3nm,0.5s,mb3.9,baz=214,slow=11,SNR=2.5
ANMO LR LR 08 31 34.8
comp=Z,453nm,19.1s,MS4.9,slow=36
ANMO Albuquerque 91.52 20 *eP* **P 07 49 19.8 +1.4**
comp=Z,9.5nm,1.4s,mb4.9
ANMO LR LR
comp=Z,488nm,22.0s,MS4.9
DBIC Dimbokro 92.99 284 P **P 07 49 27.7 +2.1**
comp=Z,3.5nm,0.9s,mb4.8,baz=272,slow=23,SNR=2.5
DBIC LR LR 08 37 33.0
comp=Z,379nm,18.0s,MS4.9,baz=20,slow=40
DBIC Dimbokro 92.99 284 P **P 07 49 27.7 +2.0**
DBIC LR LR 08 37 33.0
DZM Mont Dzumac 94.21 120 LR LR 08 33 12.1
comp=Z,194nm,18.2s,MS4.6,baz=197,slow=36
TXAR Lajitas Array 97.53 19 P **P 07 49 47.1 +1.1**
comp=Z,0.4nm,1.0s,mb3.9,baz=288,slow=2.9,SNR=3.0
TXAR LR LR 08 35 08.2
comp=Z,491nm,18.9s,MS5.0,baz=30,slow=36
LBTB Lobatse 99.01 241 LR LR 08 34 35.3
comp=Z,418nm,20.9s,MS4.9,baz=46,slow=35

PPT Papeete 117.37 84 *e*LR LR 08 30 42.7
comp=Z,351nm,23.2s
TBI Tubuai 121.71 88 *e*SS SS 08 13 38.3 +23
TBI *e*LR LR 08 32 41.9
comp=Z,289nm,35.0s
RKT Rikitea 130.56 76 *e*SS SS 08 15 24.9 +20
RKT *e*LR LR 08 36 48.1
comp=Z,343nm,27.0s
VNDA Vanda 134.24 164 PKP PKPdf 07 55 27.9 -3.4
comp=Z,0.4nm,0.7s,baz=239,slow=3.1,SNR=3.5
QSPA South Pole Qui 140.95 180 PKP PKPdf 07 55 35.3 -8.0
LPAZ La Paz 143.51 338 PKP PKPdf 07 55 48.0 -1.4
comp=Z,1.0nm,0.8s,baz=18,slow=10,SNR=3.6
ARE Arequipa 144.40 343 *e*PKIKP PKPdf 07 55 53.0 +2.0
CPUP Villa Florida 148.99 314 PKPbc PKPdf 07 55 60.0 +1.5
comp=Z,2.4nm,0.8s,baz=135,slow=1.4,SNR=3.8
PLCA Paso Flores 166.98 319 PKP PKPdf 07 56 18.4 -1.2
comp=Z,0.9nm,0.9s,baz=152,slow=2.2,SNR=1.5

*IDC **27** 07:50:40.4±2.1, 5.36S×147.05E, h156km±17km, mb4.0/5, mb1 4.1/8, mb1mx3.9/15, mbtmp4.5/8, MS4.5/1, Ms1 4.5/1, ms1mx3.0/24, Error ellipse: s-maj=30.0km s-min=12.3km az=122.0*
*NEIC **27** 07:50:41.2±2.1, 5.29S×147.12E, h171km±16km, mb4.8/4, Error ellipse: s-maj=21.1km s-min=15.1km az=164.0*
ISC 27 07:50:39.3±1.7, 5.3S±0.1×147.1E±0.1, h160km±14km, n19, σ1§04/21, mb4.2/5, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.05**	**179**	P	**P**	**07 51 43.1**	**+1.8**
	76nm,0.3s,baz=19,slow=5.0,SNR=139						
PMG				S	**S**	**07 52 27.7**	**-1.4**
	46nm,0.3s,baz=193,slow=17,SNR=8.5						
CTA	**Charters Tower**	**14.70**	**183**	P	**P**	**07 54 01.9**	**+1.2**
	0.3nm,0.3s,baz=335,slow=17,SNR=3.0						
CTAO	**Charters Tower**	**14.70**	**183**	*eP*	**P**	**07 54 01.1**	**+0.5**
KAKA	**Kakadu**	**16.24**	**242**	*eP*	**P**	**07 54 18.7**	**-1.1**
	28nm,0.5s						
WRAB	**Tennant Creek**	**19.11**	**219**	*eP*	**P**	**07 54 51.8**	**-0.4**
	22nm,0.5s						
WB2	**Warramunga Arr**	**19.11**	**219**	⇓*iP*	**P**	**07 54 52.1**	**-0.2**
WB2				*eS*	**S**	**07 58 15.1**	**-0.6**
WRA	**Warramunga Arr**	**19.12**	**219**	P	**P**	**07 54 52.2**	**-0.2**
	4.1nm,0.3s,baz=39,slow=12,SNR=102						
WRA				S	**S**	**07 58 16.0**	**+0.2**
	0.3nm,0.3s,baz=40,slow=20,SNR=12						
ASAR	**Alice Springs**	**22.24**	**214**	P	**P**	**07 55 25.1**	**+1.6**
	12nm,0.6s,mb4.5,baz=48,slow=8.4,SNR=41						
ASAR				S	**S**	**07 59 20.5**	**+7.8**
	7.9nm,0.8s,baz=30,slow=22,SNR=18						
ASPA	**Alice Springs**	**22.24**	**214**	*eP*	**P**	**07 55 25.3**	**+1.7**
ASPA				*eS*	**S**	**07 59 15.4**	**+2.6**
FITZ	**Fitzroy Crossi**	**24.52**	**237**	*eP*	**P**	**07 55 45.5**	**-0.1**
	12nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**24.52**	**237**	P	**P**	**07 55 45.5**	**-0.1**
	18nm,0.5s,mb4.9,baz=41,slow=6.8,SNR=31						
STKA	**Stephens Creek**	**26.91**	**190**	*eP*	**P**	**07 56 06.1**	**-1.5**
	6.6nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**26.91**	**190**	P	**P**	**07 56 06.4**	**-1.2**
	1.3nm,0.6s,mb3.7,baz=12,slow=8.0,SNR=4.5						
CBIJ	**Chichi jima**	**32.58**	**352**	LR	LR	08 07 15.3	
	comp=Z,929nm,21.5s,baz=306,slow=30						
VNDA	**Vanda**	**72.57**	**177**	P	**P**	**08 01 49.8**	**-0.5**
	2.3nm,0.6s,mb4.1,baz=336,slow=7.9,SNR=21						
QSPA	**South Pole Qui**	**84.64**	**180**	*eP*	**P**	**08 02 54.6**	**-0.9**
ILAR	**Eielson Array**	**84.82**	**23**	P	**P**	**08 02 56.7**	**0.0**
	1.2nm,0.7s,mb3.7,baz=252,slow=5.1,SNR=17						
KMBO	**Kilima Mbogo**	**109.66**	**267**	*eP*	Pdif	08 04 50.6	-0.4
SIV	**San Ignacio**	**144.97**	**128**	PKP	PKPdf	08 09 58.3	-0.1
	3.6nm,0.7s,baz=229,slow=3.2,SNR=25						

*MOS **27** 08:04:47.8±1.0, 51.04N×98.08E, h15km, mb4.3/4, Error ellipse: s-maj=12.8km s-min=9.4km az=53.1*
*IDC **27** 08:04:51.8±4.7, 51.48N×98.32E, mb3.7/4, mb1 3.9/5, mb1mx3.7/22, mbtmp3.7/5, Error ellipse: s-maj=114.5km s-min=30.4km az=164.0*
*NEIC **27** 08:04:52.7±0.7, 51.41N×98.38E, h10km, mb4.0/1, Error ellipse: s-maj=22.0km s-min=8.7km az=197.0*
ISC 27 08:04:52.9±0.5, 51.22N±0.08×98.32E±0.06, h33km, n31, σ1§07/34, mb3.9/7, MS4.2/1, 2C, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.62**	**34**	*e*PN	**Pn**	**08 05 21.0**	**+1.4**
ORL				*e*		08 05 44.2	
ORL				pmax	pmax		
	comp=Z,516nm,1.0s						
ORL				smax			
	comp=E,5μm,0.9s						
MOY	**Mondy**	**1.73**	**74**	*e*PN	**Pn**	**08 05 22.4**	**+1.1**
MOY				*e*		08 05 46.3	
MOY				pmax	pmax		
	comp=Z,615nm,0.5s						
MOY				smax			
	comp=E,8μm,1.4s						
ARS	**Arshan**	**2.66**	**73**	*e*PN	**Pn**	**08 05 35.8**	**+1.3**
ARS				*e*		08 06 14.9	
ARS				pmax	pmax		
	comp=Z,335nm,0.6s						
ARS				smax			
	comp=N,4μm,0.8s						
ZAK	**Zakamensk**	**3.26**	**103**	*e*PN	**Pn**	**08 05 42.4**	**-0.6**
ZAK				*e*		08 05 47.4	
ZAK				*e*		08 06 29.4	
ZAK				pmax	pmax		
	comp=Z,181nm,1.0s						
ZAK				smax			
	comp=N,656nm,0.7s						
TLY	**Talaya**	**3.36**	**80**	*e*PN	**Pn**	**08 05 44.7**	**+0.1**
TLY				*e*		08 06 35.5	
TLY				pmax	pmax		
	comp=Z,109nm,0.7s						
TLY				smax			
	comp=N,830nm,1.0s						
TLY	**Talaya**	**3.36**	**80**	*e*P	**P**	**08 05 44.7**	**+0.3**
IRK	**Irkutsk**	**3.84**	**72**	*e*PN	**P**	**08 05 59.5**	**+8.3**
IRK				*e*		08 06 49.3	
IRK				pmax	pmax		
	comp=Z,253nm,0.1s						
IRK				smax			
	comp=N,3μm,0.7s						
LSTR	**Listvyanka**	**4.12**	**78**	*e*PN	**P**	**08 06 04.1**	**+9.0**
LSTR				*e*		08 06 57.3	
LSTR				pmax	pmax		
	comp=Z,110nm,1.2s						
LSTR				smax			
	comp=N,847nm,1.6s						
CERR	**Cheremushki**	**4.57**	**294**	*e*PN	**P**	**08 06 11.4**	**+10**
TRG	**Tyrgan**	**5.20**	**70**	*e*PN	**P**	**08 06 24.8**	**+14**
TRG				*e*		08 07 32.5	
TRG				pmax	pmax		
	comp=Z,34nm,0.4s						
TRG				smax			
	comp=N,1μm,1.5s						
OGRR	**Ongureny**	**6.17**	**63**	*e*PN	**Pn**	**08 06 24.4**	**+0.1**
OGRR				*e*		08 06 43.0	
OGRR				*e*		08 08 01.9	
OGRR				pmax	pmax		
	comp=Z,33nm,0.8s						
OGRR				smax			
	comp=E,724nm,1.4s						
ULN	**Ulaanbaatar**	**6.60**	**117**	*e*PN	**Pn**	**08 06 30.3**	**0.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**6.60**	**117**	*e*P	**P**	**08 06 30.3**	**+0.2**
	comp=Z,4.5nm,1.0s						
ULN				*e*Pb	**Pb**	**08 06 46.0**	**-0.8**
AKAR	**Aktash**	**6.85**	**267**	*eP**	**Pb**	**08 06 51.0**	**-0.1**
NIZ	**Nizh Angarsk**	**8.10**	**51**	*e*P	**P**	**08 06 49.9**	**-1.1**
NIZ				pmax	pmax		
	comp=Z,26nm,1.0s						
YLYR	**Ulyunkhan**	**8.56**	**60**	*e*P	**P**	**08 06 58.0**	**+0.5**
BOD	**Bodaibo**	**11.24**	**48**	*e*P	**P**	**08 07 32.5**	**-1.7**
BVAR	**Borovoye Array**	**17.21**	**287**	P	**P**	**08 08 53.5**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=76,slow=12,SNR=7.3						
AAK	**Ala-Archa**	**18.33**	**251**	*e*P	**P**	**08 09 01.2**	**-5.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.7s						
YAK	**Yakutsk**	**20.15**	**45**	*e*P	**P**	**08 09 23.2**	**-3.5**
ARU	**Arti**	**23.79**	**298**	⇑*iP*	**P**	**08 10 00.1**	**-2.9**
ARU				*e*		08 10 26.9	
ARU				*e*S	**S**	**08 14 17.4**	**+4.3**
ARU				*e*SS	SS	08 14 56.7	-6.7
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
TIXI	**Tiksi**	**24.64**	**23**	⇑*iP*	**P**	**08 10 09.8**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.3						
SOC	**Sochi**	**39.45**	**283**	*eP*	**P**	**08 12 17.3**	**-4.0**
SOC				*e*		08 13 50.1	
SOC				*e*S	**S**	**08 18 19.6**	**-1.2**
SOC				*e*		08 22 21.0	
SOC				pmax	pmax		
	comp=N,3.0nm,0.4s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.4s						
SOC				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
SOC				MLR	MLR		
	comp=N,139nm,12.0s,MS4.1						
SOC				MLR	MLR		
	comp=E,103nm,12.0s,MS4.1						
SOC				MLR	MLR		
	comp=Z,205nm,12.0s,MS4.2						
BRTR	**Keskin Array B**	**45.38**	**282**	P	**P**	**08 13 11.3**	**+1.6**
	comp=Z,0.7nm,0.5s,mb3.8,baz=72,slow=8.6,SNR=4.9						
NB2	**NORSAR Subarra**	**46.00**	**317**	P	**P**	**08 13 14.2**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=61,slow=7.4						
NB2	**NORSAR Subarra**	**46.00**	**317**	P	**P**	**08 13 14.2**	**-0.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
NOA	**NORSAR Array B**	**46.00**	**317**	P	**P**	**08 13 14.6**	**+0.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=61,slow=7.8,SNR=5.1						
JMIC	**Jan Mayen**	**47.56**	**335**	P	**P**	**08 13 26.1**	**-0.4**
	comp=Z,66nm,1.0s,baz=113,slow=10,SNR=3.1						
ILAR	**Eielson Array**	**53.89**	**29**	P	**P**	**08 14 15.1**	**+0.5**
	comp=Z,0.9nm,0.9s,mb3.7,baz=316,slow=4.9,SNR=9.9						
YKA	**Yellowknife Ar**	**63.68**	**16**	*i P*	**P**	**08 15 23.5**	**+1.0**
YKA	**Yellowknife Ar**	**63.68**	**16**	P	**P**	**08 15 21.9**	**-0.6**
	comp=Z,0.1nm,0.4s,mb3.2,baz=335,slow=6.6,SNR=4.9						

*DJA **27** 08:11:04.5±0.8, 8.62S×118.84E, h136km±12km, MD4.7/4, ML5.0/3, Error ellipse: s-maj=79.3km s-min=20.9km az=3.0*
*IDC **27** 08:11:09.4±5.6, 8.80S×118.86E, h129km±50km, mb3.5/2, mb1 3.6/4, mb1mx3.4/17, mbtmp3.9/4, Error ellipse: s-maj=131.3km s-min=37.8km az=41.0*
ISC 27 08:11:07.2±1.8, 8.8S±0.2×118.6E±0.2, h147km±23km, n13, σ0§99/20, mb3.9/1, 8C-3D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**2.47**	**278**	⇑*iPn*	**P**	**08 11 48.1**	**-0.4**
	544nm,0.2s						
KEDI	**Kedomdong**	**2.47**	**278**	*eP*	**P**	**08 11 48.4**	**-0.1**
KEDI				⇑*iSn*	**S**	**08 12 20.4**	**+0.4**
RATI	**Rata**	**3.02**	**272**	⇓*ePn*	**P**	**08 11 55.5**	**0.0**
	531nm,0.2s						
RATI	**Rata**	**3.02**	**272**	⇑*iP*	**P**	**08 11 56.2**	**+0.7**
RATI				⇑*iSn*	**S**	**08 12 33.3**	**+0.9**
KELI	**Kelakatan**	**4.10**	**278**	⇑*iPn*	**P**	**08 12 09.8**	**+0.2**
KELI	**Kelakatan**	**4.10**	**278**	⇓*iP*	**P**	**08 12 10.4**	**+0.8**
KELI				⇓*iSn*	**S**	**08 12 56.8**	**-0.8**
SRDI	**Scrawed**	**4.41**	**274**	⇑*iPn*	**P**	**08 12 13.3**	**-0.4**
	196nm,0.2s						
SRDI	**Scrawed**	**4.41**	**274**	⇑*iP*	**P**	**08 12 13.7**	**0.0**
SRDI				⇑*iSn*	**S**	**08 13 04.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**11.48**	**144**	P	**P**	**08 13 48.3**	**+0.7**
	0.9nm,0.3s,baz=343,slow=16,SNR=13						
FITZ				S	**S**	**08 15 52.3**	**-1.1**
	1.1nm,0.3s,baz=196,slow=20,SNR=7.4						
WRA	**Warramunga Arr**	**18.81**	**128**	P	**P**	**08 15 16.6**	**-1.5**
	0.4nm,0.3s,baz=304,slow=11,SNR=5.1						
WRA				S	**S**	**08 18 43.7**	**+4.5**
	0.1nm,0.3s,baz=304,slow=23,SNR=2.9						
WB2	**Warramunga Arr**	**18.82**	**128**	*eP*	**P**	**08 15 16.7**	**-1.5**
WB2				*eS*	**S**	**08 18 42.2**	**+2.8**
ASAR	**Alice Springs**	**20.79**	**137**	P	**P**	**08 15 39.3**	**+1.0**
	1.9nm,0.5s,baz=315,slow=9.0,SNR=20						
STKA	**Stephens Creek**	**31.33**	**140**	P	**P**	**08 17 16.1**	**+0.1**
	1.1nm,0.4s,mb3.9,baz=328,slow=8.2,SNR=8.2						

MOS 27 08:17:23.5±1.6, 51.30N×98.41E, h15km, mb4.2/1, Error ellipse: s-maj=47.4km s-min=30.4km az=144.4, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.51**	**34**	*e*PG	Pg	08 17 52.1	-1.7
ORL				*e*		08 18 14.9	
ORL				pmax	pmax		
	comp=Z,70nm,0.4s						
ORL				smax			
	comp=E,331nm,0.7s						
MOY	**Mondy**	**1.66**	**76**	*e*PN	Pn	08 17 53.5	+1.2
MOY				*e*		08 18 17.4	
MOY				pmax	pmax		
	comp=Z,77nm,0.6s						
MOY				smax			
	comp=N,497nm,0.8s						
TLY	**Talaya**	**3.29**	**81**	*e*PN	Pn	08 18 22.7	+7.0
TLY				*e*		08 19 06.6	
TLY				pmax	pmax		
	comp=Z,12nm,0.4s						
TLY				smax			
	comp=N,145nm,1.8s						
IRK	**Irkutsk**	**3.76**	**73**	*e*PN	Pn	08 18 33.6	+11
IRK				*e*		08 19 21.4	
IRK				pmax	pmax		
	comp=Z,203nm,0.1s						
IRK				smax			
	comp=N,526nm,0.4s						
LSTR	**Listvyanka**	**4.05**	**79**	*e*PN	Pn	08 18 35.7	+9.3
LSTR				*e*		08 19 28.5	
LSTR				pmax	pmax		
	comp=Z,27nm,0.8s						
LSTR				smax			
	comp=N,95nm,0.8s						
TRG	**Tyrgan**	**5.12**	**70**	*e*PN	Pn	08 18 52.3	+11
TRG				*e*		08 18 57.5	
TRG				pmax	pmax		
	comp=Z,7.0nm,0.4s						
OGRR	**Ongureny**	**6.08**	**64**	*e*PN	Pn	08 19 12.6	+17
OGRR				pmax	pmax		
	comp=Z,7.0nm,0.6s						

*NEIC **27** 08:25:21.6±2.4, 3.98S×142.47E, h76km±22km, mb4.3/1, Error ellipse: s-maj=23.0km s-min=13.3km az=146.0*
*IDC **27** 08:25:24.9±8.2, 4.13S×142.66E, h110km±85km, mb3.6/5, mb1 3.9/7, mb1mx3.7/16, mbtmp4.1/7, ML3.6/2, Error ellipse: s-maj=73.8km s-min=25.4km az=144.0*
ISC 27 08:25:19.8±3.6, 4.0S±0.2×142.5E±0.1, h71km±34km, n13, σ0§58/14, mb3.8/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.10**	**139**	P	**P**	**08 27 03.5**	**+0.3**
	1.5nm,0.3s,baz=302,slow=7.0,SNR=6.2						
KAKA	**Kakadu**	**13.18**	**228**	*eP*	**P**	**08 28 24.7**	**-0.8**
	19nm,0.4s						
KAKA				*e*S	**S**	**08 30 42.3**	**-8.5**
WRAB	**Tennant Creek**	**17.72**	**206**	*eP*	**P**	**08 29 23.3**	**-0.2**
	19nm,1.0s						
WB2	**Warramunga Arr**	**17.73**	**206**	*eP*	**P**	**08 29 23.8**	**+0.2**
WRA	**Warramunga Arr**	**17.74**	**206**	P	**P**	**08 29 23.8**	**+0.1**
	0.7nm,0.3s,baz=25,slow=13,SNR=23						
ASAR	**Alice Springs**	**21.25**	**202**	P	**P**	**08 30 01.9**	**-0.1**
	0.8nm,0.7s,mb3.2,baz=29,slow=11,SNR=7.3						
ASPA	**Alice Springs**	**21.25**	**202**	*eP*	**P**	**08 30 06.1**	**+4.1**
FITZ	**Fitzroy Crossi**	**21.65**	**228**	P	**P**	**08 30 06.7**	**+0.7**
	7.0nm,0.6s,mb4.2,baz=61,slow=10,SNR=7.8						
BVAR	**Borovoye Array**	**82.52**	**325**	P	**P**	**08 37 37.1**	**+1.0**
	0.8nm,0.5s,mb3.8,baz=106,slow=5.2,SNR=5.4						
ILAR	**Eielson Array**	**85.44**	**24**	P	**P**	**08 37 49.7**	**-0.8**
	1.7nm,0.8s,mb4.0,baz=260,slow=4.6,SNR=20						
QSPA	**South Pole Qui**	**85.37**	**180**	*eP*	**P**	**08 37 52.3**	**-0.4**
INK	**Inuvik**	**91.45**	**22**	P	**P**	**08 38 19.0**	**0.0**
	0.6nm,0.9s,mb3.7,baz=270,slow=4.0,SN

*NEIC **27** 08:28:40.3, 34.05S×71.35W, h54km, MD3.7(GUC), After GUC.*

GUC 27 08:28:40.3±0.8, 34.05S×71.35W, h54km±4km, MD3.7, ML2.6, 8C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.11**	**329**	⇑*i*P	P	08 28 48.7	+0.2
LNV				*i* S	S	08 28 55.0	+0.4
TACH	**Talagante**	**0.52**	**41**	⇑*i*P	P	08 28 52.3	+0.3
TACH				*i* S	S	08 29 01.6	+0.9
CHCH	**Chadas Angostu**	**0.59**	**79**	⇓*i*P	P	08 28 53.4	+0.5
CHCH				*i* S	S	08 29 03.1	+1.1
LCCH	**Las Cruces**	**0.60**	**342**	⇑*i*P	P	08 28 53.0	0.0
LCCH				*i* S	S	08 29 02.9	+0.5
CACH	**El Canelo**	**0.62**	**97**	⇑*i*P	P	08 28 54.4	+1.1
CACH				*i* S	S	08 29 05.0	+2.1
SFDO	**San Fernando**	**0.63**	**154**	⇓*i*P	P	08 28 53.9	+0.5
SFDO				*i* S	S	08 29 03.9	+0.9
PCH	**Pirque**	**0.81**	**59**	⇑*i*P	P	08 28 56.1	+0.4
PCH				*i* S	S	08 29 07.8	+0.6
CICH	**Cipreses**	**0.81**	**110**	⇓*i*P	P	08 28 56.4	+0.7
CICH				*e*S	S	08 29 08.3	+1.1
STL	**Santa Lucia**	**0.85**	**44**	*e*P	P	08 28 56.5	+0.3
STL				*i* S	S	08 29 08.8	+0.7
STL				AMP		08 29 12.6	
	comp=E,98nm,0.2s						
FSR	**Penalolen**	**0.89**	**50**	*i* S	S	08 29 09.7	+0.6
FSR				AMP		08 29 10.2	
	comp=N,231nm,0.1s						
DSCH	**Colegio Aleman**	**0.92**	**45**	⇑*i*P	P	08 28 57.6	+0.4
DSCH				*i* S	S	08 29 10.8	+1.1
DSCH				AMP		08 29 14.7	
	comp=N,334nm,0.3s						
SJCH	**San Jose de Ma**	**0.92**	**64**	⇑*i*P	P	08 28 57.3	+0.1
SJCH				*i* S	S	08 29 10.4	+0.6
SJCH				AMP		08 29 12.1	
	comp=N,187nm,0.2s						
CLCH	**Cerro Calan**	**0.94**	**46**	⇓*i*P	P	08 28 57.9	+0.4
CLCH				*i* S	S	08 29 11.5	+1.3
CLCH				AMP		08 29 13.1	
	comp=E,433nm,0.7s						
CLCH				AMP		08 29 13.6	
	comp=E,245nm,0.1s						
NICH	**Los Niches**	**0.96**	**174**	⇑*i*P	P	08 28 58.3	+0.5
NICH				*i* S	S	08 29 10.9	+0.2
LMEL	**Las Melosas**	**0.97**	**78**	⇓*i*P	P	08 28 58.5	+0.6
LMEL				*i* S	S	08 29 12.8	+1.8
LMEL				AMP		08 29 13.1	
	comp=N,615nm,0.1s						
PEL	**Peldehue**	**1.06**	**32**	*i* S	S	08 29 14.9	+1.8
PEL				AMP		08 29 18.1	
	comp=N,458nm,0.3s						
ROCH	**El Roble**	**1.11**	**15**	*i* P	P	08 29 00.7	+0.8
ROCH				*i* S	S	08 29 16.2	+1.8
FCH	**Farellones**	**1.14**	**51**	⇓*i*P	P	08 29 00.7	+0.5
FCH				*i* S	S	08 29 16.4	+1.4
FCH				AMP		08 29 19.2	
	comp=E,260nm,0.2s						
JACH	**Jahuel**	**1.50**	**25**	*e*P	P	08 29 05.5	+0.1
JACH				*i* S	S	08 29 25.0	+1.0

*NEIC **27** 08:33:10.8±4.0, 47.56N×152.52E, h65km±35km, mb4.5/15, Error ellipse: s-maj=14.9km s-min=9.5km az=159.0*
*MOS **27** 08:33:15.7±1.2, 47.62N×152.45E, h119km, mb4.5/18, Error ellipse: s-maj=14.5km s-min=7.7km az=100.0*
*IDC **27** 08:33:19.4±3.5, 47.58N×152.56E, h147km±33km, mb3.8/15, mb1 3.9/16, mb1mx3.8/22, mbtmp4.2/16, Error ellipse: s-maj=20.6km s-min=13.9km az=147.0*

ISC 27 08:33:12.6±2.3, 47.6N±0.1×152.5E±0.1, h95km±18km, n81, σ1§03/80, mb4.3/39, 4C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**6.67**	**268**	⇑*i*PN	P	08 34 50.6	+0.9
ASAJ	**Asahikawa**	**7.73**	**247**	PN	P	08 35 09.4	+5.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.73**	**247**	P	P	08 35 09.3	+5.2
	comp=Z,1.0nm,0.3s,baz=97,slow=17,SNR=4.8						
YAK	**Yakutsk**	**19.43**	**327**	*e*P	P	08 37 35.1	+1.5
BILL	**Bilibino**	**21.71**	**14**	*e*P	P	08 38 00.0	+3.2
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
BOD	**Bodaibo**	**25.17**	**308**	*e*P	P	08 38 28.4	-1.8
TIXI	**Tiksi**	**26.59**	**344**	⇓*i*P	P	08 38 43.8	+0.6
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.7						
ULN	**Ulaanbaatar**	**30.26**	**288**	*i* P	P	08 39 14.4	-2.0
TLY	**Talaya**	**31.46**	**296**	⇓*i*P	P	08 39 26.5	-0.3
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
IMA	**Indian Mountai**	**33.41**	**37**	*e*P	P	08 39 43.5	-0.1
COLA	**College**	**35.77**	**39**	*e*P	P	08 40 03.9	+0.1
COLA	**College**	**35.77**	**39**	*e*P	P	08 40 03.4	-0.3
	comp=Z,3.1nm,0.6s,mb4.4						
ILAR	**Eielson Array**	**36.19**	**39**	P	P	08 40 06.5	-0.8
	comp=Z,0.9nm,0.5s,mb3.9,baz=267,slow=6.0,SNR=20						
INK	**Inuvik**	**41.20**	**33**	P	P	08 40 49.3	+0.5
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	**Inuvik**	**41.20**	**33**	P	P	08 40 49.3	+0.5
	comp=Z,1.6nm,0.4s,mb4.2,baz=299,slow=6.9,SNR=33						
INK	**Inuvik**	**41.20**	**33**	*e*P	P	08 40 49.1	+0.2
ZAL	**Zalesovo**	**41.83**	**305**	P	P	08 40 53.9	-0.2
	comp=Z,1.6nm,0.4s,mb4.1,baz=74,slow=3.6,SNR=3.6						
CHKZ	**Chkalovo**	**49.61**	**309**	*e*P	P	08 41 54.2	-1.5
CHKZ				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**49.61**	**309**	*e*P	P	08 41 54.2	-1.5
	comp=Z,12nm,0.8s,mb4.9						
BVAR	**Borovoye Array**	**50.04**	**309**	P	P	08 41 58.4	-0.6
	comp=Z,2.0nm,0.3s,mb4.5,baz=64,slow=8.6,SNR=12						
RES	**Resolute Bay**	**50.21**	**19**	*e*P	P	08 41 59.3	-0.8
RES				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
RES	**Resolute Bay**	**50.21**	**19**	*e*P	P	08 41 59.3	-0.8
	comp=Z,0.9nm,0.4s,mb4.0						
YKA	**Yellowknife Ar**	**50.53**	**37**	P	P	08 42 01.9	-0.8
	comp=Z,1.3nm,0.7s,mb4.1,baz=296,slow=7.1,SNR=18						
YKA	**Yellowknife Ar**	**50.53**	**37**	P	P	08 42 01.9	-0.8
CMAR	**Chiang Mai Arr**	**52.17**	**255**	P	P	08 42 16.0	+0.4
	comp=Z,1.2nm,0.4s,mb4.3,baz=28,slow=7.3,SNR=5.9						
AAK	**Ala-Archa**	**53.12**	**296**	*e*P	P	08 42 20.5	-1.9
AAK				*i* *PP	pP	08 42 44.0	-1.5
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
ARU	**Arti**	**54.15**	**317**	*d*iP	P	08 42 28.2	-1.5
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
JIRN	**Jiri**	**54.48**	**274**	*e*P	P	08 42 33.2	+0.7
GUN	**Gumba**	**54.53**	**274**	*e*P	P	08 42 33.3	+0.4
	comp=Z,8.0nm,0.4s,mb5.1						
KKN	**Kakani**	**55.01**	**274**	*e*P	P	08 42 36.8	+0.4
PKI	**Pulchoki**	**55.07**	**274**	*e*P	P	08 42 36.9	+0.1
	comp=Z,8.7nm,0.5s,mb5.0						
DMN	**Daman**	**55.25**	**274**	*e*P	P	08 42 38.6	+0.5
	comp=Z,37nm,0.8s						
GKN	**Gorkha**	**55.31**	**275**	*e*P	P	08 42 37.9	-0.6
	comp=Z,24nm,0.6s,mb5.4						
KOLN	**Koldanda**	**56.16**	**275**	*e*P	P	08 42 44.9	+0.3
	comp=Z,19nm,0.7s,mb5.2						
ARCES	**ARCESS Array B**	**56.97**	**340**	P	P	08 42 48.4	-1.4
	comp=Z,2.3nm,0.7s,mb4.3,baz=27,slow=7.1,SNR=6.1						
JOF	**Joensuu**	**60.44**	**333**	*e*p	P	08 43 09.5	-4.4
	comp=Z,1.2nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**63.15**	**334**	P	P	08 43 30.4	-1.7
	comp=Z,2.8nm,0.4s,mb4.5,baz=33,slow=7.9,SNR=24						
PDAR	**Pinedale Array**	**64.61**	**54**	pP	pP	08 44 12.9	+7.2
	comp=Z,0.6nm,0.8s,baz=297,slow=2.0,SNR=5.2						
NB2	**NORSAR Subarra**	**67.34**	**341**	P	P	08 43 57.5	-1.3
	comp=Z,6.3nm,0.7s,mb4.5,baz=26,slow=6.2						
NB2	**NORSAR Subarra**	**67.34**	**341**	P	P	08 43 57.5	-1.3
NB2				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
NOA	**NORSAR Array B**	**67.34**	**341**	P	P	08 43 58.4	-0.5
	comp=Z,4.0nm,0.6s,mb4.5,baz=27,slow=6.3,SNR=20						
AKASG	**Malin Array Be**	**70.66**	**326**	P	P	08 44 18.1	-1.2
	comp=Z,4.4nm,0.5s,mb4.5,baz=34,slow=6.2,SNR=16						
SCHQ	**Schefferville**	**72.73**	**23**	P	P	08 44 30.7	-0.8
	comp=Z,1.3nm,0.7s,mb3.9,baz=50,slow=11,SNR=6.2						
SCHQ	**Schefferville**	**72.73**	**23**	P	P	08 44 30.7	-0.8
ASAR	**Alice Springs**	**72.84**	**198**	P	P	08 44 31.9	-0.8
	comp=Z,1.3nm,0.8s,mb3.8,baz=14,slow=4.8,SNR=10						
CLL	**Collm**	**75.57**	**335**	⇑*i*P	P	08 44 47.3	-0.6
CLL				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
CLL	**Collm**	**75.57**	**335**	⇑*i*P	P	08 44 47.3	-0.6
	comp=Z,12nm,0.6s,mb4.8						
CLL	**Collm**	**75.57**	**335**	⇑P	P	08 44 47.3	-0.6
	comp=Z,logA/T=1.3,mb4.8						
BRG	**Berggiesshubel**	**75.69**	**334**	*i* P	P	08 44 48.0	-0.6
BRG				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
BRG	**Berggiesshubel**	**75.69**	**334**	*i* P	P	08 44 48.0	-0.6
	comp=Z,5.4nm,0.5s,mb4.5						
MOX	**Moxa**	**76.56**	**336**	*e*P	P	08 44 52.0	-1.5
KHC	**Kasperske Hory**	**77.34**	**334**	*e*P	P	08 44 58.0	+0.1
TXAR	**Lajitas Array**	**77.45**	**60**	P	P	08 44 57.9	-1.1
	comp=Z,0.2nm,0.5s,baz=301,slow=4.1,SNR=4.9						
TXAR				pP	pP	08 45 30.9	+7.1
	comp=Z,0.4nm,0.5s,baz=291,slow=5.0,SNR=6.1						
BRTR	**Keskin Array B**	**77.53**	**316**	P	P	08 44 59.7	+0.5
	comp=Z,2.5nm,0.9s,mb4.0,baz=72,slow=3.9,SNR=9.3						
GERES	**GERESS Array B**	**77.56**	**334**	P	P	08 44 58.5	-0.6
	comp=Z,0.9nm,0.4s,mb3.9,baz=27,slow=6.0,SNR=8.5						
BAIF	**Baives**	**79.00**	**340**	*e*P	P	08 45 07.6	+0.6
	comp=Z,5.9nm,0.6s,mb4.3						
BAIF	**Baives**	**79.00**	**340**	*e*P	P	08 45 07.6	+0.6
BAIF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
CDF	**Champ du Feu**	**79.77**	**337**	*e*P	P	08 45 11.5	+0.3
	comp=Z,7.9nm,0.7s,mb4.4						
CDF	**Champ du Feu**	**79.77**	**337**	*e*P	P	08 45 11.5	+0.3
CDF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
LOR	**Lormes**	**81.69**	**339**	*e*P	P	08 45 21.7	+0.4
SSF	**Saint Saulge**	**81.97**	**339**	*e*P	P	08 45 23.3	+0.5
SSF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
SSF	**Saint Saulge**	**81.97**	**339**	*e*P	P	08 45 23.3	+0.5
	comp=Z,0.9nm,0.4s,mb4.0						
SGMF	**Saint Gilles**	**82.15**	**343**	*e*P	P	08 45 23.7	0.0
	comp=Z,8.8nm,0.6s,mb4.5						
SGMF	**Saint Gilles**	**82.15**	**343**	*e*P	P	08 45 23.7	0.0
SGMF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
ROSF	**Rostrenen**	**82.21**	**344**	*e*P	P	08 45 24.9	+0.9
	comp=Z,11nm,0.7s,mb4.5						
ROSF	**Rostrenen**	**82.21**	**344**	*e*P	P	08 45 24.9	+0.9
ROSF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
AVF	**Avril sur Loir**	**82.26**	**339**	*e*P	P	08 45 25.0	+0.7
	comp=Z,6.5nm,0.8s,mb4.2						
AVF	**Avril sur Loir**	**82.26**	**339**	*e*P	P	08 45 25.0	+0.7
AVF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
SMF	**Signal de Mont**	**82.27**	**339**	*e*P	P	08 45 25.1	+0.7
LPL	**La Plagne**	**82.58**	**337**	*e*P	P	08 45 27.5	+1.5
LPG	**La Plagne**	**82.59**	**336**	*e*P	P	08 45 27.6	+1.6
TCF	**Toulx Ste Croi**	**83.00**	**340**	*e*P	P	08 45 29.0	+0.9
MFF	**Saint Martin d**	**83.23**	**341**	*e*P	P	08 45 30.3	+1.0
	comp=Z,4.5nm,0.5s,mb4.3						
MFF	**Saint Martin d**	**83.23**	**341**	*e*P	P	08 45 30.3	+1.0
MFF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
MBDF	**Montbardon**	**83.30**	**336**	*e*P	P	08 45 30.3	+0.7
	comp=Z,3.7nm,0.6s,mb4.1						
MBDF	**Montbardon**	**83.30**	**336**	*e*P	P	08 45 30.3	+0.7
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
ORIF	**Oris-en-Rattie**	**83.36**	**337**	*e*P	P	08 45 30.7	+0.8
	comp=Z,5.7nm,0.7s,mb4.2						
ORIF	**Oris-en-Rattie**	**83.36**	**337**	*e*P	P	08 45 30.7	+0.8
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
CAF	**Calviac**	**84.32**	**339**	*e*P	P	08 45 36.5	+1.9
LFF	**La Frestale**	**84.61**	**340**	*e*P	P	08 45 38.1	+2.0
LASF	**Ste Croix**	**84.67**	**338**	*e*P	P	08 45 38.0	+1.6
	comp=Z,4.5nm,0.8s,mb4.1						

CASC 27 08:37:41.6±1.8, 10.92N×86.64W, h25km±15km, MD3.8, 7C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**1.11**	**18**	⇓*e*P	Pn	08 38 01.8	0.0
APON	**Apoyo**	**1.14**	**30**	⇑*e*P	Pn	08 38 01.6	-0.7
TICN	**Ticuantepe**	**1.18**	**20**	⇓*e*P	Pn	08 38 02.4	-0.4
TICN				*e*S	Sb	08 38 20.9	+2.9
CONN	**Concepcion**	**1.19**	**57**	⇑*e*P	Pn	08 38 01.6	-1.2
XAVN	**Gruta Xavier**	**1.26**	**14**	⇑*e*P	Pn	08 38 03.6	-0.3
XAVN				*e*S	Sn	08 38 20.5	+0.3
MGAN	**Managua**	**1.28**	**18**	⇑*e*P	Pn	08 38 03.7	-0.5
MGAN				*e*S	Sn	08 38 20.2	-0.6
WILN	**Americas 2**	**1.31**	**20**	⇓*e*P	Pn	08 38 04.1	-0.6
APYN	**Apoyeque**	**1.34**	**12**	⇑*e*P	Pn	08 38 04.8	-0.2
APYN				*e*S	Sn	08 38 22.8	+0.7
LEON	**Leon**	**1.51**	**351**	⇑*e*P	Pn	08 38 06.9	-0.5
TEL3	**Telica 3**	**1.66**	**353**	⇑*e*P	Pn	08 38 09.4	-0.1

JSN 27 08:42:21.8±1.6, 19.07N×79.29W, MD4.3, 3C-1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCJ	**Malvern**	**1.90**	**126**	⇑*e*P	Pn	08 42 53.4	-2.4
MCJ				*e*S	Sn	08 43 18.4	-2.4
BBJ	**Bamboo Saint A**	**2.04**	**109**	⇑*e*P	Pn	08 42 56.7	-1.0
PCJ	**Portland Cotta**	**2.42**	**123**	⇓*e*P	Pn	08 43 02.2	-1.0
PCJ				*e*S	Sn	08 43 33.8	-0.1
STH	**Stony Hill**	**2.55**	**112**	⇑*e*P	Pn	08 43 02.5	-2.7
STH				*e*S	Sn	08 43 34.1	-3.3

*IDC **27** 08:43:09.3±6.9, 7.41S×129.76E, mb3.8/1, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, ML3.5/3, Error ellipse: s-maj=90.4km s-min=60.2km az=137.0*

ISC 27 08:43:11.0±2.4, 7.4S±0.2×129.7E±0.2, h33km, n7, σ1§51/9, mb3.5/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**5.97**	**153**	*e*P	P	08 44 42.4	+3.1
	7.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.37**	**200**	Pn	P	08 45 53.0	-1.3
	0.3nm,0.3s,baz=225,slow=20,SNR=4.1						
FITZ				Sn	S	08 48 01.7	+0.6
	0.1nm,0.3s,baz=78,slow=22,SNR=2.9						
WRA	**Warramunga Arr**	**13.30**	**161**	Pn	P	08 46 18.6	-1.4
	0.3nm,0.3s,baz=340,slow=14,SNR=16						
WRA				Sn	S	08 48 47.2	-0.5
	0.1nm,0.3s,baz=327,slow=23,SNR=3.5						
WB2	**Warramunga Arr**	**13.30**	**160**	*e*P	P	08 46 17.7	-2.4
ASAR	**Alice Springs**	**16.71**	**166**	Pn	P	08 47 05.4	+1.1
	0.3nm,0.3s,baz=346,slow=12,SNR=13						
ASPA	**Alice Springs**	**16.71**	**166**	*e*P	P	08 47 06.9	+2.6
STKA	**Stephens Creek**	**26.80**	**157**	P	P	08 48 50.4	+0.2
	1.4nm,0.9s,mb3.5,baz=344,slow=15,SNR=2.9						

IDC 27 08:50:15.5±3.1, 50.64S×116.82E, mb3.9/4, mb1 4.2/4, mb1mx4.0/12, mbtmp3.9/4, Error ellipse: s-maj=147.4km s-min=24.4km az=96.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**30.02**	**33**	P	P	08 56 26.4	-1.8
	1.8nm,0.8s,baz=208,slow=7.6,SNR=11						
VNDA	**Vanda**	**31.73**	**163**	P	P	08 56 40.9	-1.8
	1.3nm,0.7s,baz=306,slow=6.2,SNR=9.3						
FITZ	**Fitzroy Crossi**	**33.22**	**15**	P	P	08 56 55.2	-1.1
	14nm,1.1s,baz=190,slow=8.2,SNR=4.0						
WRA	**Warramunga Arr**	**33.63**	**31**	P	P	08 56 57.0	-2.8
	0.5nm,0.6s,baz=203,slow=10,SNR=10.0						
TXAR	**Lajitas Array**	**143.00**	**110**	PKP	PKPdf	09 09 50.5	-2.2
	0.4nm,0.8s,baz=194,slow=3.7,SNR=4.5						
PDAR	**Pinedale Array**	**147.69**	**86**	PKPbc	PKPdf	09 10 00.8	+0.6
	0.7nm,1.0s,baz=270,slow=0.9,SNR=4.8						
YKA	**Yellowknife Ar**	**150.14**	**47**	PKPbc	PKPdf	09 10 05.6	+2.1
	0.2nm,0.5s,baz=283,slow=1.9,SNR=7.4						

*IDC **27** 08:53:33.1±1.4, 50.27S×112.92E, mb4.1/5, mb1 4.3/5, mb1mx4.1/12, mbtmp4.1/5, MS3.7/6, Ms1 3.7/6, ms1mx3.5/17, Error ellipse: s-maj=59.5km s-min=24.0km az=94.0*

ISC 27 08:53:32.8±1.4, 50.3S±0.1×113.0E±0.6, h10km, n13, σ0§45/5, mb4.1/5, MS3.7/5, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.61**	**12**	LR	LR	09 02 45.4	
	comp=Z,330nm,21.4s,baz=193,slow=31						
STKA	**Stephens Creek**	**28.07**	**60**	LR	LR	09 09 20.5	
	comp=Z,141nm,18.3s,MS3.6,baz=26,slow=34						
ASAR	**Alice Springs**	**31.16**	**39**	P	P	**08 59 53.8**	**-0.2**
	1.6nm,0.8s,mb3.9,baz=205,slow=8.5,SNR=8.5						
VNDA	**Vanda**	**32.81**	**162**	P	P	**09 00 08.0**	**+0.1**
	1.8nm,0.8s,mb4.1,baz=283,slow=7.7,SNR=9.1						
FITZ	**Fitzroy Crossi**	**33.66**	**22**	P	P	**09 00 16.4**	**+0.6**
	8.1nm,0.8s,mb4.7,baz=178,slow=13,SNR=4.5						
FITZ				LR	LR	09 13 22.0	
	comp=Z,83nm,19.4s,MS3.5,baz=204,slow=35						
WRA	**Warramunga Arr**	**34.69**	**37**	P	P	**09 00 24.4**	**-0.3**
	1.4nm,0.7s,mb4.0,baz=202,slow=11,SNR=8.4						
CTA	**Charters Tower**	**39.99**	**53**	LR	LR	09 16 32.6	
	comp=Z,145nm,19.7s,MS3.8,baz=48,slow=34						
HNR	**Honiara**	**56.15**	**60**	LR	LR	09 24 22.7	
	comp=Z,45nm,18.3s,MS3.6,baz=183,slow=33						
BOSA	**Boshof**	**67.19**	**252**	LR	LR	09 27 40.7	
	comp=Z,84nm,18.1s,MS4.0,baz=201,slow=30						
CMAR	**Chiang Mai Arr**	**69.54**	**346**	P	P	**09 04 43.6**	**-0.2**
	0.6nm,0.4s,mb3.9,baz=192,slow=8.1,SNR=4.1						
TXAR	**Lajitas Array**	**145.41**	**113**	PKPbc	PKPbc	09 13 12.7	+1.5
	1.1nm,1.1s,baz=200,slow=5.6,SNR=5.2						
PDAR	**Pinedale Array**	**150.11**	**88**	PKP	PKPdf	09 13 20.3	-0.7
	0.2nm,0.6s,slow=3.6,SNR=2.6						
PDAR				PKPbc	PKPdf	09 13 24.9	+3.9
	0.3nm,0.5s,baz=180,slow=5.9,SNR=4.4						
YKA	**Yellowknife Ar**	**151.67**	**46**	PKPbc	PKPdf	09 13 27.0	+4.4
	0.3nm,0.6s,baz=284,slow=2.0,SNR=10						

*NIED **27** 09:07:00, 29.40N×130.60E, h26km, Mw4.0 Best double couple: M0 1.26×10^15 NP1:φs257°, δ56°, λ-129°. NP2: φs132°, δ50°, λ-47°.*
*JMA **27** 09:07:07.1±0.3, 29.38N×130.63E, h21km±4km, M3.6*
*IDC **27** 09:07:10.7±1.1, 29.95N×129.60E, mb3.5/5, mb1 3.8/6, mb1mx3.6/22, mbtmp3.5/6, ML3.4/1, Error ellipse: s-maj=44.3km s-min=22.3km az=96.0*

ISC 27 09:07:08.3±0.8, 29.40N±0.04×130.5E±0.1, h21km, n14, σ1§47/18, mb3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.70**	**308**	P	**Pb**	**09 07 22.1**	**+0.3**
JKC	**Kuchinoerabu**	**1.09**	**346**	P	**Pb**	**09 07 27.5**	**-0.8**
JKC				*e*S	**Sb**	**09 07 42.8**	**+0.7**
JZK	**Kikaishima**	**1.18**	**204**	*e*S	**Sb**	**09 07 43.7**	**-1.1**
JAM	**Amami Oshima**	**1.27**	**219**	*e*S	**Sb**	**09 07 48.5**	**+1.3**
JTN	**Tanegashima 3**	**1.31**	**18**	P	**Pn**	**09 07 30.5**	**-1.2**
JTN				*e*S	**Sb**	**09 07 48.1**	**-0.5**
JTSR	**Tashiro 2**	**1.79**	**11**	P	**Pn**	**09 07 37.5**	**-1.0**
JTSR				*e*S	**Sn**	**09 08 00.4**	**-0.5**
JTK	**Tokunoshima**	**2.12**	**221**	P	**Pn**	**09 07 42.7**	**-0.5**
JOW	**Kunigami**	**3.23**	**218**	Pn	**Pn**	**09 07 57.4**	**-1.7**
	3.4nm,0.3s,baz=110,slow=22,SNR=12						
JOW				Sn	**Sn**	**09 08 46.5**	**+9.0**
	7.2nm,0.3s,baz=90,slow=27,SNR=6.1						
MJAR	**Matsushiro Arr**	**9.61**	**40**	Pn	P	**09 09 33.0**	**+4.3**
	0.4nm,0.3s,baz=240,slow=13,SNR=5.4						
WRA	**Warramunga Arr**	**49.20**	**175**	P	P	**09 16 04.3**	**+7.1**
	0.6nm,0.9s,mb3.6,baz=356,slow=7.8,SNR=3.2						
BVAR	**Borovoye Array**	**49.32**	**316**	P	P	**09 15 54.0**	**-3.7**
	0.7nm,0.6s,mb3.9,baz=100,slow=10.0,SNR=4.4						
ASAR	**Alice Springs**	**52.86**	**176**	P	P	**09 16 33.8**	**+8.8**
	1.0nm,0.9s,mb3.8,baz=360,slow=6.2,SNR=8.9						
ILAR	**Eielson Array**	**60.70**	**29**	P	P	**09 17 22.7**	**+2.5**
	0.2nm,0.7s,mb3.4,baz=283,slow=5.8,SNR=4.5						
YKA	**Yellowknife Ar**	**74.81**	**26**	P	P	**09 18 51.8**	**+3.5**
	0.2nm,0.8s,mb3.1,baz=306,slow=5.6,SNR=3.8						

*NIED **27** 09:15:00, 46.60N×152.90E, h41km, Mw4.9 Best double couple: M0 2.51×10^16 NP1:φs316°, δ80°, λ31°. NP2:φs220°, δ59°, λ169°.*
*SKHL **27** 09:15:50.9±0.4, 46.56N×152.89E, h46km±16km, mb5.9/4, mbh5.5/1, Ms4.6/3, msh4.9/3*
*MOS **27** 09

comp=Z,100nm,0.2s
SKR AMB AMB 09 17 03.1
comp=Z,140nm,0.5s
SKR AMB AMB 09 17 03.1
comp=Z,230nm,0.5s
SKR *i* S **S** **09 17 50.8 -5.7**
SKR A 09 17 59.0
comp=Z,3μm,4.0s
SKR A 09 18 07.5
comp=Z,390nm,0.5s
SKR A 09 18 07.5
comp=Z,790nm,0.5s
SKR A 09 18 07.5
comp=Z,170nm,0.5s
SKR AMS AMS 09 19 04.0
comp=Z,3μm,14.0s
SKR AMS AMS 09 19 04.0
comp=Z,3μm,14.0s
SKR AMS AMS 09 19 04.0
comp=Z,3μm,14.0s
SKR *e*rx rx 09 23 09.5
YUK Yuzh-Kuril'sk 5.39 243 ⇑*i*PN **P** **09 17 13.4 +0.5**
YUK *i* S **S** **09 18 15.0 +0.5**
YUK pmax pmax
comp=E,430nm,0.5s
YUK pmax pmax
comp=Z,2μm,0.5s
YUK pmax pmax
comp=N,570nm,0.3s
YUK smax
comp=N,3μm,0.5s
YUK smax
comp=E,6μm,0.5s
YUK MLR MLR
comp=Z,3μm,15.0s
YUK MLR MLR
comp=N,3μm,14.0s
YUK Yuzh-Kuril'sk 5.39 243 ⇑*i*P **P** **09 17 13.4 +0.5**
YUK AMB AMB 09 17 16.2
comp=N,2μm,0.4s
YUK AMB AMB 09 17 16.2
comp=N,570nm,0.2s
YUK AMB AMB 09 17 16.2
comp=N,430nm,0.5s
YUK AMB AMB 09 17 16.2
comp=N,2μm,0.5s
YUK *i* S **S** **09 18 15.0 +0.5**
YUK A 09 18 38.0
comp=N,3μm,0.5s
YUK A 09 18 38.0
comp=N,6μm,0.5s
YUK A 09 18 44.0
comp=N,6μm,1.0s
YUK A 09 18 44.0
comp=N,18μm,1.2s
YUK AMS AMS 09 19 20.0
comp=N,3μm,14.0s
YUK AMS AMS 09 19 20.0
comp=N,3μm,15.0s
YSS Yuzh-Sakhalins 6.73 276 ⇑*i*PN **P** **09 17 33.9 +2.2**
YSS 09 18 55.0
YSS pmax pmax
comp=N,170nm,1.0s
YSS pmax pmax
comp=E,430nm,1.0s
YSS pmax pmax
comp=Z,320nm,1.0s
YSS MLR MLR
comp=Z,3μm,16.0s
YSS MLR MLR
comp=N,2μm,18.0s
YSS MLR MLR
comp=E,2μm,17.0s
YSS Yuzh-Sakhalins 6.73 276 P **P** **09 17 32.1 +0.4**
comp=E,267nm,0.8s
YSS Yuzh-Sakhalins 6.73 276 ⇓*i*P **P** **09 17 33.9 +2.2**
YSS AMB AMB 09 17 39.0
comp=E,170nm,1.0s
YSS AMB AMB 09 17 39.0
comp=E,430nm,1.0s
YSS AMB AMB 09 17 39.0
comp=E,320nm,1.0s
YSS *e*S **S** **09 18 48.0 +0.2**
YSS A 09 18 51.5
comp=E,200nm,0.6s
YSS A 09 18 51.5
comp=E,180nm,0.6s
YSS *e*LQ 09 18 55.0
YSS *e*LR LR 09 19 21.0
YSS AMS AMS 09 20 04.0
comp=E,2μm,17.0s
YSS AMS AMS 09 20 04.0
comp=E,2μm,18.0s
YSS AMS AMS 09 20 04.0
comp=E,3μm,16.0s
ASAJ Asahikawa 7.45 254 PN **P** **09 17 44.5 +2.8**
ASAJ pmax pmax
comp=Z,15nm,0.3s
ASAJ MLR MLR
comp=Z,2μm,20.3s
ASAJ Asahikawa 7.45 254 P **P** **09 17 44.5 +2.8**
comp=Z,15nm,0.3s,baz=88,slow=15,SNR=74
ASAJ LR LR 09 20 26.8
comp=Z,2μm,20.3s,baz=92,slow=37
UGL Uglegorsk 7.46 293 *e*PN **P** **09 17 41.8 0.0**
UGL *e*S **S** **09 19 14.0 +8.2**
UGL pmax pmax
comp=Z,330nm,0.9s
UGL pmax pmax
comp=Z,1μm,1.6s
UGL smax
comp=N,900nm,6.0s
UGL smax
comp=E,1μm,6.0s
UGL MLR MLR
comp=N,1μm,17.0s
UGL MLR MLR
comp=E,3μm,17.0s
UGL MLR MLR
comp=Z,3μm,17.0s
UGL Uglegorsk 7.46 293 *e*P **P** **09 17 41.8 0.0**
UGL ⇓*i*P 09 17 42.0
UGL AMB AMB 09 17 43.0
comp=Z,330nm,0.9s
UGL AMB AMB 09 17 44.0
comp=Z,500nm,1.6s
UGL AMB AMB 09 17 44.0
comp=Z,1μm,1.6s
UGL *e*S **S** **09 19 06.8 +1.0**
UGL A 09 19 10.0
comp=Z,270nm,0.6s
UGL A 09 19 10.0
comp=Z,150nm,0.5s
UGL AMS AMS 09 20 35.0
comp=Z,3μm,17.0s
UGL AMS AMS 09 20 35.0
comp=Z,1μm,17.0s
UGL AMS AMS 09 20 35.0
comp=Z,3μm,17.0s
PET Petropavlovsk 7.50 29 *e*PN **P** **09 17 41.9 -0.4**
PET pmax pmax
comp=Z,72nm,0.6s
PET MLR MLR
comp=Z,800nm,16.0s
PET MLR MLR
comp=Z,1μm,18.0s
PET Petropavlovsk 7.50 29 *e*P **P** **09 17 41.5 -0.8**
comp=Z,44nm,0.6s
TYV Tymovskoe 7.78 306 *e*P **P** **09 17 45.0 -1.1**
TYV AMB AMB 09 17 49.0
comp=Z,600nm,4.0s
TYV AMB AMB 09 17 49.0
comp=Z,500nm,4.0s
TYV AMB AMB 09 17 49.0
comp=Z,600nm,4.0s
TYV AMB AMB 09 17 55.0
comp=Z,89nm,0.8s
TYV AMB AMB 09 17 55.0
comp=Z,57nm,0.7s
TYV *e*S **S** **09 19 10.5 -3.2**
TYV A 09 19 11.5
comp=Z,66nm,1.0s
TYV A 09 19 39.0
comp=Z,800nm,6.0s
TYV AMS AMS 09 20 46.0
comp=Z,2μm,17.0s
TYV AMS AMS 09 20 46.0
comp=Z,4μm,17.0s
OKH Okha 9.26 322 *e*P **P** **09 18 05.2 -1.4**
OKH AMB AMB 09 18 06.8
comp=Z,2μm,2.0s
OKH AMB AMB 09 18 07.8
comp=Z,400nm,1.0s
OKH *e*S **S** **09 19 47.0 -3.4**
OKH *e*LQ 09 20 38.2
OKH AMS AMS 09 22 19.8
comp=Z,2μm,13.0s
OKH AMS AMS 09 22 19.8
comp=Z,2μm,15.0s
OKH AMS AMS 09 22 19.8
comp=Z,2μm,16.0s
KLR Kul'dur 14.18 288 *e*P **P** **09 19 14.0 +1.8**
KLR MLR MLR
comp=Z,2μm,14.0s
FX1 Attu Island--F 14.68 57 P **P** **09 19 18.8 0.0**
comp=Z,27nm,0.3s,baz=302,slow=5.0,SNR=64
FX1 LR LR 09 24 23.7
comp=Z,22nm,18.3s,baz=271,slow=35
MAJO Matsushiro 14.71 232 *e*P **P** **09 19 16.6 -2.8**
MAJO pmax pmax
comp=Z,48nm,0.6s
MAJO Matsushiro 14.71 232 *e*P **P** **09 19 16.6 -2.8**
comp=Z,48nm,0.6s
MAT Matsushiro 14.71 232 P **P** **09 19 16.7 -2.7**
MAT *e*S **S** **09 22 06.4 +4.8**
MJAR Matsushiro Arr 14.71 232 P **P** **09 19 16.8 -2.6**
comp=Z,1.4nm,0.3s,baz=29,slow=14,SNR=19
MJAR LR LR 09 25 13.5
comp=Z,539nm,21.4s,baz=55,slow=38
MDJ Mudanjiang 16.18 271 P **P** **09 19 36.3 -1.8**
MDJ AP 09 19 50.0
MDJ XP 09 19 57.0
MDJ S **S** **09 22 33.5 -1.9**
MDJ PCP PcP 09 24 31.5 -0.1
MDJ SCP 09 28 00.0
MDJ PCS 09 28 05.5
MDJ SCS ScS 09 31 38.3 +0.5
MDJ AMB AMB
comp=Z,29nm,1.4s
MDJ AMB AMB
comp=Z,129nm,5.8s
MDJ LR LR
comp=N,493nm,19.6s
MDJ LR LR
comp=E,586nm,27.7s
MDJ LR LR
comp=Z,956nm,21.8s
MDJ Mudanjiang 16.18 271 *e*P **P** **09 19 38.7 +0.6**
comp=Z,46nm,0.9s
SEY Seymchan 16.32 360 *e*P **P** **09 19 44.7 +5.0**
SEY *e*S **S** **09 22 46.2 +7.8**
SEY pmax pmax
comp=Z,20nm,0.9s
JHJ Hachijo jima 2 16.66 220 LR LR 09 26 01.2
comp=Z,177nm,18.6s,baz=120,slow=36
ZEA Zeya 17.62 303 *e*P **P** **09 19 57.2 +1.1**
ZEA AMB AMB 09 19 58.0
comp=Z,46nm,0.8s
ZEA AMB AMB 09 19 58.0
comp=Z,44nm,0.9s
ZEA AMB AMB 09 19 58.0
comp=Z,20nm,0.7s
ZEA AMB AMB 09 20 15.0
comp=Z,700nm,7.0s
ZEA AMB AMB 09 20 15.0
comp=Z,700nm,5.0s
ZEA A 09 23 18.0
comp=Z,200nm,9.0s
CN2 Changchun 19.27 271 *e*P **P** **09 20 15.0 -0.8**
CN2 *e*XP 09 20 32.3
CN2 *e*S **S** **09 23 43.5 -1.6**
CN2 AMB AMB
comp=Z,20nm,0.6s
CN2 LR LR
comp=N,700nm,17.0s
CN2 LR LR
comp=E,1μm,17.0s
CN2 LR LR
comp=Z,1μm,18.0s
CLNS Chul'man 19.79 311 *e*P **P** **09 20 23.6 +2.3**
CLNS pmax pmax
comp=Z,27nm,0.7s
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=N,17nm,0.8s
CLNS pmax pmax
comp=Z,22nm,0.8s
CLNS pmax pmax
comp=E,31nm,1.0s
CLNS MLR MLR
comp=N,600nm,16.0s
CLNS MLR MLR
comp=Z,2μm,16.0s
CLNS MLR MLR
comp=E,300nm,15.0s
YAK Yakutsk 20.20 328 *e*P **P** **09 20 25.9 +0.3**
YAK *e* 09 20 44.0
YAK *e*S **S** **09 24 10.1 +5.8**
YAK *e*SS SS 09 24 28.0 -7.5
YAK pmax pmax
comp=Z,81nm,0.9s
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,20nm,0.8s
YAK pmax pmax
comp=N,20nm,1.0s
YAK pmax pmax
comp=E,31nm,1.0s
YAK pmax pmax
comp=Z,50nm,1.0s
YAK smax
comp=E,10.0nm,1.0s
YAK smax
comp=Z,6.0nm,0.9s
YAK MLR MLR
comp=Z,520nm,21.0s,MS3.9
YAK MLR MLR
comp=N,274nm,16.0s,MS3.9
YAK MLR MLR
comp=E,338nm,19.0s,MS3.9
YAK Yakutsk 20.20 328 *e*P **P** **09 20 24.7 -0.9**
comp=E,172nm,0.7s
SNY Shenyang 21.25 267 ⇑P **P** **09 20 36.5 0.0**
SNY S **S** **09 24 30.3 +5.8**
SNY LR LR
comp=N,570nm,18.9s,MS4.2
SNY LR LR
comp=E,740nm,18.3s,MS4.2
SNY LR LR
comp=Z,980nm,19.5s,MS4.2
HIA Hailar 22.03 289 *e*P **P** **09 20 42.4 -1.8**
HIA pmax pmax
comp=Z,48nm,1.3s
HIA Hailar 22.03 289 *e*P **P** **09 20 42.4 -1.8**
comp=Z,48nm,1.3s,mb4.8
BILL Bilibino 22.57 13 *e*P **P** **09 20 49.4 +0.1**
BILL Bilibino 22.57 13 *e*P **P** **09 20 49.4 +0.1**
DL2 Dalian 23.87 262 P **P** **09 21 02.0 -0.1**
DL2 XP 09 21 17.8
DL2 S **S** **09 25 20.3 +8.9**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.5
DL2 AMB AMB
comp=Z,200nm,3.7s
DL2 LR LR
comp=N,180nm,20.4s,MS3.6
DL2 LR LR
comp=E,150nm,20.8s,MS3.6
DL2 LR LR
comp=Z,280nm,15.7s
BOD Bodaibo 25.75 310 *e*P **P** **09 21 18.0 -2.0**
BOD *e* pP 09 21 33.1 -0.2
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.4
BJI Beijing 27.09 269 P **P** **09 21 33.5 +1.0**
BJI AMB AMB
comp=Z,39nm,0.9s,mb4.9
BJI LR LR
comp=N,780nm,16.8s,MS4.4
BJI LR LR
comp=E,394nm,15.1s,MS4.4
BJI LR LR
comp=Z,1μm,19.4s,MS4.4
BJT Baijiatuau 27.10 269 *e*P **P** **09 21 32.0 -0.7**
BJT pmax pmax
comp=Z,31nm,0.8s
BJT Baijiatuau 27.10 269 *e*P **P** **09 21 32.0 -0.7**
comp=Z,31nm,0.8s,mb4.9
TIXI Tiksi 27.45 344 ⇓*i*P **P** **09 21 33.9 -1.6**
TIXI MLR MLR
comp=Z,600nm,19.0s,MS4.2
JOW Kunigami 27.56 233 P **P** **09 21 37.2 +0.3**
comp=Z,7.8nm,0.6s,mb4.5,baz=89,slow=11,SNR=3.8
JOW LR LR 09 33 29.4
comp=Z,142nm,18.7s,MS3.6,baz=116,slow=38
TNA Tin City 28.33 34 *e*P **P** **09 21 42.5 -0.9**
comp=Z,4.2nm,0.9s,mb4.1
SSE Sheshan 28.70 248 P **P** **09 21 45.5 -1.7**
SSE AP pP 09 22 00.3 -0.4
SSE XP sP 09 22 06.8 -0.4
SSE PCP PcP 09 24 55.5 -1.3
SSE S **S** **09 26 29.8 -1.2**
SSE XS 09 26 55.8
SSE AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
SSE AMB AMB
comp=Z,100nm,4.7s
SSE LR LR
comp=N,167nm,27.8s,MS3.7
SSE LR LR
comp=E,207nm,27.8s,MS3.7
SSE LR LR
comp=Z,309nm,28.8s,MS3.8
NJ2 Nanjing 29.60 253 *e*P **P** **09 21 54.5 -0.6**
NJ2 PP PP 09 22 55.5 +2.7
NJ2 S **S** **09 26 41.0 -4.2**
NJ2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
NJ2 AMB AMB
comp=Z,424nm,4.2s
NJ2 LR LR
comp=N,610nm,10.0s
NJ2 LR LR
comp=E,1μm,18.0s
NJ2 LR LR
comp=Z,2μm,18.0s
HHC Hu-ho-hao-te 29.91 274 *e*P **P** **09 21 59.0 +1.2**
HHC AP pP 09 22 12.3 +0.9
HHC XP sP 09 22 20.5 +2.5
HHC PCP PcP 09 24 58.8 -0.9
HHC S **S** **09 26 53.5 +3.4**
HHC SS SS 09 28 32.0 +2.8
HHC SCP 09 28 34.5
HHC PCS 09 28 44.0
HHC SCS ScS 09 32 28.8 -1.0
HHC AMB AMB
comp=Z,43nm,0.9s,mb5.2
HHC AMB AMB
comp=Z,123nm,5.6s
HHC LR LR
comp=N,483nm,14.5s,MS4.4
HHC LR LR
comp=E,569nm,18.2s,MS4.4
HHC LR LR
comp=Z,528nm,18.1s,MS4.2
ULN Ulaanbaatar 30.57 289 *e*P **P** **09 22 02.5 -1.0**
ULN pmax pmax
comp=Z,28nm,0.9s,mb5.1
ULN Ulaanbaatar 30.57 289 *e*P **P** **09 22 02.5 -1.1**
comp=Z,28nm,0.9s,mb5.1
TLY Talaya 31.88 297 *e*P **P** **09 22 13.5 -1.5**
TLY *e*S **S** **09 27 28.8 +7.9**
TLY *e*SS SS 09 29 44.1 +29
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,1μm,16.0s,MS4.6
TLY Talaya 31.88 297 *e*P **P** **09 22 12.2 -2.9**
comp=Z,10nm,0.8s,mb4.7
ZAK Zakamensk 32.37 295 ⇑*i*P **P** **09 22 17.4 -1.9**
ZAK *e* 09 25 05.9
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TTA Tatalina 32.75 41 *e*P **P** **09 22 22.9 +0.4**
SVW2 Sparrevohn 32.83 45 *e*P **P** **09 22 24.0 +0.7**
WHN Wuhan 33.53 255 *e*P **P** **09 22 28.5 -1.1**
IMA Indian Mountai 34.11 36 *e*P **P** **09 22 35.0 +0.8**
IMA pmax pmax
comp=Z,25nm,1.2s,mb5.0
IMA Indian Mountai 34.11 36 *e*P **P** **09 22 35.0 +0.8**
comp=Z,25nm,1.2s,mb5.0
KDAK Kodiak Island 34.46 51 *e*P **P** **09 22 36.4 -0.9**
SPU Mount Spurr 34.55 45 *e*P **P** **09 22 37.7 -0.3**
XAN Xi'an 35.12 265 P **P** **09 22 43.3 +0.1**
XAN AMB AMB
comp=Z,30nm,1.2s,mb5.1
PMR Palmer 35.94 44 *e*P **P** **09 22 49.5 -0.4**
PMR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PMR Palmer 35.94 44 *e*P **P** **09 22 49.5 -0.4**
comp=Z,9.9nm,1.0s,mb4.7
MCK McKinley 35.98 40 *e*P **P** **09 22 49.7 -0.5**
comp=Z,9μm,1.2s
SML Sawmill 36.31 43 *e*P **P** **09 22 52.4 -0.6**
COLA College 36.45 38 *e*P **P** **09 22 54.1 -0.1**
COLA pmax pmax
comp=Z,22nm,0.9s,mb5.1
COLA College 36.45 38 *e*P **P** **09 22 54.1 -0.1**
comp=Z,22nm,0.9s,mb5.1
ILAR Eielson Array 36.87 38 P **P** **09 22 57.1 -0.5**
comp=Z,5.1nm,1.0s,mb4.3,baz=254,slow=7.6,SNR=30
ILAR LR LR 09 40 25.8
comp=Z,164nm,18.5s,MS3.9,baz=139,slow=40
ENH Enshi 36.97 259 *e*P **P** **09 22 58.5 -0.3**
comp=Z,12nm,0.8s,mb4.8
THY Trims Highway 37.41 41 *e*P **P** **09 23 00.8 -1.3**
LZH Lanzhou 37.50 272 *e*P **P** **09 23 04.5 +1.2**
LZH AP pP 09 23 17.0 -0.2
LZH XP sP 09 23 21.5 -2.3
LZH PP PP 09 24 32.5 +0.3
LZH *e*S **S** **09 28 49.0 +1.2**
LZH XS 09 29 11.5
LZH SS SS 09 31 22.5 -0.8
LZH AMB AMB
comp=Z,64nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,190nm,4.0s
LZH LR LR
comp=E,1μm,16.2s
LZH LR LR
comp=Z,1μm,17.1s,MS4.8
DIV Divide 37.59 44 *e*P **P** **09 23 03.6 -0.1**
comp=Z,21nm,0.7s,mb5.0
GTA Gaotai 38.60 279 *e*P **P** **09 23 13.5 +1.1**
GTA PP PP 09 24 42.0 -3.0
GTA PCP PcP 09 25 25.8 +1.3
GTA S **S** **09 29 01.8 -2.7**
GTA AMB AMB
comp=Z,9.0nm,0.8s,mb4.5
GTA AMB AMB
comp=Z,137nm,4.6s
GTA LR LR
comp=N,256nm,14.8s,MS4.3
GTA LR LR
comp=E,257nm,13.7s,MS4.3
GTA LR LR
comp=Z,320nm,14.1s,MS4.3
DAWY Dawson 40.16 39 *e*P **P** **09 23 24.4 -0.6**
CD2 Chengdu 40.48 265 P **P** **09 23 29.3 +1.2**
CD2 S **S** **09 29 32.5 -0.3**
CD2 XS 09 29 53.5
CD2 AMB AMB
comp=Z,100nm,0.8s,mb5.6
CD2 LR LR
comp=Z,470nm,13.2s,MS4.5
GYA Guiyang 41.32 257 ⇑*i*P **P** **09 23 35.3 +0.3**
GYA AP pP 09 23 49.0 0.0
GYA XP sP 09 23 55.8 +0.4
GYA PP PP 09 25 14.3 +0.4
GYA S **S** **09 29 46.0 +0.8**
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,120nm,3.9s

GYA LR LR
comp=N,300nm,15.8s,MS4.5
GYA LR LR
comp=E,380nm,16.0s,MS4.5
GYA LR LR
comp=Z,350nm,16.2s,MS4.3
INK Inuvik 41.94 32 *e*P **P 09 23 39.6 +0.1**
INK pmax pmax
comp=Z,10.0nm,0.8s
INK Inuvik 41.94 32 P **P 09 23 40.1 +0.6**
comp=Z,12nm,0.8s,mb4.5,baz=299,slow=7.2,SNR=79
INK Inuvik 41.94 32 *e*P **P 09 23 39.6 +0.1**
comp=Z,10nm,0.8s,mb4.5
ZAL Zalesovo 42.37 306 P **P 09 23 42.4 -0.8**
comp=Z,3.1nm,0.6s,mb4.1,baz=38,slow=12,SNR=14
ZAL PcP PcP 09 25 36.8 +0.3
comp=Z,5.9nm,0.7s,baz=40,slow=3.2,SNR=16
ZAL LR LR 09 43 12.4
comp=Z,2μm,18.2s,MS5.1,baz=36,slow=39
ZAL Zalesovo 42.37 306 P **P 09 23 42.4 -0.8**
ZAL PcP PcP 09 25 36.8 +0.3
ZAL LR LR 09 43 12.4
NVS Novosibirsk 42.94 307 *e*P **P 09 23 42.8 -5.1**
WMQ Urumqi 44.60 291 ⇑P **P 09 24 02.5 +1.1**
WMQ AP pP 09 24 16.5 +0.9
WMQ XP sP 09 24 22.5 +0.6
WMQ PCP PcP 09 25 45.5 +1.4
WMQ PP PP 09 25 47.8 +0.6
WMQ PPP PPP 09 26 28.0 +0.7
WMQ S **S 09 30 34.5 +1.6**
WMQ XS 09 30 55.5
WMQ AMB AMB
comp=Z,11nm,0.5s,mb4.9
WMQ AMB AMB
comp=Z,139nm,5.0s
WMQ LR LR
comp=N,398nm,17.0s,MS4.6
WMQ LR LR
comp=E,492nm,16.3s,MS4.6
WMQ LR LR
comp=Z,374nm,19.3s,MS4.3
KMI Kunming 44.84 259 ⇑P **P 09 24 04.5 +0.9**
KMI AP pP 09 24 17.3 -0.5
KMI PP PP 09 25 49.5 -0.4
KMI S **S 09 30 37.5 +0.9**
KMI XS 09 31 01.0
KMI SS SS 09 33 49.8 -0.1
KMI AMB AMB
comp=Z,22nm,1.1s,mb4.9
KMI LR LR
comp=N,263nm,19.1s,MS4.3
KMI LR LR
comp=E,169nm,17.0s,MS4.3
KMI LR LR
comp=Z,201nm,17.1s,MS4.1
DLBC Dease Lake 45.94 46 P **P 09 24 13.7 +1.8**
comp=Z,8.2nm,0.9s,mb4.7,baz=288,slow=10,SNR=15
DLBC Dease Lake 45.94 46 *e*P **P 09 24 12.8 +0.9**
MKAR Makanchi Array 46.64 297 *i*P **P 09 24 16.8 -0.8**
MKAR pmax pmax
comp=Z,10.0nm,0.5s
LSA Lhasa 49.89 273 P **P 09 24 45.0 +1.9**
LSA AMB AMB
comp=Z,50nm,0.9s,mb5.5
CHKZ Chkalovo 50.20 310 *i*P **P 09 24 42.7 -2.4**
CHKZ pmax pmax
comp=Z,14nm,0.7s,mb5.1
CHKZ Chkalovo 50.20 310 *e*P **P 09 24 42.5 -2.5**
comp=Z,28nm,0.7s,mb5.4
NANT Nan 50.56 255 ⇑P **P 09 24 49.0 +0.7**
BVA0 Borovoye Array 50.62 309 *i*P **P 09 24 46.0 -2.3**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BVAR Borovoye Array 50.62 309 P **P 09 24 47.2 -1.1**
comp=Z,6.1nm,0.6s,mb4.7,baz=59,slow=8.6,SNR=30
BVAR PcP PcP 09 26 04.8 -0.7
comp=Z,6.6nm,0.7s,baz=64,slow=4.2,SNR=9.9
RES Resolute Bay 51.05 18 *e*P **P 09 24 49.8 -1.5**
RES pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
RES Resolute Bay 51.05 18 *e*P **P 09 24 49.8 -1.5**
comp=Z,6.5nm,0.8s,mb4.6
YKW3 Yellowknife Ar 51.20 36 *e*P **P 09 24 52.1 -0.4**
YKA Yellowknife Ar 51.23 36 P **P 09 24 52.2 -0.6**
comp=Z,2.4nm,0.7s,mb4.2,baz=297,slow=7.0,SNR=24
YKA PcP PcP 09 26 06.7 -0.8
comp=Z,1.2nm,0.5s,baz=303,slow=3.6,SNR=11
YKA LR LR 09 45 14.3
comp=Z,126nm,21.2s,MS3.9,baz=260,slow=34
YKA Yellowknife Ar 51.23 36 P **P 09 24 52.2 -0.6**
YKA PcP PcP 09 26 06.7 -0.8
YKA LR LR 09 45 14.3
CHG Chiang Mai 51.72 256 ⇑P **P 09 24 57.9 +0.9**
CMAR Chiang Mai Arr 51.97 256 P **P 09 24 59.9 +0.9**
comp=Z,12nm,0.8s,mb4.9,baz=35,slow=7.7,SNR=54
CMAR pP pP 09 25 12.6 -0.7
comp=Z,4.5nm,0.8s,baz=26,slow=7.2,SNR=2.6
CMAR PcP PcP 09 26 11.6 +0.7
comp=Z,2.9nm,0.8s,baz=18,slow=2.8,SNR=5.9
CMAR LR LR 09 49 52.6
comp=Z,161nm,19.0s,MS4.1,baz=45,slow=39
SHL Shillong 51.98 268 *e*P **P 09 24 59.0 +0.1**
ULHL Ulahol 52.66 295 P **P 09 25 03.6 -0.1**
SNR=20
TKM2 Tokmak 2 52.69 296 P **P 09 25 03.9 -0.1**
SNR=6.7
USP Ospenovka 53.18 297 P **P 09 25 07.3 -0.4**
SNR=17
KBK Karagaybulak 53.24 296 P **P 09 25 08.0 -0.1**
SNR=7.6
KZA Kyzart 53.37 295 P **P 09 25 08.5 -0.5**
SNR=15
AAK Ala-Archa 53.53 296 P **P 09 25 09.9 -0.4**
AAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
AAK Ala-Archa 53.53 296 *e*P **P 09 25 08.2 -2.1**
comp=Z,10nm,0.8s,mb4.8
SVE Sverdlovsk 53.64 317 *e*P **P 09 25 10.0 -0.8**
SVE MLR MLR
comp=N,400nm,16.0s,MS4.7
SVE MLR MLR
comp=E,400nm,16.0s,MS4.7
SVE MLR MLR
comp=Z,500nm,16.0s,MS4.7
EKS2 Erkin-Say 53.96 297 P **P 09 25 12.8 -0.6**
SNR=13
AML Almayashu 54.30 296 P **P 09 25 16.2 +0.3**
SNR=12
JIRN Jiri 54.57 274 *e*P **P 09 25 18.6 +0.5**
comp=Z,133nm,1.0s,mb5.9
GUN Gumba 54.62 275 *e*P **P 09 25 18.6 +0.1**
comp=Z,99nm,0.9s,mb5.8
ARU Arti 54.82 317 ⇑*i*P **P 09 25 17.1 -2.4**
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.9
ARU MLR MLR
comp=Z,300nm,16.0s,MS4.5
KKN Kakani 55.11 275 *e*P **P 09 25 22.6 +0.6**
comp=Z,119nm,0.7s,mb6.0
PKI Pulchoki 55.16 275 *e*P **P 09 25 22.8 +0.4**
comp=Z,123nm,1.1s,mb5.9
DMN Daman 55.34 275 *e*P **P 09 25 24.5 +0.8**
comp=Z,221nm,0.9s
GKN Gorkha 55.42 276 *e*P **P 09 25 24.4 +0.2**
comp=Z,229nm,0.9s
KKAR Karatay Array 55.71 299 *i*P **P 09 25 24.3 -1.8**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KOLN Koldanda 56.27 276 *e*P **P 09 25 30.8 +0.4**
comp=Z,167nm,0.9s
EDM Edmonton 56.66 46 *e*P **P 09 25 31.5 -1.3**
BOK Bokaro 57.27 271 *e*P **P 09 25 37.3 -0.2**
BOK *e* 09 25 39.3
comp=Z,35nm,0.6s
NEW Newport 57.54 52 P **P 09 25 39.2 +0.1**
comp=Z,3.7nm,0.9s,mb4.4,baz=308,slow=7.6,SNR=3.8
ARCES ARCESS Array B 57.82 341 P **P 09 25 39.8 -0.9**
comp=Z,3.3nm,0.6s,mb4.5,baz=31,slow=7.3,SNR=10.0
ARCES sP sP 09 26 00.1 -1.4
comp=Z,1.5nm,0.5s,baz=24,slow=8.4,SNR=1.4
ARCES LR LR 09 56 14.7
comp=Z,244nm,18.7s,MS4.3,baz=35,slow=42
YBH Yreka Blue Hor 58.13 61 P **P 09 25 43.8 +0.5**
comp=Z,1.1nm,0.6s,mb4.0,slow=2.0,SNR=4.0
YBH pP pP 09 25 58.1 +0.2
comp=Z,2.0nm,0.6s,baz=348,slow=4.2,SNR=4.7

SDNR Sundarnagar 58.44 284 *e*P **P 09 25 45.0 -0.6**
SMLA Simla 58.54 283 ⇓*i*P **P 09 25 41.7 -4.5**
WALA Waterton Lakes 58.80 50 *e*P **P 09 25 47.1 -0.7**
comp=Z,25nm,1.3s,mb5.1
BMO Blue Mountains 59.45 56 *e*P **P 09 25 52.4 0.0**
comp=Z,3.8nm,0.9s,mb4.4
MOD Modoc 59.47 60 *e*P **P 09 25 52.6 0.0**
comp=Z,4.5nm,0.6s,mb4.7
NDI New Delhi 60.04 281 *e*P **P 09 25 54.8 -1.9**
WVOR Wild Horse Val 60.14 59 *e*P **P 09 25 56.2 -1.0**
WVOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
WVOR Wild Horse Val 60.14 59 *e*P **P 09 25 56.2 -1.0**
comp=Z,5.3nm,0.9s,mb4.6
CHMT Chamberlain Mo 60.45 52 *e*P **P 09 25 58.3 -1.0**
KULM Kulim 60.68 244 *e*P **P 09 26 01.1 -0.1**
SUMG Summit 60.82 4 *e*P **P 09 26 00.3 -1.1**
comp=Z,54nm,1.0s,mb5.6
BLSP Bilaspur 60.95 272 *e*P **P 09 26 01.9 -1.1**
BLSP *e* 09 26 03.1
comp=Z,20nm,0.5s
JOF Joensuu 61.25 333 *e*p **P 09 26 02.7 -1.7**
comp=Z,7.2nm,0.7s,mb4.9
HRY Holter Researc 61.34 51 *e*P **P 09 26 05.3 0.0**
LOF Lofoten 61.49 344 *e*P **P 09 26 06.5 +0.6**
LOF AMb AMB 09 26 09.7
comp=Z,36nm,1.6s,mb5.2
FCC Fort Churchill 61.55 33 *e*P **P 09 26 05.0 -1.5**
FCC pmax pmax
comp=Z,14nm,0.8s,mb5.1
FCC Fort Churchill 61.55 33 *e*P **P 09 26 05.0 -1.6**
comp=Z,14nm,0.8s,mb5.1
CMB Columbia Colle 61.79 63 *e*P **P 09 26 07.9 -0.5**
CMB pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
CMB Columbia Colle 61.79 63 *e*P **P 09 26 07.9 -0.5**
comp=Z,2.0nm,0.6s,mb4.4
HLID Hailey 61.88 55 *e*P **P 09 26 08.5 -0.4**
comp=Z,8.9nm,1.5s,mb4.7
QLMT Earthquake Lak 62.75 53 *e*P **P 09 26 14.9 +0.2**
NVAR Mina Array Bea 62.82 62 P **P 09 26 15.7 +0.4**
comp=Z,1.4nm,0.8s,mb4.2,baz=303,slow=5.9,SNR=9.3
NVAR pP pP 09 26 30.2 +0.1
comp=Z,3.0nm,0.5s,baz=296,slow=8.0,SNR=13
NVAR LR LR 09 49 55.2
comp=Z,113nm,18.9s,MS4.1,baz=105,slow=32
MOR8 Moi Rana 63.00 342 *e*P **P 09 26 13.3 -2.8**
MOR8 AMb AMB 09 26 15.3
comp=Z,40nm,1.6s,mb5.3
GCMT Greycliff 63.09 51 *e*P **P 09 26 17.1 +0.1**
STOK Stokkvaagen 63.15 343 *e*P **P 09 26 15.5 -1.6**
KAF Kangasniemi 63.37 335 *e*p **P 09 26 17.1 -1.5**
comp=Z,12nm,0.8s,mb5.1,baz=37,slow=6.3
KAF Kangasniemi 63.37 335 *e*P **P 09 26 17.1 -1.5**
KAF pmax pmax
comp=Z,13nm,0.8s,mb5.1
BHPL Bhopal 63.45 276 *e*P **P 09 26 19.7 +0.1**
BHPL *e* 09 26 20.9
LKWY Lake 63.48 52 *e*P **P 09 26 20.7 +1.1**
LKWY pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
LKWY Lake 63.48 52 *e*P **P 09 26 20.7 +1.1**
comp=Z,5.1nm,0.8s,mb4.7
IMW Indian Meadow 63.62 53 *e*P **P 09 26 21.0 +0.7**
comp=Z,9.5nm,1.1s,mb4.7
RRI2 Red Ridge 63.76 54 *e*P **P 09 26 21.6 +0.3**
comp=Z,9.1nm,0.6s,mb5.0
MOOW Moose Ponds 63.82 53 *e*P **P 09 26 22.1 +0.4**
comp=Z,2.6nm,0.7s,mb4.4
TPAW Teton Pass 63.87 54 *e*P **P 09 26 22.9 +0.9**
comp=Z,12nm,0.9s,mb4.9
FINES FINESS Array B 63.96 335 P **P 09 26 21.1 -1.2**
comp=Z,16nm,0.6s,mb5.2,baz=34,slow=8.0,SNR=91
FINES pP pP 09 26 35.5 -1.6
comp=Z,2.4nm,0.6s,baz=15,slow=6.4,SNR=2.9
FINES LR LR 09 56 53.6
comp=Z,200nm,18.9s,MS4.3,baz=160,slow=38
LOHW Long Hollow 63.98 53 *e*P **P 09 26 23.3 +0.5**
comp=Z,14nm,1.4s,mb4.8
SNOW Snow King Moun 64.00 54 *e*P **P 09 26 23.3 +0.5**
comp=Z,10nm,1.1s,mb4.8
REDW Red Top Meadow 64.01 54 *e*P **P 09 26 23.6 +0.7**
comp=Z,20nm,1.3s,mb5.0
HWUT Hardware Ranch 64.75 56 *e*P **P 09 26 27.5 -0.3**
comp=Z,4.2nm,0.8s,mb4.5
DUG Dugway 64.95 57 *e*P **P 09 26 29.1 0.0**
DUG pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
DUG Dugway 64.95 57 *e*P **P 09 26 29.1 -0.1**
comp=Z,4.9nm,0.9s,mb4.5
BW06 Boulder Array 65.12 54 *e*P **P 09 26 29.7 -0.4**
comp=Z,8.6nm,1.1s,mb4.7
PDAR Pinedale Array 65.12 54 P **P 09 26 30.3 +0.2**
comp=Z,4.3nm,0.8s,mb4.5,baz=320,slow=1.8,SNR=38
PDAR pP pP 09 26 45.4 +0.3
comp=Z,1.9nm,0.7s,baz=225,slow=1.7,SNR=5.3
PDAR LR LR 09 50 03.5
comp=Z,69nm,21.9s,MS3.8,baz=300,slow=32
OBN Obninsk 65.17 325 *e*P **P 09 26 28.9 -1.3**
OBN pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.5
HYB Hyderabad 66.61 271 *e*P **P 09 26 39.5 -0.5**
HYB Hyderabad 66.61 271 *i*P **P 09 26 39.5 -0.5**
CTA Charters Tower 66.67 186 P **P 09 26 39.9 -0.5**
comp=Z,6.6nm,0.6s,mb4.5,baz=9.7,slow=14,SNR=4.2
CTAO Charters Tower 66.67 186 *e*P **P 09 26 39.3 -1.1**
NEN Nelson 66.73 62 *e*P **P 09 26 40.2 -0.3**
ULM Lac du Bonnet 66.85 40 P **P 09 26 39.2 -1.8**
comp=Z,3.9nm,0.6s,mb4.6,baz=300,slow=8.7,SNR=3.9
ULM LR LR 09 58 31.8
comp=Z,48nm,18.1s,MS3.8,baz=15,slow=38
ULM Lac du Bonnet 66.85 40 P **P 09 26 39.2 -1.8**
ULM LR LR 09 58 31.8
RWWY Rawlins 67.13 53 *e*P **P 09 26 42.4 -0.5**
comp=Z,8.3nm,1.0s,mb4.7
RSSD Black Hills 67.18 49 *e*P **P 09 26 41.9 -1.3**
RSSD pmax pmax
comp=Z,13nm,0.9s,mb5.0
RSSD Black Hills 67.18 49 *e*P **P 09 26 41.9 -1.3**
comp=Z,13nm,0.9s,mb5.0
NB2 NORSAR Subarra 68.19 341 P **P 09 26 48.2 -1.0**
comp=Z,40nm,0.9s,mb5.5,baz=27,slow=6.2
NB2 NORSAR Subarra 68.19 341 P **P 09 26 48.2 -1.0**
NB2 pmax pmax
comp=Z,40nm,0.9s,mb5.5
NOA NORSAR Array B 68.19 341 P **P 09 26 48.5 -0.8**
comp=Z,17nm,0.7s,mb5.2,baz=27,slow=6.3,SNR=90
NOA pP pP 09 27 04.5 +0.2
comp=Z,1.8nm,0.6s,baz=31,slow=5.5,SNR=2.5
NOA LR LR 10 01 07.8
comp=Z,160nm,18.5s,MS4.3,baz=355,slow=40
AFI Afiamalu 68.27 142 LR LR 09 50 58.3
comp=Z,214nm,19.6s,MS4.4,baz=312,slow=31
WRAB Tennant Creek 68.28 198 *e*P **P 09 26 49.3 -1.2**
WB2 Warramunga Arr 68.29 198 *e*P **P 09 26 49.2 -1.3**
WRA Warramunga Arr 68.30 198 P **P 09 26 49.5 -1.0**
comp=Z,2.7nm,0.7s,mb4.4,baz=11,slow=6.3,SNR=31
WRA pP pP 09 27 04.6 -1.0
comp=Z,3.8nm,0.8s,baz=16,slow=6.7,SNR=7.5
PV10 Paradox Valley 68.35 57 *e*P **P 09 26 51.2 +0.6**
PV01 Paradox Valley 68.78 57 *e*P **P 09 26 53.2 0.0**
FITZ Fitzroy Crossi 68.88 207 *e*P **P 09 26 53.7 -0.5**
comp=Z,9.6nm,0.9s,mb4.7
FITZ Fitzroy Crossi 68.88 207 LR LR 09 53 42.4
comp=Z,95nm,20.8s,MS4.0,baz=95,slow=33
POO Poona 69.08 275 *i*P **P 09 26 54.0 -1.4**
comp=Z,70nm,1.0s,mb5.5
KAD Karad 69.69 274 *e*P **P 09 26 58.8 -0.3**
KAD *e* 09 27 00.2
comp=Z,48nm,0.8s
KONO Kongsberg 69.80 341 *e*P **P 09 26 57.8 -1.3**
KONO pmax pmax
comp=Z,55nm,1.6s,mb5.2
KONO Kongsberg 69.80 341 *e*P **P 09 26 57.8 -1.3**
comp=Z,55nm,1.6s,mb5.2
EYMN Ely 70.49 40 *e*P **P 09 27 02.2 -1.3**
comp=Z,12nm,1.1s,mb4.7
KIV Kislovodsk 70.59 314 *e*P **P 09 27 04.2 0.0**
KIV pmax pmax
comp=Z,16nm,0.9s,mb5.0
KIV pmax pmax
comp=N,9.0nm,0.8s
KIV pmax pmax
comp=E,8.0nm,0.8s

KIV MLR MLR
comp=N,277nm,19.0s,MS4.6
KIV MLR MLR
comp=E,193nm,19.0s,MS4.6
KIV MLR MLR
comp=Z,404nm,19.0s,MS4.7
SDCO Great Sand Dun 70.80 55 *e*P **P 09 27 05.8 +0.2**
comp=Z,6.7nm,1.2s,mb4.5
SDCO *e*pP pP 09 27 21.2 +0.5
SDCO LR LR
comp=Z,223nm,20.0s,MS4.4
ZEI Tsey 70.84 312 *e*P **P 09 27 05.6 -0.1**
ZEI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AKASG Malin Array Be 71.41 326 P **P 09 27 08.0 -1.0**
comp=Z,16nm,0.4s,mb5.3,baz=34,slow=6.0,SNR=45
AKASG Malin Array Be 71.41 326 P **P 09 27 08.0 -1.0**
ASAR Alice Springs 72.00 198 P **P 09 27 13.2 +0.2**
comp=Z,4.4nm,0.6s,mb4.6,baz=12,slow=5.8,SNR=84
ASAR LR LR 10 00 03.4
comp=Z,70nm,18.5s,MS4.0,baz=31,slow=37
ASAR Alice Springs 72.00 198 P **P 09 27 13.2 +0.2**
ASAR LR LR 10 00 03.4
ASPA Alice Springs 72.00 198 *e*P **P 09 27 13.0 +0.1**
ANMO Albuquerque 72.21 58 *e*P **P 09 27 13.8 -0.2**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO Albuquerque 72.21 58 *e*P **P 09 27 13.8 -0.2**
comp=Z,3.0nm,1.0s,mb4.2
GNI Garni 72.30 310 *e*P **P 09 27 14.3 -0.1**
GNI pmax pmax
comp=Z,10.0nm,0.8s
GNI Garni 72.30 310 *e*P **P 09 27 14.3 -0.2**
comp=Z,10nm,0.8s,mb4.8
PALK Pallekele 72.30 262 *e*P **P 09 27 15.1 +0.3**
comp=Z,9.2nm,0.9s,mb4.7
SOC Sochi 72.32 315 *e*P **P 09 27 11.6 -2.9**
SOC *e* pP 09 27 29.1 -0.5
SOC *e* 09 29 51.2
SOC *e*PPP PPP 09 31 36.7 -3.3
SOC *e*S S 09 36 24.7 -7.7
SOC *e* 09 37 05.7
SOC *e*SSS SSS 09 44 27.6 +4.8
SOC pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SOC pmax pmax
comp=N,4.0nm,0.4s
SOC pmax pmax
comp=E,3.0nm,0.4s
SOC MLR MLR
comp=Z,280nm,18.0s,MS4.6
SOC MLR MLR
comp=N,220nm,15.0s,MS4.6
SOC MLR MLR
comp=E,94nm,17.0s,MS4.6
SCHQ Schefferville 73.55 23 P **P 09 27 20.9 -0.5**
comp=E,4.1nm,0.9s,mb4.4,baz=331,slow=4.5,SNR=9.0
SCHQ LR LR 10 02 34.0
comp=E,69nm,20.4s,MS3.9,baz=349,slow=38
BSEG Bad Segeberg 74.78 338 *e*P **P 09 27 28.3 -0.2**
AMTX Amarillo 75.00 55 *e*P **P 09 27 30.4 +0.2**
comp=E,14nm,0.9s,mb4.9
MNTX Cornudas Mount 75.15 60 *e*P **P 09 27 31.0 -0.2**
comp=E,5.1nm,1.3s,mb4.3
OJC Ojcow 75.22 331 *e*P **P 09 27 31.1 -0.1**
KOLS Kolonicke sedl 75.45 329 *i*P **P 09 27 33.1 +0.6**
KOLS *e* 09 30 11.5
BURAR Bucovina Array 75.45 326 P **P 09 27 33.3 +0.7**
BANOM Banah 75.66 292 P **P 09 27 35.0 +0.8**
SNR=13
NIE Niedzica 75.72 330 *e*P **P 09 27 34.0 -0.1**
CRVS Cervenica-Dubn 75.76 329 *e*P **P 09 27 35.3 +1.0**
KSP Ksiaz 75.81 333 *e*P **P 09 27 34.0 -0.6**
OKC Ostrava-Krasne 76.09 332 *e*P **P 09 27 36.8 +0.6**
OKC AMS AMS 10 05 30.0
comp=E,300nm,17.5s
UPC Upice 76.19 333 *e*P **P 09 27 37.1 +0.4**
DPC Dobruska-Polom 76.23 333 *e*P **P 09 27 37.3 +0.3**
DPC AMS AMS 10 05 10.0
comp=E,400nm,17.5s
WBK Wadi Bani Khal 76.27 288 ⇑P **P 09 27 38.8 +1.0**
CFR Carcaliu 76.29 323 P **P 09 27 37.6 +0.2**
MORC Moravsky Berou 76.34 332 P **P 09 27 38.6 +1.0**
MORC Moravsky Berou 76.34 332 *e*P **P 09 27 37.4 -0.2**
comp=E,27nm,1.0s,mb5.1
CLL Collm 76.39 335 ⇑*i*P **P 09 27 37.7 -0.1**
CLL pmax pmax
comp=Z,48nm,0.9s,mb5.4
CLL Collm 76.39 335 ⇑*i*P **P 09 27 37.7 -0.1**
comp=Z,48nm,0.9s,mb5.4
CLL Collm 76.39 335 ⇑P **P 09 27 37.7 -0.1**
comp=Z,logA/T=1.7,mb5.4
KECS Kecovo 76.46 329 *i*P **P 09 27 38.5 +0.2**
BRG Berggiesshubel 76.50 334 *i*P **P 09 27 38.4 -0.1**
BRG pmax pmax
comp=Z,12nm,1.0s,mb4.8
BRG Berggiesshubel 76.50 334 *i*P **P 09 27 38.4 -0.1**
comp=Z,12nm,1.0s,mb4.8
SMDO Samad 76.56 289 ⇓P **P 09 27 40.4 +1.1**
PVCC Panska Ves 76.62 334 *e*P **P 09 27 39.1 0.0**
PVCC AMS AMS 10 03 40.0
comp=Z,300nm,19.2s
CLZ Clausthal 76.65 337 *e*P **P 09 27 39.3 0.0**
comp=Z,50nm,1.1s,mb5.4
HOQ Hoqain 76.67 290 P **P 09 27 40.9 +1.0**
SNR=8.1
ASHO Ashiyiah 76.69 292 P **P 09 27 41.1 +1.0**
SNR=10.0
HARR Harsova 76.77 323 P **P 09 27 31.9 -8.2**
MLR Muntele Rosu 76.92 325 P **P 09 27 41.8 +0.9**
MALT Malatya 76.93 313 P **P 09 27 43.0 +1.8**
MALT Malatya 76.93 313 *e*P **P 09 27 41.9 +0.7**
comp=Z,20nm,0.9s,mb5.0
JMDO Jabal Madar 77.01 289 ⇓P **P 09 27 42.8 +0.9**
SNR=6.1
VYHS Vyhne 77.02 330 *i*P **P 09 27 42.1 +0.7**
VRAC Vranov 77.06 332 P **P 09 27 42.7 +1.1**
DRGR 77.09 327 P **P 09 27 42.5 +0.6**
PRU Pruhonice 77.10 334 *e*P **P 09 27 42.5 +0.6**
PRU AMS AMS 10 05 10.0
comp=Z,300nm,21.1s
PSZ Piszkesteto 77.15 330 P **P 09 27 43.3 +1.1**
PSZ Piszkesteto 77.15 330 *e*P **P 09 27 42.5 +0.3**
comp=Z,50nm,1.4s,mb5.2
PSZ Piszkesteto 77.15 330 ⇓*i*P **P 09 27 43.2 +1.0**
BSY Bisya 77.33 290 P **P 09 27 44.9 +1.2**
SNR=6.4
ARQ Araqi 77.35 290 P **P 09 27 44.8 +1.0**
SNR=9.2
MOX Moxa 77.38 336 *e*P **P 09 27 43.1 -0.3**
MOX pmax pmax
comp=Z,26nm,1.0s,mb5.1
MOX Moxa 77.38 336 *e*P **P 09 27 43.1 -0.3**
comp=Z,26nm,1.0s,mb5.1
MOX Moxa 77.38 336 *i*P **P 09 27 43.7 +0.3**
comp=Z,logA/T=1.4,mb5.1
MOX L 10 04 15.0
SRO Srobarova 77.79 330 *e*P **P 09 27 47.0 +1.3**
ZST Bratislava 77.86 331 *i*P **P 09 27 47.4 +1.3**
LTX Lajitas 77.88 60 *e*P **P 09 27 46.9 +0.3**
LTX pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
LTX Lajitas 77.88 60 *e*P **P 09 27 46.9 +0.3**
comp=Z,8.2nm,0.6s,mb4.8
TXAR Lajitas Array 77.88 60 P **P 09 27 47.0 +0.5**
comp=Z,4.0nm,0.7s,mb4.5,baz=297,slow=4.8,SNR=39
TXAR pP pP 09 28 02.0 +0.2
comp=Z,7.1nm,0.6s,baz=298,slow=4.4,SNR=19
KHC Kasperske Hory 78.16 334 *e*P **P 09 27 48.2 +0.5**
KHC AMS AMS 10 05 40.0
comp=Z,400nm,15.9s
CCM Cathedral Cave 78.18 46 *e*P **P 09 27 47.2 -0.8**
CCM *e*PP pP 09 28 02.1 -1.2
CCM pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CCM Cathedral Cave 78.18 46 *e*P **P 09 27 47.2 -0.9**
comp=Z,9.5nm,1.0s,mb4.7
CCM *e*pP pP 09 28 02.1 -1.2
BRTR Keskin Array B 78.19 316 P **P 09 27 48.8 +0.7**
comp=Z,12nm,0.8s,mb4.9,baz=68,slow=3.9,SNR=46
GRA1 Grafenberg Arr 78.35 336 *e*P **P 09 27 49.0 +0.3**
comp=Z,52nm,0.9s,mb5.5
GRF Grafenberg Arr 78.35 336 *e*P **P 09 27 49.0 +0.3**
GRF pmax pmax
comp=Z,52nm,0.9s,mb5.5

GRF	**Grafenberg Arr**	**78.35**	**336**	*e*P	**P**	**09 27 49.0**	**+0.3**
GRF				pmax	pmax		
comp=Z,52nm,0.9s,mb5.5							
GRF	**Grafenberg Arr**	**78.35**	**336**	*e*P	**P**	**09 27 49.0**	**+0.3**
comp=Z,52nm,0.9s,mb5.5							
WET	**Wettzell**	**78.36**	**334**	*e*P	**P**	**09 27 49.0**	**+0.2**
WET				pmax	pmax		
comp=Z,32nm,1.0s,mb5.2							
WET	**Wettzell**	**78.36**	**334**	*e*P	**P**	**09 27 49.0**	**+0.2**
comp=Z,32nm,1.0s,mb5.2							
GEC2	**GERESS Array S**	**78.37**	**334**	*e*P	**P**	**09 27 48.6**	**-0.3**
GEC2				pmax	pmax		
comp=Z,14nm,1.0s,mb4.8							
GEC2	**GERESS Array S**	**78.37**	**334**	*e*P	**P**	**09 27 48.6**	**-0.3**
comp=Z,14nm,1.0s,mb4.8							
GERES	**GERESS Array B**	**78.37**	**334**	P	**P**	**09 27 49.0**	**+0.1**
comp=Z,6.2nm,0.7s,mb4.7,baz=34,slow=4.8,SNR=46							
GERES				LR	LR	10 06 30.8	
comp=Z,392nm,18.1s,MS4.8,baz=175,slow=39							
BZS	**Buzias**	**78.49**	**327**	P	**P**	**09 27 50.1**	**+0.5**
TNS	**Taunus Mts**	**78.63**	**337**	*e*P	**P**	**09 27 50.2**	**-0.1**
TNS				pmax	pmax		
comp=Z,31nm,0.9s,mb5.2							
TNS	**Taunus Mts**	**78.63**	**337**	*e*P	**P**	**09 27 50.2**	**-0.1**
comp=Z,31nm,0.9s,mb5.2							
STKA	**Stephens Creek**	**78.79**	**189**	*e*P	**P**	**09 27 51.7**	**+0.2**
comp=Z,2.8nm,1.2s,mb4.1							
STKA	**Stephens Creek**	**78.79**	**189**	P	**P**	**09 27 51.9**	**+0.4**
comp=Z,0.9nm,0.4s,mb4.0,baz=1.8,slow=19,SNR=7.2							
STKA				pP	pP	09 28 07.6	+0.8
comp=Z,1.1nm,0.5s,baz=347,slow=7.7,SNR=2.9							
STKA				LR	LR	10 03 41.4	
comp=Z,174nm,18.4s,MS4.4,baz=25,slow=36							
MOA	**Molln**	**79.08**	**333**	⇑*i*P	**P**	**09 27 53.3**	**+0.5**
comp=Z,7.5nm,0.9s,mb4.6							
TOD	**Tromm**	**79.10**	**337**	*e*P	**P**	**09 27 53.1**	**+0.3**
ABH	**Alteburg**	**79.18**	**338**	*e*P	**P**	**09 27 53.6**	**+0.3**
ARSA	**Arzberg**	**79.20**	**332**	⇑*i*P	**P**	**09 27 54.2**	**+0.7**
comp=Z,18nm,1.2s,mb4.9							
JCT	**Junction City**	**79.31**	**57**	*e*P	**P**	**09 27 54.1**	**-0.3**
JCT				*e**PP	pP	09 28 09.1	-0.6
JCT				pmax	pmax		
comp=Z,5.0nm,0.3s,mb4.9							
JCT	**Junction City**	**79.31**	**57**	*e*P	**P**	**09 27 54.1**	**-0.3**
comp=Z,4.6nm,0.3s,mb4.9							
JCT				*e*pP	pP	09 28 09.1	-0.6
RUP	**Ruppelstein**	**79.47**	**338**	*e*P	**P**	**09 27 55.9**	**+1.0**
GIVF	**Givet**	**79.66**	**340**	*e*P	**P**	**09 27 55.5**	**-0.4**
FUR	**Furstenfeldbru**	**79.71**	**335**	*e*P	**P**	**09 27 56.3**	**+0.1**
FUR				pmax	pmax		
comp=Z,46nm,0.8s,mb5.5							
FUR	**Furstenfeldbru**	**79.71**	**335**	*e*P	**P**	**09 27 56.3**	**+0.1**
comp=Z,46nm,0.8s,mb5.5							
BAIF	**Baives**	**79.84**	**340**	*e*P	**P**	**09 27 56.7**	**-0.2**
comp=Z,32nm,0.9s,mb5.0							
BAIF	**Baives**	**79.84**	**340**	*e*P	**P**	**09 27 56.7**	**-0.2**
BAIF				pmax	pmax		
comp=Z,16nm,0.9s,mb5.0							
BOLS	**Boljevac**	**79.87**	**326**	⇓*i*P	**P**	**09 27 55.5**	**-1.7**
PERS	**Pernice**	**79.88**	**332**	*e*P	**P**	**09 27 57.2**	**+0.1**
LANF	**Langenberg**	**79.94**	**337**	*e*P	**P**	**09 27 57.7**	**+0.3**
PARMO	**Parma**	**80.01**	**46**	*e*P	**P**	**09 27 57.9**	**-0.1**
KBA	**Koelnbreinsper**	**80.05**	**333**	⇑*i*P	**P**	**09 27 58.7**	**+0.7**
comp=Z,45nm,1.1s,mb5.3							
KBA	**Koelnbreinsper**	**80.05**	**333**	⇑*i*P	**P**	**09 27 58.7**	**+0.7**
KBA				pmax	pmax		
comp=Z,45nm,1.1s,mb5.3							
RAR	**Rarotonga**	**80.09**	**136**	LR	LR	09 55 18.3	
comp=Z,461nm,20.2s,MS4.8,baz=276,slow=30							
OBKA	**Obir**	**80.17**	**332**	⇑*i*P	**P**	**09 27 58.9**	**+0.2**
comp=Z,55nm,2.2s,mb5.1							
GRUS	**Gruza**	**80.30**	**327**	⇑*i*P	**P**	**09 27 55.5**	**-3.9**
ACSO	**Alum Creek Sta**	**80.33**	**40**	*e*P	**P**	**09 27 58.4**	**-1.4**
comp=Z,31nm,1.2s,mb5.1							
WATA	**Walderalm**	**80.36**	**334**	⇓*i*P	**P**	**09 28 00.9**	**+1.2**
comp=Z,30nm,1.0s,mb5.2							
WATA	**Walderalm**	**80.36**	**334**	⇓*i*P	**P**	**09 28 00.9**	**+1.2**
WATA				pmax	pmax		
comp=Z,30nm,1.0s,mb5.2							
DIVS	**Divcibare**	**80.39**	**327**	⇑*i*P	**P**	**09 27 59.6**	**-0.3**
BFO	**Black Forest**	**80.39**	**337**	*e*P	**P**	**09 27 59.7**	**-0.1**
BFO				pmax	pmax		
comp=Z,31nm,0.9s,mb5.2							
BFO	**Black Forest**	**80.39**	**337**	*e*P	**P**	**09 27 59.7**	**-0.1**
comp=Z,31nm,0.9s,mb5.2							
WTTA	**Wattenberg**	**80.41**	**334**	⇑*i*P	**P**	**09 28 00.5**	**+0.6**
comp=Z,64nm,1.1s,mb5.5							
WTTA	**Wattenberg**	**80.41**	**334**	⇑*i*P	**P**	**09 28 00.5**	**+0.6**
WTTA				pmax	pmax		
comp=Z,64nm,1.1s,mb5.5							
LEGS	**Legarje**	**80.42**	**331**	⇑*i*P	**P**	**09 27 59.5**	**-0.6**
comp=Z,52nm,1.2s,mb5.3							
VTS	**Vitosha**	**80.43**	**325**	P	**P**	**09 28 00.5**	**+0.4**
WCI	**Wyandotte Cave**	**80.44**	**43**	*e*P	**P**	**09 27 59.8**	**-0.5**
WCI				pmax	pmax		
comp=Z,20nm,1.0s,mb5.0							
WCI	**Wyandotte Cave**	**80.44**	**43**	*e*P	**P**	**09 27 59.8**	**-0.5**
comp=Z,20nm,1.0s,mb5.0							
SPAK	**Spaichingen**	**80.47**	**336**	*e*P	**P**	**09 28 01.3**	**+1.0**
MOTA	**Moosalm**	**80.50**	**335**	⇓*i*P	**P**	**09 28 01.5**	**+1.1**
RZN	**Rozhen**	**80.57**	**323**	P	**P**	**09 28 01.0**	**+0.1**
SQTA	**Sankt Quirin**	**80.58**	**334**	⇓*i*P	**P**	**09 28 02.1**	**+1.3**
comp=Z,29nm,1.0s,mb5.2							
SQTA	**Sankt Quirin**	**80.58**	**334**	⇓*i*P	**P**	**09 28 02.1**	**+1.3**
SQTA				pmax	pmax		
comp=Z,29nm,1.0s,mb5.2							
WLS	**Welschbruch**	**80.58**	**337**	*e*P	**P**	**09 28 00.8**	**0.0**
CDF	**Champ du Feu**	**80.60**	**337**	*e*P	**P**	**09 28 00.8**	**-0.1**
comp=Z,85nm,1.1s,mb5.3							
CDF	**Champ du Feu**	**80.60**	**337**	*e*P	**P**	**09 28 00.8**	**-0.1**
CDF				pmax	pmax		
comp=Z,42nm,1.1s,mb5.3							
BBLS	**Bajina Basta -**	**80.80**	**328**	⇑*i*P	**P**	**09 28 01.2**	**-0.8**
ECH	**Echery**	**80.81**	**337**	*e*P	**P**	**09 28 01.9**	**-0.1**
FELD	**Feldberg**	**80.89**	**337**	*e*P	**P**	**09 28 02.6**	**+0.1**
CEY	**Cerknica**	**80.90**	**332**	⇑*i*P	**P**	**09 28 02.0**	**-0.6**
DAVA	**Damuels**	**80.91**	**335**	⇑*i*P	**P**	**09 28 03.1**	**+0.5**
comp=Z,45nm,1.3s,mb5.2							
MMB	**Musomiste**	**81.06**	**324**	P	**P**	**09 28 04.0**	**+0.5**
KKB	**Krupnik**	**81.09**	**324**	P	**P**	**09 28 04.0**	**+0.4**
MEZF	**Maizieres J'vi**	**81.09**	**339**	*e*P	**P**	**09 28 03.7**	**+0.2**
comp=Z,88nm,0.9s,mb5.4							
THEF	**They Montfort**	**81.11**	**338**	*e*P	**P**	**09 28 04.1**	**+0.5**
MOF	**Molkenrain**	**81.15**	**337**	*e*P	**P**	**09 28 04.1**	**+0.3**
HAU	**Haudompre**	**81.22**	**338**	*e*P	**P**	**09 28 04.0**	**-0.2**
comp=Z,42nm,0.8s,mb5.1							
HAU				*e*R			
comp=Z,284nm,20.5s							
HAU	**Haudompre**	**81.22**	**338**	*e*P	**P**	**09 28 04.0**	**-0.2**
HAU				pmax	pmax		
comp=Z,21nm,0.8s,mb5.1							
HAU				MLR	MLR		
comp=Z,280nm,20.5s,MS4.6							
HINF	**Hinteralfeld**	**81.26**	**337**	*e*P	**P**	**09 28 04.0**	**-0.4**
comp=Z,27nm,0.9s,mb4.9							
HINF	**Hinteralfeld**	**81.26**	**337**	*e*P	**P**	**09 28 04.0**	**-0.4**
HINF				pmax	pmax		
comp=Z,13nm,0.9s,mb4.9							
DAVOX	**Davos**	**81.36**	**335**	LR	LR	10 04 26.9	
comp=Z,130nm,21.2s,MS4.3,baz=265,slow=36							
WVT	**Waverly**	**81.38**	**45**	*e*P	**P**	**09 28 04.6**	**-0.7**
WVT				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.6							
WVT	**Waverly**	**81.38**	**45**	*e*P	**P**	**09 28 04.6**	**-0.6**
comp=Z,7.3nm,0.8s,mb4.7							
SKO	**Skopje**	**81.65**	**325**	⇓*i*P	**P**	**09 28 07.7**	**+1.1**
LOMF	**Lomont**	**81.69**	**337**	*e*P	**P**	**09 28 04.8**	**-1.9**
CSS	**Prodhromos**	**82.11**	**314**	*e*P	**P**	**09 28 09.3**	**+0.2**
comp=Z,30nm,0.7s,mb5.3							
PPT	**Papeete**	**82.42**	**125**	*e*LR	LR	09 53 09.4	
comp=Z,427nm,24.8s,baz=329							
PPT	**Papeete**	**82.42**	**125**	LR	LR	10 05 02.8	
comp=Z,129nm,18.5s,MS4.3,baz=60,slow=36							
LOR	**Lormes**	**82.53**	**339**	*e*P	**P**	**09 28 11.0**	**0.0**
comp=Z,60nm,1.0s,mb5.3							
LOR				*e*R			
comp=Z,320nm,22.2s							
LOR	**Lormes**	**82.53**	**339**	*e*P	**P**	**09 28 11.0**	**0.0**
LOR				pmax	pmax		
comp=Z,30nm,1.0s,mb5.3							
LOR				MLR	MLR		
comp=Z,320nm,22.3s,MS4.6							
CABF	**La Chapelle**	**82.57**	**337**	*e*P	**P**	**09 28 11.5**	**+0.3**
comp=Z,38nm,1.1s,mb5.0							
CABF	**La Chapelle**	**82.57**	**337**	*e*P	**P**	**09 28 11.5**	**+0.3**
CABF				pmax	pmax		
comp=Z,19nm,1.1s,mb5.0							
SSF	**Saint Saulge**	**82.81**	**339**	*e*P	**P**	**09 28 12.5**	**+0.1**
SSF				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.9							
SSF	**Saint Saulge**	**82.81**	**339**	*e*P	**P**	**09 28 12.5**	**+0.1**
comp=Z,10nm,0.8s,mb4.9							
SGMF	**Saint Gilles**	**83.01**	**344**	*e*P	**P**	**09 28 13.5**	**+0.1**
comp=Z,52nm,1.1s,mb5.2							
SGMF	**Saint Gilles**	**83.01**	**344**	*e*P	**P**	**09 28 13.5**	**+0.1**
SGMF				pmax	pmax		
comp=Z,26nm,1.0s,mb5.2							
WHFO	**Wadi Hawf**	**83.02**	**289**	P	**P**	**09 28 14.1**	**+0.1**
SNR=12							
RBK	**Rabkut**	**83.03**	**288**	⇑P	**P**	**09 28 14.0**	**-0.1**
ROSF	**Rostrenen**	**83.07**	**344**	*e*P	**P**	**09 28 13.8**	**+0.1**
comp=Z,58nm,1.0s,mb5.3							
ROSF	**Rostrenen**	**83.07**	**344**	*e*P	**P**	**09 28 13.8**	**+0.1**
ROSF				pmax	pmax		
comp=Z,29nm,1.0s,mb5.3							
AVF	**Avril sur Loir**	**83.10**	**339**	*e*P	**P**	**09 28 14.1**	**+0.2**
comp=Z,57nm,0.9s,mb5.3							
AVF	**Avril sur Loir**	**83.10**	**339**	*e*P	**P**	**09 28 14.1**	**+0.2**
AVF				pmax	pmax		
comp=Z,29nm,0.9s,mb5.3							
SMF	**Signal de Mont**	**83.12**	**339**	*e*P	**P**	**09 28 14.2**	**+0.2**
comp=Z,174nm,1.2s,mb5.7							
SMF	**Signal de Mont**	**83.12**	**339**	*e*P	**P**	**09 28 14.2**	**+0.2**
SMF				pmax	pmax		
comp=Z,87nm,1.2s,mb5.7							
LPL	**La Plagne**	**83.41**	**337**	*e*P	**P**	**09 28 16.5**	**+1.0**
LPG	**La Plagne**	**83.42**	**337**	*e*P	**P**	**09 28 16.7**	**+1.2**
comp=Z,44nm,1.0s,mb5.2							
LPG	**La Plagne**	**83.42**	**337**	*e*P	**P**	**09 28 16.7**	**+1.2**
LPG				pmax	pmax		
comp=Z,22nm,1.0s,mb5.1							
ABTO	**Aybut**	**83.74**	**289**	⇓P	**P**	**09 28 17.7**	**0.0**
PLDF	**La Plantade**	**83.80**	**339**	*e*P	**P**	**09 28 18.7**	**+1.3**
AGO	**Saint Agoulin**	**83.85**	**339**	*e*P	**P**	**09 28 18.7**	**+1.1**
TCF	**Toulx Ste Croi**	**83.85**	**340**	*e*P	**P**	**09 28 18.0**	**+0.4**
comp=Z,63nm,1.2s,mb5.3							
TCF	**Toulx Ste Croi**	**83.85**	**340**	*e*P	**P**	**09 28 18.0**	**+0.4**
TCF				pmax	pmax		
comp=Z,32nm,1.2s,mb5.3							
MFF	**Saint Martin d**	**84.09**	**341**	*e*P	**P**	**09 28 19.0**	**+0.2**
comp=Z,22nm,0.9s,mb5.0							
MFF	**Saint Martin d**	**84.09**	**341**	*e*P	**P**	**09 28 19.0**	**+0.2**
MFF				pmax	pmax		
comp=Z,11nm,0.9s,mb5.0							
MBDF	**Montbardon**	**84.12**	**336**	*e*P	**P**	**09 28 19.5**	**+0.5**
comp=Z,11nm,0.7s,mb4.8							
MBDF	**Montbardon**	**84.12**	**336**	*e*P	**P**	**09 28 19.5**	**+0.5**
MBDF				pmax	pmax		
comp=Z,6.0nm,0.7s,mb4.8							
PYM	**Petit Puy Mans**	**84.16**	**339**	*e*P	**P**	**09 28 20.3**	**+1.1**
ORIF	**Oris-en-Rattie**	**84.19**	**337**	*e*P	**P**	**09 28 20.4**	**+1.0**
comp=Z,37nm,0.8s,mb5.3							
ORIF				*e*R			
comp=Z,269nm,22.0s							
AQU	**L'Aquila**	**84.24**	**331**	*e*P	**P**	**09 28 20.8**	**+1.1**
AQU				pmax	pmax		
comp=Z,22nm,0.8s,mb5.3							
AQU	**L'Aquila**	**84.24**	**331**	*e*P	**P**	**09 28 20.8**	**+1.1**
comp=Z,22nm,0.8s,mb5.3							
VIVF	**Saint-Julien-l**	**84.57**	**338**	*e*P	**P**	**09 28 22.1**	**+0.8**
comp=Z,74nm,1.1s,mb5.4							
VIVF	**Saint-Julien-l**	**84.57**	**338**	*e*P	**P**	**09 28 22.1**	**+0.8**
VIVF				pmax	pmax		
comp=Z,37nm,1.1s,mb5.4							
SAOF	**Saorge**	**84.58**	**335**	*e*P	**P**	**09 28 21.1**	**-0.2**
AUTN	**L'Aution**	**84.61**	**336**	*e*P	**P**	**09 28 22.1**	**+0.6**
TOUF	**Mont Tournerai**	**84.65**	**336**	*e*P	**P**	**09 28 22.6**	**+0.9**
SBF	**Sospel**	**84.73**	**335**	*e*P	**P**	**09 28 22.1**	**0.0**
comp=Z,54nm,1.0s,mb5.3							
SBF	**Sospel**	**84.73**	**335**	*e*P	**P**	**09 28 22.1**	**0.0**
SBF				pmax	pmax		
comp=Z,27nm,1.0s,mb5.3							
MVIF	**Mont Vial**	**84.78**	**336**	*e*P	**P**	**09 28 23.0**	**+0.7**
RJF	**Les Rejaudoux**	**84.94**	**340**	*e*P	**P**	**09 28 22.9**	**-0.2**
RJF				*e*R			
comp=Z,336nm,21.8s							
CALN	**Calern**	**84.99**	**336**	*e*P	**P**	**09 28 24.0**	**+0.6**
STOF	**St-Etienne Org**	**85.03**	**337**	*e*P	**P**	**09 28 24.8**	**+1.2**
SMRF	**Simiane la Rot**	**85.15**	**337**	*e*P	**P**	**09 28 25.2**	**+1.1**
comp=Z,49nm,1.3s,mb5.2							
CAF	**Calviac**	**85.16**	**339**	*e*P	**P**	**09 28 24.8**	**+0.6**
comp=Z,6.6nm,0.6s,mb4.7							
CAF	**Calviac**	**85.16**	**339**	*e*P	**P**	**09 28 24.8**	**+0.6**
CAF				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.6							
VILF	**Villemus**	**85.22**	**337**	*e*P	**P**	**09 28 26.2**	**+1.7**
FRF	**La Foret Royal**	**85.23**	**336**	*e*P	**P**	**09 28 24.7**	**+0.1**
TAVF	**Tavernes**	**85.35**	**336**	*e*P	**P**	**09 28 26.2**	**+1.1**
PRAF	**Pradon**	**85.42**	**337**	*e*P	**P**	**09 28 27.1**	**+1.6**
EIL	**Elat**	**85.45**	**309**	*e*P	**P**	**09 28 26.9**	**+0.9**
comp=Z,67nm,1.4s,mb5.6							
LFF	**La Frestale**	**85.46**	**340**	*e*P	**P**	**09 28 26.6**	**+0.9**
PGF	**Pioggiola**	**85.47**	**334**	*e*P	**P**	**09 28 25.9**	**+0.1**
comp=Z,48nm,1.2s,mb5.2							
PGF	**Pioggiola**	**85.47**	**334**	*e*P	**P**	**09 28 25.9**	**+0.1**
PGF				pmax	pmax		
comp=Z,24nm,1.2s,mb5.2							
LMR	**La Mourre**	**85.48**	**336**	*e*P	**P**	**09 28 26.2**	**+0.4**
comp=Z,106nm,1.2s,mb5.5							
LMR	**La Mourre**	**85.48**	**336**	*e*P	**P**	**09 28 26.2**	**+0.4**
LMR				pmax	pmax		
comp=Z,53nm,1.2s,mb5.5							
LASF	**Ste Croix**	**85.51**	**338**	*e*P	**P**	**09 28 27.1**	**+1.2**
comp=Z,26nm,1.1s,mb5.1							
PUYF	**Puyloubier**	**85.52**	**336**	*e*P	**P**	**09 28 27.4**	**+1.4**
TREF	**Trevaresse**	**85.53**	**337**	*e*P	**P**	**09 28 27.4**	**+1.4**
BERF	**Bertagne**	**85.73**	**336**	*e*P	**P**	**09 28 27.9**	**+0.9**
GELF	**Grande-Etoile**	**85.74**	**337**	*e*P	**P**	**09 28 26.7**	**-0.4**
TIP	**Timpagrande**	**85.85**	**327**	*e*P	**P**	**09 28 28.1**	**+0.4**
MTLF	**Montolieu**	**86.61**	**339**	*e*P	**P**	**09 28 32.5**	**+1.1**
ETSF	**Etsaut**	**87.70**	**341**	*e*P	**P**	**09 28 36.6**	**0.0**
ESDC	**Sonseca Array**	**91.53**	**342**	P	**P**	**09 28 54.6**	**-0.1**
comp=Z,2.0nm,0.6s,mb4.6,baz=10,slow=3.0,SNR=13							
EVO	**Evora**	**93.43**	**345**	*e*P	**P**	**09 29 02.8**	**-0.7**
comp=Z,7.5nm,0.7s,mb4.9							
EVO				*e*R			
comp=Z,218nm,22.5s							
RKT	**Rikitea**	**95.28**	**118**	*e*LR	LR	09 59 07.6	
comp=Z,330nm,31.8s							
DBIC	**Dimbokro**	**123.24**	**333**	PKP	PKPdf	09 34 45.2	+0.9
comp=Z,5.4nm,0.8s,baz=238,slow=1.8,SNR=6.0							
DBIC	**Dimbokro**	**123.24**	**333**	PKP	PKPdf	09 34 45.2	+0.9
VNDA	**Vanda**	**124.03**	**178**	PKP	PKPdf	09 34 45.3	+0.9
comp=Z,1.3nm,0.7s,baz=314,slow=3.4,SNR=9.9							
VNDA				pPKP		09 35 01.2	
comp=Z,2.0nm,0.7s,baz=319,slow=3.5,SNR=8.6							
MAW	**Mawson**	**131.92**	**211**	PKP	PKPdf	09 35 01.8	+2.3
comp=Z,2.9nm,0.8s,baz=29,slow=9.2,SNR=3.6							
LPAZ	**La Paz**	**134.73**	**62**	PKP	PKPdf	09 35 09.4	+3.3
comp=Z,1.3nm,1.0s,baz=51,slow=6.5,SNR=3.9							
BOSA	**Boshof**	**135.43**	**275**	PKP	PKPdf	09 35 07.8	+0.7
comp=Z,1.7nm,0.8s,baz=358,slow=11,SNR=3.0							
BOSA	**Boshof**	**135.43**	**275**	PKP	PKPdf	09 35 07.8	+0.7
BDFB	**Brasilia**	**144.65**	**36**	PKP	PKPdf	09 35 23.9	+0.2
comp=Z,7.1nm,0.7s,baz=322,slow=2.1,SNR=9.0							
BAO	**Brasilia Array**	**144.65**	**36**	PKPdf	PKPdf	09 35 24.9	+1.1
PLCA	**Paso Flores**	**148.58**	**95**	PKPbc	PKPdf	09 35 35.6	+6.0
comp=Z,6.7nm,0.9s,baz=239,slow=4.2,SNR=16							
PLCA				pPKPbc		09 35 51.8	
comp=Z,4.5nm,0.6s,baz=251,slow=3.9,SNR=5.5							
CPUP	**Villa Florida**	**148.85**	**60**	PKPbc	PKPdf	09 35 35.9	+5.3
comp=Z,8.1nm,0.9s,baz=326,slow=5.2,SNR=17							
CPUP				pPKPbc		09 35 52.1	
comp=Z,2.3nm,0.5s,baz=7.3,slow=3.6,SNR=3.6							
SNAA	**Sanae**	**152.35**	**196**	PKPbc	PKPdf	09 35 41.9	+7.4
comp=Z,2.3nm,0.8s,baz=242,slow=6.9,SNR=7.6							
SNAA				pPKPbc		09 35 58.4	
comp=Z,2.1nm,0.8s,baz=331,slow=7.2,SNR=2.5							

ECX 27 09:44:10.4±0.4, 30.45N×114.09W, h10km, ML3.9, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**1.31**	**321**	*e*S	Sb	09 44 50.9	-0.4
SPX	**San Pedro Mart**	**1.32**	**297**	*e*P	Pb	09 44 33.4	-1.5
SPX				*e*S	Sb	09 44 51.4	-0.3
EMX	**El Mayor**	**1.82**	**328**	*e*S	Sn	09 45 04.8	-0.6
EMX				⇑*e*		09 45 42.2	
comp=E,853nm,1.0s							
RDX	**Rancho Dowling**	**2.17**	**313**	*e*PN	Pn	09 44 46.6	-0.5
RDX				*e*S	Sn	09 45 14.8	+0.5
CPBX	**Cerro Prieto**	**2.22**	**332**	*e*PN	Pn	09 44 47.3	-0.4
CPBX				*e*S	Sn	09 45 15.6	+0.2
CPBX				⇓*e*		09 45 44.1	
comp=N,2μm,0.6s							
CPBX				⇓*e*		09 45 52.6	
comp=E,1μm,0.6s							
ECNX	**Esteban Cantu**	**2.46**	**300**	*e*PN	Pn	09 44 51.0	-0.4
ENX	**Ensenada**	**2.63**	**304**	*e*PN	Pn	09 44 52.5	-1.1
ENX				*e*S	Sn	09 45 24.1	-1.8

IDC 27 09:52:29.2±25.0, 26.41S×172.13W, mb3.9/4, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, ML3.9/1, Error ellipse: s-maj=462.4km s-min=75.6km az=88.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.90**	**215**	Pn	P	09 56 00.1	-2.8
0.5nm,0.3s,baz=60,slow=8.1,SNR=3.8							
CTA	**Charters Tower**	**38.63**	**270**	P	P	09 59 53.1	-3.0
2.3nm,0.4s,baz=80,slow=11,SNR=5.2							
STKA	**Stephens Creek**	**40.55**	**251**	P	P	10 00 10.5	-1.4
0.4nm,0.4s,baz=315,slow=2.9,SNR=2.2							
ASAR	**Alice Springs**	**48.68**	**261**	P	P	10 01 16.0	-1.3
0.3nm,0.4s,baz=94,slow=6.2,SNR=6.0							
WRA	**Warramunga Arr**	**49.35**	**266**	P	P	10 01 21.0	-1.5
0.8nm,0.7s,baz=109,slow=7.3,SNR=6.4							

*NEIC **27** 10:01:30.6, 35.03S×70.59W, h7km, ML2.8(GUC), After GUC.*

GUC 27 10:01:30.6±1.0, 35.03S×70.59W, h7km±3km, MD3.6, ML2.8, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.52**	**272**	⇓*i*P	Pg	10 01 41.4	+0.3
NICH				*i* S	Sg	10 01 49.5	+1.4
SFDO	**San Fernando**	**0.54**	**320**	⇓*i*P	Pg	10 01 41.3	-0.1
SFDO				*i* S	Sg	10 01 49.6	+1.0
CICH	**Cipreses**	**0.72**	**12**	⇑*i*P	Pg	10 01 43.8	-1.2
CICH				*i* S	Sg	10 01 54.0	-0.7
CACH	**El Canelo**	**0.91**	**360**	*e*P	Pb	10 01 47.1	-1.2
CACH				*i* S	Sb	10 02 00.2	-0.1
TALC	**Talca**	**0.93**	**246**	*i* S	Sb	10 02 00.8	-0.1
TALC				AMP		10 02 01.5	
comp=N,2μm,0.2s							
CHCH	**Chadas Angostu**	**1.09**	**357**	*e*P	Pb	10 01 50.6	-0.8
CHCH				*i* S	Sb	10 02 06.0	+0.3
LMEL	**Las Melosas**	**1.22**	**15**	⇑*i*P	Pb	10 01 52.8	-0.8
LMEL				*i* S	Sb	10 02 09.6	+0.2
LMEL				AMP		10 02 10.6	
comp=E,133nm,0.4s							
LNV	**Longovilo**	**1.26**	**327**	*i* P	Pb	10 01 53.5	-0.8
LNV				*i* S	Sb	10 02 11.2	+0.5
PCH	**Pirque**	**1.40**	**3**	*i* P	Pn	10 01 56.2	-0.5
PCH				*i* S	Sb	10 02 15.8	+1.0
CLCH	**Cerro Calan**	**1.63**	**2**	*e*P	Pn	10 01 59.7	-0.2
CLCH				*i* S	Sb	10 02 22.2	+1.0
CLCH				AMP		10 02 26.2	
comp=E,200nm,0.8s							
FCH	**Farellones**	**1.71**	**9**	*e*P	Pn	10 02 01.4	+0.3
FCH				*i* S	Sn	10 02 24.7	+1.2
FCH				AMP		10 02 26.4	
comp=E,116nm,0.6s							
LCCH	**Las Cruces**	**1.75**	**332**	⇑*i*P	Pn	10 02 01.9	+0.3
LCCH				*i* S	Sn	10 02 25.3	+1.0

**MOS 27 10:02:25.6±0.9, 51.15N×98.38E, h11km,

2.5nm,0.8s,baz=359,slow=6.5,SNR=17
INK Inuvik 65.15 24 P **P 10 20 32.5 -0.4**
0.6nm,0.9s,mb3.6,baz=262,slow=14,SNR=4.6
ARCES **ARCESS Array B 67.82 338** LR LR 10 55 40.4
comp=Z,78nm,18.3s,MS4.0,baz=52,slow=41
YKA Yellowknife Ar 74.77 26 P **P 10 21 31.4 0.0**
0.2nm,0.8s,mb3.1,baz=300,slow=5.0,SNR=4.0
NOA NORSAR Array B 77.38 334 LR LR 11 00 45.8
comp=Z,37nm,18.7s,MS3.7,baz=130,slow=40
NVAR Mina Array Bea 86.81 47 P **P 10 22 37.6 +2.0**
0.5nm,0.7s,mb3.8,baz=276,slow=4.7,SNR=4.9

*IDC **27** 11:09:32.1±0.6,53.55N×165.00W,mb4.3/21,mb1 4.5/23, mb1mx4.4/31,mbtmp4.3/23,ML3.8/2,MS3.7/16,Ms1 3.7/16, ms1mx3.5/36,Error ellipse: s-maj=17.6km s-min=11.1km az=177.0*
*BJI **27** 11:09:38.2,53.60N×164.90W,h42km,mB4.8,mb4.5, Ms4.6,Msz4.2*
*NEIC **27** 11:09:38.2±0.4,53.63N×164.89W,h43km±3km,mb4.6/27, ML4.3(AEIC),Error ellipse: s-maj=5.5km s-min=2.8km az=167.0*
ISC 27 11:09:37.6±0.5,**53.63N**±0.05×**164.85W**±0.04,**h54**km±4km, **h43**km±1.2km:**pP-P,n129,**σ1º**05**/127,**mb4.5**/51,**MS3.7**/18, **2C,Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKA	**Akutan**	**0.75**	**313**	P	**P**	**11 09 52.2**	**0.0**
AKA				S	**S**	**11 10 04.2**	**+1.3**
AKUT	**Akutan**	**0.75**	**313**	P	**P**	**11 09 52.0**	**-0.1**
AKUT				S	**S**	**11 10 04.1**	**+1.2**
WESS	**West Dahl Sout**	**0.85**	**5**	P	**P**	**11 09 54.0**	**+0.4**
LVA	**Lava Point**	**0.88**	**308**	P	**P**	**11 09 54.0**	**0.0**
WFAR	**Faris Peak**	**0.91**	**3**	P	**P**	**11 09 55.0**	**+0.7**
WESN	**West Dahl Nort**	**0.95**	**9**	P	**P**	**11 09 55.8**	**+0.8**
WPOG	**Pogromni**	**0.97**	**3**	P	**P**	**11 09 55.7**	**+0.5**
UNV	**Unalaska Valle**	**1.01**	**283**	P	**P**	**11 09 54.3**	**-1.4**
UNV				S	**S**	**11 10 09.2**	**0.0**
MNAT	**Makushin Natee**	**1.12**	**284**	P	**P**	**11 09 56.4**	**-0.9**
MNAT				S	**S**	**11 10 13.2**	**+1.3**
MSW	**Makushin Switc**	**1.18**	**285**	P	**P**	**11 09 57.4**	**-0.7**
SSLS	**Shishaldin Sou**	**1.19**	**24**	P	**P**	**11 09 58.4**	**+0.1**
SSLW	**Shishaldin Wes**	**1.22**	**20**	P	**P**	**11 09 59.0**	**+0.3**
SSLN	**Shishaldin Nor**	**1.28**	**23**	P	**P**	**11 10 00.3**	**+0.7**
FALS	**False Pass**	**1.49**	**34**	P	**P**	**11 10 02.1**	**-0.5**
FALS				S	**S**	**11 10 25.3**	**+4.3**
OKFG	**Magazine Ridge**	**1.84**	**264**	P	**P**	**11 10 06.7**	**-0.8**
OKFG				S	**S**	**11 10 32.2**	**+2.6**
DRIA	**Deer Island**	**2.02**	**47**	P	**P**	**11 10 09.8**	**-0.1**
DT1	**Dutton Round H**	**2.11**	**44**	P	**P**	**11 10 11.8**	**+0.6**
DTNA	**Dutton South F**	**2.15**	**44**	P	**P**	**11 10 12.4**	**+0.6**
DOL	**Dolgoi Island**	**2.31**	**48**	P	**P**	**11 10 14.4**	**+0.2**
HAG	**Hague Volcano**	**2.41**	**44**	P	**P**	**11 10 16.3**	**+0.8**
NIKO	**Nikolski**	**2.49**	**256**	P	**P**	**11 10 16.3**	**-0.4**
PVV	**Pavlof Volcano**	**2.50**	**44**	P	**P**	**11 10 17.7**	**+0.9**
BLHA	**Black Hill**	**2.63**	**37**	P	**P**	**11 10 18.9**	**+0.2**
ATKA	**Atka Island**	**5.83**	**260**	P	**P**	**11 11 02.2**	**-1.3**
KIWB	**Kanaga Island**	**7.68**	**262**	*eP*	**P**	**11 11 27.6**	**-1.8**
KDAK	**Kodiak Island**	**8.08**	**54**	P	**P**	**11 11 32.0**	**-2.8**
SPU	**Mount Spurr**	**10.23**	**37**	P	**P**	**11 12 02.9**	**-1.2**
TTA	**Tatalina**	**10.41**	**23**	*eP*	**P**	**11 12 08.8**	**+2.2**
SLKM	**Skilak Lake**	**10.51**	**43**	*eP*	**P**	**11 12 06.6**	**-1.4**
FIB	**Fire Island**	**10.92**	**40**	P	**P**	**11 12 12.8**	**-0.8**
PMR	**Palmer**	**11.58**	**40**	*eP*	**P**	**11 12 22.0**	**-0.4**
	2.4nm,0.7s						
SML	**Sawmill**	**12.01**	**40**	*eP*	**P**	**11 12 25.6**	**-2.7**
TNA	**Tin City**	**12.07**	**354**	*eP*	**P**	**11 12 30.8**	**+1.7**
EYAK	**Cordova Ski Ar**	**12.45**	**49**	*eP*	**P**	**11 12 31.5**	**-2.7**
DIV	**Divide**	**12.70**	**46**	*eP*	**P**	**11 12 35.0**	**-2.5**
MCK	**McKinley**	**13.03**	**33**	*eP*	**P**	**11 12 39.1**	**-2.8**
FX1	**Attu Island--F**	**13.18**	**276**	Pn	**P**	**11 12 43.4**	**-0.4**
	1.4nm,0.3s,baz=72,slow=3.2,SNR=7.0						
IMA	**Indian Mountai**	**13.65**	**20**	*eP*	**P**	**11 12 50.4**	**+0.7**
THY	**Trims Highway**	**13.92**	**38**	*eP*	**P**	**11 12 53.8**	**+0.5**
COLA	**College**	**14.17**	**31**	*eP*	**P**	**11 12 55.4**	**-1.2**
ILAR	**Eielson Array**	**14.40**	**32**	Pn	**P**	**11 12 57.1**	**-2.4**
	0.3nm,0.3s,baz=228,slow=12,SNR=19						
ILAR				LR	LR	11 18 55.2	
	comp=Z,324nm,19.0s,baz=86,slow=39						
MENT	**Mentasta**	**14.43**	**41**	*eP*	**P**	**11 12 59.2**	**-0.8**
DAWY	**Dawson**	**16.68**	**41**	*eP*	**P**	**11 13 28.4**	**-0.3**
DLBC	**Dease Lake**	**19.89**	**62**	P	**P**	**11 14 05.6**	**-1.2**
	11nm,0.8s,baz=281,slow=12,SNR=29						
DLBC	**Dease Lake**	**19.89**	**62**	*eP*	**P**	**11 14 06.5**	**-0.3**
INK	**Inuvik**	**20.80**	**33**	P	**P**	**11 14 14.7**	**-1.5**
	3.2nm,0.4s,baz=236,slow=12,SNR=42						
INK				LR	LR	11 23 17.0	
	comp=Z,340nm,18.2s,MS3.8,baz=3.0,slow=39						
INK	**Inuvik**	**20.80**	**33**	*eP*	**P**	**11 14 13.5**	**-2.7**
	7.6nm,0.6s						
BBB	**Bella Bella**	**22.05**	**79**	LR	LR	11 21 02.8	
	comp=Z,120nm,20.6s,MS3.3,baz=312,slow=31						
YKW3	**Yellowknife Ar**	**27.33**	**51**	*eP*	**P**	**11 15 18.8**	**-0.1**
YKA	**Yellowknife Ar**	**27.34**	**51**	P	**P**	**11 15 19.6**	**+0.6**
	1.5nm,0.6s,mb3.7,baz=276,slow=8.0,SNR=29						
YKA				PcP	PcP	11 18 36.9	-0.6
	0.4nm,0.7s,baz=275,slow=3.0,SNR=3.8						
YKA	**Yellowknife Ar**	**27.34**	**51**	P	**P**	**11 15 19.6**	**+0.6**
YKA				PcP	PcP	11 18 36.9	-0.6
NEW	**Newport**	**30.08**	**81**	LR	LR	11 25 28.2	
	comp=Z,109nm,19.9s,MS3.5,baz=136,slow=32						
EDM	**Edmonton**	**30.14**	**70**	*eP*	**P**	**11 15 44.0**	**-0.1**
YBH	**Yreka Blue Hor**	**30.31**	**96**	P	**P**	**11 15 47.1**	**+1.2**
	3.7nm,0.8s,mb4.2,baz=275,slow=8.6,SNR=11						
YBH				LR	LR	11 25 08.1	
	comp=Z,98nm,18.2s,MS3.5,baz=342,slow=31						
MOD	**Modoc**	**31.64**	**93**	*eP*	**P**	**11 15 58.0**	**+0.5**
	16nm,1.1s,mb4.8						
WVOR	**Wild Horse Val**	**32.31**	**91**	*eP*	**P**	**11 16 03.4**	**+0.1**
	16nm,1.0s,mb4.8						
WCN	**Washoe City**	**33.59**	**97**	*eP*	**P**	**11 16 14.6**	**+0.1**
	20nm,1.5s,mb4.8						
RES	**Resolute Bay**	**34.04**	**26**	*eP*	**P**	**11 16 17.3**	**-0.6**
CMB	**Columbia Colle**	**34.05**	**99**	*eP*	**P**	**11 16 19.2**	**+0.8**
	3.1nm,0.8s,mb4.3						
HLID	**Hailey**	**34.17**	**86**	*eP*	**P**	**11 16 19.6**	**+0.2**
NVAR	**Mina Array Bea**	**35.02**	**97**	P	**P**	**11 16 27.9**	**+1.2**
	9.0nm,0.8s,mb4.8,baz=306,slow=7.4,SNR=82						
NVAR				PcP	PcP	11 18 57.8	-0.4
	0.7nm,0.7s,baz=284,slow=3.7,SNR=5.5						
MNV	**Mina**	**35.10**	**96**	*eP*	**P**	**11 16 28.0**	**+0.5**
	9.5nm,1.1s,mb4.6						
ASAJ	**Asahikawa**	**35.11**	**276**	P	**P**	**11 16 26.4**	**-1.1**
	12nm,1.0s,mb4.8,baz=90,slow=14,SNR=4.3						
OMM	**Old Mammoth Mi**	**35.15**	**98**	*eP*	**P**	**11 16 28.8**	**+0.9**
ELK	**Elko**	**35.36**	**91**	*eP*	**P**	**11 16 30.2**	**+0.6**
	12nm,0.9s,mb4.8						
TPH	**Tonopah**	**35.89**	**96**	*eP*	**P**	**11 16 34.6**	**+0.4**
	15nm,0.9s,mb4.9						
TRCR	**Troy Canyon**	**36.68**	**94**	*eP*	**P**	**11 16 41.3**	**+0.5**
DUG	**Dugway**	**37.15**	**90**	*eP*	**P**	**11 16 45.1**	**+0.4**
	9.9nm,1.0s,mb4.6						
BW06	**Boulder Array**	**37.51**	**84**	*eP*	**P**	**11 16 48.0**	**+0.3**
	1.4nm,0.7s,mb3.8						
PDAR	**Pinedale Array**	**37.51**	**84**	P	**P**	**11 16 48.5**	**+0.7**
	1.9nm,0.9s,mb3.8,baz=322,slow=5.9,SNR=14						
FCC	**Fort Churchill**	**38.01**	**53**	*eP*	**P**	**11 16 52.0**	**+0.2**
	5.8nm,0.8s,mb4.4						
MVU	**Marysvale**	**38.59**	**91**	*eP*	**P**	**11 16 57.5**	**+0.8**
	5.3nm,0.9s,mb4.3						
NEN	**Nelson**	**38.93**	**97**	*eP*	**P**	**11 17 00.6**	**+1.0**
LDFC	**Landfair**	**39.17**	**98**	*eP*	**P**	**11 17 02.1**	**+0.6**
BAR	**Barrett**	**39.95**	**102**	*eP*	**P**	**11 17 08.5**	**+0.4**
RSSD	**Black Hills**	**39.96**	**78**	*eP*	**P**	**11 17 07.8**	**-0.2**
	4.6nm,0.8s,mb4.3						
PV10	**Paradox Valley**	**40.56**	**89**	*eP*	**P**	**11 17 13.9**	**+0.9**
PV01	**Paradox Valley**	**41.00**	**89**	*eP*	**P**	**11 17 16.8**	**+0.1**
WUAZ	**Wupatki**	**41.08**	**94**	*eP*	**P**	**11 17 18.4**	**+1.0**
	16nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	**42.42**	**285**	P	**P**	**11 17 27.0**	**-1.2**
MDJ				AP	pP	11 17 38.5	-3.8
MDJ				XP	sP	11 17 43.0	-5.7
MDJ				PCP	PcP	11 19 20.3	-0.8
MDJ				SCP		11 23 07.5	
MDJ				PCS		11 23 12.5	
MDJ				S	**S**	**11 23 45.0**	**-0.6**
MDJ				XS		11 24 04.5	
MDJ				SS	SS	11 26 55.3	+5.3
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.0s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,51nm,4.0s						
MDJ				LR	LR		
	comp=N,40nm,21.9s,MS3.4						
MDJ				LR	LR		
	comp=E,42nm,22.5s,MS3.4						
MDJ				LR	LR		
	comp=Z,60nm,25.8s,MS3.4						
MJAR	**Matsushiro Arr**	**42.45**	**270**	P	**P**	**11 17 29.0**	**+0.5**
	comp=Z,0.8nm,0.3s,mb3.8,baz=34,slow=5.8,SNR=5.3						
MJAR				LR	LR	11 32 35.9	
	comp=Z,101nm,18.9s,MS3.7,baz=165,slow=33						
MJAR	**Matsushiro Arr**	**42.45**	**270**	P	**P**	**11 17 29.0**	**+0.5**
MJAR				LR	LR	11 32 35.9	
SDCO	**Great Sand Dun**	**43.08**	**87**	*eP*	**P**	**11 17 34.2**	**+0.5**
	comp=Z,6.3nm,1.1s,mb4.3						
TUC	**Tucson**	**43.67**	**97**	*eP*	**P**	**11 17 39.1**	**+0.5**
	comp=Z,5.2nm,0.9s,mb4.3						
ANMO	**Albuquerque**	**44.39**	**91**	P	**P**	**11 17 45.0**	**+0.7**
	comp=Z,3.7nm,1.2s,mb4.0,baz=322,slow=11,SNR=6.7						
ANMO				PcP	PcP	11 19 28.2	+0.3
	comp=Z,1.4nm,0.7s,baz=273,slow=2.3,SNR=5.5						
ANMO	**Albuquerque**	**44.39**	**91**	*eP*	**P**	**11 17 44.4**	**0.0**
	comp=Z,4.0nm,1.2s,mb4.0						
CN2	**Changchun**	**45.28**	**287**	*eP*	**P**	**11 17 50.0**	**-1.3**
CN2				*e*AP	pP	11 18 02.5	-3.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
MNTX	**Cornudas Mount**	**47.31**	**93**	*eP*	**P**	**11 18 07.8**	**+0.3**
	comp=Z,8.1nm,0.8s,mb4.7						
DAG	**Danmarks Havn**	**48.11**	**10**	*eP*	**P**	**11 18 13.0**	**-0.2**
	comp=Z,2.5nm,0.4s,mb4.6						
DAG	**Danmarks Havn**	**48.11**	**10**	*i* P	**P**	**11 18 13.0**	**-0.2**
	comp=Z,2.5nm,0.4s,mb4.6						
LTX	**Lajitas**	**50.04**	**94**	*eP*	**P**	**11 18 28.8**	**+0.1**
	comp=Z,9.6nm,0.8s,mb4.9						
TXAR	**Lajitas Array**	**50.04**	**94**	P	**P**	**11 18 28.8**	**+0.2**
	comp=Z,8.7nm,0.8s,mb4.9,baz=298,slow=5.5,SNR=126						
TXAR				LR	LR	11 37 29.7	
	comp=Z,41nm,18.9s,MS3.5,baz=330,slow=34						
CCM	**Cathedral Cave**	**51.26**	**76**	*eP*	**P**	**11 18 35.3**	**-2.5**
	comp=Z,5.2nm,0.8s,mb4.5						
JCT	**Junction City**	**51.51**	**89**	*eP*	**P**	**11 18 39.0**	**-0.8**
	comp=Z,16nm,0.7s,mb5.1						
TLY	**Talaya**	**51.77**	**308**	*eP*	**P**	**11 18 41.2**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.1						
ULN	**Ulaanbaatar**	**52.62**	**302**	*eP*	**P**	**11 18 46.1**	**-1.6**
	comp=Z,3.5nm,0.6s,mb4.5						
SCHQ	**Schefferville**	**52.62**	**46**	P	**P**	**11 18 47.8**	**+0.1**
	comp=Z,1.5nm,0.5s,mb4.1,baz=331,slow=9.8,SNR=6.8						
SCHQ				LR	LR	11 42 48.8	
	comp=Z,84nm,19.4s,MS3.8,baz=320,slow=38						
BJI	**Beijing**	**52.98**	**289**	P	**P**	**11 18 51.0**	**+0.4**
OXF	**Oxford**	**54.78**	**78**	*eP*	**P**	**11 19 02.0**	**-1.9**
	comp=Z,42nm,0.8s,mb5.5						
PLAL	**Pickwick Lake**	**55.22**	**77**	*eP*	**P**	**11 19 05.3**	**-1.8**
	comp=Z,7.9nm,0.8s,mb4.8						
SSE	**Sheshan**	**56.36**	**278**	P	**P**	**11 19 13.5**	**-1.9**
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,43nm,4.0s						
ARCES	**ARCESS Array B**	**56.91**	**356**	P	**P**	**11 19 18.1**	**-0.7**
	comp=Z,2.9nm,0.6s,mb4.5,baz=10.0,slow=7.1,SNR=14						
ARCES				LR	LR	11 44 34.4	
	comp=Z,56nm,18.4s,MS3.7,baz=182,slow=37						
ZAL	**Zalesovo**	**58.31**	**319**	LR	LR	11 46 59.8	
	comp=Z,122nm,19.4s,MS4.0,baz=242,slow=38						
BORG	**Borgarnes**	**58.66**	**17**	LR	LR	11 46 25.0	
	comp=Z,48nm,19.3s,MS3.6,baz=347,slow=38						
LZH	**Lanzhou**	**62.61**	**294**	*eP*	**P**	**11 19 58.0**	**-0.3**
LZH				AP	pP	11 20 09.5	-3.6
LZH				XP	sP	11 20 14.0	-5.3
LZH				AMB	AMB		
	comp=Z,16nm,1.2s,mb5.0						
JOF	**Joensuu**	**63.10**	**352**	*ep*	**P**	**11 20 00.3**	**-1.0**
	comp=Z,4.8nm,0.5s,mb4.9						
BVAR	**Borovoye Array**	**64.21**	**327**	P	**P**	**11 20 08.4**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=51,slow=6.3,SNR=9.1						
KAF	**Kangasniemi**	**64.27**	**354**	*ep*	**P**	**11 20 08.2**	**-0.4**
	comp=Z,6.7nm,0.5s,mb4.9,baz=3.1,slow=6.3						
WMQ	**Urumqi**	**64.86**	**310**	⇑P	**P**	**11 20 14.5**	**+1.7**
WMQ				AP	pP	11 20 27.0	-0.7
WMQ				XP	sP	11 20 32.5	-1.2
WMQ				PCP	PcP	11 20 47.5	+1.9
WMQ				S	**S**	**11 28 50.0**	**+1.7**
WMQ				XS		11 29 12.3	
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.4s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,77nm,4.7s						
WMQ				LR	LR		
	comp=N,221nm,18.5s,MS4.5						
WMQ				LR	LR		
	comp=E,126nm,16.8s,MS4.5						
WMQ				LR	LR		
	comp=Z,172nm,20.2s,MS4.2						
FINES	**FINESS Array B**	**64.95**	**354**	P	**P**	**11 20 12.7**	**-0.4**
	comp=Z,4.3nm,0.5s,mb4.7,baz=28,slow=6.4,SNR=24						
FINES				LR	LR	11 52 43.3	
	comp=Z,40nm,18.7s,MS3.6,baz=328,slow=40						
NB2	**NORSAR Subarra**	**65.64**	**2**	P	**P**	**11 20 18.3**	**+0.8**
	comp=Z,1.5nm,0.8s,mb4.1,slow=7.0						
NB2	**NORSAR Subarra**	**65.64**	**2**	P	**P**	**11 20 18.3**	**+0.8**
NOA	**NORSAR Array B**	**65.64**	**2**	P	**P**	**11 20 17.9**	**+0.4**
	comp=Z,2.2nm,0.9s,mb4.2,baz=360,slow=6.5,SNR=6.6						
NOA				LR	LR	11 46 09.8	
	comp=Z,29nm,20.4s,MS3.5,baz=270,slow=33						
NOA	**NORSAR Array B**	**65.64**	**2**	P	**P**	**11 20 17.9**	**+0.4**
NOA				LR	LR	11 46 09.8	
GYA	**Guiyang**	**68.28**	**285**	⇑*i*P	**P**	**11 20 37.0**	**+2.2**
GYA				AP	pP	11 20 50.0	+0.2
GYA				XP	sP	11 20 55.0	-0.6
GYA				PP	PP	11 23 08.8	+0.8
GYA				S	S	11 29 33.5	+3.5
GYA				PS	PS	11 30 04.5	+2.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.2s,mb5.5						
GYA				AMB	AMB		
	comp=Z,80nm,3.8s						
GYA				LR	LR		
	comp=N,240nm,18.2s,MS4.5						
GYA				LR	LR		
	comp=E,160nm,18.6s,MS4.5						
GYA				LR	LR		
	comp=Z,280nm,19.0s,MS4.5						
AKASG	**Malin Array Be**	**75.37**	**351**	P	**P**	**11 21 17.6**	**+1.2**
	comp=Z,3.3nm,0.6s,mb4.4,baz=10,slow=5.7,SNR=14						
GERES	**GERESS Array B**	**77.89**	**1**	P	**P**	**11 21 32.3**	**+1.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=346,slow=4.0,SNR=2.7						
CMAR	**Chiang Mai Arr**	**78.95**	**286**	P	**P**	**11 21 37.7**	**+0.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=23,slow=5.9,SNR=5.7						
DAVOX	**Davos**	**79.87**	**4**	LR	LR	11 54 56.8	
	comp=Z,30nm,18.7s,MS3.7,baz=82,slow=34						
MLR	**Muntele Rosu**	**80.83**	**352**	P	**P**	**11 21 48.2**	**+1.7**
	comp=Z,0.6nm,0.3s,mb4.0,baz=126,slow=18,SNR=2.2						
MLR				LR	LR	11 57 19.2	
	comp=Z,51nm,20.7s,MS3.9,baz=321,slow=35						
GNI	**Garni**	**83.17**	**338**	LR	LR	12 04 20.4	
	comp=Z,62nm,20.6s,MS4.0,baz=219,slow=40						
CTA	**Charters Tower**	**84.62**	**225**	P	**P**	**11 22 05.7**	**-0.7**
	comp=Z,6.9nm,1.1s,mb4.7,baz=73,slow=14,SNR=2.0						
CTA	**Charters Tower**	**84.62**	**225**	P	**P**	**11 22 05.7**	**-0.7**
SDV	**Santo Domingo**	**85.41**	**81**	*eP*	**P**	**11 22 09.7**	**-0.8**
BRTR	**Keskin Array B**	**85.66**	**346**	P	**P**	**11 22 13.4**	**+2.3**
	comp=Z,1.2nm,0.6s,mb4.3,baz=6.2,slow=3.1,SNR=6.4						
QSPA	**South Pole Qui**	**143.40**	**180**	*e*PKP	PKPdf	11 29 02.6	-1.5
MATP	**Matopo**	**145.31**	**338**	PKPbc	PKPbc	11 29 11.9	+2.3
	comp=Z,5.1nm,0.7s,baz=360,slow=4.0,SNR=15						
TSUM	**Tsumeb**	**145.59**	**356**	PKPbc	PKPbc	11 29 12.1	+1.8
	comp=Z,3.4nm,0.8s,baz=35,slow=5.3,SNR=7.0						
MAW	**Mawson**	**153.58**	**220**	PKPab	PKPab	11 29 40.7	-2.8
	comp=Z,2.9nm,0.6s,baz=194,slow=8.3,SNR=4.5						

*HLW **27** 11:24:39.6,29.71N×37.14E,h14km,Mb3.5*
*CSEM **27** 11:24:47.0±0.2,29.84N×36.10E,h2km,ML2.4,Error ellipse: s-maj=3.7km s-min=2.8km az=67.0,Mining explosion.*
ISC 27 11:24:46.2±1.3,**29.88N**±0.06×**36.21E**±0.09,**n13,**σ0º**78**/17, **1C-3D,Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**1.11**	**259**	Pg	**Pg**	**11 25 08.2**	**-0.2**
ZFRI	**Zfri**	**1.11**	**307**	Pg	**Pg**	**11 25 07.7**	**-0.8**
MBH	**Mount Berech**	**1.13**	**266**	Pg	**Pg**	**11 25 08.5**	**-0.2**
PRNI	**Paran**	**1.14**	**295**	Pg	**Pg**	**11 25 08.2**	**-0.8**
PRNI				Sg	**Sg**	**11 25 24.4**	**+0.2**
KMTI	**Karmit**	**1.30**	**280**	Pg	**Pg**	**11 25 11.2**	**-1.0**
KMTI				Sg	**Sg**	**11 25 29.7**	**+0.1**
HBST	**Basata**	**1.45**	**243**	⇓P	**Pn**	**11 25 14.4**	**+0.8**
MZDA	**Masada**	**1.60**	**333**	Pn	**Pn**	**11 25 15.5**	**-0.4**
MZDA				Sn	**Sn**	**11 25 37.8**	**+0.3**
NUB		**1.60**	**238**	⇑P	**Pn**	**11 25 16.1**	**+0.2**
MASH	**Mash'abbe Sade**	**1.66**	**312**	Pn	**Pn**	**11 25 16.7**	**0.0**
HDHB	**Dhahab**	**1.81**	**231**	⇓P	**Pn**	**11 25 18.0**	**-0.9**
HKAT	**Jabal Katrina**	**2.36**	**236**	⇓P	**Pn**	**11 25 26.3**	**-0.5**
AMAG	**Maghara**	**2.70**	**287**	P	**Pn**	**11 25 33.5**	**+1.9**
SUZ		**2.93**	**270**	P	**Pn**	**11 25 36.5**	**+1.6**
SUZ				S	**Sn**	**11 26 18.2**	**+6.8**

*IDC **27** 11:32:15.5±2.1,30.72S×177.44W,mb4.5/4,mb1 4.5/5, mb1mx4.1/17,mbtmp4.4/5,ML3.7/1,MS3.4/1,Ms1 3.4/1, ms1mx2.6/23,Error ellipse: s-maj=52.0km s-min=30.5km az=130.0*
ISC 27 11:32:15.0±5.1,**30.9S**±0.1×**177.0W**±0.7,**h33**km,**n12,** σ0º**69**/8,**mb4.5**/4,**MS3.3**/1,**1C-1D,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.80**	**212**	Pn	**P**	**11 34 22.7**	**-0.1**
	0.9nm,0.3s,baz=49,slow=9.3,SNR=8.3						
URZ				Sn	**Sn**	**11 36 02.0**	**-0.1**
	2.8nm,0.3s,baz=165,slow=19,SNR=12						
HNR	**Honiara**	**30.30**	**310**	LR	LR	11 47 33.8	
	comp=Z,64nm,19.2s,MS3.3,baz=2.3,slow=31						
CTA	**Charters Tower**	**34.75**	**279**	P	**P**	**11 39 04.0**	**-0.3**
	6.6nm,0.6s,mb4.7,baz=109,slow=8.9,SNR=9.9						
STKA	**Stephens Creek**	**35.22**	**257**	⇓*i*P	**P**	**11 39 10.0**	**+1.7**
	4.9nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**35.22**	**257**	P	**P**	**11 39 10.1**	**+1.8**
	6.3nm,0.5s,mb4.8,baz=97,slow=10,SNR=20						
ASAR	**Alice Springs**	**43.96**	**267**	P	**P**	**11 40 20.9**	**-0.1**
	1.1nm,0.5s,mb3.9,baz=102,slow=7.6,SNR=29						
WB2	**Warramunga Arr**	**44.99**	**272**	*eP*	**P**	**11 40 28.6**	**-0.6**
WRA	**Warramunga Arr**	**45.00**	**272**	P	**P**	**11 40 28.9**	**-0.3**
	2.6nm,0.3s,mb4.5,baz=110,slow=8.1,SNR=94						
FINES	**FINESS Array B**	**145.93**	**340**	PKPbc	PKPbc	11 51 54.5	+3.9
	2.8nm,0.6s,baz=27,slow=4.3,SNR=14						
NB2	**NORSAR Subarra**	**149.39**	**352**	PKPabc	PKPdf	11 52 04.7	+9.3
	0.6nm,0.6s,baz=13,slow=2.9						
NB2	**NORSAR Subarra**	**149.39**	**352**	⇑PKPab	PKPab	11 52 04.7	-2.0
NOA	**NORSAR Array B**	**149.39**	**352**	PKPbc	PKPdf	11 52 04.5	+9.1
	0.9nm,0.7s,baz=16,slow=4.4,SNR=3.9						

*JMA **27** 11:35:54.3±0.2,24.13N×121.57E,h79km,M2.5*
*TAP **27** 11:35:55.4,24.26N×121.72E,h14km,ML3.4*
TAP Felt IV J at Nanau, I J at Chiawan, I J at Nanshan, I J at Nioudou.
ISC 27 11:35:55.8±0.4,**24.25N**±0.02×**121.79E**±0.02,**h8**km±2km, **n48,**σ0º**86**/77,**5C-4D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.08**	**324**	P	**Pg**	**11 35 58.7**	**+0.8**
EHP				S	**Sg**	**11 36 01.0**	**+1.7**
ENA	**Nanau**	**0.19**	**345**	⇑*i*P	**Pg**	**11 36 00.2**	**+0.4**
ENA				S	**Sg**	**11 36 03.0**	**+0.5**
TWD	**Chiawan**	**0.24**	**228**	⇓*i*P	**Pg**	**11 36 00.9**	**0.0**
TWD				S	**Sg**	**11 36 04.4**	**+0.2**
HWA	**Hwalien**	**0.32**	**213**	*eP*	**Pg**	**11 36 02.8**	**+0.6**
HWA				S	**Sg**	**11 36 07.9**	**+1.3**
TWC	**Suao**	**0.37**	**8**	⇑*i*P	**Pg**	**11 36 03.6**	**+0.4**
TWC				S	**Sg**	**11 36 08.6**	**+0.4**
NNS	**Nan Shan**

comp=E,670nm,0.9s
LZH Lanzhou 4.58 96 P **P** **11 44 26.8 +2.7**
LZH S **S** **11 45 18.5 +1.6**
LZH Smax
comp=N,2μm,0.7s
LZH Smax
comp=E,2μm,0.8s
LZH LR LR
comp=N,2μm,3.4s
LZH LR LR
comp=Z,3μm,6.0s
XAN Xi'an 9.14 104 P **P** **11 45 25.5 -2.4**
XAN LG2 11 47 49.5
XAN AMB AMB
comp=Z,70nm,7.7s
XAN LR LR
comp=N,708nm,13.1s
XAN LR LR
comp=E,333nm,14.4s
XAN LR LR
comp=Z,744nm,11.7s
BTO Baotou 10.01 64 *e*P **P** **11 45 39.5 -0.4**
BTO S **S** **11 47 32.0 -0.2**
BTO AMB AMB
comp=Z,16nm,0.6s
BTO LR LR
comp=N,457nm,8.0s
BTO LR LR
comp=E,629nm,11.4s
WMQ Urumqi 10.72 315⇑ *i*P **P** **11 45 47.0 -2.6**
WMQ PP PP 11 45 56.3 -1.1
WMQ XP 11 46 01.5
WMQ S **S** **11 47 44.5 -5.0**
WMQ SS SS 11 47 59.0 -4.2
WMQ AMB AMB
comp=Z,73nm,0.6s
WMQ LR LR
comp=N,221nm,13.9s
WMQ LR LR
comp=E,126nm,16.5s
WMQ LR LR
comp=Z,168nm,18.5s
HHC Hu-ho-hao-te 11.20 64 ⇑P **P** **11 45 54.8 -1.4**
HHC PP PP 11 46 06.3 +1.9
HHC XP 11 46 09.0
HHC S **S** **11 47 58.5 -2.7**
HHC SS SS 11 48 13.8 -1.4
HHC AMB AMB
comp=Z,19nm,1.2s
HHC LR LR
comp=N,433nm,11.3s
HHC LR LR
comp=E,535nm,13.0s
HHC LR LR
comp=Z,538nm,13.4s
ENH Enshi 11.39 121 *e*P **P** **11 45 58.7 0.0**
comp=Z,25nm,0.9s
KMI Kunming 12.19 160 P **P** **11 46 12.8 +3.2**
KMI AP 11 46 21.0
KMI PP PP 11 46 23.5 +4.4
KMI S **S** **11 48 28.0 +2.7**
KMI SS SS 11 48 42.0 +2.1
KMI AMB AMB
comp=Z,8.0nm,0.9s
KMI LR LR
comp=N,239nm,9.3s
KMI LR LR
comp=E,533nm,9.3s
KMI LR LR
comp=Z,233nm,9.0s
SHL Shillong 12.37 208 *e* **P** **11 46 12.0 0.0**
ULN Ulaanbaatar 12.90 28 *e*P **P** **11 46 19.1 0.0**
ULN pmax pmax
comp=Z,11nm,0.6s
ULN Ulaanbaatar 12.90 28 *e*P **P** **11 46 19.1 0.0**
comp=Z,11nm,0.6s
JIRN Jiri 13.61 232 *e*P **P** **11 46 27.1 -1.3**
GUN Gumba 13.63 233 *e*P **P** **11 46 27.1 -1.6**
comp=Z,58nm,0.8s
KKN Kakani 14.10 235 *e*P **P** **11 46 32.0 -2.9**
comp=Z,19nm,0.6s
ZAK Zakamensk 14.14 13⇑ *i*P **P** **11 46 36.0 +0.8**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
PKI Pulchoki 14.17 234 *e*P **P** **11 46 33.6 -2.1**
comp=Z,18nm,0.6s
DMN Daman 14.34 234 *e*P **P** **11 46 35.5 -2.5**
comp=Z,75nm,1.4s
GKN Gorkha 14.39 237 *e*P **P** **11 46 36.5 -2.1**
comp=Z,9.3nm,0.5s
BJI Beijing 14.47 71 P **P** **11 46 38.5 -1.1**
BJI S **S** **11 49 18.3 -1.4**
BJI AMB AMB
comp=Z,13nm,1.1s
BJI LR LR
comp=N,777nm,10.9s
BJI LR LR
comp=E,706nm,9.5s
BJI LR LR
comp=Z,227nm,12.3s
WHN Wuhan 14.77 110 *e*P **P** **11 46 42.5 -1.2**
MOY Mondy 15.07 7 *e*P **P** **11 46 53.3 +5.9**
MOY pmax pmax
comp=Z,38nm,1.2s
TLY Talaya 15.45 13 *e*P **P** **11 46 54.1 +1.8**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,300nm,17.0s
TLY Talaya 15.45 13 *e*P **P** **11 46 53.7 +1.4**
comp=Z,11nm,0.9s
MKAR Makanchi Array 15.55 315 *i*P **P** **11 46 49.4 -4.2**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
KLP Kalpa 17.32 258 *e*P **P** **11 47 18.1 +2.0**
KLP *e* 11 47 27.0
comp=Z,18nm,0.7s
NJ2 Nanjing 17.65 99 *e*P **P** **11 47 17.5 -2.7**
NJ2 PP PP 11 47 32.0 -2.8
NJ2 S **S** **11 50 30.0 -3.4**
NJ2 AMB AMB
comp=Z,30nm,1.0s
NJ2 AMB AMB
comp=Z,340nm,4.2s
NJ2 LR LR
comp=N,750nm,22.0s
NJ2 LR LR
comp=E,670nm,16.0s
KSH Kashi 17.72 286 *e*P **P** **11 47 25.0 +3.9**
KSH *e*AP 11 47 34.0
KSH *e*XP 11 47 40.0
KSH *e*S **S** **11 50 39.0 +3.9**
KSH *e*XS 11 50 53.0
KSH AMB AMB
comp=Z,160nm,3.1s
KSH LR LR
comp=N,550nm,4.8s
KSH LR LR
comp=E,710nm,5.3s
ULHL Ulahol 17.82 295 P **P** **11 47 20.8 -1.6**
SNR=9.8
CMAR Chiang Mai Arr 18.20 178 P **P** **11 47 29.3 +2.0**
comp=E,0.1nm,0.3s,baz=355,slow=10.0,SNR=6.5
TKM2 Tokmak 2 18.43 297 P **P** **11 47 27.6 -2.4**
SNR=26
KZA Kyzart 18.52 294 P **P** **11 47 28.3 -2.8**
SNR=9.4
UCH Uchtor 19.09 294 P **P** **11 47 38.9 +1.1**
SNR=9.2
FRU Bishkek 19.11 296 *e*P **P** **11 47 44.5 +6.4**
FRU *e* 11 51 13.0
AAK Ala-Archa 19.17 295 *d i*P **P** **11 47 38.1 -0.6**
AAK MLR MLR
comp=Z,300nm,15.0s
AAK Ala-Archa 19.17 295 *e*P **P** **11 47 37.6 -1.1**
comp=Z,8.7nm,0.9s
USP Ospenovka 19.28 297 P **P** **11 47 39.4 -0.6**
SNR=9.5
AYAN Aya Nagar 19.55 251 *e*P **P** **11 47 43.6 +0.5**
ZAL Zalesovo 19.58 336 *i*P **P** **11 47 45.5 +2.3**
ZAL pmax pmax
comp=Z,10.0nm,0.5s
ZAL Zalesovo 19.58 336 P **P** **11 47 42.5 -0.6**
comp=Z,3.2nm,0.3s,baz=331,slow=11,SNR=26
ZAL LR LR 11 56 05.9
comp=Z,141nm,19.4s,baz=327,slow=40

KRAR Krasnoyarsk 19.64 351 *i*P **P** **11 47 43.4 -0.4**
KRAR *e*S **S** **11 51 22.1 +4.0**
KRAR pmax pmax
comp=Z,154nm,1.7s
AML Almayashu 19.68 293 P **P** **11 47 45.4 +1.0**
SNR=16
SONA Sohna 19.70 251 *e*P **P** **11 47 43.5 -1.2**
SONA *e* 11 47 48.3
comp=Z,11nm,1.3s
SSE Sheshan 19.85 100 P **P** **11 47 45.5 -0.8**
SSE AP 11 47 55.5
SSE S **S** **11 51 22.3 -0.6**
SSE XS 11 51 41.3
SSE AMB AMB
comp=Z,36nm,0.7s
SSE AMB AMB
comp=Z,87nm,5.5s
SSE LR LR
comp=N,125nm,19.0s
SSE LR LR
comp=E,587nm,18.9s
SSE LR LR
comp=Z,71nm,15.8s
HIA Hailar 20.04 45 *e*P **P** **11 47 47.8 -0.4**
HIA pmax pmax
comp=Z,6.0nm,0.8s
HIA Hailar 20.04 45 *e*P **P** **11 47 47.8 -0.5**
comp=Z,6.4nm,0.8s
SNY Shenyang 20.25 68 ⇓P **P** **11 47 51.3 +0.8**
SNY AMB AMB
comp=Z,30nm,0.9s
QIZ Qiongzhong 20.37 147 P **P** **11 47 52.5 +0.7**
QIZ S **S** **11 51 34.3 +1.0**
QIZ XS 11 51 50.3
QIZ LR LR
comp=N,202nm,9.2s
QIZ LR LR
comp=E,208nm,10.6s
QIZ LR LR
comp=Z,265nm,10.7s,MS3.9
KHET Khetri 20.76 252 *e*P **P** **11 47 55.4 -0.5**
KHET *e* 11 48 03.9
comp=Z,17nm,0.4s
NVS Novosibirsk 20.84 335 *e*P **P** **11 47 54.1 -2.4**
NVS pmax pmax
comp=Z,37nm,1.2s
NVS pmax pmax
comp=N,35nm,1.5s
NVS pmax pmax
comp=E,28nm,1.2s
CN2 Changchun 21.89 63 *e*P **P** **11 48 08.5 +1.4**
CN2 *e*XP 11 48 20.8
CN2 *e*S **S** **11 52 02.5 +0.6**
CN2 AMB AMB
comp=Z,30nm,0.9s,mb4.7
CN2 LR LR
comp=N,700nm,17.0s,MS4.2
CN2 LR LR
comp=E,400nm,17.0s,MS4.2
CN2 LR LR
comp=Z,300nm,18.0s,MS3.8
KKAR Karatay Array 22.13 295 *i*P **P** **11 48 09.6 0.0**
KKAR pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
BHPL Bhopal 22.41 239 *e*P **P** **11 48 13.7 +1.2**
BHPL *e* 11 48 20.3
comp=Z,51nm,0.5s
BOD Bodaibo 23.55 21 *e*P **P** **11 48 23.4 +0.1**
BOD pmax pmax
comp=Z,11nm,1.4s,mb4.1
MDJ Mudanjiang 24.95 62 P **P** **11 48 37.0 0.0**
MDJ AP 11 48 47.5
MDJ XP 11 48 53.0
MDJ PCP PcP 11 52 09.8 -3.0
MDJ S **S** **11 52 58.0 +2.2**
MDJ SCP 11 55 47.3
MDJ PCS 11 55 52.0
MDJ SCS ScS 11 59 34.5 -0.3
MDJ AMB AMB
comp=Z,6.0nm,1.1s,mb4.0
MDJ AMB AMB
comp=Z,94nm,6.9s
MDJ LR LR
comp=N,123nm,20.7s,MS3.6
MDJ LR LR
comp=E,121nm,17.6s,MS3.6
MDJ LR LR
comp=Z,131nm,16.5s,MS3.5
JASL Jaisalmer 25.11 255 *e*P **P** **11 48 37.2 -1.5**
BVA0 Borovoye Array 25.36 319 P **P** **11 48 41.0 +0.2**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
BVAR Borovoye Array 25.36 319 P **P** **11 48 41.1 +0.3**
comp=Z,15nm,0.6s,mb4.7,baz=116,slow=9.8,SNR=62
BVAR PcP PcP 11 52 13.3 -0.4
comp=Z,1.2nm,0.5s,baz=72,slow=4.7,SNR=3.6
CHKZ Chkalovo 25.57 320 *i*P **P** **11 48 42.6 -0.1**
CHKZ pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
CHKZ Chkalovo 25.57 320 *e*P **P** **11 48 42.4 -0.3**
comp=Z,12nm,0.7s,mb4.5
JOW Kunigami 27.29 103 P **P** **11 48 57.5 -1.4**
comp=Z,3.8nm,0.4s,mb4.3,baz=180,slow=20,SNR=3.3
KLR Kul'dur 27.30 52 *e*P **P** **11 48 55.5 -3.3**
KLR MLR MLR
comp=E,500nm,12.0s
KLR MLR MLR
comp=Z,900nm,12.0s,MS4.6
POO Poona 28.06 236 *e* **P** **11 49 09.0 +3.0**
KAD Karad 28.71 234 *e* **P** **11 49 02.6 -9.2**
comp=Z,27nm,0.5s,mb5.2
MAJO Matsushiro 31.93 78 P **P** **11 49 39.4 -0.7**
MJAR Matsushiro Arr 31.93 78 P **P** **11 49 39.9 -0.2**
comp=Z,0.2nm,0.3s,baz=223,slow=23,SNR=4.0
YAK Yakutsk 31.99 28 *e*P **P** **11 49 40.3 -0.1**
YAK pmax pmax
comp=Z,17nm,1.3s,mb4.7
YAK MLR MLR
comp=Z,200nm,17.0s,MS3.9
SVE Sverdlovsk 32.08 321 *e*P **P** **11 49 41.6 +0.4**
SVE pmax pmax
comp=Z,24nm,1.0s,mb5.0
ARU Arti 33.01 319 *e*P **P** **11 49 49.0 -0.3**
ARU pmax pmax
comp=Z,11nm,0.6s,mb5.0
ARU Arti 33.01 319 *e*P **P** **11 49 49.0 -0.3**
comp=Z,12nm,0.6s,mb5.0
JHJ Hachijo jima 2 34.08 84 LR LR 12 05 30.1
comp=Z,139nm,19.1s,MS3.7,baz=122,slow=39
ASAJ Asahikawa 34.25 64 P **P** **11 49 58.4 -1.7**
ASAJ pmax pmax
comp=Z,10.0nm,0.9s
ASAJ MLR MLR
comp=Z,51nm,20.7s
ASAJ Asahikawa 34.25 64 P **P** **11 49 58.4 -1.8**
comp=Z,9.8nm,0.9s,mb4.8,baz=217,slow=5.1,SNR=3.8
ASAJ LR LR 12 04 37.8
comp=Z,51nm,20.7s,MS3.2,baz=153,slow=38
YSS Yuzh-Sakhalins 34.30 58 *i*P **P** **11 49 59.8 -0.8**
TIXI Tiksi 38.41 15 ⇓*i*P **P** **11 50 34.3 -0.7**
TIXI pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
TIXI MLR MLR
comp=Z,100nm,18.0s,MS3.7
GNI Garni 41.51 292 P **P** **11 51 02.5 +1.5**
comp=Z,2.8nm,0.4s,mb4.2,baz=125,slow=20,SNR=3.5
ZEI Tsey 41.60 296 *e*P **P** **11 51 03.7 +2.0**
ZEI *i* *PP pP 11 51 17.2 +5.7
ZEI *i* 11 52 39.8
ZEI pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
GOF Gofitskoye 41.84 299 ⇓*i*P **P** **11 51 03.0 -0.6**
GOF pmax pmax
comp=Z,21nm,1.0s,mb4.7
KIV Kislovodsk 42.26 298 *e*P **P** **11 51 08.9 +1.8**
KIV pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
KIV pmax pmax
comp=N,12nm,0.8s
KIV pmax pmax
comp=E,7.0nm,0.8s
KIV MLR MLR
comp=E,59nm,16.0s
KIV MLR MLR
comp=Z,64nm,16.0s,MS3.6
MOS Moscow 44.44 315 *e*P **P** **11 51 25.5 +0.9**

MOS *e* 11 51 39.9
MOS pmax pmax
comp=Z,65nm,0.8s,mb5.4
MOS MLR MLR
comp=Z,800nm,24.0s,MS4.6
SOC Sochi 44.44 298 *e*P **P** **11 51 23.2 -1.6**
SOC *e*PPP PPP 11 53 52.6 +3.6
SOC *e*S **S** **11 57 55.7 -1.2**
SOC *e*SS SS 12 01 18.9 +11
SOC *e*SSS SSS 12 02 03.9 -0.9
SOC pmax pmax
comp=Z,4.0nm,0.3s,mb4.6
SOC pmax pmax
comp=N,3.0nm,0.4s
SOC pmax pmax
comp=E,2.0nm,0.4s
OBN Obninsk 45.05 314 *d i*P **P** **11 51 30.0 +0.5**
OBN pmax pmax
comp=Z,31nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,100nm,20.0s,MS3.7
ANN Anapa 45.80 300 *e*P **P** **11 51 33.4 -2.2**
ANN *e**PP pP 11 51 46.3 +0.8
ANN *e*S **S** **11 58 11.8 -4.5**
ANN pmax pmax
comp=Z,14nm,0.8s,mb4.9
APA Apatity 47.08 332⇑ *e*P **P** **11 51 45.0 -0.4**
APA *i* 11 51 52.5
JOF Joensuu 47.66 325 *e*p **P** **11 51 49.6 -0.4**
comp=Z,9.5nm,0.5s,mb5.1
BILL Bilibino 48.35 28 *c i*P **P** **11 51 56.1 +0.8**
BILL pmax pmax
comp=Z,21nm,0.6s,mb5.3
BRTR Keskin Array B 49.84 294 P **P** **11 52 07.8 +0.5**
comp=Z,3.5nm,0.7s,mb4.5,baz=101,slow=7.2,SNR=18
KAF Kangasniemi 50.01 324 *e*p **P** **11 52 06.0 -2.2**
comp=Z,4.5nm,0.6s,mb4.7,baz=85,slow=7.4
KAF Kangasniemi 50.01 324 *e*P **P** **11 52 06.0 -2.2**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
AKASG Malin Array Be 50.02 309 P **P** **11 52 07.9 -0.5**
comp=Z,4.3nm,0.6s,mb4.7,baz=72,slow=6.3,SNR=5.9
ASF Jabal al Asfar 50.03 284 P **P** **11 52 10.0 +1.3**
comp=Z,2.3nm,0.4s,mb4.6,baz=276,slow=3.7,SNR=4.5
ARCES ARCESS Array B 50.12 334 P **P** **11 52 08.8 -0.1**
comp=Z,3.0nm,0.4s,mb4.7,baz=80,slow=8.0,SNR=40
ARCES PcP PcP 11 53 28.0 -0.3
comp=Z,3.7nm,0.6s,baz=72,slow=2.9,SNR=8.0
ARCES ARCESS Array B 50.12 334 P **P** **11 52 08.8 -0.1**
ARCES PcP PcP 11 53 28.0 -0.3
FINES FINESS Array B 50.17 323 P **P** **11 52 09.3 -0.1**
comp=Z,11nm,0.7s,mb5.0,baz=90,slow=7.6,SNR=31
FINES PcP PcP 11 53 28.2 -0.5
comp=Z,1.5nm,0.4s,baz=76,slow=5.7,SNR=5.8
FINES LR LR 12 14 55.7
comp=Z,27nm,18.4s,MS3.3,baz=158,slow=38
FINES FINESS Array B 50.17 323 P **P** **11 52 09.3 -0.1**
FINES PcP PcP 11 53 28.2 -0.5
FINES LR LR 12 14 55.7
SUW Suwalki 52.92 314 *e*P **P** **11 52 30.7 +0.5**
LVV L'vov 53.47 309 *e*P **P** **11 52 33.4 -0.9**
MLR Muntele Rosu 53.48 304 P **P** **11 52 35.5 +1.0**
comp=Z,2.9nm,0.6s,mb4.4,baz=111,slow=14,SNR=5.3
KWP Kalwaria 54.34 309 *e*P **P** **11 52 41.4 +0.6**
OJC Ojcow 55.96 311 *e*P **P** **11 52 53.1 +0.6**
GKP Gorka Klasztor 56.53 315 *e*P **P** **11 52 56.7 +0.2**
OKC Ostrava-Krasne 57.09 311 AMS AMS 12 18 20.0
comp=Z,400nm,32.9s
VYHS Vyhne 57.12 309 *e*P **P** **11 53 01.1 +0.3**
NB2 NORSAR Subarra 57.29 325 P **P** **11 53 00.6 -1.2**
comp=Z,4.4nm,0.5s,mb4.7,baz=70,slow=7.0
NB2 NORSAR Subarra 57.29 325 P **P** **11 53 00.6 -1.2**
NB2 pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
NOA NORSAR Array B 57.29 325 P **P** **11 53 00.8 -1.0**
comp=Z,6.6nm,0.7s,mb4.8,baz=72,slow=7.1,SNR=24
IDI Anoyia 57.94 292 P **P** **11 53 05.6 -1.2**
comp=Z,6.0nm,0.6s,mb4.8,baz=48,slow=8.5,SNR=6.6
DPC Dobruska-Polom 58.02 312 *e*P **P** **11 53 07.8 +0.7**
DPC MLR MLR
comp=Z,100nm,18.9s,MS4.0
DPC Dobruska-Polom 58.02 312 *e*P **P** **11 53 07.8 +0.7**
DPC *e*pP pP 11 53 12.2 -5.0
DPC AMS AMS 12 19 00.0
comp=Z,100nm,18.9s
UPC Upice 58.15 312 *e*P **P** **11 53 08.3 +0.3**
UPC *e*pP pP 11 53 13.3 -4.8
TNA Tin City 58.74 29 *e*P **P** **11 53 11.7 -0.3**
comp=Z,4.6nm,1.1s,mb4.4
PVCC Panska Ves 59.01 312 AMS AMS 12 19 50.0
comp=Z,100nm,18.4s
PRU Pruhonice 59.22 312 *e*P **P** **11 53 15.7 +0.2**
PRU AMS AMS 12 20 00.0
comp=Z,100nm,13.7s
BRG Berggiesshubel 59.25 313 *e*P **P** **11 53 15.8 +0.1**
BRG pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BRG Berggiesshubel 59.25 313 *e*P **P** **11 53 15.8 +0.1**
comp=Z,8.3nm,0.8s,mb4.8
BRG *e* 11 53 20.4
GROS Grobnik 59.97 308 *i*P **P** **11 53 20.2 -0.5**
KHC Kasperske Hory 60.12 311 *e*P **P** **11 53 20.1 -1.6**
KHC *e* 11 53 26.0
KHC MLR MLR
comp=Z,100nm,18.9s,MS4.0
KHC Kasperske Hory 60.12 311 *e*P **P** **11 53 20.1 -1.6**
KHC x x 11 53 26.0
KHC AMS AMS 12 20 20.0
comp=Z,100nm,18.9s
GERES GERESS Array B 60.16 311 P **P** **11 53 22.4 +0.4**
comp=Z,1.8nm,0.6s,mb4.2,baz=68,slow=7.2,SNR=16
GERES LR LR 12 20 57.2
comp=Z,57nm,18.1s,MS3.8,baz=11,slow=38
BSEG Bad Segeberg 60.17 317 *e*P **P** **11 53 22.6 +0.6**
CRES Cresnjev 60.24 307 *i*P **P** **11 53 22.9 +0.3**
FITZ Fitzroy Crossi 60.36 150 P **P** **11 53 24.5 +0.7**
comp=Z,6.3nm,0.8s,mb4.7,baz=334,slow=9.1,SNR=7.7
PDKS Podkum 60.44 307 *e*P **P** **11 53 23.5 -0.4**
WET Wettzell 60.54 311 *e*P **P** **11 53 24.6 0.0**
WET pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
WET Wettzell 60.54 311 *e*P **P** **11 53 24.6 0.0**
comp=Z,4.0nm,1.0s,mb4.5
MOX Moxa 60.70 313 *e*P **P** **11 53 26.6 +0.9**
MOX pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
MOX Moxa 60.70 313 *e*P **P** **11 53 26.6 +0.9**
comp=Z,6.0nm,1.0s,mb4.7
MOX Moxa 60.70 313 *i*P **P** **11 53 25.9 +0.2**
CLZ Clausthal 60.95 315 *e*P **P** **11 53 27.7 +0.4**
comp=Z,15nm,0.9s,mb5.1
GRA1 Grafenberg Arr 61.32 312 *e*P **P** **11 53 30.3 +0.5**
comp=Z,24nm,1.4s,mb5.1
GRA1 *e*pP pP 11 53 34.8 -5.1
GRF Grafenberg Arr 61.32 312 *e*P **P** **11 53 30.3 +0.5**
GRF pmax pmax
comp=Z,24nm,1.4s,mb5.1
GRF Grafenberg Arr 61.32 312 *e*P **P** **11 53 30.3 +0.5**
GRF pmax pmax
comp=Z,24nm,1.4s,mb5.1
GRF Grafenberg Arr 61.32 312 *e*P **P** **11 53 30.3 +0.5**
comp=Z,24nm,1.4s,mb5.1
GRF *e*pP pP 11 53 34.8 -5.1
DAVOX Davos 63.36 310 P **P** **11 53 43.6 +0.1**
comp=Z,11nm,0.6s,mb5.2,baz=81,slow=5.4,SNR=12
IMA Indian Mountai 63.79 26 *e*P **P** **11 53 46.6 +0.7**
IMA pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
IMA Indian Mountai 63.79 26 *e*P **P** **11 53 46.6 +0.7**
comp=Z,4.1nm,0.6s,mb4.6
CDF Champ du Feu 64.21 312 *e*P **P** **11 53 48.8 -0.1**
comp=Z,4.6nm,0.6s,mb4.4
CDF Champ du Feu 64.21 312 *e*P **P** **11 53 48.8 -0.1**
CDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
HINF Hinteralfeld 64.73 312 *e*P **P** **11 53 52.0 -0.3**
comp=Z,6.1nm,0.5s,mb4.6
HINF Hinteralfeld 64.73 312 *e*P **P** **11 53 52.0 -0.3**
HINF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
GIVF Givet 64.86 315 *e*P **P** **11 53 53.3 +0.2**
HAU Haudompre 64.95 312 *e*P **P** **11 53 53.6 -0.1**
comp=Z,6.1nm,0.7s,mb4.5
HAU *e*R
comp=Z,50nm,21.0s

HAU	**Haudompre**	**64.95**	**312**	*eP*	**P**	**11 53 53.6**	**-0.1**
HAU				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
HAU				MLR	MLR		
	comp=Z,50nm,21.0s,MS3.7						
BAIF	**Baives**	**65.24**	**315**	*eP*	**P**	**11 53 54.7**	**-0.8**
SVW2	**Sparrevohn**	**65.70**	**31**	*eP*	**P**	**11 53 59.6**	**+1.3**
CABF	**La Chapelle**	**65.76**	**311**	*eP*	**P**	**11 53 58.6**	**-0.3**
	comp=Z,10nm,0.9s,mb4.5						
CABF	**La Chapelle**	**65.76**	**311**	*eP*	**P**	**11 53 58.6**	**-0.3**
CABF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
PGF	**Pioggiola**	**65.85**	**306⇑**	*iP*	**P**	**11 54 00.0**	**+0.4**
	comp=Z,25nm,0.8s,mb5.0						
PGF	**Pioggiola**	**65.85**	**306⇑**	*iP*	**P**	**11 54 00.0**	**+0.4**
PGF				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**65.87**	**143**	*eP*	**P**	**11 54 00.4**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
WRAB	**Tennant Creek**	**65.87**	**143**	*eP*	**P**	**11 54 00.4**	**+0.3**
	comp=Z,12nm,1.1s,mb4.8						
WB2	**Warramunga Arr**	**65.88**	**143**	*eP*	**P**	**11 54 00.6**	**+0.5**
LPG	**La Plagne**	**65.88**	**310⇑**	*iP*	**P**	**11 54 00.5**	**+0.8**
	comp=Z,28nm,0.7s,mb5.1						
LPG	**La Plagne**	**65.88**	**310⇑**	*iP*	**P**	**11 54 00.5**	**+0.8**
LPG				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
LPL	**La Plagne**	**65.88**	**310⇑**	*iP*	**P**	**11 54 00.4**	**+0.7**
	comp=Z,18nm,0.6s,mb5.0						
LPL	**La Plagne**	**65.88**	**310⇑**	*iP*	**P**	**11 54 00.4**	**+0.7**
LPL				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
SBF	**Sospel**	**66.23**	**308⇑**	*iP*	**P**	**11 54 02.0**	**0.0**
	comp=Z,30nm,0.7s,mb5.1						
SBF	**Sospel**	**66.23**	**308⇑**	*iP*	**P**	**11 54 02.0**	**0.0**
SBF				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
MBDF	**Montbardon**	**66.23**	**309⇑**	*iP*	**P**	**11 54 01.4**	**-0.6**
	comp=Z,9.0nm,0.6s,mb4.7						
MBDF	**Montbardon**	**66.23**	**309⇑**	*iP*	**P**	**11 54 01.4**	**-0.6**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
COLA	**College**	**66.47**	**25**	*eP*	**P**	**11 54 03.6**	**+0.4**
COLA				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
COLA	**College**	**66.47**	**25**	*eP*	**P**	**11 54 03.6**	**+0.4**
	comp=Z,14nm,0.7s,mb5.1						
ORIF	**Oris-en-Rattie**	**66.70**	**309⇑**	*iP*	**P**	**11 54 04.9**	**0.0**
	comp=Z,11nm,0.6s,mb4.7						
ORIF				*e*R			
	comp=Z,125nm,18.8s						
MCK	**McKinley**	**66.78**	**27**	*eP*	**P**	**11 54 05.2**	**+0.1**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
MCK	**McKinley**	**66.78**	**27**	*eP*	**P**	**11 54 05.2**	**+0.1**
	comp=Z,3.3nm,0.5s,mb4.6						
LOR	**Lormes**	**66.78**	**312**	*eP*	**P**	**11 54 05.7**	**+0.3**
LOR				*e*R			
	comp=Z,64nm,17.0s						
ILAR	**Eielson Array**	**66.86**	**25**	P	**P**	**11 54 05.5**	**-0.1**
	comp=Z,4.9nm,0.7s,mb4.7,baz=289,slow=5.4,SNR=70						
ILAR				LR	LR	12 27 15.9	
	comp=Z,49nm,18.1s,MS3.8,baz=2.7,slow=40						
LMR	**La Mourre**	**67.08**	**308**	*eP*	**P**	**11 54 07.2**	**-0.1**
	comp=Z,6.9nm,0.6s,mb4.6						
LMR	**La Mourre**	**67.08**	**308**	*eP*	**P**	**11 54 07.2**	**-0.1**
LMR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
SPU	**Mount Spurr**	**67.08**	**30**	*eP*	**P**	**11 54 07.2**	**+0.2**
SMF	**Signal de Mont**	**67.10**	**312⇑**	*iP*	**P**	**11 54 07.2**	**-0.2**
	comp=Z,17nm,0.6s,mb4.9						
SMF	**Signal de Mont**	**67.10**	**312⇑**	*iP*	**P**	**11 54 07.2**	**-0.2**
SMF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
AVF	**Avril sur Loir**	**67.32**	**312⇑**	*iP*	**P**	**11 54 08.5**	**-0.3**
	comp=Z,8.5nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**67.32**	**312⇑**	*iP*	**P**	**11 54 08.5**	**-0.3**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
VIVF	**Saint-Julien-l**	**67.48**	**310**	*eP*	**P**	**11 54 09.9**	**+0.1**
KMBO	**Kilima Mbogo**	**67.78**	**251**	P	**P**	**11 54 13.5**	**+1.2**
	comp=Z,1.0nm,0.5s,mb4.1,baz=50,slow=16,SNR=3.8						
PMR	**Palmer**	**67.98**	**28**	*eP*	**P**	**11 54 12.6**	**-0.1**
PMR				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
PMR	**Palmer**	**67.98**	**28**	*eP*	**P**	**11 54 12.6**	**-0.1**
	comp=Z,14nm,0.6s,mb5.2						
THY	**Trims Highway**	**68.10**	**26**	*eP*	**P**	**11 54 13.3**	**0.0**
SML	**Sawmill**	**68.16**	**28**	*eP*	**P**	**11 54 14.0**	**+0.2**
TCF	**Toulx Ste Croi**	**68.25**	**312⇑**	*iP*	**P**	**11 54 14.7**	**+0.1**
	comp=Z,35nm,1.1s,mb5.0						
TCF	**Toulx Ste Croi**	**68.25**	**312⇑**	*iP*	**P**	**11 54 14.7**	**+0.1**
TCF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
LASF	**Ste Croix**	**68.37**	**309**	*eP*	**P**	**11 54 15.8**	**+0.4**
	comp=Z,12nm,0.8s,mb4.7						
LDF	**La Druitiere**	**68.42**	**315**	*eP*	**P**	**11 54 15.4**	**-0.3**
	comp=Z,8.2nm,0.4s,mb4.8						
LDF	**La Druitiere**	**68.42**	**315**	*eP*	**P**	**11 54 15.4**	**-0.3**
LDF				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
INK	**Inuvik**	**68.43**	**18**	*eP*	**P**	**11 54 15.3**	**-0.1**
INK				pmax	pmax		
	comp=Z,12nm,0.7s						
INK	**Inuvik**	**68.43**	**18**	P	**P**	**11 54 15.6**	**+0.2**
INK				pmax	pmax		
	comp=Z,11nm,0.6s						
INK	**Inuvik**	**68.43**	**18**	P	**P**	**11 54 15.6**	**+0.2**
	comp=Z,11nm,0.6s,mb5.0,baz=338,slow=7.2,SNR=156						
INK	**Inuvik**	**68.43**	**18**	*eP*	**P**	**11 54 15.3**	**-0.1**
	comp=Z,12nm,0.7s,mb5.0						
RES	**Resolute Bay**	**68.53**	**4**	*eP*	**P**	**11 54 15.6**	**-0.4**
RES				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
RES	**Resolute Bay**	**68.53**	**4**	*eP*	**P**	**11 54 15.6**	**-0.4**
	comp=Z,3.9nm,1.0s,mb4.3						
FLN	**La Foliniere**	**68.54**	**315**	*eP*	**P**	**11 54 16.3**	**-0.1**
FLN				*e*R			
	comp=Z,110nm,19.2s						
KDAK	**Kodiak Island**	**68.83**	**33**	*eP*	**P**	**11 54 17.6**	**-0.4**
CAF	**Calviac**	**69.04**	**311⇑**	*iP*	**P**	**11 54 20.1**	**+0.6**
	comp=Z,13nm,0.8s,mb4.6						
CAF	**Calviac**	**69.04**	**311⇑**	*iP*	**P**	**11 54 20.1**	**+0.6**
CAF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
MFF	**Saint Martin d**	**69.48**	**313⇑**	*iP*	**P**	**11 54 22.3**	**+0.1**
	comp=Z,9.7nm,0.6s,mb4.6						
MFF	**Saint Martin d**	**69.48**	**313⇑**	*iP*	**P**	**11 54 22.3**	**+0.1**
MFF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
DIV	**Divide**	**69.54**	**28**	*eP*	**P**	**11 54 22.7**	**+0.4**
	comp=Z,59nm,0.6s,mb5.7						
MTLF	**Montolieu**	**69.77**	**309**	*eP*	**P**	**11 54 24.4**	**+0.4**
DAWY	**Dawson**	**69.79**	**23**	*eP*	**P**	**11 54 23.6**	**-0.3**
LFF	**La Frestale**	**69.83**	**311⇑**	*iP*	**P**	**11 54 25.1**	**+0.7**
	comp=Z,13nm,0.4s,mb4.9						
LFF	**La Frestale**	**69.83**	**311⇑**	*iP*	**P**	**11 54 25.1**	**+0.7**
LFF				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
EYAK	**Cordova Ski Ar**	**69.92**	**28**	*eP*	**P**	**11 54 25.0**	**+0.3**
SGMF	**Saint Gilles**	**69.98**	**316⇑**	*iP*	**P**	**11 54 25.6**	**+0.4**
	comp=Z,19nm,0.6s,mb4.9						
SGMF	**Saint Gilles**	**69.98**	**316⇑**	*iP*	**P**	**11 54 25.6**	**+0.4**
SGMF				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
QUIF	**Quistinic**	**70.50**	**316**	*eP*	**P**	**11 54 28.6**	**+0.2**
	comp=Z,37nm,1.1s,mb4.9						
QUIF	**Quistinic**	**70.50**	**316**	*eP*	**P**	**11 54 28.6**	**+0.2**
QUIF				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
ETSF	**Etsaut**	**71.72**	**310⇑**	*iP*	**P**	**11 54 37.4**	**+1.6**
	comp=Z,4.4nm,0.6s,mb4.3						
ETSF	**Etsaut**	**71.72**	**310⇑**	*iP*	**P**	**11 54 37.4**	**+1.6**
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SJPF	**Ste Jean**	**72.01**	**311**	*eP*	**P**	**11 54 38.7**	**+1.2**
	comp=Z,16nm,0.8s,mb4.7						
SJPF	**Ste Jean**	**72.01**	**311**	*eP*	**P**	**11 54 38.7**	**+1.2**
SJPF				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
ESDC	**Sonseca Array**	**75.66**	**309**	P	**P**	**11 54 59.9**	**+1.0**
	comp=Z,2.7nm,0.5s,mb4.4,baz=47,slow=5.9,SNR=14						
YKW3	**Yellowknife Ar**	**77.59**	**15**	*eP*	**P**	**11 55 08.8**	**-0.5**
YKA	**Yellowknife Ar**	**77.66**	**15**	P	**P**	**11 55 09.9**	**+0.3**
	comp=Z,2.0nm,0.5s,mb4.3,baz=337,slow=5.6,SNR=47						
STKA	**Stephens Creek**	**79.39**	**144**	P	**P**	**11 55 19.9**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=358,slow=8.6,SNR=4.0						
EDM	**Edmonton**	**86.33**	**18**	*eP*	**P**	**11 55 55.7**	**+1.0**
SCHQ	**Schefferville**	**87.92**	**351**	P	**P**	**11 56 02.6**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.3,baz=53,slow=19,SNR=4.9						
HLID	**Hailey**	**94.77**	**23**	*eP*	**P**	**11 56 35.6**	**+1.2**
	comp=Z,0.6nm,0.6s,mb4.2						
IMW	**Indian Meadow**	**95.50**	**21**	*eP*	**P**	**11 56 39.8**	**+2.0**
	comp=Z,2.0nm,0.7s,mb4.7						
PDAR	**Pinedale Array**	**96.94**	**20**	LR	LR	12 40 38.0	
	comp=Z,48nm,20.1s,MS4.0,baz=262,slow=36						
NVAR	**Mina Array Bea**	**97.97**	**28**	P	**P**	**11 56 51.6**	**+2.4**
	comp=Z,0.3nm,0.6s,mb4.0,baz=341,slow=4.1,SNR=4.5						
SAML	**Samuel**	**147.61**	**324**	*e*PKPbc	PKPdf	12 02 58.6	+4.5
LPAZ	**La Paz**	**156.32**	**326**	PKP	PKPdf	12 03 09.9	+3.2
	comp=Z,0.8nm,0.6s,baz=24,slow=10.0,SNR=3.3						

*IDC **27** 11:48:54.6±2.5, 1.33N×97.04E, mb4.0/6, mb1 4.2/7, mb1mx4.0/19, mbtmp4.0/7, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/21, Error ellipse: s-maj=117.2km s-min=20.2km az=58.0*

*NEIC **27** 11:48:59.1±1.0, 1.38N×97.06E, h30km, mb4.5/1, Error ellipse: s-maj=26.2km s-min=12.7km az=73.0*

ISC 27 11:48:58.5±0.8, 1.4N±0.1×97.2E±0.1, h33km, n18, σ0§70/17, mb4.3/12, MS3.5/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.17**	**41**	*eP*	**P**	**11 50 16.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**17.05**	**6**	Pn	**P**	**11 52 55.0**	**-1.1**
	0.1nm,0.3s,baz=198,slow=12,SNR=6.9						
JIRN	**Jiri**	**28.17**	**339**	*eP*	**P**	**11 54 50.9**	**+0.7**
	27nm,1.0s,mb4.8						
PKI	**Pulchoki**	**28.38**	**338**	*eP*	**P**	**11 54 52.5**	**+0.4**
GUN	**Gumba**	**28.52**	**339**	*eP*	**P**	**11 54 53.6**	**+0.3**
	31nm,1.1s,mb5.0						
DMN	**Daman**	**28.53**	**337**	*eP*	**P**	**11 54 53.6**	**+0.2**
KKN	**Kakani**	**28.63**	**338**	*eP*	**P**	**11 54 54.5**	**+0.2**
	3.0nm,0.2s,mb4.7						
GKN	**Gorkha**	**29.07**	**337**	*eP*	**P**	**11 54 58.5**	**+0.3**
	14nm,0.8s,mb4.8						
KOLN	**Koldanda**	**29.29**	**335**	*eP*	**P**	**11 55 00.4**	**+0.2**
	11nm,0.8s,mb4.6						
ENH	**Enshi**	**31.00**	**21**	*eP*	**P**	**11 55 14.7**	**-0.6**
	4.8nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**42.13**	**122**	P	**P**	**11 56 49.5**	**-0.2**
	1.2nm,0.7s,mb3.6,baz=300,slow=9.1,SNR=8.9						
ASAR	**Alice Springs**	**43.50**	**127**	P	**P**	**11 57 00.7**	**-0.2**
	0.2nm,0.4s,mb3.2,baz=300,slow=7.3,SNR=5.4						
ZAL	**Zalesovo**	**53.37**	**351**	P	**P**	**11 58 17.1**	**+0.2**
	3.1nm,0.6s,mb4.4,baz=308,slow=6.3,SNR=12						
STKA	**Stephens Creek**	**53.47**	**132**	P	**P**	**11 58 18.4**	**+0.4**
	2.6nm,1.0s,mb4.1,baz=312,slow=23,SNR=3.6						
STKA	**Stephens Creek**	**53.47**	**132**	P	**P**	**11 58 18.4**	**+0.4**
BVAR	**Borovoye Array**	**56.08**	**341**	P	**P**	**11 58 34.2**	**-2.5**
	2.1nm,0.8s,mb4.2,baz=129,slow=9.2,SNR=7.8						
KMBO	**Kilima Mbogo**	**60.01**	**268**	LR	LR	12 21 48.9	
	comp=Z,36nm,20.8s,MS3.5,baz=120,slow=33						
ILAR	**Eielson Array**	**99.52**	**23**	P	**P**	**12 02 39.3**	**+0.1**
	0.2nm,0.5s,mb3.8,baz=62,slow=7.2,SNR=4.4						

*IDC **27** 12:22:37.4±1.8, 5.65S×152.33E, mb3.8/4, mb1 4.0/6, mb1mx3.8/15, mbtmp3.9/6, ML3.1/2, Error ellipse: s-maj=87.4km s-min=23.2km az=131.0*

ISC 27 12:22:39.8±7.1, 5.7S±0.3×152.2E±0.2, h23km±53km, n6, σ0§54/7, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.23**	**233**	Pn	**Pn**	**12 24 12.8**	**-0.1**
	1.0nm,0.3s,baz=41,slow=11,SNR=4.5						
PMG				Sn	**Sn**	**12 25 23.9**	**-0.3**
	3.1nm,0.3s,baz=224,slow=21,SNR=6.6						
CTA	**Charters Tower**	**15.46**	**201**	Pn	**P**	**12 26 18.1**	**-0.3**
	0.2nm,0.3s,baz=18,slow=13,SNR=2.1						
WRA	**Warramunga Arr**	**22.43**	**229**	P	**P**	**12 27 39.5**	**+0.9**
	0.6nm,0.5s,mb3.2,baz=55,slow=10.0,SNR=7.5						
ASAR	**Alice Springs**	**25.12**	**223**	P	**P**	**12 28 04.8**	**+0.1**
	1.0nm,0.8s,mb3.4,baz=52,slow=9.7,SNR=6.5						
FITZ	**Fitzroy Crossl**	**28.73**	**242**	P	**P**	**12 28 37.8**	**-0.1**
	5.9nm,1.0s,mb4.3,baz=71,slow=18,SNR=2.9						
ILAR	**Eielson Array**	**83.18**	**22**	P	**P**	**12 35 04.9**	**-0.3**
	0.7nm,0.8s,mb3.8,baz=245,slow=5.7,SNR=9.0						
ILAR				pP	pP	12 35 14.6	+1.8
	0.9nm,0.8s,baz=246,slow=5.4,SNR=8.9						

IDC 27 12:32:54.8±4.2, 2.06N×98.53E, mb3.9/3, mb1 4.2/4, mb1mx3.8/18, mbtmp3.9/4, MS2.9/2, Ms1 2.9/2, ms1mx2.7/27, Error ellipse: s-maj=170.6km s-min=27.3km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.30**	**1**	Pn	P	12 36 45.1	-1.7
	baz=194,slow=11,SNR=6.4						
CMAR				LR	LR	12 44 14.3	
	comp=Z,10.0nm,18.2s,baz=96,slow=42						
WRA	**Warramunga Arr**	**41.38**	**124**	P	P	12 40 43.1	-1.6
	1.4nm,0.7s,baz=302,slow=9.1,SNR=6.7						
ASAR	**Alice Springs**	**42.87**	**129**	P	P	12 40 55.1	-1.8
	0.8nm,1.0s,baz=306,slow=7.8,SNR=3.4						
ASAR				LR	LR	12 59 04.7	
	comp=Z,47nm,19.9s,baz=107,slow=37						
ZAL	**Zalesovo**	**52.92**	**350**	P	P	12 42 12.7	-2.3
	0.8nm,0.4s,baz=140,slow=15,SNR=3.5						

DJA 27 12:42:05.3±0.8, 8.97S×108.44E, h200km, MD4.7/4, ML4.9/5, 8C-1D, Error ellipse: s-maj=38.3km s-min=5.6km az=19.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PULI	**Pulasari**	**3.57**	**317⇑**	*e*Pn	P	12 43 03.3	+0.9
	146nm,0.2s						
PULI				⇑*i*Sn	S	12 43 43.8	-2.8
SRDI	**Scrawed**	**5.66**	**85⇑**	*e*Pn	P	12 43 29.1	+0.2
	67nm,0.2s						
SRDI				⇑*i*Sn	S	12 44 29.6	-4.2
KELI	**Kelakatan**	**6.03**	**83⇑**	*i*Pn	P	12 43 37.6	+3.9
	111nm,0.9s						
KELI				⇑*i*Sn	S	12 44 43.6	+1.1
RATI	**Rata**	**7.01**	**89⇓**	*i*Pn	P	12 43 49.0	+2.5
	254nm,0.2s						
RATI				⇑*i*Sn	S	12 45 03.3	-2.1
KEDI	**Kedomdong**	**7.60**	**87⇑**	*i*Pn	P	12 43 54.3	+0.2
	51nm,0.2s						
KEDI				*e*Sn	S	12 45 17.5	-1.7

*NEIC **27** 12:51:35.2, 16.79N×93.75W, h164km, mb4.3/2, MD4.3(MEX), After MEX.*

*MEX **27** 12:51:35.5±0.9, 16.87N×93.82W, h171km±8km, MD4.3*

*IDC **27** 12:51:36.4±3.8, 16.95N×93.64W, h182km±36km, mb3.5/8, mb1 3.6/10, mb1mx3.4/22, mbtmp3.9/10, Error ellipse: s-maj=41.3km s-min=13.7km az=58.0*

ISC 27 12:51:33.4±0.4, 16.90N±0.05×93.83W±0.03, h170km±4km, n34, σ1§06/50, mb3.7/8, 4C, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.03**	**281⇑**	*i*P	**P**	**12 52 01.5**	**+1.0**
CMIG				*i*S	**S**	**12 52 21.3**	**-0.2**
SCX	**San Cristobal**	**1.16**	**98**	*i*S	**S**	**12 52 23.8**	**+0.3**
TUIG	**Tuzandepetl**	**1.26**	**333**	*i*P	**P**	**12 52 04.1**	**+1.4**
TUIG				*i*S	**S**	**12 52 24.9**	**-0.3**
TUIG	**Tuzandepetl**	**1.26**	**333⇑**	*i*P	**P**	**12 52 04.0**	**+1.4**
TUIG				*i*S	**S**	**12 52 24.9**	**-0.3**
EVV	**El Vigia**	**2.12**	**317**	*i*P	**P**	**12 52 11.8**	**+0.3**
EVV				*i*S	**S**	**12 52 41.0**	**+0.1**
HUIG	**Huatulco**	**2.46**	**243**	*i*P	**P**	**12 52 14.2**	**-1.4**
HUIG				*i*S	**S**	**12 52 47.1**	**-1.1**
HUIG	**Huatulco**	**2.46**	**243⇑**	*i*P	**P**	**12 52 14.3**	**-1.4**
HUIG				*i*S	**S**	**12 52 47.1**	**-1.1**
OXX	**Oaxaca**	**2.77**	**274**	*i*P	**P**	**12 52 20.6**	**+1.1**
OXX				*i*S	**S**	**12 52 54.9**	**0.0**
VHO	**Vista Hermosa**	**2.78**	**274**	*i*P	**P**	**12 52 21.0**	**+1.5**
VHO				*i*S	**S**	**12 52 54.9**	**-0.2**
VHO	**Vista Hermosa**	**2.78**	**274⇑**	*i*P	**P**	**12 52 21.1**	**+1.5**
VHO				*i*S	**S**	**12 52 54.9**	**-0.2**
SCIG		**3.25**	**50**	*i*P	**P**	**12 52 25.5**	**+0.1**
SCIG				*i*S	**S**	**12 53 03.8**	**-1.5**
IISM	**Ciudad Serdan**	**3.96**	**302**	*i*P	**P**	**12 52 33.9**	**-0.7**
IISM				*i*S	**S**	**12 53 19.4**	**-2.2**
PPM	**Popocatepetl**	**5.05**	**296**	*i*P	**P**	**12 52 51.5**	**+2.9**
PPM				*i*P		12 52 51.8	
PPM	**Popocatepetl**	**5.05**	**296**	*i*P	**P**	**12 52 49.8**	**+1.2**
PPM				*i*P		12 52 50.6	
PPM				*i*S	**S**	**12 53 46.0**	**-0.8**
PPM				*i*S	**S**	**12 53 47.2**	**+0.4**
YAIG	**Yautepec**	**5.35**	**292**	*i*P	**P**	**12 52 54.7**	**+2.0**
YAIG				*i*S	**S**	**12 53 53.9**	**-0.1**
YAIG	**Yautepec**	**5.35**	**292**	*i*P	**P**	**12 52 54.0**	**+1.4**
YAIG				*i*S	**S**	**12 53 52.8**	**-1.2**
PLIG	**Platanillo**	**5.61**	**286**	*i*P	**P**	**12 52 57.8**	**+1.8**
PLIG	**Platanillo**	**5.61**	**286**	*i*P	**P**	**12 52 57.4**	**+1.4**
PLIG				*i*S	**S**	**12 53 59.0**	**-1.0**
ACX	**Acapulco**	**5.83**	**271**	*i*P	**P**	**12 52 57.8**	**-1.1**
ACX				*i*S	**S**	**12 54 04.9**	**-0.3**
TEIG	**Tepich**	**6.22**	**57**	*e*P	**P**	**12 53 03.0**	**-1.0**
	53nm,0.7s						
JTS	**JuntasAbangare**	**10.84**	**126**	P	**P**	**12 54 06.2**	**+1.2**
	0.5nm,0.3s,baz=350,slow=12,SNR=3.2						
JTS	**JuntasAbangare**	**10.84**	**126**	P	**P**	**12 54 06.2**	**+1.2**
TXAR	**Lajitas Array**	**15.32**	**326**	P	**P**	**12 55 04.3**	**+2.3**
	0.2nm,0.3s,baz=148,slow=16,SNR=8.3						
SDV	**Santo Domingo**	**23.95**	**107**	P	**P**	**12 56 32.5**	**-0.9**
	5.0nm,0.6s,mb4.2,baz=308,slow=5.9,SNR=9.1						
LPAZ	**La Paz**	**41.59**	**141**	P	**P**	**12 59 06.8**	**+0.4**
	1.5nm,0.5s,mb3.9,baz=316,slow=7.9,SNR=5.6						
SIV	**San Ignacio**	**45.95**	**134**	P	**P**	**12 59 39.6**	**-1.8**
	1.4nm,0.7s,mb3.7,baz=303,slow=10,SNR=7.0						
YKA	**Yellowknife Ar**	**47.81**	**347**	P	**P**	**12 59 54.5**	**-0.7**
	0.7nm,0.7s,mb3.4,baz=152,slow=7.4,SNR=16						
YKA	**Yellowknife Ar**	**47.81**	**347**	P	**P**	**12 59 54.5**	**-0.7**
ILAR	**Eielson Array**	**59.49**	**337**	P	**P**	**13 01 20.3**	**-0.2**
	0.6nm,0.9s,mb3.4,baz=127,slow=4.5,SNR=6.5						
PLCA	**Paso Flores**	**61.28**	**160**	P	**P**	**13 01 33.1**	**+0.1**
	0.7nm,0.5s,mb3.7,baz=330,slow=18,SNR=3.1						
NB2	**NORSAR Subarra**	**82.44**	**28**	P	**P**	**13 03 38.3**	**+0.6**
	0.8nm,0.6s,mb3.5,baz=292,slow=5.0						
NOA	**NORSAR Array B**	**82.44**	**28**	P	**P**	**13 03 38.5**	**+0.8**
	1.2nm,0.8s,mb3.6,baz=292,slow=5.0,SNR=5.6						
ARCES	**ARCESS Array B**	**83.94**	**18**	P	**P**	**13 03 45.3**	**+0.3**
	1.4nm,0.5s,mb3.9,baz=315,slow=5.1,SNR=9.0						
WRA	**Warramunga Arr**	**134.32**	**258**	PKP	PKPdf	13 10 32.7	+0.9
	0.4nm,0.9s,baz=72,slow=1.5,SNR=5.2						

*IDC **27** 12:59:26.0±0.9, 21.45S×68.09W, h109km±11km, mb3.7/3, mb1 3.7/6, mb1mx3.6/15, mbtmp3.9/6, Error ellipse: s-maj=24.8km s-min=13.1km az=133.0*

ISC 27 12:59:25.5±0.8, 21.4S±0.1×68.1W±0.1, h116km±11km, n9, σ0§97/9, mb3.8/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.39**	**213**	P	**P**	**12 59 52.2**	**+0.4**
	70nm,0.3s,baz=8.9,slow=9.1,SNR=460						
LVC				S	**S**	**13 00 11.1**	**-0.7**
	38nm,0.3s,baz=254,slow=21,SNR=50						
LPAZ	**La Paz**	**5.13**	**360**	P	**P**	**13 00 42.4**	**+1.1**
	1.1nm,0.3s,baz=183,slow=4.9,SNR=13						
SIV	**San Ignacio**	**8.58**	**52**	P	**P**	**13 01 27.6**	**-0.6**
	2.5nm,0.3s,baz=241,slow=12,SNR=61						
SIV				S	**S**	**13 02 59.6**	**-4.2**
	0.1nm,0.3s,baz=198,slow=20,SNR=3.8						
CPUP	**Villa Florida**	**10.98**	**118**	P	**P**	**13 02 01.5**	**+1.2**
	0.2nm,0.3s,baz=310,slow=16,SNR=3.3						
DBIC	**Dimbokro**	**67.99**	**73**	P	**P**	**13 10 14.3**	**-0.3**
	1.0nm,0.5s,mb3.9,baz=223,slow=12,SNR=3.1						
PDAR	**Pinedale Array**	**74.44**	**330**	P	**P**	**13 10 53.3**	**+0.6**
	0.3nm,0.8s,mb3.1,baz=127,slow=4.5,SNR=3.1						
YKA	**Yellowknife Ar**	**91.39**	**340**	P	**P**	**13 12 18.1**	**-0.9**
	1.4nm,0.6s,mb4.3,baz=133,slow=4.5,SNR=50						
**ASA

2005 APR

SARO	**Sassorosso**	**1.96 300**	P	**Pn**	**13 08 41.2**	**-1.3**
SARO			S	**Sn**	**13 09 04.3**	**-3.0**
NVLJ	**Novalja**	**2.03 48**	*i* Pn	**Pn**	**13 08 43.6**	**+0.1**
NVLJ			*i* Sn	**Sn**	**13 09 09.5**	**+0.5**
VINC	**Vinca**	**2.10 297**	P	**Pn**	**13 08 43.4**	**-1.1**
VINC			S	**Sn**	**13 09 06.3**	**-4.5**
VINC	**Vinca**	**2.10 297**	P	**Pn**	**13 08 43.4**	**-1.1**
VINC	**Vinca**	**2.10 297**	P	**Pn**	**13 08 43.4**	**-1.1**
VINC			S	**Sn**	**13 09 06.3**	**-4.5**
VALM		**2.13 302**	P	**Pn**	**13 08 44.5**	**-0.5**
VALM		**2.13 302**	P	**Pn**	**13 08 44.5**	**-0.5**
BACM		**2.21 299**	P	**Pn**	**13 08 45.1**	**-1.0**
BACM			S	**Sn**	**13 09 08.6**	**-5.1**
BACM		**2.21 299**	P	**Pn**	**13 08 45.1**	**-1.0**
BACM			S	**Sn**	**13 09 08.6**	**-5.1**
CIGN	**Sant'Elia a Pi**	**2.24 134**	Pn	**Pn**	**13 08 49.9**	**+3.4**
GRAM		**2.32 304**	P	**Pn**	**13 08 47.5**	**-0.1**
GRAM			S	**Sn**	**13 09 11.2**	**-5.3**
GRAM		**2.32 304**	P	**Pn**	**13 08 47.5**	**-0.1**
GRAM			S	**Sn**	**13 09 11.2**	**-5.3**
CODM		**2.40 300**	P	**Pn**	**13 08 48.2**	**-0.7**
CODM			S	**Sn**	**13 09 12.7**	**-5.9**
CODM		**2.40 300**	P	**Pn**	**13 08 48.2**	**-0.7**
CODM			S	**Sn**	**13 09 12.7**	**-5.9**
TRI	**Trieste**	**2.58 16**	Pn	**Pn**	**13 08 50.8**	**-0.6**
	62nm,0.4s					
MS1	**Monte Sant'Ang**	**2.81 122**	*e*Pn	**Pn**	**13 08 57.5**	**+2.9**
FGMS	**Monte Sant'Ang**	**2.81 122**	Pn	**Pn**	**13 08 56.1**	**+1.4**
	250nm,0.6s					
JAVS	**Javornik**	**2.82 19**	*e*Pn	**Pn**	**13 08 54.4**	**-0.5**
BOB	**Bobbio (Coli)**	**2.84 304**	Pn	**Pn**	**13 08 56.5**	**+1.4**
	48nm,0.6s					
PGF	**Pioggiola**	**2.84 257**	*e*Pn	**Pn**	**13 08 54.7**	**-0.5**
PGF			*e*Pg	**Pg**	**13 09 05.1**	**-0.5**
PGF			*e*Sn	**Sn**	**13 09 29.0**	**-0.8**
	16nm,0.4s					
BOJS	**Bojanci**	**2.89 37**	*e*Pn	**Pn**	**13 08 57.9**	**+2.1**
BOJS			*i*		13 09 03.9	
BOJS			*i* Pg	**Pg**	**13 09 06.0**	**-0.6**
BOJS			*e*Sn	**Sn**	**13 09 32.4**	**+1.4**
BOJS	**Bojanci**	**2.89 37**	*i* Pg	**Pg**	**13 09 05.9**	**-0.7**
BOJS			*e*Sn	**Sn**	**13 09 32.4**	**+1.4**
VOY	**Vojsko**	**2.92 16**	*e*Pn	**Pn**	**13 08 55.5**	**-0.7**
VOY			*e*Sn	**Sn**	**13 09 33.0**	**+1.4**
ROBS	**Robic**	**3.06 10**	*i* Pn	**Pn**	**13 08 57.6**	**-0.6**
LJU	**Ljubljana**	**3.08 24**	*i* Pn	**Pn**	**13 09 00.2**	**+1.6**
LJU			*i*		13 09 08.7	
LJU			*e*Sn	**Sn**	**13 09 38.1**	**+2.2**
PTCC	**Patocco-Chiusa**	**3.20 7**	Pn	**Pn**	**13 08 59.3**	**-0.9**
	70nm,0.6s					
GORS	**Gorjuse**	**3.21 16**	*e*Pn	**Pn**	**13 09 00.0**	**-0.3**
CDT	**Castel del Mon**	**3.38 128**	*e*Pn	**Pn**	**13 09 05.4**	**+2.6**
OBKA	**Obir**	**3.52 21**	⇑*i*PN	**Pn**	**13 09 04.9**	**+0.2**
OBKA			*i* SN	**Sn**	**13 09 47.6**	**+0.8**
OBKA			*i* SG	**Sg**	**13 10 06.3**	**+0.4**
	55nm,0.5s					
STON	**Ston**	**3.64 94**	*i* Pn	**Pn**	**13 09 06.7**	**+0.2**
STON			*i* Sn	**Sn**	**13 09 48.6**	**-1.4**
STON	**Ston**	**3.64 94**	*i* Pn	**Pn**	**13 09 06.6**	**+0.1**
STON			*i* Sn	**Sn**	**13 09 48.6**	**-1.4**
SG1	**Sgolgore (BA)**	**3.77 128**	*e*Pn	**Pn**	**13 09 08.3**	**-0.1**
FUORN	**Ofenpass**	**3.82 333**	Pn	**Pn**	**13 09 10.8**	**+1.7**
KBA	**Koelnbreinsper**	**3.87 6**	⇑*i*PN	**Pn**	**13 09 10.1**	**+0.4**
KBA			*i* SN	**Sn**	**13 09 57.5**	**+1.7**
SBF	**Sospel**	**3.92 281**	*e*Pn	**Pn**	**13 09 10.8**	**+0.4**
SBF			*e*Sn	**Sn**	**13 09 57.7**	**+0.7**
	37nm,0.5s					
WTTA	**Wattenberg**	**4.11 349**	⇑*i*PN	**Pn**	**13 09 13.7**	**+0.6**
WTTA			*i* SN	**Sn**	**13 10 02.5**	**+0.6**
TREB	**Trebinje**	**4.14 95**	Pn	**Pn**	**13 09 14.4**	**+0.9**
TREB			Sn	**Sn**	**13 10 01.3**	**-1.2**
SQTA	**Sankt Quirin**	**4.14 345**	⇑*i*PN	**Pn**	**13 09 14.0**	**+0.5**
SQTA			*i* SN	**Sn**	**13 10 03.2**	**+0.7**
WATA	**Walderalm**	**4.19 349**	⇓*i*PN	**Pn**	**13 09 14.5**	**+0.2**
WATA			*i* SN	**Sn**	**13 10 05.0**	**+1.1**
PE1	**Pezze di Greco**	**4.24 123**	*e*Pn	**Pn**	**13 09 16.5**	**+1.5**
BRY	**Bratogost**	**4.25 92**	*e*Pn	**Pn**	**13 09 15.8**	**+0.7**
BRY			*e*Sn	**Sn**	**13 10 05.1**	**-0.4**
HCY	**Herceg Novi**	**4.29 99**	*e*Pn	**Pn**	**13 09 16.2**	**+0.5**
HCY			*e*Sn	**Sn**	**13 10 05.3**	**-1.2**
HCY	**Herceg Novi**	**4.29 99**	*e*Pn	**Pn**	**13 09 16.2**	**+0.4**
HCY			*e*Sn	**Sn**	**13 10 05.3**	**-1.2**
FRF	**La Foret Royal**	**4.46 276**	*e*Pn	**Pn**	**13 09 18.6**	**+0.4**
ARSA	**Arzberg**	**4.47 25**	⇑*i*PN	**Pn**	**13 09 17.7**	**-0.5**
ARSA			*i* SN	**Sn**	**13 10 08.8**	**-2.2**
UPM	**Unac-Piva**	**4.50 88**	*e*Pn	**Pn**	**13 09 19.1**	**+0.5**
UPM			*e*Sn	**Sn**	**13 10 11.0**	**-0.7**
DAVA	**Damuels**	**4.54 334**	⇑*i*PN	**Pn**	**13 09 20.3**	**+1.1**
DAVA			*i* SN	**Sn**	**13 10 15.0**	**+2.4**
LMR	**La Mourre**	**4.56 273**	*e*Pn	**Pn**	**13 09 18.9**	**-0.7**
MBDF	**Montbardon**	**4.57 291**	*e*Pn	**Pn**	**13 09 20.3**	**+0.6**
MBDF			*e*Sn	**Sn**	**13 10 11.4**	**-2.1**
	17nm,0.7s					
NKY	**Niksic**	**4.59 93**	⇑*i*Pn	**Pn**	**13 09 20.2**	**+0.1**
NKY			*e*Sn	**Sn**	**13 10 12.9**	**-1.3**
BUM	**Brajici-Budva**	**4.62 100**	*e*Pn	**Pn**	**13 09 20.7**	**+0.4**
BUM			*e*Sn	**Sn**	**13 10 13.3**	**-1.4**
MOA	**Molln**	**4.74 12**	⇓*i*PN	**Pn**	**13 09 21.6**	**-0.5**
MOA			*i* SN	**Sn**	**13 10 17.5**	**-0.3**
PLE	**Pljevlja**	**4.85 87**	*e*Pn	**Pn**	**13 09 24.0**	**+0.4**
PLE			*e*Sn	**Sn**	**13 10 19.3**	**-1.2**
TTG	**Podgorica**	**4.85 97**	*e*Pn	**Pn**	**13 09 24.0**	**+0.4**
TTG			*e*Sn	**Sn**	**13 10 18.9**	**-1.7**
LPG	**La Plagne**	**4.87 300**	*e*Pn	**Pn**	**13 09 24.4**	**+0.5**
LPG			*e*Sn	**Sn**	**13 10 17.7**	**-3.3**
	21nm,0.6s					
BBLS	**Bajina Basta -**	**4.88 80**	⇑*i*Pn	**Pn**	**13 09 24.9**	**+0.9**
BBLS			Sn	**Sn**	**13 10 19.7**	**-1.5**
LPL	**La Plagne**	**4.89 300**	*e*Pn	**Pn**	**13 09 24.7**	**+0.6**
ULC	**Ulcinj**	**4.96 103**	*e*Pn	**Pn**	**13 09 24.6**	**-0.6**
ULC			*e*Sn	**Sn**	**13 10 21.4**	**-1.8**
PKSM	**Moragy**	**5.14 53**	*e*P	**Pn**	**13 09 26.9**	**-0.9**
ORIF	**Oris-en-Rattie**	**5.23 291**	*e*Pn	**Pn**	**13 09 30.1**	**+1.0**
ORIF			*e*Sn	**Sn**	**13 10 25.9**	**-4.3**
	14nm,0.6s					
IVA	**Berane**	**5.25 91**	*e*Pn	**Pn**	**13 09 29.5**	**+0.3**
IVA			*e*Sn	**Sn**	**13 10 28.8**	**-1.7**
SMRF	**Simiane la Rot**	**5.27 281**	*e*Pn	**Pn**	**13 09 29.0**	**-0.5**
PVY	**Plav**	**5.34 94**	*e*Pn	**Pn**	**13 09 30.6**	**+0.1**
PVY			*e*Sn	**Sn**	**13 10 31.2**	**-1.6**
GEC2	**GERESS Array S**	**5.65 6**	*e*Pn	**Pn**	**13 09 34.0**	**-1.0**
GEC2			*e*Sn	**Sn**	**13 10 37.0**	**-3.8**
CABF	**La Chapelle**	**5.82 308**	*e*Pn	**Pn**	**13 09 36.7**	**-0.6**
ZST	**Bratislava**	**5.82 30**	*e*SN	**Sn**	**13 10 40.5**	**-4.5**
KHC	**Kasperske Hory**	**5.93 5**	*e*PN	**Pn**	**13 09 36.9**	**-2.0**
KHC			x	x	13 09 44.5	
KHC			x	x	13 09 52.5	
KHC			x	x	13 10 19.0	
KHC			*e*SN	**Sn**	**13 10 42.0**	**-5.7**
	66nm,2.1s					
BFO	**Black Forest**	**5.96 330**	*e*Pn	**Pn**	**13 09 41.6**	**+2.2**
BFO			*e*Sn	**Sn**	**13 10 44.1**	**-4.5**
HINF	**Hinteralfeld**	**6.18 320**	*e*Pn	**Pn**	**13 09 41.3**	**-1.1**
HINF			*e*Sn	**Sn**	**13 10 49.9**	**-4.1**
	23nm,0.4s					
CDF	**Champ du Feu**	**6.44 325**	*e*Pn	**Pn**	**13 09 45.1**	**-1.0**
CDF			*e*Sn	**Sn**	**13 10 55.8**	**-4.7**
	13nm,0.5s					
LASF	**Ste Croix**	**6.51 281**	*e*Pn	**Pn**	**13 09 45.8**	**-1.3**
HAU	**Haudompre**	**6.56 319**	*e*Pn	**Pn**	**13 09 46.5**	**-1.2**
HAU			*e*Sn	**Sn**	**13 10 57.5**	**-5.8**
	24nm,0.4s					
VYHS	**Vyhne**	**6.76 37**	*e*SN	**Sn**	**13 11 04.8**	**-3.6**
NKC	**Novy Kostel**	**7.01 358**	*e*SN	**Sn**	**13 11 09.0**	**-5.6**
SMF	**Signal de Mont**	**7.19 301**	*e*Pn	**Pn**	**13 09 56.2**	**-0.4**
MOX	**Moxa**	**7.46 354**	Pn	**Pn**	**13 09 59.2**	**-1.2**
MOX			*e*Sn	**Sn**	**13 11 18.6**	**-7.3**
MOX	**Moxa**	**7.46 354**	*i* P	**Pn**	**13 09 59.2**	**-1.2**
MOX			S	**Sn**	**13 11 18.0**	**-7.9**
MOX			L		13 43 14.0	
LOR	**Lormes**	**7.46 306**	*e*Pg	**Pg**	**13 10 29.9**	**-7.9**
	baz=124					
LOR			*e*Sn	**Sn**	**13 11 20.0**	**-6.0**
	6.8nm,0.5s					
DPC	**Dobruska-Polom**	**7.53 18**	*e*SN	**Sn**	**13 11 19.1**	**-8.6**
MTLF	**Montolieu**	**7.69 274**	*e*Pn	**Pn**	**13 10 04.3**	**+0.7**
CLL	**Collm**	**8.08 1**	*e*SN	**Sn**	**13 11 42.0**	**+0.5**
CLL			*e*SG	**Sg**	**13 12 42.0**	**+4.1**

*IDC **27** 13:11:24.0±0.7,41.76N×80.60E,mb4.0/14,mb1 4.2/16,*

mb1mx4.1/23,mbtmp4.0/16,ML3.9/2,MS3.6/6,Ms1 3.6/6,
ms1mx3.4/25,Error ellipse: s-maj=21.0km s-min=13.9km
az=51.0
*BJI **27** 13:11:26.7,41.76N×80.46E,h25km,mB4.8,mb4.4,ML4.5,*
Ms4.0,Msz3.6
*MOS **27** 13:11:27.6±0.9,41.80N×80.58E,h33km,mb4.9/21,Error*
ellipse: s-maj=8.4km s-min=5.5km az=118.3
*NNC **27** 13:11:28.4±1.2,42.02N×80.40E,h9km±3km,mpv4.8,*
Error ellipse: s-maj=12.9km s-min=3.8km az=137.0
*NEIC **27** 13:11:28.7±2.7,41.79N×80.52E,h26km±19km,mb4.7/20,*
Error ellipse: s-maj=10.5km s-min=6.7km az=206.0
ISC 27 13:11:28.4±0.5,41.69N±0.03×80.47E±0.04,h43km±5km,
n144,σ1$20/155,mb4.4/42,MS3.6/11,9C-8D,Southern
Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAA	**Alma-Ata**	**3.05**	**302**	*e*PN	**P**	**13 12 18.0**	**+2.6**
AAA				*e*		13 12 55.0	
ULHL	**Ulahol**	**3.20**	**281**	P	**P**	**13 12 19.0**	**+1.4**
	SNR=110						
TKM2	**Tokmak 2**	**3.82**	**290**	P	**P**	**13 12 27.6**	**+1.3**
	SNR=106						
KZA	**Kyzart**	**3.92**	**277**	P	**P**	**13 12 29.7**	**+2.0**
	SNR=38						
KSH	**Kashi**	**4.05**	**239**	PG	**P**	**13 12 37.3**	**+7.7**
KSH				SG	**S**	**13 13 33.0**	**+17**
KSH				Smax			
	comp=N,250nm,0.9s						
KSH				Smax			
	comp=E,790nm,1.5s						
KBK	**Karagaybulak**	**4.22**	**285**	P	**P**	**13 12 33.3**	**+1.4**
	SNR=43						
CHMS	**Chumysh**	**4.44**	**289**	P	**P**	**13 12 36.0**	**+1.0**
	SNR=23						
UCH	**Uchtor**	**4.47**	**279**	P	**P**	**13 12 35.1**	**-0.5**
	SNR=15						
FRU	**Bishkek**	**4.49**	**287**	*e*PN	**P**	**13 12 37.0**	**+1.2**
FRU				*i*		13 12 58.5	
FRU				*e*S	**S**	**13 13 43.0**	**+16**
FRU				pmax	pmax		
	comp=Z,430nm,1.5s						
FRU				pmax	pmax		
	comp=Z,800nm,2.0s						
FRU				smax			
	comp=E,2μm,2.3s						
FRU				smax			
	comp=E,1μm,1.6s						
AAK	**Ala-Archa**	**4.54**	**284**	P	**P**	**13 12 38.1**	**+1.6**
	SNR=11						
AAK	**Ala-Archa**	**4.54**	**284**	⇓Pn	**P**	**13 12 35.8**	**-0.7**
	comp=E,137nm,0.9s						
AAK				⇓Lg		13 13 48.5	
	comp=E,720nm,1.6s						
AAK	**Ala-Archa**	**4.54**	**284**	*d i*PN	**P**	**13 12 36.3**	**-0.2**
AAK				pmax	pmax		
	comp=Z,15nm,1.0s						
AAK	**Ala-Archa**	**4.54**	**284**	*e*P	**P**	**13 12 36.0**	**-0.5**
USP	**Ospenovka**	**4.69**	**292**	P	**P**	**13 12 37.7**	**-0.9**
	SNR=33						
EKS2	**Erkin-Say**	**5.07**	**283**	P	**P**	**13 12 59.6**	**+16**
	SNR=25						
AML	**Almayashu**	**5.08**	**277**	P	**P**	**13 12 59.1**	**+15**
	SNR=32						
MK31	**Makanchi Array**	**5.27**	**14**	⇑Pn	**P**	**13 12 45.7**	**-1.0**
	comp=Z,162nm,0.8s						
MK31				⇓Sn	**S**	**13 13 46.8**	**-0.2**
	comp=Z,86nm,0.7s						
MK31				⇑Lg		13 14 06.7	
	comp=Z,292nm,0.7s						
MKAR	**Makanchi Array**	**5.27**	**14**	*i* PN	**P**	**13 12 45.6**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,17nm,0.2s						
WMQ	**Urumqi**	**5.73**	**66**	P	**P**	**13 12 55.0**	**+1.9**
WMQ				S	**S**	**13 14 00.0**	**+1.5**
WMQ				Smax			
	comp=N,404nm,1.0s						
WMQ				Smax			
	comp=E,282nm,0.8s						
KK31	**Karatay Array**	**7.51**	**284**	⇓Pn	**P**	**13 13 18.8**	**+0.8**
	comp=E,42nm,1.0s,baz=104,slow=13,SNR=15						
KK31				Lg		13 15 21.1	
	comp=E,30nm,0.7s,baz=92,slow=27,SNR=4.1						
KKAR	**Karatay Array**	**7.51**	**284**	*i* P	**P**	**13 13 18.8**	**+0.8**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DLH	**Dalhousie**	**9.81**	**203**	*e*P	**P**	**13 13 50.0**	**+0.2**
CHCP	**Chirah Chowk**	**9.84**	**218**	P	**P**	**13 13 46.2**	**-4.0**
THN	**Thein Dam**	**9.99**	**204**	*e*P	**P**	**13 13 51.7**	**-0.5**
KLP	**Kalpa**	**10.29**	**191**	*e*P	**P**	**13 13 54.7**	**-1.7**
CEP	**Cherat**	**10.37**	**224**	P	**P**	**13 13 58.5**	**+1.0**
SDNR	**Sundarnagar**	**10.55**	**197**	*e*P	**P**	**13 13 58.4**	**-1.6**
SDNR				*e*S	**S**	**13 15 50.4**	**-7.4**
BHK	**Bhakra**	**10.76**	**199**	*e*	**S**	**13 15 59.3**	**-3.5**
SMLA	**Simla**	**10.87**	**195**	*i* P	**P**	**13 14 01.3**	**-3.0**
	comp=Z,108nm,0.5s						
SMLA				*i*		13 16 00.3	
THW	**Thamme Wali**	**11.27**	**221**	P	**P**	**13 14 09.6**	**-0.1**
ZAL	**Zalesovo**	**12.59**	**12**	Pn	**P**	**13 14 24.3**	**-3.1**
	comp=Z,2.5nm,0.3s,baz=278,slow=12,SNR=29						
ZAL				Sn	**S**	**13 16 38.1**	**-9.1**
	comp=Z,0.8nm,0.3s,baz=317,slow=18,SNR=3.1						
ZAL	**Zalesovo**	**12.59**	**12**	Pn	**P**	**13 14 24.3**	**-3.2**
ZAL				Sn	**S**	**13 16 38.1**	**-9.1**
BVA0	**Borovoye Array**	**13.22**	**332**	Pn	**P**	**13 14 32.4**	**-3.4**
	comp=Z,1.3nm,0.7s,baz=206,slow=37,SNR=55						
BVA0				⇑Lg		13 18 17.9	
	comp=Z,11nm,1.3s,baz=128,slow=8.7,SNR=3.8						
BVA0	**Borovoye Array**	**13.22**	**332**	P	**P**	**13 14 35.3**	**-0.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**13.22**	**332**	Pn	**P**	**13 14 32.6**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=139,slow=14,SNR=7.5						
NDI	**New Delhi**	**13.24**	**193**	*e*P	**P**	**13 14 33.0**	**-3.1**
NDI				*e*		13 16 55.0	
NVS	**Novosibirsk**	**13.29**	**7**	*e*P	**P**	**13 14 33.7**	**-2.9**
NVS				*e*		13 16 54.5	
AYAN	**Aya Nagar**	**13.46**	**193**	*e*P	**P**	**13 14 37.3**	**-1.6**
AYAN				*e*		13 14 42.8	
	comp=Z,6.1nm,0.9s						
CHKZ	**Chkalovo**	**13.69**	**335**	⇑Pn	**P**	**13 14 39.8**	**-2.0**
	comp=Z,5.5nm,0.6s						
CHKZ				⇑Lg		13 18 32.5	
	comp=Z,128nm,1.9s						
CHKZ	**Chkalovo**	**13.69**	**335**	*i* P	**P**	**13 14 39.8**	**-2.0**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GKN	**Gorkha**	**14.07**	**165**	*e*P	**P**	**13 14 49.4**	**+2.4**
KHET	**Khetri**	**14.11**	**197**	*e*	**P**	**13 14 42.9**	**-4.5**
KHET				*e*		13 14 47.1	
	comp=Z,20nm,1.1s						
KOLN	**Koldanda**	**14.12**	**169**	*e*P	**P**	**13 14 45.6**	**-2.0**
KKN	**Kakani**	**14.41**	**163**	*e*P	**P**	**13 14 52.3**	**+0.8**
	comp=Z,5.6nm,0.5s						
GUN	**Gumba**	**14.44**	**160**	*e*P	**P**	**13 14 52.6**	**+0.8**
	comp=Z,15nm,0.4s						
DMN	**Daman**	**14.55**	**163**	*e*P	**P**	**13 14 52.1**	**-1.1**
	comp=Z,22nm,1.0s						
JIRN	**Jiri**	**14.76**	**160**	*e*P	**P**	**13 14 55.1**	**-0.9**
	comp=Z,20nm,0.8s						
GTA	**Gaotai**	**14.88**	**92**	*e*P	**P**	**13 14 53.0**	**-4.5**
GTA				PP	PP	13 15 04.8	-4.6
GTA				S	**S**	**13 17 33.8**	**-7.9**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.6s						
GTA				LR	LR		
	comp=N,373nm,11.4s						
GTA				LR	LR		
	comp=E,199nm,11.4s						
GTA				LR	LR		
	comp=Z,198nm,11.8s						
AB31	**Akbulak array**	**16.23**	**305**	⇑Pn	**P**	**13 15 13.5**	**-1.2**
	comp=Z,5.0nm,0.7s						
AB31				⇑Lg		13 19 51.2	
	comp=Z,20nm,1.4s,baz=106,slow=25,SNR=4.5						
KRAR	**Krasnoyarsk**	**16.45**	**25**	*e*P	**P**	**13 15 14.4**	**-3.0**
MOY	**Mondy**	**17.20**	**48**	*e*P	**P**	**13 15 30.5**	**+3.6**
ZAK	**Zakamensk**	**18.01**	**53**	*e*P	**P**	**13 15 34.2**	**-2.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BHPL	**Bhopal**	**18.57**	**189**	*e*P	**P**	**13 15 41.7**	**-2.4**
BHPL				*e*		13 15 47.2	
	comp=Z,19nm,1.1s						
TLY	**Talaya**	**18.70**	**50**	*e*P	**P**	**13 15 45.2**	**-0.3**
TLY				pmax	pmax		
	comp=Z,6.0nm,2.5s						
LZH	**Lanzhou**	**19.01**	**99**	*e*P	**P**	**13 15 50.0**	**+0.8**
LZH				AP		13 15 53.8	
LZH				XP		13 15 57.0	
LZH				PP	PP	13 16 06.5	+0.4
LZH				*e*S	**S**	**13 19 18.3**	**+2.3**
LZH				XS		13 19 25.0	
LZH				SS	SS	13 19 43.3	+1.0
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
LZH				AMB	AMB		
	comp=Z,62nm,4.0s						
LZH				LR	LR		
	comp=N,314nm,9.1s						
LZH				LR	LR		
	comp=Z,588nm,10.2s						
ULN	**Ulaanbaatar**	**19.80**	**63**	*e*P	**P**	**13 15 58.9**	**+1.1**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ULN	**Ulaanbaatar**	**19.80**	**63**	*e*P	**P**	**13 15 58.9**	**+1.1**
	comp=Z,8.2nm,1.0s						
SVE	**Sverdlovsk**	**19.81**	**327**	*e*P	**P**	**13 15 57.5**	**-0.3**
SVE				MLR	MLR		
	comp=N,400nm,16.0s						
SVE				MLR	MLR		
	comp=E,900nm,16.0s						
SVE				MLR	MLR		
	comp=Z,500nm,16.0s						
ARU	**Arti**	**20.45**	**324**	*c i*P	**P**	**13 16 03.2**	**-1.4**
ARU				MLR	MLR		
	comp=Z,300nm,15.0s,MS3.8						
ARU	**Arti**	**20.45**	**324**	*e*P	**P**	**13 16 02.9**	**-1.7**
	comp=Z,36nm,1.1s						
XAN	**Xi'an**	**23.65**	**100**	P	**P**	**13 16 41.5**	**+5.0**
XAN				AP		13 16 48.5	
XAN				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb3.9						
HYB	**Hyderabad**	**24.25**	**184**	*e*P	**P**	**13 16 44.0**	**+1.5**
HYB	**Hyderabad**	**24.25**	**184**	*i* P	**P**	**13 16 44.0**	**+1.5**
ENH	**Enshi**	**25.98**	**107**	*e*P	**P**	**13 16 59.7**	**+0.8**
	comp=Z,14nm,0.8s,mb4.5						
GYA	**Guiyang**	**26.35**	**117**	⇑*i*P	**P**	**13 17 06.5**	**+4.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
BOD	**Bodaibo**	**26.64**	**41**	*e*P	**P**	**13 17 05.7**	**+1.1**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
GNI	**Garni**	**26.93**	**279**	*e*P	**P**	**13 17 12.3**	**+4.9**
GNI				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GNI				MLR	MLR		
	comp=Z,100nm,21.0s						
GNI	**Garni**	**26.93**	**279**	LR	LR	13 29 04.7	
	comp=Z,68nm,21.8s,MS3.2,baz=158,slow=39						
ZEI	**Tsey**	**26.97**	**285**	*e*P	**P**	**13 17 06.1**	**-1.7**
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
KIV	**Kislovodsk**	**27.65**	**288**	*e*P	**P**	**13 17 20.8**	**+6.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
KIV				pmax	pmax		
	comp=N,4.0nm,0.6s						
KIV				MLR	MLR		
	comp=Z,103nm,17.0s,MS3.5						
KIV				MLR	MLR		
	comp=N,20nm,14.0s,MS3.5						
KIV				MLR	MLR		
	comp=E,89nm,17.0s,MS3.5						
CMAR	**Chiang Mai Arr**	**28.02**	**140**	P	**P**	**13 17 17.5**	**-0.1**
	comp=E,0.6nm,0.5s,mb3.5,baz=336,slow=11,SNR=4.4						
CMAR				LR	LR	13 28 28.7	
	comp=E,39nm,18.1s,MS3.0,baz=320,slow=37						
SOC	**Sochi**	**29.83**	**288**	*e*P	**P**	**13 17 33.4**	**-0.1**
SOC				*e*		13 18 26.3	
SOC				*e*		13 20 38.0	
SOC				*e*S	**S**	**13 22 25.8**	**-0.2**
SOC				*e*SS	SS	13 23 59.7	-3.8
SOC				*e*SSS	SSS	13 24 21.8	-3.0
SOC				*e*		13 28 14.8	
SOC				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.6						
SOC				pmax	pmax		
	comp=E,1.0nm,0.3s						
SOC				MLR	MLR		
	comp=Z,145nm,20.0s,MS3.6						
SOC				MLR	MLR		
	comp=N,6.0nm,1.0s						
SOC				MLR	MLR		
	comp=E,127nm,18.0s						
NJ2	**Nanjing**	**31.95**	**95**	*e*P	**P**	**13 17 56.0**	**+3.6**
NJ2				AP	pP	13 18 05.5	+1.5
NJ2				XP	sP	13 18 09.5	0.0
NJ2				PP	PP	13 19 03.0	+3.8
NJ2				S	**S**	**13 23 04.0**	**+4.5**
NJ2				XS		13 23 21.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,462nm,4.4s						
NJ2				LR	LR		
	comp=N,420nm,16.4s,MS4.6						
NJ2				LR	LR		
	comp=E,1μm,17.8s,MS4.6						
NJ2				LR	LR		
	comp=Z,344nm,19.4s,MS4.0						
SSE	**Sheshan**	**34.16**	**95**	P	**P**	**13 18 12.0**	**+0.6**
SSE				AP	pP	13 18 20.8	-2.4
SSE				PP	PP	13 19 28.5

GERES GERESS Array B 46.16 303 P **P** **13 19 50.7 +0.4**
GERES LR LR 13 42 38.2
MOX Moxa 46.92 306 *eP* **P** **13 19 59.7 +3.4**
MOX Moxa 46.92 306 *i* P **P** **13 19 59.7 +3.4**
GRA1 Grafenberg Arr 47.45 304 *eP* **P** **13 20 03.0 +2.5**
comp=Z,9.0nm,1.2s,mb4.6
GRF Grafenberg Arr 47.45 304 *eP* **P** **13 20 03.0 +2.5**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
GRF Grafenberg Arr 47.45 304 *eP* **P** **13 20 03.0 +2.5**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
GRF Grafenberg Arr 47.45 304 *eP* **P** **13 20 03.0 +2.5**
comp=Z,9.0nm,1.2s,mb4.6
CDF Champ du Feu 50.33 304 *eP* **P** **13 20 23.0 +0.3**
PGF Pioggiola 51.52 296 *eP* **P** **13 20 32.0 +0.3**
comp=Z,32nm,1.3s,mb4.8
PGF Pioggiola 51.52 296 *eP* **P** **13 20 32.0 +0.3**
PGF pmax pmax
comp=Z,16nm,1.3s,mb4.8
CABF La Chapelle 51.76 302 *eP* **P** **13 20 33.5 0.0**
comp=Z,14nm,0.9s,mb4.6
CABF La Chapelle 51.76 302 *eP* **P** **13 20 33.5 0.0**
CABF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LPG La Plagne 51.78 301 *eP* **P** **13 20 34.7 +1.0**
comp=Z,26nm,0.9s,mb4.8
LPG La Plagne 51.78 301 *eP* **P** **13 20 34.7 +1.0**
LPG pmax pmax
comp=Z,13nm,0.9s,mb4.9
LPL La Plagne 51.78 301 *eP* **P** **13 20 34.6 +0.9**
comp=Z,40nm,1.1s,mb5.0
LPL La Plagne 51.78 301 *eP* **P** **13 20 34.6 +0.9**
LPL pmax pmax
comp=Z,20nm,1.1s,mb5.0
SBF Sospel 52.01 299 *eP* **P** **13 20 35.8 +0.4**
comp=Z,20nm,0.8s,mb4.8
SBF Sospel 52.01 299 *eP* **P** **13 20 35.8 +0.4**
SBF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BNI Bardonecchia 52.01 300 *eP* **P** **13 20 36.4 +1.0**
BNI pmax pmax
comp=Z,16nm,1.1s,mb4.9
BNI Bardonecchia 52.01 300 *eP* **P** **13 20 36.4 +1.0**
comp=Z,16nm,1.1s,mb4.9
MBDF Montbardon 52.08 300 *eP* **P** **13 20 35.7 -0.2**
comp=Z,12nm,0.9s,mb4.5
MBDF Montbardon 52.08 300 *eP* **P** **13 20 35.7 -0.2**
MBDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
FRF La Foret Royal 52.65 299 *eP* **P** **13 20 40.2 0.0**
SMF Signal de Mont 53.16 303 *eP* **P** **13 20 43.7 -0.3**
comp=Z,12nm,0.8s,mb4.6
SMF Signal de Mont 53.16 303 *eP* **P** **13 20 43.7 -0.3**
SMF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
VIVF Saint-Julien-l 53.38 301 *eP* **P** **13 20 45.7 0.0**
AVF Avril sur Loir 53.41 303 *eP* **P** **13 20 45.6 -0.2**
comp=Z,35nm,1.2s,mb4.9
AVF Avril sur Loir 53.41 303 *eP* **P** **13 20 45.6 -0.2**
AVF pmax pmax
comp=Z,18nm,1.2s,mb4.9
LASF Ste Croix 54.25 300 *eP* **P** **13 20 51.9 -0.1**
comp=Z,25nm,1.3s,mb4.7
TCF Toulx Ste Croi 54.33 303 *eP* **P** **13 20 52.0 -0.6**
comp=Z,20nm,1.0s,mb4.7
TCF Toulx Ste Croi 54.33 303 *eP* **P** **13 20 52.0 -0.6**
TCF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LDF La Druitiere 54.78 307 *eP* **P** **13 20 55.1 -0.7**
CAF Calviac 55.02 302 *eP* **P** **13 20 58.0 +0.3**
comp=Z,17nm,1.1s,mb4.7
CAF Calviac 55.02 302 *eP* **P** **13 20 58.0 +0.3**
CAF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
RJF Les Rejaudoux 55.20 302 *eP* **P** **13 20 59.4 +0.4**
RJF *e*R
comp=Z,92nm,21.2s
MTLF Montolieu 55.64 300 *eP* **P** **13 21 02.3 +0.1**
SGMF Saint Gilles 56.38 307 *eP* **P** **13 21 07.2 -0.2**
ROSF Rostrenen 56.77 308 *eP* **P** **13 21 09.8 -0.4**
QUIF Quistinic 56.90 307 *eP* **P** **13 21 10.6 -0.5**
comp=Z,80nm,1.3s,mb5.3
QUIF Quistinic 56.90 307 *eP* **P** **13 21 10.6 -0.5**
QUIF pmax pmax
comp=Z,40nm,1.3s,mb5.3
ETSF Etsaut 57.64 301 *eP* **P** **13 21 16.6 +0.2**
SJPF Ste Jean 57.97 301 *eP* **P** **13 21 19.0 +0.3**
SMY Shemya 60.19 44 P **P** **13 21 32.9 -1.1**
ESDC Sonseca Array 61.48 299 P **P** **13 21 42.5 -0.5**
comp=Z,0.2nm,0.3s,mb3.7,baz=37,slow=6.4,SNR=4.9
INK Inuvik 67.41 13 P **P** **13 22 19.6 -1.2**
comp=Z,1.2nm,0.6s,mb4.1,baz=330,slow=6.7,SNR=10
ILAR Eielson Array 67.59 20 P **P** **13 22 21.2 -0.8**
comp=Z,1.5nm,0.8s,mb4.1,baz=326,slow=3.3,SNR=16
YKA Yellowknife Ar 75.46 7 *i* P **P** **13 23 09.0 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 75.46 7 P **P** **13 23 08.2 -0.7**
comp=Z,0.9nm,0.5s,mb4.0,baz=341,slow=6.0,SNR=27
YKA Yellowknife Ar 75.46 7 P **P** **13 23 08.2 -0.7**
WRAB Tennant Creek 79.00 129 ‖ *i* P **P** **13 23 34.5 +4.9**
WRA Warramunga Arr 79.00 129 P **P** **13 23 30.5 +0.9**
comp=Z,0.6nm,0.6s,mb3.7,baz=326,slow=4.9,SNR=16
ASAR Alice Springs 81.68 132 P **P** **13 23 43.8 0.0**
comp=Z,0.5nm,0.6s,mb3.6,baz=325,slow=4.8,SNR=11
DBIC Dimbokro 82.12 272 P **P** **13 23 47.0 +0.8**
comp=Z,2.4nm,0.7s,mb4.2,baz=23,slow=7.7,SNR=2.9

IDC ***27*** *13:19:26.8±2.8, 7.76N×92.42E, mb3.7/3, mb1 4.0/4, mb1mx3.7/19, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=90.1km s-min=27.9km az=68.0*

ISC 27 13:19:40.3±1.1, 7.9N±0.2×94.3E±0.2, h33km, n10, σ0s88/10, mb4.1/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.48**	**23**	Pn	**P**	**13 22 24.8**	**-0.2**
	0.3nm,0.3s,baz=218,slow=15,SNR=6.9						
JIRN	**Jiri**	**21.12**	**340**	*eP*	**P**	**13 24 24.9**	**+0.3**
GUN	**Gumba**	**21.46**	**339**	*eP*	**P**	**13 24 27.8**	**-0.1**
DMN	**Daman**	**21.47**	**337**	*eP*	**P**	**13 24 29.0**	**+1.0**
KKN	**Kakani**	**21.57**	**338**	*eP*	**P**	**13 24 29.7**	**+0.7**
GKN	**Gorkha**	**22.00**	**337**	*eP*	**P**	**13 24 32.6**	**-0.8**
	12nm,0.5s,mb4.6						
KOLN	**Koldanda**	**22.22**	**334**	*eP*	**P**	**13 24 34.6**	**-1.0**
	12nm,0.7s,mb4.4						
ZAL	**Zalesovo**	**46.58**	**352**	P	**P**	**13 27 55.2**	**-12**
	1.2nm,0.5s,mb4.0,baz=148,slow=6.2,SNR=5.0						
WRA	**Warramunga Arr**	**48.16**	**126**	P	**P**	**13 28 21.1**	**+1.4**
	0.4nm,0.5s,mb3.7,baz=305,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**49.82**	**130**	P	**P**	**13 28 31.0**	**-1.4**
	0.3nm,0.5s,mb3.6,baz=302,slow=6.8,SNR=8.9						

IDC ***27*** *13:20:31.4±1.0, 50.95N×179.77E, mb4.0/9, mb1 4.2/10, mb1mx4.0/24, mbtmp4.1/10, ML3.7/1, MS3.6/5, Ms1 3.5/5, ms1mx3.1/36, Error ellipse: s-maj=28.3km s-min=14.6km az=180.0*

NEIC ***27*** *13:20:39.0±0.8, 51.16N×179.41E, h54km±5km, mb4.1/2, ML3.9(AEIC), Error ellipse: s-maj=16.7km s-min=5.8km az=180.0*

ISC 27 13:20:38.8±1.4, 51.0N±0.2×179.60E±0.09, h75km±8km, n34, σ0s85/29, mb3.9/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.12**	**68**	P	**P**	**13 21 12.5**	**-0.3**
KIWB	**Kanaga Island**	**2.20**	**66**	P	**P**	**13 21 14.2**	**+0.3**
KIRH	**Kanaga Island**	**2.25**	**66**	P	**P**	**13 21 15.0**	**+0.3**
ADAG	**Mount Adagdak**	**2.56**	**66**	P	**P**	**13 21 19.3**	**+0.3**
GSTD	**Great Sitkin T**	**2.85**	**67**	P	**P**	**13 21 22.8**	**-0.3**
GSMY	**Great Sitkin M**	**2.90**	**68**	P	**P**	**13 21 23.5**	**-0.3**
GSTR	**Great Sitkin T**	**2.91**	**67**	P	**P**	**13 21 24.6**	**+0.6**
GSIG	**Igitkin Island**	**2.96**	**69**	P	**P**	**13 21 24.6**	**0.0**
ATKA	**Atka Island**	**4.04**	**71**	P	**P**	**13 21 39.6**	**-0.2**
FX1	**Attu Island--F**	**4.40**	**298**	Pn	**P**	**13 21 40.9**	**-3.8**
	12nm,0.3s,baz=196,slow=4.4,SNR=74						
FX1				Sn	**S**	**13 22 35.2**	**+0.2**
	17nm,0.3s,baz=248,slow=19,SNR=2.6						
FX1	**Attu Island--F**	**4.40**	**298**	P	**P**	**13 21 40.3**	**-4.4**
UNV	**Unalaska Valle**	**8.95**	**66**	P	**P**	**13 22 44.6**	**-2.7**
TNA	**Tin City**	**15.93**	**19**	*eP*	**P**	**13 24 22.5**	**+3.2**
	5.8nm,1.4s						
IMA	**Indian Mountai**	**20.28**	**32**	*eP*	**P**	**13 25 10.3**	**0.0**
	16nm,0.5s						
ILAR	**Eielson Array**	**22.15**	**39**	P	**P**	**13 25 29.9**	**+0.8**
	0.6nm,0.5s,mb3.2,baz=260,slow=12,SNR=21						
ILAR				PcP	PcP	13 29 25.4	+0.5
	0.2nm,0.4s,baz=280,slow=3.4,SNR=6.6						
ILAR				ScP		13 33 01.9	
	0.1nm,0.5s,baz=272,slow=3.4,SNR=4.1						
DAWY	**Dawson**	**25.05**	**43**	P	**P**	**13 25 57.4**	**+0.4**
ASAJ	**Asahikawa**	**25.70**	**269**	LR	LR	13 34 39.2	
	comp=Z,69nm,20.0s,baz=88,slow=33						
INK	**Inuvik**	**28.33**	**35**	P	**P**	**13 26 26.5**	**-0.6**
	0.6nm,0.3s,mb3.6,baz=253,slow=6.5,SNR=11						
INK				PcP	PcP	13 29 39.5	+1.1
	0.5nm,0.5s,baz=333,slow=1.1,SNR=5.2						
DLBC	**Dease Lake**	**29.39**	**56**	LR	LR	13 36 55.4	
	comp=Z,135nm,19.7s,baz=226,slow=34						
YKA	**Yellowknife Ar**	**36.20**	**46**	P	**P**	**13 27 35.4**	**-0.2**
	1.1nm,0.5s,mb4.0,baz=281,slow=8.0,SNR=32						
YKA				PcP	PcP	13 30 01.6	+1.7
	0.2nm,0.5s,baz=289,slow=3.3,SNR=5.7						
YKA				ScP		13 33 46.1	
	0.2nm,0.5s,baz=289,slow=3.5,SNR=5.8						
YKA				LR	LR	13 43 32.3	
	comp=Z,98nm,18.9s,baz=255,slow=38						
YKA	**Yellowknife Ar**	**36.20**	**46**	P	**P**	**13 27 35.4**	**-0.2**
YKA				PcP	PcP	13 30 01.6	+1.7
YKA				ScP		13 33 46.1	
YKA				LR	LR	13 43 32.3	
YBH	**Yreka Blue Hor**	**39.93**	**80**	LR	LR	13 41 36.7	
	comp=Z,76nm,18.3s,baz=303,slow=32						
PDAR	**Pinedale Array**	**47.38**	**71**	P	**P**	**13 29 08.5**	**+1.6**
	2.2nm,0.5s,mb4.2,baz=303,slow=3.5,SNR=25						
ULM	**Lac du Bonnet**	**50.72**	**56**	LR	LR	13 51 22.3	
	comp=Z,58nm,18.9s,baz=18,slow=36						
BVAR	**Borovoye Array**	**60.51**	**319**	P	**P**	**13 30 42.3**	**-0.6**
	2.2nm,0.4s,mb4.5,baz=50,slow=6.6,SNR=18						
SCHQ	**Schefferville**	**60.90**	**37**	P	**P**	**13 30 44.2**	**-1.3**
	1.0nm,0.5s,mb4.1,baz=174,slow=19,SNR=3.1						
SCHQ	**Schefferville**	**60.90**	**37**	P	**P**	**13 30 44.2**	**-1.3**
NB2	**NORSAR Subarra**	**67.90**	**354**	P	**P**	**13 31 30.2**	**-0.5**
	0.8nm,0.4s,mb3.9,baz=8.0,slow=6.2						
NOA	**NORSAR Array B**	**67.90**	**354**	P	**P**	**13 31 30.2**	**-0.5**
	0.8nm,0.4s,mb3.9,baz=7.8,slow=6.2,SNR=6.8						
AKASG	**Malin Array Be**	**75.57**	**341**	P	**P**	**13 32 16.3**	**-0.1**
	1.3nm,0.3s,mb4.1,baz=19,slow=6.3,SNR=6.2						
AKASG	**Malin Array Be**	**75.57**	**341**	P	**P**	**13 32 16.3**	**-0.1**
WRA	**Warramunga Arr**	**81.06**	**223**	P	**P**	**13 32 47.6**	**+0.6**
	0.6nm,0.9s,mb3.4,baz=31,slow=5.9,SNR=5.4						
LBTB	**Lobatse**	**147.25**	**313**	PKPbc	PKPdf	13 40 17.0	+6.1
	1.3nm,0.4s,baz=33,slow=1.2,SNR=4.3						
BOSA	**Boshof**	**150.45**	**309**	PKPbc	PKPdf	13 40 24.6	+8.7
	0.9nm,0.5s,baz=235,slow=2.4,SNR=4.2						

MOS ***27*** *13:25:28.8±1.0, 55.51S×28.06W, h10km, mb5.3/5, Error ellipse: s-maj=31.2km s-min=12.9km az=106.3*

BJI ***27*** *13:25:34.5, 54.81S×27.05W, h44km, mB5.4, Ms4.7, Msz5.0*

IDC ***27*** *13:25:34.1±2.0, 55.49S×28.14W, h36km±15km, mb4.6/16, mb1 4.7/17, mb1mx4.6/20, mbtmp4.8/17, ML5.2/1, MS4.3/12, Ms1 4.3/12, ms1mx4.2/20, Error ellipse: s-maj=16.9km s-min=12.6km az=20.0*

HRVD ***27*** *13:25:35.5±0.3, 55.47S×27.90W, h21km±1km, MW5.1/53, Centroid moment Tensor Solution. LP body waves: s33,c49;Mantle waves: s53,c74; Half duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}2.60±.24; $M_{\theta\theta}$-1.83±.19; $M_{\phi\phi}$-0.76±.15; $M_{r\theta}$-1.09±.30; $M_{r\phi}$1.88±.12; $M_{\theta\phi}$4.11±.48; Best double couple: $M_0$5.184×10^16 NP1:φs102°,δ25°,λ39°; NP2:φs337°,δ75°,λ110°. Principal axes: T 5.361, Plg56°, Azm272°; N -.352, Plg19°, Azm151°; P -5.006, Plg27°, Azm51°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***27*** *13:25:35.5±1.7, 55.47S×28.01W, h51km±14km, mb5.2/13, MS4.5/10 Error ellipse: s-maj=8.7km s-min=6.1km az=212.0*

ISC 27 13:25:33.0±4.1, 55.47S±0.07×28.1W±0.1, h43km±37km, n142, σ0s99/45, mb5.0/26, MS4.5/26, 4C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**			**19.47 156**	*eP*	**P**	**13 29 56.9**	**-1.6**
SNAA					pmax	pmax		
	comp=Z,73nm,0.6s							
SNAA	**Sanae**			**19.47 156**	P	**P**	**13 29 57.1**	**-1.4**
	comp=Z,6.8nm,0.3s,baz=302,slow=11,SNR=191							
SNAA					LR	LR	13 36 13.2	
	comp=Z,183nm,18.7s,baz=201,slow=33							
SNAA	**Sanae**			**19.47 156**	*eP*	**P**	**13 29 56.9**	**-1.5**
	comp=Z,73nm,0.6s							
PMSA	**Palmer Station**			**19.92 228**	*eP*	**P**	**13 30 04.1**	**+0.7**
	comp=Z,198nm,0.8s							
USHA	**Ushuaia**			**22.86 255**	P	**P**	**13 30 33.5**	**+0.5**
	comp=Z,44nm,1.0s,mb4.8,baz=84,slow=11,SNR=11							
USHA					LR	LR	13 37 25.3	
	comp=Z,2μm,19.3s,MS4.5,baz=69,slow=31							
USHA	**Ushuaia**			**22.86 255**	P	**P**	**13 30 33.5**	**+0.5**
USHA					LR	LR	13 37 25.3	
MAIT	**Maitri**			**22.99 147**	*eP*	**P**	**13 30 34.7**	**+0.6**
TRQA	**Tornquist**			**28.65 293**	*eP*	**P**	**13 31 26.0**	**-1.4**
	comp=Z,16nm,0.9s,mb4.8							
TRQA					LR	LR		
	comp=Z,823nm,21.0s,MS4.3							
PLCA	**Paso Flores**			**31.42 280**	P	**P**	**13 31 51.0**	**-0.9**
	comp=Z,4.8nm,1.0s,mb4.3,baz=149,slow=8.3,SNR=8.8							
PLCA					PcP	PcP	13 34 44.3	-0.4
	comp=Z,4.3nm,0.7s,baz=208,slow=0.6,SNR=8.3							
QSPA	**South Pole Qui**			**34.78 180**	*eP*	**P**	**13 32 21.6**	**+0.9**
	comp=Z,61nm,0.6s,mb5.7							
CPUP	**Villa Florida**			**36.06 312**	*eP*	**P**	**13 32 31.2**	**-0.9**
CPUP					pmax	pmax		
	comp=Z,23nm,0.9s							
CPUP					MLR	MLR		
	comp=Z,492nm,19.0s							
CPUP	**Villa Florida**			**36.06 312**	P	**P**	**13 32 31.6**	**-0.5**
	comp=Z,21nm,0.8s,mb5.1,baz=175,slow=11,SNR=47							
CPUP					LR	LR	13 46 17.1	
	comp=Z,394nm,19.8s,MS4.2,baz=184,slow=34							
CPUP	**Villa Florida**			**36.06 312**	*eP*	**P**	**13 32 31.2**	**-0.9**
	comp=Z,23nm,0.9s,mb5.1							
CPUP					LR	LR		
	comp=Z,492nm,19.0s,MS4.3							
MAW	**Mawson**			**40.91 144**	P	**P**	**13 33 12.3**	**+0.3**
	comp=Z,9.0nm,0.7s,mb4.5,baz=224,slow=9.4,SNR=11							
MAW					LR	LR	13 47 22.4	
	comp=Z,361nm,20.3s,MS4.2,baz=252,slow=32							
SUR	**Sutherland**			**40.97 76**	P	**P**	**13 33 14.1**	**+1.1**
	comp=Z,17nm,1.1s,mb4.6,baz=212,slow=5.9,SNR=6.7							
SUR	**Sutherland**			**40.97 76**	P	**P**	**13 33 14.1**	**+1.1**
SUR					LR	LR		
	comp=Z,185nm,19.0s,MS4.0							
BDFB	**Brasilia**			**42.62 331**	P	**P**	**13 33 26.7**	**+0.1**
	comp=Z,4.7nm,0.7s,mb4.3,baz=165,slow=5.8,SNR=5.3							
BDFB					LR	LR	13 50 36.7	
	comp=Z,421nm,18.0s,MS4.4,baz=168,slow=35							
LVC	**Limon Verde**			**44.59 301**	LR	LR	13 51 35.2	
	comp=Z,256nm,20.2s,MS4.1,baz=171,slow=35							
LVC	**Limon Verde**			**44.59 301**	*eP*	**P**	**13 33 43.4**	**+0.9**
	comp=Z,29nm,0.8s,mb5.2							
LVC					LR	LR		
	comp=Z,459nm,21.0s,MS4.4							
BOSA	**Boshof**			**46.31 77**	P	**P**	**13 33 56.3**	**+0.2**
	comp=Z,8.8nm,0.8s,mb4.8,baz=195,slow=8.7,SNR=21							
BOSA					LR	LR	13 51 42.5	
	comp=Z,547nm,18.0s,MS4.5,baz=197,slow=34							
VNDA	**Vanda**			**47.13 183**	P	**P**	**13 34 02.6**	**+0.7**
	comp=Z,40nm,0.7s,mb5.4,baz=186,slow=6.4,SNR=142							
LBTB	**Lobatse**			**49.31 74**	P	**P**	**13 34 19.9**	**+0.4**
	comp=Z,7.7nm,0.8s,mb4.8,baz=227,slow=9.2,SNR=14							
LBTB	**Lobatse**			**49.31 74**	P	**P**	**13 34 19.9**	**+0.4**
LBTB					LR	LR		
	comp=Z,541nm,19.0s,MS4.6							
LPAZ	**La Paz**			**49.64 306**	P	**P**	**13 34 23.6**	**+1.4**
	comp=Z,32nm,0.7s,mb5.5,baz=157,slow=6.9,SNR=121							
LPAZ					LR	LR	13 55 35.7	
	comp=Z,158nm,19.1s,MS4.0,baz=324,slow=36							
TSUM	**Tsumeb**			**49.83 62**	P	**P**	**13 34 24.2**	**+0.6**
	comp=Z,3.9nm,0.7s,mb4.6,baz=212,slow=6.8,SNR=7.5							
TSUM	**Tsumeb**			**49.83 62**	*eP*	**P**	**13 34 23.2**	**-0.4**
	comp=Z,32nm,1.4s,mb5.2							
TSUM					LR	LR		
	comp=Z,501nm,21.0s,MS4.5							
MIR	**Mirnyy**			**50.52 154**	*d iP*	**P**	**13 34 25.3**	**-2.9**
MIR					pmax	pmax		
	comp=Z,34nm,1.4s,mb5.1							
ARE	**Arequipa**			**51.08 302**	*eP*	**P**	**13 34 35.0**	**+1.9**
SAML	**Samuel**			**54.05 315**	*eP*	**P**	**13 34 53.8**	**-1.4**
	comp=Z,23nm,0.8s,mb5.2							
SAML					LR	LR		
	comp=Z,394nm,20.0s,MS4.5							
CASY	**Casey**			**54.62 161**	*eP*	**P**	**13 34 58.1**	**-0.7**
	comp=Z,30nm,0.9s,mb5.3							
CASY					LR	LR		
	comp=Z,397nm,20.0s,MS4.5							
LSZ	**Lusaka**			**58.62 70**	*eP*	**P**	**13 35 25.1**	**-2.8**
LSZ					pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
LSZ					MLR	MLR		
	comp=Z,590nm,20.0s,MS4.7							
LSZ	**Lusaka**			**58.62 70**	*eP*	**P**	**13 35 25.1**	**-2.8**
	comp=Z,5.5nm,0.8s,mb4.6							
LSZ					LR	LR		
	comp=Z,590nm,20.0s,MS4.7							
DBIC	**Dimbokro**			**64.85 26**	P	**P**	**13 36 09.1**	**-0.6**
	comp=Z,12nm,0.8s,mb4.9,baz=182,slow=8.3,SNR=7.8							
DBIC					LR	LR	13 57 09.6	
	comp=Z,150nm,20.9s,MS4.2,baz=173,slow=29							
OPO	**Ambohidratompo**			**66.56 89**	P	**P**	**13 36 22.0**	**+1.5**
	comp=Z,4.5nm,0.9s,mb4.5,baz=174,slow=5.7,SNR=4.8							
ROSC	**El Rosal**			**71.16 310**	P	**P**	**13 36 48.8**	**-0.2**
	comp=Z,7.4nm,0.4s,mb5.0,baz=79,slow=19,SNR=5.4							
ROSC					LR	LR	14 06 41.0	
	comp=Z,179nm,21.8s,MS4.3,baz=196,slow=35							
ROSC	**El Rosal**			**71.16 310**	P	**P**	**13 36 48.8**	**-0.2**
ROSC					LR	LR	14 06 41.0	
SDV	**Santo Domingo**			**73.25 316**	*eP*	**P**	**13 37 01.0**	**-0.5**
	comp=Z,24nm,0.8s,mb5.2							
SDV					LR	LR		
	comp=Z,441nm,20.0s,MS4.7							
KMBO	**Kilima Mbogo**			**75.29 70**	LR	LR	14 09 40.7	
	comp=Z,537nm,18.1s,MS4.9,baz=95,slow=35							
RKT	**Rikitea**			**80.31 243**	*e*LR	LR	14 02 39.9	
	comp=Z,388nm,26.8s,baz=147							
JTS	**JuntasAbangare**			**80.79 303**	*eP*	**P**	**13 37 43.8**	**+0.3**
JTS					pmax	pmax		
	comp=Z,24nm,1.0s							
JTS	**JuntasAbangare**			**80.79 303**	*eP*	**P**	**13 37 43.8**	**+0.3**
	comp=Z,24nm,1.0s,mb5.1							
TBI	**Tubuai**			**87.06 232**	*e*LR	LR	14 05 44.2	
	comp=Z,374nm,30.0s,baz=161							
MUN	**Mundaring**			**87.68 150**	*eP*	**P**	**13 38 18.3**	**+0.6**
	comp=Z,134nm,0.9s,mb6.2							
MUN	**Mundaring**			**87.68 150**	*eP*	**P**	**13 38 18.3**	**+0.6**
MUN					pmax	pmax		
	comp=Z,134nm,0.9s,mb6.2							
KLBR	**Kellerberrin**			**88.47 151**	*eP*	**P**	**13 38 21.5**	**0.0**
	comp=Z,3μm,2.0s							
FORT	**Forrest**			**91.69 160**	*eP*	**P**	**13 38 37.0**	**+0.4**
	comp=Z,706nm,1.6s							
PPT	**Papeete**			**92.14 234**	*e*LR	LR	14 08 01.2	
	comp=Z,233nm,23.0s,baz=161							
PPT	**Papeete**			**92.14 234**	LR	LR	14 13 23.9	
	comp=Z,338nm,19.4s,MS4.8,baz=147,slow=31							
STKA	**Stephens Creek**			**92.55 171**	P	**P**	**13 38 40.6**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.8,baz=172,slow=14,SNR=4.4							
ASPA	**Alice Springs**			**99.69 163**	*eP*	**P**	**13 39 11.9**	**-1.2**
ASAR	**Alice Springs**			**99.69 163**	P	**P**	**13 39 12.4**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.9,baz=183,slow=4.0,SNR=37							
ASAR					PP	PP	13 43 10.9	-9.2
	comp=Z,0.9nm,0.7s,baz=190,slow=5.7,SNR=5.5							
ASAR					PKiKP		13 43 42.0	
	comp=Z,0.3nm,0.5s,baz=187,slow=1.2,SNR=6.5							
ASAR					PKKPbc		13 55 34.0	
	comp=Z,0.7nm,0.7s,baz=23,slow=2.1,SNR=11							
WRA	**Warramunga Arr**			**103.41 163**	PP	PP	13 43 40.3	-8.2
	comp=Z,0.9nm,0.8s,baz=193,slow=6.1,SNR=3.8							
WRA					PKKPbc		13 55 21.5	
	comp=Z,0.8nm,0.8s,baz=4.2,slow=3.3,SNR=6.1							
KHC	**Kasperske Hory**			**109.89 28**	AMS	AMS	14 24 20.0	
	comp=Z,300nm,20.4s							
NKC	**Novy Kostel**			**110.61 26**	AMS	AMS	14 24 00.0	
	comp=Z,200nm,22.6s							
PRU	**Pruhonice**			**110.93 28**	AMS	AMS	14 25 10.0	
	comp=Z,200nm,20.5s							
PVCC	**Panska Ves**			**111.43 28**	AMS	AMS	14 25 10.0	
	comp=Z,200nm,18.6s							
DPC	**Dobruska-Polom**			**111.74 29**	AMS	AMS	14 24 40.0	
	comp=Z,100nm,27.5s							
OKC	**Ostrava-Krasne**			**111.79 30**	AMS	AMS	14 25 20.0	
	comp=Z,300nm,34.2s							
SOC	**Sochi**			**114.09 47**	*i* PKIKP	PKPdf	13 44 09.1	+2.3
SOC					*e*		13 45 06.0	
SOC					*e*PPP	PPP	13 47 28.6	-2.5
SOC					*e*		13 50 52.8	
SOC					*e*SS	SS	14 00 55.9	+5.5
SOC					*e*SSS	SSS	14 05 06.3	-0.4
SOC					pmax	pmax		
	comp=N,3.0nm,0.5s							
SOC					pmax	pmax		
	comp=E,6.0nm,0.5s							
SOC					pmax	pmax		
	comp=Z,5.0nm,0.5s							
SCHQ	**Schefferville**			**114.44 337**	PKP	PKPdf	13 44 08.2	+1.0
	comp=Z,1.7nm,0.6s,baz=48,slow=0.9,SNR=4.5							
KIV	**Kislovodsk**			**115.65 49**	*i* PKIKP	PKPdf	13 44 09.9	0.0
AKASG	**Malin Array Be**			**116.02 37**	PKP	PKPdf	13 44 11.2	+0.8
	comp=Z,0.3nm,0.3s,baz=242,slow=2.0,SNR=6.4							
MSU	**Marysvale**			**117.65 298**	*e*PKIKP	PKPdf	13 44 16.0	+2.2
MVU	**Marysvale**			**117.66 298**	*e*PKP	PKPdf	13 44 16.2	+2.4

KMI					LR	LR		
	comp=Z,124nm,27.2s,MS4.5							
BVAR	**Borovoye Array**	**134.88**	**57**		PKP	PKPdf	13 44 48.0	+1.7
	comp=Z,5.5nm,0.7s,baz=214,slow=2.4,SNR=25							
BVAR					SKPbc		13 48 14.4	
	comp=Z,0.7nm,0.7s,baz=225,slow=4.2,SNR=4.7							
YKA	**Yellowknife Ar**	**135.41 319**			PKP	PKPdf	13 44 47.8	+0.8
	comp=Z,8.7nm,0.8s,baz=126,slow=2.3,SNR=62							
YKA					PP	PP	13 47 22.0	-5.8
	comp=Z,0.8nm,0.8s,baz=122,slow=5.8,SNR=5.9							
YKA					SKPbc		13 48 15.7	
	comp=Z,1.8nm,0.9s,baz=122,slow=2.4,SNR=9.6							
YKA	**Yellowknife Ar**	**135.41 319**			PKP	PKPdf	13 44 47.8	+0.8
YKA					PP	PP	13 47 22.1	-5.8
YKA					SKPbc		13 48 15.7	
YKW3	**Yellowknife Ar**	**135.46 319**		*e*	PKP	PKPdf	13 44 48.2	+1.1
RES	**Resolute Bay**	**137.14 339**		*e*	PKHKP		13 44 43.4	
RES				*e*			13 44 51.2	
WMQ	**Urumqi**	**138.26**	**78**	⇑	PKP	PKPdf	13 44 55.3	+2.5
WMQ					PP	PP	13 47 48.3	+1.8
WMQ					SKS	SKS	13 52 02.3	+5.4
WMQ					PP	PP		
	comp=Z,61nm,4.6s							
WMQ					LR	LR		
	comp=Z,213nm,21.4s,MS4.8							
LZH	**Lanzhou**	**142.19 100**		*e*	PKP	PKPdf	13 45 00.3	+0.4
LZH					PP	PP	13 48 10.5	+0.4
LZH				*e*	SKS	SKS	13 52 05.0	+1.6
LZH					SKKS		13 54 56.0	
LZH					SS	SS	14 06 40.0	+1.6
LZH					PP	PP		
	comp=Z,173nm,5.5s							
LZH					LR	LR		
	comp=Z,310nm,18.9s,MS5.1							
NVS	**Novosibirsk**	**142.20**	**62**	*e*	PKIKP	PKPdf	13 44 57.2	-2.1
NVS					pmax	pmax		
	comp=Z,7.0nm,0.8s							
NVS					pmax	pmax		
	comp=N,3.0nm,0.8s							
GTA	**Gaotai**	**142.24**	**93**	*e*	PKP	PKPdf	13 45 02.0	+2.1
GTA					PP	PP	13 48 13.3	+3.0
GTA					SKS	SKS	13 52 06.8	+3.4
GTA					PP	PP		
	comp=Z,71nm,5.3s							
GTA					LR	LR		
	comp=Z,129nm,16.3s,MS4.8							
ZAL	**Zalesovo**	**142.53**	**64**		PKP	PKPdf	13 44 59.0	-0.8
	comp=Z,1.5nm,0.6s,baz=228,slow=5.1,SNR=8.0							
XAN	**Xi'an**	**143.48 108**			PKP	PKPdf	13 45 03.8	+1.7
XAN					PP	PP		
	comp=Z,6.0nm,1.3s							
INK	**Inuvik**	**145.04 321**			PKPbc	PKPbc	13 45 05.5	+1.4
	comp=Z,78nm,0.8s,baz=101,slow=3.9,SNR=310							
INK	**Inuvik**	**145.04 321**		*e*	PKP	PKPdf	13 45 05.2	+1.4
DAWY	**Dawson**	**146.04 313**		*e*	PKP	PKPdf	13 45 08.0	+2.4
NJ2	**Nanjing**	**147.06 121**		*e*	PKP	PKPdf	13 45 09.8	+1.4
NJ2					PKP2	PKPab	13 45 15.5	+1.3
NJ2					APKP		13 45 20.5	
NJ2					PP	PP	13 48 41.0	+1.5
NJ2					SKS	SKS	13 52 13.0	+2.3
SSE	**Sheshan**	**147.37 126**			PKP	PKPdf	13 45 14.0	+5.1
SSE					PP	PP	13 48 46.5	+5.1
SSE					LR	LR		
	comp=Z,96nm,19.6s,MS4.6							
EYAK	**Cordova Ski Ar**	**147.72 305**		*e*	PKPbc	PKPdf	13 45 13.4	+4.8
DIV	**Divide**	**147.92 306**		*e*	PKPbc	PKPdf	13 45 14.2	+5.3
THY	**Trims Highway**	**148.57 310**		*e*	PKPbc	PKPdf	13 45 16.7	+6.9
SML	**Sawmill**	**149.29 307**		*e*	PKP2	PKPab	13 45 17.4	-4.8
ILAR	**Eielson Array**	**149.37 313**			PKP	PKPdf	13 45 10.2	-0.8
	comp=Z,1.6nm,0.8s,baz=316,slow=1.4,SNR=14							
ILAR					PKPbc	PKPdf	13 45 17.6	+6.5
	comp=Z,51nm,0.8s,baz=132,slow=2.7,SNR=261							
COLA	**College**	**149.79 313**		*e*	PKP2	PKPab	13 45 17.9	-6.3
SLKM	**Skilak Lake**	**149.81 304**		*e*	PKP2	PKPab	13 45 19.2	-5.2
FIB	**Fire Island**	**149.97 305**		*e*	PKP2	PKPab	13 45 20.1	-4.9
MCK	**McKinley**	**150.03 310**		*e*	PKIKP	PKPdf	13 45 11.4	-0.7
MCK				*e*			13 45 19.2	
MOY	**Mondy**	**150.06**	**76**	*e*	PKIKP	PKPdf	13 45 20.6	+8.0
MOY					pmax	pmax		
	comp=Z,35nm,1.8s							
KDAK	**Kodiak Island**	**150.12 298**		*e*	PKPbc	PKPdf	13 45 19.6	+7.2
ZAK	**Zakamensk**	**150.72**	**79**	⇑ *i*	PKIKP	PKPdf	13 45 21.4	+7.8
ZAK					pmax	pmax		
	comp=Z,12nm,1.0s							
SPU	**Mount Spurr**	**150.86 304**		*e*	PKPbc	PKPdf	13 45 20.8	+7.4
TLY	**Talaya**	**151.53**	**77**	*e*	PKIKP	PKPdf	13 45 23.4	+8.6
TLY					pmax	pmax		
	comp=Z,14nm,1.1s							
TLY	**Talaya**	**151.53**	**77**	*e*	PKPbc	PKPdf	13 45 23.0	+8.2
ULN	**Ulaanbaatar**	**151.57**	**87**	*i*	PKIKP	PKPdf	13 45 23.0	+8.1
ULN	**Ulaanbaatar**	**151.57**	**87**	*e*	PKPbc	PKPdf	13 45 22.3	+7.4
IMA	**Indian Mountai**	**152.36 314**		*e*	PKIKP	PKPdf	13 45 17.3	+1.8
IMA				*e*			13 45 25.2	
BOD	**Bodaibo**	**159.19**	**68**	*e*	PKIKP	PKPdf	13 45 26.1	+1.4
BOD					pmax	pmax		
	comp=Z,6.0nm,0.9s							
CN2	**Changchun**	**159.38 113**		*e*	PKP	PKPdf	13 45 25.8	+0.4
CN2					LR	LR		
	comp=Z,300nm,18.0s,MS5.2							
TIXI	**Tiksi**	**161.02**	**22**	*i*	PKIKP	PKPdf	13 45 27.0	+0.7
MDJ	**Mudanjiang**	**162.08 118**			PKP	PKPdf	13 45 31.8	+3.6
BILL	**Bilibino**	**165.75 338**		*i*	PKIKP	PKPdf	13 45 32.5	+1.5

*JMA **27** 13:31:17.6±0.4,23.00N×121.93E*

TAP 27 13:31:15.8,22.84N×121.60E,h16km,ML3.0,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.07**	**38**	P	Pn	13 31 49.9	-0.6
YOJ				*e*S	Sn	13 32 12.5	-3.6
IRIF	**Iriomote-Funau**	**2.46**	**52**	P	Pn	13 31 54.7	-1.3
IRIF				S	Sn	13 32 23.1	-2.8
JIJ	**Ishigaki jima**	**2.78**	**56**	P	Pn	13 31 59.8	-0.9
JIJ				S	Sn	13 32 30.0	-4.2
JTJ	**Tarama**	**3.36**	**57**	P	Pn	13 32 08.0	-0.9
JTJ				S	Sn	13 32 44.7	-4.1

*IDC **27** 13:31:40.0±2.5, 1.21N×97.32E, mb4.0/5, mb1 4.2/6, mb1mx3.9/20, mbtmp4.0/6, ML4.2/1, MS3.9/2, Ms1 3.9/2, ms1mx3.1/26, Error ellipse: s-maj=113.8km s-min=19.3km az=57.0*

ISC 27 13:31:43.8±1.1,1.3N±0.2×97.5E±0.3,h33km,n13, σ0§71/12,mb4.4/11,MS4.4/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.13**	**5**	P	**P**	**13 35 42.4**	**0.0**
	0.3nm,0.3s,baz=193,slow=11,SNR=10						
CMAR				LR	LR	13 43 20.4	
	comp=Z,136nm,18.2s,baz=198,slow=41						
JIRN	**Jiri**	**28.38 339**		*e*P	**P**	**13 37 37.7**	**+0.3**
	22nm,1.0s,mb4.7						
PKI	**Pulchoki**	**28.60 337**		*e*P	**P**	**13 37 39.8**	**+0.5**
	8.8nm,0.6s,mb4.7						
GUN	**Gumba**	**28.72 338**		*e*P	**P**	**13 37 40.5**	**+0.1**
	32nm,1.1s,mb5.0						
DMN	**Daman**	**28.75 337**		*e*P	**P**	**13 37 41.7**	**+1.1**
	7.3nm,0.7s,mb4.5						
KKN	**Kakani**	**28.84 337**		*e*P	**P**	**13 37 41.5**	**0.0**
	18nm,0.9s,mb4.8						
KOLN	**Koldanda**	**29.52 334**		*e*P	**P**	**13 37 47.0**	**-0.4**
	19nm,1.2s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.73 126**		P	**P**	**13 38 24.3**	**-0.2**
	4.4nm,0.9s,mb4.4,baz=270,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**41.82 122**		P	**P**	**13 39 32.3**	**-0.2**
	0.8nm,0.5s,mb3.6,baz=303,slow=9.0,SNR=9.5						
ASAR	**Alice Springs**	**43.20 127**		P	**P**	**13 39 44.4**	**+0.6**
	1.3nm,0.8s,mb3.7,baz=297,slow=7.7,SNR=7.3						
ZAL	**Zalesovo**	**53.52 351**		P	**P**	**13 41 03.2**	**-0.2**
	2.0nm,0.5s,mb4.3,baz=294,slow=7.4,SNR=13						
BVAR	**Borovoye Array**	**56.27 341**		P	**P**	**13 41 21.2**	**-2.1**
	0.8nm,0.5s,mb4.0,baz=149,slow=8.6,SNR=8.8						
GERES	**GERESS Array B**	**84.95 319**		LR	LR	14 25 13.8	
	comp=Z,157nm,20.6s,MS4.4,baz=179,slow=38						

IDC 27 13:36:29.2±2.9,32.59S×177.98W,mb4.2/4,mb1 4.3/5, mb1mx4.0/16,mbtmp4.2/5,ML3.9/1,Error ellipse: s-maj=63.0km s-min=43.4km az=118.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.94 214**		Pn	Pn	13 38 10.9	-3.7
	2.0nm,0.3s,baz=326,slow=13,SNR=14						
URZ				Sn	Sn	13 39 24.2	-11
	3.2nm,0.3s,baz=304,slow=24,SNR=12						
CTA	**Charters Tower**	**34.22 282**		P	P	13 43 18.5	-0.3
	3.6nm,0.6s,baz=133,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**43.05 269**		P	P	13 44 30.1	-2.4
	0.4nm,0.5s,baz=110,slow=7.4,SNR=8.1						
WRA	**Warramunga Arr**	**44.24 274**		P	P	13 44 39.8	-2.4
	0.8nm,0.3s,baz=113,slow=8.0,SNR=24						
NWAO	**Narrogin (SRO)**	**53.67 251**		P	P	13 45 52.6	-2.3
	25nm,1.2s,baz=100,slow=4.7,SNR=3.4						
FINES	**FINESS Array B**	**147.19 339**		PKPbc	PKPdf	13 56 13.1	0.0
	0.8nm,0.5s,baz=27,slow=4.3,SNR=5.8						

*IDC **27** 13:47:33.2±1.2, 4.55N×92.22E, mb3.8/6, mb1 4.0/7, mb1mx3.8/20, mbtmp3.8/7, ML4.1/1, MS3.1/1, Ms1 3.3/1, ms1mx2.7/31, Error ellipse: s-maj=55.5km s-min=21.7km az=47.0*

*NEIC **27** 13:47:37.7±0.8, 4.66N×92.21E, h30km, mb4.0/1, Error ellipse: s-maj=21.4km s-min=11.8km az=201.0*

ISC 27 13:47:36.0±0.9,4.7N±0.1×92.31E±0.09,h30km,n14, σ1§30/16,mb3.9/7,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.33**	**86**	*e*P	**P**	**13 49 36.8**	**-1.0**
PALK	**Pallekele**	**11.81**	**283**	*e*P	**P**	**13 50 22.0**	**-3.7**
	19nm,0.8s						
CMAR	**Chiang Mai Arr**	**15.11**	**25**	Pn	**P**	**13 51 09.2**	**-0.1**
	0.2nm,0.3s,baz=219,slow=14,SNR=11						
CMAR				LR	LR	13 57 02.9	
	comp=Z,65nm,18.3s,baz=195,slow=37						
VIS	**Vishakhapatnam**	**15.62 326**		*e*P	**P**	**13 51 11.5**	**-4.5**
KSM	**Kuching**	**18.26 100**		*e*P	**P**	**13 51 52.0**	**+2.8**
HYB	**Hyderabad**	**18.45 314**		*i* P	**P**	**13 51 53.0**	**+1.4**
HYB				*e*S	**S**	**13 55 13.0**	**-0.1**
SHL	**Shillong**	**20.73 359**		*e*P	**P**	**13 52 15.0**	**-1.8**
SHL				*e*S	**S**	**13 56 08.0**	**+6.2**
WRA	**Warramunga Arr**	**48.03 122**		P	**P**	**13 56 14.2**	**-0.6**
	1.4nm,0.8s,mb4.1,baz=298,slow=8.9,SNR=6.8						
ASAR	**Alice Springs**	**49.40 127**		P	**P**	**13 56 25.1**	**-0.3**
	0.8nm,0.9s,mb3.8,baz=303,slow=6.5,SNR=5.2						
ZAL	**Zalesovo**	**49.44 354**		P	**P**	**13 56 27.1**	**+1.8**
	1.0nm,0.5s,mb4.1,baz=314,slow=11,SNR=4.8						
BVAR	**Borovoye Array**	**51.41 343**		P	**P**	**13 56 40.3**	**0.0**
	0.3nm,0.5s,mb3.5,baz=149,slow=8.6,SNR=3.9						
CHKZ	**Chkalovo**	**51.92 344**		*e*P	**P**	**13 56 43.5**	**-0.6**
	1.5nm,0.8s,mb4.0						
BRTR	**Keskin Array B**	**63.14 312**		P	**P**	**13 58 02.8**	**-0.7**
	0.3nm,0.4s,mb3.8,baz=104,slow=5.9,SNR=2.8						
GERES	**GERESS Array B**	**78.96 319**		P	**P**	**13 59 40.2**	**+1.7**
	0.3nm,0.2s,mb3.8,baz=90,slow=4.9,SNR=3.1						

*NEIC **27** 13:58:25.4, 35.06S×70.59W, h2km, MD3.6(GUC), After GUC.*

GUC 27 13:58:25.4±0.6,35.06S×70.59W,h2km±4km,MD3.6,5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.56 321**	⇓	*i*P	Pg	13 58 36.9	+0.2
SFDO				*i* S	Sg	13 58 45.7	+1.6
CICH	**Cipreses**	**0.75 11**	⇓	*i*P	Pg	13 58 38.9	-1.4
CICH				*i* S	Sg	13 58 49.3	-1.0
CACH	**El Canelo**	**0.94 359**	⇓	*i*P	Pb	13 58 42.5	-1.5
CACH				*e*S	Sg	13 58 56.3	-0.3
CHCH	**Chadas Angostu**	**1.12 357**		*e*P	Pb	13 58 46.1	-1.1
LNV	**Longovilo**	**1.29 328**	⇓	*i*P	Pb	13 58 49.3	-0.7
LNV				*i* S	Sb	13 59 06.9	0.0
TACH	**Talagante**	**1.43 348**	⇓	*i*P	Pn	13 58 51.6	-0.8
TACH				*i* S	Sb	13 59 11.1	+0.2
LCCH	**Las Cruces**	**1.77 332**		*i* P	Pn	13 58 57.4	+0.1
LCCH				*i* S	Sn	13 59 21.2	+0.5

*IDC **27** 14:03:29.2±1.3, 58.53S×149.10E, mb4.2/7, mb1 4.2/8, mb1mx4.2/14, mbtmp4.1/8, ML3.2/1, MS3.9/5, Ms1 4.0/5, ms1mx3.6/20, Error ellipse: s-maj=64.3km s-min=16.9km az=91.0*

*NEIC **27** 14:03:30.5±0.8, 58.54S×149.34E, h10km, mb4.6/2, Error ellipse: s-maj=44.5km s-min=11.1km az=85.0*

ISC 27 14:03:28.2±1.0,58.54S±0.08×149.6E±0.6,h10km,n22, σ0§86/12,mb4.0/8,MS4.1/3,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**15.71 354**		*e*P	**P**	**14 07 16.9**	**+6.0**
	42nm,1.0s						
VNDA	**Vanda**	**19.52 172**		P	**P**	**14 07 57.4**	**-0.6**
	0.1nm,0.3s,baz=343,slow=12,SNR=7.3						
VNDA				LR	LR	14 15 30.8	
	comp=Z,110nm,19.9s,baz=340,slow=37						
RPZ	**Rata Peaks**	**19.90 51**		LR	LR	14 14 49.2	
	comp=Z,369nm,18.6s,baz=203,slow=34						
URZ	**Urewera**	**26.97 53**		LR	LR	14 19 20.3	
	comp=Z,312nm,18.0s,MS3.9,baz=92,slow=35						
STKA	**Stephens Creek**	**27.21 345**		P	**P**	**14 09 13.5**	**-0.3**
	2.1nm,0.9s,mb3.6,baz=158,slow=5.4,SNR=4.1						
QSPA	**South Pole Qui**	**31.57 180**		*e*P	**P**	**14 09 53.2**	**+0.9**
	8.6nm,1.2s,mb4.5						
ASAR	**Alice Springs**	**36.60 335**		P	**P**	**14 10 35.4**	**-0.8**
	1.4nm,0.9s,mb3.8,baz=174,slow=9.9,SNR=8.2						
ASAR				PcP	PcP	14 12 58.8	-0.9
	1.3nm,0.9s,baz=173,slow=3.9,SNR=5.8						
MAW	**Mawson**	**37.07 219**		P	**P**	**14 10 39.8**	**+0.1**
	1.1nm,0.4s,mb4.0,baz=139,slow=9.3,SNR=3.6						
MAW				LR	LR	14 25 46.3	
	comp=Z,448nm,18.2s,MS4.3,baz=310,slow=36						
CTA	**Charters Tower**	**38.48 355**		P	**P**	**14 10 53.1**	**+1.1**
	6.6nm,1.0s,mb4.3,baz=188,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**40.12 337**		P	**P**	**14 11 04.2**	**-1.4**
	0.3nm,0.8s,mb3.1,baz=166,slow=7.6,SNR=7.0						
SNAA	**Sanae**	**48.66 191**		P	**P**	**14 12 12.9**	**-0.6**
	2.6nm,0.8s,mb4.3,baz=200,slow=15,SNR=7.2						
KSM	**Kuching**	**67.41 317**		*e*P	**P**	**14 14 27.4**	**+1.5**
BOSA	**Boshof**	**81.64 227**		P	**P**	**14 15 47.4**	**-0.1**
	2.5nm,0.8s,mb4.2,baz=187,slow=6.1,SNR=4.2						
BOSA	**Boshof**	**81.64 227**		P	**P**	**14 15 47.4**	**-0.1**
BOSA				*e*P		14 15 47.7	
CMAR	**Chiang Mai Arr**	**87.27 313**		LR	LR	14 51 24.1	
	comp=Z,62nm,18.4s,MS4.0,baz=135,slow=33						
ULN	**Ulaanbaatar**	**111.67 331**		*e*P	Pdif	14 18 08.8	+3.2
YKA	**Yellowknife Ar**	**141.14 47**		PKP	PKPdf	14 23 01.7	+1.3
	0.2nm,0.4s,baz=236,slow=2.2,SNR=10						
MLR	**Muntele Rosu**	**144.06 274**		PKP	PKPdf	14 23 05.2	-0.7
	1.9nm,0.8s,baz=26,slow=6.7,SNR=3.7						
AKASG	**Malin Array Be**	**145.66 283**		PKPbc	PKPbc	14 23 06.7	+0.5
	0.3nm,0.3s,baz=93,slow=2.0,SNR=8.8						
FINES	**FINESS Array B**	**152.36 300**		PKPbc	PKPdf	14 23 26.2	+7.4
	2.3nm,0.9s,baz=135,slow=2.7,SNR=5.5						
FINES	**FINESS Array B**	**152.36 300**		PKPbc	PKPdf	14 23 26.2	+7.4
GERES	**GERESS Array B**	**152.62 269**		PKPbc	PKPdf	14 23 27.0	+7.5
	0.3nm,0.3s,baz=270,slow=1.3,SNR=3.7						

*IDC **27** 14:04:38.7±0.4, 8.76N×93.79E, mb4.7/20, mb1 4.8/20, mb1mx4.7/24, mbtmp4.6/20, MS4.1/19, Ms1 4.2/19, ms1mx4.0/38, Error ellipse: s-maj=25.1km s-min=11.5km az=53.0*

*MOS **27** 14:04:42.5±1.2, 8.71N×93.68E, h33km, mb5.0/30, MS4.2/11, Error ellipse: s-maj=11.7km s-min=5.8km az=116.9*

*BJI **27** 14:04:43.9, 8.51N×93.51E, h56km, mB5.0, mb4.6, Ms4.5, Msz4.2*

*HRVD **27** 14:04:44.3±0.3, 8.66N×93.72E, h18km±1km, MW4.9/51, Centroid moment Tensor Solution. LP body waves: s23,c29;Mantle waves: s51,c75; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.44±.24; $M_{\theta\theta}$-0.23±.13; $M_{\phi\phi}$2.67±.16; $M_{r\theta}$1.02±.39; $M_{\theta\phi}$1.41±.09; $M_{\phi r}$-0.56±.31; Best double couple: $M_0$3.144×10^{16} NP1:ϕ_s227°, δ50°, λ-53°. NP2:ϕ_s358°, δ52°, λ-125°. Principal axes: T 3.246, Plg1°, Azm112°; N -.205, Plg27°, Azm21°; P -3.042, Plg63°, Azm205°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **27** 14:04:44.3±0.2, 8.69N×93.71E, mb4.9/21 Error ellipse: s-maj=9.4km s-min=4.8km az=222.0*

ISC 27 14:04:41.7±1.1,8.54N±0.03×93.57E±0.03,h31km±8km, h34km±.9km:pP-P,n194,σ1§15/187,mb4.7/67,MS4.2/37, 5C-7D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNG	**Songkhla**	**7.11 100**		P	**Pn**	**14 06 35.0**	**+8.7**
KULM	**Kulim**	**7.73 114**		*e*P	**Pn**	**14 06 33.8**	**-1.2**
IPM	**Ipoh**	**8.38 117**		P	**P**	**14 06 43.8**	**-0.3**
NST	**Nakhon Sawan**	**9.56**	**41**	P	**P**	**14 07 00.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**11.16**	**27**	Pn	**P**	**14 07 22.6**	**+0.3**
	1.5nm,0.3s,baz=213,slow=14,SNR=20						
CMAR				LR	LR	14 11 24.3	
	comp=Z,520nm,21.1s,baz=210,slow=37						
CMAR				ScP		14 16 48.2	
	0.1nm,0.3s,baz=228,slow=2.8,SNR=5.2						
CHG	**Chiang Mai**	**11.47**	**26**	P	**P**	**14 07 28.2**	**+1.6**
KGM	**Kluang**	**11.66 123**		P	**P**	**14 07 33.8**	**+4.5**
NANT	**Nan**	**12.33**	**33**	P	**P**	**14 07 41.0**	**+2.9**
PALK	**Pallekele**	**12.81 265**		*e*P	**P**	**14 07 45.5**	**+1.0**
	35nm,1.0s						
VIS	**Vishakhapatnam**	**13.52 314**		*e*P	**P**	**14 07 52.3**	**-1.7**
VIS				*e*		14 08 06.6	
	comp=Z,148nm,1.5s						
VIS				*e*		14 10 12.5	
MDRS	**Chennai**	**13.84 290**		*e*	**P**	**14 07 57.0**	**-1.3**
MDRS				*e*		14 10 46.0	
MDRS				*e*		14 11 27.0	
MDRS				*e*		14 17 59.0	
TRD	**Trivandrum**	**16.43 271**	⇓	*e*	**P**	**14 08 25.7**	**-6.1**
TRD				*e*		14 12 01.7	
SHL	**Shillong**	**17.01 355**		*e*P	**P**	**14 08 37.0**	**-2.1**
SHL				*e*		14 11 36.0	
HYB	**Hyderabad**	**17.08 303**		*e*P	**P**	**14 08 39.5**	**-0.5**
HYB				*e*S	**S**	**14 11 47.0**	**-0.3**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s						
HYB	**Hyderabad**	**17.08 303**		*e*P	**P**	**14 08 39.5**	**-0.5**
	comp=Z,50nm,1.0s						
HYB				*e*S	**S**	**14 11 47.0**	**-0.3**
HYB	**Hyderabad**	**17.08 303**		*i* P	**P**	**14 08 39.5**	**-0.5**
	comp=Z,50nm,1.0s						
HYB				*e*		14 11 35.0	
HYB				*e*S	**S**	**14 11 47.0**	**-0.3**
BLSP	**Bilaspur**	**17.43 322**		*e*P	**P**	**14 08 44.6**	**+0.3**
BLSP				*e*		14 08 49.5	
	comp=Z,108nm,0.9s						
KSM	**Kuching**	**18.08 112**		*e*P	**P**	**14 08 55.1**	**+2.6**
KMI	**Kunming**	**18.67**	**27**	P	**P**	**14 09 02.3**	**+2.7**
KMI				AP		14 09 12.0	
KMI				XP		14 09 18.5	
KMI				PP	PP	14 09 20.0	+4.5
KMI				S	**S**	**14 12 25.8**	**+2.5**
KMI				XS		14 12 38.8	
KMI				SS	SS	14 12 49.0	+1.0
KMI				AMB	AMB		
	comp=Z,11nm,1.2s						
KMI				AMB	AMB		
	comp=Z,153nm,4.5s						
KMI				LR	LR		
	comp=N,477nm,12.2s						
KMI				LR	LR		
	comp=E,698nm,11.5s						
KMI				LR	LR		
	comp=Z,586nm,18.5s						
QIZ	**Qiongzhong**	**18.92**	**55**	*e*P	**P**	**14 09 04.0**	**+1.4**
QIZ				S	**S**	**14 12 28.5**	**-0.4**
QIZ				XS		14 12 42.8	
QIZ				AMB	AMB		
	comp=Z,199nm,7.5s						
QIZ				LR	LR		
	comp=N,3μm,13.9s						
QIZ				LR	LR		
	comp=E,631nm,15.7s						
LATR	**Latur**	**19.22 302**		*e*	**S**	**14 12 30.0**	**-5.9**
JIRN	**Jiri**	**20.26 341**		*e*P	**P**	**14 09 17.5**	**0.0**
	comp=E,72nm,0.4s						
PKI	**Pulchoki**	**20.45 339**		*e*P	**P**	**14 09 19.1**	**-0.3**
	comp=E,118nm,0.8s						
DMN	**Daman**	**20.59 338**		*e*P	**P**	**14 09 20.8**	**-0.1**
	comp=E,131nm,0.9s						
GUN	**Gumba**	**20.60 340**		*e*P	**P**	**14 09 20.6**	**-0.3**
	comp=E,330nm,1.0s						
KKN	**Kakani**	**20.69 339**		*e*P	**P**	**14 09 21.4**	**-0.5**
	comp=E,119nm,0.8s						
KAD	**Karad**	**20.79 297**		*e*P	**P**	**14 09 24.5**	**+1.5**
KAD				*e*		14 09 28.9	
	comp=E,88nm,1.3s						
GKN	**Gorkha**	**21.12 338**		*e*P	**P**	**14 09 26.2**	**-0.1**
	comp=E,171nm,0.4s,mb5.7						
LSA	**Lhasa**	**21.18 354**		P	**P**	**14 09 26.3**	**-0.5**
LSA				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.7						
LSA				AMB	AMB		
	comp=Z,80nm,4.6s						
LSA				LR	LR		
	comp=N,240nm,19.9s,MS3.9						
LSA				LR	LR		
	comp=E,420nm,18.3s,MS3.9						
LSA				LR	LR		
	comp=Z,470nm,19.1s,MS3.9						
BHPL	**Bhopal**	**21.30 315**		*e*P	**P**	**14 09 30.0**	**+1.9**
BHPL				*e*		14 09 31.1	
	comp=Z,73nm,0.7s						
KOLN	**Koldanda**	**21.33 335**		*e*P	**P**	**14 09 28.6**	**+0.2**
	comp=Z,305nm,1.0s,mb5.6						
POO	**Poona**	**21.57 299**	⇓	*i*P	**P**	**14 09 31.0**	**+0.1**
	comp=Z,91nm,1.2s,mb5.1						
POO				*e*		14 09 32.4	
POO			

NJ2 LR LR
comp=N,380nm,14.0s
NJ2 LR LR
comp=E,300nm,20.0s
SSE Sheshan 34.15 45 P **P** **14 11 25.5 -0.7**
SSE XP sP 14 11 41.8 +2.3
SSE PP PP 14 12 43.5 +2.4
SSE S **S** **14 16 49.0 -0.3**
SSE XS 14 17 08.3
SSE AMB AMB
comp=Z,36nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,972nm,11.1s
SSE LR LR
comp=N,177nm,18.9s,MS4.0
SSE LR LR
comp=E,191nm,18.9s,MS4.0
SSE LR LR
comp=Z,96nm,19.6s,MS3.5
KSH Kashi 34.64 336 *e*P **P** **14 11 29.0 -1.4**
KSH *e*PP PP 14 12 44.5 -2.9
KSH *e*PPP PPP 14 13 02.0 -3.4
KSH *e*PCP PcP 14 14 05.3 +0.9
KSH *e*S **S** **14 16 52.0 -4.9**
KSH *e*SCP 14 17 46.0
KSH *e*PCS 14 17 50.5
KSH *e*SCS ScS 14 21 47.0 -0.7
KSH AMB AMB
comp=Z,190nm,3.2s
WMQ Urumqi 35.52 353 ⇓P **P** **14 11 38.5 +0.7**
WMQ AP pP 14 11 48.5 +1.3
WMQ XP sP 14 11 52.8 +1.7
WMQ PP PP 14 12 58.8 +0.5
WMQ PPP PPP 14 13 17.5 +0.2
WMQ PCP PcP 14 14 08.5 +1.6
WMQ *e*S **S** **14 17 10.5 0.0**
WMQ AMB AMB
comp=Z,12nm,0.4s,mb5.2
WMQ AMB AMB
comp=Z,73nm,4.1s
WMQ LR LR
comp=N,268nm,23.6s,MS4.2
WMQ LR LR
comp=E,364nm,23.8s,MS4.2
WMQ LR LR
comp=Z,213nm,22.2s,MS3.9
KZA Kyzart 37.11 337 P **P** **14 11 52.1 +0.8**
SNR=9.2
BJI Beijing 37.30 29 P **P** **14 11 54.0 +1.2**
BJI S **S** **14 17 43.5 +5.7**
BJI AMB AMB
comp=Z,13nm,0.8s,mb4.8
BJI LR LR
comp=N,358nm,19.8s,MS4.3
BJI LR LR
comp=E,310nm,15.9s,MS4.3
BJI LR LR
comp=Z,220nm,24.6s
UCH Uchtor 37.53 337 P **P** **14 11 55.2 +0.5**
SNR=9.2
JOW Kunigami 37.56 57 LR LR 14 30 47.3
comp=Z,250nm,18.1s,MS4.1,baz=300,slow=42
TKM2 Tokmak 2 37.71 338 P **P** **14 11 56.7 +0.4**
SNR=8.8
KBK Karagaybulak 37.72 337 P **P** **14 11 57.5 +1.1**
SNR=18
AML Almayashu 37.77 336 P **P** **14 11 57.8 +1.0**
SNR=8.2
AAK Ala-Archa 37.88 337 P **P** **14 11 59.3 +1.6**
SNR=9.3
AAK Ala-Archa 37.88 337 *e*P **P** **14 11 57.7 0.0**
AAK pmax pmax
comp=Z,19nm,0.9s,mb4.8
AAK Ala-Archa 37.88 337 *e*P **P** **14 11 57.7 0.0**
comp=Z,18nm,0.9s,mb4.8
CHMS Chumysh 38.09 337 P **P** **14 11 59.8 +0.3**
SNR=5.2
EKS2 Erkin-Say 38.19 336 P **P** **14 12 00.1 -0.1**
SNR=7.4
USP Ospenovka 38.42 337 P **P** **14 12 02.6 +0.4**
SNR=12
MBWA Marble Bar 39.13 139 *e*P **P** **14 12 06.8 -1.6**
MKAR Makanchi Array 39.33 348 *i*P **P** **14 12 08.7 -1.0**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 39.92 333 *i*P **P** **14 12 15.0 +0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
ULN Ulaanbaatar 40.83 14 *e*P **P** **14 12 21.0 -1.1**
ULN pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
ULN Ulaanbaatar 40.83 14 *e*P **P** **14 12 21.0 -1.1**
comp=Z,3.5nm,0.9s,mb4.0
FITZ Fitzroy Crossi 41.27 130 P **P** **14 12 24.9 -1.0**
comp=Z,5.4nm,0.8s,mb4.2,baz=346,slow=4.2,SNR=5.5
FITZ LR LR 14 33 30.8
comp=Z,205nm,18.5s,MS4.0,baz=114,slow=42
ZAK Zakamensk 42.49 9 *e*P **P** **14 12 36.1 +0.4**
ZAK *e* 14 14 28.9
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb3.8
ZAK pmax pmax
comp=Z,2.0nm,1.9s
MOY Mondy 43.43 7 *e*P **P** **14 12 38.3 -5.0**
TLY Talaya 43.81 9 *e*P **P** **14 12 49.3 +2.9**
TLY *e* 14 14 34.7
TLY *e*S **S** **14 19 19.9 +5.4**
TLY pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
TLY MLR MLR
comp=Z,164nm,16.0s,MS4.0
CN2 Changchun 44.78 33 *e*P **P** **14 12 55.8 +1.4**
CN2 *e*AP pP 14 13 06.0 +2.2
CN2 *e*S **S** **14 19 28.5 -0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CN2 LR LR
comp=Z,300nm,14.0s,MS4.4
MUN Mundaring 45.73 153 *e*P **P** **14 13 03.9 +1.9**
comp=Z,460nm,0.9s
MUN Mundaring 45.73 153 *e*P **P** **14 13 03.9 +1.9**
MUN pmax pmax
comp=Z,460nm,0.9s
ZAL Zalesovo 45.82 353 P **P** **14 13 02.6 +0.1**
comp=Z,7.0nm,0.5s,mb4.9,baz=296,slow=5.1,SNR=28
KLBR Kellerberrin 46.12 151 *e*P **P** **14 13 06.2 +1.0**
comp=Z,1μm,0.9s
NVS Novosibirsk 46.91 352 *e*P **P** **14 13 09.1 -2.0**
NVS pmax pmax
comp=Z,21nm,1.3s,mb4.9
NVS pmax pmax
comp=N,24nm,1.5s
NWAO Narrogin (SRO) 46.99 153 *e*P **P** **14 13 12.5 +0.5**
NWAO pmax pmax
comp=Z,84nm,1.2s
NWAO Narrogin (SRO) 46.99 153 P **P** **14 13 12.8 +0.8**
comp=Z,72nm,0.9s,mb5.6,baz=326,slow=9.2,SNR=19
NWAO Narrogin (SRO) 46.99 153 *e*P **P** **14 13 12.5 +0.5**
comp=Z,84nm,1.2s,mb5.5
MDJ Mudanjiang 47.58 35 P **P** **14 13 15.8 -0.8**
MDJ PCP PcP 14 14 45.8 -0.6
MDJ PP PP 14 15 07.0 -0.3
MDJ SCP 14 18 36.5
MDJ PCS 14 18 41.3
MDJ S **S** **14 20 09.3 +0.6**
MDJ AMB AMB
comp=Z,5.0nm,2.1s,mb4.2
MDJ AMB AMB
comp=Z,70nm,4.7s
MDJ LR LR
comp=N,101nm,25.7s,MS3.8
MDJ LR LR
comp=E,77nm,25.7s,MS3.8
MDJ LR LR
comp=Z,88nm,26.8s,MS3.6
BVA0 Borovoye Array 48.19 341 *e*P **P** **14 13 19.8 -1.3**
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
BVAR Borovoye Array 48.19 341 P **P** **14 13 19.6 -1.5**
comp=Z,1.7nm,0.3s,mb4.5,baz=129,slow=8.7,SNR=17
BVAR ScP 14 18 40.8
comp=Z,0.9nm,0.8s,baz=117,slow=3.2,SNR=4.5
CHKZ Chkalovo 48.67 342 *i*P **P** **14 13 24.0 -0.8**
CHKZ pmax pmax
comp=Z,17nm,1.4s,mb4.9
WRA Warramunga Arr 49.10 126 P **P** **14 13 27.2 -1.4**
comp=Z,2.5nm,0.3s,mb4.7,baz=299,slow=9.8,SNR=5.5
WRA PcP PcP 14 14 50.8 -1.3
comp=Z,2.2nm,0.8s,baz=295,slow=8.6,SNR=5.3
WRAB Tennant Creek 49.10 126 *e*P **P** **14 13 27.5 -1.1**
WRAB pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
WRAB Tennant Creek 49.10 126 *e*P **P** **14 13 27.5 -1.1**
comp=Z,9.9nm,0.8s,mb4.9
WB2 Warramunga Arr 49.11 126 *e*P **P** **14 13 27.9 -0.8**
MAT Matsushiro 49.14 48 P **P** **14 13 26.7 -2.0**
MJAR Matsushiro Arr 49.14 48 PcP PcP 14 14 52.1 0.0
comp=Z,5.4nm,0.9s,baz=254,slow=3.1,SNR=9.8
MJAR LR LR 14 36 49.9
comp=Z,102nm,18.6s,MS3.8,baz=175,slow=40
AB31 Akbulak array 49.38 331 *e*P **P** **14 13 30.1 -0.3**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ASPA Alice Springs 50.77 130 *e*P **P** **14 13 40.9 -0.4**
ASAR Alice Springs 50.77 130 P **P** **14 13 39.9 -1.4**
comp=Z,7.3nm,0.7s,mb4.7,baz=307,slow=7.2,SNR=48
ASAR PcP PcP 14 14 58.5 +0.3
comp=Z,4.3nm,0.9s,baz=314,slow=3.3,SNR=8.2
ASAR LR LR 14 37 33.3
comp=Z,130nm,20.2s,MS3.9,baz=42,slow=39
FORT Forrest 51.20 141 *e*P **P** **14 13 43.4 -1.1**
comp=Z,585nm,0.9s
BOD Bodaibo 51.64 14 *e*P **P** **14 13 45.8 -1.7**
BOD pmax pmax
comp=Z,1.0nm,1.5s
GNI Garni 53.57 314*d i*P **P** **14 14 02.9 +0.8**
GNI pmax pmax
comp=Z,300nm,20.0s
SVE Sverdlovsk 54.58 338⇓*e*P **P** **14 14 09.0 -0.3**
SVE *e* 14 14 24.0
SVE *e* 14 15 10.0
SVE *e*S **S** **14 21 52.0 +7.1**
SVE pmax pmax
comp=Z,20nm,1.2s,mb5.0
SVE MLR MLR
comp=N,400nm,17.0s,MS4.6
SVE MLR MLR
comp=E,100nm,17.0s,MS4.6
SVE MLR MLR
comp=Z,500nm,17.0s,MS4.7
ARU Arti 55.06 337⇑*i*P **P** **14 14 11.9 -0.9**
ARU *e* 14 15 14.0
ARU *e* 14 16 19.0
ARU *e*S **S** **14 21 54.9 +3.5**
ARU *e* 14 23 59.8
ARU pmax pmax
comp=Z,11nm,1.6s,mb4.6
ARU MLR MLR
comp=Z,400nm,20.0s,MS4.5
ARU MLR MLR
comp=N,200nm,19.0s
ASAJ Asahikawa 55.29 41 LR LR 14 39 14.2
comp=N,110nm,18.1s,MS4.0,baz=111,slow=38
KIV Kislovodsk 56.45 318 *e*P **P** **14 14 22.6 -0.4**
KIV pmax pmax
comp=N,14nm,1.1s
KIV pmax pmax
comp=Z,20nm,1.1s,mb5.1
KIV MLR MLR
comp=Z,112nm,20.0s,MS4.0
KIV MLR MLR
comp=N,94nm,17.0s,MS4.1
KIV MLR MLR
comp=E,102nm,20.0s,MS4.1
YSS Yuzh-Sakhalins 56.61 38 *e*P **P** **14 14 23.0 -1.1**
YSS pmax pmax
comp=Z,15nm,1.4s,mb4.8
YSS MLR MLR
comp=Z,100nm,16.0s,MS4.0
KMBO Kilima Mbogo 56.94 263 LR LR 14 35 34.1
comp=Z,191nm,19.8s,MS4.2,baz=90,slow=32
ASF Jabal al Asfar 57.39 303 P **P** **14 14 29.8 0.0**
comp=Z,1.9nm,0.4s,mb4.5,baz=237,slow=3.7,SNR=3.7
MALT Malatya 57.61 310 *e*P **P** **14 14 31.0 -0.3**
MALT pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MALT Malatya 57.61 310 *e*P **P** **14 14 31.0 -0.3**
comp=Z,10nm,1.2s,mb4.7
SOKR Solikamsk 57.98 339⇑*i*P **P** **14 14 30.7 -2.9**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SOKR MLR MLR
comp=Z,440nm,21.0s,MS4.5
SOC Sochi 58.32 316 *e*P **P** **14 14 32.9 -3.2**
SOC *e* 14 15 23.9
SOC *e* 14 16 40.0
SOC *e*S **S** **14 22 34.6 0.0**
SOC *e* 14 24 23.6
SOC *e*SS SS 14 26 28.5 +0.2
SOC pmax pmax
comp=N,12nm,1.1s
SOC pmax pmax
comp=E,12nm,1.1s
SOC pmax pmax
comp=Z,16nm,1.1s,mb5.0
SOC MLR MLR
comp=Z,178nm,19.0s,MS4.2
SOC MLR MLR
comp=N,89nm,17.0s,MS4.0
SOC MLR MLR
comp=E,74nm,19.0s,MS4.0
CTAO Charters Tower 59.12 119 *e*P **P** **14 14 42.4 +0.3**
YAK Yakutsk 59.55 19 *e*P **P** **14 14 42.2 -2.3**
YAK pmax pmax
comp=Z,17nm,0.8s,mb5.1
YAK Yakutsk 59.55 19 *e*P **P** **14 14 42.2 -2.2**
comp=Z,17nm,0.8s,mb5.1
STKA Stephens Creek 60.97 134 *e*P **P** **14 14 54.0 -0.5**
comp=Z,5.8nm,0.9s,mb4.7
STKA Stephens Creek 60.97 134 P **P** **14 14 53.6 -0.9**
comp=Z,7.0nm,0.9s,mb4.8,baz=308,slow=8.3,SNR=15
STKA LR LR 14 44 06.7
comp=Z,251nm,20.3s,MS4.3,baz=207,slow=39
BRTR Keskin Array B 61.57 311 P **P** **14 14 57.2 -1.4**
comp=Z,3.5nm,0.8s,mb4.6,baz=122,slow=7.0,SNR=14
MOS Moscow 64.22 329 *e*P **P** **14 15 14.1 -1.8**
MOS pmax pmax
comp=Z,43nm,0.7s,mb5.6
OBN Obninsk 64.52 328⇑*i*P **P** **14 15 17.4 -0.4**
OBN *e* 14 15 50.7
OBN pmax pmax
comp=Z,30nm,1.6s,mb5.1
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.3
TIXI Tiksi 66.70 11*c i*P **P** **14 15 29.9 -1.6**
TIXI pmax pmax
comp=Z,21nm,1.3s,mb5.0
TIXI MLR MLR
comp=Z,100nm,17.0s,MS4.1
AKASG Malin Array Be 67.29 322 P **P** **14 15 33.9 -1.7**
comp=Z,0.6nm,0.3s,mb4.2,baz=90,slow=4.9,SNR=15
IDI Anoyia 67.73 305 LR LR 14 49 22.1
comp=Z,100nm,18.4s,MS4.1,baz=92,slow=40
MLR Muntele Rosu 68.31 316 P **P** **14 15 41.2 -0.8**
comp=Z,6.5nm,0.7s,mb4.8,baz=126,slow=3.6,SNR=12
LSZ Lusaka 68.96 250 *e*P **P** **14 15 48.8 +2.3**
LSZ *e* pP 14 15 59.7 +3.4
LSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LSZ Lusaka 68.96 250 *e*P **P** **14 15 48.8 +2.2**
comp=Z,4.1nm,0.8s,mb4.4
LSZ *e* pP 14 15 59.7 +3.4
JOF Joensuu 70.01 334 *e*p **P** **14 15 51.6 -0.6**
comp=Z,6.9nm,0.8s,mb4.6
KOLS Kolonicke sedl 71.34 319 *e*P **P** **14 16 00.4 -0.1**
CRVS Cervenica-Dubn 71.86 319 *e*P **P** **14 16 07.0 +3.4**
CRVS Cervenica-Dubn 71.86 319 *e* **P** **14 16 07.0 +3.4**
FINES FINESS Array B 71.87 332 P **P** **14 16 02.8 -0.7**
comp=Z,2.8nm,0.5s,mb4.5,baz=88,slow=5.6,SNR=21
KAF Kangasniemi 71.95 333 *e*p **P** **14 16 02.8 -1.1**
comp=Z,5.8nm,0.8s,mb4.6
KAF Kangasniemi 71.95 333 *e*P **P** **14 16 02.8 -1.1**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KECS Kecovo 72.45 318 *e*P **P** **14 16 08.2 +1.1**
OJC Ojcow 73.11 320 *e*P **P** **14 16 10.8 -0.2**
VYHS Vyhne 73.54 318 *e*P **P** **14 16 11.0 -2.5**
LBTB Lobatse 74.06 241 *e*P **P** **14 16 19.8 +2.8**
LBTB pmax pmax
comp=Z,18nm,0.9s,mb5.0
LBTB Lobatse 74.06 241 *e*P **P** **14 16 19.8 +2.7**
comp=Z,18nm,0.9s,mb5.0
OKC Ostrava-Krasne 74.13 319 *e*P **P** **14 16 18.6 +1.7**
ARCES ARCESS Array B 74.46 340 P **P** **14 16 18.0 -0.4**
comp=Z,3.3nm,0.5s,mb4.6,baz=97,slow=6.2,SNR=44
ARCES LR LR 14 51 49.6
comp=Z,447nm,19.9s,MS4.8,baz=122,slow=38
MORC Moravsky Berou 74.51 319 *e*P **P** **14 16 19.1 0.0**
MORC pmax pmax
comp=Z,15nm,1.2s,mb4.8
MORC Moravsky Berou 74.51 319 *e*P **P** **14 16 19.1 0.0**
comp=Z,15nm,1.2s,mb4.8
ZST Bratislava 74.67 318 *e*P **P** **14 16 20.2 +0.2**
DPC Dobruska-Polom 75.34 320 *e*P **P** **14 16 24.7 +0.8**
DPC AMS AMS 14 54 50.0
comp=Z,100nm,23.7s
KSP Ksiaz 75.40 320 *e*P **P** **14 16 25.3 +1.1**
BOSA Boshof 75.46 238 P **P** **14 16 27.6 +2.7**
comp=Z,12nm,0.6s,mb5.0,baz=81,slow=4.7,SNR=28
UPC Upice 75.55 320 *e*P **P** **14 16 25.5 +0.4**
CRES Cresnjev 75.65 315 *e*P **P** **14 16 26.2 +0.4**
BILL Bilibino 75.69 22⇓*i*P **P** **14 16 24.3 -1.2**
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
VISS Visnje 76.08 315 *e*P **P** **14 16 28.4 +0.2**
PRU Pruhonice 76.46 319 AMS AMS 14 51 00.0
comp=Z,100nm,14.6s
PVCC Panska Ves 76.47 320 AMS AMS 14 56 10.0
comp=Z,100nm,16.7s
BRG Berggiesshubel 76.89 320 *e*P **P** **14 16 33.2 +0.7**
BRG *e* 14 16 45.3
BRG pmax pmax
comp=Z,27nm,1.6s,mb4.9
BRG Berggiesshubel 76.89 320 *e*P **P** **14 16 33.2 +0.7**
comp=Z,27nm,1.6s,mb4.9
BRG *e* 14 16 45.3
GERES GERESS Array B 76.96 318 P **P** **14 16 33.6 +0.6**
comp=Z,2.7nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=11
GERES LR LR 14 55 12.3
comp=Z,73nm,20.3s,MS4.0,baz=52,slow=39
KHC Kasperske Hory 77.05 318 *e*P **P** **14 16 34.1 +0.6**
KHC AMS AMS 14 51 50.0
comp=Z,100nm,18.2s
CLL Collm 77.50 321 *e*P **P** **14 16 37.0 +1.1**
CLL *e* pP 14 16 47.0 +1.2
CLL Collm 77.50 321 P **P** **14 16 37.0 +1.1**
CLL *e* pP 14 16 47.0 +1.2
DZM Mont Dzumac 77.58 115 LR LR 14 53 05.7
comp=Z,109nm,18.7s,MS4.2,baz=196,slow=38
HFS Hagfors 77.61 330 P **P** **14 16 36.2 -0.1**
comp=Z,3.4nm,0.4s,mb4.7,baz=104,slow=6.1,SNR=29
HFS LR LR 14 55 08.7
comp=Z,198nm,18.2s,MS4.5,baz=3.1,slow=39
GRA1 Grafenberg Arr 78.60 319 *e*P **P** **14 16 42.6 +0.6**
comp=Z,10.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.60 319 *e*P **P** **14 16 42.6 +0.6**
GRF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.60 319 *e*P **P** **14 16 42.6 +0.6**
GRF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
GRF Grafenberg Arr 78.60 319 *e*P **P** **14 16 42.6 +0.6**
comp=Z,10.0nm,0.8s,mb4.8
NB2 NORSAR Subarra 78.88 331 P **P** **14 16 42.8 -0.5**
comp=Z,2.7nm,0.6s,mb4.3,baz=95,slow=5.3
NB2 NORSAR Subarra 78.88 331 P **P** **14 16 42.8 -0.5**
NB2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
NOA NORSAR Array B 78.88 331 P **P** **14 16 43.1 -0.2**
comp=Z,5.3nm,0.8s,mb4.5,baz=94,slow=5.6,SNR=15
NOA LR LR 14 56 34.9
comp=Z,100nm,19.8s,MS4.2,baz=90,slow=40
NOA NORSAR Array B 78.88 331 P **P** **14 16 43.1 -0.2**
NOA LR LR 14 56 34.9
MAW Mawson 79.06 191 LR LR 14 43 49.8
comp=Z,194nm,20.9s,MS4.4,baz=243,slow=30
LPG La Plagne 81.75 315 *e*P **P** **14 17 00.0 +1.1**
comp=Z,19nm,0.8s,mb4.8
LPG La Plagne 81.75 315 *e*P **P** **14 17 00.0 +1.1**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BNI Bardonecchia 81.84 314 *e*P **P** **14 17 00.0 +0.7**
BNI pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BNI Bardonecchia 81.84 314 *e*P **P** **14 17 00.0 +0.7**
comp=Z,8.2nm,0.8s,mb4.7
SYO Syowa Base 85.87 197 ⇓P **P** **14 17 22.2 +2.9**
URZ Urewera 90.19 129 LR LR 14 59 36.1
comp=Z,170nm,18.2s,MS4.5,baz=179,slow=37
ESDC Sonseca Array 90.36 310 P **P** **14 17 41.9 +0.4**
comp=Z,0.4nm,0.3s,mb4.2,baz=74,slow=3.7,SNR=6.3
IMA Indian Mountai 91.23 22 *e*P **P** **14 17 45.5 +0.7**
IMA pmax pmax
comp=Z,30nm,1.0s,mb5.6
IMA Indian Mountai 91.23 22 *e*P **P** **14 17 45.5 +0.7**
comp=Z,30nm,1.0s,mb5.6
BORG Borgarnes 92.61 337 LR LR 15 00 04.5
comp=Z,121nm,19.0s,MS4.4,baz=296,slow=36
VNDA Vanda 93.69 168 LR LR 14 55 20.4
comp=Z,157nm,20.7s,MS4.5,baz=295,slow=32
ILAR Eielson Array 94.35 22 P **P** **14 17 58.6 -0.6**
comp=Z,1.2nm,0.8s,mb4.4,baz=295,slow=4.2,SNR=15
SLKM Skilak Lake 95.05 26 *e*P **P** **14 18 02.1 -0.4**
INK Inuvik 96.52 16 *e*P **P** **14 18 08.9 -0.1**
INK pmax pmax
comp=Z,8.0nm,1.2s
INK Inuvik 96.52 16 P **P** **14 18 09.1 +0.1**
comp=Z,7.2nm,1.2s,mb5.0,baz=346,slow=6.1,SNR=12
INK Inuvik 96.52 16 *e*P **P** **14 18 08.9 -0.2**
comp=Z,8.5nm,1.2s,mb5.0
RES Resolute Bay 96.77 2 *e*P **P** **14 18 10.6 +0.5**
RES pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
RES Resolute Bay 96.77 2 *e*P **P** **14 18 10.6 +0.5**
comp=Z,3.6nm,0.9s,mb4.8
DBIC Dimbokro 97.30 278 LR LR 15 00 50.2
comp=Z,69nm,19.1s,MS4.2,baz=64,slow=35
DAWY Dawson 97.44 21 *e*P **P** **14 18 13.6 +0.3**
YKA Yellowknife Ar 105.92 13 PKKPbc 14 34 27.3
comp=Z,0.3nm,0.7s,baz=150,slow=2.8,SNR=7.3
FCC Fort Churchill 112.65 4 *e*PKIKP PKPdf 14 23 15.6 -4.4
LOHW Long Hollow 123.65 21 *e*PKP PKPdf 14 23 39.1 -2.7
NVAR Mina Array Bea 124.64 30 PKP PKPdf 14 23 41.6 -2.3
comp=Z,1.7nm,0.8s,baz=349,slow=1.2,SNR=13
PDAR Pinedale Array 124.75 21 PKP PKPdf 14 23 40.6 -3.4
comp=Z,1.6nm,0.8s,baz=13,slow=2.3,SNR=16
PDAR PKKPbc 14 33 22.4
comp=Z,0.3nm,0.6s,baz=125,slow=5.5,SNR=4.3
MSU Marysvale 127.41 25 *e*PKIKP PKPdf 14 23 47.1 -2.1
TXAR Lajitas Array 138.85 23 PKP PKPdf 14 24 07.7 -3.2
comp=Z,0.4nm,0.4s,SNR=5.4
TXAR Lajitas Array 138.85 23 PKP PKPdf 14 24 07.7 -3.2
JCT Junction City 139.14 18 *e*PKIKP PKPdf 14 24 08.3 -3.1
BDFB Brasilia 141.83 256 PKP PKPdf 14 24 15.0 -1.5
comp=Z,2.5nm,0.4s,baz=169,slow=2.3,SNR=4.5
PLCA Paso Flores 144.96 201 PKPbc PKPbc 14 24 19.1 +2.9
comp=Z,15nm,0.9s,baz=154,slow=4.3,SNR=27
CPUP Villa Florida 147.21 234 PKPbc PKPdf 14 24 24.5 -1.1
comp=Z,11nm,0.8s,baz=103,slow=6.0,SNR=23
LPAZ La Paz 160.55 245 PKP PKPdf 14 24 42.9 -1.3
comp=Z,1.1nm,0.7s,baz=72,slow=2.5,SNR=5.1
LPAZ PKPab PKPab 14 25 25.0 +2.2
comp=Z,3.0nm,0.7s,baz=106,slow=5.3,SNR=11

IDC ***27*** *14:42:30.1±6.0, 11.24S×124.09E, mb4.1/1, mb1 4.2/4, mb1mx4.0/14, mbtmp4.1/4, ML4.1/3, MS3.1/2, Ms1 3.1/2, ms1mx2.9/19, Error ellipse: s-maj=81.0km s-min=71.6km az=35.0*

NEIC ***27*** *14:42:35.6±3.7, 11.34S×124.19E, h30km, mb3.9/1, Error ellipse: s-maj=47.2km s-min=16.0km az=156.0*

ISC 27 14:42:28.5±1.5, 10.85S±0.09×124.14E±0.09, h33km, n13, σ1§28/19, mb3.8/1, MS2.7/1, 1D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 14nm,0.4s	**7.35**	**169**	*e*P	**P**	**14 44 15.8**	**-0.4**
FITZ				*e*S	**S**	**14 45 41.0**	**+1.6**
FITZ	**Fitzroy Crossi** 2.3nm,0.3s,baz=353,slow=6.4,SNR=48	**7.35**	**169**	Pn	**Pn**	**14 44 15.7**	**-0.7**
FITZ	20nm,0.3s,baz=352,slow=15,SNR=14			Sn	**Sn**	**14 45 40.3**	**+0.7**
KAKA	**Kakadu** 12nm,0.6s	**8.33**	**104**	*e*P	**P**	**14 44 32.2**	**+2.4**
KAKA				*e*S	**S**	**14 46 12.3**	**+8.5**
MBWA	**Marble Bar**	**11.09**	**202**	P	**P**	**14 45 04.7**	**-3.3**

WRA Warramunga Arr 13.35 134 P P 14 45 36.9 -1.3
1.3nm,0.3s,baz=307,slow=15,SNR=78
WRA Sn **S** **14 48 05.2 -1.2**
2.5nm,0.3s,baz=306,slow=25,SNR=14
WRAB Tennant Creek 13.35 134 *eP* **P 14 45 37.4 -0.8**
12nm,0.6s
WB2 Warramunga Arr 13.36 134 *eP* **P 14 45 37.6 -0.7**
WB2 *eS* **S 14 48 04.7 -1.9**
ASPA Alice Springs 15.78 145 *eP* **P 14 46 10.6 +0.6**
ASPA *eS* **S 14 49 04.4 +0.6**
ASAR Alice Springs 15.78 145 Pn **P 14 46 10.2 +0.2**
1.0nm,0.3s,baz=318,slow=12,SNR=81
ASAR Sn **S 14 49 04.2 +0.5**
0.8nm,0.3s,baz=320,slow=24,SNR=14
ASAR LR LR 14 53 16.0
comp=Z,126nm,19.4s,baz=318,slow=42
FORT Forrest 20.16 170 *eP* **P 14 47 03.7 +0.8**
393nm,1.0s
STKA Stephens Creek 26.42 145 ⇓ *iP* **P 14 48 06.5 +2.3**
1.9nm,0.6s,mb3.8
STKA Stephens Creek 26.42 145 P **P 14 48 05.6 +1.4**
2.4nm,0.7s,mb3.9,baz=328,slow=9.1,SNR=11
CMAR Chiang Mai Arr 38.29 319 LR LR 15 07 17.4
comp=Z,126nm,19.9s,MS2.7,baz=279,slow=39

*IDC **27** 14:47:58.3±2.6, 1.13N×98.68E, mb4.2/4, mb1 4.3/5, mb1mx3.9/18, mbtmp4.1/5, ML3.7/1, MS3.7/1, Ms1 3.7/1, ms1mx3.1/20, Error ellipse: s-maj=116.4km s-min=23.8km az=62.0*
*NEIC **27** 14:48:00.4±1.2, 0.83N×98.03E, h30km, mb4.3/2, Error ellipse: s-maj=36.7km s-min=12.5km az=71.0*
ISC 27 14:47:58.1±0.8, 0.8N±0.1×98.0E±0.2, h30km, n18, σ0 90/18, mb4.3/8, MS3.8/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.20**	**31**	*eP*	**Pn**	**14 49 16.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**17.57**	**3**	P	**P**	**14 52 01.8**	**-0.9**
	0.1nm,0.3s,baz=193,slow=12,SNR=7.2						
JIRN	**Jiri**	**28.99**	**338**	*eP*	**P**	**14 53 58.8**	**+1.3**
	10.0nm,0.8s,mb4.6						
PKI	**Pulchoki**	**29.21**	**337**	*eP*	**P**	**14 53 59.8**	**+0.3**
GUN	**Gumba**	**29.34**	**338**	*eP*	**P**	**14 54 01.3**	**+0.7**
	8.5nm,0.5s,mb4.7						
KKN	**Kakani**	**29.46**	**337**	*eP*	**P**	**14 54 01.4**	**-0.4**
KOLN	**Koldanda**	**30.14**	**334**	*eP*	**P**	**14 54 06.5**	**-1.3**
	10nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**41.18**	**122**	P	**P**	**14 55 41.0**	**-0.8**
	1.3nm,0.6s,mb3.7,baz=304,slow=9.2,SNR=10						
WRA				PcP	PcP	14 57 42.7	+1.4
	0.4nm,0.6s,baz=310,slow=2.7,SNR=5.0						
WRAB	**Tennant Creek**	**41.19**	**122**	*eP*	**P**	**14 55 40.9**	**-1.0**
WB2	**Warramunga Arr**	**41.19**	**122**	*eP*	**P**	**14 55 41.3**	**-0.6**
FORT	**Forrest**	**42.48**	**140**	*eP*	**P**	**14 55 55.4**	**+2.9**
	307nm,0.6s						
ASPA	**Alice Springs**	**42.55**	**127**	*eP*	**P**	**14 55 53.5**	**+0.4**
ASAR	**Alice Springs**	**42.55**	**127**	P	**P**	**14 55 53.2**	**+0.1**
	0.8nm,0.3s,mb3.9,baz=300,slow=7.1,SNR=20						
STKA	**Stephens Creek**	**52.53**	**132**	*eP*	**P**	**14 57 11.7**	**+0.6**
	2.7nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**52.53**	**132**	P	**P**	**14 57 11.2**	**+0.1**
	3.7nm,0.7s,mb4.4,baz=315,slow=9.5,SNR=8.9						
ZAL	**Zalesovo**	**54.06**	**350**	P	**P**	**14 57 22.7**	**+0.6**
	1.9nm,0.3s,mb4.5,baz=298,slow=6.6,SNR=5.5						
ZAL				LR	LR	15 22 38.5	
	comp=Z,72nm,18.9s,MS3.8,baz=16,slow=39						
ZAL	**Zalesovo**	**54.06**	**350**	P	**P**	**14 57 22.7**	**+0.6**
ZAL				LR	LR	15 22 38.5	
CHKZ	**Chkalovo**	**57.34**	**341**	*eP*	**P**	**14 57 45.0**	**-0.8**
	1.5nm,0.7s,mb4.1						

*MOS **27** 14:58:17.2±0.8, 51.19N×179.49E, h41km, mb4.3/11, Error ellipse: s-maj=15.6km s-min=10.2km az=92.9*
*IDC **27** 14:58:19.1±2.9, 51.24N×179.42E, h40km±23km, mb3.8/18, mb1 4.0/18, mb1mx3.9/27, mbtmp4.1/18, ML3.7/1, Error ellipse: s-maj=23.0km s-min=13.7km az=161.0*
*NEIC **27** 14:58:20.6±0.6, 51.21N×179.43E, h56km±4km, mb4.4/7, ML4.2(AEIC), Error ellipse: s-maj=9.8km s-min=4.4km az=178.0*
ISC 27 14:58:19.7±0.9, 51.3N±0.1×179.41E±0.06, h58km±7km, n60, σ0 78/63, mb4.2/31, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.15**	**76**	P	**P**	**14 58 54.1**	**+0.2**
KIWB	**Kanaga Island**	**2.22**	**74**	*eP*	**P**	**14 58 55.1**	**+0.2**
KIRH	**Kanaga Island**	**2.26**	**73**	P	**P**	**14 58 56.1**	**+0.5**
GSMY	**Great Sitkin M**	**2.92**	**73**	P	**P**	**14 59 04.6**	**-0.2**
GSMY				S	**S**	**14 59 39.7**	**+0.8**
SMY	**Shemya**	**3.59**	**296**	P	**P**	**14 59 13.6**	**-0.6**
ATKA	**Atka Island**	**4.08**	**75**	P	**P**	**14 59 20.5**	**-0.6**
ATKA				S	**S**	**15 00 08.1**	**+0.2**
FX1	**Attu Island--F**	**4.17**	**295**	P	**P**	**14 59 21.3**	**-1.1**
FX1				S	**S**	**15 00 14.9**	**+4.5**
FX1				pmax	pmax		
	comp=Z,16nm,0.3s						
FX1	**Attu Island--F**	**4.17**	**295**	P	**P**	**14 59 21.3**	**-1.1**
	comp=Z,16nm,0.3s,baz=268,slow=3.2,SNR=58						
FX1				S	**S**	**15 00 14.9**	**+4.5**
	comp=Z,22nm,0.3s,baz=228,slow=16,SNR=2.6						
FX1	**Attu Island--F**	**4.17**	**295**	P	**P**	**14 59 22.4**	**-0.1**
BILL	**Bilibino**	**17.99**	**344**	*eP*	**P**	**15 02 30.0**	**+3.2**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
IMA	**Indian Mountai**	**20.12**	**32**	*eP*	**P**	**15 02 51.6**	**+0.7**
IMA				pmax	pmax		
	comp=Z,25nm,0.6s						
IMA	**Indian Mountai**	**20.12**	**32**	*eP*	**P**	**15 02 51.6**	**+0.7**
	comp=Z,25nm,0.6s						
SML	**Sawmill**	**20.43**	**47**	*eP*	**P**	**15 02 52.6**	**-1.6**
MCK	**McKinley**	**20.80**	**41**	*eP*	**P**	**15 02 57.8**	**-0.2**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MCK	**McKinley**	**20.80**	**41**	*eP*	**P**	**15 02 57.8**	**-0.1**
	comp=Z,2.2nm,0.8s						
ILAR	**Eielson Array**	**22.02**	**39**	P	**P**	**15 03 09.9**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.3,baz=256,slow=11,SNR=23						
ILAR				PcP	PcP	15 07 06.1	-1.5
	comp=Z,0.5nm,0.6s,baz=273,slow=3.0,SNR=6.7						
DAWY	**Dawson**	**24.94**	**43**	*eP*	**P**	**15 03 38.3**	**-0.1**
ASAJ	**Asahikawa**	**25.58**	**268**	P	**P**	**15 03 44.8**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ASAJ	**Asahikawa**	**25.58**	**268**	P	**P**	**15 03 44.8**	**+0.2**
	comp=Z,9.1nm,0.6s,mb4.5,baz=41,slow=5.4,SNR=6.0						
INK	**Inuvik**	**28.18**	**35**	P	**P**	**15 04 07.8**	**-0.4**
	comp=Z,1.3nm,0.5s,mb3.8,baz=271,slow=11,SNR=7.9						
INK				PcP	PcP	15 07 20.7	-0.3
	comp=Z,0.7nm,0.6s,baz=263,slow=8.2,SNR=3.6						
INK	**Inuvik**	**28.18**	**35**	P	**P**	**15 04 07.8**	**-0.4**
INK				PcP	PcP	15 07 20.7	-0.3
YKA	**Yellowknife Ar**	**36.10**	**46**	P	**P**	**15 05 16.5**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.1,baz=280,slow=8.1,SNR=22						
YKA				PcP	PcP	15 07 42.1	-0.4
	comp=Z,0.5nm,0.7s,baz=288,slow=3.6,SNR=6.8						
YKA				ScP		15 11 25.2	
	comp=Z,0.2nm,0.5s,baz=288,slow=3.0,SNR=4.9						
YKA	**Yellowknife Ar**	**36.10**	**46**	P	**P**	**15 05 16.5**	**-0.8**
YKA				PcP	PcP	15 07 42.1	-0.4
YKA				ScP		15 11 25.2	
BOD	**Bodaibo**	**37.13**	**306**	*eP*	**P**	**15 05 24.7**	**-1.2**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
RES	**Resolute Bay**	**40.29**	**24**	*eP*	**P**	**15 05 51.9**	**-0.1**
RES				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.1						
RES	**Resolute Bay**	**40.29**	**24**	*eP*	**P**	**15 05 51.9**	**-0.1**
	comp=Z,4.8nm,1.3s,mb4.1						
MCMT	**McKenzie Canyo**	**44.27**	**71**	*eP*	**P**	**15 06 24.4**	**-0.4**
BOZ	**Bozeman (W)**	**44.54**	**69**	*eP*	**P**	**15 06 27.0**	**+0.1**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
BOZ	**Bozeman (W)**	**44.54**	**69**	*eP*	**P**	**15 06 27.0**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.2						
NVAR	**Mina Array Bea**	**44.67**	**81**	P	**P**	**15 06 28.9**	**+0.8**
	comp=Z,0.6nm,0.7s,mb3.5,baz=291,slow=6.4,SNR=6.3						
ZAK	**Zakamensk**	**46.04**	**300**	*eP*	**P**	**15 06 39.3**	**+0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.8						
BW06	**Boulder Array**	**47.40**	**71**	*eP*	**P**	**15 06 49.2**	**-0.4**
	comp=Z,9.9nm,0.6s,mb4.9						
PDAR	**Pinedale Array**	**47.40**	**71**	P	**P**	**15 06 49.9**	**+0.3**
	comp=Z,3.7nm,0.6s,mb4.5,baz=309,slow=3.8,SNR=42						
ZAL	**Zalesovo**	**53.29**	**313**	P	**P**	**15 07 34.1**	**-0.2**
	comp=Z,1.0nm,0.4s,mb4.1,baz=206,slow=3.7,SNR=3.6						
MKAR	**Makanchi Array**	**59.21**	**307**	*iP*	**P**	**15 08 16.0**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**59.66**	**319**	*eP*	**P**	**15 08 19.4**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CHKZ	**Chkalovo**	**59.66**	**319**	*eP*	**P**	**15 08 19.4**	**-0.3**
	comp=Z,2.5nm,0.6s,mb4.4						
BVA0	**Borovoye Array**	**60.23**	**319**	*iP*	**P**	**15 08 23.9**	**+0.3**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
BVAR	**Borovoye Array**	**60.23**	**319**	P	**P**	**15 08 23.8**	**+0.2**
	comp=Z,6.0nm,0.6s,mb4.8,baz=48,slow=7.1,SNR=35						
SCHQ	**Schefferville**	**60.77**	**37**	P	**P**	**15 08 25.7**	**-1.5**
	comp=Z,0.8nm,0.4s,mb4.2,baz=287,slow=11,SNR=5.3						
FINES	**FINESS Array B**	**65.62**	**346**	P	**P**	**15 08 57.8**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.8,baz=18,slow=6.0,SNR=4.6						
AB31	**Akbulak array**	**67.33**	**322**	*eP*	**P**	**15 09 10.2**	**+0.3**
KKAR	**Karatay Array**	**67.61**	**311**	*eP*	**P**	**15 09 12.2**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
NB2	**NORSAR Subarra**	**67.63**	**354**	P	**P**	**15 09 11.3**	**-0.3**
	comp=Z,4.5nm,0.9s,mb4.5,baz=9.0,slow=6.5						
NB2	**NORSAR Subarra**	**67.63**	**354**	P	**P**	**15 09 11.3**	**-0.3**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
NOA	**NORSAR Array B**	**67.63**	**354**	P	**P**	**15 09 10.9**	**-0.7**
	comp=Z,2.5nm,0.7s,mb4.4,baz=8.1,slow=6.2,SNR=9.0						
HFS	**Hagfors**	**68.34**	**352**	P	**P**	**15 09 15.4**	**-0.6**
	comp=Z,0.9nm,0.3s,mb4.2,slow=4.4,SNR=8.5						
CMAR	**Chiang Mai Arr**	**69.91**	**275**	P	**P**	**15 09 26.1**	**-0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=30,slow=6.8,SNR=11						
GUN	**Gumba**	**70.85**	**291**	*eP*	**P**	**15 09 33.2**	**+1.2**
	comp=Z,11nm,0.4s,mb5.2						
JIRN	**Jiri**	**70.85**	**290**	*eP*	**P**	**15 09 33.4**	**+1.4**
	comp=Z,13nm,0.6s,mb5.1						
KKN	**Kakani**	**71.29**	**291**	*eP*	**P**	**15 09 35.8**	**+1.2**
	comp=Z,9.5nm,0.5s,mb5.0						
GKN	**Gorkha**	**71.50**	**292**	*eP*	**P**	**15 09 36.3**	**+0.4**
	comp=Z,20nm,0.9s,mb5.1						
DMN	**Daman**	**71.53**	**291**	*eP*	**P**	**15 09 37.0**	**+1.0**
	comp=Z,5.2nm,0.5s,mb4.8						
EKA	**Eskdalemuir Ar**	**73.73**	**2**	P	**P**	**15 09 49.1**	**+0.8**
	comp=Z,1.9nm,0.7s,mb4.1,baz=353,slow=6.7,SNR=5.2						
AKASG	**Malin Array Be**	**75.28**	**341**	P	**P**	**15 09 57.5**	**+0.1**
	comp=Z,1.7nm,0.4s,mb4.3,baz=19,slow=6.2,SNR=4.8						
AKASG	**Malin Array Be**	**75.28**	**341**	P	**P**	**15 09 57.5**	**0.0**
WRA	**Warramunga Arr**	**81.18**	**222**	P	**P**	**15 10 28.9**	**-1.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=31,slow=6.1,SNR=7.2						
BRTR	**Keskin Array B**	**84.55**	**334**	P	**P**	**15 10 48.5**	**+1.3**
	comp=Z,0.9nm,0.8s,mb4.0,baz=56,slow=3.2,SNR=4.7						
ASAR	**Alice Springs**	**84.67**	**221**	P	**P**	**15 10 48.0**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.6,baz=25,slow=5.2,SNR=6.6						
BOSA	**Boshof**	**150.19**	**310**	PKPbc	PKPdf	15 18 04.9	+6.5
	comp=Z,1.5nm,0.5s,baz=341,slow=5.0,SNR=4.7						

CASC 27 15:38:40.5±0.9, 10.98N×86.43W, h24km±6km, MD3.6, 2C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.98**	**54**	⇓ *eP*	Pb	15 38 58.0	-0.8
APON	**Apoyo**	**1.00**	**211**	⇓ *eP*	Pb	15 38 58.6	-0.5
TICN	**Ticuantepe**	**1.07**	**11**	⇓ *eP*	Pn	15 38 59.9	-0.2
APYN	**Apoyeque**	**1.25**	**4**	*eP*	Pn	15 39 02.7	0.0
APYN				*eS*	Sn	15 39 19.6	+0.6
MOMJ	**Momotombo**	**1.43**	**356**	*eP*	Pn	15 39 04.8	-0.5
MOMJ				*eS*	Sn	15 39 23.2	-0.2
MIRN	**Miramar**	**1.48**	**349**	*eP*	Pn	15 39 05.8	-0.3
MIRN				*eS*	Sn	15 39 25.4	+0.7
LEON	**Leon**	**1.50**	**343**	*eP*	Pn	15 39 06.1	-0.2
TEL3	**Telica 3**	**1.64**	**346**	*eP*	Pn	15 39 08.1	-0.2
TELN	**Telica**	**1.66**	**347**	*eP*	Pn	15 39 08.4	-0.3

IDC 27 15:56:27.6±3.3, 48.80S×108.41E, mb4.0/3, mb1 4.2/3, mb1mx3.9/11, mbtmp4.0/3, MS3.7/10, Ms1 3.7/10, ms1mx3.6/19, Error ellipse: s-maj=117.0km s-min=28.1km az=104.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**29.50**	**214**	LR	LR	16 11 18.1	
	comp=Z,107nm,20.3s,baz=254,slow=30						
STKA	**Stephens Creek**	**30.11**	**68**	LR	LR	16 12 11.8	
	comp=Z,139nm,20.5s,baz=29,slow=31						
ASAR	**Alice Springs**	**32.15**	**48**	P	P	16 02 57.0	-2.0
	1.8nm,0.9s,baz=215,slow=8.6,SNR=9.1						
ASAR				LR	LR	16 14 24.4	
	comp=Z,77nm,20.4s,baz=76,slow=34						
FITZ	**Fitzroy Crossi**	**33.66**	**31**	LR	LR	16 15 51.3	
	comp=Z,106nm,20.3s,baz=259,slow=35						
VNDA	**Vanda**	**35.13**	**162**	P	P	16 03 22.1	-2.1
	1.6nm,0.6s,baz=297,slow=8.5,SNR=18						
VNDA				LR	LR	16 17 04.4	
	comp=Z,69nm,21.1s,baz=308,slow=35						
WRA	**Warramunga Arr**	**35.53**	**45**	P	P	16 03 26.0	-2.2
	1.7nm,1.0s,baz=208,slow=6.8,SNR=4.8						
PMG	**Port Moresby**	**50.90**	**53**	LR	LR	16 24 38.9	
	comp=Z,60nm,20.7s,baz=56,slow=33						
DZM	**Mont Dzumac**	**52.77**	**81**	LR	LR	16 25 02.2	
	comp=Z,62nm,20.1s,baz=206,slow=32						
HNR	**Honiara**	**58.14**	**65**	LR	LR	16 29 43.0	
	comp=Z,66nm,18.4s,baz=170,slow=34						
BOSA	**Boshof**	**64.74**	**255**	LR	LR	16 28 24.3	
	comp=Z,77nm,18.7s,baz=36,slow=30						
AFI	**Afiamalu**	**72.98**	**92**	LR	LR	16 32 27.0	
	comp=Z,463nm,19.6s,baz=148,slow=30						
YKA	**Yellowknife Ar**	**152.74**	**44**	PKPbc	PKPdf	16 16 24.8	+5.3
	0.2nm,0.3s,baz=284,slow=2.6,SNR=4.5						

*IDC **27** 16:07:15.1±0.7, 36.83N×98.24E, mb4.2/12, mb1 4.4/13, mb1mx4.2/23, mbtmp4.2/13, ML4.1/1, Error ellipse: s-maj=30.0km s-min=16.0km az=50.0*
*MOS **27** 16:07:18.1±0.7, 36.82N×98.17E, h33km, mb4.6/14, Error ellipse: s-maj=16.4km s-min=7.0km az=120.4*
*BJI **27** 16:07:18.5, 36.79N×98.01E, h39km, mB4.3, mb4.0, ML4.2, Ms3.7, Msz3.9*
*NEIC **27** 16:07:21.2±0.9, 36.80N×98.18E, h44km±9km, mb4.5/17, Error ellipse: s-maj=9.0km s-min=6.0km az=216.0*
ISC 27 16:07:17.1±2.6, 36.83N±0.08×98.10E±0.08, h24km±18km, n73, σ0 81/73, mb4.3/31, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**4.69**	**97**	P	**Pn**	**16 08 29.3**	**+1.0**
LZH				Smax			
	comp=N,450nm,0.8s						
LZH				Smax			
	comp=E,618nm,0.8s						
LZH				LR	LR		
	comp=Z,2μm,6.3s						
WMQ	**Urumqi**	**10.57**	**315**	P	**P**	**16 09 49.5**	**-0.7**
WMQ				S	**S**	**16 11 47.0**	**-1.9**
ENH	**Enshi**	**11.53**	**121**	P	**P**	**16 10 01.7**	**-1.6**
	comp=Z,6.5nm,0.8s						
ULN	**Ulaanbaatar**	**12.86**	**28**	*eP*	**P**	**16 10 21.7**	**+0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ULN	**Ulaanbaatar**	**12.86**	**28**	*eP*	**P**	**16 10 21.7**	**+0.6**
	comp=Z,3.4nm,0.6s						
ZAK	**Zakamensk**	**14.06**	**14**	*eP*	**P**	**16 10 38.1**	**+1.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
MOY	**Mondy**	**14.98**	**7**	*eP*	**P**	**16 10 57.3**	**+8.4**
MKAR	**Makanchi Array**	**15.40**	**315**	P	**P**	**16 10 51.9**	**-2.6**
CMAR	**Chiang Mai Arr**	**18.31**	**177**	P	**P**	**16 11 38.4**	**+7.0**
	baz=346,slow=10,SNR=3.8						
AAK	**Ala-Archa**	**19.03**	**295**	*eP*	**P**	**16 11 40.5**	**+0.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	**Ala-Archa**	**19.03**	**295**	*eP*	**P**	**16 11 40.5**	**+0.6**
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**19.44**	**336**	P	**P**	**16 11 44.3**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=329,slow=9.8,SNR=18						
NVS	**Novosibirsk**	**20.70**	**335**	*eP*	**P**	**16 11 56.3**	**-1.7**
NVS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
NVS				pmax	pmax		
	comp=N,11nm,1.4s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.1s						
KKAR	**Karatay Array**	**22.00**	**295**	*iP*	**P**	**16 12 11.8**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
BOD	**Bodaibo**	**23.49**	**22**	*eP*	**P**	**16 12 25.5**	**-0.1**
BVA0	**Borovoye Array**	**25.21**	**319**	*iP*	**P**	**16 12 42.9**	**+0.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.4						
BVAR	**Borovoye Array**	**25.21**	**319**	P	**P**	**16 12 43.4**	**+1.1**
	comp=Z,5.5nm,0.6s,mb4.2,baz=116,slow=9.9,SNR=34						
BVAR				PcP	PcP	16 16 15.8	-0.6
	comp=Z,0.7nm,0.6s,baz=117,slow=3.3,SNR=3.7						
CHKZ	**Chkalovo**	**25.42**	**320**	P	**P**	**16 12 45.0**	**+0.8**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
AB31	**Akbulak array**	**30.20**	**306**	*iP*	**P**	**16 13 28.4**	**+0.7**
ARU	**Arti**	**32.86**	**319**	*eP*	**P**	**16 13 51.0**	**+0.1**
OBN	**Obninsk**	**44.91**	**314**	*eP*	**P**	**16 15 32.2**	**+0.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
BILL	**Bilibino**	**48.30**	**28**	*eP*	**P**	**16 15 58.2**	**+0.3**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.2						
BILL	**Bilibino**	**48.30**	**28**	*eP*	**P**	**16 15 58.2**	**+0.3**
	comp=Z,8.6nm,0.4s,mb5.1						
BRTR	**Keskin Array B**	**49.70**	**294**	P	**P**	**16 16 09.5**	**+0.4**
	comp=Z,1.3nm,0.6s,mb4.1,baz=109,slow=8.3,SNR=8.3						
AKASG	**Malin Array Be**	**49.87**	**309**	P	**P**	**16 16 10.0**	**-0.2**
	comp=Z,2.3nm,0.6s,mb4.4,baz=68,slow=7.0,SNR=5.8						
AKASG	**Malin Array Be**	**49.87**	**309**	P	**P**	**16 16 10.0**	**-0.2**
ARCES	**ARCESS Array B**	**49.98**	**334**	P	**P**	**16 16 11.1**	**+0.3**
	comp=Z,2.0nm,0.3s,mb4.6,baz=86,slow=8.1,SNR=40						
ARCES				PcP	PcP	16 17 30.2	-0.7
	comp=Z,1.3nm,0.5s,baz=72,slow=3.8,SNR=6.2						
FINES	**FINESS Array B**	**50.03**	**323**	P	**P**	**16 16 11.3**	**+0.1**
	comp=Z,3.1nm,0.4s,mb4.7,baz=92,slow=8.5,SNR=30						
FINES				PcP	PcP	16 17 30.3	-0.9
	comp=Z,0.7nm,0.4s,baz=63,slow=4.3,SNR=5.2						
KWP	**Kalwaria**	**54.20**	**309**	*eP*	**P**	**16 16 43.5**	**+0.9**
KWP				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
KWP	**Kalwaria**	**54.20**	**309**	*eP*	**P**	**16 16 43.5**	**+0.9**
	comp=Z,17nm,0.9s,mb5.0						
NB2	**NORSAR Subarra**	**57.14**	**325**	P	**P**	**16 17 02.7**	**-1.1**
	comp=Z,2.1nm,0.5s,mb4.4,baz=70,slow=7.0						
NB2	**NORSAR Subarra**	**57.14**	**325**	P	**P**	**16 17 02.7**	**-1.1**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
NOA	**NORSAR Array B**	**57.14**	**325**	P	**P**	**16 17 03.2**	**-0.5**
	comp=Z,1.7nm,0.4s,mb4.4,baz=72,slow=7.0,SNR=11						
GERES	**GERESS Array B**	**60.01**	**311**	P	**P**	**16 17 24.7**	**+0.8**
	comp=Z,0.6nm,0.5s,mb3.9,baz=76,slow=5.5,SNR=6.1						
IMA	**Indian Mountai**	**63.74**	**26**	*eP*	**P**	**16 17 46.8**	**-1.7**
CDF	**Champ du Feu**	**64.06**	**312**	*eP*	**P**	**16 17 51.0**	**0.0**
HINF	**Hinteralfeld**	**64.59**	**312**	*eP*	**P**	**16 17 53.4**	**-1.0**
CABF	**La Chapelle**	**65.61**	**311**	*eP*	**P**	**16 18 00.2**	**-0.8**
PGF	**Pioggiola**	**65.70**	**306**	*eP*	**P**	**16 18 01.3**	**-0.4**
	comp=Z,8.0nm,0.8s,mb4.5						
PGF	**Pioggiola**	**65.70**	**306**	*eP*	**P**	**16 18 01.3**	**-0.4**
PGF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
LPG	**La Plagne**	**65.73**	**310**	*eP*	**P**	**16 18 02.7**	**+0.9**
	comp=Z,12nm,0.8s,mb4.7						
LPG	**La Plagne**	**65.73**	**310**	*eP*	**P**	**16 18 02.7**	**+0.9**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
LPL	**La Plagne**	**65.74**	**310**	*eP*	**P**	**16 18 02.7**	**+0.9**
	comp=Z,6.5nm,0.6s,mb4.6						
LPL	**La Plagne**	**65.74**	**310**	*eP*	**P**	**16 18 02.7**	**+0.9**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**66.02**	**142**	P	**P**	**16 18 03.1**	**-0.9**
	comp=Z,1.5nm,0.7s,mb4.2,baz=342,slow=6.6,SNR=13						
SBF	**Sospel**	**66.08**	**308**	*eP*	**P**	**16 18 04.2**	**+0.1**
	comp=Z,14nm,0.7s,mb4.8						
SBF	**Sospel**	**66.08**	**308**	*eP*	**P**	**16 18 04.2**	**+0.1**
SBF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
MBDF	**Montbardon**	**66.09**	**309**	*eP*	**P**	**16 18 04.1**	**0.0**
	comp=Z,3.4nm,0.6s,mb4.3						
MBDF	**Montbardon**	**66.09**	**309**	*eP*	**P**	**16 18 04.1**	**0.0**
MBDF				pmax	pmax	

FITZ	Fitzroy Crossi	52.42	267	P		P	16 16 56.9	-0.2
	2.2nm,0.5s,mb3.8,baz=108,slow=3.2,SNR=5.1							
MAW	Mawson	75.46	200	P		P	16 19 25.3	-0.4
	3.2nm,0.3s,mb4.5,baz=157,slow=8.6,SNR=4.1							

*IDC **27** 16:15:52.4±0.9, 0.27N×97.88E, mb4.2/8, mb1 4.4/9, mb1mx4.0/20, mbtmp4.2/9, ML4.1/1, MS3.2/1, Ms1 3.4/1, ms1mx2.9/16, Error ellipse: s-maj=53.9km s-min=15.6km az=49.0*

*NEIC **27** 16:15:56.5±0.5, 0.24N×97.82E, h30km, mb4.2/2, Error ellipse: s-maj=17.4km s-min=8.3km az=61.0*

ISC 27 16:15:55.2±0.7, 0.29N±0.10×97.9E±0.1, h33km, n17, σ0°77/16, mb4.2/9, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.70	29	eP	P	16 17 20.7	+1.0
CMAR	Chiang Mai Arr	18.09	3	P	P	16 20 05.7	-0.1
	0.2nm,0.3s,baz=193,slow=11,SNR=12						
CMAR				LR	LR	16 26 49.8	
	comp=Z,77nm,19.1s,baz=170,slow=36						
ENH	Enshi	31.80	19	P	P	16 22 18.5	-0.7
FITZ	Fitzroy Crossi	32.87	125	P	P	16 22 28.0	-0.6
	8.1nm,0.6s,mb4.8,baz=255,slow=3.9,SNR=7.1						
WRA	Warramunga Arr	41.00	122	P	P	16 23 36.7	-0.4
	4.7nm,0.9s,mb4.1,baz=301,slow=9.0,SNR=20						
WRAB	Tennant Creek	41.01	121	eP	P	16 23 37.3	+0.1
WB2	Warramunga Arr	41.01	121	⇓iP	P	16 23 37.3	+0.1
ASPA	Alice Springs	42.33	127	⇑iP	P	16 23 48.2	+0.1
ASAR	Alice Springs	42.33	127	P	P	16 23 48.5	+0.4
	5.0nm,0.7s,mb4.2,baz=298,slow=8.2,SNR=80						
STKA	Stephens Creek	52.27	132	eP	P	16 25 05.7	-0.1
	2.7nm,0.9s,mb4.2						
STKA	Stephens Creek	52.27	132	P	P	16 25 06.2	+0.5
	0.7nm,0.4s,mb3.9,baz=335,slow=6.9,SNR=3.7						
ZAL	Zalesovo	54.55	351	P	P	16 25 22.7	+0.4
	1.7nm,0.4s,mb4.4,baz=316,slow=7.0,SNR=8.1						
BVAR	Borovoye Array	57.32	341	P	P	16 25 40.8	-1.6
	0.9nm,0.6s,mb4.0,baz=149,slow=8.6,SNR=5.9						
CHKZ	Chkalovo	57.79	341	eP	P	16 25 44.3	-1.3
	1.8nm,0.8s,mb4.2						
GNI	Garni	62.40	316	P	P	16 26 18.5	+1.2
	2.7nm,0.5s,mb4.6,baz=304,slow=3.6,SNR=3.2						
BRTR	Keskin Array B	70.20	312	P	P	16 27 07.9	+1.0
	0.5nm,0.8s,mb3.5,baz=104,slow=5.5,SNR=2.7						
CPUP	Villa Florida	144.76	221	PKP	PKPdf	16 35 29.5	0.0
	4.0nm,0.8s,baz=110,slow=4.7,SNR=8.7						

PGC 27 16:23:15.7, 49.63N×130.27W, h10km, MLSn2.9/1, Mw3.5, West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.70	71	Pn	Pn	16 23 42.8	-2.8
BPBC				Sn	Sn	16 24 03.7	-3.8
	comp=Z,51nm,0.2s						
BPBC				Trac		16 24 05.1	
	comp=Z,51nm,0.2s						
HOLB	Holberg	1.71	53	Pn	Pn	16 23 43.1	-2.6
HOLB				Sn	Sn	16 24 04.9	-2.8
	comp=Z,14nm,0.3s						
HOLB				Trac		16 24 17.0	
	comp=Z,14nm,0.3s						
PHC	Port Hardy	2.12	58	Pn	Pn	16 23 49.1	-2.5
PHC				Sn	Sn	16 24 13.5	-4.7
PHC				Trac		16 24 18.9	
	comp=Z,14nm,0.7s						
MAYB	Maynard	2.14	68	Pn		16 23 49.7	-2.3
MAYB				Sn	Sn	16 24 14.2	-4.6
	comp=Z,5.0nm,0.2s						
MAYB				Trac		16 24 15.6	
	comp=Z,5.0nm,0.2s						
WOSB	Woss	2.45	76	Pn	Pn	16 23 54.6	-1.7
WOSB				Sn	Sn	16 24 23.6	-3.0
	comp=Z,3.0nm,0.3s						
WOSB				Trac		16 24 30.6	
	comp=Z,3.0nm,0.3s						
NCRB	Newcastle Ridg	2.82	72	Pn	Pn	16 24 00.3	-1.5
NCRB				Sn	Sn	16 24 32.0	-4.1
	comp=Z,11nm,0.6s						
NCRB				Trac		16 24 40.0	
	comp=Z,11nm,0.6s						
BBB	Bella Bella	2.90	27	Pn	Pn	16 24 00.7	-2.1
BBB				Sn	Sn	16 24 33.2	-4.8
BBB				Trac		16 24 33.6	
	comp=Z,21nm,0.2s						
TXB	Texada	3.79	87	Pn	Pn	16 24 15.4	-0.1
TXB				Sn	Sn	16 24 55.0	-5.5
	comp=Z,3.0nm,0.5s						
TXB				Trac		16 25 05.2	
	comp=Z,3.0nm,0.5s						

ISC 27 16:34:26.5±2.1, 41.67N±0.09×41.02E±0.10, h17km±18km, n6, σ0°40/10, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCA	Borcka	0.51	116	PG	Pb	16 34 36.1	-0.4
GUMT	Gumushane	1.68	224	PN	Pn	16 34 55.4	0.0
GUMT				SN	Sn	16 35 15.9	-0.6
EZM	Erzurum	1.78	171	PN	Pn	16 34 57.1	+0.2
ERZM	Erzurum	1.78	171	iP	Pn	16 34 56.7	-0.1
ERZM				iS	Sn	16 35 19.4	+0.2
KELT	Kelkit	2.02	222	iP	Pn	16 35 01.2	+0.9
KELT				iS	Sn	16 35 25.0	-0.3
ONI	Oni	2.02	62	P	Pn	16 35 00.4	+0.1
ONI				S	Sn	16 35 25.2	-0.2

IDC 27 17:19:24.3±12.0, 21.91N×143.13E, h209km±123km, mb3.2/6, mb1 3.4/6, mb1mx3.2/20, mbtmp3.7/6, Error ellipse: s-maj=41.2km s-min=20.5km az=90.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.48	192	P	P	17 26 58.5	-2.2
	0.4nm,0.3s,baz=16,slow=9.4,SNR=22						
ASAR	Alice Springs	46.18	192	P	P	17 27 28.7	-1.3
	0.3nm,0.6s,baz=18,slow=11,SNR=3.6						
ZAL	Zalesovo	54.02	322	P	P	17 28 27.9	-0.8
	0.6nm,0.3s,baz=345,slow=6.9,SNR=3.5						
ILAR	Eielson Array	61.87	27	P	P	17 29 20.8	-2.4
	0.4nm,0.6s,baz=260,slow=5.5,SNR=5.8						
YKA	Yellowknife Ar	76.29	28	P	P	17 30 50.0	-1.2
	0.3nm,0.4s,baz=290,slow=6.0,SNR=4.5						
FINES	FINESS Array B	82.97	334	P	P	17 31 24.7	-2.1
	0.8nm,0.5s,baz=71,slow=5.2,SNR=12						
LPAZ	La Paz	149.97	85	PKPbc	PKPdf	17 38 52.0	+6.7
	0.3nm,0.2s,baz=342,slow=3.2,SNR=3.5						

IDC 27 17:24:39.1±1.2, 6.71N×72.89W, h168km±14km, mb2.9/2, mb1 3.3/4, mb1mx3.1/22, mbtmp3.5/4, Error ellipse: s-maj=39.4km s-min=14.3km az=127.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.34	218	P	P	17 25 19.6	-0.1
	12nm,0.3s,baz=101,slow=20,SNR=37						
ROSC				S	S	17 25 46.0	-4.9
	57nm,0.3s,baz=99,slow=19,SNR=10						
SDV	Santo Domingo	3.11	46	P	P	17 25 29.1	-0.2
	12nm,0.3s,baz=227,slow=2.2,SNR=65						
SDV				S	S	17 26 07.7	0.0
	5.7nm,0.3s,baz=304,slow=18,SNR=12						
PDAR	Pinedale Array	48.30	324	P	P	17 33 04.1	-1.1
	0.3nm,0.8s,baz=140,slow=7.0,SNR=2.5						
YKA	Yellowknife Ar	63.44	340	P	P	17 34 50.2	-2.8
	0.3nm,0.5s,baz=134,slow=6.6,SNR=8.1						
ASAR	Alice Springs	149.23	234	PKPbc	PKPdf	17 44 08.5	+4.5
	0.3nm,0.6s,baz=118,slow=3.2,SNR=7.9						
WRA	Warramunga Arr	150.49	241	PKPbc	PKPdf	17 44 11.5	+5.5
	0.2nm,0.4s,baz=108,slow=2.7,SNR=13						

*NEIC **27** 17:58:23.6±1.8, 5.70S×147.45E, h81km±14km, mb4.7/6, Error ellipse: s-maj=16.0km s-min=9.7km az=176.0*

*IDC **27** 17:58:26.8±2.4, 5.94S×147.48E, h101km±19km, mb4.1/6, mb1 4.1/9, mb1mx4.0/16, mbtmp4.4/9, MS3.4/1, Ms1 3.4/1, ms1mx2.5/25, Error ellipse: s-maj=26.7km s-min=13.0km az=129.0*

ISC 27 17:58:19.8±1.8, 5.66S±0.09×147.48E±0.10, h59km±14km, n24, σ0°97/25, mb4.5/9, MS3.2/1, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	3.74	185	P	P	17 59 18.7	+2.2
	11nm,0.3s,baz=22,slow=5.6,SNR=91						
PMG				S	S	17 59 58.3	-1.4
	44nm,0.3s,baz=10,slow=9.8,SNR=6.2						
HNR	Honiara	12.91	108	P	P	18 01 34.9	+12
	8.4nm,0.3s,baz=135,slow=2.1,SNR=6.8						
CTA	Charters Tower	14.40	185	P	P	18 01 42.9	+0.9
	0.1nm,0.3s,baz=20,slow=12,SNR=3.7						
CTA	Charters Tower	14.40	185	P	P	18 01 42.9	+0.9
KAKA	Kakadu	16.41	244	eP	P	18 02 08.2	+0.3
	62nm,0.5s						
WRAB	Tennant Creek	19.09	221	eP	P	18 02 39.0	-1.5
	24nm,0.6s						
WB2	Warramunga Arr	19.10	221	eP	P	18 02 39.4	-1.2
WRA	Warramunga Arr	19.11	221	P	P	18 02 39.5	-1.2
	3.1nm,0.3s,baz=49,slow=10,SNR=243						
WRA				S	S	18 06 09.8	+1.6
	0.2nm,0.3s,baz=47,slow=20,SNR=4.9						
ASAR	Alice Springs	22.17	215	P	P	18 03 12.8	+0.4
	20nm,0.6s,mb4.8,baz=30,slow=12,SNR=190						
ASAR				S	S	18 07 08.0	+0.2
	5.3nm,0.8s,baz=31,slow=24,SNR=7.7						
ASPA	Alice Springs	22.18	215	eP	P	18 03 12.9	+0.5
ASPA				eS	S	18 07 08.6	+0.8
DZM	Mont Dzumac	24.55	133	P	P	18 03 35.9	+0.4
	17nm,0.9s,mb4.6,baz=9.9,slow=8.5,SNR=6.1						
FITZ	Fitzroy Crossi	24.66	238	⇓iP	P	18 03 37.2	+0.5
	122nm,0.8s,mb5.5						
FITZ	Fitzroy Crossi	24.66	238	P	P	18 03 37.3	+0.6
	124nm,0.4s,mb5.8,baz=56,slow=5.8,SNR=187						
FITZ				LR	LR	18 12 53.1	
	comp=Z,88nm,20.0s,MS3.2,baz=78,slow=35						
STKA	Stephens Creek	26.66	191	eP	P	18 03 54.7	-0.6
	3.1nm,0.8s,mb3.9						
STKA	Stephens Creek	26.66	191	P	P	18 03 54.8	-0.6
	2.6nm,0.7s,mb3.9,baz=357,slow=7.7,SNR=6.9						
MBWA	Marble Bar	31.00	238	eP	P	18 04 33.5	-0.8
	4.2nm,0.5s,mb4.5						
NWAO	Narrogin (SRO)	39.11	222	P	P	18 05 43.0	-0.2
	5.0nm,0.7s,mb4.3,baz=62,slow=15,SNR=4.1						
NWAO	Narrogin (SRO)	39.11	222	P	P	18 05 43.0	-0.2
VNDA	Vanda	72.23	177	P	P	18 09 39.7	-0.5
	1.3nm,0.6s,mb4.0,baz=334,slow=6.6,SNR=11						
QSPA	South Pole Qui	84.31	180	eP	P	18 10 45.9	-0.2
	4.4nm,0.5s,mb4.8						
ILAR	Eielson Array	84.98	23	P	P	18 10 50.4	+0.6
	1.1nm,0.7s,mb4.1,baz=252,slow=4.5,SNR=11						
PLCA	Paso Flores	122.14	146	PKP	PKPdf	18 17 08.5	+0.1
	0.6nm,0.5s,baz=16,slow=3.8,SNR=3.3						
PLCA	Paso Flores	122.14	146	PKP	PKPdf	18 17 08.5	+0.1
SAML	Samuel	146.16	115	ePKPdf	PKPdf	18 17 54.9	+1.3

*NIED **27** 18:17:00, 38.80N×141.60E, h65km, Mw4.8 Best double couple: M₀1.75×10¹⁶ NP1:φ₀4°, δ88°, λ-48°. NP2:φ₀96°, δ42°, λ-177°.*

*IDC **27** 18:17:09.0±3.5, 38.66N×142.13E, h53km±35km, mb3.2/2, mb1 3.6/5, mb1mx3.2/23, mbtmp3.7/5, ML3.5/3, Error ellipse: s-maj=84.6km s-min=20.3km az=104.0*

*JMA **27** 18:17:11.2, 38.84N×141.60E, h73km±1km, M3.6 Broadband fault plane solution: P waves. NP1:φ₀301°, δ40°, λ66°. NP2:φ₀152°, δ54°, λ109°. Principal axes: T Plg73°, Azm114°; N Plg15°, Azm320°; P Plg7°, Azm228°; JMA Felt I J1.*

ISC 27 18:17:09.5±0.7, 38.82N±0.04×141.72E±0.09, h79km±5km, n18, σ0°80/31, mb3.6/2, 5C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.27	352	⇑P	P	18 17 22.5	+0.9
OFUJ				S	S	18 17 30.6	-0.1
JMK	Ichinoseki	0.41	289	⇑P	P	18 17 22.8	+0.3
JMK				S	S	18 17 31.3	-1.0
JIO	Ouri	0.46	219	⇑P	P	18 17 23.7	+0.8
JIO				S	S	18 17 32.6	-0.5
JOM	Ohasama	0.73	333	⇑P	P	18 17 26.2	+0.5
JOM				S	S	18 17 37.2	-0.5
JOU	Okura	0.94	242	⇑P	P	18 17 28.7	+0.7
JOU				S	S	18 17 41.5	-0.4
JYK	Kaneyama	1.06	276	P	P	18 17 29.8	+0.3
JYK				S	S	18 17 44.1	-0.4
JMM	Marumori	1.19	218	⇓P	P	18 17 31.4	+0.2
JMM				S	S	18 17 46.4	-1.1
JYS	Shiratake	1.42	246	⇓P	P	18 17 34.8	+0.5
JYS				S	S	18 17 52.6	0.0
JANG	Nango	1.56	354	⇓P	P	18 17 36.3	+0.2
JANG				eS	S	18 17 55.5	-0.2
JYA	Atsumi	1.58	263	⇓P	P	18 17 36.5	+0.1
JYA				eS	S	18 17 55.5	-0.7
JFK	Kawauchi	1.59	205	⇓P	P	18 17 37.2	+0.7
JFK				S	S	18 17 56.5	+0.1
JAH	Hinai	1.60	329	P	P	18 17 37.6	+0.9
MAT	Matsushiro	3.59	232	P	P	18 18 05.4	+1.2
MAT				eS	S	18 18 49.4	+3.8
MJAR	Matsushiro Arr	3.59	232	P	P	18 18 05.8	+1.6
	5.1nm,0.3s,baz=39,slow=12,SNR=27						
ASAJ	Asahikawa	5.34	7	P	P	18 18 27.1	-1.1
	0.9nm,0.3s,baz=240,slow=9.9,SNR=6.7						
JHJ	Hachijo jima 2	5.90	196	P	P	18 18 33.9	-2.0
	6.6nm,0.3s,baz=354,slow=16,SNR=7.6						
JHJ				S	S	18 19 38.0	-4.9
	7.3nm,0.3s,baz=60,slow=22,SNR=5.9						
WRA	Warramunga Arr	58.85	188	P	P	18 27 01.5	-0.8
	0.4nm,0.4s,mb3.8,baz=5.7,slow=6.8,SNR=14						
ASAR	Alice Springs	62.58	188	P	P	18 27 26.9	-0.6
	0.2nm,0.5s,mb3.3,baz=356,slow=4.8,SNR=6.7						

IDC 27 18:22:40.5±12.0, 4.66N×94.16E, mb3.4/2, mb1 3.7/3, mb1mx3.5/19, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=308.9km s-min=49.9km az=83.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.49	18	Pn	P	18 26 07.2	-1.9
	0.1nm,0.3s,baz=216,slow=12,SNR=5.0						
WRA	Warramunga Arr	46.44	123	P	P	18 31 07.4	-3.8
	0.9nm,0.8s,baz=300,slow=9.1,SNR=4.9						
ASAR	Alice Springs	47.89	128	P	P	18 31 22.2	-0.4
	0.3nm,0.7s,baz=303,slow=7.4,SNR=3.5						

*IDC **27** 18:24:19.9±1.4, 50.33S×112.74E, mb3.9/5, mb1 4.1/5, mb1mx4.0/12, mbtmp3.9/5, MS3.6/7, Ms1 3.6/7, ms1mx3.3/20, Error ellipse: s-maj=58.9km s-min=25.3km az=93.0*

ISC 27 18:24:19.5±1.4, 50.3S±0.1×112.8E±0.6, h10km, n11, σ1°20/5, mb4.0/5, MS3.5/6, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	17.70	12	LR	LR	18 33 20.8	
	comp=Z,260nm,19.3s,baz=235,slow=31						
MAW	Mawson	29.88	216	LR	LR	18 40 07.0	
	comp=Z,108nm,19.4s,MS3.5,baz=261,slow=32						
ASAR	Alice Springs	31.27	39	P	P	18 30 41.4	-0.3
	1.7nm,1.1s,mb3.8,baz=206,slow=8.1,SNR=6.3						
ASAR				LR	LR	18 40 52.0	
	comp=Z,72nm,19.8s,MS3.3,baz=200,slow=32						
VNDA	Vanda	32.78	162	P	P	18 30 54.5	+0.1
	3.2nm,0.8s,mb4.3,baz=304,slow=9.5,SNR=4.6						
VNDA				LR	LR	18 42 39.7	
	comp=Z,105nm,21.5s,MS3.5,baz=293,slow=34						
FITZ	Fitzroy Crossi	33.76	22	P	P	18 31 04.9	+1.6
	3.5nm,0.7s,mb4.4,baz=203,slow=14,SNR=3.5						
FITZ				LR	LR	18 43 38.9	
	comp=Z,139nm,21.7s,MS3.6,baz=271,slow=34						
WRA	Warramunga Arr	34.80	37	P	P	18 31 11.4	-0.9
	1.2nm,0.9s,mb3.8,baz=206,slow=10,SNR=5.6						
PMG	Port Moresby	49.70	47	LR	LR	18 51 33.9	
	comp=Z,55nm,21.2s,MS3.5,baz=72,slow=33						
CMAR	Chiang Mai Arr	69.58	346	P	P	18 35 30.1	-0.5
	1.1nm,0.8s,mb3.8,baz=194,slow=5.7,SNR=5.2						
CMAR				LR	LR	19 02 05.9	
	comp=Z,26nm,19.1s,MS3.5,baz=350,slow=33						
TXAR	Lajitas Array	145.49	114	PKPbc	PKPbc	18 43 59.5	+1.4
	0.1nm,0.3s,baz=194,slow=5.2,SNR=5.8						
PDAR	Pinedale Array	150.22	88	PKPbc	PKPdf	18 44 12.1	+4.3
	1.4nm,1.1s,baz=270,slow=1.5,SNR=5.4						
YKA	Yellowknife Ar	151.79	46	PKPbc	PKPdf	18 44 14.4	+5.0
	0.5nm,0.6s,baz=286,slow=1.9,SNR=6.8						

*NEIC **27** 18:27:29.2, 55.39N×156.23W, h10km, mb4.3/7, ML4.3(AEIC), After AEIC.*

*IDC **27** 18:27:32.9±1.0, 55.52N×156.58W, h27km±4km, mb3.7/10, mb1 4.0/14, mb1mx3.9/23, mbtmp4.0/14, ML4.3/4, MS3.3/6, Ms1 3.3/6, ms1mx2.9/25, Error ellipse: s-maj=20.8km s-min=15.7km az=14.0*

ISC 27 18:27:28.6±1.5, 55.47N±0.06×156.23W±0.06, h21km±12km, h28km±1.1km; pP-P, n100, σ1°22/96, mb4.1/16, MS3.1/3, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAHL	Cahill	2.64	11	P	Pn	18 28 12.7	+1.8
MGLS	Mageik LS	2.79	10	P	Pn	18 28 14.1	+1.0
CNTC	Contact Creek	2.81	4	P	Pn	18 28 15.1	+1.8
KDAK	Kodiak Island	3.07	39	P	Pn	18 28 18.2	+1.2
PVV	Pavlof Volcano	3.17	271	P	Pn	18 28 19.0	+0.5
DOL	Dolgoi Island	3.24	267	P	Pn	18 28 19.8	+0.3
HAG	Hague Volcano	3.24	270	P	Pn	18 28 20.3	+0.8
PN6	Pavlof North-6	3.24	272	P	Pn	18 28 20.9	+1.4
KAHC	Katmai Hardscr	3.25	11	P	Pn	18 28 21.2	+1.5
KAPH	Katmai Pasha	3.30	17	P	Pn	18 28 22.1	+1.8
BLHA	Black Hill	3.32	276	P	Pn	18 28 21.3	+0.6
DTNA	Dutton South F	3.46	267	P	Pn	18 28 23.0	+0.4
DRIA	Deer Island	3.50	264	P	Pn	18 28 23.4	+0.3
SYI	Shuyak Island	3.78	32	P	Pn	18 28 28.4	+1.2
MCNL	McNeil River	3.86	15	P	Pn	18 28 29.3	+1.0
AUI	Augustine Isla	4.16	20	P	Pn	18 28 33.9	+1.3
FALS	False Pass	4.17	264	P	Pn	18 28 33.1	+0.4
AUE	Augustine Isla	4.19	20	P	Pn	18 28 34.1	+1.0
OPT	Oil Point	4.49	20	P	Pn	18 28 38.6	+1.3
CNPM	China Poot	4.87	31	P	Pn	18 28 43.5	+0.8
ILW	Iliamna West	4.89	19	P	Pn	18 28 43.9	+1.0
INE	Iliamna NE	4.90	19	P	Pn	18 28 44.2	+1.1
ILIM	Iliamna	4.94	19	P	Pn	18 28 44.5	+0.9
BRLK	Bradley Lake	5.17	32	P	Pn	18 28 47.0	+0.2
RDN	Redoubt North	5.38	19	P	Pn	18 28 50.9	+1.0
NCT	North Crescent	5.39	18	P	Pn	18 28 50.9	+0.9
DFR	Drift River	5.47	19	P	Pn	18 28 51.7	+0.6
SVW2	Sparrevohn	5.65	3	P	Pn	18 28 53.5	-0.2
SEW	Seward	5.89	35	P	Pn	18 28 56.1	-0.9
SLKM	Skilak Lake	5.97	30	P	Pn	18 28 57.6	-0.6
CKL	Chakachamna La	6.09	18	P	Pn	18 29 00.3	+0.4
SPU	Mount Spurr	6.13	19	P	Pn	18 29 00.6	+0.2
UNV	Unalaska Valle	6.18	259	P	Pn	18 28 59.8	-1.3
MPA	Moose Pass	6.21	33	P	Pn	18 29 01.1	-0.5
MNAT	Makushin Natee	6.27	260	P	Pn	18 29 01.1	-1.3
STLK	Strandline Lak	6.47	19	P	Pn	18 29 05.5	+0.4
FIB	Fire Island	6.54	27	P	Pn	18 29 06.4	+0.3
PWA	Palmer West	7.03	26	eP	Pn	18 29 13.1	+0.1
HIN	Hinchinbrook I	7.15	42	P	Pn	18 29 13.7	-1.1
PMR	Palmer	7.17	28	eP	Pn	18 29 14.6	-0.4
GHO	Glory Hole Cre	7.37	28	P	Pn	18 29 16.6	-1.3
TT01	Tatalina	7.46	1	P	Pn	18 29 18.4	-0.7
EYAK	Cordova Ski Ar	7.54	43	P	Pn	18 29 18.8	-1.4
SML	Sawmill	7.57	30	P	Pn	18 29 19.1	-1.5
SCM	Sheep Creek Mo	7.88	32	P	Pn	18 29 23.8	-1.2
DIV	Divide	7.90	40	P	Pn	18 29 24.4	-0.8
KTH	Kantishna Hill	8.54	16	P	P	18 29 32.4	-1.8
TRF	Thorofare Moun	8.55	18	P	P	18 29 32.4	-1.9
GLB	Gilahina Butte	8.83	42	P	P	18 29 36.7	-1.5
MCK	McKinley	9.06	21	eP	P	18 29 40.7	-0.7
BALM	Baldy	9.19	47	P	P	18 29 41.8	-1.3
PAX	Paxson	9.31	32	P	P	18 29 44.1	-0.7
THY	Trims Highway	9.57	29	eP	P	18 29 47.8	-0.4
ILAR	Eielson Array	10.41	23	Pn	P	18 29 56.4	-3.4
	0.8nm,0.3s,baz=217,slow=14,SNR=28						
ILAR				Sn	S	18 31 47.2	-10
	0.5nm,0.3s,baz=227,slow=37,SNR=3.4						
IL1	Eielson Array	10.41	23	P	P	18 29 56.4	-3.3
BCA3	Beaver Creek A	10.59	38	P	P	18 30 01.8	-0.4
IM3	Indian Mountai	10.62	6	P	P	18 30 01.6	-1.0
IMA	Indian Mountai	10.70	6	eP	P	18 30 03.4	-0.3
TNA	Tin City	11.62	335	P	P	18 30 15.2	-1.0
SIT	Sitka	11.72	74	P	P	18 30 15.7	-1.9
DAWY	Dawson	12.05	38	P	P	18 30 21.3	-0.7
COLD	Coldfoot	12.13	11	P	P	18 30 21.0	-2.2
BM3	Burnt Mountain	13.18	20	P	P	18 30 33.5	-3.5
DLBC	Dease Lake	14.56	67	Pn	P	18 30 57.9	+2.8
	0.5nm,0.3s,baz=250,slow=12,SNR=8.4						
DLBC				LR	LR	18 35 48.2	
	comp=Z,108nm,18.9s,baz=214,slow=34						
INK	Inuvik	16.58	30	Pn	P	18 31 21.4	+0.3
	1.5nm,0.3s,baz=221,slow=14,SNR=29						
INK				Sn	S	18 34 33.8	+10
	0.1nm,0.3s,baz=21,slow=26,SNR=7.1						
INK				LR	LR	18 38 31.7	
	comp=Z,157nm,18.1s,baz=316,slow=40						
INK	Inuvik	16.58	30	eP	P	18 31 20.7	-0.4
	7.0nm,0.6s						
BBB	Bella Bella	16.87	90	LR	LR	18 37 41.1	
	comp=Z,121nm,20.2s,baz=333,slow=36						
FX1	Attu Island--F	18.03	274	P	P	18 31 37.8	-1.5
	2.7nm,0.3s,baz=74,slow=12,SNR=9.0						
FX1	Attu Island--F	18.03	274	P	P	18 31 38.2	-1.2
BILL	Bilibino	21.31	321	eP	P	18 32 14.7	-1.3
	7.9nm,0.8s,mb4.1						
YKW3	Yellowknife Ar	22.22	54	eP	P	18 32 25.8	+0.8
YKA	Yellowknife Ar	22.22	55	P	P	18 32 26.7	+1.6
	0.9nm,0.6s,mb3.4,baz=271,slow=11,SNR=9

0.8nm,0.5s,baz=24,slow=4.0,SNR=4.4
ESDC Sonseca Array 82.31 21 pP pP 18 40 00.7 +4.5
0.6nm,0.5s,baz=341,slow=4.6,SNR=3.3
CMAR Chiang Mai Arr 83.09 292 P **P** **18 39 54.9 +0.9**
1.0nm,0.6s,mb4.0,baz=12,slow=5.1,SNR=7.4
MATP Matopo 144.83 352 pPKP 18 47 15.1
2.4nm,0.7s,baz=340,slow=1.7,SNR=3.8

NIED ***27*** *18:43:00,33.70N×130.30E,h8km,Mw3.4 Best double couple: Mo1.61×10¹⁴ NP1:φs238°,δ86°,λ167°. NP2: φs328°,δ77°,λ4°.*
JMA 27 18:43:17.6,33.67N×130.30E,h13km,M3.8,2C-2D Broadband fault plane solution: P waves. NP1:φs329°, δ85°,λ-1°. NP2:φs59°,δ89°,λ-175°. Principal axes: T Plg3°, Azm194°; N Plg85°, Azm67°; P Plg4°, Azm284°; Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.25**	**163**	⇑P	Pg	18 43 23.0	-0.2
JFI				S	Sg	18 43 26.6	-0.3
JFA	**Akaike**	**0.41**	**84**	⇓P	Pg	18 43 25.8	-0.4
JFA				S	Sg	18 43 31.5	-0.5
JII	**Iki**	**0.49**	**285**	⇓P	Pb	18 43 27.3	-0.2
JII				S	Sb	18 43 34.2	-0.1
JTA	**Tamana**	**0.73**	**164**	⇑P	Pb	18 43 31.4	-0.3
JTA				S	Sb	18 43 40.9	-0.4

IDC ***27*** *19:15:40.6±2.2,39.61N×141.24E,h120km±20km,mb3.6/8, mb1 3.7/10,mb1mx3.4/25,mbtmp3.9/10 Error ellipse: s-maj=32.8km s-min=20.4km az=150.0*
NEIC ***27*** *19:15:40.6±3.0,39.63N×141.24E,h119km±44km,mb4.2/1, Error ellipse: s-maj=51.1km s-min=17.5km az=185.0*
JMA ***27*** *19:15:40.4±0.1,39.54N×141.28E,h120km±1km,M3.8 Broadband fault plane solution: P waves. NP1:φs60°,δ45°, λ118°. NP2:φs202°,δ51°,λ64°. Principal axes: T Plg70°, Azm49°; N Plg20°, Azm219°; P Plg3°, Azm310°;*
JMA Felt I J1.
ISC 27 19:15:39.3±0.4,39.55N±0.03×141.31E±0.08,h125km±3km, n27,σ0§65/41,mb3.9/8,8C-2D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOM	**Ohasama**	**0.08**	**190**	⇑P	**P**	**19 15 56.7**	**+0.3**
JOM				S	**S**	**19 16 09.2**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.39**	**86**	P	**P**	**19 15 58.2**	**+0.8**
MIYJ				*e*S	**S**	**19 16 10.9**	**-0.1**
JMK	**Ichinoseki**	**0.60**	**187**	⇑P	**P**	**19 15 58.8**	**+0.2**
JMK				*e*S	**S**	**19 16 12.7**	**-0.6**
JAH	**Hinai**	**0.82**	**321**	⇑P	**P**	**19 16 00.9**	**+0.6**
JAH				S	**S**	**19 16 16.3**	**+0.1**
JANG	**Nango**	**0.83**	**11**	⇓P	**P**	**19 16 00.7**	**+0.3**
JANG				S	**S**	**19 16 15.7**	**-0.7**
JYK	**Kaneyama**	**0.97**	**230**	⇑P	**P**	**19 16 02.2**	**+0.4**
JYK				S	**S**	**19 16 19.0**	**+0.3**
JIO	**Ouri**	**1.10**	**178**	⇑P	**P**	**19 16 03.0**	**0.0**
JIO				S	**S**	**19 16 19.8**	**-1.0**
JTM	**Tenmabayashi**	**1.25**	**351**	⇓P	**P**	**19 16 04.7**	**+0.1**
JTM				S	**S**	**19 16 23.4**	**-0.3**
JOU	**Okura**	**1.29**	**203**	⇑P	**P**	**19 16 05.5**	**+0.4**
JOU				S	**S**	**19 16 25.6**	**+1.1**
JMM	**Marumori**	**1.73**	**194**	⇑P	**P**	**19 16 09.9**	**-0.3**
JMM				S	**S**	**19 16 32.8**	**-0.8**
JOT	**Ohata**	**1.84**	**354**	P	**P**	**19 16 11.7**	**+0.3**
JOT				*e*S	**S**	**19 16 36.4**	**+0.6**
JAW	**Awa shima**	**1.94**	**236**	⇑P	**P**	**19 16 13.0**	**+0.3**
JAW				*e*S	**S**	**19 16 37.6**	**-0.5**
MJAR	**Matsushiro Arr**	**3.88**	**220**	P	**P**	**19 16 38.6**	**+0.3**
0.8nm,0.3s,baz=27,slow=14,SNR=11							
MJAR				S	**S**	**19 17 14.2**	**-9.3**
1.0nm,0.3s,baz=36,slow=14,SNR=4.4							
MAT	**Matsushiro**	**3.88**	**220**	*e*P	**P**	**19 16 39.0**	**+0.7**
MAT	**Matsushiro**	**3.88**	**220**	P	**P**	**19 16 38.4**	**+0.1**
MAT				*e*S	**S**	**19 17 19.5**	**-4.0**
ASAJ	**Asahikawa**	**4.66**	**11**	P	**P**	**19 16 47.9**	**-1.0**
1.6nm,0.3s,baz=236,slow=7.3,SNR=12							
JHJ	**Hachijo jima 2**	**6.54**	**191**	S	**S**	**19 18 20.1**	**-7.8**
23nm,0.3s,baz=272,slow=23,SNR=9.3							
ZAL	**Zalesovo**	**40.21**	**310**	P	**P**	**19 23 05.1**	**+0.5**
1.0nm,0.4s,mb4.0,baz=17,slow=11,SNR=6.1							
ILAR	**Eielson Array**	**47.43**	**34**	P	**P**	**19 24 02.3**	**-0.1**
1.1nm,0.7s,mb3.7,baz=272,slow=6.3,SNR=12							
BVAR	**Borovoye Array**	**48.85**	**311**	P	**P**	**19 24 12.9**	**-0.6**
0.5nm,0.5s,mb3.7,baz=76,slow=8.5,SNR=5.4							
BVAR				PcP	PcP	19 25 35.8	-0.8
0.3nm,0.4s,baz=63,slow=3.2,SNR=3.2							
INK	**Inuvik**	**52.20**	**28**	P	**P**	**19 24 38.8**	**+0.1**
1.4nm,0.4s,mb4.4,baz=291,slow=6.3,SNR=12							
INK	**Inuvik**	**52.20**	**28**	*e*P	**P**	**19 24 38.3**	**-0.4**
1.5nm,0.5s,mb4.3							
ARCES	**ARCESS Array B**	**61.62**	**339**	P	**P**	**19 25 44.9**	**-0.4**
4.4nm,0.9s,mb4.5,baz=58,slow=12,SNR=3.0							
FINES	**FINESS Array B**	**66.56**	**332**	P	**P**	**19 26 16.0**	**-1.5**
0.6nm,0.5s,mb3.7,baz=39,slow=12,SNR=5.2							
HFS	**Hagfors**	**71.77**	**335**	P	**P**	**19 26 48.4**	**-0.8**
1.0nm,0.3s,mb4.1,baz=45,slow=7.1,SNR=13							
PDAR	**Pinedale Array**	**75.97**	**46**	P	**P**	**19 27 14.5**	**+0.8**
0.4nm,0.5s,mb3.4,baz=288,slow=3.5,SNR=6.0							
PV01	**Paradox Valley**	**79.61**	**49**	*e*P	**P**	**19 27 35.5**	**+1.6**

DJA 27 19:27:43.1±0.9,10.22S×114.88E,h33km,MD5.2/3, ML3.7/4,6C-3D,Error ellipse: s-maj=18.4km s-min=10.5km az=8.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.62**	**23**	⇑*i*Pn	Pn	19 28 07.8	-2.1
99nm,0.2s							
RATI	**Rata**	**1.62**	**23**	⇓*i*P	P	19 28 08.9	-0.8
RATI				⇑*i*Sn	Sn	19 28 26.2	-3.6
SRDI	**Scrawed**	**1.88**	**337**	⇓*i*Pn	Pn	19 28 12.0	-1.5
70nm,0.2s							
SRDI				⇑*i*Sn	Sn	19 28 33.2	-3.1
KELI	**Kelakatan**	**2.03**	**349**	⇑*i*Pn	Pn	19 28 14.8	-0.9
38nm,0.2s							
KELI				⇓*i*Sn	Sn	19 28 37.0	-3.2
KEDI	**Kedomdong**	**2.11**	**35**	⇑*i*Pn	Pn	19 28 15.9	-1.0
26nm,0.3s							
KEDI				⇑*i*Sn	Sn	19 28 39.9	-2.3

WEL 27 20:01:12.5±0.3,35.61S×177.58E,h225km±8km,ML3.5/4, 1D,Error ellipse: s-maj=15.7km s-min=6.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.04**	**164**	PN	P	20 01 53.3	-0.3
MXZ				SN	S	20 02 25.2	-0.2
URZ	**Urewera**	**2.67**	**188**	⇓PN	P	20 02 00.2	-0.1
URZ				SN	S	20 02 36.2	-1.1
MWZ	**Matawai**	**2.72**	**181**	PN	P	20 02 00.8	0.0
MWZ				SN	S	20 02 37.4	-0.9
BFZ	**Birch Farm**	**5.17**	**191**	PN	P	20 02 29.8	-0.6
BFZ				SN	S	20 03 29.8	-1.1

MAN 27 20:28:40.8,16.30N×120.59E,h1km,mb4.6,ML3.5,MS3.4, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.08**	**355**	⇑*i*P	Pg	20 28 43.9	+1.6
BCPH				*i*S	Sg	20 28 46.2	+2.8
BOLP	**Bolinao**	**0.65**	**277**	*e*P	Pg	20 28 53.9	0.0
SCZP	**Santa Cruz**	**0.84**	**231**	*e*P	Pg	20 28 57.2	-0.3
PCPH	**Palayan**	**0.88**	**146**	⇓*e*P	Pg	20 28 57.6	-0.8
PCPH				*e*S	Sg	20 29 11.0	+0.8
ABRA	**Dolores**	**1.34**	**5**	*e*P	Pb	20 29 02.6	-3.8
CAUP	**Cauayan**	**1.34**	**62**	*e*P	Pb	20 29 05.8	-0.7
APYP	**Conner**	**1.67**	**22**	*e*P	Pn	20 29 09.8	-1.6
APYP				*e*S	Sb	20 29 30.1	-3.4
CVP	**Callao Caves**	**1.82**	**40**	*e*P	Pn	20 29 12.0	-1.6
POLP	**Polilio Island**	**2.04**	**140**	*e*P	Pn	20 29 17.6	+1.0
TGY	**Tagaytay City**	**2.21**	**171**	*e*P	Pn	20 29 32.5	+13

IDC ***27*** *20:33:52.5±10.0,16.43N×121.25E,mb3.6/3,mb1 4.0/3, mb1mx3.6/18,mbtmp3.7/3,Error ellipse: s-maj=294.7km s-min=30.6km az=35.0*
MAN ***27*** *20:33:58.3,16.09N×119.96E,h2km,mb4.4,ML3.2,MS3.0 MAN Baguio City Intensity I.*
ISC 27 20:33:57.6±1.7,16.11N±0.07×119.8E±0.1,h24km±10km, n11,σ1§07/15,mb3.6/2,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.34**	**162**	*e*P	**Pb**	**20 34 05.2**	**-0.1**
BCPH	**Baguio City Da**	**0.80**	**70**	⇑*i*P	**Pb**	**20 34 12.6**	**-0.1**
BCPH				*e*S	**Sb**	**20 34 22.9**	**-0.2**
PCPH	**Palayan**	**1.36**	**113**	*e*P	**Pn**	**20 34 20.5**	**-0.9**
PCPH				*e*S	**Sn**	**20 34 38.5**	**-0.3**
CAUP	**Cauayan**	**2.11**	**66**	*e*P	**Pn**	**20 34 34.6**	**+2.4**
APYP	**Conner**	**2.23**	**38**	*e*P	**Pn**	**20 34 32.4**	**-1.5**
APYP				*e*S	**Sn**	**20 35 00.2**	**-0.7**
TGY	**Tagaytay City**	**2.27**	**151**	*e*P	**Pn**	**20 34 40.3**	**+5.7**
CVP	**Callao Caves**	**2.50**	**50**	*e*P	**Pn**	**20 34 38.0**	**+0.2**
CVP				*e*S	**Sn**	**20 35 12.0**	**+4.1**
PALP	**Palanan**	**2.69**	**69**	*e*P	**Pn**	**20 34 42.1**	**+1.6**
CMAR	**Chiang Mai Arr**	**20.06**	**280**	P	**P**	**20 38 41.7**	**+9.4**
1.6nm,0.7s,baz=90,slow=7.7,SNR=10							
WRA	**Warramunga Arr**	**38.56**	**158**	P	**P**	**20 41 15.5**	**-5.2**
0.6nm,0.5s,mb3.5,baz=341,slow=8.8,SNR=7.9							
ASAR	**Alice Springs**	**41.86**	**160**	P	**P**	**20 41 43.4**	**-4.5**
0.8nm,0.5s,mb3.6,baz=338,slow=7.0,SNR=15							

IDC 27 20:37:37.9±4.9,11.62N×92.72E,mb3.4/2,mb1 3.8/3, mb1mx3.5/19,mbtmp3.5/3,ML3.9/1,Error ellipse: s-maj=103.2km s-min=43.7km az=95.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.08**	**41**	Pn	P	20 39 49.9	-3.3
0.3nm,0.3s,baz=235,slow=14,SNR=19							
WRA	**Warramunga Arr**	**51.60**	**127**	P	P	20 46 46.1	-2.5
1.0nm,1.2s,baz=302,slow=9.2,SNR=2.8							
ASAR	**Alice Springs**	**53.40**	**131**	P	P	20 47 00.3	-1.7
0.4nm,0.9s,baz=306,slow=7.0,SNR=4.5							

ATH ***27*** *20:53:47.2,40.81N×23.60E,h26km±7km,MD3.2/3*
CSEM ***27*** *20:53:47.9±0.1,40.77N×23.73E,h2km,ML2.0,Error ellipse: s-maj=2.3km s-min=2.0km az=119.0*
THE ***27*** *20:53:48.0,40.77N×23.69E,h10km,ML2.0*
ISC 27 20:53:47.6±0.7,40.77N±0.03×23.68E±0.05,h10km±7km, n9,σ0§66/17,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.36**	**349**	*e*Pg	**Pg**	**20 53 54.8**	**-0.1**
SRS				*e*Sg	**Sg**	**20 53 59.9**	**+0.1**
PLG	**Polygyros**	**0.43**	**205**	*e*PB	**Pb**	**20 53 56.8**	**-0.1**
PLG				*e*SB	**Sb**	**20 54 02.9**	**-0.2**
OUR	**Ouranopolis**	**0.49**	**152**	*e*Pg	**Pg**	**20 53 57.2**	**-0.3**
comp=Z,6.5nm,0.2s							
OUR				*e*Sg	**Sg**	**20 54 04.4**	**+0.2**
THE	**Thessaloniki**	**0.56**	**256**	*e*Pg	**Pg**	**20 53 58.9**	**0.0**
THE				*e*Sg	**Sg**	**20 54 07.0**	**+0.6**
THE	**Thessaloniki**	**0.56**	**256**	*e*Pg	**Pg**	**20 53 58.7**	**-0.2**
THE				*e*Sg	**Sg**	**20 54 06.6**	**+0.1**
THE	**Thessaloniki**	**0.56**	**256**	*e*Pg	**Pg**	**20 53 58.7**	**-0.2**
THE				*e*Sg	**Sg**	**20 54 06.6**	**+0.1**
NVR	**Nevrokopi**	**0.60**	**13**	*e*PN	**Pn**	**20 53 58.8**	**-3.1**
GRG	**Griva**	**0.99**	**281**	*e*Pg	**Pg**	**20 54 07.0**	**-0.5**
GRG				*e*Sg	**Sg**	**20 54 21.4**	**+0.8**
RDO	**Rodhopi**	**1.46**	**74**	*e*PN	**Pn**	**20 54 14.4**	**+0.2**
RDO				*e*SN	**Sn**	**20 54 34.3**	**+0.8**

MAN 27 20:54:05.8,6.57N×123.85E,h33km,mb3.7,ML2.4,MS1.9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**1.35**	**340**	*e*P	P	20 54 29.4	+0.7
PAGZ				*e*S	S	20 54 45.5	-0.1
IPIL	**Ipil**	**1.76**	**314**	*e*P	P	20 54 34.8	+0.4
IPIL				*e*S	S	20 54 54.4	-1.4
BUKP	**Musuan**	**1.77**	**43**	*i*P	P	20 54 40.9	+6.3
MATI	**Mati**	**2.42**	**81**	*e*P	P	20 54 43.6	-0.2

IDC ***27*** *21:52:38.8±0.6,53.67N×161.08E,mb3.9/18,mb1 4.2/19, mb1mx4.1/24,mbtmp4.0/19,ML4.0/1,MS3.6/1,Ms1 3.5/1, ms1mx2.4/28,Error ellipse: s-maj=18.2km s-min=12.1km az=175.0*
NEIC ***27*** *21:52:41.4±4.5,53.63N×161.21E,h17km±29km,mb4.5/2, Error ellipse: s-maj=13.7km s-min=7.5km az=156.0*
MOS ***27*** *21:52:42.5±0.9,53.52N×161.40E,h43km,mb4.9/2,Error ellipse: s-maj=14.6km s-min=8.1km az=80.2*
KRSC ***27*** *21:52:43.1±1.5,53.53N×161.32E,h30km±6km,ML4.5*
ISC 27 21:52:42.5±0.5,53.46N±0.03×161.48E±0.06,h43km±5km, n72,σ0§97/108,mb4.0/20,MS3.6/1,1C,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.94**	**248**	*e*P	**P**	**21 52 59.4**	**-0.1**
SPN				*e*S	**S**	**21 53 10.3**	**-1.8**
MKZ	**Mys Kozlova**	**1.11**	**8**	P	**P**	**21 53 00.8**	**-1.1**
MKZ				S	**S**	**21 53 13.2**	**-3.1**
MKZ	**Mys Kozlova**	**1.11**	**8**	*e*P	**P**	**21 53 00.7**	**-1.2**
MKZ				*e*S	**S**	**21 53 14.1**	**-2.2**
NLC	**Nalytchevo**	**1.31**	**258**	P	**P**	**21 53 04.3**	**-0.5**
NLC				S	**S**	**21 53 19.6**	**-1.8**
NLC	**Nalytchevo**	**1.31**	**258**	*e*P	**P**	**21 53 04.4**	**-0.4**
NLC				*e*S	**S**	**21 53 19.9**	**-1.5**
KII	**Karymskiy**	**1.34**	**297**	P	**P**	**21 53 03.8**	**-1.4**
KII				S	**S**	**21 53 18.3**	**-3.7**
KII	**Karymskiy**	**1.34**	**297**	*i*P	**P**	**21 53 03.7**	**-1.5**
KII				*e*S	**S**	**21 53 18.3**	**-3.7**
SDLR	**Sedlovina**	**1.56**	**264**	*i*P	**P**	**21 53 08.4**	**0.0**
SDLR				*e*S	**S**	**21 53 27.5**	**-0.1**
UGLR	**Uglovaya**	**1.61**	**262**	*i*P	**P**	**21 53 09.3**	**+0.3**
UGLR				*e*S	**S**	**21 53 28.8**	**0.0**
SMAR	**Somma**	**1.62**	**264**	*e*P	**P**	**21 53 09.2**	**+0.1**
SMAR				*e*S	**S**	**21 53 28.7**	**-0.2**
AVH	**Avacha**	**1.65**	**264**	*i*P	**P**	**21 53 09.9**	**+0.3**
AVH				*e*S	**S**	**21 53 30.2**	**+0.4**
KOK	**Koryaka**	**1.71**	**266**	*i*P	**P**	**21 53 10.5**	**+0.1**
KOK				*e*S	**S**	**21 53 30.6**	**-0.6**
PET	**Petropavlovsk**	**1.75**	**257**	P	**P**	**21 53 11.3**	**+0.3**
PET				S	**S**	**21 53 31.5**	**-0.8**
PET	**Petropavlovsk**	**1.75**	**257**	*e*PN	**P**	**21 53 10.9**	**-0.1**
PET				*e*S	**S**	**21 53 31.9**	**-0.4**
PET				pmax	pmax		
comp=Z,39nm,0.3s							
PET				smax			
comp=N,800nm,0.6s							
PET				smax			
comp=N,1μm,0.6s							
PET				smax			
comp=E,689nm,0.5s							
PET	**Petropavlovsk**	**1.75**	**257**	*e*P	**P**	**21 53 10.4**	**-0.6**
PET	**Petropavlovsk**	**1.75**	**257**	*e*P	**P**	**21 53 11.1**	**+0.1**
PET				*e*S	**S**	**21 53 31.2**	**-1.1**
TUMR	**Tumrok**	**1.99**	**337**	*i*P	**P**	**21 53 14.4**	**0.0**
TUMR				*e*S	**S**	**21 53 38.1**	**-0.1**
RUS	**Russkaya**	**2.07**	**241**	P	**P**	**21 53 15.6**	**+0.1**
RUS				S	**S**	**21 53 39.7**	**-0.4**
RUS	**Russkaya**	**2.07**	**241**	*e*P	**P**	**21 53 15.5**	**0.0**
RUS				*e*S	**S**	**21 53 39.7**	**-0.4**
KRMR	**Karymshinskiy**	**2.11**	**254**	*e*P	**P**	**21 53 16.5**	**+0.4**
KRMR				*e*S	**S**	**21 53 40.4**	**-0.9**
GNL	**Ganaly**	**2.12**	**278**	*e*P	**P**	**21 53 16.6**	**+0.3**
GNL				*e*S	**S**	**21 53 42.6**	**+1.1**
GRL	**Gorelyy**	**2.25**	**248**	*e*P	**P**	**21 53 18.9**	**+0.8**
GRL				*e*S	**S**	**21 53 46.0**	**+1.2**
KMNR	**Kamenistaya**	**2.41**	**343**	*i*P	**P**	**21 53 21.3**	**+0.8**
KMNR				*e*S	**S**	**21 53 49.9**	**+0.9**
ZLN	**Zelenaya**	**2.59**	**352**	*i*P	**P**	**21 53 23.8**	**+0.7**
ZLN				*e*S	**S**	**21 53 55.1**	**+1.5**
KPT	**Kopyto**	**2.62**	**344**	*e*P	**P**	**21 53 23.7**	**+0.3**
APC	**Apacha**	**2.65**	**260**	*e*P	**P**	**21 53 25.0**	**+1.1**
APC				*e*S	**S**	**21 53 56.7**	**+1.6**
APC				Smax			
comp=E,270nm,0.6s							
LGNR	**Loginova**	**2.67**	**350**	*i*P	**P**	**21 53 25.2**	**+1.1**
LGNR				*e*S	**S**	**21 53 57.8**	**+2.3**
CIRR	**Tsirk**	**2.70**	**351**	*i*P	**P**	**21 53 25.3**	**+0.8**
CIRR				*e*S	**S**	**21 53 56.8**	**+0.6**
KOZ	**Kozyrevsk**	**2.77**	**341**	P	**P**	**21 53 26.2**	**+0.7**
KOZ				S	**S**	**21 53 58.1**	**+0.1**
KOZ	**Kozyrevsk**	**2.77**	**341**	*e*P	**P**	**21 53 26.2**	**+0.7**
KOZ				*e*S	**S**	**21 53 58.0**	**0.0**
KOZR	**Kozyr**	**2.77**	**341**	PN	**P**	**21 53 26.2**	**+0.6**
KOZR				S	**S**	**21 53 58.1**	**+0.1**
KRSR	**Krestovskiy**	**2.82**	**350**	*i*P	**P**	**21 53 26.5**	**+0.3**
KBTR	**Krutoberegovo**	**2.86**	**15**	P	**P**	**21 53 26.5**	**-0.4**
KBTR				S	**S**	**21 53 58.7**	**-1.7**
KBTR	**Krutoberegovo**	**2.86**	**15**	*e*P	**P**	**21 53 26.3**	**-0.6**
KLY	**Klyuchi**	**2.90**	**351**	P	**P**	**21 53 27.5**	**+0.1**
KLY				S	**S**	**21 53 59.6**	**-1.8**
KLY	**Klyuchi**	**2.90**	**351**	*e*P	**P**	**21 53 27.5**	**+0.1**
KLY				*e*S	**S**	**21 53 59.5**	**-1.9**
ESO	**Esso**	**2.95**	**328**	*e*P	**P**	**21 53 27.8**	**-0.3**
ESO				*e*S	**S**	**21 53 58.4**	**-4.3**
ESO				Smax			
comp=E,180nm,0.9s							
SRDR	**Sredinnyy**	**3.04**	**341**	*e*P	**P**	**21 53 29.1**	**-0.3**
BKI	**Bering**	**3.16**	**55**	*e*P	**P**	**21 53 30.8**	**-0.3**
BKI				*i*S	**S**	**21 54 04.3**	**-3.6**
BKI				Smax			
comp=E,370nm,0.2s							
PAU	**Pauzhetka**	**3.48**	**237**	*e*P	**P**	**21 53 38.5**	**+2.9**
PAU				Smax			
comp=E,300nm,1.0s							
PAU	**Pauzhetka**	**3.48**	**237**	*e*P	**P**	**21 53 37.9**	**+2.3**
PAU				*e*S	**S**	**21 54 16.0**	**-0.1**
PAU				Smax			
comp=E,230nm,1.1s							
SKR	**Severo-Kuril's**	**4.32**	**232**	*e*PN	**P**	**21 53 55.5**	**+8.0**
SKR				*e*S	**S**	**21 54 36.5**	**-0.7**
SKR				pmax	pmax		
comp=Z,80nm,0.6s							
SKR				smax			
comp=N,160nm,0.6s							
SKR				smax			
comp=E,110nm,0.6s							
SKR				smax			
comp=Z,80nm,0.6s							
FX1	**Attu Island--F**	**7.05**	**90**	Pn	**P**	**21 54 25.7**	**-0.1**
comp=Z,9.4nm,0.3s,baz=311,slow=3.3,SNR=78							
FX1				Sn	**S**	**21 55 39.1**	**-6.4**
comp=Z,21nm,0.3s,baz=147,slow=20,SNR=13							
FX1	**Attu Island--F**	**7.05**	**90**	*e*P	**P**	**21 54 25.1**	**-0.7**
MJAR	**Matsushiro Arr**	**23.43**	**233**	P	**P**	**21 57 48.7**	**+0.4**
comp=Z,2.0nm,0.6s,mb3.7,baz=27,slow=9.7,SNR=6.5							
IMA	**Indian Mountai**	**25.21**	**42**	P	**P**	**21 58 05.7**	**+0.4**
ILAR	**Eielson Array**	**27.97**	**46**	P	**P**	**21 58 30.2**	**-0.5**
comp=Z,0.9nm,0.8s,mb3.5,baz=264,slow=8.6,SNR=9.9							
INK	**Inuvik**	**33.07**	**38**	P	**P**	**21 59 15.5**	**-0.2**
comp=Z,1.0nm,0.5s,mb4.0,baz=298,slow=4.5,SNR=8.9							
YKA	**Yellowknife Ar**	**42.33**	**43**	P	**P**	**22 00 32.9**	**-0.3**
comp=Z,0.4nm,0.5s,mb3.3,baz=299,slow=8.4,SNR=4.6							
BVAR	**Borovoye Array**	**50.81**	**309**	P	**P**	**22 01 36.5**	**-3.7**
comp=Z,0.6nm,0.4s,mb3.9,baz=56,slow=5.9,SNR=5.3							
ARCES	**ARCESS Array B**	**53.20**	**342**	P	**P**	**22 01 55.9**	**-2.0**
comp=Z,2.7nm,0.9s,mb4.2,baz=44,slow=9.1,SNR=7.0							
SUMG	**Summit**	**53.50**	**7**	*e*P	**P**	**22 02 00.7**	**+0.6**
comp=Z,8.2nm,1.0s,mb4.6							
NVAR	**Mina Array Bea**	**54.84**	**71**	P	**P**	**22 02 11.9**	**+1.5**
comp=Z,0.6nm,0.6s,mb3.8,baz=289,slow=9.5,SNR=5.3							
PDAR	**Pinedale Array**	**56.62**	**62**	P	**P**	**22 02 24.7**	**+1.6**
comp=Z,0.6nm,0.7s,mb3.7,baz=333,slow=3.3,SNR=5.9							
ULM	**Lac du Bonnet**	**57.96**	**48**	LR	LR	22 27 41.0	
comp=Z,48nm,18.6s,MS3.6,baz=14,slow=36							
CMAR	**Chiang Mai Arr**	**59.07**	**259**	P	**P**	**22 02 41.0**	**+0.4**
comp=Z,3.4nm,0.7s,mb4.5,baz=25,slow=6.8,SNR=20							
FINES	**FINESS Array B**	**60.11**	**337**	P	**P**	**22 02 45.9**	**-1.4**
comp=Z,1.6nm,0.4s,mb4.4,baz=38,slow=8.9,SNR=26							
NB2	**NORSAR Subarra**	**63.42**	**344**	P	**P**	**22 03 07.8**	**-1.7**
comp=Z,2.7nm,0.8s,mb4.4,baz=23,slow=7.0							
NB2	**NORSAR Subarra**	**63.42**	**344**	P	**P**	**22 03 07.8**	**-1.7**
NB2				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.5							
NOA	**NORSAR Array B**	**63.42**	**344**	P	**P**	**22 03 08.1**	**-1.4**
comp=Z,2.9nm,0.7s,mb4.5,baz=20,slow=6.6,SNR=15							
NOA	**NORSAR Array B**	**63.42**	**344**	P	**P**	**22 03 08.1**	**-1.4**
SCHQ	**Schefferville**	**64.94**	**28**	P	**P**	**22 03 18.7**	**-0.5**
comp=Z,0.9nm,0.7s,mb3.9,baz=256,slow=11,SNR=3.8							
GOF	**Gofitskoye**	**68.68**	**318**	⇑*i*P	**P**	**22 03 42.0**	**-1.0**
GOF				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
AKASG	**Malin Array Be**	**68.73**	**330**	P	**P**	**22 03 41.7**	**-1.5**
comp=Z,1.7nm,0.5s,mb4.2,baz=27,slow=6.0,SNR=7.6							
AKASG	**Malin Array Be**	**68.73**	**330**	P	**P**	**22 03 41.7**	**-1.5**
TXAR	**Lajitas Array**	**69.73**	**68**	P	**P**	**22 03 51.4**	**+1.7**
comp=Z,0.7nm,0.5s,mb3.9,baz=296,slow=5.3,SNR=4.9							
TXAR	**Lajitas Array**	**69.73**	**68**	P	**P**	**22 03 51.4**	**+1.7**
CLL	**Collm**	**72.31**	**340**	P	**P**	**22 04 05.0**	**+0.2**
CLL				*e*PP	pP	22 04 11.0	-6.5
GERES	**GERESS Array B**	**74.48**	**339**	P	**P**	**22 04 18.0**	**+0.5**
comp=Z,0.6nm,0.5s,mb3.8,baz=34,slow=4.8,SNR=4.9							
WRA	**Warramunga Arr**

*NEIC **27** 22:46:35.3, 17.19N×101.55W, h5km, MD4.3(MEX), After MEX.*
*MEX **27** 22:46:35.6±0.7, 17.19N×101.51W, h5km±8km, MD4.3*
ISC 27 22:46:34.7±1.1, 17.19N±0.05×101.46W±0.04, h23km±7km, n30, σ1§28/50, mb3.7/5, 2C-1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.41**	**360**	⇓*i*P	**Pb**	**22 46 43.4**	**+0.1**
ZIIG				*i*S	**Sb**	**22 46 49.0**	**-0.2**
CAIG	**El Cayaco**	**1.15**	**97**	*e*P	**Pn**	**22 46 54.6**	**-0.9**
CAIG				*i*S	**Sb**	**22 47 11.3**	**+1.1**
CAIG	**El Cayaco**	**1.15**	**97**	⇑*e*P	**Pn**	**22 46 54.6**	**-0.9**
CAIG				*i*S	**Sb**	**22 47 10.7**	**+0.4**
ACX	**Acapulco**	**1.51**	**102**	*e*P	**Pn**	**22 47 00.2**	**-0.5**
ACX				*i*S	**Sn**	**22 47 21.0**	**+1.2**
ACX	**Acapulco**	**1.51**	**102**	*e*P	**Pn**	**22 47 00.2**	**-0.5**
ACX				*i*S	**Sn**	**22 47 20.6**	**+0.7**
PLIG	**Platanillo**	**2.21**	**57**	*i*P	**Pn**	**22 47 12.0**	**+1.2**
PLIG				*i*S	**Sn**	**22 47 36.9**	**-0.8**
PLIG	**Platanillo**	**2.21**	**57**	⇑*i*P	**Pn**	**22 47 10.8**	**+0.1**
PLIG				*i*S	**Sn**	**22 47 36.9**	**-0.8**
YAIG	**Yautepec**	**2.82**	**54**	*e*P	**Pn**	**22 47 19.8**	**+0.4**
YAIG				*i*S	**Sn**	**22 47 53.0**	**0.0**
YAIG	**Yautepec**	**2.82**	**54**	*e*P	**Pn**	**22 47 19.8**	**+0.4**
YAIG				*i*S	**Sn**	**22 47 52.2**	**-0.8**
COLM	**Colima**	**2.90**	**313**	*e*P	**Pn**	**22 47 22.1**	**+1.6**
COLM				*i*S	**Sn**	**22 47 52.3**	**-2.7**
COLM	**Colima**	**2.90**	**313**	*e*P	**Pn**	**22 47 20.3**	**-0.2**
COLM				*i*S	**Sn**	**22 47 52.3**	**-2.7**
UNM	**Universidad Na**	**3.04**	**45**	*i*P	**Pn**	**22 47 29.5**	**+7.0**
UNM				*i*P		22 47 33.3	
UNM	**Universidad Na**	**3.04**	**45**	*e*P	**Pn**	**22 47 26.8**	**+4.3**
UNM				*i*P		22 47 29.5	
UNM				*i*S	**Sn**	**22 47 55.8**	**-2.7**
PPM	**Popocatepetl**	**3.28**	**55**	*e*P	**Pn**	**22 47 25.3**	**-0.6**
PPM				*i*S	**Sn**	**22 48 05.7**	**+1.1**
PNIG	**Pinotepa**	**3.29**	**104**	*e*P	**Pn**	**22 47 25.3**	**-0.8**
PNIG				*i*S	**Sn**	**22 48 06.0**	**+1.0**
SFJM	**Santa Fe**	**3.60**	**336**	*e*P	**Pn**	**22 47 33.4**	**+2.9**
SFJM				*i*S	**Sn**	**22 48 27.8**	**+15**
SFJM	**Santa Fe**	**3.60**	**336**	*e*P	**Pn**	**22 47 30.6**	**+0.1**
SFJM				*i*S	**Sn**	**22 48 14.4**	**+1.6**
CJM	**Chamela**	**4.10**	**305**	*i*P	**Pn**	**22 47 34.8**	**-2.8**
CJM				*i*S	**Sn**	**22 48 21.6**	**-3.9**
IISM	**Ciudad Serdan**	**4.28**	**65**	*i*P	**Pn**	**22 47 41.5**	**+1.4**
IISM				*i*S	**Sn**	**22 48 33.7**	**+3.8**
VHO	**Vista Hermosa**	**4.52**	**91**	*i*P	**Pn**	**22 47 42.4**	**-1.1**
VHO				*i*S	**Sn**	**22 48 35.5**	**-0.6**
OXX	**Oaxaca**	**4.53**	**91**	*i*P	**Pn**	**22 47 47.3**	**+3.6**
OXX	**Oaxaca**	**4.53**	**91**	*e*P	**Pn**	**22 47 43.4**	**-0.3**
OXX				*i*S	**Sn**	**22 48 34.1**	**-2.2**
HUIG	**Huatulco**	**5.33**	**105**	*i*S	**Sn**	**22 48 57.0**	**+0.6**
CMIG	**Matias Romero**	**6.29**	**90**	*i*S	**Sn**	**22 49 19.4**	**-1.0**
TXAR	**Lajitas Array**	**12.25**	**351**	Pn	**P**	**22 49 36.8**	**+6.0**
	0.1nm,0.3s,baz=167,slow=16,SNR=2.8						
TXAR				Lg		22 53 03.0	
	0.0nm,0.3s,baz=158,slow=30,SNR=4.4						
NVAR	**Mina Array Bea**	**25.79**	**328**	P	**P**	**22 52 09.0**	**+3.2**
	2.9nm,0.8s,mb3.8,baz=144,slow=11,SNR=14						
PDAR	**Pinedale Array**	**26.41**	**347**	P	**P**	**22 52 13.8**	**+2.4**
	1.0nm,0.8s,mb3.4,baz=153,slow=9.9,SNR=7.7						
SCHQ	**Schefferville**	**46.00**	**27**	P	**P**	**22 54 57.5**	**-0.5**
	2.2nm,1.0s,mb4.0,baz=203,slow=7.7,SNR=4.2						
YKA	**Yellowknife Ar**	**46.18**	**352**	P	**P**	**22 54 59.6**	**+0.3**
	0.9nm,0.8s,mb3.7,baz=160,slow=7.3,SNR=12						
ILAR	**Eielson Array**	**56.43**	**339**	P	**P**	**22 56 17.5**	**+0.9**
	0.5nm,0.8s,mb3.6,baz=160,slow=4.1,SNR=4.8						

*IDC **27** 22:53:11.2±6.8, 35.02S×179.66E, h154km±55km, mb3.5/2, mb1 3.6/3, mb1mx3.4/14, mbtmp3.8/3, Error ellipse: s-maj=64.1km s-min=35.0km az=31.0*
ISC 27 22:53:12.4±2.6, 34.8S±0.4×179.1E±0.6, h139km±62km, n11, σ0§43/13, mb3.8/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.83**	**192**	PN	**P**	**22 53 57.9**	**+0.1**
MXZ				SN	**S**	**22 54 33.4**	**+0.8**
PUZ	**Puketiti**	**3.33**	**191**	PN	**P**	**22 54 04.0**	**-0.5**
PUZ				SN	**S**	**22 54 44.3**	**0.0**
MWZ	**Matawai**	**3.74**	**199**	PN	**P**	**22 54 09.8**	**-0.1**
MWZ				SN	**S**	**22 54 53.7**	**-0.2**
URZ	**Urewera**	**3.80**	**204**	P	**P**	**22 54 10.6**	**0.0**
	0.6nm,0.3s,baz=354,slow=11,SNR=18						
URZ				S	**S**	**22 54 54.2**	**-1.1**
	4.8nm,0.3s,baz=138,slow=23,SNR=13						
URZ	**Urewera**	**3.80**	**204**	PN	**P**	**22 54 10.6**	**-0.1**
URZ				SN	**S**	**22 54 56.0**	**+0.7**
BKZ	**Black Stump Fm**	**4.82**	**205**	SN	**S**	**22 55 19.5**	**-0.1**
ASAR	**Alice Springs**	**40.65**	**273**	P	**P**	**23 00 40.8**	**+0.4**
	0.7nm,0.4s,mb3.7,baz=116,slow=7.8,SNR=6.8						
WRA	**Warramunga Arr**	**42.04**	**279**	P	**P**	**23 00 51.8**	**-0.1**
	1.1nm,0.4s,mb3.9,baz=119,slow=7.5,SNR=11						
FINES	**FINESS Array B**	**148.27**	**335**	PKPbc	PKPdf	23 12 37.5	-0.1
	0.5nm,0.5s,baz=45,slow=3.9,SNR=5.8						
DBIC	**Dimbokro**	**151.78**	**172**	PKPbc	PKPdf	23 12 48.2	+3.8
	1.2nm,0.5s,baz=166,slow=1.7,SNR=4.0						
BRTR	**Keskin Array B**	**152.16**	**290**	PKPbc	PKPdf	23 12 49.2	+5.0
	0.7nm,0.6s,baz=90,slow=1.4,SNR=3.9						

DJA 27 22:56:23.4±0.9, 9.87S×114.91E, h160km, MD4.8/4, ML4.4/4, 2C-6D, Error ellipse: s-maj=26.4km s-min=12.3km az=7.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.29**	**28**	⇓*i*Pn	P	22 56 50.2	-1.8
	406nm,0.2s						
RATI				⇑*i*Sn	S	22 57 12.4	-1.7
SRDI	**Scrawed**	**1.58**	**331**	⇓*e*Pn	P	22 56 54.3	-0.5
	489nm,0.2s						
SRDI				⇓*i*Sn	S	22 57 14.7	-4.4
KELI	**Kelakatan**	**1.69**	**346**	⇑*i*Pn	P	22 56 57.1	+1.0
	268nm,0.3s						
KELI				⇓*i*Sn	S	22 57 21.1	-0.2
KEDI	**Kedomdong**	**1.81**	**41**	⇓*i*Pn	P	22 56 57.9	+0.5
	148nm,0.2s						
KEDI				⇓*e*Sn	S	22 57 21.0	-2.6

*BJI **27** 22:56:53.3, 52.84N×86.19E, h12km, mb4.4, ML4.8, Ms4.0*
*MOS **27** 22:56:54.2±2.0, 52.77N×86.48E, h12km, mb4.4/4, Error ellipse: s-maj=10.4km s-min=7.2km az=105.7*
*NEIC **27** 22:56:54.3±2.1, 52.74N×86.66E, h8km±11km, mb4.1/5, Error ellipse: s-maj=11.5km s-min=9.9km az=136.0*
*IDC **27** 22:56:55.7±2.7, 52.76N×86.68E, h17km±14km, mb3.8/14, mb1 4.0/15, mb1mx3.9/25, mbtmp3.9/15, ML3.8/1, MS2.7/1, Ms1 2.8/1, ms1mx2.6/26, Error ellipse: s-maj=21.2km s-min=12.3km az=177.0*
*NNC **27** 22:57:05.1±4.0, 52.32N×85.02E, mpv3.9, Error ellipse: s-maj=33.8km s-min=19.5km az=63.0*
ISC 27 22:56:54.9±0.6, 52.74N±0.03×86.60E±0.06, h24km±5km, n52, σ1§13/62, mb4.0/17, MS2.6/1, 8C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELT	**Yel'tsovka**	**0.56**	**338**	*e*PG	**Pb**	**22 57 06.6**	**+0.5**
ELT				*e*S	**Sb**	**22 57 14.3**	**+0.5**
TASR	**Tashtagol**	**0.78**	**88**	*e*PG	**Pb**	**22 57 09.4**	**-0.3**
TASR				*e*S	**Sb**	**22 57 19.0**	**-0.9**
ARTR	**Artybash**	**1.03**	**156**	*e*PG	**Pb**	**22 57 14.2**	**+0.2**
ARTR				*e*S	**Sb**	**22 57 26.6**	**-0.6**
ZAL	**Zalesovo**	**1.61**	**319**	Pg	**Pn**	**22 57 25.8**	**+3.4**
	130nm,0.3s,baz=342,slow=12,SNR=774						
ZAL				Lg		22 57 47.7	
	748nm,0.3s,baz=321,slow=11,SNR=73						
ZAL	**Zalesovo**	**1.61**	**319**	Pg	**Pn**	**22 57 25.8**	**+3.4**
ZAL				Lg		22 57 47.7	
UKR	**Ust'-Kan**	**2.13**	**213**	*i*PN	**Pn**	**22 57 35.5**	**+5.7**
UKR				*i*S	**Sn**	**22 58 04.0**	**+8.3**
AKAR	**Aktash**	**2.51**	**165**	*e*PN	**Pn**	**22 57 39.7**	**+4.5**
AKAR				*e*S	**Sn**	**22 58 11.3**	**+6.0**
NVS	**Novosibirsk**	**2.90**	**318**	⇑*i*PN	**Pn**	**22 57 42.9**	**+2.1**
NVS				*e*		22 57 49.2	
NVS				*e*		22 58 26.2	
CERR	**Cheremushki**	**2.93**	**86**	*e*PN	**Pn**	**22 57 47.5**	**+6.3**
CERR				*i*S	**Sn**	**22 58 23.7**	**+7.7**
MK31	**Makanchi Array**	**6.57**	**207**	⇓Pn	**Pn**	**22 58 35.1**	**+2.4**
	21nm,0.4s,baz=26,slow=12,SNR=1499						
MK31				⇓Sn	**Sn**	**22 59 48.5**	**+0.8**
	18nm,0.5s,baz=31,slow=23,SNR=6.3						
MK31				⇑Lg		23 00 07.7	
	63nm,0.6s,baz=27,slow=29,SNR=6.4						
MKAR	**Makanchi Array**	**6.57**	**207**	*e*PN	**Pn**	**22 58 35.0**	**+2.3**
MKAR						22 59 49.2	
MKAR				pmax	pmax		
	comp=Z,11nm,0.4s						
MOY	**Mondy**	**8.91**	**91**	*e*P	**P**	**22 59 05.2**	**-0.1**
MOY				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WMQ	**Urumqi**	**8.96**	**175**	*e*P	**P**	**22 59 06.8**	**+0.8**
WMQ				S	**Sn**	**23 00 54.0**	**+6.9**
WMQ				Smax			
	comp=N,63nm,1.0s						
WMQ				Smax			
	comp=E,69nm,1.0s						
CHKZ	**Chkalovo**	**9.64**	**282**	⇑Pn	**P**	**22 59 13.9**	**-1.4**
	comp=E,2.2nm,0.4s						
CHKZ				⇑Sn	**Sn**	**23 00 57.9**	**-6.0**
	comp=E,13nm,0.6s						
CHKZ	**Chkalovo**	**9.64**	**282**	P	**P**	**22 59 13.8**	**-1.5**
CHKZ						23 00 57.8	
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CHKZ	**Chkalovo**	**9.64**	**282**	*e*P	**P**	**22 59 13.7**	**-1.5**
	comp=Z,6.1nm,0.5s						
BVA0	**Borovoye Array**	**9.81**	**278**	Pn	**P**	**22 59 16.6**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=86,slow=14,SNR=51						
BVA0				⇑Sn	**Sn**	**23 01 01.9**	**-6.1**
	comp=Z,0.9nm,0.3s,baz=114,slow=56,SNR=6.7						
BVA0				⇑Lg		23 01 48.5	
	comp=Z,7.0nm,1.5s						
BVA0	**Borovoye Array**	**9.81**	**278**	*i*P	**P**	**22 59 16.5**	**-1.1**
BVA0						23 01 01.8	
BVAR	**Borovoye Array**	**9.81**	**278**	Pn	**P**	**22 59 16.6**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=84,slow=13,SNR=25						
BVAR				Sn	**Sn**	**23 01 00.9**	**-7.1**
	comp=Z,3.2nm,0.3s,baz=77,slow=24,SNR=7.1						
BVAR				Lg		23 02 10.2	
	baz=112,slow=24,SNR=1.8						
AAK	**Ala-Archa**	**12.97**	**224**	*e*P	**P**	**22 59 59.5**	**-0.9**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**12.97**	**224**	*e*P	**P**	**22 59 59.5**	**-0.9**
	comp=Z,3.3nm,0.8s						
KK31	**Karatay Array**	**14.43**	**235**	Pn	**P**	**23 00 16.3**	**-3.3**
	comp=Z,6.7nm,0.8s,baz=41,slow=13,SNR=24						
KK31				⇑Sn	**S**	**23 02 50.7**	**-9.1**
	comp=Z,4.8nm,0.5s,baz=39,slow=23,SNR=5.5						
KK31				⇓Lg		23 04 05.9	
	comp=Z,8.8nm,0.8s						
KKAR	**Karatay Array**	**14.43**	**235**	*e*P	**P**	**23 00 16.3**	**-3.3**
KKAR				*e*		23 02 50.7	
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BOD	**Bodaibo**	**16.36**	**61**	*e*P	**P**	**23 00 45.8**	**+1.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARU	**Arti**	**16.61**	**294**	⇓*i*P	**P**	**23 00 49.0**	**+1.4**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ARU	**Arti**	**16.61**	**294**	*e*P	**P**	**23 00 47.2**	**-0.4**
	comp=Z,5.5nm,0.7s						
AB31	**Akbulak array**	**17.10**	**269**	⇑Pn	**P**	**23 00 52.0**	**-1.8**
	comp=Z,2.4nm,0.7s,baz=77,slow=10,SNR=27						
AB31	**Akbulak array**	**17.10**	**269**	P	**P**	**23 00 52.2**	**-1.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**32.16**	**325**	P	**P**	**23 03 22.5**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.1,baz=75,slow=8.4,SNR=7.1						
FINES	**FINESS Array B**	**32.86**	**310**	P	**P**	**23 03 28.0**	**-0.6**
	comp=Z,1.4nm,0.8s,mb4.0,baz=88,slow=8.5,SNR=7.0						
AKASG	**Malin Array Be**	**34.80**	**290**	P	**P**	**23 03 44.2**	**-1.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=56,slow=9.3,SNR=5.0						
BRTR	**Keskin Array B**	**38.01**	**272**	P	**P**	**23 04 11.8**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.6,baz=62,slow=7.0,SNR=5.7						
NB2	**NORSAR Subarra**	**39.80**	**313**	P	**P**	**23 04 27.8**	**+0.3**
	comp=Z,0.4nm,0.3s,mb3.6,baz=86,slow=7.4						
NOA	**NORSAR Array B**	**39.80**	**313**	P	**P**	**23 04 28.1**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.6,baz=63,slow=8.0,SNR=4.9						
NOA				LR	LR	23 23 57.8	
	comp=Z,11nm,22.0s,MS2.6,baz=75,slow=41						
ASF	**Jabal al Asfar**	**41.04**	**260**	P	**P**	**23 04 39.9**	**+1.9**
	comp=Z,1.2nm,0.4s,mb3.9,baz=230,slow=22,SNR=2.7						
CLL	**Collm**	**43.46**	**299**	*e*SP	sP	23 05 02.0	-5.4
GERES	**GERESS Array B**	**44.43**	**296**	P	**P**	**23 05 05.8**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.4,baz=53,slow=6.7,SNR=4.3						
CABF	**La Chapelle**	**49.89**	**297**	*e*P	**P**	**23 05 48.7**	**+0.6**
	comp=Z,12nm,1.1s,mb4.5						
CABF	**La Chapelle**	**49.89**	**297**	*e*P	**P**	**23 05 48.7**	**+0.6**
CABF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
LPL	**La Plagne**	**50.23**	**296**	*e*P	**P**	**23 05 50.8**	**+0.1**
	comp=Z,2.1nm,0.5s,mb4.1						
LPL	**La Plagne**	**50.23**	**296**	*e*P	**P**	**23 05 50.8**	**+0.1**
LPL				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
LPG	**La Plagne**	**50.23**	**296**	*e*P	**P**	**23 05 50.6**	**-0.1**
MBDF	**Montbardon**	**50.70**	**295**	*e*P	**P**	**23 05 56.1**	**+1.8**
	comp=Z,10nm,0.8s,mb4.5						
MBDF	**Montbardon**	**50.70**	**295**	*e*P	**P**	**23 05 56.1**	**+1.8**
MBDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
INK	**Inuvik**	**55.66**	**17**	P	**P**	**23 06 31.1**	**+0.3**
	comp=Z,0.7nm,0.5s,mb4.0,baz=4.3,slow=5.7,SNR=3.5						
ILAR	**Eielson Array**	**55.79**	**25**	P	**P**	**23 06 31.4**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=319,slow=4.7,SNR=13						
ESDC	**Sonseca Array**	**59.98**	**297**	P	**P**	**23 07 00.7**	**-0.8**
	comp=Z,0.2nm,0.4s,mb3.5,baz=46,slow=6.6,SNR=4.1						
YKA	**Yellowknife Ar**	**63.90**	**11**	P	**P**	**23 07 26.9**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.2,baz=343,slow=7.1,SNR=22						
SCHQ	**Schefferville**	**70.56**	**344**	P	**P**	**23 08 08.4**	**-0.9**
	comp=Z,1.3nm,0.8s,mb3.9,baz=265,slow=17,SNR=4.9						
WRA	**Warramunga Arr**	**83.37**	**135**	P	**P**	**23 09 21.0**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.9,baz=342,slow=5.5,SNR=5.4						
ASAR	**Alice Springs**	**86.50**	**138**	P	**P**	**23 09 36.7**	**-0.2**
	comp=Z,1.0nm,0.9s,mb4.0,baz=338,slow=4.9,SNR=4.0						
CPUP	**Villa Florida**	**142.30**	**300**	PKP	PKPdf	23 16 28.6	-1.1
	comp=Z,2.4nm,1.0s,SNR=3.0						

*IDC **27** 23:02:00.7±1.1, 1.40N×97.63E, mb4.0/9, mb1 4.1/10, mb1mx4.0/18, mbtmp3.9/10, ML4.2/1, MS3.3/2, Ms1 3.3/2, ms1mx3.0/20, Error ellipse: s-maj=63.5km s-min=19.5km az=47.0*
*NEIC **27** 23:02:05.5±0.6, 1.41N×97.65E, h30km, mb4.3/1, Error ellipse: s-maj=17.0km s-min=12.1km az=61.0*
ISC 27 23:02:04.5±0.8, 1.4N±0.1×97.7E±0.1, h33km, n19, σ0§73/18, mb4.2/15, MS3.6/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.85**	**37**	*e*P	**P**	**23 03 17.7**	**+0.7**
CMAR	**Chiang Mai Arr**	**16.98**	**4**	P	**P**	**23 06 00.1**	**-1.1**
	0.3nm,0.3s,baz=194,slow=13,SNR=4.8						
CMAR				LR	LR	23 13 20.8	
	comp=Z,48nm,20.5s,baz=180,slow=40						
PKI	**Pulchoki**	**28.55**	**337**	*e*P	**P**	**23 08 00.6**	**+1.1**
	6.9nm,0.6s,mb4.6						
GUN	**Gumba**	**28.67**	**338**	*e*P	**P**	**23 08 00.9**	**+0.3**
	24nm,1.0s,mb4.9						
DMN	**Daman**	**28.70**	**336**	*e*P	**P**	**23 08 01.9**	**+1.0**
	4.6nm,0.4s,mb4.6						
KKN	**Kakani**	**28.80**	**337**	*e*P	**P**	**23 08 02.4**	**+0.7**
GKN	**Gorkha**	**29.24**	**336**	*e*P	**P**	**23 08 05.4**	**-0.3**
	19nm,1.0s,mb4.8						
KOLN	**Koldanda**	**29.48**	**334**	*e*P	**P**	**23 08 07.1**	**-0.7**
	6.2nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**41.73**	**122**	P	**P**	**23 09 52.3**	**-0.1**
	1.6nm,0.8s,mb3.7,baz=302,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**43.13**	**128**	P	**P**	**23 10 03.7**	**-0.1**
	0.7nm,0.7s,mb3.5,baz=302,slow=7.6,SNR=5.9						
MJAR	**Matsushiro Arr**	**51.20**	**42**	LR	LR	23 33 04.4	
	comp=Z,52nm,18.6s,MS3.6,baz=95,slow=36						
ZAL	**Zalesovo**	**53.42**	**351**	P	**P**	**23 11 22.8**	**-0.5**
	2.1nm,0.3s,mb4.5,baz=304,slow=3.5,SNR=7.3						
CHKZ	**Chkalovo**	**56.68**	**341**	*e*P	**P**	**23 11 45.6**	**-1.3**
	2.6nm,0.8s,mb4.3						
BRTR	**Keskin Array B**	**69.33**	**312**	P	**P**	**23 13 10.6**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=128,slow=5.4,SNR=3.1						
AKASG	**Malin Array Be**	**75.39**	**322**	P	**P**	**23 13 45.9**	**-0.7**
	0.5nm,0.4s,mb3.8,baz=96,slow=4.5,SNR=4.8						
FINES	**FINESS Array B**	**80.04**	**332**	P	**P**	**23 14 12.2**	**0.0**
	1.3nm,0.6s,mb4.0,baz=101,slow=6.5,SNR=16						
ARCES	**ARCESS Array B**	**82.50**	**340**	P	**P**	**23 14 24.9**	**0.0**
	3.3nm,0.9s,mb4.4,baz=82,slow=6.4,SNR=3.9						
GERES	**GERESS Array B**	**84.98**	**319**	P	**P**	**23 14 39.2**	**+1.4**
	0.1nm,0.3s,mb3.4,baz=90,slow=3.9,SNR=4.2						
NOA	**NORSAR Array B**	**87.06**	**331**	P	**P**	**23 14 47.9**	**+0.2**
	0.8nm,0.9s,mb3.9,baz=90,slow=4.9,SNR=3.5						

*IDC **27** 23:20:59.7±1.7, 15.89S×175.52W, mb4.0/6, mb1 4.4/7, mb1mx4.1/16, mbtmp4.0/7, ML2.9/1, MS3.8/17, Ms1 3.9/17, ms1mx3.8/23, Error ellipse: s-maj=108.0km s-min=20.3km az=154.0*
ISC 27 23:21:02.3±1.8, 16.2S±0.7×175.3W±0.4, h33km, n24, σ1§41/8, mb4.1/6, MS3.9/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.08**	**56**	Pn	**Pn**	**23 22 02.1**	**-1.9**
	40nm,0.3s,baz=83,slow=3.3,SNR=30						
AFI				Sn	**Sn**	**23 22 45.4**	**-5.9**
	5.0nm,0.3s,baz=121,slow=24,SNR=5.4						
RAR	**Rarotonga**	**15.50**	**111**	LR	LR	23 29 41.7	
	comp=Z,440nm,18.6s,baz=283,slow=33						
DZM	**Mont Dzumac**	**18.23**	**249**	LR	LR	23 30 58.4	
	comp=Z,330nm,19.4s,baz=26,slow=33						
PPT	**Papeete**	**24.62**	**97**	*e*LQ		23 31 40.5	
PPT				*e*LR	LR	23 32 37.0	
	303nm,28.5s						
PPT	**Papeete**	**24.62**	**97**	LR	LR	23 33 44.4	
	comp=Z,186nm,20.0s,MS3.6,baz=285,slow=31						
HNR	**Honiara**	**25.07**	**283**	LR	LR	23 33 15.7	
	comp=Z,270nm,20.1s,MS3.8,baz=315,slow=30						
TBI	**Tubuai**	**25.28**	**110**	*e*LQ		23 31 52.4	
TBI				*e*LR	LR	23 33 08.1	
	505nm,27.0s						
PMG	**Port Moresby**	**37.21**	**276**	LR	LR	23 40 29.6	
	comp=Z,135nm,20.7s,MS3.7,baz=291,slow=32						
WRA	**Warramunga Arr**	**47.91**	**258**	P	**P**	**23 29 37.8**	**-1.9**
	3.5nm,0.9s,mb4.4,baz=88,slow=7.8,SNR=8.1						
ASAR	**Alice Springs**	**48.15**	**253**	P	**P**	**23 29 41.6**	**+0.1**
	13nm,0.7s,mb5.0,baz=81,slow=7.5,SNR=31						
ASAR				LR	LR	23 46 16.1	
	comp=Z,109nm,18.8s,MS3.8,baz=82,slow=32						
VNDA	**Vanda**	**62.39**	**185**	LR	LR	23 54 02.8	
	comp=Z,65nm,18.5s,MS3.8,baz=216,slow=32						
MJAR	**Matsushiro Arr**	**68.41**	**321**	LR	LR	23 55 54.7	
	comp=Z,57nm,19.3s,MS3.8,baz=140,slow=31						
NVAR	**Mina Array Bea**	**76.14**	**43**	P	**P**	**23 32 49.9**	**+1.0**
	2.1nm,1.1s,mb4.0,baz=238,slow=8.5,SNR=3.7						
NVAR				LR	LR	23 59 27.1	
	comp=Z,23nm,19.2s,MS3.5,baz=320,slow=30						
TXAR	**Lajitas Array**	**82.56**	**57**	P	**P**	**23 33 26.3**	**+2.6**
	0.8nm,0.9s,mb3.7,baz=217,slow=6.3,SNR=6.6						
TXAR				LR	LR	00 02 26.6	
	comp=Z,58nm,19.7s,MS4.0,baz=190,slow=30						
ILAR	**Eielson Array**	**83.60**	**12**	P	**P**	**23 33 28.9**	**+0.7**
	1.1nm,1.1s,mb3.9,baz=231,slow=5.3,SNR=6.2						
PDAR	**Pinedale Array**	**84.07**	**42**	P	**P**	**23 33 31.4**	**+0.3**
	0.6nm,0.8s,mb3.8,baz=252,slow=4.7,SNR=4.2						
PDAR				LR	LR	00 05 56.4	
	comp=Z,38nm,18.4s,MS3.8,baz=92,slow=32						
MAW	**Mawson**	**86.45**	**199**	LR	LR	00 13 00.4	
	comp=Z,90nm,18.1s,MS4.2,baz=196,slow=36						
PLCA	**Paso Flores**	**90.30**	**133**	LR	LR	00 06 14.4	
	comp=Z,84nm,18.2s,MS4.2,baz=76,slow=30						
CMAR	**Chiang Mai Arr**	**91.16**	**289**	LR	LR	00 09 05.4	
	comp=Z,51nm,19.4s,MS4.0,baz=176,slow=32						
YKA	**Yellowknife Ar**	**91.56**	**24**	LR	LR	00 06 00.7	
	comp=Z,77nm,21.9s,MS4.1,baz=235,slow=30						
JTS	**JuntasAbangare**	**93.12**	**80**	LR	LR	00 07 42.0	
	comp=Z,38nm,20.1s,MS3.8,baz=155,slow=30						
ULM	**Lac du Bonnet**	**95.70**	**39**	LR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDR				eS	S	23 59 58.3	-0.3
ESO	**Esso**	**1.95**	**300**	eP	P	23 59 40.0	-0.3
ESO				eS	S	00 00 03.0	-0.6
ESO				Smax			
	70nm,0.5s						
SPN	**Mys Shipunski**	**2.14**	**208**	eP	P	23 59 42.8	-0.2
SPN				eS	S	00 00 07.7	-0.6
NLC	**Nalytchevo**	**2.29**	**218**	eP	P	23 59 45.5	+0.3
NLC				i S	S	00 00 12.4	+0.2
SMAR	**Somma**	**2.43**	**226**	i P	P	23 59 47.8	+0.6
SMAR				eS	S	00 00 16.7	+1.0
AVH	**Avacha**	**2.46**	**226**	eP	P	23 59 48.3	+0.8
AVH				eS	S	00 00 17.9	+1.5
UGLR	**Uglovaya**	**2.46**	**225**	eP	P	23 59 48.3	+0.7
UGLR				eS	S	00 00 17.1	+0.6
BKI	**Bering**	**2.46**	**83**	eP	P	23 59 47.6	-0.1
BKI				eS	S	00 00 14.0	-2.6
BKI				Smax			
	90nm,0.3s						
KOK	**Koryaka**	**2.48**	**228**	eP	P	23 59 48.4	+0.5
KOK				eS	S	00 00 16.3	-0.7
GNL	**Ganaly**	**2.55**	**241**	eP	P	23 59 49.6	+0.7
PET	**Petropavlovsk**	**2.67**	**224**	eP	P	23 59 51.1	+0.6
PET				eS	S	00 00 21.9	+0.2
RUS	**Russkaya**	**3.19**	**218**	i P	P	23 59 57.8	0.0
RUS				eS	S	00 00 33.6	-1.2
GRL	**Gorelyy**	**3.25**	**223**	eP	P	00 00 00.3	+1.5
GRL				eS	S	00 00 37.8	+1.3
APC	**Apacha**	**3.39**	**234**	eP	P	00 00 02.1	+1.4
APC				eS	S	00 00 41.8	+1.9
PAU	**Pauzhetka**	**4.59**	**222**	eP	P	00 00 20.3	+2.8
PAU	**Pauzhetka**	**4.59**	**222**	P	P	00 00 19.4	+1.9

*TIF **28** 00:05:45.0, 42.02N×46.05E, h7km±2km*
*CSEM **28** 00:05:44.5±0.6, 41.93N×46.00E, h5km, mb3.8, Error ellipse: s-maj=12.8km s-min=9.6km az=157.0*
*MOS **28** 00:05:45.1±2.0, 41.93N×46.11E, h3km, mb3.8/1, Error ellipse: s-maj=12.5km s-min=9.8km az=103.4*
ISC 28 00:05:45.8±0.8,**41.91N**±0.05×**46.10E**±0.05,**h8**km±9km,
n17,σ1§**37**/33,**1C-1D**,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.71**	**230**	P	**Pg**	**00 06 01.2**	**+1.2**
DGRG				S	**Sg**	**00 06 14.5**	**+5.0**
KMKR	**Kumukh**	**0.78**	**73**	ePG	**Pg**	**00 06 02.0**	**+0.5**
KMKR				eS	**Sg**	**00 06 12.0**	**+0.1**
KMKR				pmax	pmax		
	comp=Z,63nm,0.2s						
KMKR	**Kumukh**	**0.78**	**73**	ePg	**Pg**	**00 06 02.0**	**+0.5**
	comp=Z,63nm,0.2s						
KMKR				eSg	**Sg**	**00 06 12.0**	**+0.1**
MTA	**Mtatsminda**	**1.00**	**258**	P	**Pb**	**00 06 04.2**	**-0.7**
MTA				S	**Sb**	**00 06 18.4**	**+0.4**
TI2	**Plekhanov**	**1.02**	**261**	i P	**Pb**	**00 06 04.0**	**-1.3**
TI2				i S	**Sb**	**00 06 20.6**	**+1.9**
	comp=Z,80nm,0.4s						
TBLG	**Delisi**	**1.03**	**261**	P	**Pb**	**00 06 04.2**	**-1.3**
TBLG				S	**Sb**	**00 06 18.6**	**-0.3**
KRNR	**Karanay**	**1.10**	**33**	⇓iPG	**Pg**	**00 06 10.0**	**+2.2**
KRNR				i S	**Sg**	**00 06 25.0**	**+2.5**
KRNR				pmax	pmax		
	comp=Z,22nm,0.3s						
KRNR	**Karanay**	**1.10**	**33**	i Pg	**Pg**	**00 06 10.0**	**+2.2**
	comp=Z,22nm,0.3s						
KRNR				i Sg	**Sg**	**00 06 25.0**	**+2.5**
BUJR	**Buynaksk**	**1.19**	**39**	⇑iPG	**Pg**	**00 06 06.0**	**-3.5**
BUJR				i S	**Sb**	**00 06 23.5**	**0.0**
BUJR				pmax	pmax		
	comp=Z,65nm,0.2s						
BUJR	**Buynaksk**	**1.19**	**39**	i Pg	**Pg**	**00 06 06.0**	**-3.5**
	comp=Z,65nm,0.2s						
BUJR				i Sg	**Sb**	**00 06 23.5**	**0.0**
DLMR	**Dylym**	**1.23**	**19**	ePG	**Pg**	**00 06 07.5**	**-2.9**
DLMR				i S	**Sb**	**00 06 26.5**	**+1.8**
DBC	**Dubki**	**1.24**	**26**	ePG	**Pg**	**00 06 05.5**	**-5.1**
DBC				eS	**Sb**	**00 06 22.5**	**-2.5**
AKT	**Akhty**	**1.30**	**109**	i PG	**Pg**	**00 06 09.0**	**-2.7**
AKT				eS	**Sg**	**00 06 30.0**	**+1.0**
AKT				pmax	pmax		
	comp=Z,51nm,0.2s						
AKT	**Akhty**	**1.30**	**109**	i Pg	**Pg**	**00 06 09.0**	**-2.7**
	comp=Z,51nm,0.2s						
AKT				eSg	**Sg**	**00 06 30.0**	**+1.0**
ZEI	**Tsey**	**1.84**	**299**	i Pn	**Pn**	**00 06 17.7**	**-0.4**
ARNR	**Ardon**	**1.86**	**314**	i PN	**Pn**	**00 06 18.9**	**+0.6**
ARNR				i S	**Sn**	**00 06 42.4**	**+0.2**
ONI	**Oni**	**2.08**	**290**	P	**Pn**	**00 06 21.4**	**0.0**
ONI				S	**Sn**	**00 06 48.1**	**+0.3**

*CSEM **28** 00:24:15.7±0.2, 34.96N×3.91W, h15km, MD2.7, Error ellipse: s-maj=7.2km s-min=2.2km az=38.0*
*CNRM **28** 00:24:17.4, 34.94N×3.91W, h10km, MD2.7*
*MDD **28** 00:24:18.9±0.6, 35.03N×3.85W, h2km±7km, mbLg1.8/8, Error ellipse: s-maj=9.1km s-min=4.3km az=46.0, PRXIMO*
ISC 28 00:24:17.3±0.9,**34.99N**±0.07×**3.90W**±0.05,**h13**km±5km,
n18,σ0§**67**/29,**Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.12**	**102**	P	**Pg**	**00 24 20.5**	**-0.1**
TOU				S	**Sg**	**00 24 22.5**	**-0.4**
TOU	**Touzarine**	**0.12**	**102**	i P	**Pg**	**00 24 20.5**	**-0.1**
MPAL	**Palemas**	**0.24**	**351**	eP	**Pg**	**00 24 23.0**	**+0.4**
EMEL	**Melilla**	**0.83**	**68**	S	**Sb**	**00 24 43.7**	**-0.2**
	130nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.84**	**68**	S	**Sb**	**00 24 43.7**	**-0.3**
	130nm,0.2s,SNR=7.9						
ZAI	**Zaio**	**0.94**	**91**	i P	**Pb**	**00 24 34.5**	**-0.5**
ZAI				eS	**Sb**	**00 24 48.0**	**+0.8**
TAF	**Taforalt**	**1.23**	**98**	P	**Pb**	**00 24 39.0**	**-0.9**
TAF				S	**Sb**	**00 24 56.0**	**+0.5**
EMIJ	**Mijas**	**1.73**	**336**	P	**Pn**	**00 24 48.1**	**+0.8**
	1.2nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**00 25 10.0**	**+0.6**
	1.1nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**1.73**	**336**	P	**Pn**	**00 24 45.8**	**-1.5**
	1.2nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**00 25 08.4**	**-1.0**
	1.1nm,0.2s,SNR=7.9						
ERON	**Agron**	**2.03**	**2**	P	**Pn**	**00 24 53.0**	**+1.4**
	0.9nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**00 25 17.4**	**+0.4**
	2.5nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.07**	**23**	P	**Pn**	**00 24 53.3**	**+1.0**
	1.6nm,0.5s,SNR=4.0						
EBER				S	**Sn**	**00 25 17.7**	**-0.4**
	2.2nm,0.3s,SNR=7.9						
EBER	**Berja**	**2.07**	**23**	P	**Pn**	**00 24 53.3**	**+1.0**
	1.6nm,0.5s,SNR=4.0						
EBER				S	**Sn**	**00 25 17.7**	**-0.5**
	2.2nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.17**	**355**	S	**Sn**	**00 25 21.3**	**+0.8**
	0.7nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.89**	**13**	P	**Pn**	**00 25 03.5**	**-0.4**
	1.0nm,0.5s,SNR=7.9						
EQES				S	**Sn**	**00 25 38.1**	**-0.7**
	2.0nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.22**	**350**	P	**Pn**	**00 25 08.8**	**+0.2**
	0.5nm,0.6s,SNR=7.9						
EADA				S	**Sn**	**00 25 46.6**	**-0.6**
	9.2nm,0.9s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.57**	**322**	P	**Pn**	**00 25 13.6**	**0.0**
	0.1nm,0.6s,SNR=7.9						
EGRO	**El Granado**	**3.85**	**312**	P	**Pn**	**00 25 18.3**	**+0.7**
	1.4nm,0.4s,SNR=7.9						
EGRO				S	**Sn**	**00 26 02.4**	**-0.9**
	7.0nm,0.8s,SNR=7.9						
ETOB	**Tobarra**	**4.11**	**27**	P	**Pn**	**00 25 21.3**	**+0.1**
	0.5nm,0.5s,SNR=7.9						

*NNC **28** 00:33:48.1±6.4, 36.89N×70.99E, h128km±143km, mpv3.7, Error ellipse: s-maj=56.6km s-min=49.9km az=33.0*
ISC 28 00:33:45.0±2.1,**36.8N**±0.1×**70.9E**±0.2,**h100**km,**n10**,
σ0§**81**/12,**3C-1D**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.76**	**21**	P	**P**	**00 35 09.7**	**+0.3**
	SNR=31						
UCH	**Uchtor**	**6.11**	**26**	P	**P**	**00 35 14.2**	**0.0**
	SNR=6.1						
KZA	**Kyzart**	**6.26**	**31**	P	**P**	**00 35 15.7**	**-0.7**
	SNR=6.5						
EKS2	**Erkin-Say**	**6.27**	**20**	P	**P**	**00 35 16.9**	**+0.3**
	SNR=13						
KK31	**Karatay Array**	**6.32**	**357**	P	**P**	**00 35 17.6**	**+0.5**
	1.1nm,0.2s,baz=175,slow=12,SNR=76						
KK31				⇑S	**S**	**00 36 28.1**	**-0.4**
	1.2nm,0.3s,baz=190,slow=26,SNR=6.0						
AAK	**Ala-Archa**	**6.46**	**24**	P	**P**	**00 35 19.5**	**+0.4**
	SNR=6.9						
AAK	**Ala-Archa**	**6.46**	**24**	⇑P	**P**	**00 35 19.3**	**+0.1**
	3.5nm,0.4s						
AAK				⇓S	**S**	**00 36 30.9**	**-1.1**
	4.1nm,0.6s						
KBK	**Karagaybulak**	**6.64**	**27**	P	**S**	**00 36 38.9**	**+2.5**
	SNR=11						
TKM2	**Tokmak 2**	**7.11**	**29**	P	**P**	**00 35 27.4**	**-0.7**
	SNR=5.3						
AB31	**Akbulak array**	**14.80**	**331**	⇑P	**P**	**00 37 10.1**	**+0.1**
	0.3nm,0.5s,baz=160,slow=12,SNR=9.1						

*CSEM **28** 00:36:14.3±0.1, 35.80N×53.24E, h2km, ML3.4, Error ellipse: s-maj=2.8km s-min=1.7km az=156.0*
*TEH **28** 00:36:15.0, 35.88N×53.29E, h10km, Mn3.4*
*THR **28** 00:36:15.0±0.8, 35.78N×53.28E, h14km±14km, ML3.0*
ISC 28 00:36:14.5±0.6,**35.85N**±0.05×**53.25E**±0.05,**h10**km,**n21**,
σ1§**33**/22,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFIR	**Firoozkooh**	**0.46**	**243**	Pg	**Pg**	**00 36 23.7**	**-0.1**
IFIR				Sg	**Sg**	**00 36 30.6**	**+0.6**
IGLO	**Galoogah**	**0.50**	**24**	Pg	**Sg**	**00 36 31.5**	**+0.2**
IKIA	**Kiasar**	**0.50**	**45**	Pg	**Pg**	**00 36 25.6**	**+1.0**
ILAS	**Lasjerd**	**0.53**	**207**	Pg	**Pg**	**00 36 24.5**	**-0.7**
IANJ	**Anjiiloo**	**0.66**	**125**	Pg	**Pg**	**00 36 27.3**	**-0.6**
IPRN	**Paran-Amol**	**0.90**	**296**	Pg	**Pg**	**00 36 31.6**	**-1.0**
IDMV	**Damavand**	**1.03**	**255**	Pg	**Pg**	**00 36 34.0**	**-1.1**
IDMV				Sg	**Sg**	**00 36 50.7**	**+1.8**
DAMV	**Damavand**	**1.06**	**258**	ePG	**Pg**	**00 36 35.0**	**-0.8**
DAMV				eSG	**Sg**	**00 36 49.9**	**-0.1**
DAMV				AML	AML	00 36 52.4	
	comp=N,359nm,0.1s						
IVRN	**Varamin**	**1.51**	**236**	Pn	**Pn**	**00 36 43.1**	**+1.4**
IVRN	**Varamin**	**1.51**	**236**	Lg		00 37 03.7	
THR	**Tehran**	**1.73**	**272**	ePG	**Pg**	**00 36 46.8**	**-2.2**
THKV	**Tehran--Karaj**	**1.93**	**273**	ePG	**Pg**	**00 36 51.0**	**-2.0**
IQOM	**Qom**	**2.05**	**241**	Pn	**Pn**	**00 36 51.6**	**+2.1**
IQOM	**Qom**	**2.05**	**241**	Lg		00 37 20.4	
QAM	**Qamsar**	**2.28**	**212**	Pn	**Pg**	**00 36 58.0**	**-2.1**
IRAZ	**Razeghan**	**2.74**	**262**	Pn	**Pn**	**00 37 01.3**	**+1.9**
IKLH	**Kalahroud**	**2.88**	**209**	Pn	**Pn**	**00 36 57.6**	**-3.7**
ASAO	**Ashtian**	**2.94**	**245**	ePN	**Pn**	**00 37 03.6**	**+1.3**
ASAO				AML	AML	00 37 49.1	
	comp=N,79nm,0.4s						
IZEF	**Zefreh**	**3.05**	**195**	Pn	**Pn**	**00 37 07.5**	**+3.8**
NASN	**Na'in**	**3.07**	**187**	ePN	**Pn**	**00 37 04.3**	**+0.3**
NASN				AML	AML	00 37 58.6	
	comp=N,37nm,0.3s						
IGAR	**Garneh**	**3.70**	**194**	Pn	**Pn**	**00 37 07.2**	**-5.9**

*BJI **28** 00:40:16.6, 47.49N×152.85E, h109km, mB4.8, mb4.8*
*MOS **28** 00:40:17.8±0.9, 47.61N×152.74E, h112km, mb4.6/35, Error ellipse: s-maj=11.2km s-min=5.6km az=100.0*
*NEIC **28** 00:40:18.5±1.1, 47.64N×152.78E, h105km±11km, mb4.5/39, Error ellipse: s-maj=10.4km s-min=5.2km az=148.0*
*IDC **28** 00:40:21.6±2.9, 47.63N×152.84E, h136km±28km, mb3.9/17, mb1 4.0/20, mb1mx4.0/25, mbtmp4.3/20, Error ellipse: s-maj=17.6km s-min=12.2km az=155.0*
ISC 28 00:40:16.6±0.8,**47.68N**±0.07×**152.80E**±0.09,**h99**km±7km,
n168,σ0§**90**/177,**mb4.5**/67,**16C-15D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.71**	**35**	ePN	**P**	**00 41 13.0**	**0.0**
SKR				eS	**S**	**00 41 55.5**	**-0.4**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,160nm,1.0s						
SKR				smax			
	comp=N,260nm,0.3s						
SKR				smax			
	comp=E,260nm,0.3s						
SKR				smax			
	comp=Z,270nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**6.06**	**236**	PN	**P**	**00 41 46.4**	**+1.3**
YUK				eS	**S**	**00 42 53.5**	**-0.3**
YUK				smax			
	comp=E,190nm,0.5s						
YUK				smax			
	comp=N,270nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.87**	**268**	⇑ePN	**P**	**00 42 03.2**	**+6.9**
YSS				e		00 43 12.8	
YSS	**Yuzh-Sakhalins**	**6.87**	**268**	eP	**P**	**00 42 03.2**	**+6.9**
	comp=N,14nm,0.6s						
ASAJ	**Asahikawa**	**7.96**	**247**	PN	**P**	**00 42 14.4**	**+3.2**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**7.96**	**247**	P	**P**	**00 42 14.4**	**+3.2**
	comp=Z,2.3nm,0.3s,baz=102,slow=9.3,SNR=9.4						
FX1	**Attu Island--F**	**14.01**	**61**	P	**P**	**00 43 34.1**	**+2.8**
FX1				S	**S**	**00 45 58.0**	**-6.6**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FX1	**Attu Island--F**	**14.01**	**61**	P	**P**	**00 43 34.1**	**+2.8**
	comp=Z,1.5nm,0.3s,baz=238,slow=17,SNR=8.9						
FX1				S	**S**	**00 45 58.0**	**-6.6**
	comp=Z,7.2nm,0.3s,baz=97,slow=23,SNR=13						
FX1	**Attu Island--F**	**14.01**	**61**	eP	**P**	**00 43 34.1**	**+2.8**
FX1				eS	**S**	**00 45 56.8**	**-7.8**
MJAR	**Matsushiro Arr**	**15.50**	**229**	P	**P**	**00 43 51.1**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=29,slow=10,SNR=5.4						
MAJO	**Matsushiro**	**15.50**	**229**	P	**P**	**00 43 49.1**	**-1.4**
MDJ	**Mudanjiang**	**16.36**	**268**	P	**P**	**00 43 59.5**	**-1.8**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,97nm,5.5s						
YAK	**Yakutsk**	**19.43**	**326**	d iP	**P**	**00 44 40.0**	**+2.8**
CN2	**Changchun**	**19.44**	**269**	eP	**P**	**00 44 41.8**	**+4.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
BILL	**Bilibino**	**21.54**	**14**	eP	**P**	**00 45 00.7**	**+2.0**
BILL	**Bilibino**	**21.54**	**14**	eP	**P**	**00 44 58.5**	**-0.2**
	comp=Z,5.1nm,0.6s,mb4.0						
SSE	**Sheshan**	**29.25**	**247**	P	**P**	**00 46 08.3**	**-2.9**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,61nm,5.9s						
NJ2	**Nanjing**	**30.08**	**251**	eP	**P**	**00 46 19.3**	**+0.7**
NJ2				PP	PP	00 47 25.0	+4.6
NJ2				S	**S**	**00 51 02.0**	**-6.5**
NJ2				AMB	AMB		
	comp=Z,450nm,4.6s						
ULN	**Ulaanbaatar**	**30.40**	**288**	eP	**P**	**00 46 20.7**	**-0.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
ULN	**Ulaanbaatar**	**30.40**	**288**	eP	**P**	**00 46 20.7**	**-0.5**
	comp=Z,2.0nm,0.8s,mb3.8						
TLY	**Talaya**	**31.57**	**296**	eP	**P**	**00 46 31.2**	**-0.2**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
TLY	**Talaya**	**31.57**	**296**	eP	**P**	**00 46 35.5**	**+4.1**
	comp=Z,5.8nm,0.6s,mb4.5						
ZAK	**Zakamensk**	**32.10**	**294**	eP	**P**	**00 46 35.5**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.6						
XAN	**Xi'an**	**35.40**	**264**	P	**P**	**00 47 04.3**	**-0.2**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**35.96**	**39**	P	**P**	**00 47 08.8**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=247,slow=5.9,SNR=6.3						
ENH	**Enshi**	**37.34**	**258**	eP	**P**	**00 47 20.6**	**-0.3**
	comp=Z,10nm,0.7s,mb4.9						
CD2	**Chengdu**	**40.76**	**264**	⇑iP	**P**	**00 47 50.0**	**+0.8**
CD2				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.9						
INK	**Inuvik**	**40.99**	**33**	eP	**P**	**00 47 51.8**	**+1.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**40.99**	**33**	P	**P**	**00 47 51.2**	**+0.5**
	comp=Z,0.9nm,0.4s,mb3.9,baz=308,slow=4.7,SNR=10						
INK	**Inuvik**	**40.99**	**33**	eP	**P**	**00 47 51.8**	**+1.1**
	comp=Z,1.4nm,0.6s,mb4.0						
GYA	**Guiyang**	**41.72**	**256**	⇑iP	**P**	**00 47 57.0**	**-0.1**
GYA				AP	pP	00 48 17.3	-3.0
GYA				XP	sP	00 48 29.8	-2.0
GYA				PP	PP	00 49 37.5	-0.7
GYA				S	**S**	**00 54 06.8**	**+0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**41.92**	**305**	P	**P**	**00 47 58.3**	**0.0**
	comp=Z,5.3nm,0.5s,mb4.5,baz=45,slow=6.8,SNR=19						
NVS	**Novosibirsk**	**42.46**	**307**	eP	**P**	**00 48 01.5**	**-1.3**
NVS				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
NVS				pmax	pmax		
	comp=E,6.0nm,0.7s						
WMQ	**Urumqi**	**44.40**	**290**	⇑P	**P**	**00 48 19.5**	**+0.9**
WMQ				AP	pP	00 48 40.0	-2.0
WMQ				PCP	PcP	00 50 03.5	+2.2
WMQ				PPP	PPP	00 50 44.5	-0.8
WMQ				eS	**S**	**00 54 45.5**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,102nm,0.9s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,116nm,4.8s						
WMQ				LR	LR		
	comp=N,9.0nm,18.3s						
WMQ				LR	LR		
	comp=E,12nm,20.0s						
WMQ				LR	LR		
	comp=Z,12nm,20.0s						
RES	**Resolute Bay**	**50.03**	**19**	eP	**P**	**00 49 01.8**	**-0.4**
RES				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
RES	**Resolute Bay**	**50.03**	**19**	eP	**P**	**00 49 01.8**	**-0.4**
	comp=Z,3.3nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**50.11**	**309**	P	**P**	**00 49 02.6**	**-0.5**
	comp=Z,5.8nm,0.4s,mb4.9,baz=57,slow=7.2,SNR=65						
YKA	**Yellowknife Ar**	**50.31**	**37**	i P	**P**	**00 49 04.7**	**+0.2**
YKA	**Yellowknife Ar**	**50.31**	**37**	P	**P**	**00 49 04.5**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=299,slow=7.3,SNR=7.3						
CM31	**Chiang Mai Arr**	**52.39**	**255**	eP	**P**	**00 49 21.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**52.39**	**255**	i P	**P**	**00 49 21.3**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**52.39**	**255**	P	**P**	**00 49 20.7**	**-0.1**
	comp=Z,2.0nm,0.4s,mb4.5,baz=32,slow=7.4,SNR=14						
AAK	**Ala-Archa**	**53.24**	**296**	⇑iP	**P**	**00 49 25.1**	**-1.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
AAK	**Ala-Archa**	**53.24**	**296**	eP	**P**	**00 49 24.8**	**-2.0**
	comp=Z,3.4nm,0.9s,mb4.4						
ARU	**Arti**	**54.19**	**317**	⇑iP	**P**	**00 49 32.1**	**-1.4**
ARU				e		00 51 31.6	
ARU				eS	**S**	**00 56 58.5**	**-2.6**
ARU				eSS	SS	01 00 44.9	+1.2
ARU				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.8						
ARU	**Arti**	**54.19**	**317**	eP	**P**	**00 49 31.9**	**-1.6**
	comp=Z,13nm,0.4s,mb5.3						
JIRN	**Jiri**	**54.67**	**274**	eP	**P**	**00 49 37.9**	**+0.5**
	comp=Z,56nm,0.7s						
GUN	**Gumba**	**54.72**	**274**	eP	**P**	**00 49 37.8**	**0.0**
	comp=Z,27nm,0.5s,mb5.5						
KKN	**Kakani**	**55.20**	**274**	eP	**P**	**00 49 41.5**	**+0.2**
	comp=Z,31nm,0.6s,mb5.5						
PKI	**Pulchoki**	**55.25**	**274**	eP	**P**	**00 49 41.8**	**+0.1**
	comp=Z,30nm,0.8s,mb5.4						
DMN	**Daman**	**55.43**	**274**	eP	**P**	**00 49 43.3**	**+0.3**
	comp=Z,72nm,0.8s						
GKN	**Gorkha**	**55.49**	**275**	eP	**P**	**00 49 43.3**	**-0.1**
	comp=Z,49nm,0.7s						
KOLN	**Koldanda**	**56.34**	**276**	eP	**P**	**00 49 49.6**	**+0.1**
	comp=Z,38nm,0.8s,mb5.5						
KEV	**Kevo**	**56.40**	**340**	ep	**P**	**00 49 47.4**	**-1.9**
	comp=Z,2.5nm,0.4s,mb4.6						
KEV	**Kevo**	**56.40**	**340**	eP	**P**	**00 49 47.4**	**-1.9**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
ARCES	**ARCESS Array B**	**56.91**	**340**	P	**P**	**00 49 51.8**	**-1.1**
	comp=Z,2.1nm,0.5s,mb4.4,baz=30,slow=7.2,SNR=17						
SUMG	**Summit**	**59.79**	**4**	eP	**P**	**00 50 13.0**	**+0.1**
	comp=Z,22nm,0.8s,mb5.2						
NDI	**New Delhi**	**60.02**	**281**	eP	**P**	**00 50 13.0**	**-2.0**
JOF	**Joensuu**	**60.41**	**333**	ep	**P**	**00 50 15.3**	**-1.9**
	comp=Z,1.2nm,0.3s,mb4.4						
FCC	**Fort Churchill**	**60.60**	**33**	eP	**P**	**00 50 17.7**	**-0.9**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
FCC	**Fort Churchill**	**60.60**	**33**	eP	**P**	**00 50 17.7**	**-0.9**
	comp=Z,2.6nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**62.19**	**63**	P	**P**	**00 50 28.0**	**-1.6**
	comp=Z,0.5nm,0.5s,mb3.9,baz=281,slow=7.6,SNR=4.3						
KAF	**Kangasniemi**	**62.51**	**335**	ep	**P**	**00 50 29.6**	**-1.8**
	comp=Z,2.1nm,0.4s,mb4.4,baz=37,slow=6.2						
KAF	**Kangasniemi**	**62.51**	**335**	eP	**P**	**00 50 29.6**	**-1.8**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**63.11**	**334**	P	**P**	**00 50 34.0**	**-1.4**
	comp=Z,4.6nm,0.3s,mb4.8,baz=35,slow=7.6,SNR=130						
PDAR	**Pinedale Array**	**64.37**	**54**	P	**P**	**00 50 42.6**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=333,slow=2.0,SNR=2.9						
OBN	**Obninsk**	**64.43**	**325**	P	**P**	**00 50 44.0**	**+0.1**
OBN	**Obninsk**	**64.43**	**

BURAR	Bucovina Array	74.70	326	⇓P	P	00 51 47.4	+0.8
NIE	Niedzica	74.92	330	eP	P	00 51 47.7	-0.1
KSP	Ksiaz	74.98	333	eP	P	00 51 48.5	+0.4
OKC	Ostrava-Krasne	75.28	332	eP	P	00 51 49.4	-0.4
TLCR		75.29	323	⇑P	P	00 51 50.1	+0.1
UPC	Upice	75.36	333	eP	P	00 51 50.8	+0.6
DPC	Dobruska-Polom	75.40	333	eP	P	00 51 50.9	+0.4
CLL	Collm	75.53	335	⇑iP	P	00 51 51.0	-0.2
CLL				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.9						
CLL	Collm	75.53	335	⇑iP	P	00 51 51.0	-0.2
	comp=Z,17nm,0.7s,mb4.9						
CLL	Collm	75.53	335	⇑P	P	00 51 51.0	-0.2
	comp=Z,logA/T=1.4,mb4.9						
VRI	Vrincioaia	75.57	324	⇓P	P	00 51 52.1	+0.6
CFR	Carcaliu	75.57	323	⇓P	P	00 51 51.9	+0.3
CFR	Carcaliu	75.57	323	⇓P	P	00 51 51.8	+0.2
BRG	Berggiesshubel	75.65	335	iP	P	00 51 52.1	+0.2
BRG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
BRG	Berggiesshubel	75.65	335	iP	P	00 51 52.1	+0.2
	comp=Z,5.0nm,0.8s,mb4.3						
KECS	Kecovo	75.67	329	eP	P	00 51 50.6	-1.4
PVCC	Panska Ves	75.78	334	eP	P	00 51 52.8	+0.2
TIRR	Tirgusor	76.05	322	⇓P	P	00 51 54.7	+0.4
MLR	Muntele Rosu	76.19	325	⇓P	P	00 51 55.7	+0.6
VYHS	Vyhne	76.22	330	iP	P	00 51 55.8	+0.6
VYHS				e		00 55 03.6	
VRAC	Vranov	76.23	332	⇓P	P	00 51 56.2	+1.0
PRU	Pruhonice	76.26	334	eP	P	00 51 55.8	+0.4
MALT	Malatya	76.37	312	⇓P	P	00 51 58.0	+1.8
VOIR		76.58	325	⇓P	P	00 51 58.4	+1.1
NKC	Novy Kostel	76.66	335	eP	P	00 51 57.9	+0.3
ZST	Bratislava	77.05	331	eP	P	00 52 00.8	+1.0
TXAR	Lajitas Array	77.22	61	P	P	00 52 00.7	-0.5
	comp=Z,0.6nm,0.5s,mb3.6,baz=301,slow=4.8,SNR=13						
KHC	Kasperske Hory	77.31	334	eP	P	00 52 01.7	+0.4
GRA1	Grafenberg Arr	77.49	336	eP	P	00 52 02.4	+0.2
	comp=Z,7.0nm,0.9s,mb4.4						
GRF	Grafenberg Arr	77.49	336	eP	P	00 52 02.4	+0.2
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
GRF	Grafenberg Arr	77.49	336	eP	P	00 52 02.4	+0.2
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
GRF	Grafenberg Arr	77.49	336	eP	P	00 52 02.4	+0.2
	comp=Z,7.0nm,0.9s,mb4.4						
GERES	GERESS Array B	77.53	334	P	P	00 52 02.5	0.0
	comp=Z,1.5nm,0.5s,mb4.0,baz=35,slow=5.6,SNR=16						
BRTR	Keskin Array B	77.57	316	P	P	00 52 03.4	+0.5
	comp=Z,5.8nm,0.8s,mb4.3,baz=70,slow=4.3,SNR=37						
BZS	Buzias	77.72	327	⇓P	P	00 52 03.7	+0.1
ANTO	Ankara	77.85	317	⇓P	P	00 52 05.5	+1.1
PKSM	Moragy	78.26	329	⇑P	P	00 52 04.6	-1.9
ARSA	Arzberg	78.38	332	⇑iP	P	00 52 07.8	+0.6
	comp=Z,2.2nm,0.6s,mb4.1						
BAIF	Baives	78.94	340	eP	P	00 52 09.9	-0.3
KBA	Koelnbreinsper	79.22	333	⇑iP	P	00 52 12.7	+0.9
	comp=Z,4.8nm,0.5s,mb4.6						
KBA	Koelnbreinsper	79.22	333	⇑iP	P	00 52 12.7	+0.9
KBA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
WTTA	Wattenberg	79.56	334	⇓iP	P	00 52 14.7	+1.1
	comp=Z,5.5nm,0.5s,mb4.6						
WTTA	Wattenberg	79.56	334	⇓iP	P	00 52 14.7	+1.1
WTTA				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.7						
CDF	Champ du Feu	79.72	337	eP	P	00 52 14.5	+0.1
	comp=Z,3.0nm,0.6s,mb4.0						
CDF	Champ du Feu	79.72	337	eP	P	00 52 14.5	+0.1
CDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
HAU	Haudompre	80.33	338	eP	P	00 52 17.9	+0.2
HINF	Hinteralfeld	80.38	337	eP	P	00 52 17.9	-0.1
LOR	Lormes	81.64	339	eP	P	00 52 24.5	-0.1
	comp=Z,9.5nm,0.8s,mb4.4						
LOR	Lormes	81.64	339	eP	P	00 52 24.5	-0.1
LOR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
SSF	Saint Saulge	81.91	339	eP	P	00 52 25.7	-0.3
SSF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
SSF	Saint Saulge	81.91	339	eP	P	00 52 25.7	-0.3
	comp=Z,3.6nm,0.8s,mb4.2						
SGMF	Saint Gilles	82.08	344	eP	P	00 52 27.1	+0.2
	comp=Z,32nm,0.9s,mb4.8						
SGMF	Saint Gilles	82.08	344	eP	P	00 52 27.1	+0.2
SGMF				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
SMF	Signal de Mont	82.22	339	eP	P	00 52 27.6	0.0
LPL	La Plagne	82.54	337	eP	P	00 52 30.3	+1.0
	comp=Z,12nm,1.0s,mb4.4						
LPL	La Plagne	82.54	337	eP	P	00 52 30.3	+1.0
LPL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
LPG	La Plagne	82.55	337	eP	P	00 52 30.4	+1.1
	comp=Z,6.0nm,0.8s,mb4.2						
LPG	La Plagne	82.55	337	eP	P	00 52 30.4	+1.1
LPG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
TCF	Toulx Ste Croi	82.95	340	eP	P	00 52 31.6	+0.3
	comp=Z,8.3nm,0.7s,mb4.4						
TCF	Toulx Ste Croi	82.95	340	eP	P	00 52 31.6	+0.3
TCF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
MFF	Saint Martin d	83.17	342	eP	P	00 52 32.8	+0.4
	comp=Z,22nm,0.9s,mb4.7						
MFF	Saint Martin d	83.17	342	eP	P	00 52 32.8	+0.4
MFF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
MBDF	Montbardon	83.26	336	eP	P	00 52 33.4	+0.5
	comp=Z,2.4nm,0.6s,mb3.9						
MBDF	Montbardon	83.26	336	eP	P	00 52 33.4	+0.5
MBDF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
ORIF	Oris-en-Rattie	83.32	337	eP	P	00 52 33.5	+0.3
	comp=Z,8.3nm,0.9s,mb4.3						
ORIF	Oris-en-Rattie	83.32	337	eP	P	00 52 33.5	+0.3
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
VIVF	Saint-Julien-l	83.69	338	eP	P	00 52 35.4	+0.4
SBF	Sospel	83.87	336	eP	P	00 52 36.5	+0.6
	comp=Z,8.3nm,0.7s,mb4.3						
SBF	Sospel	83.87	336	eP	P	00 52 36.5	+0.6
SBF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
CAF	Calviac	84.26	340	eP	P	00 52 38.3	+0.4
	comp=Z,8.7nm,0.6s,mb4.4						
CAF	Calviac	84.26	340	eP	P	00 52 38.3	+0.4
CAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
LMR	La Mourre	84.62	336	eP	P	00 52 40.2	+0.5
	comp=Z,9.6nm,1.0s,mb4.4						
LMR	La Mourre	84.62	336	eP	P	00 52 40.2	+0.5
LMR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
PGF	Pioggiola	84.63	334	eP	P	00 52 40.3	+0.6
	comp=Z,5.2nm,0.9s,mb4.2						
PGF	Pioggiola	84.63	334	eP	P	00 52 40.3	+0.6
PGF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MTLF	Montolieu	85.72	339	eP	P	00 52 45.7	+0.6
	comp=Z,9.8nm,1.1s,mb4.3						
MTLF	Montolieu	85.72	339	eP	P	00 52 45.7	+0.6
MTLF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
SJPF	Ste Jean	86.73	341	eP	P	00 52 50.6	+0.5
	comp=Z,29nm,1.2s,mb4.8						
SJPF	Ste Jean	86.73	341	eP	P	00 52 50.6	+0.5
SJPF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						

IDC 28 00:50:55.6±3.7, 1.53S×99.60E, mb3.9/2, mb1 4.1/3, mb1mx3.6/16, mbtmp3.8/3, ML4.3/1, Error ellipse: s-maj=148.6km s-min=29.4km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.87	358	P	P	00 55 29.1	-2.4
	0.4nm,0.3s,baz=189,slow=10.0,SNR=5.8						
WRA	Warramunga Arr	38.58	121	P	P	00 58 20.7	-1.5
	0.8nm,0.6s,baz=302,slow=9.4,SNR=2.5						
ZAL	Zalesovo	56.63	350	P	P	01 00 40.4	-2.4
	0.9nm,0.4s,baz=302,slow=4.2,SNR=4.1						
TXAR	Lajitas Array	144.57	37	PKP	PKPdf	01 10 33.5	-3.2
	0.6nm,0.5s,baz=208,slow=0.5,SNR=16						

*CSEM **28** 01:01:18.1±0.2, 29.98N×35.96E, h10km, Mw2.4, Error ellipse: s-maj=4.7km s-min=3.6km az=99.0*
*HLW **28** 01:01:23.8, 30.36N×35.73E, h11km, Mb3.1*
*GII **28** 01:01:31.0±0.2, 30.16N×35.16E, h9km±2km, ML2.2/4, Mw2.4/5*

ISC 28 01:01:30.0±0.7, 30.17N±0.03×35.18E±0.06, h13km±4km, n21, σ0§82/28, 2C-2D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	0.18	222	Pg	Pg	01 01 34.5	+0.2
HRFI				Sg	Sg	01 01 37.6	+0.3
PRNI	Paran	0.23	320	Pg	Pg	01 01 36.0	+0.8
PRNI				Sg	Sg	01 01 40.1	+1.4
PRNI	Paran	0.23	320	⇑Pg	Pg	01 01 36.0	+0.8
ZFRI	Zfri	0.38	360	Pg	Pg	01 01 38.9	+1.0
ZFRI	Zfri	0.38	360	⇑Pg	Pg	01 01 38.9	+1.0
KMTI	Karmit	0.40	260	Pg	Pg	01 01 38.4	+0.1
KMTI				Sg	Sg	01 01 43.8	-0.1
KMTI	Karmit	0.40	260	⇑Pg	Pg	01 01 38.4	+0.1
MBH	Mount Berech	0.44	211	Pg	Pg	01 01 39.0	-0.1
MBH	Mount Berech	0.44	211	⇑Pg	Pg	01 01 39.0	-0.1
AQBJ	Aqaba	0.46	194	Pg	Pg	01 01 39.6	+0.2
EIL	Elat	0.54	202	Pg	Pg	01 01 40.5	-0.4
MASH	Mash'abbe Sade	0.89	338	Pg	Pg	01 01 48.3	+0.4
RTMM	Retamin	0.97	334	Pg	Pg	01 01 48.9	-0.6
KZIT	Kziot	1.00	317	Pg	Pg	01 01 49.1	-0.9
KZIT				Sg	Sg	01 02 02.5	-0.9
MZDA	Masada	1.14	8	Pg	Pg	01 01 51.7	-1.2
MZDA				Sg	Sg	01 02 07.5	-0.8
NUB		1.23	202	⇑P	Pb	01 01 51.6	-0.9
MKRJ	Makawir	1.43	16	Pn	Pn	01 01 56.7	+1.0
AMAG	Maghara	1.77	286	⇓P	Pn	01 01 59.5	-1.0
HKAT	Jabal Katrina	1.94	213	⇑P	Pn	01 02 02.2	-0.9
HKAT				S	Sn	01 02 30.2	+2.8
SUZ		2.06	261	⇓P	Pn	01 02 04.6	-0.1
SLTI	Sal'it	2.06	357	Pn	Pn	01 02 05.2	+0.4
SLTI				Sn	Sn	01 02 31.2	+0.7

*NEIC **28** 01:49:06.1, 15.76N×95.12W, h16km, MD4.2(MEX), After MEX.*
*MEX **28** 01:49:07.0±0.8, 15.81N×95.18W, h15km±10km, MD4.2*
*IDC **28** 01:49:12.8±5.5, 16.97N×94.58W, h40km±62km, mb3.2/3, mb1 3.7/5, mb1mx3.4/21, mbtmp3.5/5, ML3.6/2, MS3.4/1, Ms1 3.3/1, ms1mx2.5/18, Error ellipse: s-maj=145.9km s-min=42.0km az=41.0*

ISC 28 01:49:04.5±1.1, 15.87N±0.06×95.20W±0.03, h20km±10km, n18, σ1§00/29, mb3.5/3, MS3.4/1, 2C-1D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.88	263	iP	Pb	01 49 21.0	-0.1
HUIG				iS	Sb	01 49 31.7	-0.7
HUIG	Huatulco	0.88	263	⇑iP	Pb	01 49 21.0	0.0
HUIG				iS	Sb	01 49 31.7	-0.7
CMIG	Matias Romero	1.25	14	⇓iP	Pn	01 49 26.6	-0.5
CMIG				iS	Sb	01 49 42.2	-0.7
OXX	Oaxaca	1.90	310	iP	Pn	01 49 36.7	+0.3
OXX				iS	Sn	01 50 01.0	+1.1
OXX	Oaxaca	1.90	310	iP	Pn	01 49 36.7	+0.3
OXX				iS	Sn	01 50 00.0	+0.1
VHO	Vista Hermosa	1.90	309	eP	Pn	01 49 37.0	+0.6
VHO				iS	Sn	01 50 00.1	+0.2
VHO	Vista Hermosa	1.90	309	⇑eP	Pn	01 49 37.1	+0.7
VHO				iS	Sn	01 50 00.1	+0.2
TUIG	Tuzandepetl	2.27	19	iP	Pn	01 49 42.0	+0.2
TUIG				iS	Sn	01 50 08.9	-0.6
EVV	El Vigia	2.58	357	iP	Pn	01 49 48.5	+2.4
SCX	San Cristobal	2.61	70	iP	Pn	01 49 48.7	+2.2
SCX				iS	Sn	01 50 18.5	+0.5
CCIG	Comitan	2.97	82	eP	Pn	01 49 51.7	0.0
CCIG				iS	Sn	01 50 25.9	-1.2
PPM	Popocatepetl	4.56	315	eP	Pn	01 50 19.0	+4.7
PPM	Popocatepetl	4.56	315	eP	Pn	01 50 14.3	0.0
PPM				iS	Sn	01 51 07.3	-0.2
JTS	JuntasAbangare	11.41	118	Pn	P	01 51 54.1	+4.4
	0.8nm,0.3s,baz=332,slow=17,SNR=3.9						
TXAR	Lajitas Array	15.50	331	Pn	P	01 52 43.8	-0.1
	0.0nm,0.3s,baz=148,slow=12,SNR=5.1						
NVAR	Mina Array Bea	30.30	322	P	P	01 55 16.6	-0.3
	0.5nm,0.7s,mb3.4,baz=135,slow=10,SNR=3.7						
YKA	Yellowknife Ar	48.54	348	P	P	01 57 44.4	-3.7
	0.5nm,0.8s,mb3.6,baz=154,slow=7.3,SNR=9.9						
YKA				LR	LR	02 20 32.5	
	comp=Z,40nm,20.5s,MS3.4,baz=215,slow=40						
ILAR	Eielson Array	59.92	337	P	P	01 59 08.8	-2.7
	0.5nm,0.9s,mb3.5,baz=129,slow=5.8,SNR=4.3						

IDC 28 01:50:34.1±3.4, 1.36S×100.16E, mb3.6/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, Error ellipse: s-maj=231.8km s-min=27.6km az=48.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.73	357	LR	LR	02 03 19.4	
	comp=Z,12nm,19.2s,baz=277,slow=39						
WRA	Warramunga Arr	38.18	121	P	P	01 57 55.6	-1.8
	0.6nm,0.6s,baz=297,slow=8.1,SNR=2.9						
ASAR	Alice Springs	39.50	127	P	P	01 58 06.8	-1.7
	0.3nm,0.6s,baz=302,slow=8.5,SNR=1.8						
BVAR	Borovoye Array	59.64	340	P	P	02 00 39.9	-2.5
	0.3nm,0.4s,baz=153,slow=9.7,SNR=3.7						
FINES	FINESS Array B	83.62	332	P	P	02 03 04.5	-1.1
	0.2nm,0.5s,baz=117,slow=6.2,SNR=3.6						
TXAR	Lajitas Array	144.10	37	PKP	PKPdf	02 10 12.3	-2.0
	0.1nm,0.5s,baz=297,slow=2.0,SNR=3.3						

*IDC **28** 02:08:10.0±3.4, 59.72S×25.52W, h18km±20km, mb4.1/14, mb1 4.2/14, mb1mx4.2/19, mbtmp4.2/14, MS3.7/8, Ms1 3.7/8, ms1mx3.5/18, Error ellipse: s-maj=21.6km s-min=15.3km az=27.0*
*BJI **28** 02:08:10.1, 59.70S×25.60W, h18km, mB5.1, Ms4.5, Msz4.9*
*NEIC **28** 02:08:10.2±5.8, 59.72S×25.58W, h19km±36km, mb4.6/18, Error ellipse: s-maj=9.1km s-min=6.9km az=214.0*

ISC 28 02:08:06.9±0.4, 59.74S±0.07×25.5W±0.1, h10km, n53, σ1§12/43, mb4.4/24, MS3.9/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.05	154	e	P	02 11 13.4	-1.4
VNA1	Neumayer--Stat	13.05	154	e	P	02 11 20.1	+5.3
VNA1	Neumayer--Stat	13.05	154	P	P	02 11 11.6	-3.2
VNA1				e		02 11 13.4	
VNA1				e		02 11 20.1	
VNA1				e		02 13 26.4	
VNA1				e		02 13 31.5	
VNA2	Neumayer--Watz	13.45	154	e	P	02 11 18.0	-2.1
VNA2	Neumayer--Watz	13.45	154	e	P	02 11 26.6	+6.5
VNA2	Neumayer--Watz	13.45	154	P	P	02 11 16.4	-3.7
VNA2				e		02 11 18.0	
VNA2				e		02 11 26.6	
VNA2				e		02 13 31.8	
VNA2				e		02 13 36.8	
SNAA	Sanae	15.03	152	Pn	P	02 11 37.0	-3.6
	1.9nm,0.3s,baz=322,slow=19,SNR=56						
SNAA				Sn	S	02 14 09.6	-18
	0.7nm,0.3s,baz=314,slow=17,SNR=6.7						
SNAA				LR	LR	02 15 49.4	
	comp=Z,99nm,19.8s,baz=22,slow=31						
USHA	Ushuaia	23.38	263	P	P	02 13 18.5	+2.5
	16nm,0.8s,mb4.5,baz=86,slow=8.4,SNR=5.5						
USHA				LR	LR	02 20 33.8	
	comp=Z,316nm,18.8s,MS3.8,baz=80,slow=32						
QSPA	South Pole Qui	30.50	180	eP	P	02 14 21.9	+0.3
TRQA	Tornquist	31.69	297	eP	P	02 14 31.7	-0.8
	3.4nm,0.7s,mb4.3						
PLCA	Paso Flores	33.65	284	P	P	02 14 48.5	-0.9
	1.6nm,0.5s,mb4.2,baz=153,slow=6.5,SNR=8.3						
PLCA				LR	LR	02 27 09.3	
	comp=Z,96nm,19.2s,MS3.5,baz=172,slow=34						
MAW	Mawson	36.69	140	P	P	02 15 13.5	-1.7
	6.3nm,1.0s,mb4.4,baz=279,slow=9.7,SNR=4.9						
MAW				LR	LR	02 28 14.1	
	comp=Z,183nm,19.3s,MS3.9,baz=238,slow=33						
MAW	Mawson	36.69	140	eP	P	02 15 14.5	-0.7
	19nm,1.2s,mb4.8						
CFAA	Coronel Fontan	39.90	296	P	P	02 15 41.8	-0.6
	0.4nm,0.6s,mb3.3,baz=157,slow=8.3,SNR=7.1						
CPUP	Villa Florida	39.95	313	P	P	02 15 41.6	-1.2
	0.8nm,0.5s,mb3.7,baz=180,slow=9.1,SNR=5.7						
CPUP				LR	LR	02 31 12.9	
	comp=Z,83nm,18.2s,MS3.6,baz=348,slow=35						
CPUP	Villa Florida	39.95	313	eP	P	02 15 41.4	-1.5
	3.6nm,1.2s,mb4.0						
SUR	Sutherland	40.94	69	eP	P	02 15 52.9	+2.0
	20nm,1.2s,mb4.6						
SBA	Scott Base	42.45	184	eP	P	02 16 03.8	+1.1
	11nm,1.3s,mb4.3						
VNDA	Vanda	42.92	182	P	P	02 16 08.0	+1.5
	3.2nm,1.0s,mb4.0,baz=186,slow=6.1,SNR=11						
VNDA				LR	LR	02 32 51.5	
	comp=Z,82nm,20.7s,MS3.6,baz=28,slow=34						
VNDA	Vanda	42.92	182	eP	P	02 16 07.8	+1.4
	5.0nm,1.2s,mb4.1						
BOSA	Boshof	46.18	71	P	P	02 16 33.5	+0.2
	4.7nm,1.0s,mb4.4,baz=214,slow=5.2,SNR=5.7						
BOSA	Boshof	46.18	71	eP	P	02 16 33.5	+0.2
	8.6nm,1.1s,mb4.6						
BDFB	Brasilia	47.01	330	P	P	02 16 40.3	+0.3
	1.1nm,0.4s,mb4.1,baz=122,slow=13,SNR=3.2						
BDFB				LR	LR	02 34 57.1	
	comp=Z,111nm,18.5s,MS3.9,baz=359,slow=34						
LVC	Limon Verde	47.95	301	P	P	02 16 48.4	+1.0
	3.6nm,0.5s,mb4.7,baz=147,slow=2.7,SNR=9.5						
LVC	Limon Verde	47.95	301	eP	P	02 16 47.9	+0.6
	5.7nm,0.7s,mb4.7						
LBTB	Lobatse	49.38	69	eP	P	02 16 56.4	-2.0
	13nm,1.3s,mb4.8						
CASY	Casey	50.13	159	eP	P	02 17 03.5	0.0
	9.5nm,0.9s,mb4.8						
TSUM	Tsumeb	50.85	56	P	P	02 17 09.8	+0.1
	1.2nm,0.8s,mb3.9,baz=261,slow=8.3,SNR=6.6						
TSUM	Tsumeb	50.85	56	eP	P	02 17 10.2	+0.6
	3.6nm,1.0s,mb4.3						
LPAZ	La Paz	53.25	306	P	P	02 17 28.0	+0.3
	1.6nm,0.4s,mb4.3,baz=85,slow=5.7,SNR=19						
LPAZ	La Paz	53.25	306	eP	P	02 17 28.1	+0.4
	4.0nm,0.8s,mb4.4						
SAML	Samuel	58.04	315	eP	P	02 18 00.5	-1.8
	2.8nm,0.6s,mb4.5						
LSZ	Lusaka	59.00	65	eP	P	02 18 08.9	-0.1
	3.8nm,0.8s,mb4.5						
LSZ				e		02 18 20.5	
NNA	Nana	60.81	299	P	P	02 18 21.4	0.0
	8.2nm,0.8s,mb4.9						
DBIC	Dimbokro	68.21	22	P	P	02 19 09.5	-0.1
	2.9nm,0.8s,mb4.3,baz=289,slow=14,SNR=3.9						
DBIC	Dimbokro	68.21	22	P	P	02 19 09.7	+0.2
	3.9nm,0.8s,mb4.5						
OTAV	Otavalo	72.44	303	eP	P	02 19 36.0	+0.8
	8.0nm,1.2s,mb4.5						
MBAR	Mbarara	73.12	60	P	P	02 19 41.0	+1.7
	6.2nm,1.2s,mb4.4						
SDV	Santo Domingo	77.24	314	P	P	02 20 02.3	-0.5
	1.8nm,0.4s,mb4.3,baz=254,slow=9.0,SNR=3.1						
TAU	Tasmania Unive	77.54	175	P	P	02 20 03.7	-0.1
STKA	Stephens Creek	88.10	169	eP	P	02 20 59.0	+0.6
ASAR	Alice Springs	95.20	161	P	P	02 21 31.7	+0.2
	1.7nm,0.7s,mb4.6,baz=183,slow=4.1,SNR=18						
ASAR				LR	LR	03 04 27.7	
	comp=Z,78nm,20.1s,MS4.2,baz=178,slow=36						
PDAR	Pinedale Array	123.00	299	PKP	PKPdf	02 27 04.3	-1.5
	0.2nm,0.4s,baz=135,slow=8.9,SNR=3.0						
NOA	NORSAR Array B	123.76	20	PKP	PKPdf	02 27 05.4	-1.6
	1.1nm,0.9s,baz=187,slow=1.5,SNR=4.2						
FINES	FINESS Array B	127.23	28	PKP	PKPdf	02 27 12.0	-1.3
	0.8nm,0.6s,baz=180,slow=1.9,SNR=6.7						
ARCES	ARCESS Array B	134.04	22	PKP	PKPdf	02 27 24.3	-1.8
	2.6nm,0.9s,baz=72,slow=3.8,SNR=5.0						
WMQ	Urumqi	137.68	81	PKP	PKPdf	02 27 31.0	-2.6
WMQ				PP	PP	02 30 22.0	+0.8
WMQ				LR	LR		
	comp=N,23nm,20.4s						
WMQ				LR	LR		
	comp=Z,190nm,20.4s,MS4.8						
YKA	Yellowknife Ar	139.46	314	PKP	PKPdf	02 27 34.7	-1.5
	comp=Z,0.9nm,0.5s,baz=128,slow=2.6,SNR=22						
YKA				SKPbc		02 31 07.8	
	comp=Z,1.2nm,0.8s,baz=122,slow=2.1,SNR=6.1						
YKA	Yellowknife Ar	139.46	314	PKP	PKPdf	02 27 34.7	-1.5
YKA				SKPbc		02 31 07.8	
INK	Inuvik	149.16	316	ePKPbc	PKPdf	02 27 54.9	+2.4
ILAR	Eielson Array	153.13	306	PKPbc	PKPdf	02 28 05.0	+6.6
	comp=Z,2.0nm,0.9s,baz=169,slow=1.2,SNR=16						
MCK	McKinley	153.68	303	ePKPbc	PKPdf	02 28 06.6	+7.3
MCK				ePKPab	PKPab	02 28 18.6	-0.6
MDJ	Mudanjiang	158.69	124	PKP	PKPdf	02 28 05.8	-0.6

*INET **28** 02:21:29.7, 10.56N×86.55W, h1km, ML3.6*
*CASC **28** 02:21:30.4±2.3, 10.52N×86.61W, h20km±36km, MD4.2, ML3.5, mb4.3(NEIC)*
*IDC **28** 02:21:36.1±3.0, 11.43N×85.95W, h28km±26km, mb3.3/4, mb1 3.8/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=51.7km s-min=18.6km az=51.0*
*NEIC **28** 02:21:36.4±0.8, 11.53N

DJA 28 02:41:02.4±0.9, 8.64S×116.35E, h109km±5km, MD4.6/5, ML4.3/3, 3C-5D, Error ellipse: s-maj=41.3km s-min=15.5km az=0.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.28**	**303**	⇓*i*Pn	P	02 41 17.9	-0.2
KEDI	134nm,0.2s			⇑*i*Sn	S	02 41 29.0	-0.9
RATI	**Rata**	**0.81**	**264**	⇑*i*Pn	P	02 41 21.6	-0.3
RATI	227nm,0.2s			⇓*i*Sn	S	02 41 35.9	-0.6
KELI	**Kelakatan**	**1.89**	**283**	⇑*i*Pn	P	02 41 34.3	-0.1
KELI	24nm,0.2s			⇓*i*Sn	S	02 41 57.0	-1.3
SRDI	**Scrawed**	**2.19**	**274**	⇓*i*Pn	P	02 41 37.5	-0.9
SRDI	74nm,0.2s			⇓*i*Sn	S	02 42 03.8	-1.5

IDC 28 02:41:23.4±4.1, 0.05N×97.05E, mb4.1/4, mb1 4.3/5, mb1mx3.8/17, mbtmp4.1/5, ML4.5/1, MS3.2/1, Ms1 3.4/1, ms1mx2.8/21, Error ellipse: s-maj=135.5km s-min=32.4km az=66.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.38**	**6**	P	P	02 45 40.9	-0.8
CMAR	0.6nm,0.3s,baz=193,slow=11,SNR=3.8			LR	LR	02 53 21.4	
FITZ	**Fitzroy Crossi**	**33.39**	**124**	P	P	02 48 04.0	-2.1
WRA	**Warramunga Arr**	**41.57**	**121**	P	P	02 49 12.2	-2.6
ASAR	**Alice Springs**	**42.83**	**126**	P	P	02 49 23.8	-1.5
STKA	**Stephens Creek**	**52.71**	**131**	P	P	02 50 41.1	-1.1
TXAR	**Lajitas Array**	**144.71**	**32**	PKP	PKPdf	03 01 01.1	-3.7

comp=Z,6nm,18.4s,baz=185,slow=39; 2.3nm,0.8s,baz=2.5,slow=14,SNR=3.8; 1.2nm,0.6s,baz=301,slow=9.2,SNR=5.1; 1.0nm,0.7s,baz=300,slow=7.9,SNR=9.5; 2.1nm,0.9s,baz=329,slow=12,SNR=3.3; 0.2nm,0.7s,baz=333,slow=2.0,SNR=2.9

IDC 28 03:11:59.0±1.7, 13.00S×164.63E, mb4.3/5, mb1 4.5/6, mb1mx4.1/15, mbtmp4.3/6, ML3.3/1, Error ellipse: s-maj=36.3km s-min=31.3km az=147.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.19**	**169**	Pn	P	03 14 12.2	-3.6
DZM	0.3nm,0.3s,baz=3.5,slow=19,SNR=3.1			Sn	Sn	03 15 58.0	-3.2
STKA	**Stephens Creek**	**28.29**	**225**	P	P	03 17 55.1	-1.2
WRA	**Warramunga Arr**	**29.83**	**253**	P	P	03 18 07.3	-3.0
ASAR	**Alice Springs**	**30.97**	**246**	P	P	03 18 18.5	-1.9
FITZ	**Fitzroy Crossi**	**37.86**	**257**	P	P	03 19 17.8	-1.8
NVAR	**Mina Array Bea**	**88.11**	**50**	P	P	03 24 52.2	-0.9

1.4nm,0.5s,baz=45,slow=11,SNR=7.0; 4.8nm,0.7s,baz=83,slow=7.8,SNR=5.9; 5.3nm,0.6s,baz=90,slow=14,SNR=2.3; 0.2nm,0.5s,baz=219,slow=5.8,SNR=3.9

WEL 28 03:27:17.3±0.4, 38.19S×179.37E, h18km±2km, ML3.6/11, 2C, Error ellipse: s-maj=2.5km s-min=2.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.89**	**277**	⇑P*	Pb	03 27 33.6	-0.3
PUZ				S*	Sb	03 27 45.7	+0.5
MXZ	**Matakaoa Point**	**1.05**	**306**	⇑P*	Pb	03 27 36.4	-0.2
MXZ				*e*S*	Sb	03 27 50.4	+0.5
MWZ	**Matawai**	**1.46**	**264**	PN	Pn	03 27 42.1	-0.9
MWZ				*e*SN	Sn	03 28 00.3	-1.5
KNZ	**Kokohu**	**1.57**	**237**	PN	Pn	03 27 43.5	-1.1
KNZ				SN	Sn	03 28 03.7	-0.9
URZ	**Urewera**	**1.78**	**267**	PN	Pn	03 27 47.1	-0.5
URZ				SN	Sn	03 28 08.9	-1.1
BKZ	**Black Stump Fm**	**2.46**	**246**	PN	Pn	03 27 56.3	-1.0
BKZ				SN	Sn	03 28 25.5	-1.6
NGZ	**Ngauruhoe**	**3.11**	**250**	PN	Pn	03 28 05.4	-1.2
CNZ	**Chateau**	**3.16**	**250**	*e*PN	Pn	03 28 05.6	-1.6
TSZ	**Takapari Road**	**3.25**	**234**	PN	Pn	03 28 05.5	-3.0
BFZ	**Birch Farm**	**3.47**	**223**	PN	Pn	03 28 08.4	-3.4
MRZ	**Mangatainoka R**	**3.84**	**229**	PN	Pn	03 28 13.1	-3.8
MRZ				*e*SN	Sn	03 28 56.1	-6.0
TCW	**Tory Channel**	**4.96**	**231**	*e*SN	Sn	03 29 24.5	-5.9
MQZ	**McQueen's Vall**	**7.50**	**221**	*e*SN	Sn	03 30 21.0	-13

HLW ***28*** *03:44:44.9, 34.62N×25.32E, h24km, Mb3.2*
CSEM ***28*** *03:44:45.2±0.1, 34.55N×25.35E, h40km, MD3.2, Error ellipse: s-maj=5.5km s-min=3.2km az=70.0*
ATH ***28*** *03:44:46.7, 34.81N×25.29E, h32km±3km, MD3.2/5*
NEIC ***28*** *03:44:46.7, 34.81N×25.29E, h32km, MD3.2(ATH), After ATH.*

ISC 28 03:44:44.8±0.9, 34.55N±0.07×25.36E±0.09, h51km±32km, n11, σ1§14/13, 2C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.42**	**41**	*e*PB	P	03 44 54.8	-0.5
NPS	**Neapolis**	**0.74**	**17**	*e*PN	P	03 44 58.2	-0.9
GVD	**Gavdhos**	**1.08**	**286**	*e*PN	P	03 45 06.0	+2.1
VAM	**Vamos**	**1.27**	**312**	⇓*i*PN	P	03 45 06.8	+0.2
VAM				*e*SN	S	03 45 21.7	-1.2
KARP	**Karpathos**	**1.78**	**56**	⇑*i*PN	P	03 45 15.9	+2.1
SLUM		**3.06**	**182**	P	P	03 45 32.3	+0.4
SLUM		**3.06**	**182**	P	P	03 45 32.3	+0.4
SLUM				S	S	03 46 07.5	+0.1
DABA	**Dabaa**	**4.31**	**144**	P	P	03 45 49.3	-0.2
DABA	**Dabaa**	**4.31**	**144**	⇑P	P	03 45 49.4	-0.1
HFRF	**Wahat Farafira**	**7.81**	**160**	P	P	03 46 36.9	-1.4
HFRF	**Wahat Farafira**	**7.81**	**160**	P	P	03 46 36.5	-1.8

GUC 28 03:45:22.0±0.7, 27.88S×70.29W, h74km±6km, ML4.4, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.52**	**354**	⇑*i*P	P	03 45 35.7	+0.2
CPCH				*i*S	S	03 45 45.9	+0.4
CPCH	comp=E,48μm,0.1s			AMP		03 45 47.5	
VACH	**Vallenar**	**0.81**	**211**	⇑*i*P	P	03 45 38.7	+0.1
VACH				*i*S	S	03 45 51.5	+0.6
VACH	comp=E,10μm,0.1s			AMP		03 45 53.4	
LCO	**Las Campanas**	**1.18**	**198**	*i*P	P	03 45 43.8	+0.5
LCO				*i*S	S	03 46 00.4	+1.2
CRCH	**Chaqaral**	**1.56**	**349**	⇓*i*P	P	03 45 48.5	+0.2
CRCH				*i*S	S	03 46 07.6	-0.2

IDC ***28*** *04:03:47.2±1.0, 5.13N×93.99E, mb4.1/9, mb1 4.3/10, mb1mx4.0/21, mbtmp4.1/10, ML4.7/1, Error ellipse: s-maj=57.6km s-min=17.1km az=50.0*
NEIC ***28*** *04:03:52.0±0.6, 5.24N×94.17E, h30km, mb4.7/4, Error ellipse: s-maj=18.0km s-min=9.3km az=49.0*

ISC 28 04:03:51.2±0.7, 5.5N±0.1×94.40E±0.08, h33km, n19, σ0§76/18, mb4.2/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.22**	**91**	*e*Pn	Pn	04 05 24.5	+1.2
KULM				*e*Sn	Sn	04 06 33.3	-0.7
CMAR	**Chiang Mai Arr**	**13.65**	**19**	Pn	P	04 07 09.5	+4.5
ENH	**Enshi**	**28.48**	**28**	P	P	04 09 44.9	-0.7
FITZ	**Fitzroy Crossi**	**38.70**	**128**	P	P	04 11 14.5	+0.4
AAK	**Ala-Archa**	**41.01**	**337**	*e*P	P	04 11 33.7	+0.7
WRA	**Warramunga Arr**	**46.68**	**124**	P	P	04 12 19.0	0.0
WRAB	**Tennant Creek**	**46.69**	**124**	*e*P	P	04 12 18.8	-0.3
WB2	**Warramunga Arr**	**46.69**	**124**	*e*P	P	04 12 19.3	+0.2
ASAR	**Alice Springs**	**48.20**	**129**	P	P	04 12 30.5	-0.4
ZAL	**Zalesovo**	**48.95**	**352**	P	P	04 12 37.2	+1.0
ZAL	**Zalesovo**	**48.95**	**352**	P	P	04 12 37.2	+0.9
BVAR	**Borovoye Array**	**51.34**	**342**	P	P	04 12 54.5	0.0
CHKZ	**Chkalovo**	**51.83**	**342**	*e*P	P	04 12 58.2	0.0
BRTR	**Keskin Array B**	**64.20**	**312**	P	P	04 14 23.5	-1.7
FINES	**FINESS Array B**	**74.95**	**332**	P	P	04 15 29.4	-1.1
ARCES	**ARCESS Array B**	**77.61**	**340**	P	P	04 15 45.9	+0.4
GERES	**GERESS Array B**	**79.79**	**319**	P	P	04 15 58.6	+0.8
NVAR	**Mina Array Bea**	**126.83**	**32**	PKP	PKPdf	04 22 55.1	+2.9
TXAR	**Lajitas Array**	**141.29**	**26**	PKhKP		04 23 18.1	

2.6nm,0.3s,mb4.8,baz=301,slow=6.2,SNR=1.0; 1.8nm,0.4s,mb4.3,baz=136,slow=11,SNR=16; 6.5nm,0.4s,mb4.9; 0.4nm,0.5s,mb3.7,baz=121,slow=8.4,SNR=2.8; 0.3nm,0.4s,mb3.6,baz=112,slow=10,SNR=5.8; 5.9nm,1.1s,mb4.5,baz=105,slow=6.8,SNR=6.9; 0.7nm,0.5s,mb3.8,baz=108,slow=4.2,SNR=9.2; 0.4nm,0.6s,baz=351,slow=1.7,SNR=3.7; 0.1nm,0.4s,baz=180,slow=1.8,SNR=3.5

IDC 28 04:15:32.8±6.0, 19.75S×176.73W, mb4.1/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.1/3, Error ellipse: s-maj=184.4km s-min=96.1km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.19**	**244**	P	P	04 23 02.5	-1.9
ASAR	**Alice Springs**	**45.86**	**256**	P	P	04 23 57.1	-1.7
WRA	**Warramunga Arr**	**45.89**	**261**	P	P	04 23 57.4	-1.7
AKASG	**Malin Array Be**	**142.92**	**333**	PKP	PKPdf	04 35 07.5	-2.5

1.7nm,0.6s,baz=96,slow=13,SNR=5.1; 2.4nm,0.6s,baz=97,slow=7.8,SNR=32; 0.5nm,0.3s,baz=96,slow=7.7,SNR=8.5; 0.8nm,0.4s,baz=44,slow=4.5,SNR=8.8

NIED ***28*** *04:16:00, 39.60N×143.50E, h23km, Mw4.6 Best double couple: M0 7.6×10^15 NP1:φs34°, δ66°, λ110°. NP2:φs172°, δ31°, λ52°.*
JMA ***28*** *04:16:46.6±0.3, 39.59N×143.53E, h31km, M4.4*
MOS ***28*** *04:16:50.2±1.6, 39.67N×143.33E, h53km, mb4.8/19, MS4.3/9, Error ellipse: s-maj=10.5km s-min=6.2km az=96.4*
BJI ***28*** *04:16:50.3, 39.69N×143.12E, h41km, mB4.8, mb4.5, Ms4.5, Msz4.1*
IDC ***28*** *04:16:51.5±2.0, 39.55N×143.23E, h44km±18km, mb3.8/17, mb1 4.1/20, mb1mx4.0/25, mbtmp4.1/20, ML4.0/3, MS4.0/8, Ms1 4.0/8, ms1mx3.5/29, Error ellipse: s-maj=18.6km s-min=11.4km az=102.0*
NEIC ***28*** *04:16:52.2±1.3, 39.55N×143.24E, h55km±11km, mb4.7/22, MW4.5(NIED), Error ellipse: s-maj=11.3km s-min=8.7km az=103.0*

ISC 28 04:16:46.6±1.1, 39.58N±0.03×143.48E±0.05, h26km±7km, h42km±4.4km: pP-P, n129, σ1§21/141, mb4.5/54, MS4.2/24, 5C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.28**	**271**	P	Pn	04 17 09.7	+0.6
JTH	**Tanohata**	**1.30**	**287**	P	Pn	04 17 09.6	+0.3
JTH				*e*S	Sn	04 17 27.3	+1.4
OFUJ	**Ofunato**	**1.49**	**251**	P	Pn	04 17 12.6	+0.6
JOM	**Ohasama**	**1.69**	**267**	P	Pn	04 17 16.1	+1.1
JANG	**Nango**	**1.71**	**298**	P	Pn	04 17 15.0	-0.2
JMK	**Ichinoseki**	**1.86**	**251**	P	Pn	04 17 18.0	+0.6
JIO	**Ouri**	**2.00**	**237**	P	Pn	04 17 19.5	+0.1
JIO				*e*S	Sn	04 17 43.3	-0.5
JYK	**Kaneyama**	**2.51**	**256**	P	Pn	04 17 27.7	+1.0
JMM	**Marumori**	**2.71**	**232**	P	Pn	04 17 29.0	-0.5
JMM				*e*S	Sn	04 18 00.8	-0.9
JNBK	**Urakawa-nobuka**	**2.76**	**349**	P	Pn	04 17 31.1	+0.9
JNBK				*e*S	Sn	04 18 04.1	+1.1
JCH	**Churui**	**3.04**	**358**	P	Pn	04 17 34.2	0.0
JCH				*e*S	Sn	04 18 08.1	-2.0
ASAJ	**Asahikawa**	**4.59**	**352**	P	Pn	04 17 56.5	+0.3
ASAJ				S	Sn	04 18 51.8	+2.5
ASAJ	comp=Z,4.0nm,0.3s			pmax	pmax		
ASAJ	comp=Z,617nm,20.2s			MLR	MLR		
ASAJ	**Asahikawa**	**4.59**	**352**	P	Pn	04 17 56.5	+0.3
ASAJ	comp=Z,4.2nm,0.3s,baz=245,slow=12,SNR=13			S	Sn	04 18 51.8	+2.5
ASAJ	comp=Z,7.0nm,0.3s,baz=276,slow=30,SNR=5.2			LR	LR	04 20 31.7	
ASAJ	comp=Z,617nm,20.2s,baz=356,slow=48						
YUK	**Yuzh-Kuril'sk**	**4.80**	**21**	*e*P	Pn	04 17 56.6	-2.6
YUK				*e*S	Sn	04 18 48.0	-6.7
YUK	comp=Z,220nm,0.3s			pmax	pmax		
YUK	comp=N,200nm,0.5s			pmax	pmax		
YUK	comp=E,2μm,2.0s			smax			
YUK	comp=N,3μm,1.8s			smax			
YUK	comp=N,770nm,0.5s			smax			
YUK	comp=E,950nm,0.6s			smax			
YUK	comp=Z,950nm,18.0s			MLR	MLR		
MJAR	**Matsushiro Arr**	**5.14**	**236**	P	Pn	04 18 04.4	+0.4
MAJO	**Matsushiro**	**5.14**	**236**	*e*P	Pn	04 18 04.4	+0.4
MAT	**Matsushiro**	**5.14**	**236**	P	Pn	04 18 04.9	+0.9
MAT				*e*S	Sn	04 19 05.1	+1.8
KUR	**Kuril'sk**	**6.52**	**28**	P	Pn	04 18 22.2	-1.3
KUR				*e*S	Sn	04 19 30.0	-7.8
KUR	comp=N,40nm,0.5s			pmax	pmax		
KUR	comp=E,20nm,0.5s			pmax	pmax		
KUR	comp=Z,40nm,0.5s			pmax	pmax		
KUR	comp=N,140nm,0.5s			smax			
KUR	comp=E,60nm,0.5s			smax			
JHJ	**Hachijo jima 2**	**7.10**	**206**	P	Pn	04 18 29.9	-1.7
JHJ	comp=E,26nm,0.3s,baz=74,slow=12,SNR=5.3			S	Sn	04 19 43.5	-8.8
JHJ	comp=E,29nm,0.3s,baz=46,slow=23,SNR=7.7						
YSS	**Yuzh-Sakhalins**	**7.39**	**356**	*e*P	Pn	04 18 34.1	-1.6
YSS				*e*		04 20 00.5	
YSS	comp=Z,10.0nm,0.8s			pmax	pmax		
YSS	comp=N,800nm,17.0s			MLR	MLR		
YSS	comp=E,1μm,17.0s			MLR	MLR		
YSS	comp=Z,500nm,17.0s			MLR	MLR		
MDJ	**Mudanjiang**	**11.48**	**301**	P	P	04 19 32.3	+0.4
MDJ				AP		04 19 41.3	
MDJ				S	S	04 21 38.3	-2.0
MDJ				SS	SS	04 21 53.5	-0.9
MDJ	comp=Z,12nm,1.1s			AMB	AMB		
MDJ	comp=Z,185nm,6.2s			AMB	AMB		
MDJ	comp=N,443nm,13.5s			LR	LR		
MDJ	comp=E,968nm,15.2s			LR	LR		
MDJ	comp=Z,1μm,15.2s			LR	LR		
MDJ	**Mudanjiang**	**11.48**	**301**	*e*P	P	04 19 31.7	-0.3
CBIJ	**Chichi jima**	**12.49**	**185**	LR	LR	04 24 08.6	
KLR	**Kul'dur**	**12.77**	**323**	*e*P	P	04 19 54.0	+4.7
KLR				MLR	MLR		
HIA	**Hailar**	**19.45**	**308**	*e*P	P	04 21 10.2	-3.8
HIA				pmax	pmax		
HIA	**Hailar**	**19.45**	**308**	*e*P	P	04 21 10.2	-3.9
SSE	**Sheshan**	**20.02**	**252**	P	P	04 21 20.5	+0.2
SSE				XP		04 21 33.0	
SSE				S	S	04 25 01.8	+3.1
SSE				XS		04 25 15.3	
SSE	comp=Z,22nm,0.8s			AMB	AMB		
SSE	comp=Z,59nm,4.4s			AMB	AMB		
SSE	comp=N,313nm,13.7s,MS3.9			LR	LR		
SSE	comp=E,180nm,13.7s,MS3.9			LR	LR		
SSE	comp=Z,420nm,13.3s,MS4.0			LR	LR		
BJI	**Beijing**	**20.95**	**280**	*e*P	P	04 21 26.5	-3.5
BJI				AP		04 21 34.5	
BJI				XP		04 21 39.3	
BJI				S	S	04 25 12.5	-4.8
BJI	comp=Z,12nm,1.4s			AMB	AMB		
BJI	comp=N,727nm,17.1s,MS4.2			LR	LR		
BJI	comp=E,264nm,13.4s,MS4.2			LR	LR		
BJI	comp=Z,442nm,15.7s,MS3.9			LR	LR		
TIA	**Tai'an**	**21.04**	**269**	*e*P	P	04 21 28.5	-2.4
TIA	comp=Z,34nm,1.0s,mb4.6			AMB	AMB		
CLNS	**Chul'man**	**21.13**	**331**	*e*P	P	04 21 31.1	-0.5
CLNS				*e*		04 21 58.6	
CLNS				*e*PPP	PPP	04 22 05.8	+1.7
CLNS				*e*		04 25 07.9	
CLNS				*e*S	S	04 25 48.1	+28
CLNS	comp=Z,15nm,0.7s,mb4.4			pmax	pmax		
CLNS	comp=N,11nm,0.8s			pmax	pmax		
CLNS	comp=E,8.0nm,1.0s			pmax	pmax		
CLNS	comp=Z,19nm,1.1s,mb4.3			pmax	pmax		
CLNS	comp=N,8.0nm,1.0s			pmax	pmax		
CLNS	comp=E,6.0nm,0.6s			pmax	pmax		
CLNS	comp=E,7.0nm,0.7s			smax			
CLNS	comp=N,400nm,13.0s,MS4.0			MLR	MLR		
CLNS	comp=E,100nm,13.0s,MS4.0			MLR	MLR		
CLNS	comp=Z,500nm,13.0s,MS4.1			MLR	MLR		
NJ2	**Nanjing**	**21.29**	**257**	*e*P	P	04 21 37.0	+3.6
NJ2				AP		04 21 47.0	
NJ2				XP		04 21 49.5	
NJ2				PP	PP	04 22 00.3	+3.1
NJ2				AMB	AMB		
NJ2	comp=Z,250nm,4.2s			LR	LR		
NJ2	comp=N,710nm,16.0s			LR	LR		
NJ2	comp=E,700nm,22.0s			LR	LR		
NJ2	comp=Z,410nm,15.6s,MS3.9			LR	LR		
TATO	**Taipei**	**23.53**	**238**	P	P	04 21 55.8	+0.2
YAK	**Yakutsk**	**24.01**	**344**	*e*P	P	04 21 57.1	-2.8
YAK				*e*		04 22 13.1	
YAK				*e*S	S	04 26 16.4	+4.2
YAK	comp=Z,9.0nm,1.0s,mb4.2			pmax	pmax		
YAK	comp=N,8.0nm,1.1s			pmax	pmax		
YAK	comp=E,3.0nm,0.9s			pmax	pmax		
YAK	comp=Z,10.0nm,0.9s,mb4.2			pmax	pmax		
YAK	comp=N,6.0nm,1.0s			pmax	pmax		
YAK	comp=E,9.0nm,1.1s			pmax	pmax		
YAK	comp=E,98nm,16.2s			smax			
YAK	comp=N,46nm,12.1s			smax			
YAK	comp=Z,161nm,14.0s,MS3.6			MLR	MLR		
YAK	comp=N,150nm,16.0s,MS3.6			MLR	MLR		
YAK	comp=E,71nm,13.0s,MS3.6			MLR	MLR		
HHC	**Hu-ho-hao-te**	**24.34**	**283**	*e*P	P	04 22 02.8	-0.5
HHC				AP		04 22 16.3	
HHC				XP		04 22 22.3	
HHC				PCP	PcP	04 25 40.8	-3.1
HHC				S	S	04 26 17.8	-0.2
HHC				PCS		04 29 18.5	
HHC	comp=Z,13nm,1.0s,mb4.3			AMB	AMB		
HHC	comp=Z,140nm,6.3s			AMB	AMB		
HHC	comp=N,261nm,16.7s,MS4.3			LR	LR		
HHC	comp=E,780nm,16.9s,MS4.3			LR	LR		
HHC	comp=Z,845nm,18.0s,MS4.3			LR	LR		
WHN	**Wuhan**	**25.40**	**258**	*e*P	P	04 22 14.3	+0.8
BOD	**Bodaibo**	**26.35**	**324**	*e*P	P	04 22 21.4	-0.6
BOD	comp=Z,17nm,0.8s,mb4.6			pmax	pmax		
ULN	**Ulaanbaatar**	**27.39**	**300**	*e*P	P	04 22 31.9	+0.2
ULN	comp=Z,28nm,1.4s,mb4.6			pmax	pmax		
ULN	**Ulaanbaatar**	**27.39**	**300**	*e*P	P	04 22 31.9	+0.2
XAN	**Xi'an**	**28.10**	**270**	P	P	04 22 37.3	-1.0
XAN	comp=Z,10.0nm,1.3s,mb4.3			AMB	AMB		
ENH	**Enshi**	**29.23**	**262**	*e*P	P	04 22 47.2	-1.3
TLY	**Talaya**	**30.00**	**307**	*e*P	P	04 22 55.5	+0.4
TLY	comp=Z,7.0nm,1.1s,mb4.3			pmax	pmax		
TLY	comp=Z,273nm,15.0s,MS4.0			MLR	MLR		
TLY	**Talaya**	**30.00**	**307**	P	P	04 22 55.2	+0.1
ZAK	**Zakamensk**	**30.07**	**304**	*e*P	P	04 22 55.1	-0.7
ZAK	comp=Z,4.0nm,1.1s,mb4.1			pmax	pmax		
BILL	**Bilibino**	**31.14**	**16**	*e*P	P	04 23 05.5	+0.5
BILL				*e*		04 23 16.3	
BILL	comp=Z,4.0nm,1.0s,mb4.2			pmax	pmax		
BILL	comp=Z,100nm,14.0s,MS3.6			MLR	MLR		
BILL	**Bilibino**	**31.14**	**16**	*e*P	P	04 23 05.2	+0.2
LZH	**Lanzhou**	**31.32**	**276**	*e*P	P	04 23 06.0	-1.0
LZH				AP	pP	04 23 17.5	+2.9
LZH				XP	sP	04 23 22.0	+4.0
LZH				AMB	AMB		
LZH	comp=Z,31nm,1.4s,mb5.0			AMB	AMB		
LZH	comp=Z,181nm,4.4s			LR	LR		
LZH	comp=E,1μm,13.6s			LR	LR		
LZH	comp=Z,1μm,14.2s,MS4.7			LR	LR		
GYA	**Guiyang**	**33.29**	**258**	⇑*i*P	P	04 23 23.5	-0.7
GYA				AP	pP	04 23 37.5	+5.6
GYA				XP	sP	04 23 43.8	+8.5
GYA				PP	PP	04 24 33.8	-2.2
GYA				S	S	04 28 38.0	-3.9
GYA				SS	SS	04 30 41.5	-3.1
GYA	comp=Z,20nm,0.9s,mb5.0			AMB	AMB		
GYA	comp=N,490nm,16.5s,MS4.4			LR	LR		
GYA	comp=E,430nm,17.1s,MS4.4			LR	LR		
GYA				LR	LR		

comp=Z,310nm,15.3s,MS4.1
GTA Gaotai 33.45 284 *e*P **P 04 23 25.0 -0.5**
GTA AP pP 04 23 32.0 -1.2
GTA XP sP 04 23 35.8 -0.7
GTA AMB AMB
comp=Z,4.0nm,0.5s,mb4.6
GTA AMB AMB
comp=Z,86nm,5.3s
GTA LR LR
comp=N,196nm,20.1s,MS4.4
GTA LR LR
comp=E,693nm,15.6s,MS4.4
GTA LR LR
comp=Z,870nm,16.0s,MS4.6
QIZ Qiongzhong 35.47 245 *e*P **P 04 23 41.2 -1.8**
comp=Z,129nm,1.9s,mb5.5
KMI Kunming 36.99 260 P **P 04 23 55.8 0.0**
KMI S **S 04 29 35.5 -3.5**
KMI AMB AMB
comp=Z,11nm,1.0s,mb4.6
KMI LR LR
comp=N,195nm,13.6s,MS4.2
KMI LR LR
comp=E,227nm,14.5s,MS4.2
KMI LR LR
comp=Z,245nm,14.2s,MS4.1
WMQ Urumqi 41.20 295 ⇑P **P 04 24 31.8 +1.2**
WMQ AP pP 04 24 45.3 +6.9
WMQ XP sP 04 24 52.0 +10
WMQ PP PP 04 26 10.5 +1.8
WMQ PCP PcP 04 26 31.8 +1.7
WMQ PPP PPP 04 26 40.3 +1.4
WMQ *e*S **S 04 30 41.0 -1.3**
WMQ AMB AMB
comp=Z,18nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,98nm,4.5s
WMQ LR LR
comp=N,71nm,15.0s,MS3.8
WMQ LR LR
comp=E,83nm,15.0s,MS3.8
WMQ LR LR
comp=Z,83nm,16.0s,MS3.7
ZAL Zalesovo 41.47 310 P **P 04 24 33.0 +0.3**
comp=Z,2.9nm,0.6s,mb4.1,baz=25,slow=8.4,SNR=19
ZAL Zalesovo 41.47 310 P **P 04 24 33.0 +0.3**
NVS Novosibirsk 42.31 312 *e*P **P 04 24 37.9 -1.6**
CMAR Chiang Mai Arr 43.73 254 P **P 04 24 51.6 +0.1**
comp=Z,1.0nm,0.4s,mb3.9,baz=49,slow=6.4,SNR=6.2
CMAR LR LR 04 45 05.7
comp=Z,138nm,18.7s,MS3.9,baz=35,slow=39
MCK McKinley 45.62 35 P pP 04 25 16.2 +2.3
comp=Z,1.7nm,0.9s
COLA College 46.07 34 *e*P **P 04 25 15.9 +6.3**
COLA College 46.07 34 P **P 04 25 17.0 +7.4**
comp=Z,3.9nm,0.8s,mb4.4
ILAR Eielson Array 46.48 34 P **P 04 25 14.2 +1.3**
comp=Z,1.1nm,0.8s,mb3.9,baz=258,slow=6.1,SNR=8.9
GUN Gumba 48.55 275 *e*P **P 04 25 30.2 +0.6**
comp=Z,40nm,0.7s,mb5.6
KKN Kakani 49.07 275 *e*P **P 04 25 34.0 +0.4**
comp=Z,32nm,0.7s,mb5.5
PKI Pulchoki 49.08 274 *e*P **P 04 25 35.2 +1.5**
GKN Gorkha 49.46 275 *e*P **P 04 25 37.1 +0.5**
comp=Z,22nm,0.7s,mb5.3
CHKZ Chkalovo 49.80 312 *e*P **P 04 25 38.5 -0.3**
CHKZ pmax pmax
comp=Z,12nm,1.0s,mb4.9
CHKZ Chkalovo 49.80 312 *e*P **P 04 25 38.5 -0.3**
comp=Z,12nm,1.0s,mb4.9
BVAR Borovoye Array 50.10 311 P **P 04 25 41.2 +0.1**
comp=Z,4.3nm,0.6s,mb4.7,baz=79,slow=7.6,SNR=25
KOLN Koldanda 50.37 276 *e*P **P 04 25 43.9 +0.3**
comp=Z,33nm,1.0s,mb5.3
FRU Bishkek 50.59 297 *e*P **P 04 25 45.0 0.0**
AAK Ala-Archa 50.75 297 *e*P **P 04 25 45.4 -0.8**
AAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
AAK Ala-Archa 50.75 297 *e*P **P 04 25 45.4 -0.8**
comp=Z,9.8nm,1.3s,mb4.6
INK Inuvik 51.39 28 P **P 04 25 52.2 +1.4**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 51.39 28 P **P 04 25 52.2 +1.5**
comp=Z,0.6nm,0.5s,mb3.8,baz=234,slow=6.6,SNR=4.7
INK Inuvik 51.39 28 *e*P **P 04 25 51.8 +1.1**
comp=Z,3.5nm,0.8s,mb4.3
SVE Sverdlovsk 54.34 318⇑*e*P **P 04 26 13.5 +0.7**
SVE *e*S **S 04 33 44.0 -3.5**
SVE pmax pmax
comp=Z,20nm,1.1s,mb5.0
SVE MLR MLR
comp=N,300nm,15.0s,MS4.8
SVE MLR MLR
comp=E,500nm,15.0s,MS4.8
SVE MLR MLR
comp=Z,700nm,15.0s,MS4.8
NDI New Delhi 54.80 280 *e*P **P 04 26 15.0 -1.7**
ARU Arti 55.55 318⇑*i*P **P 04 26 21.7 0.0**
ARU *e* 04 27 18.9
ARU *e* 04 28 23.3
ARU *e*PPP PPP 04 29 39.2 -2.5
ARU *e*S **S 04 34 04.5 +0.8**
ARU pmax pmax
comp=Z,18nm,1.0s,mb5.1
ARU MLR MLR
comp=Z,400nm,16.0s,MS4.6
ARU MLR MLR
comp=N,100nm,15.0s,MS4.5
ARU MLR MLR
comp=E,300nm,16.0s,MS4.5
ARU Arti 55.55 318 *e*P **P 04 26 21.4 -0.3**
comp=E,18nm,0.9s,mb5.1
RES Resolute Bay 59.73 15 *e*P **P 04 26 50.4 -0.6**
RES pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
RES Resolute Bay 59.73 15 *e*P **P 04 26 50.4 -0.6**
comp=Z,3.9nm,1.0s,mb4.4
WRAB Tennant Creek 59.81 190 P **P 04 26 47.8 -4.4**
WRAB pmax pmax
comp=Z,25nm,1.4s,mb5.0
WRAB Tennant Creek 59.81 190 P **P 04 26 47.8 -4.3**
comp=Z,25nm,1.4s,mb5.0
WRA Warramunga Arr 59.82 190 P **P 04 26 51.0 -1.2**
comp=Z,2.2nm,0.9s,mb4.2,baz=8.0,slow=7.1,SNR=8.9
YKA Yellowknife Ar 60.80 31 *i*P **P 04 27 00.4 +2.1**
YKA Yellowknife Ar 60.80 31 P **P 04 26 58.1 -0.2**
comp=Z,0.2nm,0.6s,mb3.5,baz=300,slow=7.0,SNR=6.1
KEV Kevo 61.65 339 *e*p **P 04 27 01.8 -2.2**
comp=Z,11nm,1.2s,mb4.9
KEV Kevo 61.65 339 *e*P **P 04 27 01.8 -2.2**
KEV pmax pmax
comp=Z,11nm,1.2s,mb4.9
ARCES ARCESS Array B 62.19 339 LR LR 04 59 57.7
comp=Z,103nm,18.2s,MS4.0,baz=40,slow=42
ASAR Alice Springs 63.54 190 P **P 04 27 17.3 +0.1**
comp=Z,1.2nm,0.8s,mb4.0,baz=0.9,slow=6.0,SNR=8.5
JOF Joensuu 64.49 332 *e*p **P 04 27 21.3 -1.4**
comp=Z,3.5nm,0.8s,mb4.4
PALK Pallekele 64.50 258 *e*P **P 04 27 20.1 -3.5**
comp=Z,21nm,1.5s,mb5.0
KAF Kangasniemi 66.79 333 *e*p **P 04 27 36.5 -1.0**
comp=Z,0.8nm,0.4s,mb4.1,baz=47,slow=6.1
KAF Kangasniemi 66.79 333 *e*P **P 04 27 36.5 -1.0**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
OBN Obninsk 67.03 323 P **P 04 27 39.0 -0.2**
OBN *e* 04 27 56.2
OBN MLR MLR
comp=Z,200nm,14.0s,MS4.5
FINES FINESS Array B 67.32 332 P **P 04 27 40.8 -0.1**
comp=Z,3.9nm,0.8s,mb4.5,baz=63,slow=8.5,SNR=14
FINES LR LR 05 00 15.4
comp=Z,189nm,18.8s,MS4.3,baz=346,slow=39
GOF Gofitskoye 69.62 312 *e*P **P 04 27 53.5 -1.9**
KIV Kislovodsk 70.47 311 *e*P **P 04 28 01.7 +1.1**
KIV pmax pmax
comp=N,15nm,1.0s
KIV pmax pmax
comp=E,13nm,1.0s
KIV pmax pmax
comp=Z,23nm,1.0s,mb5.1
KIV MLR MLR
comp=E,107nm,19.0s
KIV MLR MLR
comp=Z,217nm,19.0s,MS4.4

FCC Fort Churchill 71.00 28 P **P 04 28 02.1 -1.5**
FCC pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
FCC Fort Churchill 71.00 28 P **P 04 28 02.1 -1.5**
comp=Z,9.1nm,1.6s,mb4.5
STKA Stephens Creek 71.11 182 P **P 04 28 05.7 +0.9**
comp=Z,2.0nm,0.8s,mb4.1,baz=94,slow=22,SNR=3.8
STKA Stephens Creek 71.11 182 *e*P **P 04 28 05.0 +0.3**
GNI Garni 71.48 307 *e*P **P 04 28 08.7 +1.9**
GNI pmax pmax
comp=Z,11nm,1.7s
GNI MLR MLR
comp=Z,100nm,17.0s
NVAR Mina Array Bea 72.18 55 P **P 04 28 14.3 +3.3**
comp=Z,1.7nm,0.9s,mb4.0,baz=276,slow=8.5,SNR=8.0
NVAR Mina Array Bea 72.18 55 P **P 04 28 14.3 +3.3**
NB2 NORSAR Subarra 72.46 338 P **P 04 28 12.7 +0.4**
comp=Z,6.9nm,0.9s,mb4.6,baz=38,slow=5.8
NB2 NORSAR Subarra 72.46 338 P **P 04 28 12.7 +0.4**
NB2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
NOA NORSAR Array B 72.46 338 P **P 04 28 12.7 +0.5**
comp=Z,4.1nm,0.8s,mb4.4,baz=37,slow=6.0,SNR=20
NOA LR LR 05 05 44.4
comp=Z,88nm,18.6s,MS4.1,baz=15,slow=40
AKASG Malin Array Be 73.27 323 P **P 04 28 16.8 -0.4**
comp=Z,1.8nm,0.5s,mb4.2,baz=40,slow=5.7,SNR=13
PDAR Pinedale Array 74.74 47 P **P 04 28 28.4 +2.6**
comp=Z,0.6nm,0.4s,mb3.9,baz=194,slow=6.1,SNR=4.2
KIS Kishinev 76.00 320 *e*P **P 04 28 30.0 -2.9**
KIS *e*S S 04 38 08.0 -5.0
KIS *e* 04 38 42.0
KIS MLR MLR
comp=Z,400nm,15.0s,MS4.8
KIS MLR MLR
comp=Z,400nm,16.0s
KWP Kalwaria 77.00 325 *e*P **P 04 28 39.6 +1.2**
KWP pmax pmax
comp=Z,17nm,1.0s,mb4.9
KWP Kalwaria 77.00 325 *e*P **P 04 28 39.6 +1.2**
comp=Z,17nm,1.0s,mb4.9
OJC Ojcow 77.82 327 *e*P **P 04 28 44.9 +2.0**
BRTR Keskin Array B 78.37 312 P **P 04 28 46.5 +0.4**
comp=Z,1.0nm,0.9s,mb3.8,baz=45,slow=1.7,SNR=6.5
OKC Ostrava-Krasne 78.81 327 AMS AMS 05 06 30.0
comp=Z,200nm,21.0s
DPC Dobruska-Polom 79.16 329 *e*P **P 04 28 52.5 +2.3**
DPC AMS AMS 05 07 00.0
comp=Z,100nm,18.3s
CLL Collm 79.69 331 *e*P **P 04 28 54.0 +0.9**
CLL Collm 79.69 331 P **P 04 28 54.0 +0.9**
PVCC Panska Ves 79.71 330 AMS AMS 05 07 20.0
comp=Z,200nm,15.6s
PRU Pruhonice 80.15 329 *e*P **P 04 28 56.7 +1.1**
PRU AMS AMS 05 07 20.0
comp=Z,200nm,14.1s
NKC Novy Kostel 80.76 331 *e*P **P 04 29 00.9 +2.1**
KHC Kasperske Hory 81.21 329 *e*P **P 04 29 02.7 +1.5**
KHC AMS AMS 05 09 00.0
comp=Z,200nm,14.2s
GERES GERESS Array B 81.39 329 P **P 04 29 03.1 +1.0**
comp=Z,0.9nm,0.8s,mb3.7,slow=2.9,SNR=6.4
GERES LR LR 05 08 42.3
comp=Z,109nm,19.1s,MS4.2,baz=178,slow=38
TAU Tasmania Unive 82.18 177 *e*P **P 04 29 05.0 -1.4**
TAU pmax pmax
comp=Z,64nm,1.4s,mb5.4
TAU Tasmania Unive 82.18 177 *e*P **P 04 29 05.0 -1.3**
comp=Z,64nm,1.4s,mb5.4
PPT Papeete 84.36 118 LR LR 05 03 54.1
comp=Z,184nm,19.4s,MS4.5,baz=291,slow=33
TXAR Lajitas Array 87.30 54 P **P 04 29 35.4 +3.0**
comp=Z,0.4nm,0.8s,mb3.7,baz=304,slow=2.9,SNR=4.4
VNA2 Neumayer--Watz 145.21 196⇑*i*P PKPbc 04 36 11.3 -10
VNA2 Neumayer--Watz 145.21 196 *e* PKPbc 04 36 21.7 +0.7
VNA2 Neumayer--Watz 145.21 196 *e* PKPbc 04 36 25.0 +4.0

JMA 28 04:18:16.7±0.2,39.57N×143.47E,h34km,M3.8,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.28**	**271**	P	P	04 18 38.9	+0.6
MIYJ				*e*S	S	04 18 54.6	+0.1
JTH	**Tanohata**	**1.29**	**287**	P	P	04 18 39.2	+0.7
JTH				*e*S	S	04 18 56.1	+1.2
OFUJ	**Ofunato**	**1.48**	**251**	*e*S	S	04 18 59.6	0.0
JOM	**Ohasama**	**1.69**	**267**	P	P	04 18 45.2	+1.0
JOM				*e*S	S	04 19 06.1	+1.2
JMK	**Ichinoseki**	**1.85**	**251**	*e*S	S	04 19 09.1	+0.1
JIO	**Ouri**	**1.99**	**237**	*e*S	S	04 19 12.5	-0.1

*NEIC **28** 04:20:27.4,31.49S×69.61W,h134km,MD3.5(GUC),After GUC.*

GUC 28 04:20:27.4±0.8,31.49S×69.61W,h134km±9km,MD3.5, ML3.6,11C-4D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.45**	**215**	⇓*i*P	P	04 20 56.0	+0.3
JACH				*i* S	S	04 21 17.3	0.0
CHNG	**Los Chungos**	**1.66**	**256**	⇑*i*P	P	04 20 58.1	+0.1
CHNG				*i* S	S	04 21 21.1	-0.3
CHNG				AMP		04 21 27.3	
comp=E,295nm,0.4s							
PACH	**Papudo**	**1.87**	**236**	⇓*i*P	P	04 21 00.5	0.0
PACH				*i* S	S	04 21 25.1	-0.6
PEL	**Peldehue**	**1.89**	**209**	⇓*i*P	P	04 21 00.8	+0.1
PEL				*i* S	S	04 21 26.0	0.0
ROCH	**El Roble**	**1.90**	**218**	⇑*i*P	P	04 21 01.1	+0.3
ROCH				*i* S	S	04 21 26.6	+0.4
FCH	**Farellones**	**1.92**	**197**	⇑*i*P	P	04 21 01.8	+0.7
FCH				*i* S	S	04 21 27.6	+0.9
FCH				AMP		04 21 34.1	
comp=E,278nm,0.2s							
CLCH	**Cerro Calan**	**2.06**	**202**	⇑*i*P	P	04 21 02.9	+0.1
CLCH				*i* S	S	04 21 29.6	0.0
CLCH				AMP		04 21 33.8	
comp=N,281nm,0.5s							
DSCH	**Colegio Aleman**	**2.07**	**203**	*i* P	P	04 21 03.3	+0.4
DSCH				*i* S	S	04 21 30.2	+0.3
DSCH				AMP		04 21 33.0	
comp=N,326nm,0.6s							
FSR	**Penalolen**	**2.13**	**201**	*i* P	P	04 21 04.0	+0.4
FSR				*i* S	S	04 21 31.8	+0.5
FSR				AMP		04 21 41.6	
comp=E,330nm,0.3s							
PCH	**Pirque**	**2.26**	**199**	*e*P	P	04 21 05.7	+0.4
LMEL	**Las Melosas**	**2.41**	**192**	⇑*i*P	P	04 21 07.1	-0.1
LMEL				AMP		04 21 48.4	
comp=N,166nm,0.2s							
TACH	**Talagante**	**2.43**	**207**	⇑*i*P	P	04 21 07.2	-0.4
TACH				*i* S	S	04 21 37.5	-0.6
LCCH	**Las Cruces**	**2.58**	**219**	⇑*i*P	P	04 21 09.2	-0.4
CHCH	**Chadas Angostu**	**2.59**	**200**	⇓*i*P	P	04 21 09.5	-0.2
LCO	**Las Campanas**	**2.64**	**339**	⇑*i*P	P	04 21 10.7	+0.4
LCO				*i* S	S	04 21 43.5	+0.6
LCO				AMP		04 21 45.2	
comp=E,410nm,0.4s							
CACH	**El Canelo**	**2.75**	**197**	⇑*i*P	P	04 21 11.7	0.0
CICH	**Cipreses**	**2.91**	**193**	⇑*i*P	P	04 21 13.7	0.0
VACH	**Vallenar**	**3.07**	**341**	⇑*i*P	P	04 21 15.8	0.0
VACH				*i* S	S	04 21 51.9	-0.9
VACH				AMP		04 21 57.6	
comp=N,713nm,0.1s							
TRQA	**Tornquist**	**9.07**	**138**	*e*Pn	P	04 22 32.2	-4.0

IDC 28 04:29:04.1±4.1,8.56S×106.88E,mb3.9/4,mb1 4.1/4, mb1mx3.8/14,mbtmp3.9/4,Error ellipse: s-maj=181.2km s-min=27.5km az=54.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**27.96**	**344**	P	P	04 34 56.6	-2.0
1.6nm,0.3s,baz=175,slow=9.1,SNR=4.1							
WRA	**Warramunga Arr**	**28.87**	**116**	P	P	04 35 05.1	-1.7
0.4nm,0.5s,baz=289,slow=11,SNR=4.6							
ASAR	**Alice Springs**	**29.91**	**123**	P	P	04 35 13.6	-2.6
0.5nm,0.6s,baz=294,slow=8.0,SNR=4.1							
STKA	**Stephens Creek**	**39.70**	**131**	P	P	04 36 38.4	-1.6
1.5nm,0.5s,baz=305,slow=11,SNR=6.0							

*DJA **28** 04:48:07.9±1.3,8.63S×121.15E,h24km±5km,MD5.0/4, ML5.1/3,Error ellipse: s-maj=35.5km s-min=6.7km az=130.0*

*IDC **28** 04:48:09.7±1.0,8.22S×120.41E,mb4.1/6,mb1 4.4/8, mb1mx4.2/18,mbtmp4.2/8,ML4.1/2,MS3.7/3,Ms1 3.7/3, ms1mx3.3/20,Error ellipse: s-maj=65.5km s-min=19.3km az=52.0*

*BJI **28** 04:48:16.1,8.10S×120.60E,h51km,mB5.1,mb4.8,Ms4.1, Msz4.1*

*NEIC **28** 04:48:16.2±0.7,8.13S×120.59E,h51km±8km,mb4.6/7, Error ellipse: s-maj=10.2km s-min=6.2km az=45.0*

ISC 28 04:48:14.3±0.8,8.14S±0.05×120.65E±0.05,h49km±9km, n44,σ1°23/51,mb4.4/15,MS3.7/3,5C-7D,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang**	**3.79**	**346**	*e*Pn	P	04 49 11.0	-0.7
BUNI	**Buntu Taipa**	**4.46**	**356**	*e*Pn	P	04 49 20.7	-0.4
KEDI	**Kedomdong**	**4.51**	**265**	⇓*i*Pn	P	04 49 21.4	-0.4
KEDI				⇑*i*P		04 49 23.8	
KEDI				*i* Sn	S	04 50 27.9	+14
KEDI	**Kedomdong**	**4.51**	**265**	⇑*i*P	P	04 49 23.8	+2.0
KEDI				⇓*i*Sn	S	04 50 28.3	+15
TANI	**Tanete Lipujan**	**4.84**	**345**	*e*Pn	P	04 49 30.3	+3.9
RATI	**Rata**	**5.10**	**263**	⇓*i*Pn	P	04 49 30.9	+0.8
349nm,0.2s							
RATI				⇓*i*Sn	S	04 50 39.8	+11
KELI	**Kelakatan**	**6.10**	**269**	⇓*i*Pn	P	04 49 44.8	+0.7
KELI				⇓*i*P		04 49 49.6	
KELI				*i* Sn	S	04 50 54.3	+0.9
KELI	**Kelakatan**	**6.10**	**269**	⇓*i*Pn	P	04 49 44.8	+0.7
51nm,0.3s							
KELI				⇑*i*Sn	S	04 50 54.3	+0.9
SRDI	**Scrawed**	**6.45**	**267**	⇑*i*Pn	P	04 49 46.8	-2.2
104nm,0.2s							
SRDI				⇑*i*Sn	rx	04 50 29.2	
FITZ	**Fitzroy Crossi**	**11.03**	**154**	Pn	P	04 50 50.5	-1.6
1.9nm,0.3s,baz=337,slow=9.6,SNR=13							
FITZ				Sn	S	04 52 50.5	-4.6
1.0nm,0.3s,baz=140,slow=9.3,SNR=5.1							
KAKA	**Kakadu**	**12.45**	**112**	*e*P	P	04 51 12.5	+1.2
16nm,0.6s							
KSM	**Kuching**	**14.05**	**312**	P	P	04 51 31.1	-1.4
KKM	**Kota Kinabalu**	**14.77**	**342**	P	P	04 51 42.0	+0.2
WRA	**Warramunga Arr**	**17.70**	**133**	P	P	04 52 18.5	-0.5
0.5nm,0.3s,baz=305,slow=12,SNR=24							
WRA				S	S	04 55 30.0	-2.0
0.2nm,0.3s,baz=305,slow=23,SNR=6.5							
WRAB	**Tennant Creek**	**17.70**	**133**	*e*P	P	04 52 14.5	-4.5
14nm,0.8s							
WRAB				*e*S	S	04 55 24.3	-7.7
WB2	**Warramunga Arr**	**17.71**	**133**	*e*P	P	04 52 20.8	+1.7
WB2				*e*S	S	04 55 28.5	-3.7
ASPA	**Alice Springs**	**19.99**	**142**	*e*P	P	04 52 48.1	+2.6
ASAR	**Alice Springs**	**19.99**	**142**	P	P	04 52 46.4	+0.9
22nm,1.0s,baz=318,slow=10,SNR=33							
ASAR				S	S	04 56 23.9	+1.3
2.7nm,0.5s,baz=333,slow=15,SNR=7.0							
ASAR				LR	LR	05 01 38.0	
comp=Z,192nm,18.1s,baz=313,slow=40							
KULM	**Kulim**	**24.00**	**303**	P	P	04 53 25.7	+0.1
NWAO	**Narrogin (SRO)**	**24.87**	**187**	LR	LR	05 04 20.5	
comp=Z,245nm,18.9s,MS3.7,baz=15,slow=39							
CTA	**Charters Tower**	**27.47**	**118**	P	P	04 53 59.1	+1.0
5.4nm,0.9s,mb4.1,baz=275,slow=13,SNR=3.8							
STKA	**Stephens Creek**	**30.62**	**143**	P	P	04 54 26.3	+0.2
2.3nm,0.7s,mb4.1,baz=315,slow=22,SNR=4.3							
STKA	**Stephens Creek**	**30.62**	**143**	P	P	04 54 23.8	-2.3
CMAR	**Chiang Mai Arr**	**34.02**	**321**	P	P	04 54 56.0	+0.2
0.8nm,0.3s,mb4.1,baz=151,slow=7.0,SNR=5.2							
CMAR				LR	LR	05 11 21.2	
comp=Z,61nm,19.2s,MS3.4,baz=150,slow=41							
KMI	**Kunming**	**37.38**	**333**	P	P	04 55 28.5	+4.2
KMI				AMB	AMB		
comp=Z,16nm,0.6s,mb5.0							
ENH	**Enshi**	**39.66**	**345**	P	P	04 55 45.3	+2.1
comp=Z,6.1nm,0.8s,mb4.4							
CD2	**Chengdu**	**42.07**	**338**	*e*P	P	04 56 03.0	-0.1
PALK	**Pallekele**	**42.67**	**290**	P	P	04 56 06.8	-1.5
DGAR	**Diego Garcia**	**47.74**	**267**	P	P	04 56 47.7	-1.0
comp=Z,296nm,1.1s							
BJT	**Baijiatuau**	**48.09**	**355**	*e*P	P	04 56 49.6	-1.5
comp=Z,20nm,1.0s,mb5.1							
BJI	**Beijing**	**48.11**	**355**	*e*P	P	04 56 50.5	-0.7
BJI				S	S	05 03 53.5	+8.3
BJI				AMB	AMB		
comp=Z,5.0nm,1.0s,mb4.5							
GTA	**Gaotai**	**51.10**	**339**	*e*P	P	04 57 15.5	+1.3
GTA				AMB	AMB		
comp=Z,5.0nm,1.2s,mb4.3							
MDJ	**Mudanjiang**	**53.12**	**8**	P	P	04 57 30.0	+0.7
MDJ				PCP	PcP	04 58 36.8	-0.1
MDJ				S	S	05 05 01.5	+7.1
MDJ				AMB	AMB		
comp=Z,15nm,1.4s,mb4.7							
MDJ				AMB	AMB		
comp=Z,93nm,4.1s							
MDJ				LR	LR		
comp=N,246nm,48.9s							
MDJ				LR	LR		
comp=E,174nm,43.5s							
MDJ	**Mudanjiang**	**53.12**	**8**	P	P	04 57 33.1	+3.8
comp=E,22nm,1.2s,mb5.0							
ULN	**Ulaanbaatar**	**57.04**	**349**	*e*P	P	04 57 57.5	-0.1
comp=E,7.9nm,1.1s,mb4.7							
HIA	**Hailar**	**57.16**	**359**	*e*P	P	04 57 58.5	0.0
comp=E,8.3nm,1.4s,mb4.6							
WMQ	**Urumqi**	**59.72**	**333**	P	P	04 58 17.5	+1.2
WMQ				AP	pP	04 58 27.5	-2.6
WMQ				XP	sP	04 58 32.5	-3.3
WMQ				PCP	PcP	04 59 03.5	+1.0
WMQ				PP	PP	05 00 31.5	+1.2
WMQ				PPP	PPP	05 01 58.0	+1.9
WMQ				AMB	AMB		
comp=Z,7.0nm,0.5s,mb5.0							
WMQ				AMB	AMB		
comp=Z,152nm,5.5s							
WMQ				LR	LR		
comp=N,22nm,18.2s,MS3.9							
WMQ				LR	LR		
comp=E,79nm,18.3s,MS3.9							
AAK	**Ala-Archa**	**65.72**	**324**	*e*P	P	04 58 55.7	-0.4
comp=E,4.0nm,1.2s,mb4.3							
VNDA	**Vanda**	**72.59**	**171**	P	P	04 59 37.1	-0.5
comp=E,0.5nm,0.6s,mb3.6,baz=291,slow=5.7,SNR=5.4							
BVAR	**Borovoye Array**	**74.32**	**331**	P	P	04 59 47.5	-0.8
comp=E,0.2nm,0.3s,mb3.5,baz=117,slow=3.2,SNR=2.7							
CPUP	**Villa Florida**	**145.69**	**183**	PKPbc	PKPbc	05 07 49.1	+0.3
comp=E,3.0nm,1.0s,baz=204,slow=3.9,SNR=4.1							
LVC	**Limon Verde**	**148.04**	**163**	PKPbc	PKPdf	05 07 58.3	+6.3
comp=E,4.9nm,0.9s,baz=261,slow=5.2,SNR=4.5							
LVC	**Limon Verde**	**148.04**	**163**	PKPbc	PKPdf	05 07 58.3	+6.3
LPAZ	**La Paz**	**154.22**	**160**	PKPbc	PKPdf	05 08 16.4	+15
comp=E,0.7nm,0.8s,baz=197,slow=0.9,SNR=3.6							
LPAZ				PKPab	PKPab	05 08 27.6	+1.6
comp=E,1.0nm,0.5s,baz=251,slow=0.6,SNR=6.3							

IDC 28 05:02:53.2±2.8,32.77S×178.05W,mb4.2/3,mb1 4.3/4, mb1mx4.0/16,mbtmp4.1/4,ML3.7/1,MS3.5/3,Ms1 3.6/3, ms1mx3.1/24,Error ellipse: s-maj=60.8km s-min=35.1km az=119.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.75**	**214**	Pn	Pn	05 04 34.0	-2.0
1.3nm,0.3s,baz=87,slow=1.9,SNR=8.9							
URZ				Sn	Sn	05 05 49.8	-4.9
2.3nm,0.3s,baz=118,slow=21,SNR=10							
CTA	**Charters Tower**	**34.21**	**283**	P	P	05 09 42.0	-0.6
1.6nm,0.5s,baz=117,slow=6.8,SNR=4.8							
ASAR	**Alice Springs**	**43.00**	**269**	P	P	05 10 54.2	-1.8
2.2nm,0.7s,baz=109,slow=7.9,SNR=17							
WRA	**Warramunga Arr**	**44.20**	**275**	P	P	05 11 03.2	-2.6
1.9nm,0.5s,baz=114,slow=8.0,SNR=8.3							
CFAA	**Coronel Fontan**	**87.86**	**127**	LR	LR	05 46 24.8	
comp=Z,16nm,20.4s,baz=196,slow=30							
LPAZ	**La Paz**	**97.21**	**114**	LR	LR	05 52 42.6	
comp=Z,24nm,19.1s,baz=316,slow=31							
JTS	**JuntasAbangare**	**98.07**	**83**	LR	LR	05 49 18.5	
comp=Z,32nm,19.7s,baz=351,slow=28							
FINES	**FINESS Array B**	**147.34**	**339**	PKPbc	PKPdf	05 22 37.0	-0.3
1.3nm,0.6s,baz=45,slow=3.5,SNR=13							

IDC 28 05:27:22.4±1.8, 8.18S×120.23E, mb3.5/2, mb1 4.0/4, mb1mx3.8/18, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=159.4km s-min=24.1km az=56.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.18**	**152**	Pn	P	05 30 04.3	-2.4
	0.9nm,0.3s,baz=346,slow=11,SNR=10						
FITZ				Sn	S	05 32 02.5	-11
	0.4nm,0.3s,baz=127,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**17.98**	**132**	P	P	05 31 32.1	-3.5
	0.2nm,0.3s,baz=307,slow=12,SNR=8.6						
WRA				S	S	05 34 43.5	-11
	0.1nm,0.3s,baz=306,slow=25,SNR=3.7						
ASAR	**Alice Springs**	**20.22**	**141**	P	P	05 32 00.0	-1.9
	3.7nm,1.0s,baz=315,slow=9.7,SNR=12						
MKAR	**Makanchi Array**	**64.29**	**332**	P	P	05 37 59.6	-2.3
	0.2nm,0.6s,baz=143,slow=7.2,SNR=4.0						

DJA 28 05:28:10.1±0.8, 9.88S×115.00E, h33km, MD5.4/3, ML3.8/3, 4C-5D, Error ellipse: s-maj=18.5km s-min=8.5km az=7.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.27**	**25**	⇓*i*Pn	Pn	05 28 29.7	-2.1
	240nm,0.2s						
RATI				⇑*e*Sn	Sn	05 28 45.3	-2.5
SRDI	**Scrawed**	**1.63**	**329**	⇑*i*Pn	Pn	05 28 35.1	-1.9
	40nm,0.2s						
SRDI				⇑*i*Sn	Sn	05 28 54.0	-3.0
KELI	**Kelakatan**	**1.73**	**343**	⇓*i*Pn	Pn	05 28 37.6	-0.8
KELI				⇓*i*Sn	Sn	05 28 56.7	-2.8
KEDI	**Kedomdong**	**1.77**	**39**	⇑*i*Pn	Pn	05 28 38.0	-1.0
	69nm,0.2s						
KEDI	**Kedomdong**	**1.77**	**39**	⇓*i*P	P	05 28 38.5	-0.3
KEDI				⇓*e*Sn	Sn	05 28 57.2	-3.4

IDC 28 05:34:39.8±1.5, 1.77S×99.44E, mb3.7/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=80.5km s-min=20.3km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.10**	**359**	P	P	05 39 15.5	-2.6
	0.5nm,0.4s,baz=185,slow=10.0,SNR=3.4						
WRA	**Warramunga Arr**	**38.59**	**120**	P	P	05 42 04.2	-2.3
	1.0nm,0.4s,baz=302,slow=9.1,SNR=9.8						
WRA				PcP	PcP	05 44 17.7	-1.9
	0.3nm,0.5s,baz=307,slow=2.6,SNR=4.7						
ASAR	**Alice Springs**	**39.84**	**126**	P	P	05 42 15.7	-1.2
	0.9nm,0.6s,baz=303,slow=7.9,SNR=6.2						
MKAR	**Makanchi Array**	**50.66**	**345**	P	P	05 43 41.5	-1.3
	baz=150,slow=7.3						
BVAR	**Borovoye Array**	**59.77**	**340**	P	P	05 44 45.5	-3.5
	0.7nm,0.6s,baz=149,slow=8.8,SNR=5.3						
FINES	**FINESS Array B**	**83.65**	**332**	P	P	05 47 10.0	-1.4
	0.7nm,0.6s,baz=90,slow=8.3,SNR=4.1						
CFAA	**Coronel Fontan**	**144.81**	**198**	PKP	PKPdf	05 54 19.1	-2.1
	0.3nm,0.5s,baz=161,slow=3.6,SNR=9.3						
TXAR	**Lajitas Array**	**144.85**	**37**	PKP	PKPdf	05 54 19.4	-2.0
	0.8nm,0.5s,baz=275,slow=1.2,SNR=23						

NNC 28 05:35:28.4±6.7, 36.54N×68.77E, mpv3.3, 4C-1D, Error ellipse: s-maj=73.4km s-min=40.4km az=154.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.69**	**11**	⇑P	Pn	05 37 06.2	-4.1
	0.2nm,0.2s,baz=188,slow=11,SNR=13						
KK31				⇓S	Sn	05 38 24.8	-3.5
	1.2nm,0.6s,baz=198,slow=24,SNR=4.5						
AAK	**Ala-Archa**	**7.52**	**34**	⇑P	Pn	05 37 19.8	-2.2
	1.8nm,0.4s						
AAK				⇑S	Sn	05 38 47.5	-1.5
	4.6nm,0.7s						
AB31	**Akbulak array**	**14.25**	**336**	⇑P	P	05 38 52.6	-0.8
	0.3nm,0.5s,baz=141,slow=13,SNR=7.1						

*NEIC **28** 05:43:59.8, 15.66N×96.38W, h39km, MD4.3(MEX), After MEX.*

MEX 28 05:43:59.9±0.6, 15.66N×96.45W, h31km±12km, MD4.2, 3D, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.34**	**71**	*e*P	Pb	05 44 06.6	-1.4
HUIG				*e*S	Sb	05 44 11.6	-1.9
HUIG	**Huatulco**	**0.34**	**71**	⇓*e*P	Pb	05 44 06.7	-1.4
HUIG				*e*S	Sb	05 44 11.6	-1.9
VHO	**Vista Hermosa**	**1.43**	**349**	*i* P	Pn	05 44 22.1	-2.0
VHO				*e*S	Sn	05 44 38.9	-3.2
VHO	**Vista Hermosa**	**1.43**	**349**	⇓*i*P	Pn	05 44 22.3	-1.8
VHO				*e*S	Sn	05 44 38.9	-3.2
OXX	**Oaxaca**	**1.44**	**349**	*i* P	Pn	05 44 21.9	-2.3
OXX				*i* S	Sn	05 44 40.1	-2.2
OXX	**Oaxaca**	**1.44**	**349**	*i* P	Pn	05 44 21.8	-2.4
OXX				*i* S	Sn	05 44 39.7	-2.5
PNIG	**Pinotepa**	**1.77**	**295**	*e*P	Pn	05 44 26.8	-2.2
PNIG				*i* S	Sn	05 44 45.9	-4.8
PNIG	**Pinotepa**	**1.77**	**295**	*e*P	Pn	05 44 26.8	-2.2
PNIG				*i* S	Sn	05 44 46.3	-4.4
CMIG	**Matias Romero**	**2.07**	**46**	*e*P	Pn	05 44 30.2	-3.1
CMIG				*e*S	Sn	05 44 52.3	-5.9
CMIG	**Matias Romero**	**2.07**	**46**	⇓*e*P	Pn	05 44 30.9	-2.3
CMIG				*e*S	Sn	05 44 54.6	-3.6
EVV	**El Vigia**	**2.97**	**21**	*i* P	Pn	05 44 49.0	+2.8
EVV				*i* S	Sn	05 45 22.8	+1.6
IISM	**Ciudad Serdan**	**3.43**	**345**	*i* P	Pn	05 44 50.5	-2.1
IISM	**Ciudad Serdan**	**3.43**	**345**	*e*P	Pn	05 44 50.1	-2.5
IISM				*i* S	Sn	05 45 28.9	-3.8
ACX	**Acapulco**	**3.54**	**290**	*e*P	Pn	05 44 50.4	-3.9
ACX				*i* S	Sn	05 45 32.4	-3.2
CAIG	**El Cayaco**	**3.92**	**291**	*e*P	Pn	05 44 58.5	-1.1
PPM	**Popocatepetl**	**3.98**	**329**	*e*P	Pn	05 44 59.3	-1.1
PPM				*e*S	Sn	05 45 44.6	-1.9
PPM	**Popocatepetl**	**3.98**	**329**	*e*P	Pn	05 44 57.3	-3.1
PPM				*e*P		05 44 58.5	
PPM				*i* S	Sn	05 45 41.8	-4.8
PPM				*e*S	Sn	05 45 42.6	-3.9
PLIG	**Platanillo**	**3.99**	**313**	*e*P	Pn	05 44 57.1	-3.5
PLIG				*e*S	Sn	05 45 44.3	-2.6
PLIG	**Platanillo**	**3.99**	**313**	*e*P	Pn	05 44 57.1	-3.5
PLIG				*e*S	Sn	05 45 41.2	-5.7
LVIG	**Laguna Verde**	**4.04**	**0**	*e*P	Pn	05 44 58.9	-2.4
LVIG				*e*S	Sn	05 45 45.1	-3.1
YAIG	**Yautepec**	**4.05**	**322**	*e*P	Pn	05 45 12.7	+11
YAIG				*i* S	Sn	05 45 43.0	-5.4

*IDC **28** 05:44:29.0±1.2, 23.69S×66.48W, h211km±28km, mb3.9/1, mb1 3.7/6, mb1mx3.4/18, mbtmp4.2/6, Error ellipse: s-maj=32.5km s-min=15.7km az=115.0*
*GUC **28** 05:44:31.7±0.6, 24.09S×66.81W, h200km, ML3.5*
*NEIC **28** 05:44:31.7, 24.09S×66.81W, h200km, mb4.2/1, After GUC.*

ISC 28 05:44:28.5±0.7, 23.77S±0.07×66.6W±0.2, h236km±16km, n15, σ1°07/21, mb4.0/1, 3C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.69**	**300**	⇑*i*P	P	05 45 09.0	+1.6
SPCH				*i* S	S	05 45 37.8	+0.3
SPCH				AMP		05 45 42.1	
	comp=N,261nm,0.5s						
LVC	**Limon Verde**	**2.40**	**298**	P	P	05 45 14.8	+0.5
	comp=N,88nm,0.3s,baz=124,slow=6.9,SNR=868						
LVC				S	S	05 45 48.7	-0.9
	comp=N,32nm,0.3s,baz=268,slow=21,SNR=19						
ANCH	**Antofagasta**	**3.48**	**271**	⇑*i*P	P	05 45 28.0	+1.9
ANCH				*i* S	S	05 46 09.9	-0.8
CRCH	**Chaqaral**	**4.45**	**234**	⇑*i*P	P	05 45 37.7	0.0
LCO	**Las Campanas**	**6.38**	**214**	*i* S	S	05 47 13.1	-1.5
LPAZ	**La Paz**	**7.58**	**349**	P	P	05 46 17.5	+0.4
	comp=N,0.4nm,0.3s,baz=156,slow=8.0,SNR=22						
LPAZ	**La Paz**	**7.58**	**349**	P	P	05 46 17.5	+0.4
CFAA	**Coronel Fontan**	**7.94**	**190**	P	P	05 46 21.4	-0.3
	comp=N,0.2nm,0.3s,baz=23,slow=11,SNR=70						
CFAA				S	S	05 47 44.9	-5.5
	comp=N,0.8nm,0.3s,baz=113,slow=23,SNR=20						
CFAA	**Coronel Fontan**	**7.94**	**190**	P	P	05 46 21.4	-0.3
CFAA				S	S	05 47 44.9	-5.5
SIV	**San Ignacio**	**9.33**	**35**	P	P	05 46 36.3	-3.2
	comp=N,0.7nm,0.3s,baz=214,slow=14,SNR=25						
SIV				S	S	05 48 10.4	-12
	comp=N,0.1nm,0.3s,baz=254,slow=17,SNR=2.5						
SAML	**Samuel**	**15.10**	**13**	*e*P	P	05 47 50.8	-1.1
	comp=N,7.9nm,0.8s						
PLCA	**Paso Flores**	**17.23**	**190**	P	P	05 48 17.4	+1.3
	comp=N,0.5nm,0.3s,baz=2.6,slow=12,SNR=22						
BDFB	**Brasilia**	**19.28**	**69**	P	P	05 48 37.3	0.0
	comp=N,2.1nm,0.3s,baz=249,slow=12,SNR=22						
BAO	**Brasilia Array**	**19.30**	**69**	P	P	05 48 38.0	+0.5
DBIC	**Dimbokro**	**67.40**	**71**	P	P	05 55 00.7	-0.1
	comp=N,2.3nm,0.5s,mb4.0,baz=224,slow=5.6,SNR=6.2						

*NEIC **28** 06:30:12.1, 17.25N×69.46W, h25km, MD4.1(RSPR), After RSPR.*

RSPR 28 06:30:12.1, 17.25N×69.46W, h25km±79km, MD4.1/14, MD4.1/14, 10C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**2.37**	**71**	⇑*e*P	Pn	06 30 46.6	-3.5
CRPR				*e*S	Sn	06 31 15.7	-2.9
MGP	**Maguayo**	**2.38**	**71**	⇓*e*P	Pn	06 30 46.8	-3.6
MGP				*e*S	Sn	06 31 17.8	-1.3
LSP	**Las Mesas**	**2.44**	**67**	⇓*e*P	Pn	06 30 49.0	-2.3
LSP				*e*S	Sn	06 31 17.4	-3.2
AGPR	**Aguadilla, PR**	**2.54**	**61**	⇓*e*P	Pn	06 30 50.5	-2.2
AGPR				*e*S	Sn	06 31 18.5	-4.7
LRS	**Lares**	**2.70**	**67**	⇑*e*P	Pn	06 30 53.5	-1.4
LRS				*e*S	Sn	06 31 24.3	-2.8
AOPR	**Arecibo Observ**	**2.80**	**67**	⇑*e*P	Pn	06 30 54.0	-2.3
PORP	**Portuguez**	**2.81**	**73**	⇑*e*P	Pn	06 30 53.3	-3.2
PORP				*e*S	Sn	06 31 30.3	+0.4
CELP	**Cerrillos**	**2.87**	**73**	⇓*e*P	Pn	06 30 54.0	-3.3
CELP				*e*S	Sn	06 31 28.4	-3.0
ICM	**Isla Caja Muer**	**2.88**	**77**	⇑*e*P	Pn	06 30 56.5	-0.9
ICM				*e*S	Sn	06 31 28.3	-3.3
SJG	**San Juan**	**3.27**	**74**	⇑*e*P	Pn	06 31 03.8	+0.8
CPD	**Cerro la Pandu**	**3.47**	**76**	⇑*e*P	Pn	06 31 01.2	-4.7
HUMP	**Col San Antoni**	**3.56**	**75**	⇑*e*P	Pn	06 31 03.5	-3.5
HUMP				*e*S	Sn	06 31 43.9	-4.8
CBYP	**Canovanas**	**3.58**	**73**	⇑*e*P	Pn	06 31 06.1	-1.3
MTP	**Monte Pirata**	**3.81**	**77**	⇑*e*P	Pn	06 31 07.7	-3.0

*CSEM **28** 06:48:05.8±0.5, 38.96N×28.53W, h30km, ML2.5, Error ellipse: s-maj=14.7km s-min=6.0km az=131.0*
*PDA **28** 06:48:06.9±1.0, 39.08N×28.59W, MD3.2, ML2.5, Error ellipse: s-maj=12.9km s-min=3.4km az=133.0*

SVSA 28 06:48:06.9±1.0, 39.08N×28.59W, MD3.2, ML2.5, Error ellipse: s-maj=12.9km s-min=3.4km az=133.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.46**	**90**	*e*P	Pg	06 48 16.0	0.0
STGR				*e*S	Sg	06 48 21.4	-0.7
	97nm,0.1s						
PCED	**Cedros**	**0.46**	**191**	*i* P	Pg	06 48 15.3	-0.8
PCED				*e*S	Sg	06 48 21.9	-0.3
	305nm,0.2s						
PCED	**Cedros**	**0.46**	**191**	*e*S	Sg	06 48 21.9	-0.3
	305nm,0.2s						
CALA	**Caldeira**	**0.51**	**190**	*e*P	Pg	06 48 16.2	-0.8
CALA				*e*S	Sg	06 48 22.8	-1.0
HOR	**Horta**	**0.55**	**183**	*e*P	Pg	06 48 16.6	-1.4
HOR				*e*S	Sg	06 48 24.4	-1.0
PICO	**Pico**	**0.59**	**167**	*e*P	Pg	06 48 17.4	-1.3
PICO				*e*S	Sg	06 48 25.7	-1.0
PMAN	**Manadas**	**0.59**	**139**	*e*S	Sg	06 48 25.1	-1.6
	103nm,0.1s						
PMAN	**Manadas**	**0.59**	**139**	*e*S	Sg	06 48 25.1	-1.6
	103nm,0.1s						
PSBA	**Serra de Santa**	**1.04**	**107**	*e*S	Sb	06 48 36.5	-4.9
PBIS	**Biscoitos**	**1.09**	**107**	*e*S	Sb	06 48 38.0	-5.0
	12nm,0.1s						

*CSEM **28** 07:42:14.6±0.6, 39.12N×28.61W, h10km, ML2.0, Error ellipse: s-maj=5.7km s-min=2.6km az=140.0, After PDA*
*PDA **28** 07:42:14.6±0.6, 39.12N×28.61W, h10km, MD3.1, ML2.0, Error ellipse: s-maj=5.7km s-min=2.6km az=140.0*

SVSA 28 07:42:14.6±0.6, 39.12N×28.61W, h10km, MD3.1, ML2.0, Error ellipse: s-maj=5.7km s-min=2.6km az=140.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STGR	**Santa Cruz**	**0.47**	**94**	*e*S	Sg	07 42 28.7	-2.0
	26nm,0.2s						
STGR	**Santa Cruz**	**0.47**	**94**	*e*S	Sg	07 42 28.7	-2.0
	26nm,0.2s						
PCED	**Cedros**	**0.49**	**188**	*e*P	Pg	07 42 22.8	-1.8
PCED				*e*S	Sg	07 42 29.4	-1.9
	38nm,0.2s						
PCED	**Cedros**	**0.49**	**188**	*e*P	Pg	07 42 22.8	-1.8
PCED				*e*S	Sg	07 42 29.4	-1.9
	38nm,0.2s						
CALA	**Caldeira**	**0.54**	**188**	*i* P	Pg	07 42 23.8	-1.7
CALA				*e*S	Sg	07 42 30.3	-2.5
CALA	**Caldeira**	**0.54**	**188**	*e*S	Sg	07 42 30.3	-2.5
PICO	**Pico**	**0.63**	**167**	*e*P	Pb	07 42 24.9	-2.4
PICO				*e*S	Sg	07 42 32.5	-3.3
PMAN	**Manadas**	**0.63**	**140**	*e*S	Sg	07 42 32.6	-3.3
	52nm,0.1s						

*CSEM **28** 07:44:37.4±0.2, 37.43N×1.73W, h16km±2km, ML2.8/1, Error ellipse: s-maj=5.3km s-min=2.4km az=131.0*
*SFS **28** 07:44:37.0, 37.46N×1.78W, h8km*

MDD 28 07:44:37.5±0.3, 37.49N×1.83W, h7km±5km, mbLg1.9/16, 1C-3D, Error ellipse: s-maj=3.9km s-min=2.0km az=146.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.58**	**53**	⇓Pg	Pg	07 44 47.8	-1.4
	SNR=18						
EMUR				Lg		07 44 55.9	
	32nm,0.3s,SNR=9.9						
EMUR	**La Murta**	**0.58**	**53**	Pg	Pg	07 44 47.8	-1.4
	16nm,0.3s,SNR=18						
ENIJ	**Nijar**	**0.60**	**211**	⇑Pg	Pg	07 44 48.5	-1.0
	SNR=18						
ENIJ				Lg		07 44 56.4	
	9.9nm,0.2s,SNR=7.9						
CART	**Cartagena**	**0.66**	**81**	Pg	Pg	07 44 51.0	+0.2
CART				Lg		07 44 59.3	
CART	**Cartagena**	**0.66**	**81**	*e*P	Pg	07 44 51.0	+0.2
CART				*e*S	Sg	07 44 59.3	-0.3
EBER	**Berja**	**1.03**	**236**	⇓Pg	Pg	07 44 55.9	-2.2
	7.3nm,0.3s,SNR=18						
EBER				Lg		07 45 10.5	
	9.5nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.03**	**236**	Pg	Pg	07 44 55.9	-2.3
	7.3nm,0.3s,SNR=18						
EQES	**Quesada**	**1.04**	**288**	Pg	Pg	07 44 56.7	-1.5
	7.2nm,0.4s,SNR=14						
EQES				Lg		07 45 11.6	
	11nm,0.2s,SNR=10						
EQES	**Quesada**	**1.04**	**288**	Pg	Pg	07 44 57.6	-0.6
	7.2nm,0.4s,SNR=14						
ETOB	**Tobarra**	**1.18**	**11**	Pg	Pg	07 44 59.5	-1.4
	8.0nm,0.4s,SNR=12						
ETOB				Lg		07 45 15.3	
	14nm,0.3s,SNR=12						
ETOB	**Tobarra**	**1.18**	**11**	Pg	Pg	07 44 59.5	-1.5
	8.0nm,0.4s,SNR=12						
EVIA	**Vianos**	**1.27**	**335**	⇓Pg	Pg	07 45 00.7	-2.1
	6.5nm,0.3s,SNR=18						
EVIA				Lg		07 45 18.1	
	14nm,0.2s,SNR=15						
ECOG	**Cogollos-Vega**	**1.40**	**262**	Pg	Pg	07 45 03.3	-2.2
	4.7nm,0.3s,SNR=4.0						
ECOG				Lg		07 45 23.0	
	3.3nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**1.40**	**262**	Pg	Pg	07 45 04.3	-1.2
	SNR=4.0						
ERON	**Agron**	**1.65**	**254**	Pg	Pg	07 45 07.2	-3.2
	4.5nm,0.5s,SNR=7.9						
ERON				Lg		07 45 30.4	
	1.5nm,0.6s,SNR=7.9						
EBAN	**Banos Encina**	**1.69**	**294**	Pn	Pn	07 45 06.4	-1.2
	1.7nm,0.5s,SNR=7.9						
EBAN				Sn	Sn	07 45 27.4	-2.3
	11nm,0.8s,SNR=7.9						
EBAN				Lg		07 45 31.6	
	4.8nm,0.1s,SNR=13						
EBAN	**Banos Encina**	**1.69**	**294**	Pn	Pn	07 45 06.6	-1.0
	SNR=7.9						
EBEN	**Beniarda**	**1.75**	**46**	Pn	Pn	07 45 06.3	-2.2
	1.7nm,0.5s,SNR=7.9						
EBEN				Sn	Sn	07 45 28.1	-3.1
	9.4nm,0.8s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.89**	**260**	Pg	Pg	07 45 11.6	-3.6
	2.2nm,0.8s,SNR=7.9						
ELOJ				Lg		07 45 38.6	
	5.1nm,0.6s,SNR=7.9						
ELUQ	**Luque**	**1.94**	**273**	Pg	Pg	07 45 12.8	-3.4
	0.6nm,0.6s,SNR=7.9						
ELUQ				Lg		07 45 39.9	
	10nm,1.0s,SNR=7.9						
ECHE	**Chera**	**2.21**	**18**	Pg	Pg	07 45 17.4	-4.1
	1.5nm,0.6s,SNR=7.9						
ECHE				Sn	Sn	07 45 39.6	-3.1
	0.7nm,0.5s,SNR=7.9						
ECHE				Lg		07 45 47.9	
	1.3nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**2.28**	**288**	Pn	Pn	07 45 14.4	-1.6
	1.8nm,0.3s,SNR=6.8						
EADA				Sn	Sn	07 45 42.2	-2.5
	1.0nm,1.2s,SNR=7.9						
EADA				Lg		07 45 51.5	
	4.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.28**	**288**	Pn	Pn	07 45 14.4	-1.7
	1.8nm,0.3s,SNR=6.8						
EADA				Sn	Sn	07 45 42.9	-1.8
	SNR=7.9						
ESDC	**Sonseca Array**	**2.75**	**323**	Sn	Sn	07 45 53.9	-2.7
	1.2nm,0.2s,baz=136,slow=22,SNR=7.9						
ESDC				Lg		07 46 04.8	
	4.5nm,0.2s,baz=142,slow=28,SNR=7.9						
ECAB	**El Cabril**	**2.91**	**283**	Sn	Sn	07 45 57.1	-3.4
	3.4nm,0.3s,SNR=6.1						
ECAB				Lg		07 46 11.2	
	2.7nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**2.91**	**283**	Sn	Sn	07 45 57.9	-2.7
	3.4nm,0.3s,SNR=6.1						
EMIN	**Mina Concepcio**	**3.86**	**276**	Pn	Pn	07 45 35.5	-3.0
	0.2nm,0.4s,SNR=7.9						
EMIN				Sn	Sn	07 46 20.1	-4.5
	1.1nm,0.7s,SNR=7.9						
EMIN				Lg		07 46 41.0	
	4.3nm,1.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.86**	**276**	Pn	Pn	07 45 35.5	-3.0
	SNR=7.9						
EMIN				Sn	Sn	07 46 20.1	-4.5
	SNR=7.9						
EBAD	**Badajoz**	**4.28**	**289**	Pn	Pn	07 45 41.8	-2.8
	1.4nm,0.7s,SNR=7.9						
EBAD				Sn	Sn	07 46 30.2	-5.2
	1.1nm,1.1s,SNR=7.9						
EBAD				Lg		07 46 54.5	
	6.8nm,2.0s,SNR=7.9						

*CSEM **28** 07:52:50.2±0.1, 37.47N×1.80W, h10km, ML2.9/7, Error ellipse: s-maj=3.0km s-min=1.4km az=152.0*
*SFS **28** 07:52:50.0, 37.47N×1.78W, h11km*

MDD 28 07:52:50.7±0.3, 37.48N×1.80W, h11km, mbLg2.3/18, 3D, Error ellipse: s-maj=4.4km s-min=1.9km az=141.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.57**	**51**	⇓Pg	Pg	07 53 01.0	-1.2
	SNR=18						
EMUR				Lg		07 53 08.3	
	90nm,0.4s,SNR=21						
EMUR	**La Murta**	**0.57**	**51**	Pg	Pg	07 53 01.0	-1.2
	41nm,0.3s,SNR=18						
ENIJ	**Nijar**	**0.60**	**213**	⇓Pg	Pg	07 53 01.6	-1.3
	31nm,0.1s,SNR=18						
ENIJ				Lg		07 53 09.7	
	100nm,0.3s,SNR=11						
CART	**Cartagena**	**0.64**	**80**	Pg	Pg	07 53 03.9	+0.2
CART				Lg		07 53 12.3	
CART	**Cartagena**	**0.64**	**80**	*i* P	Pb	07 53 03.9	+0.5
CART				*e*S	Sb	07 53 12.3	+0.2
EBER	**Berja**	**1.05**	**237**	⇓Pg	Pg	07 53 09.2	-2.5
	11nm,0.2s,SNR=18						
EBER				Lg		07 53 24.7	
	118nm,0.5s						
EBER	**Berja**	**1.05**	**237**	Pg	Pg	07 53 09.2	-2.5
	11nm,0.2s,SNR=18						
EQES	**Quesada**	**1.06**	**288**	Pg	Pg	07 53 09.9	-2.0
	11nm,0.1s,SNR=33						
EQES				Lg		07 53 25.1	
	63nm,0.3s						
EQES	**Quesada**	**1.06**	**288**	Pg	Pg	07 53 09.9	-2.0
	11nm,0.1s,SNR=33						
ETOB	**Tobarra**	**1.18**	**10**	Pg	Pg	07 53 12.7	-1.6
	13nm,0.1s,SNR=26						
ETOB				Lg		07 53 27.9	
	42nm,0.2s						
ETOB	**Tobarra**	**1.18**	**10**	Pg	Pg	07 53 12.7	-1.6
	13nm,0.1s,SNR=26						
EVIA	**Vianos**	**1.28**	**334**	Pg	Pg	07 53 13.5	-2.8
	11nm,0.2s,SNR=14						
EVIA				Lg		07 53 31.2	
	76nm,0.2s,SNR=33						
ECOG	**Cogollos-Vega**	**1.42**	**262**	Pg	Pg	07 53 16.9	-2.3
	12nm,0.2s,SNR=11						
ECOG				Lg		07 53 36.0	
	32nm,0.3s,SNR=10						
ECOG	**Cogollos-Vega**	**1.42**	**262**	Pg	Pg	07 53 17.2	-2.0
	12nm,0.2s,SNR=11						
ERON	**Agron**	**1.67**	**255**	Pg	Pg	07 53 21.3	-2.7
	7.5nm,0.2s,SNR=7.9						
ERON				Lg		07 53 43.3	
	4.5nm,0.7s,SNR=7.9						
ERON	**Agron**	**1.67**	**255**	Pn	Pn	07 53 18.2	-1.9
	1.7nm,0.1s,SNR=7.9						
ERON				Sn	Sn	07 53 38.6	-3.0
	4.7nm,0.3s,SNR=7.3						
EBAN	**Banos Encina**	**1.72**	**294**	Pn	Pn	07 53 19.6	-1.2
	9.1nm,0.2s,SNR=9.5						
EBAN				Sn	Sn	07 53 41.4	-1.4
	37nm,0.4s,SNR=6.3						
EBAN	**Banos Encina**	**1.72**	**294**	Pn	Pn	07 53 19.6	-1.2
	9.1nm,0.2s,SNR=9.5						
EBAN				Sn	Sn	07 53 43.0	+0.2
	37nm,0.4s,SNR=6.3						
EBEN	**Beniarda**	**1.74**	**45**	Pn	Pn	07 53 19.1	-2.1
	1.4nm,0.2s,SNR=7.9

3.8nm,0.2s,SNR=4.8
EMIJ Mijas 2.55 250 Lg 07 54 10.2
2.6nm,1.2s,SNR=7.9
ESDC Sonseca Array 2.77 323 Pg Pg 07 53 40.7 -5.3
1.7nm,0.4s,baz=142,slow=17,SNR=7.9
ESDC Sn Sn 07 54 06.3 -3.3
4.1nm,0.8s,baz=140,slow=23,SNR=7.9
ESDC Lg 07 54 18.0
3.7nm,0.3s,baz=142,slow=27,SNR=9.4
ECAB El Cabril 2.93 283 Pn Pn 07 53 35.6 -2.5
3.7nm,0.3s,SNR=15
ECAB Sn Sn 07 54 10.1 -3.6
10.0nm,0.3s
ECAB Lg 07 54 22.4
15nm,0.3s,SNR=5.1
ECAB El Cabril 2.93 283 Pn Pn 07 53 35.6 -2.5
3.7nm,0.3s,SNR=15
ECAB Sn Sn 07 54 10.8 -2.9
10.0nm,0.3s
EMOS Mosqueruela 3.06 19 Pn Pn 07 53 38.4 -1.6
0.2nm,0.6s,SNR=7.9
EMOS Pg Pg 07 53 45.5 -6.3
0.4nm,0.2s,SNR=7.9
EMOS Mosqueruela 3.06 19 Pg Pg 07 53 46.2 -5.5
0.4nm,0.2s,SNR=7.9
ESPR Espera 3.30 261 Pg Pg 07 53 49.5 -7.0
0.1nm,0.4s,SNR=7.9
GUD Guadarrama 3.65 331 Lg 07 54 44.4
6.3nm,0.2s,SNR=4.0
EMIN Mina Concepcio 3.88 276 Pn Pn 07 53 48.9 -2.7
0.6nm,0.2s,SNR=7.9
EMIN Sn Sn 07 54 32.8 -4.9
1.3nm,0.3s,SNR=7.9
EMIN Lg 07 54 51.9
9.6nm,0.6s,SNR=7.9
EMIN Mina Concepcio 3.88 276 Pn Pn 07 53 47.9 -3.7
0.6nm,0.2s,SNR=7.9
EMIN Sn Sn 07 54 32.8 -4.9
1.3nm,0.3s,SNR=7.9
ETOS Mallorca 4.27 56 Pn Pn 07 53 54.6 -2.6
1.0nm,0.2s,SNR=7.9
ETOS Mallorca 4.27 56 Pn Pn 07 53 54.6 -2.6
1.0nm,0.2s,SNR=7.9
EBAD Badajoz 4.31 289 Pn Pn 07 53 54.6 -3.1
0.3nm,0.1s,SNR=7.9
EBAD Sn Sn 07 54 43.1 -5.4
1.1nm,0.1s,SNR=4.0
EBAD Lg 07 55 04.9
4.2nm,0.3s,SNR=7.9
EBAD Badajoz 4.31 289 Pn Pn 07 53 53.8 -3.9
0.3nm,0.1s,SNR=7.9
EBAD Sn Sn 07 54 43.1 -5.4
1.1nm,0.1s,SNR=4.0

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*HEL **28** 07:57:54.3±0.2, 59.88N×24.73E, ML1.7, ML2.0(UPP), Explosion*
*IDC **28** 07:57:55.0±2.1, 59.94N×24.80E, mb1 3.0/3, mb1mx2.9/21, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=23.6km s-min=6.9km az=145.0*
ISC 28 07:57:52.8±0.7, 59.89N±0.05×24.73E±0.08, n25, σ1°16/38, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**0.87**	**40**	*e*P	**Pg**	**07 58 09.7**	**-0.4**
PVF				*e*S	**Sg**	**07 58 21.1**	**-0.7**
VJF	**Virojoki**	**1.56**	**64**	*e*P	**Pn**	**07 58 22.4**	**+0.5**
VJF				*e*S	**Sb**	**07 58 41.5**	**-0.9**
FIA0	**FINESS Array S**	**1.70**	**22**	*e*P	**Pn**	**07 58 24.5**	**+0.7**
FIA0				*e*S	**Sb**	**07 58 45.2**	**-1.3**
FINES	**FINESS Array B**	**1.70**	**22**	Pg	**Pg**	**07 58 24.4**	**-2.3**
	1.8nm,0.3s,baz=206,slow=15,SNR=60						
FINES				Pn	**Pn**	**07 58 25.8**	**+1.9**
	1.8nm,0.3s,baz=196,slow=13,SNR=54						
FINES				Lg		07 58 46.0	
	3.2nm,0.3s,baz=198,slow=28,SNR=21						
FINES				Sn	**Sn**	**07 58 48.9**	**+2.3**
	2.8nm,0.3s,baz=218,slow=25,SNR=24						
KEF	**Keuruu**	**2.29**	**2**	*e*P	**Pn**	**07 58 34.0**	**+1.7**
KEF				*e*S	**Sn**	**07 59 03.2**	**+1.6**
KAF	**Kangasniemi**	**2.36**	**18**	*e*P	**Pn**	**07 58 35.2**	**+1.8**
KAF				*e*S	**Sn**	**07 59 03.4**	**-0.1**
KAF				*e*SB	**Sb**	**07 59 05.3**	**-0.5**
KAF				MSG		07 59 06.7	
	comp=Z,3.2nm,0.2s						
AAL	**Aland**	**2.39**	**279**	*e*P	**Pn**	**07 58 34.8**	**+1.0**
AAL				*e*S	**Sn**	**07 59 05.7**	**+1.4**
NRTU	**Norrtaelje**	**3.09**	**269**	*e*P	**Pn**	**07 58 44.5**	**+0.8**
GRAU	**Graesoe**	**3.13**	**281**	*e*P	**Pn**	**07 58 43.2**	**-1.1**
VAF	**Ylistaro**	**3.32**	**344**	*e*P	**Pn**	**07 58 48.4**	**+1.5**
FLYU	**Flymyra**	**3.44**	**277**	*e*P	**Pn**	**07 58 49.0**	**+0.2**
NYNU	**Nynaeshamn**	**3.54**	**258**	*e*P	**Pn**	**07 58 50.6**	**+0.4**
IGGU	**Iggoen**	**3.81**	**288**	*e*P	**Pn**	**07 58 53.5**	**-0.4**
IGGU				*e*S	**Sn**	**07 59 38.7**	**-1.5**
BACU	**Backbrunna**	**3.84**	**273**	*e*P	**Pn**	**07 58 54.8**	**+0.4**
GOTU	**Gotland**	**3.89**	**238**	*e*P	**Pn**	**07 58 55.8**	**+0.7**
ARNU	**Arnoeviken**	**4.03**	**300**	*e*P	**Pn**	**07 58 56.7**	**-0.4**
HEMU	**Hemsoen**	**4.27**	**314**	*e*P	**Pn**	**07 59 01.1**	**+0.6**
ESKU	**Eskilstuna**	**4.29**	**265**	*e*P	**Pn**	**07 59 00.7**	**0.0**
FALU	**Falun**	**4.48**	**282**	*e*P	**Pn**	**07 59 03.2**	**-0.3**
HASU	**Hassela**	**4.55**	**303**	*e*P	**Pn**	**07 59 04.1**	**-0.4**
ROTU	**Roteberg**	**4.65**	**293**	*e*P	**Pn**	**07 59 04.2**	**-1.6**
BURU	**Burvik**	**4.97**	**343**	*e*P	**Pn**	**07 59 10.7**	**+0.3**
HFS	**Hagfors**	**5.54**	**277**	Pn	**Pn**	**07 59 17.7**	**-0.8**
	comp=Z,0.0nm,0.3s,baz=100,slow=16,SNR=4.3						
HFS				Sn	**Sn**	**08 00 19.9**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=96,slow=28,SNR=3.5						
HFS				Lg		08 00 49.1	
	comp=Z,0.1nm,0.3s,baz=87,slow=29,SNR=3.5						
NOA	**NORSAR Array B**	**6.78**	**286**	Pn	**Pn**	**07 59 33.9**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=106,slow=18,SNR=1.9						
NOA				Sn	**Sn**	**08 00 47.1**	**-7.8**
	comp=Z,0.0nm,0.3s,baz=123,slow=19,SNR=2.5						
ARCES	**ARCESS Array B**	**9.70**	**2**	Pn	**P**	**08 00 13.2**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=180,slow=13,SNR=8.3						
ARCES				Sn	**Sn**	**08 01 58.6**	**-8.6**
	comp=Z,0.1nm,0.3s,baz=185,slow=23,SNR=2.6						

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*NEIC **28** 08:28:02.4, 16.79N×99.82W, h30km, MD4.2(MEX), After MEX.*
MEX 28 08:28:02.4±0.8, 16.78N×99.81W, h22km±7km, MD4.2, 3C-1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.14**	**308**	*i* P	Pb	08 28 05.3	-1.7
ACX				*i* S	Sb	08 28 11.5	+1.5
ACX	**Acapulco**	**0.14**	**308**	⇑*i*P	Pb	08 28 05.3	-1.7
ACX				*i* S	Sb	08 28 09.5	-0.5
CAIG	**El Cayaco**	**0.52**	**301**	*e*P	Pb	08 28 10.9	-1.8
CAIG				*e*S	Sb	08 28 18.0	-1.7
CAIG	**El Cayaco**	**0.52**	**301**	⇑*i*P	Pb	08 28 11.0	-1.7
CAIG				*e*S	Sb	08 28 18.0	-1.7
PLIG	**Platanillo**	**1.63**	**10**	*e*P	Pn	08 28 26.9	-3.3
PLIG				*e*S	Sn	08 28 46.2	-4.5
PLIG	**Platanillo**	**1.63**	**10**	⇓*e*P	Pn	08 28 27.1	-3.1
PLIG				*e*S	Sn	08 28 46.2	-4.5
PNIG	**Pinotepa**	**1.66**	**103**	*e*P	Pn	08 28 28.1	-2.5
PNIG				*i* S	Sn	08 28 48.4	-2.9
PNIG	**Pinotepa**	**1.66**	**103**	*e*P	Pn	08 28 28.1	-2.5
PNIG				*i* S	Sn	08 28 46.5	-4.8
ZIIG	**Zihuatanejo**	**1.79**	**298**	*e*P	Pn	08 28 30.2	-2.3
ZIIG				*e*S	Sn	08 28 48.9	-5.7
ZIIG	**Zihuatanejo**	**1.79**	**298**	⇑*e*P	Pn	08 28 30.4	-2.1
ZIIG				*e*S	Sn	08 28 49.3	-5.4
YAIG	**Yautepec**	**2.19**	**19**	*e*P	Pn	08 28 33.9	-4.2
YAIG				*e*S	Sn	08 29 00.1	-4.8
YAIG	**Yautepec**	**2.19**	**19**	*e*P	Pn	08 28 33.9	-4.2
YAIG				*e*S	Sn	08 29 00.5	-4.4
PPM	**Popocatepetl**	**2.53**	**26**	*i* P	Pn	08 28 40.9	-2.3
PPM	**Popocatepetl**	**2.53**	**26**	*i* P	Pn	08 28 40.6	-2.6
PPM				*i* P		08 28 40.9	
PPM				*i* S	Sn	08 29 10.3	-3.4
PPM				*i* S	Sn	08 29 11.1	-2.6
UNM	**Universidad Na**	**2.60**	**13**	*e*P	Pn	08 28 38.2	-5.9
UNM				*e*S	Sn	08 29 10.5	-4.9
UNM	**Universidad Na**	**2.60**	**13**	*e*P	Pn	08 28 41.1	-3.1
UNM				*i* P		08 28 45.3	
UNM				*e*S	Sn	08 29 11.8	-3.6
VHO	**Vista Hermosa**	**2.96**	**84**	*e*P	Pn	08 28 46.4	-2.8
VHO				*e*S	Sn	08 29 20.2	-4.2
OXX	**Oaxaca**	**2.97**	**84**	*e*P	Pn	08 28 47.0	-2.3
OXX				*i* S	Sn	08 29 19.0	-5.6
IISM	**Ciudad Serdan**	**3.19**	**46**	*e*P	Pn	08 28 48.0	-4.4
IISM				*i* S	Sn	08 29 27.0	-3.2
CMIG	**Matias Romero**	**4.72**	**86**	*e*P	Pn	08 29 09.8	-4.5
CMIG				*e*S	Sn	08 30 01.5	-7.5
CMIG	**Matias Romero**	**4.72**	**86**	*e*P	Pn	08 29 10.1	-4.2
CMIG				*e*S	Sn	08 30 05.0	-4.0
SFJM	**Santa Fe**	**4.79**	**321**	*e*P	Pn	08 29 10.3	-4.9
SFJM				*i* S	Sn	08 30 06.1	-4.7

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*ATH **28** 09:06:07.4, 39.49N×28.30E, h5km, MD3.6/3*
*NEIC **28** 09:06:07.4, 39.49N×28.30E, h5km, MD3.6(ATH), After ATH.*
*ISK **28** 09:06:09.7, 39.41N×28.30E, h18km, MD3.4*
*CSEM **28** 09:06:09.4±0.1, 39.41N×28.32E, h15km, MD3.4, Error ellipse: s-maj=1.8km s-min=1.5km az=84.0*
ISC 28 09:06:09.8±0.5, 39.41N±0.02×28.30E±0.03, h13km±4km, n49, σ0°81/71, 7C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.32**	**52**	*i* PG	**Pg**	**09 06 16.3**	**-0.3**
BALB	**Balikesir**	**0.40**	**305**	*i* PG	**Pg**	**09 06 18.5**	**+0.4**
BALB				*i* SG	**Sg**	**09 06 24.7**	**+1.1**
BTOK	**Tokmak**	**0.41**	**329**	*i* P	**Pg**	**09 06 18.0**	**-0.3**
BTOK				*i* S	**Sg**	**09 06 24.2**	**+0.3**
KCT	**Karacabey**	**0.85**	**3**	*i* PG	**Pg**	**09 06 26.5**	**-0.5**
MANT	**Manisa**	**0.94**	**168**	*i* P	**Pb**	**09 06 27.4**	**0.0**
MANT				*i* S	**Sb**	**09 06 38.4**	**-1.2**
ULDT	**Uludag**	**0.97**	**41**	*i* P	**Pb**	**09 06 28.3**	**+0.3**
ULDT				*i* S	**Sb**	**09 06 41.8**	**+1.2**
BNT	**Bandirma**	**0.99**	**343**	*i* PG	**Pg**	**09 06 29.0**	**-0.7**
EDC	**Edincik**	**0.99**	**340**	*i* PG	**Pg**	**09 06 29.0**	**-0.8**
KDAG	**Bornova**	**1.29**	**219**	*i* P	**Pb**	**09 06 33.0**	**-0.5**
KDAG				*i* S	**Sb**	**09 06 49.9**	**+0.1**
IZM	**Izmir**	**1.30**	**219**	*i* PN	**Pn**	**09 06 33.0**	**-0.7**
IZM				*i* SN	**Sn**	**09 06 50.7**	**-0.2**
MRMT	**Marmara Adasi**	**1.31**	**336**	*i* PN	**Pn**	**09 06 33.8**	**-0.1**
YLV	**Yalova**	**1.42**	**35**	PN	**Pn**	**09 06 35.2**	**-0.2**
BLCB	**Balcova**	**1.42**	**224**	PN	**Pn**	**09 06 35.4**	**0.0**
KHL	**Karahalli**	**1.45**	**138**	PN	**Pn**	**09 06 36.2**	**+0.4**
ALT	**Altintas**	**1.45**	**104**	PN	**Pn**	**09 06 35.3**	**-0.6**
LPK	**Lapseki**	**1.53**	**310**	PN	**Pn**	**09 06 36.6**	**-0.4**
EZN	**Ezine**	**1.58**	**286**	PN	**Pn**	**09 06 38.5**	**+0.7**
MFT	**Murefte**	**1.58**	**331**	PN	**Pn**	**09 06 37.7**	**-0.1**
PRK	**Paraskevi**	**1.58**	**265**	⇑*i*PB	**Pb**	**09 06 38.2**	**-0.3**
PRK				*e*SB	**Sb**	**09 06 59.0**	**+0.8**
CTT	**Catalca**	**1.74**	**3**	PN	**Pn**	**09 06 39.8**	**-0.2**
DENT	**Denizli**	**1.75**	**161**	*e*PN	**Pn**	**09 06 40.8**	**+0.6**
ISK	**Istanbul-Kandi**	**1.75**	**19**	*e*PN	**Pn**	**09 06 40.4**	**+0.2**
HRT	**Hereke**	**1.76**	**36**	PN	**Pn**	**09 06 40.1**	**-0.2**
AYDN	**Tasoluk**	**1.78**	**191**	*i* P	**Pn**	**09 06 39.6**	**-1.0**
AYDN				*i* S	**Sn**	**09 07 06.6**	**+3.5**
GPA	**Golpazari**	**1.78**	**60**	*e*PN	**Pn**	**09 06 41.2**	**+0.6**
BOZC	**Bozcaada**	**1.79**	**285**	*i* P	**Pn**	**09 06 41.0**	**+0.3**
BOZC				*i* S	**Sn**	**09 07 03.0**	**-0.4**
DNZL	**Cakiroluk**	**1.81**	**161**	*i* P	**Pn**	**09 06 40.9**	**-0.2**
DNZL				*i* S	**Sn**	**09 07 06.9**	**+2.8**
ESKT	**Eskisehir**	**1.98**	**86**	*e*PN	**Pn**	**09 06 43.8**	**+0.4**
ESKT	**Eskisehir**	**1.98**	**86**	*i* P	**Pn**	**09 06 46.1**	**+2.6**
ESKT				*i* S	**Sn**	**09 07 14.6**	**+6.4**
SMG	**Samos**	**2.05**	**214**	⇑*i*PN	**Pn**	**09 06 45.8**	**+1.3**
SMG				*e*SN	**Sn**	**09 07 15.0**	**+4.9**
MLSB	**Milas**	**2.15**	**191**	*e*PN	**Pn**	**09 06 45.9**	**0.0**
GOLH	**Golhisar**	**2.39**	**155**	*i* P	**Pn**	**09 06 49.1**	**-0.2**
GOLH				*i* S	**Sn**	**09 07 26.9**	**+8.3**
BDRM	**Kayabasi**	**2.44**	**196**	*i* P	**Pn**	**09 06 54.9**	**+4.9**
BDRM				*i* S	**Sn**	**09 07 17.3**	**-2.6**
HENT	**Hendek**	**2.44**	**54**	*i* P	**Pn**	**09 06 55.1**	**+5.1**
HENT				*i* S	**Sn**	**09 07 31.8**	**+12**
LIA	**Limnos Island**	**2.46**	**282**	⇑*i*PN	**Pn**	**09 06 50.6**	**+0.3**
BODT	**Bodrum**	**2.47**	**199**	*e*PN	**Pn**	**09 06 50.1**	**-0.4**
MDU	**Mudurnu**	**2.48**	**64**	*e*PN	**Pn**	**09 06 51.0**	**+0.4**
EDRB	**Edirne**	**2.71**	**335**	*e*PN	**Pn**	**09 06 54.3**	**+0.4**
RDO	**Rodhopi**	**2.73**	**310**	⇑*i*PN	**Pn**	**09 06 54.6**	**+0.3**
KIZT	**Kizilcal**	**2.83**	**100**	*e*PN	**Pn**	**09 06 55.2**	**-0.5**
FETY	**Fethiye**	**2.84**	**167**	*e*PN	**Pn**	**09 06 55.6**	**-0.1**
KDHN	**Kadinhani**	**3.10**	**105**	*i* P	**Pn**	**09 07 08.2**	**+8.6**
KDHN				*i* S	**Sn**	**09 07 49.0**	**+12**
SGKT	**Sivrigoynuk**	**3.11**	**67**	*i* P	**Pn**	**09 07 00.2**	**+0.6**
SGKT				*i* S	**Sn**	**09 07 51.9**	**+15**
NVR	**Nevrokopi**	**3.91**	**301**	*e*PN	**Pn**	**09 07 11.0**	**+0.1**
TIRR	**Tirgusor**	**5.04**	**1**	⇓*i*P	**Pn**	**09 07 26.2**	**-0.9**
TIRR				*i* S	**Sn**	**09 08 22.5**	**-3.4**
TIRR	**Tirgusor**	**5.04**	**1**	⇓*i*P	**Pn**	**09 07 26.2**	**-0.9**
TIRR				*i* S	**Sn**	**09 08 22.5**	**-3.4**
CFR	**Carcaliu**	**5.76**	**359**	⇑*i*P	**Pn**	**09 07 35.9**	**-1.3**
CFR				*i* S	**Sn**	**09 08 42.4**	**-1.6**
CFR	**Carcaliu**	**5.76**	**359**	⇑*i*P	**Pn**	**09 07 35.9**	**-1.3**
CFR				*i* S	**Sn**	**09 08 42.4**	**-1.6**
MLR	**Muntele Rosu**	**6.32**	**345**	⇑*i*P	**Pn**	**09 07 45.6**	**+0.5**
MLR				*i* S	**Sn**	**09 08 58.7**	**+0.8**

IDC 28 09:08:16.7±6.3, 2.91N×96.73E, mb3.7/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.7/3, MS2.4/1, Ms1 2.6/1, ms1mx2.5/26, Error ellipse: s-maj=317.9km s-min=28.9km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.61**	**8**	LR	LR	09 18 17.6	
	comp=Z,13nm,18.9s,baz=180,slow=38						
WRA	**Warramunga Arr**	**43.34**	**123**	P	P	09 16 21.2	-1.5
	1.1nm,0.4s,baz=301,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**44.80**	**128**	P	P	09 16 32.3	-2.1
	0.3nm,0.6s,baz=300,slow=7.9,SNR=4.8						
MKAR	**Makanchi Array**	**45.48**	**346**	P	P	09 16 37.6	-1.9
	0.7nm,0.4s,baz=159,slow=9.1,SNR=4.8						

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*IDC **28** 09:36:40.2±0.8, 2.32N×95.66E, mb4.4/17, mb1 4.5/18, mb1mx4.4/25, mbtmp4.4/18, ML4.4/1, MS3.5/2, Ms1 3.6/2, ms1mx3.0/18, Error ellipse: s-maj=47.2km s-min=13.1km az=48.0*
*MOS **28** 09:36:42.8±1.0, 2.33N×95.79E, h33km, mb5.0/14, Error ellipse: s-maj=18.0km s-min=8.3km az=107.2*
*BJI **28** 09:36:42.3, 2.17N×95.97E, h42km, mB4.9, mb4.9, Ms4.4, Msz4.1*
*NEIC **28** 09:36:44.6±0.5, 2.42N×95.85E, h30km, mb4.8/10, Error ellipse: s-maj=13.7km s-min=7.9km az=46.0*
ISC 28 09:36:43.2±0.4, 2.48N±0.06×95.91E±0.05, h31km, h31km±1.3km: pP-P, n86, σ1°16/85, mb4.7/49, MS3.9/9, 4C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.49**	**59**	*e*Pn	**Pn**	**09 38 06.2**	**+1.1**
IPM	**Ipoh**	**5.52**	**68**	P	**Pn**	**09 38 06.7**	**+1.2**
SNG	**Songkhla**	**6.62**	**45**	P	**Pn**	**09 38 21.0**	**0.0**
	146nm,0.8s						
KGM	**Kluang**	**7.42**	**93**	P	**Pn**	**09 38 33.5**	**+1.3**
KSM	**Kuching**	**14.43**	**94**	P	**P**	**09 40 08.6**	**+1.1**
PALK	**Pallekele**	**15.88**	**288**	*e*P	**P**	**09 40 30.4**	**+4.1**
	7.1nm,0.8s						
CM31	**Chiang Mai Arr**	**16.15**	**10**	*e*P	**P**	**09 40 29.1**	**-0.8**
	26nm,1.1s						
CMAR	**Chiang Mai Arr**	**16.15**	**10**	*i* P	**P**	**09 40 32.7**	**+2.8**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.15**	**10**	Pn	**P**	**09 40 29.6**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=198,slow=11,SNR=28						
CMAR				LR	LR	09 46 20.7	
	comp=Z,100nm,19.6s,baz=200,slow=36						
CHG	**Chiang Mai**	**16.50**	**10**	P	**P**	**09 40 33.5**	**-0.8**
	comp=Z,11nm,0.8s						
NANT	**Nan**	**16.88**	**16**	P	**P**	**09 40 31.0**	**-8.1**
KKM	**Kota Kinabalu**	**20.55**	**79**	*e*P	**P**	**09 41 22.5**	**+0.4**
QIZ	**Qiongzhong**	**21.37**	**39**	P	**P**	**09 41 35.3**	**+4.9**
QIZ				LR	LR		
	comp=N,502nm,16.2s,MS4.1						
QIZ				LR	LR		
	comp=E,330nm,17.4s,MS4.1						
QIZ				LR	LR		
	comp=Z,492nm,12.5s,MS4.1						
SHL	**Shillong**	**23.28**	**351**	*e*P	**P**	**09 41 46.3**	**-3.1**
KMI	**Kunming**	**23.45**	**16**	P	**P**	**09 41 47.3**	**-3.8**
KMI				PP	PP	09 42 24.8	+1.7
KMI				S	**S**	**09 46 01.8**	**+3.0**
KMI				AMB	AMB		
	comp=Z,16nm,0.6s,mb4.6						
KMI				AMB	AMB		
	comp=Z,66nm,3.3s						
KMI				LR	LR		
	comp=N,261nm,16.4s,MS3.9						
KMI				LR	LR		
	comp=E,273nm,18.6s,MS3.9						
KMI				LR	LR		
	comp=Z,281nm,17.3s,MS3.8						
GYA	**Guiyang**	**25.98**	**22**	⇑*i*P	**P**	**09 42 15.5**	**+0.3**
GYA				AP	pP	09 42 24.8	+0.6
GYA				PP	PP	09 42 58.3	+1.8
GYA				S	**S**	**09 46 41.8**	**+0.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,110nm,3.6s						
GYA				LR	LR		
	comp=N,480nm,15.3s,MS4.3						
GYA				LR	LR		
	comp=E,430nm,16.4s,MS4.3						
GYA				LR	LR		
	comp=Z,320nm,14.1s,MS4.0						
JIRN	**Jiri**	**26.71**	**341**	*e*P	**P**	**09 42 23.5**	**+1.6**
	comp=Z,22nm,0.6s,mb4.9						
PKI	**Pulchoki**	**26.89**	**339**	*e*P	**P**	**09 42 24.8**	**+1.2**
	comp=Z,27nm,0.6s,mb4.9						
DMN	**Daman**	**27.04**	**339**	*e*P	**P**	**09 42 25.7**	**+0.8**
	comp=Z,21nm,0.7s,mb4.8						
GUN	**Gumba**	**27.04**	**340**	*e*P	**P**	**09 42 26.3**	**+1.4**
	comp=Z,94nm,0.8s,mb5.4						
KKN	**Kakani**	**27.14**	**339**	*e*P	**P**	**09 42 26.6**	**+0.8**
	comp=Z,66nm,0.9s,mb5.2						
LSA	**Lhasa**	**27.45**	**351**	P	**P**	**09 42 30.5**	**+1.9**
LSA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
LSA	**Lhasa**	**27.45**	**351**	*e*P	**P**	**09 42 29.9**	**+1.3**
LSA				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.0						
LSA	**Lhasa**	**27.45**	**351**	*e*P	**P**	**09 42 29.9**	**+1.3**
	comp=Z,40nm,0.9s,mb4.9						
GKN	**Gorkha**	**27.57**	**338**	*e*P	**P**	**09 42 30.5**	**+0.8**
	comp=Z,34nm,0.6s,mb5.2						
KOLN	**Koldanda**	**27.76**	**336**	*e*P	**P**	**09 42 31.0**	**-0.5**
	comp=Z,28nm,0.6s,mb5.0						
CD2	**Chengdu**	**29.23**	**14**	⇑*i*P	**P**	**09 42 44.0**	**-0.7**
CD2				AMB	AMB		
	comp=Z,14nm,0.6s,mb4.9						
ENH	**Enshi**	**30.49**	**24**	*e*P	**P**	**09 42 54.4**	**-1.4**
	comp=Z,19nm,0.7s,mb4.9						
XAN	**Xi'an**	**33.67**	**20**	P	**P**	**09 43 22.8**	**-0.8**
XAN				AMB	AMB		
	comp=Z,25nm,0.9s,mb5.1						
LZH	**Lanzhou**	**34.24**	**11**	*e*P	**P**	**09 43 26.0**	**-2.5**
LZH				AP	pP	09 43 36.3	-1.4
LZH				XP	sP	09 43 41.5	-0.1
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb5.0						
LZH				LR	LR		
	comp=E,495nm,13.6s						
LZH				LR	LR		
	comp=Z,622nm,14.2s,MS4.5						
FITZ	**Fitzroy Crossi**	**35.72**	**126**	P	**P**	**09 43 40.9**	**-0.5**
	comp=Z,7.8nm,0.8s,mb4.7,baz=302,slow=12,SNR=4.1						
NJ2	**Nanjing**	**36.49**	**34**	*e*P	**P**	**09 43 44.0**	**-3.7**
NJ2				AP	pP	09 43 54.3	-2.6
NJ2				PP	PP	09 45 10.5	-1.6
NJ2				S	**S**	**09 49 26.0**	**-1.1**
NJ2				XS		09 49 42.0	
NJ2				AMB	AMB		
	comp=Z,520nm,4.0s						
NJ2				LR	LR		
	comp=N,270nm,23.5s						
NJ2				LR	LR		
	comp=E,240nm,17.9s						
NJ2				LR	LR		
	comp=Z,730nm,24.0s,MS4.4						
GTA	**Gaotai**	**36.93**	**5**	*e*P	**P**	**09 43 51.8**	**+0.5**
GTA				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.0						
SSE	**Sheshan**	**37.15**	**37**	P	**P**	**09 43 50.5**	**-2.8**
SSE				AP	pP	09 43 59.3	-3.2
SSE				S	**S**	**09 49 37.5**	**+0.3**
SSE				XS		09 49 52.0	
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,31nm,3.8s						
SSE				LR	LR		
	comp=N,77nm,19.6s,MS3.5						
SSE				LR	LR		
	comp=E,32nm,19.6s,MS3.5						
SSE				LR	LR		
	comp=Z,73nm,21.7s,MS3.4						
BJT	**Baijiatuau**	**41.64**	**24**	*e*P	**P**	**09 44 31.1**	**+0.6**
BJT				pmax	pmax		
	comp=Z,25nm,0.8s						
BJT	**Baijiatuau**	**41.64**	**24**	*e*P	**P**	**09 44 31.1**	**+0.7**
	comp=Z,25nm,0.8s,mb4.9						
BJI	**Beijing**	**41.66**	**24**	*e*P	**P**	**09 44 27.8**	**-2.9**
BJI				AMB	AMB		
	comp=Z,32nm,1.0s,mb4.9						
BJI				LR	LR		
	comp=N,234nm,7.9s						
BJI				LR	LR		
	comp=E,310nm,9.3s						
BJI				LR	LR		
	comp=Z,58nm,13.9s,MS3.6						
WMQ	**Urumqi**	**41.81**	**351**	⇑P	**P**	**09 44 33.0**	**+1.2**
WMQ				AP	pP	09 44 42.8	+1.7
WMQ				XP	sP	09 44 47.0	+2.1
WMQ				PP	PP	09 46 14.0	+2.5
WMQ				PCP	PcP	09 46 28.3	+0.1
WMQ				PPP	PPP	09 46 45.3	+2.2
WMQ				*e*S	**S**	**09

comp=E,3.0nm,0.9s
CTA Charters Tower 54.23 117 P **P 09 46 08.4 -0.3**
comp=E,4.8nm,0.8s,mb4.5,baz=250,slow=7.2,SNR=3.6
CTAO Charters Tower 54.23 117 *e*P **P 09 46 08.6 -0.1**
CTAO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CTAO Charters Tower 54.23 117 *e*P **P 09 46 08.6 -0.1**
comp=Z,10nm,0.9s,mb4.8
BVA0 Borovoye Array 54.63 341 *i* P **P 09 46 10.1 -1.2**
BVAR Borovoye Array 54.63 341 P **P 09 46 10.8 -0.5**
comp=Z,13nm,0.7s,mb5.1,baz=149,slow=8.6,SNR=46
CHKZ Chkalovo 55.11 342 *e*P **P 09 46 14.5 -0.3**
CHKZ pmax pmax
comp=Z,33nm,0.8s,mb5.4
CHKZ Chkalovo 55.11 342 *e*P **P 09 46 14.5 -0.3**
comp=Z,33nm,0.8s,mb5.4
STKA Stephens Creek 55.17 132 P **P 09 46 15.9 +0.4**
comp=Z,2.9nm,0.9s,mb4.3,baz=296,slow=10,SNR=5.0
STKA Stephens Creek 55.17 132 *e*P **P 09 46 12.4 -3.1**
KLR Kul'dur 55.71 28 *e*P **P 09 46 16.3 -2.9**
AB31 Akbulak array 55.78 332 *i* P **P 09 46 19.2 -0.5**
AB31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BOD Bodaibo 57.01 11 *e*P **P 09 46 27.4 -1.0**
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ASAJ Asahikawa 58.44 38 LR LR 10 12 28.7
comp=Z,56nm,18.8s,MS3.7,baz=69,slow=37
SVE Sverdlovsk 61.03 339 *e*P **P 09 46 55.5 -0.7**
SVE pmax pmax
comp=Z,20nm,0.8s,mb5.3
YAK Yakutsk 64.57 17 *i* P **P 09 47 18.8 -0.8**
YAK pmax pmax
comp=Z,25nm,0.8s,mb5.3
BRTR Keskin Array B 67.30 312 P **P 09 47 36.0 -1.5**
comp=Z,1.6nm,0.8s,mb4.1,baz=112,slow=6.7,SNR=7.9
OBN Obninsk 70.86 328 *e*P **P 09 47 58.1 -1.0**
OBN *e* pP 09 48 06.6 -2.2
OBN pmax pmax
comp=Z,10.0nm,0.4s,mb5.1
TIXI Tiksi 72.16 10 *i* P **P 09 48 05.4 -1.3**
TIXI pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
AKASG Malin Array Be 73.46 322 P **P 09 48 13.2 -1.4**
comp=Z,0.4nm,0.3s,mb3.8,baz=88,slow=5.1,SNR=8.7
MLR Muntele Rosu 74.26 317 P **P 09 48 18.9 -0.4**
comp=Z,2.6nm,0.8s,mb4.2,baz=207,slow=6.8,SNR=5.4
MLR Muntele Rosu 74.26 317 P **P 09 48 18.9 -0.4**
FINES FINESS Array B 78.27 333 P **P 09 48 42.0 +0.4**
comp=Z,2.1nm,0.7s,mb4.2,baz=104,slow=7.9,SNR=11
ARCES ARCESS Array B 80.90 340 P **P 09 48 56.7 +1.1**
comp=Z,1.8nm,0.5s,mb4.3,baz=95,slow=5.3,SNR=20
ARCES ARCESS Array B 80.90 340 P **P 09 48 56.7 +1.1**
GERES GERESS Array B 83.00 319 P **P 09 49 08.1 +1.2**
comp=Z,1.2nm,0.5s,mb4.2,baz=104,slow=5.5,SNR=14
HFS Hagfors 83.97 330 P **P 09 49 12.2 +0.6**
comp=Z,1.3nm,0.5s,mb4.3,baz=135,slow=6.3,SNR=8.5
NOA NORSAR Array B 85.27 331 P **P 09 49 19.0 +1.0**
comp=Z,1.0nm,0.9s,mb4.0,baz=96,slow=5.5,SNR=2.7
DAVOX Davos 85.48 317 P **P 09 49 21.0 +1.5**
comp=Z,1.5nm,0.5s,mb4.4,baz=145,slow=12,SNR=3.5
YKA Yellowknife Ar 111.20 15 PP PP 09 55 55.7 -2.0
comp=Z,0.2nm,0.5s,baz=330,slow=6.8,SNR=3.7
NVAR Mina Array Bea 128.48 34 PKP PKPdf 09 55 52.2 -0.7
comp=Z,0.5nm,0.7s,baz=278,slow=4.0,SNR=5.0
PDAR Pinedale Array 129.43 24 PKP PKPdf 09 55 51.6 -3.0
comp=Z,0.2nm,0.6s,baz=117,slow=3.3,SNR=3.8
TXAR Lajitas Array 143.23 29 PKhKP 09 56 14.5
comp=Z,0.3nm,0.4s,baz=72,slow=0.2,SNR=12
JCT Junction City 143.96 23 *e*PKPdf PKPdf 09 56 15.2 -6.3

*IDC **28** 09:45:57.9±1.1,56.91S×24.73W,mb4.3/5,mb1 4.4/6, mb1mx4.1/14,mbtmp4.2/6,ML3.6/1,MS3.5/4,Ms1 3.5/4, ms1mx3.1/15,Error ellipse: s-maj=63.7km s-min=19.6km az=56.0*
*NEIC **28** 09:46:05.6±0.7,57.12S×25.09W,h55km,mb4.5/9,Error ellipse: s-maj=35.7km s-min=8.7km az=57.0*
ISC 28 09:45:58.1±1.0,57.0S±0.2×25.0W±0.5,h10km,n26, σ0§99/18,mb4.4/12,MS3.5/4,2C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.47**	**159⇑**	*i*P		**P**		**09 49 38.6**	**+0.9**
VNA1				*e*				09 49 44.3	
VNA1				*e*				09 49 54.8	
VNA2	**Neumayer--Watz**	**15.87**	**159⇑**	*i*P		**P**		**09 49 41.6**	**-1.2**
VNA2				*e*				09 49 47.7	
VNA2				*e*				09 49 57.7	
SNAA	**Sanae**	**17.39**	**156**	P		**P**		**09 50 02.5**	**+0.4**
	0.2nm,0.3s,baz=318,slow=16,SNR=10								
PMSA	**Palmer Station**	**20.23**	**231**	*e*P		**P**		**09 50 44.6**	**+8.9**
TRQA	**Tornquist**	**30.80**	**292**	*e*P		**P**		**09 52 14.4**	**-1.5**
	7.0nm,1.2s,mb4.4								
QSPA	**South Pole Qui**	**33.26**	**180**	*e*P		**P**		**09 52 36.4**	**-0.6**
	5.1nm,0.7s,mb4.6								
PLCA	**Paso Flores**	**33.35**	**279**	LR		LR		10 05 52.9	
	comp=Z,68nm,20.6s,MS3.4,baz=317,slow=36								
CPUP	**Villa Florida**	**38.34**	**309**	P		**P**		**09 53 20.5**	**-0.3**
	4.3nm,0.7s,mb4.3,baz=171,slow=10.0,SNR=21								
MAW	**Mawson**	**38.67**	**142**	P		**P**		**09 53 22.4**	**-0.7**
	1.4nm,0.6s,mb3.9,baz=252,slow=13,SNR=3.5								
BDFB	**Brasilia**	**44.80**	**328**	LR		LR		10 11 38.6	
	comp=Z,60nm,18.2s,MS3.6,baz=291,slow=34								
BOSA	**Boshof**	**45.06**	**73**	LR		LR		10 08 59.5	
	comp=Z,40nm,19.4s,MS3.4,baz=14,slow=31								
SBA	**Scott Base**	**45.22**	**183**	*e*P		**P**		**09 54 17.4**	**+1.0**
	6.2nm,1.3s,mb4.3								
VNDA	**Vanda**	**45.68**	**182**	P		**P**		**09 54 20.2**	**+0.2**
	1.3nm,0.6s,mb4.1,baz=189,slow=6.3,SNR=19								
LVC	**Limon Verde**	**46.81**	**298**	P		**P**		**09 54 28.9**	**-0.7**
LPAZ	**La Paz**	**51.91**	**303**	P		**P**		**09 55 10.1**	**+1.1**
LPAZ	**La Paz**	**51.91**	**303**	*e*P		**P**		**09 55 10.0**	**+1.0**
	12nm,0.6s,mb5.0								
SAML	**Samuel**	**56.33**	**313**	*e*P		**P**		**09 55 40.1**	**-1.3**
	3.9nm,0.5s,mb4.7								
OTAV	**Otavalo**	**71.18**	**302**	*e*P		**P**		**09 57 20.0**	**+0.9**
	2.8nm,0.7s,mb4.3								
KMBO	**Kilima Mbogo**	**74.27**	**67**	LR		LR		10 26 19.4	
	comp=Z,50nm,18.4s,MS3.8,baz=92,slow=33								
SDV	**Santo Domingo**	**75.53**	**313**	*e*P		**P**		**09 57 45.0**	**+0.5**
	5.2nm,0.8s,mb4.5								
JTS	**JuntasAbangare**	**83.04**	**301**	P		**P**		**09 58 27.3**	**+2.3**
	11nm,1.1s,mb4.8								
ASAR	**Alice Springs**	**97.71**	**161**	P		**P**		**09 59 33.8**	**-0.5**
	0.3nm,0.7s,mb3.9,baz=183,slow=4.3,SNR=4.6								
FINES	**FINESS Array B**	**124.66**	**27**	PKP		PKPdf		10 04 58.0	-1.8
	0.8nm,0.9s,baz=180,slow=3.8,SNR=3.8								
YKA	**Yellowknife Ar**	**137.68**	**316**	PKP		PKPdf		10 05 22.4	-1.9
	0.6nm,0.6s,baz=125,slow=2.4,SNR=14								
YKA				SKPbc				10 08 55.2	
	0.2nm,0.6s,baz=111,slow=1.6,SNR=5.0								
YKA	**Yellowknife Ar**	**137.68**	**316**	PKP		PKPdf		10 05 22.4	-1.9
YKA				SKPbc				10 08 55.2	
ILAR	**Eielson Array**	**151.65**	**310**	PKPbc		PKPdf		10 05 52.2	+4.6
	1.6nm,0.6s,baz=128,slow=0.6,SNR=4.5								

*MOS **28** 09:53:23.5±1.5,51.10N×98.29E,h15km,mb4.5/2,Error ellipse: s-maj=11.8km s-min=10.9km az=12.9*
*IDC **28** 09:53:24.9±1.5,50.95N×98.05E,mb3.8/4,mb1 3.9/6, mb1mx3.6/23,mbtmp3.7/6,ML3.2/2,MS2.8/1,Ms1 2.8/1, ms1mx2.3/29,Error ellipse: s-maj=32.9km s-min=23.1km az=4.0*
*NEIC **28** 09:53:25.4±0.6,50.93N×98.16E,h10km,mb3.9/3,Error ellipse: s-maj=19.0km s-min=8.0km az=191.0*
ISC 28 09:53:23.4±0.5,51.03N±0.07×98.27E±0.06,h10km,n33, σ1§40/37,mb3.8/6,1C,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.79**	**32**	*e*PN		**Pn**		**09 53 54.4**	**-0.2**
ORL				*e*				09 54 17.1	
ORL				pmax	pmax				
	comp=Z,391nm,0.4s								
ORL				smax					
	comp=E,1μm,1.1s								
MOY	**Mondy**	**1.82**	**69⇑**	*i*PN		**Pn**		**09 53 55.6**	**+0.5**
MOY				*e*				09 54 19.3	
MOY				pmax	pmax				
	comp=Z,392nm,0.7s								
MOY				smax					
	comp=E,3μm,1.2s								
ZAK	**Zakamensk**	**3.25**	**100**	*e*PN		**Pn**		**09 54 15.9**	**+0.4**
ZAK				*e*				09 54 21.1	
ZAK				*e*				09 55 03.5	
ZAK				pmax	pmax				
	comp=Z,88nm,0.6s								
ZAK				smax					
	comp=N,652nm,0.8s								
TLY	**Talaya**	**3.43**	**77**	*e*PN		**Pn**		**09 54 16.6**	**-1.5**
TLY				*e*				09 54 24.4	
TLY				*e*				09 55 08.6	
TLY				pmax	pmax				
	comp=Z,91nm,0.7s								
TLY				smax					
	comp=N,904nm,2.0s								
TLY	**Talaya**	**3.43**	**77**	*e*Pn		**Pn**		**09 54 20.4**	**+2.3**
TLY				*e*Sn		**Sn**		**09 55 07.8**	**+8.6**
IRK	**Irkutsk**	**3.93**	**70**	*e*PN		**Pn**		**09 54 33.4**	**+8.2**
IRK				*e*				09 55 22.8	
IRK				pmax	pmax				
	comp=Z,277nm,0.1s								
IRK				smax					
	comp=N,702nm,0.7s								
LSTR	**Listvyanka**	**4.19**	**76**	*e*PN		**Pn**		**09 54 38.5**	**+10**
LSTR				*e*				09 55 30.0	
LSTR				pmax	pmax				
	comp=Z,41nm,0.9s								
LSTR				smax					
	comp=N,529nm,1.5s								
CERR	**Cheremushki**	**4.62**	**296**	*e*PN		**Pn**		**09 54 38.8**	**+3.9**
CERR				*e*				09 54 48.8	
CERR				*i* S		**Sb**		**09 55 43.0**	**+2.7**
TRG	**Tyrgan**	**5.29**	**68**	*e*PN		**Pn**		**09 54 43.3**	**-1.2**
TRG				*e*				09 54 58.0	
TRG				*e*				09 56 05.2	
TRG				pmax	pmax				
	comp=Z,53nm,0.8s								
TRG				smax					
	comp=N,526nm,1.8s								
KRAR	**Krasnoyarsk**	**5.93**	**329**	*e*PN		**Pn**		**09 54 50.3**	**-3.2**
KRAR				*e*				09 55 07.6	
KRAR				*i*				09 56 23.6	
OGRR	**Ongureny**	**6.29**	**62**	*e*PN		**Pn**		**09 54 56.3**	**-2.2**
OGRR				*e*				09 55 15.4	
OGRR				*e*				09 56 34.4	
OGRR				smax					
	comp=E,319nm,1.2s								
ULN	**Ulaanbaatar**	**6.54**	**116**	*e*PN		**Pn**		**09 55 02.8**	**+0.7**
ULN				*e*S		**Sb**		**09 56 45.1**	**+8.7**
ULN				pmax	pmax				
	comp=Z,17nm,0.6s								
ULN	**Ulaanbaatar**	**6.54**	**116**	*e*Pn		**Pn**		**09 55 02.8**	**+0.7**
	comp=Z,17nm,0.6s								
ULN				*e*Pb		**Pb**		**09 55 19.6**	**+2.4**
ULN				*e*S		**Sb**		**09 56 45.1**	**+8.8**
TASR	**Tashtagol**	**6.66**	**289**	*e*PN		**Pb**		**09 55 23.7**	**+4.5**
AKAR	**Aktash**	**6.81**	**268**	*e*PN		**Pn**		**09 55 06.2**	**+0.4**
AKAR				*e*				09 55 27.3	
AKAR				*e*				09 56 24.2	
ZAL	**Zalesovo**	**8.72**	**295**	Lg				09 57 51.4	
	comp=Z,1.6nm,0.3s,baz=95,slow=22,SNR=9.6								
ZAL				LR		LR		09 59 41.8	
	comp=Z,67nm,20.1s,baz=91,slow=44								
MKAR	**Makanchi Array**	**11.33**	**254**	Pn		**P**		**09 56 06.4**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=69,slow=12,SNR=5.5								
MKAR				Pg		P		09 56 47.9	+40
	comp=Z,0.1nm,0.3s,baz=61,slow=15,SNR=3.4								
MKAR				Lg				09 59 16.8	
	comp=Z,0.2nm,0.3s,baz=59,slow=21,SNR=4.1								
MKAR	**Makanchi Array**	**11.33**	**254**	Pn		**P**		**09 56 06.4**	**-2.0**
MKAR				Pg		P		09 56 47.9	+40
MKAR				Lg				09 59 16.8	
CHKZ	**Chkalovo**	**17.06**	**290**	*e*P		**P**		**09 57 23.1**	**-0.2**
CHKZ				pmax	pmax				
	comp=Z,8.0nm,0.9s								
CHKZ	**Chkalovo**	**17.06**	**290**	*e*P		**P**		**09 57 23.1**	**-0.2**
	comp=Z,8.5nm,0.9s								
BVAR	**Borovoye Array**	**17.23**	**288**	P		**P**		**09 57 24.6**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=83,slow=12,SNR=9.3								
AAK	**Ala-Archa**	**18.25**	**252**	*i* P		**P**		**09 57 37.1**	**-1.1**
AAK				pmax	pmax				
	comp=Z,3.0nm,1.1s								
AAK				MLR	MLR				
	comp=Z,100nm,19.0s								
AAK	**Ala-Archa**	**18.25**	**252**	*e*P		**P**		**09 57 37.1**	**-1.1**
	comp=Z,2.4nm,1.0s								
SVE	**Sverdlovsk**	**22.68**	**299**	*e*P		**P**		**09 58 37.5**	**+12**
TIXI	**Tiksi**	**24.82**	**23**	*i* P		**P**		**09 58 47.2**	**+0.8**
TIXI				pmax	pmax				
	comp=Z,7.0nm,2.2s,mb3.8								
MAJO	**Matsushiro**	**31.83**	**101**	P		**P**		**09 59 49.5**	**-0.8**
MAJO				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.6								
MAJO	**Matsushiro**	**31.83**	**101**	P		**P**		**09 59 49.5**	**-0.8**
	comp=Z,9.2nm,0.9s,mb4.6								
NACB	**Ninganchiao**	**32.29**	**137**	*e*P		**P**		**09 59 52.6**	**-1.9**
FINES	**FINESS Array B**	**39.39**	**314**	P		**P**		**10 00 56.6**	**+2.1**
	comp=Z,0.4nm,0.5s,mb3.4,baz=90,slow=5.7,SNR=5.3								
BRTR	**Keskin Array B**	**45.39**	**282**	P		**P**		**10 01 44.4**	**+0.8**
	comp=Z,0.7nm,0.7s,mb3.6,baz=63,slow=6.4,SNR=3.2								
NB2	**NORSAR Subarra**	**46.12**	**318**	P		**P**		**10 01 47.9**	**-1.1**
	comp=Z,1.9nm,1.0s,mb4.0,baz=81,slow=7.4								
NOA	**NORSAR Array B**	**46.12**	**318**	P		**P**		**10 01 48.4**	**-0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=62,slow=6.8,SNR=2.8								
WRA	**Warramunga Arr**	**77.45**	**145**	P		**P**		**10 05 21.9**	**+1.4**
	comp=Z,0.6nm,0.7s,mb3.6,baz=346,slow=6.4,SNR=5.9								

JMA 28 09:57:49.1±0.4,44.01N×147.96E,M3.7,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.73**	**249**	P		Pn		09 58 20.5	-0.2
NEM2				*e*S		Sb		09 58 43.7	-0.1
JRA	**Rausu**	**2.05**	**269**	P		Pn		09 58 25.3	+0.1
JNK	**Nakash**	**2.38**	**261**	P		Pn		09 58 30.0	0.0
JNK				*e*S		Sn		09 59 00.4	0.0
JAK	**Akkeshi**	**2.58**	**248**	P		Pn		09 58 32.7	-0.1
JTKR	**Abashiri--Toko**	**2.92**	**271**	P		Pn		09 58 38.6	+0.9
JAR	**Ashorobuto**	**3.12**	**258**	P		Pn		09 58 41.2	+0.6
JAR				*e*S		Sn		09 59 19.0	-0.1
JOB	**Onbets**	**3.20**	**251**	P		Pn		09 58 42.2	+0.5
JMP	**Maruseppu**	**3.32**	**272**	P		Pn		09 58 44.2	+0.9
JCH	**Churui**	**3.63**	**249**	P		Pn		09 58 47.9	+0.1
JNBK	**Urakawa-nobuka**	**4.18**	**247**	P		Pn		09 58 56.0	+0.4

IDC 28 10:03:10.4±3.5,48.71N×155.40E,h53km±35km,mb3.3/6, mb1 3.8/8,mb1mx3.5/24,mbtmp3.8/8,ML3.7/2,Error ellipse: s-maj=67.2km s-min=21.0km az=136.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.96**	**247**	P		P		10 05 31.4	-2.0
	2.4nm,0.3s,baz=73,slow=13,SNR=14								
FX1	**Attu Island--F**	**11.99**	**63**	P		P		10 05 57.9	-3.0
	0.6nm,0.3s,baz=321,slow=6.5,SNR=4.4								
FX1				S		S		10 08 01.4	-13
	2.6nm,0.3s,baz=58,slow=19,SNR=7.2								
ILAR	**Eielson Array**	**34.06**	**40**	P		P		10 09 48.6	-2.6
	0.3nm,0.7s,baz=251,slow=6.9,SNR=3.3								
ILAR				pP		pP		10 10 01.3	-3.6
	0.4nm,0.7s,baz=255,slow=6.4,SNR=6.1								
INK	**Inuvik**	**39.17**	**34**	P		P		10 10 32.1	-2.1
	0.7nm,0.9s,baz=317,slow=7.0,SNR=3.9								
INK				pP		pP		10 10 44.4	-3.7
	1.3nm,0.8s,baz=308,slow=5.9,SNR=6.9								
NVAR	**Mina Array Bea**	**60.18**	**65**	P		P		10 13 13.7	-1.2
	0.4nm,0.6s,baz=302,slow=6.7,SNR=4.6								
PDAR	**Pinedale Array**	**62.36**	**56**	P		P		10 13 27.4	-2.1
	0.7nm,0.8s,baz=333,slow=3.3,SNR=6.7								
ASAR	**Alice Springs**	**74.57**	**200**	P		P		10 14 43.0	-2.3
	0.3nm,0.5s,baz=14,slow=5.9,SNR=4.8								
TXAR	**Lajitas Array**	**75.20**	**62**	P		P		10 14 47.9	-1.1
	1.1nm,0.6s,baz=298,slow=4.6,SNR=20								

IDC 28 10:34:44.0±5.4,15.06S×175.41W,mb3.4/2,mb1 3.8/2, mb1mx3.5/14,mbtmp3.4/2,Error ellipse: s-maj=252.0km s-min=34.5km az=140.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.04**	**257**	P		P		10 43 26.1	-1.3
	0.7nm,1.1s,baz=90,slow=7.9,SNR=6.4								
ASAR	**Alice Springs**	**48.38**	**252**	P		P		10 43 27.6	-2.3
	1.3nm,0.6s,baz=93,slow=8.0,SNR=13								
ILAR	**Eielson Array**	**82.50**	**12**	P		P		10 47 08.2	-1.3
	0.2nm,0.5s,baz=218,slow=5.3,SNR=7.6								
BRTR	**Keskin Array B**	**144.66**	**320**	PKP		PKPdf		10 54 21.9	-2.8
	0.4nm,0.4s,baz=90,slow=1.4,SNR=4.0								

IDC 28 10:43:25.4±1.8,8.19S×120.36E,mb3.8/2,mb1 4.3/4, mb1mx3.9/18,mbtmp4.0/4,ML3.9/2,MS3.6/1,Ms1 3.6/1, ms1mx2.6/31,Error ellipse: s-maj=153.3km s-min=23.3km az=57.0,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.11**	**153**	Pn		P		10 46 06.8	-2.0
	1.0nm,0.3s,baz=302,slow=15,SNR=7.2								
FITZ				Sn		S		10 48 10.1	-4.9
	0.7nm,0.3s,baz=114,slow=6.5,SNR=3.9								
WRA	**Warramunga Arr**	**17.88**	**132**	P		P		10 47 34.3	-3.1
	0.4nm,0.3s,baz=305,slow=13,SNR=9.3								
WRA				S		S		10 50 43.6	-12
	0.1nm,0.3s,baz=307,slow=23,SNR=3.8								
ASAR	**Alice Springs**	**20.13**	**141**	P		P		10 48 02.2	-1.8
	5.7nm,0.9s,baz=316,slow=9.0,SNR=9.0								
NWAO	**Narrogin (SRO)**	**24.78**	**186**	LR		LR		10 59 18.5	
	comp=Z,122nm,18.2s,baz=103,slow=38								
MKAR	**Makanchi Array**	**64.36**	**332**	P		P		10 54 03.0	-2.4
	0.5nm,0.6s,baz=145,slow=7.7,SNR=5.7								

TAP 28 10:54:03.7,24.66N×121.75E,h64km,ML3.7,Taiwan

IDC 28 11:01:13.6±1.2,6.16N×92.56E,mb3.6/5,mb1 3.8/6, mb1mx3.7/20,mbtmp3.6/6,ML3.7/1,Error ellipse: s-maj=58.3km s-min=23.6km az=47.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.71**	**26**	Pn		P		11 04 28.8	-3.2
	0.1nm,0.3s,baz=221,slow=9.6,SNR=3.5								
MKAR	**Makanchi Array**	**41.44**	**349**	P		P		11 09 02.2	-1.3
	0.3nm,0.6s,baz=178,slow=9.3,SNR=3.2								
WRA	**Warramunga Arr**	**48.59**	**123**	P		P		11 09 59.9	-1.3
	0.4nm,0.6s,baz=309,slow=8.4,SNR=8.3								
ASAR	**Alice Springs**	**50.07**	**128**	P		P		11 10 09.6	-2.9
	0.6nm,0.9s,baz=296,slow=8.1,SNR=3.2								
BRTR	**Keskin Array B**	**62.37**	**312**	P		P		11 11 38.8	-1.8
	0.8nm,0.8s,baz=121,slow=7.2,SNR=4.1								
GERES	**GERESS Array B**	**78.06**	**319**	P		P		11 13 13.9	-1.9
	0.4nm,0.2s,baz=90,slow=4.0,SNR=3.9								
PDAR	**Pinedale Array**	**127.31**	**20**	PKP		PKPdf		11 20 20.9	-1.6
	1.3nm,1.2s,baz=288,slow=2.9,SNR=2.8								
TXAR	**Lajitas Array**	**141.41**	**23**	PKP		PKPdf		11 20 46.9	-2.3
	0.1nm,0.5s,baz=16,slow=1.0,SNR=4.5								

MAN 28 11:02:33.2,7.83N×123.86E,h45km,mb3.9,ML2.6,MS2.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**2.08**	**57**	*e*P		P		11 03 06.2	-0.1
SCPH	**Surigao**	**2.52**	**40**	*e*P		P		11 03 13.9	+1.2
SCPH				*e*S		S		11 03 36.8	-5.5
MATI	**Mati**	**2.54**	**110**	*e*P		P		11 03 13.0	+0.2
GUIM	**Jordan**	**3.05**	**336**	*e*P		P		11 03 20.2	+0.1

*TAP **28** 11:07:23.6,24.07N×122.59E,h18km±1km,ML2.8*
JMA 28 11:07:23.8±0.3,24.10N×122.57E,h31km,M2.0,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.54**	**48**	P		Pb		11 07 34.6	-0.3
YOJ				S		Sb		11 07 42.3	-0.2
IRIF	**Iriomote-Funau**	**1.08**	**77**	P		Pn		11 07 42.8	-0.3
IRIF				*e*S		Sn		11 07 57.2	+0.1
HATJ	**Hateruma jima**	**1.13**	**92**	*e*S		Sn		11 07 57.9	-0.3
JKRS	**Kuro-shima**	**1.32**	**84**	*e*S		Sn		11 08 05.1	+2.0
JIJ	**Ishigaki jima**	**1.46**	**79**	P		Pn		11 07 48.2	-0.2
JIJ				*e*S		Sn		11 08 05.7	-0.9

IDC 28 11:08:00.5±13.0,30.60S×177.80W,mb4.0/4,mb1 4.1/5, mb1mx3.9/17,mbtmp4.0/5,ML2.9/1,Error ellipse: s-maj=247.0km s-min=41.6km az=89.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.72**	**207**	Pn		P		11 10 08.2	-2.6
	0.1nm,0.3s,baz=308,slow=18,SNR=2.4								
URZ				Sn		Sn		11 11 45.9	-5.2
	0.6nm,0.3s,baz=157,slow=21,SNR=6.4								
CTA	**Charters Tower**	**34.00**	**279**	P		P		11 14 46.8	-1.3
	1.5nm,0.4s,baz=102,slow=14,SNR=3.5								
STKA	**Stephens Creek**	**34.60**	**257**	P		P		11 14 52.4	-0.8
	1.6nm,0.5s,baz=86,slow=13,SNR=3.8								
ASAR	**Alice Springs**	**43.27**	**267**	P		P		11 16 03.6	-1.9
	0.5nm,0.5s,baz=105,slow=7.7,SNR=8.6								
WRA	**Warramunga Arr**	**44.27**	**272**	P		P		11 16 11.1	-2.7
	1.0nm,0.3s,baz=110,slow=8.1,SNR=56								

*IDC **28** 11:11:53.9±0.8,33.79N×142.52E,mb3.6/7,mb1 3.9/10, mb1mx3.8/23,mbtmp3.7/10,ML3.6/3,MS3.1/1,Ms1 3.3/1, ms1mx2.3/33,Error ellipse: s-maj=21.6km s-min=18.0km az=128.0*
*JMA **28** 11:11:56.1±0.4,33.77N×142.48E,h21km,M3.7*
ISC 28 11:11:54.7±2.1,33.78N±0.05×142.53E±0.05,h17km±16km, n23,σ1§05/28,mb3.6/7,MS3.1/1,Off east coast of Honshu

| Code | Station Name | Δ° | AZ° | Ph

1.1nm,0.8s,baz=22,slow=10,SNR=5.1

OTT 28 11:27:32.0±0.5,73.83N×69.92W,h18km,ML3.7/5,Baffin Bay Seismic Zone. 290km northeast from Pond Inlet, Nu,Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINU	**Pond Inlet**	**2.59**	**248**	PN	Pn	11 28 15.2	+1.2
PINU				SN	Sn	11 28 43.5	-1.8
PINU				Trac		11 28 45.3	
	comp=Z,240nm,0.2s						
TULEG	**Thule**	**2.74**	**5**	PN	Pn	11 28 15.2	-0.8
TULEG				SN	Sn	11 28 44.2	-4.7
TULEG				Trac		11 28 46.1	
	comp=Z,37nm,0.1s						
RES	**Resolute Bay**	**6.82**	**289**	PN	Pn	11 29 11.9	-1.8
RES				SN	Sn	11 30 22.8	-9.0
RES				Trac		11 30 28.1	
	comp=Z,5.2nm,0.1s						
EUNU	**Eureka**	**7.24**	**337**	PN	Pn	11 29 17.6	-2.0
EUNU				SN	Sn	11 30 32.1	-10
EUNU				Trac		11 30 36.7	
	comp=Z,3.4nm,0.3s						
QILN	**Qililugaq Expl**	**9.06**	**226**	PN	P	11 29 41.1	-3.9
QILN				SN	Sn	11 31 15.4	-12
QILN				Trac		11 31 28.2	
	comp=Z,5.7nm,0.2s						
FRB	**Frobisher Bay**	**10.14**	**177**	PN	P	11 29 55.6	-4.0
FRB				SN	S	11 31 42.4	-12
FRB				Trac		11 31 55.8	
	comp=Z,4.9nm,0.2s						
DAG	**Danmarks Havn**	**12.96**	**53**	*i* P	P	11 30 32.0	-5.8
YRTN	**Rankin Inlet**	**13.63**	**227**	PN	P	11 30 42.8	-3.6
YRTN				SN	S	11 33 02.8	-15
YRTN				Trac		11 33 17.6	
	comp=Z,52nm,1.8s						
KUQ	**Kuujjuuaa**	**15.80**	**177**	PN	P	11 31 09.9	-4.9
KUQ				SN	S	11 33 53.1	-16
LUPN	**Lupin Mine**	**16.04**	**261**	PN	P	11 31 11.1	-6.7
LUPN				SN	S	11 34 02.9	-12
COWN	**Contwyoto Lake**	**16.37**	**260**	PN	P	11 31 17.4	-4.6
COWN				SN	S	11 34 09.7	-13
ACKN	**Achilles Lake**	**16.50**	**259**	PN	P	11 31 19.8	-3.8
FCC	**Fort Churchill**	**17.73**	**224**	PN	P	11 31 33.8	-5.3
FCC				SN	S	11 34 41.2	-13
YKB0	**Yellowknife Ar**	**19.40**	**258**	PN	P	11 31 58.5	-0.8
YKB8	**Yellowknife Ar**	**19.44**	**258**	SN	S	11 35 20.2	-12
SILO	**Sutton Inlier**	**20.37**	**206**	PN	P	11 32 06.9	-3.0
SILO				SN	S	11 35 43.2	-8.9
INK	**Inuvik**	**20.38**	**287**	PN	P	11 32 12.7	+2.7
VIMO	**Victor Mine**	**21.87**	**203**	PN	P	11 32 26.6	+1.4
VIMO				SN	S	11 36 18.2	-2.7

*TAP **28** 11:58:58.0,24.62N×122.59E,h108km,ML2.9*

JMA 28 11:58:59.3±0.2,24.64N×122.62E,h97km,M1.6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.40**	**116**	P	P	11 59 14.2	0.0
YOJ				*e*S	S	11 59 25.2	-0.2
IRIF	**Iriomote-Funau**	**1.06**	**106**	P	P	11 59 20.0	-0.4
IRIF				*e*S	S	11 59 36.1	-0.2
JKRS	**Kuro-shima**	**1.33**	**107**	P	P	11 59 23.8	+0.1
JKRS				*e*S	S	11 59 42.2	+0.4
JIJ	**Ishigaki jima**	**1.41**	**101**	P	P	11 59 24.5	-0.3
JIJ				*e*S	S	11 59 43.2	-0.5
JTJ	**Tarama**	**1.90**	**90**	P	P	11 59 31.1	+0.3
JTJ				*e*S	S	11 59 55.3	+1.1

IDC 28 12:35:37.1±2.1,59.22N×18.09E,mb1 3.0/4, mb1mx2.9/22,mbtmp2.9/4,ML2.4/3,Error ellipse: s-maj=26.8km s-min=6.9km az=179.0,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HFS	**Hagfors**	**2.41**	**294**	Pn	Pn	12 36 17.6	-0.8
	0.1nm,0.3s,baz=117,slow=16,SNR=29						
HFS				Lg		12 36 51.8	
	0.5nm,0.3s,baz=115,slow=28,SNR=22						
NOA	**NORSAR Array B**	**3.90**	**301**	Pn	Pn	12 36 37.3	-2.2
	0.1nm,0.3s,baz=126,slow=12,SNR=2.5						
NOA				Lg		12 37 39.6	
	0.7nm,0.3s,baz=88,slow=14,SNR=7.0						
FINES	**FINESS Array B**	**4.55**	**57**	Pn	Pn	12 36 46.5	-2.3
	baz=249,slow=12,SNR=2.0						
FINES				Sn	Sn	12 37 38.1	-5.2
	0.5nm,0.3s,baz=248,slow=20,SNR=4.1						
FINES				Lg		12 37 59.2	
	0.6nm,0.3s,baz=255,slow=22,SNR=5.0						
ARCES	**ARCESS Array B**	**10.83**	**14**	Pn	P	12 38 10.0	-6.3
	0.1nm,0.3s,baz=193,slow=15,SNR=7.1						

*IDC **28** 12:54:37.8±0.7,1.33N×96.98E,mb4.4/14,mb1 4.5/15, mb1mx4.4/21,mbtmp4.4/15,ML4.6/1,MS3.6/7,Ms1 3.6/7, ms1mx3.3/31,Error ellipse: s-maj=32.2km s-min=14.8km az=54.0*

*BJI **28** 12:54:40.8,1.37N×97.40E,h28km,mB5.0,mb4.8,Ms4.5, Msz4.3*

*MOS **28** 12:54:41.2±0.9,1.47N×97.20E,h33km,mb4.9/16,Error ellipse: s-maj=17.2km s-min=8.7km az=102.5*

*NEIC **28** 12:54:42.3±0.3,1.37N×97.09E,h30km,mb4.7/17,Error ellipse: s-maj=8.1km s-min=5.3km az=49.0*

ISC 28 12:54:40.6±0.4,1.39N±0.05×97.12E±0.05,h30km, h30km±1.6km:pP-P,n96,σ1°03/97,mb4.7/51,MS4.0/17, 1C-2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.02**	**51**	P	**Pn**	**12 55 56.9**	**+0.9**
KULM	**Kulim**	**5.24**	**42**	*e*Pn	**Pn**	**12 55 59.5**	**+0.5**
KGM	**Kluang**	**6.22**	**84**	P	**Pn**	**12 56 14.6**	**+1.7**
SNG	**Songkhla**	**6.72**	**31**	P	**Pn**	**12 56 19.0**	**-0.9**
	342nm,0.9s						
KSM	**Kuching**	**13.18**	**89**	*e*P	**P**	**12 57 59.5**	**+11**
CM31	**Chiang Mai Arr**	**17.06**	**6**	*e*P	**P**	**12 58 38.0**	**-0.7**
	14nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.06**	**6**	Pn	**P**	**12 58 38.4**	**-0.4**
	0.8nm,0.3s,baz=197,slow=11,SNR=22						
CMAR				LR	LR	13 05 45.2	
	comp=Z,242nm,18.6s,baz=190,slow=39						
PALK	**Pallekele**	**17.38**	**290**	*e*P	**P**	**12 58 42.7**	**-0.2**
	9.7nm,1.0s						
CHG	**Chiang Mai**	**17.41**	**6**	P	**P**	**12 58 41.1**	**-2.1**
NANT	**Nan**	**17.66**	**11**	P	**P**	**12 58 44.0**	**-2.2**
KKM	**Kota Kinabalu**	**19.60**	**76**	*e*P	**P**	**12 59 09.1**	**-0.6**
KKM	**Kota Kinabalu**	**19.60**	**76**	P	**P**	**12 59 10.2**	**+0.6**
QIZ	**Qiongzhong**	**21.51**	**35**	*e*P	**P**	**12 59 25.3**	**-4.1**
QIZ				LR	LR		
	comp=N,262nm,14.1s,MS4.0						
QIZ				LR	LR		
	comp=E,384nm,14.0s,MS4.0						
QIZ				LR	LR		
	comp=Z,291nm,14.1s,MS3.8						
KMI	**Kunming**	**24.21**	**12**	P	**P**	**12 59 58.0**	**+2.0**
KMI				AP		13 00 08.5	
KMI				XP		13 00 13.3	
KMI				PP	PP	13 00 32.8	+1.8
KMI				S	**S**	**13 04 15.5**	**+6.1**
KMI				AMB	AMB		
	comp=Z,37nm,1.3s,mb4.7						
KMI				AMB	AMB		
	comp=Z,181nm,3.6s						
KMI				LR	LR		
	comp=N,676nm,15.4s,MS4.4						
KMI				LR	LR		
	comp=E,476nm,12.1s,MS4.4						
KMI				LR	LR		
	comp=Z,795nm,13.1s,MS4.4						
SHL	**Shillong**	**24.56**	**349**	*e*P	**P**	**12 59 59.5**	**+0.1**
GYA	**Guiyang**	**26.56**	**19**	‖ *i* P	**P**	**13 00 17.5**	**-0.6**
GYA				AP	pP	13 00 27.0	+0.2
GYA				XP	sP	13 00 30.8	+0.1
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,5.4s						
GYA				LR	LR		
	comp=N,700nm,14.8s,MS4.4						
GYA				LR	LR		
	comp=E,360nm,13.5s,MS4.4						
GYA				LR	LR		
	comp=Z,910nm,14.4s,MS4.5						
JIRN	**Jiri**	**28.14**	**339**	*e*P	**P**	**13 00 34.1**	**+1.6**
	comp=Z,4.7nm,0.3s,mb4.6						
PKI	**Pulchoki**	**28.35**	**338**	*e*P	**P**	**13 00 35.1**	**+0.8**
	comp=Z,16nm,0.7s,mb4.8						
GUN	**Gumba**	**28.48**	**339**	*e*P	**P**	**13 00 36.7**	**+1.2**
	comp=Z,46nm,0.8s,mb5.2						
DMN	**Daman**	**28.50**	**337**	*e*P	**P**	**13 00 36.9**	**+1.2**
	comp=Z,44nm,0.9s,mb5.2						
KKN	**Kakani**	**28.60**	**338**	*e*P	**P**	**13 00 37.1**	**+0.6**
	comp=Z,69nm,1.4s,mb5.2						
LSA	**Lhasa**	**28.72**	**349**	*e*P	**P**	**13 00 37.7**	**+0.1**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**28.72**	**349**	*e*P	**P**	**13 00 37.7**	**0.0**
	comp=Z,5.9nm,0.6s,mb4.5						
GKN	**Gorkha**	**29.04**	**337**	*e*P	**P**	**13 00 41.0**	**+0.5**
	comp=Z,42nm,0.8s,mb5.2						
KOLN	**Koldanda**	**29.26**	**335**	*e*P	**P**	**13 00 43.4**	**+0.9**
	comp=Z,40nm,0.8s,mb5.2						
ENH	**Enshi**	**31.03**	**21**	*e*P	**P**	**13 00 56.8**	**-1.4**
	comp=Z,32nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**34.10**	**126**	P	**P**	**13 01 24.4**	**-0.6**
	comp=Z,12nm,1.0s,mb4.8,baz=105,slow=5.7,SNR=6.7						
XAN	**Xi'an**	**34.31**	**18**	P	**P**	**13 01 25.8**	**-0.9**
XAN				AP	pP	13 01 31.5	-4.0
XAN				AMB	AMB		
	comp=Z,24nm,1.1s,mb5.0						
LZH	**Lanzhou**	**35.08**	**9**	*e*P	**P**	**13 01 33.0**	**-0.3**
LZH				AP	pP	13 01 41.5	-0.7
LZH				XP	sP	13 01 45.8	-0.2
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,156nm,4.2s						
LZH				LR	LR		
	comp=E,589nm,15.0s						
LZH				LR	LR		
	comp=Z,892nm,16.1s,MS4.6						
NJ2	**Nanjing**	**36.74**	**32**	*e*P	**P**	**13 01 47.5**	**+0.1**
NJ2				AP	pP	13 01 58.0	+1.7
NJ2				XP	sP	13 02 00.5	+0.5
NJ2				PP	PP	13 03 16.5	+3.6
NJ2				S	**S**	**13 07 32.0**	**+3.4**
NJ2				XS		13 07 48.0	
NJ2				AMB	AMB		
	comp=Z,450nm,4.7s						
NJ2				LR	LR		
	comp=N,620nm,15.5s,MS4.7						
NJ2				LR	LR		
	comp=E,770nm,12.7s,MS4.7						
NJ2				LR	LR		
	comp=Z,530nm,10.2s,MS4.6						
SSE	**Sheshan**	**37.30**	**35**	P	**P**	**13 01 50.5**	**-1.6**
SSE				AP	pP	13 01 59.3	-1.7
SSE				XP	sP	13 02 03.0	-1.8
SSE				PP	PP	13 03 17.5	-2.4
SSE				S	**S**	**13 07 40.5**	**+3.3**
SSE				XS		13 07 55.5	
SSE				SCS	ScS	13 12 01.0	-0.7
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,63nm,3.9s						
SSE				LR	LR		
	comp=N,92nm,18.8s,MS3.7						
SSE				LR	LR		
	comp=E,62nm,18.8s,MS3.7						
SSE				LR	LR		
	comp=Z,130nm,16.7s,MS3.8						
KAKA	**Kakadu**	**37.74**	**113**	*e*P	**P**	**13 01 54.8**	**-1.1**
	comp=Z,7.7nm,0.6s,mb4.6						
GTA	**Gaotai**	**37.92**	**3**	*e*P	**P**	**13 01 57.8**	**+0.6**
GTA				AP	pP	13 02 05.5	-0.6
GTA				XP	sP	13 02 09.0	-0.9
GTA				PP	PP	13 03 28.5	+1.3
GTA				PPP	PPP	13 03 50.0	+1.0
GTA				S	**S**	**13 07 46.5**	**0.0**
GTA				XS		13 08 02.3	
GTA				SS	SS	13 10 22.5	-1.0
GTA				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
GTA				AMB	AMB		
	comp=Z,83nm,5.3s						
GTA				LR	LR		
	comp=N,198nm,13.7s,MS4.1						
GTA				LR	LR		
	comp=E,133nm,16.0s,MS4.1						
GTA				LR	LR		
	comp=Z,182nm,14.5s,MS4.0						
JOW	**Kunigami**	**39.17**	**47**	P	**P**	**13 02 08.6**	**+0.8**
	comp=Z,32nm,0.7s,mb5.2,baz=248,slow=9.2,SNR=15						
HHC	**Hu-ho-hao-te**	**41.40**	**17**	*e*P	**P**	**13 02 28.0**	**+2.0**
HHC				AP	pP	13 02 38.3	+3.4
HHC				XP	sP	13 02 41.8	+3.1
HHC				PP	PP	13 04 08.3	+3.7
HHC				PCP	PcP	13 04 22.0	-2.4
HHC				SCP		13 08 08.0	
HHC				PCS		13 08 12.5	
HHC				S	**S**	**13 08 45.8**	**+7.1**
HHC				SCS	ScS	13 12 28.3	+2.9
HHC				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,147nm,5.0s						
HHC				LR	LR		
	comp=N,356nm,14.4s,MS4.4						
HHC				LR	LR		
	comp=E,195nm,14.1s,MS4.4						
HHC				LR	LR		
	comp=Z,290nm,14.0s,MS4.3						
BJT	**Baijiatuau**	**42.17**	**22**	*e*P	**P**	**13 02 33.1**	**+0.7**
BJT				pmax	pmax		
	comp=Z,23nm,0.7s						
BJT	**Baijiatuau**	**42.17**	**22**	*e*P	**P**	**13 02 33.1**	**+0.7**
	comp=Z,23nm,0.7s,mb4.9						
BJI	**Beijing**	**42.19**	**22**	*e*P	**P**	**13 02 33.8**	**+1.2**
BJI				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
BJI				LR	LR		
	comp=Z,57nm,18.4s,MS3.5						
WRA	**Warramunga Arr**	**42.20**	**122**	P	**P**	**13 02 33.1**	**+0.3**
	comp=Z,3.1nm,0.6s,mb4.1,baz=301,slow=9.1,SNR=32						
WRAB	**Tennant Creek**	**42.20**	**122**	*e*P	**P**	**13 02 32.9**	**0.0**
WRAB				*e*		13 02 44.9	
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**42.20**	**122**	*e*P	**P**	**13 02 32.9**	**0.0**
	comp=Z,14nm,0.9s,mb4.6						
WRAB				*e*		13 02 44.9	
WB2	**Warramunga Arr**	**42.21**	**122**	*e*P	**P**	**13 02 32.9**	**0.0**
WMQ	**Urumqi**	**43.08**	**350**	‖ P	**P**	**13 02 40.0**	**+0.3**
WMQ				AP	pP	13 02 50.0	+1.3
WMQ				XP	sP	13 02 54.0	+1.6
WMQ				PP	PP	13 04 22.5	+0.5
WMQ				PCP	PcP	13 04 30.5	+0.6
WMQ				PPP	PPP	13 04 57.5	+0.4
WMQ				S	**S**	**13 09 03.0**	**-0.3**
WMQ				XS		13 09 19.3	
WMQ				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,68nm,5.0s						
WMQ				LR	LR		
	comp=N,57nm,23.0s,MS3.5						
WMQ				LR	LR		
	comp=E,49nm,21.2s,MS3.5						
WMQ				LR	LR		
	comp=Z,53nm,23.0s,MS3.4						
AAK	**Ala-Archa**	**45.80**	**337**	*i* P	**P**	**13 03 02.5**	**+0.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
AAK	**Ala-Archa**	**45.80**	**337**	*e*P	**P**	**13 03 02.2**	**+0.7**
	comp=Z,8.8nm,1.4s,mb4.5						
MKAR	**Makanchi Array**	**47.04**	**346**	P	**P**	**13 03 11.9**	**+0.6**
	comp=Z,6.0nm,0.5s,mb4.8,baz=158,slow=9.0,SNR=72						
MKAR				LR	LR	13 26 21.9	
	comp=Z,56nm,18.6s,MS3.5,baz=172,slow=40						
ULN	**Ulaanbaatar**	**47.09**	**9**	*e*P	**P**	**13 03 11.9**	**+0.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ULN	**Ulaanbaatar**	**47.09**	**9**	*e*P	**P**	**13 03 11.9**	**+0.2**
	comp=Z,7.2nm,0.9s,mb4.6						
ZAK	**Zakamensk**	**49.09**	**5**	*e*P	**P**	**13 03 27.7**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
TLY	**Talaya**	**50.41**	**5**	*i* P	**P**	**13 03 37.8**	**+0.4**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
PMG	**Port Moresby**	**50.97**	**103**	P	**P**	**13 03 40.6**	**-1.5**
PMG				pmax	pmax		
	comp=Z,21nm,0.9s						
PMG	**Port Moresby**	**50.97**	**103**	P	**P**	**13 03 40.6**	**-1.5**
	comp=Z,21nm,0.9s,mb5.1						
HIA	**Hailar**	**51.49**	**19**	*e*P	**P**	**13 03 45.0**	**-0.5**
HIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HIA	**Hailar**	**51.49**	**19**	*e*P	**P**	**13 03 45.0**	**-0.5**
	comp=Z,9.5nm,1.1s,mb4.6						
MDJ	**Mudanjiang**	**51.74**	**29**	P	**P**	**13 03 48.5**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,89nm,3.7s						
MDJ	**Mudanjiang**	**51.74**	**29**	*e*P	**P**	**13 03 48.5**	**+1.0**
	comp=Z,14nm,0.9s,mb4.9						
CTA	**Charters Tower**	**52.65**	**117**	LR	LR	13 27 28.9	
	comp=Z,110nm,19.7s,MS3.9,baz=62,slow=37						
CTAO	**Charters Tower**	**52.65**	**117**	*e*P	**P**	**13 03 55.0**	**+0.3**
ZAL	**Zalesovo**	**53.35**	**351**	P	**P**	**13 03 59.9**	**+0.5**
	comp=Z,8.1nm,0.6s,mb4.8,baz=312,slow=5.6,SNR=29						
STKA	**Stephens Creek**	**53.54**	**132**	P	**P**	**13 04 01.6**	**+0.5**
	comp=Z,3.3nm,0.6s,mb4.5,baz=304,slow=7.4,SNR=8.4						
STKA	**Stephens Creek**	**53.54**	**132**	*e*P	**P**	**13 04 01.1**	**-0.1**
NVS	**Novosibirsk**	**54.48**	**350**	*e*P	**P**	**13 04 04.0**	**-3.7**
NVS				pmax	pmax		
	comp=N,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
BVAR	**Borovoye Array**	**56.05**	**341**	P	**P**	**13 04 18.3**	**-0.8**
	comp=E,3.7nm,0.6s,mb4.6,baz=143,slow=7.4,SNR=18						
KLR	**Kul'dur**	**56.12**	**27**	*e*P	**P**	**13 04 16.8**	**-2.9**
CHKZ	**Chkalovo**	**56.52**	**341**	*e*P	**P**	**13 04 21.7**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**56.52**	**341**	*e*P	**P**	**13 04 21.6**	**-0.9**
	comp=Z,13nm,0.9s,mb5.0						
BOD	**Bodaibo**	**57.84**	**11**	*e*P	**P**	**13 04 30.8**	**-0.9**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
YSS	**Yuzh-Sakhalins**	**60.24**	**34**	*e*P	**P**	**13 04 47.0**	**-1.5**
YSS				*e*		13 04 53.9	
GNI	**Garni**	**61.10**	**316**	LR	LR	13 35 41.3	
	comp=Z,20nm,18.1s,MS3.3,baz=147,slow=40						
SVE	**Sverdlovsk**	**62.49**	**338**	*e*P	**P**	**13 05 02.9**	**-0.6**
ARU	**Arti**	**62.98**	**337**	‖ *i* P	**P**	**13 05 05.6**	**-1.2**
ARU				*e*		13 05 36.9	
ARU				*e*		13 07 25.4	
ARU				*e*S	**S**	**13 13 40.1**	**+6.8**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
ARU	**Arti**	**62.98**	**337**	P	**P**	**13 05 02.3**	**-4.5**
	comp=Z,6.2nm,0.9s,mb4.7						
YAK	**Yakutsk**	**65.26**	**16**	*e*P	**P**	**13 05 20.6**	**-1.0**
YAK				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.4						
YAK	**Yakutsk**	**65.26**	**16**	*e*P	**P**	**13 05 20.6**	**-1.0**
	comp=Z,35nm,0.8s,mb5.4						
SOC	**Sochi**	**65.93**	**318**	*e*P	**P**	**13 05 21.8**	**-4.4**
SOC				*e*		13 05 53.8	
SOC				*e*		13 07 56.9	
SOC				*e*PPP	PPP	13 09 24.3	-4.3
SOC				*e*S	S	13 14 10.3	+0.3
SOC				*e*		13 15 13.9	
SOC				*e*SS	SS	13 18 20.5	-6.0
SOC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
SOC				pmax	pmax		
	comp=N,10.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.7s						
BRTR	**Keskin Array B**	**68.93**	**312**	P	**P**	**13 05 44.6**	**-0.5**
	comp=E,0.7nm,0.6s,mb3.8,baz=153,slow=5.5,SNR=4.5						
OBN	**Obninsk**	**72.42**	**328**	P	**P**	**13 06 05.0**	**-1.0**
OBN				*e*	pP	13 06 14.0	-1.3
TIXI	**Tiksi**	**73.02**	**10**	*i* P	**P**	**13 06 08.2**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
IDI	**Anoyia**	**74.73**	**306**	LR	LR	13 40 02.8	
	comp=Z,30nm,19.5s,MS3.6,baz=339,slow=36						
AKASG	**Malin Array Be**	**75.06**	**322**	P	**P**	**13 06 19.9**	**-1.5**
	comp=Z,0.5nm,0.3s,mb3.9,baz=93,slow=3.9,SNR=5.8						
JOF	**Joensuu**	**77.94**	**335**	*ep*	**P**	**13 06 35.8**	**-1.5**
	comp=Z,3.7nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**79.80**	**332**	P	**P**	**13 06 47.6**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.2,baz=105,slow=6.3,SNR=9.1						
FINES				LR	LR	13 50 47.3	
	comp=Z,24nm,18.0s,MS3.6,baz=126,slow=42						
KAF	**Kangasniemi**	**79.88**	**333**	*ep*	**P**	**13 06 47.5**	**-0.3**
	comp=Z,3.9nm,0.8s,mb4.4,baz=102,slow=5.0						
KAF	**Kangasniemi**	**79.88**	**333**	*e*P	**P**	**13 06 47.5**	**-0.3**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BILL	**Bilibino**	**81.02**	**21**	P	**P**	**13 06 56.0**	**+2.2**
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
ARCES	**ARCESS Array B**	**82.33**	**340**	P	**P**	**13 07 01.4**	**+0.9**
	comp=Z,4.0nm,0.8s,mb4.4,baz=98,slow=4.6,SNR=20						
ARCES				LR	LR	13 47 51.7	
	comp=Z,42nm,19.1s,MS3.8,baz=89,slow=39						
GERES	**GERESS Array B**	**84.62**	**319**	P	**P**	**13 07 13.1**	**+0.4**
	comp=Z,0.2nm,0.3s,mb3.8,baz=106,slow=9.7,SNR=3.6						
VNDA	**Vanda**	**86.02**	**169**	P	**P**	**13 07 20.3**	**+1.2**
	comp=Z,0.6nm,0.8s,mb3.9,baz=243,slow=2.3,SNR=2.3						
VNDA	**Vanda**	**86.02**	**169**	P	**P**	**13 07 20.3**	**+1.2**
NB2	**NORSAR Subarra**	**86.81**	**331**	P	**P**	**13 07 23.7**	**+0.5**
	comp=Z,1.9nm,0.9s,mb4.3,baz=94,slow=4.8						
NB2	**NORSAR Subarra**	**86.81**	**331**	P	**P**	**13 07 23.7**	**+0.5**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
NOA	**NORSAR Array B**	**86.81**	**331**	P	**P**	**13 07 23.8**	**+0.6**
	comp=Z,1.3nm,0.8s,mb4.2,baz=95,slow=4.9,SNR=5.0						
NOA	**NORSAR Array B**	**86.81**	**331**	P	**P**	**13 07 23.8**	**+0.6**
TXAR	**Lajitas Array**	**143.55**	**31**	PKP	PKPdf	13 14 13.7	-4.6
	comp=Z,0.3nm,0.5s,baz=117,slow=2.8,SNR=3.7						
CPUP	**Villa Florida**	**145.09**	**223**	PKP	PKPdf	13 14 17.4	-3.7
	comp=Z,1.9nm,0.8s,baz=123,slow=6.0,SNR=5.0						
CPUP	**Villa Florida**	**145.09**	**223**	*e*PKPdf	PKPdf	13 14 17.4	-3.6
CPUP				*ep*PKPdf		13 14 25.0	

*NEIC **28** 13:05:09.2,36.79N×11.30W,h3km,MG3.7(MDD),After MDD.*

*MDD **28** 13:05:09.5±3.6,36.76N×11.31W,h7km±123km,mbLg2.0/7, Error ellipse: s-maj=162.0km s-min=32.2km az=57.0, PRXIMO*

*CSEM **28** 13:05:09.0±1.0,36.95N×11.16W,h10km,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMIN				S	**Sn**	**13 06 50.4**	**-0.7**
	0.9nm,0.5s,SNR=7.9						
EBAD	**Badajoz**	**3.77**	**60**	P	**Pn**	**13 06 09.8**	**+1.7**
	0.5nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**13 06 52.9**	**-0.1**
	0.3nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.77**	**60**	P	**Pn**	**13 06 09.8**	**+1.7**
	0.5nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**13 06 53.0**	**0.0**
ESPR	**Espera**	**4.28**	**89**	P	**Pn**	**13 06 15.0**	**-0.3**
	2.4nm,0.1s,SNR=6.7						
ESPR				S	**Sn**	**13 07 04.3**	**-1.6**
	1.2nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.28**	**89**	P	**Pn**	**13 06 15.0**	**-0.3**
	2.4nm,0.1s,SNR=6.7						
ESPR				S	**Sn**	**13 07 04.3**	**-1.6**
	1.2nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.73**	**74**	P	**Pn**	**13 06 21.8**	**+0.1**
	0.8nm,0.1s,SNR=8.4						
ECAB				S	**Sn**	**13 07 15.0**	**-2.3**
	0.6nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.73**	**74**	P	**Pn**	**13 06 21.8**	**+0.1**
	0.8nm,0.1s,SNR=8.4						
ECAB				S	**Sn**	**13 07 15.0**	**-2.3**
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.39**	**75**	P	**Pn**	**13 06 30.9**	**-0.2**
EADA				S	**Sn**	**13 07 32.7**	**-1.4**
EADA	**Adamuz**	**5.39**	**75**	P	**Pn**	**13 06 30.9**	**-0.2**
	0.1nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**13 07 31.7**	**-2.3**
	3.4nm,0.8s,SNR=7.9						
EADA	**Adamuz**	**5.39**	**75**	P	**Pn**	**13 06 30.9**	**-0.2**
	0.1nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**13 07 32.7**	**-1.4**
	SNR=7.9						
ELOB	**Lobios**	**5.48**	**25**	S	**Sn**	**13 07 34.7**	**-1.6**
	8.6nm,0.7s,SNR=7.9						
ELOB	**Lobios**	**5.48**	**25**	S	**Sn**	**13 07 34.7**	**-1.6**
	SNR=7.9						
ESAC	**San Caprasio**	**9.58**	**57**	P	**P**	**13 07 27.8**	**-1.8**
ESAC	**San Caprasio**	**9.58**	**57**	P	**P**	**13 07 27.8**	**-1.8**

*IDC **28** 13:07:33.4±1.8, 8.01S×120.70E, mb3.7/2, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, ML3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/23, Error ellipse: s-maj=174.0km s-min=24.8km az=57.0*

ISC 28 13:07:35.7±1.5, **8.2S**±0.2×**120.5E**±0.3, **h33**km, **n6**, σ0§**91**/6, **mb3.7**/1, **Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.02**	**153**	Pn	**P**	**13 10 13.8**	**-0.4**
	1.1nm,0.3s,baz=320,slow=13,SNR=9.8						
FITZ				LR	LR	13 14 45.4	
	comp=Z,121nm,20.5s,baz=332,slow=39						
KAKA	**Kakadu**	**12.57**	**112**	*e*P	**P**	**13 10 35.0**	**-0.1**
	4.1nm,0.5s						
WRA	**Warramunga Arr**	**17.77**	**132**	P	**P**	**13 11 41.2**	**-1.0**
	0.2nm,0.3s,baz=302,slow=13,SNR=14						
WB2	**Warramunga Arr**	**17.77**	**132**	*e*P	**P**	**13 11 43.3**	**+1.0**
ASAR	**Alice Springs**	**20.03**	**142**	P	**P**	**13 12 09.3**	**+0.6**
	3.0nm,0.6s,baz=327,slow=11,SNR=35						
MKAR	**Makanchi Array**	**64.45**	**332**	P	**P**	**13 18 11.1**	**-0.1**
	0.5nm,0.6s,mb3.7,baz=129,slow=7.8,SNR=6.0						

*MAN **28** 13:11:11.8, 5.99N×126.92E, h99km, mb4.8, ML3.7, MS3.7*
*BJI **28** 13:11:13.8, 6.28N×126.50E, h108km, mB5.1, mb4.8*
*IDC **28** 13:11:14.0±2.1, 6.14N×126.82E, h113km±18km, mb4.2/19, mb1 4.4/19, mb1mx4.3/23, mbtmp4.6/19, MS3.4/2, Ms1 3.4/2, ms1mx2.8/21, Error ellipse: s-maj=24.5km s-min=9.9km az=76.0*
*MOS **28** 13:11:14.0±1.0, 6.14N×126.81E, h131km, mb4.7/19, Error ellipse: s-maj=17.6km s-min=7.9km az=110.6*
*NEIC **28** 13:11:14.8±1.7, 6.16N×126.79E, h124km±16km, mb4.6/17, Error ellipse: s-maj=11.2km s-min=5.0km az=70.0*

ISC 28 13:11:13.8±0.6, **6.14N**±0.04×**126.80E**±0.07, **h130**km±4km, **n113**, σ0§**99**/116, **mb4.5**/57, **2C-2D**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.97**	**326**	*e*P	**P**	**13 11 34.2**	**-2.4**
MATI				*e*S	**S**	**13 12 03.1**	**+9.2**
KCP	**Kidapawan**	**1.91**	**297**	⇑*e*P	**P**	**13 11 48.0**	**+1.0**
KCP				*i* S	**S**	**13 12 12.4**	**+0.1**
BUKP	**Musuan**	**2.44**	**315**	*e*P	**P**	**13 11 53.0**	**-0.9**
BUTP	**Butuan**	**3.05**	**338**	*e*P	**P**	**13 12 02.1**	**+0.3**
CGP	**Cagayan de Oro**	**3.11**	**318**	*e*P	**P**	**13 12 03.4**	**+0.7**
CGP				*e*S	**S**	**13 12 41.2**	**+1.3**
PAGZ	**Pagadian**	**3.79**	**297**	*e*P	**P**	**13 12 11.3**	**-0.5**
SCPH	**Surigao**	**3.85**	**340**	*e*P	**P**	**13 12 14.3**	**+1.7**
SCPH				*e*S	Px	13 12 29.6	
MSLP	**Maasin**	**4.41**	**334**	*e*P	**P**	**13 12 19.5**	**-0.6**
IPIL	**Ipil**	**4.51**	**292**	*e*P	**P**	**13 12 22.3**	**+0.9**
TBP	**Tagbilaran**	**4.58**	**321**	*e*P	**P**	**13 12 21.0**	**-1.2**
SNPH	**Sibulan**	**4.75**	**312**	*e*P	**P**	**13 12 26.0**	**+1.3**
BESP	**Borongan**	**5.59**	**346**	*e*P	**P**	**13 12 43.2**	**+7.3**
GUIM	**Jordan**	**6.10**	**317**	*e*P	**P**	**13 12 42.8**	**0.0**
KKM	**Kota Kinabalu**	**10.52**	**270**	*e*P	**P**	**13 13 41.6**	**-0.6**
KSM	**Kuching**	**17.09**	**255**	*e*P	**P**	**13 15 07.1**	**+0.7**
KSM				*e*pP		13 15 30.1	
KAKA	**Kakadu**	**19.55**	**163**	*e*P	**P**	**13 15 33.2**	**-0.5**
	37nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.11**	**183**	P	**P**	**13 16 19.8**	**+0.9**
	11nm,0.5s,mb4.7,baz=25,slow=9.1,SNR=18						
SSE	**Sheshan**	**25.38**	**349**	P	**P**	**13 16 29.5**	**-1.3**
SSE				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.5						
CBIJ	**Chichi jima**	**25.48**	**33**	LR	LR	13 24 27.3	
	comp=Z,80nm,21.8s,baz=72,slow=31						
PMG	**Port Moresby**	**25.50**	**127**	LR	LR	13 27 28.3	
	comp=Z,78nm,19.6s,baz=234,slow=38						
NJ2	**Nanjing**	**26.83**	**345**	*e*P	**P**	**13 16 41.3**	**-2.8**
NJ2				S	**S**	**13 21 01.0**	**-8.0**
NJ2				AMB	AMB		
	comp=Z,530nm,4.2s						
NJ2				LR	LR		
	comp=N,520nm,12.9s						
NJ2				LR	LR		
	comp=E,490nm,16.1s						
NJ2				LR	LR		
	comp=Z,660nm,16.8s						
WRAB	**Tennant Creek**	**26.95**	**164**	*e*P	**P**	**13 16 44.5**	**-0.8**
WRAB				*PP	pP	13 17 11.9	-0.8
WRA	**Warramunga Arr**	**26.95**	**164**	P	**P**	**13 16 43.6**	**-1.7**
	comp=Z,2.2nm,0.6s,mb4.0,baz=347,slow=9.6,SNR=17						
WRA				ScP		13 23 33.9	
	comp=Z,1.2nm,0.9s,baz=343,slow=3.2,SNR=5.3						
WB2	**Warramunga Arr**	**26.96**	**164**	*e*P	**P**	**13 16 44.7**	**-0.7**
GYA	**Guiyang**	**27.88**	**319**	⇓*i*P	**P**	**13 16 53.8**	**+0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
MBWA	**Marble Bar**	**28.00**	**194**	*e*P	**P**	**13 16 53.9**	**-0.9**
	comp=Z,6.9nm,0.6s,mb4.6						
ENH	**Enshi**	**29.01**	**328**	*e*P	**P**	**13 17 02.4**	**-1.4**
	comp=Z,14nm,1.0s,mb4.7						
CM31	**Chiang Mai Arr**	**29.79**	**297**	P	**P**	**13 17 10.0**	**-0.8**
	comp=Z,2.6nm,0.6s,mb4.1						
CMAR	**Chiang Mai Arr**	**29.79**	**297**	P	**P**	**13 17 10.7**	**-0.1**
	comp=Z,1.7nm,0.7s,mb3.9,baz=113,slow=7.3,SNR=14						
CMAR				PcP	PcP	13 20 12.6	+1.4
	comp=Z,1.6nm,1.1s,baz=142,slow=1.0,SNR=5.7						
CMAR				ScP		13 23 42.5	
	comp=Z,0.4nm,0.5s,baz=80,slow=1.9,SNR=4.4						
ASAR	**Alice Springs**	**30.42**	**167**	P	**P**	**13 17 15.6**	**-0.8**
	comp=Z,1.5nm,0.6s,mb3.9,baz=347,slow=6.8,SNR=25						
ASAR				PcP	PcP	13 20 12.9	+0.1
	comp=Z,1.8nm,0.6s,baz=338,slow=2.2,SNR=7.4						
ASAR				ScP		13 23 45.0	
	comp=Z,2.2nm,1.0s,baz=359,slow=2.8,SNR=5.4						
ASPA	**Alice Springs**	**30.42**	**167**	*e*P	**P**	**13 17 16.0**	**-0.4**
MAJO	**Matsushiro**	**32.02**	**17**	*e*P	**P**	**13 17 28.9**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
MAJO	**Matsushiro**	**32.02**	**17**	*e*P	**P**	**13 17 28.9**	**-1.3**
	comp=Z,14nm,1.0s,mb4.6						
MJAR	**Matsushiro Arr**	**32.02**	**17**	P	**P**	**13 17 28.8**	**-1.4**
	comp=Z,1.8nm,0.8s,mb3.8,baz=264,slow=7.8,SNR=4.4						
XAN	**Xi'an**	**32.33**	**332**	P	**P**	**13 17 32.0**	**-0.9**
XAN				AMB	AMB		
	comp=Z,29nm,1.1s,mb4.9						
CD2	**Chengdu**	**32.78**	**322**	*e*P	**P**	**13 17 36.5**	**-0.4**
BJT	**Baijiatuau**	**35.06**	**346**	*e*P	**P**	**13 17 57.8**	**+1.6**
BJT				pmax	pmax		
	comp=Z,19nm,0.8s						
BJT	**Baijiatuau**	**35.06**	**346**	*e*P	**P**	**13 17 57.8**	**+1.6**
	comp=Z,19nm,0.8s,mb4.8						
BJI	**Beijing**	**35.08**	**346**	*e*P	**P**	**13 17 58.0**	**+1.6**
BJI				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.8						
LZH	**Lanzhou**	**36.49**	**328**	*e*P	**P**	**13 18 09.0**	**+0.7**
LZH				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.0						
FORT	**Forrest**	**36.72**	**178**	*e*P	**P**	**13 18 10.7**	**+0.4**
	comp=Z,467nm,0.6s						
HHC	**Hu-ho-hao-te**	**37.16**	**341**	*e*P	**P**	**13 18 12.3**	**-1.5**
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,142nm,5.5s						
MDJ	**Mudanjiang**	**38.41**	**3**	P	**P**	**13 18 25.0**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.5s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,60nm,3.6s						
KLBR	**Kellerberrin**	**38.49**	**192**	*e*P	**P**	**13 18 25.8**	**+0.7**
	comp=Z,523nm,1.0s						
MUN	**Mundaring**	**39.22**	**194**	*e*P	**P**	**13 18 32.2**	**+1.1**
	comp=Z,147nm,0.5s						
MUN	**Mundaring**	**39.22**	**194**	*e*P	**P**	**13 18 32.2**	**+1.1**
MUN				pmax	pmax		
	comp=Z,147nm,0.5s						
NWAO	**Narrogin (SRO)**	**39.90**	**193**	*e*P	**P**	**13 18 37.7**	**+1.1**
NWAO				pmax	pmax		
	comp=Z,33nm,0.8s						
NWAO	**Narrogin (SRO)**	**39.90**	**193**	P	**P**	**13 18 37.4**	**+0.8**
	comp=Z,25nm,0.5s,mb5.1,baz=21,slow=7.7,SNR=26						
NWAO	**Narrogin (SRO)**	**39.90**	**193**	*e*P	**P**	**13 18 37.7**	**+1.1**
	comp=Z,34nm,0.8s,mb5.0						
ASAJ	**Asahikawa**	**40.29**	**18**	P	**P**	**13 18 41.4**	**+1.6**
	comp=Z,6.6nm,0.7s,mb4.4,baz=194,slow=4.2,SNR=4.9						
STKA	**Stephens Creek**	**40.35**	**160**	*e*P	**P**	**13 18 40.9**	**+0.5**
	comp=Z,3.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**40.35**	**160**	P	**P**	**13 18 41.2**	**+0.8**
	comp=Z,5.7nm,0.6s,mb4.4,baz=345,slow=7.8,SNR=13						
LSA	**Lhasa**	**40.94**	**309**	*e*P	**P**	**13 18 45.8**	**+0.6**
LSA				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.5						
LSA	**Lhasa**	**40.94**	**309**	*e*P	**P**	**13 18 45.8**	**+0.5**
	comp=Z,17nm,1.5s,mb4.5						
GTA	**Gaotai**	**41.10**	**328**	*e*P	**P**	**13 18 47.5**	**+1.1**
GTA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
JIRN	**Jiri**	**44.06**	**304**	*e*P	**P**	**13 19 09.9**	**-0.8**
GUN	**Gumba**	**44.41**	**304**	*e*P	**P**	**13 19 12.9**	**-0.6**
	comp=Z,33nm,0.7s,mb5.0						
PKI	**Pulchoki**	**44.67**	**303**	*e*P	**P**	**13 19 14.4**	**-1.2**
	comp=Z,12nm,0.6s,mb4.7						
KKN	**Kakani**	**44.86**	**304**	*e*P	**P**	**13 19 16.1**	**-1.0**
	comp=Z,21nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**44.87**	**341**	*e*P	**P**	**13 19 18.0**	**+1.1**
ULN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**44.87**	**341**	*e*P	**P**	**13 19 17.9**	**+1.0**
	comp=Z,12nm,1.0s,mb4.5						
DMN	**Daman**	**44.94**	**303**	*e*P	**P**	**13 19 16.2**	**-1.5**
	comp=Z,9.7nm,0.3s,mb4.9						
GKN	**Gorkha**	**45.47**	**304**	*e*P	**P**	**13 19 21.0**	**-0.9**
	comp=Z,7.6nm,0.5s,mb4.6						
KOLN	**Koldanda**	**46.25**	**303**	*e*P	**P**	**13 19 27.9**	**-0.2**
	comp=Z,34nm,0.8s,mb5.0						
ZAK	**Zakamensk**	**48.30**	**340**	*e*P	**P**	**13 19 44.3**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s						
HYB	**Hyderabad**	**48.41**	**288**	*e*P	**P**	**13 19 44.0**	**-1.1**
HYB	**Hyderabad**	**48.41**	**288**	*i* P	**P**	**13 19 44.0**	**-1.1**
TLY	**Talaya**	**49.28**	**341**	*i* P	**P**	**13 19 51.6**	**+0.3**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.3						
TLY	**Talaya**	**49.28**	**341**	*e*P	**P**	**13 19 51.4**	**0.0**
	comp=Z,6.1nm,0.8s,mb4.3						
MOY	**Mondy**	**50.16**	**339**	*e*P	**P**	**13 19 59.5**	**+1.5**
WMQ	**Urumqi**	**50.82**	**324**	P	**P**	**13 20 03.8**	**+0.7**
WMQ				AP	pP	13 20 32.8	-0.6
WMQ				XP	sP	13 20 47.0	-0.6
WMQ				PCP	PcP	13 21 18.8	+0.6
WMQ				PP	PP	13 22 02.8	+1.6
WMQ				PPP	PPP	13 23 04.3	+0.3
WMQ				*e*S	**S**	**13 27 08.3**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,148nm,4.4s						
WMQ				LR	LR		
	comp=N,71nm,24.5s						
WMQ				LR	LR		
	comp=E,35nm,24.4s						
WMQ				LR	LR		
	comp=Z,25nm,24.5s						
MKAR	**Makanchi Array**	**55.64**	**324**	P	**P**	**13 20 38.2**	**-0.5**
	comp=Z,9.9nm,0.6s,mb4.8,baz=125,slow=8.2,SNR=88						
MKAR				PcP	PcP	13 21 37.8	+1.4
	comp=Z,4.9nm,0.7s,baz=119,slow=5.4,SNR=8.4						
MKAR	**Makanchi Array**	**55.64**	**324**	P	**P**	**13 20 38.2**	**-0.5**
MKAR				PcP	PcP	13 21 37.8	+1.4
YAK	**Yakutsk**	**55.82**	**2**	*i* P	**P**	**13 20 46.2**	**+6.5**
YAK				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
KZA	**Kyzart**	**57.91**	**317**	P	**P**	**13 20 55.4**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**58.01**	**318**	P	**P**	**13 20 55.3**	**-0.1**
	SNR=6.5						
UCH	**Uchtor**	**58.47**	**316**	P	**P**	**13 20 59.4**	**+0.7**
	SNR=19						
ZAL	**Zalesovo**	**58.50**	**332**	P	**P**	**13 20 58.9**	**+0.2**
	comp=Z,5.5nm,0.3s,mb4.9,baz=183,slow=0.9,SNR=11						
AAK	**Ala-Archa**	**58.64**	**317**	P	**P**	**13 20 57.6**	**-2.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**58.64**	**317**	P	**P**	**13 20 57.6**	**-2.2**
	comp=Z,2.9nm,0.8s,mb4.2						
USP	**Ospenovka**	**58.89**	**318**	P	**P**	**13 21 01.3**	**-0.2**
	SNR=7.7						
AML	**Almayashu**	**59.00**	**316**	P	**P**	**13 21 02.6**	**+0.3**
	SNR=15						
EKS2	**Erkin-Say**	**59.14**	**317**	P	**P**	**13 21 03.2**	**-0.1**
	SNR=9.4						
NVS	**Novosibirsk**	**59.78**	**333**	*e*P	**P**	**13 21 05.2**	**-2.2**
NVS				*e*S	**S**	**13 29 07.3**	**+0.9**
NVS				pmax	pmax		
	comp=N,6.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
NVS				smax			
	comp=N,14nm,2.2s						
NVS				smax			
	comp=E,11nm,2.2s						
BVAR	**Borovoye Array**	**65.36**	**326**	P	**P**	**13 21 43.8**	**-0.6**
	comp=E,19nm,1.0s,mb4.9,baz=127,slow=7.4,SNR=66						
TIXI	**Tiksi**	**65.45**	**1**	*i* P	**P**	**13 21 52.7**	**+7.9**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
CHKZ	**Chkalovo**	**65.51**	**327**	*e*P	**P**	**13 21 44.1**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
CHKZ	**Chkalovo**	**65.51**	**327**	*e*P	**P**	**13 21 44.0**	**-1.3**
	comp=Z,13nm,1.0s,mb4.7						
SVE	**Sverdlovsk**	**71.96**	**328**	*e*P	**P**	**13 22 24.5**	**-0.4**
SVE				*e*		13 23 07.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.0						
ARU	**Arti**	**72.96**	**327**	⇓*i* P	**P**	**13 22 30.3**	**-0.4**
ARU				*e*S	S	13 31 41.5	-3.8
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ARU	**Arti**	**72.96**	**327**	*e*P	**P**	**13 22 29.2**	**-1.6**
	comp=Z,7.3nm,0.8s,mb4.5						
ZEI	**Tsey**	**80.66**	**312**	*e*P	**P**	**13 23 14.4**	**+0.5**
ZEI				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7						
KIV	**Kislovodsk**	**81.54**	**313**	*i* P	**P**	**13 23 20.2**	**+1.7**
KIV				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.7						
MCK	**McKinley**	**82.00**	**27**	*e*P	**P**	**13 23 21.4**	**+0.9**
MCK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
MCK	**McKinley**	**82.00**	**27**	*e*P	**P**	**13 23 21.4**	**+0.9**
	comp=Z,4.0nm,1.0s,mb4.0						
ILAR	**Eielson Array**	**82.92**	**26**	P	**P**	**13 23 25.8**	**+0.6**
	comp=Z,1.8nm,1.0s,mb3.8,baz=253,slow=5.0,SNR=12						
SOC	**Sochi**	**83.70**	**313**	*e*P	**P**	**13 23 29.8**	**+0.2**
SOC				*e*S	S	13 33 33.7	-6.0
SOC				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
SOC				pmax	pmax		
	comp=N,11nm,0.5s						
SOC				pmax	pmax		
	comp=E,4.0nm,0.6s						
OBN	**Obninsk**	**85.15**	**325**	*e*P	**P**	**13 23 37.2**	**+0.7**
OBN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
ANN	**Anapa**	**85.27**	**314**	*e*P	**P**	**13 23 37.1**	**-0.3**
ANN				pmax	pmax		
	comp=Z,66nm,0.9s,mb5.4						
VNDA	**Vanda**	**85.79**	**173**	P	**P**	**13 23 40.3**	**+1.1**
	comp=Z,2.0nm,1.0s,mb3.8,baz=315,slow=7.2,SNR=7.3						
MAW	**Mawson**	**86.02**	**200**	P	**P**	**13 23 41.6**	**+1.2**
	comp=Z,1.4nm,0.5s,mb3.9,baz=104,slow=4.2,SNR=4.2						
INK	**Inuvik**	**87.92**	**22**	*e*P	**P**	**13 23 50.0**	**+0.4**
INK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
INK	**Inuvik**	**87.92**	**22**	*e*P	**P**	**13 23 50.0**	**+0.4**
	comp=Z,4.5nm,1.2s,mb4.2						
ARCES	**ARCESS Array B**	**88.23**	**340**	P	**P**	**13 23 51.0**	**0.0**
	comp=Z,3.7nm,0.8s,mb4.3,baz=84,slow=5.9,SNR=9.9						
BRTR	**Keskin Array B**	**88.55**	**310**	P	**P**	**13 23 53.2**	**0.0**
	comp=Z,4.6nm,0.9s,mb4.4,baz=108,slow=3.9,SNR=18						
AKASG	**Malin Array Be**	**90.08**	**321**	P	**P**	**13 23 59.0**	**-1.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=68,slow=3.7,SNR=5.7						
MLR	**Muntele Rosu**	**93.22**	**316**	P	**P**	**13 24 15.7**	**+0.8**
	comp=Z,1.1nm,0.6s,mb4.2,baz=122,slow=0.7,SNR=3.9						
SYO	**Syowa Base**	**94.68**	**201**	⇑P	**P**	**13 24 22.1**	**+1.2**
HFS	**Hagfors**	**95.93**	**332**	P	**P**	**13 24 27.9**	**+1.1**
	comp=Z,1.9nm,0.7s,mb4.5,baz=90,slow=8.9,SNR=4.3						
NB2	**NORSAR Subarra**	**96.67**	**334**	P	**P**	**13 24 30.0**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.5,baz=66,slow=4.6						
NB2	**NORSAR Subarra**	**96.67**	**334**	P	**P**	**13 24 30.0**	**-0.2**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.5						
NOA	**NORSAR Array B**	**96.67**	**334**	P	**P**	**13 24 31.2**	**+1.1**
	comp=Z,1.6nm,0.8s,mb4.4,baz=66,slow=4.6,SNR=7.5						
GERES	**GERESS Array B**	**100.25**	**322**	P	P	13 24 46.9	+0.2
	comp=Z,0.5nm,0.4s,baz=270,slow=2.7,SNR=5.1						

*NEIC **28** 13:47:40.5±1.1, 20.40S×68.85W, h96km±12km, mb4.9/4, Error ellipse: s-maj=20.0km s-min=12.3km az=80.0*
*IDC **28** 13:47:43.5±0.9, 20.53S×68.64W, h121km±10km, mb3.5/3, mb1 3.9/7, mb1mx3.6/19, mbtmp4.1/7, Error ellipse: s-maj=30.8km s-min=9.0km az=99.0*

ISC 28 13:47:42.9±0.7, **20.55S**±0.05×**68.6W**±0.1, **h132**km±9km, **n19**, σ0§**81**/20, **mb4.4**/5, **Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.07**	**188**	P	**P**	**13 48 18.0**	**-0.3**
	174nm,0.3s,baz=360,slow=9.5,SNR=641						
LVC				S	**S**	**13 48 45.7**	**+0.5**
	125nm,0.3s,baz=94,slow=23,SNR=32						
LPAZ	**La Paz**	**4.26**	**6**	P	**P**	**13 48 47.2**	**0.0**
	5.4nm,0.3s,baz=194,slow=8.4,SNR=99						
LPAZ				S	**S**	**13 49 36.9**	**+0.3**
	2.5nm,0.3s,baz=219,slow=21,SNR=4.1						
LPAZ	**La Paz**	**4.26**	**6**	*e*Pn	**P**	**13 48 46.8**	**-0.5**
LPAZ				S	**S**	**13 49 36.9**	**+0.3**
ARE	**Arequipa**	**4.92**	**325**	*e*P	**P**	**13 48 48.0**	**-7.9**
ARE				*e*		13 48 52.0	
ARE				*e*S	**S**	**13 49 43.0**	**-9.2**
SIV	**San Ignacio**	**8.45**	**59**	P	**P**	**13 49 43.7**	**+0.1**
	1.4nm,0.3s,baz=250,slow=12,SNR=48						
CFAA	**Coronel Fontan**	**11.01**	**178**	P	**P**	**13 50 14.7**	**-2.8**
	0.1nm,0.3s,baz=345,slow=11,SNR=4.0						
CPUP	**Villa Florida**	**11.82**	**121**	P	**P**	**13 50 27.9**	**-0.3**
	0.2nm,0.3s,baz=327,slow=13,SNR=7.3						
CPUP	**Villa Florida**	**11.82**	**121**	P	**P**	**13 50 27.9**	**-0.3**
TRQA	**Tornquist**	**18.36**	**163**	*e*P	**P**	**13 51 50.7**	**+0.8**
	14nm,0.7s						
PLCA	**Paso Flores**	**20.18**	**184**	P	**P**	**13 52 09.9**	**+0.9**
	1.7nm,0.6s,baz=4.3,slow=13,SNR=5.9						
LRAL	**Lakeview Retre**	**56.12**	**341**	*e*P	**P**	**13 57 02.1**	**-8.9**
	10.0nm,0.9s,mb4.7						
MCWV	**Mont Chateau**	**60.81**	**350**	*e*P	**P**	**13 57 39.3**	**-4.2**
	46nm,0.9s,mb5.3						
NVAR	**Mina Array Bea**	**74.94**	**322**	P	**P**	**13 59 11.0**	**-0.3**
	0.5nm,0.6s,mb3.3,baz=154,slow=6.6,SNR=5.6						
LBTB	**Lobatse**	**85.14**	**115**	*e*P	**P**	**14 00 16.6**	**+11**
	7.9nm,0.5s,mb4.7				

az=126.4

HRVD ***28*** *14:07:33.7±0.1, 1.84N×96.55E, h23km, MW6.2/77, Centroid moment Tensor Solution. LP body waves: s77,c188;Mantle waves: s73,c261; Half duration: 3s1 Moment tensor: Scale 10^18 Nm; Mrr1.16±.01; Mθθ-0.73±.01; Mφφ-0.43±.01; Mrθ1.50±.03; Mrφ0.75±.01; Mθr-1.59±.03; Best double couple: M0=2.52×10^18 NP1: φs301°, δ15°, λ75°. NP2:φs136°, δ75°, λ94°. Principal axes: T 2.438, Plg60°, Azm52°; N .164, Plg4°, Azm315°; P -2.601, Plg30°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

NEIC ***28*** *14:07:33.7±0.1, 2.13N×96.80E, h22km, mb5.9/140, ME5.9, MS6.2/127, MW6.2 Error ellipse: s-maj=4.7km s-min=3.0km az=211.0 Broadband fault plane solution: P waves. NP1:φs130°, δ80°, λ90°. NP2:φs310°, δ10°, λ90°. Principal axes: T Plg55°, Azm40°; N Plg0°, Azm0°; P Plg35°, Azm220°; Moment Tensor Solution. s40 Moment tensor: Scale 10^18 Nm; Mrr1.08; Mθθ-0.73; Mφφ-0.34; Mrθ1.65; Mθφ0.57; Mφr-1.30; Best double couple: M0=2.4×10^18 NP1:φs303°, δ14°, λ85°. NP2:φs128°, δ76°, λ91°. Principal axes: T 2.35, Plg59°, Azm40°; N .06, Plg1°, Azm308°; P -2.41, Plg31°, Azm217°; Depth from synthetics of broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Meulaboh and Sibolga; [II] at Banda Aceh, Sumatra. Felt at Medan and on Nias. Felt [III] at Georgetown, Malaysia.

ISC 28 14:07:33.2±0.1, 2.16N±0.02×96.84E±0.02, h29km, h29km±1.0km:pP-P, n968, σ1§05/812, mb5.9/210, MS6.2/192, 159C-60D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BSI	**Banda Aceh**	**3.66**	**335**	*e*Pn		**Pn**	**14 08 29.5**	**+0.2**
IPM	**Ipoh**	**4.82**	**60**	P		**Pn**	**14 08 47.8**	**+1.9**
KULM	**Kulim**	**4.92**	**51**	⇑*e*P		**Pn**	**14 08 48.8**	**+1.6**
SNG	**Songkhla**	**6.25**	**37**	P		**Pn**	**14 09 06.0**	**0.0**
	2μm,1.0s							
KGM	**Kluang**	**6.48**	**91**	P		**Pn**	**14 09 10.4**	**+1.2**
PENI	**Pendagan**	**11.32**	**133**	⇑*i*P		**P**	**14 10 10.9**	**-5.5**
	2μm,0.5s							
PULI	**Pulasari**	**12.43**	**133**	⇓*i*P		**P**	**14 10 24.5**	**-6.8**
	818nm,0.3s							
KSM	**Kuching**	**13.48**	**93**	⇑*e*P		**P**	**14 10 46.4**	**+1.2**
NST	**Nakhon Sawan**	**13.82**	**13**	P		**P**	**14 10 49.0**	**-0.7**
KKTK	**Khon Kaen**	**15.27**	**22**	P		**P**	**14 11 09.0**	**+0.2**
	2μm,0.8s							
UBT	**Ubonrachathani**	**15.31**	**31**	P		**P**	**14 11 10.0**	**+0.8**
CM31	**Chiang Mai Arr**	**16.33**	**7**	*e*P		**P**	**14 11 21.8**	**-0.5**
	421nm,0.8s							
CMAR	**Chiang Mai Arr**	**16.33**	**7**	Pn		**P**	**14 11 21.9**	**-0.4**
	2.2nm,0.3s,baz=205,slow=14,SNR=128							
CMAR				LR		LR	14 17 58.5	
	comp=Z,67μm,21.1s,baz=185,slow=38							
CMAR				ScP			14 19 50.0	
	0.1nm,0.3s,baz=234,slow=3.1,SNR=7.9							
CHG	**Chiang Mai**	**16.68**	**7**	⇑P		**P**	**14 11 26.8**	**0.0**
	150nm,1.2s							
PALK	**Pallekele**	**16.86**	**288**	*e*P		**P**	**14 11 28.7**	**-0.4**
	818nm,1.5s							
NANT	**Nan**	**16.97**	**13**	⇑P		**P**	**14 11 29.0**	**-1.4**
	2μm,1.0s							
MDRS	**Chennai**	**19.68**	**304**	⇑*i*P		**P**	**14 12 04.0**	**+0.8**
MDRS				*e*S		**S**	**14 15 46.0**	**+8.2**
MDRS				*e*			14 17 14.0	
KKM	**Kota Kinabalu**	**19.71**	**78**	⇑*e*P		**P**	**14 12 03.5**	**-0.1**
KKM	**Kota Kinabalu**	**19.71**	**78**	P		**P**	**14 12 03.6**	**+0.1**
SRDI	**Scrawed**	**20.23**	**122**	⇓*i*P		**P**	**14 12 07.2**	**-1.9**
SRDI				pmax		pmax		
	comp=Z,193nm,1.0s							
SRDI	**Scrawed**	**20.23**	**122**	⇓*i*P		**P**	**14 12 07.2**	**-1.9**
	comp=Z,193nm,1.0s							
SRDI	**Scrawed**	**20.23**	**122**	⇓*i*P		**P**	**14 12 07.1**	**-2.0**
	comp=Z,386nm,1.0s							
VIS	**Vishakhapatnam**	**20.37**	**320**	*e*P		**P**	**14 12 09.0**	**-1.5**
VIS				*e*			14 12 35.1	
	comp=Z,806nm,1.3s							
VIS				*e*S		**S**	**14 15 57.5**	**+5.4**
QIZ	**Qiongzhong**	**21.06**	**36**	⇑*i*P		**P**	**14 12 17.0**	**-0.5**
QIZ				XP			14 12 27.0	
QIZ				PP		PP	14 12 41.3	+0.6
QIZ				S		**S**	**14 16 07.8**	**+2.3**
QIZ				XS			14 16 18.5	
QIZ				SS		SS	14 16 37.5	-1.1
QIZ				LR		LR		
	comp=N,107μm,19.9s,MS6.3							
QIZ				LR		LR		
	comp=E,80μm,19.3s,MS6.3							
QIZ				LR		LR		
	comp=Z,69μm,18.4s,MS6.1							
QIZ	**Qiongzhong**	**21.06**	**36**	*e*P		**P**	**14 12 16.6**	**-0.9**
	comp=Z,443nm,1.4s,mb5.6							
TSM	**Tawau**	**21.11**	**84**	P		**P**	**14 12 17.5**	**-0.6**
RATI	**Rata**	**21.54**	**120**	⇓*i*P		**P**	**14 12 23.1**	**+0.6**
	comp=Z,435nm,0.2s,mb6.5							
RATI	**Rata**	**21.54**	**120**	⇓*i*pP			14 12 26.5	
RATI	**Rata**	**21.54**	**120**	⇓*i*P		**P**	**14 12 20.3**	**-2.2**
	comp=Z,435nm,0.2s,mb6.2							
BATP	**Bataraza**	**21.88**	**72**	*e*P		**P**	**14 12 25.6**	**-0.3**
CAL	**Calcutta**	**21.88**	**338**	*e*P		**P**	**14 12 25.4**	**-0.4**
KEDI	**Kedomdong**	**21.94**	**119**	⇓*i*P		**P**	**14 12 28.0**	**+1.6**
KEDI				pmax		pmax		
	comp=Z,224nm,1.3s,mb5.4							
KEDI	**Kedomdong**	**21.94**	**119**	⇓*i*P		**P**	**14 12 28.0**	**+1.6**
	comp=Z,224nm,1.3s,mb5.4							
KEDI	**Kedomdong**	**21.94**	**119**	⇓*i*P		**P**	**14 12 25.6**	**-0.8**
	comp=Z,448nm,1.2s,mb5.5							
AGT	**Agartala**	**22.26**	**346**	⇓*i*P		**P**	**14 12 28.0**	**-1.6**
AGT				*i*			14 13 03.0	
PPR	**Puerto Princes**	**23.04**	**70**	*e*P		**P**	**14 12 37.8**	**+0.4**
TANI	**Tanete Lipujan**	**23.21**	**104**	*e*P		**P**	**14 12 39.4**	**+0.3**
HYB	**Hyderabad**	**23.51**	**311**	⇑*e*P		**P**	**14 12 43.5**	**+1.6**
HYB				*e*S		**S**	**14 16 52.0**	**+1.8**
HYB				pmax		pmax		
	comp=Z,320nm,1.0s,mb5.7							
HYB	**Hyderabad**	**23.51**	**311**	⇑*e*P		**P**	**14 12 43.5**	**+1.6**
	comp=Z,320nm,1.0s,mb5.7							
HYB				*e*S		**S**	**14 16 52.0**	**+1.8**
HYB	**Hyderabad**	**23.51**	**311**	⇑*i*P		**P**	**14 12 43.5**	**+1.6**
	comp=Z,320nm,1.0s,mb5.7							
HYB				*e*S		**S**	**14 16 52.0**	**+1.8**
HYB				LR		LR		
	comp=Z,70nm,20.0s							
KMI	**Kunming**	**23.53**	**14**	⇑P		**P**	**14 12 43.8**	**+1.7**
KMI				AP			14 12 50.8	
KMI				XP			14 12 53.0	
KMI				PP		PP	14 13 16.8	+2.3
KMI				PPP		PPP	14 13 28.0	+3.5
KMI				S		**S**	**14 16 57.0**	**+6.5**
KMI				XS			14 17 06.3	
KMI				SS		SS	14 17 43.3	+4.3
KMI				AMB		AMB		
	comp=Z,325nm,1.7s,mb5.5							
KMI				AMB		AMB		
	comp=Z,9μm,8.1s							
KMI				LR		LR		
	comp=N,67μm,16.7s,MS6.4							
KMI				LR		LR		
	comp=E,91μm,19.0s,MS6.4							
KMI				LR		LR		
	comp=Z,63μm,16.7s,MS6.2							
SHL	**Shillong**	**23.76**	**349**	*i*P		**P**	**14 12 43.0**	**-1.3**
SHL				*i*S		**S**	**14 16 59.0**	**+4.5**
NINI	**Niniconang**	**23.82**	**106**	*e*P		**P**	**14 12 46.0**	**+1.0**
BOK	**Bokaro**	**23.98**	**335**	⇑*i*P		**P**	**14 12 45.9**	**-0.6**
BOK				*i*S		**S**	**14 17 03.9**	**+5.6**
ENPP	**El Nido**	**24.15**	**67**	*e*P		**P**	**14 12 48.6**	**+0.4**
BUNI	**Buntu Taipa**	**24.18**	**104**	*e*P		**P**	**14 12 49.3**	**+0.8**
MNCY	**Minicoy**	**24.46**	**285**	⇓*i*		**P**	**14 12 43.0**	**-8.2**
MNCY				*i*			14 15 32.0	
LKP	**Lekhapani**	**25.04**	**358**	*e*P		**P**	**14 12 58.0**	**+1.3**
LKP				*e*		pP	14 13 08.0	+2.9
BUSP	**Coron**	**25.14**	**66**	*e*P		**P**	**14 12 57.9**	**+0.2**
CUYO	**Cuyo Island**	**25.51**	**69**	*e*P		**P**	**14 13 01.2**	**0.0**
LATR	**Latur**	**25.62**	**310**	*e*P		**P**	**14 13 04.0**	**+1.8**
LATR				*e*			14 17 49.0	
LUBP	**Lubang**	**25.84**	**62**	*i*P		**P**	**14 13 06.6**	**+2.2**
GYA	**Guiyang**	**25.94**	**20**	⇑*i*P		**P**	**14 13 04.5**	**-0.6**
GYA				AP		pP	14 13 11.5	-2.1
GYA				XP		sP	14 13 14.8	-2.6
GYA				AMB		AMB		
	comp=Z,540nm,1.0s,mb6.0							
GYA				AMB		AMB		
	comp=Z,7μm,14.1s							
GYA				LR		LR		
	comp=N,49μm,20.7s,MS6.3							
GYA				LR		LR		
	comp=E,60μm,17.4s,MS6.3							
GYA				LR		LR		
	comp=Z,64μm,18.0s,MS6.2							
DGAR	**Diego Garcia**	**26.12**	**248**	PFAKE			14 13 20.0	+13
DGAR				LR		LR		
	comp=Z,17μm,20.0s,MS5.6							
HKC	**Hong Kong**	**26.17**	**39**	⇑*i*P		**P**	**14 13 08.0**	**+0.8**
HKC				*i*S		**S**	**14 17 40.0**	**+4.9**
GZH	**Guangzhou**	**26.25**	**36**	P		**P**	**14 13 12.0**	**+4.0**
GZH				LR		LR		
	comp=N,130μm,20.2s,MS6.5							
GZH				LR		LR		
	comp=E,78μm,19.9s,MS6.5							
GZH				LR		LR		
	comp=Z,120μm,17.4s,MS6.5							
GOA	**Goa**	**26.27**	**302**	*e*P		**P**	**14 13 09.0**	**+0.8**
SCZP	**Santa Cruz**	**26.46**	**58**	*e*P		**P**	**14 13 09.6**	**-0.4**
AKL	**Akola**	**26.71**	**315**	*e*		**P**	**14 13 15.0**	**+2.7**
AKL				*e*S		**S**	**14 17 46.8**	**+2.8**
	comp=Z,561nm,1.7s							
BOLP	**Bolinao**	**26.75**	**57**	*e*P		**P**	**14 13 12.3**	**-0.4**
KAD	**Karad**	**26.87**	**306**	*e*P		**P**	**14 13 16.0**	**+2.3**
KAD				*e*			14 18 55.3	
GUIM	**Jordan**	**26.92**	**71**	*e*P		**P**	**14 13 14.1**	**-0.1**
OTRP	**Odiongan**	**26.93**	**67**	*e*P		**P**	**14 13 14.8**	**+0.5**
KALP	**Kalibo**	**27.00**	**68**	*e*P		**P**	**14 13 12.8**	**-2.2**
PAGZ	**Pagadian**	**27.03**	**77**	*e*P		**P**	**14 13 16.2**	**+1.0**
BOAC	**Boac**	**27.16**	**64**	*e*P		**P**	**14 13 15.9**	**-0.5**
ALBI	**Allahabad**	**27.20**	**329**	*e*P		**P**	**14 13 17.0**	**+0.4**
JIRN	**Jiri**	**27.33**	**339**	*e*P		**P**	**14 13 17.3**	**-0.5**
	comp=Z,331nm,0.7s,mb6.0							
RCP	**Roxas**	**27.34**	**69**	*e*P		**P**	**14 13 18.5**	**+0.5**
PKI	**Pulchoki**	**27.54**	**338**	*e*P		**P**	**14 13 19.0**	**-0.7**
	comp=Z,1μm,1.4s,mb6.3							
GUN	**Gumba**	**27.67**	**339**	*e*P		**P**	**14 13 20.4**	**-0.5**
	comp=Z,5μm,1.7s,mb6.8							
DMN	**Daman**	**27.69**	**337**	*e*P		**P**	**14 13 20.3**	**-0.8**
	comp=Z,511nm,0.9s,mb6.2							
KKN	**Kakani**	**27.78**	**338**	*e*P		**P**	**14 13 21.3**	**-0.6**
	comp=Z,2μm,1.5s,mb6.5							
AUQP	**San Andres**	**27.86**	**65**	*e*P		**P**	**14 13 23.5**	**+0.7**
TBP	**Tagbilaran**	**27.88**	**73**	*e*P		**P**	**14 13 23.0**	**0.0**
LSA	**Lhasa**	**27.92**	**349**	P		**P**	**14 13 23.5**	**+0.3**
LSA				AMB		AMB		
	comp=Z,270nm,1.1s,mb5.8							
LSA				LR		LR		
	comp=N,23μm,25.0s,MS5.9							
LSA				LR		LR		
	comp=E,35μm,24.5s,MS5.9							
LSA				LR		LR		
	comp=Z,55μm,25.6s,MS6.0							
LSA	**Lhasa**	**27.92**	**349**	⇑*i*P		**P**	**14 13 23.9**	**+0.7**
LSA				pmax		pmax		
	comp=Z,576nm,1.2s,mb6.1							
LSA	**Lhasa**	**27.92**	**349**	⇑*i*P		**P**	**14 13 23.9**	**+0.7**
	comp=Z,576nm,1.2s,mb6.1							
VLK	**Valmikinagar**	**27.93**	**335**	*i*P		**P**	**14 13 25.0**	**+1.7**
VLK				*i*			14 13 39.0	
LLP	**Lapu-Lapu**	**28.14**	**72**	⇑*i*P		**P**	**14 13 25.3**	**0.0**
BHPL	**Bhopal**	**28.17**	**320**	*e*P		**P**	**14 13 25.4**	**-0.1**
BHPL				*e*			14 13 58.7	
	comp=Z,458nm,1.7s							
BHPL				*e*S		**S**	**14 18 09.1**	**+1.6**
GKN	**Gorkha**	**28.22**	**337**	*e*P		**P**	**14 13 25.0**	**-0.9**
	comp=Z,1μm,1.2s,mb6.4							
KOLN	**Koldanda**	**28.44**	**335**	*e*P		**P**	**14 13 26.9**	**-1.0**
	comp=Z,1μm,1.2s,mb6.4							
KCP	**Kidapawan**	**28.56**	**79**	*e*P		**P**	**14 13 31.1**	**+1.9**
BUKP	**Musuan**	**28.67**	**78**	*e*P		**P**	**14 13 30.6**	**+0.5**
BOM	**Bombay**	**28.81**	**307**	*i*P		**P**	**14 13 33.0**	**+1.7**
BOM				*e*			14 18 22.0	
MSLP	**Maasin**	**28.94**	**73**	*e*P		**P**	**14 13 32.5**	**0.0**
DAV	**Davao City (W)**	**29.05**	**79**	⇑*e*P		**P**	**14 13 35.0**	**+1.5**
PVCP	**Virac**	**29.30**	**66**	*e*P		**P**	**14 13 35.1**	**-0.7**
CD2	**Chengdu**	**29.34**	**12**	⇑*i*P		**P**	**14 13 34.5**	**-1.4**
CD2				PP		PP	14 14 29.5	-1.9
CD2				S		**S**	**14 18 25.8**	**-0.3**
CD2				SS		SS	14 19 58.0	-0.3
CD2				AMB		AMB		
	comp=Z,23nm,1.3s,mb4.8							
CD2				LR		LR		
	comp=E,125μm,20.4s							
CD2				LR		LR		
	comp=Z,52μm,22.8s,MS6.1							
CNP	**Cataraman**	**29.42**	**68**	*e*P		**P**	**14 13 36.5**	**-0.3**
BESP	**Borongan**	**29.87**	**70**	*e*P		**P**	**14 13 39.4**	**-1.5**
ENH	**Enshi**	**30.43**	**22**	*e*P		**P**	**14 13 43.9**	**-1.8**
	comp=Z,161nm,0.7s,mb5.9							
QZH	**Quanzhou**	**30.88**	**41**	⇑*i*P		**P**	**14 13 49.5**	**-0.2**
QZH				S		**S**	**14 18 55.5**	**+4.9**
QZH				AMB		AMB		
	comp=Z,510nm,1.2s,mb6.2							
QZH				AMB		AMB		
	comp=Z,4μm,3.6s							
QZH				LR		LR		
	comp=N,124μm,16.3s,MS6.8							
QZH				LR		LR		
	comp=E,91μm,14.2s,MS6.8							
QZH				LR		LR		
	comp=Z,170μm,15.7s,MS6.8							
LGTI	**Lohaghat**	**31.39**	**331**	⇓*i*P		**P**	**14 13 54.8**	**+0.6**
LGTI				*e*			14 14 51.5	
PTH	**Pithoragarh**	**31.49**	**332**	*e*P		**P**	**14 13 57.0**	**+2.0**
PTH				*e*			14 16 55.0	
SONA	**Sohna**	**32.08**	**326**	*e*P		**P**	**14 14 00.7**	**+0.5**
SONA				*e*P			14 14 00.7	
SONA				*e*			14 14 14.0	
	comp=Z,362nm,1.2s							
SONA				*e*			14 14 14.0	
	comp=Z,362nm,1.2s							
AJM	**Ajmer**	**32.23**	**321**	⇑*i*P		**P**	**14 14 02.0**	**+0.5**
AYAN	**Aya Nagar**	**32.23**	**326**	*e*P		**P**	**14 14 02.1**	**+0.6**
AYAN				*e*P			14 14 02.1	
AYAN				*e*			14 14 23.0	
	comp=Z,111nm,1.2s							
AYAN				*e*			14 14 23.0	
	comp=Z,111nm,1.2s							
MBWA	**Marble Bar**	**32.24**	**137**	*e*P		**P**	**14 13 58.7**	**-2.9**
	comp=Z,479nm,1.6s,mb6.1							
MBWA				LR		LR		
	comp=Z,45μm,21.0s,MS6.1							
NDI	**New Delhi**	**32.34**	**327**	*e*P		**P**	**14 14 01.0**	**-1.4**
NDI				*e*S		**S**	**14 19 14.0**	**+0.7**
NACB	**Ninganchiao**	**32.43**	**45**	⇑*e*P		**P**	**14 14 02.7**	**-0.6**
YHNB	**Yeheng**	**32.59**	**45**	⇑*e*P		**P**	**14 14 04.8**	**+0.2**
KHET	**Khetri**	**32.68**	**324**	*e*P		**P**	**14 14 06.3**	**+1.0**
KHET				*e*P			14 14 06.3	
KHET				*e*			14 14 10.9	
	comp=Z,355nm,1.6s							
KHET				*e*			14 14 10.9	
	comp=Z,355nm,1.6s							
WHN	**Wuhan**	**32.75**	**29**	P		**P**	**14 14 05.5**	**-0.4**
WHN				S		**S**	**14 19 19.5**	**-0.2**
WHN				LR		LR		
	comp=Z,81μm,20.0s,MS6.4							
TATO	**Taipei**	**32.86**	**44**	⇑*e*P		**P**	**14 14 07.2**	**+0.2**
	comp=Z,270nm,1.2s,mb6.0							
TATO				LR		LR		
	comp=Z,28μm,21.0s,MS5.9							
DDI	**Dehra Dun**	**33.19**	**329**	*e*		**P**	**14 14 12.0**	**+2.2**
BHJ	**Bhuj**	**33.67**	**311**	⇓*e*		pP	14 14 28.1	+5.5
BHJ				*e*			14 19 53.9	
XAN	**Xi'an**	**33.67**	**18**	P		**P**	**14 14 12.5**	**-1.4**
XAN				AP		pP	14 14 26.0	+3.5
XAN				PP		PP	14 15 28.8	+1.8
XAN				S		**S**	**14 19 32.0**	**-1.9**
XAN				AMB		AMB		
	comp=Z,176nm,1.0s,mb6.0							
XAN				LR		LR		
	comp=N,30μm,23.5s,MS6.4							
XAN				LR		LR		
	comp=E,74μm,22.4s,MS6.4							
XAN				LR		LR		
	comp=Z,53μm,14.1s							
KLP	**Kalpa**	**34.08**	**331**	*e*P		**P**	**14 14 18.3**	**+0.7**
KLP				*e*			14 14 48.0	
	comp=Z,636nm,1.2s							
SMLA	**Simla**	**34.29**	**329**	⇓*i*		**P**	**14 14 15.4**	**-3.9**
SMLA				*i*			14 19 35.5	
LZH	**Lanzhou**	**34.38**	**10**	⇑*i*P		**P**	**14 14 19.5**	**-0.5**
LZH				AP		pP	14 14 25.5	-3.1
LZH				XP		sP	14 14 28.5	-3.8
LZH				PP		PP	14 15 35.5	-0.3
LZH				S		**S**	**14 19 44.5**	**-0.4**
LZH				XS			14 19 55.5	
LZH				SS		SS	14 21 56.0	+0.1
LZH				SCS		ScS	14 24 38.5	0.0
LZH				AMB		AMB		
	comp=Z,614nm,1.6s,mb6.3							
LZH				AMB		AMB		
	comp=Z,3μm,4.4s							
LZH				LR		LR		
	comp=E,136μm,17.6s							
LZH				LR		LR		
	comp=Z,175μm,19.5s,MS6.8							
SDNR	**Sundarnagar**	**34.69**	**329**	*e*P		**P**	**14 14 22.6**	**-0.2**
SDNR				*e*			14 20 03.0	
FITZ	**Fitzroy Crossi**	**34.78**	**127**	LR		LR	14 30 22.0	
	comp=Z,19μm,19.1s,MS5.9,baz=290,slow=39							
BHK	**Bhakra**	**34.91**	**329**	*e*P		**P**	**14 14 26.6**	**+2.0**
BHK				*e*S		**S**	**14 19 53.7**	**+0.5**
PONG	**Pong**	**35.58**	**329**	*e*P		**P**	**14 14 31.0**	**+0.7**
DLH	**Dalhousie**	**36.03**	**329**	*e*P		**P**	**14 14 33.0**	**-1.1**
DLH				*e*			14 15 11.0	
THN	**Thein Dam**	**36.08**	**329**	*e*P		**P**	**14 14 33.1**	**-1.4**
THN				*e*			14 20 15.6	
NJ2	**Nanjing**	**36.25**	**33**	*e*P		**P**	**14 14 35.5**	**-0.5**
NJ2				AP		pP	14 14 46.5	+1.9
NJ2				XP		sP	14 14 48.5	+0.2
NJ2				PP		PP	14 16 00.5	+1.3
NJ2				S		**S**	**14 20 06.0**	**-7.9**
NJ2				XS			14 20 24.0	
NJ2				AMB		AMB		
	comp=Z,750nm,1.2s,mb6.5							
NJ2				AMB		AMB		
	comp=Z,2μm,5.6s							
NJ2				LR		LR		
	comp=N,119μm,21.0s,MS6.8							
NJ2				LR		LR		
	comp=E,134μm,20.3s,MS6.8							
NJ2				LR		LR		
	comp=Z,41μm,15.9s,MS6.3							
SSE	**Sheshan**	**36.85**	**36**	P		**P**	**14 14 41.8**	**+0.8**
SSE				AP		pP	14 14 53.0	+3.3
SSE				PP		PP	14 16 09.0	+2.0
SSE				S		**S**	**14 20 25.5**	**+2.4**
SSE				SCS		ScS	14 24 54.5	+2.4
SSE				AMB		AMB		
	comp=Z,179nm,1.1s,mb5.8							
SSE				AMB		AMB		
	comp=Z,3μm,11.1s							
SSE				LR		LR		
	comp=N,67μm,20.5s,MS6.5							
SSE				LR		LR		
	comp=E,48μm,20.5s,MS6.5							
SSE				LR		LR		
	comp=Z,88μm,16.5s,MS6.6							
GTA	**Gaotai**	**37.18**	**4**	⇑*i*P		**P**	**14 14 43.8**	**+0.1**
GTA				AP		pP	14 14 50.8	-1.5
GTA				XP		sP	14 14 54.0	-2.0
GTA				PP		PP	14 16 10.0	-1.0
GTA				PPP		PPP	14 16 31.0	-0.4
GTA				PCP		PcP	14 17 05.0	+1.2
GTA				S		**S**	**14 20 26.5**	**-1.5**
GTA				SCP			14 20 50.3	
GTA				PCS			14 20 54.5	
GTA				SS		SS	14 22 55.5	-3.7
GTA				AMB		AMB		
	comp=Z,413nm,1.3s,mb6.1							
GTA				AMB		AMB		
	comp=Z,4μm,6.8s							
GTA				LR		LR		
	comp=N,17μm,23.9s							
GTA				LR		LR		
	comp=E,19μm,16.0s							
GTA				LR		LR		
	comp=Z,19μm,25.8s,MS5.8							
KAKA	**Kakadu**	**38.31**	**114**	⇑*i*P		**P**	**14 14 51.9**	**-1.5**
	comp=Z,238nm,0.8s,mb6.0							
KAKA				*e*S		**S**	**14 20 42.1**	**-3.4**
MUN	**Mundaring**	**38.60**	**153**	*e*P		**P**	**14 14 59.7**	**+3.9**
	comp=Z,712nm,1.4s,mb6.2							
MUN	**Mundaring**	**38.60**	**153**	*e*P		**P**	**14 14 59.7**	**+3.9**
MUN				pmax		pmax		
	comp=Z,712nm,1.4s,mb6.2							
JOW	**Kunigami**	**38.86**	**48**	P		**P**	**14 14 58.6**	**+0.6**
	comp=Z,108nm,0.6s,mb5.8,baz=244,slow=7.8,SNR=69							
JOW				LR		LR	14 32 07.1	
	comp=Z,27μm,20.3s,MS6.1,baz=210,slow=38							
KLBR	**Kellerberrin**	**39.01**	**151**	⇑*i*P		**P**	**14 15 01.3**	**+2.2**
	comp=Z,1μm,0.8s,mb6.7							
NWAO	**Narrogin (SRO)**	**39.87**	**153**	*e*P		**P**	**14 15 07.2**	**+0.9**
NWAO				pmax		pmax		
	comp=Z,137nm,1.0s							
NWAO				MLR		MLR		
	comp=Z,40μm,21.0s							
NWAO	**Narrogin (SRO)**	**39.87**	**153**	P		**P**	**14 15 08.0**	**+1.8**
	comp=Z,25nm,0.8s,mb5.0,baz=337,slow=8.1,SNR=11							
NWAO				LR		LR	14 30 58.0	
	comp=Z,50μm,21.3s,MS6.3,baz=328,slow=35							
NWAO	**Narrogin (SRO)**	**39.87**	**153**	*e*P		**P**	**14 15 07.2**	**+0.9**
	comp=Z,137nm,1.0s,mb5.6							
NWAO				LR		LR		
	comp=Z,40μm,21.0s,MS6.2							
BTO	**Baotou**	**40.09**	**16**	*e*P		**P**	**14 15 07.8**	**-0.2**
BTO				S		**S**	**14 21 02.5**	**-10**
BTO				AMB		AMB		
	comp=Z,156nm,1.7s,mb5.5							
BTO				LR		LR		
	comp=N,14μm,15.4s,MS6.4							
BTO				LR		LR		
	comp=E,45μm,19.4s,MS6.4							
HHC	**Hu-ho-hao-te**	**40.75**	**17**	⇑*i*P		**P**	**14 15 14.8**	**+1.4**
HHC				AP		pP	14 15 25.0	+2.9
HHC				XP		sP	14 15 30.5	+4.8
HHC				PP		PP	14 16 55.0	+4.5
HHC				SCP			14 21 05.0	
HHC				S		**S**	**

comp=N,25μm,16.5s,MS6.5
KSH LR LR
comp=E,47μm,18.6s,MS6.5
WBK Wadi Bani Khal 41.99 302 ⇑P **P 14 15 24.2 +0.4**
WMQ Urumqi 42.27 350 ⇑*i*P **P 14 15 26.5 +0.6**
WMQ AP pP 14 15 33.0 -1.6
WMQ XP sP 14 15 36.3 -1.9
WMQ PP PP 14 17 08.0 +1.3
WMQ PCP PcP 14 17 20.3 +0.3
WMQ PPP PPP 14 17 40.5 +1.1
WMQ SCP 14 21 08.5
WMQ PCS 14 21 11.0
WMQ S **S 14 21 46.8 +2.4**
WMQ XS 14 21 55.8
WMQ SS SS 14 24 50.3 +2.8
WMQ SCS ScS 14 25 25.3 +1.7
WMQ AMB AMB
comp=Z,166nm,1.6s,mb5.4
WMQ AMB AMB
comp=Z,4μm,6.0s
WMQ LR LR
comp=N,22μm,20.0s,MS6.2
WMQ LR LR
comp=E,16μm,18.2s,MS6.2
WMQ LR LR
comp=Z,14μm,20.8s,MS5.8
JMDO Jabal Madar 42.63 301 ⇑P **P 14 15 29.9 +0.7**
WRA Warramunga Arr 42.85 123 P **P 14 15 30.2 -0.8**
comp=Z,66nm,0.9s,mb5.4,baz=300,slow=9.2,SNR=146
WRA S **S 14 21 51.8 -1.4**
comp=Z,6.8nm,0.9s,baz=292,slow=16,SNR=7.9
WRAB Tennant Creek 42.85 123⇓*e*P **P 14 15 30.0 -1.0**
WRAB pmax pmax
comp=Z,305nm,0.9s,mb6.0
WRAB MLR MLR
comp=Z,12μm,22.0s,MS5.7
WRAB Tennant Creek 42.85 123⇑*e*P **P 14 15 30.0 -1.0**
comp=Z,304nm,0.9s,mb6.0
WRAB LR LR
comp=Z,12μm,22.0s,MS5.7
WB2 Warramunga Arr 42.86 123⇑*i*P **P 14 15 30.1 -0.9**
WB2 *e*S **S 14 21 49.4 -3.9**
SMDO Samad 42.95 302 P **P 14 15 34.0 +2.3**
SNR=10.0
DL2 Dalian 43.01 29⇑*i*P **P 14 15 32.5 +0.5**
DL2 XP sP 14 15 43.3 -1.0
DL2 S **S 14 21 57.0 +1.7**
DL2 XS 14 22 10.0
DL2 AMB AMB
comp=Z,220nm,1.3s,mb5.7
DL2 AMB AMB
comp=Z,2μm,7.8s
DL2 LR LR
comp=N,12μm,18.3s,MS6.2
DL2 LR LR
comp=E,23μm,17.3s,MS6.2
DL2 LR LR
comp=Z,23μm,19.4s,MS6.1
BIDO Bidbid 43.06 303 P **P 14 15 35.0 +2.4**
SNR=7.5
BSY Bisya 43.55 301 P **P 14 15 38.6 +2.0**
SNR=14
HOQ Hoqain 43.77 302 ⇑P **P 14 15 42.1 +3.7**
MENI Mendum Tagoi 43.81 96 *e*P **P 14 15 37.5 -1.4**
YOMI Yo Moklole 43.97 96 *e*P **P 14 15 38.1 -2.0**
ULHL Ulahol 43.98 338 P **P 14 15 41.4 +1.6**
SNR=51
KZA Kyzart 44.21 337 P **P 14 15 43.0 +1.2**
SNR=70
FORT Forrest 44.24 140⇓*i*P **P 14 15 43.7 +1.6**
comp=Z,5μm,0.6s
ASPA Alice Springs 44.26 128⇑*i*P **P 14 15 41.8 -0.5**
ASPA *e*S **S 14 22 07.7 -5.9**
ASPA *e*SCS ScS 14 25 36.1 0.0
ASAR Alice Springs 44.26 128 P **P 14 15 41.8 -0.6**
comp=Z,35nm,0.6s,mb5.3,baz=300,slow=7.3,SNR=182
ASAR PKPPKP 14 47 16.4
comp=Z,0.6nm,0.7s,baz=134,slow=2.9,SNR=3.8
ARQ Araqi 44.35 302 ⇑P **P 14 15 47.5 +4.4**
RBK Rabkut 44.54 293 ⇑P **P 14 15 44.5 -0.2**
AAA Alma-Ata 44.61 339 *i* P **P 14 15 46.0 +1.1**
AAA *i* S **S 14 22 21.0 +2.6**
AAA *e*SS SS 14 25 38.0 +7.9
AAA pmax pmax
comp=Z,5μm,7.0s
AAA smax
comp=E,6μm,9.0s
AAA MLR MLR
comp=Z,13μm,18.0s,MS5.9
UCH Uchtor 44.63 336 P **P 14 15 46.3 +1.2**
SNR=176
TKM2 Tokmak 2 44.80 338 P **P 14 15 47.3 +0.8**
SNR=114
KBK Karagaybulak 44.82 337 P **P 14 15 48.0 +1.4**
SNR=136
AML Almayashu 44.89 336 P **P 14 15 48.1 +1.0**
SNR=219
AAK Ala-Archa 44.98 337 P **P 14 15 48.8 +0.9**
SNR=79
AAK Ala-Archa 44.98 337 *e*P **P 14 15 47.6 -0.3**
AAK pmax pmax
comp=Z,496nm,1.4s,mb6.2
AAK MLR MLR
comp=Z,10μm,22.0s,MS5.7
AAK Ala-Archa 44.98 337 *e*P **P 14 15 47.6 -0.3**
comp=Z,496nm,1.4s,mb6.2
AAK LR LR
comp=Z,10μm,22.0s,MS5.7
WHFO Wadi Hawf 45.05 293 P **P 14 15 49.9 +1.1**
SNR=34
FRU Bishkek 45.10 337⇑*i*P **P 14 15 49.5 +0.6**
FRU *i* pP 14 15 58.5 +0.9
FRU *e*S **S 14 22 28.0 +2.5**
FRU *e*SS SS 14 25 47.0 +7.8
FRU pmax pmax
comp=Z,700nm,2.0s,mb6.1
CHMS Chumysh 45.19 337 P **P 14 15 50.0 +0.5**
SNR=53
KS15 Wonju Array Si 45.25 35⇑*e*P **P 14 15 50.0 -0.1**
ASHO Ashiyiah 45.26 303 P **P 14 15 57.7 +7.3**
SNR=19
EKS2 Erkin-Say 45.29 336 P **P 14 15 51.2 +0.8**
SNR=93
ABTO Aybut 45.34 292 ⇓P **P 14 15 52.7 +1.7**
USP Ospenovka 45.52 337 P **P 14 15 52.7 +0.6**
SNR=150
SNY Shenyang 46.23 28 ⇑P **P 14 15 57.0 -0.7**
SNY AP pP 14 16 02.8 -3.7
SNY XP sP 14 16 06.5 -3.5
SNY PP PP 14 17 48.3 +2.0
SNY S **S 14 22 45.5 +3.9**
SNY AMB AMB
comp=Z,210nm,1.6s,mb5.8
SNY LR LR
comp=N,42μm,17.4s
SNY LR LR
comp=Z,38μm,19.5s,MS6.3
MKAR Makanchi Array 46.23 346 P **P 14 15 57.7 0.0**
comp=Z,216nm,0.8s,mb6.1,baz=158,slow=6.9,SNR=474
MKAR LR LR 14 39 18.2
comp=Z,25μm,21.1s,MS6.1,baz=172,slow=41
MKAR PKPPKP 14 47 11.8
comp=Z,0.7nm,0.8s,baz=256,slow=5.0,SNR=3.6
MKAR Makanchi Array 46.23 346 P **P 14 15 57.7 0.0**
MKAR LR LR 14 39 18.2
MKAR P'P' 14 47 11.8
ULN Ulaanbaatar 46.38 9⇑*i*P **P 14 15 59.2 +0.3**
ULN pmax pmax
comp=Z,251nm,1.1s,mb6.1
ULN MLR MLR
comp=Z,24μm,19.0s,MS6.2
ULN Ulaanbaatar 46.38 9⇑*i*P **P 14 15 59.2 +0.4**
comp=Z,251nm,1.1s,mb6.1
ULN LR LR
comp=Z,24μm,19.0s,MS6.2
KKAR Karatay Array 47.04 334 *i* P **P 14 16 04.0 -0.2**
KKAR pmax pmax
comp=Z,149nm,1.0s,mb5.9
ZAK Zakamensk 48.36 6⇓*i*P **P 14 16 14.4 0.0**
ZAK *e* 14 18 09.6
ZAK pmax pmax
comp=Z,114nm,1.4s,mb5.7
ZAK pmax pmax
comp=Z,41nm,1.5s,mb5.2
GUMO Guam 48.81 74 PFAKE 14 16 30.0 +12
GUMO LR LR
comp=Z,15μm,21.0s,MS6.0
MOY Mondy 49.46 3 *e*P **P 14 16 22.6 -0.2**
MOY pmax pmax
comp=Z,551nm,2.1s,mb6.2
TLY Talaya 49.68 6 *e*P **P 14 16 25.1 +0.6**
TLY *e* 14 17 44.4
TLY *e* 14 18 22.1
TLY *e*PPP PPP 14 19 18.6 +3.7
TLY *e*S **S 14 23 31.5 +1.4**
TLY *e*PS PS 14 23 48.2 +6.0
TLY *e* 14 26 13.5
TLY pmax pmax
comp=Z,156nm,1.0s,mb6.0
TLY MLR MLR
comp=Z,31μm,18.0s,MS6.3
TLY Talaya 49.68 6⇑*i*P **P 14 16 25.3 +0.8**
comp=Z,228nm,1.3s,mb6.0
TLY LR LR
comp=Z,9μm,20.0s,MS5.8
CBIJ Chichi jima 49.98 56 P **P 14 16 26.8 -0.4**
comp=Z,206nm,0.7s,mb6.3,baz=215,slow=4.6,SNR=13
CBIJ LR LR 14 35 23.4
comp=Z,12μm,22.0s,MS5.9,baz=64,slow=34
SARN Sarigan 50.22 70 *e*P **P 14 16 29.4 +0.3**
IRK Irkutsk 50.30 6⇑*i*P **P 14 16 29.1 -0.2**
IRK *e*S **S 14 23 39.6 +0.9**
IRK pmax pmax
comp=Z,675nm,2.4s,mb6.2
HIA Hailar 50.86 19⇑*i*P **P 14 16 33.4 -0.1**
HIA pmax pmax
comp=Z,235nm,0.8s
HIA Hailar 50.86 19⇑*i*P **P 14 16 33.4 -0.1**
comp=Z,235nm,0.8s,mb6.2
MDJ Mudanjiang 51.22 30 P **P 14 16 36.5 +0.2**
MDJ XP sP 14 16 45.3 -3.3
MDJ PCP PcP 14 17 46.0 -5.5
MDJ PCS 14 21 46.3
MDJ S **S 14 23 56.8 +5.4**
MDJ AMB AMB
comp=Z,124nm,1.5s,mb5.6
MDJ LR LR
comp=N,18μm,20.1s,MS6.3
MDJ LR LR
comp=E,29μm,21.2s,MS6.3
MDJ LR LR
comp=Z,27μm,16.9s,MS6.3
MDJ Mudanjiang 51.22 30⇑*e*P **P 14 16 36.7 +0.3**
comp=Z,192nm,1.1s,mb5.9
MAJO Matsushiro 51.24 43⇑*e*P **P 14 16 35.7 -0.9**
MAJO pmax pmax
comp=Z,140nm,0.8s,mb5.9
MAJO MLR MLR
comp=Z,21μm,20.0s,MS6.2
MAJO Matsushiro 51.24 43⇑*e*P **P 14 16 35.7 -0.9**
comp=Z,140nm,0.8s,mb5.9
MAJO LR LR
comp=Z,21μm,20.0s,MS6.2
MAT Matsushiro 51.24 43 *e*P **P 14 16 36.0 -0.6**
MAT *e*S **S 14 24 05.0 +13**
MAT pmax pmax
comp=Z,873nm,1.8s,mb6.4
MAT MLR MLR
comp=Z,21μm,20.0s,MS6.2
MAT Matsushiro 51.24 43 *e*P **P 14 16 36.0 -0.6**
comp=Z,873nm,1.8s,mb6.4
MAT *e*S **S 14 24 05.0 +13**
MAT LR LR
comp=Z,21μm,20.0s,MS6.2
MAT Matsushiro 51.24 43 P **P 14 16 35.7 -0.9**
MAT S **S 14 24 04.0 +12**
MJAR Matsushiro Arr 51.24 43 P **P 14 16 36.1 -0.5**
comp=Z,48nm,0.8s,mb5.5,baz=216,slow=6.7,SNR=75
MJAR LR LR 14 39 20.8
comp=Z,20μm,20.1s,MS6.1,baz=225,slow=37
PMG Port Moresby 51.43 104⇑*e*P **P 14 16 37.5 -0.8**
PMG pmax pmax
comp=Z,285nm,0.7s
PMG MLR MLR
comp=Z,15μm,21.0s
PMG Port Moresby 51.43 104 P **P 14 16 37.7 -0.6**
comp=Z,382nm,0.8s,mb6.3,baz=69,slow=3.2,SNR=71
PMG Port Moresby 51.43 104⇑*e*P **P 14 16 37.5 -0.8**
comp=Z,285nm,0.7s,mb6.3
PMG LR LR
comp=Z,15μm,21.0s,MS6.0
CTA Charters Tower 53.26 117 P **P 14 16 51.2 -0.8**
comp=Z,89nm,0.8s,mb5.8,baz=287,slow=9.0,SNR=20
CTAO Charters Tower 53.26 117⇑*e*P **P 14 16 51.6 -0.4**
CTAO pmax pmax
comp=Z,160nm,0.9s,mb6.0
CTAO MLR MLR
comp=Z,26μm,19.0s,MS6.3
CTAO Charters Tower 53.26 117⇑*e*P **P 14 16 51.6 -0.4**
comp=Z,160nm,0.9s,mb6.0
CTAO LR LR
comp=Z,26μm,19.0s,MS6.3
NVS Novosibirsk 53.68 350⇑*i*P **P 14 16 52.8 -1.8**
NVS *e*S **S 14 24 17.9 -7.0**
NVS pmax pmax
comp=N,240nm,1.3s
NVS pmax pmax
comp=E,148nm,1.3s
NVS pmax pmax
comp=Z,299nm,1.3s,mb6.1
NVS smax
comp=N,288nm,1.5s
NVS smax
comp=E,205nm,1.5s
ADE Adelaide 53.86 137 P **P 14 16 57.2 +1.1**
STKA Stephens Creek 54.26 132⇑*i*P **P 14 16 58.3 -0.9**
comp=E,74nm,0.7s,mb5.7
STKA *e*S **S 14 24 32.4 -0.7**
STKA Stephens Creek 54.26 132 P **P 14 16 58.7 -0.5**
comp=E,18nm,0.6s,mb5.2,baz=298,slow=7.7,SNR=40
STKA LR LR 14 42 17.3
comp=E,27μm,21.8s,MS6.3,baz=299,slow=38
BVA0 Borovoye Array 55.23 341 *i* P **P 14 17 04.8 -1.2**
BVA0 pmax pmax
comp=Z,36nm,1.2s,mb5.3
BVAR Borovoye Array 55.23 341 P **P 14 17 04.8 -1.2**
comp=Z,48nm,0.7s,mb5.6,baz=143,slow=7.4,SNR=146
KLR Kul'dur 55.57 27κ *i*P **P 14 17 05.3 -3.2**
KLR *e*PPP PPP 14 20 22.0 -6.6
KLR *e*S **S 14 24 51.0 +0.7**
KLR pmax pmax
comp=N,600nm,2.8s
KLR pmax pmax
comp=E,1μm,2.8s
KLR pmax pmax
comp=Z,2μm,2.8s,mb6.5
KLR pmax pmax
comp=N,2μm,7.5s
KLR pmax pmax
comp=E,2μm,7.5s
KLR pmax pmax
comp=Z,6μm,7.5s
KLR MLR MLR
comp=E,26μm,16.0s
KLR MLR MLR
comp=Z,77μm,16.0s,MS6.9
CHKZ Chkalovo 55.71 341⇑*i*P **P 14 17 08.7 -0.7**
CHKZ pmax pmax
comp=Z,639nm,1.3s,mb6.5
CHKZ Chkalovo 55.71 341⇑*i*P **P 14 17 08.7 -0.7**
comp=Z,639nm,1.3s,mb6.5
AB31 Akbulak array 56.50 332 *i* P **P 14 17 13.8 -1.4**
AB31 pmax pmax
comp=Z,203nm,0.9s,mb6.2
BOD Bodaibo 57.14 11⇓*i*P **P 14 17 18.9 -0.7**
BOD pmax pmax
comp=Z,202nm,1.6s,mb5.9
BHD Baghdad 57.96 308 *i* P **P 14 17 22.5 -3.2**
BHD *i* pP pP 14 17 32.5 -2.1
BHD *i* S **S 14 25 20.0 -2.2**
BHD *i* sS 14 25 36.0
ASAJ Asahikawa 58.12 37 P **P 14 17 26.7 0.0**
comp=Z,21nm,0.4s,mb5.5,baz=252,slow=12,SNR=30
CLNS Chul'man 58.94 18c *i*P **P 14 17 32.3 +0.1**
CLNS *e**PP pP 14 17 38.9 -2.3
CLNS *e* 14 18 20.8
CLNS *i* S **S 14 25 38.5 +3.8**
CLNS *e*PS PS 14 25 52.5 -0.2
CLNS *e* 14 27 16.9
CLNS *e*SS SS 14 29 33.5 +3.3
CLNS pmax pmax
comp=Z,90nm,0.6s,mb6.0
CLNS pmax pmax
comp=N,52nm,0.7s
CLNS pmax pmax
comp=E,31nm,0.9s
CLNS pmax pmax
comp=Z,19nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,52nm,1.2s
CLNS pmax pmax
comp=E,22nm,0.9s
CLNS smax
comp=N,38nm,1.7s
CLNS smax
comp=Z,7.0nm,0.9s
CLNS smax
comp=E,13nm,1.0s
CLNS MLR MLR
comp=Z,32μm,17.0s,MS6.5
CLNS MLR MLR
comp=N,17μm,18.0s,MS6.3
CLNS MLR MLR
comp=E,5μm,15.0s,MS6.3
KMBO Kilima Mbogo 59.66 267⇓*e*P **P 14 17 37.8 0.0**
KMBO pmax pmax
comp=Z,39nm,1.0s
KMBO MLR MLR
comp=Z,27μm,21.0s
KMBO Kilima Mbogo 59.66 267 P **P 14 17 37.7 -0.1**
comp=Z,8.7nm,1.0s,baz=67,slow=7.7,SNR=18
KMBO LR LR 14 38 56.8
comp=Z,28μm,20.8s,MS6.4,baz=82,slow=32
KMBO Kilima Mbogo 59.66 267⇓*e*P **P 14 17 37.8 0.0**
comp=Z,39nm,1.0s,mb5.4
KMBO LR LR
comp=Z,27μm,21.0s,MS6.4
YSS Yuzh-Sakhalins 59.77 35α *i*P **P 14 17 38.0 -0.1**
YSS *e**SP sP 14 17 48.0 -2.4
YSS *i* 14 18 23.1
YSS *e* 14 19 55.0
YSS *e*PPP PPP 14 21 18.0 +0.5
YSS *e*S **S 14 25 45.0 -0.5**
YSS *e**SS 14 25 56.0
YSS *e*PS PS 14 26 02.0 -2.5
YSS *e*PPS PPS 14 26 11.0 -1.5
YSS *e* 14 27 14.0
YSS *e*SSS SSS 14 32 16.0 +2.8
YSS pmax pmax
comp=N,300nm,1.8s
YSS pmax pmax
comp=E,540nm,1.8s
YSS pmax pmax
comp=Z,1μm,1.8s,mb6.6
YSS pmax pmax
comp=E,2μm,7.0s
YSS pmax pmax
comp=Z,4μm,7.0s
YSS pmax pmax
comp=Z,720nm,1.8s,mb6.4
YSS pmax pmax
comp=Z,1μm,1.5s,mb6.7
YSS pmax pmax
comp=N,320nm,1.3s
YSS pmax pmax
comp=E,80nm,0.9s
YSS pmax pmax
comp=N,2μm,14.0s
YSS pmax pmax
comp=Z,4μm,14.0s
YSS smax
comp=N,1μm,9.0s
YSS MLR MLR
comp=N,10μm,20.0s,MS6.1
YSS MLR MLR
comp=Z,11μm,20.0s,MS6.0
YSS MLR MLR
comp=E,9μm,19.0s,MS6.1
YSS Yuzh-Sakhalins 59.77 35⇑*e*P **P 14 17 38.1 0.0**
comp=E,684nm,1.3s,mb6.5
YSS LR LR
comp=Z,16μm,22.0s,MS6.1
MAK Makhachkala 59.77 320*d i*P **P 14 17 38.0 -0.2**
MAK *i* 14 18 22.0
MAK *i* S **S 14 25 44.5 -1.1**
MAK *i* PS PS 14 26 01.0 -3.6
MAK *i* 14 27 26.0
MAK *e*SS SS 14 29 48.0 +5.1
MAK *e*SSS SSS 14 32 09.0 -4.3
MAK pmax pmax
comp=Z,1μm,2.0s,mb6.5
MAK pmax pmax
comp=E,2μm,11.0s
MAK pmax pmax
comp=Z,4μm,11.0s
MAK smax
comp=N,5μm,8.0s
MAK smax
comp=E,2μm,8.0s
TOO Toolangi 59.88 136⇓*i*P **P 14 17 40.6 +1.6**
comp=E,47nm,0.8s,mb5.6
TOO Toolangi 59.88 136⇓*i*P **P 14 17 40.6 +1.6**
TOO pmax pmax
comp=Z,47nm,0.8s,mb5.6
MSL Mosul 60.03 311 *e*P **P 14 17 42.5 +2.4**
MSL *e*pP pP 14 17 49.0 -0.1
MSL *e*sP sP 14 18 04.5 +12
MSL *e*PcP PcP 14 18 32.5 +6.9
MSL *e*S **S 14 25 49.0 -0.1**
MSL *e*SP SP 14 26 04.0 +0.1
MSL *e*PS PS 14 26 24.5 +16
YUK Yuzh-Kuril'sk 60.10 39⇑*i*P **P 14 17 39.0 -1.4**
YUK *e* 14 18 23.0
YUK *e* 14 19 51.0
YUK *e*S **S 14 25 54.0 +4.2**
YUK *i* PS PS 14 26 08.0 -1.0
YUK pmax pmax
comp=Z,8μm,2.5s
YUK pmax pmax
comp=N,4μm,3.0s
YUK pmax pmax
comp=E,5μm,3.0s
YUK smax
comp=E,2μm,3.0s
YUK smax
comp=N,2μm,2.5s
YUK MLR MLR
comp=Z,23μm,16.0s,MS6.4
YUK MLR MLR
comp=N,14μm,17.0s,MS6.5
YUK MLR MLR
comp=E,29μm,16.0s,MS6.5
GNI Garni 60.36 316 *e*P **P 14 17 40.8 -1.4**
GNI Garni 60.36 316⇑*e*P **P 14 17 41.6 -0.6**
GNI pmax pmax
comp=Z,330nm,1.4s
GNI MLR MLR
comp=Z,11μm,20.0s
GNI Garni 60.36 316 LR LR 14 48 22.2
comp=Z,6μm,18.9s,MS5.8,baz=336,slow=41
GNI Garni 60.36 316⇑*e*P **P 14 17 41.6 -0.6**
comp=Z,330nm,1.4s,mb6.2
GNI LR LR
comp=Z,11μm,20.0s,MS6.0
DGRG David-gareji 60.48 317 P **P 14 17 42.6 -0.4**
DGRG S **S 14 25 55.1 +0.4**
VANB Van 60.69 314 *e*P **P 14 17 38.2 -6.2**
MTA Mtatsminda 60.98 318 P **P 14 17 45.3 -1.1**
TI2 Plekhanov 61.03 318⇑*i*P **P 14 17 48.0 +1.3**
TI2 *i* pP 14 17 57.0 +1.2
TI2 *e* 14 20 05.0
TI2 *e* 14 21 24.0
TI2 *i* S **S 14 26 02.0 +0.3**
TI2 *i* S **S 14 26 02.0 +0.3**
TI2 *i* 14 26 19.0
TI2 *i* 14 27 35.0
TI2 pmax pmax
comp=Z,150nm,1.0s,mb6.1
TI2 pmax pmax
comp=Z,2μm,3.0s
TI2 pmax pmax
comp=Z,200nm,1.0s,mb6.2
TI2 pmax pmax
comp=Z,350nm,1.0s,mb6.4
TI2 pmax pmax
comp=Z,2μm,3.0s
TI2 pmax pmax

comp=N,2μm,3.0s
TI2 pmax pmax
comp=N,4μm,3.0s
TBLG Delisi 61.03 318 P **P** **14 17 45.9 -0.9**
CNB Canberra Magne 61.60 132⇓ *i*P **P** **14 17 50.9 +0.2**
comp=N,2μm,1.1s
SVE Sverdlovsk 61.67 338⇑ *i*P **P** **14 17 49.6 -1.3**
SVE *e* 14 20 09.0
SVE *e*PPP PPP 14 21 40.0 +2.5
SVE *i* S **S** **14 26 08.0 -1.6**
SVE *e* 14 27 43.0
SVE *e*SS SS 14 30 07.0 -5.9
SVE *e* 14 33 00.0
SVE pmax pmax
comp=Z,604nm,2.1s,mb6.4
SVE pmax pmax
comp=N,1μm,8.0s
SVE pmax pmax
comp=E,1μm,8.0s
SVE pmax pmax
comp=Z,3μm,8.0s
SVE smax
comp=N,6μm,17.0s
SVE smax
comp=E,6μm,17.0s
SVE MLR MLR
comp=N,14μm,22.0s,MS6.1
SVE MLR MLR
comp=E,6μm,22.0s,MS6.1
SVE MLR MLR
comp=Z,18μm,22.0s,MS6.2
BTMT Batman 61.92 313 *e*P **P** **14 17 52.9 0.0**
ZEI Tsey 62.05 318 *e*P **P** **14 17 52.2 -1.4**
ZEI *i* *PP pP 14 18 02.0 -0.7
ZEI *i* 14 20 08.7
ZEI pmax pmax
comp=Z,26nm,1.0s,mb5.3
ARU Arti 62.17 337⇑ *i*P **P** **14 17 52.9 -1.3**
ARU *e* 14 18 29.3
ARU *e*S **S** **14 26 16.9 +1.0**
ARU *i* 14 27 41.5
ARU *i* SS SS 14 30 15.9 -4.9
ARU *e*SSS SSS 14 32 59.5 -3.7
ARU pmax pmax
comp=Z,204nm,1.5s,mb6.0
ARU MLR MLR
comp=Z,19μm,22.0s,MS6.2
ARU MLR MLR
comp=N,14μm,20.5s,MS6.2
ARU MLR MLR
comp=E,10μm,20.5s,MS6.2
ARU Arti 62.17 337⇑ *i*P **P** **14 17 52.7 -1.5**
comp=E,156nm,1.3s,mb6.0
ARU *e*PP pP 14 18 00.5 -2.8
ARU LR LR
comp=Z,5μm,22.0s,MS5.7
ONI Oni 62.26 318 P **P** **14 17 53.5 -1.6**
RIV Riverview 62.33 130 *e*P **P** **14 17 55.1 -0.5**
ERZM Erzurum 62.64 314 *i*P **P** **14 17 56.4 -1.2**
EZM Erzurum 62.64 314 *e*P **P** **14 17 57.6 +0.1**
BCA Borcka 63.05 316 *e*P **P** **14 17 58.9 -1.3**
KIV Kislovodsk 63.35 319⇑ *i*P **P** **14 18 01.1 -1.1**
GOF Gofitskoye 63.60 320 *e*P **P** **14 18 09.3 +5.5**
GOF *i* S **S** **14 26 48.0 +14**
GOF pmax pmax
comp=Z,125nm,1.0s,mb5.9
GOF smax
comp=E,3μm,5.0s
ASF Jabal al Asfar 63.62 305 P **P** **14 18 04.5 +0.3**
comp=E,15nm,0.8s,mb5.0,baz=355,slow=1.9,SNR=16
ASF PKPPKP 14 47 08.1
comp=E,1.2nm,0.3s,baz=304,slow=4.9,SNR=5.0
ASF LR LR 14 48 02.0
comp=E,23μm,18.2s,MS6.4,baz=121,slow=38
URFA Urfa 63.64 311 *e*P **P** **14 18 04.0 -0.3**
EZC Erzincan 63.69 314 *e*P **P** **14 18 07.1 +2.5**
PTK Pertek 63.70 313 *e*P **P** **14 18 03.7 -0.9**
TAU Tasmania Unive 63.78 141 PFAKE 14 18 20.0 +15
TAU LR LR
comp=Z,4μm,22.0s,MS5.6
ELZG Elazig 63.87 312 *i*P **P** **14 18 02.0 -3.7**
HNR Honiara 63.91 102 P **P** **14 18 05.0 -1.4**
HNR pmax pmax
comp=Z,600nm,1.0s,mb6.6
HNR Honiara 63.91 102 P **P** **14 18 05.4 -1.0**
comp=Z,301nm,0.9s,mb6.3,baz=175,slow=4.0,SNR=27
HNR Honiara 63.91 102⇑ *e*P **P** **14 18 04.5 -1.8**
comp=Z,597nm,0.9s,mb6.6
HNR *e*PP pP 14 18 13.1 -2.3
HNR LR LR
comp=Z,7μm,22.0s,MS5.8
GUMT Gumushane 64.19 314 *e*P **P** **14 18 07.6 -0.2**
MALT Malatya 64.22 312 *e*P **P** **14 18 07.5 -0.6**
MALT Malatya 64.22 312 *e*P **P** **14 18 06.9 -1.2**
MALT pmax pmax
comp=Z,64nm,2.5s,mb5.2
MALT Malatya 64.22 312 *e*P **P** **14 18 06.9 -1.2**
comp=Z,64nm,2.5s,mb5.2
MYA Malataya 64.23 312 *e*P **P** **14 18 08.8 +0.7**
GZT Gaziantep 64.57 311 *i*P **P** **14 18 08.8 -1.5**
YAK Yakutsk 64.61 16*c* *i*P **P** **14 18 09.3 -0.9**
YAK *e* 14 18 20.6
YAK *e* 14 20 26.4
YAK *e*S **S** **14 26 45.8 -0.5**
YAK *e* 14 27 00.2
YAK *e*SS ScS 14 28 01.6 +3.0
YAK pmax pmax
comp=Z,356nm,1.1s,mb6.3
YAK pmax pmax
comp=N,135nm,1.2s
YAK pmax pmax
comp=E,75nm,1.1s
YAK pmax pmax
comp=Z,13nm,1.0s,mb4.9
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,14nm,1.0s
YAK smax
comp=N,12nm,1.3s
YAK smax
comp=E,9.0nm,1.1s
YAK smax
comp=Z,3.0nm,1.1s
YAK MLR MLR
comp=N,10μm,17.0s,MS6.2
YAK MLR MLR
comp=Z,16μm,17.0s,MS6.3
YAK MLR MLR
comp=E,14μm,22.0s,MS6.2
YAK Yakutsk 64.61 16⇑ *e*P **P** **14 18 08.9 -1.2**
comp=E,504nm,0.9s,mb6.5
YAK LR LR
comp=Z,19μm,21.0s,MS6.3
EIL Elat 64.64 302 LR LR 14 47 01.9
comp=Z,24μm,18.4s,MS6.4,baz=304,slow=37
EIL Elat 64.64 302 *e*P **P** **14 18 10.6 -0.4**
comp=Z,94nm,1.0s,mb5.8
GAZ Gaziantep 64.78 310 *e*P **P** **14 18 11.2 -0.5**
BHL Bhannes 65.08 307 *e*P **P** **14 18 13.9 +0.2**
SOC Sochi 65.17 318*c* *i*P **P** **14 18 12.5 -1.6**
SOC *e* 14 18 47.0
SOC *e* 14 20 34.2
SOC *e*PPP PPP 14 22 18.4 +4.7
SOC *i* S S 14 26 49.9 -3.6
SOC *e* 14 28 03.3
SOC *e*SSS SSS 14 34 00.8 +0.8
SOC pmax pmax
comp=N,43nm,1.1s
SOC pmax pmax
comp=Z,146nm,1.1s,mb5.9
SOC pmax pmax
comp=E,33nm,0.9s
SOC MLR MLR
comp=Z,5μm,22.0s,MS5.7
SOC MLR MLR
comp=N,2μm,23.0s,MS5.8
SOC MLR MLR
comp=E,6μm,22.0s,MS5.8
HTY Hatay 65.30 309 *e*P **P** **14 18 15.4 +0.3**
CEYT Ceyhan 65.85 310 *e*P **P** **14 18 19.2 +0.6**
MBAR Mbarara 66.14 268 *e*P **P** **14 18 19.7 -1.1**
MBAR pmax pmax
comp=Z,160nm,1.6s,mb5.8
MBAR Mbarara 66.14 268 *e*P **P** **14 18 19.7 -1.2**
comp=Z,160nm,1.6s,mb5.8
BNN Bunyan 66.31 312 *e*P **P** **14 18 20.3 -1.2**
KVT Kavak 66.85 314 *e*P **P** **14 18 22.8 -2.1**
MEST Erdemli 66.97 309 *i*P **P** **14 18 23.2 -2.6**
AVNT Avonos 67.03 311 *i*P **P** **14 18 23.2 -2.9**
ANN Anapa 67.15 318 *e*P **P** **14 18 22.4 -4.3**
ANN *e* 14 18 57.5
ANN *e* 14 20 53.7
ANN *e*S S 14 27 13.7 -3.8
ANN *e* 14 28 19.6
ANN *e* 14 31 43.7
ANN pmax pmax
comp=Z,1μm,7.3s
ANN pmax pmax
comp=N,269nm,6.4s
ANN pmax pmax
comp=E,332nm,7.3s
ANN smax
comp=Z,1μm,8.7s
ANN smax
comp=N,3μm,8.8s
ANN smax
comp=E,1μm,8.8s
ANN MLR MLR
comp=N,17μm,24.0s,MS6.2
ANN MLR MLR
comp=E,5μm,24.0s,MS6.2
ANN MLR MLR
comp=Z,9μm,24.0s,MS5.9
CSS Prodhromos 67.20 307 *e*P **P** **14 18 26.1 -1.1**
CSS Prodhromos 67.20 307 *e*P **P** **14 18 26.4 -0.9**
comp=Z,219nm,1.4s,mb6.0
LEF Lefka 67.59 307 *e*P **P** **14 18 35.8 +6.1**
CORM Corum 67.60 313 *e*P **P** **14 18 26.7 -3.0**
CTKT Corum 67.62 313 *i*P **P** **14 18 27.0 -2.7**
CDAG Cicekdag 67.63 312 *i*P **P** **14 18 25.1 -4.7**
BOYT Boyabat 67.78 314 *i*P **P** **14 18 28.0 -2.7**
BYBT Boyabat 67.89 314 *e*P **P** **14 18 30.1 -1.3**
KAMT Kaman 68.05 312 *e*P **P** **14 18 30.3 -2.1**
BR131 Keskin Array S 68.20 312 PFAKE 14 18 40.0 +6.6
BR131 LR LR
comp=Z,6μm,22.0s,MS5.8
BRTR Keskin Array B 68.20 312 P **P** **14 18 31.9 -1.6**
comp=Z,12nm,0.7s,mb5.0,baz=128,slow=6.4,SNR=45
BRTR PKPPKP 14 47 08.2
comp=Z,0.3nm,0.3s,SNR=4.6
TOS Tosya 68.29 314 *e*P **P** **14 18 35.3 +1.3**
HDMB Hadim 68.36 309 *e*P **P** **14 18 32.8 -1.6**
PECR Pechory 68.40 332 *i*P **P** **14 18 33.0 -1.4**
PECR *e* 14 18 53.4
PECR *e* 14 21 02.0
PECR *i* S S 14 27 26.6 -5.8
PECR *e*PPS PPS 14 28 04.0 -8.5
PECR *e* 14 28 24.0
PECR *i* SS SS 14 31 53.4 -4.2
PECR pmax pmax
comp=Z,3μm,1.7s
PECR pmax pmax
comp=Z,3μm,12.0s
PECR pmax pmax
comp=E,1μm,10.0s
PECR smax
comp=E,3μm,10.0s
PECR MLR MLR
comp=E,11μm,22.0s
PECR MLR MLR
comp=Z,12μm,22.0s,MS6.1
PECR MLR MLR
comp=Z,14μm,20.0s
PECR MLR MLR
comp=E,6μm,19.0s
CANT Cankiri 68.46 313 *e*P **P** **14 18 31.8 -3.3**
ELDT Eldivan 68.57 313 *i*P **P** **14 18 32.8 -2.9**
MIR Mirnyy 68.61 182 *e*P **P** **14 18 37.0 +1.5**
MIR *e*S S 14 27 34.0 -0.6
MIR pmax pmax
comp=Z,2μm,7.6s
MIR pmax pmax
comp=N,500nm,4.8s
MIR smax
comp=N,11μm,22.0s
MIR smax
comp=E,2μm,22.0s
MIR MLR MLR
comp=N,10μm,18.0s,MS6.1
MIR MLR MLR
comp=E,2μm,18.0s,MS6.1
MIR MLR MLR
comp=Z,28μm,18.0s,MS6.5
KONT Konya--Tatoy 68.70 310 *e*P **P** **14 18 36.1 -0.4**
VOR Voronezh 68.78 326 *e*P **P** **14 18 35.0 -1.8**
VOR *e**SP sP 14 18 46.5 -2.6
VOR 14 21 04.5
VOR S S 14 27 33.0 -3.9
VOR pmax pmax
comp=N,100nm,2.0s
VOR pmax pmax
comp=Z,300nm,2.0s,mb5.9
VOR pmax pmax
comp=E,160nm,1.5s
VOR pmax pmax
comp=N,100nm,2.0s
VOR pmax pmax
comp=Z,150nm,2.0s,mb5.6
VOR pmax pmax
comp=E,130nm,1.5s
VOR smax
comp=N,150nm,2.0s
VOR smax
comp=E,120nm,2.0s
VOR smax
comp=Z,70nm,2.0s
ANTO Ankara 68.87 312 *e*P **P** **14 18 36.1 -1.5**
ANTO Ankara 68.87 312 P **P** **14 18 36.8 -0.7**
LOD Lodumlu 68.90 312 *e*P **P** **14 18 34.0 -3.8**
BALT Daday 68.90 314 *i*P **P** **14 18 33.7 -4.0**
CASY Casey 68.99 174⇑ *i*P **P** **14 18 37.6 -0.2**
KDHN Kadinhani 69.03 311 *i*P **P** **14 18 34.7 -3.8**
SKR Severo-Kuril's 69.29 36 *e*P **P** **14 18 37.0 -2.9**
SKR *e* 14 18 51.5
SKR *e* 14 19 00.0
SKR *e* 14 21 10.0
SKR *e*PPP PPP 14 22 50.0 -3.8
SKR *e*S S 14 27 44.0 +1.0
SKR *e*PS PS 14 28 00.0 -13
SKR *e* 14 28 24.0
SKR pmax pmax
comp=N,640nm,1.5s
SKR pmax pmax
comp=E,800nm,1.5s
SKR pmax pmax
comp=Z,840nm,1.5s,mb6.5
SKR pmax pmax
comp=E,3μm,3.0s
SKR pmax pmax
comp=Z,5μm,3.0s
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,13μm,8.0s
SKR pmax pmax
comp=Z,8μm,8.0s
SKR MLR MLR
comp=N,16μm,18.0s,MS6.4
SKR MLR MLR
comp=E,12μm,18.0s,MS6.4
SKR MLR MLR
comp=Z,15μm,18.0s,MS6.3
KIZT Kizilcal 69.30 311 *e*P **P** **14 18 38.7 -1.5**
SAFT Safranbolu 69.32 313 *e*P **P** **14 18 39.3 -1.0**
SIM Simferopol' 69.42 318*c**e*P **P** **14 18 39.7 -1.1**
SIM *e* 14 21 13.0
SIM *i* S S 14 27 42.0 -2.6
SIM pmax pmax
comp=Z,1μm,12.9s
SIM pmax pmax
comp=Z,76nm,1.0s,mb5.6
LSZ Lusaka 70.04 253 P **P** **14 18 44.5 -0.5**
LSZ Lusaka 70.04 253⇓ *e*P **P** **14 18 44.6 -0.5**
LSZ pmax pmax
comp=Z,172nm,1.5s,mb5.8
LSZ MLR MLR
comp=Z,35μm,20.0s,MS6.6
LSZ Lusaka 70.04 253⇓ *e*P **P** **14 18 44.6 -0.4**
comp=Z,172nm,1.5s,mb5.8
LSZ LR LR
comp=Z,35μm,20.0s,MS6.6
ISP Isparta 70.09 310 *e*P **P** **14 18 42.4 -2.7**
ISP Isparta 70.09 310 *e*P **P** **14 18 43.9 -1.1**
ISP pmax pmax
comp=Z,179nm,1.5s,mb5.8
ISP Isparta 70.09 310 *e*P **P** **14 18 43.9 -1.1**
comp=Z,179nm,1.5s,mb5.8
MDU Mudurnu 70.19 312 *e*P **P** **14 18 44.5 -1.1**
ESKT Eskisehir 70.23 311 *e*P **P** **14 18 38.0 -7.9**
ESKT Eskisehir 70.23 311 *i*P **P** **14 18 44.3 -1.6**
WAKE Wake Island 70.25 70 PFAKE 14 19 00.0 +14
WAKE LR LR
comp=Z,5μm,21.0s,MS5.7
AKAS Kas 70.45 308 *i*P **P** **14 18 38.5 -8.7**
HENT Hendek 70.52 313 *i*P **P** **14 18 43.4 -4.2**
KWAJ Kwajalein Atol 70.68 81 PFAKE 14 19 00.0 +11
KWAJ LR LR
comp=Z,1μm,20.0s,MS5.2
GOLH Golhisar 70.69 309 *i*P **P** **14 18 48.1 -0.6**
FETY Fethiye 70.94 308 *e*P **P** **14 18 47.6 -2.7**
DALT Dalyan (Mudla) 71.32 308 *e*P **P** **14 18 51.3 -1.2**
MOS Moscow 71.33 329α *i*P **P** **14 18 51.6 -0.6**
MOS *e* pP 14 19 02.4 +1.1
MOS *e* 14 19 14.1
MOS *e* 14 21 29.3
MOS *e*S S 14 28 03.7 -3.0
MOS pmax pmax
comp=Z,2μm,2.7s,mb6.5
MOS pmax pmax
comp=Z,410nm,1.3s,mb6.2
MOS smax
comp=N,4μm,6.0s
MOS MLR MLR
comp=Z,23μm,21.2s,MS6.4
MOS MLR MLR
comp=N,18μm,21.0s,MS6.4
MOS MLR MLR
comp=E,13μm,22.6s,MS6.4
YLV Yalova 71.58 312 *e*P **P** **14 18 52.6 -1.4**
ARG Arkhangelos 71.61 307 *e*P **P** **14 18 53.0 -1.3**
OBN Obninsk 71.62 328α *i*P **P** **14 18 53.0 -1.0**
OBN *i* pP 14 19 03.0 -0.1
OBN *e* 14 21 32.2
OBN *e*PPP PPP 14 23 16.4 0.0
OBN *i* S S 14 28 06.3 -3.8
OBN *i* 14 28 51.8
OBN pmax pmax
comp=Z,1μm,2.5s,mb6.4
OBN pmax pmax
comp=Z,379nm,2.0s,mb6.0
OBN MLR MLR
comp=Z,8μm,15.0s,MS6.1
OBN Obninsk 71.62 328 *e*P **P** **14 18 52.9 -1.1**
comp=Z,568nm,1.4s,mb6.3
OBN LR LR
comp=Z,3μm,20.0s,MS5.5
PET Petropavlovsk 71.64 34α *i*P **P** **14 18 54.0 -0.2**
PET *e* 14 19 12.2
PET *e* 14 21 41.4
PET *e*PPP PPP 14 23 14.3 -2.4
PET *i* S S 14 28 14.0 +3.6
PET *e* 14 28 55.3
PET pmax pmax
comp=Z,4μm,6.9s
PET pmax pmax
comp=E,1μm,6.8s
PET pmax pmax
comp=Z,5μm,18.1s
PET pmax pmax
comp=E,2μm,18.1s
PET pmax pmax
comp=N,1μm,18.0s
PET pmax pmax
comp=Z,204nm,0.9s,mb6.1
PET pmax pmax
comp=E,85nm,1.0s
PET pmax pmax
comp=N,127nm,0.8s
PET pmax pmax
comp=Z,224nm,0.9s,mb6.1
PET pmax pmax
comp=Z,2μm,19.9s
PET pmax pmax
comp=Z,1μm,16.1s
PET smax
comp=N,4μm,28.3s
PET smax
comp=E,4μm,28.0s
PET MLR MLR
comp=N,14μm,17.0s
PET MLR MLR
comp=Z,13μm,17.0s,MS6.3
PET MLR MLR
comp=N,16μm,18.0s
PET MLR MLR
comp=Z,14μm,16.0s
PET Petropavlovsk 71.64 34⇑ *e*P **P** **14 18 53.8 -0.4**
comp=Z,129nm,0.8s,mb5.9
PET LR LR
comp=Z,11μm,19.0s,MS6.1
ULDT Uludag 71.66 312 *i*P **P** **14 18 51.0 -3.5**
ISK Istanbul-Kandi 71.93 313 *e*P **P** **14 18 54.9 -1.2**
MLSB Milas 72.10 308 *e*P **P** **14 18 51.6 -5.5**
KARP Karpathos 72.26 307 *e*P **P** **14 18 57.5 -0.7**
TIXI Tiksi 72.31 10*c* *i*P **P** **14 18 56.8 -1.1**
TIXI pmax pmax
comp=Z,356nm,1.6s,mb6.0
TIXI Tiksi 72.31 10⇑ *i*P **P** **14 18 56.9 -1.0**
TIXI LR LR
comp=Z,20μm,19.0s,MS6.4
BTOK Tokmak 72.40 311 *i*P **P** **14 18 57.7 -1.2**
BODT Bodrum 72.42 308 *e*P **P** **14 18 55.4 -3.7**
BALB Balikesir 72.49 311 *e*P **P** **14 18 57.6 -1.8**
BNT Bandirma 72.61 312 *e*P **P** **14 18 58.5 -1.7**
IZM Izmir 72.71 310 *e*P **P** **14 19 01.3 +0.5**
BLCB Balcova 72.88 309 *e*P **P** **14 19 01.3 -0.5**
MRMT Marmara Adasi 72.91 312 *e*P **P** **14 18 58.5 -3.5**
SMG Samos 72.91 309 *e*P pP 14 19 10.0 -1.1
SEY Seymchan 73.03 23 *i*P **P** **14 19 02.5 +0.3**
SEY 14 19 21.0
SEY 14 21 47.7
SEY PPP PPP 14 23 32.8 +2.8
SEY *i* S S 14 28 27.3 +1.3
SEY 14 29 03.2
SEY pmax pmax
comp=Z,230nm,1.1s,mb6.0
SEY pmax pmax
comp=N,30nm,0.9s
SEY pmax pmax
comp=N,190nm,1.6s
SEY smax
comp=N,12μm,17.5s
SEY smax
comp=E,8μm,15.7s
SEY MLR MLR
comp=Z,42μm,22.0s,MS6.7
SEY MLR MLR
comp=N,8μm,21.0s,MS6.6
SEY MLR MLR
comp=E,39μm,24.0s,MS6.6
TIRR Tirgusor 73.19 316 ⇑P **P** **14 19 02.6 -0.9**
XRY Khrisi 73.33 306 *e*P **P** **14 19 05.0 +0.5**
NPS Neapolis 73.46 306 *e*P **P** **14 19 05.5 +0.3**
KIS Kishinev 73.54 319*c* *i*P **P** **14 19 04.0 -1.5**
KIS *e* 14 21 50.0
KIS *e*PPP PPP 14 23 37.0 +1.6
KIS *i* S S 14 28 27.0 -5.1
KIS pmax pmax
comp=Z,2μm,10.0s
KIS pmax pmax
comp=Z,3μm,12.0s
KIS MLR MLR
comp=N,4μm,20.0s,MS5.8
KIS MLR MLR
comp=E,4μm,20.0s,MS5.8
KIS MLR MLR
comp=Z,7μm,20.0s,MS5.9
KIS MLR MLR
comp=Z,7μm,22.0s
CFR Carcaliu 73.55 317 ⇑P **P** **14 19 05.5 -0.1**
MAW Mawson 73.56 193⇑ *i*P **P** **14 19 06.0 +0.9**
comp=Z,35nm,1.2s,mb5.2
MAW Mawson 73.56 193 *e*P **P** **14 19 02.2 -2.9**
MAW pmax pmax

comp=Z,119nm,1.3s
MAW Mawson 73.56 193 P **P** **14 19 06.1 +0.9**
comp=Z,24nm,1.1s,mb5.0,baz=28,slow=7.9,SNR=17
MAW LR LR 14 44 49.0
comp=Z,15μm,21.5s,MS6.2,baz=36,slow=30
MAW PKPPKP 14 46 57.8
comp=Z,3.4nm,0.9s,baz=330,slow=1.2,SNR=3.6
MAW Mawson 73.56 193 *e*P **P** **14 19 02.1 -3.0**
comp=Z,119nm,1.3s,mb5.7
MAW LR LR 14 44 49.0
MAW P'P' 14 46 57.8
PRD Provadia 73.61 314 *e*P **P** **14 19 05.0 -0.9**
PRK Paraskevi 73.64 310 *e*P **P** **14 19 06.5 +0.3**
SANT Santorini 73.76 307 *e*P **P** **14 19 06.6 -0.4**
comp=Z,147nm,1.3s,mb5.8
APE Apeiranthos 73.82 308 *e*P **P** **14 19 04.9 -2.4**
APE Apeiranthos 73.82 308 *i* P **P** **14 19 05.8 -1.5**
LBTB Lobatse 73.99 243⇓*e*P **P** **14 19 08.0 -0.5**
LBTB pmax pmax
comp=Z,55nm,0.9s,mb5.5
LBTB MLR MLR
comp=Z,31μm,20.0s,MS6.6
LBTB Lobatse 73.99 243⇓*e*P **P** **14 19 08.0 -0.5**
comp=Z,55nm,0.9s,mb5.5
LBTB LR LR
comp=Z,31μm,20.0s,MS6.6
JMB Yambol 74.04 314 *e*P **P** **14 19 08.0 -0.4**
ALN Alexandroupoli 74.12 312 *e*P **P** **14 19 08.6 -0.3**
AKASG Malin Array Be 74.28 322 P **P** **14 19 08.3 -1.4**
comp=Z,27nm,0.7s,mb5.3,baz=90,slow=4.8,SNR=90
AKASG Malin Array Be 74.28 322 P **P** **14 19 08.3 -1.4**
RDO Rodhopi 74.55 312 *e*P **P** **14 19 10.0 -1.4**
VAM Vamos 74.62 306 *e*P **P** **14 19 12.5 +0.5**
GVD Gavdhos 74.63 305 *e*P **P** **14 19 07.3 -4.8**
comp=Z,131nm,1.1s,mb5.8
GVD *e*PP pP 14 19 18.3 -2.9
GVD *e*PcP PcP 14 19 27.3 +0.8
ISR Istrita 74.63 316 P **P** **14 19 13.9 +2.1**
VRI Vrincioaia 74.67 317 ⇓P **P** **14 19 12.8 +0.8**
KDZ Kurdzhali 74.73 313 *e*P **P** **14 19 11.5 -1.0**
BOSA Boshof 74.94 240 *e*P **P** **14 19 13.0 -1.0**
BOSA *e* 14 19 25.9
BOSA pmax pmax
comp=Z,62nm,1.1s,mb5.5
BOSA MLR MLR
comp=Z,20μm,19.0s,MS6.4
BOSA Boshof 74.94 240 P **P** **14 19 14.2 +0.3**
comp=Z,15nm,0.8s,mb5.0,baz=90,slow=6.0,SNR=23
BOSA LR LR 14 49 04.7
comp=Z,19μm,18.9s,MS6.4,baz=61,slow=33
BOSA Boshof 74.94 240 *e*P **P** **14 19 12.9 -1.0**
comp=Z,62nm,1.1s,mb5.5
BOSA *e*PcP PcP 14 19 25.9 -2.1
BOSA LR LR
comp=Z,20μm,19.0s,MS6.4
MLR Muntele Rosu 75.13 317 ⇓P **P** **14 19 14.1 -0.6**
MLR Muntele Rosu 75.13 317 P **P** **14 19 14.8 +0.2**
DRV Dumont d'Urvil 75.17 164 P **P** **14 19 19.0 +4.5**
DRV S S 14 28 53.0 +3.2
DRV L 14 38 00.0
RZN Rozhen 75.25 313 *e*P **P** **14 19 14.0 -1.5**
AOS Alonnisos 75.45 310 *e*P **P** **14 19 17.5 +0.8**
OUR Ouranopolis 75.56 311 *e*P **P** **14 19 15.6 -1.7**
NSAL Nisos Salamina 75.58 308 *e*P **P** **14 19 20.0 +2.6**
MTUR Matau 75.68 316 P **P** **14 19 17.8 0.0**
KYTH Kithira 75.68 307 *e*P PcP 14 19 32.5 +1.5
VOIR 75.73 316 ⇓P **P** **14 19 18.1 0.0**
PGB Panagyurishte 75.81 313 *e*P **P** **14 19 23.0 +4.4**
VLI Veliai 75.82 307 *e*P **P** **14 19 17.5 -1.3**
MMB Musomiste 75.96 312 *e*P **P** **14 19 19.0 -0.5**
PLG Polygyros 75.97 311 *e*P **P** **14 19 20.0 +0.4**
BURAR Bucovina Array 76.07 319 P **P** **14 19 20.9 +0.9**
SOH Sokhos 76.12 311 *e*P **P** **14 19 19.9 -0.5**
MNK Minsk 76.16 326 *e*P **P** **14 19 18.0 -2.3**
PUL Pulkovo 76.48 331 *e*P **P** **14 19 20.1 -1.9**
PUL *e*S S 14 29 00.6 -3.7
PUL pmax pmax
comp=Z,116nm,0.7s,mb5.9
PUL pmax pmax
comp=Z,852nm,2.4s,mb6.2
PUL MLR MLR
comp=Z,13μm,22.0s,MS6.2
PUL Pulkovo 76.48 331 *i* P **P** **14 19 22.4 +0.4**
KKB Krupnik 76.49 312 *e*P **P** **14 19 21.0 -1.4**
VTS Vitosha 76.51 313 *e*P **P** **14 19 21.0 -1.6**
LIT Litokhoron 76.66 311 *e*P **P** **14 19 22.3 -1.1**
VAY Valandovo 76.78 312⇑*i*P **P** **14 19 22.6 -1.5**
GRG Griva 76.85 311 *e*P **P** **14 19 23.3 -1.2**
IDID Didziasalis 76.99 327 *e*P **P** **14 19 24.7 -0.2**
IDID AMPb AMB 14 19 39.4
comp=Z,74nm,1.6s,mb5.4
EVR Evrytania 77.01 309 *e*P **P** **14 19 25.0 -0.4**
JOF Joensuu 77.13 335 *e*p **P** **14 19 23.4 -2.2**
comp=Z,61nm,0.8s,mb5.6
IIGN Ignalina 77.28 326 *e*P **P** **14 19 26.3 -0.3**
IIGN AMPb AMB 14 19 41.7
comp=Z,91nm,1.3s,mb5.5
LVV L'vov 77.30 321 *i* P **P** **14 19 27.0 +0.2**
LVV *i* pP 14 19 37.2 +1.2
LVV *e* 14 22 20.0
LVV *e* 14 24 07.4
LVV *i* S S 14 29 11.8 -1.6
LVV *i* 14 29 28.0
LVV *i* 14 29 54.6
LVV *e* 14 34 18.4
LVV MLR MLR
comp=Z,2μm,21.0s,MS5.3
LVV MLR MLR
comp=N,2μm,20.0s,MS5.5
LVV MLR MLR
comp=E,2μm,21.0s,MS5.5
IZAR Zarasai 77.37 327 *e*P **P** **14 19 26.7 -0.4**
IZAR AMPb AMB 14 19 41.4
comp=Z,71nm,1.4s,mb5.4
ISAL Salakas 77.39 327 *e*P **P** **14 19 26.5 -0.6**
ISAL AMPb AMB 14 19 41.6
comp=Z,70nm,1.6s,mb5.4
MEV Metsovon 77.57 310 *e*P **P** **14 19 27.8 -0.7**
DRGR 77.59 317 P **P** **14 19 28.9 +0.5**
FNA Florina 77.59 311 *e*P **P** **14 19 27.3 -1.3**
BOLS Boljevac 77.61 314⇑*i*P **P** **14 19 27.5 -1.2**
SKO Skopje 77.71 312 *i* P **P** **14 19 28.5 -0.7**
SKO *i* pP 14 19 38.5 +0.1
LVZ Lovozero 77.81 340 *e*P **P** **14 19 23.7 -5.6**
LVZ *i* 14 24 13.6
LVZ *e*S S 14 29 15.4 -3.2
LVZ pmax pmax
comp=Z,76nm,0.7s,mb5.7
LVZ pmax pmax
comp=N,8.0nm,1.1s
LVZ pmax pmax
comp=E,9.0nm,0.6s
LVZ pmax pmax
comp=Z,929nm,3.2s
LVZ pmax pmax
comp=N,117nm,2.6s
LVZ pmax pmax
comp=E,201nm,2.9s
LVZ smax
comp=E,2μm,7.5s
LVZ smax
comp=Z,654nm,7.0s
LVZ smax
comp=N,3μm,7.8s
LVZ MLR MLR
comp=Z,17μm,21.0s,MS6.3
LVZ MLR MLR
comp=N,10μm,22.0s,MS6.3
LVZ MLR MLR
comp=E,10μm,21.0s,MS6.3
LVZ Lovozero 77.81 340⇑*i*P **P** **14 19 28.0 -1.3**
JAN Janina 77.84 310 *e*P **P** **14 19 30.0 0.0**
VLS Valsamata 77.86 308 *e*P **P** **14 19 30.0 -0.1**
LKD Levkas 77.88 309 *e*P **P** **14 19 29.8 -0.4**
KWP Kalwaria 78.11 320 *e*P **P** **14 19 31.4 +0.2**
comp=E,900nm,2.8s,mb6.2
KWP *e*PcP PcP 14 19 38.8 -2.4
KWP *e*PP PP 14 22 26.5 -3.3
KWP *e*S S 14 29 22.2 +0.1
KWP *e*SKS SKS 14 29 38.0 -8.5
KWP MLR MLR 14 56 56.5
comp=E,7μm,24.1s,MS5.9
APA Apatity 78.11 339⇓*i*P **P** **14 19 30.3 -0.6**
APA *i* pP 14 19 39.3 -0.8
APA *i* S S 14 29 21.0 -0.8
APA *e* 14 29 40.0
APA *e*PS PS 14 30 06.0 -0.9
APA pmax pmax
comp=Z,100nm,1.2s,mb5.6
APA pmax pmax
comp=Z,3μm,17.0s
APA smax
comp=N,5μm,10.0s
APA smax
comp=E,3μm,10.0s
BZS Buzias 78.14 316 P **P** **14 19 31.4 -0.1**
UZH Uzhgorod 78.19 319 *e*P **P** **14 19 30.0 -1.7**
UZH *e*S S 14 29 19.0 -4.0
SVIS Svilajnac 78.21 315⇑*i*P **P** **14 19 31.8 -0.1**
IGT Igoumenitsa 78.22 310 *e*P **P** **14 19 31.7 -0.4**
KOLS Kolonicke sedl 78.26 320 *i* P **P** **14 19 33.2 +1.1**
KOLS *i* sP sP 14 19 43.5 -0.9
GRUS Gruza 78.51 314⇑*i*P **P** **14 19 32.5 -1.1**
JCZ Jackson Bay 78.60 136 *e*PN **P** **14 19 37.2 +3.1**
KEK Kerkira 78.66 310 *e*P **P** **14 19 32.5 -2.0**
SUW Suwalki 78.69 325 *e*P **P** **14 19 33.8 -0.6**
comp=E,1μm,2.7s,mb6.3
SUW *e*pP pP 14 19 41.0 -2.5
SUW *e*PcP PcP 14 19 43.7 +0.2
SUW *e*S S 14 29 26.1 -2.1
SUW *e*SKS SKS 14 29 41.1 -9.4
SUW MLR MLR 15 00 39.9
comp=E,7μm,22.0s,MS5.9
CRVS Cervenica-Dubn 78.78 319 *i* P **P** **14 19 35.8 +0.9**
CRVS *i* 14 19 47.4
CRVS *e*PP PP 14 22 40.0 +4.8
CRVS *i* S S 14 29 28.0 -1.3
BEO Belgrade 78.83 315⇑*i*P **P** **14 19 35.4 0.0**
PVY Plav 78.88 313⇓*i*P **P** **14 19 35.8 +0.2**
IVA Berane 78.97 313⇓*i*P **P** **14 19 36.5 +0.5**
FINES FINESS Array B 78.99 332 P **P** **14 19 35.5 -0.3**
comp=E,22nm,0.5s,mb5.3,baz=104,slow=7.9,SNR=85
FINES LR LR 14 59 08.6
comp=E,13μm,21.5s,MS6.2,baz=298,slow=39
DIVS Divcibare 79.06 314⇓*i*P **P** **14 19 35.5 -1.1**
KAF Kangasniemi 79.07 333 *e*p **P** **14 19 35.0 -1.2**
comp=E,74nm,0.8s,mb5.7,baz=102,slow=5.0
KAF Kangasniemi 79.07 333 *e*P **P** **14 19 35.0 -1.2**
KAF pmax pmax
comp=Z,74nm,0.8s,mb5.7
ULC Ulcinj 79.33 312⇓*i*P **P** **14 19 37.1 -1.0**
KECS Kecovo 79.35 319 *e*P **P** **14 19 38.6 +0.6**
TTG Podgorica 79.38 313⇓*i*P **P** **14 19 37.1 -1.3**
SUR Sutherland 79.38 237 LR LR 14 48 59.7
comp=Z,24μm,19.8s,MS6.5,baz=94,slow=31
SUR Sutherland 79.38 237 *e*P **P** **14 19 36.7 -1.8**
comp=Z,164nm,1.2s,mb5.8
SUR LR LR
comp=Z,6μm,20.0s,MS6.0
PLE Pljevlja 79.39 314⇓*i*P **P** **14 19 38.7 +0.3**
BBLS Bajina Basta - 79.45 314⇓*i*P **P** **14 19 38.3 -0.4**
NIE Niedzica 79.61 320 *e*P **P** **14 19 39.9 +0.5**
NKY Niksic 79.62 313⇓*i*P **P** **14 19 38.5 -1.2**
WAR Warsaw 79.62 323 *e*P **P** **14 19 39.8 +0.4**
WAR *e* 14 19 44.6
WAR *e*S S 14 29 37.8 -0.4
WAR *e* 14 29 53.8
WAR MLR MLR
comp=Z,10μm,22.0s,MS6.1
WAR Warsaw 79.62 323 *e*P **P** **14 19 39.8 +0.4**
WAR *e*PcP PcP 14 19 44.6 -3.0
WAR *e*S S 14 29 37.9 -0.3
WAR *e*SKS SKS 14 29 53.8 -3.5
WAR MLR MLR 14 59 32.3
comp=Z,10μm,22.0s,MS6.1
BUM Brajici-Budva 79.63 312⇓*i*P **P** **14 19 38.9 -0.8**
PSZ Piszkesteto 79.66 318⇑*e*P **P** **14 19 39.9 +0.2**
PSZ pmax pmax
comp=Z,53nm,1.0s,mb5.4
PSZ Piszkesteto 79.66 318⇑*e*P **P** **14 19 39.9 +0.2**
comp=Z,53nm,1.0s,mb5.4
PSZ Piszkesteto 79.66 318⇑*i*P **P** **14 19 39.9 +0.2**
UPM Unac-Piva 79.73 313⇓*i*P **P** **14 19 39.6 -0.6**
HCY Herceg Novi 79.94 313⇓*i*P **P** **14 19 41.7 +0.3**
BRY Bratogost 79.96 313⇓*i*P **P** **14 19 41.5 +0.1**
FX1 Attu Island--F 80.04 37 P **P** **14 19 43.3 +1.6**
comp=Z,82nm,0.6s,mb5.8,baz=240,slow=0.9,SNR=27
FX1 Attu Island--F 80.04 37 *e*P **P** **14 19 42.8 +1.1**
OJC Ojcow 80.06 321 *e*P **P** **14 19 42.4 +0.6**
OJC *e*S S 14 29 42.4 -0.3
DSZ Denniston Nort 80.26 133 *e*PN **P** **14 19 49.0 +5.9**
PKSM Moragy 80.28 316 ⇓P **P** **14 19 43.2 +0.1**
BILL Bilibino 80.41 21⇑*e*P **P** **14 19 42.8 -0.5**
comp=Z,298nm,1.8s,mb5.9
BILL LR LR
comp=Z,54379μm,21.0s
VYHS Vyhne 80.44 319 *i* P **P** **14 19 43.9 0.0**
VYHS *i* 14 19 55.3
VYHS *e*PP PP 14 22 50.5 +1.6
VYHS *i* S S 14 29 45.2 -1.5
VYHS *i* SS SS 14 35 10.2 +8.3
TSUM Tsumeb 80.57 250 P **P** **14 19 45.9 +0.7**
TSUM Tsumeb 80.57 250 P **P** **14 19 45.9 +0.8**
comp=Z,12nm,0.8s,mb4.9,baz=51,slow=6.7
TSUM Tsumeb 80.57 250⇓*e*P **P** **14 19 45.8 +0.7**
comp=Z,23nm,1.0s,mb5.1
TSUM LR LR
comp=Z,11μm,19.0s,MS6.2
STON Ston 80.57 313⇑*i*P **P** **14 19 43.3 -1.4**
SMY Shemya 80.58 37 *e*P **P** **14 19 44.9 +0.4**
SMY pmax pmax
comp=Z,263nm,1.2s,mb6.0
SMY MLR MLR
comp=Z,13μm,22.0s,MS6.2
SMY Shemya 80.58 37 *e*P **P** **14 19 44.9 +0.4**
comp=Z,263nm,1.2s,mb6.0
SMY LR LR
comp=Z,13μm,22.0s,MS6.2
QRZ Quartz Range 80.62 132 *e*PN **P** **14 19 49.5 +4.5**
SRO Srobarova 80.70 318 *i* sP sP 14 19 57.9 +0.3
SYO Syowa Base 80.80 198 ⇓P **P** **14 19 45.2 -0.2**
SYO Syowa Base 80.80 198 ⇓P Px 14 20 03.0
TIP Timpagrande 80.95 309 *e*P **P** **14 19 46.2 -0.6**
OKC Ostrava-Krasne 81.06 320 *e*P **P** **14 19 47.6 +0.5**
OKC *e*S S 14 29 53.0 -0.1
OKC MLR MLR
comp=Z,6μm,20.4s,MS5.9
OKC Ostrava-Krasne 81.06 320 *e*P **P** **14 19 47.6 +0.5**
OKC *e*x x 14 23 05.9
OKC *e*S S 14 29 53.0 -0.1
OKC *e*SS SS 14 35 25.2 +14
OKC AMS AMS 15 01 00.0
comp=Z,6μm,20.4s
RAC Raciborz 81.06 320 *e*P **P** **14 19 46.8 -0.3**
RAC *e*S S 14 29 54.3 +1.1
RAC MLR MLR 15 02 52.7
comp=Z,5μm,19.5s,MS5.9
THZ Tophouse 81.07 133 *e*PN **P** **14 19 47.3 0.0**
KEV Kevo 81.08 341 *e*p **P** **14 19 45.8 -1.1**
comp=Z,72nm,1.0s,mb5.6
KEV Kevo 81.08 341 *e*P **P** **14 19 45.8 -1.1**
KEV pmax pmax
comp=Z,72nm,1.0s,mb5.6
MORC Moravsky Berou 81.44 320⇑*e*P **P** **14 19 49.4 +0.3**
MORC pmax pmax
comp=Z,117nm,1.4s,mb5.6
MORC Moravsky Berou 81.44 320⇑*e*P **P** **14 19 49.4 +0.2**
comp=Z,117nm,1.4s,mb5.6
ARCES ARCESS Array B 81.52 340 P **P** **14 19 49.5 +0.4**
comp=Z,23nm,0.6s,mb5.3,baz=98,slow=5.7,SNR=113
ARCES PP PP 14 22 59.2 +1.5
comp=Z,20nm,1.0s,baz=108,slow=3.8,SNR=4.3
ARCES LR LR 14 59 20.3
comp=Z,17μm,21.9s,MS6.3,baz=118,slow=38
ARE0 ARCESS Array S 81.52 340 *e*P **P** **14 19 49.0 -0.2**
ZST Bratislava 81.55 318 *i* P **P** **14 19 51.4 +1.7**
ZST *i* sP sP 14 20 01.3 -0.7
ZST *i* S S 14 29 57.6 -0.6
ZST *e*L 14 58 55.8
SISC Sisak 81.78 315 *i* P **P** **14 19 51.6 +0.7**
SOP Sopron 81.86 318⇑*e*P **P** **14 19 51.5 +0.2**
KOGS Kog 81.95 316 *e*P **P** **14 19 52.0 +0.2**
KOGS *i* pP 14 20 02.0 +0.9
VRAC Vranov 82.00 319 P **P** **14 19 52.6 +0.6**
GKP Gorka Klasztor 82.05 323 *e*P **P** **14 19 52.1 -0.1**
GKP *e**PP pP 14 20 00.2 -1.3
GKP *e* 14 22 59.2
GKP *e*S S 14 30 03.4 +0.1
GKP *e* 14 30 07.0
GKP pmax pmax
comp=Z,1.0nm,2.9s
GKP MLR MLR
comp=Z,6μm,22.1s,MS5.9
GKP Gorka Klasztor 82.05 323 *e*P **P** **14 19 52.1 -0.1**
comp=Z,0.5nm,2.9s
GKP *e*PcP PcP 14 19 55.2 -2.9
GKP *e*pP pP 14 20 00.2 -1.3
GKP *e*PP PP 14 22 59.2 -3.1
GKP *e*S S 14 30 03.4 +0.1
GKP *e*SKS SKS 14 30 07.0 -7.4
GKP *e*SS 14 30 19.5
GKP LR LR
comp=Z,6μm,22.1s,MS5.9
GKP Gorka Klasztor 82.05 323 *e*P **P** **14 19 52.1 -0.1**
comp=Z,500nm,2.9s,mb5.9
GKP *e*PcP PcP 14 19 55.2 -2.9
GKP *e*pP pP 14 20 00.2 -1.2
GKP *e*PP PP 14 22 59.1 -3.1
GKP *e*S S 14 30 03.4 +0.1
GKP *e*SKS SKS 14 30 07.0 -7.5
GKP *e*sS 14 30 19.5
GKP MLR MLR 15 03 47.9
comp=Z,6μm,22.1s,MS5.9
VKA Vienna 82.08 318⇑*i*P **P** **14 19 53.2 +0.8**
comp=Z,597nm,2.0s,mb6.2
VKA Vienna 82.08 318⇑*i*P **P** **14 19 53.2 +0.8**
VKA pmax pmax
comp=Z,597nm,2.0s,mb6.2
KTK1 Kautokeino 82.15 340 *e*P **P** **14 19 52.8 +0.4**
KTK1 *e*sP sP 14 20 02.7 -2.1
KTK1 AMb AMB 14 20 07.7
comp=Z,302nm,1.8s,mb5.9
DPC Dobruska-Polom 82.29 320 *e*P **P** **14 19 54.3 +0.8**
DPC *e*S S 14 30 06.3 +0.6
DPC AMS AMS 15 03 00.0
comp=Z,5μm,18.4s
SNZO South Karori 82.32 132 PFAKE 14 20 10.0 +16
SNZO LR LR
comp=Z,24μm,22.0s,MS6.5
KSP Ksiaz 82.36 321⇑*e*P **P** **14 19 54.6 +0.8**
KSP *e**PP pP 14 20 01.6 -1.5
KSP *e*S S 14 30 04.5 -1.9
KSP *e*SS SS 14 35 23.0 -7.6
KSP MLR MLR
comp=Z,13μm,22.4s,MS6.2
KSP Ksiaz 82.36 321 *e*P **P** **14 19 54.5 +0.7**
comp=Z,400nm,2.1s,mb6.0
KSP *e*PcP PcP 14 19 58.0 -1.5
KSP *e*pP pP 14 20 01.7 -1.4
KSP *e*S S 14 30 06.1 -0.4
KSP *e*SKS SKS 14 30 09.8 -6.7
KSP *e*sS 14 30 21.7
KSP MLR MLR 15 01 18.9
comp=Z,11μm,22.4s,MS6.2
UPC Upice 82.50 321 *e*P **P** **14 19 55.8 +1.2**
UPC *e*S S 14 30 09.6 +1.7
ARSA Arzberg 82.52 317⇑*i*P **P** **14 19 55.0 +0.2**
comp=Z,609nm,2.9s,mb6.1
BOJS Bojanci 82.56 315 *e*P **P** **14 19 55.2 +0.2**
BOJS *e* pP 14 20 05.3 +1.0
BOJS *e*S S 14 30 04.8 -3.9
BOJS *e* 14 35 25.0
BOJS *e* 14 39 08.0
PERS Pernice 82.75 317 *e*P **P** **14 19 56.4 +0.5**
PERS *e* pP 14 20 06.3 +1.1
NVLJ Novalja 82.76 314⇑*i*P **P** **14 19 55.2 -0.9**
CII Carovilli 82.99 312 *e*P **P** **14 19 57.3 0.0**
comp=Z,157nm,1.3s,mb5.9
LJU Ljubljana 83.11 316 *e*P **P** **14 19 58.4 +0.6**
LJU *e* pP 14 20 08.4 +1.3
LJU *e*S S 14 30 12.4 -1.7
LJU *e* 14 35 50.6
LJU Ljubljana 83.11 316 *e*P **P** **14 19 58.4 +0.6**
LJU *e* pP 14 20 08.4 +1.3
LJU *e*PP PP 14 23 22.0 +11
LJU *e*S S 14 30 12.4 -1.7
LJU *e* 14 35 50.6
OBKA Obir 83.13 316⇑*i*P **P** **14 19 58.4 +0.5**
comp=Z,655nm,3.0s
PRU Pruhonice 83.39 320 *e*P **P** **14 20 00.2 +1.0**
PRU *e*S S 14 30 17.8 +0.8
PRU MLR MLR
comp=Z,6μm,22.1s,MS5.9
PRU Pruhonice 83.39 320 *e*P **P** **14 20 00.2 +1.0**
PRU *e*x x 14 23 23.5
PRU *e*S S 14 30 17.8 +0.8
PRU *e*SS SS 14 36 01.3 +15
PRU AMS AMS 15 03 00.0
comp=Z,6μm,22.1s
MOA Molln 83.42 318⇑*i*P **P** **14 19 59.2 -0.2**
comp=Z,1μm,7.1s
PVCC Panska Ves 83.42 320 *e*P **P** **14 20 00.6 +1.3**
PVCC *e*S S 14 30 18.8 +1.6
PVCC MLR MLR
comp=Z,5μm,18.5s,MS5.9
PVCC Panska Ves 83.42 320 *e*P **P** **14 20 00.6 +1.3**
PVCC *e*x x 14 23 21.6
PVCC *e*S S 14 30 18.8 +1.6
PVCC *e*x x 14 35 57.8
PVCC AMS AMS 15 06 20.0
comp=Z,5μm,18.5s
VOY Vojsko 83.55 316 *e*P **P** **14 20 00.1 0.0**
AQU L'Aquila 83.70 312 *e*P **P** **14 20 01.9 +0.9**
AQU pmax pmax
comp=Z,260nm,1.1s,mb6.3
AQU L'Aquila 83.70 312 *e*P **P** **14 20 01.9 +1.0**
comp=Z,260nm,1.1s,mb6.3
TRO Tromso 83.78 340 *e*P **P** **14 19 59.5 -1.2**
TRO *e*PP PP 14 23 17.5 +1.7
TRO *e*SKSa 14 30 19.9
TRO AMS AMS 15 00 41.6
comp=Z,12μm,18.5s,MS6.3
ROBS Robic 83.83 316 *e*P **P** **14 20 01.3 -0.2**
ROBS *e* pP 14 20 11.0 +0.2
BRG Berggiesshubel 83.84 321 *i* P **P** **14 20 02.4 +0.9**
BRG *i* pP 14 20 10.6 -0.2
BRG *i* 14 23 19.0
BRG *i* S S 14 30 19.0 -2.4
BRG pmax pmax
comp=Z,143nm,1.7s,mb5.8
BRG MLR MLR
comp=Z,6μm,22.3s,MS5.9
BRG Berggiesshubel 83.84 321 *i* P **P** **14 20 02.4 +0.9**
comp=Z,143nm,1.7s,mb5.8
BRG *i* pP 14 20 10.6 -0.2
BRG *i* PP PP 14 23 19.0 +2.3
BRG *i* S S 14 30 19.0 -2.4
BRG *i* SS SS 14 35 32.0 -20
BRG LR LR
comp=Z,6μm,22.3s,MS5.9
GEC2 GERESS Array S 83.86 319 *e*P **P** **14 20 01.9 +0.3**
GEC2 *e* 14 23 14.3
GEC2 *e*S S 14 30 23.0 +1.4
GEC2 pmax pmax
comp=Z,154nm,1.5s,mb5.9
GEC2 GERESS Array S 83.86 319 *e*P **P** **14 20 01.9 +0.3**
comp=Z,154nm,1.5s,mb5.9
GEC2 *e*PP PP 14 23 14.3 -2.6
GEC2 *e*S S 14 30 23.0 +1.4
GERES GERESS Array B 83.86 319 P **P** **14 20 02.0 +0.4**
comp=Z,32nm,1.0s,mb5.4,baz=90,slow=4.0,SNR=85
GERES LR LR 15 03 46.4
comp=Z,4μm,19.9s,MS5.8,baz=90,slow=40
KHC Kasperske Hory 83.96 319 *e*P **P** **14 20 02.9 +0.8**
KHC *e* pP 14 20 14.0 +2.6
KHC *e*S S 14 30 22.0 -0.6
KHC MLR MLR
comp=Z,5μm,20.2s,MS5.9
KHC Kasperske Hory 83.96 319⇑*i*P **P** **14 20 02.2 +0.1**
KHC Kasperske Hory 83.96 319 *e*P **P** **14 20 02.9 +0.8**
KHC x x 14 20 14.0
KHC *e*x x 14 23 31.0
KHC *e*S S 14 30 22.0 -0.6
KHC *e*SS SS 14 36 02.1 +8.3
KHC AMS AMS 15 03 20.0
comp=Z,5μm,20.2s
KBA Koelnbreinsper 83.99 317⇑*i*P **P** **14 20 02.0 -0.3**
comp=Z,312nm,3.0s
KBA Koelnbreinsper 83.99 317⇑*i*P **P** **14 20 02.0 -0.3**
KBA pmax pmax

comp=Z,312nm,3.0s
RUE Ruedersdorf 84.06 322⇑ eP P 14 20 03.2 +0.6
comp=Z,308nm,1.4s,mb6.2
RUE eP cP cP 14 20 05.2 -1.6
WET Wettzell 84.42 319 eP P 14 20 04.6 +0.2
WET eS S 14 30 28.5 +1.3
WET pmax pmax
comp=Z,53nm,1.1s,mb5.6
WET Wettzell 84.42 319 eP P 14 20 04.6 +0.2
comp=Z,53nm,1.1s,mb5.6
WET eS S 14 30 28.5 +1.3
CLL Collm 84.46 321⇑ iP P 14 20 04.7 +0.1
CLL i pP 14 20 14.7 +0.8
CLL eS S 14 30 27.0 -0.6
CLL pmax pmax
comp=Z,53nm,1.3s,mb5.5
CLL MLR MLR
comp=Z,5μm,21.6s,MS5.8
CLL Collm 84.46 321⇑ iP P 14 20 04.7 +0.1
comp=Z,53nm,1.3s,mb5.5
CLL i pP 14 20 14.7 +0.8
CLL eS S 14 30 27.0 -0.6
CLL LR LR
comp=Z,5μm,21.6s,MS5.8
CLL Collm 84.46 321 ⇑P P 14 20 04.7 +0.1
comp=Z,logA/T=1.6,mb5.5
CLL e*PP pP 14 20 11.0 -2.9
CLL i *SP sP 14 20 14.7 -2.2
CLL i 14 20 27.9
CLL ePP PP 14 23 20.0 -1.6
CLL e*PPP 14 23 28.0
CLL ePPP PPP 14 25 18.0 +0.9
CLL eS S 14 30 27.0 -0.6
CLL eSS SS 14 36 12.0 +11
RGN Rugen 84.48 324 P pP 14 20 14.1 +0.2
comp=Z,487nm,1.8s
NKC Novy Kostel 84.75 320 eP P 14 20 07.3 +1.2
NKC eS S 14 30 32.3 +1.8
NKC eSS SS 14 36 11.8 +6.2
NKC MLR MLR
comp=Z,5μm,18.0s,MS6.0
NKC Novy Kostel 84.75 320 eP P 14 20 07.3 +1.2
NKC ex x 14 23 35.3
NKC eS S 14 30 32.3 +1.8
NKC eSS SS 14 36 11.8 +6.2
NKC AMS AMS 15 05 20.0
comp=Z,5μm,18.0s
MOR8 Moi Rana 84.96 336 eP P 14 20 06.5 -0.2
MOR8 AMb AMB 14 20 21.5
comp=Z,238nm,1.7s,mb6.0
COP Copenhagen 85.07 326⇑ iP P 14 20 08.3 +0.8
comp=Z,12nm,0.4s,mb5.4
COP i pP 14 20 16.8 0.0
COP Copenhagen 85.07 326 i S S 14 30 34.0 +0.6
COP i 14 30 50.7
comp=Z,3μm,19.0s
WTTA Wattenberg 85.16 317⇑ iP P 14 20 08.0 -0.2
comp=Z,527nm,3.3s
WTTA Wattenberg 85.16 317⇑ iP P 14 20 08.0 -0.2
WTTA pmax pmax
comp=Z,527nm,3.3s
WATA Walderalm 85.21 317⇓ iP P 14 20 08.3 -0.1
comp=Z,208nm,2.1s,mb5.9
WATA Walderalm 85.21 317⇓ iP P 14 20 08.3 -0.1
WATA pmax pmax
comp=Z,208nm,2.1s,mb5.9
MIDW Midway 85.28 62 PFAKE 14 20 20.0 +11
MIDW LR LR
comp=Z,43μm,21.0s,MS6.8
MOX Moxa 85.31 320 eP P 14 20 08.9 +0.1
MOX e 14 23 28.2
MOX eS S 14 30 36.8 +0.9
MOX pmax pmax
comp=Z,66nm,1.6s,mb5.5
MOX Moxa 85.31 320 eP P 14 20 08.9 +0.1
comp=Z,66nm,1.6s,mb5.5
MOX ePP PP 14 23 28.2 -0.2
MOX eS S 14 30 36.8 +0.9
MOX Moxa 85.31 320 i P **P 14 20 09.2 +0.4**
comp=Z,logA/T=1.8,mb5.7
MOX S S 14 30 38.0 +2.1
MOX L 15 08 28.0
MELSS Ber_school_2 85.31 337 eP P 14 20 08.2 -0.3
FUR Furstenfeldbru 85.44 318 eP P 14 20 09.1 -0.4
FUR eS S 14 30 36.4 -0.8
FUR pmax pmax
comp=Z,35nm,0.9s,mb5.5
FUR Furstenfeldbru 85.44 318 eP P 14 20 09.1 -0.4
comp=Z,35nm,0.9s,mb5.5
FUR eS S 14 30 36.4 -0.8
SQTA Sankt Quirin 85.45 317⇓ iP P 14 20 09.4 -0.2
comp=Z,288nm,2.1s,mb6.0
SQTA Sankt Quirin 85.45 317⇓ iP P 14 20 09.4 -0.2
SQTA pmax pmax
comp=Z,288nm,2.1s,mb6.0
GRA1 Grafenberg Arr 85.52 319 eP P 14 20 10.4 +0.5
comp=Z,93nm,1.1s,mb5.9
GRA1 epP pP 14 20 22.0 +2.8
GRA1 ePP PP 14 23 28.7 -1.5
GRA1 eS S 14 30 39.6 +1.6
GRA1 LR LR
comp=Z,5μm,20.0s,MS5.9
GRF Grafenberg Arr 85.52 319 eP P 14 20 10.4 +0.5
GRF e*PP pP 14 20 22.0 +2.8
GRF e 14 23 28.7
GRF eS S 14 30 39.6 +1.6
GRF pmax pmax
comp=Z,93nm,1.1s,mb5.9
GRF MLR MLR
comp=Z,5μm,20.0s,MS5.9
GRF Grafenberg Arr 85.52 319 eP P 14 20 10.4 +0.5
comp=Z,93nm,1.1s,mb5.9
GRF epP pP 14 20 22.0 +2.8
GRF ePP PP 14 23 28.7 -1.5
GRF eS S 14 30 39.6 +1.6
GRF LR LR
comp=Z,5μm,20.0s,MS5.9
KIWB Kanaga Island 85.85 38 eP P 14 20 08.4 -3.1
NSS Namsos 85.85 334 eP P 14 20 10.7 -0.5
NSS ePP PP 14 23 34.1 +1.7
NSS eSKSa 14 30 35.3
NSS AMS AMS 15 06 29.0
comp=Z,8μm,18.5s,MS6.2
HSP Hornsund 85.95 347 eP P 14 20 11.5 0.0
NB2 NORSAR Subarra 86.00 331 P P 14 20 11.8 -0.2
comp=Z,155nm,1.4s,mb6.0,baz=91,slow=5.6
NB2 NORSAR Subarra 86.00 331 P P 14 20 11.8 -0.2
NB2 pmax pmax
comp=Z,155nm,1.4s,mb6.0
NB2 NORSAR Subarra 86.00 331 P P 14 20 11.8 -0.2
baz=91,slow=5.6
NOA NORSAR Array B 86.00 331 P P 14 20 12.0 0.0
comp=Z,16nm,0.9s,mb5.3,baz=94,slow=5.0,SNR=47
NOA LR LR 15 03 19.0
comp=Z,12μm,20.7s,MS6.3,baz=75,slow=39
FUORN Ofenpass 86.09 316⇑ iP P 14 20 13.6 +0.8
CLZ Clausthal 86.13 322 eP P 14 20 13.0 +0.1
comp=Z,68nm,1.2s,mb5.8
CLZ eS S 14 30 43.1 -0.6
NAO01 NORSAR Array S 86.15 331⇑ eP P 14 20 12.9 +0.1
comp=Z,13nm,0.8s,mb5.2
NAO01 LR LR
comp=Z,13μm,20.0s,MS6.3
BSEG Bad Segeberg 86.21 324 eP P 14 20 13.7 +0.4
BSEG eS S 14 30 45.8 +1.3
BERNI Berninapass 86.25 316⇑ iP P 14 20 14.3 +0.7
DAVOX Davos 86.35 317⇑ iP P 14 20 14.7 +0.6
DAVA Damuels 86.36 317⇑ iP P 14 20 14.5 +0.4
comp=Z,496nm,2.8s,mb6.2
LIENZ Alp Oberkamor 86.62 317⇑ iP P 14 20 15.9 +0.5
VDL Val di Lei 86.63 316⇑ iP P 14 20 15.9 +0.4
PLONS Plons 86.70 317⇑ iP P 14 20 16.0 +0.2
KONO Kongsberg 86.75 329⇑ eP P 14 20 15.9 +0.2
KONO pmax pmax
comp=Z,182nm,1.3s,mb6.2
KONO MLR MLR
comp=Z,9μm,20.0s,MS6.2
KONO Kongsberg 86.75 329⇑ eP P 14 20 15.8 +0.1
comp=Z,182nm,1.3s,mb6.2
KONO eP cP cP 14 20 17.6 -0.8
KONO LR LR
comp=Z,9μm,20.0s,MS6.2
KONO Kongsberg 86.75 329⇑ iP P 14 20 16.1 +0.3
KONO eSKSa 14 30 39.5
VNDA Vanda 86.83 169 P P 14 20 17.0 +1.2
VNDA pmax pmax
comp=Z,62nm,1.4s
VNDA Vanda 86.83 169 P P 14 20 16.6 +0.8
comp=Z,2.0nm,0.7s,baz=302,slow=4.9,SNR=7.7
VNDA LR LR 14 56 17.6
comp=Z,17μm,18.9s,MS6.5,baz=307,slow=34
RAO Raoul Island 86.89 119 PFAKE 14 20 30.0 +13
RAO LR LR
comp=Z,10μm,20.0s,MS6.2
KBS Kingsbay 86.91 349 eP P 14 20 14.3 -1.9
KBS pmax pmax
comp=Z,65nm,1.0s,mb5.8
KBS MLR MLR
comp=Z,15μm,20.0s,MS6.4
KBS Kingsbay 86.91 349 eP P 14 20 14.3 -1.9
comp=Z,65nm,1.0s,mb5.8
KBS LR LR
comp=Z,15μm,20.0s,MS6.4
KBS Kingsbay 86.91 349⇑ iP P 14 20 15.5 -0.7
KBS eS S 14 30 50.4 -0.4
KBS AMS AMS 15 05 01.5
comp=Z,9μm,18.9s,MS6.2
MUD Monsted U'grnd 86.92 326⇑ iP P 14 20 17.4 +0.8
MUD i S S 14 30 52.5 +1.3
MUD pmax pmax
comp=Z,17nm,0.6s,mb5.5
MUD Monsted U'grnd 86.92 326⇑ iP P 14 20 17.4 +0.8
comp=Z,17nm,0.6s,mb5.5
MUD i S S 14 30 52.5 +1.3
MUD Monsted U'grnd 86.92 326⇑ iP P 14 20 17.4 +0.8
comp=Z,17nm,0.6s,mb5.5
MUD Monsted U'grnd 86.92 326 i S S 14 30 52.5 +1.3
comp=Z,8μm,19.0s
LLS Linth-Limmern 86.95 317⇑ iP P 14 20 17.5 +0.5
PGF Pioggiola 86.96 312 eP P 14 20 16.3 -0.9
comp=Z,354nm,1.9s,mb6.0
PGF Pioggiola 86.96 312 eP P 14 20 16.3 -0.9
PGF pmax pmax
comp=Z,177nm,1.9s,mb6.0
TOD Tromm 87.09 319 eP P 14 20 17.6 0.0
SPAK Spaichingen 87.10 318 eP P 14 20 17.8 +0.1
MUO Muotathal 87.21 317⇑ iP P 14 20 18.8 +0.5
SLE Schleitheim 87.30 318⇑ iP P 14 20 18.7 0.0
TNS Taunus Mts 87.32 320 eP P 14 20 19.1 +0.4
TNS eS S 14 30 56.9 +1.7
TNS pmax pmax
comp=Z,56nm,1.1s,mb5.7
TNS Taunus Mts 87.32 320 eP P 14 20 19.1 +0.4
comp=Z,56nm,1.1s,mb5.7
TNS eS S 14 30 56.9 +1.7
BNALP Bannalp 87.35 317⇑ iP P 14 20 19.3 +0.3
BFO Black Forest 87.41 318 eP P 14 20 18.8 -0.4
BFO eS S 14 30 55.7 -0.4
BFO pmax pmax
comp=Z,31nm,1.1s,mb5.5
BFO Black Forest 87.41 318 eP P 14 20 18.8 -0.4
comp=Z,31nm,1.1s,mb5.5
BFO eS S 14 30 55.7 -0.4
HASLI Hasliberg 87.54 317⇑ iP P 14 20 20.0 +0.1
SULZ Sulz-Cheisache 87.56 317⇑ iP P 14 20 19.7 -0.2
KTD Kalmit 87.56 319 eP P 14 20 20.2 +0.3
FELD Feldberg 87.63 318 eP P 14 20 20.2 -0.1
MMK Mattmark 87.68 316⇑ iP P 14 20 20.9 +0.4
LANF Langenberg 87.75 319 eP P 14 20 21.3 +0.5
MOL Molde 87.77 332 eP P 14 20 21.2 +0.6
MOL AMb AMB 14 20 36.6
comp=Z,231nm,1.6s,mb6.2
BALST Balsthal 87.85 317⇑ iP P 14 20 21.2 -0.1
BALST Balsthal 87.85 317⇑ iP P 14 20 21.3 0.0
WIMIS Wimmis 87.90 316⇑ iP P 14 20 22.0 +0.4
WIMIS Wimmis 87.90 316⇑ iP P 14 20 22.1 +0.5
ABH Alteburg 87.91 320 eP P 14 20 21.9 +0.4
SBA Scott Base 87.93 169 eP P 14 20 19.7 -1.4
SBA pmax pmax
comp=Z,139nm,1.6s,mb5.9
SBA Scott Base 87.93 169 eP P 14 20 19.7 -1.4
comp=Z,139nm,1.6s,mb5.9
SBA LR LR
comp=Z,13μm,19.0s,MS6.4
BBS Basel-Blauen 87.97 317 eP P 14 20 21.3 -0.6
SAOF Saorge 88.00 314 eP P 14 20 22.0 -0.1
WLS Welschbruch 88.06 318 eP P 14 20 19.1 -3.2
DIX Grande Dixence 88.06 316⇑ iP P 14 20 23.4 +1.0
SBF Sospel 88.09 314 eP P 14 20 23.5 +0.9
comp=Z,154nm,1.1s,mb5.9
SBF Sospel 88.09 314 eP P 14 20 23.5 +0.9
SBF pmax pmax
comp=Z,77nm,1.0s,mb5.9
CDF Champ du Feu 88.11 318 eP P 14 20 22.3 -0.2
comp=Z,224nm,1.8s,mb5.8
CDF Champ du Feu 88.11 318 eP P 14 20 22.3 -0.2
CDF pmax pmax
comp=Z,112nm,1.8s,mb5.8
SENIN Lac Senin 88.13 316⇑ iP P 14 20 23.5 +0.8
REVF Revere 88.14 314 eP P 14 20 22.8 0.0
BOURR Bourrignon 88.16 317⇑ iP P 14 20 22.9 +0.1
ECH Echery 88.19 318 eP P 14 20 22.8 -0.2
MOF Molkenrain 88.22 318 eP P 14 20 23.0 -0.1
ABSA Djebel Ababsia 88.22 306 P P 14 20 25.0 +1.6
TOUF Mont Tournerai 88.22 314 eP P 14 20 23.3 +0.1
RUP Ruppelstein 88.22 319 eP P 14 20 23.4 +0.3
CMAH Djebel Manchou 88.26 306 P P 14 20 24.5 +0.9
GRYON Gryon 88.27 316⇑ iP P 14 20 24.0 +0.6
MVIF Mont Vial 88.29 314 eP P 14 20 23.8 +0.3
WTSB Winterswijk 88.34 322 eP P 14 20 24.2 +0.6
comp=Z,13nm,2.5s
BLS5 Blasjo 88.35 329 eP P 14 20 25.1 +1.7
BLS5 AMb AMB 14 20 45.1
comp=Z,76nm,1.2s,mb5.8
TORNY Torny 88.36 317⇑ iP P 14 20 24.1 +0.3
SALAN Lac Salanfe 88.36 316⇑ iP P 14 20 24.5 +0.7
AIGLE Aigle 88.37 316⇑ iP P 14 20 24.3 +0.4
HINF Hinteralfeld 88.41 318 eP P 14 20 23.6 -0.4
EMV Vieux Emosson 88.42 316⇑ iP P 14 20 24.8 +0.7
LOMF Lomont 88.44 317 eP P 14 20 24.3 +0.2
CALN Calern 88.48 314 eP P 14 20 25.1 +0.6
SURF Saint Ours 88.52 314 eP P 14 20 25.0 +0.4
LPG La Plagne 88.54 315 eP P 14 20 24.2 -0.5
comp=Z,92nm,0.9s,mb5.8
LPG La Plagne 88.54 315 eP P 14 20 24.2 -0.5
LPG pmax pmax
comp=Z,46nm,0.9s,mb5.8
MBDF Montbardon 88.54 315 eP P 14 20 25.2 +0.5
comp=Z,242nm,1.8s,mb5.9
MBDF Montbardon 88.54 315 eP P 14 20 25.2 +0.5
MBDF pmax pmax
comp=Z,121nm,1.8s,mb5.9
LPL La Plagne 88.55 315 eP P 14 20 24.3 -0.4
comp=Z,106nm,0.9s,mb5.9
LPL La Plagne 88.55 315 eP P 14 20 24.3 -0.4
LPL pmax pmax
comp=Z,53nm,0.9s,mb5.9
BNI Bardonecchia 88.60 315 P P 14 20 25.0 0.0
BNI pmax pmax
comp=Z,49nm,1.2s,mb5.7
FRF La Foret Royal 88.67 313 eP P 14 20 24.6 -0.8
comp=Z,575nm,1.8s,mb6.3
FRF La Foret Royal 88.67 313 eP P 14 20 24.6 -0.8
FRF pmax pmax
comp=Z,288nm,1.8s,mb6.3
BRANT Les Verrieres 88.69 317⇑ iP P 14 20 25.9 +0.5
CAEH 'Ain El Ouahch 88.71 307 P P 14 20 29.0 +3.3
HAU Haudompre 88.74 318 eP P 14 20 25.2 -0.4
comp=Z,105nm,1.1s,mb5.8
HAU eR
comp=Z,6μm,21.2s
HAU Haudompre 88.74 318 eP P 14 20 25.2 -0.4
HAU pmax pmax
comp=Z,53nm,1.1s,mb5.8
HAU MLR MLR
comp=Z,6μm,21.3s,MS6.0
LMR La Mourre 88.77 313 eP P 14 20 25.1 -0.8
comp=Z,376nm,1.8s,mb6.1
LMR La Mourre 88.77 313 eP P 14 20 25.1 -0.8
LMR pmax pmax
comp=Z,188nm,1.8s,mb6.1
CKFL Kef-Lekhel 88.83 306 P P 14 20 30.0 +3.7
GIMEL Gimel 88.84 316⇑ iP P 14 20 26.7 +0.6
BER Bergen 88.89 330 eP P 14 20 25.9 0.0
BER e 14 24 00.9
BER AMS AMS 15 05 02.9
comp=Z,9μm,18.4s,MS6.2
HGN Heimansgroeve 88.92 321 eP P 14 20 26.5 +0.1
comp=Z,72nm,2.8s,mb5.5
HGN ePP PP 14 23 51.0 -7.3
HGN i S S 14 31 13.3 +3.3
HGN eSS SS 14 36 41.8 -24
CABF La Chapelle 88.96 316 eP P 14 20 27.0 +0.3
comp=Z,572nm,1.9s,mb6.3
CABF La Chapelle 88.96 316 eP P 14 20 27.0 +0.3
CABF pmax pmax
comp=Z,286nm,1.9s,mb6.3
THEF They Montfort 88.97 318 eP P 14 20 22.8 -3.9
GDM Grand'Maison 88.99 315 eP P 14 20 27.0 +0.1
CASM Ain Smara 89.02 306 P P 14 20 30.5 +3.3
OG25 Le Caire 89.05 314 eP P 14 20 27.6 +0.4
CTEI Djebel Teioual 89.09 306 P P 14 20 35.0 +7.4
TAVF Tavernes 89.09 313 eP P 14 20 28.2 +0.8
ORIF Oris-en-Rattie 89.17 315 eP P 14 20 27.0 -0.7
comp=Z,510nm,1.9s,mb6.2
ORIF eR
comp=Z,6μm,22.5s
GRN Grenoble 89.25 315 eP P 14 20 28.5 +0.4
VILF Villemus 89.33 314 eP P 14 20 29.0 +0.5
PUYF Puyloubier 89.36 313 eP P 14 20 29.7 +1.1
BERF Bertagne 89.37 313 eP P 14 20 26.9 -1.8
OG05 Jujurieux 89.42 316 eP P 14 20 30.6 +1.7
SMRF Simiane la Rot 89.43 314 eP P 14 20 28.8 -0.2
comp=Z,407nm,1.8s,mb6.2
DFRA Djebel Bou Aff 89.50 306 P P 14 20 33.0 +3.5
CMER Merouana 89.52 305 P pP 14 20 43.0 +4.1
GELF Grande-Etoile 89.56 313 eP P 14 20 30.1 +0.5
TREF Trevaresse 89.58 313 eP P 14 20 30.8 +1.1
MEZF Maizieres J'vi 89.59 318 eP P 14 20 29.7 +0.1
OCF Saint Nazaire 89.60 314 eP P 14 20 30.4 +0.7
OG26 St.-Nazaire-De 89.60 314 eP P 14 20 30.4 +0.7
GIVF Givet 89.66 320 eP P 14 20 30.2 +0.3
comp=Z,216nm,1.4s,mb6.0
GIVF Givet 89.66 320 eP P 14 20 30.2 +0.3
GIVF pmax pmax
comp=Z,108nm,1.4s,mb6.0
PRAF Pradon 89.73 314 eP P 14 20 31.4 +1.0
CKHR Kef el Ahmar 89.82 306 P pP 14 20 41.0 +0.7
SET Setif 89.90 306 P P 14 20 35.0 +3.6
VIVF Saint-Julien-l 90.03 315 eP P 14 20 31.1 -0.7
comp=Z,351nm,1.8s,mb6.1
VIVF Saint-Julien-l 90.03 315 eP P 14 20 31.1 -0.7
VIVF pmax pmax
comp=Z,175nm,1.8s,mb6.1
BAIF Baives 90.06 320 eP P 14 20 32.1 +0.4
comp=Z,204nm,1.2s,mb6.0
BAIF Baives 90.06 320 eP P 14 20 32.1 +0.4
BAIF pmax pmax
comp=Z,102nm,1.2s,mb6.0
NVL N'lazarevskaya 90.37 199⇓ iP P 14 20 34.2 +1.5
NVL i pP 14 20 42.9 +0.9
NVL i 14 26 07.8
NVL 14 31 25.2
NVL eSSS SSS 14 41 10.0 +7.2
NVL pmax pmax
comp=Z,63nm,1.4s,mb5.8
LOR Lormes 90.46 317 eP P 14 20 33.7 0.0
comp=Z,292nm,1.4s,mb6.1
LOR eR
comp=Z,7μm,20.8s
LOR Lormes 90.46 317 eP P 14 20 33.7 0.0
LOR pmax pmax
comp=Z,146nm,1.4s,mb6.1
LOR MLR MLR
comp=Z,7μm,20.8s,MS6.0
SMF Signal de Mont 90.51 317 eP P 14 20 33.9 0.0
comp=Z,460nm,1.9s,mb6.2
SMF Signal de Mont 90.51 317 eP P 14 20 33.9 0.0
SMF pmax pmax
comp=Z,230nm,1.9s,mb6.2
LASF Ste Croix 90.66 314 eP P 14 20 34.3 -0.4
comp=Z,368nm,1.8s,mb6.1
PLDF La Plantade 90.70 316 eP P 14 20 35.4 +0.6
SSF Saint Saulge 90.71 317 eP P 14 20 35.1 +0.3
SSF pmax pmax
comp=Z,237nm,1.9s,mb6.2
SSF Saint Saulge 90.71 317 eP P 14 20 35.1 +0.3
comp=Z,237nm,1.9s,mb6.2
AVF Avril sur Loir 90.83 317 eP P 14 20 35.4 0.0
comp=Z,461nm,1.9s,mb6.2
AVF Avril sur Loir 90.83 317 eP P 14 20 35.4 0.0
AVF pmax pmax
comp=Z,231nm,1.9s,mb6.2
LBL Lubilhac 91.02 315 eP P 14 20 37.1 +0.8
AGO Saint Agoulin 91.04 316 eP P 14 20 37.1 +0.7
PYM Petit Puy Mans 91.15 316 eP P 14 20 37.5 +0.6
BGF Bois d'Agland 91.20 316 eP P 14 20 37.6 +0.5
comp=Z,310nm,1.3s,mb6.2
BGF Bois d'Agland 91.20 316 eP P 14 20 37.6 +0.5
BGF pmax pmax
comp=Z,155nm,1.3s,mb6.2
HYF Humbligny 91.28 317 eP P 14 20 38.2 +0.7
MENF Mencas 91.33 321 eP P 14 20 38.0 +0.4
EJON La Jonquera 91.48 312 P P 14 20 38.2 -0.2
comp=Z,30nm,1.5s,mb5.4
SJAF Saint Jean de 91.48 312 eP P 14 20 38.7 +0.2
FRNF Fournols 91.49 315 eP P 14 20 39.7 +1.3
VERF Verneugheol 91.51 316 eP P 14 20 39.0 +0.5
TCF Toulx Ste Croi 91.66 316 eP P 14 20 39.8 +0.6
comp=Z,238nm,1.5s,mb6.0
TCF Toulx Ste Croi 91.66 316 eP P 14 20 39.8 +0.6
TCF pmax pmax
comp=Z,119nm,1.5s,mb6.0
LRDF Laroque-de-Fa 91.70 313 eP P 14 20 40.2 +0.7
FILF Fillols 91.71 313 eP P 14 20 40.7 +1.2
ETOS Mallorca 91.73 310 P P 14 20 41.4 +1.7
comp=Z,98nm,1.2s,mb6.0
ABA Alger-Bouzarea 91.77 307 P pP 14 20 51.0 +1.7
AFI Afiamalu 91.86 104 PFAKE 14 20 50.0 +9.2
AFI LR LR
comp=Z,4μm,20.0s,MS5.9
CAF Calviac 91.88 315 eP P 14 20 41.0 +0.8
comp=Z,420nm,1.9s,mb6.1
CAF Calviac 91.88 315 eP P 14 20 41.0 +0.8
CAF pmax pmax
comp=Z,210nm,1.9s,mb6.1
EMHD Djebel Mahouad 91.88 306 P P 14 20 45.0 +4.5
MTLF Montolieu 91.90 313 eP P 14 20 41.4 +1.0
comp=Z,291nm,1.6s,mb6.0
MTLF Montolieu 91.90 313 eP P 14 20 41.4 +1.0
MTLF pmax pmax
comp=Z,146nm,1.6s,mb6.1
QSPA South Pole Qui 92.09 180 eP P 14 20 42.1 +1.6
comp=Z,50nm,1.3s,mb5.7
UNV Unalaska Valle 92.21 36 PFAKE 14 20 50.0 +8.5
UNV LR LR
comp=Z,18μm,21.0s,MS6.5
RJF Les Rejaudoux 92.23 315 eP P 14 20 42.6 +0.8
comp=Z,508nm,1.8s,mb6.2
RJF eR
comp=Z,5μm,21.0s
RJF Les Rejaudoux 92.23 315 eP P 14 20 42.6 +0.8
RJF pmax pmax
comp=Z,254nm,1.8s,mb6.2
RJF MLR MLR
comp=Z,5μm,21.0s,MS6.0
EMIR Miracle 92.53 312 P P 14 20 44.9 +1.6
comp=Z,48nm,0.9s,mb5.9
LFF La Frestale 92.81 315 eP P 14 20 45.3 +0.8
comp=Z,532nm,1.9s,mb6.3
LFF La Frestale 92.81 315 eP P 14 20 45.3 +0.8
LFF pmax pmax
comp=Z,266nm,1.9s,mb6.3
EPOB Poblet 92.92 311 P P 14 20 45.3 +0.2
comp=Z,70nm,1.5s,mb5.9
JMIC Jan Mayen 92.95 342 eP P 14 20 46.4 +1.9
JMIC eSKSa 14 31 24.5
JMIC eSS SS 14 38 06.3 +2.3
JMIC AMS AMS 15 08 27.1
comp=Z,8μm,15.8s,MS6.3
LDF La Druitiere 93.00 319 eP P 14 20 45.6 +0.3
comp=Z,79nm,1.0s,mb5.8
LDF La Druitiere 93.00 319 eP P 14 20 45.6 +0.3

LDF pmax pmax
comp=Z,40nm,1.0s,mb5.8
EBNR Beni Rached 93.02 306 P **P** **14 20 48.0 +2.3**
ECHA Ech Chlef 93.16 306 P **P** **14 20 51.0 +4.6**
FLN La Foliniere 93.22 319 *e*P **P** **14 20 46.4 +0.1**
comp=Z,134nm,1.2s,mb5.9
FLN *e*R
comp=Z,7μm,21.0s
FLN La Foliniere 93.22 319 *e*P **P** **14 20 46.4 +0.1**
FLN pmax pmax
comp=Z,67nm,1.2s,mb6.0
FLN MLR MLR
comp=Z,7μm,21.0s,MS6.1
MFF Saint Martin d 93.25 317 *e*P **P** **14 20 46.7 +0.2**
comp=Z,244nm,1.5s,mb6.1
MFF Saint Martin d 93.25 317 *e*P **P** **14 20 46.7 +0.2**
MFF pmax pmax
comp=Z,122nm,1.5s,mb6.1
ETRT Tiaret 93.28 305 P sP 14 21 06.0 +6.8
EPF Esparros 93.30 313 *e*P **P** **14 20 47.8 +1.0**
comp=Z,128nm,1.6s,mb5.8
EPF Esparros 93.30 313 *e*P **P** **14 20 47.8 +1.0**
EPF pmax pmax
comp=Z,64nm,1.6s,mb5.8
EANR 'Ain N'Sour 93.39 306 P sP 14 21 04.0 +4.3
EBR Ebro Roquetas 93.41 311 *e*P **P** **14 20 48.0 +0.6**
EBIE Bielsa 93.48 313 P **P** **14 20 49.8 +2.1**
comp=Z,70nm,2.2s,mb5.7
ERTA Horta de San J 93.52 311 P **P** **14 20 47.6 -0.3**
comp=Z,83nm,1.7s,mb5.9
GRR Gorron 93.52 319 *e*P **P** **14 20 48.0 +0.3**
comp=Z,158nm,1.3s,mb6.0
GRR Gorron 93.52 319 *e*P **P** **14 20 48.0 +0.3**
GRR pmax pmax
comp=Z,79nm,1.3s,mb6.0
DAG Danmarks Havn 93.59 348⇓ *e*P **P** **14 20 47.2 -0.2**
DAG pmax pmax
comp=Z,75nm,1.5s,mb5.9
DAG MLR MLR
comp=Z,8μm,21.0s,MS6.2
DAG Danmarks Havn 93.59 348⇓ *e*P **P** **14 20 47.2 -0.2**
comp=Z,75nm,1.5s,mb5.9
DAG LR LR
comp=Z,8μm,21.0s,MS6.2
DAG Danmarks Havn 93.59 348⇓ *i*P **P** **14 20 47.2 -0.2**
comp=Z,75nm,1.5s,mb5.9
comp=Z,8μm,21.0s
LCHF La Chataignera 93.65 317 *e*P **P** **14 20 46.6 -1.7**
ESK Eskdalemuir 93.95 326 PFAKE 14 21 00.0 +10
ESK LR LR
comp=Z,1μm,19.0s,MS5.4
ETSF Etsaut 93.97 313 *e*P **P** **14 20 51.8 +1.9**
comp=Z,76nm,1.1s,mb5.7
ETSF Etsaut 93.97 313 *e*P **P** **14 20 51.8 +1.9**
ETSF pmax pmax
comp=Z,38nm,1.1s,mb5.7
ESAC San Caprasio 94.03 312 P **P** **14 20 51.4 +1.2**
comp=Z,97nm,1.4s,mb6.0
EMOS Mosqueruela 94.19 311 P **P** **14 20 51.9 +0.9**
comp=Z,147nm,1.6s,mb6.2
SJPF Ste Jean 94.42 313 *e*P **P** **14 20 52.1 +0.1**
comp=Z,85nm,1.3s,mb5.7
SJPF Ste Jean 94.42 313 *e*P **P** **14 20 52.1 +0.1**
SJPF pmax pmax
comp=Z,43nm,1.3s,mb5.7
EALK Alkurruntz 94.62 313 P **P** **14 20 54.1 +1.3**
comp=Z,75nm,2.0s,mb5.8
ECHE Chera 94.65 310 P **P** **14 20 56.6 +3.5**
ECHE pmax pmax
comp=Z,46nm,1.7s,mb5.6
ECHE Chera 94.65 310 P **P** **14 20 56.6 +3.4**
comp=Z,46nm,1.7s,mb5.6
SGMF Saint Gilles 94.66 319 *e*P **P** **14 20 52.2 -0.7**
comp=Z,387nm,1.9s,mb6.2
SGMF Saint Gilles 94.66 319 *e*P **P** **14 20 52.2 -0.7**
SGMF pmax pmax
comp=Z,194nm,1.9s,mb6.2
ROSF Rostrenen 95.12 319 *e*P **P** **14 20 54.4 -0.7**
comp=Z,229nm,1.7s,mb6.0
ROSF Rostrenen 95.12 319 *e*P **P** **14 20 54.4 -0.7**
ROSF pmax pmax
comp=Z,115nm,1.7s,mb6.0
ETOB Tobarra 95.21 309 P **P** **14 20 58.2 +2.5**
comp=Z,47nm,1.7s,mb5.6
TTA Tatalina 95.83 26 *e*P **P** **14 20 59.0 +1.0**
IMA Indian Mountai 95.84 23 *e*P **P** **14 20 59.7 +1.7**
IMA pmax pmax
comp=Z,120nm,1.6s,mb6.1
IMA Indian Mountai 95.84 23 *e*P **P** **14 20 59.7 +1.7**
comp=Z,120nm,1.6s,mb6.1
EVIA Vianos 95.95 309 P **P** **14 21 02.2 +3.0**
EVIA pmax pmax
comp=Z,15nm,0.8s,mb5.5
EVIA Vianos 95.95 309 P **P** **14 21 02.2 +3.0**
comp=Z,15nm,0.8s,mb5.5
EBER Berja 96.49 307 P **P** **14 21 04.4 +2.8**
comp=Z,49nm,1.4s,mb5.7
EQES Quesada 96.51 308 P **P** **14 21 02.3 +0.6**
comp=Z,30nm,2.4s,mb5.3
SVW2 Sparrevohn 96.55 28 *e*P **P** **14 21 02.0 +0.7**
VNA2 Neumayer--Watz 96.67 199 P **P** **14 21 08.9 +7.3**
VNA2 Neumayer--Watz 96.67 199 pP 14 21 13.4 +2.5
VNA2 Neumayer--Watz 96.67 199⇑ *i* sP 14 21 16.2 +2.3
GUD Guadarrama 96.93 311 P **P** **14 21 06.6 +3.1**
GUD pmax pmax
comp=Z,13nm,1.1s,mb5.3
GUD Guadarrama 96.93 311 P **P** **14 21 06.6 +3.1**
comp=Z,13nm,1.1s,mb5.3
ESDC Sonseca Array 96.94 310 P **P** **14 21 04.5 +1.0**
comp=Z,0.3nm,0.3s,baz=60,slow=4.6,SNR=4.3
ESDC PP PP 14 25 09.1 +7.4
comp=Z,0.9nm,0.5s,baz=79,slow=7.9,SNR=4.4
ESLA Sonseca Array 96.94 310 PFAKE 14 21 10.0 +6.5
ESLA LR LR
comp=Z,34μm,21.0s,MS6.8
SCO Scoresbysund 97.27 343 *i*P **P** **14 21 06.3 +2.0**
EADA Adamuz 97.64 309 P **P** **14 21 09.3 +2.6**
comp=Z,48nm,1.7s,mb5.8
SPU Mount Spurr 98.14 27 *e*P **P** **14 21 07.2 -1.2**
COLA College 98.55 23 PFAKE 14 21 20.0 +10
COLA LR LR
comp=Z,6μm,20.0s,MS6.1
MCK McKinley 98.57 24⇑ *e*P **P** **14 21 08.1 -2.2**
MCK pmax pmax
comp=Z,65nm,1.6s,mb5.9
MCK MLR MLR
comp=Z,6μm,19.0s,MS6.1
MCK McKinley 98.57 24 *e*PcP PcP 14 21 08.1 -2.4
comp=Z,65nm,1.6s
MCK LR LR
comp=Z,6μm,19.0s,MS6.1
ILAR Eielson Array 98.97 23 P **P** **14 21 11.5 -0.6**
comp=Z,1.4nm,0.8s,baz=296,slow=3.4,SNR=24
ILAR PP PP 14 25 15.1 -1.3
comp=Z,5.6nm,0.8s,baz=290,slow=7.6,SNR=11
ILAR PKKPbc 14 37 46.6
comp=Z,2.0nm,0.8s,baz=150,slow=1.8,SNR=9.5
ILAR LR LR 15 14 52.5
comp=Z,7μm,19.4s,MS6.2,baz=166,slow=41
FIB Fire Island 99.00 27 PFAKE 14 21 20.0 +7.7
FIB LR LR
comp=Z,6μm,21.0s,MS6.0
KDAK Kodiak Island 99.01 31 PFAKE 14 21 20.0 +7.6
KDAK LR LR
comp=Z,2μm,21.0s,MS5.7
SLKM Skilak Lake 99.22 27 *e*PcP PcP 14 21 12.8 -0.7
SML Sawmill 99.58 26 *e*Pdif **P** **14 21 16.0 +1.1**
BORG Borgarnes 99.70 337 PFAKE 14 21 30.0 +15
BORG LR LR
comp=Z,2μm,20.0s,MS5.7
THY Trims Highway 100.00 24 *e*Pdif **P** **14 21 17.2 +0.4**
SUMG Summit 100.27 348 *e*Pdif P 14 21 19.5 +1.6
comp=Z,17nm,0.9s
DIV Divide 100.98 26 PFAKE 14 21 30.0 +8.7
DIV LR LR
comp=Z,25μm,21.0s,MS6.7
DBIC Dimbokro 101.35 277 PP PP 14 25 38.2 +1.9
comp=Z,5.2nm,1.0s,baz=144,slow=6.5,SNR=3.4
DBIC Dimbokro 101.35 277 PFAKE 14 21 40.0 +16
DBIC LR LR
comp=Z,8μm,20.0s,MS6.2
INK Inuvik 101.67 17 P P 14 21 24.7 +0.4
comp=Z,4.1nm,0.9s,baz=343,slow=5.7,SNR=13
INK PP PP 14 25 36.1 -1.1
comp=Z,12nm,1.1s,baz=272,slow=3.9,SNR=8.5
INK PKKPbc 14 37 31.5
comp=Z,0.7nm,0.7s,baz=243,slow=4.6,SNR=4.8
INK Inuvik 101.67 17 *e*Pdif P 14 21 23.3 -0.9
comp=Z,16nm,1.1s
RES Resolute Bay 102.94 3 *e*Pdif Pdif 14 21 29.9 +0.1
comp=Z,22nm,1.4s
RAR Rarotonga 103.26 111 PFAKE 14 21 40.0 +7.7
RAR LR LR
comp=Z,6μm,20.0s,MS6.2
KIP Kipapa 103.28 68 PFAKE 14 21 40.0 +7.6
KIP LR LR
comp=Z,6μm,21.0s,MS6.1
POHA Pohakuloa 105.81 69 PFAKE 14 26 10.0
POHA LR LR
comp=Z,42μm,21.0s,MS7.0
SFJD Kangerlussuaq 107.26 347 *i*P Pdif 14 21 50.6 +1.8
SFJD *i* 14 32 22.3
SFJD *e* 14 33 45.5
SFJD *i* 14 35 38.0
SFJD *i* 14 41 22.9
comp=Z,8μm,20.0s
SIT Sitka 107.67 27 PFAKE 14 26 10.0
SIT LR LR
comp=Z,9μm,22.0s,MS6.3
DLBC Dease Lake 109.12 24 PP PP 14 26 30.2 -3.4
comp=Z,5.0nm,0.8s,baz=296,slow=11,SNR=7.6
YKA Yellowknife Ar 111.27 15 Pdiff Pdif 14 22 10.4 +3.8
comp=Z,0.2nm,0.3s,baz=327,slow=4.2,SNR=5.1
YKA PKIKP 14 26 07.9
comp=Z,1.4nm,1.0s,baz=325,slow=2.6,SNR=5.7
YKA PP PP 14 26 44.4 -4.1
comp=Z,3.1nm,0.7s,baz=331,slow=7.4,SNR=7.8
YKA PKKPbc 14 37 03.8
comp=Z,0.5nm,0.7s,baz=142,slow=3.1,SNR=4.1
TBI Tubuai 112.58 114 *e*PP PP 14 26 51.7 -7.5
TBI *e*PS PS 14 36 29.8 +1.4
TBI *e*SS SS 14 42 30.2 -4.9
TBI *e*LR LR 14 59 59.4
comp=Z,12μm,23.8s
PPT Papeete 113.12 108 *e*PP PP 14 26 52.8 -11
PPT *e*PS PS 14 36 37.2 +3.4
PPT *e*LR LR 15 00 10.3
comp=Z,10μm,23.0s
PDA Ponta Delgada 113.76 313 *e* 15 08 57.5
ADH Angra Heroismo 114.52 315 *e* 15 04 10.0
PMSA Palmer Station 116.00 189 PFAKE 14 26 30.0 +12
PMSA LR LR
comp=Z,13μm,20.0s,MS6.5
FCC Fort Churchill 118.65 6 *e*PKPdf PKPdf 14 26 19.4 -4.1
EDM Edmonton 119.31 20 *e*PKPdf PKPdf 14 26 21.2 -3.7
FMW Mount Fremont 120.58 30 P PKPdf 14 26 24.7 -2.8
COR Corvallis 121.31 33 PFAKE 14 26 40.0 +11
COR LR LR
comp=Z,1μm,21.0s,MS5.5
SCHQ Schefferville 121.62 349 PKP PKPdf 14 26 27.3 -2.1
comp=Z,2.7nm,0.5s,baz=34,slow=4.4,SNR=14
SCHQ PP PP 14 27 59.2 -2.0
comp=Z,8.9nm,0.8s,baz=26,slow=6.1,SNR=4.3
SCHQ Schefferville 121.62 349 *e*PKPdf PKPdf 14 26 24.9 -4.5
SCHQ LR LR
comp=Z,11μm,22.0s,MS6.5
NEW Newport 121.74 26 PKP PKPdf 14 26 26.8 -3.0
comp=Z,3.3nm,0.4s,baz=74,slow=21,SNR=8.8
NEW Newport 121.74 26 *e*PKPdf PKPdf 14 26 26.0 -3.7
NEW LR LR
comp=Z,9μm,22.0s,MS6.3
VFP Flag Point 121.79 31 P PKPdf 14 26 27.5 -2.4
HUMO Hull Mountain 122.80 34 *e*PKPdf PKPdf 14 26 27.7 -4.2
HUMO LR LR
comp=Z,5μm,21.0s,MS6.1
TAOE Nuku Hiva Isla 122.94 99 *e*PS PS 14 38 07.3 +4.0
TAOE *e*LR LR 15 04 49.9
KHMM Horse Mountain 123.45 36 *e*PKPdf PKPdf 14 26 30.7 -2.6
YBH Yreka Blue Hor 123.50 35 PP PP 14 28 13.9 -0.8
comp=Z,6.1nm,1.1s,baz=278,slow=4.6,SNR=3.1
YBH Yreka Blue Hor 123.50 35 *e*PKPdf PKPdf 14 26 27.9 -5.4
YBH LR LR
comp=Z,4μm,22.0s,MS6.0
LHEM Herd Peak 123.85 35 P PKPdf 14 26 31.4 -2.7
BMO Blue Mountains 124.19 29 *e*PKPdf PKPdf 14 26 27.3 -7.3
BMO LR LR
comp=Z,5μm,22.0s,MS6.1
MSO Missoula 124.22 25 *e*PKPdf PKPdf 14 26 28.8 -5.8
MSO LR LR
comp=Z,7μm,22.0s,MS6.3
LASM Arnica Sink 124.23 34 P PKPdf 14 26 32.2 -2.6
WDC Whiskeytown Da 124.34 36 *e*PKPdf PKPdf 14 26 29.5 -5.5
WDC LR LR
comp=Z,5μm,22.0s,MS6.1
CHMT Chamberlain Mo 124.44 25 *e*PKPdf PKPdf 14 26 31.2 -3.9
MOD Modoc 124.74 33 PFAKE 14 26 40.0 +4.2
MOD LR LR
comp=Z,5μm,21.0s,MS6.1
HOPS Hopland 125.02 38 *e*PKPdf PKPdf 14 26 30.4 -6.0
HOPS LR LR
comp=Z,5μm,20.0s,MS6.2
HRY Holter Researc 125.19 24 *e*PKPdf PKPdf 14 26 32.8 -3.6
NSHM Saint Helena R 125.60 38 PKPdf PKPdf 14 26 35.8 -1.7
BOZ Bozeman (W) 126.13 24 *e*PKPdf PKPdf 14 26 35.2 -3.1
BOZ LR LR
comp=Z,8μm,22.0s,MS6.4
MCMT McKenzie Canyo 126.26 26 P PKPdf 14 26 36.0 -2.6
HLID Hailey 126.54 28 PFAKE 14 26 50.0 +11
HLID LR LR
comp=Z,6μm,20.0s,MS6.3
ULM Lac du Bonnet 126.67 10 PKP PKPdf 14 26 35.4 -3.8
comp=Z,9.9nm,0.6s,baz=345,slow=2.0,SNR=13
ULM Lac du Bonnet 126.67 10 *e*PKPdf PKPdf 14 26 34.9 -4.3
ULM LR LR
comp=Z,15μm,20.0s,MS6.7
WCN Washoe City 126.80 35 *e*PKPdf PKPdf 14 26 37.7 -2.0
QLMT Earthquake Lak 126.87 25 *e*PKPdf PKPdf 14 26 37.3 -2.4
YMR Madison River 127.20 25 *e*PKPdf PKPdf 14 26 35.9 -4.5
CMB Columbia Colle 127.26 37 *e*PKPdf PKPdf 14 26 36.8 -3.9
CMB LR LR
comp=Z,4μm,20.0s,MS6.0
YNR Norris Junctio 127.28 24 *e*PKPdf PKPdf 14 26 38.6 -2.0
LAO LASA Array 127.29 20 *e*PKPdf PKPdf 14 26 38.3 -2.2
LAO LR LR
comp=Z,5μm,20.0s,MS6.2
SAO San Andreas Ge 127.42 39 PFAKE 14 26 50.0 +8.9
SAO LR LR
comp=Z,4μm,22.0s,MS6.1
YFT Old Faithful 127.43 25 *e*PKPdf PKPdf 14 26 39.8 -1.0
BMN Battle Mountai 127.43 33 *e*PKPdf PKPdf 14 26 37.8 -3.2
BMN LR LR
comp=Z,4μm,21.0s,MS6.0
LKWY Lake 127.52 24 *e*PKPdf PKPdf 14 26 38.2 -2.8
IMW Indian Meadow 127.83 25 *e*PKPdf PKPdf 14 26 37.8 -3.8
LRV Little Rabbit 127.90 39 *e*PKPdf PKPdf 14 26 40.0 -2.0
MOOW Moose Ponds 128.03 25 *e*PKPdf PKPdf 14 26 38.5 -3.6
RRI2 Red Ridge 128.11 26 *e*PKPdf PKPdf 14 26 38.9 -3.4
TPAW Teton Pass 128.16 26 *e*PKPdf PKPdf 14 26 39.6 -2.7
WUWY Wally Ulrich 128.20 25 *e*PKPdf PKPdf 14 26 39.8 -2.6
LOHW Long Hollow 128.21 25 *e*PKPdf PKPdf 14 26 38.6 -3.8
NVAR Mina Array Bea 128.22 35 PKP PKPdf 14 26 39.7 -2.9
comp=Z,17nm,1.0s,baz=64,slow=1.8,SNR=21
NVAR Mina Array Bea 128.22 35 PKP PKPdf 14 26 39.7 -2.9
ELK Elko 128.25 31 *e*PKPdf PKPdf 14 26 39.0 -3.5
ELK LR LR
comp=Z,7μm,22.0s,MS6.3
SNOW Snow King Moun 128.26 25 *e*PKPdf PKPdf 14 26 40.0 -2.5
REDW Red Top Meadow 128.30 26 *e*PKPdf PKPdf 14 26 39.5 -3.1
MNV Mina 128.30 35 *e*PKPdf PKPdf 14 26 40.0 -2.8
OMM Old Mammoth Mi 128.36 36 *e*PKPdf PKPdf 14 26 39.7 -3.2
HVU Hansel Valley 128.68 28 *e*PKPdf PKPdf 14 26 39.2 -4.1
MTUM Tungsten Hills 128.79 36 *e*PKPdf PKPdf 14 26 41.2 -2.5
TPH Tonopah 129.08 35 *e*PKPdf PKPdf 14 26 41.4 -2.8
TPH LR LR
comp=Z,3μm,20.0s,MS6.0
BW06 Boulder Array 129.34 25 PFAKE 14 26 50.0 +5.4
BW06 LR LR
comp=Z,7μm,22.0s,MS6.3
PDAR Pinedale Array 129.34 25 PKP PKPdf 14 26 40.1 -4.4
comp=Z,4.8nm,0.6s,baz=99,slow=1.3,SNR=20
PDAR SKKPbc 14 39 48.3
comp=Z,2.5nm,1.2s,baz=90,slow=3.0,SNR=4.3
HWUT Hardware Ranch 129.38 27 *e*PKPdf PKPdf 14 26 40.8 -3.9
HWUT LR LR
comp=Z,8μm,21.0s,MS6.4
PTCN Pitcairn Islan 129.39 121 PFAKE 14 26 50.0 +4.8
PTCN LR LR
comp=Z,10μm,19.0s,MS6.5
EYMN Ely 129.57 7 *e*PKPdf PKPdf 14 26 39.1 -5.8
EYMN LR LR
comp=Z,15μm,21.0s,MS6.7
PQI Presque Isle 129.58 346 PFAKE 14 26 50.0 +5.1
PQI LR LR
comp=Z,31μm,20.0s,MS7.0
TRCR Troy Canyon 129.80 33 *e*PKPdf PKPdf 14 26 43.0 -2.6
NOQ North Oquirrh 129.87 29 *e*PKPdf PKPdf 14 26 43.1 -2.5
DUG Dugway 129.88 30 *e*PKPdf PKPdf 14 26 43.0 -2.7
CTU Camp Tracy 130.01 28 *e*PKPdf PKPdf 14 26 43.1 -2.8
JLU Jordanelle 130.22 28 *e*PKPdf PKPdf 14 26 43.0 -3.4
RSSD Black Hills 130.28 20 *e*PKPdf PKPdf 14 26 42.3 -4.0
RSSD LR LR
comp=Z,2μm,19.0s,MS5.8
NLU North Lily Min 130.43 29 *e*PKPdf PKPdf 14 26 43.4 -3.3
DAU Daniels Canyon 130.47 28 *e*PKPdf PKPdf 14 26 44.1 -2.7
MPU Maple Canyon 130.59 29 *e*PKPdf PKPdf 14 26 44.7 -2.3
RWWY Rawlins 131.20 24 *e*PKPdf PKPdf 14 26 42.8 -5.3
EMMW East Machias 131.28 345 PFAKE 14 27 00.0 +12
EMMW LR LR
comp=Z,40μm,19.0s,MS7.1
ARUT Antelope Range 131.37 32 *e*PKPdf PKPdf 14 26 44.9 -3.7
MVU Marysvale 131.47 31 *e*PKPdf PKPdf 14 26 45.5 -3.3
MVU LR LR
comp=Z,4μm,21.0s,MS6.1
MSU Marysvale 131.48 31 *e*PKPdf PKPdf 14 26 46.8 -1.9
SRU San Rafael 131.84 29 *e*PKPdf PKPdf 14 26 45.3 -4.2
WVL Waterville 131.94 347 PFAKE 14 27 00.0 +11
WVL LR LR
comp=Z,25μm,20.0s,MS6.9
NEN Nelson 132.14 35 *e*PKPdf PKPdf 14 26 46.8 -3.3
PHWY Pilot Hill 132.23 23 *e*PKPdf PKPdf 14 26 46.3 -3.8
PFO Pinyon Flat Ob 132.57 38 *e*PKPdf PKPdf 14 26 46.5 -4.5
PFO LR LR
comp=Z,761nm,20.0s,MS5.4
NCB Newcomb 133.38 351 PFAKE 14 27 00.0 +7.8
NCB LR LR
comp=Z,7μm,22.0s,MS6.3
HRV Harvard--Oak R 134.32 348 PFAKE 14 27 00.0 +6.0
HRV LR LR
comp=Z,5μm,20.0s,MS6.2
WES Weston 134.39 348 PFAKE 14 27 00.0 +5.9
WES LR LR
comp=Z,8μm,22.0s,MS6.4
SDCO Great Sand Dun 135.23 25 *e*PKPdf PKPdf 14 26 53.4 -2.4
SDCO LR LR
comp=Z,11μm,22.0s,MS6.5
CS6B Jaguaretama 135.49 264⇓ *i*P PKPdf 14 27 01.2 +4.3
CS6B *i* 14 27 10.0
CS6B *i* 14 30 17.5
ERPA Erie 135.84 357 PFAKE 14 27 00.0 +3.2
ERPA LR LR
comp=Z,9μm,20.0s,MS6.5
CBKS Cedar Bluff 136.46 19 PFAKE 14 27 10.0 +12
CBKS LR LR
comp=Z,8μm,20.0s,MS6.5
TUC Tucson 136.88 35 *e*PKPdf PKPdf 14 26 53.5 -5.4
TUC LR LR
comp=Z,4μm,21.0s,MS6.1
ANMO Albuquerque 137.11 29 *e*PKPpre 14 26 47.9
ANMO *e*PKPdf PKPdf 14 26 55.3 -4.0
ANMO LR LR
comp=Z,9μm,21.0s,MS6.5
KSU1 Kansas State U 137.12 15 PKPdf PKPdf 14 26 57.0 -2.2
SSPA Standing Stone 137.14 354 *e*PKPdf PKPdf 14 26 54.1 -5.1
SSPA LR LR
comp=Z,2μm,22.0s,MS5.7
LAZ Ladron 137.22 30 *e*PKPdf PKPdf 14 26 56.7 -2.8
LENM Lemitar 137.49 30 *e*PKPdf PKPdf 14 26 56.9 -3.1
LPM Los Pinos Moun 137.54 29 *e*PKPdf PKPdf 14 26 55.8 -4.4
BNM Barren Site 137.67 29 *e*PKPpre 14 26 50.0
BNM *e*PKPdf PKPdf 14 26 55.6 -4.8
ACSO Alum Creek Sta 137.82 360 PKPdf PKPdf 14 26 56.7 -3.7
ACSO LR LR
comp=Z,9μm,20.0s,MS6.5
MCWV Mont Chateau 138.28 356 PFAKE 14 27 10.0 +8.7
MCWV LR LR
comp=Z,10μm,20.0s,MS6.6
SLM Saint Louis 138.89 8 PKPdf PKPdf 14 26 57.8 -4.7
AMTX Amarillo 139.26 24 PFAKE 14 27 10.0 +6.8
AMTX LR LR
comp=Z,6μm,21.0s,MS6.3
CCM Cathedral Cave 139.30 10 *e*PKPpre 14 26 52.9
CCM *e*PKPdf PKPdf 14 26 58.6 -4.6
CCM LR LR
comp=Z,2μm,21.0s,MS5.9
TRQA Tornquist 139.33 206 *e*PKPpre 14 26 56.1
TRQA *e*PKPdf PKPdf 14 27 00.6 -2.7
TRQA LR LR
comp=Z,7μm,20.0s,MS6.4
CBN Corbin 139.49 353 PFAKE 14 27 10.0 +6.5
CBN LR LR
comp=Z,9μm,20.0s,MS6.5
WCI Wyandotte Cave 139.71 4 PFAKE 14 27 10.0 +6.0
WCI LR LR
comp=Z,2μm,20.0s,MS5.8
CPRX Cap Rock 139.90 27 *e*PKPpre 14 26 53.6
CPRX *e*PKPdf PKPdf 14 27 00.3 -4.2
PLCA Paso Flores 139.94 195 PKP PKPdf 14 27 01.2 -3.0
comp=Z,5.1nm,1.0s,baz=169,slow=4.2,SNR=7.2
MNTX Cornudas Mount 140.26 30 *e*PKPpre 14 26 54.9
MNTX *e*PKPdf PKPdf 14 26 59.6 -5.5
MNTX LR LR
comp=Z,10μm,22.0s,MS6.5
GDL2 Guadalupe Moun 140.36 29 *e*PKPpre 14 26 54.1
BLA Blacksburg 140.75 357 PFAKE 14 27 10.0 +4.1
BLA LR LR
comp=Z,15μm,21.0s,MS6.7
BBSR BB Station 141.46 335 PFAKE 14 27 20.0 +13
BBSR LR LR
comp=Z,3μm,20.0s,MS6.1
WVT Waverly 141.66 6 *e*PKPpre 14 27 01.4
WVT *e*PKPdf PKPdf 14 27 04.8 -2.8
WVT LR LR
comp=Z,10μm,22.0s,MS6.5
MIAR Mount Ida 142.20 14 *e*PKPpre 14 27 00.7
MIAR *e*PKPdf PKPdf 14 27 04.6 -3.9
UALR University of 142.26 12 *e*PKPdf PKPdf 14 27 03.1 -5.5
CPCT Cooper Cave 142.57 2 *e*PKPdf PKPdf 14 27 06.3 -2.7
SWET Sewanee 142.73 4 *e*PKPdf PKPdf 14 27 05.3 -4.1
PLAL Pickwick Lake 142.77 7 *e*PKPpre 14 27 02.5
PLAL *e*PKPdf PKPdf 14 27 06.7 -2.8
PLAL LR LR
comp=Z,9μm,20.0s,MS6.5
BAO Brasilia Array 142.85 247 PKPdf PKPdf 14 27 05.2 -4.9
BAO PKPdf PKPdf 14 27 08.5 -1.6
BAO pPKPdf 14 27 12.0
BDFB Brasilia 142.87 247 PKP PKPdf 14 27 05.2 -4.9
comp=Z,4.0nm,0.7s,baz=218,slow=9.8,SNR=4.1
LTX Lajitas 143.04 31 *e*PKPpre 14 27 02.7
LTX *e*PKPdf PKPdf 14 27 06.3 -3.8
LTX LR LR
comp=Z,8μm,21.0s,MS6.5
TXAR Lajitas Array 143.04 31 PKhKP 14 27 03.8
comp=Z,11nm,0.8s,baz=270,slow=2.5,SNR=35
TXAR PP PP 14 30 20.0 +1.1
comp=Z,1.9nm,0.7s,baz=315,slow=3.5,SNR=3.5
OXF Oxford 143.06 9 *e*PKPpre 14 27 05.0
OXF LR LR
comp=Z,9μm,22.0s,MS6.5
JSC Jenkinsville 143.71 357 *e*PKPdf PKPdf 14 27 06.6 -4.5
JCT Junction City 143.87 25 *e*PKPpre 14 27 05.5
JCT *e*PKPdf PKPdf 14 27 09.2 -2.3
JCT LR LR
comp=Z,7μm,21.0s,MS6.4
NATX Nacogdoches 144.55 17 *e*PKPdf PKPdf 14 27 08.3 -4.3
NATX LR LR
comp=Z,7μm,20.0s,MS6.4
COW Cow Castle Cre 144.58 356 *e*PKPdf PKPdf 14 27 08.1 -4.6
GOGA Godfrey 144.62 0 *e*PKPdf PKPdf 14 27 08.0 -4.7
GOGA LR LR
comp=Z,6μm,19.0s,MS6.4
TWB Tillmans-White 144.80 356 *e*PKPdf PKPdf 14 27 09.3 -3.7
LRAL Lakeview Retre 144.81 6 *e*PKPdf PKPdf 14 27 08.1 -5.0
LRAL LR LR
comp=Z,6μm,19.0s,MS6.4
NHSC New Hope 144.81 356 *e*PKPdf PKPdf 14 27 09.0 -4.1
NHSC LR LR
comp=Z,10μm,22.0s,MS6.5
CPUP Villa Florida 145.45 224 PKPbc PKPbc 14 27 10.4 +0.4
CPUP Villa Florida 145.45 224 *e*PKPdf PKPdf 14 27 11.2 -3.2
CPUP LR LR
comp=Z,7μm,19.0s,MS6.4
LMEL Las Melosas 146.22 200 *e*P PKPbc 14 27 17.0 +5.4
FCH Farellones 146.73 200 *e*P PKPbc 14 27 15.1 +2.4
CFAA Coronel Fontan 147.50 204 PKPbc PKPdf 14 27 17.2 -0.4

comp=Z,3.1nm,0.6s,baz=160,slow=3.3,SNR=37
CJM Chamela 149.59 44 *i* P PKPdf 14 27 13.1 -8.2
DWPF Disney 149.86 357 PFAKE 14 27 30.0 +8.5
DWPF LR LR
comp=Z,2μm,20.0s,MS5.8
SFJM Santa Fe 150.23 40 *i* P PKPdf 14 27 20.8 -1.5
ZIIG Zihuatanejo 153.33 42 *i* P PKPdf 14 27 23.6 -3.2
PPM Popocatepetl 154.00 35 *i* P PKPdf 14 27 25.4 -2.4
PLIG Platanillo 154.01 38 *i* P PKPdf 14 27 24.7 -3.0
SIV San Ignacio 154.26 236 PKP PKPdf 14 27 25.3 -2.9
comp=Z,1.8nm,0.8s,baz=91,slow=3.9,SNR=9.0
SIV PKPbc PKPdf 14 27 32.6 +4.5
comp=Z,6.0nm,0.8s,baz=159,slow=1.4,SNR=16
CAIG El Cayaco 154.53 41 *i* P PKPdf 14 27 25.8 -2.7
LVC Limon Verde 155.40 213 *e*PKPdf PKPdf 14 27 26.8 -2.7
LVC LR LR
comp=Z,5μm,19.0s,MS6.4
VHO Vista Hermosa 156.67 35 *i* P PKPdf 14 27 29.0 -2.4
CMIG Matias Romero 157.65 31 *i* P PKPdf 14 27 28.5 -4.2
SAML Samuel 159.01 250 *e*PKPdf PKPdf 14 27 31.0 -3.4
SAML LR LR
comp=Z,3μm,21.0s,MS6.1
LPAZ La Paz 159.60 226 PKPdf PKPdf 14 27 32.2 -2.8
LPAZ La Paz 159.60 226 PKP PKPdf 14 27 32.4 -2.6
comp=Z,2.0nm,0.6s,baz=24,slow=1.1,SNR=7.4
LPAZ La Paz 159.60 226 *e*PKPdf PKPdf 14 27 32.3 -2.7
LPAZ LR LR
comp=Z,9μm,20.0s,MS6.6
SDV Santo Domingo 163.38 311 PKP PKPdf 14 27 35.7 -3.2
comp=Z,2.6nm,0.8s,baz=73,slow=20,SNR=3.3
SDV Santo Domingo 163.38 311 *e*PKPdf PKPdf 14 27 35.1 -3.8
SDV LR LR
comp=Z,11μm,21.0s
JTS JuntasAbangare 167.51 8 PFAKE 14 27 50.0 +7.6
JTS LR LR
comp=Z,1μm,20.0s
ROSC El Rosal 168.76 308 PKP PKPdf 14 27 40.2 -3.0
comp=Z,4.6nm,0.3s,baz=116,slow=23,SNR=7.3
PAYG Puerto Ayora 172.73 78 PFAKE 14 27 50.0 +4.5
PAYG LR LR
comp=Z,7μm,20.0s
OTAV Otavalo 174.72 297 *e*PKPdf PKPdf 14 27 38.0 -8.1
OTAV *e*PKPab PKPdf 14 27 45.3 -0.9
OTAV LR LR
comp=Z,11μm,20.0s

ATH ***28*** *14:15:58.4, 38.72N×22.43E, h20km±6km, MD3.0/5*
NEIC ***28*** *14:15:58.4, 38.72N×22.43E, h20km, MD3.0(ATH), After ATH.*
CSEM ***28*** *14:15:58.4, 38.72N×22.43E, h20km, MD3.0/5, After ATH*
THE ***28*** *14:16:00.0, 38.74N×22.53E, h10km, ML2.8*
ISC 28 14:15:59.6±0.9, 38.64N±0.06×22.49E±0.05, h17km±10km, n11, σ1§23/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.40**	**88**	*e*PB	**Pb**	**14 16 07.4**	**-0.5**
LKR				*e*SB	**Sb**	**14 16 14.5**	**+1.0**
AGG	**Agios Georgios**	**0.40**	**342**	*e*Pg	**Pb**	**14 16 05.7**	**-2.2**
AGG				*e*Sg	**Sb**	**14 16 11.2**	**-2.3**
EVR	**Evrytania**	**0.60**	**298**	*e*PN	**Pn**	**14 16 08.9**	**-4.2**
NEO	**Neokhori**	**0.88**	**40**	*e*PN	**Pn**	**14 16 15.0**	**-2.2**
MGER	**Gerania Oros**	**0.89**	**137**	*e*PN	**Pn**	**14 16 17.5**	**+0.2**
NSAL	**Nisos Salamina**	**1.06**	**133**	*e*PN	**Pn**	**14 16 20.0**	**+0.3**
AOS	**Alonnisos**	**1.21**	**63**	*e*Pg	**Pb**	**14 16 21.6**	**-0.1**
AOS				*e*Sg	**Sb**	**14 16 38.0**	**+1.1**
LIT	**Litokhoron**	**1.46**	**0**	*e*Pb	**Pb**	**14 16 25.2**	**-0.8**
LIT				*e*Sb	**Sb**	**14 16 45.7**	**+1.5**
MEV	**Metsovon**	**1.51**	**320**	*e*Pb	**Pb**	**14 16 26.2**	**-0.6**
MEV				*e*Sb	**Sb**	**14 16 47.2**	**+1.8**
IGT	**Igoumenitsa**	**1.90**	**299**	*e*Pb	**Pb**	**14 16 33.1**	**-0.3**
IGT				*e*Sb	**Sb**	**14 16 58.5**	**+1.6**
FNA	**Florina**	**2.31**	**339**	*e*Pn	**Pn**	**14 16 37.7**	**+0.1**
FNA				*e*Sn	**Sn**	**14 17 06.5**	**+0.6**

IDC ***28*** *14:16:57.6±1.2, 1.96N×96.70E, mb4.4/9, mb1 4.5/10, mb1mx4.3/20, mbtmp4.4/10, ML4.5/1, Error ellipse: s-maj=47.5km s-min=17.6km az=46.0*
NEIC ***28*** *14:17:02.0±0.4, 1.97N×96.73E, h30km, mb4.8/7, Error ellipse: s-maj=10.8km s-min=7.8km az=59.0*
BJI ***28*** *14:17:08.5, 2.87N×97.39E, h30km, mb5.1*
ISC 28 14:16:59.1±7.9, 2.0N±0.1×96.7E±0.2, h23km±54km, n21, σ0§67/21, mb4.5/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.12**	**50**	*e*Pn	**Pn**	**14 18 17.2**	**+0.7**
CM31	**Chiang Mai Arr**	**16.53**	**7**	*e*P	**P**	**14 20 47.4**	**-4.0**
12nm,0.7s
CMAR	**Chiang Mai Arr**	**16.53**	**7**	Pn	**P**	**14 20 51.1**	**-0.3**
0.6nm,0.3s,baz=197,slow=11,SNR=28
KKM	**Kota Kinabalu**	**19.85**	**78**	*e*P	**P**	**14 21 31.0**	**-0.7**
ENH	**Enshi**	**30.64**	**22**	*e*P	**P**	**14 23 12.3**	**-1.9**
10nm,0.8s,mb4.7
GTA	**Gaotai**	**37.38**	**4**	*e*P	**P**	**14 24 12.5**	**+0.5**
GTA				AP	pP	14 24 21.0	+2.0
GTA				XP	sP	14 24 24.3	+2.4
GTA				AMB	AMB		
comp=Z,20nm,0.8s,mb5.0
BJT	**Baijiatuau**	**41.79**	**23**	*e*P	**P**	**14 24 49.5**	**+0.8**
WRA	**Warramunga Arr**	**42.84**	**122**	P	**P**	**14 24 57.8**	**+0.3**
comp=Z,4.2nm,0.7s,mb4.3,baz=304,slow=9.0,SNR=16
WRAB	**Tennant Creek**	**42.84**	**122**	*e*P	**P**	**14 24 57.3**	**-0.3**
comp=Z,38nm,1.3s,mb5.0
ASAR	**Alice Springs**	**44.23**	**127**	P	**P**	**14 25 09.2**	**+0.5**
comp=Z,2.4nm,0.8s,mb4.0,baz=298,slow=7.6,SNR=5.4
MKAR	**Makanchi Array**	**46.39**	**346**	P	**P**	**14 25 26.3**	**+0.7**
comp=Z,7.6nm,0.8s,mb4.7,baz=159,slow=8.3,SNR=21
ULN	**Ulaanbaatar**	**46.59**	**10**	P	**P**	**14 25 27.2**	**+0.1**
comp=Z,11nm,1.2s,mb4.7
MJAR	**Matsushiro Arr**	**51.45**	**43**	P	**P**	**14 26 04.6**	**-0.3**
comp=Z,2.6nm,0.7s,mb4.3,baz=232,slow=8.3,SNR=4.1
PMG	**Port Moresby**	**51.48**	**104**	P	**P**	**14 26 05.8**	**+0.3**
comp=Z,18nm,0.7s,mb5.1,baz=356,slow=4.1,SNR=6.6
PMG	**Port Moresby**	**51.48**	**104**	*e*P	**P**	**14 26 05.5**	**0.0**
comp=Z,20nm,0.7s,mb5.2
BVAR	**Borovoye Array**	**55.38**	**341**	P	**P**	**14 26 33.3**	**-0.5**
comp=Z,4.2nm,0.7s,mb4.6,baz=139,slow=8.3,SNR=6.5
CHKZ	**Chkalovo**	**55.86**	**342**	*e*P	**P**	**14 26 36.8**	**-0.4**
comp=Z,11nm,1.0s,mb4.9
BRTR	**Keskin Array B**	**68.25**	**312**	P	**P**	**14 28 00.5**	**0.0**
comp=Z,0.7nm,0.6s,mb3.8,baz=135,slow=8.2,SNR=3.5
MAW	**Mawson**	**73.35**	**193**	P	**P**	**14 28 30.0**	**-0.6**
comp=Z,21nm,1.4s,mb4.9
FINES	**FINESS Array B**	**79.11**	**333**	P	**P**	**14 29 03.5**	**+0.3**
comp=Z,1.6nm,0.7s,mb4.1,baz=101,slow=9.7,SNR=4.9
ARCES	**ARCESS Array B**	**81.66**	**340**	P	**P**	**14 29 17.5**	**+0.9**
comp=Z,3.3nm,0.9s,mb4.2,baz=97,slow=7.3,SNR=4.0

IDC ***28*** *14:20:25.5±0.6, 2.12N×96.72E, mb4.5/15, mb1 4.7/16, mb1mx4.6/22, mbtmp4.6/16, ML4.7/1, Error ellipse: s-maj=26.8km s-min=13.2km az=48.0*
BJI ***28*** *14:20:27.7, 1.61N×96.65E, h56km, mB5.6, mb5.0, Ms5.6, Msz5.6*
MOS ***28*** *14:20:28.8±0.9, 2.21N×96.89E, h33km, mb5.1/11, Error ellipse: s-maj=16.1km s-min=9.2km az=114.6*
NEIC ***28*** *14:20:29.7±0.3, 2.09N×96.72E, h30km, mb4.8/15, Error ellipse: s-maj=9.6km s-min=5.8km az=45.0*
ISC 28 14:20:29.7±2.0, 2.11N±0.07×96.80E±0.08, h43km±16km, n78, σ0§83/74, mb4.7/44, MS5.4/1, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.97**	**50**	*e*Pn	**P**	**14 21 44.4**	**+0.5**
KSM	**Kuching**	**13.52**	**92**	*e*P	**P**	**14 23 41.3**	**+0.1**
CM31	**Chiang Mai Arr**	**16.38**	**7**	*e*P	**P**	**14 24 18.2**	**-0.1**
31nm,0.8s
CMAR	**Chiang Mai Arr**	**16.38**	**7**	Pn	**P**	**14 24 17.1**	**-1.1**
1.0nm,0.3s,baz=197,slow=11,SNR=59
KKM	**Kota Kinabalu**	**19.75**	**78**	*e*P	**P**	**14 24 58.7**	**-0.2**
HYB	**Hyderabad**	**23.51**	**311**	*e*P	**P**	**14 25 39.0**	**+2.2**
HYB	**Hyderabad**	**23.51**	**311**	*i* P	**P**	**14 25 39.0**	**+2.2**
KMI	**Kunming**	**23.59**	**14**	P	**P**	**14 25 39.0**	**+1.5**
KMI AMB AMB
comp=Z,24nm,1.3s,mb4.5
GYA	**Guiyang**	**26.00**	**21**	⇑*i*P	**P**	**14 26 01.3**	**+0.7**
GYA				AP	pP	14 26 10.5	-1.4
GYA				PP	PP	14 26 43.5	+1.0
GYA				S	**S**	**14 30 36.0**	**+10**
GYA				AMB	AMB		
comp=Z,20nm,1.1s,mb4.6
PKI	**Pulchoki**	**27.57**	**338**	*e*P	**P**	**14 26 15.5**	**+0.5**
comp=Z,54nm,1.3s,mb5.0
GUN	**Gumba**	**27.70**	**339**	*e*P	**P**	**14 26 16.3**	**+0.1**
comp=Z,87nm,1.0s,mb5.3
DMN	**Daman**	**27.72**	**337**	*e*P	**P**	**14 26 17.0**	**+0.7**
comp=Z,109nm,1.5s,mb5.2
KKN	**Kakani**	**27.82**	**338**	*e*P	**P**	**14 26 17.3**	**+0.1**
comp=Z,41nm,0.9s,mb5.0
LSA	**Lhasa**	**27.96**	**349**	P	**P**	**14 26 19.3**	**+0.8**
LSA	**Lhasa**	**27.96**	**349**	*e*P	**P**	**14 26 18.8**	**+0.3**
LSA				pmax	pmax		
comp=Z,29nm,0.9s,mb4.9
LSA	**Lhasa**	**27.96**	**349**	*e*P	**P**	**14 26 18.8**	**+0.3**
comp=Z,29nm,0.9s,mb4.9
GKN	**Gorkha**	**28.25**	**337**	*e*P	**P**	**14 26 20.9**	**-0.2**
comp=Z,24nm,0.6s,mb5.0
KOLN	**Koldanda**	**28.47**	**335**	*e*P	**P**	**14 26 22.8**	**-0.3**
comp=Z,28nm,0.7s,mb5.0
ENH	**Enshi**	**30.49**	**22**	P	**P**	**14 26 38.8**	**-2.2**
comp=Z,6.0nm,0.6s,mb4.5
FITZ	**Fitzroy Crossi**	**34.78**	**126**	P	**P**	**14 27 17.9**	**-0.5**
comp=Z,9.8nm,0.7s,mb4.8,baz=148,slow=6.8,SNR=8.3
NJ2	**Nanjing**	**36.31**	**33**	*e*P	**P**	**14 27 31.0**	**-0.3**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9
GTA	**Gaotai**	**37.23**	**4**	*e*P	**P**	**14 27 38.8**	**-0.1**
GTA				AMB	AMB		
comp=Z,39nm,0.9s,mb5.2
JOW	**Kunigami**	**38.92**	**48**	P	**P**	**14 27 54.0**	**+0.9**
comp=Z,10nm,0.6s,mb4.8,baz=240,slow=10,SNR=8.9
HHC	**Hu-ho-hao-te**	**40.81**	**17**	*e*P	**P**	**14 28 09.5**	**+0.8**
HHC				AMB	AMB		
comp=Z,26nm,1.2s,mb4.7
BJI	**Beijing**	**41.65**	**23**	*e*P	**P**	**14 28 16.0**	**+0.3**
BJI				AMB	AMB		
comp=Z,19nm,1.0s,mb4.7
WMQ	**Urumqi**	**42.32**	**350**	P	**P**	**14 28 21.8**	**+0.7**
WMQ				AP	pP	14 28 31.3	-1.7
WMQ				PP	PP	14 30 03.0	+0.8
WMQ				PCP	PcP	14 30 17.3	+2.6
WMQ				*e*S	**S**	**14 34 39.8**	**+1.1**
WMQ				AMB	AMB		
comp=Z,11nm,0.8s,mb4.5
WMQ				AMB	AMB		
comp=Z,510nm,5.2s
WMQ				LR	LR		
comp=N,6μm,19.8s,MS5.5
WMQ				LR	LR		
comp=E,2μm,19.0s,MS5.5
WMQ				LR	LR		
comp=Z,4μm,19.8s,MS5.3
WRA	**Warramunga Arr**	**42.85**	**123**	P	**P**	**14 28 25.8**	**0.0**
comp=Z,12nm,0.7s,mb4.7,baz=301,slow=9.1,SNR=42
WRA				PcP	PcP	14 30 16.5	-0.3
comp=Z,0.3nm,0.5s,baz=312,slow=2.8,SNR=4.7
WRAB	**Tennant Creek**	**42.86**	**123**	*e*P	**P**	**14 28 25.8**	**0.0**
WRAB				pmax	pmax		
comp=Z,21nm,0.8s,mb4.9
WRAB	**Tennant Creek**	**42.86**	**123**	*e*P	**P**	**14 28 25.8**	**0.0**
comp=Z,21nm,0.8s,mb4.9
WB2	**Warramunga Arr**	**42.86**	**123**	⇓*i*P	**P**	**14 28 26.0**	**+0.2**
ASPA	**Alice Springs**	**44.26**	**128**	*e*P	**P**	**14 28 37.2**	**+0.1**
ASAR	**Alice Springs**	**44.26**	**128**	P	**P**	**14 28 37.4**	**+0.3**
comp=Z,7.0nm,0.9s,mb4.4,baz=300,slow=7.8,SNR=36
ASAR				PcP	PcP	14 30 21.6	+0.1
comp=Z,1.4nm,0.8s,baz=313,slow=3.7,SNR=4.7
AAK	**Ala-Archa**	**45.01**	**337**	*e*P	**P**	**14 28 42.9**	**0.0**
AAK				pmax	pmax		
comp=Z,19nm,1.2s,mb4.8
AAK	**Ala-Archa**	**45.01**	**337**	*e*P	**P**	**14 28 42.9**	**0.0**
comp=Z,19nm,1.2s,mb4.8
MKAR	**Makanchi Array**	**46.27**	**346**	P	**P**	**14 28 52.9**	**+0.1**
comp=Z,26nm,0.8s,mb5.2,baz=158,slow=9.3,SNR=76
ULN	**Ulaanbaatar**	**46.44**	**10**	*e*P	**P**	**14 28 53.9**	**-0.2**
ULN				pmax	pmax		
comp=Z,13nm,1.0s,mb4.8
ULN	**Ulaanbaatar**	**46.44**	**10**	*e*P	**P**	**14 28 53.9**	**-0.2**
comp=Z,13nm,1.0s,mb4.8
ZAK	**Zakamensk**	**48.41**	**6**	*e*P	**P**	**14 29 10.2**	**+0.7**
ZAK				pmax	pmax		
comp=Z,4.0nm,1.4s,mb4.3
MDJ	**Mudanjiang**	**51.28**	**30**	P	**P**	**14 29 32.8**	**+1.3**
MDJ				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8
MDJ	**Mudanjiang**	**51.28**	**30**	*e*P	**P**	**14 29 31.6**	**+0.1**
comp=Z,16nm,1.0s,mb4.9
MAJO	**Matsushiro**	**51.30**	**43**	*e*P	**P**	**14 29 30.8**	**-1.0**
MAJO				pmax	pmax		
comp=Z,8.0nm,0.8s,mb4.7
MAJO	**Matsushiro**	**51.30**	**43**	*e*P	**P**	**14 29 30.8**	**-1.0**
comp=Z,7.7nm,0.8s,mb4.7
MJAR	**Matsushiro Arr**	**51.30**	**43**	P	**P**	**14 29 32.3**	**+0.5**
comp=Z,5.5nm,0.9s,mb4.5,baz=209,slow=6.1,SNR=9.5
PMG	**Port Moresby**	**51.45**	**104**	*e*P	**P**	**14 29 32.9**	**-0.3**
PMG				pmax	pmax		
comp=Z,33nm,0.7s
PMG	**Port Moresby**	**51.45**	**104**	P	**P**	**14 29 33.6**	**+0.4**
comp=Z,32nm,0.7s,mb5.4,baz=319,slow=2.4,SNR=11
PMG	**Port Moresby**	**51.45**	**104**	*e*P	**P**	**14 29 32.9**	**-0.3**
comp=Z,33nm,0.7s,mb5.4
CTAO	**Charters Tower**	**53.26**	**117**	*e*P	**P**	**14 29 46.9**	**+0.2**
CTAO				pmax	pmax		
comp=Z,15nm,0.9s,mb4.9
CTAO	**Charters Tower**	**53.26**	**117**	*e*P	**P**	**14 29 46.9**	**+0.1**
comp=Z,15nm,0.9s,mb4.9
NVS	**Novosibirsk**	**53.72**	**350**	*e*P	**P**	**14 29 47.6**	**-2.0**
NVS				pmax	pmax		
comp=N,14nm,1.0s
NVS				pmax	pmax		
comp=E,11nm,1.0s
NVS				pmax	pmax		
comp=Z,15nm,1.0s,mb4.9
STKA	**Stephens Creek**	**54.26**	**132**	*e*P	**P**	**14 29 54.2**	**+0.3**
comp=Z,7.9nm,1.5s,mb4.4
STKA	**Stephens Creek**	**54.26**	**132**	P	**P**	**14 29 54.2**	**+0.3**
comp=Z,4.2nm,0.8s,mb4.4,baz=354,slow=3.7,SNR=4.5
BVAR	**Borovoye Array**	**55.27**	**341**	P	**P**	**14 30 00.1**	**-0.8**
comp=Z,5.7nm,0.7s,mb4.7,baz=140,slow=8.9,SNR=24
KLR	**Kul'dur**	**55.63**	**27**	*e*P	**P**	**14 30 00.0**	**-3.6**
CHKZ	**Chkalovo**	**55.74**	**341**	*e*P	**P**	**14 30 03.3**	**-1.1**
CHKZ				pmax	pmax		
comp=Z,19nm,0.9s,mb5.1
CHKZ	**Chkalovo**	**55.74**	**341**	*e*P	**P**	**14 30 03.3**	**-1.0**
comp=Z,19nm,0.9s,mb5.1
BOD	**Bodaibo**	**57.20**	**11**	*e*P	**P**	**14 30 12.2**	**-2.5**
BOD				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.7
YSS	**Yuzh-Sakhalins**	**59.83**	**35**	P	**P**	**14 30 32.8**	**-0.4**
KIV	**Kislovodsk**	**63.37**	**319**	*e*P	**P**	**14 31 03.9**	**+6.9**
KIV				pmax	pmax		
comp=E,9.0nm,1.0s
KIV				pmax	pmax		
comp=Z,11nm,1.0s,mb4.9
BRTR	**Keskin Array B**	**68.21**	**312**	P	**P**	**14 31 27.1**	**-1.0**
comp=Z,1.4nm,0.8s,mb4.0,baz=147,slow=6.3,SNR=5.2
AKASG	**Malin Array Be**	**74.30**	**322**	P	**P**	**14 32 03.4**	**-1.0**
comp=Z,1.1nm,0.5s,mb4.1,baz=90,slow=4.9,SNR=6.5
JOF	**Joensuu**	**77.16**	**335**	*ep*	**P**	**14 32 19.3**	**-1.1**
comp=Z,3.8nm,0.8s,mb4.4
FINES	**FINESS Array B**	**79.02**	**332**	P	**P**	**14 32 30.8**	**+0.1**
comp=Z,3.0nm,0.6s,mb4.4,baz=97,slow=6.1,SNR=10
FINES	**FINESS Array B**	**79.02**	**332**	P	**P**	**14 32 30.8**	**+0.1**
KAF	**Kangasniemi**	**79.10**	**333**	*ep*	**P**	**14 32 30.7**	**-0.4**
comp=Z,4.1nm,0.6s,mb4.5,baz=102,slow=5.1
KAF	**Kangasniemi**	**79.10**	**333**	*e*P	**P**	**14 32 30.7**	**-0.4**
KAF				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.5
KEV	**Kevo**	**81.12**	**341**	*ep*	**P**	**14 32 41.7**	**0.0**
comp=Z,9.1nm,1.0s,mb4.7
KEV	**Kevo**	**81.12**	**341**	*e*P	**P**	**14 32 41.7**	**0.0**
KEV				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.7
ARCES	**ARCESS Array B**	**81.55**	**340**	P	**P**	**14 32 44.5**	**+0.5**
comp=Z,1.4nm,0.4s,mb4.2,baz=102,slow=4.7,SNR=25
GERES	**GERESS Array B**	**83.87**	**319**	P	**P**	**14 32 57.8**	**+1.5**
comp=Z,1.5nm,0.7s,mb4.2,baz=108,slow=4.2,SNR=7.4
NB2	**NORSAR Subarra**	**86.02**	**331**	P	**P**	**14 33 06.9**	**+0.3**
comp=Z,0.9nm,0.7s,mb4.1,baz=97,slow=5.0
NB2	**NORSAR Subarra**	**86.02**	**331**	P	**P**	**14 33 06.9**	**+0.3**
NB2				pmax	pmax		
comp=Z,1.0nm,0.7s,mb4.2
NOA	**NORSAR Array B**	**86.02**	**331**	P	**P**	**14 33 07.2**	**+0.6**
comp=Z,1.5nm,0.8s,mb4.3,baz=94,slow=5.2,SNR=5.9
NVAR	**Mina Array Bea**	**128.28**	**35**	PKP	PKPdf	14 39 36.2	+4.0
comp=Z,0.6nm,0.7s,slow=0.9,SNR=3.9
NVAR	**Mina Array Bea**	**128.28**	**35**	PKP	PKPdf	14 39 36.2	+4.0
TXAR	**Lajitas Array**	**143.10**	**31**	PKhKP		14 39 59.3
comp=Z,0.6nm,0.6s,baz=90,slow=1.3,SNR=3.5
CPUP	**Villa Florida**	**145.39**	**224**	PKPbc	PKPbc	14 40 05.9	+1.6
comp=Z,1.3nm,0.5s,baz=86,slow=2.8,SNR=6.0
CPUP	**Villa Florida**	**145.39**	**224**	*e*PKPdf	PKPdf	14 40 05.5	+1.8
CPUP				*ep*PKPdf		14 40 14.2
CFAA	**Coronel Fontan**	**147.44**	**204**	PKPbc	PKPdf	14 40 12.8	+5.7
comp=Z,0.3nm,0.6s,baz=214,slow=4.1,SNR=4.6

IDC ***28*** *14:20:46.0±1.2, 26.32N×90.79E, h19km±5km, mb3.8/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.9/5, Error ellipse: s-maj=126.7km s-min=17.8km az=54.0*
ISC 28 14:20:43.5±1.1, 26.1N±0.2×90.5E±0.2, h20km, h20km±.1km: pP-P, n7, σ0§33/9, mb4.0/5, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.37**	**114**	*e*P	**Pn**	**14 21 08.3**	**+0.5**
SHL				*e*S	**Sn**	**14 21 25.3**	**-0.2**
GTK	**Gangtok**	**2.06**	**306**	*e*PN	**Pn**	**14 21 07.0**	**-11**
GTK				*e*SN	**Sn**	**14 21 35.0**	**-7.9**
MKAR	**Makanchi Array**	**21.62**	**345**	P	**P**	**14 25 34.0**	**-0.3**
4.9nm,0.7s,mb4.1,baz=160,slow=8.9,SNR=7.9
FINES	**FINESS Array B**	**55.20**	**328**	P	**P**	**14 30 17.4**	**+0.5**
2.8nm,1.1s,mb4.2,baz=112,slow=7.5,SNR=2.4
NOA	**NORSAR Array B**	**62.34**	**327**	P	**P**	**14 31 06.5**	**-0.2**
0.7nm,0.6s,mb4.0,baz=86,slow=6.8,SNR=3.8
NOA				pP	pP	14 31 12.8	-0.2
1.1nm,0.8s,baz=86,slow=6.7,SNR=3.6
WRA	**Warramunga Arr**	**62.53**	**133**	P	**P**	**14 31 08.2**	**-0.3**
0.6nm,0.4s,mb4.0,baz=323,slow=7.1,SNR=5.8
WRA				pP	pP	14 31 14.6	-0.2
0.9nm,0.7s,baz=323,slow=6.9,SNR=3.0
ASAR	**Alice Springs**	**64.92**	**136**	P	**P**	**14 31 24.0**	**-0.1**
0.5nm,0.5s,mb3.8,baz=315,slow=6.2,SNR=5.0
ASAR				pP	pP	14 31 30.4	-0.1
0.9nm,0.7s,baz=317,slow=6.0,SNR=3.6

IDC ***28*** *14:21:17.1±1.0, 6.90S×30.19E, mb4.0/9, mb1 4.3/13, mb1mx4.2/23, mbtmp4.2/13, ML4.5/2, Error ellipse: s-maj=33.4km s-min=17.1km az=105.0*
NEIC ***28*** *14:21:18.1±0.5, 6.91S×30.21E, h10km, mb4.2/3, Error ellipse: s-maj=19.2km s-min=7.8km az=105.0*
ISC 28 14:21:15.9±0.6, 6.93S±0.07×30.3E±0.1, h10km, n22, σ1§14/31, mb4.0/9, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**6.31**	**4**	*e*Pn	**Pn**	**14 22 49.6**	**-1.7**
MBAR				*e*Sn	**Sn**	**14 23 56.1**	**-8.1**
LSZ	**Lusaka**	**8.54**	**194**	*e*Pn	**P**	**14 23 23.3**	**+0.8**
LSZ				*e*Sn	**Sn**	**14 24 53.5**	**-6.4**
KMBO	**Kilima Mbogo**	**9.04**	**51**	Pn	**P**	**14 23 29.2**	**-0.3**
9.2nm,0.3s,baz=227,slow=15,SNR=92
KMBO				Sn	**Sn**	**14 25 06.0**	**-6.5**
14nm,0.3s,baz=243,slow=21,SNR=9.4
KMBO				Lg		14 25 55.8
15nm,0.3s,baz=149,slow=22,SNR=7.2
KMBO	**Kilima Mbogo**	**9.04**	**51**	*e*Pn	**P**	**14 23 28.2**	**-1.4**
KMBO				*e*Sn	**Sn**	**14 25 03.1**	**-9.4**
MATP	**Matopo**	**13.52**	**187**	Pn	**P**	**14 24 29.3**	**-1.2**
2.4nm,0.3s,baz=8.7,slow=14,SNR=15
MATP				Sn	**S**	**14 26 55.5**	**-6.3**
2.5nm,0.3s,baz=44,slow=12,SNR=3.8
MATP				Lg		14 28 21.6
3.7nm,0.3s,baz=107,slow=19,SNR=2.5
MATP	**Matopo**	**13.52**	**187**	Pn	**P**	**14 24 29.3**	**-1.2**
MATP				Sn	**S**	**14 26 55.5**	**-6.3**
MATP				Lg		14 28 21.6
TSUM	**Tsumeb**	**17.34**	**224**	P	**P**	**14 25 19.1**	**-0.7**
1.5nm,0.3s,baz=36,slow=11,SNR=12
TSUM				S	**S**	**14 28 21.9**	**-9.3**
2.0nm,0.3s,baz=257,slow=16,SNR=5.1
TSUM				Lg		14 30 39.8
0.9nm,0.3s,baz=292,slow=18,SNR=6.2
TSUM	**Tsumeb**	**17.34**	**224**	*e*P	**P**	**14 25 17.8**	**-2.0**
TSUM				*e*S	**S**	**14 28 14.8**	**-16**
LBTB	**Lobatse**	**18.53**	**193**	P	**P**	**14 25 34.8**	**+0.3**
1.3nm,0.3s,baz=22,slow=14,SNR=13
LBTB				S	**S**	**14 28 46.8**	**-11**
0.5nm,0.3s,baz=68,slow=19,SNR=1.7
LBTB				Lg		14 30 57.8
0.3nm,0.3s,baz=300,slow=19,SNR=4.3
LBTB	**Lobatse**	**18.53**	**193**	*e*P	**P**	**14 25 35.2**	**+0.7**
13nm,0.6s
BOSA	**Boshof**	**22.08**	**192**	P	**P**	**14 26 15.4**	**+2.5**
4.2nm,0.7s,mb4.0,baz=7.7,slow=11,SNR=8.9
BOSA	**Boshof**	**22.08**	**192**	*e*P	**P**	**14 26 15.1**	**+2.2**
19nm,1.0s,mb4.5
DBIC	**Dimbokro**	**37.55**	**290**	P	**P**	**14 28 32.6**	**+0.2**
1.5nm,0.4s,mb4.0,baz=75,slow=12,SNR=4.1
BRTR	**Keskin Array B**	**46.53**	**4**	P	**P**	**14 29 46.5**	**+1.0**
4.0nm,1.0s,mb4.0,baz=180,slow=7.4,SNR=5.5
ESDC	**Sonseca Array**	**56.13**	**328**	P	**P**	**14 30 58.2**	**+0.1**
0.8nm,0.5s,mb4.0,baz=141,slow=6.6,SNR=4.7
AKASG	**Malin Array Be**	**57.41**	**359**	P	**P**	**14 31 06.1**	**-0.9**
0.3nm,0.3s,mb3.8,baz=180,slow=6.5,SNR=4.6
GERES	**GERESS Array B**	**57.41**	**347**	P	**P**	**14 31 07.6**	**+0.5**
3.1nm,0.9s,mb4.3,baz=164,slow=9.7,SNR=11
FINES	**FINESS Array B**	**68.25**	**358**	P	**P**	**14 32 19.3**	**+0.5**
1.2nm,0.6s,mb4.1,baz=158,slow=10,SNR=4.6
NOA	**NORSAR Array B**	**69.39**	**350**	P	**P**	**14 32 26.3**	**+0.4**
0.6nm,0.9s,mb3.5,baz=154,slow=6.4,SNR=5.5
NOA	**NORSAR Array B**	**69.39**	**350**	P	**P**	**14 32 26.3**	**+0.4**
MKAR	**Makanchi Array**	**70.58**	**35**	P	**P**	**14 32 34.4**	**+1.1**
0.8nm,0.6s,mb3.9,baz=239,slow=7.1,SNR=4.1
MKAR	**Makanchi Array**	**70.58**	**35**	P	**P**	**14 32 34.4**	**+1.1**

JMA ***28*** *14:23:21.5±0.4, 34.21N×142.38E, h57km, M3.1*
IDC ***28*** *14:23:25.3±7.4, 34.21N×142.18E, h46km±85km, mb3.4/2, mb1 3.5/4, mb1mx3.2/

	SNR=34							
UCH	**Uchtor**	**7.47**	**35**	P		**P**	**14 38 44.3**	**+0.4**
	SNR=18							
EKS2	**Erkin-Say**	**7.51**	**30**	P		**P**	**14 38 45.5**	**+1.2**
	SNR=5.7							
KZA	**Kyzart**	**7.72**	**39**	P		**P**	**14 38 47.6**	**+0.4**
	SNR=12							
AAK	**Ala-Archa**	**7.79**	**33**	P		**P**	**14 38 48.7**	**+0.5**
	SNR=13							
AAK	**Ala-Archa**	**7.79**	**33**	⇑P		**P**	**14 38 48.2**	**0.0**
	5.1nm,0.5s							
AAK				⇓S		**S**	**14 40 21.5**	**+5.5**
	6.8nm,0.6s							
KBK	**Karagaybulak**	**8.01**	**35**	P		**P**	**14 38 52.8**	**+1.5**
	SNR=11							
CHMS	**Chumysh**	**8.19**	**33**	P		**P**	**14 38 53.2**	**-0.6**
	SNR=9.7							
SDNR	**Sundarnagar**	**8.31**	**122**	*e*P		**P**	**14 39 01.0**	**+5.6**
SDNR				*e*S		**S**	**14 40 27.0**	**-2.0**
TKM2	**Tokmak 2**	**8.52**	**36**	P		**P**	**14 38 57.9**	**-0.4**
	SNR=5.3							
SMLA	**Simla**	**8.67**	**124**	*i* P		**P**	**14 38 56.3**	**-4.1**
	223nm,0.3s							
SMLA				*i* S		**S**	**14 40 35.0**	**-2.9**
AB31	**Akbulak array**	**14.52**	**336**	P		**P**	**14 40 14.9**	**-4.1**
	1.4nm,0.4s,baz=155,slow=12,SNR=101							
MKAR	**Makanchi Array**	**14.62**	**40**	Pn		**P**	**14 40 18.9**	**-1.4**
	0.1nm,0.3s,baz=230,slow=13,SNR=7.3							
KOLN	**Koldanda**	**15.16**	**120**	*e*P		**P**	**14 40 28.0**	**+0.6**
	4.9nm,0.5s							
KOLN				*e*S		**S**	**14 43 07.4**	**-7.1**
GKN	**Gorkha**	**15.76**	**117**	*e*P		**P**	**14 40 35.3**	**+0.2**
	9.9nm,0.4s							
DMN	**Daman**	**16.32**	**117**	*e*P		**P**	**14 40 42.6**	**+0.3**
	11nm,0.6s							
KKN	**Kakani**	**16.34**	**116**	*e*P		**P**	**14 40 42.8**	**+0.2**
	16nm,0.6s							
PKI	**Pulchoki**	**16.56**	**117**	*e*P		**P**	**14 40 45.7**	**+0.4**
	16nm,0.6s							
GUN	**Gumba**	**16.71**	**115**	*e*P		**P**	**14 40 48.5**	**+1.3**
	14nm,0.6s							
BVAR	**Borovoye Array**	**16.83**	**3**	Pn		**P**	**14 40 45.5**	**-3.0**
	0.5nm,0.3s,baz=174,slow=8.6,SNR=5.2							
JIRN	**Jiri**	**17.08**	**115**	*e*P		**P**	**14 40 52.6**	**+0.8**
	7.7nm,0.3s							
AKASG	**Malin Array Be**	**31.70**	**310**	P		**P**	**14 43 15.1**	**-1.2**
	0.2nm,0.2s,mb3.6,baz=89,slow=7.0,SNR=4.7							
FINES	**FINESS Array B**	**36.70**	**327**	P		**P**	**14 43 59.4**	**+0.3**
	1.2nm,0.8s,mb3.8,baz=106,slow=10,SNR=4.3							
YKA	**Yellowknife Ar**	**81.58**	**2**	P		**P**	**14 49 09.9**	**+1.1**
	0.3nm,0.7s,mb3.3,baz=351,slow=6.1,SNR=3.9							

IDC 28 14:46:29.8±1.6, 1.95N×96.59E, mb3.9/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.8/1, Error ellipse: s-maj=79.3km s-min=26.6km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.57**	**8**	Pn	P	14 50 23.3	-2.1
	0.1nm,0.3s,baz=197,slow=11,SNR=10						
WRA	**Warramunga Arr**	**42.95**	**122**	P	P	14 54 30.9	-1.7
	0.7nm,0.7s,baz=301,slow=9.1,SNR=3.6						
MKAR	**Makanchi Array**	**46.37**	**346**	P	P	14 54 58.4	-1.3
	0.4nm,0.5s,baz=158,slow=8.6,SNR=6.4						
BVAR	**Borovoye Array**	**55.35**	**341**	P	P	14 56 05.1	-2.6
	0.7nm,0.7s,baz=141,slow=9.5,SNR=5.1						
FINES	**FINESS Array B**	**79.06**	**333**	P	P	14 58 35.7	-1.6
	1.0nm,0.6s,baz=117,slow=8.5,SNR=4.8						
ARCES	**ARCESS Array B**	**81.63**	**340**	P	P	14 58 49.4	-1.5
	2.1nm,0.9s,baz=76,slow=5.0,SNR=6.5						
GERES	**GERESS Array B**	**83.85**	**319**	P	P	14 59 01.7	-1.1
	0.3nm,0.3s,baz=45,slow=1.9,SNR=4.1						

*THE **28** 14:47:35.2, 38.72N×22.78E, h10km, ML2.8*
*CSEM **28** 14:47:35.9±0.2, 38.75N×22.76E, h1km±2km, ML2.8, Error ellipse: s-maj=5.1km s-min=2.5km az=37.0*
*ATH **28** 14:47:37.1, 38.71N×22.86E, h5km, MD2.9/5*
*NEIC **28** 14:47:37.1, 38.71N×22.86E, h5km, MD2.9(ATH), After ATH.*

ISC 28 14:47:35.7±0.7, 38.73N±0.05×22.80E±0.05, h5km, n10, σ1§02/15, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.18**	**115**	*e*PG	**Pg**	**14 47 39.6**	**+0.3**
AGG	**Agios Georgios**	**0.47**	**309**	*e*Pg	**Pg**	**14 47 43.8**	**-1.4**
AGG				*e*Sg	**Sg**	**14 47 50.6**	**-0.8**
NEO	**Neokhori**	**0.67**	**30**	*e*PB	**Pb**	**14 47 50.1**	**+0.6**
EVR	**Evrytania**	**0.79**	**284**	*e*PB	**Pb**	**14 47 53.5**	**+1.9**
AOS	**Alonnisos**	**0.95**	**62**	*e*Pg	**Pg**	**14 47 53.8**	**-1.0**
AOS				*e*Sg	**Sg**	**14 48 07.5**	**-0.1**
NSAL	**Nisos Salamina**	**0.97**	**147**	*e*PB	**Pb**	**14 47 55.0**	**+0.3**
PTL	**Penteli**	**1.08**	**128**	*e*PB	**Pb**	**14 47 56.5**	**0.0**
LIT	**Litokhoron**	**1.39**	**350**	*e*Pb	**Pb**	**14 48 01.1**	**-0.8**
LIT				*e*Sb	**Sb**	**14 48 21.6**	**+1.7**
LIT	**Litokhoron**	**1.39**	**350**	*e*Pb	**Pb**	**14 48 01.1**	**-0.8**
LIT				*e*Sb	**Sb**	**14 48 21.5**	**+1.7**
MEV	**Metsovon**	**1.61**	**311**	*e*Pb	**Pb**	**14 48 04.1**	**-1.5**
MEV				*e*Sb	**Sb**	**14 48 27.0**	**+0.8**

IDC 28 14:56:02.9±2.5, 1.28N×97.24E, mb3.7/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=114.1km s-min=21.5km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.15**	**5**	P	P	15 00 04.4	-1.3
	0.2nm,0.3s,baz=196,slow=11,SNR=8.9						
WRA	**Warramunga Arr**	**42.04**	**122**	P	P	15 03 56.4	-1.8
	0.7nm,0.6s,baz=302,slow=9.1,SNR=10.0						
ASAR	**Alice Springs**	**43.41**	**127**	P	P	15 04 07.8	-1.6
	0.3nm,0.4s,baz=297,slow=7.4,SNR=7.5						
MKAR	**Makanchi Array**	**47.17**	**346**	P	P	15 04 37.7	-1.4
	0.7nm,0.5s,baz=159,slow=9.2,SNR=18						
BVAR	**Borovoye Array**	**56.19**	**341**	P	P	15 05 43.7	-3.2
	0.5nm,0.4s,baz=135,slow=10,SNR=4.8						

*NAO **28** 15:08:56.3±1.8, 66.34N×13.82E, ML2.5*
*IDC **28** 15:08:57.6±1.4, 66.35N×13.96E, mb1 2.8/4, mb1mx2.8/21, mbtmp2.8/4, ML2.5/4, Error ellipse: s-maj=22.0km s-min=7.1km az=117.0*
*BER **28** 15:08:57.1±3.9, 66.41N×13.42E, h0km±10km, MD2.8, ML2.2, ML2.5(NAO)*

HEL 28 15:08:55.7±0.1, 66.39N×13.42E, h4km±1km, ML2.4, ML2.2(BER), ML2.2(UPP), 3C-1D, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STOK	**Stokkvaagen**	**0.17**	**251**	⇑*i*P	Pg	15 08 58.5	-0.6
STOK				*i* S	Sg	15 09 00.8	-0.7
STOK				AML	AML	15 09 01.0	
	comp=Z,3μm,0.2s						
MOR8	**Moi Rana**	**0.47**	**117**	*i* P	Pg	15 09 05.8	+0.8
MOR8				*i* S	Sg	15 09 14.4	+3.1
MOR8				AML	AML	15 09 15.6	
	comp=Z,157nm,0.1s						
MOR8	**Moi Rana**	**0.47**	**117**	⇑*i*P	Pg	15 09 05.8	+0.7
MOR8				*e*S	Sg	15 09 14.4	+3.1
MOR8				AML	AML	15 09 15.6	
	comp=Z,157nm,0.1s						
MELSS	**Ber_school_2**	**0.49**	**14**	⇓*i*P	Pg	15 09 04.8	-0.7
MELSS				*e*S	Sg	15 09 12.0	-0.1
LOF	**Lofoten**	**1.75**	**2**	*e*P	Pn	15 09 26.5	-0.6
LOF				*e*S	Sn	15 09 49.7	-0.5
LOF				AML	AML	15 09 56.7	
	comp=Z,9.7nm,0.3s						
RORSS	**Ber_school_1**	**1.77**	**212**	*e*S	Sn	15 09 52.5	+1.8
NSS	**Namsos**	**1.96**	**199**	*e*P	Pn	15 09 29.9	-0.3
NSS				*e*S	Sn	15 09 55.2	-0.3
NSS	**Namsos**	**1.96**	**199**	⇑*i*P	Pn	15 09 29.5	-0.6
NSS				*e*S	Sn	15 09 55.2	-0.3
NSS				AML	AML	15 09 58.3	
	comp=Z,31nm,0.5s						
SALU	**Saltoluokta**	**2.24**	**61**	*e*P	Pn	15 09 34.3	+0.2
SALU				*e*S	Sn	15 10 03.4	+0.8
NIKU	**Nikkaluokta**	**2.65**	**53**	*e*P	Pn	15 09 40.0	+0.1
LILU	**Lilltraesk**	**2.87**	**110**	*e*P	Pn	15 09 42.0	-1.1
DUNU	**Dundret**	**2.93**	**72**	*e*P	Pn	15 09 43.8	-0.2
KUA	**Kurravaara**	**3.12**	**57**	*e*S	Sn	15 10 23.5	-1.4
SVAU	**Svanoeiden**	**3.20**	**124**	*e*P	Pn	15 09 46.3	-1.5
SVAU				*e*S	Sn	15 10 24.6	-2.3
BREU	**Bredtraesk**	**3.32**	**137**	*e*P	Pn	15 09 48.5	-1.0
SJUU	**Sjulsmark**	**3.47**	**101**	*e*P	Pn	15 09 49.8	-1.8
SJUU				*e*S	Sn	15 10 31.6	-2.1
ERTU	**Ertsjaerv**	**3.52**	**83**	*e*P	Pn	15 09 51.0	-1.4
MASU	**Masugnsbyn**	**3.55**	**68**	*e*P	Pn	15 09 52.1	-0.6
SOLU	**Sollefteaa**	**3.56**	**151**	*e*P	Pn	15 09 52.7	-0.2
BURU	**Burvik**	**3.78**	**115**	*e*P	Pn	15 09 54.5	-1.5
KIF	**Kilpisjarvi**	**3.85**	**44**	*e*P	Pn	15 09 56.3	-0.7
KIF				*e*S	Sn	15 10 41.1	-2.2
KIF				*e*SG	Sg	15 10 54.1	-10
KTK1	**Kautokeino**	**4.57**	**50**	*e*P	Pn	15 10 05.7	-1.6
KTK1				*e*S	Sn	15 10 58.3	-3.4
KTK1				AML	AML	15 11 22.1	
	comp=Z,11nm,0.4s						
VAF	**Ylistaro**	**5.20**	**126**	*e*P	Pn	15 10 14.7	-1.5
VAF				*e*S	Sn	15 11 11.6	-5.8
VAF				*e*SG	Sg	15 11 38.2	-11
VAF				MSG		15 11 39.5	
	comp=Z,5.6nm,0.3s						
SGF	**Sodankyl**	**5.27**	**72**	*e*P	Pn	15 10 14.5	-2.6
SGF				*e*S	Sn	15 11 13.7	-5.4
SGF				*e*SG	Sg	15 11 35.9	-15
SGF				MSG		15 11 42.4	
	comp=Z,4.0nm,0.3s						
OUL	**Oulu**	**5.31**	**99**	*e*P	Pn	15 10 14.9	-2.8
OUL				*e*S	Sn	15 11 14.1	-6.2
NB2	**NORSAR Subarra**	**5.46**	**191**	*e*P	Pn	15 10 18.0	-1.8
NB2				*e*S	Sn	15 11 20.6	-3.4
NB2				*e*SG	Sg	15 11 44.1	-13
NB2	**NORSAR Subarra**	**5.46**	**191**	Pn	Pn	15 10 18.0	-1.8
NB2				Sn	Sn	15 11 20.6	-3.4
NB2				Lg		15 11 44.1	
	baz=20,slow=37						
NOA	**NORSAR Array B**	**5.46**	**191**	Pn	Pn	15 10 19.7	-0.1
	comp=Z,0.1nm,0.3s,baz=7.8,slow=12,SNR=2.1						
NOA				Sn	Sn	15 11 21.8	-2.2
	comp=Z,0.5nm,0.3s,baz=2.0,slow=12,SNR=3.7						
NOA				Lg		15 11 46.2	
	comp=Z,1.4nm,0.3s,baz=317,slow=18,SNR=5.8						
ARA0	**ARCESS Array S**	**5.54**	**50**	Pn	Pn	15 10 17.8	-3.1
	baz=237,slow=14						
ARA0				Sn	Sn	15 11 19.1	-6.8
	baz=235,slow=22						
ARA0				Lg		15 11 46.3	
	baz=237,slow=28						
ARA0	**ARCESS Array S**	**5.54**	**50**	*e*P	Pn	15 10 17.8	-3.1
ARA0				*e*S	Sn	15 11 19.1	-6.8
ARA0				*e*SG	Sg	15 11 46.3	-14
ARCES	**ARCESS Array B**	**5.54**	**50**	Pn	Pn	15 10 18.4	-2.5
	comp=Z,0.1nm,0.3s,baz=244,slow=13,SNR=13						
ARCES				Sn	Sn	15 11 19.4	-6.6
	comp=Z,1.6nm,0.3s,baz=233,slow=21,SNR=11						
ARCES				Lg		15 11 45.9	
	comp=Z,1.4nm,0.3s,baz=236,slow=28,SNR=6.8						
KEV	**Kevo**	**6.10**	**50**	*e*P	Pn	15 10 26.2	-2.7
KEV				*e*S	Sn	15 11 31.3	-8.9
KEV				*e*SG	Sg	15 12 03.0	-16
KEV				MSG		15 12 09.6	
	comp=Z,4.1nm,0.3s						
HFS	**Hagfors**	**6.28**	**179**	Pn	Pn	15 10 29.6	-1.8
	baz=8.8,slow=18						
HFS				Sn	Sn	15 11 38.8	-5.8
	baz=353,slow=18						
HFS				Lg		15 12 10.8	
	baz=350,slow=37						
HFS	**Hagfors**	**6.28**	**179**	*e*P	Pn	15 10 29.6	-1.8
HFS				*e*S	Sn	15 11 38.8	-5.8
HFS				*e*SG	Sg	15 12 10.8	-14
HFS	**Hagfors**	**6.28**	**179**	Pn	Pn	15 10 30.0	-1.5
	comp=Z,0.0nm,0.3s,baz=14,slow=12,SNR=5.6						
HFS				Sn	Sn	15 11 42.0	-2.5
	comp=Z,0.1nm,0.3s,baz=349,slow=23,SNR=6.2						
HFS				Lg		15 12 13.7	
	comp=Z,0.3nm,0.3s,baz=355,slow=31,SNR=5.5						
KJN	**Kajaani**	**6.43**	**104**	*e*P	Pn	15 10 31.2	-2.3
KJN				*e*S	Sn	15 11 40.3	-8.0
KU4	**Liikasenvaara**	**6.50**	**83**	*e*P	Pn	15 10 31.2	-3.3
KU4				*e*S	Sn	15 11 42.4	-7.5
KU4				*e*SG	Sg	15 12 12.6	-19
KU4				MSG		15 12 20.1	
	comp=Z,5.2nm,0.5s						
KEF	**Keuruu**	**6.54**	**125**	*e*P	Pn	15 10 32.2	-2.9
KEF				*e*S	Sn	15 11 44.5	-6.4
KEF				*e*SG	Sg	15 12 16.1	-17
KEF				MSG		15 12 22.3	
	comp=Z,1.6nm,0.2s						
SUF	**Sumiainen**	**6.60**	**118**	*e*P	Pn	15 10 32.4	-3.6
SUF				*e*S	Sn	15 11 45.0	-7.6
SUF				*e*SG	Sg	15 12 20.8	-15
SUF				MSG		15 12 25.8	
	comp=Z,1.7nm,0.3s						
KAF	**Kangasniemi**	**7.06**	**121**	*e*P	Pn	15 10 38.9	-3.5
KAF				*e*S	Sn	15 11 56.0	-8.1
KAF				*e*SG	Sg	15 12 32.3	-18
KAF				MSG		15 12 36.9	
	comp=Z,1.2nm,0.2s						
FIA0	**FINESS Array S**	**7.46**	**126**	Pn	Pn	15 10 44.1	-3.9
	baz=327,slow=14						
FIA0				Lg		15 12 46.8	
	baz=318,slow=37						
FIA0	**FINESS Array S**	**7.46**	**126**	*e*S	Sn	15 12 05.2	-8.8
FIA0				*e*SG	Sg	15 12 43.5	-21
FIA0				MSG		15 12 53.2	
	comp=Z,3.2nm,0.4s						
FINES	**FINESS Array B**	**7.46**	**126**	Pn	Pn	15 10 42.0	-6.0
	comp=Z,0.1nm,0.3s,baz=329,slow=11,SNR=4.0						
FINES				Sn	Sn	15 12 08.7	-5.3
	comp=Z,0.2nm,0.3s,baz=328,slow=21,SNR=3.3						
FINES				Lg		15 12 47.5	
	comp=Z,0.5nm,0.3s,baz=324,slow=26,SNR=5.8						
APA0	**Apatity Array**	**7.76**	**72**	Pn	Pn	15 10 47.1	-5.0
	baz=269,slow=14						
APA0				Sn	Sn	15 12 12.1	-9.4
	baz=277,slow=28						
APA0	**Apatity Array**	**7.76**	**72**	*e*P	Pn	15 10 47.1	-5.0
APA0				*e*S	Sn	15 12 12.1	-9.4
JOF	**Joensuu**	**8.42**	**106**	*e*P	P	15 10 57.5	-3.9
JOF				*e*S	Sn	15 12 28.4	-10
JOF				*e*SG	Sg	15 13 17.4	-19
JOF				MSG		15 13 19.4	
	comp=Z,1.7nm,0.5s						

*IDC **28** 15:13:17.8±14.0, 5.49S×129.10E, h187km±155km, mb3.5/1, mb1 3.9/4, mb1mx3.5/15, mbtmp4.3/4, ML4.1/3, Error ellipse: s-maj=90.4km s-min=48.2km az=36.0*
*NEIC **28** 15:13:35.3±2.0, 6.41S×128.40E, h380km±25km, mb4.4/2, Error ellipse: s-maj=36.2km s-min=19.3km az=73.0*

ISC 28 15:13:33.2±1.7, 5.77S±0.10×129.9E±0.2, h399km±20km, n8, σ0§88/12, mb3.7/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.35**	**160**	*e*P	**P**	**15 15 23.0**	**+1.4**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**12.94**	**198**	P	**P**	**15 16 15.0**	**-11**
	0.3nm,0.3s,baz=25,slow=9.8,SNR=8.5						
FITZ				S	**S**	**15 18 43.5**	**-0.2**
	0.7nm,0.3s,baz=225,slow=2.9,SNR=3.0						
WRAB	**Tennant Creek**	**14.74**	**163**	*e*P	**P**	**15 16 44.7**	**-0.7**
	13nm,0.5s						
WRA	**Warramunga Arr**	**14.75**	**163**	P	**P**	**15 16 44.8**	**-0.7**
	2.2nm,0.3s,baz=339,slow=11,SNR=325						
WRA				S	**S**	**15 19 19.2**	**-0.5**
	0.2nm,0.3s,baz=333,slow=20,SNR=5.1						
WB2	**Warramunga Arr**	**14.75**	**163**	*e*P	**P**	**15 16 44.7**	**-0.8**
WB2				*e*S	**S**	**15 19 19.4**	**-0.4**
ASAR	**Alice Springs**	**18.22**	**168**	P	**P**	**15 17 20.4**	**-0.2**
	1.0nm,0.3s,baz=340,slow=11,SNR=61						
ASAR				S	**S**	**15 20 26.8**	**+2.3**
	0.2nm,0.3s,baz=349,slow=24,SNR=5.0						
ASPA	**Alice Springs**	**18.22**	**168**	*e*P	**P**	**15 17 20.6**	**0.0**
MKAR	**Makanchi Array**	**67.13**	**327**	P	**P**	**15 23 47.5**	**+0.4**
	1.1nm,0.6s,mb3.7,baz=122,slow=7.1,SNR=8.6						

MOS 28 15:19:51.4±1.8, 51.08N×98.31E, h15km, mb3.5/1, 1C, Error ellipse: s-maj=14.6km s-min=10.5km az=158.7, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.73**	**32**	*e*PN	Pn	15 20 22.4	+1.1
ORL				*e*		15 20 45.2	
ORL				pmax	pmax		
	comp=Z,145nm,0.4s						
ORL				smax			
	comp=E,690nm,0.6s						
MOY	**Mondy**	**1.78**	**70**	⇑*i*PN	Pn	15 20 24.0	+2.0
MOY				*e*		15 20 48.3	
MOY				pmax	pmax		
	comp=Z,115nm,0.3s						
MOY				smax			
	comp=E,1μm,0.9s						
ZAK	**Zakamensk**	**3.23**	**101**	*e*PN	Pn	15 20 43.8	+1.1
ZAK				*e*		15 20 49.2	
ZAK				*e*		15 21 32.6	
ZAK				pmax	pmax		
	comp=Z,38nm,0.5s						
ZAK				smax			
	comp=N,168nm,1.0s						
TLY	**Talaya**	**3.40**	**78**	*e*PN	Pn	15 20 45.0	0.0
TLY				*e*		15 20 52.5	
TLY				*e*		15 21 36.6	
TLY				pmax	pmax		
	comp=Z,30nm,0.4s						
TLY				smax			
	comp=N,243nm,0.4s						
IRK	**Irkutsk**	**3.89**	**70**	*e*PN	Pn	15 21 01.8	+10
IRK				*e*		15 21 51.0	
IRK				pmax	pmax		
	comp=Z,72nm,0.4s						
IRK				smax			
	comp=E,1μm,0.5s						
LSTR	**Listvyanka**	**4.15**	**77**	*e*PN	Pn	15 21 05.4	+10
LSTR				*e*		15 21 58.6	
LSTR				pmax	pmax		
	comp=Z,6.0nm,0.5s						
LSTR				smax			
	comp=N,183nm,1.1s						
CERR	**Cheremushki**	**4.62**	**295**	*e*PN	Pn	15 21 12.9	+11
CERR				*e*S	Sn	15 22 13.0	+17
TRG	**Tyrgan**	**5.25**	**68**	*e*PN	Pn	15 21 12.0	+0.7
TRG				*e*		15 21 26.9	
TRG				*e*		15 22 33.7	
TRG				pmax	pmax		
	comp=Z,12nm,0.3s						
TRG				smax			
	comp=N,163nm,0.9s						
KAB	**Kabansk**	**5.29**	**76**	*e*PN	Pn	15 21 26.6	+15
KAB				*e*		15 22 33.5	
KAB				pmax	pmax		
	comp=Z,65nm,0.3s						
KAB				smax			
	comp=E,475nm,1.0s						
OGRR	**Ongureny**	**6.24**	**62**	*e*PN	Pn	15 21 24.9	-0.4
OGRR				*e*		15 21 43.6	
OGRR				*e*		15 23 03.5	
OGRR				pmax	pmax		
	comp=Z,9.0nm,0.4s						
OGRR				smax			
	comp=E,88nm,0.6s						
ULN	**Ulaanbaatar**	**6.54**	**116**	*i* PN	Pn	15 21 48.0	+18
TASR	**Tashtagol**	**6.67**	**289**	*e*PN	Pn	15 21 52.2	+21
SYVR	**Suvo**	**7.61**	**66**	*e*P	Pn	15 21 55.4	+11
SYVR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ELDR	**Elanda**	**7.69**	**276**	*e*P	Pn	15 21 45.7	+0.1
KMO	**Kumora**	**9.06**	**53**	*e*P	P	15 22 03.6	-1.1
KMO				*e*S	Sn	15 23 41.1	-6.4
TIXI	**Tiksi**	**24.76**	**23**	*i* P	P	15 25 19.0	+5.8
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.2s						

MAN 28 15:46:15.9, 5.44N×124.99E, h24km, mb4.4, ML3.3, MS3.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.56**	**3**	⇑*e*P	Pn	15 46 42.8	+0.2
KCP				*i* S	Sn	15 47 02.0	-0.2
MATI	**Mati**	**1.95**	**40**	*e*P	Pn	15 46 47.6	-0.6
BUKP	**Musuan**	**2.42**	**2**	*e*P	Pn	15 46 55.1	+0.2
PAGZ	**Pagadian**	**2.88**	**326**	*e*P	Pn	15 47 01.3	-0.1
IPIL	**Ipil**	**3.35**	**314**	*e*P	Pn	15 47 07.7	-0.4
IPIL				*e*S	Sn	15 47 44.0	-3.6

*NEIC **28** 15:49:40.1±3.1, 51.67N×16.25E, h5km, ML2.7(BRG), ML2.7(VIE), Error ellipse: s-maj=39.3km s-min=12.6km az=217.0*
*PRU **28** 15:49:42.8, 51.50N×16.10E*
*WAR **28** 15:49:43.1, 51.52N×16.12E, h1km, ML2.4, Mining Induced*

ISC 28 15:49:41.7±1.0, 51.45N±0.05×16.03E±0.05, n14, σ1§16/29, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**165**	*e*Pg	**Pg**	**15 49 55.6**	**+1.2**
KSP				*e*Sg	**Sg**	**15 50 05.0**	**+2.2**
KSP	**Ksiaz**	**0.63**	**165**	*e*Pg	**Pg**	**15 49 55.6**	**+1.3**
KSP				*e*Sg	**Sg**	**15 50 05.3**	**+2.5**
UPC	**Upice**	**0.95**	**181**	*e*PG	**Pg**	**15 50 01.6**	**+1.0**
DPC	**Dobruska-Polom**	**1.12**	**170**	*e*PG	**Pg**	**15 50 04.4**	**+0.3**
DPC				*e*SG	**Sg**	**15 50 19.5**	**+0.5**
PVCC	**Panska Ves**	**1.31**	**226**	*e*PG	**Pg**	**15 50 08.5**	**+0.6**
BRG	**Berggiesshubel**	**1.44**	**247**	*e*Pn	**Pn**	**15 50 10.1**	**+1.0**
BRG				*i* Pg	**Pg**	**15 50 10.8**	**+0.4**
BRG				*i* Sg	**Sg**	**15 50 31.3**	**+1.7**
PRU	**Pruhonice**	**1.75**	**213**	*e*PG	**Pg**	**15 50 15.9**	**-0.7**
PRU				*ex*	x	15 50 20.0	
PRU				*ex*	x	15 50 32.1	
PRU				*e*SG	**Sg**	**15 50 40.4**	**+0.5**
	7.3nm,0.2s						
CLL	**Collm**	**1.91**	**267**	*i* Pn	**Pn**	**15 50 15.0**	**-0.8**
CLL				*i* Sg	**Sg**	**15 50 44.9**	**-0.2**
CLL	**Collm**	**1.91**	**267**	*i* PN	**Pn**	**15 50 15.0**	**-0.8**
CLL				*i*		15 50 21.8	
CLL				*i* SG	**Sg**	**15 50 44.9**	**-0.2**
CLL				*i* L		15 50 51.3	
MORC	**Moravsky Berou**	**1.94**	**150**	*e*Pn	**Pn**	**15 50 15.6**	**-0.6**
MORC				*e*Sn	**Sn**	**15 50 42.5**	**+0.9**
OKC	**Ostrava-Krasne**	**2.10**	**139**	*e*PG	**Pg**	**15 50 21.8**	**-1.9**
OKC				*e*SG	**Sg**	**15 50 50.5**	**-1.3**
	21nm,0

PMG	**Port Moresby**	**8.16**	**249**	Pn	**P**	**16 00 25.0**	**-1.7**
	baz=61,slow=11						
PMG				Sn	**S**	**16 01 59.8**	**+1.2**
	2.9nm,0.3s,baz=76,slow=21,SNR=12						
PMG				LR	LR	16 03 36.7	
	comp=Z,936nm,19.5s,baz=27,slow=38						
PMG	**Port Moresby**	**8.16**	**249**	*e*Pn	**P**	**16 00 27.0**	**+0.2**
	49nm,0.8s						
PMG				*e*Sn	**S**	**16 01 59.1**	**+0.5**
CTA	**Charters Tower**	**15.84**	**211**	Pn	**P**	**16 02 13.0**	**+3.5**
	0.5nm,0.3s,baz=26,slow=13,SNR=5.7						
CTAO	**Charters Tower**	**15.84**	**211**	P	**P**	**16 02 09.7**	**+0.2**
	22nm,1.2s						
DZM	**Mont Dzumac**	**19.03**	**145**	P	**P**	**16 02 48.5**	**-0.2**
	0.8nm,0.3s,baz=246,slow=12,SNR=7.1						
GUMO	**Guam**	**22.36**	**334**	P	**P**	**16 03 23.0**	**-0.2**
	156nm,1.3s,mb5.3						
KAKA	**Kakadu**	**22.95**	**253**	*e*P	**P**	**16 03 25.7**	**-3.4**
	13nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**23.96**	**234**	*e*P	**P**	**16 03 39.3**	**+0.4**
	15nm,0.8s,mb4.5						
WRAB				*e*PcP	PcP	16 07 21.4	-0.2
WB2	**Warramunga Arr**	**23.97**	**234**	*e*P	**P**	**16 03 39.3**	**+0.4**
WRA	**Warramunga Arr**	**23.98**	**234**	P	**P**	**16 03 39.7**	**+0.7**
	5.7nm,0.7s,mb4.1,baz=58,slow=9.8,SNR=46						
WRA				PcP	PcP	16 07 21.6	0.0
	3.7nm,0.5s,baz=58,slow=2.3,SNR=23						
ASAR	**Alice Springs**	**26.38**	**228**	P	**P**	**16 04 00.8**	**-1.0**
	1.7nm,0.5s,mb3.8,baz=57,slow=8.9,SNR=26						
ASAR				PcP	PcP	16 07 27.0	+0.2
	1.8nm,0.8s,baz=62,slow=1.8,SNR=6.5						
ASAR				ScP		16 11 05.1	
	0.6nm,0.8s,baz=58,slow=3.2,SNR=4.4						
STKA	**Stephens Creek**	**28.08**	**205**	P	**P**	**16 04 16.3**	**-0.9**
	1.6nm,0.6s,mb3.8,baz=348,slow=6.5,SNR=3.6						
STKA				PcP	PcP	16 07 30.2	-0.6
	1.2nm,0.6s,baz=143,slow=5.1,SNR=3.0						
STKA	**Stephens Creek**	**28.08**	**205**	*e*P	**P**	**16 04 15.6**	**-1.6**
TAU	**Tasmania Unive**	**36.81**	**189**	*e*P	**P**	**16 05 29.5**	**-3.5**
	40nm,1.0s,mb5.2						
MBWA	**Marble Bar**	**36.97**	**243**	*e*P	**P**	**16 05 34.0**	**-0.6**
	23nm,1.1s,mb4.9						
KKM	**Kota Kinabalu**	**40.58**	**287**	*e*P	**P**	**16 06 02.8**	**-1.9**
KSM	**Kuching**	**45.21**	**279**	*e*P	**P**	**16 06 36.8**	**-5.7**
KULM	**Kulim**	**55.41**	**281**	*e*P	**P**	**16 07 58.4**	**-1.7**
ENH	**Enshi**	**56.87**	**313**	*e*P	**P**	**16 08 09.9**	**-0.5**
	23nm,1.6s,mb5.0						
GYA	**Guiyang**	**57.11**	**307**	⇓*i*P	**P**	**16 08 12.8**	**+0.7**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
XAN	**Xi'an**	**59.33**	**316**	P	**P**	**16 08 26.0**	**-1.4**
CM31	**Chiang Mai Arr**	**60.51**	**295**	*e*P	**P**	**16 08 36.4**	**+0.7**
	comp=Z,15nm,0.8s,mb5.2						
CMAR	**Chiang Mai Arr**	**60.51**	**295**	P	**P**	**16 08 36.8**	**+1.1**
	comp=Z,8.9nm,0.8s,mb5.0,baz=118,slow=5.3,SNR=55						
CD2	**Chengdu**	**61.46**	**310**	*e*P	**P**	**16 08 42.0**	**0.0**
HIA	**Hailar**	**63.49**	**335**	P	**P**	**16 08 50.5**	**-4.8**
	comp=Z,7.4nm,0.7s,mb4.9						
GTA	**Gaotai**	**68.36**	**317**	*e*P	**P**	**16 09 27.3**	**+0.8**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**68.59**	**328**	*e*P	**P**	**16 09 27.3**	**-0.5**
	comp=Z,3.1nm,0.9s,mb4.2						
SHL	**Shillong**	**68.99**	**300**	*e*P	**P**	**16 09 30.8**	**+0.2**
LSA	**Lhasa**	**70.95**	**304**	*e*P	**P**	**16 09 41.5**	**-0.9**
LSA	**Lhasa**	**70.95**	**304**	*e*P	**P**	**16 09 43.4**	**+0.9**
	comp=Z,17nm,1.0s,mb4.9						
VNDA	**Vanda**	**71.01**	**178**	P	**P**	**16 09 41.1**	**-1.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=329,slow=6.1,SNR=9.6						
VNDA	**Vanda**	**71.01**	**178**	*e*P	**P**	**16 09 41.4**	**-0.7**
	comp=Z,5.0nm,1.2s,mb4.3						
YAK	**Yakutsk**	**71.12**	**348**	P	**P**	**16 09 41.4**	**-1.5**
SBA	**Scott Base**	**71.52**	**177**	*e*P	**P**	**16 09 45.8**	**+0.7**
	comp=Z,2.6nm,1.0s,mb4.1						
TLY	**Talaya**	**72.64**	**329**	P	**P**	**16 09 50.8**	**-1.3**
JIRN	**Jiri**	**74.48**	**301**	*e*P	**P**	**16 10 04.4**	**+1.0**
	comp=Z,5.4nm,0.3s,mb5.0						
GUN	**Gumba**	**74.81**	**301**	*e*P	**P**	**16 10 06.3**	**+1.0**
	comp=Z,65nm,0.7s,mb5.7						
BILL	**Bilibino**	**74.86**	**4**	*e*P	**P**	**16 10 04.6**	**-0.1**
	comp=Z,5.9nm,0.8s,mb4.6						
PKI	**Pulchoki**	**75.12**	**301**	*e*P	**P**	**16 10 07.5**	**+0.5**
	comp=Z,27nm,0.8s,mb5.2						
PALK	**Pallekele**	**75.27**	**279**	*e*P	**P**	**16 10 08.7**	**+0.5**
	comp=Z,7.4nm,0.9s,mb4.6						
KKN	**Kakani**	**75.29**	**301**	*e*P	**P**	**16 10 08.8**	**+0.8**
	comp=Z,32nm,0.6s,mb5.4						
DMN	**Daman**	**75.39**	**301**	*e*P	**P**	**16 10 09.5**	**+0.9**
	comp=Z,90nm,0.9s,mb5.7						
GKN	**Gorkha**	**75.89**	**301**	*e*P	**P**	**16 10 11.9**	**+0.4**
	comp=Z,64nm,0.9s,mb5.5						
KOLN	**Koldanda**	**76.72**	**300**	*e*P	**P**	**16 10 16.6**	**+0.5**
	comp=Z,32nm,0.9s,mb5.3						
WMQ	**Urumqi**	**78.44**	**317**	P	**P**	**16 10 26.8**	**+1.5**
WMQ				PCP	PcP	16 10 36.3	+1.6
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,312nm,5.4s						
WMQ				LR	LR		
	comp=N,537nm,23.5s,MS4.9						
WMQ				LR	LR		
	comp=E,295nm,22.1s,MS4.9						
WMQ				LR	LR		
	comp=Z,494nm,22.8s,MS4.8						
IMA	**Indian Mountai**	**81.43**	**19**	P	**P**	**16 10 41.1**	**+0.2**
	comp=Z,39nm,1.4s,mb5.1						
MCK	**McKinley**	**81.70**	**22**	*e*P	**P**	**16 10 41.7**	**-0.6**
	comp=Z,6.2nm,1.0s,mb4.5						
COLA	**College**	**82.72**	**21**	P	**P**	**16 10 44.4**	**-3.2**
ILAR	**Eielson Array**	**83.02**	**22**	P	**P**	**16 10 48.4**	**-0.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=278,slow=4.0,SNR=8.6						
MKAR	**Makanchi Array**	**83.02**	**319**	P	**P**	**16 10 50.0**	**+0.5**
	comp=Z,4.0nm,0.9s,mb4.4,baz=107,slow=5.5,SNR=24						
QSPA	**South Pole Qui**	**83.41**	**180**	*e*P	**P**	**16 10 51.3**	**+0.5**
	comp=Z,8.9nm,0.7s,mb4.9						
MAW	**Mawson**	**84.75**	**203**	P	**P**	**16 10 58.3**	**+0.6**
	comp=Z,1.5nm,0.4s,mb4.4,baz=85,slow=5.6,SNR=7.8						
AAK	**Ala-Archa**	**87.38**	**313**	P	**P**	**16 11 09.9**	**-1.3**
INK	**Inuvik**	**89.36**	**21**	LR	LR	16 46 22.3	
	comp=Z,717nm,19.6s,MS5.1,baz=114,slow=32						
NVAR	**Mina Array Bea**	**91.54**	**52**	P	**P**	**16 11 32.8**	**+1.9**
	comp=Z,2.1nm,0.8s,mb4.5,baz=253,slow=8.3,SNR=14						
SYO	**Syowa Base**	**92.70**	**199**	⇓P	**P**	**16 11 34.3**	**-1.2**
YKA	**Yellowknife Ar**	**96.01**	**28**	P	**P**	**16 11 51.7**	**+1.1**
	comp=Z,1.2nm,0.6s,mb4.5,baz=269,slow=4.6,SNR=15						
YKA	**Yellowknife Ar**	**96.01**	**28**	P	**P**	**16 11 51.7**	**+1.1**
PDAR	**Pinedale Array**	**98.49**	**48**	P	**P**	**16 12 02.4**	**0.0**
	comp=Z,0.5nm,0.8s,mb4.1,SNR=4.9						
BOSA	**Boshof**	**120.21**	**232**	PKP	PKPdf	16 17 15.8	+1.7
	comp=Z,2.2nm,0.6s,baz=179,slow=0.7,SNR=9.2						
BOSA	**Boshof**	**120.21**	**232**	PKP	PKPdf	16 17 15.8	+1.7
MATP	**Matopo**	**120.89**	**242**	PKP	PKPdf	16 17 17.0	+1.3
	comp=Z,3.3nm,0.5s,baz=126,slow=1.7,SNR=12						
LBTB	**Lobatse**	**121.54**	**235**	PKP	PKPdf	16 17 17.9	+1.1
	comp=Z,1.8nm,0.5s,baz=154,slow=2.7,SNR=5.4						
LBTB	**Lobatse**	**121.54**	**235**	PKP	PKPdf	16 17 17.9	+1.1
GERES	**GERESS Array B**	**126.64**	**329**	PKP	PKPdf	16 17 25.7	-0.4
	comp=Z,0.6nm,0.6s,baz=45,slow=1.9,SNR=6.2						
BDFB	**Brasília**	**148.35**	**134**	PKPbc	PKPdf	16 18 10.5	+4.3
	comp=Z,5.6nm,0.6s,baz=242,slow=4.1,SNR=5.9						

IDC 28 16:08:14.4±3.3, 3.97N×93.84E, mb3.7/2, mb1 3.9/3, mb1mx3.5/19, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=115.6km s-min=31.6km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.24**	**19**	Pn	P	P	16 11 51.4	-1.4
	0.1nm,0.3s,baz=211,slow=12,SNR=7.7							
MKAR	**Makanchi Array**	**43.82**	**349**	P		P	16 16 22.0	-1.8
	1.5nm,0.6s,baz=166,slow=7.5,SNR=15							
WRA	**Warramunga Arr**	**46.34**	**122**	P		P	16 16 42.4	-1.9
	0.5nm,0.8s,baz=301,slow=9.2,SNR=5.0							

*NNC **28** 16:10:35.9±8.4, 36.78N×70.87E, h106km±196km, mpv3.8, Error ellipse: s-maj=68.9km s-min=61.9km az=175.0*

ISC 28 16:10:34.4±2.3, 36.8N±0.1×71.0E±0.2, h100km, n8, σ0$41/10, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.76**	**20**	P	P	**P**	**16 11 59.1**	**+0.4**
	SNR=17							
UCH	**Uchtor**	**6.10**	**25**	P	P	**P**	**16 12 03.7**	**+0.3**
	SNR=5.2							
KZA	**Kyzart**	**6.25**	**31**	P	P	**P**	**16 12 04.8**	**-0.7**
	SNR=5.2							
EKS2	**Erkin-Say**	**6.27**	**19**	P	P	**P**	**16 12 06.2**	**+0.3**
	SNR=14							
KK31	**Karatay Array**	**6.35**	**357**	P	P	**P**	**16 12 07.0**	**+0.1**
	1.6nm,0.2s,baz=181,slow=14,SNR=48							
KK31				⇓S		**S**	**16 13 18.8**	**+0.2**
	0.7nm,0.3s,baz=180,slow=20,SNR=4.2							
AAK	**Ala-Archa**	**6.46**	**24**	P	P	**P**	**16 12 08.9**	**+0.5**
	SNR=11							
AAK	**Ala-Archa**	**6.46**	**24**	⇑P	P	**P**	**16 12 08.6**	**+0.2**
	3.7nm,0.4s							
AAK				⇑S		**S**	**16 13 20.8**	**-0.5**
	2.0nm,0.6s							
AB31	**Akbulak array**	**14.86**	**331**	⇑P	P	**P**	**16 13 59.6**	**-0.5**
	0.4nm,0.4s,baz=142,slow=14,SNR=22							

MOS 28 16:16:31.4±1.8, 51.03N×98.16E, h15km, mb3.5/1, 1C, Error ellipse: s-maj=24.0km s-min=13.2km az=149.7, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.83**	**34**	*e*PN		Pn	16 17 01.8	-0.8
ORL				*e*			16 17 24.9	
ORL				pmax		pmax		
	comp=Z,108nm,0.4s							
ORL				smax				
	comp=E,467nm,0.8s							
MOY	**Mondy**	**1.89**	**69**	⇑*i*PN		Pn	16 17 03.6	+0.1
MOY				*e*			16 17 27.2	
MOY				pmax		pmax		
	comp=Z,134nm,0.5s							
MOY				smax				
	comp=E,1μm,1.4s							
ZAK	**Zakamensk**	**3.32**	**99**	*e*PN		Pn	16 17 23.1	-0.8
ZAK				*e*			16 18 11.5	
ZAK				pmax		pmax		
	comp=Z,33nm,0.6s							
ZAK				smax				
	comp=N,195nm,1.0s							
TLY	**Talaya**	**3.50**	**77**	*e*PN		Pn	16 17 24.1	-2.4
TLY				*e*			16 18 16.4	
TLY				pmax		pmax		
	comp=Z,15nm,0.6s							
TLY				smax				
	comp=N,285nm,1.7s							
IRK	**Irkutsk**	**4.00**	**70**	*e*PN		Pn	16 17 41.0	+7.5
IRK				*e*			16 18 30.5	
IRK				pmax		pmax		
	comp=Z,37nm,0.2s							
IRK				smax				
	comp=N,608nm,1.0s							
LSTR	**Listvyanka**	**4.26**	**76**	*e*PN		Pn	16 17 47.5	+10
LSTR				*e*			16 18 38.1	
LSTR				pmax		pmax		
	comp=Z,22nm,0.6s							
LSTR				smax				
	comp=N,152nm,1.4s							
TRG	**Tyrgan**	**5.36**	**68**	*e*PN		Pn	16 17 51.3	-1.5
TRG				*e*			16 18 06.3	
TRG				*e*			16 19 12.9	
TRG				pmax		pmax		
	comp=Z,18nm,0.9s							
TRG				smax				
	comp=N,187nm,1.5s							
KAB	**Kabansk**	**5.40**	**76**	*e*PN		Pn	16 18 07.3	+14
KAB				*e*			16 19 16.3	
KAB				pmax		pmax		
	comp=Z,134nm,0.3s							
KAB				smax				
	comp=N,810nm,2.2s							
OGRR	**Ongureny**	**6.35**	**62**	*e*PN		Pn	16 18 03.9	-2.9
OGRR				*e*			16 19 42.6	
OGRR				pmax		pmax		
	comp=Z,7.0nm,1.0s							
OGRR				smax				
	comp=E,46nm,0.6s							
ULN	**Ulaanbaatar**	**6.61**	**115**	*i*PN		Pn	16 18 27.4	+17
KMO	**Kumora**	**9.17**	**53**	*e*P		P	16 18 45.1	-1.1
KMO				pmax		pmax		
	comp=Z,3.0nm,0.4s							

IDC 28 16:24:13.0±2.0, 9.66S×119.26E, mb3.5/1, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=183.9km s-min=24.3km az=50.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.43**	**144**	Pn	P	P	16 26 42.9	-4.1
	0.6nm,0.3s,baz=331,slow=8.3,SNR=15							
FITZ				Sn		S	16 28 33.1	-13
	0.8nm,0.3s,baz=168,slow=15,SNR=6.3							
WRA	**Warramunga Arr**	**17.79**	**127**	P	P	P	16 28 21.7	-2.1
	0.1nm,0.3s,baz=301,slow=13,SNR=12							
WRA				S		S	16 31 29.4	-11
	0.1nm,0.3s,baz=298,slow=23,SNR=2.7							
ASAR	**Alice Springs**	**19.74**	**137**	P	P	P	16 28 45.6	-1.7
	0.1nm,0.3s,baz=315,slow=11,SNR=12							
CMAR	**Chiang Mai Arr**	**34.39**	**324**	P	P	P	16 31 01.9	-2.2
	0.4nm,0.5s,baz=157,slow=7.2,SNR=5.5							

*IDC **28** 16:30:17.1±1.4, 7.30S×121.12E, mb3.8/4, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, ML3.8/2, MS4.7/1, Ms1 4.7/1, ms1mx3.6/23, Error ellipse: s-maj=98.6km s-min=24.6km az=58.0*

*DJA **28** 16:30:26.5±2.5, 7.72S×120.00E, h200km, mb4.1/1, Error ellipse: s-maj=103.6km s-min=7.5km az=128.0*

ISC 28 16:30:24.2±1.1, 8.03S±0.08×120.33E±0.09, h81km±19km, n14, σ1$15/14, mb3.6/3, 3D, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang**	**3.63**	**351**	*e*P		**P**	**16 31 20.2**	**+0.8**
KEDI	**Kedomdong**	**4.20**	**264**	⇓*i*P		**P**	**16 31 29.2**	**+2.0**
BUNI	**Buntu Taipa**	**4.35**	**360**	*e*P		**P**	**16 31 29.7**	**+0.4**
TANI	**Tanete Lipujan**	**4.66**	**348**	*e*P		**P**	**16 31 32.8**	**-0.9**
RATI	**Rata**	**4.79**	**261**	⇓*i*P		**P**	**16 31 35.2**	**-0.3**
SRDI	**Scrawed**	**6.14**	**265**	⇓*i*P		**P**	**16 31 52.5**	**-1.5**
	41nm,0.3s							
FITZ	**Fitzroy Crossi**	**11.26**	**153**	Pn		**P**	**16 33 03.5**	**-0.5**
	0.6nm,0.3s,baz=356,slow=9.4,SNR=6.5							
FITZ				Sn		**S**	**16 35 03.1**	**-5.6**
	0.4nm,0.3s,baz=353,slow=18,SNR=2.1							
WRA	**Warramunga Arr**	**18.01**	**133**	P		**P**	**16 34 28.2**	**-2.5**
	0.2nm,0.3s,baz=308,slow=12,SNR=13							
ASPA	**Alice Springs**	**20.27**	**142**	*e*P		**P**	**16 34 56.6**	**+1.0**
ASAR	**Alice Springs**	**20.27**	**142**	P		**P**	**16 34 56.1**	**+0.5**
	1.4nm,0.5s,baz=320,slow=11,SNR=28							
STKA	**Stephens Creek**	**30.89**	**143**	P		**P**	**16 36 36.6**	**+1.2**
	1.0nm,0.4s,mb3.9,baz=341,slow=8.7,SNR=6.3							
RPZ	**Rata Peaks**	**56.62**	**138**	LR		LR	17 05 02.2	
	comp=Z,636nm,19.2s,baz=198,slow=37							
MKAR	**Makanchi Array**	**64.21**	**332**	P		**P**	**16 40 52.0**	**-0.8**
	0.4nm,0.5s,mb3.5,baz=154,slow=9.3,SNR=3.8							
VNDA	**Vanda**	**72.73**	**171**	P		**P**	**16 41 50.4**	**+5.5**
	0.3nm,0.4s,mb3.5,baz=309,slow=7.8,SNR=3.9							

*IDC **28** 16:45:12.9±1.1, 8.71N×92.28E, h32km±6km, mb3.7/6, mb1 3.9/7, mb1mx3.6/20, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=49.5km s-min=15.4km az=56.0*

*NEIC **28** 16:45:13.0±0.8, 8.65N×92.29E, mb4.5/1, Error ellipse: s-maj=22.8km s-min=11.7km az=70.0*

ISC 28 16:45:11.1±1.1, 8.7N±0.1×92.4E±0.2, h31km, h31km±1.5km: pP-P, n8, σ0$40/8, mb3.9/7, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.60**	**33**	Pn		**P**	**16 47 58.0**	**+0.3**
	0.1nm,0.3s,baz=227,slow=15,SNR=4.1							
MKAR	**Makanchi Array**	**38.92**	**349**	P		**P**	**16 52 35.0**	**-0.8**
	1.3nm,0.6s,mb3.8,baz=167,slow=7.9,SNR=12							
MKAR				pP		pP	16 52 44.6	-0.6
	1.1nm,0.5s,baz=171,slow=7.7,SNR=8.2							
FITZ	**Fitzroy Crossi**	**42.28**	**129**	P		**P**	**16 53 04.0**	**+0.1**
	2.5nm,0.7s,mb4.0,baz=321,slow=6.5,SNR=2.8							
WRA	**Warramunga Arr**	**50.16**	**125**	P		**P**	**16 54 06.1**	**0.0**
	0.8nm,0.4s,mb4.2,baz=300,slow=9.6,SNR=32							
WRA				pP		pP	16 54 16.1	+0.4
	0.4nm,0.5s,baz=303,slow=9.3,SNR=2.5							
WRAB	**Tennant Creek**	**50.16**	**125**	*e*P		**P**	**16 54 06.1**	**0.0**
	3.3nm,0.6s,mb4.5							
ASAR	**Alice Springs**	**51.78**	**129**	P		**P**	**16 54 18.5**	**+0.1**
	0.4nm,0.4s,mb3.7,baz=301,slow=7.5,SNR=20							
ASAR				pP		pP	16 54 29.0	+1.0
	0.4nm,0.6s,baz=302,slow=7.3,SNR=3.1							
STKA	**Stephens Creek**	**61.94**	**133**	P		**P**	**16 55 30.2**	**-0.3**
	0.7nm,0.6s,mb4.0,baz=282,slow=17,SNR=2.5							
GERES	**GERESS Array B**	**76.05**	**318**	P		**P**	**16 56 58.0**	**+0.7**
	0.2nm,0.5s,mb3.3,baz=76,slow=4.0,SNR=4.6							
GERES				pP		pP	16 57 06.5	-0.7
	0.2nm,0.3s,baz=101,slow=5.0,SNR=2.3							

IDC 28 16:54:27.8±7.2, 9.05S×130.18E, h72km±80km, mb3.4/1, mb1 3.5/4, mb1mx3.3/13, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=52.0km s-min=42.7km az=28.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.02**	**206**	P		P	16 56 49.8	-1.3
	0.7nm,0.3s,baz=20,slow=9.6,SNR=18							
FITZ				S		S	16 58 41.3	-1.4
	1.6nm,0.3s,baz=188,slow=16,SNR=6.8							
WRA	**Warramunga Arr**	**11.55**	**160**	P		P	16 57 08.3	-3.4
	0.2nm,0.3s,baz=331,slow=14,SNR=13							
WRA				S		S	16 59 18.4	-1.3
	0.3nm,0.3s,baz=332,slow=22,SNR=6.9							
ASAR	**Alice Springs**	**14.96**	**167**	P		P	16 57 55.0	-1.6
	0.1nm,0.3s,baz=334,slow=9.6,SNR=8.7							
ASAR				S		S	17 00 40.9	+0.1
	0.1nm,0.3s,baz=352,slow=27,SNR=3.7							
MKAR	**Makanchi Array**	**70.03**	**327**	P		P	17 05 32.0	-1.9
	0.4nm,0.5s,baz=131,slow=9.0,SNR=4.0							

*NEIC **28** 17:23:49.8±7.4, 20.01S×176.37W, h199km±70km, mb4.3/3, Error ellipse: s-maj=23.6km s-min=16.2km az=197.0*

*IDC **28** 17:24:08.6±8.4, 20.11S×176.65W, h383km±91km, mb3.5/7, mb1 3.8/8, mb1mx3.5/18, mbtmp4.4/8, Error ellipse: s-maj=34.6km s-min=27.3km az=4.0*

ISC 28 17:23:50.0±4.6, 20.05S±0.09×176.4W±0.1, h212km±44km, n19, σ0$89/20, mb4.0/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.11**	**260**	P		**P**	**17 27 31.5**	**+5.1**
	1.8nm,0.3s,baz=76,slow=19,SNR=18							
URZ	**Urewera**	**18.99**	**196**	P		**P**	**17 27 56.0**	**-1.5**
	2.1nm,0.3s,baz=254,slow=1.3,SNR=15							
URZ				S		**S**	**17 31 17.1**	**+0.1**
	1.0nm,0.3s,baz=85,slow=21,SNR=7.5							
URZ	**Urewera**	**18.99**	**196**	PN		**P**	**17 27 56.2**	**-1.2**
THZ	**Tophouse**	**23.46**	**200**	*e*PN		**P**	**17 28 42.1**	**+0.7**
RPZ	**Rata Peaks**	**25.81**	**201**	P		**P**	**17 29 05.2**	**+1.9**
	7.3nm,0.6s,mb4.5,baz=124,slow=11,SNR=9.7							
CTA	**Charters Tower**	**35.00**	**263**	P		**P**	**17 30 25.2**	**+1.1**
	6.2nm,0.4s,mb4.5,baz=93,slow=9.1,SNR=28							
CTAO	**Charters Tower**	**35.00**	**263**	*e*P		**P**	**17 30 24.4**	**+0.2**
	7.0nm,0.5s,mb4.5							
STKA	**Stephens Creek**	**39.30**	**244**	P		**P**	**17 31 00.2**	**+0.3**
	1.4nm,0.5s,mb3.8,baz=90,slow=13,SNR=8.4							
ASAR	**Alice Springs**	**46.05**	**256**	P		**P**	**17 31 54.5**	**+0.1**
	6.5nm,0.5s,mb4.2,baz=88,slow=8.6,SNR=146							
ASPA	**Alice Springs**	**46.05**	**256**	*e*P		**P**	**17 31 54.8**	**+0.3**
WB2	**Warramunga Arr**	**46.11**	**261**	*e*P		**P**	**17 31 54.3**	**-0.6**
WRAB	**Tennant Creek**	**46.11**	**261**	*e*P		**P**	**17 31 54.3**	**-0.6**
	9.4nm,1.0s,mb4.1							
WRA	**Warramunga Arr**	**46.12**	**261**	P		**P**	**17 31 54.4**	**-0.6**
	1.8nm,0.3s,mb3.9,baz=96,slow=7.5,SNR=123							
SBA	**Scott Base**	**58.42**	**184**	*e*P		**P**	**17 33 23.2**	**-1.8**
	6.5nm,1.0s,mb4.2							
QSPA	**South Pole Qui**	**70.02**	**180**	*e*P		**P**	**17 34 40.4**	**+0.5**
NVAR	**Mina Array Bea**	**79.70**	**43**	P		**P**	**17 35 35.6**	**+0.1**
	0.6nm,0.6s,mb3.4,baz=220,slow=9.8,SNR=4.8							
MSU	**Marysvale**	**83.75**	**45**	*e*P		**P**	**17 35 57.4**	**+0.8**
PV01	**Paradox Valley**	**86.00**	**47**	*e*P		**P**	**17 36 06.5**	**-1.2**
PV01				*e*			17 36 19.3	
PDAR	**Pinedale Array**	**87.64**	**43**	P		**P**	**17 36 16.1**	**+0.7**
	0.2nm,0.5s,mb3.2,baz=270,slow=6.3,SNR=2.7							

IDC 28 17:40:19.0±5.0, 0.21N×100.53E, mb3.5/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=268.2km s-min=28.5km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**38.70**	**123**	P		P	17 47 45.2	-1.5
	0.7nm,0.4s,baz=303,slow=9.0,SNR=7.4							
ASAR	**Alice Springs**	**40.16**	**129**	P		P	17 47 56.9	-1.9
	0.3nm,

TELN				*e*S		S	18 12 11.4	+0.5
BLLM	**Bellamira**	**1.04**	**337**⇑	*e*P		P	18 11 59.0	-0.1
BLLM				*e*S		S	18 12 12.7	+0.1
VSM	**San Miguel**	**1.04**	**335**	*e*P		P	18 11 59.4	+0.2
VSM				*e*S		S	18 12 12.9	+0.2
MIRN	**Miramar**	**1.08**	**92**⇓	*i*P		P	18 11 59.9	+0.1
MIRN				*e*S		S	18 12 13.8	0.0
CNGN	**Cerro Negro**	**1.09**	**89**	*e*P		P	18 11 59.9	0.0
CNGN				*e*S		S	18 12 14.6	+0.6
COPN	**Copaltepe**	**1.24**	**104**	*e*P		P	18 12 01.6	-0.4
COPN				*e*S		S	18 12 17.4	-0.3
MOMJ	**Momotombo**	**1.25**	**93**⇓	*e*P		P	18 12 01.9	-0.2
MOMJ				*e*S		S	18 12 18.0	-0.1
CAHU	**Cacacuatique**	**1.34**	**343**⇑	*e*P		P	18 12 04.0	+0.5
APYN	**Apoyeque**	**1.46**	**100**⇓	*e*P		P	18 12 05.0	-0.2
APYN				*e*S		S	18 12 23.9	+0.6
XAVN	**Gruta Xavier**	**1.50**	**103**	*e*P		P	18 12 03.6	-2.2
XAVN				*e*S		S	18 12 23.6	-0.6
SNVI	**San Vicente**	**1.50**	**319**	*e*P		P	18 12 05.7	-0.1
SNVI				*e*S		S	18 12 23.7	-0.7
CRUN	**El Crucero**	**1.57**	**108**	*e*P		P	18 12 07.7	+1.0
MGAN	**Managua**	**1.57**	**102**	*e*P		P	18 12 06.5	-0.3
MGAN				*e*S		S	18 12 25.0	-1.2
MGAN				*i*			18 12 26.6	
	comp=E,870nm,0.4s							
TICN	**Ticuantepe**	**1.61**	**106**⇓	*e*P		P	18 12 07.5	+0.1
TICN				*e*S		S	18 12 26.2	-1.0
LCBS	**La Ceiba**	**1.62**	**316**⇓	*e*P		P	18 12 07.0	-0.6
LCBS				*e*S		S	18 12 26.3	-1.1
WILN	**Americas 2**	**1.63**	**101**⇓	*e*P		P	18 12 08.3	+0.7
WILN				*e*S		S	18 12 25.6	-2.0
LFRS	**El Faro**	**1.66**	**313**⇓	*e*P		P	18 12 07.4	-0.6
LFRS				*e*S		S	18 12 25.7	-2.6
PYTN	**Playitas**	**1.72**	**88**	*e*P		P	18 12 08.5	-0.4
PYTN				*e*S		S	18 12 31.0	+1.1
LBRS	**Las Brisas**	**1.73**	**316**	*e*P		P	18 12 11.5	+2.5
LBRS				*e*S		S	18 12 29.5	-0.5
LFU	**La Fuente**	**1.78**	**315**	*e*P		P	18 12 09.4	-0.3
LFU				*e*S		S	18 12 31.2	-0.2
BOQS	**Boqueron**	**1.89**	**311**	*e*P		P	18 12 11.2	-0.2
BOQS				*e*S		S	18 12 34.4	+0.2
SBLS	**San Blas**	**2.21**	**308**⇓	*e*P		P	18 12 16.6	+0.6
SNJE	**San Jose**	**2.22**	**309**⇑	*e*P		P	18 12 17.4	+1.4
CONN	**Concepcion**	**2.33**	**113**	*e*P		P	18 12 17.4	-0.3
CONN				*e*S		S	18 12 44.7	-0.7
RBDL	**Robledal**	**2.44**	**312**	*e*P		P	18 12 20.0	+0.9

*NEIC **28** 18:31:22.1, 40.62N×125.42W, h5km, mb4.1/2, MW4.0(BRK), After NCEDC.*
*IDC **28** 18:31:30.9±3.0, 40.82N×124.24W, mb3.4/3, mb1 3.9/6, mb1mx3.6/23, mbtmp3.5/6, ML3.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/16, Error ellipse: s-maj=37.6km s-min=12.6km az=64.0*

ISC 28 18:31:20.4±1.3, 40.53N±0.04×125.3W±0.1, h5km, n58, σ1§01/61, mb3.8/2, 1C-2D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.27**	**74**	*e*P	**Pb**	**18 31 45.2**	**+0.8**
KBO	**Bosley Butte**	**1.88**	**26**	*e*P	**Pn**	**18 31 52.5**	**-1.0**
KBO				*e*S	**Sn**	**18 32 10.1**	**-7.7**
WDC	**Whiskeytown Da**	**2.13**	**88**	*e*P	**Pn**	**18 31 57.2**	**+0.1**
YBH	**Yreka Blue Hor**	**2.32**	**58**	Pn	**Pn**	**18 31 59.8**	**0.0**
	16nm,0.3s,baz=244,slow=14,SNR=108						
YBH				Lg		18 32 27.5	
	20nm,0.3s,baz=158,slow=19,SNR=12						
YBH	**Yreka Blue Hor**	**2.32**	**58**	*e*Pn	**Pn**	**18 31 59.4**	**-0.4**
HOPS	**Hopland**	**2.32**	**131**	*e*Pn	**Pn**	**18 31 59.8**	**0.0**
KEBM	**Edson Butte**	**2.46**	**17**	*e*Pn	**Pn**	**18 32 00.6**	**-1.2**
LHEM	**Herd Peak**	**2.60**	**64**	⇓P	**Pn**	**18 32 04.9**	**+1.1**
HUMO	**Hull Mountain**	**2.74**	**40**	*e*Pn	**Pn**	**18 32 04.9**	**-0.9**
BUOR	**Burton Butte**	**2.91**	**52**	P	**Pn**	**18 32 09.6**	**+1.4**
NSHM	**Saint Helena R**	**2.91**	**133**	*e*Pn	**Pn**	**18 32 09.1**	**+0.9**
LTIM	**Timbered Crate**	**2.99**	**76**	P	**Pn**	**18 32 09.6**	**+0.3**
LBCM	**Butte Creek Ri**	**3.05**	**83**	P	**Pn**	**18 32 10.4**	**+0.3**
HOG	**Hogback Mounta**	**3.22**	**57**	P	**Pn**	**18 32 13.9**	**+1.3**
HSO	**Harness Mounta**	**3.43**	**28**	P	**Pn**	**18 32 15.7**	**0.0**
SAC	**San Andreas**	**3.72**	**141**	*e*Pn	**Pn**	**18 32 19.5**	**-0.2**
IRO	**Indian Ridge**	**4.16**	**32**	P	**Pn**	**18 32 26.2**	**+0.2**
BROR	**Big Rock Looko**	**4.30**	**29**	P	**Pn**	**18 32 28.2**	**+0.2**
WIFE	**Three Sisters-**	**4.39**	**35**	P	**Pn**	**18 32 29.9**	**+0.6**
FRIS	**Frissel Point**	**4.39**	**32**	P	**Pn**	**18 32 29.4**	**+0.1**
HUOR	**Husband**	**4.42**	**35**	P	**Pn**	**18 32 30.6**	**+0.9**
NCOR	**Newberry Crate**	**4.45**	**43**	P	**Pn**	**18 32 31.4**	**+1.3**
WCN	**Washoe City**	**4.46**	**104**	*e*Pn	**Pn**	**18 32 29.8**	**-0.5**
CMB	**Columbia Colle**	**4.58**	**121**	*e*Pn	**Pn**	**18 32 32.5**	**+0.6**
BKCOR	**Black Crater**	**4.63**	**34**	P	**Pn**	**18 32 33.2**	**+0.5**
PINOR	**Pine Mountain**	**4.67**	**44**	P	**Pn**	**18 32 34.2**	**+1.1**
SSOR	**Sweet Springs**	**4.82**	**25**	⇓P	**Pn**	**18 32 35.4**	**+0.1**
SAO	**San Andreas Ge**	**4.83**	**140**	*e*Pn	**Pn**	**18 32 33.9**	**-1.7**
BPO	**Bald Peter**	**4.92**	**32**	P	**Pn**	**18 32 37.3**	**+0.5**
GMO	**Grizzlie Mount**	**5.08**	**38**	P	**Pn**	**18 32 39.5**	**+0.6**
VIPM	**Ingram Point**	**5.29**	**40**	⇑P	**Pn**	**18 32 42.9**	**+1.0**
LRV	**Little Rabbit**	**5.32**	**139**	*e*Pn	**Pn**	**18 32 41.6**	**-0.7**
WVOR	**Wild Horse Val**	**5.38**	**67**	*e*Pn	**Pn**	**18 32 41.7**	**-1.6**
OMM	**Old Mammoth Mi**	**5.73**	**118**	*e*Pn	**Pn**	**18 32 48.8**	**+0.7**
NVAR	**Mina Array Bea**	**5.83**	**109**	Pn	**Pn**	**18 32 50.5**	**+0.9**
	1.6nm,0.3s,baz=294,slow=14,SNR=20						
NVAR				Pg	**Pg**	**18 32 58.2**	**-19**
	1.7nm,0.3s,baz=287,slow=15,SNR=12						
NVAR				Lg		18 34 13.2	
	0.4nm,0.3s,baz=306,slow=23,SNR=3.0						
NVAR	**Mina Array Bea**	**5.83**	**109**	Pn	**Pn**	**18 32 50.5**	**+0.9**
NVAR				Pg	**Pg**	**18 32 58.2**	**-19**
NVAR				Lg		18 34 13.2	
MNV	**Mina**	**5.94**	**108**	*e*Pn	**Pn**	**18 32 50.9**	**-0.2**
VGB	**Gordon Butte**	**6.00**	**32**	P	**Pn**	**18 32 52.5**	**+0.5**
MTUM	**Tungsten Hills**	**6.16**	**119**	*e*Pn	**Pn**	**18 32 54.1**	**-0.1**
BMO	**Blue Mountains**	**7.33**	**51**	*e*Pn	**Pn**	**18 33 11.0**	**+0.4**
HLID	**Hailey**	**8.67**	**66**	*e*Pn	**P**	**18 33 28.8**	**-0.7**
NEW	**Newport**	**9.71**	**34**	Pn	**P**	**18 33 44.8**	**+1.1**
	0.3nm,0.3s,baz=232,slow=12,SNR=3.2						
NEW				LR	LR	18 37 46.9	
	comp=Z,153nm,18.2s,baz=289,slow=42						
MCMT	**McKenzie Canyo**	**10.15**	**61**	*e*Pn	**P**	**18 33 49.0**	**-0.8**
MSO	**Missoula**	**10.38**	**49**	*e*Pn	**P**	**18 33 50.7**	**-2.1**
RRI2	**Red Ridge**	**10.81**	**70**	Pn	**P**	**18 33 57.5**	**-1.4**
CHMT	**Chamberlain Mo**	**10.82**	**50**	*e*Pn	**P**	**18 33 58.1**	**-0.8**
TPAW	**Teton Pass**	**11.11**	**70**	Pn	**P**	**18 34 01.3**	**-1.5**
BOZ	**Bozeman (W)**	**11.25**	**58**	*e*Pn	**P**	**18 34 03.3**	**-1.5**
MOOW	**Moose Ponds**	**11.30**	**69**	Pn	**P**	**18 34 04.4**	**-1.1**
LOHW	**Long Hollow**	**11.38**	**69**	Pn	**P**	**18 34 04.3**	**-2.2**
WALA	**Waterton Lakes**	**11.76**	**40**	*e*Pn	**P**	**18 34 10.0**	**-1.8**
PDAR	**Pinedale Array**	**12.02**	**74**	Pn	**P**	**18 34 15.8**	**+0.6**
	0.3nm,0.3s,baz=241,slow=11,SNR=8.3						
SDCO	**Great Sand Dun**	**15.64**	**94**	*e*P	**P**	**18 35 05.7**	**+2.6**
	11nm,1.5s						
ANMO	**Albuquerque**	**15.93**	**104**	P	**P**	**18 35 07.0**	**+0.3**
TXAR	**Lajitas Array**	**20.93**	**115**	P	**P**	**18 36 09.2**	**+2.9**
	0.2nm,0.3s,baz=280,slow=11,SNR=3.0						
ULM	**Lac du Bonnet**	**22.73**	**55**	P	**P**	**18 36 24.4**	**+0.2**
	6.5nm,0.7s,mb4.2,baz=262,slow=10,SNR=7.7						
ULM	**Lac du Bonnet**	**22.73**	**55**	*e*P	**P**	**18 36 23.6**	**-0.5**
	11nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**22.93**	**13**	P	**P**	**18 36 32.3**	**+6.4**
	0.8nm,0.6s,mb3.3,baz=197,slow=11,SNR=6.9						

KRSC 28 18:49:25.7±1.0, 52.82N×159.02E, h95km±2km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**0.30**	**313**	*i*P	P	18 49 40.2	+0.5
PET				*e*S	S	18 49 50.3	-0.1
NLC	**Nalytchevo**	**0.40**	**29**	*e*P	P	18 49 40.9	+0.5
NLC				*e*S	S	18 49 52.2	+0.7
UGLR	**Uglovaya**	**0.41**	**343**	*i*P	P	18 49 41.1	+0.7
UGLR				*e*S	S	18 49 52.6	+1.1
SMAR	**Somma**	**0.46**	**344**	*e*P	P	18 49 41.6	+0.7
SMAR				*e*S	S	18 49 53.2	+1.0
SDLR	**Sedlovina**	**0.47**	**350**	*i*P	P	18 49 41.3	+0.4
SDLR				*e*S	S	18 49 52.7	+0.5
AVH	**Avacha**	**0.48**	**339**	*i*P	P	18 49 41.7	+0.7
AVH				*e*S	S	18 49 53.5	+1.1
RUS	**Russkaya**	**0.50**	**219**	*i*P	P	18 49 41.2	+0.1
RUS				*e*S	S	18 49 52.6	0.0
KOK	**Koryaka**	**0.53**	**334**	*i*P	P	18 49 42.1	+0.7
KOK				*e*S	S	18 49 53.6	+0.6
KRMR	**Karymshinskiy**	**0.54**	**271**	*i*P	P	18 49 41.3	-0.2
KRMR				*e*S	S	18 49 52.9	-0.3
GRL	**Gorelyy**	**0.64**	**245**	*i*P	P	18 49 43.2	+0.9
GRL				*e*S	S	18 49 55.8	+1.2
SPN	**Mys Shipunski**	**0.67**	**65**	*i*P	P	18 49 43.2	+0.6
SPN				*e*S	S	18 49 55.8	+0.6
GNL	**Ganaly**	**1.09**	**324**	*i*P	P	18 49 47.1	0.0
GNL				*i*S	S	18 50 03.0	-0.1
APC	**Apacha**	**1.13**	**276**	*i*P	P	18 49 48.1	+0.5
APC				*e*S	S	18 50 04.7	+0.7
APC				Smax			
	70nm,1.0s						
KII	**Karymskiy**	**1.25**	**12**	*e*P	P	18 49 50.0	+1.0
KII				*e*S	S	18 50 08.6	+2.2
PAU	**Pauzhetka**	**1.92**	**226**	*i*P	P	18 49 58.3	+0.8
PAU				*e*S	S	18 50 23.5	+2.5
PAU				Smax			
	120nm,0.7s						
PAU	**Pauzhetka**	**1.92**	**226**	*i*P	P	18 49 58.4	+0.9
PAU				*e*S	S	18 50 21.6	+0.6
PAU				Smax			
	110nm,1.2s						
MKZ	**Mys Kozlova**	**2.37**	**42**	*e*P	P	18 50 03.5	-0.2
MKZ				*e*S	S	18 50 31.0	-1.0
TUMR	**Tumrok**	**2.56**	**15**	*e*P	P	18 50 06.9	+0.6
TUMR				*e*S	S	18 50 36.5	0.0
SKR	**Severo-Kuril's**	**2.80**	**221**	*e*S	S	18 50 40.0	-2.5
ALID	**Alaid**	**2.91**	**229**	P	P	18 50 12.4	+1.3
KMNR	**Kamenistaya**	**3.03**	**13**	*i*P	P	18 50 14.2	+1.4
ESO	**Esso**	**3.12**	**357**	*i*P	P	18 50 14.2	+0.2
ESO				*e*S	S	18 50 50.6	+0.3
KPT	**Kopyto**	**3.23**	**12**	*i*P	P	18 50 16.4	+0.9
KPT				*e*S	S	18 50 54.0	+0.9
ZLN	**Zelenaya**	**3.37**	**17**	*e*P	P	18 50 19.1	+1.7
ZLN				*e*S	S	18 50 56.9	+0.4
LGNR	**Loginova**	**3.41**	**16**	*e*P	P	18 50 19.4	+1.4
CIRR	**Tsirk**	**3.45**	**16**	*e*P	P	18 50 20.5	+1.9
CIRR				*e*S	S	18 50 59.5	+0.9
KRSR	**Krestovskiy**	**3.52**	**14**	*e*P	P	18 50 20.7	+1.2
SRDR	**Sredinnyy**	**3.53**	**6**	*i*P	P	18 50 20.8	+1.2
KBTR	**Krutoberegovo**	**4.05**	**32**	*e*P	P	18 50 26.4	-0.4
KBTR				*e*S	S	18 51 11.3	-2.1
BKI	**Bering**	**4.75**	**57**	*e*P	P	18 50 35.1	-1.2
BKI				*e*S	S	18 51 23.7	-6.8
BKI				Smax			
	50nm,0.2s						

*CSEM **28** 18:54:24.7±0.1, 44.66N×10.58E, h2km, ML3.2/11, Error ellipse: s-maj=1.9km s-min=1.6km az=112.0*
*STR **28** 18:54:25.1±0.3, 43.66N×10.30E, h5km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*ROM **28** 18:54:26.6±0.2, 44.63N×10.46E, h21km±3km, Md2.9/22, Ml2.9/6, Error ellipse: s-maj=4.4km s-min=2.4km az=67.0*
*GEN **28** 18:54:26.7, 44.65N×10.52E, h1km, ML3.0*
*NEIC **28** 18:54:26.7, 44.65N×10.52E, h1km, ML3.3(VIE), ML3.1(LDG), ML3.0(GEN), ML3.0(SZGRF), ML2.8(STR), After GEN.*
*LDG **28** 18:54:27.5±0.1, 44.64N×10.59E, h10km, Ml3.1/14, Error ellipse: s-maj=2.7km s-min=2.0km az=63.0*

ISC 28 18:54:27.2±0.3, 44.61N±0.02×10.50E±0.02, h23km±3km, n106, σ1§10/149, 6C-1D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBM	**Eremo**	**0.21**	**198**	Pg	**Pb**	**18 54 32.3**	**-0.4**
ERBM				Sg	**Sb**	**18 54 37.8**	**+1.3**
	2μm,0.7s						
GSCL	**Gusciola**	**0.27**	**167**	Pg	**Pb**	**18 54 33.4**	**-0.2**
GSCL				Sg	**Sb**	**18 54 38.3**	**+0.3**
VALM		**0.32**	**215**	P	**Pb**	**18 54 33.6**	**-0.8**
VALM				S	**Sb**	**18 54 39.1**	**-0.2**
VALM		**0.32**	**215**	P	**Pb**	**18 54 33.7**	**-0.7**
GRAM		**0.34**	**249**	P	**Pb**	**18 54 34.0**	**-0.7**
GRAM				S	**Sb**	**18 54 39.6**	**0.0**
GRAM		**0.34**	**249**	P	**Pb**	**18 54 34.0**	**-0.6**
SARO	**Sassorosso**	**0.44**	**190**	P	**Pb**	**18 54 35.5**	**-0.7**
SARO				S	**Sb**	**18 54 42.5**	**+0.2**
SARO	**Sassorosso**	**0.44**	**190**	P	**Pb**	**18 54 35.5**	**-0.7**
SARO	**Sassorosso**	**0.44**	**190**	P	**Pb**	**18 54 35.5**	**-0.7**
BACM		**0.46**	**223**	P	**Pb**	**18 54 35.8**	**-0.7**
BACM				S	**Sb**	**18 54 42.6**	**-0.3**
BACM		**0.46**	**223**	P	**Pb**	**18 54 35.8**	**-0.7**
VLC	**Villacollemand**	**0.46**	**190**	*e*Pg	**Pb**	**18 54 35.9**	**-0.8**
VLC				*e*Sg	**Sb**	**18 54 43.1**	**-0.1**
VLC	**Villacollemand**	**0.46**	**190**	*e*Pg	**Pb**	**18 54 35.9**	**-0.8**
VLC				*e*Sg	**Sb**	**18 54 43.1**	**0.0**
CODM		**0.52**	**245**	P	**Pb**	**18 54 37.2**	**-0.4**
CODM				S	**Sb**	**18 54 44.2**	**-0.5**
CODM		**0.52**	**245**	P	**Pb**	**18 54 37.2**	**-0.4**
VINC	**Vinca**	**0.54**	**208**	P	**Pb**	**18 54 36.5**	**-1.3**
VINC				S	**Sb**	**18 54 45.2**	**0.0**
VINC	**Vinca**	**0.54**	**208**	P	**Pb**	**18 54 36.5**	**-1.4**
VINC	**Vinca**	**0.54**	**208**	P	**Pb**	**18 54 36.5**	**-1.4**
BDI	**Bagni Di Lucca**	**0.56**	**173**	Pg	**Pb**	**18 54 38.0**	**-0.2**
	150nm,0.4s						
FNVD	**Fontana Vidola**	**0.63**	**135**	Pg	**Pb**	**18 54 40.0**	**+0.6**
FNVD				Sg	**Sb**	**18 54 51.7**	**+3.8**
	302nm,0.5s						
BOB	**Bobbio (Coli)**	**0.77**	**282**	Pg	**Pb**	**18 54 42.7**	**+0.9**
	38nm,1.0s						
SEI	**Scarperia**	**0.83**	**132**	Pg	**Pb**	**18 54 43.6**	**+0.8**
	287nm,0.4s						
PII	**Pisa**	**0.89**	**179**	Pg	**Pb**	**18 54 44.0**	**+0.1**
	204nm,0.3s						
SAL	**Salo**	**0.99**	**1**	Pg	**Pb**	**18 54 46.2**	**+0.6**
SAL				Sg	**Sb**	**18 55 01.4**	**+3.1**
	345nm,0.2s						
VMG	**Vicchio**	**0.99**	**131**	Pg	**Pb**	**18 54 47.2**	**+1.6**
GENL	**Genova Univers**	**1.12**	**260**	P	**Pn**	**18 54 49.0**	**+1.5**
GENL	**Genova Univers**	**1.12**	**260**	P	**Pn**	**18 54 49.0**	**+1.4**
PGD	**Poggio Sodo**	**1.15**	**130**	Pg	**Pn**	**18 54 51.2**	**+3.2**
	35nm,0.6s						
SFI	**Santa Sofia**	**1.20**	**126**	Pn	**Pn**	**18 54 51.1**	**+2.4**
	156nm,1.1s						
MDI	**Monti di Nese**	**1.29**	**335**	Pg	**Pn**	**18 54 50.3**	**+0.3**
MDI				Sg	**Sn**	**18 55 09.3**	**+2.6**
	203nm,0.3s						
PCP	**Pian Castagno**	**1.40**	**268**	P	**Pn**	**18 54 53.3**	**+1.7**
PCP	**Pian Castagno**	**1.40**	**268**	P	**Pn**	**18 54 53.3**	**+1.7**
MABI	**Malga Bissina**	**1.44**	**0**	Pn	**Pn**	**18 54 52.4**	**+0.2**
	91nm,0.5s						
GRFL	**Gerfalco**	**1.51**	**167**	Pn	**Pn**	**18 54 56.2**	**+3.1**
	8.0nm,0.4s						
MUGIO	**Muggio**	**1.67**	**322**	Pn	**Pn**	**18 54 55.1**	**-0.3**
MUGIO				Sn	**Sn**	**18 55 20.2**	**+4.0**
VAI	**Varese**	**1.75**	**316**	Pn	**Pn**	**18 54 57.1**	**+0.5**
	41nm,0.3s						
BRMO	**Bormio**	**1.86**	**357**	Pn	**Pn**	**18 54 59.3**	**+1.1**
	14nm,0.3s						
ROB	**Roburent**	**1.91**	**261**	P	**Pn**	**18 54 59.5**	**+0.6**
ROB				S	**Sn**	**18 55 22.3**	**-0.2**
ROB	**Roburent**	**1.91**	**261**	P	**Pn**	**18 54 59.5**	**+0.6**
ROB				S	**Sn**	**18 55 22.3**	**-0.2**
APPI	**Appiano**	**1.93**	**15**	Pn	**Pn**	**18 54 59.8**	**+0.6**
	93nm,0.3s						
IMI	**Imperia**	**2.00**	**250**	P	**Pn**	**18 55 00.4**	**+0.1**
IMI	**Imperia**	**2.00**	**250**	Pn	**Pn**	**18 55 00.8**	**+0.5**
	20nm,0.2s						
IMI	**Imperia**	**2.00**	**250**	P	**Pn**	**18 55 00.4**	**+0.1**
IMI	**Imperia**	**2.00**	**250**	Pn	**Pn**	**18 55 00.8**	**+0.5**
	20nm,0.2s						
MONE	**Monesi**	**2.04**	**256**	P	**Pn**	**18 55 01.4**	**+0.6**
ORO	**Oropa**	**2.05**	**300**	Pn	**Pn**	**18 55 02.9**	**+1.9**
ORX	**Oropa**	**2.05**	**301**	P	**Pn**	**18 55 01.1**	**+0.1**
ORX	**Oropa**	**2.05**	**301**	P	**Pn**	**18 55 01.1**	**+0.1**
NEGI	**Negi**	**2.15**	**250**	P	**Pn**	**18 55 02.3**	**-0.1**
NEGI	**Negi**	**2.15**	**250**	P	**Pn**	**18 55 02.3**	**-0.1**
SAOF	**Saorge**	**2.21**	**254**	Pg	**Pn**	**18 55 03.2**	**0.0**
SAOF				Sg	**Sn**	**18 55 30.9**	**+0.9**
SNTG	**Esanatoglia**	**2.23**	**127**	Pn	**Pn**	**18 55 05.6**	**+2.2**
	8.0nm,0.6s						
ENR	**Entracque**	**2.24**	**261**	P	**Pn**	**18 55 04.3**	**+0.6**
ENR	**Entracque**	**2.24**	**261**	P	**Pn**	**18 55 04.3**	**+0.6**
BRES	**Bressanone**	**2.26**	**22**	Pn	**Pn**	**18 55 04.5**	**+0.6**
	162μm,42.0s						
AUTN	**L'Aution**	**2.29**	**255**	Pg	**Pn**	**18 55 05.2**	**+0.8**
AUTN				Sg	**Sn**	**18 55 34.0**	**+1.8**
STV2	**Anna di Valdie**	**2.31**	**262**	P	**Pn**	**18 55 04.8**	**+0.2**
STV2	**Anna di Valdie**	**2.31**	**262**	P	**Pn**	**18 55 04.8**	**+0.2**
STV	**Sta Anna Valdi**	**2.31**	**262**	P	**Pn**	**18 55 04.4**	**-0.2**
STV	**Sta Anna Valdi**	**2.31**	**262**	P	**Pn**	**18 55 04.4**	**-0.2**
BHB	**Bricherasio**	**2.32**	**277**	P	**Pn**	**18 55 06.3**	**+1.5**
BHB	**Bricherasio**	**2.32**	**277**	P	**Pn**	**18 55 06.3**	**+1.5**
SBF	**Sospel**	**2.33**	**252**	*e*Pn	**Pn**	**18 55 05.4**	**+0.5**
SBF				*e*Sn	**Sn**	**18 55 34.1**	**+1.0**
	42nm,0.4s						
PGF	**Pioggiola**	**2.34**	**208**	*e*Pn	**Pn**	**18 55 05.6**	**+0.6**
PGF				*e*Sn	**Sn**	**18 55 32.7**	**-0.6**
	8.2nm,0.3s						
RSP	**Reno Superiore**	**2.37**	**284**	P	**Pn**	**18 55 04.8**	**-0.7**
RSP	**Reno Superiore**	**2.37**	**284**	P	**Pn**	**18 55 04.8**	**-0.7**
TOUF	**Mont Tournerai**	**2.41**	**257**	Pg	**Pn**	**18 55 07.1**	**+1.0**
PZZ	**Prazzo**	**2.43**	**269**	P	**Pn**	**18 55 05.5**	**-0.9**
PZZ	**Prazzo**	**2.43**	**269**	P	**Pn**	**18 55 05.5**	**-0.9**
MVIF	**Mont Vial**	**2.51**	**255**	Pg	**Pn**	**18 55 08.2**	**+0.7**
MVIF				Sg	**Sn**	**18 55 40.2**	**+2.5**
LSD	**Ceresole Reale**	**2.52**	**291**	P	**Pn**	**18 55 12.4**	**+4.8**
SQTA	**Sankt Quirin**	**2.65**	**10**⇓	*i*PN	**Pn**	**18 55 09.7**	**+0.2**
SQTA				*i* SN	**Sn**	**18 55 42.7**	**+1.4**
MBDF	**Montbardon**	**2.66**	**274**	*e*Pn	**Pn**	**18 55 09.8**	**+0.1**
ROBS	**Robic**	**2.67**	**51**	*e*Pn	**Pn**	**18 55 09.4**	**-0.4**
ROBS				*e*Sn	**Sn**	**18 55 40.6**	**-1.2**
DAVA	**Damuels**	**2.71**	**351**⇑	*i*PN	**Pn**	**18 55 11.8**	**+1.5**
DAVA				*i* SN	**Sn**	**18 55 44.3**	**+1.6**
CALN	**Calern**	**2.74**	**253**	Pg	**Pn**	**18 55 11.7**	**+0.9**
WTTA	**Wattenberg**	**2.77**	**16**⇑	*i*PN	**Pn**	**18 55 11.7**	**+0.6**
WTTA				*i* SN	**Sn**	**18 55 45.3**	**+1.1**
VOJS	**Vojsko**	**2.77**	**58**	*i* Pn	**Pn**	**18 55 10.4**	**-0.9**
LPG	**La Plagne**	**2.80**	**290**	*e*Pn	**Pn**	**18 55 11.2**	**-0.4**
LPL	**La Plagne**	**2.82**	**290**	*e*Pn	**Pn**	**18 55 11.3**	**-0.6**
JAVS	**Javornik**	**2.82**	**62**	*e*Pn	**Pn**	**18 55 10.8**	**-1.2**
JAVS				*e*Sn	**Sn**	**18 55 44.1**	**-1.5**
WATA	**Walderalm**	**2.82**	**15**⇑	*i*PN	**Pn**	**18 55 12.2**	**+0.2**
WATA				*i* SN	**Sn**	**18 55 47.1**	**+1.5**
FRF	**La Foret Royal**	**2.97**	**251**	*e*Pn	**Pn**	**18 55 13.7**	**-0.4**
FRF				*e*Sn	**Sn**	**18 55 48.4**	**-1.0**
	23nm,0.2s						
NVLJ	**Novalja**	**3.12**	**89**	*i* Pn	**Pn**	**18 55 15.5**	**-0.7**
NVLJ				*i* Sn	**Sn**	**18 55 51.1**	**-2.0**
LMR	**La Mourre**	**3.15**	**247**	*e*Pn	**Pn**	**18 55 15.9**	**-0.8**
LMR				*e*Sn	**Sn**	**18 55 51.8**	**-2.2**
	14nm,0.2s						
KBA	**Koelnbreinsper**	**3.17**	**38**⇑	*i*PN	**Pn**	**18 55 17.6**	**+0.8**
KBA				*i* SN	**Sn**	**18 55 54.7**	**+0.4**
KBA				*i* SG	**Sn**	**18 56 10.8**	**+17**
	11nm,0.3s						
VISS	**Visnje**	**3.29**	**67**	*e*Pn	**Pn**	**18 55 17.8**	**-0.8**
ORIF	**Oris-en-Rattie**	**3.31**	**277**	*e*Pn	**Pn**	**18 55 18.0**	**-0.8**
OBKA	**Obir**	**3.42**	**55**⇑	*i*PN	**Pn**	**18 55 20.0**	**-0.4**
OBKA				*i* SN	**Sn**	**18 56 01.2**	**+0.6**
BOJS	**Bojanci**	**3.48**	**74**	*e*Pn	**Pn**	**18 55 20.2**	**-1.1**
BOJS				*e*Sn	**Sn**	**18 56 01.1**	**-1.2**
SMRF	**Simiane la Rot**	**3.59**	**261**	*e*Pn	**Pn**	**18 55 23.7**	**+0.8**

ASAR	Alice Springs	43.65	127	P	P	20 11 23.9	-0.5
	0.2nm,0.3s,baz=294,slow=8.9,SNR=4.1						
MKAR	Makanchi Array	46.99	346	P	P	20 11 49.3	-1.4
	0.8nm,0.5s,baz=161,slow=8.6,SNR=13						
BVAR	Borovoye Array	55.99	341	P	P	20 12 55.2	-3.3
	0.3nm,0.5s,baz=149,slow=8.4,SNR=3.8						

*IDC **28** 20:12:44.3±0.9, 7.26N×91.95E, mb3.9/8, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, ML4.2/1, MS3.5/8, Ms1 3.6/8, ms1mx3.3/26, Error ellipse: s-maj=48.9km s-min=15.2km az=51.0*
*MOS **28** 20:12:47.4±1.6, 7.26N×92.23E, h33km, mb4.8/4, Error ellipse: s-maj=23.3km s-min=12.8km az=100.3*
*NEIC **28** 20:12:49.0±0.4, 7.31N×92.07E, h30km, mb4.5/5, Error ellipse: s-maj=9.3km s-min=6.2km az=224.0*
*BJI **28** 20:12:50.4, 7.87N×91.44E, h13km, mb4.3*
ISC 28 20:12:47.0±0.5, 7.30N±0.06×92.10E±0.06, h30km, (h32km±1.1km:pP-P), n54, σ0=93/53, mb4.3/23, MS3.6/7, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	8.72	103	ePn	P	20 14 52.9	-1.4
PALK	Pallekele	11.31	271	eP	P	20 15 28.7	-1.1
	42nm,0.8s						
PALK				eS	S	20 17 21.6	-15
CM31	Chiang Mai Arr	12.94	30	eP	P	20 15 51.2	-0.4
	11nm,0.8s						
CM31				ePP		20 16 00.7	
CMAR	Chiang Mai Arr	12.94	30	Pn	P	20 15 52.5	+0.8
	0.4nm,0.3s,baz=231,slow=14,SNR=71						
CMAR				LR	LR	20 20 53.9	
	comp=Z,83nm,19.6s,baz=220,slow=38						
CHG	Chiang Mai	13.24	30	P	P	20 15 55.8	+0.1
VIS	Vishakhapatnam	13.44	321	eP	P	20 15 55.9	-2.4
VIS				eS	S	20 18 11.9	-16
NANT	Nan	14.16	35	P	P	20 16 22.0	+14
HYB	Hyderabad	16.61	309	eP	P	20 16 44.0	+4.5
HYB	Hyderabad	16.61	309	iP	P	20 16 44.0	+4.5
HYB				eS	S	20 19 43.0	+0.9
SHL	Shillong	18.17	359	e	P	20 16 55.0	-4.0
KSM	Kuching	19.04	107	eP	P	20 17 09.7	+0.1
JIRN	Jiri	21.01	345	eP	P	20 17 30.6	-0.1
PKI	Pulchoki	21.14	343	eP	P	20 17 31.5	-0.4
	61nm,0.9s,mb4.9						
DMN	Daman	21.26	343	eP	P	20 17 33.0	-0.2
	45nm,0.7s,mb4.9						
GUN	Gumba	21.33	345	eP	P	20 17 33.5	-0.4
	40nm,0.8s,mb4.8						
KKN	Kakani	21.38	343	eP	P	20 17 33.7	-0.7
	27nm,0.9s,mb4.6						
GKN	Gorkha	21.77	342	eP	P	20 17 38.4	+0.1
	58nm,0.9s,mb5.0						
KOLN	Koldanda	21.90	339	eP	P	20 17 39.6	0.0
	31nm,0.8s,mb4.8						
LSA	Lhasa	22.30	358	P	P	20 17 46.0	+2.4
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
LSA	Lhasa	22.30	358	eP	P	20 17 45.1	+1.5
LSA				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5						
LSA	Lhasa	22.30	358	eP	P	20 17 45.1	+1.5
	comp=Z,12nm,0.7s,mb4.5						
GYA	Guiyang	23.56	34	⇓iP	P	20 18 04.5	+8.5
GYA				AP		20 18 11.5	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
NDI	New Delhi	25.50	328	e	P	20 18 13.5	-1.1
CD2	Chengdu	25.90	23	eP	P	20 18 17.8	-0.5
GTA	Gaotai	32.72	11	eP	P	20 19 19.5	+0.3
GTA				AP	pP	20 19 28.3	+0.2
GTA				XP	sP	20 19 31.8	-0.1
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
UCH	Uchtor	38.11	339	P	P	20 20 06.8	+1.7
	SNR=8.0						
AML	Almayashu	38.33	338	P	P	20 20 08.6	+1.7
	SNR=17						
KBK	Karagaybulak	38.33	339	P	P	20 20 08.5	+1.5
	SNR=6.5						
AAK	Ala-Archa	38.47	339	eP	P	20 20 08.4	+0.3
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
AAK	Ala-Archa	38.47	339	eP	P	20 20 08.4	+0.3
	comp=Z,7.2nm,1.1s,mb4.3						
EKS2	Erkin-Say	38.76	338	P	P	20 20 12.0	+1.5
	SNR=5.2						
USP	Ospenovka	39.02	339	P	P	20 20 13.8	+1.0
	SNR=7.3						
MKAR	Makanchi Array	40.24	350	P	P	20 20 22.6	-0.2
	comp=Z,2.4nm,0.7s,mb4.0,baz=170,slow=8.6,SNR=16						
MKAR				LR	LR	20 41 01.0	
	comp=Z,66nm,19.0s,MS3.5,baz=170,slow=42						
FITZ	Fitzroy Crossi	41.63	128	P	P	20 20 34.7	+0.2
	comp=Z,23nm,0.8s,mb4.8,baz=329,slow=5.9,SNR=14						
ULN	Ulaanbaatar	42.38	15	P	P	20 20 39.2	-1.2
ULN				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
ULN	Ulaanbaatar	42.38	15	P	P	20 20 39.2	-1.2
	comp=Z,1.4nm,0.8s,mb3.6						
ZAK	Zakamensk	43.95	10	eP	P	20 20 53.1	+0.1
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.5						
BVAR	Borovoye Array	48.91	343	P	P	20 21 31.7	-0.5
	comp=Z,1.5nm,0.8s,mb4.0,baz=169,slow=7.6,SNR=8.4						
CHKZ	Chkalovo	49.41	343	eP	P	20 21 35.5	-0.6
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CHKZ	Chkalovo	49.41	343	eP	P	20 21 35.5	-0.6
	comp=Z,5.6nm,0.9s,mb4.6						
WRA	Warramunga Arr	49.59	124	P	P	20 21 38.3	+0.4
	comp=Z,4.9nm,0.8s,mb4.6,baz=305,slow=8.7,SNR=36						
WRAB	Tennant Creek	49.60	124	eP	P	20 21 38.1	+0.2
WRAB				e	pP	20 21 48.2	+1.1
WRAB				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
WRAB	Tennant Creek	49.60	124	eP	P	20 21 38.1	+0.2
	comp=Z,11nm,0.7s,mb5.0						
WRAB				e	pP	20 21 48.2	+1.1
WB2	Warramunga Arr	49.60	124	eP	P	20 21 38.2	+0.2
WB2				e	pP	20 21 48.6	+1.5
ASAR	Alice Springs	51.12	128	P	P	20 21 50.0	+0.5
	comp=Z,2.3nm,0.8s,mb4.2,baz=309,slow=7.1,SNR=16						
ASAR				LR	LR	20 48 18.0	
	comp=Z,59nm,18.6s,MS3.6,baz=161,slow=42						
BOD	Bodaibo	53.19	14	eP	P	20 22 02.2	-2.4
KMBO	Kilima Mbogo	55.35	264	LR	LR	20 41 43.6	
	comp=Z,71nm,19.0s,MS3.8,baz=265,slow=32						
STKA	Stephens Creek	61.19	132	P	P	20 23 02.4	+0.8
	comp=Z,1.4nm,0.6s,mb4.3,baz=293,slow=7.7,SNR=4.4						
BRTR	Keskin Array B	61.28	311	P	P	20 23 02.0	-0.1
	comp=Z,0.3nm,0.5s,mb3.7,baz=129,slow=9.2,SNR=3.4						
FINES	FINESS Array B	72.28	333	P	P	20 24 10.6	-0.8
	comp=Z,0.5nm,0.7s,mb3.5,baz=101,slow=19,SNR=2.5						
FINES				LR	LR	20 58 20.6	
	comp=Z,24nm,20.0s,MS3.5,baz=142,slow=38						
ARCES	ARCESS Array B	75.13	340	LR	LR	20 59 49.2	
	comp=Z,39nm,20.5s,MS3.7,baz=300,slow=38						
GERES	GERESS Array B	76.91	318	P	P	20 24 38.0	-0.2
	comp=Z,0.5nm,0.7s,mb3.6,baz=76,slow=4.0,SNR=5.0						
HFS	Hagfors	77.94	330	LR	LR	21 06 12.1	
	comp=Z,36nm,19.6s,MS3.7,baz=26,slow=41						
NOA	NORSAR Array B	79.24	331	LR	LR	21 03 21.3	
	comp=Z,34nm,20.7s,MS3.7,baz=240,slow=38						

*CSEM **28** 20:18:05.6±0.5, 37.85N×26.45W, ML2.4, Error ellipse: s-maj=25.4km s-min=2.5km az=29.0, After PDA*
*PDA **28** 20:18:05.6±1.2, 37.85N×26.45W, MD2.6, ML2.4, Error ellipse: s-maj=18.9km s-min=2.0km az=34.0*
SVSA 28 20:18:05.6±1.2, 37.85N×26.45W, MD2.6, ML2.4, Error ellipse: s-maj=18.9km s-min=2.0km az=34.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET2	Ginetes	0.51	90	eP	Pg	20 18 14.2	-1.6
SET2				iS	Sg	20 18 21.9	-0.7
SET4	Mosteiros	0.52	87	eP	Pg	20 18 15.0	-0.9
SET4				iS	Sg	20 18 21.7	-1.1
PFET	Feteiras	0.53	93	eS	Sg	20 18 22.1	-1.0
PSAN	Santo Antonio	0.57	90	iS	Sg	20 18 23.8	-0.9
FAC	Faja de Cima	0.64	97	eS	Sg	20 18 25.6	-1.3
CML	Cha da Macela	0.72	96	eS	Sg	20 18 27.2	-2.4
PVER	Pico Vermelho	0.74	94	eS	Sg	20 18 27.8	-2.6
LFA	Lagoa do Fogo	0.77	95	eS	Sg	20 18 28.6	-2.7
PMAT	Coroa da Mata	0.78	92	eS	Sg	20 18 28.6	-2.9
	53nm,0.2s						
PRCH	Ribeira Ch	0.78	99	eS	Sg	20 18 29.3	-2.3
	96nm,0.2s						
VIF	Vila Franca	0.81	97	eS	Sg	20 18 30.0	-2.5
PCNG	Congro	0.84	95	eS	Sg	20 18 30.7	-2.9
FRA1	Furnas	0.87	97	eS	Sg	20 18 31.3	-3.4
PFAD	Fenais da Ajud	0.89	90	eS	Sg	20 18 31.3	-4.1
MIRA	Miradouro	0.93	94	eS	Sg	20 18 32.8	-3.8
PFAV	Pico das Favas	0.99	330	eP	Pb	20 18 22.0	-3.4
PFAV				iS	Sg	20 18 34.6	-4.1
	33nm,0.2s						
RIB2	Ribeirinha	1.00	326	eS	Sg	20 18 34.0	-4.8
	41nm,0.1s						
PPAD	Pico dos Padre	1.07	323	eS	Sb	20 18 35.8	-5.4
	17nm,0.2s						
PBIS	Biscoitos	1.11	326	eS	Sb	20 18 36.9	-5.2
ASBA	Santa Barbara	1.11	322	eS	Sb	20 18 36.7	-5.5
	28nm,0.1s						

IDC 28 20:20:47.1±2.8, 7.11N×91.54E, mb3.4/2, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=85.5km s-min=31.5km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.38	32	Pn	P	20 23 57.0	-3.9
	0.1nm,0.3s,baz=231,slow=14,SNR=16						
MKAR	Makanchi Array	40.33	350	P	P	20 28 27.0	-1.0
	0.4nm,0.6s,baz=173,slow=8.5,SNR=5.5						
WRA	Warramunga Arr	49.96	123	P	P	20 29 42.8	-2.4
	0.2nm,0.4s,baz=303,slow=8.7,SNR=8.8						

*BJI **28** 20:49:10.6, 18.12N×146.55E, h41km, mB4.3, mb4.6, Ms3.7, Msz3.6*
*IDC **28** 20:49:10.4±2.2, 18.15N×146.76E, h46km±19km, mb4.1/21, mb1 4.2/23, mb1mx4.2/28, mbtmp4.3/23, ML3.8/2, MS3.6/13, Ms1 3.6/13, ms1mx3.4/31, Error ellipse: s-maj=18.8km s-min=11.0km az=101.0*
*NEIC **28** 20:49:12.1±1.2, 18.12N×146.77E, h64km±11km, mb4.5/14, Error ellipse: s-maj=12.3km s-min=6.4km az=89.0*
ISC 28 20:49:10.5±1.4, 18.16N±0.04×146.7E±0.1, h62km±12km, n58, σ0=95/52, mb4.3/32, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	Sarigan	1.71	212	eP	P	20 49 39.2	+0.5
GUMO	Guam	4.88	202	ePn	P	20 50 22.7	-0.4
GUMO				eSn	S	20 51 20.1	+1.2
CBIJ	Chichi jima	9.82	336	P	P	20 51 31.4	-0.2
	2.1nm,0.3s,baz=289,slow=19,SNR=3.0						
CBIJ				S	S	20 53 17.9	-3.3
	9.5nm,0.3s,baz=268,slow=22,SNR=6.4						
JOW	Kunigami	19.08	300	LR	LR	21 00 05.0	
	comp=Z,83nm,19.1s,baz=123,slow=34						
MJAR	Matsushiro Arr	19.79	339	P	P	20 53 38.3	-0.1
	0.6nm,0.3s,baz=163,slow=10,SNR=6.1						
MAJO	Matsushiro	19.79	339	eP	P	20 53 38.2	-0.2
	8.3nm,0.6s						
MAT	Matsushiro	19.79	339	P	P	20 53 38.0	-0.4
MAT	Matsushiro	19.79	339	P	P	20 53 38.1	-0.3
MAT				eS	S	20 57 20.7	+7.9
KS15	Wonju Array Si	25.33	323	P	P	20 54 40.9	+7.7
ASAJ	Asahikawa	26.11	353	LR	LR	21 05 58.5	
	comp=Z,50nm,18.9s,baz=344,slow=39						
PMG	Port Moresby	27.39	179	P	P	20 54 50.8	-1.6
	19nm,0.8s,mb4.7,baz=353,slow=6.0,SNR=5.1						
PMG				LR	LR	21 03 38.0	
	comp=Z,104nm,21.8s,baz=342,slow=32						
PMG	Port Moresby	27.39	179	eP	P	20 54 50.7	-1.8
	26nm,0.9s,mb4.8						
HIA	Hailar	37.89	331	eP	P	20 56 23.6	+0.4
	7.3nm,0.7s,mb4.5						
CTA	Charters Tower	38.01	181	LR	LR	21 09 56.7	
	comp=Z,96nm,18.3s,baz=54,slow=33						
WRAB	Tennant Creek	39.75	198	eP	P	20 56 38.0	-1.0
	25nm,1.1s,mb4.6						
WB2	Warramunga Arr	39.76	198	⇑iP	P	20 56 37.7	-1.3
WRA	Warramunga Arr	39.76	198	P	P	20 56 37.9	-1.1
	5.2nm,0.9s,mb4.3,baz=28,slow=7.9,SNR=41						
WRA				PcP	PcP	20 58 44.9	-0.2
	1.5nm,0.5s,baz=15,slow=3.4,SNR=9.4						
WRA				ScP		21 02 30.2	
	1.0nm,0.8s,baz=17,slow=3.4,SNR=5.3						
WRA				PKiKP		21 05 55.4	
	0.3nm,0.9s,baz=333,slow=1.6,SNR=5.6						
FITZ	Fitzroy Crossi	41.56	211	P	P	20 56 53.7	-0.3
	10nm,0.9s,mb4.5,baz=275,slow=1.1,SNR=8.9						
ASAR	Alice Springs	43.41	197	P	P	20 57 09.3	+0.3
	3.6nm,0.6s,mb4.3,baz=22,slow=7.1,SNR=27						
ASAR				PcP	PcP	20 58 57.5	+0.4
	2.6nm,0.7s,baz=18,slow=2.7,SNR=12						
ASAR				ScP		21 02 44.8	
	0.8nm,0.8s,baz=32,slow=4.5,SNR=5.1						
ASPA	Alice Springs	43.41	197	eP	P	20 57 09.6	+0.5
ULN	Ulaanbaatar	43.79	322	P	P	20 57 12.4	+0.6
CMAR	Chiang Mai Arr	45.24	278	P	P	20 57 25.3	+1.5
	0.8nm,0.6s,mb3.7,baz=80,slow=5.9,SNR=6.7						
TLY	Talaya	47.55	325	eP	P	20 57 42.6	+1.0
	1.3nm,0.7s,mb4.1						
STKA	Stephens Creek	49.99	186	eP	P	20 58 00.3	-0.4
	5.1nm,0.9s,mb4.5						
STKA	Stephens Creek	49.99	186	P	P	20 57 59.8	-0.9
	4.4nm,0.7s,mb4.6,baz=3.6,slow=7.4,SNR=10						
STKA				LR	LR	21 18 06.4	
	comp=Z,126nm,22.0s,baz=25,slow=35						
BILL	Bilibino	51.39	9	eP	P	20 58 09.4	-1.4
	6.5nm,1.1s,mb4.5						
WMQ	Urumqi	55.39	311	P	P	20 58 44.0	+3.3
WMQ				PCP	PcP	20 59 43.0	+2.8
WMQ				PP	PP	21 00 50.0	+3.7
WMQ				PPP	PPP	21 02 04.5	+3.4
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,11nm,2.7s,mb4.4						
WMQ				LR	LR		
	comp=N,51nm,18.5s						
WMQ				LR	LR		
	comp=E,22nm,18.5s						
WMQ				LR	LR		
	comp=Z,23nm,21.6s						
MKAR	Makanchi Array	59.53	314	P	P	20 59 10.0	+0.3
	comp=Z,0.5nm,0.5s,mb3.8,baz=96,slow=7.4,SNR=8.4						
ILAR	Eielson Array	63.70	26	P	P	20 59 36.0	-1.6
	comp=Z,2.5nm,1.0s,mb4.2,baz=261,slow=5.2,SNR=16						
ILAR				PcP	PcP	21 00 11.8	-1.1
	comp=Z,1.1nm,0.8s,baz=256,slow=3.9,SNR=6.9						
ILAR				LR	LR	21 27 02.7	
	comp=Z,47nm,20.0s,baz=176,slow=36						
CHKZ	Chkalovo	67.36	321	eP	P	21 00 00.6	-0.5
	comp=Z,1.7nm,0.7s,mb4.2						
BVAR	Borovoye Array	67.50	321	P	P	21 00 02.2	+0.3
	comp=Z,4.6nm,0.5s,mb4.8,baz=96,slow=7.5,SNR=39						
INK	Inuvik	69.49	23	P	P	21 00 13.8	-0.2
	comp=Z,3.3nm,0.9s,mb4.2,baz=254,slow=8.4,SNR=7.3						
INK	Inuvik	69.49	23	eP	P	21 00 11.2	-2.9
	comp=Z,7.1nm,1.1s,mb4.5						
DLBC	Dease Lake	71.21	33	P	P	21 00 25.4	+0.8
	comp=Z,0.9nm,0.3s,mb4.1,baz=212,slow=18,SNR=3.4						
ARU	Arti	74.06	325	eP	P	21 00 41.1	-0.3
	comp=Z,5.9nm,0.9s,mb4.5						
YKA	Yellowknife Ar	78.01	28	P	P	21 01 03.9	+0.3
	comp=Z,2.7nm,0.8s,mb4.2,baz=288,slow=5.6,SNR=21						
YKA				LR	LR	21 32 28.1	
	comp=Z,46nm,19.4s,baz=255,slow=33						
YKA	Yellowknife Ar	78.01	28	P	P	21 01 03.9	+0.3
YKA				LR	LR	21 32 28.1	
YBH	Yreka Blue Hor	78.57	50	P	P	21 01 07.8	+0.7
	comp=Z,1.3nm,0.5s,mb4.2,baz=334,slow=3.9,SNR=8.8						
RES	Resolute Bay	79.72	14	eP	P	21 01 10.5	-2.2
	comp=Z,4.7nm,1.0s,mb4.4						
NEW	Newport	80.66	42	P	P	21 01 19.0	+0.7
	comp=Z,6.5nm,1.1s,mb4.5,baz=299,slow=4.4,SNR=4.7						
WVOR	Wild Horse Val	81.31	48	eP	P	21 01 22.7	+1.0
	comp=Z,5.4nm,0.9s,mb4.5						
NVAR	Mina Array Bea	82.71	52	P	P	21 01 30.6	+1.5
	comp=Z,3.7nm,0.7s,mb4.5,baz=264,slow=6.1,SNR=21						
ARCES	ARCESS Array B	83.30	342	P	P	21 01 31.8	+0.4
	comp=Z,3.2nm,0.7s,mb4.5,baz=82,slow=8.6,SNR=8.8						
ARCES	ARCESS Array B	83.30	342	P	P	21 01 31.8	+0.4
ELK	Elko	84.25	49	eP	P	21 01 38.1	+1.3
	comp=Z,6.0nm,0.9s,mb4.7						
PDAR	Pinedale Array	87.51	46	P	P	21 01 53.2	+0.4
	comp=Z,0.4nm,0.5s,mb3.9,baz=58,slow=1.3,SNR=5.9						
PDAR				LR	LR	21 41 37.1	
	comp=Z,36nm,18.9s,baz=73,slow=36						
FINES	FINESS Array B	87.77	336	P	P	21 01 53.3	-0.3
	comp=Z,0.8nm,0.4s,mb4.3,baz=62,slow=5.4,SNR=23						
FCC	Fort Churchill	88.70	27	eP	P	21 01 58.6	+0.5
	comp=Z,5.9nm,1.2s,mb4.8						
JMIC	Jan Mayen	89.44	352	P	P	21 02 01.9	+0.6
	comp=Z,91nm,0.9s,baz=82,slow=3.0,SNR=3.2						
ANMO	Albuquerque	92.84	52	LR	LR	21 37 42.5	
	comp=Z,35nm,21.9s,baz=33,slow=31						
HFS	Hagfors	93.24	338	P	P	21 02 18.4	-0.8
	comp=Z,0.6nm,0.4s,mb4.3,baz=90,slow=3.0,SNR=6.4						
NOA	NORSAR Array B	93.41	340	P	P	21 02 19.8	0.0
	comp=Z,0.3nm,0.7s,mb3.8,baz=59,slow=3.8,SNR=2.7						
NOA				LR	LR	21 48 58.7	
	comp=Z,19nm,19.6s,baz=275,slow=38						
FRB	Frobisher Bay	93.89	15	LR	LR	21 44 55.9	
	comp=Z,40nm,19.5s,baz=255,slow=36						
BRTR	Keskin Array B	95.17	315	P	P	21 02 28.1	-0.3
	comp=Z,0.8nm,0.8s,mb4.2,baz=45,slow=3.5,SNR=3.4						
VNDA	Vanda	95.89	177	LR	LR	21 46 39.3	
	comp=Z,95nm,18.3s,baz=86,slow=36						
TXAR	Lajitas Array	97.34	56	LR	LR	21 37 20.5	
	comp=Z,24nm,21.0s,baz=130,slow=30						
VNA2	Neumayer--Watz	125.01	190		PKPdf	21 08 06.7	+3.4
LPAZ	La Paz	146.70	92	PKPbc	PKPbc	21 08 48.7	+2.8
	comp=Z,1.4nm,0.6s,baz=279,slow=5.9,SNR=9.3						

IDC 28 20:50:07.6±2.8, 7.77N×91.48E, mb3.5/2, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, ML3.6/1, MS2.9/1, Ms1 3.1/1, ms1mx2.8/14, Error ellipse: s-maj=84.7km s-min=33.1km az=63.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.87	34	Pn	P	20 53 11.8	-2.8
	0.1nm,0.3s,baz=232,slow=15,SNR=5.0						
CMAR				LR	LR	20 58 13.6	
	comp=Z,48nm,19.2s,baz=210,slow=38						
MKAR	Makanchi Array	39.67	350	P	P	20 57 41.4	-1.7
	0.3nm,0.4s,baz=172,slow=9.1,SNR=4.2						
WRA	Warramunga Arr	50.37	124	P	P	20 59 06.9	-2.1
	0.2nm,0.3s,baz=302,slow=9.0,SNR=4.6						

*ATH **28** 20:50:22.3, 40.22N×19.92E, h5km, MD3.3/3*
*CSEM **28** 20:50:24.2±0.4, 40.15N×19.82E, h2km, ML3.1, Error ellipse: s-maj=7.5km s-min=4.2km az=100.0*
*THE **28** 20:50:25.1, 40.12N×19.97E, h10km, ML3.1*
ISC 28 20:50:24.4±0.7, 40.11N±0.02×19.94E±0.05, h3km±5km, n21, σ0=05/40, 1D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPE	Tepelena	0.19	16	ePg	Pg	20 50 28.1	-0.1
TPE				iSg	Sg	20 50 31.6	+0.9
SRN	Sarande	0.24	169	iPg	Pg	20 50 29.1	-0.1
SRN				iSg	Sg	20 50 33.5	+1.2
KEK	Kerkira	0.41	196	⇓iPB	Pb	20 50 32.5	-1.5
KEK				eSB	Sb	20 50 40.0	-0.5
IGT	Igoumenitsa	0.65	153	ePg	Pg	20 50 36.6	-0.9
IGT				eSg	Sg	20 50 47.5	+1.3
JAN	Janina	0.83	123	ePB	Pb	20 50 39.7	-1.5
JAN				eSB	Sb	20 50 52.5	-0.1
MEV	Metsovon	1.04	108	ePg	Pg	20 50 42.9	-2.3
MEV				eSg	Sg	20 50 59.2	+0.1
FNA	Florina	1.28	58	ePb	Pb	20 50 48.2	-0.7
FNA				eSb	Sb	20 51 08.9	+3.3
LKD	Levkas	1.51	158	ePb	Pb	20 50 52.2	-0.5
LKD				eSb	Sb	20 51 13.5	+1.4
EVR	Evrytania	1.87	129	ePN	Pn	20 50 59.0	+1.3
PUK	Puka	1.93	359	iPn	Pn	20 50 59.9	+1.4
PUK				iSn	Sn	20 51 33.0	+9.4
PUK	Puka	1.93	359	ePn	Pn	20 50 59.9	+1.4
PUK				iSg	Sg	20 51 33.5	+4.9
LIT	Litokhoron	1.95	90	ePb	Pb	20 50 59.8	-0.6
LIT				eSb	Sb	20 51 25.6	+0.5
AGG	Agios Georgios	2.14	120	ePn	Pn	20 51 02.7	+1.1
AGG				eSn	Sn	20 51 30.3	+1.2
SKO	Skopje	2.17	31	ePn	Pn	20 51 03.5	+1.5
SOH	Sokhos	2.70	74	ePn	Pn	20 51 09.4	-0.1
SOH				eSn	Sn	20 51 43.1	0.0
PAIG	Paliouri	2.88	93	ePn	Pn	20 51 11.2	-0.8
PAIG				eSn	Sn	20 51 47.0	-0.6
PAIG	Paliouri	2.88	93	ePn	Pn	20 51 11.2	-0.8
PAIG				eSn	Sn	20 51 47.0	-0.6
SRS	Serrai	2.95	69	ePn	Pn	20 51 12.3	-0.9
SRS				eSn	Sn	20 51 49.7	+0.1
OUR	Ouranopolis	3.10	85	ePn	Pn	20 51 15.3	0.0
OUR				eSn	Sn	20 51 53.4	+0.1
ALN	Alexandroupoli	4.72	78	ePn	Pn	20 51 37.1	-1.1
ALN				eSn	Sn	20 52 31.2	-3.0
ALN	Alexandroupoli	4.72	78	ePn	Pn	20 51 37.1	-1.1
ALN				eSn	Sn	20 52 31.2	-3.1

KRSC 28 21:13:40.9±1.2, 53.48N×161.51E, h19km±3km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	1.09	7	eP	Pb	21 14 00.0	-0.9
MK

BKI eS Sn 21 15 02.1 -5.6
BKI Smax
50nm,0.2s
PAU Pauzhetka 3.51 237 P Pn 21 14 38.3 +2.5

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*IDC **28** 21:17:46.4±1.9, 7.15N×91.68E, mb4.2/5, mb1 4.5/6, mb1mx3.9/21, mbtmp4.3/6, ML4.3/1, MS3.5/7, Ms1 3.6/7, ms1mx3.3/26, Error ellipse: s-maj=75.6km s-min=19.4km az=59.0*
*BJI **28** 21:17:51.8, 7.30N×92.10E, h30km, mb4.3*
*NEIC **28** 21:17:51.8±0.9, 7.29N×92.06E, h30km, mb4.4/6, Error ellipse: s-maj=20.1km s-min=10.3km az=61.0*
ISC 28 21:17:50.9±3.6, 7.3N±0.1×92.1E±0.2, h36km±30km, n33, σ0§83/28, mb4.4/19, MS3.7/6, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.71**	**103**	*eP*	**P**	**21 19 55.4**	**-2.0**
CM31	**Chiang Mai Arr**	**12.89**	**30**	*eP*	**P**	**21 20 54.9**	**+0.5**
	15nm,0.8s						
CMAR	**Chiang Mai Arr**	**12.89**	**30**	Pn	**P**	**21 20 55.5**	**+1.1**
	0.4nm,0.3s,baz=231,slow=14,SNR=79						
CMAR				LR	LR	21 26 40.9	
	comp=Z,64nm,18.8s,baz=205,slow=40						
HYB	**Hyderabad**	**16.60**	**308**	*eP*	**P**	**21 21 48.0**	**+5.3**
HYB	**Hyderabad**	**16.60**	**308**	*i P*	**P**	**21 21 48.0**	**+5.3**
KSM	**Kuching**	**19.03**	**107**	*eP*	**P**	**21 22 02.0**	**-11**
KMI	**Kunming**	**20.39**	**29**	P	**P**	**21 22 27.5**	**+0.1**
KMI				AMB	AMB		
	comp=Z,11nm,1.5s						
PKI	**Pulchoki**	**21.11**	**343**	*eP*	**P**	**21 22 34.6**	**-0.2**
	comp=Z,29nm,0.9s,mb4.6						
DMN	**Daman**	**21.23**	**343**	*eP*	**P**	**21 22 35.9**	**-0.2**
	comp=Z,18nm,0.7s,mb4.5						
GUN	**Gumba**	**21.30**	**345**	*eP*	**P**	**21 22 36.7**	**0.0**
	comp=Z,35nm,0.7s,mb4.8						
KKN	**Kakani**	**21.35**	**343**	*eP*	**P**	**21 22 36.7**	**-0.5**
	comp=Z,23nm,1.0s,mb4.4						
GKN	**Gorkha**	**21.74**	**342**	*eP*	**P**	**21 22 41.1**	**-0.1**
	comp=Z,46nm,1.0s,mb4.9						
KOLN	**Koldanda**	**21.87**	**339**	*eP*	**P**	**21 22 42.8**	**+0.4**
	comp=Z,27nm,1.0s,mb4.7						
LSA	**Lhasa**	**22.26**	**358**	P	**P**	**21 22 49.3**	**+3.0**
LSA	**Lhasa**	**22.26**	**358**	*eP*	**P**	**21 22 48.9**	**+2.6**
	comp=Z,8.8nm,0.6s,mb4.4						
GYA	**Guiyang**	**23.52**	**34**	⇓*iP*	**P**	**21 22 59.0**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
ENH	**Enshi**	**28.03**	**33**	*eP*	**P**	**21 23 39.4**	**-1.7**
	comp=Z,12nm,1.4s,mb4.3						
GTA	**Gaotai**	**32.67**	**11**	*eP*	**P**	**21 24 22.3**	**+0.3**
GTA				AP	pP	21 24 31.0	-1.2
GTA				XP	sP	21 24 34.3	-2.5
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
AAK	**Ala-Archa**	**38.44**	**339**	*eP*	**P**	**21 25 11.1**	**+0.1**
	comp=Z,10nm,1.5s,mb4.3						
MKAR	**Makanchi Array**	**40.21**	**350**	P	**P**	**21 25 25.7**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.0,baz=176,slow=9.1,SNR=14						
MKAR				LR	LR	21 45 52.1	
	comp=Z,52nm,18.6s,MS3.4,baz=359,slow=42						
MKAR	**Makanchi Array**	**40.21**	**350**	P	**P**	**21 25 25.7**	**0.0**
MKAR				LR	LR	21 45 52.1	
FITZ	**Fitzroy Crossi**	**41.63**	**128**	P	**P**	**21 25 38.5**	**+0.8**
	comp=Z,12nm,0.8s,mb4.6,baz=340,slow=5.1,SNR=12						
ULN	**Ulaanbaatar**	**42.34**	**15**	*eP*	**P**	**21 25 42.2**	**-0.9**
	comp=Z,2.2nm,0.9s,mb3.8						
BVAR	**Borovoye Array**	**48.88**	**343**	P	**P**	**21 26 34.7**	**-0.4**
	comp=Z,1.0nm,0.8s,mb3.9,baz=135,slow=8.4,SNR=7.1						
CHKZ	**Chkalovo**	**49.38**	**343**	*eP*	**P**	**21 26 38.1**	**-0.9**
	comp=Z,5.1nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**49.60**	**124**	P	**P**	**21 26 41.1**	**+0.1**
	comp=Z,2.4nm,0.5s,mb4.5,baz=304,slow=8.7,SNR=26						
WRAB	**Tennant Creek**	**49.60**	**124**	*eP*	**P**	**21 26 41.5**	**+0.4**
	comp=Z,8.9nm,0.9s,mb4.8						
WRAB				*e*pP	pP	21 26 51.7	+0.2
ASAR	**Alice Springs**	**51.13**	**128**	P	**P**	**21 26 53.2**	**+0.6**
	comp=Z,1.7nm,0.8s,mb4.0,baz=311,slow=7.7,SNR=11						
KMBO	**Kilima Mbogo**	**55.38**	**264**	LR	LR	21 46 09.2	
	comp=Z,64nm,20.5s,MS3.7,baz=218,slow=31						
CTA	**Charters Tower**	**59.80**	**118**	LR	LR	21 58 37.5	
	comp=Z,110nm,18.9s,MS4.0,baz=50,slow=41						
ARCES	**ARCESS Array B**	**75.10**	**340**	LR	LR	22 03 42.4	
	comp=Z,26nm,19.7s,MS3.5,baz=178,slow=37						
NOA	**NORSAR Array B**	**79.22**	**331**	LR	LR	22 08 44.5	
	comp=Z,25nm,19.8s,MS3.6,baz=130,slow=39						
DBIC	**Dimbokro**	**96.03**	**277**	LR	LR	22 13 41.2	
	comp=Z,35nm,18.3s,MS3.9,baz=147,slow=35						

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*IDC **28** 21:50:19.4±0.5, 2.42N×97.11E, mb4.4/20, mb1 4.5/21, mb1mx4.4/25, mbtmp4.4/21, ML4.7/1, MS3.8/11, Ms1 3.8/11, ms1mx3.6/26, Error ellipse: s-maj=18.0km s-min=12.3km az=43.0*
*BJI **28** 21:50:21.3, 2.13N×97.09E, h38km, mB4.9, mb4.7, Ms4.1, Msz3.8*
*MOS **28** 21:50:22.4±1.0, 2.43N×97.09E, h33km, mb4.9/12, Error ellipse: s-maj=15.4km s-min=8.9km az=113.6*
*NEIC **28** 21:50:23.8±0.3, 2.34N×97.03E, h30km, mb4.7/14, Error ellipse: s-maj=9.4km s-min=7.0km az=219.0*
ISC 28 21:50:23.9±1.3, 2.31N±0.05×97.09E±0.06, h46km±11km, n102, σ1§06/92, mb4.6/48, MS3.8/15, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.62**	**50**	*e*Pn	**P**	**21 51 34.4**	**+1.3**
SNG	**Songkhla**	**5.98**	**36**	P	**P**	**21 51 52.5**	**+0.5**
	280nm,0.9s						
KSM	**Kuching**	**13.24**	**93**	P	**P**	**21 53 32.1**	**+0.6**
CM31	**Chiang Mai Arr**	**16.15**	**6**	*eP*	**P**	**21 54 10.4**	**+1.1**
	19nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.15**	**6**	Pn	**P**	**21 54 08.0**	**-1.3**
	1.0nm,0.3s,baz=195,slow=11,SNR=25						
CMAR				Lg		21 58 50.8	
	0.0nm,0.3s,baz=180,slow=29,SNR=3.4						
CMAR				LR	LR	22 00 37.5	
	comp=Z,329nm,19.4s,baz=190,slow=38						
CHG	**Chiang Mai**	**16.50**	**6**	P	**P**	**21 54 13.4**	**-0.3**
NANT	**Nan**	**16.76**	**12**	P	**P**	**21 54 18.0**	**+1.0**
KKM	**Kota Kinabalu**	**19.43**	**78**	*eP*	**P**	**21 54 49.6**	**+0.2**
KMI	**Kunming**	**23.32**	**13**	⇓*iP*	**P**	**21 55 31.0**	**+2.1**
KMI				AP		21 55 40.5	
KMI				XP		21 55 44.5	
KMI				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.4						
KMI				AMB	AMB		
	comp=Z,87nm,3.8s						
KMI				LR	LR		
	comp=N,328nm,15.9s,MS3.9						
KMI				LR	LR		
	comp=E,151nm,15.0s,MS3.9						
KMI				LR	LR		
	comp=Z,385nm,17.2s,MS3.9						
HYB	**Hyderabad**	**23.59**	**311**	*eP*	**P**	**21 55 34.0**	**+2.5**
HYB	**Hyderabad**	**23.59**	**311**	*i P*	**P**	**21 55 34.0**	**+2.5**
SHL	**Shillong**	**23.66**	**348**	*eP*	**P**	**21 55 30.0**	**-2.1**
GYA	**Guiyang**	**25.71**	**20**	⇑*iP*	**P**	**21 55 51.8**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**27.28**	**339**	*eP*	**P**	**21 56 06.4**	**+0.2**
	comp=Z,4.4nm,0.3s,mb4.5						
PKI	**Pulchoki**	**27.49**	**337**	*eP*	**P**	**21 56 07.6**	**-0.6**
	comp=Z,12nm,0.6s,mb4.6						
GUN	**Gumba**	**27.62**	**338**	*eP*	**P**	**21 56 09.1**	**-0.2**
	comp=Z,50nm,0.7s,mb5.2						
DMN	**Daman**	**27.64**	**337**	*eP*	**P**	**21 56 09.4**	**-0.2**
	comp=Z,22nm,0.7s,mb4.9						
KKN	**Kakani**	**27.74**	**337**	*eP*	**P**	**21 56 09.9**	**-0.5**
	comp=Z,36nm,0.8s,mb5.0						
LSA	**Lhasa**	**27.82**	**349**	*eP*	**P**	**21 56 11.5**	**+0.4**
LSA	**Lhasa**	**27.82**	**349**	*eP*	**P**	**21 56 09.1**	**-2.0**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**27.82**	**349**	*eP*	**P**	**21 56 09.1**	**-2.0**
	comp=Z,9.3nm,0.8s,mb4.5						
GKN	**Gorkha**	**28.18**	**336**	*eP*	**P**	**21 56 14.2**	**-0.2**
	comp=Z,40nm,0.9s,mb5.0						
KOLN	**Koldanda**	**28.41**	**334**	*eP*	**P**	**21 56 16.6**	**+0.1**
	comp=Z,41nm,0.9s,mb5.1						
ENH	**Enshi**	**30.19**	**22**	*eP*	**P**	**21 56 29.7**	**-2.5**
	comp=Z,14nm,0.7s,mb4.8						
XAN	**Xi'an**	**33.44**	**18**	P	**P**	**21 56 58.8**	**-1.9**
XAN				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**34.67**	**127**	P	**P**	**21 57 10.5**	**-0.9**
	comp=Z,3.1nm,0.6s,mb4.4,baz=319,slow=6.6,SNR=4.1						
GTA	**Gaotai**	**37.01**	**4**	*eP*	**P**	**21 57 30.8**	**-0.2**
GTA				AP	pP	21 57 38.5	-5.0
GTA				XP	sP	21 57 42.0	-7.2
GTA				PP	PP	21 58 58.5	+0.4
GTA				S	**S**	**22 03 15.0**	**+2.3**
GTA				XS		22 03 38.0	
GTA				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.0						
GTA				AMB	AMB		
	comp=Z,50nm,4.2s						
GTA				LR	LR		
	comp=N,84nm,12.9s,MS3.8						
GTA				LR	LR		
	comp=E,77nm,16.0s,MS3.8						
GTA				LR	LR		
	comp=Z,69nm,19.8s,MS3.5						
JOW	**Kunigami**	**38.58**	**48**	P	**P**	**21 57 43.1**	**-1.1**
	comp=Z,13nm,0.6s,mb4.8,baz=230,slow=6.3,SNR=15						
JOW				LR	LR	22 15 10.4	
	comp=Z,58nm,18.2s,MS3.4,baz=71,slow=39						
BJT	**Baijiatuau**	**41.34**	**22**	*eP*	**P**	**21 58 07.9**	**+1.0**
BJT				pmax	pmax		
	comp=Z,21nm,0.6s						
BJT	**Baijiatuau**	**41.34**	**22**	*eP*	**P**	**21 58 07.9**	**+1.0**
	comp=Z,20nm,0.6s,mb4.9						
BJI	**Beijing**	**41.36**	**22**	*eP*	**P**	**21 58 07.8**	**+0.7**
BJI				S	**S**	**22 04 19.8**	**+1.6**
BJI				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.0						
BJI				LR	LR		
	comp=N,149nm,18.9s,MS4.0						
BJI				LR	LR		
	comp=E,141nm,17.6s,MS4.0						
BJI				LR	LR		
	comp=Z,65nm,17.9s,MS3.5						
WMQ	**Urumqi**	**42.17**	**350**	P	**P**	**21 58 14.0**	**+0.3**
WMQ				AP	pP	21 58 23.5	-2.8
WMQ				XP	sP	21 58 27.5	-4.4
WMQ				PP	PP	21 59 55.0	+0.3
WMQ				PCP	PcP	22 00 09.0	+0.9
WMQ				PPP	PPP	22 00 27.0	-0.4
WMQ				*e*S	**S**	**22 04 31.3**	**+1.2**
WMQ				XS		22 04 47.8	
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,74nm,4.0s						
WMQ				LR	LR		
	comp=N,73nm,21.4s,MS3.6						
WMQ				LR	LR		
	comp=E,36nm,21.6s,MS3.6						
WMQ				LR	LR		
	comp=Z,40nm,20.3s,MS3.3						
WRA	**Warramunga Arr**	**42.72**	**123**	P	**P**	**21 58 18.7**	**+0.1**
	comp=Z,3.4nm,0.4s,mb4.4,baz=303,slow=9.0,SNR=35						
WRAB	**Tennant Creek**	**42.73**	**123**	*eP*	**P**	**21 58 18.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.8						
WRAB	**Tennant Creek**	**42.73**	**123**	*eP*	**P**	**21 58 18.1**	**-0.5**
	comp=Z,14nm,0.7s,mb4.8						
ASPA	**Alice Springs**	**44.15**	**128**	*eP*	**P**	**21 58 30.4**	**+0.2**
ASAR	**Alice Springs**	**44.16**	**128**	P	**P**	**21 58 30.4**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.9,baz=304,slow=8.1,SNR=12						
KZA	**Kyzart**	**44.17**	**337**	P	**P**	**21 58 31.2**	**+1.1**
	SNR=6.7						
UCH	**Uchtor**	**44.59**	**336**	P	**P**	**21 58 34.6**	**+1.2**
	SNR=24						
TKM2	**Tokmak 2**	**44.75**	**338**	P	**P**	**21 58 35.3**	**+0.6**
	SNR=6.7						
KBK	**Karagaybulak**	**44.78**	**337**	P	**P**	**21 58 35.9**	**+0.9**
	SNR=21						
AML	**Almayashu**	**44.85**	**335**	P	**P**	**21 58 36.6**	**+1.1**
	SNR=16						
AAK	**Ala-Archa**	**44.94**	**336**	P	**P**	**21 58 38.3**	**+2.1**
	SNR=9.7						
AAK	**Ala-Archa**	**44.94**	**336**	*eP*	**P**	**21 58 34.6**	**-1.6**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**44.94**	**336**	*eP*	**P**	**21 58 34.6**	**-1.6**
	comp=Z,6.7nm,0.9s,mb4.5						
FRU	**Bishkek**	**45.06**	**337**	*eP*	**P**	**21 58 47.0**	**+10**
CHMS	**Chumysh**	**45.15**	**337**	P	**P**	**21 58 38.5**	**+0.7**
	SNR=5.3						
EKS2	**Erkin-Say**	**45.26**	**336**	P	**P**	**21 58 39.8**	**+1.1**
	SNR=17						
USP	**Ospenovka**	**45.47**	**337**	P	**P**	**21 58 41.0**	**+0.6**
	SNR=22						
MKAR	**Makanchi Array**	**46.14**	**346**	P	**P**	**21 58 45.1**	**-0.6**
	comp=Z,14nm,0.9s,mb4.9,baz=157,slow=8.0,SNR=51						
ULN	**Ulaanbaatar**	**46.19**	**9**	P	**P**	**21 58 45.8**	**-0.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
ULN	**Ulaanbaatar**	**46.19**	**9**	P	**P**	**21 58 45.8**	**-0.2**
	comp=Z,5.6nm,1.1s,mb4.4						
ZAK	**Zakamensk**	**48.18**	**5**	*eP*	**P**	**21 59 01.2**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
MJAR	**Matsushiro Arr**	**50.95**	**43**	P	**P**	**21 59 22.8**	**-0.3**
	comp=Z,4.1nm,0.9s,mb4.4,baz=218,slow=6.5,SNR=7.8						
MJAR				LR	LR	22 19 04.7	
	comp=Z,74nm,21.5s,MS3.7,baz=240,slow=34						
PMG	**Port Moresby**	**51.22**	**104**	*eP*	**P**	**21 59 25.2**	**-0.2**
PMG				pmax	pmax		
	comp=Z,18nm,0.8s						
PMG	**Port Moresby**	**51.22**	**104**	P	**P**	**21 59 25.8**	**+0.4**
	comp=Z,18nm,0.8s,mb5.0,baz=302,slow=4.4,SNR=4.6						
PMG	**Port Moresby**	**51.22**	**104**	*eP*	**P**	**21 59 25.2**	**-0.2**
	comp=Z,18nm,0.8s,mb5.1						
CTA	**Charters Tower**	**53.10**	**117**	P	**P**	**21 59 39.5**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.4,baz=256,slow=18,SNR=2.6						
OPO	**Ambohidratompo**	**53.29**	**245**	P	**P**	**21 59 41.5**	**+0.7**
	comp=Z,1.1nm,0.5s,mb4.0,baz=233,slow=18,SNR=6.6						
NVS	**Novosibirsk**	**53.57**	**350**	*eP*	**P**	**21 59 39.8**	**-2.6**
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**54.18**	**133**	P	**P**	**21 59 47.6**	**+0.3**
	comp=Z,3.6nm,0.9s,mb4.3,baz=300,slow=16,SNR=5.1						
STKA	**Stephens Creek**	**54.18**	**133**	*eP*	**P**	**21 59 47.5**	**+0.2**
BVAR	**Borovoye Array**	**55.17**	**341**	P	**P**	**21 59 53.1**	**-1.1**
	comp=Z,11nm,0.7s,mb5.0,baz=141,slow=8.5,SNR=76						
CHKZ	**Chkalovo**	**55.64**	**341**	*eP*	**P**	**21 59 56.1**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
CHKZ	**Chkalovo**	**55.64**	**341**	*eP*	**P**	**21 59 56.1**	**-1.4**
	comp=Z,27nm,0.8s,mb5.3						
BOD	**Bodaibo**	**56.95**	**11**	*eP*	**P**	**22 00 06.1**	**-0.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
KMBO	**Kilima Mbogo**	**59.92**	**267**	*eP*	**P**	**22 00 28.7**	**+0.6**
KMBO				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KMBO	**Kilima Mbogo**	**59.92**	**267**	P	**P**	**22 00 28.9**	**+0.8**
	comp=Z,0.7nm,0.5s,mb4.0,baz=53,slow=8.9,SNR=4.2						
KMBO				LR	LR	22 22 44.3	
	comp=Z,81nm,18.2s,MS3.9,baz=199,slow=32						
KMBO	**Kilima Mbogo**	**59.92**	**267**	*eP*	**P**	**22 00 28.7**	**+0.6**
	comp=Z,5.3nm,1.1s,mb4.5						
SVE	**Sverdlovsk**	**61.62**	**338**	*eP*	**P**	**22 00 37.0**	**-2.0**
ARU	**Arti**	**62.12**	**337**	⇑*iP*	**P**	**22 00 41.1**	**-1.3**
ARU				*e*		22 01 17.8	
ARU				*e*		22 02 55.8	
ARU				*e*S	**S**	**22 09 06.9**	**+4.5**
ARU				*e*SS	SS	22 13 07.6	+0.1
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
ARU				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
ARU				MLR	MLR		
	comp=N,20nm,21.0s,MS4.0						
ARU				MLR	MLR		
	comp=E,100nm,21.0s,MS4.0						
ARU	**Arti**	**62.12**	**337**	*eP*	**P**	**22 00 40.6**	**-1.8**
	comp=E,6.8nm,0.8s,mb4.8						
KIV	**Kislovodsk**	**63.40**	**319**	*eP*	**P**	**22 00 48.3**	**-2.8**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
KIV				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK	**Yakutsk**	**64.39**	**16**	*eP*	**P**	**22 00 56.3**	**-0.9**
YAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
BRTR	**Keskin Array B**	**68.29**	**312**	P	**P**	**22 01 21.6**	**-0.8**
	comp=E,1.0nm,0.8s,mb3.9,baz=128,slow=6.2,SNR=6.2						
MATP	**Matopo**	**70.84**	**248**	LR	LR	22 28 23.1	
	comp=E,74nm,18.2s,MS4.0,baz=347,slow=32						
AKASG	**Malin Array Be**	**74.31**	**322**	P	**P**	**22 01 57.4**	**-0.9**
	comp=E,3.5nm,0.6s,mb4.4,baz=91,slow=4.5,SNR=17						
BOSA	**Boshof**	**75.24**	**240**	P	**P**	**22 02 04.8**	**+0.8**
	comp=E,1.6nm,0.7s,mb4.0,baz=122,slow=11,SNR=4.7						
BOSA				LR	LR	22 33 52.6	
	comp=E,82nm,19.0s,MS4.0,baz=168,slow=35						
SUW	**Suwalki**	**78.71**	**325**	*eP*	**P**	**22 02 21.5**	**-1.4**
SUW				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
SUW	**Suwalki**	**78.71**	**325**	*eP*	**P**	**22 02 21.4**	**-1.5**
	comp=Z,20nm,1.0s,mb5.0						
FINES	**FINESS Array B**	**78.97**	**332**	P	**P**	**22 02 24.4**	**+0.2**
	comp=Z,2.9nm,0.7s,mb4.3,baz=108,slow=6.0,SNR=16						
TSUM	**Tsumeb**	**80.86**	**250**	LR	LR	22 37 08.4	
	comp=Z,62nm,19.1s,MS4.0,baz=142,slow=35						
ARCES	**ARCESS Array B**	**81.46**	**340**	P	**P**	**22 02 37.8**	**+0.4**
	comp=Z,3.5nm,0.7s,mb4.4,baz=98,slow=4.6,SNR=20						
ARCES				LR	LR	22 41 42.9	
	comp=Z,32nm,20.1s,MS3.7,baz=113,slow=38						
GERES	**GERESS Array B**	**83.91**	**319**	P	**P**	**22 02 51.4**	**+1.1**
	comp=Z,0.8nm,0.4s,mb4.2,baz=106,slow=4.9,SNR=14						
NB2	**NORSAR Subarra**	**85.99**	**331**	P	**P**	**22 03 00.9**	**+0.6**
	comp=Z,1.2nm,0.7s,mb4.2,baz=93,slow=4.8						
NB2	**NORSAR Subarra**	**85.99**	**331**	P	**P**	**22 03 00.9**	**+0.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**85.99**	**331**	P	**P**	**22 03 01.2**	**+0.9**
	comp=Z,1.9nm,0.8s,mb4.4,baz=95,slow=4.9,SNR=9.4						
NOA				LR	LR	22 47 10.0	
	comp=Z,15nm,20.8s,MS3.4,baz=85,slow=40						
DAVOX	**Davos**	**86.41**	**317**	P	**P**	**22 03 04.1**	**+1.4**
	comp=Z,5.0nm,0.5s,mb5.0,baz=176,slow=24,SNR=12						
VNDA	**Vanda**	**86.93**	**169**	LR	LR	22 39 18.7	
	comp=Z,90nm,20.5s,MS4.2,baz=232,slow=34						
LPG	**La Plagne**	**88.61**	**315**	*eP*	**P**	**22 03 14.0**	**+0.7**
	comp=Z,5.6nm,0.9s,mb4.6						
LPG	**La Plagne**	**88.61**	**315**	*eP*	**P**	**22 03 14.0**	**+0.7**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**98.73**	**23**	LR	LR	22 57 22.7	
	comp=Z,43nm,18.3s,MS4.0,baz=180,slow=41						
SCHQ	**Schefferville**	**121.52**	**349**	PKP	PKPdf	22 09 13.1	+0.6
	comp=Z,1.2nm,0.7s,baz=254,slow=16,SNR=3.5						
SCHQ	**Schefferville**	**121.52**	**349**	PKP	PKPdf	22 09 13.1	+0.6
NVAR	**Mina Array Bea**	**127.95**	**35**	PKP	PKPdf	22 09 26.6	+1.2
	comp=Z,0.4nm,0.4s,baz=264,slow=3.4,SNR=5.8						
PDAR	**Pinedale Array**	**129.09**	**25**	PKP	PKPdf	22 09 30.1	+2.6
	comp=Z,0.5nm,0.7s,baz=225,slow=2.1,SNR=4.5						
TXAR	**Lajitas Array**	**142.78**	**31**	PKhKP		22 09 51.5	
	comp=Z,0.6nm,0.6s,baz=226,slow=1.2,SNR=5.6						
JSC	**Jenkinsville**	**143.57**	**358**	*e*PKIKP	PKPdf	22 09 58.1	+4.0
JCT	**Junction City**	**143.63**	**25**	*e*PKIKP	PKPdf	22 09 53.3	-1.0
CPUP	**Villa Florida**	**145.74**	**224**	PKPbc	PKPbc	22 10 01.3	+2.3
	comp=Z,2.3nm,1.0s,baz=162,slow=1.3,SNR=4.2						
CPUP	**Villa Florida**	**145.74**	**224**	*e*PKPdf	PKPdf	22 10 01.1	+3.0
CFAA	**Coronel Fontan**	**147.74**	**204**	PKPbc	PKPdf	22 10 06.9	+5.6

IDC 28 21:56:09.1±1.5, 0.23N×125.62E, mb3.8/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, Error ellipse: s-maj=178.6km s-min=20.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.79**	**157**	P	P	22 01 02.1	-2.6
	1.4nm,0.4s,baz=335,slow=11,SNR=12						
ASAR	**Alice Springs**	**25.08**	**162**	P	P	22 01 36.0	-0.9
	2.2nm,0.3s,baz=350,slow=11,SNR=24						
MKAR	**Makanchi Array**	**59.83**	**327**	P	P	22 06 16.2	-2.4
	0.4nm,0.4s,baz=122,slow=6.9,SNR=11						
BVAR	**Borovoye Array**	**69.66**	**328**	P	P	22 07 20.5	-1.9
	0.4nm,0.4s,baz=112,slow=7.8,SNR=3.1						

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*IDC **28** 21:58:36.9±1.2, 27.70S×67.06W, h123km±21km, mb3.8/3, mb1 3.5/8, mb1mx3.4/19, mbtmp3.9/8, Error ellipse: s-maj=29.6km s-min=10.2km az=91.0*
*GUC **28** 21:58:37.6±0.9, 27.68S×67.50W, h150km, ML5.0*
*NEIC **28** 21:58:37.6, 27.68S×67.50W, h150km, mb4.1/3, After GUC.*
ISC 28 21:58:35.7±0.7, 27.67S±0.04×67.32W±0.08, h135km±12km, n20, σ1§24/29, mb4.0/4, 3C-1D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**2.71**	**276**	⇑*iP*	**P**	**21 59 18.9**	**-0.5**
CPCH				*i* S	**S**	**21 59 51.0**	**-1.8**
CPCH				AMP		21 59 54.4	
	comp=E,9μm,0.1s						
VACH

DPC				*e*SG	Sg	22 09 32.5	-3.8
	4.7nm,0.3s						
VRAC	**Vranov**	**1.87**	**242**	Pg	Pg	22 09 09.7	-3.9
	1.9nm,0.3s,baz=62,slow=14,SNR=6.9						
VRAC				Lg		22 09 34.8	
	1.9nm,0.3s,baz=134,slow=19,SNR=9.3						
PRU	**Pruhonice**	**2.96**	**268**	*e*SG	Sg	22 10 08.2	-6.5
KHC	**Kasperske Hory**	**3.76**	**256**	*e*PN	Pn	22 09 33.5	-3.1
KHC				*ex*	x	22 10 23.5	
KHC				*e*SG	Sg	22 10 34.5	-6.9
GERES	**GERESS Array B**	**3.79**	**251**	Pn	Pn	22 09 35.5	-1.4
	0.2nm,0.3s,baz=69,slow=14,SNR=5.2						
GERES				Pg	Pg	22 09 45.2	-6.6
	0.2nm,0.3s,baz=67,slow=17,SNR=5.8						
GERES				Lg		22 10 35.2	
	0.5nm,0.3s,baz=70,slow=28,SNR=7.3						
NOA	**NORSAR Array B**	**11.73**	**341**	Pn	P	22 11 21.2	-6.4
	0.1nm,0.3s,baz=48,slow=8.5,SNR=3.8						
FINES	**FINESS Array B**	**11.91**	**16**	Pn	P	22 11 23.6	-6.6
	0.1nm,0.3s,baz=180,slow=13,SNR=3.6						

*IDC **28** 22:09:37.0±1.6, 1.96S×98.76E, mb3.8/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7, MS3.0/1, Ms1 3.2/1, ms1mx2.8/22, Error ellipse: s-maj=81.6km s-min=18.4km az=55.0*

ISC 28 22:09:40.3±1.6, 1.9S±0.3×98.9E±0.4, h33km, n9, σ0§95/7, mb3.9/6, MS2.8/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.21**	**0**	P	**P**	**22 14 15.9**	**+0.7**
	1.2nm,0.7s,baz=188,slow=11,SNR=6.8						
CMAR				LR	LR	22 21 38.2	
	comp=Z,38nm,19.3s,MS2.8,baz=175,slow=36						
WRA	**Warramunga Arr**	**39.05**	**120**	P	**P**	**22 17 05.2**	**-0.7**
	3.3nm,0.8s,mb4.1,baz=301,slow=9.4,SNR=17						
ASAR	**Alice Springs**	**40.26**	**125**	P	**P**	**22 17 15.6**	**-0.3**
	0.9nm,0.7s,mb3.6,baz=299,slow=7.9,SNR=7.6						
STKA	**Stephens Creek**	**50.09**	**131**	P	**P**	**22 18 35.5**	**+1.1**
	3.1nm,0.9s,mb4.3,baz=303,slow=5.4,SNR=3.9						
MKAR	**Makanchi Array**	**50.61**	**345**	P	**P**	**22 18 38.0**	**-0.1**
	1.0nm,0.6s,mb3.9,baz=143,slow=7.4,SNR=7.0						
BVAR	**Borovoye Array**	**59.68**	**341**	P	**P**	**22 19 42.0**	**-1.8**
	0.4nm,0.7s,mb3.6,baz=117,slow=13,SNR=4.5						
FINES	**FINESS Array B**	**83.47**	**332**	P	**P**	**22 22 06.8**	**+1.1**
	0.8nm,0.7s,mb3.8,baz=90,slow=7.6,SNR=3.9						
CPUP	**Villa Florida**	**143.72**	**218**	PKP	PKPdf	22 29 15.6	+2.9
	2.3nm,0.9s,baz=110,slow=4.4,SNR=6.8						
TXAR	**Lajitas Array**	**145.29**	**36**	PKPbc	PKPbc	22 29 17.9	+2.0
	1.1nm,0.6s,baz=233,slow=1.5,SNR=12						

*IDC **28** 22:18:26.5±0.6, 0.39N×97.24E, mb4.3/16, mb1 4.4/17, mb1mx4.3/21, mbtmp4.3/17, ML4.6/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=24.7km s-min=13.8km az=46.0*

*BJI **28** 22:18:31.4, 0.17S×97.44E, h54km, mB4.8, mb4.6, Ms4.5, Msz4.0*

*NEIC **28** 22:18:31.1±0.4, 0.36N×97.29E, h30km, mb4.4/10, Error ellipse: s-maj=8.8km s-min=7.2km az=215.0*

ISC 28 22:18:30.0±0.4, 0.34N±0.06×97.35E±0.05, h33km, n47, σ0§95/44, mb4.4/31, MS3.7/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.58**	**41**	P	**P**	**22 19 52.5**	**-0.3**
KULM	**Kulim**	**5.92**	**34**	*e*Pn	**Pn**	**22 19 56.8**	**-0.9**
KGM	**Kluang**	**6.19**	**74**	P	**P**	**22 20 01.3**	**-0.1**
KSM	**Kuching**	**13.00**	**85**	P	**P**	**22 21 33.9**	**-1.2**
PALK	**Pallekele**	**17.98**	**293**	*e*P	**P**	**22 22 38.7**	**-0.5**
	17nm,1.2s						
CM31	**Chiang Mai Arr**	**18.07**	**5**	*e*P	**P**	**22 22 39.0**	**-1.3**
	14nm,1.1s						
CMAR	**Chiang Mai Arr**	**18.07**	**5**	P	**P**	**22 22 39.0**	**-1.4**
	0.8nm,0.3s,baz=192,slow=9.9,SNR=21						
CMAR				LR	LR	22 30 30.0	
	comp=Z,26nm,18.6s,baz=191,slow=40						
KKM	**Kota Kinabalu**	**19.66**	**73**	*e*P	**P**	**22 22 59.8**	**+0.7**
SHL	**Shillong**	**25.63**	**349**	*e*P	**P**	**22 23 59.5**	**+1.1**
JIRN	**Jiri**	**29.20**	**339**	*e*P	**P**	**22 24 31.7**	**+0.9**
	3.7nm,0.3s,mb4.6						
PKI	**Pulchoki**	**29.40**	**338**	*e*P	**P**	**22 24 34.5**	**+1.9**
	5.7nm,0.6s,mb4.5						
GUN	**Gumba**	**29.54**	**339**	*e*P	**P**	**22 24 34.2**	**+0.4**
	11nm,0.7s,mb4.7						
KKN	**Kakani**	**29.65**	**338**	*e*P	**P**	**22 24 35.8**	**+1.0**
	22nm,1.1s,mb4.8						
LSA	**Lhasa**	**29.79**	**349**	*e*P	**P**	**22 24 37.2**	**+1.2**
	12nm,1.4s,mb4.4						
GKN	**Gorkha**	**30.09**	**337**	*e*P	**P**	**22 24 38.8**	**+0.1**
	5.7nm,0.5s,mb4.6						
KOLN	**Koldanda**	**30.30**	**335**	*e*P	**P**	**22 24 40.9**	**+0.3**
	12nm,0.7s,mb4.7						
ENH	**Enshi**	**31.93**	**20**	*e*P	**P**	**22 24 53.7**	**-1.3**
	7.0nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.31**	**125**	P	**P**	**22 25 06.8**	**-0.3**
	5.4nm,0.8s,mb4.5,baz=194,slow=6.2,SNR=5.8						
WRA	**Warramunga Arr**	**41.46**	**121**	P	**P**	**22 26 15.6**	**0.0**
	2.4nm,0.7s,mb3.9,baz=301,slow=9.0,SNR=17						
WRAB	**Tennant Creek**	**41.46**	**121**	*e*P	**P**	**22 26 15.5**	**-0.1**
	10nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**42.76**	**126**	P	**P**	**22 26 27.3**	**+1.0**
	1.9nm,0.7s,mb3.9,baz=306,slow=8.3,SNR=20						
BJT	**Baijiatuau**	**43.05**	**21**	*e*P	**P**	**22 26 29.5**	**+1.0**
	15nm,0.8s,mb4.8						
BJI	**Beijing**	**43.08**	**21**	*e*P	**P**	**22 26 30.3**	**+1.6**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**46.84**	**337**	P	**P**	**22 27 01.0**	**+2.3**
	comp=Z,1.5nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**48.08**	**9**	*e*P	**P**	**22 27 09.5**	**+1.1**
	comp=Z,2.6nm,0.9s,mb4.3						
MKAR	**Makanchi Array**	**48.11**	**346**	P	**P**	**22 27 08.8**	**+0.2**
	comp=Z,1.3nm,0.5s,mb4.2,baz=162,slow=9.0,SNR=32						
MKAR	**Makanchi Array**	**48.11**	**346**	P	**P**	**22 27 08.8**	**+0.2**
STKA	**Stephens Creek**	**52.67**	**132**	P	**P**	**22 27 44.6**	**+1.1**
	comp=Z,3.9nm,1.0s,mb4.3,baz=307,slow=9.4,SNR=7.9						
STKA	**Stephens Creek**	**52.67**	**132**	*e*P	**P**	**22 27 43.9**	**+0.4**
BVAR	**Borovoye Array**	**57.11**	**341**	P	**P**	**22 28 13.9**	**-1.7**
	comp=Z,1.2nm,0.5s,mb4.2,baz=148,slow=8.7,SNR=15						
CHKZ	**Chkalovo**	**57.58**	**342**	*e*P	**P**	**22 28 17.4**	**-1.5**
	comp=Z,5.7nm,0.9s,mb4.6						
CHKZ				*e*		22 28 30.0	
KMBO	**Kilima Mbogo**	**60.12**	**269**	P	**P**	**22 28 36.6**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=48,slow=13,SNR=5.7						
KMBO	**Kilima Mbogo**	**60.12**	**269**	*e*P	**P**	**22 28 36.2**	**-0.8**
	comp=Z,3.8nm,0.9s,mb4.4						
EIL	**Elat**	**66.04**	**302**	LR	LR	22 57 51.5	
	comp=Z,41nm,18.7s,MS3.7,baz=300,slow=36						
BRTR	**Keskin Array B**	**69.80**	**313**	P	**P**	**22 29 37.6**	**-1.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=108,slow=7.8,SNR=7.3						
MATP	**Matopo**	**70.35**	**248**	P	**P**	**22 29 42.6**	**-0.2**
	comp=Z,4.1nm,0.8s,mb4.4,baz=81,slow=6.2,SNR=7.7						
BOSA	**Boshof**	**74.49**	**240**	P	**P**	**22 30 07.2**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=75,slow=12,SNR=5.7						
IDI	**Anoyia**	**75.53**	**306**	P	**P**	**22 30 12.5**	**-0.8**
	comp=Z,6.6nm,0.5s,mb4.8,baz=96,slow=7.5,SNR=26						
AKASG	**Malin Array Be**	**76.03**	**323**	P	**P**	**22 30 14.7**	**-1.1**
	comp=Z,1.8nm,0.5s,mb4.3,baz=90,slow=4.7,SNR=13						
FINES	**FINESS Array B**	**80.83**	**333**	P	**P**	**22 30 41.5**	**-0.3**
	comp=Z,1.6nm,0.4s,mb4.3,baz=100,slow=5.9,SNR=28						
ARCES	**ARCESS Array B**	**83.39**	**340**	P	**P**	**22 30 55.2**	**+0.4**
	comp=Z,1.5nm,0.4s,mb4.3,baz=108,slow=4.5,SNR=30						
GERES	**GERESS Array B**	**85.56**	**319**	P	**P**	**22 31 06.6**	**+0.4**
	comp=Z,1.3nm,0.8s,mb4.2,baz=90,slow=4.0,SNR=10						
NB2	**NORSAR Subarra**	**87.83**	**331**	P	**P**	**22 31 16.7**	**-0.2**
	comp=Z,0.1nm,0.8s,mb3.1,baz=94,slow=5.6						
NOA	**NORSAR Array B**	**87.83**	**331**	P	**P**	**22 31 16.6**	**-0.3**
	comp=Z,1.7nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=4.7						
LPG	**La Plagne**	**90.18**	**315**	*e*P	**P**	**22 31 28.2**	**-0.3**
	comp=Z,7.0nm,1.0s,mb4.7						
TXAR	**Lajitas Array**	**144.31**	**32**	PKP	PKPdf	22 38 04.3	+1.0
	comp=Z,0.4nm,0.4s,baz=348,slow=0.8,SNR=5.6						
CPUP	**Villa Florida**	**144.47**	**221**	PKP	PKPdf	22 38 04.1	+0.4
	comp=Z,5.9nm,0.7s,baz=132,slow=2.6,SNR=23						

*ATH **28** 22:30:18.7, 39.29N×21.31E, h19km±7km, MD3.2/5*
*THE **28** 22:30:18.1, 39.21N×21.23E, h10km, ML3.0*
*NEIC **28** 22:30:18.5, 39.27N×21.32E, h18km, MD3.2(ATH), After ATH.*
*CSEM **28** 22:30:18.8±0.1, 39.22N×21.27E, h5km, MD3.2, Error ellipse: s-maj=1.6km s-min=1.5km az=178.0*

ISC 28 22:30:18.1±0.5, 39.23N±0.03×21.24E±0.03, h5km±5km, n23, σ1§01/36, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.52**	**325**	*e*PN	**Pg**	**22 30 29.0**	**+0.5**
JAN				*e*SN	**Sg**	**22 30 36.5**	**+1.0**
EVR	**Evrytania**	**0.55**	**125**	*e*PN	**Pg**	**22 30 28.7**	**-0.4**
EVR				*e*SN	**Sg**	**22 30 38.0**	**+1.6**
MEV	**Metsovon**	**0.55**	**359**	*e*Pg	**Pg**	**22 30 28.4**	**-0.8**
MEV				*e*Sg	**Sg**	**22 30 37.0**	**+0.4**
LKD	**Levkas**	**0.69**	**221**	*e*Pg	**Pg**	**22 30 31.5**	**-0.6**
LKD				*e*Sg	**Sg**	**22 30 40.8**	**-0.5**
IGT	**Igoumenitsa**	**0.76**	**293**	*e*Pg	**Pg**	**22 30 32.7**	**-0.6**
IGT				*e*Sg	**Sg**	**22 30 44.5**	**+0.9**
AGG	**Agios Georgios**	**0.88**	**104**	*e*Pg	**Pg**	**22 30 35.0**	**-0.7**
AGG				*e*Sg	**Sg**	**22 30 48.2**	**+0.9**
AGG	**Agios Georgios**	**0.88**	**104**	*e*Pg	**Pg**	**22 30 35.0**	**-0.7**
AGG				*e*Sg	**Sg**	**22 30 48.2**	**+0.8**
KZN	**Kozani**	**1.15**	**21**	*e*PN	**Pn**	**22 30 39.0**	**-1.8**
VLS	**Valsamata**	**1.17**	**206**	*e*PB	**Pb**	**22 30 41.0**	**+0.6**
VLS	**Valsamata**	**1.17**	**206**	*e*Pb	**Pb**	**22 30 40.0**	**-0.4**
RLS	**Riolos of Patr**	**1.19**	**171**	*e*PN	**Pn**	**22 30 42.6**	**+1.3**
KEK	**Kerkira**	**1.21**	**294**	*e*PN	**Pn**	**22 30 43.2**	**+1.5**
LIT	**Litokhoron**	**1.30**	**48**	*e*Pb	**Pb**	**22 30 42.6**	**-0.1**
LIT				*e*Sb	**Sb**	**22 31 01.1**	**+1.6**
LKR	**Lokris**	**1.49**	**112**	*e*PN	**Pn**	**22 30 46.7**	**+1.0**
FNA	**Florina**	**1.55**	**4**	*e*Pb	**Pb**	**22 30 46.5**	**-0.5**
FNA				*e*Sb	**Sb**	**22 31 07.9**	**+1.1**
GRG	**Griva**	**1.94**	**27**	*e*Pb	**Pb**	**22 30 51.7**	**-1.9**
GRG				*e*Sb	**Sb**	**22 31 22.1**	**+4.0**
PAIG	**Paliouri**	**2.01**	**69**	*e*Pn	**Pn**	**22 30 51.4**	**-1.7**
AOS	**Alonnisos**	**2.06**	**91**	*e*Pn	**Pn**	**22 30 53.0**	**-0.7**
AOS				*e*Sn	**Sn**	**22 31 21.1**	**+1.0**
SOH	**Sokhos**	**2.27**	**45**	*e*Pn	**Pn**	**22 30 56.2**	**-0.7**
SOH				*e*Sn	**Sn**	**22 31 29.6**	**+4.1**
KNT	**Kendrikon**	**2.31**	**33**	*e*Pn	**Pn**	**22 30 56.7**	**-0.6**
KNT				*e*Sn	**Sn**	**22 31 26.6**	**+0.1**
OUR	**Ouranopolis**	**2.38**	**62**	*e*Pn	**Pn**	**22 30 57.5**	**-1.0**
LOS	**Limnos**	**3.05**	**76**	*e*Pn	**Pn**	**22 31 07.0**	**-0.9**
ALN	**Alexandroupoli**	**4.05**	**64**	*e*Pn	**Pn**	**22 31 22.0**	**-0.1**

IDC 28 22:45:38.8±1.8, 3.81N×127.18E, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=154.9km s-min=21.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.63**	**164**	P	P	22 50 59.4	-3.0
	1.9nm,0.8s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.09**	**167**	P	P	22 51 34.3	-0.1
	0.2nm,0.4s,baz=337,slow=9.5,SNR=3.7						
MKAR	**Makanchi Array**	**57.74**	**325**	P	P	22 55 31.1	-2.9
	0.4nm,0.6s,baz=122,slow=7.9,SNR=5.1						
BVAR	**Borovoye Array**	**67.50**	**327**	P	P	22 56 37.0	-1.7
	0.3nm,0.5s,baz=153,slow=6.4,SNR=2.3						

*IDC **28** 22:46:38.1±1.5, 1.64S×99.19E, mb4.0/7, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, Error ellipse: s-maj=80.3km s-min=16.8km az=54.0*

*NEIC **28** 22:46:43.2±0.7, 1.30S×99.55E, h30km, mb4.5/1, Error ellipse: s-maj=21.9km s-min=12.0km az=60.0*

ISC 28 22:46:41.9±1.0, 1.4S±0.1×99.5E±0.2, h33km, n18, σ0§55/15, mb4.0/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.77**	**10**	Pn	**Pn**	**22 48 16.7**	**-5.0**
KKM	**Kota Kinabalu**	**18.27**	**66**	P	**P**	**22 50 54.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**19.77**	**358**	P	**P**	**22 51 12.8**	**+0.6**
	baz=186,slow=11,SNR=7.0						
FITZ	**Fitzroy Crossi**	**30.55**	**124**	P	**P**	**22 52 54.0**	**-0.9**
	6.3nm,0.9s,mb4.5,baz=297,slow=6.8,SNR=3.8						
WRA	**Warramunga Arr**	**38.72**	**121**	P	**P**	**22 54 04.9**	**+0.1**
	3.3nm,0.6s,mb4.2,baz=301,slow=9.2,SNR=19						
WRAB	**Tennant Creek**	**38.72**	**121**	*e*P	**P**	**22 54 04.6**	**-0.3**
	6.6nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**40.00**	**126**	P	**P**	**22 54 16.1**	**+0.8**
	1.2nm,0.7s,mb3.8,baz=300,slow=7.7,SNR=14						
STKA	**Stephens Creek**	**49.91**	**132**	P	**P**	**22 55 35.5**	**+0.8**
	1.2nm,0.6s,mb4.1,baz=301,slow=14,SNR=5.8						
STKA	**Stephens Creek**	**49.91**	**132**	*e*P	**P**	**22 55 34.8**	**+0.2**
MKAR	**Makanchi Array**	**50.35**	**345**	P	**P**	**22 55 37.8**	**+0.1**
	0.9nm,0.5s,mb4.0,baz=148,slow=8.0,SNR=9.5						
MKAR	**Makanchi Array**	**50.35**	**345**	P	**P**	**22 55 37.8**	**+0.1**
BVAR	**Borovoye Array**	**59.48**	**340**	P	**P**	**22 56 43.1**	**-0.9**
	0.4nm,0.5s,mb3.7,baz=135,slow=6.1,SNR=5.0						
BVAR	**Borovoye Array**	**59.48**	**340**	P	**P**	**22 56 43.1**	**-0.9**
FINES	**FINESS Array B**	**83.37**	**332**	P	**P**	**22 59 07.0**	**+0.1**
	0.3nm,0.6s,mb3.5,baz=90,slow=4.2,SNR=4.8						
FINES	**FINESS Array B**	**83.37**	**332**	P	**P**	**22 59 07.0**	**+0.1**
CPUP	**Villa Florida**	**144.47**	**217**	PKP	PKPdf	23 06 16.1	+0.4
	0.6nm,0.6s,baz=44,slow=16,SNR=3.4						
TXAR	**Lajitas Array**	**144.55**	**36**	PKP	PKPdf	23 06 17.6	+1.9
	1.2nm,0.5s,baz=257,slow=1.0,SNR=15						
JCT	**Junction City**	**145.80**	**30**	*e*P	PKPdf	23 06 20.5	+2.6

IDC 28 22:51:28.1±2.0, 1.76S×99.02E, mb3.7/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=91.2km s-min=22.1km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**20.09**	**360**	P	P	22 56 03.2	-3.2
	0.7nm,0.4s,baz=182,slow=10.0,SNR=4.1						
WRA	**Warramunga Arr**	**38.96**	**120**	P	P	22 58 55.4	-2.6
	2.0nm,0.8s,baz=300,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**40.19**	**126**	P	P	22 59 06.5	-1.5
	0.6nm,0.7s,baz=301,slow=7.6,SNR=8.0						
STKA	**Stephens Creek**	**50.04**	**131**	P	P	23 00 25.9	-0.9
	0.8nm,0.6s,baz=320,slow=16,SNR=3.0						
MKAR	**Makanchi Array**	**50.54**	**345**	P	P	23 00 28.1	-2.2
	0.6nm,0.6s,baz=169,slow=7.3,SNR=3.0						
TXAR	**Lajitas Array**	**145.09**	**36**	PKPbc	PKPbc	23 11 08.0	-0.5
	0.6nm,0.5s,baz=294,slow=1.8,SNR=5.6						
LPAZ	**La Paz**	**158.03**	**215**	PKP	PKPdf	23 11 27.4	-2.2
	0.9nm,0.3s,baz=311,slow=8.0,SNR=4.9						

*IDC **28** 23:12:10.6±1.6, 8.74S×130.37E, mb4.3/2, mb1 4.4/5, mb1mx4.1/13, mbtmp4.3/5, ML4.8/1, Error ellipse: s-maj=71.8km s-min=23.7km az=72.0*

*NEIC **28** 23:12:15.6±0.7, 8.86S×130.33E, h35km, mb4.6/2, Error ellipse: s-maj=17.1km s-min=10.1km az=75.0*

ISC 28 23:12:13.2±0.8, 9.02S±0.05×130.20E±0.10, h33km, n12, σ1§41/18, mb4.3/3, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**4.27**	**149**	*e*P	**P**	**23 13 22.4**	**+4.8**
	18nm,0.2s						
FITZ	**Fitzroy Crossi**	**10.05**	**206**	Pn	**P**	**23 14 41.4**	**+3.0**
	5.8nm,0.3s,baz=22,slow=11,SNR=60						
FITZ				Sn	**S**	**23 16 30.4**	**-0.8**
	1.5nm,0.3s,baz=184,slow=19,SNR=3.4						
WRAB	**Tennant Creek**	**11.56**	**160**	*e*P	**P**	**23 14 58.7**	**-0.3**
	13nm,0.8s						
WRAB				*e*S	**S**	**23 17 02.4**	**-5.6**
WRA	**Warramunga Arr**	**11.57**	**160**	Pn	**P**	**23 14 59.2**	**+0.1**
	0.7nm,0.3s,baz=339,slow=14,SNR=30						
WRA				Sn	**S**	**23 17 06.5**	**-1.6**
	1.6nm,0.3s,baz=343,slow=23,SNR=7.0						
ASAR	**Alice Springs**	**14.98**	**167**	Pn	**P**	**23 15 45.7**	**+1.3**
	0.7nm,0.3s,baz=345,slow=15,SNR=25						
ASAR				Sn	**S**	**23 18 27.5**	**-2.4**
	0.2nm,0.3s,baz=348,slow=25,SNR=3.0						
ASAR	**Alice Springs**	**14.98**	**167**	Pn	**P**	**23 15 45.7**	**+1.3**
ASAR				Sn	**S**	**23 18 27.5**	**-2.4**
ASPA	**Alice Springs**	**14.98**	**167**	*e*P	**P**	**23 15 47.2**	**+2.8**
ASPA				*e*S	**S**	**23 18 31.0**	**+1.1**
PMG	**Port Moresby**	**16.75**	**93**	P	**P**	**23 16 06.8**	**-0.1**
	36nm,1.2s						
STKA	**Stephens Creek**	**25.08**	**157**	P	**P**	**23 17 39.4**	**+3.0**
	2.6nm,0.9s,mb3.8,baz=337,slow=13,SNR=2.7						
ULN	**Ulaanbaatar**	**60.24**	**342**	*e*P	**P**	**23 22 19.3**	**-1.3**
	5.0nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**70.02**	**327**	P	**P**	**23 23 23.4**	**-0.2**
	3.7nm,0.6s,mb4.5,baz=125,slow=7.8,SNR=18						
AAK	**Ala-Archa**	**72.21**	**320**	*e*P	**P**	**23 23 36.5**	**-0.3**

*IDC **28** 23:26:13.8±0.9, 1.05N×97.12E, mb4.1/12, mb1 4.4/13, mb1mx4.2/20, mbtmp4.2/13, ML4.2/1, MS3.9/6, Ms1 3.9/6, ms1mx3.6/24, Error ellipse: s-maj=58.4km s-min=14.7km az=49.0*

*MOS **28** 23:26:17.6±1.0, 1.23N×97.38E, h33km, mb4.8/8, Error ellipse: s-maj=24.5km s-min=10.7km az=108.7*

*BJI **28** 23:26:17.3, 0.74N×97.32E, h49km, mB5.0, mb4.8, Ms4.6, Msz4.4*

*NEIC **28** 23:26:18.4±0.4, 1.06N×97.17E, h30km, mb4.6/8, Error ellipse: s-maj=11.6km s-min=7.6km az=49.0*

ISC 28 23:26:18.2±1.5, 1.07N±0.07×97.28E±0.08, h39km±12km, n64, σ1§15/63, mb4.5/33, MS4.2/12, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.11**	**47**	P	**P**	**23 27 34.5**	**+0.2**
KULM	**Kulim**	**5.38**	**39**	*e*Pn	**P**	**23 27 37.9**	**-0.1**
KGM	**Kluang**	**6.11**	**81**	P	**P**	**23 27 49.2**	**+0.8**
KSM	**Kuching**	**13.04**	**88**	*e*P	**P**	**23 29 25.3**	**+1.8**
CM31	**Chiang Mai Arr**	**17.35**	**5**	*e*P	**P**	**23 30 18.8**	**-0.4**
	23nm,1.1s						
CMAR	**Chiang Mai Arr**	**17.35**	**5**	P	**P**	**23 30 17.3**	**-1.9**
	0.3nm,0.3s,baz=195,slow=12,SNR=21						
CMAR				LR	LR	23 37 56.8	
	comp=Z,517nm,19.1s,baz=190,slow=40						
KKM	**Kota Kinabalu**	**19.53**	**75**	P	**P**	**23 30 44.0**	**-1.4**
KMI	**Kunming**	**24.48**	**12**	P	**P**	**23 31 37.0**	**+1.8**
KMI				PP	PP	23 32 13.5	+2.0
KMI				S	**S**	**23 35 52.0**	**+1.9**
KMI				AMB	AMB		
	comp=Z,52nm,1.6s,mb4.7						
KMI				AMB	AMB		
	comp=Z,217nm,3.1s						
KMI				LR	LR		
	comp=N,975nm,16.1s,MS4.5						
KMI				LR	LR		
	comp=E,455nm,13.7s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,15.6s,MS4.4						
SHL	**Shillong**	**24.90**	**348**	*e*P	**P**	**23 31 39.0**	**-0.2**
GYA	**Guiyang**	**26.81**	**19**	I/P	**P**	**23 31 56.0**	**-1.0**
GYA				PP	PP	23 32 49.0	+6.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,200nm,5.4s						
GYA				LR	LR		
	comp=N,630nm,13.5s,MS4.5						
GYA				LR	LR		
	comp=E,600nm,14.1s,MS4.5						
GYA				LR	LR		
	comp=Z,930nm,12.9s,MS4.5						
PKI	**Pulchoki**	**28.70**	**338**	*e*P	**P**	**23 32 18.6**	**+4.6**
	comp=Z,50nm,1.3s,mb5.1						
GUN	**Gumba**	**28.83**	**339**	*e*P	**P**	**23 32 15.8**	**+0.6**
KKN	**Kakani**	**28.95**	**338**	*e*P	**P**	**23 32 17.9**	**+1.7**
	comp=Z,67nm,1.5s,mb5.2						
LSA	**Lhasa**	**29.06**	**349**	*e*P	**P**	**23 32 18.1**	**+0.9**
LSA				pmax	pmax		
	comp=Z,27nm,1.6s,mb4.7						
LSA	**Lhasa**	**29.06**	**349**	*e*P	**P**	**23 32 18.1**	**+0.9**
	comp=Z,27nm,1.6s,mb4.7						
GKN	**Gorkha**	**29.39**	**337**	*e*P	**P**	**23 32 19.1**	**-1.0**
	comp=Z,75nm,1.4s,mb5.2						
KOLN	**Koldanda**	**29.60**	**335**	*e*P	**P**	**23 32 22.5**	**+0.4**
	comp=Z,20nm,0.9s,mb4.9						
ENH	**Enshi**	**31.27**	**21**	*e*P	**P**	**23 32 34.9**	**-2.0**
	comp=Z,34nm,1.1s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.79**	**126**	P	**P**	**23 32 58.4**	**-0.5**
	comp=Z,7.7nm,0.9s,mb4.6,baz=177,slow=4.3,SNR=4.0						
XAN	**Xi'an**	**34.56**	**17**	P	**P**	**23 33 04.3**	**-1.1**
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
LZH	**Lanzhou**	**35.37**	**9**	*e*P	**P**	**23 33 11.5**	**-0.7**
LZH				AMB	AMB		
	comp

ULN	**Ulaanbaatar**	**47.37**	**9**	*e*P	**P**	**23 34 49.9**	**-0.5**
	comp=Z,4.2nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**47.38**	**346**	P	**P**	**23 34 50.8**	**+0.3**
	comp=Z,4.2nm,0.8s,mb4.4,baz=157,slow=7.9,SNR=24						
MKAR				LR	LR	23 58 43.1	
	comp=Z,77nm,21.4s,MS3.6,baz=157,slow=41						
ZAK	**Zakamensk**	**49.39**	**5**	*e*P	**P**	**23 35 05.5**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
STKA	**Stephens Creek**	**53.22**	**132**	P	**P**	**23 35 36.0**	**+0.8**
	comp=Z,5.0nm,0.9s,mb4.4,baz=348,slow=8.3,SNR=5.0						
STKA	**Stephens Creek**	**53.22**	**132**	*e*P	**P**	**23 35 35.3**	**+0.1**
NVS	**Novosibirsk**	**54.81**	**350**	*e*P	**P**	**23 35 44.4**	**-2.2**
NVS				*e*S	**S**	**23 43 35.7**	**+13**
NVS				pmax	pmax		
	comp=N,6.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**56.39**	**341**	P	**P**	**23 35 56.8**	**-1.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=143,slow=7.4,SNR=9.0						
CHKZ	**Chkalovo**	**56.87**	**341**	*e*P	**P**	**23 36 00.0**	**-1.4**
CHKZ				*e**PP	pP	23 36 07.1	-5.7
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**56.87**	**341**	*e*P	**P**	**23 36 00.0**	**-1.4**
	comp=Z,8.5nm,1.0s,mb4.7						
CHKZ				*e*pP	pP	23 36 07.1	-5.7
BOD	**Bodaibo**	**58.12**	**10**	*e*P	**P**	**23 36 08.7**	**-1.4**
BOD				*e*		23 36 15.8	
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
ARU	**Arti**	**63.33**	**337**	*e*P	**P**	**23 36 44.0**	**-1.6**
BRTR	**Keskin Array B**	**69.25**	**312**	P	**P**	**23 37 22.9**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=129,slow=7.9,SNR=6.3						
BOSA	**Boshof**	**74.78**	**240**	LR	LR	00 05 50.0	
	comp=Z,93nm,19.2s,MS4.1,baz=192,slow=32						
AKASG	**Malin Array Be**	**75.40**	**322**	P	**P**	**23 37 57.8**	**-1.9**
	comp=Z,0.2nm,0.3s,mb3.5,baz=86,slow=5.2,SNR=6.2						
FINES	**FINESS Array B**	**80.14**	**333**	P	**P**	**23 38 23.8**	**-1.9**
	comp=Z,0.3nm,0.3s,mb3.7,baz=276,slow=38,SNR=4.3						
TSUM	**Tsumeb**	**80.62**	**250**	LR	LR	00 11 35.0	
	comp=Z,63nm,18.8s,MS4.0,baz=323,slow=34						
ARCES	**ARCESS Array B**	**82.68**	**340**	P	**P**	**23 38 39.5**	**+0.7**
	comp=Z,2.6nm,0.9s,mb4.3,baz=101,slow=4.6,SNR=6.7						
ARCES				LR	LR	00 19 48.9	
	comp=Z,79nm,19.6s,MS4.1,baz=298,slow=39						
GERES	**GERESS Array B**	**84.96**	**319**	P	**P**	**23 38 51.8**	**+1.0**
	comp=Z,1.1nm,0.9s,mb4.0,baz=108,slow=4.2,SNR=8.9						
CLL	**Collm**	**85.58**	**321**	*e**PP	**P**	**23 38 57.0**	**+3.3**
NB2	**NORSAR Subarra**	**87.15**	**331**	P	**P**	**23 39 01.3**	**+0.1**
	comp=Z,2.4nm,0.9s,mb4.4,baz=93,slow=4.5						
NB2	**NORSAR Subarra**	**87.15**	**331**	P	**P**	**23 39 01.3**	**+0.1**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
NOA	**NORSAR Array B**	**87.15**	**331**	P	**P**	**23 39 01.6**	**+0.4**
	comp=Z,1.2nm,0.8s,mb4.2,baz=96,slow=4.8,SNR=4.3						
NOA				LR	LR	00 24 04.0	
	comp=Z,45nm,18.4s,MS3.9,baz=90,slow=40						
TXAR	**Lajitas Array**	**143.74**	**32**	PKP	PKPdf	23 45 49.7	-0.1
	comp=Z,0.3nm,0.6s,baz=90,slow=1.3,SNR=5.4						
JCT	**Junction City**	**144.66**	**26**	*e*PKIKP	PKPdf	23 45 52.5	+1.1
CPUP	**Villa Florida**	**144.96**	**222**	*e*PKIKP	PKPdf	23 45 53.4	+1.3
CPUP				*e*		23 46 01.1	
LRAL	**Lakeview Retre**	**145.84**	**6**	*e*P	PKPdf	23 45 54.9	+1.5
LRAL				*e*pP		23 46 02.7	

*MDD **28** 23:26:50.1±0.3, 35.05N×3.81W, h13km±2km, mbLg1.8/21, Error ellipse: s-maj=3.5km s-min=2.4km az=129.0, PRXIMO*
*CSEM **28** 23:26:50.9±0.1, 35.09N×3.85W, h20km, MD3.4, Error ellipse: s-maj=2.2km s-min=1.4km az=109.0*
*CNRM **28** 23:26:50.7, 35.08N×3.74W, h3km, MD3.4*
*NEIC **28** 23:26:51.6, 34.99N×3.83W, h19km, MG3.3(MDD), After MDD.*
*SFS **28** 23:26:51.0, 34.98N×3.84W, h18km*

ISC 28 23:26:50.1±0.5,**35.08N**±0.02×**3.84W**±0.02,**h13**km±3km, **n63**,σ0**98**/122,**Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.14**	**147**	P	**Pg**	**23 26 52.3**	**-1.3**
TOU				S	**Sg**	**23 26 54.5**	**-1.5**
MPAL	**Palemas**	**0.17**	**331**	*i* P	**Pg**	**23 26 55.0**	**+0.9**
EMEL	**Melilla**	**0.76**	**73**	P	**Pb**	**23 27 05.2**	**+0.5**
	SNR=7.9						
EMEL				S	**Sb**	**23 27 13.9**	**-0.8**
	489nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.77**	**73**	P	**Pb**	**23 27 05.9**	**+1.1**
	SNR=7.9						
EMLI				S	**Sb**	**23 27 16.5**	**+1.7**
	489nm,0.2s,SNR=7.9						
MELI	**Melilla**	**0.78**	**74**	P	**Pb**	**23 27 04.9**	**-0.1**
MELI				S	**Sb**	**23 27 15.2**	**+0.1**
MELI	**Melilla**	**0.78**	**74**	*i* P	**Pb**	**23 27 04.9**	**-0.1**
MELI				*i* S	**Sb**	**23 27 15.2**	**+0.1**
ZAI	**Zaio**	**0.91**	**97**	P	**Pb**	**23 27 05.0**	**-2.2**
ZAI				S	**Sb**	**23 27 18.0**	**-1.0**
EALB	**Alboran**	**1.08**	**37**	P	**Pb**	**23 27 10.7**	**+0.5**
EALB				S	**Sb**	**23 27 26.6**	**+2.5**
EALB	**Alboran**	**1.08**	**37**	P	**Pb**	**23 27 10.7**	**+0.5**
	7.4nm,0.1s,SNR=10						
EALB				S	**Sb**	**23 27 24.8**	**+0.7**
	19nm,0.1s,SNR=6.5						
EALB	**Alboran**	**1.08**	**37**	P	**Pb**	**23 27 10.7**	**+0.5**
	7.4nm,0.1s,SNR=10						
EALB				S	**Sb**	**23 27 26.6**	**+2.5**
	19nm,0.1s,SNR=6.5						
TAF	**Taforalt**	**1.20**	**102**	P	**Pb**	**23 27 13.0**	**+0.7**
TAF				S	**Sb**	**23 27 30.0**	**+2.4**
DKH	**Dar Kharkhour**	**1.31**	**289**	*i* P	**Pb**	**23 27 15.0**	**+1.0**
DKH				*i* S	**Sb**	**23 27 32.0**	**+1.4**
EMIJ	**Mijas**	**1.66**	**333**	P	**Pn**	**23 27 20.1**	**+0.8**
EMIJ				S	**Sn**	**23 27 39.8**	**-0.8**
EMIJ	**Mijas**	**1.66**	**333**	P	**Pn**	**23 27 20.1**	**+0.8**
	0.5nm,0.1s,SNR=8.0						
EMIJ				S	**Sn**	**23 27 41.1**	**+0.5**
	3.7nm,0.2s,SNR=6.1						
EMIJ	**Mijas**	**1.66**	**333**	P	**Pn**	**23 27 20.1**	**+0.8**
	0.5nm,0.1s,SNR=8.0						
EMIJ				S	**Sn**	**23 27 39.8**	**-0.8**
	3.7nm,0.2s,SNR=6.1						
IFR	**Ifrane**	**1.89**	**215**	P	**Pn**	**23 27 23.5**	**+1.1**
IFR				S	**Sn**	**23 27 47.0**	**+0.8**
ERON	**Agron**	**1.94**	**1**	P	**Pn**	**23 27 23.5**	**+0.4**
ERON				S	**Sn**	**23 27 46.9**	**-0.7**
ERON	**Agron**	**1.94**	**1**	P	**Pn**	**23 27 23.5**	**+0.4**
	0.6nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**23 27 47.0**	**-0.5**
	1.4nm,0.4s,SNR=7.9						
ERON	**Agron**	**1.94**	**1**	P	**Pn**	**23 27 23.5**	**+0.3**
	0.6nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**23 27 46.9**	**-0.6**
	1.4nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.97**	**23**	P	**Pn**	**23 27 24.3**	**+0.7**
	0.8nm,0.2s,SNR=9.5						
EBER				S	**Sn**	**23 27 49.1**	**+0.6**
	2.5nm,0.2s,SNR=5.4						
EBER	**Berja**	**1.97**	**23**	P	**Pn**	**23 27 24.3**	**+0.6**
	0.8nm,0.2s,SNR=9.5						
EBER				S	**Sn**	**23 27 49.1**	**+0.6**
	2.5nm,0.2s,SNR=5.4						
MIF	**Mishlifen**	**2.02**	**215**	*i* P	**Pn**	**23 27 25.0**	**+0.6**
MIF				*i* S	**Sn**	**23 27 50.0**	**+0.3**
ELOJ	**Sierra Loja**	**2.08**	**353**	P	**Pn**	**23 27 26.2**	**+1.0**
ELOJ				S	**Sn**	**23 27 50.9**	**-0.2**
ELOJ	**Sierra Loja**	**2.08**	**353**	P	**Pn**	**23 27 25.3**	**+0.1**
	0.7nm,0.2s,SNR=6.8						
ELOJ				S	**Sn**	**23 27 51.1**	**0.0**
	0.6nm,0.2s,SNR=7.7						
ELOJ	**Sierra Loja**	**2.08**	**353**	P	**Pn**	**23 27 26.2**	**+1.0**
	0.7nm,0.2s,SNR=6.8						
ELOJ				S	**Sn**	**23 27 50.9**	**-0.3**
	0.6nm,0.2s,SNR=7.7						
ECOG	**Cogollos-Vega**	**2.21**	**6**	P	**Pn**	**23 27 29.8**	**+2.8**
ECOG				S	**Sn**	**23 27 54.4**	**0.0**
ECOG	**Cogollos-Vega**	**2.21**	**6**	P	**Pn**	**23 27 26.9**	**-0.1**
	1.6nm,0.2s,SNR=7.4						
ECOG				S	**Sn**	**23 27 54.4**	**0.0**
	0.9nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**2.27**	**206**	*i* P	**Pn**	**23 27 29.0**	**+1.1**
CZD				*i* S	**Sn**	**23 27 56.0**	**0.0**
ENIJ	**Nijar**	**2.31**	**35**	P	**Pn**	**23 27 27.7**	**-0.8**
	1.1nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**23 27 56.3**	**-0.7**
	1.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.42**	**318**	P	**Pn**	**23 27 30.1**	**+0.1**
ESPR				S	**Sn**	**23 27 57.7**	**-2.1**
ESPR	**Espera**	**2.42**	**318**	P	**Pn**	**23 27 30.1**	**+0.1**
	0.4nm,0.1s,SNR=4.8						
ESPR				S	**Sn**	**23 27 59.9**	**+0.1**
	1.0nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.42**	**318**	P	**Pn**	**23 27 30.1**	**0.0**
	0.4nm,0.1s,SNR=4.8						
ESPR				S	**Sn**	**23 27 57.7**	**-2.1**
	1.0nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**2.50**	**352**	P	**Pn**	**23 27 31.6**	**+0.3**
	0.5nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**23 28 01.9**	**0.0**
	1.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.79**	**13**	P	**Pn**	**23 27 37.4**	**+2.0**
EQES				S	**Sn**	**23 28 08.4**	**-0.8**
EQES	**Quesada**	**2.79**	**13**	P	**Pn**	**23 27 34.9**	**-0.4**
	1.3nm,0.1s,SNR=19						
EQES				S	**Sn**	**23 28 08.8**	**-0.4**
	2.2nm,0.2s,SNR=6.4						
EQES	**Quesada**	**2.79**	**13**	P	**Pn**	**23 27 37.4**	**+2.0**
	1.3nm,0.1s,SNR=19						
EQES				S	**Sn**	**23 28 08.4**	**-0.8**
	2.2nm,0.2s,SNR=6.4						
ZFT	**Errachidia**	**3.07**	**188**	*i* P	**Pn**	**23 27 38.0**	**-1.3**
ZFT				*i* S	**Sn**	**23 28 16.0**	**-0.2**
EBAN	**Banos Encina**	**3.08**	**1**	P	**Pn**	**23 27 39.4**	**-0.1**
	0.5nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**23 28 16.3**	**-0.2**
	7.4nm,1.6s,SNR=7.9						
KIB	**El Ksiba**	**3.09**	**217**	*e*P	**Pn**	**23 27 40.0**	**+0.3**
KIB				*e*S	**Sn**	**23 28 15.0**	**-1.9**
EADA	**Adamuz**	**3.14**	**349**	P	**Pn**	**23 27 40.5**	**+0.2**
EADA				S	**Sn**	**23 28 16.9**	**-1.1**
EADA	**Adamuz**	**3.14**	**349**	P	**Pn**	**23 27 40.5**	**+0.2**
	0.8nm,0.3s,SNR=7.1						
EADA				S	**Sn**	**23 28 17.8**	**-0.2**
	0.6nm,0.1s,SNR=5.5						
EADA	**Adamuz**	**3.14**	**349**	P	**Pn**	**23 27 40.5**	**+0.2**
	0.8nm,0.3s,SNR=7.1						
EADA				S	**Sn**	**23 28 16.9**	**-1.1**
	0.6nm,0.1s,SNR=5.5						
EMUR	**La Murta**	**3.47**	**37**	P	**Pn**	**23 27 45.0**	**+0.1**
EMUR				S	**Sn**	**23 28 23.5**	**-2.8**
EMUR	**La Murta**	**3.47**	**37**	P	**Pn**	**23 27 45.0**	**+0.1**
	0.5nm,0.3s,SNR=4.0						
EMUR				S	**Sn**	**23 28 25.6**	**-0.7**
	0.8nm,0.3s,SNR=4.0						
EMUR	**La Murta**	**3.47**	**37**	P	**Pn**	**23 27 45.0**	**0.0**
	0.5nm,0.3s,SNR=4.0						
EMUR				S	**Sn**	**23 28 23.5**	**-2.8**
	0.8nm,0.3s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.52**	**320**	P	**Pn**	**23 27 45.5**	**-0.3**
EMIN				S	**Sn**	**23 28 25.1**	**-2.6**
EMIN	**Mina Concepcio**	**3.52**	**320**	P	**Pn**	**23 27 45.5**	**-0.3**
	0.2nm,0.1s,SNR=8.2						
EMIN				S	**Sn**	**23 28 27.8**	**0.0**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.52**	**320**	P	**Pn**	**23 27 45.5**	**-0.3**
	0.2nm,0.1s,SNR=8.2						
EMIN				S	**Sn**	**23 28 25.1**	**-2.6**
	0.3nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**3.71**	**16**	P	**Pn**	**23 27 48.2**	**-0.3**
	0.9nm,1.1s,SNR=7.9						
EVIA				S	**Sn**	**23 28 32.6**	**0.0**
	2.8nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**3.83**	**311**	P	**Pn**	**23 27 49.6**	**-0.5**
EGRO				S	**Sn**	**23 28 32.2**	**-3.2**
EGRO	**El Granado**	**3.83**	**311**	P	**Pn**	**23 27 49.6**	**-0.5**
	0.8nm,0.3s,SNR=8.4						
EGRO				S	**Sn**	**23 28 35.4**	**0.0**
	0.7nm,0.1s,SNR=4.7						
EGRO	**El Granado**	**3.83**	**311**	P	**Pn**	**23 27 49.6**	**-0.5**
	0.8nm,0.3s,SNR=8.4						
EGRO				S	**Sn**	**23 28 32.2**	**-3.2**
	0.7nm,0.1s,SNR=4.7						
ETOB	**Tobarra**	**4.01**	**27**	P	**Pn**	**23 27 52.7**	**+0.1**
ETOB				S	**Sn**	**23 28 38.1**	**-1.9**
ETOB	**Tobarra**	**4.01**	**27**	P	**Pn**	**23 27 52.7**	**+0.1**
	1.0nm,0.2s,SNR=13						
ETOB				S	**Sn**	**23 28 40.0**	**-0.1**
	0.5nm,0.3s,SNR=5.7						
ETOB	**Tobarra**	**4.01**	**27**	P	**Pn**	**23 27 52.7**	**0.0**
	1.0nm,0.2s,SNR=13						
ETOB				S	**Sn**	**23 28 38.1**	**-1.9**
	0.5nm,0.3s,SNR=5.7						
EBAD	**Badajoz**	**4.46**	**326**	P	**Pn**	**23 27 59.0**	**-0.2**
EBAD				S	**Sn**	**23 28 47.9**	**-3.6**
EBAD	**Badajoz**	**4.46**	**326**	P	**Pn**	**23 27 59.0**	**-0.2**
	0.6nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**23 28 51.9**	**+0.3**
	0.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.46**	**326**	P	**Pn**	**23 27 59.0**	**-0.1**
	0.6nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**23 28 47.9**	**-3.7**
	0.6nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.59**	**359**	P	**Pn**	**23 27 59.2**	**-1.8**
ESDC	**Sonseca Array**	**4.59**	**359**	P	**Pn**	**23 28 01.4**	**+0.4**
	0.6nm,0.1s,baz=179,slow=12,SNR=6.7						
ESDC				S	**Sn**	**23 28 55.7**	**+0.9**
	1.1nm,0.9s,baz=148,slow=33,SNR=7.9						
ESDC	**Sonseca Array**	**4.59**	**359**	P	**Pn**	**23 27 59.2**	**-1.7**
EBEN	**Beniarda**	**4.64**	**38**	P	**Pn**	**23 28 01.6**	**0.0**
	1.8nm,0.5s,SNR=7.9						
GUD	**Guadarrama**	**5.56**	**358**	P	**Pn**	**23 28 14.3**	**-0.3**
	0.2nm,0.8s,SNR=7.9						
GUD				S	**Sn**	**23 29 19.5**	**+0.3**
	6.7nm,1.7s,SNR=7.9						

*MOS **28** 23:31:32.6±0.8, 53.43N×161.60E, h38km, mb4.1/3, Error ellipse: s-maj=16.0km s-min=10.6km az=82.9*
*KRSC **28** 23:31:32.8±1.6, 53.48N×161.47E, h26km±7km, ML4.2*
*IDC **28** 23:31:35.9±0.9, 53.65N×161.57E, h49km±8km, mb3.3/8, mb1 3.6/8, mb1mx3.4/20, mbtmp3.6/8, Error ellipse: s-maj=22.7km s-min=15.9km az=10.0*

ISC 28 23:31:33.2±0.6,**53.45N**±0.03×**161.55E**±0.06,**h41**km±7km, **h47**km±1.4km:**pP-P**,**n54**,σ1**9**11/92,**mb3.5**/8,**1C**,**Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.98**	**250**	*e*P	**P**	**23 31 50.3**	**-0.3**
SPN				*e*S	**S**	**23 32 03.0**	**-0.6**
MKZ	**Mys Kozlova**	**1.12**	**5**	P	**P**	**23 31 51.0**	**-1.5**
MKZ				S	**S**	**23 32 04.1**	**-2.8**
MKZ	**Mys Kozlova**	**1.12**	**5**	*e*P	**P**	**23 31 51.1**	**-1.4**
MKZ				*e*S	**S**	**23 32 04.4**	**-2.5**
NLC	**Nalytchevo**	**1.35**	**259**	P	**P**	**23 31 55.2**	**-0.8**
NLC				S	**S**	**23 32 11.3**	**-1.6**
NLC	**Nalytchevo**	**1.35**	**259**	*e*P	**P**	**23 31 55.4**	**-0.6**
NLC				*e*S	**S**	**23 32 11.4**	**-1.5**
KII	**Karymskiy**	**1.38**	**296**	P	**P**	**23 31 54.7**	**-1.7**
KII				S	**S**	**23 32 10.8**	**-2.9**
KII	**Karymskiy**	**1.38**	**296**	*e*P	**P**	**23 31 54.6**	**-1.8**
UGLR	**Uglovaya**	**1.65**	**263**	*i* P	**P**	**23 32 00.3**	**+0.1**
UGLR				*e*S	**S**	**23 32 21.9**	**+1.5**
SMAR	**Somma**	**1.66**	**265**	*i* P	**P**	**23 32 00.2**	**-0.1**
SMAR				*e*S	**S**	**23 32 20.1**	**-0.4**
AVH	**Avacha**	**1.69**	**265**	*i* P	**P**	**23 32 00.9**	**+0.1**
AVH				*e*S	**S**	**23 32 21.1**	**-0.4**
KOK	**Koryaka**	**1.75**	**266**	*i* P	**P**	**23 32 01.4**	**-0.2**
KOK				*e*S	**S**	**23 32 22.2**	**-0.7**
PET	**Petropavlovsk**	**1.79**	**257**	P	**P**	**23 32 02.1**	**-0.1**
PET				S	**S**	**23 32 23.8**	**-0.1**
PET	**Petropavlovsk**	**1.79**	**257**	⇑*i*PN	**P**	**23 32 02.3**	**+0.1**
PET				*e*S	**S**	**23 32 23.6**	**-0.3**
PET				pmax	pmax		
	comp=Z,47nm,0.6s						
PET				smax			
	comp=E,368nm,0.7s						
PET	**Petropavlovsk**	**1.79**	**257**	*e*P	**P**	**23 32 02.1**	**-0.1**
PET				*e*S	**S**	**23 32 23.6**	**-0.3**
TUMR	**Tumrok**	**2.01**	**337**	*e*P	**P**	**23 32 05.0**	**-0.4**
TUMR				*e*S	**S**	**23 32 28.0**	**-1.5**
RUS	**Russkaya**	**2.10**	**242**	P	**P**	**23 32 06.3**	**-0.3**
RUS				S	**S**	**23 32 30.8**	**-0.8**
RUS	**Russkaya**	**2.10**	**242**	*e*P	**P**	**23 32 06.4**	**-0.2**
RUS				*e*S	**S**	**23 32 30.9**	**-0.7**
KRMR	**Karymshinskiy**	**2.15**	**255**	*e*P	**P**	**23 32 08.5**	**+1.2**
KRMR				*e*S	**S**	**23 32 33.3**	**+0.4**
GNL	**Ganaly**	**2.17**	**278**	*i* P	**P**	**23 32 07.8**	**+0.3**
GNL				*e*S	**S**	**23 32 32.8**	**-0.5**
GRL	**Gorelyy**	**2.28**	**248**	*e*P	**P**	**23 32 09.8**	**+0.6**
GRL				*e*S	**S**	**23 32 38.7**	**+2.4**
KMNR	**Kamenistaya**	**2.44**	**342**	*e*P	**P**	**23 32 11.8**	**+0.4**
KMNR				*e*S	**S**	**23 32 39.4**	**-0.8**
ZLN	**Zelenaya**	**2.61**	**351**	*e*P	**P**	**23 32 13.8**	**-0.1**
ZLN				*e*S	**S**	**23 32 43.9**	**-0.7**
KPT	**Kopyto**	**2.64**	**344**	*e*P	**P**	**23 32 14.8**	**+0.5**
KPT				*e*S	**S**	**23 32 47.6**	**+2.3**
LGNR	**Loginova**	**2.69**	**350**	*e*P	**P**	**23 32 16.1**	**+1.1**
LGNR				*e*S	**S**	**23 32 48.3**	**+1.7**
APC	**Apacha**	**2.69**	**261**	*e*P	**P**	**23 32 15.8**	**+0.7**
APC				*e*S	**S**	**23 32 47.0**	**+0.3**
APC				Smax			
	comp=E,100nm,0.9s						
CIRR	**Tsirk**	**2.71**	**350**	*e*P	**P**	**23 32 16.2**	**+0.8**
CIRR				*e*S	**S**	**23 32 48.4**	**+1.2**
KOZ	**Kozyrevsk**	**2.79**	**340**	P	**P**	**23 32 17.5**	**+1.0**
KOZ				S	**S**	**23 32 50.5**	**+1.3**
KOZ	**Kozyrevsk**	**2.79**	**340**	*e*P	**P**	**23 32 17.5**	**+1.0**
KOZ				*e*S	**S**	**23 32 50.6**	**+1.4**
KOZR	**Kozyr**	**2.79**	**341**	PN	**P**	**23 32 17.5**	**+1.0**
KOZR				S	**S**	**23 32 50.5**	**+1.2**
KRSR	**Krestovskiy**	**2.83**	**349**	*e*P	**P**	**23 32 17.1**	**0.0**
KRSR				*e*S	**S**	**23 32 51.0**	**+0.7**
KBTR	**Krutoberegovo**	**2.86**	**14**	P	**P**	**23 32 16.6**	**-0.9**
KBTR				S	**S**	**23 32 49.8**	**-1.2**
KBTR	**Krutoberegovo**	**2.86**	**14**	*e*P	**P**	**23 32 16.5**	**-1.0**
KBTR				*e*S	**S**	**23 32 50.4**	**-0.6**
KLY	**Klyuchi**	**2.92**	**350**	P	**P**	**23 32 20.0**	**+1.7**
KLY				S	**S**	**23 32 53.6**	**+1.2**
KLY	**Klyuchi**	**2.92**	**350**	*e*P	**P**	**23 32 19.9**	**+1.6**
KLY				*e*S	**S**	**23 32 53.8**	**+1.4**
ESO	**Esso**	**2.98**	**327**	*e*P	**P**	**23 32 18.7**	**-0.5**
ESO				*e*S	**S**	**23 32 52.3**	**-1.8**
ESO				Smax			
	comp=E,150nm,0.7s						
SRDR	**Sredinnyy**	**3.06**	**341**	*e*P	**P**	**23 32 20.2**	**-0.2**
SRDR				*e*S	**S**	**23 32 55.6**	**-0.6**
BKI	**Bering**	**3.13**	**54**	*e*P	**P**	**23 32 20.7**	**-0.6**
BKI				*e*S	**S**	**23 32 53.2**	**-4.7**
BKI				Smax			
	comp=E,140nm,0.2s						
PAU	**Pauzhetka**	**3.51**	**238**	*e*P	**P**	**23 32 28.7**	**+2.0**
PAU				*e*S	**S**	**23 33 07.1**	**-0.4**
PAU				Smax			
	comp=E,180nm,0.9s						
PAU	**Pauzhetka**	**3.51**	**238**	*e*P	**P**	**23 32 28.5**	**+1.8**
PAU				*e*S	**S**	**23 33 07.4**	**-0.1**
PAU				Smax			
	comp=E,160nm,0.9s						
FX1	**Attu Island--F**	**7.01**	**90**	P	**P**	**23 33 15.3**	**-0.6**
	comp=E,7.7nm,0.3s,baz=223,slow=1.5,SNR=41						
FX1				S	**S**	**23 34 29.9**	**-5.3**
	comp=E,8.5nm,0.3s,baz=126,slow=19,SNR=7.8						
KLR	**Kul'dur**	**19.01**	**269**	*e*P	**P**	**23 35 55.0**	**+1.0**
YKA	**Yellowknife Ar**	**42.31**	**43**	P	**P**	**23 39 22.3**	**-1.6**
	comp=E,0.1nm,0.3s,mb2.9,baz=298,slow=7.5,SNR=3.4						
MKAR	**Makanchi Array**	**48.79**	**296**	P	**P**	**23 40 13.6**	**-2.1**
	comp=E,0.2nm,0.6s,mb3.4,baz=45,slow=8.2,SNR=2.7						
CMAR	**Chiang Mai Arr**	**59.11**	**259**	pP	pP	23 41 45.6	+2.0
	comp=E,1.5nm,0.5s,baz=26,slow=7.0,SNR=3.0						
FINES	**FINESS Array B**	**60.14**	**337**	P	**P**	**23 41 36.7**	**-1.6**
FINES				*PP	pP	23 41 49.6	-0.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**60.14**	**337**	P	**P**	**23 41 36.7**	**-1.6**
	comp=Z,0.7nm,0.7s,mb3.8,baz=14,slow=7.9,SNR=5.4						
FINES				pP	pP	23 41 49.6	-0.5
	comp=Z,0.7nm,0.6s,baz=14,slow=7.9,SNR=2.6						
NB2	**NORSAR Subarra**	**63.44**	**344**	P	**P**	**23 41 58.8**	**-1.7**
	comp=Z,0.6nm,0.7s,mb3.8,baz=22,slow=6.5						
NOA	**NORSAR Array B**	**63.44**	**344**	P	**P**	**23 41 57.8**	**-2.7**
NOA				*PP	pP	23 42 11.7	-0.7

comp=Z,218nm,20.4s,MS4.2,baz=108,slow=37
NWAO Narrogin (SRO) 54.00 249 *e*P **P 23 55 09.8 +2.8**
78nm,1.6s,mb5.4
QSPA South Pole Qui 60.61 180 *e*P **P 23 55 53.4 +0.3**
15nm,1.0s,mb5.1
MAW Mawson 72.88 201 LR LR 00 31 13.5
comp=Z,93nm,18.6s,MS4.1,baz=255,slow=37
PMSA Palmer Station 73.40 156 P **P 23 57 12.9 -1.1**
182nm,1.3s,mb5.8
MJAR Matsushiro Arr 77.07 326 LR LR 00 24 31.9
comp=Z,106nm,20.2s,MS4.2,baz=105,slow=30
MAJO Matsushiro 77.07 326 *e*P **P 23 57 35.6 +0.1**
14nm,1.0s,mb4.8
SYO Syowa Base 77.81 193 ⇑P **P 23 57 34.8 -4.2**
PLCA Paso Flores 83.68 133 P **P 23 58 15.6 +5.0**
3.7nm,1.1s,mb4.4,baz=217,slow=12,SNR=4.4
PLCA LR LR 00 25 54.4
comp=Z,156nm,19.9s,MS4.4,baz=61,slow=29
CMB Columbia Colle 86.61 42 *e*P **P 23 58 25.7 +0.4**
3.5nm,0.7s,mb4.7
NVAR Mina Array Bea 88.10 43 P **P 23 58 33.2 +0.7**
1.0nm,0.8s,mb4.1,baz=212,slow=9.7,SNR=5.6
NVAR LR LR 00 29 40.5
comp=Z,50nm,20.2s,MS3.9,baz=25,slow=30
NVAR Mina Array Bea 88.10 43 P **P 23 58 33.2 +0.7**
NVAR LR LR 00 29 40.5
TRQA Tornquist 90.61 135 *e*P **P 23 58 47.7 +3.3**
9.3nm,1.3s,mb5.0
CMAR Chiang Mai Arr 92.38 290 LR LR 00 41 47.0
comp=Z,35nm,18.5s,MS3.8,baz=215,slow=37
TXAR Lajitas Array 92.55 58 P **P 23 58 54.0 +0.5**
0.1nm,0.3s,mb3.7,baz=161,slow=42,SNR=2.4
PDAR Pinedale Array 96.02 44 LR LR 00 33 39.9
comp=Z,44nm,19.8s,MS3.9,baz=72,slow=30
ILAR Eielson Array 97.22 13 LR LR 00 42 00.0
comp=Z,49nm,18.1s,MS4.0,baz=357,slow=35
LPAZ La Paz 99.21 115 LR LR 00 35 14.1
comp=Z,26nm,18.9s,MS3.8,baz=41,slow=30
BVAR Borovoye Array 125.23 316 PKP PKPdf 00 04 44.2 +0.1
1.1nm,0.8s,baz=180,slow=1.5,SNR=8.2
JOF Joensuu 141.30 338 *e*p PKPdf 00 05 16.9 +3.1
KAF Kangasniemi 143.45 340 *e*p PKPbc 00 05 18.1 +5.2
2.2nm,0.8s
FINES FINESS Array B 144.04 340 PKP PKPdf 00 05 17.4 -1.2
7.3nm,1.1s,baz=18,slow=6.0,SNR=8.4
NB2 NORSAR Subarra147.75 351 PKPbc PKPdf 00 05 32.5 +7.7
1.0nm,0.8s,baz=22,slow=2.1
NOA NORSAR Array B147.75 351 PKPbc PKPdf 00 05 26.9 +2.1
1.1nm,0.9s,baz=137,slow=22,SNR=3.1
HFS Hagfors 148.21 348 PKPbc PKPdf 00 05 28.6 +3.0
4.0nm,1.1s,baz=178,slow=40,SNR=2.1
AKASG Malin Array Be 150.12 323 PKPbc PKPdf 00 05 32.4 +3.4
6.8nm,1.0s,baz=46,slow=2.6,SNR=6.7
BRTR Keskin Array B 151.49 300 PKPbc PKPdf 00 05 35.2 +3.8
0.1nm,0.4s,baz=280,slow=22,SNR=2.5

MAN 29 00:05:05.8, 15.68N×121.87E, h15km, mb3.7, ML2.5, MS2.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.29**	**283**	*e*P		Pb	00 05 12.8	+0.7
BALP				*e*S		Sb	00 05 19.2	+2.7
PCPH	**Palayan**	**0.76**	**261**	⇓*e*P		Pb	00 05 20.6	+0.5
PCPH				*e*S		Sb	00 05 33.3	+3.4
POLP	**Polilio Island**	**0.95**	**176**	*e*P		Pb	00 05 23.0	-0.3
POLP				*e*S		Sb	00 05 37.1	+1.7
CAUP	**Cauayan**	**1.26**	**358**	*e*P		Pb	00 05 26.5	-2.2
BOLP	**Bolinao**	**2.01**	**291**	*e*P		Pn	00 05 39.4	-0.2
CVP	**Callao Caves**	**2.02**	**359**	*e*P		Pn	00 05 37.8	-1.9
CVP				*i* S		Sn	00 06 05.0	+0.3
LUBP	**Lubang**	**2.49**	**219**	*e*P		Pn	00 05 48.7	+2.1

IDC 29 00:15:30.3±13.0, 6.88S×129.48E, h155km±151km, mb3.3/1, mb1 3.2/4, mb1mx3.2/14, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=93.3km s-min=54.4km az=26.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.77**	**198**	P		P	00 18 14.7	+0.5
0.2nm,0.3s,baz=14,slow=10,SNR=15								
FITZ				S		S	00 20 21.8	-1.1
1.5nm,0.3s,baz=174,slow=11,SNR=7.0								
WRA	**Warramunga Arr**	**13.82**	**160**	P		P	00 18 38.1	-2.6
0.6nm,0.3s,baz=342,slow=14,SNR=13								
WRA				S		S	00 21 04.2	-6.4
0.6nm,0.3s,baz=345,slow=22,SNR=4.6								
ASAR	**Alice Springs**	**17.23**	**166**	P		P	00 19 22.3	-0.7
0.1nm,0.3s,baz=347,slow=12,SNR=4.1								
ASAR				S		S	00 22 26.2	-1.4
0.1nm,0.3s,baz=281,slow=18,SNR=3.5								
MKAR	**Makanchi Array**	**67.84**	**327**	P		P	00 26 11.7	-2.2
0.3nm,0.4s,baz=117,slow=8.0,SNR=6.2								

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*MOS **29** 00:31:36.8±1.4, 55.79N×110.09E, h12km, mb4.4/1, Error ellipse: s-maj=14.9km s-min=10.1km az=68.3*
BYKL 29 00:31:37.2±0.3, 55.78N×110.12E, h12km±4km, 7C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.33**	**269**	*e*PG		Pg	00 31 42.9	-1.2
NIZ				*e*			00 31 47.7	
NIZ				pmax		pmax		
comp=Z,231nm,0.3s								
NIZ				smax				
comp=N,2μm,0.7s								
NIZ	**Nizh Angarsk**	**0.33**	**269**	⇑*i*Pg		Pg	00 31 42.9	-1.2
NIZ				*e*Sg		Sg	00 31 48.2	-0.5
KMO	**Kumora**	**0.62**	**80**	*e*PG		Pg	00 31 47.9	-1.8
KMO				*e*			00 31 56.3	
KMO				pmax		pmax		
comp=Z,390nm,0.4s								
KMO				smax				
comp=N,1μm,1.3s								
KMO	**Kumora**	**0.62**	**80**	⇑*i*Pg		Pg	00 31 47.8	-1.9
KMO				*e*Sg		Sg	00 31 56.4	-1.7
KMO				Pmax				
comp=N,206nm,0.3s								
KMO				Smax				
comp=N,949nm,0.7s								
YOA	**Uoyan**	**0.97**	**68**	*e*Pg		Pg	00 31 55.4	-1.3
YOA				*e*Sg		Sg	00 32 09.0	-0.7
YOA				Pmax				
comp=N,381nm,0.2s								
YOA				Smax				
comp=N,2μm,0.5s								
YLYR	**Ulyunkhan**	**1.08**	**146**	*e*PG		Pg	00 31 56.6	-2.3
YLYR				*e*			00 32 11.4	
YLYR				pmax		pmax		
comp=Z,273nm,0.3s								
YLYR				smax				
comp=N,352nm,0.2s								
YLYR	**Ulyunkhan**	**1.08**	**146**	⇓*i*Pg		Pg	00 31 56.5	-2.4
comp=N,253nm,0.7s								
YLYR				⇑*i*Pg		Pg	00 31 56.5	-2.4
comp=N,179nm,0.7s								
YLYR				⇑*i*Pg		Pg	00 31 56.5	-2.4
comp=N,307nm,0.7s								
YLYR				*e*Sg		Sg	00 32 11.8	-1.7
YLYR				Pmax				
comp=N,250nm,0.7s								
YLYR				Smax				
comp=N,956nm,0.5s								
SVKR	**Severomuysk**	**1.96**	**79**	*e*PN		Pn	00 32 11.3	+0.6
SVKR				*e*			00 32 38.4	
SVKR				pmax		pmax		
comp=Z,366nm,0.5s								
SVKR				smax				
comp=N,3μm,0.7s								
SVKR	**Severomuysk**	**1.96**	**79**	*e*Pn		Pn	00 32 10.6	-0.1
SVKR				*e*Pg		Pg	00 32 12.8	-3.7
SVKR				*e*Sn		Sn	00 32 37.6	+2.2
SVKR				*e*Sg		Sg	00 32 39.7	-3.0
SVKR				Pmax				
comp=N,408nm,0.5s								
SVKR				Smax				
comp=N,3μm,0.4s								
UKT	**Uakit**	**2.01**	**97**	*e*PN		Pn	00 32 11.9	+0.5
UKT				*e*			00 32 39.4	
UKT				pmax		pmax		
comp=Z,121nm,0.4s								
UKT				smax				
comp=N,876nm,0.4s								
UKT	**Uakit**	**2.01**	**97**	⇓*i*Pn		Pn	00 32 12.0	+0.6
UKT				*e*Pg		Pg	00 32 13.3	-4.1
UKT				*i* Sg		Sg	00 32 39.4	-4.8
UKT				Pmax				
comp=N,170nm,0.7s								
UKT				Smax				
comp=N,976nm,0.5s								
SYVR	**Suvo**	**2.13**	**182**	*e*PN		Pn	00 32 14.9	+1.8
SYVR				*e*			00 32 44.3	
SYVR				pmax		pmax		
comp=Z,332nm,0.6s								
SYVR				smax				
comp=E,1μm,0.7s								
SYVR	**Suvo**	**2.13**	**182**	⇓*i*Pg		Pg	00 32 15.0	-4.7
comp=E,187nm,0.7s								
SYVR				⇓*i*Pg		Pg	00 32 15.0	-4.7
comp=E,51nm,0.7s								
SYVR				⇑*i*Pg		Pg	00 32 15.0	-4.7
comp=E,204nm,0.7s								
SYVR				*i* Sg		Sg	00 32 44.2	-3.9
SYVR				Pmax				
comp=E,357nm,0.6s								
SYVR				Smax				
comp=E,1μm,0.7s								
OGRR	**Ongureny**	**2.59**	**215**	*e*PN		Pn	00 32 20.8	+1.0
OGRR				*e*			00 32 24.4	
OGRR				*e*			00 32 56.6	
OGRR				pmax		pmax		
comp=Z,52nm,0.9s								
OGRR				smax				
comp=E,370nm,0.9s								
OGRR	**Ongureny**	**2.59**	**215**	*e*Pn		Pn	00 32 20.5	+0.7
OGRR				*e*Pg		Pg	00 32 23.3	-5.7
OGRR				*e*Sn		Sn	00 32 52.5	+1.0
OGRR				*e*Sg		Sg	00 32 56.8	-6.8
OGRR				Pmax				
comp=E,51nm,0.7s								
OGRR				Smax				
comp=E,347nm,0.8s								
MXMB	**Maximikha**	**2.65**	**198**	*e*Pn		Pn	00 32 20.7	+0.2
MXMB				*e*Pg		Pg	00 32 24.4	-5.7
MXMB				*e*Sn		Sn	00 32 52.0	-0.8
MXMB				*e*Sg		Sg	00 32 59.4	-6.0
MXMB				Pmax				
comp=E,65nm,0.5s								
MXMB				Smax				
comp=E,855nm,0.7s								
BOD	**Bodaibo**	**2.96**	**45**	*e*PN		Pn	00 32 23.9	-1.0
BOD				*e*			00 32 29.2	
BOD				*e*S		Sn	00 32 58.8	-1.9
BOD				*e*			00 33 06.5	
BOD				pmax		pmax		
comp=Z,41nm,0.4s								
BOD				smax				
comp=N,790nm,0.4s								
BOD	**Bodaibo**	**2.96**	**45**	*e*Pn		Pn	00 32 24.2	-0.7
BOD				*e*Pg		Pg	00 32 29.4	-6.9
BOD				*e*Sn		Sn	00 33 00.0	-0.7
BOD				*e*Sg		Sg	00 33 07.3	-8.4
BOD				Pmax				
comp=N,36nm,0.8s								
BOD				Smax				
comp=N,779nm,0.4s								
NLYR	**Nelyaty**	**3.21**	**75**	*e*PN		Pn	00 32 27.9	-0.5
NLYR				*e*			00 32 35.1	
NLYR				*e*			00 33 16.4	
NLYR				pmax		pmax		
comp=Z,56nm,0.8s								
NLYR				smax				
comp=N,395nm,0.8s								
NLYR	**Nelyaty**	**3.21**	**75**	*e*Pn		Pn	00 32 27.8	-0.6
NLYR				*e*Pg		Pg	00 32 34.4	-6.8
NLYR				*e*Sn		Sn	00 33 06.0	-0.9
NLYR				*e*Sg		Sg	00 33 16.5	-7.5
NLYR				Pmax				
comp=N,65nm,0.7s								
NLYR				Smax				
comp=N,421nm,0.9s								
TRG	**Tyrgan**	**3.75**	**218**	*e*PN		Pn	00 32 35.8	-0.4
TRG				*e*			00 32 45.0	
TRG				*e*			00 33 33.2	
TRG				pmax		pmax		
comp=Z,37nm,0.6s								
TRG				smax				
comp=E,171nm,0.9s								
TRG	**Tyrgan**	**3.75**	**218**	⇑*i*Pn		Pn	00 32 35.9	-0.3
comp=E,19nm,0.7s								
TRG				⇑*i*Pn		Pn	00 32 35.9	-0.3
comp=E,6.0nm,0.7s								
TRG				⇓*i*Pn		Pn	00 32 35.9	-0.3
comp=E,10.0nm,0.7s								
TRG				*e*Sn		Sn	00 33 20.3	-0.4
TRG				*e*Sg		Sg	00 33 33.0	-9.0
TRG				max				
comp=E,35nm,0.4s								
TRG				Smax				
comp=E,184nm,1.0s								
CIT	**Chita**	**4.28**	**150**	*e*PN		Pn	00 32 42.2	-1.5
CIT				*e*			00 32 52.8	
CIT	**Chita**	**4.28**	**150**	*e*Pn		Pn	00 32 42.1	-1.6
CIT				*e*Pg		Pg	00 32 52.7	-10
CIT				*e*Sg		Sg	00 33 47.5	-12
CIT				Pmax				
comp=E,65nm,0.9s								
CIT				Smax				
comp=E,254nm,0.8s								
CRS	**Chara**	**4.67**	**73**	*e*Pn		Pn	00 32 47.4	-1.9
CRS				*e*Pg		Pg	00 33 00.8	-10
CRS				*e*			00 33 06.2	
CRS				*e*Sg		Sg	00 34 02.0	-11
CRS				max				
comp=E,48nm,0.7s								
CRS				Smax				
comp=E,222nm,1.9s								
LSTR	**Listvyanka**	**5.02**	**221**	*e*Pn		Pn	00 32 52.4	-1.8
LSTR				*e*Pg		Pg	00 33 07.5	-10
LSTR				*e*Sn		Sn	00 33 48.0	-4.8
LSTR				*e*Sg		Sg	00 34 12.9	-11
LSTR				Pmax				
comp=E,7.0nm,0.4s								
LSTR				Smax				
comp=E,121nm,1.2s								
TLY	**Talaya**	**5.62**	**226**	*e*PN		Pn	00 32 59.9	-2.8
TLY				*e*			00 33 16.1	
TLY				*e*S		Sn	00 34 02.3	-5.7
TLY				*e*			00 34 28.1	
TLY				pmax		pmax		
comp=Z,6.0nm,0.5s								
TLY				smax				
comp=E,100nm,1.3s								
TLY	**Talaya**	**5.62**	**226**	*e*Pn		Pn	00 33 01.6	-1.1
TLY				*e*Sn		Sn	00 34 03.4	-4.6
TLY				*e*Sg		Sg	00 34 29.6	-15
TLY				max				
comp=E,13nm,0.6s								
TLY				Smax				
comp=E,91nm,1.0s								
TUP	**Tupik**	**5.81**	**99**	*e*PN		Pn	00 33 03.1	-2.2
TUP				*e*			00 33 21.1	
TUP				*e*			00 34 37.5	
TUP				pmax		pmax		
comp=Z,12nm,0.7s								
TUP				smax				
comp=N,123nm,0.7s								
TUP	**Tupik**	**5.81**	**99**	*e*Pn		Pn	00 33 03.6	-1.7
TUP				*e*Pg		Pg	00 33 22.3	-11
TUP				*e*Sn		Sn	00 34 07.3	-5.3
TUP				*e*Sg		Sg	00 34 37.9	-13
TUP				Pmax				
comp=N,16nm,1.2s								
TUP				Smax				
comp=N,200nm,1.8s								
ARS	**Arshan**	**5.97**	**233**	*e*Pn		Pn	00 33 04.8	-2.8
ARS				*e*Sn		Sn	00 34 10.2	-6.6
ARS				*e*Sg		Sg	00 34 40.6	-15
ARS				max				
comp=N,26nm,0.6s								
ARS				Smax				
comp=N,273nm,0.8s								
KPC	**Khapcheranga**	**6.24**	**166**	*e*Pn		Pn	00 33 09.6	-1.8
KPC				*e*Pg		Pg	00 33 29.3	-12
KPC				*e*Sg		Sg	00 34 50.7	-14
KPC				Pmax				
comp=N,25nm,0.9s								
KPC				Smax				
comp=N,101nm,1.4s								
ZAK	**Zakamensk**	**6.80**	**220**	*e*Sg		Sg	00 35 09.7	-14
ZAK				Smax				
comp=N,74nm,0.9s								
MOY	**Mondy**	**6.80**	**237**	*e*PN		Pn	00 33 18.6	-0.8
MOY				*e*			00 33 40.6	
MOY				*e*			00 35 09.2	
MOY				pmax		pmax		
comp=Z,9.0nm,0.6s								
MOY				smax				
comp=E,96nm,1.6s								
MOY	**Mondy**	**6.80**	**237**	*e*Pn		Pn	00 33 18.7	-0.7
MOY				*e*Sn		Sn	00 34 33.2	-4.3
MOY				*e*Sg		Sg	00 35 09.1	-15
MOY				max				
comp=E,40nm,0.6s								
MOY				Smax				
comp=E,94nm,1.6s								
ORL	**Orlik**	**6.87**	**246**	*e*Sg		Sg	00 35 11.8	-14
ORL				Smax				
comp=E,48nm,1.3s								

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*IDC **29** 01:03:11.3±1.6, 0.25N×98.64E, mb4.1/6, mb1 4.2/7, mb1mx3.9/17, mbtmp4.1/7, ML4.4/1, MS3.0/1, Ms1 3.2/1, ms1mx2.8/13, Error ellipse: s-maj=69.9km s-min=29.4km az=51.0*
*NEIC **29** 01:03:16.0±1.0, 0.27N×98.62E, h30km, mb4.5/3, Error ellipse: s-maj=23.8km s-min=18.6km az=76.0*
ISC 29 01:03:14.2±1.1, 0.3N±0.1×98.6E±0.2, h30km, n11, σ1§05/11, mb4.2/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.36**	**22**	*e*Pn		**Pn**	**01 04 35.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**18.05**	**1**	P		**P**	**01 07 23.1**	**-1.7**
0.4nm,0.3s,baz=189,slow=10,SNR=13								
CMAR				LR		LR	01 14 48.9	
comp=Z,40nm,18.3s,baz=353,slow=38								
ENH	**Enshi**	**31.55**	**18**	*e*P		**P**	**01 09 35.3**	**-1.1**
5.8nm,0.6s,mb4.6								
WRA	**Warramunga Arr**	**40.36**	**122**	P		**P**	**01 10 50.6**	**-0.7**
0.7nm,0.5s,mb3.6,baz=302,slow=9.1,SNR=3.1								
BJT	**Baijiatuau**	**42.65**	**20**	*e*P		**P**	**01 11 11.7**	**+1.7**
9.0nm,0.7s,mb4.6								
MKAR	**Makanchi Array**	**48.46**	**345**	P		**P**	**01 11 56.7**	**+0.6**
3.3nm,0.5s,mb4.7,baz=156,slow=9.0,SNR=52								
BVAR	**Borovoye Array**	**57.56**	**340**	P		**P**	**01 13 02.7**	**-0.8**
1.2nm,0.5s,mb4.2,baz=147,slow=8.7,SNR=5.5								
CHKZ	**Chkalovo**	**58.03**	**341**	*e*P		**P**	**01 13 05.8**	**-0.9**
2.2nm,0.7s,mb4.3								
BRTR	**Keskin Array B**	**70.76**	**312**	P		**P**	**01 14 29.7**	**-0.2**
0.9nm,0.7s,mb3.8,baz=135,slow=6.6,SNR=6.0								
FINES	**FINESS Array B**	**81.44**	**332**	P		**P**	**01 15 30.8**	**+1.1**
1.1nm,0.7s,mb3.9,baz=104,slow=5.7,SNR=6.9								
ARCES	**ARCESS Array B**	**83.85**	**340**	P		**P**	**01 15 43.2**	**+1.2**
3.5nm,1.0s,mb4.4,baz=96,slow=8.2,SNR=3.6								

WEL 29 01:51:15.0±0.2, 37.67S×177.10E, h130km±2km, ML3.5/10, 1C, Error ellipse: s-maj=2.7km s-min=2.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.59**	**179**	⇑PN		P	01 51 34.6	-0.1
URZ				SN		S	01 51 49.5	-0.3
MWZ	**Matawai**	**0.74**	**153**	PN		P	01 51 35.9	+0.1
MWZ				SN		S	01 51 51.8	0.0
MXZ	**Matakaoa Point**	**0.96**	**84**	PN		P	01 51 37.6	-0.1
MXZ				SN		S	01 51 54.8	-0.3
PUZ	**Puketiti**	**1.00**	**114**	PN		P	01 51 37.8	-0.3
PUZ				SN		S	01 51 54.5	-1.2
KNZ	**Kokohu**	**1.42**	**162**	PN		P	01 51 42.3	-0.3
KNZ				SN		S	01 52 01.4	-2.3
BKZ	**Black Stump Fm**	**1.57**	**198**	PN		P	01 51 43.5	-0.7
MGZ	**Maungaku**	**1.81**	**222**	*e*PN		P	01 51 46.0	-1.0
NGZ	**Ngauruhoe**	**1.91**	**218**	PN		P	01 51 48.6	+0.4
CNZ	**Chateau**	**1.95**	**218**	PN		P	01 51 49.2	+0.4
TUVZ	**Tukino**	**1.96**	**215**	PN		P	01 51 48.6	-0.3
FWVZ	**Far West T-bar**	**1.99**	**217**	PN		P	01 51 49.2	-0.1
PWZ	**Pawanui**	**2.36**	**184**	PN		P	01 51 52.4	-1.7
TSZ	**Takapari Road**	**2.54**	**200**	PN		P	01 51 54.4	-2.0
TSZ				SN		S	01 52 25.7	-2.3
MRZ	**Mangatainoka R**	**3.21**	**201**	PN		P	01 52 02.1	-3.2
MRZ				SN		S	01 52 38.9	-4.6
KIW	**Kapiti Island**	**3.61**	**207**	PN		P	01 52 07.0	-3.6
KIW				SN		S	01 52 48.1	-4.9
MTW	**Mount Morrison**	**3.69**	**199**	PN		P	01 52 07.5	-4.2
TCW	**Tory Channel**	**4.16**	**211**	PN		P	01 52 13.5	-4.4
THZ	**Tophouse**	**5.21**	**217**	*e*PN		P	01 52 27.7	-4.2

WEL 29 01:56:02.3±0.4, 45.00S×167.57E, h98km±2km, ML3.8/8, 2C-3D, Error ellipse: s-maj=3.8km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.42**	**38**	⇑PN		P	01 56 17.1	-0.3
MSZ				SN		S	01 56 28.3	-0.5
MLZ	**Mavora Lakes**	**0.55**	**129**	PN		P	01 56 18.0	-0.5
MLZ				SN		S	01 56 30.1	-0.4
WHZ	**Wether Hill Ro**	**0.94**	**163**	PN		P	01 56 21.5	-0.6
WHZ				SN		S	01 56 36.0	-1.0
WHZ				SN		S	01 56 36.1	-0.9
WKZ	**Wanaka**	**1.05**	**81**	PN		P	01 56 23.4	0.0
EAZ	**Earnscleugh**	**1.26**	**101**	PN		P	01 56 25.6	-0.4
EAZ				SN		S	01 56 42.4	-1.2
JCZ	**Jackson Bay**	**1.26**	**43**	⇑PN		P	01 56 25.0	-1.0
JCZ				SN		S	01 56 42.0	-1.7
TUZ	**Tuapeka**	**1.74**	**124**	⇓PN		P	01 56 31.4	-0.5
TUZ				SN		S	01 56 52.0	-1.8
LBZ	**Lake Benmore**	**1.96**	**73**	⇓PN		P	01 56 33.1	-1.7
LBZ				SN		S	01 56 56.7	-2.1
FOZ	**Fox Glacier**	**2.09**	**47**	PN		P	01 56 35.3	-1.2
ODZ	**Otahua Downs**	**2.18**	**92**	⇓PN		P	01 56 36.3	-1.5
MQZ	**McQueen's Vall**	**3.87**	**72**	SN		S	01 57 37.9	-7.6
LTZ	**Lake Taylor**	**4.06**	**59**	*e*PN		P	01 57 01.7	-1.9
DSZ	**Denniston Nort**	**4.48**	**45**	*e*PN		P	01 57 05.9	-3.5
THZ	**Tophouse**	**5.06**	**52**	*e*PN		P	01 57 12.6	-4.6

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*NIED **29** 02:02:00, 39.60N×143.60E, h17km, Mw3.9 Best double couple: M0 9.05×10^14 NP1:φs 37°, δ68°, λ101°. NP2:φs 191°, δ24°, λ65°.*
*JMA **29** 02:02:01.4±0.2, 39.59N×143.58E, h33km, M4.1*
*MOS **29** 02:02:03.6±0.8, 39.70N×143.26E, h33km, mb3.9/4, Error ellipse: s-maj=18.1km s-min=11.5km az=75.7*
*IDC **29** 02:02:05.4±4.9, 39.60N×143.45E, h37km±38km, mb3.6/6, mb1 3.7/8, mb1mx3.5/22, mbtmp3.8/8, ML3.5/2, Error ellipse: s-maj=58.1km s-min=30.4km az=142.0*
*NEIC **29** 02:02:06.2±1.1, 39.49N×143.45E, h50km, mb3.7/2, Error ellipse: s-maj=27.3km s-min=8.2km az=128.0*
ISC 29 02:02:02.8±1.0, 39.58N±0.05×143.49E±0.10, h37km±8km, n34, σ0§81/39, mb3.8/9, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.29**	**270**	P		**P**	**02 02 24.9**	**+0.3**
JTH	**Tanohata**	**1.30**	**286**	P		**P**	**02 02 24.9**	**0.0**
JTH				*e*S		**S**	**02 02 42.3**	**+0.9**
OFUJ	**Ofunato**	**1.50**	**251**	P		**P**	**02 02 27.7**	**0.0**
JOM	**Ohasama**	**1.70**	**267**	P		**P**	**02 02 31.2**	**+0.6**
JOM				*e*S		**S**	**02 02 51.8**	**+0.4**
JANG	**Nango**	**1.71**	**298**	P		**P**	**02 02 30.4**	**-0.3**
JMK	**Ichinoseki**	**1.87**	**251**	P		**P**	**02 02 33.3**	**+0.3**
JIO	**Ouri**	**2.01**	**237**	P		**P**	**02 02 34.7**	**-0.3**
JYK	**Kaneyama**	**2.52**	**256**	P		**P**	**02 02 43.1**	**+0.8**
JMM	**Marumori**	**2.72**	**232**	P		**P**	**02 02 44.3**	**-0.8**
JMM				*e*S		**S**	**02 03 15.2**	**-1.9**
JNBK	**Urakawa-nobuka**	**2.75**	**349**	P		**P**	**02 02 46.2**	**+0.6**
JCH	**Churui**	**3.03**	**358**	P		**P**	**02 02 49.3**	**-0.2**
JCH				*e*S		**S**	**02 03 22.9**	**-2.1**
ASAJ	**Asahikawa**	**4.58**	**352**	P		**P**	**02 03 11.6**	**+0.1**
ASA

YUK	**Yuzh-Kuril'sk**	**4.79**	**21**	*e*P	**P**	**02 03 14.9**	**+0.4**
YUK				*i* S	**S**	**02 04 03.6**	**-5.9**
YUK				smax			
	comp=N,2μm,2.0s						
YUK				smax			
	comp=E,2μm,2.0s						
YUK				smax			
	comp=N,380nm,0.5s						
YUK				smax			
	comp=E,210nm,0.5s						
MAJO	**Matsushiro**	**5.16**	**236**	*e*P	**P**	**02 03 19.6**	**0.0**
MAJO				pmax	pmax		
	comp=Z,37nm,0.6s						
MAJO	**Matsushiro**	**5.16**	**236**	*e*Pn	**P**	**02 03 19.6**	**0.0**
	comp=Z,37nm,0.6s						
MAT	**Matsushiro**	**5.16**	**236**	*e*P	**P**	**02 03 20.0**	**+0.4**
MAT				pmax	pmax		
	comp=Z,26nm,0.7s						
MAT	**Matsushiro**	**5.16**	**236**	*e*P	**P**	**02 03 20.0**	**+0.4**
	comp=Z,26nm,0.7s						
MAT	**Matsushiro**	**5.16**	**236**	P	**P**	**02 03 19.5**	**-0.1**
MJAR	**Matsushiro Arr**	**5.16**	**236**	Pn	**P**	**02 03 19.6**	**0.0**
	comp=Z,2.4nm,0.3s,baz=38,slow=12,SNR=30						
BOD	**Bodaibo**	**26.35**	**324**	*e*P	**P**	**02 07 35.5**	**-1.4**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
ULN	**Ulaanbaatar**	**27.40**	**300**	*e*P	**P**	**02 07 46.8**	**+0.1**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
ULN	**Ulaanbaatar**	**27.40**	**300**	*e*P	**P**	**02 07 46.8**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.5						
ZAK	**Zakamensk**	**30.07**	**304**	*e*P	**P**	**02 08 08.5**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s,mb3.2						
MKAR	**Makanchi Array**	**44.20**	**300**	P	**P**	**02 10 10.3**	**+0.6**
	comp=Z,1.7nm,0.7s,mb3.9,baz=82,slow=10,SNR=11						
MKAR	**Makanchi Array**	**44.20**	**300**	P	**P**	**02 10 10.3**	**+0.6**
ILAR	**Eielson Array**	**46.47**	**34**	P	**P**	**02 10 28.4**	**+0.8**
	comp=Z,0.3nm,0.3s,mb3.6,baz=236,slow=6.5,SNR=4.3						
BVAR	**Borovoye Array**	**50.10**	**311**	P	**P**	**02 10 56.4**	**+0.5**
	comp=Z,1.4nm,0.5s,mb4.2,baz=79,slow=7.6,SNR=10.0						
FINES	**FINESS Array B**	**67.32**	**332**	P	**P**	**02 12 55.9**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.8,baz=76,slow=7.9,SNR=6.2						
NB2	**NORSAR Subarra**	**72.46**	**338**	P	**P**	**02 13 27.6**	**+0.8**
	comp=Z,0.7nm,0.7s,mb3.7,baz=37,slow=6.2						
NB2	**NORSAR Subarra**	**72.46**	**338**	P	**P**	**02 13 27.6**	**+0.8**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
NOA	**NORSAR Array B**	**72.46**	**338**	P	**P**	**02 13 28.0**	**+1.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=38,slow=5.9,SNR=5.5						
NOA	**NORSAR Array B**	**72.46**	**338**	P	**P**	**02 13 28.0**	**+1.3**
AKASG	**Malin Array Be**	**73.27**	**323**	P	**P**	**02 13 31.6**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=46,slow=6.2,SNR=4.3						

*MDD **29** 02:10:03.2±2.9, 43.56N×13.91W, h8km±150km, mbLg2.4/18, Error ellipse: s-maj=190.0km s-min=26.4km az=110.0, PRXIMO*

*INMG **29** 02:10:05.4±0.8, 43.77N×14.15W, h10km, ML2.0, Error ellipse: s-maj=16.5km s-min=7.9km az=46.0*

CSEM 29 02:10:06.3±0.9, 43.23N×13.38W, h10km, mb4.1/4, Error ellipse: s-maj=17.0km s-min=14.5km az=52.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.24**	**93**	P	Pn	02 10 58.8	+0.5
	SNR=11						
EMAZ				S	Sn	02 11 40.5	+3.2
	3.5nm,0.1s,SNR=6.8						
EMAZ	**Mazaricos**	**3.24**	**93**	P	Pn	02 10 58.8	+0.5
	1.7nm,0.0s,SNR=11						
EMAZ				S	Sn	02 11 38.6	+1.3
	3.5nm,0.1s,SNR=6.8						
STS	**Santiago**	**3.56**	**94**	P	Pn	02 11 03.4	+0.6
	5.9nm,0.1s,SNR=7.9						
STS				S	Sn	02 11 47.2	+1.8
	2.5nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**3.62**	**106**	P	Pn	02 11 04.6	+0.9
	0.4nm,0.2s,SNR=7.9						
EZAM				S	Sn	02 11 50.7	+3.8
	33nm,1.3s,SNR=7.9						
ELOB	**Lobios**	**4.16**	**107**	P	Pn	02 11 12.4	+1.1
	0.5nm,0.2s,SNR=7.9						
ELOB				S	Sn	02 12 03.6	+3.0
	1.3nm,0.1s,SNR=7.6						
ELOB	**Lobios**	**4.16**	**107**	P	Pn	02 11 12.4	+1.1
	0.5nm,0.2s,SNR=7.9						
ELOB				S	Sn	02 12 03.6	+3.0
	1.3nm,0.1s,SNR=7.6						
EINC	**Incio**	**4.46**	**95**	P	Pn	02 11 15.7	0.0
	1.8nm,0.1s,SNR=12						
EINC				S	Sn	02 12 09.2	+0.9
	0.1nm,0.2s,SNR=7.8						
EINC	**Incio**	**4.46**	**95**	P	Pn	02 11 15.7	0.0
	1.8nm,0.1s,SNR=12						
EINC				S	Sn	02 12 09.2	+0.9
	0.1nm,0.2s,SNR=7.8						
EPON	**Pontenova**	**4.55**	**87**	P	Pn	02 11 16.9	0.0
	0.3nm,0.1s,SNR=7.9						
EPON				S	Sn	02 12 10.1	-0.5
	1.6nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**4.55**	**87**	P	Pn	02 11 16.9	0.0
	0.3nm,0.1s,SNR=7.9						
EPON				S	Sn	02 12 09.5	-1.1
	1.6nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.64**	**113**	*e*Pn	Pn	02 11 19.5	+1.4
PVRL				*e*Sn	Sn	02 12 15.0	+2.4
	1.6nm,0.1s						
PVRL	**Vila Real**	**4.64**	**113**	*e*Pn	Pn	02 11 19.5	+1.4
PVRL				*e*Sn	Sn	02 12 15.0	+2.4
	1.6nm,0.1s						
ERUA	**La Rua**	**4.67**	**98**	S	Sn	02 12 14.5	+1.1
	1.5nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**4.80**	**120**	*e*Sn	Sn	02 12 19.3	+2.5
	2.1nm,0.1s						
PVIS	**Viseu**	**4.80**	**120**	S	Sn	02 12 19.3	+2.5
	1.1nm,0.1s						
ECAL	**Calabor**	**5.07**	**102**	P	Pn	02 11 25.1	+0.8
	0.1nm,0.1s,SNR=7.9						
ECAL				S	Sn	02 12 24.3	+0.7
	0.6nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**5.07**	**102**	P	Pn	02 11 25.1	+0.8
	0.1nm,0.1s,SNR=7.9						
ECAL				S	Sn	02 12 23.0	-0.6
	0.6nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**5.11**	**104**	*e*Pn	Pn	02 11 25.3	+0.5
PBRG				*e*Sn	Sn	02 12 25.6	+1.0
	0.8nm,0.1s						
PBRG	**Braganca**	**5.11**	**104**	*e*Pn	Pn	02 11 25.3	+0.5
PBRG				*e*Sn	Sn	02 12 25.6	+1.0
	0.8nm,0.1s						
MTE	**Manteigas**	**5.20**	**121**	*e*Sn	Sn	02 12 28.8	+2.0
	1.5nm,0.4s						
MTE	**Manteigas**	**5.20**	**121**	S	Sn	02 12 28.8	+2.0
	0.8nm,0.4s						
PCBR	**Castelo Branco**	**5.57**	**125**	*e*Sn	Sn	02 12 38.3	+2.0
	0.6nm,0.3s						
PCBR	**Castelo Branco**	**5.57**	**125**	S	Sn	02 12 38.3	+2.0
	0.3nm,0.3s						
EARI	**Arriondas**	**5.97**	**86**	P	Pn	02 11 35.9	-1.1
	0.2nm,0.2s,SNR=6.9						
EARI				S	Sn	02 12 44.2	-1.9
	20nm,1.3s,SNR=7.9						
EARI	**Arriondas**	**5.97**	**86**	P	Pn	02 11 35.8	-1.1
	0.2nm,0.2s,SNR=6.9						
EARI				S	Sn	02 12 44.2	-1.9
	20nm,1.3s,SNR=7.9						
EBAD	**Badajoz**	**6.57**	**131**	S	Sn	02 13 01.3	+0.2
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**6.57**	**131**	S	Sn	02 13 01.3	+0.2
	0.4nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**7.25**	**140**	S	Sn	02 13 17.1	-1.1
	0.1nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**7.25**	**140**	S	Sn	02 13 17.1	-1.1
	0.1nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**7.27**	**87**	P	Pn	02 11 53.9	-1.3
	SNR=7.9						
ELAN				S	Sn	02 13 14.7	-4.0
	0.2nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.47**	**135**	S	Sn	02 13 22.7	-1.0
	1.3nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.47**	**135**	S	Sn	02 13 22.7	-1.0
	1.3nm,0.5s,SNR=7.9						

NEIC 29 02:16:09.6, 37.88S×176.71E, h6km, ML3.7(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.11**	**195**	P	Pg	02 16 12.3	+0.3
EDRZ	**Edgecumbe**	**0.23**	**174**	P	Pg	02 16 14.4	+0.1
LIRZ	**Lichensteins R**	**0.29**	**244**	P	Pg	02 16 15.7	+0.3
MKRZ	**Makatiti**	**0.32**	**216**	P	Pg	02 16 16.6	+0.5
TGRZ	**Tauranga**	**0.39**	**293**	P	Pg	02 16 17.5	+0.1
TGRZ				S	Sg	02 16 22.8	+0.2
TAZ	**Tarawera**	**0.39**	**204**	P	Pg	02 16 17.8	+0.4
URZ	**Urewera**	**0.49**	**140**	P	Pg	02 16 19.1	-0.4
UTU	**Utuhina**	**0.51**	**234**	P	Pg	02 16 20.0	+0.3
WIZ	**White Island**	**0.52**	**47**	P	Pg	02 16 20.1	+0.1
MWZ	**Matawai**	**0.79**	**125**	P	Pb	02 16 24.5	-0.8
KUZ	**Kuaotunu**	**1.38**	**325**	*e*P	Pb	02 16 34.4	-1.0

*IDC **29** 02:23:19.4±1.1, 1.89S×99.49E, mb4.0/10, mb1 4.2/10, mb1mx4.0/17, mbtmp4.0/10, Error ellipse: s-maj=61.3km s-min=17.5km az=50.0*

*NEIC **29** 02:23:24.0±0.5, 1.81S×99.57E, h30km, mb4.3/2, Error ellipse: s-maj=22.7km s-min=9.5km az=59.0*

ISC 29 02:23:23.1±0.8, 1.7S±0.1×99.7E±0.2, h33km, n15, σ0=96/13, mb4.1/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.00**	**8**	Pn	**Pn**	**02 25 06.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**20.04**	**358**	P	**P**	**02 27 55.2**	**-1.0**
	1.2nm,0.3s,baz=181,slow=10,SNR=5.4						
FITZ	**Fitzroy Crossi**	**30.23**	**124**	P	**P**	**02 29 33.8**	**+0.6**
	5.3nm,0.9s,mb4.3,baz=207,slow=9.0,SNR=3.3						
WRA	**Warramunga Arr**	**38.41**	**121**	P	**P**	**02 30 42.4**	**-1.0**
	1.8nm,0.7s,mb3.9,baz=303,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**38.41**	**121**	*e*P	**P**	**02 30 43.6**	**+0.2**
	3.1nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**49.58**	**132**	P	**P**	**02 32 13.1**	**-0.2**
	1.6nm,0.8s,mb4.1,baz=345,slow=12,SNR=3.9						
MKAR	**Makanchi Array**	**50.66**	**345**	P	**P**	**02 32 22.0**	**+0.7**
	2.2nm,0.5s,mb4.3,baz=158,slow=8.8,SNR=25						
BVAR	**Borovoye Array**	**59.80**	**340**	P	**P**	**02 33 26.7**	**-0.6**
	1.3nm,0.7s,mb4.1,baz=143,slow=10,SNR=10						
CHKZ	**Chkalovo**	**60.26**	**341**	*e*P	**P**	**02 33 29.5**	**-1.0**
	1.5nm,0.7s,mb4.1						
BRTR	**Keskin Array B**	**72.89**	**312**	P	**P**	**02 34 49.2**	**-1.8**
	0.5nm,0.6s,mb3.6,baz=158,slow=6.7,SNR=4.6						
FINES	**FINESS Array B**	**83.70**	**332**	P	**P**	**02 35 51.1**	**+1.5**
	0.7nm,0.5s,mb4.0,baz=102,slow=6.1,SNR=11						
ARCES	**ARCESS Array B**	**86.09**	**340**	P	**P**	**02 36 02.5**	**+1.2**
	1.0nm,0.8s,mb4.1,baz=27,slow=2.7,SNR=4.1						
GERES	**GERESS Array B**	**88.62**	**319**	P	**P**	**02 36 15.1**	**+1.0**
	0.4nm,0.6s,mb3.9,baz=76,slow=5.5,SNR=4.1						
CPUP	**Villa Florida**	**144.38**	**217**	PKP	PKPdf	02 42 57.6	+0.9
	2.0nm,0.8s,baz=152,slow=3.9,SNR=9.3						
TXAR	**Lajitas Array**	**144.64**	**37**	PKP	PKPdf	02 42 58.3	+1.3
	0.8nm,0.5s,baz=220,slow=0.5,SNR=15						

IDC 29 02:27:09.0±6.5, 8.78S×109.04E, h201km±86km, mb3.5/3, mb1 3.6/4, mb1mx3.3/15, mbtmp4.0/4, Error ellipse: s-maj=116.3km s-min=28.9km az=13.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.60**	**122**	P	P	02 31 10.4	-3.0
	0.2nm,0.3s,baz=338,slow=11,SNR=2.7						
FITZ				S	S	02 34 33.4	+3.3
	0.3nm,0.3s,baz=11,slow=19,SNR=3.3						
WRA	**Warramunga Arr**	**26.86**	**117**	P	P	02 32 31.4	-1.8
	0.8nm,0.6s,baz=290,slow=12,SNR=5.0						
STKA	**Stephens Creek**	**37.95**	**132**	P	P	02 34 07.9	-1.1
	5.1nm,0.6s,baz=304,slow=8.3,SNR=14						
VNDA	**Vanda**	**73.86**	**170**	P	P	02 38 20.8	-2.3
	1.5nm,1.1s,baz=304,slow=8.3,SNR=3.8						

*IDC **29** 02:40:00.1±0.8, 1.37S×99.46E, mb4.1/7, mb1 4.2/8, mb1mx4.0/17, mbtmp4.1/8, ML4.4/1, MS3.6/2, Ms1 3.7/2, ms1mx3.0/22, Error ellipse: s-maj=37.1km s-min=19.4km az=54.0*

*NEIC **29** 02:40:04.5±0.5, 1.35S×99.51E, h30km, mb4.5/3, Error ellipse: s-maj=17.7km s-min=9.3km az=62.0*

ISC 29 02:40:03.3±0.7, 1.3S±0.1×99.6E±0.1, h33km, n17, σ0=73/13, mb4.2/9, MS4.4/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.59**	**9**	Pn	**Pn**	**02 41 41.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**19.60**	**358**	P	**P**	**02 44 30.6**	**-1.1**
	0.4nm,0.3s,baz=187,slow=9.9,SNR=9.0						
CMAR				LR	LR	02 51 32.8	
	comp=Z,39nm,20.9s,baz=200,slow=35						
WRA	**Warramunga Arr**	**38.73**	**121**	P	**P**	**02 47 26.3**	**-0.1**
	8.1nm,0.8s,mb4.5,baz=297,slow=9.4,SNR=22						
WRAB	**Tennant Creek**	**38.74**	**121**	*e*P	**P**	**02 47 26.3**	**-0.1**
	4.6nm,0.3s,mb4.7						
WB2	**Warramunga Arr**	**38.74**	**121**	*e*P	**P**	**02 47 26.0**	**-0.4**
CBIJ	**Chichi jima**	**49.75**	**52**	LR	LR	03 06 19.5	
	comp=Z,392nm,21.6s,MS4.4,baz=278,slow=32						
STKA	**Stephens Creek**	**49.96**	**132**	*e*P	**P**	**02 48 57.2**	**+0.8**
	4.4nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**49.96**	**132**	P	**P**	**02 48 56.8**	**+0.4**
	5.9nm,0.8s,mb4.7,baz=319,slow=6.2,SNR=9.3						
MKAR	**Makanchi Array**	**50.20**	**345**	P	**P**	**02 48 59.1**	**+1.1**
	1.5nm,0.5s,mb4.3,baz=147,slow=8.3,SNR=17						
BVAR	**Borovoye Array**	**59.34**	**340**	P	**P**	**02 50 04.0**	**-0.5**
	0.8nm,0.6s,mb3.9,baz=150,slow=8.7,SNR=7.7						
CHKZ	**Chkalovo**	**59.81**	**341**	*e*P	**P**	**02 50 06.5**	**-1.2**
	3.5nm,1.2s,mb4.3						
MATP	**Matopo**	**71.84**	**249**	P	**P**	**02 51 24.8**	**-0.4**
	3.0nm,0.7s,mb4.3,baz=118,slow=7.6,SNR=5.9						
FINES	**FINESS Array B**	**83.26**	**332**	P	**P**	**02 52 28.6**	**+0.9**
	0.5nm,0.5s,mb3.8,baz=108,slow=4.4,SNR=4.5						
GERES	**GERESS Array B**	**88.21**	**319**	P	**P**	**02 52 53.1**	**+0.8**
	0.2nm,0.5s,mb3.6,baz=90,slow=2.0,SNR=4.3						
TXAR	**Lajitas Array**	**144.36**	**36**	PKP	PKPdf	02 59 39.0	+2.2
	2.1nm,0.5s,baz=194,slow=0.9,SNR=49						
TXAR	**Lajitas Array**	**144.36**	**36**	PKP	PKPdf	02 59 39.0	+2.2
CPUP	**Villa Florida**	**144.66**	**217**	PKP	PKPdf	02 59 37.8	+0.3
	2.8nm,0.9s,baz=127,slow=5.1,SNR=9.6						

*IDC **29** 03:15:49.9±1.9, 2.82N×96.12E, mb4.1/5, mb1 4.2/6, mb1mx3.8/18, mbtmp4.0/6, ML4.6/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/20, Error ellipse: s-maj=90.2km s-min=27.3km az=53.0*

*NEIC **29** 03:15:54.5±0.6, 2.85N×96.15E, h30km, mb4.2/3, Error ellipse: s-maj=15.8km s-min=9.0km az=50.0*

ISC 29 03:15:52.7±0.9, 2.9N±0.1×96.2E±0.1, h30km, n14, σ0=52/13, mb4.1/8, MS3.9/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.09**	**62**	*e*Pn	**Pn**	**03 17 09.3**	**+0.2**
CMAR	**Chiang Mai Arr**	**15.74**	**10**	Pn	**P**	**03 19 34.0**	**-0.2**
	0.8nm,0.3s,baz=198,slow=11,SNR=6.4						
WRA	**Warramunga Arr**	**43.81**	**123**	P	**P**	**03 23 57.9**	**-0.2**
	0.9nm,0.4s,mb3.8,baz=300,slow=9.2,SNR=5.9						
WRAB	**Tennant Creek**	**43.81**	**123**	P	**P**	**03 23 58.0**	**-0.1**
	1.4nm,0.4s,mb4.0						
WB2	**Warramunga Arr**	**43.82**	**123**	*e*P	**P**	**03 23 58.1**	**0.0**
AAK	**Ala-Archa**	**44.06**	**337**	*e*P	**P**	**03 24 00.5**	**+0.7**
	1.3nm,0.3s,mb4.1						
MKAR	**Makanchi Array**	**45.39**	**347**	P	**P**	**03 24 10.6**	**+0.2**
	2.6nm,0.4s,mb4.5,baz=159,slow=9.0,SNR=71						
MKAR	**Makanchi Array**	**45.39**	**347**	P	**P**	**03 24 10.6**	**+0.2**
BVAR	**Borovoye Array**	**54.34**	**341**	P	**P**	**03 25 17.9**	**-0.9**
	2.2nm,0.8s,mb4.2,baz=146,slow=10,SNR=7.4						
CHKZ	**Chkalovo**	**54.83**	**342**	*e*P	**P**	**03 25 21.5**	**-0.9**
	3.4nm,0.7s,mb4.5						
ASAJ	**Asahikawa**	**57.99**	**38**	LR	LR	03 49 59.9	
	comp=Z,82nm,19.4s,MS3.9,baz=167,slow=35						
FINES	**FINESS Array B**	**78.05**	**332**	P	**P**	**03 27 50.5**	**+0.5**
	0.6nm,0.6s,mb3.7,baz=104,slow=5.7,SNR=4.0						
ARCES	**ARCESS Array B**	**80.62**	**340**	P	**P**	**03 28 04.5**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=90,slow=6.1,SNR=7.1						
ARCES	**ARCESS Array B**	**80.62**	**340**	P	**P**	**03 28 04.5**	**+0.7**

*IDC **29** 03:16:41.5±0.6, 1.12N×97.17E, mb4.3/15, mb1 4.4/16, mb1mx4.3/21, mbtmp4.3/16, ML4.6/1, MS3.8/6, Ms1 3.9/6, ms1mx3.6/21, Error ellipse: s-maj=22.0km s-min=16.2km az=51.0*

*BJI **29** 03:16:43.3, 0.93N×97.34E, h30km, mB5.0, mb4.9, Ms4.6, Msz4.4*

*NEIC **29** 03:16:45.0±0.3, 1.12N×97.19E, mb4.7/13, Error ellipse: s-maj=8.0km s-min=7.0km az=63.0*

*MOS **29** 03:16:45.0±0.8, 1.19N×97.28E, h33km, mb4.9/12, Error ellipse: s-maj=18.8km s-min=9.9km az=100.1*

ISC 29 03:16:43.3±0.4, 1.09N±0.05×97.21E±0.05, h22km, h22km±.8km: pP-P, n97, σ0=94/91, mb4.6/45, MS4.2/14, 7C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.15**	**48**	P	**Pn**	**03 18 02.1**	**+0.9**
KULM	**Kulim**	**5.40**	**39**	*e*Pn	**Pn**	**03 18 04.4**	**-0.3**
KGM	**Kluang**	**6.17**	**81**	P	**Pn**	**03 18 16.8**	**+1.2**
CMAR	**Chiang Mai Arr**	**17.34**	**6**	P	**P**	**03 20 45.0**	**-0.9**
	0.8nm,0.3s,baz=197,slow=12,SNR=22						
CMAR				LR	LR	03 28 15.1	
	comp=Z,340nm,18.7s,baz=190,slow=40						
KKM	**Kota Kinabalu**	**19.59**	**75**	*e*P	**P**	**03 21 14.3**	**+1.2**
KKM	**Kota Kinabalu**	**19.59**	**75**	P	**P**	**03 21 15.8**	**+2.7**
TRD	**Trivandrum**	**21.48**	**291**	*e*S	**S**	**03 25 22.7**	**-2.2**
QIZ	**Qiongzhong**	**21.71**	**34**	*e*P	**P**	**03 21 34.5**	**-0.6**
QIZ				LR	LR		
	comp=E,648nm,14.5s						
QIZ				LR	LR		
	comp=Z,565nm,12.8s,MS4.2						
KMI	**Kunming**	**24.48**	**12**	P	**P**	**03 22 04.0**	**+1.6**
KMI				AP		03 22 10.5	
KMI				XP		03 22 13.0	
KMI				PP	PP	03 22 40.8	+2.5
KMI				PPP	PPP	03 22 51.5	+2.8
KMI				S	**S**	**03 26 22.0**	**+3.5**
KMI				XS		03 26 32.5	
KMI				AMB	AMB		
	comp=Z,86nm,1.2s,mb5.1						
KMI				AMB	AMB		
	comp=Z,166nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,15.6s,MS4.5						
KMI				LR	LR		
	comp=E,484nm,14.6s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,15.3s,MS4.5						
HYB	**Hyderabad**	**24.50**	**313**	*e*P		03 22 14.0	
HYB	**Hyderabad**	**24.50**	**313**	*i* P	**P**	**03 22 07.0**	**+4.4**
SHL	**Shillong**	**24.87**	**348**	*e*P	**P**	**03 22 06.0**	**-0.1**
SHL				*e*S	**S**	**03 26 30.0**	**+5.0**
GYA	**Guiyang**	**26.81**	**19**	⇑*i*P	**P**	**03 22 24.0**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
GYA				AMB	AMB		
	comp=Z,60nm,5.0s						
GYA				LR	LR		
	comp=N,730nm,13.5s,MS4.5						
GYA				LR	LR		
	comp=E,400nm,14.1s,MS4.5						
GYA				LR	LR		
	comp=Z,4μm,14.7s,MS5.1						
PKI	**Pulchoki**	**28.66**	**338**	*e*P	**P**	**03 22 41.4**	**+0.5**
	comp=Z,48nm,1.1s,mb5.1						
GUN	**Gumba**	**28.80**	**339**	*e*P	**P**	**03 22 42.5**	**+0.4**
	comp=Z,207nm,1.4s,mb5.7						
DMN	**Daman**	**28.81**	**337**	*e*P	**P**	**03 22 42.3**	**+0.1**
	comp=Z,21nm,0.7s,mb5.0						
KKN	**Kakani**	**28.91**	**338**	*e*P	**P**	**03 22 43.5**	**+0.4**
	comp=Z,62nm,1.1s,mb5.2						
GKN	**Gorkha**	**29.35**	**337**	*e*P	**P**	**03 22 47.3**	**+0.2**
	comp=Z,107nm,1.3s,mb5.4						
KOLN	**Koldanda**	**29.56**	**335**	*e*P	**P**	**03 22 49.6**	**+0.6**
	comp=Z,34nm,1.0s,mb5.0						
ENH	**Enshi**	**31.28**	**21**	*e*P	**P**	**03 23 02.2**	**-2.0**
	comp=Z,17nm,0.7s,mb5.0						
ENH				*e*pP	pP	03 23 09.0	-1.6
WHN	**Wuhan**	**33.51**	**27**	*e*P	**P**	**03 23 23.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**33.85**	**126**	P	**P**	**03 23 25.5**	**-1.2**
	comp=Z,5.1nm,0.8s,mb4.5,baz=259,slow=2.7,SNR=3.8						
XAN	**Xi'an**	**34.56**	**17**	P	**P**	**03 23 31.0**	**-1.7**
XAN				AP	pP	03 23 37.8	-1.4
XAN				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
LZH	**Lanzhou**	**35.36**	**9**	⇑P	**P**	**03 23 39.0**	**-0.5**
LZH				AP	pP	03 23 46.3	+0.3
LZH				XP	sP	03 23 50.0	+1.3
LZH				AMB	AMB		
	comp=Z,33nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,170nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,15.2s						
LZH				LR	LR		
	comp=Z,1μm,16.4s,MS4.8						
GTA	**Gaotai**	**38.21**	**3**	⇑P	**P**	**03 24 03.8**	**+0.3**
GTA				AP	pP	03 24 10.0	0.0
GTA				XP	sP	03 24 13.3	+0.6
GTA				PP	PP	03 25 33.0	-1.3
GTA				PCP	PcP	03 26 19.0	+0.8
GTA				S	**S**	**03 29 52.3**	**-3.2**
GTA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,130nm,5.4s						
GTA				LR	LR		
	comp=N,273nm,17.4s,MS4.3						
GTA				LR	LR		
	comp=E,232nm,15.9s,MS4.3						
GTA				LR

WMQ AMB AMB
comp=Z,61nm,4.4s
WMQ LR LR
comp=N,95nm,20.2s,MS3.9
WMQ LR LR
comp=E,120nm,21.5s,MS3.9
WMQ LR LR
comp=Z,94nm,20.2s,MS3.7
DL2 Dalian 43.77 28 P **P 03 24 49.8 +0.6**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
ULHL Ulahol 45.10 338 P **P 03 25 01.3 +1.3**
SNR=7.4
UCH Uchtor 45.76 336 P **P 03 25 06.7 +1.6**
SNR=12
KS15 Wonju Array Si 45.90 34 *eP* **P 03 25 05.9 -0.4**
TKM2 Tokmak 2 45.93 338 P **P 03 25 07.5 +1.1**
SNR=6.5
AML Almayashu 46.01 336 P **P 03 25 08.8 +1.7**
SNR=6.9
AAK Ala-Archa 46.11 337 *eP* **P 03 25 07.5 -0.4**
AAK pmax pmax
comp=Z,11nm,1.3s,mb4.6
AAK Ala-Archa 46.11 337 *eP* **P 03 25 07.5 -0.4**
comp=Z,11nm,1.3s,mb4.6
FRU Bishkek 46.23 337 P **P 03 25 15.4 +6.6**
EKS2 Erkin-Say 46.42 336 P **P 03 25 11.7 +1.4**
SNR=5.8
USP Ospenovka 46.64 337 P **P 03 25 12.8 +0.8**
SNR=11
MKAR Makanchi Array 47.35 346 P **P 03 25 17.6 -0.1**
comp=Z,9.1nm,0.9s,mb4.7,baz=153,slow=8.1,SNR=23
MKAR LR LR 03 49 19.6
comp=Z,85nm,20.8s,MS3.7,baz=169,slow=41
ULN Ulaanbaatar 47.37 9 *eP* **P 03 25 17.2 -0.6**
ULN pmax pmax
comp=Z,27nm,1.5s,mb5.0
ULN Ulaanbaatar 47.37 9 *eP* **P 03 25 17.2 -0.6**
comp=Z,27nm,1.5s,mb5.0
ZAK Zakamensk 49.38 5⇑ *eP* **P 03 25 33.4 +0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.6s,mb4.1
CN2 Changchun 49.40 27 *eP* **P 03 25 33.0 -0.5**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,11.0s,MS4.8
CN2 LR LR
comp=E,400nm,11.0s,MS4.8
CN2 LR LR
comp=Z,500nm,14.0s,MS4.7
HIA Hailar 51.74 19 *eP* **P 03 25 50.7 -0.6**
HIA pmax pmax
comp=Z,10.0nm,0.8s
HIA Hailar 51.74 19 *eP* **P 03 25 50.7 -0.6**
comp=Z,9.8nm,0.8s,mb4.8
MJAR Matsushiro Arr 51.76 42 P **P 03 25 51.8 +0.1**
comp=Z,1.0nm,0.4s,mb4.1,baz=216,slow=7.3,SNR=4.8
STKA Stephens Creek 53.27 132 *eP* **P 03 26 03.6 +0.6**
comp=Z,8.6nm,1.8s,mb4.4
STKA Stephens Creek 53.27 132 P **P 03 26 03.2 +0.2**
comp=Z,4.2nm,0.8s,mb4.4,baz=312,slow=5.9,SNR=6.2
NVS Novosibirsk 54.79 350 *eP* **P 03 26 11.9 -1.9**
NVS *eS* **S 03 34 00.2 +8.6**
NVS pmax pmax
comp=N,5.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS pmax pmax
comp=Z,11nm,1.0s,mb4.8
NVS smax
comp=N,4.0nm,1.2s
NVS smax
comp=E,4.0nm,1.2s
BVAR Borovoye Array 56.36 341 P **P 03 26 24.3 -0.9**
comp=E,3.8nm,0.8s,mb4.5,baz=149,slow=8.6,SNR=13
CHKZ Chkalovo 56.84 341 *eP* **P 03 26 27.6 -1.0**
CHKZ *e**PP pP 03 26 33.5 -1.8
CHKZ pmax pmax
comp=Z,18nm,1.1s,mb5.0
CHKZ Chkalovo 56.84 341 *eP* **P 03 26 27.6 -1.0**
comp=Z,18nm,1.1s,mb5.0
CHKZ *e*pP pP 03 26 33.5 -1.8
BOD Bodaibo 58.12 10 *eP* **P 03 26 36.5 -1.0**
KMBO Kilima Mbogo 60.00 268 LR LR 03 48 04.0
comp=Z,103nm,18.5s,MS4.0,baz=265,slow=31
ARU Arti 63.29 337 *iP* **P 03 27 11.2 -1.5**
YAK Yakutsk 65.52 16 *eP* **P 03 27 25.9 -1.2**
EIL Elat 65.53 302 LR LR 03 55 12.7
comp=Z,82nm,19.5s,MS3.9,baz=117,slow=35
BRTR Keskin Array B 69.20 312 P **P 03 27 49.5 -1.2**
comp=Z,1.2nm,0.9s,mb3.8,baz=135,slow=8.7,SNR=5.4
MATP Matopo 70.50 248 P **P 03 27 58.6 -0.3**
comp=Z,5.8nm,0.9s,mb4.5,baz=69,slow=4.9,SNR=8.7
TIXI Tiksi 73.29 10 *iP* **P 03 28 13.5 -1.2**
SEY Seymchan 73.86 23 *eP* **P 03 28 24.5 +6.4**
SEY pmax pmax
comp=N,7.0nm,1.2s
SEY pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BOSA Boshof 74.74 240 P **P 03 28 24.4 +0.5**
comp=Z,1.6nm,0.9s,mb4.0,baz=108,slow=3.2,SNR=3.3
AKASG Malin Array Be 75.36 322 P **P 03 28 25.8 -1.2**
comp=Z,1.9nm,0.8s,mb4.1,baz=91,slow=4.7,SNR=8.4
FINES FINESS Array B 80.10 333 P **P 03 28 52.5 -0.5**
comp=Z,1.0nm,0.8s,mb3.8,baz=90,slow=6.9,SNR=4.4
FINES FINESS Array B 80.10 333 P **P 03 28 52.5 -0.5**
MORC Moravsky Berou 82.50 320 *eP* **P 03 29 05.7 0.0**
MORC pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
MORC Moravsky Berou 82.50 320 *eP* **P 03 29 05.7 0.0**
comp=Z,1.3nm,0.5s,mb4.1
ARCES ARCESS Array B 82.64 340 P **P 03 29 06.3 +0.2**
comp=Z,1.1nm,0.5s,mb4.1,baz=104,slow=5.0,SNR=7.1
ARCES LR LR 04 10 15.8
comp=Z,91nm,18.9s,MS4.2,baz=211,slow=39
BRG Berggiesshubel 84.91 321 P **P 03 29 19.4 +1.5**
BRG *e* pP 03 29 27.3 +2.4
BRG pmax pmax
comp=Z,5.0nm,1.8s,mb4.3
BRG Berggiesshubel 84.91 321 P **P 03 29 19.4 +1.5**
comp=Z,4.6nm,1.8s,mb4.3
BRG *e* pP 03 29 27.3 +2.4
GERES GERESS Array B 84.91 319 P **P 03 29 18.6 +0.6**
comp=Z,1.7nm,0.8s,mb4.2,baz=90,slow=5.9,SNR=12
NB2 NORSAR Subarra 87.11 331 P **P 03 29 28.9 +0.3**
comp=Z,1.1nm,0.8s,mb4.1,baz=95,slow=4.8
NB2 NORSAR Subarra 87.11 331 P **P 03 29 28.9 +0.3**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb4.1
NOA NORSAR Array B 87.11 331 P **P 03 29 28.7 +0.1**
comp=Z,2.0nm,0.9s,mb4.4,baz=94,slow=4.9,SNR=4.9
LPG La Plagne 89.56 315 *eP* **P 03 29 41.0 +0.3**
comp=Z,7.1nm,1.0s,mb4.7
LPG La Plagne 89.56 315 *eP* **P 03 29 41.0 +0.3**
LPG pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
VNA2 Neumayer--Watz 95.78 199⇑ *iP* pP 03 30 21.5 +5.8
VNA2 *e* Px 03 30 30.4
VNA2 *e* 03 30 40.4
VNA3 Neumayer Olymp 96.42 198⇑ *iP* **P 03 30 12.9 +1.3**
VNA3 *e* 03 30 22.4
VNA3 *e* 03 30 31.3
IMA Indian Mountai 96.68 23 *eP* **P 03 30 13.9 +1.0**
IMA *e**PP pP 03 30 21.1 +1.2
IMA pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
IMA Indian Mountai 96.68 23 *eP* **P 03 30 13.9 +1.0**
comp=Z,3.5nm,0.8s,mb4.8
IMA *e*pP pP 03 30 21.1 +1.2
TBI Tubuai 111.79 115 *e*LR LR 04 08 37.4
comp=Z,69nm,24.5s
PPT Papeete 112.43 108 *e*LR LR 04 08 55.7
comp=Z,80nm,25.8s
RKT Rikitea 124.87 118 *e*LR LR 04 14 40.7
comp=Z,81nm,26.2s
NVAR Mina Array Bea 128.87 36 PKP PKPdf 03 35 52.2 -2.1
comp=Z,0.7nm,0.8s,baz=250,slow=2.3,SNR=5.4
NVAR Mina Array Bea 128.87 36 PKP PKPdf 03 35 52.2 -2.1
PDAR Pinedale Array 130.13 26 PKP PKPdf 03 35 54.0 -2.6
comp=Z,0.5nm,0.8s,baz=225,slow=2.1,SNR=4.0
TXAR Lajitas Array 143.75 32 PKP PKPdf 03 36 17.0 -4.8
comp=Z,0.7nm,0.8s,baz=81,slow=0.4,SNR=8.0
CPUP Villa Florida 144.93 222 PKP PKPdf 03 36 21.2 -2.8
comp=Z,2.5nm,0.7s,baz=112,slow=3.7,SNR=10.0
CFAA Coronel Fontan 146.68 203 PKPbc PKPbc 03 36 26.6 +2.6
comp=Z,0.3nm,0.7s,baz=203,slow=3.1,SNR=5.6

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*NEIC **29** 03:45:00.9, 38.81N×122.79W, h3km, ML3.1(NCEDC), After NCEDC.*
NEIC Felt [IV] at Middletown and [III] at Kelseyville.
*IDC **29** 03:45:02.8±5.1, 38.61N×122.91W, h25km±22km, mb1 3.3/4, mb1mx3.1/23, mbtmp2.9/4, ML3.1/4, Error ellipse: s-maj=44.7km s-min=11.6km az=54.0*
ISC 29 03:45:00.7±0.7, 38.77N±0.05×122.83W±0.10, h10km, n21, σ0 73/23, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPS	**Hopland**	**0.29**	**320**	*eP*	**Pg**	**03 45 06.8**	**0.0**
NSHM	**Saint Helena R**	**0.30**	**145**	*eP*	**Pg**	**03 45 07.5**	**+0.4**
SAC	**San Andreas**	**1.23**	**165**	*eP*	**Pb**	**03 45 23.9**	**+0.3**
WDC	**Whiskeytown Da**	**1.82**	**7**	*eP*	**Pn**	**03 45 32.6**	**+0.1**
CMB	**Columbia Colle**	**2.06**	**110**	*e*Pn	**Pn**	**03 45 34.6**	**-1.2**
KHMM	**Horse Mountain**	**2.21**	**342**	*e*Pn	**Pn**	**03 45 37.6**	**-0.4**
SAO	**San Andreas Ge**	**2.28**	**151**	*e*Pn	**Pn**	**03 45 38.6**	**-0.4**
WCN	**Washoe City**	**2.45**	**77**	*e*Pn	**Pn**	**03 45 41.1**	**-0.3**
LRV	**Little Rabbit**	**2.75**	**148**	*e*Pn	**Pn**	**03 45 45.4**	**-0.3**
YBH	**Yreka Blue Hor**	**2.96**	**2**	Pn	**Pn**	**03 45 51.1**	**+2.4**
	0.1nm,0.3s,baz=180,slow=19,SNR=2.7						
YBH				Lg		03 46 42.4	
	0.1nm,0.3s,baz=284,slow=18,SNR=3.8						
YBH	**Yreka Blue Hor**	**2.96**	**2**	*e*Pn	**Pn**	**03 45 49.2**	**+0.5**
OMM	**Old Mammoth Mi**	**3.23**	**110**	*e*Pn	**Pn**	**03 45 53.1**	**+0.5**
NVAR	**Mina Array Bea**	**3.56**	**94**	Pn	**Pn**	**03 45 57.2**	**0.0**
	0.4nm,0.3s,baz=268,slow=15,SNR=12						
NVAR				Pg	**Pg**	**03 46 05.2**	**-6.7**
	1.3nm,0.3s,baz=262,slow=18,SNR=25						
NVAR				Lg		03 46 56.1	
	0.6nm,0.3s,baz=259,slow=28,SNR=2.5						
NVAR	**Mina Array Bea**	**3.56**	**94**	Pn	**Pn**	**03 45 57.2**	**0.0**
NVAR				Pg	**Pg**	**03 46 05.2**	**-6.7**
NVAR				Lg		03 46 56.1	
MTUM	**Tungsten Hills**	**3.65**	**111**	*e*Pn	**Pn**	**03 45 58.2**	**-0.3**
MOD	**Modoc**	**3.68**	**31**	*e*Pn	**Pn**	**03 45 58.4**	**-0.5**
MNV	**Mina**	**3.68**	**94**	*e*Pn	**Pn**	**03 45 58.7**	**-0.2**
HUMO	**Hull Mountain**	**3.83**	**359**	*e*Pn	**Pn**	**03 46 00.3**	**-0.8**
TPH	**Tonopah**	**4.46**	**97**	Pn	**Pn**	**03 46 09.8**	**-0.2**
PDAR	**Pinedale Array**	**10.83**	**64**	Pn	**P**	**03 47 41.8**	**+3.0**
	0.0nm,0.3s,baz=239,slow=8.6,SNR=4.6						
TXAR	**Lajitas Array**	**18.43**	**115**	Pn	**P**	**03 49 18.8**	**+0.8**
	0.0nm,0.3s,baz=281,slow=9.2,SNR=3.9						

IDC 29 03:45:12.3±2.9, 0.07N×96.69E, mb3.7/3, mb1 4.0/4, mb1mx3.6/17, mbtmp3.7/4, ML4.3/1, Error ellipse: s-maj=113.0km s-min=26.8km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.41**	**7**	P	P	03 49 28.6	-2.3
	0.4nm,0.3s,baz=200,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**41.89**	**121**	P	P	03 53 04.7	-1.7
	2.3nm,0.7s,baz=300,slow=9.0,SNR=13						
MKAR	**Makanchi Array**	**48.21**	**347**	P	P	03 53 56.0	-0.6
	0.7nm,0.7s,baz=162,slow=7.7,SNR=5.9						
BVAR	**Borovoye Array**	**57.15**	**341**	P	P	03 54 59.2	-4.0
	0.1nm,0.3s,baz=101,slow=7.3,SNR=2.6						

IDC 29 03:45:23.3±2.1, 0.26N×97.03E, mb4.0/5, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, ML4.1/1, Error ellipse: s-maj=99.4km s-min=23.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**18.18**	**6**	P	P	03 49 38.0	-1.0
	0.2nm,0.3s,baz=194,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**41.69**	**121**	P	P	03 53 13.8	-1.9
	2.0nm,0.7s,baz=300,slow=9.0,SNR=8.0						
MKAR	**Makanchi Array**	**48.11**	**346**	P	P	03 54 04.9	-2.0
	0.7nm,0.6s,baz=169,slow=8.4,SNR=5.1						
STKA	**Stephens Creek**	**52.86**	**132**	P	P	03 54 41.3	-2.0
	2.6nm,0.7s,baz=282,slow=9.3,SNR=2.5						
BVAR	**Borovoye Array**	**57.08**	**341**	P	P	03 55 10.5	-3.2
	0.3nm,0.5s,baz=126,slow=13,SNR=2.7						
ARCES	**ARCESS Array B**	**83.36**	**340**	P	P	03 57 52.4	-0.9
	1.4nm,0.7s,baz=108,slow=3.8,SNR=1.8						

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*IDC **29** 03:50:20.1±0.9, 0.90S×16.12W, mb3.8/9, mb1 3.9/10, mb1mx3.8/23, mbtmp3.8/10, ML3.4/1, MS3.8/10, Ms1 3.8/10, ms1mx3.6/21, Error ellipse: s-maj=37.4km s-min=18.0km az=144.0*
*NEIC **29** 03:50:21.8±0.4, 0.91S×16.15W, h10km, mb4.4/5, Error ellipse: s-maj=16.5km s-min=8.7km az=147.0*
ISC 29 03:50:20.0±0.6, 0.9S±0.1×16.1W±0.1, h10km, n23, σ0 64/20, mb4.0/12, MS3.8/9, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.51**	**56**	Pn	**P**	**03 53 33.7**	**-0.8**
	0.2nm,0.3s,baz=267,slow=11,SNR=4.5						
DBIC				Sn	**S**	**03 55 53.7**	**-12**
	0.1nm,0.3s,baz=174,slow=10.0,SNR=2.2						
DBIC				LR	LR	03 57 40.6	
	comp=Z,436nm,20.8s,baz=241,slow=33						
DBIC				T		04 04 05.0	
	0.3nm,0.3s,baz=309,slow=15,SNR=5.2						
DBIC	**Dimbokro**	**13.51**	**56**	Pn	**P**	**03 53 33.7**	**-0.8**
DBIC				Sn	**S**	**03 55 53.7**	**-12**
DBIC				LR	LR	03 57 40.6	
BDFB	**Brasilia**	**34.72**	**243**	P	**P**	**03 57 12.3**	**-0.2**
	3.5nm,0.9s,mb4.3,baz=81,slow=4.2,SNR=4.9						
BDFB				LR	LR	04 09 20.9	
	comp=Z,125nm,18.6s,MS3.7,baz=111,slow=33						
SIV	**San Ignacio**	**46.78**	**249**	P	**P**	**03 58 51.2**	**-0.7**
	0.9nm,0.8s,mb3.7,baz=99,slow=8.7,SNR=5.6						
MBAR	**Mbarara**	**46.87**	**90**	*eP*	**P**	**03 58 54.1**	**+1.5**
	12nm,1.3s,mb4.7						
CPUP	**Villa Florida**	**47.02**	**234**	LR	LR	04 17 06.9	
	comp=Z,113nm,19.1s,MS3.9,baz=169,slow=34						
BOSA	**Boshof**	**48.19**	**129**	P	**P**	**03 59 02.1**	**-0.8**
	2.8nm,0.9s,mb4.3,baz=284,slow=7.7,SNR=4.0						
BOSA				LR	LR	04 16 00.4	
	comp=Z,47nm,18.9s,MS3.5,baz=142,slow=32						
KMBO	**Kilima Mbogo**	**53.37**	**91**	LR	LR	04 20 36.4	
	comp=Z,224nm,18.5s,MS4.2,baz=265,slow=34						
LPAZ	**La Paz**	**53.46**	**250**	P	**P**	**03 59 44.2**	**+1.2**
	0.8nm,0.8s,mb3.7,baz=49,slow=9.2,SNR=4.8						
LPAZ				LR	LR	04 21 57.1	
	comp=Z,148nm,18.9s,MS4.1,baz=326,slow=36						
LPAZ	**La Paz**	**53.46**	**250**	*eP*	**P**	**03 59 43.7**	**+0.7**
	7.3nm,1.6s,mb4.4						
GRA1	**Grafenberg Arr**	**55.57**	**21**	*eP*	**P**	**03 59 58.3**	**+0.3**
	6.0nm,1.3s,mb4.5						
GRF	**Grafenberg Arr**	**55.57**	**21**	*eP*	**P**	**03 59 58.3**	**+0.3**
	6.0nm,1.3s,mb4.5						
GERES	**GERESS Array B**	**55.82**	**23**	P	**P**	**03 59 59.4**	**-0.3**
	0.7nm,0.7s,mb3.8,baz=202,slow=7.2,SNR=10						
MOX	**Moxa**	**56.50**	**21**	*eP*	**P**	**04 00 05.0**	**+0.3**
BRG	**Berggiesshubel**	**57.54**	**22**	P	**P**	**04 00 12.3**	**+0.3**
	4.0nm,1.4s,mb4.3						
BRTR	**Keskin Array B**	**60.75**	**42**	P	**P**	**04 00 34.9**	**+0.5**
	1.0nm,0.7s,mb4.1,baz=225,slow=7.0,SNR=8.9						
PLCA	**Paso Flores**	**63.14**	**224**	LR	LR	04 26 01.9	
	comp=Z,81nm,20.2s,MS3.9,baz=264,slow=34						
AKASG	**Malin Array Be**	**64.19**	**30**	P	**P**	**04 00 56.8**	**-0.5**
	0.1nm,0.3s,mb3.4,baz=233,slow=7.8,SNR=7.0						
NOA	**NORSAR Array B**	**65.21**	**14**	LR	LR	04 30 35.7	
	comp=Z,32nm,18.4s,MS3.5,baz=85,slow=37						
USHA	**Ushuaia**	**68.54**	**209**	LR	LR	04 24 07.9	
	comp=Z,252nm,19.4s,MS4.5,baz=333,slow=30						
FINES	**FINESS Array B**	**69.95**	**20**	P	**P**	**04 01 32.9**	**-0.4**
	0.6nm,0.5s,mb3.8,baz=198,slow=6.0,SNR=3.5						
FINES				LR	LR	04 33 56.3	
	comp=Z,12nm,19.5s,MS3.1,baz=85,slow=37						
FINES	**FINESS Array B**	**69.95**	**20**	P	**P**	**04 01 32.9**	**-0.4**
FINES				LR	LR	04 33 56.3	
TXAR	**Lajitas Array**	**88.27**	**299**	P	**P**	**04 03 13.5**	**0.0**
	0.2nm,0.8s,mb3.4,baz=127,slow=4.5,SNR=3.3						

MOS 29 04:38:09.6±2.4, 51.16N×98.31E, h27km, mb4.4/1, Error ellipse: s-maj=30.3km s-min=16.7km az=157.3,

Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.67**	**33**	*e*PN	Pn	04 38 39.4	+1.9
ORL				*e*		04 39 02.3	
ORL				pmax	pmax		
	comp=Z,122nm,0.3s						
ORL				smax			
	comp=E,516nm,0.4s						
MOY	**Mondy**	**1.75**	**72**	*e*PN	Pn	04 38 41.0	+2.2
MOY				*e*		04 39 05.4	
MOY				pmax	pmax		
	comp=Z,83nm,0.4s						
MOY				smax			
	comp=E,858nm,1.0s						
ZAK	**Zakamensk**	**3.25**	**102**	*e*PN	Pn	04 39 00.9	+0.8
ZAK				*e*		04 39 49.7	
ZAK				pmax	pmax		
	comp=Z,36nm,0.6s						
ZAK				smax			
	comp=N,135nm,0.8s						
TLY	**Talaya**	**3.38**	**79**	*e*PN	Pn	04 39 01.5	-0.4
TLY				*e*		04 39 09.5	
TLY				*e*		04 39 53.3	
TLY				pmax	pmax		
	comp=Z,24nm,0.4s						
TLY				smax			
	comp=N,164nm,0.6s						
IRK	**Irkutsk**	**3.86**	**71**	*e*PN	Pn	04 39 18.5	+10
IRK				*e*		04 40 08.1	
IRK				pmax	pmax		
	comp=Z,301nm,0.1s						
IRK				smax			
	comp=E,822nm,0.5s						
LSTR	**Listvyanka**	**4.13**	**78**	*e*PN	Pn	04 39 23.5	+11
LSTR				*e*		04 40 15.8	
LSTR				pmax	pmax		
	comp=Z,14nm,0.6s						
LSTR				smax			
	comp=N,162nm,1.1s						
CERR	**Cheremushki**	**4.58**	**294**	*e*PN	Pn	04 39 30.4	+11
CERR				*e*S	Sn	04 40 30.4	+18
TRG	**Tyrgan**	**5.22**	**69**	*e*PN	Pn	04 39 26.7	-1.4
TRG				*e*		04 39 42.2	
TRG				*e*S	Sn	04 40 27.4	-0.8
TRG				*e*		04 40 50.5	
TRG				pmax	pmax		
	comp=Z,14nm,0.6s						
TRG				smax			
	comp=N,158nm,1.1s						
KAB	**Kabansk**	**5.28**	**77**	*e*PN	Pn	04 39 44.8	+16
KAB				*e*		04 40 54.2	
KAB				pmax	pmax		
	comp=Z,211nm,0.2s						
KAB				smax			
	comp=E,487nm,0.9s						
OGRR	**Ongureny**	**6.20**	**63**	*e*PN	Pn	04 40 00.5	+19
OGRR				*e*		04 41 20.6	
OGRR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
OGRR				smax			
	comp=E,73nm,0.6s						

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*KRSC **29** 06:03:53.1±1.5, 51.99N×156.60E, h284km±3km, ML4.6*
*MOS **29** 06:03:54.8±0.9, 52.56N×155.86E, h251km, mb4.3/40, Error ellipse: s-maj=9.4km s-min=5.9km az=87.9*
*BJI **29** 06:03:55.9, 52.43N×155.94E, h269km, mB4.5, mb4.5*
*IDC **29** 06:03:56.2±2.4, 52.63N×155.72E, h249km±25km, mb3.8/23, mb1 4.0/25, mb1mx3.9/28, mbtmp4.4/25, Error ellipse: s-maj=15.6km s-min=8.5km az=167.0*
*NEIC **29** 06:03:57.2±0.9, 52.59N×155.80E, h259km±9km, mb4.1/48, Error ellipse: s-maj=7.1km s-min=3.8km az=173.0*
ISC 29 06:03:54.9±0.2, 52.44N±0.04×155.88E±0.05, h255km±2km, h244km±5.9km: pP-P, n211, σ0 96/252, mb4.2/90, 7C-9D,

Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**0.56**	**106**	*eP*	**P**	**06 04 28.6**	**-0.2**
APC	**Apacha**	**0.92**	**57**	*iP*	**P**	**06 04 30.4**	**+0.2**
APC				*i*S	**S**	**06 04 56.8**	**-0.9**
APC				Smax			
	1μm,0.8s						
PAU	**Pauzhetka**	**1.13**	**149**	*iP*	**P**	**06 04 31.1**	**-0.3**
PAU				*e*S	**S**	**06 04 58.6**	**-1.2**
PAU				Smax			
	1μm,1.2s						
PAU	**Pauzhetka**	**1.13**	**149**	*iP*	**P**	**06 04 31.0**	**-0.4**
PAU				*e*S	**S**	**06 04 57.7**	**-2.1**
PAU				Smax			
	1μm,0.8s						
GRL	**Gorelyy**	**1.35**	**84**	*iP*	**P**	**06 04 32.8**	**-0.1**
GRL				*e*S	**S**	**06 05 03.0**	**+0.6**
KRMR	**Karymshinskiy**	**1.43**	**73**	*iP*	**P**	**06 04 33.2**	**-0.2**
KRMR				*e*S	**S**	**06 05 03.0**	**-0.4**
ALID	**Alaid**	**1.58**	**188**	*eP*	**P**	**06 04 35.0**	**+0.4**
RUS	**Russkaya**	**1.61**	**89**	P	**P**	**06 04 33.4**	**-1.4**
RUS				S	**S**	**06 05 01.7**	**-4.1**
RUS	**Russkaya**	**1.61**	**89**	*iP*	**P**	**06 04 33.5**	**-1.3**
RUS				*e*S	**S**	**06 05 02.4**	**-3.4**
SKR	**Severo-Kuril's**	**1.76**	**175**	*e*PN	**P**	**06 04 31.5**	**-4.5**
SKR				pmax	pmax		
	comp=E,110nm,0.5s						
SKR				pmax	pmax		
	comp=Z,350nm,0.5s						
SKR				pmax	pmax		
	comp=N,100nm,0.3s						
GNL	**Ganaly**	**1.77**	**44**	*iP*	**P**	**06 04 36.1**	**0.0**
GNL				*e*S	**S**	**06 05 08.1**	**+0.1**
PET	**Petropavlovsk**	**1.79**	**70**	P	**P**	**06 04 35.9**	**-0.3**
PET				S	**S**	**06 05 06.0**	**-2.3**
PET	**Petropavlovsk**	**1.79**	**70κ**	*iPN*	**P**	**06 04 35.7**	**-0.5**
PET				*e*S	**S**	**06 05 06.2**	**-2.1**
PET				pmax	pmax		
	comp=N,211nm,0.5s						
PET				pmax	pmax		
	comp=E,244nm,0.5s						
PET				pmax	pmax		
	comp=Z,865nm,0.5s						
PET				pmax	pmax		
	comp=Z,1μm,1.2s						
PET				smax			
	comp=N,2μm,2.4s						
PET				smax			
	comp=E,2μm,2.1s						
PET				smax			
	comp=N,965nm,0.8s						
PET				smax			
	comp=E,924nm,0.8s						
PET	**Petropavlovsk**	**1.79**	**70**	*iP*	**P**	**06 04 35.7**	**-0.5**
PET				*e*S	**S**	**06 05 06.4**	**-1.9**
KOK	**Koryaka**	**1.88**	**62**	*iP*	**P**	**06 04 37.2**	**+0.2**
KOK				*e*S	**S**	**06 05 09.4**	**-0.2**
AVH	**Avacha**	**1.92**	**63**	*iP*	**P**	**06 04 37.4**	**+0.1**
AVH				*e*S	**S**	**06 05 09.4**	**-0.9**
UGLR	**Uglovaya**	**1.95**	**65**	*iP*	**P**	**06 04 37.7**	**+0.1**
UGLR				*i*S	**S**	**06 05 11.8**	**+1.2**
NLC	**Nalytchevo**	**2.23**	**69**	P	**P**	**06 04 38.6**	**-1.6**
NLC				S	**S**	**06 05 10.7**	**-4.7**
NLC	**Nalytchevo**	**2.23**	**69**	*eP*	**P**	**06 04 38.6**	**-1.6**
NLC				*e*S	**S**	**06 05 11.9**	**-3.5**
SPN	**Mys Shipunski**	**2.60**	**74**	P	**P**	**06 04 41.9**	**-2.0**
SPN				S	**S**	**06 05 15.4**	**-6.6**
SPN	**Mys Shipunski**	**2.60**	**74**	*iP*	**P**	**06 04 41.9**	**-2.0**
SPN				*e*S	**S**	**06 05 15.6**	**-6.4**
KII	**Karymskiy**	**2.68**	**52**	P	**P**	**06 04 45.3**	**+0.6**
KII				S	**S**	**06 05 22.1**	**-1.2**
KII	**Karymskiy**	**2.68**	**52**	*eP*	**P**	**06 04 45.2**	**+0.5**
KII				*e*S	**S**	**06 05 23.6**	**+0.3**
TUMR	**Tumrok**	**3.81**	**40**	*eP*	**P**	**06 04 58.5**	**+1.3**
TUMR				*e*S	**S**	**06 05 47.4**	**+1.8**
ESO	**Esso**	**3.87**	**24**	*eP*	**P**	**06 05 00.2**	**+2.3**
ESO				*e*S	**S**	**06 05 51.1**	**+4.3**
ESO				Smax			
	comp=E,80nm,1.4s						
MKZ	**Mys Kozlova**	**4.09**	**56**	P	**P**	**06 04 58.8**	**-1.7**
MKZ				S	**S**	**06 05 44.5**	**-7.0**
MKZ	**Mys Kozlova**	**4.09**	**56**	*eP*	**P**	**06 04 58.6**	**-1.9**
MKZ				*e*S	**S**	**06 05 44.9**	**-6.6**
KMNR	**Kamenistaya**	**4.20**	**36**	*eP*	**P**	**06 05 03.1**	**+1.3**
KMNR				*e*S	**S**	**06 05 54.0**	**+0.2**

KOZ Kozyrevsk 4.32 31 P **P 06 05 04.6 +1.4**
KOZ S **S 06 05 55.7 -0.7**
KOZ Kozyrevsk 4.32 31 *e*P **P 06 05 04.4 +1.2**
KOZ *e*S **S 06 05 55.4 -1.0**
KOZR Kozyr 4.33 31 PN **P 06 05 04.6 +1.3**
KOZR S **S 06 05 55.7 -0.9**
KPT Kopyto 4.36 34 *i* P **P 06 05 05.1 +1.4**
KPT *e*S **S 06 05 56.2 -1.0**
SRDR Sredinnyy 4.49 28 *e*P **P 06 05 06.8 +1.6**
SRDR *e*S **S 06 05 59.8 -0.2**
ZLN Zelenaya 4.61 37 *e*P **P 06 05 08.3 +1.7**
ZLN *e*S **S 06 06 02.6 +0.1**
LGNR Loginova 4.61 36 *e*P **P 06 05 09.1 +2.4**
LGNR *e*S **S 06 06 04.5 +1.8**
CIRR Tsirk 4.66 36 P **P 06 05 09.8 +2.5**
CIRR *e*S **S 06 06 03.9 +0.2**
KRSR Krestovskiy 4.67 34 *e*P **P 06 05 08.3 +0.9**
KRSR *e*S **S 06 06 02.7 -1.3**
KLY Klyuchi 4.78 34 P **P 06 05 10.5 +1.8**
KLY S **S 06 06 05.6 -0.7**
KLY Klyuchi 4.78 34 *e*P **P 06 05 10.7 +2.0**
KLY *e*S **S 06 06 08.5 +2.2**
KBTR Krutoberegovo 5.54 44 P **P 06 05 16.0 -2.1**
KBTR S **S 06 06 15.2 -7.9**
KBTR Krutoberegovo 5.54 44 *e*P **P 06 05 16.0 -2.1**
KBTR *e*S **S 06 06 19.0 -4.1**
FX1 Attu Island--F 10.51 81 PN **P 06 06 20.9 +0.3**
FX1 S **S 06 08 16.0 +0.7**
FX1 pmax pmax
comp=Z,8.0nm,0.3s
FX1 Attu Island--F 10.51 81 P **P 06 06 20.9 +0.3**
comp=Z,7.6nm,0.3s,baz=304,slow=4.8,SNR=21
FX1 S **S 06 08 16.0 +0.7**
comp=Z,32nm,0.3s,baz=124,slow=20,SNR=10
FX1 Attu Island--F 10.51 81 *e*Pn **P 06 06 20.5 -0.1**
FX1 *e*Sn **S 06 08 15.6 +0.3**
ASAJ Asahikawa 12.13 232 PN **P 06 06 41.3 +0.4**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 12.13 232 P **P 06 06 41.3 +0.4**
comp=Z,0.7nm,0.3s,baz=73,slow=10,SNR=2.3
KLR Kul'dur 15.56 268 *e*P **P 06 07 26.2 +3.6**
BILL Bilibino 16.44 14⇓ *e*P **P 06 07 31.5 -0.9**
BILL Bilibino 16.44 14 *e*P **P 06 07 31.5 -0.9**
comp=Z,7.9nm,0.6s
YAK Yakutsk 17.00 315 *d i*P **P 06 07 38.2 -0.4**
YAK pmax pmax
comp=Z,221nm,0.7s
YAK Yakutsk 17.00 315⇓ *i*P **P 06 07 38.2 -0.4**
comp=Z,343nm,0.7s
CLNS Chul'man 18.37 296 *e*P **P 06 07 54.0 +1.2**
CLNS pmax pmax
comp=N,15nm,0.8s
CLNS pmax pmax
comp=Z,25nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.9s
MDJ Mudanjiang 19.01 256 P **P 06 07 59.0 -0.3**
MDJ AMB AMB
comp=Z,8.0nm,0.8s
MDJ AMB AMB
comp=Z,66nm,3.4s
MAJO Matsushiro 20.20 225 *e*P **P 06 08 14.2 +2.9**
MAJO pmax pmax
comp=Z,17nm,0.9s
MAJO Matsushiro 20.20 225 *e*P **P 06 08 14.2 +3.0**
comp=Z,17nm,0.9s
MJAR Matsushiro Arr 20.20 225 P **P 06 08 12.4 +1.1**
comp=Z,6.2nm,0.6s,baz=22,slow=9.5,SNR=14
CN2 Changchun 21.94 259 *e*P **P 06 08 27.8 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
TIXI Tiksi 22.67 338⇓ *e*P **P 06 08 36.0 +1.1**
TIXI pmax pmax
comp=Z,21nm,0.7s,mb4.8
HIA Hailar 22.88 277 *d i*P **P 06 08 38.0 +0.9**
HIA Hailar 22.88 277 *e*P **P 06 08 38.0 +0.9**
comp=Z,28nm,0.6s,mb5.0
BOD Bodaibo 24.23 299 *e*P **P 06 08 49.4 -0.2**
BOD pmax pmax
comp=Z,11nm,0.8s,mb4.5
IMA Indian Mountai 28.24 42 *e*P **P 06 09 25.4 -0.6**
IMA pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
IMA Indian Mountai 28.24 42 *e*P **P 06 09 25.4 -0.6**
comp=Z,6.3nm,0.6s,mb4.4
COLA College 30.67 44 *e*P **P 06 09 46.5 -0.9**
COLA pmax pmax
comp=Z,2.0nm,0.4s,mb4.1
COLA College 30.67 44 *e*P **P 06 09 46.5 -0.8**
comp=Z,2.4nm,0.4s,mb4.2
ILAR Eielson Array 31.09 44 P **P 06 09 50.0 -1.0**
comp=Z,3.9nm,0.6s,mb4.2,baz=267,slow=7.8,SNR=59
ILAR pP pP 06 10 36.4 -5.3
comp=Z,0.4nm,0.4s,baz=255,slow=5.0,SNR=2.1
ULN Ulaanbaatar 31.13 281⇑ *e*P **P 06 09 52.9 +1.3**
ULN Ulaanbaatar 31.13 281 *e*P **P 06 09 52.3 +0.7**
comp=Z,2.6nm,0.8s,mb3.9
ZAK Zakamensk 32.28 288 *e*P **P 06 10 02.8 +1.4**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
SSE Sheshan 33.05 244 *e*P **P 06 10 08.5 +0.2**
SSE AMB AMB
comp=Z,30nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,24nm,3.5s
MOY Mondy 33.08 291 *e*P **P 06 10 09.6 +1.3**
NJ2 Nanjing 33.63 247 *e*P **P 06 10 13.5 +0.3**
NJ2 AP pP 06 11 03.8 -0.8
NJ2 XP sP 06 11 33.5 -0.4
NJ2 PP PP 06 11 35.5 -0.1
NJ2 S **S 06 15 17.0 +0.7**
NJ2 XS 06 16 49.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.8
NJ2 AMB AMB
comp=Z,60nm,11.0s
NJ2 LR LR
comp=N,260nm,13.7s
NJ2 LR LR
comp=E,290nm,16.6s
NJ2 LR LR
comp=Z,110nm,10.4s
INK Inuvik 35.94 37 P **P 06 10 32.6 +0.3**
INK 06 12 52.8
INK pmax pmax
comp=Z,1.0nm,0.4s
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 35.94 37 P **P 06 10 32.6 +0.3**
comp=Z,1.2nm,0.3s,mb3.8,baz=308,slow=5.4,SNR=30
INK PcP PcP 06 12 52.8 -0.8
comp=Z,0.8nm,0.6s,baz=233,slow=2.0,SNR=4.0
INK Inuvik 35.94 37 *e*P **P 06 10 32.5 +0.1**
comp=Z,1.6nm,0.4s,mb3.9
LZH Lanzhou 39.76 267 ⇑P **P 06 11 05.8 +1.5**
LZH AP pP 06 11 58.0 +0.9
LZH XP sP 06 12 25.8 -0.5
LZH PP PP 06 12 45.5 +2.7
LZH AMB AMB
comp=Z,34nm,1.2s,mb4.7
LZH AMB AMB
comp=Z,160nm,5.3s
GTA Gaotai 40.12 274 *e*P **P 06 11 08.3 +1.1**
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.1
ENH Enshi 40.37 255 *e*P **P 06 11 09.3 -0.2**
comp=Z,14nm,0.7s,mb4.5
NVS Novosibirsk 41.35 303 *e*P **P 06 11 16.1 -1.1**
NVS *e* 06 12 57.4
NVS pmax pmax
comp=N,7.0nm,1.0s
NVS pmax pmax
comp=E,17nm,1.0s
NVS pmax pmax
comp=Z,17nm,1.0s,mb4.4
WMQ Urumqi 44.74 287⇓ *i*P **P 06 11 45.3 +0.9**
WMQ PCP PcP 06 13 26.0 +3.6
WMQ PP PP 06 13 32.3 -0.3
WMQ AMB AMB
comp=Z,24nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,61nm,4.8s
WMQ LR LR
comp=N,12nm,24.5s
WMQ LR LR
comp=E,44nm,24.5s
WMQ LR LR
comp=Z,92nm,15.8s
RES Resolute Bay 44.87 21 *e*P **P 06 11 45.3 +0.3**
RES pmax pmax
comp=Z,2.0nm,0.4s,mb3.8
RES Resolute Bay 44.87 21 *e*P **P 06 11 45.3 +0.3**
comp=Z,2.0nm,0.4s,mb3.8
YKA Yellowknife Ar 45.36 41 P **P 06 11 49.0 +0.1**
comp=Z,1.2nm,0.7s,mb3.4,baz=302,slow=7.7,SNR=14
YKA Yellowknife Ar 45.36 41 P **P 06 11 49.0 +0.1**
MKAR Makanchi Array 46.10 294 *i* P **P 06 11 55.2 +0.2**
MKAR pmax pmax
comp=Z,17nm,0.6s
MKAR Makanchi Array 46.10 294 P **P 06 11 55.0 0.0**
comp=Z,9.3nm,0.5s,mb4.4,baz=60,slow=7.0,SNR=168
CHKZ Chkalovo 48.27 307 *i* P **P 06 12 10.4 -1.2**
CHKZ pmax pmax
comp=Z,5.0nm,0.5s,mb4.1
BVA0 Borovoye Array 48.76 307 *i* P **P 06 12 14.6 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb3.4
BVAR Borovoye Array 48.76 307 P **P 06 12 14.7 -0.7**
comp=Z,3.2nm,0.3s,mb4.1,baz=53,slow=7.4,SNR=33
BVAR PcP PcP 06 13 35.0 -1.5
comp=Z,5.6nm,0.4s,baz=70,slow=1.9,SNR=21
EDM Edmonton 51.18 51⇑ *e*P **P 06 12 33.1 -0.4**
ARU Arti 52.11 316 *e*P **P 06 12 39.0 -1.3**
ARU pmax pmax
comp=Z,26nm,0.4s,mb5.0
ARU Arti 52.11 316 *e*P **P 06 12 39.0 -1.3**
comp=Z,26nm,0.4s,mb5.0
TKM2 Tokmak 2 52.23 294 P **P 06 12 41.8 +0.4**
SNR=11
ULHL Ulahol 52.31 293 P **P 06 12 42.5 +0.5**
SNR=20
KEV Kevo 52.59 340 *e*p **P 06 12 41.9 -1.8**
comp=Z,4.5nm,0.8s,mb4.0
KEV Kevo 52.59 340 *e*P **P 06 12 41.9 -1.8**
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
USP Ospenovka 52.62 295 P **P 06 12 44.7 +0.4**
SNR=11
FRU Bishkek 52.84 294 P **P 06 12 45.8 -0.1**
KZA Kyzart 52.98 293 P **P 06 12 47.8 +0.9**
SNR=8.4
AAK Ala-Archa 53.04 294 P **P 06 12 47.7 +0.4**
SNR=17
AAK Ala-Archa 53.04 294 *i* P **P 06 12 47.6 +0.3**
AAK pmax pmax
comp=Z,11nm,0.7s,mb4.4
ARCES ARCESS Array B 53.08 340 P **P 06 12 45.5 -1.7**
comp=Z,1.0nm,0.4s,mb3.6,baz=42,slow=7.7,SNR=27
ARCES PcP PcP 06 13 51.0 -1.4
comp=Z,3.3nm,0.7s,baz=34,slow=4.4,SNR=7.6
ARCES ARCESS Array B 53.08 340 P **P 06 12 45.5 -1.7**
ARCES PcP PcP 06 13 51.0 -1.4
EKS2 Erkin-Say 53.42 295 P **P 06 12 50.6 +0.5**
SNR=14
YBH Yreka Blue Hor 53.65 67 P **P 06 12 52.9 +1.2**
comp=Z,3.2nm,0.5s,mb4.1,baz=360,slow=5.5,SNR=14
AML Almayashu 53.82 294 P **P 06 12 53.9 +0.9**
SNR=8.8
MOD Modoc 54.88 65⇑ *e*P **P 06 13 01.1 +0.5**
comp=Z,6.2nm,0.6s,mb4.3
SUMG Summit 54.88 5⇓ *e*P **P 06 13 00.4 +0.2**
comp=Z,12nm,0.8s,mb4.5
KKAR Karatay Array 54.93 297 *i* P **P 06 13 00.4 -0.6**
KKAR pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
WVOR Wild Horse Val 55.44 64⇑ *e*P **P 06 13 05.0 +0.3**
WVOR pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
WVOR Wild Horse Val 55.44 64⇑ *e*P **P 06 13 05.0 +0.4**
comp=Z,4.0nm,0.7s,mb4.1
CMAR Chiang Mai Arr 55.54 255 *i* P **P 06 13 06.3 +0.6**
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR Chiang Mai Arr 55.54 255 P **P 06 13 06.5 +0.9**
comp=Z,2.4nm,0.5s,mb4.0,baz=33,slow=6.5,SNR=12
FCC Fort Churchill 55.56 36 *e*P **P 06 13 04.8 -0.5**
FCC pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
FCC Fort Churchill 55.56 36 *e*P **P 06 13 04.8 -0.5**
comp=Z,1.1nm,0.4s,mb3.7
AB31 Akbulak array 56.23 308 P **P 06 13 09.0 -1.1**
AB31 pmax pmax
comp=Z,11nm,0.7s,mb4.5
GUN Gumba 56.39 273 *e*P **P 06 13 11.2 -0.4**
comp=Z,18nm,0.5s,mb4.8
KKN Kakani 56.85 274 *e*P **P 06 13 14.7 -0.1**
comp=Z,39nm,0.5s,mb5.3
PKI Pulchoki 56.93 273 *e*P **P 06 13 15.3 -0.1**
comp=Z,16nm,0.7s,mb4.8
HLID Hailey 56.96 60 *e*P **P 06 13 15.3 -0.1**
comp=Z,0.7nm,0.4s,mb3.6
BOZ Bozeman (W) 56.99 57 *e*P **P 06 13 15.6 +0.1**
BOZ pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
BOZ Bozeman (W) 56.99 57 *e*P **P 06 13 15.6 +0.1**
comp=Z,1.1nm,0.5s,mb3.7
JOF Joensuu 57.04 333 *e*p **P 06 13 13.6 -2.1**
comp=Z,1.8nm,0.4s,mb4.0
DMN Daman 57.08 273 *e*P **P 06 13 16.4 -0.1**
comp=Z,37nm,0.6s,mb5.2
GKN Gorkha 57.09 274 *e*P **P 06 13 16.1 -0.4**
comp=Z,30nm,0.7s,mb5.0
KOLN Koldanda 57.89 275 *e*P **P 06 13 21.2 -0.9**
comp=Z,23nm,0.7s,mb4.9
NVAR Mina Array Bea 58.37 67 P **P 06 13 25.8 +0.5**
comp=Z,2.9nm,0.5s,mb4.1,baz=300,slow=7.1,SNR=20
ELK Elko 58.46 63 *e*P **P 06 13 26.4 +0.5**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 58.46 63 *e*P **P 06 13 26.4 +0.5**
comp=Z,2.6nm,0.9s,mb3.9
RRI2 Red Ridge 58.74 58 *e*P **P 06 13 28.9 +1.2**
comp=Z,3.1nm,0.9s,mb3.9
MOOW Moose Ponds 58.75 58 *e*P **P 06 13 28.0 +0.1**
comp=Z,0.9nm,0.6s,mb3.6
TPAW Teton Pass 58.83 58 *e*P **P 06 13 29.4 +1.1**
comp=Z,11nm,1.7s,mb4.2
LOHW Long Hollow 58.92 58 *e*P **P 06 13 29.9 +0.8**
comp=Z,1.6nm,0.6s,mb3.8
KAF Kangasniemi 59.04 335 *e*p **P 06 13 27.2 -2.4**
comp=Z,1.2nm,0.4s,mb3.9,baz=33,slow=6.4
KAF Kangasniemi 59.04 335 *e*P **P 06 13 27.2 -2.4**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
FINES FINESS Array B 59.66 335 *i* P **P 06 13 32.1 -1.7**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 59.66 335 P **P 06 13 32.1 -1.7**
comp=Z,2.2nm,0.4s,mb4.1,baz=34,slow=8.2,SNR=31
FINES PcP PcP 06 14 15.9 -2.2
comp=Z,1.1nm,0.5s,baz=45,slow=2.0,SNR=4.3
HWUT Hardware Ranch 59.83 60 *e*P **P 06 13 35.5 +0.2**
comp=Z,2.2nm,0.6s,mb4.0
BW06 Boulder Array 60.06 58 *e*P **P 06 13 36.8 0.0**
comp=Z,3.4nm,0.7s,mb4.1
PDAR Pinedale Array 60.06 58 P **P 06 13 36.9 +0.1**
comp=Z,3.7nm,0.6s,mb4.2,baz=322,slow=2.2,SNR=44
DUG Dugway 60.16 62 *e*P **P 06 13 37.6 +0.1**
DUG pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
DUG Dugway 60.16 62 *e*P **P 06 13 37.6 +0.1**
comp=Z,2.3nm,0.7s,mb3.9
CTU Camp Tracy 60.38 61 *e*P **P 06 13 39.0 +0.1**
DAU Daniels Canyon 60.84 61 *e*P **P 06 13 42.9 +0.8**
OBN Obninsk 61.64 325⇑ *e*P **P 06 13 45.9 -1.3**
OBN *i* 06 14 24.0
OBN pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
RSSD Black Hills 61.88 54 *e*P **P 06 13 48.3 -0.6**
RSSD pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
RSSD Black Hills 61.88 54 *e*P **P 06 13 48.3 -0.6**
comp=Z,3.4nm,0.7s,mb4.1
NB2 NORSAR Subarra 63.41 342 P **P 06 13 56.9 -1.8**
comp=Z,1.8nm,0.5s,mb4.0,baz=23,slow=6.5
NB2 NORSAR Subarra 63.41 342 P **P 06 13 56.9 -1.8**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
NOA NORSAR Array B 63.41 342 P **P 06 13 57.3 -1.3**
comp=Z,1.9nm,0.5s,mb4.0,baz=23,slow=6.7,SNR=10
HFS Hagfors 63.74 340 P **P 06 13 59.2 -1.4**
comp=Z,1.0nm,0.3s,mb3.9,baz=45,slow=4.2,SNR=10
SCHQ Schefferville 67.38 25 P **P 06 14 23.2 -0.6**
comp=Z,2.6nm,0.7s,mb4.0,baz=232,slow=9.5,SNR=10
ANMO Albuquerque 67.43 62 *e*P **P 06 14 25.0 +0.5**
ANMO pmax pmax
comp=Z,1.0nm,0.6s
ANMO Albuquerque 67.43 62 *e*P **P 06 14 25.0 +0.5**
comp=Z,0.9nm,0.6s,mb3.6
AKASG Malin Array Be 67.80 327 P **P 06 14 24.7 -1.9**
comp=Z,3.0nm,0.4s,mb4.3,baz=31,slow=7.0,SNR=16
SOC Sochi 69.69 316 *e*P **P 06 14 36.3 -2.0**
SOC *e* 06 14 56.9
SOC *e* 06 17 13.9
SOC *e*PPP PPP 06 18 57.2 -1.3
SOC *e*S S 06 23 23.3 -1.8
SOC *e* 06 24 04.0
SOC *e*SS SS 06 27 58.4 -2.0
SOC pmax pmax
comp=N,26nm,1.0s
SOC pmax pmax
comp=E,40nm,1.0s
SOC pmax pmax
comp=Z,36nm,1.0s,mb5.0
MNTX Cornudas Mount 70.48 63 *e*P **P 06 14 43.0 -0.3**
comp=Z,1.3nm,0.5s,mb3.8
EKA Eskdalemuir Ar 71.20 348 P **P 06 14 46.5 -0.6**
comp=Z,3.4nm,0.5s,mb4.2,baz=17,slow=5.1,SNR=16
TXAR Lajitas Array 73.24 64 P **P 06 14 59.9 +0.2**
comp=Z,1.5nm,0.5s,mb3.9,baz=300,slow=5.2,SNR=40
MLR Muntele Rosu 73.41 326 P **P 06 14 60.0 -0.3**
comp=Z,5.0nm,0.6s,mb4.3,baz=153,slow=1.4,SNR=4.2
MLR Muntele Rosu 73.41 326 P **P 06 14 60.0 -0.3**
GERES GERESS Array B 74.09 335 P **P 06 15 03.7 -0.5**
comp=Z,1.1nm,0.5s,mb3.8,baz=27,slow=6.0,SNR=7.6
BRTR Keskin Array B 75.44 318 P **P 06 15 11.6 -0.4**
comp=Z,0.9nm,0.6s,mb3.6,baz=27,slow=1.9,SNR=5.1
CDF Champ du Feu 76.03 339 *e*P **P 06 15 14.9 -0.2**
HAU Haudompre 76.61 340 *e*P **P 06 15 17.4 -0.9**
comp=Z,4.1nm,0.6s,mb4.0
HAU Haudompre 76.61 340 *e*P **P 06 15 17.4 -0.9**
HAU pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
DAVOX Davos 76.96 337 P **P 06 15 20.6 +0.4**
comp=Z,2.1nm,0.4s,mb4.2,baz=349,slow=16,SNR=3.7
FLN La Foliniere 77.19 344 *e*P **P 06 15 21.5 0.0**
LDF La Druitiere 77.29 344 *e*P **P 06 15 22.1 +0.1**
GRR Gorron 77.61 344 *e*P **P 06 15 23.4 -0.4**
comp=Z,8.1nm,0.5s,mb4.3
GRR Gorron 77.61 344 *e*P **P 06 15 23.4 -0.4**
GRR pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
LOR Lormes 77.83 341 *e*P **P 06 15 24.4 -0.7**
comp=Z,9.1nm,0.6s,mb4.3
LOR Lormes 77.83 341 *e*P **P 06 15 24.4 -0.7**
LOR pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
CABF La Chapelle 77.99 339 *e*P **P 06 15 27.0 +1.0**
comp=Z,4.9nm,0.7s,mb4.0
CABF La Chapelle 77.99 339 *e*P **P 06 15 27.0 +1.0**
CABF pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
SGMF Saint Gilles 78.01 345 *e*P **P 06 15 25.6 -0.4**
comp=Z,28nm,0.8s,mb4.7
SGMF Saint Gilles 78.01 345 *e*P **P 06 15 25.6 -0.4**
SGMF pmax pmax
comp=Z,14nm,0.8s,mb4.6
ROSF Rostrenen 78.04 346 *e*P **P 06 15 25.8 -0.4**
comp=Z,23nm,0.8s,mb4.5
ROSF Rostrenen 78.04 346 *e*P **P 06 15 25.8 -0.4**
ROSF pmax pmax
comp=Z,12nm,0.8s,mb4.6
SSF Saint Saulge 78.10 341 *e*P **P 06 15 26.4 -0.1**
SSF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
SSF Saint Saulge 78.10 341 *e*P **P 06 15 26.4 -0.1**
comp=Z,2.9nm,0.5s,mb4.2
AVF Avril sur Loir 78.39 341 *e*P **P 06 15 27.6 -0.5**
comp=Z,7.2nm,0.6s,mb4.2
AVF Avril sur Loir 78.39 341 *e*P **P 06 15 27.6 -0.5**
AVF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
QUIF Quistinic 78.44 346 *e*P **P 06 15 27.8 -0.5**
LPL La Plagne 78.89 338 *e*P **P 06 15 31.3 +0.5**
comp=Z,8.4nm,0.6s,mb4.2
LPL La Plagne 78.89 338 *e*P **P 06 15 31.3 +0.5**
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
LPG La Plagne 78.90 338 *e*P **P 06 15 31.5 +0.7**
comp=Z,9.0nm,0.6s,mb4.3
LPG La Plagne 78.90 338 *e*P **P 06 15 31.5 +0.7**
LPG pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
TCF Toulx Ste Croi 79.09 342 *e*P **P 06 15 31.6 -0.2**
comp=Z,5.7nm,0.5s,mb4.2
TCF Toulx Ste Croi 79.09 342 *e*P **P 06 15 31.6 -0.2**
TCF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
MFF Saint Martin d 79.22 343 *e*P **P 06 15 32.5 0.0**
comp=Z,7.6nm,0.5s,mb4.3
MFF Saint Martin d 79.22 343 *e*P **P 06 15 32.5 0.0**
MFF pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
VIVF Saint-Julien-l 79.97 340 *e*P **P 06 15 36.7 +0.2**
comp=Z,4.7nm,0.5s,mb4.0
VIVF Saint-Julien-l 79.97 340 *e*P **P 06 15 36.7 +0.2**
VIVF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
RJF Les Rejaudoux 80.17 342 *e*P **P 06 15 37.3 -0.3**
CAF Calviac 80.43 341 *e*P **P 06 15 38.8 -0.1**
comp=Z,6.5nm,0.6s,mb4.1
CAF Calviac 80.43 341 *e*P **P 06 15 38.8 -0.1**
CAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
LFF La Frestale 80.67 342 *e*P **P 06 15 40.7 +0.5**
comp=Z,14nm,0.5s,mb4.5
LFF La Frestale 80.67 342 *e*P **P 06 15 40.7 +0.5**
LFF pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
LASF Ste Croix 80.88 340 *e*P **P 06 15 41.9 +0.6**
LMR La Mourre 81.01 338 *e*P **P 06 15 41.5 -0.5**
PGF Pioggiola 81.15 336 *e*P **P 06 15 42.2 -0.6**
comp=Z,5.6nm,0.6s,mb4.1
PGF Pioggiola 81.15 336 *e*P **P 06 15 42.2 -0.6**
PGF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
MTLF Montolieu 81.92 341 *e*P **P 06 15 47.9 +1.2**
EPF Esparros 82.59 342 *e*P **P 06 15 50.9 +0.8**
SJPF Ste Jean 82.79 343 *e*P **P 06 15 51.5 +0.3**
comp=Z,3.2nm,0.6s,mb4.0
SJPF Ste Jean 82.79 343 *e*P **P 06 15 51.5 +0.3**
SJPF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
ETSF Etsaut 82.88 343 *e*P **P 06 15 52.3 +0.6**
comp=Z,6.6nm,0.6s,mb4.2
ETSF Etsaut 82.88 343 *e*P **P 06 15 52.3 +0.6**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
ESDC Sonseca Array 86.60 345 P **P 06 16 09.8 -0.3**
comp=Z,1.6nm,0.5s,mb4.0,baz=8.3,slow=3.7,SNR=9.7
PLCA Paso Flores 146.58 88 PKPbc PKPbc 06 23 07.2 +2.1
comp=Z,1.0nm,0.9s,baz=212,slow=2.6,SNR=3.5

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*IDC **29** 06:05:33.5±7.1, 17.22N×18.23W, mb3.8/4, mb1 4.0/5, mb1mx3.6/24, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=185.1km s-min=46.5km az=65.0*

ISC 29 06:05:31.1±2.1, 17.93N±0.08×17.9W±0.3, h10^{km}, n9, σ1§05/14, mb3.9/4, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIE	**El Hierro**	**9.75**	**360**	P	**P**	**06 07 53.8**	**-0.8**
	5.7nm,0.1s,SNR=18						
CHIE				S	**Sn**	**06 09 44.5**	**-0.8**
	SNR=7.9						
CCAN	**Las Canadas**	**10.31**	**6**	P	**P**	**06 07 55.8**	**-6.5**
	0.1nm,0.1s,SNR=7.9						
CCAN				S	**S**	**06 09 47.3**	**-12**
	SNR=7.9						
EOSO	**Osorio**	**10.32**	**12**	P	**P**	**06 08 04.6**	**+2.2**
	SNR=7.9						
EOSO				S	**S**	**06 10 00.4**	**+1.1**
	SNR=7.9						
CFTV	**Fuerteventura**	**11.01**	**18**	P	**P**	**06 08 11.8**	**0.0**
	0.4nm,0.1s,SNR=7.9						
CFTV				S	**S**	**06 10 15.0**	**-1.0**

SNR=7.9
DBIC Dimbokro 16.93 130 Pn **P 06 09 29.6 -0.3**
0.9nm,0.3s,baz=282,slow=13,SNR=16
DBIC Sn **S 06 12 20.3 -17**
2.2nm,0.3s,baz=20,slow=22,SNR=9.2
GERES GERESS Array B 40.06 33 P **P 06 13 16.6 +8.5**
0.4nm,0.2s,mb3.8,baz=238,slow=9.3,SNR=4.5
FINES FINESS Array B 53.30 25 P **P 06 14 59.6 +7.3**
0.9nm,0.6s,mb3.9,baz=259,slow=7.1,SNR=4.4
ARCES ARCESS Array B 58.01 17 P **P 06 15 33.1 +6.9**
1.4nm,0.7s,mb4.1,baz=243,slow=6.0,SNR=4.9
MKAR Makanchi Array 83.88 43 P **P 06 18 09.4 +7.0**
0.4nm,0.6s,mb3.7,baz=284,slow=5.0,SNR=4.9

IDC 29 06:13:58.2±1.3, 50.34S×110.36E, mb4.1/2, mb1 4.2/2, mb1mx3.9/10, mbtmp4.1/2, MS3.6/5, Ms1 3.6/5, ms1mx3.4/11, Error ellipse: s-maj=49.3km s-min=44.2km az=53.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**18.13**	**19**	LR	LR	06 23 25.4	
	comp=Z,135nm,21.3s,baz=209,slow=31						
MAW	**Mawson**	**28.95**	**216**	LR	LR	06 30 10.3	
	comp=Z,45nm,19.2s,baz=250,slow=34						
VNDA	**Vanda**	**33.27**	**162**	P	P	06 20 36.8	-2.0
	1.3nm,0.7s,baz=310,slow=7.9,SNR=9.0						
VNDA				LR	LR	06 33 14.3	
	comp=Z,94nm,20.9s,baz=2.8,slow=35						
BOSA	**Boshof**	**65.55**	**254**	P	P	06 24 43.7	-1.9
	3.3nm,1.0s,baz=166,slow=8.3,SNR=3.0						
KMBO	**Kilima Mbogo**	**78.39**	**282**	LR	LR	06 54 22.5	
	comp=Z,43nm,18.4s,baz=219,slow=31						
PLCA	**Paso Flores**	**89.30**	**179**	LR	LR	07 03 45.6	
	comp=Z,84nm,19.1s,baz=89,slow=34						
TXAR	**Lajitas Array**	**146.92**	**116**	PKPbc	PKPbc	06 33 41.5	-0.4
	0.2nm,0.7s,baz=187,slow=5.9,SNR=3.8						
PDAR	**Pinedale Array**	**151.80**	**90**	PKPbc	PKPdf	06 33 54.0	+4.6
	0.3nm,0.7s,baz=153,slow=3.3,SNR=3.6						
YKA	**Yellowknife Ar**	**152.93**	**46**	PKPbc	PKPdf	06 33 56.2	+5.8
	0.4nm,0.6s,baz=285,slow=2.2,SNR=8.9						

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*MOS **29** 06:28:14.9±3.3, 43.29N×45.80E, h10km, mb3.7/1, Error ellipse: s-maj=17.1km s-min=12.6km az=14.3*
*CSEM **29** 06:28:14.9±0.8, 43.29N×45.80E, h10km, mb3.7, Error ellipse: s-maj=27.0km s-min=8.2km az=10.0, After OBN*
*TIF **29** 06:28:18.4, 43.13N×45.92E, h17km±5km*
ISC 29 06:28:16.1±1.4, 43.33N±0.09×45.81E±0.05, h10km, n10, σ1°30/18, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.81**	**112**	*e*PG	**Pg**	**06 28 32.5**	**+0.2**
DBC				*i* S	**Sb**	**06 28 42.5**	**+0.1**
KRNR	**Karanay**	**0.95**	**122**	⇑*i*PG	**Pg**	**06 28 34.0**	**-1.1**
KRNR				*i* S	**Sb**	**06 28 45.5**	**-1.0**
KRNR				pmax	pmax		
	comp=Z,25nm,0.2s						
KRNR	**Karanay**	**0.95**	**122**	*i* Pg	**Pg**	**06 28 34.0**	**-1.1**
	comp=Z,25nm,0.2s						
KRNR				*i* Sg	**Sb**	**06 28 45.5**	**-1.0**
XNZR	**Khunzakh**	**1.02**	**140**	*e*Pg	**Pg**	**06 28 36.6**	**0.0**
XNZR				*e*Sg	**Sg**	**06 28 48.3**	**-2.0**
BUJR	**Buynaksk**	**1.07**	**117**	Pg	**Pg**	**06 28 38.5**	**+0.9**
BUJR				*i* Sg	**Sg**	**06 28 52.5**	**+0.5**
ZEI	**Tsey**	**1.51**	**249**	*e*PG	**Pg**	**06 28 44.1**	**-2.2**
ZEI				*e*		06 29 02.9	
ZEI				pmax	pmax		
	comp=Z,22nm,0.1s						
ZEI				smax			
	comp=N,329nm,0.2s						
ZEI	**Tsey**	**1.51**	**249**	*e*Pg	**Pg**	**06 28 44.1**	**-2.2**
	comp=N,22nm,0.1s						
ZEI				*e*Sg	**Sg**	**06 29 02.9**	**-3.5**
	comp=N,329nm,0.2s						
TI2	**Plekhanov**	**1.78**	**207**	*e*Pn	**Pn**	**06 28 49.0**	**+1.9**
TBLG	**Delisi**	**1.78**	**207**	P	**Pn**	**06 28 48.2**	**+1.0**
TBLG				S	**Sn**	**06 29 09.5**	**-0.6**
DGRG	**David-gareji**	**1.90**	**190**	P	**Pn**	**06 28 50.9**	**+1.9**
DGRG				S	**Sn**	**06 29 14.5**	**+1.3**

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*GRAL **29** 07:13:49.7±0.3, 33.60N×35.84E, MD3.0*
*GII **29** 07:13:49.5±1.4, 33.79N×35.16E, h14km±7km, ML2.2/5, Mw2.3/2*
ISC 29 07:13:47.6±1.4, 33.92N±0.05×35.2E±0.1, h20km±9km, n12, σ0°76/20, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.40**	**92**	*i* PG	**Pb**	**07 13 55.9**	**-0.1**
BHL				*i* SG	**Sb**	**07 14 00.3**	**-1.4**
MATL	**Matirih**	**0.45**	**163**	*i* PG	**Pb**	**07 13 57.6**	**+0.8**
HWQ	**Hawqa**	**0.74**	**61**	*i* PG	**Pb**	**07 14 01.8**	**+0.2**
HWQ				*i* SG	**Sb**	**07 14 11.0**	**-0.2**
HRI	**Mount Hermon**	**0.81**	**144**	Pg	**Pb**	**07 14 04.0**	**+1.2**
HRI				Sg	**Sb**	**07 14 14.3**	**+1.1**
KSDI	**Kefar Szold**	**0.83**	**151**	Pg	**Pb**	**07 14 03.1**	**-0.2**
KSDI				Sg	**Sb**	**07 14 13.1**	**-1.0**
HNTI	**Hanita**	**0.84**	**180**	Pg	**Pb**	**07 14 03.2**	**-0.1**
HNTI				Sg	**Sb**	**07 14 13.8**	**-0.3**
KSHT	**Keshet**	**1.08**	**150**	Pg	**Pn**	**07 14 09.9**	**+2.2**
OFRI	**'Ofer**	**1.31**	**187**	Pg	**Pn**	**07 14 10.6**	**-0.3**
OFRI				Sg	**Sn**	**07 14 27.4**	**-0.5**
MMLI	**Mount Malkishu**	**1.50**	**172**	Pn	**Pn**	**07 14 13.5**	**-0.2**
MMLI				Sn	**Sn**	**07 14 33.0**	**+0.3**
SLTI	**Sal'it**	**1.68**	**184**	Pn	**Pn**	**07 14 15.9**	**-0.4**
SLTI				Sn	**Sn**	**07 14 36.8**	**-0.6**
HMDT	**Nahal Hemdat**	**1.69**	**170**	Pn	**Pn**	**07 14 16.3**	**-0.2**
MKRJ	**Makawir**	**2.40**	**170**	Pn	**Pn**	**07 14 26.4**	**-0.2**

IDC 29 07:35:12.1±1.2, 8.22S×68.04E, mb3.8/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, MS3.2/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=49.7km s-min=35.3km az=93.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**40.40**	**49**	P	P	07 42 52.7	-1.2
	0.7nm,0.3s,baz=239,slow=9.6,SNR=5.4						
EIL	**Elat**	**49.32**	**321**	LR	LR	08 00 48.8	
	comp=Z,20nm,20.9s,baz=125,slow=31						
MKAR	**Makanchi Array**	**56.22**	**12**	P	P	07 44 52.5	-3.9
	0.7nm,0.6s,baz=201,slow=8.7,SNR=8.1						
MKAR				LR	LR	08 09 54.3	
	comp=Z,25nm,20.6s,baz=91,slow=37						
BRTR	**Keskin Array B**	**57.35**	**329**	P	P	07 45 02.1	-2.5
	0.4nm,0.5s,baz=148,slow=12,SNR=3.9						
VNDA	**Vanda**	**82.86**	**167**	P	P	07 47 37.0	-2.4
	0.6nm,0.7s,baz=289,slow=7.5,SNR=3.9						
YKA	**Yellowknife Ar**	**125.80**	**2**	PKP	PKPdf	07 54 15.0	-2.6
	0.4nm,0.8s,baz=354,slow=2.0,SNR=6.9						
PDAR	**Pinedale Array**	**145.53**	**357**	PKPbc	PKPbc	07 54 53.1	0.0
	0.7nm,0.6s,baz=101,slow=2.0,SNR=8.2						
NVAR	**Mina Array Bea**	**149.38**	**10**	PKPbc	PKPdf	07 55 04.6	+3.8
	1.2nm,0.8s,baz=321,slow=0.5,SNR=8.7						
TXAR	**Lajitas Array**	**157.60**	**341**	PKP	PKPdf	07 55 11.8	-0.9
	0.1nm,0.6s,baz=342,slow=4.0,SNR=4.3						

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*CNRM **29** 07:48:53.7, 34.74N×2.83W, h5km, MD3.1*
*MDD **29** 07:48:54.6±0.9, 34.84N×2.90W, h7km±5km, mbLg2.1/7, Error ellipse: s-maj=7.3km s-min=6.1km az=136.0, PRXIMO*
*CSEM **29** 07:48:54.4±0.1, 34.86N×3.02W, h25km, MD3.1, Error ellipse: s-maj=3.3km s-min=2.8km az=159.0*
*NEIC **29** 07:48:57.0, 35.03N×3.17W, MG3.1(MDD), After MDD.*
*SFS **29** 07:48:57.0, 35.03N×3.17W*
ISC 29 07:48:53.7±0.7, 34.86N±0.04×3.03W±0.05, h10km, n27, σ1°21/48, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.25**	**65**	P	**Pg**	**07 48 58.0**	**-1.1**
ZAI				S	**Sg**	**07 49 01.0**	**-1.7**
MELI	**Melilla**	**0.43**	**10**	S	**Sg**	**07 49 09.4**	**+0.9**
MELI	**Melilla**	**0.43**	**10**	*e*P	**Pg**	**07 49 05.4**	**+2.8**
MELI				*e*S	**Sg**	**07 49 09.4**	**+0.9**
EMEL	**Melilla**	**0.44**	**8**	P	**Pg**	**07 49 03.2**	**+0.5**
	92nm,0.1s,SNR=5.0						
EMEL				S	**Sg**	**07 49 08.7**	**+0.1**
	407nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.44**	**8**	P	**Pg**	**07 49 03.2**	**+0.5**
	92nm,0.1s,SNR=5.0						
TAF	**Taforalt**	**0.51**	**95**	P	**Pg**	**07 49 06.0**	**+2.0**
TAF				S	**Sg**	**07 49 15.0**	**+4.2**
TOU	**Touzarine**	**0.60**	**279**	*e*P	**Pb**	**07 49 08.0**	**+2.1**
TOU				*i* S	**Sg**	**07 49 18.0**	**+3.9**
EALB	**Alboran**	**1.07**	**360**	P	**Pb**	**07 49 14.2**	**+0.2**
EALB				S	**Sb**	**07 49 27.1**	**-0.7**
EALB	**Alboran**	**1.07**	**360**	P	**Pb**	**07 49 14.2**	**+0.2**
	21nm,0.2s,SNR=7.9						
EALB				S	**Sb**	**07 49 29.2**	**+1.4**
	28nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.07**	**360**	P	**Pb**	**07 49 14.2**	**+0.3**
	21nm,0.2s,SNR=7.9						
EALB				S	**Sb**	**07 49 27.1**	**-0.7**
	28nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.03**	**3**	P	**Pn**	**07 49 29.9**	**+1.5**
EBER				S	**Sn**	**07 49 49.3**	**-4.8**
EBER	**Berja**	**2.03**	**3**	P	**Pn**	**07 49 29.3**	**+0.8**
	0.5nm,0.2s,SNR=8.2						
EBER				S	**Sn**	**07 49 52.0**	**-2.1**
	10.0nm,0.4s,SNR=4.6						
EBER	**Berja**	**2.03**	**3**	P	**Pn**	**07 49 29.9**	**+1.5**
	0.5nm,0.2s,SNR=8.2						
EBER				S	**Sn**	**07 49 49.3**	**-4.8**
	10.0nm,0.4s,SNR=4.6						
EMIJ	**Mijas**	**2.21**	**321**	P	**Pn**	**07 49 30.6**	**-0.4**
EMIJ				S	**Sn**	**07 49 55.4**	**-3.3**
EMIJ	**Mijas**	**2.21**	**321**	P	**Pn**	**07 49 31.6**	**+0.6**
	1.0nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**07 50 00.2**	**+1.5**
	4.6nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**2.21**	**321**	P	**Pn**	**07 49 30.6**	**-0.4**
	1.0nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**07 49 55.4**	**-3.3**
	4.6nm,0.3s,SNR=7.9						
MIF	**Mishlifen**	**2.33**	**232**	*e*P	**Pn**	**07 49 32.0**	**-0.7**
MIF				*e*S	**Sn**	**07 50 01.0**	**-0.7**
ELUQ	**Luque**	**2.87**	**340**	S	**Sn**	**07 50 15.2**	**-0.2**
	1.9nm,1.0s,SNR=7.9						
EQES	**Quesada**	**2.93**	**359**	P	**Pn**	**07 49 41.0**	**-0.3**
EQES				S	**Sn**	**07 50 15.9**	**-1.0**
EQES	**Quesada**	**2.93**	**359**	P	**Pn**	**07 49 41.0**	**-0.3**
	1.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**07 50 15.5**	**-1.4**
	4.5nm,0.4s,SNR=5.4						
EQES	**Quesada**	**2.93**	**359**	P	**Pn**	**07 49 41.0**	**-0.3**
	1.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**07 50 15.9**	**-1.1**
	4.5nm,0.4s,SNR=5.4						
EADA	**Adamuz**	**3.52**	**340**	P	**Pn**	**07 49 49.0**	**-0.7**
EADA				S	**Sn**	**07 50 27.1**	**-4.9**
EADA	**Adamuz**	**3.52**	**340**	P	**Pn**	**07 49 49.0**	**-0.7**
	0.5nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**07 50 30.0**	**-1.9**
	0.9nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.52**	**340**	P	**Pn**	**07 49 49.0**	**-0.7**
	0.5nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**07 50 27.1**	**-4.8**
	0.9nm,0.2s,SNR=4.0						
EMIN	**Mina Concepcio**	**4.13**	**316**	P	**Pn**	**07 49 57.3**	**-1.0**
EMIN	**Mina Concepcio**	**4.13**	**316**	P	**Pn**	**07 49 57.5**	**-0.8**
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.13**	**316**	P	**Pn**	**07 49 57.3**	**-1.0**

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*CSEM **29** 07:55:52.7±0.1, 35.78N×53.25E, h8km, ML3.4, Error ellipse: s-maj=2.3km s-min=1.3km az=159.0*
*THR **29** 07:55:53.3±0.3, 35.81N×53.25E, h17km±5km, ML3.1*
*TEH **29** 07:55:54.3, 35.79N×53.29E, h5km, Mn3.4*
ISC 29 07:55:52.8±0.7, 35.88N±0.06×53.26E±0.04, h10km, n19, σ1°29/24, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHM	**Shahmirzad**	**0.07**	**158**	Pg	**Pg**	**07 55 55.2**	**+0.1**
IFIR	**Firoozkooh**	**0.47**	**240**	Sg	**Sg**	**07 56 08.5**	**-0.3**
IFIR	**Firoozkooh**	**0.47**	**240**	Pg	**Pg**	**07 56 01.9**	**-0.5**
IFIR	**Firoozkooh**	**0.47**	**240**	Pg	**Pg**	**07 56 01.9**	**-0.5**
IFIR				Sg	**Sg**	**07 56 08.5**	**-0.3**
IGLO	**Galoogah**	**0.47**	**24**	Pg	**Pg**	**07 56 09.9**	**+7.5**
IKIA	**Kiasar**	**0.48**	**46**	Pg	**Pg**	**07 56 03.8**	**+1.3**
ILAS	**Lasjerd**	**0.55**	**206**	Pg	**Pg**	**07 56 03.1**	**-0.8**
IANJ	**Anjiloo**	**0.67**	**127**	Pg	**Pg**	**07 56 05.1**	**-1.2**
IPRN	**Paran-Amol**	**0.90**	**294**	Pn	**Pn**	**07 56 09.9**	**-1.4**
IDMV	**Damavand**	**1.04**	**254**	Pg	**Pg**	**07 56 12.3**	**-1.3**
DAMV	**Damavand**	**1.07**	**257**	*e*PG	**Pg**	**07 56 13.1**	**-1.2**
DAMV				*e*SG	**Sg**	**07 56 27.6**	**-1.0**
DAMV				AML	AML	07 56 36.0	
	comp=N,432nm,0.3s						
IVRN	**Varamin**	**1.53**	**235**	Sn	**Sn**	**07 56 42.0**	**+1.7**
THR	**Tehran**	**1.73**	**272**	*e*PG	**Pg**	**07 56 24.9**	**-2.5**
THKV	**Tehran--Karaj**	**1.93**	**272**	*e*PG	**Pg**	**07 56 28.6**	**-2.8**
IQOM	**Qom**	**2.06**	**241**	Pn	**Pn**	**07 56 29.2**	**+1.2**
IQOM				Sn	**Sn**	**07 56 54.9**	**+0.9**
IMHD	**Mahdasht**	**2.11**	**266**	Pn	**Pn**	**07 56 31.6**	**+2.9**
IMHD				Sn	**Sn**	**07 56 57.0**	**+1.8**
IRAZ	**Razeghan**	**2.75**	**261**	Pn	**Pn**	**07 56 39.0**	**+1.2**
IRAZ				Sn	**Sn**	**07 57 12.0**	**+0.6**
ASAO	**Ashtian**	**2.96**	**244**	*e*PN	**Pn**	**07 56 41.3**	**+0.5**
ASAO				AML	AML	07 57 27.1	
	comp=N,80nm,0.3s						
NASN	**Na'in**	**3.09**	**187**	*e*PN	**Pn**	**07 56 42.7**	**+0.1**
NASN				AML	AML	07 57 40.4	
	comp=N,50nm,0.4s						

IDC 29 07:59:54.6±2.1, 52.38N×35.30E, mb3.5/1, mb1 3.7/3, mb1mx3.4/18, mbtmp3.6/3, ML3.3/3, Error ellipse: s-maj=26.3km s-min=11.1km az=119.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.15**	**249**	Pn	Pn	08 00 56.8	-3.9
	1.1nm,0.3s,baz=54,slow=13,SNR=3.2						
AKASG				Pg	Pg	08 01 07.7	-10
	1.9nm,0.3s,baz=58,slow=16,SNR=8.4						
AKASG				Sn	Sn	08 01 47.4	-3.2
	2.6nm,0.3s,baz=59,slow=20,SNR=5.4						
AKASG				Lg		08 02 03.4	
	3.1nm,0.3s,baz=67,slow=29,SNR=6.6						
FINES	**FINESS Array B**	**10.38**	**335**	Pn	P	08 02 19.8	-7.9
	0.2nm,0.3s,baz=162,slow=13,SNR=5.3						
FINES				Sn	S	08 04 11.7	-14
	0.2nm,0.3s,baz=153,slow=22,SNR=3.3						
FINES				Lg		08 05 19.5	
	0.2nm,0.3s,baz=141,slow=29,SNR=3.5						
KAF	**Kangasniemi**	**10.89**	**337**	*e*p	P	08 02 28.2	-6.5
ARCES	**ARCESS Array B**	**17.81**	**349**	Pn	P	08 03 58.1	-7.0
	0.3nm,0.3s,baz=168,slow=11,SNR=8.8						
YKA	**Yellowknife Ar**	**63.03**	**345**	P	P	08 10 22.9	-2.2
	0.2nm,0.7s,baz=16,slow=6.6,SNR=6.4						

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*IDC **29** 08:11:08.7±1.0, 2.08N×96.00E, mb4.2/9, mb1 4.3/10, mb1mx4.1/18, mbtmp4.2/10, ML4.5/1, MS4.0/10, Ms1 4.0/10, ms1mx3.8/21, Error ellipse: s-maj=59.4km s-min=19.2km az=51.0*
*MOS **29** 08:11:12.3±1.2, 2.22N×95.97E, h33km, mb4.7/9, Error ellipse: s-maj=34.3km s-min=11.5km az=98.7*
*BJI **29** 08:11:12.3, 2.20N×96.19E, h36km, mB4.9, mb4.7, Ms4.6, Msz4.3*
*NEIC **29** 08:11:14.2±0.5, 2.26N×96.24E, h30km, mb4.7/6, Error ellipse: s-maj=12.4km s-min=8.3km az=214.0*
ISC 29 08:11:11.5±0.5, 2.20N±0.06×96.20E±0.06, h29km, h29km±2.4km: pP-P, n68, σ1°07/70, mb4.6/38, MS4.2/24, 3C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.40**	**55**	*e*P	**Pn**	**08 12 32.1**	**-0.2**
KSM	**Kuching**	**14.12**	**93**	*e*P	**P**	**08 14 32.3**	**+0.2**
PALK	**Pallekele**	**16.24**	**289**	*e*P	**P**	**08 15 03.1**	**+3.6**
	9.9nm,0.9s						
CM31	**Chiang Mai Arr**	**16.38**	**9**	P	**P**	**08 15 00.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.38**	**9**	*i* P	**P**	**08 15 03.1**	**+1.9**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.38**	**9**	Pn	**P**	**08 15 02.7**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=196,slow=11,SNR=27						
CMAR				LR	LR	08 22 11.6	
	comp=Z,751nm,18.2s,baz=180,slow=40						
KKM	**Kota Kinabalu**	**20.32**	**79**	*e*P	**P**	**08 15 48.5**	**+0.2**
KKM				*e*pP		08 15 57.3	
QIZ	**Qiongzhong**	**21.41**	**38**	*e*P	**P**	**08 16 01.0**	**+1.6**
QIZ				*e*S	**S**	**08 19 49.5**	**-0.9**
QIZ				LR	LR		
	comp=N,1μm,13.2s,MS4.6						
QIZ				LR	LR		
	comp=E,705nm,11.7s,MS4.6						
QIZ				LR	LR		
	comp=Z,1μm,13.6s,MS4.5						
KMI	**Kunming**	**23.65**	**15**	P	**P**	**08 16 23.0**	**+1.5**
KMI				S	**S**	**08 20 33.0**	**+2.2**
KMI				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.5						
KMI				LR	LR		
	comp=Z,268nm,19.1s,MS3.7						
GYA	**Guiyang**	**26.13**	**22**	⇑*i*P	**P**	**08 16 45.0**	**-0.2**
GYA				AP	pP	08 16 53.8	+0.2
GYA				XP	sP	08 16 57.5	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,100nm,4.5s						
GYA				LR	LR		
	comp=N,910nm,16.1s,MS4.5						
GYA				LR	LR		
	comp=E,490nm,15.2s,MS4.5						
GYA				LR	LR		
	comp=Z,470nm,14.3s,MS4.2						
GZH	**Guangzhou**	**26.60**	**37**	*e*P	**P**	**08 16 51.5**	**+2.0**
GZH				LR	LR		
	comp=N,459nm,12.4s,MS4.5						
GZH				LR	LR		
	comp=E,644nm,13.7s,MS4.5						
GZH				LR	LR		
	comp=Z,1μm,13.1s,MS4.6						
JIRN	**Jiri**	**27.07**	**340**	*e*P	**P**	**08 16 54.9**	**+1.1**
	comp=Z,9.3nm,0.3s,mb4.8						
PKI	**Pulchoki**	**27.26**	**339**	*e*P	**P**	**08 16 55.9**	**+0.4**
	comp=Z,18nm,0.7s,mb4.7						
GUN	**Gumba**	**27.40**	**340**	*e*P	**P**	**08 16 57.6**	**+0.8**
	comp=Z,46nm,0.7s,mb5.1						
DMN	**Daman**	**27.40**	**338**	*e*P	**P**	**08 16 57.7**	**+0.9**
	comp=Z,24nm,0.7s,mb4.8						
KKN	**Kakani**	**27.50**	**339**	*e*P	**P**	**08 16 58.0**	**+0.3**
	comp=Z,35nm,0.9s,mb5.0						
LSA	**Lhasa**	**27.77**	**351**	*e*P	**P**	**08 17 00.3**	**+0.2**
LSA				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.7						
LSA	**Lhasa**	**27.77**	**351**	*e*P	**P**	**08 17 00.3**	**+0.2**
	comp=Z,15nm,0.7s,mb4.7						
GKN	**Gorkha**	**27.93**	**338**	*e*P	**P**	**08 17 01.1**	**-0.5**
	comp=Z,21nm,0.5s,mb5.0						
KOLN	**Koldanda**	**28.14**	**336**	*e*P	**P**	**08 17 03.5**	**+0.1**
	comp=Z,19nm,0.6s,mb4.9						
ENH	**Enshi**	**30.63**	**23**	*e*P	**P**	**08 17 23.8**	**-1.9**
	comp=Z,7.2nm,0.5s,mb4.8						
XAN	**Xi'an**	**33.83**	**19**	P	**P**	**08 17 52.3**	**-1.4**
XAN				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.2						
LZH	**Lanzhou**	**34.45**	**11**	*e*P	**P**	**08 17 57.5**	**-1.5**
LZH				AP	pP	08 18 07.5	0.0
LZH				XP	sP	08 18 12.3	+1.1
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,100nm,5.0s						
LZH				LR	LR		
	comp=E,865nm,16.2s						
LZH				LR	LR		
	comp=Z,1μm,17.5s,MS4.7						
FITZ	**Fitzroy Crossi**	**35.32**	**126**	P	**P**	**08 18 05.8**	**-0.7**
	comp=Z,3.7nm,0.8s,mb4.4,baz=309,slow=4.6,SNR=8.1						
FITZ				LR	LR	08 33 37.4	
	comp=Z,209nm,19.7s,MS3.9,baz=318,slow=38						
NJ2	**Nanjing**	**36.56**	**33**	*e*P	**P**	**08 18 17.0**	**+0.1**
NJ2				AP	pP	08 18 26.8	+1.3
NJ2				XP	sP	08 18 31.5	+2.3
NJ2				S	**S**	**08 23 55.0**	**-1.9**
NJ2				XS		08 24 12.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,100nm,9.8s						
NJ2				LR	LR		
	comp=N,770nm,19.1s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,17.5s,MS4.8						
NJ2				LR	LR		
	comp=Z,410nm,13.0s,MS4.4						
GTA	**Gaotai**	**37.18**	**5**	*e*P	**P**	**08 18 22.5**	**+0.5**
GTA				AP	pP	08 18 27.8	-2.9
GTA				PP	PP	08 19 52.5	+3.1
GTA				S	**S**	**08 24 13.3**	**+6.9**
GTA				XS		08 24 23.5	
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,85nm,4.2s						
GTA				LR	LR		
	comp=N,285nm,17.5s,MS4.3						
GTA				LR	LR		
	comp=E,362nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,286nm,17.9s,MS4.1						
SSE	**Sheshan**	**37.20**	**37**	*e*P	**P**	**08 18 22.3**	**+0.1**
SSE				AP	pP	08 18 30.8	-0.1
SSE				XP	sP	08 18 35.3	+0.8
SSE				PP	PP	08 19 47.5	-2.1
SSE				PCP	PcP	08 20 41.3	-0.9
SSE				S	**S**	**08 24 06.8**	**+0.1**
SSE				XS		08 24 24.0	
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,36nm,3.5s						
SSE				LR	LR		
	comp=N,188nm,14.2s,MS4.3						
SSE				LR	LR		
	comp=E,290nm,14.3s,MS4.3						
SSE				LR	LR		
	comp=Z,335nm,13.5s,MS4.3						
HHC	**Hu-ho-hao-te**	**40.90**	**18**	*e*P	**P**	**08 18 53.3**	**+0.3**
HHC				AP	pP	08 19 03.3	+1.7
HHC				XP	sP	08 19 07.0	+1.8
HHC				PP	PP	08 20 30.

comp=Z,11nm,0.7s,mb4.6
BJI Beijing 41.80 23 *e*P **P 08 19 00.5 +0.1**
BJI PP PP 08 20 38.0 -2.2
BJI S **S 08 25 17.5 +1.7**
BJI AMB AMB
comp=Z,19nm,0.8s,mb4.8
BJI LR LR
comp=N,270nm,14.4s,MS4.4
BJI LR LR
comp=E,252nm,16.5s,MS4.4
BJI LR LR
comp=Z,108nm,22.3s
WMQ Urumqi 42.12 351 ⇑P **P 08 19 04.0 +1.0**
WMQ AP pP 08 19 13.8 +2.1
WMQ XP sP 08 19 18.0 +2.7
WMQ PP PP 08 20 44.8 +1.2
WMQ PCP PcP 08 20 59.0 +1.1
WMQ *e*S **S 08 25 20.5 -0.1**
WMQ AMB AMB
comp=Z,8.0nm,0.7s,mb4.5
WMQ AMB AMB
comp=Z,151nm,5.1s
WMQ LR LR
comp=N,101nm,22.0s,MS4.0
WMQ LR LR
comp=E,250nm,26.9s,MS4.0
WMQ LR LR
comp=Z,140nm,19.0s
WRAB Tennant Creek 43.42 122 *e*P **P 08 19 16.0 +2.2**
WRAB pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
WRAB Tennant Creek 43.42 122 *e*P **P 08 19 16.0 +2.1**
comp=Z,4.7nm,0.6s,mb4.4
WB2 Warramunga Arr 43.42 122 *e*P **P 08 19 13.8 -0.1**
MKAR Makanchi Array 46.04 347 *i*P **P 08 19 34.5 0.0**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 46.04 347 P **P 08 19 34.6 +0.1**
comp=Z,9.4nm,0.7s,mb4.8,baz=160,slow=8.5,SNR=86
ULN Ulaanbaatar 46.45 10 *i*P **P 08 19 35.7 -2.0**
KKAR Karatay Array 46.72 334 *i*P **P 08 19 40.8 +0.8**
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
ZAK Zakamensk 48.38 6 *e*P **P 08 19 52.6 -0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.7s,mb3.9
CN2 Changchun 48.88 28 *e*P **P 08 19 56.8 0.0**
CN2 *e*XP sP 08 20 11.3 +2.2
CN2 *e*S **S 08 26 57.3 -0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 LR LR
comp=N,200nm,13.0s,MS4.5
CN2 LR LR
comp=E,300nm,13.0s,MS4.5
CN2 LR LR
comp=Z,300nm,15.0s,MS4.4
TLY Talaya 49.70 6 *i*P **P 08 20 03.3 +0.3**
TLY MLR MLR
comp=Z,200nm,22.0s,MS4.1
MDJ Mudanjiang 51.50 30 P **P 08 20 16.8 0.0**
MDJ AMB AMB
comp=Z,4.0nm,1.2s,mb4.2
MDJ AMB AMB
comp=Z,157nm,4.1s
MJAR Matsushiro Arr 51.64 43 LR LR 08 44 02.5
comp=Z,94nm,18.7s,MS3.9,baz=250,slow=38
NVS Novosibirsk 53.53 351 *e*P **P 08 20 29.8 -2.0**
CTA Charters Tower 53.84 117 LR LR 08 45 12.2
comp=Z,220nm,19.8s,MS4.2,baz=284,slow=38
STKA Stephens Creek 54.77 132 P **P 08 20 41.6 +0.4**
comp=Z,1.9nm,0.6s,mb4.3,baz=310,slow=8.1,SNR=5.8
STKA LR LR 08 47 30.9
comp=Z,250nm,18.6s,MS4.3,baz=294,slow=40
BVA0 Borovoye Array 54.98 341 *i*P **P 08 20 41.5 -1.0**
BVAR Borovoye Array 54.98 341 P **P 08 20 41.6 -0.9**
comp=Z,5.0nm,0.8s,mb4.6,baz=142,slow=8.6,SNR=30
CHKZ Chkalovo 55.47 342 *i*P **P 08 20 45.4 -0.6**
CHKZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BOD Bodaibo 57.22 11 *e*P **P 08 20 56.7 -1.8**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
ARU Arti 61.88 337 *e*P **P 08 21 27.6 -3.0**
YAK Yakutsk 64.75 17⇑*e*P **P 08 21 48.2 -1.2**
YAK pmax pmax
comp=Z,17nm,0.6s,mb5.2
YAK MLR MLR
comp=Z,200nm,17.0s,MS4.4
YAK Yakutsk 64.75 17 *e*P **P 08 21 48.7 -0.7**
comp=Z,25nm,0.6s,mb5.4
BRTR Keskin Array B 67.70 312 P **P 08 22 07.9 -0.7**
comp=Z,0.5nm,0.7s,mb3.6,baz=121,slow=8.4,SNR=2.7
MATP Matopo 69.98 247 LR LR 08 49 53.2
comp=Z,68nm,18.6s,MS3.9,baz=257,slow=33
TIXI Tiksi 72.38 10 *i*P **P 08 22 34.9 -1.7**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
TIXI MLR MLR
comp=Z,200nm,21.0s,MS4.4
AKASG Malin Array Be 73.86 322 P **P 08 22 44.9 -0.7**
comp=Z,0.3nm,0.2s,mb3.8,baz=92,slow=4.1,SNR=4.7
FINES FINESS Array B 78.66 333 *i*P **P 08 23 12.4 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 78.66 333 P **P 08 23 12.4 +0.1**
comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=5.7,SNR=8.8
FINES LR LR 09 02 08.1
comp=Z,76nm,18.9s,MS4.0,baz=167,slow=39
ARCES ARCESS Array B 81.26 340 P **P 08 23 27.0 +0.9**
comp=Z,1.1nm,0.4s,mb4.1,baz=93,slow=5.3,SNR=22
ARCES LR LR 09 05 43.2
comp=Z,86nm,19.8s,MS4.1,baz=203,slow=40
GERES GERESS Array B 83.41 319 P **P 08 23 38.2 +0.6**
comp=Z,0.4nm,0.3s,mb3.9,baz=117,slow=9.0,SNR=3.5
HFS Hagfors 84.36 330 LR LR 09 06 11.7
comp=Z,60nm,21.7s,MS3.9,baz=141,slow=39
JMIC Jan Mayen 92.70 341 LR LR 09 11 28.3
comp=Z,55nm,21.3s,MS4.0,baz=80,slow=39
TBI Tubuai 113.18 114 *e*LR LR 09 03 44.2
comp=Z,56nm,25.8s
PPT Papeete 113.74 108 *e*LR LR 09 04 00.8
comp=Z,55nm,24.5s
TXAR Lajitas Array 143.32 30 PKP PKPdf 08 30 46.6 -2.3
comp=Z,0.2nm,0.7s,baz=198,slow=5.7,SNR=3.7

*ATH **29** 08:13:47.8, 39.64N×20.40E, h2km, MD3.2/5*
*THE **29** 08:13:47.9, 39.74N×20.41E, h10km, ML3.1*
*CSEM **29** 08:13:47.7±0.1, 39.71N×20.43E, h10km, ML3.1, Error ellipse: s-maj=2.3km s-min=1.5km az=4.0*
ISC 29 08:13:48.1±0.6, 39.71N±0.04×20.42E±0.05, h6km±8km, n14, σ0§81/22, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.19**	**201**	*e*Pg	**Pg**	**08 13 51.7**	**-0.4**
IGT				*e*Sg	**Sg**	**08 13 55.3**	**+0.6**
JAN	**Janina**	**0.34**	**100**	*e*PG	**Pg**	**08 13 54.5**	**-0.4**
SRN	**Sarande**	**0.36**	**297**	*i*Pg	**Pg**	**08 13 55.0**	**-0.4**
SRN				*i*Sg	**Sg**	**08 14 01.9**	**+1.6**
KEK	**Kerkira**	**0.48**	**270**	*e*PG	**Pg**	**08 13 57.0**	**-0.7**
MEV	**Metsovon**	**0.63**	**83**	*e*Pg	**Pg**	**08 13 59.3**	**-1.3**
MEV				*e*Sg	**Sg**	**08 14 09.7**	**+0.6**
MEV	**Metsovon**	**0.63**	**83**	*e*Pg	**Pg**	**08 13 59.3**	**-1.3**
MEV				*e*Sg	**Sg**	**08 14 09.6**	**+0.6**
LKD	**Levkas**	**1.02**	**170**	*e*Pg	**Pg**	**08 14 08.0**	**-0.4**
LKD				*e*Sg	**Sg**	**08 14 23.2**	**+1.2**
KZN	**Kozani**	**1.19**	**60**	*e*PB	**Pb**	**08 14 11.5**	**+0.7**
FNA	**Florina**	**1.30**	**34**	*e*Pb	**Pb**	**08 14 11.9**	**-0.6**
EVR	**Evrytania**	**1.34**	**126**	*e*PB	**Pb**	**08 14 12.5**	**-0.7**
VLS	**Valsamata**	**1.54**	**175**	*e*PB	**Pb**	**08 14 15.8**	**-0.9**
AGG	**Agios Georgios**	**1.63**	**114**	*e*Pb	**Pb**	**08 14 17.7**	**-0.6**
AGG				*e*Sb	**Sb**	**08 14 39.8**	**+0.8**
LIT	**Litokhoron**	**1.64**	**76**	*e*Pb	**Pb**	**08 14 18.2**	**-0.2**
LIT				*e*Sb	**Sb**	**08 14 40.4**	**+1.2**
LIT	**Litokhoron**	**1.64**	**76**	*e*Pb	**Pb**	**08 14 18.2**	**-0.1**
LIT				*e*Sb	**Sb**	**08 14 40.3**	**+1.1**

ECX 29 08:22:52.8±0.4, 30.43N×114.28W, h7km, MD3.8, ML3.7, 2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.19**	**301**	*e*P	Pb	08 23 13.2	-2.1
SPX				*e*S	Sb	08 23 29.9	-0.8
RDX	**Rancho Dowling**	**2.07**	**317**	*e*PN	Pn	08 23 28.2	-0.2
RDX				*e*S	Sn	08 23 55.1	+0.3
CPBX	**Cerro Prieto**	**2.17**	**337**	*e*PN	Pn	08 23 29.1	-0.8
CPBX				⇓*e*		08 24 15.4	
	comp=E,1μm,0.7s						
CPBX				⇓*e*		08 24 27.2	
	comp=N,1μm,0.4s						
ECNX	**Esteban Cantu**	**2.33**	**302**	*e*PN	Pn	08 23 31.7	-0.5
PBX	**Punta Banda**	**2.47**	**303**	*e*PN	Pn	08 23 33.3	-0.8
ENX	**Ensenada**	**2.50**	**306**	*e*PN	Pn	08 23 34.0	-0.7
CBX	**Cerro Bola**	**2.77**	**313**	*e*PN	Pn	08 23 37.8	-0.7
CBX				*e*S	Sn	08 24 12.8	+0.3

*IDC **29** 08:26:40.6±1.4, 0.75N×96.41E, mb4.1/4, mb1 4.2/5, mb1mx3.9/16, mbtmp4.0/5, ML4.3/1, Error ellipse: s-maj=63.7km s-min=22.3km az=53.0*
*NEIC **29** 08:26:46.1±1.2, 1.17N×96.90E, h30km, Error ellipse: s-maj=28.2km s-min=21.2km az=63.0*
ISC 29 08:26:44.0±1.2, 1.1N±0.1×96.9E±0.2, h30km, n7, σ1§13/7, mb4.1/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.55**	**42**	*e*Pn	**Pn**	**08 28 06.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**17.32**	**6**	P	**P**	**08 30 49.5**	**+4.1**
	0.4nm,0.3s,baz=197,slow=12,SNR=8.7						
FITZ	**Fitzroy Crossi**	**34.12**	**125**	P	**P**	**08 33 28.5**	**-0.1**
	3.8nm,0.8s,mb4.4,baz=309,slow=13,SNR=3.9						
MKAR	**Makanchi Array**	**47.23**	**346**	P	**P**	**08 35 17.5**	**+1.2**
	1.7nm,0.7s,mb4.1,baz=157,slow=8.2,SNR=13						
MKAR	**Makanchi Array**	**47.23**	**346**	P	**P**	**08 35 17.5**	**+1.2**
STKA	**Stephens Creek**	**53.53**	**132**	P	**P**	**08 36 05.0**	**+0.5**
	3.4nm,0.9s,mb4.3,baz=312,slow=12,SNR=3.9						
BRTR	**Keskin Array B**	**68.94**	**312**	P	**P**	**08 37 47.1**	**-1.6**
	0.3nm,0.4s,mb3.6,baz=141,slow=9.2,SNR=2.8						
BRTR				pP	pP	08 37 54.9	-3.1
	0.8nm,0.7s,baz=135,slow=5.2,SNR=3.9						

*IDC **29** 08:29:31.0±1.2, 23.86S×66.90W, h164km±20km, mb1 3.8/5, mb1mx3.4/18, mbtmp4.2/5, Error ellipse: s-maj=24.5km s-min=13.5km az=92.0*
*NEIC **29** 08:29:31.4±0.6, 23.84S×67.03W, h193km±19km, mb4.2/2, Error ellipse: s-maj=20.1km s-min=8.5km az=104.0*
*GUC **29** 08:29:34.1±1.0, 23.85S×67.32W, h180km±18km, ML4.1*
ISC 29 08:29:31.1±0.7, 23.87S±0.04×67.3W±0.1, h219km±13km, n19, σ0§85/30, 4C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.26**	**319**	⇑*i*P	**P**	**08 30 05.3**	**+0.4**
SPCH				AMP		08 30 32.4	
	comp=E,347nm,0.5s						
LVC	**Limon Verde**	**1.93**	**310**	P	**P**	**08 30 11.5**	**+0.8**
	comp=E,11nm,0.3s,baz=139,slow=6.1,SNR=83						
LVC				S	**S**	**08 30 40.3**	**-1.0**
	comp=E,87nm,0.3s,baz=264,slow=20,SNR=84						
LVC	**Limon Verde**	**1.93**	**310**	P	**P**	**08 30 11.5**	**+0.8**
LVC				S	**S**	**08 30 40.3**	**-1.0**
LVC	**Limon Verde**	**1.93**	**310**	⇑*i*P	**P**	**08 30 11.5**	**+0.8**
LVC				*i*S	**S**	**08 30 40.5**	**-0.7**
LVC				AMP		08 30 41.4	
	comp=E,579nm,0.5s						
ANCH	**Antofagasta**	**2.84**	**273**	⇑*i*P	**P**	**08 30 22.2**	**+1.8**
ANCH				*i*S	**S**	**08 30 58.9**	**+0.3**
ANCH	**Antofagasta**	**2.84**	**273**	⇑*i*P	**P**	**08 30 22.2**	**+1.8**
ANCH				*i*S	**S**	**08 30 58.6**	**0.0**
ANCH				AMP		08 31 01.7	
	comp=N,1μm,0.1s						
CRCH	**Chaqaral**	**3.88**	**230**	⇓*i*P	**P**	**08 30 33.5**	**+0.7**
CRCH				*i*S	**S**	**08 31 20.1**	**-0.4**
CRCH	**Chaqaral**	**3.88**	**230**	*e*P	**P**	**08 30 33.4**	**+0.6**
CRCH				*i*S	**S**	**08 31 19.6**	**-0.9**
CRCH				AMP		08 31 25.2	
	comp=E,536nm,0.1s						
CPCH	**Copiapo**	**4.43**	**218**	*e*P	**P**	**08 30 39.1**	**-0.3**
CPCH				*i*S	**S**	**08 31 31.7**	**-0.7**
CPCH	**Copiapo**	**4.43**	**218**	*e*P	**P**	**08 30 38.9**	**-0.6**
CPCH				*i*S	**S**	**08 31 31.6**	**-0.9**
LPAZ	**La Paz**	**7.58**	**354**	P	**P**	**08 31 20.1**	**+0.4**
	comp=E,5.4nm,0.3s,baz=159,slow=8.6,SNR=178						
LPAZ				S	**S**	**08 32 44.4**	**-0.1**
	comp=E,0.1nm,0.3s,baz=36,slow=19,SNR=2.1						
LPAZ	**La Paz**	**7.58**	**354**	*e*Pn	**P**	**08 31 19.9**	**+0.3**
	comp=E,20nm,0.5s						
CFAA	**Coronel Fontan**	**7.75**	**186**	P	**P**	**08 31 22.5**	**+0.6**
	comp=E,0.2nm,0.3s,baz=12,slow=13,SNR=19						
CFAA				S	**S**	**08 32 47.8**	**-0.7**
	comp=E,0.2nm,0.3s,baz=118,slow=18,SNR=8.6						
ARE	**Arequipa**	**8.35**	**331**	P	**P**	**08 31 30.0**	**+0.4**
ARE				*e*S	**S**	**08 33 01.0**	**-1.3**
SIV	**San Ignacio**	**9.79**	**38**	P	**P**	**08 31 44.2**	**-4.0**
	comp=E,1.5nm,0.3s,baz=230,slow=11,SNR=22						
TRQA	**Tornquist**	**14.86**	**163**	*e*Pn	**P**	**08 32 51.2**	**-0.6**
	comp=E,2.5nm,0.6s						
PLCA	**Paso Flores**	**17.04**	**188**	P	**P**	**08 33 19.1**	**+1.4**
	comp=E,0.1nm,0.3s,baz=340,slow=13,SNR=6.0						
BDFB	**Brasilia**	**19.90**	**69**	P	**P**	**08 33 46.8**	**-0.7**
	comp=E,2.1nm,0.3s,baz=251,slow=11,SNR=42						
MKAR	**Makanchi Array**	**146.60**	**39**	PKPbc	PKPbc	08 48 51.6	+5.5
	comp=E,1.0nm,0.6s,baz=301,slow=3.1,SNR=14						

*NEIC **29** 08:44:10.8, 39.69S×174.27E, h184km, MG3.8(WEL), After WEL.*
WEL 29 08:44:12.0±0.3, 39.71S×174.29E, h172km±3km, ML3.8/12, 10C-2D, Error ellipse: s-maj=2.2km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAEZ	**Rainy Point**	**0.43**	**10**	P	P	08 44 35.5	-0.5
RAEZ	**Rainy Point**	**0.43**	**10**	PN	P	08 44 35.3	-0.6
NEZ	**North Egmont**	**0.47**	**341**	P	P	08 44 35.9	-0.2
NEZ	**North Egmont**	**0.47**	**341**	PN	P	08 44 35.8	-0.2
NRZ	**Ngariki Road**	**0.47**	**323**	P	P	08 44 35.7	-0.4
NRZ	**Ngariki Road**	**0.47**	**323**	PN	P	08 44 35.6	-0.5
WAZ	**Wanganui**	**0.54**	**95**	P	P	08 44 36.9	+0.5
WAZ				S	S	08 44 55.8	+0.6
WAZ	**Wanganui**	**0.54**	**95**	PN	P	08 44 36.8	+0.4
WAZ				SN	S	08 44 55.4	+0.3
WAZ				SN	S	08 44 55.8	+0.7
NWEZ	**Newall Road**	**0.55**	**323**	P	P	08 44 36.1	-0.3
NWEZ	**Newall Road**	**0.55**	**323**	PN	P	08 44 35.9	-0.6
PKE	**Pukeiti**	**0.57**	**335**	P	P	08 44 36.3	-0.2
PKE	**Pukeiti**	**0.57**	**335**	PN	P	08 44 36.1	-0.4
VRZ	**Vera Road**	**0.69**	**32**	P	P	08 44 36.3	-0.8
VRZ				S	S	08 44 55.6	-0.9
VRZ	**Vera Road**	**0.69**	**32**	⇑PN	P	08 44 36.2	-0.9
VRZ				SN	S	08 44 55.5	-1.0
MTVZ	**Mangateitei**	**0.97**	**71**	PN	P	08 44 38.7	-0.1
MTVZ				SN	S	08 44 58.6	-0.9
TRVZ	**Turoa**	**1.06**	**67**	PN	P	08 44 39.4	0.0
FWVZ	**Far West T-bar**	**1.08**	**65**	P	P	08 44 39.6	-0.1
FWVZ				S	S	08 45 00.1	-1.0
FWVZ	**Far West T-bar**	**1.08**	**65**	PN	P	08 44 39.5	-0.1
FWVZ				SN	S	08 45 00.0	-1.0
WNVZ	**Wahianoa**	**1.08**	**70**	P	P	08 44 39.7	0.0
WNVZ				S	S	08 45 00.3	-0.8
WNVZ	**Wahianoa**	**1.08**	**70**	PN	P	08 44 39.7	0.0
WNVZ				SN	S	08 45 00.2	-0.9
TWVZ	**Taurewa**	**1.09**	**55**	P	P	08 44 39.2	-0.6
TWVZ				S	S	08 44 59.8	-1.5
TWVZ	**Taurewa**	**1.09**	**55**	PN	P	08 44 39.1	-0.8
TWVZ				SN	S	08 44 59.7	-1.6
WPVZ	**Whakapapa**	**1.09**	**63**	P	P	08 44 39.7	-0.1
WPVZ	**Whakapapa**	**1.09**	**63**	⇑PN	P	08 44 39.7	-0.2
CNZ	**Chateau**	**1.10**	**63**	P	P	08 44 39.7	-0.2
CNZ	**Chateau**	**1.10**	**63**	PN	P	08 44 39.7	-0.2
DUWZ	**D'Urville Isla**	**1.13**	**194**	PN	P	08 44 39.8	-0.3
DUWZ				SN	S	08 45 00.3	-1.6
TUVZ	**Tukino**	**1.14**	**68**	P	P	08 44 40.3	0.0
TUVZ	**Tukino**	**1.14**	**68**	PN	P	08 44 40.3	+0.1
NGZ	**Ngauruhoe**	**1.15**	**63**	P	P	08 44 40.1	-0.2
NGZ				S	S	08 45 01.0	-1.2
NGZ	**Ngauruhoe**	**1.15**	**63**	PN	P	08 44 40.0	-0.3
NGZ				SN	S	08 45 00.9	-1.3
WTVZ	**West Tongariro**	**1.17**	**60**	P	P	08 44 40.2	-0.3
WTVZ				S	S	08 45 01.4	-1.1
WTVZ	**West Tongariro**	**1.17**	**60**	PN	P	08 44 40.2	-0.3
WTVZ				SN	S	08 45 00.8	-1.8
MOVZ	**Moawhango**	**1.17**	**75**	P	P	08 44 40.0	-0.5
MOVZ	**Moawhango**	**1.17**	**75**	PN	P	08 44 39.9	-0.6
MOVZ				SN	S	08 44 60.0	-2.6
MGZ	**Maungaku**	**1.20**	**54**	P	P	08 44 40.5	-0.3
MGZ	**Maungaku**	**1.20**	**54**	PN	P	08 44 40.5	-0.3
KIW	**Kapiti Island**	**1.24**	**158**	P	P	08 44 40.9	-0.3
KIW	**Kapiti Island**	**1.24**	**158**	PN	P	08 44 40.9	-0.3
HIZ	**Hauiti**	**1.27**	**20**	P	P	08 44 40.2	-1.3
HIZ	**Hauiti**	**1.27**	**20**	PN	P	08 44 40.1	-1.4
TSZ	**Takapari Road**	**1.33**	**106**	P	P	08 44 41.8	-0.2
TSZ	**Takapari Road**	**1.33**	**106**	⇑PN	P	08 44 41.8	-0.2
MRZ	**Mangatainoka R**	**1.37**	**134**	P	P	08 44 42.1	-0.3
MRZ	**Mangatainoka R**	**1.37**	**134**	⇑PN	P	08 44 42.1	-0.3
TCW	**Tory Channel**	**1.50**	**180**	P	P	08 44 43.5	-0.1
TCW	**Tory Channel**	**1.50**	**180**	⇑PN	P	08 44 43.4	-0.2
CAW	**Cannon Point**	**1.52**	**157**	P	P	08 44 43.5	-0.3
CAW	**Cannon Point**	**1.52**	**157**	PN	P	08 44 43.5	-0.3
MRW	**Makara Radio**	**1.55**	**169**	P	P	08 44 43.8	-0.3
MRW	**Makara Radio**	**1.55**	**169**	⇑PN	P	08 44 43.8	-0.3
WEL	**Wellington**	**1.61**	**167**	P	P	08 44 44.3	-0.4
WEL	**Wellington**	**1.61**	**167**	PN	P	08 44 44.3	-0.5
SNZO	**South Karori**	**1.63**	**169**	P	P	08 44 44.4	-0.5
SNZO	**South Karori**	**1.63**	**169**	⇑PN	P	08 44 44.4	-0.5
NNZ	**Nelson**	**1.66**	**205**	P	P	08 44 44.3	-0.9
NNZ	**Nelson**	**1.66**	**205**	⇓PN	P	08 44 44.2	-1.0
MTW	**Mount Morrison**	**1.71**	**148**	P	P	08 44 45.2	-0.6
MTW	**Mount Morrison**	**1.71**	**148**	⇑PN	P	08 44 45.2	-0.6
TUWZ	**Tuamarina**	**1.74**	**189**	PN	P	08 44 45.3	-0.7
QRZ	**Quartz Range**	**1.75**	**230**	P	P	08 44 44.4	-1.7
QRZ	**Quartz Range**	**1.75**	**230**	⇓PN	P	08 44 44.3	-1.8
BHW	**Baring Head**	**1.75**	**166**	P	P	08 44 45.4	-0.8
BHW	**Baring Head**	**1.75**	**166**	⇑PN	P	08 44 45.4	-0.7
BFZ	**Birch Farm**	**1.78**	**124**	P	P	08 44 46.0	-0.5
BFZ				S	S	08 45 04.2	-8.9
BFZ	**Birch Farm**	**1.78**	**124**	PN	P	08 44 46.0	-0.5
BKZ	**Black Stump Fm**	**1.79**	**73**	*e*P	P	08 44 45.7	-0.9
BKZ	**Black Stump Fm**	**1.79**	**73**	PN	P	08 44 45.6	-0.9
MSWZ	**Moikau Station**	**1.85**	**157**	P	P	08 44 46.4	-0.8
MSWZ	**Moikau Station**	**1.85**	**157**	PN	P	08 44 46.4	-0.8
PAWZ	**Paruwai Farm**	**1.88**	**153**	PN	P	08 44 46.7	-0.8
PWZ	**Pawanui**	**2.00**	**100**	⇑PN	P	08 44 48.5	-0.3
BSWZ	**Blackbirch Sta**	**2.02**	**189**	P	P	08 44 48.6	-0.5
BSWZ	**Blackbirch Sta**	**2.02**	**189**	PN	P	08 44 48.5	-0.6
THZ	**Tophouse**	**2.30**	**207**	P	P	08 44 50.8	-1.6
THZ	**Tophouse**	**2.30**	**207**	PN	P	08 44 50.6	-1.8
URZ	**Urewera**	**2.63**	**57**	P	P	08 44 53.8	-2.5
URZ	**Urewera**	**2.63**	**57**	PN	P	08 44 53.8	-2.6
KNZ	**Kokohu**	**2.71**	**76**	PN	P	08 44 55.8	-1.5
KHZ	**Kahutara**	**2.76**	**192**	P	P	08 44 56.4	-1.5
KHZ	**Kahutara**	**2.76**	**192**	PN	P	08 44 56.3	-1.7
DSZ	**Denniston Nort**	**2.78**	**222**	P	P	08 44 55.7	-2.4
DSZ	**Denniston Nort**	**2.78**	**222**	PN	P	08 44 55.7	-2.4
MWZ	**Matawai**	**2.87**	**62**	P	P	08 44 56.9	-2.4
MWZ	**Matawai**	**2.87**	**62**	PN	P	08 44 56.8	-2.4
LTZ	**Lake Taylor**	**3.42**	**206**	*e*P	P	08 45 03.5	-2.7
LTZ	**Lake Taylor**	**3.42**	**206**	PN	P	08 45 03.3	-2.9
PUZ	**Puketiti**	**3.50**	**63**	*e*P	P	08 45 04.2	-3.0
PUZ	**Puketiti**	**3.50**	**63**	PN	P	08 45 04.2	-2.9
MXZ	**Matakaoa Point**	**3.81**	**57**	P	P	08 45 08.1	-3.0
MXZ	**Matakaoa Point**	**3.81**	**57**	PN	P	08 45 08.0	-3.1
MQZ	**McQueen's Vall**	**4.18**	**197**	P	P	08 45 11.8	-4.0
MQZ	**McQueen's Vall**	**4.18**	**197**	PN	P	08 45 11.7	-4.1
WVZ	**Waitaha Valley**	**4.29**	**217**	*e*P	P	08 45 13.4	-4.0
RPZ	**Rata Peaks**	**4.68**	**210**	*e*P	P	08 45 18.5	-3.8
RPZ	**Rata Peaks**	**4.68**	**210**	*e*PN	P	08 45 18.4	-3.9
FOZ	**Fox Glacier**	**5.17**	**220**	*e*P	P	08 45 24.0	-4.7
FOZ	**Fox Glacier**	**5.17**	**220**	*e*PN	P	08 45 23.4	-5.3
LBZ	**Lake Benmore**	**5.58**	**212**	*e*P	P	08 45 28.9	-5.3
ODZ	**Otahua Downs**	**5.97**	**206**	*e*P	P	08 45 35.2	-4.1
ODZ	**Otahua Downs**	**5.97**	**206**	*e*PN	P	08 45 35.0	-4.3
EAZ	**Earnscleugh**	**6.63**	**212**	*e*P	P	08 45 42.6	-5.5
TUZ	**Tuapeka**	**7.12**	**207**	P	P	08 45 51.0	-3.5
TUZ	**Tuapeka**	**7.12**	**207**	*e*PN	P	08 45 50.0	-4.4

*JMA **29** 09:09:51.0±0.1, 35.55N×140.97E, h43km±1km, M2.6*
ISC 29 09:09:50.7±1.7, 35.53N±0.07×141.0E±0.2, h42km±14km, n9, σ0§37/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.21**	**323**	P	**P**	**09 09 58.3**	**+0.1**
CHOJ				S	**S**	**09 10 03.5**	**0.0**
JCN	**Nagara**	**0.68**	**260**	P	**P**	**09 10 04.5**	**+0.7**
KTR	**Katsuura**	**0.69**	**236**	P	**P**	**09 10 04.4**	**+0.4**
BSO4	**Boso 4**	**0.78**	**226**	P	**P**	**09 10 04.9**	**-0.3**
BSO3	**Boso 3**	**0.84**	**210**	P	**P**	**09 10 05.8**	**-0.3**
BSO1	**Boso 1**	**0.88**	**182**	P	**P**	**09 10 06.5**	**-0.2**
JYT	**Yasato**	**0.96**	**316**	P	**P**	**09 10 07.5**	**-0.4**
JYT				S	**S**	**09 10 20.1**	**-0.5**
JHO	**Hitachi**	**1.14**	**341**	P	**P**	**09 10 10.7**	**+0.4**
MAT	**Matsushiro**	**2.49**	**295**	P	**P**	**09 10 30.0**	**+0.3**

*NIED **29** 09:10:00, 35.50N×141.10E, h38km, Mw4.2 Best double couple: M0=2.6×10^15 NP1:φ=110°, δ=85°, λ=-96°. NP2:φ=343°, δ=8°, λ=-37°.*
*JMA **29** 09:10:16.0±0.1, 35.54N×140.98E, h41km±1km, M3.6*
JMA Felt I J1.
*MOS **29** 09:10:19.5±0.9, 35.46N×140.56E, h90km, mb4.4/5, Error ellipse: s-maj=19.2km s-min=12.0km az=119.6*
*IDC **29** 09:10:19.6±1.8, 35.25N×140.75E, h78km±20km, mb3.6/12, mb1 3.9/15, mb1mx3.8/23, mbtmp4.0/15, MS3.1/7, Ms1 3.2/7, ms1mx3.0/23, Error ellipse: s-maj=23.3km s-min=9.0km az=67.0*
*NEIC **29** 09:10:19.4±1.1, 35.39N×140.65E, h71km±9km, mb4.3/6, Error ellipse: s-maj=11.9km s-min=9.3km az=127.0*
NEIC Recorded [1 JMA] in Chiba Prefecture.
ISC 29 09:10:15.1±0.4, 35.48N±0.03×141.05E±0.05, h41km, n50, σ1§35/57, mb4.0/18, MS3.1/4, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.27**	**

comp=Z,77nm,19.1s,baz=127,slow=36
ENH Enshi 26.94 268 P **P 09 15 50.7 -3.9**
comp=Z,4.7nm,0.4s,mb4.4
FX1 Attu Island--F 28.53 42 LR LR 09 26 14.4
comp=Z,4.6nm,19.8s,MS2.1,baz=80,slow=33
BOD Bodaibo 28.70 330 *e*P **P 09 16 07.4 -2.8**
BILL Bilibino 35.59 16 *e*P **P 09 17 10.3 0.0**
BILL pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
BILL Bilibino 35.59 16 *e*P **P 09 17 10.3 0.0**
comp=Z,1.2nm,0.4s,mb4.2
CMAR Chiang Mai Arr 40.84 257 LR LR 09 35 23.1
comp=Z,44nm,18.3s,MS3.4,baz=70,slow=37
MKAR Makanchi Array 44.71 303 P **P 09 18 22.9 -2.8**
comp=Z,0.6nm,0.6s,mb3.6,baz=85,slow=11,SNR=6.4
COLA College 50.55 32 *e*P **P 09 19 12.8 +1.7**
COLA pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
COLA College 50.55 32 *e*P **P 09 19 12.8 +1.7**
comp=Z,2.1nm,0.7s,mb4.2
ILAR Eielson Array 50.96 32 P **P 09 19 14.2 0.0**
comp=Z,2.4nm,0.7s,mb4.2,baz=268,slow=6.3,SNR=39
CHKZ Chkalovo 51.16 314 *e*P **P 09 19 14.2 -1.7**
CHKZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
CHKZ Chkalovo 51.16 314 *e*P **P 09 19 14.2 -1.7**
comp=Z,3.8nm,1.1s,mb4.2
BVAR Borovoye Array 51.41 313 P **P 09 19 15.9 -1.8**
comp=Z,0.4nm,0.4s,mb3.7,baz=101,slow=7.6,SNR=4.0
WRAB Tennant Creek 55.48 188 *e*P **P 09 19 46.4 -1.8**
WRAB pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
WRAB Tennant Creek 55.48 188 *e*P **P 09 19 46.4 -1.8**
comp=Z,2.7nm,0.4s,mb4.6
WB2 Warramunga Arr 55.48 188 *e*P **P 09 19 45.5 -2.8**
INK Inuvik 55.90 27 P **P 09 19 50.9 +0.2**
comp=Z,1.3nm,0.6s,mb4.1,baz=293,slow=7.0,SNR=17
YKA Yellowknife Ar 65.30 30 P **P 09 20 54.5 0.0**
comp=Z,0.9nm,0.8s,mb3.8,baz=299,slow=6.7,SNR=12
YKA Yellowknife Ar 65.30 30 P **P 09 20 54.5 0.0**
ARCES ARCESS Array B 65.34 340 P **P 09 20 53.9 -0.8**
comp=Z,2.6nm,0.9s,mb4.2,baz=39,slow=7.8,SNR=3.6
ARCES LR LR 09 53 18.4
comp=Z,29nm,19.8s,MS3.5,baz=169,slow=39
FINES FINESS Array B 70.05 332 P **P 09 21 22.9 -1.3**
comp=Z,1.1nm,0.9s,mb3.8,baz=68,slow=7.5,SNR=2.7
FINES FINESS Array B 70.05 332 P **P 09 21 22.9 -1.3**
NOA NORSAR Array B 75.50 337 P **P 09 21 55.8 -0.5**
comp=Z,1.5nm,0.8s,mb4.0,baz=38,slow=5.8,SNR=5.9
NOA LR LR 09 57 24.5
comp=Z,25nm,20.2s,MS3.5,baz=85,slow=37
FCC Fort Churchill 75.52 26 *e*P **P 09 21 56.8 +0.4**
FCC pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
FCC Fort Churchill 75.52 26 *e*P **P 09 21 56.8 +0.4**
comp=Z,1.5nm,0.6s,mb4.1
NVAR Mina Array Bea 76.16 53 P **P 09 22 02.7 +2.2**
comp=Z,0.8nm,0.7s,mb3.7,baz=279,slow=5.5,SNR=5.8
PDAR Pinedale Array 78.97 45 P **P 09 22 17.4 +1.4**
comp=Z,0.7nm,0.6s,mb3.7,baz=273,slow=2.8,SNR=9.9
SCHQ Schefferville 86.91 16 P **P 09 22 57.5 +1.2**
comp=Z,1.9nm,0.8s,mb4.4,baz=82,slow=13,SNR=4.0
SCHQ Schefferville 86.91 16 P **P 09 22 57.5 +1.2**
TXAR Lajitas Array 91.30 52 P **P 09 23 19.4 +1.7**
comp=Z,0.4nm,0.7s,mb3.8,baz=279,slow=2.6,SNR=6.4

*CSEM **29** 09:23:57.2±0.1,39.55N×29.36E,h20km,MD2.7,Error ellipse: s-maj=3.8km s-min=2.6km az=8.0*
ISK 29 09:23:57.4,39.55N×29.36E,h18km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.57**	**276**	*e*PG	Pb	09 24 09.1	+0.6
ORLT	**Orhaneli**	**0.61**	**324**	*e*PG	Pb	09 24 09.9	+0.6
YLV	**Yalova**	**1.02**	**0**	*i* PG	Pb	09 24 17.4	+1.2
KCT	**Karacabey**	**1.05**	**313**	*i* PG	Pb	09 24 18.1	+1.3
ESKT	**Eskisehir**	**1.15**	**91**	*e*PN	Pn	09 24 19.2	+0.5
HRT	**Hereke**	**1.29**	**10**	*e*PN	Pn	09 24 20.4	-0.4
HRT				eSN	Sn	09 24 38.5	+0.8
BNT	**Bandirma**	**1.37**	**307**	PN	Pn	09 24 22.2	+0.4

*IDC **29** 09:27:26.6±1.0,4.25S×69.22E,mb4.1/6,mb1 4.2/6, mb1mx4.0/18,mbtmp4.1/6,MS3.2/5,Ms1 3.3/5, ms1mx3.1/14,Error ellipse: s-maj=32.2km s-min=26.0km az=176.0*
*NEIC **29** 09:27:27.7±0.7,4.45S×69.29E,h10km,mb4.5/3,Error ellipse: s-maj=22.7km s-min=14.1km az=49.0*
ISC 29 09:27:26.3±0.7,4.4S±0.1×69.3E±0.1,h10km,n20, σ1°19/11,mb4.2/9,MS3.2/5,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.29**	**134**	*e*Pn	**Pn**	**09 28 32.5**	**-0.7**
KMBO	**Kilima Mbogo**	**32.22**	**275**	LR	LR	09 44 42.0
	comp=Z,51nm,19.6s,MS3.2,baz=86,slow=32					
CMAR	**Chiang Mai Arr**	**35.98**	**51**	P	**P**	**09 34 39.3**	**+1.3**
	2.0nm,0.5s,mb4.2,baz=241,slow=9.9,SNR=15					
CMAR				LR	LR	09 48 14.1
	comp=Z,11nm,18.1s,MS2.7,baz=215,slow=34					
MATP	**Matopo**	**42.78**	**245**	P	**P**	**09 35 27.2**	**+1.1**
	2.2nm,0.8s,mb3.9,baz=71,slow=11,SNR=4.1					
AAK	**Ala-Archa**	**47.06**	**5**	*e*P	**P**	**09 36 01.8**	**+1.6**
	2.2nm,0.8s,mb4.1					
BOSA	**Boshof**	**48.23**	**235**	LR	LR	09 57 15.1
	comp=Z,42nm,18.2s,MS3.5,baz=201,slow=37					
MKAR	**Makanchi Array**	**52.26**	**11**	P	**P**	**09 36 37.9**	**-2.2**
	0.7nm,0.7s,mb3.7,baz=180,slow=6.1,SNR=7.7					
BRTR	**Keskin Array B**	**54.85**	**327**	P	**P**	**09 36 58.9**	**-0.4**
	0.4nm,0.3s,mb3.9,baz=135,slow=5.2,SNR=5.8					
FITZ	**Fitzroy Crossi**	**56.64**	**109**	P	**P**	**09 37 13.1**	**+0.6**
	9.8nm,0.9s,mb4.8,baz=282,slow=6.5,SNR=5.4					
CHKZ	**Chkalovo**	**57.89**	**1**	P	**P**	**09 37 21.3**	**+0.5**
	2.2nm,0.6s,mb4.4					
AKASG	**Malin Array Be**	**64.80**	**333**	P	**P**	**09 38 05.0**	**-2.6**
	0.3nm,0.4s,mb3.7,baz=136,slow=5.5,SNR=4.5					
WRAB	**Tennant Creek**	**65.02**	**110**	*e*P	**P**	**09 38 09.4**	**-0.1**
	11nm,0.6s,mb5.1					
WB2	**Warramunga Arr**	**65.02**	**110**	*e*P	**P**	**09 38 09.1**	**-0.4**
NOA	**NORSAR Array B**	**79.08**	**335**	LR	LR	10 14 17.4
	comp=Z,15nm,20.3s,MS3.3,baz=15,slow=36					
ARCES	**ARCESS Array B**	**79.55**	**346**	LR	LR	10 14 18.8
	comp=Z,24nm,18.6s,MS3.6,baz=271,slow=35					
YKA	**Yellowknife Ar**	**121.98**	**2**	PKP	PKPdf	09 46 20.4	-3.6
	0.5nm,0.9s,baz=337,slow=2.5,SNR=5.5					
YKA	**Yellowknife Ar**	**121.98**	**2**	PKP	PKPdf	09 46 20.4	-3.6
PDAR	**Pinedale Array**	**141.80**	**359**	PKP	PKPdf	09 46 59.2	-2.5
	0.3nm,0.6s,baz=53,slow=4.5,SNR=4.1					
NVAR	**Mina Array Bea**	**145.44**	**11**	PKPbc	PKPbc	09 47 06.3	+0.6
	2.1nm,0.8s,baz=356,slow=1.8,SNR=15					
TXAR	**Lajitas Array**	**154.35**	**346**	PKP	PKPdf	09 47 20.4	-1.7
	0.1nm,0.4s,baz=180,slow=1.3,SNR=3.8					
TXAR				PKPbc	PKPdf	09 47 28.5	+6.4
	0.5nm,0.8s,baz=81,slow=1.4,SNR=6.9					

*NIC **29** 10:18:20.0±0.3,36.56N×30.74E,h41km,mb4.0,ML3.7, MW3.1*
*HLW **29** 10:18:31.4,35.98N×31.38E,h29km,Mb3.4*
*ISK **29** 10:18:32.1,35.74N×31.46E,h32km,MD3.6*
*CSEM **29** 10:18:32.1±0.1,35.75N×31.41E,h40km,MD3.6,Error ellipse: s-maj=2.7km s-min=1.8km az=62.0*
ISC 29 10:18:32.4±0.4,35.74N±0.03×31.44E±0.06,h61km±21km, n27,σ0°76/37,2C-1D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMC	**Akamas**	**1.02**	**134**	P	**P**	**10 18 51.4**	**+0.4**
ALFC	**Alevga**	**1.11**	**121**	P	**P**	**10 18 52.1**	**-0.1**
ALFC				S	**S**	10 19 17.5	+11
PPCY	**Paphos**	**1.13**	**139**	P	**P**	**10 18 53.8**	**+1.3**
LEF	**Lefka**	**1.34**	**117**	PN	**P**	**10 18 54.9**	**-0.6**
LEF				SN	**S**	10 19 11.7	-0.8
HDMB	**Hadim**	**1.48**	**34**	PN	**P**	**10 18 56.9**	**-0.5**
HDMB				SN	**S**	10 19 14.6	-1.3
SZAC	**Souni-Zanaja**	**1.54**	**129**	P	**P**	**10 19 00.0**	**+1.8**
SZAC				S	**S**	10 19 29.1	+12
MAMC	**Mammari**	**1.56**	**111**	P	**P**	**10 18 58.2**	**-0.3**
AKAS	**Kas**	**1.57**	**289**	*i* P	**P**	**10 18 58.2**	**-0.4**
AKAS				*i* S	**S**	10 19 23.7	+5.8
CSS	**Prodhromos**	**1.73**	**116**	P	**P**	**10 19 00.3**	**-0.5**
	2.2nm,0.4s					
CSS				S	**S**	10 19 31.9	+10
FETY	**Fethiye**	**2.10**	**296**	PN	**P**	**10 19 06.2**	**+0.2**
GOLH	**Golhisar**	**2.13**	**315**	*i* P	**P**	**10 19 06.3**	**0.0**
GOLH				*i* S	**S**	10 19 38.0	+6.4
ISP	**Isparta**	**2.23**	**341**	PN	**P**	10 19 07.7	0.0
PHNC	**Paralimni**	**2.24**	**108**	P	**P**	10 19 12.1	+4.1
PHNC				S	**S**	10 19 43.6	+9.2
KONT	**Konya--Tatoy**	**2.32**	**18**	PN	**P**	10 19 09.7	+0.6
DALT	**Dalyan (Mudla)**	**2.49**	**295**	*e*PN	**P**	10 19 11.2	-0.3
KDHN	**Kadinhani**	**2.82**	**11**	*i* P	**P**	10 19 17.4	+1.2
KDHN				*i* S	**S**	10 19 49.1	-0.1
KIZT	**Kizilcal**	**3.15**	**6**	*e*PN	**P**	10 19 21.6	+0.8
BODT	**Bodrum**	**3.58**	**293**	*e*PN	**P**	10 19 26.6	-0.3
HTY	**Hatay**	**3.83**	**83**	*e*PN	**P**	10 19 29.9	-0.4
AMAG	**Maghara**	**5.30**	**163**	P	**P**	10 19 51.4	+0.5
AMAG				S	**S**	10 20 49.7	-1.6
HBRG	**Burj al 'Arab**	**5.33**	**195**	P	**P**	10 19 51.4	+0.1
SUZ		**6.00**	**168**	⇑P	**P**	10 20 01.2	+0.7
HSAF	**As Saff**	**6.11**	**179**	P	**P**	10 20 02.5	+0.4
HNAT	**Natroun**	**6.13**	**187**	P	**P**	10 20 02.5	+0.1
ZAF		**6.51**	**171**	P	**P**	10 20 08.3	+0.6
SLUM		**6.71**	**233**	⇓P	**P**	10 20 09.0	-1.5
AWBH		**7.71**	**197**	⇑P	**P**	10 20 24.2	-0.2

*IDC **29** 10:21:47.3±0.9,5.86S×77.24W,h120km±7km,mb3.4/9, mb1 3.6/13,mb1mx3.6/24,mbtmp3.8/13,MS3.0/2, Ms1 3.0/2,ms1mx2.5/18,Error ellipse: s-maj=32.2km s-min=13.5km az=66.0*
*NEIC **29** 10:21:47.9±0.9,5.90S×77.24W,h124km±10km,mb4.2/7, Error ellipse: s-maj=15.3km s-min=6.6km az=71.0*
ISC 29 10:21:46.7±1.2,5.94S±0.06×77.3W±0.1,h129km±13km, h121km±.5km:pP-P,n24,σ0°91/23,mb3.6/13,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**6.03**	**176**	*e*Pn	**P**	**10 23 14.3**	**-0.2**
	18nm,0.3s					
NNA				*e*Sn	**S**	10 24 21.9	-0.9
OTAV	**Otavalo**	**6.25**	**349**	*e*Pn	**P**	**10 23 17.4**	**-0.3**
	16nm,0.8s					
ROSC	**El Rosal**	**11.12**	**15**	LR	LR	10 28 56.6
	comp=Z,36nm,21.2s,baz=302,slow=39					
LPAZ	**La Paz**	**13.64**	**140**	P	**P**	**10 24 58.0**	**+2.1**
	0.3nm,0.3s,baz=338,slow=16,SNR=16					
SDV	**Santo Domingo**	**16.14**	**24**	P	**P**	**10 25 27.8**	**+0.2**
	1.8nm,0.3s,baz=262,slow=5.2,SNR=11					
LVC	**Limon Verde**	**18.44**	**155**	P	**P**	**10 25 56.2**	**+1.4**
	0.3nm,0.3s,baz=290,slow=11,SNR=4.9					
SIV	**San Ignacio**	**18.76**	**123**	P	**P**	**10 25 56.4**	**-1.9**
	0.1nm,0.3s,baz=305,slow=16,SNR=3.4					
PCRV	**Puerto La Cruz**	**20.36**	**38**	P	**P**	**10 26 15.0**	**0.0**
	8.9nm,0.6s,baz=186,slow=4.7,SNR=3.5					
CFAA	**Coronel Fontan**	**26.90**	**163**	P	**P**	**10 27 17.9**	**+0.3**
	0.2nm,0.5s,mb3.0,baz=335,slow=10,SNR=4.5					
PLCA	**Paso Flores**	**35.16**	**171**	P	**P**	**10 28 29.9**	**0.0**
	1.1nm,0.5s,mb3.8,baz=355,slow=9.9,SNR=2.8					
TXAR	**Lajitas Array**	**43.29**	**326**	P	**P**	**10 29 38.5**	**+1.1**
	0.3nm,0.6s,mb3.1,baz=148,slow=8.7,SNR=5.3					
MNTX	**Cornudas Mount**	**46.04**	**326**	*e*P	**P**	**10 29 59.4**	**+0.1**
	0.6nm,0.6s,mb3.4					
CPRX	**Cap Rock**	**46.26**	**329**	*e*P	**P**	**10 30 01.8**	**+0.8**
AMTX	**Amarillo**	**46.67**	**332**	P	**P**	**10 30 04.3**	**+0.1**
	2.4nm,0.4s,mb4.2					
ANMO	**Albuquerque**	**49.10**	**328**	*e*P	**P**	**10 30 23.8**	**+0.8**
	2.2nm,1.2s,mb3.7					
SDCO	**Great Sand Dun**	**50.80**	**331**	*e*P	**P**	**10 30 36.2**	**+0.3**
	1.6nm,0.5s,mb3.9					
PDAR	**Pinedale Array**	**56.65**	**332**	P	**P**	**10 31 18.2**	**-0.5**
	0.3nm,0.5s,mb3.4,baz=141,slow=9.5,SNR=3.6					
PDAR				PcP	PcP	10 32 11.2	-2.1
	0.3nm,0.5s,baz=140,slow=4.7,SNR=4.3					
HWUT	**Hardware Ranch**	**56.75**	**330**	*e*P	**P**	**10 31 18.9**	**-0.6**
	1.9nm,0.6s,mb4.1					
ULM	**Lac du Bonnet**	**58.24**	**346**	P	**P**	**10 31 27.4**	**-2.3**
	1.6nm,0.6s,mb4.1,baz=169,slow=6.0,SNR=2.2					
ULM				pP	pP	10 31 56.4	-4.3
	3.4nm,0.7s,baz=136,slow=4.7,SNR=3.1					
NVAR	**Mina Array Bea**	**58.29**	**323**	P	**P**	**10 31 30.7**	**+0.4**
	0.4nm,0.6s,mb3.4,baz=132,slow=7.7,SNR=3.8					
NVAR				PcP	PcP	10 32 19.6	-0.1
	0.5nm,0.7s,baz=127,slow=8.0,SNR=3.6					
NVAR				LR	LR	10 58 31.7
	comp=Z,26nm,18.8s,baz=315,slow=38					
YKA	**Yellowknife Ar**	**73.97**	**343**	P	**P**	**10 33 08.5**	**-0.9**
	0.5nm,0.5s,mb3.5,baz=139,slow=6.3,SNR=13					
YKA				pP	pP	10 33 38.9	-2.9
	0.3nm,0.6s,baz=140,slow=5.7,SNR=3.5					
YKA	**Yellowknife Ar**	**73.97**	**343**	P	**P**	**10 33 08.5**	**-0.9**
YKA				pP	pP	10 33 38.9	-2.9
ILAR	**Eielson Array**	**86.81**	**336**	P	**P**	**10 34 17.1**	**-0.2**
	0.4nm,0.7s,mb3.3,baz=156,slow=3.6,SNR=4.7					
ILAR				pP	pP	10 34 48.6	-1.9
	0.5nm,0.9s,baz=151,slow=3.7,SNR=4.2					
MKAR	**Makanchi Array**	**135.65**	**20**	PKP	PKPdf	10 40 52.4	+0.4
	0.3nm,0.5s,baz=27,slow=2.7,SNR=3.7					

*ATH **29** 11:12:34.9,36.55N×23.58E,h58km±3km,MD3.5/15, ML3.7*
*NEIC **29** 11:12:34.9,36.55N×23.58E,h58km,MD3.5(ATH),After ATH.*
*CSEM **29** 11:12:34.0±0.1,36.54N×23.55E,h76km±2km,ML3.7, Error ellipse: s-maj=3.7km s-min=1.5km az=47.0*
*IDC **29** 11:12:36.6±1.5,36.37N×23.72E,h105km±24km,mb3.3/3, mb1 3.6/5,mb1mx3.3/23,mbtmp3.7/5,Error ellipse: s-maj=42.3km s-min=22.5km az=45.0*
*THE **29** 11:12:36.3,36.64N×23.51E,h24km,ML3.5*
ISC 29 11:12:34.2±0.4,36.56N±0.03×23.51E±0.04,h82km±5km, n46,σ0°96/69,mb3.4/4,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.47**	**233**	*e*P	**P**	**11 12 47.5**	**-0.6**
VLI	**Veliai**	**0.48**	**289**	*e*P	**P**	**11 12 47.6**	**-0.6**
VLI				*e*S	**S**	11 12 56.8	-1.9
NAIG	**Nisos Aigina**	**1.19**	**359**	*e*P	**P**	**11 12 56.5**	**+0.4**
VAM	**Vamos**	**1.28**	**154**	*e*P	**P**	**11 12 56.7**	**-0.6**
NSAL	**Nisos Salamina**	**1.34**	**359**	*e*P	**P**	**11 12 59.5**	**+1.4**
ITM	**Ithomi**	**1.41**	**296**	*e*P	**P**	**11 13 00.3**	**+1.3**
ITM				*e*S	**S**	11 13 19.0	+1.8
ATH	**Athens Observa**	**1.42**	**7**	*e*P	**P**	**11 12 58.8**	**-0.3**
ATH				*e*S	**S**	11 13 17.3	-0.1
MGER	**Gerania Oros**	**1.43**	**352**	*e*P	**P**	**11 13 00.0**	**+0.7**
THR5	**Thira Island,**	**1.49**	**95**	*e*Pb	**P**	**11 13 00.1**	**+0.1**
THR5				*e*Sb	**S**	11 13 18.8	-0.3
PTL	**Penteli**	**1.51**	**11**	*e*P	**P**	**11 13 00.7**	**+0.4**
PTL				*e*S	**S**	11 13 19.0	-0.5
THR4	**Thira Island,**	**1.53**	**93**	*e*Pb	**P**	**11 13 01.0**	**+0.5**
THR4				*e*Sb	**S**	11 13 19.1	-0.8
THR4	**Thira Island,**	**1.53**	**93**	*e*Pb	**P**	**11 13 01.0**	**+0.5**
THR4				*e*Sb	**S**	11 13 19.1	-0.8
THR3	**Thira Island,**	**1.54**	**95**	*e*Pb	**P**	**11 13 00.9**	**+0.3**
THR3				*e*Sb	**S**	11 13 21.3	+1.2
THR3	**Thira Island,**	**1.54**	**95**	*e*Pb	**P**	**11 13 00.9**	**+0.3**
THR3				*e*Sb	**S**	11 13 21.3	+1.2
THR6	**Thira Island,**	**1.54**	**97**	*e*Pb	**P**	**11 13 01.2**	**+0.6**
THR6				*e*Sb	**S**	11 13 20.3	+0.1
SANT	**Santorini**	**1.59**	**96**	*e*Pn	**P**	**11 13 01.1**	**-0.2**
SANT				*e*Sn	**S**	11 13 21.1	-0.1
SANT	**Santorini**	**1.59**	**96**	*e*Pn	**P**	**11 13 01.1**	**-0.2**
SANT				*e*Sn	**S**	11 13 21.1	-0.1
THR1	**Thera Island**	**1.59**	**96**	*e*Pb	**P**	**11 13 01.5**	**+0.2**
THR1				*e*Sb	**S**	11 13 21.5	+0.3
IDI	**Anoyia**	**1.70**	**138**	P	**P**	**11 13 01.7**	**-1.1**
	7.6nm,0.3s,baz=323,slow=12,SNR=41					
IDI				S	**S**	11 13 22.1	-1.6
	30nm,0.3s,baz=84,slow=23,SNR=14					
APE	**Apeiranthos**	**1.70**	**72**	*e*P	**P**	**11 13 03.0**	**+0.2**
GVD	**Gavdhos**	**1.79**	**164**	*e*Pn	**P**	**11 13 04.0**	**-0.1**
LKR	**Lokris**	**2.12**	**349**	*e*P	**P**	**11 13 09.1**	**+0.6**
RLS	**Riolos of Patr**	**2.21**	**313**	*e*P	**P**	**11 13 11.6**	**+2.0**
XRY	**Khrisi**	**2.45**	**133**	*e*P	**P**	**11 13 13.5**	**+0.4**
AOS	**Alonnisos**	**2.62**	**6**	*e*Pn	**P**	**11 13 15.3**	**-0.2**
AOS				*e*Sn	**S**	11 13 45.6	-0.6
AGG	**Agios Georgios**	**2.62**	**340**	*e*Pn	**P**	**11 13 16.3**	**+0.8**
AGG				*e*Sn	**S**	11 13 46.8	+0.5
EVR	**Evrytania**	**2.71**	**331**	*e*P	**P**	**11 13 18.1**	**+1.5**
LKD	**Levkas**	**3.12**	**314**	*e*Pn	**P**	**11 13 22.7**	**+0.3**
LKD				*e*Sn	**S**	11 13 57.8	-0.7
KARP	**Karpathos**	**3.13**	**108**	*e*P	**P**	**11 13 22.9**	**+0.3**
LIT	**Litokhoron**	**3.62**	**348**	*e*Pn	**P**	**11 13 29.8**	**+0.5**
LIT				*e*Sn	**S**	11 14 09.8	-1.3
MEV	**Metsovon**	**3.68**	**332**	*e*Pn	**P**	**11 13 31.5**	**+1.3**
MEV				*e*Sn	**S**	11 14 12.4	-0.3
OUR	**Ouranopolis**	**3.78**	**6**	*e*Pn	**P**	**11 13 31.4**	**-0.2**
OUR				*e*Sn	**S**	11 14 13.3	-1.8
IGT	**Igoumenitsa**	**3.88**	**321**	*e*Pn	**P**	**11 13 32.2**	**-0.7**
IGT				*e*Sn	**S**	11 14 15.4	-2.1
FNA	**Florina**	**4.53**	**339**	*e*Pn	**P**	**11 13 42.1**	**+0.2**
KNT	**Kendrikon**	**4.62**	**354**	*e*Pn	**P**	**11 13 44.2**	**+1.1**
KNT				*e*Sn	**S**	11 14 35.2	-0.7
TIP	**Timpagrande**	**5.94**	**298**	*e*Pn	**P**	**11 13 59.3**	**-2.0**
TIP				Sn	**S**	11 14 56.9	-12
TIP	**Timpagrande**	**5.94**	**298**	*e*Pn	**P**	**11 13 59.3**	**-2.0**
MLR	**Muntele Rosu**	**9.11**	**11**	P	**P**	**11 14 47.7**	**+2.9**
	1.2nm,0.3s,baz=324,slow=9.2,SNR=5.0					
MLR	**Muntele Rosu**	**9.11**	**11**	P	**P**	**11 14 47.7**	**+2.9**
GERES	**GERESS Array B**	**14.22**	**333**	P	**P**	**11 15 58.0**	**+5.4**
	0.2nm,0.3s,baz=151,slow=12,SNR=5.4					
HFS	**Hagfors**	**24.42**	**348**	P	**P**	**11 17 44.6**	**-1.2**
	0.7nm,0.4s,mb3.3,baz=158,slow=8.0,SNR=6.3					
FINES	**FINESS Array B**	**24.95**	**3**	P	**P**	**11 17 50.5**	**-0.5**
	0.4nm,0.4s,mb3.2,baz=180,slow=15,SNR=4.4					
FINES	**FINESS Array B**	**24.95**	**3**	P	**P**	**11 17 50.5**	**-0.5**
EKA	**Eskdalemuir Ar**	**26.12**	**324**	P	**P**	**11 18 02.9**	**+1.0**
	2.3nm,0.6s,mb3.8,baz=122,slow=8.5,SNR=7.1					
MKAR	**Makanchi Array**	**44.14**	**58**	P	**P**	**11 20 34.6**	**-1.4**
	0.1nm,0.2s,mb3.1,baz=270,slow=8.6,SNR=2.6					
MKAR				pP	pP	11 21 00.8	+4.8
	0.2nm,0.5s,baz=274,slow=6.7,SNR=3.4					
MKAR	**Makanchi Array**	**44.14**	**58**	P	**P**	**11 20 34.6**	**-1.4**
MKAR				pP	pP	11 21 00.8	+4.8

*IDC **29** 11:23:05.5±0.9,52.23S×14.45E,mb4.4/10,mb1 4.5/10, mb1mx4.3/18,mbtmp4.4/10,MS4.1/12,Ms1 4.0/12, ms1mx4.0/18,Error ellipse: s-maj=26.3km s-min=21.4km az=112.0*
*NEIC **29** 11:23:07.2±0.4,52.24S×14.46E,h10km,mb4.7/7,Error ellipse: s-maj=15.3km s-min=9.1km az=103.0*
ISC 29 11:23:05.5±0.5,52.22S±0.08×14.4E±0.2,h10km,n42, σ1°08/28,mb4.6/13,MS4.0/12,2C-3D,Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.37**	**16**	P	**P**	**11 27 45.0**	**+0.1**
	12nm,1.1s,baz=190,slow=5.8,SNR=3.2					
SUR				LR	LR	11 33 43.8
	comp=Z,826nm,20.5s,MS4.1,baz=309,slow=31					
SUR	**Sutherland**	**20.37**	**16**	*e*P	**P**	**11 27 44.9**	**0.0**
	47nm,1.3s					
SYO	**Syowa Base**	**20.61**	**154**	⇓P	**P**	**11 27 45.4**	**-1.7**
SYO	**Syowa Base**	**20.61**	**154**	⇓P	**P**	**11 27 50.4**	**+3.3**
SNAA	**Sanae**	**20.97**	**195**	P	**P**	**11 27 49.7**	**-1.0**
	16nm,0.9s,baz=26,slow=13,SNR=15					
SNAA				LR	LR	11 34 18.8
	comp=Z,230nm,18.3s,MS3.6,baz=21,slow=32					
VNA1	**Neumayer--Stat**	**21.17**	**201**	*e*	**P**	**11 27 50.6**	**-2.2**
VNA1	**Neumayer--Stat**	**21.17**	**201**	*e*	**P**	**11 27 54.2**	**+1.4**
VNA1	**Neumayer--Stat**	**21.17**	**201**	*e*	**P**	**11 27 57.3**	**+4.5**
VNA1	**Neumayer--Stat**	**21.17**	**201**	⇑*i*P	**P**	**11 27 47.7**	**-5.1**
VNA1				*e*		11 27 50.6
VNA1				*e*		11 27 54.2
VNA1				*e*		11 27 57.3
VNA2	**Neumayer--Watz**	**21.19**	**200**	*e*	**P**	**11 27 54.2**	**+1.2**
VNA2	**Neumayer--Watz**	**21.19**	**200**	*e*	**P**	**11 27 57.6**	**+4.6**
VNA2	**Neumayer--Watz**	**21.19**	**200**	*e*	**P**	**11 28 00.3**	**+7.3**
VNA2	**Neumayer--Watz**	**21.19**	**200**	⇑*i*P	**P**	**11 27 52.0**	**-1.0**
VNA2				*e*		11 27 54.2
VNA2				*e*		11 27 57.6
VNA2				*e*		11 28 00.3
BOSA	**Boshof**	**24.93**	**23**	LR	LR	11 36 44.9
	comp=Z,681nm,18.9s,MS4.2,baz=223,slow=33					
MAW	**Mawson**	**27.81**	**142**	LR	LR	11 37 50.8
	comp=Z,241nm,19.9s,MS3.8,baz=283,slow=32					
LBTB	**Lobatse**	**28.47**	**22**	LR	LR	11 38 41.7
	comp=Z,539nm,19.8s,MS4.2,baz=228,slow=33					
TSUM	**Tsumeb**	**33.05**	**6**	*e*P	**P**	**11 29 43.5**	**+0.4**
	6.1nm,1.0s,mb4.5					
MATP	**Matopo**	**33.58**	**24**	P	**P**	**11 29 46.8**	**-1.0**
	3.5nm,1.1s,mb4.2,baz=191,slow=10,SNR=3.7					
QSPA	**South Pole Qui**	**38.01**	**180**	⇓*i*P	**P**	**11 30 25.2**	**+0.4**
	9.7nm,0.7s,mb4.6					
**USHA

*IDC **29** 11:40:44.0±3.1, 7.05S×125.16E, h559km±40km, mb3.1/6, mb1 3.3/7, mb1mx3.1/16, mbtmp4.2/7, Error ellipse: s-maj=52.3km s-min=14.9km az=64.0*

ISC 29 11:40:42.6±2.2, 7.0S±0.2×125.2E±0.3, h562km±33km, n13, σ0°35/13, mb3.6/8, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.01**	**178**	P	P	**11 43 11.3**	**-0.2**
	1.3nm,0.3s,baz=7.1,slow=7.3,SNR=16						
WRAB	**Tennant Creek**	**15.59**	**146**	*eP*	P	**11 43 57.3**	**0.0**
	4.2nm,0.4s						
WB2	**Warramunga Arr**	**15.60**	**146**	⇑*iP*	P	**11 43 57.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**26.81**	**195**	P	P	**11 45 39.9**	**-0.3**
	15nm,1.2s,mb4.5,baz=34,slow=7.3,SNR=5.7						
NWAO	**Narrogin (SRO)**	**26.81**	**195**	P	P	**11 45 39.9**	**-0.3**
STKA	**Stephens Creek**	**29.07**	**150**	⇑*iP*	P	**11 46 00.1**	**+0.3**
	3.7nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**29.07**	**150**	P	P	**11 46 00.1**	**+0.3**
	7.5nm,0.6s,mb4.5,baz=332,slow=8.5,SNR=18						
CMAR	**Chiang Mai Arr**	**36.23**	**315**	P	P	**11 47 00.9**	**+0.8**
	1.0nm,0.6s,mb3.5,baz=147,slow=6.5,SNR=5.0						
ULN	**Ulaanbaatar**	**56.96**	**346**	P	P	**11 49 36.2**	**-0.6**
	0.8nm,0.5s,mb3.2						
MKAR	**Makanchi Array**	**65.73**	**329**	P	P	**11 50 33.9**	**+0.1**
	1.3nm,0.5s,mb3.7,baz=126,slow=7.1,SNR=16						
VNDA	**Vanda**	**73.03**	**172**	P	P	**11 51 16.8**	**+0.2**
	0.7nm,0.9s,mb3.1,baz=337,slow=9.0,SNR=3.4						
BVAR	**Borovoye Array**	**75.61**	**329**	P	P	**11 51 31.2**	**-0.2**
	0.7nm,0.5s,mb3.3,baz=135,slow=6.3,SNR=5.7						
CHKZ	**Chkalovo**	**75.85**	**330**	*eP*	P	**11 51 32.6**	**-0.2**
	1.0nm,0.5s,mb3.5						

ISC 29 11:51:02.6±1.7, 45.19N±0.07×15.29E±0.09, h10km, n8, σ0°55/14, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.32**	**355**	⇑*iPg*	Pg	**11 51 08.9**	**-0.3**
BOJS				*i* Sg	Sg	**11 51 13.4**	**-0.2**
	comp=Z,37nm,0.1s						
VISS	**Visnje**	**0.69**	**333**	*i* Pg	Pg	**11 51 16.1**	**-0.5**
VISS				*i* Sg	Sg	**11 51 25.2**	**-0.7**
	comp=Z,7.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.72**	**19**	*i* Pg	Pg	**11 51 17.3**	**+0.2**
LEGS	**Legarje**	**0.76**	**1**	⇓*iPg*	Pg	**11 51 18.0**	**+0.1**
LEGS				*i* Sg	Sg	**11 51 28.4**	**+0.2**
PDKS	**Podkum**	**0.90**	**347**	*i* Pg	Pg	**11 51 20.6**	**-0.1**
PDKS				*i* Sg	Sg	**11 51 34.1**	**+1.4**
	comp=Z,4.0nm,0.1s						
JAVS	**Javornik**	**1.11**	**310**	*i* Pg	Pg	**11 51 25.6**	**+0.7**
JAVS				*e*Sg	Sg	**11 51 40.3**	**+0.5**
VOJS	**Vojsko**	**1.30**	**311**	*i* Pg	Pg	**11 51 28.4**	**-0.2**
OBKA	**Obir**	**1.42**	**339**	⇑*i*PG	Pg	**11 51 30.9**	**-0.1**
OBKA				*i* SG	Sg	**11 51 49.2**	**-0.8**
	comp=Z,3.6nm,0.2s						

*IDC **29** 11:53:01.7±1.3, 8.88S×127.24E, mb4.0/4, mb1 4.2/5, mb1mx4.0/13, mbtmp4.1/5, ML4.5/1, Error ellipse: s-maj=79.0km s-min=22.1km az=65.0*
*NEIC **29** 11:53:05.3±0.7, 8.98S×127.22E, h25km, mb3.9/1, Error ellipse: s-maj=23.9km s-min=11.4km az=59.0*

ISC 29 11:53:02.5±0.9, 9.10S±0.07×127.7E±0.1, h33km, n9, σ0°79/11, mb3.8/4, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.92**	**128**	*eP*	P	**11 54 36.1**	**+6.1**
	52nm,1.5s						
FITZ	**Fitzroy Crossi**	**9.16**	**192**	Pn	P	**11 55 16.2**	**+0.9**
	3.4nm,0.3s,baz=23,slow=8.2,SNR=41						
FITZ				Sn	Sn	**11 56 58.2**	**-0.4**
	3.0nm,0.3s,baz=87,slow=23,SNR=11						
WRAB	**Tennant Creek**	**12.57**	**150**	*e*Pn	P	**11 56 03.3**	**+1.4**
WB2	**Warramunga Arr**	**12.58**	**150**	*e*P	P	**11 56 01.8**	**-0.2**
WB2				*e*S	S	**11 58 20.9**	**-1.0**
STKA	**Stephens Creek**	**26.11**	**152**	*e*P	P	**11 58 41.0**	**+5.7**
	2.1nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**26.11**	**152**	P	P	**11 58 41.2**	**+5.9**
	2.4nm,0.6s,mb3.9,baz=322,slow=9.9,SNR=9.0						
CMAR	**Chiang Mai Arr**	**39.40**	**314**	P	P	**12 00 30.3**	**-0.7**
	1.6nm,0.7s,mb3.9,baz=144,slow=5.7,SNR=12						
MKAR	**Makanchi Array**	**68.73**	**328**	P	P	**12 04 04.5**	**-0.5**
	0.7nm,0.6s,mb3.8,baz=124,slow=8.1,SNR=10						
BVAR	**Borovoye Array**	**78.61**	**329**	P	P	**12 05 03.1**	**+0.6**
	0.5nm,0.5s,mb3.7,baz=141,slow=5.8,SNR=3.5						

*CSEM **29** 11:57:50.0, 36.12N×25.34E, h34km, MD3.4/3, After ATH*

ATH 29 11:57:48.4, 34.25N×25.87E, h38km, MD3.5/3, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.64**	**347**	⇑*i*PN	P	11 58 02.2	+1.2
NPS	**Neapolis**	**1.03**	**348**	*e*PB	P	11 58 06.9	+0.3
KARP	**Karpathos**	**1.67**	**39**	*e*PN	P	11 58 17.0	+1.2
KARP				*e*SN	S	11 58 38.0	+1.8
SMG	**Samos**	**3.54**	**13**	*e*Pn	P	11 58 23.4	-19

*BJI **29** 12:02:44.4, 1.50S×99.50E, h21km, mb4.8*
*IDC **29** 12:02:48.1±0.6, 1.36S×99.43E, h20km±4km, mb4.0/7, mb1 4.1/8, mb1mx3.9/17, mbtmp4.1/8, ML3.9/1, Error ellipse: s-maj=27.8km s-min=16.2km az=52.0*
*NEIC **29** 12:02:48.5±0.7, 1.52S×99.48E, mb4.5/3, Error ellipse: s-maj=21.9km s-min=10.7km az=64.0*

ISC 29 12:02:46.4±0.7, 1.46S±0.10×99.5E±0.1, h21km, h21km±.6km: pP-P, n18, σ0°77/16, mb4.2/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.80**	**10**	*e*P	Pn	**12 04 28.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**19.80**	**358**	P	P	**12 07 18.2**	**-0.4**
	0.2nm,0.3s,baz=182,slow=10.0,SNR=10						
FITZ	**Fitzroy Crossi**	**30.52**	**124**	P	P	**12 09 00.3**	**-0.5**
	8.4nm,0.9s,mb4.6,baz=28,slow=2.6,SNR=4.3						
FITZ				pP	pP	12 09 06.8	-0.2
	14nm,0.9s,baz=314,slow=6.0,SNR=6.9						
WRAB	**Tennant Creek**	**38.70**	**121**	*e*P	P	**12 10 11.1**	**+0.2**
	9.5nm,0.8s,mb4.6						
WRAB				*e*pP	pP	12 10 17.7	+0.5
WB2	**Warramunga Arr**	**38.70**	**121**	*e*P	P	**12 10 10.7**	**-0.3**
BJI	**Beijing**	**44.02**	**18**	*e*P	P	**12 10 54.0**	**-0.5**
BJI				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
WMQ	**Urumqi**	**46.30**	**348**	*e*P	P	**12 11 13.0**	**+0.4**
STKA	**Stephens Creek**	**49.88**	**132**	*e*P	P	**12 11 41.4**	**+0.8**
	comp=Z,3.5nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**49.88**	**132**	P	P	**12 11 41.6**	**+0.9**
	comp=Z,5.9nm,1.1s,mb4.5,baz=298,slow=5.9,SNR=5.2						
STKA				pP	pP	12 11 48.0	+1.0
	comp=Z,5.8nm,0.8s,baz=295,slow=8.6,SNR=5.6						
MKAR	**Makanchi Array**	**50.38**	**345**	P	P	**12 11 43.5**	**-0.7**
	comp=Z,1.1nm,0.5s,mb4.1,baz=150,slow=8.1,SNR=13						
BVAR	**Borovoye Array**	**59.51**	**340**	P	P	**12 12 47.2**	**-3.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=153,slow=9.7,SNR=3.3						
CHKZ	**Chkalovo**	**59.97**	**341**	*e*P	P	**12 12 55.4**	**+1.7**
	comp=Z,2.0nm,0.8s,mb4.2						
MATP	**Matopo**	**71.71**	**249**	P	P	**12 14 09.3**	**-0.1**
	comp=Z,1.7nm,0.9s,mb4.0,baz=121,slow=4.0,SNR=5.4						
MATP				pP	pP	12 14 15.3	-0.7
	comp=Z,4.8nm,0.7s,baz=85,slow=5.1,SNR=6.3						
MATP	**Matopo**	**71.71**	**249**	P	P	**12 14 09.3**	**-0.1**
MATP				pP	pP	12 14 15.3	-0.7
FINES	**FINESS Array B**	**83.40**	**332**	P	P	**12 15 13.2**	**-0.2**
	comp=Z,1.7nm,1.1s,mb4.0,baz=79,slow=7.1,SNR=3.4						
FINES				pP	pP	12 15 19.6	-0.4
	comp=Z,1.1nm,0.6s,baz=90,slow=5.7,SNR=3.7						
GERES	**GERESS Array B**	**88.32**	**319**	P	P	**12 15 38.0**	**+0.1**
	comp=Z,0.2nm,0.2s,mb3.9,baz=69,slow=8.4,SNR=3.0						
GERES				pP	pP	12 15 44.7	+0.1
	comp=Z,0.2nm,0.3s,baz=90,slow=4.9,SNR=2.7						
TXAR	**Lajitas Array**	**144.57**	**36**	PKP	PKPdf	12 22 23.2	-3.2
	comp=Z,1.7nm,0.6s,baz=272,slow=1.3,SNR=18						
TXAR				pPKP		12 22 30.1	
	comp=Z,3.1nm,0.6s,baz=273,slow=1.6,SNR=16						
CFAA	**Coronel Fontan**	**145.12**	**198**	PKPbc	PKPbc	12 22 24.5	+1.0
	comp=Z,0.8nm,0.6s,baz=197,slow=3.9,SNR=11						
CFAA				pPKPbc		12 22 31.1	
	comp=Z,1.4nm,0.6s,baz=168,slow=3.7,SNR=9.6						

*IDC **29** 12:15:55.0±2.6, 18.69S×177.48W, h339km±26km, mb3.7/8, mb1 3.9/9, mb1mx3.6/17, mbtmp4.3/9, Error ellipse: s-maj=68.9km s-min=13.9km az=150.0*
*NEIC **29** 12:15:54.2±1.3, 18.79S×177.49W, h338km±13km, mb4.3/5, Error ellipse: s-maj=40.1km s-min=9.3km az=148.0*

ISC 29 12:15:52.0±1.5, 18.7S±0.3×177.6W±0.2, h326km±16km, n20, σ0°89/21, mb3.9/11, 2C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.33**	**50**	P	P	**12 17 40.0**	**+1.5**
	3.1nm,0.3s,baz=54,slow=21,SNR=6.5						
AFI				S	S	**12 19 01.0**	**-1.2**
	13nm,0.3s,baz=295,slow=21,SNR=8.6						
AFI	**Afiamalu**	**7.33**	**50**	P	P	**12 17 40.0**	**+1.4**
AFI				S	S	**12 19 01.0**	**-1.3**
CNB	**Canberra Magne**	**33.58**	**234**	*e*P	P	**12 22 04.1**	**+0.1**
	101nm,0.4s						
CTA	**Charters Tower**	**34.10**	**262**	P	P	**12 22 10.2**	**+1.6**
	14nm,0.7s,mb4.3,baz=80,slow=11,SNR=12						
CTAO	**Charters Tower**	**34.10**	**262**	*e*P	P	**12 22 09.9**	**+1.3**
	8.9nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**38.95**	**242**	⇓*iP*	P	**12 22 49.4**	**+0.6**
	3.6nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**38.95**	**242**	P	P	**12 22 49.5**	**+0.6**
	3.6nm,0.5s,mb3.9,baz=79,slow=9.0,SNR=17						
WB2	**Warramunga Arr**	**45.26**	**260**	⇑*iP*	P	**12 23 39.8**	**0.0**
WRAB	**Tennant Creek**	**45.26**	**260**	*e*P	P	**12 23 39.4**	**-0.4**
	5.7nm,0.3s,mb4.2						
KAKA	**Kakadu**	**48.36**	**269**	*e*P	P	**12 24 03.5**	**-0.4**
	4.6nm,0.3s,mb4.2						
FORT	**Forrest**	**50.39**	**245**	⇑*iP*	P	**12 24 17.9**	**-1.0**
	414nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.68**	**261**	P	P	**12 24 44.1**	**+0.9**
	18nm,0.5s,mb4.6,baz=114,slow=3.5,SNR=97						
MBWA	**Marble Bar**	**58.65**	**256**	*e*P	P	**12 25 17.1**	**-0.9**
	6.2nm,0.6s,mb4.2						
KLBR	**Kellerberrin**	**59.19**	**244**	*e*P	P	**12 25 19.9**	**-1.7**
NVAR	**Mina Array Bea**	**79.45**	**43**	P	P	**12 27 24.8**	**+0.7**
	0.5nm,0.7s,mb3.4,baz=215,slow=8.0,SNR=5.1						
TXAR	**Lajitas Array**	**85.76**	**57**	P	P	**12 27 57.1**	**+0.7**
	0.2nm,0.3s,mb3.4,baz=217,slow=6.3,SNR=9.3						
ILAR	**Eielson Array**	**86.48**	**13**	P	P	**12 27 58.6**	**-0.4**
	0.4nm,0.4s,mb3.6,baz=217,slow=5.3,SNR=5.2						
CMAR	**Chiang Mai Arr**	**89.89**	**289**	P	P	**12 28 16.9**	**+0.7**
	0.5nm,0.4s,mb3.8,baz=142,slow=3.6,SNR=4.3						
INK	**Inuvik**	**92.45**	**15**	P	P	**12 28 26.4**	**-0.5**
	1.0nm,0.9s,mb3.7,baz=220,slow=5.5,SNR=4.8						
GERES	**GERESS Array B**	**148.58**	**346**	PKPbc	PKPdf	12 35 01.2	+4.9
	0.4nm,0.6s,slow=2.7,SNR=4.0						

*IDC **29** 12:39:17.8±0.7, 28.27N×140.10E, h415km±13km, mb3.3/9, mb1 3.5/12, mb1mx3.3/22, mbtmp4.1/12, Error ellipse: s-maj=37.9km s-min=15.9km az=5.0*
*JMA **29** 12:39:17.9±0.2, 28.12N×140.48E, h441km, M3.6*
*NEIC **29** 12:39:21.1±2.0, 28.47N×139.95E, h446km±16km, mb4.0/2, Error ellipse: s-maj=33.1km s-min=17.2km az=155.0*

ISC 29 12:39:17.3±0.6, 28.06N±0.07×140.2E±0.1, h439km±5km, n30, σ1°09/34, mb3.6/11, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.02**	**118**	P	P	**12 40 17.2**	**-0.1**
	48nm,0.3s,baz=275,slow=22,SNR=58						
CBIJ				S	S	**12 41 03.6**	**-1.0**
	69nm,0.3s,baz=277,slow=22,SNR=20						
CBIJ	**Chichi jima**	**2.02**	**118**	P	P	**12 40 16.2**	**-1.1**
CBIJ				S	S	**12 41 03.3**	**-1.4**
JHHJ	**Haha-jima-NKT**	**2.28**	**128**	P	P	**12 40 19.3**	**+0.4**
JHHJ				S	S	**12 41 07.8**	**+0.3**
JWZ	**Kozaga**	**6.67**	**326**	P	P	**12 41 00.3**	**+1.1**
HMMJ	**Hamamatsu 2**	**7.09**	**343**	P	P	**12 41 04.9**	**+1.1**
JOD2	**Odawara 2**	**7.24**	**353**	P	P	**12 41 07.0**	**+1.6**
JNY	**Yasuok**	**7.54**	**345**	P	P	**12 41 09.9**	**+1.2**
JRY	**Ryogami san**	**8.01**	**353**	P	P	**12 41 13.9**	**0.0**
JYT	**Yasato**	**8.15**	**0**	P	P	**12 41 15.6**	**+0.2**
JAG	**Ashikaga**	**8.37**	**356**	P	P	**12 41 17.0**	**-0.8**
JAG				S	S	**12 42 51.7**	**-1.5**
JHO	**Hitachi**	**8.54**	**2**	P	P	**12 41 19.3**	**-0.4**
MJAR	**Matsushiro Arr**	**8.62**	**349**	P	P	**12 41 18.2**	**-2.5**
	1.0nm,0.3s,baz=254,slow=30,SNR=10						
MAT	**Matsushiro**	**8.62**	**349**	P	P	**12 41 21.3**	**+0.6**
JHS	**Saijyo**	**9.17**	**321**	P	P	**12 41 27.9**	**+1.1**
JFK	**Kawauchi**	**9.30**	**3**	P	P	**12 41 28.5**	**+0.2**
JOW	**Kunigami**	**10.64**	**266**	P	P	**12 41 43.4**	**0.0**
	4.7nm,0.3s,baz=107,slow=10,SNR=29						
MKAR	**Makanchi Array**	**48.49**	**309**	P	P	**12 47 19.3**	**-0.7**
	0.8nm,0.4s,mb3.5,baz=86,slow=10,SNR=20						
MKAR	**Makanchi Array**	**48.49**	**309**	P	P	**12 47 19.3**	**-0.7**
BVAR	**Borovoye Array**	**56.13**	**317**	P	P	**12 48 14.5**	**-0.9**
	2.4nm,0.5s,mb3.8,baz=84,slow=7.2,SNR=12						
ILAR	**Eielson Array**	**57.73**	**29**	P	P	**12 48 25.8**	**-0.4**
	0.9nm,0.9s,mb3.1,baz=264,slow=5.8,SNR=8.6						
INK	**Inuvik**	**62.90**	**25**	P	P	**12 49 00.2**	**-0.3**
	0.4nm,0.5s,mb3.2,baz=204,slow=3.2,SNR=3.1						
INK	**Inuvik**	**62.90**	**25**	P	P	**12 49 00.2**	**-0.3**
KEV	**Kevo**	**71.48**	**340**	*ep*	P	**12 49 51.7**	**-1.4**
	6.6nm,1.0s,mb4.1						
ARCES	**ARCESS Array B**	**72.05**	**340**	P	P	**12 49 56.3**	**0.0**
	1.1nm,0.5s,mb3.6,baz=74,slow=8.8,SNR=14						
YKA	**Yellowknife Ar**	**72.14**	**28**	P	P	**12 49 57.7**	**+0.7**
	1.1nm,0.5s,mb3.7,baz=297,slow=6.1,SNR=20						
YKA	**Yellowknife Ar**	**72.14**	**28**	P	P	**12 49 57.7**	**+0.7**
KAF	**Kangasniemi**	**75.83**	**334**	*ep*	P	**12 50 15.3**	**-2.6**
	1.0nm,0.4s,mb3.8						
FINES	**FINESS Array B**	**76.30**	**333**	P	P	**12 50 20.2**	**-0.2**
	1.2nm,0.4s,mb3.9,baz=71,slow=5.8,SNR=20						
NVAR	**Mina Array Bea**	**81.31**	**51**	P	P	**12 50 50.1**	**+2.6**
	1.1nm,0.6s,mb3.8,baz=295,slow=5.1,SNR=10						
PDAR	**Pinedale Array**	**84.77**	**44**	P	P	**12 51 06.6**	**+1.8**
	0.3nm,0.5s,mb3.3,baz=180,slow=1.5,SNR=3.8						

*NEIC **29** 12:44:49.8±9.5, 37.50N×72.00E, h175km±50km, mb3.9/1, Error ellipse: s-maj=103.9km s-min=34.2km az=201.0*
*IDC **29** 12:44:51.1±29.0, 37.44N×72.20E, h189km±166km, mb3.4/4, mb1 3.6/6, mb1mx3.3/20, mbtmp3.9/6, ML3.8/2, Error ellipse: s-maj=281.9km s-min=49.3km az=14.0*
*NNC **29** 12:44:54.5±3.8, 37.95N×71.87E, h234km±43km, mpv4.6, Error ellipse: s-maj=45.5km s-min=29.1km az=5.0*

ISC 29 12:44:46.0±1.1, 37.20N±0.05×72.1E±0.2, h168km±9km, n38, σ0°83/43, mb3.6/4, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.08**	**14**	P	P	**12 46 01.7**	**+0.1**
	SNR=1172						
UCH	**Uchtor**	**5.37**	**20**	P	P	**12 46 05.8**	**+0.5**
	SNR=315						
KZA	**Kyzart**	**5.46**	**26**	P	P	**12 46 06.4**	**-0.1**
	SNR=17						
EKS2	**Erkin-Say**	**5.61**	**13**	P	P	**12 46 08.5**	**0.0**
	SNR=40						
THN	**Thein Dam**	**5.63**	**147**	*e*P	P	**12 46 10.0**	**+1.2**
THN				*e*S	S	**12 47 12.2**	**-0.9**
DLH	**Dalhousie**	**5.66**	**144**	*e*P	P	**12 46 10.0**	**+0.9**
DLH				*e*S	S	**12 47 13.0**	**-0.6**
AAK	**Ala-Archa**	**5.74**	**18**	P	P	**12 46 10.7**	**+0.5**
	SNR=70						
AAK	**Ala-Archa**	**5.74**	**18**	⇓P	P	**12 46 10.7**	**+0.5**
	36nm,0.3s						
AAK				⇑S	S	**12 47 12.6**	**-3.1**
	48nm,0.8s						
AAK	**Ala-Archa**	**5.74**	**18**	*e*Pn	P	**12 46 09.5**	**-0.7**
	81nm,0.6s						
KBK	**Karagaybulak**	**5.88**	**21**	P	P	**12 46 13.7**	**+1.6**
	SNR=15						
ULHL	**Ulahol**	**5.98**	**31**	P	P	**12 46 13.4**	**0.0**
	SNR=18						
KK31	**Karatay Array**	**6.01**	**349**	⇓P	P	**12 46 13.0**	**-0.8**
	23nm,0.3s,baz=157,slow=10,SNR=415						
KK31				S	S	**12 47 15.6**	**-6.5**
	16nm,0.2s,baz=161,slow=18,SNR=15						
PONG	**Pong**	**6.14**	**147**	*e*P	P	**12 46 17.0**	**+1.4**
PONG				*e*		12 47 28.0	
CHMS	**Chumysh**	**6.15**	**19**	P	P	**12 46 15.7**	**0.0**
	SNR=31						
TKM2	**Tokmak 2**	**6.33**	**24**	P	P	**12 46 18.1**	**+0.1**
	SNR=22						
USP	**Ospenovka**	**6.34**	**16**	P	P	**12 46 18.1**	**-0.1**
	SNR=8.8						
BHK	**Bhakra**	**6.81**	**147**	*e*S	S	**12 47 40.5**	**-0.5**
SDNR	**Sundarnagar**	**6.99**	**143**	*e*P	P	**12 46 26.4**	**-0.4**
SDNR				*e*S	S	**12 47 43.0**	**-2.4**
NDI	**New Delhi**	**9.54**	**151**	*e*S	S	**12 48 40.5**	**-5.1**
MK31	**Makanchi Array**	**12.23**	**35**	⇑P	P	**12 47 35.6**	**+0.2**
	0.9nm,0.4s,baz=221,slow=13,SNR=8.5						
MKAR	**Makanchi Array**	**12.23**	**35**	P	P	**12 47 36.0**	**+0.6**
	0.2nm,0.3s,baz=220,slow=14,SNR=15						
KOLN	**Koldanda**	**13.54**	**131**	*e*P	P	**12 47 52.3**	**+0.2**
	30nm,0.4s						
GKN	**Gorkha**	**14.01**	**127**	*e*P	P	**12 47 58.4**	**+0.3**
	46nm,0.3s						
KKN	**Kakani**	**14.57**	**126**	*e*P	P	**12 48 05.2**	**0.0**
	21nm,0.4s						
DMN	**Daman**	**14.58**	**127**	*e*P	P	**12 48 05.8**	**+0.5**
	20nm,0.4s						
PKI	**Pulchoki**	**14.80**	**127**	*e*P	P	**12 48 08.4**	**+0.3**
	11nm,0.4s						
GUN	**Gumba**	**14.88**	**125**	*e*P	P	**12 48 09.3**	**+0.3**
	13nm,0.3s						
JIRN	**Jiri**	**15.25**	**125**	*e*P	P	**12 48 14.0**	**+0.3**
	31nm,0.4s						
BVA0	**Borovoye Array**	**15.87**	**356**	⇑P	P	**12 48 13.3**	**-7.7**
	1.0nm,0.7s,baz=91,slow=7.6,SNR=10						
BVAR	**Borovoye Array**	**15.87**	**356**	P	P	**12 48 20.5**	**-0.6**
	1.0nm,0.3s,baz=167,slow=14,SNR=32						
BVAR	**Borovoye Array**	**15.87**	**356**	P	P	**12 48 20.5**	**-0.6**
CHKZ	**Chkalovo**	**16.51**	**357**	⇑P	P	**12 48 26.5**	**-2.5**
	1.8nm,0.5s						
CHKZ	**Chkalovo**	**16.51**	**357**	*e*P	P	**12 48 26.3**	**-2.6**
	2.9nm,0.5s						
ARCES	**ARCESS Array B**	**40.82**	**337**	P	P	**12 52 12.2**	**+0.1**
	1.5nm,0.8s,mb3.6,baz=118,slow=8.9,SNR=6.6						
INK	**Inuvik**	**73.08**	**10**	P	P	**12 55 59.1**	**+0.4**
	1.3nm,0.5s,mb3.9,baz=355,slow=5.9,SNR=27						
ILAR	**Eielson Array**	**73.87**	**16**	P	P	**12 56 02.7**	**-0.6**
	0.4nm,0.8s,mb3.2,baz=338,slow=3.9,SNR=5.2						
YKA	**Yellowknife Ar**	**80.50**	**3**	P	P	**12 56 40.0**	**0.0**
	0.8nm,0.6s,mb3.5,baz=349,slow=5.4,SNR=14						
YKA	**Yellowknife Ar**	**80.50**	**3**	P	P	**12 56 40.0**	**0.0**

*NEIC **29** 12:47:09.8±3.6, 31.79N×138.06E, h365km, mb3.7/1, Error ellipse: s-maj=81.8km s-min=20.6km az=131.0*
*JMA **29** 12:47:11.4±0.2, 32.21N×138.01E, h408km, M3.3*
*IDC **29** 12:47:13.0±1.5, 32.00N×137.86E, h380km±20km, mb3.2/4, mb1 3.3/6, mb1mx3.0/21, mbtmp4.0/6, Error ellipse: s-maj=53.0km s-min=26.7km az=69.0*

ISC 29 12:47:12.0±0.5, 32.16N±0.06×138.15E±0.09, h387km±5km, n28, σ0°76/37, mb3.5/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.68**	**55**	P	P	**12 48 06.8**	**+1.7**
	13nm,0.3s,baz=61,slow=12,SNR=4.8						
JHJ				S	S	**12 48 51.2**	**+4.4**
	26nm,0.3s,baz=63,slow=23,SNR=8.2						
JWZ	**Kozaga**	**2.46**	**304**	P	P	**12 48 09.9**	**-0.4**
JIE	**Ise**	**2.53**	**332**	P	P	**12 48 11.4**	**+0.6**
JWY	**Kouya**	**2.97**	**314**	P	P	**12 48 14.5**	**+0.3**
JOD2	**Odawara 2**	**3.19**	**14**	P	P	**12 48 17.1**	**+0.9**
JOD2				S	S	**12 49 07.0**	**+0.4**
JYN	**Shimob**	**3.34**	**6**	P	P	**12 48 19.0**	**+1.5**
BSO1	**Boso 1**	**3.43**	**43**	S	S	**12 49 08.8**	**-0.7**
JAI	**Aioi**	**3.51**	**299**	P	P	**12 48 18.5**	**-0.5**
JGM	**Miyama**	**3.72**	**342**	P	P	**12 48 21.6**	**+0.6**
JWT	**Wachi**	**3.86**	**324**	P	P	**12 48 22.4**	**0.0**
JRY	**Ryogami san**	**3.89**	**9**	P	P	**12 48 23.3**	**+0.6**
JRY				S	S	**12 49 17.8**	**-0.4**
JMN	**Monobe**	**3.92**	**295**	P	P	**12 48 22.5**	**-0.4**
MJAR	**Matsushiro Arr**	**4.37**	**1**	P	P	**12 48 27.4**	**-0.1**
	4.4nm,0.3s,baz=177,slow=11,SNR=52						
MAJO	**Matsushiro**	**4.37**	**1**	*e*Pn	P	**12 48 27.3**	**-0.1**
MAT	**Matsushiro**	**4.37**	**1**	*e*P	P	**12 48 27.0**	**-0.4**
MAT				S	S	**12 49 25.0**	**-1.6**
MAT	**Matsushiro**	**4.37**	**1**	P	P	**12 48 27.4**	**0.0**
MAT				*e*S	S	**12 49 25.5**	**-1.1**
MAT	**Matsushiro**	**4.37**	**1**	P	P	**12 48 27.5**	**+0.1**
MAT				S	S	**12 49 25.4**	**-1.2**
JHS	**Saijyo**	**5.06**	**305**	P	P	**12 48 34.0**	**-0.6**
CBIJ	**Chichi jima**	**6.15**	**144**	P	P	**12 48 46.3**	**-0.1**
	12nm,0.3s,baz=270,slow=22,SNR=35						
CBIJ				S	S	**12 49 59.4**	**-1.3**
	26nm,0.3s,baz=282,slow=21,SNR=16						
CBIJ	**Chichi jima**	**6.15**	**144**	P	P	**12 48 46.7**	**+0.3**
CBIJ				S	S	**12 49 59.6**	**-1.0**
JMK	**Ichinoseki**	**7.22**	**19**	P	P	**12 48 58.6**	**0.0**
JMK				*e*S	S	**12 50 19.3**	**-3.3**
MKAR	**Makanchi Array**	**44.60**	**306**	P	P	**12 54 48.5**	**-0.4**
	1.2nm,0.6s,mb3.4,baz=93,slow=9.6,SNR=10		

FITZ Fitzroy Crossi 23.54 179 P **P 13 07 22.2 +3.1**
2.1nm,0.4s,mb3.9,baz=1.7,slow=10,SNR=9.2
CBIJ Chichi jima 26.79 35 P **P 13 07 47.6 -2.2**
19nm,0.4s,mb5.0,baz=266,slow=19,SNR=7.9
WRAB Tennant Creek 26.89 161 P **P 13 07 52.3 +1.5**
1.6nm,0.5s,mb3.8
WB2 Warramunga Arr 26.90 161 *e*P **P 13 07 50.8 -0.1**
0.6nm,0.7s,mb3.5,baz=102,slow=6.4,SNR=4.2
CMAR LR LR 13 19 20.9
comp=Z,25nm,18.5s,MS2.9,baz=291,slow=35
ENH Enshi 28.70 331 *e*P **P 13 08 07.0 -0.1**
5.7nm,0.6s,mb4.5
MKAR Makanchi Array 55.21 325 P **P 13 11 41.5 -1.0**
0.5nm,0.4s,mb3.9,baz=118,slow=7.2,SNR=9.8
ILAR Eielson Array 84.07 26 P **P 13 14 37.4 -1.3**
1.1nm,0.5s,mb4.2,baz=260,slow=4.9,SNR=33

DJA 29 13:20:36.9±1.2, 9.57S×117.30E, h15km, ML3.9/3, 3C-2D, Error ellipse: s-maj=37.3km s-min=25.1km az=49.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.59**	**313**	Pn	Pn	13 21 02.3	-2.4
KEDI	86nm,0.2s			⇑*e*Sn	Sn	13 21 21.4	-3.6
RATI	**Rata**	**1.94**	**296**	⇑*e*Pn	Pn	13 21 07.1	-2.6
RATI	123nm,0.2s			⇓*e*Sn	Sn	13 21 29.1	-4.7
KELI	**Kelakatan**	**3.08**	**296**	⇓*e*Pn	Pn	13 21 24.4	-1.6
SRDI	**Scrawed**	**3.30**	**289**	⇓*e*Pn	Pn	13 21 25.8	-3.3
	18nm,0.2s						

*IDC **29** 13:42:57.6±2.2, 17.10S×174.68W, h149km±20km, mb3.7/6, mb1 4.0/7, mb1mx3.8/15, mbtmp4.2/7, Error ellipse: s-maj=42.7km s-min=14.9km az=120.0*
*NEIC **29** 13:42:58.4±1.5, 17.10S×174.74W, h159km±14km, Error ellipse: s-maj=32.7km s-min=12.7km az=121.0*
ISC 29 13:42:57.0±1.9, 17.1S±0.2×174.7W±0.3, h158km±19km, n12, σ0§72/10, mb3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.23**	**42**	P	**P**	**13 44 02.6**	**+1.3**
	51nm,0.3s,baz=244,slow=22,SNR=67						
AFI				S	**S**	**13 44 49.6**	**-1.1**
	14nm,0.3s,baz=240,slow=20,SNR=3.0						
AFI	**Afiamalu**	**4.23**	**42**	P	**P**	**13 44 02.6**	**+1.3**
AFI				S	**S**	**13 44 49.6**	**-1.1**
URZ	**Urewera**	**22.27**	**197**	P	**P**	**13 47 41.8**	**+0.1**
	13nm,0.3s,mb4.9,baz=290,slow=2.6,SNR=37						
STKA	**Stephens Creek**	**42.14**	**241**	P	**P**	**13 50 35.4**	**-0.2**
	1.8nm,0.4s,mb4.1,baz=90,slow=9.1,SNR=4.8						
VNDA	**Vanda**	**61.56**	**186**	P	**P**	**13 52 58.7**	**-0.8**
	0.7nm,1.1s,mb3.4,baz=355,slow=6.4,SNR=5.2						
NVAR	**Mina Array Bea**	**76.40**	**42**	P	**P**	**13 54 31.2**	**+0.4**
	1.8nm,1.1s,mb3.6,baz=220,slow=8.0,SNR=6.6						
TXAR	**Lajitas Array**	**82.56**	**56**	P	**P**	**13 55 04.7**	**+0.6**
	0.2nm,0.7s,mb3.0,baz=239,slow=7.3,SNR=3.7						
ILAR	**Eielson Array**	**84.35**	**12**	P	**P**	**13 55 11.8**	**-0.4**
	0.8nm,0.5s,mb3.7,baz=229,slow=5.7,SNR=23						
CLL	**Collm**	**145.34**	**352**	*e*PKP1	PKPbc	14 02 17.0	+0.6
BRTR	**Keskin Array B**	**146.66**	**318**	PKPbc	PKPbc	14 02 21.7	+1.7
	1.2nm,0.7s,baz=166,slow=5.1,SNR=5.6						
KHC	**Kasperske Hory**	**147.36**	**350**	*e*PKP	PKPdf	14 02 23.5	+4.2
GERES	**GERESS Array B**	**147.62**	**350**	PKPbc	PKPdf	14 02 23.7	+4.0
	0.8nm,0.6s,slow=2.7,SNR=7.2						

*IDC **29** 13:53:38.5±1.2, 52.43S×161.43E, mb4.2/5, mb1 4.4/7, mb1mx4.3/13, mbtmp4.3/7, ML3.8/2, MS4.0/9, Ms1 3.9/9, ms1mx3.8/13, Error ellipse: s-maj=35.4km s-min=23.0km az=92.0*
*NEIC **29** 13:53:40.1±0.6, 52.34S×161.41E, h10km, mb4.6/2, Error ellipse: s-maj=17.1km s-min=12.0km az=112.0*
ISC 29 13:53:37.7±0.7, 52.23S±0.08×161.8E±0.1, h10km, n20, σ1§19/17, mb4.2/7, MS3.9/7, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**8.05**	**34**	PN	**P**	**13 55 37.9**	**+0.3**
TUZ	**Tuapeka**	**8.10**	**42**	PN	**P**	**13 55 38.6**	**+0.4**
TUZ				SN	**Sn**	**13 57 06.9**	**-3.8**
EAZ	**Earnscleugh**	**8.56**	**38**	PN	**P**	**13 55 44.9**	**+0.2**
ODZ	**Otahua Downs**	**9.25**	**43**	*e*PN	**P**	**13 55 54.5**	**+0.3**
ODZ				SN	**Sn**	**13 57 37.5**	**-2.0**
RPZ	**Rata Peaks**	**10.52**	**40**	Pn	**P**	**13 56 13.8**	**+2.4**
	0.6nm,0.3s,baz=322,slow=21,SNR=2.6						
RPZ				Sn	**S**	**13 58 10.4**	**0.0**
	1.2nm,0.3s,baz=68,slow=9.4,SNR=2.7						
RPZ				LR	LR	13 59 35.1	
	comp=Z,679nm,20.8s,baz=289,slow=33						
TAU	**Tasmania Unive**	**13.49**	**308**	*e*Pn	**P**	**13 56 39.9**	**-12**
URZ	**Urewera**	**17.58**	**43**	P	**P**	**13 57 48.1**	**+3.9**
	0.3nm,0.3s,baz=229,slow=4.0,SNR=4.9						
URZ				LR	LR	14 04 47.5	
	comp=Z,797nm,18.1s,baz=249,slow=37						
STKA	**Stephens Creek**	**25.12**	**316**	P	**P**	**13 59 04.4**	**+0.4**
	1.9nm,0.5s,mb3.9,baz=138,slow=7.2,SNR=3.8						
STKA				LR	LR	14 06 47.6	
	comp=Z,228nm,21.9s,MS3.6,baz=89,slow=31						
VNDA	**Vanda**	**25.40**	**180**	P	**P**	**13 59 05.2**	**-1.0**
	3.8nm,0.9s,mb3.9,baz=351,slow=8.6,SNR=15						
VNDA				LR	LR	14 07 09.9	
	comp=Z,257nm,21.7s,MS3.7,baz=13,slow=32						
SBA	**Scott Base**	**25.80**	**178**	*e*P	**P**	**13 59 11.4**	**+1.5**
	20nm,1.3s,mb4.5						
WRAB	**Tennant Creek**	**38.68**	**316**	P	**P**	**14 01 02.7**	**-0.5**
	13nm,1.1s,mb4.6						
FITZ	**Fitzroy Crossi**	**44.30**	**306**	P	**P**	**14 01 48.7**	**-0.6**
	5.6nm,0.9s,mb4.3,baz=174,slow=9.3,SNR=2.8						
MAW	**Mawson**	**46.25**	**212**	P	**P**	**14 02 01.5**	**-2.7**
	2.5nm,0.8s,mb4.2,baz=144,slow=11,SNR=3.9						
MAW				LR	LR	14 19 52.2	
	comp=Z,120nm,18.2s,MS3.9,baz=88,slow=34						
PPT	**Papeete**	**51.35**	**66**	LR	LR	14 20 22.4	
	comp=Z,131nm,19.1s,MS4.0,baz=226,slow=31						
RKT	**Rikitea**	**55.73**	**84**	*e*LR	LR	14 19 18.3	
	119nm,27.2s						
PLCA	**Paso Flores**	**76.87**	**142**	LR	LR	14 34 47.4	
	comp=Z,78nm,18.3s,MS4.1,baz=103,slow=32						
CMAR	**Chiang Mai Arr**	**88.97**	**302**	P	**P**	**14 06 34.7**	**+0.9**
	1.4nm,1.0s,mb4.2,baz=164,slow=3.3,SNR=8.0						
BOSA	**Boshof**	**90.98**	**217**	LR	LR	14 40 59.1	
	comp=Z,81nm,18.6s,MS4.2,baz=360,slow=31						
CPUP	**Villa Florida**	**94.60**	**145**	LR	LR	14 42 39.5	
	comp=Z,61nm,19.7s,MS4.1,baz=199,slow=31						
AKASG	**Malin Array Be**	**150.84**	**286**	PKPbc	PKPdf	14 13 32.6	+6.0
	0.5nm,0.4s,baz=96,slow=2.3,SNR=4.4						

*STR **29** 14:01:00.6±0.1, 42.98N×0.23E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*MDD **29** 14:01:01.7±0.3, 42.98N×0.23E, h9km±3km, mbLg1.6/16, Error ellipse: s-maj=2.3km s-min=1.5km az=10.0, PRXIMO*
*CSEM **29** 14:01:01.2±0.1, 42.99N×0.24E, h2km, ML2.5/7, Error ellipse: s-maj=1.3km s-min=0.9km az=160.0*
LDG 29 14:01:01.1±0.1, 42.99N×0.22E, h12km±1km, Md2.5/2, Ml2.4/7, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EPF	**Esparros**	**0.10**	**67**	*e*Pg	Pg	14 01 04.2	+0.3
EPF				*e*Sg	Sg	14 01 06.1	+0.3
	586nm,0.2s						
LABF	**Labassere**	**0.12**	**297**	Pg	Pg	14 01 04.5	+0.2
LABF				Sg	Sg	14 01 06.8	+0.4
LABF	**Labassere**	**0.12**	**297**	Pg	Pg	14 01 04.6	+0.3
LABF				Lg		14 01 06.9	
VIEF	**Viey**	**0.18**	**233**	Pg	Pg	14 01 05.2	-0.1
VIEF				Sg	Sg	14 01 08.0	-0.1
VIEF	**Viey**	**0.18**	**233**	Pg	Pg	14 01 05.3	0.0
VIEF				Lg		14 01 08.1	
RESF	**Ens**	**0.20**	**155**	Pg	Pg	14 01 05.5	-0.2
RESF	**Ens**	**0.20**	**155**	Pg	Pg	14 01 05.7	0.0
RESF				Lg		14 01 08.6	
EBIE	**Bielsa**	**0.31**	**191**	Pg	Pg	14 01 07.4	-0.2
	3.8nm,0.1s,SNR=7.9						
EBIE				Lg		14 01 11.2	
	19nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.31**	**191**	Pg	Pg	14 01 07.4	-0.3
	3.8nm,0.1s,SNR=7.9						
EBIE				Lg		14 01 11.2	
	19nm,0.2s,SNR=7.9						
MELF	**Melles**	**0.41**	**107**	Pg	Pg	14 01 08.8	-0.8
MELF				Sg	Sg	14 01 14.5	-0.8
MELF	**Melles**	**0.41**	**107**	Pg	Pg	14 01 09.0	-0.6
MELF				Lg		14 01 14.5	
REYF	**Montagne du Re**	**0.46**	**280**	Pg	Pg	14 01 09.9	-0.6
REYF				Sg	Sg	14 01 16.8	+0.1
REYF	**Montagne du Re**	**0.46**	**280**	Pg	Pg	14 01 10.1	-0.4
REYF				Lg		14 01 16.9	
ETSF	**Etsaut**	**0.58**	**261**	*e*Pg	Pg	14 01 12.3	-0.6
ETSF				*e*Sg	Sg	14 01 19.9	-0.9
	61nm,0.3s						
FDAF	**Les Forges d'A**	**0.60**	**254**	Pg	Pg	14 01 12.6	-0.8
FDAF				Sg	Sg	14 01 21.2	-0.3
FDAF	**Les Forges d'A**	**0.60**	**254**	Pg	Pg	14 01 12.8	-0.5
FDAF				Lg		14 01 21.0	
SALF	**Salau**	**0.75**	**108**	Pg	Pg	14 01 14.7	-1.5
SALF				Sg	Sg	14 01 25.0	-1.3
SALF	**Salau**	**0.75**	**108**	Pg	Pg	14 01 14.5	-1.7
SALF				Lg		14 01 24.6	
LARF	**Larrau**	**0.89**	**273**	Lg		14 01 30.7	
CSOR	**Sort**	**0.91**	**132**	Pg	Pg	14 01 18.5	-0.9
CSOR				Lg		14 01 30.4	
	2.7nm,0.2s						
SJPF	**Ste Jean**	**1.07**	**277**	*e*Pg	Pg	14 01 21.0	-1.5
SJPF				*e*Sg	Sg	14 01 35.1	-1.7
	4.3nm,0.2s						
CAVN	**Les Avellanes**	**1.18**	**160**	Pg	Pg	14 01 23.7	-1.0
CAVN				Lg		14 01 38.9	
	3.7nm,0.1s						
EALK	**Alkurruntz**	**1.29**	**281**	Pg	Pg	14 01 26.3	-0.5
	1.2nm,0.4s,SNR=7.9						
EALK				Lg		14 01 43.2	
	2.4nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**1.29**	**278**	Pg	Pg	14 01 26.1	-0.9
	0.7nm,0.1s,SNR=7.9						
ELIZ				Lg		14 01 43.9	
	2.5nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**1.37**	**202**	Pg	Pg	14 01 27.4	-1.1
	3.4nm,0.1s,SNR=7.9						
ESAC				Lg		14 01 44.9	
	9.8nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.37**	**202**	Pg	Pg	14 01 27.8	-0.7
	3.4nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**1.39**	**111**	Pg	Pg	14 01 27.6	-1.3
CLLI				Lg		14 01 45.4	
	0.9nm,0.1s						
EMIR	**Miracle**	**1.45**	**138**	Pg	Pg	14 01 28.6	-1.4
	0.7nm,0.1s,SNR=4.0						
EMIR				Lg		14 01 48.2	
	2.7nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.45**	**138**	Pg	Pg	14 01 29.1	-1.0
	0.7nm,0.1s,SNR=4.0						
MTLF	**Montolieu**	**1.50**	**76**	*e*Pg	Pg	14 01 29.2	-1.9
MTLF				*e*Sg	Sg	14 01 48.8	-2.4
	5.8nm,0.2s						
EPOB	**Poblet**	**1.76**	**158**	Pg	Pg	14 01 33.6	-2.7
	0.6nm,0.3s,SNR=4.0						
EPOB				Lg		14 01 57.7	
	0.5nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**1.76**	**158**	Pn	Pn	14 01 33.6	+1.9
	0.6nm,0.3s,SNR=4.0						
LFF	**La Frestale**	**1.98**	**11**	*e*Pg	Pg	14 01 38.0	-2.7
LFF				*e*Sg	Sg	14 02 03.8	-3.4
	13nm,0.4s						
ERTA	**Horta de San J**	**2.04**	**178**	Lg		14 02 06.3	
	1.5nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.04**	**105**	Pg	Pg	14 01 38.2	-3.7
	SNR=4.0						
EJON				Lg		14 02 07.5	
	0.7nm,0.5s,SNR=7.9						
EJON	**La Jonquera**	**2.04**	**105**	Pn	Pn	14 01 38.2	+2.4
	SNR=4.0						
ECRI	**Cripan**	**2.05**	**260**	Pn	Pn	14 01 35.6	-0.3
	1.8nm,0.4s,SNR=7.9						
ECRI				Pg	Pg	14 01 39.7	-2.3
	0.2nm,0.3s,SNR=7.9						
ECRI				Lg		14 02 07.3	
	11nm,1.4s,SNR=7.9						
CFON	**Fontmartina**	**2.05**	**126**	Lg		14 02 06.7	
	4.2nm,0.2s						
CAF	**Calviac**	**2.35**	**34**	*e*Pg	Pg	14 01 44.8	-3.2
CAF				*e*Sg	Sg	14 02 15.2	-4.1
	5.0nm,0.3s						
RJF	**Les Rejaudoux**	**2.49**	**22**	*e*Pg	Pg	14 01 47.3	-3.6
RJF				*e*Sg	Sg	14 02 19.7	-4.4
	3.7nm,0.2s						
EMOS	**Mosqueruela**	**2.68**	**191**	Pn	Pn	14 01 44.3	-0.6
	0.1nm,0.1s,SNR=7.9						
EMOS				Sn	Sn	14 02 15.8	-1.8
	11nm,1.0s,SNR=7.9						
EMOS				Lg		14 02 26.8	
	2.2nm,0.9s,SNR=7.9						
LASF	**Ste Croix**	**2.86**	**66**	*e*Pg	Pg	14 01 53.7	-4.5
LASF				*e*Sg	Sg	14 02 30.6	-5.7
	3.0nm,0.2s						
MFF	**Saint Martin d**	**3.62**	**356**	*e*Sg	Sg	14 02 54.7	-6.9
	1.3nm,0.2s						

*BJI **29** 14:03:08.6, 24.00S×66.15W, h212km, mB5.4*
*IDC **29** 14:03:08.9±0.8, 23.48S×66.64W, h201km±8km, mb3.8/10, mb1 3.9/17, mb1mx3.8/22, mbtmp4.3/17, Error ellipse: s-maj=15.9km s-min=10.7km az=30.0*
*NEIC **29** 14:03:09.4±0.6, 23.48S×66.54W, h201km±5km, mb4.2/28, Error ellipse: s-maj=9.0km s-min=6.1km az=57.0*
ISC 29 14:03:08.3±0.6, 23.44S±0.05×66.56W±0.07, h202km±6km, n66, σ0§97/65, mb4.1/35, 3C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.32**	**290**	P	**P**	**14 03 51.8**	**+1.1**
	106nm,0.3s,baz=109,slow=7.0,SNR=853						
LVC				S	**S**	**14 04 23.2**	**-0.3**
	43nm,0.3s,baz=2.1,slow=22,SNR=11						
LVC	**Limon Verde**	**2.32**	**290**	⇑*i*Pn	**P**	**14 03 51.8**	**+1.0**
LVC				Sn	**S**	**14 04 18.9**	**-4.6**
LPAZ	**La Paz**	**7.27**	**348**	P	**P**	**14 04 54.2**	**+1.4**
	6.0nm,0.3s,baz=164,slow=8.2,SNR=112						
LPAZ				S	**S**	**14 06 14.4**	**0.0**
	1.0nm,0.3s,baz=317,slow=20,SNR=6.4						
LPAZ	**La Paz**	**7.27**	**348**	⇓*i*Pn	**P**	**14 04 54.1**	**+1.3**
	19nm,0.6s						
LPAZ				*e*Sn	**S**	**14 06 13.2**	**-1.3**
CFAA	**Coronel Fontan**	**8.26**	**190**	P	**P**	**14 05 04.4**	**-1.4**
	0.5nm,0.3s,baz=9.0,slow=13,SNR=27						
CFAA				S	**S**	**14 06 31.8**	**-5.7**
	0.7nm,0.3s,baz=179,slow=16,SNR=9.2						
ARE	**Arequipa**	**8.35**	**325**	P	**P**	**14 05 11.0**	**+4.1**
ARE				*e*S	**S**	**14 06 32.0**	**-7.6**
CPUP	**Villa Florida**	**8.86**	**111**	P	**P**	**14 05 14.1**	**+0.6**
	0.3nm,0.3s,baz=301,slow=14,SNR=27						
CPUP	**Villa Florida**	**8.86**	**111**	*e*P	**P**	**14 05 13.8**	**+0.3**
	7.8nm,0.8s						
SIV	**San Ignacio**	**9.04**	**36**	P	**P**	**14 05 15.5**	**-0.3**
	2.1nm,0.3s,baz=233,slow=12,SNR=52						
TRQA	**Tornquist**	**15.08**	**166**	*e*P	**P**	**14 06 32.3**	**-0.2**
	2.9nm,0.6s						
PLCA	**Paso Flores**	**17.56**	**190**	P	**P**	**14 06 58.8**	**-2.8**
	0.2nm,0.3s,baz=355,slow=12,SNR=2.3						
BDFB	**Brasilia**	**19.11**	**69**	P	**P**	**14 07 18.4**	**+0.6**
	2.6nm,0.3s,baz=252,slow=11,SNR=40						
OTAV	**Otavalo**	**26.22**	**332**	*e*P	**P**	**14 08 27.4**	**+0.9**
	4.8nm,0.7s,mb4.2						
SDV	**Santo Domingo**	**32.38**	**352**	*e*P	**P**	**14 09 18.7**	**-2.3**
	10nm,1.0s,mb4.3						
RCBR	**Riachuelo**	**34.32**	**64**	*e*P	**P**	**14 09 37.4**	**-0.3**
	8.2nm,0.6s,mb4.4						
TEIG	**Tepich**	**48.29**	**332**	*e*P	**P**	**14 11 29.6**	**-1.5**
	5.5nm,0.6s,mb4.1						
VNA2	**Neumayer--Watz**	**58.10**	**161**	⇑*i*P	**P**	**14 12 43.8**	**+1.5**
JCT	**Junction City**	**62.39**	**328**	*e*P	**P**	**14 13 10.2**	**-1.6**
	6.5nm,0.7s,mb4.4						
WVT	**Waverly**	**62.57**	**341**	*e*P	**P**	**14 13 10.6**	**-2.4**
	9.3nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**63.47**	**324**	P	**P**	**14 13 16.1**	**-2.8**
	0.3nm,0.4s,mb3.3,baz=153,slow=8.4,SNR=5.7						
MNTX	**Cornudas Mount**	**66.23**	**324**	*e*P	**P**	**14 13 35.0**	**-1.7**
	5.4nm,1.1s,mb4.1						
AMTX	**Amarillo**	**66.90**	**329**	*e*P	**P**	**14 13 39.4**	**-1.4**
	3.3nm,0.4s,mb4.3						
DBIC	**Dimbokro**	**67.24**	**72**	P	**P**	**14 13 42.1**	**-1.2**
	2.1nm,0.5s,mb4.1,baz=241,slow=7.4,SNR=5.7						
LPM	**Los Pinos Moun**	**68.91**	**325**	*e*P	**P**	**14 13 53.2**	**0.0**
ANMO	**Albuquerque**	**69.32**	**326**	*e*P	**P**	**14 13 55.8**	**+0.1**
	3.9nm,0.9s,mb4.0						
TUC	**Tucson**	**69.70**	**321**	*e*P	**P**	**14 13 58.2**	**+0.1**
	4.9nm,1.2s,mb4.0						
SDCO	**Great Sand Dun**	**71.03**	**328**	*e*P	**P**	**14 14 06.1**	**+0.1**
	7.7nm,1.2s,mb4.2						
PV01	**Paradox Valley**	**72.85**	**326**	*e*P	**P**	**14 14 17.2**	**+0.4**
PV10	**Paradox Valley**	**73.27**	**326**	*e*P	**P**	**14 14 19.5**	**+0.2**
SYO	**Syowa Base**	**73.92**	**159**	⇓X	**P**	**14 14 24.0**	**+1.6**
SYO	**Syowa Base**	**73.92**	**159**	⇑PcP	PcP	14 14 37.7	+0.8
TBI	**Tubuai**	**74.92**	**251**	*e*LR	LR	14 15 15.3	
	121nm,28.5s						
RWWY	**Rawlins**	**74.94**	**330**	*e*P	**P**	**14 14 29.0**	**+0.2**
	10nm,1.1s,mb4.4						
MSU	**Marysvale**	**75.01**	**325**	*e*P	**P**	**14 14 29.8**	**+0.6**
ARUT	**Antelope Range**	**75.17**	**323**	*e*P	**P**	**14 14 30.9**	**+0.8**
RSSD	**Black Hills**	**75.49**	**333**	*e*P	**P**	**14 14 32.0**	**+0.1**
	3.1nm,0.7s,mb4.0						
DUG	**Dugway**	**76.58**	**325**	*e*P	**P**	**14 14 38.5**	**+0.6**
	2.3nm,1.0s,mb3.8						
BW06	**Boulder Array**	**76.88**	**329**	*e*P	**P**	**14 14 39.7**	**+0.1**
	1.5nm,0.6s,mb3.8						
PDAR	**Pinedale Array**	**76.88**	**329**	P	**P**	**14 14 39.6**	**+0.1**
	1.5nm,0.7s,mb3.8,baz=122,slow=7.7,SNR=15						
HWUT	**Hardware Ranch**	**76.98**	**327**	*e*P	**P**	**14 14 40.3**	**+0.1**
	3.8nm,0.7s,mb4.1						
TSUM	**Tsumeb**	**77.41**	**106**	P	**P**	**14 14 43.2**	**+0.2**
	2.4nm,0.8s,mb3.9,baz=236,slow=6.4,SNR=8.1						
AHID	**Auburn Hatcher**	**77.62**	**328**	*e*P	**P**	**14 14 44.0**	**+0.4**
	22nm,1.2s,mb4.7						
ULM	**Lac du Bonnet**	**77.83**	**341**	P	**P**	**14 14 43.5**	**-1.2**
	2.5nm,0.6s,mb4.0,baz=129,slow=0.6,SNR=3.5						
SCHQ	**Schefferville**	**77.95**	**360**	P	**P**	**14 14 44.0**	**-1.2**
	3.7nm,0.7s,mb4.2,baz=204,slow=4.4,SNR=10						
SNOW	**Snow King Moun**	**77.98**	**329**	*e*P	**P**	**14 14 46.2**	**+0.6**
LOHW	**Long Hollow**	**78.02**	**329**	*e*P	**P**	**14 14 46.3**	**+0.5**
	4.3nm,0.6s,mb4.3						
TPAW	**Teton Pass**	**78.09**	**329**	*e*P	**P**	**14 14 47.0**	**+0.8**
	3.6nm,0.8s,mb4.0						
RRI2	**Red Ridge**	**78.16**	**328**	*e*P	**P**	**14 14 47.6**	**+1.0**
	3.3nm,0.6s,mb4.1						
MOOW	**Moose Ponds**	**78.19**	**329**	*e*P	**P**	**14 14 47.1**	**+0.3**
	1.6nm,0.6s,mb3.8						
ELK	**Elko**	**78.26**	**324**	*e*P	**P**	**14 14 47.6**	**+0.4**
	2.3nm,0.9s,mb3.8						
NVAR	**Mina Array Bea**	**78.36**	**321**	P	**P**	**14 14 48.6**	**+0.8**
	0.7nm,0.6s,mb3.5,baz=153,slow=6.0,SNR=8.1						
IMW	**Indian Meadow**	**78.39**	**329**	*e*P	**P**	**14 14 48.7**	**+0.8**
	9.5nm,1.0s,mb4.4						
YMR	**Madison River**	**78.99**	**329**	*e*P	**P**	**14 14 51.5**	**+0.5**
MCMT	**McKenzie Canyo**	**80.00**	**329**	*e*P	**P**	**14 14 57.5**	**+1.1**
BOZ	**Bozeman (W)**	**80.03**	**330**	*e*P	**P**	**14 14 56.7**	**+0.1**
	0.8nm,0.4s,mb3.7						
BOSA	**Boshof**	**80.63**	**117**	P	**P**	**14 14 59.6**	**-0.5**
	3.7nm,0.9s,mb4.0,baz=306,slow=1.6,SNR=5.3						
HRY	**Holter Researc**	**80.93**	**330**	*e*P	**P**	**14 15 01.8**	**+0.5**
BMO	**Blue Mountains**	**82.22**	**326**	*e*P	**P**	**14 15 08.4**	**+0.4**
	1.8nm,0.7s,mb3.8						
MATP	**Matopo**	**86.49**	**111**	P	**P**	**14 15 30.4**	**+0.6**
	3.7nm,0.7s,mb4.2,baz=203,slow=3.4,SNR=8.7						
YKA	**Yellowknife Ar**	**93.74**	**340**	P	**P**	**14 16 02.4**	**-0.3**
	1.0nm,0.7s,mb4.0,baz=132,slow=4.5,SNR=17						
YKA	**Yellowknife Ar**	**93.74**	**340**	P	**P**	**14 16 02.4**	**-0.3**
MKAR	**Makanchi Array**	**145.84**	**39**	PKPbc	PKPbc	14 22 24.4	+0.8
	3.5nm,0.8s,baz=288,slow=3.8,SNR=27						
WMQ	**Urumqi**	**150.66**	**40**	PKP	PKPdf	14 22 31.5	+1.2
WMQ				PKP2	PKPab	14 22 47.0	+1.0
WMQ				PP	PP		
	comp=Z,139nm,4.6s						
MDJ	**Mudanjiang**	**155.09**	**332**	PKP	PKPdf	14 22 37.3	+0.9
LZH	**Lanzhou**	**164.91**	**31**	*e*PKP	PKPdf	14 22 47.5	-0.3
LZH				APKP		14 23 38.5	
LZH				XPKP		14 23 59.0	
CMAR	**Chiang Mai Arr**	**165.58**	**107**	PKPab	PKPab	14 23 50.0	-0.7
	comp=Z,0.9nm,0.7s,baz=259,slow=6.0,SNR=7.4						

*NEIC **29** 15:28:10.6, 37.22S×176.37E, h275km, MG4.3(WEL), After WEL.*
WEL 29 15:28:11.5±0.3, 37.38S×176.43E, h275km±3km, ML4.2/8, 2C, Error ellipse: s-maj=5.4km s-min=4.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.03**	**149**	⇑PN	P	15 28 49.2	-0.3
URZ				SN	S	15 29 18.6	-0.7
MWZ	**Matawai**	**1.29**	**138**	P	P	15 28 51.0	-0.1
MWZ				S	S	15 29 22.4	+0.4
MWZ	**Matawai**	**1.29**	**138**	PN	P	15 28 51.0	-0.1
MWZ				SN	S	15 29 22.1	+0.1
PUZ	**Puketiti**	**1.60**	**116**	P	P

TUWZ	Tuamarina	4.49 205	PN	P	15 29 19.3	-3.2
NNZ	Nelson	4.51 211	P	P	15 29 19.1	-3.7
NNZ	Nelson	4.51 211	PN	P	15 29 18.9	-3.9
QRZ	Quartz Range	4.59 220	P	P	15 29 19.7	-4.1
QRZ	Quartz Range	4.59 220	PN	P	15 29 19.6	-4.2
BSWZ	Blackbirch Sta	4.76 204	P	P	15 29 22.7	-3.1
BSWZ	Blackbirch Sta	4.76 204	PN	P	15 29 22.4	-3.4
THZ	Tophouse	5.16 211	*e*P	P	15 29 26.4	-4.1
THZ	Tophouse	5.16 211	PN	P	15 29 26.2	-4.3
KHZ	Kahutara	5.50 203	*e*P	P	15 29 31.3	-3.4
KHZ	Kahutara	5.50 203	PN	P	15 29 31.1	-3.6
DSZ	Denniston Nort	5.64 218	*e*P	P	15 29 31.7	-4.6
DSZ	Denniston Nort	5.64 218	*e*PN	P	15 29 31.4	-5.0
CRLZ	Canterbury Las	6.84 204	*e*P	P	15 29 46.4	-4.7
CRLZ	Canterbury Las	6.84 204	*e*PN	P	15 29 46.0	-5.1
MQZ	McQueen's Vall	6.95 203	*e*P	P	15 29 47.6	-4.9
MQZ	McQueen's Vall	6.95 203	*e*PN	P	15 29 47.7	-4.8
ODZ	Otahua Downs	8.81 208	*e*PN	P	15 30 10.9	-4.9

*IDC **29** 15:39:53.6±1.9, 19.05S×169.70E, h285km±19km, mb3.9/9, mb1 4.1/11, mb1mx3.9/18, mbtmp4.6/11, Error ellipse: s-maj=20.2km s-min=16.2km az=177.0*
*NEIC **29** 15:39:53.3±1.0, 19.075S×169.71E, h286km±9km, mb4.3/7, Error ellipse: s-maj=11.4km s-min=10.8km az=121.0*

ISC 29 15:39:53.6±1.2, 19.10S±0.09×169.6E±0.1, h300km±10km, n37, σ0*87/30, mb4.2/13, 4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.20**	**225**	*e*P	**P**	**15 41 00.9**	**-1.6**
DZM	**Mont Dzumac**	**4.20**	**225**	P	**P**	**15 41 01.9**	**-0.6**
	11nm,0.3s,baz=59,slow=18,SNR=82						
DZM				S	**S**	**15 41 57.2**	**+0.9**
	0.6nm,0.3s,baz=122,slow=23,SNR=3.3						
NOUC	**Port Laguerre**	**4.31**	**226**	*e*P	**P**	**15 41 03.0**	**-0.8**
HNR	**Honiara**	**13.42**	**314**	P	**P**	**15 42 55.3**	**+0.6**
	2.6nm,0.3s,baz=179,slow=7.0,SNR=5.7						
HNR	**Honiara**	**13.42**	**314**	*e*Pn	**P**	**15 42 54.8**	**+0.1**
URZ	**Urewera**	**20.17**	**163**	P	**P**	**15 44 07.6**	**+0.9**
	4.3nm,0.4s,baz=293,slow=1.5,SNR=7.0						
CTA	**Charters Tower**	**22.04**	**264**	P	**P**	**15 44 26.5**	**+1.6**
	8.1nm,0.6s,mb4.3,baz=88,slow=11,SNR=17						
CTAO	**Charters Tower**	**22.04**	**264**	*e*P	**P**	**15 44 26.8**	**+1.8**
	9.6nm,0.6s,mb4.3						
CNB	**Canberra Magne**	**24.12**	**224**	*e*P	**P**	**15 44 45.4**	**+1.0**
	1μm,1.3s						
STKA	**Stephens Creek**	**28.23**	**238**	⇓*i*P	**P**	**15 45 21.8**	**+0.3**
	7.0nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**28.23**	**238**	P	**P**	**15 45 21.9**	**+0.4**
	8.9nm,0.6s,mb4.4,baz=63,slow=9.6,SNR=33						
WB2	**Warramunga Arr**	**33.22**	**263**	⇓*i*P	**P**	**15 46 04.2**	**-0.8**
WRAB	**Tennant Creek**	**33.22**	**263**	*e*P	**P**	**15 46 03.9**	**-1.1**
	5.0nm,0.4s,mb4.4						
ASAR	**Alice Springs**	**33.51**	**256**	P	**P**	**15 46 07.4**	**0.0**
	33nm,0.6s,mb5.1,baz=82,slow=9.2,SNR=714						
ASPA	**Alice Springs**	**33.52**	**256**	⇓*i*P	**P**	**15 46 07.4**	**-0.1**
FORT	**Forrest**	**39.24**	**245**	⇓*i*P	**P**	**15 46 55.2**	**+0.1**
	232nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.62**	**264**	P	**P**	**15 47 15.2**	**+0.4**
	15nm,0.6s,mb4.4,baz=334,slow=20,SNR=38						
MBWA	**Marble Bar**	**46.74**	**259**	*e*P	**P**	**15 47 55.4**	**+0.2**
	4.6nm,0.4s,mb4.2						
KLBR	**Kellerberrin**	**48.10**	**244**	*e*P	**P**	**15 48 05.3**	**-0.4**
	128nm,0.4s						
VNDA	**Vanda**	**58.58**	**182**	*e*P	**P**	**15 49 19.4**	**-1.6**
	0.3nm,0.5s						
SBA	**Scott Base**	**58.81**	**181**	*e*P	**P**	**15 49 22.0**	**-0.5**
	2.9nm,0.8s,mb3.8						
MJAR	**Matsushiro Arr**	**62.80**	**332**	P	**P**	**15 49 48.9**	**-0.7**
	2.0nm,0.6s,mb4.0,baz=172,slow=7.0,SNR=6.6						
MJAR	**Matsushiro Arr**	**62.80**	**332**	P	**P**	**15 49 48.9**	**-0.7**
BILL	**Bilibino**	**86.92**	**359**	*e*P	**P**	**15 52 05.3**	**-0.2**
	1.2nm,0.4s,mb4.1						
YBH	**Yreka Blue Hor**	**86.95**	**44**	P	**P**	**15 52 07.7**	**+1.5**
	3.4nm,0.9s,mb4.2,baz=57,slow=1.1,SNR=7.3						
NVAR	**Mina Array Bea**	**88.44**	**48**	P	**P**	**15 52 14.0**	**+0.7**
	1.5nm,0.6s,mb4.0,baz=218,slow=7.0,SNR=11						
NVAR	**Mina Array Bea**	**88.44**	**48**	P	**P**	**15 52 14.0**	**+0.7**
WVOR	**Wild Horse Val**	**89.96**	**45**	*e*P	**P**	**15 52 20.9**	**+0.5**
	7.3nm,1.4s,mb4.3						
ILAR	**Eielson Array**	**89.99**	**17**	P	**P**	**15 52 18.4**	**-1.6**
	0.7nm,0.8s,mb3.5,baz=239,slow=6.5,SNR=8.6						
YKA	**Yellowknife Ar**	**100.38**	**27**	P	P	15 53 08.4	+0.9
	0.2nm,0.6s,baz=262,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**101.89**	**315**	P	P	15 53 15.1	+0.5
	0.7nm,0.6s,baz=104,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**101.89**	**315**	P	P	15 53 15.1	+0.5
ARCES	**ARCESS Array B**	**125.03**	**345**	PKP	PKPdf	15 58 18.0	+0.2
	1.6nm,0.8s,baz=64,slow=2.6,SNR=11						
EKA	**Eskdalemuir Ar**	**143.42**	**353**	PKP	PKPdf	15 58 50.9	-1.1
	0.5nm,0.6s,baz=27,slow=1.9,SNR=3.6						
KHC	**Kasperske Hory**	**144.38**	**333**	*e*PKP	PKPdf	15 58 54.0	+0.1
GERES	**GERESS Array B**	**144.54**	**332**	PKP	PKPdf	15 58 55.4	+1.1
	1.1nm,0.5s,baz=27,slow=3.0,SNR=12						
DAVOX	**Davos**	**147.78**	**334**	PKPbc	PKPdf	15 59 04.8	+5.1
	baz=292,slow=5.4						

*BJI **29** 15:42:34.7, 12.71N×144.13E, h195km, mB4.7, mb4.6*
*NEIC **29** 15:42:41.9±0.8, 13.06N×143.42E, h196km±8km, mb4.4/8, Error ellipse: s-maj=12.8km s-min=6.1km az=85.0*
*IDC **29** 15:42:42.4±2.9, 13.04N×143.55E, h204km±26km, mb3.9/15, mb1 4.0/16, mb1mx3.9/23, mbtmp4.4/16, Error ellipse: s-maj=21.9km s-min=10.0km az=79.0*

ISC 29 15:42:40.8±1.0, 13.04N±0.06×143.4E±0.1, h201km±11km, n47, σ0*84/45, mb4.3/33, 3D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.56**	**69**	*e*Pn	**P**	**15 43 15.2**	**-0.4**
JOW	**Kunigami**	**19.71**	**316**	P	**P**	**15 46 58.0**	**+1.3**
	4.2nm,0.3s,baz=139,slow=13,SNR=19						
MJAR	**Matsushiro Arr**	**23.85**	**350**	P	**P**	**15 47 36.5**	**-0.6**
	0.7nm,0.4s,mb3.6,baz=176,slow=8.9,SNR=4.4						
MJAR				ScP		15 54 33.7	
	1.9nm,0.8s,baz=146,slow=4.4,SNR=4.2						
CTA	**Charters Tower**	**33.04**	**175**	P	**P**	**15 48 59.5**	**0.0**
	3.4nm,0.7s,mb4.0,baz=5.7,slow=10,SNR=3.9						
CTA	**Charters Tower**	**33.04**	**175**	P	**P**	**15 48 59.5**	**0.0**
WRAB	**Tennant Creek**	**33.95**	**195**	*e*P	**P**	**15 49 06.9**	**-0.3**
	35nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**33.96**	**195**	⇓*i*P	**P**	**15 49 06.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**35.55**	**210**	P	**P**	**15 49 20.5**	**-0.2**
	8.0nm,0.7s,mb4.4,baz=25,slow=6.0,SNR=6.8						
ENH	**Enshi**	**35.67**	**304**	P	**P**	**15 49 21.1**	**-0.5**
	4.7nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**37.64**	**194**	P	**P**	**15 49 38.2**	**0.0**
	7.4nm,0.5s,mb4.5,baz=18,slow=12,SNR=49						
ASPA	**Alice Springs**	**37.64**	**194**	⇓*i*P	**P**	**15 49 38.2**	**0.0**
LZH	**Lanzhou**	**42.23**	**310**	*e*P	**P**	**15 50 17.8**	**+1.9**
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.5						
CMAR	**Chiang Mai Arr**	**43.01**	**283**	P	**P**	**15 50 23.7**	**+1.3**
	comp=Z,3.6nm,0.6s,mb4.0,baz=78,slow=6.5,SNR=14						
CMAR				PcP	PcP	15 52 10.0	+0.7
	comp=Z,1.0nm,0.5s,baz=71,slow=2.3,SNR=5.1						
STKA	**Stephens Creek**	**44.69**	**182**	⇓*i*P	**P**	**15 50 35.0**	**-0.6**
	comp=Z,4.4nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**44.69**	**182**	P	**P**	**15 50 34.5**	**-1.2**
	comp=Z,7.2nm,0.6s,mb4.2,baz=350,slow=8.7,SNR=25						
FORT	**Forrest**	**45.99**	**198**	*e*P	**P**	**15 50 46.1**	**+0.2**
	comp=Z,820nm,0.7s						
ULN	**Ulaanbaatar**	**46.01**	**326**	*e*P	**P**	**15 50 46.7**	**+0.9**
	comp=Z,2.7nm,1.0s,mb3.5						
GTA	**Gaotai**	**46.45**	**313**	*e*P	**P**	**15 50 50.5**	**+1.2**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.1						
CNB	**Canberra Magne**	**48.43**	**173**	*e*P	**P**	**15 51 05.6**	**+0.9**
	comp=Z,2μm,2.0s						
TOO	**Toolangi**	**50.38**	**178**	*e*P	**P**	**15 51 21.0**	**+1.5**
	comp=Z,9.7nm,0.6s,mb4.3						
KLBR	**Kellerberrin**	**50.73**	**208**	*e*P	**P**	**15 51 21.4**	**-0.8**
	comp=Z,218nm,0.6s						
MUN	**Mundaring**	**51.78**	**210**	*e*P	**P**	**15 51 29.7**	**-0.3**
	comp=Z,40nm,0.5s,mb5.1						
JIRN	**Jiri**	**55.10**	**295**	*e*P	**P**	**15 51 54.4**	**0.0**
	comp=Z,23nm,0.9s,mb4.7						
GUN	**Gumba**	**55.39**	**295**	*e*P	**P**	**15 51 56.6**	**+0.1**
	comp=Z,42nm,0.9s,mb5.0						
PKI	**Pulchoki**	**55.79**	**295**	*e*P	**P**	**15 51 58.7**	**-0.6**
	comp=Z,6.7nm,0.4s,mb4.5						
KKN	**Kakani**	**55.92**	**295**	*e*P	**P**	**15 51 59.7**	**-0.5**
	comp=Z,13nm,0.9s,mb4.5						
DMN	**Daman**	**56.06**	**295**	*e*P	**P**	**15 52 00.2**	**-1.0**
	comp=Z,22nm,1.1s,mb4.6						
WMQ	**Urumqi**	**56.46**	**314**	P	**P**	**15 52 04.8**	**+1.0**
WMQ				AP	pP	15 52 43.3	-6.2
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,65nm,5.3s						
WMQ				LR	LR		
	comp=N,35nm,25.0s						
WMQ				LR	LR		
	comp=E,12nm,21.6s						
WMQ				LR	LR		
	comp=Z,16nm,21.6s						
GKN	**Gorkha**	**56.49**	**295**	*e*P	**P**	**15 52 03.6**	**-0.7**
	comp=Z,12nm,0.6s,mb4.6						
KOLN	**Koldanda**	**57.40**	**295**	*e*P	**P**	**15 52 10.0**	**-0.7**
	comp=Z,14nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**60.87**	**316**	P	**P**	**15 52 34.4**	**+0.2**
	comp=Z,3.6nm,0.6s,mb4.2,baz=94,slow=8.8,SNR=29						
CHKZ	**Chkalovo**	**69.38**	**323**	*e*P	**P**	**15 53 28.2**	**-0.3**
	comp=Z,3.3nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**69.45**	**322**	P	**P**	**15 53 29.3**	**+0.4**
	comp=Z,9.6nm,0.5s,mb4.7,baz=104,slow=7.9,SNR=104						
ILAR	**Eielson Array**	**69.68**	**25**	P	**P**	**15 53 29.2**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=252,slow=5.2,SNR=4.9						
ILAR				pP	pP	15 54 14.0	-3.9
	comp=Z,0.5nm,0.6s,baz=264,slow=4.6,SNR=4.3						
ARU	**Arti**	**76.38**	**325**	*e*P	**P**	**15 54 09.2**	**-0.2**
	comp=Z,3.5nm,0.5s,mb4.2						
YKA	**Yellowknife Ar**	**84.01**	**27**	P	**P**	**15 54 50.5**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.4,baz=288,slow=5.5,SNR=5.3						
YKA	**Yellowknife Ar**	**84.01**	**27**	P	**P**	**15 54 50.5**	**+1.0**
ARCES	**ARCESS Array B**	**87.15**	**342**	P	**P**	**15 55 04.9**	**+0.2**
	comp=Z,2.3nm,0.8s,mb4.0,baz=65,slow=7.4,SNR=10						
JOF	**Joensuu**	**88.17**	**335**	*e*p	**P**	**15 55 08.3**	**-1.4**
	comp=Z,3.3nm,0.8s,mb4.2						
NVAR	**Mina Array Bea**	**88.40**	**51**	P	**P**	**15 55 12.8**	**+1.5**
	comp=Z,0.4nm,0.5s,mb3.5,baz=280,slow=3.7,SNR=3.8						
KAF	**Kangasniemi**	**90.61**	**335**	*e*p	**P**	**15 55 19.6**	**-1.5**
	comp=Z,2.5nm,0.7s,mb4.2,baz=57,slow=4.3						
VNDA	**Vanda**	**91.02**	**176**	P	**P**	**15 55 23.6**	**+0.9**
	comp=Z,1.7nm,1.0s,mb4.0,baz=315,slow=6.2,SNR=5.6						
VNDA	**Vanda**	**91.02**	**176**	*e*P	**P**	**15 55 23.5**	**+0.8**
	comp=Z,2.7nm,1.1s,mb4.1						
FINES	**FINESS Array B**	**91.03**	**335**	P	**P**	**15 55 22.3**	**-0.8**
	comp=Z,1.6nm,0.4s,mb4.3,baz=60,slow=5.1,SNR=35						
HFS	**Hagfors**	**96.73**	**337**	P	**P**	**15 55 48.1**	**-1.1**
	comp=Z,1.6nm,0.8s,mb4.3,baz=79,slow=7.6,SNR=4.8						
DBIC	**Dimbokro**	**142.85**	**300**	PKhKP		16 01 49.2	
	comp=Z,4.0nm,0.7s,baz=234,slow=3.8,SNR=6.1						
LPAZ	**La Paz**	**149.37**	**100**	PKPbc	PKPdf	16 02 06.4	+4.4
	comp=Z,1.6nm,0.5s,baz=288,slow=6.9,SNR=4.8						

*IDC **29** 15:46:59.4±6.2, 18.75S×168.68E, h132km±48km, mb4.0/5, mb1 4.1/6, mb1mx3.8/15, mbtmp4.4/6, Error ellipse: s-maj=78.2km s-min=50.1km az=117.0*

ISC 29 15:46:59.8±4.9, 18.9S±0.5×168.7E±0.6, h156km±45km, n8, σ0*88/10, mb4.2/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.79**	**214**	*e*P	**P**	**15 47 58.0**	**-0.2**
DZM				*e*S	**S**	**15 48 42.3**	**-0.9**
DZM	**Mont Dzumac**	**3.79**	**214**	P	**P**	**15 47 58.8**	**+0.5**
	8.9nm,0.3s,baz=36,slow=19,SNR=222						
DZM				S	**S**	**15 48 43.6**	**+0.4**
	23nm,0.3s,baz=335,slow=22,SNR=12						
CTA	**Charters Tower**	**21.22**	**263**	P	**P**	**15 51 35.7**	**+1.3**
	4.2nm,0.8s,mb3.8,baz=80,slow=16,SNR=3.7						
STKA	**Stephens Creek**	**27.61**	**237**	P	**P**	**15 52 36.0**	**+1.3**
	4.5nm,0.7s,mb4.3,baz=70,slow=5.5,SNR=10						
ASAR	**Alice Springs**	**32.74**	**256**	P	**P**	**15 53 18.9**	**-1.2**
	6.1nm,0.5s,mb4.6,baz=83,slow=8.6,SNR=92						
ASPA	**Alice Springs**	**32.74**	**256**	*e*P	**P**	**15 53 19.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**40.80**	**264**	P	**P**	**15 54 27.4**	**-0.2**
	11nm,0.7s,mb4.6,baz=135,slow=5.7,SNR=12						
CMAR	**Chiang Mai Arr**	**77.95**	**294**	P	**P**	**15 58 42.6**	**-0.1**
	1.2nm,0.7s,mb3.6,baz=125,slow=3.9,SNR=8.0						

*IDC **29** 15:57:33.4±0.5, 34.03S×57.31E, mb4.3/14, mb1 4.4/14, mb1mx4.3/21, mbtmp4.3/14, MS3.6/9, Ms1 3.6/9, ms1mx3.4/22, Error ellipse: s-maj=22.1km s-min=16.2km az=73.0*
*BJI **29** 15:57:34.8, 34.10S×57.30E, h10km, mB5.5, mb4.7, Ms4.5, Msz4.0*
*NEIC **29** 15:57:34.9±0.2, 34.05S×57.28E, h10km, mb4.7/8, Error ellipse: s-maj=11.0km s-min=7.3km az=80.0*

ISC 29 15:57:33.1±0.4, 34.06S±0.07×57.3E±0.1, h10km, n45, σ0*68/34, mb4.6/30, MS3.6/9, 1C-2D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**27.86**	**272**	LR	LR	16 12 08.3	
	comp=Z,133nm,21.7s,MS3.5,baz=132,slow=31						
MATP	**Matopo**	**28.89**	**291**	LR	LR	16 13 34.7	
	comp=Z,154nm,19.1s,MS3.6,baz=212,slow=33						
LBTB	**Lobatse**	**28.95**	**280**	LR	LR	16 13 12.5	
	comp=Z,97nm,18.9s,MS3.4,baz=94,slow=32						
MAW	**Mawson**	**33.74**	**176**	P	**P**	**16 04 16.2**	**-0.3**
	4.5nm,0.6s,mb4.6,baz=338,slow=9.7,SNR=14						
MAW				LR	LR	16 14 53.4	
	comp=Z,43nm,20.4s,MS3.2,baz=49,slow=31						
MAW	**Mawson**	**33.74**	**176**	*e*P	**P**	**16 04 16.1**	**-0.4**
	16nm,1.4s,mb4.8						
SYO	**Syowa Base**	**36.40**	**191**	⇓P	**P**	**16 04 38.2**	**-0.9**
SYO	**Syowa Base**	**36.40**	**191**	⇓pP	pP	16 04 40.3	-1.8
KMBO	**Kilima Mbogo**	**37.77**	**326**	LR	LR	16 19 50.0	
	comp=Z,30nm,19.1s,MS3.1,baz=88,slow=35						
TSUM	**Tsumeb**	**38.23**	**282**	P	**P**	**16 04 54.8**	**-0.2**
	2.9nm,0.7s,mb4.1,baz=112,slow=9.3,SNR=7.9						
TSUM	**Tsumeb**	**38.23**	**282**	P	**P**	**16 04 54.8**	**-0.2**
CASY	**Casey**	**44.69**	**153**	*e*P	**P**	**16 05 48.5**	**+0.9**
	8.6nm,1.0s,mb4.5						
SNAA	**Sanae**	**48.74**	**201**	P	**P**	**16 06 19.8**	**+0.5**
	2.4nm,0.8s,mb4.3,baz=61,slow=9.1,SNR=8.3						
NWAO	**Narrogin (SRO)**	**49.33**	**106**	LR	LR	16 21 06.6	
	comp=Z,151nm,20.9s,MS4.0,baz=98,slow=29						
QSPA	**South Pole Qui**	**56.12**	**180**	⇑*i*P	**P**	**16 07 14.2**	**-0.2**
	12nm,0.6s,mb5.1						
VNDA	**Vanda**	**60.08**	**166**	P	**P**	**16 07 42.2**	**0.0**
	2.0nm,0.6s,mb4.3,baz=255,slow=5.6,SNR=12						
VNDA				LR	LR	16 32 33.1	
	comp=Z,52nm,18.3s,MS3.7,baz=65,slow=35						
VNDA	**Vanda**	**60.08**	**166**	*e*P	**P**	**16 07 41.8**	**-0.4**
	1.7nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**62.36**	**94**	LR	LR	16 27 59.8	
	comp=Z,97nm,21.8s,MS3.9,baz=290,slow=29						
CMAR	**Chiang Mai Arr**	**65.56**	**44**	P	**P**	**16 08 19.0**	**-0.4**
	4.8nm,0.8s,mb4.6,baz=229,slow=6.8,SNR=30						
KOLN	**Koldanda**	**66.34**	**25**	*e*P	**P**	**16 08 23.0**	**-1.2**
	24nm,0.9s,mb5.2						
ASAR	**Alice Springs**	**66.47**	**103**	P	**P**	**16 08 24.9**	**-0.3**
	0.8nm,0.4s,mb4.1,baz=237,slow=5.7,SNR=24						
DMN	**Daan**	**66.74**	**27**	*e*P	**P**	**16 08 25.2**	**-1.6**
	18nm,0.7s,mb5.2						
GKN	**Gorkha**	**66.93**	**26**	*e*P	**P**	**16 08 26.9**	**-1.0**
	19nm,0.8s,mb5.2						
KKN	**Kakani**	**66.97**	**27**	*e*P	**P**	**16 08 27.5**	**-0.7**
	39nm,1.1s,mb5.4						
JIRN	**Jiri**	**67.20**	**28**	*e*P	**P**	**16 08 28.9**	**-0.8**
	24nm,1.0s,mb5.2						
GUN	**Gumba**	**67.31**	**27**	*e*P	**P**	**16 08 30.1**	**-0.3**
	28nm,0.7s,mb5.4						
ASF	**Jabal al Asfar**	**68.63**	**341**	P	**P**	**16 08 39.1**	**+0.6**
	2.7nm,0.5s,mb4.5,baz=20,slow=2.3,SNR=7.2						
STKA	**Stephens Creek**	**68.69**	**115**	P	**P**	**16 08 39.1**	**+0.2**
	2.8nm,0.7s,mb4.3,baz=218,slow=0.7,SNR=5.0						
DBIC	**Dimbokro**	**71.31**	**292**	P	**P**	**16 08 55.1**	**-0.1**
	3.2nm,0.7s,mb4.4,baz=107,slow=8.3,SNR=4.1						
DBIC				LR	LR	16 38 35.0	
	comp=Z,51nm,18.1s,MS3.8,baz=103,slow=34						
MALT	**Malatya**	**74.11**	**345**	*e*P	**P**	**16 09 11.8**	**+0.6**
	2.2nm,0.7s,mb4.2						
GYA	**Guiyang**	**76.24**	**44**	P	**P**	**16 09 25.0**	**+1.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
BRTR	**Keskin Array B**	**76.61**	**341**	P	**P**	**16 09 25.2**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=173,slow=7.8,SNR=14						
AAK	**Ala-Archa**	**77.93**	**13**	*e*P	**P**	**16 09 32.7**	**0.0**
	comp=Z,9.8nm,1.1s,mb4.7						
ENH	**Enshi**	**80.74**	**44**	*e*P	**P**	**16 09 48.6**	**+0.4**
	comp=Z,8.6nm,0.8s,mb4.7						
WMQ	**Urumqi**	**82.31**	**22**	P	**P**	**16 09 57.0**	**+0.9**
WMQ				AP	pP	16 10 01.5	+2.2
WMQ				XP	sP	16 10 04.0	+3.7
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,69nm,5.4s						
WMQ				LR	LR		
	comp=N,23nm,22.4s						
WMQ				LR	LR		
	comp=Z,13nm,16.8s						
GTA	**Gaotai**	**83.00**	**32**	*e*P	**P**	**16 10 01.0**	**+1.2**
GTA				AP	pP	16 10 07.0	+4.0
GTA				XP	sP	16 10 09.8	+5.8
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.6						
XAN	**Xi'an**	**83.24**	**41**	P	**P**	**16 10 01.5**	**+0.4**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.5						
MKAR	**Makanchi Array**	**83.56**	**17**	P	**P**	**16 10 03.3**	**+0.9**
	comp=Z,1.7nm,0.9s,mb4.2,baz=211,slow=7.7,SNR=7.8						
BVAR	**Borovoye Array**	**87.46**	**8**	P	**P**	**16 10 22.0**	**+0.4**
	comp=Z,1.8nm,0.6s,mb4.5,baz=180,slow=6.0,SNR=13						
AKASG	**Malin Array Be**	**87.97**	**343**	P	**P**	**16 10 24.2**	**+0.2**
	comp=Z,3.9nm,0.7s,mb4.8,baz=163,slow=4.5,SNR=16						
TRQA	**Tornquist**	**88.77**	**224**	*e*P	**P**	**16 10 28.2**	**-0.1**
	comp=Z,2.5nm,0.5s,mb4.8						
GERES	**GERESS Array B**	**91.23**	**333**	P	**P**	**16 10 39.6**	**+0.1**
	comp=Z,0.2nm,0.5s,mb3.7,baz=197,slow=18,SNR=3.4						
ILAR	**Eielson Array**	**145.91**	**18**	PKPbc	PKPbc	16 17 12.7	+0.5
	comp=Z,5.1nm,0.6s,baz=310,slow=3.9,SNR=90						
YKA	**Yellowknife Ar**	**151.09**	**352**	PKP	PKPdf	16 17 21.2	-1.4
	comp=Z,0.1nm,0.3s,baz=6.8,slow=1.2,SNR=6.8						
YKA				PKPbc	PKPdf	16 17 27.0	+4.4
	comp=Z,5.6nm,0.8s,baz=13,slow=2.0,SNR=67						
YKA	**Yellowknife Ar**	**151.09**	**352**	PKP	PKPdf	16 17 21.2	-1.4
YKA				PKPbc	PKPdf	16 17 27.0	+4.4
PDAR	**Pinedale Array**	**166.55**	**314**	PKP	PKPdf	16 17 39.9	-1.4
	comp=Z,0.4nm,0.8s,baz=90,slow=1.5,SNR=4.4						

*IDC **29** 15:58:37.6±1.1, 1.60S×99.61E, mb4.0/7, mb1 4.1/8, mb1mx3.9/17, mbtmp4.0/8, ML4.0/1, MS3.7/1, Ms1 3.6/1, ms1mx2.7/24, Error ellipse: s-maj=69.8km s-min=18.7km az=53.0*
*NEIC **29** 15:58:41.7±0.6, 1.64S×99.61E, h30km, mb4.2/2, Error ellipse: s-maj=23.2km s-min=9.4km az=63.0*

ISC 29 15:58:40.8±0.9, 1.5S±0.1×99.7E±0.2, h33km, n16, σ0*97/12, mb4.0/9, MS3.7/1, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.84**	**8**	*e*P	**P**	**16 00 21.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**19.88**	**358**	P	**P**	**16 03 11.9**	**-0.3**
	0.2nm,0.3s,baz=189,slow=9.9,SNR=11						
FITZ	**Fitzroy Crossi**	**30.29**	**125**	P	**P**	**16 04 49.9**	**-1.6**
	4.0nm,0.8s,mb4.2,baz=169,slow=5.5,SNR=6.3						
WRAB	**Tennant Creek**	**38.46**	**121**	*e*P	**P**	**16 06 01.9**	**+0.3**
	1.7nm,0.4s,mb4.1						
ASAR	**Alice Springs**	**39.74**	**126**	P	**P**	**16 06 13.2**	**+1.0**
	0.7nm,0.6s,mb3.6,baz=302,slow=7.8,SNR=13						
ASAR				PcP	PcP	16 08 20.6	+1.8
	0.4nm,0.5s,baz=300,slow=2.6,SNR=4.1						
STKA	**Stephens Creek**	**49.65**	**132**	LR	LR	16 27 36.5	
	comp=Z,85nm,20.0s,MS3.7,baz=239,slow=35						
MKAR	**Makanchi Array**	**50.51**	**345**	P	**P**	**16 07 38.0**	**+0.1**
	1.1nm,0.4s,mb4.2,baz=155,slow=8.4,SNR=8.2						
MKAR	**Makanchi Array**	**50.51**	**345**	P	**P**	**16 07 38.0**	**+0

*CSEM **29** 17:05:22.4±0.1, 35.25N×53.43E, h16km, ML3.1, Error ellipse: s-maj=3.7km s-min=2.7km az=167.0*

ISC 29 17:05:23.1±0.8, 35.25N±0.07×53.50E±0.06, h16km, n16, σ1§01/18, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjiloo**	**0.40**	**58**	Pg	**Pb**	**17 05 31.4**	**+0.1**
ILAS	**Lasjerd**	**0.46**	**287**	Pg	**Pb**	**17 05 31.3**	**-1.0**
IFIR	**Firoozkooh**	**0.72**	**303**	Pg	**Pb**	**17 05 35.8**	**-0.9**
IFIR				Sg	**Sb**	**17 05 45.7**	**-0.4**
IKIA	**Kiasar**	**0.96**	**9**	Pg	**Pb**	**17 05 41.3**	**+0.4**
IGLO	**Galoogah**	**1.05**	**360**	Pg	**Pb**	**17 05 47.9**	**+5.5**
IDMV	**Damavand**	**1.24**	**286**	Pg	**Pb**	**17 05 45.1**	**-0.5**
DAMV	**Damavand**	**1.30**	**287**	*e*PG	**Pb**	**17 05 46.1**	**-0.6**
DAMV				*e*SG	**Sb**	**17 06 04.4**	**+1.4**
DAMV				AML	AML	17 06 07.5	
	comp=N,212nm,0.2s						
IPRN	**Paran-Amol**	**1.42**	**314**	Pg	**Pn**	**17 05 48.1**	**-0.3**
IVRN	**Varamin**	**1.47**	**260**	Lg		17 06 07.6	
IVRN	**Varamin**	**1.47**	**260**	Pg	**Pn**	**17 05 48.3**	**-0.8**
IQOM	**Qom**	**2.03**	**259**	Pn	**Pn**	**17 05 56.8**	**-0.3**
THR	**Tehran**	**2.04**	**289**	*e*PG	**Pn**	**17 05 58.5**	**+1.2**
THR				*e*SG	**Sn**	**17 06 25.7**	**+3.2**
THKV	**Tehran--Karaj**	**2.23**	**288**	*e*PG	**Pn**	**17 06 01.6**	**+1.6**
NASN	**Na'in**	**2.51**	**193**	*e*PN	**Pn**	**17 06 04.9**	**+0.8**
NASN				AML	AML	17 06 47.4	
	comp=N,26nm,0.2s						
IRAZ	**Razeghan**	**2.92**	**274**	Pn	**Pn**	**17 06 07.9**	**-1.9**
ASAO	**Ashtian**	**2.94**	**257**	*e*PN	**Pn**	**17 06 10.3**	**+0.3**
ASAO				AML	AML	17 06 57.7	
	comp=N,23nm,0.5s						

CASC 29 17:12:28.8±1.7, 13.93N×91.37W, MD3.9, ML3.5, 2C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.47**	**326⇓**	*e*P	Pg	17 12 38.3	+0.2
JAT				*e*S	Sg	17 12 48.2	+3.9
JAT				AML	AML	17 12 49.0	
	comp=E,7μm,0.3s						
TP2	**Tecpan 2**	**0.91**	**21⇑**	*e*P	Pg	17 12 46.4	-0.5
TP2				*e*S	Sg	17 13 01.4	+2.3
TP2				AML	AML	17 13 04.7	
	comp=E,556nm,0.3s						
IXG	**Ixpaco**	**0.92**	**75**	*e*P	Pg	17 12 47.9	+0.8
IXG				*e*S	Sg	17 13 02.2	+2.9
RBDL	**Robledal**	**1.64**	**83⇓**	*e*P	Pn	17 12 59.1	0.0
RBDL				*e*S	Sb	17 13 23.0	+2.2
SBLS	**San Blas**	**1.69**	**93⇓**	*e*P	Pn	17 12 59.5	-0.3
SBLS				*e*S	Sb	17 13 24.0	+1.6
LFRS	**El Faro**	**2.26**	**98⇑**	*e*P	Pn	17 13 07.6	-0.3
LFRS				*e*S	Sn	17 13 37.5	+0.7
LCBS	**La Ceiba**	**2.33**	**96**	*e*P	Pn	17 13 08.9	-0.1
LCBS				*e*S	Sn	17 13 39.8	+1.0

*MOS **29** 17:15:36.3±0.9, 7.90S×130.20E, h33km, mb5.0/8, Error ellipse: s-maj=52.8km s-min=14.0km az=112.7*
*BJI **29** 17:15:39.2, 7.84S×129.96E, h58km, mB5.0, mb4.9, Ms4.8, Msz4.2*
*IDC **29** 17:15:42.2±4.8, 7.33S×129.83E, h35km±37km, mb4.4/12, mb1 4.4/14, mb1mx4.4/17, mbtmp4.6/14, ML4.2/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/19, Error ellipse: s-maj=24.8km s-min=13.8km az=76.0*
*NEIC **29** 17:15:42.1±0.8, 7.39S×129.88E, h39km±7km, mb4.8/11, Error ellipse: s-maj=7.5km s-min=5.3km az=64.0*

ISC 29 17:15:41.0±1.3, 7.43S±0.05×129.99E±0.06, h46km±12km, h38km±3.1km: pP-P, n140, σ1§21/103, mb4.8/47, MS3.6/8, 10C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.78**	**155⇓**	*i*P	**P**	**17 17 09.9**	**+3.6**
KAKA	326nm,0.2s			*e*S	**S**	**17 18 10.3**	**-1.9**
FITZ	**Fitzroy Crossi**	**11.42**	**201**	Pn	**P**	**17 18 22.9**	**-1.4**
	66nm,0.3s,baz=18,slow=9.3,SNR=226						
FITZ				Sn	**S**	**17 20 21.0**	**-11**
	54nm,0.3s,baz=171,slow=13,SNR=7.4						
FITZ				LR	LR	17 23 20.9	
	comp=Z,137nm,19.6s,baz=55,slow=40						
MENI	**Mendum Tagoi**	**11.48**	**65**	*e*P	**P**	**17 18 29.9**	**+4.7**
YOMI	**Yo Moklole**	**11.55**	**66**	*e*P	**P**	**17 18 29.6**	**+3.5**
WRAB	**Tennant Creek**	**13.13**	**162**	*c i*P	**P**	**17 18 46.7**	**-0.5**
WRAB	**Tennant Creek**	**13.13**	**162**	*e*P	**P**	**17 18 45.5**	**-1.6**
	181nm,0.9s						
WB2	**Warramunga Arr**	**13.14**	**162**	*e*P	**P**	**17 18 46.0**	**-1.3**
WB2				*e*S	**S**	**17 21 02.5**	**-10**
KEDI	**Kedomdong**	**13.78**	**265**	*e*P	**P**	**17 18 59.1**	**+3.3**
	79nm,0.2s						
RATI	**Rata**	**14.37**	**264**	P	**P**	**17 19 05.6**	**+2.0**
	202nm,0.2s						
KELI	**Kelakatan**	**15.37**	**266⇑**	*e*P	**P**	**17 19 19.2**	**+2.6**
	46nm,0.2s						
SRDI	**Scrawed**	**15.73**	**265⇑**	*e*P	**P**	**17 19 21.1**	**0.0**
	158nm,0.2s						
ASPA	**Alice Springs**	**16.57**	**167**	*e*P	**P**	**17 19 31.3**	**-0.5**
ASPA				*e*S	**S**	**17 22 21.1**	**-12**
ASAR	**Alice Springs**	**16.57**	**167**	Pn	**P**	**17 19 31.6**	**-0.1**
	3.2nm,0.3s,baz=342,slow=14,SNR=100						
ASAR				Sn	**S**	**17 22 26.1**	**-7.4**
	4.8nm,0.3s,baz=352,slow=26,SNR=9.3						
ASAR				LR	LR	17 26 48.0	
	comp=Z,233nm,18.6s,baz=339,slow=40						
TSM	**Tawau**	**16.79**	**314**	P	**P**	**17 19 39.0**	**+4.5**
MBWA	**Marble Bar**	**16.87**	**215**	*e*P	**P**	**17 19 34.7**	**-0.7**
	69nm,0.8s						
PMG	**Port Moresby**	**17.10**	**98**	P	**P**	**17 19 42.4**	**+3.9**
	1.7nm,0.3s,baz=288,slow=9.6,SNR=6.4						
PMG				S	**S**	**17 22 41.5**	**-4.1**
	1.6nm,0.3s,baz=177,slow=22,SNR=8.3						
PMG	**Port Moresby**	**17.10**	**98**	*e*P	**P**	**17 19 41.9**	**+3.4**
	15nm,0.7s						
KKM	**Kota Kinabalu**	**19.18**	**314**	*e*P	**P**	**17 20 03.7**	**-0.1**
KKM	**Kota Kinabalu**	**19.18**	**314**	P	**P**	**17 20 05.0**	**+1.2**
CTA	**Charters Tower**	**20.17**	**130**	LR	LR	17 28 37.8	
	comp=Z,110nm,19.6s,MS3.2,baz=66,slow=38						
CTAO	**Charters Tower**	**20.17**	**130**	P	**P**	**17 20 16.3**	**+1.9**
	18nm,0.9s						
KSM	**Kuching**	**21.53**	**293**	*e*P	**P**	**17 20 27.0**	**-1.4**
FORT	**Forrest**	**23.30**	**184**	*e*P	**P**	**17 20 47.8**	**+2.1**
	2μm,0.7s						
FORT				*e*S	**S**	**17 24 55.1**	**+4.0**
KLBR	**Kellerberrin**	**26.61**	**204**	*e*P	**P**	**17 21 18.1**	**+0.9**
	381nm,1.0s,mb5.9						
STKA	**Stephens Creek**	**26.62**	**158**	*e*P	**P**	**17 21 18.6**	**+1.3**
	14nm,0.9s,mb4.5						
STKA				*e*S		17 26 13.3	
STKA	**Stephens Creek**	**26.62**	**158**	P	**P**	**17 21 18.8**	**+1.5**
	2.2nm,0.4s,mb4.1,baz=335,slow=12,SNR=7.4						
STKA				LR	LR	17 33 22.1	
	comp=Z,177nm,18.7s,MS3.6,baz=206,slow=40						
NWAO	**Narrogin (SRO)**	**27.99**	**203**	LR	LR	17 31 54.3	
	comp=Z,70nm,21.9s,MS3.2,baz=169,slow=35						
NWAO	**Narrogin (SRO)**	**27.99**	**203**	P	**P**	**17 21 30.5**	**+0.7**
	15nm,0.8s,mb4.7						
KULM	**Kulim**	**31.88**	**293**	*e*P	**P**	**17 22 02.6**	**-1.9**
JOW	**Kunigami**	**34.10**	**357**	P	**P**	**17 22 23.6**	**+0.1**
	5.6nm,0.7s,mb4.6,baz=230,slow=17,SNR=3.6						
JOW				LR	LR	17 36 57.1	
	comp=Z,35nm,19.2s,MS3.1,baz=303,slow=38						
SSE	**Sheshan**	**39.22**	**348**	*e*P	**P**	**17 23 09.0**	**+2.3**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,34nm,4.6s						
CM31	**Chiang Mai Arr**	**40.00**	**310**	*e*P	**P**	**17 23 13.2**	**+0.1**
	comp=Z,2.4nm,0.6s,mb4.1						
CMAR	**Chiang Mai Arr**	**40.00**	**310**	P	**P**	**17 23 12.6**	**-0.6**
	comp=Z,4.3nm,0.8s,mb4.4,baz=136,slow=7.1,SNR=35						
CMAR				PcP	PcP	17 25 18.9	+0.5
	comp=Z,3.3nm,0.8s,baz=172,slow=2.3,SNR=11						
GYA	**Guiyang**	**40.59**	**327⇑**	*i*P	**P**	**17 23 15.0**	**-3.0**
GYA				PP	PP	17 24 51.5	-3.6
GYA				PCP	PcP	17 25 21.3	+1.1
GYA				S	**S**	**17 29 18.0**	**-6.0**
GYA				SCS	ScS	17 33 17.3	-0.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,3.6s						
GYA				LR	LR		
	comp=N,640nm,16.2s,MS4.6						
GYA				LR	LR		
	comp=E,380nm,16.0s,MS4.6						
GYA				LR	LR		
	comp=Z,680nm,16.5s,MS4.6						
WHN	**Wuhan**	**40.63**	**339**	*e*P	**P**	**17 23 19.8**	**+1.5**
NJ2	**Nanjing**	**40.67**	**345**	*e*P	**P**	**17 23 20.0**	**+1.3**
NJ2				AP	pP	17 23 29.3	-1.8
NJ2				PP	PP	17 24 57.5	+1.5
NJ2				S	**S**	**17 29 27.0**	**+1.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,100nm,9.8s						
NJ2				LR	LR		
	comp=N,240nm,21.8s						
NJ2				LR	LR		
	comp=E,220nm,32.0s						
NJ2				LR	LR		
	comp=Z,240nm,25.4s,MS4.0						
MJAR	**Matsushiro Arr**	**44.41**	**9**	P	**P**	**17 23 48.8**	**-0.4**
	comp=Z,2.2nm,0.7s,mb4.0,baz=177,slow=8.3,SNR=7.1						
MAT	**Matsushiro**	**44.42**	**9**	P	**P**	**17 23 48.0**	**-1.2**
MAT	**Matsushiro**	**44.42**	**9**	P	**P**	**17 23 48.2**	**-1.0**
XAN	**Xi'an**	**45.82**	**335**	P	**P**	**17 23 59.5**	**-1.0**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
BJI	**Beijing**	**48.93**	**346**	*e*P	**P**	**17 24 24.5**	**-0.2**
BJI				AMB	AMB		
	comp=Z,18nm,0.7s,mb5.2						
LZH	**Lanzhou**	**49.78**	**332**	*e*P	**P**	**17 24 32.0**	**+0.7**
LZH				AP	pP	17 24 43.0	-0.9
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,120nm,6.4s						
CN2	**Changchun**	**51.16**	**356**	*e*P	**P**	**17 24 44.5**	**+2.8**
LSA	**Lhasa**	**52.50**	**317**	P	**P**	**17 24 52.3**	**+0.4**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
GTA	**Gaotai**	**54.34**	**331**	*e*P	**P**	**17 25 05.3**	**-0.1**
GTA				PP	PP	17 27 13.0	+3.9
GTA				S	**S**	**17 32 43.0**	**+4.6**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,114nm,5.0s						
GTA				LR	LR		
	comp=N,54nm,17.2s,MS4.1						
GTA				LR	LR		
	comp=E,131nm,15.3s,MS4.1						
GTA				LR	LR		
	comp=Z,72nm,15.3s,MS3.9						
JIRN	**Jiri**	**54.86**	**311**	*e*P	**P**	**17 25 08.6**	**-0.8**
	comp=Z,24nm,0.7s,mb5.3						
GUN	**Gumba**	**55.23**	**311**	*e*P	**P**	**17 25 11.1**	**-0.9**
	comp=Z,44nm,0.8s,mb5.5						
PKI	**Pulchoki**	**55.40**	**311**	*e*P	**P**	**17 25 11.6**	**-1.6**
	comp=Z,10.0nm,0.6s,mb5.0						
KKN	**Kakani**	**55.61**	**311**	*e*P	**P**	**17 25 13.6**	**-1.2**
	comp=Z,17nm,0.7s,mb5.2						
DMN	**Daman**	**55.64**	**311**	*e*P	**P**	**17 25 13.9**	**-1.1**
	comp=Z,34nm,0.9s,mb5.4						
GKN	**Gorkha**	**56.20**	**311**	*e*P	**P**	**17 25 17.6**	**-1.4**
	comp=Z,21nm,0.3s,mb5.7						
KOLN	**Koldanda**	**56.87**	**310**	*e*P	**P**	**17 25 22.7**	**-1.1**
	comp=Z,34nm,0.7s,mb5.5						
ULN	**Ulaanbaatar**	**58.67**	**342**	*c i*P	**P**	**17 25 36.4**	**+0.3**
ULN	**Ulaanbaatar**	**58.67**	**342**	*e*P	**P**	**17 25 35.5**	**-0.6**
	comp=Z,10nm,0.6s,mb5.0						
ZAK	**Zakamensk**	**62.06**	**341⇑**	*i*P	**P**	**17 25 59.0**	**-0.2**
ZAK				*e*		17 26 39.1	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.2						
TLY	**Talaya**	**63.08**	**342⇑**	*e*P	**P**	**17 26 06.4**	**+0.4**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
SDNR	**Sundarnagar**	**63.72**	**310**	*e*P	**P**	**17 26 09.0**	**-1.6**
WMQ	**Urumqi**	**63.75**	**327**	⇓P	**P**	**17 26 10.5**	**0.0**
WMQ				AP	pP	17 26 23.0	-0.6
WMQ				XP	sP	17 26 28.5	-0.3
WMQ				PCP	PcP	17 26 46.8	+0.7
WMQ				PP	PP	17 28 32.5	-0.2
WMQ				*e*S	**S**	**17 34 40.8**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,86nm,4.3s						
WMQ				LR	LR		
	comp=N,15nm,26.0s,MS3.7						
WMQ				LR	LR		
	comp=E,54nm,21.8s,MS3.7						
WMQ				LR	LR		
	comp=Z,21nm,21.8s,MS3.3						
MOY	**Mondy**	**63.91**	**340**	*e*P	**P**	**17 26 11.6**	**+0.1**
MOY				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.8						
BOD	**Bodaibo**	**66.32**	**351**	*e*P	**P**	**17 26 25.7**	**-1.1**
BOD				*e*		17 26 54.0	
BOD				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.1						
MKAR	**Makanchi Array**	**68.58**	**327**	*e*P	**P**	**17 26 41.1**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MKAR	**Makanchi Array**	**68.58**	**327**	P	**P**	**17 26 41.0**	**-0.1**
	comp=Z,14nm,0.4s,mb5.2,baz=115,slow=8.4,SNR=150						
YAK	**Yakutsk**	**69.25**	**360**	*c i*P	**P**	**17 26 44.9**	**-0.2**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
YAK	**Yakutsk**	**69.25**	**360**	*e*P	**P**	**17 26 44.7**	**-0.4**
	comp=Z,13nm,0.6s,mb5.0						
KZA	**Kyzart**	**70.09**	**320**	P	**P**	**17 26 51.8**	**+1.2**
	SNR=13						
TKM2	**Tokmak 2**	**70.31**	**321**	P	**P**	**17 26 52.4**	**+0.6**
	SNR=11						
KBK	**Karagaybulak**	**70.58**	**320**	P	**P**	**17 26 56.4**	**+2.9**
	SNR=7.5						
UCH	**Uchtor**	**70.64**	**320**	P	**P**	**17 26 55.2**	**+1.3**
	SNR=14						
AAK	**Ala-Archa**	**70.86**	**320**	P	**P**	**17 26 55.6**	**+0.4**
	SNR=9.6						
AAK	**Ala-Archa**	**70.86**	**320**	P	**P**	**17 26 55.5**	**+0.3**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**70.86**	**320**	*e*P	**P**	**17 26 54.2**	**-1.0**
	comp=Z,6.2nm,0.8s,mb4.6						
AML	**Almayashu**	**71.12**	**319**	P	**P**	**17 26 57.4**	**+0.6**
	SNR=21						
USP	**Ospenovka**	**71.17**	**321**	P	**P**	**17 26 57.1**	**0.0**
	SNR=16						
EKS2	**Erkin-Say**	**71.33**	**320**	P	**P**	**17 26 59.0**	**+0.9**
	SNR=20						
VNDA	**Vanda**	**72.02**	**173**	P	**P**	**17 27 02.5**	**+0.9**
	comp=Z,0.9nm,0.6s,mb3.9,baz=320,slow=6.6,SNR=9.9						
NVS	**Novosibirsk**	**73.25**	**334⇑**	*i*P	**P**	**17 27 07.1**	**-2.0**
NVS				*e*		17 37 05.5	
NVS				pmax	pmax		
	comp=N,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
NVS				pmax	pmax		
	comp=E,10.0nm,1.1s						
KKAR	**Karatay Array**	**73.65**	**319**	*i*P	**P**	**17 27 11.5**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MAW	**Mawson**	**74.55**	**201**	P	**P**	**17 27 17.5**	**+1.1**
	comp=Z,6.1nm,0.8s,mb4.6,baz=53,slow=5.4,SNR=12						
BVA0	**Borovoye Array**	**78.42**	**328**	*i*P	**P**	**17 27 38.1**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
BVAR	**Borovoye Array**	**78.42**	**328**	P	**P**	**17 27 37.8**	**-0.7**
	comp=Z,9.6nm,0.8s,mb4.8,baz=135,slow=6.3,SNR=66						
CHKZ	**Chkalovo**	**78.62**	**329**	P	**P**	**17 27 39.3**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.2						
CHKZ	**Chkalovo**	**78.62**	**329**	*e*P	**P**	**17 27 38.9**	**-0.7**
	comp=Z,17nm,1.1s,mb4.9						
TIXI	**Tiksi**	**78.92**	**360⇓**	*e*P	**P**	**17 27 41.5**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
BILL	**Bilibino**	**79.53**	**13**	*i*P	**P**	**17 27 42.7**	**-1.6**
OPO	**Ambohidratompo**	**80.88**	**252**	P	**P**	**17 27 52.9**	**+0.5**
	comp=Z,6.0nm,0.9s,mb4.5,baz=57,slow=3.7,SNR=8.1						
SYO	**Syowa Base**	**83.26**	**201**	⇓P	**P**	**17 28 03.0**	**-0.7**
SYO	**Syowa Base**	**83.26**	**201**	⇑sP	sP	17 28 21.0	-1.2
ARU	**Arti**	**86.06**	**328⇓**	*i*P	**P**	**17 28 18.2**	**+0.3**
ARU				*e*		17 31 39.2	
ARU				*e*S	S	17 38 40.2	-6.9
ARU				*e*SS	SS	17 44 31.9	+2.5
ARU				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.3						
ARU	**Arti**	**86.06**	**328**	*e*P	**P**	**17 28 17.4**	**-0.5**
	comp=Z,17nm,0.8s,mb5.3						
KMBO	**Kilima Mbogo**	**92.57**	**269**	P	**P**	**17 28 51.0**	**+1.3**
	comp=Z,0.7nm,0.3s,mb4.6,baz=66,slow=5.4,SNR=6.0						
KIV	**Kislovodsk**	**93.16**	**314**	*e*P	**P**	**17 28 51.3**	**-0.4**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.6						
ILAR	**Eielson Array**	**93.74**	**25**	P	**P**	**17 28 53.5**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.4,baz=282,slow=4.6,SNR=12						
SNAA	**Sanae**	**95.24**	**193**	P	**P**	**17 29 02.2**	**+1.6**
	comp=Z,4.1nm,0.9s,mb4.8,baz=258,slow=2.2,SNR=11						
SOC	**Sochi**	**95.26**	**313**	*e*P	**P**	**17 29 00.4**	**-0.9**
SOC				*e*		17 32 50.4	
SOC				*e*PPP	PPP	17 34 54.3	-4.8
SOC				*e*S		17 39 33.1	
SOC				*e*SS	SS	17 46 43.9	+2.4
SOC				*e*SSS	SSS	17 50 25.8	+1.6
SOC				pmax	pmax		
	comp=N,14nm,0.9s						
SOC				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.5						
SOC				pmax	pmax		
	comp=E,24nm,1.0s						
OBN	**Obninsk**	**98.00**	**325**	*e*P	**P**	**17 29 12.0**	**-1.4**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb5.0						
ARCES	**ARCESS Array B**	**101.98**	**340**	P	P	17 29 30.5	-0.6
	comp=Z,1.6nm,0.9s,baz=90,slow=6.1,SNR=5.2						
ARCES				PKiKP		17 33 53.4	
	comp=Z,1.7nm,0.9s,baz=93,slow=2.0,SNR=5.4						
FINES	**FINESS Array B**	**103.13**	**331**	P	Pdif	17 29 35.9	-0.5
	comp=Z,0.6nm,0.9s,baz=90,slow=3.8,SNR=3.7						
FINES				PKiKP		17 33 54.6	
	comp=Z,1.0nm,0.7s,baz=108,slow=6.0,SNR=5.2						
YKA	**Yellowknife Ar**	**108.14**	**26**	PKiKP		17 34 05.2	
	comp=Z,0.2nm,0.4s,baz=294,slow=2.3,SNR=5.5						
YKA				PKKPbc		17 45 15.9	
	comp=Z,0.2nm,0.4s,baz=100,slow=2.9,SNR=5.0						
GERES	**GERESS Array B**	**112.74**	**320**	PKiKP		17 34 14.5	
	comp=Z,1.4nm,0.6s,baz=66,slow=2.2,SNR=17						
HINF	**Hinteralfeld**	**117.40**	**321**	*e*PKP1	PKPdf	17 34 22.7	+0.9
	comp=Z,6.2nm,0.7s						
PGF	**Pioggiola**	**117.64**	**314**	*e*PKP1	PKPdf	17 34 23.7	+1.3
	comp=Z,2.3nm,0.6s						
HAU	**Haudompre**	**117.65**	**321**	*e*PKP1	PKPdf	17 34 23.4	+1.1
LPG	**La Plagne**	**118.27**	**318**	*e*PKP1	PKPdf	17 34 25.3	+1.8
	comp=Z,6.9nm,0.7s						
LPL	**La Plagne**	**118.28**	**318**	*e*PKP1	PKPdf	17 34 25.2	+1.7
	comp=Z,9.0nm,0.8s						
CABF	**La Chapelle**	**118.32**	**319**	*e*PKP1	PKPdf	17 34 25.2	+1.6
	comp=Z,20nm,0.9s						
SBF	**Sospel**	**118.34**	**316**	*e*PKP1	PKPdf	17 34 24.8	+1.1
	comp=Z,6.5nm,0.6s						
BNI	**Bardonecchia**	**118.47**	**318**	*e*PKPdf	PKPdf	17 34 25.7	+1.8
MBDF	**Montbardon**	**118.51**	**317**	*e*PKP1	PKPdf	17 34 25.7	+1.7
	comp=Z,8.3nm,0.9s						
FCC	**Fort Churchill**	**118.75**	**24**	*e*PKPdf	PKPdf	17 34 25.1	+0.9
FRF	**La Foret Royal**	**118.98**	**316**	*e*PKP1	PKPdf	17 34 26.2	+1.2
	comp=Z,4.9nm,0.9s						
ORIF	**Oris-en-Rattie**	**119.05**	**318**	*e*PKP1	PKPdf	17 34 26.3	+1.2
	comp=Z,5.7nm,0.7s						
LOR	**Lormes**	**119.49**	**321**	*e*PKP1	PKPdf	17 34 27.1	+1.2
SMRF	**Simiane la Rot**	**119.57**	**317**	*e*PKP1	PKPdf	17 34 27.9	+1.7
	comp=Z,6.3nm,0.8s						
SMF	**Signal de Mont**	**119.75**	**320**	*e*PKP1	PKPdf	17 34 27.5	+1.1
SSF	**Saint Saulge**	**119.79**	**321**	*e*PKP1	PKPdf	17 34 27.9	+1.4
	comp=Z,9.7nm,0.8s						
VIVF	**Saint-Julien-I**	**119.87**	**318**	*e*PKP1	PKPdf	17 34 28.0	+1.3
	comp=Z,2.9nm,0.5s						
AVF	**Avril sur Loir**	**120.00**	**320**	*e*PKP1	PKPdf	17 34 27.9	+1.0
	comp=Z,3.6nm,0.6s						
BGF	**Bois d'Agland**	**120.41**	**320**	*e*PKP1	PKPdf	17 34 29.2	+1.5
	comp=Z,14nm,0.5s						
LASF	**Ste Croix**	**120.70**	**317**	*e*PKP1	PKPdf	17 34 29.7	+1.4
	comp=Z,6.5nm,0.9s						
TCF	**Toulx Ste Croi**	**120.92**	**320**	*e*PKP1	PKPdf	17 34 30.1	+1.4
	comp=Z,6.5nm,0.8s						
CAF	**Calviac**	**121.56**	**319**	*e*PKP1	PKPdf	17 34 31.7	+1.7
SDCO	**Great Sand Dun**	**121.58**	**50**	*e*PKPdf	PKPdf	17 34 33.1	+2.9
RJF	**Les Rejaudoux**	**121.77**	**319**	*e*PKP1	PKPdf	17 34 31.4	+1.1
	comp=Z,3.1nm,0.5s						
MTLF	**Montolieu**	**122.08**	**317**	*e*PKP1	PKPdf	17 34 32.3	+1.3
MFF	**Saint Martin d**	**122.26**	**321**	*e*PKP1	PKPdf	17 34 32.6	+1.3
	comp=Z,8.7nm,0.6s						
LFF	**La Frestale**	**122.42**	**319**	*e*PKP1	PKPdf	17 34 32.5	+0.9
SGMF	**Saint Gilles**	**122.94**	**324**	*e*PKP1	PKPdf	17 34 33.7	+1.1
MNTX	**Cornudas Mount**	**123.20**	**57**	*e*PKPdf	PKPdf	17 34 36.2	+2.7
EPF	**Esparros**	**123.46**	**317**	*e*P

EGRO El Granado 1.65 27 P **P 17 44 55.8 +1.3**
EGRO S **S 17 45 14.0 -0.7**
EGRO El Granado 1.65 27 ⇑P **P 17 44 55.8 +1.3**
278nm,0.1s,SNR=18
EGRO S **S 17 45 14.4 -0.4**
229nm,0.1s,SNR=7.9
EGRO El Granado 1.65 27 P **P 17 44 55.8 +1.4**
278nm,0.1s,SNR=18
EGRO S **S 17 45 14.0 -0.8**
229nm,0.1s,SNR=7.9
SCRT Cerro San Cris 1.91 72 P **P 17 45 00.7 +2.8**
SCRT S **S 17 45 21.3 +0.4**
SCRT Cerro San Cris 1.91 72 *i* P **P 17 45 00.7 +2.7**
SCRT *e*S **S 17 45 21.3 +0.4**
CNIL Conil 1.95 81 ⇓P **P 17 45 01.7 +3.2**
CNIL Conil 1.95 81 *i* P **P 17 45 01.7 +3.2**
CNIL *e*S **S 17 45 20.9 -0.9**
PBEJ Beja 2.00 13 *e*Pn **P 17 44 59.9 +0.7**
PBEJ *e*Sn **S 17 45 22.4 -0.7**
164nm,0.1s
PBEJ Beja 2.00 13 *e*Pn **P 17 44 59.9 +0.7**
PBEJ *e*Sn **S 17 45 22.4 -0.7**
164nm,0.1s
GIBL Gibalbin 2.13 68 P **P 17 45 04.4 +3.3**
GIBL Gibalbin 2.13 68 *e*P **P 17 45 04.4 +3.4**
EMIN Mina Concepcio 2.20 39 ⇑P **P 17 45 03.3 +1.2**
EMIN S **S 17 45 27.5 -0.7**
EMIN Mina Concepcio 2.20 39 ⇑P **P 17 45 03.3 +1.2**
22nm,0.1s,SNR=18
EMIN S **S 17 45 28.4 +0.2**
82nm,0.1s,SNR=7.9
EMIN Mina Concepcio 2.20 39 P **P 17 45 03.3 +1.2**
22nm,0.1s,SNR=18
EMIN S **S 17 45 27.5 -0.7**
82nm,0.1s,SNR=7.9
ESPR Espera 2.23 68 ⇑P **P 17 45 04.4 +2.0**
46nm,0.1s,SNR=18
ESPR S **S 17 45 30.5 +1.7**
152nm,0.2s,SNR=7.9
ESPR Espera 2.23 68 P **P 17 45 04.4 +2.0**
46nm,0.1s,SNR=18
ESPR S **S 17 45 30.5 +1.8**
152nm,0.2s,SNR=7.9
MOE Montemor 2.45 2 *e*Pn **P 17 45 06.0 +0.5**
MOE *e*Sn **S 17 45 32.6 -1.7**
RTC Rabat Centre 2.45 148 *i* P **P 17 45 05.0 -0.6**
RTC *i* S **S 17 45 33.5 -0.9**
EVO Evora 2.48 8 *e*Pn **P 17 45 05.4 -0.5**
EVO *e*Sn **S 17 45 32.3 -2.8**
325nm,0.2s
DKH Dar Kharkhour 2.57 102 *i* P **P 17 45 08.5 +1.3**
DKH *i* S **S 17 45 36.5 -0.8**
LIJA Lijar 2.58 70 ⇓P **P 17 45 10.4 +3.0**
LIJA S **S 17 45 37.5 -0.1**
LIJA Lijar 2.58 70 *i* P **P 17 45 10.4 +3.0**
LIJA *e*S **S 17 45 37.5 -0.2**
REAL Reales 2.64 80 P **P 17 45 10.6 +2.4**
REAL Reales 2.64 80 *e*P **P 17 45 10.6 +2.4**
REAL *e*S **S 17 45 38.2 -1.0**
PLOU Loures 2.87 349 *e*Pn **P 17 45 11.7 +0.3**
PLOU *e*Sn **S 17 45 42.3 -2.5**
134nm,0.2s
PLOU Loures 2.87 349 *e*Pn **P 17 45 11.7 +0.3**
PLOU *e*Sn **S 17 45 42.3 -2.5**
134nm,0.2s
AVE Averroes 2.89 163 P **P 17 45 12.0 +0.2**
EBAD Badajoz 2.91 23 P **P 17 45 12.3 +0.4**
EBAD S **S 17 45 44.4 -1.5**
EBAD Badajoz 2.91 23 ⇑P **P 17 45 12.3 +0.3**
15nm,0.1s,SNR=18
EBAD S **S 17 45 44.4 -1.5**
31nm,0.1s,SNR=7.9
EBAD Badajoz 2.91 23 P **P 17 45 12.3 +0.3**
15nm,0.1s,SNR=18
EBAD S **S 17 45 44.4 -1.5**
31nm,0.1s,SNR=7.9
EMIJ Mijas 3.00 80 ⇑P **P 17 45 14.5 +1.2**
EMIJ S **S 17 45 49.4 +1.3**
EMIJ Mijas 3.00 80 ⇑P **P 17 45 14.5 +1.2**
7.3nm,0.1s,SNR=18
EMIJ S **S 17 45 49.4 +1.3**
12nm,0.1s,SNR=7.9
ALMR Almeirim 3.08 358 *e*P **P 17 45 14.3 -0.1**
ALMR AML AML 17 45 15.4
comp=Z,63nm,0.3s
ALMR *e*S **S 17 45 46.6 -3.6**
ALMR *e*S **S 17 45 46.7 -3.5**
ALMR AML AML 17 46 03.5
comp=N,298nm,0.5s
ECAB El Cabril 3.13 49 ⇑P **P 17 45 16.0 +0.9**
comp=N,32nm,0.1s,SNR=18
ECAB S **S 17 45 50.5 -1.0**
comp=N,11nm,0.1s,SNR=7.9
ECAB El Cabril 3.13 49 P **P 17 45 16.0 +0.9**
comp=N,32nm,0.1s,SNR=18
ECAB S **S 17 45 50.5 -1.0**
comp=N,11nm,0.1s,SNR=7.9
EMAL Malaga-Limoner 3.30 77 P **P 17 45 19.2 +1.7**
EMAL S **S 17 45 55.9 +0.2**
EMAL Malaga-Limoner 3.30 77 P **P 17 45 19.2 +1.7**
comp=N,4.6nm,0.1s,SNR=7.9
EMAL S **S 17 45 55.9 +0.2**
comp=N,8.6nm,0.2s,SNR=7.9
ELOJ Sierra Loja 3.61 71 ⇓P **P 17 45 24.0 +2.3**
comp=N,10nm,0.2s,SNR=18
ELOJ S **S 17 46 02.7 -0.7**
comp=N,15nm,0.2s,SNR=7.9
ELUQ Luque 3.66 65 ⇑P **P 17 45 24.0 +1.5**
ELUQ S **S 17 46 04.6 0.0**
ELUQ Luque 3.66 65 ⇑P **P 17 45 23.6 +1.2**
comp=N,17nm,0.2s,SNR=18
ELUQ S **S 17 46 04.6 0.0**
comp=N,22nm,0.1s,SNR=7.9
EADA Adamuz 3.73 55 P **P 17 45 24.7 +1.3**
EADA S **S 17 46 05.2 -1.1**
EADA Adamuz 3.73 55 ⇑P **P 17 45 24.6 +1.2**
comp=N,67nm,0.1s,SNR=18
EADA S **S 17 46 05.2 -1.1**
comp=N,35nm,0.1s,SNR=7.9
EADA Adamuz 3.73 55 P **P 17 45 24.6 +1.2**
comp=N,67nm,0.1s,SNR=18
EADA S **S 17 46 05.2 -1.1**
comp=N,35nm,0.1s,SNR=7.9
IFR Ifrane 3.73 132 P **P 17 45 24.0 +0.6**
IFR S **S 17 46 03.5 -2.9**
MIF Mishlifen 3.75 134 *i* P **P 17 45 23.0 -0.7**
MIF *i* S **S 17 46 05.0 -1.8**
PCBR Castelo Branco 3.84 11 *e*Pn **P 17 45 25.1 +0.2**
PCBR *e*Sn **S 17 46 05.5 -3.6**
comp=N,150nm,0.3s
PCBR Castelo Branco 3.84 11 *e*Pn **P 17 45 25.1 +0.2**
PCBR *e*Sn **S 17 46 05.5 -3.6**
comp=N,150nm,0.3s
ERON Agron 3.85 74 P **P 17 45 27.7 +2.7**
ERON Agron 3.85 74 P **P 17 45 27.0 +2.0**
comp=N,18nm,0.5s,SNR=10.0
ERON S **S 17 46 09.1 -0.2**
comp=N,8.7nm,0.2s,SNR=4.0
ERON Agron 3.85 74 P **P 17 45 27.7 +2.7**
comp=N,18nm,0.5s,SNR=10.0
ERON S **S 17 46 12.2 +2.9**
comp=N,8.7nm,0.2s,SNR=4.0
KIB El Ksiba 4.01 150 *i* P **P 17 45 26.0 -1.4**
KIB *i* S **S 17 46 10.5 -2.9**
ECOG Cogollos-Vega 4.09 71 P **P 17 45 31.0 +2.5**
ECOG S **S 17 46 15.1 -0.4**
ECOG Cogollos-Vega 4.09 71 P **P 17 45 30.7 +2.2**
comp=N,44nm,0.3s,SNR=24
ECOG S **S 17 46 15.1 -0.4**
comp=N,12nm,0.1s,SNR=7.9
ECOG Cogollos-Vega 4.09 71 P **P 17 45 31.0 +2.5**
comp=N,44nm,0.3s,SNR=24
ECOG S **S 17 46 15.1 -0.4**
comp=N,12nm,0.1s,SNR=7.9
CZD Col de Zad 4.13 136 *i* P **P 17 45 28.0 -1.0**
CZD *i* S **S 17 46 13.0 -3.3**
EBAN Banos Encina 4.26 59 ⇑P **P 17 45 31.7 +0.9**
comp=N,19nm,0.1s,SNR=18
EBAN S **S 17 46 18.2 -1.5**
comp=N,29nm,0.1s,SNR=7.9
MTE Manteigas 4.38 9 *e*Pn **P 17 45 32.4 0.0**
MTE *e*Sn **S 17 46 18.6 -4.0**
comp=N,110nm,0.2s
MTE Manteigas 4.38 9 *e*Pn **P 17 45 31.8 -0.7**
MTE *e*Sn **S 17 46 18.5 -4.0**
MTE Manteigas 4.38 9 P **P 17 45 32.4 0.0**
MTE S **S 17 46 18.6 -4.0**
comp=N,55nm,0.2s
MTE Manteigas 4.38 9 *e*Pn **P 17 45 31.8 -0.6**
MTE *e*Sn **S 17 46 18.5 -4.1**
EALB Alboran 4.38 90 S **S 17 46 22.2 -0.5**
comp=N,42nm,0.2s,SNR=7.9
EALB Alboran 4.38 90 S **S 17 46 21.4 -1.3**
comp=N,42nm,0.2s,SNR=7.9
JHA Jbel Lahdid 4.41 191 *e*P **P 17 45 30.0 -2.9**
CIA Chichaoua 4.50 184 *i* P **P 17 45 31.0 -3.2**
EMEL Melilla 4.53 98 S **S 17 46 25.6 -0.7**
comp=N,197nm,0.2s,SNR=7.9
EMLI Melilla 4.53 98 S **S 17 46 25.0 -1.4**
comp=N,197nm,0.2s,SNR=7.9
EBER Berja 4.54 78 P **P 17 45 36.7 +2.0**
EBER S **S 17 46 27.2 +0.5**
EBER Berja 4.54 78 P **P 17 45 36.4 +1.6**
comp=N,1.8nm,0.2s,SNR=12
EBER S **S 17 46 26.6 -0.2**
comp=N,5.6nm,0.2s,SNR=7.9
EBER Berja 4.54 78 P **P 17 45 36.4 +1.6**
comp=N,1.8nm,0.2s,SNR=12
EBER S **S 17 46 27.2 +0.4**
comp=N,5.6nm,0.2s,SNR=7.9
EQES Quesada 4.63 67 P **P 17 45 37.1 +1.2**
EQES S **S 17 46 29.0 +0.1**
EQES Quesada 4.63 67 P **P 17 45 37.0 +1.0**
comp=N,4.4nm,0.1s,SNR=39
EQES S **S 17 46 27.9 -1.0**
comp=N,8.4nm,0.1s,SNR=7.9
EQES Quesada 4.63 67 P **P 17 45 37.0 +1.0**
comp=N,4.4nm,0.1s,SNR=39
EQES S **S 17 46 28.6 -0.3**
comp=N,8.4nm,0.1s,SNR=7.9
PVIS Viseu 4.66 5 *e*Pn **P 17 45 36.2 -0.1**
PVIS *e*Sn **S 17 46 25.1 -4.4**
comp=N,53nm,0.1s
PVIS Viseu 4.66 5 P **P 17 45 36.2 -0.1**
PVIS S **S 17 46 25.1 -4.4**
comp=N,26nm,0.1s
OUK Oukaimeden 4.87 174 *i* P **P 17 45 38.0 -1.3**
OUK *i* S **S 17 46 31.0 -4.0**
ESDC Sonseca Array 5.04 43 P **P 17 45 42.2 +0.5**
ESDC Sonseca Array 5.04 43 P **P 17 45 42.1 +0.4**
comp=N,109nm,0.1s,baz=231,slow=13,SNR=102
ESDC S **S 17 46 36.7 -2.5**
comp=N,5.5nm,0.3s,baz=228,slow=23,SNR=12
ESDC Sonseca Array 5.04 43 P **P 17 45 42.2 +0.5**
ESLA Sonseca Array 5.04 43 *e*Pn **P 17 45 42.1 +0.4**
comp=N,2.2nm,0.3s
ESLA *e*Sn **S 17 46 33.6 -5.6**
ESLA Sonseca Array 5.04 43 *e*Pn **P 17 45 42.1 +0.4**
comp=N,2.2nm,0.3s
ESLA *e*Sn **S 17 46 33.6 -5.6**
TAF Taforalt 5.07 103 P **P 17 45 40.0 -2.1**
TAF S **S 17 46 35.0 -4.9**
ENIJ Nijar 5.10 78 P **P 17 45 44.1 +1.8**
comp=N,2.3nm,0.2s,SNR=7.9
ENIJ S **S 17 46 38.6 -1.9**
comp=N,6.2nm,0.3s,SNR=7.9
PVRL Vila Real 5.22 6 *e*Pn **P 17 45 44.1 0.0**
PVRL *e*Sn **S 17 46 38.7 -5.0**
comp=N,76nm,0.1s
PVRL Vila Real 5.22 6 P **P 17 45 44.1 0.0**
PVRL S **S 17 46 38.7 -5.0**
comp=N,38nm,0.1s
TIO Tiouine 5.22 169 P **P 17 45 44.5 +0.4**
TIO S **S 17 46 42.0 -1.7**
ZFT Errachidia 5.26 139 *i* P **P 17 45 45.0 +0.3**
ZFT *i* S **S 17 46 41.0 -3.7**
EVIA Vianos 5.38 60 P **P 17 45 46.5 +0.3**
EVIA S **S 17 46 44.8 -2.7**
EVIA Vianos 5.38 60 P **P 17 45 46.6 +0.4**
comp=N,3.6nm,0.2s,SNR=14
EVIA S **S 17 46 44.8 -2.7**
comp=N,8.3nm,0.2s,SNR=7.9
EVIA Vianos 5.38 60 P **P 17 45 46.5 +0.3**
comp=N,3.6nm,0.2s,SNR=14
EVIA S **S 17 46 44.8 -2.6**
comp=N,8.3nm,0.2s,SNR=7.9
GUD Guadarrama 5.67 35 P **P 17 45 51.0 +0.8**
GUD S **S 17 46 51.6 -3.1**
GUD Guadarrama 5.67 35 P **P 17 45 50.7 +0.5**
comp=N,15nm,0.2s,SNR=55
GUD S **S 17 46 50.9 -3.8**
comp=N,14nm,0.2s,SNR=7.9
GUD Guadarrama 5.67 35 P **P 17 45 51.0 +0.8**
ELOB Lobios 5.79 3 P **P 17 45 51.5 -0.5**
ELOB S **S 17 46 52.0 -5.8**
ELOB Lobios 5.79 3 P **P 17 45 51.2 -0.7**
comp=N,3.3nm,0.1s,SNR=40
ELOB S **S 17 46 52.0 -5.8**
comp=N,28nm,0.1s,SNR=7.9
PBRG Braganca 5.87 12 *e*Pn **P 17 45 53.1 0.0**
PBRG *e*Sn **S 17 46 54.4 -5.4**
comp=N,36nm,0.3s
PBRG Braganca 5.87 12 P **P 17 45 53.1 0.0**
PBRG S **S 17 46 54.4 -5.4**
comp=N,18nm,0.3s
ECAL Calabor 6.01 12 P **P 17 45 55.1 +0.2**
ECAL S **S 17 46 58.2 -4.9**
ECAL Calabor 6.01 12 P **P 17 45 54.8 -0.1**
comp=N,2.2nm,0.1s,SNR=24
ECAL S **S 17 46 58.2 -4.9**
comp=N,44nm,0.3s,SNR=7.9
ECAL Calabor 6.01 12 P **P 17 45 55.1 +0.2**
EMUR La Murta 6.03 71 P **P 17 45 56.3 +1.1**
comp=N,0.6nm,0.1s,SNR=5.7
EMUR S **S 17 47 00.8 -2.8**
comp=N,14nm,0.3s,SNR=7.9
EMUR La Murta 6.03 71 P **P 17 45 56.3 +1.1**
comp=N,0.6nm,0.1s,SNR=5.7
EMUR S **S 17 47 00.8 -2.8**
comp=N,14nm,0.3s,SNR=7.9
ETOB Tobarra 6.06 63 P **P 17 45 56.0 +0.4**
ETOB S **S 17 47 01.3 -3.0**
ETOB Tobarra 6.06 63 P **P 17 45 56.0 +0.4**
comp=N,9.6nm,0.1s,SNR=101
ETOB S **S 17 47 01.3 -3.0**
comp=N,11nm,0.1s,SNR=7.9
ETOB Tobarra 6.06 63 P **P 17 45 56.0 +0.4**
EZAM Zamans 6.07 358 P **P 17 45 55.5 -0.3**
comp=N,0.9nm,0.1s,SNR=7.9
EZAM S **S 17 46 58.8 -5.9**
comp=N,8.6nm,0.2s,SNR=7.9
CART Cartagena 6.15 74 *e*Pn **P 17 45 56.9 0.0**
CART Cartagena 6.15 74 *e*Pn **P 17 45 56.9 -0.1**
ERUA La Rua 6.39 9 P **P 17 46 00.2 -0.1**
ERUA S **S 17 47 07.5 -5.1**
ERUA La Rua 6.39 9 P **P 17 46 00.0 -0.3**
comp=N,4.1nm,0.1s,SNR=7.2
ERUA S **S 17 47 05.4 -7.2**
comp=N,14nm,0.2s,SNR=7.9
EINC Incio 6.63 7 P **P 17 46 03.7 0.0**
EINC S **S 17 47 12.6 -5.9**
EINC Incio 6.63 7 P **P 17 46 03.5 -0.2**
comp=N,1.8nm,0.1s,SNR=7.9
EINC S **S 17 47 12.6 -5.9**
comp=N,2.3nm,0.1s,SNR=7.9
EINC Incio 6.63 7 P **P 17 46 03.7 0.0**
STS Santiago 6.80 359 P **P 17 46 05.5 -0.6**
STS S **S 17 47 16.3 -6.4**
STS Santiago 6.80 359 P **P 17 46 04.8 -1.3**
comp=N,6.3nm,0.1s,SNR=4.0
STS S **S 17 47 16.3 -6.4**
comp=N,7.8nm,0.2s,SNR=7.9
ECHE Chera 6.87 57 P **P 17 46 07.7 +0.6**
comp=N,3.8nm,0.2s,SNR=16
ECHE S **S 17 47 20.3 -4.1**
comp=N,0.6nm,0.2s,SNR=7.9
EMAZ Mazaricos 6.88 357 P **P 17 46 06.2 -1.0**
comp=N,3.9nm,0.1s,SNR=15
EMAZ S **S 17 47 17.3 -7.3**
comp=N,5.9nm,0.1s,SNR=7.9
EBEN Beniarda 7.04 66 P **P 17 46 09.5 +0.1**
EBEN S **S 17 47 25.2 -3.5**
EBEN Beniarda 7.04 66 P **P 17 46 09.8 +0.3**
comp=N,1.1nm,0.1s,SNR=15
EBEN S **S 17 47 24.4 -4.3**
comp=N,12nm,0.4s,SNR=7.9
EBEN Beniarda 7.04 66 P **P 17 46 09.5 +0.1**
comp=N,1.1nm,0.1s,SNR=15
EPON Pontenova 7.31 7 P **P 17 46 12.4 -0.7**
comp=N,0.1nm,0.1s,SNR=7.9
EPON S **S 17 47 28.8 -6.5**
comp=N,3.5nm,0.2s,SNR=7.9
EPON Pontenova 7.31 7 P **P 17 46 12.4 -0.7**
comp=N,0.1nm,0.1s,SNR=7.9
EMOS Mosqueruela 7.59 53 P **P 17 46 18.4 +1.5**
EMOS S **S 17 47 37.3 -4.9**
EMOS Mosqueruela 7.59 53 P **P 17 46 18.2 +1.3**
comp=N,1.2nm,0.1s,SNR=22
EMOS S **S 17 47 37.3 -4.9**
comp=N,2.5nm,0.1s,SNR=7.9
EMOS Mosqueruela 7.59 53 P **P 17 46 18.2 +1.3**
comp=N,1.2nm,0.1s,SNR=22
EARI Arriondas 7.63 18 P **P 17 46 18.8 +1.3**
EARI S **S 17 47 37.2 -6.0**
EARI Arriondas 7.63 18 P **P 17 46 17.9 +0.3**
comp=N,0.1nm,0.1s,SNR=8.7
EARI S **S 17 47 37.2 -6.0**
comp=N,0.5nm,0.1s,SNR=7.9
EARI Arriondas 7.63 18 P **P 17 46 18.8 +1.3**
ECRI Cripan 7.98 33 P **P 17 46 22.9 +0.6**
ECRI S **S 17 47 46.7 -5.0**
ECRI Cripan 7.98 33 P **P 17 46 22.9 +0.6**
comp=N,3.4nm,0.1s,SNR=9.2
ECRI S **S 17 47 45.9 -5.8**
comp=N,2.7nm,0.1s,SNR=7.9
ELAN Lanestosa 8.12 27 P **P 17 46 24.0 -0.2**
comp=N,0.8nm,0.1s,SNR=12
ELAN S **S 17 47 48.2 -7.1**
comp=N,3.7nm,0.2s,SNR=7.9
ELAN Lanestosa 8.12 27 P **P 17 46 24.0 -0.2**
comp=N,0.8nm,0.1s,SNR=12
EFAM Famara 8.15 213 P **P 17 46 20.6 -4.0**
EFAM S **S 17 47 45.7 -10**
EFAM Famara 8.15 213 P **P 17 46 20.3 -4.3**
comp=N,5.9nm,2.4s,SNR=7.9
EFAM S **S 17 47 46.2 -10**
comp=N,15nm,2.4s,SNR=7.9
ESAC San Caprasio 8.39 45 P **P 17 46 28.9 +1.1**
ESAC S **S 17 47 57.6 -4.2**
ESAC San Caprasio 8.39 45 P **P 17 46 28.9 +1.1**
comp=N,16nm,0.2s,SNR=13
ESAC S **S 17 47 56.4 -5.4**
comp=N,22nm,0.3s,SNR=7.9
ESAC San Caprasio 8.39 45 P **P 17 46 28.9 +1.1**
SNR=13
ERTA Horta de San J 8.43 52 P **P 17 46 29.4 +1.1**
ERTA S **S 17 47 55.5 -7.2**
ERTA Horta de San J 8.43 52 P **P 17 46 29.4 +1.1**
comp=N,1.2nm,0.1s,SNR=7.5
ERTA S **S 17 47 56.3 -6.5**
comp=N,1.1nm,0.2s,SNR=4.0
ERTA Horta de San J 8.43 52 P **P 17 46 29.4 +1.1**
comp=N,1.2nm,0.1s,SNR=7.5
CFUE Fuerteventura 8.74 214 S **S 17 48 02.9 -7.6**
comp=N,1.8nm,0.1s,SNR=7.9
ELIZ Elizondo 8.86 35 P **P 17 46 34.7 +0.5**
comp=N,1.9nm,0.1s,SNR=12
ELIZ S **S 17 48 06.9 -6.6**
comp=N,3.9nm,0.3s,SNR=7.9
EALK Alkurruntz 8.91 35 P **P 17 46 34.7 -0.3**
comp=N,0.7nm,0.1s,SNR=19
EALK S **S 17 48 07.4 -7.3**
comp=N,15nm,0.4s,SNR=7.9
SJPF Ste Jean 8.96 36 *e*Pn **P 17 46 36.2 +0.5**
SJPF *e*Sn **S 17 48 09.0 -7.0**
comp=N,8.6nm,0.4s
EPOB Poblet 9.11 52 P **P 17 46 38.3 +0.6**
comp=N,2.2nm,0.1s,SNR=17
EPOB S **S 17 48 12.6 -7.0**
comp=N,1.2nm,0.5s,SNR=7.9
EPOB Poblet 9.11 52 P **P 17 46 38.3 +0.6**
ETSF Etsaut 9.14 39 *e*Pn **P 17 46 38.6 +0.6**
ETSF *e*Sn **S 17 48 13.2 -7.0**
comp=N,14nm,0.4s
EBIE Bielsa 9.36 43 P **P 17 46 42.4 +1.3**
EBIE S **S 17 48 18.9 -6.8**
EBIE Bielsa 9.36 43 P **P 17 46 41.7 +0.6**
comp=N,4.6nm,0.1s,SNR=30
EBIE S **S 17 48 18.9 -6.8**
comp=N,3.7nm,0.2s,SNR=7.9
EBIE Bielsa 9.36 43 P **P 17 46 42.4 +1.3**
ETOS Mallorca 9.62 64 P **P 17 46 45.1 +0.5**
comp=N,0.1nm,0.1s,SNR=7.9
EPF Esparros 9.70 42 *e*Pn **P 17 46 46.6 +0.9**
EPF *e*Sn **S 17 48 27.5 -6.4**
comp=N,6.2nm,0.2s
EJON La Jonquera 10.84 51 P **P 17 47 01.8 +0.7**
comp=N,1.1nm,0.1s,SNR=7.9
MTLF Montolieu 10.95 45 *e*Pn **P 17 47 02.7 +0.1**
CAF Calviac 11.91 39 *e*Pn **P 17 47 15.7 +0.3**
RJF Les Rejaudoux 11.91 36 *e*Pn **P 17 47 15.1 -0.3**
MFF Saint Martin d 12.22 28 *e*Pn **P 17 47 19.3 -0.2**
LASF Ste Croix 12.34 46 *e*Pn **P 17 47 21.6 +0.4**
QUIF Quistinic 12.46 17 *e*Pn **P 17 47 22.3 -0.5**
ROSF Rostrenen 12.83 16 *e*Pn **P 17 47 27.4 -0.3**
TCF Toulx Ste Croi 12.96 35 *e*Pn **P 17 47 28.8 -0.6**
VIVF Saint-Julien-l 13.27 45 *e*Pn **P 17 47 34.4 +0.9**

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*CSEM **29** 18:12:03.6±0.2,37.88N×25.47W,h1km,ML2.5,Error ellipse: s-maj=12.3km s-min=5.1km az=6.0,After PDA*
*PDA **29** 18:12:03.6±1.6,37.88N×25.47W,h1km±3km,MD2.6, ML2.5,Error ellipse: s-maj=8.5km s-min=5.0km az=28.0*
SVSA 29 18:12:03.6±1.6,37.88N×25.47W,h1km±3km,MD2.6, ML2.5,Error ellipse: s-maj=8.5km s-min=5.0km az=28.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAT	**Coroa da Mata**	**0.06**	**181**	*i* P	Pg	18 12 05.8	+0.9
PMAT				*i* S	Sg	18 12 07.2	+1.5
MESC	**Monte Escuro**	**0.09**	**167**	*i* P	Pg	18 12 06.5	+1.1
PVER	**Pico Vermelho**	**0.09**	**203**	*e*P	Pg	18 12 05.6	+0.2
PVER				*i* S	Sg	18 12 07.2	+0.6
LFA	**Lagoa do Fogo**	**0.11**	**186**	*i* P	Pg	18 12 06.3	+0.5
PFAD	**Fenais da Ajud**	**0.12**	**109**	*e*P	Pg	18 12 08.6	+2.5
CML	**Cha da Macela**	**0.12**	**209**	*i* P	Pg	18 12 06.5	+0.4
CML				*i* S	Sg	18 12 08.6	+0.8
PCNG	**Congro**	**0.13**	**153**	*e*P	Pg	18 12 07.7	+1.6
PCNG				*i* S	Sg	18 12 10.6	+2.8
3μm,0.1s							
VIF	**Vila Franca**	**0.14**	**170**	*i* P	Pg	18 12 07.4	+1.1
VIF				*i* S	Sg	18 12 10.0	+1.8
1μm,0.2s							
PRCH	**Ribeira Ch**	**0.15**	**183**	*i* P	Pg	18 12 07.3	+0.7
PRCH				*i* S	Sg	18 12 10.0	+1.3
1μm,0.2s							
FRA1	**Furnas**	**0.16**	**147**	*e*P	Pg	18 12 08.6	+1.7
FRA1				*i* S	Sg	18 12 12.0	+3.0
FAC	**Faja de Cima**	**0.18**	**233**	*e*P	Pg	18 12 07.8	+0.6
MIRA	**Miradouro**	**0.18**	**122**	*e*P	Pg	18 12 09.3	+2.1
MIRA				*i* S	Sg	18 12 13.3	+3.8
PDA	**Ponta Delgada**	**0.20**	**229**	*e*P	Pg	18 12 09.0	+1.3
PDA				*e*S	Sg	18 12 12.5	+2.1
PSAN	**Santo Antonio**	**0.20**	**262**	*e*P	Pg	18 12 08.6	+0.9
PFET	**Feteiras**	**0.26**	**256**	*e*P	Pg	18 12 09.3	+0.5
SET4	**Mosteiros**	**0.26**	**269**	*e*P	Pg	18 12 09.1	+0.3
SET2	**Ginetes**	**0.27**	**262**	*e*P	Pg	18 12 09.6	+0.6

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*IDC **29** 18:14:18.8±1.8,0.80N×97.38E,mb3.9/5,mb1 4.0/6, mb1mx3.7/18,mbtmp3.9/6,ML3.9/1,MS3.1/2,Ms1 3.2/2, ms1mx2.8/19,Error ellipse: s-maj=92.9km s-min=24.7km az=56.0*
*NEIC **29** 18:14:23.3±0.8,0.83N×97.35E,h30km,mb4.1/3,Error ellipse: s-maj=19.1km s-min=12.4km az=57.0*
ISC 29 18:14:21.5±1.0,0.9N±0.1×97.4E±0.1,h30km,n12, σ0$69/11,mb4.0/7,MS3.3/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.49**	**36**	*e*Pn	**Pn**	**18 15 43.7**	**+0.3**
CM31	**Chiang Mai Arr**	**17.57**	**5**	*e*P	**P**	**18 18 26.1**	**+0.2**
9.9nm,1.0s							
CMAR	**Chiang Mai Arr**	**17.57**	**5**	P	**P**	**18 18 24.6**	**-1.4**
0.2nm,0.3s,baz=195,slow=10,SNR=14							
CMAR			LR	LR		18 25 24.0	
comp=Z,36nm,18.4s,baz=188,slow=38							
KKM	**Kota Kinabalu**	**19.49**	**74**	*e*P	**P**	**18 18 50.0**	**+0.7**
WRAB	**Tennant Creek**	**41.71**	**122**	*e*P	**P**	**18 22 08.9**	**-0.7**
3.8nm,0.9s,mb4.0							
ASAR	**Alice Springs**	**43.04**	**127**	P	**P**	**18 22 20.4**	**-0.2**
0.7nm,0.5s,mb3.6,baz=297,slow=7.9,SNR=15							
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**18 22 57.4**	**+0.6**

1.9nm,0.7s,mb4.2,baz=159,slow=8.3,SNR=20
MJAR Matsushiro Arr 51.83 42 LR LR 18 48 19.4
comp=Z,25nm,18.1s,MS3.3,baz=70,slow=39
BVAR Borovoye Array 56.64 341 P **P 18 24 03.7 -0.5**
0.6nm,0.7s,mb3.7,baz=150,slow=12,SNR=4.5
CHKZ Chkalovo 57.11 341 *e*P **P 18 24 07.0 -0.5**
2.4nm,0.9s,mb4.2
FINES FINESS Array B 80.39 333 P **P 18 26 32.1 +0.7**
0.7nm,0.7s,mb3.7,baz=101,slow=9.7,SNR=3.8
ARCES ARCESS Array B 82.92 340 P **P 18 26 45.5 +1.0**
1.6nm,0.8s,mb4.1,baz=90,slow=4.5,SNR=3.6

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*IDC **29** 18:38:53.8±1.4, 15.71S×69.37W, h270km±17km, mb3.0/3, mb1 3.3/6, mb1mx3.1/21, mbtmp3.7/6, Error ellipse: s-maj=32.7km s-min=23.5km az=28.0*
*NEIC **29** 18:38:53.4±0.8, 15.68S×69.40W, h266km±9km, Error ellipse: s-maj=19.8km s-min=13.3km az=195.0*
ISC 29 18:38:53.2±0.8,**15.7S**±0.1×**69.33W**±0.08,**h275**km±7km,
n11,σ0§**85**/13,**mb3.3**/2,**1C**,**Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.28**	**117**	P	**P**	**18 39 33.9**	**+1.2**
	30nm,0.3s,baz=316,slow=6.3,SNR=626						
LPAZ				S	**S**	**18 40 02.6**	**-0.9**
	8.5nm,0.3s,baz=217,slow=25,SNR=12						
ARE	**Arequipa**	**2.21**	**250**	⇑*i*P	**P**	**18 39 38.8**	**-1.0**
ARE				*i*S	**S**	**18 40 17.2**	**+1.0**
LVC	**Limon Verde**	**6.88**	**177**	P	**P**	**18 40 32.8**	**-0.5**
	3.2nm,0.3s,baz=3.8,slow=7.6,SNR=29						
LVC				S	**S**	**18 41 46.3**	**-5.5**
	1.1nm,0.3s,baz=319,slow=10,SNR=3.6						
SIV	**San Ignacio**	**7.95**	**93**	P	**P**	**18 40 46.2**	**-0.5**
	0.1nm,0.3s,baz=268,slow=15,SNR=6.8						
CPUP	**Villa Florida**	**15.38**	**135**	P	**P**	**18 42 18.4**	**+0.1**
	0.2nm,0.3s,baz=343,slow=12,SNR=6.6						
CPUP	**Villa Florida**	**15.38**	**135**	P	**P**	**18 42 18.4**	**+0.1**
BDFB	**Brasilia**	**20.52**	**93**	P	**P**	**18 43 13.0**	**+1.4**
	1.8nm,0.4s,baz=198,slow=4.7,SNR=3.8						
PDAR	**Pinedale Array**	**68.94**	**329**	P	**P**	**18 49 30.3**	**-0.1**
	0.2nm,0.6s,mb3.0,baz=149,slow=5.3,SNR=2.5						
YKA	**Yellowknife Ar**	**85.62**	**341**	P	**P**	**18 51 00.9**	**-0.7**
	0.4nm,0.5s,mb3.5,baz=137,slow=5.2,SNR=5.6						
YKA	**Yellowknife Ar**	**85.62**	**341**	P	**P**	**18 51 00.9**	**-0.7**
ASPA	**Alice Springs**	**134.75**	**211**	*e*P	PKPdf	18 57 49.7	+10

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*MOS **29** 18:40:20.4±0.8, 0.37N×97.31E, h33km, mb4.7/10, Error ellipse: s-maj=21.7km s-min=9.2km az=106.6*
*BJI **29** 18:40:20.2, 0.04N×97.33E, h46km, mB5.0, mb4.6, Ms3.8, Msz4.1*
*IDC **29** 18:40:21.9±0.6, 0.32N×97.25E, h31km±3km, mb4.2/14, mb1 4.3/15, mb1mx4.1/22, mbtmp4.4/15, ML4.4/1, MS3.1/3, Ms1 3.1/3, ms1mx2.9/15, Error ellipse: s-maj=36.4km s-min=11.4km az=51.0*
*NEIC **29** 18:40:21.8±0.3, 0.32N×97.29E, mb4.5/10, Error ellipse: s-maj=8.8km s-min=5.4km az=60.0*
ISC 29 18:40:20.5±2.2,**0.31N**±0.07×**97.34E**±0.10,**h34**km±18km,
h33km±.7km:**pP-P**,**n69**,σ0§**88**/62,**mb4.5**/37,**MS3.1**/3,**1C-3D**,
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.95**	**34**	*e*Pn	**P**	**18 41 47.7**	**-0.7**
KKTK	**Khon Kaen**	**16.81**	**18**	P	**P**	**18 44 16.0**	**+0.9**
CM31	**Chiang Mai Arr**	**18.10**	**5**	*e*P	**P**	**18 44 31.3**	**+0.1**
	8.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.10**	**5**	P	**P**	**18 44 29.9**	**-1.2**
	0.5nm,0.3s,baz=193,slow=9.8,SNR=33						
CMAR				PcP	PcP	18 49 05.4	+0.5
	0.0nm,0.3s,baz=227,slow=3.9,SNR=5.0						
CMAR				LR	LR	18 52 07.0	
	comp=Z,40nm,18.2s,baz=190,slow=39						
NANT	**Nan**	**18.66**	**10**	P	**P**	**18 44 34.0**	**-4.2**
KKM	**Kota Kinabalu**	**19.68**	**73**	*e*P	**P**	**18 44 49.6**	**-0.1**
KKM				*e*pP		18 45 00.2	
PKI	**Pulchoki**	**29.42**	**338**	*e*P	**P**	**18 46 25.1**	**+1.9**
GUN	**Gumba**	**29.56**	**339**	*e*P	**P**	**18 46 25.0**	**+0.5**
	21nm,0.6s,mb5.0						
DMN	**Daman**	**29.57**	**338**	*e*P	**P**	**18 46 25.0**	**+0.4**
	79nm,1.7s,mb5.2						
KKN	**Kakani**	**29.67**	**338**	*e*P	**P**	**18 46 26.1**	**+0.7**
	12nm,0.7s,mb4.7						
LSA	**Lhasa**	**29.81**	**349**	*e*P	**P**	**18 46 28.5**	**+1.8**
LSA	**Lhasa**	**29.81**	**349**	*e*P	**P**	**18 46 27.3**	**+0.6**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
LSA	**Lhasa**	**29.81**	**349**	*e*P	**P**	**18 46 27.3**	**+0.6**
	comp=Z,4.4nm,0.6s,mb4.4						
GKN	**Gorkha**	**30.11**	**337**	*e*P	**P**	**18 46 29.8**	**+0.5**
	comp=Z,25nm,0.9s,mb5.0						
KOLN	**Koldanda**	**30.32**	**335**	*e*P	**P**	**18 46 31.7**	**+0.5**
	comp=Z,13nm,0.6s,mb4.8						
ENH	**Enshi**	**31.95**	**20**	*e*P	**P**	**18 46 44.7**	**-1.0**
	comp=Z,9.6nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.30**	**125**	P	**P**	**18 46 56.9**	**-0.6**
	comp=Z,10nm,0.7s,mb4.9,baz=305,slow=4.4,SNR=13						
FITZ				pP	pP	18 47 06.5	-0.9
	comp=Z,3.4nm,0.5s,baz=343,slow=11,SNR=7.0						
XAN	**Xi'an**	**35.26**	**17**	P	**P**	**18 47 13.5**	**-0.7**
XAN				AP	pP	18 47 23.5	-0.6
XAN				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
NWAO	**Narrogin (SRO)**	**38.01**	**152**	P	**P**	**18 47 37.7**	**+0.4**
	comp=Z,7.9nm,0.9s,mb4.4,baz=350,slow=11,SNR=3.3						
NWAO	**Narrogin (SRO)**	**38.01**	**152**	P	**P**	**18 47 37.7**	**+0.4**
WRAB	**Tennant Creek**	**41.46**	**121**⇑	*e*P	**P**	**18 48 06.6**	**+0.6**
WRAB	**Tennant Creek**	**41.46**	**121**	*e*P	**P**	**18 48 05.5**	**-0.5**
	comp=Z,7.6nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**41.46**	**121**	*e*P	**P**	**18 48 05.7**	**-0.3**
HHC	**Hu-ho-hao-te**	**42.36**	**16**	*e*P	**P**	**18 48 16.0**	**+2.7**
HHC				AP	pP	18 48 27.0	+3.6
HHC				XP	sP	18 48 30.0	+2.4
HHC				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.3						
ASPA	**Alice Springs**	**42.75**	**126**	*e*P	**P**	**18 48 16.8**	**+0.1**
ASAR	**Alice Springs**	**42.75**	**126**	P	**P**	**18 48 17.3**	**+0.6**
	comp=Z,2.7nm,0.7s,mb4.1,baz=308,slow=8.2,SNR=26						
ASAR				PcP	PcP	18 50 08.4	+0.1
	comp=Z,1.1nm,0.9s,baz=273,slow=3.6,SNR=5.1						
BJT	**Baijiatuau**	**43.08**	**21**	P	**P**	**18 48 19.4**	**+0.2**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJT	**Baijiatuau**	**43.08**	**21**	P	**P**	**18 48 19.4**	**+0.2**
	comp=Z,7.9nm,0.6s,mb4.6						
BJI	**Beijing**	**43.11**	**21**	*e*P	**P**	**18 48 21.0**	**+1.6**
BJI				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.7						
WMQ	**Urumqi**	**44.16**	**350**	P	**P**	**18 48 28.5**	**+0.6**
WMQ				AP	pP	18 48 38.5	+0.5
WMQ				XP	sP	18 48 42.5	+0.3
WMQ				PP	PP	18 50 12.5	+0.3
WMQ				PCP	PcP	18 50 13.5	+0.6
WMQ				*e*S	**S**	**18 54 58.3**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,3.0nm,0.4s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,80nm,4.0s						
WMQ				LR	LR		
	comp=N,27nm,17.5s,MS3.2						
WMQ				LR	LR		
	comp=E,14nm,21.0s,MS3.2						
WMQ				LR	LR		
	comp=Z,19nm,19.2s,MS3.0						
AAK	**Ala-Archa**	**46.86**	**337**	*e*P	**P**	**18 48 49.4**	**+0.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**46.86**	**337**	*e*P	**P**	**18 48 49.4**	**+0.1**
	comp=Z,1.1nm,0.4s,mb4.1						
ULN	**Ulaanbaatar**	**48.11**	**9**	*e*P	**P**	**18 48 59.4**	**+0.4**
ULN				*e**PP	pP	18 49 09.5	+0.4
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**48.11**	**9**	*e*P	**P**	**18 48 59.4**	**+0.3**
	comp=Z,1.0nm,0.6s,mb4.0						
ULN				*e*pP	pP	18 49 09.5	+0.4
MKAR	**Makanchi Array**	**48.13**	**346**	P	**P**	**18 48 59.4**	**+0.1**
	comp=Z,4.0nm,0.6s,mb4.6,baz=157,slow=7.7,SNR=57						
MKAR				pP	pP	18 49 08.4	-0.8
	comp=Z,5.2nm,0.6s,baz=152,slow=7.6,SNR=18						
MKAR				LR	LR	19 10 37.0	
	comp=Z,17nm,19.4s,MS3.0,baz=13,slow=38						
ZAK	**Zakamensk**	**50.14**	**5**	*e*P	**P**	**18 49 14.9**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
TLY	**Talaya**	**51.46**	**5**	*i*P	**P**	**18 49 25.9**	**+1.3**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MJAR	**Matsushiro Arr**	**52.25**	**42**	LR	LR	19 13 28.3	
	comp=Z,24nm,21.2s,MS3.2,baz=215,slow=38						
STKA	**Stephens Creek**	**52.66**	**132**⇓	*i*P	**P**	**18 49 34.5**	**+0.6**
	comp=Z,6.4nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**52.66**	**132**	P	**P**	**18 49 34.5**	**+0.7**
	comp=Z,8.3nm,0.6s,mb4.8,baz=311,slow=7.7,SNR=24						
NVS	**Novosibirsk**	**55.57**	**350**	*e*P	**P**	**18 49 52.9**	**-2.0**
KLR	**Kul'dur**	**56.98**	**26**	*e*P	**P**	**18 50 13.3**	**+8.2**
BVAR	**Borovoye Array**	**57.13**	**341**	P	**P**	**18 50 04.8**	**-1.3**
	comp=Z,1.4nm,0.5s,mb4.3,baz=141,slow=9.2,SNR=9.4						
BVAR				pP	pP	18 50 14.9	-1.6
	comp=Z,2.1nm,0.6s,baz=129,slow=9.5,SNR=9.5						
CHKZ	**Chkalovo**	**57.61**	**342**	*e*P	**P**	**18 50 08.3**	**-1.2**
CHKZ				*e**PP	pP	18 50 18.7	-1.1
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**57.61**	**342**	*e*P	**P**	**18 50 08.3**	**-1.2**
	comp=Z,4.7nm,0.7s,mb4.6						
CHKZ				*e*pP	pP	18 50 18.7	-1.1
BOD	**Bodaibo**	**58.85**	**10**	*e*P	**P**	**18 50 17.0**	**-1.1**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
ARU	**Arti**	**64.05**	**337**	*i*P	**P**	**18 50 51.9**	**-1.2**
YAK	**Yakutsk**	**66.23**	**16**⇓	*e*P	**P**	**18 51 06.1**	**-0.9**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
BRTR	**Keskin Array B**	**69.81**	**313**	P	**P**	**18 51 28.8**	**-0.9**
	comp=Z,1.0nm,0.7s,mb3.9,baz=125,slow=6.0,SNR=4.7						
BRTR				pP	pP	18 51 38.9	-1.4
	comp=Z,1.1nm,0.7s,baz=117,slow=6.3,SNR=5.5						
TIXI	**Tiksi**	**74.03**	**10**⇓	*e*P	**P**	**18 51 53.5**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
IDI	**Anoyia**	**75.53**	**306**	P	**P**	**18 52 03.8**	**+0.2**
	comp=Z,3.5nm,0.4s,mb4.6,baz=354,slow=15,SNR=7.7						
AKASG	**Malin Array Be**	**76.04**	**323**	*i*P	**P**	**18 52 05.3**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**76.04**	**323**	P	**P**	**18 52 05.3**	**-0.9**
	comp=Z,1.8nm,0.5s,mb4.3,baz=86,slow=5.5,SNR=11						
AKASG				pP	pP	18 52 15.6	-1.2
	comp=Z,1.2nm,0.6s,baz=90,slow=4.6,SNR=5.9						
MLR	**Muntele Rosu**	**76.81**	**317**	P	**P**	**18 52 10.4**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=186,slow=8.0,SNR=3.1						
JOF	**Joensuu**	**79.00**	**335**	*e*p	**P**	**18 52 21.2**	**-1.2**
	comp=Z,1.4nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**80.84**	**333**	P	**P**	**18 52 32.0**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.2,baz=105,slow=6.3,SNR=27						
FINES				pP	pP	18 52 41.9	-1.1
	comp=Z,1.1nm,0.5s,baz=90,slow=5.7,SNR=5.1						
KAF	**Kangasniemi**	**80.93**	**333**	*e*p	**P**	**18 52 32.6**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.3,baz=103,slow=4.9						
KAF	**Kangasniemi**	**80.93**	**333**	*e*P	**P**	**18 52 32.6**	**-0.2**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**83.41**	**340**	P	**P**	**18 52 46.0**	**+0.6**
	comp=Z,1.3nm,0.5s,mb4.2,baz=108,slow=3.8,SNR=17						
ARCES				pP	pP	18 52 56.2	+0.1
	comp=Z,1.4nm,0.6s,baz=104,slow=5.0,SNR=9.8						
ARCES	**ARCESS Array B**	**83.41**	**340**	P	**P**	**18 52 46.0**	**+0.6**
ARCES				pP	pP	18 52 56.2	+0.1
GERES	**GERESS Array B**	**85.57**	**319**	P	**P**	**18 52 57.1**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.8,baz=90,slow=5.3,SNR=8.3						
HFS	**Hagfors**	**86.56**	**330**	P	**P**	**18 53 02.1**	**+0.9**
	comp=Z,2.0nm,0.8s,mb4.4,baz=135,slow=2.0,SNR=5.0						
NVAR	**Mina Array Bea**	**129.41**	**36**	PKP	PKPdf	18 59 28.9	+2.6
	comp=Z,0.4nm,0.5s,baz=296,slow=2.3,SNR=4.6						
NVAR	**Mina Array Bea**	**129.41**	**36**	PKP	PKPdf	18 59 28.9	+2.6
PDAR	**Pinedale Array**	**130.77**	**26**	PKP	PKPdf	18 59 30.8	+2.0
	comp=Z,0.4nm,0.5s,baz=297,slow=3.3,SNR=4.1						
TXAR	**Lajitas Array**	**144.34**	**32**	PKP	PKPdf	18 59 54.5	+0.7
	comp=Z,1.8nm,0.6s,baz=193,slow=0.5,SNR=12						
CPUP	**Villa Florida**	**144.44**	**221**	PKP	PKPdf	18 59 54.5	+0.5
	comp=Z,4.9nm,0.8s,baz=147,slow=4.2,SNR=16						
CFAA	**Coronel Fontan**	**146.02**	**202**	PKPbc	PKPbc	18 59 59.2	+1.5
	comp=Z,0.4nm,0.5s,baz=169,slow=1.5,SNR=6.0						
CFAA	**Coronel Fontan**	**146.02**	**202**	PKPbc	PKPbc	18 59 59.2	+1.5

IDC 29 19:00:09.7±3.5,**0.58N**×**96.76E**,**mb3.2**/2,**mb1 3.4**/3,
mb1mx3.3/16,**mbtmp3.2**/3,**ML3.6**/1,**Error ellipse:**
s-maj=136.3km s-min=30.5km az=62.0,**Off west coast**
of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.89**	**7**	P	P	19 04 19.9	-1.9
	0.1nm,0.3s,baz=199,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**43.38**	**126**	P	P	19 08 14.2	-1.7
	0.3nm,0.6s,baz=299,slow=8.1,SNR=5.7						
MKAR	**Makanchi Array**	**47.73**	**347**	P	P	19 08 48.4	-1.9
	0.3nm,0.7s,baz=152,slow=7.0,SNR=5.2						

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*IDC **29** 19:06:04.7±1.5, 7.19N×94.21E, mb3.7/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=59.5km s-min=29.5km az=57.0*
*NEIC **29** 19:06:09.8±1.1, 7.28N×94.36E, h30km, mb4.3/2, Error ellipse: s-maj=23.0km s-min=14.1km az=54.0*
ISC 29 19:06:08.0±1.1,**7.4N**±0.1×**94.5E**±0.1,**h30**km,**n10**,
σ0§**88**/10,**mb3.9**/6,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.50**	**108**	*e*Pn	**Pn**	**19 07 44.6**	**+0.4**
CM31	**Chiang Mai Arr**	**11.85**	**21**	*e*P	**P**	**19 08 58.1**	**-0.2**
	1.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**11.85**	**21**	Pn	**P**	**19 08 57.6**	**-0.7**
	0.2nm,0.3s,baz=212,slow=14,SNR=9.2						
LSA	**Lhasa**	**22.43**	**352**	*e*P	**P**	**19 11 09.5**	**+3.6**
	4.8nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**40.64**	**347**	P	**P**	**19 13 47.7**	**+0.6**
	1.6nm,0.7s,mb3.8,baz=169,slow=8.1,SNR=16						
MKAR	**Makanchi Array**	**40.64**	**347**	P	**P**	**19 13 47.7**	**+0.5**
ASAR	**Alice Springs**	**49.36**	**130**	P	**P**	**19 14 56.9**	**-0.3**
	0.6nm,1.0s,mb3.6,baz=306,slow=7.0,SNR=3.9						
CHKZ	**Chkalovo**	**50.04**	**342**	*e*P	**P**	**19 15 02.5**	**+0.6**
	3.4nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**73.30**	**332**	P	**P**	**19 17 39.0**	**+0.6**
	0.3nm,0.8s,mb3.8,baz=90,slow=7.6,SNR=11						
GERES	**GERESS Array B**	**78.40**	**318**	P	**P**	**19 18 05.8**	**-1.7**
	0.3nm,0.6s,mb3.4,baz=104,slow=5.5,SNR=3.7						

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*NEIC **29** 19:12:44.9±0.5, 43.96N×105.42W, ML3.1, Error ellipse: s-maj=7.6km s-min=5.2km az=162.0, Suspected Mining explosion.*
NEIC 40 km [25 miles] S of Gillette.
*IDC **29** 19:12:46.3±1.8, 44.06N×105.70W, mb4.0/2, mb1 3.8/6, mb1mx3.6/22, mbtmp3.5/6, ML3.1/3, MS2.8/3, Ms1 2.8/3, ms1mx2.5/26, Error ellipse: s-maj=61.8km s-min=8.4km az=146.0*
ISC 29 19:12:43.4±0.6,**44.00N**±0.04×**105.41W**±0.06,**n30**,
σ1§**50**/32,**mb4.2**/2,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.00**	**82**	*e*Pg	**Pg**	**19 13 04.4**	**+1.1**
RWWY	**Rawlins**	**2.66**	**211**	*e*Pn	**Pn**	**19 13 28.2**	**0.0**
RWWY				*e*Sn	**Sn**	**19 14 01.3**	**-0.4**
PHWY	**Pilot Hill**	**2.69**	**181**	*e*Pn	**Pn**	**19 13 26.7**	**-2.0**
LAO	**LASA Array**	**2.75**	**348**	*e*Pn	**Pn**	**19 13 28.5**	**-1.1**
LAO				*e*Pg	**Pg**	**19 13 37.3**	**-1.1**
PDAR	**Pinedale Array**	**3.27**	**249**	Pn	**Pn**	**19 13 38.5**	**+1.6**
	2.5nm,0.3s,baz=73,slow=16,SNR=53						
PDAR				Lg		19 14 24.0	
	16nm,0.3s,baz=72,slow=33,SNR=17						
GCMT	**Greycliff**	**3.52**	**302**	*e*Pb	**Pb**	**19 13 47.2**	**+0.8**
LKWY	**Lake**	**3.63**	**281**	*e*Pg	**Pg**	**19 13 55.4**	**-0.5**
MOOW	**Moose Ponds**	**3.87**	**268**	*e*Pb	**Pb**	**19 13 54.2**	**+1.8**
SNOW	**Snow King Moun**	**3.91**	**264**	*e*Pb	**Pb**	**19 13 55.5**	**+2.4**
YFT	**Old Faithful**	**3.93**	**279**	*e*Pg	**Pg**	**19 13 59.5**	**-2.3**
IMW	**Indian Meadow**	**4.00**	**270**	*e*Pb	**Pb**	**19 13 56.8**	**+2.2**
IMW				*e*Pg	**Pg**	**19 14 02.4**	**-0.8**
YMR	**Madison River**	**4.04**	**281**	*e*Pg	**Pg**	**19 14 02.1**	**-2.1**
TPAW	**Teton Pass**	**4.05**	**265**	*e*Pg	**Pg**	**19 14 01.8**	**-2.5**
AHID	**Auburn Hatcher**	**4.33**	**255**	*e*Pg	**Pg**	**19 14 07.0**	**-2.9**
RRI2	**Red Ridge**	**4.34**	**263**	*e*Pg	**Pg**	**19 14 08.2**	**-1.9**
BOZ	**Bozeman (W)**	**4.72**	**293**	*e*Pb	**Pb**	**19 14 08.3**	**+1.3**
HWUT	**Hardware Ranch**	**5.12**	**244**	*e*Pn	**Pn**	**19 14 03.8**	**+0.6**
	7.8nm,0.6s						
HWUT				*e*Pb	**Pb**	**19 14 16.0**	**+2.1**
HRY	**Holter Researc**	**5.28**	**303**	*e*Pb	**Pb**	**19 14 17.4**	**+0.8**
TCUT	**Toone Canyon**	**5.28**	**239**	*e*Pn	**Pn**	**19 14 04.8**	**-0.8**
MCMT	**McKenzie Canyo**	**5.40**	**281**	Pb	**Pb**	**19 14 20.6**	**+2.1**
JLU	**Jordanelle**	**5.62**	**235**	*e*Pg	**Pg**	**19 14 30.8**	**-4.8**
CHMT	**Chamberlain Mo**	**6.24**	**301**	*e*Pn	**Pn**	**19 14 22.7**	**+3.6**
DUG	**Dugway**	**6.69**	**238**	*e*Pn	**Pn**	**19 14 24.6**	**-0.7**
ULM	**Lac du Bonnet**	**9.02**	**43**	Pn	**P**	**19 14 57.9**	**0.0**
	1.3nm,0.3s,baz=225,slow=14,SNR=6.6						
ULM				LR	LR	19 18 36.8	
	comp=Z,38nm,21.8s,baz=16,slow=38						
NVAR	**Mina Array Bea**	**11.19**	**245**	Pn	**P**	**19 15 29.0**	**+1.3**
	0.1nm,0.3s,baz=56,slow=13,SNR=2.7						
YBH	**Yreka Blue Hor**	**12.90**	**266**	LR	LR	19 21 27.4	
	comp=Z,70nm,20.7s,baz=276,slow=41						
SADO	**Sadowa**	**18.77**	**78**	LR	LR	19 23 55.6	
	comp=Z,35nm,18.4s,baz=194,slow=35						
YKA	**Yellowknife Ar**	**19.29**	**347**	P	**P**	**19 17 10.4**	**-1.8**
	0.1nm,0.3s,baz=158,slow=9.6,SNR=4.1						
ARCES	**ARCESS Array B**	**61.20**	**18**	P	**P**	**19 23 01.3**	**-0.4**
	2.6nm,1.0s,mb4.3,baz=329,slow=7.1,SNR=6.0						
FINES	**FINESS Array B**	**67.83**	**23**	P	**P**	**19 23 46.4**	**+1.5**
	1.3nm,0.9s,mb4.2,baz=323,slow=9.5,SNR=3.5						

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*IDC **29** 19:14:32.9±1.1, 7.58N×94.23E, mb3.8/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, ML3.7/1, MS2.6/1, Ms1 2.8/1, ms1mx2.5/19, Error ellipse: s-maj=39.6km s-min=26.4km az=70.0*
*NEIC **29** 19:14:37.8±0.8, 7.53N×94.32E, h30km, mb4.2/2, Error ellipse: s-maj=17.9km s-min=13.5km az=64.0*
ISC 29 19:14:37.8±4.4,**7.6N**±0.1×**94.5E**±0.2,**h47**km±40km,**n11**,
σ0§**97**/12,**mb3.9**/7,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.51**	**110**	*e*Pn	**P**	**19 16 13.8**	**+0.4**
KULM				*e*Sn	**S**	**19 17 26.9**	**-0.4**
CM31	**Chiang Mai Arr**	**11.60**	**21**	Pn	**P**	**19 17 23.4**	**0.0**
CMAR	**Chiang Mai Arr**	**11.60**	**21**	Pn	**P**	**19 17 22.8**	**-0.7**
	0.1nm,0.3s,baz=212,slow=15,SNR=7.7						
CMAR				LR	LR	19 21 55.9	
	comp=Z,27nm,19.1s,baz=15,slow=38						
LSA	**Lhasa**	**22.19**	**352**	*e*P	**P**	**19 19 34.6**	**+3.2**
	7.5nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**40.41**	**347**	P	**P**	**19 22 13.8**	**+0.8**
	1.4nm,0.7s,mb3.8,baz=162,slow=7.7,SNR=7.4						
MKAR	**Makanchi Array**	**40.41**	**347**	P	**P**	**19 22 13.8**	**+0.8**
ASAR	**Alice Springs**	**49.47**	**130**	P	**P**	**19 23 26.5**	**+0.8**
	0.5nm,0.7s,mb3.6,baz=305,slow=6.9,SNR=7.5						
CHKZ	**Chkalovo**	**49.83**	**342**	*e*P	**P**	**19 23 28.9**	**+0.8**
	2.6nm,0.9s,mb4.3						
FINES	**FINESS Array B**	**73.11**	**332**	P	**P**	**19 26 03.8**	**-1.0**
	0.7nm,0.6s,mb3.8,baz=90,slow=5.7,SNR=7.8						
BOSA	**Boshof**	**75.77**	**238**	P	**P**	**19 26 20.8**	**-0.1**
	1.6nm,0.6s,mb4.1,baz=54,slow=16,SNR=4.5						
GERES	**GERESS Array B**	**78.26**	**318**	P	**P**	**19 26 32.7**	**-1.7**
	0.4nm,0.8s,mb3.4,baz=104,slow=5.5,SNR=4.0						

IDC 29 19:23:04.2±13.0,**4.62S**×**104.88E**,**h286**km±113km,
mb3.1/5,**mb1 3.2**/5,**mb1mx3.0**/16,**mbtmp3.7**/5,**Error**
ellipse: s-maj=231.3km s-min=15.6km az=56.0,
Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.67**	**346**	P	P	19 27 49.8	-2.2
	1.0nm,0.7s,baz=181,slow=7.7,SNR=9.6						
ASAR	**Alice Springs**	**33.78**	**127**	P	P	19 29 20.4	-1.1
	0.2nm,0.5s,baz=297,slow=7.8,SNR=4.0						
STKA	**St

GKN	Gorkha	29.51	336	*e*P		P	20 16 49.2 -0.1
	16nm,1.1s,mb4.6						
KOLN	Koldanda	29.73	335	*e*P		P	20 16 51.2 -0.1
	9.4nm,0.8s,mb4.6						
ENH	Enshi	31.22	20	*e*P		P	20 17 03.0 -1.3
	12nm,1.1s,mb4.6						
FITZ	Fitzroy Crossi	33.59	126	P		P	20 17 24.5 -0.6
	2.8nm,1.0s,mb4.1,baz=171,slow=21,SNR=2.9						
XAN	Xi'an	34.52	17	P		P	20 17 31.3 -1.8
XAN				AP		pP	20 17 38.8 -3.2
XAN				AMB		AMB	
	comp=Z,7.0nm,1.0s,mb4.5						
GTA	Gaotai	38.25	3	*e*P		P	20 18 04.5 0.0
GTA				AP		pP	20 18 12.0 -1.4
GTA				XP		sP	20 18 14.8 -2.4
GTA				AMB		AMB	
	comp=Z,6.0nm,0.9s,mb4.3						
JOW	Kunigami	39.12	46	P		P	20 18 13.1 +1.2
	comp=Z,3.9nm,0.7s,mb4.2,baz=280,slow=13,SNR=4.4						
WRAB	Tennant Creek	41.69	122	P		P	20 18 33.8 +0.6
	comp=Z,18nm,1.5s,mb4.5						
ASAR	Alice Springs	43.05	127	P		P	20 18 44.4 +0.1
	comp=Z,0.4nm,0.5s,mb3.4,baz=300,slow=8.1,SNR=8.8						
MKAR	Makanchi Array	47.47	346	P		P	20 19 19.0 -0.3
	comp=Z,3.9nm,0.5s,mb4.6,baz=160,slow=8.3,SNR=68						
BVAR	Borovoye Array	56.50	341	P		P	20 20 25.0 -1.8
	comp=Z,1.6nm,0.5s,mb4.3,baz=136,slow=7.9,SNR=14						
CHKZ	Chkalovo	56.98	341	*e*P		P	20 20 28.4 -1.9
FINES	FINESS Array B	80.28	332	P		P	20 22 53.5 -1.0
	comp=Z,2.3nm,1.1s,mb4.0,baz=117,slow=6.2,SNR=4.7						
GERES	GERESS Array B	85.14	319	P		P	20 23 20.7 +0.9
	comp=Z,0.3nm,0.3s,mb3.9,baz=104,slow=5.5,SNR=7.4						
ILAR	Eielson Array	99.72	23	LR		LR	21 18 07.7
	comp=Z,118nm,18.2s,MS4.4,baz=180,slow=40						

BJI ***29*** *20:13:32.9, 0.04S×97.99E, h40km, mB5.1, mb4.9, Ms5.1, Msz4.9*
MOS ***29*** *20:13:33.5±1.0, 0.24N×97.95E, h33km, mb5.1/27, Error ellipse: s-maj=14.1km s-min=6.7km az=110.1*
IDC ***29*** *20:13:34.2±0.4, 0.27N×97.91E, h26km±2km, mb4.3/18, mb1 4.4/19, mb1mx4.4/21, mbtmp4.5/19, ML4.8/1, MS4.3/10, Ms1 4.3/10, ms1mx4.1/16, Error ellipse: s-maj=19.3km s-min=11.3km az=63.0*
NEIC ***29*** *20:13:34.3±0.3, 0.18N×97.94E, mb4.8/23, Error ellipse: s-maj=8.2km s-min=6.3km az=56.0*
ISC 29 20:13:32.8±0.3, 0.17N±0.04×97.95E±0.04, h29km, h29km±.7km: pP-P, n164, σ19°10/164, mb4.8/76, MS4.7/30, 8C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.35	35	P	Pn	20 14 54.0	+1.1
KGM	Kluang	5.67	71	P	Pn	20 14 59.5	+2.0
KULM	Kulim	5.75	28	*e*P	Pn	20 14 59.0	+0.4
SNG	Songkhla	7.45	21	P	Pn	20 15 22.0	-0.4
	276nm,0.8s						
NST	Nakhon Sawan	15.55	8	P	P	20 17 09.4	-2.6
KKTK	Khon Kaen	16.77	16	P	P	20 17 28.0	+0.6
	617nm,0.9s						
CM31	Chiang Mai Arr	18.20	3	*e*P	P	20 17 44.1	-1.3
	21nm,0.7s						
CMAR	Chiang Mai Arr	18.20	3	P	P	20 17 43.9	-1.4
	1.1nm,0.3s,baz=194,slow=12,SNR=68						
CMAR				PcP	PcP	20 22 18.5	+0.3
	0.1nm,0.3s,baz=186,slow=3.6,SNR=5.3						
CMAR				LR	LR	20 25 30.9	
	comp=Z,1μm,18.3s,baz=190,slow=40						
NANT	Nan	18.71	8	P	P	20 17 52.0	+0.5
KKM	Kota Kinabalu	19.14	72	*e*P	P	20 17 57.0	+0.2
KKM	Kota Kinabalu	19.14	72	P	P	20 17 57.8	+1.1
TSM	Tawau	20.32	78	P	P	20 18 09.4	-0.2
QIZ	Qiongzhong	22.08	31	P	P	20 18 26.0	-1.4
QIZ				S	S	20 22 31.3	+7.2
QIZ				LR	LR		
	comp=N,2μm,13.6s,MS4.7						
QIZ				LR	LR		
	comp=E,1μm,14.6s,MS4.7						
QIZ				LR	LR		
	comp=Z,2μm,14.2s,MS4.6						
TRD	Trivandrum	22.49	292	⇓*e*P	P	20 18 35.7	+4.2
TRD				*e*S	S	20 22 29.7	-2.0
VIS	Vishakhapatnam	22.61	321	*e*P	P	20 18 33.9	+1.2
KMI	Kunming	25.23	10	P	P	20 18 59.3	+1.2
KMI				AP	pP	20 19 05.3	-1.2
KMI				PP	PP	20 19 40.0	+3.3
KMI				PPP	PPP	20 19 51.5	+3.6
KMI				S	S	20 23 25.0	+5.9
KMI				XS		20 23 35.0	
KMI				SS	SS	20 24 29.3	+8.8
KMI				SSS	SSS	20 24 46.5	+9.4
KMI				AMB	AMB		
	comp=Z,24nm,0.9s,mb4.7						
KMI				AMB	AMB		
	comp=Z,308nm,7.5s						
KMI				LR	LR		
	comp=N,4μm,14.7s,MS5.1						
KMI				LR	LR		
	comp=E,2μm,14.7s,MS5.1						
KMI				LR	LR		
	comp=Z,5μm,15.7s,MS5.1						
HYB	Hyderabad	25.65	313	*e*P	P	20 19 03.0	+0.9
HYB	Hyderabad	25.65	313	*i*P	P	20 19 03.0	+0.9
SHL	Shillong	25.92	347	*e*P	P	20 19 05.0	+0.5
GYA	Guiyang	27.45	17	⇑*i*P	P	20 19 18.3	-0.2
GYA				AP	pP	20 19 27.5	+0.5
GYA				XP	sP	20 19 31.8	+1.1
GYA				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.4						
GYA				AMB	AMB		
	comp=Z,190nm,6.6s						
GYA				LR	LR		
	comp=N,2μm,15.6s,MS5.0						
GYA				LR	LR		
	comp=E,2μm,15.9s,MS5.0						
GYA				LR	LR		
	comp=Z,3μm,16.2s,MS5.0						
JIRN	Jiri	29.57	339	*e*P	P	20 19 38.1	+0.4
	comp=Z,33nm,0.7s,mb5.2						
PKI	Pulchoki	29.78	337	*e*P	P	20 19 41.5	+1.9
	comp=Z,29nm,0.8s,mb5.0						
GUN	Gumba	29.91	338	*e*P	P	20 19 40.4	-0.3
	comp=Z,116nm,1.1s,mb5.5						
DMN	Daman	29.94	337	*e*P	P	20 19 42.2	+1.3
	comp=Z,30nm,0.8s,mb5.1						
KKN	Kakani	30.03	337	*e*P	P	20 19 42.1	+0.3
	comp=Z,38nm,0.9s,mb5.1						
LSA	Lhasa	30.07	348	P	P	20 19 43.3	+1.2
LSA				AP	pP	20 19 51.5	+1.0
LSA				XP	sP	20 19 55.5	+1.2
LSA				S	S	20 24 37.0	-0.4
LSA				XS		20 24 56.0	
LSA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
LSA				AMB	AMB		
	comp=Z,110nm,6.0s						
LSA				LR	LR		
	comp=N,490nm,24.6s,MS4.2						
LSA				LR	LR		
	comp=E,610nm,27.2s,MS4.2						
LSA				LR	LR		
	comp=Z,1μm,22.8s,MS4.4						
LSA	Lhasa	30.07	348	*e*P	P	20 19 42.7	+0.6
LSA				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.0						
LSA	Lhasa	30.07	348	*e*P	P	20 19 42.7	+0.6
	comp=Z,29nm,1.0s,mb5.0						
GKN	Gorkha	30.47	336	*e*P	P	20 19 45.1	-0.6
	comp=Z,48nm,1.0s,mb5.2						
KOLN	Koldanda	30.70	335	*e*P	P	20 19 47.7	+0.1
	comp=Z,26nm,0.7s,mb5.2						
CD2	Chengdu	31.06	10	⇓*i*P	P	20 19 51.0	+0.2
ENH	Enshi	31.88	19	*e*P	P	20 19 56.3	-1.7
	comp=Z,34nm,1.1s,mb5.1						
FITZ	Fitzroy Crossi	32.73	125	P	P	20 20 04.0	-1.4
	comp=Z,11nm,0.8s,mb4.9,baz=88,slow=23,SNR=18						
WHN	Wuhan	33.99	26	P	P	20 20 17.0	+0.6
WHN				S	S	20 25 48.0	+9.4
WHN				LR	LR		
	comp=Z,2μm,15.2s,MS5.0						
XAN	Xi'an	35.23	16	P	P	20 20 26.3	-0.6
XAN				AP	pP	20 20 33.5	-2.0
XAN				AMB	AMB		
	comp=Z,65nm,1.0s,mb5.5						
LZH	Lanzhou	36.15	8	*e*P	P	20 20 34.8	+0.1
LZH				AP	pP	20 20 43.8	+0.5
LZH				XP	sP	20 20 47.5	+0.6
LZH				*e*S	S	20 26 05.0	-6.9
LZH				AMB	AMB		
	comp=Z,87nm,1.8s,mb5.4						
LZH				AMB	AMB		
	comp=Z,370nm,4.8s						
LZH				LR	LR		
	comp=N,2μm,17.0s						
LZH				LR	LR		
	comp=Z,3μm,18.3s,MS5.1						
NJ2	Nanjing	37.36	30	*e*P	P	20 20 45.5	+0.6
NJ2				AP	pP	20 20 55.0	+1.5
NJ2				XP	sP	20 20 58.5	+1.4
NJ2				PP	PP	20 22 15.0	+2.1
NJ2				S	S	20 26 30.0	-0.5
NJ2				XS		20 26 47.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,170nm,7.2s						
NJ2				LR	LR		
	comp=N,2μm,14.2s,MS5.1						
NJ2				LR	LR		
	comp=E,1μm,18.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,1μm,15.9s,MS4.8						
SSE	Sheshan	37.84	33	P	P	20 20 49.5	+0.6
SSE				AP	pP	20 20 58.5	+1.0
SSE				XP	sP	20 21 01.8	+0.7
SSE				PP	PP	20 22 17.5	-1.1
SSE				S	S	20 26 34.8	-3.0
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,54nm,3.5s						
SSE				LR	LR		
	comp=N,1μm,16.6s,MS4.8						
SSE				LR	LR		
	comp=E,436nm,16.5s,MS4.8						
SSE				LR	LR		
	comp=Z,2μm,16.1s,MS4.9						
GTA	Gaotai	39.09	2	*e*P	P	20 20 59.8	+0.5
GTA				AP	pP	20 21 09.5	+1.6
GTA				XP	sP	20 21 13.8	+2.3
GTA				PP	PP	20 22 39.3	+6.3
GTA				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,171nm,7.3s						
GTA				LR	LR		
	comp=N,616nm,14.5s,MS4.7						
GTA				LR	LR		
	comp=E,473nm,16.1s,MS4.7						
GTA				LR	LR		
	comp=Z,695nm,14.9s,MS4.6						
JOW	Kunigami	39.41	45	LR	LR	20 38 44.2	
	comp=Z,271nm,19.3s,MS4.1,baz=309,slow=38						
WRAB	Tennant Creek	40.87	121	⇓*e*P	P	20 21 13.9	-0.3
WRAB	Tennant Creek	40.87	121	*e*P	P	20 21 12.3	-1.9
	comp=Z,16nm,0.6s,mb4.8						
WB2	Warramunga Arr	40.87	121	⇓*i*P	P	20 21 13.8	-0.4
BTO	Baotou	41.71	14	*e*P	P	20 21 23.5	+2.5
BTO				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.7						
ASPA	Alice Springs	42.18	127	*e*P	P	20 21 25.0	0.0
ASAR	Alice Springs	42.18	127	P	P	20 21 25.1	0.0
	comp=Z,9.0nm,0.8s,mb4.4,baz=301,slow=7.6,SNR=38						
ASAR				PcP	PcP	20 23 20.1	+0.5
	comp=Z,0.6nm,0.7s,baz=312,slow=2.4,SNR=4.1						
ASAR				LR	LR	20 41 02.1	
	comp=Z,410nm,18.5s,MS4.3,baz=305,slow=39						
HHC	Hu-ho-hao-te	42.33	15	*e*P	P	20 21 27.0	+0.9
HHC				AP	pP	20 21 37.5	+2.8
HHC				XP	sP	20 21 41.8	+3.5
HHC				S	S	20 27 47.8	+2.8
HHC				XS		20 28 00.3	
HHC				SS	SS	20 30 49.0	+0.7
HHC				SCS	ScS	20 31 26.3	+2.7
HHC				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,277nm,5.4s						
HHC				LR	LR		
	comp=N,2μm,15.7s						
HHC				LR	LR		
	comp=E,392nm,21.2s						
HHC				LR	LR		
	comp=Z,2μm,16.0s,MS5.0						
BJT	Baijiatuau	43.00	21	*e*P	P	20 21 32.1	+0.6
BJT				*e*	pP	20 21 42.1	+2.0
BJT				pmax	pmax		
	comp=Z,39nm,0.8s						
BJT	Baijiatuau	43.00	21	*e*P	P	20 21 32.1	+0.6
	comp=Z,39nm,0.8s,mb5.2						
BJT				*e*	pP	20 21 42.1	+2.0
BJI	Beijing	43.02	21	*e*P	P	20 21 32.5	+0.8
BJI				PP	PP	20 23 19.3	+5.4
BJI				AMB	AMB		
	comp=Z,52nm,0.7s,mb5.4						
BJI				AMB	AMB		
	comp=Z,360nm,2.7s,mb5.6						
BJI				LR	LR		
	comp=N,478nm,17.5s,MS4.6						
BJI				LR	LR		
	comp=E,531nm,21.6s,MS4.6						
BJI				LR	LR		
	comp=Z,483nm,20.6s,MS4.4						
KSH	Kashi	44.01	335	*e*P	P	20 21 39.0	-0.7
KSH				*e*AP	pP	20 21 48.0	-0.3
KSH				*e*XP	sP	20 21 52.5	+0.6
KSH				*e*PP	PP	20 23 22.0	-1.8
KSH				*e*PCP	PcP	20 23 25.0	-0.5
KSH				*e*PPP	PPP	20 24 00.5	-1.2
KSH				*e*SCP		20 27 13.8	
KSH				*e*PCS		20 27 17.0	
KSH				*e*S	S	20 28 07.0	-2.4
KSH				*e*SCS	ScS	20 31 33.0	-1.0
KSH				AMB	AMB		
	comp=Z,180nm,3.2s						
KSH				LR	LR		
	comp=N,520nm,5.4s						
KSH				LR	LR		
	comp=E,460nm,4.8s						
DL2	Dalian	44.24	27	P	P	20 21 43.3	+1.7
DL2				*e*S	S	20 28 10.5	-2.3
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
DL2				LR	LR		
	comp=N,420nm,16.1s,MS4.5						
DL2				LR	LR		
	comp=E,180nm,13.3s,MS4.5						
DL2				LR	LR		
	comp=Z,450nm,21.6s						
WMQ	Urumqi	44.41	349	⇑P	P	20 21 44.0	+1.1
WMQ				AP	pP	20 21 54.0	+2.5
WMQ				XP	sP	20 21 58.0	+2.9
WMQ				PCP	PcP	20 23 28.0	+1.2
WMQ				S	S	20 28 16.8	+1.6
WMQ				XS		20 28 32.0	
WMQ				AMB	AMB		
	comp=Z,44nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,167nm,3.0s						
WMQ				LR	LR		
	comp=N,249nm,17.8s,MS4.5						
WMQ				LR	LR		
	comp=E,458nm,20.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,394nm,24.0s,MS4.2						
KS15	Wonju Array Si	46.25	33	*e*P	P	20 21 57.4	-0.1
KZA	Kyzart	46.46	337	P	P	20 22 00.4	+1.1
	SNR=9.4						
UCH	Uchtor	46.88	336	P	P	20 22 03.2	+0.7
	SNR=22						
TKM2	Tokmak 2	47.05	338	P	P	20 22 04.6	+0.8
	SNR=18						
KBK	Karagaybulak	47.07	337	P	P	20 22 05.3	+1.2
	SNR=26						
AML	Almayashu	47.14	335	P	P	20 22 05.7	+1.1
	SNR=24						
AAK	Ala-Archa	47.23	336	P	P	20 22 06.6	+1.3
	SNR=7.3						
AAK	Ala-Archa	47.23	336	*e*P	P	20 22 05.1	-0.2
AAK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
AAK	Ala-Archa	47.23	336	*e*P	P	20 22 05.1	-0.3
	comp=Z,8.7nm,0.9s,mb4.7						
FRU	Bishkek	47.35	337	P	P	20 22 06.8	+0.5
FRU				pmax	pmax		
	comp=Z,50nm,2.0s,mb5.1						
CHMS	Chumysh	47.44	337	P	P	20 22 07.2	+0.2
	SNR=8.5						
SNY	Shenyang	47.48	26	⇑P	P	20 22 07.3	0.0
SNY				AP	pP	20 22 14.8	-1.2
SNY				AMB	AMB		
	comp=Z,10.0nm,2.7s,mb4.3						
SNY				LR	LR		
	comp=N,1μm,15.8s						
EKS2	Erkin-Say	47.55	336	P	P	20 22 08.7	+0.9
	SNR=27						
USP	Ospenovka	47.76	337	P	P	20 22 09.6	+0.1
	SNR=40						
ULN	Ulaanbaatar	48.16	8	⇑*e*P	P	20 22 12.8	+0.3
ULN	Ulaanbaatar	48.16	8	*e*P	P	20 22 12.3	-0.1
	comp=N,21nm,1.2s,mb5.0						
MKAR	Makanchi Array	48.41	346	*i*P	P	20 22 14.5	0.0
MKAR				pmax	pmax		
	comp=Z,26nm,0.6s						
MKAR	Makanchi Array	48.41	346	P	P	20 22 14.6	+0.2
	comp=Z,45nm,0.8s,mb5.5,baz=159,slow=8.7,SNR=153						
MKAR				LR	LR	20 45 52.0	
	comp=Z,184nm,19.7s,MS4.1,baz=172,slow=40						
MKAR	Makanchi Array	48.41	346	P	P	20 22 14.6	+0.2
MKAR				LR	LR	20 45 52.0	
KKAR	Karatay Array	49.30	334	*i*P	P	20 22 20.5	-0.9
KKAR				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
CN2	Changchun	49.88	26	*e*P	P	20 22 25.3	-0.5
CN2				*e*XP	sP	20 22 39.0	+1.0
CN2				*e*S	S	20 29 31.8	-0.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,700nm,16.0s,MS5.0						
CN2				LR	LR		
	comp=E,1μm,16.0s,MS5.0						
CN2				LR	LR		
	comp=Z,800nm,18.0s,MS4.8						
ZAK	Zakamensk	50.23	4	*e*P	P	20 22 28.0	-0.3
ZAK				*e*		20 24 27.9	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
MOY	Mondy	51.37	2	*e*P	P	20 22 38.6	+1.6
MOY				pmax	pmax		
	comp=Z,32nm,3.9s						
TLY	Talaya	51.55	5	*i*P	P	20 22 39.0	+0.7
TLY				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.7						
TLY				MLR	MLR		
	comp=Z,800nm,14.0s,MS4.9						
MJAR	Matsushiro Arr	51.95	41	P	P	20 22 41.5	-0.2
	comp=Z,2.1nm,0.8s,mb4.1,baz=233,slow=5.7,SNR=7.4						
MJAR				LR	LR	20 46 15.3	
	comp=Z,266nm,20.4s,MS4.3,baz=260,slow=38						
STKA	Stephens Creek	52.12	132	*e*P	P	20 22 43.2	+0.3
	comp=Z,9.0nm,1.0s,mb4.7						
STKA	Stephens Creek	52.12	132	P	P	20 22 43.5	+0.6
	comp=Z,3.2nm,0.5s,mb4.5,baz=306,slow=8.8,SNR=16						
STKA				LR	LR	20 47 06.4	
	comp=Z,774nm,21.3s,MS4.7,baz=7.8,slow=38						
MDJ	Mudanjiang	52.40	28	P	P	20 22 43.0	-1.9
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,220nm,4.2s						
MDJ				LR	LR		
	comp=N,1μm,11.3s,MS5.3						
MDJ				LR	LR		
	comp=E,817nm,13.0s,MS5.3						
MDJ				LR	LR		
	comp=Z,2μm,13.5s,MS5.3						
NVS	Novosibirsk	55.81	350	⇑*i*P	P	20 23 07.6	-2.1
NVS				*e*S	S	20 30 49.1	-4.0
NVS				pmax	pmax		
	comp=Z,33nm,1.6s,mb5.1						
NVS				pmax	pmax		
	comp=N,34nm,1.7s						
NVS				pmax	pmax		
	comp=E,18nm,1.7s						
NVS				smax			
	comp=E,31nm,2.1s						
KLR	Kul'dur	56.84	26	*e*P	P	20 23 14.0	-3.2
KLR				MLR	MLR		
	comp=E,2μm,15.0s						
KLR				MLR	MLR		
	comp=Z,2μm,15.0s,MS5.4						
BVA0	Borovoye Array	57.46	341	*i*P	P	20 23 19.9	-1.6
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
BVAR	Borovoye Array	57.46	341	P	P	20 23 19.9	-1.7
	comp=Z,6.3nm,0.7s,mb4.8,baz=143,slow=9.2,SNR=28						
BVAR				pP	pP	20 23 28.1	-2.3
	comp=Z,5.8nm,0.8s,baz=157,slow=11,SNR=11						
CHKZ	Chkalovo	57.93	341	*e*P	P	20 23 23.3	-1.5
CHKZ				*e*	pP	20 23 31.0	-2.7
CHKZ				pmax	pmax		
	comp=Z,38nm,0.6s,mb5.6						
CHKZ	Chkalovo	57.93	341	*e*P	P	20 23 23.3	-1.5
	comp=Z,38nm,0.6s,mb5.6						
CHKZ				*e*	pP	20 23 30.9	-2.8
BOD	Bodaibo	58.88	10	⇓*i*P	P	20 23 30.5	-0.9
BOD				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.9						
KMBO	Kilima Mbogo	60.71	269	LR	LR	20 46 29.0	
	comp=Z,272nm,19.0s,MS4.4,baz=276,slow=32						
YSS	Yuzh-Sakhalins	60.78	34	*e*P	P	20 23 44.0	-0.6
YSS				*e*		20 23 55.0	
YSS				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.4						
TI2	Plekhanov	63.23	318	*e*P	P	20 24 04.4	+3.3
SVE	Sverdlovsk	63.91	338	*e*P	P	20 24 03.0	-2.3
SVE				*e*		20 24 09.5	
SVE				MLR	MLR		
	comp=N,100nm,16.0s						
SVE				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
ARU	Arti	64.42	337	⇑*i*P	P	20 24 07.0	-1.6
ARU				*e*		20 24 39.2	
ARU				*e*S	S	20 32 44.9	+1.3
ARU				*e*SS	SS	20 36 57.0	+1.6
ARU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ARU	Arti	64.42	337	*e*P	P	20 24 06.8	-1.7
	comp=Z,2.8nm,0.8s,mb4.3						
KIV	Kislovodsk	65.57	319	*i*P	P	20 24 16.2	-0.1
KIV				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
ASF	Jabal al Asfar	65.67	305	P	P	20 24 16.9	-0.2
	comp=Z,1.6nm,0.5s,mb4.3,baz=25,slow=3.1,SNR=6.1						
GOF	Gofitskoye	65.83	321	⇓*i*P	P	20 24 17.3	-0.6
GOF				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
YAK	Yakutsk	66.19	16	*e*P	P	20 24 18.1	-1.8
YAK				pmax	pmax		
	comp=Z,31nm,0.9s,mb5.3						
YAK	Yakutsk	66.19	16	*e*P	P	20 24 18.1	-1.8
	comp=Z,31nm,0.9s,mb5.3						
MALT	Malatya	66.37	312	*e*P	P	20 24 20.9	-0.6
MALT				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
MALT	Malatya	66.37	312	*e*P	P	20 24 20.9	-0.6
	comp=Z,9.0nm,0.9s,mb4.8						
EIL	Elat	66.63	302	*e*P	P	20 24 22.2	-1.1
	comp=Z,8.9nm,1.1s,mb4.7						
SOC	Sochi	67.38	318	*e*P	P	20 24 25.8	-2.0
SOC				*e*		20 24 52.1	
SOC				*e*		20 26 53.7	
SOC				*e*PPP	PPP	20 28 30.9	-4.2
SOC				*e*S	S	20 33 18.6	-1.4
SOC				*e*		20 34 20.4	
SOC				*e*SS	SS	20 37 36.0	-5.7
SOC				pmax	pmax		
	comp=N,11nm,0.9s						
SOC				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						

SOC pmax pmax
comp=E,6.0nm,0.6s
ANN Anapa 69.36 319 *e*P **P 20 24 43.3 +3.2**
ANN *e* 20 25 00.9
ANN *e*S S 20 33 53.8 +10
ANN pmax pmax
comp=Z,44nm,1.1s,mb5.3
BRTR Keskin Array B 70.35 312 P **P 20 24 44.5 -1.7**
comp=Z,2.7nm,0.7s,mb4.3,baz=134,slow=7.5,SNR=17
BRTR pP pP 20 24 54.0 -1.2
comp=Z,3.6nm,0.8s,baz=132,slow=7.4,SNR=11
MATP Matopo 70.84 248 P **P 20 24 50.5 +1.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=93,slow=1.4,SNR=5.4
MATP pP pP 20 24 57.6 -0.9
comp=Z,3.6nm,0.8s,baz=75,slow=6.5,SNR=4.5
SIM Simferopol' 71.62 318 *e*P **P 20 24 54.4 +0.6**
SIM *i* pP 20 25 04.0 +1.2
SIM *e*S S 20 34 13.0 +3.1
SIM pmax pmax
comp=Z,11nm,0.6s,mb5.0
MAW Mawson 71.89 193 *e*P **P 20 24 55.5 +0.5**
MAW pmax pmax
comp=Z,18nm,1.0s
MAW Mawson 71.89 193 P **P 20 24 56.3 +1.3**
comp=Z,1.0nm,0.5s,mb4.0,baz=11,slow=6.2,SNR=3.2
MAW pP pP 20 25 04.2 +0.2
comp=Z,7.8nm,0.8s,baz=26,slow=6.1,SNR=9.6
MAW Mawson 71.89 193 *e*P **P 20 24 55.5 +0.5**
comp=Z,18nm,1.0s,mb5.0
PET Petropavlovsk 72.67 33 *e*P **P 20 25 00.5 +0.7**
PET MLR MLR
comp=Z,300nm,21.0s,MS4.5
OBN Obninsk 73.88 328 *i*P **P 20 25 06.5 -0.4**
OBN *i* pP 20 25 16.6 +0.7
OBN *e* 20 27 46.4
OBN pmax pmax
comp=Z,16nm,0.9s,mb5.0
TIXI Tiksi 74.06 10⇑ *e*P **P 20 25 06.4 -1.2**
TIXI pmax pmax
comp=Z,13nm,0.8s,mb4.9
TIXI MLR MLR
comp=Z,300nm,28.0s,MS4.4
BOSA Boshof 74.92 240 P **P 20 25 12.6 -0.9**
comp=Z,1.2nm,0.9s,mb3.8,baz=102,slow=1.3,SNR=3.7
BOSA pP pP 20 25 22.5 -0.1
comp=Z,2.3nm,0.7s,baz=83,slow=8.6,SNR=4.1
AKASG Malin Array Be 76.52 322 P **P 20 25 20.4 -1.7**
comp=Z,3.7nm,0.7s,mb4.4,baz=89,slow=4.8,SNR=21
AKASG pP pP 20 25 29.5 -1.7
comp=Z,5.2nm,0.7s,baz=87,slow=4.9,SNR=10.0
SYO Syowa Base 79.27 198 ⇓PcP PcP 20 25 43.0 -2.4
SYO Syowa Base 79.27 198 ⇓sP sP 20 25 48.4 -0.6
JOF Joensuu 79.39 335 *e*p **P 20 25 36.7 -0.9**
comp=Z,4.1nm,0.7s,mb4.5
APA Apatity 80.34 339⇑ *i*P pP 20 25 53.0 +1.2
APA pmax pmax
comp=Z,22nm,1.2s,mb5.0
KOLS Kolonicke sedl 80.48 320 *e*P **P 20 25 45.6 +1.9**
KOLS *e*pP pP 20 25 53.8 +0.9
FINES FINESS Array B 81.25 332 P **P 20 25 47.4 -0.1**
comp=Z,3.2nm,0.8s,mb4.3,baz=90,slow=7.6,SNR=14
FINES pP pP 20 25 56.0 -0.7
comp=Z,3.1nm,0.8s,baz=82,slow=4.5,SNR=6.4
FINES LR LR 21 08 59.9
comp=Z,135nm,19.1s,MS4.3,baz=354,slow=41
FINES FINESS Array B 81.25 332 P **P 20 25 47.4 -0.1**
FINES pP pP 20 25 56.0 -0.7
FINES LR LR 21 08 59.9
KAF Kangasniemi 81.33 333 *e*p **P 20 25 47.5 -0.4**
comp=Z,5.7nm,0.7s,mb4.6,baz=102,slow=4.8
KAF Kangasniemi 81.33 333 *e*P **P 20 25 47.5 -0.4**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KECS Kecovo 81.57 319 *e*P **P 20 25 46.1 -3.3**
KECS *e* 20 25 53.0
KECS *e*PP PP 20 28 51.9 -6.2
BILL Bilibino 81.85 21 *e*P **P 20 25 50.7 +0.2**
BILL pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BILL MLR MLR
comp=Z,600nm,18.0s,MS5.0
OJC Ojcow 82.29 321 *e*P **P 20 25 54.2 +1.1**
KEV Kevo 83.31 341 *e*p **P 20 25 56.8 -1.2**
comp=Z,11nm,0.9s,mb4.9
KEV Kevo 83.31 341 *e*P **P 20 25 56.8 -1.2**
KEV pmax pmax
comp=Z,11nm,0.9s,mb4.9
MORC Moravsky Berou 83.67 320 *e*P **P 20 26 00.3 +0.1**
MORC *e* pP 20 26 08.2 -1.2
MORC pmax pmax
comp=Z,8.0nm,1.4s,mb4.7
MORC Moravsky Berou 83.67 320 *e*P **P 20 26 00.3 +0.1**
comp=Z,7.7nm,1.4s,mb4.6
MORC *e* pP 20 26 08.2 -1.3
ARCES ARCESS Array B 83.75 340 P **P 20 26 00.7 +0.5**
comp=Z,6.2nm,0.8s,mb4.8,baz=100,slow=4.4,SNR=21
ARCES pP pP 20 26 08.6 -0.9
comp=Z,6.3nm,0.8s,baz=98,slow=4.7,SNR=4.8
ARCES LR LR 21 10 20.4
comp=Z,228nm,19.4s,MS4.6,baz=110,slow=41
ARE0 ARCESS Array S 83.75 340 P **P 20 26 00.5 +0.3**
ZST Bratislava 83.76 318 *e*P **P 20 26 01.3 +0.5**
ZST *e*pP pP 20 26 10.2 +0.2
VNDA Vanda 84.68 169 P **P 20 26 05.7 +0.9**
comp=Z,0.3nm,0.4s,mb3.7,baz=299,slow=4.1,SNR=4.9
VNDA pP pP 20 26 14.4 +0.4
comp=Z,2.2nm,0.9s,baz=314,slow=5.3,SNR=8.9
VISS Visnje 85.06 316 *e*P **P 20 26 07.4 +0.1**
LJU Ljubljana 85.30 316 *e*P **P 20 26 09.3 +0.8**
BRG Berggiesshubel 86.07 321 *e*P **P 20 26 14.0 +1.8**
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.5
BRG Berggiesshubel 86.07 321 *e*P **P 20 26 14.0 +1.8**
comp=Z,2.9nm,1.0s,mb4.5
GERES GERESS Array B 86.08 319 P **P 20 26 11.4 -0.9**
comp=Z,1.5nm,0.8s,mb4.3,baz=63,slow=3.0,SNR=12
GERES pP pP 20 26 20.9 -0.6
comp=Z,1.9nm,0.8s,baz=90,slow=4.0,SNR=8.8
CLL Collm 86.70 321 *e* sP 20 26 36.0 +8.5
HFS Hagfors 86.98 330 P **P 20 26 15.8 -0.6**
comp=Z,6.6nm,0.8s,mb4.9,baz=90,slow=4.4,SNR=11
HFS pP pP 20 26 25.4 -0.3
comp=Z,4.6nm,0.8s,baz=135,slow=4.2,SNR=6.0
MOX Moxa 87.53 321 *e*P **P 20 26 22.0 +2.6**
GRA1 Grafenberg Arr 87.75 320 *e*P **P 20 26 20.4 0.0**
comp=Z,3.0nm,0.8s,mb4.6
GRA1 *e*pP pP 20 26 30.6 +1.0
GRF Grafenberg Arr 87.75 320 *e*P **P 20 26 20.4 0.0**
GRF *e**PP pP 20 26 30.6 +1.0
GRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
GRF Grafenberg Arr 87.75 320 *e*P **P 20 26 20.4 0.0**
GRF *e**PP pP 20 26 30.6 +1.0
GRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
GRF Grafenberg Arr 87.75 320 *e*P **P 20 26 20.4 0.0**
comp=Z,3.0nm,0.8s,mb4.6
GRF *e*pP pP 20 26 30.6 +1.0
NB2 NORSAR Subarra 88.26 331 P **P 20 26 22.1 -0.5**
comp=Z,1.4nm,0.8s,mb4.2,baz=96,slow=5.3
NB2 NORSAR Subarra 88.26 331 P **P 20 26 22.1 -0.5**
NB2 pmax pmax
comp=Z,1.0nm,0.8s,mb4.1
NOA NORSAR Array B 88.26 331 P **P 20 26 22.0 -0.6**
comp=Z,2.1nm,0.8s,mb4.4,baz=96,slow=4.7,SNR=6.6
NOA pP pP 20 26 31.1 -0.7
comp=Z,2.3nm,0.9s,baz=95,slow=4.8,SNR=6.2
NOA LR LR 21 12 17.2
comp=Z,95nm,19.3s,MS4.2,baz=100,slow=40
NOA NORSAR Array B 88.26 331 P **P 20 26 22.0 -0.6**
NOA pP pP 20 26 31.1 -0.7
NOA LR LR 21 12 17.1
LPG La Plagne 90.72 315 *e*P **P 20 26 35.3 +0.8**
comp=Z,8.5nm,0.7s,mb4.9
LPG La Plagne 90.72 315 *e*P **P 20 26 35.3 +0.8**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
IMA Indian Mountai 97.23 23 *e*P **P 20 27 04.4 +0.6**
IMA pmax pmax
comp=Z,14nm,0.8s,mb5.4
IMA Indian Mountai 97.23 23 *e*P **P 20 27 04.4 +0.6**
comp=Z,14nm,0.8s,mb5.5
ILAR Eielson Array 100.34 23 PP PP 20 31 24.9 -2.1
comp=Z,0.6nm,1.0s,baz=277,slow=7.3,SNR=5.2
TBI Tubuai 110.75 115 *e*LR LR 21 04 52.1
comp=Z,230nm,26.0s
PPT Papeete 111.44 109 *e*LR LR 21 05 11.5
comp=Z,161nm,22.5s
NVAR Mina Array Bea 129.16 37 PKP PKPdf 20 32 41.3 -2.6
comp=Z,0.6nm,0.7s,baz=282,slow=2.2,SNR=5.4
PDAR Pinedale Array 130.63 27 PKP PKPdf 20 32 43.0 -3.6
comp=Z,0.5nm,0.7s,baz=90,slow=1.5,SNR=4.8
TXAR Lajitas Array 144.13 33 PKP PKPdf 20 33 07.0 -4.5
comp=Z,2.1nm,0.5s,baz=254,slow=0.8,SNR=25
CPUP Villa Florida 144.74 221 PKP PKPdf 20 33 08.3 -4.4
comp=Z,2.2nm,0.7s,baz=134,slow=1.6,SNR=8.0
CPUP pPKP 20 33 17.1
comp=Z,17nm,1.0s,baz=131,slow=4.7,SNR=14
CPUP Villa Florida 144.74 221 *e*PKP PKPdf 20 33 08.3 -4.4
JCT Junction City 145.15 27 *e*PKIKP PKPdf 20 33 09.5 -3.8

IDC ***29*** *20:57:37.5±1.5, 9.04S×124.52E, mb3.8/2, mb1 4.6/5, mb1mx4.1/14, mbtmp4.3/5, ML4.6/3, Error ellipse: s-maj=91.3km s-min=23.0km az=61.0*
DJA ***29*** *20:57:41.3±0.9, 10.41S×123.80E, h319km±19km, mb4.1/1, MD4.7/4, ML4.9/3, Error ellipse: s-maj=232.5km s-min=22.3km az=11.0*
NEIC ***29*** *20:57:42.3±0.5, 9.17S×124.42E, h35km, mb4.3/2, Error ellipse: s-maj=32.6km s-min=7.1km az=55.0*
ISC 29 20:57:44.8±1.3, 9.87S±0.08×123.84E±0.07, h92km±16km, n15, σ0§87/25, mb4.0/4, 5C-3D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**7.75**	**280**⇑	*e*Pn	**P**	**20 59 37.7**	**+1.1**
	30nm,0.2s						
KEDI			⇓	*e*Sn	**S**	**21 01 03.8**	**+0.4**
RATI	**Rata**	**8.28**	**277**⇑	*e*Pn	**P**	**20 59 44.0**	**+0.2**
	124nm,1.1s						
RATI			⇓	*e*Sn	**S**	**21 01 13.6**	**-2.8**
FITZ	**Fitzroy Crossi**	**8.37**	**168**	Pn	**P**	**20 59 48.9**	**+3.8**
	11nm,0.3s,baz=4.3,slow=10.0,SNR=222						
FITZ				Sn	**S**	**21 01 19.3**	**+0.7**
	36nm,0.3s,baz=194,slow=8.5,SNR=16						
KAKA	**Kakadu**	**8.90**	**109**	*e*P	**P**	**20 59 51.7**	**-0.5**
	10nm,0.3s						
KAKA				*e*S	**S**	**21 01 23.6**	**-7.9**
KELI	**Kelakatan**	**9.38**	**279**⇑	*e*P	**P**	**20 59 53.6**	**-5.1**
	30nm,1.0s						
KELI			⇓	*e*S	**S**	**21 01 37.5**	**-5.6**
SRDI	**Scrawed**	**9.67**	**277**⇑	*e*Pn	**P**	**21 00 02.3**	**-0.5**
	12nm,0.2s						
SRDI			⇑	*e*Sn	**S**	**21 01 44.9**	**-5.5**
WRA	**Warramunga Arr**	**14.25**	**136**	Pn	**P**	**21 01 03.2**	**-0.3**
	2.7nm,0.3s,baz=317,slow=14,SNR=139						
WRA				Sn	**S**	**21 03 34.0**	**-5.5**
	2.7nm,0.3s,baz=307,slow=24,SNR=12						
WRAB	**Tennant Creek**	**14.25**	**136**	*e*Pn	**P**	**21 01 03.2**	**-0.2**
	11nm,0.4s						
WB2	**Warramunga Arr**	**14.26**	**136**	*e*P	**P**	**21 01 03.2**	**-0.4**
WB2				*e*S	**S**	**21 03 33.2**	**-6.5**
ASPA	**Alice Springs**	**16.75**	**146**	*e*P	**P**	**21 01 38.8**	**+3.7**
ASPA				*e*S	**S**	**21 04 36.6**	**-0.5**
ASAR	**Alice Springs**	**16.75**	**146**	P	**P**	**21 01 38.7**	**+3.6**
	2.1nm,0.3s,baz=318,slow=11,SNR=228						
ASAR				S	**S**	**21 04 36.9**	**-0.2**
	0.5nm,0.3s,baz=317,slow=22,SNR=12						
CMAR	**Chiang Mai Arr**	**37.36**	**319**	P	**P**	**21 04 51.3**	**+0.9**
	1.6nm,0.7s,mb4.0,baz=144,slow=6.9,SNR=13						
LSA	**Lhasa**	**50.38**	**322**	*e*P	**P**	**21 06 35.5**	**+0.5**
	2.8nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**67.48**	**330**	P	**P**	**21 08 32.6**	**-0.4**
	0.5nm,0.5s,mb3.6,baz=136,slow=6.9,SNR=13						
AAK	**Ala-Archa**	**68.97**	**323**	*e*P	**P**	**21 08 42.0**	**-0.2**
	1.2nm,0.7s,mb3.8						

NEIC ***29*** *21:06:29.3±0.6, 0.11N×97.83E, mb4.2/3, Error ellipse: s-maj=18.5km s-min=9.1km az=59.0*
IDC ***29*** *21:06:30.3±1.8, 0.33N×98.13E, h27km±5km, mb4.1/7, mb1 4.2/8, mb1mx3.8/19, mbtmp4.2/8, ML3.7/1, MS3.0/1, Ms1 3.2/1, ms1mx2.8/24, Error ellipse: s-maj=96.6km s-min=14.2km az=55.0*
ISC 29 21:06:27.5±0.8, 0.16N±0.10×97.9E±0.1, h28km, h28km±.6km: pP-P, n14, σ0§70/13, mb4.1/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.81**	**28**	*e*Pn	**Pn**	**21 07 54.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**18.22**	**3**	P	**P**	**21 10 39.7**	**-0.7**
	0.1nm,0.3s,baz=195,slow=10,SNR=11						
CMAR				LR	LR	21 18 19.0	
	comp=Z,45nm,19.3s,baz=303,slow=39						
KKM	**Kota Kinabalu**	**19.22**	**72**	*e*P	**P**	**21 10 52.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**32.78**	**125**	P	**P**	**21 13 00.3**	**-0.5**
	11nm,1.3s,mb4.6,baz=337,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**40.92**	**121**	P	**P**	**21 14 09.0**	**-0.5**
	1.5nm,0.6s,mb3.8,baz=302,slow=9.0,SNR=23						
WRA				pP	pP	21 14 17.2	-0.6
	0.9nm,0.5s,baz=302,slow=9.1,SNR=5.5						
WRAB	**Tennant Creek**	**40.92**	**121**	*e*P	**P**	**21 14 09.1**	**-0.3**
	3.5nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**42.23**	**127**	P	**P**	**21 14 20.4**	**+0.1**
	1.3nm,0.7s,mb3.7,baz=300,slow=7.4,SNR=11						
ASAR				pP	pP	21 14 29.2	+0.6
	0.5nm,0.4s,baz=297,slow=8.0,SNR=4.5						
AAK	**Ala-Archa**	**47.22**	**336**	P	**P**	**21 14 59.9**	**-0.1**
	1.0nm,0.8s,mb3.8						
MKAR	**Makanchi Array**	**48.41**	**346**	P	**P**	**21 15 10.2**	**+0.9**
	4.1nm,0.5s,mb4.7,baz=159,slow=8.6,SNR=70						
STKA	**Stephens Creek**	**52.16**	**132**	P	**P**	**21 15 39.1**	**+0.9**
	1.4nm,0.8s,mb4.0,baz=328,slow=12,SNR=5.1						
STKA				pP	pP	21 15 47.1	+0.5
	1.4nm,0.5s,baz=35,slow=13,SNR=2.1						
BVAR	**Borovoye Array**	**57.45**	**341**	P	**P**	**21 16 15.4**	**-1.0**
	0.8nm,0.5s,mb4.0,baz=148,slow=8.8,SNR=11						
BVAR				pP	pP	21 16 24.2	-0.8
	0.7nm,0.7s,baz=141,slow=9.5,SNR=5.6						
CHKZ	**Chkalovo**	**57.92**	**341**	*e*P	**P**	**21 16 18.9**	**-0.7**
	1.7nm,0.7s,mb4.2						
ARCES	**ARCESS Array B**	**83.74**	**340**	P	**P**	**21 18 56.3**	**+1.3**
	2.0nm,0.8s,mb4.3,baz=80,slow=5.5,SNR=3.2						
TXAR	**Lajitas Array**	**144.18**	**33**	PKP	PKPdf	21 26 02.7	-3.7
	0.4nm,0.5s,baz=247,slow=1.4,SNR=5.7						

IDC ***29*** *22:10:31.7±1.6, 8.06S×124.99E, mb4.0/1, mb1 4.0/4, mb1mx3.8/15, mbtmp3.9/4, ML3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/18, Error ellipse: s-maj=104.2km s-min=25.4km az=66.0*
NEIC ***29*** *22:10:44.7±3.5, 8.69S×124.99E, h131km±40km, mb4.2/2, Error ellipse: s-maj=28.6km s-min=25.6km az=166.0*
ISC 29 22:10:38.1±2.1, 8.3S±0.1×125.0E±0.1, h71km±22km, n9, σ1§08/15, mb3.8/2, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.53**	**121**	*e*P	**P**	**22 12 42.4**	**+1.3**
	12nm,0.5s						
KAKA				*e*S	**S**	**22 14 16.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**9.74**	**176**	Pn	**P**	**22 12 56.8**	**-0.8**
	1.3nm,0.3s,baz=4.8,slow=9.1,SNR=35						
FITZ				Sn	**S**	**22 14 38.2**	**-8.2**
	1.0nm,0.3s,baz=13,slow=17,SNR=2.7						
WRA	**Warramunga Arr**	**14.68**	**143**	Pn	**P**	**22 14 01.8**	**-1.5**
	0.5nm,0.3s,baz=318,slow=13,SNR=40						
WRA				Sn	**S**	**22 16 40.1**	**-4.5**
	0.6nm,0.3s,baz=321,slow=24,SNR=9.6						
WRAB	**Tennant Creek**	**14.68**	**143**	*e*Pn	**P**	**22 14 02.8**	**-0.5**
WB2	**Warramunga Arr**	**14.69**	**143**	*e*P	**P**	**22 14 02.8**	**-0.7**
WB2				*e*S	**S**	**22 16 39.6**	**-5.2**
ASPA	**Alice Springs**	**17.49**	**152**	*e*P	**P**	**22 14 41.0**	**+2.2**
ASPA				*e*S	**S**	**22 17 48.5**	**-0.3**
ASAR	**Alice Springs**	**17.49**	**152**	P	**P**	**22 14 40.8**	**+1.9**
	0.2nm,0.3s,baz=320,slow=10,SNR=13						
ASAR				S	**S**	**22 17 49.2**	**+0.4**
	0.3nm,0.3s,baz=314,slow=20,SNR=10						
ASAR				LR	LR	22 22 51.5	
	comp=Z,67nm,18.9s,baz=98,slow=42						
MKAR	**Makanchi Array**	**66.72**	**330**	P	**P**	**22 21 23.3**	**-0.5**
	1.2nm,0.7s,mb3.9,baz=135,slow=7.7,SNR=14						
CHKZ	**Chkalovo**	**76.85**	**330**	P	**P**	**22 22 24.1**	**+0.1**
	1.1nm,0.8s,mb3.6						

MOS 29 22:11:07.1±1.4, 50.56N×107.66E, h21km, mb4.2/1, Error ellipse: s-maj=17.4km s-min=12.8km az=94.7,

Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAB	**Kabansk**	**1.62**	**337**	*e*PN	Pn	22 11 36.3	+1.4
KAB				*e*		22 11 59.0	
KAB				pmax	pmax		
	comp=Z,354nm,0.5s						
KAB				smax			
	comp=E,886nm,0.4s						
TLY	**Talaya**	**2.77**	**295**	*e*PN	Pn	22 11 51.6	+0.3
TLY				*e*		22 11 56.8	
TLY				*e*S	Sn	22 12 26.1	+1.7
TLY				*e*		22 12 33.1	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.1s						
TLY				smax			
	comp=N,144nm,0.6s						
KPC	**Khapcheranga**	**3.15**	**104**	*e*PN	Pn	22 11 56.8	0.0
KPC				*e*		22 12 03.0	
KPC				*e*S	Sn	22 12 33.7	-0.5
KPC				*e*		22 12 45.8	
KPC				pmax	pmax		
	comp=Z,21nm,0.3s						
KPC				smax			
	comp=N,157nm,0.4s						
ARS	**Arshan**	**3.56**	**295**	*e*PN	Pn	22 12 10.7	+8.2
ARS				*e*		22 12 57.1	
ARS				pmax	pmax		
	comp=Z,7.0nm,0.2s						
ARS				smax			
	comp=E,219nm,0.5s						
MOY	**Mondy**	**4.34**	**287**	*e*PN	Pn	22 12 25.4	+12
MOY				*e*		22 13 22.1	
MOY				pmax	pmax		
	comp=Z,3.0nm,0.1s						
MOY				smax			
	comp=E,129nm,0.9s						
YLYR	**Ulyunkhan**	**4.82**	**25**	*e*PN	Pn	22 12 19.8	-0.6
YLYR				*e*		22 12 34.2	
YLYR				*e*		22 13 36.9	
YLYR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
YLYR				smax			
	comp=N,78nm,1.0s						
ORL	**Orlik**	**5.28**	**295**	*e*PN	Pn	22 12 43.7	+17
ORL				*e*		22 13 50.3	
ORL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ORL				smax			
	comp=N,43nm,0.8s						
KMO	**Kumora**	**5.74**	**20**	*e*PN	Pn	22 12 31.3	-2.1
KMO				*e*S	Sn	22 13 36.1	-3.4
KMO				*e*S	Sn	22 14 04.4	+25
KMO				smax			
	comp=N,93nm,1.0s						
UKT	**Uakit**	**6.11**	**34**	*e*PN	Pn	22 12 56.4	+18
UKT				*e*		22 14 18.0	
UKT				pmax	pmax		
	comp=Z,2.0nm,0.6s						
UKT				smax			
	comp=N,22nm,0.6s						
BOD	**Bodaibo**	**8.17**	**25**	*e*PN	P	22 13 05.5	-1.9
BOD				*e*		22 13 32.7	
BOD				*e*		22 15 19.2	
BOD				pmax	pmax		
	comp=Z,1.0nm,0.2s						
BOD				smax			
	comp=E,22nm,1.7s						
TUP	**Tupik**	**8.44**	**58**	*e*PN	P	22 13 09.0	-2.2
TUP				*e*		22 13 37.9	
TUP				*e*		22 15 28.2	
TUP				pmax	pmax		
	comp=Z,3.0nm,0.4s						
TUP				smax			
	comp=N,25nm,1.1s						

BJI ***29*** *22:24:42.3, 11.65S×162.69E, h61km, mB5.2, mb4.8, Ms5.0, Msz4.7*
NEIC ***29*** *22:24:44.7±1.3, 11.46S×162.46E, h47km±12km, mb4.8/7, Error ellipse: s-maj=11.2km s-min=10.5km az=99.0*
IDC ***29*** *22:24:46.4±4.8, 11.13S×162.22E, h45km±43km, mb3.8/8, mb1 4.1/9, mb1mx3.9/16, mbtmp4.1/9, ML4.2/1, MS4.5/16, Ms1 4.5/16, ms1mx4.4/20, Error ellipse: s-maj=40.1km s-min=24.8km az=126.0*
ISC 29 22:24:46.9±1.9, 11.60S±0.07×162.35E±0.07, h79km±16km, n44, σ1§00/34, mb4.4/18, 2C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.20**	**312**	P	**P**	**22 25 29.1**	**-7.0**
	38nm,0.3s,baz=146,slow=0.2,SNR=36						
HNR				S	**S**	**22 26 13.6**	**+0.4**
	247nm,0.3s,baz=161,slow=21,SNR=7.5						
HNR	**Honiara**	**3.20**	**312**	*e*P	**P**	**22 25 31.1**	**-5.0**
HNR				*e*S	**S**	**22 26 15.2**	**+2.0**
DZM	**Mont Dzumac**	**11.12**	**160**	P	**P**	**22 27 23.1**	**-1.7**
	0.3nm,0.3s,baz=243,slow=22,SNR=9.3						
PMG	**Port Moresby**	**15.10**	**277**	*e*P	**P**	**22 28 17.6**	**+0.4**
	71nm,1.5s						
CTA	**Charters Tower**	**17.62**	**239**	P	**P**	**22 28 53.0**	**+4.2**
	0.2nm,0.3s,baz=72,slow=15,SNR=4.0						
CTAO	**Charters Tower**	**17.62**	**239**	P	**P**	**22 28 49.0**	**+0.1**
	42nm,1.1s						
AFI	**Afiamalu**	**25.33**	**98**	LR	LR	22 37 51.2	
	comp=Z,1μm,19.2s,baz=264,slow=31						
STKA	**Stephens Creek**	**27.81**	**220**	LR	LR	22 41 08.7	
	comp=Z,2μm,19.4s,baz=29,slow=35						
STKA	**Stephens Creek**	**27.81**	**220**	*e*P	**P**	**22 30 30.4**	**-0.4**
WRAB	**Tennant Creek**	**28.16**	**249**	*e*P	**P**	**22 30 33.6**	**-0.5**
	38nm,1.8s,mb4.6						
WB2	**Warramunga Arr**	**28.16**	**249**	*e*P	**P**	**22 30 34.6**	**+0.5**
WRA	**Warramunga Arr**	**28.17**	**249**	P	**P**	**22 30 34.7**	**+0.5**
	1.5nm,0.8s,mb3.6,baz=78,slow=9.3,SNR=6.9						
ASAR	**Alice Springs**	**29.58**	**242**	P	**P**	**22 30 47.0**	**+0.3**
	2.2nm,0.9s,mb3.8,baz=73,slow=9.5,SNR=13						
ASAR				LR	LR	22 42 29.5	
	comp=Z,1μm,18.0s,baz=64,slow=36						
URZ	**Urewera**	**29.64**	**156**	LR	LR	22 41 38.2	
	comp=Z,914nm,18.9s,baz=351,slow=34						
RPZ	**Rata Peaks**	**32.87**	**168**	LR	LR	22 41 23.6	
	comp=Z,480nm,20.8s,baz=343,slow=30						
FITZ	**Fitzroy Crossi**	**36.02**	**255**	P	**P**	**22 31 44.8**	**+2.2**
	11nm,0.9s,mb4.8,baz=67,slow=4.8,SNR=4.7						
FITZ				LR	LR	22 46 26.3	
	comp=Z,1μm,19.5s,baz=85,slow=36						
MBWA	**Marble Bar**	**41.87**	**251**	P	**P**	**22 32 30.7**	**-0.4**
PPT	**Papeete**	**46.80**	**103**	*e*LQ		22 44 32.6	
PPT				*e*LR	LR	22 46 05.4	
	1μm,31.8s,baz=278						
PPT	**Papeete**	**46.80**	**103**	LR	LR	22 48 42.0	
	comp=Z,434nm,18.2s,baz=353,slow=30						
TBI	**Tubuai**	**47.23**	**111**	*e*P	**P**	**22 33 15.8**	**+1.7**
	164nm,1.2s,mb5.6						
TBI				*e*LQ		22 44 55.8	
TBI				*e*LR	LR	22 46 35.2	
	746nm,31.0s						
PMOR	**Pomariorio Ree**	**48.46**	**100**	*e*P	**P**	**22 33 24.5**	**+0.8**
	25nm,1.2s,mb4.9						
VAH	**Vaihoa**	**48.71**	**100**	*e*P	**P**	**22 33 26.9**	**+1.3**
	23nm,1.1s,mb5.0						
JOW	**Kunigami**	**50.54**	**320**	LR	LR	22 50 42.4	
	comp=Z,249nm,21.7s,baz=299,slow=31						
NJ2	**Nanjing**	**60.13**	**318**	*e*P	**P**	**22 34 48.8**	**+0.2**
NJ2				PP	PP	22 37 03.5	-0.5
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,140nm,4.2s						
NJ2				LR	LR		
	comp=N,770nm,23.8s						
NJ2				LR	LR		
	comp=E,530nm,24.1s						
NJ2				LR	LR		
	comp=Z,510nm,23.4s						
RKT	**Rikitea**	**60.52**	**110**	*e*LR	LR	22 52 39.2	
	comp=Z,1μm,29.0s						
CN2	**Changchun**	**64.56**	**331**	*e*P	**P**	**22 35 16.3**	**-1.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
CASY	**Casey**	**64.67**	**201**	P	**P**	**22 35 18.6**	**+0.3**

VNDA	**Vanda**	**65.91**	**180**	P	**P**	**22 35 30.4**	**+4.2**
	comp=Z,1.6nm,1.1s,mb3.8,baz=329,slow=6.6,SNR=3.5						
VNDA				LR	LR	22 58 35.3	
	comp=Z,381nm,19.0s,baz=359,slow=31						
VNDA	**Vanda**	**65.91**	**180**	P	**P**	**22 35 24.6**	**-1.6**
	comp=Z,1.6nm,0.9s,mb3.9						
CMAR	**Chiang Mai Arr**	**69.30**	**295**	P	**P**	**22 35 47.7**	**-0.5**
	comp=Z,1.3nm,1.1s,mb3.7,baz=115,slow=3.4,SNR=5.6						
ULN	**Ulaanbaatar**	**76.83**	**325**	*e*P	**P**	**22 36 31.0**	**-0.8**
	comp=Z,20nm,1.4s,mb4.7						
BILL	**Bilibino**	**79.48**	**1**	*e*P	**P**	**22 36 44.7**	**-1.3**
	comp=Z,19nm,1.1s,mb4.8						
MAW	**Mawson**	**82.95**	**202**	P	**P**	**22 37 09.3**	**+5.1**
	comp=Z,3.8nm,1.1s,mb4.2,baz=126,slow=8.7,SNR=3.6						
MAW				LR	LR	23 09 27.3	
	comp=Z,145nm,18.1s,baz=62,slow=32						
IMA	**Indian Mountai**	**83.96**	**17**	P	**P**	**22 37 10.2**	**+1.0**
	comp=Z,26nm,1.2s,mb4.9						
ILAR	**Eielson Array**	**85.12**	**19**	P	**P**	**22 37 15.7**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.5,baz=254,slow=4.2,SNR=5.8						
ILAR				LR	LR	23 09 21.9	
	comp=Z,259nm,20.3s,baz=187,slow=32						
WMQ	**Urumqi**	**87.14**	**316**	⇑P	**P**	**22 37 25.0**	**-0.4**
WMQ				PP	PP	22 40 52.0	-0.2
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,23nm,3.6s						
WMQ				LR	LR		
	comp=N,112nm,21.6s						
WMQ				LR	LR		
	comp=E,200nm,23.0s						
WMQ				LR	LR		
	comp=Z,256nm,24.0s						
NVAR	**Mina Array Bea**	**88.93**	**51**	P	**P**	**22 37 34.4**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.5,baz=236,slow=6.5,SNR=2.3						
NVAR				LR	LR	23 10 41.3	
	comp=Z,289nm,19.0s,baz=270,slow=31						
SYO	**Syowa Base**	**90.27**	**198**	⇑P	**P**	**22 37 39.5**	**-0.1**
INK	**Inuvik**	**91.52**	**20**	P	**P**	**22 37 44.7**	**-0.8**
MKAR	**Makanchi Array**	**91.66**	**317**	LR	LR	23 19 48.8	
	comp=Z,142nm,19.1s,baz=100,slow=36						
MSU	**Marysvale**	**93.62**	**52**	P	**P**	**22 37 54.9**	**-0.9**
PDAR	**Pinedale Array**	**96.38**	**48**	LR	LR	23 16 19.0	
	comp=Z,130nm,20.8s,baz=108,slow=32						
YKA	**Yellowknife Ar**	**97.00**	**28**	LR	LR	23 16 31.3	
	comp=Z,217nm,19.3s,baz=260,slow=32						
TXAR	**Lajitas Array**	**99.02**	**62**	LR	LR	23 15 55.7	
	comp=Z,134nm,18.8s,baz=185,slow=31						

IDC ***29*** *22:28:04.8±0.5, 40.71N×34.87E, mb4.6/18, mb1 4.7/24, mb1mx4.6/28, mbtmp4.5/24, ML4.3/5, MS3.9/10, Ms1 3.9/10, ms1mx3.7/25, Error ellipse: s-maj=10.0km s-min=9.0km az=78.0*

MOS ***29*** *22:28:05.8±0.9, 40.72N×34.86E, h18km, mb4.9/64, MS3.9/18, Error ellipse: s-maj=4.4km s-min=2.6km az=134.4*

ISK ***29*** *22:28:05.5, 40.66N×34.79E, h9km, ML4.8*

CSEM ***29*** *22:28:06.6, 40.69N×34.83E, h23km, mb4.7*

CRAAG ***29*** *22:28:06.6, 40.96N×34.83E, Mb4.7*

BJI ***29*** *22:28:07.1, 40.52N×34.14E, h61km, mB5.1, mb4.8, Ms4.7, Msz4.5*

HRVD ***29*** *22:28:09.6±0.4, 40.82N×34.66E, h19km±1km, MW4.8/49, Centroid moment Tensor Solution. LP body waves: s17,c25;Mantle waves: s49,c82; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.70±.19; Mθθ1.13±.12; Mφφ0.56±.11; Mrθ0.64±.25; Mθφ-1.33±.08; Mφr0.68±.30; Best double couple: M0 2.21×10^16^ NP1:φs155°, δ51°, λ-52°. NP2:φs283°, δ53°, λ-127°. Principal axes: T 2.21, Plg1°, Azm39°; N -.001, Plg29°, Azm308°; P -2.21, Plg61°, Azm131°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ZUR_RM ***29*** *22:28:09, 40.66N×34.85E, h15km, Mw4.9/26, Moment Tensor Solution. s26 Moment tensor: Scale 10^16^Nm; Mrr-1.70; Mθθ1.52; Mφφ0.18; Mrθ-0.35; Mφθ-1.68; Mφr0.11; Best double couple: M0 2.21×10^16^ NP1:φs117°, δ50°, λ-100°. NP2:φs312°, δ41°, λ-79°. Principal axes: T 2.682, Plg5°, Azm214°; N -.943, Plg7°, Azm123°; P -1.739, Plg81°, Azm336°;*

NEIC ***29*** *22:28:09.6±0.8, 40.66N×34.85E, h32km±6km, mb4.8/111, MS4.2/10 Error ellipse: s-maj=3.4km s-min=2.4km az=225.0*

ISC 29 22:28:04.9±0.1,**40.73N**±0.01×**34.84E**±0.02,**h9**km, (**h39**km±1.6km:**pP-P**),**n578**,σ1**9**03/607,**mb4.7**/128, **MS4.1**/26,**31C-23D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTKT	**Corum**	**0.11**	**201**	*i* P	**Pg**	**22 28 07.1**	**-0.5**
CTKT				*i* S	**Sg**	**22 28 21.5**	**+12**
CORM	**Corum**	**0.57**	**197**	*i* PG	**Pg**	**22 28 15.8**	**-0.6**
TOS	**Tosya**	**0.69**	**297**	*i* PG	**Pg**	**22 28 19.6**	**+0.8**
BYBT	**Boyabat**	**0.74**	**356**	*i* PG	**Pg**	**22 28 20.7**	**+0.9**
CANT	**Cankiri**	**0.94**	**263**	*i* PG	**Pg**	**22 28 23.4**	**-0.2**
YOZ	**Yozgat**	**1.15**	**161**	*i* PN	**Pn**	**22 28 26.1**	**-0.9**
YOZ	**Yozgat**	**1.15**	**161**	Pn	**Pn**	**22 28 26.3**	**-0.7**
BRTR	**Keskin Array B**	**1.36**	**223**	Pg	**Pn**	**22 28 29.1**	**-1.0**
	1μm,0.3s,baz=72,slow=15						
BRTR				Lg		22 28 49.1	
	730nm,0.3s,baz=68,slow=24,SNR=16						
BRTR	**Keskin Array B**	**1.36**	**223**	Pg	**Pn**	**22 28 29.0**	**-1.1**
BRTR				S		22 28 49.2	
KAMT	**Kaman**	**1.61**	**213**	*i* PN	**Pn**	**22 28 33.4**	**-0.3**
SAFT	**Safranbolu**	**1.71**	**288**	*i* PN	**Pn**	**22 28 36.4**	**+1.3**
ANTO	**Ankara**	**1.79**	**242**	*i* PN	**Pn**	**22 28 36.5**	**+0.3**
ANTO	**Ankara**	**1.79**	**242**	⇑P	**Pn**	**22 28 37.1**	**+0.9**
ANTO	**Ankara**	**1.79**	**242**	⇑P	**Pn**	**22 28 37.1**	**+0.9**
LOD	**Lodumlu**	**1.79**	**243**	*i* PN	**Pn**	**22 28 36.6**	**+0.3**
SVST	**Sivas**	**1.88**	**120**	*i* P	**Pn**	**22 28 39.2**	**+1.7**
SVST				*i* S	**Sn**	**22 29 04.4**	**+3.0**
AVNT	**Avonos**	**1.94**	**180**	*i* P	**Pn**	**22 28 39.7**	**+1.3**
AVNT				*i* S	**Sn**	**22 29 04.0**	**+0.8**
BNN	**Bunyan**	**2.02**	**157**	*i* PN	**Pn**	**22 28 40.3**	**+0.7**
SGKT	**Sivrigoynuk**	**2.12**	**267**	*i* P	**Pn**	**22 28 42.7**	**+1.7**
SGKT				*i* S	**Sn**	**22 29 04.5**	**-3.3**
MDU	**Mudurnu**	**2.77**	**266**	PN	**Pn**	**22 28 50.9**	**+0.6**
KIZT	**Kizilcal**	**2.93**	**232**	PN	**Pn**	**22 28 52.7**	**+0.1**
KDHN	**Kadinhani**	**3.05**	**225**	*i* P	**Pn**	**22 28 53.9**	**-0.3**
KDHN				*i* S	**Sn**	**22 29 31.2**	**+0.1**
ESKT	**Eskisehir**	**3.29**	**250**	PN	**Pn**	**22 28 57.7**	**+0.1**
KONT	**Konya--Tatoy**	**3.38**	**216**	PN	**Pn**	**22 28 58.6**	**-0.3**
KELT	**Kelkit**	**3.42**	**98**	*i* P	**Pn**	**22 29 02.5**	**+3.0**
GPA	**Golpazari**	**3.48**	**264**	PN	**Pn**	**22 29 00.5**	**+0.1**
GUMT	**Gumushane**	**3.54**	**93**	PN	**Pn**	**22 29 03.2**	**+2.0**
MYA	**Malataya**	**3.66**	**130**	PN	**Pn**	**22 29 04.2**	**+1.2**
MALT	**Malatya**	**3.67**	**130**	⇑P	**Pn**	**22 29 03.5**	**+0.4**
CEYT	**Ceyhan**	**3.78**	**169**	PN	**Pn**	**22 29 05.2**	**+0.6**
YAL	**Yalta**	**3.79**	**353**	*e*P	**Pn**	**22 29 06.0**	**+1.2**
YAL				*e*S	**Sn**	**22 29 48.7**	**-1.4**
SEV	**Sevastopol'**	**3.91**	**348**	*e*P	**Pn**	**22 29 07.3**	**+0.8**
SEV				*e*S	**Sn**	**22 29 50.5**	**-2.6**
HRT	**Hereke**	**3.93**	**273**	PN	**Pn**	**22 29 07.0**	**+0.3**
EZC	**Erzincan**	**3.93**	**103**	*e*PN	**Pn**	**22 29 02.5**	**-4.3**
PTK	**Pertek**	**3.95**	**116**	PN	**Pn**	**22 29 09.0**	**+1.9**
ALU	**Alushta**	**3.97**	**355**	*i* P	**Pn**	**22 29 07.8**	**+0.5**
ALU				*i* S	**Sn**	**22 29 54.5**	**0.0**
GAZ	**Gaziantep**	**4.00**	**152**	PN	**Pn**	**22 29 08.0**	**+0.2**
ALT	**Altintas**	**4.00**	**247**	PN	**Pn**	**22 29 08.1**	**+0.3**
YLV	**Yalova**	**4.16**	**270**	*e*PN	**Pn**	**22 29 09.7**	**-0.4**
HDMB	**Hadim**	**4.18**	**207**	*e*PN	**Pn**	**22 29 10.2**	**-0.1**
SIM	**Simferopol'**	**4.25**	**353**	⇓*e*P	**Pn**	**22 29 13.3**	**+1.9**
SIM				*e*S	**Sn**	**22 30 03.6**	**+1.8**
SIM				pmax	pmax		
	comp=Z,117nm,0.8s						
SIM				MLR	MLR		
	comp=Z,1μm,21.0s						
SIM	**Simferopol'**	**4.25**	**353**	*e*P	**Pn**	**22 29 13.3**	**+1.9**
	comp=Z,117nm,0.8s						
SIM				*e*S	**Sn**	**22 30 03.6**	**+1.8**
	comp=Z,1μm,21.0s						
ISP	**Isparta**	**4.42**	**231**	*e*Pn	**Pn**	**22 29 13.1**	**-0.7**
ISP				*e*Sn	**Sn**	**22 30 03.6**	**-2.5**
ISP	**Isparta**	**4.42**	**231**	*e*Pn	**Pn**	**22 29 13.8**	**0.0**
ISP				*e*Sn	**Sn**	**22 30 03.6**	**-2.5**
ANN	**Anapa**	**4.50**	**24**	*e*P	**Pn**	**22 29 15.2**	**+0.4**
ANN				*e*S	**Sn**	**22 30 08.1**	**+0.2**
ANN				pmax	pmax		
	comp=Z,83nm,1.1s						
ANN				smax			
	comp=N,676nm,1.0s						
ANN				smax			
	comp=E,359nm,1.0s						
ANN				MLR	MLR		
	comp=N,661nm,7.0s						
ANN				MLR	MLR		
	comp=E,439nm,7.0s						
ANN				MLR	MLR		
	comp=Z,1μm,7.0s						
ANN	**Anapa**	**4.50**	**24**	*e*P	**Pn**	**22 29 15.2**	**+0.4**
	comp=Z,83nm,1.1s						
ANN				*e*S	**Sn**	**22 30 08.1**	**+0.2**
URFA	**Urfa**	**4.51**	**135**	*e*PN	**Pn**	**22 29 16.4**	**+1.4**
ORLT	**Orhaneli**	**4.59**	**263**	*e*PN	**Pn**	**22 29 16.0**	**-0.1**
SOC	**Sochi**	**4.61**	**50**	*c i*P	**Pn**	**22 29 15.4**	**-1.1**
SOC				*i*		22 30 08.7	
SOC				pmax	pmax		
	comp=N,321nm,1.0s						
SOC				pmax	pmax		
	comp=E,290nm,1.0s						
SOC				pmax	pmax		
	comp=Z,286nm,1.0s						
SOC				MLR	MLR		
	comp=Z,2μm,13.0s						
SOC				MLR	MLR		
	comp=N,1μm,12.0s						
SOC				MLR	MLR		
	comp=E,1μm,13.0s						
SOC	**Sochi**	**4.61**	**50**	*i* P	**Pn**	**22 29 15.4**	**-1.1**
SOC				*i* S	**Sn**	**22 30 08.7**	**-2.1**
	comp=E,1μm,12.0s						
HTY	**Hatay**	**4.71**	**167**	*e*PN	**Pn**	**22 29 18.1**	**+0.3**
CTT	**Catalca**	**4.88**	**277**	*e*PN	**Pn**	**22 29 20.4**	**+0.2**
DST	**Dursunbey**	**4.89**	**259**	*e*PN	**Pn**	**22 29 21.2**	**+0.8**
ANTB	**Antalya**	**5.03**	**222**	*e*PN	**Pn**	**22 29 22.4**	**+0.1**
DIY	**Diyarbakir**	**5.04**	**122**	*e*PN	**Pn**	**22 29 24.3**	**+1.8**
EZM	**Erzurum**	**5.05**	**97**	*e*PN	**Pn**	**22 29 24.0**	**+1.3**
GOLH	**Golhisar**	**5.39**	**231**	*i* P	**Pn**	**22 29 27.4**	**0.0**
DENT	**Denizli**	**5.40**	**239**	*e*PN	**Pn**	**22 29 27.4**	**-0.1**
DNZL	**Cakiroluk**	**5.43**	**238**	*i* P	**Pn**	**22 29 26.4**	**-1.5**
BALB	**Balikesir**	**5.44**	**261**	*e*PN	**Pn**	**22 29 28.6**	**+0.5**
MRMT	**Marmara Adasi**	**5.51**	**271**	*e*PN	**Pn**	**22 29 30.0**	**+0.9**
ELL	**Elmali**	**5.54**	**226**	*e*PN	**Pn**	**22 29 29.8**	**+0.3**
MAMC	**Mammari**	**5.69**	**194**	P	**Pn**	**22 29 31.1**	**-0.6**
BTMT	**Batman**	**5.73**	**114**	*e*PN	**Pn**	**22 29 32.9**	**+0.6**
PHNC	**Paralimni**	**5.75**	**187**	⇑P	**Pn**	**22 29 33.6**	**+1.1**
PSN	**Preselentsi**	**5.76**	**303**	P	**Pn**	**22 29 32.0**	**-0.6**
LEF	**Lefka**	**5.81**	**196**	*e*PN	**Pn**	**22 29 33.1**	**-0.2**
ALFC	**Alevga**	**5.83**	**198**	P	**Pn**	**22 29 32.6**	**-1.1**
	comp=E,1.9nm,0.7s						
CSS	**Prodhromos**	**5.88**	**192**	P	**Pn**	**22 29 31.8**	**-2.5**
	comp=E,2.6nm,1.4s						
TIRR	**Tirgusor**	**6.03**	**310**	P	**Pn**	**22 29 35.5**	**-1.0**
PRD	**Provadia**	**6.07**	**296**	P	**Pn**	**22 29 36.0**	**-1.1**
FETY	**Fethiye**	**6.08**	**230**	*e*PN	**Pn**	**22 29 37.1**	**-0.1**
PPCY	**Paphos**	**6.16**	**200**	P	**Pn**	**22 29 41.5**	**+3.2**
SZAC	**Souni-Zanaja**	**6.16**	**195**	P	**Pn**	**22 29 40.0**	**+1.7**
EDRB	**Edirne**	**6.20**	**283**	*e*PN	**Pn**	**22 29 39.6**	**+0.7**
DALT	**Dalyan (Mudla)**	**6.25**	**233**	*e*PN	**Pn**	**22 29 39.6**	**0.0**
TLCR		**6.28**	**317**	⇑P	**Pn**	**22 29 38.3**	**-1.7**
JMB	**Yambol**	**6.43**	**288**	P	**Pn**	**22 29 42.0**	**-0.1**
HARR	**Harsova**	**6.45**	**310**	⇑P	**Pn**	**22 29 41.0**	**-1.4**
HARR	**Harsova**	**6.45**	**310**	P	**Pn**	**22 29 40.9**	**-1.5**
HARR	**Harsova**	**6.45**	**310**	P	**Pn**	**22 29 41.0**	**-1.4**
BLCB	**Balcova**	**6.46**	**251**	*e*PN	**Pn**	**22 29 43.2**	**+0.6**
MLSB	**Milas**	**6.48**	**240**	*e*PN	**Pn**	**22 29 43.2**	**+0.4**
CFR	**Carcaliu**	**6.63**	**314**	⇓P	**Pn**	**22 29 43.8**	**-1.1**
CFR	**Carcaliu**	**6.63**	**314**	P	**Pn**	**22 29 43.4**	**-1.6**
CFR	**Carcaliu**	**6.63**	**314**	P	**Pn**	**22 29 43.8**	**-1.1**
KIV	**Kislovodsk**	**6.65**	**58**	*c i*P	**Pn**	**22 29 44.4**	**-0.8**
ONI	**Oni**	**6.71**	**71**	P	**Pn**	**22 29 45.4**	**-0.6**
ONI				S	**Sn**	**22 30 59.1**	**-4.3**
BHL	**Bhannes**	**6.84**	**174**	*e*PN	**Pn**	**22 29 46.8**	**-1.1**
BODT	**Bodrum**	**6.92**	**240**	*e*PN	**Pn**	**22 29 49.0**	**0.0**
VANB	**Van**	**6.93**	**105**	*e*PN	**Pn**	**22 29 49.9**	**+0.8**
ZEI	**Tsey**	**7.07**	**70**	*e*P	**Pn**	**22 29 49.0**	**-2.2**
ZEI				*e*		22 31 03.5	
ZEI				pmax	pmax		
	comp=Z,19nm,0.2s						
ZEI				smax			
	comp=E,63nm,0.3s						
SZH	**Strazhica**	**7.11**	**294**	P	**Pn**	**22 29 49.8**	**-1.8**
DIM	**Dimitrovgrad**	**7.12**	**284**	*e*P	**Pn**	**22 29 51.0**	**-0.9**
CLDR	**Caldiran**	**7.15**	**100**	*e*PN	**Pn**	**22 29 54.4**	**+2.2**
GOF	**Gofitskoye**	**7.41**	**52**	⇑*i*P	**Pn**	**22 29 53.7**	**-2.2**
GOF				*i* S	**Sn**	**22 31 21.2**	**+0.3**
GOF				pmax	pmax		
	comp=Z,40nm,1.7s						
GOF				pmax	pmax		
	comp=Z,160nm,1.6s						
GOF				smax			
	comp=E,320nm,1.3s						
TBLG	**Delisi**	**7.53**	**79**	P	**Pn**	**22 30 04.0**	**+6.4**
TI2	**Plekhanov**	**7.54**	**79**	*e*P	**Pn**	**22 30 02.2**	**+4.6**
TI2				MLR	MLR		
	comp=N,2μm,10.0s						
TI2				MLR	MLR		
	comp=E,2μm,10.0s						
TI2				MLR	MLR		
	comp=Z,2μm,10.0s						
KSDI	**Kefar Szold**	**7.55**	**175**	P	**Pn**	**22 29 57.5**	**-0.3**
GNI	**Garni**	**7.58**	**91**	Pn	**Pn**	**22 29 58.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=194,slow=14,SNR=5.0						
GNI				Lg		22 32 01.6	
	baz=358,slow=20,SNR=1.7						
GNI				LR	LR	22 33 14.5	
	comp=Z,811nm,19.1s,baz=288,slow=41						
KIS	**Kishinev**	**7.63**	**327**	*e*P	**Pn**	**22 29 55.0**	**-4.0**
KIS				*e*S	**Sn**	**22 31 25.0**	**-1.4**
KIS				MLR	MLR		
	comp=Z,2μm,12.0s						
KIS				MLR	MLR		
	comp=N,2μm,13.0s						
KIS				MLR	MLR		
	comp=Z,2μm,12.0s						
HNTI	**Hanita**	**7.63**	**178**	P	**Pn**	**22 29 58.1**	**-0.9**
HNTI				S	**Sn**	**22 31 27.9**	**+1.4**
RZN	**Rozhen**	**7.70**	**280**	P	**Pn**	**22 29 58.5**	**-1.4**
VRI	**Vrincioaia**	**7.83**	**314**	P	**Pn**	**22 30 01.2**	**-0.6**
MSL	**Mosul**	**7.84**	**122**	*e*Pn	**Pn**	**22 30 12.0**	**+10**
MSL				*e*Sn	**Sn**	**22 31 25.0**	**-6.6**
MSL				*e*LR1		22 32 24.5	
MSL				*e*LR2		22 33 20.5	
HAF	**Haifa**	**7.93**	**179**	P	**Pn**	**22 30 03.4**	**+0.2**
KARP	**Karpathos**	**7.96**	**232**	*e*P	**Pn**	**22 30 16.9**	**+13**
DGRG	**David-gareji**	**7.99**	**81**	P	**Pn**	**22 30 04.4**	**+0.4**
MLR	**Muntele Rosu**	**8.06**	**309**	Pn	**P**	**22 30 04.0**	**-0.9**
	comp=Z,2.4nm,0.3s,baz=135,slow=23,SNR=16						
MLR				Lg		22 32 13.6	
	comp=Z,0.9nm,0.3s,baz=225,slow=13,SNR=3.6						
MLR				LR	LR	22 34 00.6	
	comp=Z,777nm,19.0s,baz=284,slow=44						
OFRI	**'Ofer**	**8.09**	**179**	P	**P**	**22 30 03.9**	**-1.5**
MMLI	**Mount Malkishu**	**8.29**	**177**	P	**P**	**22 30 08.1**	**0.0**
IAS	**Iasi**	**8.32**	**323**	P	**P**	**22 30 06.6**	**-2.0**
MMB	**Musomiste**	**8.43**	**279**	*e*P	**P**	**22 30 08.5**	**-1.6**
SLTI	**Sal'it**	**8.47**	**179**	P	**P**	**22 30 10.1**	**-0.6**
HMDT	**Nahal Hemdat**	**8.47**	**176**	P	**P**	**22 30 10.9**	**+0.2**
VOIR		**8.57**	**307**	⇓P	**P**	**22 30 11.5**	**-0.6**
ASF	**Jabal al Asfar**	**8.70**	**168**	Pn	**P**	**22 30 13.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=231,slow=3.5,SNR=8.6						
ASF				LR	LR	22 33 57.0	
	comp=Z,2μm,18.6s,baz=54,slow=41						
VTS	**Vitosha**	**8.91**	**286**	*e*P	**P**	**22 30 19.0**	**+2.3**
KKB	**Krupnik**	**8.93**	**281**	P	**P**	**22 30 15.5**	**-1.5**
IDI	**Anoyia**	**9.54**	**239**	Pn	**P**	**22 30 26.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=74,slow=15,SNR=2.8						
IDI				LR	LR	22 34 09.4	
	comp=Z,576nm,19.9s,baz=53,slow=38						
BURAR	**Bucovina Array**	**9.75**	**318**	P	**P**	**22 30 26.3**	**-2.1**
BURAR	**Bucovina Array**	**9.75**	**318**	P	**P**	**22 30 26.3**	**-2.0**
KZIT	**Kziot**	**9.81**	**182**	P	**P**	**22 30 27.9**	**-1.2**
ZFRI	**Zfri**	**10.15**	**178**	P	**P**	**22 30 32.9**	**-1.0**
PRNI	**Paran**	**10.35**	**179**	P	**P**	**22 30 36.3**	**-0.3**
HRFI	**Mount Harif**	**10.67**	**179**	P	**P**	**22 30 41.5**	**+0.6**
AKASG	**Malin Array Be**	**10.72**	**340**	Pn	**P**	**22 30 37.5**	**-4.0**
	comp=Z,5.1nm,0.3s,baz=159,slow=13,SNR=34						
AKASG				Sn	**S**	**22 32 34.4**	**-8.3**
	comp=Z,13nm,0.3s,baz=157,slow=23,SNR=6.3						
AKASG	**Malin Array Be**	**10.72**	**340**	Pn	**P**	**22 30 37.5**	**-4.0**
AKASG				Sn	**S**	**22 32 34.4**	**-8.3**
AKASG	**Malin Array Be**	**10.72**	**340**	Pn	**P**	**22 30 37.5**	**-4.0**
EIL	**Elat**	**11.03**	**180**	Pn	**P**	**22 30 45.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=342,slow=19,SNR=6.7						
EIL	**Elat**	**11.03**	**180**	*e*Pn	**P**	**22 30 44.2**	**-1.7**
	comp=Z,18nm,0.9s						
EIL	**Elat**	**11.03**	**180**	*e*Pn	**P**	**22 30 44.2**	**-1.7**
	comp=Z,18nm,0.9s						
EIL	**Elat**	**11.03**	**180**	P	**P**	**22 30 44.6**	**-1.3**
VOR	**Voronezh**	**11.41**	**14**	*e*P	**P**	**22 30 51.0**	**0.0**
VOR				*e*		22 32 50.0	
VOR				pmax	pmax		
	comp=Z,70nm,1.4s						
VOR				pmax	pmax		
	comp=N,20nm,1.3s						
VOR				pmax	pmax		
	comp=E,50nm,1.4s						
VOR	**Voronezh**	**11.41**	**14**	*e*P	**P**	**22 30 51.0**	**0.0**
	comp=E,20nm,1.3s						
DIVS	**Divcibare**	**11.48**	**292**	⇑*i*(P)	**P**	**22 30 48.6**	**-3.5**
LVV	**L'vov**	**11.85**	**324**	*e*P	**P**	**22 30 48.7**	**-8.3**
KOLS	**Kolonicke sedl**	**12.11**	**317**	*e*P	**P**	**22 30 57.9**	**-2.6**
CRVS	**Cervenica-Dubn**	**12.52**	**315**	*e*P	**P**	**22 31 03.2**	**-2.8**
CRVS	**Cervenica-Dubn**	**12.52**	**315**	*e*	**P**	**22 31 03.2**	**-2.8**
KECS	**Kecovo**	**12.82**	**312**	*e*P	**P**	**22 31 14.3**	**+4.3**
KECS	**Kecovo**	**12.82**	**312**	*e*	**P**	**22 31 14.3**	**+4.3**
PSZ	**Piszkesteto**	**12.88**	**309**	P	**P**	**22 31 12.2**	**+1.4**
PSZ				pmax	pmax		
	comp=Z,24nm,1.0s						
PSZ	**Piszkesteto**	**12.88**	**309**	Pn	**P**	**22 31 12.2**	**+1.4**
	comp=Z,24nm,1.0s						
PSZ	**Piszkesteto**	**12.88**	**309**	P	**P**	**22 31 12.2**	**+1.4**
	comp=Z,24nm,1.0s						
SRO2	**Moca**	**13.71**	**306**	*e*P	**P**	**22 31 31.9**	**+10**
SRO2	**Moca**	**13.71**	**306**	*e*	**P**	**22 31 31.9**	**+10**
VYHS	**Vyhne**	**13.78**	**310**	*e*PN	**P**	**22 31 24.5**	**+1.9**
SRO1	**Iza**	**13.81**	**306**	*e*P	**P**	**22 31 33.7**	**+11**
TIP	**Timpagrande**	**13.96**	**270**	*e*P	**P**	**22 31 33.2**	**+8.2**
OJC	**Ojcow**	**14.17**	**317**	*e*P	**P**	**22 31 35.9**	**+8.2**
OBN	**Obninsk**	**14.44**	**4**	⇑*e*P	**P**	**22 31 30.4**	**-0.9**
OBN				*e*		22 34 11.1	
OBN				pmax	pmax		
	comp=Z,20nm,1.1s						
OBN				MLR	MLR		
	comp=Z,200nm,16.0s						
OBN	**Obninsk**	**14.44**	**4**	*e*Pn	**P**	**22 31 33.5**	**+2.2**
	comp=Z,55nm,1.0s						
OBN	**Obninsk**	**14.44**	**4**	*e*P	**P**	**22 31 30.4**	**-0.9**
	comp=Z,20nm,1.1s						
MNK	**Minsk**	**14.56**	**344**	*e*P	**P**	**22 31 28.0**	**-4.8**
SMOL	**Smolenice**	**14.62**	**308**	*e*Pn	**P**	**22 31 41.0**	**+7.4**
KOGS	**Kog**	**14.62**	**299**	*e*Pn	**P**	**22 31 34.5**	**+0.7**
KOGS				*e*P		22 31 41.6	
ZST	**Bratislava**	**14.68**	**306**	*e*P	**P**	**22 31 42.2**	**+7.7**
OKC	**Ostrava-Krasne**	**14.84**	**313**	AMS	AMS	22 39 00.0	
	comp=Z,600nm,15.5s						
WAR	**Warsaw**	**14.91**	**325**	*e*P	**P**	**22 31 44.9**	**+7.5**
BOJS	**Bojanci**	**15.07**	**295**	*e*Pn	**P**	**22 31 40.1**	**+0.5**
BOJS				*e*P		22 31 47.1	
MOS	**Moscow**	**15.13**	**6**	*e*P	**P**	**22 31 41.6**	**+1.3**
MOS				*e*SS	SS	22 34 30.0	-17
MOS				pmax	pmax		
	comp=Z,56nm,1.0s						
MOS	**Moscow**	**15.13**	**6**	*e*P	**P**	**22 31 41.6**	**+1.3**
	comp=Z,56nm,1.0s						
MORC	**Moravsky Berou**	**15.15**	**312**	*e*P	**P**	**22 31 47.0**	**+6.5**
MORC				pmax	pmax		
	comp=Z,86nm,1.5s						
MORC	**Moravsky Berou**	**15.15**	**312**	*e*P	**P**	**22 31 47.0**	**+6.5**
	comp=Z,86nm,1.5s						
VKA	**Vienna**	**15.19**	**306**	⇓*i*P	**P**	**22 31 47.4**	**+6.3**
	comp=Z,146nm,1.5s						
VKA	**Vienna**	**15.19**	**306**	⇓*i*P	**P**	**22 31 47.4**	**+6.3**
VKA				pmax	pmax		
	comp=Z,146nm,1.5s						
ARSA	**Arzberg**	**15.34**	**302**	⇑*i*P	**P**	**22 31 49.9**	**+6.8**
	comp=Z,26nm,1.3s						
VISS	**Visnje**	**15.42**	**296**	*e*Pn	**P**	**22 31 44.8**	**+0.7**
VISS				*e*P		22 31

BDI Bagni Di Lucca 18.20 289 P **P** **22 32 21.7 +2.4**
PII Pisa 18.24 287 P **P** **22 32 21.9 +2.1**
BERN Bernov 18.26 309 ⇓P **P** **22 32 28.8 +8.8**
NKC Novy Kostel 18.30 309 *eP* **P** **22 32 20.8 +0.3**
NKC AMS AMS 22 43 10.0
comp=Z,600nm,13.1s
FUR Furstenfeldbru 18.35 302 *eP* **P** **22 32 20.5 -0.7**
FUR pmax pmax
comp=Z,93nm,1.2s
FUR Furstenfeldbru 18.35 302 *eP* **P** **22 32 20.5 -0.7**
comp=Z,93nm,1.2s
VLC Villacollemand 18.35 289 *eP* **P** **22 32 23.1 +1.9**
comp=Z,44nm,1.0s
VLC Villacollemand 18.35 289 *eP* **P** **22 32 23.1 +1.9**
comp=Z,44nm,1.0s
CLL Collm 18.42 312 *i* P **P** **22 32 22.7 +0.7**
CLL pmax pmax
comp=Z,34nm,1.5s
CLL Collm 18.42 312 *i* P **P** **22 32 22.7 +0.7**
comp=Z,34nm,1.5s
CLL *i* 22 32 27.1
CLL *eS* **S** **22 36 02.0 +17**
CLL Collm 18.42 312 P **P** **22 32 22.7 +0.7**
comp=Z,logA/T=1.4
CLL *i* *PP 22 32 27.1
CLL *ePP* PP 22 32 38.0 +0.5
CLL *i* 22 33 00.3
CLL *eS* **S** **22 36 02.0 +17**
BRMO Bormio 18.59 296 P **P** **22 32 25.7 +1.5**
GRA1 Grafenberg Arr 18.84 306 *eP* **P** **22 32 26.8 -0.3**
comp=Z,72nm,1.2s
GRF Grafenberg Arr 18.84 306 *eP* **P** **22 32 26.8 -0.3**
GRF pmax pmax
comp=Z,72nm,1.2s
GRF Grafenberg Arr 18.84 306 *eP* **P** **22 32 26.8 -0.3**
GRF pmax pmax
comp=Z,72nm,1.2s
GRF Grafenberg Arr 18.84 306 *eP* **P** **22 32 26.8 -0.3**
comp=Z,72nm,1.2s
MOX Moxa 18.95 309 *eP* **P** **22 32 28.3 -0.1**
MOX pmax pmax
comp=Z,114nm,2.4s
MOX Moxa 18.95 309 ⇑*iP* **P** **22 32 28.8 +0.4**
comp=Z,logA/T=1.8
MOX pP 22 32 40.0
MOX S S 22 36 17.0 +21
MOX L 22 42 42.0
MOX Moxa 18.95 309 *eP* **P** **22 32 28.3 -0.1**
comp=Z,114nm,2.4s
DAVOX Davos 18.98 297 P **P** **22 32 29.4 +0.6**
comp=Z,3.7nm,0.3s,baz=86,slow=6.4,SNR=39
UBR Uberruh 19.00 300 *eP* **P** **22 32 29.5 +0.5**
DAVA Damuels 19.07 298 ⇑*iP* **P** **22 32 30.3 +0.4**
comp=Z,56nm,0.6s
HDH Heidenheim 19.15 302 *eP* **P** **22 32 30.7 -0.1**
HDH Heidenheim 19.15 302 P **P** **22 32 31.7 +0.9**
VDL Val di Lei 19.21 296 ⇓P **P** **22 32 33.2 +1.6**
PUL Pulkovo 19.27 353 *eP* **P** **22 32 31.5 -0.7**
PUL *eS* **S** **22 35 58.1 -5.7**
PUL pmax pmax
comp=Z,55nm,0.5s
PUL pmax pmax
comp=N,218nm,1.2s
PUL pmax pmax
comp=E,131nm,0.9s
PUL pmax pmax
comp=Z,67nm,0.5s
PUL pmax pmax
comp=N,314nm,1.2s
PUL pmax pmax
comp=E,206nm,1.1s
PUL MLR MLR
comp=Z,450nm,21.0s
PUL MLR MLR
comp=N,412nm,14.0s
PUL MLR MLR
comp=E,341nm,19.0s
PUL Pulkovo 19.27 353 *eP* **P** **22 32 31.5 -0.7**
comp=E,450nm,21.0s
OSPF L'Ospedale 19.31 281 *eP* **P** **22 32 32.0 -0.7**
GENL Genova Univers 19.38 290 P **P** **22 32 33.2 -0.3**
GENL Genova Univers 19.38 290 P **P** **22 32 33.2 -0.3**
PGF Pioggiola 19.38 284 *eP* **P** **22 32 33.3 -0.3**
comp=E,107nm,1.1s
PGF Pioggiola 19.38 284 *eP* **P** **22 32 33.3 -0.3**
PGF pmax pmax
comp=Z,53nm,1.1s
LLS Linth-Limmern 19.58 297 ⇑P **P** **22 32 36.5 +0.7**
VAI Varese 19.62 294 P **P** **22 32 36.9 +0.6**
BUCH Bad Urach 19.66 302 *eP* **P** **22 32 36.3 -0.5**
BUCH Bad Urach 19.66 302 P **P** **22 32 36.6 -0.1**
PCP Pian Castagno 19.69 290 P **P** **22 32 36.7 -0.3**
GUT Gutenstein 19.73 300 *eP* **P** **22 32 36.9 -0.6**
GUT Gutenstein 19.73 300 P **P** **22 32 37.2 -0.3**
SIND Sindeldorf 19.74 304 *eP* **P** **22 32 36.4 -1.1**
SIND Sindeldorf 19.74 304 P **P** **22 32 37.3 -0.2**
WILA Wila 19.74 298 ⇓P **P** **22 32 37.1 -0.5**
SISB Singen-Sch Ber 19.76 299 P **P** **22 32 37.6 -0.2**
STU Stuttgart 19.84 302 *eP* **P** **22 32 38.1 -0.7**
STU pmax pmax
comp=Z,40nm,0.8s
STU Stuttgart 19.84 302 *eP* **P** **22 32 38.0 -0.7**
comp=Z,40nm,0.8s
STU Stuttgart 19.84 302 *eP* **P** **22 32 38.1 -0.7**
comp=Z,40nm,0.8s
MUO Muotathal 19.85 297 ⇓P **P** **22 32 38.7 -0.1**
RGN Rugen 19.93 321 *eP* **P** **22 32 39.2 -0.4**
comp=Z,266nm,1.4s
RGN Rugen 19.93 321 *eP* **P** **22 32 39.2 -0.4**
comp=Z,266nm,1.4s
ZUR Zurich 19.95 298 ⇓P **P** **22 32 39.4 -0.6**
SPAK Spaichingen 19.96 300 *eP* **P** **22 32 39.8 -0.2**
SPAK Spaichingen 19.96 300 P **P** **22 32 40.8 +0.8**
LBG Lerchenberg 20.07 302 *eP* **P** **22 32 40.5 -0.7**
LBG Lerchenberg 20.07 302 P **P** **22 32 41.3 +0.1**
SLE Schleitheim 20.08 299 ⇓P **P** **22 32 40.6 -0.7**
CLZ Clausthal 20.14 312 *eP* **P** **22 32 41.2 -0.6**
comp=Z,110nm,1.1s
ORO Oropa 20.15 293 P **P** **22 32 41.5 -0.5**
ORX Oropa 20.15 293 P **P** **22 32 41.0 -1.0**
IMI Imperia 20.15 288 P **P** **22 32 41.4 -0.6**
IMI Imperia 20.15 288 P **P** **22 32 41.4 -0.7**
ROB Roburent 20.16 289 P **P** **22 32 40.9 -1.3**
MMK Mattmark 20.20 294 ⇑P **P** **22 32 43.6 +1.1**
MONE Monesi 20.25 289 P **P** **22 32 41.7 -1.4**
MONE Monesi 20.25 289 P **P** **22 32 41.7 -1.4**
NEGI Negi 20.28 288 P **P** **22 32 42.4 -1.1**
NEGI Negi 20.28 288 P **P** **22 32 42.3 -1.2**
SULZ Sulz-Cheisache 20.29 298 ⇓P **P** **22 32 42.8 -0.7**
BFO Black Forest 20.30 301 *eP* **P** **22 32 43.0 -0.6**
BFO pmax pmax
comp=Z,100nm,1.1s
BFO Black Forest 20.30 301 *eP* **P** **22 32 43.0 -0.6**
comp=Z,100nm,1.1s
TRAV 20.30 293 P **P** **22 32 42.5 -1.2**
TRAV 20.30 293 P **P** **22 32 42.5 -1.2**
TOD Tromm 20.31 305 *eP* **P** **22 32 42.9 -0.8**
TOD Tromm 20.31 305 *eP* **P** **22 32 43.0 -0.7**
SWS Schriesheim 20.34 304 *eP* **P** **22 32 43.1 -0.9**
SWS Schriesheim 20.34 304 P **P** **22 32 44.1 +0.1**
FELD Feldberg 20.43 299 *eP* **P** **22 32 44.7 -0.2**
LKBD Leukerbad 20.46 295 ⇓P **P** **22 32 45.3 0.0**
SBF Sospel 20.48 288 *eP* **P** **22 32 45.4 -0.1**
comp=Z,210nm,1.2s
SBF Sospel 20.48 288 *eP* **P** **22 32 45.4 -0.1**
SBF pmax pmax
comp=Z,105nm,1.2s
AUTN L'Aution 20.48 288 *eP* **P** **22 32 46.7 +1.2**
ENR Entracque 20.49 289 P **P** **22 32 45.3 -0.3**
KIZ Kirchzarten 20.50 300 *eP* **P** **22 32 45.3 -0.4**
KIZ Kirchzarten 20.50 300 P **P** **22 32 45.8 +0.1**
STV2 Anna di Valdie 20.56 289 P **P** **22 32 45.9 -0.4**
STV2 Anna di Valdie 20.56 289 P **P** **22 32 45.9 -0.4**
STV Sta Anna Valdi 20.56 289 P **P** **22 32 45.7 -0.6**
DIX Grande Dixence 20.58 294 ⇓P **P** **22 32 46.8 +0.2**
BHB Bricherasio 20.61 291 P **P** **22 32 46.3 -0.5**
BHB Bricherasio 20.61 291 P **P** **22 32 46.3 -0.6**
TOUF Mont Tournerai 20.61 288 *eP* **P** **22 32 47.6 +0.7**
DOI San Damiano 20.61 290 P **P** **22 32 46.4 -0.5**
RSP Reno Superiore 20.63 292 P **P** **22 32 45.3 -1.7**
MVIF Mont Vial 20.68 288 *eP* **P** **22 32 48.3 +0.7**
BBS Basel-Blauen 20.69 298 *eP* **P** **22 32 47.0 -0.6**
KTD Kalmit 20.69 303 *eP* **P** **22 32 47.1 -0.5**

KTD Kalmit 20.69 303 *eP* **P** **22 32 47.4 -0.2**
TNS Taunus Mts 20.71 306 *eP* **P** **22 32 47.6 -0.2**
TNS pmax pmax
comp=Z,48nm,1.0s
TNS Taunus Mts 20.71 306 *eP* **P** **22 32 47.6 -0.2**
comp=Z,48nm,1.0s
LSD Ceresole Reale 20.71 292 P **P** **22 32 47.2 -0.7**
PZZ Prazzo 20.72 290 P **P** **22 32 46.3 -1.7**
LIBD Limburg 20.74 300 *eP* **P** **22 32 48.2 0.0**
LIBD Limburg 20.74 300 *eP* **P** **22 32 48.3 +0.1**
FENE Fenestrelle 20.76 291 P **P** **22 32 45.9 -2.5**
FENE Fenestrelle 20.76 291 P **P** **22 32 45.9 -2.5**
LANF Langenberg 20.79 302 *eP* **P** **22 32 47.9 -0.7**
SURF Saint Ours 20.93 290 *eP* **P** **22 32 51.9 +1.8**
EMV Vieux Emosson 20.94 294 ⇑P **P** **22 32 50.5 +0.3**
RRL Cesana Torines 20.95 291 P **P** **22 32 50.4 0.0**
WLS Welschbruch 20.96 301 *eP* **P** **22 32 49.6 -0.8**
MBDF Montbardon 20.96 290 *eP* **P** **22 32 50.8 +0.4**
comp=Z,39nm,0.8s
MBDF Montbardon 20.96 290 *eP* **P** **22 32 50.8 +0.4**
MBDF pmax pmax
comp=Z,20nm,0.8s
MOF Molkenrain 21.00 299 *eP* **P** **22 32 51.0 +0.2**
LPG La Plagne 21.00 292 *eP* **P** **22 32 51.9 +1.0**
comp=Z,141nm,1.4s,mb4.8
LPG La Plagne 21.00 292 *eP* **P** **22 32 51.9 +1.0**
LPG pmax pmax
comp=Z,70nm,1.4s,mb4.8
COP Copenhagen 21.00 323 ⇑*iP* **P** **22 32 51.3 +0.5**
COP pmax pmax
comp=Z,77nm,1.0s,mb5.0
COP MLR MLR
comp=Z,150nm,16.0s,MS3.5
COP Copenhagen 21.00 323 ⇑*iP* **P** **22 32 51.3 +0.5**
comp=Z,77nm,1.0s,mb5.0
comp=Z,150nm,16.0s
CDF Champ du Feu 21.01 301 *eP* **P** **22 32 50.5 -0.4**
comp=Z,131nm,1.4s,mb4.8
CDF Champ du Feu 21.01 301 *eP* **P** **22 32 50.5 -0.4**
CDF pmax pmax
comp=Z,65nm,1.4s,mb4.8
LPL La Plagne 21.02 293 *eP* **P** **22 32 51.8 +0.8**
comp=Z,108nm,1.2s,mb4.8
LPL La Plagne 21.02 293 *eP* **P** **22 32 51.8 +0.8**
LPL pmax pmax
comp=Z,54nm,1.2s,mb4.8
BNI Bardonecchia 21.03 291 *eP* **P** **22 32 52.1 +0.9**
BNI pmax pmax
comp=Z,72nm,1.1s,mb4.9
BNI Bardonecchia 21.03 291 *eP* **P** **22 32 52.1 +0.9**
comp=Z,72nm,1.1s,mb4.9
BNI Bardonecchia 21.03 291 *eP* **P** **22 32 52.1 +0.9**
comp=Z,72nm,1.1s,mb4.9
ECH Echery 21.05 300 *eP* **P** **22 32 50.8 -0.5**
ECH Echery 21.05 300 *eP* **P** **22 32 51.1 -0.2**
FRF La Foret Royal 21.06 287 *eP* **P** **22 32 51.5 +0.1**
comp=Z,89nm,1.2s,mb4.7
FRF La Foret Royal 21.06 287 *eP* **P** **22 32 51.5 +0.1**
FRF pmax pmax
comp=Z,44nm,1.2s,mb4.7
RSL Roselend 21.10 293 *eP* **P** **22 32 51.8 -0.1**
OG01 Vacheresse 21.11 295 *eP* **P** **22 32 51.6 -0.4**
LOMF Lomont 21.13 298 *eP* **P** **22 32 51.9 -0.2**
LMR La Mourre 21.17 286 *eP* **P** **22 32 51.9 -0.7**
comp=Z,108nm,1.4s,mb4.7
LMR La Mourre 21.17 286 *eP* **P** **22 32 51.9 -0.7**
LMR pmax pmax
comp=Z,54nm,1.4s,mb4.7
ABH Alteburg 21.17 305 *eP* **P** **22 32 52.2 -0.3**
HINF Hinteralfeld 21.18 299 *eP* **P** **22 32 52.1 -0.6**
comp=Z,50nm,1.0s,mb4.5
HINF Hinteralfeld 21.18 299 *eP* **P** **22 32 52.1 -0.6**
HINF pmax pmax
comp=Z,25nm,1.0s,mb4.5
FINES FINESS Array B 21.43 348 P **P** **22 32 54.3 -0.7**
comp=Z,18nm,0.8s,mb4.5,baz=143,slow=9.5,SNR=38
FINES LR LR 22 42 13.8
comp=Z,305nm,19.4s,MS3.7,baz=159,slow=40
RUP Ruppelstein 21.43 304 *eP* **P** **22 32 54.9 -0.3**
RUP Ruppelstein 21.43 304 *eP* **P** **22 32 54.7 -0.5**
GDM Grand'Maison 21.44 292 *eP* **P** **22 32 55.9 +0.6**
TAVF Tavernes 21.48 287 *eP* **P** **22 32 56.8 +1.0**
CABF La Chapelle 21.55 295 *eP* **P** **22 32 56.2 -0.2**
comp=Z,64nm,1.0s,mb4.7
CABF La Chapelle 21.55 295 *eP* **P** **22 32 56.2 -0.2**
CABF pmax pmax
comp=Z,32nm,1.0s,mb4.7
HAU Haudompre 21.55 299 *eP* **P** **22 32 55.7 -0.7**
comp=Z,76nm,1.2s,mb4.7
HAU *eR*
comp=Z,352nm,21.0s
HAU Haudompre 21.55 299 *eP* **P** **22 32 55.7 -0.7**
HAU pmax pmax
comp=Z,38nm,1.2s,mb4.7
HAU MLR MLR
comp=Z,350nm,21.0s,MS3.7
STOF St-Etienne Org 21.58 288 *eP* **P** **22 32 58.4 +1.7**
ORIF Oris-en-Rattie 21.60 291 *eP* **P** **22 32 57.2 +0.3**
comp=Z,106nm,1.3s,mb4.8
ORIF *eR*
comp=Z,219nm,20.0s
VILF Villemus 21.72 288 *eP* **P** **22 32 58.9 +0.7**
PUYF Puyloubier 21.75 287 *eP* **P** **22 32 59.6 +1.2**
SMRF Simiane la Rot 21.82 288 *eP* **P** **22 33 00.7 +1.5**
comp=Z,29nm,0.9s,mb4.4
THEF They Montfort 21.82 300 *eP* **P** **22 32 58.6 -0.5**
GELF Grande-Etoile 21.95 287 *eP* **P** **22 33 01.0 +0.5**
TREF Trevaresse 21.97 287 *eP* **P** **22 33 03.1 +2.4**
WLF Walferdange 21.99 304 *eP* **P** **22 33 00.0 -0.8**
WLF pmax pmax
comp=Z,29nm,1.1s,mb4.6
WLF Walferdange 21.99 304 *eP* **P** **22 32 60.0 -0.9**
comp=Z,29nm,1.1s,mb4.6
WLF Walferdange 21.99 304 *eP* **P** **22 33 00.0 -0.8**
comp=Z,29nm,1.1s,mb4.6
OCF Saint Nazaire 22.01 290 *eP* **P** **22 33 01.7 +0.7**
OG26 St.-Nazaire-De 22.01 290 *eP* **P** **22 33 01.7 +0.7**
KAF Kangasniemi 22.03 349 *ep* **P** **22 33 00.7 -0.4**
comp=Z,89nm,0.9s,mb5.2,baz=159,slow=11
KAF Kangasniemi 22.03 349 *eP* **P** **22 33 00.7 -0.4**
KAF pmax pmax
comp=Z,89nm,0.9s,mb5.2
ARU Arti 22.04 37 *eP* **P** **22 33 00.1 -1.1**
ARU pmax pmax
comp=Z,39nm,0.8s,mb4.9
ARU Arti 22.04 37 *eP* **P** **22 33 00.1 -1.1**
comp=Z,39nm,0.8s,mb4.9
ARU Arti 22.04 37 *eP* **P** **22 33 00.1 -1.1**
comp=Z,39nm,0.8s,mb4.9
PRAF Pradon 22.12 288 *eP* **P** **22 33 03.4 +1.3**
WTSB Winterswijk 22.24 310 *eP* **P** **22 33 03.9 +0.6**
comp=Z,41nm,0.8s,mb4.9
MEM Membach 22.31 306 P **P** **22 33 05.4 +1.4**
JOF Joensuu 22.33 356 *ep* **P** **22 33 02.3 -1.8**
comp=Z,36nm,0.8s,mb4.8
HGN Heimansgroeve 22.40 306 *eP* **P** **22 33 06.4 +1.5**
comp=Z,63nm,1.7s,mb4.8
HGN *eS* **S** **22 37 19.6 +14**
VIVF Saint-Julien-I 22.45 291 *eP* **P** **22 33 05.5 0.0**
comp=Z,48nm,1.2s,mb4.5
VIVF Saint-Julien-I 22.45 291 *eP* **P** **22 33 05.5 0.0**
VIVF pmax pmax
comp=Z,24nm,1.2s,mb4.5
MEZF Maizieres J'vi 22.48 300 *eP* **P** **22 33 05.3 -0.4**
comp=Z,191nm,1.4s,mb5.0
GIVF Givet 22.93 304 *eP* **P** **22 33 10.6 +0.6**
MUD Monsted U'grnd 22.95 322 ⇓*iP* **P** **22 33 13.3 +3.2**
MUD pmax pmax
comp=Z,118nm,1.2s,mb5.2
MUD Monsted U'grnd 22.95 322 ⇓*iP* **P** **22 33 13.3 +3.2**
comp=Z,117nm,1.2s,mb5.2
MUD *eS* S 22 37 37.3 +22
comp=Z,260nm,17.0s
LASF Ste Croix 23.05 289 *eP* **P** **22 33 11.6 +0.3**
comp=Z,73nm,1.2s,mb4.7
DOU Dourbes 23.07 304 P **P** **22 33 11.8 +0.4**
SMF Signal de Mont 23.09 295 *eP* **P** **22 33 12.8 +1.2**
comp=Z,144nm,1.6s,mb4.8
SMF Signal de Mont 23.09 295 *eP* **P** **22 33 12.8 +1.2**
SMF pmax pmax
comp=Z,72nm,1.6s,mb4.8
LOR Lormes 23.13 297 *eP* **P** **22 33 12.0 0.0**
comp=Z,59nm,1.0s,mb4.7
LOR *eR*
comp=Z,608nm,19.0s

LOR Lormes 23.13 297 *eP* **P** **22 33 12.0 0.0**
LOR pmax pmax
comp=Z,30nm,1.0s,mb4.7
LOR MLR MLR
comp=Z,610nm,19.0s,MS4.1
COLF Collangettes 23.15 292 *eP* **P** **22 33 13.2 +1.0**
SVE Sverdlovsk 23.21 37 *eP* **P** **22 33 13.4 +0.7**
SVE *e* 22 33 20.0
SVE *e* 22 38 16.0
SVE pmax pmax
comp=Z,44nm,1.3s,mb4.7
SVE Sverdlovsk 23.21 37 *eP* **P** **22 33 13.4 +0.7**
comp=Z,44nm,1.3s,mb4.7
PLDF La Plantade 23.21 293 *eP* **P** **22 33 14.0 +1.2**
BAIF Baives 23.31 304 *eP* **P** **22 33 14.1 +0.4**
comp=Z,70nm,1.2s,mb4.7
BAIF Baives 23.31 304 *eP* **P** **22 33 14.1 +0.4**
BAIF pmax pmax
comp=Z,35nm,1.2s,mb4.7
SOKR Solikamsk 23.33 29 ⇑*iP* **P** **22 33 17.7 +3.9**
SOKR *e* 22 37 27.1
SOKR pmax pmax
comp=Z,30nm,0.9s,mb4.7
SSF Saint Saulge 23.35 296 *eP* **P** **22 33 13.8 -0.3**
SSF pmax pmax
comp=Z,55nm,1.5s,mb4.8
SSF Saint Saulge 23.35 296 *eP* **P** **22 33 13.8 -0.3**
comp=Z,55nm,1.5s,mb4.8
SNF Seneffe 23.36 305 P **P** **22 33 15.0 +0.8**
UCC Uccle 23.38 306 P **P** **22 33 15.7 +1.3**
AVF Avril sur Loir 23.44 296 *eP* **P** **22 33 15.0 0.0**
comp=Z,201nm,1.5s,mb5.0
AVF Avril sur Loir 23.44 296 *eP* **P** **22 33 15.0 0.0**
AVF pmax pmax
comp=Z,100nm,1.5s,mb5.0
HFS Hagfors 23.45 333 P **P** **22 33 16.0 +1.1**
comp=Z,38nm,0.9s,mb4.8,baz=141,slow=9.5,SNR=50
HFS LR LR 22 44 10.1
comp=Z,222nm,18.1s,MS3.7,baz=292,slow=41
HFA0 Hagfors New Ar 23.46 333 P **P** **22 33 15.7 +0.7**
LBL Lubilhac 23.46 292 *eP* **P** **22 33 16.6 +1.3**
AGO Saint Agoulin 23.56 294 *eP* **P** **22 33 17.3 +1.1**
PYM Petit Puy Mans 23.64 293 *eP* **P** **22 33 18.0 +1.1**
BGF Bois d'Agland 23.77 295 *eP* **P** **22 33 16.4 -1.8**
comp=Z,128nm,1.7s,mb4.8
BGF Bois d'Agland 23.77 295 *eP* **P** **22 33 16.4 -1.8**
BGF pmax pmax
comp=Z,64nm,1.7s,mb4.8
EJON La Jonquera 23.89 285 P **P** **22 33 18.2 -1.2**
comp=Z,15nm,2.0s,mb4.1
EJON La Jonquera 23.89 285 P **P** **22 33 18.2 -1.2**
comp=Z,15nm,2.0s,mb4.1,SNR=5.3
HYF Humbligny 23.95 297 *eP* **P** **22 33 21.6 +1.6**
LRDF Laroque-de-Fa 24.09 286 *eP* **P** **22 33 22.7 +1.3**
TCF Toulx Ste Croi 24.20 294 *eP* **P** **22 33 24.5 +2.1**
comp=Z,202nm,1.5s,mb5.0
TCF Toulx Ste Croi 24.20 294 *eP* **P** **22 33 24.5 +2.1**
TCF pmax pmax
comp=Z,101nm,1.5s,mb5.0
MTLF Montolieu 24.29 287 *eP* **P** **22 33 23.9 +0.6**
comp=Z,57nm,1.0s,mb4.7
MTLF Montolieu 24.29 287 *eP* **P** **22 33 23.9 +0.6**
MTLF pmax pmax
comp=Z,29nm,1.0s,mb4.7
CAF Calviac 24.31 291 *eP* **P** **22 33 24.6 +1.1**
comp=Z,2.9nm,0.6s,mb3.6
CAF Calviac 24.31 291 *eP* **P** **22 33 24.6 +1.1**
CAF pmax pmax
comp=Z,1.0nm,0.6s
ETOS Mallorca 24.40 278 P **P** **22 33 24.0 -0.4**
comp=Z,105nm,2.3s,mb4.9
KONO Kongsberg 24.64 329 ⇑*eP* **P** **22 33 27.5 +1.0**
KONO Kongsberg 24.64 329 *eP* **P** **22 33 26.8 +0.2**
comp=Z,279nm,1.8s,mb5.5
RJF Les Rejaudoux 24.68 292 *eP* **P** **22 33 28.2 +1.1**
RJF *eR*
comp=Z,361nm,18.5s
NAO01 NORSAR Array S 24.94 332 *eP* **P** **22 33 30.3 +0.9**
comp=Z,53nm,1.0s,mb5.0
NB2 NORSAR Subarra 24.95 332 P **P** **22 33 29.9 +0.3**
comp=Z,27nm,0.9s,mb4.8,baz=130,slow=9.3
NB2 NORSAR Subarra 24.95 332 P **P** **22 33 29.9 +0.3**
NB2 pmax pmax
comp=Z,27nm,0.9s,mb4.8
NB2 NORSAR Subarra 24.95 332 P **P** **22 33 29.9 +0.3**
baz=130,slow=10
NOA NORSAR Array B 24.95 332 P **P** **22 33 29.8 +0.3**
comp=Z,30nm,1.0s,mb4.8,baz=130,slow=9.8,SNR=36
EMIR Miracle 24.97 284 P **P** **22 33 28.3 -1.5**
comp=Z,71nm,1.1s,mb5.1
MLS Moulis 25.15 286 *eP* **P** **22 33 31.0 -0.6**
LFF La Frestale 25.25 291 *eP* **P** **22 33 33.1 +0.6**
comp=Z,24nm,0.9s,mb4.4
LFF La Frestale 25.25 291 *eP* **P** **22 33 33.1 +0.6**
LFF pmax pmax
comp=Z,12nm,0.9s,mb4.4
EPOB Poblet 25.39 283 P **P** **22 33 32.4 -1.5**
comp=Z,7.0nm,0.8s,mb4.2
EPF Esparros 25.69 287 *eP* **P** **22 33 35.8 -0.9**
comp=Z,3.1nm,0.7s,mb3.7
EPF Esparros 25.69 287 *eP* **P** **22 33 35.8 -0.9**
EPF pmax pmax
comp=Z,2.0nm,0.7s,mb3.8
RESF Ens 25.72 286 *eP* **P** **22 33 37.1 +0.2**
MFF Saint Martin d 25.84 295 *eP* **P** **22 33 37.4 -0.6**
comp=Z,29nm,0.8s,mb4.6
MFF Saint Martin d 25.84 295 *eP* **P** **22 33 37.4 -0.6**
MFF pmax pmax
comp=Z,14nm,0.8s,mb4.5
EBIE Bielsa 25.87 286 P **P** **22 33 37.4 -1.0**
comp=Z,16nm,1.0s,mb4.5
LABF Labassere 25.88 287 *eP* **P** **22 33 39.6 +1.1**
LDF La Druitiere 25.91 299 *eP* **P** **22 33 38.9 +0.3**
comp=Z,64nm,1.5s,mb4.6
LDF La Druitiere 25.91 299 *eP* **P** **22 33 38.9 +0.3**
LDF pmax pmax
comp=Z,32nm,1.5s,mb4.6
ERTA Horta de San J 26.01 282 P **P** **22 33 39.6 -0.1**
comp=Z,12nm,0.8s,mb4.5
FLN La Foliniere 26.16 300 *eP* **P** **22 33 40.9 -0.1**
FLN *eR*
comp=Z,292nm,17.8s
ETSF Etsaut 26.36 287 *eP* **P** **22 33 43.6 +0.7**
comp=Z,19nm,0.9s,mb4.3
ETSF Etsaut 26.36 287 *eP* **P** **22 33 43.6 +0.7**
ETSF pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
GRR Gorron 26.38 299 *eP* **P** **22 33 42.3 -0.7**
comp=Z,48nm,1.1s,mb4.7
GRR Gorron 26.38 299 *eP* **P** **22 33 42.3 -0.7**
GRR pmax pmax
comp=Z,24nm,1.1s,mb4.6
ESAC San Caprasio 26.47 284 P **P** **22 33 42.6 -1.3**
comp=Z,97nm,1.3s,mb5.2
LARF Larrau 26.65 287 *eP* **P** **22 33 46.1 +0.5**
EMOS Mosqueruela 26.73 281 P **P** **22 33 45.9 -0.5**
comp=Z,80nm,1.2s,mb5.1
SJPF Ste Jean 26.82 287 *eP* **P** **22 33 47.8 +0.7**
comp=Z,42nm,1.1s,mb4.6
SJPF Ste Jean 26.82 287 *eP* **P** **22 33 47.8 +0.7**
SJPF pmax pmax
comp=Z,21nm,1.1s,mb4.6
APA Apatity 26.91 359 ⇑*iP* **P** **22 33 49.5 +1.8**
APA pmax pmax
comp=Z,22nm,1.2s,mb4.6
APA MLR MLR
comp=Z,800nm,14.0s,MS4.4
BVAR Borovoye Array 26.94 51 P **P** **22 33 47.6 -0.5**
comp=Z,0.9nm,0.7s,baz=270,slow=5.9,SNR=4.3
EBEN Beniarda 26.95 277 P **P** **22 33 48.4 0.0**
comp=Z,49nm,1.4s,mb4.8
LVZ Lovozero 27.23 360 *eP* **P** **22 33 47.3 -3.3**
LVZ *eS* **S** **22 38 25.5 -2.4**
LVZ pmax pmax
comp=N,4.0nm,0.9s
LVZ pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
LVZ pmax pmax
comp=E,2.0nm,0.8s
LVZ MLR MLR
comp=Z,220nm,12.0s,MS4.0
LVZ MLR MLR
comp=N,130nm,11.0s,MS3.8
LVZ MLR MLR
comp=E,90nm,13.0s,MS3.8
ECHE Chera 27.28 279 P **P** **22 33 52.1 +0.7**

ECHE pmax pmax
comp=Z,26nm,1.0s,mb4.7
ECHE Chera 27.28 279 P **P 22 33 52.1 +0.8**
comp=Z,26nm,1.0s,mb4.7
SGMF Saint Gilles 27.50 298 *e*P **P 22 33 52.8 -0.5**
comp=Z,39nm,0.8s,mb4.8
SGMF Saint Gilles 27.50 298 *e*P **P 22 33 52.8 -0.5**
SGMF pmax pmax
comp=Z,19nm,0.8s,mb4.8
QUIF Quistinic 27.91 298 *e*P **P 22 33 56.2 -0.8**
EMUR La Murta 27.95 276 P **P 22 33 58.1 +0.6**
comp=Z,43nm,2.3s,mb4.7
ETOB Tobarra 27.96 278 P **P 22 33 57.6 +0.1**
comp=Z,37nm,1.5s,mb4.8
ROSF Rostrenen 27.99 299 *e*P **P 22 33 56.9 -0.8**
comp=Z,25nm,0.9s,mb4.5
ROSF Rostrenen 27.99 299 *e*P **P 22 33 56.9 -0.8**
ROSF pmax pmax
comp=Z,12nm,0.9s,mb4.5
EVIA Vianos 28.68 278 P **P 22 34 04.1 +0.1**
EVIA pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
EVIA Vianos 28.68 278 P **P 22 34 04.1 +0.1**
comp=Z,6.5nm,0.7s,mb4.5
EKA Eskdalemuir Ar 28.89 313 P **P 22 34 05.7 -0.1**
comp=Z,6.1nm,0.7s,mb4.4,baz=107,slow=8.8,SNR=20
ENIJ Nijar 28.96 275 P **P 22 34 07.5 +1.0**
ENIJ pmax pmax
comp=Z,24nm,1.0s,mb4.9
ENIJ Nijar 28.96 275 P **P 22 34 07.5 +0.9**
comp=Z,24nm,1.0s,mb4.9
ARCES ARCESS Array B 29.29 353 P **P 22 34 09.4 +0.2**
comp=Z,9.7nm,0.6s,mb4.7,baz=167,slow=9.0,SNR=51
ARCES LR LR 22 47 05.1
comp=Z,219nm,18.0s,MS3.8,baz=160,slow=39
ARE0 ARCESS Array S 29.29 353 *e*P **P 22 34 09.1 -0.1**
EQES Quesada 29.35 277 P **P 22 34 09.1 -1.0**
comp=Z,43nm,1.0s,mb5.1
KEV Kevo 29.38 354 *e*p **P 22 34 08.4 -1.7**
comp=Z,8.5nm,0.9s,mb4.5
KEV Kevo 29.38 354 *e*P **P 22 34 08.4 -1.7**
KEV pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
GUD Guadarrama 29.41 283 P **P 22 34 08.3 -2.3**
GUD pmax pmax
comp=Z,12nm,1.3s,mb4.5
GUD Guadarrama 29.41 283 P **P 22 34 08.3 -2.3**
comp=Z,12nm,1.3s,mb4.5
AAK Ala-Archa 29.49 73⇓ *e*P **P 22 34 10.3 -1.0**
AAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
AAK Ala-Archa 29.49 73 *e*P **P 22 34 10.6 -0.7**
comp=Z,1.9nm,0.7s,mb3.9
AAK LR LR
comp=Z,88nm,21.0s,MS3.4
EBER Berja 29.50 275 P **P 22 34 10.2 -1.2**
comp=Z,82nm,1.7s,mb5.2
ESDC Sonseca Array 29.50 281 P **P 22 34 10.3 -1.1**
comp=Z,10nm,0.7s,mb4.6,baz=67,slow=9.5,SNR=38
ESDC PcP PcP 22 37 17.8 +0.8
comp=Z,0.4nm,0.7s,baz=63,slow=3.3,SNR=4.1
ESLA Sonseca Array 29.50 281 *e*P **P 22 34 10.3 -1.1**
comp=Z,8.1nm,1.1s,mb4.4
ESLA LR LR
comp=Z,883nm,19.0s,MS4.4
FRU Bishkek 29.55 73 P **P 22 34 12.0 +0.2**
EBAN Banos Encina 29.78 278 P **P 22 34 13.3 -0.7**
EBAN pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
EBAN Banos Encina 29.78 278 P **P 22 34 13.3 -0.6**
comp=Z,8.6nm,0.7s,mb4.6
ECOG Cogollos-Vega 29.89 276 P **P 22 34 14.0 -0.9**
ECOG pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
ECOG Cogollos-Vega 29.89 276 P **P 22 34 14.0 -0.9**
comp=Z,2.0nm,0.6s,mb4.0
ELUQ Luque 30.33 277 P **P 22 34 18.0 -0.8**
ELUQ pmax pmax
comp=Z,18nm,1.2s,mb4.7
ELUQ Luque 30.33 277 P **P 22 34 18.0 -0.8**
comp=Z,18nm,1.2s,mb4.7
ELOJ Sierra Loja 30.37 276 P **P 22 34 17.6 -1.6**
ELOJ pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ELOJ Sierra Loja 30.37 276 P **P 22 34 17.6 -1.6**
comp=Z,3.5nm,0.8s,mb4.1
EADA Adamuz 30.38 278 P **P 22 34 18.2 -1.0**
comp=Z,19nm,0.8s,mb4.9
DLF Lyons Farm 30.44 308 *e*P **P 22 34 19.6 0.0**
DCN Croghan 30.89 308 *e*P **P 22 34 23.7 +0.1**
EMIJ Mijas 31.04 275 P **P 22 34 22.9 -2.1**
comp=Z,8.9nm,0.7s,mb4.7
KSH Kashi 31.27 79 *e*P **P 22 34 25.3 -1.8**
KSH *e*PPP PPP 22 35 42.5 -2.7
KSH *e*PCP PcP 22 37 20.8 -0.8
KSH *e*S **S 22 39 25.8 -6.9**
KSH *e*SCP 22 40 59.0
KSH *e*PCS 22 41 03.3
KSH *e*SCS ScS 22 44 55.0 -4.5
KSH AMB AMB
comp=Z,310nm,4.2s
KSH LR LR
comp=N,470nm,5.6s
KSH LR LR
comp=E,480nm,4.5s
MTE Manteigas 31.98 284 *e*P **P 22 34 33.8 +0.5**
MTE Manteigas 31.98 284 *e*P **P 22 34 32.6 -0.6**
comp=E,19nm,1.2s,mb4.8
PCBR Castelo Branco 32.07 283 *e*P **P 22 34 33.6 -0.5**
comp=E,17nm,1.3s,mb4.7
EMIN Mina Concepcio 32.07 278 P **P 22 34 33.4 -0.7**
comp=E,46nm,3.3s
PBEJ Beja 32.89 279 *e*P **P 22 34 40.5 -0.7**
comp=E,26nm,1.5s,mb5.0
MKAR Makanchi Array 34.38 64 P **P 22 34 53.2 -0.9**
comp=E,1.1nm,0.6s,mb3.9,baz=279,slow=7.1,SNR=14
MKAR LR LR 22 51 14.4
comp=E,220nm,18.0s,MS3.9,baz=274,slow=40
MKAR Makanchi Array 34.38 64 P **P 22 34 53.2 -0.9**
MKAR LR LR 22 51 14.4
NVS Novosibirsk 34.71 49⇓ *i*P **P 22 34 55.4 -1.4**
NVS pmax pmax
comp=Z,18nm,1.7s,mb4.7
NVS pmax pmax
comp=N,6.0nm,1.4s
NVS pmax pmax
comp=E,6.0nm,1.2s
WMQ Urumqi 38.68 67 ⇑P **P 22 35 31.5 +1.0**
WMQ PP PP 22 37 04.0 +1.3
WMQ AMB AMB
comp=Z,10.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,153nm,5.2s
WMQ LR LR
comp=N,240nm,20.6s,MS4.2
WMQ LR LR
comp=E,306nm,21.3s,MS4.2
WMQ LR LR
comp=Z,440nm,22.9s,MS4.2
KBS Kingsbay 39.38 353 *e*P **P 22 35 36.5 +0.6**
KBS pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
KBS Kingsbay 39.38 353 *e*P **P 22 35 36.5 +0.6**
comp=Z,4.3nm,0.6s,mb4.4
MBAR Mbarara 41.30 186 *e*P **P 22 35 49.2 -3.2**
MBAR pmax pmax
comp=Z,7.0nm,1.3s,mb4.1
MBAR Mbarara 41.30 186 *e*P **P 22 35 49.2 -3.2**
comp=Z,7.5nm,1.3s,mb4.2
KMBO Kilima Mbogo 41.71 176 LR LR 22 53 19.0
comp=Z,76nm,21.4s,MS3.5,baz=266,slow=36
KOLN Koldanda 41.83 92 *e*P **P 22 35 55.6 -1.0**
comp=Z,14nm,0.9s,mb4.6
GKN Gorkha 42.49 91 *e*P **P 22 36 01.6 -0.5**
comp=Z,18nm,0.7s,mb4.8
DMN Daman 43.05 92 *e*P **P 22 36 05.9 -0.7**
comp=Z,30nm,0.9s,mb5.0
KKN Kakani 43.09 91 *e*P **P 22 36 06.3 -0.6**
comp=Z,4.2nm,0.2s,mb4.8
GUN Gumba 43.48 91 *e*P **P 22 36 09.8 -0.3**
comp=Z,12nm,0.7s,mb4.7
JIRN Jiri 43.85 91 *e*P **P 22 36 12.3 -0.8**
comp=Z,22nm,1.1s,mb4.8
LSA Lhasa 46.59 85 P **P 22 36 36.0 +1.1**
LSA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
LSA Lhasa 46.59 85 *e*P **P 22 36 35.0 +0.1**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
LSA MLR MLR
comp=Z,187nm,20.0s,MS4.0
LSA Lhasa 46.59 85 *e*P **P 22 36 35.0 0.0**
comp=Z,6.7nm,0.6s,mb4.8
LSA LR LR
comp=Z,187nm,20.0s,MS4.0
TLY Talaya 47.18 52 *e*P **P 22 36 40.2 +0.9**
TLY *e* 22 38 32.2
TLY *e*S **S 22 43 39.1 +7.9**
TLY *e*SS SS 22 46 52.7 +1.1
TLY pmax pmax
comp=Z,11nm,1.1s,mb4.7
TLY MLR MLR
comp=Z,187nm,21.0s,MS4.0
TLY Talaya 47.18 52 *e*P **P 22 36 39.5 +0.2**
comp=Z,11nm,1.2s,mb4.7
ZAK Zakamensk 47.31 54 *e*P **P 22 36 40.4 +0.1**
ZAK pmax pmax
comp=Z,5.0nm,1.6s,mb4.2
ZAK pmax pmax
comp=Z,3.0nm,1.8s,mb3.9
GTA Gaotai 48.70 69 P **P 22 36 51.0 -0.3**
GTA AP pP 22 37 02.8 +8.8
GTA S **S 22 43 48.5 -4.2**
GTA AMB AMB
comp=E,8.0nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,93nm,4.2s
GTA LR LR
comp=N,164nm,18.7s,MS4.2
GTA LR LR
comp=E,113nm,15.7s,MS4.2
GTA LR LR
comp=Z,146nm,20.3s,MS4.0
DBIC Dimbokro 49.02 237 P **P 22 36 53.3 -0.8**
comp=Z,6.2nm,1.0s,mb4.6,baz=206,slow=5.0,SNR=4.5
DBIC LR LR 23 01 13.3
comp=Z,119nm,18.6s,MS3.9,baz=28,slow=41
LZH Lanzhou 53.01 71 ⇑P **P 22 37 24.0 -0.1**
LZH AP pP 22 37 35.0 +8.1
LZH AMB AMB
comp=Z,39nm,1.2s,mb5.2
LZH AMB AMB
comp=Z,236nm,5.8s
HHC Hu-ho-hao-te 56.23 63 ⇑P **P 22 37 48.0 +0.5**
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,162nm,5.1s
HHC LR LR
comp=N,238nm,19.0s,MS4.6
HHC LR LR
comp=E,398nm,20.0s,MS4.6
HHC LR LR
comp=Z,410nm,20.4s,MS4.5
XAN Xi'an 57.64 71 P **P 22 37 56.0 -1.7**
XAN AMB AMB
comp=Z,6.0nm,1.2s,mb4.5
CMAR Chiang Mai Arr 58.69 92 *i*P **P 22 38 03.2 -2.0**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 58.69 92 P **P 22 38 03.1 -2.1**
comp=Z,2.0nm,0.8s,mb4.2,baz=298,slow=7.7,SNR=12
BJI Beijing 59.71 62 *e*P **P 22 38 11.0 -1.0**
BJI AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
BJI LR LR
comp=N,201nm,18.7s,MS4.5
BJI LR LR
comp=E,315nm,22.8s,MS4.5
BJI LR LR
comp=Z,396nm,29.1s
FRB Frobisher Bay 59.75 330 P **P 22 38 11.2 -0.8**
comp=Z,23nm,0.8s,mb5.3,baz=58,slow=7.0,SNR=57
GYA Guiyang 59.96 80 ⇑*i*P **P 22 38 12.5 -1.4**
GYA PP PP 22 40 25.8 -2.4
GYA S **S 22 46 21.8 -2.7**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,120nm,4.8s
GYA LR LR
comp=N,280nm,18.4s,MS4.8
GYA LR LR
comp=E,510nm,18.6s,MS4.8
GYA LR LR
comp=Z,340nm,19.2s,MS4.5
RES Resolute Bay 60.17 346 *e*P **P 22 38 14.4 -0.3**
RES pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
RES Resolute Bay 60.17 346 *e*P **P 22 38 14.4 -0.3**
comp=Z,4.9nm,1.0s,mb4.5
MATP Matopo 61.12 187 P **P 22 38 21.0 -0.8**
comp=Z,3.0nm,0.8s,mb4.5,baz=331,slow=4.7,SNR=6.4
WHN Wuhan 63.38 72 *e*P **P 22 38 36.0 -0.8**
CN2 Changchun 63.74 54 *e*P **P 22 38 38.5 -0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CN2 LR LR
comp=Z,400nm,23.0s,MS4.5
SCHQ Schefferville 63.83 321 P **P 22 38 38.8 -0.6**
comp=Z,11nm,0.9s,mb4.9,baz=58,slow=5.6,SNR=15
SCHQ Schefferville 63.83 321 *e*P **P 22 38 38.4 -1.0**
comp=Z,11nm,0.9s,mb4.9
BILL Bilibino 65.61 18 ⇑*e*P **P 22 38 50.9 +0.3**
BILL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BILL Bilibino 65.61 18 *e*P **P 22 38 50.6 0.0**
BILL LR LR
comp=Z,230nm,21.0s,MS4.4
NJ2 Nanjing 65.76 68 *e*P **P 22 38 52.0 -0.2**
NJ2 AP pP 22 39 05.5 +10
NJ2 XP sP 22 39 10.0 +14
NJ2 PCP PcP 22 39 23.0 -0.4
NJ2 S S 22 47 34.0 -3.2
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
NJ2 AMB AMB
comp=Z,130nm,6.5s
NJ2 LR LR
comp=N,680nm,17.7s
NJ2 LR LR
comp=E,530nm,24.1s
NJ2 LR LR
comp=Z,510nm,23.4s
SSE Sheshan 67.94 67 *e*P **P 22 39 04.0 -2.1**
SSE AP pP 22 39 16.3 +7.4
SSE S S 22 47 59.0 -4.5
SSE SCS ScS 22 48 58.8 -2.7
SSE AMB AMB
comp=Z,29nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,54nm,3.5s
SSE LR LR
comp=N,111nm,20.4s,MS4.4
SSE LR LR
comp=E,229nm,20.4s,MS4.4
SSE LR LR
comp=Z,266nm,19.6s,MS4.5
BOSA Boshof 69.56 189 P **P 22 39 14.8 -1.3**
comp=Z,4.9nm,1.0s,mb4.4,baz=2.9,slow=6.7,SNR=6.8
BOSA Boshof 69.56 189 P **P 22 39 14.8 -1.3**
INK Inuvik 70.94 355 *e*P **P 22 39 23.3 -0.6**
INK pmax pmax
comp=Z,10.0nm,1.3s
INK Inuvik 70.94 355 *e*P **P 22 39 23.2 -0.6**
comp=Z,9.9nm,1.3s,mb4.6
FCC Fort Churchill 72.19 335 *e*P **P 22 39 31.6 +0.1**
FCC pmax pmax
comp=Z,28nm,1.3s,mb5.0
FCC Fort Churchill 72.19 335 *e*P **P 22 39 31.6 +0.1**
comp=Z,28nm,1.3s,mb5.0
IMA Indian Mountai 73.33 4 *e*P **P 22 39 39.0 +1.0**
IMA pmax pmax
comp=Z,81nm,1.5s,mb5.4
IMA Indian Mountai 73.33 4 *e*P **P 22 39 39.0 +1.0**
comp=Z,80nm,1.5s,mb5.4
YKW3 Yellowknife Ar 74.17 346 *e*P **P 22 39 43.2 +0.3**
YKA Yellowknife Ar 74.23 346 *i*P **P 22 39 43.7 +0.5**
YKA pmax pmax
comp=Z,20nm,0.9s
YKA Yellowknife Ar 74.23 346 P **P 22 39 43.7 +0.4**
comp=Z,20nm,0.9s,mb5.1,baz=22,slow=6.1,SNR=102
YKA Yellowknife Ar 74.23 346 P **P 22 39 43.7 +0.4**
COLA College 74.72 1 *e*P **P 22 39 46.4 +0.4**
COLA pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
COLA MLR MLR
comp=Z,307nm,22.0s,MS4.5
COLA College 74.72 1 *e*P **P 22 39 46.4 +0.4**
comp=Z,2.8nm,0.4s,mb4.5
COLA LR LR
comp=Z,307nm,22.0s,MS4.5
ILAR Eielson Array 74.83 1 P **P 22 39 47.3 +0.6**
comp=Z,2.1nm,1.0s,mb4.0,baz=345,slow=3.7,SNR=12
MCK McKinley 75.84 2 *e*P **P 22 39 52.6 +0.1**
MCK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
MCK MLR MLR
comp=Z,204nm,20.0s,MS4.4
MCK McKinley 75.84 2 *e*P **P 22 39 52.6 +0.1**
comp=Z,3.4nm,1.1s,mb4.2
MCK LR LR
comp=Z,204nm,20.0s,MS4.4
MJAR Matsushiro Arr 75.89 54 P **P 22 39 53.2 -0.1**
comp=Z,2.7nm,0.8s,mb4.2,baz=312,slow=5.9,SNR=7.4
THY Trims Highway 76.20 0 *e*P **P 22 39 55.7 +1.2**
SSPA Standing Stone 78.57 314 *e*P **P 22 40 08.6 +0.5**
comp=Z,6.3nm,1.1s,mb4.5
EYAK Cordova Ski Ar 79.08 0 *e*P **P 22 40 12.0 +1.6**
ULM Lac du Bonnet 79.63 330 P **P 22 40 14.2 +0.5**
comp=Z,8.8nm,0.8s,mb4.8,baz=56,slow=4.9,SNR=8.1
ULM Lac du Bonnet 79.63 330 *e*P **P 22 40 13.8 +0.2**
comp=Z,14nm,1.3s,mb4.7
ULM LR LR
comp=Z,238nm,19.0s,MS4.5
EYMN Ely 79.73 327 *e*P **P 22 40 14.4 +0.2**
comp=Z,3.7nm,1.0s,mb4.3
EDM Edmonton 82.48 341 *e*P **P 22 40 29.3 +0.8**
WALA Waterton Lakes 86.44 340 *e*P **P 22 40 49.1 +0.6**
comp=Z,8.9nm,1.0s,mb5.0
CCM Cathedral Cave 87.39 320 *e*P **P 22 40 53.1 -0.3**
CCM pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
CCM Cathedral Cave 87.39 320 *e*P **P 22 40 53.0 -0.4**
comp=Z,2.4nm,0.6s,mb4.6
RSSD Black Hills 87.79 332 *e*P **P 22 40 56.3 +1.1**
RSSD pmax pmax
comp=Z,14nm,1.8s,mb4.9
RSSD Black Hills 87.79 332 *e*P **P 22 40 56.3 +1.1**
comp=Z,14nm,1.8s,mb4.9
NEW Newport 87.98 342 *e*P **P 22 40 57.1 +1.1**
NEW pmax pmax
comp=Z,4.0nm,0.9s
NEW Newport 87.98 342 *e*P **P 22 40 57.1 +1.1**
comp=Z,4.1nm,0.9s,mb4.7
ELK Elko 94.47 338 *e*P **P 22 41 28.0 +1.6**
ELK pmax pmax
comp=Z,18nm,2.0s
ELK Elko 94.47 338 *e*P **P 22 41 28.0 +1.6**
comp=Z,18nm,2.0s,mb5.1

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*IDC **29** 22:33:45.8±3.0, 71.73N×4.27W, mb3.5/3, mb1 3.9/8, mb1mx3.6/24, mbtmp3.8/8, ML3.6/5, MS3.7/4, Ms1 3.7/4, ms1mx3.2/22, Error ellipse: s-maj=55.1km s-min=22.6km az=171.0*
*BER **29** 22:33:45.6±2.4, 72.05N×4.56W, h10km, ML2.3*
*NEIC **29** 22:33:48.3±0.7, 71.54N×4.19W, h10km, mb3.8/2, Error ellipse: s-maj=12.8km s-min=10.1km az=54.0*
*CSEM **29** 22:33:49.5±0.3, 71.43N×4.24W, h20km, mb3.8/2, Error ellipse: s-maj=12.0km s-min=6.8km az=177.0*
ISC 29 22:33:45.4±0.5, 71.50N±0.06×4.0W±0.1, h10km, n29, σ1§29/30, mb3.5/4, MS3.6/4, 1C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**1.55**	**253**	Pn	**Pn**	**22 34 13.8**	**+0.6**
	6.8nm,0.3s,baz=11,slow=9.4,SNR=5.4						
JMIC				Sn	**Sn**	**22 34 32.1**	**-1.4**
	6.7nm,0.3s,baz=342,slow=20,SNR=8.6						
JMIC	**Jan Mayen**	**1.55**	**253**	*e*P	**Pn**	**22 34 14.6**	**+1.4**
JMIC				*e*S	**Sb**	**22 34 32.3**	**-1.0**
JMIC				AML	AML	22 34 47.0	
	comp=Z,61nm,0.7s						
JMIC	**Jan Mayen**	**1.55**	**253**	*e*P	**Pn**	**22 34 14.6**	**+1.4**
	SNR=50						
JMIC				Sn	**Sn**	**22 34 32.1**	**-1.4**
JMIC				*e*S	**Sb**	**22 34 32.3**	**-1.0**
	comp=Z,61nm,0.7s,SNR=50						
SCO	**Scoresbysund**	**5.95**	**269**	*i*P	**Pn**	**22 35 17.0**	**+1.3**
	comp=Z,6.2nm,1.1s						
DAG	**Danmarks Havn**	**6.62**	**330⇑**	*i*P	**Pn**	**22 35 25.0**	**-0.2**
	comp=Z,7.6nm,0.4s						
LOF	**Lofoten**	**6.93**	**111**	*e*Pn	**Pn**	**22 35 30.4**	**+0.8**
HSP	**Hornsund**	**7.62**	**35**	*e*P	**Pn**	**22 35 39.5**	**+0.3**
TRO	**Tromso**	**7.85**	**93**	*e*P	**Pn**	**22 35 40.1**	**-2.4**
STOK	**Stokkvaagen**	**8.01**	**122**	*e*P	**P**	**22 35 43.5**	**-1.1**
KBS	**Kingsbay**	**8.45**	**21**	*e*Pn	**P**	**22 35 50.6**	**-0.1**
KBS	**Kingsbay**	**8.45**	**21**	*e*Pn	**P**	**22 35 50.6**	**-0.2**
MOR8	**Moi Rana**	**8.52**	**120**	*e*P	**P**	**22 35 51.6**	**-0.1**
KTK1	**Kautokeino**	**9.50**	**92**	*e*Pn	**P**	**22 36 04.5**	**-0.8**
ARCES	**ARCESS Array B**	**9.99**	**87**	Pn	**P**	**22 36 10.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=293,slow=12,SNR=5.5						
MOL	**Molde**	**10.01**	**148**	*e*P	**P**	**22 36 10.6**	**-1.6**
FOO	**Floro**	**10.56**	**156**	*e*P	**P**	**22 36 18.1**	**-1.6**
NOA	**NORSAR Array B**	**12.10**	**142**	Pn	**P**	**22 36 41.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=331,slow=12,SNR=2.6						
HFS	**Hagfors**	**13.43**	**139**	Pn	**P**	**22 36 58.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=326,slow=11,SNR=9.9						
FINES	**FINESS Array B**	**15.46**	**115**	Pn	**P**	**22 37 26.3**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=156,slow=23,SNR=4.0						
EKA	**Eskdalemuir Ar**	**16.24**	**178**	Pn	**P**	**22 37 36.9**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=356,slow=12,SNR=5.4						
CLL	**Collm**	**21.67**	**150**	P	**P**	**22 38 44.0**	**+6.2**
GRA1	**Grafenberg Arr**	**22.98**	**154**	*e*P	**P**	**22 38 55.7**	**+5.1**
	comp=Z,4.0nm,1.3s,mb3.7						
GRF	**Grafenberg Arr**	**22.98**	**154**	*e*P	**P**	**22 38 55.7**	**+5.1**
	comp=Z,4.0nm,1.3s,mb3.7						
GERES	**GERESS Array B**	**24.17**	**151**	P	**P**	**22 39 07.2**	**+5.0**
	comp=Z,1.0nm,0.8s,mb3.3,slow=6.7,SNR=7.3						
GERES				LR	LR	22 48 02.6	
	comp=Z,118nm,19.9s,MS3.4,baz=320,slow=35						
AKASG	**Malin Array Be**	**25.69**	**126**	P	**P**	**22 39 18.7**	**+2.0**
	comp=Z,1.2nm,0.7s,mb3.5,baz=335,slow=9.5,SNR=3.8						
MLR	**Muntele Rosu**	**29.76**	**135**	LR	LR	22 51 22.7	
	comp=Z,126nm,18.0s,MS3.6,baz=117,slow=35						
BRTR	**Keskin Array B**	**37.04**	**129**	P	**P**	**22 41 00.0**	**+3.2**
	comp=Z,0.3nm,0.6s,mb3.3,baz=355,slow=7.3,SNR=2.7						
YKA	**Yellowknife Ar**	**38.08**	**315**	LR	LR	22 55 52.9	
	comp=Z,41nm,19.7s,MS3.2,baz=240,slow=35						
SONM	**Songino Array**	**51.29**	**54**	LR	LR	23 08 00.7	
	comp=Z,280nm,20.1s,MS4.3,baz=86,slow=40						

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*IDC **29** 23:16:59.4±1.0, 71.31N×3.94W, mb3.3/4, mb1 3.8/9, mb1mx3.6/24, mbtmp3.6/9, ML3.4/5, MS3.5/2, Ms1 3.5/2, ms1mx2.9/19, Error ellipse: s-maj=27.3km s-min=15.5km az=34.0*
*NEIC **29** 23:16:59.5±0.5, 71.46N×3.82W, h10km, mb3.9/4, Error ellipse: s-maj=10.9km s-min=7.4km az=210.0*
*CSEM **29** 23:16:59.3±0.1, 71.58N×3.80W, h30km, mb3.9/4, Error ellipse: s-maj=2.4km s-min=1.5km az=22.0*
*BER **29** 23:17:04.1±3.0, 71.64N×3.52W, h10km, MD3.1, ML2.2*
ISC 29 23:16:57.8±0.5, 71.54N±0.06×3.7W±0.2, h10km, n35, σ1§33/39, mb3.6/7, MS3.5/2, 2C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**1.66**	**253**	Pn	**Pn**	**23 17 26.5**	**-0.7**
	6.4nm,0.3s,baz=242,slow=9.7,SNR=3.9						
JMIC				Sn	**Sn**	**23 17 43.9**	**-4.8**
	8.2nm,0.3s,baz=9.3,slow=23,SNR=5.1						
SCO	**Scoresbysund**	**6.05**	**269**	*i*P	**Pn**	**23 18 28.5**	**-1.1**
DAG	**Danmarks Havn**	**6.64**	**329⇑**	*e*P	**Pn**	**23 18 36.7**	**-1.2**
	4.2nm,0.5s						
DAG	**Danmarks Havn**	**6.64**	**329⇑**	*i*P	**Pn**	**23 18 36.7**	**-1.2**
	4.2nm,0.5s						
HSP	**Hornsund**	**7.53**	**35**	*e*P	**Pn**	**23 18 51.3**	**+1.0**
MELSS	**Ber_school_2**	**7.75**	**119**	*e*P	**Pn**	**23 18 52.9**	**-0.4**
TRO	**Tromso**	**7.75**	**93**	*e*P	**Pn**	**23 18 51.1**	**-2.2**
TRO				*e*S	**Sn**	**23 20 12.4**	**-10**
TRO				AML	AML	23 20 17.6	
	comp=Z,1.9nm,0.7s						
STOK	**Stokkvaagen**	**7.94**	**123**	*e*P	**Pn**	**23 18 55.5**	**-0.6**
STOK				*e*S	**Sn**	**23 20 17.9**	**-9.1**
KBS	**Kingsbay**	**8.38**	**21**	*e*Pn	**P**	**23 19 02.4**	**+0.2**
	comp=Z,13nm,0.6s						

MOR8 Moi Rana 8.45 121 *e*P **P 23 19 03.8 +0.7**
MOR8 *e*S **Sn 23 20 32.1 -7.5**
MOR8 AML AML 23 20 33.0
comp=Z,2.7nm,0.2s

KTK1 Kautokeino 9.39 93 *e*P **P 23 19 16.4 +0.1**
ARCES ARCESS Array B 9.88 88 Pn **P 23 19 22.7 -0.1**
comp=Z,0.2nm,0.3s,baz=294,slow=12,SNR=9.0

MOL Molde 9.99 149 *e*P **P 23 19 23.1 -1.1**
MOL Molde 9.99 149 *e*P **P 23 19 23.1 -1.2**
SNR=47

NOA NORSAR Array B 12.07 143 Pn **P 23 19 49.5 -3.1**
comp=Z,0.2nm,0.3s,baz=250,slow=4.1,SNR=4.0

HFS Hagfors 13.39 140 Pn **P 23 20 08.8 -1.5**
comp=Z,0.1nm,0.3s,baz=342,slow=9.4,SNR=26
HFS LR LR 23 25 00.7
comp=Z,147nm,21.4s,baz=138,slow=36

KAF Kangasniemi 14.91 114 *e*p **P 23 20 29.4 -0.6**
comp=Z,2.3nm,0.6s,baz=325,slow=13

FINES FINESS Array B 15.38 116 Pn **P 23 20 36.2 +0.1**
comp=Z,0.2nm,0.3s,baz=334,slow=12,SNR=10

FINES FINESS Array B 15.38 116 Pn **P 23 20 36.2 +0.1**
JOF Joensuu 15.79 105 *e*p **P 23 20 40.3 -1.2**
comp=Z,3.8nm,0.7s

EKA Eskdalemuir Ar 16.27 179 Pn **P 23 20 47.7 +0.1**
comp=Z,0.1nm,0.3s,baz=356,slow=13,SNR=4.8

SUW Suwalki 21.10 132 *e*P **P 23 21 47.7 +3.3**
comp=Z,40nm,1.0s,mb4.7

CLL Collm 21.65 151 P **P 23 21 52.0 +2.0**
MOX Moxa 22.09 153 *e*P **P 23 21 56.9 +2.5**
MOX LR LR
comp=Z,200nm,21.0s,MS3.5

MOX Moxa 22.09 153 *i* P **P 23 21 56.9 +2.5**
MOX L 23 46 07.0

BRG Berggiesshubel 22.22 150 *e*P **P 23 22 00.1 +4.4**
comp=Z,4.4nm,1.0s,mb3.8
BRG *e* 23 31 20.5

GRA1 Grafenberg Arr 22.97 155 *e*P **P 23 22 07.0 +4.1**
comp=Z,6.0nm,1.4s,mb3.8

GRF Grafenberg Arr 22.97 155 *e*P **P 23 22 07.0 +4.1**
comp=Z,6.0nm,1.4s,mb3.8

GERES GERESS Array B 24.15 151 P **P 23 22 16.3 +1.9**
comp=Z,0.6nm,0.6s,mb3.2,baz=352,slow=9.4,SNR=8.6

AKASG Malin Array Be 25.63 127 P **P 23 22 30.2 +1.7**
comp=Z,0.4nm,0.3s,mb3.4,baz=335,slow=9.3,SNR=5.8

AKASG Malin Array Be 25.63 127 P **P 23 22 30.2 +1.7**
KOLS Kolonicke sedl 25.65 138 *e*P **P 23 22 31.9 +3.2**
YKA Yellowknife Ar 38.12 315 P **P 23 24 19.3 +1.3**
comp=Z,0.4nm,0.8s,mb3.2,baz=34,slow=8.3,SNR=4.8
YKA LR LR 23 38 13.7
comp=Z,93nm,20.0s,MS3.6,baz=295,slow=33

YKA Yellowknife Ar 38.12 315 P **P 23 24 19.3 +1.3**
YKA LR LR 23 38 13.7
ILAR Eielson Array 41.66 337 P **P 23 24 51.5 +4.5**
comp=Z,0.2nm,0.6s,mb2.9,baz=198,slow=36,SNR=3.2

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*NEIC **29** 23:17:06.0±2.9, 8.50S×120.49E, h91km±29km, mb3.9/1, Error ellipse: s-maj=32.9km s-min=15.5km az=216.0*
*DJA **29** 23:17:07.0±0.9, 8.11S×120.43E, h240km, MD4.8/4, ML4.5/4, Error ellipse: s-maj=112.4km s-min=18.8km az=176.0*
*IDC **29** 23:17:10.2±3.9, 8.88S×120.17E, h140km±42km, mb3.5/2, mb1 3.5/5, mb1mx3.4/17, mbtmp3.9/5, Error ellipse: s-maj=158.0km s-min=13.9km az=53.0*
ISC 29 23:17:09.2±2.0, 8.7S±0.2×120.5E±0.1, h148km±25km, n15, σ0=89/23, mb3.8/2, 8C-1D, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**4.34**	**272**	⇑*e*Pn		**P 23 18 15.5**	**+0.8**
	56nm,0.2s						
KEDI				⇑*e*Sn		**S 23 19 06.6**	**+1.5**
RATI	**Rata**	**4.91**	**269**	⇑*e*Pn		**P 23 18 22.3**	**+0.1**
	134nm,0.3s						
RATI	**Rata**	**4.91**	**269**	⇑*e*P		**P 23 18 23.0**	**+0.8**
RATI				⇑*e*Sn		**S 23 19 18.8**	**+0.2**
KELI	**Kelakatan**	**5.96**	**274**	⇓*e*Pn		**P 23 18 36.4**	**+0.2**
	27nm,1.1s						
KELI				⇑*e*Sn		**S 23 19 41.2**	**-2.6**
SRDI	**Scrawed**	**6.29**	**271**	⇑*e*Pn		**P 23 18 39.6**	**-1.0**
	30nm,0.6s						
SRDI				⇑*e*Sn		**S 23 19 47.6**	**-4.1**
FITZ	**Fitzroy Crossi**	**10.63**	**152**	P		**P 23 19 37.2**	**-1.2**
	0.5nm,0.3s,baz=351,slow=13,SNR=5.4						
FITZ				S		**S 23 21 29.0**	**-6.3**
	4.6nm,0.3s,baz=192,slow=18,SNR=11						
MBWA	**Marble Bar**	**12.44**	**183**	*e*Pn		**P 23 20 02.0**	**-0.1**
WRA	**Warramunga Arr**	**17.46**	**131**	P		**P 23 21 04.7**	**-0.5**
	0.4nm,0.3s,baz=308,slow=12,SNR=7.8						
WRA				S		**S 23 24 08.0**	**-4.6**
	0.6nm,0.3s,baz=314,slow=25,SNR=10						
WRAB	**Tennant Creek**	**17.47**	**131**	*e*P		**P 23 21 05.0**	**-0.2**
	2.9nm,0.4s						
WB2	**Warramunga Arr**	**17.47**	**131**	*e*P		**P 23 21 05.3**	**0.0**
WB2				*e*S		**S 23 24 04.4**	**-8.4**
ASPA	**Alice Springs**	**19.68**	**141**	*e*P		**P 23 21 29.8**	**+0.8**
ASAR	**Alice Springs**	**19.68**	**141**	P		**P 23 21 29.7**	**+0.7**
	0.7nm,0.3s,baz=314,slow=9.9,SNR=36						
ASAR				S		**S 23 25 04.2**	**+6.4**
	0.2nm,0.3s,baz=313,slow=22,SNR=12						
STKA	**Stephens Creek**	**30.29**	**143**	P		**P 23 23 09.5**	**+0.7**
	1.6nm,0.4s,mb4.1,baz=333,slow=9.4,SNR=8.2						
STKA	**Stephens Creek**	**30.29**	**143**	P		**P 23 23 09.5**	**+0.7**
MKAR	**Makanchi Array**	**64.85**	**332**	P		**P 23 27 34.2**	**-0.5**
	0.3nm,0.4s,mb3.5,baz=157,slow=7.9,SNR=9.2						

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*CSEM **29** 23:38:09.3±0.1, 47.60N×2.81W, h5km, ML2.6/18, Error ellipse: s-maj=2.6km s-min=2.0km az=60.0*
*NEIC **29** 23:38:10.0, 47.64N×2.74W, h4km, ML2.6(LDG), After LDG.*
LDG 29 23:38:10.0±0.1, 47.64N×2.74W, h4km, Md2.7/3, Ml2.6/18, Error ellipse: s-maj=2.3km s-min=1.5km az=57.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QUIF	**Quistinic**	**0.40**	**314**	*e*Pg		Pg 23 38 17.1	-0.9
QUIF				*e*Sg		Sg 23 38 21.9	-1.4
	40nm,0.2s						
SGMF	**Saint Gilles**	**0.63**	**11**	*e*Pg		Pg 23 38 22.3	-0.2
SGMF				*e*Pn		Pn 23 38 24.2	-1.1
SGMF				*e*Sg		Sg 23 38 30.1	-0.8
	34nm,0.3s						
SGMF				*e*Sn		Sn 23 38 34.3	-1.6
ROSF	**Rostrenen**	**0.78**	**333**	*e*Pg		Pg 23 38 24.6	-1.1
ROSF				*e*Pn		Pn 23 38 26.3	-1.2
ROSF				*e*Sg		Sg 23 38 34.5	-1.6
	22nm,0.2s						
GRR	**Gorron**	**1.47**	**59**	*e*Pn		Pn 23 38 35.7	-1.7
GRR				*e*Pg		Pg 23 38 37.3	-2.1
GRR				*e*Sn		Sn 23 38 53.8	-3.5
GRR				*e*Sg		Sg 23 38 56.2	-2.8
	30nm,0.2s						
FLN	**La Foliniere**	**1.88**	**53**	*e*Pn		Pn 23 38 41.4	-1.9
	baz=240						
FLN				*e*Pg		Pg 23 38 44.9	-2.7
	baz=245						
FLN				*e*Sn		Sn 23 39 04.2	-3.6
FLN				*e*Sg		Sg 23 39 08.9	-3.8
	14nm,0.3s						
LDF	**La Druitiere**	**2.00**	**60**	*e*Pn		Pn 23 38 43.5	-1.4
LDF				*e*Pg		Pg 23 38 46.9	-3.0
LDF				*e*Sn		Sn 23 39 06.9	-3.8
LDF				*e*Sg		Sg 23 39 12.0	-4.5
	9.1nm,0.2s						
MFF	**Saint Martin d**	**2.05**	**119**	*e*Pn		Pn 23 38 44.3	-1.4
MFF				*e*Pg		Pg 23 38 47.7	-3.3
MFF				*e*Sn		Sn 23 39 07.9	-4.2
MFF				*e*Sg		Sg 23 39 14.3	-4.1
	6.0nm,0.2s						
LFF	**La Frestale**	**3.62**	**137**	*e*Pn		Pn 23 39 04.9	-3.2
LFF				*e*Sn		Sn 23 39 45.4	-6.5
LFF				*e*Sg		Sg 23 40 03.6	-7.0
	4.8nm,0.3s						
TCF	**Toulx Ste Croi**	**3.65**	**110**	*e*Pn		Pn 23 39 04.5	-4.0
TCF				*e*Pg		Pg 23 39 19.1	-3.8
TCF				*e*Sn		Sn 23 39 45.7	-6.9
TCF				*e*Sg		Sg 23 40 04.8	-6.7
	2.6nm,0.2s						
HYF	**Humbligny**	**3.67**	**94**	*e*Pn		Pn 23 39 05.5	-3.3
RJF	**Les Rejaudoux**	**3.76**	**127**	*e*Pn		Pn 23 39 06.8	-3.2
RJF				*e*Sn		Sn 23 39 47.9	-7.4
RJF				*e*Sg		Sg 23 40 07.7	-7.4
	4.3nm,0.3s						
BGF	**Bois d'Agland**	**3.97**	**104**	*e*Pn		Pn 23 39 09.7	-3.3
BGF				*e*Pg		Pg 23 39 24.1	-5.1
BGF				*e*Sn		Sn 23 39 53.1	-7.5
BGF				*e*Sg		Sg 23 40 14.8	-7.3
	5.9nm,0.3s						
AVF	**Avril sur Loir**	**4.24**	**99**	*e*Pn		Pn 23 39 13.0	-3.9
AVF				*e*Sn		Sn 23 39 58.8	-8.7
	1.2nm,0.3s						
SSF	**Saint Saulge**	**4.29**	**95**	*e*Pn		Pn 23 39 14.6	-2.9
SSF				*e*Sn		Sn 23 40 01.3	-7.4
	0.2nm,0.2s						
CAF	**Calviac**	**4.30**	**127**	*e*Pn		Pn 23 39 15.0	-2.7
CAF				*e*Sn		Sn 23 40 01.6	-7.4
LOR	**Lormes**	**4.49**	**92**	*e*Pn		Pn 23 39 17.1	-3.4
LOR				*e*Sn		Sn 23 40 06.3	-7.6
	1.1nm,0.3s						
EALK	**Alkurruntz**	**4.50**	**168**	Sn		Sn 23 40 07.3	-6.9
	0.9nm,0.3s,SNR=4.0						
ELIZ	**Elizondo**	**4.56**	**169**	Pn		Pn 23 39 17.2	-4.2
ELIZ				Sn		Sn 23 40 06.2	-9.4
ELIZ	**Elizondo**	**4.56**	**169**	Pn		Pn 23 39 17.2	-4.2
	0.1nm,0.1s,SNR=4.0						
ELIZ				Sn		Sn 23 40 06.2	-9.3
	0.4nm,0.2s,SNR=7.9						
SMF	**Signal de Mont**	**4.60**	**100**	*e*Pn		Pn 23 39 18.0	-4.0
SMF				*e*Sn		Sn 23 40 07.8	-8.9
	0.8nm,0.2s						
SJPF	**Ste Jean**	**4.65**	**166**	*e*Pn		Pn 23 39 19.1	-3.6
SJPF				*e*Sn		Sn 23 40 09.8	-8.1
	4.1nm,0.8s						
EARI	**Arriondas**	**4.67**	**203**	Pn		Pn 23 39 17.9	-5.1
EARI				Sn		Sn 23 40 07.0	-11
EARI	**Arriondas**	**4.67**	**203**	Pn		Pn 23 39 17.9	-5.1
	0.1nm,0.1s,SNR=4.0						
EARI				Sn		Sn 23 40 07.0	-11
	0.3nm,0.2s,SNR=7.9						
EPF	**Esparros**	**5.09**	**154**	*e*Pn		Pn 23 39 25.0	-4.0
EPF				*e*Sn		Sn 23 40 19.2	-10
	0.8nm,0.2s						
BAIF	**Baives**	**5.19**	**60**	*e*Pn		Pn 23 39 26.2	-4.1
BAIF				*e*Sn		Sn 23 40 22.9	-8.5
	0.7nm,0.2s						
MEZF	**Maizieres J'vi**	**5.30**	**78**	*e*Sn		Sn 23 40 25.6	-8.6
	1.4nm,0.2s						
EPON	**Pontenova**	**5.31**	**217**	Pn		Pn 23 39 26.7	-5.3
EPON				Sn		Sn 23 40 23.2	-11
EPON	**Pontenova**	**5.31**	**217**	Pn		Pn 23 39 26.7	-5.3
	0.2nm,0.1s,SNR=4.0						
EPON				Sn		Sn 23 40 23.2	-11
	0.8nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**5.53**	**139**	*e*Pn		Pn 23 39 30.8	-4.4
MTLF				*e*Sn		Sn 23 40 30.9	-9.2
	0.9nm,0.5s						
RFYF	**Reffroy**	**5.59**	**77**	*e*Pn		Pn 23 39 31.7	-4.3
	baz=256						
LASF	**Ste Croix**	**5.83**	**125**	*e*Pn		Pn 23 39 33.1	-6.2

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*IDC **30** 00:03:24.8±4.7, 5.73S×154.22E, h176km±38km, mb3.5/6, mb1 3.6/8, mb1mx3.5/17, mbtmp4.0/8, Error ellipse: s-maj=37.6km s-min=22.8km az=20.0*
*NEIC **30** 00:03:25.0±3.0, 5.73S×154.24E, h176km±23km, mb4.3/2, Error ellipse: s-maj=28.8km s-min=18.6km az=208.0*
ISC 30 00:03:25.1±3.7, 5.8S±0.2×154.2E±0.1, h191km±28km, n12, σ0=84/13, mb3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.86**	**242**	P		**P 00 05 17.5**	**+0.2**
	3.5nm,0.3s,baz=50,slow=7.0,SNR=6.6						
PMG				S		**S 00 06 44.8**	**-0.2**
	3.1nm,0.3s,baz=128,slow=21,SNR=4.3						
CTA	**Charters Tower**	**16.18**	**208**	P		**P 00 07 04.1**	**+0.7**
	0.2nm,0.3s,baz=45,slow=13,SNR=3.5						
CTA	**Charters Tower**	**16.18**	**208**	P		**P 00 07 04.1**	**+0.7**
DZM	**Mont Dzumac**	**20.04**	**145**	P		**P 00 07 44.6**	**-0.5**
	4.8nm,0.5s,baz=309,slow=13,SNR=12						
WRAB	**Tennant Creek**	**23.88**	**232**	*e*P		**P 00 08 22.7**	**+0.1**
	4.7nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**23.90**	**232**	P		**P 00 08 23.7**	**+0.9**
	2.5nm,0.5s,mb4.0,baz=55,slow=9.8,SNR=29						
ASAR	**Alice Springs**	**26.42**	**226**	P		**P 00 08 46.0**	**-0.1**
	0.5nm,0.4s,mb3.5,baz=58,slow=9.3,SNR=9.9						
STKA	**Stephens Creek**	**28.51**	**203**	P		**P 00 09 03.5**	**-1.4**
	1.6nm,0.7s,mb3.9,baz=348,slow=14,SNR=4.3						
FITZ	**Fitzroy Crossi**	**30.45**	**244**	P		**P 00 09 20.8**	**-1.4**
	2.6nm,0.6s,mb4.1,baz=36,slow=5.4,SNR=2.2						
CASY	**Casey**	**67.49**	**198**	P		**P 00 14 03.7**	**+1.6**
MKAR	**Makanchi Array**	**82.00**	**319**	P		**P 00 15 25.2**	**+0.1**
	0.1nm,0.5s,mb2.7,baz=97,slow=7.1,SNR=2.4						
QSPA	**South Pole Qui**	**84.17**	**180**	*e*P		**P 00 15 42.7**	**+7.3**
	3.6nm,0.8s,mb4.2						

IDC 30 00:08:02.3±2.5, 6.39S×129.60E, mb3.4/1, mb1 3.7/4, mb1mx3.6/14, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=114.2km s-min=28.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.27**	**198**	Pn		P 00 10 58.5	-2.8
	0.5nm,0.3s,baz=16,slow=10,SNR=9.7						
FITZ				Sn		S 00 13 02.3	-18
	0.6nm,0.3s,baz=335,slow=14,SNR=3.5						
WRA	**Warramunga Arr**	**14.24**	**162**	Pn		P 00 11 25.3	-2.3
	0.2nm,0.3s,baz=338,slow=13,SNR=4.2						
WRA				Sn		S 00 13 51.5	-16
	0.3nm,0.3s,baz=337,slow=22,SNR=4.9						
ASAR	**Alice Springs**	**17.67**	**167**	P		P 00 12 09.9	-1.7
	0.1nm,0.3s,baz=342,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**67.50**	**327**	P		P 00 19 00.3	-2.1
	0.2nm,0.4s,baz=135,slow=6.1,SNR=4.9						

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*ISK **30** 00:09:32.1, 40.69N×34.88E, h16km, MD3.6*
*CSEM **30** 00:09:32.1, 40.69N×34.88E, h16km, MD3.6, After ISK*
ISC 30 00:09:32.3±0.7, 40.70N±0.03×34.88E±0.06, h9km±5km, n22, σ0=88/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTKT	**Corum**	**0.10**	**219**	*i* P		**Pg 00 09 35.2**	**+0.3**
CORM	**Corum**	**0.56**	**200**	*i* PG		**Pg 00 09 42.9**	**-0.6**
CORM				*i* SG		**Sg 00 09 51.4**	**+0.4**
BOYT	**Boyabat**	**0.72**	**2**	*i* P		**Pb 00 09 47.1**	**+0.6**
BOYT				*i* S		**Sb 00 09 54.4**	**-1.8**
TOS	**Tosya**	**0.73**	**298**	*i* PG		**Pg 00 09 46.9**	**0.0**
BYBT	**Boyabat**	**0.77**	**354**	*i* PG		**Pg 00 09 47.9**	**+0.2**
CANT	**Cankiri**	**0.96**	**265**	*i* PG		**Pg 00 09 51.2**	**-0.3**
YOZ	**Yozgat**	**1.11**	**162**	*i* PN		**Pn 00 09 53.5**	**-0.5**
ELDT	**Eldivan**	**1.12**	**260**	*i* P		**Pb 00 09 53.4**	**0.0**
CDAG	**Cicekdag**	**1.15**	**200**	*i* P		**Pb 00 09 53.5**	**-0.2**
CDAG				*i* S		**Sb 00 10 08.0**	**-0.6**
TOKT	**Tokat**	**1.33**	**106**	*i* PN		**Pn 00 09 56.3**	**-0.7**
BALT	**Daday**	**1.40**	**307**	*i* P		**Pn 00 09 59.0**	**+1.0**
BALT				*i* S		**Sb 00 10 18.3**	**+2.4**
KAMT	**Kaman**	**1.60**	**214**	*i* PN		**Pn 00 10 00.7**	**-0.3**
SAFT	**Safranbolu**	**1.74**	**289**	*i* PN		**Pn 00 10 02.6**	**-0.3**
ANTO	**Ankara**	**1.80**	**243**	PN		**Pn 00 10 04.1**	**+0.4**
LOD	**Lodumlu**	**1.81**	**244**	PN		**Pn 00 10 03.4**	**-0.5**
SVST	**Sivas**	**1.84**	**120**	*i* P		**Pn 00 10 07.0**	**+2.6**
SVST				*i* S		**Sn 00 10 32.0**	**+4.0**
AVNT	**Avonos**	**1.92**	**180**	*i* P		**Pn 00 10 06.9**	**+1.4**
AVNT				*i* S		**Sn 00 10 30.5**	**+0.5**
BNN	**Bunyan**	**1.99**	**158**	*e*PN		**Pn 00 10 06.1**	**-0.5**
MDU	**Mudurnu**	**2.80**	**266**	*e*PN		**Pn 00 10 17.4**	**-0.7**
KIZT	**Kizilcal**	**2.94**	**233**	*e*PN		**Pn 00 10 19.7**	**-0.4**
ESKT	**Eskisehir**	**3.31**	**250**	*e*PN		**Pn 00 10 24.2**	**-1.1**
PTK	**Pertek**	**3.92**	**116**	*e*PN		**Pn 00 10 33.7**	**-0.3**

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*IDC **30** 00:11:03.1±1.8, 8.39S×124.53E, mb3.7/1, mb1 4.2/4, mb1mx3.9/15, mbtmp4.0/4, Error ellipse: s-maj=111.9km s-min=27.3km az=65.0*
*NEIC **30** 00:11:14.7±3.1, 9.05S×124.17E, h109km±32km, mb4.6/2, Error ellipse: s-maj=32.8km s-min=26.7km az=57.0*
ISC 30 00:11:13.7±4.6, 9.0S±0.2×124.2E±0.1, h119km±53km, n7, σ0=75/9, mb3.6/1, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.86**	**115**	*e*P		**P 00 13 20.8**	**+0.8**
	7.2nm,0.3s						
KAKA				*e*S		**S 00 14 58.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**9.17**	**172**	Pn		**P 00 13 23.5**	**-0.6**
	1.7nm,0.3s,baz=1.8,slow=11,SNR=7.8						
FITZ				Sn		**S 00 14 58.2**	**-7.9**
	5.7nm,0.3s,baz=150,slow=11,SNR=17						
WRA	**Warramunga Arr**	**14.63**	**139**	Pn		**P 00 14 35.4**	**-0.6**
	1.8nm,0.3s,baz=320,slow=13,SNR=18						
WRA				Sn		Sx 00 17 09.9	
	1.2nm,0.3s,baz=306,slow=23,SNR=9.8						
WRAB	**Tennant Creek**	**14.63**	**139**	*e*P		**P 00 14 35.5**	**-0.5**
	7.1nm,0.5s						
WB2	**Warramunga Arr**	**14.64**	**139**	*e*P		**P 00 14 36.2**	**+0.1**
WB2				*e*S		Sx 00 17 08.4	
ASAR	**Alice Springs**	**17.29**	**149**	P		**P 00 15 10.8**	**+1.7**
	0.3nm,0.3s,baz=319,slow=11,SNR=21						
ASAR				S		Sx 00 18 11.9	
	0.4nm,0.3s,baz=316,slow=21,SNR=6.5						
MKAR	**Makanchi Array**	**66.91**	**330**	P		**P 00 21 55.0**	**-0.3**
	0.8nm,0.8s,mb3.6,baz=120,slow=8.0,SNR=4.7						

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*IDC **30** 00:18:09.5±2.3, 7.07N×94.73E, mb3.7/4, mb1 4.0/5, mb1mx3.6/19, mbtmp3.8/5, ML4.2/1, Error ellipse: s-maj=84.7km s-min=24.3km az=65.0*
*NEIC **30** 00:18:14.5±1.0, 7.23N×94.96E, h30km, mb3.8/1, Error ellipse: s-maj=28.8km s-min=10.1km az=76.0*
ISC 30 00:18:12.9±1.2, 7.3N±0.1×95.1E±0.2, h30km, n10, σ0=65/10, mb3.8/5, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.85**	**110**	P		**Pn 00 19 39.3**	**-0.6**
CM31	**Chiang Mai Arr**	**11.70**	**18**	P		**P 00 21 00.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**11.70**	**18**	Pn		**P 00 21 01.7**	**+0.7**
	0.4nm,0.3s,baz=211,slow=15,SNR=25						
MKAR	**Makanchi Array**	**40.86**	**347**	P		**P 00 25 54.4**	**+0.6**
	0.4nm,0.7s,mb3.2,baz=163,slow=7.8,SNR=6.4						
WRA	**Warramunga Arr**	**47.14**	**126**	P		**P 00 26 45.4**	**+0.6**
	0.9nm,0.4s,mb4.0,baz=304,slow=8.6,SNR=8.9						
WRAB	**Tennant Creek**	**47.14**	**126**	*e*P		**P 00 26 45.3**	**+0.5**
ASAR	**Alice Springs**	**48.80**	**130**	P		**P 00 26 58.1**	**+0.4**
	0.4nm,0.5s,mb3.7,baz=299,slow=7.5,SNR=7.1						
CHKZ	**Chkalovo**	**50.32**	**341**	P		**P 00 27 08.0**	**-1.0**
	0.4nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**59.01**	**134**	P		**P 00 28 11.8**	**-0.8**
	1.6nm,0.8s,mb4.1,baz=343,slow=14,SNR=2.8						
STKA	**Stephens Creek**	**59.01**	**134**	P		**P 00 28 11.8**	**-0.8**

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*IDC **30** 00:24:38.2±0.5, 9.51N×93.10E, mb4.3/18, mb1 4.4/18, mb1mx4.3/23, mbtmp4.3/18, MS3.6/7, Ms1 3.6/7, ms1mx3.2/28, Error ellipse: s-maj=30.5km s-min=11.5km az=52.0*
*MOS **30** 00:24:41.0±1.1, 9.39N×93.06E, h33km, mb4.8/13, Error ellipse: s-maj=14.2km s-min=7.5km az=109.0*
*BJI **30** 00:24:41.2, 9.40N×93.14E, h36km, mB4.6, mb4.8, Ms4.1, Msz3.8*
*NEIC **30** 00:24:42.8±0.3, 9.51N×93.14E, h30km, mb4.6/13, Error ellipse: s-maj=12.3km s-min=6.4km az=54.0*
ISC 30 00:24:41.2±0.4, 9.35N±0.06×93.10E±0.06, h33km, n101, σ1=97/96, mb4.5/40, MS3.6/8, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.50**	**118**	*e*P		**P 00 26 47.1**	**+2.2**
CM31	**Chiang Mai Arr**	**10.68**	**31**	P		**P 00 27 10.9**	**-4.1**
CMAR	**Chiang Mai Arr**	**10.68**	**31**	Pn		**P 00 27 16.4**	**+1.4**
	2.4nm,0.3s,baz=221,slow=15,SNR=26						
CMAR				LR	LR	00 31 18.9	
	comp=Z,147nm,19.8s,baz=215,slow=38						
VIS	**Vishakhapatnam**	**12.63**	**312**	*e*P		**P 00 27 39.9**	**-1.5**
VIS				*e*S		**S 00 29 46.5**	**-15**
SHL	**Shillong**	**16.17**	**356**	*e*P		**P 00 28 30.0**	**+2.4**
SHL				*e*S		**S 00 31 30.0**	**+4.4**
HYB	**Hyderabad**	**16.26**	**301**	*e*P		**P 00 28 34.0**	**+5.2**
HYB				*e*S		**S 00 31 28.0**	**+0.3**
HYB	**Hyderabad**	**16.26**	**301**	*i* P		**P 00 28 34.0**	**+5.2**
HYB				*e*S		**S 00 31 28.0**	**+0.3**
JIRN	**Jiri**	**19.35**	**341**	*e*P		**P 00 29 08.1**	**+1.3**
	14nm,0.3s						
PKI	**Pulchoki**	**19.53**	**339**	*e*P		**P 00 29 09.4**	**+0.7**
	11nm,0.4s						
DMN	**Daman**	**19.67**	**338**	*e*P		**P 00 29 11.4**	**+1.1**
	38nm,1.0s						
GUN	**Gumba**	**19.68**	**341**	*e*P		**P 00 29 10.7**	**+0.3**
	44nm,0.7s						
KKN	**Kakani**	**19.77**	**339**	*e*P		**P 00 29 11.9**	**+0.5**
	35nm,0.9s						
GKN	**Gorkha**	**20.20**	**338**	*e*P		**P 00 29 16.2**	**+0.2**
	18nm,0.3s						
LSA	**Lhasa**	**20.33**	**355**	P		**P 00 29 16.8**	**-0.5**
LSA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
LSA	**Lhasa**	**20.33**	**355**	*e*P		**P 00 29 16.5**	**-0.8**
LSA				pmax	pmax		
	comp=Z,18nm,0.4s						
LSA	**Lhasa**	**20.33**	**355**	*e*P		**P 00 29 16.5**	**-0.9**
	comp=Z,18nm,0.4s						
KOLN	**Koldanda**	**20.40**	**335**	*e*P		**P 00 29 18.7**	**+0.6**
	comp=Z,30nm,0.8s						
GYA	**Guiyang**	**21.32**	**35**	⇓*i* P		**P 00 29 28.0**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
ENH	**Enshi**	**25.84**	**34**	*e*P		**P 00 30 09.9**	**-1.6**
	comp=Z,14nm,0.7s,mb4.6						
GTA	**Gaotai**	**30.53**	**10**	P		**P 00 30 53.5**	**-0.3**
GTA				AP	pP	00 31 03.0	-0.4
GTA				XP	sP	00 31 06.5	-1.3

ULN pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
ULN Ulaanbaatar 40.16 15 *e*P **P 00 32 14.7 -1.1**
comp=Z,5.1nm,0.8s,mb4.3
ZAK Zakamensk 41.77 10 *e*P **P 00 32 27.2 -1.8**
ZAK *e* 00 34 24.4
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.7
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.4
FITZ Fitzroy Crossi 42.14 130 P **P 00 32 32.5 0.0**
comp=Z,3.2nm,0.8s,mb4.0,baz=348,slow=9.7,SNR=5.5
FITZ PcP PcP 00 34 28.0 +0.8
comp=Z,5.6nm,0.4s,baz=326,slow=3.4,SNR=15
CN2 Changchun 44.36 34 *e*P **P 00 32 50.0 -0.2**
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
NVS Novosibirsk 46.05 352 *e*P **P 00 33 02.2 -1.3**
BVA0 Borovoye Array 47.27 341 *i*P **P 00 33 12.4 -0.8**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
BVAR Borovoye Array 47.27 341 P **P 00 33 12.0 -1.1**
comp=Z,2.1nm,0.5s,mb4.3,baz=149,slow=8.6,SNR=16
BVAR PcP PcP 00 34 43.9 -0.4
comp=Z,0.9nm,0.6s,baz=135,slow=4.2,SNR=3.9
CHKZ Chkalovo 47.76 342 *e*P **P 00 33 16.1 -0.9**
CHKZ pmax pmax
comp=Z,23nm,0.6s,mb5.4
CHKZ Chkalovo 47.76 342 *e*P **P 00 33 16.1 -0.9**
comp=Z,23nm,0.6s,mb5.4
NWAO Narrogin (SRO) 47.92 152 P **P 00 33 19.7 +1.1**
comp=Z,7.4nm,0.6s,mb4.9,baz=324,slow=4.8,SNR=8.7
NWAO Narrogin (SRO) 47.92 152 P **P 00 33 19.7 +1.1**
MJAR Matsushiro Arr 48.96 49 P **P 00 33 27.7 +1.2**
comp=Z,1.1nm,0.5s,mb4.2,baz=258,slow=8.5,SNR=3.9
MJAR PcP PcP 00 34 50.9 +0.2
comp=Z,1.3nm,0.6s,baz=226,slow=1.8,SNR=5.3
MJAR LR LR 00 53 59.3
comp=Z,68nm,19.3s,MS3.6,baz=245,slow=36
WRA Warramunga Arr 49.95 126 P **P 00 33 33.9 -0.4**
comp=Z,6.0nm,0.5s,mb4.9,baz=303,slow=8.9,SNR=40
WRA PcP PcP 00 34 54.8 +0.4
comp=Z,1.4nm,0.5s,baz=316,slow=3.0,SNR=9.5
WRAB Tennant Creek 49.95 126 *e*P **P 00 33 33.8 -0.6**
WRAB pmax pmax
comp=Z,13nm,0.6s,mb5.1
WRAB Tennant Creek 49.95 126 *e*P **P 00 33 33.8 -0.6**
comp=Z,14nm,0.6s,mb5.2
WB2 Warramunga Arr 49.96 126 *e*P **P 00 33 33.0 -1.4**
BOD Bodaibo 50.97 14 *e*P **P 00 33 39.7 -1.9**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ASPA Alice Springs 51.64 130 *e*P **P 00 33 46.5 -0.6**
ASAR Alice Springs 51.64 130 P **P 00 33 46.6 -0.5**
comp=Z,3.8nm,0.6s,mb4.5,baz=305,slow=7.0,SNR=41
ASAR PcP PcP 00 35 01.2 +0.6
comp=Z,2.6nm,0.6s,baz=308,slow=3.5,SNR=12
GNI Garni 52.68 314 P **P 00 33 54.8 +0.2**
comp=Z,1.4nm,0.4s,mb4.2,baz=180,slow=20,SNR=2.8
ARU Arti 54.14 337 *e*P **P 00 34 03.9 -1.4**
KIV Kislovodsk 55.54 318 *e*P **P 00 34 15.7 +0.1**
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
YSS Yuzh-Sakhalins 56.27 39 *e*P **P 00 34 20.0 -0.8**
PMG Port Moresby 56.95 108 LR LR 01 02 44.3
comp=Z,63nm,18.1s,MS3.8,baz=55,slow=40
CTA Charters Tower 59.92 120 P **P 00 34 47.6 +0.8**
comp=Z,6.5nm,0.8s,mb4.7,baz=281,slow=8.5,SNR=4.0
BRTR Keskin Array B 60.70 310 P **P 00 34 50.0 -1.9**
comp=Z,2.7nm,0.8s,mb4.4,baz=113,slow=7.6,SNR=21
STKA Stephens Creek 61.86 134 P **P 00 34 60.0 +0.2**
comp=Z,1.3nm,0.5s,mb4.3,baz=342,slow=5.3,SNR=4.5
STKA LR LR 01 05 10.8
comp=Z,124nm,18.4s,MS4.1,baz=206,slow=39
AKASG Malin Array Be 66.37 321 P **P 00 35 27.1 -1.7**
comp=Z,2.4nm,0.7s,mb4.4,baz=89,slow=5.1,SNR=10
JOF Joensuu 69.08 334 *e*p **P 00 35 44.2 -1.4**
comp=Z,1.8nm,0.6s,mb4.2
FINES FINESS Array B 70.94 332 P **P 00 35 55.9 -1.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=96,slow=6.5,SNR=21
KAF Kangasniemi 71.02 333 *e*p **P 00 35 55.9 -1.5**
comp=Z,1.4nm,0.6s,mb4.1,baz=104,slow=5.8
KAF Kangasniemi 71.02 333 *e*P **P 00 35 55.9 -1.5**
KAF pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ARCES ARCESS Array B 73.54 340 P **P 00 36 11.8 -0.4**
comp=Z,3.3nm,1.0s,mb4.2,baz=102,slow=7.8,SNR=9.3
ARCES LR LR 01 11 26.3
comp=Z,36nm,19.1s,MS3.7,baz=166,slow=38
ARCES ARCESS Array B 73.54 340 P **P 00 36 11.8 -0.4**
ARCES LR LR 01 11 26.3
BOSA Boshof 75.50 237 LR LR 01 05 12.4
comp=Z,40nm,19.4s,MS3.7,baz=82,slow=32
GERES GERESS Array B 76.05 318 P **P 00 36 27.4 +0.3**
comp=Z,2.1nm,0.6s,mb4.2,baz=88,slow=5.7,SNR=29
KHC Kasperske Hory 76.14 318 *e*P **P 00 36 27.5 -0.1**
GRA1 Grafenberg Arr 77.69 319 *e*P **P 00 36 36.7 +0.4**
comp=Z,3.0nm,0.9s,mb4.2
GRF Grafenberg Arr 77.69 319 *e*P **P 00 36 36.7 +0.4**
GRF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
GRF Grafenberg Arr 77.69 319 *e*P **P 00 36 36.7 +0.4**
GRF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
GRF Grafenberg Arr 77.69 319 *e*P **P 00 36 36.7 +0.4**
comp=Z,3.0nm,0.9s,mb4.2
NB2 NORSAR Subarra 77.95 330 P **P 00 36 36.4 -1.1**
comp=Z,0.1nm,0.5s,mb3.0,baz=95,slow=5.8
NOA NORSAR Array B 77.95 330 P **P 00 36 36.4 -1.0**
comp=Z,1.6nm,0.8s,mb4.0,baz=94,slow=5.4,SNR=3.8
NOA NORSAR Array B 77.95 330 P **P 00 36 36.4 -1.0**
LPG La Plagne 80.86 315 *e*P **P 00 36 54.1 +0.6**
comp=Z,7.6nm,0.8s,mb4.4
LPG La Plagne 80.86 315 *e*P **P 00 36 54.1 +0.6**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BNI Bardonecchia 80.94 314 *e*P **P 00 36 55.1 +1.1**
BNI pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BNI Bardonecchia 80.94 314 *e*P **P 00 36 55.1 +1.1**
comp=Z,3.2nm,0.8s,mb4.3
IMA Indian Mountai 90.65 22 *e*P **P 00 37 41.9 +0.5**
IMA pmax pmax
comp=Z,18nm,0.8s,mb5.5
IMA Indian Mountai 90.65 22 *e*P **P 00 37 41.9 +0.6**
comp=Z,18nm,0.8s,mb5.4
SPU Mount Spurr 93.42 26 P **P 00 37 54.5 +0.2**
ILAR Eielson Array 93.77 22 P **P 00 37 54.9 -0.8**
comp=Z,2.4nm,0.7s,mb4.7,baz=304,slow=4.2,SNR=29
VNDA Vanda 94.57 168 P **P 00 38 01.6 +2.5**
comp=Z,0.9nm,0.7s,mb4.3,baz=285,slow=8.6,SNR=5.4
SML Sawmill 94.71 25 *e*P **P 00 38 00.3 +0.3**
INK Inuvik 95.86 16 *e*P **P 00 38 04.9 -0.2**
INK pmax pmax
comp=Z,2.0nm,0.4s
INK Inuvik 95.86 16 *e*P **P 00 38 04.9 -0.3**
comp=Z,1.7nm,0.4s,mb4.8
YKA Yellowknife Ar 105.23 13 PP PP 00 43 05.7 -5.9
comp=Z,1.0nm,0.8s,baz=334,slow=8.1,SNR=9.9
PDAR Pinedale Array 124.16 20 PKP PKPdf 00 43 39.0 +2.2
comp=Z,0.8nm,0.8s,slow=1.5,SNR=7.9
NVAR Mina Array Bea 124.17 30 PKP PKPdf 00 43 40.4 +3.4
comp=Z,0.9nm,0.7s,baz=317,slow=2.1,SNR=7.2
TXAR Lajitas Array 138.28 22 PKP PKPdf 00 44 07.8 +4.0
comp=Z,0.3nm,0.4s,baz=314,slow=0.2,SNR=8.4
TXAR SKPbc 00 47 34.7
comp=Z,0.7nm,0.9s,baz=358,slow=1.6,SNR=5.5
TXAR Lajitas Array 138.28 22 PKP PKPdf 00 44 07.8 +4.0
TXAR SKPbc 00 47 34.7
PLCA Paso Flores 145.54 202 PKPbc PKPbc 00 44 20.4 +3.4
comp=Z,3.9nm,0.7s,baz=170,slow=4.9,SNR=10
CPUP Villa Florida 147.30 235 PKPbc PKPdf 00 44 25.1 +5.3
comp=Z,1.2nm,0.8s,baz=145,slow=3.8,SNR=4.0

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*JMA **30** 00:46:31.2±0.5, 22.71N×121.68E, h100km, M3.1*
TAP 30 00:46:29.1, 22.84N×121.36E, h20km, ML3.6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.21**	**43**	P	Pn	00 47 06.1	+0.7
YOJ				*e*S	Sn	00 47 31.8	-0.7
HATJ	**Hateruma jima**	**2.55**	**61**	*e*S	Sn	00 47 37.3	-3.8
IRIF	**Iriomote-Funau**	**2.63**	**55**	P	Pn	00 47 10.7	-0.8
IRIF				*e*S	Sn	00 47 41.5	-1.7
JKRS	**Kuro-shima**	**2.80**	**60**	*e*S	Sn	00 47 45.2	-2.2
JIJ	**Ishigaki jima**	**2.97**	**59**	*e*S	Sn	00 47 47.9	-3.8
JTJ	**Tarama**	**3.55**	**59**	*e*S	Sn	00 48 02.9	-3.4

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*NIED **30** 01:08:00, 43.70N×147.30E, h59km, Mw5.0 Best double couple: M0:3.05×10^16 NP1:φs100°, δ74°, λ106°. NP2: φs233°, δ22°, λ45°.*
*MOS **30** 01:08:37.5±0.9, 43.99N×147.29E, h55km, mb5.5/105, MS4.4/10, Error ellipse: s-maj=6.8km s-min=3.7km az=103.4*
MOS Felt (IV) at Malokuril'skoe; (II) at Yuzhno-Kuril'sk.
*BJI **30** 01:08:37.4, 43.86N×147.38E, h69km, mB5.1, mb4.8, Ms4.4, Msz4.0*
*NEIC **30** 01:08:38.0±0.1, 43.86N×147.23E, mb5.2/176, Error ellipse: s-maj=3.6km s-min=2.2km az=170.0*
NEIC Felt [IV] on Shikotan and [II] at Yuzhno-Kuril'sk, Kunashir. Recorded [1 JMA] on eastern Hokkaido.
*IDC **30** 01:08:38.2±0.4, 43.92N×147.22E, h51km±2km, mb4.7/25, mb1 4.9/28, mb1mx4.9/29, mbtmp5.0/28, MS3.8/16, Ms1 3.8/16, ms1mx3.7/36, Error ellipse: s-maj=12.1km s-min=10.0km az=129.0*
*HRVD **30** 01:08:38.0±0.5, 43.74N×147.54E, h62km±3km, MW4.9/49, Centroid moment Tensor Solution. LP body waves: s23,c32;Mantle waves: s49,c78; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.38±.18; Mθθ-2.11±.14; Mφφ0.73±.14; Mrθ1.44±.11; Mθφ-1.22±.11; Mφr-0.81±.07; Best double couple: M0:2.762×10^16 NP1:φs215°, δ44°, λ30°. NP2:φs103°, δ70°, λ130°. Principal axes: T 2.663, Plg49°, Azm56°; N .197, Plg37°, Azm267°; P -2.86, Plg15°, Azm165°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*JMA **30** 01:08:38.6±0.2, 43.66N×147.25E, h35km, M4.8*
JMA Felt I J1.
*SKHL **30** 01:08:39.0±2.0, 44.05N×147.38E, h62km±12km, mb5.8/1, Ms4.4/2, msh5.3/1*
SKHL Felt (IV) at Malokurilskoe, (II) at Yushno-Kurilsk.
ISC 30 01:08:36.6±0.1, 43.86N±0.03×147.33E±0.02, h51km, h51km±.8km:pP-P, n659, σ0s88/655, mb5.2/222, MS4.0/23, 144C-16D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.07**	**280α**	*i*PN	**P**	**01 08 56.5**	**+0.9**
YUK				*i*S	**S**	**01 09 09.6**	**-0.1**
YUK				pmax	pmax		
	comp=N,1μm,0.3s						
YUK				pmax	pmax		
	comp=E,2μm,0.3s						
YUK				pmax	pmax		
	comp=Z,6μm,0.3s						
YUK				pmax	pmax		
	comp=E,3μm,0.5s						
YUK				pmax	pmax		
	comp=Z,8μm,0.5s						
YUK				smax			
	comp=E,95μm,1.0s						
YUK				smax			
	comp=N,150μm,1.5s						
YUK	**Yuzh-Kuril'sk**	**1.07**	**280⇑**	*i*P	**P**	**01 08 56.5**	**+0.9**
YUK			⇑	*i*P		01 08 56.5	
YUK				AMB	AMB	01 08 57.0	
	comp=N,3μm,0.5s						
YUK				AMB	AMB	01 08 57.0	
	comp=N,8μm,0.5s						
YUK				AMB	AMB	01 08 57.0	
	comp=N,1μm,0.2s						
YUK				AMB	AMB	01 08 57.0	
	comp=N,2μm,0.2s						
YUK				AMB	AMB	01 08 57.0	
	comp=N,6μm,0.2s						
YUK				*i*S	**S**	**01 09 09.6**	**-0.1**
YUK				A		01 09 14.0	
	comp=N,150μm,1.5s						
YUK				A		01 09 14.0	
	comp=N,95μm,1.0s						
NEM2	**Nemuro 2**	**1.25**	**247**	P	**P**	**01 08 58.7**	**+0.5**
NEM2				*e*S	**S**	**01 09 13.6**	**-0.6**
KUR	**Kuril'sk**	**1.42**	**15⇓**	*i*PN	**P**	**01 08 59.8**	**-0.8**
KUR				*i*S	**S**	**01 09 17.8**	**-0.6**
KUR				pmax	pmax		
	comp=Z,3μm,0.5s						
KUR				pmax	pmax		
	comp=N,18μm,1.0s						
KUR				pmax	pmax		
	comp=E,12μm,1.0s						
KUR				pmax	pmax		
	comp=Z,15μm,1.0s						
KUR				smax			
	comp=N,7μm,0.5s						
KUR				smax			
	comp=E,9μm,0.5s						
KUR				smax			
	comp=N,30μm,1.0s						
KUR				smax			
	comp=E,45μm,1.0s						
KUR	**Kuril'sk**	**1.42**	**15⇑**	*i*P	**P**	**01 08 59.8**	**-0.8**
KUR				AMB	AMB	01 09 15.5	
	comp=E,18μm,1.0s						
KUR				AMB	AMB	01 09 15.5	
	comp=E,12μm,1.0s						
KUR				AMB	AMB	01 09 15.5	
	comp=E,15μm,1.0s						
KUR				*i*S	**S**	**01 09 17.8**	**-0.6**
KUR				A		01 09 20.0	
	comp=E,30μm,1.0s						
KUR				A		01 09 20.0	
	comp=E,45μm,1.0s						
KUR				A		01 09 20.0	
	comp=E,7μm,0.5s						
KUR				A		01 09 20.0	
	comp=E,9μm,0.5s						
JRA	**Rausu**	**1.60**	**273**	P	**P**	**01 09 04.8**	**+1.8**
JRA				*e*S	**S**	**01 09 24.0**	**+1.4**
JNK	**Nakash**	**1.91**	**263**	P	**P**	**01 09 08.5**	**+1.1**
JNK				*e*S	**S**	**01 09 31.0**	**+0.7**
JAK	**Akkeshi**	**2.10**	**247**	P	**P**	**01 09 10.5**	**+0.3**
JAK				*e*S	**S**	**01 09 34.0**	**-1.1**
JTKR	**Abashiri--Toko**	**2.48**	**274**	P	**P**	**01 09 17.5**	**+2.1**
JAR	**Ashorobuto**	**2.65**	**259**	P	**P**	**01 09 19.3**	**+1.4**
JAR				*e*S	**S**	**01 09 49.8**	**+0.8**
JOB	**Onbets**	**2.72**	**251**	P	**P**	**01 09 19.6**	**+0.6**
JOB				*e*S	**S**	**01 09 49.8**	**-1.0**
JMP	**Maruseppu**	**2.87**	**274**	P	**P**	**01 09 23.3**	**+2.2**
JCH	**Churui**	**3.16**	**248**	P	**P**	**01 09 25.3**	**+0.2**
JCH				*e*S	**S**	**01 10 00.0**	**-1.8**
JKK2	**Kamakawa 2**	**3.31**	**272**	P	**P**	**01 09 30.2**	**+2.9**
ASAJ	**Asahikawa**	**3.42**	**276**	P	**P**	**01 09 31.6**	**+2.6**
	comp=E,20nm,0.3s,baz=77,slow=15,SNR=49						
ASAJ				S	**S**	**01 10 17.4**	**+8.7**
	comp=E,50nm,0.3s,baz=24,slow=19,SNR=4.2						
ASAJ				LR	LR	01 10 20.0	
	comp=E,295nm,21.5s,baz=20,slow=30						
ASAJ	**Asahikawa**	**3.42**	**276**	P	**P**	**01 09 31.4**	**+2.5**
JFR	**Furan**	**3.52**	**260**	P	**P**	**01 09 32.2**	**+2.0**
JFR				*e*S	**S**	**01 10 11.2**	**+0.3**
JSE	**Soyaes**	**3.57**	**290**	P	**P**	**01 09 33.0**	**+2.0**
JEM	**Erimo**	**3.58**	**240**	P	**P**	**01 09 33.1**	**+2.1**
JEM				*e*S	**S**	**01 10 12.5**	**+0.1**
JNBK	**Urakawa-nobuka**	**3.71**	**246**	P	**P**	**01 09 32.7**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.46**	**315⇓**	*i*PN	**P**	**01 09 45.2**	**+1.6**
YSS				*e*S	**S**	**01 10 35.0**	**+0.2**
YSS				pmax	pmax		
	comp=Z,320nm,0.7s						
YSS				smax			
	comp=E,230nm,0.8s						
YSS				MLR	MLR		
	comp=Z,2μm,18.0s						
YSS	**Yuzh-Sakhalins**	**4.46**	**315**	*e*Pn	**P**	**01 09 44.3**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.46**	**315⇓**	*i*P	**P**	**01 09 45.2**	**+1.6**
YSS				AMB	AMB	01 09 46.2	
	comp=Z,320nm,0.7s						
YSS				*e*S	**S**	**01 10 35.0**	**+0.2**
YSS				A		01 10 40.0	
	comp=Z,230nm,0.8s						
YSS				*e*LQ		01 11 05.0	
YSS				AMS	AMS	01 11 38.0	
	comp=Z,2μm,18.0s						
UGL	**Uglegorsk**	**6.36**	**327⇑**	*i*PN	**P**	**01 10 09.8**	**-0.2**
UGL				pmax	pmax		
	comp=Z,101nm,0.7s						
UGL				MLR	MLR		
	comp=N,1μm,19.0s						
UGL				MLR	MLR		
	comp=Z,2μm,19.0s						
UGL				MLR	MLR		
	comp=E,2μm,17.0s						
UGL	**Uglegorsk**	**6.36**	**327⇑**	*i*P	**P**	**01 10 09.8**	**-0.2**
UGL				AMB	AMB	01 10 12.0	
	comp=E,101nm,0.7s						
UGL				*e*S	**S**	**01 11 18.5**	**-3.6**
UGL				A		01 11 22.5	
	comp=E,160nm,0.6s						
UGL				A		01 11 22.5	
	comp=E,270nm,0.6s						
UGL				A		01 11 22.5	
	comp=E,75nm,0.6s						
UGL				AMS	AMS	01 12 34.0	
	comp=E,2μm,17.0s						
UGL				AMS	AMS	01 12 34.0	
	comp=E,1μm,19.0s						
UGL				AMS	AMS	01 12 34.0	
	comp=E,2μm,19.0s						
TYV	**Tymovskoe**	**7.69**	**337**	*e*PN	**P**	**01 10 27.0**	**-1.5**
TYV				*e*S	**S**	**01 11 53.0**	**-2.1**
TYV				pmax	pmax		
	comp=Z,29nm,0.8s						
TYV				smax			
	comp=N,60nm,0.8s						
TYV				smax			
	comp=E,96nm,0.8s						
TYV				MLR	MLR		
	comp=Z,2μm,20.0s						
TYV	**Tymovskoe**	**7.69**	**337**	*e*P	**P**	**01 10 27.0**	**-1.5**
TYV				AMB	AMB	01 10 41.6	
	comp=Z,29nm,0.8s						
TYV				*e*S	**S**	**01 11 53.0**	**-2.1**
TYV				A		01 11 54.5	
	comp=Z,60nm,0.8s						
TYV				A		01 11 54.5	
	comp=Z,96nm,0.8s						
TYV				AMS	AMS	01 13 16.0	
	comp=Z,2μm,20.0s						
SKR	**Severo-Kuril's**	**9.06**	**38**	*e*P	**P**	**01 10 43.3**	**-4.2**
SKR				AMB	AMB	01 10 46.9	
	comp=Z,170nm,0.7s						
SKR				AMB	AMB	01 10 46.9	
	comp=Z,220nm,0.7s						
SKR				AMB	AMB	01 10 46.9	
	comp=Z,330nm,0.7s						
MAJO	**Matsushiro**	**10.10**	**227**	*e*PN	**P**	**01 10 58.5**	**-3.2**
MAJO				pmax	pmax		
	comp=Z,50nm,0.8s						
MAJO	**Matsushiro**	**10.10**	**227**	*e*Pn	**P**	**01 10 58.5**	**-3.2**
	comp=Z,50nm,0.8s						
MAT	**Matsushiro**	**10.10**	**227**	*e*PN	**P**	**01 10 59.0**	**-2.7**
MAT				pmax	pmax		
	comp=Z,24nm,1.0s						
MAT	**Matsushiro**	**10.10**	**227**	*e*P	**P**	**01 10 59.0**	**-2.7**
	comp=Z,24nm,1.0s						
MAT				*e*S	**S**	**01 12 47.0**	**-7.6**
MAT	**Matsushiro**	**10.10**	**227**	P	**P**	**01 10 59.0**	**-2.7**
MAT				*e*S	**S**	**01 12 50.3**	**-4.3**
MJAR	**Matsushiro Arr**	**10.10**	**227**	P	**P**	**01 10 59.1**	**-2.6**
	comp=Z,3.4nm,0.3s,baz=28,slow=15,SNR=25						
MJAR				S	**S**	**01 12 57.9**	**+3.3**
	comp=Z,3.4nm,0.3s,baz=228,slow=15,SNR=4.8						
MJAR				LR	LR	01 15 26.8	
	comp=Z,664nm,21.1s,baz=50,slow=41						
OKH	**Okha**	**10.12**	**345**	*e*PN	**P**	**01 11 00.0**	**-1.9**
OKH				pmax	pmax		
	comp=Z,600nm,2.0s						
OKH	**Okha**	**10.12**	**345**	*e*P	**P**	**01 11 00.0**	**-1.9**
OKH				*e*P		01 11 01.0	
OKH				AMB	AMB	01 11 01.8	
	comp=Z,600nm,2.0s						
OKH				AMB	AMB	01 11 02.9	
	comp=Z,200nm,0.9s						
OKH				*e*S	**S**	**01 12 53.9**	**-1.1**
OKH				A		01 13 06.0	
	comp=Z,1μm,5.0s						
OKH				*e*LQ		01 14 16.0	
OKH				AMS	AMS	01 15 37.8	
	comp=Z,1μm,17.0s						
OKH				AMS	AMS	01 15 37.8	
	comp=Z,2μm,17.0s						
OKH				AMS	AMS	01 15 37.8	
	comp=Z,1μm,14.0s						
PET	**Petropavlovsk**	**11.84**	**35**	*e*PN	**P**	**01 11 22.5**	**-2.7**
PET				pmax	pmax		
	comp=Z,81nm,1.3s						
PET				MLR	MLR		
	comp=Z,1μm,16.0s						
PET				MLR	MLR		
	comp=Z,1μm,20.0s						
PET	**Petropavlovsk**	**11.84**	**35**	*e*Pn	**P**	**01 11 22.1**	**-3.1**
	comp=Z,142nm,1.3s						
KLR	**Kul'dur**	**11.99**	**302**	*e*PN	**P**	**01 11 28.6**	**+1.4**
KLR				MLR	MLR		
	comp=E,600nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
JHJ	**Hachijo jima 2**	**12.24**	**211**	P	**P**	**01 11 27.9**	**-2.8**
	comp=Z,24nm,0.3s,baz=43,slow=16,SNR=6.1						
JHJ				S	**S**	**01 13 31.4**	**-15**
	comp=Z,106nm,0.3s,baz=61,slow=23,SNR=11						
JHJ				LR	LR	01 16 29.9	
	comp=Z,313nm,20.0s,baz=300,slow=39						
MDJ	**Mudanjiang**	**12.75**	**280**	P	**P**	**01 11 38.3**	**+0.9**
MDJ				S	**S**	**01 13 51.8**	**-6.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,235nm,4.2s						
MDJ				LR	LR		
	comp=N,469nm,27.9s						
MDJ				LR	LR		
	comp=E,146nm,35.3s						
MDJ				LR	LR		
	comp=Z,234nm,33.0s						
CN2	**Changchun**	**15.79**	**277**	*e*P	**P**	**01 12 16.5**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=Z,500nm,16.0s						
MA2	**Magadan**	**15.88**	**6c**	*i*P	**P**	**01 12 17.3**	**-0.6**
MA2				*e*S	**S**	**01 15 13.5**	**+1.4**
MA2				pmax	pmax		
	comp=Z,30nm,0.8s						
MA2	**Magadan**	**15.88**	**6⇑**	*e*P	**P**	**01 12 17.1**	**-0.8**
KS15	**Wonju Array Si**	**16.07**	**253**	P	**P**	**01 12 18.7**	**-1.9**
ZEA	**Zeya**	**16.46**	**314**	*e*P	**P**	**01 12 23.6**	**-1.6**
CBIJ	**Chichi jima**	**17.24**	**196**	P	**P**	**01 12 32.5**	**-2.7**
	comp=Z,7.2nm,0.3s,baz=162,slow=9.6,SNR=6.6						
CBIJ				S	**S**	**01 15 27.9**	**-16**
	comp=Z,7.9nm,0.3s,baz=118,slow=19,SNR=5.2						
CBIJ				LR	LR	01 18 42.8	
	comp=Z,219nm,19.3s,baz=340,slow=35						
CLNS	**Chul'man**	**19.21**	**320**	*e*P	**P**	**01 12 52.0**	**-6.8**
CLNS				*e*S	**S**	**01 16 32.9**	**+5.2**
CLNS				pmax	pmax		
	comp=E,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,2.0nm,0.6s						
CLNS				smax			
	comp=N,39nm,1.1s						
CLNS				smax			
	comp=Z,8.0nm,0.7s						
CLNS				smax			
	comp=E,32nm,1.7s						
CLNS				MLR	MLR		
	comp=N,900nm,23.0s						
CLNS				MLR	MLR		
	comp=Z,900nm,23.0s						
CLNS				MLR	MLR		
	comp=E,200nm,22.0s						
FX1	**Attu Island--F**	**19.30**	**53**	P	**P**	**01 13 00.7**	**+0.9**
FX1				S	**S**	**01 16 21.1**	**-8.6**
FX1				pmax	pmax		
	comp=Z,15nm,0.3s						
FX1	**Attu Island--F**	**19.30**	**53**	P	**P**	**01 13 00.7**	**+0.9**
	comp=Z,15nm,0.3s,baz=155,slow=1.9,SNR=27						
FX1				S	**S**	**01 16 21.1**	**-8.6**

comp=Z,1.8nm,0.3s,baz=270,slow=20,SNR=4.0
FX1 Attu Island--F 19.30 53 *e*P **P 01 12 59.8 -0.1**
HIA Hailar 19.66 296 *e*P **P 01 13 01.2 -2.6**
HIA pmax pmax
comp=Z,12nm,0.7s
HIA Hailar 19.66 296 *e*P **P 01 13 01.2 -2.6**
comp=Z,12nm,0.7s
YAK Yakutsk 20.95 336 *e*P **P 01 13 20.1 +3.0**
YAK *e**PP 01 13 37.8
YAK *e*S **S 01 16 58.7 -4.0**
YAK *e**SS 01 17 29.6
YAK *e* 01 17 32.7
YAK *e* 01 24 31.9
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax
comp=N,13nm,1.0s
YAK smax
comp=E,16nm,1.0s
YAK smax
comp=Z,8.0nm,1.2s
YAK Yakutsk 20.95 336 *e*P **P 01 13 15.7 -1.4**
comp=Z,33nm,0.6s
JOW Kunigami 22.94 228 P **P 01 13 38.1 +1.0**
comp=Z,12nm,0.8s,mb4.4,baz=62,slow=14,SNR=4.1
BJI Beijing 23.41 271 *e*P **P 01 13 41.8 +0.3**
BJI S **S 01 17 51.0 +3.5**
BJI AMB AMB
comp=Z,14nm,0.9s,mb4.4
BJI LR LR
comp=N,142nm,22.4s,MS3.7
BJI LR LR
comp=E,230nm,20.5s,MS3.7
BJI LR LR
comp=Z,227nm,29.0s
BJT Baijiatuau 23.42 271 *e*P **P 01 13 41.3 -0.4**
BJT pmax pmax
comp=Z,18nm,0.8s
BJT Baijiatuau 23.42 271 *e*P **P 01 13 41.3 -0.4**
comp=Z,18nm,0.8s,mb4.5
SSE Sheshan 24.23 247 *e*P **P 01 13 47.5 -2.1**
SSE AP 01 14 02.5
SSE XP 01 14 10.3
SSE S **S 01 18 02.3 +0.5**
SSE XS 01 18 28.8
SSE AMB AMB
comp=Z,21nm,0.7s,mb4.7
SSE AMB AMB
comp=Z,74nm,5.2s
SSE LR LR
comp=N,90nm,25.9s
SSE LR LR
comp=E,267nm,15.9s
SSE LR LR
comp=Z,271nm,28.2s,MS3.6
BOD Bodaibo 24.94 316 *e*P **P 01 13 51.5 -4.7**
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
NJ2 Nanjing 25.23 252 *e*P **P 01 13 59.0 -0.3**
NJ2 AP pP 01 14 10.5 -1.4
NJ2 PP PP 01 14 37.5 -1.2
NJ2 S **S 01 18 17.0 -1.6**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.7
NJ2 AMB AMB
comp=Z,110nm,7.0s
NJ2 LR LR
comp=N,970nm,20.6s,MS4.4
NJ2 LR LR
comp=E,600nm,21.5s,MS4.4
NJ2 LR LR
comp=Z,490nm,20.6s,MS4.0
BILL Bilibino 26.22 16 *i* P **P 01 14 07.8 -0.2**
comp=Z,1.1nm,0.9s
BTO Baotou 27.66 276 *e*P **P 01 14 21.3 -0.3**
ULN Ulaanbaatar 28.11 292 *e*P **P 01 14 24.8 -0.7**
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
ULN Ulaanbaatar 28.11 292 *e*P **P 01 14 24.8 -0.7**
comp=Z,7.8nm,0.9s,mb4.3
TIXI Tiksi 29.28 348⇓ *e*P **P 01 14 30.7 -5.0**
TLY Talaya 30.00 301 *e*P **P 01 14 41.3 -1.0**
TLY *e* 01 15 43.1
TLY *e*S **S 01 19 39.5 +4.1**
TLY *e*SS SS 01 21 36.1 +21
TLY pmax pmax
comp=Z,4.0nm,1.4s
TLY MLR MLR
comp=Z,213nm,19.0s,MS3.8
TLY Talaya 30.00 301 *i* P **P 01 14 40.8 -1.5**
ZAK Zakamensk 30.31 298 *e*P **P 01 14 42.4 -2.7**
ZAK pmax pmax
comp=Z,3.0nm,0.9s
TNA Tin City 32.69 33 *e*P **P 01 15 04.9 -0.9**
comp=Z,43nm,1.1s,mb5.3
LZH Lanzhou 33.90 272⇑ P **P 01 15 16.5 -0.1**
LZH AMB AMB
comp=Z,39nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,165nm,4.0s
LZH LR LR
comp=E,395nm,16.2s
LZH LR LR
comp=Z,586nm,17.5s,MS4.4
GTA Gaotai 35.40 280 P **P 01 15 29.8 +0.4**
GTA AP pP 01 15 44.3 +1.6
GTA PP PP 01 16 50.0 -0.2
GTA PCP PcP 01 17 59.0 +0.3
GTA S **S 01 21 00.5 +0.8**
GTA SCP 01 21 40.0
GTA SS SS 01 23 20.5 +0.6
GTA SCS ScS 01 25 42.5 +0.5
GTA AMB AMB
comp=Z,6.0nm,0.8s,mb4.6
GTA AMB AMB
comp=Z,65nm,8.4s
GTA LR LR
comp=N,118nm,20.5s,MS4.0
GTA LR LR
comp=E,285nm,20.2s,MS4.0
GTA LR LR
comp=Z,134nm,18.6s,MS3.7
GYA Guiyang 37.08 256 P **P 01 15 43.0 -0.6**
GYA AP pP 01 16 01.3 +4.3
GYA XP sP 01 16 05.8 +2.5
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,380nm,6.2s
GYA LR LR
comp=N,640nm,17.5s,MS4.7
GYA LR LR
comp=E,920nm,17.2s,MS4.7
GYA LR LR
comp=Z,630nm,17.6s,MS4.5
TTA Tatalina 37.26 39 *e*P **P 01 15 45.4 +0.6**
SVW2 Sparrevohn 37.40 42 *e*P **P 01 15 47.0 +1.1**
IMA Indian Mountai 38.52 34 *e*P **P 01 15 56.1 +0.9**
IMA pmax pmax
comp=Z,65nm,0.7s,mb5.5
IMA Indian Mountai 38.52 34 *e*P **P 01 15 56.1 +0.9**
comp=Z,65nm,0.7s,mb5.5
KDAK Kodiak Island 39.08 47 *e*P **P 01 16 00.0 0.0**
SPU Mount Spurr 39.10 42 *e*P **P 01 16 00.9 +0.7**
FIB Fire Island 40.02 42 *e*P **P 01 16 08.0 +0.3**
SLKM Skilak Lake 40.04 43 *e*P **P 01 16 07.3 -0.6**
MCK McKinley 40.47 38 *e*P **P 01 16 11.5 +0.1**
MCK pmax pmax
comp=Z,108nm,1.1s,mb5.5
MCK McKinley 40.47 38 *e*P **P 01 16 11.5 +0.1**
comp=Z,108nm,1.1s,mb5.5
PMR Palmer 40.49 41 *e*P **P 01 16 11.7 +0.1**
PMR pmax pmax
comp=Z,66nm,0.9s,mb5.4
PMR Palmer 40.49 41 *e*P **P 01 16 11.7 +0.1**
comp=Z,66nm,0.9s,mb5.4
COLA College 40.91 36 *e*P **P 01 16 15.8 +0.8**
COLA pmax pmax
comp=Z,162nm,0.8s,mb5.7
COLA College 40.91 36 *e*P **P 01 16 15.8 +0.8**
comp=Z,162nm,0.8s,mb5.7

ILAR Eielson Array 41.32 36 P **P 01 16 18.4 -0.1**
comp=Z,54nm,0.8s,mb5.2,baz=255,slow=6.5,SNR=464
ILAR LR LR 01 32 59.3
comp=Z,85nm,19.0s,MS3.6,baz=328,slow=35
NVS Novosibirsk 41.75 309 *e*P **P 01 16 20.6 -1.4**
NVS *e* 01 18 16.5
THY Trims Highway 41.91 38 *e*P **P 01 16 23.1 -0.1**
DIV Divide 42.14 42 *e*P **P 01 16 25.6 +0.5**
comp=Z,455nm,1.2s,mb6.0
WMQ Urumqi 42.17 292⇑ P **P 01 16 25.5 -0.1**
WMQ AP pP 01 16 40.0 +0.9
WMQ XP sP 01 16 46.0 +0.8
WMQ PP PP 01 18 06.5 -0.2
WMQ PCP PcP 01 18 20.5 +0.7
WMQ S **S 01 22 38.5 -3.2**
WMQ AMB AMB
comp=Z,22nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,72nm,3.5s
WMQ LR LR
comp=N,270nm,22.6s,MS4.1
WMQ LR LR
comp=E,97nm,24.5s,MS4.1
WMQ LR LR
comp=Z,198nm,20.7s,MS4.0
EYAK Cordova Ski Ar 42.23 43 *e*P **P 01 16 26.3 +0.4**
MENT Mentasta 42.87 39 *e*P **P 01 16 32.5 +1.4**
DAWY Dawson 44.63 37 *e*P **P 01 16 45.3 +0.1**
MKAR Makanchi Array 44.65 298 P **P 01 16 45.2 -0.5**
comp=Z,3.4nm,0.7s,mb4.3,baz=78,slow=8.1,SNR=33
MKAR PcP PcP 01 18 27.3 -0.8
comp=Z,6.4nm,0.7s,baz=64,slow=4.0,SNR=8.1
MKAR ScP 01 22 18.9
comp=Z,0.6nm,0.7s,baz=72,slow=4.6,SNR=4.0
MKAR LR LR 01 36 38.0
comp=Z,159nm,20.6s,MS3.9,baz=302,slow=38
INK Inuvik 46.24 30⇑ *e*P **P 01 16 57.9 -0.1**
INK pmax pmax
comp=Z,44nm,0.7s
INK Inuvik 46.24 30⇑ *e*P **P 01 16 57.9 -0.1**
comp=Z,44nm,0.7s,mb5.5
CMAR Chiang Mai Arr 47.68 254 P **P 01 17 10.5 +0.5**
comp=Z,3.1nm,0.6s,mb4.5,baz=48,slow=7.3,SNR=19
SIT Sitka 48.33 46 *e*P **P 01 17 15.7 +1.2**
SIT pmax pmax
comp=Z,90nm,1.3s,mb5.6
SIT Sitka 48.33 46 *e*P **P 01 17 15.7 +1.2**
comp=Z,90nm,1.3s,mb5.6
CHKZ Chkalovo 49.16 310 *e*P **P 01 17 18.4 -2.6**
BVAR Borovoye Array 49.53 309 P **P 01 17 23.4 -0.4**
comp=Z,5.2nm,0.8s,mb4.6,baz=68,slow=8.0,SNR=31
BVAR PcP PcP 01 18 45.0 -0.4
comp=Z,8.8nm,0.7s,baz=66,slow=2.9,SNR=15
BVAR ScP 01 22 35.3
comp=Z,1.5nm,1.0s,baz=72,slow=4.6,SNR=3.2
ULHL Ulahol 50.46 294 P **P 01 17 31.6 +0.4**
SNR=12
DLBC Dease Lake 50.51 43 *e*P **P 01 17 32.1 +0.8**
TKM2 Tokmak 2 50.58 295 P **P 01 17 32.2 +0.2**
SNR=29
JIRN Jiri 51.06 273 *e*P **P 01 17 35.9 0.0**
comp=Z,5.8nm,0.2s,mb5.1
KBK Karagaybulak 51.12 295 P **P 01 17 36.1 0.0**
SNR=26
USP Ospenovka 51.13 296 P **P 01 17 36.0 -0.2**
SNR=25
GUN Gumba 51.14 273 *e*P **P 01 17 36.4 -0.1**
comp=Z,53nm,1.0s,mb5.4
KZA Kyzart 51.19 295 P **P 01 17 37.7 +1.0**
SNR=41
FRU Bishkek 51.26 296 *e*P **P 01 17 37.0 -0.1**
FRU pmax pmax
comp=Z,50nm,2.0s,mb5.1
AAK Ala-Archa 51.43 296 P **P 01 17 38.2 -0.2**
SNR=13
AAK Ala-Archa 51.43 296 *e*P **P 01 17 36.6 -1.8**
AAK pmax pmax
comp=Z,17nm,1.1s,mb4.9
AAK Ala-Archa 51.43 296 *e*P **P 01 17 36.6 -1.8**
comp=Z,17nm,1.1s,mb4.9
UCH Uchtor 51.61 295 P **P 01 17 40.1 +0.3**
SNR=7.4
KKN Kakani 51.64 274 *e*P **P 01 17 40.1 -0.1**
comp=Z,33nm,1.0s,mb5.2
PKI Pulchoki 51.67 273 *e*P **P 01 17 40.1 -0.4**
comp=Z,23nm,1.0s,mb5.1
EKS2 Erkin-Say 51.88 296 P **P 01 17 41.5 -0.3**
SNR=19
GKN Gorkha 51.98 274 *e*P **P 01 17 42.2 -0.6**
comp=Z,13nm,0.4s,mb5.2
AML Almayashu 52.19 295 P **P 01 17 44.6 +0.5**
SNR=23
KOLN Koldanda 52.86 275 *e*P **P 01 17 49.1 -0.3**
comp=Z,34nm,0.9s,mb5.3
SVE Sverdlovsk 53.15 317 *e*P **P 01 17 50.0 -1.1**
SVE *e* 01 18 09.7
KKAR Karatay Array 53.78 298 *i* P **P 01 17 54.8 -1.1**
KKAR pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SOKR Solikamsk 53.78 321⇑ *i*P **P 01 17 54.1 -1.6**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.1
HNR Honiara 54.27 165 LR LR 01 36 21.5
comp=Z,250nm,20.1s,MS4.3,baz=328,slow=31
ARU Arti 54.35 317⇓ *i*P **P 01 17 58.6 -1.4**
ARU *i* 01 19 01.2
ARU *e* 01 19 57.7
ARU *e*PPP PPP 01 21 13.5 -1.8
ARU *e*S **S 01 25 34.6 +2.0**
ARU *e*SS SS 01 29 18.9 +4.1
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ARU Arti 54.35 317 *e*P **P 01 17 57.7 -2.3**
comp=Z,6.7nm,0.6s,mb4.8
RES Resolute Bay 54.82 17 *e*P **P 01 18 00.3 -2.9**
RES pmax pmax
comp=Z,49nm,0.8s,mb5.6
RES Resolute Bay 54.82 17 *e*P **P 01 18 00.3 -2.9**
comp=Z,49nm,0.8s,mb5.6
YKW3 Yellowknife Ar 55.60 34 *e*P **P 01 18 08.4 -0.6**
YKA Yellowknife Ar 55.64 34 P **P 01 18 08.7 -0.5**
comp=Z,24nm,0.6s,mb5.4,baz=298,slow=6.8,SNR=344
YKA pP pP 01 18 22.5 -0.7
comp=Z,8.0nm,0.8s,baz=298,slow=7.1,SNR=6.9
YKA LR LR 01 42 29.9
comp=Z,86nm,21.5s,MS3.8,baz=285,slow=36
YKA Yellowknife Ar 55.64 34 P **P 01 18 08.7 -0.5**
YKA pP pP 01 18 22.5 -0.7
YKA LR LR 01 42 29.9
LVZ Lovozero 57.75 336 *i* P **P 01 18 22.7 -1.5**
KEV Kevo 58.66 339 *e*p **P 01 18 28.3 -2.1**
ARCES ARCESS Array B 59.19 340 P **P 01 18 31.7 -2.4**
comp=Z,3.3nm,0.7s,mb4.5,baz=48,slow=7.3,SNR=12
ARE0 ARCESS Array S 59.19 340 *e*P **P 01 18 32.5 -1.6**
DAG Danmarks Havn 59.31 356⇑ *e*P **P 01 18 31.8 -3.2**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
DAG Danmarks Havn 59.31 356⇑ *e*P **P 01 18 31.8 -3.2**
comp=Z,4.5nm,0.8s,mb4.5
DAG Danmarks Havn 59.31 356⇑ *i*P **P 01 18 31.8 -3.2**
comp=Z,4.5nm,0.8s,mb4.5
JCW Jim Creek 59.54 51 P **P 01 18 36.6 -0.2**
PNT Penticton 60.20 49 P **P 01 18 40.7 -0.7**
TRO Tromso 60.69 342 *e*P **P 01 18 41.1 -3.4**
TRO AMb AMB 01 18 47.3
comp=Z,72nm,1.2s,mb5.7
TWW Teanaway 60.72 51 P **P 01 18 45.6 +0.7**
EDM Edmonton 61.23 43 *e*P **P 01 18 47.4 -0.9**
EDM *e**PP pP 01 19 01.7 -0.7
TDH Tom, Dick, Har 61.23 54 P **P 01 18 48.8 +0.3**
FRIS Frissel Point 61.66 55 P **P 01 18 51.8 +0.5**
CROR Criterion Ridg 61.88 54 P **P 01 18 53.0 +0.2**
HAWA Hanford 61.90 52 *e*P **P 01 18 52.6 -0.3**
comp=Z,3.1nm,1.4s,mb4.2
JOF Joensuu 62.05 332 *e*p **P 01 18 51.8 -1.9**
comp=Z,8.3nm,0.5s,mb5.1
HUMO Hull Mountain 62.07 57 *e*P **P 01 18 53.4 -0.7**
comp=Z,11nm,1.1s,mb4.9
NEW Newport 62.16 49 *e*P **P 01 18 54.0 -0.6**
NEW pmax pmax
comp=Z,35nm,1.1s
NEW Newport 62.16 49 *e*P **P 01 18 54.0 -0.7**
comp=Z,35nm,1.1s,mb5.4
KHMM Horse Mountain 62.59 59 *e*P **P 01 18 58.3 +0.6**
YBH Yreka Blue Hor 62.72 57 *e*P **P 01 18 58.3 -0.2**
YBH pmax pmax
comp=Z,17nm,1.0s
YBH Yreka Blue Hor 62.72 57 *e*P **P 01 18 58.3 -0.2**
comp=Z,17nm,1.0s,mb5.1
HYB Hyderabad 62.91 268 *e*P **P 01 18 57.0 -3.0**
WALA Waterton Lakes 63.41 47 *e*P **P 01 19 02.5 -0.4**
comp=Z,28nm,0.9s,mb5.4
WDC Whiskeytown Da 63.50 58 *e*P **P 01 19 03.3 -0.3**
WDC pmax pmax
comp=Z,20nm,1.1s,mb5.1
WDC Whiskeytown Da 63.50 58 *e*P **P 01 19 03.3 -0.3**
comp=Z,20nm,1.1s,mb5.1
BSMT Bassoo Peak 63.67 48 P **P 01 19 05.1 +0.5**
SUMG Summit 63.79 2 *e*P **P 01 19 02.5 -2.5**
comp=Z,36nm,1.0s,mb5.4
BMO Blue Mountains 64.07 52 *e*P **P 01 19 06.8 -0.4**
comp=Z,28nm,1.5s,mb5.1
MOD Modoc 64.08 56 *e*P **P 01 19 07.0 -0.3**
comp=Z,8.1nm,0.7s,mb4.9
KAF Kangasniemi 64.27 333 *e*p **P 01 19 06.0 -2.2**
comp=Z,6.0nm,0.5s,mb4.9,baz=42,slow=6.2
KAF Kangasniemi 64.27 333 *e*P **P 01 19 06.0 -2.2**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
MOS Moscow 64.44 324 *e*P **P 01 19 06.9 -2.5**
MOR8 Moi Rana 64.47 341 *e*P **P 01 19 06.4 -3.1**
WRAB Tennant Creek 64.59 194⇓ *e*P **P 01 19 09.0 -2.0**
WRAB Tennant Creek 64.59 194 *e*P **P 01 19 08.8 -2.2**
comp=Z,37nm,0.9s,mb5.4
WRAB *e*pP pP 01 19 23.3 -1.9
WB2 Warramunga Arr 64.60 194 *e*P **P 01 19 08.8 -2.2**
WRA Warramunga Arr 64.60 194 P **P 01 19 09.3 -1.7**
comp=Z,20nm,0.9s,mb5.2,baz=11,slow=6.7,SNR=81
WRA PKP2bc 01 47 60.0
comp=Z,1.6nm,0.8s,baz=201,slow=3.0,SNR=7.4
WRA Warramunga Arr 64.60 194 P **P 01 19 09.3 -1.7**
WRA ⇑*e* 01 47 60.0
MSO Missoula 64.75 49 *e*P **P 01 19 10.9 -0.6**
comp=Z,22nm,1.0s,mb5.2
WVOR Wild Horse Val 64.75 55 *e*P **P 01 19 11.2 -0.5**
WVOR pmax pmax
comp=Z,38nm,1.5s,mb5.2
WVOR Wild Horse Val 64.75 55 *e*P **P 01 19 11.2 -0.4**
comp=Z,38nm,1.5s,mb5.2
FINES FINESS Array B 64.83 333 P **P 01 19 09.3 -2.6**
comp=Z,11nm,0.6s,mb5.1,baz=41,slow=6.4,SNR=122
FINES pP pP 01 19 25.2 -0.9
comp=Z,4.2nm,0.6s,baz=46,slow=7.3,SNR=5.3
FINES FINESS Array B 64.83 333 P **P 01 19 09.3 -2.6**
FINES pP pP 01 19 25.2 -0.9
CHMT Chamberlain Mo 65.07 48 *e*P **P 01 19 12.8 -0.8**
OBN Obninsk 65.30 324α *i*P **P 01 19 13.6 -1.4**
OBN *PP pP 01 19 28.0 -1.3
OBN *SP sP 01 19 33.0 -1.9
OBN *e* 01 19 42.9
OBN pmax pmax
comp=Z,58nm,1.0s,mb5.6
OBN Obninsk 65.30 324 *e*P **P 01 19 13.3 -1.7**
comp=Z,63nm,1.1s,mb5.6
FCC Fort Churchill 65.86 30 *e*P **P 01 19 17.5 -1.0**
FCC pmax pmax
comp=Z,55nm,1.0s,mb5.5
FCC Fort Churchill 65.86 30 *e*P **P 01 19 17.5 -1.0**
comp=Z,55nm,1.0s,mb5.5
HRY Holter Researc 65.96 48 *e*P **P 01 19 19.4 +0.1**
WCN Washoe City 65.98 58 *e*P **P 01 19 19.8 +0.2**
WCN pmax pmax
comp=Z,33nm,1.0s,mb5.3
WCN Washoe City 65.98 58 *e*P **P 01 19 19.8 +0.2**
comp=Z,33nm,1.0s,mb5.3
CMB Columbia Colle 66.36 59 *e*P **P 01 19 21.5 -0.6**
CMB *e**PP pP 01 19 36.4 0.0
CMB pmax pmax
comp=Z,22nm,0.8s,mb5.2
CMB Columbia Colle 66.36 59 *e*P **P 01 19 21.5 -0.6**
comp=Z,22nm,0.8s,mb5.2
CMB *e*pP pP 01 19 36.4 -0.1
VOR Voronezh 66.38 320 *e*P **P 01 19 20.0 -1.9**
VOR pmax pmax
comp=Z,50nm,1.3s,mb5.4
HLID Hailey 66.51 52 *e*P **P 01 19 22.6 -0.2**
comp=Z,13nm,1.0s,mb4.9
MCMT McKenzie Canyo 66.59 50 *e*P **P 01 19 23.0 -0.4**
BOZ Bozeman (W) 66.74 49 *e*P **P 01 19 24.5 +0.2**
BOZ pmax pmax
comp=Z,38nm,0.8s,mb5.5
BOZ Bozeman (W) 66.74 49 *e*P **P 01 19 24.5 +0.3**
comp=Z,38nm,0.8s,mb5.5
BMN Battle Mountai 66.82 56 *e*P **P 01 19 24.8 -0.1**
BMN pmax pmax
comp=Z,34nm,1.2s,mb5.2
BMN Battle Mountai 66.82 56 *e*P **P 01 19 24.8 -0.1**
comp=Z,34nm,1.2s,mb5.2
QLMT Earthquake Lak 67.37 49 *e*P **P 01 19 27.7 -0.5**
NVAR Mina Array Bea 67.41 58 P **P 01 19 29.2 +0.6**
comp=Z,24nm,0.7s,mb5.3,baz=301,slow=5.4,SNR=184
NVAR pP pP 01 19 44.4 +1.4
comp=Z,5.6nm,0.7s,baz=289,slow=9.5,SNR=5.4
NVAR sP sP 01 19 48.4 -0.1
comp=Z,17nm,0.8s,baz=294,slow=4.5,SNR=9.6
NVAR LR LR 01 46 12.0
comp=Z,20nm,20.4s,MS3.3,baz=140,slow=33
NVAR Mina Array Bea 67.41 58 P **P 01 19 29.2 +0.6**
NVAR pP pP 01 19 44.4 +1.4
NVAR sP sP 01 19 48.4 -0.1
NVAR LR LR 01 46 12.0
OMM Old Mammoth Mi 67.49 59 *e*P **P 01 19 29.4 +0.2**
MNV Mina 67.50 58 *e*P **P 01 19 28.9 -0.3**
MNV pmax pmax
comp=Z,21nm,0.9s,mb5.2
MNV Mina 67.50 58 *e*P **P 01 19 28.9 -0.2**
comp=Z,21nm,0.9s,mb5.2
GCMT Greycliff 67.70 47 *e*P **P 01 19 30.6 +0.3**
YMR Madison River 67.72 49 *e*P **P 01 19 30.6 +0.1**
ELK Elko 67.80 54 *e*P **P 01 19 31.2 +0.2**
ELK pmax pmax
comp=Z,7.0nm,0.8s
ELK Elko 67.80 54 *e*P **P 01 19 31.2 +0.2**
comp=Z,6.7nm,0.8s,mb4.7
YNR Norris Junctio 67.85 49 *e*P **P 01 19 32.0 +0.8**
DZM Mont Dzumac 67.91 161 LR LR 01 47 51.0
comp=Z,122nm,19.8s,MS4.1,baz=23,slow=35
MTUM Tungsten Hills 67.92 59 *e*P **P 01 19 31.7 -0.1**
YFT Old Faithful 67.94 49 *e*P **P 01 19 33.1 +1.3**
LKWY Lake 68.10 49 *e*P **P 01 19 33.9 +1.1**
LKWY pmax pmax
comp=Z,23nm,1.0s,mb5.2
LKWY Lake 68.10 49 *e*P **P 01 19 33.9 +1.1**
comp=Z,23nm,1.0s,mb5.2
IMW Indian Meadow 68.24 50 *e*P **P 01 19 34.5 +0.8**
comp=Z,31nm,0.9s,mb5.3
TPH Tonopah 68.29 58 *e*P **P 01 19 34.2 +0.1**
TPH pmax pmax
comp=Z,96nm,1.4s,mb5.6
TPH Tonopah 68.29 58 *e*P **P 01 19 34.2 +0.1**
comp=Z,96nm,1.4s,mb5.6
ASAR Alice Springs 68.32 193 P **P 01 19 34.0 -0.6**
comp=Z,5.1nm,0.6s,mb4.7,baz=9.4,slow=5.4,SNR=87
ASAR pP pP 01 19 49.1 +0.2
comp=Z,5.8nm,0.8s,baz=11,slow=5.4,SNR=10
ASAR PKP2bc 01 47 52.1
comp=Z,1.6nm,0.8s,baz=197,slow=2.9,SNR=12
ASAR Alice Springs 68.32 193 P **P 01 19 34.0 -0.6**
ASAR pP pP 01 19 49.1 +0.2
ASAR ⇑*e* 01 47 52.1
ASPA Alice Springs 68.32 193 *e*P **P 01 19 34.1 -0.4**
RRI2 Red Ridge 68.38 50 *e*P **P 01 19 35.4 +0.8**
comp=Z,52nm,0.9s,mb5.6
MOOW Moose Ponds 68.44 50 *e*P **P 01 19 35.3 +0.3**
comp=Z,30nm,1.0s,mb5.3
TPAW Teton Pass 68.49 50 *e*P **P 01 19 35.9 +0.6**
comp=Z,46nm,0.9s,mb5.5
HVU Hansel Valley 68.57 52 *e*P **P 01 19 35.9 +0.1**
HVU *e**PP pP 01 19 50.4 +0.2
WUWY Wally Ulrich 68.58 50 *e*P **P 01 19 36.6 +0.8**
LOHW Long Hollow 68.61 50 *e*P **P 01 19 36.5 +0.5**
comp=Z,54nm,1.5s,mb5.3
SNOW Snow King Moun 68.62 50 *e*P **P 01 19 36.9 +0.8**
comp=Z,41nm,1.1s,mb5.3
SFJD Kangerlussuaq 68.62 7 *i* P **P 01 19 32.3 -3.4**
GOF Gofitskoye 68.87 313⇓ *i*P **P 01 19 35.6 -2.0**
GOF *i* S S 01 28 34.9 -1.5
GOF pmax pmax
comp=Z,80nm,1.3s,mb5.5
GOF smax
comp=E,1μm,4.7s

AHID Auburn Hatcher 68.88 51 *eP* **P 01 19 37.8 +0.1**
comp=E,22nm,1.1s,mb5.0
LAO LASA Array 68.91 45 *eP* **P 01 19 37.8 0.0**
comp=E,61nm,1.0s,mb5.5
SPUT South Promonto 69.06 53 *eP* **P 01 19 39.1 +0.2**
TRCR Troy Canyon 69.11 57 *eP* **P 01 19 39.0 -0.2**
TRCR *ep*P pP 01 19 54.1 +0.5
HWUT Hardware Ranch 69.37 52 *eP* **P 01 19 41.2 +0.5**
comp=E,28nm,1.2s,mb5.1
NB2 NORSAR Subarra 69.55 339 P **P 01 19 40.4 -1.0**
comp=E,13nm,0.7s,mb5.0,baz=31,slow=6.2
NB2 NORSAR Subarra 69.55 339 P **P 01 19 40.4 -1.0**
NB2 pmax pmax
comp=Z,13nm,0.7s,mb5.0
NB2 NORSAR Subarra 69.55 339 P **P 01 19 40.4 -1.0**
baz=31,slow=6.5
NOA NORSAR Array B 69.55 339 P **P 01 19 40.4 -1.1**
comp=Z,15nm,0.8s,mb5.0,baz=32,slow=6.1,SNR=49
NOA pP pP 01 19 55.8 -0.1
comp=Z,4.9nm,0.7s,baz=32,slow=6.2,SNR=5.9
DUG Dugway 69.57 54 *eP* **P 01 19 42.2 +0.2**
DUG pmax pmax
comp=Z,22nm,0.8s,mb5.1
DUG Dugway 69.57 54 *eP* **P 01 19 42.2 +0.2**
comp=Z,22nm,0.8s,mb5.2
NOQ North Oquirrh 69.68 53 *eP* **P 01 19 42.6 0.0**
PDAR Pinedale Array 69.74 50 P **P 01 19 43.1 +0.2**
comp=Z,14nm,0.8s,mb5.0,baz=266,slow=2.1,SNR=132
PDAR pP pP 01 19 57.8 +0.4
comp=Z,4.9nm,0.6s,baz=270,slow=5.9,SNR=3.4
PDAR sP sP 01 20 02.2 -0.6
comp=Z,5.2nm,0.6s,baz=294,slow=1.2,SNR=5.4
PDAR LR LR 01 47 01.4
comp=Z,62nm,21.3s,MS3.8,baz=127,slow=33
TCUT Toone Canyon 69.78 52 *eP* **P 01 19 43.7 +0.5**
KIV Kislovodsk 69.79 312α *iP* **P 01 19 43.4 +0.2**
KIV *i* *PP pP 01 19 58.6 +1.0
KIV *e* 01 20 09.7
KIV pmax pmax
comp=Z,91nm,0.7s,mb5.8
KIV MLR MLR
comp=Z,200nm,16.0s,MS4.5
KIV Kislovodsk 69.79 312⇑ *iP* **P 01 19 43.5 +0.3**
NAO01 NORSAR Array S 69.80 339 *eP* **P 01 19 41.6 -1.3**
comp=Z,11nm,0.9s,mb4.8
CTU Camp Tracy 69.86 53 *eP* **P 01 19 44.0 +0.3**
ZEI Tsey 69.91 310 *eP* **P 01 19 42.4 -1.6**
ZEI pmax pmax
comp=Z,31nm,1.0s,mb5.2
JLU Jordanelle 70.09 53 *eP* **P 01 19 45.4 +0.3**
TI2 Plekhanov 70.12 309⇑ *iP* **P 01 19 47.4 +2.1**
NLU North Lily Min 70.16 53 *eP* **P 01 19 45.8 +0.2**
ONI Oni 70.29 310 P **P 01 19 46.7 +0.4**
DAU Daniels Canyon 70.33 53 *eP* **P 01 19 47.1 +0.5**
MPU Maple Canyon 70.37 53 *eP* **P 01 19 47.0 +0.1**
ARUT Antelope Range 70.77 56 *eP* **P 01 19 49.4 +0.1**
MVU Marysvale 71.03 55 *eP* **P 01 19 51.1 +0.2**
comp=Z,4.8nm,0.7s,mb4.5
MSU Marysvale 71.04 55 *eP* **P 01 19 51.2 +0.3**
NEN Nelson 71.31 58 *eP* **P 01 19 52.4 -0.2**
ULM Lac du Bonnet 71.33 37 P **P 01 19 51.6 -0.9**
comp=Z,7.9nm,0.6s,mb4.8,baz=315,slow=7.0,SNR=9.3
ULM LR LR 01 55 26.0
comp=Z,55nm,18.7s,MS3.9,baz=277,slow=39
ULM Lac du Bonnet 71.33 37 *eP* **P 01 19 51.2 -1.2**
comp=Z,28nm,1.3s,mb5.0
ULM *ep*P pP 01 20 05.5 -1.4
SUW Suwalki 71.47 329⇑ *eP* **P 01 19 52.1 -1.1**
LDFC Landfair 71.52 59 *eP* **P 01 19 53.5 -0.3**
AKASG Malin Array Be 71.57 324 P **P 01 19 52.8 -1.0**
comp=Z,55nm,0.9s,mb5.5,baz=38,slow=6.1,SNR=178
AKASG sP sP 01 20 13.3 -0.4
comp=Z,7.0nm,0.8s,baz=38,slow=5.8,SNR=5.4
SRU San Rafael 71.61 53 *eP* **P 01 19 54.2 -0.1**
SOC Sochi 71.62 313*c iP* **P 01 19 53.9 -0.4**
SOC *e* pP 01 20 10.1 +1.3
SOC *e* 01 22 30.6
SOC *e*PPP PPP 01 24 13.5 -3.7
SOC *e*S S 01 29 06.7 -1.8
SOC *e* 01 29 50.8
SOC *e*SS SS 01 33 44.5 -2.0
SOC pmax pmax
comp=N,9.0nm,0.8s
SOC pmax pmax
comp=E,4.0nm,0.8s
SOC pmax pmax
comp=Z,42nm,0.8s,mb5.4
PFO Pinyon Flat Ob 71.64 61 *eP* **P 01 19 53.6 -1.0**
PFO *e*PP pP 01 20 09.1 +0.1
PFO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
PFO Pinyon Flat Ob 71.64 61 *eP* **P 01 19 53.6 -0.9**
comp=Z,7.2nm,1.0s,mb4.6
PFO *ep*P pP 01 20 09.1 +0.1
RWWY Rawlins 71.75 49 *eP* **P 01 19 55.1 0.0**
comp=Z,34nm,1.0s,mb5.2
RWWY *ep*P pP 01 20 09.0 -0.6
RSSD Black Hills 71.79 46 *eP* **P 01 19 55.0 -0.3**
RSSD pmax pmax
comp=Z,25nm,0.8s,mb5.2
RSSD Black Hills 71.79 46 *eP* **P 01 19 55.0 -0.2**
comp=Z,25nm,0.8s,mb5.2
ANN Anapa 71.96 315 *eP* **P 01 19 55.7 -0.6**
ANN *e*PP pP 01 20 10.1 -0.7
ANN *e*S S 01 29 13.0 +0.5
ANN pmax pmax
comp=Z,34nm,0.7s,mb5.4
BAR Barrett 72.10 62 *eP* **P 01 19 56.7 -0.7**
PHWY Pilot Hill 72.98 49 *eP* **P 01 20 02.2 -0.1**
TVAN Van 73.03 307 *iP* **P 01 20 03.8 +1.1**
ERZM Erzurum 73.25 309 *iP* **P 01 20 03.6 -0.3**
WUAZ Wupatki 73.52 57 *eP* **P 01 20 06.3 +0.7**
comp=Z,26nm,1.1s,mb5.1
SIM Simferopol' 73.52 317⇑ *eP* **P 01 20 06.4 +1.0**
SIM pmax pmax
comp=Z,36nm,0.9s,mb5.3
COP Copenhagen 73.74 335 *iP* **P 01 20 06.5 0.0**
COP pmax pmax
comp=Z,35nm,0.6s,mb5.5
COP Copenhagen 73.74 335 *iP* **P 01 20 06.5 0.0**
comp=Z,35nm,0.6s,mb5.5
RW3 Ridgway 73.83 52 P **P 01 20 08.5 +1.1**
MUD Monsted U'grnd 74.03 337⇑ *iP* **P 01 20 07.9 -0.2**
MUD pmax pmax
comp=Z,31nm,0.7s,mb5.3
MUD Monsted U'grnd 74.03 337⇑ *iP* **P 01 20 07.9 -0.2**
comp=Z,31nm,0.7s,mb5.3
GKP Gorka Klasztor 74.20 331⇑ *iP* **P 01 20 09.0 -0.2**
GKP Gorka Klasztor 74.20 331⇑ *iP* **P 01 20 09.0 -0.2**
LVV L'vov 74.41 326 *eP* **P 01 20 09.9 -0.5**
KIS Kishinev 74.51 321 *eP* **P 01 20 10.0 -1.1**
MSL Mosul 74.74 306 *eP* **P 01 20 18.0 +5.3**
EYMN Ely 74.97 37 *eP* **P 01 20 12.4 -1.2**
comp=Z,31nm,1.0s,mb5.2
KWP Kalwaria 75.09 326⇑ *iP* **P 01 20 14.8 +0.4**
SDCO Great Sand Dun 75.42 51 *eP* **P 01 20 16.7 +0.2**
comp=Z,16nm,1.3s,mb4.8
STKA Stephens Creek 75.56 185 *eP* **P 01 20 17.2 -0.2**
comp=Z,3.2nm,0.6s,mb4.4
STKA Stephens Creek 75.56 185 P **P 01 20 17.5 +0.1**
comp=Z,5.3nm,0.8s,mb4.5,baz=338,slow=8.2,SNR=7.3
STKA LR LR 01 49 50.2
comp=Z,154nm,20.2s,MS4.3,baz=206,slow=33
ELZG Elazig 75.56 310 *iP* **P 01 20 18.3 +1.0**
BURAR Bucovina Array 75.62 324⇑ *iP* **P 01 20 18.0 +0.6**
BURAR Bucovina Array 75.62 324⇑ *iP* **P 01 20 18.0 +0.5**
BOYT Boyabat 75.67 314 *iP* **P 01 20 18.1 +0.2**
OJC Ojcow 75.75 328⇑ *iP* **P 01 20 18.3 +0.2**
KOLS Kolonicke sedl 75.81 326 *iP* **P 01 20 18.7 +0.2**
BSEG Bad Segeberg 75.88 335 *eP* **P 01 20 18.8 0.0**
TLCR 75.88 320 ⇓ *P* **P 01 20 19.3 +0.3**
MALT Malatya 76.00 310 *eP* **P 01 20 20.3 +0.5**
comp=Z,268nm,1.0s,mb6.1
RUE Ruedersdorf 76.03 333 *eP* **P 01 20 19.3 -0.4**
comp=Z,74nm,1.1s,mb5.5
TUC Tucson 76.05 59 *eP* **P 01 20 20.4 +0.2**
comp=Z,9.0nm,1.2s,mb4.6
CRVS Cervenica-Dubn 76.16 327 *iP* **P 01 20 21.3 +0.8**
CRVS *e* 01 20 27.1
CFR Carcaliu 76.20 321⇑ *P* **P 01 20 20.9 +0.1**
CTKT Corum 76.30 314 *iP* **P 01 20 22.1 +0.6**
VRI Vrincioaia 76.31 322⇓ *P* **P 01 20 22.2 +0.8**
FORT Forrest 76.34 197 *eP* **P 01 20 22.0 +0.1**
comp=Z,511nm,0.6s
BALT Daday 76.37 315 *iP* **P 01 20 23.2 +1.4**
RAC Raciborz 76.47 329 *eP* **P 01 20 22.7 +0.5**
KSP Ksiaz 76.53 331⇑ *eP* **P 01 20 22.4 -0.2**
KSP Ksiaz 76.53 331⇑ *iP* **P 01 20 22.7 +0.2**
TIRR Tirgusor 76.62 320⇑ *P* **P 01 20 23.1 -0.1**
HARR Harsova 76.66 320⇑ *P* **P 01 20 23.8 +0.4**
OKC Ostrava-Krasne 76.69 329⇑ *iP* **P 01 20 23.5 +0.1**
OKC AMS AMS 01 53 20.0
comp=Z,300nm,14.8s
ANMO Albuquerque 76.83 54 *eP* **P 01 20 24.8 +0.2**
ANMO pmax pmax
comp=Z,11nm,0.9s
ANMO Albuquerque 76.83 54 *eP* **P 01 20 24.8 +0.2**
comp=Z,11nm,0.9s,mb4.8
KECS Kecovo 76.89 327 *iP* **P 01 20 24.5 -0.1**
UPC Upice 76.91 331⇑ *iP* **P 01 20 24.8 +0.1**
DPC Dobruska-Polom 76.93 330⇑ *iP* **P 01 20 25.2 +0.4**
DPC MLR MLR
comp=Z,300nm,19.1s,MS4.6
DPC MLR MLR
comp=E,200nm,22.0s
MLR Muntele Rosu 76.95 322 P **P 01 20 25.6 +0.6**
MLR Muntele Rosu 76.95 322 P **P 01 20 24.9 -0.1**
comp=E,16nm,0.8s,mb5.0,baz=282,slow=0.9,SNR=26
MLR Muntele Rosu 76.95 322⇑ *P* **P 01 20 25.3 +0.2**
MLR Muntele Rosu 76.95 322⇑ *P* **P 01 20 25.3 +0.3**
MORC Moravsky Berou 76.96 329 P **P 01 20 25.6 +0.6**
MORC Moravsky Berou 76.96 329 *eP* **P 01 20 24.8 -0.2**
comp=E,38nm,0.9s,mb5.3
ELDT Eldivan 77.11 314 *iP* **P 01 20 26.8 +0.8**
LPM Los Pinos Moun 77.17 55 *eP* **P 01 20 26.9 +0.3**
CLL Collm 77.28 333⇑ *iP* **P 01 20 26.3 -0.4**
CLL pmax pmax
comp=Z,92nm,0.9s,mb5.7
CLL Collm 77.28 333⇑ *iP* **P 01 20 26.3 -0.4**
comp=Z,92nm,0.9s,mb5.7
CLL *i* pP pP 01 20 53.6 +12
CLL Collm 77.28 333⇑ *P* **P 01 20 26.3 -0.4**
comp=Z,logA/T=2.0,mb5.7
CLL *e*SSS tx 01 39 00.0
BRG Berggiesshubel 77.33 332⇑ *iP* **P 01 20 26.8 -0.2**
BRG *i* pP 01 20 41.8 +0.2
BRG pmax pmax
comp=Z,23nm,0.8s,mb5.2
BRG Berggiesshubel 77.33 332⇑ *iP* **P 01 20 26.8 -0.2**
comp=Z,23nm,0.8s,mb5.2
BRG *i* pP 01 20 41.8 +0.2
DRGR 77.33 325⇓ *P* **P 01 20 27.5 +0.4**
KAHT Ahir Dag 77.34 310 *iP* **P 01 20 28.2 +0.8**
VOIR 77.39 322⇑ *P* **P 01 20 28.4 +0.9**
PVCC Panska Ves 77.40 331⇑ *iP* **P 01 20 27.6 +0.2**
PVCC AMS AMS 01 55 20.0
comp=Z,300nm,18.2s
SCHQ Schefferville 77.47 19 P **P 01 20 27.7 0.0**
comp=Z,12nm,0.6s,mb5.0,baz=359,slow=5.9,SNR=48
SCHQ LR LR 01 55 36.8
comp=Z,147nm,19.1s,MS4.3,baz=348,slow=36
SCHQ Schefferville 77.47 19 *eP* **P 01 20 27.2 -0.6**
comp=Z,41nm,1.1s,mb5.3
VYHS Vyhne 77.52 328 *iP* **P 01 20 28.6 +0.5**
VYHS *ep*P pP 01 20 41.6 -1.1
BRTR Keskin Array B 77.56 314 P **P 01 20 28.8 +0.2**
comp=Z,5.0nm,0.8s,mb4.5,baz=70,slow=3.2,SNR=30
PSZ Piszkesteto 77.58 327 P **P 01 20 29.4 +0.9**
PSZ Piszkesteto 77.58 327 *eP* **P 01 20 28.0 -0.5**
comp=Z,28nm,0.9s,mb5.2
CLZ Clausthal 77.67 334 *eP* **P 01 20 29.0 +0.1**
comp=Z,78nm,1.0s,mb5.6
VRAC Vranov 77.70 329 P **P 01 20 29.6 +0.5**
comp=Z,35nm,1.0s,mb5.2,baz=35,slow=7.4,SNR=37
VRAC Vranov 77.70 329 P **P 01 20 29.7 +0.6**
SGKT Sivrigoynuk 77.75 315 *iP* **P 01 20 30.2 +0.6**
CBKS Cedar Bluff 77.83 47 *eP* **P 01 20 29.0 -1.0**
CBKS pmax pmax
comp=Z,22nm,0.7s,mb5.2
CBKS Cedar Bluff 77.83 47 *eP* **P 01 20 29.0 -1.0**
comp=Z,22nm,0.7s,mb5.2
PRU Pruhonice 77.86 331⇑ *iP* **P 01 20 29.9 -0.1**
PRU AMS AMS 01 58 10.0
comp=Z,300nm,16.3s
ANTO Ankara 77.90 314⇑ *P* **P 01 20 31.1 +0.7**
SMOL Smolenice 78.04 329 *iP* **P 01 20 31.6 +0.6**
ESK Eskdalemuir 78.08 343 *eP* **P 01 20 30.6 -0.4**
ESK pmax pmax
comp=Z,28nm,0.7s,mb5.3
ESK Eskdalemuir 78.08 343 *eP* **P 01 20 30.6 -0.5**
comp=Z,28nm,0.7s,mb5.3
SRO Srobarova 78.28 328 *iP* **P 01 20 33.0 +0.7**
SRO2 Moca 78.29 328 *eP* **P 01 20 32.9 +0.5**
MOX Moxa 78.30 333 *eP* **P 01 20 32.2 -0.2**
MOX pmax pmax
comp=Z,42nm,1.3s,mb5.2
MOX Moxa 78.30 333 *eP* **P 01 20 32.2 -0.2**
comp=Z,42nm,1.3s,mb5.2
MOX Moxa 78.30 333 *iP* **P 01 20 32.1 -0.3**
comp=Z,logA/T=1.5,mb5.2
MOX pP pP 01 20 46.0 -1.0
MOX L 01 55 44.0
SRO1 Iza 78.35 328 *eP* **P 01 20 31.4 -1.3**
NKC Novy Kostel 78.38 332⇑ *iP* **P 01 20 32.7 -0.1**
ZST Bratislava 78.43 329 *eP* **P 01 20 33.6 +0.5**
COBT Iskenderun 78.49 310 *iP* **P 01 20 34.1 +0.4**
WTSB Winterswijk 78.64 336⇑ *iP* **P 01 20 34.0 -0.2**
comp=Z,54nm,1.3s,mb5.3
SZH Strazhica 78.68 321 *eP* **P 01 20 34.8 +0.2**
BZS Buzias 78.73 324⇑ *P* **P 01 20 34.7 -0.1**
KHC Kasperske Hory 78.93 331⇑ *iP* **P 01 20 36.1 +0.3**
KHC *ep*P pP 01 20 49.0 -1.4
KHC x x 01 21 03.0
KHC AMS AMS 01 55 50.0
comp=Z,300nm,18.0s
GEC2 GERESS Array S 79.12 331 *eP* **P 01 20 36.7 -0.2**
GEC2 pmax pmax
comp=Z,13nm,0.7s,mb5.0
GEC2 GERESS Array S 79.12 331 *eP* **P 01 20 36.7 -0.2**
comp=Z,13nm,0.7s,mb5.0
GERES GERESS Array B 79.12 331 P **P 01 20 36.8 -0.1**
comp=Z,7.6nm,0.6s,mb4.8,baz=34,slow=5.6,SNR=98
ESKT Eskisehir 79.16 315 *iP* **P 01 20 37.6 +0.3**
WET Wettzell 79.16 331 *eP* **P 01 20 37.4 +0.3**
WET pmax pmax
comp=Z,34nm,1.0s,mb5.2
WET Wettzell 79.16 331 *eP* **P 01 20 37.4 +0.3**
comp=Z,34nm,1.0s,mb5.2
GRA1 Grafenberg Arr 79.25 333 *eP* **P 01 20 37.9 +0.3**
comp=Z,70nm,0.9s,mb5.6
GRA1 *ep*P pP 01 20 51.5 -0.7
GRA1 *e*PP PP 01 23 35.8 -3.4
GRA1 LR LR
comp=Z,200nm,18.8s,MS4.5
GRF Grafenberg Arr 79.25 333 *eP* **P 01 20 37.9 +0.3**
GRF *e*PP pP 01 20 51.5 -0.7
GRF *e* 01 23 35.8
GRF pmax pmax
comp=Z,70nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,200nm,18.8s,MS4.5
GRF Grafenberg Arr 79.25 333 *eP* **P 01 20 37.9 +0.3**
GRF *e*PP pP 01 20 51.5 -0.7
GRF *e* 01 23 35.8
GRF pmax pmax
comp=Z,70nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,200nm,18.8s,MS4.5
GRF Grafenberg Arr 79.25 333 *eP* **P 01 20 37.9 +0.3**
comp=Z,70nm,0.9s,mb5.6
GRF *ep*P pP 01 20 51.5 -0.7
GRF *e*PP PP 01 23 35.8 -3.4
GRF LR LR
comp=Z,200nm,18.8s,MS4.5
KSU1 Kansas State U 79.25 45 *eP* **P 01 20 36.8 -1.1**
PKSM Moragy 79.46 327⇑ *iP* **P 01 20 38.2 -0.6**
ULDT Uludag 79.55 317 *iP* **P 01 20 40.1 +0.7**
MEST Erdemli 79.60 311 *iP* **P 01 20 36.3 -3.4**
AMTX Amarillo 79.62 51 *eP* **P 01 20 40.5 +0.5**
comp=Z,20nm,0.9s,mb5.0
TNS Taunus Mts 79.68 335 *eP* **P 01 20 39.8 -0.1**
TNS pmax pmax
comp=Z,48nm,1.5s,mb5.2
TNS Taunus Mts 79.68 335 *eP* **P 01 20 39.8 -0.1**
comp=Z,48nm,1.5s,mb5.2
MNTX Cornudas Mount 79.76 56 *eP* **P 01 20 40.9 +0.2**
comp=Z,16nm,0.9s,mb5.0
MOA Molln 79.77 330⇑ *iP* **P 01 20 40.5 +0.1**
comp=Z,9.6nm,0.8s,mb4.8
RHK1 Bakonya 79.78 327⇓ *eP* **P 01 20 40.4 -0.2**
ARSA Arzberg 79.81 329⇑ *iP* **P 01 20 40.8 +0.1**
comp=Z,11nm,1.1s,mb4.7
HGN Heimansgroeve 79.96 336⇑ *iP* **P 01 20 40.8 -0.5**
comp=Z,39nm,0.7s,mb5.4
GDL2 Guadalupe Moun 80.00 55 *eP* **P 01 20 42.2 +0.1**
TOD Tromm 80.11 334 *eP* **P 01 20 42.1 -0.1**
KDZ Kurdzhali 80.18 320 *eP* **P 01 20 44.0 +1.2**
ABH Alteburg 80.26 335 *eP* **P 01 20 42.8 -0.2**
BTOK Tokmak 80.39 317 *iP* **P 01 20 43.8 -0.1**
VTS Vitosha 80.45 322 *eP* **P 01 20 44.8 +0.6**
PERS Pernice 80.47 329 *eP* **P 01 20 44.2 0.0**
RZN Rozhen 80.47 320 *eP* **P 01 20 45.0 +0.7**
GRUS Gruza 80.50 324⇓ *iP* **P 01 20 44.2 -0.2**
FUR Furstenfeldbru 80.55 332 *eP* **P 01 20 44.7 +0.1**
FUR pmax pmax
comp=Z,41nm,0.9s,mb5.4
FUR Furstenfeldbru 80.55 332 *eP* **P 01 20 44.7 +0.1**
comp=Z,41nm,0.9s,mb5.4
RUP Ruppelstein 80.56 335 *eP* **P 01 20 44.4 -0.2**
DIVS Divcibare 80.63 325⇓ *iP* **P 01 20 44.6 -0.5**
DLF Lyons Farm 80.65 344⇑ *iP* **P 01 20 43.3 -1.7**
STU Stuttgart 80.71 333 *eP* **P 01 20 45.1 -0.3**
STU pmax pmax
comp=Z,12nm,0.6s,mb5.0
STU Stuttgart 80.71 333 *eP* **P 01 20 45.1 -0.4**
comp=Z,12nm,0.6s,mb5.0
DCN Croghan 80.75 345⇑ *iP* **P 01 20 43.9 -1.6**
KBA Koelnbreinsper 80.75 330⇓ *iP* **P 01 20 46.3 +0.6**
comp=Z,29nm,0.8s,mb5.2
KBA Koelnbreinsper 80.75 330⇓ *iP* **P 01 20 46.3 +0.6**
KBA pmax pmax
comp=Z,29nm,0.8s,mb5.3
OBKA Obir 80.79 329⇑ *iP* **P 01 20 45.8 -0.1**
comp=Z,11nm,0.7s,mb4.9
GIVF Givet 80.87 337⇑ *iP* **P 01 20 45.8 -0.4**
comp=Z,20nm,0.8s,mb4.8
GIVF Givet 80.87 337⇑ *iP* **P 01 20 45.8 -0.4**
GIVF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
WLF Walferdange 80.87 336 *eP* **P 01 20 45.8 -0.5**
WLF pmax pmax
comp=Z,44nm,1.6s,mb5.1
WLF Walferdange 80.87 336 *eP* **P 01 20 45.8 -0.5**
comp=Z,44nm,1.6s,mb5.1
LANF Langenberg 80.97 334 *eP* **P 01 20 46.5 -0.3**
PDKS Podkum 81.00 329 *iP* **P 01 20 46.2 -0.8**
MMB Musomiste 81.01 321 *eP* **P 01 20 47.7 +0.5**
BBLS Bajina Basta - 81.06 325⇓ *iP* **P 01 20 47.5 +0.1**
KKB Krupnik 81.08 321 *eP* **P 01 20 48.0 +0.5**
BAIF Baives 81.08 337⇑ *iP* **P 01 20 47.1 -0.3**
comp=Z,30nm,1.0s,mb4.9
BAIF Baives 81.08 337⇑ *iP* **P 01 20 47.1 -0.3**
BAIF pmax pmax
comp=Z,15nm,1.0s,mb4.9
WATA Walderalm 81.16 331⇑ *iP* **P 01 20 48.1 +0.3**
comp=Z,21nm,1.1s,mb5.0
WATA Walderalm 81.16 331⇑ *iP* **P 01 20 48.1 +0.3**
WATA pmax pmax
comp=Z,21nm,1.1s,mb5.0
WTTA Wattenberg 81.20 331⇑ *iP* **P 01 20 48.6 +0.6**
comp=Z,26nm,0.6s,mb5.3
WTTA Wattenberg 81.20 331⇑ *iP* **P 01 20 48.6 +0.6**
WTTA pmax pmax
comp=Z,26nm,0.6s,mb5.3
CSS Prodhromos 81.24 311 *eP* **P 01 20 48.5 0.0**
comp=Z,12nm,0.7s,mb4.9
ASF Jabal al Asfar 81.27 306 P **P 01 20 49.5 +0.7**
comp=Z,8.4nm,0.7s,mb4.8,baz=277,slow=4.8,SNR=26
ASF pP pP 01 21 03.0 -0.4
comp=Z,3.6nm,0.8s,baz=347,slow=5.9,SNR=4.8
VISS Visnje 81.28 329 *eP* **P 01 20 47.9 -0.5**
BOJS Bojanci 81.37 328 *iP* **P 01 20 48.5 -0.5**
BFO Black Forest 81.38 334 *eP* **P 01 20 48.7 -0.2**
BFO pmax pmax
comp=Z,17nm,0.8s,mb5.0
BFO Black Forest 81.38 334 *eP* **P 01 20 48.7 -0.2**
comp=Z,17nm,0.8s,mb5.0
SQTA Sankt Quirin 81.38 331⇑ *iP* **P 01 20 49.3 +0.3**
comp=Z,10nm,0.8s,mb4.8
SQTA Sankt Quirin 81.38 331⇑ *iP* **P 01 20 49.3 +0.3**
SQTA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ROBS Robic 81.40 330 *eP* **P 01 20 47.6 -1.5**
WLS Welschbruch 81.61 334 *eP* **P 01 20 50.1 -0.1**
CDF Champ du Feu 81.64 334⇑ *iP* **P 01 20 50.2 -0.1**
comp=Z,41nm,0.8s,mb5.1
CDF Champ du Feu 81.64 334⇑ *iP* **P 01 20 50.2 -0.1**
CDF pmax pmax
comp=Z,20nm,0.8s,mb5.1
SKO Skopje 81.73 322 *iP* **P 01 20 51.8 +0.9**
DAVA Damuels 81.78 332⇑ *iP* **P 01 20 51.4 +0.4**
comp=Z,34nm,1.3s,mb5.1
ECH Echery 81.85 334 *eP* **P 01 20 51.2 -0.2**
FELD Feldberg 81.88 334 *eP* **P 01 20 51.4 -0.2**
MOF Molkenrain 82.18 334 *eP* **P 01 20 53.0 -0.1**
THEF They Montfort 82.20 335 *eP* **P 01 20 52.9 -0.3**
MEZF Maizieres J'vi 82.24 336⇑ *iP* **P 01 20 53.5 +0.1**
comp=Z,43nm,0.9s,mb5.1
HAU Haudompre 82.29 335⇑ *iP* **P 01 20 53.3 -0.3**
comp=Z,22nm,0.8s,mb4.8
HAU Haudompre 82.29 335⇑ *iP* **P 01 20 53.3 -0.3**
HAU pmax pmax
comp=Z,11nm,0.8s,mb4.8
HINF Hinteralfeld 82.30 334⇑ *iP* **P 01 20 53.2 -0.5**
comp=Z,10nm,0.6s,mb4.6
HINF Hinteralfeld 82.30 334⇑ *iP* **P 01 20 53.2 -0.5**
HINF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
NVLJ Novalja 82.31 328 *iP* **P 01 20 52.6 -1.2**
BBS Basel-Blauen 82.40 334 *eP* **P 01 20 54.2 0.0**
LTX Lajitas 82.48 56 *eP* **P 01 20 55.4 +0.4**
LTX pmax pmax
comp=Z,32nm,1.1s,mb5.2
LTX Lajitas 82.48 56 *eP* **P 01 20 55.4 +0.3**
comp=Z,32nm,1.1s,mb5.2
TXAR Lajitas Array 82.48 56 P **P 01 20 55.7 +0.7**
comp=Z,21nm,0.9s,mb5.1,baz=295,slow=4.1,SNR=181
TXAR pP pP 01 21 10.8 +1.1
comp=Z,3.9nm,0.7s,baz=300,slow=3.9,SNR=5.5
TXAR sP sP 01 21 16.1 +0.8
comp=Z,18nm,0.8s,baz=295,slow=3.7,SNR=12
TXAR LR LR 01 53 24.4
comp=Z,44nm,19.5s,MS3.8,baz=340,slow=33
TXAR Lajitas Array 82.48 56 P **P 01 20 55.7 +0.7**
TXAR pP pP 01 21 10.8 +1.1
TXAR sP sP 01 21 16.1 +0.8
TXAR LR LR 01 53 24.4
LOMF Lomont 82.72 334 *eP* **P 01 20 56.0 +0.1**
CCM Cathedral Cave 82.75 43 *eP* **P 01 20 55.6 -0.6**
CCM *e*PP pP 01 21 10.9 -0.1
CCM pmax pmax
comp=Z,35nm,1.0s,mb5.3
CCM Cathedral Cave 82.75 43 *eP* **P 01 20 55.6 -0.7**
comp=Z,35nm,1.0s,mb5.3
CCM *ep*P pP 01 21 10.9 -0.1
SLM Saint Louis 82.79 42 *eP* **P 01 20 56.0 -0.4**
FVM French Village 83.21 42 *eP* **P 01 20 58.2 -0.4**
FVM pmax pmax
comp=Z,41nm,1.4s,mb5.3
FVM French Village 83.21 42 *eP* **P 01 20 58.2 -0.3**
comp=Z,41nm,1.4s,mb5.3
FLN La Foiniere 83.53 339⇑ *iP* **P 01 20 59.9 0.0**
comp=Z,35nm,0.7s,mb5.3
FLN La Foiniere 83.53 339⇑ *iP* **P 01 20 59.9 0.0**
FLN pmax pmax
comp=Z,18nm,0.7s,mb5.3
LDF La Druitiere 83.59 339⇑ *iP* **P 01 21 00.2 0.0**
comp=Z,42nm,0.9s,mb5.3
LDF La Druitiere 83.59 339⇑ *iP* **P 01 21 00.2 0.0**
LDF pmax pmax
comp=Z,21nm,0.9s,mb5.3
CABF La Chapelle 83.61 334⇑ *iP* **P 01 21 00.5 +0.2**
comp=Z,17nm,0.7s,mb5.0
CABF La Chapelle 83.61 334⇑ *iP* **P 01 21 00.5 +0.2**
CABF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
LOR Lormes 83.70 336⇑ *iP* **P 01 21 00.7 -0.1**
comp=Z,47nm,0.8s,mb5.3
LOR Lormes 83.70 336⇑ *iP* **P 01 21 00.7 -0.1**
LOR pmax pmax
comp=Z,24nm,0.8s,mb5.4
ORX Oropa 83.86 333 P **P 01 21 01.3 -0.3**
JCT Junction City 83.93 53 *eP* **P 01 21 02.6 +0.3**

JCT pmax pmax
comp=Z,47nm,1.2s,mb5.5
JCT Junction City 83.93 53 *e*P **P 01 21 02.6 +0.3**
comp=Z,47nm,1.2s,mb5.5
PPT Papeete 83.97 121 LR LR 01 54 12.1
comp=Z,144nm,20.5s,MS4.3,baz=327,slow=32
GRR Gorron 83.97 339⇑*i*P **P 01 21 02.5 +0.4**
comp=Z,55nm,0.8s,mb5.5
GRR Gorron 83.97 339⇑*i*P **P 01 21 02.5 +0.4**
GRR pmax pmax
comp=Z,28nm,0.8s,mb5.4
SSF Saint Saulge 83.99 336⇑*i*P **P 01 21 02.3 +0.1**
SSF pmax pmax
comp=Z,17nm,0.9s,mb5.2
SSF Saint Saulge 83.99 336⇑*i*P **P 01 21 02.3 +0.1**
comp=Z,17nm,0.9s,mb5.2
TRAV 84.05 333 P **P 01 21 02.1 -0.4**
HYF Humbligny 84.05 337 *e*P **P 01 21 03.0 +0.5**
EIL Elat 84.24 306 *e*P **P 01 21 04.6 +0.6**
comp=Z,53nm,1.3s,mb5.5
EIL *e*pP pP 01 21 18.2 -0.4
SMF Signal de Mont 84.27 336⇑*i*P **P 01 21 03.8 +0.2**
comp=Z,78nm,0.8s,mb5.6
SMF Signal de Mont 84.27 336⇑*i*P **P 01 21 03.8 +0.2**
SMF pmax pmax
comp=Z,39nm,0.8s,mb5.6
AVF Avril sur Loir 84.28 336⇑*i*P **P 01 21 03.9 +0.2**
comp=Z,50nm,0.8s,mb5.4
AVF Avril sur Loir 84.28 336⇑*i*P **P 01 21 03.9 +0.2**
AVF pmax pmax
comp=Z,25nm,0.8s,mb5.4
LSD Ceresole Reale 84.29 333 P **P 01 21 04.8 +1.0**
MIAR Mount Ida 84.30 46 *e*P **P 01 21 04.3 +0.2**
MIAR pmax pmax
comp=Z,20nm,1.0s,mb5.2
MIAR Mount Ida 84.30 46 *e*P **P 01 21 04.3 +0.2**
comp=Z,20nm,1.0s,mb5.2
LPL La Plagne 84.38 333⇑*i*P **P 01 21 05.0 +0.8**
comp=Z,37nm,0.7s,mb5.3
LPL La Plagne 84.38 333⇑*i*P **P 01 21 05.0 +0.8**
LPL pmax pmax
comp=Z,19nm,0.7s,mb5.3
LPG La Plagne 84.39 333⇑*i*P **P 01 21 05.2 +0.9**
comp=Z,46nm,0.7s,mb5.4
LPG La Plagne 84.39 333⇑*i*P **P 01 21 05.2 +0.9**
LPG pmax pmax
comp=Z,23nm,0.7s,mb5.4
ERPA Erie 84.46 33 *e*P **P 01 21 04.8 +0.1**
comp=Z,34nm,0.8s,mb5.5
ERPA *e*pP pP 01 21 19.2 -0.3
SGMF Saint Gilles 84.52 340⇑*i*P **P 01 21 05.1 +0.2**
comp=Z,92nm,0.8s,mb5.7
SGMF Saint Gilles 84.52 340⇑*i*P **P 01 21 05.1 +0.2**
SGMF pmax pmax
comp=Z,46nm,0.8s,mb5.7
RSP Reno Superiore 84.53 333 P **P 01 21 04.7 -0.3**
GENL Genova Univers 84.60 331 P **P 01 21 04.1 -1.3**
ROSF Rostrenen 84.62 341⇑*i*P **P 01 21 05.4 +0.1**
comp=Z,113nm,0.9s,mb5.7
ROSF Rostrenen 84.62 341⇑*i*P **P 01 21 05.4 +0.1**
ROSF pmax pmax
comp=Z,57nm,0.9s,mb5.7
PCP Pian Castagno 84.63 332 P **P 01 21 04.8 -0.7**
BGF Bois d'Agland 84.64 336⇑*i*P **P 01 21 06.3 +0.8**
comp=Z,25nm,0.8s,mb5.1
BGF Bois d'Agland 84.64 336⇑*i*P **P 01 21 06.3 +0.8**
BGF pmax pmax
comp=Z,13nm,0.8s,mb5.1
FENE Fenestrelle 84.70 333 P **P 01 21 06.1 +0.3**
AQU L'Aquila 84.75 328 *e*P **P 01 21 06.6 +0.4**
AQU pmax pmax
comp=Z,11nm,0.8s,mb5.0
AQU L'Aquila 84.75 328 *e*P **P 01 21 06.6 +0.4**
comp=Z,11nm,0.8s,mb5.0
ACSO Alum Creek Sta 84.80 36 *e*P **P 01 21 06.3 -0.2**
comp=Z,46nm,1.2s,mb5.5
ACSO *e*pP pP 01 21 20.8 -0.5
BNI Bardonecchia 84.80 333 *e*P **P 01 21 06.6 +0.2**
BNI pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
BNI Bardonecchia 84.80 333 *e*P **P 01 21 06.6 +0.2**
comp=Z,9.9nm,0.9s,mb4.9
RRL Cesana Torines 84.89 333 P **P 01 21 07.3 +0.5**
PLDF La Plantade 84.94 336 *e*P **P 01 21 07.9 +0.9**
WCI Wyandotte Cave 84.97 40 *e*P **P 01 21 07.4 0.0**
WCI pmax pmax
comp=Z,63nm,1.5s,mb5.5
WCI Wyandotte Cave 84.97 40 *e*P **P 01 21 07.3 0.0**
comp=Z,63nm,1.5s,mb5.5
QUIF Quistinic 84.98 341⇑*i*P **P 01 21 07.6 +0.4**
comp=Z,35nm,0.7s,mb5.3
QUIF Quistinic 84.98 341⇑*i*P **P 01 21 07.6 +0.4**
QUIF pmax pmax
comp=Z,18nm,0.7s,mb5.3
AGO Saint Agoulin 85.01 336 *e*P **P 01 21 08.2 +0.8**
MBDF Montbardon 85.06 333⇑*i*P **P 01 21 07.7 0.0**
comp=Z,13nm,0.5s,mb5.0
MBDF Montbardon 85.06 333⇑*i*P **P 01 21 07.7 0.0**
MBDF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
TCF Toulx Ste Croi 85.07 337⇑*i*P **P 01 21 08.2 +0.6**
comp=Z,25nm,0.8s,mb5.1
TCF Toulx Ste Croi 85.07 337⇑*i*P **P 01 21 08.2 +0.6**
TCF pmax pmax
comp=Z,13nm,0.8s,mb5.1
ROB Roburent 85.08 332 P **P 01 21 07.1 -0.6**
PZZ Prazzo 85.15 333 P **P 01 21 06.9 -1.2**
ORIF Oris-en-Rattie 85.18 334⇑*i*P **P 01 21 08.9 +0.7**
comp=Z,32nm,0.7s,mb5.2
ORIF Oris-en-Rattie 85.18 334⇑*i*P **P 01 21 08.9 +0.7**
ORIF pmax pmax
comp=Z,16nm,0.7s,mb5.3
UTMT University of 85.27 42 *e*P **P 01 21 09.8 +0.9**
ENR Entracque 85.29 332 P **P 01 21 07.1 -1.7**
STV2 Anna di Valdie 85.31 332 P **P 01 21 08.1 -0.8**
MONE Monesi 85.31 332 P **P 01 21 08.4 -0.5**
STV Sta Anna Valdi 85.31 332 P **P 01 21 08.2 -0.7**
PYM Petit Puy Mans 85.32 336 *e*P **P 01 21 09.8 +0.9**
IMI Imperia 85.41 332 P **P 01 21 08.8 -0.6**
IDI Anoyia 85.43 316 P **P 01 21 08.5 -1.2**
comp=Z,20nm,0.9s,mb5.2,baz=21,slow=14,SNR=12
MFF Saint Martin d 85.44 338⇑*i*P **P 01 21 09.8 +0.4**
comp=Z,42nm,0.7s,mb5.4
MFF Saint Martin d 85.44 338⇑*i*P **P 01 21 09.8 +0.4**
MFF pmax pmax
comp=Z,21nm,0.6s,mb5.4
SAOF Saorge 85.46 332 *e*P **P 01 21 09.3 -0.3**
AUTN L'Aution 85.49 332 *e*P **P 01 21 10.0 +0.2**
NEGI Negi 85.53 332 P **P 01 21 09.7 -0.3**
TOUF Mont Tournerai 85.54 332 *e*P **P 01 21 10.0 0.0**
SBF Sospel 85.61 332⇑*i*P **P 01 21 10.0 -0.3**
comp=Z,45nm,0.9s,mb5.4
VIVF Saint-Julien-l 85.62 334⇑*i*P **P 01 21 11.1 +0.7**
comp=Z,28nm,0.9s,mb5.2
VIVF Saint-Julien-l 85.62 334⇑*i*P **P 01 21 11.1 +0.7**
VIVF pmax pmax
comp=Z,14nm,0.9s,mb5.2
MVIF Mont Vial 85.67 332 *e*P **P 01 21 10.5 -0.2**
LBL Lubilhac 85.72 335 *e*P **P 01 21 11.9 +1.0**
REVF Revere 85.74 332 *e*P **P 01 21 11.0 0.0**
NATX Nacogdoches 85.85 49 *e*P **P 01 21 12.8 +0.9**
comp=Z,55nm,1.3s,mb5.6
CALN Calern 85.89 332 *e*P **P 01 21 11.9 +0.2**
WVT Waverly 85.94 42 *e*P **P 01 21 12.1 -0.1**
WVT pmax pmax
comp=Z,14nm,1.0s,mb5.2
WVT Waverly 85.94 42 *e*P **P 01 21 12.1 -0.1**
comp=Z,14nm,1.0s,mb5.2
SMRF Simiane la Rot 86.12 333 *e*P **P 01 21 13.7 +0.8**
comp=Z,16nm,0.8s,mb5.0
FRF La Foret Royal 86.14 333⇑*i*P **P 01 21 12.8 -0.2**
comp=Z,42nm,1.3s,mb5.2
FRF La Foret Royal 86.14 333⇑*i*P **P 01 21 12.8 -0.2**
FRF pmax pmax
comp=Z,21nm,1.3s,mb5.2
RJF Les Rejaudoux 86.16 337⇑*i*P **P 01 21 13.7 +0.7**
comp=Z,54nm,0.9s,mb5.5
RJF Les Rejaudoux 86.16 337⇑*i*P **P 01 21 13.7 +0.7**
RJF pmax pmax
comp=Z,27nm,0.9s,mb5.5
VILF Villemus 86.19 333 *e*P **P 01 21 14.0 +0.8**
PGF Pioggiola 86.22 331⇑*i*P **P 01 21 13.2 -0.2**
comp=Z,17nm,0.7s,mb5.1
PGF Pioggiola 86.22 331⇑*i*P **P 01 21 13.2 -0.2**
PGF pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
TAVF Tavernes 86.28 333 *e*P **P 01 21 14.4 +0.7**
CAF Calviac 86.35 336⇑*i*P **P 01 21 15.2 +1.2**
comp=Z,75nm,0.9s,mb5.6
CAF Calviac 86.35 336⇑*i*P **P 01 21 15.2 +1.2**
CAF pmax pmax
comp=Z,38nm,0.9s,mb5.6
LMR La Mourre 86.39 332⇑*i*P **P 01 21 14.3 +0.1**
comp=Z,67nm,1.0s,mb5.5
LMR La Mourre 86.39 332⇑*i*P **P 01 21 14.3 +0.1**
LMR pmax pmax
comp=Z,34nm,1.0s,mb5.5
PRAF Pradon 86.41 334 *e*P **P 01 21 15.5 +1.2**
OXF Oxford 86.45 44 *e*P **P 01 21 14.9 +0.2**
OXF pmax pmax
comp=Z,48nm,0.9s,mb5.7
OXF Oxford 86.45 44 *e*P **P 01 21 14.9 +0.2**
comp=Z,48nm,0.9s,mb5.7
PUYF Puyloubier 86.48 333 *e*P **P 01 21 15.3 +0.7**
TREF Trevaresse 86.50 333 *e*P **P 01 21 15.8 +1.1**
SSPA Standing Stone 86.55 33 *e*P **P 01 21 15.0 0.0**
comp=Z,12nm,1.0s,mb5.1
LASF Ste Croix 86.58 335⇑*i*P **P 01 21 16.1 +1.0**
comp=Z,44nm,1.0s,mb5.3
MCWV Mont Chateau 86.60 35 *e*P **P 01 21 16.0 +0.7**
comp=Z,42nm,1.1s,mb5.6
MCWV *e*pP pP 01 21 30.3 +0.1
BERF Bertagne 86.68 333 *e*P **P 01 21 16.3 +0.7**
GELF Grande-Etoile 86.70 333 *e*P **P 01 21 16.4 +0.7**
LFF La Frestale 86.72 337⇑*i*P **P 01 21 16.4 +0.6**
comp=Z,53nm,0.7s,mb5.6
LFF La Frestale 86.72 337⇑*i*P **P 01 21 16.4 +0.6**
LFF pmax pmax
comp=Z,27nm,0.7s,mb5.6
PLAL Pickwick Lake 86.74 43 *e*P **P 01 21 15.7 -0.5**
comp=Z,6.3nm,0.7s,mb5.0
TZTN Tazewell 87.60 39 *e*P **P 01 21 20.5 +0.3**
MVL Millersville 87.69 32 *e*P **P 01 21 20.6 0.0**
MVL *e*pP pP 01 21 34.0 -1.5
MTLF Montolieu 87.75 335⇑*i*P **P 01 21 21.7 +0.9**
comp=Z,35nm,1.1s,mb5.2
MTLF Montolieu 87.75 335⇑*i*P **P 01 21 21.7 +0.9**
MTLF pmax pmax
comp=Z,18nm,1.1s,mb5.2
SDMD Soldier's Deli 88.01 33 *e*P **P 01 21 22.1 -0.1**
CPCT Cooper Cave 88.06 40 *e*P **P 01 21 22.6 +0.1**
CPCT *e*pP pP 01 21 37.0 -0.4
ELN Prospectdale 88.27 36 *e*P **P 01 21 22.8 -0.6**
ELN *e*pP pP 01 21 38.5 +0.2
EJON La Jonquera 88.35 334 P **P 01 21 25.2 +1.5**
comp=Z,5.9nm,0.8s,mb4.9
BLA Blacksburg 88.42 36 *e*P **P 01 21 24.4 +0.2**
BLA pmax pmax
comp=Z,22nm,1.1s,mb5.3
BLA Blacksburg 88.42 36 *e*P **P 01 21 24.4 +0.3**
comp=Z,22nm,1.1s,mb5.3
MLS Moulis 88.43 336 *e*P **P 01 21 24.5 +0.4**
EPF Esparros 88.58 336⇑*i*P **P 01 21 25.5 +0.7**
comp=Z,8.8nm,0.7s,mb4.9
EPF Esparros 88.58 336⇑*i*P **P 01 21 25.5 +0.7**
EPF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
RESF Ens 88.79 336 *e*P **P 01 21 26.9 +1.1**
LRAL Lakeview Retre 88.84 43 *e*P **P 01 21 25.9 -0.3**
comp=Z,12nm,1.0s,mb5.2
EALK Alkurruntz 88.93 338 P **P 01 21 27.7 +1.3**
comp=Z,12nm,0.7s,mb5.3
EBIE Bielsa 88.96 336 P **P 01 21 28.2 +1.6**
comp=Z,12nm,0.9s,mb5.2
ETSF Etsaut 88.96 337⇑*i*P **P 01 21 27.2 +0.6**
comp=Z,13nm,0.6s,mb5.1
ETSF Etsaut 88.96 337⇑*i*P **P 01 21 27.2 +0.6**
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
ELIZ Elizondo 88.99 338 P **P 01 21 27.9 +1.2**
ELIZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
ELIZ Elizondo 88.99 338 P **P 01 21 27.9 +1.2**
comp=Z,1.8nm,0.6s,mb4.6
EMIR Miracle 89.25 335 P **P 01 21 28.1 +0.1**
comp=Z,8.8nm,0.7s,mb5.2
ELAN Lanestosa 89.43 339 P **P 01 21 29.6 +0.8**
comp=Z,17nm,1.0s,mb5.3
ECRI Cripan 89.77 338 P **P 01 21 31.4 +1.0**
ECRI pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
ECRI Cripan 89.77 338 P **P 01 21 31.4 +1.0**
comp=Z,8.9nm,0.6s,mb5.3
EPOB Poblet 89.90 335 P **P 01 21 31.4 +0.3**
comp=Z,12nm,0.9s,mb5.2
ESAC San Caprasio 90.02 336 P **P 01 21 32.8 +1.2**
comp=Z,40nm,0.7s,mb5.8
EPON Pontenova 90.24 342 P **P 01 21 34.0 +1.4**
comp=Z,162nm,1.8s,mb6.0
ERTA Horta de San J 90.49 336 P **P 01 21 34.3 +0.5**
comp=Z,9.1nm,1.0s,mb5.1
EBR Ebro Roquetas 90.57 335 *e*PDIFF
01 21 34.5
ETOS Mallorca 90.80 333 P **P 01 21 35.8 +0.5**
comp=Z,9.1nm,0.8s,mb5.2
EINC Incio 90.92 342 P **P 01 21 37.4 +1.6**
comp=Z,12nm,2.0s,mb4.9
STS Santiago 90.97 343 P **P 01 21 37.7 +1.7**
STS pmax pmax
comp=Z,25nm,1.8s,mb5.2
STS Santiago 90.97 343 P **P 01 21 37.7 +1.6**
comp=Z,25nm,1.8s,mb5.2
EMOS Mosqueruela 91.28 336 P **P 01 21 38.3 +0.8**
comp=Z,12nm,0.8s,mb5.3
ECAL Calabor 91.46 341 P **P 01 21 39.9 +1.5**
comp=Z,64nm,1.5s,mb5.7
PBRG Braganca 91.59 341 *e*P **P 01 21 38.4 -0.5**
ECHE Chera 92.13 336 P **P 01 21 41.1 -0.4**
ECHE pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
ECHE Chera 92.13 336 P **P 01 21 41.1 -0.4**
comp=Z,2.7nm,0.8s,mb4.6
PVRL Vila Real 92.32 341 *e*P **P 01 21 41.5 -0.8**
ESDC Sonseca Array 92.90 338 P **P 01 21 44.5 -0.5**
comp=Z,2.7nm,0.7s,mb4.8,baz=23,slow=4.0,SNR=15
ESDC pP pP 01 21 58.8 -1.2
comp=Z,1.5nm,0.7s,baz=11,slow=5.8,SNR=4.9
ESDC Sonseca Array 92.90 338 P **P 01 21 44.6 -0.3**
comp=Z,3.0nm,0.8s,mb4.8
MTE Manteigas 93.12 341 *e*P **P 01 21 45.3 -0.7**
comp=Z,5.1nm,0.8s,mb5.0
MTE *e*LR LR 01 52 54.5
comp=Z,277nm,20.0s
ETOB Tobarra 93.18 336 P **P 01 21 47.2 +0.9**
comp=Z,6.4nm,0.8s,mb5.1
EVIA Vianos 93.46 337 P **P 01 21 48.4 +0.8**
EVIA pmax pmax
comp=Z,10.0nm,0.8s,mb5.3
EVIA Vianos 93.46 337 P **P 01 21 48.4 +0.9**
comp=Z,10nm,0.8s,mb5.3
EQES Quesada 94.40 337 P **P 01 21 51.8 -0.1**
comp=Z,7.3nm,1.1s,mb5.0
EADA Adamuz 94.48 338 P **P 01 21 51.9 -0.3**
comp=Z,4.3nm,0.9s,mb4.9
ELOJ Sierra Loja 95.32 337 P **P 01 21 55.8 -0.2**
ELOJ pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
ELOJ Sierra Loja 95.32 337 P **P 01 21 55.8 -0.2**
comp=Z,5.4nm,1.0s,mb4.9
ESPR Espera 96.04 339 P **P 01 21 59.1 -0.2**
comp=Z,4.1nm,0.8s,mb4.9
EJIF Jimena Fronter 96.33 338 P **P 01 22 01.0 +0.4**
EJIF pmax pmax
comp=Z,12nm,1.0s,mb5.3
EJIF Jimena Fronter 96.33 338 P **P 01 22 01.0 +0.4**
comp=Z,12nm,1.0s,mb5.3
VNDA Vanda 121.44 176 PKP PKPdf 01 27 24.4 +1.1
comp=Z,0.4nm,0.6s,baz=305,slow=5.6,SNR=6.5
DBIC Dimbokro 123.77 326 PKP PKPdf 01 27 29.3 0.0
comp=Z,4.4nm,0.7s,baz=337,slow=3.1,SNR=8.7
BOSA Boshof 131.81 268 SKPbc 01 31 06.5
comp=Z,8.4nm,1.0s,baz=63,slow=5.6,SNR=6.6
LPAZ La Paz 139.31 59 PKP PKPdf 01 28 01.6 +3.2
comp=Z,0.9nm,0.6s,baz=9.9,slow=6.5,SNR=4.9
SNAA Sanae 148.60 198 *e* PKPdf 01 28 18.9 +6.2
SNAA Sanae 148.60 198 *e* PKPdf 01 28 20.1 +7.4
SNAA Sanae 148.60 198 *e* PKPdf 01 28 30.7 +18
SNAA Sanae 148.60 198 *e* PKPdf 01 28 33.8 +21
SNAA Sanae 148.60 198 *e* PKPdf 01 28 35.2 +22
SNAA Sanae 148.60 198 *e* PKPdf 01 28 36.9 +24
SNAA Sanae 148.60 198 *e* PKPdf 01 28 39.8 +27
SNAA Sanae 148.60 198 *e* PKPdf 01 28 40.6 +28
SNAA Sanae 148.60 198 PKIKP PKPdf 01 28 14.2 +1.5
SNAA *e* 01 28 20.1
SNAA *e* 01 28 30.7
SNAA *e* 01 28 33.8
SNAA *e* 01 31 46.8
SNAA Sanae 148.60 198 PKPbc PKPdf 01 28 18.6 +5.8
comp=Z,0.9nm,0.5s,baz=21,slow=12,SNR=9.3
SNAA Sanae 148.60 198 PKPdf PKPdf 01 28 14.2 +1.5
SNAA PKPbc PKPdf 01 28 18.6 +5.8
SNAA *e* 01 28 18.9
SNAA *e* 01 28 20.1
SNAA *e* 01 28 30.7
SNAA *e* 01 28 33.8
SNAA *e* 01 28 35.2
SNAA *e* 01 28 36.9
SNAA *e* 01 28 39.8
SNAA *e* 01 28 40.6
SNAA *e* 01 31 46.8
BDFB Brasilia 148.99 30 PKPbc PKPdf 01 28 20.8 +5.8
comp=Z,14nm,0.7s,baz=276,slow=2.1,SNR=27
BDFB pPKPbc 01 28 36.1
comp=Z,11nm,0.9s,baz=37,slow=3.4,SNR=5.9
BAO Brasilia Array 148.99 30 PKPdf PKPdf 01 28 21.0 +6.0
VNA2 Neumayer--Watz 150.13 196 *e* PKPdf 01 28 22.3 +7.1
VNA2 Neumayer--Watz 150.13 196 *e* PKPdf 01 28 23.1 +7.9
VNA2 Neumayer--Watz 150.13 196 *e* PKPdf 01 28 33.0 +18
VNA2 Neumayer--Watz 150.13 196 *e* PKPdf 01 28 36.8 +22
VNA2 Neumayer--Watz 150.13 196 *e* PKPdf 01 28 37.4 +22
VNA2 Neumayer--Watz 150.13 196 *e* PKPdf 01 28 38.1 +23
VNA2 Neumayer--Watz 150.13 196 *e* PKPdf 01 28 42.2 +27
VNA2 Neumayer--Watz 150.13 196 *e* PKPdf 01 28 44.1 +29
VNA2 Neumayer--Watz 150.13 196⇑*i*PKPdf PKPdf 01 28 17.8 +2.6
VNA2 *e* 01 28 22.3
VNA2 *e* 01 28 23.1
VNA2 *e* 01 28 33.0
VNA2 *e* 01 28 36.8
VNA2 *e* 01 28 37.4
VNA2 *e* 01 28 38.1
VNA2 *e* 01 28 42.2
VNA2 *e* 01 28 44.1
VNA2 *e* 01 31 53.7
VNA1 Neumayer--Stat 150.53 196 *e* PKPdf 01 28 23.0 +7.2
VNA1 Neumayer--Stat 150.53 196 *e* PKPdf 01 28 24.2 +8.4
VNA1 Neumayer--Stat 150.53 196 *e* PKPdf 01 28 33.4 +18
VNA1 Neumayer--Stat 150.53 196 *e* PKPdf 01 28 37.4 +22
VNA1 Neumayer--Stat 150.53 196 *e* PKPdf 01 28 38.3 +22
VNA1 Neumayer--Stat 150.53 196 *e* PKPdf 01 28 39.3 +23
VNA1 Neumayer--Stat 150.53 196 *e* PKPdf 01 28 42.1 +26
VNA1 Neumayer--Stat 150.53 196 *e* PKPdf 01 28 43.3 +27
VNA1 Neumayer--Stat 150.53 196⇑*i*PKPdf PKPdf 01 28 17.5 +1.7
VNA1 *e* 01 28 23.0
VNA1 *e* 01 28 24.2
VNA1 *e* 01 28 33.4
VNA1 *e* 01 28 37.4
VNA1 *e* 01 28 38.3
VNA1 *e* 01 28 39.3
VNA1 *e* 01 28 42.1
VNA1 *e* 01 28 43.3
VNA1 *e* 01 31 53.8
PLCA Paso Flores 151.97 97 PKP PKPdf 01 28 20.4 +1.6
comp=Z,2.9nm,1.0s,baz=283,slow=6.5,SNR=4.1
PLCA PKPbc PKPdf 01 28 27.6 +8.7
comp=Z,15nm,0.8s,baz=259,slow=3.3,SNR=33
PLCA Paso Flores 151.97 97 PKP PKPdf 01 28 20.4 +1.5
PLCA PKPbc PKPdf 01 28 27.6 +8.7
CPUP Villa Florida 153.45 57 PKPbc PKPdf 01 28 30.0 +8.6
comp=Z,1.6nm,0.6s,baz=308,slow=4.0,SNR=7.4

DHMR ***30*** *01:23:29.4±0.9, 11.90N×43.51E, h13km±7km, MD5.0, ML5.1*
CSEM ***30*** *01:23:30.1±0.1, 11.78N×43.47E, h2km, mb4.7/20, Ms4.2, Error ellipse: s-maj=2.8km s-min=1.5km az=128.0*
MOS ***30*** *01:23:31.3±1.1, 11.87N×43.39E, h10km, mb4.9/21, MS4.7/9, Error ellipse: s-maj=16.6km s-min=6.7km az=93.0*
BJI ***30*** *01:23:31.4, 11.67N×42.94E, h36km, mB5.2, mb5.0, Ms5.0, Msz4.7*
IDC ***30*** *01:23:32.2±0.6, 11.92N×43.46E, mb4.5/20, mb1 4.6/21, mb1mx4.6/24, mbtmp4.6/21, MS4.4/24, Ms1 4.4/24, ms1mx4.2/32, Error ellipse: s-maj=20.1km s-min=13.8km az=77.0*
NEIC ***30*** *01:23:33.3±0.3, 11.86N×43.45E, h10km, mb4.6/44, Error ellipse: s-maj=9.7km s-min=6.3km az=87.0*
ISC 30 01:23:31.5±0.3, 11.83N±0.03×43.50E±0.03, h10km, (h18km±2.6km:pP-P), n217, σ1§23/218, mb4.6/84, MS4.5/39, 17C-4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.52**	**23**⇑	*i*P	**Pn**	**01 23 56.4**	**-2.4**
TRBA				*i*S	**Sb**	**01 24 15.9**	**-2.5**
TRBA				AML	AML	01 24 21.8	
comp=E,49μm,0.6s							
UDYN	**Al 'Udayn**	**2.17**	**12**⇑	*i*P	**Pn**	**01 24 06.3**	**-1.9**
UDYN				*i*S	**Sn**	**01 24 34.6**	**-0.8**
UDYN				AML	AML	01 24 46.8	
comp=E,18μm,0.7s							
UDYN	**Al 'Udayn**	**2.17**	**12**⇑	*i*P	**Pn**	**01 24 06.3**	**-1.9**
UDYN				*i*S	**Sn**	**01 24 34.6**	**-0.8**
comp=E,9μm,0.7s							
LBOS		**2.65**	**40**⇓	*i*P	**Pn**	**01 24 14.0**	**-1.0**
LBOS				*i*S	**Sn**	**01 24 48.8**	**+1.3**
DHBB	**Dhamar BB**	**2.86**	**17**⇑	*i*P	**Pn**	**01 24 16.6**	**-1.4**
DHBB				*i*S	**Sn**	**01 24 54.0**	**+1.2**
BDHA	**Al Bayda'**	**2.93**	**43**⇑	*i*P	**Pn**	**01 24 17.9**	**-1.2**
BDHA				*i*S	**Sn**	**01 24 56.4**	**+1.7**
SANA	**San'a**	**3.60**	**11**⇑	*e*P	**Pn**	**01 24 26.6**	**-1.9**
SANA				*i*S	**Sn**	**01 25 11.9**	**+0.3**
MUKL	**Al Mukalla**	**6.00**	**63**	*i*P	**Pn**	**01 24 58.9**	**-3.6**
MUKL				*i*S	**Sn**	**01 26 08.8**	**-3.2**
ABTO	**Aybut**	**10.95**	**59**	⇑P	**P**	**01 26 15.9**	**+4.4**
WHFO	**Wadi Hawf**	**11.62**	**57**	⇓P	**P**	**01 26 24.7**	**+4.1**
RBK	**Rabkut**	**11.79**	**60**	⇓P	**P**	**01 26 26.6**	**+3.8**
KMBO	**Kilima Mbogo**	**14.29**	**206**	*i*P	**P**	**01 26 55.9**	**-0.3**
KMBO				pmax	pmax		
comp=Z,37nm,1.0s							
KMBO	**Kilima Mbogo**	**14.29**	**206**	Pn	**P**	**01 26 55.9**	**-0.4**
comp=Z,0.2nm,0.3s,baz=29,slow=14,SNR=49							
KMBO				Lg		01 31 00.0	
comp=Z,1.4nm,0.3s,baz=109,slow=20,SNR=7.2							
KMBO				LR	LR	01 32 22.1	
comp=Z,3μm,20.2s,baz=21,slow=37							
KMBO	**Kilima Mbogo**	**14.29**	**206**	*e*P	**P**	**01 26 55.1**	**-1.1**
comp=Z,58nm,1.1s							
KMBO	**Kilima Mbogo**	**14.29**	**206**	*e*P	**P**	**01 26 55.1**	**-1.1**
comp=Z,58nm,1.1s							
ARQ	**Araqi**	**16.86**	**46**	P	**P**	**01 27 29.9**	**+0.6**
SNR=34							
BSY	**Bisya**	**16.98**	**48**	P	**P**	**01 27 31.6**	**+0.8**
SNR=30							
BSYO	**Bisya**	**17.00**	**49**	P	**P**	**01 27 31.6**	**+0.5**
SNR=30							
QRN	**Al-Qurain**	**17.33**	**13**	*e*P	**P**	**01 27 36.7**	**+1.5**
RDF	**Al-Radifah**	**17.42**	**12**	*e*P	**P**	**01 27 37.3**	**+0.9**
JMDO	**Jabal Madar**	**17.44**	**51**	P	**P**	**01 27 35.3**	**-1.3**
SNR=12							
ASHO	**Ashiyiah**	**17.46**	**41**	P	**P**	**01 27 36.7**	**-0.1**
SNR=10							
HOQ	**Hoqain**	**17.58**	**46**	P	**P**	**01 27 39.6**	**+1.2**
SNR=18							
NAY	**Al-Naaiem**	**17.68**	**11**	*e*P	**P**	**01 27 39.8**	**+0.3**
KBD	**Kabd**	**17.70**	**12**	*e*P	**P**	**01 27 40.2**	**+0.4**
MBAR	**Mbarara**	**17.70**	**227**	*e*P	**P**	**01 27 37.9**	**-2.0**
comp=Z,26nm,1.3s							
MBAR	**Mbarara**	**17.70**	**227**	*i*P	**P**	**01 27 39.0**	**-0.9**
SMDO	**Samad**	**17.79**	**49**	P	**P**	**01 27 41.4**	**+0.4**
SNR=36							
BIDO	**Bidbid**	**18.13**	**48**	⇑P	**P**	**01 27 45.1**	**-0.1**
SNR=9.0							
WBK	**Wadi Bani Khal**	**18.23**	**52**	P	**P**	**01 27 47.8**	**+1.3**
SNR=10							
EIL	**Elat**	**19.45**	**337**	P	**P**	**01 28 02.2**	**+1.1**
comp=Z,0.1nm,0.3s,baz=190,slow=9.3,SNR=10.0							
EIL				Lg		01 33 35.1	
comp=Z,0.2nm,0.3s,baz=312,slow=18,SNR=2.8							
EIL				LR	LR	01 34 08.5	
comp=Z,1μm,19.1s,baz=296,slow=33							
EIL	**Elat**	**19.45**	**337**	P	**P**	**01 28 02.2**	**+1.1**
comp=Z,0.5nm,0.9s							
EIL				Lg		01 33 35.1	

EIL LR LR 01 34 08.5
KMTI Karmit 19.93 337 P **P** **01 28 07.0 +0.6**
PRNI Paran 20.05 338 P **P** **01 28 08.5 +0.8**
ZFRI Zfri 20.17 339 P **P** **01 28 09.9 +0.9**
KZIT Kziot 20.77 337 ⇑P **P** **01 28 16.2 +1.0**
RTMM Retamin 20.80 338 P **P** **01 28 15.5 0.0**
ASF Jabal al Asfar 21.14 344 P **P** **01 28 19.7 +0.7**
comp=Z,37nm,1.0s,mb4.7,baz=16,slow=5.0,SNR=55
ASF S **S** **01 32 21.1 +12**
comp=Z,0.4nm,0.2s,baz=41,slow=18,SNR=1.8
ASF Lg 01 34 33.1
comp=Z,5.0nm,1.1s,baz=218,slow=19,SNR=3.3
ASF LR LR 01 35 39.7
comp=Z,3μm,18.8s,MS4.6,baz=201,slow=35
ASF Jabal al Asfar 21.14 344 P **P** **01 28 19.7 +0.8**
ASF S **S** **01 32 21.1 +12**
ASF Lg 01 34 33.1
ASF LR LR 01 35 39.7
BHD Baghdad 21.36 2 *e*P **P** **01 28 18.5 -2.7**
SLTI Sal'it 21.76 340 ⇑P **P** **01 28 26.5 +1.3**
MMLI Mount Malkishu 21.82 341 ⇑P **P** **01 28 27.2 +1.4**
OFRI 'Ofer 22.12 341 ⇑P **P** **01 28 29.9 +1.0**
MSL Mosul 24.36 359 *e*P **P** **01 28 56.5 +5.7**
CSS Prodhromos 24.82 340 *e*P **P** **01 28 54.0 -1.2**
comp=Z,24nm,1.4s,mb4.5
CSS Prodhromos 24.82 340 *e*P **P** **01 28 54.0 -1.2**
comp=Z,24nm,1.4s,mb4.5
MALT Malatya 26.76 351 *e*P **P** **01 29 14.4 +1.1**
comp=Z,120nm,0.6s,mb5.6
MALT Malatya 26.76 351 *e*P **P** **01 29 14.4 +1.1**
comp=Z,120nm,0.6s,mb5.6
GNI Garni 28.23 2 P **P** **01 29 29.1 +2.5**
comp=Z,13nm,0.8s,mb4.6,baz=140,slow=1.9,SNR=14
GNI LR LR 01 41 19.2
comp=Z,532nm,19.7s,MS4.1,baz=344,slow=38
BRTR Keskin Array B 29.12 344 P **P** **01 29 35.4 +0.6**
comp=Z,8.1nm,0.9s,mb4.4,baz=150,slow=10.0,SNR=46
BRTR PcP PcP 01 32 42.8 +0.1
comp=Z,1.1nm,0.6s,baz=168,slow=5.5,SNR=3.7
BRTR Keskin Array B 29.12 344 P **P** **01 29 35.3 +0.6**
DGRG David-gareji 29.55 3 P **P** **01 29 39.1 +0.5**
DGRG S **S** **01 34 51.5 +19**
TI2 Plekhanov 29.81 2 *i* P **P** **01 29 43.2 +2.3**
TI2 MLR MLR
comp=N,2μm,10.0s,MS5.0
TI2 MLR MLR
comp=E,1μm,10.0s,MS5.0
TI2 MLR MLR
comp=Z,2μm,10.0s,MS5.0
OPO Ambohidratompo 30.43 173 P **P** **01 29 48.0 +1.5**
comp=Z,13nm,1.0s,mb4.6,baz=311,slow=11,SNR=3.2
ONI Oni 30.64 360 P **P** **01 29 49.2 +1.1**
ZEI Tsey 30.83 1 *e*P **P** **01 29 50.3 +0.5**
ZEI *i* *PP pP 01 29 54.7 +1.9
ZEI pmax pmax
comp=Z,11nm,0.9s,mb4.7
ZEI Tsey 30.83 1 *e*P **P** **01 29 50.3 +0.5**
comp=Z,11nm,0.9s,mb4.7
LSZ Lusaka 30.91 210 *e*P **P** **01 29 50.0 -0.8**
LSZ Lusaka 30.91 210 *e*P **P** **01 29 50.0 -0.8**
SOC Sochi 31.81 355 *e*P **P** **01 29 56.4 -2.1**
SOC *e* 01 31 04.0
SOC *e* 01 32 46.3
SOC *e*S **S** **01 35 06.8 -0.7**
SOC *e*SS SS 01 36 54.6 -3.5
SOC *e* 01 40 33.5
SOC pmax pmax
comp=N,12nm,0.7s
SOC pmax pmax
comp=E,10.0nm,0.7s
SOC pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SOC MLR MLR
comp=N,1μm,11.0s,MS4.9
SOC MLR MLR
comp=E,625nm,11.0s,MS4.9
SOC MLR MLR
comp=Z,2μm,11.0s,MS5.0
KIV Kislovodsk 32.02 359α *i*P **P** **01 30 01.1 +0.8**
KIV *i* 01 30 09.0
KIV *e* 01 31 16.5
KIV *e*SS SS 01 37 25.2 +22
KIV pmax pmax
comp=Z,33nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,500nm,12.0s,MS4.4
GOF Gofitskoye 33.12 359⇓ *i*P **P** **01 30 07.6 -2.2**
GOF pmax pmax
comp=Z,50nm,1.3s,mb5.3
SIM Simferopol' 33.97 348 *e*P **P** **01 30 19.1 +1.8**
SIM pmax pmax
comp=Z,14nm,1.2s,mb4.8
SIM MLR MLR
comp=Z,490nm,21.0s,MS4.2
MATP Matopo 35.29 205 LR LR 01 44 48.1
comp=Z,1μm,18.0s,MS4.7,baz=32,slow=36
NDI New Delhi 35.63 57 *e*P **P** **01 30 32.0 +0.4**
MLR Muntele Rosu 36.74 339 P **P** **01 30 41.9 +1.1**
comp=Z,6.8nm,0.9s,mb4.5,baz=133,slow=6.4,SNR=5.7
MLR LR LR 01 48 07.6
comp=Z,382nm,18.8s,MS4.2,baz=274,slow=40
MLR Muntele Rosu 36.74 339 P **P** **01 30 41.9 +1.1**
MLR LR LR 01 48 07.6
KIS Kishinev 37.18 343 *e*P **P** **01 30 47.0 +2.5**
KIS *e* 01 33 12.0
VOR Voronezh 39.94 356 *e*P **P** **01 31 08.0 +0.4**
VOR *e**PP pP 01 31 15.0 +4.4
VOR pmax pmax
comp=Z,50nm,1.7s,mb5.0
TSUM Tsumeb 40.04 220 LR LR 01 48 05.9
comp=Z,791nm,18.3s,MS4.6,baz=201,slow=37
AKASG Malin Array Be 40.49 346 *i* P **P** **01 31 11.6 -0.4**
AKASG pmax pmax
comp=Z,7.0nm,0.9s
AKASG Malin Array Be 40.49 346 P **P** **01 31 11.3 -0.7**
comp=Z,6.9nm,0.9s,mb4.4,baz=163,slow=6.9,SNR=24
AKASG PcP PcP 01 33 14.9 -0.5
comp=Z,0.3nm,0.4s,baz=168,slow=2.0,SNR=3.2
LBTB Lobatse 40.57 205 LR LR 01 46 46.2
comp=Z,618nm,18.8s,MS4.5,baz=42,slow=34
LBTB Lobatse 40.57 205 *e*P **P** **01 31 12.1 -0.9**
AAK Ala-Archa 40.81 36⇑ *e*P **P** **01 31 15.8 +1.0**
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
AAK MLR MLR
comp=Z,900nm,17.0s,MS4.7
AAK Ala-Archa 40.81 36 *e*P **P** **01 31 14.6 -0.2**
comp=Z,24nm,1.3s,mb4.7
KOLS Kolonicke sedl 40.98 339 *e*P **P** **01 31 17.7 +1.6**
FRU Bishkek 41.01 35 *e*P **P** **01 31 16.0 -0.4**
VISS Visnje 41.71 330 *e*P **P** **01 31 35.1 +13**
VYHS Vyhne 41.93 335 *e*P **P** **01 31 24.0 +0.1**
ROBS Robic 42.68 329 *e*P **P** **01 31 46.5 +16**
PGF Pioggiola 42.82 322 *e*P **P** **01 31 29.0 -2.3**
comp=Z,12nm,1.2s,mb4.2
VRAC Vranov 43.50 335 P **P** **01 31 36.4 -0.3**
comp=Z,2.0nm,0.4s,mb4.2,baz=315,slow=23,SNR=5.2
OBN Obninsk 43.52 354 *e*P **P** **01 31 36.7 -0.1**
OBN *i* 01 31 45.8
OBN 01 33 28.0
OBN *e*S **S** **01 38 09.0 +3.8**
OBN *e* 01 41 39.4
OBN pmax pmax
comp=Z,20nm,1.4s,mb4.7
OBN MLR MLR
comp=Z,700nm,17.0s,MS4.6
BOSA Boshof 43.91 203 P **P** **01 31 41.0 +0.7**
comp=Z,12nm,1.1s,mb4.5,baz=27,slow=12,SNR=2.6
BOSA LR LR 01 50 37.8
comp=Z,1μm,18.6s,MS4.8,baz=29,slow=37
MOS Moscow 44.05 355 *e*P **P** **01 31 41.4 +0.3**
MOS *e* 01 31 48.0
MOS *e* 01 33 26.7
MOS *e* 01 34 06.7
MOS *e*S **S** **01 38 16.2 +3.4**
MOS pmax pmax
comp=Z,73nm,1.4s,mb5.2
MOS pmax pmax
comp=N,37nm,0.7s
MOS pmax pmax
comp=E,60nm,0.9s
MOS MLR MLR
comp=Z,2μm,21.4s,MS4.9
GEC2 GERESS Array S 44.43 332 *e*P **P** **01 31 43.6 -0.7**
GEC2 pmax pmax
comp=Z,12nm,1.3s,mb4.5
GEC2 GERESS Array S 44.43 332 *e*P **P** **01 31 43.6 -0.7**
comp=Z,12nm,1.3s,mb4.5
GERES GERESS Array B 44.43 332 P **P** **01 31 43.3 -1.0**
comp=Z,1.8nm,0.7s,mb3.9,baz=135,slow=7.5,SNR=22
GERES LR LR 01 50 16.9
comp=Z,181nm,20.2s,MS4.0,baz=111,slow=36
SBF Sospel 44.52 323 *e*P **P** **01 31 44.1 -0.9**
KHC Kasperske Hory 44.69 332 *e*P **P** **01 31 45.5 -0.9**
KSP Ksiaz 44.80 336 *e*P **P** **01 31 47.0 -0.3**
KSP *e*S **S** **01 38 27.0 +3.2**
FRF La Foret Royal 44.82 322 *e*P **P** **01 31 48.1 +0.6**
comp=Z,13nm,1.1s,mb4.4
PRU Pruhonice 44.89 334 *e*P **P** **01 31 47.1 -0.8**
WET Wettzell 45.02 332 *e*P **P** **01 31 46.2 -2.8**
SUW Suwalki 45.07 343 *e*P **P** **01 31 48.0 -1.3**
comp=Z,48nm,1.0s,mb5.3
MBDF Montbardon 45.40 323 *e*P **P** **01 31 52.0 -0.1**
comp=Z,11nm,0.8s,mb4.4
ETOS Mallorca 45.42 315 P **P** **01 31 56.1 +3.8**
comp=Z,1.2nm,1.4s,mb3.5
ETOS Mallorca 45.42 315 P **P** **01 31 56.1 +3.8**
comp=Z,1.2nm,1.4s,mb3.5,SNR=7.9
SMRF Simiane la Rot 45.70 322 *e*P **P** **01 31 53.9 -0.5**
BRG Berggiesshubel 45.80 334 *e*P **P** **01 31 54.5 -0.7**
BRG pmax pmax
comp=Z,15nm,1.7s,mb4.7
BRG Berggiesshubel 45.80 334 *e*P **P** **01 31 54.5 -0.7**
comp=Z,15nm,1.7s,mb4.6
LPG La Plagne 45.85 324 *e*P **P** **01 31 55.8 +0.2**
comp=Z,12nm,1.0s,mb4.5
LPL La Plagne 45.87 324 *e*P **P** **01 31 55.7 -0.1**
comp=Z,21nm,1.3s,mb4.6
ARU Arti 46.01 12⇑ *i*P **P** **01 31 57.0 +0.3**
ARU *e* 01 33 29.9
ARU *e* 01 33 42.7
ARU *e*S **S** **01 38 42.6 +1.6**
ARU pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.4
ARU MLR MLR
comp=N,200nm,20.0s,MS4.2
ARU MLR MLR
comp=E,200nm,23.0s,MS4.2
ARU Arti 46.01 12 *e*P **P** **01 31 56.4 -0.3**
comp=E,24nm,1.1s,mb5.0
ORIF Oris-en-Rattie 46.03 323 *e*P **P** **01 31 56.2 -0.9**
comp=E,12nm,0.9s,mb4.5
GRA1 Grafenberg Arr 46.18 331 *e*P **P** **01 31 56.7 -1.4**
comp=E,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 46.18 331 *e*P **P** **01 31 56.7 -1.4**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 46.18 331 *e*P **P** **01 31 56.7 -1.4**
comp=Z,4.0nm,0.9s,mb4.3
BVAR Borovoye Array 46.39 22 P **P** **01 31 60.0 +0.2**
comp=Z,8.0nm,0.8s,mb4.7,baz=217,slow=7.4,SNR=35
CLL Collm 46.52 334 *e*P **P** **01 32 00.0 -0.9**
CLL pmax pmax
comp=Z,11nm,1.0s,mb4.7
CLL Collm 46.52 334 *e*P **P** **01 32 00.0 -0.9**
comp=Z,11nm,1.0s,mb4.7
CLL Collm 46.52 334 P **P** **01 32 00.0 -0.9**
comp=Z,logA/T=1.0,mb4.7
MOX Moxa 46.66 332 *e*P **P** **01 32 01.3 -0.6**
MOX pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
MOX Moxa 46.66 332 *e*P **P** **01 32 01.3 -0.6**
comp=Z,9.0nm,1.4s,mb4.5
MOX Moxa 46.66 332 *i* P **P** **01 32 01.4 -0.5**
LASF Ste Croix 46.80 321 *e*P **P** **01 32 04.0 +0.8**
comp=Z,16nm,1.1s,mb4.6
SVE Sverdlovsk 46.80 13 *e*P **P** **01 32 03.0 0.0**
SVE *e* pP 01 32 07.9 +1.9
SVE *e*S **S** **01 39 00.0 +7.6**
SVE *e* 01 42 08.0
SVE *e* 01 43 20.0
SVE pmax pmax
comp=Z,40nm,1.0s,mb5.3
SVE MLR MLR
comp=N,600nm,14.0s,MS4.8
SVE MLR MLR
comp=E,400nm,14.0s,MS4.8
SVE MLR MLR
comp=Z,1μm,14.0s,MS4.9
CABF La Chapelle 46.87 325 *e*P **P** **01 32 04.0 +0.3**
comp=Z,18nm,1.0s,mb4.6
CHKZ Chkalovo 46.98 22 *e*P **P** **01 32 03.9 -0.6**
comp=Z,4.2nm,0.7s,mb4.5
EBEN Beniarda 47.12 312 P **P** **01 32 10.1 +4.3**
comp=Z,9.4nm,0.8s,mb4.8,SNR=7.9
HINF Hinteralfeld 47.17 327 *e*P **P** **01 32 06.9 +0.9**
EMIR Miracle 47.25 317 P **P** **01 32 09.8 +3.0**
comp=Z,5.3nm,1.0s,mb4.4
EMIR Miracle 47.25 317 P **P** **01 32 09.8 +3.0**
comp=Z,5.3nm,1.0s,mb4.4,SNR=5.4
EPOB Poblet 47.30 316 P **P** **01 32 06.0 -1.2**
comp=Z,7.4nm,1.0s,mb4.6
EPOB Poblet 47.30 316 P **P** **01 32 05.9 -1.3**
comp=Z,7.4nm,1.0s,mb4.5,SNR=6.0
ERTA Horta de San J 47.64 315 P **P** **01 32 14.4 +4.6**
comp=Z,5.2nm,1.0s,mb4.5
ERTA Horta de San J 47.64 315 P **P** **01 32 14.4 +4.6**
comp=Z,5.2nm,1.0s,mb4.5,SNR=6.9
MKAR Makanchi Array 47.75 36 P **P** **01 32 10.4 -0.2**
comp=Z,12nm,0.8s,mb5.0,baz=225,slow=6.6,SNR=82
EMOS Mosqueruela 47.95 314 P **P** **01 32 17.5 +5.2**
comp=Z,3.3nm,1.0s,mb4.3
EMOS Mosqueruela 47.95 314 P **P** **01 32 17.5 +5.2**
comp=Z,3.3nm,1.0s,mb4.3,SNR=7.9
DBIC Dimbokro 47.96 268 P **P** **01 32 12.8 +0.1**
comp=Z,12nm,0.8s,mb5.0,baz=69,slow=8.3,SNR=6.9
DBIC LR LR 01 51 50.2
comp=Z,140nm,19.4s,MS4.0,baz=193,slow=35
DBIC Dimbokro 47.96 268 *e*P **P** **01 32 11.9 -0.8**
ECHE Chera 48.00 313 P **P** **01 32 19.2 +6.5**
comp=Z,6.1nm,0.9s,mb4.6
ECHE Chera 48.00 313 P **P** **01 32 19.2 +6.5**
comp=Z,6.1nm,0.9s,mb4.6,SNR=5.2
CLZ Clausthal 48.06 333 *e*P **P** **01 32 12.3 -0.6**
comp=Z,15nm,2.0s,mb4.7
SMF Signal de Mont 48.17 324 *e*P **P** **01 32 13.9 0.0**
comp=Z,6.4nm,0.9s,mb4.3
LOR Lormes 48.50 325 *e*P **P** **01 32 16.6 +0.1**
comp=Z,18nm,1.1s,mb4.7
EBIE Bielsa 48.51 317 P **P** **01 32 21.1 +4.5**
comp=Z,7.7nm,1.0s,mb4.7
EBIE Bielsa 48.51 317 P **P** **01 32 21.1 +4.5**
comp=Z,7.7nm,1.0s,mb4.7,SNR=8.1
AVF Avril sur Loir 48.53 324 *e*P **P** **01 32 16.7 0.0**
MEZF Maizieres J'vi 48.54 327 *e*P **P** **01 32 16.2 -0.5**
comp=Z,24nm,1.0s,mb4.9
SSF Saint Saulge 48.59 324 *e*P **P** **01 32 17.5 +0.4**
comp=Z,4.4nm,1.0s,mb4.4
BGF Bois d'Agland 48.70 323 *e*P **P** **01 32 17.3 -0.7**
comp=Z,21nm,1.0s,mb4.8
ETSF Etsaut 49.07 317 *e*P **P** **01 32 21.2 +0.3**
HGN Heimansgroeve 49.45 329 *i* S **S** **01 39 36.5 +6.8**
HGN *e*SS SS 01 43 27.4 +30
ELOJ Sierra Loja 49.50 309 P **P** **01 32 31.5 +7.2**
comp=Z,3.5nm,0.8s,mb4.4
ELOJ Sierra Loja 49.50 309 P **P** **01 32 31.5 +7.2**
comp=Z,3.5nm,0.8s,mb4.4,SNR=6.0
BSEG Bad Segeberg 49.55 335 *e*P **P** **01 32 23.4 -1.1**
SJPF Ste Jean 49.60 317 *e*P **P** **01 32 24.8 -0.2**
comp=Z,36nm,1.3s,mb4.9
EMIJ Mijas 49.80 308 P **P** **01 32 29.6 +3.0**
EMIJ Mijas 49.80 308 P **P** **01 32 29.6 +3.0**
SNR=7.9
ESDC Sonseca Array 50.18 312 P **P** **01 32 29.7 +0.2**
comp=Z,0.1nm,0.4s,mb3.2,baz=111,slow=11,SNR=3.0
ESDC Sonseca Array 50.18 312 P **P** **01 32 32.3 +2.8**
comp=Z,1.8nm,0.8s,mb4.2
ESDC Sonseca Array 50.18 312 P **P** **01 32 32.3 +2.8**
comp=Z,1.8nm,0.8s,mb4.1,SNR=6.5
GUD Guadarrama 50.66 313 P **P** **01 32 36.2 +3.1**
comp=Z,6.3nm,1.0s,mb4.5
GUD Guadarrama 50.66 313 P **P** **01 32 36.2 +3.1**
comp=Z,6.3nm,1.0s,mb4.5,SNR=5.7
ESPR Espera 50.73 308 P **P** **01 32 35.0 +1.3**
comp=Z,5.1nm,0.7s,mb4.6
ESPR Espera 50.73 308 P **P** **01 32 35.0 +1.4**
comp=Z,5.1nm,0.7s,mb4.6,SNR=5.0
FINES FINESS Array B 51.14 349 *i* P **P** **01 32 35.3 -1.1**
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES FINESS Array B 51.14 349 P **P** **01 32 35.3 -1.1**
comp=Z,4.9nm,0.9s,mb4.4,baz=146,slow=6.9,SNR=13
FINES LR LR 01 55 53.4
comp=Z,277nm,19.9s,MS4.3,baz=341,slow=38
EMIN Mina Concepcio 51.60 309 P **P** **01 32 44.0 +3.7**
EMIN Mina Concepcio 51.60 309 P **P** **01 32 44.0 +3.7**
SNR=7.9
KAF Kangasniemi 51.72 350 *e*p **P** **01 32 38.2 -2.6**
comp=Z,3.8nm,0.9s,mb4.3
KAF Kangasniemi 51.72 350 *e*P **P** **01 32 38.2 -2.6**
KAF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
JOF Joensuu 51.75 353 *e*p **P** **01 32 39.0 -2.1**
comp=Z,4.7nm,0.7s,mb4.5
JOF Joensuu 51.75 353 *e*P **P** **01 32 39.0 -2.1**
JOF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GRR Gorron 51.80 324 *e*P **P** **01 32 41.5 -0.1**
comp=Z,10nm,0.8s,mb4.5
NVS Novosibirsk 53.01 28⇑ *i*P **P** **01 32 48.9 -1.7**
NVS pmax pmax
comp=N,21nm,1.7s
NVS pmax pmax
comp=Z,22nm,1.7s,mb4.8
NVS pmax pmax
comp=E,8.0nm,1.1s
HFS Hagfors 53.02 342 P **P** **01 32 48.9 -1.7**
comp=E,3.2nm,0.8s,mb4.3,baz=143,slow=7.4,SNR=7.7
HFS LR LR 01 56 41.5
comp=E,360nm,18.6s,MS4.5,baz=129,slow=38
CM31 Chiang Mai Arr 53.75 76 *e*P **P** **01 32 55.4 -1.2**
CMAR Chiang Mai Arr 53.75 76 P **P** **01 32 56.5 0.0**
comp=E,17nm,0.9s,mb5.0,baz=275,slow=7.3,SNR=24
CMAR LR LR 01 57 32.0
comp=E,86nm,19.4s,MS3.8,baz=250,slow=38
NB2 NORSAR Subarra 54.50 341 P **P** **01 32 59.7 -1.7**
comp=E,1.7nm,0.7s,mb4.1,baz=138,slow=7.4
NOA NORSAR Array B 54.50 341 P **P** **01 33 00.1 -1.3**
comp=E,3.5nm,0.8s,mb4.3,baz=139,slow=7.3,SNR=6.8
EKA Eskdalemuir Ar 56.56 330 P **P** **01 33 15.1 -1.4**
comp=E,2.1nm,0.8s,mb4.2,baz=104,slow=6.9,SNR=4.9
GTA Gaotai 56.67 50 P **P** **01 33 18.0 +0.5**
GTA AMB AMB
comp=Z,7.0nm,1.1s,mb4.6
GTA AMB AMB
comp=Z,133nm,9.9s
GTA LR LR
comp=N,335nm,16.7s,MS4.7
GTA LR LR
comp=E,352nm,16.7s,MS4.7
GTA LR LR
comp=Z,561nm,17.9s,MS4.7
KMI Kunming 57.32 68 P **P** **01 33 27.0 +4.7**
KMI AMB AMB
comp=Z,21nm,0.9s,mb5.2
KMI LR LR
comp=N,625nm,13.1s,MS4.9
KMI LR LR
comp=E,302nm,13.6s,MS4.9
KMI LR LR
comp=Z,741nm,13.6s,MS5.0
ARCES ARCESS Array B 58.79 353 P **P** **01 33 30.9 -1.0**
comp=Z,2.6nm,0.7s,mb4.4,baz=126,slow=7.8,SNR=6.9
ARCES LR LR 01 58 43.9
comp=Z,404nm,21.9s,MS4.5,baz=139,slow=36
GYA Guiyang 60.89 66 P **P** **01 33 46.3 -0.7**
GYA AMB AMB
comp=Z,20nm,1.1s,mb5.2
SONM Songino Array 63.19 42 LR LR 02 02 58.3
comp=Z,521nm,21.1s,MS4.7,baz=231,slow=38
ENH Enshi 63.46 62 *e*P **P** **01 34 01.7 -2.4**
comp=Z,11nm,0.8s,mb5.0
ULN Ulaanbaatar 63.62 42 *i* P **P** **01 34 05.4 +0.4**
HHC Hu-ho-hao-te 65.78 50 *e*P **P** **01 34 20.5 +1.4**
HHC PCP PcP 01 34 47.8 -2.4
HHC PP PP 01 36 46.3 +0.1
HHC SCP 01 38 51.5
HHC S S 01 43 09.5 +5.5
HHC XS 01 43 24.0
HHC PS PS 01 43 37.5 +11
HHC SS SS 01 47 22.8 +2.8
HHC AMB AMB
comp=Z,17nm,1.7s,mb4.8
HHC AMB AMB
comp=Z,154nm,3.1s
HHC LR LR
comp=N,417nm,19.1s,MS4.7
HHC LR LR
comp=E,380nm,23.5s,MS4.7
HHC LR LR
comp=Z,353nm,17.8s
JMIC Jan Mayen 67.05 344 LR LR 02 05 54.6
comp=Z,111nm,19.6s,MS4.1,baz=242,slow=38
BORG Borgarnes 68.74 335 LR LR 02 04 59.7
comp=Z,125nm,18.8s,MS4.2,baz=130,slow=36
BJI Beijing 69.24 52 *e*P **P** **01 34 41.3 +0.4**
BJI S S 01 43 53.5 +7.9
BJI AMB AMB
comp=Z,13nm,1.0s,mb4.8
BJI LR LR
comp=N,287nm,16.1s,MS4.8
BJI LR LR
comp=E,437nm,19.1s,MS4.8
BJI LR LR
comp=Z,256nm,21.4s,MS4.4
NJ2 Nanjing 71.47 60 *e*P **P** **01 34 53.5 -1.0**
NJ2 PP PP 01 37 33.8 -1.3
NJ2 S S 01 44 11.0 -0.7
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,160nm,6.0s
NJ2 LR LR
comp=N,390nm,16.6s,MS4.9
NJ2 LR LR
comp=E,380nm,13.3s,MS4.9
NJ2 LR LR
comp=Z,240nm,15.4s,MS4.6
SSE Sheshan 73.51 61 *e*P **P** **01 35 03.8 -2.9**
SSE AP pP 01 35 13.5 +3.7
SSE XP sP 01 35 17.5 +6.6
SSE PCP PcP 01 35 20.0 -3.0
SSE S S 01 44 31.5 -3.5
SSE SCS ScS 01 45 10.8 -1.5
SSE AMB AMB
comp=Z,22nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,107nm,3.5s
SSE LR LR
comp=N,125nm,25.4s,MS4.2
SSE LR LR
comp=E,74nm,25.3s,MS4.2
SSE LR LR
comp=Z,92nm,18.5s
CN2 Changchun 76.12 48 *e*P **P** **01 35 21.0 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 LR LR
comp=Z,500nm,19.0s,MS4.8
SUMG Summit 76.38 342 *e*P **P** **01 35 22.1 -0.1**
comp=Z,14nm,1.0s,mb4.9
TIXI Tiksi 77.39 19⇑ *e*P **P** **01 35 27.4 -0.5**
TIXI pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
TIXI MLR MLR
comp=Z,800nm,23.0s,MS5.0
MDJ Mudanjiang 79.03 47 P **P** **01 35 36.0 -1.5**
MDJ AMB AMB
comp=Z,7.0nm,1.2s,mb4.5
MDJ AMB AMB
comp=Z,128nm,5.3s
JOW Kunigami 80.14 65 LR LR 02 16 17.7
comp=Z,92nm,18.5s,MS4.2,baz=178,slow=40
MAW Mawson 80.46 173 P **P** **01 35 50.6 +6.0**
comp=Z,5.2nm,0.7s,mb4.6,baz=337,slow=5.7,SNR=11
MAW LR LR 02 09 04.7
comp=Z,356nm,18.1s,MS4.8,baz=157,slow=34
FITZ Fitzroy Crossi 86.30 109 P **P** **01 36 16.8 +1.2**
comp=Z,13nm,1.1s,mb5.1,baz=326,slow=7.3,SNR=2.5
MJAR Matsushiro Arr 86.79 54 LR LR 02 17 59.3
comp=Z,166nm,20.1s,MS4.4,baz=290,slow=38
ASAJ Asahikawa 88.29 45 LR LR 02 22 56.1
comp=Z,208nm,18.9s,MS4.6,baz=316,slow=40
JHJ Hachijo jima 2 88.80 57 LR LR 02 17 30.2
comp=Z,110nm,18.4s,MS4.3,baz=302,slow=36
SNAA Sanae 88.82 193 *e* **P** **01 36 29.7 +3.2**
SNAA Sanae 88.82 193 *e* **P** **01 36 34.4 +7.9**

SNAA	**Sanae**	**88.82**	**193**	⇑*i*P		**P**		**01 36 28.6**	**+2.1**
SNAA				*e*				01 36 29.7	
SNAA				*e*				01 36 34.4	
VNA2	**Neumayer--Watz**	**89.39**	**195**	*e*		**P**		**01 36 32.2**	**+3.0**
VNA2	**Neumayer--Watz**	**89.39**	**195**	*e*		**P**		**01 36 35.7**	**+6.5**
VNA2	**Neumayer--Watz**	**89.39**	**195**	⇑*i*P		**P**		**01 36 31.3**	**+2.1**
VNA2				*e*				01 36 32.2	
VNA2				*e*		pP		01 36 35.7	+3.2
VNA1	**Neumayer--Stat**	**89.43**	**195**	*e*		**P**		**01 36 32.8**	**+3.4**
VNA1	**Neumayer--Stat**	**89.43**	**195**	*e*		**P**		**01 36 36.4**	**+7.0**
VNA1	**Neumayer--Stat**	**89.43**	**195**	⇑*i*P		**P**		**01 36 32.0**	**+2.6**
VNA1				*e*				01 36 32.8	
VNA1				*e*		pP		01 36 36.4	+3.7
BILL	**Bilibino**	**90.61**	**18**	*i* P		**P**		**01 36 36.5**	**+1.5**
BILL				pmax		pmax			
comp=Z,4.0nm,1.2s,mb4.6									
ASAR	**Alice Springs**	**95.02**	**113**	P		**P**		**01 36 58.4**	**+2.0**
comp=Z,1.6nm,1.0s,mb4.4,baz=260,slow=3.9,SNR=5.0									
ASAR				LR		LR		02 10 58.9	
comp=Z,74nm,21.8s,MS4.1,baz=278,slow=30									
ASAR	**Alice Springs**	**95.02**	**113**	P		**P**		**01 36 58.4**	**+2.0**
ASAR				LR		LR		02 10 58.9	
ILAR	**Eielson Array**	**103.22**	**5**	PP		PP		01 41 48.4	-1.9
comp=Z,0.8nm,0.9s,baz=345,slow=7.9,SNR=5.5									
ILAR				PKKP		PKKP		01 53 32.6	+2.0
comp=Z,0.5nm,0.8s,baz=196,slow=4.5,SNR=6.5									
YKA	**Yellowknife Ar**	**103.97**	**350**	PP		PP		01 41 46.8	-8.7
comp=Z,0.3nm,0.9s,baz=17,slow=6.5,SNR=3.6									
PDAR	**Pinedale Array**	**120.33**	**337**	PKP		PKPdf		01 42 24.7	-1.6
comp=Z,0.2nm,0.6s,slow=0.9,SNR=2.2									
NVAR	**Mina Array Bea**	**127.19**	**342**	PKP		PKPdf		01 42 40.7	+1.0
comp=Z,1.7nm,1.1s,baz=114,slow=2.1,SNR=6.8									
NVAR	**Mina Array Bea**	**127.19**	**342**	PKP		PKPdf		01 42 40.7	+1.0
TXAR	**Lajitas Array**	**128.25**	**323**	PKP		PKPdf		01 42 41.9	-0.2
comp=Z,0.9nm,1.0s,baz=117,slow=2.8,SNR=6.4									

*IDC **30** 01:24:38.7±0.6, 2.78N×95.45E, mb4.4/20, mb1 4.5/21, mb1mx4.4/28, mbtmp4.4/21, ML4.7/1, MS4.1/2, Ms1 4.2/2, ms1mx3.4/27, Error ellipse: s-maj=24.8km s-min=12.7km az=42.0*

*MOS **30** 01:24:41.8±1.0, 2.84N×95.53E, h33km, mb4.8/12, Error ellipse: s-maj=15.6km s-min=8.3km az=101.2*

*BJI **30** 01:24:41.5, 2.80N×95.55E, h29km, mB5.0, mb5.0, Ms4.4, Msz4.3*

*NEIC **30** 01:24:43.2±0.2, 2.81N×95.47E, h30km, mb4.8/11, Error ellipse: s-maj=7.0km s-min=4.7km az=217.0*

ISC 30 01:24:40.8±0.4, 2.80N±0.05×95.49E±0.05, h26km, h26km±1.7km: pP-P, n90, σ0°99/85, mb4.6/50, MS4.3/8, 4C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.71**	**64**	*e*P	**Pn**	**01 26 07.0**	**+0.8**
SNG	**Songkhla**	**6.70**	**49**	P	**Pn**	**01 26 20.0**	**-0.2**
180nm,0.8s							
KSM	**Kuching**	**14.86**	**95**	P	**P**	**01 28 11.7**	**+0.4**
KKTK	**Khon Kaen**	**15.26**	**28**	P	**P**	**01 28 22.0**	**+5.6**
1μm,0.5s							
PALK	**Pallekele**	**15.38**	**287**	P	**P**	**01 28 16.8**	**-1.3**
14nm,0.8s							
CM31	**Chiang Mai Arr**	**15.92**	**12**	*e*P	**P**	**01 28 25.4**	**+0.4**
68nm,1.0s							
CMAR	**Chiang Mai Arr**	**15.92**	**12**	Pn	**P**	**01 28 23.7**	**-1.2**
1.0nm,0.3s,baz=207,slow=14,SNR=22							
NANT	**Nan**	**16.70**	**17**	P	**P**	**01 28 36.0**	**+1.2**
112nm,0.9s							
TRD	**Trivandrum**	**19.29**	**288**⇓	*e*P	**P**	**01 29 00.7**	**-6.0**
TRD				*e*S	S	01 33 06.7	+29
KKM	**Kota Kinabalu**	**20.91**	**80**	*e*P	**P**	**01 29 23.6**	**-0.4**
QIZ	**Qiongzhong**	**21.38**	**40**	P	**P**	**01 29 28.0**	**-0.7**
QIZ				LR	LR		
comp=N,522nm,15.5s							
QIZ				LR	LR		
comp=Z,369nm,16.4s,MS3.9							
HYB	**Hyderabad**	**22.08**	**312**	*e*P	**P**	**01 29 44.0**	**+8.3**
HYB	**Hyderabad**	**22.08**	**312**	*i* P	**P**	**01 29 44.0**	**+8.3**
SHL	**Shillong**	**22.90**	**352**	*e*P	**P**	**01 29 42.0**	**-1.8**
KMI	**Kunming**	**23.26**	**17**	P	**P**	**01 29 50.0**	**+2.6**
KMI				AP		01 29 55.8	
KMI				AMB	AMB		
comp=Z,21nm,0.9s,mb4.6							
KMI				LR	LR		
comp=N,625nm,13.4s,MS4.3							
KMI				LR	LR		
comp=E,302nm,13.8s,MS4.3							
KMI				LR	LR		
comp=Z,741nm,13.6s,MS4.3							
GYA	**Guiyang**	**25.85**	**23**⇑	*i*P	**P**	**01 30 12.5**	**+0.3**
GYA				AMB	AMB		
comp=Z,20nm,1.1s,mb4.6							
GYA				AMB	AMB		
comp=Z,100nm,5.6s							
GYA				LR	LR		
comp=N,430nm,15.0s,MS4.2							
GYA				LR	LR		
comp=E,210nm,13.2s,MS4.2							
GYA				LR	LR		
comp=Z,770nm,15.0s,MS4.4							
JIRN	**Jiri**	**26.27**	**341**	*e*P	**P**	**01 30 17.2**	**+1.2**
comp=Z,11nm,0.3s,mb4.9							
PKI	**Pulchoki**	**26.45**	**340**	*e*P	**P**	**01 30 19.0**	**+1.3**
comp=Z,38nm,1.0s,mb4.9							
DMN	**Daman**	**26.59**	**339**	*e*P	**P**	**01 30 20.4**	**+1.4**
GUN	**Gumba**	**26.60**	**341**	*e*P	**P**	**01 30 19.0**	**-0.1**
comp=Z,72nm,0.8s,mb5.2							
KKN	**Kakani**	**26.69**	**340**	*e*P	**P**	**01 30 20.9**	**+1.0**
comp=Z,54nm,0.8s,mb5.1							
LSA	**Lhasa**	**27.07**	**352**	P	**P**	**01 30 25.3**	**+2.0**
LSA	**Lhasa**	**27.07**	**352**	*e*P	**P**	**01 30 24.6**	**+1.3**
LSA				pmax	pmax		
comp=Z,24nm,0.7s,mb4.8							
LSA	**Lhasa**	**27.07**	**352**	*e*P	**P**	**01 30 24.6**	**+1.3**
comp=Z,24nm,0.7s,mb4.8							
GKN	**Gorkha**	**27.12**	**339**	*e*P	**P**	**01 30 24.3**	**+0.5**
comp=Z,64nm,0.8s,mb5.2							
KOLN	**Koldanda**	**27.30**	**337**	*e*P	**P**	**01 30 25.0**	**-0.5**
comp=Z,39nm,0.7s,mb5.0							
CD2	**Chengdu**	**29.03**	**15**	*e*P	**P**	**01 30 39.0**	**-2.0**
ENH	**Enshi**	**30.36**	**24**	*e*P	**P**	**01 30 51.4**	**-1.5**
comp=Z,21nm,0.8s,mb4.9							
XAN	**Xi'an**	**33.51**	**20**	P	**P**	**01 31 19.5**	**-0.9**
XAN				AMB	AMB		
comp=Z,38nm,0.8s,mb5.4							
LZH	**Lanzhou**	**34.01**	**12**	⇑P	**P**	**01 31 24.0**	**-0.7**
LZH				AP	pP	01 31 31.8	-0.7
LZH				XP	sP	01 31 35.0	-0.8
LZH				AMB	AMB		
comp=Z,28nm,1.0s,mb5.2							
LZH				AMB	AMB		
comp=Z,117nm,4.0s							
LZH				LR	LR		
comp=N,694nm,13.2s							
LZH				LR	LR		
comp=Z,979nm,14.6s,MS4.7							
FITZ	**Fitzroy Crossi**	**36.24**	**126**	P	**P**	**01 31 43.4**	**-0.6**
comp=Z,15nm,0.7s,mb5.0,baz=247,slow=2.5,SNR=22							
GTA	**Gaotai**	**36.65**	**6**	P	**P**	**01 31 46.8**	**-0.4**
GTA				AP	pP	01 31 54.5	-0.4
GTA				XP	sP	01 31 57.8	-0.4
GTA				AMB	AMB		
comp=Z,14nm,0.8s,mb4.8							
JOW	**Kunigami**	**39.45**	**50**	P	**P**	**01 32 11.1**	**+0.3**
comp=Z,14nm,0.6s,mb4.8,baz=201,slow=14,SNR=7.1							
HHC	**Hu-ho-hao-te**	**40.56**	**19**	⇑P	**P**	**01 32 20.8**	**+1.1**
HHC				AP	pP	01 32 30.0	+2.4
HHC				XP	sP	01 32 36.5	+5.7
HHC				AMB	AMB		
comp=Z,19nm,1.2s,mb4.6							
HHC				AMB	AMB		
comp=Z,168nm,6.2s							
WMQ	**Urumqi**	**41.42**	**351**	⇑P	**P**	**01 32 25.3**	**-1.5**
WMQ				AMB	AMB		
comp=Z,14nm,0.7s,mb4.7							
WMQ				AMB	AMB		
comp=Z,69nm,5.0s							
WMQ				LR	LR		
comp=N,508nm,20.4s,MS4.5							
WMQ				LR	LR		
comp=E,374nm,21.8s,MS4.5							
WMQ				LR	LR		
comp=Z,345nm,19.0s,MS4.2							
BJT	**Baijiatuau**	**41.52**	**24**	*e*P	**P**	**01 32 28.8**	**+1.1**
BJT				pmax	pmax		
comp=Z,35nm,0.8s							
BJT	**Baijiatuau**	**41.52**	**24**	*e*P	**P**	**01 32 28.8**	**+1.2**
comp=Z,35nm,0.8s,mb5.0							
BJI	**Beijing**	**41.54**	**24**	*e*P	**P**	**01 32 29.5**	**+1.7**
BJI				AP	pP	01 32 36.0	+0.3
BJI				AMB	AMB		
comp=Z,41nm,0.9s,mb5.1							
WRA	**Warramunga Arr**	**44.33**	**122**	P	**P**	**01 32 50.9**	**0.0**
comp=Z,5.3nm,0.5s,mb4.5,baz=300,slow=9.1,SNR=29							
WRAB	**Tennant Creek**	**44.33**	**122**	*e*P	**P**	**01 32 50.6**	**-0.3**
WRAB				pmax	pmax		
comp=Z,16nm,1.0s,mb4.7							
WRAB	**Tennant Creek**	**44.33**	**122**	*e*P	**P**	**01 32 50.6**	**-0.3**
comp=Z,16nm,1.0s,mb4.7							
WB2	**Warramunga Arr**	**44.34**	**122**	*e*P	**P**	**01 32 50.8**	**-0.1**
MKAR	**Makanchi Array**	**45.30**	**347**	P	**P**	**01 32 58.9**	**+0.6**
comp=Z,23nm,0.6s,mb5.2,baz=159,slow=8.9,SNR=106							
FORT	**Forrest**	**45.59**	**140**	*e*P	**P**	**01 33 02.1**	**+1.3**
comp=Z,486nm,0.6s							
ASPA	**Alice Springs**	**45.72**	**127**	*e*P	**P**	**01 33 01.9**	**0.0**
ASAR	**Alice Springs**	**45.72**	**127**	P	**P**	**01 33 02.1**	**+0.2**
comp=Z,3.0nm,0.6s,mb4.4,baz=298,slow=8.0,SNR=29							
ASAR				PcP	PcP	01 34 40.2	+0.2
comp=Z,1.6nm,0.7s,baz=306,slow=3.6,SNR=6.6							
KKAR	**Karatay Array**	**45.88**	**334**	*i* P	**P**	**01 33 03.6**	**+0.7**
KKAR				pmax	pmax		
comp=Z,2.0nm,0.5s,mb4.3							
ULN	**Ulaanbaatar**	**45.98**	**11**	*e*P	**P**	**01 33 03.2**	**-0.5**
ULN				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.5							
ULN	**Ulaanbaatar**	**45.98**	**11**	*e*P	**P**	**01 33 03.2**	**-0.5**
comp=Z,4.7nm,0.8s,mb4.5							
ZAK	**Zakamensk**	**47.86**	**7**	*e*P	**P**	**01 33 17.3**	**-1.2**
ZAK				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.5							
CN2	**Changchun**	**48.69**	**29**	*e*P	**P**	**01 33 25.0**	**+0.1**
CN2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.9							
CN2				LR	LR		
comp=Z,200nm,11.0s,MS4.4							
MOY	**Mondy**	**48.91**	**5**	*e*P	**P**	**01 33 24.5**	**-2.0**
TLY	**Talaya**	**49.19**	**7**	*e*P	**P**	**01 33 29.7**	**+1.1**
TLY				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
HIA	**Hailar**	**50.71**	**20**	*e*P	**P**	**01 33 40.1**	**-0.2**
HIA				pmax	pmax		
comp=Z,6.0nm,0.6s							
HIA	**Hailar**	**50.71**	**20**	*e*P	**P**	**01 33 40.0**	**-0.3**
comp=Z,6.5nm,0.6s,mb4.7							
MJAR	**Matsushiro Arr**	**51.70**	**44**	P	**P**	**01 33 48.5**	**+0.5**
comp=Z,0.6nm,0.3s,mb4.1,baz=242,slow=9.9,SNR=5.8							
MJAR				PcP	PcP	01 35 02.5	+1.1
comp=Z,1.0nm,0.3s,baz=180,slow=3.6,SNR=5.2							
MJAR	**Matsushiro Arr**	**51.70**	**44**	P	**P**	**01 33 48.5**	**+0.5**
MJAR				PcP	PcP	01 35 02.5	+1.1
OPO	**Ambohidratompo**	**52.06**	**244**	P	**P**	**01 33 51.3**	**+0.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=90,slow=7.1,SNR=3.1							
NVS	**Novosibirsk**	**52.83**	**351**	*i* P	**P**	**01 33 55.0**	**-1.2**
NVS				*e*S	**S**	**01 41 24.0**	**+2.5**
PMG	**Port Moresby**	**52.89**	**104**	P	**P**	**01 33 57.0**	**-0.2**
comp=Z,3.4nm,0.4s,mb4.7,baz=268,slow=7.6,SNR=3.9							
BVA0	**Borovoye Array**	**54.19**	**342**	*i* P	**P**	**01 34 05.8**	**-0.5**
BVA0				pmax	pmax		
comp=Z,1.0nm,0.8s,mb3.8							
BVAR	**Borovoye Array**	**54.19**	**342**	P	**P**	**01 34 05.9**	**-0.4**
comp=Z,9.7nm,0.6s,mb4.9,baz=142,slow=9.0,SNR=21							
CHKZ	**Chkalovo**	**54.68**	**342**	*e*P	**P**	**01 34 09.4**	**-0.5**
CHKZ				pmax	pmax		
comp=Z,38nm,0.8s,mb5.5							
CHKZ	**Chkalovo**	**54.68**	**342**	*e*P	**P**	**01 34 09.4**	**-0.5**
comp=Z,38nm,0.8s,mb5.5							
CTA	**Charters Tower**	**54.74**	**117**	LR	LR	01 57 29.4	
comp=Z,102nm,20.7s,MS3.9,baz=52,slow=36							
KLR	**Kul'dur**	**55.62**	**28**	*e*P	**P**	**01 34 14.2**	**-2.6**
STKA	**Stephens Creek**	**55.69**	**132**	P	**P**	**01 34 17.1**	**-0.4**
comp=Z,1.8nm,0.8s,mb4.1,baz=272,slow=12,SNR=3.1							
BOD	**Bodaibo**	**56.77**	**12**⇓	*i*P	**P**	**01 34 24.1**	**-0.8**
BOD				pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.6							
YAK	**Yakutsk**	**64.38**	**17**⇓	*e*P	**P**	**01 35 16.1**	**-0.5**
BRTR	**Keskin Array B**	**66.78**	**312**	P	**P**	**01 35 31.4**	**-1.0**
comp=Z,1.2nm,0.8s,mb4.0,baz=134,slow=7.8,SNR=4.5							
OBN	**Obninsk**	**70.37**	**329**	*e*P	**P**	**01 36 01.4**	**+7.1**
OBN				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.7							
IDI	**Anoyia**	**72.58**	**306**	P	**P**	**01 36 08.1**	**0.0**
comp=Z,6.1nm,0.9s,mb4.5,baz=95,slow=10,SNR=5.5							
AKASG	**Malin Array Be**	**72.95**	**322**	P	**P**	**01 36 08.8**	**-1.1**
comp=Z,2.4nm,0.6s,mb4.3,baz=95,slow=4.7,SNR=7.8							
MLR	**Muntele Rosu**	**73.74**	**317**	P	**P**	**01 36 14.9**	**+0.4**
comp=Z,1.4nm,0.7s,mb4.0,baz=125,slow=14,SNR=3.5							
JOF	**Joensuu**	**75.98**	**335**	*ep*	**P**	**01 36 26.9**	**-0.2**
comp=Z,4.5nm,0.9s,mb4.4							
FINES	**FINESS Array B**	**77.80**	**333**	P	**P**	**01 36 37.4**	**+0.2**
comp=Z,3.1nm,0.6s,mb4.4,baz=90,slow=4.9,SNR=25							
KAF	**Kangasniemi**	**77.89**	**333**	*ep*	**P**	**01 36 36.7**	**-1.0**
comp=Z,4.0nm,0.7s,mb4.5,baz=104,slow=5.2							
KAF	**Kangasniemi**	**77.89**	**333**	*e*P	**P**	**01 36 36.7**	**-1.0**
KAF				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
ARCES	**ARCESS Array B**	**80.46**	**340**	P	**P**	**01 36 52.6**	**+1.1**
comp=Z,1.3nm,0.6s,mb4.1,baz=97,slow=5.3,SNR=17							
GERES	**GERESS Array B**	**82.49**	**319**	P	**P**	**01 37 03.7**	**+1.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=101,slow=6.8,SNR=8.3							
HFS	**Hagfors**	**83.49**	**330**	P	**P**	**01 37 08.5**	**+1.0**
comp=Z,1.4nm,0.7s,mb4.1,baz=117,slow=6.6,SNR=4.5							
NB2	**NORSAR Subarra**	**84.78**	**331**	P	**P**	**01 37 14.3**	**+0.4**
comp=Z,2.6nm,0.9s,mb4.4,baz=96,slow=5.0							
NB2	**NORSAR Subarra**	**84.78**	**331**	P	**P**	**01 37 14.3**	**+0.4**
NB2				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.4							
NOA	**NORSAR Array B**	**84.78**	**331**	P	**P**	**01 37 14.2**	**+0.3**
comp=Z,1.2nm,0.8s,mb4.1,baz=96,slow=4.9,SNR=3.6							
DAVOX	**Davos**	**84.96**	**317**	P	**P**	**01 37 16.5**	**+1.4**
comp=Z,2.3nm,1.0s,mb4.3,baz=154,slow=20,SNR=5.9							
ILAR	**Eielson Array**	**98.89**	**23**	LR	LR	02 30 03.1	
comp=Z,131nm,18.6s,MS4.5,baz=359,slow=40							
YKA	**Yellowknife Ar**	**110.99**	**14**	PP	PP	01 43 47.9	-6.6
comp=Z,0.2nm,0.8s,baz=330,slow=7.5,SNR=4.0							
PDAR	**Pinedale Array**	**129.31**	**24**	PKP	PKPdf	01 43 49.5	-2.7
comp=Z,0.2nm,0.4s,baz=180,slow=0.9,SNR=3.9							
TXAR	**Lajitas Array**	**143.15**	**29**	PKhKP		01 44 12.5	
comp=Z,0.5nm,0.6s,baz=202,slow=1.2,SNR=5.7							
JCT	**Junction City**	**143.82**	**23**	*e*PKIKP	PKPdf	01 44 13.9	-5.2

DHMR 30 01:35:07.8±0.6, 11.88N×43.52E, h6km±4km, ML3.5, 5D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.46**	**23**⇓	*i*P	Pn	01 35 35.2	+0.5
TRBA				*i* S	Sb	01 35 55.8	+2.2
TRBA				AML	AML	01 35 56.6	
comp=N,1μm,0.3s							
UDYN	**Al 'Udayn**	**2.12**	**12**⇓	*i*P	Pn	01 35 45.0	+0.9
UDYN				*i* S	Sn	01 36 14.5	+3.5
UDYN				AML	AML	01 36 22.4	
comp=Z,401nm,0.5s							
UDYN	**Al 'Udayn**	**2.12**	**12**⇓	*i*P	Pn	01 35 45.0	+0.9
UDYN				*i* S	Sn	01 36 14.5	+3.5
comp=Z,200nm,0.5s							
LBOS		**2.60**	**40**⇓	*i*P	Pn	01 35 52.9	+1.9
LBOS				*i* S	Sn	01 36 28.1	+4.9
DHBB	**Dhamar BB**	**2.80**	**17**	*i* P	Pn	01 35 56.1	+2.2
DHBB				*i* S	Sn	01 36 34.0	+5.6
BDHA	**Al Bayda'**	**2.88**	**44**⇓	*i*P	Pn	01 35 57.3	+2.2
BDHA				*i* S	Sn	01 36 35.8	+5.4
BDHA				AML	AML	01 36 41.1	
comp=N,214nm,0.3s							

*IDC **30** 01:50:31.7±1.2, 1.86N×96.49E, mb3.9/8, mb1 4.1/9, mb1mx3.9/19, mbtmp3.9/9, ML4.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/26, Error ellipse: s-maj=70.4km s-min=18.0km az=52.0*

*NEIC **30** 01:50:36.9±0.6, 1.96N×96.73E, h30km, mb4.2/2, Error ellipse: s-maj=16.1km s-min=9.3km az=54.0*

ISC 30 01:50:35.0±0.7, 2.0N±0.1×96.7E±0.1, h30km, n17, σ0°84/16, mb4.0/10, MS3.6/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.14**	**50**	*e*P	**Pn**	**01 51 51.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.54**	**7**	Pn	**P**	**01 54 27.6**	**+1.0**
0.7nm,0.3s,baz=197,slow=11,SNR=24							
LSA	**Lhasa**	**28.09**	**350**	P	**P**	**01 56 26.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**34.77**	**126**	LR	LR	02 11 39.8	
comp=Z,93nm,18.3s,MS3.6,baz=201,slow=36							
WRA	**Warramunga Arr**	**42.85**	**122**	P	**P**	**01 58 32.6**	**+0.1**
1.7nm,0.6s,mb3.9,baz=301,slow=9.1,SNR=7.9							
WRAB	**Tennant Creek**	**42.85**	**122**	*e*P	**P**	**01 58 32.4**	**-0.2**
3.3nm,0.7s,mb4.2							
ASAR	**Alice Springs**	**44.24**	**127**	P	**P**	**01 58 44.4**	**+0.6**
1.0nm,0.9s,mb3.6,baz=304,slow=7.5,SNR=6.1							
AAK	**Ala-Archa**	**45.12**	**337**	*e*P	**P**	**01 58 52.0**	**+1.4**
MKAR	**Makanchi Array**	**46.39**	**346**	P	**P**	**01 59 00.2**	**-0.4**
3.2nm,0.7s,mb4.4,baz=162,slow=7.4,SNR=37							
ULN	**Ulaanbaatar**	**46.60**	**10**	P	**P**	**01 59 02.0**	**-0.2**
STKA	**Stephens Creek**	**54.22**	**132**	P	**P**	**02 00 00.3**	**-0.2**
2.3nm,0.8s,mb4.2,baz=351,slow=13,SNR=2.8							
BVAR	**Borovoye Array**	**55.38**	**341**	P	**P**	**02 00 07.3**	**-1.3**
1.3nm,0.8s,mb4.0,baz=135,slow=8.4,SNR=11							
CHKZ	**Chkalovo**	**55.86**	**342**	*e*P	**P**	**02 00 10.6**	**-1.5**
2.4nm,0.7s,mb4.3							
MALT	**Malatya**	**64.26**	**312**	P	**P**	**02 01 11.8**	**+1.9**
BRTR	**Keskin Array B**	**68.24**	**312**	P	**P**	**02 01 34.4**	**-0.9**
0.3nm,0.4s,mb3.6,baz=116,slow=9.0,SNR=2.8							
FINES	**FINESS Array B**	**79.11**	**333**	P	**P**	**02 02 37.9**	**-0.1**
0.7nm,0.7s,mb3.7,baz=90,slow=5.7,SNR=7.2							
ARCES	**ARCESS Array B**	**81.66**	**340**	P	**P**	**02 02 51.5**	**0.0**
1.4nm,1.0s,mb3.9,baz=79,slow=6.2,SNR=6.0							

*CASC **30** 01:52:27.3±2.3, 14.82N×93.59W, h20km, MD4.7*

*NEIC **30** 01:52:29.0, 14.47N×93.64W, h20km, mb4.1/4, MD4.5(MEX), After MEX.*

*MEX **30** 01:52:30.4±0.6, 14.56N×93.75W, h35km±35km, MD4.5*

*IDC **30** 01:52:34.7±4.9, 14.57N×93.36W, h85km±44km, mb3.4/10, mb1 3.6/12, mb1mx3.5/23, mbtmp3.7/12, Error ellipse: s-maj=78.3km s-min=13.7km az=52.0*

ISC 30 01:52:25.8±1.4, 14.54N±0.05×93.66W±0.03, h16km±12km, n45, σ1°16/66, mb3.8/13, 4D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.97**	**96**⇓	*e*P	**Pn**	**01 52 58.6**	**-0.4**
JAT				*e*S	**Sn**	**01 53 23.9**	**+0.4**
SCX	**San Cristobal**	**2.39**	**24**	*i* P	**Pn**	**01 53 06.0**	**+1.0**
SCX				*e*S	**Sn**	**01 53 34.0**	**-0.2**
SCX	**San Cristobal**	**2.39**	**24**	*i* P	**Pn**	**01 53 06.0**	**+1.0**
SCX				*e*S	**Sn**	**01 53 34.5**	**+0.3**
TP2	**Tecpan 2**	**2.56**	**84**⇓	*e*P	**Pn**	**01 53 08.6**	**+1.2**
TP2				*e*S	**Sn**	**01 53 38.3**	**-0.2**
HUIG	**Huatulco**	**2.66**	**298**	*e*P	**Pn**	**01 53 08.8**	**0.0**
HUIG				*i* S	**Sn**	**01 53 41.7**	**+0.7**
HUIG	**Huatulco**	**2.66**	**298**⇓	*e*P	**Pn**	**01 53 08.7**	**-0.1**
HUIG				*i* S	**Sn**	**01 53 36.9**	**-4.2**
CMIG	**Matias Romero**	**2.79**	**335**	*e*P	**Pn**	**01 53 10.4**	**-0.4**
CMIG				*e*S	**Sn**	**01 53 44.1**	**-0.3**
CMIG	**Matias Romero**	**2.79**	**335**⇓	*e*P	**Pn**	**01 53 10.7**	**-0.1**
CMIG				*e*S	**Sn**	**01 53 41.9**	**-2.5**
IXG	**Ixpaco**	**3.13**	**96**	*e*P	**Pn**	**01 53 14.5**	**-1.0**
IXG				*e*S	**Sn**	**01 53 52.0**	**-0.9**
TUIG	**Tuzandepetl**	**3.55**	**348**	*i* P	**Pn**	**01 53 27.4**	**+5.9**
TUIG	**Tuzandepetl**	**3.55**	**348**	*e*P	**Pn**	**01 53 24.4**	**+2.9**
TUIG				*i* S	**Sn**	**01 54 04.5**	**+1.1**
RBDL	**Robledal**	**3.87**	**96**	*e*P	**Pn**	**01 53 25.5**	**-0.6**
VHO	**Vista Hermosa**	**3.88**	**311**	*e*P	**Pn**	**01 53 26.6**	**+0.4**
VHO				*i* S	**Sn**	**01 54 13.0**	**+1.0**
VHO	**Vista Hermosa**	**3.88**	**311**	*e*P	**Pn**	**01 53 26.0**	**-0.2**
VHO				*i* S	**Sn**	**01 54 08.3**	**-3.6**
RTR	**El Retiro**	**3.94**	**99**	*e*P	**Pn**	**01 53 26.8**	**-0.3**
SBLS	**San Blas**	**3.98**	**100**	*e*P	**Pn**	**01 53 27.2**	**-0.3**
SBLS				*e*S	**Sn**	**01 54 14.4**	**+0.1**
SNJE	**San Jose**	**3.99**	**99**	*e*P	**Pn**	**01 53 27.5**	**-0.2**
SNJE				*e*S	**Sn**	**01 54 16.1**	**+1.5**
EVV	**El Vigia**	**4.22**	**338**	*e*P	**Pn**	**01 53 30.0**	**-1.0**
EVV				*i* S	**Sn**	**01 54 19.0**	**-1.4**
BOQS	**Boqueron**	**4.32**	**100**	*e*P	**Pn**	**01 53 32.2**	**-0.

JMZ	**Minamidaito 2**	**3.90**	**99**	P		**P**	**02 00 41.5**	**-2.5**
JMZ				*e*S		**S**	**02 01 21.8**	**-7.0**
MKAR	**Makanchi Array**	**40.52**	**312**	P		**P**	**02 07 17.1**	**-1.0**
	0.3nm,0.5s,mb3.4,baz=104,slow=9.7,SNR=6.1							
BVAR	**Borovoye Array**	**49.34**	**318**	P		**P**	**02 08 28.1**	**-0.4**
	0.5nm,0.5s,mb3.7,baz=87,slow=6.7,SNR=5.7							
FINES	**FINESS Array B**	**72.09**	**330**	P		**P**	**02 11 01.6**	**-1.2**
	0.5nm,0.6s,mb3.5,baz=53,slow=6.9,SNR=8.2							
YKA	**Yellowknife Ar**	**78.80**	**25**	P		**P**	**02 11 40.9**	**+0.1**
	0.3nm,0.5s,mb3.4,baz=300,slow=5.5,SNR=8.7							
YKA				pP		pP	02 11 59.4	-1.9
	0.1nm,0.5s,baz=306,slow=5.9,SNR=4.5							

*JMA **30** 02:06:55.5±0.2,27.35N×130.42E,h51km,M3.2*
*IDC **30** 02:07:01.7±1.9,26.25N×129.69E,mb3.5/3,mb1 3.7/3, mb1mx3.3/19,mbtmp3.5/3,Error ellipse: s-maj=59.2km s-min=20.2km az=47.0*

ISC 30 02:06:55.8±0.8,27.34N±0.04×130.38E±0.05,h51km,n12, σ0§88/19,mb3.4/2,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.03**	**340**	*e*S	**S**	**02 07 28.3**	**+0.5**
JAM	**Amami Oshima**	**1.26**	**327**	P	**P**	**02 07 17.3**	**-0.2**
JAM				*e*S	**S**	**02 07 32.5**	**-1.1**
JTK	**Tokunoshima**	**1.34**	**290**	P	**P**	**02 07 19.0**	**+0.4**
JTK				*e*S	**S**	**02 07 35.1**	**-0.5**
JMZ	**Minamidaito 2**	**1.70**	**153**	P	**P**	**02 07 23.1**	**-0.5**
JMZ				*e*S	**S**	**02 07 42.6**	**-1.6**
JOW	**Kunigami**	**1.94**	**255**	Pn	**P**	**02 07 27.4**	**+0.4**
	9.3nm,0.3s,baz=102,slow=16,SNR=20						
JOW				Sn	**S**	**02 07 50.0**	**-0.2**
	15nm,0.3s,baz=84,slow=28,SNR=14						
JOW	**Kunigami**	**1.94**	**255**	P	**P**	**02 07 28.0**	**+1.0**
JOW				*e*S	**S**	**02 07 50.2**	**0.0**
JIH	**Iheya**	**2.17**	**262**	P	**P**	**02 07 30.3**	**+0.1**
JIH				*e*S	**S**	**02 07 55.7**	**-0.2**
JAGN	**Aguni-jima**	**2.90**	**256**	P	**P**	**02 07 39.9**	**-0.7**
JAGN				*e*S	**S**	**02 08 13.8**	**-0.6**
JKE	**Kume jima 2**	**3.36**	**253**	P	**P**	**02 07 47.7**	**+0.5**
JKE				*e*S	**S**	**02 08 26.9**	**+0.7**
WRA	**Warramunga Arr**	**47.16**	**175**	P	**P**	**02 15 27.3**	**+2.0**
	0.3nm,0.7s,mb3.3,baz=354,slow=8.5,SNR=3.9						
ASAR	**Alice Springs**	**50.83**	**176**	P	**P**	**02 15 56.9**	**+3.4**
	0.3nm,0.5s,mb3.5,baz=6.1,slow=14,SNR=7.0						
FINES	**FINESS Array B**	**72.84**	**331**	P	PcP	02 18 36.1	-1.6
	0.8nm,0.8s,baz=68,slow=7.5,SNR=3.5						

*IDC **30** 02:09:45.4±3.0,0.35N×97.92E,mb3.9/3,mb1 4.1/4, mb1mx3.7/17,mbtmp3.9/4,ML3.6/1,MS2.9/1,Ms1 3.1/1, ms1mx2.7/19,Error ellipse: s-maj=126.9km s-min=24.0km az=59.0*
*NEIC **30** 02:09:49.4±0.9,0.36N×97.90E,h30km,mb4.2/2,Error ellipse: s-maj=26.7km s-min=11.2km az=69.0*

ISC 30 02:09:48.2±1.3,0.4N±0.1×97.9E±0.2,h33km,n10,σ0§62/8, mb4.0/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.58**	**29**	P	**P**	**02 11 10.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**17.98**	**3**	P	**P**	**02 13 58.1**	**+0.8**
	0.1nm,0.3s,baz=194,slow=9.8,SNR=5.1						
CMAR				LR	LR	02 21 13.2	
	comp=Z,35nm,18.5s,baz=96,slow=38						
WRA	**Warramunga Arr**	**41.01**	**122**	P	**P**	**02 17 30.2**	**0.0**
	1.1nm,0.5s,mb3.8,baz=303,slow=9.0,SNR=4.5						
WRAB	**Tennant Creek**	**41.02**	**122**	*e*P	**P**	**02 17 30.1**	**-0.1**
	2.5nm,0.4s,mb4.2						
ASAR	**Alice Springs**	**42.35**	**127**	P	**P**	**02 17 41.5**	**+0.3**
	1.0nm,0.6s,mb3.6,baz=292,slow=7.8,SNR=11						
ULN	**Ulaanbaatar**	**47.94**	**8**	*e*P	**P**	**02 18 26.1**	**+0.5**
MKAR	**Makanchi Array**	**48.19**	**346**	P	**P**	**02 18 27.9**	**+0.4**
	2.2nm,0.7s,mb4.3,baz=157,slow=8.2,SNR=22						
CHKZ	**Chkalovo**	**57.71**	**341**	*e*P	**P**	**02 19 36.7**	**-1.3**
	0.9nm,0.5s,mb4.1						
TXAR	**Lajitas Array**	**143.96**	**33**	PKP	PKPdf	02 29 21.8	+0.8
	0.2nm,0.7s,baz=297,slow=2.8,SNR=3.6						
TXAR	**Lajitas Array**	**143.96**	**33**	PKP	PKPdf	02 29 21.8	+0.8

*NEIC **30** 02:14:04.2,15.36N×96.48W,h15km,MD4.1(MEX),After MEX.*

MEX 30 02:14:04.4±0.8,15.42N×96.42W,h10km±17km,MD4.1, 1C-1D,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.46**	**40**	*i* P	Pg	02 14 12.9	-0.8
HUIG				*i* S	Sg	02 14 20.4	+0.4
HUIG	**Huatulco**	**0.46**	**40**	⇊*i* P	Pg	02 14 12.9	-0.9
HUIG				*i* S	Sg	02 14 20.4	+0.4
VHO	**Vista Hermosa**	**1.67**	**350**	*i* P	Pn	02 14 30.3	-3.7
VHO				*i* S	Sn	02 14 50.1	-5.6
VHO	**Vista Hermosa**	**1.67**	**350**	⇑*i* P	Pn	02 14 30.3	-3.7
VHO				*i* S	Sn	02 14 50.6	-5.1
PNIG	**Pinotepa**	**1.91**	**301**	*e*P	Pn	02 14 32.2	-5.1
PNIG				*e*S	Sn	02 14 56.4	-5.2
PNIG	**Pinotepa**	**1.91**	**301**	*i* P	Pn	02 14 34.0	-3.4
PNIG				*i* S	Sn	02 14 56.7	-4.9
CMIG	**Matias Romero**	**2.22**	**41**	*e*P	Pn	02 14 38.9	-3.0
CMIG				*i* S	Sn	02 15 07.2	-2.5
CMIG	**Matias Romero**	**2.22**	**41**	*i* P	Pn	02 14 38.4	-3.5
CMIG				*i* S	Sn	02 15 03.5	-6.2
IISM	**Ciudad Serdan**	**3.67**	**346**	*e*P	Pn	02 15 06.0	+3.5
IISM				*e*S	Sn	02 15 48.5	+2.2
IISM	**Ciudad Serdan**	**3.67**	**346**	*e*P	Pn	02 14 59.0	-3.5
SCX	**San Cristobal**	**3.87**	**70**	*e*P	Pn	02 15 00.0	-5.3
SCX				*e*S	Sn	02 15 42.0	-9.3
PPM	**Popocatepetl**	**4.20**	**330**	*e*P	Pn	02 15 05.0	-5.0
PPM				*e*P		02 15 06.7	
PPM				*e*S	Sn	02 15 58.0	-1.7
PPM				*i* S	Sn	02 15 58.4	-1.3
CCIG	**Comitan**	**4.21**	**78**	*e*P	Pn	02 15 09.4	-0.8
YAIG	**Yautepec**	**4.26**	**324**	*i* S	Sn	02 15 58.4	-2.9

*IDC **30** 02:22:02.9±1.4,5.95N×92.87E,mb3.6/4,mb1 3.9/5, mb1mx3.7/19,mbtmp3.6/5,MS3.6/4,Ms1 3.6/4, ms1mx3.2/21,Error ellipse: s-maj=62.8km s-min=23.4km az=53.0*
*NEIC **30** 02:22:08.0±0.9,5.96N×93.03E,h30km,mb4.1/1,Error ellipse: s-maj=24.4km s-min=13.1km az=223.0*

ISC 30 02:22:08.0±2.6,6.0N±0.2×93.2E±0.1,h45km±23km,n15, σ1§16/14,mb3.7/5,MS3.8/3,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.50**	**95**	P	**P**	**02 23 57.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**13.58**	**24**	Pn	**P**	**02 25 21.6**	**+1.5**
	baz=223,slow=16,SNR=5.2						
CMAR				LR	LR	02 31 20.8	
	comp=Z,82nm,19.5s,baz=205,slow=40						
VIS	**Vishakhapatnam**	**15.06**	**321**	*e*P	**P**	**02 25 37.7**	**-2.0**
HYB	**Hyderabad**	**18.21**	**310**	*e*P	**P**	**02 26 20.0**	**+0.7**
HYB				*e*S	**S**	**02 29 39.0**	**+1.3**
HYB	**Hyderabad**	**18.21**	**310**	*i* P	**P**	**02 26 20.0**	**+0.7**
HYB				*e*S	**S**	**02 29 39.0**	**+1.3**
MKAR	**Makanchi Array**	**41.67**	**349**	P	**P**	**02 29 52.3**	**-1.5**
	0.9nm,0.8s,mb3.5,baz=162,slow=7.7,SNR=7.2						
ULN	**Ulaanbaatar**	**43.34**	**14**	P	**P**	**02 30 07.6**	**+0.1**
WRA	**Warramunga Arr**	**48.03**	**124**	P	**P**	**02 30 44.0**	**-1.1**
	0.6nm,0.8s,mb3.7,baz=300,slow=9.4,SNR=3.9						
WRAB	**Tennant Creek**	**48.04**	**124**	P	**P**	**02 30 45.6**	**+0.4**
ASAR	**Alice Springs**	**49.53**	**128**	P	**P**	**02 30 58.5**	**+1.9**
	0.4nm,0.7s,mb3.5,baz=293,slow=6.9,SNR=3.6						
CHKZ	**Chkalovo**	**50.92**	**343**	*e*P	**P**	**02 31 05.5**	**-1.2**
	1.8nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**59.58**	**132**	LR	LR	02 58 23.7	
	comp=Z,135nm,19.4s,MS4.1,baz=323,slow=36						
MATP	**Matopo**	**68.71**	**245**	LR	LR	03 00 39.7	
	comp=Z,47nm,19.1s,MS3.7,baz=153,slow=34						
GERES	**GERESS Array B**	**78.54**	**318**	P	**P**	**02 34 06.3**	**-0.1**
	0.6nm,0.7s,mb3.6,baz=90,slow=4.0,SNR=7.6						
NOA	**NORSAR Array B**	**80.84**	**331**	LR	LR	03 14 18.8	
	comp=Z,22nm,18.2s,MS3.5,baz=325,slow=39						

CASC 30 02:27:51.6±2.5,10.64N×86.86W,h20km±999km,MD3.9, 2D,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.44**	**22**	*e*P	Pn	02 28 17.4	+0.5
APON	**Apoyo**	**1.49**	**31**	*e*P	Pn	02 28 17.5	0.0
TICN	**Ticuantepe**	**1.52**	**24**	⇊*e*P	Pn	02 28 16.9	-1.0
CONN	**Concepcion**	**1.52**	**53**	*e*P	Pn	02 28 18.6	+0.6
MGAN	**Managua**	**1.61**	**22**	*e*P	Pn	02 28 18.5	-0.9
WILN	**Americas 2**	**1.65**	**23**	*e*P	Pn	02 28 20.0	+0.1
APYN	**Apoyeque**	**1.66**	**17**	*e*P	Pn	02 28 18.6	-1.4
MIRN	**Miramar**	**1.80**	**4**	⇊*e*P	Pn	02 28 21.4	-0.6
TEL3	**Telica 3**	**1.92**	**0**	*e*P	Pn	02 28 23.6	-0.2
PYTN	**Playitas**	**2.04**	**22**	*e*P	Pn	02 28 22.1	-3.4
CRIN	**San Cristobal**	**2.06**	**355**	*e*P	Pn	02 28 25.7	-0.1

*IDC **30** 02:40:14.5±0.6,2.69N×96.01E,mb4.1/12,mb1 4.2/13, mb1mx4.1/19,mbtmp4.1/13,ML4.6/1,MS3.4/1,Ms1 3.6/1, ms1mx2.9/27,Error ellipse: s-maj=29.2km s-min=15.0km az=52.0*
*BJI **30** 02:40:16.5,3.00N×95.93E,h15km,mB4.8,mb4.6,Ms4.4, Msz4.4*
*NEIC **30** 02:40:19.0±0.3,2.74N×96.13E,h30km,mb4.2/3,Error ellipse: s-maj=10.3km s-min=7.0km az=64.0*

ISC 30 02:40:21.0±3.1,2.84N±0.10×96.3E±0.1,h59km±26km,n39, σ0§83/33,mb4.3/19,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.95**	**60**	*e*P	**P**	**02 41 34.1**	**-0.5**
CM31	**Chiang Mai Arr**	**15.73**	**9**	P	**P**	**02 43 59.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**15.73**	**9**	Pn	**P**	**02 44 01.7**	**+1.2**
	0.8nm,0.3s,baz=200,slow=11,SNR=11						
CMAR				LR	LR	02 51 01.4	
	comp=Z,129nm,18.6s,baz=185,slow=41						
GYA	**Guiyang**	**25.50**	**22**	P	**P**	**02 45 46.0**	**+0.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.2s,mb5.0						
LSA	**Lhasa**	**27.17**	**350**	P	**P**	**02 46 01.1**	**0.0**
ENH	**Enshi**	**30.00**	**23**	P	**P**	**02 46 25.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**35.59**	**127**	P	**P**	**02 47 14.5**	**-0.5**
	comp=Z,5.1nm,0.9s,mb4.5,baz=225,slow=6.4,SNR=3.3						
GTA	**Gaotai**	**36.54**	**5**	P	**P**	**02 47 23.0**	**+0.1**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
ULHL	**Ulahol**	**43.16**	**338**	P	**P**	**02 48 18.5**	**+0.8**
	SNR=11						
KZA	**Kyzart**	**43.40**	**337**	P	**P**	**02 48 20.8**	**+1.2**
	SNR=5.4						
WRA	**Warramunga Arr**	**43.64**	**123**	P	**P**	**02 48 22.4**	**+0.5**
	comp=Z,0.9nm,0.5s,mb3.8,baz=300,slow=9.2,SNR=6.4						
WRAB	**Tennant Creek**	**43.64**	**123**	*e*P	**P**	**02 48 21.8**	**-0.1**
WB2	**Warramunga Arr**	**43.65**	**123**	*e*P	**P**	**02 48 22.3**	**+0.4**
UCH	**Uchtor**	**43.81**	**336**	P	**P**	**02 48 24.0**	**+1.0**
	SNR=12						
TKM2	**Tokmak 2**	**43.99**	**338**	P	**P**	**02 48 24.7**	**+0.3**
	SNR=6.2						
AML	**Almayashu**	**44.06**	**336**	P	**P**	**02 48 26.4**	**+1.4**
	SNR=10.0						
AAK	**Ala-Archa**	**44.16**	**337**	*e*P	**P**	**02 48 25.6**	**-0.2**
	comp=Z,4.5nm,1.0s,mb4.2						
USP	**Ospenovka**	**44.70**	**337**	P	**P**	**02 48 30.2**	**+0.1**
	SNR=6.9						
ASAR	**Alice Springs**	**45.07**	**128**	P	**P**	**02 48 33.9**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.6,baz=297,slow=7.8,SNR=7.5						
MKAR	**Makanchi Array**	**45.46**	**346**	P	**P**	**02 48 35.6**	**-0.5**
	comp=Z,9.1nm,0.6s,mb4.8,baz=161,slow=8.0,SNR=100						
ULN	**Ulaanbaatar**	**45.80**	**10**	*e*P	**P**	**02 48 38.2**	**-0.6**
	comp=Z,2.4nm,0.8s,mb4.2						
TLY	**Talaya**	**49.06**	**6**	P	**P**	**02 49 04.4**	**+0.2**
BVAR	**Borovoye Array**	**54.43**	**341**	P	**P**	**02 49 43.7**	**-0.8**
	comp=Z,2.4nm,0.6s,mb4.3,baz=154,slow=9.0,SNR=11						
CHKZ	**Chkalovo**	**54.91**	**342**	*e*P	**P**	**02 49 47.0**	**-1.0**
	comp=Z,30nm,1.1s,mb5.2						
STKA	**Stephens Creek**	**55.09**	**133**	P	**P**	**02 49 50.2**	**+0.6**
	comp=Z,0.9nm,0.5s,mb4.1,baz=298,slow=16,SNR=3.0						
KMBO	**Kilima Mbogo**	**59.19**	**267**	P	**P**	**02 50 20.2**	**+1.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=69,slow=7.6,SNR=4.9						
BRTR	**Keskin Array B**	**67.38**	**312**	P	**P**	**02 51 10.8**	**-1.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=137,slow=7.9,SNR=5.9						
AKASG	**Malin Array Be**	**73.44**	**322**	P	**P**	**02 51 47.8**	**-1.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=94,slow=4.4,SNR=7.5						
BOSA	**Boshof**	**74.85**	**240**	P	**P**	**02 51 55.5**	**-2.0**
	comp=Z,6.2nm,1.2s,mb4.4,baz=85,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**78.16**	**332**	P	**P**	**02 52 15.7**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.1,baz=90,slow=7.6,SNR=8.7						
KAF	**Kangasniemi**	**78.24**	**333**	*e*p	**P**	**02 52 16.0**	**+0.1**
	comp=Z,2.0nm,0.8s,mb4.1						
ARCES	**ARCESS Array B**	**80.71**	**340**	P	**P**	**02 52 29.9**	**+0.7**
	comp=Z,1.1nm,0.5s,mb4.1,baz=90,slow=5.3,SNR=21						
GERES	**GERESS Array B**	**83.02**	**319**	P	**P**	**02 52 40.8**	**-0.6**
	comp=Z,1.1nm,1.0s,mb3.9,baz=90,slow=5.3,SNR=8.3						
NVAR	**Mina Array Bea**	**127.95**	**34**	PKP	PKPdf	02 59 24.8	+3.9
	comp=Z,0.3nm,0.8s,baz=270,slow=0.9,SNR=3.5						
PDAR	**Pinedale Array**	**128.94**	**24**	PKP	PKPdf	02 59 24.2	+1.6
	comp=Z,0.2nm,0.5s,baz=315,slow=1.3,SNR=2.9						
TXAR	**Lajitas Array**	**142.71**	**30**	PKP	PKPdf	02 59 48.7	+0.3
	comp=Z,0.2nm,0.5s,baz=225,slow=3.5,SNR=3.8						
CPUP	**Villa Florida**	**145.59**	**225**	PKPbc	PKPbc	02 59 56.0	+1.8
	comp=Z,1.8nm,0.8s,baz=187,slow=1.6,SNR=9.3						
LPAZ	**La Paz**	**159.69**	**228**	PKPab	PKPab	03 00 52.9	-2.2
	comp=Z,0.6nm,0.7s,baz=146,slow=3.6,SNR=2.2						
LPAZ	**La Paz**	**159.69**	**228**	PKPab	PKPab	03 00 52.9	-2.2

*NEIC **30** 02:41:10.1±3.2,26.74N×96.25E,h88km±41km,mb3.9/2, Error ellipse: s-maj=61.3km s-min=23.3km az=50.0*
*IDC **30** 02:41:11.3±5.3,26.69N×96.41E,h101km±64km,mb3.5/7, mb1 3.6/8,mb1mx3.3/21,mbtmp3.7/8,ML3.8/1,Error ellipse: s-maj=73.6km s-min=33.1km az=42.0*

ISC 30 02:41:09.9±3.5,26.6N±0.3×96.1E±0.2,h105km±44km,n13, σ0§73/14,mb3.6/9,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.91**	**256**	*e*P	**P**	**02 42 09.0**	**-0.1**
SHL				*e*S	**S**	**02 42 54.2**	**0.0**
CMAR	**Chiang Mai Arr**	**8.52**	**161**	P	**P**	**02 43 12.0**	**+0.1**
	0.3nm,0.3s,baz=331,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**22.93**	**335**	P	**P**	**02 46 06.3**	**+1.0**
	0.4nm,0.3s,mb3.2,baz=136,slow=10,SNR=6.6						
MKAR	**Makanchi Array**	**22.93**	**335**	P	**P**	**02 46 06.3**	**+1.0**
AAK	**Ala-Archa**	**23.81**	**318**	*e*P	**P**	**02 46 13.5**	**-0.3**
	4.7nm,1.1s,mb3.7						
BVAR	**Borovoye Array**	**32.62**	**331**	P	**P**	**02 47 34.1**	**+0.6**
	0.6nm,0.3s,mb3.8,baz=129,slow=13,SNR=3.9						
CHKZ	**Chkalovo**	**32.98**	**332**	*e*P	**P**	**02 47 33.8**	**-2.8**
	1.3nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**57.48**	**328**	P	**P**	**02 50 50.5**	**+0.5**
	1.3nm,1.1s,mb3.9,baz=90,slow=4.2,SNR=3.0						
ARCES	**ARCESS Array B**	**58.57**	**337**	P	**P**	**02 50 57.4**	**-0.1**
	1.2nm,0.8s,mb4.0,baz=80,slow=7.4,SNR=5.1						
GERES	**GERESS Array B**	**65.63**	**314**	P	**P**	**02 51 45.2**	**+0.4**
	0.2nm,0.3s,mb3.4,baz=68,slow=7.2,SNR=4.5						
INK	**Inuvik**	**78.61**	**17**	P	**P**	**02 53 00.7**	**-0.4**
	0.6nm,0.4s,mb3.7,baz=330,slow=4.7,SNR=8.5						
YKA	**Yellowknife Ar**	**87.89**	**14**	P	**P**	**02 53 48.0**	**-0.3**
	0.1nm,0.5s,mb3.1,baz=334,slow=5.4,SNR=4.5						
YKA	**Yellowknife Ar**	**87.89**	**14**	P	**P**	**02 53 48.0**	**-0.3**

*LDG **30** 02:46:56.5±0.1,49.37N×6.88E,h1km,Md2.5/1,Ml2.4/12, Error ellipse: s-maj=1.4km s-min=1.2km az=97.0, Suspected Mining induced.*
*BGR **30** 02:46:56.5±0.4,49.38N×6.90E,h1km,ML1.8/3,Error ellipse: s-maj=7.8km s-min=4.4km az=32.0*
*BNS **30** 02:46:57.6,49.41N×6.94E,h1km,ML1.4*

ISC 30 02:46:54.2±0.4,49.35N±0.02×6.86E±0.04,n20,σ1§18/39, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.56**	**305**	*e*Pg	**Pg**	**02 47 07.5**	**+2.1**
	SNR=5.2						
WLF				*e*Sg	**Sg**	**02 47 13.9**	**+1.1**
CDF	**Champ du Feu**	**0.97**	**163**	*e*Pg	**Pg**	**02 47 14.6**	**+1.0**
CDF				*e*Sg	**Sg**	**02 47 27.9**	**+1.3**
	11nm,0.2s						
RFYF	**Reffroy**	**1.16**	**232**	*e*Pg	**Pg**	**02 47 19.6**	**+2.3**
	baz=51						
RFYF				*e*Sg	**Sg**	**02 47 34.3**	**+1.5**
	13nm,0.3s						
STB	**Steinbach**	**1.25**	**359**	*e*Sg	**Sg**	**02 47 35.8**	**0.0**
	8.6nm,0.8s						
KLL	**Kalltalsperre**	**1.35**	**345**	*e*Pg	**Pg**	**02 47 21.3**	**+0.2**
KLL				*e*Sg	**Sg**	**02 47 38.7**	**-0.4**
	6.2nm,0.7s						
TNS	**Taunus Mts**	**1.35**	**49**	*e*Pg	**Pg**	**02 47 21.1**	**-0.1**
	SNR=4.6						
TNS				*e*Sg	**Sg**	**02 47 37.5**	**-1.7**
HAU	**Haudompre**	**1.38**	**194**	*e*Pg	**Pg**	**02 47 23.0**	**+1.2**
HAU				*e*Sg	**Sg**	**02 47 41.2**	**+1.0**
	8.8nm,0.3s						
BFO	**Black Forest**	**1.41**	**136**	*e*Pg	**Pg**	**02 47 23.3**	**+1.1**
	SNR=3.0						
BFO				*e*Sg	**Sg**	**02 47 40.2**	**-0.8**
MEZF	**Maizieres J'vi**	**1.46**	**235**	*e*Pg	**Pg**	**02 47 24.3**	**+1.0**
	baz=58						
MEZF				*e*Sg	**Sg**	**02 47 44.0**	**+1.2**
	7.0nm,0.3s						
GIVF	**Givet**	**1.52**	**301**	*e*Pn	**Pn**	**02 47 23.6**	**+0.9**
GIVF				*e*Pg	**Pg**	**02 47 25.1**	**+0.5**
GIVF				*e*Sg	**Sg**	**02 47 44.5**	**-0.3**
	11nm,0.3s						
HINF	**Hinteralfeld**	**1.53**	**180**	*e*Pg	**Pg**	**02 47 25.4**	**+0.7**
HINF				*e*Sg	**Sg**	**02 47 45.8**	**+0.7**
	18nm,0.2s						
BAIF	**Baives**	**1.86**	**294**	*e*Pn	**Pn**	**02 47 27.9**	**+0.3**
BAIF				*e*Pg	**Pg**	**02 47 31.2**	**-0.2**
BAIF				*e*Sg	**Sg**	**02 47 55.3**	**-0.9**
	2.7nm,0.3s						
CABF	**La Chapelle**	**2.79**	**191**	*e*Pn	**Pn**	**02 47 41.1**	**+0.3**
CABF				*e*Pg	**Pg**	**02 47 48.9**	**-0.9**
CABF				*e*Sg	**Sg**	**02 48 25.4**	**-1.5**
	5.1nm,0.6s						
LOR	**Lormes**	**2.89**	**225**	*e*Pn	**Pn**	**02 47 41.9**	**-0.4**
	baz=49						
LOR				*e*Sn	**Sn**	**02 48 15.9**	**-2.3**
LOR				*e*Sg	**Sg**	**02 48 28.0**	**-2.3**
	3.5nm,0.4s						
SSF	**Saint Saulge**	**3.20**	**226**	*e*Pn	**Pn**	**02 47 46.1**	**-0.6**
SSF				*e*Sg	**Sg**	**02 48 38.0**	**-2.8**
	3.2nm,0.4s						
SMF	**Signal de Mont**	**3.38**	**218**	*e*Pn	**Pn**	**02 47 48.9**	**-0.3**
AVF	**Avril sur Loir**	**3.47**	**224**	*e*Pn	**Pn**	**02 47 49.6**	**-1.0**
AVF				*e*Sn	**Sn**	**02 48 30.0**	**-3.0**
	1.3nm,0.3s						
HYF	**Humbligny**	**3.50**	**235**	*e*Pg	**Pg**	**02 48 01.4**	**-2.6**
BGF	**Bois d'Agland**	**3.88**	**226**	*e*Pn	**Pn**	**02 47 55.9**	**-0.5**
GEC2	**GERESS Array S**	**4.53**	**94**	*e*Pn	**Pn**	**02 48 05.6**	**0.0**
	SNR=5.2						

*NEIC **30** 02:48:46.9,35.59N×26.77E,h15km,MD3.5(ATH),After ATH.*
*CSEM **30** 02:48:46.9,35.59N×26.77E,h15km,MD3.5/6,After ATH*

ATH 30 02:48:46.0,35.43N×26.80E,h22km±2km,MD3.5/7,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.32**	**68**	*e*PB	Pb	02 48 53.1	0.0
KARP				*e*SB	Sb	02 48 58.4	+0.6
NPS	**Neapolis**	**0.98**	**261**	*e*Pb	Pb	02 49 04.8	+0.6
NPS				*e*Sn	Sn	02 49 19.9	+2.0
XRY	**Khrisi**	**1.06**	**239**	*e*PN	Pn	02 49 06.3	+0.6
ARG	**Arkhangelos**	**1.33**	**54**	*e*PN	Pn	02 49 11.3	+1.7
SANT	**Santorini**	**1.44**	**311**	*e*P	Pn	02 49 09.4	-1.7
APE	**Apeiranthos**	**1.93**	**328**	*e*PB	Pb	02 49 18.5	-1.9
VAM	**Vamos**	**2.12**	**270**	*e*PN	Pn	02 49 23.0	+2.1
VAM	**Vamos**	**2.12**	**270**	*e*Pn	Pn	02 49 25.1	+4.2
VLI	**Veliai**	**3.38**	**293**	*e*PN	Pn	02 49 40.0	+1.2

*IDC **30** 02:50:35.5±1.1,2.66N×95.33E,mb4.2/9,mb1 4.4/10, mb1mx4.1/22,mbtmp4.3/10,ML4.5/1,MS3.4/3,Ms1 3.5/3, ms1mx3.1/25,Error ellipse: s-maj=47.5km s-min=17.1km az=50.0*
*BJI **30** 02:50:38.3,3.00N×95.58E,h12km,mB4.7,mb4.8,Ms3.7, Msz3.5*
*NEIC **30** 02:50:40.2±0.6,2.74N×95.45E,h30km,mb4.3/5,Error ellipse: s-maj=14.6km s-min=8.6km az=56.0*

ISC 30 02:50:39.4±4.2,2.7N±0.2×95.5E±0.2,h34km±34km,n30, σ0§77/26,mb4.4/20,MS3.5/2,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.72**	**64**	*e*P	**P**	**02 52 03.9**	**-0.3**
CM31	**Chiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.46**	**20⇑**	*e*P	**Pn**	**03 11 32.9**	**-2.5**
TRBA				*i* S	**Sb**	**03 11 54.5**	**+0.2**
TRBA				AML	AML	03 11 56.2	
	comp=Z,14μm,0.4s						
UDYN	**Al 'Udayn**	**2.14**	**9⇓**	*i*P	**Pn**	**03 11 42.7**	**-2.3**
UDYN				*i* S	**Sn**	**03 12 13.8**	**+2.0**
UDYN				AML	AML	03 12 23.7	
	comp=Z,4μm,0.6s						
UDYN	**Al 'Udayn**	**2.14**	**9⇓**	*i*P	**Pn**	**03 11 42.7**	**-2.3**
UDYN				*i* S	**Sn**	**03 12 12.8**	**+0.9**
	comp=Z,2μm,0.6s						
LBOS		**2.57**	**38⇑**	*i*P	**Pn**	**03 11 49.6**	**-1.7**
LBOS				*i* S	**Sn**	**03 12 24.2**	**+1.3**
DHBB	**Dhamar BB**	**2.81**	**16⇓**	*e*P	**Pn**	**03 11 53.2**	**-1.5**
DHBB				*i* S	**Sn**	**03 12 32.9**	**+3.9**
DHBB	**Dhamar BB**	**2.81**	**16⇑**	*e*P	**Pn**	**03 11 52.9**	**-1.8**
DHBB				*i* S	**Sn**	**03 12 31.2**	**+2.2**
BDHA	**Al Bayda'**	**2.85**	**42⇑**	*e*P	**Pn**	**03 11 53.7**	**-1.5**
BDHA				*i* S	**Sn**	**03 12 32.0**	**+2.1**
BDHA				AML	AML	03 12 52.2	
	comp=N,4μm,0.7s						
BDHA	**Al Bayda'**	**2.85**	**42⇓**	*e*P	**Pn**	**03 11 54.1**	**-1.1**
SANA	**San'a**	**3.57**	**9**	*i* P	**Pn**	**03 12 04.7**	**-0.8**
KMBO	**Kilima Mbogo**	**14.35 207**		Pn	**P**	**03 14 34.9**	**+0.6**
	comp=N,0.2nm,0.3s,baz=34,slow=17,SNR=5.2						
KMBO				Lg		03 18 49.1	
	comp=N,0.4nm,0.3s,baz=240,slow=17,SNR=9.4						
EIL	**Elat**	**19.48 337**		P	**P**	**03 15 41.6**	**+2.9**
	comp=N,0.1nm,0.3s,baz=67,slow=7.7,SNR=3.2						
ASF	**Jabal al Asfar**	**21.16 344**		P	**P**	**03 15 56.6**	**+0.1**
	comp=N,7.3nm,1.0s,mb4.0,baz=356,slow=4.6,SNR=6.8						
MALT	**Malatya**	**26.76 351**		P	**P**	**03 16 52.4**	**+1.8**
MALT	**Malatya**	**26.76 351**		P	**P**	**03 16 52.4**	**+1.7**
GNI	**Garni**	**28.21**	**2**	LR	LR	03 28 09.3	
	comp=N,54nm,20.6s,MS3.1,baz=335,slow=36						
BRTR	**Keskin Array B**	**29.14 344**		P	**P**	**03 17 12.1**	**-0.1**
	comp=N,0.9nm,0.9s,mb3.5,baz=141,slow=7.9,SNR=4.6						
LSZ	**Lusaka**	**30.97 210**		P	**P**	**03 17 29.0**	**+0.4**
LSZ	**Lusaka**	**30.97 210**		P	**P**	**03 17 29.0**	**+0.3**
AKASG	**Malin Array Be**	**40.50 346**		P	**P**	**03 18 48.6**	**-0.8**
	comp=N,0.1nm,0.3s,mb3.1,baz=166,slow=7.3,SNR=4.0						
MORC	**Moravsky Berou**	**43.50 336**		P	**P**	**03 19 13.5**	**-0.5**
	comp=N,1.9nm,1.1s,mb3.7						
MORC	**Moravsky Berou**	**43.50 336**		P	**P**	**03 19 13.5**	**-0.5**
BOSA	**Boshof**	**43.96 204**		P	**P**	**03 19 20.3**	**+2.2**
	comp=N,3.7nm,1.1s,mb4.0,baz=42,slow=12,SNR=3.1						
BOSA				LR	LR	03 38 48.3	
	comp=N,53nm,19.4s,MS3.5,baz=174,slow=38						
BOSA	**Boshof**	**43.96 204**		P	**P**	**03 19 20.3**	**+2.2**
BOSA				LR	LR	03 38 48.3	
GERES	**GERESS Array B**	**44.46 332**		P	**P**	**03 19 22.5**	**+0.7**
	comp=N,0.5nm,0.8s,mb3.3,baz=143,slow=6.7,SNR=3.6						
GERES				LR	LR	03 36 51.4	
	comp=N,18nm,19.6s,MS3.0,baz=182,slow=35						
MKAR	**Makanchi Array**	**47.68**	**36**	P	**P**	**03 19 47.0**	**-0.4**
	comp=N,2.0nm,0.9s,mb4.2,baz=225,slow=6.9,SNR=15						
MKAR				LR	LR	03 43 23.9	
	comp=N,41nm,19.7s,MS3.4,baz=359,slow=41						
FINES	**FINESS Array B**	**51.14 349**		P	**P**	**03 20 11.4**	**-2.3**
	comp=N,0.6nm,0.7s,mb3.6,slow=6.9,SNR=3.3						
CMAR	**Chiang Mai Arr**	**53.65**	**76**	P	**P**	**03 20 33.0**	**0.0**
	comp=N,1.2nm,0.5s,mb4.1,baz=267,slow=8.8,SNR=7.0						
NOA	**NORSAR Array B**	**54.52 341**		LR	LR	03 44 50.5	
	comp=N,21nm,16.1s,MS3.3,baz=290,slow=37						

*IDC **30** 03:16:47.8±0.9, 30.05S×177.40W, mb4.3/7, mb1 4.5/8, mb1mx4.3/17, mbtmp4.4/8, ML4.5/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/20, Error ellipse: s-maj=29.8km s-min=23.8km az=147.0*

*BJI **30** 03:16:53.2, 30.59S×176.82W, h68km, mB5.5, mb5.1, Ms5.0, Msz4.7*

*NEIC **30** 03:16:54.1±1.6, 30.12S×177.53W, h43km±13km, mb4.8/5, Error ellipse: s-maj=16.3km s-min=10.8km az=97.0*

ISC 30 03:16:51.7±3.9, 30.27S±0.08×177.6W±0.2, h30km±28km, n44, σ1§05/22, mb4.6/9, MS3.8/7, 2C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.04 347**		*e*P	**Pn**	**03 17 10.8**	**+0.4**
URZ	**Urewera**	**9.07 207**		Pn	**P**	**03 18 55.7**	**-8.0**
	1.1nm,0.3s,baz=348,slow=3.7,SNR=7.0						
URZ				Sn	**Sn**	**03 20 40.1**	**-5.9**
	3.8nm,0.3s,baz=188,slow=18,SNR=7.1						
SNZO	**South Karori**	**12.64 207**		P	**P**	**03 19 50.1**	**-2.2**
RPZ	**Rata Peaks**	**16.15 211**		Pn	**P**	**03 20 39.1**	**+1.0**
	1.7nm,0.3s,baz=308,slow=6.4,SNR=6.9						
DZM	**Mont Dzumac**	**16.45 296**		Pn	**P**	**03 20 48.7**	**+6.7**
	0.3nm,0.3s,baz=74,slow=18,SNR=4.2						
DZM				LR	LR	03 25 39.0	
	comp=Z,244nm,19.5s,baz=25,slow=32						
TBI	**Tubuai**	**26.04**	**81**	*e*LR	LR	03 28 28.7	
	198nm,31.0s						
PPT	**Papeete**	**28.51**	**70**	*e*LR	LR	03 29 39.2	
	160nm,26.8s						
HNR	**Honiara**	**29.45 310**		LR	LR	03 32 44.0	
	comp=Z,73nm,19.8s,MS3.3,baz=186,slow=32						
CTA	**Charters Tower**	**34.09 279**		P	**P**	**03 23 37.1**	**+1.3**
	4.2nm,0.4s,mb4.7,baz=100,slow=11,SNR=19						
CTA				LR	LR	03 36 17.4	
	comp=Z,182nm,18.4s,MS3.8,baz=48,slow=34						
STKA	**Stephens Creek**	**34.81 257**		*e*P	**P**	**03 23 43.2**	**+1.3**
	8.1nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**34.81 257**		P	**P**	**03 23 43.4**	**+1.5**
	11nm,0.8s,mb4.8,baz=85,slow=9.9,SNR=15						
STKA				LR	LR	03 37 09.0	
	comp=Z,217nm,21.5s,MS3.9,baz=178,slow=35						
RKT	**Rikitea**	**38.60**	**90**	*e*LR	LR	03 34 17.9	
	137nm,29.5s						
PMG	**Port Moresby**	**38.83 295**		LR	LR	03 36 32.5	
	comp=Z,2.8nm,19.2s,baz=153,slow=30						
ASAR	**Alice Springs**	**43.43 267**		P	**P**	**03 24 53.4**	**-0.3**
	3.8nm,0.5s,mb4.4,baz=107,slow=7.6,SNR=30						
ASAR				PcP	PcP	03 26 41.0	-1.2
	1.8nm,0.9s,baz=116,slow=5.2,SNR=5.9						
ASAR				LR	LR	03 42 49.7	
	comp=Z,147nm,18.6s,MS3.9,baz=180,slow=36						
ASPA	**Alice Springs**	**43.43 267**		*e*P	**P**	**03 24 54.2**	**+0.5**
WB2	**Warramunga Arr**	**44.39 272**		⇑*i*P	**P**	**03 25 00.9**	**-0.7**
WRAB	**Tennant Creek**	**44.40 272**		*e*P	**P**	**03 25 00.9**	**-0.7**
	11nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**44.40 272**		P	**P**	**03 25 01.3**	**-0.4**
	4.9nm,0.3s,mb4.7,baz=110,slow=8.1,SNR=86						
FORT	**Forrest**	**46.38 255**		*e*P	**P**	**03 25 16.3**	**-0.9**
	102nm,0.5s						
SBA	**Scott Base**	**48.19 184**		*e*P	**P**	**03 25 32.3**	**+1.5**
VNDA	**Vanda**	**48.25 186**		P	**P**	**03 25 32.7**	**+1.4**
	0.3nm,0.6s,baz=6.3,slow=4.6,SNR=4.7						
FITZ	**Fitzroy Crossi**	**52.67 270**		LR	LR	03 48 49.1	
	comp=Z,123nm,19.4s,MS4.0,baz=180,slow=36						
NWAO	**Narrogin (SRO)**	**54.73 249**		LR	LR	03 49 32.7	
	comp=Z,90nm,20.1s,MS3.8,baz=272,slow=36						
CASY	**Casey**	**55.40 208**		*e*P	**P**	**03 26 23.5**	**-1.6**
	14nm,1.1s,mb4.9						
QSPA	**South Pole Qui**	**59.84 180**		⇑*i*P	**P**	**03 26 56.3**	**+0.1**
	12nm,0.5s,mb5.2						
MAW	**Mawson**	**72.54 200**		P	**P**	**03 28 17.6**	**+0.4**
	2.3nm,0.8s,mb4.2,baz=164,slow=7.4,SNR=4.3						
MAW	**Mawson**	**72.54 200**		*e*P	**P**	**03 28 17.0**	**-0.1**
	1.8nm,0.6s,mb4.2						
NVAR	**Mina Array Bea**	**87.93**	**43**	P	**P**	**03 29 38.7**	**-1.2**
	0.6nm,0.8s,mb3.9,baz=214,slow=5.5,SNR=4.7						
ULN	**Ulaanbaatar**	**102.89 318**		Pdif	Pdif	03 30 49.0	+1.1
WMQ	**Urumqi**	**113.39 308**		PKP	PKPdf	03 35 26.0	-5.7
WMQ				PP	PP	03 36 21.0	-1.8
WMQ				PP	PP		
	comp=Z,120nm,4.3s						
WMQ				LR	LR		
	comp=N,95nm,20.8s						
WMQ				LR	LR		
	comp=Z,55nm,19.7s,MS4.2						
MKAR	**Makanchi Array**	**117.93 310**		PKP	PKPdf	03 35 35.1	-5.3
	comp=Z,0.2nm,0.5s,baz=141,slow=1.0,SNR=5.9						
CHKZ	**Chkalovo**	**126.43 317**		PKP	PKPdf	03 35 50.8	-5.8
KAF	**Kangasniemi**	**144.53 341**		*ep*	PKPbc	03 36 22.6	-1.5
	comp=Z,2.6nm,0.7s						
FINES	**FINESS Array B**	**145.13 340**		PKP	PKPdf	03 36 25.3	-5.3
	comp=Z,7.9nm,0.6s,baz=53,slow=3.9,SNR=68						
NB2	**NORSAR Subarra**	**148.67 352**		PKPbc	PKPdf	03 36 35.2	-1.3
	comp=Z,3.0nm,0.8s,baz=15,slow=4.5						
NOA	**NORSAR Array B**	**148.67 352**		PKPbc	PKPdf	03 36 35.6	-0.9
	comp=Z,1.9nm,0.8s,baz=16,slow=4.2,SNR=6.0						
MALT	**Malatya**	**149.29 295**		*e*PKPbc	PKPdf	03 36 39.4	+1.2
ASF	**Jabal al Asfar**	**150.48 283**		PKPbc	PKPdf	03 36 42.8	+2.5
	comp=Z,3.4nm,0.5s,baz=360,slow=4.7,SNR=7.1						
AKASG	**Malin Array Be**	**151.39 323**		PKPbc	PKPdf	03 36 42.0	+1.0
	comp=Z,1.5nm,0.5s,baz=46,slow=2.7,SNR=16						
BRTR	**Keskin Array B**	**152.81 299**		PKPbc	PKPdf	03 36 46.0	+2.5
	comp=Z,0.8nm,0.4s,baz=124,slow=4.5,SNR=7.0						
KWP	**Kalwaria**	**155.30 327**		*e*PKPab	PKPab	03 37 08.3	-0.7
CLL	**Collm**	**157.54 342**		*e*PPKP2		03 37 30.0	
KHC	**Kasperske Hory**	**159.32 339**		*e*P	PKPab	03 37 25.0	-1.3
GERES	**GERESS Array B**	**159.54 338**		PKPab	PKPab	03 37 26.7	-0.6
	comp=Z,0.5nm,0.7s,baz=18,slow=4.2,SNR=4.4						

OTT 30 03:18:33.2±0.6, 60.79N×58.40W, h18km, ML3.2/6, LAlbertaRADOR Sea Seismic Zone. 355km east from Resolution Island, Nu, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRB	**Frobisher Bay**	**5.59 306**		PN	Pn	03 19 55.6	-2.0
FRB				SN	Sn	03 20 53.8	-8.4
FRB				Trac		03 21 05.2	
	comp=Z,1.7nm,0.1s						
KUQ	**Kuujjuuaa**	**5.77 247**		PN	Pn	03 19 57.5	-2.6
KUQ				SN	Sn	03 20 59.4	-7.2
KUQ				Trac		03 21 00.2	
	comp=Z,2.5nm,0.2s						
SFJD	**Kangerlussuaq**	**7.11**	**25**	*i* P	Pn	03 20 16.1	-2.9
SFJD				*i* S	Sn	03 21 32.3	-7.9
SCHQ	**Schefferville**	**7.47 221**		PN	Pn	03 20 21.3	-2.9
SCHQ				SN	Sn	03 21 41.6	-7.7
SCHQ				Trac		03 21 47.1	
	comp=Z,2.6nm,0.4s						
LG4Q	**La Grande 4**	**11.11 237**		PN	P	03 21 08.2	-6.0
LG4Q				SN	S	03 23 04.4	-15
LG4Q				Trac		03 23 12.4	
	comp=Z,0.8nm,0.2s						
MNQ	**Manicouagan**	**11.81 214**		PN	P	03 21 18.4	-5.3
QILN	**Qililugaq Expl**	**13.62 307**		PN	P	03 21 42.4	-5.1
QILN				SN	S	03 24 01.2	-18
QILN				Trac		03 24 09.9	
	comp=Z,1.2nm,1.1s						
PINU	**Pond Inlet**	**14.12 336**		PN	P	03 21 45.9	-8.2
PINU				SN	S	03 24 13.0	-18
SILO	**Sutton Inlier**	**15.46 258**		PN	P	03 22 07.4	-4.3
SILO				SN	S	03 24 44.0	-19
VIMO	**Victor Mine**	**15.92 251**		PN	P	03 22 10.7	-7.0
VIMO				SN	S	03 24 57.5	-16

*IDC **30** 03:33:04.9±0.9, 1.81S×99.92E, h34km±5km, mb3.9/10, mb1 4.1/10, mb1mx3.8/19, mbtmp4.1/10, Error ellipse: s-maj=37.3km s-min=14.6km az=51.0*

*NEIC **30** 03:33:04.7±0.4, 1.81S×99.93E, mb4.6/2, Error ellipse: s-maj=14.4km s-min=6.0km az=60.0*

ISC 30 03:33:03.1±3.7, 1.8S±0.1×100.0E±0.2, h36km±31km, h35km±1.4km: pP-P, n21, σ0§61/17, mb4.2/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.02**	**5**	*e*P	**P**	**03 34 46.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**20.10 357**		P	**P**	**03 37 36.0**	**-0.7**
	1.8nm,0.6s,baz=185,slow=9.5,SNR=9.1						
MBWA	**Marble Bar**	**27.25 136**		P	**P**	**03 38 46.2**	**0.0**
FITZ	**Fitzroy Crossi**	**29.96 124**		P	**P**	**03 39 10.4**	**-0.2**
	2.5nm,0.6s,mb4.2,baz=270,slow=20,SNR=5.5						
FITZ				pP	pP	03 39 20.6	-0.2
	13nm,0.8s,baz=302,slow=5.2,SNR=7.2						
WRA	**Warramunga Arr**	**38.13 121**		P	**P**	**03 40 21.0**	**+0.2**
	1.7nm,0.4s,mb4.1,baz=303,slow=9.0,SNR=22						
WRA				pP	pP	03 40 30.7	-0.6
	2.3nm,0.4s,baz=302,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	**38.14 121**		*e*P	**P**	**03 40 20.6**	**-0.3**
	6.5nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**38.14 121**		*e*P	**P**	**03 40 21.0**	**+0.1**
ASPA	**Alice Springs**	**39.41 126**		*e*P	pP	03 40 39.8	-2.0
ASAR	**Alice Springs**	**39.41 126**		P	**P**	**03 40 32.1**	**+0.7**
	1.1nm,0.6s,mb3.8,baz=300,slow=8.0,SNR=18						
ASAR				pP	pP	03 40 42.0	+0.1
	5.2nm,0.7s,baz=300,slow=7.7,SNR=24						
ASAR				PcP	PcP	03 42 41.5	+1.8
	0.6nm,0.9s,baz=307,slow=4.5,SNR=3.1						
ASAR				pPcP		03 42 51.1	
	1.4nm,0.7s,baz=302,slow=2.2,SNR=7.1						
STKA	**Stephens Creek**	**49.33 132**		P	**P**	**03 41 50.5**	**-0.6**
	3.3nm,0.9s,mb4.3,baz=329,slow=12,SNR=2.7						
STKA				pP	pP	03 42 01.4	-0.2
	8.4nm,0.6s,baz=311,slow=6.4,SNR=9.0						
STKA	**Stephens Creek**	**49.33 132**		P	**P**	**03 41 50.5**	**-0.6**
STKA				pP	pP	03 42 01.4	-0.2
ULN	**Ulaanbaatar**	**49.79**	**6**	*e*P	**P**	**03 41 53.9**	**-0.4**
MKAR	**Makanchi Array**	**50.78 344**		P	**P**	**03 42 02.6**	**+0.7**
	3.4nm,0.4s,mb4.7,baz=159,slow=8.6,SNR=84						
BVAR	**Borovoye Array**	**59.94 340**		P	**P**	**03 43 07.4**	**-0.7**
	0.9nm,0.4s,mb4.1,baz=138,slow=8.9,SNR=7.1						
CHKZ	**Chkalovo**	**60.40 340**		*e*P	**P**	**03 43 10.4**	**-0.8**
	3.1nm,0.9s,mb4.3						
MATP	**Matopo**	**72.05 249**		P	**P**	**03 44 25.6**	**-0.3**
	3.6nm,1.1s,mb4.2,baz=72,slow=13,SNR=4.1						
FINES	**FINESS Array B**	**83.88 332**		P	**P**	**03 45 30.9**	**+0.6**
	0.5nm,0.5s,mb3.9,baz=108,slow=6.4,SNR=10						
ARCES	**ARCESS Array B**	**86.23 340**		P	**P**	**03 45 43.2**	**+1.5**
	2.5nm,0.8s,mb4.5,baz=348,slow=11,SNR=6.4						
TXAR	**Lajitas Array**	**144.51**	**37**	PKP	PKPdf	03 52 38.4	+1.9
	0.6nm,0.6s,baz=217,slow=0.7,SNR=9.3						
TXAR				pPKP		03 52 49.4	
	0.9nm,0.5s,baz=294,slow=1.3,SNR=9.2						
TXAR	**Lajitas Array**	**144.51**	**37**	PKP	PKPdf	03 52 38.4	+1.9
TXAR				pPKP		03 52 49.4	
CPUP	**Villa Florida**	**144.52 217**		PKP	PKPdf	03 52 37.7	+1.1
	2.0nm,0.8s,baz=134,slow=3.0,SNR=8.1						

*IDC **30** 04:06:11.4±0.6, 15.84N×96.07E, mb4.4/18, mb1 4.6/19, mb1mx4.4/26, mbtmp4.4/19, ML4.3/1, MS3.9/14, Ms1 3.9/14, ms1mx3.8/24, Error ellipse: s-maj=20.0km s-min=13.4km az=55.0*

*BJI **30** 04:06:13.6, 15.80N×96.20E, h10km, mB4.8, mb4.6, Ms4.8, Msz4.4*

*NEIC **30** 04:06:13.7±0.3, 15.82N×96.19E, h10km, mb4.7/32, Error ellipse: s-maj=9.4km s-min=7.2km az=215.0*

*MOS **30** 04:06:15.3±1.2, 15.88N×96.32E, h33km, mb4.9/35, MS4.2/6, Error ellipse: s-maj=13.5km s-min=5.4km az=125.5*

ISC 30 04:06:16.7±0.3, 15.74N±0.05×96.19E±0.04, h44km, h44km±3.9km: pP-P, n179, σ1§28/180, mb4.6/63, MS4.1/22, 11C-7D, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**3.77**	**44**	*e*P	**P**	**04 07 11.9**	**-1.9**
CMAR	**Chiang Mai Arr**	**3.77**	**44**	Pn	**P**	**04 07 11.8**	**-2.0**
	5.9nm,0.3s,baz=236,slow=18,SNR=34						
CMAR				Lg		04 08 12.2	
	11nm,0.3s,baz=235,slow=30,SNR=6.6						
CMAR				LR	LR	04 08 56.9	
	comp=Z,2μm,19.5s,baz=235,slow=44						
NST	**Nakhon Sawan**	**3.80**	**91**	PN	**P**	**04 07 14.0**	**-0.2**
NST				PG	**P**	**04 07 18.5**	**+4.3**
NST				SG	S	04 07 36.5	-22
NANT	**Nan**	**5.27**	**54**	PN	**P**	**04 07 34.0**	**-0.9**
NANT				PG	**P**	**04 07 37.0**	**+2.1**
NANT				SG	**S**	**04 08 46.0**	**+11**
AGT	**Agartala**	**9.34 331**		*e*P	**P**	**04 08 27.0**	**-4.5**
CAL	**Calcutta**	**10.04 314**		*e*	Px	04 09 20.5	
CAL				*e*	**S**	**04 10 34.5**	**+0.8**
SHL	**Shillong**	**10.57 338**		*e*P	**P**	**04 08 41.5**	**-7.0**
SHL				*e*S	**S**	**04 10 35.0**	**-12**
VIS	**Vishakhapatnam**	**12.48 281**		*e*P	**P**	**04 09 05.7**	**-8.5**
VIS				*e*		04 11 07.1	
VIS				*e*		04 11 24.2	
	comp=N,86nm,1.4s						
VIS				*e*		04 11 24.2	
	comp=Z,73nm,1.2s						
GYA	**Guiyang**	**14.45**	**41**	⇓*i*P	**P**	**04 09 43.8**	**+3.5**
GYA				XP		04 09 53.8	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
GYA				AMB	AMB		
	comp=Z,90nm,4.5s						
GYA				LR	LR		
	comp=N,1μm,11.4s						
GYA				LR	LR		
	comp=E,2μm,11.1s						
GYA				LR	LR		
	comp=Z,1μm,13.2s						
LSA	**Lhasa**	**14.64 342**		*e*P	**P**	**04 09 39.4**	**-3.4**
LSA				pmax	pmax		
	comp=Z,15nm,0.7s						
LSA	**Lhasa**	**14.64 342**		*e*P	**P**	**04 09 39.4**	**-3.4**
	comp=Z,15nm,0.7s						
JIRN	**Jiri**	**15.05 324**		*e*P	**P**	**04 09 46.2**	**-1.9**
GUN	**Gumba**	**15.42 323**		*e*P	**P**	**04 09 49.6**	**-3.3**
	comp=Z,161nm,0.8s						
PKI	**Pulchoki**	**15.45 321**		*e*P	**P**	**04 09 46.0**	**-7.2**
DMN	**Daman**	**15.66 321**		*e*P	**P**	**04 09 48.4**	**-7.5**
	comp=Z,134nm,0.8s						
KKN	**Kakani**	**15.68 322**		*e*P	**P**	**04 09 50.2**	**-6.0**
	comp=Z,86nm,0.9s						
GKN	**Gorkha**	**16.23 321**		*e*P	**P**	**04 09 56.3**	**-6.8**
	comp=Z,316nm,1.2s						
CD2	**Chengdu**	**16.61**	**23**	*e*P	**P**	**04 10 09.0**	**+1.1**
KOLN	**Koldanda**	**16.72 318**		*e*P	**P**	**04 10 01.1**	**-8.1**
	comp=Z,157nm,0.7s						
HYB	**Hyderabad**	**16.99 278**		*e*P	**P**	**04 10 12.0**	**-0.7**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s						
HYB	**Hyderabad**	**16.99 278**		*e*P	**P**	**04 10 12.0**	**-0.7**
	comp=Z,60nm,1.0s						
HYB	**Hyderabad**	**16.99 278**		*i* P	**P**	**04 10 12.0**	**-0.7**
	comp=Z,60nm,1.0s						
PALK	**Pallekele**	**17.34 243**		*e*P	**P**	**04 10 15.6**	**-1.6**
	comp=Z,30nm,1.2s						
ENH	**Enshi**	**18.92**	**38**	*e*P	**P**	**04 10 34.3**	**-2.1**
BHPL	**Bhopal**	**19.19 296**		*e*P	**P**	**04 10 37.0**	**-2.5**
BHPL				*e*		04 14 03.8	
PTH	**Pithoragarh**	**20.12 316**		*e*P	**P**	**04 10 49.0**	**-0.6**
PTH				*e*		04 14 29.0	
KAD	**Karad**	**21.16 277**		*e*P	**P**	**04 10 57.0**	**-3.3**
LZH	**Lanzhou**	**21.38**	**17**	*e*P	**P**	**04 11 04.5**	**+2.1**
LZH				AP		04 11 08.5	
LZH				XP		04 11 12.0	
LZH				PP	PP	04 11 30.5	+3.3
LZH				*e*S	**S**	**04 14 57.0**	**+4.8**
LZH				AMB	AMB		
	comp=Z,31nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,130nm,4.0s						
LZH				LR	LR		
	comp=N,5μm,10.8s						
LZH				LR	LR		
	comp=Z,7μm,12.8s,MS5.2						
POO	**Poona**	**21.53 281**		⇑*i*P	**P**	**04 10 59.0**	**-5.0**
XAN	**Xi'an**	**21.53**	**30**	P	**P**	**04 11 03.8**	**-0.2**
XAN				AP		04 11 14.5	
XAN				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.3						
NDI	**New Delhi**	**21.74 310**		*e*P	**P**	**04 11 04.5**	**-1.6**
NDI				*e*		04 15 13.0	
KKM	**Kota Kinabalu**	**21.88 114**		P	**P**	**04 11 07.8**	**+0.2**
SDNR	**Sundarnagar**	**23.52 315**		*e*P	**P**	**04 11 19.6**	**-4.0**
SDNR				*e*		04 15 48.6	
GTA	**Gaotai**	**23.79**	**7**	P	**P**	**04 11 26.8**	**+0.7**
GTA				AP		04 11 34.5	
GTA				XP		04 11 37.0	
GTA				PP	PP	04 12 03.5	+3.2
GTA				S	**S**	**04 15 44.0**	**+8.5**
GTA				SCS	ScS	04 22 29.0	-0.1
GTA				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,145nm,8.7s						
GTA				LR	LR		
	comp=N,623nm,15.2s,MS4.5						
GTA				LR	LR		
	comp=E,972nm,12.2s,MS4.5						
GTA				LR	LR		
	comp=Z,621nm,17.5s						
HHC	**Hu-ho-hao-te**	**28.35**	**25**	*e*P	**P**	**04 12 13.0**	**+4.3**
HHC				PCS		04 18 59.8	
HHC				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,130nm,5.6s						
HHC				LR	LR		
	comp=N,988nm,12.2s,MS4.7						
HHC				LR	LR		
	comp=E,842nm,16.3s,MS4.7						
HHC				LR	LR		
	comp=Z,1μm,12.4s,MS4.7						
WMQ	**Urumqi**	**28.91 347**		⇑P	**P**	**04 12 11.5**	**-2.1**
WMQ				AP	pP	04 12 18.8	-6.5
WMQ				XP	sP	04 12 22.0	-8.9
WMQ				PCP	PcP	04 15 20.5	-1.6
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,25nm,3.5s						
WMQ				LR	LR		
	comp=N,268nm,23.6s,MS4.0						
WMQ				LR	LR		
	comp=E,364nm,23.8s,MS4.0						
WMQ				LR	LR		
	comp=Z,213nm,22.2s,MS3.7						
**ULHL

BOD Bodaibo 44.08 14 *eP* **P 04 14 18.3 -3.6**
FITZ Fitzroy Crossi 44.41 138 P **P 04 14 24.8 -0.4**
comp=Z,4.3nm,1.0s,mb4.1,baz=335,slow=7.6,SNR=3.0
SVE Sverdlovsk 49.01 335 *eP* **P 04 15 00.0 -0.8**
SVE *e* 04 15 17.5
SVE pmax pmax
comp=Z,44nm,1.0s,mb5.4
SVE MLR MLR
comp=N,200nm,12.0s,MS4.4
SVE MLR MLR
comp=E,100nm,12.0s,MS4.4
SVE MLR MLR
comp=Z,400nm,12.0s,MS4.6
ARU Arti 49.62 334⇑ *iP* **P 04 15 05.1 -0.4**
ARU *e* 04 16 22.1
ARU *e* 04 16 56.6
ARU *e*S **S 04 22 13.7 +4.3**
ARU pmax pmax
comp=Z,12nm,0.9s,mb4.9
ARU Arti 49.62 334 *eP* **P 04 15 03.6 -1.9**
comp=Z,19nm,1.1s,mb5.0
WRA Warramunga Arr 51.61 132 P **P 04 15 20.8 -0.3**
comp=Z,5.9nm,0.7s,mb4.6,baz=315,slow=7.4,SNR=39
WRA Warramunga Arr 51.61 132 P **P 04 15 20.8 -0.3**
WRAB Tennant Creek 51.61 132 *eP* **P 04 15 19.7 -1.4**
WRAB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WRAB Tennant Creek 51.61 132 *eP* **P 04 15 19.6 -1.5**
comp=Z,9.0nm,0.8s,mb4.8
WB2 Warramunga Arr 51.62 132 *eP* **P 04 15 21.5 +0.3**
SOKR Solikamsk 52.35 336⇑ *iP* **P 04 15 24.1 -2.0**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.0
NWAO Narrogin (SRO) 52.41 158 P **P 04 15 27.0 0.0**
comp=Z,4.3nm,0.7s,mb4.5,baz=278,slow=7.1,SNR=3.5
KIV Kislovodsk 53.12 313⇓ *eP* **P 04 15 30.6 -1.5**
KIV *e* pP 04 15 46.2 +1.6
KIV pmax pmax
comp=Z,81nm,1.0s,mb5.6
GOF Gofitskoye 53.17 315⇑ *iP* **P 04 15 30.6 -1.9**
GOF pmax pmax
comp=Z,40nm,1.7s,mb5.1
ASAR Alice Springs 53.78 136 P **P 04 15 37.3 0.0**
comp=Z,2.1nm,0.6s,mb4.2,baz=315,slow=6.9,SNR=41
ASAR LR LR 04 43 22.1
comp=Z,93nm,18.5s,MS3.9,baz=308,slow=41
MALT Malatya 55.21 306 ⇓P **P 04 15 47.9 +0.4**
comp=Z,0.5nm,1.1s
ANN Anapa 56.98 313 *eP* **P 04 16 00.8 +0.7**
ANN pmax pmax
comp=Z,27nm,0.9s,mb5.3
BRTR Keskin Array B 59.07 307 P **P 04 16 11.6 -3.2**
comp=Z,9.5nm,0.9s,mb4.8,baz=121,slow=7.2,SNR=21
TIXI Tiksi 59.17 11⇓ *eP* **P 04 16 12.1 -3.0**
TIXI pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
ANTO Ankara 59.73 307⇑P **P 04 16 19.4 0.0**
OBN Obninsk 59.97 325 *eP* **P 04 16 20.8 0.0**
OBN *e* pP 04 16 29.1 -0.4
OBN *e* 04 17 06.0
OBN pmax pmax
comp=Z,25nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.0
KMBO Kilima Mbogo 60.56 260 LR LR 04 37 48.5
comp=Z,89nm,20.5s,MS3.9,baz=228,slow=31
AKASG Malin Array Be 63.40 319 P **P 04 16 42.8 -1.1**
comp=Z,7.2nm,0.8s,mb4.8,baz=82,slow=5.1,SNR=27
CFR Carcaliu 63.57 313⇑⇑P **P 04 16 45.2 +0.1**
STKA Stephens Creek 64.31 138 LR LR 04 47 27.5
comp=Z,200nm,21.7s,MS4.3,baz=300,slow=38
VRI Vrincioaia 64.60 314⇑P **P 04 16 53.0 +1.2**
MLR Muntele Rosu 65.13 313 P **P 04 16 54.7 -0.5**
comp=Z,16nm,0.9s,mb5.0,baz=158,slow=6.6
MLR Muntele Rosu 65.13 313⇓P **P 04 16 54.2 -1.0**
MLR Muntele Rosu 65.13 313⇓P **P 04 16 54.2 -1.0**
BURAR Bucovina Array 65.74 315⇑⇑P **P 04 17 00.1 +1.1**
BURAR Bucovina Array 65.74 315⇑⇑P **P 04 17 00.2 +1.2**
FINES FINESS Array B 66.81 331 P **P 04 17 03.8 -1.8**
comp=Z,2.7nm,0.9s,mb4.3,baz=27,slow=4.3,SNR=8.3
FINES LR LR 04 47 38.6
comp=Z,80nm,21.6s,MS3.9,baz=340,slow=37
KAF Kangasniemi 66.82 331 *ep* **P 04 17 05.3 -0.3**
baz=97,slow=6.1
KWP Kalwaria 67.49 318 *eP* **P 04 17 08.1 -2.0**
KWP pmax pmax
comp=Z,27nm,1.0s,mb5.2
KWP Kalwaria 67.49 318 *eP* **P 04 17 08.1 -2.0**
comp=Z,27nm,1.0s,mb5.2
KOLS Kolonicke sedl 67.75 317 *eP* **P 04 17 11.9 +0.2**
BZS Buzias 68.17 313⇓P **P 04 17 15.7 +1.3**
CRVS Cervenica-Dubn 68.29 317 *eP* **P 04 17 16.9 +1.8**
CRVS *e* pP 04 17 30.4 +2.4
ARCES ARCESS Array B 68.63 339 P **P 04 17 14.5 -2.3**
comp=Z,2.2nm,0.6s,mb4.2,baz=90,slow=3.6,SNR=8.3
ARCES LR LR 04 53 55.4
comp=Z,100nm,18.1s,MS4.1,baz=201,slow=42
ARCES ARCESS Array B 68.63 339 P **P 04 17 14.5 -2.3**
ARCES LR LR 04 53 55.4
PSZ Piszkesteto 69.33 316 *eP* **P 04 17 19.7 -1.8**
PSZ pmax pmax
comp=Z,11nm,1.2s,mb4.7
PSZ Piszkesteto 69.33 316 *eP* **P 04 17 19.7 -1.9**
comp=Z,11nm,1.2s,mb4.7
VYHS Vyhne 70.03 316 *eP* **P 04 17 26.0 +0.2**
VYHS *e* pP 04 17 37.6 -1.1
PKSM Moragy 70.23 314⇑⇑P **P 04 17 27.8 +0.7**
PKSM Moragy 70.23 314 *eP* **P 04 17 27.9 +0.8**
MORC Moravsky Berou 70.84 318 P **P 04 17 28.5 -2.2**
MORC pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
MORC Moravsky Berou 70.84 318 P **P 04 17 28.5 -2.2**
comp=Z,7.4nm,1.3s,mb4.5
DPC Dobruska-Polom 71.61 318 *eP* **P 04 17 37.2 +2.0**
UPC Upice 71.80 319 *eP* **P 04 17 37.5 +1.1**
PERS Pernice 72.64 315 *eP* pP 04 17 58.9 +4.4
BOJS Bojanci 72.64 313 *eP* **P 04 17 42.6 +1.1**
HFS Hagfors 72.76 329 P **P 04 17 40.4 -1.5**
comp=Z,3.1nm,0.7s,mb4.3,baz=90,slow=5.8,SNR=4.0
PRU Pruhonice 72.77 318 *eP* **P 04 17 43.9 +1.8**
VISS Visnje 72.90 314 *eP* **P 04 17 44.1 +1.1**
BRG Berggiesshubel 73.09 319 *i* P **P 04 17 45.6 +1.6**
BRG pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BRG Berggiesshubel 73.09 319 *i* P **P 04 17 45.6 +1.6**
comp=Z,10.0nm,1.0s,mb4.7
GERES GERESS Array B 73.41 317 P **P 04 17 44.4 -1.5**
comp=Z,3.2nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=25
GERES LR LR 04 54 23.1
comp=Z,93nm,18.4s,MS4.1,baz=293,slow=40
KHC Kasperske Hory 73.46 317 *i* P **P 04 17 46.6 +0.3**
KHC Kasperske Hory 73.46 317 *eP* **P 04 17 47.2 +0.9**
KHC Kasperske Hory 73.46 317 *eP* **P 04 17 47.2 +0.9**
CLL Collm 73.64 319 P **P 04 17 49.0 +1.7**
ROBS Robic 73.78 314 *eP* **P 04 17 49.0 +0.8**
NB2 NORSAR Subarra 73.94 330 P **P 04 17 46.4 -2.4**
comp=Z,4.5nm,0.9s,mb4.4,baz=88,slow=5.8
NB2 NORSAR Subarra 73.94 330 P **P 04 17 46.4 -2.4**
NB2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
NOA NORSAR Array B 73.94 330 P **P 04 17 46.6 -2.2**
comp=Z,2.8nm,0.8s,mb4.3,baz=87,slow=5.9,SNR=11
NOA LR LR 04 52 25.7
comp=Z,74nm,18.4s,MS4.0,baz=65,slow=38
MOX Moxa 74.58 319 *eP* **P 04 17 54.3 +1.6**
MOX pmax pmax
comp=Z,12nm,1.5s,mb4.6
MOX Moxa 74.58 319 *eP* **P 04 17 54.3 +1.6**
comp=Z,12nm,1.5s,mb4.6
MOX Moxa 74.58 319 *i* P **P 04 17 54.3 +1.6**
comp=Z,logA/T=0.9,mb4.6
GRA1 Grafenberg Arr 74.94 318 *eP* **P 04 17 56.6 +1.8**
comp=Z,9.0nm,1.3s,mb4.5
GRA1 *ep*pP pP 04 18 10.5 +2.7
GRF Grafenberg Arr 74.94 318 *eP* **P 04 17 56.6 +1.8**
GRF *e**PP pP 04 18 10.5 +2.7
GRF pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
GRF Grafenberg Arr 74.94 318 *eP* **P 04 17 56.6 +1.8**
GRF *e**PP pP 04 18 10.5 +2.7
GRF pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
GRF Grafenberg Arr 74.94 318 *eP* **P 04 17 56.6 +1.8**
comp=Z,9.0nm,1.3s,mb4.5
GRF *ep*pP pP 04 18 10.5 +2.7

DAVOX Davos 76.20 315 P **P 04 18 02.2 +0.2**
comp=Z,1.6nm,0.4s,mb4.3,baz=350,slow=7.4,SNR=3.1
DAVOX LR LR 04 54 52.8
comp=Z,71nm,21.9s,MS3.9,baz=312,slow=38
PGF Pioggiola 77.50 311 *eP* **P 04 18 09.7 +0.3**
comp=Z,14nm,1.2s,mb4.5
PGF Pioggiola 77.50 311 *eP* **P 04 18 09.7 +0.3**
PGF pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
CDF Champ du Feu 77.69 317 *eP* **P 04 18 10.5 +0.1**
comp=Z,8.8nm,1.0s,mb4.4
CDF Champ du Feu 77.69 317 *eP* **P 04 18 10.5 +0.1**
CDF pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
HAU Haudompre 78.37 317 *eP* **P 04 18 14.1 0.0**
comp=Z,19nm,1.2s,mb4.6
HAU *e*R
comp=Z,113nm,17.2s
HAU Haudompre 78.37 317 *eP* **P 04 18 14.1 0.0**
HAU pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
HAU MLR MLR
comp=Z,110nm,17.3s,MS4.2
SBF Sospel 78.39 312 *eP* **P 04 18 14.6 +0.3**
LPG La Plagne 78.56 314 *eP* **P 04 18 15.9 +0.7**
comp=Z,8.5nm,1.0s,mb4.3
LPG La Plagne 78.56 314 *eP* **P 04 18 15.9 +0.7**
LPG pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
LPL La Plagne 78.57 314 *eP* **P 04 18 15.9 +0.6**
comp=Z,15nm,1.1s,mb4.5
LPL La Plagne 78.57 314 *eP* **P 04 18 15.9 +0.6**
LPL pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CABF La Chapelle 78.81 315 *eP* **P 04 18 16.9 +0.4**
comp=Z,21nm,1.4s,mb4.6
CABF La Chapelle 78.81 315 *eP* **P 04 18 16.9 +0.4**
CABF pmax pmax
comp=Z,11nm,1.4s,mb4.6
GIVF Givet 78.96 319 *eP* **P 04 18 17.7 +0.4**
FRF La Foret Royal 79.00 312 *eP* **P 04 18 18.0 +0.3**
comp=Z,22nm,1.1s,mb4.7
FRF La Foret Royal 79.00 312 *eP* **P 04 18 18.0 +0.3**
FRF pmax pmax
comp=Z,11nm,1.1s,mb4.7
MEZF Maizieres J'vi 79.13 317 *eP* **P 04 18 18.6 +0.4**
comp=Z,9.2nm,0.8s,mb4.5
LMR La Mourre 79.15 312 *eP* **P 04 18 18.8 +0.3**
comp=Z,18nm,1.1s,mb4.6
LMR La Mourre 79.15 312 *eP* **P 04 18 18.8 +0.3**
LMR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BAIF Baives 79.36 319 *eP* **P 04 18 20.2 +0.7**
comp=Z,13nm,1.0s,mb4.5
BAIF Baives 79.36 319 *eP* **P 04 18 20.2 +0.7**
BAIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SMRF Simiane la Rot 79.68 313 *eP* **P 04 18 21.9 +0.6**
VIVF Saint-Julien-l 80.13 314 *eP* **P 04 18 24.1 +0.4**
LOR Lormes 80.17 316 *eP* **P 04 18 24.1 +0.2**
comp=Z,13nm,1.2s,mb4.4
LOR *e*R
comp=Z,77nm,18.2s
LOR Lormes 80.17 316 *eP* **P 04 18 24.1 +0.2**
LOR pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
LOR MLR MLR
comp=Z,80nm,18.3s,MS4.1
SMF Signal de Mont 80.31 316 *eP* **P 04 18 24.8 +0.1**
comp=Z,8.9nm,0.9s,mb4.4
SMF Signal de Mont 80.31 316 *eP* **P 04 18 24.8 +0.1**
SMF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SSF Saint Saulge 80.45 316 *eP* **P 04 18 25.8 +0.4**
SSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SSF Saint Saulge 80.45 316 *eP* **P 04 18 25.8 +0.4**
comp=Z,4.2nm,0.9s,mb4.4
AVF Avril sur Loir 80.61 316 *eP* **P 04 18 26.3 +0.1**
comp=Z,9.9nm,1.0s,mb4.4
AVF Avril sur Loir 80.61 316 *eP* **P 04 18 26.3 +0.1**
AVF pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
LASF Ste Croix 80.87 313 *eP* **P 04 18 28.4 +0.7**
comp=Z,10nm,1.1s,mb4.4
BOSA Boshof 81.48 237 P **P 04 18 30.6 -0.6**
comp=Z,4.3nm,0.8s,mb4.4,baz=304,slow=6.7,SNR=5.4
BOSA LR LR 04 53 32.4
comp=Z,74nm,18.5s,MS4.1,baz=29,slow=35
TCF Toulx Ste Croi 81.49 316 *eP* **P 04 18 31.6 +0.7**
comp=Z,15nm,1.1s,mb4.5
TCF Toulx Ste Croi 81.49 316 *eP* **P 04 18 31.6 +0.7**
TCF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CAF Calviac 81.92 314 *eP* **P 04 18 34.0 +0.9**
comp=Z,5.8nm,0.9s,mb4.2
CAF Calviac 81.92 314 *eP* **P 04 18 34.0 +0.9**
CAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MTLF Montolieu 82.20 313 *eP* **P 04 18 35.2 +0.6**
comp=Z,7.0nm,0.9s,mb4.3
MTLF Montolieu 82.20 313 *eP* **P 04 18 35.2 +0.6**
MTLF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
RJF Les Rejaudoux 82.20 315 *eP* **P 04 18 34.7 +0.1**
RJF *e*R
comp=Z,107nm,17.0s
EKA Eskdalemuir Ar 82.42 325 P **P 04 18 34.7 -0.8**
comp=Z,3.1nm,0.8s,mb4.3,baz=82,slow=5.9,SNR=7.3
MFF Saint Martin d 82.99 316 *eP* **P 04 18 39.2 +0.6**
comp=Z,21nm,1.2s,mb4.7
MFF Saint Martin d 82.99 316 *eP* **P 04 18 39.2 +0.6**
MFF pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
ETSF Etsaut 84.28 313 *eP* **P 04 18 46.4 +1.2**
MAW Mawson 86.60 192 LR LR 04 53 24.5
comp=Z,67nm,18.1s,MS4.1,baz=239,slow=33
ESDC Sonseca Array 87.68 311 P **P 04 19 02.3 +0.4**
comp=Z,1.1nm,0.8s,mb4.2,baz=61,slow=4.3,SNR=4.8
YKA Yellowknife Ar 98.35 14 LR LR 05 04 40.1
comp=Z,73nm,20.2s,MS4.2,baz=335,slow=36
BDFB Brasilia 145.56 265 PKPbc PKPbc 04 25 52.9 +1.2
comp=Z,2.6nm,0.8s,baz=56,slow=3.6,SNR=5.3

DHMR 30 04:14:54.7±1.4, 11.73N×43.59E, h8km±17km, ML4.4, 2C-3D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.57**	**19**⇑	*eP*		Pn	04 15 24.2	+1.0
TRBA				*i*	S	Sb	04 15 45.6	+1.9
TRBA					AML	AML	04 15 46.3	
comp=E,7μm,0.5s								
UDYN	**Al 'Udayn**	**2.25**	**9**	*eP*		Pn	04 15 33.6	+0.8
UDYN				*i*	S	Sn	04 16 05.0	+3.9
UDYN					AML	AML	04 16 10.6	
comp=Z,3μm,0.5s								
UDYN	**Al 'Udayn**	**2.25**	**9**	*eP*		Pn	04 15 33.6	+0.8
UDYN				*i*	S	Sn	04 16 04.9	+3.8
comp=Z,2μm,0.5s								
LBOS		**2.67**	**37**⇑	*iP*		Pn	04 15 41.3	+2.5
LBOS				*i*	S	Sn	04 16 17.1	+5.4
DHBB	**Dhamar BB**	**2.93**	**15**⇓	*iP*		Pn	04 15 44.0	+1.6
DHBB				*i*	S	Sn	04 16 24.3	+6.1
BDHA	**Al Bayda'**	**2.94**	**41**⇓	*iP*		Pn	04 15 45.0	+2.3
BDHA				*i*	S	Sn	04 16 23.6	+4.9
BDHA					AML	AML	04 16 43.2	
comp=N,3μm,0.8s								
BDHA	**Al Bayda'**	**2.94**	**41**⇓	*iP*		Pn	04 15 45.0	+2.3
BDHA				*i*	S	Sn	04 16 23.6	+4.9
comp=N,2μm,0.8s								

IDC ***30*** *04:16:11.2±0.8, 65.58N×137.05W, mb3.8/3, mb1 3.8/6, mb1mx3.5/23, mbtmp3.7/6, ML3.2/4, Error ellipse: s-maj=11.6km s-min=8.6km az=179.0*
NEIC ***30*** *04:16:12.0, 65.53N×136.97W, h1km, ML3.2(PGC), ML3.2(AEIC), After PGC.*

PGC 30 04:16:11.8, 65.53N×136.97W, h1km, ML3.2/4, Wernecke Mountains, Yukon Territory, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**1.80**	**216**	P		Pn	04 16 38.8	-5.5
DAWY				S		Sn	04 17 06.4	-1.7
DAWY	**Dawson**	**1.80**	**216**	Pn		Pn	04 16 43.8	-0.5
DAWY				Sg		Sg	04 17 06.9	-4.9
DAWY				Trac			04 17 08.8	
comp=Z,117nm,0.2s								
INK	**Inuvik**	**3.10**	**24**	Pn		Pn	04 17 00.5	-2.3
0.9nm,0.3s,baz=206,slow=14,SNR=29								
INK				Pg		Pg	04 17 07.6	-6.1
3.5nm,0.3s,baz=216,slow=17,SNR=43								
INK				Sn		Sn	04 17 36.8	-4.3
7.4nm,0.3s,baz=242,slow=20,SNR=10								
INK				Lg			04 17 49.0	
11nm,0.3s,baz=102,slow=25,SNR=5.9								
INK	**Inuvik**	**3.10**	**24**	Pn		Pn	04 17 00.5	-2.3
INK				Pg		Pg	04 17 07.6	-6.1
INK				Sn		Sn	04 17 36.8	-4.3
INK				Lg			04 17 49.0	
INK	**Inuvik**	**3.10**	**24**	Pn		Pn	04 17 00.5	-2.3
INK				Pg		Pg	04 17 06.9	-6.8
INK				Sn		Sn	04 17 35.5	-5.6
INK				Trac			04 17 54.7	
comp=Z,41nm,0.3s								
DOT	**Dot Lake**	**3.60**	**242**	P		Pn	04 17 07.0	-2.8
ILAR	**Eielson Array**	**4.26**	**264**	Pn		Pn	04 17 16.4	-2.9
0.3nm,0.3s,baz=79,slow=12,SNR=9.1								
ILAR				Sn		Sn	04 18 03.6	-6.7
0.8nm,0.3s,baz=72,slow=18,SNR=6.0								
ILAR				Lg			04 18 26.1	
2.7nm,0.3s,baz=72,slow=31,SNR=13								
THY	**Trims Highway**	**4.35**	**245**	Pn		Pn	04 17 19.9	-0.8
PAX	**Paxson**	**4.51**	**239**	P		Pn	04 17 20.1	-2.8
CCB	**Clear Creek Bu**	**4.67**	**264**	P		Pn	04 17 21.4	-3.7
HYT	**Haines Junctio**	**4.73**	**183**	Pn		Pn	04 17 24.3	-1.7
HYT				Pg		Pg	04 17 37.2	-9.1
HYT				Sg		Sg	04 18 40.1	-9.4
HYT				Trac			04 18 45.6	
comp=Z,23nm,0.5s								
WHY	**Whitehorse**	**4.98**	**168**	P		Pn	04 17 21.7	-7.9
WHY	**Whitehorse**	**4.98**	**168**	Pn		Pn	04 17 26.8	-2.8
WHY				Pg		Pg	04 17 43.9	-7.4
WHY				Sg		Sg	04 18 47.1	-11
WHY				Trac			04 18 51.2	
comp=Z,6.0nm,0.4s								
MCK	**McKinley**	**5.45**	**256**	P		Pn	04 17 33.0	-3.2
COLD	**Coldfoot**	**5.58**	**294**	P		Pn	04 17 34.6	-3.4
TRF	**Thorofare Moun**	**6.12**	**256**	P		Pn	04 17 41.9	-3.7
SML	**Sawmill**	**6.29**	**239**	P		Pn	04 17 42.9	-5.1
KTH	**Kantishna Hill**	**6.33**	**258**	P		Pn	04 17 43.9	-4.7
DLBC	**Dease Lake**	**7.83**	**152**	Pn		Pn	04 18 05.4	-4.2
0.3nm,0.3s,baz=16,slow=16,SNR=5.9								
DLBC				Lg			04 20 18.0	
0.4nm,0.3s,baz=232,slow=27,SNR=5.6								
DLBC	**Dease Lake**	**7.83**	**152**	Pn		Pn	04 18 05.4	-4.2
DLBC				Lg			04 20 18.0	
DLBC	**Dease Lake**	**7.83**	**152**	Pn		Pn	04 18 06.4	-3.2
DLBC				Pg		Pg	04 18 35.6	-13
DLBC				Sg		Sg	04 20 14.2	-18
DLBC				Trac			04 20 26.9	
comp=Z,5.0nm,0.7s								
YKW3	**Yellowknife Ar**	**10.21**	**97**	Pn		P	04 18 37.7	-4.8
YKW3				Pn		P	04 18 38.4	-4.1
YKW3				Sn		S	04 20 25.1	-14
YKW3				Trac			04 20 31.5	
comp=Z,1.0nm,0.2s								
YKW3				Trac			04 20 33.8	
comp=Z,2.0nm,0.3s								
YKA	**Yellowknife Ar**	**10.25**	**97**	Pn		P	04 18 37.6	-5.3
0.2nm,0.3s,baz=295,slow=13,SNR=19								
YKA				Sn		S	04 20 27.4	-12
0.5nm,0.3s,baz=299,slow=22,SNR=9.3								
RES	**Resolute Bay**	**16.54**	**39**	*eP*		P	04 19 59.4	-6.7
RES	**Resolute Bay**	**16.54**	**39**	Pn		P	04 19 58.9	-7.2
ARCES	**ARCESS Array B**	**44.65**	**9**	P		P	04 24 24.9	-2.0
2.5nm,0.9s,slow=5.4,SNR=3.2								
FINES	**FINESS Array B**	**52.71**	**10**	P		P	04 25 25.3	-4.1
0.8nm,0.9s,slow=9.7,SNR=3.7								
FINES	**FINESS Array B**	**52.71**	**10**	P		P	04 25 25.3	-4.1
HFS	**Hagfors**	**52.74**	**18**	P		P	04 25 26.0	-3.6
1.6nm,0.9s,baz=297,slow=13,SNR=3.1								

DHMR 30 04:23:00.5±0.7, 11.87N×43.56E, h11km±8km, ML3.9, 7C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.46**	**22**⇑	*iP*		Pn	04 23 27.5	+0.5
TRBA				*i*	S	Sb	04 23 47.9	+2.3
TRBA					AML	AML	04 23 48.6	
comp=N,3μm,0.3s								
UDYN	**Al 'Udayn**	**2.12**	**11**⇑	*iP*		Pn	04 23 37.5	+1.1
UDYN				*i*	S	Sn	04 24 06.8	+3.8
UDYN					AML	AML	04 24 13.4	
comp=N,934nm,0.6s								
UDYN	**Al 'Udayn**	**2.12**	**11**⇑	*iP*		Pn	04 23 37.5	+1.1
UDYN				*i*	S	Sn	04 24 06.8	+3.8
comp=N,467nm,0.6s								
LBOS		**2.58**	**39**⇑	*iP*		Pn	04 23 44.8	+1.8
LBOS				*i*	S	Sn	04 24 19.9	+5.2
DHBB	**Dhamar BB**	**2.81**	**17**⇑	*iP*		Pn	04 23 48.2	+2.0
DHBB				*i*	S	Sn	04 24 25.8	+5.4
BDHA	**Al Bayda'**	**2.87**	**43**⇑	*iP*		Pn	04 23 49.6	+2.5
BDHA				*i*	S	Sn	04 24 27.1	+5.2
BDHA					AML	AML	04 24 45.9	
comp=N,641nm,0.4s								
BDHA	**Al Bayda'**	**2.87**	**43**⇑	*iP*		Pn	04 23 49.6	+2.6
BDHA				*i*	S	Sn	04 24 27.1	+5.3
comp=N,321nm,0.4s								

BJI ***30*** *04:25:58.9, 65.71N×137.89W, h4km, mB4.8, mb4.7, Ms4.5, Msz4.1*
MOS ***30*** *04:25:59.9±0.7, 65.68N×137.19W, h10km, mb5.0/27, Error ellipse: s-maj=28.3km s-min=7.3km az=89.1*
IDC ***30*** *04:26:01.7±2.1, 65.66N×137.17W, h10km±13km, mb4.6/25, mb1 4.7/29, mb1mx4.7/33, mbtmp4.6/29, ML4.5/4, MS3.6/9, Ms1 3.6/9, ms1mx3.3/29, Error ellipse: s-maj=8.5km s-min=7.6km az=19.0*
PGC ***30*** *04:26:02.8, 65.62N×137.02W, h20km, Mw4.5, Wernecke Mountains, Yukon Territory*
NEIC ***30*** *04:26:03.0, 65.61N×137.02W, h20km, mb4.8/132, ML4.8(AEIC), MW4.5(PGC), After PGC.*

ISC 30 04:25:59.6±0.1, 65.62N±0.02×137.21W±0.04, h10km, (h15km±2.1km:pP-P), n331, c0°95/345, mb4.7/178, MS3.8/12, 46C-8D, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**1.82**	**212**	P		**Pn**	**04 26 32.1**	**+0.8**
DAWY				S		**Sn**	**04 26 55.8**	**+1.2**
DAWY	**Dawson**	**1.82**	**212**	Pn		**Pn**	**04 26 33.0**	**+1.7**
DAWY				Sn		**Sn**	**04 26 56.4**	**+1.8**
DAWY				Trac			04 26 58.1	
comp=Z,3μm,0.3s								
INK	**Inuvik**	**3.06**	**27**	Pn		**Pn**	**04 26 49.2**	**+0.1**
15nm,0.3s,baz=204,slow=15,SNR=409								
INK				Pg		**Pg**	**04 26 57.2**	**-3.6**
139nm,0.3s,baz=214,slow=13,SNR=103								
INK				Sn		**Sn**	**04 27 25.9**	**-0.3**
255nm,0.3s,baz=287,slow=23,SNR=7.9								
INK				Lg			04 27 38.0	
335nm,0.3s,baz=115,slow=25,SNR=9.3								
INK	**Inuvik**	**3.06**	**27**⇑	*eP*		**Pn**	**04 26 49.2**	**+0.1**
INK	**Inuvik**	**3.06**	**27**	Pn		**Pn**	**04 26 49.1**	**0.0**
INK				Pg		**Pg**	**04 26 58.5**	**-2.3**
INK				Sn		**Sn**	**04 27 26.3**	**+0.2**
INK				Sg		**Sg**	**04 27 37.1**	**-4.5**
INK				Trac			04 27 45.8	
comp=Z,3μm,0.7s								
DOT	**Dot Lake**	**3.55**	**239**	P		**Pn**	**04 26 55.6**	**-0.4**
DOT				S		**Sn**	**04 27 39.6**	**+1.1**
MENT	**Mentasta**	**3.91**	**229**	*eP*		**Pn**	**04 27 00.7**	**-0.4**
ILAR	**Eielson Array**	**4.17**	**263**	Pn		**Pn**	**04 27 04.0**	**-0.7**
3.2nm,0.3s,baz=76,slow=12,SNR=26								
ILAR				Pg		**Pg**	**04 27 14.9**	**-7.8**
7.9nm,0.3s,baz=78,slow=13,SNR=35								
ILAR				Sn		**Sn**	**04 27 53.1**	**-0.9**
24nm,0.3s,baz=72,slow=18,SNR=5.8								
ILAR				Lg			04 28 13.6	
59nm,0.3s,baz=63,slow=30,SNR=10								
ILAR				LR		LR	04 28 55.8	
comp=Z,410nm,21.7s,baz=69,slow=42								
THY	**Trims Highway**	**4.30**	**243**	P		**Pn**	**04 27 06.3**	**-0.3**
HDA	**Harding Lake**	**4.31**	**258**	P		**Pn**	**04 27 06.5**	**-0.2**

PAX Paxson 4.47 237 P Pn 04 27 09.2 +0.1
COLA College 4.54 265 P Pn 04 27 09.5 -0.5
COLA College 4.54 265 P Pn 04 27 09.6 -0.4
CCB Clear Creek Bu 4.58 263 P Pn 04 27 09.7 -0.9
MDM Murphy Dome 4.67 267 P Pn 04 27 11.3 -0.6
HYT Haines Junctio 4.82 182 Pn Pn 04 27 13.4 -0.6
HYT Pg Pg 04 27 28.5 -7.2
HYT Sg Sg 04 28 28.2 -12
HYT Trac 04 28 40.6
comp=Z,765nm,0.6s
CTGM Chitina Glacie 5.03 204 P Pn 04 27 17.9 +0.9
WHY Whitehorse 5.09 167 P Pn 04 27 15.9 -1.9
WHY Whitehorse 5.09 167 Pn Pn 04 27 16.1 -1.8
WHY Sg Sg 04 28 38.8 -10
WHY Trac 04 28 45.6
comp=Z,458nm,0.8s
GLB Gilahina Butte 5.13 218 P Pn 04 27 18.1 -0.3
BALM Baldy 5.15 209 P Pn 04 27 18.4 -0.3
MCK McKinley 5.38 255 P Pn 04 27 21.9 0.0
COLD Coldfoot 5.46 293 P Pn 04 27 23.7 +0.7
RND Reindeer 5.50 251 P Pn 04 27 24.1 +0.6
TGL Tana Glacier 5.50 210 P Pn 04 27 24.0 +0.4
MLY Manley 5.70 270 P Pn 04 27 25.5 -0.9
SCM Sheep Creek Mo 5.88 234 P Pn 04 27 30.5 +1.5
DIV Divide 5.92 224 P Pn 04 27 31.6 +2.1
TRF Thorofare Moun 6.04 255 P Pn 04 27 30.8 -0.5
PNL Peninsula 6.06 191 P Pn 04 27 31.7 +0.2
SML Sawmill 6.25 237 P Pn 04 27 34.6 +0.5
KTH Kantishna Hill 6.25 257 P Pn 04 27 33.0 -1.2
EYAK Cordova Ski Ar 6.39 221 P Pn 04 27 34.8 -1.4
PMR Palmer 6.67 238 eP Pn 04 27 40.7 +0.6
HIN Hinchinbrook I 6.73 223 P Pn 04 27 41.6 +0.7
IMA Indian Mountai 6.77 281 eP Pn 04 27 41.9 +0.4
PWA Palmer West 6.90 241 P Pn 04 27 42.8 -0.6
BESE Bessie Mountai 7.15 170 P Pn 04 27 45.9 -1.0
FIB Fire Island 7.33 238 P Pn 04 27 48.7 -0.7
SLKM Skilak Lake 7.81 235 P Pn 04 27 53.6 -2.5
DLBC Dease Lake 7.96 152 Pn Pn 04 27 55.5 -2.6
5.8nm,0.3s,baz=1.8,slow=8.9,SNR=45
DLBC Lg 04 30 07.3
6.2nm,0.3s,baz=93,slow=18,SNR=4.0
DLBC LR LR 04 31 26.6
comp=Z,476nm,20.1s,baz=342,slow=41
DLBC Dease Lake 7.96 152 eP Pn 04 27 54.6 -3.5
DLBC Dease Lake 7.96 152 Pn Pn 04 27 55.5 -2.7
DLBC Pg Pg 04 28 25.6 -13
DLBC Sg Sg 04 30 09.3 -15
DLBC Trac 04 30 16.3
comp=Z,259nm,0.8s
SPU Mount Spurr 8.00 243 P P 04 27 56.3 -2.4
TTA Tatalina 8.60 260 eP P 04 28 06.5 -0.6
SIT Sitka 8.64 173 eP P 04 28 05.1 -2.5
SVW2 Sparrevohn 9.40 250 eP P 04 28 17.9 -0.2
FNBB Fort Nelson 9.44 129 Pn P 04 28 17.2 -1.4
FNBB Sg Sg 04 30 52.9 -21
FNBB Trac 04 31 10.1
comp=Z,81nm,0.9s
YKW3 Yellowknife Ar 10.33 97 eP P 04 28 25.9 -4.8
YKW3 Yellowknife Ar 10.33 97 Pn P 04 28 26.4 -4.3
YKW3 Pn P 04 28 26.7 -4.0
YKW3 Sn S 04 30 12.6 -15
YKW3 Sn S 04 30 12.6 -15
YKW3 Trac 04 30 19.5
comp=Z,68nm,0.4s
YKW3 Trac 04 30 19.6
comp=Z,99nm,0.5s
YKA Yellowknife Ar 10.36 97 i P P 04 28 26.3 -4.9
YKA pmax pmax
comp=Z,20nm,0.4s
YKA Yellowknife Ar 10.36 97 Pn P 04 28 27.3 -3.9
comp=Z,6.6nm,0.3s,baz=295,slow=13,SNR=177
YKA Sn S 04 30 15.8 -13
comp=Z,17nm,0.3s,baz=294,slow=22,SNR=6.0
YKA Lg 04 31 25.9
baz=304,slow=28,SNR=3.1
BMBC Bull Mountain 12.06 136 Pn P 04 28 54.2 -0.1
BMBC Sg 04 32 21.2
BMBC Trac 04 32 30.6
comp=Z,99nm,0.9s
TNA Tin City 12.64 284 eP P 04 28 59.1 -2.9
FSB Fort Saint Jam 12.86 144 Pn P 04 29 06.9 +1.9
FSB Pg P 04 29 19.8 +15
FSB Sg S 04 32 37.9 +69
FSB Trac 04 33 01.6
comp=Z,19nm,0.9s
BBB Bella Bella 14.25 157 LR LR 04 34 17.8
comp=Z,139nm,21.2s,baz=336,slow=35
RES Resolute Bay 16.54 39 eP P 04 29 47.9 -4.8
RES Resolute Bay 16.54 39 Pn P 04 29 48.1 -4.5
RES Sn S 04 32 42.0 -14
RES Trac 04 32 56.3
comp=Z,30nm,0.8s
EDM Edmonton 17.22 125 eP P 04 30 00.4 -1.0
PGC Sidney 18.50 150 eP P 04 30 14.8 -2.7
comp=Z,39nm,0.9s
MBW Mount Baker 18.71 147 P P 04 30 22.7 +2.7
NLW Nelson Butte 19.74 145 P P 04 30 34.5 +2.5
GSM Grass Mountain 20.23 148 P P 04 30 37.7 +0.5
NEW Newport 20.39 139 P P 04 30 39.4 +0.5
comp=Z,19nm,0.9s,baz=336,slow=10,SNR=25
NEW LR LR 04 39 21.4
comp=Z,97nm,21.4s,MS3.1,baz=334,slow=39
NEW Newport 20.39 139 eP P 04 30 37.4 -1.6
comp=Z,21nm,1.0s
WALA Waterton Lakes 20.61 132 eP P 04 30 38.7 -2.5
comp=Z,30nm,1.0s
WPW White Pass 20.76 148 P P 04 30 45.2 +2.5
FCC Fort Churchill 20.88 89 eP P 04 30 41.0 -3.0
MDW Midway 21.25 145 P P 04 30 49.5 +1.8
BSMT Bassoo Peak 21.43 135 P P 04 30 51.5 +1.9
HAWA Hanford 21.51 145 eP P 04 30 48.8 -1.6
comp=Z,0.5nm,0.7s
BILL Bilibino 21.70 302 d iP P 04 30 53.5 +1.3
BILL pmax pmax
comp=Z,92nm,1.7s,mb4.9
BILL Bilibino 21.70 302 eP P 04 30 52.3 0.0
comp=Z,98nm,1.4s,mb5.0
MSO Missoula 22.60 135 eP P 04 31 01.7 +0.6
comp=Z,10nm,0.9s,mb4.2
CHMT Chamberlain Mo 22.72 134 eP P 04 31 03.1 +0.7
HRY Holter Researc 23.34 132 eP P 04 31 09.7 +1.4
BMO Blue Mountains 23.50 143 eP P 04 31 10.9 +1.0
comp=Z,9.9nm,0.9s,mb4.2
BOZ Bozeman (W) 24.35 133 eP P 04 31 19.2 +1.0
comp=Z,9.6nm,0.9s,mb4.2
HUMO Hull Mountain 24.41 154 eP P 04 31 19.9 +1.1
comp=Z,12nm,0.9s,mb4.3
MCMT McKenzie Canyo 24.73 135 eP P 04 31 23.3 +1.4
GCMT Greycliff 24.84 130 eP P 04 31 23.3 +0.4
QLMT Earthquake Lak 25.15 133 eP P 04 31 27.2 +1.3
LAO LASA Array 25.20 124 eP P 04 31 26.4 +0.1
comp=Z,46nm,1.1s,mb4.9
YBH Yreka Blue Hor 25.30 154 P P 04 31 29.6 +2.3
comp=Z,3.2nm,0.9s,mb3.9,baz=358,slow=5.3,SNR=8.3
YBH LR LR 04 42 12.0
comp=Z,155nm,20.3s,MS3.5,baz=357,slow=38
YBH Yreka Blue Hor 25.30 154 P P 04 31 27.6 +0.3
comp=Z,4.1nm,1.0s,mb3.9
YMR Madison River 25.44 133 eP P 04 31 29.3 +0.6
HLID Hailey 25.46 139 eP P 04 31 28.9 +0.1
comp=Z,7.0nm,0.9s,mb4.2
WVOR Wild Horse Val 25.46 147 eP P 04 31 29.0 +0.1
comp=Z,6.2nm,0.9s,mb4.1
MOD Modoc 25.60 150 P P 04 31 29.7 -0.5
comp=Z,5.4nm,0.8s,mb4.1
LKWY Lake 25.71 132 P P 04 31 31.5 +0.3
comp=Z,9.3nm,1.0s,mb4.3
IMW Indian Meadow 26.15 133 eP P 04 31 36.3 +1.0
comp=Z,10nm,0.8s,mb4.4
MOOW Moose Ponds 26.34 133 eP P 04 31 36.9 -0.2
comp=Z,16nm,1.0s,mb4.5
WDC Whiskeytown Da 26.45 154 eP P 04 31 38.2 +0.1
comp=Z,9.9nm,0.8s,mb4.4
LOHW Long Hollow 26.51 133 eP P 04 31 39.4 +0.8
comp=Z,25nm,1.0s,mb4.7
TPAW Teton Pass 26.51 134 eP P 04 31 39.1 +0.5
comp=Z,18nm,1.1s,mb4.5
WUWY Wally Ulrich 26.53 133 eP P 04 31 39.1 +0.3
RRI2 Red Ridge 26.53 135 P P 04 31 38.4 -0.5
comp=Z,15nm,0.9s,mb4.5
SNOW Snow King Moun 26.60 134 eP P 04 31 40.4 +1.0
comp=Z,13nm,0.9s,mb4.5
BW06 Boulder Array 27.59 132 eP P 04 31 47.6 -0.9
comp=Z,9.4nm,0.9s,mb4.4
PDAR Pinedale Array 27.59 132 P P 04 31 48.9 +0.3
comp=Z,7.8nm,0.8s,mb4.4,baz=351,slow=5.9,SNR=34
PDAR PcP PcP 04 35 05.2 -1.3
comp=Z,1.2nm,0.8s,slow=0.9,SNR=4.0
ELK Elko 27.88 143 eP P 04 31 51.7 +0.6
comp=Z,3.0nm,0.8s,mb4.0
HWUT Hardware Ranch 28.06 136 eP P 04 31 52.2 -0.5
comp=Z,4.0nm,1.0s,mb4.0
FRB Frobisher Bay 28.11 62 P P 04 31 52.7 -0.3
comp=Z,6.4nm,0.7s,mb4.4,baz=306,slow=8.0,SNR=12
FRB LR LR 04 43 22.9
comp=Z,149nm,20.7s,MS3.6,baz=305,slow=37
RSSD Black Hills 28.19 123 eP P 04 31 53.4 -0.5
DUG Dugway 29.02 139 eP P 04 32 00.9 -0.5
comp=Z,2.4nm,0.7s,mb4.0
NVAR Mina Array Bea 29.36 149 P P 04 32 05.5 +0.9
comp=Z,8.0nm,0.7s,mb4.5,baz=337,slow=6.9,SNR=45
NVAR PcP PcP 04 35 10.5 -0.4
comp=Z,0.7nm,0.7s,baz=297,slow=2.0,SNR=4.0
NVAR Mina Array Bea 29.36 149 P P 04 32 05.5 +0.9
NVAR PcP PcP 04 35 10.5 -0.4
MNV Mina 29.39 148 eP P 04 32 04.2 -0.6
comp=Z,6.9nm,1.0s,mb4.3
EYMN Ely 29.73 104 eP P 04 32 06.0 -1.8
comp=Z,6.6nm,0.8s,mb4.4
SRU San Rafael 30.67 137 eP P 04 32 16.2 +0.1
MVU Marysvale 30.77 140 eP P 04 32 16.5 -0.5
comp=Z,2.6nm,0.9s,mb4.1
MSU Marysvale 30.77 140 eP P 04 32 17.1 +0.1
ARUT Antelope Range 31.12 142 eP P 04 32 19.6 -0.5
TIXI Tiksi 31.36 323⇑ eP P 04 32 22.6 +0.8
TIXI pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
SUMG Summit 31.95 34 eP P 04 32 26.3 -0.8
comp=Z,23nm,1.0s,mb5.0
SFJD Kangerlussuaq 32.19 47⇑ iP P 04 32 29.1 -0.1
comp=Z,23nm,1.3s,mb4.8
comp=Z,50nm,20.0s
NEN Nelson 32.81 145 P P 04 32 35.0 +0.1
DAG Danmarks Havn 32.90 22⇓ eP P 04 32 34.8 -0.5
comp=Z,2.1nm,0.5s,mb4.3
DAG Danmarks Havn 32.90 22⇓ iP P 04 32 34.8 -0.5
comp=Z,2.1nm,0.5s,mb4.3
LDFC Landfair 33.29 146 P P 04 32 38.1 -1.0
SDCO Great Sand Dun 33.44 131 eP P 04 32 39.6 -0.8
comp=Z,1.0nm,0.6s,mb3.9
WUAZ Wupatki 33.80 140 P P 04 32 44.5 +0.9
comp=Z,7.6nm,0.8s,mb4.7
KBS Kingsbay 34.54 10 eP P 04 32 49.5 0.0
comp=Z,23nm,0.9s,mb5.1
SCHQ Schefferville 34.64 73 P P 04 32 50.2 -0.4
comp=Z,5.5nm,0.9s,mb4.5,baz=324,slow=12,SNR=6.4
SCHQ Schefferville 34.64 73 P P 04 32 50.2 -0.4
ANMO Albuquerque 35.72 134⇑ eP P 04 33 03.5 +3.5
ANMO Albuquerque 35.72 134 eP P 04 32 59.1 -0.9
comp=Z,12nm,0.9s,mb4.8
BNM Barren Site 36.42 135 P P 04 33 05.9 +0.1
TUC Tucson 36.99 141 eP P 04 33 09.8 -0.9
comp=Z,3.9nm,0.9s,mb4.2
SCO Scoresbysund 37.12 30 eP P 04 33 11.1 -0.3
YAK Yakutsk 37.65 310 i P P 04 33 16.3 +0.4
YAK pmax pmax
comp=Z,13nm,0.8s,mb4.7
YAK MLR MLR
comp=Z,100nm,15.0s,MS3.7
GDL2 Guadalupe Moun 38.91 133 eP P 04 33 27.2 +0.3
MNTX Cornudas Mount 39.08 135 eP P 04 33 26.0 -2.2
comp=Z,2.2nm,1.0s,mb3.8
ALLY Alegheny Colle 39.52 99 eP P 04 33 30.9 -0.9
ACSO Alum Creek Sta 39.55 103 eP P 04 33 30.9 -1.1
comp=Z,14nm,1.0s,mb4.6
WVT Waverly 41.16 111 eP P 04 33 44.4 -1.0
comp=Z,6.5nm,0.9s,mb4.3
TXAR Lajitas Array 41.80 134 P P 04 33 53.0 +2.5
comp=Z,2.9nm,0.8s,mb4.0,baz=349,slow=6.4,SNR=13
TXAR PcP PcP 04 35 47.8 +0.4
comp=Z,1.0nm,0.9s,baz=252,slow=2.9,SNR=2.8
BORG Borgarnes 41.92 35 P P 04 33 52.2 +1.2
comp=Z,17nm,0.8s,mb4.7,baz=290,slow=6.6,SNR=6.0
JCT Junction City 41.95 128 eP P 04 33 50.6 -1.1
comp=Z,16nm,0.8s,mb4.7
OXF Oxford 41.98 114 eP P 04 33 51.0 -1.0
comp=Z,29nm,0.8s,mb5.0
PLAL Pickwick Lake 42.08 112 eP P 04 33 51.8 -1.0
comp=Z,9.7nm,1.0s,mb4.4
CLNS Chul'man 43.22 307 eP P 04 33 58.0 -3.8
CLNS pmax pmax
comp=Z,17nm,1.1s,mb4.7
CLNS pmax pmax
comp=N,7.0nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.7s
LRAL Lakeview Retre 44.21 112 eP P 04 34 09.1 -1.1
comp=E,6.4nm,0.8s,mb4.4
ARCES ARCESS Array B 44.58 9 P P 04 34 12.5 -0.2
comp=E,5.3nm,0.7s,mb4.5,baz=357,slow=7.4,SNR=33
ARCES PcP PcP 04 35 55.3 -0.8
comp=E,5.4nm,0.7s,slow=3.6,SNR=8.6
ARE0 ARCESS Array S 44.58 9 eP P 04 34 12.1 -0.6
YSS Yuzh-Sakhalins 44.60 286 P P 04 34 13.8 +0.6
JSC Jenkinsville 45.37 105 eP P 04 34 17.7 -1.7
BOD Bodaibo 45.81 315 ⇓ iP P 04 34 21.9 -0.7
BOD pmax pmax
comp=Z,22nm,0.8s,mb5.1
LVZ Lovozero 46.64 4⇓ eP P 04 34 29.3 +0.3
LVZ pmax pmax
comp=Z,41nm,1.1s,mb5.3
LVZ pmax pmax
comp=Z,100nm,16.0s
APA Apatity 46.92 5⇑ iP P 04 34 31.4 +0.1
APA pmax pmax
comp=Z,22nm,1.3s,mb4.9
HIA Hailar 51.24 305 eP P 04 35 03.3 -1.5
comp=Z,5.8nm,0.8s,mb4.6
JOF Joensuu 51.48 7 ep P 04 35 05.2 -1.3
comp=Z,8.5nm,1.0s,mb4.6
JOF Joensuu 51.48 7 eP P 04 35 05.2 -1.3
JOF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 51.49 19 P P 04 35 05.8 -0.8
comp=Z,0.4nm,0.7s,baz=347,slow=7.4
NOA NORSAR Array B 51.49 19 P P 04 35 05.5 -1.0
comp=Z,2.9nm,0.7s,mb4.3,baz=345,slow=7.5,SNR=11
MDJ Mudanjiang 51.66 295 P P 04 35 06.0 -2.1
MDJ AMB AMB
comp=Z,4.0nm,1.4s,mb4.2
MDJ AMB AMB
comp=Z,231nm,5.7s
KAF Kangasniemi 51.99 10 ep P 04 35 09.5 -0.8
comp=Z,1.3nm,0.7s,mb4.0
KAF Kangasniemi 51.99 10 eP P 04 35 09.5 -0.8
KAF pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
FINES FINESS Array B 52.64 10 i P P 04 35 14.2 -1.0
FINES pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 52.64 10 P P 04 35 14.2 -1.0
comp=Z,6.6nm,0.6s,mb4.7,baz=4.1,slow=8.3,SNR=82
FINES PcP PcP 04 36 24.6 -0.6
comp=Z,3.7nm,0.8s,baz=27,slow=4.3,SNR=5.6
TLY Talaya 54.12 318 eP P 04 35 27.3 +1.1
TLY e 04 43 23.3
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TLY MLR MLR
comp=Z,83nm,15.0s,MS3.9
EKA Eskdalemuir Ar 54.43 30 P P 04 35 27.9 -0.5
comp=Z,11nm,0.8s,mb4.8,baz=330,slow=6.5,SNR=28
ESK Eskdalemuir 54.43 30 eP P 04 35 26.1 -2.4
comp=Z,18nm,1.0s,mb5.0
MOY Mondy 54.86 320 eP P 04 35 32.1 +0.4
MOY pmax pmax
comp=Z,31nm,2.9s,mb4.8
MJAR Matsushiro Arr 55.19 282 P P 04 35 34.8 +0.4
comp=Z,1.3nm,0.3s,mb4.4,baz=341,slow=7.7,SNR=3.1
DCN Croghan 55.37 34 eP P 04 35 32.3 -3.1
ZAK Zakamensk 55.39 317 eP P 04 35 35.5 -0.1
ZAK e 04 36 35.4
ZAK pmax pmax
comp=Z,2.0nm,1.9s,mb3.8
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
DLF Lyons Farm 55.58 33 eP P 04 35 33.5 -3.4
NVS Novosibirsk 55.98 333 ⇑ iP P 04 35 37.7 -2.1
NVS e 04 36 35.4
NVS pmax pmax
comp=Z,26nm,1.7s,mb5.0
NVS pmax pmax
comp=N,15nm,1.8s
NVS pmax pmax
comp=E,16nm,1.5s
SONM Songino Array 56.77 314 LR LR 05 02 49.4
comp=E,88nm,18.1s,MS3.9,baz=278,slow=39
SVE Sverdlovsk 57.13 348 eP P 04 35 48.0 0.0
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.4
ARU Arti 57.69 350 ⇑ iP P 04 35 51.8 -0.1
ARU e 04 36 42.0
ARU e 04 37 57.3
ARU eS S 04 43 48.8 +0.2
ARU eSS SS 04 47 38.4 -2.0
ARU pmax pmax
comp=Z,22nm,1.4s,mb5.0
ARU Arti 57.69 350 eP P 04 35 50.7 -1.2
comp=Z,23nm,1.1s,mb5.1
BSEG Bad Segeberg 58.22 22 eP P 04 35 55.8 +0.1
BSEG pmax pmax
comp=Z,19nm,1.0s,mb5.1
CHKZ Chkalovo 59.15 341 eP P 04 36 01.1 -1.0
comp=Z,19nm,0.8s,mb5.2
OBN Obninsk 59.50 4 eP P 04 36 03.9 -0.6
OBN e pP 04 36 08.7 +1.0
OBN 04 36 51.0
OBN pmax pmax
comp=Z,16nm,1.1s,mb5.0
CLZ Clausthal 60.26 23 eP P 04 36 09.9 +0.1
comp=Z,19nm,1.0s,mb5.1
BAIF Baives 60.89 27⇑ iP P 04 36 13.8 -0.3
comp=Z,22nm,1.0s,mb4.9
ROSF Rostrenen 60.96 33 eP P 04 36 14.1 -0.5
GIVF Givet 60.97 27 eP P 04 36 14.3 -0.3
comp=Z,13nm,0.7s,mb4.8
FLN La Foliniere 61.17 31⇑ iP P 04 36 15.3 -0.8
comp=Z,36nm,1.0s,mb5.2
CLL Collm 61.18 21 eP P 04 36 15.0 -1.0
CLL pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
CLL Collm 61.18 21 eP P 04 36 15.0 -1.0
comp=Z,7.0nm,0.7s,mb4.9
CLL Collm 61.18 21 P P 04 36 15.0 -1.0
comp=Z,logA/T=1.0,mb4.9
SGMF Saint Gilles 61.20 33⇑ iP P 04 36 15.7 -0.5
comp=Z,16nm,0.7s,mb5.0
QUIF Quistinic 61.38 33⇑ iP P 04 36 17.0 -0.5
comp=Z,6.0nm,0.6s,mb4.6
LDF La Druitiere 61.41 31⇑ iP P 04 36 16.9 -0.8
comp=Z,24nm,0.9s,mb5.0
GRR Gorron 61.45 32⇑ iP P 04 36 17.4 -0.5
comp=Z,29nm,1.1s,mb5.0
TNS Taunus Mts 61.50 24 eP P 04 36 18.4 +0.1
MOX Moxa 61.61 22 eP P 04 36 18.8 -0.2
MOX pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
MOX Moxa 61.61 22 eP P 04 36 18.8 -0.2
comp=Z,10.0nm,0.9s,mb5.0
MOX Moxa 61.61 22 i P P 04 36 18.5 -0.5
comp=Z,logA/T=1.2,mb5.1
BRG Berggiesshubel 61.74 20 eP P 04 36 19.7 -0.2
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRG Berggiesshubel 61.74 20 eP P 04 36 19.7 -0.2
comp=Z,4.4nm,0.9s,mb4.6
KSP Ksiaz 62.09 19 eP P 04 36 21.6 -0.7
NKC Novy Kostel 62.14 22 eP P 04 36 22.6 0.0
PVCC Panska Ves 62.16 20 eP P 04 36 22.8 +0.1
UPC Upice 62.38 19 eP P 04 36 23.8 -0.4
GRA1 Grafenberg Arr 62.47 23 eP P 04 36 24.8 0.0
comp=Z,5.0nm,0.8s,mb4.7
GRF Grafenberg Arr 62.47 23 eP P 04 36 24.8 0.0
GRF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
GRF Grafenberg Arr 62.47 23 eP P 04 36 24.8 0.0
comp=Z,5.0nm,0.8s,mb4.7
MEZF Maizieres J'vi 62.54 27 eP P 04 36 25.0 -0.3
DPC Dobruska-Polom 62.58 19 eP P 04 36 25.4 -0.1
PRU Pruhonice 62.69 20 eP P 04 36 26.0 -0.2
CDF Champ du Feu 63.04 26⇑ iP P 04 36 28.5 -0.1
comp=Z,12nm,0.7s,mb4.8
HYF Humbligny 63.25 29 eP P 04 36 29.9 0.0
HAU Haudompre 63.26 27⇑ iP P 04 36 29.7 -0.3
comp=Z,9.8nm,0.7s,mb4.8
WET Wettzell 63.27 22 eP P 04 36 29.9 -0.1
MFF Saint Martin d 63.29 32⇑ iP P 04 36 30.1 -0.1
MORC Moravsky Berou 63.30 18 eP P 04 36 28.4 -1.9
comp=Z,2.4nm,0.7s,mb4.4
BFO Black Forest 63.31 25 eP P 04 36 30.6 +0.3
BFO pmax pmax
comp=Z,18nm,1.7s,mb4.9
BFO Black Forest 63.31 25 eP P 04 36 30.6 +0.3
comp=Z,18nm,1.7s,mb4.9
KHC Kasperske Hory 63.38 21⇓ eP P 04 36 31.4 +0.6
KHC Kasperske Hory 63.38 21 eP P 04 36 30.8 0.0
LOR Lormes 63.49 29⇑ iP P 04 36 31.3 -0.2
comp=Z,25nm,0.8s,mb5.1
HINF Hinteralfeld 63.54 26⇑ iP P 04 36 31.4 -0.3
comp=Z,6.0nm,0.6s,mb4.5
AKASG Malin Array Be 63.54 10 i P P 04 36 30.7 -1.0
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKASG Malin Array Be 63.54 10 P P 04 36 30.6 -1.1
comp=Z,6.5nm,0.6s,mb4.9,baz=355,slow=6.8,SNR=63
SSF Saint Saulge 63.62 29⇑ iP P 04 36 32.2 0.0
comp=Z,41nm,0.9s,mb5.2
GEC2 GERESS Array S 63.68 21 eP P 04 36 32.4 -0.2
GEC2 pmax pmax
comp=Z,19nm,1.7s,mb4.8
GEC2 GERESS Array S 63.68 21 eP P 04 36 32.4 -0.2
comp=Z,19nm,1.7s,mb4.8
GERES GERESS Array B 63.68 21 P P 04 36 32.9 +0.3
comp=Z,2.0nm,0.7s,mb4.2,baz=346,slow=5.5,SNR=21
MKAR Makanchi Array 63.83 331 P P 04 36 32.9 -0.7
comp=Z,2.1nm,0.7s,mb4.2,baz=37,slow=6.1,SNR=17
MKAR PKPPKP 05 05 32.2
comp=Z,0.2nm,0.3s,baz=180,slow=1.4,SNR=4.0
MKAR LR LR 05 06 09.3
comp=Z,34nm,18.2s,MS3.6,baz=335,slow=38
MKAR Makanchi Array 63.83 331 P P 04 36 32.9 -0.7
MKAR P'P' 05 05 32.2
MKAR LR LR 05 06 09.3
AVF Avril sur Loir 63.85 29⇑ iP P 04 36 33.5 -0.3
comp=Z,20nm,0.9s,mb4.9
BGF Bois d'Agland 63.97 30⇑ iP P 04 36 34.2 -0.3
comp=Z,20nm,0.6s,mb5.0
SMF Signal de Mont 64.09 29⇑ iP P 04 36 34.9 -0.4
comp=Z,18nm,1.0s,mb4.8
TCF Toulx Ste Croi 64.09 30⇑ iP P 04 36 35.0 -0.4
comp=Z,25nm,1.1s,mb4.9
CABF La Chapelle 64.56 27⇑ iP P 04 36 38.5 +0.1
comp=Z,26nm,0.8s,mb5.0
EMAZ Mazaricos 64.59 40 P P 04 36 38.3 -0.4
comp=Z,13nm,0.6s,mb5.1
CRVS Cervenica-Dubn 64.63 15 eP pP 04 36 43.7 +1.8
CRVS Cervenica-Dubn 64.63 15 epP pP 04 36 43.7 +1.8
KOLS Kolonicke sedl 64.69 15 eP P 04 36 40.0 +0.8
KOLS e 04 36 53.9
EPON Pontenova 64.72 38 P P 04 36 39.0 -0.5
comp=Z,6.8nm,0.6s,mb4.8
VYHS Vyhne 64.72 17 eP P 04 36 39.4 0.0
MOA Molln 64.73 21⇑ iP P 04 36 39.5 0.0
comp=Z,4.5nm,1.0s,mb4.5
STS Santiago 64.77 39 P P 04 36 39.7 -0.1
comp=Z,117nm,1.9s,mb5.6
ZST Bratislava 64.79 19 eP P 04 36 40.6 +0.7
RJF Les Rejaudoux 64.89 31 eP P 04 36 39.6 -0.9
WTTA Wattenberg 64.90 23⇑ iP P 04 36 41.3 +0.7
comp=Z,14nm,1.2s,mb4.9
LFF La Frestale 65.07 32⇑ iP P 04 36 41.7 0.0
comp=Z,21nm,0.9s,mb4.8
EARI Arriondas 65.23 37 P P 04 36 42.9 +0.1
comp=Z,10nm,0.8s,mb4.9
EINC Incio 65.29 39 P P 04 36 43.6 +0.5
comp=Z,75nm,2.1s,mb5.3
KBA Koelnbreinsper 65.35 22⇑ iP P 04 36 44.2 +0.7
comp=Z,9.5nm,0.8s,mb4.9
CAF Calviac 65.36 31⇑ iP P 04 36 43.4 -0.2
comp=Z,16nm,0.8s,mb4.8
EZAM Zamans 65.42 40 P P 04 36 44.5 +0.5
comp=Z,19nm,0.7s,mb5.2
PSZ Piszkesteto 65.42 17⇑ eP P 04 36 44.5 +0.6
WMQ Urumqi 65.48 326 P P 04 36 45.5 +1.1
WMQ AP pP 04 36 50.0 +2.5
WMQ XP sP 04 36 52.5 +3.8

WMQ			PCP	PcP		04 37 17.5 +1.3
WMQ			PP	PP		04 39 11.8 +1.0
WMQ			AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8					
WMQ			AMB	AMB		
	comp=Z,16nm,5.0s					
WMQ			LR	LR		
	comp=N,101nm,20.7s,MS4.1					
WMQ			LR	LR		
	comp=E,102nm,23.6s,MS4.1					
WMQ			LR	LR		
	comp=Z,34nm,20.7s,MS3.5					
ARSA	**Arzberg**	**65.50**	**20⇑** *iP*		**P**	**04 36 45.1 +0.6**
	comp=Z,5.4nm,0.7s,mb4.7					
ERUA	**La Rua**	**65.59**	**39** P		**P**	**04 36 45.6 +0.4**
	comp=Z,6.9nm,0.8s,mb4.7					
ELAN	**Lanestosa**	**65.73**	**35** P		**P**	**04 36 46.6 +0.6**
	comp=Z,40nm,2.0s,mb5.1					
LPL	**La Plagne**	**65.73**	**27⇑** *iP*		**P**	**04 36 46.9 +0.9**
	comp=Z,14nm,0.9s,mb4.7					
LPG	**La Plagne**	**65.75**	**27⇑** *iP*		**P**	**04 36 47.3 +1.2**
ELOB	**Lobios**	**65.85**	**39** P		**P**	**04 36 47.1 +0.4**
	comp=Z,8.8nm,0.7s,mb4.9					
VIVF	**Saint-Julien-l**	**65.97**	**29** *eP*		**P**	**04 36 47.4 -0.1**
	comp=Z,20nm,1.3s,mb4.7					
OBKA	**Obir**	**66.09**	**21⇑** *iP*		**P**	**04 36 48.6 +0.4**
	comp=Z,21nm,0.8s,mb5.2					
ECAL	**Calabor**	**66.12**	**38** P		**P**	**04 36 48.1 -0.4**
	comp=Z,6.9nm,0.8s,mb4.7					
ORIF	**Oris-en-Rattie**	**66.14**	**28⇑** *iP*		**P**	**04 36 48.7 +0.1**
	comp=Z,9.6nm,0.8s,mb4.6					
BNI	**Bardonecchia**	**66.17**	**27** *eP*		**P**	**04 36 47.9 -0.9**
	comp=Z,13nm,1.4s,mb4.8					
EALK	**Alkurruntz**	**66.20**	**34** P		**P**	**04 36 49.6 +0.6**
	comp=Z,69nm,2.0s,mb5.3					
ELIZ	**Elizondo**	**66.24**	**34** P		**P**	**04 36 49.5 +0.2**
	comp=Z,21nm,1.6s,mb4.9					
SJPF	**Ste Jean**	**66.36**	**34** *eP*		**P**	**04 36 49.9 -0.1**
GTA	**Gaotai**	**66.41**	**315** P		**P**	**04 36 51.0 +0.6**
GTA			AP	pP		04 36 54.5 +1.0
GTA			XP	sP		04 36 58.3 +3.7
GTA			PCP	PcP		04 37 20.5 +0.4
GTA			PP	PP		04 39 18.3 -0.4
GTA			PPP	PPP		04 40 53.3 -1.2
GTA			SCP			04 41 21.0
GTA			S	S		04 45 36.5 -2.4
GTA			XS			04 45 44.0
GTA			SS	SS		04 49 52.8 -4.3
GTA			AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.7					
GTA			AMB	AMB		
	comp=Z,111nm,11.8s					
GTA			LR	LR		
	comp=N,129nm,21.7s,MS4.4					
GTA			LR	LR		
	comp=E,222nm,23.6s,MS4.4					
GTA			LR	LR		
	comp=Z,97nm,19.4s,MS4.0					
MBDF	**Montbardon**	**66.50**	**27** *eP*		**P**	**04 36 51.7 +0.8**
	comp=Z,18nm,1.0s,mb4.8					
ECRI	**Cripan**	**66.54**	**35** P		**P**	**04 36 51.7 +0.5**
	comp=Z,4.9nm,0.6s,mb4.7					
LASF	**Ste Croix**	**66.55**	**30⇑** *iP*		**P**	**04 36 51.5 +0.3**
	comp=Z,8.8nm,0.9s,mb4.5					
SSE	**Sheshan**	**66.67**	**294** *eP*		**P**	**04 36 50.0 -2.2**
SSE			AP	pP		04 36 59.5 +4.1
SSE			XP	sP		04 37 02.8 +6.3
SSE			PCP	PcP		04 37 18.8 -2.6
SSE			S	S		04 45 37.0 -5.3
SSE			XS			04 45 53.5
SSE			SCS	ScS		04 46 45.8 +0.1
SSE			SS	SS		04 49 55.0 -6.5
SSE			AMB	AMB		
	comp=Z,34nm,0.7s,mb5.5					
SSE			AMB	AMB		
	comp=Z,104nm,8.4s					
SSE			LR	LR		
	comp=N,61nm,16.5s,MS4.2					
SSE			LR	LR		
	comp=E,117nm,16.5s,MS4.2					
SSE			LR	LR		
	comp=Z,186nm,15.9s,MS4.4					
NJ2	**Nanjing**	**66.70**	**296** *eP*		**P**	**04 36 53.5 +1.1**
NJ2			AP	pP		04 36 57.8 +2.3
NJ2			XP	sP		04 37 00.3 +3.7
NJ2			PP	PP		04 39 21.3 +0.1
NJ2			S	S		04 45 45.0 +2.4
NJ2			XS			04 45 53.0
NJ2			AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0					
NJ2			AMB	AMB		
	comp=Z,200nm,5.9s					
NJ2			LR	LR		
	comp=N,640nm,23.1s,MS4.8					
NJ2			LR	LR		
	comp=E,340nm,22.1s,MS4.8					
NJ2			LR	LR		
	comp=Z,160nm,23.7s,MS4.2					
ETSF	**Etsaut**	**66.72**	**33⇑** *iP*		**P**	**04 36 53.1 +0.8**
	comp=Z,5.8nm,0.6s,mb4.5					
EPF	**Esparros**	**66.80**	**33⇑** *iP*		**P**	**04 36 52.3 -0.5**
MTLF	**Montolieu**	**66.91**	**31⇑** *iP*		**P**	**04 36 53.5 0.0**
	comp=Z,13nm,0.9s,mb4.7					
SMRF	**Simiane la Rot**	**66.99**	**28** *eP*		**P**	**04 36 54.7 +0.7**
	comp=Z,30nm,1.4s,mb4.8					
EBIE	**Bielsa**	**67.08**	**33** P		**P**	**04 36 55.2 +0.6**
	comp=Z,4.5nm,0.6s,mb4.7					
SBF	**Sospel**	**67.46**	**27⇑** *iP*		**P**	**04 36 57.2 +0.2**
	comp=Z,19nm,0.9s,mb4.8					
FRF	**La Foret Royal**	**67.60**	**28⇑** *iP*		**P**	**04 36 58.0 +0.1**
	comp=Z,17nm,0.9s,mb4.8					
LMR	**La Mourre**	**67.79**	**28⇑** *iP*		**P**	**04 36 59.4 +0.3**
	comp=Z,15nm,0.9s,mb4.7					
EJON	**La Jonquera**	**67.91**	**31** P		**P**	**04 37 01.2 +1.4**
	comp=Z,27nm,1.7s,mb5.0					
EMIR	**Miracle**	**68.12**	**32** P		**P**	**04 37 02.0 +0.8**
	comp=Z,105nm,2.4s,mb5.4					
MLR	**Muntele Rosu**	**68.46**	**13** P		**P**	**04 37 03.5 +0.3**
	comp=Z,2.1nm,0.5s,mb4.5,baz=288,slow=1.6,SNR=5.3					
EPOB	**Poblet**	**68.56**	**33** P		**P**	**04 37 04.3 +0.4**
	comp=Z,20nm,1.0s,mb5.0					
ERTA	**Horta de San J**	**68.77**	**33** P		**P**	**04 37 05.7 +0.5**
	comp=Z,4.1nm,0.8s,mb4.4					
TKM2	**Tokmak 2**	**68.84**	**335** P		**P**	**04 37 06.5 +0.9**
	SNR=6.5					
ESDC	**Sonseca Array**	**68.96**	**37** P		**P**	**04 37 06.9 +0.5**
	comp=Z,7.5nm,0.7s,mb4.8,baz=337,slow=6.3,SNR=50					
ESLA	**Sonseca Array**	**68.96**	**37** *eP*		**P**	**04 37 04.4 -2.0**
	comp=Z,4.9nm,1.1s,mb4.3					
EVO	**Evora**	**68.98**	**41⇑** *iP*		**P**	**04 37 06.2 -0.4**
	comp=Z,37nm,0.9s,mb5.0					
PGF	**Pioggiola**	**69.02**	**26⇑** *iP*		**P**	**04 37 06.8 +0.1**
	comp=Z,9.8nm,0.8s,mb4.5					
EBAD	**Badajoz**	**69.04**	**40** P		**P**	**04 37 07.0 +0.1**
	comp=Z,8.8nm,0.8s,mb4.7					
EMOS	**Mosqueruela**	**69.15**	**34** P		**P**	**04 37 08.6 +1.0**
	comp=Z,10nm,0.9s,mb4.8					
AAK	**Ala-Archa**	**69.31**	**336** P		**P**	**04 37 09.8 +1.3**
	SNR=6.2					
AAK	**Ala-Archa**	**69.31**	**336** *c iP*		**P**	**04 37 08.4 -0.1**
AAK			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7					
AAK	**Ala-Archa**	**69.31**	**336** *eP*		**P**	**04 37 07.8 -0.7**
	comp=Z,15nm,1.4s,mb4.7					
EKS2	**Erkin-Say**	**69.40**	**336** P		**P**	**04 37 10.0 +0.9**
	SNR=16					
GOF	**Gofitskoye**	**69.66**	**360⇑** *iP*		**P**	**04 37 10.3 -0.3**
GOF			pmax	pmax		
	comp=Z,50nm,1.7s,mb5.2					
KZA	**Kyzart**	**69.72**	**335** P		**P**	**04 37 12.5 +1.5**
	SNR=5.0					
ECHE	**Chera**	**69.77**	**35** P		**P**	**04 37 12.4 +1.1**
	comp=Z,7.6nm,0.8s,mb4.7					
AML	**Almayashu**	**69.93**	**336** P		**P**	**04 37 14.1 +1.7**
	SNR=11					
EMIN	**Mina Concepcio**	**70.06**	**40** P		**P**	**04 37 13.3 +0.1**
	comp=Z,80nm,2.7s,mb5.2					
EGRO	**El Granado**	**70.06**	**41** P		**P**	**04 37 13.5 +0.3**
	comp=Z,11nm,0.8s,mb4.8					
EADA	**Adamuz**	**70.23**	**38** P		**P**	**04 37 14.8 +0.6**
	comp=Z,3.9nm,0.7s,mb4.5					
EVIA	**Vianos**	**70.30**	**36** P		**P**	**04 37 16.3 +1.6**
	comp=Z,17nm,0.8s,mb5.0					
EBAN	**Banos Encina**	**70.43**	**37** P		**P**	**04 37 16.4 +1.0**
	comp=Z,4.8nm,0.6s,mb4.6					
ETOB	**Tobarra**	**70.53**	**35** P		**P**	**04 37 16.3 +0.3**
	comp=Z,35nm,1.4s,mb5.1					
KIV	**Kislovodsk**	**70.76**	**0κ** *iP*		**P**	**04 37 18.4 +1.1**
KIV			*i*	pP		04 37 22.2 +1.7
KIV			pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9					
EQES	**Quesada**	**70.95**	**37** P		**P**	**04 37 20.1 +1.5**
	comp=Z,8.2nm,0.9s,mb4.7					
SOC	**Sochi**	**71.11**	**2** *eP*		**P**	**04 37 18.5 -0.9**
SOC			*e*			04 37 44.6
SOC			*e*PPP	PPP		04 41 38.9 -1.5
SOC			*e*S	S		04 46 33.5 -1.1
SOC			*e*			04 47 20.4
SOC			*e*SS	SS		04 51 07.0 -3.1
SOC			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8					
SOC			pmax	pmax		
	comp=N,5.0nm,0.9s					
SOC			pmax	pmax		
	comp=E,15nm,0.9s					
ESPR	**Espera**	**71.12**	**40** P		**P**	**04 37 19.5 -0.2**
	comp=E,7.1nm,0.8s,mb4.7					
ERON	**Agron**	**71.51**	**38** P		**P**	**04 37 23.3 +1.3**
	comp=E,9.1nm,0.6s,mb4.9					
EMIJ	**Mijas**	**71.69**	**39** P		**P**	**04 37 24.4 +1.4**
	comp=E,4.2nm,0.5s,mb4.6					
SDV	**Santo Domingo**	**72.38**	**108** *eP*		**P**	**04 37 26.7 -0.9**
	comp=E,3.8nm,0.8s,mb4.4					
GNI	**Garni**	**74.55**	**358** P		**P**	**04 37 41.7 +2.0**
	comp=E,10nm,0.6s,mb4.9,baz=312,slow=2.9,SNR=7.2					
BRTR	**Keskin Array B**	**74.75**	**7** P		**P**	**04 37 41.5 +0.8**
	comp=E,4.1nm,0.8s,mb4.4,slow=3.7,SNR=19					
MALT	**Malatya**	**76.34**	**4** *eP*		**P**	**04 37 50.8 +0.9**
	comp=E,10nm,1.0s,mb4.7					
OTAV	**Otavalo**	**77.35**	**119** *eP*		**P**	**04 37 56.0 0.0**
	comp=E,2.6nm,0.8s,mb4.2					
IDI	**Anoyia**	**78.46**	**15** P		**P**	**04 38 00.7 -1.0**
	comp=E,7.3nm,0.7s,mb4.7,baz=66,slow=5.7,SNR=4.5					
GUN	**Gumba**	**81.06**	**322** *eP*		**P**	**04 38 16.9 +1.1**
	comp=E,40nm,1.0s,mb5.3					
JIRN	**Jiri**	**81.22**	**322** *eP*		**P**	**04 38 18.1 +1.5**
	comp=E,2.7nm,0.3s,mb4.7					
GKN	**Gorkha**	**81.28**	**323** *eP*		**P**	**04 38 17.6 +0.6**
	comp=E,14nm,0.7s,mb5.0					
KKN	**Kakani**	**81.33**	**323** *eP*		**P**	**04 38 18.0 +0.8**
	comp=E,19nm,0.7s,mb5.1					
PKI	**Pulchoki**	**81.50**	**323** *eP*		**P**	**04 38 18.4 +0.3**
	comp=E,12nm,0.6s,mb5.0					
DMN	**Daman**	**81.55**	**323** *eP*		**P**	**04 38 18.5 +0.2**
	comp=E,26nm,0.8s,mb5.2					
ASF	**Jabal al Asfar**	**82.42**	**5** P		**P**	**04 38 24.5 +1.8**
	comp=E,21nm,0.9s,mb5.1,baz=238,slow=3.1,SNR=22					
EIL	**Elat**	**84.83**	**7** P		**P**	**04 38 36.2 +1.2**
	comp=E,16nm,0.7s,mb5.3,baz=354,slow=7.4,SNR=20					
EIL	**Elat**	**84.83**	**7** *eP*		**P**	**04 38 35.1 +0.2**
	comp=E,14nm,0.7s,mb5.2					
CM31	**Chiang Mai Arr**	**86.17**	**308** P		**P**	**04 38 41.8 -0.1**
	comp=E,13nm,0.3s,mb5.6					
CMAR	**Chiang Mai Arr**	**86.17**	**308** *i* P		**P**	**04 38 42.9 +1.0**
CMAR			pmax	pmax		
	comp=Z,4.0nm,0.7s					
CMAR	**Chiang Mai Arr**	**86.17**	**308** P		**P**	**04 38 42.9 +1.0**
	comp=Z,3.6nm,0.7s,mb4.7,baz=357,slow=5.7,SNR=16					
CMAR			LR	LR		05 20 43.1
	comp=Z,47nm,19.5s,MS3.9,baz=185,slow=38					
LPAZ	**La Paz**	**96.39**	**115** P		**P**	**04 39 31.4 +1.7**
	comp=Z,0.6nm,0.6s,mb4.2,baz=330,slow=8.1,SNR=4.2					
STKA	**Stephens Creek**	**115.09**	**248**	Pdif	Pdif	04 40 48.9 -3.5
BOSA	**Boshof**	**141.39**	**25**	PKhKP		04 45 25.4
	comp=Z,2.3nm,0.7s,baz=117,slow=1.0,SNR=4.4					
BOSA	**Boshof**	**141.39**	**25**	PKP	PKPdf	04 45 25.4 -7.7
VNDA	**Vanda**	**147.58**	**201**	PKPbc	PKPdf	04 45 43.4 +1.1
	comp=Z,2.1nm,1.0s,baz=355,slow=3.5,SNR=6.0					

IDC 30 04:32:34.4±2.2, 10.66S×123.57E, mb3.5/1, mb1 3.6/3, mb1mx3.5/13, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=201.5km s-min=32.5km az=52.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.88**	**133**	Pn	P	04 35 51.4	-3.5
	0.1nm,0.3s,baz=305,slow=14,SNR=3.6						
WRA				Sn	S	04 38 19.9	-11
	0.2nm,0.3s,baz=308,slow=27,SNR=3.8						
WB2	**Warramunga Arr**	**13.89**	**133**	*eP*	P	04 35 52.1	-3.0
WB2				*eS*	S	04 38 20.1	-11
ASAR	**Alice Springs**	**16.26**	**144**	Pn	P	04 36 25.4	-0.4
	0.1nm,0.3s,baz=319,slow=11,SNR=14						
ASAR				Sn	S	04 39 20.9	-5.9
	0.1nm,0.3s,baz=323,slow=22,SNR=3.9						
MKAR	**Makanchi Array**	**68.04**	**331**	P	P	04 43 35.7	-2.1
	0.4nm,0.7s,baz=143,slow=7.2,SNR=3.1						

GUC 30 04:35:16.3±0.9, 28.22S×70.62W, h58km±10km, ML3.5, 1C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.38**	**199⇓**	*iP*	P	04 35 27.8	+0.8
VACH				*i* S	S	04 35 35.2	+0.4
VACH				AMP		04 35 36.0	
	comp=E,7μm,0.2s						
LCO	**Las Campanas**	**0.79**	**185**	*i* P	P	04 35 32.7	+1.0
LCO				*i* S	S	04 35 44.6	+1.4
CPCH	**Copiapo**	**0.89**	**15⇑**	*iP*	P	04 35 33.5	+0.6
CPCH				*i* S	S	04 35 45.8	+0.4
CPCH				AMP		04 35 46.8	
	comp=N,12μm,0.1s						
CRCH	**Chaqaral**	**1.86**	**360⇓**	*iP*	P	04 35 46.0	-0.5
CRCH				*i* S	S	04 36 08.9	+0.1
CRCH				AMP		04 36 17.6	
	comp=E,78nm,0.3s						

ECX 30 04:43:35.3±0.5, 30.16N×114.75W, h7km, MD3.8, ML3.9, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.07**	**325⇓**	*eP*	Pb	04 43 53.5	-2.3
SPX				*eS*	Sb	04 44 08.7	-1.1
ECBX	**El Chinero**	**1.33**	**349**	*eS*	Sb	04 44 16.0	-1.3
RDX	**Rancho Dowling**	**2.04**	**330**	*eP*	Pn	04 44 10.2	-0.2
RDX				*eS*	Sn	04 44 37.1	+0.7
ECNX	**Esteban Cantu**	**2.17**	**314**	*e*PN	Pn	04 44 11.7	-0.8
ECNX				*eS*	Sn	04 44 40.4	+0.5
CPBX	**Cerro Prieto**	**2.30**	**348**	*e*PN	Pn	04 44 13.5	-0.7
CPBX				⇓*e*		04 45 00.8	
	comp=E,2μm,0.7s						
CPBX				⇑*e*		04 45 21.6	
	comp=N,1μm,0.6s						
PBX	**Punta Banda**	**2.31**	**313**	*e*PN	Pn	04 44 13.6	-0.8
PBX				*eS*	Sn	04 44 51.0	+7.6
ENX	**Ensenada**	**2.37**	**317**	*e*PN	Pn	04 44 14.6	-0.6
ENX				*eS*	Sn	04 44 51.9	+7.0
RMX	**La Rumorosa**	**2.68**	**335**	*e*PN	Pn	04 44 19.0	-0.6

*IDC **30** 04:45:09.3±1.1, 1.94N×96.61E, mb4.1/11, mb1 4.3/12, mb1mx4.1/21, mbtmp4.2/12, ML4.5/1, MS3.1/1, Ms1 3.3/1, ms1mx2.7/20, Error ellipse: s-maj=59.6km s-min=15.0km az=49.0*

*NEIC **30** 04:45:14.0±0.4, 1.97N×96.70E, h30km, mb4.3/2, Error ellipse: s-maj=12.1km s-min=6.3km az=57.0*

ISC 30 04:45:12.6±0.7, 1.99N±0.09×96.7E±0.1, h33km, n19, σ0§84/19, mb4.2/13, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.12**	**50**	*eP*	P	04 46 28.6	-0.3
CM31	**Chiang Mai Arr**	**16.51**	**7**	*eP*	P	04 49 04.5	+1.1
CMAR	**Chiang Mai Arr**	**16.51**	**7**	Pn	P	04 49 03.6	+0.3
	0.7nm,0.3s,baz=198,slow=11,SNR=28						
CMAR				LR	LR	04 55 53.0	
	comp=Z,56nm,18.8s,baz=200,slow=39						
SHL	**Shillong**	**23.90**	**349**	*eP*	P	04 50 22.0	-2.4
LSA	**Lhasa**	**28.06**	**350**	*eP*	P	04 51 03.5	+0.2
FITZ	**Fitzroy Crossi**	**34.79**	**126**	P	P	04 52 01.6	-0.8
	4.7nm,0.9s,mb4.4,baz=328,slow=9.5,SNR=3.9						
WRA	**Warramunga Arr**	**42.87**	**122**	P	P	04 53 11.0	+1.1
	2.0nm,0.6s,mb4.0,baz=300,slow=8.2,SNR=18						
WRAB	**Tennant Creek**	**42.88**	**122**	*eP*	P	04 53 10.4	+0.5
	2.4nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**44.26**	**127**	P	P	04 53 21.4	+0.2
	1.3nm,0.9s,mb3.7,baz=303,slow=7.9,SNR=9.5						
AAK	**Ala-Archa**	**45.08**	**337**	P	P	04 53 28.2	+0.8
MKAR	**Makanchi Array**	**46.36**	**346**	P	P	04 53 37.6	+0.1
	7.7nm,0.7s,mb4.7,baz=161,slow=7.7,SNR=73						
PMG	**Port Moresby**	**51.52**	**104**	P	P	04 54 17.3	-0.4
	23nm,1.0s,mb5.1,baz=276,slow=2.8,SNR=4.1						
STKA	**Stephens Creek**	**54.25**	**132**	P	P	04 54 37.1	-0.7
	1.5nm,0.7s,mb4.0,baz=354,slow=9.2,SNR=2.8						
BVAR	**Borovoye Array**	**55.35**	**341**	P	P	04 54 44.7	-0.9
	1.4nm,0.6s,mb4.1,baz=153,slow=9.9,SNR=12						
CHKZ	**Chkalovo**	**55.83**	**342**	*eP*	P	04 54 47.8	-1.1
	3.7nm,0.7s,mb4.5						
BRTR	**Keskin Array B**	**68.22**	**312**	P	P	04 56 11.7	-0.4
	0.6nm,0.6s,mb3.8,baz=107,slow=7.7,SNR=2.9						
FINES	**FINESS Array B**	**79.08**	**333**	P	P	04 57 15.3	+0.3
	0.7nm,0.6s,mb3.8,baz=117,slow=4.3,SNR=9.2						
ARCES	**ARCESS Array B**	**81.63**	**340**	P	P	04 57 29.3	+0.8
	1.3nm,0.7s,mb4.0,baz=101,slow=6.2,SNR=8.3						
GERES	**GERESS Array B**	**83.90**	**319**	P	P	04 57 41.6	+1.1
	0.6nm,0.7s,mb3.9,baz=130,slow=7.7,SNR=4.5						

*IDC **30** 04:54:15.9±2.1, 37.66N×21.88E, mb3.5/7, mb1 3.6/11, mb1mx3.5/28, mbtmp3.5/11, ML3.5/4, Error ellipse: s-maj=39.7km s-min=18.4km az=44.0*

*ATH **30** 04:54:17.6, 37.52N×21.74E, h22km±1km, MD3.7/22, ML3.7*

*NEIC **30** 04:54:17.6, 37.52N×21.74E, h22km, MD3.7(ATH), After ATH.*

*CSEM **30** 04:54:18.7±0.1, 37.55N×21.89E, h2km, MD3.7, Error ellipse: s-maj=3.3km s-min=1.9km az=75.0*

*THE **30** 04:54:22.8, 37.61N×22.02E, h25km, ML3.8*

ISC 30 04:54:18.3±0.5, 37.54N±0.02×21.71E±0.04, h22km±5km, n62, σ1§39/81, mb3.4/7, 2C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.40**	**155⇑**	*iPB*	Pb	04 54 25.8	-0.9
ITM				*eSB*	Sb	04 54 31.4	-1.0
RLS	**Riolos of Patr**	**0.55**	**339⇑**	*iPN*	Pn	04 54 29.7	-1.0
RLS				*eSN*	Sn	04 54 37.5	-1.6
VLS	**Valsamata**	**1.09**	**306**	*ePN*	Pn	04 54 39.2	+0.8
VLI	**Veliai**	**1.28**	**130**	*ePN*	Pn	04 54 40.9	-0.2
MGER	**Gerania Oros**	**1.30**	**70**	*ePN*	Pn	04 54 42.5	+1.1
EVR	**Evrytania**	**1.37**	**3**	*ePN*	Pn	04 54 43.8	+1.4
NAIG	**Nisos Aigina**	**1.43**	**81**	*ePN*	Pn	04 54 44.0	+0.8
LKD	**Levkas**	**1.43**	**325**	*ePb*	Pb	04 54 46.4	+2.2
LKD				*eSb*	Sb	04 55 08.8	+6.7
NSAL	**Nisos Salamina**	**1.43**	**75**	*ePN*	Pn	04 54 43.7	+0.4
LKR	**Lokris**	**1.50**	**42**	*ePN*	Pn	04 54 44.8	+0.5
LKR				*eSN*	Sn	04 55 05.6	+2.3
AGG	**Agios Georgios**	**1.56**	**18**	*ePb*	Pb	04 54 46.7	+0.4
AGG				*eSb*	Sb	04 55 07.2	+1.6
ATH	**Athens Observa**	**1.64**	**74⇓**	*iPN*	Pn	04 54 46.8	+0.5
ATH				*eSN*	Sn	04 55 08.8	+1.9
KYTH	**Kithira**	**1.65**	**140**	*ePN*	Pn	04 54 47.5	+1.2
MPAR	**Parnis Oros**	**1.71**	**69**	*ePN*	Pn	04 54 48.7	+1.4
PTL	**Penteli**	**1.78**	**73**	*ePN*	Pn	04 54 48.5	+0.3
NEO	**Neokhori**	**2.12**	**33**	*ePB*	Pb	04 54 53.4	-2.5
JAN	**Janina**	**2.22**	**342**	*ePB*	Pb	04 54 55.8	-1.7
IGT	**Igoumenitsa**	**2.26**	**332**	*ePn*	Pn	04 54 59.0	+3.8
MEV	**Metsovon**	**2.27**	**351**	*ePn*	Pn	04 54 58.8	+3.5
AOS	**Alonnisos**	**2.35**	**46**	*ePn*	Pn	04 54 56.7	+0.2
AOS				*eSn*	Sn	04 55 22.2	-2.8
LIT	**Litokhoron**	**2.62**	**13**	*ePn*	Pn	04 55 02.1	+1.8
LIT				*eSn*	Sn	04 55 32.3	+0.4
KEK	**Kerkira**	**2.64**	**326**	*ePN*	Pn	04 55 02.0	+1.5
KEK	**Kerkira**	**2.64**	**326**	*ePb*	Pb	04 55 02.7	-2.0
KZN	**Kozani**	**2.76**	**1**	*ePN*	Pn	04 55 04.0	+1.7
KZN	**Kozani**	**2.76**	**1**	*ePb*	Pb	04 55 04.7	-2.1
PAIG	**Paliouri**	**2.83**	**32**	*ePn*	Pn	04 55 03.1	-0.3
PAIG				*eSn*	Sn	04 55 34.6	-2.6
VAM	**Vamos**	**2.92**	**136**	*ePN*	Pn	04 55 04.8	+0.2
APE	**Apeiranthos**	**3.08**	**98**	*ePN*	Pn	04 55 06.8	0.0
APE	**Apeiranthos**	**3.08**	**98**	*ePn*	Pn	04 55 06.2	-0.6
PLG	**Polygyros**	**3.13**	**25**	*ePN*	Pn	04 55 07.7	+0.1
THR3	**Thira Island,**	**3.16**	**110**	*ePn*	Pn	04 55 07.8	-0.2
SANT	**Santorini**	**3.22**	**110**	*eP*	Pn	04 55 06.6	-2.2
THR1	**Thera Island**	**3.22**	**110**	*ePn*	Pn	04 55 09.0	+0.2
THE	**Thessaloniki**	**3.23**	**17**	*ePn*	Pn	04 55 09.8	+0.8
THE	**Thessaloniki**	**3.23**	**17**	*ePn*	Pn	04 55 11.2	+2.2
THE				*eSn*	Sn	04 55 45.8	-1.5
FNA	**Florina**	**3.25**	**355**	*ePn*	Pn	04 55 11.2	+2.1
FNA				*eSn*	Sn	04 55 48.2	+0.7
FNA	**Florina**	**3.25**	**355**	*ePn*	Pn	04 55 11.2	+2.0
FNA				*eSn*	Sn	04 55 48.2	+0.6
OUR	**Ouranopolis**	**3.30**	**32**	*ePn*	Pn	04 55 09.5	-0.5
OUR				*eSn*	Sn	04 55 48.8	-0.2
IDI	**Anoyia**	**3.41**	**130**	Pn	Pn	04 55 11.4	-0.1
	3.3nm,0.3s,baz=319,slow=14,SNR=21						
IDI				Sn	Sn	04 55 53.3	+1.6
	13nm,0.3s,baz=307,slow=22,SNR=7.9						
GRG	**Griva**	**3.45**	**9**	*ePn*	Pn	04 55 13.8	+1.7
GRG				*eSn*	Sn	04 55 53.3	+0.5
SOH	**Sokhos**	**3.51**	**21**	*ePn*	Pn	04 55 13.8	+0.9
SOH				*eSn*	Sn	04 55 55.0	+0.7
LOS	**Limnos

KMBO Lg 05 02 13.7
comp=N,0.3nm,0.3s,baz=282,slow=24,SNR=5.9
KMBO LR LR 05 03 26.8
comp=N,182nm,19.8s,baz=93,slow=37
ASF Jabal al Asfar 21.08 344 P P 04 59 27.6 +1.5
comp=N,2.5nm,0.3s,mb4.0,baz=148,slow=13,SNR=3.9
ASF LR LR 05 06 46.8
comp=N,146nm,20.2s,MS3.4,baz=342,slow=34
MALT Malatya 26.70 351 P P 05 00 20.2 -0.3
GNI Garni 28.17 2 LR LR 05 12 15.8
comp=N,46nm,21.2s,MS3.0,baz=326,slow=38
BRTR Keskin Array B 29.07 344 P P 05 00 41.3 -0.6
comp=N,0.6nm,0.8s,mb3.4,baz=194,slow=5.9,SNR=3.8
AKASG Malin Array Be 40.43 346 P P 05 02 19.2 0.0
comp=N,0.1nm,0.3s,mb3.0,baz=168,slow=7.0,SNR=4.9
MORC Moravsky Berou 43.41 336 P P 05 02 44.2 +0.6
comp=N,0.7nm,0.7s,mb3.5
BOSA Boshof 43.96 203 LR LR 05 22 55.9
comp=N,59nm,18.1s,MS3.5,baz=348,slow=39
GERES GERESS Array B 44.37 332 P P 05 02 52.6 +1.1
comp=N,0.1nm,0.3s,mb3.0,baz=135,slow=7.5,SNR=3.7
GERES LR LR 05 21 02.9
comp=N,29nm,18.6s,MS3.2,baz=270,slow=36
BVAR Borovoye Array 46.33 22 P P 05 03 07.8 +0.8
comp=N,1.1nm,0.7s,mb3.9,baz=211,slow=8.4,SNR=5.6
MKAR Makanchi Array 47.71 36 P P 05 03 18.1 +0.1
comp=N,1.5nm,0.8s,mb4.0,baz=231,slow=7.8,SNR=7.7
MKAR LR LR 05 26 55.1
comp=N,54nm,18.8s,MS3.5,baz=77,slow=40
FINES FINESS Array B 51.08 349 LR LR 05 29 46.1
comp=N,24nm,18.4s,MS3.2,baz=168,slow=41
CMAR Chiang Mai Arr 53.74 76 P P 05 04 05.2 +1.0
comp=N,1.5nm,0.4s,mb4.3,baz=271,slow=8.0,SNR=6.2
ARCES ARCESS Array B 58.73 353 LR LR 05 28 35.5
comp=N,29nm,21.2s,MS3.4,baz=212,slow=35

*IDC **30** 04:57:01.5±1.3, 38.96N×106.96W, mb3.1/1, mb1 3.5/4, mb1mx3.3/22, mbtmp3.0/4, ML3.3/3, Error ellipse: s-maj=28.9km s-min=9.4km az=72.0*
*NEIC **30** 04:57:04.8±0.4, 38.92N×107.39W, h1km, ML3.1, Error ellipse: s-maj=5.3km s-min=4.6km az=216.0, Suspected Mining induced.*
NEIC Probable coal bump.
ISC 30 04:57:03.8±0.5, 38.92N±0.05×107.42W±0.06, n27, σ0°82/28, mb2.7/1, Colorado

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISCO	**Idaho Springs**	**1.65**	**57**	*e*P	**Pn**	**04 57 35.5**	**+1.2**
SDCO	**Great Sand Dun**	**1.91**	**127**	*e*P	**Pn**	**04 57 37.8**	**-0.1**
SRU	**San Rafael**	**2.43**	**276**	*e*P	**Pn**	**04 57 45.1**	**-0.2**
RWWY	**Rawlins**	**2.77**	**3**	*e*Pn	**Pn**	**04 57 50.4**	**+0.1**
PHWY	**Pilot Hill**	**2.82**	**32**	*e*P	**Pn**	**04 57 50.9**	**0.0**
TMUT	**Trail Mountain**	**2.98**	**279**	*e*P	**Pn**	**04 57 52.5**	**-0.7**
DAU	**Daniels Canyon**	**3.32**	**298**	*e*P	**Pn**	**04 57 59.0**	**+0.9**
MPU	**Maple Canyon**	**3.44**	**290**	*e*P	**Pn**	**04 58 00.4**	**+0.6**
JLU	**Jordanelle**	**3.54**	**300**	*e*P	**Pn**	**04 58 00.6**	**-0.5**
MSU	**Marysvale**	**3.75**	**265**	*e*Pn	**Pn**	**04 58 05.4**	**+1.3**
NLU	**North Lily Min**	**3.75**	**288**	*e*Pn	**Pn**	**04 58 04.1**	**-0.1**
TCUT	**Toone Canyon**	**3.77**	**307**	*e*Pn	**Pn**	**04 58 05.0**	**+0.6**
MVU	**Marysvale**	**3.77**	**265**	*e*Pn	**Pn**	**04 58 05.5**	**+1.0**
CTU	**Camp Tracy**	**3.78**	**299**	*e*Pn	**Pn**	**04 58 05.1**	**+0.5**
ANMO	**Albuquerque**	**4.03**	**169**	Pg	**Pg**	**04 58 16.4**	**-7.9**
	baz=351,slow=16,SNR=17						
ANMO				Lg		04 59 09.0	
	baz=330,slow=7.9,SNR=3.0						
ANMO	**Albuquerque**	**4.03**	**169**	*e*Pn	**Pn**	**04 58 08.4**	**+0.2**
HWUT	**Hardware Ranch**	**4.16**	**312**	*e*Pn	**Pn**	**04 58 09.1**	**-0.9**
PDAR	**Pinedale Array**	**4.18**	**338**	Pn	**Pn**	**04 58 10.3**	**+0.1**
	0.2nm,0.3s,baz=156,slow=12,SNR=14						
PDAR				Pg	**Pg**	**04 58 21.8**	**-5.3**
	1.0nm,0.3s,baz=152,slow=15,SNR=54						
PDAR				Lg		04 59 16.8	
	1.1nm,0.3s,baz=180,slow=22,SNR=8.3						
DUG	**Dugway**	**4.36**	**289**	Pn	**Pn**	**04 58 12.2**	**-0.7**
SPUT	**South Promonto**	**4.54**	**303**	*e*Pn	**Pn**	**04 58 14.9**	**-0.5**
WUAZ	**Wupatki**	**4.63**	**224**	*e*Pn	**Pn**	**04 58 15.7**	**-1.0**
LPM	**Los Pinos Moun**	**4.64**	**172**	Pn	**Pn**	**04 58 16.3**	**-0.5**
AHID	**Auburn Hatcher**	**4.75**	**325**	Pn	**Pn**	**04 58 17.7**	**-0.7**
ARUT	**Antelope Range**	**4.87**	**259**	Pn	**Pn**	**04 58 19.1**	**-0.9**
NVAR	**Mina Array Bea**	**8.53**	**270**	Pn	**P**	**04 59 13.9**	**+2.4**
	0.1nm,0.3s,baz=90,slow=13,SNR=3.5						
TXAR	**Lajitas Array**	**10.05**	**161**	Pn	**P**	**04 59 27.2**	**-5.2**
	0.1nm,0.3s,slow=13,SNR=3.2						
YKA	**Yellowknife Ar**	**24.01**	**352**	P	**P**	**05 02 19.3**	**-1.4**
	0.1nm,0.4s,mb2.7,baz=162,slow=9.7,SNR=4.5						

*NEIC **30** 05:03:31.3±0.2, 52.50N×174.23W, h137km±3km, mb3.5/1, Error ellipse: s-maj=15.7km s-min=3.6km az=158.0*
*IDC **30** 05:03:32.9±3.1, 52.56N×174.34W, h152km±30km, mb3.4/7, mb1 3.6/9, mb1mx3.3/26, mbtmp3.8/9, Error ellipse: s-maj=29.9km s-min=14.3km az=167.0*
ISC 30 05:03:30.3±0.3, 52.5N±0.1×174.21W±0.07, h138km±5km, n31, σ0°70/34, mb3.5/8, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.32**	**179**	P	**P**	**05 03 49.2**	**-0.8**
ATKA				S	**S**	**05 04 03.3**	**-1.7**
GSIG	**Igitkin Island**	**1.18**	**244**	P	**P**	**05 03 56.1**	**+0.1**
GSIG				S	**S**	**05 04 15.0**	**-0.6**
GSTR	**Great Sitkin T**	**1.21**	**250**	P	**P**	**05 03 56.9**	**+0.6**
GSMY	**Great Sitkin M**	**1.23**	**248**	P	**P**	**05 03 56.7**	**+0.2**
GSTD	**Great Sitkin T**	**1.28**	**249**	P	**P**	**05 03 57.2**	**+0.3**
ADAG	**Mount Adagdak**	**1.57**	**251**	P	**P**	**05 04 00.4**	**+0.3**
KIWB	**Kanaga Island**	**1.93**	**251**	P	**P**	**05 04 05.2**	**+1.0**
KIKV	**Kanaga Island**	**1.93**	**252**	P	**P**	**05 04 05.0**	**+0.8**
KIMD	**Kanaga Island**	**2.01**	**249**	P	**P**	**05 04 05.9**	**+0.6**
MTBL	**Makushin Table**	**4.75**	**69**	P	**P**	**05 04 41.8**	**+0.6**
UNV	**Unalaska Valle**	**4.82**	**71**	P	**P**	**05 04 42.2**	**+0.1**
AHB	**Akutan Harbor**	**5.28**	**69**	P	**P**	**05 04 48.7**	**+0.5**
WESS	**West Dahl Sout**	**5.99**	**67**	P	**P**	**05 04 58.3**	**+0.5**
WESN	**West Dahl Nort**	**6.09**	**67**	P	**P**	**05 04 59.8**	**+0.6**
FALS	**False Pass**	**6.83**	**66**	P	**P**	**05 05 10.3**	**+1.2**
DT1	**Dutton Round H**	**7.52**	**65**	P	**P**	**05 05 17.8**	**-0.6**
DTNA	**Dutton South F**	**7.55**	**65**	P	**P**	**05 05 18.4**	**-0.4**
FX1	**Attu Island--F**	**7.68**	**278**	P	**P**	**05 05 20.1**	**-0.5**
	0.9nm,0.3s,baz=58,slow=18,SNR=5.0						
FX1				S	**S**	**05 06 46.7**	**+0.2**
	1.1nm,0.3s,baz=229,slow=11,SNR=6.3						
DOL	**Dolgoi Island**	**7.76**	**65**	P	**P**	**05 05 20.9**	**-0.8**
PN7A	**Pavlof North-7**	**7.77**	**63**	P	**P**	**05 05 21.5**	**-0.2**
BLHA	**Black Hill**	**7.81**	**61**	P	**P**	**05 05 22.4**	**0.0**
ILAR	**Eielson Array**	**16.58**	**38**	P	**P**	**05 07 38.4**	**-0.4**
	1.0nm,0.3s,baz=229,slow=8.3,SNR=46						
INK	**Inuvik**	**24.89**	**35**	P	**P**	**05 08 41.1**	**-0.1**
	0.5nm,0.3s,mb3.5,baz=105,slow=6.1,SNR=4.8						
YBH	**Yreka Blue Hor**	**35.94**	**86**	P	**P**	**05 10 20.2**	**+1.3**
	0.3nm,0.3s,mb3.4,baz=301,slow=12,SNR=3.8						
HLID	**Hailey**	**39.91**	**78**	P	**P**	**05 10 51.3**	**-0.6**
NVAR	**Mina Array Bea**	**40.62**	**87**	P	**P**	**05 10 58.8**	**+0.9**
	1.0nm,0.7s,mb3.6,baz=300,slow=7.0,SNR=9.2						
BW06	**Boulder Array**	**43.26**	**76**	*e*P	**P**	**05 11 18.6**	**-0.7**
	0.6nm,0.6s,mb3.4						
PDAR	**Pinedale Array**	**43.27**	**76**	P	**P**	**05 11 18.9**	**-0.3**
	0.6nm,0.6s,mb3.4,baz=311,slow=3.4,SNR=8.4						
BVAR	**Borovoye Array**	**61.80**	**322**	P	**P**	**05 13 34.8**	**-1.5**
	0.8nm,0.4s,mb3.9,baz=39,slow=5.1,SNR=6.4						
WRA	**Warramunga Arr**	**84.84**	**228**	P	**P**	**05 15 49.7**	**-0.8**
	0.3nm,0.3s,mb3.5,baz=33,slow=5.8,SNR=5.4						
ASAR	**Alice Springs**	**88.29**	**226**	P	**P**	**05 16 07.0**	**0.0**
	0.6nm,0.6s,mb3.6,baz=25,slow=5.0,SNR=8.8						

*CSEM **30** 05:11:41.4, 12.01N×43.41E, h31km, ML4.0, After DHMR*
DHMR 30 05:11:39.4±0.9, 11.82N×43.68E, h5km±6km, mb5.9, ML4.0, 1C-4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.47**	**17**	⇓*i*P	Pn	05 12 06.9	+0.3
TRBA				*i* S	Sb	05 12 27.5	+2.0
TRBA				AML	AML	05 12 28.7	
	comp=N,3μm,0.4s						
UDYN	**Al 'Udayn**	**2.15**	**7**	*i* P	Pn	05 12 17.2	+0.8
UDYN				*i* S	Sn	05 12 47.3	+3.5
UDYN	**Al 'Udayn**	**2.15**	**7**	⇑*i*P	Pn	05 12 15.0	-1.4
UDYN				*i* S	Sn	05 12 41.4	-2.4
UDYN				*i* S	Sn	05 12 42.0	-1.8
LBOS		**2.55**	**37**	⇓*i*P	Pn	05 12 24.4	+2.3
LBOS				*i* S	Sn	05 12 58.8	+5.0
DHBB	**Dhamar BB**	**2.82**	**14**	⇓*i*P	Pn	05 12 27.7	+1.8
DHBB				*i* S	Sn	05 13 06.7	+6.0
BDHA	**Al Bayda'**	**2.82**	**40**	⇓*i*P	Pn	05 12 28.2	+2.2
BDHA				*i* S	Sn	05 13 05.7	+4.9

*IDC **30** 05:19:12.6±1.4, 23.97N×121.70E, mb3.6/4, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=32.6km s-min=31.4km az=65.0*
*NEIC **30** 05:19:13.5±2.3, 23.95N×121.68E, h6km±13km, mb4.2/1, Error ellipse: s-maj=20.1km s-min=16.0km az=197.0*
*TAP **30** 05:19:15.3, 24.07N×121.62E, h9km, ML4.1*
TAP Felt IV J at Chiawan, III J at Hualien, II J at Shilin, II J at Hehuanshan, II J at Nanau, I J at Nanshan, I J at Tachien, II J at Nioudou.
*JMA **30** 05:19:15.7±0.3, 23.96N×121.57E, h68km, M3.3*
ISC 30 05:19:14.7±0.4, 24.02N±0.01×121.72E±0.02, h2km±2km, n75, σ1°05/121, mb3.6/4, 10C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.11**	**247**	⇓*i*P	**Pg**	**05 19 17.9**	**+1.0**
TWD	**Chiawan**	**0.12**	**299**	⇑*i*P	**Pg**	**05 19 17.7**	**+0.4**
TWD				S	**Sg**	**05 19 18.9**	**0.0**
NACB	**Ninganchiao**	**0.19**	**324**	*e*P	**Pg**	**05 19 17.6**	**-0.9**
ESF	**Shoufeng Towns**	**0.24**	**232**	*e*P	**Pg**	**05 19 19.7**	**+0.2**
ESF				S	**Sg**	**05 19 22.9**	**+0.2**
EHP	**Heping Village**	**0.29**	**5**	*e*P	**Pg**	**05 19 21.9**	**+1.3**
EHP				S	**Sg**	**05 19 25.6**	**+1.2**
ESL	**Shilin**	**0.33**	**232**	*i* P	**Pg**	**05 19 21.2**	**-0.1**
ESL				S	**Sg**	**05 19 25.1**	**-0.6**
TEGC	**Jichi Village**	**0.35**	**207**	*e*P	**Pg**	**05 19 23.5**	**+1.8**
TEGC				S	**Sg**	**05 19 30.1**	**+3.7**
ENA	**Nanau**	**0.41**	**3**	⇑*i*P	**Pg**	**05 19 23.5**	**+0.6**
ENA				S	**Sg**	**05 19 28.2**	**0.0**
WHF	**Hehuan Shan**	**0.43**	**287**	⇑*i*P	**Pg**	**05 19 22.9**	**-0.4**
WHF				S	**Sg**	**05 19 27.7**	**-1.3**
NNS	**Nan Shan**	**0.52**	**323**	⇑*i*P	**Pg**	**05 19 25.0**	**-0.1**
NNS				S	**Sg**	**05 19 31.4**	**-0.7**
TWT	**Tachien**	**0.54**	**295**	⇑*i*P	**Pg**	**05 19 25.6**	**0.0**
TWT				S	**Sg**	**05 19 32.2**	**-0.6**
TWC	**Suao**	**0.60**	**12**	*e*P	**Pg**	**05 19 27.4**	**+0.7**
TWC				S	**Sg**	**05 19 36.0**	**+1.3**
EHY	**Hungye**	**0.62**	**215**	P	**Pg**	**05 19 27.0**	**-0.2**
ENTT	**Nioudou**	**0.63**	**348**	⇑*i*P	**Pg**	**05 19 27.6**	**+0.3**
ENTT				S	**Sg**	**05 19 35.6**	**-0.1**
TWE	**Neicheng**	**0.70**	**356**	⇑*i*P	**Pg**	**05 19 29.1**	**+0.4**
TWE				S	**Sg**	**05 19 38.4**	**+0.3**
YHNB	**Yeheng**	**0.72**	**335**	*e*P	**Pg**	**05 19 28.8**	**-0.2**
NSK	**Sanguang**	**0.73**	**334**	⇑*i*P	**Pg**	**05 19 29.2**	**-0.1**
NSK				S	**Sg**	**05 19 38.5**	**-0.5**
ILA	**Ilan**	**0.74**	**2**	*e*P	**Pg**	**05 19 30.2**	**+0.6**
ILA				S	**Sg**	**05 19 38.9**	**-0.6**
SMLT	**Sun Moon Lake**	**0.76**	**260**	⇑*i*P	**Pg**	**05 19 29.4**	**-0.4**
SMLT				S	**Sg**	**05 19 38.1**	**-1.8**
TWF1	**Yuli**	**0.77**	**210**	*e*P	**Pg**	**05 19 29.3**	**-0.7**
TYC	**Yuchr**	**0.79**	**262**	*i* P	**Pg**	**05 19 29.8**	**-0.8**
TYC				S	**Sg**	**05 19 38.7**	**-2.4**
YUS	**Yu-Shan**	**0.88**	**233**	P	**Pg**	**05 19 31.7**	**-0.5**
NSTT	**Nanjuang**	**0.89**	**313**	*e*P	**Pb**	**05 19 32.3**	**-0.2**
NSTT				S	**Sg**	**05 19 42.3**	**-2.1**
TWQ1	**Liyutan**	**0.92**	**291**	*e*P	**Pb**	**05 19 32.8**	**-0.2**
WNT	**Mingjian**	**0.95**	**262**	*e*P	**Pb**	**05 19 34.0**	**+0.4**
WNT				S	**Sb**	**05 19 47.0**	**+0.6**
NSY	**Sanyi**	**0.96**	**295**	*e*P	**Pb**	**05 19 34.1**	**+0.5**
NSY				S	**Sb**	**05 19 46.7**	**+0.2**
TCU	**Taichung**	**0.96**	**278**	*e*P	**Pb**	**05 19 34.4**	**+0.8**
TCU				S	**Sb**	**05 19 48.0**	**+1.5**
TWA	**Mucha**	**0.96**	**353**	*e*P	**Pb**	**05 19 34.2**	**+0.5**
TWA				S	**Sb**	**05 19 46.0**	**-0.7**
CHKT	**Chengkung**	**0.97**	**199**	*e*P	**Pb**	**05 19 33.1**	**-0.7**
CHKT				S	**Sb**	**05 19 49.5**	**+2.6**
TATO	**Taipei**	**0.97**	**348**	*e*P	**Pb**	**05 19 34.0**	**0.0**
ALS	**Alishan**	**0.97**	**239**	*e*P	**Pb**	**05 19 33.8**	**-0.2**
ALS				S	**Sb**	**05 19 46.0**	**-1.1**
TWB1	**Santiao Chiao**	**1.01**	**14**	*e*P	**Pb**	**05 19 35.1**	**+0.5**
TWB1				S	**Sb**	**05 19 47.8**	**-0.4**
TAP1	**Taipei**	**1.03**	**350**	P	**Pb**	**05 19 35.5**	**+0.6**
TAP1				S	**Sb**	**05 19 47.7**	**-0.9**
TAP	**Taipei**	**1.03**	**349**	*e*P	**Pb**	**05 19 34.9**	**-0.1**
TAP				S	**Sb**	**05 19 47.2**	**-1.5**
HSN	**Hsinchu**	**1.03**	**319**	*e*P	**Pb**	**05 19 35.6**	**+0.6**
HSN				S	**Sb**	**05 19 50.1**	**+1.3**
CHN5	**Tsauling**	**1.04**	**246**	*e*P	**Pb**	**05 19 35.5**	**+0.4**
CHN5				S	**Sb**	**05 19 50.0**	**+1.1**
ELDTW	**Lidau**	**1.05**	**218**	*e*P	**Pb**	**05 19 33.7**	**-1.4**
NWF	**Wu-fen Shan**	**1.05**	**3**	*e*P	**Pb**	**05 19 36.0**	**+0.8**
NWF				S	**Sb**	**05 19 49.2**	**0.0**
NCU	**National Centr**	**1.06**	**333**	*e*P	**Pb**	**05 19 36.2**	**+0.8**
NCU				S	**Sb**	**05 19 50.7**	**+1.1**
WGK	**Gukeng**	**1.11**	**253**	*e*P	**Pb**	**05 19 36.3**	**+0.1**
TWS1	**Kuangyinshan**	**1.11**	**346**	*e*P	**Pb**	**05 19 37.3**	**+1.0**
TWS1				S	**Sb**	**05 19 51.6**	**+0.6**
STYT	**Tauyuan**	**1.22**	**226**	*e*P	**Pb**	**05 19 37.9**	**-0.4**
STYT				S	**Sb**	**05 19 54.6**	**+0.3**
CHN4	**Tsaushan**	**1.23**	**237**	P	**Pb**	**05 19 38.6**	**+0.4**
CHN4				S	**Sb**	**05 19 57.8**	**+3.5**
CHN2	**Minshiung**	**1.23**	**247**	*e*P	**Pb**	**05 19 39.6**	**+1.2**
TWY	**Chenhua**	**1.25**	**355**	*e*P	**Pb**	**05 19 40.0**	**+1.3**
YOJ	**Yonaguni jima**	**1.26**	**69**	P	**Pb**	**05 19 39.7**	**+0.8**
YOJ				*e*S	**Sb**	**05 19 57.6**	**+2.2**
WTP	**Ta-pu**	**1.27**	**233**	⇑*i*P	**Pb**	**05 19 39.4**	**+0.5**
WTP				S	**Sb**	**05 19 56.1**	**+0.4**
CHY	**Chiayi**	**1.29**	**247**	*e*P	**Pb**	**05 19 38.8**	**-0.5**
TWG	**Pinlang**	**1.33**	**206**	*e*P	**Pb**	**05 19 37.5**	**-2.6**
TWK	**Hsinying**	**1.35**	**237**	*e*P	**Pb**	**05 19 41.1**	**+0.7**
TWK				S	**Sb**	**05 19 59.5**	**+1.4**
TTN	**Taitung**	**1.36**	**203**	*e*P	**Pb**	**05 19 39.4**	**-1.2**
CHN1	**Nanshi**	**1.37**	**233**	*e*P	**Pb**	**05 19 40.8**	**+0.1**
CHN1				S	**Sb**	**05 20 00.3**	**+1.8**
SGST	**Jiashian**	**1.40**	**228**	*e*P	**Pb**	**05 19 41.0**	**-0.2**
SGST				S	**Sb**	**05 20 01.6**	**+2.3**
CHN8	**Yiju**	**1.53**	**244**	*e*P	**Pn**	**05 19 42.5**	**-0.6**
CHN8				S	**Sb**	**05 20 04.5**	**+1.2**
ECL	**Taimali**	**1.58**	**206**	*e*P	**Pn**	**05 19 41.3**	**-2.5**
SSD	**Sandimen**	**1.61**	**218**	*e*P	**Pn**	**05 19 44.4**	**+0.1**
PCYT	**Pengchaiyu**	**1.64**	**11**	*e*P	**Pn**	**05 19 44.3**	**-0.4**
TWM1	**Shoushan**	**1.68**	**225**	*e*P	**Pn**	**05 19 45.3**	**0.0**
SGLT	**Jiouru**	**1.71**	**221**	*e*P	**Pn**	**05 19 47.5**	**+1.8**
EAST	**Anshuo**	**1.81**	**206**	*e*P	**Pn**	**05 19 45.0**	**-2.2**
IRIF	**Iriomote-Funau**	**1.87**	**80**	P	**Pn**	**05 19 48.4**	**+0.5**
IRIF				*e*S	**Sn**	**05 20 12.5**	**+0.1**
HATJ	**Hateruma jima**	**1.91**	**88**	P	**Pn**	**05 19 48.3**	**-0.3**
HATJ				*e*S	**Sn**	**05 20 13.0**	**-0.5**
SCZT	**Fangliau**	**1.93**	**212**	*e*P	**Pn**	**05 19 49.7**	**+1.0**
PNG	**Penghu**	**2.03**	**258**	*e*P	**Pn**	**05 19 49.2**	**-1.0**
PNG				S	**Sn**	**05 20 15.1**	**-1.4**
WDGT	**Dungji**	**2.03**	**249**	*e*P	**Pn**	**05 19 49.7**	**-0.6**
WDGT				S	**Sn**	**05 20 15.1**	**-1.4**
JKRS	**Kuro-shima**	**2.11**	**84**	P	**Pn**	**05 19 51.5**	**+0.1**
JKRS				*e*S	**Sn**	**05 20 19.0**	**+0.5**
HEN	**Hengchun**	**2.20**	**204**	*e*P	**Pn**	**05 19 53.9**	**+1.2**
JIJ	**Ishigaki jima**	**2.24**	**81**	P	**Pn**	**05 19 52.8**	**-0.5**
JIJ				*e*S	**Sn**	**05 20 20.9**	**-1.0**
JTJ	**Tarama**	**2.79**	**77**	*e*S	**Sn**	**05 20 34.6**	**-1.3**
JOW	**Kunigami**	**6.56**	**63**	Pn	**Pn**	**05 20 51.5**	**-3.0**
	2.1nm,0.3s,baz=237,slow=15,SNR=5.8						
JOW				Sn	**Sn**	**05 22 08.0**	**-2.8**
	0.5nm,0.3s,baz=279,slow=19,SNR=2.2						
MKAR	**Makanchi Array**	**38.79**	**316**	P	**P**	**05 26 39.4**	**-3.0**
	0.5nm,0.7s,mb3.4,baz=112,slow=7.8,SNR=5.5						
WRA	**Warramunga Arr**	**45.39**	**163**	P	**P**	**05 27 32.7**	**-4.0**
	0.7nm,0.9s,mb3.5,baz=345,slow=8.7,SNR=4.0						
INK	**Inuvik**	**73.20**	**22**	P	**P**	**05 30 45.5**	**-2.9**
	0.6nm,0.8s,mb3.6,baz=314,slow=12,SNR=3.6						
INK	**Inuvik**	**73.20**	**22**	*e*P	**P**	**05 30 45.2**	**-3.2**
	2.7nm,1.3s,mb4.0						
YKA	**Yellowknife Ar**	**82.93**	**23**	P	**P**	**05 31 38.9**	**-3.1**
	0.7nm,0.8s,mb3.8,baz=313,slow=5.1,SNR=7.9						

*IDC **30** 05:19:15.0±2.0, 60.39N×143.07W, mb3.9/3, mb1 3.7/6, mb1mx3.5/21, mbtmp3.6/6, ML3.2/3, MS2.8/2, Ms1 2.8/2, ms1mx2.3/31, Error ellipse: s-maj=28.4km s-min=19.6km az=21.0*
*PGC **30** 05:19:18.7, 60.50N×142.66W, h5km, ML3.3/3, Chugach Mountains, Alaska.*
*NEIC **30** 05:19:18.2, 60.55N×142.66W, h1km, ML3.7(PMR), ML3.4(AEIC), After AEIC.*
ISC 30 05:19:16.1±0.8, 60.57N±0.04×142.61W±0.04, h5km±6km, n50, σ1°30/62, mb3.8/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRQM	**Cirque**	**0.32**	**306**	P	**Pg**	**05 19 24.6**	**+2.1**
YAH	**Yahtse**	**0.48**	**116**	P	**Pg**	**05 19 28.5**	**+2.8**
BALM	**Baldy**	**0.48**	**16**	P	**Pg**	**05 19 28.4**	**+2.5**
CTGM	**Chitina Glacie**	**0.74**	**57**	P	**Pg**	**05 19 32.7**	**+1.7**
GLB	**Gilahina Butte**	**1.05**	**327**	P	**Pb**	**05 19 36.6**	**+0.2**
EYAK	**Cordova Ski Ar**	**1.55**	**271**	P	**Pn**	**05 19 44.7**	**+0.2**
EYAK				S	**Sb**	**05 20 05.2**	**+0.4**
CVA	**Cordova**	**1.55**	**270**	P	**Pn**	**05 19 44.7**	**+0.2**
DIV	**Divide**	**1.64**	**291**	P	**Pn**	**05 19 45.8**	**-0.1**
DIV				S	**Sb**	**05 20 07.8**	**+0.2**
PNL	**Peninsula**	**1.85**	**118**	P	**Pn**	**05 19 49.0**	**+0.2**
PNL				S	**Sn**	**05 20 14.8**	**+1.9**
VLZ	**Valdez**	**1.90**	**289**	P	**Pn**	**05 19 49.9**	**+0.3**
VLZ				S	**Sn**	**05 20 14.0**	**-0.2**
HIN	**Hinchinbrook I**	**1.93**	**266**	P	**Pn**	**05 19 49.3**	**-0.8**
TZL	**Tazlina**	**2.00**	**319**	P	**Pn**	**05 19 52.9**	**+1.8**
MID	**Middleton Isla**	**2.20**	**240**	P	**Pn**	**05 19 53.9**	**+0.1**
MENT	**Mentasta**	**2.43**	**348**	*e*P	**Pn**	**05 19 59.3**	**+2.1**
HYT	**Haines Junctio**	**2.53**	**82**	Pn	**Pn**	**05 20 00.3**	**+1.8**
HYT				Pg	**Pg**	**05 20 04.2**	**-2.3**
HYT				Sg	**Sg**	**05 20 39.3**	**-0.9**
HYT				Trac		05 20 42.8	
	comp=Z,61nm,0.6s						
SCM	**Sheep Creek Mo**	**2.61**	**301**	P	**Pn**	**05 19 59.7**	**0.0**
PAX	**Paxson**	**2.76**	**332**	P	**Pn**	**05 20 02.8**	**+0.9**
SML	**Sawmill**	**3.03**	**297**	P	**Pn**	**05 20 05.7**	**0.0**
DOT	**Dot Lake**	**3.16**	**348**	P	**Pn**	**05 20 09.7**	**+2.2**
THY	**Trims Highway**	**3.22**	**334**	P	**Pn**	**05 20 10.3**	**+2.0**
GHO	**Glory Hole Cre**	**3.29**	**294**	P	**Pn**	**05 20 09.6**	**+0.2**
PMR	**Palmer**	**3.33**	**291**	P	**Pn**	**05 20 11.1**	**+1.1**
RC01	**Rabbit Creek A**	**3.53**	**282**	P	**Pn**	**05 20 12.0**	**-0.7**
FIB	**Fire Island**	**3.75**	**282**	*e*P	**Pn**	**05 20 13.6**	**-2.3**
SLKM	**Skilak Lake**	**3.76**	**272**	*e*P	**Pn**	**05 20 15.9**	**-0.1**
WHY	**Whitehorse**	**3.81**	**85**	P	**Pn**	**05 20 17.3**	**+0.5**
WHY	**Whitehorse**	**3.81**	**85**	Pn	**Pn**	**05 20 17.2**	**+0.4**
WHY				Sn	**Sn**	**05 21 02.2**	**-0.5**
WHY				Sg	**Sg**	**05 21 17.6**	**-5.5**
WHY				Trac		05 21 28.4	
	comp=Z,28nm,0.8s						
DAWY	**Dawson**	**3.81**	**22**	*e*P	**Pn**	**05 20 18.1**	**+1.3**
DAWY	**Dawson**	**3.81**	**22**	Pn	**Pn**	**05 20 18.6**	**+1.7**
DAWY				Pg	**Pg**	**05 20 29.1**	**-3.2**
DAWY				Sn	**Sn**	**05 21 02.8**	**+0.1**
DAWY				Sg	**Sg**	**05 21 19.2**	**-3.9**
DAWY				Trac		05 21 22.8	
	comp=Z,44nm,0.6s						
MCK	**McKinley**	**4.34**	**320**	*e*P	**Pn**	**05 20 24.0**	**-0.3**
STLK	**Strandline Lak**	**4.58**	**286**	P	**Pn**	**05 20 26.8**	**-0.9**
TRF	**Thorofare Moun**	**4.63**	**312**	P	**Pn**	**05 20 28.4**	**0.0**
ILAR	**Eielson Array**	**4.65**	**337**	Pn	**Pn**	**05 20 28.0**	**-0.7**
	1.3nm,0.3s,baz=169,slow=13,SNR=56						
ILAR				Lg		05 21 41.5	
	1.5nm,0.3s,baz=153,slow=28,SNR=6.3						
SPU	**Mount Spurr**	**4.65**	**282**	*

comp=Z,4μm,0.4s
UDYN Al 'Udayn 2.13 12 *i* P Pn 05 36 17.1 +1.0
UDYN *i* S Sn 05 36 46.6 +3.5
UDYN Al 'Udayn 2.13 12 *i* P Pn 05 36 16.6 +0.5
UDYN *i* S Sn 05 36 44.6 +1.5
LBOS 2.61 40 *i* P Pn 05 36 25.0 +2.0
LBOS *i* S Sn 05 37 00.4 +5.0
DHBB Dhamar BB 2.81 18 *i* P Pn 05 36 28.1 +2.2
DHBB *i* S Sn 05 37 06.1 +5.5
DHBB Dhamar BB 2.81 18 *i* P Pn 05 36 27.0 +1.1
DHBB *i* S Sn 05 37 05.2 +4.7
BDHA Al Bayda' 2.90 44 *i* P Pn 05 36 29.1 +2.0
BDHA *i* S Sn 05 37 08.0 +5.4
BDHA Al Bayda' 2.90 44 *i* P Pn 05 36 30.2 +3.1
BDHA *i* S Sn 05 37 08.7 +6.1

DHMR 30 05:43:06.0±1.6, 11.95N×43.81E, h12km±9km, ML3.6, 4C-4D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.31**	**13⇑**	*i*P	Pb	05 43 30.7	+0.6
TRBA				*i* S	Sb	05 43 49.0	+2.4
TRBA				AML	AML	05 43 51.5	
comp=E,1μm,0.2s							
UDYN	**Al 'Udayn**	**2.01**	**4⇑**	*i*P	Pn	05 43 40.5	+0.3
UDYN				*i* S	Sn	05 44 08.1	+2.7
UDYN				AML	AML	05 44 18.6	
comp=N,509nm,0.6s							
UDYN	**Al 'Udayn**	**2.01**	**4⇑**	*i*P	Pn	05 43 40.3	+0.1
UDYN				*i* S	Sn	05 44 06.7	+1.3
comp=N,254nm,0.6s							
LBOS		**2.38**	**36⇓**	*i*P	Pn	05 43 47.6	+2.2
LBOS				*i* S	Sn	05 44 19.4	+4.8
BDHA	**Al Bayda'**	**2.65**	**40⇓**	*i*P	Pn	05 43 51.1	+1.8
BDHA				*i* S	Sn	05 44 26.5	+4.9
BDHA				AML	AML	05 44 39.4	
comp=E,296nm,0.5s							
BDHA	**Al Bayda'**	**2.65**	**40⇓**	*i*P	Pn	05 43 50.9	+1.6
BDHA				*i* S	Sn	05 44 26.5	+5.0
comp=E,148nm,0.5s							
DHBB	**Dhamar BB**	**2.67**	**12⇓**	*i*P	Pn	05 43 52.0	+2.5
DHBB				*i* S	Sn	05 44 28.6	+6.5
DHBB	**Dhamar BB**	**2.67**	**12⇑**	*i*P	Pn	05 43 48.9	-0.7
DHBB				*i* S	Sn	05 44 24.9	+2.8

PGC 30 05:57:38.8, 65.58N×137.13W, h1km, ML2.8/4, Ogilvie Mountains, Yukon Territory, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**1.81**	**213**	Pn	Pn	05 58 10.7	-0.6
DAWY				Pg	Pg	05 58 11.2	-3.6
DAWY				Sg	Sg	05 58 34.2	-4.7
DAWY				Trac		05 58 42.4	
comp=Z,68nm,0.2s							
INK	**Inuvik**	**3.08**	**26**	Pn	Pn	05 58 27.9	-1.6
INK				Pg	Pg	05 58 34.6	-5.7
INK				Sn	Sn	05 59 03.0	-4.5
INK				Sg	Sg	05 59 14.7	-6.8
INK				Trac		05 59 19.3	
comp=Z,12nm,0.3s							
HYT	**Haines Junctio**	**4.78**	**182**	Pn	Pn	05 58 52.0	-1.7
HYT				Pg	Pg	05 59 05.2	-9.0
HYT				Sg	Sg	06 00 07.7	-10
HYT				Trac		06 00 13.2	
comp=Z,6.0nm,0.5s							
WHY	**Whitehorse**	**5.05**	**167**	Pn	Pn	05 58 55.2	-2.2
WHY				Sg	Sg	06 00 14.9	-12
WHY				Trac		06 00 18.8	
comp=Z,2.0nm,0.4s							
DLBC	**Dease Lake**	**7.91**	**152**	Trac		06 01 56.5	
comp=Z,2.0nm,0.8s							
DLBC	**Dease Lake**	**7.91**	**152**	Sg	Sg	06 01 43.1	-19
YKW3	**Yellowknife Ar**	**10.29**	**97**	P	P	06 00 06.3	-4.1

*KNET **30** 05:58:43.9±0.6, 41.44N×75.79E, h10km±3km, ml2.2, Error ellipse: s-maj=4.0km s-min=3.2km az=146.0*
*NNC **30** 05:58:44.1±60.0, 41.25N×75.64E, h6km±289km, mpv2.6, Error ellipse: s-maj=918.8km s-min=413.5km az=56.0*
ISC 30 05:58:43.3±1.6, 41.33N±0.08×75.93E±0.08, h10km, n11, σ1§08/20, 12C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.90**	**326**	⇓P	Pb	05 58 58.9	-1.7
17nm,0.2s,SNR=108							
KZA				⇓S	Sb	05 59 10.8	-1.6
75nm,0.2s							
ULHL	**Ulahol**	**0.94**	**14**	⇓P	Pb	05 59 00.2	-1.0
12nm,0.1s,SNR=81							
ULHL				⇓S	Sb	05 59 13.1	-0.5
36nm,0.1s							
UCH	**Uchtor**	**1.38**	**311**	⇓P	Pn	05 59 07.3	-1.4
3.5nm,0.1s,SNR=12							
UCH				⇓S	Sb	05 59 25.4	-1.1
43nm,0.2s							
KBK	**Karagaybulak**	**1.51**	**331**	⇑P	Pn	05 59 10.4	-0.2
22nm,0.1s,SNR=10							
KBK				⇑S	Sb	05 59 30.2	+0.1
78nm,0.1s							
TKM2	**Tokmak 2**	**1.61**	**351**	⇑P	Pn	05 59 12.1	+0.1
5.6nm,0.1s,SNR=15							
TKM2				⇑S	Sn	05 59 33.4	+0.5
37nm,0.1s							
AAK	**Ala-Archa**	**1.68**	**321**	⇓P	Pn	05 59 13.0	0.0
7.1nm,0.2s,SNR=13							
AAK				⇑S	Sn	05 59 35.1	+0.3
17nm,0.2s							
AAK	**Ala-Archa**	**1.68**	**321**	⇑P	Pn	05 59 13.2	+0.2
1.2nm,0.2s							
AAK				⇑S	Sn	05 59 35.1	+0.3
9.2nm,0.4s							
AML	**Almayashu**	**1.85**	**296**	⇑P	Pn	05 59 15.9	+0.5
3.3nm,0.1s,SNR=13							
AML				⇓S	Sn	05 59 39.4	+0.3
20nm,0.2s							
CHMS	**Chumysh**	**1.88**	**333**	⇓P	Pn	05 59 16.7	+0.8
4.2nm,0.1s,SNR=5.5							
CHMS				⇑S	Sn	05 59 41.1	+1.3
26nm,0.2s							
USP	**Ospenovka**	**2.20**	**332**	⇑P	Pn	05 59 22.6	+2.1
16nm,0.4s,SNR=14							
USP				⇑S	Sn	05 59 51.0	+2.9
21nm,0.2s							
KK31	**Karatay Array**	**4.39**	**296**	⇑Lg		06 00 57.5	
1.7nm,0.5s,baz=114,slow=28							

IDC 30 06:12:51.8±2.2, 16.53S×178.57W, mb4.0/5, mb1 4.3/5, mb1mx4.0/15, mbtmp4.0/5, Error ellipse: s-maj=128.1km s-min=25.1km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.17**	**240**	P	P	06 20 21.9	-1.3
1.5nm,0.3s,baz=72,slow=6.4,SNR=6.8							
WRA	**Warramunga Arr**	**44.75**	**258**	P	P	06 21 07.1	-2.0
0.9nm,0.5s,baz=96,slow=7.7,SNR=32							
ASAR	**Alice Springs**	**45.03**	**253**	P	P	06 21 09.4	-1.8
9.1nm,0.6s,baz=89,slow=8.1,SNR=134							
NVAR	**Mina Array Bea**	**78.54**	**44**	P	P	06 24 56.4	-0.5
0.3nm,0.7s,baz=214,slow=5.9,SNR=3.8							
ILAR	**Eielson Array**	**84.59**	**13**	P	P	06 25 25.6	-2.3
0.1nm,0.3s,baz=217,slow=4.5,SNR=4.1							

*NEIC **30** 06:25:37.0, 60.59N×150.77W, h40km, mb4.0/5, ML4.1(PMR), ML3.8(AEIC), After AEIC.*
NEIC Felt [III] at Seward and Sterling; [II] at Lowell Point and Soldotna.
*IDC **30** 06:25:38.8±2.8, 60.81N×150.77W, h74km±23km, mb3.6/13, mb1 3.8/17, mb1mx3.7/25, mbtmp3.9/17, MS3.0/6, Ms1 3.0/6, ms1mx2.8/26, Error ellipse: s-maj=22.5km s-min=13.0km az=57.0*
ISC 30 06:25:35.5±0.2, 60.61N±0.02×150.74W±0.04, h61km±3km, n96, σ1§00/101, mb3.9/18, 1D, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**0.27**	**111**	P	P	06 25 45.0	-0.6
VOGL	**Vogel Lake**	**0.42**	**21**	P	P	06 25 47.3	+0.5
FIB	**Fire Island**	**0.62**	**26**	P	P	06 25 49.7	+0.7
FIB				S	S	06 26 00.7	+1.7
RC01	**Rabbit Creek A**	**0.69**	**45**	P	P	06 25 49.5	-0.2
RC01				S	S	06 26 01.8	+1.4
SEW	**Seward**	**0.82**	**128**	P	P	06 25 50.9	-0.4
SEW				S	S	06 26 02.9	-0.2
BRLK	**Bradley Lake**	**0.85**	**185**	P	P	06 25 51.3	-0.5
SPU	**Mount Spurr**	**0.86**	**312⇓**	*i*P	P	06 25 51.7	-0.3
CKN	**Chakachatna No**	**0.94**	**312**	P	P	06 25 53.0	0.0
DFR	**Drift River**	**0.96**	**270**	P	P	06 25 52.8	-0.5
RDN	**Redoubt North**	**1.01**	**265**	P	P	06 25 53.3	-0.6
RSO	**Redoubt South**	**1.01**	**265**	P	P	06 25 53.5	-0.4
STLK	**Strandline Lak**	**1.04**	**330**	P	P	06 25 54.7	+0.3
NCT	**North Crescent**	**1.08**	**268**	P	P	06 25 54.6	-0.4
CNPM	**China Poot**	**1.11**	**193**	P	P	06 25 54.9	-0.5
PWA	**Palmer West**	**1.13**	**21**	P	P	06 25 56.3	+0.8
ILIM	**Iliamna**	**1.23**	**245**	P	P	06 25 56.4	-0.5
PMR	**Palmer**	**1.26**	**38**	P	P	06 25 57.8	+0.5
PMR				S	S	06 26 15.0	+1.4
INE	**Iliamna NE**	**1.28**	**246**	P	P	06 25 57.2	-0.5
ILW	**Iliamna West**	**1.31**	**246**	P	P	06 25 57.8	-0.5
GHO	**Glory Hole Cre**	**1.46**	**36**	P	P	06 26 00.9	+0.6
OPT	**Oil Point**	**1.57**	**234**	P	P	06 26 02.2	+0.4
SML	**Sawmill**	**1.67**	**43**	P	P	06 26 03.6	+0.4
CUT	**Chulitna**	**1.82**	**7**	P	P	06 26 05.8	+0.7
AUE	**Augustine Isla**	**1.82**	**228**	P	P	06 26 05.4	+0.2
AUL	**Augustine Lava**	**1.83**	**229**	P	P	06 26 05.8	+0.5
AUP	**Augustine Pinn**	**1.84**	**228**	P	P	06 26 05.9	+0.5
AUW	**Augustine West**	**1.85**	**229**	P	P	06 26 06.0	+0.4
AUI	**Augustine Isla**	**1.86**	**228**	P	P	06 26 06.0	+0.3
PDB	**Pedro Bay**	**1.91**	**246**	P	P	06 26 07.1	+0.7
SCM	**Sheep Creek Mo**	**2.06**	**52**	P	P	06 26 08.8	+0.4
HIN	**Hinchinbrook I**	**2.11**	**94**	P	P	06 26 08.2	-1.0
SYI	**Shuyak Island**	**2.17**	**203**	P	P	06 26 11.1	+1.0
MCNL	**McNeil River**	**2.31**	**233**	P	P	06 26 12.1	+0.1
SVW2	**Sparrevohn**	**2.42**	**284**	P	P	06 26 12.7	-0.9
EYAK	**Cordova Ski Ar**	**2.46**	**89**	P	P	06 26 12.8	-1.4
DIV	**Divide**	**2.48**	**76**	P	P	06 26 13.9	-0.6
DIV				S	S	06 26 43.6	0.0
MID	**Middleton Isla**	**2.50**	**116**	*e*P	P	06 26 13.2	-1.6
KAPH	**Katmai Pasha**	**2.73**	**224**	P	P	06 26 18.6	+0.7
TRF	**Thorofare Moun**	**2.86**	**4**	P	P	06 26 21.4	+1.6
KAHC	**Katmai Hardscr**	**2.93**	**230**	P	P	06 26 20.7	-0.1
KTH	**Kantishna Hill**	**2.96**	**358**	P	P	06 26 22.8	+1.6
KDAK	**Kodiak Island**	**2.99**	**199**	P	P	06 26 20.4	-1.3
MCK	**McKinley**	**3.25**	**14**	P	P	06 26 26.0	+0.7
TTA	**Tatalina**	**3.42**	**315**	*e*P	P	06 26 27.5	-0.2
ANCK	**Angle Creek**	**3.43**	**227**	P	P	06 26 28.2	+0.4
PAX	**Paxson**	**3.45**	**44**	P	P	06 26 28.6	+0.5
GLB	**Gilahina Butte**	**3.47**	**73**	P	P	06 26 27.5	-0.9
THY	**Trims Highway**	**3.67**	**38**	P	P	06 26 32.5	+1.3
MENT	**Mentasta**	**4.07**	**52**	*e*P	P	06 26 36.1	-0.7
BALM	**Baldy**	**4.13**	**80**	P	P	06 26 36.0	-1.7
CCB	**Clear Creek Bu**	**4.27**	**17**	P	P	06 26 39.7	0.0
DOT	**Dot Lake**	**4.37**	**43**	P	P	06 26 40.8	-0.3
COLA	**College**	**4.48**	**16**	P	P	06 26 42.1	-0.5
MDM	**Murphy Dome**	**4.52**	**14**	P	P	06 26 43.4	+0.3
ILAR	**Eielson Array**	**4.54**	**21**	P	P	06 26 43.4	0.0
8.0nm,0.3s,baz=207,slow=14,SNR=581							
ILAR				S	S	06 27 32.8	-2.6
5.0nm,0.3s,baz=212,slow=20,SNR=5.5							
CTGM	**Chitina Glacie**	**4.62**	**81**	P	P	06 26 44.1	-0.5
IMA	**Indian Mountai**	**5.64**	**348**	P	P	06 26 59.5	+0.8
PNL	**Peninsula**	**5.75**	**94**	P	P	06 26 57.5	-2.5
DAWY	**Dawson**	**6.32**	**52**	P	P	06 27 07.1	-1.1
COLD	**Coldfoot**	**6.65**	**2**	P	P	06 27 12.6	-0.2
WHY	**Whitehorse**	**7.80**	**83**	P	P	06 27 26.4	-2.3
TNA	**Tin City**	**9.22**	**310**	*e*P	P	06 27 47.3	-0.9
INK	**Inuvik**	**10.68**	**36**	P	P	06 28 05.9	-1.9
0.4nm,0.3s,baz=232,slow=16,SNR=21							
INK				S	S	06 30 12.6	+6.0
0.3nm,0.3s,baz=70,slow=1.3,SNR=4.7							
INK				LR	LR	06 32 32.7	
comp=Z,89nm,19.6s,baz=127,slow=39							
INK	**Inuvik**	**10.68**	**36**	*e*P	P	06 28 05.5	-2.3
DLBC	**Dease Lake**	**10.73**	**93**	P	P	06 28 07.9	-0.7
0.2nm,0.3s,baz=232,slow=12,SNR=5.1							
DLBC				S	S	06 29 59.0	-9.0
0.4nm,0.3s,baz=165,slow=19,SNR=6.3							
DLBC				LR	LR	06 33 07.0	
comp=Z,76nm,18.7s,baz=244,slow=42							
BBB	**Bella Bella**	**15.03**	**114**	LR	LR	06 34 18.3	
comp=Z,62nm,21.3s,baz=302,slow=34							
YKW3	**Yellowknife Ar**	**17.16**	**68**	*e*P	P	06 29 31.1	-1.0
YKA	**Yellowknife Ar**	**17.18**	**68**	P	P	06 29 31.4	-0.9
0.4nm,0.3s,baz=281,slow=9.6,SNR=24							
YKA				LR	LR	06 36 36.8	
comp=Z,28nm,20.0s,baz=255,slow=38							
FX1	**Attu Island--F**	**21.02**	**265**	P	P	06 30 16.4	+0.7
13nm,0.6s,mb4.4,baz=63,slow=2.3,SNR=4.8							
FX1	**Attu Island--F**	**21.02**	**265**	P	P	06 30 16.5	+0.8
NEW	**Newport**	**22.83**	**108**	P	P	06 30 36.2	+2.7
1.9nm,0.7s,mb3.6,baz=292,slow=3.7,SNR=6.0							
NEW				LR	LR	06 40 04.0	
comp=Z,41nm,18.9s,baz=142,slow=38							
YBH	**Yreka Blue Hor**	**25.48**	**125**	P	P	06 31 01.5	+2.4
2.1nm,0.9s,mb3.7,baz=238,slow=3.1,SNR=5.4							
CHMT	**Chamberlain Mo**	**25.63**	**105**	*e*P	P	06 31 01.0	+0.5
HLID	**Hailey**	**27.59**	**112**	P	P	06 31 19.4	+0.7
FCC	**Fort Churchill**	**27.90**	**68**	*e*P	P	06 31 21.3	+0.1
ELK	**Elko**	**29.46**	**116**	*e*P	P	06 31 36.7	+1.3
2.6nm,0.9s,mb4.0							
NVAR	**Mina Array Bea**	**30.07**	**123**	P	P	06 31 42.1	+1.3
1.9nm,0.7s,mb3.9,baz=327,slow=8.2,SNR=20							
BW06	**Boulder Array**	**30.47**	**107**	P	P	06 31 44.8	+0.5
PDAR	**Pinedale Array**	**30.47**	**107**	P	P	06 31 44.9	+0.7
0.4nm,0.4s,mb3.5,baz=341,slow=4.9,SNR=6.1							
DUG	**Dugway**	**30.99**	**114**	P	P	06 31 49.6	+0.8
0.8nm,0.6s,mb3.7							
ULM	**Lac du Bonnet**	**31.87**	**84**	LR	LR	06 44 19.6	
comp=Z,48nm,19.3s,baz=270,slow=35							
MSU	**Marysvale**	**32.65**	**115**	*e*P	P	06 32 05.0	+1.7
NEN	**Nelson**	**33.88**	**121**	*e*P	P	06 32 15.7	+1.6
EYMN	**Ely**	**35.56**	**83**	*e*P	P	06 32 28.2	-0.1
2.0nm,0.5s,mb4.3							
SDCO	**Great Sand Dun**	**36.33**	**108**	*e*P	P	06 32 36.3	+1.4
0.9nm,0.6s,mb3.9							
SCHQ	**Schefferville**	**42.28**	**59**	P	P	06 33 24.2	+0.3
2.9nm,0.4s,mb4.2,baz=332,slow=7.1,SNR=21							
TXAR	**Lajitas Array**	**44.16**	**113**	P	P	06 33 41.1	+1.6
0.2nm,0.4s,mb3.2,baz=330,slow=7.3,SNR=3.4							
JCT	**Junction City**	**44.98**	**109**	*e*P	P	06 33 46.7	+0.6
4.7nm,0.8s,mb4.4							
ELN	**Prospectdale**	**48.79**	**85**	*e*P	P	06 34 15.2	-0.7
NOA	**NORSAR Array B**	**57.89**	**10**	P	P	06 35 20.8	-1.9
0.3nm,0.7s,mb3.4,baz=341,slow=6.9,SNR=3.0							
FINES	**FINESS Array B**	**58.25**	**2**	P	P	06 35 23.3	-2.0
0.8nm,0.9s,mb3.8,baz=27,slow=6.2,SNR=3.5							
BVAR	**Borovoye Array**	**62.05**	**333**	P	P	06 35 49.4	-1.9
0.9nm,0.5s,mb4.2,baz=214,slow=5.2,SNR=7.9							
AKASG	**Malin Array Be**	**69.05**	**0**	P	P	06 36 34.4	-1.6
1.1nm,0.4s,mb4.1,baz=360,slow=6.4,SNR=10							
GERES	**GERESS Array B**	**70.18**	**11**	P	P	06 36 42.7	-0.2
0.4nm,0.7s,mb3.5,baz=315,slow=5.6,SNR=2.8							
BRTR	**Keskin Array B**	**79.96**	**357**	P	P	06 37 37.7	-1.2
0.3nm,0.4s,mb3.6,baz=292,slow=7.8,SNR=3.0							
BOSA	**Boshof**	**147.89**	**7**	PKPbc	PKPdf	06 45 13.9	+3.9
1.7nm,0.6s,baz=20,slow=2.6,SNR=4.6							

IDC 30 06:27:08.2±10.0, 5.06S×101.32E, mb3.3/3, mb1 3.4/3, mb1mx3.3/16, mbtmp3.3/3, Error ellipse: s-maj=517.9km s-min=29.6km az=51.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.36**	**118**	P	P	06 34 05.6	-2.1
0.2nm,0.6s,baz=303,slow=9.1,SNR=3.8							
ASAR	**Alice Springs**	**36.43**	**124**	P	P	06 34 14.9	-1.8
0.1nm,0.4s,baz=294,slow=7.4,SNR=3.4							
MKAR	**Makanchi Array**	**54.31**	**344**	P	P	06 36 36.2	-2.3
0.4nm,0.5s,baz=161,slow=9.1,SNR=6.1							

*IDC **30** 06:35:11.2±5.2, 36.20N×71.11E, h102km±46km, mb3.8/13, mb1 3.9/15, mb1mx3.8/25, mbtmp4.2/15, Error ellipse: s-maj=20.4km s-min=18.2km az=11.0*
*MOS **30** 06:35:12.0±1.2, 36.37N×70.99E, h114km, mb4.3/7, Error ellipse: s-maj=14.9km s-min=7.8km az=95.6*

*BJI **30** 06:35:13.4, 36.78N×70.71E, h107km, mB4.9, mb4.7*
*NEIC **30** 06:35:13.1±2.3, 36.36N×71.01E, h110km±20km, mb4.2/7, Error ellipse: s-maj=18.4km s-min=11.6km az=207.0*
*NNC **30** 06:35:16.2±2.4, 36.65N×70.73E, h113km±22km, mpv4.5, Error ellipse: s-maj=28.9km s-min=17.8km az=135.0*
ISC 30 06:35:11.8±0.5, 36.31N±0.03×71.10E±0.06, h120km±6km, n76, σ1§02/84, mb4.0/20, 7C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.57**	**165**	P	P	06 35 54.9	+1.7
CHCP	**Chirah Chowk**	**3.19**	**145**	P	P	06 36 03.6	+2.1
THW	**Thamme Wali**	**3.55**	**171**	P	P	06 36 06.7	+0.4
SBDP	**Sheikh Budin**	**4.01**	**184**	P	P	06 36 12.1	-0.4
SARP	**Sargodha**	**4.57**	**163**	P	P	06 36 19.6	-0.5
DRP	**Derazinda**	**4.62**	**190**	P	P	06 36 20.7	0.0
KSH	**Kashi**	**5.01**	**49**	P	P	06 36 30.8	+4.8
KSH				S	S	06 37 28.3	+5.1
KSH				Smax			
comp=N,310nm,0.6s							
KSH				Smax			
comp=E,240nm,0.3s							
THN	**Thein Dam**	**5.44**	**134**	*e*P	P	06 36 32.4	+0.7
THN				*e*S	S	06 37 33.1	-0.5
PONG	**Pong**	**5.92**	**136**	*e*P	P	06 36 40.0	+1.7
PONG				*e*		06 37 49.0	
AML	**Almayashu**	**6.15**	**18**	P	P	06 36 42.0	+0.6
SNR=238							
UCH	**Uchtor**	**6.47**	**23**	P	P	06 36 46.5	+0.6
SNR=19							
BHK	**Bhakra**	**6.59**	**136**	*e*	S	06 38 02.2	+0.6
KZA	**Kyzart**	**6.60**	**28**	P	P	06 36 48.0	+0.4
SNR=38							
EKS2	**Erkin-Say**	**6.67**	**17**	P	P	06 36 48.8	+0.3
SNR=41							
KK31	**Karatay Array**	**6.80**	**356**	⇑P	P	06 36 48.7	-1.6
comp=E,15nm,0.3s,baz=179,slow=13,SNR=423							
KK31				⇑S	S	06 37 59.9	-6.8
comp=E,18nm,0.5s,baz=193,slow=22,SNR=11							
KKAR	**Karatay Array**	**6.80**	**356**	*i* PN	P	06 36 49.0	-1.3
KKAR				pmax	pmax		
comp=Z,21nm,0.4s							
AAK	**Ala-Archa**	**6.84**	**22**	P	P	06 36 51.4	+0.6
SNR=40							
AAK	**Ala-Archa**	**6.84**	**22**	⇑P	P	06 36 51.1	+0.3
comp=Z,23nm,0.6s							
AAK				⇑S	S	06 38 06.5	-1.2
comp=Z,113nm,0.8s							
AAK	**Ala-Archa**	**6.84**	**22**	*e*PN	P	06 36 50.1	-0.7
AAK				pmax	pmax		
comp=Z,27nm,0.5s							
AAK	**Ala-Archa**	**6.84**	**22**	*e*P	P	06 36 50.1	-0.8
comp=Z,27nm,0.5s							
SDNR	**Sundarnagar**	**6.85**	**133**	*e*P	P	06 36 49.6	-1.4
SDNR				*e*S	S	06 38 04.4	-3.5
FRU	**Bishkek**	**7.05**	**22**	*e*PN	P	06 36 54.0	+0.2
FRU				*e*S	S	06 38 14.0	+1.0
FRU				pmax	pmax		
comp=Z,25nm,1.4s							
FRU				smax			
comp=N,210nm,1.7s							
ULHL	**Ulahol**	**7.14**	**32**	P	P	06 36 56.1	+1.1
SNR=11							
SMLA	**Simla**	**7.23**	**134⇓**	*i*	P	06 36 52.4	-3.8
SMLA				*i* S	S	06 38 12.3	-5.0
CHMS	**Chumysh**	**7.25**	**22**	P	P	06 36 56.3	-0.1
SNR=21							
USP	**Ospenovka**	**7.42**	**20**	P	P	06 36 58.5	-0.3
SNR=19							
TKM2	**Tokmak 2**	**7.46**	**26**	P	P	06 36 59.6	+0.4
SNR=31							
DDI	**Dehra Dun**	**8.34**	**134**	*e*	S	06 38 44.8	+0.6
NDI	**New Delhi**	**9.19**	**144**	*e*	Px	06 37 45.0	
NDI				*e*S	S	06 38 55.0	-10
MK31	**Makanchi Array**	**13.40**	**35**	⇓P	P	06 38 17.8	-0.2
comp=N,7.6nm,0.7s,baz=218,slow=5.4,SNR=57							
MKAR	**Makanchi Array**	**13.40**	**35**	P	P	06 38 18.2	+0.2
comp=N,0.2nm,0.3s,baz=228,slow=14,SNR=33							
KOLN	**Koldanda**	**13.59**	**125**	*e*P	P	06 38 19.6	-0.9
comp=N,12nm,0.3s							
GKN	**Gorkha**	**14.14**	**122**	*e*P	P	06 38 26.8	-0.8
comp=N,22nm,0.3s							
DMN	**Daman**	**14.71**	**122**	*e*P	P	06 38 34.4	-0.5
comp=N,31nm,0.5s							
KKN	**Kakani**	**14.71**	**121**	*e*P	P	06 38 33.8	-1.1
comp=N,31nm,0.6s							
WMQ	**Urumqi**	**14.74**	**54**	P	P	06 38 35.5	+0.3
WMQ				XP		06 39 12.5	
WMQ				S	S	06 41 10.5	-5.1
WMQ				AMB	AMB		
comp=Z,8.0nm,0.5s							
WMQ				AMB	AMB		
comp=Z,84nm,5.0s							
WMQ				LR	LR		
comp=N,23nm,15.8s							
WMQ				LR	LR		
comp=Z,11nm,14.6s							
PKI	**Pulchoki**	**14.94**	**122**	*e*P	P	06 38 37.1	-0.7
comp=Z,16nm,0.4s							
GUN	**Gumba**	**15.06**	**120**	*e*P	P	06 38 38.3	-1.0
comp=Z,24nm,0.4s							
JIRN	**Jiri**	**15.43**	**120**	*e*P	P	06 38 43.2	-0.7
comp=Z,19nm,0.2s							
BVA0	**Borovoye Array**	**16.72**	**359**	⇑P	P	06 38 58.7	-1.1
comp=Z,1.0nm,0.8s,baz=225,slow=38,SNR=16							
BVA0	**Borovoye Array**	**16.72**	**359**	P	P	06 38 58.7	-1.1
BVA0				pmax	pmax		
comp=Z,1.0nm,0.9s							
BVAR	**Borovoye Array**	**16.72**	**359**	P	P	06 38 58.9	-1.0
comp=Z,1.4nm,0.3s,baz=167,slow=10,SNR=13							
CHKZ	**Chkalovo**	**17.37**	**359**	⇑P	P	06 39 07.2	-0.6
comp=Z,2.6nm,0.7s							

comp=Z,2.4nm,1.0s,mb4.0,baz=63,slow=5.7,SNR=3.6
IMA Indian Mountai 72.28 18 *eP* **P 06 46 26.0 +0.7**
IMA pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
IMA Indian Mountai 72.28 18 *eP* **P 06 46 26.0 +0.7**
comp=Z,5.9nm,0.8s,mb4.5
INK Inuvik 74.08 9 *eP* **P 06 46 36.7 +1.0**
INK pmax pmax
comp=Z,3.0nm,0.5s
INK Inuvik 74.08 9 P **P 06 46 36.8 +1.1**
comp=Z,2.7nm,0.5s,mb4.2,baz=357,slow=5.8,SNR=40
INK Inuvik 74.08 9 *eP* **P 06 46 36.7 +1.0**
comp=Z,2.8nm,0.5s,mb4.2
FITZ Fitzroy Crossi 74.72 127 P **P 06 46 43.4 +3.1**
comp=Z,1.8nm,0.6s,mb4.0,baz=321,slow=6.5,SNR=3.0
ILAR Eielson Array 74.94 16 P **P 06 46 40.9 +0.2**
comp=Z,1.5nm,1.1s,mb3.6,baz=315,slow=4.9,SNR=9.6
YKA Yellowknife Ar 81.43 3 P **P 06 47 16.7 +0.5**
comp=Z,0.6nm,0.3s,mb3.9,baz=350,slow=5.3,SNR=16
YKA Yellowknife Ar 81.43 3 P **P 06 47 16.7 +0.5**
WRA Warramunga Arr 81.83 122 P **P 06 47 19.1 -0.1**
comp=Z,1.1nm,0.4s,mb4.1,baz=325,slow=5.0,SNR=18
WRA Warramunga Arr 81.83 122 P **P 06 47 19.1 -0.1**
ASAR Alice Springs 84.08 125 P **P 06 47 30.7 +0.2**
comp=Z,1.2nm,0.5s,mb4.0,baz=312,slow=5.0,SNR=23

*NEIC **30** 06:38:02.1, 33.91S×72.10W, h8km, ML3.0(GUC), After GUC.*
GUC 30 06:38:02.1±0.9, 33.91S×72.10W, h8km±11km, MD3.9, ML3.0, 4C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.57**	**95**	⇓*iP*	Pg	06 38 14.2	+0.5
LNV				*i* S	Sg	06 38 22.3	+0.9
LCCH	**Las Cruces**	**0.62**	**46**	⇑*iP*	Pg	06 38 14.8	+0.3
LCCH				*i* S	Sg	06 38 23.4	+0.6
TACH	**Talagante**	**1.00**	**76**	⇓*iP*	Pb	06 38 20.6	-0.7
TACH				*i* S	Sb	06 38 34.3	-0.1
SFDO	**San Fernando**	**1.14**	**128**	⇑*iP*	Pb	06 38 22.6	-1.1
RCDM	**Rinconada Maip**	**1.16**	**69**	*eP*	Pb	06 38 22.7	-1.3
RCDM				AMP		06 38 43.8	
	comp=E,386nm,0.2s						
CHCH	**Chadas Angostu**	**1.20**	**92**	⇑*iP*	Pb	06 38 23.8	-0.9
CACH	**El Canelo**	**1.26**	**100**	⇑*iP*	Pb	06 38 25.5	-0.2
CACH				*i* S	Sb	06 38 43.9	+1.8
ANTU	**Antumapu**	**1.27**	**75**	AMP		06 38 45.6	
	comp=E,689nm,0.4s						
ROCH	**El Roble**	**1.30**	**45**	*eP*	Pb	06 38 25.9	-0.6
ROCH				*eS*	Sb	06 38 43.0	-0.3
STL	**Santa Lucia**	**1.30**	**69**	*eP*	Pb	06 38 25.6	-0.9
STL				AMP		06 38 47.3	
	comp=E,164nm,0.4s						
NICH	**Los Niches**	**1.31**	**147**	⇓*iP*	Pb	06 38 25.6	-1.0
NICH				*i* S	Sb	06 38 45.3	+2.1
PCH	**Pirque**	**1.35**	**78**	⇓*iP*	Pb	06 38 26.9	-0.4
PCH				*i* S	Sb	06 38 45.5	+0.8
DSCH	**Colegio Aleman**	**1.38**	**69**	*eP*	Pb	06 38 26.4	-1.3
DSCH				AMP		06 38 52.8	
	comp=E,593nm,0.4s						
CLCH	**Cerro Calan**	**1.40**	**69**	⇓*iP*	Pn	06 38 27.1	-0.9
CLCH				*i* S	Sb	06 38 46.6	+0.6
CLCH				AMP		06 38 57.6	
	comp=N,558nm,0.6s						
CLCH				AMP		06 38 58.1	
	comp=N,715nm,0.6s						
CICH	**Cipreses**	**1.45**	**107**	⇓*iP*	Pn	06 38 27.9	-0.9
CICH				*i* S	Sb	06 38 47.6	0.0
PACH	**Papudo**	**1.48**	**22**	*eP*	Pn	06 38 28.1	-1.1
PACH				*eS*	Sb	06 38 48.2	0.0
SJCH	**San Jose de Ma**	**1.48**	**80**	*eP*	Pn	06 38 28.2	-1.0
SJCH				*eS*	Sb	06 38 48.1	-0.2
SJCH				AMP		06 38 53.1	
	comp=E,297nm,0.4s						
LMEL	**Las Melosas**	**1.58**	**88**	*eP*	Pn	06 38 29.8	-0.8
LMEL				*i* S	Sb	06 38 51.7	+0.5
LMEL				AMP		06 38 53.6	
	comp=N,606nm,0.3s						
FCH	**Farellones**	**1.62**	**69**	⇓*iP*	Pn	06 38 30.5	-0.7
FCH				*i* S	Sb	06 38 52.6	+0.3
FCH				AMP		06 38 57.4	
	comp=N,355nm,0.3s						
JACH	**Jahuel**	**1.76**	**46**	*eP*	Pn	06 38 33.3	+0.1

*NEIC **30** 06:56:41.8, 33.90S×72.08W, h36km, MD3.5(GUC), After GUC.*
GUC 30 06:56:41.8±0.6, 33.90S×72.08W, h36km±2km, MD3.5, ML2.4, 5C-7D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.56**	**96**	⇓*iP*	P	06 56 53.2	0.0
LNV				*i* S	S	06 57 01.2	-0.3
LCCH	**Las Cruces**	**0.60**	**45**	⇑*iP*	P	06 56 53.8	0.0
LCCH				*i* S	S	06 57 02.3	-0.2
TACH	**Talagante**	**0.98**	**76**	⇓*iP*	P	06 56 59.4	+0.1
TACH				*i* S	S	06 57 13.1	+0.8
SFDO	**San Fernando**	**1.14**	**129**	⇑*iP*	P	06 57 01.8	+0.4
RCDM	**Rinconada Maip**	**1.14**	**69**	⇑*iP*	P	06 57 01.8	+0.4
RCDM				AMP		06 57 19.6	
	comp=N,155nm,0.1s						
CHCH	**Chadas Angostu**	**1.19**	**92**	⇓*iP*	P	06 57 03.0	+0.9
CACH	**El Canelo**	**1.25**	**100**	*eP*	P	06 57 04.4	+1.4
CACH				*eS*	S	06 57 21.8	+2.9
PCH	**Pirque**	**1.34**	**78**	⇓*iP*	P	06 57 05.8	+1.5
PCH				*i* S	S	06 57 24.0	+2.9
CLCH	**Cerro Calan**	**1.38**	**69**	⇑*iP*	P	06 57 06.1	+1.1
CLCH				⇓*iP*		06 57 06.1	
CLCH				*eS*	S	06 57 24.5	+2.2
CLCH				AMP		06 57 36.4	
	comp=N,78nm,0.5s						
CICH	**Cipreses**	**1.44**	**107**	⇑*iP*	P	06 57 07.1	+1.3
LMEL	**Las Melosas**	**1.56**	**89**	⇓*iP*	P	06 57 08.9	+1.3
LMEL				*i* S	S	06 57 29.7	+2.9
LMEL				AMP		06 57 33.6	
	comp=N,148nm,0.2s						
FCH	**Farellones**	**1.60**	**70**	⇓*iP*	P	06 57 09.4	+1.3
FCH				*i* S	S	06 57 30.5	+2.8
FCH				AMP		06 57 33.4	
	comp=N,72nm,0.3s						

IDC 30 07:18:14.6±3.6, 17.10S×174.20W, mb3.7/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.7/3, MS3.7/5, Ms1 3.7/5, ms1mx3.2/29, Error ellipse: s-maj=197.4km s-min=33.8km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.89**	**252**	LR	LR	07 27 57.4	
	comp=Z,159nm,19.5s,baz=27,slow=31						
CTA	**Charters Tower**	**37.54**	**259**	LR	LR	07 37 23.7	
	comp=Z,120nm,18.5s,baz=57,slow=31						
ASAR	**Alice Springs**	**48.87**	**253**	P	P	07 27 01.8	-2.6
	1.1nm,0.7s,baz=88,slow=8.0,SNR=8.2						
ASAR				LR	LR	07 44 39.3	
	comp=Z,120nm,18.5s,baz=79,slow=32						
NVAR	**Mina Array Bea**	**76.10**	**42**	P	P	07 30 04.5	-1.6
	0.7nm,0.8s,baz=216,slow=7.8,SNR=4.5						
NVAR				LR	LR	07 54 17.7	
	comp=Z,32nm,21.7s,baz=315,slow=28						
TXAR	**Lajitas Array**	**82.19**	**56**	LR	LR	08 02 22.3	
	comp=Z,35nm,18.1s,baz=290,slow=32						
ILAR	**Eielson Array**	**84.25**	**11**	P	P	07 30 46.9	-2.1
	0.3nm,0.5s,baz=236,slow=5.9,SNR=7.2						
BRTR	**Keskin Array B**	**146.95**	**319**	PKPbc	PKPbc	07 38 01.2	+2.2
	0.8nm,0.9s,baz=90,slow=1.4,SNR=4.3						

WEL 30 07:55:38.3±0.3, 40.99S×172.89E, h193km±2km, ML3.6/6, 9C, Error ellipse: s-maj=2.8km s-min=2.4km az=0.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.32**	**301**	⇑PN	P	07 56 03.9	-0.5
QRZ				SN	S	07 56 22.7	-1.7
NNZ	**Nelson**	**0.43**	**122**	⇑PN	P	07 56 04.5	-0.2
THZ	**Tophouse**	**0.77**	**179**	⇑PN	P	07 56 06.2	0.0
THZ				SN	S	07 56 26.9	-0.7
DUWZ	**D'Urville Isla**	**0.81**	**77**	PN	P	07 56 06.2	-0.2
DUWZ				SN	S	07 56 26.9	-1.1
TUWZ	**Tuamarina**	**0.91**	**119**	PN	P	07 56 07.0	+0.1
TUWZ				SN	S	07 56 28.5	-0.5
BSWZ	**Blackbirch Sta**	**1.04**	**135**	PN	P	07 56 07.8	+0.1
BSWZ				SN	S	07 56 30.0	-0.6
TCW	**Tory Channel**	**1.07**	**102**	PN	P	07 56 08.1	0.0
TCW				SN	S	07 56 29.3	-1.8
DSZ	**Denniston Nort**	**1.11**	**227**	PN	P	07 56 07.6	-0.8
DSZ				SN	S	07 56 28.9	-2.7
CMWZ	**Cape Campbell**	**1.25**	**128**	PN	P	07 56 09.5	0.0
CMWZ				SN	S	07 56 33.6	-0.1
MRW	**Makara Radio**	**1.39**	**100**	⇑PN	P	07 56 10.3	-0.5
MRW				SN	S	07 56 33.4	-2.4
SNZO	**South Karori**	**1.41**	**104**	⇑PN	P	07 56 10.3	-0.6
WEL	**Wellington**	**1.45**	**102**	⇑PN	P	07 56 10.8	-0.5
KHZ	**Kahutara**	**1.51**	**161**	⇑PN	P	07 56 11.2	-0.6
KHZ				SN	S	07 56 35.4	-2.3
KIW	**Kapiti Island**	**1.54**	**86**	PN	P	07 56 11.5	-0.6
KIW				SN	S	07 56 36.1	-2.0
BHW	**Baring Head**	**1.55**	**106**	PN	P	07 56 11.4	-0.8
CAW	**Cannon Point**	**1.65**	**95**	PN	P	07 56 12.5	-0.7
MSWZ	**Moikau Station**	**1.83**	**104**	PN	P	07 56 14.2	-0.8
LTZ	**Lake Taylor**	**1.85**	**194**	PN	P	07 56 14.4	-0.7
PAWZ	**Paruwai Farm**	**1.95**	**102**	PN	P	07 56 15.3	-0.9
MTW	**Mount Morrison**	**1.98**	**96**	⇑PN	P	07 56 15.7	-0.7
MRZ	**Mangatainoka R**	**2.07**	**82**	⇑PN	P	07 56 16.4	-1.0
VRZ	**Vera Road**	**2.35**	**38**	PN	P	07 56 18.3	-2.3
TSZ	**Takapari Road**	**2.52**	**69**	PN	P	07 56 21.3	-1.2
BFZ	**Birch Farm**	**2.57**	**84**	PN	P	07 56 22.2	-0.9
MOVZ	**Moawhango**	**2.70**	**55**	PN	P	07 56 22.4	-2.2
MQZ	**McQueen's Vall**	**2.72**	**184**	PN	P	07 56 22.3	-2.5
TUVZ	**Tukino**	**2.73**	**52**	PN	P	07 56 23.3	-1.6
MGZ	**Maungaku**	**2.84**	**47**	PN	P	07 56 24.3	-1.9
RPZ	**Rata Peaks**	**3.04**	**206**	PN	P	07 56 26.7	-2.0
BKZ	**Black Stump Fm**	**3.31**	**58**	PN	P	07 56 29.4	-2.5
FOZ	**Fox Glacier**	**3.50**	**222**	PN	P	07 56 30.3	-4.0
LBZ	**Lake Benmore**	**3.94**	**210**	PN	P	07 56 36.7	-3.0
KNZ	**Kokohu**	**4.17**	**63**	*e*PN	P	07 56 40.1	-2.5
URZ	**Urewera**	**4.25**	**51**	PN	P	07 56 39.5	-4.2
JCZ	**Jackson Bay**	**4.34**	**223**	PN	P	07 56 41.5	-3.3
JCZ				SN	S	07 57 29.3	-6.9
WKZ	**Wanaka**	**4.77**	**215**	PN	P	07 56 46.3	-4.0
EAZ	**Earnscleugh**	**4.98**	**211**	PN	P	07 56 49.1	-3.9
PUZ	**Puketiti**	**5.07**	**57**	SN	S	07 57 48.0	-5.0
TUZ	**Tuapeka**	**5.50**	**204**	PN	P	07 56 56.5	-3.3

*ZUR **30** 08:10:00.2, 44.67N×9.40E, h2km, ML3.3/7*
*ROM **30** 08:10:25.1±0.3, 44.69N×9.32E, h9km±3km, Md3.2/18, Ml3.5/6, Error ellipse: s-maj=2.9km s-min=2.2km az=135.0*
*CSEM **30** 08:10:25.6±0.1, 44.67N×9.47E, h6km, ML3.6/30, Error ellipse: s-maj=1.2km s-min=1.0km az=9.0*
*NEIC **30** 08:10:26.2, 44.72N×9.39E, h1km, ML3.6(STR), ML3.6(LDG), ML3.4(SZGRF), ML3.3(GEN), ML3.2(FUR), After GEN.*
*GEN **30** 08:10:26.2, 44.72N×9.39E, h1km, ML3.3*
*STR **30** 08:10:27.0±0.6, 44.67N×9.39E, h10km±1km, Ml3.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **30** 08:10:28.5±0.1, 44.76N×9.37E, h5km, Md3.5/1, Ml3.6/32, Error ellipse: s-maj=2.4km s-min=2.1km az=179.0*
ISC 30 08:10:25.8±0.3, 44.68N±0.01×9.34E±0.01, h8km±2km, n175, σ1°16/260, 12C-8D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.11**	**42**	Pg	**Pg**	**08 10 28.1**	**-0.4**
	65μm,0.5s						
GENL	**Genova Univers**	**0.39**	**224**	P	**Pg**	**08 10 34.5**	**+0.9**
GENL				S	**Sg**	**08 10 40.8**	**+2.0**
GENL	**Genova Univers**	**0.39**	**224**	P	**Pg**	**08 10 34.5**	**+0.9**
GENL				S	**Sg**	**08 10 40.8**	**+1.9**
CODM		**0.47**	**129**	P	**Pg**	**08 10 34.9**	**-0.3**
CODM				S	**Sg**	**08 10 41.7**	**+0.2**
CODM		**0.47**	**129**	P	**Pg**	**08 10 34.9**	**-0.3**
CODM				S	**Sg**	**08 10 41.7**	**+0.2**
GRAM		**0.55**	**110**	P	**Pg**	**08 10 36.3**	**-0.6**
GRAM				S	**Sg**	**08 10 43.8**	**-0.5**
PCP	**Pian Castagno**	**0.59**	**256**	P	**Pg**	**08 10 37.9**	**+0.3**
PCP				S	**Sg**	**08 10 46.3**	**+0.8**
PCP	**Pian Castagno**	**0.59**	**256**	P	**Pg**	**08 10 37.9**	**+0.3**
PCP				S	**Sg**	**08 10 46.3**	**+0.8**
BACM		**0.66**	**127**	P	**Pb**	**08 10 38.3**	**-0.8**
BACM				S	**Sb**	**08 10 46.6**	**-1.5**
BACM		**0.66**	**127**	P	**Pb**	**08 10 38.3**	**-0.8**
BACM				S	**Sb**	**08 10 46.6**	**-1.5**
VALM		**0.73**	**117**	P	**Pb**	**08 10 39.7**	**-0.5**
VINC	**Vinca**	**0.79**	**133**	P	**Pb**	**08 10 40.9**	**-0.5**
VINC	**Vinca**	**0.79**	**133**	P	**Pb**	**08 10 40.9**	**-0.5**
VINC	**Vinca**	**0.79**	**133**	P	**Pb**	**08 10 40.9**	**-0.5**
ERBM	**Eremo**	**0.81**	**109**	Pn	**Pn**	**08 10 41.6**	**-1.6**
ERBM				Sn	**Sn**	**08 10 54.9**	**-0.5**
	711nm,0.5s						
SARO	**Sassorosso**	**0.91**	**123**	P	**Pb**	**08 10 43.0**	**-0.3**
SARO				S	**Sb**	**08 10 54.9**	**-0.4**
SARO	**Sassorosso**	**0.91**	**123**	P	**Pb**	**08 10 43.0**	**-0.3**
SARO	**Sassorosso**	**0.91**	**123**	P	**Pb**	**08 10 43.0**	**-0.3**
SARO				S	**Sb**	**08 10 54.9**	**-0.4**
SARO				S	**Sb**	**08 10 54.9**	**-0.4**
VLC	**Villacollemand**	**0.91**	**125**	*e*P	**Pb**	**08 10 43.3**	**-0.1**
VLC	**Villacollemand**	**0.91**	**125**	*e*P	**Pb**	**08 10 43.3**	**-0.1**
GSCL	**Gusciola**	**0.95**	**110**	Pn	**Pn**	**08 10 44.6**	**-0.6**
	233nm,0.5s						
BDI	**Bagni Di Lucca**	**1.09**	**124**	Pn	**Pn**	**08 10 46.3**	**-1.0**
BDI				Sn	**Sn**	**08 11 03.9**	**+1.3**
ROB	**Roburent**	**1.12**	**250**	P	**Pb**	**08 10 47.8**	**+0.8**
ROB				S	**Sb**	**08 11 02.6**	**+1.1**
ROB	**Roburent**	**1.12**	**250**	P	**Pb**	**08 10 47.8**	**+0.8**
MDI	**Monti di Nese**	**1.12**	**13**	Pn	**Pn**	**08 10 47.8**	**+0.1**
	1μm,0.4s						
SAL	**Salo**	**1.25**	**42**	Pn	**Pn**	**08 10 49.7**	**+0.2**
SAL				Sn	**Sn**	**08 11 07.4**	**+0.9**
	977nm,0.5s						
MUGIO	**Muggio**		**1.26 350**	⇓*iP**	**Pb**	**08 10 49.2**	**-0.1**
MUGIO	**Muggio**		**1.26 350**	Pn	**Pn**	**08 10 49.5**	**-0.1**
MUGIO				Sn	**Sn**	**08 11 07.6**	**+0.8**
PII	**Pisa**	**1.28**	**138**	Pn	**Pn**	**08 10 49.9**	**-0.1**
	132nm,0.2s						
MONE	**Monesi**	**1.29**	**243**	P	**Pb**	**08 10 49.9**	**+0.1**
MONE	**Monesi**	**1.29**	**243**	P	**Pb**	**08 10 49.9**	**+0.1**
IMI	**Imperia**	**1.30**	**234**	P	**Pb**	**08 10 49.8**	**-0.2**
IMI				S	**Sb**	**08 11 05.6**	**-1.0**
IMI	**Imperia**	**1.30**	**234**	Pn	**Pn**	**08 10 49.7**	**-0.5**
IMI				Sn	**Sn**	**08 11 07.8**	**0.0**
	207nm,0.3s						
ORO	**Oropa**	**1.35**	**315**	Pn	**Pn**	**08 10 51.6**	**+0.7**
	257nm,0.2s						
ORX	**Oropa**	**1.35**	**315**	P	**Pb**	**08 10 50.7**	**-0.2**
ORX				S	**Sb**	**08 11 07.3**	**-0.9**
ORX	**Oropa**	**1.35**	**315**	P	**Pb**	**08 10 50.7**	**-0.2**
TRAV		**1.40**	**307**	P	**Pn**	**08 10 52.0**	**+0.3**
TRAV		**1.40**	**307**	P	**Pn**	**08 10 52.0**	**+0.3**
NEGI	**Negi**	**1.44**	**235**	P	**Pn**	**08 10 51.9**	**-0.4**
NEGI				S	**Sb**	**08 11 09.8**	**-1.0**
NEGI	**Negi**	**1.44**	**235**	P	**Pn**	**08 10 51.9**	**-0.4**
NEGI				S	**Sb**	**08 11 09.8**	**-1.1**
ENR	**Entracque**	**1.45**	**252**	P	**Pn**	**08 10 52.9**	**+0.5**
ENR				S	**Sb**	**08 11 10.3**	**-0.7**
ENR	**Entracque**	**1.45**	**252**	P	**Pn**	**08 10 52.9**	**+0.5**
SAOF	**Saorge**	**1.46**	**242**	Pn	**Pn**	**08 10 52.6**	**+0.1**
SAOF				Sg	**Sg**	**08 11 12.4**	**-2.1**
BHB	**Bricherasio**	**1.49**	**277**	P	**Pn**	**08 10 53.7**	**+0.7**
BHB				S	**Sb**	**08 11 11.4**	**-0.8**
BHB	**Bricherasio**	**1.49**	**277**	P	**Pn**	**08 10 53.7**	**+0.8**
BHB				S	**Sb**	**08 11 11.4**	**-0.8**
DOI	**San Damiano**	**1.51**	**264**	Pn	**Pn**	**08 10 54.5**	**+1.3**
STV2	**Anna di Valdie**	**1.51**	**254**	P	**Pn**	**08 10 53.6**	**+0.4**
STV2	**Anna di Valdie**	**1.51**	**254**	P	**Pn**	**08 10 53.6**	**+0.4**
STV	**Sta Anna Valdi**	**1.51**	**254**	P	**Pn**	**08 10 53.7**	**+0.4**
STV	**Sta Anna Valdi**	**1.51**	**254**	P	**Pn**	**08 10 53.7**	**+0.5**
AUTN	**L'Aution**	**1.54**	**244**	Pn	**Pn**	**08 10 54.4**	**+0.8**
RSP	**Reno Superiore**	**1.55**	**288**	P	**Pn**	**08 10 54.0**	**+0.1**
RSP				S	**Sb**	**08 11 12.7**	**-1.3**
SEI	**Scarperia**	**1.57**	**113**	Pn	**Pn**	**08 10 56.4**	**+2.2**
	556nm,0.5s						
MCGN	**Macugnaga**	**1.59**	**324**	Pn	**Pn**	**08 10 54.6**	**+0.2**
	191nm,0.5s						
SBF	**Sospel**	**1.60**	**240**	*e*Pn	**Pn**	**08 10 54.4**	**-0.1**
SBF				*e*Sn	**Sn**	**08 11 15.6**	**+0.2**
	245nm,0.3s						
MABI	**Malga Bissina**	**1.60**	**31**	Pn	**Pn**	**08 10 54.5**	**0.0**
	451nm,0.6s						
PZZ	**Prazzo**	**1.61**	**264**	P	**Pn**	**08 10 55.2**	**+0.5**
PZZ				S	**Sn**	**08 11 14.3**	**-1.5**
PZZ	**Prazzo**	**1.61**	**264**	P	**Pn**	**08 10 55.2**	**+0.5**
TOUF	**Mont Tournerai**	**1.65**	**247**	Pn	**Pn**	**08 10 55.9**	**+0.7**
TOUF				Sg	**Sg**	**08 11 21.2**	**+0.6**
FENE	**Fenestrelle**	**1.66**	**283**	P	**Pn**	**08 10 56.4**	**+1.0**
FENE	**Fenestrelle**	**1.66**	**283**	P	**Pn**	**08 10 56.3**	**+0.9**
MMK	**Mattmark**	**1.68**	**325**	*e*P*	**Pb**	**08 10 55.6**	**-0.9**
MMK	**Mattmark**	**1.68**	**325**	Pn	**Pn**	**08 10 56.3**	**+0.7**
REVF	**Revere**	**1.71**	**237**	Pn	**Pn**	**08 10 56.6**	**+0.6**
LSD	**Ceresole Reale**	**1.73**	**297**	P	**Pn**	**08 10 57.0**	**+0.6**
LSD	**Ceresole Reale**	**1.73**	**297**	P	**Pn**	**08 10 57.0**	**+0.6**
MVIF	**Mont Vial**	**1.76**	**244**	Pn	**Pn**	**08 10 57.5**	**+0.7**
MVIF				Sg	**Sg**	**08 11 22.0**	**-2.4**
BERNI	**Berninapass**	**1.80**	**15**	⇓*iP**	**Pb**	**08 10 57.0**	**-0.7**
BERNI	**Berninapass**	**1.80**	**15**	⇓*iP*	**Pn**	**08 10 57.7**	**+0.4**
VDL	**Val di Lei**	**1.81**	**3**	⇓*iPn*	**Pn**	**08 10 58.1**	**+0.6**
SURF	**Saint Ours**	**1.82**	**265**	Pn	**Pn**	**08 10 58.8**	**+1.1**
MBDF	**Montbardon**	**1.83**	**272**	*e*Pn	**Pn**	**08 10 59.1**	**+1.2**
MBDF				*e*Sn	**Sn**	**08 11 21.7**	**+0.3**
	152nm,0.4s						
FUSIO	**Fusio**	**1.84**	**345**	⇓*iPn*	**Pn**	**08 10 57.6**	**-0.3**
RRL	**Cesana Torines**	**1.84**	**278**	P	**Pn**	**08 10 59.4**	**+1.5**
RRL	**Cesana Torines**	**1.84**	**278**	P	**Pn**	**08 10 59.4**	**+1.5**
PGD	**Poggio Sodo**	**1.89**	**114**	Pn	**Pn**	**08 11 00.9**	**+2.2**
	46nm,0.4s						
BNI	**Bardonecchia**	**1.93**	**282**	*e*P	**Pn**	**08 10 58.4**	**-0.9**
BNI	**Bardonecchia**	**1.93**	**282**	*e*P	**Pn**	**08 10 58.4**	**-0.8**
BRMO	**Bormio**	**1.93**	**22**	Pn	**Pn**	**08 10 59.7**	**+0.4**
	132nm,0.7s						
GRFL	**Gerfalco**	**1.94**	**142**	Pn	**Pn**	**08 11 02.0**	**+2.7**
	23nm,0.5s						
DIX	**Grande Dixence**	**1.95**	**316**	⇑*iPn*	**Pn**	**08 11 00.3**	**+0.8**
CALN	**Calern**	**1.99**	**243**	Pn	**Pn**	**08 11 00.6**	**+0.4**
CALN				Sg	**Sg**	**08 11 27.7**	**-4.5**
LPG	**La Plagne**	**2.01**	**295**	*e*Pn	**Pn**	**08 11 01.6**	**+1.2**
LPG				*e*Sn	**Sn**	**08 11 25.2**	**-0.7**
LPG				*e*Sg	**Sg**	**08 11 32.6**	**-0.1**
	138nm,0.5s						
LPL	**La Plagne**	**2.03**	**295**	*e*Pn	**Pn**	**08 11 01.9**	**+1.3**
LPL				*e*Sn	**Sn**	**08 11 25.9**	**-0.5**
LPL				*e*Sg	**Sg**	**08 11 32.2**	**-1.2**
	108nm,0.4s						
FUORN	**Ofenpass**	**2.04**	**18**	*e*Pn	**Pn**	**08 11 02.2**	**+1.3**
FUORN	**Ofenpass**	**2.04**	**18**	Pn	**Pn**	**08 11 02.4**	**+1.5**
LKBD	**Leukerbad**	**2.09**	**325**	*e*Pn	**Pn**	**08 11 02.6**	**+1.1**
CTI	**Castel Tesino**	**2.12**	**49**	Pn	**Pn**	**08 11 01.5**	**-0.5**
DAVOX	**Davos**	**2.13**	**10**	⇑*iPn*	**Pn**	**08 11 03.4**	**+1.3**
DAVOX	**Davos**	**2.13**	**10**	Pn	**Pn**	**08 11 03.3**	**+1.2**
PGF	**Pioggiola**	**2.15**	**187**	*e*Pn	**Pn**	**08 11 01.7**	**-0.7**
PGF				*e*Sn	**Sn**	**08 11 29.0**	**-0.4**
	36nm,0.4s						
LLS	**Linth-Limmern**	**2.18**	**354**	⇑*iP*	**Pn**	**08 11 03.1**	**+0.3**
LLS	**Linth-Limmern**	**2.18**	**354**	⇑*iPn*	**Pn**	**08 11 03.2**	**+0.4**
EMV	**Vieux Emosson**	**2.21**	**310**	*e*Pn	**Pn**	**08 11 05.3**	**+2.1**
SALAN	**Lac Salanfe**	**2.22**	**312**	*e*Pn	**Pn**	**08 11 05.7**	**+2.3**
GRYON	**Gryon**	**2.22**	**316**	⇑*iPn*	**Pn**	**08 11 05.7**	**+2.3**
APPI	**Appiano**	**2.23**	**36**	Pn	**Pn**	**08 11 04.5**	**+0.9**
	391nm,0.4s						
HASLI	**Hasliberg**	**2.24**	**339**	*e*Pn	**Pn**	**08 11 04.5**	**+0.9**
FRF	**La Foret Royal**	**2.24**	**241**	*e*Pn	**Pn**	**08 11 03.2**	**-0.5**
FRF				*e*Sn	**Sn**	**08 11 32.0**	**+0.2**
	107nm,0.5s						
WIMIS	**Wimmis**	**2.32**	**329**	*e*Pn	**Pn**	**08 11 06.7**	**+1.9**
MUO	**Muotathal**	**2.34**	**348**	⇑*iPn*	**Pn**	**08 11 07.0**	**+1.9**
GDM	**Grand'Maison**	**2.35**	**284**	Pn	**Pn**	**08 11 09.3**	**+4.0**
AIGLE	**Aigle**	**2.36**	**315**	*e*Pn	**Pn**	**08 11 07.7**	**+2.3**
PLONS	**Plons**	**2.37**	**1**	⇓*iPn**	**Pn**	**08 11 06.7**	**+1.2**
LMR	**La Mourre**	**2.45**	**238**	*e*Pn	**Pn**	**08 11 05.6**	**-1.1**
LMR				*e*Sn	**Sn**	**08 11 36.6**	**-0.5**
	36nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.48**	**277**	*e*Pn	**Pn**	**08 11 09.7**	**+2.6**
ORIF				*e*Sn	**Sn**	**08 11 36.2**	**-1.6**
ORIF				*e*Sg	**Sg**	**08 11 46.4**	**-1.9**
	178nm,0.6s						
STOF	**St

MEZF	**Maizieres J'vi**	**4.83**	**324**	*e*Pn	**Pn**	**08 11 40.7**	**+0.2**
	baz=142						
MEZF				*e*Sn	**Sn**	**08 12 32.0**	**-5.4**
	25nm,0.5s						
BGF	**Bois d'Agland**	**4.93**	**295**	*e*Pn	**Pn**	**08 11 41.4**	**-0.5**
BGF				*e*Sn	**Sn**	**08 12 35.1**	**-4.7**
	52nm,0.4s						
ARSA	**Arzberg**	**5.02**	**57**	⇓*i*PN	**Pn**	**08 11 41.6**	**-1.5**
ARSA				*i* SN	**Sn**	**08 12 40.8**	**-1.2**
WET	**Wettzell**	**5.08**	**27**	*e*Pn	**Pn**	**08 11 42.0**	**-2.0**
WET				*e*Sn	**Sn**	**08 12 37.0**	**-6.6**
GEC2	**GERESS Array S**	**5.13**	**34**	*e*Pn	**Pn**	**08 11 42.3**	**-2.4**
GEC2				*e*Sn	**Sn**	**08 12 39.1**	**-5.8**
CAF	**Calviac**	**5.18**	**275**	*e*Pn	**Pn**	**08 11 46.5**	**+1.0**
RUP	**Ruppelstein**	**5.26**	**344**	Pn	**Pn**	**08 11 45.5**	**-1.0**
TCF	**Toulx Ste Croi**	**5.27**	**290**	*e*Pn	**Pn**	**08 11 46.9**	**+0.2**
TCF				*e*Sn	**Sn**	**08 12 43.2**	**-5.1**
	16nm,0.3s						
MTLF	**Montolieu**	**5.31**	**258**	*e*Pn	**Pn**	**08 11 46.4**	**-0.9**
MTLF				*e*Sn	**Sn**	**08 12 45.3**	**-4.1**
	7.9nm,0.5s						
KHC	**Kasperske Hory**	**5.31**	**32**	*e*PN	**Pn**	**08 11 44.5**	**-2.8**
KHC				x	x	08 11 49.5	
KHC				*e*PG	**Pg**	**08 12 08.6**	**-3.3**
KHC				*e*SN	**Sn**	**08 12 43.3**	**-6.2**
KHC				*ex*	x	08 13 04.5	
KHC				*e*SG	**Sg**	**08 13 16.8**	**-5.9**
KHC	**Kasperske Hory**	**5.31**	**32**	*e*Pn	**Pn**	**08 11 44.5**	**-2.8**
KHC				*e*Sn	**Sn**	**08 12 43.3**	**-6.2**
HYF	**Humbligny**	**5.34**	**301**	*e*Pn	**Pn**	**08 11 47.7**	**0.0**
HYF				*e*Sn	**Sn**	**08 12 43.8**	**-6.4**
ABH	**Alteburg**	**5.34**	**347**	Pn	**Pn**	**08 11 45.9**	**-1.9**
TNS	**Taunus Mts**	**5.58**	**354**	*e*Pn	**Pn**	**08 11 48.7**	**-2.3**
RJF	**Les Rejaudoux**	**5.59**	**279**	*e*Pn	**Pn**	**08 11 53.4**	**+2.2**
MOX	**Moxa**	**6.16**	**14**	S	**Sn**	**08 13 04.0**	**-6.7**
MOX				Sg	**Sg**	**08 13 52.0**	**+1.1**
GIVF	**Givet**	**6.23**	**332**	*e*Sn	**Sn**	**08 13 05.5**	**-6.9**
	8.8nm,0.5s						
BAIF	**Baives**	**6.41**	**329**	*e*Sn	**Sn**	**08 13 09.1**	**-7.8**
	9.6nm,0.6s						
MFF	**Saint Martin d**	**6.92**	**289**	*e*Pn	**Pn**	**08 12 09.2**	**-0.8**
MFF				*e*Sn	**Sn**	**08 13 22.7**	**-7.1**
	3.8nm,0.4s						
CLL	**Collm**	**7.07**	**19**	*e*	**Pg**	**08 12 43.0**	**-3.9**
CLL				*e*SN	**Sn**	**08 13 27.0**	**-6.4**
CLL				*e*SG	**Sg**	**08 14 15.0**	**-6.1**
LDF	**La Druitiere**	**7.60**	**304**	*e*Pn	**Pn**	**08 12 18.0**	**-1.5**
FLN	**La Foliniere**	**7.89**	**305**	*e*Pn	**Pn**	**08 12 23.6**	**+0.1**
	baz=122						
GRR	**Gorron**	**7.95**	**301**	*e*Pn	**Pn**	**08 12 21.6**	**-2.8**
GRR				*e*Sn	**Sn**	**08 13 46.7**	**-8.7**
	4.8nm,0.4s						
QUIF	**Quistinic**	**9.24**	**295**	*e*Pn	**P**	**08 12 39.6**	**-2.8**

*IDC **30** 08:28:36.1±0.4, 19.98S×173.64W, mb4.9/25, mb1 5.0/27, mb1mx5.0/29, mbtmp4.9/27, ML4.4/2, MS4.5/7, Ms1 4.6/7, ms1mx4.1/35, Error ellipse: s-maj=18.8km s-min=11.5km az=141.0*

*BJI **30** 08:28:37.4, 19.63S×173.46W, h8km, mB5.5, mb5.3, Ms5.1, Msz4.7*

*HRVD **30** 08:28:37.6±0.3, 20.18S×173.10W, h12km, MW5.0/61, Centroid moment Tensor Solution. LP body waves: s39,c63;Mantle waves: s61,c100; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.30±.12; $M_{\theta\theta}$-0.10±.13; $M_{\phi\phi}$-3.20±.10; $M_{r\theta}$1.23±.36; $M_{\theta\phi}$-1.41±.10; $M_{\phi r}$2.02±.31; Best double couple: $M_0$4.246×10^{16} NP1: ϕ_s194°, δ29°, λ78°. NP2:ϕ_s27°, δ62°, λ96°. Principal axes: T 4.044, Plg72°, Azm312°; N .4, Plg6°, Azm204°; P -4.448, Plg17°, Azm113°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **30** 08:28:37.6±0.1, 19.99S×173.68W, h10km, mb5.1/47, MS4.6/5 Error ellipse: s-maj=7.3km s-min=3.8km az=142.0*

*MOS **30** 08:28:39.7±1.0, 20.01S×173.77W, h33km, mb5.3/25, Error ellipse: s-maj=12.2km s-min=9.0km az=45.5*

ISC 30 08:28:36.8±0.2,**20.11S**±0.05×**173.60W**±0.05,**h14**km, **h14**km±1.9km:**pP-P,n293**,σ0**95**/176,**mb5.0**/82,**MS4.7**/18, **32C-7D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.41**	**16**	Pn	**Pn**	**08 30 07.3**	**-5.8**
	22nm,0.3s,baz=208,slow=2.9,SNR=22						
AFI				Sn	**Sn**	**08 31 18.4**	**-8.3**
	16nm,0.3s,baz=141,slow=23,SNR=2.6						
AFI	**Afiamalu**	**6.41**	**16**	*e*P	**Pn**	**08 30 05.3**	**-7.8**
	141nm,0.6s						
RAR	**Rarotonga**	**12.99**	**97**	Pn	**P**	**08 31 33.9**	**-10**
	6.7nm,0.3s,baz=261,slow=8.9,SNR=14						
RAR				Sn	**S**	**08 33 52.5**	**-16**
	2.1nm,0.3s,baz=44,slow=22,SNR=4.4						
RAR				LR	LR	08 35 40.3	
	comp=Z,1μm,18.2s,baz=343,slow=32						
RAR	**Rarotonga**	**12.99**	**97**	*e*P	**P**	**08 31 33.7**	**-10**
	132nm,0.9s						
DZM	**Mont Dzumac**	**18.72**	**260**	*e*P	**P**	**08 32 57.2**	**0.0**
DZM	**Mont Dzumac**	**18.72**	**260**	P	**P**	**08 32 58.0**	**+0.8**
	0.8nm,0.3s,baz=78,slow=16,SNR=17						
URZ	**Urewera**	**19.80**	**202**	P	**P**	**08 33 08.4**	**-1.2**
	1.4nm,0.3s,baz=4.7,slow=7.6,SNR=9.9						
TBI	**Tubuai**	**22.65**	**103**	*e*LQ		08 37 55.8	
TBI				*e*LR	LR	08 38 39.9	
	2μm,33.3s,baz=270						
PAE	**Paea**	**22.85**	**88**	*e*P	**P**	**08 33 39.5**	**-1.4**
	102nm,1.4s,mb5.1						
PPT	**Papeete**	**22.87**	**88**	*e*P	**P**	**08 33 40.0**	**-1.1**
	30nm,1.3s,mb4.6						
PPT	**Papeete**	**22.87**	**88**	*e*LQ		08 37 57.3	
PPT				*e*LR	LR	08 38 39.9	
	2μm,26.8s						
PPT	**Papeete**	**22.87**	**88**	LR	LR	08 41 33.1	
	comp=Z,1μm,18.9s,MS4.3,baz=254,slow=34						
TIAR	**Tiarei**	**23.09**	**88**	*e*P	**P**	**08 33 41.9**	**-1.3**
	84nm,1.1s,mb5.1						
PMOR	**Pomariorio Ree**	**25.02**	**82**	*e*P	**P**	**08 34 00.3**	**-1.6**
	37nm,1.3s,mb4.7						
RPZ	**Rata Peaks**	**26.81**	**205**	P	**P**	**08 34 19.2**	**+0.9**
	24nm,0.7s,mb4.8,baz=36,slow=1.3,SNR=11						
HNR	**Honiara**	**27.65**	**289**	P	**P**	**08 34 25.7**	**-0.5**
	16nm,0.3s,mb5.2,baz=164,slow=7.2,SNR=4.6						
CNB	**Canberra Magne**	**35.88**	**237**	⇑*i*P	**P**	**08 35 37.8**	**-0.5**
	2μm,1.4s						
RKT	**Rikitea**	**35.97**	**102**	*e*LR	LR	08 44 46.9	
	1μm,30.2s,baz=275						
CTA	**Charters Tower**	**37.64**	**263**	P	**P**	**08 35 51.6**	**-1.6**
	26nm,0.9s,mb5.0,baz=93,slow=11,SNR=14						
CTAO	**Charters Tower**	**37.64**	**263**	*e*P	**P**	**08 35 50.1**	**-3.1**
CTAO				pmax	pmax		
	comp=Z,47nm,1.1s,mb5.1						
CTAO	**Charters Tower**	**37.64**	**263**	*e*P	**P**	**08 35 50.1**	**-3.1**
	comp=Z,47nm,1.1s,mb5.1						
PMG	**Port Moresby**	**39.31**	**280**	*e*P	**P**	**08 36 05.7**	**-1.6**
PMG				pmax	pmax		
	comp=Z,123nm,1.1s						
PMG	**Port Moresby**	**39.31**	**280**	P	**P**	**08 36 06.7**	**-0.6**
	comp=Z,86nm,1.1s,mb5.4,baz=106,slow=3.0,SNR=12						
PMG	**Port Moresby**	**39.31**	**280**	*e*P	**P**	**08 36 05.7**	**-1.6**
	comp=Z,123nm,1.1s,mb5.5						
TOO	**Toolangi**	**39.48**	**235**	⇑*i*P	**P**	**08 36 08.1**	**-0.3**
	comp=Z,13nm,0.6s,mb4.8						
TOO	**Toolangi**	**39.48**	**235**	⇑*i*P	**P**	**08 36 08.1**	**-0.3**
TOO				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**41.68**	**244**	*e*P	**P**	**08 36 25.7**	**-0.9**
	comp=Z,24nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**41.68**	**244**	P	**P**	**08 36 25.8**	**-0.8**
	comp=Z,28nm,1.0s,mb4.8,baz=87,slow=9.1,SNR=19						
ASAR	**Alice Springs**	**48.62**	**256**	P	**P**	**08 37 20.7**	**-1.5**
	comp=Z,17nm,0.9s,mb5.1,baz=88,slow=8.5,SNR=97						
ASAR				PcP	PcP	08 38 47.7	-0.4
	comp=Z,8.4nm,0.9s,baz=106,slow=4.3,SNR=8.1						
ASPA	**Alice Springs**	**48.62**	**256**	*e*P	**P**	**08 37 20.3**	**-1.9**
ASPA				*e*PCP	PcP	08 38 48.2	+0.1
WB2	**Warramunga Arr**	**48.73**	**261**	*e*P	**P**	**08 37 21.3**	**-1.8**
WRAB	**Tennant Creek**	**48.73**	**261**	*e*P	**P**	**08 37 20.6**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,158nm,1.4s,mb5.8						
WRAB	**Tennant Creek**	**48.73**	**261**	*e*P	**P**	**08 37 20.6**	**-2.5**
	comp=Z,158nm,1.4s,mb5.8						
WRA	**Warramunga Arr**	**48.74**	**261**	P	**P**	**08 37 20.8**	**-2.4**
	comp=Z,42nm,1.1s,mb5.4,baz=98,slow=7.3,SNR=67						
WRA				PcP	PcP	08 38 47.9	-0.7
	comp=Z,11nm,1.0s,baz=95,slow=3.7,SNR=6.0						
FORT	**Forrest**	**53.23**	**246**	*e*P	**P**	**08 37 55.4**	**-1.7**
	comp=Z,1μm,1.2s						
SBA	**Scott Base**	**58.56**	**185**	*e*P	**P**	**08 38 36.8**	**+1.9**
SBA				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
SBA	**Scott Base**	**58.56**	**185**	*e*P	**P**	**08 38 36.8**	**+1.9**
	comp=Z,17nm,0.8s,mb5.1						
VNDA	**Vanda**	**58.70**	**186**	*e*P	**P**	**08 38 36.8**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VNDA	**Vanda**	**58.70**	**186**	P	**P**	**08 38 37.3**	**+1.5**
	comp=Z,6.6nm,0.9s,mb4.7,baz=7.5,slow=6.6,SNR=36						
VNDA	**Vanda**	**58.70**	**186**	*e*P	**P**	**08 38 36.8**	**+1.0**
	comp=Z,7.8nm,0.9s,mb4.7						
RPN	**Rapa Nui**	**58.76**	**110**	LR	LR	08 57 55.6	
	comp=Z,627nm,19.4s,MS4.8,baz=238,slow=30						
KLBR	**Kellerberrin**	**61.95**	**244**	*e*P	**P**	**08 38 57.7**	**-1.0**
	comp=Z,838nm,1.0s						
NWAO	**Narrogin (SRO)**	**62.22**	**243**	*e*P	**P**	**08 39 00.5**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,29nm,1.1s						
NWAO	**Narrogin (SRO)**	**62.22**	**243**	P	**P**	**08 39 00.2**	**-0.2**
	comp=Z,18nm,1.1s,mb5.1,baz=71,slow=8.3,SNR=4.7						
NWAO	**Narrogin (SRO)**	**62.22**	**243**	*e*P	**P**	**08 39 00.5**	**+0.1**
	comp=Z,29nm,1.1s,mb5.3						
MUN	**Mundaring**	**63.21**	**244**	*e*P	**P**	**08 39 06.0**	**-0.9**
	comp=Z,129nm,1.1s,mb6.0						
MUN	**Mundaring**	**63.21**	**244**	*e*P	**P**	**08 39 06.0**	**-0.9**
MUN				pmax	pmax		
	comp=Z,129nm,1.1s,mb6.0						
CASY	**Casey**	**66.08**	**205**	*e*P	**P**	**08 39 25.1**	**+0.1**
QSPA	**South Pole Qui**	**69.96**	**180**	⇑*i*P	**P**	**08 39 50.4**	**+1.3**
	comp=Z,17nm,1.0s,mb4.9						
MJAR	**Matsushiro Arr**	**72.43**	**321**	P	**P**	**08 40 04.1**	**-0.6**
	comp=Z,19nm,1.0s,mb5.0,baz=157,slow=5.6,SNR=35						
MAJO	**Matsushiro**	**72.43**	**321**	*e*P	**P**	**08 40 04.2**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.3						
MAJO				MLR	MLR		
	comp=Z,259nm,20.0s,MS4.5						
MAJO	**Matsushiro**	**72.43**	**321**	*e*P	**P**	**08 40 04.2**	**-0.5**
	comp=Z,49nm,1.3s,mb5.3						
MAJO				LR	LR		
	comp=Z,259nm,20.0s,MS4.5						
MAT	**Matsushiro**	**72.43**	**321**	*e*P	**P**	**08 40 04.0**	**-0.7**
MAT				S	S	08 49 29.0	+2.4
MAT				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.2						
MAT	**Matsushiro**	**72.43**	**321**	*e*P	**P**	**08 40 04.0**	**-0.7**
	comp=Z,34nm,1.1s,mb5.2						
MAT				S	S	08 49 29.0	+2.4
MAT	**Matsushiro**	**72.43**	**321**	P	**P**	**08 40 04.0**	**-0.7**
MAT				*e*S	S	08 49 28.0	+1.4
MIR	**Mirnyy**	**73.08**	**205**	*d i*P	**P**	**08 40 08.8**	**+0.9**
MIR				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.3						
ASAJ	**Asahikawa**	**75.44**	**329**	P	**P**	**08 40 22.4**	**+0.4**
	comp=Z,16nm,0.9s,mb5.0,baz=219,slow=8.6,SNR=5.2						
CMB	**Columbia Colle**	**76.43**	**41**	*e*P	**P**	**08 40 26.8**	**-0.9**
CMB				*e*		08 40 38.0	
CMB				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
CMB				MLR	MLR		
	comp=Z,329nm,19.0s,MS4.7						
CMB	**Columbia Colle**	**76.43**	**41**	*e*P	**P**	**08 40 26.8**	**-0.9**
	comp=Z,16nm,1.4s,mb4.8						
CMB				*e*		08 40 38.0	
CMB				LR	LR		
	comp=Z,329nm,19.0s,MS4.7						
PET	**Petropavlovsk**	**76.70**	**343**	*e*P	**P**	**08 40 32.8**	**+3.9**
PET				*e*		08 50 20.4	
NACB	**Ninganchiao**	**76.93**	**302**	*e*P	**P**	**08 40 30.4**	**-0.3**
NACB				*e*		08 40 40.4	
MTUM	**Tungsten Hills**	**77.14**	**42**	*e*P	**P**	**08 40 29.9**	**-1.8**
KSM	**Kuching**	**77.46**	**276**	*e*P	**P**	**08 40 33.9**	**0.0**
YBH	**Yreka Blue Hor**	**77.46**	**37**	P	**P**	**08 40 33.2**	**-0.2**
	comp=Z,4.6nm,0.9s,mb4.4,baz=182,slow=1.9,SNR=15						
YBH				LR	LR	09 08 26.8	
	comp=Z,430nm,18.5s,MS4.8,baz=159,slow=31						
YSS	**Yuzh-Sakhalins**	**77.47**	**331**	⇑*i*P	**P**	**08 40 33.8**	**+0.5**
YSS	**Yuzh-Sakhalins**	**77.47**	**331**	*e*P	**P**	**08 40 33.9**	**+0.5**
	comp=Z,46nm,1.0s,mb5.4						
NVAR	**Mina Array Bea**	**77.96**	**41**	P	**P**	**08 40 35.9**	**-0.2**
	comp=Z,5.9nm,0.8s,mb4.5,baz=214,slow=7.4,SNR=47						
NVAR	**Mina Array Bea**	**77.96**	**41**	P	**P**	**08 40 35.9**	**-0.2**
LDFC	**Landfair**	**78.04**	**46**	*e*P	**P**	**08 40 36.6**	**0.0**
MNV	**Mina**	**78.05**	**41**	*e*P	**P**	**08 40 36.1**	**-0.6**
MNV				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
MNV	**Mina**	**78.05**	**41**	*e*P	**P**	**08 40 36.0**	**-0.6**
	comp=Z,18nm,1.2s,mb4.9						
TPH	**Tonopah**	**78.42**	**42**	*e*P	**P**	**08 40 38.7**	**0.0**
TPH				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
TPH	**Tonopah**	**78.42**	**42**	*e*P	**P**	**08 40 38.7**	**0.0**
	comp=Z,19nm,1.2s,mb4.9						
NEN	**Nelson**	**78.54**	**45**	*e*P	**P**	**08 40 39.2**	**-0.2**
MOD	**Modoc**	**78.94**	**38**	*e*P	**P**	**08 40 40.6**	**-0.9**
	comp=Z,13nm,1.3s,mb4.7						
TUC	**Tucson**	**79.53**	**50**	*e*P	**P**	**08 40 45.2**	**+0.3**
TUC				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
TUC	**Tucson**	**79.53**	**50**	*e*P	**P**	**08 40 45.2**	**+0.3**
	comp=Z,21nm,1.3s,mb4.9						
WVOR	**Wild Horse Val**	**80.23**	**38**	*e*P	**P**	**08 40 47.8**	**-0.6**
WVOR				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
WVOR	**Wild Horse Val**	**80.23**	**38**	*e*P	**P**	**08 40 47.8**	**-0.6**
	comp=Z,10nm,1.1s,mb4.7						
SSE	**Sheshan**	**80.66**	**308**	*e*P	**P**	**08 40 52.3**	**+1.4**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,140nm,6.9s						
SSE				LR	LR		
	comp=N,148nm,29.0s,MS4.4						
SSE				LR	LR		
	comp=E,180nm,29.2s,MS4.4						
SSE				LR	LR		
	comp=Z,232nm,21.9s						
ARUT	**Antelope Range**	**80.68**	**44**	*e*P	**P**	**08 40 51.3**	**+0.4**
WUAZ	**Wupatki**	**80.82**	**47**	*e*P	**P**	**08 40 52.2**	**+0.5**
	comp=Z,20nm,1.4s,mb4.9						
MVU	**Marysvale**	**81.88**	**44**	*e*P	**P**	**08 40 58.0**	**+0.8**
	comp=Z,24nm,1.4s,mb4.9						
MSU	**Marysvale**	**81.91**	**44**	*e*P	**P**	**08 40 58.2**	**+0.9**
DUG	**Dugway**	**82.44**	**42**	*e*P	**P**	**08 40 59.5**	**-0.5**
DUG				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
DUG				MLR	MLR		
	comp=Z,389nm,19.0s,MS4.8						
DUG	**Dugway**	**82.44**	**42**	*e*P	**P**	**08 40 59.5**	**-0.6**
	comp=Z,5.2nm,1.2s,mb4.3						
DUG				LR	LR		
	comp=Z,389nm,19.0s,MS4.8						
SLKM	**Skilak Lake**	**82.54**	**11**	*e*P	**P**	**08 40 59.4**	**-0.7**
MDJ	**Mudanjiang**	**82.64**	**323**	P	**P**	**08 41 01.5**	**+0.6**
MDJ				AP	pP	08 41 04.5	-1.1
MDJ				XP	sP	08 41 06.0	-1.1
MDJ				PP	PP	08 44 14.8	+2.1
MDJ				S	S	08 51 19.3	+2.9
MDJ				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,188nm,4.5s						
MDJ				LR	LR		
	comp=N,278nm,38.4s						
MDJ				LR	LR		
	comp=E,386nm,32.9s						
MDJ				LR	LR		
	comp=Z,194nm,21.9s						
SPU	**Mount Spurr**	**82.85**	**10**	*e*P	**P**	**08 41 00.1**	**-1.6**
NJ2	**Nanjing**	**82.86**	**308**	*e*P	**P**	**08 41 02.5**	**+0.1**
NJ2				AP	pP	08 41 07.0	0.0
NJ2				XP	sP	08 41 09.5	+1.0
NJ2				S	S	08 51 18.0	-0.9
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,220nm,4.4s						
NJ2				LR	LR		
	comp=N,1μm,18.2s,MS5.5						
NJ2				LR	LR		
	comp=E,1μm,20.7s,MS5.5						
NJ2				LR	LR		
	comp=Z,1μm,23.3s,MS5.2						
TMUT	**Trail Mountain**	**82.97**	**44**	*e*P	**P**	**08 41 03.7**	**+0.9**
MNTX	**Cornudas Mount**	**83.19**	**53**	*e*P	**P**	**08 41 04.0**	**-0.2**
	comp=Z,17nm,1.4s,mb4.9						
MAW	**Mawson**	**83.29**	**199**	*e*P	**P**	**08 41 05.7**	**+1.8**
	comp=Z,7.4nm,1.1s,mb4.6						
MAW	**Mawson**	**83.29**	**199**	*e*P	**P**	**08 41 05.7**	**+1.8**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MAW	**Mawson**	**83.29**	**199**	P	**P**	**08 41 05.7**	**+1.8**
	comp=Z,8.4nm,1.0s,mb4.7,baz=94,slow=9.3,SNR=9.1						
SRU	**San Rafael**	**83.32**	**44**	*e*P	**P**	**08 41 04.9**	**+0.3**
HLID	**Hailey**	**83.38**	**39**	*e*P	**P**	**08 41 05.0**	**+0.1**
	comp=Z,12nm,1.0s,mb4.9						
HLID				LR	LR		
	comp=Z,133nm,21.0s,MS4.3						
CTU	**Camp Tracy**	**83.39**	**42**	*e*P	**P**	**08 41 05.3**	**+0.3**
LTX	**Lajitas**	**83.40**	**56**	*e*P	**P**	**08 41 05.9**	**+0.7**
LTX				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.8						
LTX	**Lajitas**	**83.40**	**56**	*e*P	**P**	**08 41 05.9**	**+0.7**
	comp=Z,13nm,1.3s,mb4.8						
TXAR	**Lajitas Array**	**83.40**	**56**	P	**P**	**08 41 05.5**	**+0.3**
	comp=Z,7.1nm,1.1s,mb4.6,baz=217,slow=6.3,SNR=26						
BNM	**Barren Site**	**83.46**	**50**	*e*P	**P**	**08 41 06.1**	**+0.7**
JLU	**Jordanelle**	**83.53**	**43**	*e*P	**P**	**08 41 05.6**	**-0.1**
LPM	**Los Pinos Moun**	**83.54**	**50**	*e*P	**P**	**08 41 06.4**	**+0.6**
DAU	**Daniels Canyon**	**83.55**	**43**	*e*P	**P**	**08 41 06.2**	**+0.4**
TCUT	**Toone Canyon**	**83.84**	**42**	*e*P	**P**	**08 41 07.8**	**+0.6**
TTA	**Tatalina**	**83.92**	**8**	*e*P	**P**	**08 41 07.7**	**+0.6**
ANMO	**Albuquerque**	**83.97**	**50**	*e*P	**P**	**08 41 08.6**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,28nm,1.3s						
ANMO	**Albuquerque**	**83.97**	**50**	P	**P**	**08 41 08.8**	**+0.7**
	comp=Z,13nm,1.1s,mb5.0,baz=221,slow=5.7,SNR=31						
ANMO	**Albuquerque**	**83.97**	**50**	*e*P	**P**	**08 41 08.6**	**+0.5**
	comp=Z,28nm,1.3s,mb5.2						
DIV	**Divide**	**84.00**	**13**	*e*P	**P**	**08 41 07.4**	**-0.1**
	comp=Z,53nm,1.1s,mb5.6						
HWUT	**Hardware Ranch**	**84.01**	**42**	*e*P	**P**	**08 41 07.2**	**-0.8**
	comp=Z,14nm,1.4s,mb4.9						
GDL2	**Guadalupe Moun**	**84.19**	**53**	*e*P	**P**	**08 41 09.7**	**+0.4**
CN2	**Changchun**	**84.57**	**321**	*e*P	**P**	**08 41 12.0**	**+1.2**
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.1						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
NEW	**Newport**	**84.69**	**34**	P	**P**	**08 41 10.5**	**-0.8**
	comp=Z,1.0nm,0.5s,mb4.2,baz=239,slow=3.9,SNR=4.5						
AHID	**Auburn Hatcher**	**84.93**	**41**	*e*P	**P**	**08 41 12.7**	**0.0**
	comp=Z,18nm,1.2s,mb5.1						
CPRX	**Cap Rock**	**84.95**	**52**	*e*P	**P**	**08 41 13.5**	**+0.5**
RRI2	**Red Ridge**	**85.12**	**40**	*e*P	**P**	**08 41 13.8**	**+0.3**
	comp=Z,26nm,1.3s,mb5.2						
TPAW	**Teton Pass**	**85.42**	**40**	*e*P	**P**	**08 41 15.7**	**+0.6**
	comp=Z,23nm,1.4s,mb5.1						
TNA	**Tin City**	**85.51**	**2**	*e*P	**P**	**08 41 15.3**	**+0.3**
	comp=Z,7.7nm,1.1s,mb4.8						
SNOW	**Snow King Moun**	**85.53**	**41**	*e*P	**P**	**08 41 15.8**	**+0.2**
	comp=Z,14nm,1.0s,mb5.2						
MSO	**Missoula**	**85.56**	**36**	*e*P	**P**	**08 41 14.6**	**-1.1**
	comp=Z,2.0nm,1.0s,mb4.3						
WUWY	**Wally Ulrich**	**85.57**	**40**	*e*P	**P**	**08 41 15.8**	**0.0**
WHN	**Wuhan**	**85.58**	**305**	*e*P	**P**	**08 41 17.0**	**+0.8**
IMW	**Indian Meadow**	**85.65**	**40**	*e*P	**P**	**08 41 16.8**	**+0.6**
	comp=Z,19nm,1.3s,mb5.2						
LOHW	**Long Hollow**	**85.70**	**40**	*e*P	**P**	**08 41 16.6**	**+0.2**
	comp=Z,8.6nm,1.2s,mb4.9						
MCK	**McKinley**	**85.76**	**11**	*e*P	**P**	**08 41 16.0**	**-0.3**
MCK				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.2						
MCK	**McKinley**	**85.76**	**11**	*e*P	**P**	**08 41 16.0**	**-0.3**
	comp=Z,16nm,1.1s,mb5.2						
QLMT	**Earthquake Lak**	**85.87**	**39**	*e*P	**P**	**08 41 18.1**	**+0.8**
PDAR	**Pinedale Array**	**85.89**	**42**	P	**P**	**08 41 17.4**	**0.0**
	comp=Z,4.7nm,1.0s,mb4.7,baz=222,slow=3.2,SNR=29						
CHMT	**Chamberlain Mo**	**85.99**	**37**	*e*P	**P**	**08 41 17.2**	**-0.7**
SDCO	**Great Sand Dun**	**86.01**	**48**	*e*P	**P**	**08 41 18.4**	**+0.2**
	comp=Z,8.8nm,1.2s,mb4.9						
SDCO				LR	LR		
	comp=Z,229nm,21.0s,MS4.5		

GYA AMB AMB
comp=Z,130nm,4.2s
GYA LR LR
comp=N,420nm,18.2s,MS5.0
GYA LR LR
comp=E,380nm,17.6s,MS5.0
GYA LR LR
comp=Z,290nm,18.0s,MS4.8
XAN Xi'an 91.22 306 P **P** **08 41 44.0 +1.0**
XAN AP pP 08 41 53.0 +5.4
XAN AMB AMB
comp=Z,27nm,1.3s,mb5.4
HHC Hu-ho-hao-te 92.08 313 *e*P **P** **08 41 48.8 +2.0**
HHC AP pP 08 41 53.8 +2.4
HHC XP sP 08 41 56.3 +3.4
HHC PP PP 08 45 28.0 -1.3
HHC SKS SKS 08 52 23.0 -0.5
HHC S S 08 52 52.8 +7.1
HHC XS 08 53 01.8
HHC PS PS 08 54 22.5 +19
HHC AMB AMB
comp=Z,35nm,1.3s,mb5.5
HHC AMB AMB
comp=Z,140nm,6.3s
HHC LR LR
comp=N,132nm,16.1s
HHC LR LR
comp=E,427nm,24.2s
HHC LR LR
comp=Z,132nm,23.5s
INK Inuvik 92.86 14 P **P** **08 41 48.6 -1.1**
comp=Z,3.4nm,1.1s,mb4.7,baz=218,slow=3.4,SNR=8.6
INK PP PP 08 45 31.4 -3.6
comp=Z,1.2nm,1.0s,baz=209,slow=5.3,SNR=3.7
INK LR LR 09 16 39.9
comp=Z,132nm,19.1s,MS4.4,baz=270,slow=31
INK Inuvik 92.86 14 P **P** **08 41 48.6 -1.1**
INK PP PP 08 45 31.4 -3.6
INK LR LR 09 16 39.9
KMI Kunming 92.88 296 P **P** **08 41 52.8 +1.9**
KMI PP PP 08 45 37.5 +1.3
KMI SKS SKS 08 52 25.0 -3.5
KMI S S 08 52 46.5 -6.6
KMI SS SS 08 59 12.8 +1.8
KMI AMB AMB
comp=Z,15nm,0.9s,mb5.4
KMI LR LR
comp=N,157nm,20.4s,MS4.7
KMI LR LR
comp=E,249nm,19.2s,MS4.7
KMI LR LR
comp=Z,354nm,26.3s
YAK Yakutsk 93.34 337 *i* P **P** **08 41 51.2 -0.9**
YAK pmax pmax
comp=Z,16nm,1.0s,mb5.4
CMAR Chiang Mai Arr 93.90 288 P **P** **08 41 57.5 +1.9**
comp=Z,11nm,1.0s,mb5.2,baz=117,slow=2.9,SNR=38
CMAR PP PP 08 45 42.9 -1.6
comp=Z,1.2nm,0.3s,baz=141,slow=6.8,SNR=4.9
YKA Yellowknife Ar 94.47 24 P **P** **08 41 57.0 -0.3**
comp=Z,1.1nm,0.9s,mb4.3,baz=235,slow=4.3,SNR=16
YKA PP PP 08 45 42.8 -4.7
comp=Z,0.1nm,0.4s,baz=236,slow=8.8,SNR=4.1
YKA Yellowknife Ar 94.47 24 P **P** **08 41 57.0 -0.3**
YKA PP PP 08 45 42.8 -4.7
LZH Lanzhou 95.84 306 *e*P **P** **08 42 06.0 +1.8**
LZH AP pP 08 42 12.5 +3.6
LZH XP sP 08 42 16.8 +6.4
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.7
ULM Lac du Bonnet 97.69 39 P **P** **08 42 11.2 -1.0**
comp=Z,1.4nm,0.4s,mb4.8,baz=68,slow=5.4,SNR=2.8
LPAZ La Paz 98.36 111 LR LR 09 19 37.4
comp=Z,187nm,18.1s,MS4.6,baz=256,slow=31
GTA Gaotai 99.95 308 P **P** **08 42 24.3 +1.6**
GTA AP pP 08 42 29.5 +2.1
GTA XP sP 08 42 33.0 +4.1
GTA SKS SKS 08 52 59.8 -5.7
GTA S S 08 53 46.3 -6.4
GTA AMB AMB
comp=Z,5.0nm,0.7s,mb5.0
GTA AMB AMB
comp=Z,53nm,10.6s
GTA LR LR
comp=N,146nm,31.6s,MS4.7
GTA LR LR
comp=E,292nm,27.0s,MS4.7
GTA LR LR
comp=Z,131nm,30.0s,MS4.3
TLY Talaya 101.17 321 *i* P P 08 42 29.0 +1.1
TLY pmax pmax
comp=Z,2.0nm,0.8s
WMQ Urumqi 109.80 310 PDIF Pdif 08 43 02.0 -4.3
WMQ PP PP 08 47 40.0 -4.3
WMQ PP PP
comp=Z,94nm,5.8s
WMQ LR LR
comp=N,133nm,27.2s,MS4.5
WMQ LR LR
comp=E,156nm,28.6s,MS4.5
WMQ LR LR
comp=Z,212nm,24.0s,MS4.6
MKAR Makanchi Array 113.94 313 PKiKP 08 47 16.1
comp=Z,1.9nm,0.9s,baz=63,slow=2.7,SNR=8.4
AAK Ala-Archa 119.30 308 *i* PKIKP PKPdf 08 47 26.4 -2.9
CHKZ Chkalovo 121.19 321 *e*PKIKP PKPdf 08 47 29.5 -3.3
BVAR Borovoye Array 121.42 320 PKP PKPdf 08 47 30.6 -2.6
comp=Z,1.8nm,0.6s,baz=90,slow=1.5,SNR=11
BVAR PP PP 08 49 03.5 -1.9
comp=Z,1.4nm,0.8s,baz=127,slow=7.4,SNR=3.6
ARU Arti 127.19 327 *i* PKIKP PKPdf 08 47 40.7 -3.4
ARCES ARCESS Array B 129.22 351 PKP PKPdf 08 47 45.2 -2.5
comp=Z,1.6nm,0.6s,baz=333,slow=2.7,SNR=7.2
FINES FINESS Array B 136.47 346 PKP PKPdf 08 47 57.7 -3.7
comp=Z,4.6nm,1.1s,baz=14,slow=7.9,SNR=5.9
FINES FINESS Array B 136.47 346 PKP PKPdf 08 47 57.7 -3.7
MOS Moscow 137.43 334 *e*PKIKP 08 47 38.7
OBN Obninsk 138.29 334 *i* PKIKP PKPdf 08 48 04.9 -0.2
OBN pmax pmax
comp=Z,15nm,1.0s
NB2 NORSAR Subarra138.97 356 PKPabc PKPdf 08 47 54.4 -12
comp=Z,0.6nm,0.8s,baz=20,slow=4.5
NOA NORSAR Array B 138.97 356 PKP PKPdf 08 48 04.3 -1.8
comp=Z,2.6nm,0.9s,baz=13,slow=4.2,SNR=4.7
HFS Hagfors 139.68 354 PKhKP 08 47 56.1
comp=Z,1.8nm,0.7s,baz=90,slow=1.5,SNR=5.2
KIV Kislovodsk 141.58 317 *i* PKIKP PKPdf 08 48 10.8 -0.5
KIV pmax pmax
comp=Z,6.0nm,1.0s
KMBO Kilima Mbogo 143.13 239 PKP PKPdf 08 48 11.2 -3.6
comp=Z,1.4nm,0.5s,baz=133,slow=9.0,SNR=4.4
SOC Sochi 143.66 318 *i* PKIKP PKPdf 08 48 16.5 +1.7
SOC *e* 08 51 25.0
SOC *e*PPP PPP 08 54 38.2 -1.8
SOC *e*SSS SSS 09 15 19.4 -11
SOC pmax pmax
comp=N,9.0nm,0.7s
SOC pmax pmax
comp=Z,9.0nm,0.7s
SOC pmax pmax
comp=E,3.0nm,0.4s
BHD Baghdad 143.82 299 *e*P PKPbc 08 48 09.5 -1.4
EKA Eskdalemuir Ar 144.10 9 PKP PKPdf 08 48 10.6 -4.6
comp=E,4.5nm,1.0s,baz=346,slow=3.4,SNR=7.3
ANN Anapa 144.42 321 *i* PKIKP PKPdf 08 48 11.8 -4.3
ANN pmax pmax
comp=Z,66nm,1.9s
AKASG Malin Array Be 144.55 335 PKP PKPdf 08 48 11.3 -4.9
comp=Z,23nm,0.9s,baz=35,slow=4.0,SNR=72
DCN Croghan 145.19 14 *e*P PKPbc 08 48 13.9 -0.1
DLF Lyons Farm 145.41 14 *e*P PKPbc 08 48 15.8 +1.2
DSB Dublin 145.49 14 *e*PKPdf PKPdf 08 48 15.6 -2.1
BSEG Bad Segeberg 146.10 356 *e*PKP2 PKPab 08 48 17.8 -1.0
SIM Simferopol' 146.25 324 *i* PKP2 PKPab 08 48 20.3 +0.6
SIM pmax pmax
comp=Z,33nm,0.9s
MALT Malatya 146.91 310 *e*PKP2 PKPab 08 48 21.1 -1.4
RUE Ruedersdorf 147.19 352 *e*PKPbc PKPdf 08 48 21.3 +0.7
LVV L'vov 147.20 339 *e*PKP2 PKPab 08 48 21.1 -2.1
KIS Kishinev 147.55 331 *e*PKP2 PKPab 08 48 20.0 -4.7
OJC Ojcow 148.13 344 *e*PKP PKPdf 08 48 23.9 +1.7
WTSB Winterswijk 148.21 360 *e*PKP PKPdf 08 48 23.6 +1.3
comp=Z,34nm,1.0s
KSP Ksiaz 148.35 348 *e*PKP PKPdf 08 48 24.8 +2.3
KSP Ksiaz 148.35 348⇑*i*PKP PKPdf 08 48 24.9 +2.3
CLL Collm 148.44 352⇑*i*PKP1 PKPdf 08 48 24.5 +1.9
CLL *i* *PPKP 08 48 30.3
CLL *e* 08 49 01.0
MBAR Mbarara 148.50 232 *e*PKPbc PKPdf 08 48 26.1 +2.2
KOLS Kolonicke sedl 148.54 340 *e*PKP PKPdf 08 48 25.3 +2.4
KOLS *e* 08 48 36.1
BURAR Bucovina Array 148.60 335 P PKPdf 08 48 26.1 +3.0
UPC Upice 148.73 348 *e*PKPbc PKPdf 08 48 25.2 +2.1
BRG Berggiesshubel 148.73 351 *e*PKP PKPdf 08 48 22.3 -0.8
BRG *i* 08 48 25.5
DPC Dobruska-Polom 148.81 348 *e*PKPbc PKPdf 08 48 26.1 +2.8
DPC AMS AMS 10 04 00.0
comp=Z,300nm,17.2s
CRVS Cervenica-Dubn 148.83 341 *e*PKP PKPdf 08 48 29.0 +5.7
TLCR 148.88 329⇑P PKPdf 08 48 26.6 +3.0
TLCR 148.88 329⇑P PKPdf 08 48 26.6 +3.1
OKC Ostrava-Krasne 148.90 345 *e*PKPbc PKPdf 08 48 26.1 +2.7
MORC Moravsky Berou 149.09 346 *e*PKPbc PKPdf 08 48 26.4 +2.6
CFR Carcaliu 149.21 329 P PKPdf 08 48 27.5 +3.4
MOX Moxa 149.25 353 *e*PKPbc PKPdf 08 48 26.6 +2.6
VRI Vrincioaia 149.35 332 P PKPdf 08 48 27.5 +3.2
HGN Heimansgroeve 149.41 1 *e*PKP PKPdf 08 48 26.9 +2.7
comp=Z,17nm,1.3s
PRU Pruhonice 149.49 350 *e*PKPbc PKPdf 08 48 27.0 +2.6
PRU AMS AMS 10 04 30.0
comp=Z,200nm,22.3s
BRTR Keskin Array B 149.54 316 PKP PKPdf 08 48 23.0 -1.8
comp=Z,9.4nm,1.2s,baz=90,slow=2.5,SNR=7.0
BRTR PKPbc PKPdf 08 48 28.2 +3.5
comp=Z,11nm,1.0s,baz=135,slow=2.0,SNR=30
NKC Novy Kostel 149.56 352 *e*PKPbc PKPdf 08 48 27.5 +3.0
TIRR Tirgusor 149.60 328⇓P PKPdf 08 48 28.2 +3.4
TIRR Tirgusor 149.60 328⇓P PKPdf 08 48 28.2 +3.5
HARR Harsova 149.67 329 P PKPdf 08 48 28.9 +4.0
VRAC Vranov 149.75 347 PKPbc PKPdf 08 48 27.9 +3.1
comp=Z,7.0nm,0.9s,baz=21,slow=6.1,SNR=12
VYHS Vyhne 149.96 343 *e*PKP PKPdf 08 48 28.9 +3.7
MLR Muntele Rosu 149.99 332 PKPbc PKPdf 08 48 28.9 +3.6
comp=Z,28nm,1.0s,baz=2.7,slow=1.6,SNR=24
MLR Muntele Rosu 149.99 332 P PKPdf 08 48 29.2 +3.9
ANTO Ankara 150.01 317⇓P PKPdf 08 48 29.1 +3.6
GIVF Givet 150.05 2⇑*i*PKP1 PKPdf 08 48 28.5 +3.3
comp=Z,113nm,1.1s
BAIF Baives 150.07 3⇑*i*PKP1 PKPdf 08 48 28.8 +3.5
comp=Z,99nm,1.1s
PSZ Piszkesteto 150.18 342 *e*PKPbc PKPdf 08 48 28.9 +3.4
DRGR 150.24 337⇓P PKPdf 08 48 29.0 +3.4
VOIR 150.42 333⇓P PKPdf 08 48 31.4 +5.4
VOIR 150.42 333⇓P PKPdf 08 48 31.4 +5.4
KHC Kasperske Hory 150.48 350 *e*PKPbc PKPdf 08 48 29.7 +3.8
KHC pPKP 08 48 41.0
WLF Walferdange 150.51 0 *e*PKPbc PKPdf 08 48 30.1 +4.2
ZST Bratislava 150.68 345 *e*PKP PKPdf 08 48 30.9 +4.6
ZST *e* 08 48 37.7
GERES GERESS Array B 150.74 350 P PKPdf 08 48 24.7 -1.6
comp=Z,9.2nm,0.9s,baz=270,slow=2.7,SNR=11
GERES PKPbc PKPdf 08 48 30.4 +4.1
comp=Z,9.3nm,0.9s,slow=2.9,SNR=44
ROSF Rostrenen 150.78 13⇑*i*PKP1 PKPdf 08 48 29.5 +3.1
comp=Z,46nm,1.2s
FLN La Fioniniere 150.88 9⇑*i*PKP1 PKPdf 08 48 30.1 +3.6
comp=Z,120nm,1.1s
FLN *e*R
comp=Z,178nm,22.2s
SGMF Saint Gilles 151.01 12⇑*i*PKP1 PKPdf 08 48 30.1 +3.4
comp=Z,66nm,1.2s
LDF La Druitiere 151.10 9⇑*i*PKP1 PKPdf 08 48 30.5 +3.6
comp=Z,83nm,1.1s
LANF Langenberg 151.18 358 PKP PKPdf 08 48 31.4 +4.4
GRR Gorron 151.19 10⇑*i*PKP1 PKPdf 08 48 30.9 +3.9
comp=Z,75nm,1.0s
QUIF Quistinic 151.20 13 *e*PKP1 PKPdf 08 48 30.5 +3.5
comp=Z,69nm,1.4s
BZS Buzias 151.63 337 P PKPdf 08 48 32.4 +4.6
MEZF Maizieres J'vi 151.66 2⇑*i*PKP1 PKPdf 08 48 32.5 +4.8
comp=Z,48nm,1.0s
WLS Welschbruch 151.75 359 PKP PKPdf 08 48 32.5 +4.6
CDF Champ du Feu 151.76 359⇑*i*PKP1 PKPdf 08 48 32.6 +4.7
comp=Z,50nm,1.1s
ECH Echery 151.96 359 PKP PKPdf 08 48 32.7 +4.5
CSS Prodhromos 152.02 308 *e*PKPbc PKPdf 08 48 33.1 +4.4
PKSM Moragy 152.09 342⇑*e*P PKPdf 08 48 33.1 +4.7
HAU Haudompre 152.17 0⇑*i*PKP1 PKPdf 08 48 33.4 +4.9
comp=Z,44nm,1.0s
HAU *e*R
comp=Z,188nm,21.2s
HINF Hinteralfeld 152.36 359⇑*i*PKP1 PKPdf 08 48 33.6 +4.8
comp=Z,20nm,1.0s
EIL Elat 152.47 296 *e*PKPbc PKPdf 08 48 35.1 +5.6
PERS Pernice 152.60 347 *e*PKPbc PKPdf 08 48 33.8 +4.6
LOR Lormes 152.83 4⇑*i*PKP1 PKPdf 08 48 34.9 +5.5
comp=Z,44nm,1.1s
LOR *e*R
comp=Z,244nm,19.8s
SSF Saint Saulge 153.01 4⇑*i*PKP1 PKPdf 08 48 35.4 +5.7
comp=Z,55nm,1.0s
MFF Saint Martin d 153.04 10 *e*PKP1 PKPdf 08 48 35.0 +5.3
DAVOX Davos 153.25 355 PKPbc PKPdf 08 48 36.1 +6.0
comp=Z,7.5nm,0.8s,baz=17,slow=5.7,SNR=6.6
AVF Avril sur Loir 153.27 5⇑*i*PKP1 PKPdf 08 48 35.5 +5.4
comp=Z,31nm,1.2s
LJU Ljubljana 153.28 347 *e*PKPbc PKPdf 08 48 36.4 +6.3
SMF Signal de Mont 153.45 4⇑*i*PKP1 PKPdf 08 48 36.0 +5.7
comp=Z,16nm,1.1s
BGF Bois d'Agland 153.46 5⇑*i*PKP1 PKPdf 08 48 36.2 +5.9
comp=Z,21nm,0.9s
DIVS Divcibare 153.53 338 *e*PKP PKPdf 08 48 27.8 -2.7
CABF La Chapelle 153.57 0⇑*i*PKP1 PKPdf 08 48 37.2 +6.7
comp=Z,45nm,1.2s
BOJS Bojanci 153.64 346 *e*PKPdf PKPdf 08 48 29.6 -1.0
BOJS *e*PKPbc PKPdf 08 48 37.3 +6.7
BOJS *e* 08 49 06.2
TCF Toulx Ste Croi 153.67 7⇑*i*PKP1 PKPdf 08 48 36.4 +5.8
comp=Z,26nm,1.2s
PLDF La Plantade 154.11 4 PKP PKPdf 08 48 37.8 +6.6
PYM Petit Puy Mans 154.28 5 PKP PKPdf 08 48 38.0 +6.5
RJF Les Rejaudoux 154.55 8 *e*PKP1 PKPdf 08 48 38.4 +6.6
RJF *e*R
comp=Z,220nm,20.5s
LPL La Plagne 154.66 359 *e*PKP1 PKPdf 08 48 39.9 +7.9
LPG La Plagne 154.68 359 *e*PKP1 PKPdf 08 48 39.9 +7.9
LFF La Frestale 154.80 9 *e*PKP1 PKPdf 08 48 38.8 +6.6
LBL Lubilhac 154.81 5 PKP PKPdf 08 48 39.2 +7.0
BNI Bardonecchia 155.13 360 *e*PKPab PKPab 08 48 56.5 +0.2
ORIF Oris-en-Rattie 155.26 1 *e*PKP1 PKPdf 08 48 40.5 +7.7
ORIF *e*R
comp=Z,157nm,22.0s
VIVF Saint-Julien-l 155.28 3 *e*PKP1 PKPdf 08 48 40.6 +7.8
comp=Z,12nm,0.9s
EVO Evora 157.81 31 *e*PKIKP PKPdf 08 48 33.7 -2.7
comp=Z,36nm,1.4s
EVO *e*R
comp=Z,234nm,22.0s

NIED ***30*** *08:29:00,28.00N×130.30E,h23km,Mw3.7 Best double couple: M₀4.06×10¹⁴ NP1:φs45°,δ52°,λ86°. NP2:φs232°, δ38°,λ95°.*
IDC ***30*** *08:29:32.7±3.0,27.89N×130.62E,mb3.7/5,mb1 3.8/6, mb1mx3.7/21,mbtmp3.7/6,ML3.4/1,Error ellipse: s-maj=78.6km s-min=29.8km az=147.0*
JMA ***30*** *08:29:38.6±0.1,27.96N×130.28E,h40km±1km,M3.9*
JMA Felt I J1.
ISC 30 08:29:39.0±0.7,27.96N±0.04×130.24E±0.06,h43km±8km, n15,σ0°54/23,mb3.6/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.42**	**326**	P	**P**	**08 29 48.5**	**-0.4**
JZK				S	**S**	**08 29 55.8**	**0.0**
JAM	**Amami Oshima**	**0.72**	**309**	P	**P**	**08 29 52.7**	**-0.1**
JAM				S	**S**	**08 30 02.8**	**-0.1**
JTK	**Tokunoshima**	**1.16**	**262**	P	**P**	**08 29 59.4**	**+0.4**
JNN	**Nakanoshima**	**1.90**	**350**	P	**P**	**08 30 10.0**	**+0.4**
JNN				S	**S**	**08 30 33.1**	**+0.7**
JOW	**Kunigami**	**2.08**	**238**	Pn	**P**	**08 30 12.1**	**-0.1**
JOW				Sn	**S**	**08 30 37.1**	**+0.2**
JOW	**Kunigami**	**2.08**	**238**	P	**P**	**08 30 13.0**	**+0.8**
JOW				*e*S	**S**	**08 30 37.2**	**+0.2**
JIH	**Iheya**	**2.22**	**246**	P	**P**	**08 30 14.0**	**-0.2**
JIH				*e*S	**S**	**08 30 40.1**	**-0.5**
JMZ	**Minamidaito 2**	**2.31**	**158**	P	**P**	**08 30 15.6**	**+0.2**
JMZ				*e*S	**S**	**08 30 42.4**	**-0.3**
JKC	**Kuchinoerabu**	**2.49**	**359**	P	**P**	**08 30 18.5**	**+0.5**
JKC				*e*S	**S**	**08 30 46.3**	**-1.1**
MKAR	**Makanchi Array**	**41.76**	**310**	P	**P**	**08 37 25.0**	**-0.6**
	0.2nm,0.5s,mb3.0,baz=90,slow=8.6,SNR=2.6						
ILAR	**Eielson Array**	**62.06**	**29**	P	**P**	**08 39 53.6**	**-3.6**
	0.2nm,0.7s,mb3.3,baz=262,slow=6.4,SNR=2.8						
FINES	**FINESS Array B**	**72.24**	**331**	P	**P**	**08 41 01.6**	**+0.4**
	1.1nm,0.5s,mb4.0,baz=67,slow=5.8,SNR=16						
HFS	**Hagfors**	**78.12**	**333**	P	**P**	**08 41 34.9**	**+0.1**
	0.8nm,0.5s,mb3.9,baz=63,slow=3.2,SNR=6.1						
NB2	**NORSAR Subarra**	**78.55**	**334**	P	**P**	**08 41 37.4**	**+0.3**
	0.6nm,0.5s,mb3.8,baz=50,slow=5.8						
NOA	**NORSAR Array B**	**78.55**	**334**	P	**P**	**08 41 37.5**	**+0.4**
	0.7nm,0.5s,mb3.9,baz=51,slow=5.5,SNR=4.0						

CSEM ***30*** *08:49:25.4,12.23N×43.69E,h13km,ML3.1,After DHMR*
DHMR 30 08:49:25.4±1.4,12.24N×43.69E,h10km±307km,mb5.0, ML3.1,3C-1D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**1.73**	**9**⇑	*i*P	Pn	08 49 56.1	+0.3
UDYN				*i* S	Sn	08 50 20.9	+2.8
UDYN				AML	AML	08 50 31.8	
	comp=N,220nm,0.7s						
LBOS		**2.22**	**43**⇓	*i*P	Pn	08 50 03.7	+1.0
LBOS				*i* S	Sn	08 50 34.9	+4.6
DHBB	**Dhamar BB**	**2.41**	**16**⇑	*i*P	Pn	08 50 08.3	+2.9
DHBB				*i* S	Sn	08 50 39.5	+4.2
BDHA	**Al Bayda'**	**2.51**	**46**⇑	*i*P	Pn	08 50 08.9	+2.0
BDHA				*i* S	Sn	08 50 42.6	+4.9

BJI ***30*** *08:51:17.8,5.96S×155.13E,h57km,mB5.4,mb5.1,Ms4.7, Msz4.4*
HRVD ***30*** *08:51:20.5±0.2,6.46S×154.85E,h76km±2km,MW5.3/58, Centroid moment Tensor Solution. LP body waves: s58,c95;Mantle waves: s55,c92; Half duration: 1s1 Moment tensor: Scale 10¹⁷Nm; Mrr0.08±.03; Mθθ0.02±.03; Mφφ-0.09±.03; Mrθ-0.26±.03; Mθφ-1.01±.03; Mφr0.15±.03; Best double couple: M₀1.058×10¹⁷ NP1:φs360°,δ76°,λ9°. NP2:φs267°,δ81°,λ165°. Principal axes: T 1.061, Plg17°, Azm223°; N -.005, Plg73°, Azm56°; P -1.056, Plg4°, Azm314°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***30*** *08:51:20.5±0.2,6.27S×154.77E,mb4.9/26 Error ellipse: s-maj=6.4km s-min=5.2km az=120.0*
IDC ***30*** *08:51:21.2±2.3,6.27S×154.73E,h69km±21km,mb4.4/21, mb1 4.6/24,mb1mx4.6/25,mbtmp4.8/24,MS4.3/12, Ms1 4.3/12,ms1mx4.0/29,Error ellipse: s-maj=13.1km s-min=12.7km az=118.0*
ISC 30 08:51:18.9±0.2,6.29S±0.04×154.75E±0.04,h60km, h60km±1.2km:pP-P,n101,σ1s02/100,mb4.9/57,MS4.4/15, 2C-1D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.02**	**122**	P	**P**	**08 52 47.7**	**+0.4**
	44nm,0.3s,baz=231,slow=3.7,SNR=37						
HNR				S	**S**	**08 53 57.4**	**+1.6**
	41nm,0.3s,baz=144,slow=23,SNR=3.5						
HNR	**Honiara**	**6.02**	**122**	*e*P	**P**	**08 52 47.8**	**+0.5**
	2μm,1.0s						
PMG	**Port Moresby**	**8.13**	**247**	P	**P**	**08 53 18.7**	**+2.1**
	66nm,0.3s,baz=54,slow=8.3,SNR=78						
PMG				S	**S**	**08 54 52.4**	**+4.4**
	33nm,0.3s,baz=1.0,slow=19,SNR=13						
PMG				LR	LR	08 56 17.1	
	comp=Z,2μm,20.9s,baz=243,slow=36						
PMG	**Port Moresby**	**8.13**	**247**	*e*P	**P**	**08 53 18.2**	**+1.6**
	603nm,0.8s						
CTA	**Charters Tower**	**16.00**	**210**	P	**P**	**08 55 03.5**	**+1.8**
	1.1nm,0.3s,baz=32,slow=12,SNR=27						
CTA				LR	LR	09 00 15.0	
	comp=Z,689nm,21.1s,baz=38,slow=33						
CTAO	**Charters Tower**	**16.00**	**210**	*e*P	**P**	**08 55 03.7**	**+2.0**
	240nm,1.4s						
NOUC	**Port Laguerre**	**19.28**	**146**	*e*P	**P**	**08 55 40.7**	**-0.9**
DZM	**Mont Dzumac**	**19.34**	**145**	*e*P	**P**	**08 55 40.8**	**-1.3**
DZM	**Mont Dzumac**	**19.34**	**145**	P	**P**	**08 55 41.3**	**-0.9**
	4.1nm,0.3s,baz=342,slow=9.5,SNR=39						
DZM				LR	LR	09 01 41.6	
	comp=Z,1μm,18.6s,baz=158,slow=32						
DZM	**Mont Dzumac**	**19.34**	**145**	*e*P	**P**	**08 55 40.8**	**-1.3**
KWAJ	**Kwajalein Atol**	**19.73**	**41**	P	**P**	**08 55 49.2**	**+2.7**
	394nm,0.7s						
KAKA	**Kakadu**	**22.89**	**252**	*e*P	**P**	**08 56 19.5**	**+1.0**
	69nm,0.7s,mb5.2						
WRAB	**Tennant Creek**	**24.01**	**234**	*e*P	**P**	**08 56 30.1**	**+0.9**
	306nm,1.0s,mb5.7						
WB2	**Warramunga Arr**	**24.01**	**234**⇑	*i*P	**P**	**08 56 30.3**	**+1.1**
WB2				*e*S	**S**	**09 00 37.1**	**-2.0**
WRA	**Warramunga Arr**	**24.02**	**234**	P	**P**	**08 56 30.3**	**+0.9**
	240nm,1.1s,mb5.6,baz=57,slow=9.2,SNR=208						
WRA				S	**S**	**09 00 36.4**	**-2.9**
	1.1nm,0.8s,baz=61,slow=14,SNR=3.3						
WRA	**Warramunga Arr**	**24.02**	**234**	P	**P**	**08 56 30.3**	**+0.9**
WRA				S	**S**	**09 00 36.4**	**-2.9**
ASAR	**Alice Springs**	**26.46**	**227**	P	**P**	**08 56 52.2**	**-0.2**
	33nm,0.9s,mb4.9,baz=60,slow=8.8,SNR=61						
ASAR				ScP		09 03 50.1	
	1.3nm,0.7s,baz=58,slow=2.0,SNR=5.9						
ASAR				LR	LR	09 06 45.3	
	comp=Z,431nm,18.1s,MS4.0,baz=194,slow=35						
ASPA	**Alice Springs**	**26.46**	**227**⇓	*i*P	**P**	**08 56 46.1**	**-6.4**
STKA	**Stephens Creek**	**28.27**	**204**	*e*P	**P**	**08 57 07.6**	**-1.2**
	15nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**28.27**	**204**	P	**P**	**08 57 07.1**	**-1.7**
	16nm,0.7s,mb4.7,baz=24,slow=9.4,SNR=20						
STKA				LR	LR	09 07 41.2	
	comp=Z,894nm,21.6s,MS4.3,baz=24,slow=35						
FITZ	**Fitzroy Crossi**	**30.72**	**245**	P	**P**	**08 57 28.8**	**-1.9**
	126nm,1.1s,mb5.7,baz=84,slow=7.9,SNR=43						
FITZ				LR	LR	09 10 00.1	
	comp=Z,623nm,18.2s,MS4.3,baz=77,slow=36						
AFI	**Afiamalu**	**33.78**	**106**	LR	LR	09 09 40.7	
	comp=Z,117nm,21.9s,MS3.6,baz=5.5,slow=32						
FORT	**Forrest**	**34.93**	**222**	*e*P	**P**	**08 58 06.5**	**-0.6**
	2μm,1.3s						
MBWA	**Marble Bar**	**36.97**	**243**	*e*P	**P**	**08 58 24.0**	**-0.5**
	18nm,0.7s,mb5.0						
URZ	**Urewera**	**37.74**	**151**	P	**P**	**08 58 30.4**	**-0.3**
	16nm,0.8s,mb4.8,baz=2.8,slow=2.2,SNR=22						
URZ				LR	LR	09 11 26.6	
	comp=Z,394nm,18.4s,MS4.2,baz=318,slow=32						
RPZ	**Rata Peaks**	**39.94**	**162**	P	**P**	**08 58 49.2**	**+0.3**
	22nm,1.0s,mb4.8,baz=131,slow=9.5,SNR=6.1						
RPZ				LR	LR	09 12 57.1	
	comp=Z,948nm,18.4s,MS4.7,baz=323,slow=32						
KKM	**Kota Kinabalu**	**40.36**	**287**	*e*P	**P**	**08 58 53.5**	**+0.8**
JOW	**Kunigami**	**41.73**	**323**	P	**P**	**08 59 04.2**	**+0.3**
	13nm,0.6s,mb4.7,baz=147,slow=17,SNR=3.7						
KLBR	**Kellerberrin**	**42.75**	**229**	*e*P	**P**	**08 59 10.9**	**-1.4**
	586nm,0.7s						
NWAO	**Narrogin (SRO)**	**43.78**	**228**	P	**P**	**08 59 19.9**	**-0.7**
	6.1nm,0.6s,mb4.5,baz=56,slow=7.5,SNR=8.6						
NWAO	**Narrogin (SRO)**	**43.78**	**228**	*e*P	**P**	**08 59 20.1**	**-0.5**
	22nm,1.1s,mb4.8						
MUN	**Mundaring**	**44.10**	**230**	*e*P	**P**	**08 59 22.8**	**-0.4**
	205nm,1.2s,mb5.7						
KSM	**Kuching**	**45.03**	**278**	*e*P	**P**	**08 59 31.9**	**+1.1**
MJAR	**Matsushiro Arr**	**45.34**	**341**	P	**P**	**08 59 31.1**	**-1.9**
	0.9nm,0.4s,mb4.0,baz=165,slow=7.3,SNR=4.1						
KS15	**Wonju Array Si**	**50.21**	**332**	*e*P	**P**	**09 00 10.3**	**-0.7**
ASAJ	**Asahikawa**	**51.36**	**349**	LR	LR	09 21 10.4	
	comp=Z,322nm,18.2s,MS4.4,baz=344,slow=35						
WHN	**Wuhan**	**53.27**	**316**	⇑P	**P**	**09 00 34.0**	**-0.1**
PPT	**Papeete**	**55.44**	**107**	*e*LQ		09 14 48.4	
PPT				*e*LR	LR	09 16 58.6	
	295nm,25.8s						
PPT	**Papeete**	**55.44**	**107**	LR	LR	09 19 20.0	
	comp=Z,282nm,19.7s,MS4.3,baz=286,slow=30						
MDJ	**Mudanjiang**	**55.50**	**338**	*e*P	**P**	**09 00 49.5**	**-0.7**
	4.2nm,0.6s,mb4.7						
KKTK	**Khon Kaen**	**56.07**	**294**	P	**P**	**09 00 55.5**	**+0.9**
	370nm,0.6s						
TBI	**Tubuai**	**56.19**	**114**	*e*LQ		09 15 23.7	
TBI				*e*LR	LR	09 17 25.1	
	588nm,31.0s						
CN2	**Changchun**	**56.45**	**335**	*e*P	**P**	**09 00 56.0**	**-1.0**
CN2				AMB	AMB		

comp=Z,20nm,0.9s,mb5.2
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,400nm,17.0s,MS4.6
ENH Enshi 56.58 313 *e*P **P 09 00 57.6 -0.5**
comp=Z,3.8nm,0.5s,mb4.7
PMOR Pomariorio Ree 56.90 104 *e*P **P 09 00 59.2 -1.3**
comp=Z,32nm,1.3s,mb5.2
VAH Vaihoa 57.17 104 *e*P **P 09 01 01.0 -1.4**
comp=Z,15nm,1.0s,mb5.0
BJT Baijiatuau 58.19 326 P **P 09 01 08.3 -1.0**
comp=Z,9.0nm,0.9s,mb4.8
BJI Beiping 58.20 326 *e*P **P 09 01 08.0 -1.4**
BJI AMB AMB
comp=Z,8.0nm,1.1s,mb4.7
BJI LR LR
comp=N,291nm,18.4s,MS4.6
BJI LR LR
comp=E,318nm,19.3s,MS4.6
BJI LR LR
comp=Z,401nm,28.1s
NANT Nan 58.80 296 P **P 09 01 14.0 +0.2**
comp=Z,225nm,0.9s
XAN Xi'an 59.03 316 P **P 09 01 14.3 -0.9**
XAN AP pP 09 01 29.0 -2.2
XAN AMB AMB
comp=Z,18nm,0.8s,mb5.2
KMI Kunming 59.42 304 P **P 09 01 19.0 +1.0**
KMI AP pP 09 01 33.3 -0.7
KMI AMB AMB
comp=Z,36nm,1.2s,mb5.3
KMI AMB AMB
comp=Z,83nm,3.1s
KMI LR LR
comp=N,157nm,20.6s,MS4.4
KMI LR LR
comp=E,248nm,19.6s,MS4.4
KMI LR LR
comp=Z,354nm,22.1s,MS4.5
CM31 Chiang Mai Arr 60.26 295 *e*P **P 09 01 24.4 +0.6**
comp=Z,65nm,0.8s,mb5.7
CMAR Chiang Mai Arr 60.26 295 P **P 09 01 24.3 +0.4**
comp=Z,44nm,0.8s,mb5.5,baz=116,slow=5.1,SNR=168
FX1 Attu Island--F 60.99 13 *e*P **P 09 01 28.1 -0.3**
CD2 Chengdu 61.17 310 *e*P **P 09 01 29.5 -0.4**
HIA Hailar 63.18 335 *e*P **P 09 01 42.5 -0.6**
comp=Z,12nm,0.6s,mb5.2
LZH Lanzhou 63.64 315 *e*P **P 09 01 47.0 +0.7**
LZH AMB AMB
comp=Z,32nm,1.3s,mb5.2
LZH AMB AMB
comp=Z,168nm,5.3s
LZH LR LR
comp=E,321nm,17.0s
LZH LR LR
comp=Z,500nm,18.0s,MS4.7
GTA Gaotai 68.06 317 P **P 09 02 15.3 +0.9**
GTA AMB AMB
comp=Z,12nm,1.0s,mb4.9
GTA AMB AMB
comp=Z,93nm,9.5s
GTA LR LR
comp=N,99nm,22.8s,MS4.2
GTA LR LR
comp=E,132nm,20.1s,MS4.2
GTA LR LR
comp=Z,180nm,27.8s
SHL Shillong 68.73 300 *e*P **P 09 02 19.0 +0.2**
RKT Rikitea 69.44 112 *e*LR LR 09 23 01.9
comp=Z,313nm,26.0s
LSA Lhasa 70.67 304 P **P 09 02 32.1 +1.5**
comp=Z,5.1nm,0.4s,mb4.8
VNDA Vanda 71.29 178 P **P 09 02 33.4 -0.1**
comp=Z,0.8nm,0.7s,baz=348,slow=7.4,SNR=3.9
VNDA Vanda 71.29 178 *e*P **P 09 02 31.9 -1.6**
comp=Z,5.7nm,1.2s,mb4.4
JIRN Jiri 74.21 301 *e*P **P 09 02 53.1 +1.5**
comp=Z,3.2nm,0.2s,mb4.8
GUN Gumba 74.54 301 *e*P **P 09 02 54.0 +0.5**
comp=Z,53nm,0.7s,mb5.6
BILL Biiibino 74.60 4 *e*P **P 09 02 52.6 -0.4**
comp=Z,15nm,0.8s,mb5.0
PKI Pulchoki 74.85 301 *e*P **P 09 02 56.1 +0.8**
comp=Z,26nm,1.0s,mb5.1
KKN Kakani 75.02 301 *e*P **P 09 02 56.6 +0.3**
comp=Z,29nm,0.8s,mb5.3
PALK Pallekele 75.08 279 *e*P **P 09 02 57.2 +0.3**
DMN Daman 75.12 301 *e*P **P 09 02 57.3 +0.4**
comp=Z,40nm,0.7s,mb5.4
GKN Gorkha 75.63 301 *e*P **P 09 02 59.9 +0.2**
comp=Z,33nm,0.7s,mb5.3
KOLN Koldanda 76.45 300 *e*P **P 09 03 04.5 +0.1**
comp=Z,32nm,0.7s,mb5.3
WMQ Urumqi 78.14 317 P **P 09 03 14.0 +0.5**
WMQ PCP PcP 09 03 23.5 +0.3
WMQ PP PP 09 06 14.0 +1.6
WMQ AMB AMB
comp=Z,6.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,1μm,5.0s
WMQ LR LR
comp=N,136nm,26.5s,MS4.5
WMQ LR LR
comp=E,259nm,24.9s,MS4.5
WMQ LR LR
comp=Z,213nm,25.0s,MS4.4
SLKM Skilak Lake 79.20 24 *e*P **P 09 03 18.3 -0.6**
SLKM *e*pP pP 09 03 35.9 +0.3
IMA Indian Mountai 81.22 19 *e*P **P 09 03 30.2 +0.6**
comp=Z,68nm,1.4s,mb5.4
IMA *e* pP 09 03 47.6 +1.2
MCK McKinley 81.50 22 *e*P **P 09 03 30.2 -0.9**
comp=Z,4.5nm,0.9s,mb4.4
MCK *e*pP pP 09 03 47.6 -0.2
COLA College 82.52 21 *e*P **P 09 03 34.7 -1.6**
comp=Z,5.4nm,0.9s,mb4.6
COLA *e*pP pP 09 03 51.9 -1.2
MKAR Makanchi Array 82.72 319 P **P 09 03 37.8 +0.1**
comp=Z,9.3nm,0.7s,mb4.9,baz=103,slow=5.3,SNR=90
ILAR Eielson Array 82.81 22 P **P 09 03 36.8 -1.0**
comp=Z,1.8nm,0.8s,mb4.2,baz=258,slow=4.7,SNR=15
ZAL Zalesovo 83.47 326 P **P 09 03 40.9 -0.5**
comp=Z,4.6nm,0.6s,mb4.7,baz=348,slow=4.6,SNR=17
QSPA South Pole Qui 83.68 180 *e*P **P 09 03 40.9 -1.0**
comp=Z,10.0nm,1.0s,mb4.9
MAW Mawson 84.95 203 P **P 09 03 48.4 -0.1**
comp=Z,4.1nm,0.4s,mb4.9,baz=95,slow=5.5,SNR=22
MAW Mawson 84.95 203 *e*P **P 09 03 48.1 -0.3**
comp=Z,8.4nm,0.7s,mb5.0
AAK Ala-Archa 87.09 313 *e*P **P 09 03 58.5 -1.1**
comp=Z,1.6nm,0.8s,mb4.3
DLBC Dease Lake 87.67 31 *e*P **P 09 04 03.1 +1.2**
DLBC *e*pP pP 09 04 20.1 +1.2
YBH Yreka Blue Hor 88.60 48 P **P 09 04 08.2 +1.4**
comp=Z,0.7nm,0.7s,mb4.1,baz=311,slow=19,SNR=3.2
INK Inuvik 89.15 21 P **P 09 04 07.9 -0.9**
comp=Z,0.4nm,0.4s,mb4.1,baz=259,slow=6.8,SNR=6.2
INK Inuvik 89.15 21 *e*P **P 09 04 07.9 -0.9**
comp=Z,10nm,1.3s,mb5.0
INK *e*pP pP 09 04 26.1 +0.3
MWC Mount Wilson 91.18 56 *e*P **P 09 04 20.9 +1.8**
NVAR Mina Array Bea 91.48 52 P **P 09 04 21.2 +0.8**
comp=Z,3.3nm,0.9s,mb4.6,baz=254,slow=5.7,SNR=16
CHKZ Chkalovo 91.55 324 *e*P **P 09 04 17.2 -3.1**
comp=Z,4.0nm,0.8s,mb4.8
BVAR Borovoye Array 91.59 323 P **P 09 04 18.7 -1.8**
comp=Z,4.9nm,0.8s,mb4.9,baz=108,slow=4.7,SNR=28
MNV Mina 91.60 52 *e*P **P 09 04 22.0 +1.0**
comp=Z,3.2nm,0.9s,mb4.7
MNV *e*pP pP 09 04 38.4 +0.4
MNV *e*sP sP 09 04 50.3 +6.2
NEW Newport 93.40 42 P **P 09 04 28.8 -0.1**
comp=Z,1.0nm,0.5s,mb4.5,baz=207,slow=11,SNR=3.3
NEN Nelson 93.95 55 *e*P **P 09 04 32.9 +1.2**
ELK Elko 94.07 50 P **P 09 04 33.4 +1.3**
comp=Z,10nm,1.6s,mb5.0
ELK *e*pP pP 09 04 50.3 +1.0
YKW3 Yellowknife Ar 95.83 28 *e*P **P 09 04 39.5 -0.1**
YKW3 *e*pP pP 09 04 56.7 0.0
YKA Yellowknife Ar 95.83 28 P **P 09 04 39.3 -0.3**
comp=Z,2.5nm,1.1s,mb4.6,baz=266,slow=4.6,SNR=15
YKA Yellowknife Ar 95.83 28 P **P 09 04 39.3 -0.3**
EDM Edmonton 96.13 37 *e*P **P 09 04 42.4 +1.2**
PDAR Pinedale Array 98.41 48 P **P 09 04 51.6 -0.2**
comp=Z,0.6nm,1.0s,mb4.1,baz=293,slow=6.9,SNR=3.3
PDAR LR LR 09 44 36.0
comp=Z,184nm,19.3s,MS4.6,baz=277,slow=32

*IDC **30** 08:52:11.4±1.1, 16.95S×176.63E, mb4.2/6, mb1 4.5/7, mb1mx4.3/16, mbtmp4.3/7, ML3.4/1, MS4.3/4, Ms1 4.3/4, ms1mx3.9/25, Error ellipse: s-maj=40.4km s-min=23.2km az=139.0*
*NEIC **30** 08:52:14.4±0.5, 17.16S×176.57E, h10km, mb4.8/1, Error ellipse: s-maj=21.5km s-min=13.2km az=132.0*
ISC 30 08:52:16.2±5.3, 17.2S±0.2×176.6E±0.2, h45km±45km, n39, σ0.99/9, mb4.3/6, MS4.4/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.74**	**242**	Pn	**P**	**08 54 49.8**	**-0.5**
	0.3nm,0.3s,baz=71,slow=19,SNR=3.9						
HNR	**Honiara**	**17.95**	**293**	LR	LR	09 01 43.4	
	comp=Z,832nm,21.0s,baz=130,slow=32						
URZ	**Urewera**	**20.99**	**179**	P	**P**	**08 56 59.6**	**+1.5**
	6.8nm,0.8s,baz=12,slow=9.3,SNR=3.0						
PPT	**Papeete**	**32.24**	**96**	*e*LQ		09 05 46.7	
PPT				*e*LR	LR	09 06 55.6	
	690nm,28.5s						
PPT	**Papeete**	**32.24**	**96**	LR	LR	09 10 22.5	
	comp=Z,224nm,18.7s,MS3.9,baz=268,slow=34						
TBI	**Tubuai**	**32.35**	**107**	*e*LQ		09 05 47.2	
TBI				*e*LR	LR	09 07 07.7	
	652nm,32.2s						
STKA	**Stephens Creek**	**34.87**	**239**	P	**P**	**08 59 05.5**	**+0.2**
	12nm,0.8s,mb4.9,baz=62,slow=7.9,SNR=3.8						
STKA	**Stephens Creek**	**34.87**	**239**	*e*P	**P**	**08 59 05.3**	**-0.1**
WRA	**Warramunga Arr**	**40.09**	**259**	P	**P**	**08 59 49.3**	**0.0**
	2.2nm,0.6s,mb4.0,baz=92,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**40.42**	**254**	P	**P**	**08 59 52.4**	**+0.4**
	2.9nm,0.7s,mb4.1,baz=76,slow=8.5,SNR=4.5						
RKT	**Rikitea**	**45.67**	**106**	*e*LR	LR	09 13 17.4	
	368nm,29.2s						
SBA	**Scott Base**	**60.88**	**182**	*e*P	**P**	**09 02 24.7**	**-1.5**
	9.8nm,1.1s,mb4.8						
ILAR	**Eielson Array**	**86.34**	**15**	P	**P**	**09 04 55.5**	**+1.2**
	3.9nm,1.1s,mb4.5,baz=230,slow=6.0,SNR=2.9						
ILAR				LR	LR	09 38 11.2	
	comp=Z,415nm,18.8s,MS4.9,baz=258,slow=32						
TXAR	**Lajitas Array**	**89.67**	**59**	P	**P**	**09 05 09.9**	**-1.2**
	0.3nm,0.8s,mb3.7,baz=225,slow=6.4,SNR=4.1						
PLCA	**Paso Flores**	**95.22**	**135**	LR	LR	09 37 14.8	
	comp=Z,110nm,20.1s,MS4.3,baz=171,slow=28						
MOX	**Moxa**	**144.53**	**344**	*e*P	PKPbc	09 11 54.0	+6.6
GERES	**GERESS Array B**	**145.50**	**340**	PKPbc	PKPbc	09 11 48.9	-1.1
	1.9nm,0.9s,baz=45,slow=3.8,SNR=3.6						
BAIF	**Baives**	**146.65**	**351**	*e*PKP1	PKPbc	09 11 52.0	-0.7
	26nm,1.2s						
WLF	**Walferdange**	**146.71**	**349**	*e*P	PKPdf	09 11 52.3	+0.9
CDF	**Champ du Feu**	**147.67**	**347**	*e*PKP1	PKPdf	09 11 52.8	-0.2
	15nm,1.0s						
FLN	**La Foiniere**	**148.43**	**356**	*e*PKP1	PKPdf	09 11 58.9	+4.7
	36nm,1.2s						
LDF	**La Druitiere**	**148.57**	**356**	*e*PKP1	PKPdf	09 11 58.7	+4.3
ROSF	**Rostrenen**	**148.94**	**360**	*e*PKP1	PKPdf	09 12 00.4	+5.4
	63nm,1.5s						
SGMF	**Saint Gilles**	**149.02**	**359**	*e*PKP1	PKPdf	09 12 00.5	+5.3
	25nm,1.0s						
QUIF	**Quistinic**	**149.36**	**360**	*e*PKP1	PKPdf	09 12 02.2	+6.5
LOR	**Lormes**	**149.42**	**350**	*e*PKP1	PKPdf	09 11 59.4	+3.5
CABF	**La Chapelle**	**149.63**	**347**	*e*PKP1	PKPdf	09 11 59.5	+3.3
SSF	**Saint Saulge**	**149.68**	**351**	*e*PKP1	PKPdf	09 12 00.1	+3.8
	27nm,1.2s						
AVF	**Avril sur Loir**	**149.97**	**351**	*e*PKP1	PKPdf	09 12 00.3	+3.6
	15nm,1.2s						
SMF	**Signal de Mont**	**150.03**	**350**	*e*PKP1	PKPdf	09 12 00.3	+3.5
LPL	**La Plagne**	**150.52**	**345**	*e*PKP1	PKPdf	09 12 01.1	+3.5
MFF	**Saint Martin d**	**150.56**	**355**	*e*PKP1	PKPdf	09 12 03.5	+5.9
TCF	**Toulx Ste Croi**	**150.62**	**352**	*e*PKP1	PKPdf	09 12 03.2	+5.4
	16nm,1.1s						
ORIF	**Oris-en-Rattie**	**151.29**	**346**	*e*PKP1	PKPdf	09 12 02.8	+4.0
RJF	**Les Rejaudoux**	**151.68**	**353**	*e*PKP1	PKPdf	09 12 06.3	+6.9
SMRF	**Simiane la Rot**	**152.25**	**346**	*e*PKP1	PKPdf	09 12 04.8	+4.6
MTLF	**Montolieu**	**153.51**	**351**	*e*PKP1	PKPdf	09 12 08.8	+6.8
SJPF	**Ste Jean**	**154.10**	**356**	*e*PKP1	PKPdf	09 12 11.7	+8.9
ETSF	**Etsaut**	**154.27**	**355**	*e*PKP1	PKPdf	09 12 12.2	+9.1

*NEIC **30** 08:57:36.4, 35.57S×73.39W, h40km, MD4.1(GUC), After GUC.*
GUC 30 08:57:36.4±0.8, 35.57S×73.39W, h40km±6km, MD4.1, ML4.0, 4C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	**Chanco**	**0.72**	**103**	⇑*i*P	P	08 57 49.9	-0.2
CNCO				*i* S	S	08 58 00.7	+0.7
CNCO				AMP		08 58 03.6	
	comp=E,7μm,0.3s						
CCHI	**Chillan**	**1.48**	**134**	⇑*i*P	P	08 58 01.4	+0.4
CCHI				AMP		08 58 30.1	
	comp=N,2μm,0.6s						
NICH	**Los Niches**	**1.86**	**73**	⇓*i*P	P	08 58 07.2	+0.8
SFDO	**San Fernando**	**2.17**	**65**	*e*P	P	08 58 11.1	+0.2
LNV	**Longovilo**	**2.29**	**46**	*e*P	P	08 58 12.4	-0.2
CACH	**El Canelo**	**2.72**	**58**	*e*P	P	08 58 19.6	+0.9
CHCH	**Chadas Angostu**	**2.79**	**55**	*e*P	P	08 58 20.3	+0.7
TACH	**Talagante**	**2.79**	**47**	*e*P	P	08 58 19.3	-0.3
RCDM	**Rinconada Maip**	**2.98**	**46**	*e*P	P	08 58 21.9	-0.5
RCDM				*i* S	S	08 58 56.5	-0.7
RCDM				AMP		08 59 23.9	
	comp=N,183nm,0.5s						
ANTU	**Antumapu**	**3.03**	**49**	AMP		08 59 21.1	
	comp=E,647nm,0.6s						
PCH	**Pirque**	**3.07**	**51**	*e*P	P	08 58 24.1	+0.5
LMEL	**Las Melosas**	**3.14**	**58**	AMP		08 59 22.6	
	comp=N,268nm,0.5s						
DSCH	**Colegio Aleman**	**3.18**	**48**	*e*P	P	08 58 25.4	+0.1
DSCH				AMP		08 59 27.0	
	comp=N,858nm,0.4s						
CLCH	**Cerro Calan**	**3.21**	**48**	⇑*i*P	P	08 58 25.6	+0.1
CLCH				AMP		08 59 31.8	
	comp=N,703nm,0.8s						
ROCH	**El Roble**	**3.26**	**38**	*e*P	P	08 58 27.0	+0.7
FCH	**Farellones**	**3.40**	**50**	⇓⇓*i*P	P	08 58 28.7	+0.3
FCH	**Farellones**	**3.40**	**50**	⇑*i*P	P	08 58 28.5	+0.1
FCH				⇓⇓*i*P		08 58 28.7	
FCH				*i* S	S	08 59 08.3	+0.3
FCH				AMP		08 59 35.0	
	comp=N,221nm,0.8s						
PACH	**Papudo**	**3.44**	**29**	*e*P	P	08 58 28.1	-0.8
JACH	**Jahuel**	**3.70**	**40**	*e*P	P	08 58 32.3	-0.3

WEL 30 09:06:39.6±0.4, 38.62S×175.75E, h153km±3km, ML3.5/13, 2C-1D, Error ellipse: s-maj=3.0km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGZ	**Ngauruhoe**	**0.57**	**192**	PN	P	09 07 01.9	-0.2
CNZ	**Chateau**	**0.60**	**195**	PN	P	09 07 02.0	-0.3
TUVZ	**Tukino**	**0.66**	**186**	PN	P	09 07 02.4	-0.1
WNVZ	**Wahianoa**	**0.72**	**189**	PN	P	09 07 02.7	-0.1
MOVZ	**Moawhango**	**0.79**	**180**	PN	P	09 07 02.8	-0.5
MOVZ				*e*SN	S	09 07 20.5	-1.0
BKZ	**Black Stump Fm**	**0.80**	**134**	⇑PN	P	09 07 03.4	0.0
BKZ				SN	S	09 07 20.9	-0.8
URZ	**Urewera**	**1.13**	**72**	⇓PN	P	09 07 05.6	-0.4
URZ				SN	S	09 07 25.0	-1.3
WAZ	**Wanganui**	**1.28**	**207**	PN	P	09 07 06.7	-0.8
TSZ	**Takapari Road**	**1.45**	**174**	⇑PN	P	09 07 08.5	-0.7
TSZ				SN	S	09 07 31.5	-0.5
KNZ	**Kokohu**	**1.56**	**106**	PN	P	09 07 10.4	+0.1
KNZ				SN	S	09 07 32.8	-1.2
PWZ	**Pawanui**	**1.65**	**149**	SN	S	09 07 34.2	-1.7
MRZ	**Mangatainoka R**	**2.05**	**184**	PN	P	09 07 13.8	-2.0
MRZ				SN	S	09 07 39.3	-4.3
PUZ	**Puketiti**	**2.05**	**75**	PN	P	09 07 15.2	-0.5
PUZ				SN	S	09 07 42.1	-1.5
BFZ	**Birch Farm**	**2.10**	**170**	PN	P	09 07 14.8	-1.7
MXZ	**Matakaoa Point**	**2.28**	**63**	PN	P	09 07 18.2	-0.5
KIW	**Kapiti Island**	**2.33**	**196**	PN	P	09 07 16.6	-2.7
CAW	**Cannon Point**	**2.54**	**192**	PN	P	09 07 19.0	-3.0
MTW	**Mount Morrison**	**2.55**	**184**	PN	P	09 07 18.9	-3.1
SNZO	**South Karori**	**2.81**	**196**	PN	P	09 07 21.7	-3.7
MSWZ	**Moikau Station**	**2.82**	**188**	PN	P	09 07 22.0	-3.5
TUWZ	**Tuamarina**	**3.13**	**206**	PN	P	09 07 25.6	-3.9
NNZ	**Nelson**	**3.17**	**214**	*e*PN	P	09 07 25.6	-4.4
QRZ	**Quartz Range**	**3.32**	**227**	PN	P	09 07 26.8	-5.1
THZ	**Tophouse**	**3.82**	**214**	*e*PN	P	09 07 33.7	-4.8
KHZ	**Kahutara**	**4.15**	**203**	PN	P	09 07 38.3	-4.5

*IDC **30** 09:08:13.0±0.7, 3.39S×146.19E, mb4.3/10, mb1 4.5/12, mb1mx4.4/16, mbtmp4.4/12, ML3.9/2, MS4.3/15, Ms1 4.3/15, ms1mx4.2/23, Error ellipse: s-maj=22.7km s-min=14.4km az=85.0*
*BJI **30** 09:08:16.4, 3.57S×146.69E, h74km, mB5.3, mb4.8, Ms4.7, Msz4.4*
*NEIC **30** 09:08:20.0±2.4, 3.39S×145.89E, h44km±23km, mb4.5/13, Error ellipse: s-maj=14.1km s-min=11.3km az=138.0*
ISC 30 09:08:15.8±2.6, 3.40S±0.05×145.92E±0.08, h26km±18km, n47, σ1.22/41, mb4.5/22, MS4.3/15, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.10**	**168**	Pn	**Pn**	**09 09 43.8**	**-2.9**
	5.0nm,0.3s,baz=0.5,slow=5.7,SNR=16						
PMG				Sn	**Sn**	**09 10 55.9**	**-0.5**
	1.4nm,0.3s,baz=287,slow=16,SNR=3.5						
PMG				LR	LR	09 11 52.8	
	comp=Z,1μm,18.6s,baz=359,slow=36						
PMG	**Port Moresby**	**6.10**	**168**	*e*P	**Pn**	**09 09 44.4**	**-2.2**
	112nm,0.8s						
HNR	**Honiara**	**15.17**	**114**	Pn	**P**	**09 11 45.3**	**-5.0**
	3.3nm,0.3s,baz=281,slow=18,SNR=2.6						
HNR	**Honiara**	**15.17**	**114**	*e*P	**P**	**09 11 51.0**	**+0.7**
KAKA	**Kakadu**	**16.23**	**234**	*e*P	**P**	**09 12 04.9**	**+0.9**
	66nm,0.5s						
CTA	**Charters Tower**	**16.59**	**179**	Pn	**P**	**09 12 11.1**	**+2.5**
	0.4nm,0.3s,baz=357,slow=13,SNR=7.9						
CTA				LR	LR	09 17 40.1	
	comp=Z,413nm,20.1s,baz=3.2,slow=34						
CTA	**Charters Tower**	**16.59**	**179**	Pn	**P**	**09 12 11.1**	**+2.5**
CTA				LR	LR	09 17 40.1	
CTAO	**Charters Tower**	**16.59**	**179**	*e*P	**P**	**09 12 11.4**	**+2.9**
	22nm,1.0s						
WRAB	**Tennant Creek**	**19.94**	**214**	*e*P	**P**	**09 12 48.8**	**-0.2**
	177nm,0.9s						
WB2	**Warramunga Arr**	**19.95**	**214**	*e*P	**P**	**09 12 48.1**	**-1.0**
WRA	**Warramunga Arr**	**19.95**	**214**	P	**P**	**09 12 48.5**	**-0.6**
	119nm,1.0s,baz=38,slow=12,SNR=135						
ASAR	**Alice Springs**	**23.26**	**209**	P	**P**	**09 13 23.6**	**+1.2**
	42nm,0.9s,mb4.9,baz=45,slow=7.7,SNR=299						
ASAR				LR	LR	09 23 42.9	
	comp=Z,328nm,18.1s,MS3.8,baz=33,slow=40						
ASPA	**Alice Springs**	**23.26**	**209**	*e*P	**P**	**09 13 23.6**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.66**	**232**	P	**P**	**09 13 36.8**	**+0.7**
	91nm,0.7s,mb5.4,baz=58,slow=9.8,SNR=80						
FITZ				LR	LR	09 24 00.1	
	comp=Z,1μm,18.8s,MS4.3,baz=54,slow=38						
DZM	**Mont Dzumac**	**27.23**	**135**	P	**P**	**09 13 58.8**	**-1.1**
	7.9nm,0.7s,mb4.3,baz=11,slow=14,SNR=5.8						
DZM				LR	LR	09 23 12.5	
	comp=Z,724nm,19.9s,MS4.2,baz=12,slow=33						
STKA	**Stephens Creek**	**28.62**	**188**	*e*P	**P**	**09 14 16.0**	**+3.6**
	11nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**28.62**	**188**	P	**P**	**09 14 13.0**	**+0.6**
	12nm,0.8s,mb4.7,baz=354,slow=9.0,SNR=12						
MBWA	**Marble Bar**	**30.99**	**233**	P	**P**	**09 14 32.6**	**-1.0**
	5.3nm,0.8s,mb4.4						
FORT	**Forrest**	**32.04**	**210**	*e*P	**P**	**09 14 41.9**	**-0.8**
	490nm,0.6s						
NWAO	**Narrogin (SRO)**	**39.80**	**219**	LR	LR	09 33 26.8	
	comp=Z,685nm,19.0s,MS4.5,baz=47,slow=38						
MJAR	**Matsushiro Arr**	**40.38**	**350**	P	**P**	**09 15 52.9**	**-0.5**
	0.5nm,0.3s,mb3.8,baz=90,slow=11,SNR=3.5						
MJAR				LR	LR	09 32 35.4	
	comp=Z,145nm,18.1s,MS3.9,baz=100,slow=36						
URZ	**Urewera**	**44.88**	**145**	LR	LR	09 32 25.1	
	comp=Z,446nm,18.6s,MS4.4,baz=263,slow=32						
CMAR	**Chiang Mai Arr**	**51.10**	**297**	P	**P**	**09 17 20.7**	**+1.9**
	1.0nm,0.4s,mb4.1,baz=123,slow=6.6,SNR=9.1						
CMAR	**Chiang Mai Arr**	**51.10**	**297**	P	**P**	**09 17 20.7**	**+1.9**
HHC	**Hu-ho-hao-te**	**54.07**	**328**	*e*P	**P**	**09 17 39.0**	**-1.6**
HHC				PCP	PcP	09 18 45.5	+0.2
HHC				PP	PP	09 19 40.3	-3.4
HHC				PCS		09 22 43.5	
HHC				S	**S**	**09 25 13.0**	**-0.6**
HHC				SCS	ScS	09 27 23.3	-1.4
HHC				SS	SS	09 28 54.0	-0.8
HHC				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,163nm,4.8s						
HHC				LR	LR		
	comp=N,192nm,23.8s,MS4.5						
HHC				LR	LR		
	comp=E,496nm,21.4s,MS4.5						
HHC				LR	LR		
	comp=Z,343nm,19.2s,MS4.4						
HIA	**Hailar**	**57.15**	**340**	*e*P	**P**	**09 18 01.2**	**-1.7**
	comp=Z,7.3nm,0.9s,mb4.7						
GTA	**Gaotai**	**60.07**	**320**	P	**P**	**09 18 24.0**	**+0.8**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.6						
PPT	**Papeete**	**64.68**	**108**	*e*S	**S**	**09 27 31.5**	**+0.3**
PPT				*e*LR	LR	09 38 04.3	
	comp=Z,232nm,31.5s						
PPT	**Papeete**	**64.68**	**108**	LR	LR	09 44 02.8	
	comp=Z,125nm,18.4s,MS4.1,baz=291,slow=33						
WMQ	**Urumqi**	**70.13**	**319**	P	**P**	**09 19 27.3**	**-0.9**
WMQ				PCP	PcP	09 19 49.8	-0.4
WMQ				PP	PP	09 22 03.8	-1.4
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,155nm,4.4s						
WMQ				LR	LR		
	comp=N,173nm,25.4s,MS4.2						
WMQ				LR	LR		
	comp=E,87nm,25.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,214nm,25.2s,MS4.3						
VNDA	**Vanda**	**74.56**	**176**	P	**P**	**09 19 51.5**	**-2.3**
	comp=Z,0.9nm,0.9s,mb3.7,baz=343,slow=4.8,SNR=3.8						
VNDA				LR	LR	09 50 31.2	
	comp=Z,171nm,18.2s,MS4.4,baz=342,slow=34						
VNDA	**Vanda**	**74.56**	**176**	*e*P	**P**	**09 19 52.9**	**-0.9**
	comp=Z,1.3nm,0.8s,mb3.9						
MKAR	**Makanchi Array**	**74.82**	**320**	P	**P**	**09 19 56.0**	**+0.1**
	comp=Z,4.6nm,1.1s,mb4.3,baz=108,slow=7.7,SNR=17						
MKAR				LR	LR	09 51 29.0	
	comp=Z,140nm,20.6s,MS4.2,baz=266,slow=35						
SBA	**Scott Base**	**75.22**	**176**	P	**P**	**09 19 60.0**	**+2.3**
	comp=Z,1.1nm,0.9s,mb3.8						
ZAL	**Zalesovo**	**76.26**	**328**	LR	LR	09 53 06.1	
	comp=Z,259nm,20.9s,MS4.5,baz=354,slow=35						
IMA	**Indian Mountai**	**81.52**	**21**	*e*P	**P**	**09 20 33.5**	**+1.3**
	comp=Z,39nm,1.4s,mb5.1						
DIV	**Divide**	**82.67**	**27**	*e*P	**P**	**09 20 40.6**	**+2.3**
	comp=Z,8.8nm,0.7s,mb4.9						
ILAR	**Eielson Array**	**83.53**	**23**	P	**P**	**09 20 42.7**	**+0.2**
	comp=Z,3.1nm,0.9s,mb4.5,baz=255,slow=4.9,SNR=9.9						
BVAR	**Borovoye Array**	**84.05**	**324**	P	**P**	**09 20 45.4**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.2,baz=101,slow=7.6,SNR=8.9						
**CHKZ

mb1mx3.8/18, mbtmp3.7/7, ML3.8/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/23, Error ellipse: s-maj=30.5km s-min=16.9km az=94.0

ISC 30 09:26:40.5±1.5, 35.58S±0.05×73.61W±0.07, h1km±10km, n28, σ0°78/32, mb3.7/4, MS4.1/2, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCO	**Chanco**	**0.89**	**101**	⇑*iP*	**Pb**	**09 26 59.1**	**+0.6**
CNCO				*i* S	**Sg**	**09 27 10.6**	**+0.4**
CNCO				AMP		09 27 12.9	
	comp=E,11μm,0.6s						
CCHI	**Chillan**	**1.61**	**130**	⇑*iP*	**Pn**	**09 27 10.7**	**+0.5**
CCHI				*i* S	**Sb**	**09 27 30.9**	**-0.6**
CCHI				AMP		09 27 37.7	
	comp=N,2μm,0.6s						
NICH	**Los Niches**	**2.03**	**74**	⇑*iP*	**Pn**	**09 27 16.1**	**-0.1**
NICH				*eS*	**Sn**	**09 27 42.6**	**0.0**
SFDO	**San Fernando**	**2.34**	**67**	⇓*iP*	**Pn**	**09 27 20.0**	**-0.6**
LNV	**Longovilo**	**2.43**	**49**	*eP*	**Pn**	**09 27 21.8**	**-0.1**
CACH	**El Canelo**	**2.87**	**60**	*eP*	**Pn**	**09 27 28.9**	**+0.7**
CICH	**Cipreses**	**2.91**	**65**	*eP*	**Pn**	**09 27 29.4**	**+0.7**
TACH	**Talagante**	**2.92**	**50**	*eP*	**Pn**	**09 27 28.8**	**-0.2**
TACH				*eS*	**Sn**	**09 28 05.4**	**+0.2**
CHCH	**Chadas Angostu**	**2.94**	**57**	*eP*	**Pn**	**09 27 29.4**	**+0.3**
CHCH				*eS*	**Sn**	**09 28 05.5**	**-0.1**
RCDM	**Rinconada Maip**	**3.11**	**49**	⇓*iP*	**Pn**	**09 27 30.8**	**-0.9**
RCDM				AMP		09 28 35.1	
	comp=E,290nm,0.6s						
PCH	**Pirque**	**3.21**	**54**	*eP*	**Pn**	**09 27 33.0**	**-0.1**
LMEL	**Las Melosas**	**3.29**	**59**	*eP*	**Pn**	**09 27 34.2**	**0.0**
LMEL				AMP		09 28 42.7	
	comp=N,370nm,0.8s						
DSCH	**Colegio Aleman**	**3.32**	**50**	*eP*	**Pn**	**09 27 34.6**	**0.0**
DSCH				AMP		09 28 36.3	
	comp=N,1μm,0.3s						
CLCH	**Cerro Calan**	**3.34**	**50**	⇑*iP*	**Pn**	**09 27 35.1**	**+0.2**
CLCH				*eS*	**Sn**	**09 28 16.9**	**+1.0**
CLCH				AMP		09 28 41.2	
	comp=N,958nm,0.8s						
CLCH				AMP		09 28 51.7	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**3.54**	**52**	*eP*	**Pn**	**09 27 37.5**	**-0.3**
FCH				AMP		09 28 44.3	
	comp=N,272nm,0.8s						
JACH	**Jahuel**	**3.82**	**42**	*eP*	**Pn**	**09 27 41.5**	**-0.2**
PLCA	**Paso Flores**	**5.69**	**156**	Pn	**Pn**	**09 28 09.2**	**+1.1**
	comp=N,0.8nm,0.3s,baz=321,slow=12,SNR=13						
PLCA				Lg		09 29 40.0	
	comp=N,1.0nm,0.3s,baz=259,slow=16,SNR=4.9						
PLCA	**Paso Flores**	**5.69**	**156**	Pn	**Pn**	**09 28 09.2**	**+1.1**
PLCA				Lg		09 29 40.0	
CFAA	**Coronel Fontan**	**5.98**	**50**	Pn	**Pn**	**09 28 10.8**	**-1.5**
	comp=N,0.5nm,0.3s,baz=220,slow=12,SNR=100						
CFAA				Lg		09 29 39.8	
	comp=N,0.1nm,0.3s,baz=90,slow=22,SNR=4.0						
TRQA	**Tornquist**	**9.65**	**108**	*eP*	**P**	**09 29 02.1**	**-1.4**
	comp=N,5.8nm,0.7s						
LVC	**Limon Verde**	**13.55**	**19**	LR	LR	09 34 46.7	
	comp=N,72nm,20.6s,baz=33,slow=36						
LPAZ	**La Paz**	**19.82**	**16**	P	**P**	**09 31 17.7**	**+2.2**
	comp=N,0.1nm,0.3s,baz=198,slow=7.1,SNR=7.9						
LPAZ	**La Paz**	**19.82**	**16**	P	**P**	**09 31 17.7**	**+2.2**
SIV	**San Ignacio**	**22.49**	**33**	P	**P**	**09 31 42.6**	**-0.2**
	comp=N,2.8nm,0.8s,mb3.8,baz=218,slow=13,SNR=11						
BDFB	**Brasilia**	**30.29**	**56**	P	**P**	**09 32 53.5**	**-2.0**
	comp=N,1.3nm,0.5s,mb4.0,baz=225,slow=7.1,SNR=3.0						
SNAA	**Sanae**	**50.63**	**157**	P	**P**	**09 35 42.9**	**+0.3**
	comp=N,1.5nm,1.0s,mb3.9,baz=318,slow=15,SNR=3.1						
TXAR	**Lajitas Array**	**70.50**	**332**	P	**P**	**09 38 05.2**	**+6.4**
	comp=N,0.1nm,0.5s,mb3.0,baz=146,slow=9.8,SNR=2.9						
TXAR				LR	LR	10 05 27.1	
	comp=N,86nm,19.3s,MS4.0,baz=270,slow=33						
BOSA	**Boshof**	**80.48**	**118**	LR	LR	10 08 42.5	
	comp=N,125nm,20.1s,MS4.3,baz=158,slow=32						

IDC 30 09:58:28.1±2.1, 1.47N×126.28E, mb3.7/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, Error ellipse: s-maj=177.2km s-min=25.7km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.70**	**160**	P	P	10 03 30.9	-1.9
	2.1nm,0.6s,baz=338,slow=11,SNR=29						
ASAR	**Alice Springs**	**26.06**	**164**	P	P	10 04 03.9	-1.3
	0.7nm,0.6s,baz=343,slow=11,SNR=19						
MKAR	**Makanchi Array**	**59.16**	**326**	P	P	10 08 30.8	-2.3
	0.3nm,0.5s,baz=126,slow=8.8,SNR=4.8						

*IDC **30** 10:03:11.7±2.5, 0.78N×123.87E, h240km±25km, mb3.5/10, mb1 3.7/11, mb1mx3.6/19, mbtmp4.1/11, Error ellipse: s-maj=32.3km s-min=10.1km az=66.0*

*NEIC **30** 10:03:14.1±3.4, 0.77N×123.81E, h263km±36km, mb4.4/4, Error ellipse: s-maj=25.3km s-min=10.2km az=63.0*

ISC 30 10:03:11.2±3.9, 0.8N±0.1×123.8E±0.2, h250km±41km, n17, σ0°77/17, mb3.9/12, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.92**	**148**	*eP*	**P**	**10 06 43.6**	**-0.1**
	35nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.84**	**175**	P	**P**	**10 07 13.4**	**-1.3**
	1.1nm,0.3s,baz=354,slow=6.7,SNR=17						
WRAB	**Tennant Creek**	**23.04**	**154**	*eP*	**P**	**10 07 56.5**	**+0.5**
	33nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**23.04**	**154**	P	**P**	**10 07 56.2**	**+0.2**
	18nm,0.6s,mb4.8,baz=332,slow=11,SNR=217						
WB2	**Warramunga Arr**	**23.05**	**154**	⇑*iP*	**P**	**10 07 56.6**	**+0.5**
ASAR	**Alice Springs**	**26.21**	**159**	P	**P**	**10 08 25.4**	**+0.2**
	1.2nm,0.5s,mb3.8,baz=344,slow=12,SNR=18						
ASAR				PcP	PcP	10 11 45.6	+0.2
	0.4nm,0.5s,baz=351,slow=1.9,SNR=4.8						
ASAR				ScP		10 15 01.3	
	1.0nm,0.6s,baz=340,slow=2.9,SNR=13						
CMAR	**Chiang Mai Arr**	**30.05**	**307**	P	**P**	**10 09 00.5**	**+0.9**
	1.0nm,0.6s,mb3.6,baz=138,slow=8.1,SNR=7.8						
STKA	**Stephens Creek**	**36.60**	**154**	*eP*	**P**	**10 09 55.9**	**+0.6**
	2.6nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**36.60**	**154**	P	**P**	**10 09 53.5**	**-1.9**
	3.2nm,0.5s,mb4.1,baz=323,slow=11,SNR=12						
MJAR	**Matsushiro Arr**	**38.02**	**19**	P	**P**	**10 10 07.5**	**+0.4**
	0.9nm,0.5s,mb3.5,baz=193,slow=9.0,SNR=4.6						
MKAR	**Makanchi Array**	**58.37**	**328**	P	**P**	**10 12 42.2**	**-0.3**
	2.9nm,0.4s,mb4.3,baz=123,slow=8.7,SNR=42						
AAK	**Ala-Archa**	**60.63**	**320**	*eP*	**P**	**10 12 59.3**	**+1.3**
	1.8nm,0.8s,mb3.8						
ZAL	**Zalesovo**	**61.94**	**335**	P	**P**	**10 13 05.7**	**-0.8**
	1.1nm,0.3s,mb3.9,baz=42,slow=2.7,SNR=4.0						
BVAR	**Borovoye Array**	**68.23**	**329**	P	**P**	**10 13 46.0**	**-0.6**
	1.5nm,0.5s,mb3.8,baz=143,slow=7.4,SNR=15						
CHKZ	**Chkalovo**	**68.44**	**329**	*eP*	**P**	**10 13 46.9**	**-1.0**
VNDA	**Vanda**	**80.90**	**172**	P	**P**	**10 14 59.2**	**+0.8**
	0.2nm,0.5s,mb3.0,baz=330,slow=5.3,SNR=4.0						
ILAR	**Eielson Array**	**89.02**	**25**	P	**P**	**10 15 38.4**	**-0.2**
	0.2nm,0.5s,mb3.2,baz=262,slow=4.6,SNR=4.7						

*IDC **30** 10:10:23.0±1.5, 0.04N×97.31E, mb3.8/7, mb1 4.1/8, mb1mx3.8/20, mbtmp3.9/8, ML4.4/1, MS3.1/1, Ms1 3.3/1, ms1mx2.7/21, Error ellipse: s-maj=75.4km s-min=17.8km az=53.0*

*NEIC **30** 10:10:28.3±0.8, 0.22N×97.56E, h30km, mb4.3/1, Error ellipse: s-maj=23.2km s-min=10.8km az=62.0*

ISC 30 10:10:26.9±0.9, 0.2N±0.1×97.6E±0.2, h33km, n14, σ0°79/12, mb3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.89**	**31**	*eP*	**P**	**10 11 53.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**18.16**	**4**	P	**P**	**10 14 38.6**	**+0.3**
	0.5nm,0.3s,baz=204,slow=10.0,SNR=5.7						
CMAR				LR	LR	10 22 01.8	
	comp=Z,63nm,19.4s,baz=170,slow=38						
SHL	**Shillong**	**25.77**	**348**	*eP*	**P**	**10 15 58.0**	**+1.3**
FITZ	**Fitzroy Crossi**	**33.07**	**125**	P	**P**	**10 17 03.3**	**+1.4**
	5.6nm,0.8s,mb4.5,baz=286,slow=15,SNR=4.6						
WRA	**Warramunga Arr**	**41.22**	**121**	P	**P**	**10 18 09.3**	**-1.2**
	1.2nm,0.8s,mb3.6,baz=303,slow=9.0,SNR=7.9						
WRAB	**Tennant Creek**	**41.22**	**121**	P	**P**	**10 18 10.7**	**+0.1**
ASAR	**Alice Springs**	**42.52**	**127**	P	**P**	**10 18 21.2**	**0.0**
	0.7nm,0.8s,mb3.4,baz=299,slow=8.3,SNR=5.6						
MKAR	**Makanchi Array**	**48.26**	**346**	P	**P**	**10 19 07.2**	**+0.5**
	1.0nm,0.6s,mb4.0,baz=157,slow=7.7,SNR=14						
ZAL	**Zalesovo**	**54.55**	**351**	P	**P**	**10 19 54.2**	**+0.2**
	1.5nm,0.5s,mb4.3,baz=199,slow=1.4,SNR=4.4						
BVAR	**Borovoye Array**	**57.28**	**341**	P	**P**	**10 20 12.5**	**-1.2**
	0.2nm,0.4s,mb3.5,baz=166,slow=5.9,SNR=2.7						
CHKZ	**Chkalovo**	**57.75**	**341**	*eP*	**P**	**10 20 16.3**	**-0.7**
	3.5nm,1.1s,mb4.3						
GERES	**GERESS Array B**	**85.78**	**319**	P	**P**	**10 23 03.9**	**-0.2**
	0.1nm,0.3s,mb3.5,baz=72,slow=3.1,SNR=3.3						
TXAR	**Lajitas Array**	**144.28**	**33**	PKP	PKPdf	10 30 03.2	+3.0
	0.3nm,0.7s,baz=315,slow=1.3,SNR=2.4						
TXAR	**Lajitas Array**	**144.28**	**33**	PKP	PKPdf	10 30 03.2	+3.0

*NIED **30** 10:33:00, 43.40N×146.80E, h44km, Mw4.1 Best double couple: M0:1.34×10^15 NP1:φs74°, δ63°, λ124°. NP2:φs198°, δ42°, λ42°.*

*MOS **30** 10:33:43.2±1.5, 43.37N×146.95E, h33km, mb4.6/2, Error ellipse: s-maj=15.5km s-min=10.5km az=83.0*

*IDC **30** 10:33:46.2±1.2, 43.29N×146.99E, h51km±6km, mb3.7/12, mb1 4.0/15, mb1mx3.8/24, mbtmp4.0/15, MS2.9/1, Ms1 2.9/1, ms1mx2.1/31, Error ellipse: s-maj=35.1km s-min=10.0km az=1.0*

*NEIC **30** 10:33:46.7±0.6, 43.44N×146.82E, mb4.8/2, Error ellipse: s-maj=17.3km s-min=10.0km az=142.0*

*JMA **30** 10:33:46.2±0.2, 43.36N×146.78E, h40km±2km, M4.3*

ISC 30 10:33:44.8±0.9, 43.41N±0.06×146.90E±0.07, h47km±8km, h46km±3.6km: pP-P, n41, σ1°00/52, mb4.1/13, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.84**	**267**	P	**P**	**10 34 00.7**	**+0.3**
NEM2				*eS*	**S**	**10 34 10.9**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**0.98**	**310**	⇓*iPN*	**P**	**10 34 02.1**	**-0.2**
YUK				*i* S	**S**	**10 34 14.9**	**-0.4**
YUK				pmax	pmax		
	comp=N,570nm,0.3s						
YUK				pmax	pmax		
	comp=E,760nm,0.3s						
YUK				pmax	pmax		
	comp=Z,4μm,0.3s						
YUK				pmax	pmax		
	comp=N,3μm,0.9s						
YUK				pmax	pmax		
	comp=Z,6μm,0.9s						
YUK				smax			
	comp=N,10μm,0.5s						
YUK				smax			
	comp=E,5μm,0.5s						
YUK				smax			
	comp=E,8μm,1.0s						
JRA	**Rausu**	**1.39**	**293**	P	**P**	**10 34 08.9**	**+0.6**
JRA				*eS*	**S**	**10 34 25.9**	**+0.2**
JNK	**Nakash**	**1.60**	**277**	P	**P**	**10 34 11.4**	**+0.3**
JNK				*eS*	**S**	**10 34 29.9**	**-0.8**
JAK	**Akkeshi**	**1.66**	**256**	P	**P**	**10 34 12.2**	**+0.2**
JAK				*eS*	**S**	**10 34 30.8**	**-1.5**
KUR	**Kuril'sk**	**1.95**	**21**	*ePN*	**P**	**10 34 15.0**	**-1.1**
KUR				*eS*	**S**	**10 34 37.5**	**-2.0**
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,380nm,0.6s						
KUR				smax			
	comp=E,470nm,0.6s						
JTKR	**Abashiri--Toko**	**2.24**	**286**	P	**P**	**10 34 21.6**	**+1.4**
JTKR				*eS*	**S**	**10 34 48.5**	**+1.7**
JAR	**Ashorobuto**	**2.29**	**268**	P	**P**	**10 34 21.5**	**+0.6**
JAR				*eS*	**S**	**10 34 47.8**	**-0.1**
JOB	**Onbets**	**2.30**	**258**	P	**P**	**10 34 21.6**	**+0.5**
JOB				*eS*	**S**	**10 34 48.2**	**0.0**
JMP	**Maruseppu**	**2.63**	**284**	P	**P**	**10 34 27.2**	**+1.3**
JCH	**Churui**	**2.71**	**254**	P	**P**	**10 34 27.2**	**+0.2**
JCH				*eS*	**S**	**10 34 57.5**	**-1.2**
ASAJ	**Asahikawa**	**3.19**	**284**	PN	**P**	**10 34 35.6**	**+1.8**
ASAJ				S	**S**	**10 35 15.1**	**+4.1**
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,186nm,20.7s						
ASAJ	**Asahikawa**	**3.19**	**284**	P	**P**	**10 34 35.5**	**+1.7**
	comp=Z,6.5nm,0.3s,baz=99,slow=8.7,SNR=22						
ASAJ				S	**S**	**10 35 15.1**	**+4.0**
	comp=Z,5.1nm,0.3s,baz=240,slow=20,SNR=3.4						
ASAJ				LR	LR	10 35 59.8	
	comp=Z,186nm,20.7s,baz=291,slow=41						
YSS	**Yuzh-Sakhalins**	**4.60**	**322**	⇑*iPN*	**P**	**10 34 54.0**	**+0.4**
YSS	**Yuzh-Sakhalins**	**4.60**	**322**	*eP*	**P**	**10 34 54.4**	**+0.8**
MAJO	**Matsushiro**	**9.56**	**227**	*ePN*	**P**	**10 36 02.6**	**0.0**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAJO	**Matsushiro**	**9.56**	**227**	*eP*	**P**	**10 36 02.6**	**0.0**
	comp=Z,4.9nm,0.6s						
MJAR	**Matsushiro Arr**	**9.56**	**227**	P	**P**	**10 36 01.1**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=29,slow=15,SNR=4.7						
FX1	**Attu Island--F**	**19.82**	**52**	P	**P**	**10 38 14.4**	**+0.4**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1	**Attu Island--F**	**19.82**	**52**	P	**P**	**10 38 14.4**	**+0.4**
	comp=Z,3.2nm,0.3s,baz=294,slow=18,SNR=6.9						
FX1	**Attu Island--F**	**19.82**	**52**	*eP*	**P**	**10 38 15.4**	**+1.4**
IMA	**Indian Mountai**	**39.07**	**34**	*eP*	**P**	**10 41 09.6**	**+1.2**
	comp=Z,72nm,0.7s,mb5.5						
ILAR	**Eielson Array**	**41.87**	**36**	P	**P**	**10 41 31.8**	**+0.4**
	comp=Z,1.3nm,0.8s,mb3.6,baz=259,slow=5.6,SNR=24						
MKAR	**Makanchi Array**	**44.58**	**298**	P	**P**	**10 41 53.6**	**-0.1**
	comp=Z,1.0nm,0.5s,mb3.9,baz=83,slow=9.3,SNR=14						
INK	**Inuvik**	**46.79**	**30**	P	**P**	**10 42 11.5**	**+0.6**
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	**Inuvik**	**46.79**	**30**	P	**P**	**10 42 11.4**	**+0.6**
	comp=Z,3.4nm,0.5s,mb4.5,baz=285,slow=6.3,SNR=71						
INK	**Inuvik**	**46.79**	**30**	*eP*	**P**	**10 42 11.1**	**+0.2**
YKA	**Yellowknife Ar**	**56.19**	**34**	P	**P**	**10 43 21.7**	**0.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=300,slow=6.9,SNR=2.4						
YKA	**Yellowknife Ar**	**56.19**	**34**	P	**P**	**10 43 21.7**	**0.0**
ARCES	**ARCESS Array B**	**59.51**	**340**	P	**P**	**10 43 43.9**	**-1.0**
	comp=Z,1.7nm,0.9s,mb4.1,baz=51,slow=7.8,SNR=5.6						
FINES	**FINESS Array B**	**65.10**	**333**	P	**P**	**10 44 21.0**	**-1.1**
	comp=Z,1.9nm,0.6s,mb4.3,baz=45,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**67.80**	**193**	pP	pP	10 44 52.4	-1.1
	comp=Z,0.4nm,0.7s,baz=4.7,slow=6.3,SNR=3.4						
NVAR	**Mina Array Bea**	**67.92**	**58**	P	**P**	**10 44 41.6**	**+1.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=306,slow=5.4,SNR=8.0						
NVAR				pP	pP	10 44 54.3	+0.4
	comp=Z,0.5nm,0.6s,baz=297,slow=5.3,SNR=4.7						
NB2	**NORSAR Subarra**	**69.86**	**339**	P	**P**	**10 44 51.2**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.1,baz=32,slow=6.2						
NB2	**NORSAR Subarra**	**69.86**	**339**	P	**P**	**10 44 51.2**	**-0.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**69.86**	**339**	P	**P**	**10 44 51.3**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=34,slow=6.1,SNR=11						
PDAR	**Pinedale Array**	**70.27**	**50**	P	**P**	**10 44 52.6**	**-2.1**
	comp=Z,0.2nm,0.5s,mb3.4,baz=270,slow=1.8,SNR=2.9						
PDAR				pP	pP	10 45 08.0	-0.3
	comp=Z,0.5nm,0.6s,baz=308,slow=1.3,SNR=4.8						
AKASG	**Malin Array Be**	**71.75**	**324**	P	**P**	**10 45 01.7**	**-1.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=39,slow=6.1,SNR=4.4						
CLL	**Collm**	**77.53**	**332**	P	**P**	**10 45 37.2**	**+0.5**
SCHQ	**Scheefferville**	**78.00**	**19**	P	**P**	**10 45 39.3**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=262,slow=7.1,SNR=3.2						
TXAR	**Lajitas Array**	**82.99**	**56**	P	**P**	**10 46 07.8**	**+1.6**
	comp=Z,0.5nm,0.5s,mb3.8,baz=285,slow=3.5,SNR=9.3						
TXAR				pP	pP	10 46 20.3	+0.2
	comp=Z,0.5nm,0.6s,baz=304,slow=4.1,SNR=4.2						

*BJI **30** 10:54:35.9, 20.30N×109.30W, h10km, mB5.3, Ms4.8, Msz4.2*

*IDC **30** 10:54:38.8±0.8, 20.54N×109.33W, mb4.3/11, mb1 4.5/14, mb1mx4.3/22, mbtmp4.3/14, ML3.6/2, MS4.2/25, Ms1 4.2/25, ms1mx4.2/27, Error ellipse: s-maj=27.9km s-min=14.5km az=62.0*

*NEIC **30** 10:54:39.0±0.5, 20.28N×109.26W, h10km, mb4.6/46, Error ellipse: s-maj=8.6km s-min=6.2km az=218.0*

ISC 30 10:54:38.3±0.6, 20.38N±0.06×109.25W±0.06, h10km, n126, σ1°07/108, mb4.4/43, MS4.3/24, 1D, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**3.83**	**345**	*eP*	**Pn**	**10 55 34.0**	**-4.7**
LPIG				*i* S	**Sn**	**10 56 17.2**	**-7.1**
LTX	**Lajitas**	**10.25**	**28**	*eP*	**P**	**10 57 06.8**	**-1.8**
	48nm,1.2s						
TXAR	**Lajitas Array**	**10.25**	**28**	Pn	**P**	**10 57 07.0**	**-1.6**
	0.2nm,0.3s,baz=202,slow=15,SNR=67						
TXAR				LR	LR	11 00 49.5	
	comp=Z,2μm,19.9s,baz=215,slow=36						
MNTX	**Cornudas Mount**	**11.79**	**16**	*eP*	**P**	**10 57 28.6**	**-1.1**
	24nm,1.4s						
GDL2	**Guadalupe Moun**	**12.56**	**19**	*eP*	**P**	**10 57 40.6**	**+0.7**
JCT	**Junction City**	**13.18**	**38**	*eP*	**P**	**10 57 48.3**	**+0.1**
	23nm,1.0s						
CPRX	**Cap Rock**	**13.48**	**20**	*eP*	**P**	**10 57 53.4**	**+1.3**
LENM	**Lemitar**	**13.88**	**8**	*eP*	**P**	**10 57 59.0**	**+1.6**
BNM	**Barren Site**	**13.91**	**9**	*eP*	**P**	**10 57 59.6**	**+1.7**
LPM	**Los Pinos Moun**	**14.07**	**9**	*eP*	**P**	**10 58 01.7**	**+1.7**
PFO	**Pinyon Flat Ob**	**14.65**	**336**	*eP*	**P**	**10 58 07.4**	**-0.2**
	20nm,1.4s						
ANMO	**Albuquerque**	**14.72**	**9**	Pn	**P**	**10 58 08.1**	**-0.4**
	baz=189,slow=11,SNR=20						
ANMO				LR	LR	11 03 30.6	
	comp=Z,906nm,18.8s,baz=66,slow=36						
ANMO	**Albuquerque**	**14.72**	**9**	*eP*	**P**	**10 58 10.4**	**+1.9**
	16nm,1.2s						
WUAZ	**Wupatki**	**15.20**	**353**	*eP*	**P**	**10 58 15.8**	**+1.1**
	31nm,1.0s						
MWC	**Mount Wilson**	**15.85**	**332**	*eP*	**P**	**10 58 22.9**	**-0.2**
AMTX	**Amarillo**	**15.92**	**23**	*eP*	**P**	**10 58 23.4**	**-0.7**
	43nm,1.2s						
NEN	**Nelson**	**15.99**	**343**	*eP*	**P**	**10 58 25.5**	**+0.6**
SDCO	**Great Sand Dun**	**17.61**	**10**	*eP*	**P**	**10 58 46.7**	**+1.3**
	32nm,1.1s						
ARUT	**Antelope Range**	**17.73**	**349**	*eP*	**P**	**10 58 46.9**	**0.0**
MVU	**Marysvale**	**18.24**	**353**	*eP*	**P**	**10 58 54.3**	**+1.0**
	16nm,1.3s						
MSU	**Marysvale**	**18.25**	**353**	*eP*	**P**	**10 58 54.8**	**+1.5**
SRU	**San Rafael**	**18.70**	**357**	*eP*	**P**	**10 58 59.3**	**+0.4**
MTUM	**Tungsten Hills**	**18.76**	**336**	*eP*	**P**	**10 59 00.0**	**+0.4**
TMUT	**Trail Mountain**	**18.93**	**355**	*eP*	**P**	**10 59 01.9**	**+0.2**
TPH	**Tonopah**	**18.94**	**340**	*eP*	**P**	**10 59 02.4**	**+0.6**
	18nm,1.3s						
LRV	**Little Rabbit**	**19.02**	**330**	*eP*	**P**	**10 59 03.7**	**+1.0**
OMM	**Old Mammoth Mi**	**19.16**	**336**	*eP*	**P**	**10 59 04.1**	**-0.3**
MNV	**Mina**	**19.57**	**339**	*eP*	**P**	**10 59 08.8**	**-0.4**
	72nm,1.6s						
NVAR	**Mina Array Bea**	**19.62**	**338**	P	**P**	**10 59 09.0**	**-0.7**
	0.1nm,0.3s,baz=157,slow=13,SNR=23						
NVAR				LR	LR	11 06 48.8	
	comp=Z,962nm,18.4s,baz=145,slow=38						
NLU	**North Lily Min**	**19.66**	**354**	*eP*	**P**	**10 59 09.1**	**-1.1**
MPU	**Maple Canyon**	**19.68**	**355**	*eP*	**P**	**10 59 10.4**	**0.0**
DUG	**Dugway**	**19.99**	**352**	*eP*	**P**	**10 59 13.3**	**-0.5**
	132nm,2.0s						
DAU	**Daniels Canyon**	**20.04**	**356**	*eP*	**P**	**10 59 14.6**	**+0.2**
CMB	**Columbia Colle**	**20.07**	**334**	*eP*	**P**	**10 59 12.2**	**-2.5**
	12nm,1.4s						
CBKS	**Cedar Bluff**	**20.12**	**22**	*eP*	**P**	**10 59 14.7**	**-0.6**
	52nm,1.3s						
JLU	**Jordanelle**	**20.25**	**355**	*eP*	**P**	**10 59 17.3**	**+0.8**
CTU	**Camp Tracy**	**20.36**	**355**	*eP*	**P**	**10 59 17.5**	**-0.1**
UALR	**University of**	**20.70**	**43**	*eP*	**P**	**10 59 20.1**	**-1.1**
	29nm,1.3s						
BGU	**Big Grassy Mou**	**20.73**	**352**	*eP*	**P**	**10 59 21.1**	**-0.4**
TCUT	**Toone Canyon**	**20.75**	**355**	*eP*	**P**	**10 59 22.0**	**+0.2**
WCN	**Washoe City**	**20.92**	**337**	*eP*	**P**	**10 59 24.1**	**+0.6**
	41nm,1.2s						
ELK	**Elko**	**20.93**	**347**	*eP*	**P**	**10 59 23.2**	**-0.4**
	18nm,1.1s						
PHWY	**Pilot Hill**	**21.10**	**8**	*eP*	**P**	**10 59 25.2**	**-0.1**
BMN	**Battle Mountai**	**21.12**	**343**	*eP*	**P**	**10 59 25.7**	**+0.2**
	73nm,2.1s,mb4.6						
HWUT	**Hardware Ranch**	**21.25**	**355**	*eP*	**P**	**10 59 26.0**	**-0.8**
	24nm,1.0s,mb4.5						
RWWY	**Rawlins**	**21.31**	**4**	*eP*	**P**	**10 59 26.8**	**-0.6**
	19nm,1.1s,mb4.3						
HVU	**Hansel Valley**	**21.54**	**353**	*eP*	**P**	**10 59 27.5**	**-2.2**
KSU1	**Kansas State U**	**21.60**	**28**	*eP*	**P**	**10 59 29.5**	**-0.9**
BW06	**Boulder Array**	**22.32**	**359**	*eP*	**P**	**10 59 38.1**	**+0.5**
	13nm,1.0s,

YKW3	**Yellowknife Ar**	**42.31**	356	*e*P	**P**	**11 02 31.6**	**-1.9**
SCHQ	**Schefferville**	**46.91**	32	P	**P**	**11 03 08.6**	**-2.0**
	5.0nm,0.9s,mb4.4,baz=259,slow=6.7,SNR=4.9						
SCHQ				LR	LR	11 23 38.0	
	comp=Z,163nm,21.1s,MS4.0,baz=238,slow=37						
DAWY	**Dawson**	**48.11**	343	*e*P	**P**	**11 03 19.9**	**0.0**
RKT	**Rikitea**	**49.99**	211	*e*LR	LR	11 17 43.5	
	486nm,26.2s,baz=30						
INK	**Inuvik**	**50.26**	349	*e*P	**P**	**11 03 35.3**	**-1.1**
	7.3nm,1.0s,mb4.7						
SPU	**Mount Spurr**	**50.48**	335	*e*P	**P**	**11 03 37.9**	**-0.3**
MCK	**McKinley**	**50.86**	339	*e*P	**P**	**11 03 40.5**	**-0.6**
	3.3nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**50.87**	340	P	**P**	**11 03 40.0**	**-1.1**
	3.0nm,0.9s,mb4.2,baz=153,slow=6.5,SNR=40						
ILAR				LR	LR	11 23 45.4	
	comp=Z,126nm,20.3s,MS3.9,baz=161,slow=34						
SVW2	**Sparrevohn**	**51.88**	333	*e*P	**P**	**11 03 47.8**	**-1.0**
IMA	**Indian Mountai**	**53.89**	339	*e*P	**P**	**11 04 01.9**	**-1.7**
	29nm,1.4s,mb5.0						
LPAZ	**La Paz**	**54.39**	129	P	**P**	**11 04 10.6**	**+2.7**
	1.0nm,0.7s,mb3.9,baz=348,slow=7.8,SNR=4.8						
LPAZ				LR	LR	11 24 04.0	
	comp=Z,206nm,21.8s,MS4.2,baz=152,slow=32						
LPAZ	**La Paz**	**54.39**	129	*e*P	**P**	**11 04 05.8**	**-2.1**
	10.0nm,1.7s,mb4.5						
LPAZ				LR	LR	11 24 04.0	
PPT	**Papeete**	**54.66**	229	*e*S	**S**	**11 11 54.5**	**+6.3**
PPT				*e*LR	LR	11 19 45.4	
	543nm,26.8s,baz=35						
PPT	**Papeete**	**54.66**	229	LR	LR	11 21 32.7	
	comp=Z,169nm,18.7s,MS4.1,baz=55,slow=30						
TBI	**Tubuai**	**58.53**	224	*e*LR	LR	11 21 37.9	
	497nm,34.3s						
SUMG	**Summit**	**64.97**	18	*e*P	**P**	**11 05 19.6**	**-0.4**
	5.1nm,0.9s,mb4.5						
CPUP	**Villa Florida**	**68.49**	131	P	**P**	**11 05 43.3**	**+0.1**
	0.7nm,0.4s,mb4.0,baz=290,slow=14,SNR=4.5						
CPUP				LR	LR	11 30 39.8	
	comp=Z,159nm,21.2s,MS4.2,baz=332,slow=32						
BDFB	**Brasilia**	**69.98**	116	P	**P**	**11 05 54.6**	**+2.1**
	1.0nm,0.3s,mb4.2,baz=130,slow=12,SNR=2.9						
BDFB				LR	LR	11 37 43.6	
	comp=Z,144nm,21.8s,MS4.2,baz=297,slow=37						
PLCA	**Paso Flores**	**70.64**	150	LR	LR	11 30 46.8	
	comp=Z,126nm,18.5s,MS4.2,baz=116,slow=31						
BORG	**Borgarnes**	**70.89**	27	LR	LR	11 35 44.7	
	comp=Z,390nm,18.2s,MS4.7,baz=214,slow=35						
JMIC	**Jan Mayen**	**74.35**	20	LR	LR	11 40 27.1	
	comp=Z,118nm,18.1s,MS4.2,baz=73,slow=37						
ARCES	**ARCESS Array B**	**84.74**	15	LR	LR	11 44 58.5	
	comp=Z,179nm,19.4s,MS4.5,baz=321,slow=36						
NOA	**NORSAR Array B**	**85.93**	25	LR	LR	11 45 22.0	
	comp=Z,155nm,18.2s,MS4.4,baz=305,slow=36						
HFS	**Hagfors**	**87.46**	25	LR	LR	11 45 29.3	
	comp=Z,181nm,19.6s,MS4.5,baz=298,slow=35						
FINES	**FINESS Array B**	**90.97**	20	LR	LR	11 48 44.9	
	comp=Z,124nm,18.9s,MS4.4,baz=336,slow=36						
GERES	**GERESS Array B**	**94.43**	34	LR	LR	11 49 59.1	
	comp=Z,110nm,18.7s,MS4.3,baz=139,slow=35						
MJAR	**Matsushiro Arr**	**94.85**	312	P	**P**	**11 08 02.6**	**+0.7**
	1.4nm,0.9s,mb4.4,baz=45,slow=3.5,SNR=4.7						
MJAR				LR	LR	11 47 31.6	
	comp=Z,99nm,19.5s,MS4.3,baz=50,slow=34						
JHJ	**Hachijo jima 2**	**95.37**	308	LR	LR	11 44 57.8	
	comp=Z,185nm,19.8s,MS4.6,baz=113,slow=32						
MDJ	**Mudanjiang**	**95.99**	322	P	**P**	**11 08 02.8**	**-4.2**
CBIJ	**Chichi jima**	**96.29**	302	LR	LR	11 42 02.3	
	comp=Z,154nm,21.6s,MS4.5,baz=107,slow=30						
NJ2	**Nanjing**	**110.44**	318	*e*PDIF	Pdif	11 09 08.8	-2.8
NJ2				PP	PP	11 13 50.0	-1.2
NJ2				S		11 21 20.0	
NJ2				SS	SS	11 29 13.0	-3.0
NJ2				PP	PP		
	comp=Z,160nm,7.8s						
NJ2				LR	LR		
	comp=N,240nm,28.3s,MS4.8						
NJ2				LR	LR		
	comp=E,220nm,27.9s,MS4.8						
NJ2				LR	LR		
	comp=Z,220nm,29.0s,MS4.6						
WMQ	**Urumqi**	**114.25**	347	⇓PKP	PKPdf	11 13 17.0	-4.2
WMQ				XPKP		11 13 24.8	
WMQ				PP	PP	11 14 18.5	-0.1
WMQ				PP	PP		
	comp=Z,36nm,4.3s						
WMQ				LR	LR		
	comp=N,105nm,25.0s,MS4.5						
WMQ				LR	LR		
	comp=E,130nm,26.6s,MS4.5						
WMQ				LR	LR		
	comp=Z,83nm,25.4s,MS4.2						
WRA	**Warramunga Arr**	**120.67**	258	PKP	PKPdf	11 13 32.4	-1.9
	comp=Z,1.1nm,1.0s,baz=353,slow=1.0,SNR=7.1						
ASAR	**Alice Springs**	**121.78**	254	PKP	PKPdf	11 13 34.1	-2.2
	comp=Z,0.3nm,0.7s,baz=76,slow=2.5,SNR=5.8						
CMAR	**Chiang Mai Arr**	**132.53**	323	PKP	PKPdf	11 13 57.3	+0.1
	comp=Z,0.6nm,0.4s,baz=72,slow=1.7,SNR=3.8						

*IDC **30** 11:11:48.4±6.6,34.39N×24.58E,mb3.6/1,mb1 3.5/4, mb1mx3.3/24,mbtmp3.4/4,ML3.7/2,Error ellipse: s-maj=103.7km s-min=44.8km az=28.0*
*HLW **30** 11:11:50.4,35.00N×24.69E,h30km,Mb3.5*
*CSEM **30** 11:11:54.7±0.3,34.49N×24.78E,h40km,MD3.6,Error ellipse: s-maj=9.8km s-min=5.0km az=76.0*
*ATH **30** 11:11:56.1,34.94N×24.81E,h4km±3km,MD3.6/7*
*NEIC **30** 11:11:56.1,34.94N×24.81E,h4km,MD3.6(ATH),After ATH.*

ISC 30 11:11:55.2±0.5,34.56N±0.04×24.88E±0.09,h58km±12km, n25,σ1°04/26,mb3.4/1,2C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.71**	**293**	*e*PG		**P**	**11 12 07.5**	**-2.0**
XRY	**Khrisi**	**0.74**	**65**	*e*PG		**P**	**11 12 10.0**	**+0.2**
VAM	**Vamos**	**1.01**	**327**	*e*PB		**P**	**11 12 09.5**	**-4.0**
THR6	**Thira Island,**	**1.84**	**13**	*e*P		**P**	**11 12 28.0**	**+3.0**
THR1	**Thera Island**	**1.86**	**14**	*e*P		**P**	**11 12 25.8**	**+0.4**
SANT	**Santorini**	**1.86**	**14**	*e*P		**P**	**11 12 25.1**	**-0.3**
SANT	**Santorini**	**1.86**	**14**	*e*P		**P**	**11 12 25.1**	**-0.3**
THR5	**Thira Island,**	**1.89**	**11**	*e*P		**P**	**11 12 26.7**	**+0.9**
THR3	**Thira Island,**	**1.89**	**13**	*e*P		**P**	**11 12 25.2**	**-0.6**
THR4	**Thira Island,**	**1.94**	**12**	*e*P		**P**	**11 12 27.4**	**+1.0**
KARP	**Karpathos**	**2.11**	**62**	*e*PN		**P**	**11 12 33.3**	**+4.4**
KYTH	**Kithira**	**2.28**	**319**	*e*PG		**P**	**11 12 32.7**	**+1.4**
APE	**Apeiranthos**	**2.56**	**12**	*e*PN		**P**	**11 12 35.5**	**+0.3**
VLI	**Veliai**	**2.67**	**324**	*e*Pb		**P**	**11 12 36.4**	**-0.5**
VLI	**Veliai**	**2.67**	**324**	*e*PB		**P**	**11 12 36.8**	**-0.1**
SLUM		**3.08**	**175**	⇑P		**P**	**11 12 42.9**	**+0.3**
SLUM				S		**S**	**11 13 20.1**	**+1.8**
DABA	**Dabaa**	**4.55**	**140**	⇓P		**P**	**11 13 02.5**	**-0.8**
AGG	**Agios Georgios**	**4.90**	**336**	*e*P		**P**	**11 13 08.2**	**0.0**
HBRG	**Burj al 'Arab**	**5.77**	**132**	⇑P		**P**	**11 13 19.6**	**-0.6**
GLL	**Jalalah**	**7.63**	**129**	P		**P**	**11 13 45.1**	**-1.0**
HFRF	**Wahat Farafira**	**7.96**	**157**	P		**P**	**11 13 50.2**	**-0.4**
BRTR	**Keskin Array B**	**8.68**	**51**	Pn		**P**	**11 13 59.6**	**-1.0**
	0.0nm,0.3s,baz=234,slow=16,SNR=2.1							
AKASG	**Malin Array Be**	**16.44**	**10**	Pn		**P**	**11 15 41.8**	**-1.4**
	0.3nm,0.3s,baz=200,slow=11,SNR=4.1							
GERES	**GERESS Array B**	**16.51**	**333**	Pn		**P**	**11 15 43.6**	**-0.5**
	0.1nm,0.3s,baz=153,slow=12,SNR=4.9							
MKAR	**Makanchi Array**	**44.30**	**56**	P		**P**	**11 20 02.1**	**+1.3**
	0.3nm,0.4s,mb3.4,baz=263,slow=8.0,SNR=5.0							

IDC 30 11:13:32.7±3.9,11.20S×165.81E,mb3.7/3,mb1 4.0/3, mb1mx3.6/15,mbtmp3.7/3,Error ellipse: s-maj=191.4km s-min=31.6km az=139.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.49**	**250**	P		P	11 19 56.5	-2.2
	1.3nm,0.6s,baz=82,slow=8.9,SNR=10							
ASAR	**Alice Springs**	**32.78**	**244**	P		P	11 20 07.9	-2.0
	0.4nm,0.5s,baz=64,slow=10,SNR=7.3							
ILAR	**Eielson Array**	**83.64**	**18**	P		P	11 26 02.8	-1.3
	0.3nm,0.7s,baz=228,slow=5.9,SNR=8.0							

*CSEM **30** 11:15:39.4,11.91N×43.69E,h14km,ML3.5,After DHMR*
DHMR 30 11:15:39.4±1.1,11.91N×43.69E,h14km±13km,ML3.5, 2C-4D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.38**	**18**	⇑*i*P		Pn	11 16 04.8	+0.5
TRBA				*i* S		Sb	11 16 24.4	+2.7
TRBA				AML		AML	11 16 26.3	
	comp=E,990nm,0.5s							
UDYN	**Al 'Udayn**	**2.06**	**8**	⇓*i*P		Pn	11 16 14.6	+0.5
UDYN				*i* S		Sn	11 16 43.7	+4.0
UDYN				AML		AML	11 16 53.6	
	comp=N,856nm,0.5s							
UDYN	**Al 'Udayn**	**2.06**	**8**	⇓*i*P		Pn	11 16 14.6	+0.5
UDYN				*i* S		Sn	11 16 43.7	+4.0
	comp=N,428nm,0.5s							
LBOS		**2.47**	**38**	⇑*i*P		Pn	11 16 22.1	+2.1
LBOS				*i* S		Sn	11 16 54.8	+4.7
DHBB	**Dhamar BB**	**2.73**	**14**	⇓*i*P		Pn	11 16 26.0	+2.3
DHBB				*i* S		Sn	11 17 02.0	+5.3
BDHA	**Al Bayda'**	**2.75**	**42**	⇓*i*P		Pn	11 16 26.6	+2.6
BDHA				*i* S		Sn	11 17 02.7	+5.5
BDHA				AML		AML	11 17 25.0	
	comp=Z,88nm,0.6s							

IDC 30 11:22:22.6±1.7,9.78S×124.91E,mb3.7/1,mb1 4.0/4, mb1mx3.8/15,mbtmp3.8/4,ML3.7/3,Error ellipse: s-maj=97.1km s-min=27.0km az=65.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.30**	**175**	Pn		P	11 24 22.2	-4.9
	4.8nm,0.3s,baz=15,slow=10.0,SNR=60							
FITZ				Sn		Sn	11 25 50.0	-13
	4.8nm,0.3s,baz=150,slow=9.2,SNR=7.2							
WRA	**Warramunga Arr**	**13.60**	**139**	Pn		P	11 25 38.6	-0.8
	0.2nm,0.3s,baz=318,slow=14,SNR=15							
WRA				Sn		S	11 28 07.3	-5.2
	0.3nm,0.3s,baz=314,slow=24,SNR=6.6							
ASAR	**Alice Springs**	**16.26**	**149**	Pn		P	11 26 13.7	-0.5
	0.3nm,0.3s,baz=324,slow=12,SNR=36							
ASAR				Sn		S	11 29 08.9	-6.3
	0.1nm,0.3s,baz=319,slow=21,SNR=5.6							
MKAR	**Makanchi Array**	**67.93**	**330**	P		P	11 33 23.3	-2.1
	0.6nm,0.7s,baz=130,slow=7.0,SNR=6.5							

IDC 30 11:31:18.0±2.4,0.87N×97.19E,mb3.8/5,mb1 4.0/6, mb1mx3.7/19,mbtmp3.8/6,ML4.1/1,MS3.2/2,Ms1 3.3/2, ms1mx2.9/21,Error ellipse: s-maj=107.8km s-min=20.8km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.56**	**6**	P		P	11 35 25.4	-0.6
	0.2nm,0.3s,baz=194,slow=11,SNR=16							
CMAR				LR		LR	11 43 10.1	
	comp=Z,46nm,18.2s,baz=205,slow=40							
WRA	**Warramunga Arr**	**41.87**	**122**	P		P	11 39 10.1	-1.8
	0.3nm,0.4s,baz=304,slow=9.0,SNR=8.2							
ASAR	**Alice Springs**	**43.21**	**127**	P		P	11 39 21.2	-1.6
	0.2nm,0.4s,baz=296,slow=7.6,SNR=5.2							
ASAR				LR		LR	12 00 43.1	
	comp=Z,46nm,18.6s,baz=252,slow=41							
MKAR	**Makanchi Array**	**47.56**	**346**	P		P	11 39 55.4	-1.9
	1.4nm,0.7s,baz=161,slow=8.0,SNR=14							
ZAL	**Zalesovo**	**53.87**	**351**	P		P	11 40 42.9	-2.2
	2.3nm,0.4s,baz=333,slow=5.0,SNR=4.4							
BVAR	**Borovoye Array**	**56.56**	**341**	P		P	11 41 01.7	-3.0
	0.6nm,0.5s,baz=149,slow=8.6,SNR=6.4							

DHMR 30 11:35:41.9±0.9,11.87N×43.54E,h12km±11km,ML3.6, 4C-1D,Ethiopia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.46**	**23**	⇓*i*P		Pn	11 36 08.8	+0.5
TRBA				*i* S		Sb	11 36 29.0	+2.0
TRBA				AML		AML	11 36 29.8	
	comp=N,2μm,0.2s							
UDYN	**Al 'Udayn**	**2.12**	**11**	⇑*i*P		Pn	11 36 18.5	+0.8
UDYN				*i* S		Sn	11 36 48.3	+4.1
UDYN				AML		AML	11 36 58.3	
	comp=Z,406nm,0.6s							
UDYN	**Al 'Udayn**	**2.12**	**11**	⇑*i*P		Pn	11 36 18.5	+0.8
UDYN				*i* S		Sn	11 36 48.3	+4.1
	comp=Z,203nm,0.6s							
LBOS		**2.59**	**40**	*i* S		Sn	11 37 01.7	+5.5
DHBB	**Dhamar BB**	**2.81**	**17**	*i* P		Pn	11 36 29.9	+2.4
DHBB				*i* S		Sn	11 37 07.1	+5.5
BDHA	**Al Bayda'**	**2.88**	**43**	⇑*i*P		Pn	11 36 30.8	+2.3
BDHA				*i* S		Sn	11 37 08.5	+5.1
BDHA				AML		AML	11 37 21.0	
	comp=N,315nm,0.3s							
BDHA	**Al Bayda'**	**2.88**	**43**	⇑*i*P		Pn	11 36 30.8	+2.3
BDHA				*i* S		Sn	11 37 08.5	+5.1
	comp=N,157nm,0.3s							

DJA 30 11:37:49.8±1.1,9.47S×112.95E,h33km,MD5.1/3, ML4.3/3,3C-4D,Error ellipse: s-maj=26.1km s-min=25.0km az=172.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.54**	**50**	⇑*e*Pg		P	11 38 13.4	-1.8
	176nm,0.1s							
SRDI				⇓*e*Sg		S	11 38 29.4	-4.8
KELI	**Kelakatan**	**1.97**	**51**	⇑*e*Pn		Pn	11 38 20.5	-1.1
	186nm,0.2s							
KELI				⇓*e*Sn		Sn	11 38 42.8	-2.5
RATI	**Rata**	**2.66**	**74**	⇓*e*Pn		Pn	11 38 30.1	-1.3
	179nm,0.2s							
RATI				⇓*e*Sn		Sn	11 38 58.6	-4.2
KEDI	**Kedomdong**	**3.28**	**73**	⇑*e*Pn		Pn	11 38 38.3	-1.9

*MOS **30** 11:51:35.4±0.6,36.28N×71.10E,h103km,mb4.0/4,Error ellipse: s-maj=28.1km s-min=11.0km az=90.8*
*BJI **30** 11:51:39.2,36.60N×70.90E,h115km*
*IDC **30** 11:51:39.2±6.4,36.24N×71.13E,h125km±56km,mb3.5/9, mb1 3.7/11,mb1mx3.5/22,mbtmp3.9/11,Error ellipse: s-maj=33.5km s-min=19.7km az=32.0*
*NEIC **30** 11:51:41.2±3.6,36.61N×70.88E,h116km±22km,mb3.7/4, Error ellipse: s-maj=42.5km s-min=19.2km az=163.0*
*NNC **30** 11:51:43.7±5.6,36.86N×70.45E,h122km±67km,mpv4.3, Error ellipse: s-maj=44.4km s-min=35.7km az=19.0*

ISC 30 11:51:36.2±1.0,36.23N±0.04×71.1E±0.1,h114km±10km, n57,σ1°34/69,mb3.6/9,5C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.06**	**48**	*e*P		**P**	**11 52 56.3**	**+5.2**
KSH				Smax				
	comp=N,170nm,0.7s							
KSH				Smax				
	comp=E,120nm,0.4s							
THN	**Thein Dam**	**5.38**	**133**	*e*P		**P**	**11 52 57.5**	**+2.1**
THN				*e*S		**S**	**11 53 58.8**	**+2.2**
PONG	**Pong**	**5.87**	**135**	*e*		**S**	**11 54 12.0**	**+3.5**
AML	**Almayashu**	**6.22**	**18**	P		**P**	**11 53 07.2**	**+0.3**
	SNR=169							
BHK	**Bhakra**	**6.53**	**136**	*e*		**S**	**11 54 27.1**	**+2.4**
UCH	**Uchtor**	**6.55**	**23**	P		**P**	**11 53 11.8**	**+0.4**
	SNR=29							
KZA	**Kyzart**	**6.67**	**28**	P		**P**	**11 53 13.3**	**+0.3**
	SNR=25							
EKS2	**Erkin-Say**	**6.75**	**17**	P		**P**	**11 53 14.2**	**+0.1**
	SNR=17							
SDNR	**Sundarnagar**	**6.79**	**132**	*e*P		**P**	**11 53 15.8**	**+1.1**
SDNR				*e*S		**S**	**11 54 30.0**	**-1.0**
KK31	**Karatay Array**	**6.88**	**356**	⇓P		**P**	**11 53 14.2**	**-1.7**
	comp=E,10nm,0.3s,baz=179,slow=13,SNR=212							
KK31				⇑S		**S**	**11 54 24.6**	**-8.5**
	comp=E,32nm,0.8s,baz=193,slow=21,SNR=10							
KKAR	**Karatay Array**	**6.88**	**356**	*i* PN		**P**	**11 53 14.1**	**-1.8**
KKAR				pmax		pmax		
	comp=Z,10.0nm,0.4s							
AAK	**Ala-Archa**	**6.91**	**21**	P		**P**	**11 53 16.7**	**+0.3**
	SNR=20							
AAK	**Ala-Archa**	**6.91**	**21**	⇑P		**P**	**11 53 16.5**	**+0.2**
	comp=Z,15nm,0.6s							
AAK				⇓S		**S**	**11 54 31.6**	**-2.4**
	comp=Z,43nm,0.8s							
AAK	**Ala-Archa**	**6.91**	**21**	*e*PN		**P**	**11 53 15.6**	**-0.7**
AAK				pmax		pmax		
	comp=Z,17nm,0.5s							
AAK	**Ala-Archa**	**6.91**	**21**	*e*P		**P**	**11 53 15.6**	**-0.8**
	comp=Z,17nm,0.5s							
KBK	**Karagaybulak**	**7.07**	**24**	P		**P**	**11 53 20.1**	**+1.5**
	SNR=6.2							
SMLA	**Simla**	**7.17**	**133**	⇑*i*P		**P**	**11 53 18.1**	**-1.9**
SMLA				*i* S		**S**	**11 54 37.5**	**-2.8**
ULHL	**Ulahol**	**7.21**	**32**	P		**P**	**11 53 21.1**	**+0.7**
	SNR=5.6							
CHMS	**Chumysh**	**7.32**	**22**	P		**P**	**11 53 22.9**	**+1.0**
	SNR=7.0							
USP	**Ospenovka**	**7.50**	**19**	P		**P**	**11 53 24.5**	**+0.2**
	SNR=17							
TKM2	**Tokmak 2**	**7.53**	**26**	P		**P**	**11 53 24.8**	**+0.1**
	SNR=22							
KLP	**Kalpa**	**7.57**	**126**	*i* P		**P**	**11 53 26.8**	**+1.5**
KLP				*e*S		**S**	**11 54 48.4**	**-1.6**
KHET	**Khetri**	**9.06**	**153**	*e*P		**P**	**11 53 48.4**	**+3.1**
KHET				AMb		AMB	11 53 50.9	
	comp=Z,3.8nm,0.5s							
KHET				*e*S		**S**	**11 55 21.8**	**-4.3**
NDI	**New Delhi**	**9.13**	**144**	*e*		rx	11 54 12.5	
NDI				*e*S		**S**	**11 55 22.0**	**-5.8**
AYAN	**Aya Nagar**	**9.26**	**145**	*e*P		**P**	**11 53 52.4**	**+4.5**
AYAN				AMb		AMB	11 53 59.1	
	comp=Z,1.3nm,0.6s							
AYAN				*e*S		**S**	**11 55 28.5**	**-2.3**
SONA	**Sohna**	**9.43**	**146**	*i* P		**P**	**11 53 52.3**	**+2.0**
SONA				*e*S		**S**	**11 55 31.0**	**-4.1**
AJM	**Ajmer**	**10.18**	**162**	*e*S		**S**	**11 55 44.3**	**-8.8**
MK31	**Makanchi Array**	**13.46**	**35**	P		**P**	**11 54 45.7**	**+2.2**
	comp=Z,2.3nm,0.6s,baz=224,slow=14,SNR=16							
MKAR	**Makanchi Array**	**13.46**	**35**	P		**P**	**11 54 45.6**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=218,slow=13,SNR=15							
KOLN	**Koldanda**	**13.54**	**125**	*e*P		**P**	**11 54 42.9**	**-1.7**
GKN	**Gorkha**	**14.09**	**122**	*e*P		**P**	**11 54 51.4**	**-0.3**
	comp=Z,17nm,0.3s							
GKN				*e*S		**S**	**11 57 20.3**	**-5.2**
DMN	**Daman**	**14.66**	**122**	*e*P		**P**	**11 54 58.5**	**-0.5**
	comp=Z,21nm,0.5s							
KKN	**Kakani**	**14.67**	**121**	*e*P		**P**	**11 54 59.1**	**0.0**
	comp=Z,21nm,0.7s							
KKN				*e*S		**S**	**11 57 35.7**	**-3.3**
PKI	**Pulchoki**	**14.90**	**121**	*e*P		**P**	**11 55 02.7**	**+0.7**
	comp=Z,11nm,0.5s							
GUN	**Gumba**	**15.02**	**119**	*e*P		**P**	**11 55 04.1**	**+0.6**
	comp=Z,17nm,0.4s							
AB31	**Akbulak array**	**15.36**	**331**	⇑P		**P**	**11 55 05.2**	**-2.4**
	comp=Z,0.7nm,0.3s							
AB31				⇓S		**S**	**11 57 38.6**	**-16**
	comp=Z,2.7nm,0.5s							
JIRN	**Jiri**	**15.38**	**119**	*e*P		**P**	**11 55 09.7**	**+1.6**
	comp=Z,17nm,0.3s							
BVA0	**Borovoye Array**	**16.80**	**359**	P		**P**	**11 55 24.6**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=170,slow=11,SNR=14							
BVAR	**Borovoye Array**	**16.80**	**359**	P		**P**	**11 55 24.6**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=166,slow=10.0,SNR=11							
CHKZ	**Chkalovo**	**17.45**	**359**	⇑P		**P**	**11 55 31.8**	**-1.8**
	comp=Z,2.0nm,0.9s							
CHKZ	**Chkalovo**	**17.45**	**359**	*e*P		**P**	**11 55 32.5**	**-1.1**
CHKZ				pmax		pmax		
	comp=Z,2.0nm,0.7s							
CHKZ	**Chkalovo**	**17.45**	**359**	*e*P		**P**	**11 55 32.5**	**-1.1**
	comp=Z,1.7nm,0.7s							
ZAL	**Zalesovo**	**20.11**	**24**	P		**P**	**11 56 03.2**	**+0.4**
	comp=Z,20nm,0.5s,baz=245,slow=7.9,SNR=22							
NVS	**Novosibirsk**	**20.40**	**20**	*e*P		**P**	**11 56 05.0**	**-0.8**
NVS				pmax		pmax		
	comp=Z,23nm,0.9s							
NVS				pmax		pmax		
	comp=N,16nm,0.8s							
BRTR	**Keskin Array B**	**29.59**	**288**	P		**P**	**11 57 33.2**	**+0.7**
	comp=N,0.9nm,0.7s,mb3.5,baz=107,slow=8.3,SNR=4.8							
FINES	**FINESS Array B**	**37.75**	**326**	P		**P**	**11 58 42.5**	**+0.2**
	comp=N,0.8nm,0.6s,mb3.7,baz=124,slow=6.9,SNR=5.1							
ARCES	**ARCESS Array B**	**41.42**	**338**	P		**P**	**11 59 12.4**	**-0.1**
	comp=N,6.4nm,1.1s,mb4.4,baz=106,slow=8.8,SNR=5.1							
NB2	**NORSAR Subarra**	**44.64**	**323**	P		**P**	**11 59 38.6**	**0.0**
	comp=N,0.6nm,0.5s,mb3.6,baz=97,slow=7.9							
NB2	**NORSAR Subarra**	**44.64**	**323**	P		**P**	**11 59 38.6**	**0.0**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb3.8							
NOA	**NORSAR Array B**	**44.64**	**323**	P		**P**	**11 59 38.6**	**0.0**
	comp=Z,1.1nm,0.7s,mb3.7,baz=97,slow=7.8,SNR=3.9							
INK	**Inuvik**	**74.16**	**9**	*e*P		**P**	**12 03 01.5**	**+0.3**
INK				pmax		pmax		
	comp=Z,2.0nm,0.8s							
INK	**Inuvik**	**74.16**	**9**	*e*P		**P**	**12 03 01.5**	**+0.2**
	comp=Z,1.6nm,0.8s,mb3.8							
ILAR	**Eielson Array**	**75.02**	**16**	P		**P**	**12 03 06.2**	**0.0**
	comp=Z,0.3nm,0.9s,mb3.0,baz=320,slow=6.0,SNR=4.4							
YKA	**Yellowknife Ar**	**81.51**	**3**	P		**P**	**12 03 42.9**	**+1.2**
	comp=Z,0.3nm,0.4s,mb3.4,baz=350,slow=5.3,SNR=8.5							
WRA	**Warramunga Arr**	**81.78**	**122**	P		**P**	**12 03 44.2**	**+0.2**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.4s							
WRA	**Warramunga Arr**	**81.78**	**122**	P		**P**	**12 03 44.2**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.7,baz=324,slow=4.9,SNR=22							
ASAR	**Alice Springs**	**84.03**	**125**	P		**P**	**12 03 55.7**	**+0.3**
	comp=Z,0.8nm,

ARCES	**ARCESS Array B**	**82.67**	**340**	P	**P**	**12 30 25.6**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.4,baz=27,slow=2.7,SNR=5.1						
GERES	**GERESS Array B**	**84.93**	**319**	P	**P**	**12 30 37.9**	**+0.6**
	comp=Z,0.1nm,0.3s,mb3.4,baz=76,slow=5.5,SNR=3.6						
NOA	**NORSAR Array B**	**87.14**	**331**	P	**P**	**12 30 47.1**	**-0.6**
	comp=Z,0.2nm,0.7s,mb3.5,baz=133,slow=8.0,SNR=2.7						
TXAR	**Lajitas Array**	**143.78**	**32**	PKP	PKPdf	12 37 39.7	+3.1
	comp=Z,0.2nm,0.3s,baz=353,slow=7.3,SNR=3.5						
TXAR	**Lajitas Array**	**143.78**	**32**	PKP	PKPdf	12 37 39.7	+3.1

*IDC **30** 12:43:37.0±0.8, 7.59N×126.67E, mb3.8/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.8/7, MS3.1/1, Ms1 3.3/1, ms1mx2.6/29, Error ellipse: s-maj=59.8km s-min=18.6km az=77.0*

ISC 30 12:43:47.4±3.9, 7.4N±0.2×126.5E±0.4, h98km±36km, n10, σ0§62/8, mb3.6/7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.45**	**253**	⇑*i* P	**P**	**12 44 13.4**	**0.0**
FITZ	**Fitzroy Crossi**	**25.38**	**182**	P	**P**	**12 49 07.7**	**+0.4**
	2.3nm,0.5s,mb3.8,baz=7.1,slow=18,SNR=7.3						
WRA	**Warramunga Arr**	**28.28**	**164**	P	**P**	**12 49 33.8**	**0.0**
	0.4nm,0.7s,mb3.0,baz=346,slow=10,SNR=8.2						
WRA				PcP	PcP	12 52 45.9	+1.2
	0.3nm,0.6s,baz=338,slow=2.7,SNR=4.7						
CMAR	**Chiang Mai Arr**	**28.95**	**295**	LR	LR	13 00 36.5	
	comp=Z,32nm,18.3s,baz=151,slow=35						
ASAR	**Alice Springs**	**31.74**	**167**	P	**P**	**12 50 03.4**	**-1.0**
	0.3nm,0.5s,mb3.3,baz=338,slow=6.9,SNR=8.4						
ASAR				PcP	PcP	12 52 55.0	+1.3
	0.7nm,0.5s,baz=353,slow=2.8,SNR=14						
STKA	**Stephens Creek**	**41.66**	**161**	P	**P**	**12 51 28.4**	**+0.5**
	2.7nm,0.8s,mb4.0,baz=342,slow=9.6,SNR=3.1						
MKAR	**Makanchi Array**	**54.42**	**324**	P	**P**	**12 53 06.4**	**-0.3**
	1.1nm,0.6s,mb4.0,baz=123,slow=8.2,SNR=11						
ILAR	**Eielson Array**	**81.89**	**26**	P	**P**	**12 55 57.2**	**+0.1**
	0.5nm,0.6s,mb3.5,baz=250,slow=5.1,SNR=12						
FINES	**FINESS Array B**	**88.48**	**332**	P	**P**	**12 56 29.8**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=90,slow=6.9,SNR=4.1						
CFAA	**Coronel Fontan**	**152.30**	**152**	PKPbc	PKPdf	13 03 35.1	+10
	0.2nm,0.6s,baz=207,slow=0.8,SNR=4.3						

DHMR 30 12:49:46.5±0.9, 11.85N×43.48E, h9km±12km, ML3.6, 3C, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.50**	**24**	⇑*i* P	Pn	12 50 13.6	-0.3
TRBA				*i* S	Sb	12 50 35.3	+2.1
TRBA				AML	AML	12 50 53.1	
	comp=N,961nm,0.5s						
LBOS		**2.65**	**40**	⇑*i* P	Pn	12 50 32.5	+2.3
LBOS				*i* S	Sn	12 51 08.4	+5.7
DHBB	**Dhamar BB**	**2.84**	**18**	⇑*i* P	Pn	12 50 35.3	+2.4
DHBB				*i* S	Sn	12 51 13.5	+5.7
BDHA	**Al Bayda'**	**2.93**	**44**	*i* P	Pn	12 50 36.5	+2.3
BDHA				*i* S	Sn	12 51 14.7	+4.8
BDHA				AML	AML	12 51 44.5	
	comp=E,320nm,0.5s						

IDC 30 12:59:10.4±8.3, 14.06S×167.08E, h131km±74km, mb3.6/4, mb1 3.7/5, mb1mx3.4/17, mbtmp3.9/5, Error ellipse: s-maj=61.8km s-min=42.0km az=175.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.99**	**184**	P	P	13 01 04.5	-0.5
	0.1nm,0.3s,baz=52,slow=18,SNR=3.4						
DZM				S	S	13 02 32.1	-2.0
	0.1nm,0.3s,baz=79,slow=15,SNR=2.2						
STKA	**Stephens Creek**	**29.29**	**228**	P	P	13 05 00.9	-1.8
	2.2nm,0.4s,baz=45,slow=9.7,SNR=13						
WRA	**Warramunga Arr**	**31.82**	**255**	P	P	13 05 22.4	-2.6
	0.1nm,0.3s,baz=84,slow=8.9,SNR=6.1						
ASAR	**Alice Springs**	**32.75**	**248**	P	P	13 05 30.3	-2.7
	0.7nm,0.4s,baz=74,slow=9.6,SNR=19						
FITZ	**Fitzroy Crossi**	**39.97**	**259**	P	P	13 06 33.1	-0.6
	2.0nm,0.7s,baz=180,slow=10,SNR=3.8						
ARCES	**ARCESS Array B**	**119.56**	**345**	PKP	PKPdf	13 17 43.6	-0.5
	3.5nm,1.0s,baz=45,slow=1.3,SNR=6.2						

CASC 30 13:06:47.6±2.0, 14.00N×91.18W, h2km±11km, MD3.6, ML3.4, 4C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.55**	**306**	⇑*e* P	Pg	13 06 58.8	+0.2
JAT				*e* S	Sg	13 07 08.6	+2.8
JAT				AML	AML	13 07 08.9	
	comp=E,2μm,0.3s						
TP2	**Tecpan 2**	**0.80**	**11**	⇓*e* P	Pg	13 07 03.7	+0.2
TP2				*e* S	Sg	13 07 16.4	+2.3
TP2				AML	AML	13 07 17.2	
	comp=E,861nm,0.3s						
RBDL	**Robledal**	**1.45**	**85**	⇓*e* P	Pn	13 07 13.9	-1.0
RTR	**El Retiro**	**1.49**	**94**	⇑*e* P	Pn	13 07 15.4	-0.2
RTR				*e* S	Sb	13 07 37.2	+2.2
SBLS	**San Blas**	**1.52**	**96**	⇑*e* P	Pn	13 07 15.3	-0.6
SBLS				*e* S	Sb	13 07 38.5	+2.7
SNJE	**San Jose**	**1.53**	**95**	⇑*e* P	Pn	13 07 15.8	-0.4
SNJE				*e* S	Sb	13 07 37.5	+1.3
LFRS	**El Faro**	**2.09**	**100**	*e* P	Pn	13 07 22.9	-1.2
LFRS				*e* S	Sn	13 07 49.9	-1.1

IDC 30 13:08:41.9±2.9, 1.70N×97.56E, mb3.8/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=122.6km s-min=26.5km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.70**	**5**	Pn	P	13 12 38.3	-0.9
	0.1nm,0.3s,baz=193,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**42.00**	**123**	P	P	13 16 35.2	-1.7
	0.5nm,0.4s,baz=302,slow=9.1,SNR=5.1						
MKAR	**Makanchi Array**	**46.84**	**346**	P	P	13 17 13.9	-1.6
	0.4nm,0.4s,baz=145,slow=9.1,SNR=4.7						
ZAL	**Zalesovo**	**53.11**	**351**	P	P	13 18 01.4	-2.1
	1.6nm,0.3s,baz=313,slow=0.4,SNR=4.2						
BVAR	**Borovoye Array**	**55.90**	**341**	P	P	13 18 20.6	-3.2
	0.6nm,0.8s,baz=146,slow=5.3,SNR=4.6						

*IDC **30** 13:08:54.4±0.7, 5.76N×126.44E, mb3.9/10, mb1 4.0/10, mb1mx3.8/22, mbtmp3.9/10, Error ellipse: s-maj=53.0km s-min=16.2km az=76.0*

ISC 30 13:09:03.7±1.1, 5.61N±0.09×126.4E±0.1, h88km±10km, n13, σ0§97/16, mb3.6/10, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.33**	**355**	*e* P	**P**	**13 09 25.8**	**-1.8**
MATI				*e* S	**S**	**13 09 46.7**	**+1.3**
KCP	**Kidapawan**	**1.88**	**317**	⇓*e* P	**P**	**13 09 33.4**	**-1.4**
KCP				*i* S	**S**	**13 09 59.1**	**+1.4**
BUKP	**Musuan**	**2.60**	**330**	*e* P	**P**	**13 09 44.4**	**-0.3**
BUKP				*e* S	**S**	**13 10 09.3**	**-6.0**
FITZ	**Fitzroy Crossi**	**23.58**	**182**	P	**P**	**13 14 08.6**	**+1.3**
	2.1nm,0.4s,mb3.8,baz=269,slow=23,SNR=14						
WRA	**Warramunga Arr**	**26.58**	**163**	P	**P**	**13 14 36.0**	**+0.3**
	0.5nm,0.4s,mb3.4,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**30.02**	**166**	P	**P**	**13 15 06.3**	**-0.2**
	0.4nm,0.6s,mb3.2,baz=344,slow=7.1,SNR=9.5						
ASAR				PcP	PcP	13 18 06.9	+0.2
	0.2nm,0.5s,baz=355,slow=2.7,SNR=3.8						
STKA	**Stephens Creek**	**40.01**	**160**	P	**P**	**13 16 31.1**	**-0.4**
	1.0nm,0.6s,mb3.8,baz=348,slow=9.3,SNR=3.0						
MKAR	**Makanchi Array**	**55.82**	**325**	P	**P**	**13 18 33.4**	**-0.8**
	1.0nm,0.4s,mb4.2,baz=116,slow=7.6,SNR=10						
BVAR	**Borovoye Array**	**65.56**	**327**	P	**P**	**13 19 39.6**	**-0.5**
	0.4nm,0.5s,mb3.5,baz=127,slow=7.2,SNR=4.0						
ILAR	**Eielson Array**	**83.57**	**26**	P	**P**	**13 21 24.2**	**+1.1**
	0.2nm,0.9s,mb3.0,baz=284,slow=3.7,SNR=3.0						
INK	**Inuvik**	**88.55**	**21**	P	**P**	**13 21 47.5**	**+0.1**
	0.5nm,1.0s,mb3.5,baz=277,slow=8.1,SNR=2.3						
ARCES	**ARCESS Array B**	**88.57**	**340**	P	**P**	**13 21 48.2**	**+0.7**
	1.6nm,0.8s,mb4.1,baz=76,slow=3.7,SNR=3.8						
FINES	**FINESS Array B**	**90.01**	**332**	P	**P**	**13 21 53.6**	**-0.8**
	0.7nm,0.7s,mb3.9,baz=90,slow=6.9,SNR=4.3						

*IDC **30** 13:10:16.7±3.9, 19.96N×122.93E, mb3.5/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.5/5, Error ellipse: s-maj=243.6km s-min=23.4km az=91.0*

*MAN **30** 13:10:18.5, 19.85N×121.46E, h1km, mb3.8, ML2.5, MS2.0*

ISC 30 13:10:20.3±1.8, 20.0N±0.1×121.5E±0.4, h60km±10km, n10, σ1§06/12, mb3.4/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.62**	**40**	*i* P	**P**	**13 10 33.2**	**-0.4**
BBP				*i* S	**S**	**13 10 43.5**	**0.0**
APYP	**Conner**	**2.11**	**188**	*e* P	**P**	**13 10 51.6**	**-2.5**
APYP				*e* S	**S**	**13 11 19.6**	**+0.4**
CVP	**Callao Caves**	**2.27**	**173**	*e* P	**P**	**13 10 57.0**	**+0.7**
CAUP	**Cauayan**	**3.02**	**175**	*e* P	**P**	**13 11 08.6**	**+1.7**
BALP	**Baler**	**4.21**	**180**	*i* P	**P**	**13 11 23.3**	**-0.3**
WRA	**Warramunga Arr**	**41.60**	**162**	P	**P**	**13 18 02.8**	**-1.5**
	0.7nm,0.5s,mb3.5,baz=343,slow=8.9,SNR=8.3						
ASAR	**Alice Springs**	**45.01**	**164**	P	**P**	**13 18 31.6**	**-0.3**
	0.3nm,0.3s,mb3.5,baz=349,slow=6.3,SNR=9.3						
ILAR	**Eielson Array**	**72.80**	**27**	P	**P**	**13 21 43.1**	**-0.8**
	0.4nm,0.6s,mb3.5,baz=263,slow=4.9,SNR=7.0						
INK	**Inuvik**	**77.00**	**22**	P	**P**	**13 22 08.8**	**+0.8**
	0.2nm,0.4s,mb3.4,baz=315,slow=4.3,SNR=3.5						
YKA	**Yellowknife Ar**	**86.71**	**23**	P	**P**	**13 22 59.8**	**+1.4**
	0.1nm,0.6s,mb3.2,baz=310,slow=4.4,SNR=5.6						

*CRAAG **30** 13:17:13.4, 2.04N×97.24E, Mb5.4*

*BJI **30** 13:17:17.0, 2.06N×97.11E, h26km, mB5.5, mb5.6, Ms5.4, Msz5.4*

*MOS **30** 13:17:18.2±1.0, 2.09N×97.18E, h33km, mb5.5/96, MS4.9/24, Error ellipse: s-maj=8.3km s-min=4.0km az=124.6*

*IDC **30** 13:17:18.2±0.4, 1.98N×97.21E, h28km±2km, mb4.9/33, mb1 4.9/33, mb1mx4.9/33, mbtmp5.0/33, ML5.6/1, MS4.8/20, Ms1 4.9/20, ms1mx4.7/28, Error ellipse: s-maj=13.4km s-min=7.0km az=49.0*

*NEIC **30** 13:17:19.0±0.1, 1.97N×97.13E, h30km, mb5.3/117, MS4.9/11, Error ellipse: s-maj=4.7km s-min=3.1km az=32.0*

*HRVD **30** 13:17:19.0±0.3, 1.75N×96.76E, h29km, MW5.3/57, Centroid moment Tensor Solution. LP body waves: s48,c94;Mantle waves: s57,c101; Half duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.69±.03; $M_{\theta\theta}$-0.36±.02; $M_{\phi\phi}$-0.33±.02; $M_{r\theta}$0.61±.03; $M_{\theta\phi}$0.43±.01; $M_{\phi r}$~0.58±.04; Best double couple: $M_0$1.115×10^{17} NP1: ϕ_s315°, δ21°, λ91°. NP2:ϕ_s134°, δ69°, λ89°. Principal axes: T 1.071, Plg66°, Azm43°; N .088, Plg1°, Azm134°; P -1.159, Plg24°, Azm224°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*DJA **30** 13:17:25.8±9.2, 1.04N×97.68E, h25km±5km, mb5.7/2 Error ellipse: s-maj=316.3km s-min=12.5km az=85.0*

ISC 30 13:17:17.3±0.1, 1.99N±0.03×97.14E±0.02, h29km, h29km±.9km:pP-P, n523, σ1§03/495, mb5.3/184, MS5.1/60, 64C-15D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.92**	**68**	*e* Pn	**Pn**	**13 17 57.5**	**+8.9**
IPM	**Ipoh**	**4.66**	**56**	P	**Pn**	**13 18 29.6**	**+2.0**
KULM	**Kulim**	**4.80**	**47**	*e* P	**Pn**	**13 18 31.4**	**+1.8**
KGM	**Kluang**	**6.18**	**90**	P	**Pn**	**13 18 50.9**	**+1.9**
SNG	**Songkhla**	**6.21**	**34**	P	**Pn**	**13 18 50.5**	**+0.9**
	2μm,1.0s						
KSI	**Kapahiang**	**7.81**	**136**	*e* P	**Pn**	**13 19 04.4**	**-7.6**
PENI	**Pendagan**	**10.98**	**133**	⇑*e* P	**P**	**13 19 50.9**	**-4.9**
PENI				pmax	pmax		
	comp=Z,36nm,0.2s						
PENI	**Pendagan**	**10.98**	**133**	⇑*e* P	**P**	**13 19 50.9**	**-4.9**
	comp=Z,72nm,0.2s						
PULI	**Pulasari**	**12.10**	**133**	⇑*e* P	**P**	**13 20 06.3**	**-4.6**
	comp=Z,87nm,0.2s						
KSM	**Kuching**	**13.17**	**92**	*e* P	**P**	**13 20 26.7**	**+1.5**
NST	**Nakhon Sawan**	**13.92**	**12**	P	**P**	**13 20 35.5**	**+0.4**
UBT	**Ubonrachathani**	**15.30**	**30**	P	**P**	**13 20 58.8**	**+5.6**
KKTK	**Khon Kaen**	**15.32**	**21**	P	**P**	**13 20 55.0**	**+1.6**
CM31	**Chiang Mai Arr**	**16.46**	**6**	*e* P	**P**	**13 21 06.7**	**-1.4**
	comp=Z,78nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.46**	**6**	Pn	**P**	**13 21 06.6**	**-1.5**
	comp=Z,7.9nm,0.3s,baz=192,slow=11,SNR=2.6						
CMAR				LR	LR	13 27 55.9	
	comp=Z,3μm,20.2s,baz=185,slow=39						
CMAR				ScP		13 29 32.5	
	comp=Z,0.1nm,0.3s,baz=225,slow=2.6,SNR=7.1						
NANT	**Nan**	**17.07**	**12**	P	**P**	**13 21 17.0**	**+1.3**
	comp=Z,350nm,0.6s						
KKM	**Kota Kinabalu**	**19.45**	**77**	*e* P	**P**	**13 21 44.6**	**-0.1**
KKM	**Kota Kinabalu**	**19.45**	**77**	P	**P**	**13 21 44.8**	**+0.1**
SRDI	**Scrawed**	**19.89**	**122**	⇓*e* P	**P**	**13 21 48.3**	**-1.2**
MDRS	**Chennai**	**20.02**	**304**	⇑*e* P	**P**	**13 21 48.0**	**-2.9**
MDRS				*e* S	**S**	**13 25 30.0**	**+1.0**
MDRS				*e*		13 27 07.0	
VIS	**Vishakhapatnam**	**20.70**	**320**	*e* P	**P**	**13 21 58.6**	**+0.7**
VIS				*e*		13 22 10.1	
	comp=Z,227nm,1.0s						
TSM	**Tawau**	**20.83**	**83**	P	**P**	**13 21 58.8**	**-0.5**
QIZ	**Qiongzhong**	**21.02**	**35**	⇑*i* P	**P**	**13 22 00.5**	**-0.7**
QIZ				XP		13 22 12.5	
QIZ				S	**S**	**13 25 49.5**	**+0.8**
QIZ				XS		13 26 03.0	
QIZ				AMB	AMB		
	comp=Z,556nm,13.6s						
QIZ				LR	LR		
	comp=N,5μm,15.4s,MS5.0						
QIZ				LR	LR		
	comp=E,2μm,15.7s,MS5.0						
QIZ				LR	LR		
	comp=Z,6μm,14.0s,MS5.1						
QIZ	**Qiongzhong**	**21.02**	**35**	*e* P	**P**	**13 22 00.4**	**-0.8**
	comp=Z,128nm,1.1s,mb5.2						
SALM	**Salem**	**21.09**	**298**	*e* P	**P**	**13 22 03.0**	**+1.0**
TRD	**Trivandrum**	**21.10**	**289**	*e*	**P**	**13 21 55.2**	**-6.9**
TRD				*e*		13 25 41.2	
KEDI	**Kedomdong**	**21.59**	**119**	⇓*e* P	**P**	**13 22 07.0**	**0.0**
CAL	**Calcutta**	**22.15**	**338**	*e* P	**P**	**13 22 15.2**	**+2.7**
AGT	**Agartala**	**22.50**	**346**	⇑*i* P	**P**	**13 22 13.0**	**-3.1**
AGT				*i*		13 23 15.0	
TANI	**Tanete Lipujan**	**22.88**	**104**	⇑*e* P	**P**	**13 22 20.8**	**+0.9**
NINI	**Niniconang**	**23.48**	**106**	⇑*e* P	**P**	**13 22 27.3**	**+1.6**
KMI	**Kunming**	**23.63**	**13**	P	**P**	**13 22 28.0**	**+0.9**
KMI				AP		13 22 35.5	
KMI				XP		13 22 38.8	
KMI				PP	PP	13 23 02.0	+2.1
KMI				PPP	PPP	13 23 12.5	+2.6
KMI				S	**S**	**13 26 40.0**	**+3.8**
KMI				XS		13 26 53.0	
KMI				AMB	AMB		
	comp=Z,230nm,1.0s,mb5.6						
KMI				AMB	AMB		
	comp=Z,784nm,6.5s						
KMI				LR	LR		
	comp=N,8μm,15.6s,MS5.3						
KMI				LR	LR		
	comp=E,3μm,15.1s,MS5.3						
KMI				LR	LR		
	comp=Z,9μm,15.4s,MS5.3						
BUNI	**Buntu Taipa**	**23.84**	**104**	*e* P	**P**	**13 22 30.2**	**+0.9**
HYB	**Hyderabad**	**23.85**	**311**	*e* P	**P**	**13 22 29.0**	**-0.2**
HYB				*e* S	**S**	**13 26 44.0**	**+4.0**
HYB				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.0						
HYB	**Hyderabad**	**23.85**	**311**	*e* P	**P**	**13 22 29.0**	**-0.2**
	comp=Z,70nm,1.0s,mb5.0						
HYB				*e* S	**S**	**13 26 44.0**	**+4.0**
HYB	**Hyderabad**	**23.85**	**311**	*i* P	**P**	**13 22 29.0**	**-0.2**
	comp=Z,70nm,1.0s,mb5.0						
HYB				*e* S	**S**	**13 26 44.0**	**+4.0**
SHL	**Shillong**	**23.98**	**348**	*e* P	**P**	**13 22 29.5**	**-1.0**
	comp=Z,500nm,1.1s,mb5.9						
SHL				*e* S	**S**	**13 26 46.5**	**+4.1**
BOK	**Bokaro**	**24.26**	**334**	⇑*i* P	**P**	**13 22 32.3**	**-1.0**
BOK				*i* S	**S**	**13 26 51.3**	**+4.2**
BLSP	**Bilaspur**	**24.78**	**325**	*e* P	**P**	**13 22 37.3**	**-1.0**
BLSP				*e*		13 22 42.4	
	comp=Z,122nm,2.0s						
GYA	**Guiyang**	**26.00**	**20**	⇑*i* P	**P**	**13 22 49.3**	**-0.4**
GYA				AP	pP	13 22 58.5	+0.3
GYA				XP	sP	13 23 02.8	+0.7
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,490nm,8.4s						
GYA				LR	LR		
	comp=N,9μm,15.1s,MS5.4						
GYA				LR	LR		
	comp=E,2μm,15.9s,MS5.4						
GYA				LR	LR		
	comp=Z,13μm,15.9s,MS5.6						
GZH	**Guangzhou**	**26.21**	**36**	P	**P**	**13 22 56.0**	**+4.3**
GZH				S	**S**	**13 27 21.8**	**+2.0**
GZH				LR	LR		
	comp=N,4μm,15.1s,MS5.4						
GZH				LR	LR		
	comp=E,7μm,15.3s,MS5.4						
GZH				LR	LR		
	comp=Z,9μm,13.6s,MS5.5						
SNPH	**Sibulan**	**26.96**	**73**	*e* P	**P**	**13 23 00.0**	**+1.4**
RCP	**Roxas**	**27.12**	**68**	*i* P	**P**	**13 23 01.0**	**+0.9**
KAD	**Karad**	**27.22**	**305**	*e* P	**P**	**13 23 01.0**	**+0.1**
JIRN	**Jiri**	**27.60**	**339**	*e* P	**P**	**13 23 04.4**	**+0.1**
	comp=Z,18nm,0.4s,mb5.1						
PKI	**Pulchoki**	**27.81**	**337**	*e* P	**P**	**13 23 05.9**	**-0.3**
	comp=Z,274nm,1.5s,mb5.7						
GUN	**Gumba**	**27.94**	**338**	*e* P	**P**	**13 23 07.4**	**0.0**
	comp=Z,249nm,0.6s,mb6.0						
DMN	**Daman**	**27.96**	**337**	*e* P	**P**	**13 23 07.4**	**-0.2**
	comp=Z,218nm,1.0s,mb5.8						
KKN	**Kakani**	**28.05**	**337**	*e* P	**P**	**13 23 08.1**	**-0.3**
	comp=Z,188nm,1.0s,mb5.7						
POO	**Poona**	**28.13**	**307**	*e* P	**P**	**13 23 09.0**	**-0.2**
LSA	**Lhasa**	**28.14**	**349**	P	**P**	**13 23 09.5**	**+0.3**
LSA				AP	pP	13 23 18.0	+0.2
LSA				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.2						
LSA				LR	LR		
	comp=N,770nm,19.5s,MS4.6						
LSA				LR	LR		
	comp=E,2μm,21.6s,MS4.6						
LSA				LR	LR		
	comp=Z,2μm,20.2s,MS4.7						
LSA	**Lhasa**	**28.14**	**349**	*e* P	**P**	**13 23 09.4**	**+0.2**
LSA				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.2						
LSA	**Lhasa**	**28.14**	**349**	*e* P	**P**	**13 23 09.4**	**+0.2**
	comp=Z,64nm,1.0s,mb5.2						
BHPL	**Bhopal**	**28.49**	**319**	*e* P	**P**	**13 23 09.7**	**-2.7**
BHPL				*e*		13 23 51.2	
	comp=Z,60nm,1.9s						
GKN	**Gorkha**	**28.50**	**336**	*e* P	**P**	**13 23 12.0**	**-0.4**
	comp=Z,167nm,0.9s,mb5.7						
KOLN	**Koldanda**	**28.73**	**334**	*e* P	**P**	**13 23 14.5**	**0.0**
	comp=Z,129nm,0.7s,mb5.8						
CD2	**Chengdu**	**29.44**	**12**	⇑*i* P	**P**	**13 23 19.3**	**-1.6**
CD2				PP	PP	13 24 12.8	-4.0
CD2				S	**S**	**13 28 06.5**	**-5.3**
CD2				AMB	AMB		
	comp=Z,100nm,0.6s,mb5.7						
CD2				LR	LR		
	comp=E,7μm,15.6s						
CD2				LR	LR		
	comp=Z,6μm,15.6s,MS5.3						
ENH	**Enshi**	**30.47**	**21**	*e* P	**P**	**13 23 28.0**	**-2.1**
	comp=Z,97nm,0.6s,mb5.7						
QZH	**Quanzhou**	**30.81**	**40**	P	**P**	**13 23 32.3**	**-0.8**
QZH				LR	LR		
	comp=N,8μm,13.4s,MS5.6						
QZH				LR	LR		
	comp=E,7μm,15.4s,MS5.6						
QZH				LR	LR		
	comp=Z,13μm,15.0s,MS5.7						
LGTI	**Lohaghat**	**31.69**	**331**	*e* P	**P**	**13 23 41.3**	**+0.5**
MBWA	**Marble Bar**	**31.91**	**137**	*e* P	**P**	**13 23 41.7**	**-1.0**
	comp=Z,27nm,0.8s,mb5.1						
YHNB	**Yeheng**	**32.50**	**44**	*e* P	**P**	**13 23 47.0**	**-0.9**
AJM	**Ajmer**	**32.56**	**320**	*e* P	**P**	**13 23 45.6**	**-2.7**
AJM				*e*		13 23 59.5	
	comp=Z,119nm,1.6s						
AJM				*e*		13 28 54.1	
NDI	**New Delhi**	**32.65**	**326**	*e* P	**P**	**13 23 46.5**	**-2.6**
	comp=Z,61nm,0.8s,mb5.6						
NDI				*e*		13 29 07.0	
WHN	**Wuhan**	**32.75**	**28**	⇑P	**P**	**13 23 49.0**	**-1.0**
WHN				S	**S**	**13 29 06.0**	**+2.3**
WHN				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.6						
WHN				LR	LR		
	comp=Z,11μm,14.4s,MS5.7						
XAN	**Xi'an**	**33.74**	**18**	P	**P**	**13 23 56.5**	**-2.1**
XAN				AP	pP	13 24 05.5	-1.8
XAN				AMB	AMB		
	comp=Z,174nm,0.7s,mb6.1						
FITZ	**Fitzroy Crossi**	**34.44**	**127**	P	**P**	**13 24 03.2**	**-1.6**
	comp=Z,28nm,0.8s,mb5.2,baz=322,slow=3.2,SNR=24						
FITZ				PcP	PcP	13 26 39.1	-0.8
	comp=Z,11nm,0.6s,baz=203,slow=1.3,SNR=5.6						
FITZ				LR	LR	13 37 56.4	
	comp=Z,2μm,21.5s,MS4.7,baz=290,slow=36						
LZH	**Lanzhou**	**34.49**	**10**	⇑*e* P	**P**	**13 24 04.0**	**-1.1**
LZH				AP	pP	13 24 09.0	-4.8
LZH				XP	sP	13 24 12.0	-5.5
LZH				PP	PP	13 25 20.3	-1.1
LZH				S	**S**	**13 29 32.5**	**+1.8**
LZH				XS		13 29 45.3	
LZH				SS	SS	13 31 43.0	+0.4
LZH				AMB	AMB		
	comp=Z,147nm,1.5s,mb5.7						
LZH				AMB	AMB		
	comp=Z,330nm,4.0s						
LZH				LR	LR		
	comp=N,6μm,16.1s						
LZH				LR	LR		
	comp=Z,7μm,17.6s,MS5.5						
SMLA	**Simla**	**34.59**	**329**	*i*	**S**	**13 29 28.0**

GTA AMB AMB
comp=Z,536nm,10.3s
GTA LR LR
comp=N,1μm,15.2s,MS5.1
GTA LR LR
comp=E,2μm,16.4s,MS5.1
GTA LR LR
comp=Z,2μm,16.0s,MS4.9
KAKA Kakadu 37.97 114⇑ *i*P **P 13 24 32.5 -2.1**
comp=Z,63nm,0.6s,mb5.5
MUN Mundaring 38.32 153 *e*P **P 13 24 40.1 +2.7**
comp=Z,64nm,0.8s,mb5.4
MUN Mundaring 38.32 153 *e*P **P 13 24 40.1 +2.7**
MUN pmax pmax
comp=Z,64nm,0.8s,mb5.4
KLBR Kellerberrin 38.71 151 *e*P **P 13 24 48.4 +7.7**
comp=Z,530nm,0.9s,mb6.3
JOW Kunigami 38.76 48 P **P 13 24 41.2 +0.1**
comp=Z,39nm,0.5s,mb5.4,baz=228,slow=7.7,SNR=24
JOW LR LR 13 40 04.4
comp=Z,1μm,21.9s,MS4.7,baz=290,slow=35
TIA Tai'an 38.76 26 P **P 13 24 40.5 -0.5**
TIA AMB AMB
comp=Z,105nm,1.1s,mb5.5
NWAO Narrogin (SRO) 39.58 153 P **P 13 24 47.4 -0.5**
NWAO *PP pP 13 24 54.6 -2.1
NWAO pmax pmax
comp=Z,4.0nm,0.8s
NWAO pmax pmax
comp=Z,24nm,0.9s
NWAO MLR MLR
comp=Z,3μm,20.0s
NWAO Narrogin (SRO) 39.58 153 P **P 13 24 47.4 -0.5**
comp=Z,4.1nm,0.8s,baz=276,slow=12,SNR=2.4
NWAO pP pP 13 24 54.6 -2.1
comp=Z,24nm,0.8s,baz=318,slow=9.9,SNR=7.8
NWAO LR LR 13 40 42.2
comp=Z,3μm,20.0s,MS5.0,baz=294,slow=36
NWAO Narrogin (SRO) 39.58 153 *e*P **P 13 24 47.3 -0.6**
comp=Z,22nm,0.8s,mb4.9
BTO Baotou 40.17 15 *e*P **P 13 24 52.0 -0.7**
BTO S **S 13 30 48.3 -9.0**
BTO AMB AMB
comp=Z,74nm,1.4s,mb5.2
BTO LR LR
comp=N,2μm,13.0s
BTO LR LR
comp=E,2μm,20.6s
HHC Hu-ho-hao-te 40.83 17⇑ P **P 13 24 59.0 +0.9**
HHC AP pP 13 25 07.0 +0.1
HHC PP PP 13 26 39.3 +4.0
HHC PCP PcP 13 26 57.0 -2.3
HHC SCP 13 30 45.3
HHC PCS 13 30 47.3
HHC S **S 13 31 11.3 +4.3**
HHC XS 13 31 24.3
HHC SCS ScS 13 35 03.0 +4.2
HHC AMB AMB
comp=Z,108nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,439nm,7.2s
HHC LR LR
comp=N,4μm,14.7s,MS5.5
HHC LR LR
comp=E,2μm,16.7s,MS5.5
HHC LR LR
comp=Z,4μm,14.7s,MS5.4
BJT Baijiatuau 41.62 22 *e*P **P 13 25 05.6 +1.0**
BJT pmax pmax
comp=Z,481nm,1.0s
BJT Baijiatuau 41.62 22 *e*P **P 13 25 05.6 +1.0**
comp=Z,481nm,1.0s,mb6.1
BJI Beijing 41.64 22 *e*P **P 13 25 05.8 +1.0**
BJI AP pP 13 25 13.0 -0.6
BJI XP sP 13 25 17.5 +0.2
BJI PP PP 13 26 38.8 -5.3
BJI S **S 13 31 14.0 -5.1**
BJI XS 13 31 32.8
BJI SCS ScS 13 35 07.5 +3.8
BJI LR LR
comp=N,3μm,15.2s,MS5.3
BJI LR LR
comp=E,2μm,16.8s,MS5.3
BJI LR LR
comp=Z,1μm,19.0s,MS4.8
KSH Kashi 42.03 335 *e*P **P 13 25 07.3 -0.8**
KSH *e*AP pP 13 25 16.3 -0.6
KSH *e*XP sP 13 25 20.0 -0.5
KSH *e*PP PP 13 26 46.0 -2.4
KSH *e*PCP PcP 13 27 04.0 +0.7
KSH *e*PPP PPP 13 27 17.3 -3.1
KSH *e*SCP 13 30 50.0
KSH *e*PCS 13 30 54.3
KSH *e*S **S 13 31 21.5 -3.5**
KSH *e*XS 13 31 37.0
KSH *e*SS SS 13 34 21.3 -5.8
KSH *e*SCS ScS 13 35 05.0 -1.1
KSH AMB AMB
comp=Z,760nm,4.0s
KSH LR LR
comp=N,1μm,16.1s,MS5.3
KSH LR LR
comp=E,3μm,20.6s,MS5.3
WMQ Urumqi 42.49 350⇑ *i*P **P 13 25 12.0 +0.2**
WMQ AP pP 13 25 22.0 +1.4
WMQ XP sP 13 25 26.0 +1.8
WMQ PP PP 13 26 53.5 +0.5
WMQ PCP PcP 13 27 05.0 +0.2
WMQ S **S 13 31 31.5 -0.2**
WMQ XS 13 31 48.0
WMQ AMB AMB
comp=Z,108nm,4.8s
WMQ LR LR
comp=N,1μm,21.7s,MS4.9
WMQ LR LR
comp=E,1μm,18.4s,MS4.9
WMQ LR LR
comp=Z,874nm,19.5s,MS4.7
WRA Warramunga Arr 42.50 123 P **P 13 25 11.1 -1.1**
WRA *PP pP 13 25 18.3 -2.7
WRA 13 27 04.4
WRA S **S 13 31 26.7 -5.4**
WRA Warramunga Arr 42.50 123 P **P 13 25 11.1 -1.0**
comp=Z,16nm,0.6s,mb5.0,baz=301,slow=9.1,SNR=232
WRA pP pP 13 25 18.3 -2.7
comp=Z,35nm,0.6s,baz=302,slow=9.2,SNR=29
WRA PcP PcP 13 27 04.4 -0.8
comp=Z,6.8nm,0.8s,baz=320,slow=2.4,SNR=5.6
WRA ScP 13 30 52.9
comp=Z,0.2nm,0.7s,baz=326,slow=3.0,SNR=4.7
WRA S **S 13 31 26.7 -5.4**
comp=Z,1.0nm,0.8s,baz=288,slow=12,SNR=4.8
WRAB Tennant Creek 42.51 123⇓ *i*P **P 13 25 11.8 -0.4**
WRAB Tennant Creek 42.51 123 *e*P **P 13 25 10.7 -1.5**
comp=Z,52nm,0.6s,mb5.4
WB2 Warramunga Arr 42.51 123 *e*P **P 13 25 11.0 -1.2**
DL2 Dalian 43.02 28 P **P 13 25 16.5 +0.4**
DL2 S **S 13 31 40.8 +1.4**
DL2 AMB AMB
comp=Z,240nm,0.8s,mb6.0
DL2 AMB AMB
comp=Z,130nm,4.5s
DL2 LR LR
comp=N,1μm,19.7s
DL2 LR LR
comp=Z,1μm,16.2s,MS4.9
FORT Forrest 43.91 140 *e*P **P 13 25 24.1 +0.6**
comp=Z,2μm,0.6s
ASPA Alice Springs 43.91 128 *e*P **P 13 25 23.0 -0.6**
ASAR Alice Springs 43.92 128 P **P 13 25 22.8 -0.8**
ASAR *PP pP 13 25 31.0 -1.4
ASAR 13 27 09.1
ASAR S **S 13 31 50.6 -2.0**
ASAR Alice Springs 43.92 128 P **P 13 25 22.8 -0.8**
comp=Z,8.4nm,0.7s,mb4.6,baz=298,slow=7.8,SNR=93
ASAR pP pP 13 25 31.0 -1.5
comp=Z,10nm,0.7s,baz=297,slow=8.1,SNR=18
ASAR PcP PcP 13 27 09.1 -0.8
comp=Z,6.0nm,0.7s,baz=297,slow=3.6,SNR=6.9
ASAR ScP 13 30 58.5
comp=Z,2.5nm,0.9s,baz=294,slow=4.1,SNR=5.4
ASAR S **S 13 31 50.6 -2.0**
comp=Z,1.4nm,0.8s,baz=298,slow=13,SNR=4.3
ASAR LR LR 13 46 30.9
comp=Z,784nm,18.7s,MS4.7,baz=300,slow=40

ULHL Ulahol 44.25 338 P **P 13 25 27.8 +1.8**
SNR=18
KZA Kyzart 44.49 337 P **P 13 25 28.7 +0.7**
SNR=48
INCN Inchon 44.53 34 *e*P **P 13 25 27.3 -1.1**
comp=Z,48nm,1.0s,mb5.3
UCH Uchtor 44.91 336 P **P 13 25 32.4 +1.0**
SNR=95
TKM2 Tokmak 2 45.07 338 P **P 13 25 33.1 +0.4**
SNR=69
KBK Karagaybulak 45.10 337 P **P 13 25 33.9 +1.1**
SNR=104
AML Almayashu 45.17 335 P **P 13 25 34.0 +0.6**
SNR=96
KS15 Wonju Array Si 45.21 35 *e*P **P 13 25 33.4 -0.5**
AAK Ala-Archa 45.26 336 P **P 13 25 34.8 +0.7**
SNR=34
AAK Ala-Archa 45.26 336*c i*P **P 13 25 33.8 -0.3**
AAK pmax pmax
comp=Z,47nm,1.3s,mb5.2
AAK Ala-Archa 45.26 336 *e*P **P 13 25 33.5 -0.6**
comp=Z,75nm,1.3s,mb5.4
FRU Bishkek 45.38 337⇑ *e*P **P 13 25 35.5 +0.4**
FRU pmax pmax
comp=Z,250nm,2.1s,mb5.7
FRU MLR MLR
comp=Z,1μm,18.0s,MS4.8
CHMS Chumysh 45.47 337 P **P 13 25 35.9 +0.1**
SNR=24
EKS2 Erkin-Say 45.57 336 P **P 13 25 37.6 +1.0**
SNR=20
USP Ospenovka 45.79 337 P **P 13 25 38.7 +0.4**
SNR=104
SNY Shenyang 46.24 27⇑ P **P 13 25 41.3 -0.6**
SNY AP pP 13 25 51.0 +0.3
SNY XP sP 13 25 57.0 +2.7
SNY PP PP 13 27 31.5 +1.1
SNY AMB AMB
comp=Z,150nm,1.2s,mb5.8
SNY LR LR
comp=N,3μm,17.9s,MS5.4
SNY LR LR
comp=E,1μm,18.4s,MS5.4
SNY LR LR
comp=Z,3μm,18.8s,MS5.3
MKAR Makanchi Array 46.47 346 *e*P **P 13 25 44.2 +0.6**
MKAR pmax pmax
comp=Z,22nm,0.6s
MKAR Makanchi Array 46.47 346 P **P 13 25 42.3 -1.3**
comp=Z,8.7nm,0.5s,mb4.9,baz=166,slow=5.9,SNR=30
MKAR pP pP 13 25 52.3 -0.2
comp=Z,40nm,0.9s,baz=153,slow=6.4,SNR=13
MKAR LR LR 13 48 58.3
comp=Z,1μm,20.6s,MS4.9,baz=172,slow=41
KKAR Karatay Array 47.33 333 *i* P **P 13 25 50.4 -0.1**
KKAR pmax pmax
comp=Z,140nm,1.6s,mb5.6
ZAK Zakamensk 48.50 5⇓ *i*P **P 13 25 59.0 -0.5**
ZAK pmax pmax
comp=Z,37nm,1.7s,mb5.1
CN2 Changchun 48.64 27 *e*P **P 13 25 59.8 -0.8**
CN2 *e*S **S 13 32 58.5 -1.2**
CN2 AMB AMB
comp=Z,140nm,0.7s,mb6.1
CN2 LR LR
comp=N,3μm,15.0s,MS5.5
CN2 LR LR
comp=E,1μm,15.0s,MS5.5
CN2 LR LR
comp=Z,3μm,16.0s,MS5.3
MOY Mondy 49.61 3 *e*P **P 13 26 08.1 +0.1**
MOY pmax pmax
comp=Z,120nm,2.7s,mb5.5
TLY Talaya 49.82 5 *e*P **P 13 26 09.9 +0.3**
TLY *e* 13 28 08.2
TLY *e*S **S 13 33 15.5 -0.6**
TLY *e*PS PS 13 33 37.1 +8.9
TLY pmax pmax
comp=Z,64nm,1.1s,mb5.6
TLY MLR MLR
comp=Z,3μm,17.0s,MS5.4
TLY Talaya 49.82 5 *e*P **P 13 26 10.0 +0.3**
comp=Z,36nm,0.9s,mb5.4
CBIJ Chichi jima 49.83 56 P **P 13 26 08.2 -1.8**
comp=Z,61nm,0.6s,mb5.8,baz=291,slow=21,SNR=9.2
CBIJ LR LR 13 45 21.6
comp=Z,600nm,21.0s,MS4.6,baz=251,slow=34
IRK Irkutsk 50.44 6 *e*P **P 13 26 13.8 -0.5**
IRK pmax pmax
comp=Z,181nm,1.9s,mb5.8
VAN Vannovskaya 50.59 320⇓ *i*P **P 13 26 14.9 -0.8**
VAN S **S 13 33 26.8 -0.1**
HIA Hailar 50.92 19 *e*P **P 13 26 17.6 -0.4**
HIA pmax pmax
comp=Z,98nm,1.0s
HIA Hailar 50.92 19 *e*P **P 13 26 17.6 -0.5**
comp=Z,98nm,1.0s,mb5.7
PMG Port Moresby 51.09 104 P **P 13 26 19.2 -0.6**
PMG pmax pmax
comp=Z,71nm,0.7s
PMG Port Moresby 51.09 104 P **P 13 26 19.2 -0.6**
comp=Z,71nm,0.7s,mb5.7,baz=332,slow=2.0,SNR=25
PMG Port Moresby 51.09 104 *e*P **P 13 26 18.8 -1.0**
comp=Z,67nm,0.8s,mb5.6
MAJO Matsushiro 51.16 43 *e*P **P 13 26 19.1 -0.9**
MAJO pmax pmax
comp=Z,37nm,0.8s,mb5.4
MAJO Matsushiro 51.16 43 *e*P **P 13 26 19.1 -1.0**
comp=Z,37nm,0.8s,mb5.4
MAT Matsushiro 51.16 43 *e*P **P 13 26 19.0 -1.0**
MAT *e*S **S 13 33 47.0 +12**
MAT pmax pmax
comp=Z,140nm,1.6s,mb5.6
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 51.16 43 *e*P **P 13 26 19.0 -1.0**
comp=Z,140nm,1.6s,mb5.6
MAT *e*S **S 13 33 47.0 +12**
MAT LR LR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 51.16 43 P **P 13 26 18.8 -1.2**
MAT S **S 13 33 40.0 +5.3**
MJAR Matsushiro Ar 51.16 43 P **P 13 26 19.2 -0.8**
comp=Z,37nm,0.9s,mb5.3,baz=221,slow=6.6,SNR=71
MJAR LR LR 13 49 40.1
comp=Z,1μm,18.6s,MS4.9,baz=235,slow=38
MDJ Mudanjiang 51.22 29 P **P 13 26 20.0 -0.4**
MDJ AP pP 13 26 29.0 -0.4
MDJ XP sP 13 26 33.0 +0.2
MDJ PCP PcP 13 27 35.5 0.0
MDJ PP PP 13 28 20.0 +2.0
MDJ SCP 13 31 28.8
MDJ PCS 13 31 32.8
MDJ SCS ScS 13 36 08.3 +2.8
MDJ AMB AMB
comp=Z,67nm,1.2s,mb5.5
MDJ AMB AMB
comp=Z,335nm,6.0s
MDJ LR LR
comp=N,835nm,16.0s,MS5.0
MDJ LR LR
comp=E,992nm,18.9s,MS5.0
MDJ LR LR
comp=Z,2μm,21.0s,MS5.0
MDJ Mudanjiang 51.22 29 *e*P **P 13 26 20.5 +0.1**
comp=Z,126nm,1.2s,mb5.7
ZAL Zalesovo 52.77 351 P **P 13 26 31.5 -0.4**
comp=Z,109nm,0.6s,mb6.0,baz=305,slow=5.9,SNR=310
ZAL S **S 13 33 57.5 +0.9**
comp=Z,1.5nm,0.7s,baz=184,slow=20,SNR=9.6
ZAL LR LR 13 53 09.0
comp=Z,810nm,19.0s,MS4.8,baz=297,slow=41
ZAL Zalesovo 52.77 351 P **P 13 26 31.5 -0.4**
ZAL S **S 13 33 57.5 +0.9**
ZAL LR LR 13 53 09.0
CTA Charters Tower 52.91 117 P **P 13 26 32.8 -0.7**
comp=Z,41nm,0.8s,mb5.4,baz=284,slow=7.4,SNR=33
CTA LR LR 13 51 38.9
comp=Z,1μm,21.1s,MS4.9,baz=281,slow=39
CTAO Charters Tower 52.91 117 *e*P **P 13 26 32.5 -0.9**
CTAO pmax pmax
comp=Z,57nm,1.0s,mb5.5
CTAO MLR MLR
comp=Z,1μm,19.0s,MS5.0
CTAO Charters Tower 52.91 117 *e*P **P 13 26 32.5 -0.9**
comp=Z,57nm,1.0s,mb5.5

CTAO LR LR
comp=Z,1μm,19.0s,MS5.0
NVS Novosibirsk 53.90 350⇑ *i*P **P 13 26 38.1 -2.1**
NVS *e* pP 13 26 46.8 -2.4
NVS *i* S **S 13 34 05.6 -6.3**
NVS pmax pmax
comp=Z,188nm,1.1s,mb5.9
NVS pmax pmax
comp=N,165nm,1.4s
NVS pmax pmax
comp=E,102nm,1.3s
NVS smax
comp=E,88nm,1.7s
STKA Stephens Creek 53.93 133 *e*P **P 13 26 40.1 -0.6**
comp=E,19nm,0.8s,mb5.1
STKA Stephens Creek 53.93 133 P **P 13 26 40.0 -0.7**
comp=E,25nm,0.9s,mb5.1,baz=308,slow=6.7,SNR=21
STKA LR LR 13 49 56.8
comp=E,1μm,21.6s,MS5.0,baz=117,slow=36
BVA0 Borovoye Array 55.49 341 *i* P **P 13 26 50.6 -1.3**
BVA0 pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BVAR Borovoye Array 55.49 341 P **P 13 26 50.2 -1.7**
comp=Z,43nm,0.7s,mb5.6,baz=144,slow=8.5,SNR=221
KLR Kul'dur 55.58 27⇓ *i*P **P 13 26 49.2 -3.4**
KLR *e* pP 13 26 56.5 -5.1
KLR *e*S **S 13 34 36.0 +1.5**
KLR pmax pmax
comp=N,77nm,1.8s
KLR pmax pmax
comp=E,150nm,1.8s
KLR pmax pmax
comp=Z,200nm,1.8s,mb5.8
KLR MLR MLR
comp=N,6μm,13.0s,MS5.9
KLR MLR MLR
comp=E,1μm,13.0s,MS5.9
KLR MLR MLR
comp=Z,8μm,13.0s,MS6.0
CHKZ Chkalovo 55.97 341 P **P 13 26 54.3 -1.0**
CHKZ pmax pmax
comp=Z,96nm,0.9s,mb5.8
CHKZ Chkalovo 55.97 341 *e*P **P 13 26 54.2 -1.1**
comp=Z,109nm,0.8s,mb5.9
AB31 Akbulak array 56.80 332 P **P 13 26 59.9 -1.4**
AB31 pmax pmax
comp=Z,68nm,0.8s,mb5.7
BOD Bodaibo 57.25 11⇓ *i*P **P 13 27 03.4 -1.0**
BOD pmax pmax
comp=Z,55nm,1.3s,mb5.4
ASAJ Asahikawa 58.08 37 LR LR 13 51 53.0
comp=Z,1μm,21.2s,MS4.9,baz=343,slow=36
BHD Baghdad 58.30 308 *e*P **P 13 27 08.0 -4.1**
CLNS Chul'man 59.01 17 *e*P **P 13 27 14.5 -2.2**
CLNS *e**PP pP 13 27 21.2 -4.7
CLNS *e* 13 29 31.9
CLNS *e*S **S 13 35 36.0 +16**
CLNS pmax pmax
comp=Z,53nm,0.7s,mb5.7
CLNS pmax pmax
comp=N,29nm,0.8s
CLNS pmax pmax
comp=E,24nm,0.7s
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,8.0nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS MLR MLR
comp=N,3μm,16.0s,MS5.4
CLNS MLR MLR
comp=Z,4μm,16.0s,MS5.7
CLNS MLR MLR
comp=E,700nm,19.0s,MS5.4
YSS Yuzh-Sakhalins 59.74 35α *i*P **P 13 27 21.2 -0.7**
YSS *e* pP 13 27 29.5 -1.6
YSS pmax pmax
comp=Z,220nm,1.0s,mb6.1
YSS pmax pmax
comp=Z,160nm,1.0s,mb6.0
YSS MLR MLR
comp=Z,2μm,15.0s,MS5.2
YSS MLR MLR
comp=N,1μm,16.0s,MS5.3
YSS MLR MLR
comp=E,2μm,17.0s,MS5.3
YSS Yuzh-Sakhalins 59.74 35 *e*P **P 13 27 21.3 -0.6**
comp=E,250nm,1.1s,mb6.2
KMBO Kilima Mbogo 59.96 268 P **P 13 27 23.9 +0.1**
comp=E,12nm,0.9s,mb5.0,baz=60,slow=8.3,SNR=22
KMBO LR LR 13 51 09.1
comp=E,844nm,18.5s,MS4.9,baz=93,slow=34
KMBO Kilima Mbogo 59.96 268 *e*P **P 13 27 23.1 -0.7**
comp=E,14nm,0.9s,mb5.0
KMBO LR LR
comp=Z,849nm,19.0s,MS4.9
MSL Mosul 60.37 311 *e*P **P 13 27 20.5 -5.9**
GNI Garni 60.69 316 P **P 13 27 28.2 -0.3**
comp=Z,5.0nm,0.5s,mb4.9,baz=178,slow=11,SNR=12
DGRG David-gareji 60.81 317 P **P 13 27 28.3 -1.0**
ARMA Armidale 61.05 127 *e*P **P 13 27 31.7 +0.7**
TI2 Plekhanov 61.36 317⇑ *i*P **P 13 27 33.0 0.0**
TI2 pmax pmax
comp=Z,60nm,1.0s,mb5.7
SVE Sverdlovsk 61.94 338⇑ *i*P **P 13 27 34.5 -2.2**
SVE *e* 13 27 45.8
SVE *e*S **S 13 35 54.0 -3.1**
SVE *e*PS PS 13 36 22.0 +4.4
SVE *e* 13 37 28.0
SVE pmax pmax
comp=Z,180nm,2.3s,mb5.8
ZEI Tsey 62.37 318 *e*P **P 13 27 38.8 -1.0**
ZEI *i* 13 29 58.3
ZEI pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
ARU Arti 62.44 337⇓ *i*P **P 13 27 38.3 -1.8**
ARU *e* 13 28 13.4
ARU *e* 13 29 55.4
ARU *e*S **S 13 36 05.2 +1.8**
ARU *e* 13 37 27.4
ARU *e*SS SS 13 40 10.9 +1.7
ARU pmax pmax
comp=Z,50nm,1.0s,mb5.6
ARU MLR MLR
comp=Z,700nm,21.0s,MS4.8
ARU MLR MLR
comp=N,600nm,20.0s,MS4.9
ARU MLR MLR
comp=E,700nm,21.0s,MS4.9
ARU Arti 62.44 337 *e*P **P 13 27 37.9 -2.2**
comp=E,38nm,0.9s,mb5.5
ONI Oni 62.59 318 P **P 13 27 40.7 -0.5**
HNR Honiara 63.58 101 *e*P **P 13 27 46.7 -1.5**
HNR pmax pmax
comp=Z,138nm,0.9s,mb6.0
HNR Honiara 63.58 101 *e*P **P 13 27 46.7 -1.5**
comp=Z,138nm,0.9s,mb6.0
KIV Kislovodsk 63.68 319*c i*P **P 13 27 47.0 -1.4**
KIV *i* pP 13 27 54.6 -3.0
KIV *i* 13 28 01.5
KIV *e* 13 30 11.2
KIV *i*S **S 13 36 18.1 -1.0**
KIV *e*PS PS 13 36 31.8 -10
KIV *e*PPS PPS 13 36 53.7 +2.7
KIV *i* 13 37 37.8
KIV *e*SS SS 13 40 27.9 -0.6
KIV pmax pmax
comp=Z,42nm,1.2s,mb5.3
KIV Kislovodsk 63.68 319⇑ *i*P **P 13 27 47.1 -1.3**
GOF Gofitskoye 63.92 320⇑ *i*P **P 13 27 47.8 -2.2**
GOF *i*S **S 13 36 22.9 +0.8**
GOF pmax pmax
comp=Z,70nm,1.7s,mb5.4
GOF smax
comp=E,440nm,4.1s
ASF Jabal al Asfar 63.97 305 P **P 13 27 50.3 -0.3**
comp=E,2.7nm,0.6s,mb4.5,baz=320,slow=9.8,SNR=6.9
MALT Malatya 64.56 312 *e*P **P 13 27 53.5 -0.8**
MALT pmax pmax
comp=Z,16nm,1.1s,mb5.0
MALT Malatya 64.56 312 *e*P **P 13 27 53.5 -0.8**
comp=Z,16nm,1.1s,mb5.0
YAK Yakutsk 64.69 16*c i*P **P 13 27 53.4 -1.3**
YAK *e**PP pP 13 28 02.0 -1.9

YAK e 13 28 25.4
YAK e 13 30 17.7
YAK ePPP PPP 13 31 46.6 -5.7
YAK eS **S** **13 36 31.4 +0.1**
YAK e 13 37 43.8
YAK pmax pmax
comp=N,83nm,1.0s
YAK pmax pmax
comp=Z,245nm,1.0s,mb6.2
YAK pmax pmax
comp=E,63nm,1.1s
YAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK smax
comp=N,30nm,7.8s
YAK smax
comp=E,6.0nm,6.8s
YAK MLR MLR
comp=Z,2µm,16.0s,MS5.4
YAK MLR MLR
comp=N,1µm,15.0s
YAK MLR MLR
comp=E,804nm,25.0s
YAK Yakutsk 64.69 16 eP **P** **13 27 53.2 -1.5**
comp=E,536nm,1.0s
GZT Gaziantep 64.91 311 i P **P** **13 27 55.7 -0.8**
EIL Elat 64.99 302 eP **P** **13 27 56.1 -1.1**
comp=E,31nm,1.3s,mb5.2
SOKR Solikamsk 65.33 339c iP **P** **13 27 57.3 -1.6**
SOKR pmax pmax
comp=Z,60nm,0.8s,mb5.7
SOC Sochi 65.50 318c iP **P** **13 27 57.0 -3.2**
SOC e 13 28 27.7
SOC e 13 30 20.7
SOC ePPP PPP 13 31 54.9 -6.2
SOC eS S 13 36 40.6 -1.0
SOC eSS SS 13 40 54.8 -2.1
SOC pmax pmax
comp=Z,20nm,0.6s,mb5.3
SOC pmax pmax
comp=N,27nm,1.0s
SOC pmax pmax
comp=E,25nm,1.0s
MBAR Mbarara 66.44 268 eP **P** **13 28 05.6 -1.2**
MBAR pmax pmax
comp=Z,12nm,1.0s,mb4.9
MBAR Mbarara 66.44 268 eP **P** **13 28 05.6 -1.2**
comp=Z,12nm,1.0s,mb4.9
AVNT Avonos 67.37 311 i P **P** **13 28 11.1 -1.2**
ANN Anapa 67.47 318 eP **P** **13 28 09.0 -3.8**
ANN eS S 13 36 59.5 -6.0
ANN pmax pmax
comp=Z,20nm,1.5s,mb4.9
CTKT Corum 67.95 313 i P **P** **13 28 16.1 +0.2**
BOYT Boyabat 68.11 314 i P **P** **13 28 11.7 -5.1**
BRTR Keskin Array B 68.54 312 P **P** **13 28 17.6 -2.0**
comp=Z,5.8nm,0.7s,mb4.6,baz=128,slow=6.6,SNR=35
CASY Casey 68.79 174 eP pP 13 28 27.6 -2.2
CASY Casey 68.79 174 eP **P** **13 28 19.7 -0.9**
comp=Z,12nm,0.8s,mb4.9
BALT Daday 69.23 314 i P **P** **13 28 23.5 -0.3**
SIM Simferopol' 69.75 318⇓ eP **P** **13 28 27.5 +0.7**
SIM eS S 13 37 31.0 -1.4
SIM pmax pmax
comp=Z,30nm,1.6s,mb5.0
SIM MLR MLR
comp=Z,300nm,20.0s,MS4.5
SGKT Sivrigoynuk 69.94 313 i P **P** **13 28 26.1 -2.0**
LSZ Lusaka 70.28 253 eP **P** **13 28 28.5 -2.0**
LSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
LSZ Lusaka 70.28 253 eP **P** **13 28 28.5 -2.0**
comp=Z,6.2nm,0.8s,mb4.6
ESKT Eskisehir 70.57 311 i P **P** **13 28 30.9 -1.0**
PET Petropavlovsk 71.62 34 eP **P** **13 28 38.0 0.0**
PET eS S 13 37 57.8 +3.7
PET ePS PS 13 38 27.8 +0.4
PET pmax pmax
comp=Z,119nm,0.6s,mb6.0
PET pmax pmax
comp=Z,100nm,16.7s
PET MLR MLR
comp=Z,800nm,19.0s,MS5.0
PET Petropavlovsk 71.62 34 eP **P** **13 28 37.4 -0.6**
comp=Z,40nm,0.5s,mb5.6
MOS Moscow 71.63 329 eP **P** **13 28 36.3 -1.8**
MOS e pP 13 28 43.6 -3.7
MOS e 13 28 53.8
MOS e 13 31 14.1
MOS eS S 13 37 49.5 -4.7
MOS pmax pmax
comp=Z,300nm,1.6s,mb6.0
MOS pmax pmax
comp=Z,177nm,1.4s,mb5.8
MOS MLR MLR
comp=Z,2µm,21.2s,MS5.2
DZM Mont Dzumac 71.65 114 P **P** **13 28 37.9 -0.9**
comp=Z,18nm,1.0s,mb5.0,baz=355,slow=2.6,SNR=5.7
OBN Obninsk 71.92 328α iP **P** **13 28 38.6 -1.2**
OBN i pP 13 28 47.5 -1.5
OBN e 13 28 56.1
OBN e 13 31 22.5
OBN eS S 13 37 53.5 -4.0
OBN e 13 38 37.2
OBN i SS SS 13 42 33.0 -3.0
OBN pmax pmax
comp=Z,65nm,1.2s,mb5.4
OBN MLR MLR
comp=Z,500nm,20.0s,MS4.8
OBN Obninsk 71.92 328 eP **P** **13 28 38.3 -1.5**
comp=Z,102nm,1.4s,mb5.6
OBN e pP 13 28 47.1 -1.9
ULDT Uludag 72.00 312 i P **P** **13 28 39.6 -1.0**
MANT Manisa 72.08 310 i P **P** **13 28 40.5 -0.6**
BTOK Tokmak 72.74 311 i P **P** **13 28 44.4 -0.7**
MAW Mawson 73.46 193 eP **P** **13 28 48.7 +0.1**
comp=Z,8.1nm,0.6s,mb4.8
MAW Mawson 73.46 193 eP **P** **13 28 48.7 +0.1**
MAW pmax pmax
comp=Z,8.0nm,0.6s
MAW Mawson 73.46 193 P **P** **13 28 48.4 -0.2**
comp=Z,5.1nm,0.6s,mb4.6,baz=17,slow=5.7,SNR=16
MAW LR LR 13 54 49.7
comp=Z,858nm,20.3s,MS5.0,baz=52,slow=31
TIRR Tirgusor 73.52 316 ⇓P **P** **13 28 48.3 -1.1**
CFR Carcaliu 73.88 317 ⇑P **P** **13 28 50.6 -0.9**
CFR Carcaliu 73.88 317 ⇑P **P** **13 28 50.5 -1.0**
LBTB Lobatse 74.18 243 eP **P** **13 28 52.6 -1.0**
LBTB pmax pmax
comp=Z,12nm,0.9s,mb4.8
LBTB MLR MLR
comp=Z,1µm,20.0s,MS5.1
LBTB Lobatse 74.18 243 eP **P** **13 28 52.5 -1.1**
comp=Z,12nm,0.9s,mb4.8
LBTB LR LR
comp=Z,1µm,20.0s,MS5.1
AKASG Malin Array Be 74.60 322 P **P** **13 28 53.6 -1.9**
comp=Z,12nm,0.7s,mb5.0,baz=90,slow=4.7,SNR=66
DRV Dumont d'Urvil 74.92 164 S S 13 38 36.0 +5.0
VRI Vrincioaia 75.00 317 ⇑P **P** **13 28 58.4 +0.4**
BOSA Boshof 75.12 240 P **P** **13 28 57.9 -1.1**
comp=Z,7.6nm,0.8s,mb4.7,baz=85,slow=6.1,SNR=13
BOSA LR LR 14 00 15.0
comp=Z,908nm,18.0s,MS5.1,baz=61,slow=34
MLR Muntele Rosu 75.46 317 P **P** **13 29 00.1 -0.5**
comp=Z,12nm,0.8s,mb4.9,baz=149,slow=2.4,SNR=21
MLR Muntele Rosu 75.46 317 ⇑P **P** **13 29 00.9 +0.3**
VOIR 76.06 316 ⇑P **P** **13 29 05.1 +1.1**
BURAR Bucovina Array 76.40 319 ⇑P **P** **13 29 06.4 +0.5**
BURAR Bucovina Array 76.40 319 ⇑P **P** **13 29 06.4 +0.5**
PUL Pulkovo 76.78 331 i P **P** **13 29 07.2 -0.5**
ZAPS Zavoj/Pirot 77.39 314⇑ iP **P** **13 29 10.6 -0.8**
JOF Joensuu 77.41 335 ep **P** **13 29 09.7 -1.5**
comp=Z,21nm,1.0s,mb5.0
LVV L'vov 77.62 321 eP **P** **13 29 11.3 -1.3**
LVV e 13 32 10.1
LVV e 13 33 56.3
LVV eS S 13 38 52.9 -8.0
DRGR 77.92 317 ⇑P **P** **13 29 15.1 +0.8**
SKO Skopje 78.05 312 eP sP 13 29 33.0 +5.4
LVZ Lovozero 78.08 340 i P **P** **13 29 14.2 -0.5**

APA Apatity 78.37 339⇑ iP **P** **13 29 15.5 -0.9**
APA i pP 13 29 23.6 -2.1
APA i 13 29 32.7
APA eS S 13 39 14.0 +5.4
APA pmax pmax
comp=Z,36nm,1.0s,mb5.3
KWP Kalwaria 78.43 320 eP **P** **13 29 16.6 -0.4**
KWP pmax pmax
comp=Z,64nm,0.5s,mb5.8
KWP Kalwaria 78.43 320 eP **P** **13 29 16.6 -0.4**
comp=Z,64nm,0.5s,mb5.8
BZS Buzias 78.47 316 P **P** **13 29 17.7 +0.4**
UZH Uzhgorod 78.52 319 eP **P** **13 29 10.0 -7.5**
KOLS Kolonicke sedl 78.58 320 i P **P** **13 29 18.5 +0.6**
KOLS epP pP 13 29 29.8 +2.6
SUW Suwalki 79.00 325 eP **P** **13 29 18.0 -2.1**
SUW pmax pmax
comp=Z,109nm,1.0s,mb5.7
SUW Suwalki 79.00 325 eP **P** **13 29 18.0 -2.0**
comp=Z,109nm,1.0s,mb5.7
CRVS Cervenica-Dubn 79.11 319 eP **P** **13 29 25.1 +4.4**
CRVS Cervenica-Dubn 79.11 319 e **P** **13 29 25.1 +4.4**
FINES FINESS Array B 79.28 332 P **P** **13 29 20.8 -0.6**
comp=Z,13nm,0.7s,mb5.0,baz=96,slow=6.4,SNR=58
FINES pP pP 13 29 29.9 -0.9
comp=Z,6.2nm,0.7s,baz=90,slow=5.6,SNR=6.9
FINES LR LR 14 09 49.3
comp=Z,286nm,19.1s,MS4.6,baz=113,slow=40
FINES FINESS Array B 79.28 332 P **P** **13 29 20.8 -0.6**
FINES pP pP 13 29 29.9 -0.9
FINES LR LR 14 09 49.4
KAF Kangasniemi 79.36 333 ep **P** **13 29 19.8 -2.0**
comp=Z,24nm,0.7s,mb5.2,baz=103,slow=5.1
KAF Kangasniemi 79.36 333 eP **P** **13 29 19.8 -2.0**
KAF pmax pmax
comp=Z,24nm,0.7s,mb5.2
DIVS Divcibare 79.39 314⇑ iP **P** **13 29 21.7 -0.7**
KECS Kecovo 79.68 319 eP **P** **13 29 24.4 +0.6**
BBLS Bajina Basta - 79.78 314⇑ iP **P** **13 29 24.2 -0.3**
RPZ Rata Peaks 79.80 135 P **P** **13 29 25.0 +0.4**
comp=Z,33nm,0.8s,mb5.3,baz=317,slow=3.7,SNR=18
PSZ Piszkesteto 79.98 318 ⇑P **P** **13 29 26.0 +0.5**
PSZ Piszkesteto 79.98 318 P **P** **13 29 26.2 +0.7**
FX1 Attu Island--F 80.00 37 eP **P** **13 29 25.9 +0.4**
OJC Ojcow 80.38 321 eP **P** **13 29 26.9 -0.7**
BILL Bilibino 80.46 21d iP **P** **13 29 27.7 +0.1**
BILL pmax pmax
comp=Z,22nm,1.3s,mb4.9
BILL MLR MLR
comp=Z,2µm,17.0s,MS5.5
BILL Bilibino 80.46 21 eP **P** **13 29 26.5 -1.1**
comp=Z,16nm,0.5s,mb5.2
PKSM Moragy 80.61 316 ⇑P **P** **13 29 28.5 -0.4**
SYO Syowa Base 80.73 198 ⇑P **P** **13 29 30.3 +1.3**
SYO Syowa Base 80.73 198 ⇑PcP PcP 13 29 35.1 -1.0
VYHS Vyhne 80.77 319 i P **P** **13 29 30.0 +0.4**
TSUM Tsumeb 80.80 250 eP **P** **13 29 29.8 -0.5**
comp=Z,9.3nm,0.8s,mb4.8
RHK1 Bakonya 80.99 316⇓ iP **P** **13 29 31.2 +0.3**
TIP Timpagrande 81.29 309 eP **P** **13 29 32.5 -0.1**
KEV Kevo 81.34 341 ep **P** **13 29 30.8 -1.4**
comp=Z,18nm,0.8s,mb5.0
KEV Kevo 81.34 341 eP **P** **13 29 30.8 -1.4**
KEV pmax pmax
comp=Z,18nm,0.8s,mb5.0
OKC Ostrava-Krasne 81.39 320 eP **P** **13 29 32.7 -0.1**
OKC epP pP 13 29 44.8 +2.6
MORC Moravsky Berou 81.77 320 P **P** **13 29 35.9 +1.1**
ARCES ARCESS Array B 81.78 340 P **P** **13 29 34.6 +0.1**
comp=Z,30nm,0.9s,mb5.2,baz=99,slow=3.5,SNR=46
ARCES LR LR 14 11 37.5
comp=Z,672nm,19.1s,MS5.0,baz=112,slow=40
ARE0 ARCESS Array S 81.78 340 eP **P** **13 29 35.2 +0.7**
ZST Bratislava 81.88 318 eP **P** **13 29 35.8 +0.4**
ZST epS 13 39 59.6
VRAC Vranov 82.33 319 P **P** **13 29 37.3 -0.4**
comp=Z,1.6nm,0.5s,baz=84,slow=6.2,SNR=5.4
DPC Dobruska-Polom 82.61 320 eP **P** **13 29 39.6 +0.4**
DPC epP pP 13 29 52.1 +3.5
DPC AMS AMS 14 12 50.0
comp=Z,400nm,20.5s
KSP Ksiaz 82.68 321 eP **P** **13 29 40.4 +0.9**
KSP eS S 13 39 55.0 +1.3
KSP MLR MLR
comp=Z,1µm,21.7s,MS5.2
UPC Upice 82.82 321 eP **P** **13 29 41.2 +0.9**
ARSA Arzberg 82.85 317⇑ iP **P** **13 29 41.4 +0.9**
comp=Z,22nm,0.9s,mb5.2
PDKS Podkum 83.12 316 i P **P** **13 29 42.9 +1.0**
OBKA Obir 83.46 316⇑ iP **P** **13 29 43.8 +0.2**
comp=Z,12nm,0.8s,mb5.0
PRU Pruhonice 83.72 320 eP **P** **13 29 45.2 +0.3**
PRU AMS AMS 14 13 50.0
comp=Z,500nm,23.0s
PVCC Panska Ves 83.74 320 eP **P** **13 29 45.6 +0.6**
PVCC AMS AMS 14 13 50.0
comp=Z,500nm,17.6s
MOA Molln 83.75 318⇑ iP **P** **13 29 44.7 -0.4**
comp=Z,11nm,0.8s,mb5.0
VOY Vojsko 83.88 316 eP **P** **13 29 45.3 -0.5**
VOY e pP 13 29 56.2 +0.9
AQU L'Aquila 84.03 312 ⇑P **P** **13 29 47.4 +0.7**
AQU L'Aquila 84.03 312 P **P** **13 29 47.1 +0.4**
BRG Berggiesshubel 84.17 321 i P **P** **13 29 48.1 +1.0**
BRG e 13 29 59.9
BRG eS S 13 40 10.0 +1.4
BRG eSS SS 13 45 39.0 -1.8
BRG pmax pmax
comp=Z,25nm,1.5s,mb5.1
BRG MLR MLR
comp=Z,610nm,19.2s,MS5.0
BRG Berggiesshubel 84.17 321 i P **P** **13 29 48.1 +1.0**
comp=Z,25nm,1.5s,mb5.1
BRG e 13 29 59.9
BRG e 13 30 24.0
BRG eS S 13 40 10.0 +1.4
BRG eSS SS 13 45 39.0 -1.8
BRG LR LR
comp=Z,610nm,19.2s,MS5.0
GEC2 GERESS Array S 84.19 319 eP **P** **13 29 47.2 -0.1**
GEC2 pmax pmax
comp=Z,36nm,1.1s,mb5.4
GEC2 GERESS Array S 84.19 319 eP **P** **13 29 47.2 -0.1**
comp=Z,36nm,1.1s,mb5.4
GERES GERESS Array B 84.19 319 P **P** **13 29 47.3 0.0**
comp=Z,12nm,0.8s,mb5.1,baz=90,slow=4.0,SNR=103
KHC Kasperske Hory 84.28 319 eP **P** **13 29 47.2 -0.6**
KHC AMS AMS 14 13 40.0
comp=Z,300nm,23.6s
KBA Koelnbreinsper 84.32 317⇑ iP **P** **13 29 47.5 -0.5**
comp=Z,10nm,0.9s,mb5.0
KBA Koelnbreinsper 84.32 317⇑ iP **P** **13 29 47.5 -0.5**
KBA pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
WET Wettzell 84.75 319 eP **P** **13 29 49.9 -0.2**
WET pmax pmax
comp=Z,20nm,0.9s,mb5.2
WET Wettzell 84.75 319 eP **P** **13 29 49.9 -0.2**
comp=Z,20nm,0.9s,mb5.2
CLL Collm 84.79 321⇓ iP **P** **13 29 50.4 +0.2**
CLL e 13 30 02.0
CLL eS S 13 40 16.0 +1.3
CLL pmax pmax
comp=Z,12nm,1.1s,mb4.9
CLL Collm 84.79 321⇓ iP **P** **13 29 50.4 +0.2**
comp=Z,12nm,1.1s,mb4.9
CLL e 13 30 02.0
CLL i 13 30 10.8
CLL eS S 13 40 16.0 +1.3
CLL Collm 84.79 321 ⇓P **P** **13 29 50.4 +0.2**
comp=Z,logA/T=1.0,mb4.9
CLL e*SP sP 13 30 02.0 -0.7
CLL i 13 30 10.8
CLL eS S 13 40 16.0 +1.3
CLL ePS PS 13 41 12.0 -2.3
HFS Hagfors 85.01 330 P **P** **13 29 51.2 +0.1**
comp=Z,8.0nm,0.9s,mb4.8,baz=135,slow=4.2,SNR=19
HFS pP pP 13 30 00.7 +0.1
comp=Z,4.6nm,0.5s,baz=108,slow=4.7,SNR=6.7
NKC Novy Kostel 85.08 320 eP **P** **13 29 51.8 +0.1**
NKC AMS AMS 14 14 30.0
comp=Z,500nm,17.8s
WTTA Wattenberg 85.49 317⇑ iP **P** **13 29 53.4 -0.5**
comp=Z,20nm,0.7s,mb5.4

WTTA Wattenberg 85.49 317⇑ iP **P** **13 29 53.4 -0.5**
WTTA pmax pmax
comp=Z,21nm,0.7s,mb5.4
WATA Walderalm 85.54 317⇑ iP **P** **13 29 53.3 -0.8**
comp=Z,12nm,1.0s,mb5.1
WATA Walderalm 85.54 317⇑ iP **P** **13 29 53.3 -0.8**
WATA pmax pmax
comp=Z,12nm,1.0s,mb5.1
MOX Moxa 85.63 320 eP **P** **13 29 54.2 -0.3**
MOX pmax pmax
comp=Z,55nm,2.1s,mb5.4
MOX Moxa 85.63 320 eP **P** **13 29 54.2 -0.3**
comp=Z,55nm,2.1s,mb5.4
MOX Moxa 85.63 320 i P **P** **13 29 55.3 +0.8**
comp=Z,logA/T=1.2,mb5.2
MOX S S 13 40 24.0 +1.0
MOX L 14 20 08.0
FUR Furstenfeldbru 85.77 318 eP **P** **13 29 54.4 -0.8**
FUR pmax pmax
comp=Z,19nm,1.0s,mb5.3
FUR Furstenfeldbru 85.77 318 eP **P** **13 29 54.4 -0.8**
comp=Z,19nm,1.0s,mb5.3
SQTA Sankt Quirin 85.78 317⇑ iP **P** **13 29 54.8 -0.5**
comp=Z,11nm,0.8s,mb5.1
SQTA Sankt Quirin 85.78 317⇑ iP **P** **13 29 54.8 -0.5**
SQTA pmax pmax
comp=Z,11nm,0.8s,mb5.1
KIWB Kanaga Island 85.79 38 eP **P** **13 29 55.8 +0.6**
GRA1 Grafenberg Arr 85.85 319 eP **P** **13 29 55.7 +0.1**
comp=Z,29nm,0.8s,mb5.6
GRA1 epP pP 13 30 07.9 +2.9
GRA1 eS S 13 40 25.5 +0.4
GRA1 LR LR
comp=Z,500nm,20.8s,MS4.9
GRF Grafenberg Arr 85.85 319 eP **P** **13 29 55.7 +0.1**
GRF e*PP pP 13 30 07.9 +2.9
GRF eS S 13 40 25.5 +0.4
GRF pmax pmax
comp=Z,29nm,0.8s,mb5.6
GRF MLR MLR
comp=Z,500nm,20.8s,MS4.9
GRF Grafenberg Arr 85.85 319 eP **P** **13 29 55.7 +0.1**
comp=Z,29nm,0.8s,mb5.6
GRF epP pP 13 30 07.9 +2.9
GRF eS S 13 40 25.5 +0.4
GRF LR LR
comp=Z,500nm,20.8s,MS4.9
GRF Grafenberg Arr 85.85 319 eP **P** **13 29 55.7 +0.1**
comp=Z,29nm,0.8s,mb5.6
GRF e*PP pP 13 30 07.9 +2.9
GRF eS S 13 40 25.5 +0.4
GRF pmax pmax
comp=Z,29nm,0.8s,mb5.6
GRF MLR MLR
comp=Z,500nm,20.8s,MS4.9
GRF Grafenberg Arr 85.85 319 eP **P** **13 29 55.7 +0.1**
comp=Z,29nm,0.8s,mb5.6
GRF epP pP 13 30 07.9 +2.9
GRF eS S 13 40 25.5 +0.4
GRF LR LR
comp=Z,500nm,20.8s,MS4.9
NB2 NORSAR Subarra 86.29 331 P **P** **13 29 57.2 -0.3**
comp=Z,18nm,0.8s,mb5.3,baz=96,slow=4.6
NB2 NORSAR Subarra 86.29 331 P **P** **13 29 57.2 -0.3**
NB2 pmax pmax
comp=Z,18nm,0.8s,mb5.3
NB2 NORSAR Subarra 86.29 331 P **P** **13 29 57.2 -0.3**
baz=96,slow=4.8
NOA NORSAR Array B 86.29 331 P **P** **13 29 57.1 -0.4**
comp=Z,8.4nm,0.7s,mb5.1,baz=94,slow=4.9,SNR=35
NOA pP pP 13 30 05.2 -1.7
comp=Z,6.4nm,1.0s,baz=97,slow=5.0,SNR=6.1
NOA LR LR 14 12 53.6
comp=Z,366nm,18.8s,MS4.8,baz=35,slow=39
CLZ Clausthal 86.45 322 eP **P** **13 29 58.4 -0.1**
comp=Z,69nm,1.8s,mb5.6
BSEG Bad Segeberg 86.53 324 eP **P** **13 29 58.9 +0.1**
VNDA Vanda 86.60 169 eP **P** **13 29 59.0 +0.3**
VNDA pmax pmax
comp=Z,20nm,1.4s
VNDA Vanda 86.60 169 P **P** **13 29 58.6 -0.1**
comp=Z,1.0nm,0.6s,baz=303,slow=5.1,SNR=12
VNDA pP pP 13 30 07.2 -1.0
comp=Z,3.2nm,0.7s,baz=297,slow=5.0,SNR=13
VNDA LR LR 14 04 42.0
comp=Z,793nm,18.1s,MS5.2,baz=300,slow=33
VNDA Vanda 86.60 169 eP **P** **13 29 59.0 +0.2**
comp=Z,20nm,1.4s,mb5.2
DAVOX Davos 86.68 317 P **P** **13 29 59.6 -0.2**
comp=Z,27nm,0.7s,mb5.6,baz=118,slow=6.8,SNR=38
DAVA Damuels 86.69 317⇑ iP **P** **13 30 00.3 +0.5**
comp=Z,25nm,0.8s,mb5.5
KONO Kongsberg 87.05 329 eP **P** **13 30 01.1 -0.1**
KONO pmax pmax
comp=Z,46nm,1.3s,mb5.5
KONO Kongsberg 87.05 329 eP **P** **13 30 01.1 -0.2**
comp=Z,46nm,1.3s,mb5.5
KBS Kingsbay 87.14 349 eP **P** **13 30 01.2 -0.1**
KBS pmax pmax
comp=Z,41nm,1.3s,mb5.5
KBS Kingsbay 87.14 349 eP **P** **13 30 01.2 -0.1**
comp=Z,41nm,1.3s,mb5.5
MUD Monsted U'grnd 87.23 326 i P **P** **13 30 03.2 +1.0**
MUD eS S 13 40 46.0 +7.8
MUD pmax pmax
comp=Z,32nm,1.0s,mb5.5
MUD Monsted U'grnd 87.23 326 i P **P** **13 30 03.2 +1.0**
comp=Z,32nm,1.0s,mb5.5
MUD eS S 13 40 46.0 +7.8
MUD Monsted U'grnd 87.23 326 i P **P** **13 30 03.2 +1.0**
comp=Z,32nm,1.0s,mb5.5
MUD Monsted U'grnd 87.23 326 eS S 13 40 46.0 +7.8
comp=Z,300nm,19.0s
PGF Pioggiola 87.30 312 eP **P** **13 30 03.2 +0.4**
comp=Z,14nm,0.8s,mb5.0
PGF Pioggiola 87.30 312 eP **P** **13 30 03.2 +0.4**
PGF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
TNS Taunus Mts 87.65 320 eP **P** **13 30 04.4 +0.1**
TNS pmax pmax
comp=Z,56nm,1.9s,mb5.5
TNS Taunus Mts 87.65 320 eP **P** **13 30 04.4 +0.1**
comp=Z,56nm,1.9s,mb5.5
SBA Scott Base 87.70 169 eP **P** **13 30 04.8 +0.8**
SBA pmax pmax
comp=Z,13nm,0.9s,mb5.2
SBA Scott Base 87.70 169 eP **P** **13 30 04.8 +0.8**
comp=Z,13nm,0.9s,mb5.2
BFO Black Forest 87.74 318 eP **P** **13 30 04.1 -0.7**
BFO pmax pmax
comp=Z,13nm,0.8s,mb5.2
BFO Black Forest 87.74 318 eP **P** **13 30 04.1 -0.7**
comp=Z,13nm,0.8s,mb5.2
FELD Feldberg 87.96 318 eP **P** **13 30 06.2 +0.3**
LANF Langenberg 88.08 319 eP **P** **13 30 07.4 +1.0**
ABH Alteburg 88.23 320 eP **P** **13 30 08.1 +1.0**
BBS Basel-Blauen 88.30 317 eP **P** **13 30 07.6 +0.1**
SAOF Saorge 88.33 314 eP **P** **13 30 08.5 +0.7**
SBF Sospel 88.42 314 eP **P** **13 30 08.6 +0.4**
comp=Z,38nm,0.8s,mb5.4
SBF Sospel 88.42 314 eP **P** **13 30 08.6 +0.4**
SBF pmax pmax
comp=Z,19nm,0.8s,mb5.4
CDF Champ du Feu 88.44 318 eP **P** **13 30 08.3 +0.1**
comp=Z,10nm,0.8s,mb4.8
CDF Champ du Feu 88.44 318 eP **P** **13 30 08.3 +0.1**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
ECH Echery 88.52 318 eP **P** **13 30 08.9 +0.3**
RUP Ruppelstein 88.55 319 eP **P** **13 30 09.7 +1.0**
ABSA Djebel Ababsia 88.56 306 P **P** **13 30 10.5 +1.4**
CMAH Djebel Manchou 88.60 306 P **P** **13 30 11.0 +1.7**
MVIF Mont Vial 88.63 314 eP **P** **13 30 10.1 +0.9**
LOMF Lomont 88.77 317 eP **P** **13 30 10.3 +0.5**
CALN Calern 88.82 314 eP **P** **13 30 11.2 +1.1**
LPG La Plagne 88.87 315 eP **P** **13 30 11.0 +0.7**
comp=Z,30nm,0.9s,mb5.3
LPG La Plagne 88.87 315 eP **P** **13 30 11.0 +0.7**
LPG pmax pmax
comp=Z,15nm,0.9s,mb5.3
MBDF Montbardon 88.88 315 eP **P** **13 30 10.2 -0.2**
comp=Z,12nm,1.0s,mb4.9
MBDF Montbardon 88.88 315 eP **P** **13 30 10.2 -0.2**
MBDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
LPL La Plagne 88.88 315 eP **P** **13 30 11.1 +0.7**
comp=Z,27nm,0.9s,mb5.3
LPL La Plagne 88.88 315 eP **P** **13 30 11.1 +0.7**
LPL pmax pmax
comp=Z,14nm,0.9s,mb5.3
BNI Bardonecchia 88.94 315 eP **P** **13 30 10.9 +0.3**
BNI pmax pmax
comp=Z,8.0nm,0.9s,mb5.0

BNI Bardonecchia 88.94 315 *e*P P **13 30 10.8 +0.2**
comp=Z,7.9nm,0.9s,mb5.0
FRF La Foret Royal 89.00 313 *e*P P **13 30 11.5 +0.5**
comp=Z,31nm,1.0s,mb5.3
FRF La Foret Royal 89.00 313 *e*P P **13 30 11.5 +0.5**
FRF pmax pmax
comp=Z,16nm,1.0s,mb5.3
CAEH `Ain El Ouahch 89.06 307 P P **13 30 13.0 +1.6**
HAU Haudompre 89.07 318 *e*P P **13 30 11.3 +0.1**
comp=Z,27nm,0.8s,mb5.3
HAU *e*R
comp=Z,477nm,22.0s
HAU Haudompre 89.07 318 *e*P P **13 30 11.3 +0.1**
HAU pmax pmax
comp=Z,13nm,0.8s,mb5.3
HAU MLR MLR
comp=Z,480nm,22.0s,MS4.9
LMR La Mourre 89.11 313 *e*P P **13 30 12.0 +0.5**
comp=Z,24nm,1.2s,mb5.1
LMR La Mourre 89.11 313 *e*P P **13 30 12.0 +0.5**
LMR pmax pmax
comp=Z,12nm,1.2s,mb5.1
WLF Walferdange 89.14 319 *e*P P **13 30 13.4 +1.9**
WLF pmax pmax
comp=Z,29nm,1.2s,mb5.5
WLF Walferdange 89.14 319 *e*P P **13 30 13.3 +1.9**
comp=Z,29nm,1.2s,mb5.5
CKFL Kef-Lekhel 89.17 306 P P **13 30 12.0 0.0**
CABF La Chapelle 89.30 316 *e*P P **13 30 13.0 +0.7**
comp=Z,44nm,1.1s,mb5.4
CABF La Chapelle 89.30 316 *e*P P **13 30 13.0 +0.7**
CABF pmax pmax
comp=Z,22nm,1.1s,mb5.4
TAVF Tavernes 89.43 313 *e*P P **13 30 14.2 +1.2**
CTEI Djebel Teioual 89.44 306 P P **13 30 11.5 -1.7**
ORIF Oris-en-Rattie 89.51 315 *e*P P **13 30 14.1 +0.8**
comp=Z,19nm,1.0s,mb5.1
ORIF *e*R
comp=Z,398nm,22.8s
VILF Villemus 89.67 314 *e*P P **13 30 15.4 +1.3**
SMRF Simiane la Rot 89.76 314 *e*P P **13 30 15.7 +1.1**
comp=Z,19nm,0.9s,mb5.1
DFRA Djebel Bou Aff 89.85 306 P P **13 30 16.4 +1.3**
MEZF Maizieres J'vi 89.91 318 *e*P P **13 30 15.8 +0.7**
comp=Z,29nm,1.0s,mb5.3
GIVF Givet 89.98 320 *e*P P **13 30 16.1 +0.7**
comp=Z,34nm,0.9s,mb5.4
GIVF Givet 89.98 320 *e*P P **13 30 16.1 +0.7**
GIVF pmax pmax
comp=Z,17nm,0.9s,mb5.4
PRAF Pradon 90.06 314 *e*P P **13 30 17.5 +1.5**
CKHR Kef el Ahmar 90.16 306 P P **13 30 17.0 +0.4**
TNA Tin City 90.26 24 *e*P P **13 30 16.8 +0.5**
comp=Z,8.0nm,1.0s,mb5.0
VIVF Saint-Julien-l 90.37 315 *e*P P **13 30 17.9 +0.6**
comp=Z,24nm,1.0s,mb5.2
VIVF Saint-Julien-l 90.37 315 *e*P P **13 30 17.9 +0.6**
VIVF pmax pmax
comp=Z,12nm,1.0s,mb5.2
BAIF Baives 90.38 320 *e*P P **13 30 17.9 +0.6**
comp=Z,76nm,0.9s,mb5.7
BAIF Baives 90.38 320 *e*P P **13 30 17.9 +0.6**
BAIF pmax pmax
comp=Z,38nm,0.9s,mb5.7
LOR Lormes 90.79 317 *e*P P **13 30 19.8 +0.6**
comp=Z,88nm,1.2s,mb5.7
LOR *e*R
comp=Z,343nm,22.8s
LOR Lormes 90.79 317 *e*P P **13 30 19.8 +0.6**
LOR pmax pmax
comp=Z,44nm,1.2s,mb5.7
LOR MLR MLR
comp=Z,340nm,22.8s,MS4.7
SMF Signal de Mont 90.84 317 *e*P P **13 30 19.9 +0.4**
comp=Z,44nm,1.0s,mb5.4
SMF Signal de Mont 90.84 317 *e*P P **13 30 19.9 +0.4**
SMF pmax pmax
comp=Z,22nm,1.0s,mb5.4
LASF Ste Croix 91.00 314 *e*P P **13 30 21.2 +1.0**
comp=Z,42nm,1.2s,mb5.3
PLDF La Plantade 91.04 316 *e*P P **13 30 21.6 +1.2**
SSF Saint Saulge 91.04 317 *e*P P **13 30 21.0 +0.6**
SSF pmax pmax
comp=Z,32nm,1.4s,mb5.5
SSF Saint Saulge 91.04 317 *e*P P **13 30 21.0 +0.6**
comp=Z,32nm,1.4s,mb5.5
AVF Avril sur Loir 91.17 317 *e*P P **13 30 21.5 +0.6**
comp=Z,62nm,1.2s,mb5.5
AVF Avril sur Loir 91.17 317 *e*P P **13 30 21.5 +0.6**
AVF pmax pmax
comp=Z,31nm,1.2s,mb5.5
LBL Lubilhac 91.35 315 *e*P P **13 30 23.4 +1.6**
AGO Saint Agoulin 91.37 316 *e*P P **13 30 23.2 +1.3**
BGF Bois d'Agland 91.53 316 *e*P P **13 30 23.7 +1.1**
comp=Z,78nm,1.0s,mb5.7
BGF Bois d'Agland 91.53 316 *e*P P **13 30 23.7 +1.1**
BGF pmax pmax
comp=Z,39nm,1.0s,mb5.7
HYF Humbligny 91.62 317 *e*P P **13 30 24.5 +1.5**
QSPA South Pole Qui 91.92 180 *e*P P **13 30 24.1 +0.4**
comp=Z,7.3nm,0.6s,mb5.2
TCF Toulx Ste Croi 91.99 316 *e*P P **13 30 25.7 +0.9**
comp=Z,30nm,1.1s,mb5.2
TCF Toulx Ste Croi 91.99 316 *e*P P **13 30 25.7 +0.9**
TCF pmax pmax
comp=Z,15nm,1.1s,mb5.2
ETOS Mallorca 92.07 310 P P **13 30 26.9 +1.7**
comp=Z,34nm,1.2s,mb5.5
CAF Calviac 92.21 315 *e*P P **13 30 27.0 +1.2**
comp=Z,26nm,1.0s,mb5.2
CAF Calviac 92.21 315 *e*P P **13 30 27.0 +1.2**
CAF pmax pmax
comp=Z,13nm,1.0s,mb5.2
MTLF Montolieu 92.24 313 *e*P P **13 30 26.9 +0.9**
comp=Z,31nm,1.0s,mb5.3
MTLF Montolieu 92.24 313 *e*P P **13 30 26.9 +0.9**
MTLF pmax pmax
comp=Z,16nm,1.0s,mb5.3
RJF Les Rejaudoux 92.56 315 *e*P P **13 30 28.6 +1.2**
comp=Z,36nm,1.1s,mb5.4
RJF *e*R
comp=Z,333nm,20.8s
RJF Les Rejaudoux 92.56 315 *e*P P **13 30 28.6 +1.2**
RJF pmax pmax
comp=Z,18nm,1.1s,mb5.4
RJF MLR MLR
comp=Z,330nm,20.8s,MS4.8
EMIR Miracle 92.87 312 P P **13 30 29.1 +0.2**
comp=Z,50nm,1.0s,mb5.9
LFF La Frestale 93.15 315 *e*P P **13 30 31.4 +1.3**
comp=Z,28nm,0.8s,mb5.5
LFF La Frestale 93.15 315 *e*P P **13 30 31.4 +1.3**
LFF pmax pmax
comp=Z,14nm,0.8s,mb5.4
EPOB Poblet 93.25 311 P P **13 30 31.6 +0.9**
comp=Z,29nm,1.0s,mb5.7
LDF La Druitiere 93.33 319 *e*P P **13 30 31.5 +0.6**
comp=Z,45nm,1.2s,mb5.5
LDF La Druitiere 93.33 319 *e*P P **13 30 31.5 +0.6**
LDF pmax pmax
comp=Z,22nm,1.2s,mb5.5
FLN La Foliniere 93.55 319 *e*P P **13 30 32.5 +0.6**
comp=Z,26nm,0.9s,mb5.4
FLN *e*R
comp=Z,433nm,21.5s
FLN La Foliniere 93.55 319 *e*P P **13 30 32.5 +0.6**
FLN pmax pmax
comp=Z,13nm,0.9s,mb5.4
FLN MLR MLR
comp=Z,430nm,21.5s,MS4.9
MFF Saint Martin d 93.58 317 *e*P P **13 30 32.8 +0.7**
comp=Z,42nm,1.0s,mb5.5
MFF Saint Martin d 93.58 317 *e*P P **13 30 32.8 +0.7**
MFF pmax pmax
comp=Z,21nm,1.0s,mb5.5
EPF Esparros 93.63 313 *e*P P **13 30 33.7 +1.3**
EBIE Bielsa 93.81 313 P P **13 30 34.8 +1.6**
comp=Z,4.5nm,0.8s,mb5.0
DAG Danmarks Havn 93.82 348⇑ *i*P P **13 30 32.8 +0.3**
DAG pmax pmax
comp=Z,9.0nm,0.6s,mb5.4
DAG Danmarks Havn 93.82 348⇑ *i*P P **13 30 32.8 +0.3**
comp=Z,9.3nm,0.6s,mb5.4
GRR Gorron 93.84 319 *e*P P **13 30 34.0 +0.8**
ERTA Horta de San J 93.85 311 P P **13 30 34.9 +1.4**
comp=Z,9.1nm,1.0s,mb5.2

EKA Eskdalemuir Ar 94.23 326 P P **13 30 35.2 +0.4**
comp=Z,6.4nm,0.7s,mb5.2,baz=98,slow=5.1,SNR=31
EKA pP pP 13 30 43.9 -0.4
comp=Z,1.9nm,0.6s,baz=91,slow=5.0,SNR=4.5
EKA PP PP 13 34 18.4 -6.0
comp=Z,1.3nm,0.9s,baz=80,slow=10,SNR=3.9
ETSF Etsaut 94.30 313 *e*P P **13 30 36.7 +1.2**
comp=Z,11nm,0.8s,mb5.0
ETSF Etsaut 94.30 313 *e*P P **13 30 36.7 +1.2**
ETSF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
ESAC San Caprasio 94.37 312 P P **13 30 36.9 +1.1**
comp=Z,15nm,0.3s,mb5.9
EMOS Mosqueruela 94.53 311 P P **13 30 38.7 +2.1**
comp=Z,15nm,1.0s,mb5.4
SJPF Ste Jean 94.76 313 *e*P P **13 30 38.7 +1.1**
comp=Z,16nm,1.0s,mb5.1
SJPF Ste Jean 94.76 313 *e*P P **13 30 38.7 +1.1**
SJPF pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
EALK Alkurruntz 94.95 313 P P **13 30 38.6 +0.1**
comp=Z,58nm,1.6s,mb5.8
SGMF Saint Gilles 94.98 319 *e*P P **13 30 38.9 +0.4**
ECHE Chera 94.99 310 P P **13 30 40.5 +1.8**
ECHE pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
ECHE Chera 94.99 310 P P **13 30 40.5 +1.8**
comp=Z,6.0nm,1.0s,mb5.0
QUIF Quistinic 95.44 318 *e*P P **13 30 41.3 +0.7**
TTA Tatalina 95.85 26 *e*P P **13 30 43.6 +1.5**
IMA Indian Mountai 95.89 23 *e*P P **13 30 43.4 +1.2**
IMA pmax pmax
comp=Z,31nm,1.2s,mb5.6
IMA Indian Mountai 95.89 23 *e*P P **13 30 43.4 +1.2**
comp=Z,31nm,1.2s,mb5.6
SVW2 Sparrevohn 96.55 28 *e*P P **13 30 46.5 +1.2**
GUD Guadarrama 97.27 311 P P **13 30 50.3 +1.2**
GUD pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
GUD Guadarrama 97.27 311 P P **13 30 50.2 +1.2**
comp=Z,3.6nm,0.8s,mb4.8
ESDC Sonseca Array 97.28 310 P P **13 30 49.9 +0.8**
comp=Z,0.3nm,0.5s,baz=52,slow=3.8,SNR=3.5
ESDC Sonseca Array 97.28 310 P P **13 30 50.8 +1.7**
comp=Z,0.1nm,0.4s
MCK McKinley 98.60 24 *e*P P **13 30 54.1 -0.4**
MCK pmax pmax
comp=Z,6.0nm,1.2s,mb5.0
MCK McKinley 98.60 24 *e*P P **13 30 54.0 -0.4**
comp=Z,6.2nm,1.2s,mb5.0
ILAR Eielson Array 99.00 23 P P **13 30 55.0 -1.2**
comp=Z,0.7nm,0.8s,baz=262,slow=3.1,SNR=9.0
ILAR PP PP 13 34 56.1 -4.6
comp=Z,3.2nm,0.9s,baz=289,slow=8.4,SNR=8.7
ILAR PKKPbc 13 47 29.0
comp=Z,0.5nm,0.8s,baz=121,slow=1.6,SNR=4.7
ILAR LR LR 14 22 32.2
comp=Z,523nm,19.2s,MS5.0,baz=333,slow=40
INK Inuvik 101.75 17 *e*P P 13 31 08.0 -0.6
INK pmax pmax
comp=Z,6.0nm,1.2s
INK Inuvik 101.75 17 *e*Pdif P 13 31 08.0 -0.7
comp=Z,6.2nm,1.2s
DAWY Dawson 102.21 22 *e*Pdif Pdif 13 31 11.3 +0.6
RES Resolute Bay 103.10 3 *e*P Pdif 13 31 14.4 0.0
RES pmax pmax
comp=Z,8.0nm,1.2s
RES Resolute Bay 103.10 3 *e*Pdif Pdif 13 31 14.4 0.0
comp=Z,8.4nm,1.2s
YKA Yellowknife Ar 111.35 15 Pdiff Pdif 13 31 52.7 +1.8
comp=Z,0.3nm,0.7s,baz=333,slow=4.6,SNR=4.0
YKA PKiKP 13 35 49.7
comp=Z,0.4nm,0.8s,baz=338,slow=2.6,SNR=4.6
YKA PP PP 13 36 19.1 -14
comp=Z,1.6nm,1.0s,baz=327,slow=6.6,SNR=7.1
YKA PKKPbc 13 46 43.8
comp=Z,0.2nm,0.5s,baz=147,slow=3.0,SNR=5.6
YKA PKKPab 13 46 52.1
comp=Z,0.5nm,0.9s,baz=141,slow=3.6,SNR=6.5
YKA Yellowknife Ar 111.35 15 Pdif Pdif 13 31 52.7 +1.8
YKA PKPdf PKPdf 13 35 49.7 -3.5
YKA PP PP 13 36 19.1 -14
YKA PKKPbc 13 46 43.9
YKA PKKPab 13 46 52.1
TBI Tubuai 112.23 114 *e*SS SS 13 52 05.9 -8.3
TBI *e*LR LR 14 09 03.5
comp=Z,420nm,25.0s
EDM Edmonton 119.36 20 *e*PKIKP PKPdf 13 36 04.7 -4.4
HDW Hoodsport 119.39 30 P PKPdf 13 36 06.7 -2.6
TDH Tom, Dick, Har 121.63 31 P PKPdf 13 36 10.8 -2.9
NEW Newport 121.76 26 PKP PKPdf 13 36 09.3 -4.6
comp=Z,2.1nm,0.6s,baz=34,slow=4.0,SNR=4.2
SCHQ Schefferville 121.85 349 PKP PKPdf 13 36 08.6 -5.2
comp=Z,2.3nm,0.5s,baz=36,slow=4.1,SNR=16
SCHQ PP PP 13 37 43.1 -3.7
comp=Z,18nm,1.3s,baz=13,slow=8.2,SNR=5.7
HAWA Hanford 122.00 29 *e*PKPdf PKPdf 13 36 10.6 -3.8
HUMO Hull Mountain 122.77 34 *e*PKPdf PKPdf 13 36 12.7 -3.2
VIPM Ingram Point 122.77 31 PKIKP PKPdf 13 36 13.4 -2.5
BSMT Bassoo Peak 123.08 25 P PKPdf 13 36 13.2 -3.2
YBH Yreka Blue Hor 123.47 35 PKP PKPdf 13 36 13.9 -3.4
comp=Z,1.0nm,0.6s,baz=12,slow=4.5,SNR=5.5
MSO Missoula 124.24 25 *e*PKPdf PKPdf 13 36 14.2 -4.5
CHMT Chamberlain Mo 124.47 25 *e*PKPdf PKPdf 13 36 15.0 -4.1
MOD Modoc 124.71 34 *e*PKPdf PKPdf 13 36 16.6 -3.2
WVOR Wild Horse Val 125.25 32 *e*PKIKP PKPdf 13 36 18.3 -2.5
BOZ Bozeman (W) 126.16 25 *e*PKIKP PKPdf 13 36 19.2 -3.2
MCMT McKenzie Canyo 126.28 26 *e*PKPdf PKPdf 13 36 20.2 -2.5
HLID Hailey 126.55 28 *e*PKPdf PKPdf 13 36 20.6 -2.6
ULM Lac du Bonnet 126.78 10 PKP PKPdf 13 36 18.9 -4.5
comp=Z,6.1nm,0.6s,baz=327,slow=2.5,SNR=8.1
ULM Lac du Bonnet 126.78 10 *e*PKPdf PKPdf 13 36 19.0 -4.4
QLMT Earthquake Lak 126.90 25 *e*PKPdf PKPdf 13 36 21.6 -2.3
YMR Madison River 127.22 25 *e*PKPdf PKPdf 13 36 22.1 -2.4
YFT Old Faithful 127.45 25 *e*PKPdf PKPdf 13 36 23.6 -1.4
TPAW Teton Pass 128.18 26 *e*PKPdf PKPdf 13 36 22.9 -3.5
TPAW *e*PP PP 13 38 23.8 -5.6
NVAR Mina Array Bea 128.18 35 PKhKP 13 36 19.1
comp=Z,1.6nm,0.9s,baz=220,slow=3.6,SNR=4.5
NVAR PKP PKPdf 13 36 23.8 -2.7
comp=Z,3.2nm,0.8s,baz=282,slow=1.9,SNR=23
LOHW Long Hollow 128.23 25 *e*PKPdf PKPdf 13 36 23.0 -3.5
SNOW Snow King Moun 128.28 26 *e*PKPdf PKPdf 13 36 23.0 -3.6
SNOW *ep*PKPdf 13 36 32.0
PDAR Pinedale Array 129.36 25 PKP PKPdf 13 36 24.5 -4.2
comp=Z,2.5nm,0.6s,baz=245,slow=0.7,SNR=26
PDAR PP PP 13 38 34.0 -3.4
comp=Z,2.4nm,1.0s,baz=18,slow=4.7,SNR=5.4
PDAR SKPbc 13 39 43.9
comp=Z,0.9nm,0.7s,baz=18,slow=2.9,SNR=3.7
EYMN Ely 129.70 8 *e*PKPdf PKPdf 13 36 25.0 -4.2
TRCR Troy Canyon 129.78 34 *e*PKPdf PKPdf 13 36 26.9 -2.7
DUG Dugway 129.88 30 *e*PKIKP PKPdf 13 36 26.6 -3.1
RSSD Black Hills 130.34 20 *e*PKIKP PKPdf 13 36 26.6 -3.9
NLU North Lily Min 130.43 30 *e*PKPdf PKPdf 13 36 28.0 -2.8
MVU Marysvale 131.46 31 *e*PKPdf PKPdf 13 36 30.9 -1.9
MSU Marysvale 131.47 31 *e*PKIKP PKPdf 13 36 30.6 -2.2
SRU San Rafael 131.84 29 *e*PKIKP PKPdf 13 36 30.7 -2.8
NEN Nelson 132.10 36 *e*PKPdf PKPdf 13 36 31.5 -2.6
WUAZ Wupatki 134.15 33 *e*PKPdf PKPdf 13 36 36.0 -1.9
ANMO Albuquerque 137.11 29 *e*PKIKP PKPdf 13 36 41.5 -1.8
CCM Cathedral Cave 139.41 10 *e*PKIKP PKPdf 13 36 43.7 -3.8
MNTX Cornudas Mount 140.26 31 *e*PKPpre 13 36 38.3
GDL2 Guadalupe Moun 140.36 29 *e*PKPpre 13 36 38.4
WVT Waverly 141.80 7 *e*PKIHKP 13 36 41.9
MIAR Mount Idia 142.29 15 *e*PKIKP PKPdf 13 36 45.2 -7.5
PLAL Pickwick Lake 142.90 7 *e*PKPpre 13 36 44.5
TXAR Lajitas Array 143.03 31 PKP PKPdf 13 36 48.0 -6.1
comp=Z,2.3nm,0.6s,baz=270,slow=1.3,SNR=17
TXAR PP PP 13 39 58.9 -4.0
comp=Z,1.6nm,1.0s,baz=323,slow=4.5,SNR=4.1
BDFB Brasilia 143.08 246 PKP PKPdf 13 36 50.6 -4.0
comp=Z,4.8nm,0.9s,baz=199,slow=5.8,SNR=4.9
JSC Jenkinsville 143.89 358 *e*PKIKP PKPdf 13 36 47.9 -7.5
JCT Junction City 143.90 25 *e*PKIKP PKPdf 13 36 50.0 -5.6
NATX Nacogdoches 144.62 18 *e*PKPdf PKPdf 13 36 51.8 -5.0
LRAL Lakeview Retre 144.95 6 *e*PKPdf PKPdf 13 36 52.1 -5.3
CPUP Villa Florida 145.54 223 *e*PKIKP PKPdf 13 36 53.7 -4.9
CPUP Villa Florida 145.54 223 PKPbc PKPbc 13 36 54.9 +0.7
comp=Z,16nm,0.7s,baz=130,slow=3.1,SNR=60
CPUP SKPbc 13 40 30.2
comp=Z,2.6nm,0.9s,baz=135,slow=1.4,SNR=3.5
LPAZ La Paz 159.69 225 PKP PKPdf 13 37 14.7 -4.4
comp=Z,2.1nm,0.8s,baz=46,slow=4.1,SNR=6.8
LPAZ PKPab PKPab 13 37 56.3 +1.2
comp=Z,1.4nm,0.7s,baz=174,slow=10,SNR=2.9
ROSC El Rosal 169.10 309 PKP PKPdf 13 37 24.1 -3.3
comp=Z,5.4nm,0.4s,baz=101,slow=23,SNR=4.0
OTAV Otavalo 175.07 297 *e*PKPdf PKPdf 13 37 27.0 -3.3

*NEIC **30** 13:18:30.4, 32.71S×71.76W, h24km, ML2.9(GUC), After GUC.*
GUC 30 13:18:30.4±0.9, 32.71S×71.76W, h24km±12km, MD3.8, ML2.9, 5C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.32**	**58**	⇓*i*P	Pb	13 18 37.9	+0.3
PACH				*i*S	Sb	13 18 43.2	+0.7
ROCH	**El Roble**	**0.68**	**113**	⇑*i*P	Pb	13 18 43.4	-0.1
ROCH				*i*S	Sb	13 18 53.0	+0.5
LCCH	**Las Cruces**	**0.78**	**169**	*e*P	Pb	13 18 44.5	-0.8
LCCH				*e*S	Sb	13 18 55.1	-0.4
CHNG	**Los Chungos**	**0.85**	**15**	⇓*i*P	Pb	13 18 45.6	-0.8
CHNG				*i*S	Sb	13 18 57.3	0.0
CHNG				AMP		13 18 58.6	
comp=E,148nm,0.3s							
JACH	**Jahuel**	**0.98**	**89**	⇑*i*P	Pb	13 18 47.7	-0.9
JACH				*i*S	Sb	13 19 02.1	+0.9
PEL	**Peldehue**	**1.00**	**116**	*e*P	Pb	13 18 48.6	-0.4
PEL				*i*S	Sb	13 19 02.4	+0.7
RCDM	**Rinconada Maip**	**1.12**	**135**	⇓*i*P	Pn	13 18 50.0	-0.7
RCDM				*i*S	Sb	13 19 04.7	-0.3
RCDM				AMP		13 19 08.4	
comp=E,485nm,0.2s							
TACH	**Talagante**	**1.17**	**144**	⇑*i*P	Pn	13 18 51.1	-0.4
ILCH	**Illapel**	**1.18**	**25**	⇓*i*P	Pn	13 18 51.0	-0.6
ILCH				*i*S	Sb	13 19 07.2	+0.4
ILCH				AMP		13 19 12.1	
comp=N,263nm,0.2s							
SAN	**Santiago**	**1.18**	**129**	AMP		13 19 10.0	
comp=N,476nm,0.3s							
DSCH	**Colegio Aleman**	**1.21**	**125**	*e*P	Pn	13 18 51.2	-0.9
DSCH				*i*S	Sb	13 19 07.8	0.0
DSCH				AMP		13 19 13.5	
comp=E,536nm,0.6s							
CLCH	**Cerro Calan**	**1.23**	**124**	⇓*i*P	Pn	13 18 52.0	-0.4
CLCH				*i*S	Sn	13 19 08.3	-0.1
CLCH				AMP		13 19 10.8	
comp=N,386nm,0.5s							
CLCH				AMP		13 19 18.1	
comp=E,761nm,0.5s							
ANTU	**Antumapu**	**1.28**	**133**	*i*S	Sn	13 19 09.2	-0.2
ANTU				AMP		13 19 13.1	
comp=N,415nm,0.5s							
LNV	**Longovilo**	**1.28**	**167**	*e*P	Pn	13 18 52.7	-0.4
FCH	**Farellones**	**1.38**	**117**	⇓*i*P	Pn	13 18 54.4	0.0
FCH				*i*S	Sn	13 19 12.6	+0.5
FCH				AMP		13 19 13.1	
comp=N,662nm,0.3s							
PCH	**Pirque**	**1.39**	**132**	*e*P	Pn	13 18 54.6	+0.1
PCH				*e*S	Sn	13 19 13.2	+0.9
CHCH	**Chadas Angostu**	**1.53**	**143**	⇑*i*P	Pn	13 18 57.1	+0.4
CHCH				*i*S	Sn	13 19 16.9	-0.8
CACH	**El Canelo**	**1.71**	**146**	*e*P	Pn	13 19 00.6	+1.5
LMEL	**Las Melosas**	**1.73**	**132**	⇑*i*P	Pn	13 19 00.2	+0.8
LMEL				*i*S	Sn	13 19 23.0	+2.0
LMEL				AMP		13 19 26.4	
comp=E,336nm,0.1s							
CICH	**Cipreses**	**1.96**	**146**	*e*P	Pn	13 19 03.3	+0.5
CICH				*e*S	Sn	13 19 29.3	+2.5
TLL	**Tololo Astrono**	**2.66**	**18**	AMP		13 19 54.8	
comp=N,107nm,0.5s							

*IDC **30** 13:28:01.8±1.2, 38.29S×177.16E, h47km±7km, mb3.7/2, mb1 4.0/3, mb1mx3.7/13, mbtmp4.0/3, ML3.8/1, Error ellipse: s-maj=35.0km s-min=22.5km az=35.0*
*NEIC **30** 13:28:03.4, 38.35S×177.17E, h44km, ML4.6(WEL), After WEL.*
*WEL **30** 13:28:03.4±0.1, 38.34S×177.17E, h43km±1km, ML4.2/14, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0*
WEL Felt in the Bay of Plenty region, maximum reported intensity MM 4.
ISC 30 13:28:02.6±0.4, 38.37S±0.02×177.18E±0.04, h43km, n114, σ1§18/125, mb3.7/2, 5C-4D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.13**	**332**	P	**P**	**13 28 09.7**	**+0.1**
1μm,0.3s,baz=209,slow=2.8,SNR=9445							
URZ				S	**S**	**13 28 15.3**	**+0.6**
4μm,0.3s,baz=35,slow=20,SNR=392							
URZ	**Urewera**	**0.13**	**332**	P	**P**	**13 28 10.1**	**+0.5**
URZ	**Urewera**	**0.13**	**332**	⇓PN	**P**	**13 28 10.1**	**+0.5**
URZ				SN	**S**	**13 28 15.0**	**+0.3**
MWZ	**Matawai**	**0.27**	**82**	P	**P**	**13 28 11.3**	**+0.4**
MWZ				S	**S**	**13 28 17.1**	**+0.5**
MWZ	**Matawai**	**0.27**	**82**	⇑PN	**P**	**13 28 11.3**	**+0.4**
MWZ				SN	**S**	**13 28 17.1**	**+0.4**
EDRZ	**Edgecumbe**	**0.44**	**307**	P	**P**	**13 28 13.4**	**+0.7**
EDRZ	**Edgecumbe**	**0.44**	**307**	⇑PN	**P**	**13 28 13.4**	**+0.7**
TAZ	**Tarawera**	**0.55**	**284**	P	**P**	**13 28 14.9**	**+0.8**
TAZ	**Tarawera**	**0.55**	**284**	⇑PN	**P**	**13 28 14.9**	**+0.9**
MARZ	**Manawahe**	**0.56**	**314**	P	**P**	**13 28 14.5**	**+0.3**
MARZ	**Manawahe**	**0.56**	**314**	PN	**P**	**13 28 14.5**	**+0.3**
MKRZ	**Makatiti**	**0.61**	**292**	PN	**P**	**13 28 15.7**	**+0.8**
PATZ	**Paeroa**	**0.73**	**269**	P	**P**	**13 28 17.2**	**+0.7**
PATZ	**Paeroa**	**0.73**	**269**	PN	**P**	**13 28 17.2**	**+0.7**
LIRZ	**Lichensteins R**	**0.73**	**300**	P	**P**	**13 28 16.8**	**+0.3**
LIRZ	**Lichensteins R**	**0.73**	**300**	PN	**P**	**13 28 16.9**	**+0.3**
KNZ	**Kokohu**	**0.75**	**150**	P	**P**	**13 28 17.7**	**+0.9**
KNZ	**Kokohu**	**0.75**	**150**	PN	**P**	**13 28 17.7**	**+0.9**
KNZ				SN	**S**	**13 28 29.3**	**+2.0**
UTU	**Utuhina**	**0.81**	**284**	P	**P**	**13 28 18.3**	**+0.7**
UTU	**Utuhina**	**0.81**	**284**	PN	**P**	**13 28 18.4**	**+0.8**
WIZ	**White Island**	**0.84**	**0**	P	**P**	**13 28 17.8**	**-0.3**
WIZ	**White Island**	**0.84**	**0**	PN	**P**	**13 28 17.8**	**-0.3**
PUZ	**Puketiti**	**0.90**	**71**	P	**P**	**13 28 19.7**	**+0.8**
PUZ	**Puketiti**	**0.90**	**71**	PN	**P**	**13 28 19.7**	**+0.8**
BKZ	**Black Stump Fm**	**0.96**	**214**	P	**P**	**13 28 20.1**	**+0.3**
BKZ	**Black Stump Fm**	**0.96**	**214**	PN	**P**	**13 28 20.1**	**+0.3**
BKZ				SN	**S**	**13 28 33.6**	**+1.1**
TGRZ	**Tauranga**	**0.97**	**311**	P	**P**	**13 28 19.6**	**-0.3**
TGRZ	**Tauranga**	**0.97**	**311**	PN	**P**	**13 28 19.6**	**-0.3**
HATZ	**Hinemaiaia**	**1.00**	**238**	P	**P**	**13 28 20.6**	**+0.3**
HATZ	**Hinemaiaia**	**1.00**	**238**	PN	**P**	**13 28 20.6**	**+0.2**
HATZ				SN	**S**	**13 28 33.4**	**-0.1**
WHTZ	**Whakaora**	**1.01**	**253**	P	**P**	**13 28 21.2**	**+0.8**
WHTZ	**Whakaora**	**1.01**	**253**	PN	**P**	**13 28 21.2**	**+0.7**
WATZ	**Wairara**	**1.19**	**253**	PN	**P**	**13 28 23.2**	**+0.3**
MXZ	**Matakaoa Point**	**1.20**	**48**	PN	**P**	**13 28 24.1**	**+1.0**
RITZ	**Rihia Road**	**1.20**	**239**	P	**P**	**13 28 23.8**	**+0.6**
RITZ	**Rihia Road**	**1.20**	**239**	PN	**P**	**13 28 23.8**	**+0.6**
RITZ				SN	**S**	**13 28 39.7**	**+1.1**
RATZ	**Rangitukua**	**1.21**	**245**	P	**P**	**13 28 23.9**	**+0.6**
RATZ	**Rangitukua**	**1.21**	**245**	PN	**P**	**13 28 23.9**	**+0.6**
KATZ	**Kakaramea**	**1.31**	**242**	P	**P**	**13 28 25.1**	**+0.2**
KATZ	**Kakaramea**	**1.31**	**242**	PN	**P**	**13 28 25.1**	**+0.3**
MYRZ	**Mayor Island**	**1.32**	**325**	PN	**P**	**13 28 24.4**	**-0.6**
OTVZ	**Oturere**	**1.43**	**236**	PN	**P**	**13 28 26.7**	**+0.2**
WTVZ	**West Tongariro**	**1.45**	**239**	P	**P**	**13 28 27.1**	**+0.3**
WTVZ	**West Tongariro**	**1.45**	**239**	PN	**P**	**13 28 27.1**	**+0.2**
TOZ	**Tahuroa Road**	**1.47**	**295**	P	**P**	**13 28 26.8**	**-0.3**
TOZ	**Tahuroa Road**	**1.47**	**295**	⇑PN	**P**	**13 28 26.8**	**-0.4**
TOZ				SN	**S**	**13 28 44.3**	**-1.2**
NGZ	**Ngauruhoe**	**1.48**	**237**	P	**P**	**13 28 27.5**	**+0.3**
NGZ	**Ngauruhoe**	**1.48**	**237**	⇓PN	**P**	**13 28 27.4**	**+0.2**
TUVZ	**Tukino**	**1.49**	**233**	P	**P**	**13 28 27.6**	**+0.2**
TUVZ	**Tukino**	**1.49**	**233**	PN	**P**	**13 28 27.6**	**+0.2**
CNZ	**Chateau**	**1.52**	**237**	P	**P**	**13 28 28.2**	**+0.4**
CNZ	**Chateau**	**1.52**	**237**	PN	**P**	**13 28 28.2**	**+0.4**
MOVZ	**Moawhango**	**1.52**	**227**	P	**P**	**13 28 27.7**	**-0.1**
MOVZ	**Moawhango**	**1.52**	**227**	⇓PN	**P**	**13 28 27.7**	**-0.1**
MOVZ				SN	**S**	**13 28 45.8**	**-0.8**
WPVZ	**Whakapapa**	**1.53**	**236**	P	**P**	**13 28 28.2**	**+0.3**
WPVZ	**Whakapapa**	**1.53**	**236**	PN	**P**	**13 28 28.2**	**+0.3**
WPVZ				SN	**S**	**13 28 49.5**	**+2.8**
TWVZ	**Taurewa**	**1.

WNVZ Wahianoa 1.56 232 PN **P 13 28 28.5 +0.1**
PWZ Pawanui 1.67 188 P **P 13 28 29.1 -0.9**
PWZ Pawanui 1.67 188 ⇓PN **P 13 28 29.1 -0.9**
PWZ SN **S 13 28 50.4 0.0**
MTVZ Mangateitei 1.68 232 PN **P 13 28 30.2 +0.2**
MTVZ SN **S 13 28 51.0 +0.6**
HIZ Hauiti 1.83 265 PN **P 13 28 32.8 +0.6**
TSZ Takapari Road 1.94 209 *e*P **P 13 28 32.9 -0.7**
TSZ Takapari Road 1.94 209 PN **P 13 28 32.9 -0.7**
KUZ Kuaotunu 2.00 324 P **P 13 28 33.2 -1.3**
KUZ Kuaotunu 2.00 324 PN **P 13 28 33.2 -1.3**
KUZ SN **S 13 28 56.6 -1.7**
VRZ Vera Road 2.04 248 *e*P **P 13 28 35.9 +0.8**
VRZ Vera Road 2.04 248 PN **P 13 28 35.9 +0.8**
WAZ Wanganui 2.20 230 P **P 13 28 38.1 +0.7**
WAZ Wanganui 2.20 230 ⇑PN **P 13 28 38.1 +0.7**
RAEZ Rainy Point 2.36 246 P **P 13 28 41.2 +1.4**
RAEZ Rainy Point 2.36 246 *e*PN **P 13 28 39.5 -0.3**
MTAZ Motutapu 2.40 310 P **P 13 28 40.1 -0.2**
MTAZ Motutapu 2.40 310 PN **P 13 28 40.1 -0.2**
BFZ Birch Farm 2.42 197 *e*P **P 13 28 38.3 -2.2**
BFZ Birch Farm 2.42 197 PN **P 13 28 38.3 -2.2**
KAAZ Kauri Point 2.50 307 P **P 13 28 41.9 +0.1**
KAAZ Kauri Point 2.50 307 PN **P 13 28 41.9 +0.1**
WTAZ Waiatarua 2.52 304 P **P 13 28 42.0 0.0**
WTAZ Waiatarua 2.52 304 *e*PN **P 13 28 42.0 0.0**
NEZ North Egmont 2.57 249 P **P 13 28 44.6 +1.8**
NEZ North Egmont 2.57 249 PN **P 13 28 44.6 +1.9**
MRZ Mangatainoka R 2.60 208 *e*P **P 13 28 41.4 -1.8**
MRZ Mangatainoka R 2.60 208 PN **P 13 28 39.9 -3.3**
PKE Pukeiti 2.63 251 P **P 13 28 45.0 +1.4**
NRZ Ngariki Road 2.71 248 P **P 13 28 46.6 +1.8**
NWEZ Newall Road 2.74 250 P **P 13 28 46.9 +1.7**
KIW Kapiti Island 3.04 215 P **P 13 28 47.0 -2.5**
MTW Mount Morrison 3.07 204 P **P 13 28 46.8 -3.0**
CAW Cannon Point 3.18 210 P **P 13 28 48.6 -2.8**
MSWZ Moikau Station 3.38 205 P **P 13 28 51.0 -3.3**
TCW Tory Channel 3.62 217 P **P 13 28 54.8 -2.7**
BSWZ Blackbirch Sta 4.19 216 P **P 13 29 02.9 -2.8**
QRZ Quartz Range 4.35 234 *e*P **P 13 29 06.0 -2.0**
THZ Tophouse 4.72 223 *e*P **P 13 29 09.6 -3.5**
KHZ Kahutara 4.91 213 *e*P **P 13 29 12.3 -3.5**
DSZ Denniston Nort 5.33 229 *e*P **P 13 29 20.4 -1.3**
LTZ Lake Taylor 5.78 219 *e*P **P 13 29 23.7 -4.2**
CRLZ Canterbury Las 6.24 212 *e*P **P 13 29 31.2 -3.2**
MQZ McQueen's Vall 6.33 211 *e*P **P 13 29 30.0 -5.8**
RPZ Rata Peaks 7.07 219 P **P 13 29 41.3 -4.8**
1.5nm,0.3s,baz=343,slow=14,SNR=5.3
RPZ S **S 13 30 54.4 -12**
2.6nm,0.3s,baz=44,slow=18,SNR=9.6
ODZ Otahua Downs 8.27 214 *e*P **P 13 29 58.3 -4.4**
ASAR Alice Springs 39.52 279 P **P 13 35 28.4 -2.4**
1.9nm,0.6s,mb4.0,baz=124,slow=8.2,SNR=30
WRA Warramunga Arr 41.26 284 P **P 13 35 42.5 -2.6**
0.9nm,0.8s,mb3.5,baz=124,slow=8.5,SNR=18
ARCES ARCESS Array B 145.29 343 PKPbc PKPbc 13 47 31.8 -3.1
3.2nm,0.9s,baz=31,slow=7.1,SNR=3.9
FINES FINESS Array B 150.79 332 PKPbc PKPdf 13 47 45.9 +2.5
0.7nm,0.6s,baz=63,slow=6.2,SNR=4.6
FINES PKPab PKPab 13 47 54.3 -4.3
0.5nm,0.5s,baz=27,slow=3.1,SNR=4.2
AKASG Malin Array Be 154.26 309 PKPbc PKPdf 13 47 56.0 +7.3
0.1nm,0.3s,baz=73,slow=2.4,SNR=3.2
AKASG PKPab PKPab 13 48 08.7 -4.9
0.4nm,0.3s,baz=76,slow=1.5,SNR=5.3
AKASG Malin Array Be 154.26 309 PKPbc PKPdf 13 47 56.0 +7.3
AKASG PKPab PKPab 13 48 08.7 -4.9

*NEIC **30** 13:32:03.0±3.1, 3.14S×139.49E, h53km±31km, mb4.0/1, Error ellipse: s-maj=29.8km s-min=18.0km az=144.0*
*IDC **30** 13:32:05.5±3.2, 3.34S×139.51E, h81km±32km, mb3.3/3, mb1 3.8/6, mb1mx3.6/13, mbtmp3.9/6, Error ellipse: s-maj=27.0km s-min=12.6km az=108.0*
ISC 30 13:32:00.8±2.2, 3.25S±0.08×139.53E±0.08, h46km±21km, n10, σ1§18/15, mb3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.74**	**129**	P	**P**	**13 34 22.5**	**+1.3**
	0.7nm,0.3s,baz=36,slow=8.7,SNR=3.2						
PMG				S	**S**	**13 36 09.4**	**-1.0**
	0.4nm,0.3s,baz=280,slow=18,SNR=1.9						
KAKA	**Kakadu**	**11.73**	**216**	*e*P	**P**	**13 34 48.3**	**0.0**
	36nm,0.5s						
KAKA				*e*S	**S**	**13 36 55.9**	**-2.9**
WRAB	**Tennant Creek**	**17.34**	**197**	*e*P	**P**	**13 36 01.6**	**+0.4**
	8.9nm,0.8s						
WB2	**Warramunga Arr**	**17.35**	**197**	*e*P	**P**	**13 36 02.1**	**+0.8**
WRA	**Warramunga Arr**	**17.35**	**197**	P	**P**	**13 36 00.4**	**-1.0**
	0.6nm,0.3s,baz=15,slow=12,SNR=21						
WRA				S	**S**	**13 39 10.4**	**-0.5**
	0.2nm,0.3s,baz=11,slow=22,SNR=3.7						
FITZ	**Fitzroy Crossi**	**20.08**	**222**	P	**P**	**13 36 33.5**	**+0.3**
	1.4nm,0.3s,baz=32,slow=8.6,SNR=21						
FITZ				S	**S**	**13 40 11.9**	**+0.7**
	0.3nm,0.3s,baz=177,slow=12,SNR=2.5						
ASAR	**Alice Springs**	**21.02**	**195**	P	**P**	**13 36 42.8**	**-0.1**
	2.8nm,0.7s,mb3.7,baz=27,slow=9.0,SNR=18						
ASAR				S	**S**	**13 40 32.0**	**+2.8**
	0.3nm,0.7s,baz=9.8,slow=26,SNR=2.5						
ASPA	**Alice Springs**	**21.02**	**195**	*e*P	**P**	**13 36 45.1**	**+2.2**
MKAR	**Makanchi Array**	**70.71**	**322**	P	**P**	**13 43 14.1**	**+0.1**
	0.2nm,0.6s,mb3.3,baz=117,slow=6.4,SNR=3.2						
ILAR	**Eielson Array**	**85.98**	**24**	P	**P**	**13 44 35.2**	**-1.8**
	0.4nm,0.8s,mb3.7,baz=257,slow=5.4,SNR=4.0						

IDC 30 13:36:32.1±2.7, 0.97N×97.37E, mb3.9/4, mb1 4.1/5, mb1mx3.7/20, mbtmp3.9/5, ML3.8/1, MS3.7/1, Ms1 3.9/1, ms1mx3.5/21, Error ellipse: s-maj=113.5km s-min=25.9km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.45**	**5**	P	P	13 40 37.7	-1.0
	0.1nm,0.3s,baz=197,slow=11,SNR=11						
CMAR				LR	LR	13 47 33.4	
	comp=Z,217nm,18.4s,baz=175,slow=38						
WRA	**Warramunga Arr**	**41.77**	**122**	P	P	13 44 23.4	-1.7
	0.4nm,0.5s,baz=304,slow=9.1,SNR=3.6						
MKAR	**Makanchi Array**	**47.51**	**346**	P	P	13 45 09.0	-1.9
	1.6nm,0.5s,baz=157,slow=7.9,SNR=20						
MKAR				pP	pP	13 45 20.3	+9.4
	1.2nm,0.8s,baz=159,slow=8.6,SNR=6.9						
ZAL	**Zalesovo**	**53.81**	**351**	P	P	13 45 56.6	-2.1
	1.8nm,0.4s,baz=330,slow=6.5,SNR=5.3						
BVAR	**Borovoye Array**	**56.53**	**341**	P	P	13 46 15.5	-3.0
	0.6nm,0.5s,baz=133,slow=9.1,SNR=6.3						

*JMA **30** 13:42:12.7±0.1, 27.34N×130.41E, h80km, M3.3*
*IDC **30** 13:42:18.1±0.9, 27.07N×130.21E, h39km±6km, mb3.7/8, mb1 3.8/8, mb1mx3.5/22, mbtmp3.9/8, Error ellipse: s-maj=29.7km s-min=13.8km az=63.0*
ISC 30 13:42:14.0±0.6, 27.27N±0.04×130.36E±0.04, h40km, h40km±2.0km: pP-P, n18, σ0§86/26, mb3.9/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**1.10**	**342**	P	**P**	**13 42 32.5**	**-0.7**
JZK				S	**S**	**13 42 47.7**	**+0.3**
JAM	**Amami Oshima**	**1.32**	**330**	P	**P**	**13 42 35.6**	**-0.8**
JTK	**Tokunoshima**	**1.36**	**293**	P	**P**	**13 42 36.6**	**-0.3**
JTK				S	**S**	**13 42 54.4**	**+0.5**
JMZ	**Minamidaito 2**	**1.64**	**152**	P	**P**	**13 42 41.0**	**+0.1**
JMZ				S	**S**	**13 43 00.7**	**-0.2**
JOW	**Kunigami**	**1.91**	**257**	Pn	**P**	**13 42 44.7**	**-0.1**
	17nm,0.3s,baz=70,slow=13,SNR=43						
JOW				Sn	**S**	**13 43 07.2**	**-0.6**
	45nm,0.3s,baz=86,slow=30,SNR=14						
JOW	**Kunigami**	**1.91**	**257**	P	**P**	**13 42 44.9**	**+0.1**
JOW				S	**S**	**13 43 09.4**	**+1.6**
JIH	**Iheya**	**2.15**	**264**	P	**P**	**13 42 48.0**	**-0.1**
JIH				S	**S**	**13 43 13.2**	**-0.5**
JJT2	**Tamagusuku 2**	**2.59**	**245**	P	**P**	**13 42 53.1**	**-1.4**
JJT2				S	**S**	**13 43 26.5**	**+1.4**
NAH1	**Naha**	**2.61**	**247**	S	**S**	**13 43 25.7**	**+0.1**
JAGN	**Aguni-jima**	**2.87**	**257**	P	**P**	**13 42 58.2**	**-0.2**
JAGN				S	**S**	**13 43 31.3**	**-0.7**
MKAR	**Makanchi Array**	**42.29**	**311**	P	**P**	**13 50 09.0**	**+3.7**
	0.2nm,0.7s,mb2.9,baz=90,slow=8.5,SNR=3.8						
MKAR				pP	pP	13 50 19.9	+3.3
	0.4nm,0.5s,baz=144,slow=7.6,SNR=3.9						
ZAL	**Zalesovo**	**42.61**	**321**	P	**P**	**13 50 12.2**	**+4.3**
	3.5nm,0.2s,mb4.7,baz=171,slow=1.3,SNR=5.3						
FITZ	**Fitzroy Crossi**	**45.33**	**186**	P	**P**	**13 50 30.4**	**+0.1**
	3.8nm,0.8s,mb4.3,baz=16,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**47.09**	**175**	P	**P**	**13 50 44.3**	**+0.2**
	0.9nm,0.6s,mb3.9,baz=354,slow=8.3,SNR=14						
WRA				pP	pP	13 50 56.1	+0.6
	0.5nm,0.7s,baz=354,slow=8.4,SNR=3.6						
ASAR	**Alice Springs**	**50.75**	**176**	P	**P**	**13 51 13.3**	**+1.0**
	0.8nm,0.5s,mb3.9,baz=5.8,slow=14,SNR=12						
ASAR				pP	pP	13 51 25.6	+1.8
	0.6nm,0.6s,baz=4.6,slow=14,SNR=4.9						
BVAR	**Borovoye Array**	**50.78**	**318**	P	**P**	**13 51 12.8**	**+0.6**
	0.4nm,0.6s,mb3.5,baz=90,slow=5.8,SNR=2.8						
BVAR				pP	pP	13 51 25.1	+1.4
	0.5nm,0.6s,baz=76,slow=5.9,SNR=3.4						
STKA	**Stephens Creek**	**59.78**	**169**	P	**P**	**13 52 16.4**	**-1.2**
	0.9nm,0.5s,mb4.0,baz=349,slow=10,SNR=2.2						
FINES	**FINESS Array B**	**72.90**	**331**	P	**P**	**13 53 43.7**	**+3.3**
	0.9nm,0.9s,mb3.7,baz=53,slow=6.9,SNR=3.7						
FINES				pP	pP	13 53 54.1	+1.7
	0.4nm,0.5s,baz=68,slow=7.8,SNR=1.6						

IDC 30 14:09:53.7±3.5, 1.33N×97.42E, mb3.6/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, ML3.7/1, MS3.4/2, Ms1 3.5/2, ms1mx3.2/23, Error ellipse: s-maj=137.8km s-min=27.9km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.09**	**5**	P	P	14 13 54.0	-1.7
	0.1nm,0.3s,baz=198,slow=14,SNR=3.4						
CMAR				LR	LR	14 21 32.8	
	comp=Z,83nm,20.2s,baz=175,slow=41						
WRA	**Warramunga Arr**	**41.92**	**122**	P	P	14 17 46.2	-1.8
	0.6nm,0.7s,baz=301,slow=9.1,SNR=7.3						
ASAR	**Alice Springs**	**43.30**	**127**	LR	LR	14 38 07.5	
	comp=Z,68nm,18.6s,baz=341,slow=39						
MKAR	**Makanchi Array**	**47.17**	**346**	P	P	14 18 27.6	-2.3
	0.5nm,0.6s,baz=161,slow=7.4,SNR=5.7						
ZAL	**Zalesovo**	**53.46**	**351**	P	P	14 19 15.8	-1.9
	0.6nm,0.6s,baz=271,slow=10,SNR=4.2						

*MDD **30** 14:22:39.4±4.9, 32.77N×6.72W, mbLg2.4/3, Error ellipse: s-maj=65.6km s-min=44.9km az=89.0, PRXIMO*
*CSEM **30** 14:22:40.6±0.5, 32.81N×6.74W, h10km, mb3.9/3, Error ellipse: s-maj=14.6km s-min=9.5km az=83.0*
ISC 30 14:22:41.2±2.2, 33.0N±0.1×6.53W±0.09, h10km, n11, σ0§70/18, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVE	**Averroes**	**0.79**	**289**	P	**Pb**	**14 22 55.0**	**-1.5**
AVE				S	**Sb**	**14 23 08.0**	**+1.0**
EGRO	**El Granado**	**4.55**	**350**	Pn	**Pn**	**14 23 52.3**	**+0.5**
	0.4nm,0.1s,SNR=4.0						
EGRO				Sn	**Sn**	**14 24 44.9**	**-0.5**
	SNR=4.0						
EGRO	**El Granado**	**4.55**	**350**	P	**Pn**	**14 23 52.3**	**+0.5**
	0.4nm,0.1s,SNR=4.0						
EGRO				S	**Sn**	**14 24 44.9**	**-0.6**
	22nm,2.0s,SNR=4.0						
EMIN	**Mina Concepcio**	**4.72**	**359**	Pn	**Pn**	**14 23 54.1**	**-0.1**
	0.6nm,0.1s,SNR=23						
EMIN				Sn	**Sn**	**14 24 49.7**	**+0.1**
	SNR=4.0						
EMIN	**Mina Concepcio**	**4.72**	**359**	P	**Pn**	**14 23 54.1**	**-0.1**
	0.6nm,0.1s,SNR=23						
EMIN				S	**Sn**	**14 24 49.7**	**+0.1**
	12nm,2.6s,SNR=4.0						
ECAB	**El Cabril**	**5.11**	**10**	Pn	**Pn**	**14 24 00.1**	**+0.5**
	0.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**5.11**	**10**	P	**Pn**	**14 24 00.1**	**+0.5**
	0.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.36**	**17**	Pn	**Pn**	**14 24 03.9**	**+0.7**
	0.8nm,0.1s,SNR=7.0						
EADA				Sn	**Sn**	**14 25 05.5**	**-0.2**
	SNR=7.9						
EADA	**Adamuz**	**5.36**	**17**	P	**Pn**	**14 24 03.9**	**+0.7**
	0.8nm,0.1s,SNR=7.0						
EADA				S	**Sn**	**14 25 05.5**	**-0.2**
	12nm,1.7s,SNR=7.9						
EBAD	**Badajoz**	**5.72**	**356**	Pn	**Pn**	**14 24 07.7**	**-0.5**
	0.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.72**	**356**	P	**Pn**	**14 24 07.7**	**-0.6**
	0.6nm,0.1s,SNR=7.9						

IDC 30 14:25:24.1±1.6, 10.04S×124.35E, mb3.9/1, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, ML3.5/3, Error ellipse: s-maj=112.4km s-min=26.1km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.12**	**171**	Pn	P	14 27 23.7	-2.4
	2.0nm,0.3s,baz=10,slow=9.0,SNR=42						
FITZ				Sn	Sn	14 28 49.9	-10
	5.8nm,0.3s,baz=188,slow=7.1,SNR=11						
WRA	**Warramunga Arr**	**13.78**	**137**	Pn	P	14 28 40.8	-2.6
	0.2nm,0.3s,baz=310,slow=12,SNR=12						
WRA				Sn	S	14 31 06.9	-11
	0.4nm,0.3s,baz=312,slow=23,SNR=85						
ASAR	**Alice Springs**	**16.34**	**147**	Pn	P	14 29 14.7	-1.9
	0.2nm,0.3s,baz=326,slow=13,SNR=17						
ASAR				Sn	S	14 32 13.1	-5.5
	0.2nm,0.3s,baz=314,slow=22,SNR=8.6						
MKAR	**Makanchi Array**	**67.88**	**330**	P	P	14 36 24.4	-2.1
	0.9nm,0.7s,baz=131,slow=8.0,SNR=10						

*IDC **30** 14:37:33.6±0.9, 18.11S×168.26E, mb4.2/10, mb1 4.3/11, mb1mx4.3/15, mbtmp4.2/11, ML3.8/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/24, Error ellipse: s-maj=34.5km s-min=19.1km az=135.0*
*LDG **30** 14:37:36.7±0.2, 17.98S×167.65E, h10km, Mb4.3/1, Error ellipse: s-maj=29.1km s-min=3.4km az=99.0*
*NEIC **30** 14:37:39.7±1.9, 18.25S×168.12E, h37km±15km, mb4.5/1, Error ellipse: s-maj=16.5km s-min=11.9km az=85.0*
ISC 30 14:37:37.9±0.7, 18.31S±0.05×168.0E±0.1, h33km, n75, σ1§20/24, mb4.2/10, MS3.5/1, 21C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.03**	**202**	*e*P	**P**	**14 38 39.2**	**+0.4**
DZM				*e*S	**S**	**14 39 23.8**	**-1.7**
DZM	**Mont Dzumac**	**4.03**	**202**	Pn	**Pn**	**14 38 39.4**	**+0.4**
	5.2nm,0.3s,baz=270,slow=19,SNR=82						
DZM				Sn	**Sn**	**14 39 25.2**	**-0.4**
	17nm,0.3s,baz=315,slow=23,SNR=16						
DZM				LR	LR	14 40 08.1	
	comp=Z,248nm,20.4s,baz=6.6,slow=36						
DZM	**Mont Dzumac**	**4.03**	**202**	*e*P	**P**	**14 38 39.2**	**+0.4**
DZM				*e*S	**S**	**14 39 23.8**	**-1.7**
HNR	**Honiara**	**11.81**	**317**	Pn	**P**	**14 40 27.3**	**+0.2**
	6.0nm,0.3s,baz=7.7,slow=2.4,SNR=8.8						
HNR				LR	LR	14 44 06.6	
	comp=Z,100nm,18.5s,baz=182,slow=33						
CTA	**Charters Tower**	**20.65**	**262**	P	**P**	**14 42 17.6**	**+0.2**
	4.0nm,0.9s,baz=103,slow=15,SNR=2.1						
CTA				LR	LR	14 49 38.4	
	comp=Z,173nm,18.6s,MS3.5,baz=201,slow=35						
CTAO	**Charters Tower**	**20.65**	**262**	*e*P	**P**	**14 42 14.6**	**-2.9**
SNZO	**South Karori**	**23.62**	**167**	P	**P**	**14 42 49.2**	**+2.3**
STKA	**Stephens Creek**	**27.40**	**235**	P	**P**	**14 43 24.1**	**+1.4**
	2.2nm,0.7s,mb3.8,baz=78,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**27.40**	**235**	*e*P	**P**	**14 43 22.8**	**+0.2**
WRA	**Warramunga Arr**	**31.85**	**262**	P	**P**	**14 44 02.0**	**-0.3**
	0.2nm,0.4s,mb3.3,baz=81,slow=6.3,SNR=7.0						
WRA				PcP	PcP	14 46 51.7	-1.0
	0.9nm,0.7s,baz=90,slow=3.7,SNR=7.5						
ASAR	**Alice Springs**	**32.26**	**255**	P	**P**	**14 44 06.2**	**+0.3**
	2.4nm,0.6s,mb4.2,baz=81,slow=8.2,SNR=54						
ASAR				PcP	PcP	14 46 52.5	-1.2
	0.6nm,0.7s,baz=88,slow=2.9,SNR=5.4						
ASPA	**Alice Springs**	**32.26**	**255**	*e*P	**P**	**14 44 06.3**	**+0.4**
NWAO	**Narrogin (SRO)**	**47.63**	**242**	P	**P**	**14 46 13.3**	**+0.3**
	5.3nm,0.7s,mb4.7,baz=91,slow=4.0,SNR=4.6						
NWAO	**Narrogin (SRO)**	**47.63**	**242**	*e*P	**P**	**14 46 12.7**	**-0.3**
SBA	**Scott Base**	**59.58**	**180**	*e*P	**P**	**14 47 39.9**	**-0.5**
	4.3nm,1.0s,mb4.4						
MJAR	**Matsushiro Arr**	**61.41**	**333**	P	**P**	**14 47 50.6**	**-2.7**
	1.9nm,0.8s,mb4.3,baz=166,slow=8.0,SNR=5.3						
MDJ	**Mudanjiang**	**71.77**	**332**	*e*P	**P**	**14 48 59.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**77.08**	**295**	P	**P**	**14 49 31.8**	**+1.5**
	2.8nm,0.8s,mb4.2,baz=127,slow=4.5,SNR=6.1						
MAW	**Mawson**	**78.86**	**202**	P	**P**	**14 49 40.6**	**+1.6**
	4.1nm,0.9s,mb4.3,baz=85,slow=5.3,SNR=5.1						
NVAR	**Mina Array Bea**	**89.05**	**49**	P	**P**	**14 50 30.2**	**-0.9**
	1.8nm,0.9s,mb4.4,baz=217,slow=5.2,SNR=9.9						
ILAR	**Eielson Array**	**89.69**	**18**	P	**P**	**14 50 31.2**	**-2.3**
	0.9nm,0.7s,mb4.2,baz=240,slow=4.8,SNR=18						
ARCES	**ARCESS Array B 123.89 345**			PKP	PKPdf	14 56 32.0	-0.4
	1.1nm,0.6s,slow=1.2,SNR=9.0						
FINES	**FINESS Array B 129.30 338**			PKP	PKPdf	14 56 42.7	-0.2
	0.3nm,0.6s,slow=5.7,SNR=4.8						
FINES	**FINESS Array B 129.30 338**			PKP	PKPdf	14 56 42.7	-0.2
GERES	**GERESS Array B 143.14 332**			PKhKP		14 57 05.5	
	0.6nm,0.7s,baz=22,slow=7.2,SNR=6.6						
TOD	**Tromm**	**144.59 337**		PKP	PKPdf	14 57 10.7	-0.3
ABH	**Alteburg**	**144.83 338**		PKP	PKPdf	14 57 11.8	+0.4
DLF	**Lyons Farm**	**144.83 354**		*e*P	PKPdf	14 57 10.6	-0.7
DCN	**Croghan**	**144.85 355**		*e*P	PKPdf	14 57 11.0	-0.3
RUP	**Ruppelstein**	**145.15 338**		PKP	PKPdf	14 57 12.8	+0.8
WLF	**Walferdange**	**145.50 339**		*e*PKPdf	PKPdf	14 57 14.1	+1.5
GIVF	**Givet**	**145.55 341**		*e*PKP1	PKPbc	14 57 13.6	+0.3
	12nm,0.7s						
BAIF	**Baives**	**145.78 341**		⇑*i*PKP1	PKPbc	14 57 14.5	+0.7
	11nm,0.8s						
WLS	**Welschbruch**	**146.12 337**		PKP	PKPdf	14 57 16.1	+2.4
CDF	**Champ du Feu**	**146.15 337**		⇑*i*PKP1	PKPbc	14 57 15.7	+0.9
	16nm,0.7s						
ECH	**Echery**	**146.35 337**		PKP	PKPdf	14 57 15.7	+1.6
HINF	**Hinterlalfeld**	**146.80 337**		⇑*i*PKP1	PKPbc	14 57 17.3	+1.0
	6.1nm,0.6s						
HAU	**Haudompre**	**146.83 337**		*e*PKP1	PKPbc	14 57 17.6	+1.2
MEZF	**Maizieres J'vi**	**146.87 339**		⇑*i*PKP1	PKPbc	14 57 18.1	+1.7
	19nm,0.8s						
CABF	**La Chapelle**	**148.09 336**		⇑*i*PKP1	PKPdf	14 57 21.6	+4.6
	21nm,0.8s						
FLN	**La Foliniere**	**148.23 346**		⇑*i*PKP1	PKPdf	14 57 21.0	+3.9
	14nm,0.7s						
LDF	**La Druitiere**	**148.30 345**		⇑*i*PKP1	PKPdf	14 57 21.1	+3.9
	9.6nm,0.7s						
LOR	**Lormes**	**148.34 339**		⇑*i*PKP1	PKPdf	14 57 21.8	+4.5
	18nm,0.7s						
SSF	**Saint Saulge**	**148.63 339**		⇑*i*PKP1	PKPdf	14 57 22.6	+4.8
	23nm,0.7s						
GRR	**Gorron**	**148.67 346**		⇑*i*PKP1	PKPdf	14 57 22.3	+4.5
	11nm,0.7s						
LPL	**La Plagne**	**148.73 334**		*e*PKP1	PKPdf	14 57 23.4	+5.4
	11nm,0.7s						
LPG	**La Plagne**	**148.74 334**		⇑*i*PKP1	PKPdf	14 57 23.6	+5.6
	10nm,0.6s						
SMF	**Signal de Mont**	**148.88 339**		*e*PKP1	PKPdf	14 57 22.9	+4.7
AVF	**Avril sur Loir**	**148.92 339**		*e*PKP1	PKPdf	14 57 22.9	+4.6
	7.7nm,0.9s						
BNI	**Bardonecchia**	**149.13 334**		*e*PKPdf	PKPdf	14 57 24.3	+5.6
SGMF	**Saint Gilles**	**149.17 348**		⇑*i*PKP1	PKPdf	14 57 23.4	+4.8
	9.0nm,0.7s						
ROSF	**Rostrenen**	**149.23 349**		*e*PKP1	PKPdf	14 57 23.4	+4.7
	23nm,1.1s						
BGF	**Bois d'Agland**	**149.29 340**		⇑*i*PKP1	PKPdf	14 57 24.2	+5.3
	15nm,0.7s						
MBDF	**Montbardon**	**149.35 333**		*e*PKP1	PKPdf	14 57 24.4	+5.3
	7.7nm,0.8s						
ORIF	**Oris-en-Rattie**	**149.57 335**		⇑*i*PKP1	PKPdf	14 57 25.1	+5.7
	15nm,0.7s						
SAOF	**Saorge**	**149.59 332**		PKP	PKPdf	14 57 24.5	+5.0
QUIF	**Quistinic**	**149.61 348**		*e*PKP1	PKPdf	14 57 24.2	+4.8
	6.5nm,0.6s						
AUTN	**L'Aution**	**149.64 332**		PKP	PKPdf	14 57 26.0	+6.5
TCF	**Toulx Ste Croi**	**149.74 340**		⇑*i*PKP1	PKPdf	14 57 25.4	+5.8
	5.8nm,0.6s						
PYM	**Petit Puy Mans**	**149.95 339**		PKP	PKPdf	14 57 26.2	+6.2
PGF	**Pioggiola**	**149.99 328**		⇑*i*PKP1	PKPdf	14 57 26.1	+6.0
	25nm,0.8s						
VIVF	**Saint-Julien-l**	**150.10 336**		*e*PKP1	PKPdf	14 57 26.4	+6.2
	10nm,0.8s						
MFF	**Saint Martin d**	**150.15 344**		⇑*i*PKP1	PKPdf	14 57 26.1	+5.8
	19nm,0.7s						
LBL	**Lubilhac**	**150.31 338**		PKP	PKPdf	14 57 27.3	+6.8
FRF	**La Foret Royal**	**150.34 332**		⇑*i*PKP1	PKPdf	14 57 26.6	+6.0
	14nm,0.9s						
SMRF	**Simiane la Rot**	**150.47 334**		⇑*i*PKP1	PKPdf	14 57 27.6	+6.8
	16nm,0.8s						
LMR	**La Mourre**	**150.58 332**		*e*PKP1	PKPdf	14 57 27.2	+6.2
	14nm,0.8s						
RJF	**Les Rejaudoux**	**150.84 340**		⇑*i*PKP1	PKPdf	14 57 27.9	+6.6
	9.0nm,0.8s						
CAF	**

GTA	**Gaotai**	**34.38**	**7**	P	**P**		**14 51 57.3 -0.9**
GTA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	**38.56**	**128**	P	**P**		**14 52 33.1 -0.5**
comp=Z,7.0nm,0.7s,mb4.5,baz=332,slow=4.9,SNR=12							
WMQ	**Urumqi**	**38.89**	**352**	P	**P**		**14 52 37.3 +1.2**
WMQ				AP	pP		14 52 47.3 -1.4
WMQ				PP	PP		14 54 11.5 +1.9
WMQ				PPP	PPP		14 54 34.8 +1.5
WMQ				AMB	AMB		
comp=Z,13nm,0.7s,mb4.8							
WMQ				AMB	AMB		
comp=Z,113nm,5.1s							
WMQ				LR	LR		
comp=Z,248nm,15.1s,MS4.2							
UCH	**Uchtor**	**40.87**	**337**	P	**P**		**14 52 54.1 +1.4**
SNR=7.5							
TKM2	**Tokmak 2**	**41.07**	**339**	P	**P**		**14 52 55.2 +1.0**
SNR=6.0							
KBK	**Karagaybulak**	**41.08**	**338**	P	**P**		**14 52 55.7 +1.4**
SNR=12							
AML	**Almayashu**	**41.11**	**336**	P	**P**		**14 52 55.8 +1.2**
SNR=16							
AAK	**Ala-Archa**	**41.23**	**338**	*e*P	**P**		**14 52 54.7 -0.8**
AAK				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.0							
AAK	**Ala-Archa**	**41.23**	**338**	*e*P	**P**		**14 52 54.7 -0.9**
comp=Z,2.8nm,0.7s,mb4.0							
USP	**Ospenovka**	**41.77**	**338**	P	**P**		**14 52 59.9 -0.1**
SNR=8.5							
MKAR	**Makanchi Array**	**42.71**	**348**	P	**P**		**14 53 07.4 -0.3**
comp=Z,15nm,0.6s,mb4.9,baz=170,slow=8.3,SNR=202							
ZAK	**Zakamensk**	**45.61**	**8**	*e*P	**P**		**14 53 29.6 -1.4**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.6s,mb3.8							
ZAK				pmax	pmax		
comp=Z,8.0nm,1.3s,mb4.5							
WRA	**Warramunga Arr**	**46.55**	**124**	P	**P**		**14 53 39.3 +0.5**
comp=Z,8.2nm,0.6s,mb4.8,baz=304,slow=9.2,SNR=96							
WRAB	**Tennant Creek**	**46.56**	**124**	*e*P	**P**		**14 53 38.8 -0.1**
WRAB				pmax	pmax		
comp=Z,15nm,0.7s,mb5.0							
WRAB	**Tennant Creek**	**46.56**	**124**	*e*P	**P**		**14 53 38.8 -0.1**
comp=Z,15nm,0.7s,mb5.0							
WB2	**Warramunga Arr**	**46.56**	**124**	⇑*i*P	**P**		**14 53 39.3 +0.4**
ASAR	**Alice Springs**	**48.05**	**128**	P	**P**		**14 53 50.3 -0.3**
comp=Z,2.3nm,0.6s,mb4.4,baz=298,slow=7.8,SNR=65							
ZAL	**Zalesovo**	**49.19**	**353**	P	**P**		**14 53 58.5 -0.3**
comp=Z,7.4nm,0.5s,mb4.9,baz=300,slow=6.1,SNR=40							
ZAL				pP	pP		14 54 11.8 +0.2
comp=Z,3.5nm,0.6s,baz=289,slow=4.8,SNR=5.6							
NVS	**Novosibirsk**	**50.28**	**352**	*e*P	**P**		**14 54 05.2 -2.1**
NVS				pmax	pmax		
comp=Z,13nm,0.9s,mb5.0							
NVS				pmax	pmax		
comp=N,9.0nm,0.9s							
BVAR	**Borovoye Array**	**51.56**	**342**	P	**P**		**14 54 16.1 -0.9**
comp=N,2.9nm,0.4s,mb4.5,baz=143,slow=7.4,SNR=32							
BVAR				pP	pP		14 54 29.4 -0.5
comp=N,4.4nm,0.7s,baz=135,slow=8.4,SNR=9.0							
CHKZ	**Chkalovo**	**52.05**	**342**	*e*P	**P**		**14 54 20.0 -0.7**
CHKZ				*e**PP	pP		14 54 32.9 -0.6
CHKZ				pmax	pmax		
comp=Z,11nm,0.6s,mb5.0							
CHKZ	**Chkalovo**	**52.05**	**342**	*e*P	**P**		**14 54 20.0 -0.6**
comp=Z,11nm,0.6s,mb5.0							
CHKZ				*e*pP	pP		14 54 32.9 -0.6
BOD	**Bodaibo**	**54.65**	**13**	*e*P	**P**		**14 54 37.5 -2.3**
BOD				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.5							
BOD				pmax	pmax		
comp=Z,12nm,1.0s,mb4.9							
CLNS	**Chul'man**	**56.82**	**19**	*e*P	**P**		**14 54 57.0 +1.5**
CLNS				*e**PP	pP		14 55 03.8 -4.8
CLNS				*e*SS	**S**		**15 02 50.9 +7.4**
CLNS				pmax	pmax		
comp=N,7.0nm,0.8s							
CLNS				pmax	pmax		
comp=Z,12nm,0.8s,mb5.0							
CLNS				pmax	pmax		
comp=E,12nm,0.6s							
CLNS				pmax	pmax		
comp=Z,14nm,1.6s,mb4.7							
CLNS				pmax	pmax		
comp=N,12nm,1.3s							
CLNS				pmax	pmax		
comp=E,4.0nm,1.0s							
STKA	**Stephens Creek**	**58.12**	**133**	P	**P**		**14 55 04.8 -0.1**
comp=E,1.7nm,0.7s,mb4.2,baz=299,slow=12,SNR=4.6							
STKA	**Stephens Creek**	**58.12**	**133**	*e*P	**P**		**14 55 04.1 -0.8**
YAK	**Yakutsk**	**62.41**	**18**	*e*P	**P**		**14 55 36.0 +2.2**
YAK				*e**PP	pP		14 55 45.3 -1.7
YAK				*e*			14 57 50.4
YAK				*e*SS	tx		15 04 29.8
YAK				pmax	pmax		
comp=N,8.0nm,1.1s							
YAK				pmax	pmax		
comp=Z,12nm,1.1s,mb4.9							
YAK				pmax	pmax		
comp=N,8.0nm,1.0s							
YAK				pmax	pmax		
comp=N,2.0nm,1.1s							
BRTR	**Keskin Array B**	**64.36**	**312**	P	**P**		**14 55 46.3 -0.7**
comp=N,2.3nm,0.7s,mb4.3,baz=127,slow=7.8,SNR=16							
AKASG	**Malin Array Be**	**70.39**	**322**	P	**P**		**14 56 23.1 -1.5**
comp=N,2.1nm,0.5s,mb4.3,baz=88,slow=5.2,SNR=14							
AKASG				pP	pP		14 56 38.1 +0.1
comp=N,0.7nm,0.5s,baz=88,slow=4.7,SNR=3.2							
LBTB	**Lobatse**	**73.23**	**242**	*e*P	**P**		**14 56 48.0 +5.9**
FINES	**FINESS Array B**	**75.16**	**332**	P	**P**		**14 56 51.9 -0.6**
FINES				*PP	pP		14 57 06.5 +0.5
FINES	**FINESS Array B**	**75.16**	**332**	P	**P**		**14 56 51.9 -0.6**
comp=N,1.0nm,0.3s,mb4.2,baz=96,slow=5.6,SNR=21							
FINES				pP	pP		14 57 06.5 +0.5
comp=N,1.2nm,0.6s,baz=91,slow=6.0,SNR=3.0							
FINES	**FINESS Array B**	**75.16**	**332**	P	**P**		**14 56 51.9 -0.6**
FINES				pP	pP		14 57 06.5 +0.5
KAF	**Kangasniemi**	**75.25**	**333**	*e*p	**P**		**14 56 46.3 -6.7**
comp=N,2.3nm,1.0s,mb4.1							
KAF	**Kangasniemi**	**75.25**	**333**	*e*P	**P**		**14 56 46.3 -6.7**
KAF				pmax	pmax		
comp=Z,2.0nm,1.0s,mb4.0							
MORC	**Moravsky Berou**	**77.55**	**320**	*e*P	**P**		**14 57 05.5 -0.7**
MORC				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.4							
MORC	**Moravsky Berou**	**77.55**	**320**	*e*P	**P**		**14 57 05.5 -0.7**
comp=Z,4.9nm,1.1s,mb4.3							
ARCES	**ARCESS Array B**	**77.83**	**340**	P	**P**		**14 57 07.7 +0.3**
comp=Z,1.5nm,0.4s,mb4.3,baz=101,slow=7.2,SNR=17							
ARCES				pP	pP		14 57 21.4 +0.4
comp=Z,1.5nm,0.5s,baz=93,slow=5.6,SNR=1.8							
BILL	**Bilibino**	**78.44**	**21**	*i* P	**P**		**14 57 22.3 +12**
BILL				pmax	pmax		
comp=Z,18nm,1.3s,mb4.8							
BRG	**Berggiesshubel**	**79.94**	**321**	*e*P	**P**		**14 57 20.4 +1.1**
BRG				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4							
BRG	**Berggiesshubel**	**79.94**	**321**	*e*P	**P**		**14 57 20.4 +1.1**
comp=Z,4.9nm,1.0s,mb4.4							
GERES	**GERESS Array B**	**79.97**	**319**	P	**P**		**14 57 20.7 +1.2**
comp=Z,4.6nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=35							
GERES				pP	pP		14 57 35.8 +2.7
comp=Z,1.0nm,0.6s,baz=104,slow=5.5,SNR=4.2							
GERES	**GERESS Array B**	**79.97**	**319**	P	**P**		**14 57 20.7 +1.2**
GERES				pP	pP		14 57 35.8 +2.7
KHC	**Kasperske Hory**	**80.06**	**319**	*e*P	**P**		**14 57 20.5 +0.5**
GRA1	**Grafenberg Arr**	**81.63**	**319**	*e*P	**P**		**14 57 29.2 +1.0**
comp=Z,4.0nm,0.9s,mb4.3							
GRF	**Grafenberg Arr**	**81.63**	**319**	*e*P	**P**		**14 57 29.2 +1.0**
GRF				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
GRF	**Grafenberg Arr**	**81.63**	**319**	*e*P	**P**		**14 57 29.2 +1.0**
GRF				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.3							
GRF	**Grafenberg Arr**	**81.63**	**319**	*e*P	**P**		**14 57 29.2 +1.0**
comp=Z,4.0nm,0.9s,mb4.3							
IMA	**Indian Mountai**	**93.95**	**22**	*e*P	**P**		**14 58 28.7 +1.5**
IMA				pmax	pmax		
comp=Z,4.0nm,0.6s,mb5.0							
IMA	**Indian Mountai**	**93.95**	**22**	*e*P	**P**		**14 58 28.7 +1.5**
comp=Z,4.2nm,0.6s,mb5.0							
COLA	**College**	**96.67**	**22**	P	**P**		**14 58 41.3 +1.7**
RES	**Resolute Bay**	**100.02**	**3**	*e*P	P		14 58 55.4 +0.8
RES				pmax	pmax		
comp=Z,3.0nm,0.8s							
RES	**Resolute Bay**	**100.02**	**3**	*e*Pdif	P		14 58 55.4 +0.8
comp=Z,2.9nm,0.8s							
ELK	**Elko**	**126.78**	**28**	*e*PKPdf	PKPdf		15 04 14.1 +1.5
PDAR	**Pinedale Array**	**127.51**	**22**	PKP	PKPdf		15 04 16.1 +2.1
comp=Z,1.0nm,0.5s,baz=90,slow=1.5,SNR=7.9							
DUG	**Dugway**	**128.33**	**27**	*e*PKPdf	PKPdf		15 04 17.8 +2.2
TXAR	**Lajitas Array**	**141.50**	**26**	PKP	PKPdf		15 04 41.7 +1.4
comp=Z,0.9nm,0.5s,baz=227,slow=0.6,SNR=7.6							
CPUP	**Villa Florida**	**145.80**	**229**	PKPbc	PKPbc		15 04 51.0 +2.3
comp=Z,1.0nm,0.6s,baz=156,slow=6.8,SNR=5.5							
LPAZ	**La Paz**	**159.65**	**236**	PKPab	PKPab		15 05 51.0 +2.1
comp=Z,0.6nm,0.6s,baz=196,slow=5.0,SNR=4.2							

NIED ***30*** *14:48:00,23.80N×121.50E,h41km,Mw5.2 Best double couple: M0:6.96×10^16 NP1:φs:250°,δ89°,λ-147°. NP2: φs:159°,δ57°,λ-1°.*

BJI ***30*** *14:48:16.8,24.17N×121.58E,h7km,mB5.3,mb4.9,ML5.2, Ms5.3,Msz5.4*

NEIC ***30*** *14:48:16.1±0.9,23.96N×121.64E,h8km±5km,mb5.2/95, MS4.9/7,ML5.6(TAP),Error ellipse: s-maj=4.8km s-min=4.3km az=79.0*

NEIC Felt at Taipei. Recorded [5 TAP] in Hua-lien; [4 TAP] in I-lan and Nan-t'ou; [3 TAP] in T'ai-chung; [2 TAP] in Chang-hua, Chia-i, Hsin-chu, I-lan, Miao-li, T'ai-tung, T'ao-yuan and Yun-lin; [1 TAP] in Kao-hsiung and P'ing-tung Counties.

JMA ***30*** *14:48:16.0±0.4,23.85N×121.53E,h34km,M5.7*

HRVD ***30*** *14:48:16.1±0.2,24.01N×121.64E,h14km±1km,MW5.3/64, Centroid moment Tensor Solution. LP body waves: s47,c68;Mantle waves: s64,c124; Half duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr0.08±.01; Mθθ0.12±.01; Mφφ-0.19±.01; Mrθ0.89±.09; Mθφ-0.34±.01; Mφr0.38±.05; Best double couple: M0:1.035×10^17 NP1:φs:167°,δ20°,λ9°. NP2:φs:69°,δ87°,λ110°. Principal axes: T.987, Plg45°, Azm359°; N.096, Plg20°, Azm247°; P-1.084, Plg39°, Azm141°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

TAP ***30*** *14:48:17.2,24.04N×121.62E,h8km,ML5.6*

TAP Felt V J at Chiawan, V J at Hualien, IV J at Shilin, IV J at Hehuanshan, IV J at Nanau, III J at Nanshan, III J at Tachien, II J at Hungye, III J at Nioudou, II J at Suao, II J at Neicheng, II J at Sanguang, II J at Ryuetan, I J at Yuchr, II J at Ilan, I J at Yuli, II J at Nanjuang, II J at Liyutan, II J at Mingjian, II J at Taichung, II J at Sanyi, II J at Alishan, II J at Chenggung, II J at Tsauling, II J at Hsinchu, II J at Taipai, I J at Lidau, II J at Jungli (National Central University), II J, I J at Kuangyinshan, I J at Tsaushan, I J at Tauyuan, I J at Dapu, II J at Chiayi, II J at Dacheng, I J at Jiashian, I J at Sandimen, I J at Anpu.

MOS ***30*** *14:48:20.9±0.9,24.53N×121.62E,h33km,mb5.4/78, MS5.2/20,Error ellipse: s-maj=7.9km s-min=4.8km az=115.0*

IDC ***30*** *14:48:20.1±1.5,23.99N×121.78E,h37km±11km,mb4.8/26, mb1 4.9/30,mb1mx4.8/33,mbtmp5.0/30,ML4.4/4,MS4.7/24, Ms1 4.7/24,ms1mx4.6/33,Error ellipse: s-maj=13.3km s-min=8.3km az=67.0*

MAN ***30*** *14:48:54.0,21.22N×121.59E,h5km,mb5.2,ML4.2,MS4.4*

ISC 30 14:48:15.5±0.1,24.01N±0.01×121.75E±0.01,h8km, (h18km±2.3km:pP-P),n512,σ1§35/562,mb5.1/139, MS5.0/45,37C-32D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.13**	**254**	⇓*i*P	**Pg**	**14 48 19.7**	**+1.1**
TWD	**Chiawan**	**0.15**	**296**	⇑*i*P	**Pg**	**14 48 19.4**	**+0.4**
TWD				S	**Sg**	**14 48 20.1**	**-1.1**
NACB	**Ninganchiao**	**0.21**	**319**	*e*Pg	**Pg**	**14 48 19.4**	**-0.6**
ESF	**Shoufeng Towns**	**0.26**	**237**	P	**Pg**	**14 48 21.5**	**+0.6**
ESF				S	**Sg**	**14 48 24.6**	**0.0**
EHP	**Heping Village**	**0.30**	**359**	P	**Pg**	**14 48 23.3**	**+1.7**
EHP				S	**Sg**	**14 48 28.0**	**+2.3**
ESL	**Shilin**	**0.35**	**235**	⇓*i*P	**Pg**	**14 48 22.9**	**+0.3**
TEGC	**Jichi Village**	**0.36**	**212**	*e*P	**Pg**	**14 48 25.1**	**+2.2**
TEGC				S	**Sg**	**14 48 31.8**	**+4.1**
ENA	**Nanau**	**0.41**	**359**	⇑*i*P	**Pg**	**14 48 25.2**	**+1.3**
ENA				S	**Sg**	**14 48 30.8**	**+1.3**
WHF	**Hehuan Shan**	**0.46**	**287**	⇑*i*P	**Pg**	**14 48 24.5**	**-0.3**
NNS	**Nan Shan**	**0.54**	**321**	⇑*i*P	**Pg**	**14 48 26.8**	**+0.2**
NNS				S	**Sg**	**14 48 33.3**	**-0.5**
TWT	**Tachien**	**0.57**	**295**	⇑*i*P	**Pg**	**14 48 27.3**	**+0.2**
TWC	**Suao**	**0.60**	**9**	⇑*i*P	**Pg**	**14 48 29.1**	**+1.5**
EHY	**Hungye**	**0.64**	**218**	⇓*i*P	**Pg**	**14 48 28.6**	**+0.3**
ENTT	**Nioudou**	**0.65**	**345**	⇑*i*P	**Pg**	**14 48 29.3**	**+0.8**
TWE	**Neicheng**	**0.71**	**354**	⇑*i*P	**Pb**	**14 48 30.9**	**+1.2**
YHNB	**Yeheng**	**0.74**	**333**	*e*P	**Pb**	**14 48 30.4**	**+0.3**
ILA	**Ilan**	**0.75**	**0**	⇑P	**Pb**	**14 48 31.8**	**+1.4**
NSK	**Sanguang**	**0.75**	**332**	⇑*i*P	**Pb**	**14 48 30.9**	**+0.6**
TWF1	**Yuli**	**0.78**	**212**	P	**Pb**	**14 48 31.2**	**+0.4**
SMLT	**Sun Moon Lake**	**0.79**	**261**	⇑*i*P	**Pb**	**14 48 31.0**	**0.0**
SMLT				S	**Sb**	**14 48 39.6**	**-1.8**
TYC	**Yuchr**	**0.82**	**263**	⇑*i*P	**Pb**	**14 48 31.4**	**-0.2**
YUS	**Yu-Shan**	**0.90**	**235**	*e*P	**Pb**	**14 48 33.4**	**+0.5**
NSTT	**Nanjuang**	**0.92**	**312**	⇑*i*P	**Pb**	**14 48 34.1**	**+0.9**
TWQ1	**Liyutan**	**0.95**	**291**	P	**Pb**	**14 48 34.7**	**+0.9**
TWQ1				S	**Sb**	**14 48 46.9**	**+0.7**
TWA	**Mucha**	**0.97**	**351**	⇓*i*P	**Pb**	**14 48 35.7**	**+1.5**
CHKT	**Chengkung**	**0.97**	**201**	*e*P	**Pb**	**14 48 34.8**	**+0.6**
CHKT				S	**Sb**	**14 48 49.8**	**+2.8**
WNT	**Mingjian**	**0.98**	**262**	⇑P	**Pb**	**14 48 35.5**	**+1.1**
WNT				S	**Sb**	**14 48 48.4**	**+1.2**
NSY	**Sanyi**	**0.98**	**294**	⇑*i*P	**Pb**	**14 48 35.8**	**+1.4**
TATO	**Taipei**	**0.99**	**346**	*e*P	**Pb**	**14 48 35.7**	**+1.3**
TCU	**Taichung**	**0.99**	**278**	⇑*i*P	**Pb**	**14 48 36.0**	**+1.6**
ALS	**Alishan**	**1.00**	**240**	⇓*i*P	**Pb**	**14 48 35.6**	**+1.0**
TWB1	**Santiao Chiao**	**1.01**	**13**	⇓*i*P	**Pb**	**14 48 37.0**	**+2.1**
TAP1	**Taipei**	**1.04**	**349**	*e*P	**Pb**	**14 48 36.6**	**+1.2**
TAP	**Taipei**	**1.04**	**348**	*e*P	**Pb**	**14 48 37.6**	**+2.2**
TAP				S	**Sb**	**14 48 50.4**	**+1.3**
NWF	**Wu-fen Shan**	**1.05**	**2**	*e*P	**Pb**	**14 48 37.5**	**+2.0**
HSN	**Hsinchu**	**1.06**	**318**	P	**Pb**	**14 48 37.8**	**+2.1**
HSN				S	**Sb**	**14 48 50.7**	**+1.3**
ELDTW	**Lidau**	**1.06**	**219**	*e*P	**Pb**	**14 48 35.8**	**+0.1**
CHN5	**Tsauling**	**1.06**	**247**	⇓*i*P	**Pb**	**14 48 37.2**	**+1.5**
NCU	**National Centr**	**1.08**	**332**	⇓*i*P	**Pb**	**14 48 38.2**	**+2.1**
NCU				S	**Sb**	**14 48 52.0**	**+1.9**
TWS1	**Kuangyinshan**	**1.12**	**345**	*e*P	**Pb**	**14 48 39.0**	**+2.2**
TWS1				S	**Sb**	**14 48 53.2**	**+1.9**
WGK	**Gukeng**	**1.13**	**254**	P	**Pb**	**14 48 38.5**	**+1.6**
WGK				S	**Sb**	**14 48 53.1**	**+1.5**
YOJ	**Yonaguni jima**	**1.24**	**69**	P	**Pb**	**14 48 41.3**	**+2.6**
YOJ				S	**Sb**	**14 49 00.1**	**+5.5**
STYT	**Tauyuan**	**1.24**	**227**	⇑*i*P	**Pb**	**14 48 39.5**	**+0.8**
STYT				S	**Sb**	**14 48 55.1**	**+0.3**
CHN4	**Tsaushan**	**1.25**	**238**	⇑*i*P	**Pb**	**14 48 40.3**	**+1.4**
CHN4				S	**Sb**	**14 48 57.9**	**+3.0**
CHN2	**Minshiung**	**1.26**	**248**	P	**Pb**	**14 48 40.7**	**+1.7**
TWY	**Chenhua**	**1.26**	**354**	*e*P	**Pb**	**14 48 40.8**	**+1.6**
TWY				S	**Sb**	**14 49 00.6**	**+5.2**
WTP	**Ta-pu**	**1.29**	**234**	⇑*i*P	**Pb**	**14 48 40.9**	**+1.3**
CHY	**Chiayi**	**1.31**	**247**	⇑*i*P	**Pb**	**14 48 41.1**	**+1.1**
TWG	**Pinlang**	**1.34**	**208**	*e*P	**Pb**	**14 48 39.1**	**-1.3**
WTCT	**Ta-ch'eng**	**1.35**	**264**	*e*P	**Pb**	**14 48 41.7**	**+1.1**
WTCT				S	**Sb**	**14 49 00.1**	**+2.2**
TTN	**Taitung**	**1.37**	**204**	*e*P	**Pb**	**14 48 40.7**	**-0.2**
TWK	**Hsinying**	**1.37**	**237**	⇑*i*P	**Pb**	**14 48 42.3**	**+1.3**
TWK				S	**Sb**	**14 49 00.5**	**+1.9**
CHN1	**Nanshi**	**1.39**	**234**	⇑*i*P	**Pn**	**14 48 42.4**	**+1.1**
CHN1				S	**Sb**	**14 49 00.7**	**+1.6**
SGST	**Jiashian**	**1.41**	**229**	⇑*i*P	**Pn**	**14 48 43.0**	**+1.3**
SGST				S	**Sb**	**14 49 03.2**	**+3.5**
WSF	**Szhu**	**1.45**	**255**	*e*P	**Pn**	**14 48 43.3**	**+1.3**
WSF				S	**Sb**	**14 49 02.5**	**+1.9**
CHN8	**Yiju**	**1.56**	**245**	⇑P	**Pn**	**14 48 44.8**	**+1.1**
CHN8				S	**Sb**	**14 49 06.5**	**+2.6**
ECL	**Taimali**	**1.59**	**207**	*e*P	**Pn**	**14 48 42.6**	**-1.5**
SSD	**Sandimen**	**1.62**	**219**	*e*P	**Pn**	**14 48 44.8**	**+0.1**
SSD				S	**Sb**	**14 49 08.4**	**+2.6**
PCYT	**Pengchaiyu**	**1.64**	**10**	*e*P	**Pn**	**14 48 46.3**	**+1.5**
SCLT	**Jiali**	**1.65**	**240**	*e*P	**Pn**	**14 48 46.2**	**+1.2**
SCLT				S	**Sn**	**14 49 09.2**	**+2.6**
TWM1	**Shoushan**	**1.70**	**226**	⇑*i*P	**Pn**	**14 48 48.5**	**+2.9**
SGLT	**Jiouru**	**1.73**	**222**	*e*P	**Pn**	**14 48 48.8**	**+2.8**
EAST	**Anshuo**	**1.82**	**207**	*e*P	**Pn**	**14 48 46.2**	**-1.2**
TAWU	**Tawu**	**1.82**	**206**	*e*P	**Pn**	**14 48 45.9**	**-1.6**
IRIF	**Iriomote-Funau**	**1.84**	**80**	P	**Pn**	**14 48 49.6**	**+1.9**
IRIF				S	**Sn**	**14 49 14.3**	**+2.9**
HATJ	**Hateruma jima**	**1.88**	**88**	P	**Pn**	**14 48 50.3**	**+2.0**
HATJ				S	**Sn**	**14 49 14.6**	**+2.2**
SCZT	**Fangliau**	**1.93**	**213**	*e*P	**Pn**	**14 48 50.6**	**+1.5**
SCZT				S	**Sn**	**14 49 17.0**	**+3.2**
KAU	**Kaohsiung**	**1.95**	**223**	*e*P	**Pn**	**14 48 51.0**	**+1.7**
PNG	**Penghu**	**2.06**	**258**	*e*P	**Pn**	**14 48 50.9**	**+0.1**
WDGT	**Dungji**	**2.06**	**249**	⇑*i*P	**Pn**	**14 48 51.4**	**+0.6**
WDGT				S	**Sn**	**14 49 15.4**	**-1.4**
JKRS	**Kuro-shima**	**2.08**	**83**	P	**Pn**	**14 48 53.4**	**+2.3**
JKRS				S	**Sn**	**14 49 21.7**	**+4.2**
TWP	**Hsiaoliuchiu**	**2.09**	**218**	*e*P	**Pn**	**14 48 53.7**	**+2.4**
HEN	**Hengchun**	**2.20**	**205**	*e*P	**Pn**	**14 48 54.1**	**+1.2**
JIJ	**Ishigaki jima**	**2.22**	**80**	P	**Pn**	**14 48 54.6**	**+1.5**
JIJ				S	**Sn**	**14 49 22.1**	**+1.2**
TWK1	**Hengchun**	**2.23**	**203**	*e*P	**Pn**	**14 48 53.4**	**+0.1**
TWK1				S	**Sn**	**14 49 25.6**	**+4.2**
TSEB	**Hengchuen, Pin**	**2.24**	**201**	*e*P	**Pn**	**14 48 52.4**	**-1.1**
TSEB				S	**Sn**	**14 49 23.4**	**+1.8**
JTJ	**Tarama**	**2.77**	**76**	P	**Pn**	**14 49 02.6**	**+1.6**
JTJ				S	**Sn**	**14 49 39.0**	**+4.1**
QZH	**Quanzhou**	**3.02**	**289**	⇓*i*P	**Pn**	**14 49 03.8**	**-0.8**
QZH				S	**Sn**	**14 49 38.5**	**-2.8**
QZH				Smax			
comp=N,10μm,1.0s							
QZH				LR	LR		
comp=N,61μm,11.8s							
QZH				LR	LR		
comp=E,85μm,11.0s							
QZH				LR	LR		
comp=Z,128μm,9.5s							
KNM	**Kinmen**	**3.05**	**278**	*e*P	**Pn**	**14 49 05.7**	**+0.7**
JMJ	**Miyako jima 2**	**3.33**	**75**	P	**Pn**	**14 49 11.6**	**+2.6**
JMJ				S	**Sn**	**14 49 52.2**	**+3.0**
JOGS	**Gusukube**	**3.42**	**77**	P	**Pn**	**14 49 12.7**	**+2.5**
JOGS				S	**Sn**	**14 49 55.7**	**+4.3**
BBP	**Basco**	**3.56**	**177**	*e*P	**Pn**	**14 49 10.7**	**-1.6**
JKE	**Kume jima 2**	**5.11**	**62**	P	**Pn**	**14 49 34.9**	**+0.6**
JAGN	**Aguni-jima**	**5.60**	**62**	P	**Pn**	**14 49 41.6**	**+0.5**
JJT2	**Tamagusuku 2**	**5.84**	**68**	P	**Pn**	**14 49 45.1**	**+0.6**
APYP	**Conner**	**6.14**	**184**	*i* P	**Pn**	**14 49 48.0**	**-0.8**
APYP				*e*S	**Pg**	**14 50 19.5**	**+1.4**
CVP	**Callao Caves**	**6.28**	**179**	*e*P	**Pn**	**14 49 50.0**	**-0.7**
JIH	**Iheya**	**6.37**	**61**	P	**Pn**	**14 49 51.7**	**-0.4**
ABRA	**Dolores**	**6.41**	**189**	*e*P	**Pn**	**14 49 52.5**	**0.0**
JOW	**Kunigami**	**6.54**	**63**	Pn	**Pn**	**14 49 53.2**	**-1.1**
comp=Z,42nm,0.3s,baz=214,slow=9.9,SNR=96							
JOW				Sn	**Sn**	**14 51 08.8**	**-1.1**
baz=134,slow=22,SNR=1.9							
JOW	**Kunigami**	**6.54**	**63**	P	**Pn**	**14 49 53.1**	**-1.2**
PALP	**Palanan**	**6.94**	**175**	*e*P	**Pn**	**14 50 01.6**	**+1.5**
PALP				*e*S	**Sn**	**14 51 20.4**	**+0.4**
CAUP	**Cauayan**	**7.03**	**179**	*e*P	**Pn**	**14 50 02.5**	**+1.1**
SSE	**Sheshan**	**7.07**	**356**	P	**Pn**	**14 50 00.0**	**-1.9**
SSE				S	**Sn**	**14 51 17.8**	**-5.5**
SSE				AMB	AMB		
comp=Z,253nm,0.8s							
SSE				AMB	AMB		
comp=Z,260nm,9.9s							
SSE				Smax			
comp=N,1μm,1.3s							
SSE				Smax			
comp=E,2μm,1.3s							
SSE				LR	LR		
comp=N,23μm,11.5s							
SSE				LR	LR		
comp=E,3μm,11.4s							
SSE				LR	LR		
comp=Z,30μm,12.4s							
HKC	**Hong Kong**	**7.17**	**258**	Pn	**Pn**	**14 50 00.0**	**-3.3**
HKC				Sn	**Sn**	**14 51 21.0**	**-4.8**
JTK	**Tokunoshima**	**7.50**	**58**	P	**Pn**	**14 50 06.2**	**-1.6**
JTK				S	**Sn**	**14 51 36.9**	**+3.0**
BOLP	**Bolinao**	**7.79**	**193**	*e*P	**Pn**	**14 50 12.2**	**+0.3**
BALP	**Baler**	**8.23**	**181**	*e*P	**P**	**14 50 18.0**	**-0.1**
JAM	**Amami Oshima**	**8.30**	**57**	P	**P**	**14 50 16.9**	**-2.2**
JAM	

SNY				PP	PP	14 52 41.8	+1.4
SNY				S	**S**	**14 55 50.0**	**+7.8**
SNY				AMB	AMB		
	comp=Z,20nm,1.5s						
SNY				AMB	AMB		
	comp=Z,1μm,11.2s						
JGN	**Niukaw**	**18.12**	**44**	P	**P**	**14 52 29.1**	**-0.2**
JHJ	**Hachijo jima 2**	**18.24**	**56**	P	**P**	**14 52 30.6**	**-0.1**
	comp=Z,12nm,0.3s,baz=86,slow=4.0,SNR=5.9						
JHJ				LR	LR	14 59 31.8	
	comp=Z,2μm,19.6s,baz=297,slow=37						
JIZS	**Izushimoda**	**18.32**	**51**	P	**P**	**14 52 35.0**	**+3.2**
JNT	**Takato**	**18.45**	**46**	P	**P**	**14 52 35.6**	**+2.2**
JYN	**Shimob**	**18.51**	**48**	P	**P**	**14 52 36.1**	**+2.0**
KKM	**Kota Kinabalu**	**18.64**	**197**	*e*P	**P**	**14 52 35.2**	**-0.6**
KKM	**Kota Kinabalu**	**18.64**	**197**	P	**P**	**14 52 36.0**	**+0.2**
CBIJ	**Chichi jima**	**18.69**	**76**	P	**P**	**14 52 34.4**	**-2.0**
	comp=Z,2.0nm,0.3s,baz=240,slow=12,SNR=6.5						
CBIJ				LR	LR	14 59 00.9	
	comp=Z,2μm,20.3s,baz=256,slow=34						
JNG	**Nsakai**	**18.74**	**45**	P	**P**	**14 52 38.6**	**+1.8**
HHC	**Hu-ho-hao-te**	**18.84**	**335**	*e*P	**P**	**14 52 37.8**	**-0.2**
HHC				PP	PP	14 52 55.3	+1.1
HHC				S	**S**	**14 56 11.3**	**+6.4**
HHC				PCP	PcP	14 57 05.5	+0.4
HHC				AMB	AMB		
	comp=Z,62nm,1.8s						
HHC				AMB	AMB		
	comp=Z,2μm,7.4s						
HHC				LR	LR		
	comp=N,12μm,13.4s						
HHC				LR	LR		
	comp=E,4μm,16.6s						
HHC				LR	LR		
	comp=Z,11μm,14.5s						
MAJO	**Matsushiro**	**18.89**	**45**	*e*P	**P**	**14 52 37.3**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,13nm,0.6s						
MAJO	**Matsushiro**	**18.89**	**45**	*e*P	**P**	**14 52 37.2**	**-1.4**
	comp=Z,13nm,0.6s						
MAT	**Matsushiro**	**18.89**	**45**	*e*P	**P**	**14 52 36.0**	**-2.6**
MAT				*e*S	**S**	**14 56 08.0**	**+1.9**
MAT				pmax	pmax		
	comp=Z,11nm,0.8s						
MAT	**Matsushiro**	**18.89**	**45**	*e*P	**P**	**14 52 36.0**	**-2.6**
	comp=Z,11nm,0.8s						
MAT				*e*S	**S**	**14 56 08.0**	**+1.9**
MAT	**Matsushiro**	**18.89**	**45**	P	**P**	**14 52 35.8**	**-2.8**
MAT				S	**S**	**14 56 08.0**	**+1.9**
MAT	**Matsushiro**	**18.89**	**45**	P	**P**	**14 52 41.7**	**+3.1**
MJAR	**Matsushiro Arr**	**18.89**	**45**	P	**P**	**14 52 36.5**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=228,slow=11,SNR=17						
MJAR				ScP		15 00 37.7	
	baz=225,slow=5.2,SNR=3.0						
MJAR				LR	LR	15 00 51.7	
	comp=Z,3μm,19.0s,baz=240,slow=40						
JRY	**Ryogami san**	**19.04**	**47**	P	**P**	**14 52 40.9**	**+0.4**
BTO	**Baotou**	**19.25**	**332**	*e*P	**P**	**14 52 42.3**	**-0.7**
BTO				AMB	AMB		
	comp=Z,115nm,2.1s						
LZH	**Lanzhou**	**19.58**	**312**	⇑P	**P**	**14 52 47.0**	**+0.2**
LZH				AP		14 52 51.5	
LZH				XP		14 52 54.5	
LZH				PP	PP	14 53 05.0	+0.3
LZH				S	**S**	**14 56 21.5**	**-0.3**
LZH				XS		14 56 29.0	
LZH				AMB	AMB		
	comp=Z,444nm,1.5s						
LZH				AMB	AMB		
	comp=Z,2μm,4.0s						
TSM	**Tawau**	**19.96**	**191**	P	**P**	**14 52 48.6**	**-2.6**
CN2	**Changchun**	**19.97**	**8**	*e*P	**P**	**14 52 54.3**	**+3.2**
CN2				*e*S	**S**	**14 56 34.3**	**+4.2**
CN2				LR	LR		
	comp=Z,13μm,14.0s						
NANT	**Nan**	**20.26**	**259**	P	**P**	**14 52 55.0**	**+0.7**
	comp=Z,250nm,0.7s						
JHO	**Hitachi**	**20.49**	**48**	P	**P**	**14 52 52.5**	**-4.0**
MDJ	**Mudanjiang**	**21.53**	**15**	P	**P**	**14 53 06.8**	**-0.3**
MDJ				AP		14 53 09.5	
MDJ				XP		14 53 11.0	
MDJ				S	**S**	**14 57 07.0**	**+6.1**
MDJ				PCS		15 00 47.0	
MDJ				SCS	ScS	15 04 30.8	+2.0
MDJ				AMB	AMB		
	comp=Z,45nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,273nm,6.8s						
MDJ				LR	LR		
	comp=N,2μm,19.1s,MS4.9						
MDJ				LR	LR		
	comp=E,5μm,20.8s,MS4.9						
MDJ				LR	LR		
	comp=Z,4μm,15.6s						
MDJ	**Mudanjiang**	**21.53**	**15**	*e*P	**P**	**14 53 06.6**	**-0.5**
	comp=Z,42nm,0.9s,mb4.9						
NST	**Nakhon Sawan**	**21.94**	**252**	P	**P**	**14 53 10.0**	**-1.4**
CM31	**Chiang Mai Arr**	**21.95**	**260**	*e*P	**P**	**14 53 11.6**	**+0.1**
	comp=Z,22nm,0.8s,mb4.7						
CMAR	**Chiang Mai Arr**	**21.95**	**260**	P	**P**	**14 53 11.8**	**+0.4**
	comp=Z,13nm,0.8s,mb4.4,baz=63,slow=8.5,SNR=62						
CMAR				PcP	PcP	14 57 07.8	-3.2
	comp=Z,2.1nm,0.8s,baz=28,slow=1.2,SNR=8.6						
CMAR				LR	LR	15 02 02.3	
	comp=Z,2μm,19.8s,MS4.5,baz=80,slow=37						
JRG	**Rokugo**	**22.14**	**42**	P	**P**	**14 53 11.7**	**-1.6**
GTA	**Gaotai**	**24.07**	**315**	P	**P**	**14 53 32.5**	**+0.3**
GTA				AP		14 53 37.0	
GTA				XP		14 53 39.8	
GTA				PP	PP	14 54 03.5	-3.0
GTA				PPP	PPP	14 54 14.3	-2.3
GTA				PCP	PcP	14 57 14.8	-0.5
GTA				S	**S**	**14 57 41.3**	**-5.2**
GTA				SCP		15 00 51.0	
GTA				SCS	ScS	15 04 44.3	+5.8
GTA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,999nm,8.7s						
GTA				LR	LR		
	comp=Z,14μm,12.9s,MS5.6						
GUMO	**Guam**	**24.18**	**111**	*e*P	**P**	**14 53 34.2**	**+0.7**
GUMO				pmax	pmax		
	comp=Z,643nm,1.3s,mb5.9						
GUMO				MLR	MLR		
	comp=Z,1μm,21.0s,MS4.4						
GUMO	**Guam**	**24.18**	**111**	*e*P	**P**	**14 53 34.1**	**+0.6**
	comp=Z,643nm,1.3s,mb5.9						
GUMO				LR	LR		
	comp=Z,1μm,21.0s,MS4.4						
KSM	**Kuching**	**24.99**	**208**	*e*P	**P**	**14 53 40.2**	**-1.2**
HIA	**Hailar**	**25.25**	**357**	*e*P	**P**	**14 53 42.7**	**-0.8**
HIA				pmax	pmax		
	comp=Z,88nm,1.4s						
HIA	**Hailar**	**25.25**	**357**	*e*P	**P**	**14 53 42.7**	**-0.8**
	comp=Z,88nm,1.4s,mb5.1						
ASAJ	**Asahikawa**	**26.33**	**35**	P	**P**	**14 53 50.8**	**-2.8**
	comp=Z,4.4nm,0.3s,mb4.4,baz=250,slow=10.0,SNR=11						
ASAJ				LR	LR	15 05 02.5	
	comp=Z,2μm,18.7s,MS4.8,baz=231,slow=38						
KLR	**Kul'dur**	**26.37**	**15**	*e*P	**P**	**14 53 50.2**	**-3.7**
KLR				*e*S	**S**	**14 58 12.5**	**-13**
KLR				pmax	pmax		
	comp=E,38nm,1.2s						
KLR				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.0						
KLR				MLR	MLR		
	comp=N,17μm,13.0s,MS5.8						
KLR				MLR	MLR		
	comp=E,5μm,13.0s,MS5.8						
KLR				MLR	MLR		
	comp=Z,20μm,13.0s,MS5.8						
SONM	**Songino Array**	**26.73**	**337**	LR	LR	15 05 40.6	
	comp=Z,8μm,18.2s,MS5.3,baz=230,slow=39						
SHL	**Shillong**	**27.13**	**280**	*e*P	**P**	**14 53 59.3**	**-1.8**
SHL				*e*		14 57 20.3	
KULM	**Kulim**	**27.55**	**231**	*e*P	**P**	**14 54 04.7**	**-0.3**
IPM	**Ipoh**	**27.78**	**229**	P	**P**	**14 54 07.9**	**+0.7**
LSA	**Lhasa**	**27.83**	**288**	P	**P**	**14 54 10.3**	**+2.9**
LSA				S	**S**	**14 58 51.3**	**+2.4**
LSA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0						
LSA				LR	LR		
	comp=N,3μm,15.4s,MS5.3						
LSA				LR	LR		
	comp=E,6μm,13.6s,MS5.3						
LSA				LR	LR		
	comp=Z,7μm,15.0s,MS5.4						
LSA	**Lhasa**	**27.83**	**288**	*e*P	**P**	**14 54 08.7**	**+1.3**
LSA				pmax	pmax		
	comp=Z,125nm,1.3s,mb5.4						
LSA				MLR	MLR		
	comp=Z,280nm,22.0s						
LSA	**Lhasa**	**27.83**	**288**	*e*P	**P**	**14 54 08.7**	**+1.3**
	comp=Z,125nm,1.3s,mb5.4						
LSA				LR	LR		
	comp=Z,280nm,22.0s						
AGT	**Agartala**	**27.85**	**276**	⇓*i*	**P**	**14 54 09.0**	**+1.4**
AGT				*i*		14 54 57.0	
KGM	**Kluang**	**28.21**	**222**	P	**P**	**14 54 11.2**	**+0.2**
YSS	**Yuzh-Sakhalins**	**28.41**	**31**	*e*P	**P**	**14 54 12.7**	**+0.3**
YSS				*e*		14 54 20.2	
YSS				S	**S**	**14 58 56.0**	**-2.1**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.2						
YSS				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.3						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s,MS4.6						
YSS				MLR	MLR		
	comp=N,1μm,17.0s,MS4.8						
YSS				MLR	MLR		
	comp=E,1μm,16.0s,MS4.8						
YSS	**Yuzh-Sakhalins**	**28.41**	**31**	*e*P	**P**	**14 54 11.3**	**-1.1**
	comp=E,49nm,1.0s,mb5.1						
YSS				LR	LR		
	comp=Z,1μm,21.0s,MS4.4						
ZAK	**Zakamensk**	**29.98**	**336**	*e*P	**P**	**14 54 24.1**	**-2.5**
CAL	**Calcutta**	**30.69**	**274**	*e*	**S**	**14 59 46.6**	**+12**
CAL				*e*		15 02 11.0	
TLY	**Talaya**	**30.93**	**338**	*e*P	**P**	**14 54 34.2**	**-0.6**
TLY				*e*PPP	PPP	14 55 49.7	-1.7
TLY				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.1						
TLY				MLR	MLR		
	comp=Z,6μm,19.0s,MS5.3						
TLY	**Talaya**	**30.93**	**338**	*e*P	**P**	**14 54 34.5**	**-0.3**
	comp=Z,28nm,1.0s,mb5.0						
IRK	**Irkutsk**	**31.19**	**339**	*e*P	**P**	**14 54 35.0**	**-2.2**
IRK				pmax	pmax		
	comp=Z,84nm,1.7s,mb5.3						
MOY	**Mondy**	**31.88**	**335**	*e*P	**P**	**14 54 41.7**	**-1.5**
MOY				pmax	pmax		
	comp=Z,50nm,1.8s,mb5.0						
JIRN	**Jiri**	**32.14**	**284**	*e*P	**P**	**14 54 46.0**	**+0.2**
	comp=Z,8.8nm,0.7s,mb4.7						
GUN	**Gumba**	**32.41**	**285**	*e*P	**P**	**14 54 48.5**	**+0.4**
	comp=Z,141nm,1.1s,mb5.7						
PKI	**Pulchoki**	**32.84**	**284**	*e*P	**P**	**14 54 51.4**	**-0.4**
	comp=Z,92nm,1.2s,mb5.6						
KKN	**Kakani**	**32.94**	**284**	*e*P	**P**	**14 54 52.6**	**-0.1**
	comp=Z,91nm,0.9s,mb5.7						
DMN	**Daman**	**33.10**	**284**	*e*P	**P**	**14 54 54.1**	**-0.1**
	comp=Z,88nm,0.9s,mb5.7						
GKN	**Gorkha**	**33.50**	**285**	*e*P	**P**	**14 54 56.9**	**-0.7**
	comp=Z,66nm,0.9s,mb5.6						
WMQ	**Urumqi**	**34.14**	**314**	P	**P**	**14 55 02.5**	**-0.5**
WMQ				AP	pP	14 55 07.0	+1.5
WMQ				XP	sP	14 55 09.5	+2.9
WMQ				PP	PP	14 56 16.5	-0.9
WMQ				PPP	PPP	14 56 34.8	-0.6
WMQ				PCP	PcP	14 57 40.3	0.0
WMQ				*e*S	**S**	**15 00 27.3**	**-1.0**
WMQ				AMB	AMB		
	comp=Z,45nm,1.3s,mb5.2						
WMQ				LR	LR		
	comp=Z,2μm,13.0s,MS5.1						
KOLN	**Koldanda**	**34.43**	**285**	*e*P	**P**	**14 55 05.2**	**-0.5**
	comp=Z,134nm,1.1s,mb5.8						
PTH	**Pithoragarh**	**37.34**	**288**	*e*	**P**	**14 55 32.6**	**+2.3**
KAKA	**Kakadu**	**37.97**	**163**	*e*P	**P**	**14 55 32.4**	**-3.3**
	comp=Z,38nm,0.9s,mb5.1						
YAK	**Yakutsk**	**38.38**	**6**	*e*P	**P**	**14 55 35.8**	**-2.9**
	comp=Z,28nm,0.8s,mb5.0						
YAK				LR	LR		
	comp=Z,2μm,21.0s,MS4.9						
MKAR	**Makanchi Array**	**38.82**	**316**	P	**P**	**14 55 40.9**	**-1.6**
	comp=Z,26nm,0.8s,mb5.0,baz=101,slow=9.9,SNR=71						
MKAR				PcP	PcP	14 57 52.2	-2.1
	comp=Z,7.9nm,0.8s,baz=90,slow=4.9,SNR=4.6						
MKAR				ScP		15 01 38.6	
	comp=Z,2.9nm,1.0s,baz=90,slow=4.9,SNR=7.2						
SMLA	**Simla**	**39.94**	**290**	*i* P	**P**	**14 55 48.3**	**-3.7**
	comp=Z,128nm,3.3s						
SMLA				*i* S	**S**	**15 01 54.0**	**-3.0**
NDI	**New Delhi**	**40.00**	**287**	*e*P	**P**	**14 55 52.0**	**-0.5**
SDNR	**Sundarnagar**	**40.10**	**291**	*e*P	**P**	**14 55 54.2**	**+0.9**
ZAL	**Zalesovo**	**40.67**	**327**	P	**P**	**14 55 56.6**	**-1.2**
	comp=Z,11nm,0.9s,mb4.5,baz=358,slow=8.0,SNR=20						
ZAL				LR	LR	15 14 38.0	
	comp=Z,3μm,21.5s,MS5.1,baz=344,slow=39						
HYB	**Hyderabad**	**40.81**	**269**	*e*P	**P**	**14 56 02.0**	**+2.8**
HYB	**Hyderabad**	**40.81**	**269**	*i* P	**P**	**14 56 02.0**	**+2.8**
KSH	**Kashi**	**41.42**	**303**	*e*P	**P**	**14 56 05.0**	**+0.9**
KSH				*e*AP	pP	14 56 09.5	+2.9
KSH				*e*XP	sP	14 56 12.0	+4.4
KSH				*e*PP	PP	14 57 44.0	+1.0
KSH				*e*PCP	PcP	14 58 02.3	-0.5
KSH				*e*PPP	PPP	14 58 14.0	+0.9
KSH				*e*SCP		15 01 51.0	
KSH				*e*S	**S**	**15 02 17.0**	**-2.0**
KSH				*e*XS		15 02 28.0	
KSH				*e*SS	SS	15 05 20.0	+2.0
KSH				*e*SCS	ScS	15 06 05.5	-0.8
KSH				AMB	AMB		
	comp=Z,140nm,3.8s						
PMG	**Port Moresby**	**41.47**	**140**	*e*P	**P**	**14 56 05.1**	**+0.4**
PMG				pmax	pmax		
	comp=Z,140nm,1.1s						
PMG	**Port Moresby**	**41.47**	**140**	P	**P**	**14 56 04.5**	**-0.2**
	comp=Z,83nm,0.9s,mb5.3,baz=347,slow=9.3,SNR=13						
PMG				LR	LR	15 10 51.2	
	comp=Z,874nm,20.1s,MS4.6,baz=97,slow=33						
PMG	**Port Moresby**	**41.47**	**140**	*e*P	**P**	**14 56 05.1**	**+0.4**
	comp=Z,140nm,1.1s,mb5.5						
ULHL	**Ulahol**	**41.67**	**307**	P	**P**	**14 56 07.0**	**+0.9**
	SNR=13						
NVS	**Novosibirsk**	**41.93**	**327**	⇑*i* P	**P**	**14 56 05.3**	**-2.7**
NVS				*e*		14 56 21.3	
NVS				*e*		14 57 47.1	
NVS				*e*		15 02 14.7	
NVS				pmax	pmax		
	comp=Z,48nm,1.8s,mb4.8						
NVS				pmax	pmax		
	comp=N,82nm,2.4s						
NVS				pmax	pmax		
	comp=E,40nm,1.9s						
FITZ	**Fitzroy Crossi**	**42.03**	**174**	P	**P**	**14 56 06.7**	**-2.7**
	comp=E,85nm,1.2s,mb5.3,baz=358,slow=8.3,SNR=17						
FITZ				PcP	PcP	14 58 02.4	-2.6
	comp=E,18nm,0.8s,baz=10,slow=6.0,SNR=5.4						
FITZ				LR	LR	15 15 00.5	
	comp=E,192nm,19.3s,MS4.0,baz=350,slow=38						
TKM2	**Tokmak 2**	**42.27**	**308**	P	**P**	**14 56 11.8**	**+0.8**
	SNR=23						
KZA	**Kyzart**	**42.37**	**307**	P	**P**	**14 56 13.4**	**+1.5**
	SNR=13						
KBK	**Karagaybulak**	**42.69**	**308**	P	**P**	**14 56 16.9**	**+2.5**
	SNR=17						
CHMS	**Chumysh**	**42.90**	**308**	P	**P**	**14 56 16.4**	**+0.3**
	SNR=12						
UCH	**Uchtor**	**42.93**	**307**	P	**P**	**14 56 17.2**	**+0.8**
	SNR=34						
FRU	**Bishkek**	**42.96**	**308**	*e*P	**P**	**14 56 17.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,140nm,2.6s,mb5.2						
AAK	**Ala-Archa**	**43.02**	**307**	P	**P**	**14 56 19.2**	**+2.1**
	SNR=10						
AAK	**Ala-Archa**	**43.02**	**307**	*i* P	**P**	**14 56 14.7**	**-2.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**43.02**	**307**	*e*P	**P**	**14 56 15.9**	**-1.2**
	comp=Z,13nm,0.9s,mb4.7						
USP	**Ospenovka**	**43.13**	**308**	P	**P**	**14 56 19.6**	**+1.6**
	SNR=12						
AML	**Almayashu**	**43.52**	**307**	P	**P**	**14 56 22.2**	**+1.0**
	SNR=28						
EKS2	**Erkin-Say**	**43.54**	**307**	P	**P**	**14 56 23.3**	**+2.0**
	SNR=13						
POO	**Poona**	**44.80**	**273**	⇓*i* P	**P**	**14 56 29.0**	**-2.9**
	comp=Z,30nm,1.0s,mb5.1						
MBWA	**Marble Bar**	**44.94**	**183**	*e*P	**P**	**14 56 29.6**	**-3.4**
	comp=Z,79nm,1.1s,mb5.5						
WRAB	**Tennant Creek**	**45.37**	**163**	*e*P	**P**	**14 56 33.9**	**-2.5**
WRAB				pmax	pmax		
	comp=Z,166nm,1.1s,mb5.8						
WRAB	**Tennant Creek**	**45.37**	**163**	*e*P	**P**	**14 56 33.9**	**-2.5**
	comp=Z,166nm,1.1s,mb5.8						
WRA	**Warramunga Arr**	**45.38**	**163**	P	**P**	**14 56 34.1**	**-2.4**
	comp=Z,45nm,0.9s,mb5.3,baz=345,slow=8.5,SNR=78						
WRA				ScP		15 02 03.6	
	comp=Z,2.8nm,0.9s,baz=341,slow=4.2,SNR=5.4						
WRA				S	**S**	**15 03 11.5**	**-5.5**
	comp=Z,0.6nm,0.8s,baz=354,slow=16,SNR=3.7						
WB2	**Warramunga Arr**	**45.38**	**163**	*e*P	**P**	**14 56 33.9**	**-2.6**
BVAR	**Borovoye Array**	**48.13**	**321**	P	**P**	**14 56 56.8**	**-0.9**
	comp=Z,8.4nm,0.6s,mb5.0,baz=113,slow=11,SNR=30						
BVAR				PcP	PcP	14 58 23.1	-2.6
	comp=Z,12nm,0.8s,baz=115,slow=3.4,SNR=6.1						
BVAR				ScP		15 02 13.4	
	comp=Z,1.1nm,0.8s,baz=108,slow=4.6,SNR=3.5						
BVAR	**Borovoye Array**	**48.13**	**321**	P	**P**	**14 56 56.8**	**-0.9**
BVAR				PcP	PcP	14 58 23.1	-2.6
BVAR				ScP		15 02 13.4	
ASAR	**Alice Springs**	**48.84**	**165**	P	**P**	**14 57 01.6**	**-2.1**
	comp=Z,33nm,0.9s,mb5.4,baz=342,slow=6.4,SNR=90						
ASAR				ScP		15 02 18.9	
	comp=Z,3.3nm,0.9s,baz=352,slow=3.6,SNR=7.8						
ASAR				S	**S**	**15 04 02.0**	**-4.1**
	comp=Z,0.4nm,0.9s,baz=329,slow=10,SNR=2.8						
ASAR				LR	LR	15 20 16.4	
	comp=Z,238nm,18.3s,MS4.2,baz=344,slow=39						
ASPA	**Alice Springs**	**48.84**	**165**	*e*P	**P**	**14 57 01.8**	**-1.8**
CTA	**Charters Tower**	**49.92**	**149**	P	**P**	**14 57 11.3**	**-0.6**
	comp=Z,24nm,0.8s,mb5.3,baz=329,slow=9.3,SNR=22						
CTA				LR	LR	15 15 57.3	
	comp=Z,1μm,21.9s,MS4.9,baz=327,slow=33						
CTAO	**Charters Tower**	**49.92**	**149**	*e*P	**P**	**14 57 11.7**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,51nm,0.9s,mb5.5						
CTAO	**Charters Tower**	**49.92**	**149**	*e*P	**P**	**14 57 11.7**	**-0.2**
	comp=Z,51nm,0.9s,mb5.5						
HNR	**Honiara**	**49.97**	**127**	LR	LR	15 16 23.1	
	comp=Z,457nm,19.7s,MS4.5,baz=322,slow=34						
BILL	**Bilibino**	**51.67**	**20**	*e*P	**P**	**14 57 22.9**	**-1.7**
BILL				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
BILL	**Bilibino**	**51.67**	**20**	*e*P	**P**	**14 57 22.9**	**-1.7**
	comp=Z,11nm,0.8s,mb4.8						
SVE	**Sverdlovsk**	**54.48**	**324**	⇓*e*P	**P**	**14 57 43.9**	**-1.7**
SVE				*e*S	**S**	**15 05 20.0**	**-3.0**
SVE				*e*		15 07 28.0	
SVE				pmax	pmax		
	comp=Z,80nm,1.5s,mb5.4						
SVE				MLR	MLR		
	comp=N,1μm,15.0s,MS5.4						
SVE				MLR	MLR		
	comp=E,2μm,15.0s,MS5.4						
SVE				MLR	MLR		
	comp=Z,4μm,15.0s,MS5.6						
FORT	**Forrest**	**54.81**	**173**	*e*P	**P**	**14 57 45.8**	**-2.6**
	comp=Z,3μm,1.2s						
KLBR	**Kellerberrin**	**55.42**	**184**	*e*P	**P**	**14 57 49.9**	**-3.0**
	comp=Z,898nm,0.9s						
ARU	**Arti**	**55.55**	**323**	⇓*i* P	**P**	**14 57 51.6**	**-1.8**
ARU				*e*		14 58 47.9	
ARU				*e*		14 59 53.1	
ARU				*e*S	**S**	**15 05 37.1**	**-0.2**
ARU				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3						
ARU				MLR	MLR		
	comp=Z,800nm,17.0s,MS4.9						
ARU				MLR	MLR		
	comp=N,200nm,16.0s,MS4.7						
ARU				MLR	MLR		
	comp=E,500nm,15.0s,MS4.7						
ARU	**Arti**	**55.55**	**323**	*e*P	**P**	**14 57 50.8**	**-2.6**
	comp=E,31nm,0.8s,mb5.4						
MUN	**Mundaring**	**55.93**	**186**	*e*P	**P**	**14 57 53.4**	**-3.1**
	comp=E,158nm,1.1s,mb6.0						
MUN	**Mundaring**	**55.93**	**186**	*e*P	**P**	**14 57 53.4**	**-3.1**
MUN				pmax	pmax		
	comp=Z,158nm,1.1s,mb6.0						
NWAO	**Narrogin (SRO)**	**56.78**	**185**	*e*P	**P**	**14 58 00.2**	**-2.4**
NWAO				pmax	pmax		
	comp=Z,193nm,1.3s						
NWAO	**Narrogin (SRO)**	**56.78**	**185**	P	**P**	**14 57 59.8**	**-2.9**
	comp=Z,88nm,1.0s,mb5.7,baz=5.2,slow=7.7,SNR=22						
NWAO	**Narrogin (SRO)**	**56.78**	**185**	*e*P	**P**	**14 58 00.1**	**-2.5**
	comp=Z,193nm,1.3s,mb6.0						
SOKR	**Solikamsk**	**56.95**	**327**	⇓*i* P	**P**	**14 58 00.0**	**-3.4**
SOKR				*e*		14 58 06.1	
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
SOKR				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.3						
STKA	**Stephens Creek**	**58.73**	**160**	⇑*i* P	**P**	**14 58 14.4**	**-1.9**
	comp=Z,16nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**58.73**	**160**	P	**P**	**14 58 14.2**	**-2.1**
	comp=Z,18nm,0.6s,mb5.2,baz=339,slow=7.7,SNR=39						
STKA				LR	LR	15 23 16.7	
	comp=Z,443nm,20.5s,MS4.6,baz=24,slow=36						
TNA	**Tin City**	**60.26**	**27**	*e*P	**P**	**14 58 25.5**	**-0.9**
	comp=Z,23nm,1.4s,mb5.0						
CNB	**Canberra Magne**	**64.55**	**155**	*e*P	**P**	**14 58 54.3**	**-1.1**
	comp=Z,424nm,0.8s						
TOO	**Toolangi**	**65.20**	**159**	*e*P	**P**	**14 58 58.6**	**-1.0**
	comp=Z,25nm,0.8s,mb5.3						
TOO	**Toolangi**	**65.20**	**159**	*e*P	**P**	**14 58 58.6**	**-1.0**
TOO				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
TTA	**Tatalina**	**65.40**	**30**	*e*P	**P**	**14 59 00.7**	**+0.3**
ZEI	**Tsey**	**65.45**	**308**	*e*P	**P**	**14 58 58.8**	**-2.3**
ZEI				*i* *PP	pP	14 59 04.9	+1.2
ZEI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
GOF	**Gofitskoye**	**65.65**	**310**	⇓*i* P	**P**	**14 59 00.3**	**-2.1**
GOF				*i*		14 59 13.3	
GOF				*i* S	S	15 07 47.9	+1.2
GOF				pmax	pmax		
	comp=Z,130nm,1.7s,mb5.7						
GOF				smax			
	comp=E,370nm,1.4s						
SVW2	**Sparrevohn**	**65.77**	**32**	*e*P	**P**	**14 59 02.2**	**-0.7**
KIV	**Kisl

SOC *i* S S 15 08 14.4 -4.0
SOC *e* 15 09 13.9
SOC *e*SS SS 15 12 39.2 -3.8
SOC pmax pmax
comp=N,22nm,1.0s
SOC pmax pmax
comp=Z,37nm,1.0s,mb5.4
SOC pmax pmax
comp=E,43nm,1.2s
SOC MLR MLR
comp=N,1µm,17.0s,MS5.2
SOC MLR MLR
comp=E,811nm,17.0s,MS5.2
SOC MLR MLR
comp=Z,1µm,17.0s,MS5.2
FIB Fire Island 68.36 31 *e*P **P 14 59 18.1 -1.1**
MCK McKinley 68.45 29 *e*P **P 14 59 18.3 -1.5**
MCK pmax pmax
comp=Z,53nm,1.4s,mb5.4
MCK McKinley 68.45 29 *e*P **P 14 59 18.2 -1.5**
comp=Z,53nm,1.4s,mb5.4
SLKM Skilak Lake 68.46 32 *e*P **P 14 59 17.1 -2.8**
COLA College 68.70 27 *e*P **P 14 59 21.3 0.0**
COLA pmax pmax
comp=Z,11nm,0.6s,mb5.0
COLA College 68.70 27 *e*P **P 14 59 21.3 0.0**
comp=Z,11nm,0.6s,mb5.0
PMR Palmer 68.77 31 *e*P **P 14 59 20.7 -1.1**
PMR pmax pmax
comp=Z,73nm,1.4s,mb5.4
PMR Palmer 68.77 31 *e*P **P 14 59 20.7 -1.1**
comp=Z,73nm,1.4s,mb5.4
SML Sawmill 69.10 31 *e*P **P 14 59 22.4 -1.4**
JOF Joensuu 69.11 331 *e*p **P 14 59 21.0 -2.8**
comp=Z,15nm,0.8s,mb5.0
ILAR Eielson Array 69.13 27 P **P 14 59 21.2 -2.8**
comp=Z,2.7nm,0.5s,mb4.5,baz=268,slow=4.9,SNR=59
ILAR PKPPKP 15 27 25.4
comp=Z,1.4nm,1.0s,baz=91,slow=2.0,SNR=6.3
ILAR LR LR 15 35 04.5
comp=Z,317nm,19.1s,MS4.6,baz=119,slow=41
KEV Kevo 69.33 338 *e*p **P 14 59 21.2 -3.9**
comp=Z,16nm,0.8s,mb5.0
KEV Kevo 69.33 338 *e*P **P 14 59 21.2 -3.9**
KEV pmax pmax
comp=Z,16nm,0.8s,mb5.0
ANN Anapa 69.59 311 *e*P **P 14 59 25.4 -1.7**
ANN *e* 15 02 03.7
ANN *e*S S 15 08 36.1 +2.1
ANN pmax pmax
comp=Z,49nm,1.5s,mb5.2
ARCES ARCESS Array B 69.89 338 P **P 14 59 26.6 -1.9**
comp=Z,7.5nm,0.8s,mb4.7,baz=90,slow=6.1,SNR=13
ARCES LR LR 15 33 39.9
comp=Z,717nm,20.5s,MS4.9,baz=63,slow=39
ARCES ARCESS Array B 69.89 338 P **P 14 59 26.6 -1.9**
ARCES LR LR 15 33 39.9
THY Trims Highway 69.91 29 *e*P **P 14 59 28.3 -0.5**
DIV Divide 70.45 31 *e*P **P 14 59 31.4 -0.7**
comp=Z,249nm,1.2s,mb6.0
MALT Malatya 70.52 304 ⇑P **P 14 59 33.1 +0.2**
EYAK Cordova Ski Ar 70.61 32 *e*P **P 14 59 32.5 -0.6**
MENT Mentasta 70.93 29 *e*P **P 14 59 35.3 +0.4**
KAF Kangasniemi 71.56 330 *e*p **P 14 59 36.5 -2.2**
comp=Z,8.3nm,0.9s,mb4.7,baz=73,slow=5.7
KAF Kangasniemi 71.56 330 *e*P **P 14 59 36.5 -2.2**
KAF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SIM Simferopol' 71.83 312 P **P 14 59 40.8 +0.1**
SIM pmax pmax
comp=Z,28nm,0.9s,mb5.2
SIM MLR MLR
comp=Z,620nm,19.0s,MS4.9
FINES FINESS Array B 71.85 330 P **P 14 59 38.9 -1.6**
comp=Z,10.0nm,0.9s,mb4.8,baz=72,slow=6.0,SNR=28
DAWY Dawson 72.45 27 *e*P **P 14 59 43.5 -0.6**
INK Inuvik 73.19 22 *e*P **P 14 59 46.5 -1.7**
INK pmax pmax
comp=Z,40nm,0.9s
INK Inuvik 73.19 22 *e*P **P 14 59 46.5 -1.8**
comp=Z,40nm,0.9s,mb5.3
AKASG Malin Array Be 73.34 318 P **P 14 59 47.4 -2.1**
comp=Z,7.9nm,0.8s,mb4.7,baz=58,slow=6.1,SNR=21
BRTR Keskin Array B 73.69 307 P **P 14 59 50.8 -0.9**
comp=Z,5.6nm,0.9s,mb4.5,baz=108,slow=3.9,SNR=28
ANTO Ankara 74.26 307 ⇑P **P 14 59 55.6 +0.6**
SUW Suwalki 75.74 323 *e*P **P 15 00 01.1 -2.1**
SUW pmax pmax
comp=Z,127nm,1.0s,mb5.8
SUW Suwalki 75.74 323 *e*P **P 15 00 01.1 -2.1**
comp=Z,127nm,1.0s,mb5.8
CFR Carcaliu 75.80 313 ⇓P **P 15 00 03.6 -0.1**
EIL Elat 75.89 296 LR LR 15 37 55.3
comp=Z,192nm,20.6s,MS4.4,baz=224,slow=39
EIL Elat 75.89 296 *e*P **P 15 00 04.3 -0.2**
comp=Z,6.6nm,1.0s,mb4.5
HARR Harsova 76.10 313 ⇓P **P 15 00 05.6 +0.1**
VRI Vrincioaia 76.49 314 ⇓P **P 15 00 07.4 -0.2**
ISP Isparta 76.61 306 *e*P **P 15 00 08.5 0.0**
LVV L'vov 76.78 319 *e*P **P 15 00 17.5 +8.4**
BURAR Bucovina Array 76.84 316 ⇓P **P 15 00 09.6 +0.1**
BURAR Bucovina Array 76.84 316 ⇓P **P 15 00 09.6 +0.1**
SIT Sitka 76.87 33 *e*P **P 15 00 09.8 +0.3**
SIT pmax pmax
comp=Z,60nm,0.9s,mb5.5
SIT Sitka 76.87 33 *e*P **P 15 00 09.8 +0.3**
comp=Z,60nm,0.9s,mb5.5
MLR Muntele Rosu 77.14 314 LR LR 15 40 15.2
comp=Z,771nm,19.0s,MS5.0,baz=50,slow=40
MLR Muntele Rosu 77.14 314 ⇓P **P 15 00 10.8 -0.4**
KWP Kalwaria 77.64 319 *e*P **P 15 00 13.1 -0.8**
KWP pmax pmax
comp=Z,43nm,1.1s,mb5.3
KWP Kalwaria 77.64 319 *e*P **P 15 00 13.1 -0.8**
comp=Z,43nm,1.1s,mb5.3
KOLS Kolonicke sedl 78.17 318 *e*P **P 15 00 16.7 -0.1**
NB2 NORSAR Subarra 78.61 332 P **P 15 00 17.5 -1.5**
comp=Z,10nm,0.8s,mb4.8,baz=59,slow=5.3
NB2 NORSAR Subarra 78.61 332 P **P 15 00 17.5 -1.5**
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
NOA NORSAR Array B 78.61 332 P **P 15 00 17.5 -1.5**
comp=Z,10nm,0.8s,mb4.8,baz=59,slow=5.6,SNR=42
CRVS Cervenica-Dubn 78.68 319 *e*P **P 15 00 23.7 +4.1**
CRVS Cervenica-Dubn 78.68 319 *e*pP pP 15 00 23.7 +1.4
RES Resolute Bay 78.75 9 *e*P **P 15 00 17.5 -2.0**
RES pmax pmax
comp=Z,11nm,0.9s,mb4.8
RES Resolute Bay 78.75 9 *e*P **P 15 00 17.5 -2.0**
comp=Z,11nm,0.9s,mb4.8
DLBC Dease Lake 78.83 31 *e*P **P 15 00 21.0 +0.7**
JMIC Jan Mayen 79.13 345 LR LR 15 36 52.6
comp=Z,654nm,20.4s,MS5.0,baz=81,slow=37
OJC Ojcow 79.13 320 *e*P **P 15 00 21.5 -0.6**
PSZ Piszkesteto 80.03 318 ⇓P **P 15 00 26.4 -0.6**
OKC Ostrava-Krasne 80.26 320 *e*P **P 15 00 27.5 -0.7**
OKC AMS AMS 15 38 40.0
comp=Z,900nm,15.1s
VYHS Vyhne 80.43 319 *i* P **P 15 00 28.2 -0.9**
VYHS *e* 15 00 36.6
VYHS *e* 15 00 55.1
MORC Moravsky Berou 80.64 320 ⇓P **P 15 00 30.2 0.0**
MORC Moravsky Berou 80.64 320 *e*P **P 15 00 29.2 -0.9**
COP Copenhagen 80.66 327 *i* P **P 15 00 40.8 +11**
comp=Z,11nm,0.5s,mb5.0
URZ Urewera 80.81 139 P **P 15 00 30.0 -1.4**
comp=Z,5.2nm,0.6s,mb4.6,baz=143,slow=20,SNR=4.5
KSP Ksiaz 80.88 322 *e*P **P 15 00 30.5 -0.9**
KSP *e*PP pP 15 00 38.9 +4.8
KSP *e*S S 15 10 36.0 -2.7
KSP MLR MLR
comp=Z,3µm,17.4s,MS5.7
DPC Dobruska-Polom 81.09 321 *e*P **P 15 00 31.8 -0.7**
DPC AMS AMS 15 39 30.0
comp=Z,2µm,14.1s
RPZ Rata Peaks 81.16 146 P **P 15 00 31.9 -1.2**
comp=Z,24nm,0.8s,mb5.2,baz=347,slow=5.7,SNR=7.4
UPC Upice 81.19 322 *e*P **P 15 00 32.9 -0.2**
UPC *ex* x 15 00 42.1
SKO Skopje 81.51 312 *i* P **P 15 00 31.5 -3.4**
PKSM Moragy 81.53 317 ⇓P **P 15 00 34.4 -0.5**
DIVS Divcibare 81.58 315 ⇓*i*P **P 15 00 34.6 -0.7**
MUD Monsted U'grnd 81.86 329 *i* P **P 15 00 45.5 +9.1**
comp=Z,23nm,1.1s,mb5.0
PVCC Panska Ves 82.00 322 AMS AMS 15 40 10.0
comp=Z,1µm,13.3s
BRG Berggiesshubel 82.19 322 *e*P **P 15 00 37.7 -0.5**
BRG *i* 15 00 48.0
BRG *e*S S 15 10 52.0 -0.1
BRG pmax pmax
comp=Z,12nm,1.0s,mb4.8
BRG MLR MLR
comp=Z,2µm,13.0s,MS5.7
BRG Berggiesshubel 82.19 322 *e*P **P 15 00 37.7 -0.5**
comp=Z,12nm,1.0s,mb4.8
BRG *i* 15 00 48.0
BRG *e*S S 15 10 52.0 -0.1
BRG LR LR
comp=Z,2µm,13.0s,MS5.7
PRU Pruhonice 82.27 322 *e*P **P 15 00 38.3 -0.4**
PRU *ex* x 15 00 47.9
PRU AMS AMS 15 41 40.0
comp=Z,1µm,17.0s
CLL Collm 82.50 323 *i* P **P 15 00 39.0 -0.8**
CLL *e*S S 15 10 52.0 -3.3
CLL pmax pmax
comp=Z,14nm,1.0s,mb4.8
CLL Collm 82.50 323 *i* P **P 15 00 39.0 -0.8**
comp=Z,14nm,1.0s,mb4.8
CLL *i* pP 15 00 43.2 +0.7
CLL *e*S S 15 10 52.0 -3.3
CLL Collm 82.50 323 P **P 15 00 39.0 -0.8**
comp=Z,logA/T=0.8,mb4.5
CLL *i* *SP sP 15 00 43.2 -0.2
CLL *i* 15 00 48.7
CLL *e*S S 15 10 52.0 -3.3
BSEG Bad Segeberg 82.60 326 *e*P **P 15 00 39.7 -0.6**
SUMG Summit 82.72 354 *e*P **P 15 00 40.4 -0.2**
comp=Z,8.4nm,0.8s,mb4.8
YKW3 Yellowknife Ar 82.88 23 *e*P **P 15 00 40.5 -1.1**
YKA Yellowknife Ar 82.93 23 P **P 15 00 41.1 -0.7**
comp=Z,19nm,0.8s,mb5.2,baz=315,slow=4.9,SNR=140
YKA PKKPbc 15 19 01.6
comp=Z,0.1nm,0.4s,baz=141,slow=2.4,SNR=5.2
YKA LR LR 15 41 07.1
comp=Z,394nm,18.0s,MS4.8,baz=310,slow=38
YKA Yellowknife Ar 82.93 23 P **P 15 00 41.1 -0.7**
YKA PKKPbc 15 19 01.6
YKA LR LR 15 41 07.0
ARSA Arzberg 82.98 319 ⇑*i*P **P 15 00 42.0 -0.4**
comp=Z,4.4nm,1.3s,mb4.3
KHC Kasperske Hory 83.23 321 *e*P **P 15 00 43.2 -0.5**
KHC *e* 15 01 02.0
KHC MLR MLR
comp=Z,1µm,15.6s,MS5.4
KHC Kasperske Hory 83.23 321 *e*P **P 15 00 43.2 -0.5**
KHC x x 15 01 02.0
KHC AMS AMS 15 42 30.0
comp=Z,1µm,15.6s
GEC2 GERESS Array S 83.30 321 *e*P **P 15 00 42.8 -1.2**
GEC2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
GEC2 GERESS Array S 83.30 321 *e*P **P 15 00 42.8 -1.2**
comp=Z,8.0nm,0.9s,mb4.8
GERES GERESS Array B 83.30 321 P **P 15 00 43.0 -1.0**
comp=Z,6.5nm,0.8s,mb4.7,baz=56,slow=4.8,SNR=35
GERES LR LR 15 40 58.5
comp=Z,876nm,18.7s,MS5.2,baz=47,slow=38
NKC Novy Kostel 83.33 322 *e*P **P 15 00 43.4 -0.8**
NKC *ex* x 15 00 53.9
NKC AMS AMS 15 41 30.0
comp=Z,2µm,13.0s
MOA Molln 83.45 320 ⇓*i*P **P 15 00 44.8 0.0**
comp=Z,12nm,0.8s,mb5.0
PERS Pernice 83.52 318 *e*P **P 15 00 44.7 -0.5**
PERS *i* 15 00 54.6
MOX Moxa 83.59 323 *e*P **P 15 00 44.1 -1.3**
MOX pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
MOX Moxa 83.59 323 *e*P **P 15 00 44.1 -1.3**
comp=Z,10.0nm,1.3s,mb4.8
MOX Moxa 83.59 323 *i* P **P 15 00 44.9 -0.5**
comp=Z,logA/T=1.3,mb5.2
MOX S S 15 11 09.0 +2.7
MOX L 15 41 56.0
WET Wettzell 83.63 321 *e*P **P 15 00 44.7 -1.0**
WET pmax pmax
comp=Z,12nm,1.4s,mb4.8
WET Wettzell 83.63 321 *e*P **P 15 00 44.7 -1.0**
comp=Z,12nm,1.4s,mb4.8
CLZ Clausthal 83.65 324 *e*P **P 15 00 44.8 -0.9**
comp=Z,23nm,1.4s,mb5.1
PDKS Podkum 83.86 318 *i* P **P 15 00 46.1 -0.9**
BOJS Bojanci 83.97 317 *e*P **P 15 00 46.8 -0.7**
BOJS *e* 15 00 58.7
VISS Visnje 84.08 318 *e*P **P 15 00 47.2 -0.9**
VISS *e* 15 00 59.5
OPO Ambohidratompo 84.09 247 P **P 15 00 48.4 -0.4**
comp=Z,22nm,1.1s,mb5.2,baz=74,slow=5.5,SNR=12
LJU Ljubljana 84.16 318 *e*P **P 15 00 48.5 +0.1**
GRA1 Grafenberg Arr 84.29 322 *e*P **P 15 00 48.1 -0.9**
comp=Z,29nm,1.3s,mb5.2
GRA1 LR LR
comp=Z,700nm,19.0s,MS5.1
GRF Grafenberg Arr 84.29 322 *e*P **P 15 00 48.1 -0.9**
GRF pmax pmax
comp=Z,29nm,1.3s,mb5.2
GRF MLR MLR
comp=Z,700nm,19.0s,MS5.1
GRF Grafenberg Arr 84.29 322 *e*P **P 15 00 48.1 -0.9**
GRF pmax pmax
comp=Z,29nm,1.3s,mb5.2
GRF MLR MLR
comp=Z,700nm,19.0s,MS5.1
GRF Grafenberg Arr 84.29 322 *e*P **P 15 00 48.1 -0.9**
comp=Z,29nm,1.3s,mb5.2
GRF LR LR
comp=Z,700nm,19.0s,MS5.1
KBA Koelnbreinsper 84.37 319 ⇓*i*P **P 15 00 48.4 -1.1**
comp=Z,17nm,1.4s,mb5.0
KBA Koelnbreinsper 84.37 319 ⇓*i*P **P 15 00 48.4 -1.1**
KBA pmax pmax
comp=Z,17nm,1.4s,mb5.0
VOY Vojsko 84.55 318 *e*P **P 15 00 49.1 -1.3**
VOY *e* 15 01 14.2
FUR Furstenfeldbru 85.04 321 *e*P **P 15 00 51.9 -0.9**
FUR pmax pmax
comp=Z,23nm,0.8s,mb5.4
FUR Furstenfeldbru 85.04 321 *e*P **P 15 00 51.9 -0.9**
comp=Z,23nm,0.8s,mb5.4
WTTA Wattenberg 85.29 320 ⇓*i*P **P 15 00 52.2 -1.8**
comp=Z,16nm,1.0s,mb5.1
WTTA Wattenberg 85.29 320 ⇓*i*P **P 15 00 52.2 -1.8**
WTTA pmax pmax
comp=Z,16nm,1.0s,mb5.1
KMBO Kilima Mbogo 85.42 267 *e*P **P 15 00 56.5 +1.0**
KMBO pmax pmax
comp=Z,18nm,1.2s
KMBO Kilima Mbogo 85.42 267 P **P 15 00 55.4 -0.1**
comp=Z,6.0nm,0.9s,mb4.7,baz=45,slow=7.4,SNR=9.3
KMBO Kilima Mbogo 85.42 267 *e*P **P 15 00 56.5 +1.0**
comp=Z,18nm,1.2s,mb5.1
TNS Taunus Mts 85.54 324 *e*P **P 15 00 54.2 -1.0**
TNS pmax pmax
comp=Z,8.0nm,1.3s,mb4.8
TNS Taunus Mts 85.54 324 *e*P **P 15 00 54.2 -1.0**
comp=Z,8.0nm,1.3s,mb4.8
SQTA Sankt Quirin 85.56 320 ⇑*i*P **P 15 00 53.2 -2.2**
comp=Z,7.0nm,1.0s,mb4.8
SQTA Sankt Quirin 85.56 320 ⇑*i*P **P 15 00 53.2 -2.2**
SQTA pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
TOD Tromm 85.67 323 *e*P **P 15 00 54.7 -1.2**
TIP Timpagrande 85.94 311 *e*P **P 15 00 57.0 -0.5**
ABH Alteburg 86.21 324 *e*P **P 15 00 57.3 -1.3**
DAVOX Davos 86.57 320 LR LR 15 43 58.6
comp=Z,758nm,19.4s,MS5.1,baz=68,slow=39
RUP Ruppelstein 86.57 324 *e*P **P 15 00 59.9 -0.5**
BFO Black Forest 86.63 322 *e*P **P 15 00 59.1 -1.6**
BFO pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
BFO Black Forest 86.63 322 *e*P **P 15 00 59.1 -1.6**
comp=Z,8.0nm,1.2s,mb4.8
AQU L'Aquila 86.66 315 *e*P **P 15 01 01.0 0.0**
AQU pmax pmax
comp=Z,36nm,1.1s,mb5.5
AQU L'Aquila 86.66 315 *e*P **P 15 01 01.0 0.0**
comp=Z,36nm,1.1s,mb5.5
WLF Walferdange 87.08 324 *e*P **P 15 01 02.7 -0.1**
CDF Champ du Feu 87.17 323 *e*P **P 15 01 02.7 -0.6**
comp=Z,85nm,1.8s,mb5.4
CDF Champ du Feu 87.17 323 *e*P **P 15 01 02.7 -0.6**
CDF pmax pmax
comp=Z,42nm,1.8s,mb5.4
PGC Sidney 87.22 37 *e*P **P 15 01 04.2 +0.7**
comp=Z,44nm,0.9s,mb5.7
GIVF Givet 87.54 325 *e*P **P 15 01 04.3 -0.7**
OSR Olympics--Salm 87.57 38 P **P 15 01 08.0 +2.8**
HINF Hinteralfeld 87.74 322 *e*P **P 15 01 05.0 -1.0**
BAIF Baives 87.89 325 *e*P **P 15 01 05.9 -0.8**
MEZF Maizieres J'vi 88.34 324 *e*P **P 15 01 07.4 -1.5**
comp=Z,19nm,1.0s,mb5.0
TTW Tolt Reservoir 88.73 37 P **P 15 01 12.6 +1.8**
LPG La Plagne 89.09 320 *e*P **P 15 01 12.4 -0.2**
comp=Z,25nm,0.8s,mb5.3
LPG La Plagne 89.09 320 *e*P **P 15 01 12.4 -0.2**
LPG pmax pmax
comp=Z,12nm,0.8s,mb5.3
LPL La Plagne 89.09 320 *e*P **P 15 01 12.3 -0.3**
comp=Z,26nm,0.8s,mb5.3
LPL La Plagne 89.09 320 *e*P **P 15 01 12.3 -0.3**
LPL pmax pmax
comp=Z,13nm,0.8s,mb5.3
LON Longmire 89.21 38 P **P 15 01 14.6 +1.5**
PGF Pioggiola 89.35 317 *e*P **P 15 01 13.4 -0.5**
comp=Z,27nm,0.9s,mb5.3
PGF Pioggiola 89.35 317 *e*P **P 15 01 13.4 -0.5**
PGF pmax pmax
comp=Z,14nm,0.9s,mb5.3
BNI Bardonecchia 89.38 320 *e*P **P 15 01 13.1 -0.9**
SAOF Saorge 89.45 319 *e*P **P 15 01 13.5 -0.8**
EDM Edmonton 89.50 30 *e*P **P 15 01 15.3 +1.0**
MBDF Montbardon 89.51 320 *e*P **P 15 01 14.2 -0.4**
comp=Z,6.0nm,0.8s,mb4.7
MBDF Montbardon 89.51 320 *e*P **P 15 01 14.2 -0.4**
MBDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
AUTN L'Aution 89.52 319 *e*P **P 15 01 15.5 +0.8**
SBF Sospel 89.59 319 *e*P **P 15 01 13.8 -1.2**
comp=Z,22nm,0.8s,mb5.3
SBF Sospel 89.59 319 *e*P **P 15 01 13.8 -1.2**
SBF pmax pmax
comp=Z,11nm,0.8s,mb5.2
LOR Lormes 89.71 323 *e*P **P 15 01 14.3 -1.2**
comp=Z,12nm,0.9s,mb4.9
LOR *e*R
comp=Z,573nm,20.2s
LOR Lormes 89.71 323 *e*P **P 15 01 14.3 -1.2**
LOR pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
LOR MLR MLR
comp=Z,570nm,20.3s,MS5.0
MVIF Mont Vial 89.75 319 *e*P **P 15 01 14.8 -0.9**
KEBM Edson Butte 89.90 42 *e*P **P 15 01 18.2 +1.8**
ORIF Oris-en-Rattie 89.92 320 *e*P **P 15 01 15.9 -0.6**
comp=Z,14nm,0.9s,mb5.0
ORIF *e*R
comp=Z,1µm,19.0s
SSF Saint Saulge 90.03 323 *e*P **P 15 01 15.9 -1.0**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
SSF Saint Saulge 90.03 323 *e*P **P 15 01 15.9 -1.0**
comp=Z,6.9nm,0.9s,mb5.0
SMF Signal de Mont 90.09 322 *e*P **P 15 01 16.3 -0.9**
comp=Z,42nm,0.9s,mb5.5
SMF Signal de Mont 90.09 322 *e*P **P 15 01 16.3 -0.9**
SMF pmax pmax
comp=Z,21nm,0.9s,mb5.5
FRF La Foret Royal 90.24 319 *e*P **P 15 01 17.8 -0.2**
comp=Z,19nm,1.0s,mb5.1
FRF La Foret Royal 90.24 319 *e*P **P 15 01 17.8 -0.2**
FRF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
AVF Avril sur Loir 90.27 323 *e*P **P 15 01 17.1 -1.0**
comp=Z,30nm,1.0s,mb5.3
AVF Avril sur Loir 90.27 323 *e*P **P 15 01 17.1 -1.0**
AVF pmax pmax
comp=Z,15nm,1.0s,mb5.3
LMR La Mourre 90.45 319 *e*P **P 15 01 18.2 -0.8**
comp=Z,37nm,1.3s,mb5.2
LMR La Mourre 90.45 319 *e*P **P 15 01 18.2 -0.8**
LMR pmax pmax
comp=Z,18nm,1.3s,mb5.2
PLDF La Plantade 90.61 322 *e*P **P 15 01 19.2 -0.5**
SMRF Simiane la Rot 90.64 320 *e*P **P 15 01 19.3 -0.5**
WRD Warden 90.66 37 P **P 15 01 21.5 +1.7**
VIVF Saint-Julien-l 90.66 321 *e*P **P 15 01 19.0 -0.9**
comp=Z,14nm,0.9s,mb5.0
VIVF Saint-Julien-l 90.66 321 *e*P **P 15 01 19.0 -0.9**
VIVF pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
BGF Bois d'Agland 90.69 323 *e*P **P 15 01 19.2 -0.8**
HAWA Hanford 90.69 37 *e*P **P 15 01 21.6 +1.5**
comp=Z,3.2nm,1.1s,mb4.6
NEW Newport 90.85 35 *e*P **P 15 01 22.1 +1.4**
NEW pmax pmax
comp=Z,37nm,1.1s
NEW Newport 90.85 35 *e*P **P 15 01 22.1 +1.4**
comp=Z,37nm,1.1s,mb5.6
HUMO Hull Mountain 90.89 42 *e*P **P 15 01 22.6 +1.6**
comp=Z,5.8nm,0.7s,mb5.0
PYM Petit Puy Mans 91.09 322 *e*P **P 15 01 21.5 -0.3**
TCF Toulx Ste Croi 91.21 323 *e*P **P 15 01 21.8 -0.6**
comp=Z,19nm,1.0s,mb5.1
TCF Toulx Ste Croi 91.21 323 *e*P **P 15 01 21.8 -0.6**
TCF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
LBL Lubilhac 91.26 322 *e*P **P 15 01 22.7 +0.1**
PINOR Pine Mountain 91.45 40 P **P 15 01 25.4 +1.9**
YBH Yreka Blue Hor 91.53 42 *e*P **P 15 01 25.7 +1.7**
YBH pmax pmax
comp=Z,25nm,1.2s
YBH Yreka Blue Hor 91.53 42 *e*P **P 15 01 25.7 +1.7**
comp=Z,24nm,1.2s,mb5.4
LASF Ste Croix 91.59 320 *e*P **P 15 01 23.7 -0.5**
WALA Waterton Lakes 91.98 33 *e*P **P 15 01 27.2 +1.4**
comp=Z,57nm,1.1s,mb5.8
CAF Calviac 92.11 322 *e*P **P 15 01 26.5 -0.1**
comp=Z,27nm,1.0s,mb5.2
CAF Calviac 92.11 322 *e*P **P 15 01 26.5 -0.1**
CAF pmax pmax
comp=Z,14nm,1.0s,mb5.2
RJF Les Rejaudoux 92.19 322 *e*P **P 15 01 26.8 -0.1**
comp=Z,48nm,1.0s,mb5.5
RJF *e*R
comp=Z,632nm,18.0s
RJF Les Rejaudoux 92.19 322 *e*P **P 15 01 26.8 -0.1**
RJF pmax pmax
comp=Z,24nm,1.0s,mb5.5
RJF MLR MLR
comp=Z,630nm,18.0s,MS5.1
WDC Whiskeytown Da 92.29 43 *e*P **P 15 01 28.2 +0.7**
WDC pmax pmax
comp=Z,15nm,1.1s,mb5.2
WDC Whiskeytown Da 92.29 43 *e*P **P 15 01 28.2 +0.7**
comp=Z,15nm,1.1s,mb5.2
FCC Fort Churchill 92.35 18 *e*P **P 15 01 26.3 -1.0**
FCC pmax pmax
comp=Z,34nm,1.0s,mb5.6
FCC Fort Churchill 92.35 18 *e*P **P 15 01 26.3 -1.0**
comp=Z,34nm,1.0s,mb5.6
LFF La Frestale 92.85 322 *e*P **P 15 01 28.8 -1.2**
BMO Blue Mountains 92.87 38 *e*P **P 15 01 31.1 +1.0**
BMO pmax pmax
comp=Z,16nm,0.9s,mb5.5
BMO Blue Mountains 92.87 38 *e*P **P 15 01 31.1 +1.0**
comp=Z,16nm,0.9s,mb5.4
MTLF Montolieu 92.98 321 *e*P **P 15 01 29.3 -1.3**
MSO Missoula 93.43 35 *e*P **P 15 01 33.4 +0.8**
comp=Z,25nm,1.4s,mb5.5
WVOR Wild Horse Val 93.58 40 *e*P **P 15 01 34.3 +0.9**
WVOR pmax pmax
comp=Z,40nm,1.5s,mb5.6
WVOR Wild Horse Val 93.58 40 *e*P **P 15 01 34.3 +0.9**
comp=Z,40nm,1.5s,mb5.6
HRY Holter Researc 94.59 34 *e*P **P 15 01 39.1 +1.2**
WCN Washoe City 94.78 43 *e*P **P 15 01 40.8 +1.8**
WCN pmax pmax
comp=Z,33nm,1.5s,mb5.5
WCN Washoe City 94.78 43 *e*P **P 15 01 40.8 +1.8**
comp=Z,33nm,1.5s,mb5.5
ETSF Etsaut 94.86 321 *e*P **P 15 01 37.5 -1.8**
SJPF Ste Jean 95.10 322 *e*P **P 15 01 38.7 -1.7**
comp=Z,15nm,1.0s,mb5.0
SJPF Ste Jean 95.10 322 *e*P **P 15 01 38.7 -1.7**
SJPF pmax pmax

comp=Z,7.0nm,1.0s,mb5.0
CMB Columbia Colle 95.12 44 *e*P **P 15 01 40.7 +0.1**
CMB pmax pmax
comp=Z,14nm,1.0s,mb5.3
CMB Columbia Colle 95.12 44 *e*P **P 15 01 40.7 +0.1**
comp=Z,14nm,1.0s,mb5.3
HLID Hailey 95.30 37 *e*P **P 15 01 43.0 +1.8**
comp=Z,15nm,1.1s,mb5.3
MCMT McKenzie Canyo 95.32 36 *e*P **P 15 01 42.3 +1.0**
BOZ Bozeman (W) 95.41 34 *e*P **P 15 01 42.7 +1.0**
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
BOZ Bozeman (W) 95.41 34 *e*P **P 15 01 42.6 +0.9**
comp=Z,3.5nm,0.8s,mb4.8
PPT Papeete 95.81 107 *e*S S 15 12 53.1 -5.7
PPT *e*LR LR 15 32 29.3
comp=Z,726nm,23.0s,baz=296
QLMT Earthquake Lak 96.07 35 *e*P **P 15 01 46.1 +1.3**
NVAR Mina Array Bea 96.21 43 P **P 15 01 45.8 +0.2**
comp=Z,4.0nm,0.7s,mb4.9,baz=301,slow=3.5,SNR=22
NVAR LR LR 15 47 32.5
comp=Z,141nm,18.6s,MS4.5,baz=330,slow=37
OMM Old Mammoth Mi 96.26 44 *e*P **P 15 01 46.6 +0.8**
MNV Mina 96.30 43 *e*P **P 15 01 46.2 +0.2**
MNV pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
MNV Mina 96.30 43 *e*P **P 15 01 46.2 +0.2**
comp=Z,3.6nm,0.6s,mb5.0
YFT Old Faithful 96.64 35 *e*P **P 15 01 50.3 +2.9**
LKWY Lake 96.78 35 *e*P **P 15 01 47.7 -0.3**
LKWY pmax pmax
comp=Z,37nm,2.0s,mb5.5
LKWY Lake 96.78 35 *e*P **P 15 01 47.6 -0.4**
comp=Z,37nm,2.0s,mb5.5
IMW Indian Meadow 96.96 35 *e*P **P 15 01 50.6 +1.8**
comp=Z,14nm,1.3s,mb5.2
TBI Tubuai 98.15 112 *e*LR LR 15 33 51.2
comp=Z,358nm,27.0s
HWUT Hardware Ranch 98.17 37 *e*P **P 15 01 55.4 +1.1**
comp=Z,16nm,1.5s,mb5.3
BW06 Boulder Array 98.47 36 P **P 15 01 57.5 +1.9**
PDAR Pinedale Array 98.47 36 P **P 15 01 55.4 -0.3**
comp=Z,0.7nm,0.7s,mb4.3,baz=90,slow=1.5,SNR=6.8
PDAR PKKPbc 15 18 23.1
comp=Z,0.2nm,0.3s,baz=162,slow=4.7,SNR=3.9
PDAR PKPPKP 15 26 37.0
comp=Z,0.2nm,0.6s,baz=207,slow=3.3,SNR=3.9
PDAR LR LR 15 51 03.8
comp=Z,239nm,18.7s,MS4.7,baz=253,slow=38
ULM Lac du Bonnet 98.90 23 LR LR 15 49 55.0
comp=Z,257nm,18.0s,MS4.8,baz=26,slow=37
MSU Marysvale 99.88 40 *e*P **P 15 02 03.8 +1.6**
NEN Nelson 100.10 44 Pdif P 15 02 04.2 +0.9
VNDA Vanda 104.05 172 PP PP 15 06 33.5 -6.5
comp=Z,7.3nm,1.1s,baz=323,slow=8.6,SNR=12
RKT Rikitea 110.57 107 *e*LR LR 15 39 25.7
comp=Z,490nm,26.0s
TXAR Lajitas Array 111.30 42 PKKPbc 15 17 45.8
comp=Z,0.2nm,0.7s,baz=135,slow=1.8,SNR=3.9
DBIC Dimbokro 119.67 293 PKP PKPdf 15 07 06.0 -3.7
comp=Z,2.5nm,0.7s,baz=199,slow=11,SNR=4.1
DBIC Dimbokro 119.67 293 PKP PKPdf 15 07 06.0 -3.7
SDV Santo Domingo 145.14 22 *e*PKPdf PKPdf 15 07 54.1 -3.2
ROSC El Rosal 147.31 31 PKPbc PKPdf 15 08 01.3 +0.3
comp=Z,6.3nm,0.5s,baz=92,slow=18,SNR=10
OTAV Otavalo 148.93 42 *e*PKPdf PKPdf 15 08 03.3 -0.3
BDFB Brasilia 167.27 309 PKP PKPdf 15 08 23.2 -2.1
comp=Z,1.3nm,0.3s,baz=126,slow=5.1,SNR=3.9
BDFB PKPab PKPab 15 09 27.4 -1.9
comp=Z,5.4nm,0.8s,baz=57,slow=2.8,SNR=7.6
LPAZ La Paz 167.96 52 *e*PKIKP PKPdf 15 08 23.4 -2.3
LPAZ La Paz 167.96 52 PKP PKPdf 15 08 25.3 -0.4
comp=Z,3.7nm,0.9s,baz=6.5,slow=4.3,SNR=10
LPAZ PKPab PKPab 15 09 31.4 -0.9
comp=Z,4.5nm,0.8s,baz=350,slow=6.4,SNR=7.3

TAP 30 14:48:53.8, 24.07N×121.66E, h7km±1km, ML4.7, Taiwan

TAP 30 14:49:03.7, 24.06N×121.54E, h10km, ML4.7, Taiwan

TAP 30 14:49:54.4, 24.09N×121.63E, h10km, ML3.8, Taiwan

TAP 30 14:50:26.4, 24.04N×121.60E, h6km, ML3.9, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.04**	**355**	⇑*i*P	Pg	14 50 28.6	+0.9
TWD				S	Sg	14 50 29.5	+0.8
HWA	**Hwalien**	**0.06**	**176**	P	Pg	14 50 28.6	+0.5
ESF	**Shoufeng Towns**	**0.19**	**207**	*e*P	Pg	14 50 31.0	+0.6
ESF				S	Sg	14 50 34.0	+1.1
ESL	**Shilin**	**0.27**	**214**	*e*P	Pg	14 50 32.3	+0.4
ESL				S	Sg	14 50 36.2	+0.6
WHF	**Hehuan Shan**	**0.32**	**289**	P	Pg	14 50 34.3	+1.3
WHF				S	Sg	14 50 39.5	+2.1
TEGC	**Jichi Village**	**0.33**	**189**	*e*P	Pg	14 50 34.7	+1.6
TEGC				S	Sg	14 50 41.2	+3.5
ENA	**Nanau**	**0.41**	**18**	P	Pg	14 50 35.5	+0.9
ENA				S	Sg	14 50 40.6	+0.6
TWT	**Tachien**	**0.44**	**299**	P	Pg	14 50 37.3	+2.0
TWT				S	Sg	14 50 43.7	+2.5
NNS	**Nan Shan**	**0.45**	**333**	*e*P	Pg	14 50 37.0	+1.6
NNS				S	Sg	14 50 43.6	+2.1
EHY	**Hungye**	**0.59**	**206**	*e*P	Pg	14 50 38.0	-0.2
ENTT	**Nioudou**	**0.60**	**357**	*e*P	Pg	14 50 39.7	+1.3
ENTT				S	Sg	14 50 47.3	+0.9
TWC	**Suao**	**0.61**	**22**	*e*P	Pg	14 50 39.3	+0.7
SMLT	**Sun Moon Lake**	**0.66**	**256**	*e*P	Pg	14 50 40.7	+1.1
SMLT				S	Sg	14 50 49.8	+1.4
NSK	**Sanguang**	**0.67**	**341**	*e*P	Pg	14 50 41.1	+1.3
NSK				S	Sg	14 50 50.3	+1.5
TWE	**Neicheng**	**0.68**	**5**	*e*P	Pg	14 50 40.5	+0.4
TYC	**Yuchr**	**0.69**	**259**	*e*P	Pg	14 50 41.4	+1.1
TWF1	**Yuli**	**0.74**	**202**	*e*P	Pg	14 50 40.8	-0.4
YUS	**Yu-Shan**	**0.81**	**227**	*e*P	Pb	14 50 43.7	+1.2
CHN5	**Tsauling**	**0.95**	**243**	*e*P	Pb	14 50 48.0	+3.0
CHN5				S	Sb	14 51 01.3	+3.7
ELDTW	**Lidau**	**1.00**	**212**	*e*P	Pb	14 50 46.0	+3.0
STYT	**Tauyuan**	**1.17**	**222**	*e*P	Pb	14 50 50.8	+2.2

TAP 30 14:50:45.6, 24.02N×121.60E, h8km, ML3.7, Taiwan

TAP 30 14:59:04.4, 24.04N×121.61E, h11km, ML2.6, Taiwan

NIED ***30*** *14:59:00, 23.90N×121.50E, h8km, Mw4.2 Best double couple: M0:2.17×10^15 NP1:φs34°, δ51°, λ98°. NP2:φs201°, δ39°, λ80°.*
TAP ***30*** *14:59:19.9, 24.06N×121.62E, h7km, ML4.4*
TAP Felt IV J at Chiawan, III J at Hualien, II J at Shilin, II J at Hehuanshan, II J at Nanau, I J at Nanshan, I J at Tachien, I J at Nioudou.
JMA ***30*** *14:59:19.4±0.3, 23.90N×121.53E, h30km, M3.9*
NEIC ***30*** *14:59:20.4±2.6, 23.99N×121.76E, h18km±16km, mb4.6/1, ML4.4(TAP), Error ellipse: s-maj=8.6km s-min=7.3km az=57.0*
NEIC Recorded [4 TAP] in Hua-lien; [2 TAP] in I-lan and Nan-t'ou; [1 TAP] in T'ai-chung Counties.
IDC ***30*** *14:59:23.1±4.2, 23.99N×121.80E, h38km±38km, mb3.6/15, mb1 3.8/17, mb1mx3.8/24, mbtmp3.8/17, ML3.5/2, Error ellipse: s-maj=20.9km s-min=13.2km az=69.0*
ISC 30 14:59:19.7±0.2, 24.01N±0.01×121.70E±0.01, h7km, n101, σ1§19/152, mb3.8/16, 11C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.09**	**253**	⇓*i*P	**Pg**	**14 59 22.4**	**+0.4**
TWD	**Chiawan**	**0.12**	**307**	⇑*i*P	**Pg**	**14 59 22.3**	**-0.2**
TWD				S	**Sg**	**14 59 22.9**	**-1.5**
ESF	**Shoufeng Towns**	**0.22**	**233**	*e*P	**Pg**	**14 59 24.1**	**-0.3**
ESF				S	**Sg**	**14 59 26.7**	**-0.8**
EHP	**Heping Village**	**0.31**	**7**	*e*P	**Pg**	**14 59 26.6**	**+0.6**
EHP				S	**Sg**	**14 59 30.5**	**+0.3**
ESL	**Shilin**	**0.31**	**233**	P	**Pg**	**14 59 25.5**	**-0.6**
ESL				S	**Sg**	**14 59 29.2**	**-1.2**
TEGC	**Jichi Village**	**0.33**	**207**	*e*P	**Pg**	**14 59 27.7**	**+1.2**
TEGC				S	**Sg**	**14 59 34.8**	**+3.9**
ENA	**Nanau**	**0.42**	**5**	⇑*i*P	**Pg**	**14 59 28.5**	**+0.2**
ENA				S	**Sg**	**14 59 34.5**	**+0.5**
WHF	**Hehuan Shan**	**0.42**	**289**	⇓*i*P	**Pg**	**14 59 27.4**	**-0.9**
WHF				S	**Sg**	**14 59 32.1**	**-1.9**
NNS	**Nan Shan**	**0.53**	**325**	P	**Pg**	**14 59 29.8**	**-0.6**
NNS				S	**Sg**	**14 59 36.2**	**-1.2**
TWT	**Tachien**	**0.54**	**297**	*i* P	**Pg**	**14 59 30.1**	**-0.5**
TWT				S	**Sg**	**14 59 36.8**	**-1.1**
EHY	**Hungye**	**0.61**	**215**	*e*P	**Pg**	**14 59 31.3**	**-0.6**
TWC	**Suao**	**0.62**	**12**	P	**Pg**	**14 59 32.2**	**+0.1**
TWC				S	**Sg**	**14 59 40.6**	**+0.2**
ENTT	**Nioudou**	**0.65**	**349**	⇑*i*P	**Pg**	**14 59 32.6**	**-0.1**
ENTT				S	**Sg**	**14 59 41.2**	**-0.1**
TWE	**Neicheng**	**0.71**	**357**	⇑*i*P	**Pg**	**14 59 34.0**	**0.0**
TWE				S	**Sg**	**14 59 43.1**	**-0.5**
NSK	**Sanguang**	**0.74**	**335**	⇑*i*P	**Pb**	**14 59 34.1**	**-0.4**
NSK				S	**Sg**	**14 59 43.9**	**-0.5**
SMLT	**Sun Moon Lake**	**0.74**	**261**	⇑P	**Pb**	**14 59 33.7**	**-0.9**
TWF1	**Yuli**	**0.75**	**210**	*e*P	**Pb**	**14 59 33.6**	**-1.1**
ILA	**Ilan**	**0.76**	**3**	*e*P	**Pb**	**14 59 35.0**	**+0.2**
ILA				S	**Sg**	**14 59 45.4**	**+0.3**
TYC	**Yuchr**	**0.78**	**263**	⇑P	**Pb**	**14 59 34.2**	**-1.0**
TYC				S	**Sb**	**14 59 43.3**	**-2.4**
YUS	**Yu-Shan**	**0.86**	**233**	*e*P	**Pb**	**14 59 36.2**	**-0.4**
YUS				S	**Sb**	**14 59 48.7**	**+0.8**
NSTT	**Nanjuang**	**0.89**	**314**	P	**Pb**	**14 59 36.9**	**-0.2**
NSTT				S	**Sb**	**14 59 48.7**	**-0.3**
TWQ1	**Liyutan**	**0.92**	**292**	P	**Pb**	**14 59 37.5**	**0.0**
TWQ1				S	**Sb**	**14 59 50.6**	**+1.0**
WNT	**Mingjian**	**0.94**	**262**	*e*P	**Pb**	**14 59 38.5**	**+0.5**
WNT				S	**Sb**	**14 59 50.7**	**+0.4**
TCU	**Taichung**	**0.95**	**279**	⇑*i*P	**Pb**	**14 59 39.0**	**+0.9**
TCU				S	**Sb**	**14 59 51.8**	**+1.2**
CHKT	**Chengkung**	**0.95**	**199**	*e*P	**Pb**	**14 59 37.9**	**-0.3**
CHKT				S	**Sb**	**14 59 53.4**	**+2.6**
NSY	**Sanyi**	**0.95**	**296**	*e*P	**Pb**	**14 59 38.7**	**+0.5**
NSY				S	**Sb**	**14 59 51.8**	**+1.1**
ALS	**Alishan**	**0.96**	**239**	*e*P	**Pb**	**14 59 38.0**	**-0.2**
ALS				S	**Sb**	**14 59 50.7**	**-0.2**
TWA	**Mucha**	**0.98**	**354**	*e*P	**Pb**	**14 59 39.1**	**+0.5**
TWA				S	**Sb**	**14 59 51.3**	**-0.2**
TATO	**Taipei**	**0.99**	**349**	*e*P	**Pb**	**14 59 38.9**	**+0.2**
CHN5	**Tsauling**	**1.02**	**247**	⇑*i*P	**Pb**	**14 59 39.7**	**+0.4**
CHN5				S	**Sb**	**14 59 54.1**	**+1.3**
ELDTW	**Lidau**	**1.03**	**218**	*e*P	**Pb**	**14 59 38.3**	**-1.1**
TWB1	**Santiao Chiao**	**1.03**	**15**	⇑P	**Pb**	**14 59 39.8**	**+0.3**
TWB1				S	**Sb**	**14 59 53.1**	**+0.1**
HSN	**Hsinchu**	**1.04**	**320**	*e*P	**Pb**	**14 59 40.6**	**+1.1**
HSN				S	**Sb**	**14 59 54.9**	**+1.7**
TAP1	**Taipei**	**1.04**	**351**	P	**Pb**	**14 59 40.1**	**+0.4**
TAP1				S	**Sb**	**14 59 53.6**	**+0.3**
TAP	**Taipei**	**1.05**	**350**	*e*P	**Pb**	**14 59 40.1**	**+0.4**
TAP				S	**Sb**	**14 59 53.6**	**+0.2**
NWF	**Wu-fen Shan**	**1.06**	**4**	*e*P	**Pb**	**14 59 40.7**	**+0.6**
NWF				S	**Sb**	**14 59 54.8**	**+0.8**
NCU	**National Centr**	**1.07**	**334**	*e*P	**Pb**	**14 59 40.9**	**+0.7**
NCU				S	**Sb**	**14 59 57.0**	**+2.8**
WGK	**Gukeng**	**1.09**	**253**	*e*P	**Pb**	**14 59 40.7**	**+0.2**
WGK				S	**Sb**	**14 59 56.7**	**+1.9**
TWS1	**Kuangyinshan**	**1.12**	**347**	*e*P	**Pb**	**14 59 41.7**	**+0.6**
TWS1				S	**Sb**	**14 59 57.9**	**+2.3**
STYT	**Tauyuan**	**1.21**	**226**	⇑P	**Pb**	**14 59 42.5**	**0.0**
STYT				S	**Sb**	**14 59 58.9**	**+0.8**
CHN4	**Tsaushan**	**1.21**	**238**	P	**Pb**	**14 59 42.9**	**+0.4**
CHN4				S	**Sb**	**14 59 58.6**	**+1.5**
CHN2	**Minshiung**	**1.22**	**248**	*e*P	**Pb**	**14 59 43.2**	**+0.5**
CHN2				S	**Sb**	**15 00 00.2**	**+1.7**
WTP	**Ta-pu**	**1.25**	**233**	*e*P	**Pb**	**14 59 43.6**	**+0.3**
WTP				S	**Sb**	**15 00 00.8**	**+1.3**
TWY	**Chenhua**	**1.27**	**356**	*e*P	**Pb**	**14 59 44.2**	**+0.7**
TWY				S	**Sb**	**15 00 03.0**	**+3.1**
CHY	**Chiayi**	**1.28**	**247**	*e*P	**Pb**	**14 59 43.3**	**-0.3**
CHY				S	**Sb**	**15 00 01.1**	**+0.9**
YOJ	**Yonaguni jima**	**1.28**	**69**	P	**Pb**	**14 59 44.4**	**+0.7**
YOJ				S	**Sb**	**15 00 02.6**	**+2.4**
WTCT	**Ta-ch'eng**	**1.31**	**264**	*e*P	**Pb**	**14 59 44.2**	**-0.1**
WTCT				S	**Sb**	**15 00 02.2**	**+1.1**
TWG	**Pinlang**	**1.31**	**206**	*e*P	**Pb**	**14 59 41.6**	**-2.7**
TWK	**Hsinying**	**1.33**	**237**	*e*P	**Pb**	**14 59 45.1**	**+0.5**
TWK				S	**Sb**	**15 00 03.6**	**+1.8**
TTN	**Taitung**	**1.35**	**202**	*e*P	**Pb**	**14 59 43.9**	**-1.0**
CHN1	**Nanshi**	**1.35**	**233**	*e*P	**Pb**	**14 59 44.9**	**-0.1**
CHN1				S	**Sb**	**15 00 04.4**	**+2.1**
SGST	**Jiashian**	**1.38**	**228**	*e*P	**Pb**	**14 59 45.4**	**0.0**
SGST				S	**Sb**	**15 00 05.7**	**+2.6**
WSF	**Szhu**	**1.41**	**255**	*e*P	**Pn**	**14 59 46.3**	**+0.5**
CHN8	**Yiju**	**1.52**	**245**	*e*P	**Pn**	**14 59 46.9**	**-0.5**
ECL	**Taimali**	**1.56**	**206**	*e*P	**Pn**	**14 59 45.9**	**-2.1**
SSD	**Sandimen**	**1.59**	**218**	*e*P	**Pn**	**14 59 48.0**	**-0.5**
PCYT	**Pengchaiyu**	**1.65**	**12**	*e*P	**Pn**	**14 59 50.6**	**+1.2**
TWM1	**Shoushan**	**1.66**	**225**	*e*P	**Pn**	**14 59 51.3**	**+1.8**
SGLT	**Jiouru**	**1.69**	**221**	*e*P	**Pn**	**14 59 52.0**	**+2.1**
EAST	**Anshuo**	**1.80**	**206**	*e*P	**Pn**	**14 59 48.3**	**-3.1**
TAW	**Tawu**	**1.80**	**205**	*e*P	**Pn**	**14 59 52.8**	**+1.3**
IRIF	**Iriomote-Funau**	**1.88**	**80**	P	**Pn**	**14 59 52.9**	**+0.3**
IRIF				S	**Sn**	**15 00 17.7**	**+0.9**
SCZT	**Fangliau**	**1.91**	**212**	*e*P	**Pn**	**14 59 53.1**	**+0.1**
HATJ	**Hateruma jima**	**1.92**	**88**	P	**Pn**	**14 59 53.5**	**+0.3**
HATJ				S	**Sn**	**15 00 19.0**	**+1.1**
PNG	**Penghu**	**2.02**	**258**	*e*P	**Pn**	**14 59 53.1**	**-1.5**
PNG				S	**Sn**	**15 00 19.2**	**-1.1**
WDGT	**Dungji**	**2.02**	**249**	*e*P	**Pn**	**14 59 53.7**	**-0.8**
WDGT				S	**Sn**	**15 00 19.1**	**-1.1**
TWP	**Hsiaoliuchiu**	**2.06**	**217**	*e*P	**Pn**	**14 59 55.7**	**+0.5**
JKRS	**Kuro-shima**	**2.12**	**83**	P	**Pn**	**14 59 56.4**	**+0.4**
JKRS				*e*S	**Sn**	**15 00 24.8**	**+1.9**
HEN	**Hengchun**	**2.18**	**204**	*e*P	**Pn**	**14 59 58.0**	**+1.1**
TWK1	**Hengchun**	**2.21**	**202**	*e*P	**Pn**	**14 59 57.2**	**-0.2**
TSEB	**Hengchuen, Pin**	**2.22**	**200**	*e*P	**Pn**	**15 00 02.1**	**+4.6**
JIJ	**Ishigaki jima**	**2.26**	**80**	P	**Pn**	**14 59 57.8**	**-0.2**
JIJ				S	**Sn**	**15 00 25.7**	**-0.7**
JTJ	**Tarama**	**2.81**	**76**	P	**Pn**	**15 00 06.0**	**+0.1**
JTJ				S	**Sn**	**15 00 40.9**	**+0.5**
KNM	**Kinmen**	**3.01**	**278**	*e*P	**Pn**	**15 00 07.6**	**-1.2**
JMJ	**Miyako jima 2**	**3.37**	**75**	*e*S	**Sn**	**15 00 55.1**	**+0.5**
JOGS	**Gusukube**	**3.46**	**77**	*e*S	**Sn**	**15 00 57.0**	**+0.2**
JKE	**Kume jima 2**	**5.15**	**62**	P	**Pn**	**15 00 38.2**	**-1.0**
JOW	**Kunigami**	**6.57**	**63**	Pn	**Pn**	**15 00 56.1**	**-3.1**
	5.2nm,0.3s,baz=121,slow=23,SNR=23						
JOW	**Kunigami**	**6.57**	**63**	P	**Pn**	**15 00 56.2**	**-3.0**
KS15	**Wonju Array Si**	**14.40**	**20**	*e*P	**P**	**15 02 43.0**	**-3.1**
MJAR	**Matsushiro Arr**	**18.92**	**45**	P	**P**	**15 03 40.2**	**-3.2**
	0.0nm,0.3s,baz=242,slow=13,SNR=3.4						
CMAR	**Chiang Mai Arr**	**21.91**	**260**	P	**P**	**15 04 14.6**	**-0.9**
	0.7nm,0.7s,mb3.2,baz=70,slow=8.6,SNR=5.9						
MKAR	**Makanchi Array**	**38.80**	**316**	P	**P**	**15 06 44.6**	**-2.1**
	1.5nm,0.7s,mb3.9,baz=98,slow=9.3,SNR=9.4						
ZAL	**Zalesovo**	**40.66**	**327**	P	**P**	**15 06 59.7**	**-2.3**
	0.9nm,0.5s,mb3.7,baz=34,slow=6.3,SNR=4.5						
ZAL	**Zalesovo**	**40.66**	**327**	P	**P**	**15 06 59.7**	**-2.3**
FITZ	**Fitzroy Crossi**	**42.02**	**174**	P	**P**	**15 07 10.6**	**-3.1**
	2.7nm,0.8s,mb3.9,baz=10.0,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**45.38**	**163**	P	**P**	**15 07 36.8**	**-4.1**
	1.1nm,0.5s,mb3.9,baz=345,slow=8.7,SNR=19						
BVAR	**Borovoye Array**	**48.11**	**321**	P	**P**	**15 07 59.4**	**-2.5**
	1.1nm,0.5s,mb4.1,baz=100,slow=8.6,SNR=12						
CHKZ	**Chkalovo**	**48.17**	**322**	*e*P	**P**	**15 07 58.7**	**-3.7**
	3.0nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**48.84**	**165**	P	**P**	**15 08 04.7**	**-3.3**
	1.2nm,0.8s,mb4.0,baz=341,slow=7.0,SNR=11						
ASAR				PcP	PcP	15 09 28.9	-4.1
	0.3nm,0.6s,baz=340,slow=3.4,SNR=4.7						
STKA	**Stephens Creek**	**58.73**	**160**	P	**P**	**15 09 17.1**	**-3.5**
	2.1nm,0.8s,mb4.2,baz=118,slow=20,SNR=5.0						
SPU	**Mount Spurr**	**67.49**	**32**	*e*P	**P**	**15 10 16.1**	**-2.0**
ILAR	**Eielson Array**	**69.16**	**27**	P	**P**	**15 10 25.1**	**-3.4**
	0.3nm,0.5s,mb3.5,baz=261,slow=5.2,SNR=9.9						
FINES	**FINESS Array B**	**71.84**	**330**	P	**P**	**15 10 41.8**	**-3.1**
	0.8nm,0.8s,mb3.7,baz=56,slow=6.9,SNR=6.7						
AKASG	**Malin Array Be**	**73.32**	**318**	P	**P**	**15 10 50.5**	**-3.1**
	0.2nm,0.3s,mb3.5,baz=54,slow=18,SNR=5.4						
BRTR	**Keskin Array B**	**73.66**	**307**	P	**P**	**15 10 53.5**	**-2.4**
	0.3nm,0.4s,mb3.5,baz=82,slow=10,SNR=2.2						
NOA	**NORSAR Array B**	**78.60**	**332**	P	**P**	**15 11 20.5**	**-2.8**
	0.8nm,0.8s,mb3.7,baz=54,slow=5.7,SNR=3.9						
NOA	**NORSAR Array B**	**78.60**	**332**	P	**P**	**15 11 20.5**	**-2.8**
YKA	**Yellowknife Ar**	**82.95**	**23**	P	**P**	**15 11 44.0**	**-2.3**
	0.9nm,0.5s,mb4.1,baz=313,slow=5.0,SNR=14						
YKA	**Yellowknife Ar**	**82.95**	**23**	P	**P**	**15 11 44.0**	**-2.3**
GERES	**GERESS Array B**	**83.28**	**321**	P	**P**	**15 11 46.6**	**-1.7**
	0.4nm,0.8s,mb3.5,baz=63,slow=3.0,SNR=3.6						

CSEM ***30*** *15:06:09.2, 12.05N×43.41E, h13km, ML3.5, After DHMR*
DHMR 30 15:06:06.1±0.5, 11.87N×43.51E, h4km±3km, ML3.5, 3C-1D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.48**	**24**	*i* P	Pn	15 06 33.5	0.0
TRBA				*i* S	Sb	15 06 54.8	+2.0
TRBA				AML	AML	15 06 55.4	
	comp=N,979nm,0.3s						
UDYN	**Al 'Udayn**	**2.13**	**12**	⇑*i*P	Pn	15 06 43.8	+0.8
UDYN				*i* S	Sn	15 07 13.7	+3.5
UDYN				AML	AML	15 07 19.4	
	comp=Z,356nm,0.4s						
UDYN	**Al 'Udayn**	**2.13**	**12**	⇑*i*P	Pn	15 06 43.8	+0.9
UDYN				*i* S	Sn	15 07 13.6	+3.4
UDYN	**Al 'Udayn**	**2.13**	**12**	⇑*i*P	Pn	15 06 43.8	+0.9
UDYN				*i* S	Sn	15 07 10.7	+0.5
DHBB	**Dhamar BB**	**2.82**	**18**	*i* P	Pn	15 06 55.1	+2.4
DHBB				*i* S	Sn	15 07 32.9	+5.3
BDHA	**Al Bayda'**	**2.90**	**44**	*i* P	Pn	15 06 55.9	+2.0
BDHA				*i* S	Sn	15 07 34.9	+5.3
BDHA				AML	AML	15 07 43.4	
	comp=E,246nm,0.3s						
BDHA	**Al Bayda'**	**2.90**	**44**	⇓*i*P	Pn	15 06 56.9	+3.0
BDHA				*i* S	Sn	15 07 34.9	+5.2

TAP 30 15:07:12.3, 24.03N×121.63E, h10km, ML2.1, Taiwan

NIED ***30*** *15:07:00, 23.90N×121.50E, h17km, Mw4.1 Best double couple: M0:1.75×10^15 NP1:φs329°, δ73°, λ34°. NP2:φs227°, δ57°, λ159°.*
BJI ***30*** *15:07:35.4, 23.70N×121.53E, h11km, mb4.1, ML4.3, Ms4.3*
NEIC ***30*** *15:07:37.5±1.3, 24.01N×121.72E, h12km±7km, mb4.4/6, ML4.4(TAP), Error ellipse: s-maj=10.9km s-min=10.0km az=171.0*
NEIC Recorded [4 TAP] in Hua-lien; [2 TAP] in I-lan and Nan-t'ou; [1 TAP] in T'ai-chung Counties.
JMA ***30*** *15:07:37.5±0.3, 23.88N×121.50E, h53km, M3.7*
TAP ***30*** *15:07:38.2, 24.01N×121.61E, h9km, ML4.4*
TAP Felt IV J at Hualien, IV J at Chiawan, III J at Shilin, II J at Hehuanshan, II J at Nanau, I J at Nanshan, I J at Tachien, I J at Nioudou.
IDC ***30*** *15:07:42.3±3.4, 24.02N×121.79E, h49km±34km, mb3.5/10, mb1 3.7/12, mb1mx3.6/22, mbtmp3.8/12, ML3.5/2, Error ellipse: s-maj=22.4km s-min=16.8km az=69.0*
ISC 30 15:07:37.4±0.3, 24.00N±0.01×121.71E±0.02, h2km±2km, n101, σ1§05/155, mb4.0/16, 13C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.10**	**259**	⇓*i*P	**Pg**	**15 07 40.4**	**+1.1**
TWD	**Chiawan**	**0.13**	**309**	⇑*i*P	**Pg**	**15 07 40.5**	**+0.5**
NACB	**Ninganchiao**	**0.21**	**330**	*e*Pg	**Pg**	**15 07 41.4**	**-0.1**
NACB				*e*Sg	**Sg**	**15 07 44.1**	**-0.2**
ESF	**Shoufeng Towns**	**0.22**	**236**	P	**Pg**	**15 07 42.1**	**+0.3**
ESF				S	**Sg**	**15 07 45.0**	**+0.2**
ESL	**Shilin**	**0.31**	**235**	⇓*i*P	**Pg**	**15 07 43.5**	**-0.1**
ESL				S	**Sg**	**15 07 47.0**	**-0.8**
TEGC	**Jichi Village**	**0.32**	**209**	*e*P	**Pg**	**15 07 45.6**	**+1.8**
TEGC				S	**Sg**	**15 07 51.9**	**+3.8**
ENA	**Nanau**	**0.43**	**4**	⇑*i*P	**Pg**	**15 07 46.6**	**+0.6**
ENA				S	**Sg**	**15 07 52.7**	**+1.0**
WHF	**Hehuan Shan**	**0.43**	**290**	⇑*i*P	**Pg**	**15 07 45.4**	**-0.6**
NNS	**Nan Shan**	**0.54**	**325**	⇑*i*P	**Pg**	**15 07 47.9**	**-0.3**
NNS				S	**Sg**	**15 07 54.3**	**-1.0**
TWT	**Tachien**	**0.55**	**298**	⇑*i*P	**Pg**	**15 07 48.2**	**-0.2**
TWT				S	**Sg**	**15 07 55.2**	**-0.5**
EHY	**Hungye**	**0.60**	**216**	⇓*i*P	**Pg**	**15 07 49.2**	**-0.2**
EHY				S	**Sg**	**15 07 58.2**	**+0.8**
TWC	**Suao**	**0.62**	**12**	*e*P	**Pg**	**15 07 50.3**	**+0.5**
TWC				S	**Sg**	**15 07 59.4**	**+1.2**
ENTT	**Nioudou**	**0.66**	**349**	⇑*i*P	**Pg**	**15 07 50.7**	**+0.2**
ENTT				S	**Sg**	**15 07 59.2**	**0.0**
TWE	**Neicheng**	**0.72**	**357**	⇑*i*P	**Pg**	**15 07 52.1**	**+0.3**
TWE				S	**Sg**	**15 08 02.2**	**+0.7**
YHNB	**Yeheng**	**0.74**	**336**	*e*Pg	**Pg**	**15 07 51.5**	**-0.6**
YHNB				*e*Sg	**Sg**	**15 08 00.6**	**-1.3**
**T

CHN8	**Yiju**	**1.52**	**245**	*e*P	**Pn**	**15 08 05.5**	**-0.1**
CHN8				S	**Sb**	**15 08 25.7**	**+0.2**
ECL	**Taimali**	**1.56**	**207**	*e*P	**Pn**	**15 08 03.9**	**-2.3**
SSD	**Sandimen**	**1.59**	**219**	*e*P	**Pn**	**15 08 06.1**	**-0.6**
SCLT	**Jiali**	**1.61**	**240**	*e*P	**Pn**	**15 08 06.6**	**-0.3**
SCLT				S	**Sb**	**15 08 28.9**	**+0.7**
PCYT	**Pengchaiyu**	**1.66**	**11**	*e*P	**Pn**	**15 08 08.0**	**+0.4**
TWM1	**Shoushan**	**1.66**	**226**	*e*P	**Pn**	**15 08 09.0**	**+1.3**
SGLT	**Jiouru**	**1.69**	**222**	*e*P	**Pn**	**15 08 08.8**	**+0.7**
EAST	**Anshuo**	**1.79**	**206**	*e*P	**Pn**	**15 08 08.6**	**-0.8**
TAW	**Tawu**	**1.79**	**205**	*e*P	**Pn**	**15 08 11.3**	**+1.7**
IRIF	**Iriomote-Funau**	**1.88**	**79**	P	**Pn**	**15 08 11.0**	**+0.3**
IRIF				S	**Sn**	**15 08 36.2**	**+0.9**
SCZT	**Fangliau**	**1.90**	**212**	*e*P	**Pn**	**15 08 10.4**	**-0.6**
HATJ	**Hateruma jima**	**1.92**	**88**	P	**Pn**	**15 08 11.1**	**-0.2**
HATJ				S	**Sn**	**15 08 36.0**	**-0.3**
WDGT	**Dungji**	**2.02**	**249**	*e*P	**Pn**	**15 08 12.3**	**-0.4**
WDGT				S	**Sn**	**15 08 37.1**	**-1.7**
PNG	**Penghu**	**2.02**	**258**	*e*P	**Pn**	**15 08 11.6**	**-1.2**
TWP	**Hsiaoliuchiu**	**2.06**	**217**	*e*P	**Pn**	**15 08 14.2**	**+0.9**
JKRS	**Kuro-shima**	**2.12**	**83**	P	**Pn**	**15 08 14.6**	**+0.4**
JKRS				S	**Sn**	**15 08 41.4**	**0.0**
HEN	**Hengchun**	**2.17**	**204**	*e*P	**Pn**	**15 08 16.1**	**+1.1**
TWK1	**Hengchun**	**2.21**	**202**	*e*P	**Pn**	**15 08 15.3**	**-0.2**
TSEB	**Hengchuen, Pin**	**2.21**	**200**	*e*P	**Pn**	**15 08 17.6**	**+2.0**
JIJ	**Ishigaki jima**	**2.25**	**80**	P	**Pn**	**15 08 15.8**	**-0.3**
JIJ				S	**Sn**	**15 08 44.2**	**-0.7**
JTJ	**Tarama**	**2.81**	**76**	P	**Pn**	**15 08 24.0**	**0.0**
JTJ				*e*S	**Sn**	**15 08 59.2**	**+0.3**
QZH	**Quanzhou**	**2.99**	**289**	P	**Pn**	**15 08 24.5**	**-2.2**
QZH				S	**Sn**	**15 08 58.3**	**-5.3**
QZH				Smax			
	comp=N,1μm,1.1s						
QZH				Smax			
	comp=E,720nm,1.0s						
KNM	**Kinmen**	**3.02**	**279**	*e*P	**Pn**	**15 08 25.0**	**-2.0**
JKE	**Kume jima 2**	**5.15**	**62**	P	**Pn**	**15 08 56.4**	**-0.9**
JOW	**Kunigami**	**6.57**	**63**	P	**Pn**	**15 09 14.8**	**-2.7**
	comp=E,3.6nm,0.3s,baz=134,slow=17,SNR=9.2						
GZH	**Guangzhou**	**7.73**	**265**	P	**Pn**	**15 09 24.3**	**-9.3**
GZH				Smax			
	comp=N,144nm,1.1s						
GZH				Smax			
	comp=E,132nm,1.0s						
KS15	**Wonju Array Si**	**14.41**	**20**	P	**P**	**15 11 08.1**	**+3.6**
MJAR	**Matsushiro Arr**	**18.93**	**45**	P	**P**	**15 11 59.7**	**-2.0**
	comp=E,0.1nm,0.3s,baz=240,slow=8.4,SNR=3.2						
CMAR	**Chiang Mai Arr**	**21.91**	**260**	P	**P**	**15 12 33.0**	**-0.9**
	comp=E,0.7nm,0.6s,mb3.3,baz=68,slow=7.5,SNR=6.4						
GTA	**Gaotai**	**24.06**	**315**	P	**P**	**15 12 57.5**	**+2.7**
YSS	**Yuzh-Sakhalins**	**28.44**	**31**	P	**P**	**15 13 31.6**	**-3.9**
	comp=E,23nm,1.3s,mb4.6						
MKAR	**Makanchi Array**	**38.81**	**316**	P	**P**	**15 15 02.2**	**-2.9**
	comp=E,1.8nm,0.7s,mb3.9,baz=104,slow=11,SNR=7.5						
ZAL	**Zalesovo**	**40.67**	**327**	P	**P**	**15 15 17.7**	**-2.8**
	comp=E,0.6nm,0.4s,mb3.6,baz=355,slow=16,SNR=3.0						
AAK	**Ala-Archa**	**43.00**	**307**	P	**P**	**15 15 36.6**	**-3.2**
	comp=E,4.9nm,1.8s,mb3.9						
WRA	**Warramunga Arr**	**45.37**	**163**	P	**P**	**15 15 55.1**	**-4.1**
	comp=E,1.8nm,0.9s,mb3.9,baz=346,slow=8.6,SNR=9.3						
CHKZ	**Chkalovo**	**48.18**	**322**	*e*P	**P**	**15 16 17.9**	**-3.0**
	comp=E,1.7nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**48.83**	**165**	P	**P**	**15 16 23.7**	**-2.6**
	comp=E,1.5nm,0.9s,mb4.0,baz=344,slow=6.3,SNR=8.4						
STKA	**Stephens Creek**	**58.72**	**160**	P	**P**	**15 17 34.9**	**-4.2**
	comp=E,4.5nm,1.0s,mb4.4,baz=105,slow=22,SNR=3.2						
STKA	**Stephens Creek**	**58.72**	**160**	P	**P**	**15 17 34.8**	**-4.2**
ILAR	**Eielson Array**	**69.16**	**27**	P	**P**	**15 18 42.2**	**-4.7**
	comp=E,0.2nm,0.6s,mb3.3,baz=283,slow=6.8,SNR=4.2						
FINES	**FINESS Array B**	**71.85**	**330**	P	**P**	**15 18 59.9**	**-3.4**
	comp=E,0.7nm,0.9s,mb3.6,baz=45,slow=8.1,SNR=3.4						
INK	**Inuvik**	**73.22**	**22**	*e*P	**P**	**15 19 07.3**	**-3.9**
	comp=E,2.7nm,1.0s,mb4.1						
BRTR	**Keskin Array B**	**73.67**	**307**	P	**P**	**15 19 11.3**	**-3.1**
	comp=E,0.4nm,0.5s,mb3.6,baz=80,slow=8.8,SNR=3.0						
YKA	**Yellowknife Ar**	**82.96**	**23**	P	**P**	**15 20 02.2**	**-2.6**
	comp=E,0.9nm,0.6s,mb4.0,baz=315,slow=4.9,SNR=8.1						
YKA	**Yellowknife Ar**	**82.96**	**23**	P	**P**	**15 20 02.2**	**-2.6**
NEW	**Newport**	**90.89**	**35**	P	**P**	**15 20 39.8**	**-3.9**
	comp=E,3.3nm,1.2s,mb4.5						
WALA	**Waterton Lakes**	**92.02**	**33**	*e*P	**P**	**15 20 47.3**	**-1.5**
	comp=E,8.8nm,1.4s,mb4.9						

TAP 30 15:10:11.7, 24.02N×121.62E, h8km, ML3.8, 5C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.04**	**198**	⇓*i*P	Pg	15 10 13.4	+0.1
TWD	**Chiawan**	**0.06**	**340**	⇑*i*P	Pg	15 10 13.4	-0.1
TWD				S	Sg	15 10 15.0	+0.2
ESF	**Shoufeng Towns**	**0.18**	**215**	*e*P	Pg	15 10 15.0	-0.5
ESF				S	Sg	15 10 17.9	-0.2
ESL	**Shilin**	**0.27**	**220**	P	Pg	15 10 16.5	-0.6
ESL				S	Sg	15 10 20.1	-0.8
TEGC	**Jichi Village**	**0.32**	**193**	*e*P	Pg	15 10 18.6	+0.4
TEGC				S	Sg	15 10 25.1	+2.6
WHF	**Hehuan Shan**	**0.35**	**291**	⇓*i*P	Pg	15 10 18.4	-0.3
WHF				S	Sg	15 10 23.0	-0.5
ENA	**Nanau**	**0.42**	**15**	⇑*i*P	Pg	15 10 19.6	-0.6
ENA				S	Sg	15 10 25.3	-0.6
TWT	**Tachien**	**0.47**	**300**	⇓*i*P	Pg	15 10 21.2	+0.1
TWT				S	Sg	15 10 27.8	+0.4
NNS	**Nan Shan**	**0.47**	**332**	⇑*i*P	Pg	15 10 20.9	-0.4
NNS				S	Sg	15 10 27.3	-0.3
EHY	**Hungye**	**0.58**	**208**	*e*P	Pg	15 10 22.3	-1.0
EHY				S	Sg	15 10 30.6	-0.6
ENTT	**Nioudou**	**0.62**	**355**	⇑*i*P	Pg	15 10 23.6	-0.5
ENTT				S	Sg	15 10 32.3	-0.1
TWC	**Suao**	**0.62**	**20**	⇑P	Pg	15 10 23.3	-0.9
TWC				S	Sg	15 10 31.1	-1.4
SMLT	**Sun Moon Lake**	**0.67**	**258**	*e*P	Pg	15 10 23.4	-1.8
SMLT				S	Sg	15 10 33.4	-0.8
NSK	**Sanguang**	**0.69**	**340**	P	Pg	15 10 25.1	-0.5
NSK				S	Sg	15 10 34.2	-0.7
TWE	**Neicheng**	**0.70**	**4**	*i* P	Pg	15 10 25.0	-0.7
TWE				S	Sg	15 10 34.0	-1.0
TYC	**Yuchr**	**0.71**	**261**	*e*P	Pb	15 10 25.3	-0.5
TYC				S	Sg	15 10 33.6	-1.7
TWF1	**Yuli**	**0.73**	**204**	*e*P	Pb	15 10 24.6	-1.6
YUS	**Yu-Shan**	**0.81**	**229**	*e*P	Pb	15 10 27.1	-0.5
YUS				S	Sb	15 10 38.5	0.0
NSTT	**Nanjuang**	**0.83**	**317**	P	Pb	15 10 28.1	+0.1
NSTT				S	Sb	15 10 39.0	-0.1
TWQ1	**Liyutan**	**0.84**	**293**	*e*P	Pb	15 10 28.4	+0.3
TWQ1				S	Sb	15 10 41.2	+1.9
WNT	**Mingjian**	**0.87**	**261**	*e*P	Pb	15 10 29.6	+1.0
WNT				S	Sb	15 10 41.5	+1.4
TCU	**Taichung**	**0.87**	**279**	*e*P	Pb	15 10 29.6	+1.0
TCU				S	Sb	15 10 42.5	+2.2
NSY	**Sanyi**	**0.88**	**297**	*e*P	Pb	15 10 29.5	+0.8
NSY				S	Sb	15 10 42.5	+2.0
ALS	**Alishan**	**0.90**	**236**	*e*P	Pb	15 10 29.0	-0.1
ALS				S	Sb	15 10 41.3	+0.2
CHKT	**Chengkung**	**0.95**	**194**	*e*P	Pb	15 10 29.0	-0.9
CHKT				S	Sb	15 10 43.0	+0.6
TWA	**Mucha**	**0.96**	**358**	*e*P	Pb	15 10 30.1	0.0
TWA				S	Sb	15 10 42.5	-0.2
CHN5	**Tsauling**	**0.96**	**244**	*e*P	Pb	15 10 30.9	+0.8
CHN5				S	Sb	15 10 45.3	+2.5
HSN	**Hsinchu**	**0.98**	**323**	*e*P	Pb	15 10 30.7	+0.3
HSN				S	Sb	15 10 45.0	+1.6
ELDTW	**Lidau**	**0.99**	**214**	*e*P	Pb	15 10 29.0	-1.7
TAP1	**Taipei**	**1.02**	**355**	*e*P	Pb	15 10 30.4	-0.7
TAP1				S	Sb	15 10 44.4	-0.2
TAP	**Taipei**	**1.02**	**354**	*e*P	Pb	15 10 31.1	-0.1
TAP				S	Sb	15 10 44.4	-0.1
WGK	**Gukeng**	**1.02**	**251**	*e*P	Pb	15 10 31.6	+0.4
WGK				S	Sb	15 10 46.4	+1.7
TWB1	**Santiao Chiao**	**1.04**	**19**	*e*P	Pb	15 10 31.2	-0.3
NWF	**Wu-fen Shan**	**1.06**	**8**	*e*P	Pb	15 10 31.7	-0.1
TWS1	**Kuangyinshan**	**1.09**	**350**	*e*P	Pb	15 10 33.2	+0.8
TWS1				S	Sb	15 10 48.3	+1.7
CHN4	**Tsaushan**	**1.15**	**235**	*e*P	Pb	15 10 33.9	+0.5
CHN2	**Minshiung**	**1.16**	**245**	*e*P	Pb	15 10 34.8	+1.3
CHN2				S	Sb	15 10 50.9	+2.4
STYT	**Tauyuan**	**1.16**	**223**	*e*P	Pb	15 10 33.4	-0.3
STYT				S	Sb	15 10 50.3	+1.6
WTP	**Ta-pu**	**1.20**	**230**	*e*P	Pb	15 10 34.4	+0.1
WTP				S	Sb	15 10 52.0	+2.2
CHY	**Chiayi**	**1.21**	**245**	*e*P	Pb	15 10 35.2	+0.7
CHY				S	Sb	15 10 51.3	+1.2
WTCT	**Ta-ch'eng**	**1.23**	**263**	*e*P	Pb	15 10 35.0	+0.1
WTCT				S	Sb	15 10 52.5	+1.7
TWY	**Chenhua**	**1.25**	**359**	*e*P	Pb	15 10 37.7	+2.6
TWK	**Hsinying**	**1.28**	**234**	*e*P	Pb	15 10 35.9	+0.2
TWK				S	Sb	15 10 54.1	+2.0
TWG	**Pinlang**	**1.30**	**203**	*e*P	Pb	15 10 32.9	-3.0
CHN1	**Nanshi**	**1.30**	**231**	*e*P	Pb	15 10 36.2	+0.2
CHN1				S	Sb	15 10 55.2	+2.5
SGST	**Jiashian**	**1.33**	**226**	*e*P	Pb	15 10 36.4	-0.2
SGST				S	Sb	15 10 55.8	+2.1
WSF	**Szhu**	**1.34**	**254**	*e*P	Pb	15 10 37.5	+1.0
ECL	**Taimali**	**1.54**	**204**	*e*P	Pn	15 10 37.2	-2.5
SSD	**Sandimen**	**1.56**	**216**	*e*P	Pn	15 10 39.0	-0.9
TWM1	**Shoushan**	**1.62**	**223**	*e*P	Pn	15 10 42.0	+1.2
SGLT	**Jiouru**	**1.66**	**219**	*e*P	Pn	15 10 40.8	-0.4
EAST	**Anshuo**	**1.78**	**204**	*e*P	Pn	15 10 40.6	-2.4
SCZT	**Fangliau**	**1.88**	**209**	*e*P	Pn	15 10 43.8	-0.7
PNG	**Penghu**	**1.94**	**257**	*e*P	Pn	15 10 44.2	-1.2
WDGT	**Dungji**	**1.95**	**248**	*e*P	Pn	15 10 45.3	-0.2

IGQ 30 15:22:46.5, 1.16S×80.25W, h9km±5km, mb4.0, 4C-5D, Error ellipse: s-maj=3.5km s-min=2.8km az=150.2, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMA	**Jama**	**0.89**	**3**	P	Pb	15 23 04.4	+0.7
JAMA				S	Sb	15 23 19.2	+3.7
MAGD	**Magdalena**	**1.18**	**24**	P	Pb	15 23 09.8	+1.1
SALI	**Salinas**	**1.26**	**216**	P	Pb	15 23 10.9	+0.9
IGUA	**Igualata**	**1.65**	**102**	⇑P	Pn	15 23 17.7	+1.9
CUSU	**Cusua**	**1.79**	**99**	P	Pn	15 23 20.1	+2.2
CUSU				S	Sn	15 23 44.4	+3.5
JUIV	**Juive**	**1.81**	**98**	P	Pn	15 23 20.1	+2.0
MARY	**Rancho Maria**	**1.81**	**77**	P	Pn	15 23 21.6	+3.5
ARRY	**Arrayan**	**1.83**	**101**	P	Pn	15 23 20.3	+1.9
ARRY				S	Sn	15 23 43.9	+2.0
NAS1	**Nasa**	**1.85**	**74**	P	Pn	15 23 21.6	+2.9
NAS1				S	Sn	15 23 47.2	+4.8
ULBA	**Ulba**	**1.87**	**99**	P	Pn	15 23 21.1	+2.2
ULBA				S	Sn	15 23 46.3	+3.5
PISA	**Pisayambo**	**1.87**	**87**	P	Pn	15 23 21.4	+2.5
JUA2	**San Juan 2**	**1.90**	**60**	⇓P	Pn	15 23 20.6	+1.3
JUA2				S	Sn	15 23 43.9	+0.4
TERV	**Terraza Guagua**	**1.92**	**59**	P	Pn	15 23 20.6	+0.9
VC1	**Cotopaxi 1**	**1.92**	**75**	⇑P	Pn	15 23 22.6	+3.0
VC1				S	Sn	15 23 48.6	+4.4
PINO	**Pino**	**1.92**	**59**	⇓P	Pn	15 23 20.7	+1.0
GGP	**Refugio Guagua**	**1.92**	**59**	⇓P	Pn	15 23 20.8	+1.1
GGP				S	Sn	15 23 46.1	+1.9
TAMB	**Tambo**	**1.94**	**76**	P	Pn	15 23 22.7	+2.7
YANA	**Yana**	**1.97**	**58**	⇓P	Pn	15 23 21.3	+0.9
JOR1	**San Jorge 1**	**1.98**	**55**	⇑P	Pn	15 23 19.1	-1.4
ANTI	**Antisana**	**2.21**	**71**	P	Pn	15 23 26.5	+2.7
COTA	**Cotacachi**	**2.42**	**52**	P	Pn	15 23 28.7	+1.8
CAYR	**Refugio Cayamb**	**2.53**	**63**	⇑P	Pn	15 23 31.8	+3.3
CAYR				S	Sn	15 24 03.8	+4.1
CAYA	**Cayambe**	**2.57**	**62**	P	Pn	15 23 31.9	+2.9
ECEN	**Cerro Negro**	**3.01**	**49**	⇓P	Pn	15 23 38.4	+3.1
ECEN				S	Sn	15 24 15.0	+3.1

*NEIC **30** 15:33:05.7±0.9, 51.49N×16.34E, h5km, ML3.0(VIE), Error ellipse: s-maj=14.7km s-min=7.8km az=79.0*
*IPEC **30** 15:33:05.8±0.3, 51.55N×16.23E, ML2.0/3, Error ellipse: s-maj=1.8km s-min=1.3km az=22.0*
*IDC **30** 15:33:06.9±0.8, 51.39N×16.24E, mb1 3.2/5, mb1mx3.1/22, mbtmp3.1/5, ML2.7/4, Error ellipse: s-maj=16.2km s-min=5.9km az=100.0*
*CSEM **30** 15:33:06.9±0.2, 51.49N×16.15E, h1km, ML3.1/3, Error ellipse: s-maj=2.6km s-min=1.9km az=43.0*
*PRU **30** 15:33:07.6, 51.43N×16.13E*
*WAR **30** 15:33:08.0, 51.46N×16.13E, h1km, ML2.4, Mining Induced*

ISC 30 15:33:04.2±0.6, 51.49N±0.03×16.17E±0.04, n33, σ1§50/69, 1C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**173**	*i*Pg	**Pg**	**15 33 19.4**	**+2.2**
KSP				*e*Sg	**Sg**	**15 33 26.7**	**+0.8**
KSP				*e*		15 33 28.5	
KSP	**Ksiaz**	**0.65**	**173**	*i* PG	**Pg**	**15 33 19.4**	**+2.2**
KSP				*e*SG	**Sg**	**15 33 27.4**	**+1.5**
KSP	**Ksiaz**	**0.65**	**173**	⇓*e*Pg	**Pg**	**15 33 19.4**	**+2.2**
KSP				*e*Sg	**Sg**	**15 33 26.9**	**+1.0**
UPC	**Upice**	**0.99**	**186**	*e*PG	**Pg**	**15 33 25.3**	**+1.4**
DPC	**Dobruska-Polom**	**1.14**	**175**	*e*PG	**Pg**	**15 33 28.1**	**+1.1**
DPC				*e*SG	**Sg**	**15 33 42.8**	**+0.5**
	18nm,0.3s						
DPC	**Dobruska-Polom**	**1.14**	**175**	*e*Pg	**Pg**	**15 33 28.1**	**+1.1**
DPC				*e*Sg	**Sg**	**15 33 43.0**	**+0.7**
PVCC	**Panska Ves**	**1.39**	**227**	*e*PG	**Pg**	**15 33 32.5**	**+0.5**
PVCC	**Panska Ves**	**1.39**	**227**	*e*Pn	**Pn**	**15 33 32.7**	**+1.8**
PVCC				*e*Sg	**Sg**	**15 33 52.2**	**+1.6**
BRG	**Berggiesshubel**	**1.53**	**247**	*e*Pn	**Pn**	**15 33 34.6**	**+1.7**
BRG				*i* Pg	**Pg**	**15 33 35.5**	**+0.8**
BRG				*i* Sg	**Sg**	**15 33 55.7**	**+0.6**
BRG	**Berggiesshubel**	**1.53**	**247**	*i* Pg	**Pg**	**15 33 35.5**	**+0.8**
PRU	**Pruhonice**	**1.82**	**215**	*e*PG	**Pg**	**15 33 40.1**	**-0.5**
PRU				*e*SG	**Sg**	**15 34 03.5**	**-1.4**
MORC	**Moravsky Berou**	**1.92**	**152**	*e*Pn	**Pn**	**15 33 39.2**	**+0.7**
MORC				*e*Sn	**Sn**	**15 34 03.3**	**-0.5**
MORC	**Moravsky Berou**	**1.92**	**152**	*e*Pn	**Pn**	**15 33 39.2**	**+0.7**
MORC				*e*Sn	**Sn**	**15 34 03.3**	**-0.5**
MORC				*e*Sg	**Sg**	**15 34 07.3**	**-1.0**
	9.5nm,0.2s						
CLL	**Collm**	**1.99**	**266**	*e*Pn	**Pn**	**15 33 41.0**	**+1.5**
CLL				*e*Pg	**Pg**	**15 33 44.0**	**+0.1**
CLL				*e*Sg	**Sg**	**15 34 10.0**	**-0.5**
CLL	**Collm**	**1.99**	**266**	*e*PN	**Pn**	**15 33 41.0**	**+1.5**
CLL				*e*PG	**Pg**	**15 33 44.0**	**+0.1**
CLL				*e*		15 33 48.0	
CLL				*e*SG	**Sg**	**15 34 10.0**	**-0.5**
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*PN	**Pn**	**15 33 42.1**	**+1.4**
OKC				*e*PG	**Pg**	**15 33 46.0**	**+0.3**
OKC				*e*SG	**Sg**	**15 34 11.5**	**-1.9**
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*Pn	**Pn**	**15 33 42.0**	**+1.3**
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*Pg	**Pg**	**15 33 46.0**	**+0.3**
OKC				*e*Sg	**Sg**	**15 34 12.0**	**-1.4**
VRAC	**Vranov**	**2.20**	**173**	*e*Pg	**Pg**	**15 33 45.2**	**-2.9**
	1.1nm,0.3s,baz=335,slow=11,SNR=12						
VRAC				Lg		15 34 15.4	
	3.5nm,0.3s,baz=96,slow=21,SNR=7.4						
VRAC	**Vranov**	**2.20**	**173**	*e*Pn	**Pn**	**15 33 45.1**	**+2.6**
VRAC				*e*Sg	**Sg**	**15 34 16.0**	**-1.4**
	7.4nm,0.2s						
KRUC	**Moravsky**	**2.43**	**176**	*e*Pn	**Pn**	**15 33 48.2**	**+2.4**
KRUC				*e*Sg	**Sg**	**15 34 24.0**	**-1.2**
	4.9nm,0.2s						
NKC	**Novy Kostel**	**2.67**	**243**	*e*PN	**Pn**	**15 33 50.7**	**+1.5**
NKC				*e*SG	**Sg**	**15 34 30.9**	**-2.2**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**15 33 53.7**	**+1.4**
KHC				*e*PG	**Pg**	**15 33 59.5**	**-2.3**
KHC				*e*SN	**Sn**	**15 34 26.0**	**-2.2**
KHC				*e*SG	**Sg**	**15 34 36.5**	**-3.7**
MOX	**Moxa**	**2.99**	**255**	*e*Pn	**Pn**	**15 33 55.5**	**+1.7**
MOX				*e*Pg	**Pg**	**15 34 03.2**	**-0.8**
MOX				*e*Sg	**Sg**	**15 34 43.1**	**-0.7**
MOX	**Moxa**	**2.99**	**255**	*i* P	**Pn**	**15 33 55.5**	**+1.7**
MOX				Pg	**Pg**	**15 34 03.0**	**-1.0**
MOX				Sg	**Sg**	**15 34 43.0**	**-0.8**
GERES	**GERESS Array B**	**3.08**	**212**	Pn	**Pn**	**15 33 56.4**	**+1.3**
	0.4nm,0.3s,baz=30,slow=13,SNR=12						
GERES				Pg	**Pg**	**15 34 02.8**	**-3.0**
	1.8nm,0.3s,baz=32,slow=16,SNR=29						
GERES				Sn	**Sn**	**15 34 32.2**	**-1.1**
	1.3nm,0.3s,baz=41,slow=28,SNR=6.6						
GERES				Lg		15 34 42.8	
	2.9nm,0.3s,baz=31,slow=28,SNR=12						
GERES	**GERESS Array B**	**3.08**	**212**	Pn	**Pn**	**15 33 56.4**	**+1.3**
GERES				Pg	**Pg**	**15 34 02.8**	**-3.0**
GERES				Sn	**Sn**	**15 34 32.2**	**-1.1**
GERES				Lg		15 34 42.8	
GERES	**GERESS Array B**	**3.08**	**212**	Pg	**Pg**	**15 34 02.8**	**-3.0**
MOA	**Molln**	**3.84**	**199**	⇑*i*PN	**Pn**	**15 34 06.8**	**+0.9**
MOA				*i* SG	**Sg**	**15 35 11.0**	**-1.2**
	4.2nm,0.3s						
HFS	**Hagfors**	**8.78**	**352**	Pn	**P**	**15 35 12.9**	**-2.4**
	0.0nm,0.3s,baz=163,slow=16,SNR=6.0						
HFS				Sn	**Sn**	**15 36 51.0**	**-5.2**
	0.0nm,0.3s,baz=169,slow=24,SNR=2.9						
NOA	**NORSAR Array B**	**9.96**	**346**	Pn	**P**	**15 35 29.8**	**-1.7**
	baz=129,slow=15,SNR=2.4						
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**P**	**15 35 48.1**	**-2.7**
	0.1nm,0.3s,baz=217,slow=10,SNR=5.7						
FINES				Sn	**S**	**15 37 49.9**	**-10**
	0.1nm,0.3s,baz=231,slow=20,SNR=3.8						
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**P**	**15 37 21.2**	**-3.8**
	0.1nm,0.3s,baz=193,slow=12,SNR=4.1						

TAP 30 15:37:33.5, 24.03N×121.63E, h8km, ML3.9, 10C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.06**	**203**	⇓*i*P	Pg	15 37 35.5	+0.2
HWA				S	Sg	15 37 37.7	+1.1
TWD	**Chiawan**	**0.06**	**328**	⇑*i*P	Pg	15 37 35.4	0.0
TWD				S	Sg	15 37 36.7	+0.1
ESF	**Shoufeng Towns**	**0.19**	**215**	*e*P	Pg	15 37 37.1	-0.6
ESL	**Shilin**	**0.28**	**220**	⇑*i*P	Pg	15 37 38.6	-0.7
ESL				S	Sg	15 37 42.8	-0.3
TEGC	**Jichi Village**	**0.33**	**194**	*e*P	Pg	15 37 41.1	+0.8
TEGC				S	Sg	15 37 47.8	+3.1
WHF	**Hehuan Shan**	**0.35**	**289**	⇓*i*P	Pg	15 37 40.3	-0.4
WHF				S	Sg	15 37 45.2	-0.3
ENA	**Nanau**	**0.41**	**14**	⇑*i*P	Pg	15 37 41.2	-0.6
ENA				S	Sg	15 37 46.6	-0.8
NNS	**Nan Shan**	**0.47**	**330**	⇑*i*P	Pg	15 37 42.6	-0.5
TWT	**Tachien**	**0.47**	**298**	*e*P	Pg	15 37 43.1	0.0
TWT				S	Sg	15 37 50.0	+0.6
EHY	**Hungye**	**0.59**	**208**	⇑*i*P	Pg	15 37 44.3	-1.1
ENTT	**Nioudou**	**0.61**	**355**	⇑*i*P	Pg	15 37 45.3	-0.5
ENTT				S	Sg	15 37 53.3	-0.7
TWC	**Suao**	**0.61**	**19**	⇑*i*P	Pg	15 37 45.0	-0.8
TWC				S	Sg	15 37 53.0	-1.0
SMLT	**Sun Moon Lake**	**0.68**	**258**	⇓*i*P	Pg	15 37 46.7	-0.5
SMLT				S	Sg	15 37 55.6	-0.8
NSK	**Sanguang**	**0.69**	**339**	⇑*i*P	Pb	15 37 46.6	-0.8
NSK				S	Sg	15 37 56.5	-0.1
TWE	**Neicheng**	**0.69**	**3**	⇑*i*P	Pb	15 37 46.7	-0.7
TWE				S	Sg	15 37 56.2	-0.4
TYC	**Yuchr**	**0.72**	**260**	⇓*i*P	Pb	15 37 47.1	-0.7
TYC				S	Sg	15 37 56.5	-1.1
TWF1	**Yuli**	**0.74**	**204**	*e*P	Pb	15 37 46.9	-1.4
YUS	**Yu-Shan**	**0.82**	**229**	P	Pb	15 37 49.2	-0.4
YUS				S	Sb	15 38 00.6	0.0
NSTT	**Nanjuang**	**0.83**	**316**	*e*P	Pb	15 37 49.9	+0.1
NSTT				S	Sb	15 38 00.9	0.0
TWQ1	**Liyutan**	**0.84**	**292**	*e*P	Pb	15 37 50.7	+0.7
TWQ1				S	Sb	15 38 03.3	+2.0
WNT	**Mingjian**	**0.88**	**260**	*e*P	Pb	15 37 51.6	+1.0
WNT				S	Sb	15 38 04.6	+2.3
TCU	**Taichung**	**0.88**	**278**	*e*P	Pb	15 37 51.7	+1.0
TCU				S	Sb	15

Ms4.7, Msz4.5
*IDC **30** 15:49:37.8±0.6, 15.72S×166.21E, h51km±5km, mb4.2/19, mb1 4.4/22, mb1mx4.4/24, mbtmp4.5/22, MS4.4/24, Ms1 4.4/24, ms1mx4.4/29, Error ellipse: s-maj=14.2km s-min=12.3km az=123.0*
*HRVD **30** 15:49:38.0±0.3, 15.74S×166.14E, h38km±1km, MW5.1/66, Centroid moment Tensor Solution. LP body waves: s38,c61;Mantle waves: s66,c110; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.81±.24; Mθθ0.62±.18; Mφφ-4.43±.18; Mrθ-0.79±.20; Mθφ4.09±.14; Mφr-2.69±.20; Best double couple: M0:6.342×10^16^ NP1:φs298°, δ46°, λ37°. NP2:φs180°, δ64°, λ130°. Principal axes: T 5.603, Plg53°, Azm139°; N 1.475, Plg35°, Azm341°; P -7.08, Plg11°, Azm243°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 15:49:38.0±0.3, 15.80S×166.16E, mb5.0/23, MS4.8/2 Error ellipse: s-maj=8.8km s-min=7.1km az=110.0*

ISC 30 15:49:36.1±0.3, 15.76S±0.05×166.09E±0.06, h49km, h49km±2.0km: pP-P, n138, σ1§28/98, mb4.7/44, MS4.5/25, 3C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.29**	**177**	*e*P	**P**	**15 51 05.4**	**-3.2**
DZM				*e*S	**S**	**15 52 09.2**	**-11**
DZM	**Mont Dzumac**	**6.29**	**177**	P	**P**	**15 51 05.4**	**-3.2**
	37nm,0.3s,baz=358,slow=19,SNR=426						
DZM				S	**S**	**15 52 12.6**	**-7.5**
	117nm,0.3s,baz=15,slow=23,SNR=12						
DZM				LR	LR	15 53 13.4	
	comp=Z,5μm,20.5s,baz=1.5,slow=34						
DZM	**Mont Dzumac**	**6.29**	**177**	*e*P	**P**	**15 51 05.4**	**-3.2**
DZM				*e*S	**S**	**15 52 09.2**	**-11**
NOUC	**Port Laguerre**	**6.32**	**178**	*e*P	**P**	**15 51 06.0**	**-2.9**
NOUC	**Port Laguerre**	**6.32**	**178**	*e*P	**P**	**15 51 06.0**	**-2.9**
HNR	**Honiara**	**8.68**	**316**	*e*P	**P**	**15 51 41.8**	**0.0**
HNR				*e*		15 53 17.3	
HNR				pmax	pmax		
	comp=Z,183nm,0.7s						
HNR	**Honiara**	**8.68**	**316**	P	**P**	**15 51 41.5**	**-0.3**
	comp=Z,44nm,0.3s,baz=169,slow=3.8,SNR=24						
HNR				S	**S**	**15 53 17.7**	**-1.7**
	comp=Z,45nm,0.3s,baz=190,slow=18,SNR=4.1						
HNR				LR	LR	15 54 44.6	
	comp=Z,3μm,20.0s,baz=154,slow=35						
HNR	**Honiara**	**8.68**	**316**	*e*Pn	**P**	**15 51 41.8**	**0.0**
	comp=Z,183nm,0.7s						
HNR				*e*Sn	**S**	**15 53 17.3**	**-2.1**
CTA	**Charters Tower**	**19.36**	**254**	P	**P**	**15 54 01.9**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=80,slow=11,SNR=16						
CTA				LR	LR	16 00 33.1	
	comp=Z,2μm,20.1s,baz=84,slow=34						
CTAO	**Charters Tower**	**19.36**	**254**	*e*P	**P**	**15 54 02.1**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,24nm,0.9s						
CTAO	**Charters Tower**	**19.36**	**254**	*e*P	**P**	**15 54 02.1**	**+1.7**
	comp=Z,24nm,0.9s						
PMG	**Port Moresby**	**19.51**	**287**	*e*P	**P**	**15 54 00.2**	**-2.1**
PMG				pmax	pmax		
	comp=Z,52nm,1.0s						
PMG	**Port Moresby**	**19.51**	**287**	P	**P**	**15 54 03.9**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=122,slow=5.6,SNR=5.8						
PMG				LR	LR	16 00 41.3	
	comp=Z,1μm,18.7s,baz=118,slow=34						
PMG	**Port Moresby**	**19.51**	**287**	*e*P	**P**	**15 54 00.1**	**-2.1**
	comp=Z,52nm,1.0s						
PMG				LR	LR	16 00 41.3	
ARMA	**Armidale**	**19.72**	**220**	*e*P	**P**	**15 54 07.4**	**+3.0**
URZ	**Urewera**	**24.43**	**159**	P	**P**	**15 54 52.9**	**+1.4**
	comp=Z,19nm,0.9s,mb4.5,baz=26,slow=7.4,SNR=6.4						
CNB	**Canberra Magne**	**24.57**	**214**	*e*P	**P**	**15 54 54.5**	**+1.7**
	comp=Z,366nm,0.8s						
STKA	**Stephens Creek**	**27.46**	**230**	⇓*i*P	**P**	**15 55 21.1**	**+1.3**
	comp=Z,8.6nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**27.46**	**230**	P	**P**	**15 55 20.7**	**+0.9**
	comp=Z,2.6nm,0.4s,mb4.1,baz=44,slow=8.8,SNR=19						
STKA				LR	LR	16 06 43.5	
	comp=Z,1μm,18.1s,MS4.5,baz=288,slow=37						
RPZ	**Rata Peaks**	**28.19**	**172**	P	**P**	**15 55 25.1**	**-1.1**
	comp=Z,22nm,0.9s,mb4.8,baz=74,slow=8.3,SNR=6.0						
RPZ				LR	LR	16 05 43.3	
	comp=Z,1μm,18.5s,MS4.5,baz=351,slow=34						
WB2	**Warramunga Arr**	**30.47**	**257**	*e*P	**P**	**15 55 45.9**	**-0.8**
WRAB	**Tennant Creek**	**30.47**	**257**	*e*P	**P**	**15 55 45.8**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**30.47**	**257**	*e*P	**P**	**15 55 45.8**	**-0.9**
	comp=Z,14nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**30.48**	**257**	P	**P**	**15 55 45.9**	**-0.9**
	comp=Z,1.8nm,1.0s,mb3.8,baz=80,slow=5.9,SNR=16						
WRA				pP	pP	15 55 58.7	-0.9
	comp=Z,2.6nm,0.7s,baz=87,slow=9.1,SNR=9.2						
ASAR	**Alice Springs**	**31.25**	**250**	P	**P**	**15 55 53.2**	**-0.4**
	comp=Z,3.6nm,0.7s,mb4.3,baz=79,slow=8.9,SNR=40						
ASAR				LR	LR	16 07 47.0	
	comp=Z,876nm,20.2s,MS4.4,baz=80,slow=35						
ASPA	**Alice Springs**	**31.25**	**250**	*e*P	**P**	**15 55 53.2**	**-0.4**
RAR	**Rarotonga**	**32.79**	**105**	LR	LR	16 07 03.5	
	comp=Z,482nm,19.0s,MS4.2,baz=153,slow=32						
FORT	**Forrest**	**37.80**	**240**	*e*P	**P**	**15 56 50.4**	**+0.8**
	comp=Z,623nm,0.6s						
FITZ	**Fitzroy Crossi**	**38.72**	**261**	P	**P**	**15 56 57.6**	**+0.3**
	comp=Z,7.1nm,0.5s,mb4.7,baz=97,slow=4.2,SNR=20						
FITZ				pP	pP	15 57 11.7	+1.3
	comp=Z,8.4nm,0.6s,baz=136,slow=2.2,SNR=4.7						
TBI	**Tubuai**	**42.43**	**107**	*e*LQ		16 07 25.5	
TBI				*e*LR	LR	16 09 05.5	
	comp=Z,828nm,30.8s						
PPT	**Papeete**	**42.44**	**99**	*e*S	**S**	**16 03 47.9**	**+1.7**
PPT				*e*LQ		16 07 11.2	
PPT				*e*LR	LR	16 09 09.5	
	comp=Z,1μm,26.0s						
PPT	**Papeete**	**42.44**	**99**	LR	LR	16 10 40.4	
	comp=Z,544nm,21.4s,MS4.4,baz=262,slow=30						
MBWA	**Marble Bar**	**44.18**	**256**	*e*P	**P**	**15 57 40.9**	**-1.4**
NWAO	**Narrogin (SRO)**	**47.25**	**240**	P	**P**	**15 58 07.2**	**+0.7**
	comp=Z,7.2nm,0.8s,mb4.7,baz=36,slow=9.1,SNR=7.6						
NWAO				pP	pP	15 58 21.3	+1.6
	comp=Z,24nm,0.8s,baz=78,slow=7.9,SNR=7.3						
NWAO				LR	LR	16 17 34.7	
	comp=Z,669nm,20.5s,MS4.6,baz=243,slow=35						
NWAO	**Narrogin (SRO)**	**47.25**	**240**	P	**P**	**15 58 07.2**	**+0.7**
NWAO				pP	pP	15 58 21.3	+1.6
NWAO				LR	LR	16 17 34.7	
JHJ	**Hachijo jima 2**	**54.71**	**333**	P	**P**	**15 59 01.5**	**-1.5**
	comp=Z,144nm,0.8s,baz=174,slow=18						
RKT	**Rikitea**	**55.76**	**107**	*e*LQ		16 12 46.5	
RKT				*e*LR	LR	16 15 11.5	
	comp=Z,926nm,30.5s						
MJAR	**Matsushiro Arr**	**58.30**	**334**	P	**P**	**15 59 27.3**	**-1.2**
	comp=Z,2.4nm,0.7s,mb4.3,baz=166,slow=7.6,SNR=8.6						
MJAR				LR	LR	16 21 11.9	
	comp=Z,164nm,20.6s,MS4.1,baz=150,slow=32						
MJAR	**Matsushiro Arr**	**58.30**	**334**	P	**P**	**15 59 27.3**	**-1.2**
MJAR				LR	LR	16 21 11.9	
MAJO	**Matsushiro**	**58.30**	**334**	*e*P	**P**	**15 59 24.6**	**-3.9**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**58.30**	**334**	*e*P	**P**	**15 59 24.6**	**-3.8**
	comp=Z,9.2nm,0.9s,mb4.8						
MAT	**Matsushiro**	**58.30**	**334**	*e*P	**P**	**15 59 28.0**	**-0.5**
MAT	**Matsushiro**	**58.30**	**334**	P	**P**	**15 59 28.1**	**-0.4**
MAT				*e*S	**S**	**16 07 30.6**	**+5.3**
VNDA	**Vanda**	**61.82**	**181**	*e*P	**P**	**15 59 50.5**	**-1.5**
VNDA				pmax	pmax		
	comp=Z,24nm,1.6s						
VNDA	**Vanda**	**61.82**	**181**	P	**P**	**15 59 50.6**	**-1.4**
	comp=Z,1.7nm,0.7s,mb4.3,baz=355,slow=7.7,SNR=6.9						
VNDA				LR	LR	16 22 29.1	
	comp=Z,192nm,20.3s,MS4.2,baz=108,slow=32						
VNDA	**Vanda**	**61.82**	**181**	*e*P	**P**	**15 59 50.5**	**-1.5**
	comp=Z,24nm,1.6s,mb5.1						
SBA	**Scott Base**	**62.12**	**180**	*e*P	**P**	**15 59 54.0**	**0.0**
SBA				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.1						
SBA	**Scott Base**	**62.12**	**180**	*e*P	**P**	**15 59 54.0**	**0.0**
	comp=Z,20nm,1.3s,mb5.1						
QIZ	**Qiongzhong**	**65.25**	**300**	P	**P**	**16 00 07.1**	**-8.3**
	comp=Z,15nm,1.1s,mb4.9						
YSS	**Yuzh-Sakhalins**	**65.85**	**343**	*e*P	**P**	**16 00 20.0**	**+1.2**
YSS				*e*		16 00 27.1	
YSS				*e*PP	pP	16 00 33.3	+0.7
YSS				pmax	pmax		
	comp=Z,53nm,1.1s,mb5.5						
YSS	**Yuzh-Sakhalins**	**65.85**	**343**	*e*P	**P**	**16 00 20.0**	**+1.2**
	comp=Z,53nm,1.1s,mb5.5						
YSS				*e*		16 00 27.1	
YSS				*e*pP	pP	16 00 33.3	+0.6
MDJ	**Mudanjiang**	**68.66**	**333**	P	**P**	**16 00 37.5**	**+1.1**
MDJ				AP	pP	16 00 49.8	-0.6
MDJ				PCP	PcP	16 01 01.3	+0.1
MDJ				SCS	ScS	16 10 34.3	+5.8
MDJ				AMB	AMB		
	comp=Z,15nm,2.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,122nm,7.0s						
MDJ				LR	LR		
	comp=N,98nm,26.2s,MS4.1						
MDJ				LR	LR		
	comp=E,101nm,25.3s,MS4.1						
MDJ				LR	LR		
	comp=Z,154nm,19.9s						
MDJ	**Mudanjiang**	**68.66**	**333**	P	**P**	**16 00 33.7**	**-2.7**
	comp=Z,50nm,1.8s,mb5.2						
MDJ				*e*pP	pP	16 00 51.2	+0.8
CN2	**Changchun**	**69.94**	**330**	*e*P	**P**	**16 00 46.0**	**+1.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,300nm,21.0s,MS4.5						
ENH	**Enshi**	**71.14**	**310**	*e*P	**P**	**16 00 52.6**	**+0.8**
	comp=Z,11nm,0.9s,mb4.8						
ENH				*e*pP	pP	16 01 06.6	+0.8
KLR	**Kul'dur**	**71.49**	**337**	*e*P	**P**	**16 00 51.8**	**-1.8**
KLR				*e*	pP	16 01 05.2	-2.3
KLR				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
BJT	**Baijiatuan**	**72.34**	**322**	P	**P**	**16 00 56.0**	**-2.8**
	comp=Z,16nm,1.1s,mb4.8						
XAN	**Xi'an**	**73.55**	**313**	P	**P**	**16 01 07.5**	**+1.5**
QSPA	**South Pole Qui**	**74.28**	**180**	⇑*i*P	**P**	**16 01 09.8**	**+0.4**
	comp=Z,10.0nm,0.9s,mb4.8						
CM31	**Chiang Mai Arr**	**74.33**	**295**	*e*P	**P**	**16 01 10.4**	**-0.4**
	comp=Z,14nm,1.6s,mb4.7						
CMAR	**Chiang Mai Arr**	**74.33**	**295**	P	**P**	**16 01 12.3**	**+1.5**
	comp=Z,1.8nm,1.0s,mb4.0,baz=124,slow=4.4,SNR=11						
CMAR				pP	pP	16 01 27.2	+2.4
	comp=Z,2.0nm,1.1s,baz=113,slow=4.4,SNR=5.0						
CMAR				LR	LR	16 33 17.2	
	comp=Z,80nm,18.5s,MS4.0,baz=115,slow=35						
HHC	**Hu-ho-hao-te**	**75.63**	**320**	*e*P	**P**	**16 01 20.8**	**+2.9**
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,133nm,6.1s						
HIA	**Hailar**	**76.61**	**331**	*e*P	**P**	**16 01 24.2**	**+0.9**
HIA				*e*	pP	16 01 34.3	-3.1
HIA				*e*PP	pP	16 01 38.7	+1.3
HIA				pmax	pmax		
	comp=Z,12nm,0.9s						
HIA	**Hailar**	**76.61**	**331**	*e*P	**P**	**16 01 24.2**	**+0.9**
	comp=Z,12nm,0.9s,mb4.8						
HIA				*e*	pP	16 01 34.2	-3.1
HIA				*e*pP	pP	16 01 38.7	+1.4
LZH	**Lanzhou**	**78.17**	**313**	*e*P	**P**	**16 01 36.5**	**+4.3**
LZH				AP	pP	16 01 44.5	-1.8
LZH				XP	sP	16 01 48.5	-3.2
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,112nm,4.0s						
LZH				LR	LR		
	comp=E,440nm,17.0s						
LZH				LR	LR		
	comp=Z,600nm,18.0s,MS5.0						
RPN	**Rapa Nui**	**78.26**	**115**	LR	LR	16 28 00.1	
	comp=Z,239nm,20.2s,MS4.5,baz=190,slow=30						
MAW	**Mawson**	**80.51**	**202**	P	**P**	**16 01 44.0**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=86,slow=9.0,SNR=4.2						
MAW				LR	LR	16 31 41.9	
	comp=Z,234nm,20.9s,MS4.5,baz=72,slow=31						
GTA	**Gaotai**	**82.56**	**314**	P	**P**	**16 01 58.0**	**+2.5**
GTA				AP	pP	16 02 08.0	-1.7
GTA				XP	sP	16 02 12.3	-2.7
GTA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
GTA				AMB	AMB		
	comp=Z,150nm,11.4s						
GTA				LR	LR		
	comp=N,165nm,21.3s,MS4.5						
GTA				LR	LR		
	comp=E,139nm,24.0s,MS4.5						
GTA				LR	LR		
	comp=Z,252nm,24.7s,MS4.5						
YAK	**Yakutsk**	**82.68**	**344**	*e*P	**P**	**16 01 56.1**	**+0.5**
YAK				*e*PP	pP	16 02 09.7	-0.1
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
YAK	**Yakutsk**	**82.68**	**344**	*e*P	**P**	**16 01 56.1**	**+0.5**
	comp=Z,16nm,0.9s,mb5.0						
YAK				*e*pP	pP	16 02 09.7	-0.2
BILL	**Bilibino**	**83.56**	**0**	*e*P	**P**	**16 02 00.4**	**+0.5**
BILL				*e*PP	pP	16 02 13.4	-0.8
BILL				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.4						
BILL	**Bilibino**	**83.56**	**0**	*e*P	**P**	**16 02 00.4**	**+0.5**
	comp=Z,43nm,1.4s,mb5.4						
BILL				*e*pP	pP	16 02 13.4	-0.8
SLKM	**Skilak Lake**	**83.68**	**20**	*e*P	**P**	**16 02 00.6**	**-0.1**
SLKM				*e*PP	pP	16 02 14.9	0.0
BOD	**Bodaibo**	**84.91**	**335**	*e*P	**P**	**16 02 05.8**	**-1.1**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.6						
LSA	**Lhasa**	**85.14**	**303**	*e*P	**P**	**16 02 10.4**	**+1.7**
LSA				pmax	pmax		
	comp=Z,23nm,2.0s,mb5.0						
LSA	**Lhasa**	**85.14**	**303**	*e*P	**P**	**16 02 10.4**	**+1.7**
	comp=Z,23nm,2.0s,mb5.0						
ZAK	**Zakamensk**	**85.73**	**325**	⇑*i*P	**P**	**16 02 12.4**	**+1.3**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.7						
MCK	**McKinley**	**86.48**	**18**	*e*P	**P**	**16 02 14.0**	**-0.5**
MCK				pmax	pmax		
	comp=Z,22nm,1.6s,mb5.1						
MCK	**McKinley**	**86.48**	**18**	*e*P	**P**	**16 02 14.0**	**-0.5**
	comp=Z,22nm,1.6s,mb5.1						
IMA	**Indian Mountai**	**86.93**	**15**	*e*P	**P**	**16 02 17.8**	**+1.2**
IMA				*e*PP	pP	16 02 32.4	+1.4
IMA				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.5						
IMA	**Indian Mountai**	**86.93**	**15**	*e*P	**P**	**16 02 17.8**	**+1.2**
	comp=Z,34nm,1.0s,mb5.5						
IMA				*e*pP	pP	16 02 32.4	+1.4
YBH	**Yreka Blue Hor**	**86.94**	**45**	P	**P**	**16 02 16.1**	**-1.2**
	comp=Z,0.8nm,0.7s,mb4.0,baz=79,slow=3.5,SNR=3.0						
YBH				LR	LR	16 32 18.5	
	comp=Z,320nm,21.3s,MS4.7,baz=171,slow=30						
YBH	**Yreka Blue Hor**	**86.94**	**45**	P	**P**	**16 02 16.1**	**-1.2**
YBH				LR	LR	16 32 18.5	
COLA	**College**	**87.64**	**18**	P	**P**	**16 02 17.9**	**-2.2**
COLA				*e*PP	pP	16 02 35.8	+1.4
ILAR	**Eielson Array**	**87.85**	**18**	P	**P**	**16 02 19.6**	**-1.4**
	comp=Z,2.9nm,0.8s,mb4.6,baz=235,slow=5.7,SNR=28						
ILAR				pP	pP	16 02 35.4	-0.1
	comp=Z,1.9nm,0.7s,baz=237,slow=5.1,SNR=6.6						
NVAR	**Mina Array Bea**	**88.80**	**50**	P	**P**	**16 02 27.0**	**+0.7**
	comp=Z,0.7nm,0.8s,mb4.0,baz=234,slow=7.1,SNR=6.4						
NVAR				LR	LR	16 33 39.0	
	comp=Z,339nm,20.4s,MS4.8,baz=270,slow=30						
MNV	**Mina**	**88.91**	**50**	*e*P	**P**	**16 02 26.5**	**-0.3**
MNV				pmax	pmax		
	comp=Z,14nm,1.7s,mb5.0						
MNV	**Mina**	**88.91**	**50**	*e*P	**P**	**16 02 26.5**	**-0.3**
	comp=Z,14nm,1.7s,mb5.0						
WVOR	**Wild Horse Val**	**90.01**	**46**	*e*P	**P**	**16 02 31.7**	**-0.2**
WVOR				pmax	pmax		
	comp=Z,14nm,1.5s,mb5.1						
WVOR	**Wild Horse Val**	**90.01**	**46**	*e*P	**P**	**16 02 31.7**	**-0.1**
	comp=Z,14nm,1.5s,mb5.1						
WMQ	**Urumqi**	**92.63**	**315**	⇑P	**P**	**16 02 45.5**	**+1.5**
WMQ				AP	pP	16 02 59.8	+1.3
WMQ				XP	sP	16 03 05.0	+1.6
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,41nm,4.3s						
WMQ				LR	LR		
	comp=N,140nm,25.6s,MS4.5						
WMQ				LR	LR		
	comp=E,196nm,25.6s,MS4.5						
WMQ				LR	LR		
	comp=Z,234nm,25.0s,MS4.5						
NEW	**Newport**	**93.08**	**41**	P	**P**	**16 02 46.3**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.5,baz=190,slow=6.1,SNR=2.3						
USHA	**Ushuaia**	**95.93**	**152**	LR	LR	16 39 47.4	
	comp=Z,216nm,18.5s,MS4.7,baz=146,slow=31						
PDAR	**Pinedale Array**	**96.48**	**48**	P	**P**	**16 03 01.4**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=270,slow=0.9,SNR=2.3						
PDAR				LR	LR	16 37 51.8	
	comp=Z,190nm,19.8s,MS4.6,baz=254,slow=30						
ANMO	**Albuquerque**	**96.82**	**56**	LR	LR	16 37 47.6	
	comp=Z,256nm,21.1s,MS4.7,slow=30						
MKAR	**Makanchi Array**	**97.16**	**316**	P	**P**	**16 03 05.2**	**+0.7**
	comp=Z,1.7nm,0.8s,mb4.5,baz=96,slow=5.7,SNR=15						
MKAR				pP	pP	16 03 20.3	+1.3
	comp=Z,1.0nm,0.8s,baz=90,slow=7.3,SNR=4.9						
MKAR				LR	LR	16 45 51.1	
	comp=Z,117nm,21.6s,MS4.3,baz=180,slow=35						
MKAR	**Makanchi Array**	**97.16**	**316**	P	**P**	**16 03 05.2**	**+0.7**
MKAR				pP	pP	16 03 20.3	+1.3
MKAR				LR	LR	16 45 51.1	
ZAL	**Zalesovo**	**97.55**	**324**	P	**P**	**16 03 05.5**	**-0.6**
	comp=Z,0.7nm,0.3s,mb4.7,baz=332,slow=8.6,SNR=5.1						
ZAL				LR	LR	16 51 21.9	
	comp=Z,160nm,18.0s,MS4.5,baz=2.9,slow=38						
TXAR	**Lajitas Array**	**97.77**	**62**	LR	LR	16 38 08.7	
	comp=Z,165nm,19.7s,MS4.5,baz=235,slow=30						
YKA	**Yellowknife Ar**	**98.98**	**28**	P	**P**	**16 03 11.5**	**-0.8**
	comp=Z,0.6nm,0.6s,mb4.3,baz=259,slow=4.1,SNR=9.1						
YKA				pP	pP	16 03 25.2	-1.6
	comp=Z,2.3nm,0.7s,baz=254,slow=4.6,SNR=13						
YKA				LR	LR	16 47 10.7	
	comp=Z,180nm,18.0s,MS4.6,baz=260,slow=35						
ARCES	**ARCESS Array B**	**120.95**	**345**	PKP	PKPdf	16 08 23.7	+0.9
	comp=Z,1.4nm,0.6s,baz=84,slow=2.0,SNR=11						
FINES	**FINESS Array B**	**126.24**	**337**	PKP	PKPdf	16 08 34.0	+0.8
	comp=Z,1.3nm,0.9s,baz=90,slow=3.8,SNR=5.1						
GERES	**GERESS Array B**	**140.02**	**332**	PKP	PKPdf	16 09 02.1	+2.8
	comp=Z,0.6nm,0.7s,baz=90,slow=1.3,SNR=5.4						
CDF	**Champ du Feu**	**143.07**	**336**	*e*PKP1	PKPbc	16 09 07.8	+5.2
TIP	**Timpagrande**	**144.44**	**317**	*e*PKPdf	PKPdf	16 09 08.3	+1.1
TIP				*ep*PKPdf		16 09 24.8	
CII	**Carovilli**	**144.50**	**322**	*e*PKPdf	PKPdf	16 09 08.4	+1.1
AQU	**L'Aquila**	**144.62**	**324**	*e*PKIKP	PKPdf	16 09 08.3	+0.8
CABF	**La Chapelle**	**145.01**	**336**	*e*PKP1	PKPbc	16 09 10.1	+1.8
FLN	**La Foliniere**	**145.29**	**344**	*e*PKP1	PKPbc	16 09 10.1	+1.2
FLN				*e*R			
	comp=Z,150nm,20.8s						
LOR	**Lormes**	**145.29**	**339**	*e*PKP1	PKPbc	16 09 10.6	+1.6
LOR				*e*R			
	comp=Z,184nm,21.2s						
LDF	**La Druitiere**	**145.35**	**344**	*e*PKP1	PKPbc	16 09 10.2	+1.1
	comp=Z,12nm,0.8s						
SSF	**Saint Saulge**	**145.59**	**339**	*e*PKP1	PKPbc	16 09 11.7	+2.0
	comp=Z,12nm,0.8s						
LPL	**La Plagne**	**145.63**	**334**	*e*PKP1	PKPbc	16 09 12.1	+2.2
LPG	**La Plagne**	**145.64**	**334**	*e*PKP1	PKPbc	16 09 12.4	+2.5
GRR	**Gorron**	**145.73**	**344**	*e*PKP1	PKPbc	16 09 11.8	+1.8
SMF	**Signal de Mont**	**145.83**	**338**	*e*PKP1	PKPbc	16 09 13.1	+2.8
AVF	**Avril sur Loir**	**145.88**	**339**	*e*PKP1	PKPbc	16 09 12.7	+2.2
BNI	**Bardonecchia**	**146.03**	**334**	*e*PKPdf	PKPdf	16 09 13.0	+3.2
BNI				*ep*PKPdf		16 09 29.2	
MBDF	**Montbardon**	**146.24**	**333**	*e*PKP1	PKPbc	16 09 14.2	+2.8
BGF	**Bois d'Agland**	**146.26**	**339**	*e*PKP1	PKPbc	16 09 13.6	+2.2
SGMF	**Saint Gilles**	**146.27**	**346**	*e*PKP1	PKPbc	16 09 13.3	+2.0
	comp=Z,8.8nm,0.6s						
ORIF	**Oris-en-Rattie**	**146.47**	**334**	*e*PKP1	PKPbc	16 09 14.4	+2.5
	comp=Z,11nm,0.8s						
ORIF				*e*R			
	comp=Z,177nm,22.2s						
SBF	**Sospel**	**146.62**	**331**	*e*PKP1	PKPbc	16 09 14.2	+1.9
TCF	**Toulx Ste Croi**	**146.71**	**339**	*e*PKP1	PKPbc	16 09 14.9	+2.5
PGF	**Pioggiola**	**146.85**	**328**	*e*PKP1	PKPbc	16 09 15.1	+2.2
	comp=Z,24nm,1.0s						
VIVF	**Saint-Julien-l**	**147.02**	**335**	*e*PKP1	PKPdf	16 09 15.7	+4.2
MFF	**Saint Martin d**	**147.17**	**342**	*e*PKP1	PKPdf	16 09 16.0	+4.3
FRF	**La Foret Royal**	**147.22**	**332**	*e*PKP1	PKPdf	16 09 16.9	+5.0
	comp=Z,9.3nm,0.9s						
SMRF	**Simiane la Rot**	**147.36**	**333**	*e*PKP1	PKPdf	16 09 16.9	+4.8
LMR	**La Mourre**	**147.46**	**332**	*e*PKP1	PKPdf	16 09 17.5	+5.2
	comp=Z,44nm,1.2s						
CAF	**Calviac**	**147.94**	**338**	*e*PKP1	PKPdf	16 09 19.3	+6.3
LASF	**Ste Croix**	**147.99**	**335**	*e*PKP1	PKPdf	16 09 18.5	+5.4
	comp=Z,13nm,0.8s						
LFF	**La Frestale**	**148.39**	**340**	*e*PKP1	PKPdf

RLS	Riolos of Patr	1.17	347	*e*PN	Pn	15 52 43.8	+1.0
KYTH	Kithira	1.18	122	*e*PB	Pb	15 52 43.5	-0.4
VLS	Valsamata	1.58	323	*e*PN	Pn	15 52 51.5	+2.8
VLS				*e*SN	Sn	15 53 11.0	+2.6
EVR	Evrytania	1.99	0	*e*PN	Pn	15 52 56.0	+1.4
EVR	Evrytania	1.99	0	*e*Pn	Pn	15 52 56.5	+1.9

IDC 30 16:13:51.9±1.4, 1.57S×135.61E, mb3.8/3, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=66.9km s-min=24.8km az=87.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.31	184	P	P	16 18 07.2	-1.9
0.2nm,0.3s,baz=4.7,slow=12,SNR=15							
ASAR	Alice Springs	22.03	184	P	P	16 18 48.0	-1.9
1.6nm,0.5s,baz=6.9,slow=12,SNR=24							
MKAR	Makanchi Array	67.01	323	P	P	16 24 46.5	-2.4
0.5nm,0.5s,baz=107,slow=8.4,SNR=9.0							
ILAR	Eielson Array	86.09	25	P	P	16 26 35.1	-0.5
0.6nm,0.7s,baz=253,slow=5.1,SNR=6.0							

IDC 30 16:17:11.6±51.0, 14.85S×173.52W, mb4.2/3, mb1 4.3/3, mb1mx3.8/15, mbtmp4.2/3, Error ellipse: s-maj=978.4km s-min=171.3km az=77.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.21	239	P	P	16 25 22.7	-1.7
2.3nm,0.8s,baz=80,slow=10,SNR=5.9							
WRA	Warramunga Arr	49.86	256	P	P	16 26 07.3	-1.7
0.6nm,0.5s,baz=92,slow=7.2,SNR=32							
ASAR	Alice Springs	50.17	251	P	P	16 26 08.9	-2.4
3.6nm,0.4s,baz=89,slow=7.6,SNR=153							

IDC 30 16:31:56.2±3.3, 1.20N×97.19E, mb3.5/3, mb1 3.7/4, mb1mx3.5/17, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=131.8km s-min=25.5km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.24	6	P	P	16 35 59.5	-0.6
0.0nm,0.3s,baz=197,slow=10,SNR=6.4							
WRA	Warramunga Arr	42.04	122	P	P	16 39 49.5	-2.0
0.3nm,0.5s,baz=302,slow=9.1,SNR=5.3							
ASAR	Alice Springs	43.40	127	P	P	16 40 01.1	-1.4
0.5nm,1.0s,baz=300,slow=7.5,SNR=4.9							
MKAR	Makanchi Array	47.24	346	P	P	16 40 30.7	-2.2
0.5nm,0.5s,baz=164,slow=8.6,SNR=9.3							

*IDC **30** 16:38:40.6±1.0, 4.63N×94.59E, mb4.0/10, mb1 4.1/11, mb1mx4.0/21, mbtmp4.0/11, ML4.2/1, MS3.0/1, Ms1 3.2/1, ms1mx2.9/20, Error ellipse: s-maj=50.7km s-min=17.7km az=50.0*

*NEIC **30** 16:38:44.8±0.6, 4.58N×94.54E, h30km, mb4.5/5, Error ellipse: s-maj=15.9km s-min=7.7km az=224.0*

ISC 30 16:38:43.2±0.7, 4.6N±0.1×94.6E±0.1, h30km, n26, σ0§97/27, mb4.2/18, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.04	83	*e*Pn	Pn	16 40 12.6	-0.4
KULM				*e*Sn	Sn	16 41 14.4	-7.4
CM31	Chiang Mai Arr	14.40	17	*e*P	P	16 42 11.1	+3.9
2.5nm,0.4s							
CMAR	Chiang Mai Arr	14.40	17	Pn	P	16 42 07.9	+0.6
0.4nm,0.3s,baz=208,slow=12,SNR=31							
CMAR				LR	LR	16 47 19.6	
comp=Z,62nm,20.0s,baz=7.2,slow=36							
KSM	Kuching	15.96	101	*e*P	P	16 42 29.9	+2.4
GUN	Gumba	24.63	341	*e*P	P	16 44 03.5	+0.9
5.1nm,0.4s,mb4.4							
KKN	Kakani	24.72	340	*e*P	P	16 44 03.9	+0.4
GKN	Gorkha	25.14	339	*e*P	P	16 44 07.5	+0.1
5.6nm,0.4s,mb4.5							
LSA	Lhasa	25.18	353	*e*P	P	16 44 06.8	-1.0
7.2nm,0.7s,mb4.3							
KOLN	Koldanda	25.32	337	*e*P	P	16 44 10.0	+0.8
14nm,0.7s,mb4.6							
ENH	Enshi	29.13	27	*e*P	P	16 44 40.9	-3.0
5.6nm,0.7s,mb4.4							
AAK	Ala-Archa	41.89	338	*e*P	P	16 46 33.8	+1.2
3.2nm,1.0s,mb3.9							
MKAR	Makanchi Array	43.37	348	P	P	16 46 44.1	-0.5
1.2nm,0.3s,mb4.0,baz=163,slow=8.0,SNR=33							
WRA	Warramunga Arr	46.02	123	P	P	16 47 06.2	0.0
1.8nm,0.6s,mb4.2,baz=302,slow=9.2,SNR=23							
WRAB	Tennant Creek	46.03	123	*e*P	P	16 47 06.3	0.0
8.5nm,0.9s,mb4.7							
ASAR	Alice Springs	47.49	128	P	P	16 47 18.3	+0.5
0.7nm,0.6s,mb3.8,baz=301,slow=7.8,SNR=16							
ZAL	Zalesovo	49.83	352	P	P	16 47 34.7	-0.8
1.8nm,0.6s,mb4.3,baz=306,slow=3.8,SNR=8.2							
ZAL	Zalesovo	49.83	352	P	P	16 47 34.7	-0.8
BVAR	Borovoye Array	52.23	342	P	P	16 47 53.0	-0.6
0.9nm,0.3s,mb4.1,baz=142,slow=9.4,SNR=17							
CHKZ	Chkalovo	52.72	342	*e*P	P	16 47 56.8	-0.6
7.2nm,0.6s,mb4.8							
STKA	Stephens Creek	57.53	133	P	P	16 48 31.1	-1.4
BRTR	Keskin Array B	64.94	312	P	P	16 49 22.6	0.0
1.0nm,0.7s,mb4.0,baz=131,slow=6.6,SNR=6.9							
AKASG	Malin Array Be	71.01	322	P	P	16 49 59.2	-1.0
0.4nm,0.4s,mb3.7,baz=86,slow=5.4,SNR=5.7							
AKASG	Malin Array Be	71.01	322	P	P	16 49 59.2	-1.0
FINES	FINESS Array B	75.81	333	P	P	16 50 27.8	-0.3
0.9nm,0.6s,mb3.9,baz=81,slow=4.3,SNR=8.5							
ARCES	ARCESS Array B	78.49	340	P	P	16 50 43.1	+0.3
2.0nm,0.9s,mb4.0,baz=99,slow=6.3,SNR=12							
GERES	GERESS Array B	80.58	319	P	P	16 50 56.1	+1.7
0.7nm,0.7s,mb3.7,baz=53,slow=6.7,SNR=10							

*IDC **30** 16:49:07.0±0.7, 35.15N×141.23E, mb3.9/9, mb1 4.1/12, mb1mx3.9/25, mbtmp3.9/12, ML3.8/3, Error ellipse: s-maj=21.7km s-min=15.1km az=81.0*

*JMA **30** 16:49:09.5±0.1, 35.27N×141.29E, h32km±2km, M3.4*

*NEIC **30** 16:49:13.6±1.7, 35.11N×141.06E, h46km±15km, mb4.6/4, Error ellipse: s-maj=19.0km s-min=10.0km az=82.0*

ISC 30 16:49:08.3±1.0, 35.20N±0.03×141.40E±0.07, h27km±6km, n29, σ1§09/39, mb4.0/12, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.64	213	P	Pb	16 49 22.3	+1.4
BSO1				*e*S	Sb	16 49 30.5	+1.0
CHOJ	Chosi	0.67	319	P	Pb	16 49 20.7	-0.7
CHOJ				*e*S	Sb	16 49 29.6	-0.7
BSO3	Boso 3	0.83	242	P	Pb	16 49 24.3	+0.3
BSO3				*e*S	Sb	16 49 36.5	+1.7
KTR	Katsuura	0.89	267	P	Pb	16 49 24.4	-0.6
KTR				*e*S	Sb	16 49 34.8	-1.7
BSO4	Boso 4	0.89	257	P	Pb	16 49 25.1	0.0
BSO4				*e*S	Sb	16 49 36.8	+0.2
JCN	Nagara	1.00	283	P	Pn	16 49 26.7	-0.1
JYT	Yasato	1.42	317	P	Pn	16 49 31.3	-1.5
JHO	Hitachi	1.56	335	P	Pn	16 49 35.2	+0.4
JIM2	Oshima 3	1.68	254	P	Pn	16 49 35.0	-1.5
JHJ	Hachijo jima 2	2.47	213	Pn	Pn	16 49 47.4	-0.4
39nm,0.3s,baz=68,slow=12,SNR=23							
JHJ				Sn	Sn	16 50 17.2	0.0
81nm,0.3s,baz=63,slow=23,SNR=8.4							
MJAR	Matsushiro Arr	2.92	298	Pn	Pn	16 49 53.9	-0.2
3.4nm,0.3s,baz=328,slow=31,SNR=39							
MJAR				Sn	Sn	16 50 29.9	+1.1
4.4nm,0.3s,baz=92,slow=8.9,SNR=5.5							
MAJO	Matsushiro	2.92	298	*e*Pn	Pn	16 49 55.5	+1.3
MAT	Matsushiro	2.92	298	*e*P	Pn	16 49 55.0	+0.8
MAT				S	Sn	16 50 30.0	+1.2
MAT	Matsushiro	2.92	298	P	Pn	16 49 55.2	+1.0
MAT				*e*S	Sn	16 50 28.0	-0.8
CBIJ	Chichi jima	8.10	175	Pn	P	16 51 05.5	-1.8
9.7nm,0.3s,baz=286,slow=19,SNR=7.6							
CBIJ				Sn	Sn	16 52 31.6	-7.3
3.5nm,0.3s,baz=297,slow=21,SNR=2.9							
ASAJ	Asahikawa	8.96	6	Pn	P	16 51 15.2	-3.9
0.9nm,0.3s,baz=168,slow=19,SNR=6.6							

ZAL	Zalesovo	43.17	314	P	P	16 57 08.2	0.0
0.8nm,0.3s,mb3.9,baz=142,slow=3.5,SNR=3.6							
MKAR	Makanchi Array	45.10	304	P	P	16 57 23.8	-0.1
0.8nm,0.7s,mb3.7,baz=88,slow=10.0,SNR=11							
CHKZ	Chkalovo	51.57	314	P	P	16 58 14.3	+0.3
0.8nm,0.7s,mb3.8							
CTA	Charters Tower	55.17	174	P	P	16 58 41.9	+0.7
1.6nm,0.3s,mb4.5,baz=302,slow=21,SNR=10							
CTAO	Charters Tower	55.17	174	*e*P	P	16 58 42.1	+1.0
3.3nm,0.6s,mb4.5							
WRAB	Tennant Creek	55.23	188	*e*P	P	16 58 40.3	-1.3
12nm,1.1s,mb4.9							
WRA	Warramunga Arr	55.24	188	P	P	16 58 40.6	-1.1
2.0nm,0.5s,mb4.4,baz=4.6,slow=7.7,SNR=62							
ASAR	Alice Springs	58.97	188	P	P	16 59 07.7	-0.3
0.6nm,0.6s,mb3.8,baz=356,slow=5.8,SNR=17							
MBWA	Marble Bar	59.70	204	*e*P	P	16 59 11.6	-1.5
4.8nm,0.8s,mb4.6							
FINES	FINESS Array B	70.43	333	P	P	17 00 21.9	+0.2
0.6nm,0.8s,mb3.5,baz=63,slow=4.3,SNR=4.7							
NVAR	Mina Array Bea	76.11	53	P	P	17 00 57.9	+2.5
0.4nm,0.6s,mb3.5,baz=314,slow=4.2,SNR=5.8							
PDAR	Pinedale Array	78.97	45	P	P	17 01 13.4	+2.3
0.4nm,0.5s,mb3.6,baz=227,slow=1.0,SNR=3.9							
TXAR	Lajitas Array	91.25	52	P	P	17 02 16.5	+3.7
0.2nm,0.3s,mb3.9,baz=270,slow=3.8,SNR=3.5							

IDC 30 16:52:18.9±2.3, 1.48N×97.60E, mb3.9/4, mb1 4.0/5, mb1mx3.6/19, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=103.3km s-min=25.4km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.92	4	Pn	P	16 56 16.6	-2.3
0.1nm,0.3s,baz=202,slow=11,SNR=8.6							
WRA	Warramunga Arr	41.84	122	P	P	17 00 11.0	-1.7
0.5nm,0.3s,baz=98,slow=8.5,SNR=11							
MKAR	Makanchi Array	47.07	346	P	P	17 00 52.4	-1.9
0.8nm,0.5s,baz=161,slow=8.8,SNR=17							
ZAL	Zalesovo	53.34	351	P	P	17 01 40.1	-2.0
3.5nm,0.5s,baz=316,slow=2.8,SNR=13							
FINES	FINESS Array B	79.94	332	P	P	17 04 29.4	-1.8
2.0nm,1.1s,baz=90,slow=8.3,SNR=4.9							

IDC 30 17:06:52.1±1.5, 28.46N×105.56E, mb3.3/3, mb1 3.4/4, mb1mx3.3/20, mbtmp3.2/4, ML3.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.5/8, Error ellipse: s-maj=60.6km s-min=26.9km az=57.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.66	213	Pn	P	17 09 39.3	-3.6
0.0nm,0.3s,baz=32,slow=11,SNR=4.5							
JOW	Kunigami	20.19	89	LR	LR	17 19 22.4	
comp=Z,104nm,18.8s,baz=236,slow=37							
MKAR	Makanchi Array	25.81	321	P	P	17 12 24.9	-1.6
0.6nm,0.8s,baz=135,slow=10,SNR=6.7							
WRA	Warramunga Arr	55.58	147	P	P	17 16 30.0	-2.0
0.5nm,0.9s,baz=336,slow=8.3,SNR=6.4							
ASAR	Alice Springs	58.58	149	P	P	17 16 50.5	-2.7
0.2nm,0.7s,baz=334,slow=6.9,SNR=4.5							

MOS 30 17:38:07.3±2.6, 51.07N×98.36E, h9km, mb4.3/1, 1C, Error ellipse: s-maj=18.8km s-min=12.4km az=142.6, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	Orlik	1.73	31	*e*PN	Pn	17 38 37.8	+0.1
ORL				*e*		17 39 00.7	
ORL				pmax	pmax		
comp=Z,83nm,0.4s							
ORL				smax			
comp=E,760nm,0.9s							
MOY	Mondy	1.75	69	⇑*i*PN	Pn	17 38 39.1	+0.9
MOY				*e*		17 39 02.9	
MOY				pmax	pmax		
comp=Z,92nm,0.7s							
MOY				smax			
comp=E,740nm,1.2s							
ARS	Arshan	2.68	70	*e*PN	Pn	17 38 52.6	+1.2
ARS				*e*		17 38 56.4	
ARS				*e*		17 39 31.8	
ARS				pmax	pmax		
comp=Z,51nm,0.3s							
ARS				smax			
comp=E,563nm,0.5s							
ZAK	Zakamensk	3.20	101	*e*PN	Pn	17 38 59.1	+0.3
ZAK				*e*		17 39 04.3	
ZAK				*e*		17 39 47.2	
ZAK				pmax	pmax		
comp=Z,42nm,0.6s							
ZAK				smax			
comp=N,171nm,1.0s							
TLY	Talaya	3.37	77	*e*PN	Pn	17 39 06.8	+5.6
TLY				*e*		17 39 52.3	
TLY				pmax	pmax		
comp=Z,30nm,0.5s							
TLY				smax			
comp=N,149nm,1.7s							
IRK	Irkutsk	3.86	70	*e*PN	Pn	17 39 16.2	+8.0
IRK				*e*		17 40 06.8	
IRK				pmax	pmax		
comp=Z,57nm,1.1s							
IRK				smax			
comp=N,549nm,0.9s							
LSTR	Listvyanka	4.12	76	*e*PN	Pn	17 39 20.5	+8.5
LSTR				*e*		17 40 13.9	
LSTR				pmax	pmax		
comp=Z,15nm,0.7s							
LSTR				smax			
comp=N,86nm,1.4s							
TRG	Tyrgan	5.23	68	*e*PN	Pn	17 39 39.4	+12
TRG				*e*		17 40 48.0	
TRG				pmax	pmax		
comp=Z,14nm,0.9s							
TRG				smax			
comp=N,124nm,0.9s							
OGRR	Ongureny	6.22	62	*e*PN	Pn	17 39 58.4	+17
OGRR				*e*		17 41 17.3	
OGRR				pmax	pmax		
comp=Z,14nm,1.1s							
OGRR				smax			
comp=N,93nm,1.2s							
NIZ	Nizh Angarsk	8.17	50	*e*P	P	17 40 09.4	+0.5
NIZ				*e*S	Sn	17 41 35.8	-6.6
NIZ				pmax	pmax		
comp=Z,4.0nm,0.6s							
NIZ				smax			
comp=N,73nm,0.6s							
YLYR	Ulyunkhan	8.61	59	*e*P	P	17 40 15.1	0.0

*BJI **30** 17:43:09.6, 24.00N×121.70E, h10km, mB4.5, mb4.4, ML4.5, Ms4.0, Msz3.6*

*IDC **30** 17:43:09.2±0.9, 23.94N×121.84E, mb3.5/7, mb1 3.8/8, mb1mx3.6/21, mbtmp3.6/8, ML3.5/1, MS3.1/4, Ms1 3.2/4, ms1mx2.8/20, Error ellipse: s-maj=28.9km s-min=20.0km az=63.0*

*NEIC **30** 17:43:10.6±0.6, 24.00N×121.74E, h10km, mb3.9/2, ML4.4(TAP), Error ellipse: s-maj=11.2km s-min=8.1km az=61.0*

NEIC Recorded [4 TAP] in Hua-lien; [2 TAP] in I-lan and Nan-t'ou; [1 TAP] in T'ai-chung Counties.

*JMA **30** 17:43:10.3±0.3, 23.89N×121.60E, h15km, M3.4*

*TAP **30** 17:43:11.6, 24.01N×121.63E, h5km, ML4.3*

TAP Felt III J at Chiawan, III J at Shilin, II J at Hehuanshan, II J at Nanau, I J at Nanshan, I J at Tachien, I J at Nioudou.

ISC 30 17:43:10.6±0.3, 24.00N±0.01×121.69E±0.02, h2km±2km, n92, σ0§99/155, mb3.6/10, MS3.1/3, 13C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.08	254	⇓*i*P	Pg	17 43 13.3	+1.0
TWD	Chiawan	0.12	313	⇑*i*P	Pg	17 43 13.4	+0.4
TWD				S	Sg	17 43 15.1	+0.5
NACB	Ninganchiao	0.19	333	*e*Pg	Pg	17 43 13.9	-0.6
NACB				*e*Sg	Sg	17 43 16.6	-0.5
ESF	Shoufeng Towns	0.21	233	*i*P	Pg	17 43 15.1	+0.2
ESF				S	Sg	17 43 17.9	+0.2

ESL	Shilin	0.30	232	⇑*i*P	Pg	17 43 16.3	-0.3
ESL				S	Sg	17 43 20.2	-0.4
EHP	Heping Village	0.31	9	*e*P	Pg	17 43 17.6	+0.8
EHP				S	Sg	17 43 22.4	+1.3
TEGC	Jichi Village	0.32	205	*e*P	Pg	17 43 18.5	+1.5
TEGC				S	Sg	17 43 24.2	+2.9
WHF	Hehuan Shan	0.41	291	⇑*i*P	Pg	17 43 18.3	-0.6
WHF				S	Sg	17 43 23.3	-1.1
ENA	Nanau	0.43	6	⇑*i*P	Pg	17 43 19.6	+0.4
ENA				S	Sg	17 43 25.8	+0.9
NNS	Nan Shan	0.53	327	⇑*i*P	Pg	17 43 20.9	-0.2
NNS				S	Sg	17 43 27.8	-0.3
TWT	Tachien	0.53	298	⇑*i*P	Pg	17 43 21.1	-0.1
TWT				S	Sg	17 43 28.2	-0.2
EHY	Hungye	0.59	215	⇓P	Pg	17 43 22.2	-0.3
EHY				S	Sg	17 43 30.8	+0.3
TWC	Suao	0.62	13	⇑*i*P	Pg	17 43 23.5	+0.4
TWC				S	Sg	17 43 32.1	+0.7
ENTT	Nioudou	0.65	350	⇑*i*P	Pg	17 43 23.7	+0.1
ENTT				S	Sg	17 43 32.6	+0.4
TWE	Neicheng	0.72	358	⇑*i*P	Pg	17 43 25.2	+0.2
TWE				S	Sg	17 43 35.4	+0.8
YHNB	Yeheng	0.73	337	*e*Pg	Pg	17 43 24.4	-0.8
YHNB				*e*Sg	Sg	17 43 33.0	-1.8
SMLT	Sun Moon Lake	0.73	261	⇑*i*P	Pg	17 43 24.7	-0.6
SMLT				S	Sg	17 43 34.4	-0.6
TWF1	Yuli	0.74	209	*e*P	Pg	17 43 24.6	-0.8
TWF1				S	Sg	17 43 35.9	+0.7
NSK	Sanguang	0.74	336	⇑*i*P	Pg	17 43 25.1	-0.3
NSK				S	Sg	17 43 34.8	-0.4
ILA	Ilan	0.77	4	*e*P	Pg	17 43 26.4	+0.5
ILA				S	Sg	17 43 36.9	+0.8
TYC	Yuchr	0.77	263	⇑P	Pg	17 43 25.1	-0.9
TYC				S	Sg	17 43 34.6	-1.6
YUS	Yu-Shan	0.84	233	P	Pg	17 43 27.0	-0.5
YUS				S	Sg	17 43 38.8	0.0
NSTT	Nanjuang	0.89	315	*e*P	Pg	17 43 28.2	-0.2
NSTT				S	Sg	17 43 39.6	-0.6
TWQ1	Liyutan	0.91	293	*e*P	Pb	17 43 28.6	-0.1
TWQ1				S	Sg	17 43 40.7	-0.1
WNT	Mingjian	0.93	263	*e*P	Pb	17 43 29.5	+0.4
WNT				S	Sg	17 43 41.5	-0.1
TCU	Taichung	0.94	279	*e*P	Pb	17 43 29.9	+0.7
TCU				S	Sg	17 43 42.6	+0.7
CHKT	Chengkung	0.94	198	*e*P	Pb	17 43 28.6	-0.7
CHKT				S	Sg	17 43 43.4	+1.3
NSY	Sanyi	0.94	296	*e*P	Pb	17 43 29.6	+0.2
NSY				S	Sg	17 43 41.9	-0.2
ALS	Alishan	0.94	239	*e*P	Pb	17 43 29.0	-0.4
ALS				S	Sg	17 43 41.7	-0.4
TWA	Mucha	0.98	354	P	Pb	17 43 30.5	+0.5
TWA				S	Sb	17 43 43.4	+0.2
TATO	Taipei	0.99	349	*e*Pg	Pg	17 43 30.1	-0.3
TATO				*e*Sg	Sg	17 43 41.5	-2.0
CHN5	Tsauling	1.01	247	*e*P	Pb	17 43 30.9	+0.4
CHN5				S	Sb	17 43 44.5	+0.5
ELDTW	Lidau	1.01	218	*e*P	Pb	17 43 29.1	-1.5
ELDTW				S	Sb	17 43 44.1	-0.1
HSN	Hsinchu	1.03	321	*e*P	Pb	17 43 31.5	+0.6
HSN				S	Sb	17 43 45.5	+0.7
TWB1	Santiao Chiao	1.04	15	P	Pb	17 43 31.6	+0.6
TWB1				S	Sb	17 43 44.9	-0.1
TAP1	Taipei	1.05	352	*e*P	Pb	17 43 31.7	+0.6
TAP1				S	Sb	17 43 45.1	0.0
TAP	Taipei	1.05	351	*e*P	Pb	17 43 31.4	+0.3
TAP				S	Sb	17 43 45.1	-0.1
NCU	National Centr	1.07	335	*e*P	Pb	17 43 32.2	+0.6
NCU				S	Sb	17 43 47.2	+1.5
NWF	Wu-fen Shan	1.07	4	*e*P	Pb	17 43 32.0	+0.5
NWF				S	Sb	17 43 46.0	+0.2
WGK	Gukeng	1.08	253	*e*P	Pb	17 43 32.0	+0.4
WGK				S	Sb	17 43 46.7	+0.6
TWS1	Kuangyinshan	1.12	347	*e*P	Pb	17 43 33.1	+0.7
TWS1				S	Sb	17 43 49.0	+1.6
STYT	Tauyuan	1.19	226	*e*P	Pb	17 43 33.4	-0.2
STYT				S	Sb	17 43 49.5	+0.1
CHN4	Tsaushan	1.20	238	*e*P	Pb	17 43 33.9	+0.3
CHN4				S	Sb	17 43 51.0	+1.5
CHN2	Minshiung	1.21	248	*e*P	Pb	17 43 34.5	+0.7
CHN2				S	Sb	17 43 51.0	+1.3
WTP	Ta-pu	1.24	233	*e*P	Pb	17 43 34.4	0.0
WTP				S	Sb	17 43 50.8	+0.1
CHY	Chiayi	1.26	247	*e*P	Pb	17 43 34.8	0.0
CHY				S	Sb	17 43 51.0	-0.4
TWY	Chenhua	1.27	356	*e*P	Pb	17 43 35.4	+0.4
TWY				S	Sb	17 43 53.7	+2.0
YOJ	Yonaguni jima	1.29	69	P	Pb	17 43 35.5	+0.2
YOJ				S	Sb	17 43 54.1	+1.9
WTCT	Ta-ch'eng	1.30	264	*e*P	Pb	17 43 35.1	-0.3
WTCT				S	Sb	17 43 52.7	+0.3
TWG	Pinlang	1.30	206	*e*P	Pb	17 43 33.1	-2.4
TWK	Hsinying	1.32	237	*e*P	Pb	17 43 36.0	+0.2
TWK				S	Sb	17 43 53.2	+0.1
CHN1	Nanshi	1.34	233	*e*P	Pb	17 43 36.0	-0.1
CHN1				S	Sb	17 43 54.6	+1.0
SGST	Jiashian	1.37	228	⇑P	Pb	17 43 36.9	+0.3
SGST				S	Sb	17 43 55.3	+0.9
WSF	Szhu	1.39	255	*e*P	Pb	17 43 37.4	+0.4
WSF				S	Sb	17 43 56.1	+1.0
CHN8	Yiju	1.50	245	*e*P	Pn	17 43 38.9	+0.1
CHN8				S	Sb	17 43 58.2	-0.1
ECL	Taimali	1.55	206	*e*P	Pn	17 43 36.4	-2.9
SSD	Sandimen	1.58	218	*e*P	Pn	17 43 39.0	-0.9
SSD				S	Sb	17 44 00.4	-0.2
SCLT	Jiali	1.60	239	*e*P	Pn	17 43 40.6	+0.6
SCLT				S	Sb	17 44 03.2	+2.0
TWM1	Shoushan	1.65	225	*e*P	Pn	17 43 42.4	+1.5
PCYT	Pengchaiyu	1.66	12	*e*P	Pn	17 43 40.3	-0.6
SGLT	Jiouru	1.68	221	*e*P	Pn	17 43 42.2	+1.0
EAST	Anshuo	1.79	206	*e*P	Pn	17 43 40.3	-2.4
EAST				S	Sn	17 44 09.5	+3.2
TAW	Tawu	1.79	204	*e*P	Pn	17 43 42.5	-0.3
IRIF	Iriomote-Funau	1.89	79	P	Pn	17 43 44.4	+0.1
IRIF				S	Sn	17 44 09.3	+0.3
SCZT	Fangliau	1.90	212	*e*P	Pn	17 43 43.8	-0.5
HATJ	Hateruma jima	1.94	88	P	Pn	17 43 44.6	-0.3
HATJ				*e*S	Sn	17 44 09.9	-0.2
PNG	Penghu	2.00	258	*e*P	Pn	17 43 44.1	-1.8
PNG				S	Sn	17 44 08.3	-3.5
WDGT	Dung

comp=Z,1.7nm,0.7s,mb3.6
CMAR Chiang Mai Arr 21.90 260 P **P** 17 48 05.9 -1.1
comp=Z,0.4nm,0.7s,mb3.0,baz=54,slow=7.8,SNR=3.9
CMAR LR LR 17 57 51.8
comp=Z,46nm,18.3s,MS2.9,baz=110,slow=40
GTA Gaotai 24.04 315 P **P** 17 48 30.8 +2.9
GTA AP 17 48 37.5
GTA XP 17 48 40.0
GTA AMB AMB
comp=Z,3.0nm,1.6s,mb3.5
ASAJ Asahikawa 26.37 35 LR LR 18 00 30.0
comp=Z,45nm,19.8s,MS3.0,baz=216,slow=40
MKAR Makanchi Array 38.79 316 P **P** 17 50 35.9 -2.5
comp=Z,0.6nm,0.6s,mb3.5,baz=101,slow=9.5,SNR=6.6
ZAL Zalesovo 40.66 327 P **P** 17 50 52.6 -1.1
comp=Z,0.6nm,0.3s,mb3.8,baz=346,slow=7.8,SNR=2.7
WRA Warramunga Arr 45.38 163 P **P** 17 51 28.0 -4.6
comp=Z,0.7nm,0.6s,mb3.7,baz=345,slow=8.8,SNR=11
CHKZ Chkalovo 48.17 322 P **P** 17 51 50.9 -3.2
comp=Z,1.5nm,0.7s,mb4.1
ASAR Alice Springs 48.84 165 P **P** 17 51 56.5 -3.2
comp=Z,0.7nm,0.8s,mb3.7,baz=342,slow=6.9,SNR=7.3
FINES FINESS Array B 71.84 330 P **P** 17 54 34.1 -2.4
comp=Z,0.6nm,0.8s,mb3.6,baz=18,slow=6.0,SNR=4.7
NOA NORSAR Array B 78.60 332 LR LR 18 32 19.4
comp=Z,14nm,18.6s,MS3.3,baz=120,slow=38
YKA Yellowknife Ar 82.96 23 P **P** 17 55 35.5 -2.6
comp=Z,0.4nm,0.6s,mb3.6,baz=318,slow=4.8,SNR=5.6
YKA Yellowknife Ar 82.96 23 P **P** 17 55 35.5 -2.6

*JMA **30** 17:50:20.9±0.3,24.07N×121.49E,h79km*
*TAP **30** 17:50:21.1,24.03N×121.60E,h10km,ML3.6*
TAP Felt II J at Hualien, II J at Chiawan, I J at Shilin, I J at Hehuanshan, I J at Nanau.
ISC 30 17:50:20.9±0.4,24.00N±0.01×121.69E±0.02,h2km±3km, n64,σ0°87/108,9C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.08**	**253**	⇓*i*P	**Pg**	**17 50 23.7**	**+1.1**
HWA				S	**Sg**	**17 50 25.4**	**+1.7**
TWD	**Chiawan**	**0.12**	**312**	⇑*i*P	**Pg**	**17 50 23.9**	**+0.6**
TWD				S	**Sg**	**17 50 25.4**	**+0.5**
ESF	**Shoufeng Towns**	**0.21**	**233**	*e*P	**Pg**	**17 50 25.3**	**+0.2**
ESL	**Shilin**	**0.30**	**232**	⇑*i*P	**Pg**	**17 50 26.7**	**-0.2**
ESL				S	**Sg**	**17 50 30.7**	**-0.2**
TEGC	**Jichi Village**	**0.32**	**206**	*e*P	**Pg**	**17 50 28.7**	**+1.4**
WHF	**Hehuan Shan**	**0.42**	**290**	⇑*i*P	**Pg**	**17 50 28.6**	**-0.5**
WHF				S	**Sg**	**17 50 33.6**	**-1.1**
ENA	**Nanau**	**0.43**	**6**	⇑*i*P	**Pg**	**17 50 30.0**	**+0.5**
ENA				S	**Sg**	**17 50 35.4**	**+0.3**
NNS	**Nan Shan**	**0.53**	**326**	⇑*i*P	**Pg**	**17 50 31.2**	**-0.2**
NNS				S	**Sg**	**17 50 37.6**	**-0.8**
TWT	**Tachien**	**0.53**	**298**	⇑*i*P	**Pg**	**17 50 31.4**	**-0.1**
TWT				S	**Sg**	**17 50 38.5**	**-0.2**
EHY	**Hungye**	**0.60**	**215**	*e*P	**Pg**	**17 50 32.5**	**-0.3**
EHY				S	**Sg**	**17 50 41.7**	**+0.9**
TWC	**Suao**	**0.62**	**13**	P	**Pg**	**17 50 33.7**	**+0.4**
TWC				S	**Sg**	**17 50 42.4**	**+0.8**
ENTT	**Nioudou**	**0.65**	**350**	⇑*i*P	**Pg**	**17 50 33.9**	**+0.1**
ENTT				S	**Sg**	**17 50 42.3**	**-0.1**
TWE	**Neicheng**	**0.72**	**358**	⇑*i*P	**Pg**	**17 50 35.5**	**+0.3**
TWE				S	**Sg**	**17 50 44.7**	**-0.1**
SMLT	**Sun Moon Lake**	**0.73**	**261**	*e*P	**Pg**	**17 50 35.0**	**-0.5**
SMLT				S	**Sg**	**17 50 44.6**	**-0.8**
NSK	**Sanguang**	**0.74**	**336**	⇑*i*P	**Pg**	**17 50 35.4**	**-0.2**
NSK				S	**Sg**	**17 50 44.3**	**-1.2**
TWF1	**Yuli**	**0.74**	**209**	*e*P	**Pg**	**17 50 34.6**	**-1.1**
ILA	**Ilan**	**0.76**	**4**	*e*P	**Pg**	**17 50 36.0**	**-0.1**
ILA				S	**Sg**	**17 50 47.2**	**+1.0**
TYC	**Yuchr**	**0.77**	**263**	*e*P	**Pg**	**17 50 35.3**	**-0.9**
TYC				S	**Sg**	**17 50 44.4**	**-2.1**
YUS	**Yu-Shan**	**0.85**	**233**	*e*P	**Pg**	**17 50 37.3**	**-0.5**
YUS				S	**Sg**	**17 50 49.0**	**-0.1**
NSTT	**Nanjuang**	**0.89**	**315**	P	**Pg**	**17 50 38.3**	**-0.3**
NSTT				S	**Sg**	**17 50 48.6**	**-1.9**
TWQ1	**Liyutan**	**0.91**	**293**	*e*P	**Pg**	**17 50 39.2**	**+0.2**
TWQ1				S	**Sg**	**17 50 51.2**	**+0.1**
WNT	**Mingjian**	**0.93**	**263**	*e*P	**Pb**	**17 50 39.5**	**+0.1**
WNT				S	**Sg**	**17 50 51.5**	**-0.3**
TCU	**Taichung**	**0.94**	**279**	*e*P	**Pb**	**17 50 40.1**	**+0.6**
TCU				S	**Sg**	**17 50 53.4**	**+1.2**
NSY	**Sanyi**	**0.94**	**296**	*e*P	**Pb**	**17 50 40.0**	**+0.4**
NSY				S	**Sg**	**17 50 52.8**	**+0.5**
CHKT	**Chengkung**	**0.95**	**199**	*e*P	**Pb**	**17 50 39.0**	**-0.7**
CHKT				S	**Sg**	**17 50 53.7**	**+1.4**
ALS	**Alishan**	**0.95**	**239**	*e*P	**Pb**	**17 50 39.2**	**-0.5**
TWA	**Mucha**	**0.98**	**354**	*e*P	**Pb**	**17 50 40.3**	**+0.1**
TWA				S	**Sb**	**17 50 52.6**	**-0.8**
CHN5	**Tsauling**	**1.01**	**247**	P	**Pb**	**17 50 41.0**	**+0.2**
CHN5				S	**Sb**	**17 50 55.2**	**+0.9**
ELDTW	**Lidau**	**1.02**	**218**	*e*P	**Pb**	**17 50 40.2**	**-0.7**
HSN	**Hsinchu**	**1.03**	**321**	*e*P	**Pb**	**17 50 41.5**	**+0.3**
TWB1	**Santiao Chiao**	**1.04**	**15**	*e*P	**Pb**	**17 50 41.4**	**+0.2**
TAP1	**Taipei**	**1.04**	**352**	*e*P	**Pb**	**17 50 41.5**	**+0.2**
TAP1				S	**Sb**	**17 50 55.5**	**+0.2**
TAP	**Taipei**	**1.05**	**351**	*e*P	**Pb**	**17 50 41.6**	**+0.2**
TAP				S	**Sb**	**17 50 55.2**	**-0.2**
NWF	**Wu-fen Shan**	**1.07**	**4**	*e*P	**Pb**	**17 50 42.1**	**+0.3**
NWF				S	**Sb**	**17 50 55.9**	**-0.1**
NCU	**National Centr**	**1.07**	**335**	*e*P	**Pb**	**17 50 41.5**	**-0.3**
NCU				S	**Sb**	**17 50 58.8**	**+2.8**
WGK	**Gukeng**	**1.08**	**253**	*e*P	**Pb**	**17 50 41.4**	**-0.5**
TWS1	**Kuangyinshan**	**1.12**	**347**	*e*P	**Pb**	**17 50 43.1**	**+0.5**
TWS1				S	**Sb**	**17 50 59.8**	**+2.3**
STYT	**Tauyuan**	**1.20**	**226**	*e*P	**Pb**	**17 50 43.3**	**-0.7**
STYT				S	**Sb**	**17 51 00.4**	**+0.7**
CHN4	**Tsaushan**	**1.20**	**238**	*e*P	**Pb**	**17 50 44.1**	**+0.2**
CHN4				S	**Sb**	**17 51 01.8**	**+2.1**
CHN2	**Minshiung**	**1.21**	**248**	*e*P	**Pb**	**17 50 44.9**	**+0.8**
WTP	**Ta-pu**	**1.24**	**233**	*e*P	**Pb**	**17 50 44.2**	**-0.5**
WTP				S	**Sb**	**17 51 01.4**	**+0.4**
CHY	**Chiayi**	**1.27**	**247**	*e*P	**Pb**	**17 50 44.5**	**-0.6**
CHY				S	**Sb**	**17 51 02.1**	**+0.4**
TWY	**Chenhua**	**1.27**	**356**	*e*P	**Pb**	**17 50 45.8**	**+0.6**
YOJ	**Yonaguni jima**	**1.29**	**69**	P	**Pb**	**17 50 45.7**	**+0.2**
YOJ				S	**Sb**	**17 51 04.1**	**+1.7**
WTCT	**Ta-ch'eng**	**1.30**	**264**	*e*P	**Pb**	**17 50 45.4**	**-0.3**
WTCT				S	**Sb**	**17 51 02.5**	**-0.2**
TWG	**Pinlang**	**1.31**	**206**	*e*P	**Pb**	**17 50 42.8**	**-3.0**
TWK	**Hsinying**	**1.32**	**237**	*e*P	**Pb**	**17 50 45.9**	**-0.2**
TWK				S	**Sb**	**17 51 04.1**	**+0.7**
CHN1	**Nanshi**	**1.34**	**233**	*e*P	**Pb**	**17 50 46.5**	**+0.1**
CHN1				S	**Sb**	**17 51 04.5**	**+0.6**
SGST	**Jiashian**	**1.37**	**228**	*e*P	**Pb**	**17 50 46.7**	**-0.2**
SGST				S	**Sb**	**17 51 05.7**	**+1.0**
CHN8	**Yiju**	**1.51**	**245**	*e*P	**Pn**	**17 50 47.8**	**-1.1**
ECL	**Taimali**	**1.55**	**206**	*e*P	**Pn**	**17 50 47.2**	**-2.5**
SSD	**Sandimen**	**1.58**	**218**	*e*P	**Pn**	**17 50 48.7**	**-1.4**
SSD				S	**Sb**	**17 51 13.0**	**+2.0**
SCLT	**Jiali**	**1.60**	**239**	*e*P	**Pn**	**17 50 50.1**	**-0.2**
TWM1	**Shoushan**	**1.65**	**225**	*e*P	**Pn**	**17 50 52.0**	**+1.0**
SGLT	**Jiouru**	**1.68**	**221**	*e*P	**Pn**	**17 50 53.0**	**+1.5**
EAST	**Anshuo**	**1.79**	**206**	*e*P	**Pn**	**17 50 51.7**	**-1.4**
IRIF	**Iriomote-Funau**	**1.89**	**79**	P	**Pn**	**17 50 53.9**	**-0.6**
IRIF				*e*S	**Sn**	**17 51 18.9**	**-0.3**
SCZT	**Fangliau**	**1.90**	**212**	*e*P	**Pn**	**17 50 55.6**	**+1.0**
HATJ	**Hateruma jima**	**1.93**	**88**	*e*S	**Sn**	**17 51 20.0**	**-0.3**
WDGT	**Dungji**	**2.00**	**249**	*e*P	**Pn**	**17 50 55.0**	**-1.1**
WDGT				S	**Sn**	**17 51 21.7**	**-0.4**
PNG	**Penghu**	**2.00**	**258**	*e*P	**Pn**	**17 50 54.8**	**-1.4**
PNG				S	**Sn**	**17 51 20.3**	**-1.8**
JKRS	**Kuro-shima**	**2.13**	**83**	P	**Pn**	**17 50 57.9**	**0.0**
JKRS				*e*S	**Sn**	**17 51 25.7**	**+0.4**
JIJ	**Ishigaki jima**	**2.27**	**80**	P	**Pn**	**17 50 58.9**	**-1.0**
JIJ				*e*S	**Sn**	**17 51 27.7**	**-1.1**
JTJ	**Tarama**	**2.82**	**76**	*e*S	**Sn**	**17 51 42.2**	**-0.6**

*NEIC **30** 17:52:46.6,31.09S×67.61W,h150km,MD3.7(GUC),After GUC.*
GUC 30 17:52:46.6±0.9,31.09S×67.61W,h150km,MD3.7,ML4.2, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**2.90**	**288**	*i*P	P	17 53 34.1	+0.7
TLL				*i*S	S	17 54 09.6	+0.5
TLL				AMP		17 54 15.9	
	comp=N,474nm,0.9s						
JACH	**Jahuel**	**2.99**	**237**	*e*P	P	17 53 33.8	-0.7
FCH	**Farellones**	**3.18**	**225**	*e*P	P	17 53 35.5	-1.5
FCH				*i*S	S	17 54 13.5	-2.1
FCH				AMP		17 54 16.4	
	comp=E,294nm,0.4s						
CLCH	**Cerro Calan**	**3.38**	**226**	*e*P	P	17 53 40.0	+0.4
CLCH				*i*S	S	17 54 20.2	0.0
CHNG	**Los Chungos**	**3.41**	**256**	*i*P	P	17 53 40.1	0.0
CHNG				*e*S	S	17 54 20.1	-0.8
PCH	**Pirque**	**3.52**	**223**	*e*P	P	17 53 42.2	+0.8
PCH				*i*S	S	17 54 24.9	+1.4
PACH	**Papudo**	**3.56**	**245**	*e*P	P	17 53 41.7	-0.2
PACH				*i*S	S	17 54 24.1	-0.3
CACH	**El Canelo**	**3.93**	**219**	*e*P	P	17 53 46.5	-0.3
CICH	**Cipreses**	**4.00**	**216**	*e*P	P	17 53 47.8	+0.1

TAP 30 18:00:50.1,24.04N×121.60E,h11km,ML2.7,Taiwan

*NEIC **30** 18:01:16.7±0.5,24.00N×121.67E,h10km,mb4.1/3,Error ellipse: s-maj=12.8km s-min=7.6km az=69.0*
*TAP **30** 18:01:17.2,24.04N×121.60E,h9km,ML4.2*
TAP Felt III J at Chiawan, III J at Hualien, II J at Shilin, II J at Hehuanshan, II J at Nanau, I J at Nanshan, I J at Tachien, I J at Nioudou.
*JMA **30** 18:01:17.7±0.7,23.85N×121.56E,h74km,M3.2*
*IDC **30** 18:01:21.4±3.7,24.00N×121.75E,h45km±38km,mb3.3/8, mb1 3.5/9,mb1mx3.4/21,mbtmp3.6/9,ML3.3/1,Error ellipse: s-maj=27.8km s-min=17.7km az=63.0*
*BJI **30** 18:01:27.1,24.75N×120.99E,h10km,mB4.3,mb4.5, ML4.0,Ms3.8,Msz3.5*
ISC 30 18:01:17.1±0.2,24.02N±0.01×121.70E±0.02,h9km,n94, σ1§11/147,mb3.7/11,2C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.10**	**242**	⇓*i*P	**Pg**	**18 01 19.5**	**0.0**
TWD	**Chiawan**	**0.11**	**302**	⇑*i*P	**Pg**	**18 01 19.3**	**-0.4**
TWD				S	**Sg**	**18 01 20.8**	**-0.8**
NACB	**Ninganchiao**	**0.18**	**329**	*e*Pg	**Pg**	**18 01 20.1**	**-0.8**
NACB				*e*Sg	**Sg**	**18 01 22.7**	**-0.8**
ESF	**Shoufeng Towns**	**0.23**	**229**	*e*P	**Pg**	**18 01 21.3**	**-0.6**
ESF				S	**Sg**	**18 01 24.4**	**-0.7**
EHP	**Heping Village**	**0.29**	**8**	*e*P	**Pg**	**18 01 23.1**	**0.0**
ESL	**Shilin**	**0.32**	**229**	*i*P	**Pg**	**18 01 22.6**	**-1.0**
ESL				S	**Sg**	**18 01 26.8**	**-1.2**
TEGC	**Jichi Village**	**0.34**	**205**	*e*P	**Pg**	**18 01 24.6**	**+0.5**
ENA	**Nanau**	**0.41**	**6**	⇑*i*P	**Pg**	**18 01 25.2**	**-0.1**
ENA				S	**Sg**	**18 01 31.1**	**+0.2**
WHF	**Hehuan Shan**	**0.41**	**287**	*i*P	**Pg**	**18 01 24.3**	**-1.2**
WHF				S	**Sg**	**18 01 28.9**	**-2.2**
NNS	**Nan Shan**	**0.51**	**325**	P	**Pg**	**18 01 26.8**	**-0.7**
NNS				S	**Sg**	**18 01 33.3**	**-1.0**
TWT	**Tachien**	**0.53**	**296**	*i*P	**Pg**	**18 01 27.2**	**-0.5**
TWT				S	**Sg**	**18 01 34.4**	**-0.5**
TWC	**Suao**	**0.60**	**13**	*e*P	**Pg**	**18 01 29.0**	**-0.2**
EHY	**Hungye**	**0.62**	**214**	*e*P	**Pg**	**18 01 28.2**	**-1.3**
ENTT	**Nioudou**	**0.63**	**349**	P	**Pg**	**18 01 29.4**	**-0.3**
ENTT				S	**Sg**	**18 01 37.9**	**-0.2**
TWE	**Neicheng**	**0.70**	**358**	*i*P	**Pb**	**18 01 30.8**	**-0.2**
TWE				S	**Sg**	**18 01 40.7**	**+0.3**
YHNB	**Yeheng**	**0.71**	**336**	*e*Pg	**Pg**	**18 01 30.7**	**-0.6**
YHNB				*e*Sn	**Sn**	**18 01 39.3**	**-4.8**
NSK	**Sanguang**	**0.72**	**335**	P	**Pb**	**18 01 31.1**	**-0.3**
NSK				S	**Sb**	**18 01 40.5**	**-0.6**
SMLT	**Sun Moon Lake**	**0.74**	**259**	*i*P	**Pb**	**18 01 31.0**	**-0.8**
SMLT				S	**Sb**	**18 01 39.9**	**-1.9**
ILA	**Ilan**	**0.74**	**4**	P	**Pb**	**18 01 32.0**	**+0.3**
ILA				S	**Sb**	**18 01 42.2**	**+0.5**
TWF1	**Yuli**	**0.76**	**209**	*e*P	**Pb**	**18 01 31.3**	**-0.8**
TYC	**Yuchr**	**0.78**	**261**	P	**Pb**	**18 01 31.3**	**-1.0**
TYC				S	**Sb**	**18 01 40.6**	**-2.1**
YUS	**Yu-Shan**	**0.86**	**232**	*e*P	**Pb**	**18 01 33.3**	**-0.5**
YUS				S	**Sb**	**18 01 44.1**	**-1.2**
NSTT	**Nanjuang**	**0.88**	**314**	*e*P	**Pb**	**18 01 33.8**	**-0.3**
NSTT				S	**Sb**	**18 01 45.2**	**-0.5**
TWQ1	**Liyutan**	**0.90**	**291**	*e*P	**Pb**	**18 01 34.8**	**+0.3**
TWQ1				S	**Sb**	**18 01 47.1**	**+0.7**
WNT	**Mingjian**	**0.94**	**261**	*e*P	**Pb**	**18 01 35.4**	**+0.2**
WNT				S	**Sb**	**18 01 48.6**	**+1.2**
NSY	**Sanyi**	**0.94**	**295**	*e*P	**Pb**	**18 01 34.9**	**-0.2**
NSY				S	**Sb**	**18 01 48.6**	**+1.1**
TCU	**Taichung**	**0.94**	**278**	*e*P	**Pb**	**18 01 36.0**	**+0.9**
TCU				S	**Sb**	**18 01 49.2**	**+1.7**
TWA	**Mucha**	**0.96**	**354**	*e*P	**Pb**	**18 01 36.0**	**+0.5**
TWA				S	**Sb**	**18 01 48.2**	**+0.2**
ALS	**Alishan**	**0.96**	**238**	*e*P	**Pb**	**18 01 35.5**	**0.0**
CHKT	**Chengkung**	**0.97**	**198**	*e*P	**Pb**	**18 01 35.1**	**-0.6**
CHKT				S	**Sb**	**18 01 49.9**	**+1.6**
TATO	**Taipei**	**0.97**	**349**	*e*Pg	**Pg**	**18 01 35.8**	**-0.7**
TATO				*e*Sg	**Sg**	**18 01 49.2**	**-0.3**
TWB1	**Santiao Chiao**	**1.02**	**15**	*e*P	**Pb**	**18 01 36.8**	**+0.4**
TWB1				S	**Sb**	**18 01 50.1**	**+0.3**
HSN	**Hsinchu**	**1.02**	**320**	*e*P	**Pb**	**18 01 38.4**	**+1.8**
HSN				S	**Sb**	**18 01 52.4**	**+2.5**
CHN5	**Tsauling**	**1.02**	**246**	P	**Pb**	**18 01 36.8**	**+0.2**
CHN5				S	**Sb**	**18 01 51.4**	**+1.4**
TAP1	**Taipei**	**1.02**	**351**	P	**Pb**	**18 01 37.2**	**+0.6**
TAP1				S	**Sb**	**18 01 50.3**	**+0.3**
TAP	**Taipei**	**1.03**	**350**	P	**Pb**	**18 01 37.5**	**+0.8**
TAP				S	**Sb**	**18 01 51.2**	**+1.1**
ELDTW	**Lidau**	**1.04**	**217**	*e*P	**Pb**	**18 01 36.3**	**-0.5**
NWF	**Wu-fen Shan**	**1.05**	**4**	*e*P	**Pb**	**18 01 37.6**	**+0.6**
NWF				S	**Sb**	**18 01 51.5**	**+0.9**
NCU	**National Centr**	**1.05**	**334**	*e*P	**Pb**	**18 01 38.2**	**+1.2**
NCU				S	**Sb**	**18 01 54.1**	**+3.4**
WGK	**Gukeng**	**1.09**	**252**	*e*P	**Pb**	**18 01 38.3**	**+0.6**
WGK				S	**Sb**	**18 01 53.6**	**+1.7**
TWS1	**Kuangyinshan**	**1.10**	**347**	*e*P	**Pb**	**18 01 38.9**	**+1.0**
TWS1				S	**Sb**	**18 01 55.0**	**+2.7**
CHN4	**Tsaushan**	**1.21**	**237**	*e*P	**Pb**	**18 01 40.3**	**+0.5**
CHN4				S	**Sb**	**18 01 56.8**	**+1.4**
STYT	**Tauyuan**	**1.21**	**225**	*e*P	**Pb**	**18 01 39.4**	**-0.4**
STYT				S	**Sb**	**18 01 56.0**	**+0.5**
CHN2	**Minshiung**	**1.22**	**247**	*e*P	**Pb**	**18 01 40.5**	**+0.6**
CHN2				S	**Sb**	**18 01 57.2**	**+1.6**
TWY	**Chenhua**	**1.25**	**356**	*e*P	**Pb**	**18 01 40.8**	**+0.3**
WTP	**Ta-pu**	**1.26**	**232**	*e*P	**Pb**	**18 01 40.8**	**+0.2**
WTP				S	**Sb**	**18 01 57.7**	**+0.9**
CHY	**Chiayi**	**1.28**	**246**	*e*P	**Pb**	**18 01 41.0**	**0.0**
CHY				S	**Sb**	**18 01 58.2**	**+0.9**
YOJ	**Yonaguni jima**	**1.28**	**70**	P	**Pb**	**18 01 42.5**	**+1.6**
WTCT	**Ta-ch'eng**	**1.30**	**263**	*e*P	**Pb**	**18 01 41.0**	**-0.4**
WTCT				S	**Sb**	**18 01 59.4**	**+1.3**
TWG	**Pinlang**	**1.33**	**206**	*e*P	**Pb**	**18 01 40.2**	**-1.6**
TWK	**Hsinying**	**1.34**	**236**	*e*P	**Pb**	**18 01 42.6**	**+0.6**
TWK				S	**Sb**	**18 02 00.1**	**+1.0**
CHN1	**Nanshi**	**1.36**	**232**	*e*P	**Pb**	**18 01 42.7**	**+0.4**
CHN1				S	**Sb**	**18 02 00.3**	**+0.7**
TTN	**Taitung**	**1.36**	**202**	*e*P	**Pb**	**18 01 41.3**	**-1.1**
SGST	**Jiashian**	**1.39**	**228**	*e*P	**Pn**	**18 01 43.1**	**+0.3**
SGST				S	**Sb**	**18 02 02.6**	**+2.1**
WSF	**Szhu**	**1.40**	**254**	*e*P	**Pn**	**18 01 42.8**	**-0.1**
WSF				S	**Sb**	**18 02 02.2**	**+1.3**
CHN8	**Yiju**	**1.52**	**244**	*e*P	**Pn**	**18 01 44.2**	**-0.4**
CHN8				S	**Sb**	**18 02 05.5**	**+1.1**
ECL	**Taimali**	**1.57**	**206**	*e*P	**Pn**	**18 01 43.8**	**-1.6**
SSD	**Sandimen**	**1.60**	**218**	*e*P	**Pn**	**18 01 46.0**	**+0.1**
SSD				S	**Sb**	**18 02 08.8**	**+2.0**
SCLT	**Jiali**	**1.61**	**239**	*e*P	**Pn**	**18 01 47.1**	**+1.0**
PCYT	**Pengchaiyu**	**1.64**	**12**	*e*P	**Pn**	**18 01 47.6**	**+1.3**
TWM1	**Shoushan**	**1.67**	**225**	*e*P	**Pn**	**18 01 47.9**	**+1.1**
SGLT	**Jiouru**	**1.70**	**221**	*e*P	**Pn**	**18 01 48.3**	**+1.0**
EAST	**Anshuo**	**1.81**	**206**	*e*P	**Pn**	**18 01 47.9**	**-0.9**
IRIF	**Iriomote-Funau**	**1.88**	**80**	P	**Pn**	**18 01 50.3**	**+0.4**
IRIF				*e*S	**Sn**	**18 02 16.0**	**+2.0**
SCZT	**Fangliau**	**1.92**	**211**	*e*P	**Pn**	**18 01 50.7**	**+0.4**
HATJ	**Hateruma jima**	**1.93**	**89**	P	**Pn**	**18 01 51.0**	**+0.5**
HATJ				*e*S	**Sn**	**18 02 15.3**	**+0.2**
PNG	**Penghu**	**2.01**	**257**	*e*P	**Pn**	**18 01 50.5**	**-1.2**
PNG				S	**Sn**	**18 02 16.8**	**-0.4**
WDGT	**Dungji**	**2.02**	**248**	*e*P	**Pn**	**18 01 51.4**	**-0.3**
WDGT				S	**Sn**	**18 02 16.3**	**-1.0**
TWP	**Hsiaoliuchiu**	**2.07**	**217**	*e*P	**Pn**	**18 01 54.1**	**+1.6**
JKRS	**Kuro-shima**	**2.12**	**84**	P	**Pn**	**18 01 53.8**	**+0.5**
JKRS				*e*S	**Sn**	**18 02 21.9**	**+1.8**
TWK1	**Hengchun**	**2.23**	**202**	*e*P	**Pn**	**18 01 55.2**	**+0.5**
TSEB	**Hengchuen, Pin**	**2.24**	**199**	*e*P	**Pn**	**18 01 51.3**	**-3.6**
JIJ	**Ishigaki jima**	**2.26**	**81**	P	**Pn**	**18 01 54.9**	**-0.4**
JIJ				*e*S	**Sn**	**18 02 22.8**	**-0.7**
JTJ	**Tarama**	**2.81**	**77**	*e*S	**Sn**	**18 02 38.5**	**+1.0**
QZH	**Quanzhou**	**2.97**	**289**	P	**Pn**	**18 02 03.5**	**-1.9**
QZH				S	**Sn**	**18 02 36.3**	**-5.3**
QZH				Smax			
	comp=N,310nm,0.9s						
QZH				Smax			
	comp=E,270nm,1.1s						
KNM	**Kinmen**	**3.00**	**278**	*e*P	**Pn**	**18 02 03.2**	**-2.7**
JOW	**Kunigami**	**6.57**	**63**	P	**Pn**	**18 02 55.5**	**-0.9**
	comp=E,1.4nm,0.3s,baz=246,slow=14,SNR=5.1						
NJ2	**Nanjing**	**8.38**	**343**	*e*P	**P**	**18 03 18.5**	**-3.2**
NJ2				AP		18 03 21.5	
NJ2				XP		18 03 24.5	
NJ2				S	**Sn**	**18 04 52.5**	**-5.0**
NJ2				XS		18 04 57.8	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				Smax			
	comp=N,160nm,1.0s						
NJ2				Smax			
	comp=E,110nm,1.0s						
NJ2				LR	LR		
	comp=N,410nm,10.0s						
NJ2				LR	LR		
	comp=E,540nm,11.2s						
NJ2				LR	LR		
	comp=Z,300nm,9.9s						
KS15	**Wonju Array Si**	**14.39**	**20**	P	**P**	**18 04 32.4**	**-11**
CMAR	**Chiang Mai Arr**	**21.91**	**260**	P	**P**	**18 06 11.4**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.0,baz=234,slow=34,SNR=2.9						
MKAR	**Makanchi Array**	**38.78**	**316**	P	**P**	**18 08 41.9**	**-1.8**
	comp=Z,0.2nm,0.4s,mb3.2,baz=104,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**38.78**	**316**	P	**P**	**18 08 41.9**	**-1.8**
ZAL	**Zalesovo**	**40.64**	**327**	P	**P**	**18 08 56.5**	**-2.5**
	comp=Z,0.5nm,0.5s,mb3.4,baz=159,slow=23,SNR=2.2						
ZAL	**Zalesovo**	**40.64**	**327**	P	**P**	**18 08 56.5**	**-2.5**
WRA	**Warramunga Arr**	**45.40**	**163**	P	**P**	**18 09 34.5**	**-3.6**
	comp=Z,0.6nm,0.6s,mb3.6,baz=344,slow=8.7,SNR=6.3						
CHKZ	**Chkalovo**	**48.15**	**322**	*e*P	**P**	**18 09 55.8**	**-3.6**
	comp=Z,0.9nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**48.86**	**165**	P	**P**	**18 10 02.4**	**-2.9**
	comp=Z,0.4nm,0.6s,mb3.6,baz=342,slow=6.4,SNR=10						
STKA	**Stephens Creek**	**58.75**	**160**	P	**P**	**18 11 15.3**	**-2.7**
	comp=Z,1.4nm,0.7s,mb4.1,baz=350,slow=6.1,SNR=3.1						
STKA	**Stephens Creek**	**58.75**	**160**	P	**P**	**18 11 15.3**	**-2.7**
FINES	**FINESS Array B**	**71.82**	**330**	P	**P**	**18 12 40.4**	**-1.5**
	comp=Z,3.1nm,1.1s,mb4.1,baz=68,slow=10,SNR=3.6						
INK	**Inuvik**	**73.20**	**22**	*e*P	**P**	**18 12 46.9**	**-2.9**
	comp=Z,0.9nm,0.8s,mb3.8						
YKA	**Yellowknife Ar**	**82.94**	**23**	P	**P**	**18 13 40.9**	**-2.4**
	comp=Z,0.3nm,0.6s,mb3.5,baz=310,slow=5.0,SNR=7.3						
YKA	**Yellowknife Ar**	**82.94**	**23**	P	**P**	**18 13 40.9**	**-2.4**
NEW	**Newport**	**90.87**	**35**	*e*P	**P**	**18 14 19.9**	**-2.4**
	comp=Z,3.1nm,0.9s,mb4.6						

*IDC **30** 18:03:30.1±1.8,43.59N×105.23W,mb3.8/2,mb1 3.7/7, mb1mx3.5/24,mbtmp3.5/7,ML3.4/5,Error ellipse: s-maj=46.2km s-min=8.6km az=151.0*
*NEIC **30** 18:03:32.1±0.6,43.74N×105.25W,ML3.3,Error ellipse: s-maj=7.0km s-min=6.1km az=54.0,Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 30 18:03:29.7±0.5,43.77N±0.04×105.19W±0.06,n47, σ1§29/53,mb3.6/2,Wyoming

| Code | Station Name | Δ

ISC 30 19:00:39.4±0.2,39.12N±0.02×19.92E±0.02,h10km,n129,
σ1°33/176,mb3.9/9,MS2.6/1,7C-14D,Greece-Albania
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.52**	**37**	*e*Pg	**Pg**	**19 00 50.9**	**+0.8**
IGT				*e*Sg	**Sg**	**19 00 59.5**	**+2.3**
KEK	**Kerkira**	**0.60**	**351**	Pn	**Pn**	**19 00 54.0**	**+0.3**
KEK				Sn	**Sn**	**19 01 05.6**	**+2.1**
KEK	**Kerkira**	**0.60**	**351**	*e*Pn	**Pn**	**19 00 53.9**	**+0.2**
KEK				Sn	**Sn**	**19 01 05.6**	**+2.1**
LKD	**Levkas**	**0.70**	**125**	*e*Pg	**Pg**	**19 00 52.3**	**-1.2**
LKD				*e*Sg	**Sg**	**19 01 02.7**	**-0.2**
SRN	**Sarande**	**0.77**	**5**	*i* Pg	**Pg**	**19 00 56.3**	**+1.5**
SRN				*i* Sg	**Sg**	**19 01 19.5**	**+14**
SRN	**Sarande**	**0.77**	**5**	*i* Pg	**Pg**	**19 00 56.3**	**+1.5**
SRN				*i* Sg	**Sg**	**19 01 10.3**	**+5.2**
JAN	**Janina**	**0.90**	**53**	*e*PN	**Pn**	**19 00 57.8**	**-0.2**
VLS	**Valsamata**	**1.07**	**151**	*e*PN	**Pn**	**19 00 57.4**	**-3.1**
VLS				*e*SN	**Sn**	**19 01 12.0**	**-3.5**
EVR	**Evrytania**	**1.48**	**97**	*e*PN	**Pn**	**19 01 07.8**	**+1.5**
RLS	**Riolos of Patr**	**1.61**	**131**	*e*PN	**Pn**	**19 01 08.4**	**+0.3**
LCI	**Lecce**	**1.85**	**312**	Pn	**Pn**	**19 01 13.3**	**+1.7**
LCI				Sn	**Sn**	**19 01 41.6**	**+6.4**
KZN	**Kozani**	**1.86**	**50**	*e*PN	**Pn**	**19 01 14.1**	**+2.4**
KZN				*e*SN	**Sn**	**19 01 39.9**	**+4.5**
AGG	**Agios Georgios**	**1.88**	**92**	*e*Pb	**Pb**	**19 01 14.1**	**+0.6**
AGG				*e*Sb	**Sb**	**19 01 38.1**	**+1.2**
FNA	**Florina**	**2.01**	**33**	*e*Pn	**Pn**	**19 01 16.4**	**+2.6**
OHR	**Ohrid**	**2.10**	**18**	⇓*i*Pn	**Pn**	**19 01 18.2**	**+3.0**
OHR				*e*Sn	**Sn**	**19 01 43.6**	**+2.0**
OHR				*i*		19 01 48.2	
LIT	**Litokhoron**	**2.21**	**63**	*e*Pn	**Pn**	**19 01 18.2**	**+1.4**
LIT				*e*Sn	**Sn**	**19 01 46.9**	**+2.4**
TIR	**Tirane**	**2.23**	**359**	*e*Pn	**Pn**	**19 01 19.5**	**+2.5**
TIR				*i* Sn	**Sn**	**19 01 55.0**	**+10**
TIR	**Tirane**	**2.23**	**359**	Pn	**Pn**	**19 01 19.4**	**+2.4**
QSH	**Qafa e Shtames**	**2.40**	**360**	*i* Pn	**Pn**	**19 01 22.4**	**+2.9**
QSH				*i* Sn	**Sn**	**19 01 55.8**	**+6.6**
QSH	**Qafa e Shtames**	**2.40**	**360**	*e*Pn	**Pn**	**19 01 22.4**	**+2.9**
LKR	**Lokris**	**2.45**	**100**	*e*PB	**Pb**	**19 01 20.9**	**-2.2**
TIP	**Timpagrande**	**2.46**	**272**	*e*Pn	**Pn**	**19 01 21.1**	**+0.8**
TIP	**Timpagrande**	**2.46**	**272**	Pn	**Pn**	**19 01 22.1**	**+1.8**
	113nm,1.0s						
ITM	**Ithomi**	**2.50**	**140**	*e*PN	**Pn**	**19 01 20.9**	**+0.1**
PE1	**Pezze di Greco**	**2.56**	**312**	*e*Pn	**Pn**	**19 01 22.7**	**+1.0**
GRG	**Griva**	**2.65**	**45**	*e*Pn	**Pn**	**19 01 24.2**	**+1.2**
GRI	**Girifalco**	**2.75**	**265**	Pn	**Pn**	**19 01 25.6**	**+1.2**
	96nm,0.6s						
THE	**Thessaloniki**	**2.79**	**56**	*e*Pn	**Pn**	**19 01 25.8**	**+0.8**
THE	**Thessaloniki**	**2.79**	**56**	*e*Sn	**Sn**	**19 02 00.8**	**+1.7**
THE				*e*Sn	**Sn**	**19 02 06.8**	**+7.8**
LTRZ	**Laterza**	**2.81**	**303**	Pn	**Pn**	**19 01 26.3**	**+1.0**
ORI	**Oriolo Calabro**	**2.84**	**291**	Pn	**Pn**	**19 01 28.1**	**+2.3**
	124nm,0.4s						
MGER	**Gerania Oros**	**2.85**	**112**	*e*PN	**Pn**	**19 01 25.5**	**-0.4**
ULC	**Ulcinj**	**2.89**	**350**	⇓*i*Pn	**Pn**	**19 01 26.8**	**+0.3**
ULC				*e*Sn	**Sn**	**19 02 01.5**	**-0.1**
PUK	**Puka**	**2.92**	**360**	*i* Pn	**Pn**	**19 01 28.3**	**+1.4**
PUK	**Puka**	**2.92**	**360**	*e*Pn	**Pn**	**19 01 28.3**	**+1.4**
PLG	**Polygyros**	**2.99**	**64**	*e*PN	**Pn**	**19 01 28.2**	**+0.3**
SG1	**Sgolgore (BA)**	**3.03**	**306**	*e*Pn	**Pn**	**19 01 29.5**	**+1.1**
NSAL	**Nisos Salamina**	**3.03**	**112**	*e*PN	**Pn**	**19 01 27.5**	**-0.9**
KNT	**Kendrikon**	**3.06**	**47**	*e*Pn	**Pn**	**19 01 29.5**	**+0.6**
KNT	**Kendrikon**	**3.06**	**47**	P	**Pn**	**19 01 29.5**	**+0.6**
KNT				S	**Sn**	**19 02 04.2**	**-1.8**
KNT	**Kendrikon**	**3.06**	**47**	*e*Pn	**Pn**	**19 01 29.5**	**+0.6**
KNT				S	**Sn**	**19 02 04.2**	**-1.8**
SKO	**Skopje**	**3.08**	**22**	⇓*i*Pn	**Pn**	**19 01 30.5**	**+1.4**
SKO				*i*		19 01 38.8	
SKO				*i* Sn	**Sn**	**19 02 01.6**	**-4.8**
SKO				*i*		19 02 15.4	
SKO	**Skopje**	**3.08**	**22**	⇓*i*Pn	**Pn**	**19 01 30.5**	**+1.4**
SKO				*i* Sn	**Sn**	**19 02 01.6**	**-4.8**
NAIG	**Nisos Aigina**	**3.11**	**115**	*e*PN	**Pn**	**19 01 29.0**	**-0.6**
MPAR	**Parnis Oros**	**3.14**	**107**	*e*PN	**Pn**	**19 01 30.0**	**0.0**
SOH	**Sokhos**	**3.14**	**56**	*e*Pn	**Pn**	**19 01 31.3**	**+1.3**
SOH				*e*Sn	**Sn**	**19 02 08.6**	**+0.7**
ATH	**Athens Observa**	**3.19**	**110**	*e*PN	**Pn**	**19 01 30.4**	**-0.3**
SOI	**Samo**	**3.20**	**252**	Pn	**Pn**	**19 01 30.5**	**-0.4**
CEL	**Celeste**	**3.27**	**256**	Pn	**Pn**	**19 01 31.9**	**+0.1**
CEL				Sn	**Sn**	**19 02 11.9**	**+0.8**
	128nm,0.6s						
PTL	**Penteli**	**3.27**	**108**	*e*PN	**Pn**	**19 01 31.3**	**-0.5**
BUM	**Brajici-Budva**	**3.27**	**347**	⇓*i*Pn	**Pn**	**19 01 31.4**	**-0.5**
BUM				*e*Sn	**Sn**	**19 02 11.7**	**+0.4**
TTG	**Podgorica**	**3.35**	**352**	⇓*i*Pn	**Pn**	**19 01 33.2**	**+0.3**
TTG				*e*Sn	**Sn**	**19 02 12.2**	**-1.0**
OUR	**Ouranopolis**	**3.36**	**67**	*e*Pn	**Pn**	**19 01 33.5**	**+0.4**
VLI	**Veliai**	**3.38**	**134**	*e*PN	**Pn**	**19 01 33.2**	**-0.2**
SCLL	**Scilla**	**3.40**	**257**	Pn	**Pn**	**19 01 33.4**	**-0.3**
SCLL				Sn	**Sn**	**19 02 15.6**	**+1.0**
	45nm,0.5s						
CDT	**Castel del Mon**	**3.42**	**306**	*e*Pn	**Pn**	**19 01 34.9**	**+1.0**
PVY	**Plav**	**3.48**	**1**	*e*Pn	**Pn**	**19 01 35.0**	**+0.3**
PVY				*e*Sn	**Sn**	**19 02 16.0**	**-0.4**
HCY	**Herceg Novi**	**3.50**	**342**	⇓*i*Pn	**Pn**	**19 01 34.5**	**-0.5**
HCY				*e*Sn	**Sn**	**19 02 16.6**	**-0.4**
HCY	**Herceg Novi**	**3.50**	**342**	⇓*i*Pn	**Pn**	**19 01 34.5**	**-0.6**
HCY				*e*Sn	**Sn**	**19 02 16.6**	**-0.4**
MGR	**Morigerati**	**3.52**	**288**	Pn	**Pn**	**19 01 37.0**	**+1.6**
	11nm,0.3s						
SLCN	**Sala Consilina**	**3.54**	**292**	Pn	**Pn**	**19 01 38.6**	**+2.9**
	27nm,0.2s						
MSRU	**Castanea**	**3.56**	**258**	Pn	**Pn**	**19 01 35.5**	**-0.4**
	108nm,0.4s						
IVA	**Berane**	**3.75**	**360**	⇓*i*Pn	**Pn**	**19 01 39.2**	**+0.5**
IVA				*e*Sn	**Sn**	**19 02 21.8**	**-1.7**
NVR	**Nevrokopi**	**3.75**	**52**	*e*PN	**Pn**	**19 01 39.8**	**+1.1**
KYTH	**Kithira**	**3.76**	**138**	*e*PN	**Pn**	**19 01 38.5**	**-0.2**
NKY	**Niksic**	**3.76**	**350**	⇓*i*Pn	**Pn**	**19 01 39.4**	**+0.7**
NKY				*e*Sn	**Sn**	**19 02 22.7**	**-0.9**
SGO	**Sicignano**	**3.83**	**294**	Pn	**Pn**	**19 01 42.0**	**+2.2**
	20nm,0.3s						
BRY	**Bratogost**	**3.92**	**345**	⇓*i*Pn	**Pn**	**19 01 41.0**	**-0.1**
BRY				*e*Sn	**Sn**	**19 02 26.8**	**-0.9**
FGMS	**Monte Sant'Ang**	**3.98**	**312**	Pn	**Pn**	**19 01 43.1**	**+1.1**
MS1	**Monte Sant'Ang**	**3.99**	**312**	*e*Pn	**Pn**	**19 01 43.0**	**+1.0**
SNAL	**S. Angelo Dei**	**4.04**	**298**	Pn	**Pn**	**19 01 45.4**	**+2.6**
	445nm,1.7s						
STON	**Ston**	**4.11**	**337**	*i* Pn	**Pn**	**19 01 42.9**	**-0.9**
STON				*i* Sn	**Sn**	**19 02 29.6**	**-2.9**
STON	**Ston**	**4.11**	**337**	*i* Pn	**Pn**	**19 01 42.9**	**-0.9**
STON				*i* Sn	**Sn**	**19 02 29.5**	**-3.0**
CSSN	**Cassano Irpino**	**4.15**	**296**	Pn	**Pn**	**19 01 46.9**	**+2.6**
	34nm,0.5s						
UPM	**Unac-Piva**	**4.15**	**350**	⇓*i*Pn	**Pn**	**19 01 44.2**	**-0.2**
UPM				*e*Sn	**Sn**	**19 02 32.4**	**-1.2**
PLE	**Pljevlja**	**4.23**	**355**	*e*Pn	**Pn**	**19 01 45.7**	**+0.3**
PLE				*e*Sn	**Sn**	**19 02 33.9**	**-1.6**
DIVS	**Divcibare**	**4.98**	**1**	⇓*i*Pn	**Pn**	**19 01 55.5**	**-0.6**
CII	**Carovilli**	**5.01**	**303**	*e*Pn	**Pn**	**19 01 58.2**	**+1.6**
	19nm,0.4s						
CII	**Carovilli**	**5.01**	**303**	*e*Pn	**Pn**	**19 01 58.2**	**+1.6**
	19nm,0.4s						
ALN	**Alexandroupoli**	**5.03**	**67**	*e*Pn	**Pn**	**19 01 57.3**	**+0.5**
ALN				*e*Sn	**Sn**	**19 02 51.8**	**-3.9**
VAM	**Vamos**	**5.04**	**136**	*e*PN	**Pn**	**19 01 55.1**	**-1.8**
IDI	**Anoyia**	**5.51**	**132**	Pn	**Pn**	**19 01 58.8**	**-4.7**
	1.1nm,0.3s,baz=287,slow=20,SNR=9.2						
IDI				Sn	**Sn**	**19 03 01.2**	**-6.5**
	3.5nm,0.3s,baz=246,slow=20,SNR=4.0						
IDI	**Anoyia**	**5.51**	**132**	Sn	**Sn**	**19 03 01.2**	**-6.5**
AQU	**L'Aquila**	**5.91**	**305**	*e*Pn	**Pn**	**19 02 08.3**	**-1.0**
AQU	**L'Aquila**	**5.91**	**305**	*e*Pn	**Pn**	**19 02 08.3**	**-1.0**
NVLJ	**Novalja**	**6.62**	**327**	*i* Pn	**Pn**	**19 02 18.4**	**-0.9**
NVLJ	**Novalja**	**6.62**	**327**	*i* Pn	**Pn**	**19 02 18.3**	**-0.9**
MLR	**Muntele Rosu**	**7.78**	**33**	P	**Pn**	**19 02 35.9**	**+0.4**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR	**Muntele Rosu**	**7.78**	**33**	Pn	**Pn**	**19 02 35.9**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=308,slow=3.6,SNR=15						
MLR	**Muntele Rosu**	**7.78**	**33**	Pn	**Pn**	**19 02 35.9**	**+0.5**
JAVS	**Javornik**	**8.03**	**329**	⇑*i*PN	**P**	**19 02 37.4**	**-1.7**
VOY	**Vojsko**	**8.22**	**329**	*e*Pn	**P**	**19 02 39.9**	**-1.7**
VOY				*e*Sn	**Sn**	**19 04 10.8**	**-4.6**
OBKA	**Obir**	**8.38**	**334**	⇑*i*PN	**P**	**19 02 42.3**	**-1.5**
OBKA				*i* SN	**Sn**	**19 04 14.3**	**-5.1**
ARSA	**Arzberg**	**8.74**	**340**	⇑*i*PN	**P**	**19 02 46.5**	**-2.4**
ARSA				*i* SN	**Sn**	**19 04 21.4**	**-7.1**
PSZ	**Piszkesteto**	**8.80**	**360**	*e*Pn	**P**	**19 02 47.5**	**-2.2**
KBA	**Koelnbreinsper**	**9.29**	**331**	⇑*i*PN	**P**	**19 02 54.8**	**-1.7**
KBA				*i* SN	**Sn**	**19 04 36.0**	**-6.2**
MOA	**Molln**	**9.64**	**337**	⇑*i*PN	**P**	**19 02 59.6**	**-1.7**
MOA				*i* SN	**Sn**	**19 04 44.8**	**-6.0**
WTTA	**Wattenberg**	**10.14**	**326**	⇑*i*PN	**P**	**19 03 06.9**	**-1.2**
WTTA				*i* SN	**S**	**19 04 58.2**	**-4.8**
WATA	**Walderalm**	**10.22**	**326**	⇑*i*PN	**P**	**19 03 08.1**	**-1.1**
WATA				*i* SN	**S**	**19 05 00.5**	**-4.4**
SQTA	**Sankt Quirin**	**10.29**	**325**	⇓*i*PN	**P**	**19 03 08.9**	**-1.3**
SQTA				*i* SN	**S**	**19 05 03.1**	**-3.7**
DAVOX	**Davos**	**10.62**	**319**	Pn	**P**	**19 03 15.6**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=300,slow=20,SNR=4.3						
DAVOX				Sn	**S**	**19 05 08.6**	**-6.1**
	comp=Z,0.3nm,0.3s,baz=252,slow=11,SNR=3.5						
BRTR	**Keskin Array B**	**10.63**	**82**	Pn	**P**	**19 03 12.9**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=282,slow=13,SNR=2.5						
GEC2	**GERESS Array S**	**10.70**	**337**	*e*Pn	**P**	**19 03 13.9**	**-1.9**
GERES	**GERESS Array B**	**10.70**	**337**	P	**P**	**19 03 13.3**	**-2.5**
GERES						19 05 12.6	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES	**GERESS Array B**	**10.70**	**337**	Pn	**P**	**19 03 13.3**	**-2.6**
	comp=Z,0.9nm,0.3s,baz=158,slow=14,SNR=38						
GERES				Sn	**S**	**19 05 12.6**	**-4.2**
	comp=Z,0.4nm,0.3s,baz=150,slow=24,SNR=5.7						
KHC	**Kasperske Hory**	**11.00**	**338**	*e*P	**P**	**19 03 17.0**	**-2.8**
MOX	**Moxa**	**12.93**	**336**	*i* P	**P**	**19 03 44.5**	**-1.5**
MOX	**Moxa**	**12.93**	**336**	*e*Pn	**P**	**19 03 44.4**	**-1.6**
AKASG	**Malin Array Be**	**13.31**	**27**	Pn	**P**	**19 03 50.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=209,slow=10,SNR=3.7						
AKASG	**Malin Array Be**	**13.31**	**27**	Pn	**P**	**19 03 50.0**	**-1.0**
EIL	**Elat**	**15.56**	**123**	P	**P**	**19 04 13.4**	**-7.2**
HFS	**Hagfors**	**21.40**	**351**	P	**P**	**19 05 27.8**	**-1.5**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HFS				MLR	MLR		
	comp=Z,25nm,20.4s						
HFS	**Hagfors**	**21.40**	**351**	P	**P**	**19 05 27.8**	**-1.5**
	comp=Z,3.3nm,0.5s,mb3.9,baz=157,slow=11,SNR=21						
HFS				LR	LR	19 14 01.4	
	comp=Z,25nm,20.4s,MS2.6,baz=121,slow=37						
EKA	**Eskdalemuir Ar**	**22.39**	**324**	P	**P**	**19 05 39.3**	**+0.1**
EKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**22.39**	**324**	P	**P**	**19 05 39.3**	**+0.1**
	comp=Z,4.0nm,0.7s,mb3.9,baz=125,slow=10,SNR=20						
ESK	**Eskdalemuir**	**22.40**	**324**	*e*P	**P**	**19 05 39.1**	**-0.2**
	comp=Z,10nm,0.9s,mb4.3						
NB2	**NORSAR Subarra**	**22.61**	**349**	P	**P**	**19 05 40.2**	**-1.0**
	comp=Z,1.6nm,0.7s,mb3.6,baz=147,slow=10						
NOA	**NORSAR Array B**	**22.61**	**349**	P	**P**	**19 05 41.3**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**22.61**	**349**	P	**P**	**19 05 41.2**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.5,baz=163,slow=10,SNR=6.1						
NOA	**NORSAR Array B**	**22.61**	**349**	P	**P**	**19 05 41.2**	**0.0**
FINES	**FINESS Array B**	**22.68**	**8**	P	**P**	**19 05 40.3**	**-1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**22.68**	**8**	P	**P**	**19 05 40.3**	**-1.5**
	comp=Z,1.4nm,0.5s,mb3.6,baz=180,slow=12,SNR=20						
KAF	**Kangasniemi**	**23.36**	**8**	*e*p	**P**	**19 05 46.7**	**-1.8**
	comp=Z,0.9nm,0.5s,mb3.5						
KAF	**Kangasniemi**	**23.36**	**8**	*e*P	**P**	**19 05 46.7**	**-1.8**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.5						
ARCES	**ARCESS Array B**	**30.63**	**4**	P	**P**	**19 06 54.2**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**30.63**	**4**	P	**P**	**19 06 54.2**	**-1.4**
	comp=Z,5.8nm,1.0s,mb4.4,baz=195,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**45.22**	**59**	P	**P**	**19 08 55.8**	**-2.4**
	comp=Z,0.3nm,0.4s,mb3.5,baz=282,slow=7.5,SNR=5.1						
ZAL	**Zalesovo**	**45.41**	**49**	P	**P**	**19 08 57.8**	**-1.9**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL	**Zalesovo**	**45.41**	**49**	P	**P**	**19 08 57.8**	**-1.9**
	comp=Z,2.2nm,0.4s,mb4.3,baz=142,slow=4.5,SNR=4.5						

*NEIC **30** 19:09:19.4±2.6, 18.89S×178.10W, h617km±30km,*
mb3.9/12, Error ellipse: s-maj=17.7km s-min=14.1km
az=48.0
*IDC **30** 19:09:21.9±2.0, 18.99S×178.20W, h646km±26km,*
mb3.2/12, mb1 3.5/14, mb1mx3.4/20, mbtmp4.2/14, Error
ellipse: s-maj=22.2km s-min=10.7km az=161.0

ISC 30 19:09:20.3±1.8,19.0S±0.1×178.22W±0.09,h642km±23km,
n45,σ0°91/36,mb3.7/22,1C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.68**	**255**	P	**P**	**19 12 26.1**	**+1.2**
	0.4nm,0.3s,baz=72,slow=19,SNR=6.3						
URZ	**Urewera**	**19.61**	**191**	P	**P**	**19 13 08.6**	**-1.7**
	1.5nm,0.3s,baz=12,slow=0.7,SNR=8.2						
CTA	**Charters Tower**	**33.46**	**262**	P	**P**	**19 15 10.4**	**-0.1**
	4.1nm,0.5s,mb4.2,baz=91,slow=14,SNR=9.7						
CTAO	**Charters Tower**	**33.46**	**262**	*e*P	**P**	**19 15 11.1**	**+0.6**
	4.7nm,0.6s,mb4.2						
PMG	**Port Moresby**	**34.83**	**281**	P	**P**	**19 15 18.3**	**-3.6**
TAU	**Tasmania Unive**	**37.55**	**223**	P	**P**	**19 15 42.0**	**-1.9**
STKA	**Stephens Creek**	**38.27**	**242**	⇑*i*P	**P**	**19 15 51.1**	**+1.2**
	3.2nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**38.27**	**242**	P	**P**	**19 15 50.6**	**+0.8**
	3.2nm,0.5s,mb4.0,baz=106,slow=8.9,SNR=19						
STKA	**Stephens Creek**	**38.27**	**242**	*e*P	**P**	**19 15 50.9**	**+1.1**
WB2	**Warramunga Arr**	**44.61**	**261**	*e*P	**P**	**19 16 39.5**	**-0.5**
WRAB	**Tennant Creek**	**44.61**	**261**	*e*P	**P**	**19 16 39.4**	**-0.6**
WRA	**Warramunga Arr**	**44.62**	**261**	P	**P**	**19 16 39.8**	**-0.3**
	2.4nm,0.3s,mb4.0,baz=98,slow=7.3,SNR=186						
WRA				S	**S**	**19 22 30.2**	**-1.7**
	1.2nm,0.9s,baz=94,slow=14,SNR=7.5						
ASAR	**Alice Springs**	**44.67**	**255**	P	**P**	**19 16 40.5**	**0.0**
	3.7nm,0.5s,mb4.0,baz=90,slow=7.9,SNR=118						
ASAR				PcP	PcP	19 18 08.3	-0.4
	1.0nm,0.7s,baz=100,slow=4.2,SNR=5.1						
ASAR				S	**S**	**19 22 32.5**	**-0.2**
	1.3nm,0.7s,baz=92,slow=17,SNR=41						
ASPA	**Alice Springs**	**44.68**	**255**	*e*P	**P**	**19 16 40.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**53.03**	**261**	P	**P**	**19 17 42.1**	**+0.1**
	1.8nm,0.2s,mb3.9,baz=182,slow=13,SNR=24						
SBA	**Scott Base**	**59.34**	**184**	*e*P	**P**	**19 18 25.4**	**+1.3**
	2.3nm,0.8s,mb3.4						
VNDA	**Vanda**	**59.37**	**185**	P	**P**	**19 18 25.1**	**+0.7**
	0.4nm,0.6s,mb2.7,baz=305,slow=17,SNR=7.3						
VNDA	**Vanda**	**59.37**	**185**	*e*P	**P**	**19 18 24.7**	**+0.3**
	0.7nm,0.7s,mb2.9						
CASY	**Casey**	**65.22**	**205**	*e*P	**P**	**19 19 02.5**	**+0.6**
	20nm,1.3s,mb4.3						
MAJO	**Matsushiro**	**68.89**	**323**	*e*P	**P**	**19 19 25.5**	**+0.8**
	3.2nm,0.8s,mb3.7						
QSPA	**South Pole Qui**	**71.05**	**180**	⇓*i*P	**P**	**19 19 37.3**	**+0.8**
	4.0nm,0.5s,mb4.1						
CMB	**Columbia Colle**	**78.52**	**43**	*e*P	**P**	**19 20 17.9**	**-0.6**
	2.0nm,0.7s,mb3.8						
YBH	**Yreka Blue Hor**	**79.26**	**39**	P	**P**	**19 20 22.9**	**+0.6**
	1.1nm,0.5s,mb3.6,baz=213,slow=4.0,SNR=4.9						
NVAR	**Mina Array Bea**	**80.09**	**44**	P	**P**	**19 20 26.7**	**+0.1**
	0.7nm,0.7s,mb3.2,baz=210,slow=6.5,SNR=8.5						
WVOR	**Wild Horse Val**	**82.13**	**40**	*e*P	**P**	**19 20 36.8**	**-0.2**
	4.0nm,1.0s,mb3.9						
MCK	**McKinley**	**85.57**	**13**	P	**P**	**19 20 48.4**	**-4.9**
	1.8nm,0.9s,mb3.7						
TXAR	**Lajitas Array**	**86.43**	**57**	P	**P**	**19 20 58.0**	**-0.2**
	1.9nm,0.8s,mb3.8,baz=226,slow=6.2,SNR=17						
ANMO	**Albuquerque**	**86.64**	**51**	*e*P	**P**	**19 20 58.9**	**-0.1**
	2.2nm,1.1s,mb3.7						
ILAR	**Eielson Array**	**86.92**	**13**	P	**P**	**19 20 58.2**	**-1.3**
	0.2nm,0.5s,mb3.0,baz=243,slow=6.4,SNR=4.2						
PDAR	**Pinedale Array**	**88.03**	**43**	P	**P**	**19 21 05.0**	**-0.2**
	1.0nm,0.7s,mb3.5,baz=242,slow=2.2,SNR=6.1						
WALA	**Waterton Lakes**	**88.51**	**36**	P	**P**	**19 21 02.7**	**-4.7**
	1.7nm,0.8s,mb3.8						
SDCO	**Great Sand Dun**	**88.54**	**49**	*e*P	**P**	**19 21 03.4**	**-4.5**
	1.6nm,0.7s,mb3.9						
CMAR	**Chiang Mai Arr**	**89.42**	**290**	P	**P**	**19 21 14.1**	**+1.8**
	0.7nm,0.8s,mb3.4,baz=111,slow=3.1,SNR=5.4						
SNAA	**Sanae**	**89.50**	**179**	*e*P	**P**	**19 21 11.1**	**-0.3**
MKAR	**Makanchi Array**	**110.03**	**314**	PKiKP		19 26 40.6	
	0.4nm,0.5s,baz=190,slow=1.1,SNR=3.6						
ARCES	**ARCESS Array B**	**127.43**	**350**	PKP	PKPdf	19 27 13.2	-0.2
	2.2nm,0.8s,baz=301,slow=7.1,SNR=5.2						
FINES	**FINESS Array B**	**134.29**	**344**	PKP	PKPdf	19 27 28.1	+1.7
	0.7nm,0.9s,baz=76,slow=5.7,SNR=3.6						
AKASG	**Malin Array Be**	**141.61**	**332**	PKhKP		19 27 35.4	
	0.5nm,0.5s,baz=38,slow=3.8,SNR=6.3						
BRTR	**Keskin Array B**	**145.68**	**314**	PKPbc	PKPbc	19 27 50.4	+1.7
	1.4nm,0.6s,baz=125,slow=6.0,SNR=6.3						
CLL	**Collm**	**146.57**	**347**	*i* PKP1	PKPbc	19 27 52.1	+1.7
CLL				*i* PKP2	PKPab	19 27 55.0	-2.1
BRG	**Berggiesshubel**	**146.77**	**346**	*i* PKP	PKPdf	19 27 53.0	+4.3
PRU	**Pruhonice**	**147.45**	**345**	*e*P	PKPdf	19 27 54.5	+4.7
KHC	**Kasperske Hory**	**148.48**	**345**	*e*P	PKPdf	19 27 57.0	+5.6
GERES	**GERESS Array B**	**148.72**	**345**	PKPbc	PKPdf	19 27 58.0	+6.2
	1.5nm,0.8s,baz=45,slow=1.9,SNR=11						
DAVOX	**Davos**	**151.51**	**348**	PKPbc	PKPdf	19 28 04.4	+8.3
	5.8nm,0.6s,baz=223,slow=2.7,SNR=13						

*CSEM **30** 19:13:31.6±0.1, 11.66N×43.39E, h2km, mb4.8/1, Error*
ellipse: s-maj=4.1km s-min=2.9km az=138.0
*DHMR **30** 19:13:33.0±1.2, 11.72N×43.45E, h15km±14km, ML4.8*
*IDC **30** 19:13:35.5±4.5, 11.58N×43.26E, mb3.9/8, mb1 4.1/8,*
mb1mx3.8/19, mbtmp3.9/8, MS3.4/5, Ms1 3.4/5,
ms1mx3.1/21, Error ellipse: s-maj=103.6km s-min=28.2km
az=28.0
*NEIC **30** 19:13:36.1±0.7, 11.41N×43.18E, h10km, mb4.1/5, Error*
ellipse: s-maj=19.7km s-min=11.3km az=110.0

ISC 30 19:13:32.9±0.7,11.57N±0.05×43.48E±0.06,h10km,n40,
σ1°43/44,mb4.0/11,MS3.3/4,7C,Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.76**	**21**	⇑*e*P	**Pn**	**19 14 02.8**	**-1.0**
TRBA				*i* S	**Sn**	**19 14 24.3**	**-2.1**
TRBA				AML	AML	19 14 24.6	
	comp=E,21μm,0.3s						
UDYN	**Al 'Udayn**	**2.43**	**11**	⇑*e*P	**Pn**	**19 14 12.3**	**-1.0**
UDYN				*i* S	**Sn**	**19 14 43.7**	**+0.4**
UDYN				AML	AML	19 14 49.5	
	comp=N,11μm,0.5s						
UDYN	**Al 'Udayn**	**2.43**	**11**	⇑*e*P	**Pn**	**19 14 12.3**	**-1.0**

ILA				S	Sg	19 20 42.7	+0.3
TWF1	Yuli	0.75	209	eP	Pb	19 20 30.9	-1.5
TYC	Yuchr	0.78	262	⇓iP	Pb	19 20 31.6	-1.1
TYC				S	Sb	19 20 40.6	-2.6
YUS	Yu-Shan	0.86	233	P	Pb	19 20 33.6	-0.6
YUS				S	Sb	19 20 45.0	-0.7
NSTT	Nanjuang	0.88	314	⇑iP	Pb	19 20 34.6	0.0
NSTT				S	Sb	19 20 45.6	-0.8
TWQ1	Liyutan	0.91	292	eP	Pb	19 20 35.6	+0.6
TWQ1				S	Sb	19 20 47.5	+0.4
WNT	Mingjian	0.94	262	eP	Pb	19 20 35.9	+0.3
WNT				S	Sb	19 20 48.6	+0.7
TCU	Taichung	0.94	278	eP	Pb	19 20 36.2	+0.6
TCU				S	Sb	19 20 50.0	+1.9
NSY	Sanyi	0.94	295	eP	Pb	19 20 36.1	+0.4
NSY				S	Sb	19 20 47.9	-0.3
ALS	Alishan	0.96	239	⇓iP	Pb	19 20 35.6	-0.3
CHKT	Chengkung	0.96	199	eP	Pb	19 20 35.4	-0.5
CHKT				S	Sb	19 20 49.4	+0.7
TWA	Mucha	0.97	354	P	Pb	19 20 36.7	+0.7
TWA				S	Sb	19 20 48.9	+0.1
TATO	Taipei	0.98	349	ePn	Pn	19 20 36.3	-1.0
TATO				ePg	Sg	19 20 47.8	-2.2
CHN5	Tsauling	1.02	246	⇓iP	Pb	19 20 37.1	+0.1
CHN5				S	Sb	19 20 51.5	+1.1
TWB1	Santiao Chiao	1.02	15	eP	Pb	19 20 37.4	+0.4
HSN	Hsinchu	1.03	320	eP	Pb	19 20 38.1	+1.0
HSN				S	Sb	19 20 52.1	+1.5
ELDTW	Lidau	1.03	217	eP	Pb	19 20 35.9	-1.3
TAP1	Taipei	1.03	351	P	Pb	19 20 38.0	+0.8
TAP1				S	Sb	19 20 51.1	+0.4
TAP	Taipei	1.04	350	eP	Pb	19 20 38.1	+0.9
TAP				S	Sb	19 20 51.3	+0.5
NWF	Wu-fen Shan	1.05	4	eP	Pb	19 20 38.2	+0.6
NWF				S	Sb	19 20 51.8	+0.4
NCU	National Centr	1.06	334	eP	Pb	19 20 38.0	+0.4
NCU				S	Sb	19 20 53.5	+2.0
WGK	Gukeng	1.09	253	eP	Pb	19 20 38.4	+0.2
TWS1	Kuangyinshan	1.11	347	eP	Pb	19 20 39.6	+1.1
TWS1				S	Sb	19 20 55.3	+2.2
CHN4	Tsaushan	1.21	237	eP	Pb	19 20 40.4	+0.2
CHN4				S	Sb	19 20 58.7	+2.9
STYT	Tauyuan	1.21	226	P	Pb	19 20 39.8	-0.4
STYT				S	Sb	19 20 56.4	+0.6
CHN2	Minshiung	1.22	247	eP	Pb	19 20 40.6	+0.3
CHN2				S	Sb	19 20 57.3	+1.2
WTP	Ta-pu	1.25	233	eP	Pb	19 20 40.7	-0.3
WTP				S	Sb	19 20 58.1	+0.9
TWY	Chenhua	1.26	356	eP	Pb	19 20 42.5	+1.5
CHY	Chiayi	1.27	246	eP	Pb	19 20 40.7	-0.6
YOJ	Yonaguni jima	1.28	69	P	Pb	19 20 41.8	+0.4
YOJ				S	Sb	19 20 59.5	+1.6
WTCT	Ta-ch'eng	1.30	264	eP	Pb	19 20 42.0	+0.1
WTCT				S	Sb	19 20 59.7	+1.1
TWG	Pinlang	1.32	206	eP	Pb	19 20 39.2	-2.9
TWK	Hsinying	1.33	236	eP	Pb	19 20 42.5	+0.2
TTN	Taitung	1.35	202	eP	Pb	19 20 41.8	-0.8
CHN1	Nanshi	1.35	233	eP	Pb	19 20 43.0	+0.3
CHN1				S	Sb	19 21 01.2	+1.2
SGST	Jiashian	1.38	228	eP	Pb	19 20 43.3	+0.2
SGST				S	Sb	19 21 02.6	+1.8
WSF	Szhu	1.40	255	eP	Pn	19 20 43.2	-0.2
WSF				S	Sb	19 21 03.1	+1.7
CHN8	Yiju	1.52	244	eP	Pn	19 20 44.7	-0.4
CHN8				S	Sb	19 21 06.1	+1.3
ECL	Taimali	1.57	206	eP	Pn	19 20 43.5	-2.2
SSD	Sandimen	1.60	218	eP	Pn	19 20 46.3	+0.1
SSD				S	Sb	19 21 07.5	+0.4
SCLT	Jiali	1.61	239	eP	Pn	19 20 47.0	+0.6
PCYT	Pengchaiyu	1.64	12	eP	Pn	19 20 48.0	+1.1
TWM1	Shoushan	1.67	225	eP	Pn	19 20 48.9	+1.7
SGLT	Jiouru	1.69	221	eP	Pn	19 20 49.2	+1.6
EAST	Anshuo	1.80	206	eP	Pn	19 20 46.5	-2.7
TAW	Tawu	1.81	204	eP	Pn	19 20 50.7	+1.5
IRIF	Iriomote-Funau	1.88	80	P	Pn	19 20 50.3	0.0
IRIF				eS	Sn	19 21 14.8	+0.2
SCZT	Fangliau	1.91	211	eP	Pn	19 20 51.0	+0.2
HATJ	Hateruma jima	1.93	88	eS	Sn	19 21 14.2	-1.5
PNG	Penghu	2.01	258	eP	Pn	19 20 50.9	-1.3
PNG				S	Sn	19 21 15.9	-1.9
WDGT	Dungji	2.01	249	eP	Pn	19 20 50.9	-1.3
TWP	Hsiaoliuchiu	2.06	217	eP	Pn	19 20 56.1	+3.2
JKRS	Kuro-shima	2.12	84	P	Pn	19 20 54.0	+0.2
JKRS				S	Sn	19 21 21.6	+0.9
TWK1	Hengchun	2.22	202	eP	Pn	19 20 55.5	+0.3
JIJ	Ishigaki jima	2.26	81	P	Pn	19 20 55.1	-0.6
JIJ				S	Sn	19 21 23.1	-1.0
JTJ	Tarama	2.81	77	P	Pn	19 21 03.7	+0.1
JTJ				eS	Sn	19 21 38.0	-0.1
QZH	Quanzhou	2.98	289	P	Pn	19 21 04.8	-1.1
QZH				S	Sn	19 21 38.0	-4.3
QZH				Smax			
	comp=N,340nm,0.8s						
QZH				Smax			
	comp=E,240nm,0.7s						
KNM	Kinmen	3.01	278	eP	Pn	19 21 06.1	-0.3
JOW	Kunigami	6.58	63	P	Pn	19 21 53.5	-3.4
	comp=E,2.6nm,0.3s,baz=159,slow=29,SNR=6.0						
NJ2	Nanjing	8.39	343	eP	P	19 22 21.8	-0.5
NJ2				AP		19 22 25.0	
NJ2				XP		19 22 27.5	
NJ2				S	Sn	19 23 57.0	-1.4
NJ2				XS		19 24 02.3	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				Smax			
	comp=N,110nm,0.8s						
NJ2				Smax			
	comp=E,580nm,1.0s						
NJ2				LR	LR		
	comp=N,680nm,11.0s						
NJ2				LR	LR		
	comp=E,300nm,10.8s						
NJ2				LR	LR		
	comp=Z,330nm,11.4s						
KS15	Wonju Array Si	14.40	20	P	P	19 23 42.8	-0.9
MJAR	Matsushiro Arr	18.92	45	LR	LR	19 32 41.2	
	comp=Z,58nm,19.8s,baz=50,slow=40						
CMAR	Chiang Mai Arr	21.91	260	P	P	19 25 18.9	+5.9
	comp=Z,0.5nm,0.9s,mb3.0,baz=59,slow=7.9,SNR=4.5						
MKAR	Makanchi Array	38.79	316	P	P	19 27 45.5	+1.2
	comp=Z,1.1nm,0.8s,mb3.6,baz=106,slow=8.8,SNR=7.4						
MKAR	Makanchi Array	38.79	316	P	P	19 27 45.5	+1.2
WRA	Warramunga Arr	45.39	163	P	P	19 28 34.5	-4.1
	comp=Z,0.4nm,0.5s,mb3.5,baz=345,slow=8.8,SNR=7.6						
CHKZ	Chkalovo	48.16	322	eP	P	19 28 56.7	-3.2
	comp=Z,1.0nm,0.6s,mb4.0						
ASAR	Alice Springs	48.85	165	P	P	19 29 01.9	-3.8
	comp=Z,0.4nm,0.6s,mb3.6,baz=342,slow=6.8,SNR=7.6						
CTA	Charters Tower	49.94	149	LR	LR	19 50 34.5	
	comp=Z,64nm,18.5s,MS3.7,baz=250,slow=36						
FINES	FINESS Array B	71.83	330	P	P	19 31 40.4	-2.0
	comp=Z,0.4nm,0.6s,mb3.5,baz=59,slow=11,SNR=4.4						
FINES	FINESS Array B	71.83	330	P	P	19 31 40.4	-2.0
NOA	NORSAR Array B	78.59	332	LR	LR	20 10 14.4	
	comp=Z,8.3nm,20.2s,MS3.1,baz=180,slow=38						
YKA	Yellowknife Ar	82.94	23	P	P	19 32 42.3	-1.6
	comp=Z,0.5nm,0.6s,mb3.7,baz=311,slow=5.2,SNR=6.7						

DHMR 30 19:24:48.5±1.1, 11.92N×43.41E, h5km±7km, MD4.1, ML4.1, 2C-2D, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.47	28	⇑eP	Pn	19 25 16.5	+0.7
TRBA				iS	Sb	19 25 37.1	+2.2
TRBA				AML	AML	19 25 38.2	
	comp=E,5μm,0.3s						
UDYN	Al 'Udayn	2.10	15	eP	Pn	19 25 26.0	+1.2
UDYN				iS	Sn	19 25 54.8	+3.1
UDYN				AML	AML	19 26 03.2	
	comp=N,1μm,0.7s						
UDYN	Al 'Udayn	2.10	15	eP	Pn	19 25 26.0	+1.2
UDYN				iS	Sn	19 25 54.8	+3.1
	comp=N,650nm,0.7s						
LBOS		2.64	43	⇓iP	Pn	19 25 34.1	+1.6
LBOS				iS	Sn	19 26 10.0	+4.7
DHBB	Dhamar BB	2.80	20	⇑eP	Pn	19 25 36.9	+2.1
DHBB				iS	Sn	19 26 15.1	+5.7
BDHA	Al Bayda'	2.93	46	⇓iP	Pn	19 25 38.6	+2.0
BDHA				iS	Sn	19 26 18.5	+5.8
BDHA				AML	AML	19 26 24.4	
	comp=N,879nm,0.3s						

*NEIC **30** 19:30:11.4±0.7, 24.06N×121.77E, h10km, mb3.9/2, ML4.3(TAP), Error ellipse: s-maj=17.6km s-min=11.2km az=225.0*
NEIC Recorded [3 TAP] in Hua-lien; [2 TAP] in I-lan and Nan-t'ou Counties.
*JMA **30** 19:30:11.7±0.3, 23.98N×121.50E, h57km, M3.0*
*TAP **30** 19:30:12.7, 24.04N×121.61E, h9km, ML4.1*
TAP Felt III J at Chiawan, III J at Hualien, III J at Shilin, II J at Hehuanshan, II J at Nanau, I J at Nanshan, I J at Tachien.
*BJI **30** 19:30:18.9, 24.49N×121.21E, h10km, ML4.2, Ms3.7, Msz3.5*
*IDC **30** 19:30:19.8±3.7, 23.94N×122.37E, h67km±36km, mb3.2/8, mb1 3.5/8, mb1mx3.3/20, mbtmp3.5/8, Error ellipse: s-maj=24.6km s-min=18.5km az=71.0*

ISC 30 19:30:11.9±0.3, 24.02N±0.01×121.70E±0.02, h4km±2km, n92, σ1°06/148, mb3.6/9, 10C-12D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	Hwalien	0.10	246	⇓iP	Pg	19 30 15.1	+1.1
TWD	Chiawan	0.12	302	⇓iP	Pg	19 30 14.9	+0.5
TWD				S	Sg	19 30 16.6	+0.6
NACB	Ninganchiao	0.18	327	ePg	Pg	19 30 15.5	-0.2
NACB				eSg	Sg	19 30 18.1	-0.1
ESF	Shoufeng Towns	0.23	231	P	Pg	19 30 17.0	+0.4
ESF				S	Sg	19 30 20.0	+0.3
ESL	Shilin	0.32	231	iP	Pg	19 30 18.1	-0.2
ESL				S	Sg	19 30 21.9	-0.7
TEGC	Jichi Village	0.34	206	eP	Pg	19 30 20.9	+2.1
TEGC				S	Sg	19 30 26.6	+3.3
ENA	Nanau	0.41	5	⇓iP	Pg	19 30 20.7	+0.6
ENA				S	Sg	19 30 26.3	+0.7
WHF	Hehuan Shan	0.42	288	⇑iP	Pg	19 30 19.8	-0.5
WHF				S	Sg	19 30 24.5	-1.4
NNS	Nan Shan	0.52	324	⇑iP	Pg	19 30 22.1	-0.1
NNS				S	Sg	19 30 28.8	-0.4
TWT	Tachien	0.54	296	⇑iP	Pg	19 30 22.6	-0.1
TWT				S	Sg	19 30 29.8	0.0
TWC	Suao	0.60	13	⇑iP	Pg	19 30 24.7	+0.7
TWC				S	Sg	19 30 32.6	+0.5
EHY	Hungye	0.62	215	⇓iP	Pg	19 30 23.8	-0.5
EHY				S	Sg	19 30 32.0	-0.5
ENTT	Nioudou	0.63	349	⇑iP	Pg	19 30 24.8	+0.2
ENTT				S	Sg	19 30 33.3	+0.3
TWE	Neicheng	0.70	357	⇑iP	Pg	19 30 26.3	+0.4
TWE				S	Sg	19 30 35.1	-0.2
YHNB	Yeheng	0.71	335	ePn	Pn	19 30 25.7	-2.8
YHNB				eSn	Sn	19 30 34.7	-5.3
NSK	Sanguang	0.73	334	⇑iP	Pg	19 30 26.3	-0.2
NSK				S	Sg	19 30 35.8	-0.3
ILA	Ilan	0.75	3	iP	Pg	19 30 27.4	+0.5
ILA				S	Sg	19 30 37.5	+0.7
SMLT	Sun Moon Lake	0.75	260	eP	Pg	19 30 26.4	-0.4
SMLT				S	Sg	19 30 35.3	-1.5
TWF1	Yuli	0.76	209	eP	Pg	19 30 25.8	-1.3
TWF1				S	Sg	19 30 37.3	0.0
TYC	Yuchr	0.78	262	⇑iP	Pg	19 30 26.7	-0.9
TYC				S	Sg	19 30 36.2	-1.8
YUS	Yu-Shan	0.87	233	⇓iP	Pb	19 30 28.9	-0.2
YUS				S	Sg	19 30 40.4	-0.4
NSTT	Nanjuang	0.89	314	⇑iP	Pb	19 30 29.4	-0.1
NSTT				S	Sb	19 30 41.0	-0.4
TWQ1	Liyutan	0.91	291	P	Pb	19 30 29.8	-0.1
TWQ1				S	Sb	19 30 41.8	-0.4
WNT	Mingjian	0.94	262	⇓iP	Pb	19 30 30.9	+0.5
WNT				S	Sb	19 30 44.0	+1.0
NSY	Sanyi	0.95	295	eP	Pb	19 30 30.8	+0.3
NSY				S	Sb	19 30 43.1	-0.2
TCU	Taichung	0.95	278	⇓iP	Pb	19 30 31.4	+0.8
TCU				S	Sb	19 30 44.4	+1.1
CHKT	Chengkung	0.96	199	⇓iP	Pb	19 30 30.2	-0.6
CHKT				S	Sb	19 30 44.7	+0.9
TWA	Mucha	0.96	354	eP	Pb	19 30 30.9	+0.1
TWA				S	Sb	19 30 43.4	-0.3
ALS	Alishan	0.97	239	⇓iP	Pb	19 30 30.8	0.0
ALS				S	Sb	19 30 42.2	-1.5
TATO	Taipei	0.97	348	ePn	Pn	19 30 31.1	-1.1
TATO				eSn	Sn	19 30 43.5	-3.1
TWB1	Santiao Chiao	1.02	15	eP	Pb	19 30 32.3	+0.5
TWB1				S	Sb	19 30 45.6	+0.3
CHN5	Tsauling	1.03	246	⇓iP	Pb	19 30 32.3	+0.4
CHN5				S	Sb	19 30 46.9	+1.4
HSN	Hsinchu	1.03	320	eP	Pb	19 30 32.7	+0.8
HSN				S	Sb	19 30 46.5	+0.9
TAP1	Taipei	1.03	351	eP	Pb	19 30 32.5	+0.6
TAP1				S	Sb	19 30 45.6	0.0
TAP	Taipei	1.03	350	eP	Pb	19 30 32.1	+0.1
ELDTW	Lidau	1.04	218	eP	Pb	19 30 30.3	-1.8
NWF	Wu-fen Shan	1.05	4	eP	Pb	19 30 32.5	+0.2
NWF				S	Sb	19 30 46.5	+0.3
NCU	National Centr	1.06	334	eP	Pb	19 30 32.8	+0.4
NCU				S	Sb	19 30 48.4	+2.0
WGK	Gukeng	1.10	253	eP	Pb	19 30 33.2	+0.1
TWS1	Kuangyinshan	1.11	346	⇑P	Pb	19 30 33.8	+0.5
TWS1				S	Sb	19 30 50.6	+2.7
CHN4	Tsaushan	1.22	237	⇓iP	Pb	19 30 35.2	+0.1
CHN4				S	Sb	19 30 51.8	+0.8
STYT	Tauyuan	1.22	226	eP	Pb	19 30 34.3	-0.8
STYT				S	Sb	19 30 51.4	+0.4
CHN2	Minshiung	1.23	247	eP	Pb	19 30 35.3	0.0
TWY	Chenhua	1.26	356	eP	Pb	19 30 36.5	+0.7
WTP	Ta-pu	1.26	233	⇓iP	Pb	19 30 35.8	0.0
WTP				S	Sb	19 30 53.8	+1.5
YOJ	Yonaguni jima	1.27	69	P	Pb	19 30 36.3	+0.2
YOJ				S	Sb	19 30 54.7	+2.1
CHY	Chiayi	1.28	246	eP	Pb	19 30 35.9	-0.3
CHY				S	Sb	19 30 53.6	+0.7
WTCT	Ta-ch'eng	1.31	264	P	Pb	19 30 36.4	-0.3
WTCT				S	Sb	19 30 54.6	+0.8
TWG	Pinlang	1.32	206	eP	Pb	19 30 33.6	-3.4
TWK	Hsinying	1.34	236	eP	Pb	19 30 36.7	-0.5
TWK				S	Sb	19 30 56.4	+1.7
TTN	Taitung	1.36	202	eP	Pb	19 30 38.4	+0.9
CHN1	Nanshi	1.36	233	eP	Pb	19 30 37.7	+0.1
CHN1				S	Sb	19 30 56.9	+1.7
SGST	Jiashian	1.39	228	P	Pb	19 30 38.2	+0.1
SGST				S	Sb	19 30 58.0	+2.0
WSF	Szhu	1.41	255	eP	Pn	19 30 37.9	-0.5
WSF				S	Sb	19 30 58.7	+2.1
CHN8	Yiju	1.52	244	eP	Pn	19 30 39.7	-0.3
CHN8				S	Sb	19 31 00.7	+0.7
ECL	Taimali	1.57	206	eP	Pn	19 30 38.2	-2.5
SSD	Sandimen	1.60	218	eP	Pn	19 30 40.4	-0.8
SSD				S	Sb	19 31 03.5	+1.3
SCLT	Jiali	1.62	239	eP	Pn	19 30 40.5	-0.9
PCYT	Pengchaiyu	1.64	12	eP	Pn	19 30 41.2	-0.5
TWM1	Shoushan	1.67	225	eP	Pn	19 30 43.5	+1.3
SGLT	Jiouru	1.70	221	eP	Pn	19 30 43.8	+1.2
EAST	Anshuo	1.81	206	eP	Pn	19 30 41.2	-2.9
TAW	Tawu	1.81	204	eP	Pn	19 30 45.4	+1.2
IRIF	Iriomote-Funau	1.88	80	P	Pn	19 30 45.1	0.0
IRIF				S	Sn	19 31 10.3	+0.8
SCZT	Fangliau	1.92	212	eP	Pn	19 30 46.0	+0.4
HATJ	Hateruma jima	1.92	88	S	Sn	19 31 10.7	+0.1
PNG	Penghu	2.02	258	eP	Pn	19 30 45.4	-1.7
PNG				S	Sn	19 31 11.8	-1.2
WDGT	Dungji	2.02	249	P	Pn	19 30 46.4	-0.8
WDGT				S	Sn	19 31 11.5	-1.6
TWP	Hsiaoliuchiu	2.07	217	eP	Pn	19 30 48.3	+0.5
JKRS	Kuro-shima	2.12	84	P	Pn	19 30 48.4	-0.1
JKRS				S	Sn	19 31 15.2	-0.4
HEN	Hengchun	2.19	204	eP	Pn	19 30 50.3	+0.7
TWK1	Hengchun	2.22	202	eP	Pn	19 30 51.0	+1.0
TSEB	Hengchuen, Pin	2.23	200	eP	Pn	19 30 48.8	-1.5
JIJ	Ishigaki jima	2.25	81	P	Pn	19 30 49.6	-0.9
JIJ				S	Sn	19 31 17.9	-1.2
JTJ	Tarama	2.80	77	P	Pn	19 30 58.5	+0.1
JTJ				eS	Sn	19 31 33.5	+0.4
QZH	Quanzhou	2.98	289	P	Pn	19 30 58.8	-2.1
QZH				S	Sn	19 31 33.0	-4.5
QZH				Smax			
	comp=N,400nm,1.0s						
QZH				Smax			
	comp=E,310nm,0.9s						
KNM	Kinmen	3.01	278	eP	Pn	19 30 59.8	-1.5
JOW	Kunigami	6.57	63	P	Pn	19 31 46.4	-5.3
NJ2	Nanjing	8.39	343	eP	P	19 32 16.0	-1.2
NJ2				AP		19 32 19.5	
NJ2				S	Sn	19 33 52.0	-1.4
NJ2				XS		19 33 57.0	
NJ2				Smax			
	comp=N,110nm,0.8s						
NJ2				Smax			
	comp=E,580nm,1.0s						
NJ2				LR	LR		
	comp=N,680nm,11.0s						
NJ2				LR	LR		
	comp=E,300nm,10.8s						
NJ2				LR	LR		
	comp=Z,330nm,11.4s						
KS15	Wonju Array Si	14.39	20	eP	P	19 33 43.5	+5.0
MAJO	Matsushiro	18.91	45	P	P	19 34 26.4	-9.4
	comp=Z,6.9nm,1.3s						
CMAR	Chiang Mai Arr	21.91	260	P	P	19 35 14.0	+5.9
	comp=Z,0.3nm,0.3s,mb3.1,baz=59,slow=8.2,SNR=4.2						
MKAR	Makanchi Array	38.79	316	P	P	19 37 41.8	+2.5
	comp=Z,0.5nm,0.6s,mb3.4,baz=112,slow=10,SNR=4.8						
ZAL	Zalesovo	40.65	327	P	P	19 37 57.6	+3.0
	comp=Z,0.6nm,0.4s,mb3.6,baz=323,slow=8.7,SNR=2.6						
WRA	Warramunga Arr	45.40	163	P	P	19 38 29.6	-4.0
	comp=Z,0.7nm,0.6s,mb3.6,baz=344,slow=8.8,SNR=9.6						
ASAR	Alice Springs	48.86	165	P	P	19 38 57.5	-3.2
	comp=Z,0.5nm,0.7s,mb3.7,baz=342,slow=7.2,SNR=6.1						
ARU	Arti	55.53	323	P	P	19 39 47.5	-2.9
	comp=Z,1.4nm,0.6s,mb4.2						
ILAR	Eielson Array	69.14	27	P	P	19 41 19.2	-1.9
	comp=Z,0.2nm,0.5s,mb3.3,baz=300,slow=8.5,SNR=4.5						
FINES	FINESS Array B	71.83	330	P	P	19 41 35.4	-2.0
	comp=Z,0.8nm,0.8s,mb3.7,baz=51,slow=8.9,SNR=3.3						
INK	Inuvik	73.20	22	P	P	19 41 41.4	-4.0
YKA	Yellowknife Ar	82.94	23	P	P	19 42 35.2	-3.8
	comp=Z,0.4nm,0.6s,mb3.6,baz=314,slow=5.1,SNR=7.9						
YKA	Yellowknife Ar	82.94	23	P	P	19 42 35.2	-3.8

*IDC **30** 19:44:42.5±1.6, 2.38N×95.78E, mb3.9/6, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, ML3.9/1, MS3.2/2, Ms1 3.3/2, ms1mx2.8/30, Error ellipse: s-maj=74.2km s-min=20.2km az=54.0*
*BJI **30** 19:44:46.4, 3.12N×95.99E, h3km, mb4.7*
*NEIC **30** 19:44:47.0±0.8, 2.45N×95.97E, h30km, mb4.3/5, Error ellipse: s-maj=17.6km s-min=11.6km az=62.0*

ISC 30 19:44:46.6±3.7, 2.5N±0.1×96.0E±0.2, h40km±31km, n27, σ0°90/27, mb4.3/19, MS3.3/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.38	59	ePn	P	19 46 07.0	+0.5
KSM	Kuching	14.31	94	P	P	19 48 14.8	+6.1
CM31	Chiang Mai Arr	16.12	10	P	P	19 48 30.3	-1.7
	3.1nm,0.7s						
CMAR	Chiang Mai Arr	16.12	10	Pn	P	19 48 33.6	+1.6
	0.2nm,0.3s,baz=198,slow=11,SNR=24						
CMAR				LR	LR	19 54 22.0	
	comp=Z,83nm,19.3s,baz=14,slow=36						
KKM	Kota Kinabalu	20.44	79	P	P	19 49 22.9	-0.4
JIRN	Jiri	26.73	340	eP	P	19 50 24.5	-0.1
	3.5nm,0.5s,mb4.1						
PKI	Pulchoki	26.93	339	eP	P	19 50 26.6	+0.3
	6.7nm,0.6s,mb4.4						
DMN	Daman	27.07	338	eP	P	19 50 26.9	-0.7
	9.0nm,0.8s,mb4.3						
GUN	Gumba	27.07	340	eP	P	19 50 27.9	+0.3
	21nm,0.8s,mb4.7						
KKN	Kakani	27.17	339	eP	P	19 50 28.3	-0.3
	18nm,0.9s,mb4.6						
LSA	Lhasa	27.45	351	eP	P	19 50 31.5	+0.4
LSA	Lhasa	27.45	351	eP	P	19 50 30.9	-0.2
	3.8nm,0.7s,mb4.0						
LSA				e	pP	19 50 39.3	-2.5
GKN	Gorkha	27.60	338	eP	P	19 50 32.3	-0.2
	25nm,0.9s,mb4.8						
KOLN	Koldanda	27.80	336	eP	P	19 50 34.4	+0.1
	13nm,0.7s,mb4.7						
ENH	Enshi	30.43	23	eP	P	19 50 55.6	-2.1
	4.1nm,0.8s,mb4.2						
GTA	Gaotai	36.91	5	P	P	19 51 52.8	-0.7
GTA				AP	pP	19 51 59.0	-5.6
GTA				XP	sP	19 52 01.8	-7.8
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
NWAO	Narrogin (SRO)	40.54	152	P	P	19 52 21.9	-1.9
	comp=Z,11nm,1.1s,mb4.4						
BJT	Baijiatuan	41.58	23	eP	P	19 52 33.0	+0.7
	comp=Z,15nm,0.8s,mb4.7						
BJI	Beijing	41.60	23	eP	P	19 52 33.3	+0.8
BJI				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.8						
WRA	Warramunga Arr	43.71	122	P	P	19 52 50.8	+0.8
	comp=Z,1.1nm,0.6s,mb3.7,baz=301,slow=9.0,SNR=11						
AAK	Ala-Archa	44.36	337	P	P	19 52 55.9	+1.0
ASAR	Alice Springs	45.11	127	P	P	19 53 02.0	+0.9
	comp=Z,0.6nm,0.7s,mb3.5,baz=303,slow=8.0,SNR=11						
MKAR	Makanchi Array	45.72	347	P	P	19 53 05.7	0.0
	comp=Z,2.4nm,0.7s,mb4.3,baz=162,slow=8.1,SNR=39						
MKAR	Makanchi Array	45.72	347	P	P	19 53 05.7	0.0
ZAL	Zalesovo	52.10	352	P	P	19 53 54.6	-0.2

2.3nm,0.8s,mb3.6
NVAR **Mina Array Bea** 79.87 43 P P 19 57 14.8 +1.0
1.3nm,0.8s,mb3.3,baz=230,slow=11,SNR=8.4
NVAR **Mina Array Bea** 79.87 43 P P 19 57 14.8 +1.0
MAW **Mawson** 82.75 200 P P 19 57 35.1 +7.3
MCK **McKinley** 85.81 12 *e*P P 19 57 42.5 -0.4
3.3nm,0.9s,mb4.0
TXAR **Lajitas Array** 86.02 57 P P 19 57 45.7 +1.0
0.5nm,0.6s,mb3.3,baz=219,slow=8.0,SNR=8.1
TXAR **Lajitas Array** 86.02 57 P P 19 57 45.7 +1.0
ANMO **Albuquerque** 86.31 51 P P 19 57 46.1 +0.2
1.1nm,0.8s,mb3.5
COLA **College** 87.05 12 P P 19 57 47.6 -1.1
5.4nm,0.7s,mb4.3
ILAR **Eielson Array** 87.15 13 P P 19 57 48.1 -1.0
0.9nm,0.7s,mb3.5,baz=230,slow=5.3,SNR=18
PDAR **Pinedale Array** 87.81 43 P P 19 57 52.6 -0.2
0.6nm,0.6s,mb3.5,baz=189,slow=2.2,SNR=3.8
CMAR **Chiang Mai Arr** 90.28 289 P P 19 58 06.0 +1.2
0.8nm,0.8s,mb3.6,baz=101,slow=2.1,SNR=6.1
ARCES **ARCESS Array B** 127.97 350 PKP PKPdf 20 04 03.8 -0.3
2.6nm,1.0s,slow=3.6,SNR=3.7
EKA **Eskdalemuir Ar** 143.89 6 PKP PKPdf 20 04 32.6 -0.7
2.0nm,0.8s,slow=2.5,SNR=6.4
GERES **GERESS Array B** 149.31 346 PKPbc PKPdf 20 04 47.7 +5.1
0.5nm,0.6s,baz=27,slow=3.0,SNR=7.6

IDC 30 19:52:46.7±9.6, 46.73N×149.57E, mb3.6/4, mb1 3.6/5, mb1mx3.3/23, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=220.5km s-min=43.0km az=133.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**5.56**	**244**	Pn	Pn	19 54 10.8	-1.9
0.6nm,0.3s,baz=79,slow=16,SNR=4.3							
MKAR	**Makanchi Array**	**44.77**	**296**	P	P	20 01 01.5	-1.9
0.1nm,0.3s,baz=59,slow=7.1,SNR=4.0							
FINES	**FINESS Array B**	**62.99**	**333**	P	P	20 03 15.3	-1.6
0.6nm,0.6s,baz=27,slow=8.5,SNR=7.7							
HFS	**Hagfors**	**67.59**	**338**	P	P	20 03 44.3	-2.2
2.2nm,1.0s,baz=34,slow=5.2,SNR=4.6							
AKASG	**Malin Array Be**	**70.17**	**324**	P	P	20 04 00.4	-2.2
0.1nm,0.4s,baz=38,slow=6.3,SNR=4.9							

*IDC **30** 20:03:25.8±1.9, 43.64N×105.26W, mb4.0/5, mb1 3.9/10, mb1mx3.7/25, mbtmp3.7/10, ML3.5/2, Error ellipse: s-maj=54.1km s-min=8.5km az=152.0*
*NEIC **30** 20:03:28.1±0.9, 43.71N×105.29W, ML3.2, Error ellipse: s-maj=11.6km s-min=5.3km az=75.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.

ISC 30 20:03:25.4±0.6, 43.69N±0.04×105.16W±0.08, n46, σ1§15/46, mb4.0/5, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**62**	*e*Pn	Pn	20 03 41.7	-3.7
PHWY	**Pilot Hill**	**2.40**	**185**	*e*Pn	Pn	20 04 08.1	+1.6
RWWY	**Rawlins**	**2.51**	**218**	*e*Pn	Pn	20 04 05.2	-2.9
LAO	**LASA Array**	**3.09**	**346**	*e*Pn	Pn	20 04 17.8	+1.5
PDAR	**Pinedale Array**	**3.34**	**255**	Pn	Pn	20 04 20.5	+0.5
PDAR				Lg		20 05 06.1	
PDAR	**Pinedale Array**	**3.34**	**255**	Pn	Pn	20 04 20.5	+0.5
2.9nm,0.3s,baz=72,slow=15,SNR=45							
PDAR				Lg		20 05 06.1	
9.1nm,0.3s,baz=68,slow=32,SNR=6.8							
GCMT	**Greycliff**	**3.83**	**305**	*e*Pn	Pn	20 04 27.6	+0.6
LKWY	**Lake**	**3.87**	**285**	*e*Pn	Pn	20 04 28.0	+0.5
LOHW	**Long Hollow**	**3.95**	**271**	*e*Pn	Pn	20 04 29.1	+0.6
MOOW	**Moose Ponds**	**4.05**	**273**	*e*Pn	Pn	20 04 30.1	+0.1
WUWY	**Wally Ulrich**	**4.05**	**270**	*e*Pn	Pn	20 04 34.4	+4.3
SNOW	**Snow King Moun**	**4.07**	**269**	*e*Pn	Pn	20 04 30.7	+0.4
YNR	**Norris Junctio**	**4.10**	**286**	*e*Pn	Pn	20 04 36.2	+5.5
YFT	**Old Faithful**	**4.16**	**282**	*e*Pn	Pn	20 04 33.8	+2.2
IMW	**Indian Meadow**	**4.19**	**275**	*e*Pn	Pn	20 04 32.5	+0.6
TPAW	**Teton Pass**	**4.21**	**269**	*e*Pn	Pn	20 04 32.6	+0.4
YMR	**Madison River**	**4.29**	**285**	*e*Pn	Pn	20 04 40.0	+6.7
AHID	**Auburn Hatcher**	**4.44**	**260**	*e*Pn	Pn	20 04 35.8	+0.2
RRI2	**Red Ridge**	**4.49**	**268**	*e*Pn	Pn	20 04 35.3	-1.0
QLMT	**Earthquake Lak**	**4.64**	**286**	*e*Pn	Pn	20 04 38.9	+0.4
BOZ	**Bozeman (W)**	**5.01**	**295**	*e*Pn	Pn	20 04 41.6	-2.0
HWUT	**Hardware Ranch**	**5.16**	**248**	*e*Pn	Pn	20 04 44.7	-1.1
12nm,0.5s							
TCUT	**Toone Canyon**	**5.29**	**243**	*e*Pn	Pn	20 04 41.0	-6.6
DAU	**Daniels Canyon**	**5.59**	**236**	*e*Pn	Pn	20 04 52.0	+0.1
JLU	**Jordanelle**	**5.60**	**239**	*e*Pn	Pn	20 04 51.5	-0.5
HVU	**Hansel Valley**	**5.92**	**254**	*e*Pn	Pn	20 04 55.7	-0.8
SDCO	**Great Sand Dun**	**5.95**	**183**	*e*Pn	Pn	20 04 58.5	+1.7
1.6nm,0.7s							
PV10	**Paradox Valley**	**6.06**	**210**	*e*Pn	Pn	20 04 58.4	-0.1
MPU	**Maple Canyon**	**6.07**	**235**	*e*Pn	Pn	20 04 59.0	+0.4
SRU	**San Rafael**	**6.10**	**223**	*e*Pn	Pn	20 04 57.5	-1.5
PV01	**Paradox Valley**	**6.12**	**206**	*e*Pn	Pn	20 05 00.6	+1.3
TMUT	**Trail Mountain**	**6.31**	**228**	*e*Pn	Pn	20 05 01.6	-0.4
DUG	**Dugway**	**6.69**	**241**	*e*Pn	Pn	20 05 06.0	-1.2
3.8nm,0.5s							
HLID	**Hailey**	**6.71**	**272**	*e*Pn	Pn	20 05 06.6	-1.1
2.6nm,0.8s							
MSU	**Marysvale**	**7.40**	**228**	*e*Pn	Pn	20 05 16.8	-0.5
WALA	**Waterton Lakes**	**8.09**	**315**	*e*Pn	P	20 05 24.3	-2.6
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	P	20 05 35.4	-5.9
0.1nm,0.3s,baz=245,slow=13,SNR=2.1							
WUAZ	**Wupatki**	**9.46**	**212**	*e*Pn	P	20 05 45.4	-0.6
5.9nm,0.5s							
NVAR	**Mina Array Bea**	**11.22**	**247**	Pn	P	20 06 10.5	+0.4
0.1nm,0.3s,baz=50,slow=12,SNR=4.3							
YBH	**Yreka Blue Hor**	**13.05**	**267**	Pn	P	20 06 37.3	+2.5
0.1nm,0.3s,baz=103,slow=19,SNR=5.0							
YKA	**Yellowknife Ar**	**19.63**	**347**	P	P	20 07 57.9	-0.1
0.1nm,0.3s,baz=155,slow=11,SNR=4.3							
ARCES	**ARCESS Array B**	**61.44**	**18**	P	P	20 13 43.9	-1.4
2.5nm,0.9s,mb4.3,baz=350,slow=7.4,SNR=5.1							
FINES	**FINESS Array B**	**68.05**	**23**	P	P	20 14 27.4	-0.8
0.9nm,0.7s,mb4.1,baz=333,slow=8.5,SNR=4.6							
ZAL	**Zalesovo**	**82.38**	**354**	P	P	20 15 50.1	+0.1
0.6nm,0.3s,mb4.2,baz=149,slow=6.1,SNR=3.3							
BVAR	**Borovoye Array**	**83.59**	**3**	P	P	20 15 57.2	+1.1
0.3nm,0.5s,mb3.8,slow=3.0,SNR=4.4							
MKAR	**Makanchi Array**	**89.66**	**355**	P	P	20 16 26.9	+0.9
0.4nm,0.6s,mb3.8,baz=11,slow=4.3,SNR=6.7							

*NEIC **30** 20:13:27.2±3.1, 17.91S×178.27W, h578km±36km, mb4.0/6, Error ellipse: s-maj=24.7km s-min=16.1km az=162.0*
*IDC **30** 20:13:32.5±2.1, 18.12S×178.36W, h642km±28km, mb3.2/13, mb1 3.5/13, mb1mx3.4/19, mbtmp4.2/13, Error ellipse: s-maj=24.9km s-min=10.6km az=154.0*

ISC 30 20:13:31.2±2.9, 17.8S±0.2×178.5W±0.1, h636km±38km, n58, σ1§01/25, mb3.7/17, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.75**	**190**	P	P	20 17 26.7	-5.0
4.8nm,0.3s,baz=344,slow=3.4,SNR=9.9							
STKA	**Stephens Creek**	**38.58**	**241**	*e*P	P	20 20 04.2	+0.6
2.2nm,0.6s,mb3.8							
STKA	**Stephens Creek**	**38.58**	**241**	P	P	20 20 04.7	+1.1
2.1nm,0.5s,mb3.9,baz=58,slow=13,SNR=11							
WB2	**Warramunga Arr**	**44.53**	**259**	*e*P	P	20 20 50.6	0.0
WRAB	**Tennant Creek**	**44.53**	**259**	*e*P	P	20 20 48.4	-2.2
2.6nm,0.5s,mb3.8							
WRA	**Warramunga Arr**	**44.54**	**259**	P	P	20 20 50.8	+0.1
1.0nm,0.5s,mb3.5,baz=93,slow=7.3,SNR=62							
WRA				PcP	PcP	20 22 19.4	-0.3
0.4nm,0.3s,baz=90,slow=3.8,SNR=9.6							
WRA				S	S	20 26 40.8	-1.6
0.9nm,1.0s,baz=99,slow=13,SNR=3.6							
ASAR	**Alice Springs**	**44.71**	**254**	P	P	20 20 52.1	+0.1
2.4nm,0.6s,mb3.7,baz=89,slow=8.5,SNR=43							
ASAR				PcP	PcP	20 22 19.6	-0.7
1.2nm,0.5s,baz=105,slow=3.8,SNR=12							
ASAR				S	S	20 26 44.7	-0.1
1.1nm,1.0s,baz=87,slow=15,SNR=4.4							
KAKA	**Kakadu**	**47.47**	**269**	*e*P	P	20 21 13.2	+0.2
3.0nm,0.3s,mb4.1							
FITZ	**Fitzroy Crossi**	**52.93**	**260**	P	P	20 21 52.6	0.0
1.9nm,0.7s,mb3.5,baz=159,slow=11,SNR=6.6							
SBA	**Scott Base**	**60.53**	**184**	*e*P	P	20 22 43.1	-0.3
MJAR	**Matsushiro Arr**	**67.75**	**323**	P	P	20 23 29.8	+0.7
1.7nm,0.5s,mb3.6,baz=155,slow=5.7,SNR=12							
MAJO	**Matsushiro**	**67.75**	**323**	*e*P	P	20 23 28.6	-0.5
3.7nm,0.6s,mb3.9							
CMB	**Columbia Colle**	**77.83**	**43**	P	P	20 24 24.8	-1.5
2.8nm,1.0s,mb3.8							
YBH	**Yreka Blue Hor**	**78.51**	**39**	P	P	20 24 30.3	+0.6
0.7nm,0.5s,mb3.4,baz=195,slow=5.6,SNR=4.4							
NVAR	**Mina Array Bea**	**79.42**	**44**	P	P	20 24 35.3	+0.7
1.1nm,0.7s,mb3.5,baz=213,slow=6.3,SNR=8.9							
ENH	**Enshi**	**84.11**	**304**	P	P	20 25 00.3	+1.8
4.4nm,0.9s,mb4.0							
MCK	**McKinley**	**84.45**	**13**	P	P	20 24 58.6	-0.7
ILAR	**Eielson Array**	**85.80**	**13**	P	P	20 25 04.9	-0.8
0.8nm,0.4s,mb3.7,baz=220,slow=4.8,SNR=26							
TXAR	**Lajitas Array**	**86.03**	**58**	P	P	20 25 08.9	+1.2
1.5nm,0.7s,mb3.7,baz=224,slow=6.3,SNR=18							
CMAR	**Chiang Mai Arr**	**88.74**	**290**	P	P	20 25 23.0	+2.4
1.0nm,0.9s,mb3.6,baz=98,slow=3.2,SNR=7.5							
INK	**Inuvik**	**91.81**	**15**	P	P	20 25 32.7	-0.8
0.9nm,0.7s,mb3.8,baz=237,slow=4.6,SNR=4.9							
INK	**Inuvik**	**91.81**	**15**	P	P	20 25 32.7	-0.8
YKA	**Yellowknife Ar**	**94.28**	**25**	P	P	20 25 44.3	-0.6
0.1nm,0.3s,mb3.3,baz=263,slow=11,SNR=3.9							
MKAR	**Makanchi Array**	**108.97**	**314**	PKiKP		20 30 50.6	
0.4nm,0.5s,baz=162,slow=0.7,SNR=9.4							
ARCES	**ARCESS Array B**	**126.18**	**350**	PKP	PKPdf	20 31 23.1	+0.7
4.6nm,1.0s,baz=90,slow=1.2,SNR=7.7							
FINES	**FINESS Array B**	**133.05**	**344**	PKP	PKPdf	20 31 35.5	-0.1
2.0nm,1.0s,baz=90,slow=3.8,SNR=5.4							
AKASG	**Malin Array Be**	**140.41**	**332**	PKP	PKPdf	20 31 51.6	+2.3
0.4nm,0.3s,baz=46,slow=3.2,SNR=6.3							
BRTR	**Keskin Array B**	**144.62**	**315**	PKP	PKPdf	20 31 59.7	+2.8
1.6nm,0.6s,baz=116,slow=3.8,SNR=10							
CLL	**Collm**	**145.33**	**347**	⇓*i*PKP1	PKPbc	20 32 00.9	+2.0
OKC	**Ostrava-Krasne**	**145.33**	**341**	*e*PKP	PKPdf	20 32 03.1	+5.3
UPC	**Upice**	**145.35**	**344**	*e*PKP	PKPdf	20 32 01.4	+3.6
DPC	**Dobruska-Polom**	**145.41**	**343**	*e*PKP	PKPdf	20 32 01.9	+4.0
BRG	**Berggiesshubel**	**145.53**	**346**	*e*P	PKPdf	20 32 01.6	+3.5
PRU	**Pruhonice**	**146.21**	**345**	*e*PKP	PKPdf	20 32 03.8	+4.5
GRA1	**Grafenberg Arr**	**147.22**	**348**	*e*PKP	PKPdf	20 32 06.5	+5.6
GRF	**Grafenberg Arr**	**147.22**	**348**	*e*PKP	PKPdf	20 32 06.5	+5.6
KHC	**Kasperske Hory**	**147.24**	**345**	*e*PKP	PKPdf	20 32 06.6	+5.6
GERES	**GERESS Array B**	**147.47**	**345**	PKPbc	PKPdf	20 32 07.0	+5.6
2.2nm,0.6s,baz=23,slow=3.3,SNR=31							
GIVF	**Givet**	**147.66**	**356**	*e*PKP1	PKPdf	20 32 07.0	+5.4
BAIF	**Baives**	**147.74**	**357**	*e*PKP1	PKPdf	20 32 07.3	+5.6
8.0nm,0.8s							
FLN	**La Foliniere**	**149.07**	**3**	*e*PKP1	PKPdf	20 32 10.0	+6.1
CDF	**Champ du Feu**	**149.10**	**352**	*e*PKP1	PKPdf	20 32 11.2	+7.3
4.0nm,0.6s							
LDF	**La Druitiere**	**149.25**	**2**	*e*PKP1	PKPdf	20 32 10.4	+6.2
4.9nm,0.5s							
GRR	**Gorron**	**149.43**	**3**	*e*PKP1	PKPdf	20 32 11.0	+6.6
7.3nm,0.6s							
HAU	**Haudompre**	**149.60**	**354**	*e*PKP1	PKPdf	20 32 11.7	+7.0
3.3nm,0.6s							
HINF	**Hinteralfeld**	**149.73**	**353**	*e*PKP1	PKPdf	20 32 12.5	+7.6
3.4nm,0.5s							
DAVOX	**Davos**	**150.27**	**348**	PKPbc	PKPdf	20 32 14.1	+8.3
4.0nm,0.6s,baz=312,slow=3.5,SNR=13							
LOR	**Lormes**	**150.54**	**357**	*e*PKP1	PKPdf	20 32 13.9	+7.7
4.8nm,0.5s							
SSF	**Saint Saulge**	**150.76**	**357**	*e*PKP1	PKPdf	20 32 14.4	+7.9
9.2nm,0.9s							
CABF	**La Chapelle**	**151.01**	**353**	*e*PKP1	PKPdf	20 32 15.5	+8.6
AVF	**Avril sur Loir**	**151.04**	**357**	*e*PKP1	PKPdf	20 32 14.6	+7.7
MFF	**Saint Martin d**	**151.24**	**2**	*e*PKP1	PKPdf	20 32 15.1	+7.9
BGF	**Bois d'Agland**	**151.29**	**358**	*e*PKP1	PKPdf	20 32 15.5	+8.2
6.5nm,0.7s							
TCF	**Toulx Ste Croi**	**151.58**	**359**	*e*PKP1	PKPdf	20 32 16.0	+8.3
1.3nm,0.6s							
LPL	**La Plagne**	**152.01**	**352**	*e*PKP1	PKPdf	20 32 17.2	+8.9
LPG	**La Plagne**	**152.03**	**352**	*e*PKP1	PKPdf	20 32 17.3	+8.9
ORIF	**Oris-en-Rattie**	**152.71**	**353**	*e*PKP1	PKPdf	20 32 19.1	+10
MBDF	**Montbardon**	**152.78**	**352**	*e*PKP1	PKPdf	20 32 20.4	+11

*NEIC **30** 20:33:08.3±2.6, 6.08S×149.61E, h10km, mb4.5/2, Error ellipse: s-maj=50.7km s-min=21.6km az=89.0*
*IDC **30** 20:33:16.6±3.2, 6.37S×149.39E, h51km±20km, mb3.8/3, mb1 4.1/5, mb1mx3.7/15, mbtmp4.2/5, ML4.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.1/25, Error ellipse: s-maj=54.8km s-min=24.3km az=128.0*

ISC 30 20:33:12.9±3.8, 6.1S±0.1×148.7E±0.3, h13km±25km, n13, σ0§93/16, mb4.1/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**205**	P	Pn	20 34 13.7	+3.3
48nm,0.3s,baz=39,slow=5.1,SNR=99							
PMG				S	Sn	20 34 53.4	-0.3
17nm,0.3s,baz=164,slow=21,SNR=3.0							
PMG	**Port Moresby**	**3.65**	**205**	*e*Pn	Pn	20 34 12.3	+1.9
PMG				*e*Sn	Sn	20 34 53.0	-0.8
CTA	**Charters Tower**	**14.13**	**190**	LR	LR	20 41 34.5	
comp=Z,72nm,19.5s,baz=233,slow=36							
WB2	**Warramunga Arr**	**19.62**	**224**	*e*P	P	20 37 43.4	-0.8
WRA	**Warramunga Arr**	**19.63**	**224**	P	P	20 37 43.8	-0.5
0.8nm,0.3s,baz=50,slow=11,SNR=51							
WRA				S	S	20 41 29.8	+10
0.1nm,0.3s,baz=45,slow=16,SNR=6.4							
ASAR	**Alice Springs**	**22.56**	**218**	P	P	20 38 15.1	+0.6
1.7nm,0.6s,mb3.7,baz=51,slow=9.3,SNR=36							
ASAR				S	S	20 42 17.6	+1.1
1.3nm,0.8s,baz=30,slow=22,SNR=4.4							
ASPA	**Alice Springs**	**22.56**	**218**	*e*P	P	20 38 15.0	+0.5
FITZ	**Fitzroy Crossi**	**25.50**	**240**	P	P	20 38 43.8	+0.9
5.8nm,0.4s,mb4.5,baz=49,slow=6.3,SNR=26							
STKA	**Stephens Creek**	**26.51**	**194**	P	P	20 38 48.2	-4.0
2.0nm,1.0s,mb3.6,baz=36,slow=8.7,SNR=4.1							
STKA	**Stephens Creek**	**26.51**	**194**	*e*P	P	20 38 47.9	-4.3
MBWA	**Marble Bar**	**31.83**	**239**	*e*P	P	20 39 38.6	-1.3
23nm,1.4s,mb4.8							
CM31	**Chiang Mai Arr**	**54.81**	**298**	*e*P	P	20 42 45.5	+0.1
1.5nm,0.8s,mb4.1							
VNDA	**Vanda**	**71.73**	**177**	P	P	20 44 36.3	-0.2

IDC 30 20:40:05.7±3.2, 4.46N×93.86E, mb3.5/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, ML3.5/1, Error ellipse: s-maj=114.9km s-min=30.5km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.77**	**19**	Pn	P	20 43 36.5	-1.5
0.1nm,0.3s,baz=207,slow=12,SNR=6.7							
MKAR	**Makanchi Array**	**43.35**	**348**	P	P	20 48 09.5	-1.8
0.4nm,0.3s,baz=172,slow=8.0,SNR=13							
WRA	**Warramunga Arr**	**46.58**	**123**	P	P	20 48 35.7	-1.9
0.4nm,0.9s,baz=308,slow=9.6,SNR=7.4							

DJA 30 20:43:12.1±1.3, 8.82S×117.02E, h167km±9km, ML3.5/2, 6D, Error ellipse: s-maj=94.1km s-min=24.1km az=178.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.96**	**290**	⇓*e*Pn	P	20 43 38.5	+0.1
34nm,0.2s							
RATI	**Rata**	**1.48**	**274**	⇓*e*Pn	P	20 43 43.1	0.0
RATI				⇓*e*Sn	S	20 44 05.2	-1.9
KELI	**Kelakatan**	**2.58**	**283**	⇓*e*Pn	P	20 43 55.5	0.0
SRDI	**Scrawed**	**2.87**	**277**	⇓*e*Pn	P	20 43 58.9	-0.3
40nm,0.2s							
SRDI				⇓*e*Sn	S	20 44 33.7	-1.6

JMA 30 20:44:50.4±0.2, 43.67N×147.28E, h31km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.16**	**255**	P	Pn	20 45 10.9	+0.2
NEM2				*e*S	Sn	20 45 25.9	+0.3
JRA	**Rausu**	**1.58**	**280**	P	Pn	20 45 17.1	+0.3
JRA				*e*S	Sn	20 45 36.6	+0.2
JNK	**Nakash**	**1.86**	**268**	P	Pn	20 45 21.0	+0.2
JNK				*e*S	Sn	20 45 43.5	+0.1
JAK	**Akkeshi**	**2.00**	**251**	P	Pn	20 45 22.8	0.0
JAK				*e*S	Sn	20 45 46.9	-0.1
JTKR	**Abashiri--Toko**	**2.46**	**278**	P	Pn	20 45 29.8	+0.5
JTKR				*e*S	Sn	20 45 59.5	+0.9
JAR	**Ashorobuto**	**2.58**	**263**	P	Pn	20 45 31.8	+0.7
JAR				*e*S	Sn	20 46 02.9	+1.1
JOB	**Onbets**	**2.63**	**254**	P	Pn	20 45 32.1	+0.3
JOB				*e*S	Sn	20 46 02.7	-0.3
JMP	**Maruseppu**	**2.86**	**278**	P	Pn	20 45 35.4	+0.4
JCH	**Churui**	**3.06**	**251**	P	Pn	20 45 37.5	-0.3
JCH				*e*S	Sn	20 46 12.6	-1.1
JNBK	**Urakawa-nobuka**	**3.60**	**249**	P	Pn	20 45 45.4	-0.1
JNBK				*e*S	Sn	20 46 25.6	-1.9

IDC 30 21:09:34.4±2.0, 7.42N×93.16E, mb3.6/3, mb1 3.9/4, mb1mx3.5/20, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=72.6km s-min=28.0km az=58.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.33**	**27**	Pn	P	21 12 33.5	-0.8
0.1nm,0.3s,baz=212,slow=15,SNR=11							
MKAR	**Makanchi Array**	**40.32**	**348**	P	P	21 17 12.6	-2.7
0.2nm,0.5s,baz=159,slow=8.9,SNR=4.7							
WRA	**Warramunga Arr**	**48.80**	**125**	P	P	21 18 21.8	-1.8
0.5nm,0.4s,baz=306,slow=8.5,SNR=24							
ARCES	**ARCESS Array B**	**75.36**	**340**	P	P	21 21 19.6	-1.6
1.7nm,0.8s,baz=90,slow=9.0,SNR=3.7							

IDC 30 21:40:06.2±46.0, 15.68S×176.44W, mb4.0/3, mb1 4.2/3, mb1mx3.7/15, mbtmp4.0/3, Error ellipse: s-maj=866.4km s-min=165.1km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.37**	**239**	P	P	21 47 53.8	-2.0
1.2nm,0.8s,baz=63,slow=6.8,SNR=3.7							
WRA	**Warramunga Arr**	**46.93**	**257**	P	P	21 48 39.1	-1.7
0.4nm,0.4s,baz=91,slow=7.3,SNR=20							
ASAR	**Alice Springs**	**47.24**	**252**	P	P	21 48 41.5	-1.8
3.4nm,0.5s,baz=88,slow=8.4,SNR=94							

*IDC **30** 21:50:22.8±2.9, 33.89S×178.55W, mb3.9/2, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, ML4.2/1, Error ellipse: s-maj=70.6km s-min=35.4km az=122.0*

ISC 30 21:50:22.4±3.1, 34.1S±0.2×178.0W±0.5, h33km, n7, σ0§80/9, mb3.8/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.57**	**220**	PN	Pn	21 51 30.9	-0.1
PUZ	**Puketiti**	**4.98**	**216**	PN	Pn	21 51 36.6	-0.3
PUZ				SN	Sn	21 52 35.6	+1.5
URZ	**Urewera**	**5.72**	**222**	Pn	Pn	21 51 46.6	-0.7
7.2nm,0.3s,baz=8.7,slow=2.6,SNR=40							
URZ				Sn	Sn	21 52 51.4	-1.2
9.6nm,0.3s,baz=136,slow=23,SNR=12							
URZ	**Urewera**	**5.72**	**222**	PN	Pn	21 51 47.0	-0.3
URZ				SN	Sn	21 52 51.8	-0.8
ASAR	**Alice Springs**	**43.01**	**271**	P	P	21 58 21.4	+0.9
1.0nm,0.7s,mb3.6,baz=111,slow=7.4,SNR=11							
WRA	**Warramunga Arr**	**44.32**	**276**	P	P	21 58 30.8	-0.3
0.8nm,0.4s,mb3.9,baz=116,slow=8.2,SNR=20							
FINES	**FINESS Array B**	**148.56**	**338**	PKPbc	PKPdf	22 10 09.1	+7.9
0.7nm,0.6s,baz=27,slow=4.3,SNR=8.4							

IDC 30 21:52:36.3±3.7, 1.26N×97.52E, mb3.5/2, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=142.6km s-min=29.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**17.15**	**5**	P	P	21 56 38.5	-0.7
0.1nm,0.3s,baz=192,slow=11,SNR=5.3							
WRA	**Warramunga Arr**	**41.79**	**122**	P	P	22 00 27.9	-1.7
0.4nm,0.7s,baz=302,slow=8.9,SNR=4.7							
WRA				pP	pP	22 00 35.4	+5.8
0.3nm,0.5s,baz=300,slow=9.2,SNR=6.5							
MKAR	**Makanchi Array**	**47.26**	**346**	P	P	22 01 11.1	-2.2
0.5nm,0.6s,baz=162,slow=8.0,SNR=8.8							

*IDC **30** 21:56:44.2±1.6, 34.07S×178.40W, h42km±8km, mb4.1/4, mb1 4.3/6, mb1mx3.9/18, mbtmp4.4/6, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/23, Error ellipse: s-maj=32.2km s-min=19.2km az=120.0*
*NEIC **30** 21:56:44.5±0.7, 34.13S×178.45W, mb4.7/3, Error ellipse: s-maj=15.9km s-min=15.3km az=153.0*

ISC 30 21:56:44.2±1.1, 33.99S±0.06×178.7W±0.2, h42km, h42km±1.2km: pP-P, n22, σ1§09/19, mb4.5/6, 1C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.33**	**214**	PN	P	21 57 47.5	-1.8
MXZ				SN	S	21 58 41.0	+1.7
PUZ	**Puketiti**	**4.77**	**211**	PN	P	21 57

THZ	Tophouse	9.72	216	SN	Sn	22 12 58.1	+0.2
MQZ	McQueen's Vall	11.37	210	SN	S	22 13 32.4	-5.7
ASAR	Alice Springs	41.81	272	P	P	22 16 37.0	+0.4
	0.9nm,0.6s,mb3.6,baz=112,slow=7.4,SNR=19						
WB2	Warramunga Arr	43.13	277	⇓iP	P	22 16 47.3	-0.1
WRA	Warramunga Arr	43.14	277	P	P	22 16 47.4	-0.1
	0.9nm,0.3s,mb4.0,baz=116,slow=8.3,SNR=22						
FITZ	Fitzroy Crossi	51.22	274	P	P	22 17 50.6	-0.3
	baz=149,slow=5.1						
KAF	Kangasniemi	147.56	338	ep	PKPdf	22 28 23.1	-2.4
	1.3nm,0.7s						
FINES	FINESS Array B	148.13	337	PKPbc	PKPdf	22 28 25.8	-0.7
	0.7nm,0.5s,baz=32,slow=4.4,SNR=14						

PRU ***30*** *22:14:01.0, 50.12N×18.42E*
NEIC ***30*** *22:14:01.1±1.0, 50.09N×18.47E, h5km, MG2.5(WAR), Error ellipse: s-maj=13.3km s-min=7.4km az=180.0*

WAR 30 22:14:00.7, 50.07N×18.47E, h0km, ML2.4, 4C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	Raciborz	0.18	275	⇑iPG	Pg	22 14 05.3	+1.1
RAC				⇑eSG	Sg	22 14 08.3	+1.7
RAC	Raciborz	0.18	275	⇑iPg	Pg	22 14 05.3	+1.1
RAC				eSg	Sg	22 14 08.4	+1.8
OKC	Ostrava-Krasne	0.31	222	ePG	Pg	22 14 07.4	+0.5
OKC				eSG	Sg	22 14 11.4	+0.4
	77nm,0.4s						
MORC	Moravsky Berou	0.66	244	ePg	Pg	22 14 13.5	-0.5
MORC				eSg	Sg	22 14 22.5	-0.3
OJC	Ojcow	0.87	79	ePg	Pg	22 14 17.5	-0.6
OJC				eSg	Sg	22 14 30.2	+0.5
LIKS	Likavka	1.10	157	ePN	Pn	22 14 23.5	+0.3
LIKS				eSN	Sn	22 14 39.5	+0.3
DPC	Dobruska-Polom	1.41	282	ePG	Pg	22 14 27.0	-1.8
DPC				eSG	Sg	22 14 45.0	-2.5
	46nm,0.4s						
KOLL	Kolacno	1.49	182	eSN	Sn	22 14 49.3	+0.1
KSP	Ksiaz	1.59	300	ePN	Pn	22 14 28.0	-2.2
KSP				ePG	Pg	22 14 29.0	-3.5
KSP				eSG	Sg	22 14 51.0	-2.7
VYHS	Vyhne	1.59	171	ePN	Pn	22 14 29.9	-0.3
VYHS				eSN	Sn	22 14 51.8	0.0
UPC	Upice	1.64	287	eSG	Sg	22 14 52.7	-2.4
SMOL	Smolenice	1.70	204	ePN	Pn	22 14 30.9	-0.8
SMOL				eSN	Sn	22 14 54.3	-0.1
CRVS	Cervenica-Dubn	2.27	120	ePG	Pg	22 14 43.0	-3.1
CRVS				eSG	Sg	22 15 15.3	-1.1
PSZ	Piszkesteto	2.35	156	⇑iP	Pn	22 14 40.5	-0.5
PSZ				eS	Sn	22 15 11.5	+0.6
PRU	Pruhonice	2.53	270	ePG	Pg	22 14 47.0	-4.2
PRU				eSG	Sg	22 15 17.7	-7.3
KOLS	Kolonicke sedl	2.73	113	ePG	Pg	22 14 52.4	-2.8
BRG	Berggiesshubel	3.00	287	ePg	Pg	22 14 55.1	-5.5
BRG				eSg	Sg	22 15 35.2	-5.4
KHC	Kasperske Hory	3.31	255	ePN	Pn	22 14 51.5	-3.3
KHC				ePG	Pg	22 15 01.5	-5.4
KHC				eSG	Sg	22 15 44.3	-6.8
MOA	Molln	3.55	233	iSG	Sg	22 15 55.4	-3.4
	4.5nm,0.5s						
CLL	Collm	3.69	292	ePG	Pg	22 15 12.0	-2.4
CLL				eSG	Sg	22 15 58.0	-5.5

WEL 30 22:26:00.6±0.2, 38.87S×175.48E, h124km±1km, ML3.6/14, Error ellipse: s-maj=1.5km s-min=1.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGZ	Maungaku	0.14	160	PN	P	22 26 17.6	0.0
KATZ	Kakaramea	0.20	123	PN	P	22 26 17.6	-0.1
KATZ				SN	S	22 26 31.5	+0.8
TWVZ	Taurewa	0.21	188	PN	P	22 26 17.5	-0.2
TWVZ				SN	S	22 26 30.4	-0.3
WTVZ	West Tongariro	0.27	161	PN	P	22 26 17.8	-0.1
WTVZ				SN	S	22 26 30.9	-0.2
NGZ	Ngauruhoe	0.33	163	PN	P	22 26 18.0	-0.1
OTVZ	Oturere	0.33	154	PN	P	22 26 18.4	+0.2
OTVZ				SN	S	22 26 31.7	+0.2
CNZ	Chateau	0.34	171	PN	P	22 26 18.1	-0.1
WPVZ	Whakapapa	0.34	171	PN	P	22 26 18.2	-0.1
FWVZ	Far West T-bar	0.40	171	PN	P	22 26 18.4	-0.1
TUVZ	Tukino	0.43	161	PN	P	22 26 18.6	0.0
WNVZ	Wahianoa	0.47	169	PN	P	22 26 18.9	-0.1
MTVZ	Mangateitei	0.52	181	PN	P	22 26 18.9	-0.3
MTVZ				SN	S	22 26 33.4	+0.1
MOVZ	Moawhango	0.58	158	PN	P	22 26 19.0	-0.6
MOVZ				SN	S	22 26 33.2	-0.8
HIZ	Hauiti	0.60	306	PN	P	22 26 19.4	-0.3
HIZ				SN	S	22 26 33.1	-1.1
VRZ	Vera Road	0.62	245	PN	P	22 26 19.4	-0.4
VRZ				SN	S	22 26 34.0	-0.5
BKZ	Black Stump Fm	0.85	111	PN	P	22 26 21.3	-0.4
BKZ				SN	S	22 26 37.2	-0.5
RAEZ	Rainy Point	0.94	243	PN	P	22 26 22.1	-0.6
WAZ	Wanganui	0.97	203	PN	P	22 26 22.9	0.0
WAZ				SN	S	22 26 39.9	+0.3
NEZ	North Egmont	1.15	249	PN	P	22 26 24.7	0.0
PKE	Pukeiti	1.21	254	PN	P	22 26 24.9	-0.5
TSZ	Takapari Road	1.25	163	PN	P	22 26 25.6	-0.3
TSZ				SN	S	22 26 47.6	+2.8
NRZ	Ngariki Road	1.29	248	PN	P	22 26 25.7	-0.6
NWEZ	Newall Road	1.32	251	PN	P	22 26 26.0	-0.6
URZ	Urewera	1.42	65	PN	P	22 26 27.2	-0.5
URZ				SN	S	22 26 47.5	-0.9
PWZ	Pawanui	1.58	138	PN	P	22 26 28.8	-0.8
PWZ				eSN	S	22 26 48.4	-3.2
MWZ	Matawai	1.69	72	PN	P	22 26 31.3	+0.4
MWZ				SN	S	22 26 53.1	-0.8
KNZ	Kokohu	1.72	96	PN	P	22 26 31.5	+0.2
MRZ	Mangatainoka R	1.80	178	PN	P	22 26 30.9	-1.2
MRZ				SN	S	22 26 52.5	-3.6
BFZ	Birch Farm	1.91	162	PN	P	22 26 32.5	-1.1
BFZ				SN	S	22 26 55.4	-3.1
KIW	Kapiti Island	2.04	192	PN	P	22 26 33.5	-1.7
KIW				SN	S	22 26 58.5	-2.9
CAW	Cannon Point	2.26	188	PN	P	22 26 36.1	-2.0
CAW				SN	S	22 27 02.0	-4.5
DUWZ	D'Urville Isla	2.28	211	PN	P	22 26 36.7	-1.6
DUWZ				SN	S	22 27 04.6	-2.2
MTW	Mount Morrison	2.29	180	PN	P	22 26 36.2	-2.2
MTW				SN	S	22 27 03.0	-4.2
MRW	Makara Radio	2.44	194	PN	P	22 26 38.0	-2.4
MRW				SN	S	22 27 05.3	-5.3
TCW	Tory Channel	2.52	201	PN	P	22 26 38.9	-2.6
THZ	Tophouse	3.50	213	PN	P	22 26 51.1	-3.5
MQZ	McQueen's Vall	5.29	203	PN	P	22 27 12.4	-6.1

IDC 30 22:33:58.2±28.0, 16.32S×68.43E, mb3.9/3, mb1 4.2/3, mb1mx3.6/19, mbtmp3.9/3, Error ellipse: s-maj=668.2km s-min=49.3km az=82.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	45.79	42	P	P	22 42 21.8	-1.9
	0.2nm,0.4s,baz=238,slow=8.5,SNR=2.5						
ASAR	Alice Springs	61.52	108	P	P	22 44 17.2	-2.4
	1.8nm,0.7s,baz=268,slow=6.2,SNR=22						
WRA	Warramunga Arr	62.39	104	P	P	22 44 23.6	-1.9
	3.3nm,0.9s,baz=267,slow=6.5,SNR=14						

CSEM ***30*** *22:39:37.8±0.1, 28.39N×51.53E, h70km, ML3.4, Error ellipse: s-maj=4.6km s-min=2.0km az=121.0*
TEH ***30*** *22:39:39.7, 28.54N×51.51E, h10km, Mn3.4*

ISC 30 22:39:35.2±0.6, 28.37N±0.05×51.49E±0.05, h10km, n24, σ1§12/25, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMOK	Mook	1.27	58	Pg	Pg	22 40 00.4	-0.1
SHI	Shiraz	1.55	35	Pg	Pg	22 40 05.6	-0.5
IPAR	Pars	2.00	43	Pn	Pn	22 40 11.0	+1.6
KBD	Kabd	3.43	284	eS	Sn	22 41 12.7	+1.7
RDF	Al-Radifah	3.51	280	eS	Sn	22 41 14.0	+1.0
UMR	Umm Al-Rimmam	3.51	290	eS	Sn	22 41 14.0	+1.0
HASS	Wahat al Ahsa'	3.56	207	P	Pn	22 40 34.2	+2.6
IMEH	Mehriz	4.05	41	Pn	Pn	22 40 40.0	+1.4
IZEF	Zefreh	4.56	9	Pn	Pn	22 40 45.1	-0.9
ICHK	Chekchek	4.61	32	Pn	Pn	22 40 46.8	+0.2
IBAF	Bafgh	4.77	47	Pn	Pn	22 40 49.3	+0.4
IQOM	Qom	6.46	357	Pn	Pn	22 41 11.1	-1.6
IVRN	Varamin	6.61	2	Pn	Pn	22 41 16.9	+2.1
IKOM	Komasi	6.71	331	Pn	Pn	22 41 15.7	-0.6
MZLS	Mizel	7.11	234	P	Pn	22 41 22.1	+0.2
IRAZ	Razeghan	7.13	350	Pn	Pn	22 41 21.0	-1.2
IRAZ				Sn	Sn	22 42 36.0	-8.2
IDMV	Damavand	7.20	4	Pn	Pn	22 41 23.4	+0.3
IVIS	Veys	7.30	328	Pn	Pn	22 41 23.6	-0.9
IDHR	Dehrash	7.66	327	Pn	Pn	22 41 28.5	-1.1
HILS	Ha'il	8.64	266	P	P	22 41 42.5	-0.7
AFFS	'Afif	8.82	242	P	P	22 41 45.1	-0.6
TATS	Tathlith	11.44	222	P	P	22 42 21.1	-0.7
YNBS	Yanbu' al Bahr	12.75	255	P	P	22 42 38.0	-1.4
LTHS	Al Lith	12.92	234	P	P	22 42 40.6	-1.0

NEIC ***30*** *22:46:12.1, 31.23S×67.70W, h150km, mb4.2/2, MD3.9(GUC), After GUC.*

GUC 30 22:46:12.1±0.8, 31.23S×67.70W, h150km, MD3.9, ML4.6, 1C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JACH	Jahuel	2.86	239	⇓iP	P	22 46 58.2	-0.1
TLL	Tololo Astrono	2.88	291	eP	P	22 46 58.6	0.0
TLL				iS	S	22 47 34.5	+0.4
TLL				AMP		22 47 41.4	
	comp=N,880nm,0.8s						
ILCH	Illapel	3.00	261	P	P	22 46 58.8	-1.3
ILCH				iS	S	22 47 36.6	-0.2
ILCH	Illapel	3.00	261	eP	P	22 46 58.8	-1.3
ILCH				iS	S	22 47 36.0	-0.8
ILCH				iS	S	22 47 36.6	-0.2
ILCH				AMP		22 47 46.8	
	comp=N,796nm,0.3s						
FCH	Farellones	3.04	226	⇓iP	P	22 47 01.1	+0.5
FCH				iS	S	22 47 39.2	+1.4
FCH				AMP		22 47 42.0	
	comp=E,559nm,0.4s						
CLCH	Cerro Calan	3.23	227	⇓iP	P	22 47 03.1	-0.1
CLCH				iS	S	22 47 42.1	-0.3
CLCH				AMP		22 47 48.0	
	comp=N,1μm,0.7s						
DSCH	Colegio Aleman	3.26	228	eP	P	22 47 03.5	0.0
DSCH				eS	S	22 47 42.1	-0.7
DSCH				AMP		22 47 50.1	
	comp=N,2μm,0.6s						
CHNG	Los Chungos	3.31	258	AMP		22 47 46.7	
	comp=N,527nm,0.3s						
LMEL	Las Melosas	3.36	218	eP	P	22 47 05.4	+0.5
PCH	Pirque	3.37	224	eP	P	22 47 05.6	+0.6
LCO	Las Campanas	3.41	310	eP	P	22 47 06.4	+0.9
LCO				iS	S	22 47 47.4	+0.9
PACH	Papudo	3.44	247	eP	P	22 47 03.1	-2.7
PACH				iS	S	22 47 44.5	-2.5
RCDM	Rinconada Maip	3.47	229	⇑iP	P	22 47 05.9	-0.3
TACH	Talagante	3.66	228	eP	P	22 47 07.6	-1.1
TACH				iS	S	22 47 50.4	-1.7
CHCH	Chadas Angostu	3.68	222	⇓iP	P	22 47 09.3	+0.3
LCCH	Las Cruces	3.97	235	eP	P	22 47 11.8	-1.0
SFDO	San Fernando	4.38	219	iP	P	22 47 18.0	-0.2
TRQA	Tornquist	8.28	147	ePn	P	22 48 13.3	+3.1
	comp=N,5.7nm,0.7s						
TRQA				eSn	S	22 49 34.1	-8.4
LVC	Limon Verde	8.65	353	ePn	P	22 48 18.1	+3.0
	comp=N,2.7nm,0.4s						
CPUP	Villa Florida	10.32	64	ePn	P	22 48 40.5	+3.3
LPAZ	La Paz	14.88	358	eP	P	22 49 46.0	+10

JMA ***30*** *22:52:47.8±0.3, 24.78N×122.15E, h58km, M2.3*

TAP 30 22:52:48.2, 24.12N×122.17E, h15km±1km, ML3.1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	Yonaguni jima	0.84	66	P	Pb	22 53 03.8	-0.2
YOJ				eS	Sb	22 53 15.4	+0.6
IRIF	Iriomote-Funau	1.44	81	P	Pn	22 53 12.6	-1.3
IRIF				eS	Sb	22 53 31.2	-1.1
HATJ	Hateruma jima	1.50	92	eS	Sb	22 53 36.1	+2.2
JKRS	Kuro-shima	1.68	86	eS	Sn	22 53 38.2	-0.6
JIJ	Ishigaki jima	1.82	82	P	Pn	22 53 18.4	-0.9
JIJ				eS	Sn	22 53 40.1	-2.1

NEIC ***30*** *22:57:44.8±3.1, 51.63N×16.14E, h5km, ML2.8(VIE), Error ellipse: s-maj=38.1km s-min=10.5km az=211.0*
PRU ***30*** *22:57:46.9, 51.47N×16.08E*

WAR 30 22:57:47.1, 51.50N×16.10E, h1km, ML2.7, 3C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	Ksiaz	0.67	169	ePg	Pg	22 57 59.2	-1.2
KSP				eSg	Sg	22 58 08.1	-1.2
KSP	Ksiaz	0.67	169	⇑ePg	Pg	22 57 59.2	-1.1
KSP				eSg	Sg	22 58 08.5	-0.8
UPC	Upice	0.99	183	ePG	Pg	22 58 05.1	-1.8
DPC	Dobruska-Polom	1.16	173	ePG	Pg	22 58 07.9	-2.3
DPC				eSG	Sg	22 58 22.8	-2.8
	27nm,0.3s						
PVCC	Panska Ves	1.37	226	ePG	Pg	22 58 11.9	-2.5
BRG	Berggiesshubel	1.49	246	ePn	Pn	22 58 13.7	-1.5
BRG				iPg	Pg	22 58 14.7	-2.2
BRG				iSg	Sg	22 58 34.7	-2.1
PRU	Pruhonice	1.81	214	ePN	Pn	22 58 17.5	-2.1
PRU				ePG	Pg	22 58 19.4	-3.7
PRU				eSG	Sg	22 58 42.9	-4.3
CLL	Collm	1.95	266	ePn	Pn	22 58 19.0	-2.7
CLL				ePg	Pg	22 58 22.0	-4.0
CLL				iSg	Sg	22 58 49.0	-3.0
CLL	Collm	1.95	266	ePN	Pn	22 58 19.0	-2.7
CLL				ePG	Pg	22 58 22.0	-4.0
CLL				i		22 58 26.7	
CLL				iSG	Sg	22 58 49.0	-3.0
MORC	Moravsky Berou	1.95	151	ePn	Pn	22 58 19.4	-2.3
MORC				eSn	Sn	22 58 44.9	-2.3
OKC	Ostrava-Krasne	2.11	141	ePG	Pg	22 58 25.8	-3.4
OKC				eSG	Sg	22 58 53.1	-4.3
NKC	Novy Kostel	2.64	243	ePN	Pn	22 58 30.2	-1.3
NKC				eSG	Sg	22 59 10.0	-4.9
OJC	Ojcow	2.67	117	ePG	Pg	22 58 36.0	-4.4
OJC				eSG	Sg	22 59 12.0	-4.0
KHC	Kasperske Hory	2.87	215	ePN	Pn	22 58 32.7	-2.1
KHC				ePG	Pg	22 58 38.1	-6.2
KHC				eSN	Sn	22 59 07.7	-2.7
KHC				eSG	Sg	22 59 16.5	-6.0
MOX	Moxa	2.95	255	ePg	Pg	22 58 41.8	-4.3
MOX				eSg	Sg	22 59 21.8	-3.7
SMOL	Smolenice	3.11	163	ePG	Pg	22 58 45.2	-3.9
SMOL				eSG	Sg	22 59 26.7	-3.8
MOA	Molln	3.84	199	⇑iPN	Pn	22 58 46.7	-1.9
MOA				iSG	Sg	22 59 50.2	-4.7
	6.9nm,0.5s						
ARSA	Arzberg	4.27	185	⇑iPN	Pn	22 58 53.8	-0.9
ARSA				iSG	Sg	23 00 01.1	-8.0
	6.1nm,0.7s						

SOF ***30*** *23:03:40.2, 41.66N×24.24E, h10km, MD2.6*
CSEM ***30*** *23:03:40.9±0.1, 41.72N×24.27E, h15km, MD2.6, Error ellipse: s-maj=2.2km s-min=1.7km az=141.0*
THE ***30*** *23:03:43.5, 41.58N×24.27E, h5km, ML2.8*

ISC 30 23:03:40.8±0.6, 41.71N±0.04×24.26E±0.04, h2km±6km, n17, σ0§82/26, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RZN	Rozhen	0.34	93	iPg	Pg	23 03 48.5	+0.9
PLD	Plovdiv	0.52	40	iPg	Pg	23 03 53.0	+1.9
PGB	Panagyurishte	0.84	355	iPg	Pg	23 03 57.3	-0.3
KDZ	Kurdzhali	0.87	93	iPg	Pg	23 03 57.0	-1.1
KKB	Krupnik	0.90	281	iPg	Pg	23 03 57.7	-1.0
DIM	Dimitrovgrad	1.01	70	iPg	Pg	23 04 00.0	-0.9
SOH	Sokhos	1.12	218	ePg	Pg	23 04 02.5	-0.7
SOH				eSg	Sg	23 04 17.4	-0.7
KNT	Kendrikon	1.16	242	ePg	Pg	23 04 04.8	+0.9
KNT				eSg	Sg	23 04 20.9	+1.5
VTS	Vitosha	1.18	319	iP	Pb	23 04 03.5	-0.1
OUR	Ouranopolis	1.39	189	ePb	Pb	23 04 06.7	-0.5
OUR				eSb	Sb	23 04 25.5	+0.3
THE	Thessaloniki	1.45	223	ePb	Pb	23 04 08.5	+0.3
THE				eSb	Sb	23 04 27.6	+0.5
THE	Thessaloniki	1.45	223	ePb	Pb	23 04 08.1	-0.2
THE				eSb	Sb	23 04 27.0	-0.1
THE	Thessaloniki	1.45	223	ePb	Pb	23 04 08.1	-0.2
THE				eSb	Sb	23 04 27.0	-0.1
ALN	Alexandroupoli	1.57	121	ePb	Pb	23 04 10.1	-0.1
ALN				eSb	Sb	23 04 31.4	+0.9
GRG	Griva	1.59	242	ePb	Pb	23 04 10.1	-0.5
GRG				eSb	Sb	23 04 32.2	+1.2
PVL	Pavlikeni	1.70	27	iP	Pn	23 04 11.5	-0.2
LIT	Litokhoron	2.09	220	ePn	Pn	23 04 17.1	-0.2
LIT				eSn	Sn	23 04 43.4	-0.9

NIED ***30*** *23:12:00, 38.00N×141.50E, h92km, Mw3.7 Best double couple: M0=4.03×10^14 NP1:φs=45°, δ84°, λ-154°. NP2: φs=312°, δ64°, λ-6°.*
JMA ***30*** *23:12:43.7±0.1, 37.99N×141.51E, h87km±1km, M3.5 Broadband fault plane solution: P waves. NP1:φs=110°, δ30°, λ-69°. NP2:φs=266°, δ62°, λ-102°. Principal axes: T Plg16°, Azm5°; N Plg10°, Azm272°; P Plg71°, Azm150°;*

ISC 30 23:12:43.1±1.3, 37.98N±0.05×141.6E±0.1, h86km±10km, n12, σ0§28/23, 4C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	Ouri	0.51	341	⇓P	P	23 12 58.2	+0.5
JIO				S	S	23 13 08.6	0.0
JMM	Marumori	0.62	260	⇓P	P	23 12 58.8	+0.1
JMM				S	S	23 13 10.0	-0.3
JOU	Okura	0.81	299	⇓P	P	23 13 00.6	-0.1
JOU				S	S	23 13 14.1	+0.4
JFK	Kawauchi	0.82	222	⇑P	P	23 13 00.9	+0.1
JFK				S	S	23 13 13.7	-0.2
JMK	Ichinoseki	1.01	345	⇓P	P	23 13 03.0	+0.1
JMK				S	S	23 13 17.1	-0.7
JFT	Otama	1.07	245	⇑P	P	23 13 03.9	+0.2
JFT				S	S	23 13 18.7	-0.5
JYS	Shiratake	1.21	282	⇓P	P	23 13 05.6	+0.2
JYS				S	S	23 13 22.5	+0.5
JYK	Kaneyama	1.33	315	⇓P	P	23 13 07.0	0.0
JYK				S	S	23 13 24.6	-0.2
JOM	Ohasama	1.51	352	⇑P	P	23 13 09.0	-0.3
JOM				S	S	23 13 28.7	+0.1
JFY	Yanaizu	1.58	249	⇑P	P	23 13 10.3	+0.1
JFY				S	S	23 13 30.3	+0.1
JYA	Atsumi	1.58	293	⇓P	P	23 13 10.1	-0.1
MAT	Matsushiro	3.04	243	P	P	23 13 30.1	0.0
MAT				eS	S	23 14 05.3	-0.2

NEIC ***30*** *23:20:43.4, 17.74N×99.84W, h69km, MD3.8(MEX), After MEX.*

MEX 30 23:20:42.8±1.1, 17.78N×99.95W, h71km±14km, MD4.0, 5C, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLIG	Platanillo	0.74	35	⇑iP	P	23 20 57.3	-1.1
PLIG				iS	S	23 21 08.0	-2.0
PLIG	Platanillo	0.74	35	⇑iP	P	23 20 57.3	-1.1
PLIG				iS	S	23 21 07.7	-2.3
CAIG	El Cayaco	0.79	202	⇑iP	P	23 20 57.9	-1.1
CAIG				iS	S	23 21 09.4	-1.6
ACX	Acapulco	0.91	178	⇑iP	P	23 20 58.5	-2.0
ACX				eS	S	23 21 11.5	-2.1
ACX	Acapulco	0.91	178	⇑iP	P	23 20 58.4	-2.0
ACX				iS	S	23 21 11.0	-2.5
YAIG	Yautepec	1.36	38	iP	P	23 21 05.0	-1.5
YAIG				iS	S	23 21 22.5	-1.6
YAIG	Yautepec	1.36	38	iP	P	23 21 05.0	-1.5
YAIG				iS	S	23 21 22.1	-1.9
IIZ	Mezontepec	1.55	26	eP	P	23 21 07.4	-1.6
IIZ				iS	S	23 21 25.9	-2.4
SZVM	Salazar	1.62	19	eP	P	23 21 06.8	-3.2
SZVM				iS	S	23 21 27.9	-2.1
PPM	Popocatepetl	1.79	44	eP	P	23 21 11.6	-0.7
PPM				iS	S	23 21 29.9	-4.0
PPM	Popocatepetl	1.79	44	iP	P	23 21 07.0	-5.2
PPM				eP		23 21 11.6	
PPM				eP		23 21 12.0	
PPM				iS	S	23 21 33.0	-1.0
PPM				iS	S	23 21 34.5	+0.6
PPM				iS	S	23 21 34.7	+0.8
PTVM	Pico Tres Padr	1.97	24	iP	P	23 21 12.7	-1.9

CSEM ***30*** *23:21:57.7, 24.24N×49.72E, h88km, ML3.6, After SNSN*

SNSN 30 23:21:57.7, 24.24N×49.72E, h88km, MI3.6, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HASS	Wahat al Ahsa'	0.95	359	P	P	23 22 16.8	-0.2
HASS				S	S	23 22 31.5	+0.1
MZLS	Mizel	4.12	268	P	P	23 22 57.7	-2.0
ARSS	Ar Rass	6.10	287	P	P	23 23 25.9	-1.0
AFFS	'Afif	6.14	269	P	P	23 23 26.0	-1.5
TATS	Tathlith	7.44	232	P	P	23 23 43.9	-1.6
TATS	Tathlith	7.44	232	P	P	23 23 43.8	-1.6
HILS	Ha'il	7.80	295	P	P	23 23 48.1	-2.2

NNC ***30*** *23:55:31.0±21.0, 37.68N×71.75E, h170km±419km, mpv2.9, Error ellipse: s-maj=285.0km s-min=149.5km az=177.0*
IDC ***30*** *23:55:31.2±17.0, 36.48N×70.64E, h225km±139km, mb3.4/4, mb1 3.3/6, mb1mx3.0/22, mbtmp3.9/6, Error ellipse: s-maj=187.8km s-min=70.9km az=167.0*

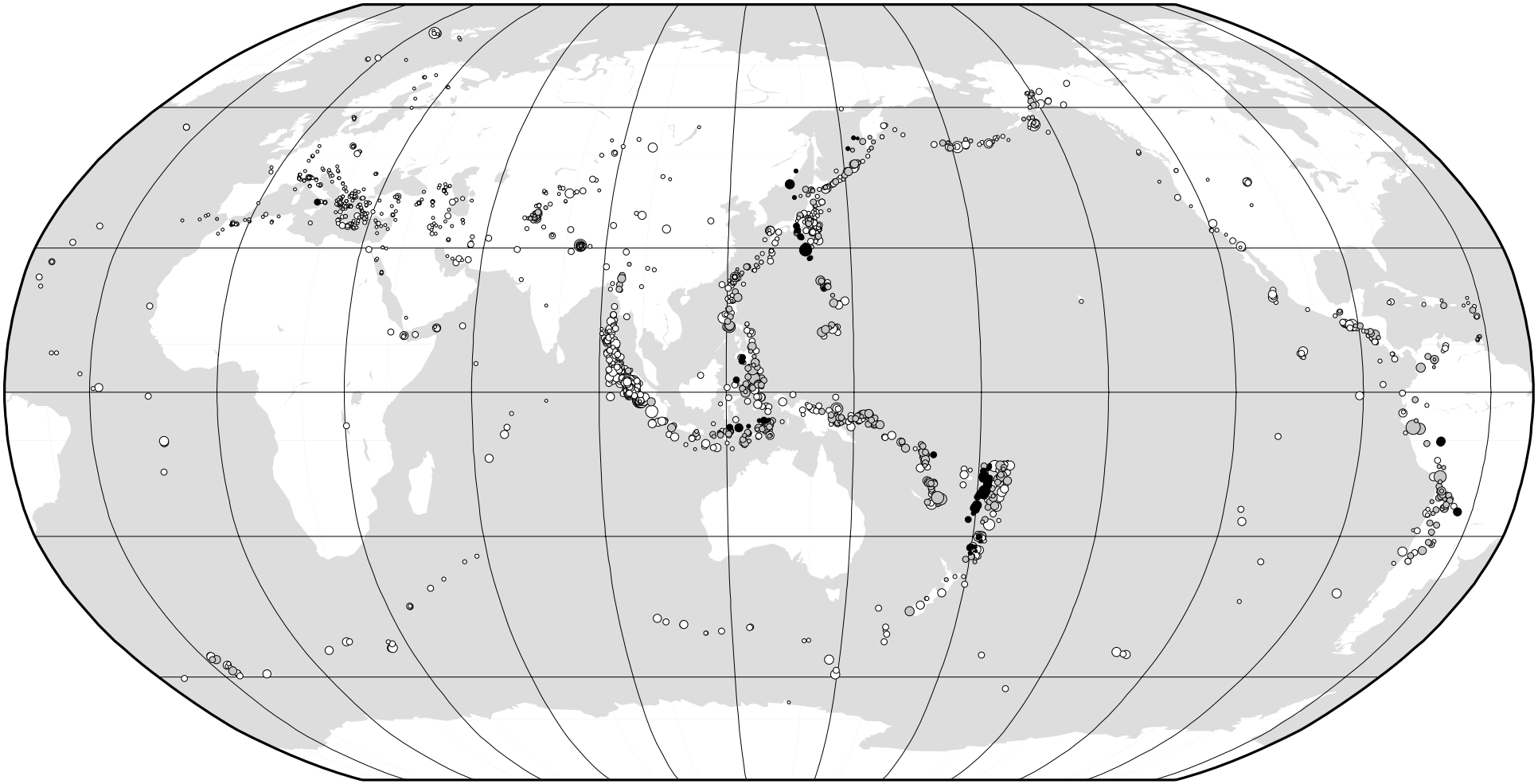
ISC 30 23:55:26.2±1.4, 37.42N±0.07×71.8E±0.2, h160km±18km, n16, σ0§98/19, mb3.8/5, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	4.94	17	P	P	23 56 40.5	+0.7
	SNR=13						
UCH	Uchtor	5.25	23	⇑P	P	23 56 44.1	+0.2
	SNR=14						
KZA	Kyzart	5.37	29	P	P	23 56 44.9	-0.6
	SNR=6.0						
EKS2	Erkin-Say	5.46	16	⇓P	P	23 56 47.3	+0.7
	SNR=12						
AAK	Ala-Archa	5.61	21	⇑P	P	23 56 49.4	+0.7
	SNR=10						
AAK	Ala-

ISC 30 23:55:32.1±3.0,36.9N±0.2×70.3E±0.2,h209km±25km,n10,
σ0§43/12,3C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.18**	**2**	⇑P	**P**	**23 57 02.8**	**+0.3**
	3.1nm,0.3s,baz=171,slow=11,SNR=34						
KK31				⇓S	**S**	**23 58 12.3**	**-0.7**
	2.5nm,0.3s,baz=189,slow=24,SNR=4.7						
AAK	**Ala-Archa**	**6.57**	**28**	⇓P	**P**	**23 57 07.3**	**-0.2**
	3.0nm,0.4s						
AAK				⇑S	**S**	**23 58 22.6**	**+0.6**
	21nm,0.6s						
KBK	**Karagaybulak**	**6.77**	**31**	P	**P**	**23 57 10.3**	**+0.1**
	SNR=6.1						
CHMS	**Chumysh**	**6.98**	**28**	P	**P**	**23 57 12.6**	**-0.2**
	SNR=5.5						
USP	**Ospenovka**	**7.12**	**26**	P	**P**	**23 57 14.9**	**+0.1**
	SNR=7.8						
TKM2	**Tokmak 2**	**7.26**	**33**	P	**P**	**23 57 16.4**	**-0.1**
	SNR=6.1						
MK31	**Makanchi Array**	**13.31**	**38**	⇑P	**P**	**23 58 34.2**	**+0.2**
	0.9nm,0.5s,baz=215,slow=11,SNR=13						
MKAR	**Makanchi Array**	**13.31**	**38**	P	**P**	**23 58 33.5**	**-0.5**
	0.4nm,0.3s,baz=220,slow=14,SNR=16						
BVAR	**Borovoye Array**	**16.11**	**0**	P	**P**	**23 59 09.2**	**+0.8**
	0.2nm,0.3s,baz=179,slow=9.7,SNR=5.4						
ZAL	**Zalesovo**	**19.77**	**26**	P	**P**	**23 59 47.2**	**-0.4**
	2.2nm,0.3s,baz=246,slow=5.7,SNR=7.3						

ISC Computed Locations for April 2005



Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

2717 Events